PRELIMINARY REPORT OF 050303

last update on Thu Mar 3 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 2005-03-02 00:00:00 to 2005-03-03 10:50:02

PDHS-K					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	24	38	4	2	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	24	38	4	2	0
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	24	38	4	2	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	24	38	4	2	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	42	34	3	5	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	42	34	3	5	0
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	42	34	3	5	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	42	34	3	5	0

2.3 - Browse Visual Inspection

2.4 - Data Analysis

Preliminary report.The data is not yet controled

3 - Module Stepping Mode

No anomalies observed on available MS products:

Polarisation	Start Time
V	20050227 095345
H	20050302 081854

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	-3.374264	0.007971	0.023915
7	P1	-3.086200	0.007785	-0.021698
11	P1	-4.687059	0.021075	-0.057536
15	P1	-5.653964	0.030434	-0.046198
19	P1	-3.671610	0.004078	-0.026791
22	P1	-4.527422	0.013117	0.054640
26	P1	-4.948509	0.015104	-0.028782
30	P1	-7.177022	0.018201	-0.065857
3	P1	-15.958340	0.074224	-0.147443
7	P1	-15.519630	0.053486	-0.004480
11	P1	-20.934181	0.263421	-0.051964
15	P1	-11.578594	0.026022	-0.031705
19	P1	-14.244891	0.026102	-0.164209
22	P1	-15.724703	0.326423	0.336721
26	P1	-17.598713	0.226026	-0.014872
30	P1	-17.958858	0.442105	-0.088962

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.129583	0.086105	0.101459
7	P2	-22.320814	0.102678	0.121469
11	P2	-14.511580	0.104603	0.189584
15	P2	-7.061194	0.096185	0.065058
19	P2	-9.650638	0.095604	0.055683
22	P2	-16.953207	0.096389	0.090154
26	P2	-16.455462	0.093406	0.022632
30	P2	-18.882854	0.082513	0.022073

P3 Cyclic statistics

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

3	P3	-8.169108	0.005447	0.003853
7	P3	-8.169108	0.005447	0.003853
11	P3	-8.169108	0.005447	0.003853
15	P3	-8.169108	0.005447	0.003853
19	P3	-8.169108	0.005447	0.003853
22	P3	-8.169108	0.005447	0.003853
26	P3	-8.169108	0.005447	0.003853
30	P3	-8.169108	0.005447	0.003853

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	-2.747120	0.011141	0.048937
7	P1	-3.000305	0.031678	-0.069213
11	P1	-3.980368	0.015682	-0.052373
15	P1	-3.559344	0.018251	-0.082578
19	P1	-3.589902	0.012837	0.007697
22	P1	-5.733150	0.043278	-0.090902
26	P1	-7.301875	0.026030	0.039469
30	P1	-6.240646	0.038096	0.013240
3	P1	-10.752198	0.052805	-0.008159
7	P1	-10.257974	0.142113	-0.167982
11	P1	-12.567663	0.094767	-0.035918
15	P1	-11.763780	0.061231	-0.064058
19	P1	-15.570014	0.042477	0.014098
22	P1	-24.331356	1.264993	-0.347393
26	P1	-15.521819	0.190039	0.182724
30	P1	-20.143938	0.991407	-0.091621

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.846300	0.030273	0.084222
7	P2	-22.403477	0.034836	0.059484
11	P2	-10.283701	0.045380	0.205089
15	P2	-4.987395	0.020288	0.023289
19	P2	-6.845675	0.029008	0.028314
22	P2	-7.135183	0.027612	0.065699
26	P2	-23.865259	0.024438	0.024646
30	P2	-21.924856	0.028580	0.041148

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.002671	0.002600	-0.004278
7	P3	-8.002816	0.002614	-0.004015
11	P3	-8.002706	0.002625	-0.004129
15	P3	-8.002795	0.002610	-0.004463
19	P3	-8.002697	0.002625	-0.004251
22	P3	-8.002655	0.002611	-0.004077
26	P3	-8.002733	0.002613	-0.003990
30	P3	-8.002832	0.002611	-0.003816

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	0.000475055
	stdev	2.14053e-07
MEAN Q	mean	0.000536601
	stdev	2.27268e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129589
	stdev	0.000966480
STDEV Q	mean	0.129834
	stdev	0.000977290

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005030[123]
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_1PNPDE20050301_042445_000003062035_00105_15690_8222.N1	0	41

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

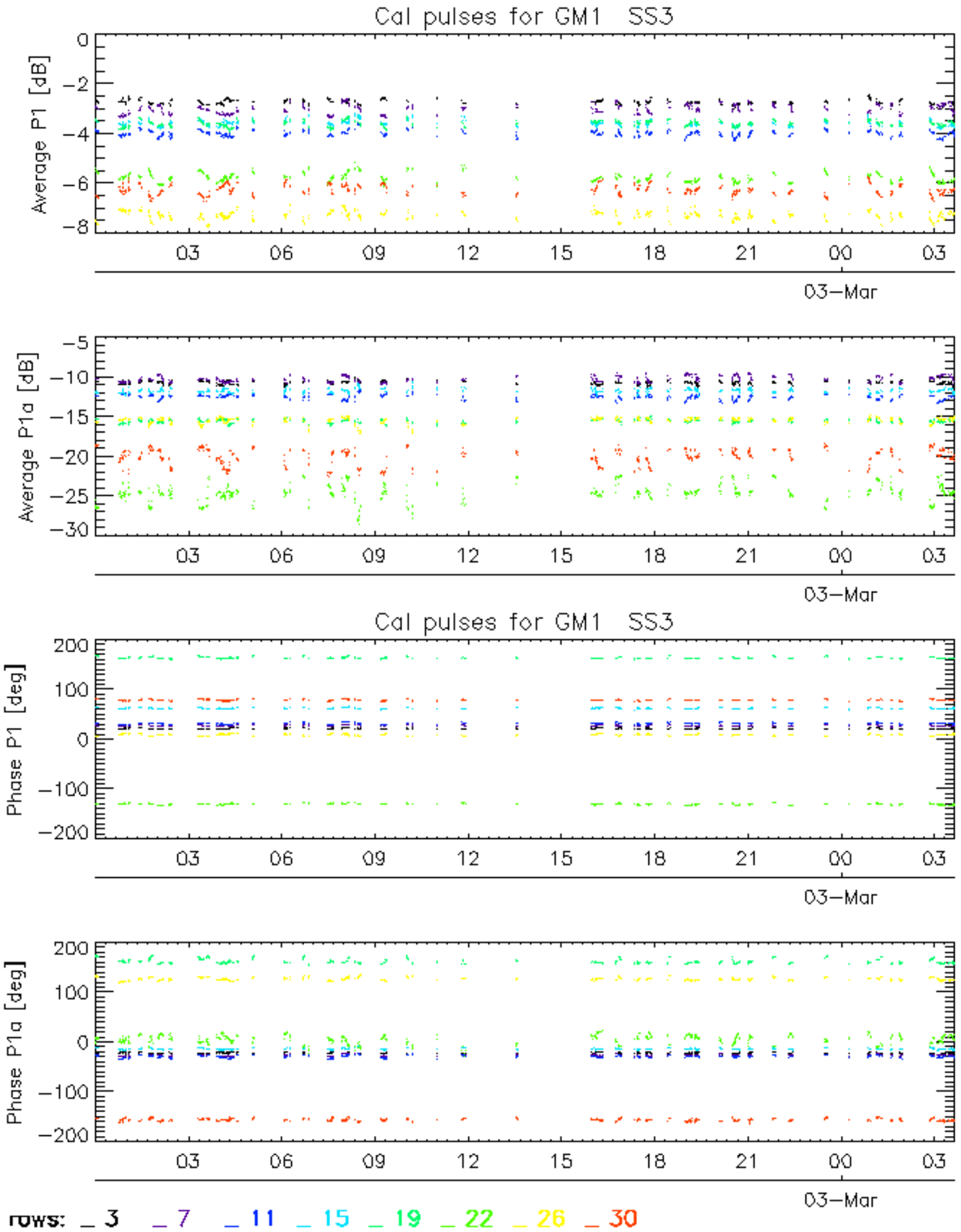
Descending

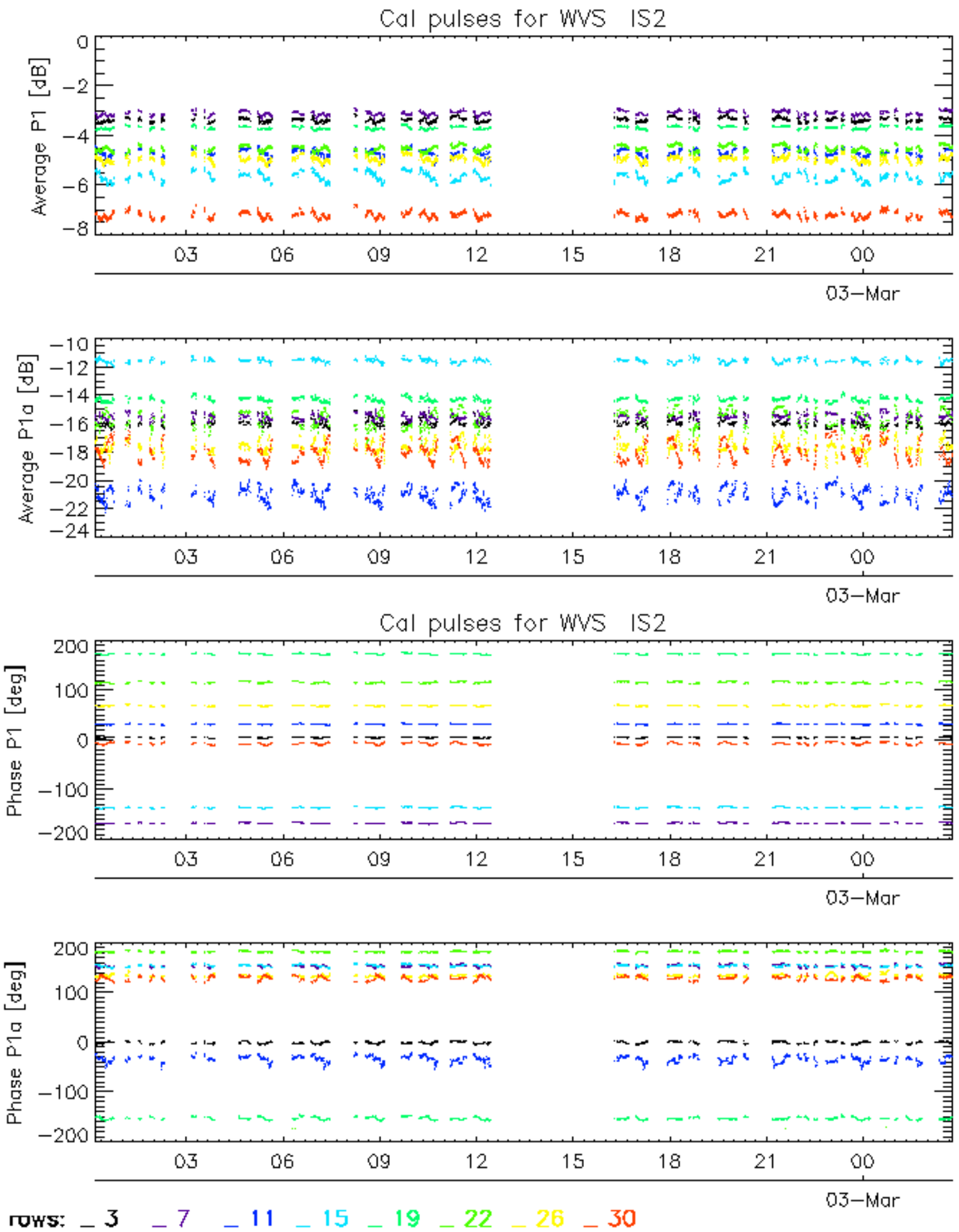
7.5 - Absolute Doppler for GM1

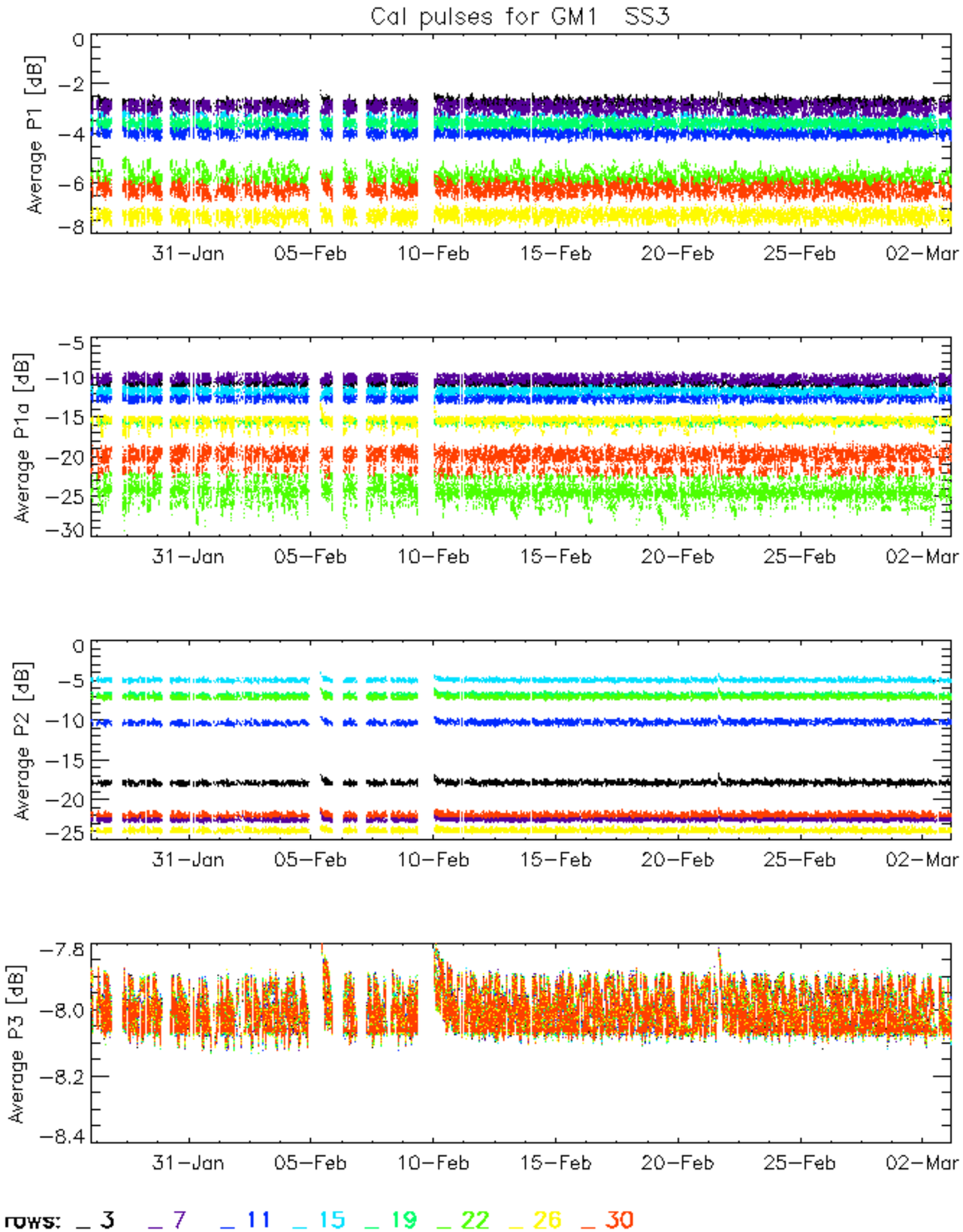
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

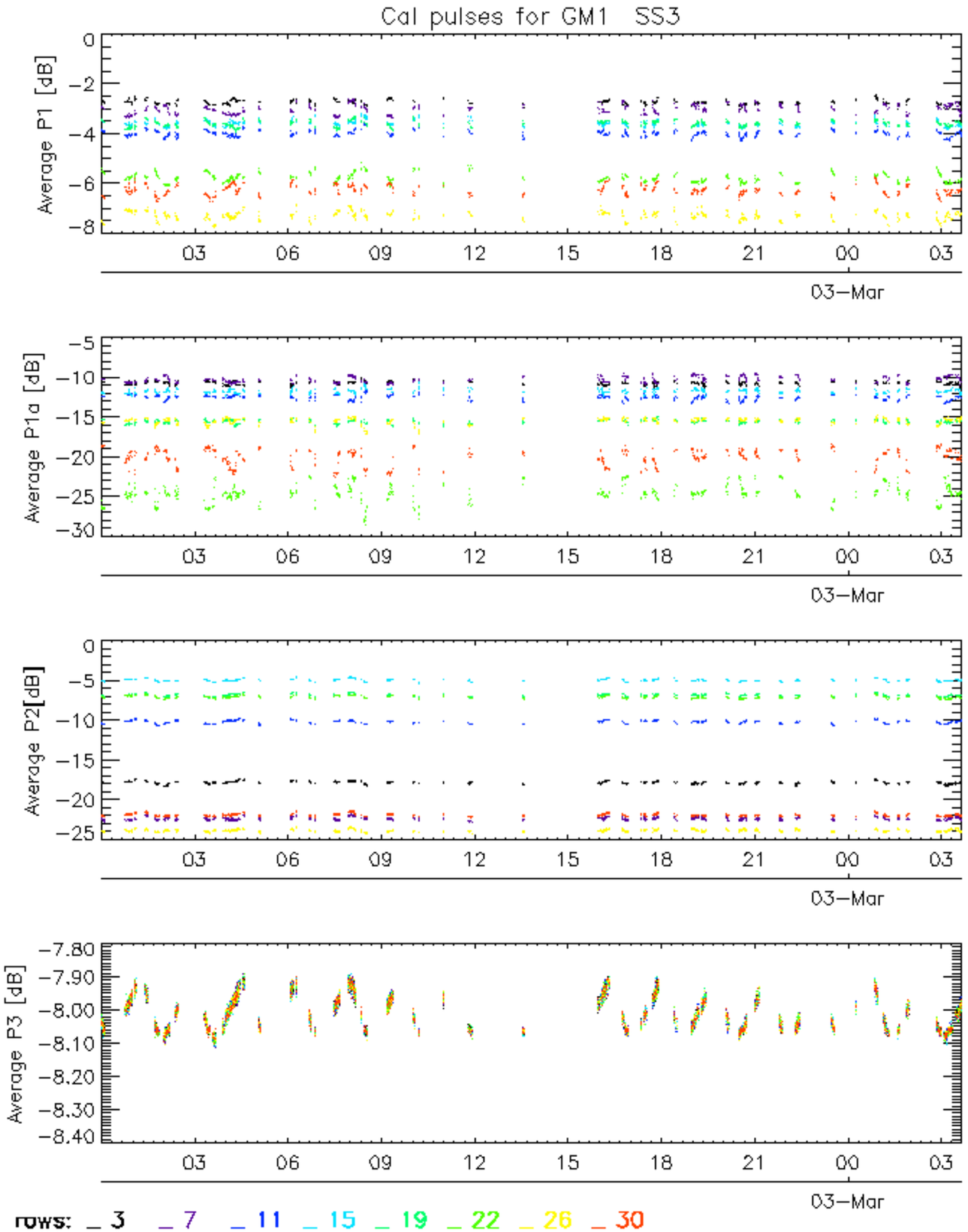
7.6 - Doppler evolution versus ANX for GM1

