PRELIMINARY REPORT OF 050213

last update on Sun Feb 13 11:03:38 GMT 2005

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1 - Introduction

This report is based on the analysis of wave mode level-1 cross spectra (ASA_WVS_1P), global monitoring products (ASA_GM1_1P), which are the available few hours after the acquisition, on the browse (BP) products and
on the Module Stepping (MS) product.

2 - Summary

2.1 - Instrument Unavailability

No unavailabilities during the reported period.

2.2 - Auxiliary files

Summary of the auxiliary files used from 2005-02-12 00:00:00 to 2005-02-13 11:03:38

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	35	48	4	2	3
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	35	48	4	2	3
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	35	48	4	2	3
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	35	48	4	2	3

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	34	36	5	10	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	34	36	5	10	4
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	34	36	5	10	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	34	36	5	10	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	20050211 063526
H	20050212 060349

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	-3.395436	0.008610	0.057358
7	P1	-3.079863	0.007819	-0.000283
11	P1	-4.663687	0.019645	-0.048316
15	P1	-5.645240	0.034229	-0.029553
19	P1	-3.664620	0.004293	0.010462
22	P1	-4.552744	0.014302	0.048328
26	P1	-4.940847	0.013178	-0.002039
30	P1	-7.151114	0.016820	-0.026094
3	P1	-15.910103	0.097553	-0.047904
7	P1	-15.510808	0.067062	-0.046843
11	P1	-20.868576	0.253281	-0.163946
15	P1	-11.603434	0.058441	0.117637
19	P1	-14.185714	0.024753	-0.042631
22	P1	-15.873527	0.375577	0.291115
26	P1	-17.605701	0.217611	0.068780
30	P1	-17.921761	0.363601	0.018191

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.208149	0.086346	0.187089
7	P2	-22.397112	0.108954	0.170988
11	P2	-14.622857	0.102361	0.176871
15	P2	-7.094219	0.096738	0.084837
19	P2	-9.683676	0.095798	0.071064
22	P2	-17.016174	0.094849	0.147980
26	P2	-16.480982	0.093435	0.072183
30	P2	-18.905031	0.080142	0.043471

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.181504	0.006005	0.044286
7	P3	-8.181504	0.006005	0.044286
11	P3	-8.181504	0.006005	0.044286
15	P3	-8.181504	0.006005	0.044286
19	P3	-8.181504	0.006005	0.044286
22	P3	-8.181504	0.006005	0.044286
26	P3	-8.181430	0.006007	0.044210
30	P3	-8.181430	0.006007	0.044210

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	-2.785286	0.019597	0.082635
7	P1	-2.967373	0.078087	-0.063919
11	P1	-3.959591	0.029449	-0.045845
15	P1	-3.531937	0.027557	-0.038857
19	P1	-3.596990	0.013825	0.016525
22	P1	-5.692017	0.059896	-0.070544
26	P1	-7.120810	0.146484	-0.835184
30	P1	-6.275288	0.043135	0.090876
3	P1	-10.754881	0.091209	0.025629
7	P1	-10.168506	0.193476	-0.131061
11	P1	-12.553113	0.128913	-0.042479
15	P1	-11.762154	0.080603	0.026330
19	P1	-15.587655	0.054367	0.051433
22	P1	-24.105082	1.550567	-0.242444
26	P1	-15.397125	0.384362	-0.745471
30	P1	-20.023329	0.863470	-0.208920

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.916594	0.048325	0.158160
7	P2	-22.453369	0.131083	0.144083
11	P2	-10.418886	0.053831	0.254608
15	P2	-5.008798	0.021326	0.068402
19	P2	-6.884095	0.032656	0.111419
22	P2	-7.193297	0.051008	0.138123
26	P2	-23.890629	0.098012	0.087352
30	P2	-21.948645	0.058250	0.053417

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.015779	0.002568	0.048578
7	P3	-8.015843	0.002579	0.048576
11	P3	-8.015868	0.002577	0.048950
15	P3	-8.015818	0.002573	0.048690
19	P3	-8.015873	0.002592	0.048883
22	P3	-8.015890	0.002567	0.048721
26	P3	-8.015725	0.002580	0.048734
30	P3	-8.015827	0.002578	0.048412

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	0.000471119
	stdev	2.15638e-07
MEAN Q	mean	0.000543418
	stdev	2.28855e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129029
	stdev	0.000972766
STDEV Q	mean	0.129266
	stdev	0.000984072

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005021[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_1PNPDK20050212_082228_000000852034_00365_15449_4845.N1	0	38
ASA_WSM_1PNPDK20050212_102512_000000672034_00366_15450_4850.N1	0	88

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

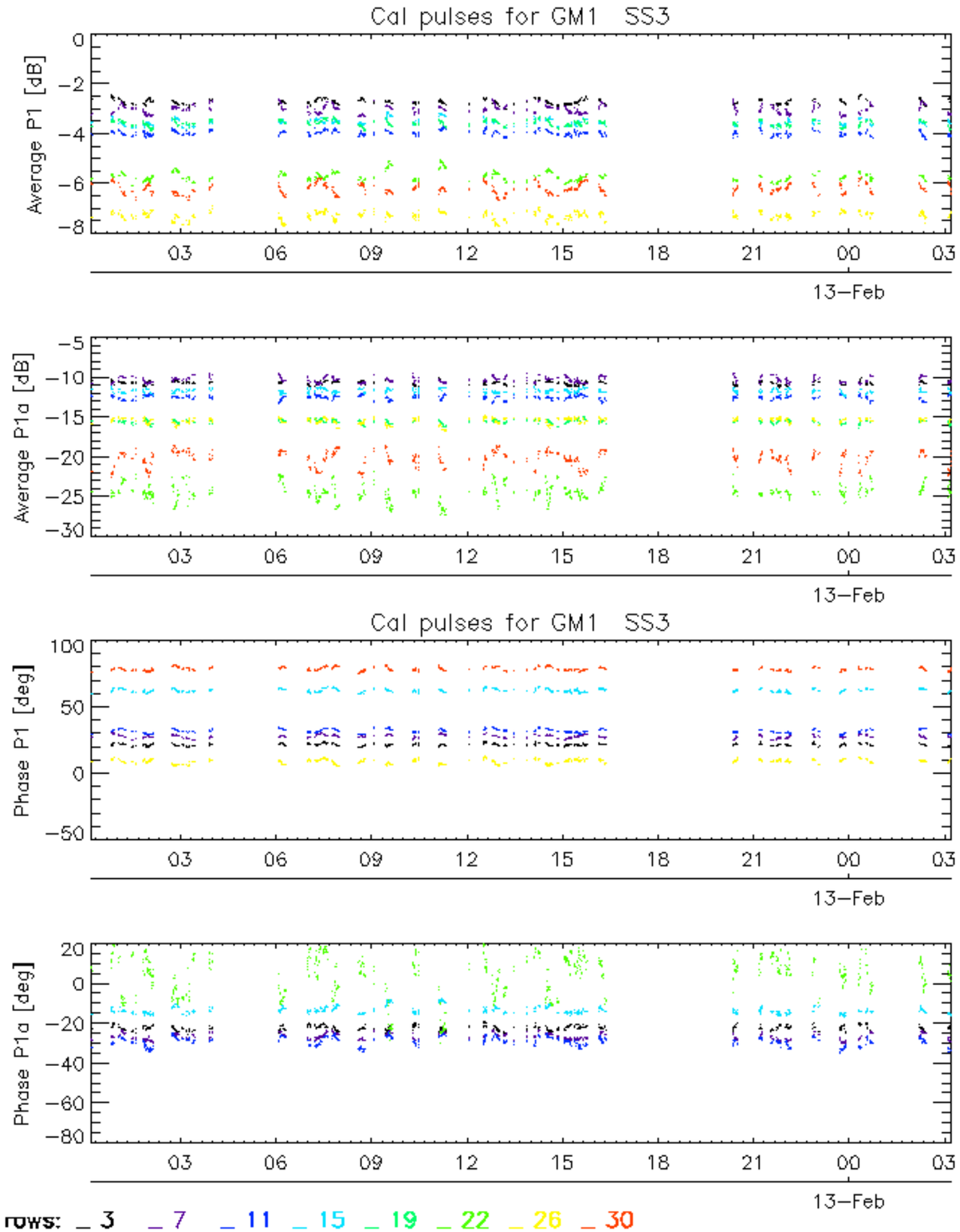
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

