PRELIMINARY REPORT OF 050209

last update on Wed Feb 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 2005-02-08 00:00:00 to 2005-02-09 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	29	38	5	0	6
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	29	38	5	0	6
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	29	38	5	0	6
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	29	38	5	0	6

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	33	37	4	11	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	33	37	4	11	4
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	33	37	4	11	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	33	37	4	11	4

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	20050207 084155
H	20050208 081017

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	-3.401876	0.008201	0.039761
7	P1	-3.079660	0.007996	-0.000420
11	P1	-4.658658	0.019225	-0.048546
15	P1	-5.642868	0.034258	-0.026819
19	P1	-3.664011	0.004381	-0.002150
22	P1	-4.557738	0.014531	0.029014
26	P1	-4.939175	0.012800	0.000124
30	P1	-7.145312	0.016570	-0.041607
3	P1	-15.902753	0.101601	0.024159
7	P1	-15.511195	0.069901	-0.058848
11	P1	-20.861990	0.238496	-0.183830
15	P1	-11.603112	0.061226	0.080888
19	P1	-14.178919	0.024626	-0.010201
22	P1	-15.903124	0.384718	0.248341
26	P1	-17.617569	0.217296	0.131358
30	P1	-17.918682	0.346860	-0.057975

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.226383	0.086212	0.162292
7	P2	-22.417223	0.111275	0.153647
11	P2	-14.643985	0.104093	0.199308
15	P2	-7.103824	0.097439	0.058255
19	P2	-9.689576	0.097045	0.059806
22	P2	-17.032776	0.095038	0.136352
26	P2	-16.486717	0.094754	0.059044
30	P2	-18.908476	0.081074	0.038560

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.185105	0.006071	0.032665
7	P3	-8.185105	0.006071	0.032665
11	P3	-8.185105	0.006071	0.032665
15	P3	-8.185105	0.006071	0.032665
19	P3	-8.185105	0.006071	0.032665
22	P3	-8.185105	0.006071	0.032665
26	P3	-8.185074	0.006074	0.032671
30	P3	-8.185074	0.006074	0.032671

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	-2.796792	0.019613	0.068301
7	P1	-2.964128	0.078346	-0.057054
11	P1	-3.955964	0.030711	-0.029501
15	P1	-3.529113	0.028689	-0.032293
19	P1	-3.599883	0.013674	0.012030
22	P1	-5.684687	0.062520	-0.065076
26	P1	-7.027878	0.176045	-1.181130
30	P1	-6.283472	0.043771	0.075659
3	P1	-10.766307	0.093160	0.034407
7	P1	-10.156140	0.192904	-0.103600
11	P1	-12.544151	0.129419	-0.028937
15	P1	-11.763324	0.080869	0.008412
19	P1	-15.591767	0.054345	0.066250
22	P1	-24.089638	1.630699	-0.231543
26	P1	-15.312589	0.443641	-1.171798
30	P1	-20.000502	0.835933	-0.121708

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.933435	0.048578	0.140694
7	P2	-22.469358	0.134001	0.149470
11	P2	-10.447579	0.052670	0.239147
15	P2	-5.016423	0.021787	0.052290
19	P2	-6.896672	0.033104	0.091226
22	P2	-7.208920	0.051263	0.115877
26	P2	-23.900188	0.100052	0.088515
30	P2	-21.955393	0.058743	0.043183

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.019918	0.002500	0.039745
7	P3	-8.019942	0.002508	0.039630
11	P3	-8.019971	0.002508	0.040045
15	P3	-8.019900	0.002503	0.040155
19	P3	-8.019979	0.002521	0.040063
22	P3	-8.019922	0.002500	0.039876
26	P3	-8.019886	0.002513	0.039917
30	P3	-8.020000	0.002505	0.039765

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	0.000472162
	stdev	2.15965e-07
MEAN Q	mean	0.000545339
	stdev	2.29293e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129128
	stdev	0.000968351
STDEV Q	mean	0.129366
	stdev	0.000979578

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005020[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_IMM_1PNPDE20050207_004753_000002122034_00288_15372_1924.N1	1	0
ASA_IMM_1PNPDE20050207_155733_000002312034_00298_15382_1963.N1	1	0
ASA_GM1_1PNPDE20050207_194032_000004832034_00300_15384_8573.N1	0	7
ASA_GM1_1PNPDE20050207_212423_000001082034_00301_15385_8587.N1	5	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

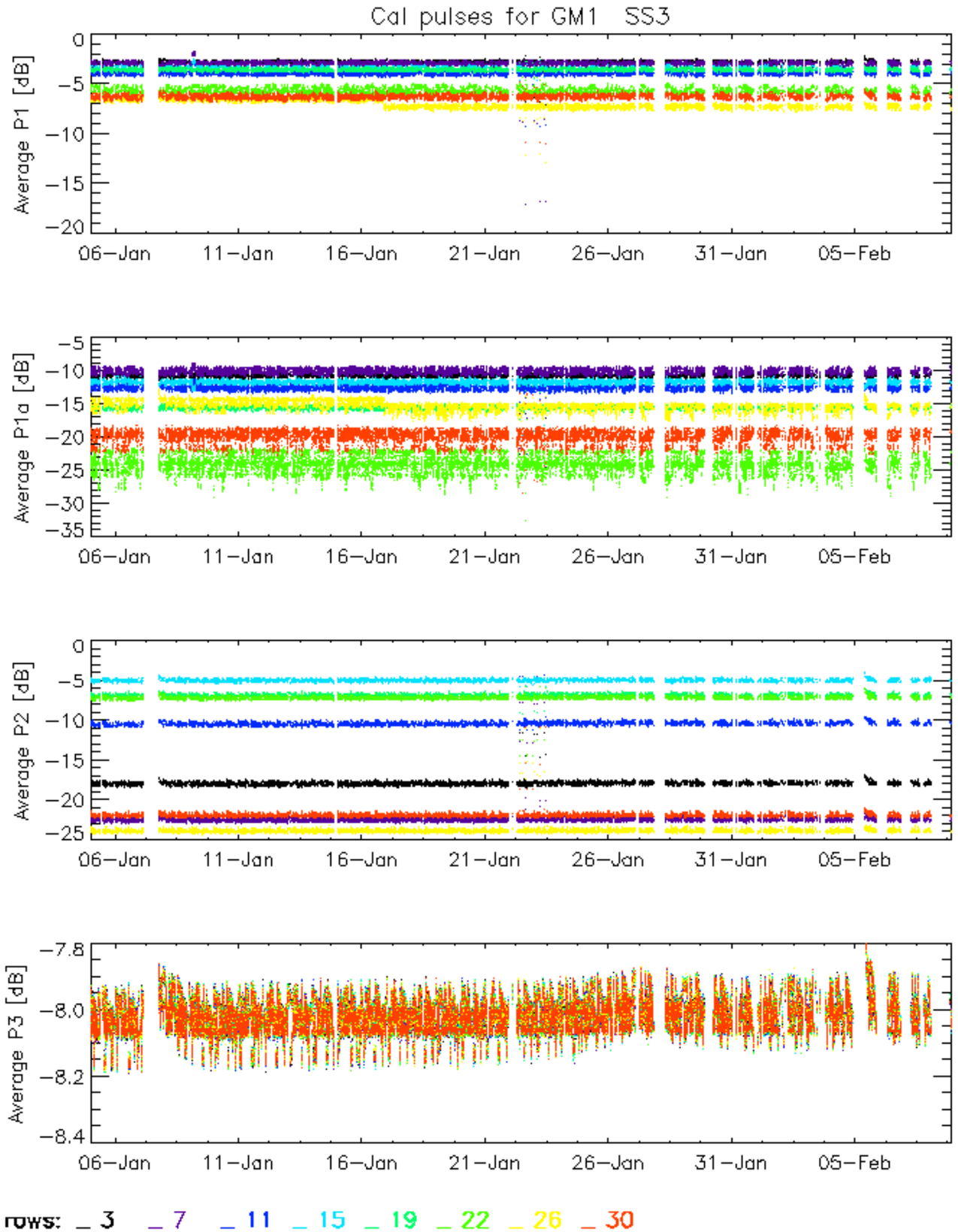
Descending

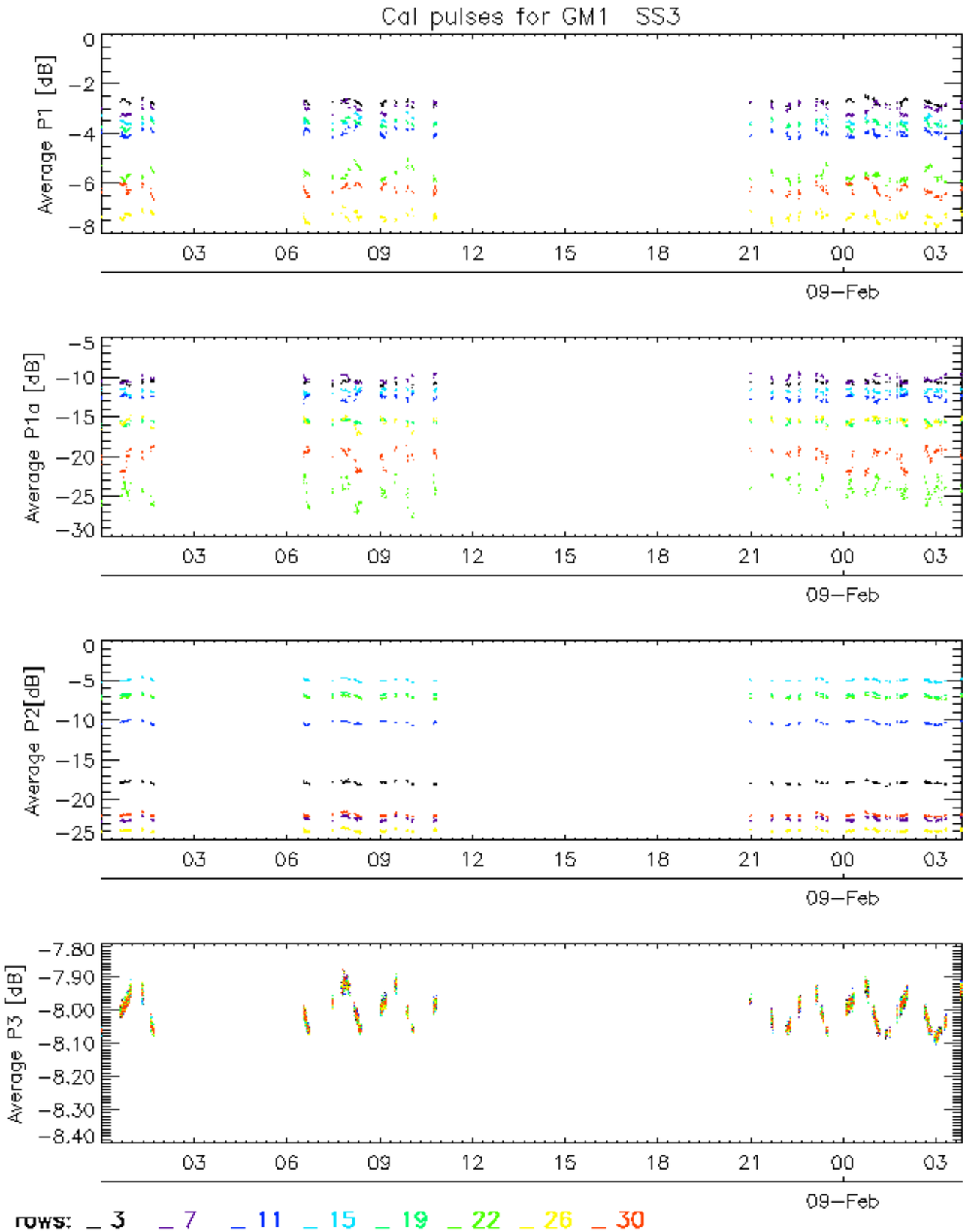
7.5 - Absolute Doppler for GM1

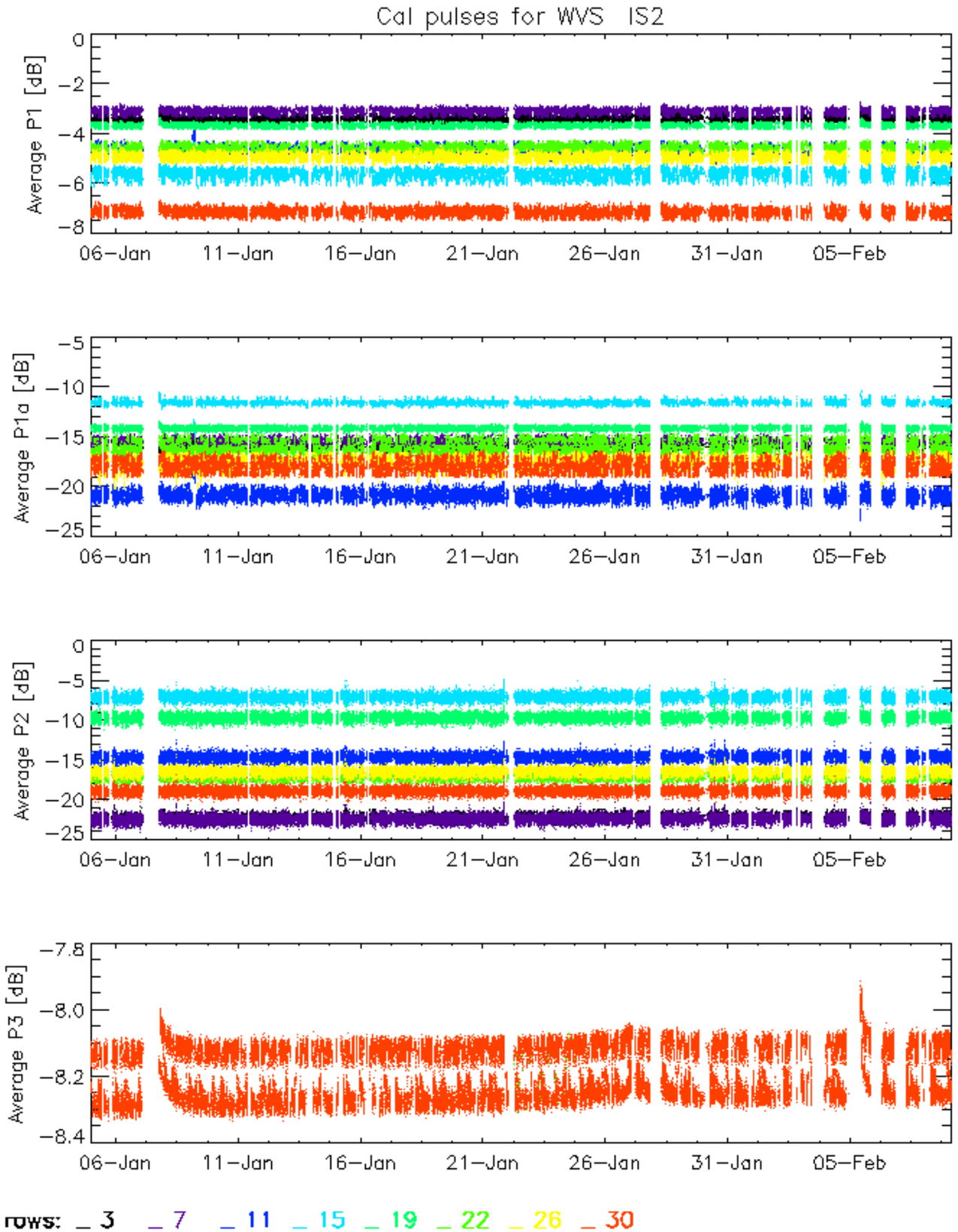
Evolution of Absolute Doppler
Acsending
Descending

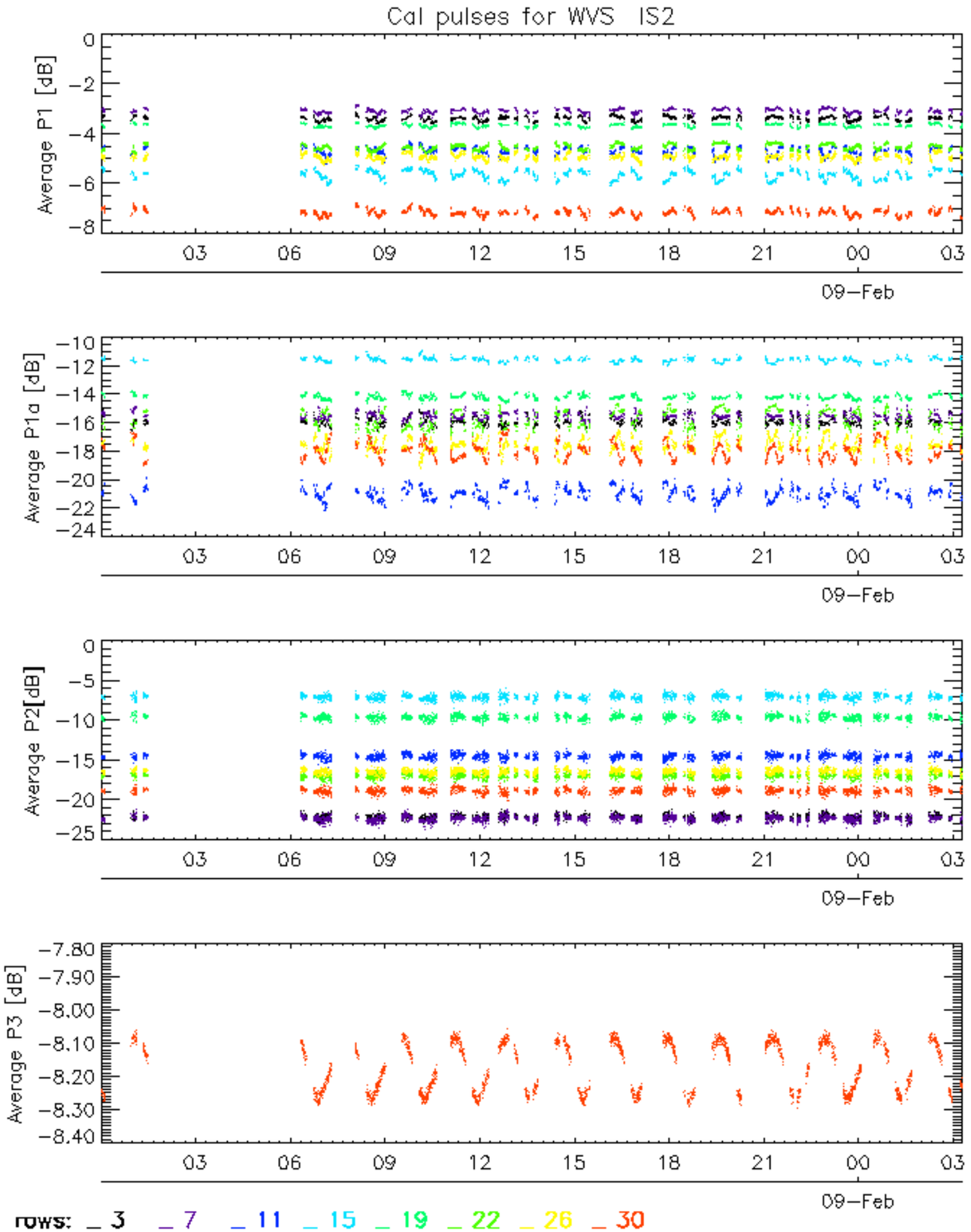
7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