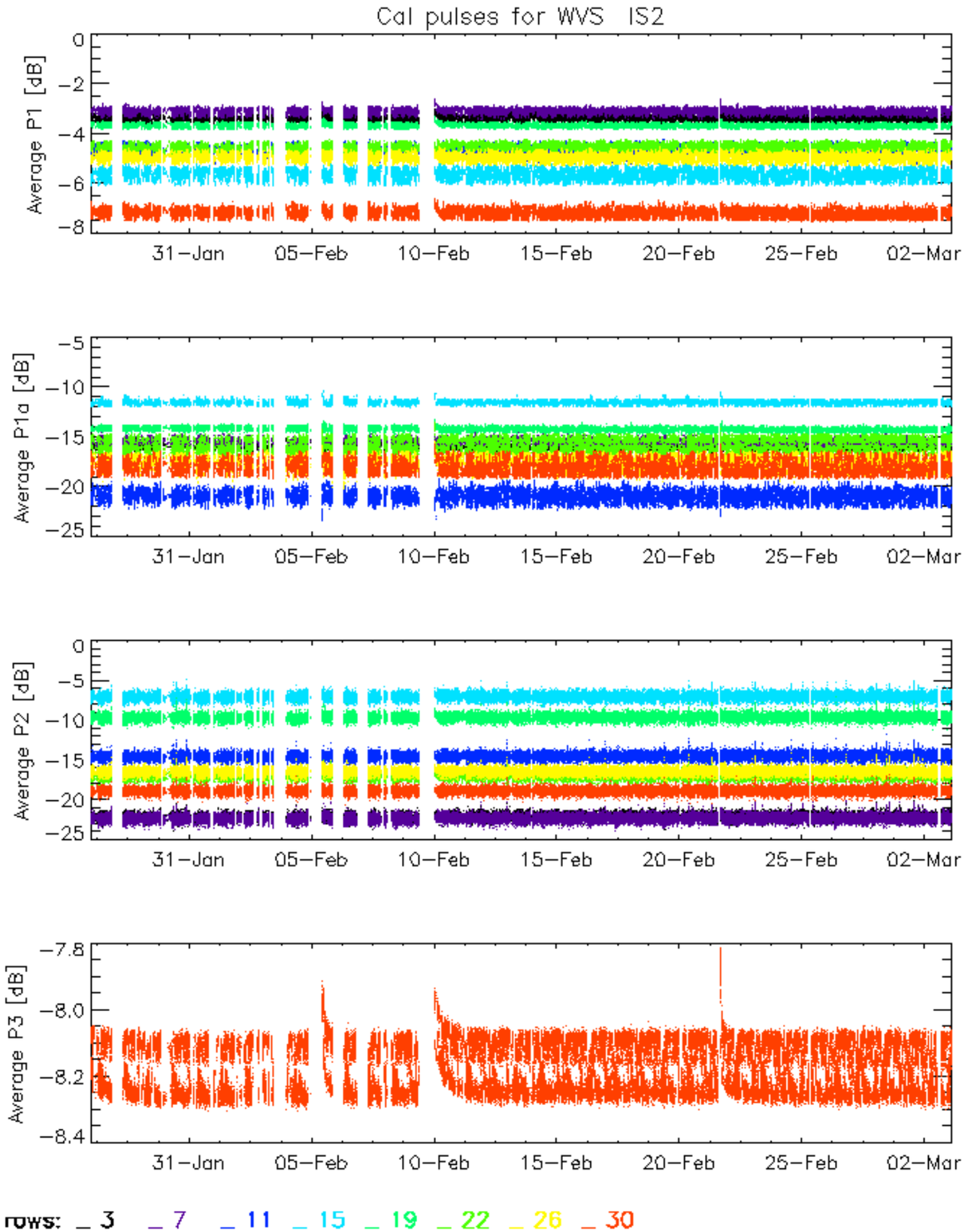
Evolution Doppler error versus ANX
☒

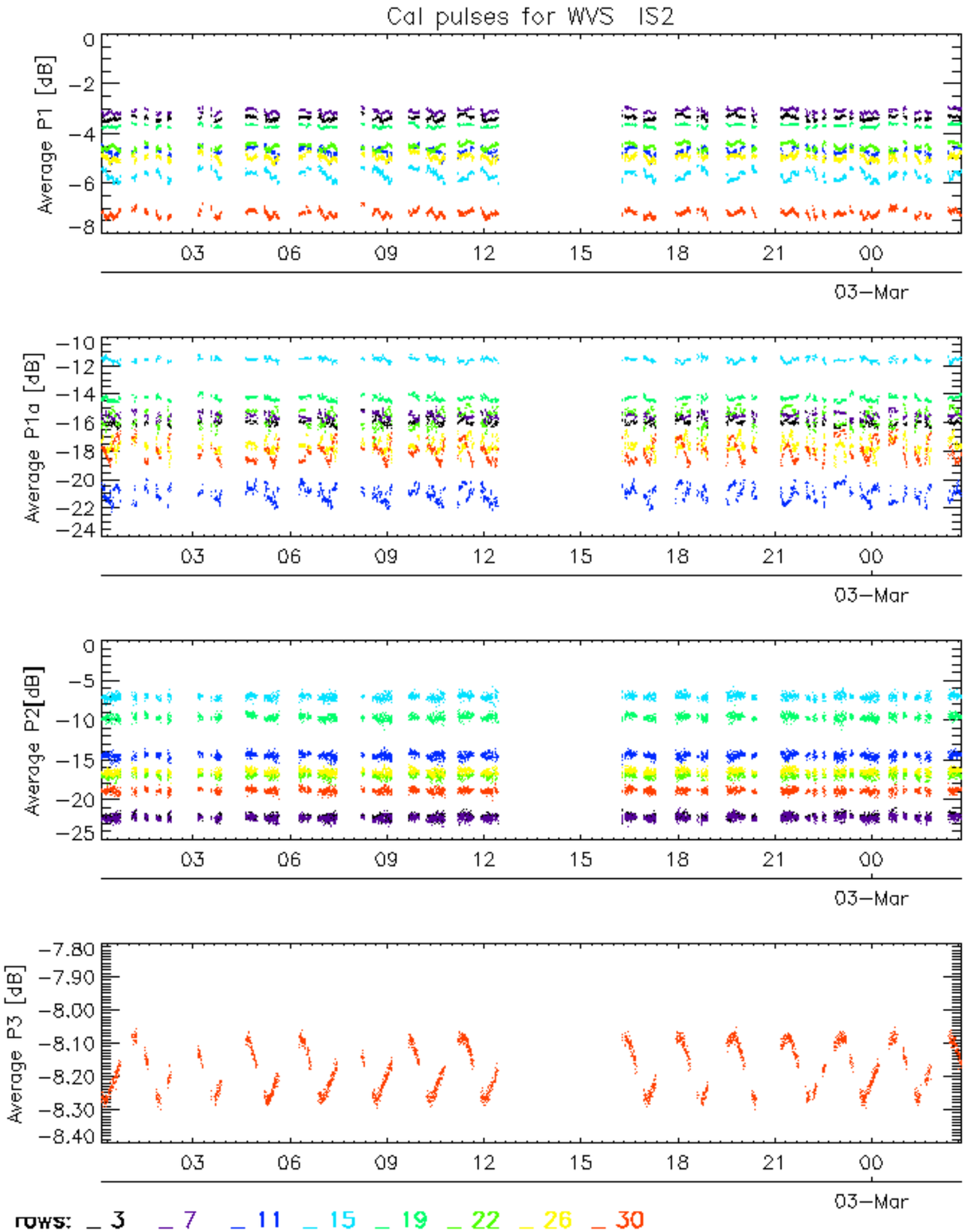

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
21
00
03
03−Mar
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
Phase P1a [deg]
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


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

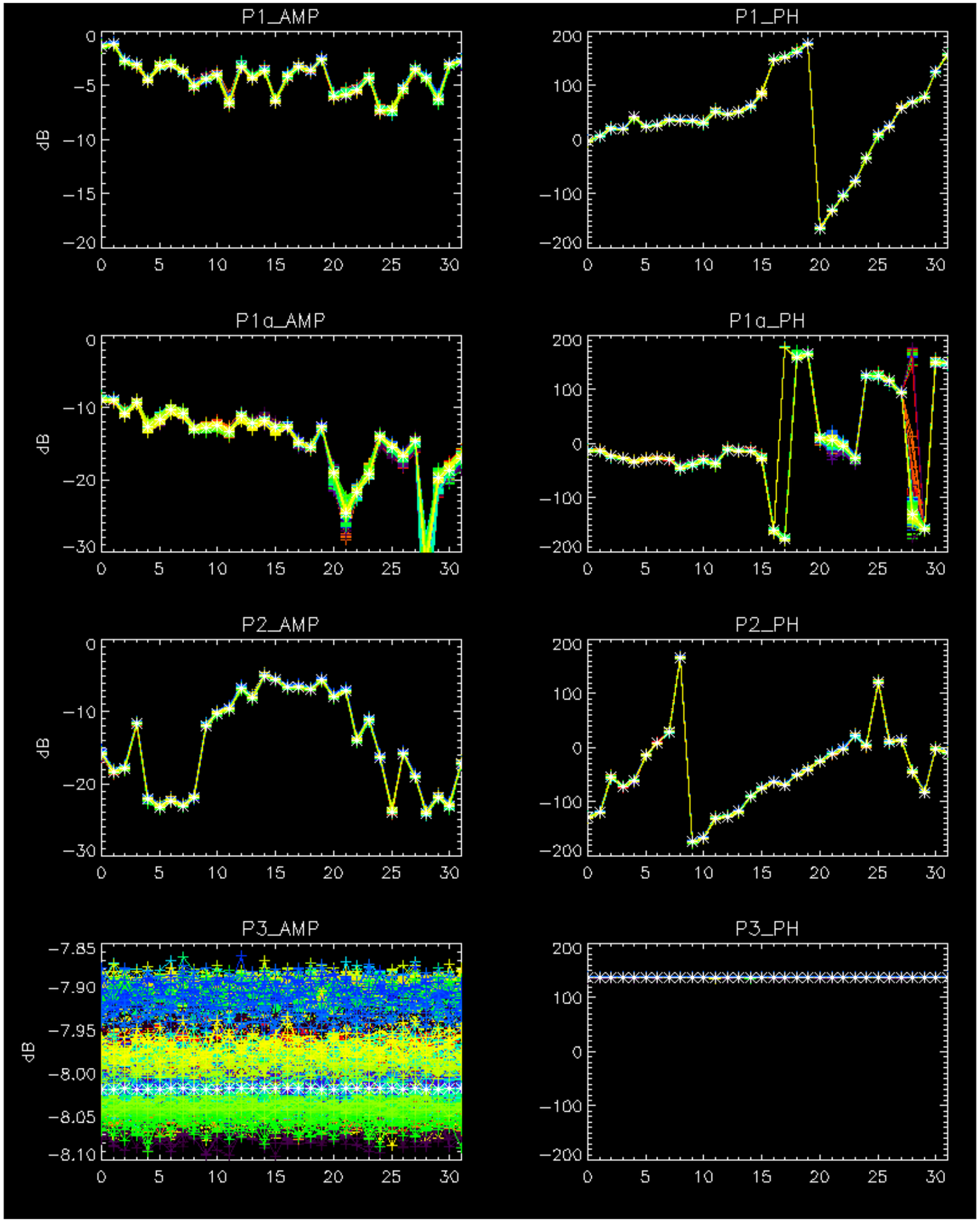

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
31−Jan
05−Feb
10−Feb
15−Feb
20−Feb
25−Feb
02−Mar
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

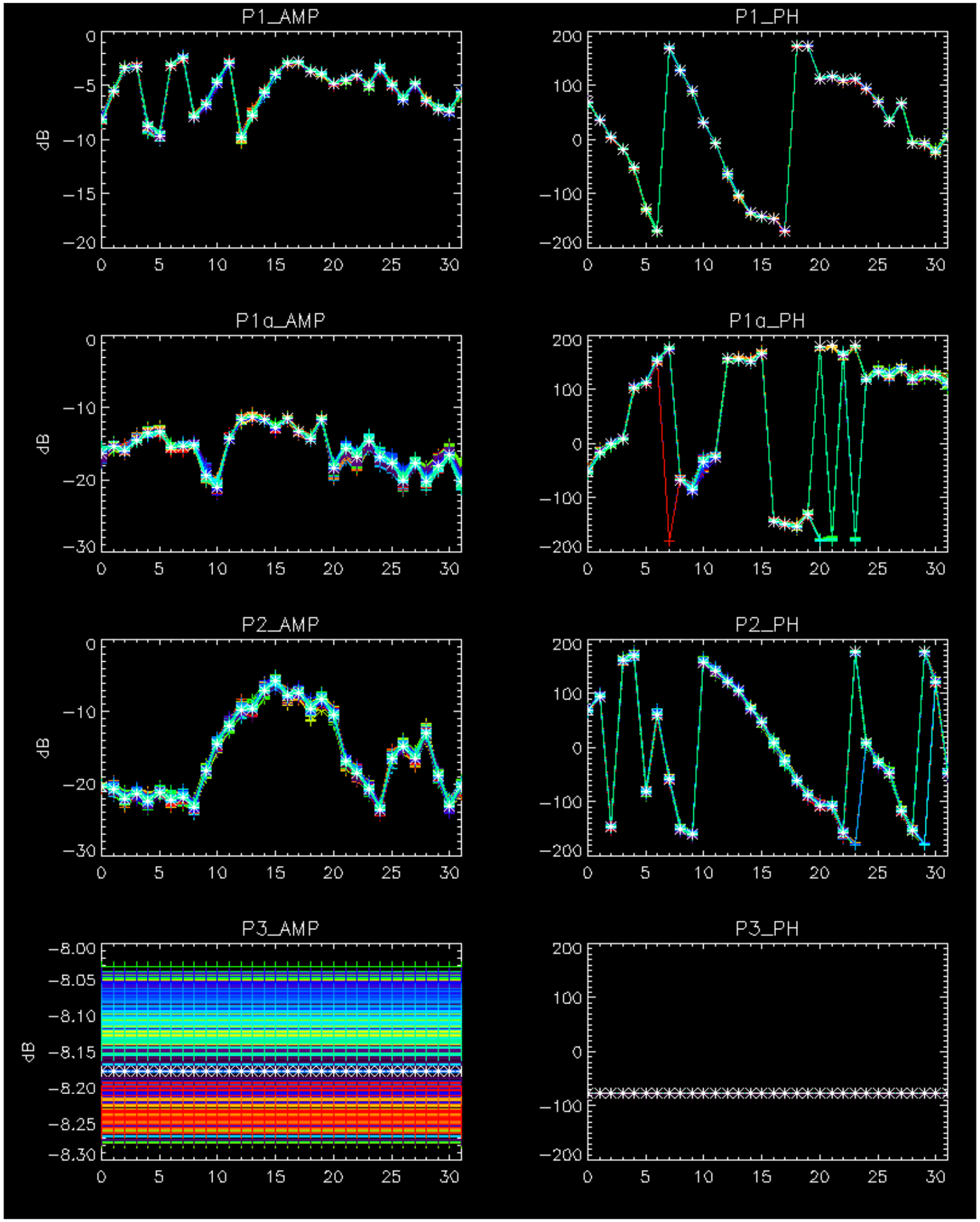

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
03−Mar
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
31−Jan
05−Feb
10−Feb
15−Feb
20−Feb
25−Feb
02−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
03
06
09
12
15
18
21
00
03−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

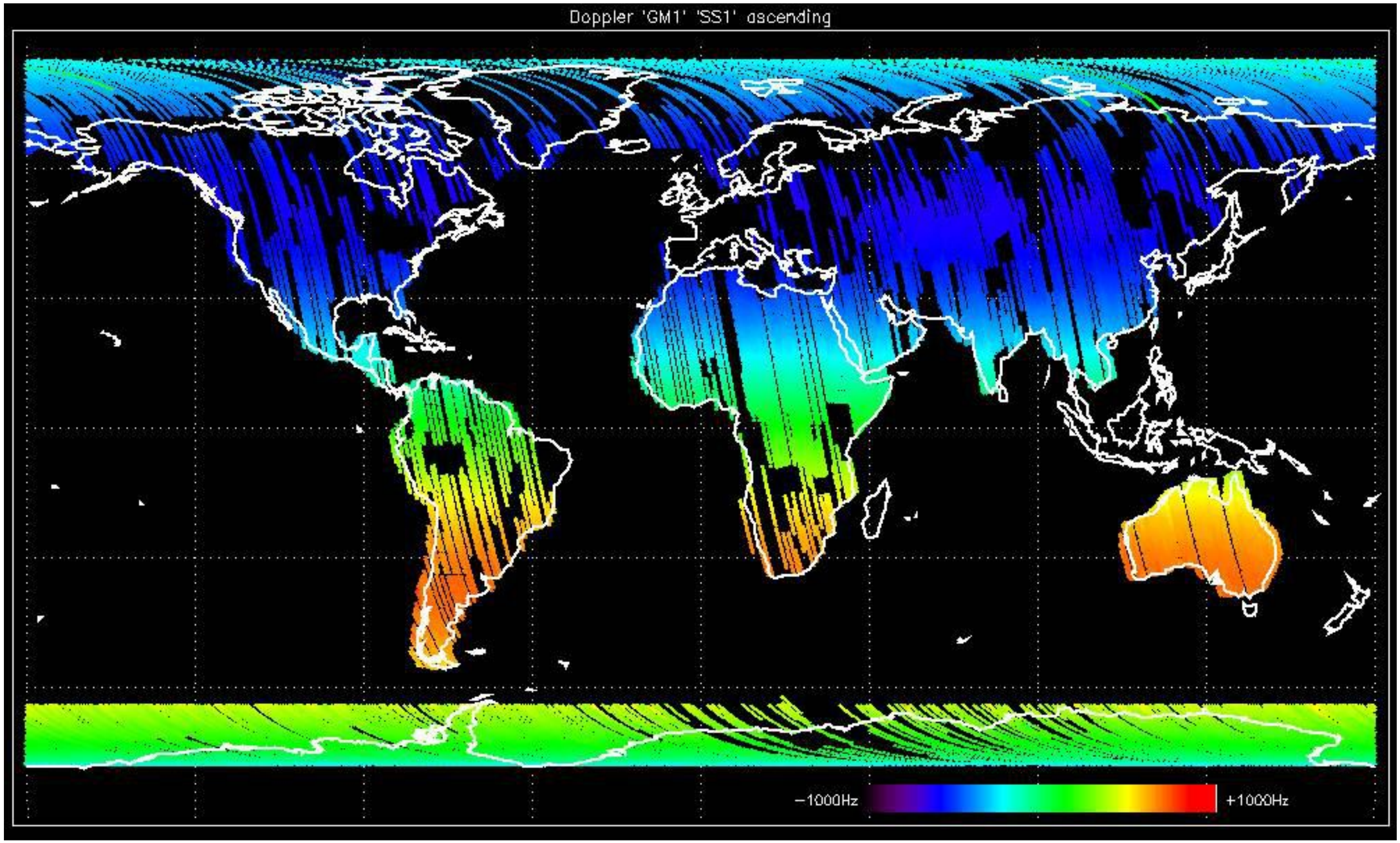
No anomalies observed.