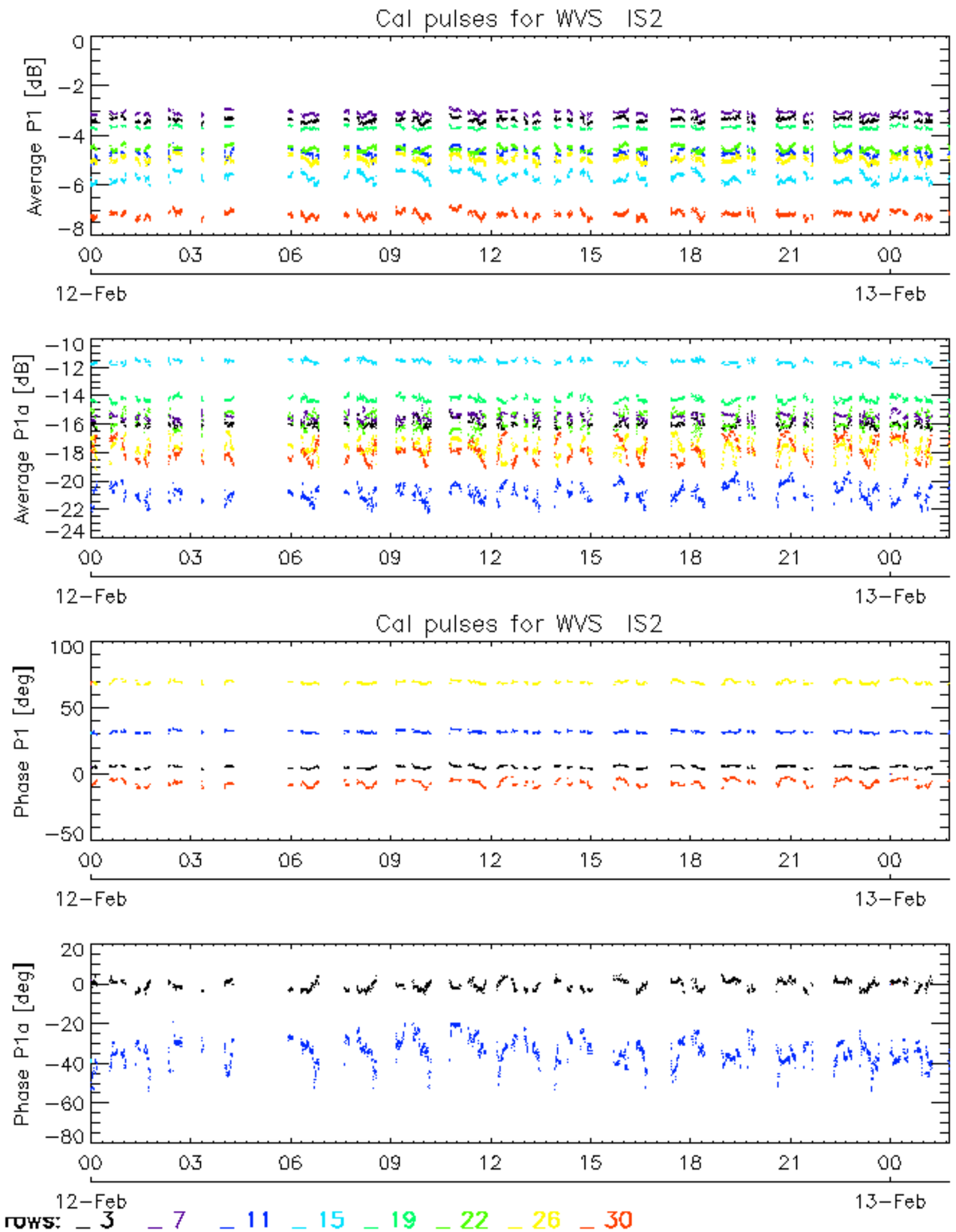
7.5 - Absolute Doppler for GM1

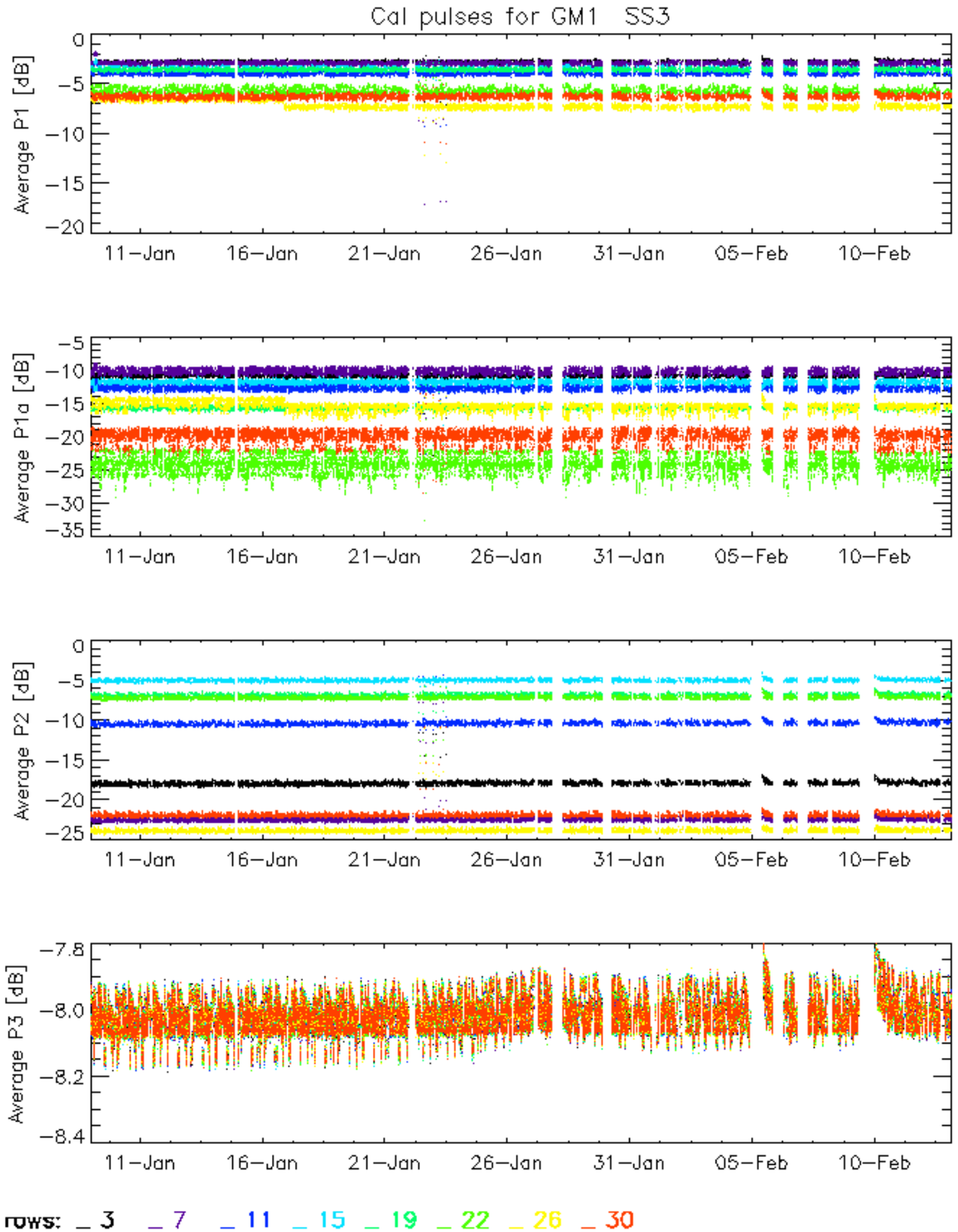
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

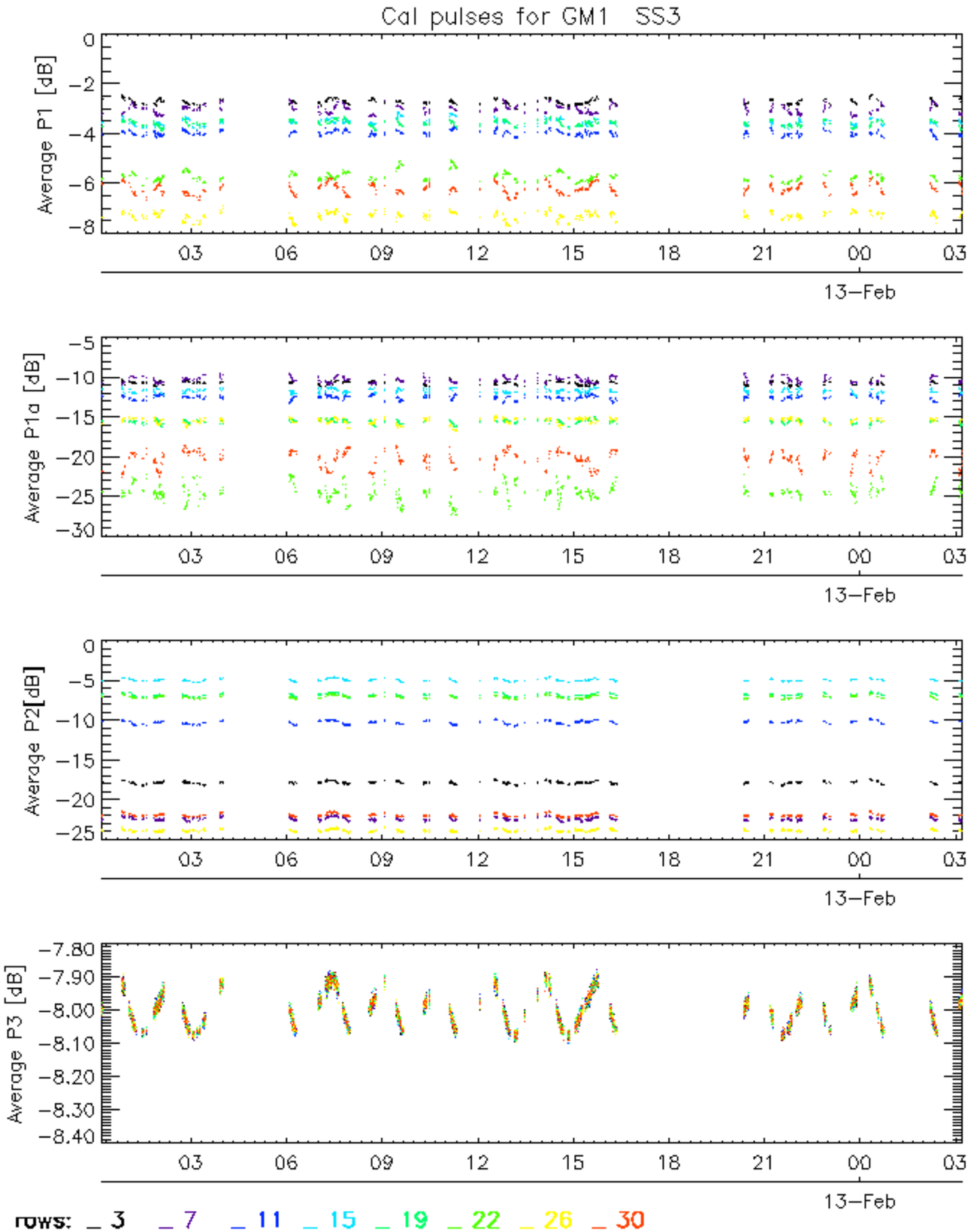
7.6 - Doppler evolution versus ANX for GM1