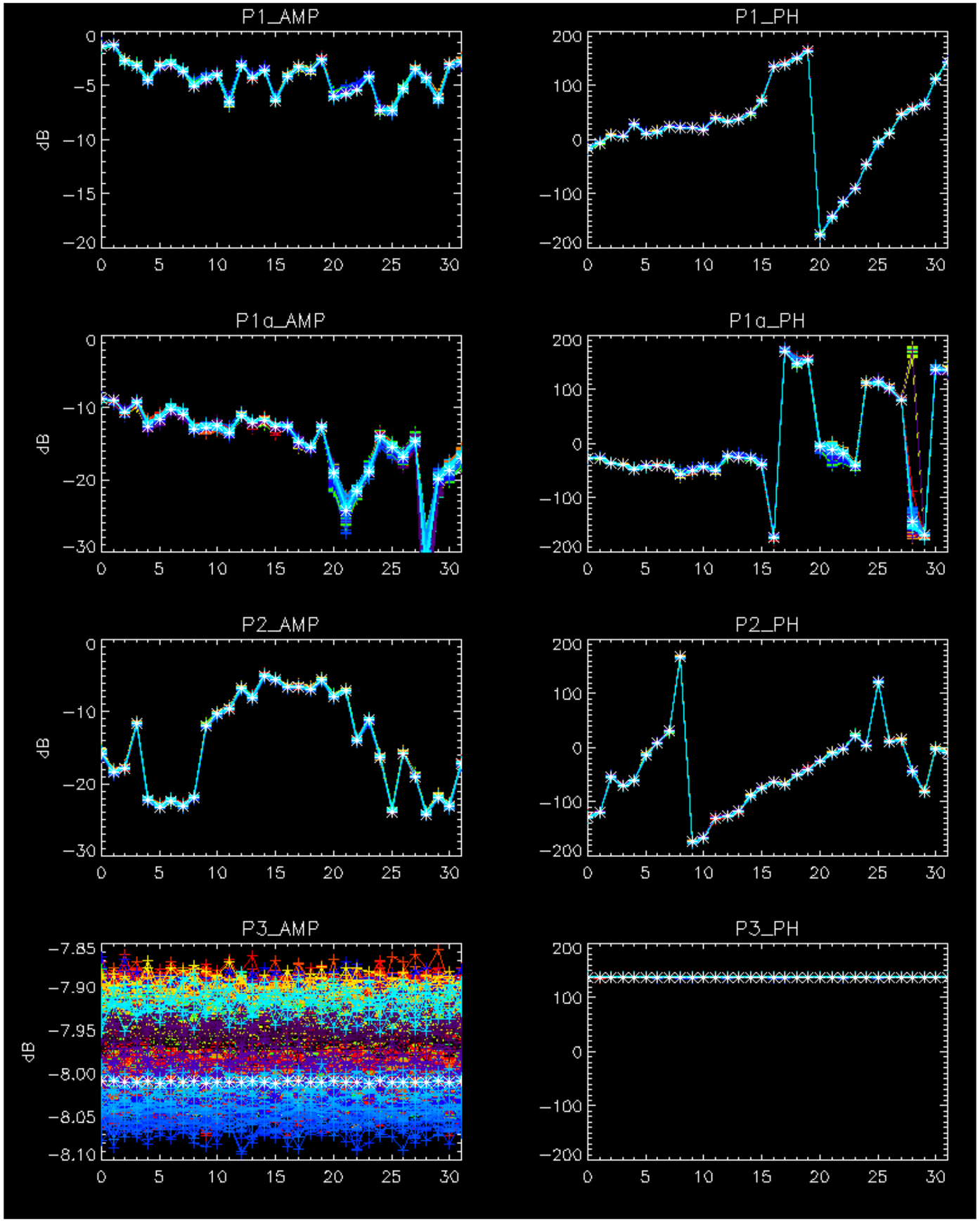

Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
−20
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
06−Jan
11−Jan
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

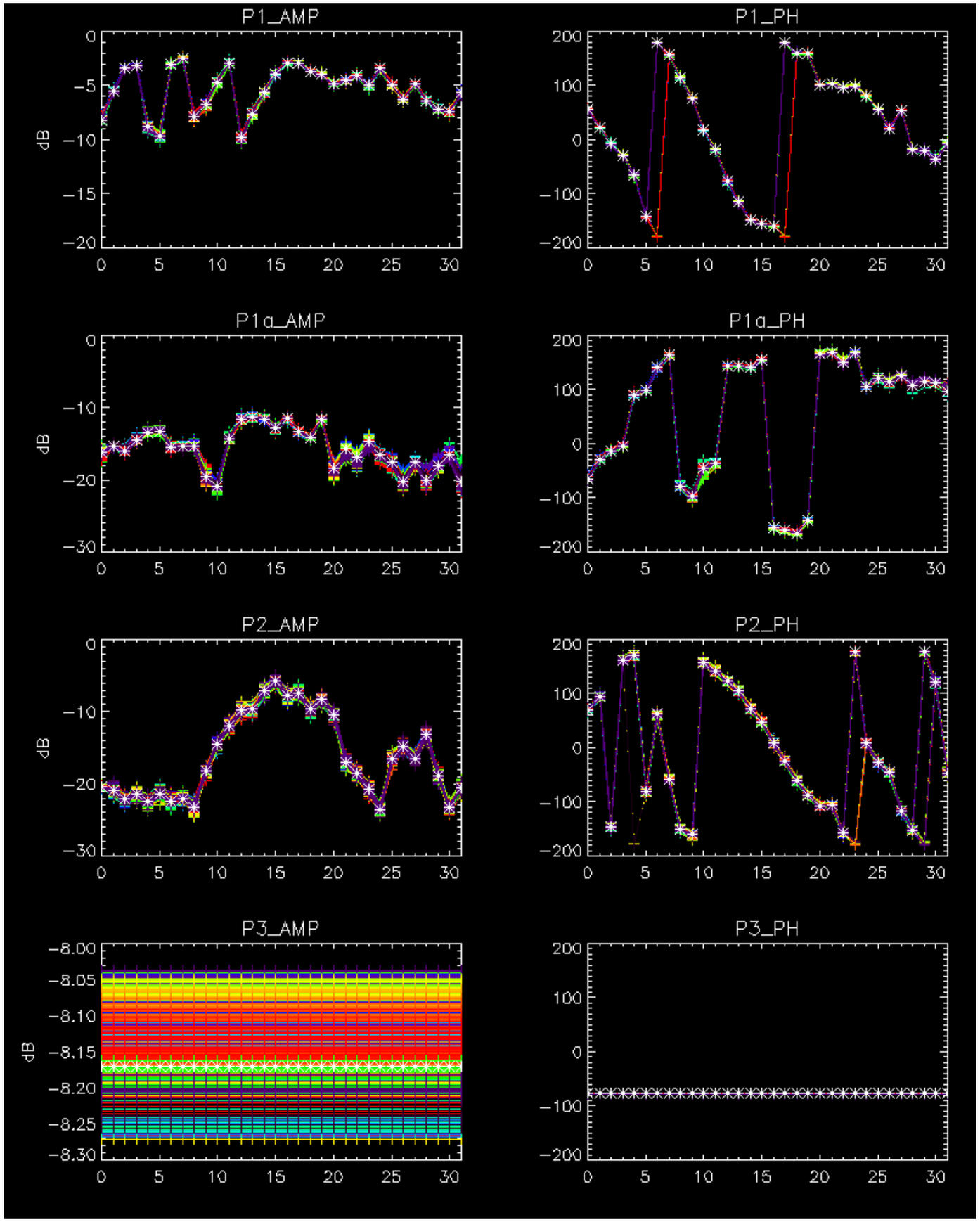

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
09−Feb
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
06−Jan
11−Jan
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb
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
09−Feb
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
Average P2[dB]
−5
−15
−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

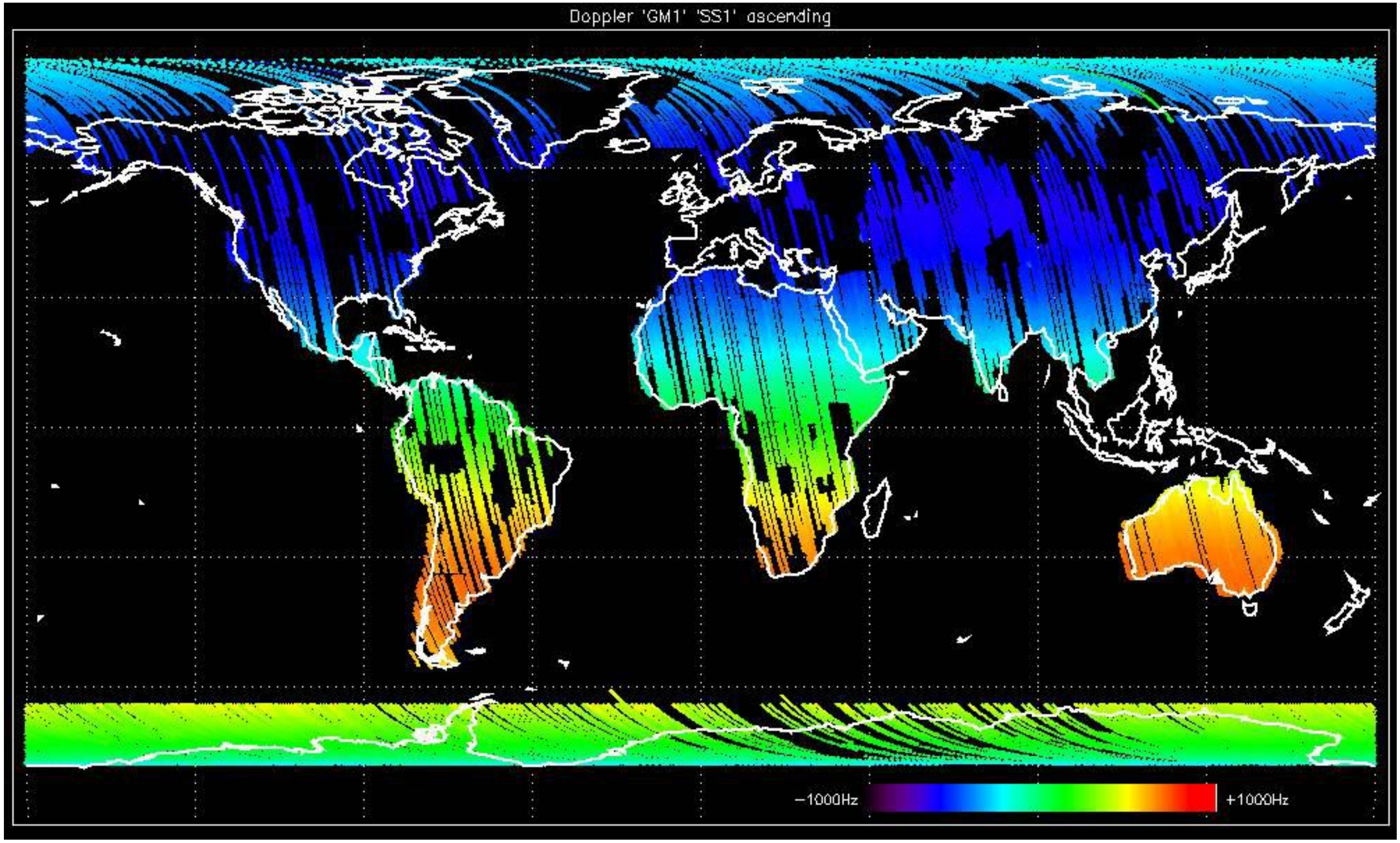
No anomalies observed.

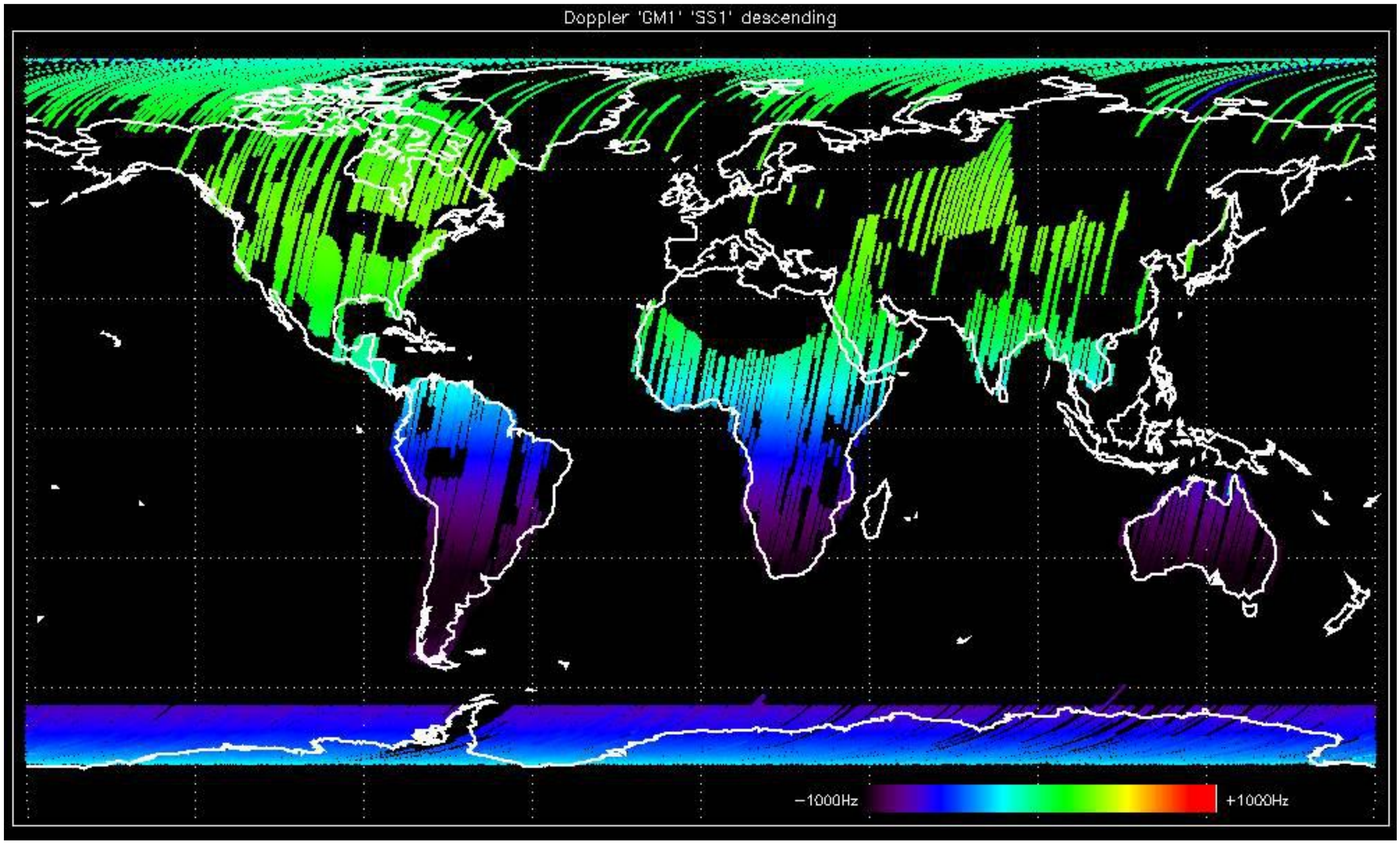

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.85
−7.90
−7.95
−8.00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

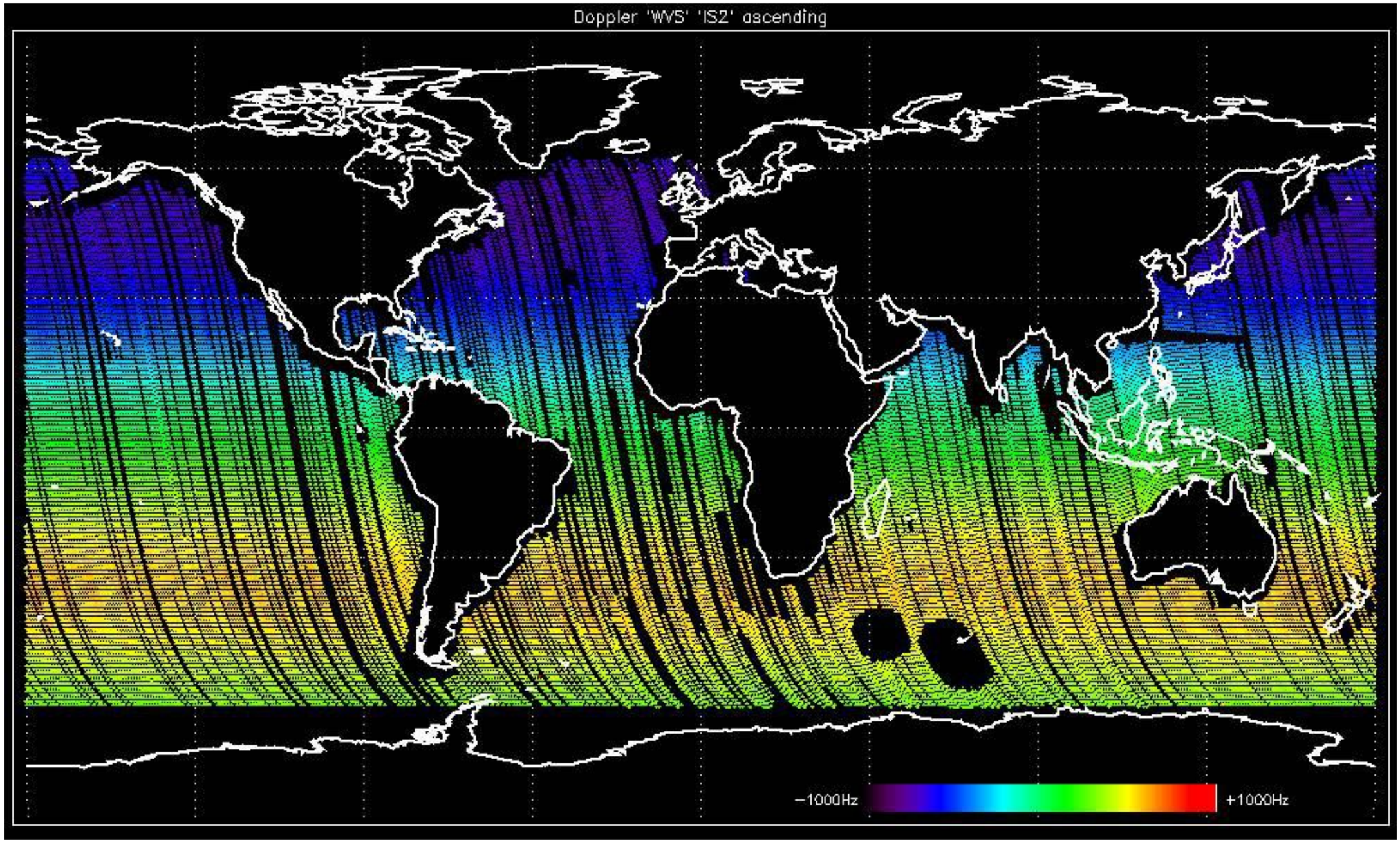

P1_AMP
P1_PH
P1a_AMP
P1a_PH
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