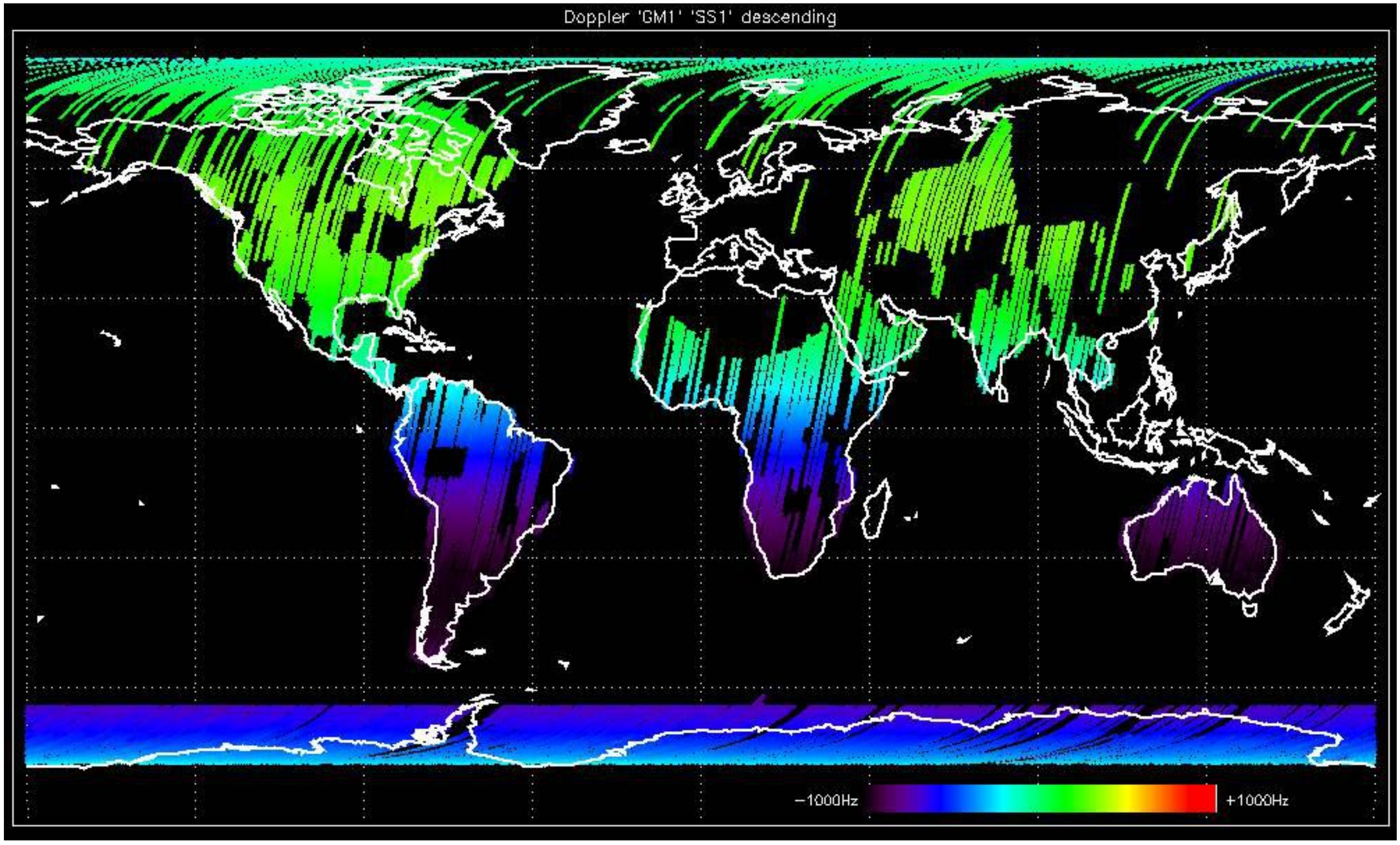

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.85
−7.90
−7.95
−8.00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

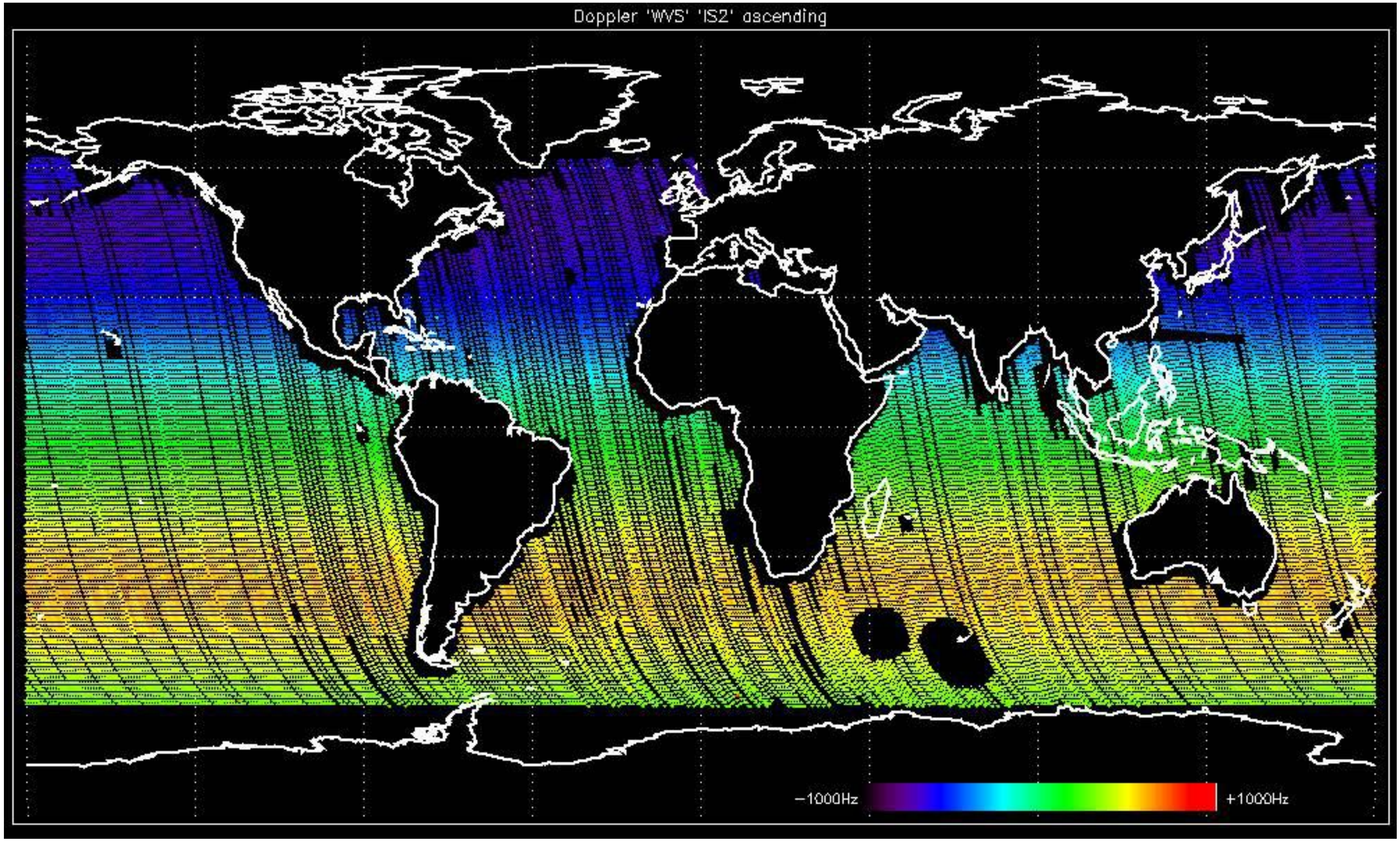

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15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

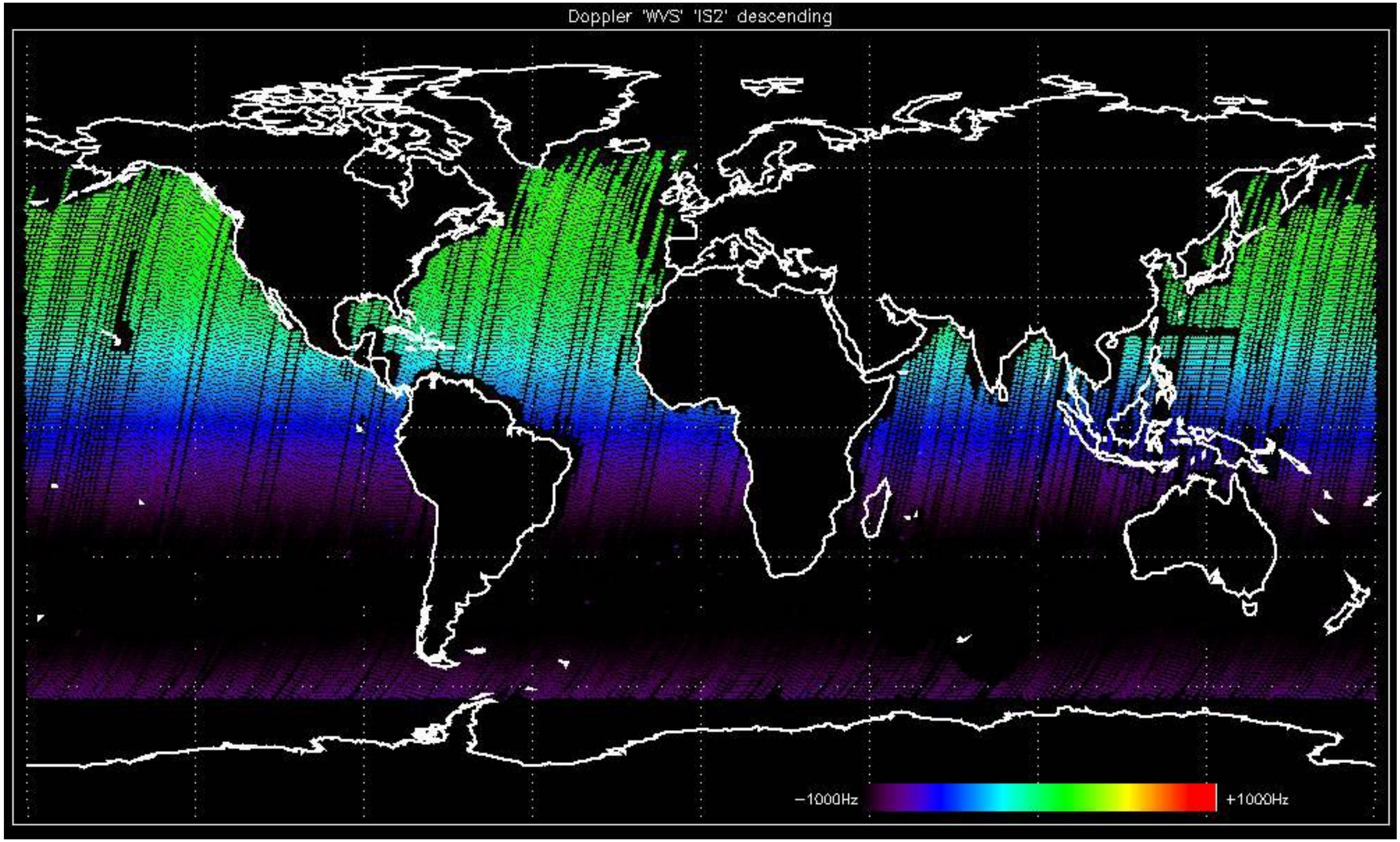
Preliminary report.The data is not yet controled

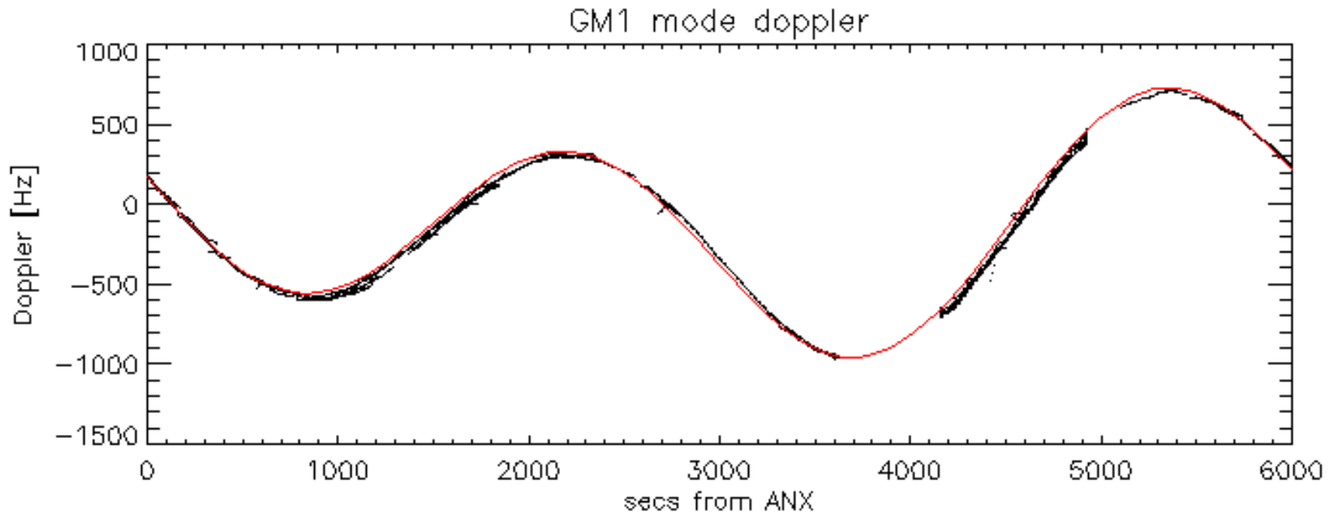
Preliminary report.The data is not yet controled