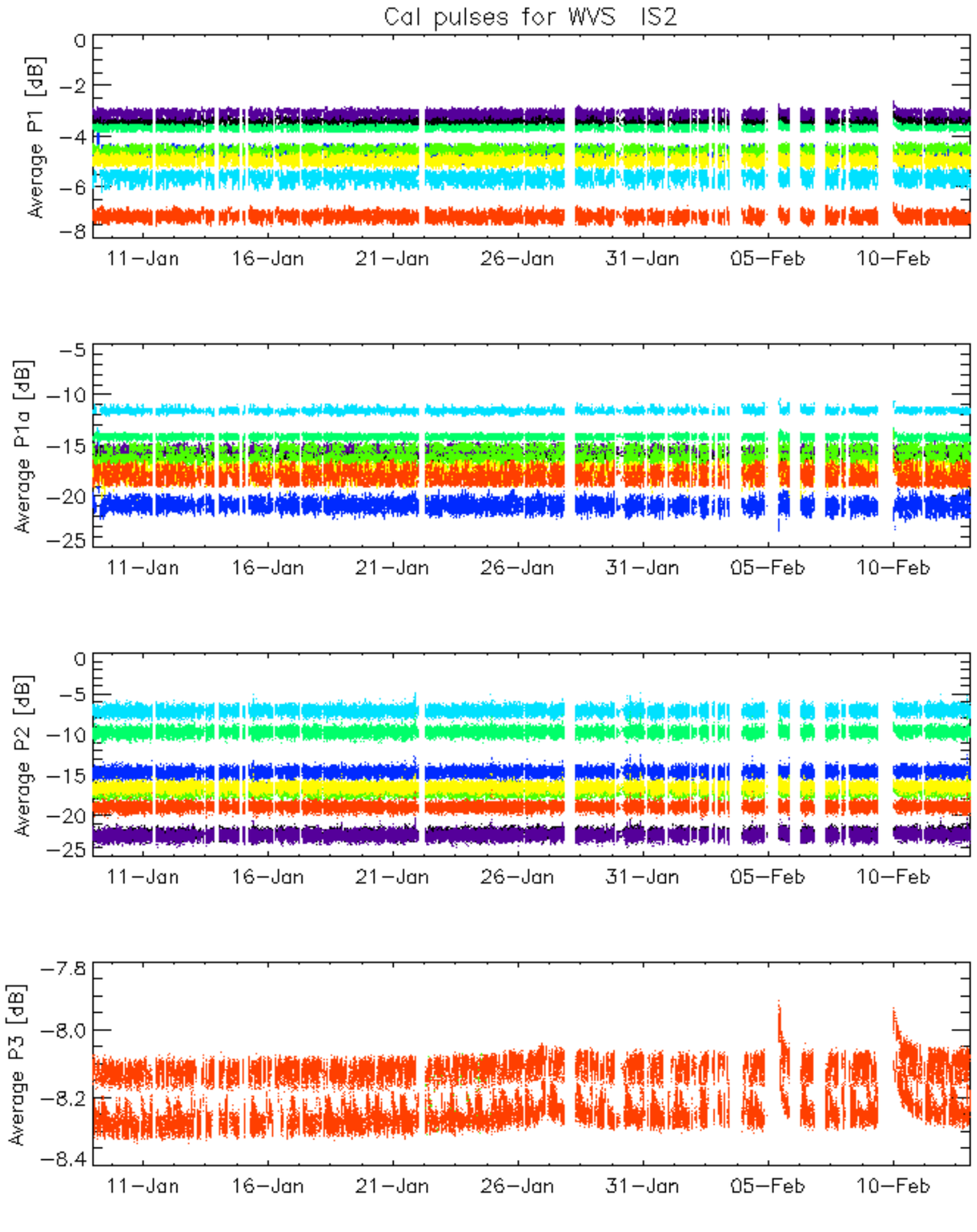
Evolution Doppler error versus ANX
☒

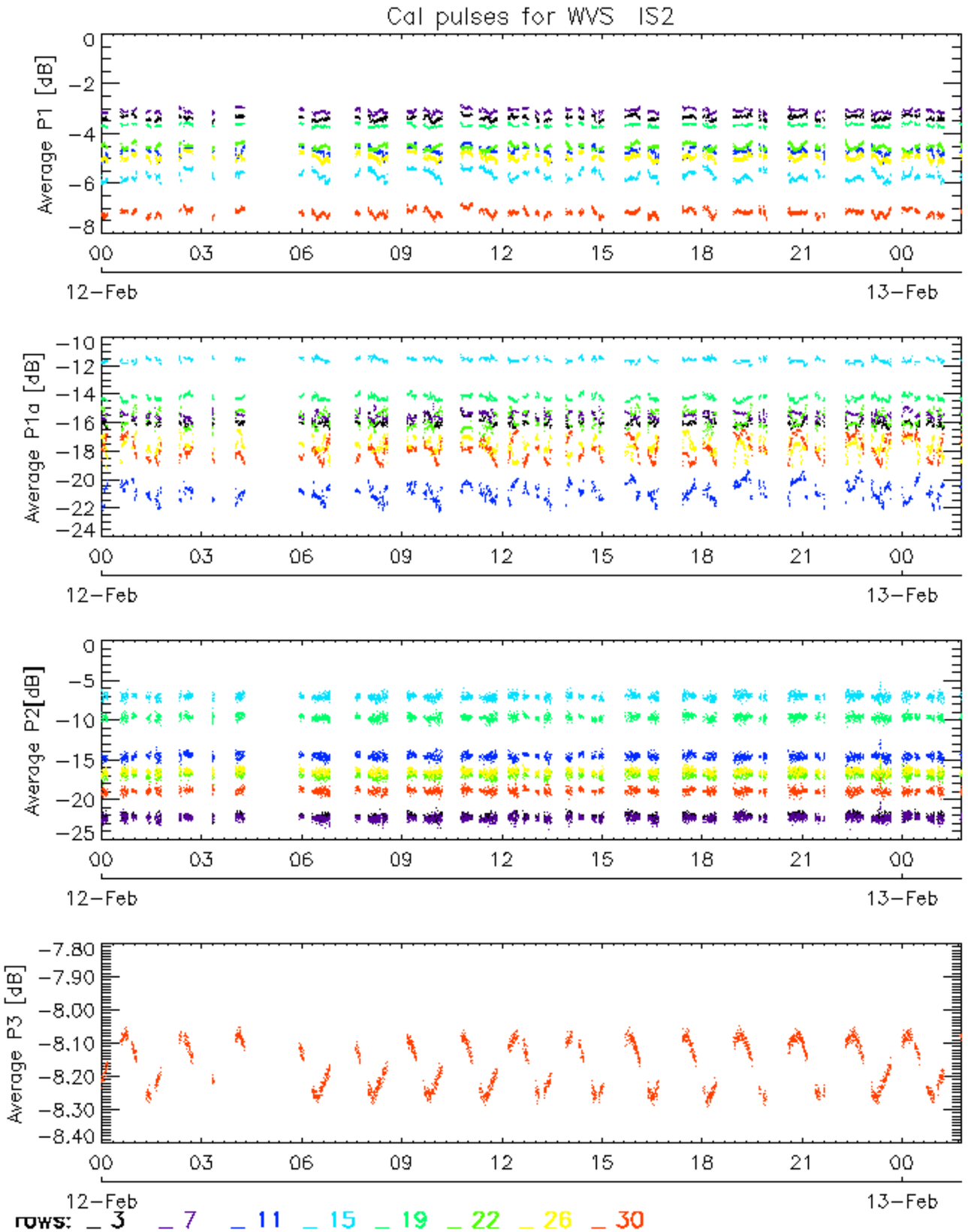

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
13−Feb
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
00
03
06
09
12
15
18
21
00
12−Feb
13−Feb
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
Cal pulses for WVS IS2
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
rows: 3 7 11 15 19 22 26 30

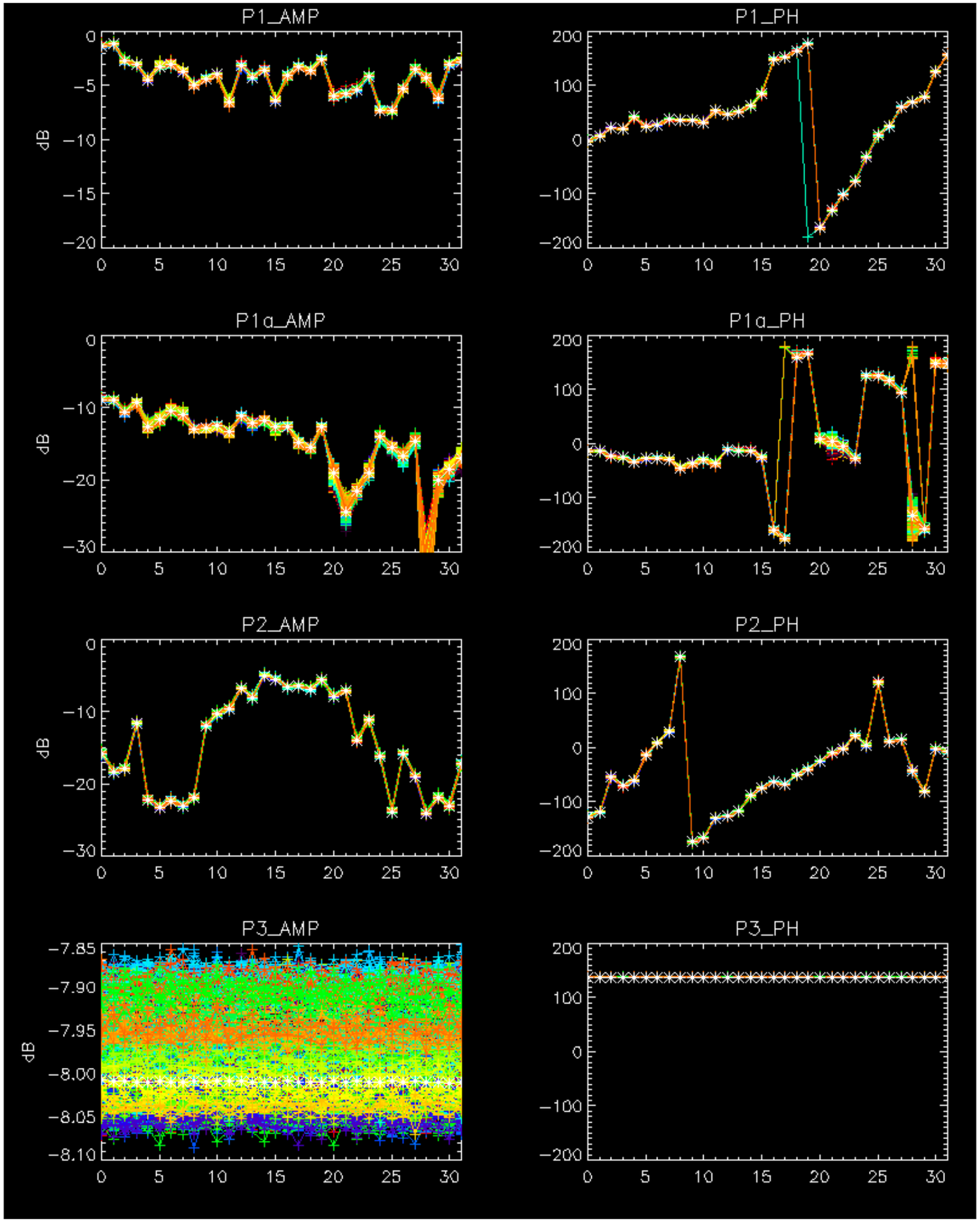

Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
−20
11−Jan
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb
10−Feb
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

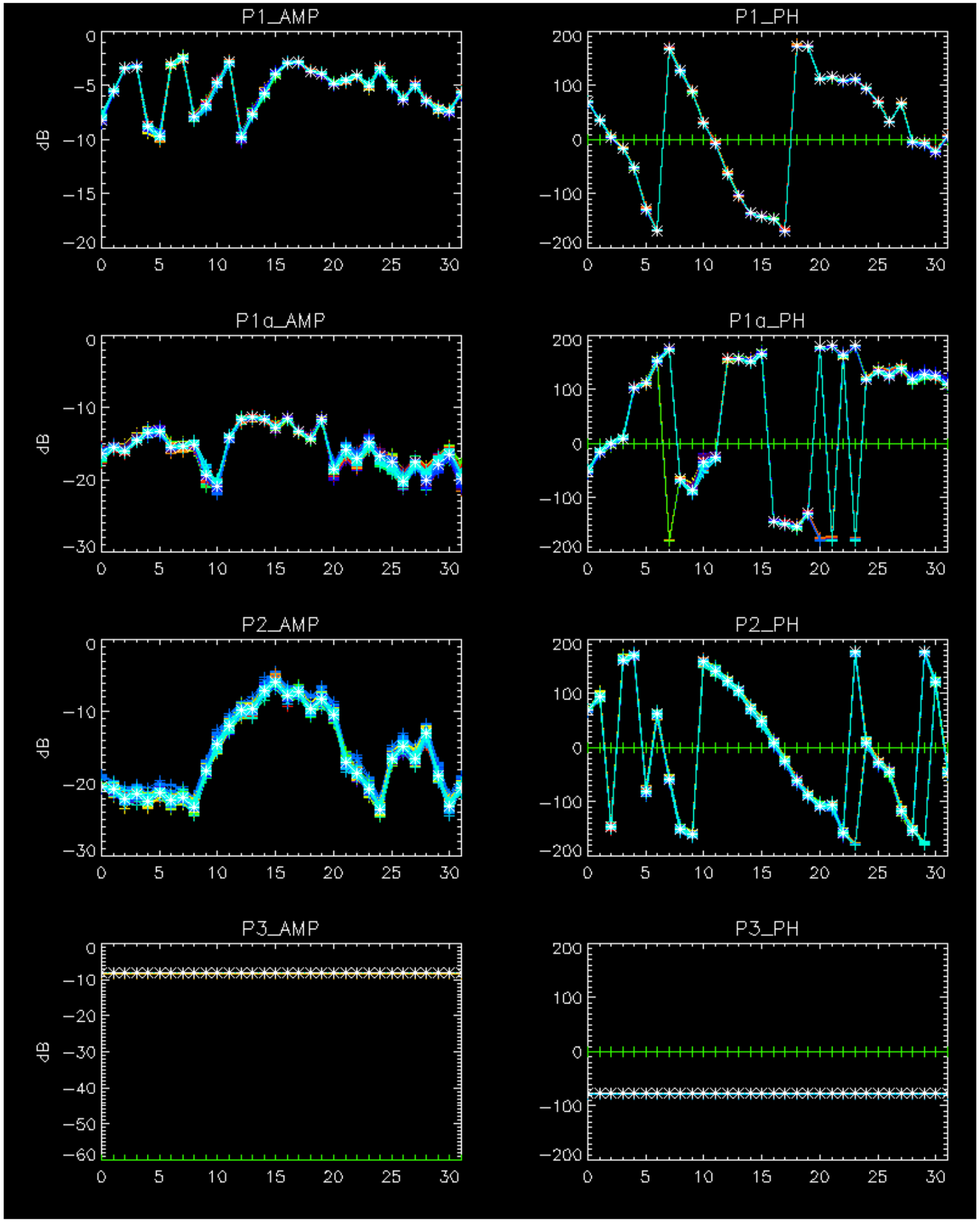

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
13−Feb
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
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
11−Jan
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb
10−Feb
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