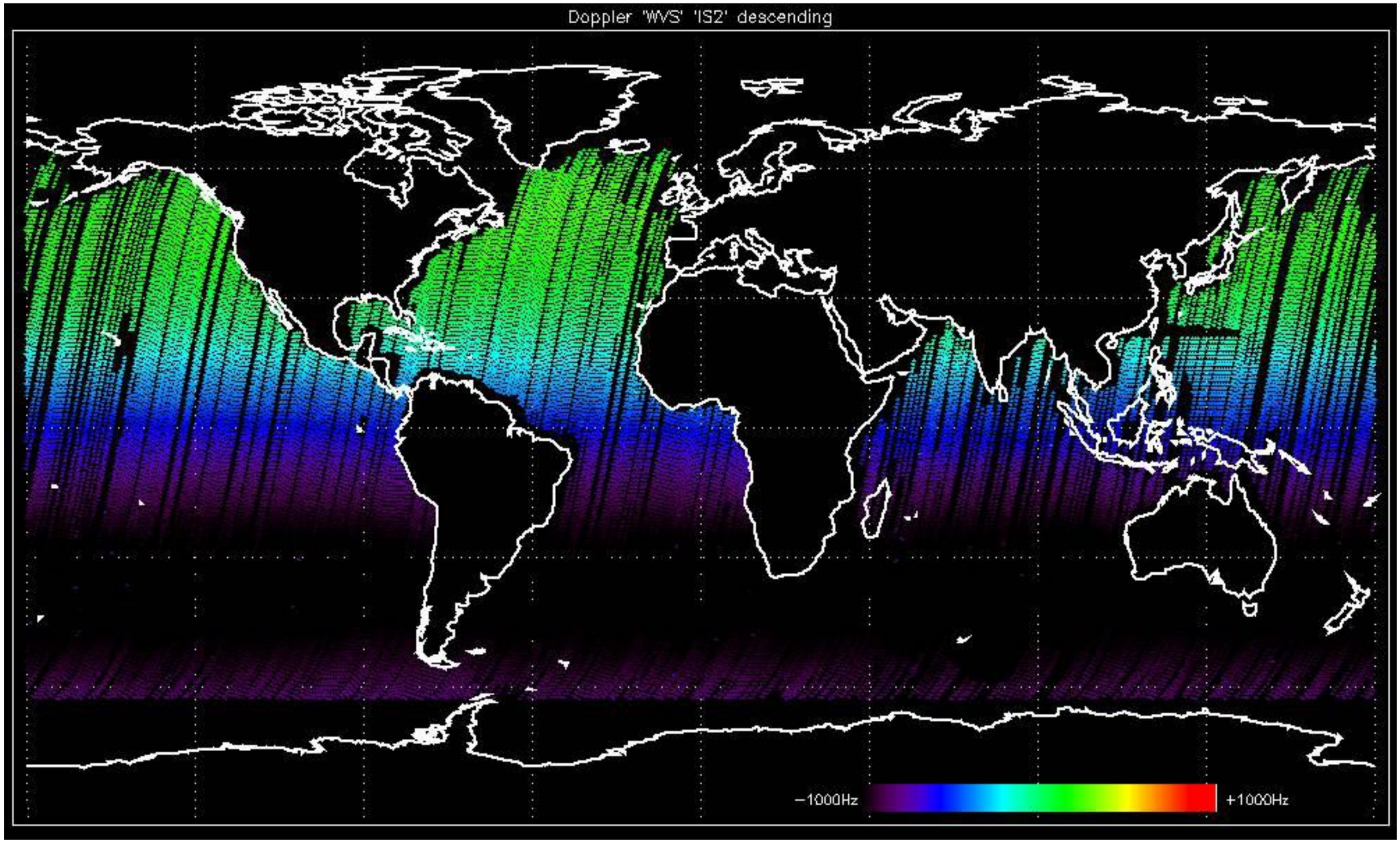
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

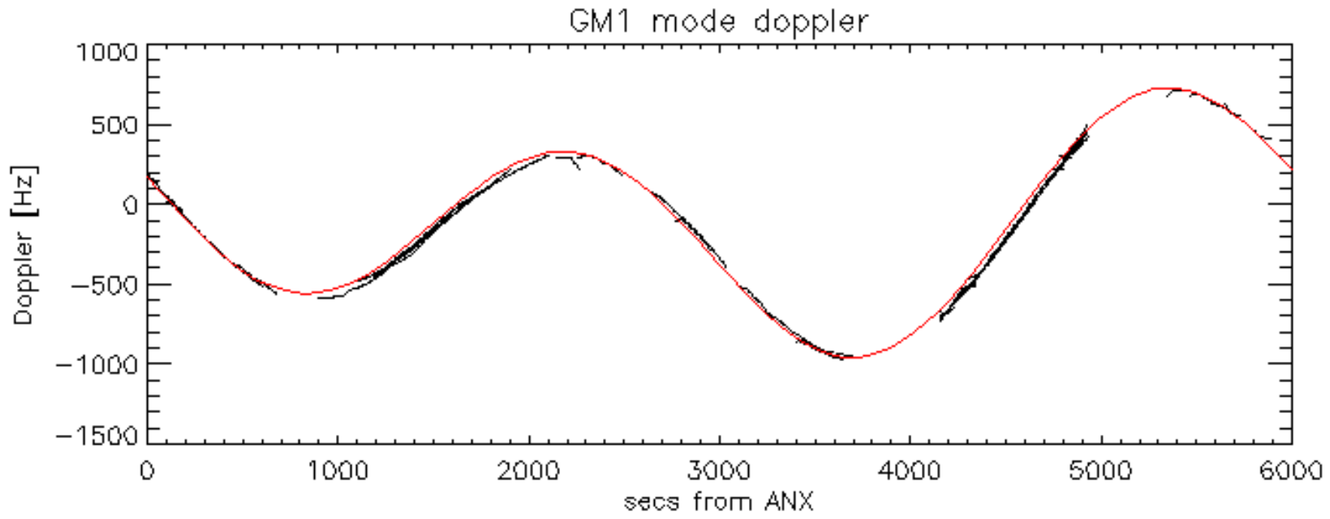
Preliminary report.The data is not yet controled