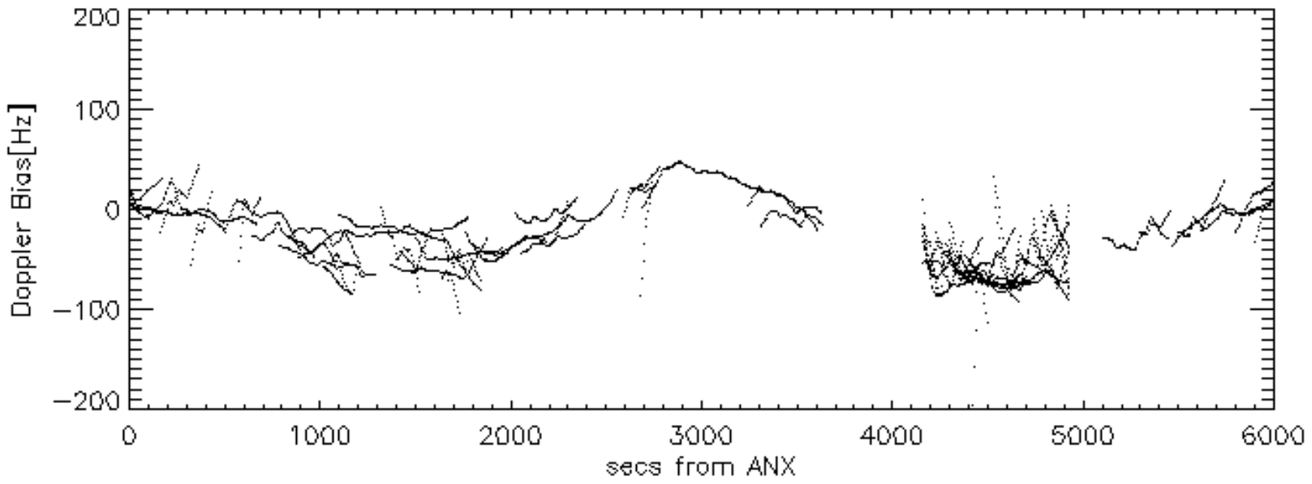

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

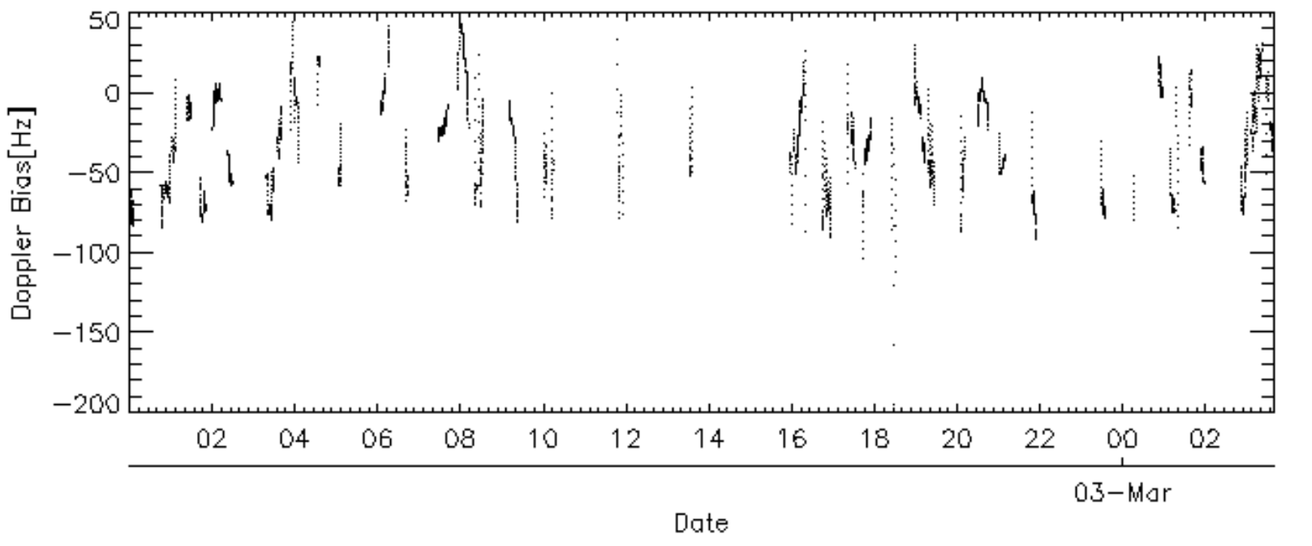

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

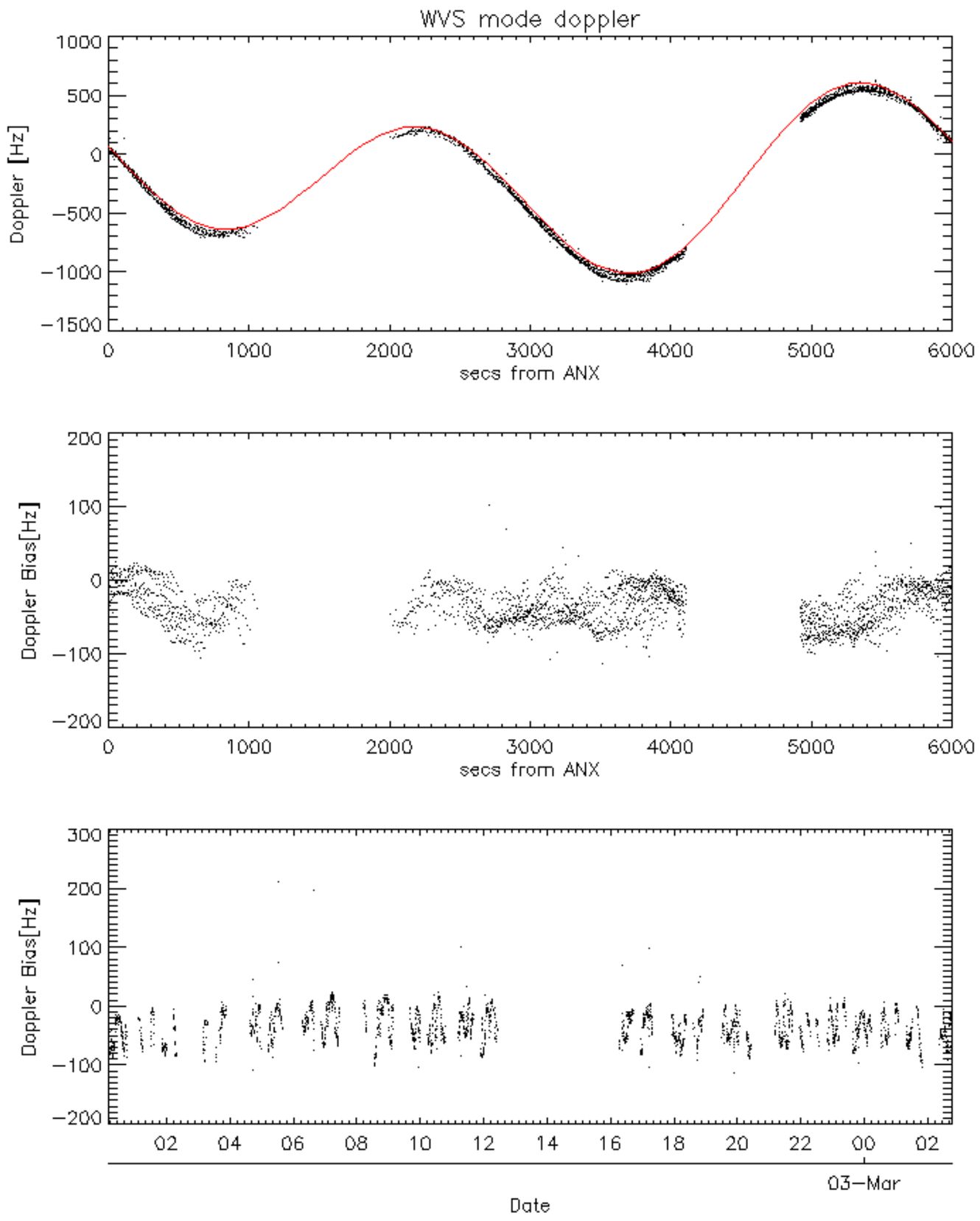

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

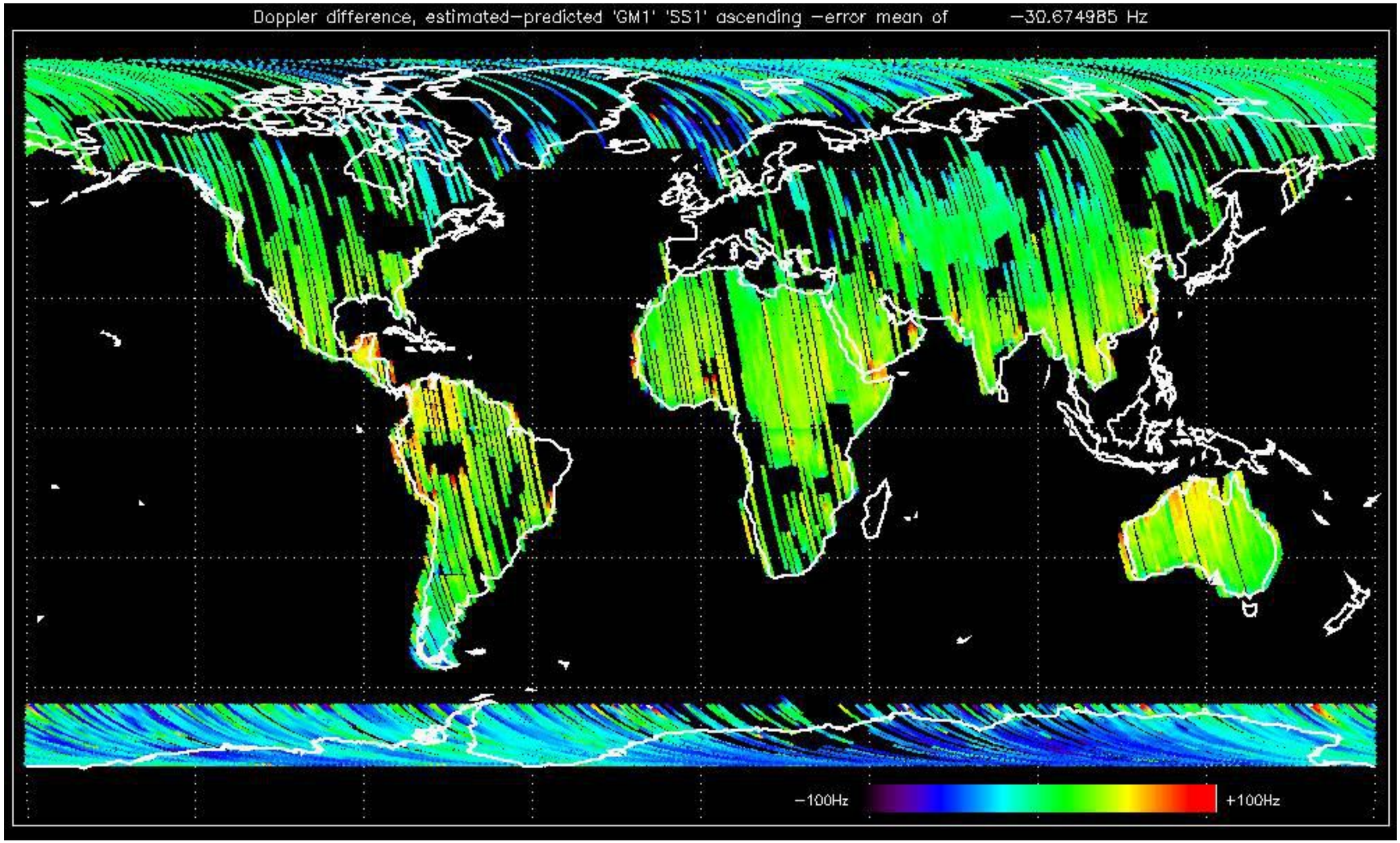

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

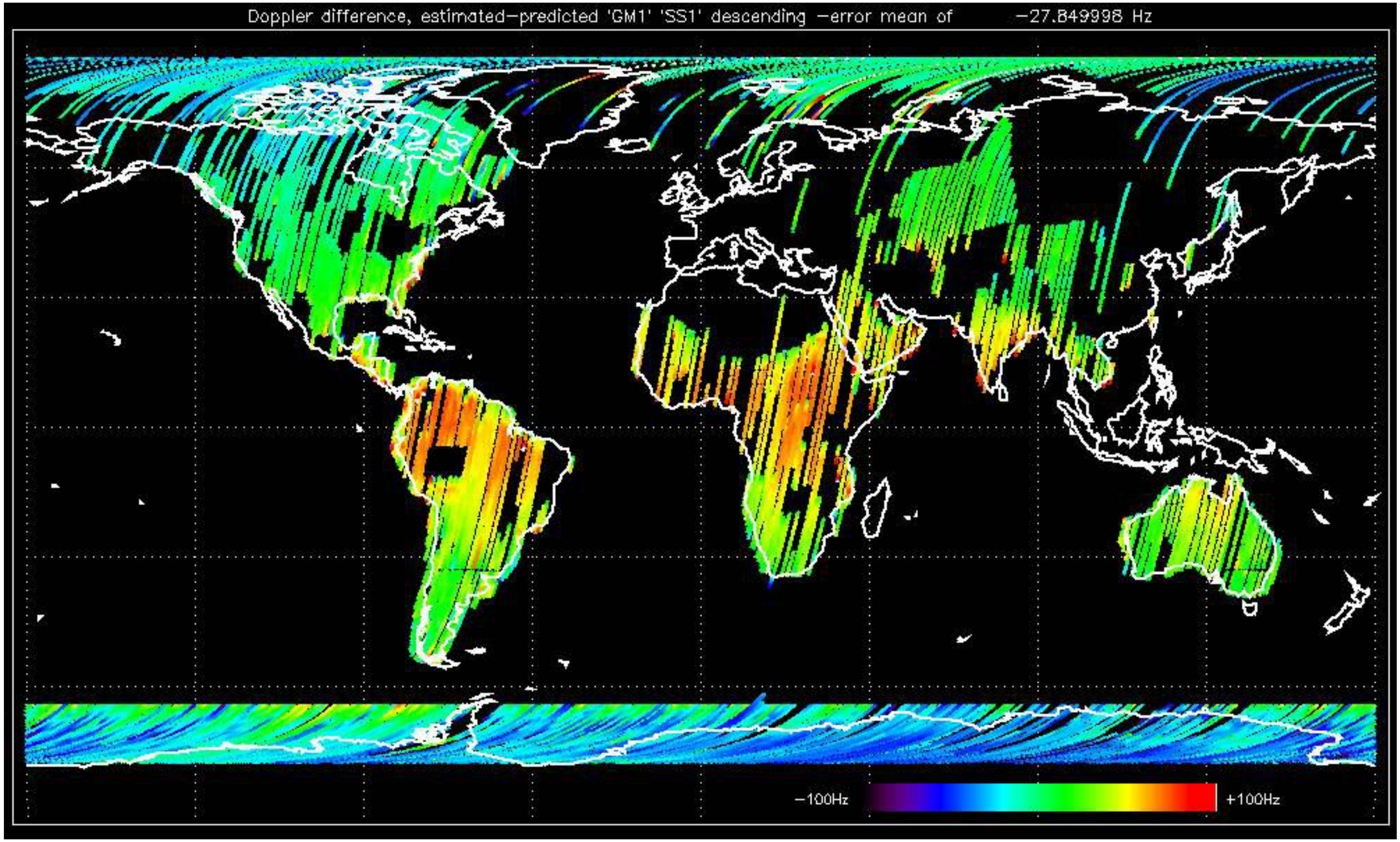

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

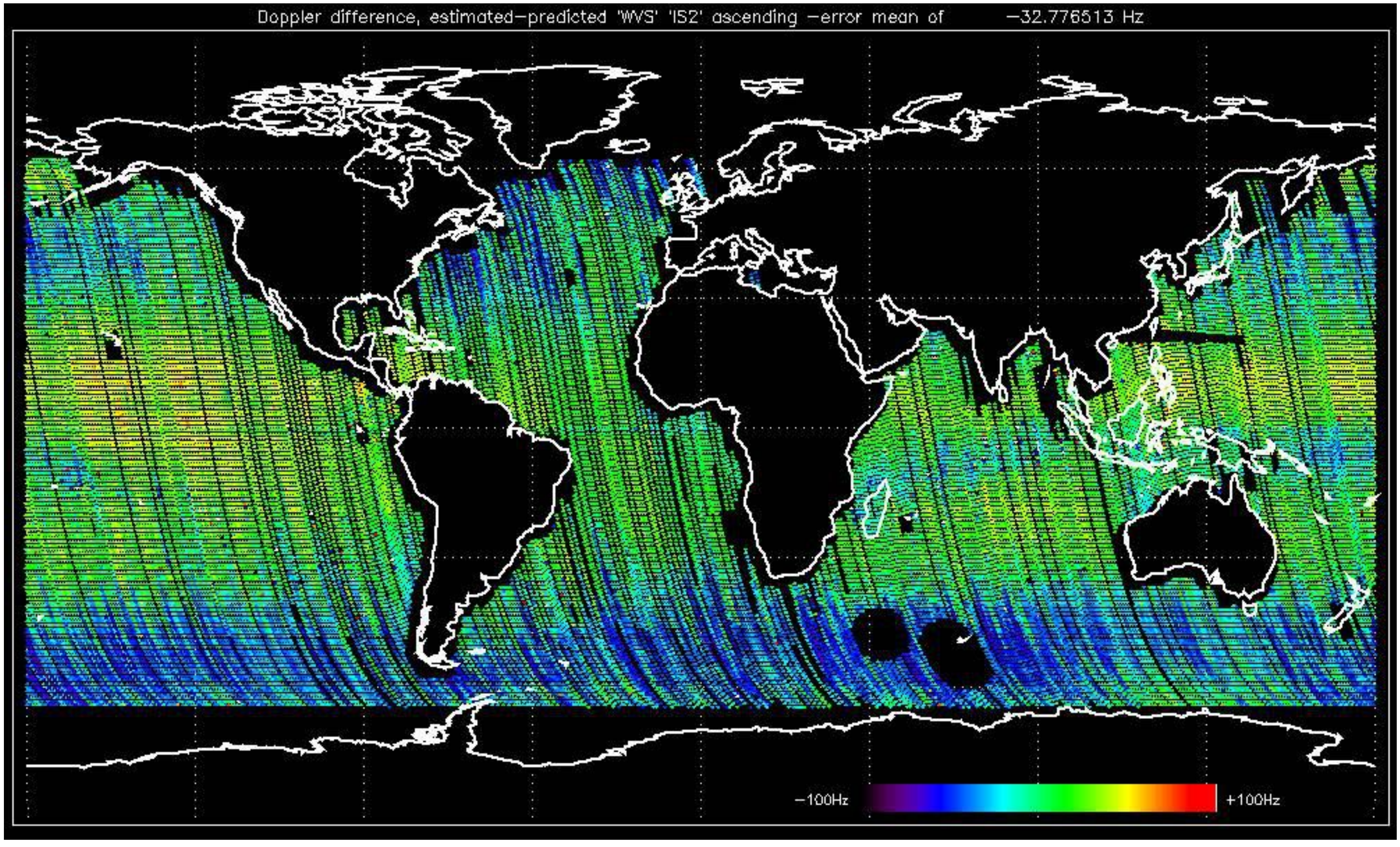

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

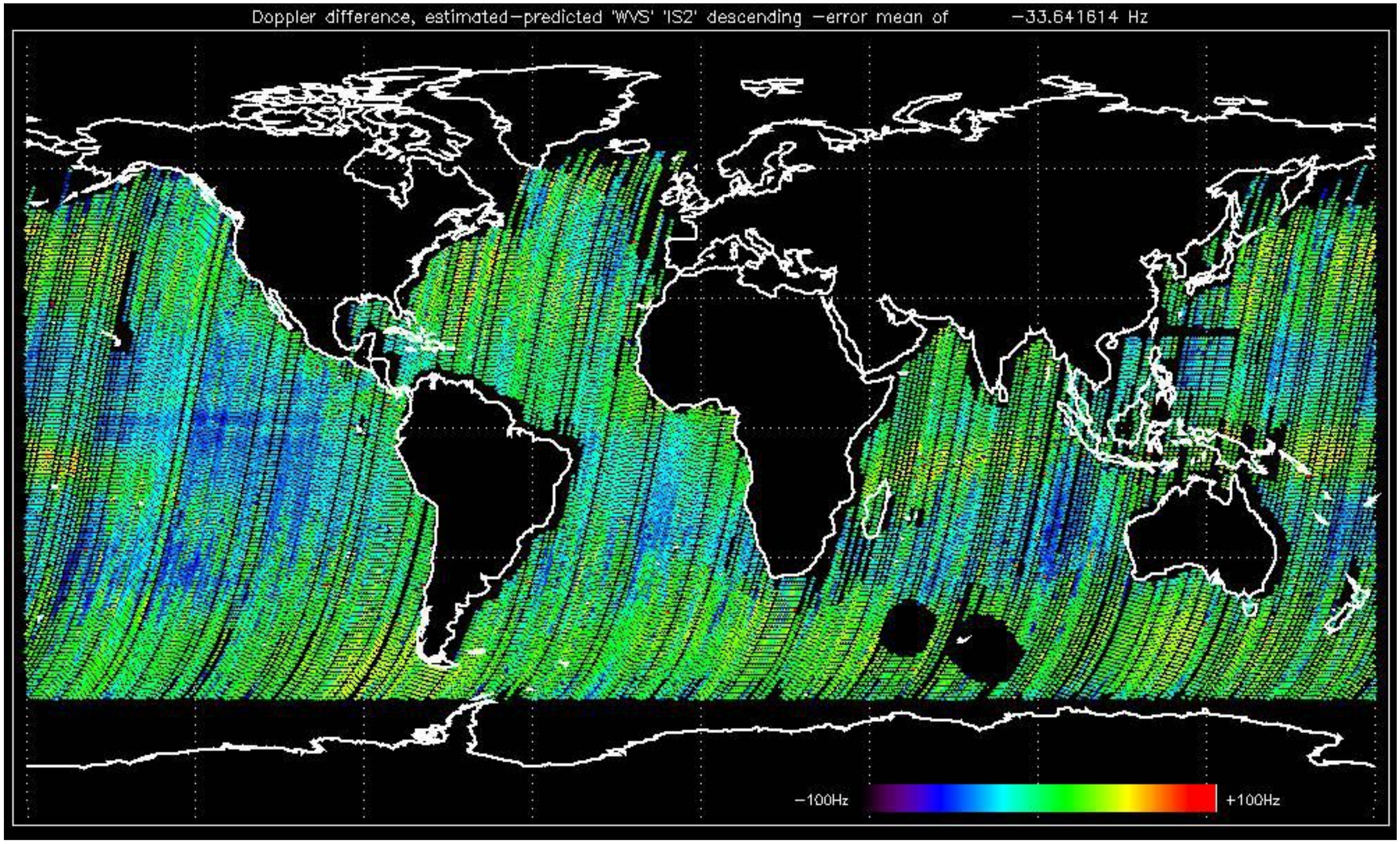

Doppler Bias[Hz]
50
0
−50
−100
−150
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
03−Mar
Date