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

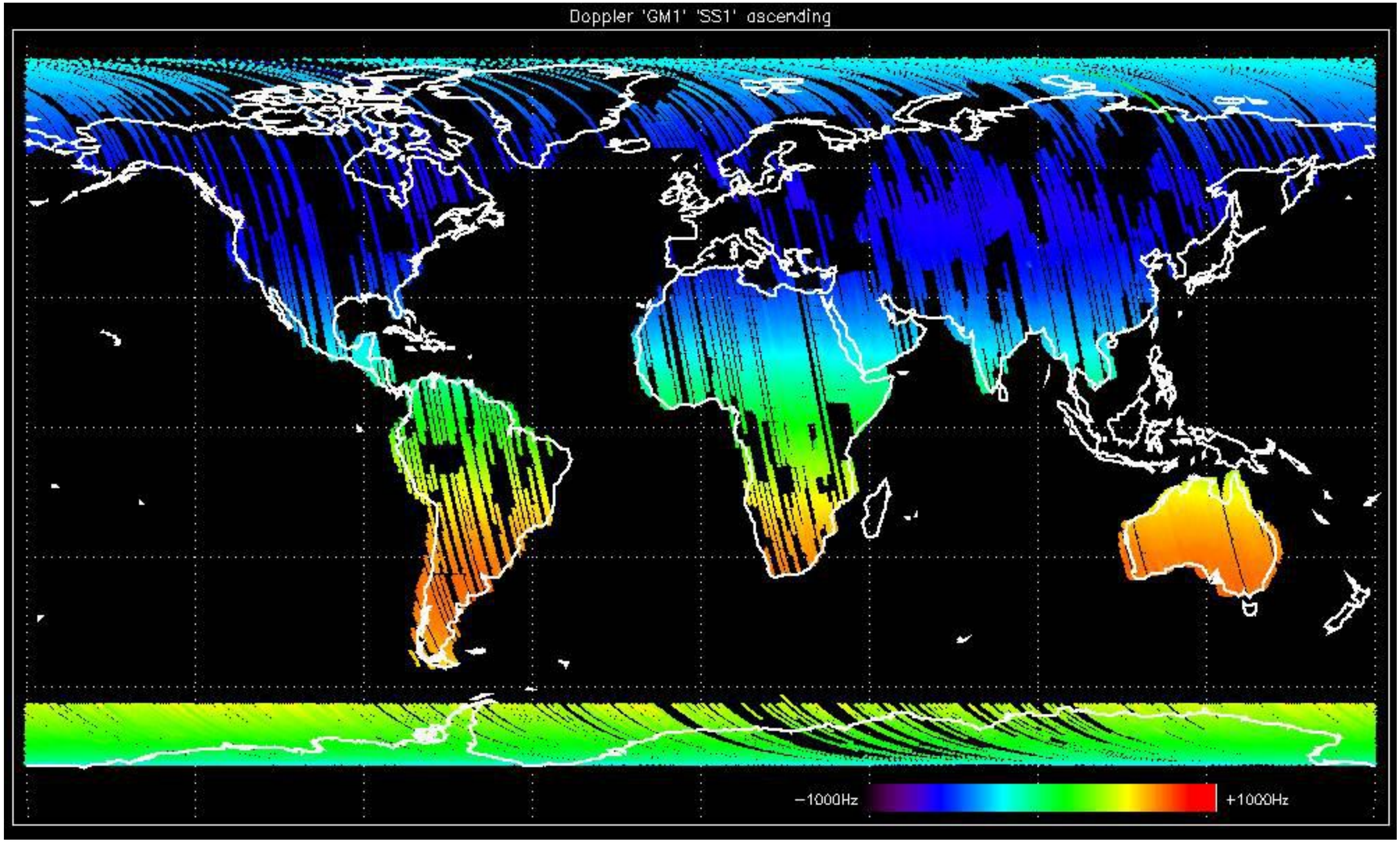
No anomalies observed.

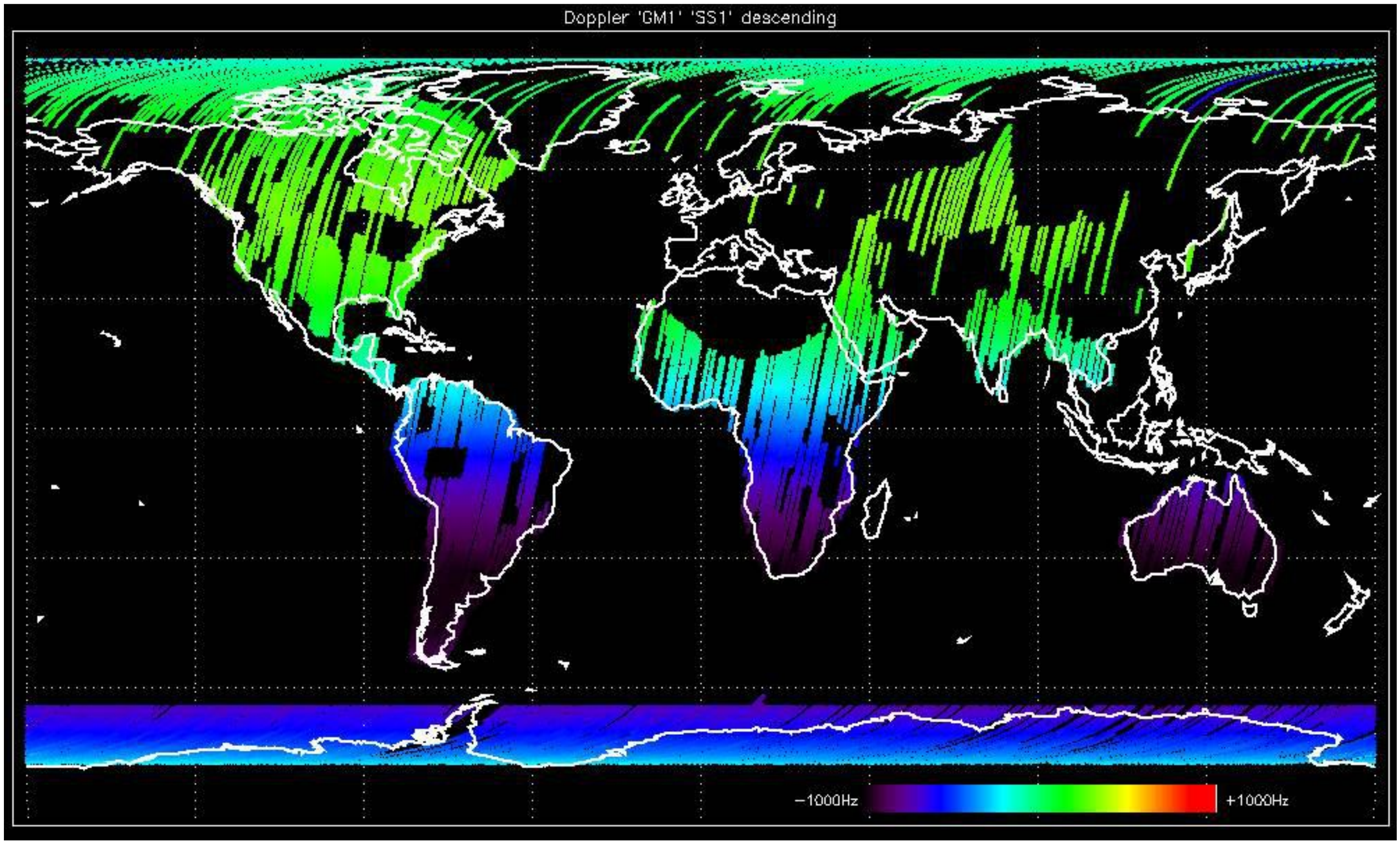

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.85
−7.90
−7.95
−8.00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

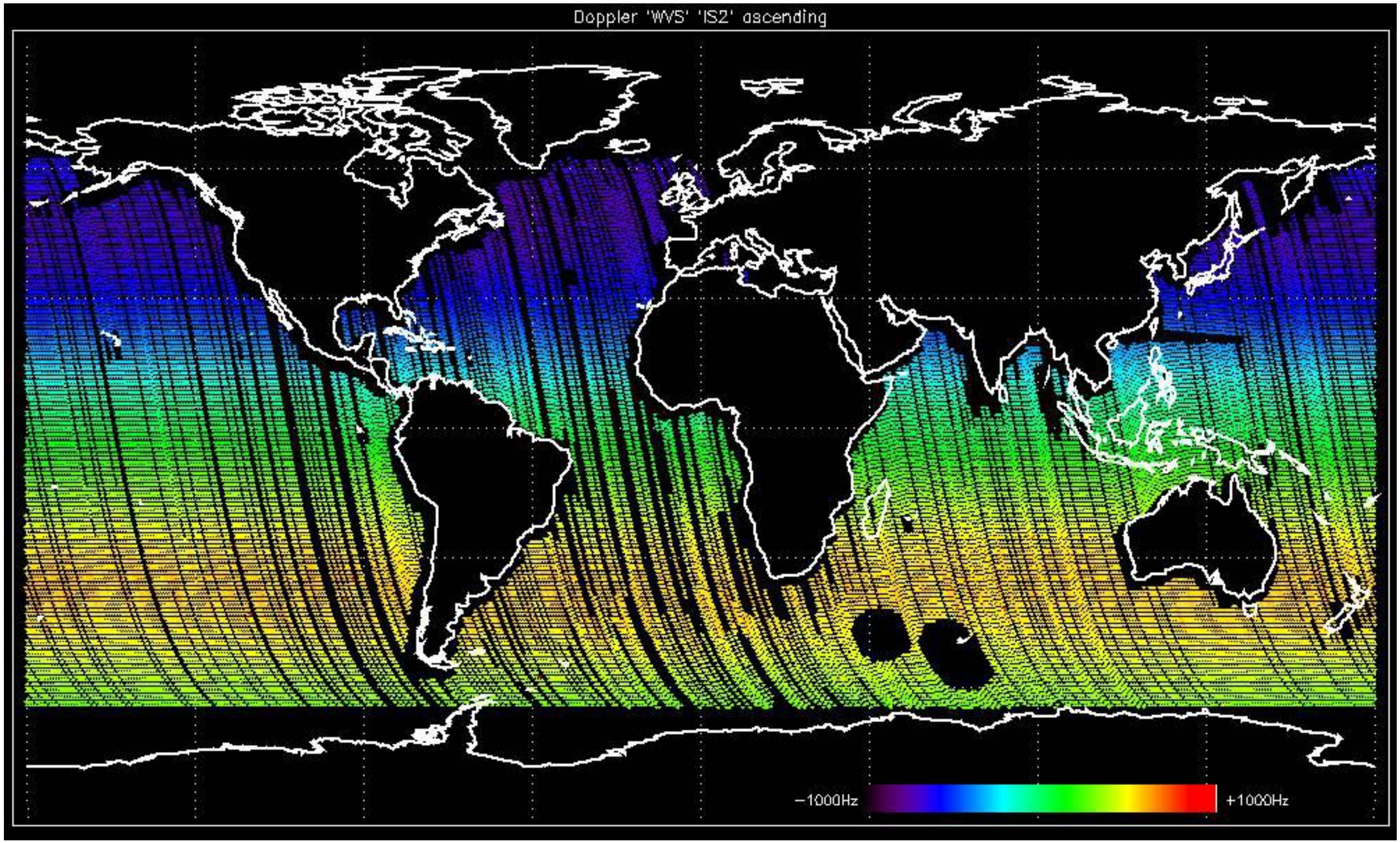

P1_AMP
P1_PH
P1a_AMP
P1a_PH
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