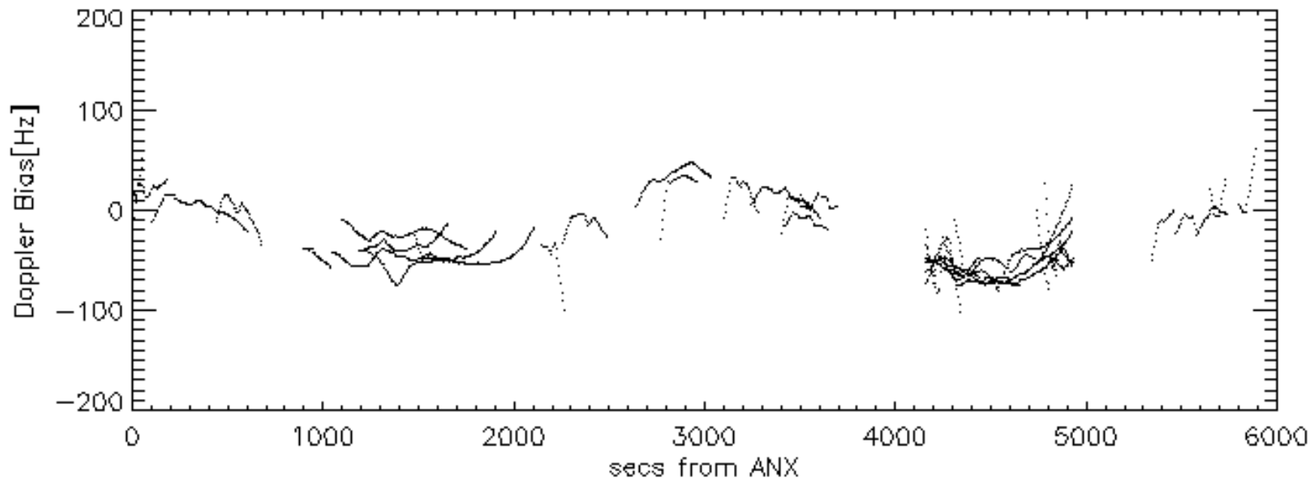

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

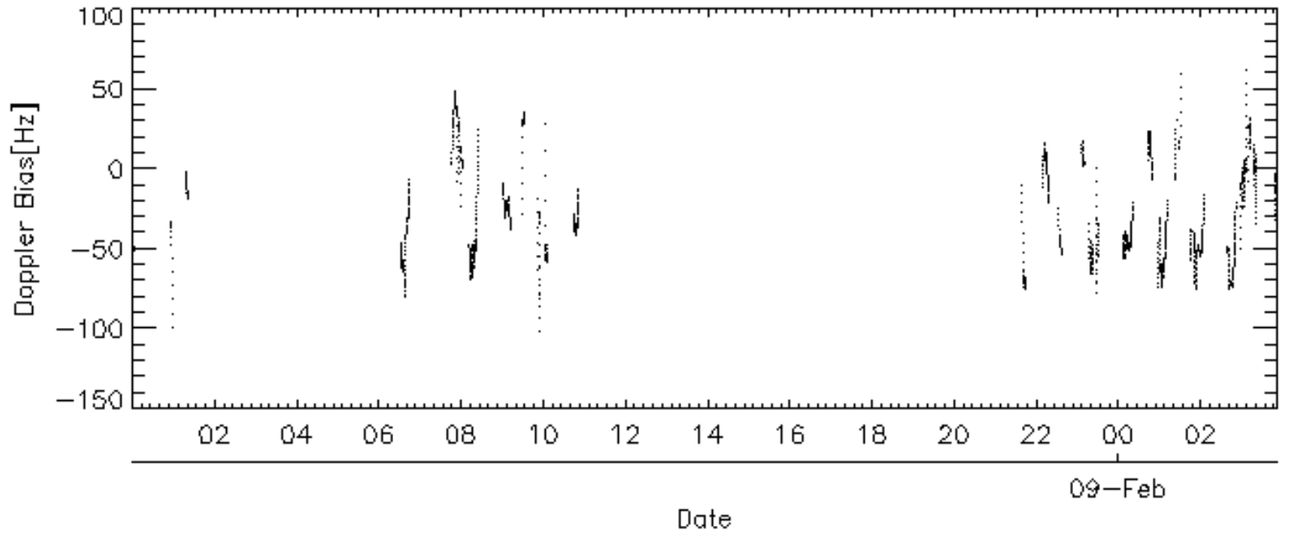

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

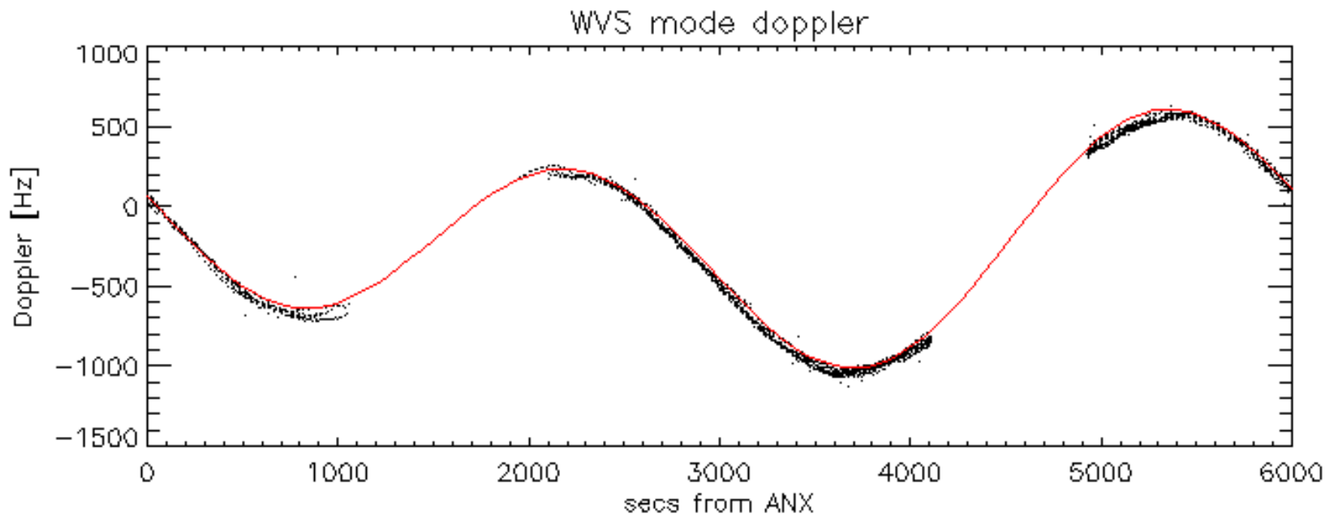

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

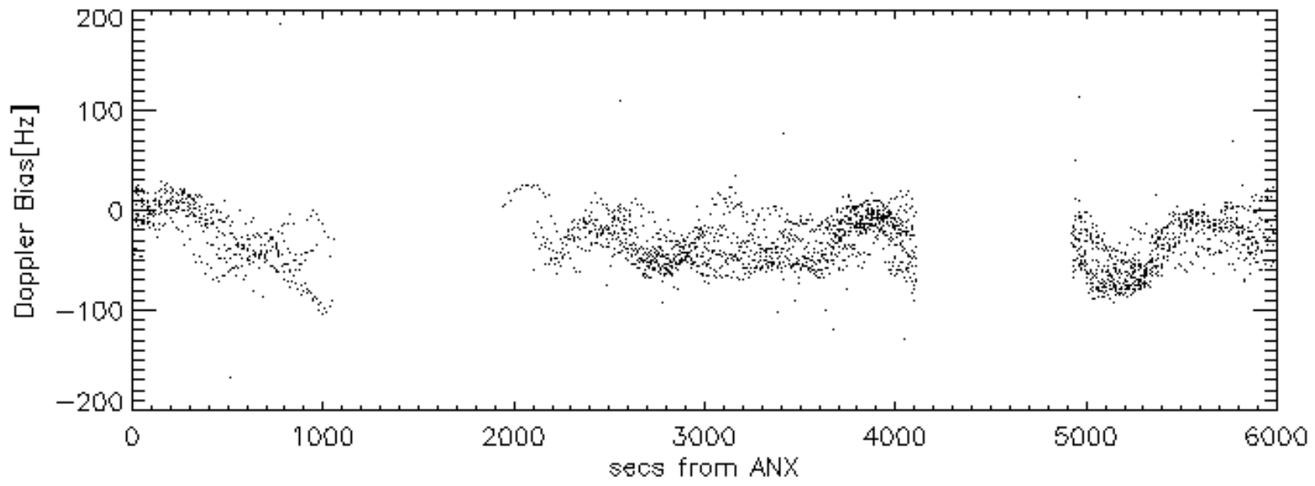

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

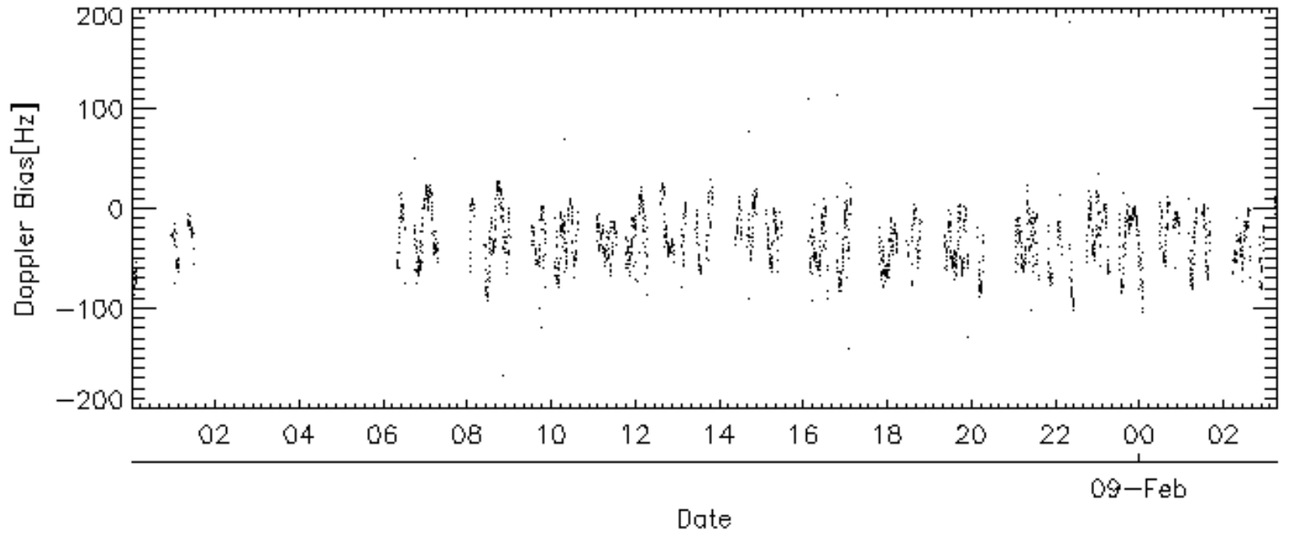

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

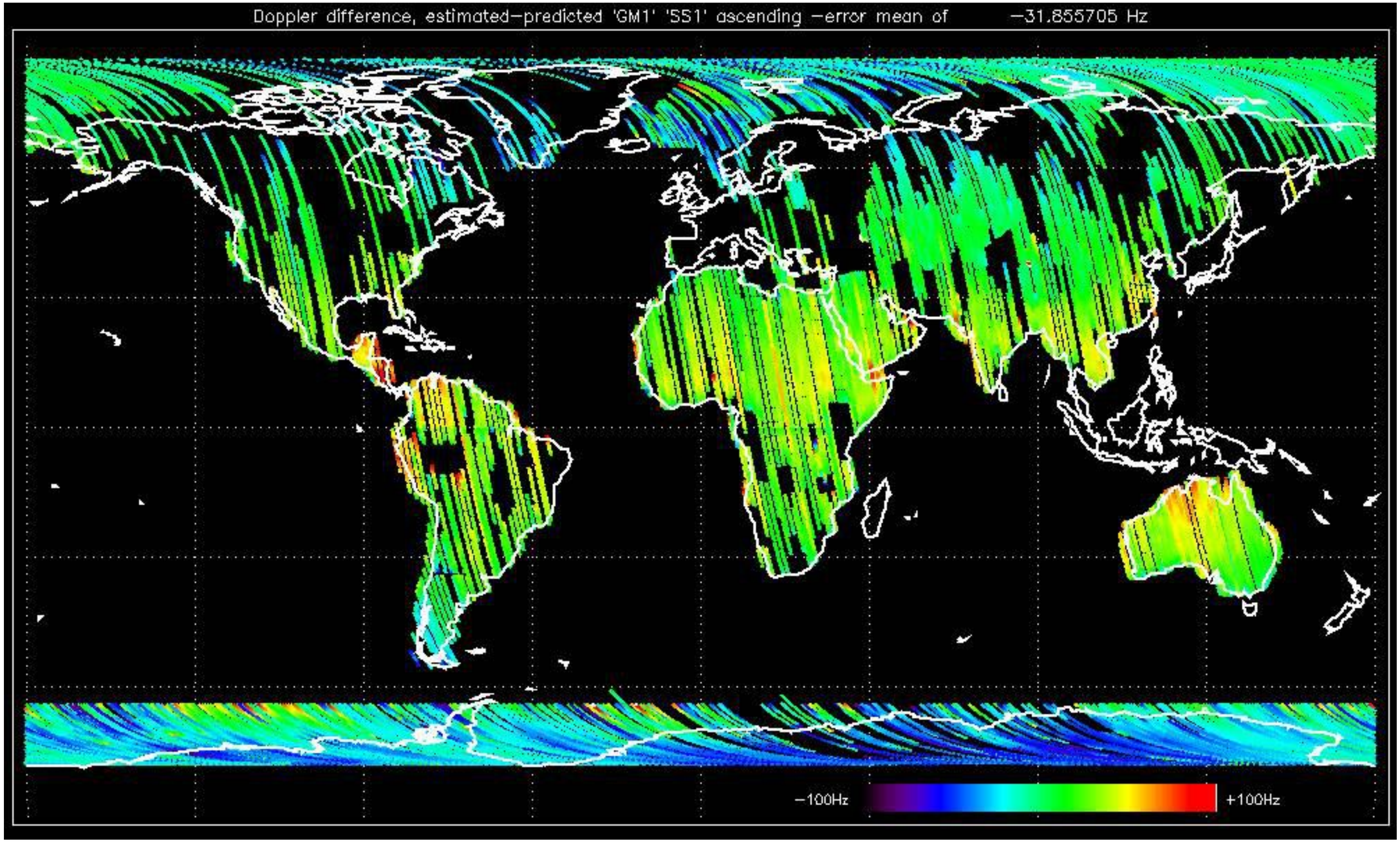

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

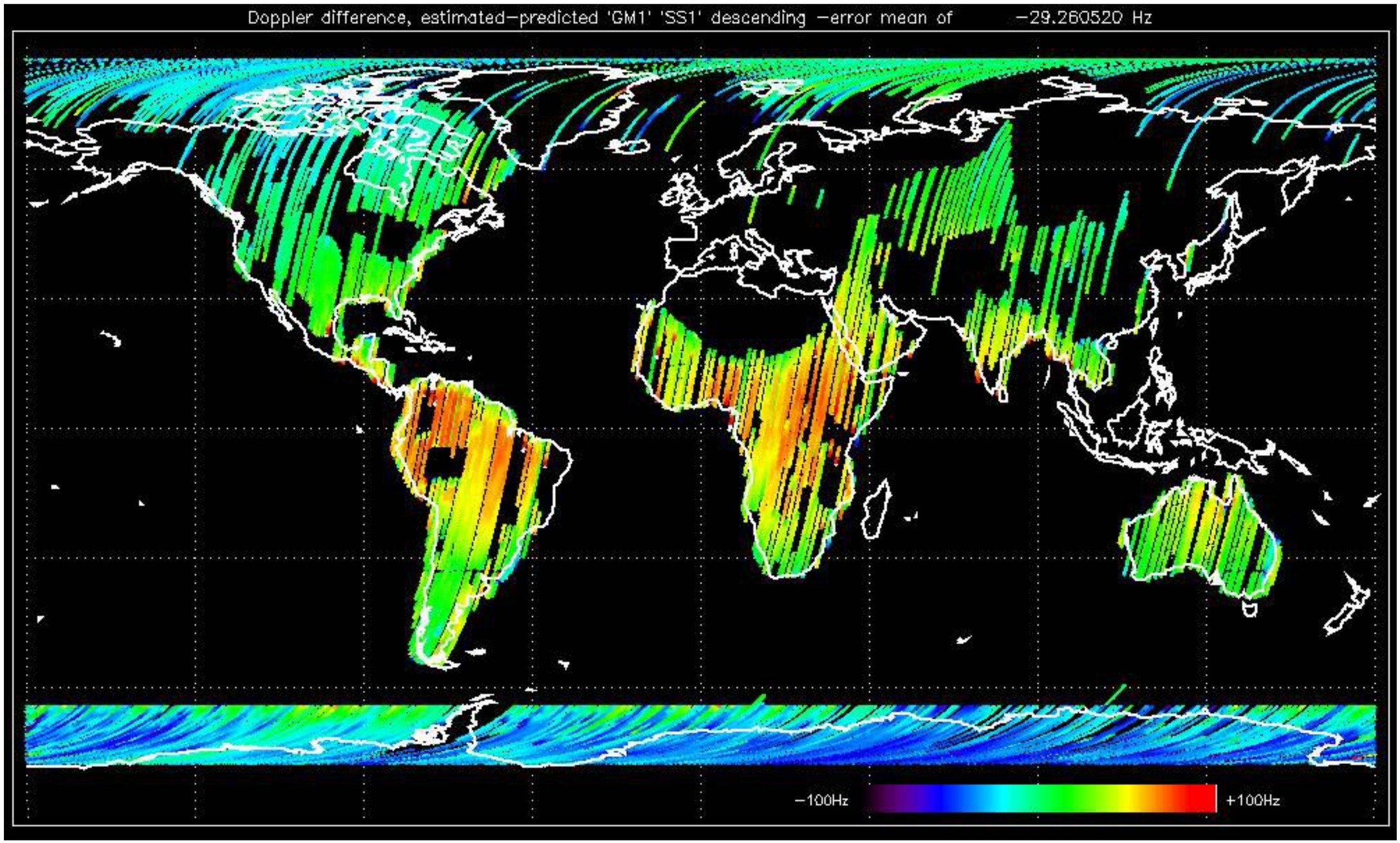

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
09−Feb
Date

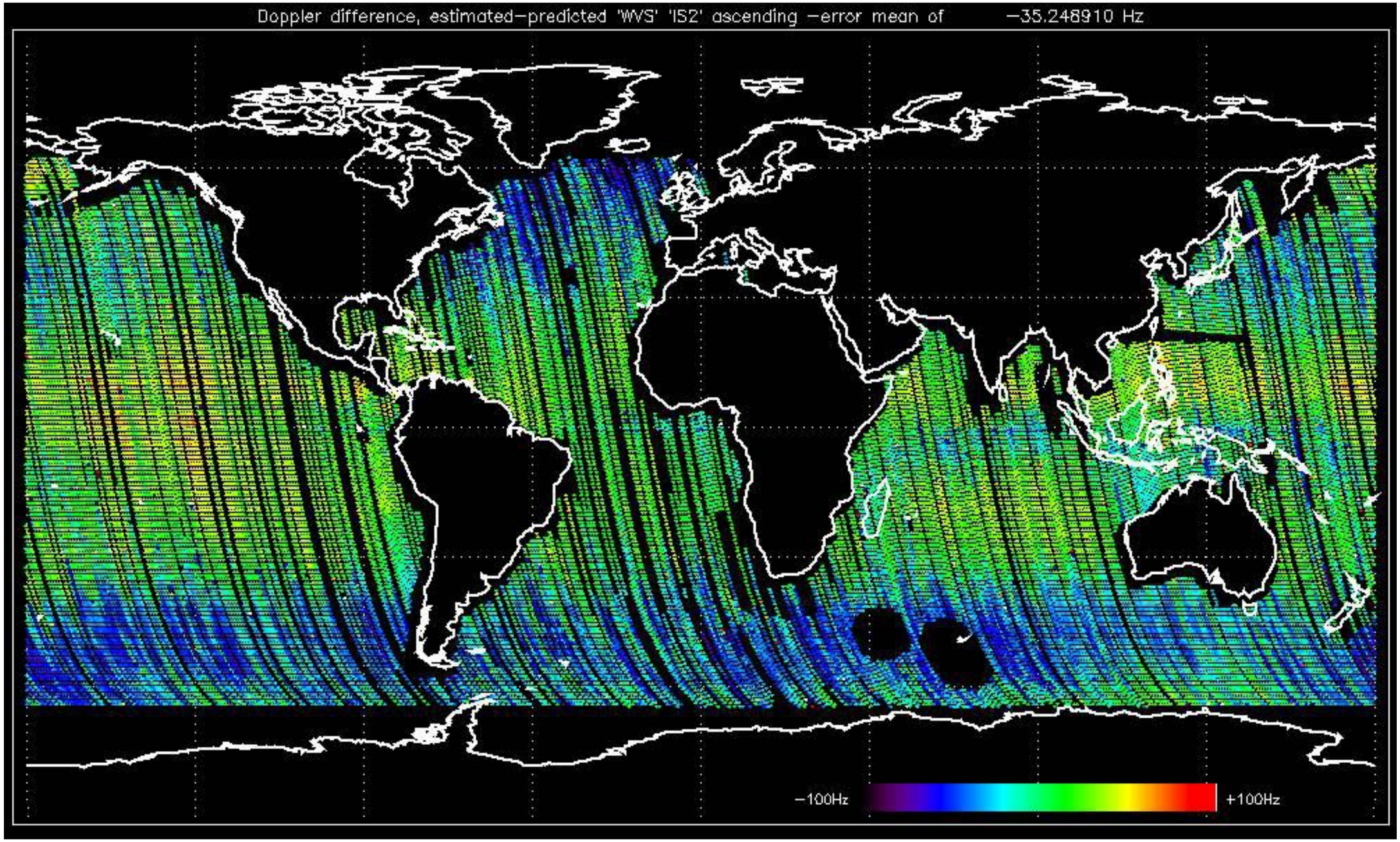

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

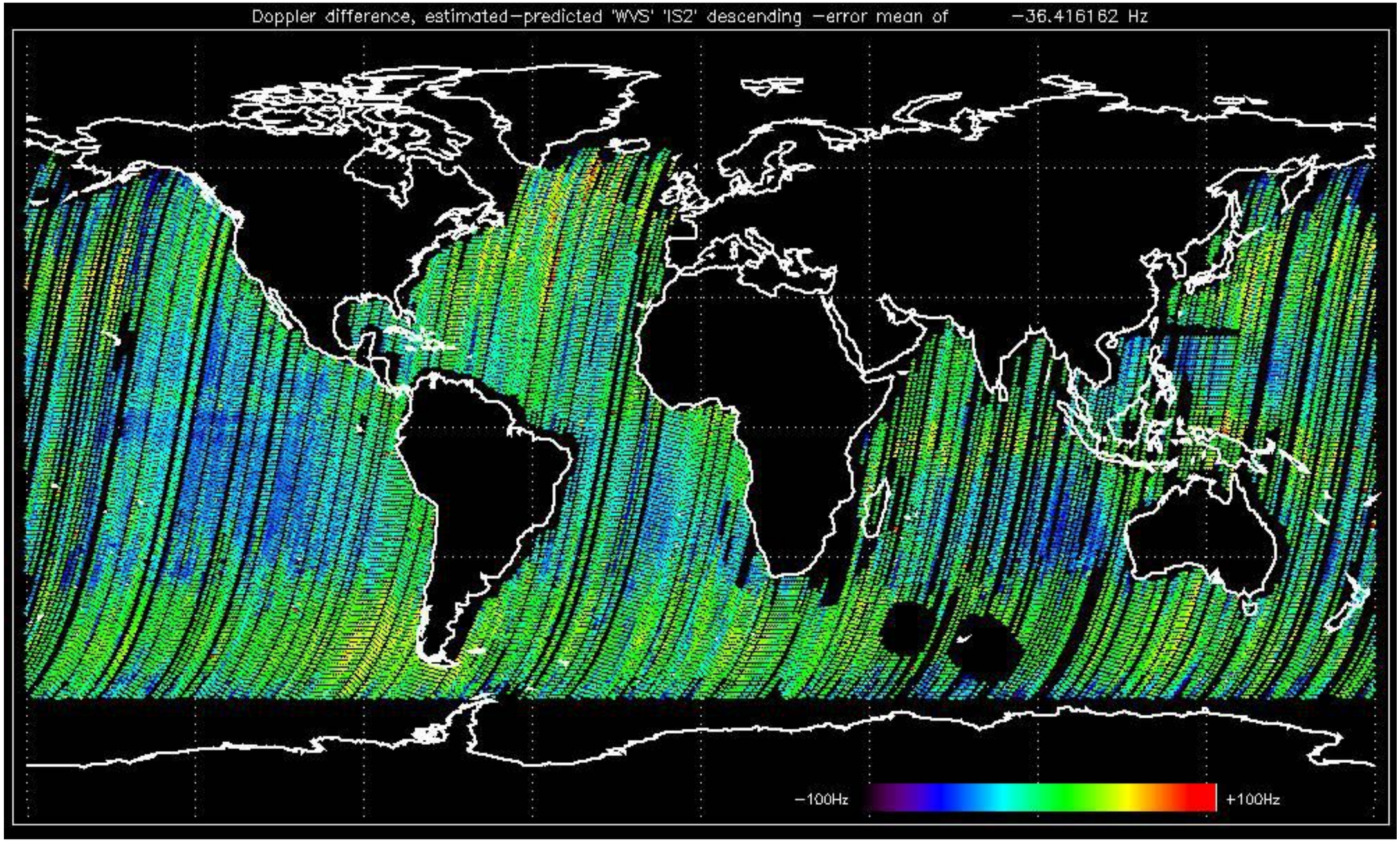

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −31.855705 Hz
−100Hz
+100Hz

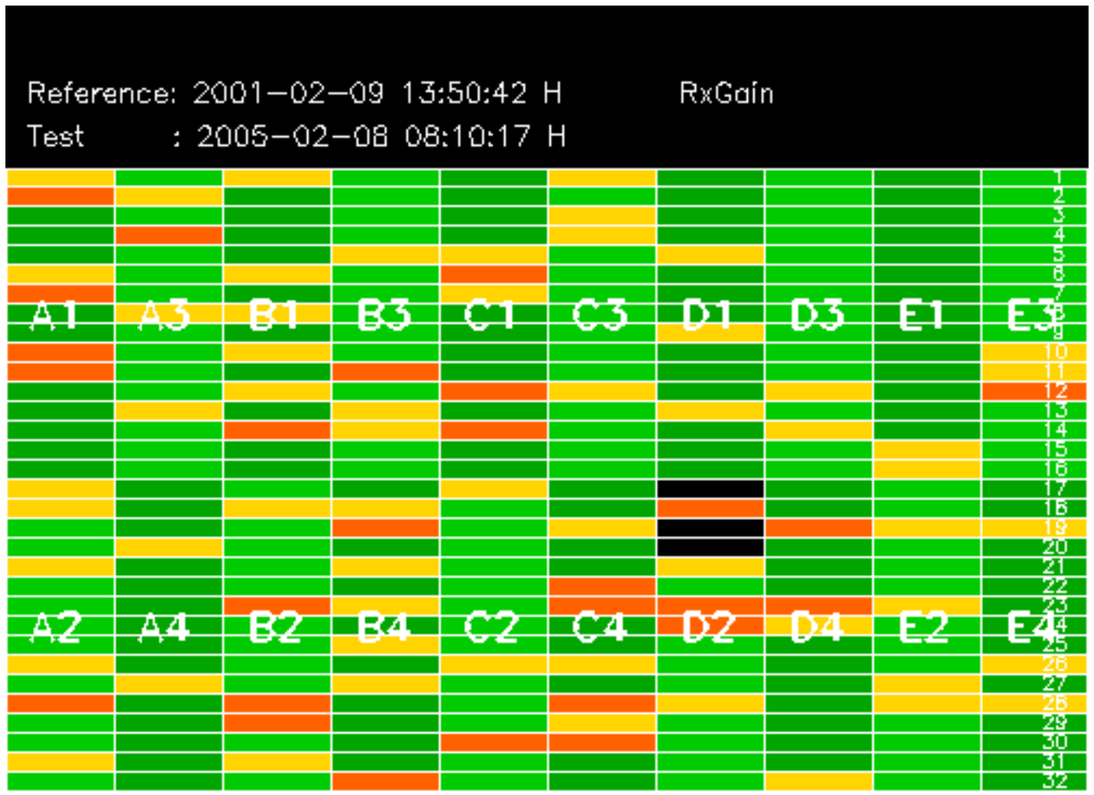

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -29.260520 Hz
-100Hz
+100Hz

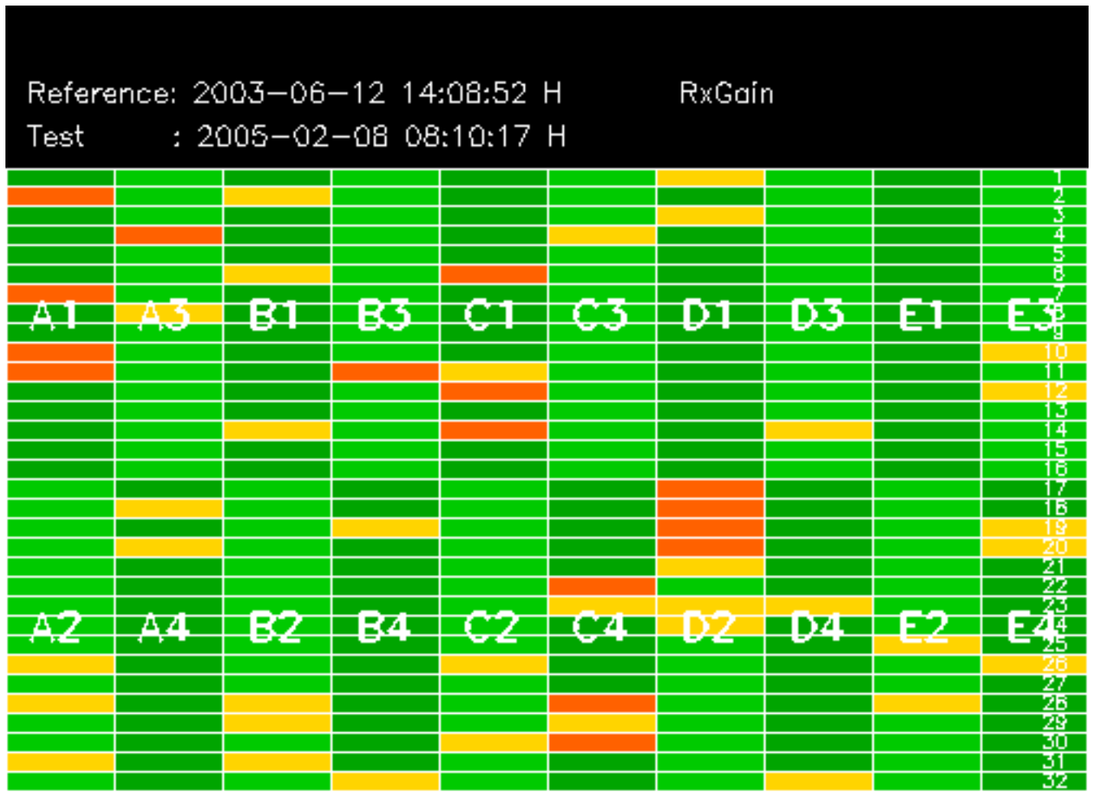

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −35.248910 Hz
−100Hz
+100Hz

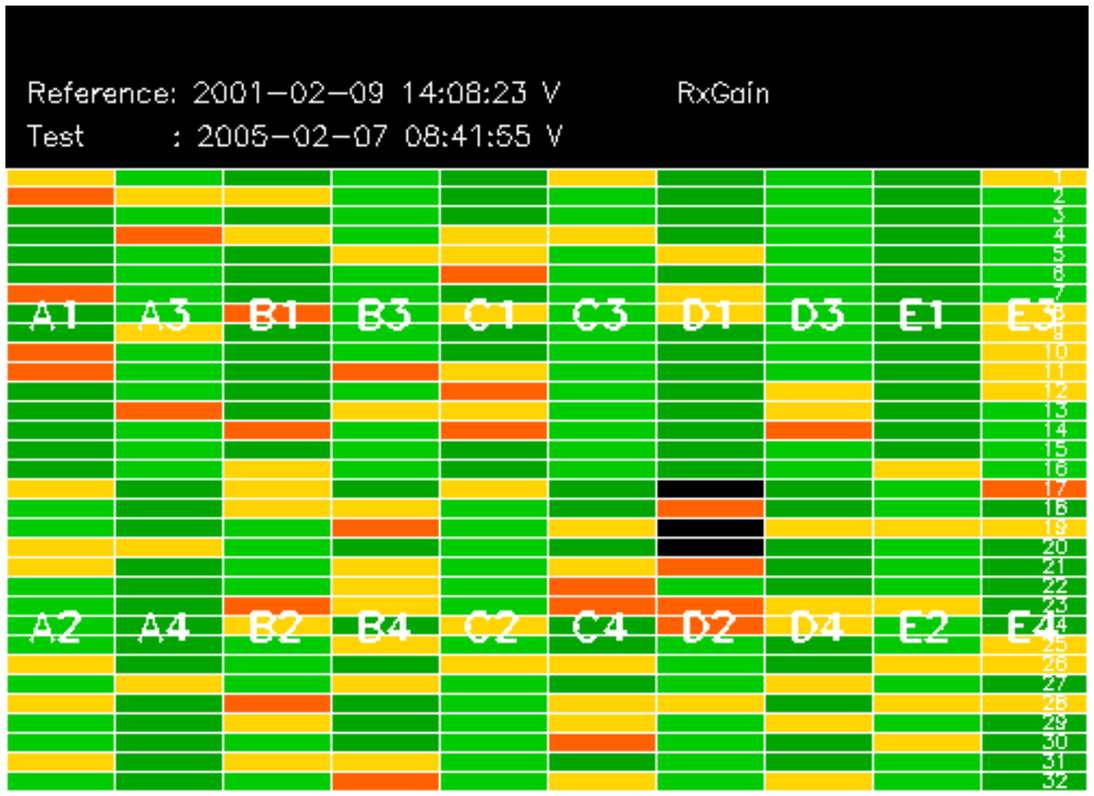