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
02
04
06
08
10
12
14
16
18
20
22
00
02
03—Mar
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −30.674985 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −27.849998 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −32.776513 Hz
−100Hz
+100Hz

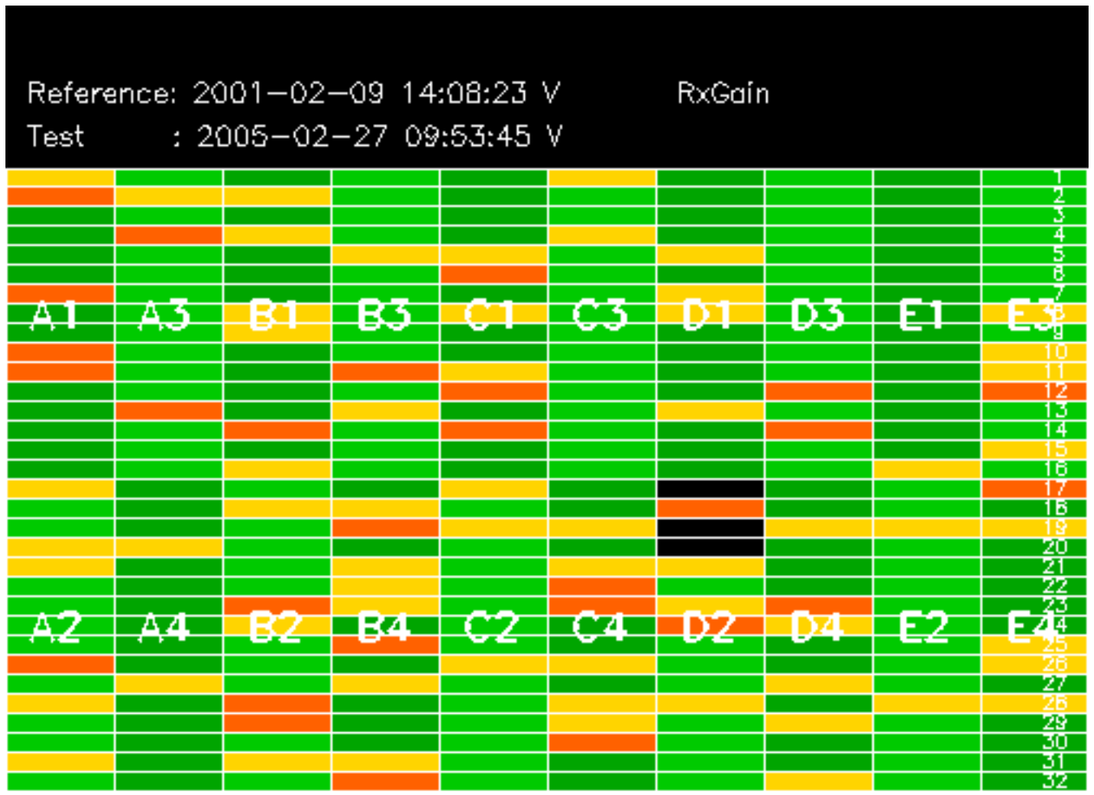

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −33.641614 Hz
−100Hz
+100Hz

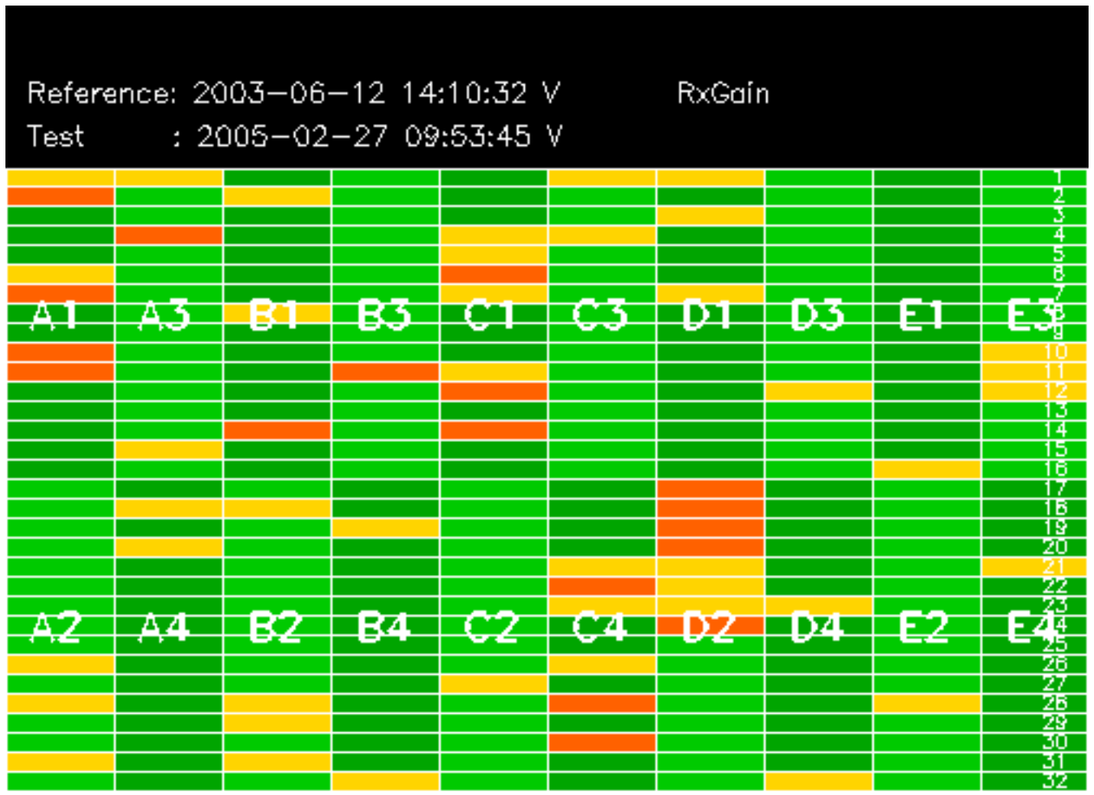
No anomalies observed on available MS products:

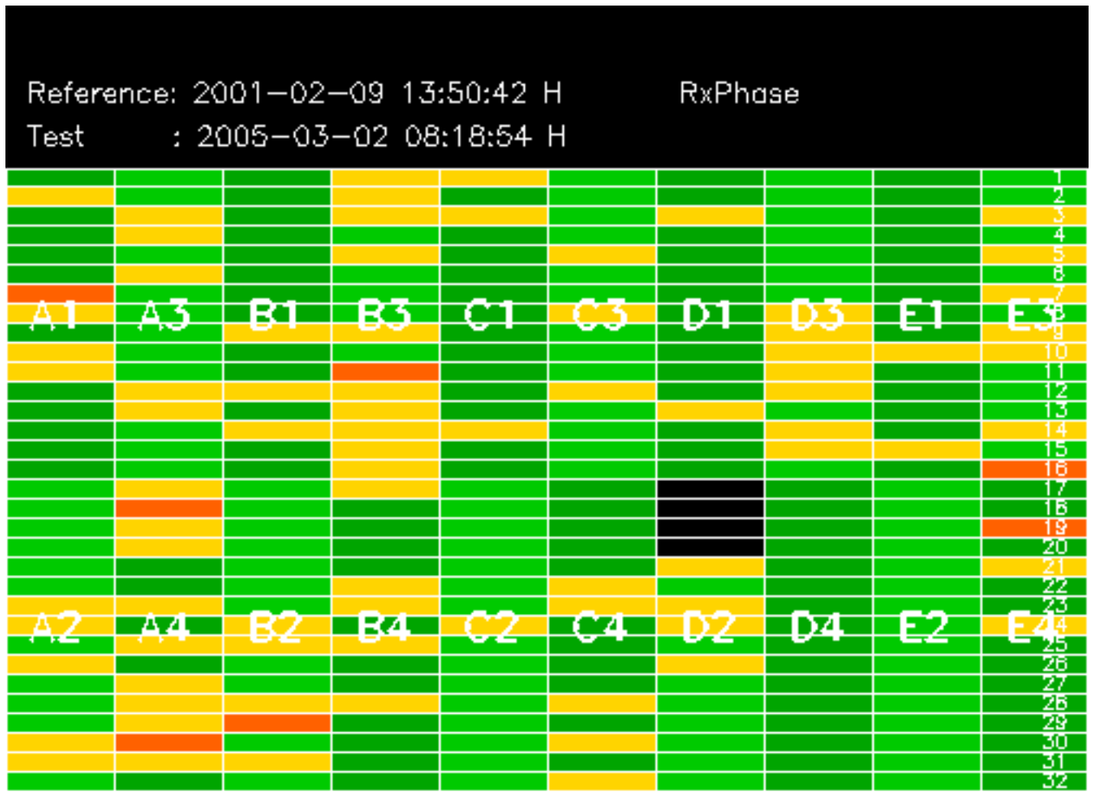
No anomalies observed.

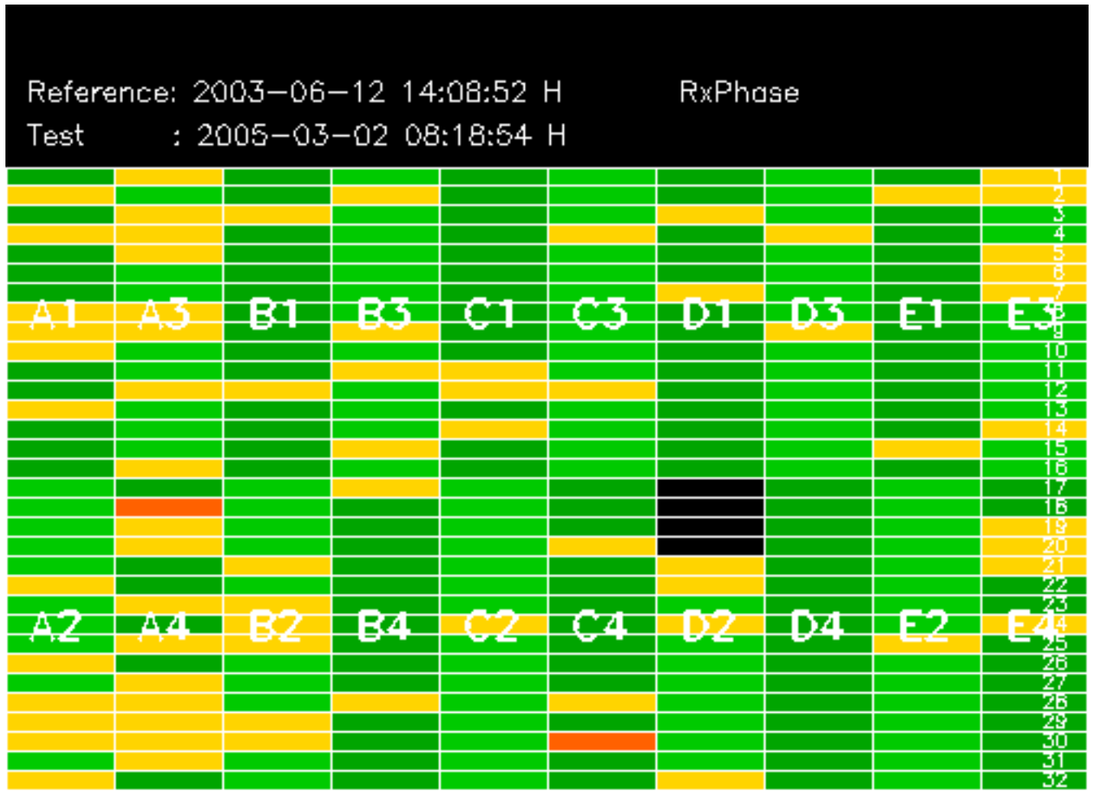

Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2005-03-02 08:18:54 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

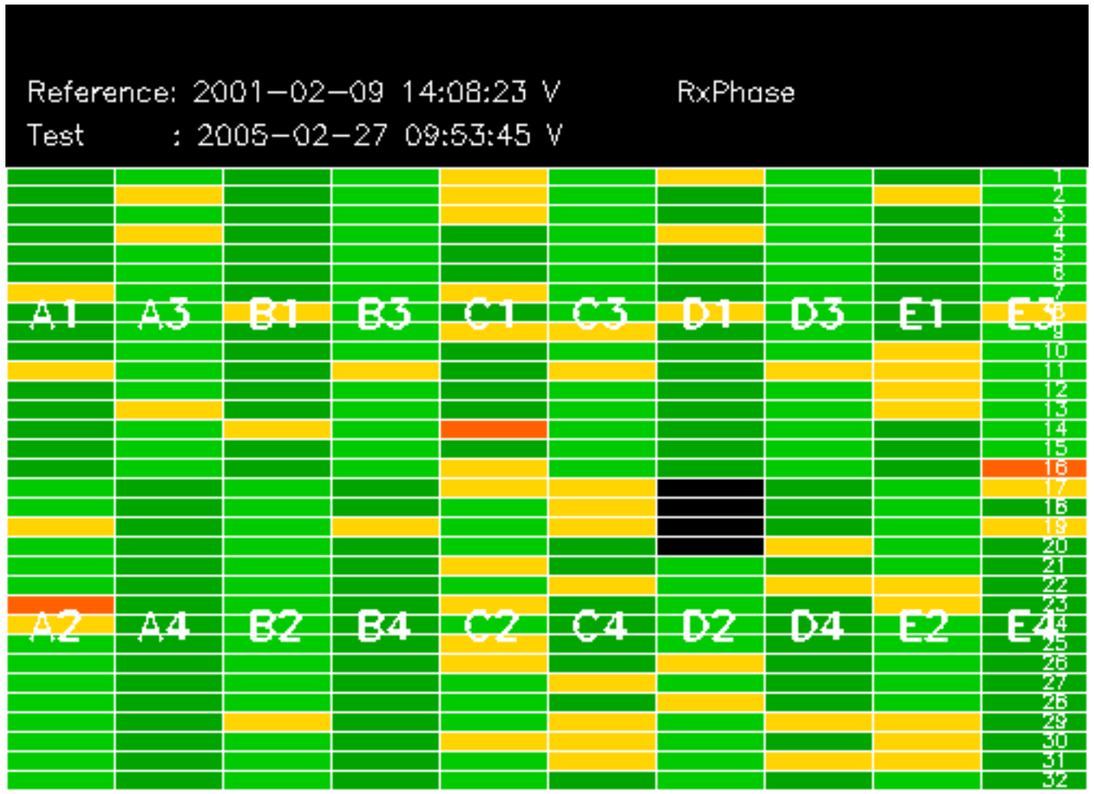

Reference: 2003-06-12 14:08:52 H
Test : 2005-03-02 08:18:54 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

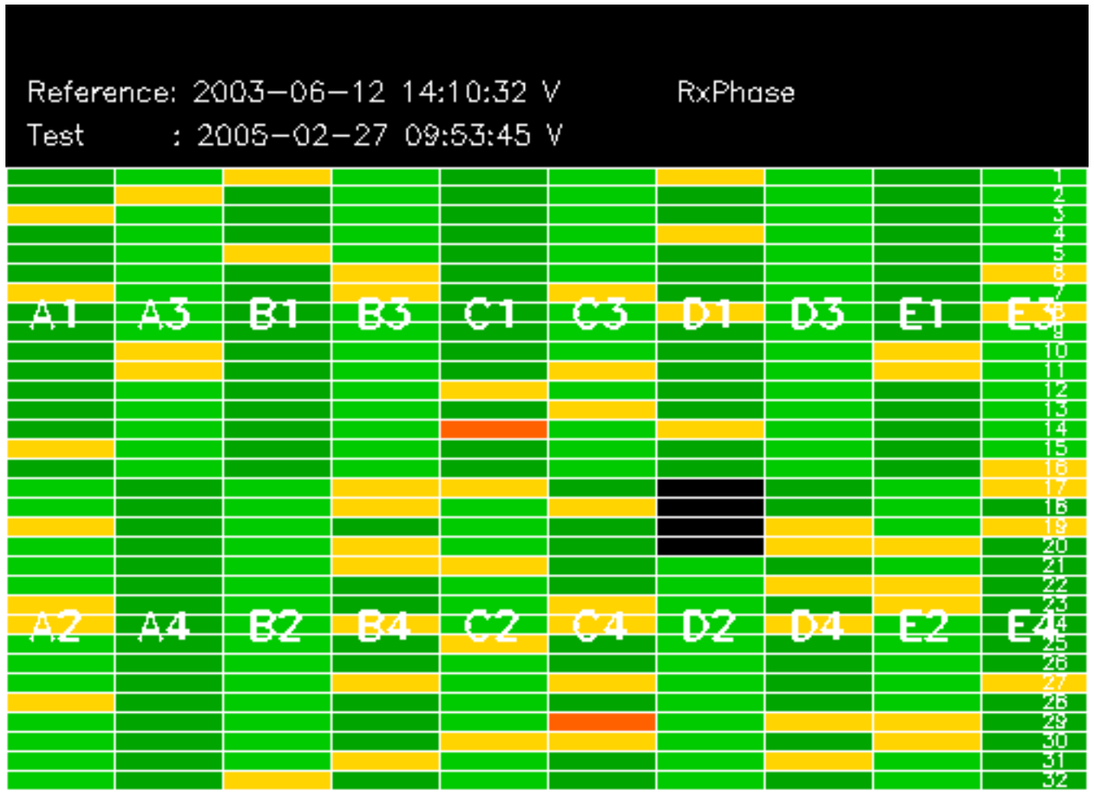

Reference: 2001-02-09 14:08:23 V
Test : 2005-02-27 09:53:45 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