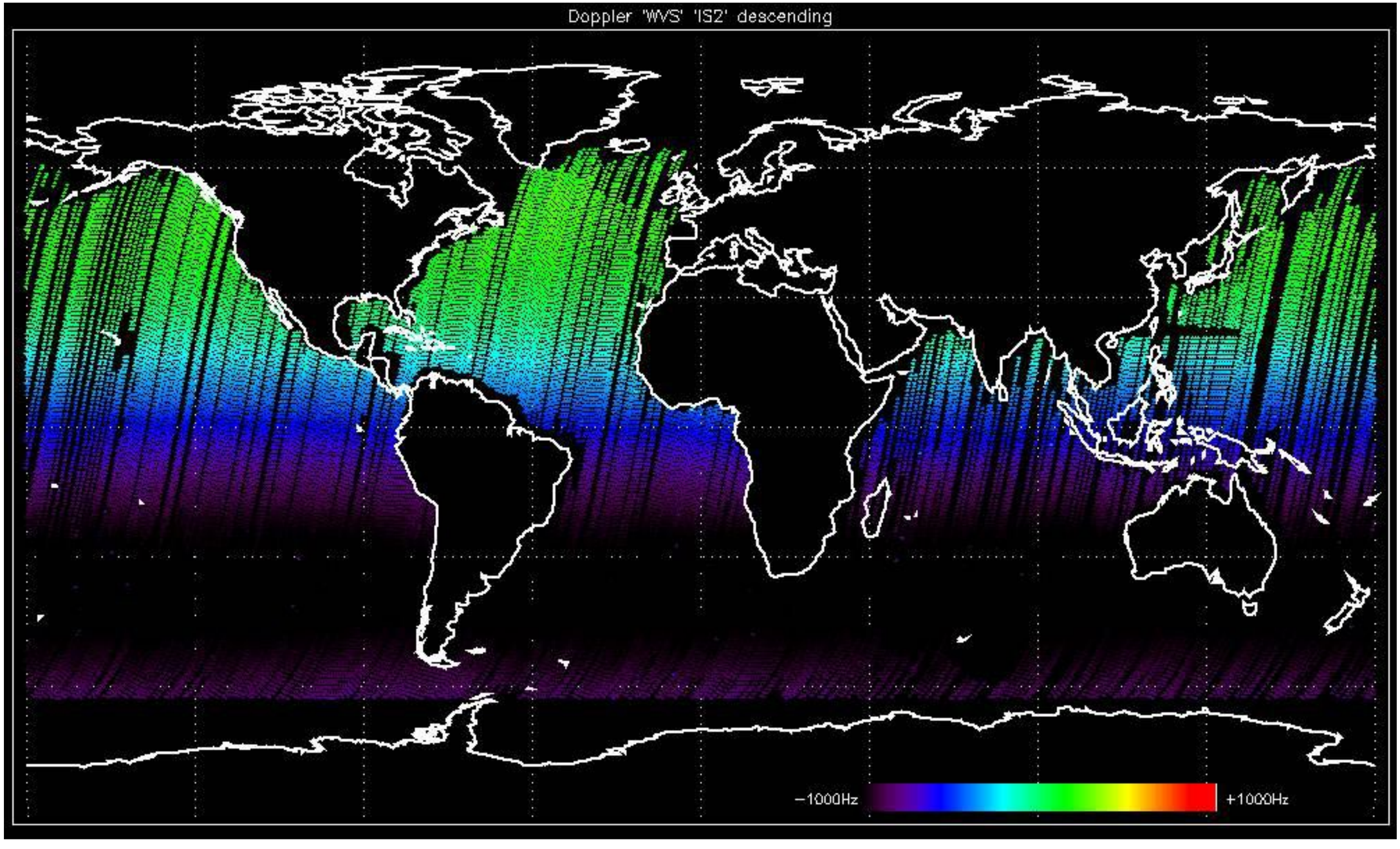
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

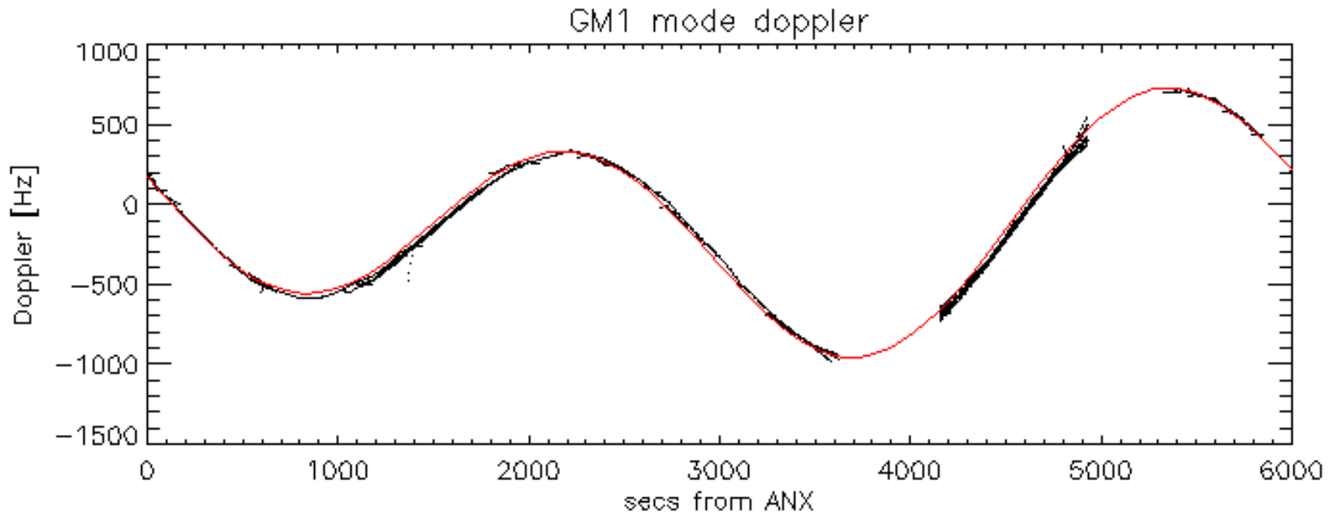
Preliminary report.The data is not yet controled