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −36.416162 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2005-02-08 08:10:17 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 : 2005-02-08 08:10:17 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 : 2005-02-07 08:41:55 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
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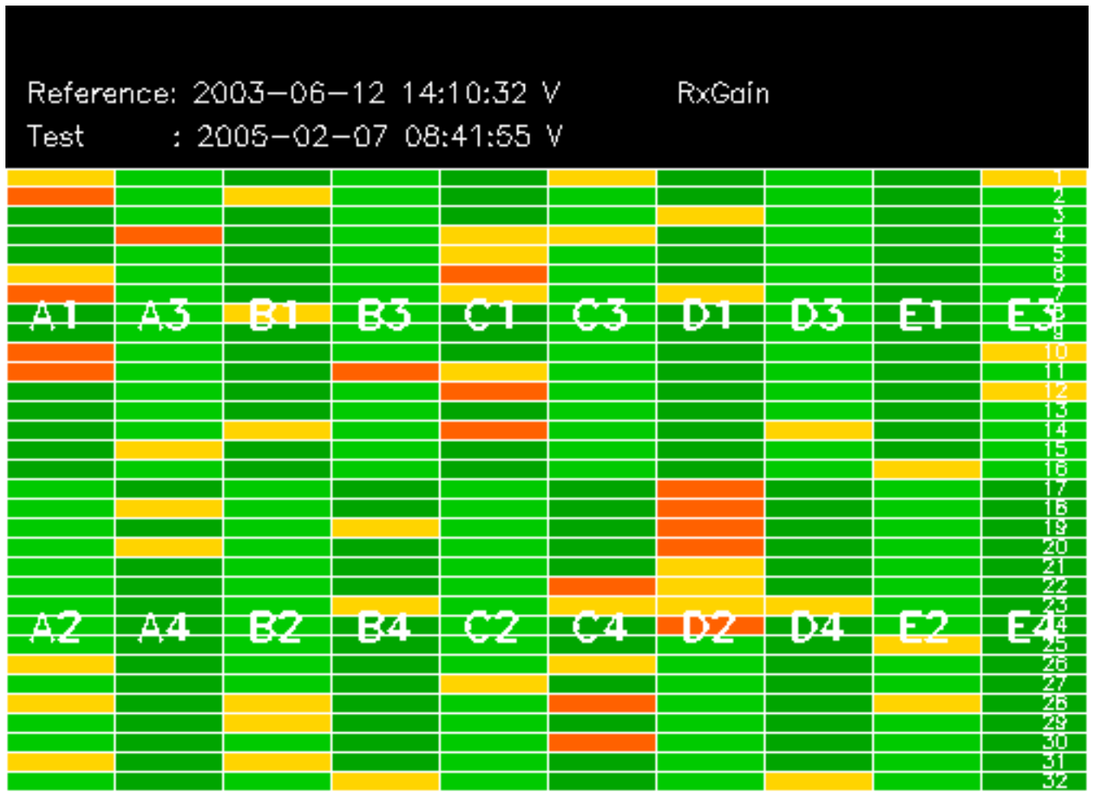
Reference: 2003-06-12 14:10:32 V
Test : 2005-02-07 08:41:55 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
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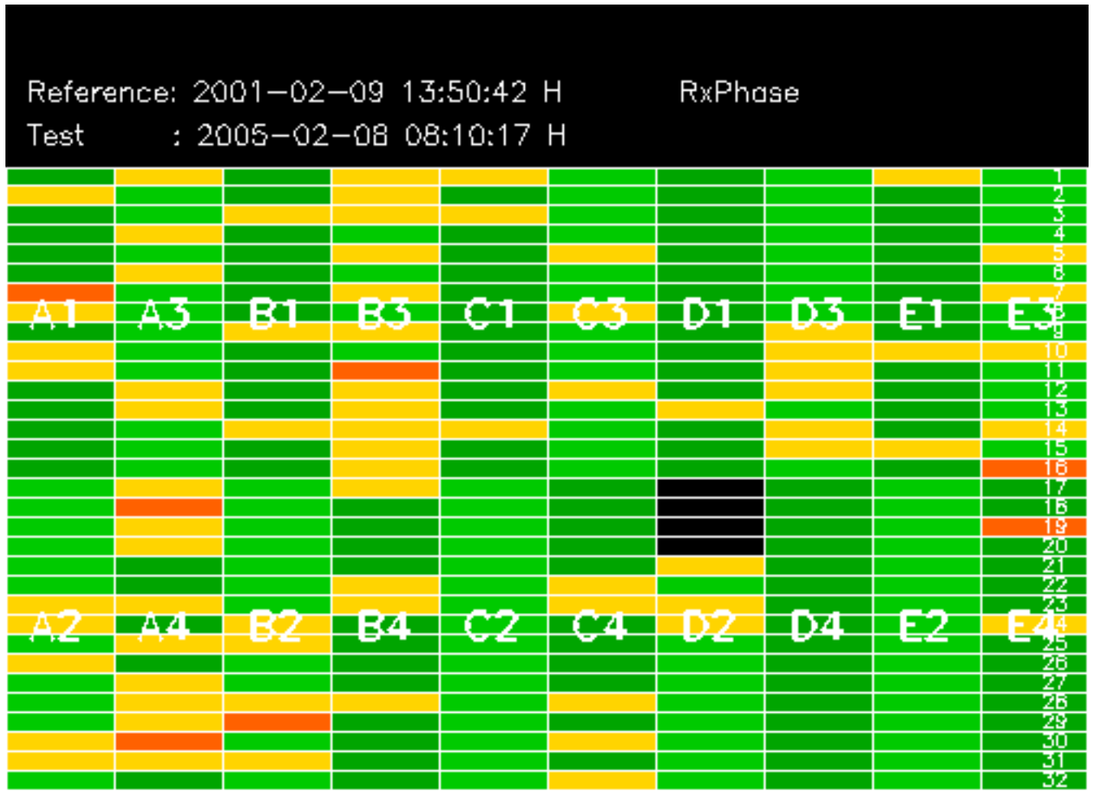
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-02-08 08:10:17 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
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8
9
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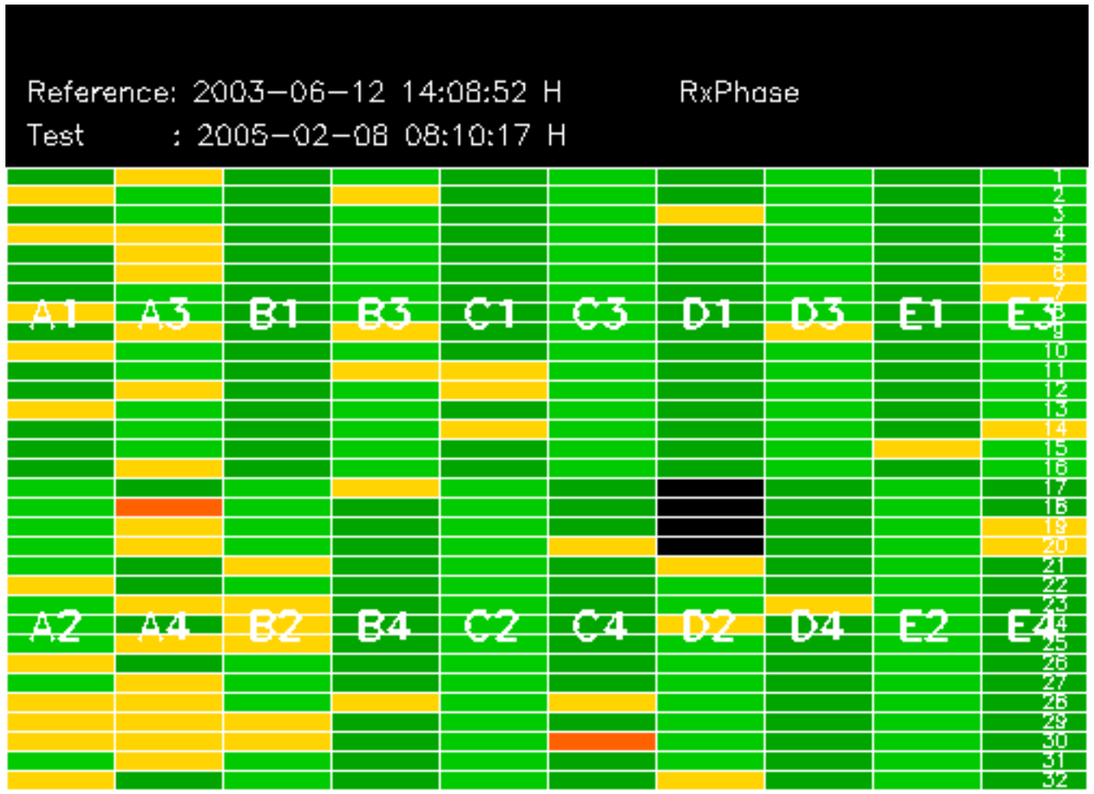
29
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-02-08 08:10:17 H
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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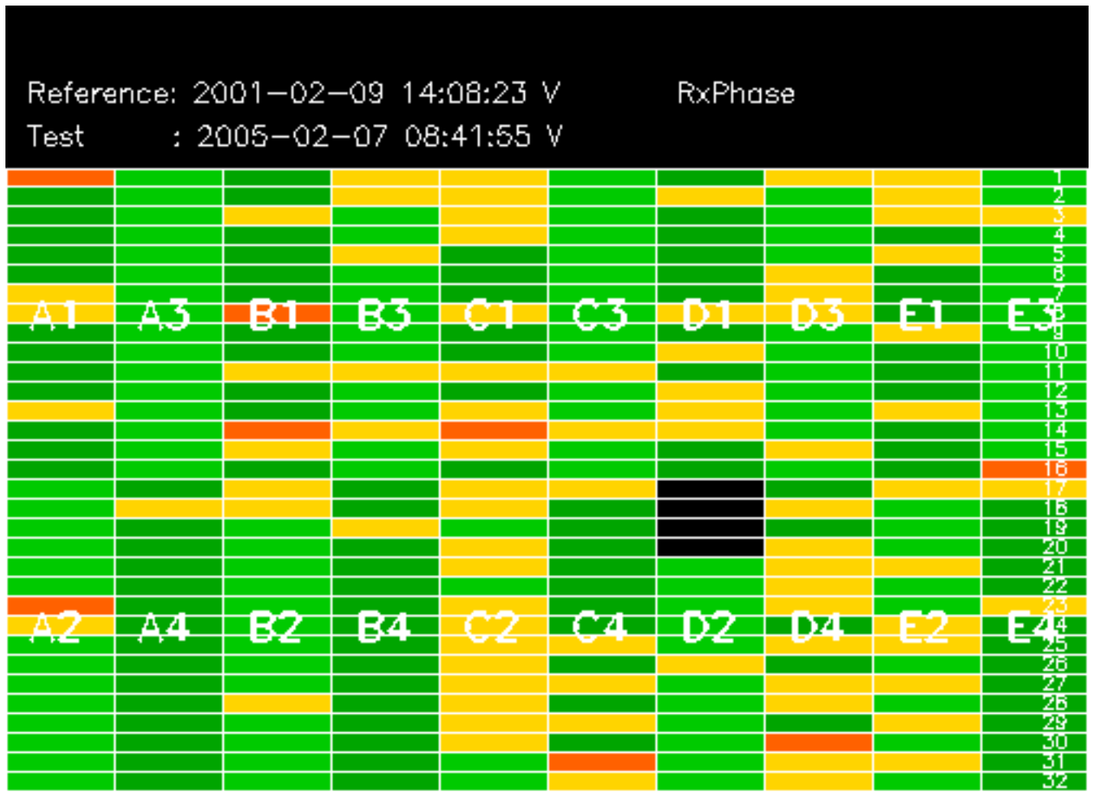
Reference: 2001-02-09 14:08:23 V
Test : 2005-02-07 08:41:55 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
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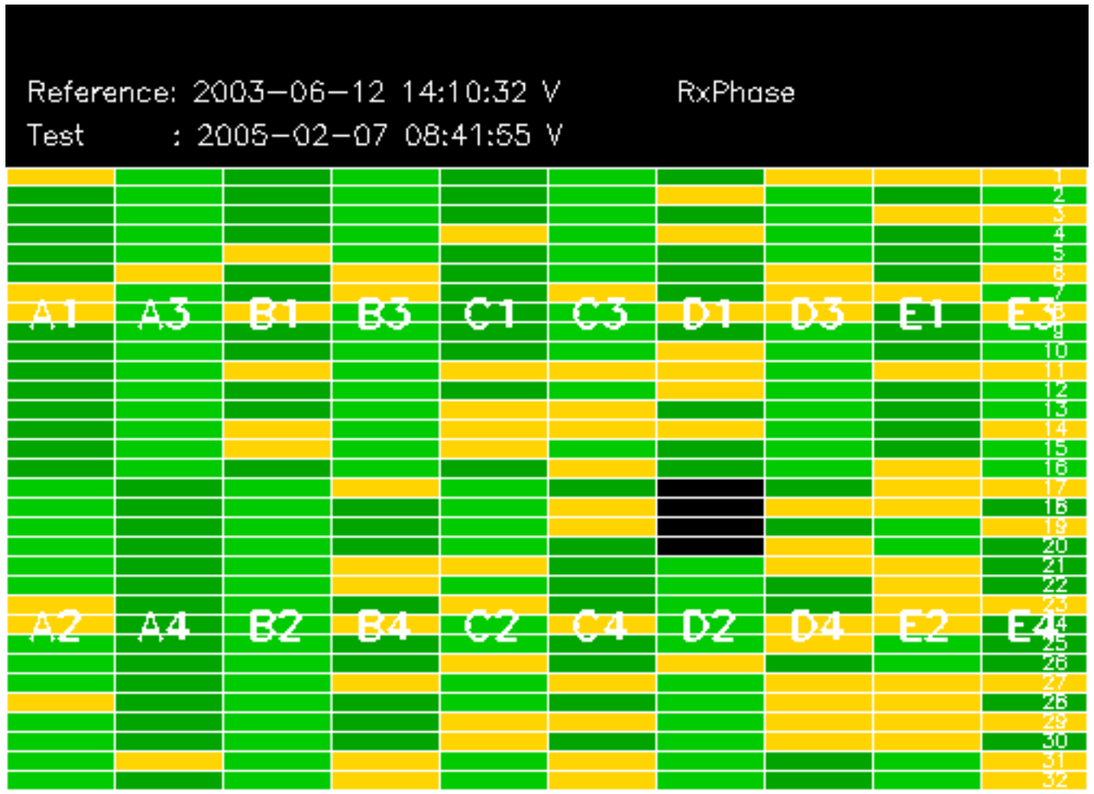
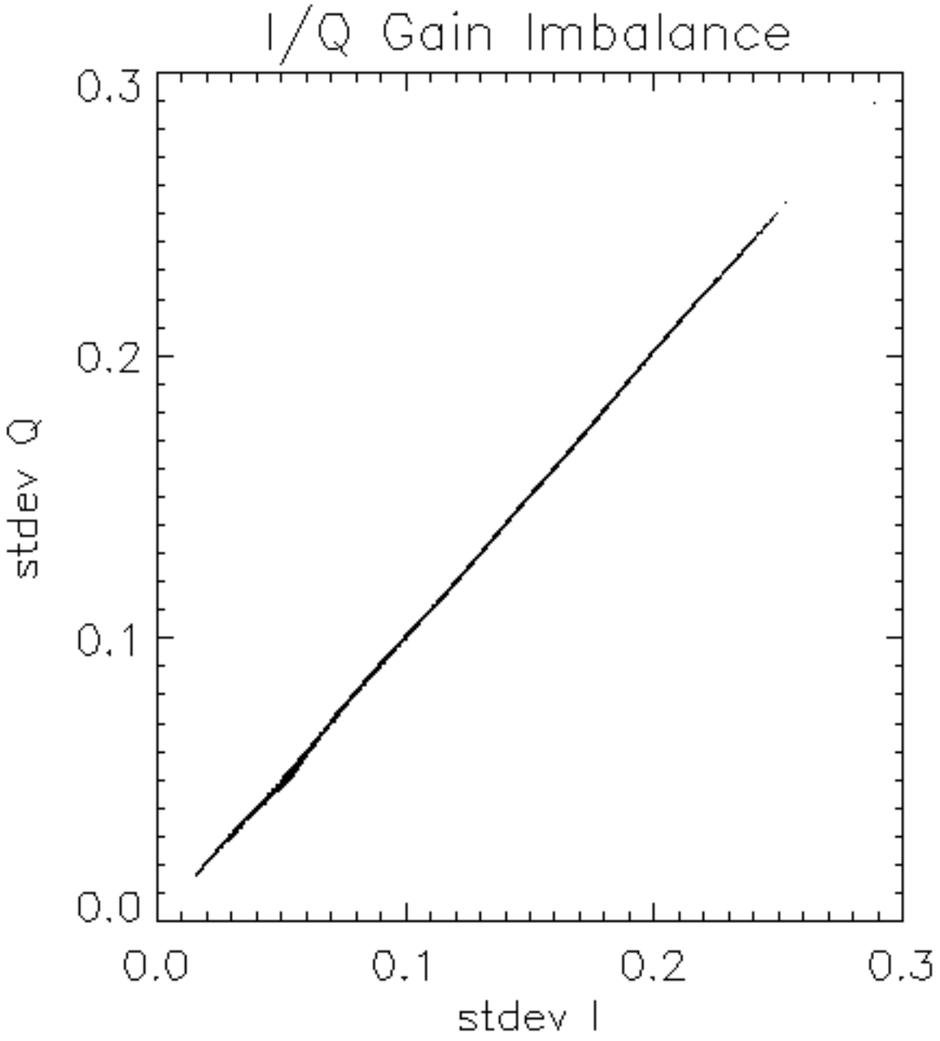
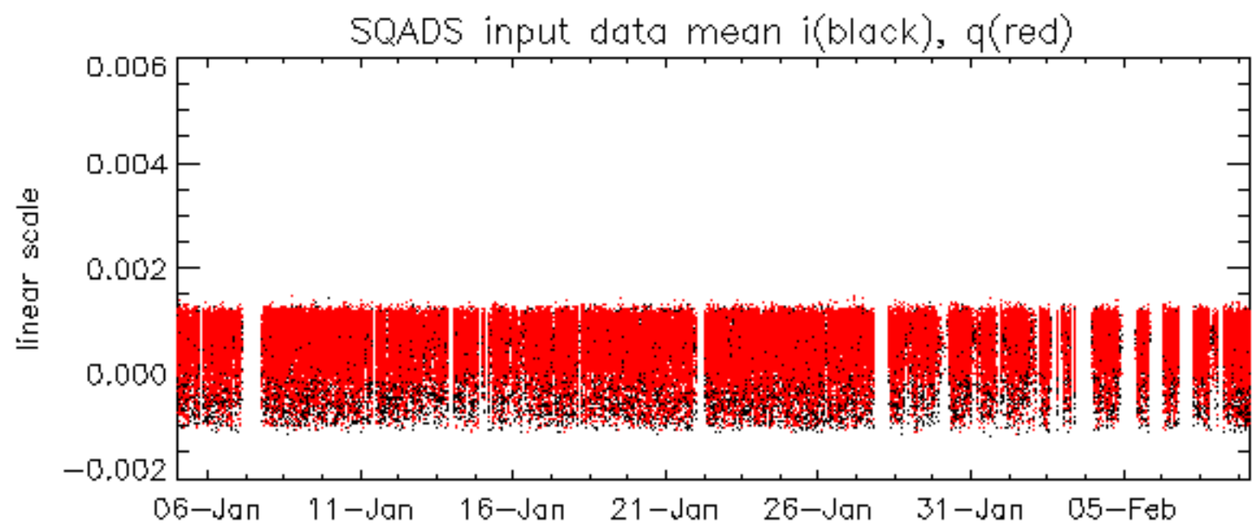
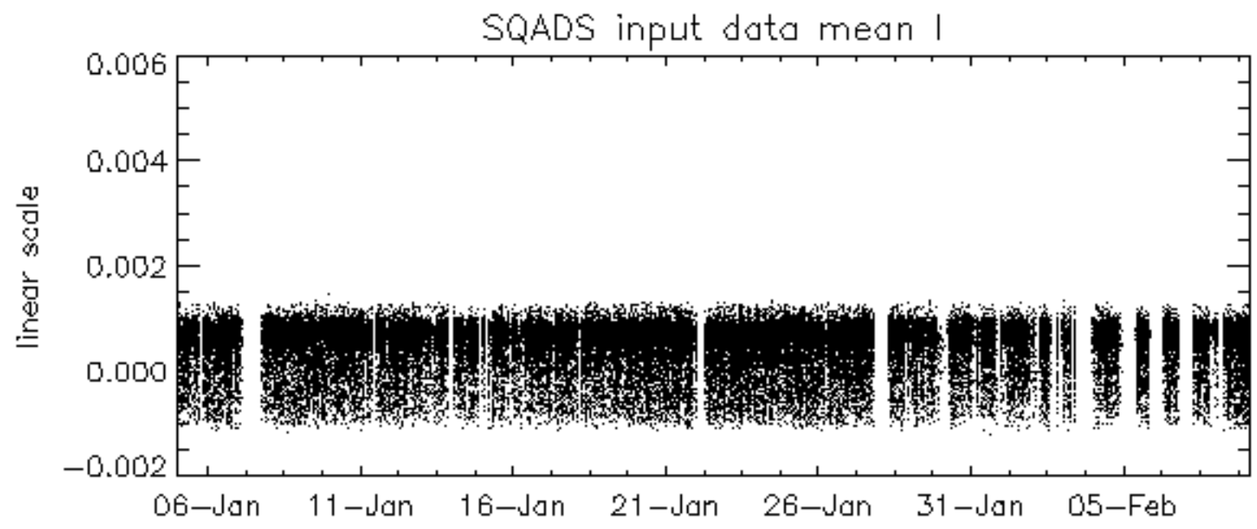
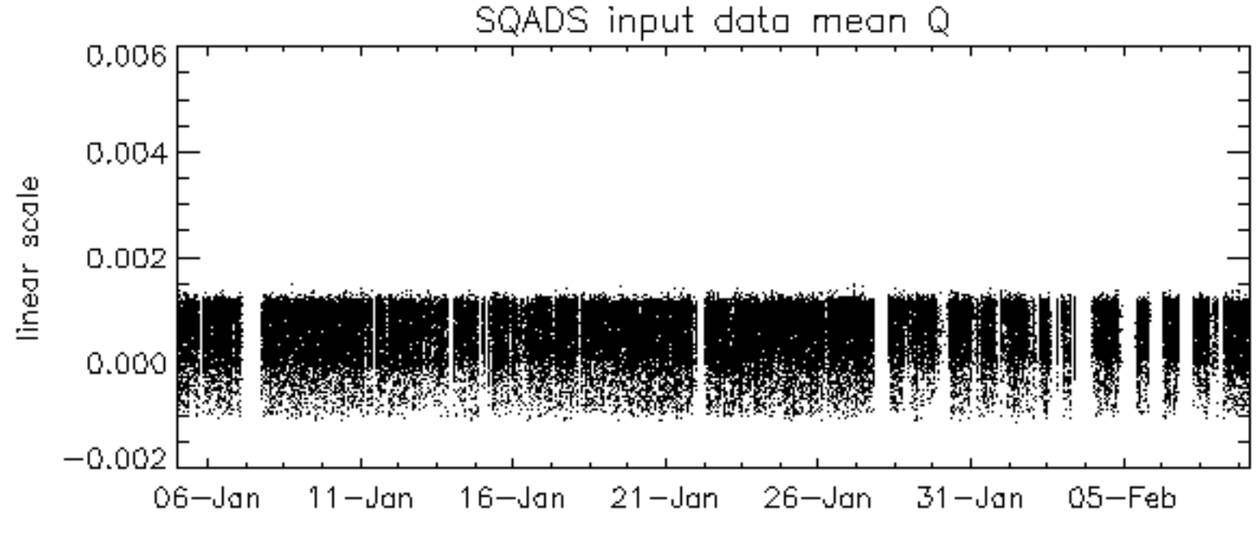
31
32