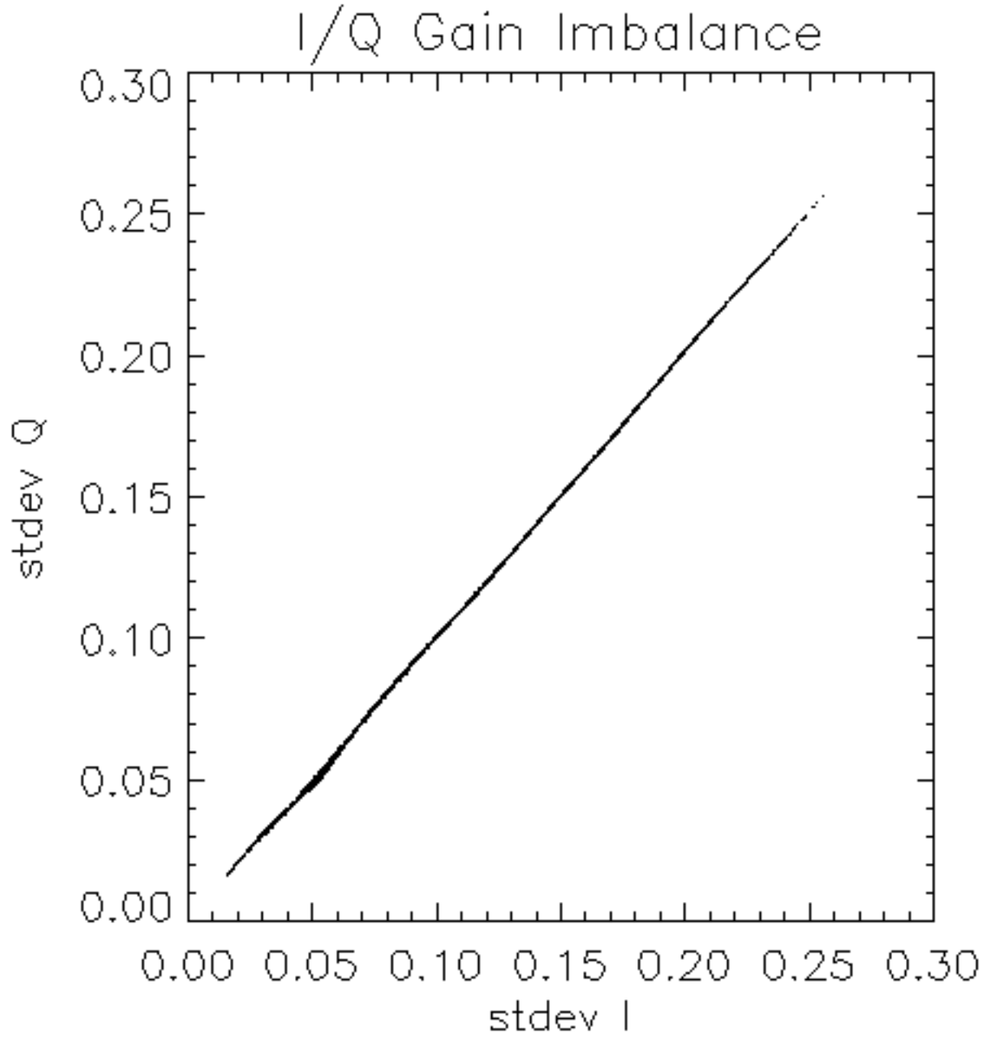

Reference: 2003-06-12 14:10:32 V
Test : 2005-02-27 09:53:45 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

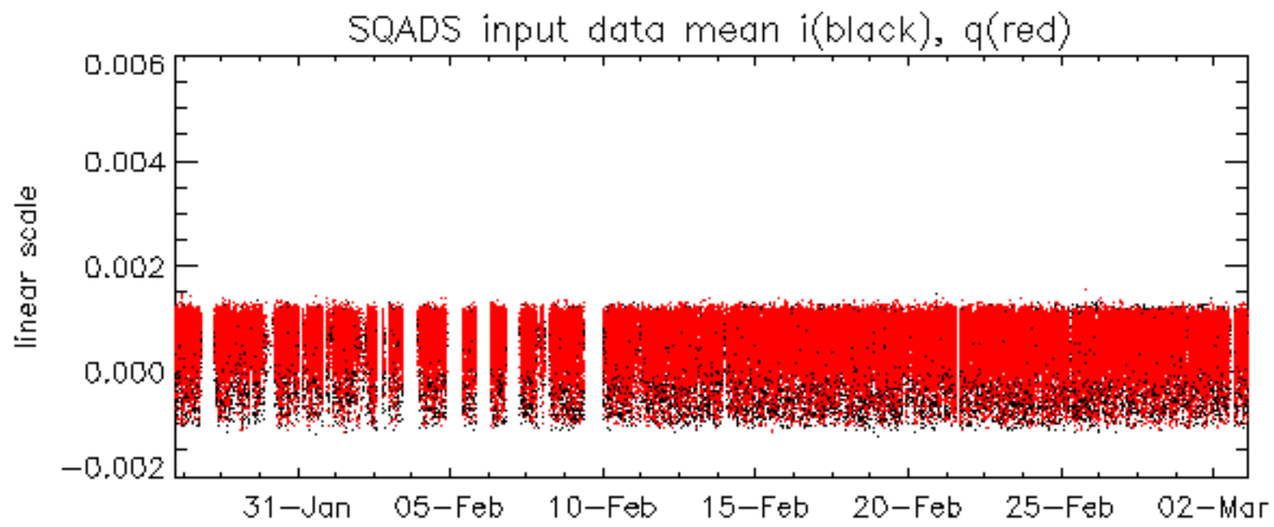

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-03-02 08:18:54 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

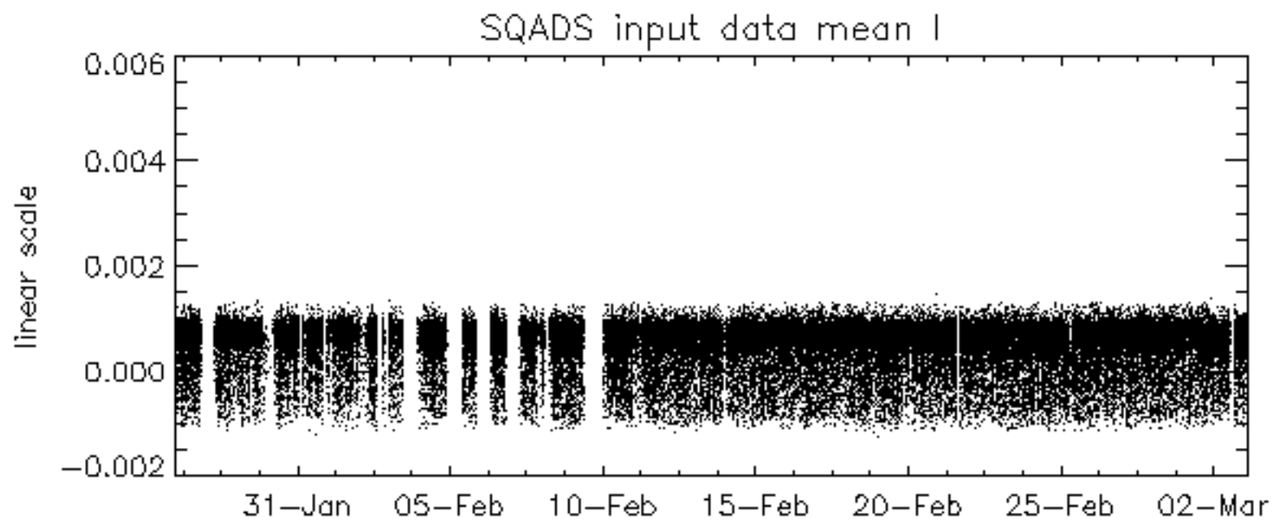

Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2005-03-02 08:18:54 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

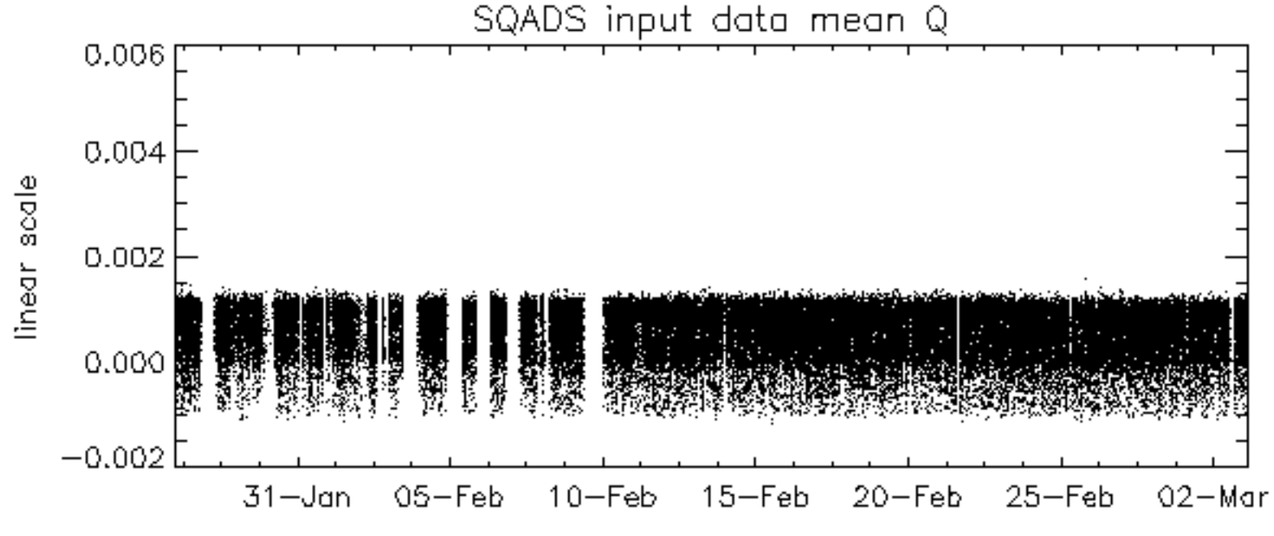

Reference: 2001-02-09 14:08:23 V
RxPhase
Test : 2005-02-27 09:53:45 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

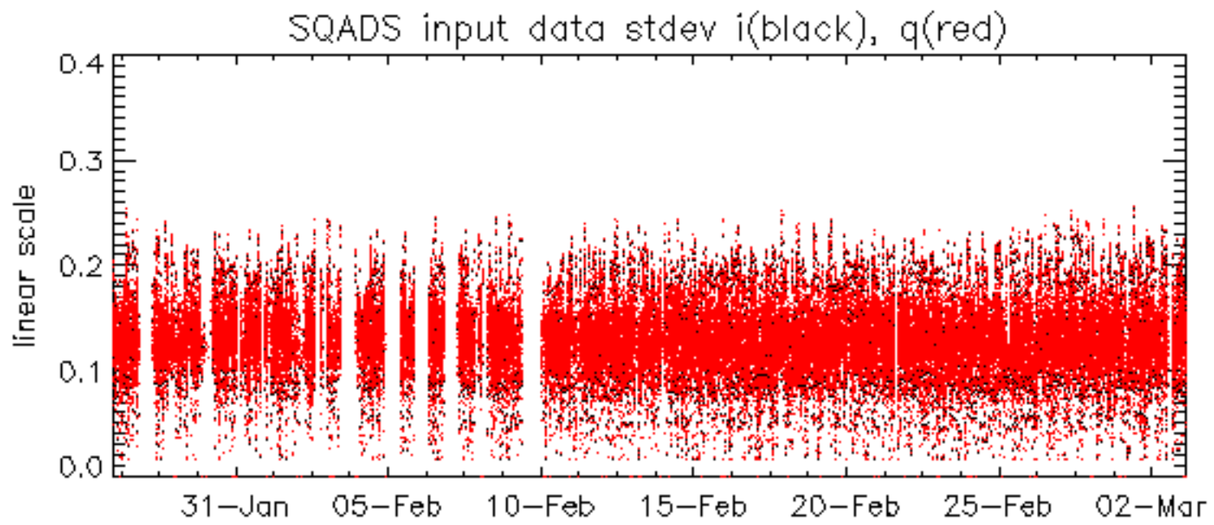

Reference: 2003-06-12 14:10:32 V
Test : 2005-02-27 09:53:45 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

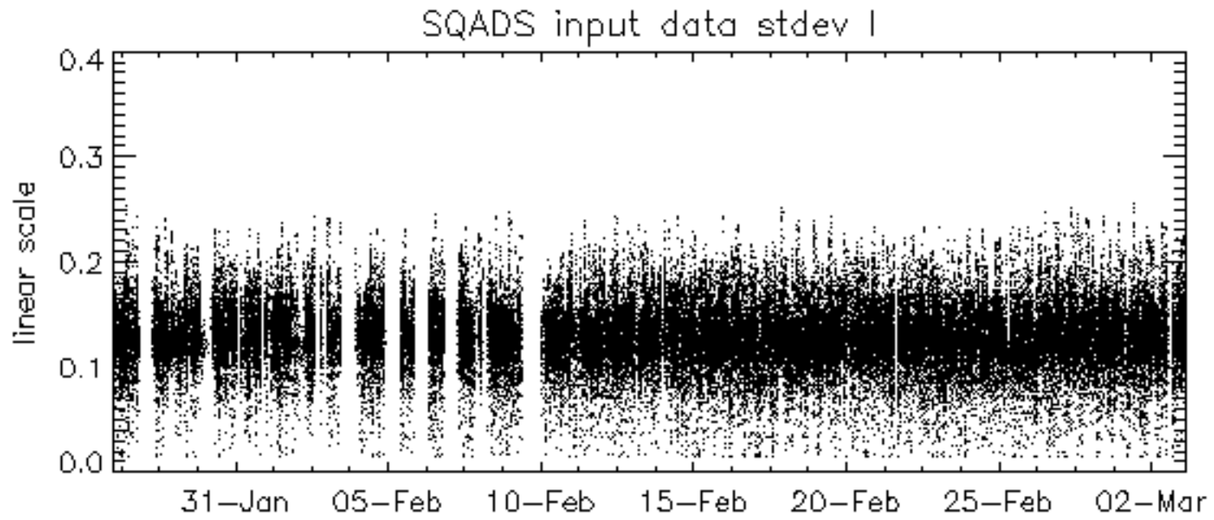

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

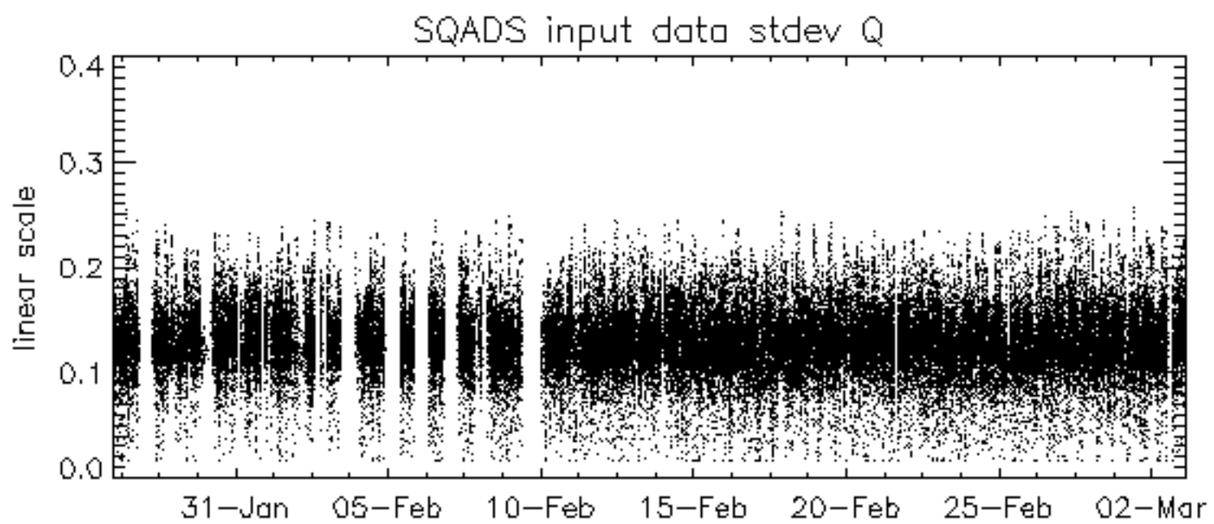

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Jan
05−Feb
10−Feb
15−Feb
20−Feb
25−Feb
02−Mar

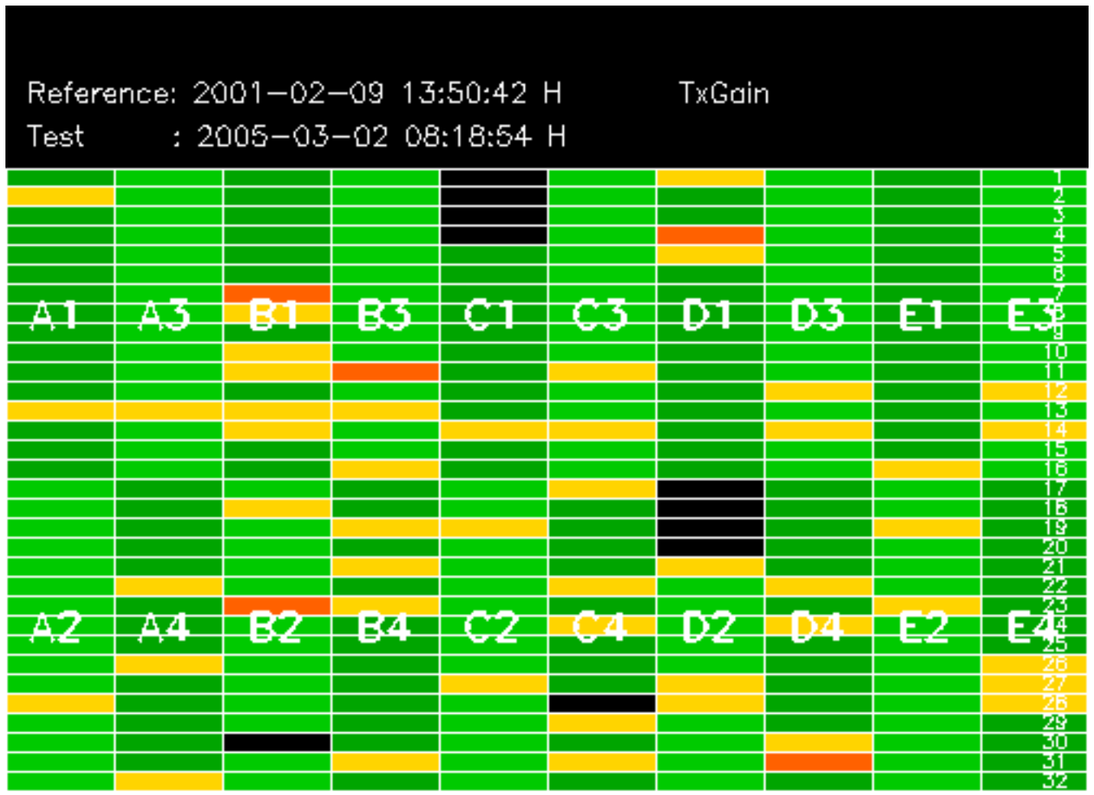

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Jan
05−Feb
10−Feb
15−Feb
20−Feb
25−Feb
02−Mar