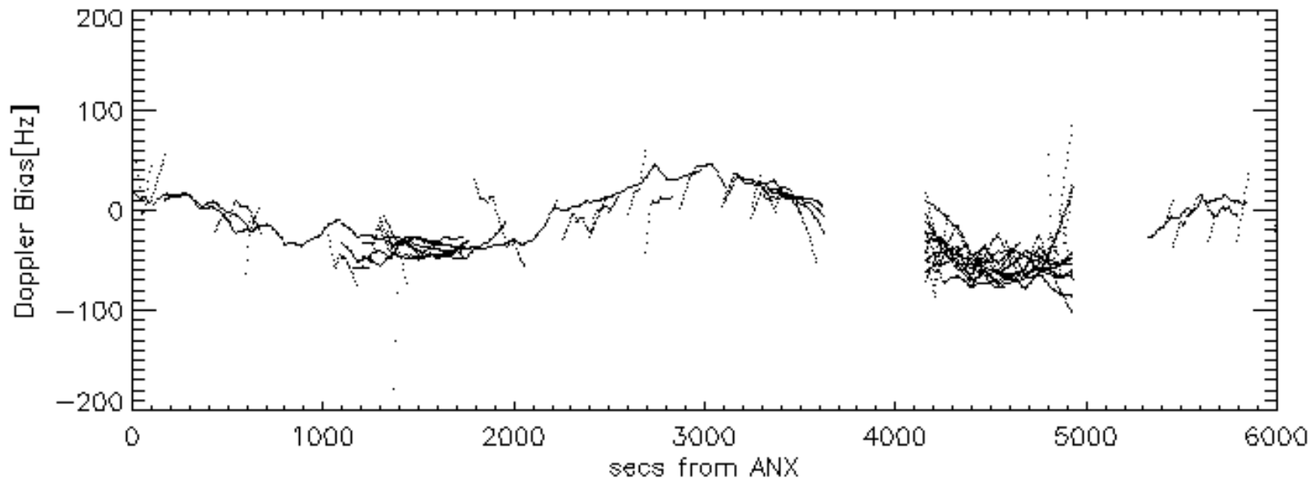

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

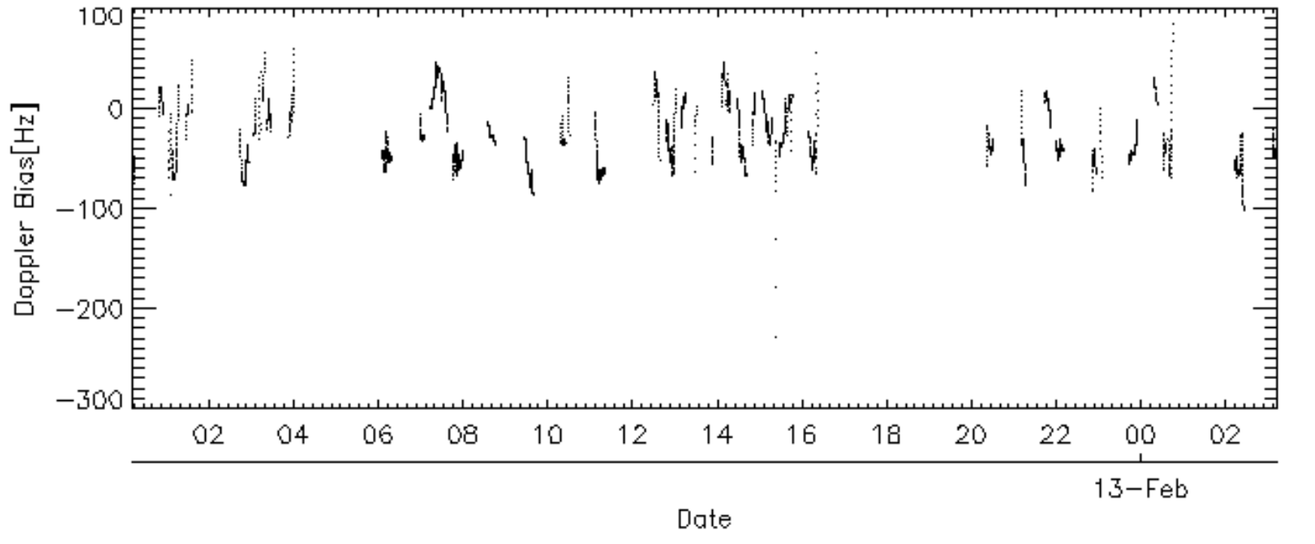

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

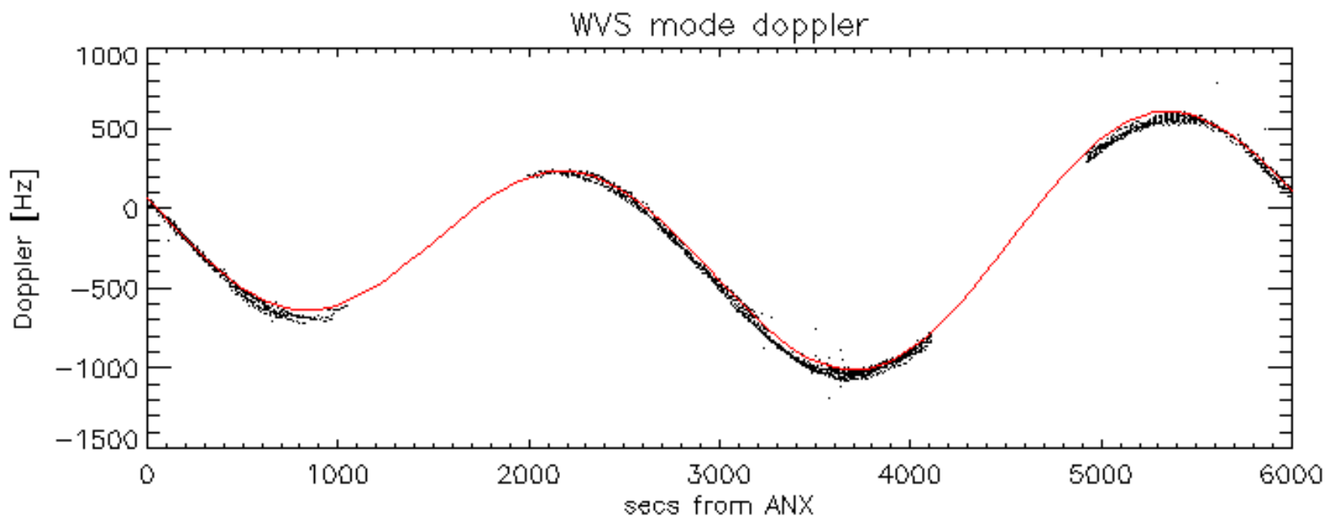

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

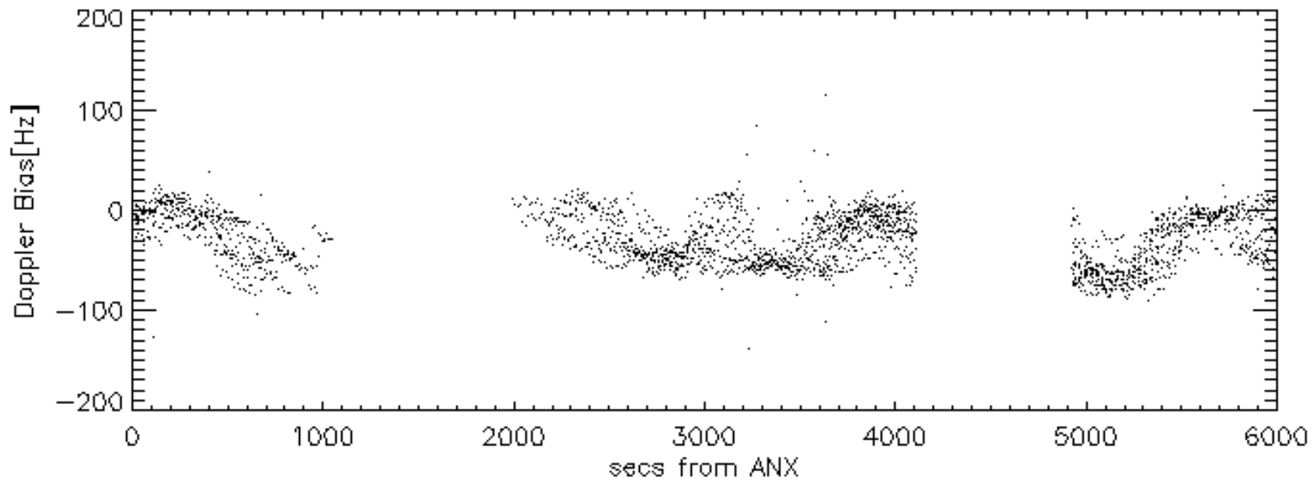

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

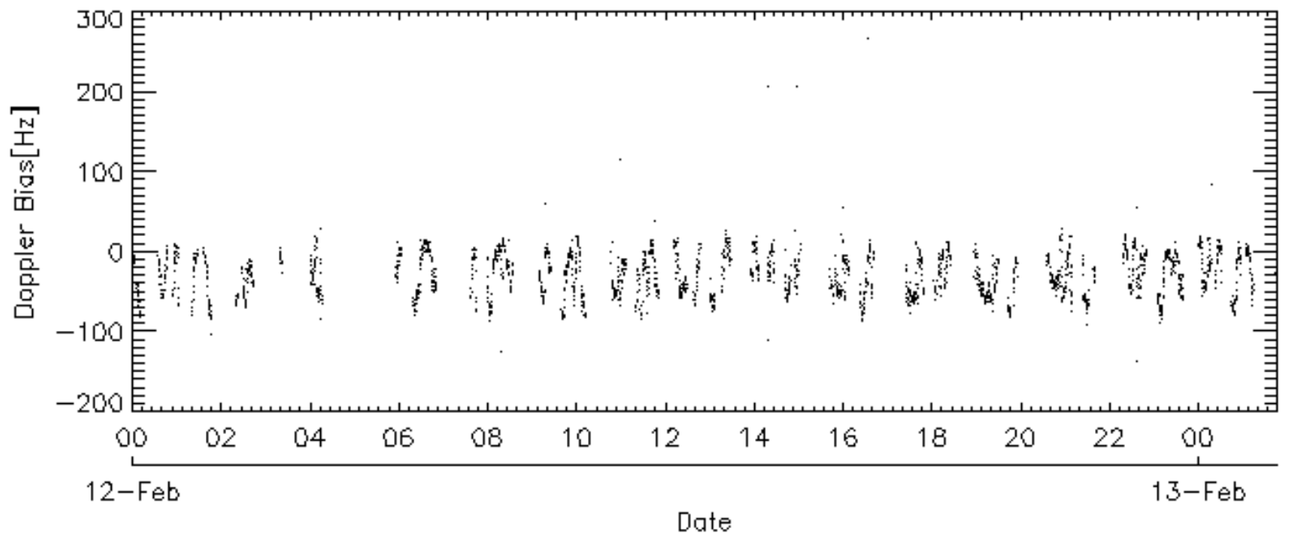

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

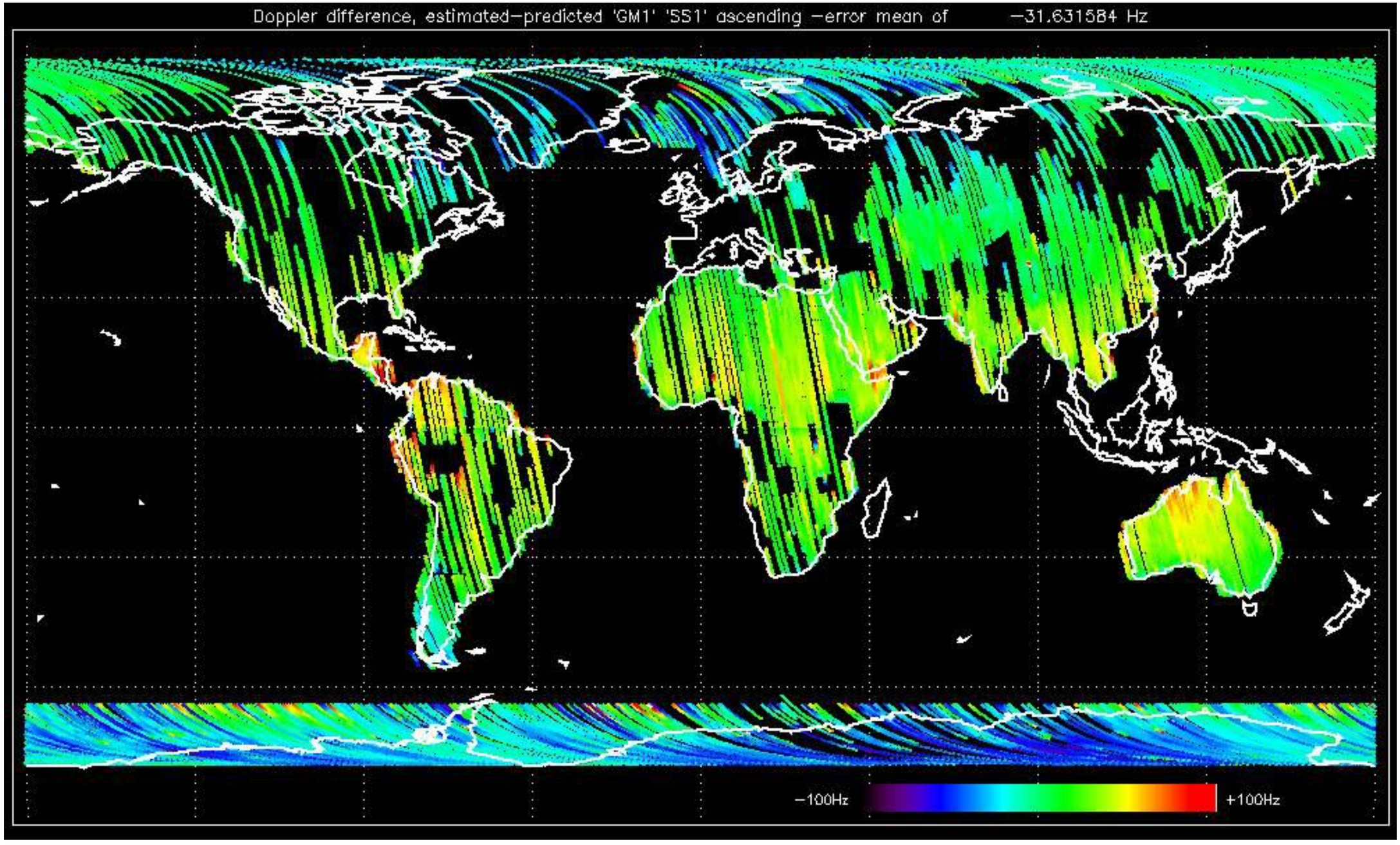

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

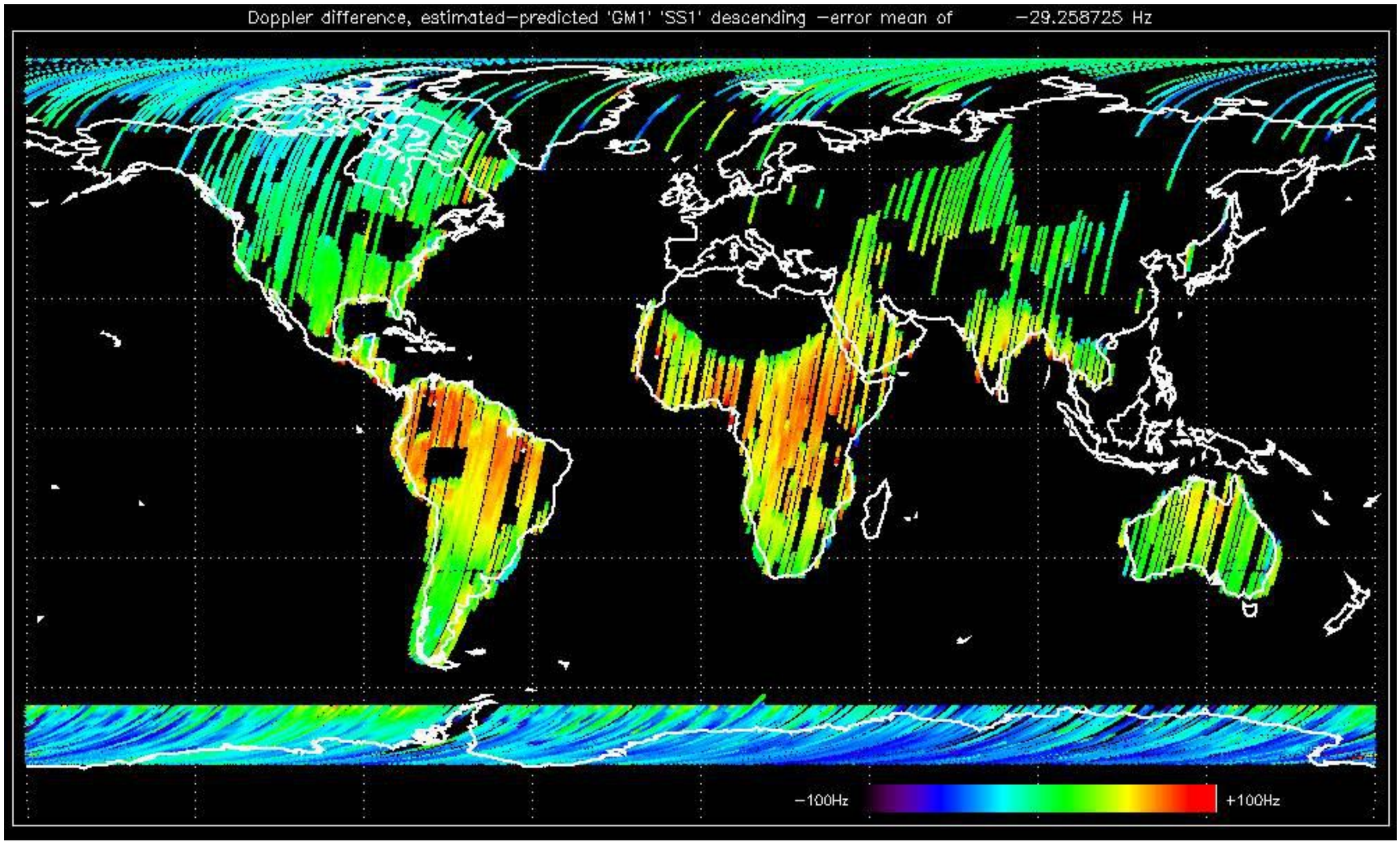

Doppler Bias[Hz]
100
0
−100
−200
−300
02
04
06
08
10
12
14
16
18
20
22
00
02
13−Feb
Date