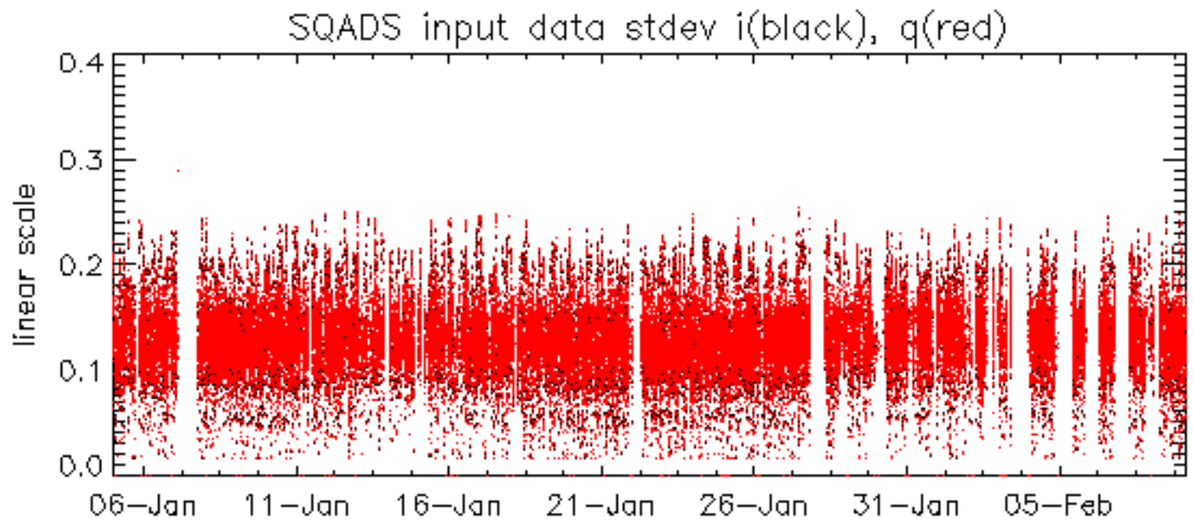

Reference: 2003-06-12 14:10:32 V
Test : 2005-02-07 08:41:55 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

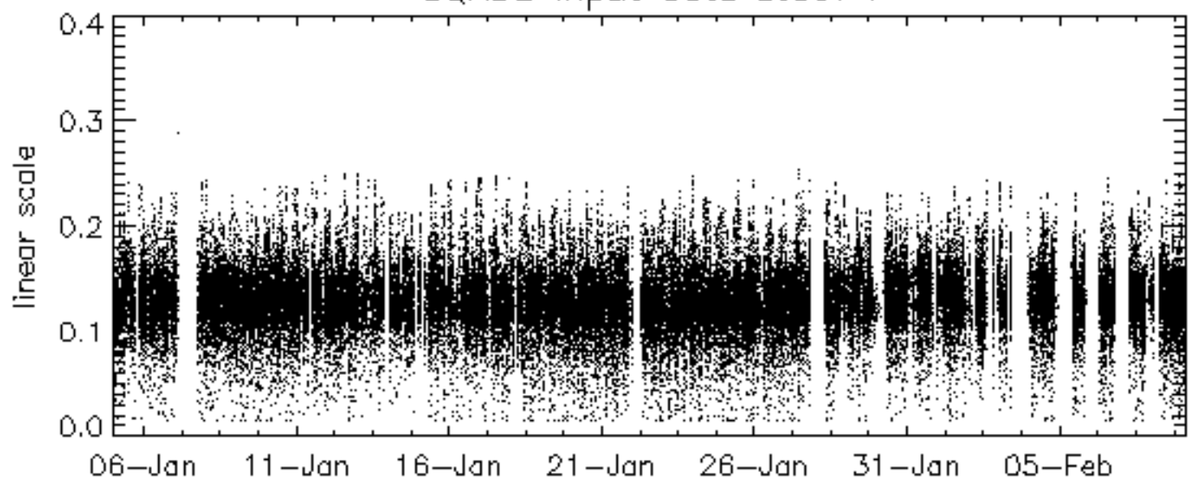

I/Q Gain Imbalance
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
stdev I

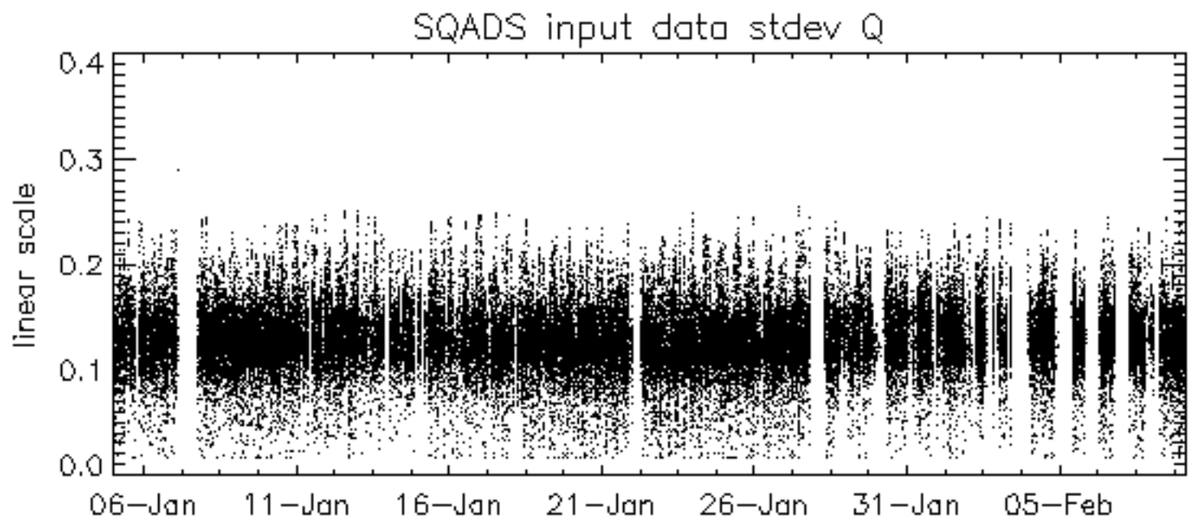

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Jan
11−Jan
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb