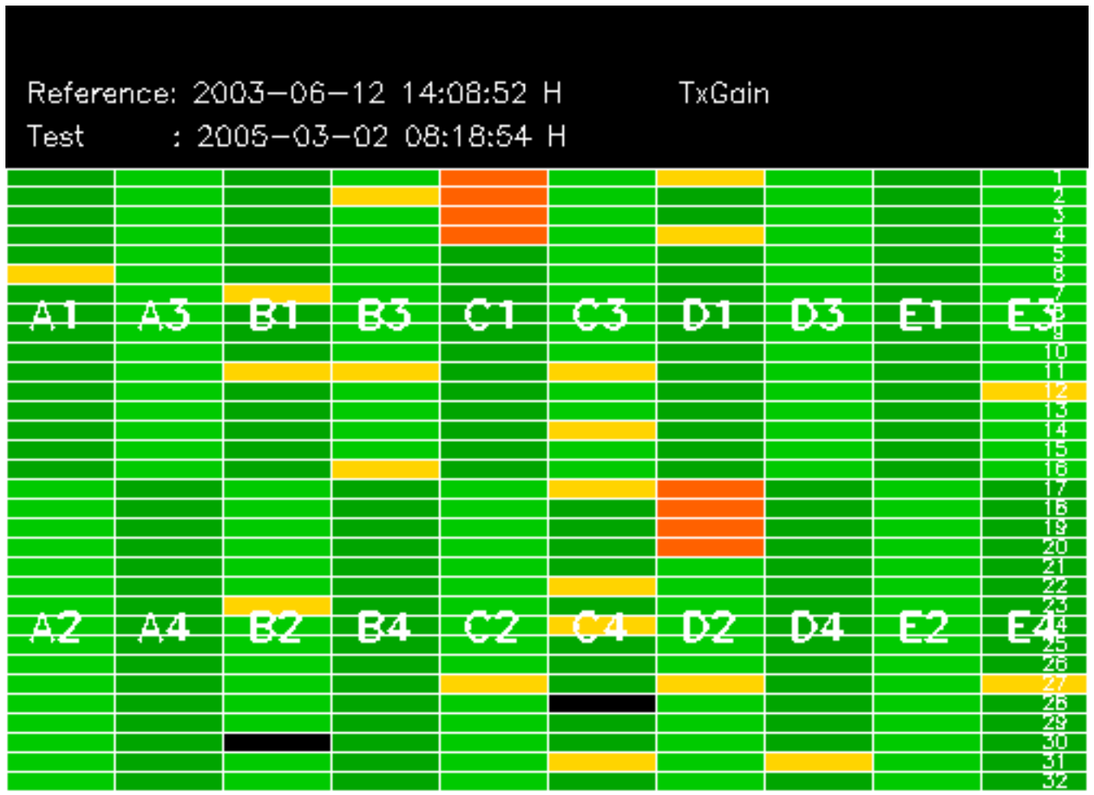

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Jan
05−Feb
10−Feb
15−Feb
20−Feb
25−Feb
02−Mar


SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
31–Jan
05–Feb
10–Feb
15–Feb
20–Feb
25–Feb
02–Mar


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
31–Jan
05–Feb
10–Feb
15–Feb
20–Feb
25–Feb
02–Mar


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
31–Jan
05–Feb
10–Feb
15–Feb
20–Feb
25–Feb
02–Mar


Reference: 2001-02-09 13:50:42 H
Test : 2005-03-02 08:18:54 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 : 2005-03-02 08:18:54 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
5
6
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8
9
10
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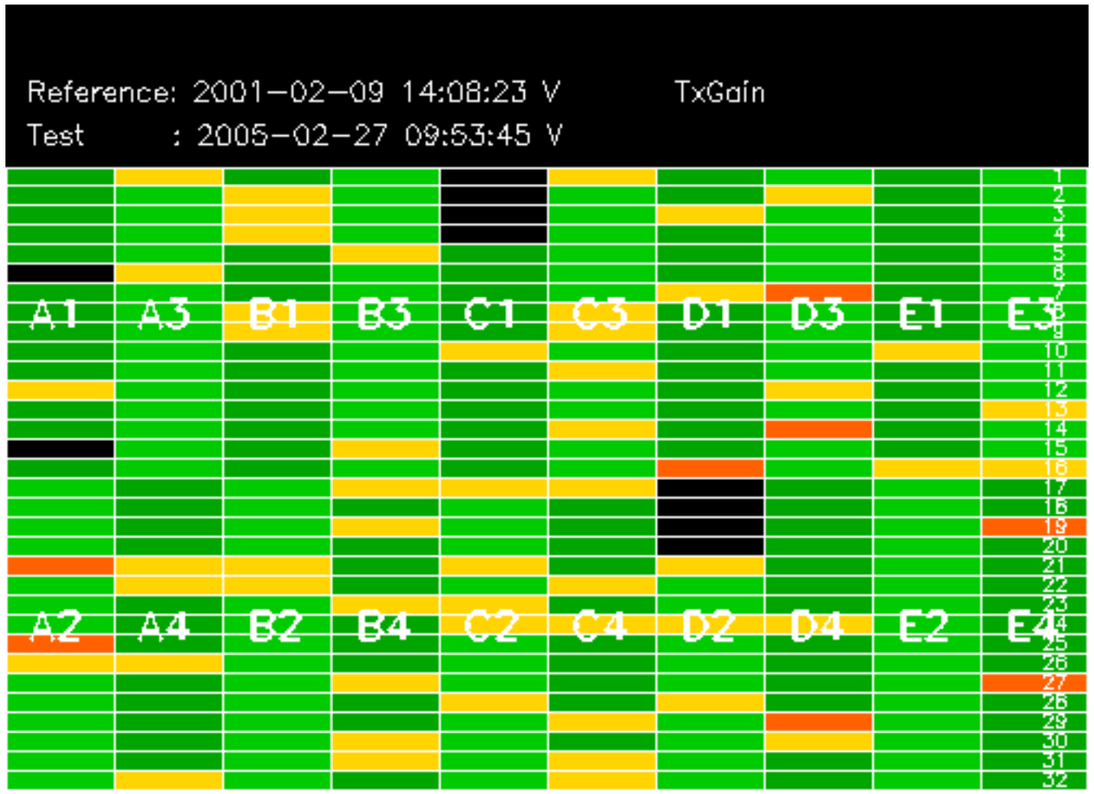
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2005-02-27 09:53:45 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
5
6
7
8
9
10
11
12
13
14
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16
17
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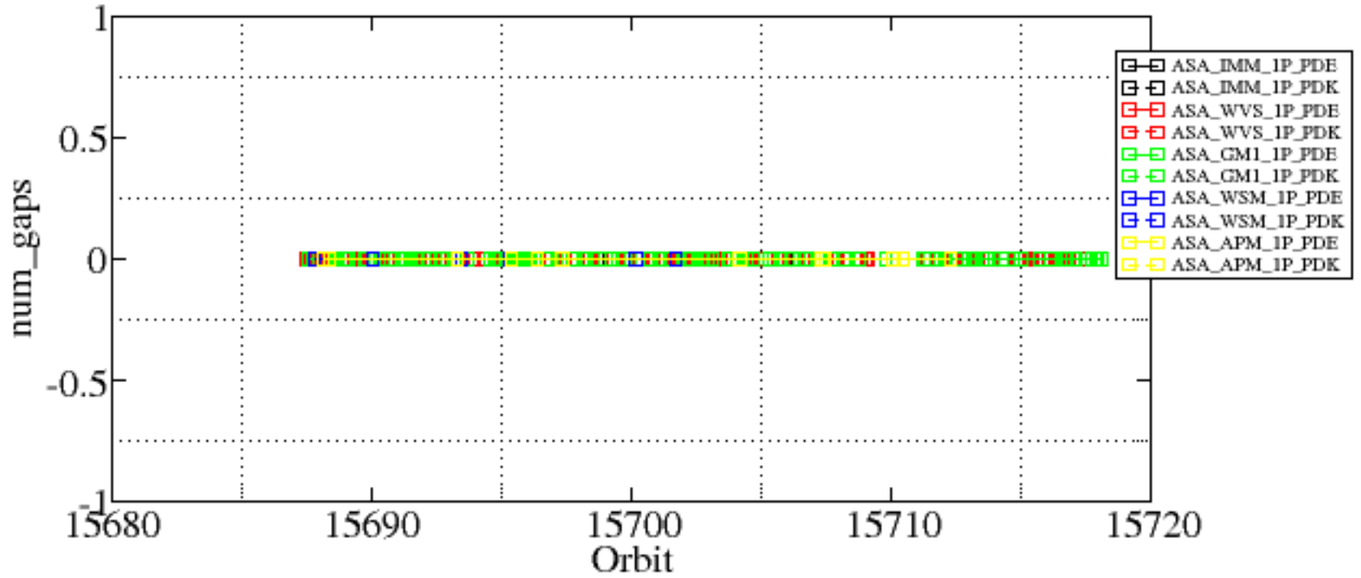
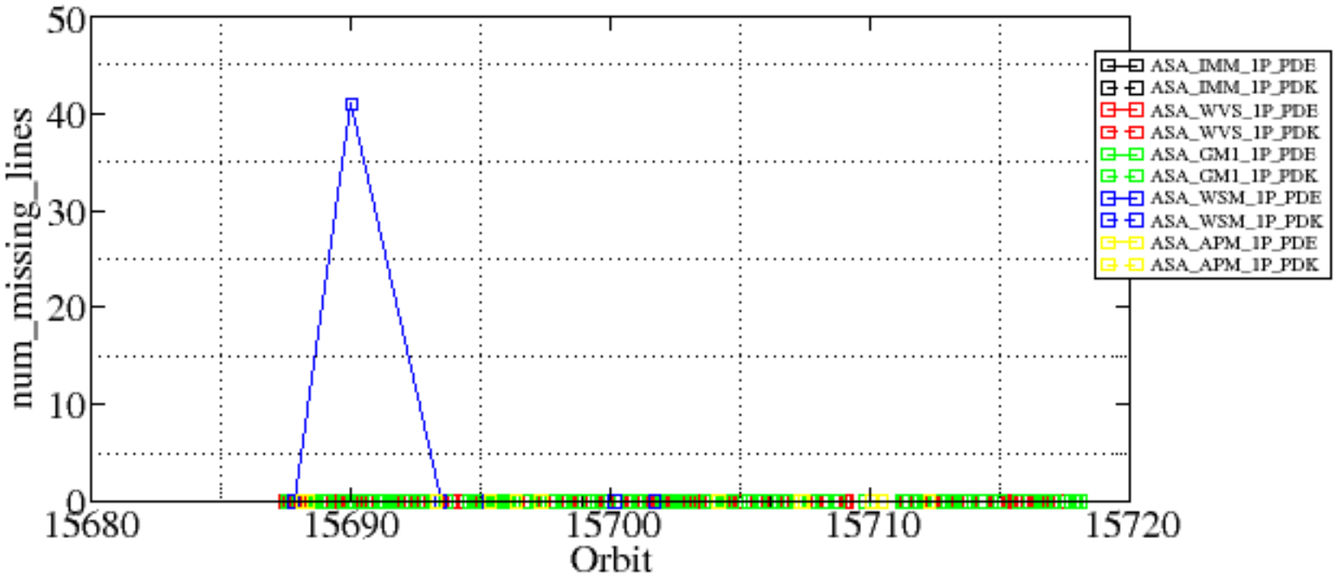
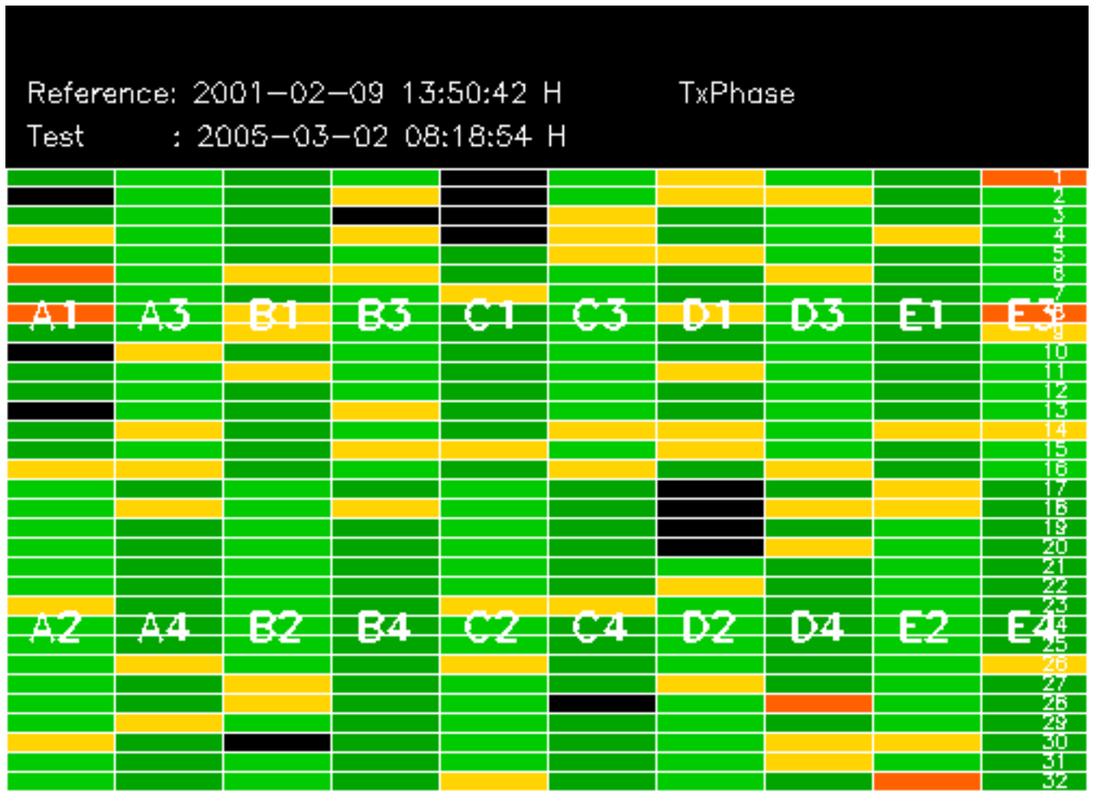
19
20
21
22
23
24
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:10:32 V
Test : 2005-02-27 09:53:45 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

Summary of analysis for the last 3 days 2005030[123]
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_1PNPDE20050301_042445_000003062035_00105_15690_8222.N1 </td> <td>0   </td> <td>41   </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
15680
15690
15700
15710
15720
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
ASA_APM_1P_PDK