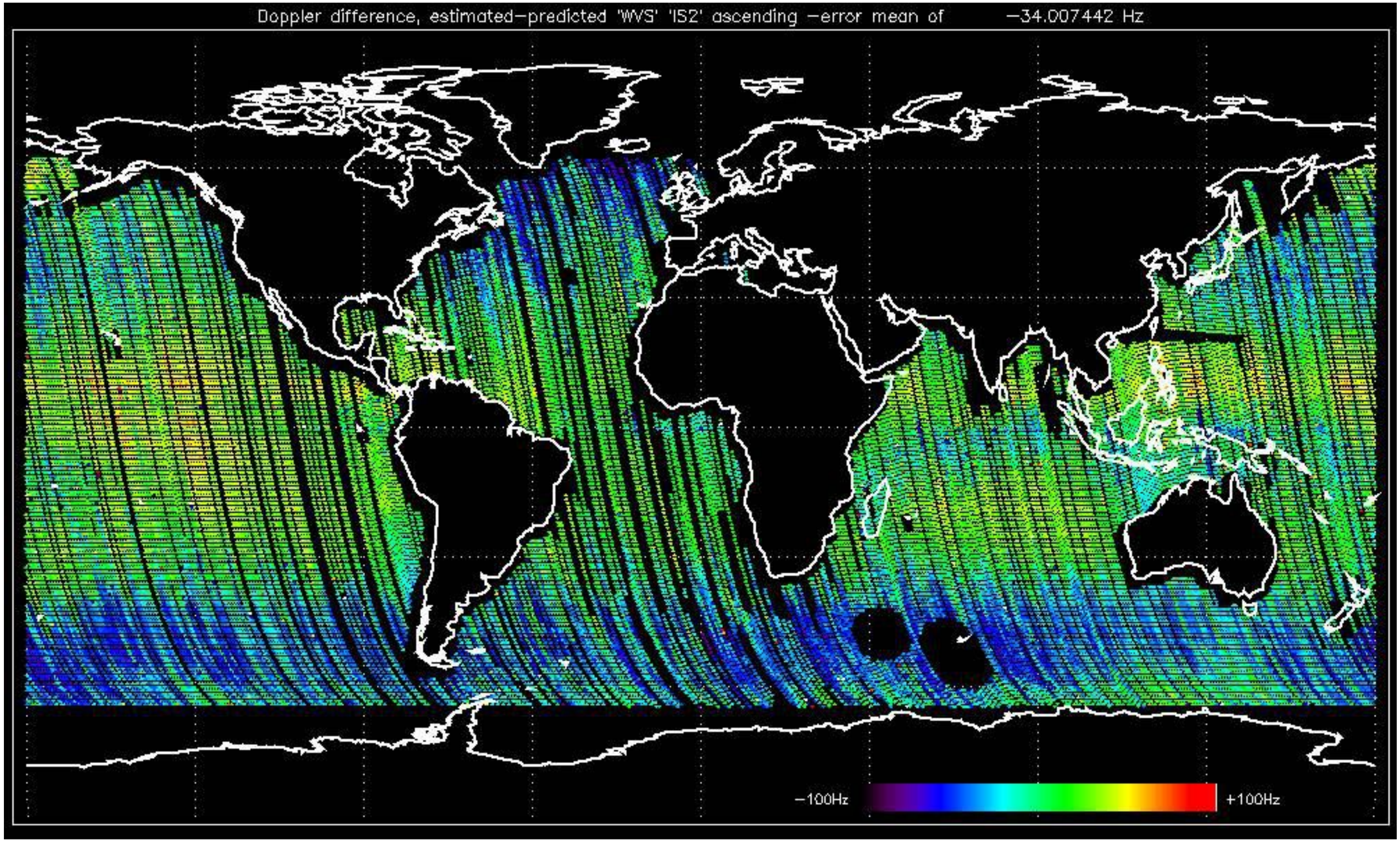

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

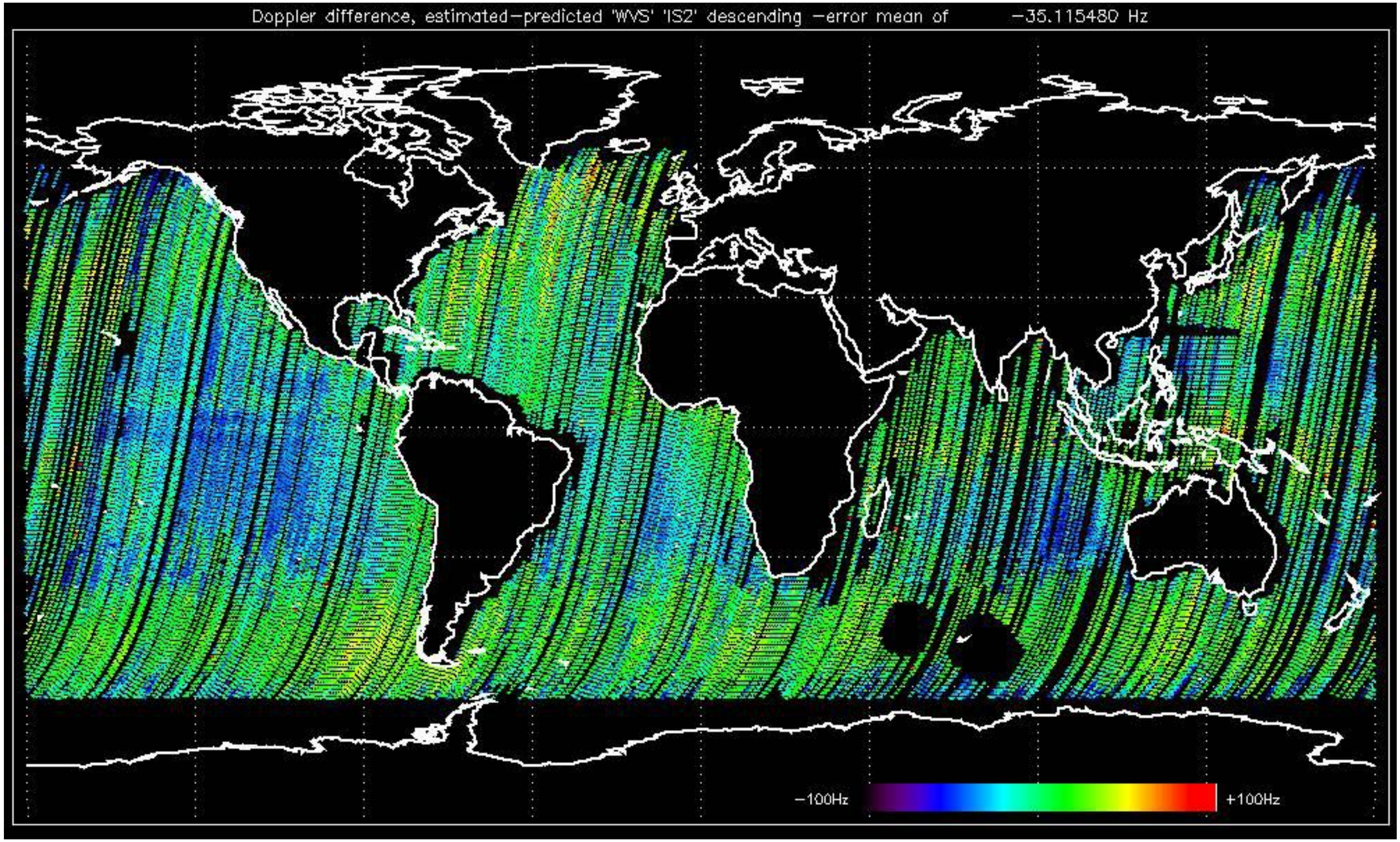

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −31.631584 Hz
−100Hz
+100Hz

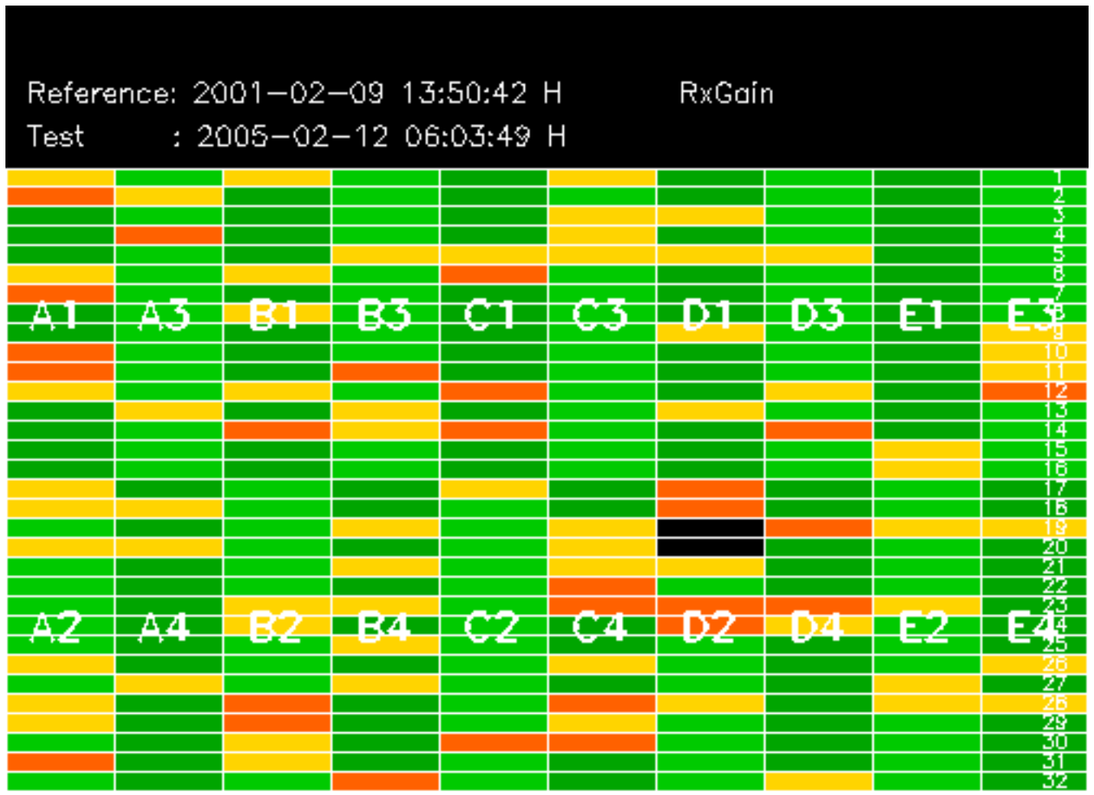

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -29.258725 Hz
-100Hz
+100Hz

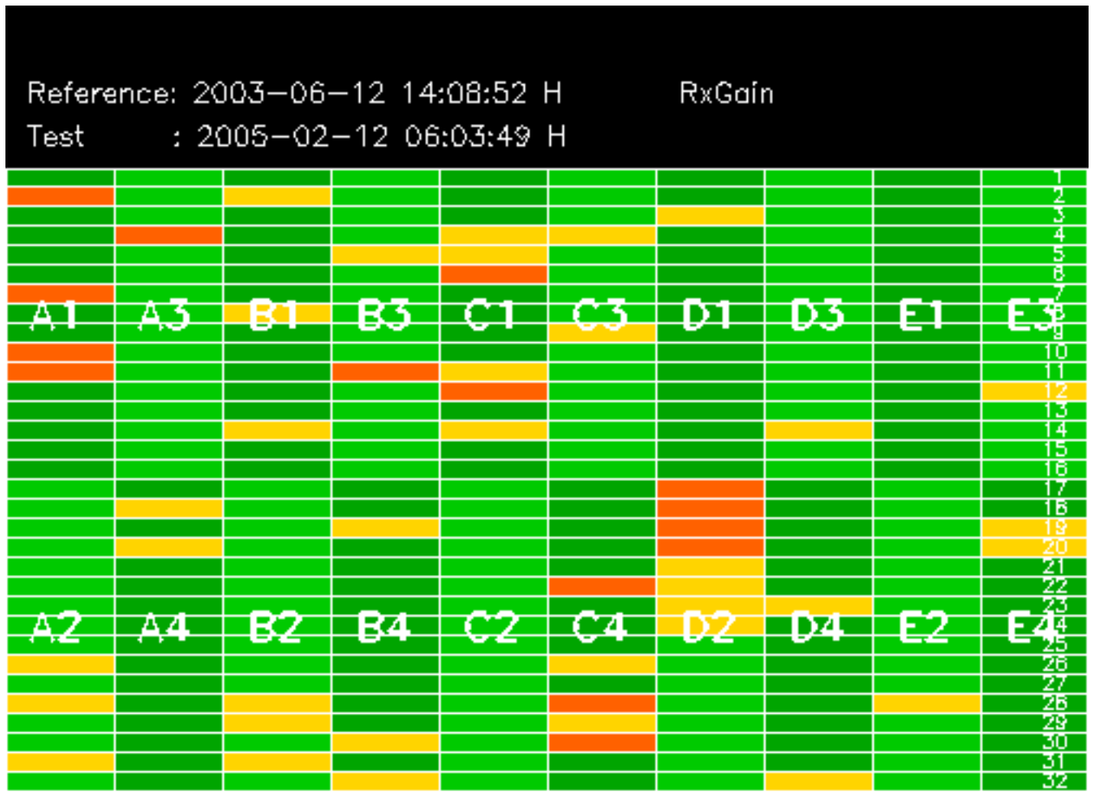

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −34.007442 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −35.115480 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2005-02-12 