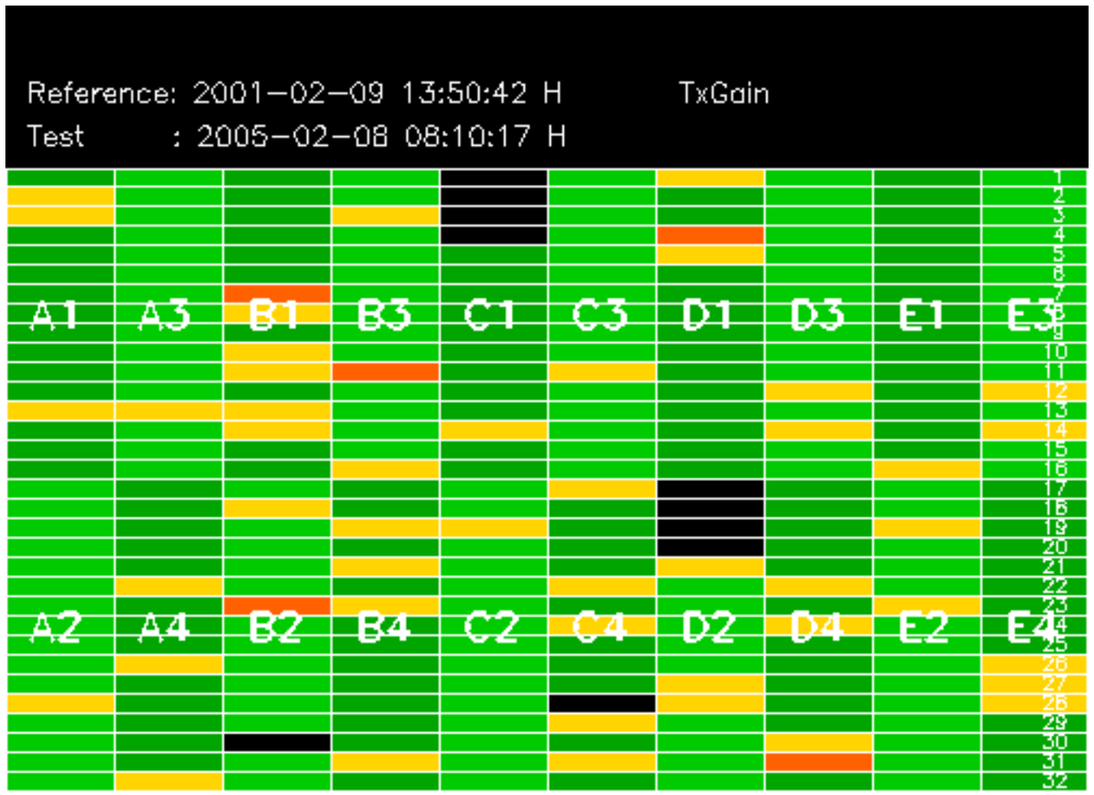

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Jan
11−Jan
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb


SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Jan
11−Jan
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb


SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
06–Jan
11–Jan
16–Jan
21–Jan
26–Jan
31–Jan
05–Feb


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
06–Jan
11–Jan
16–Jan
21–Jan
26–Jan
31–Jan
05–Feb


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
06–Jan
11–Jan
16–Jan
21–Jan
26–Jan
31–Jan
05–Feb


Reference: 2001-02-09 13:50:42 H
Test : 2005-02-08 08:10:17 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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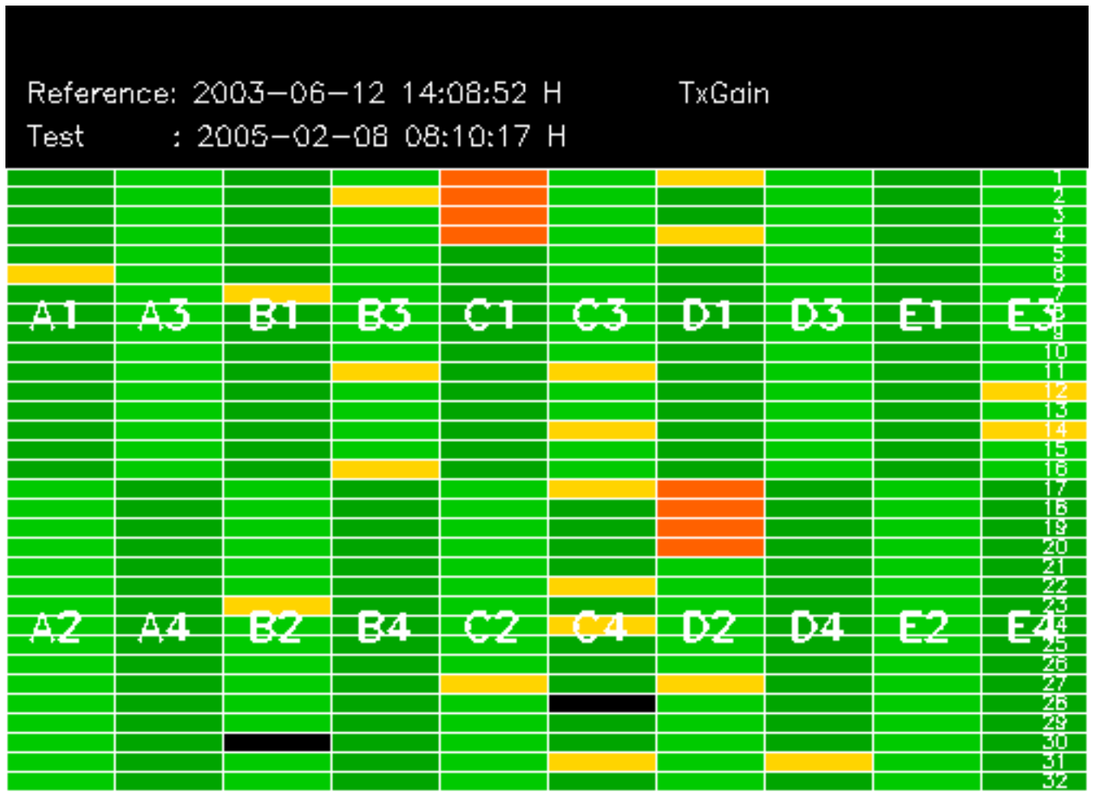
Reference: 2003-06-12 14:08:52 H
Test : 2005-02-08 08:10:17 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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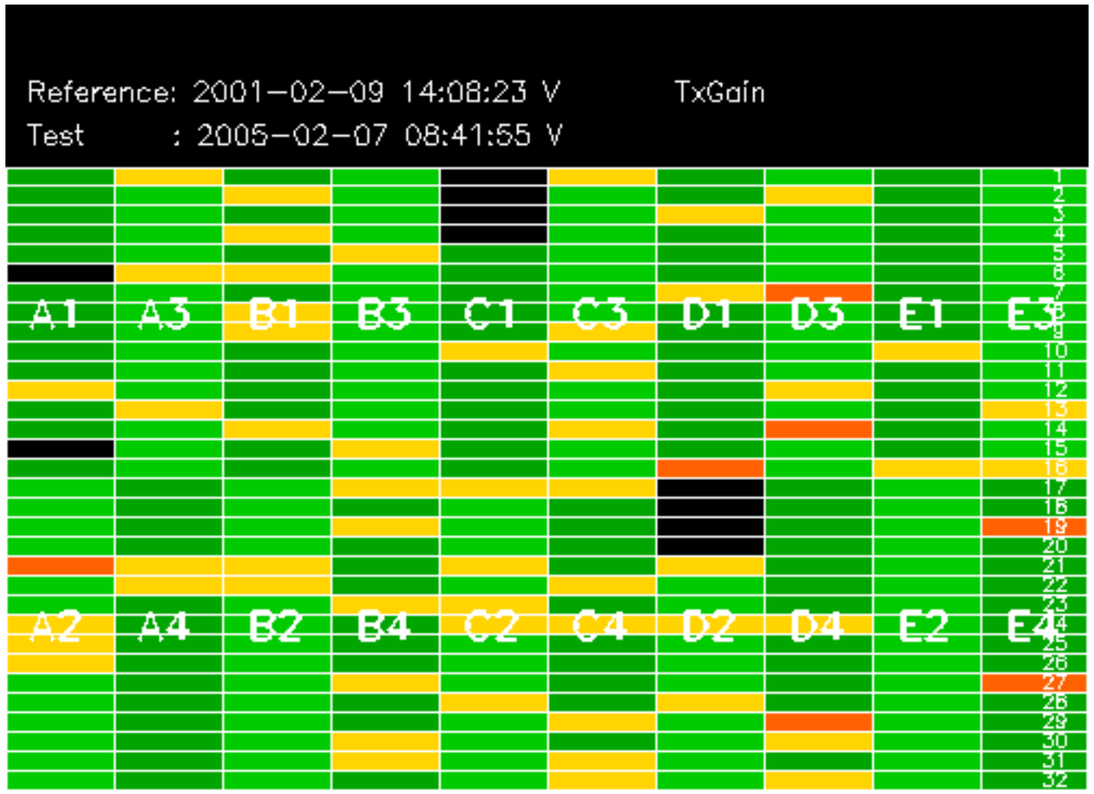
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2005-02-07 08:41:55 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 : 2005-02-07 08:41:55 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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3
4
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8
9
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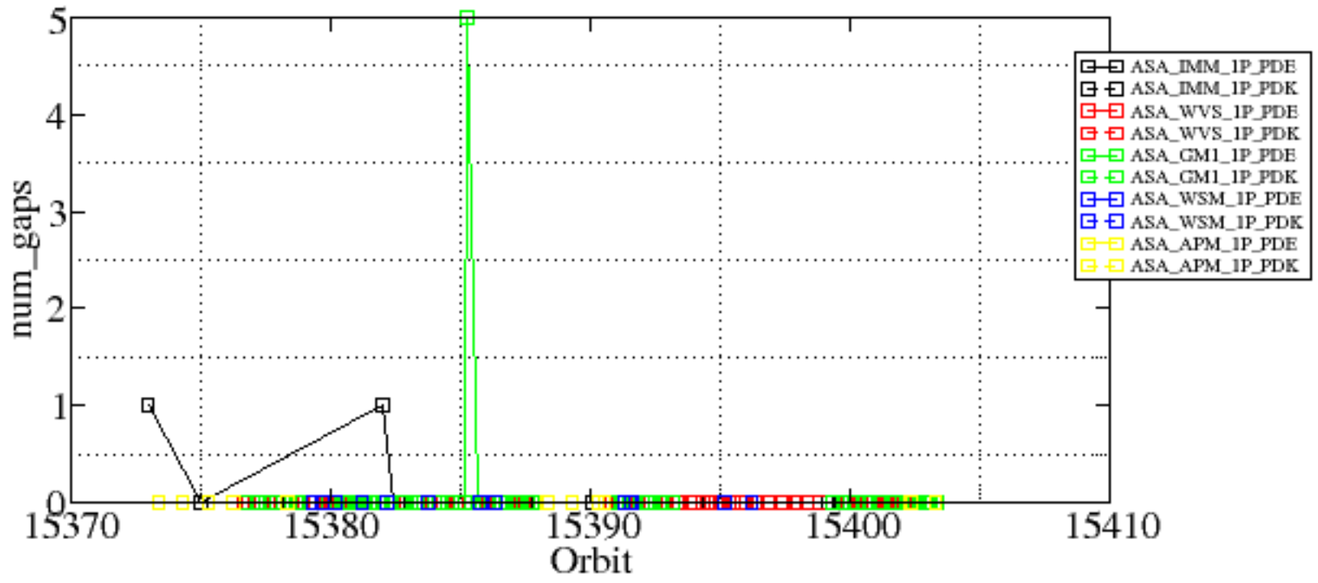
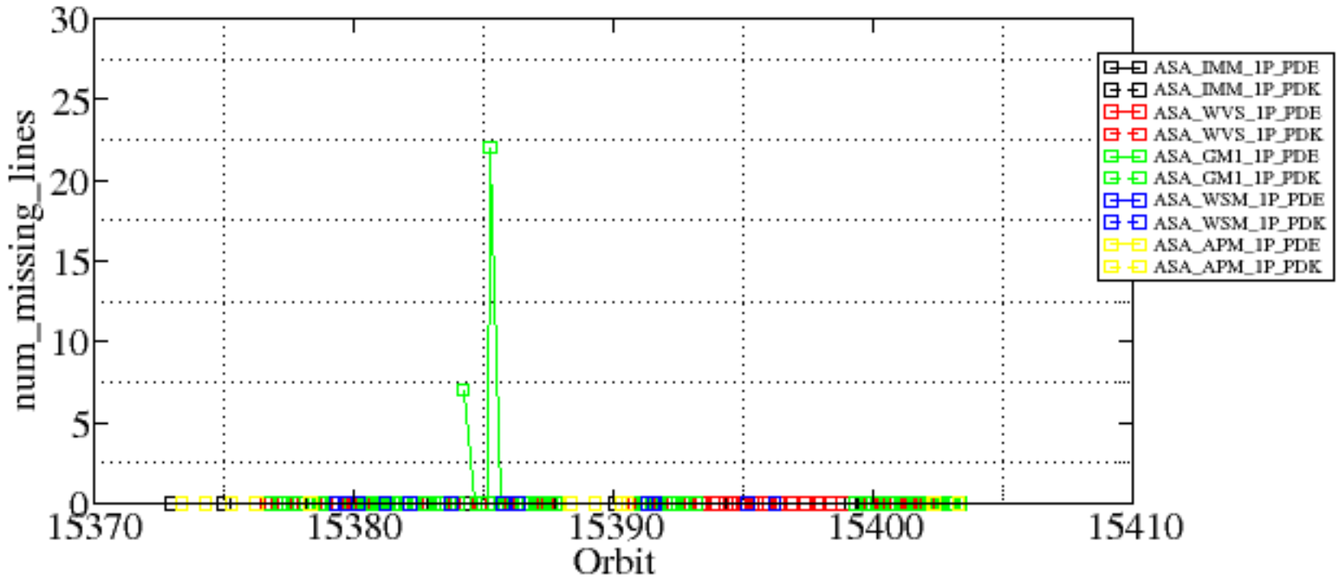
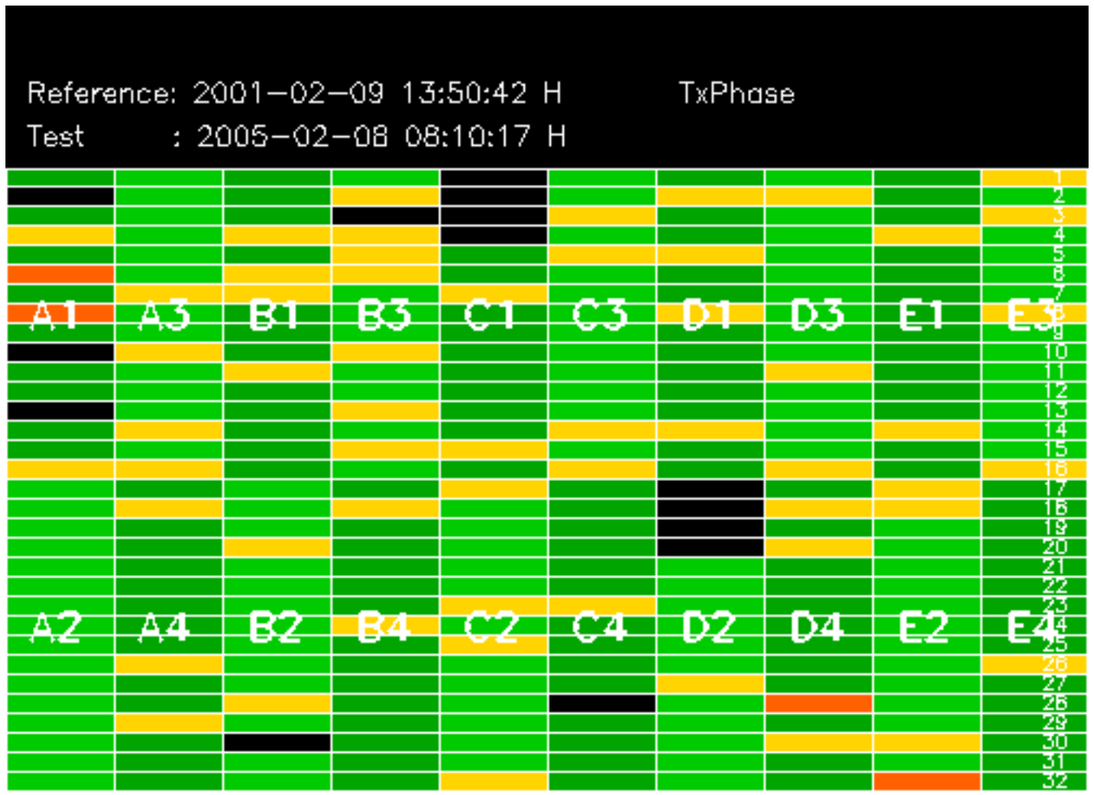
32

Summary of analysis for the last 3 days 2005020[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_IMM_1PNPDE20050207_004753_000002122034_00288_15372_1924.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_IMM_1PNPDE20050207_155733_000002312034_00298_15382_1963.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_GM1_1PNPDE20050207_194032_000004832034_00300_15384_8573.N1 </td> <td>0 </td> <td>7 </td></tr>
<tr> <td>ASA_GM1_1PNPDE20050207_212423_000001082034_00301_15385_8587.N1 </td> <td>5 </td> <td>22 </td></tr>
</table>