num_missing_lines
50
40
30
20
10
0
15680
15690
15700
15710
15720
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
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2005-03-02 08:18:54 H
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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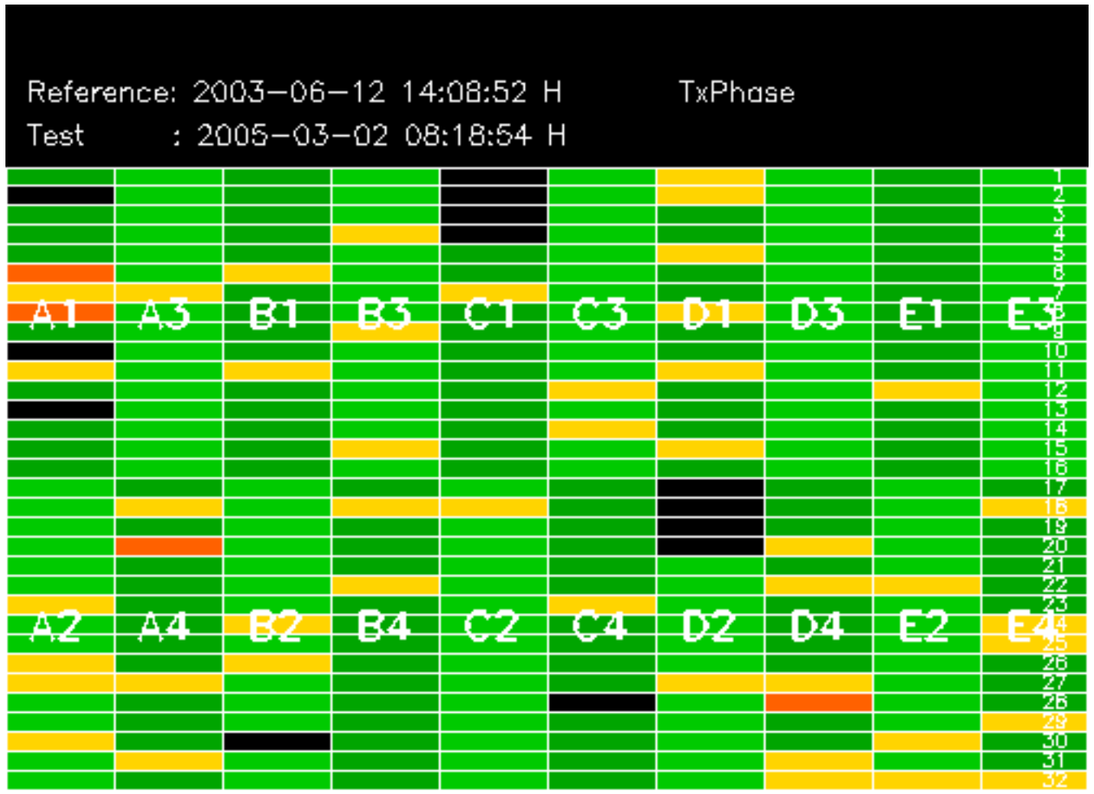
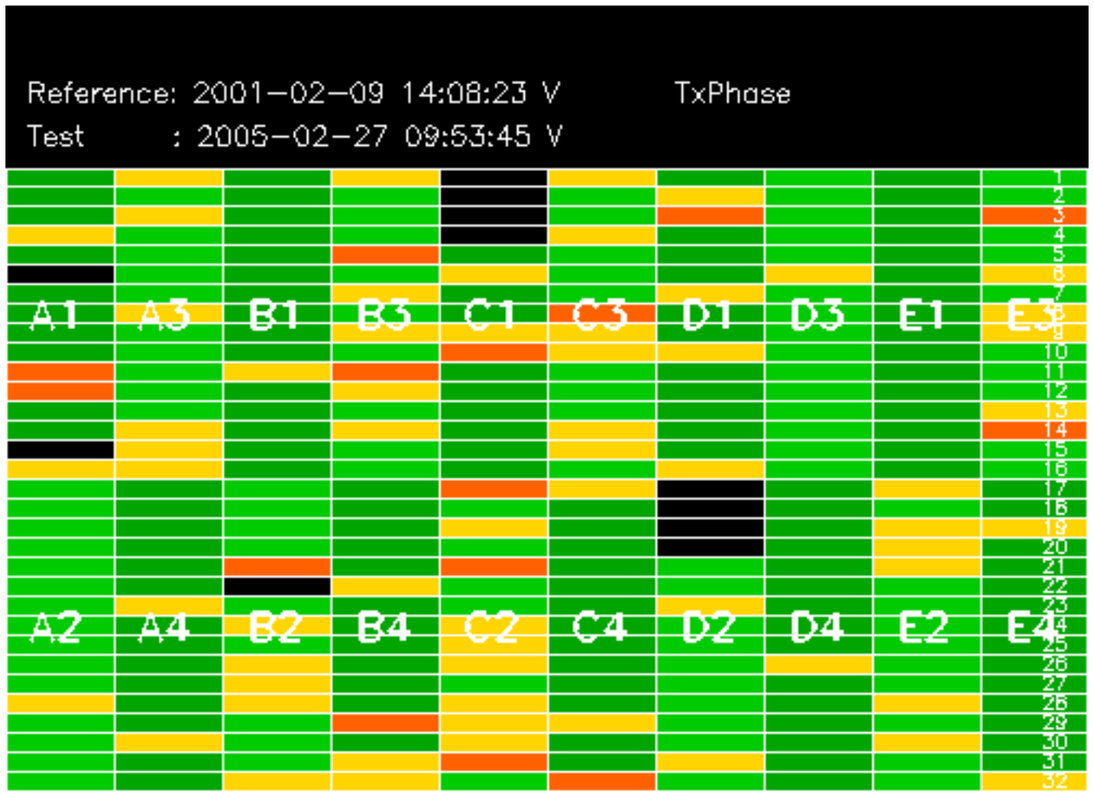
29
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-03-02 08:18:54 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 : 2005-02-27 09:53:45 V
TxPhase
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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4
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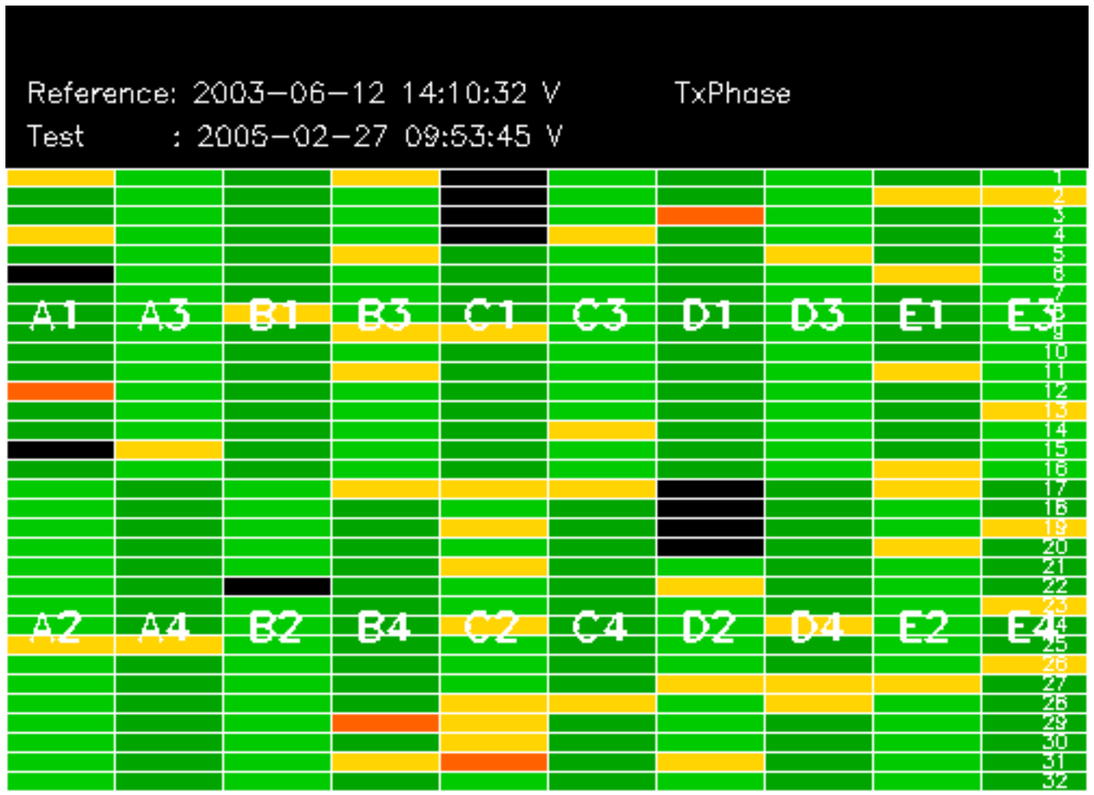
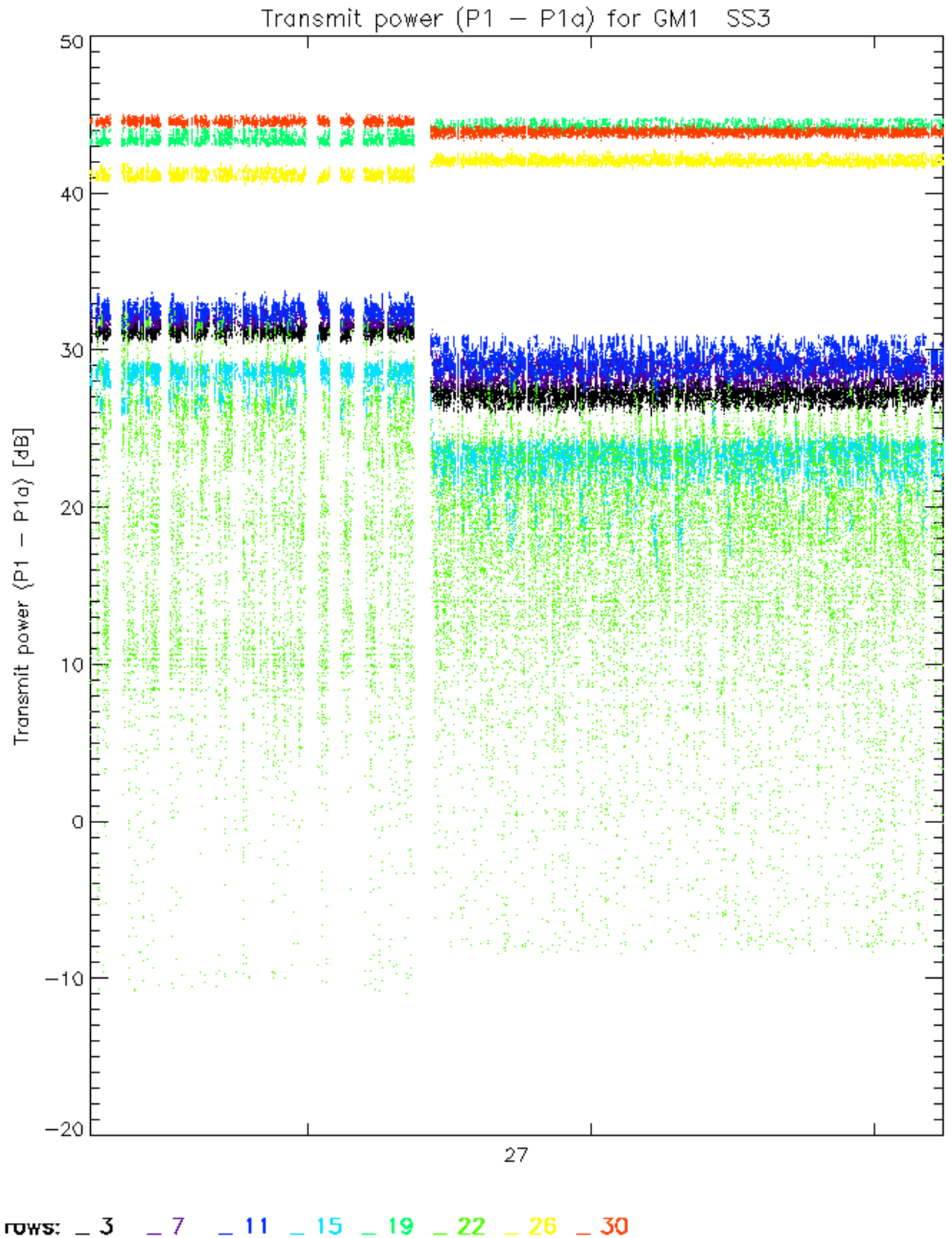
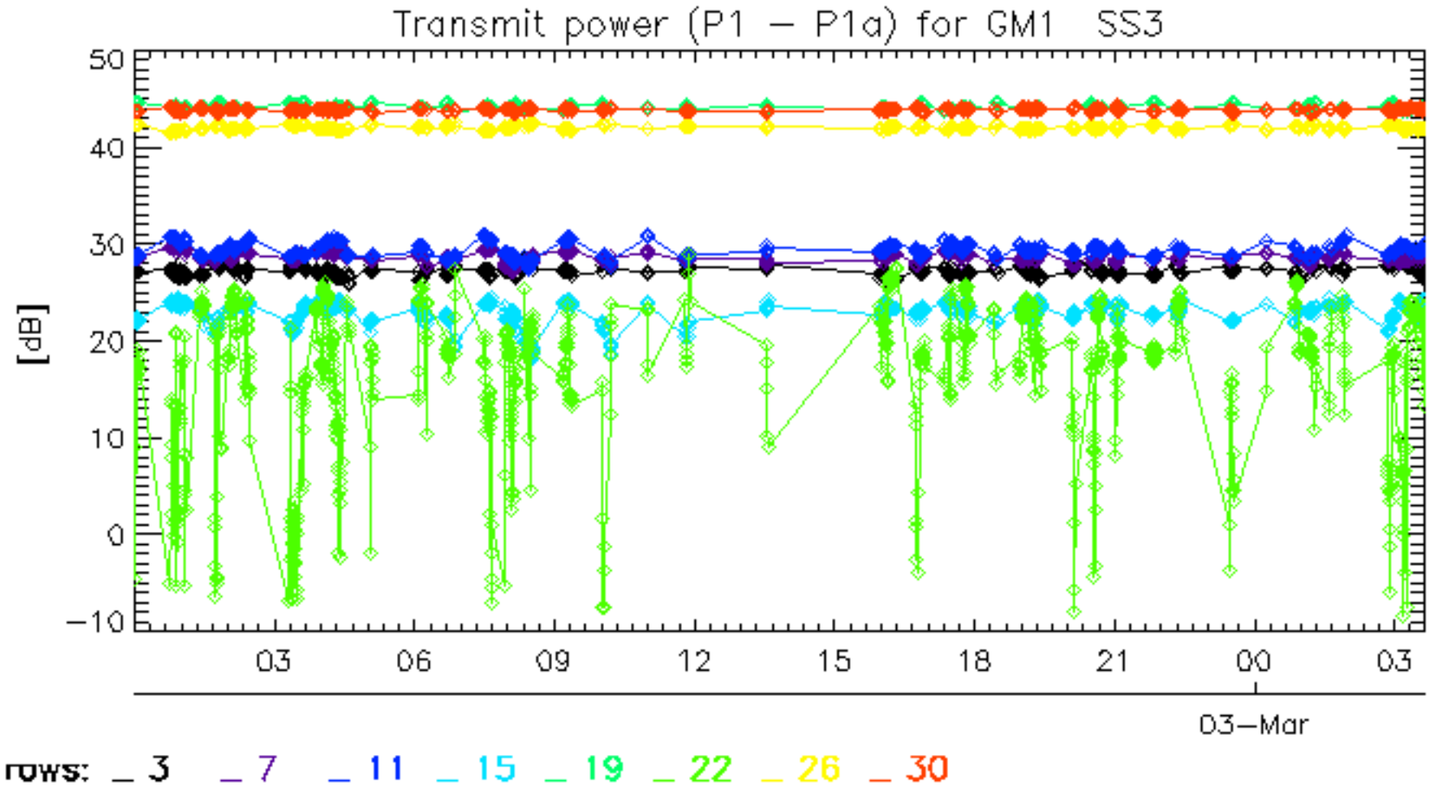
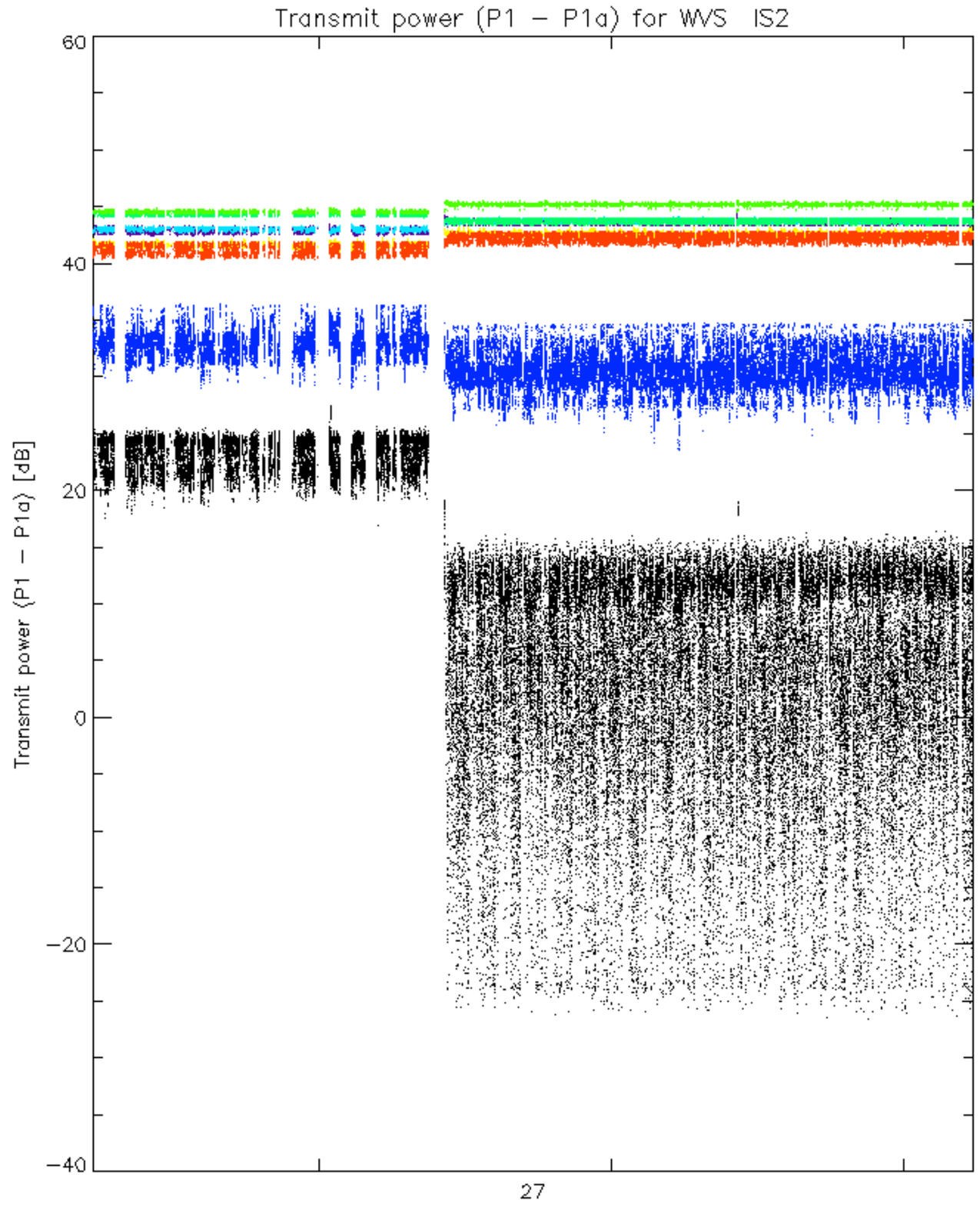
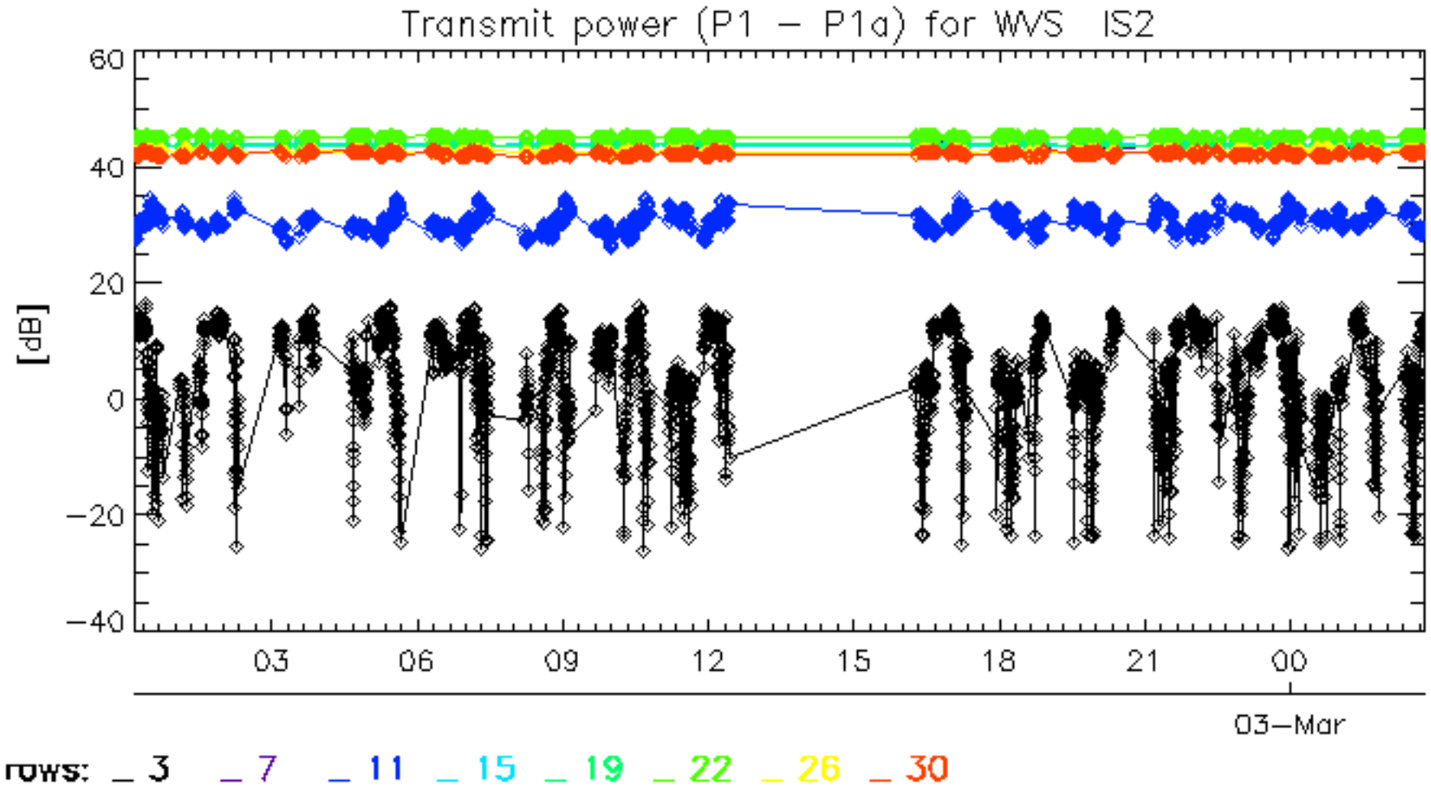
31
32


Reference: 2003-06-12 14:10:32 V
Test : 2005-02-27 09:53:45 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
27
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
03–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
27
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–Mar
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

No unavailabilities during the reported period.