num_gaps
Orbit
15370
15380
15390
15400
15410
0
1
2
3
4
5
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
30
25
20
15
10
5
0
15370
15380
15390
15400
15410
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 : 2005-02-08 08:10:17 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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27
28
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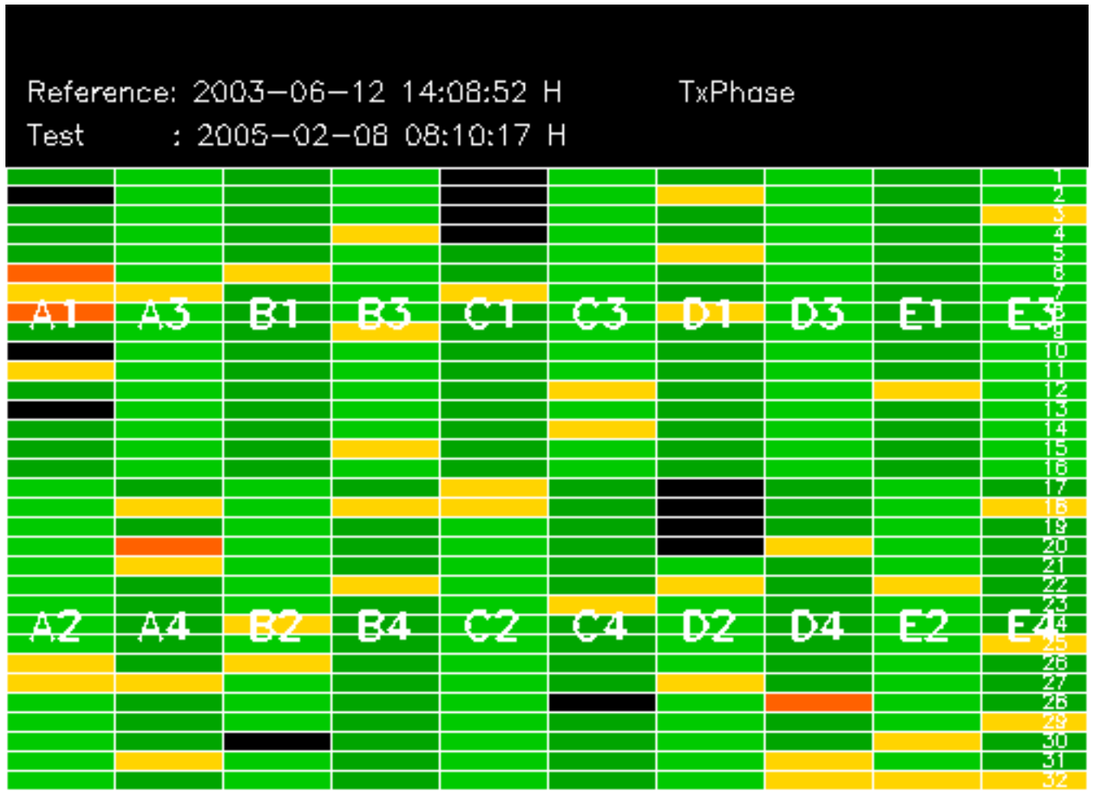
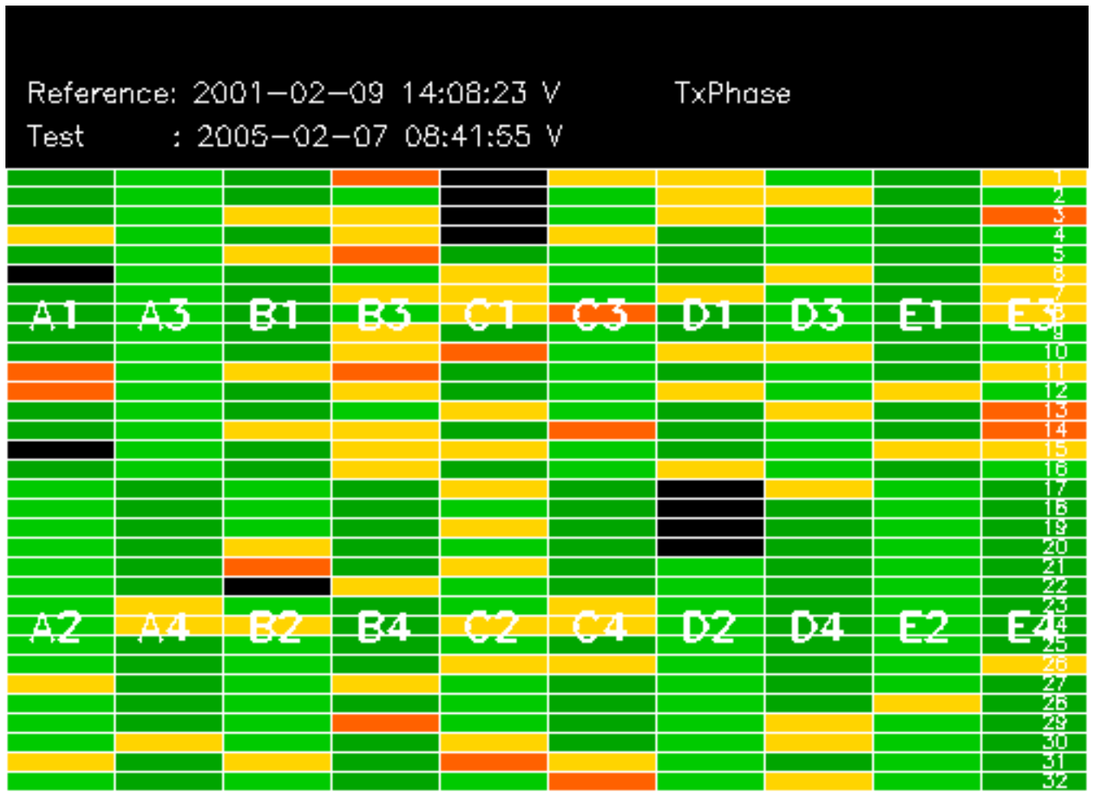
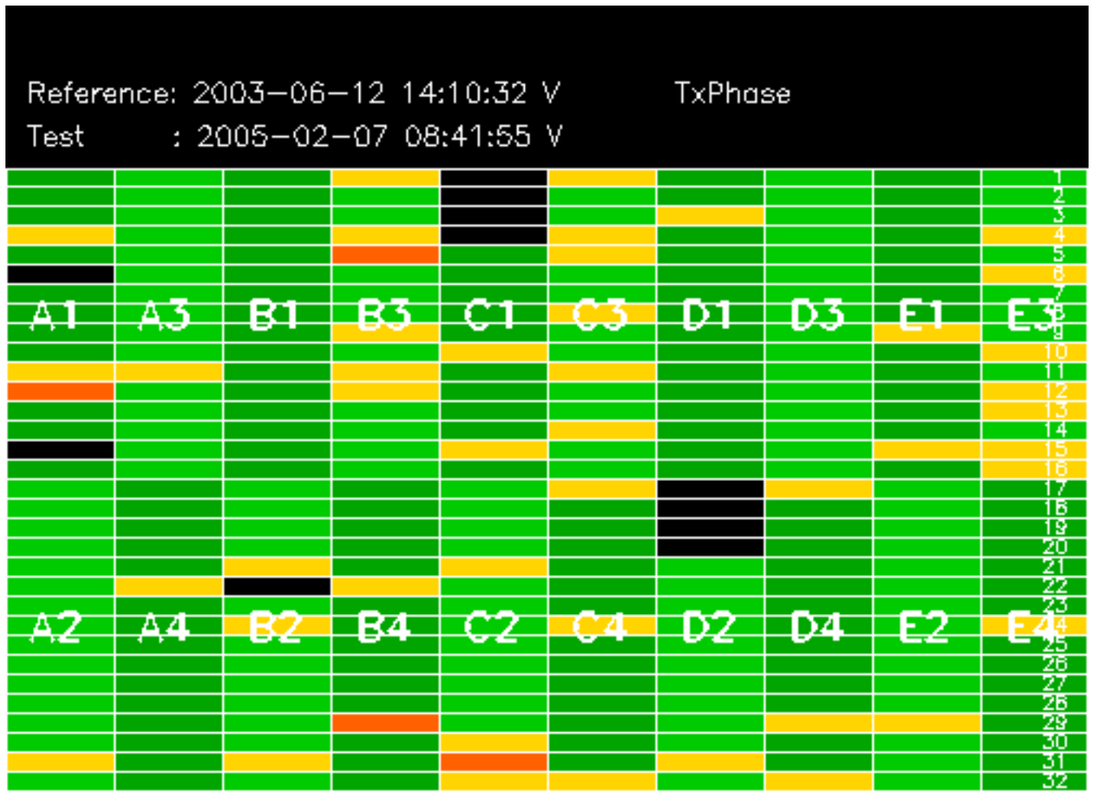
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-02-08 08:10:17 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 : 2005-02-07 08:41:55 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 : 2005-02-07 08:41:55 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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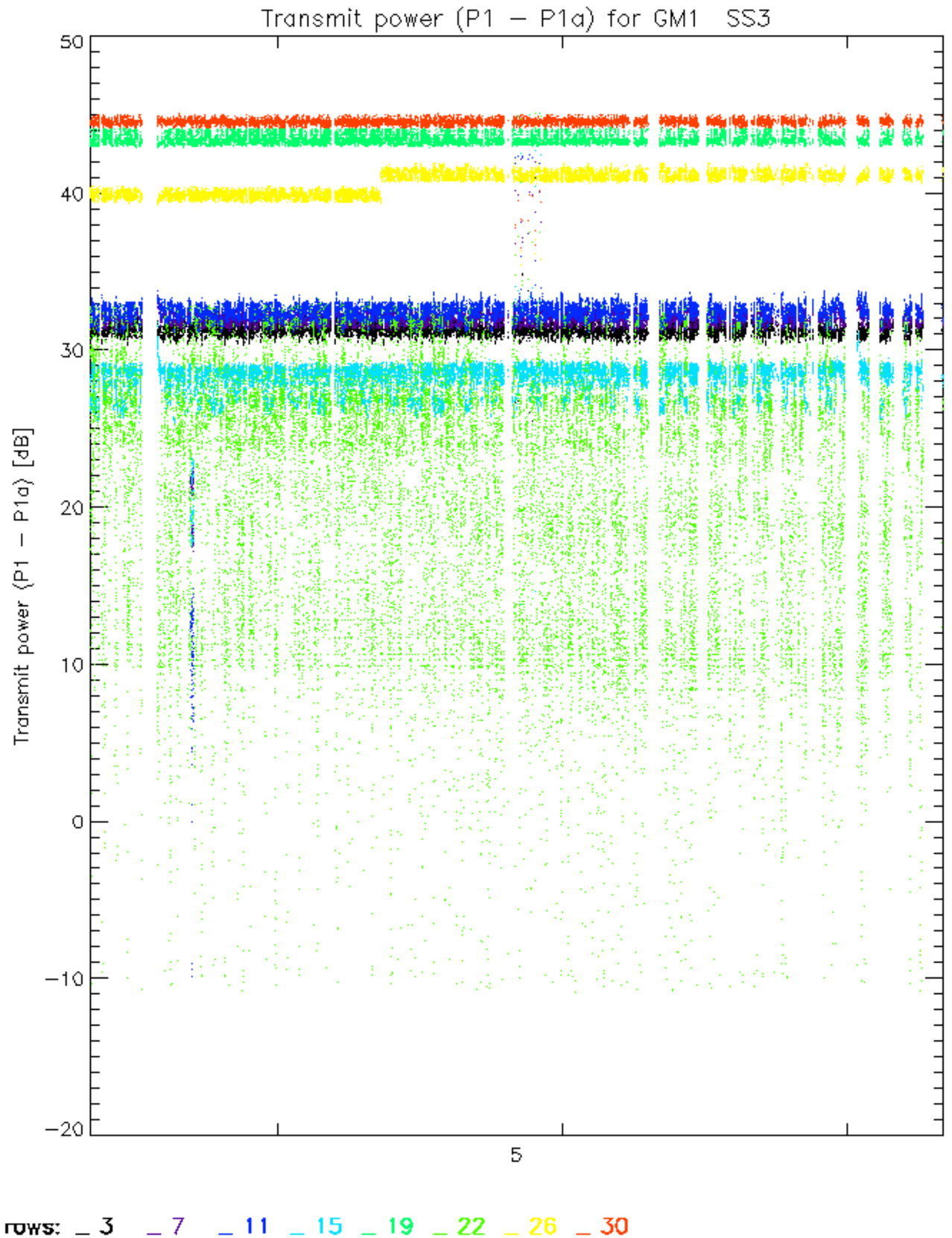
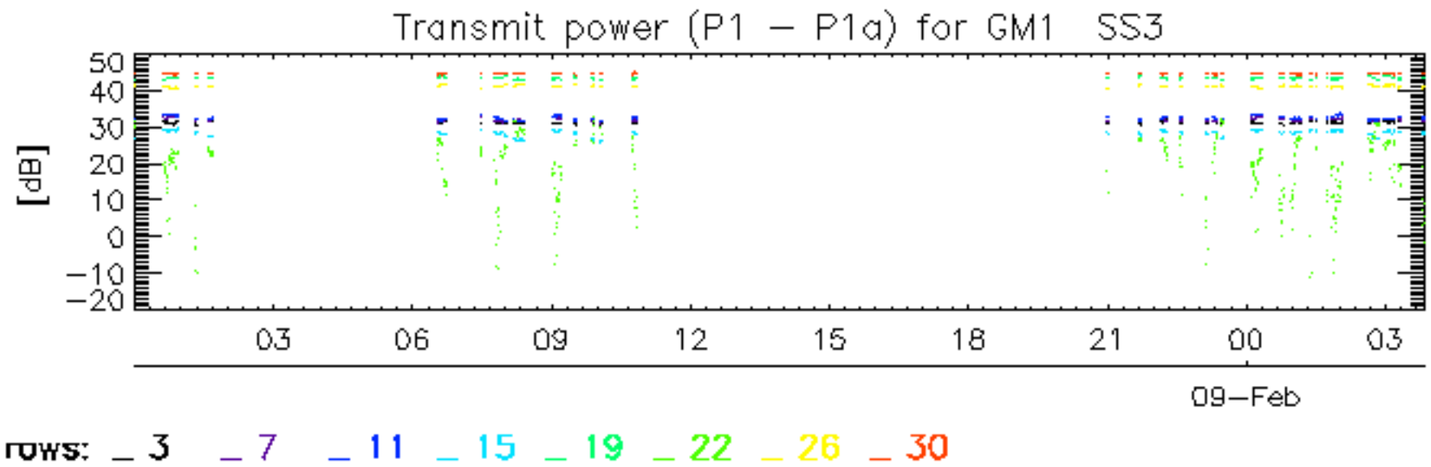
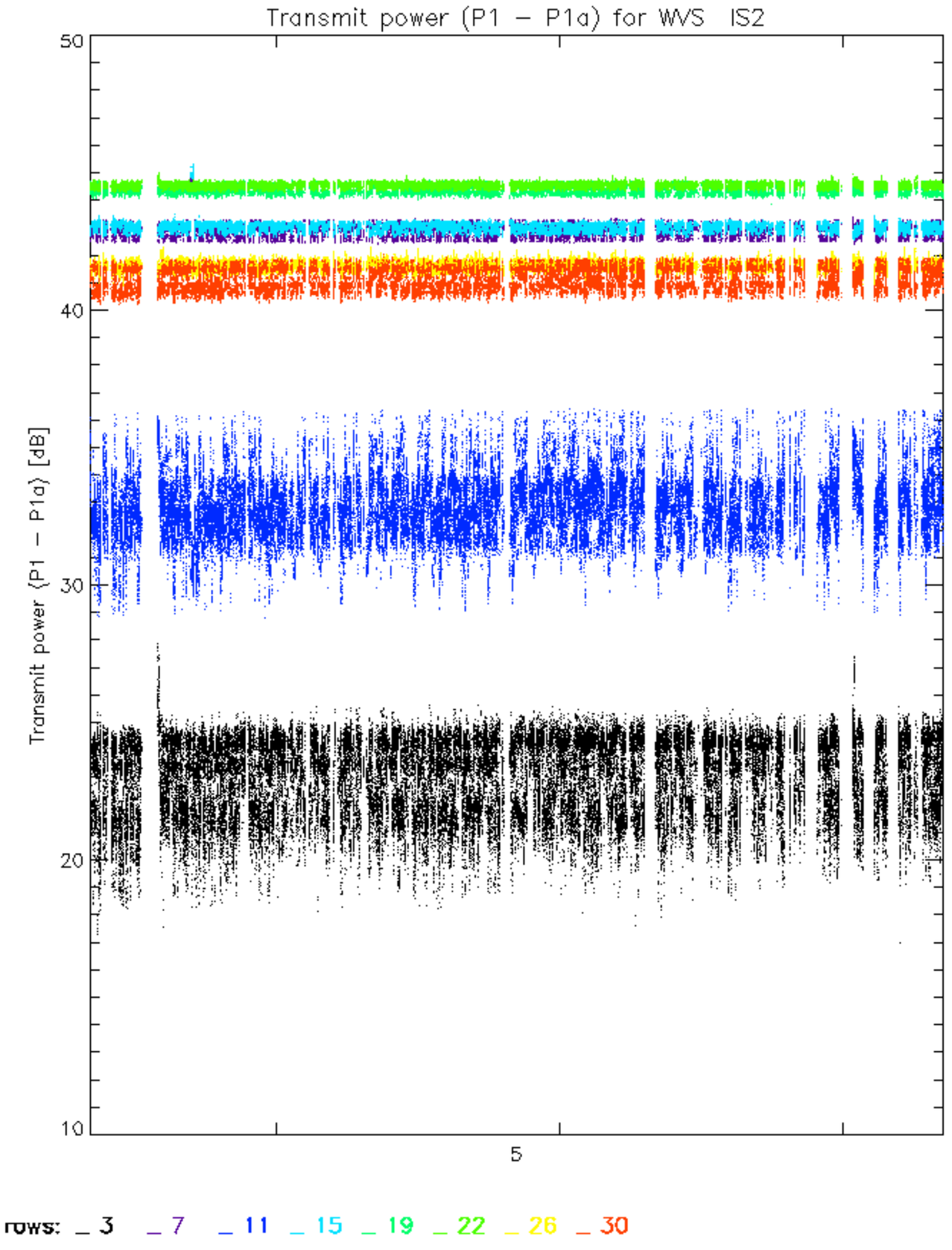
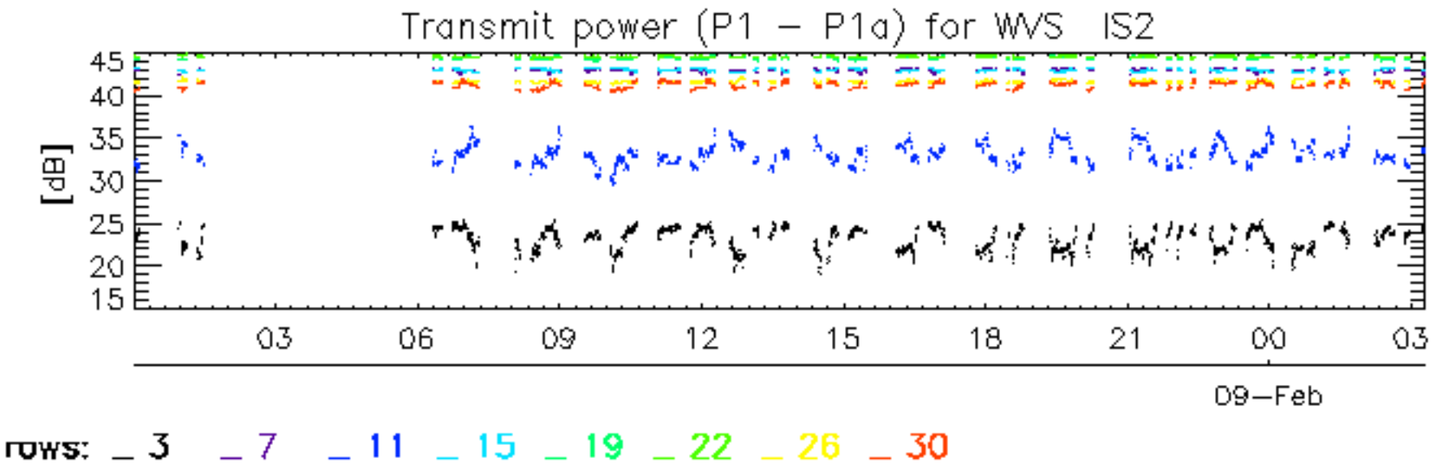

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
−20
5
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
50
40
30
20
10
0
−10
−20
03
06
09
12
15
18
21
00
03
09–Feb
rows: 3
7
11
15
19
22
26
30


Transmit power (P1 – P1a) for WVS IS2
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
5
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
[dB]
45
40
35
30
25
20
15
03
06
09
12
15
18
21
00
03
09–Feb
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.