06:03:49 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 : 2005-02-12 06:03:49 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
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8
9
10
11
12
13
14
15
16
17
18
19
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21
22
23
24
25
26
27
28
29
30
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2005-02-11 06:35:26 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
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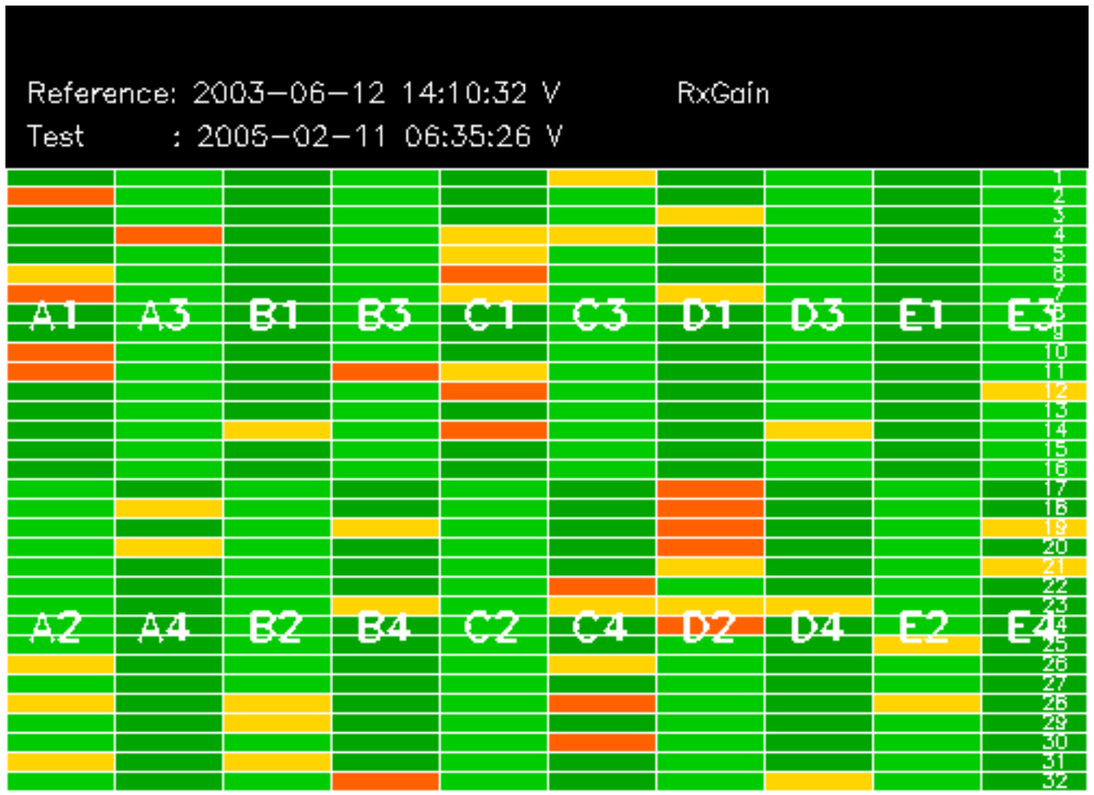
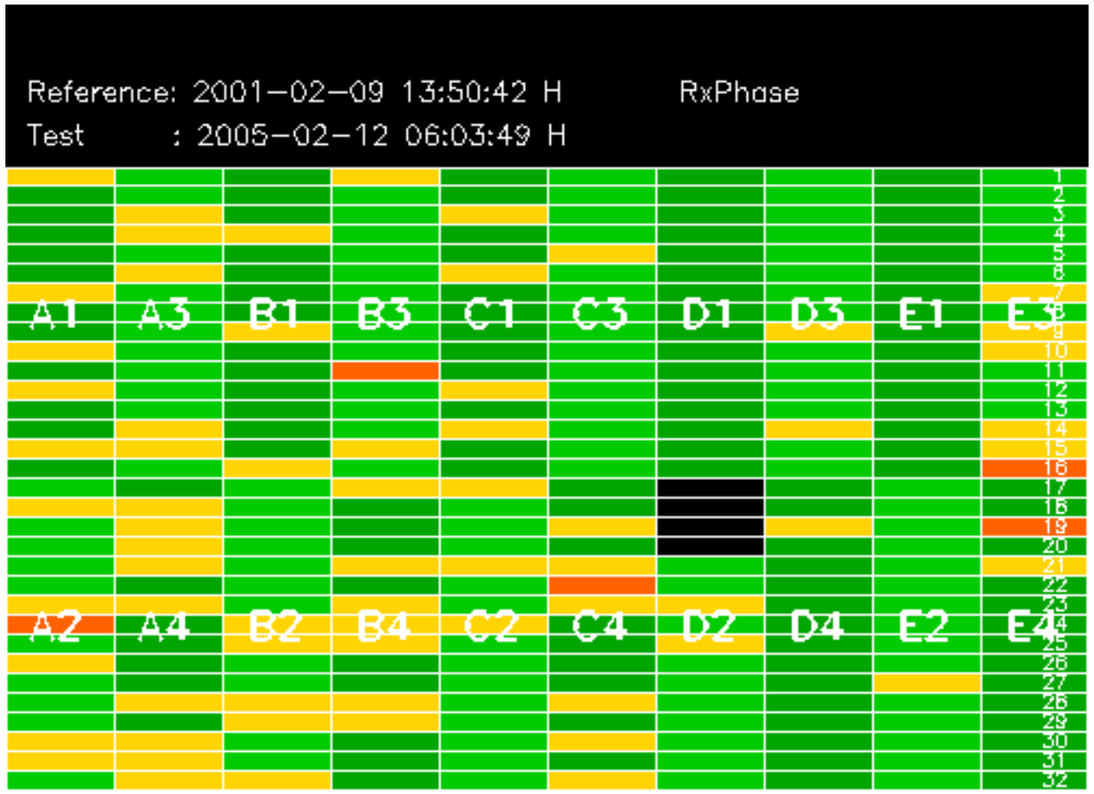
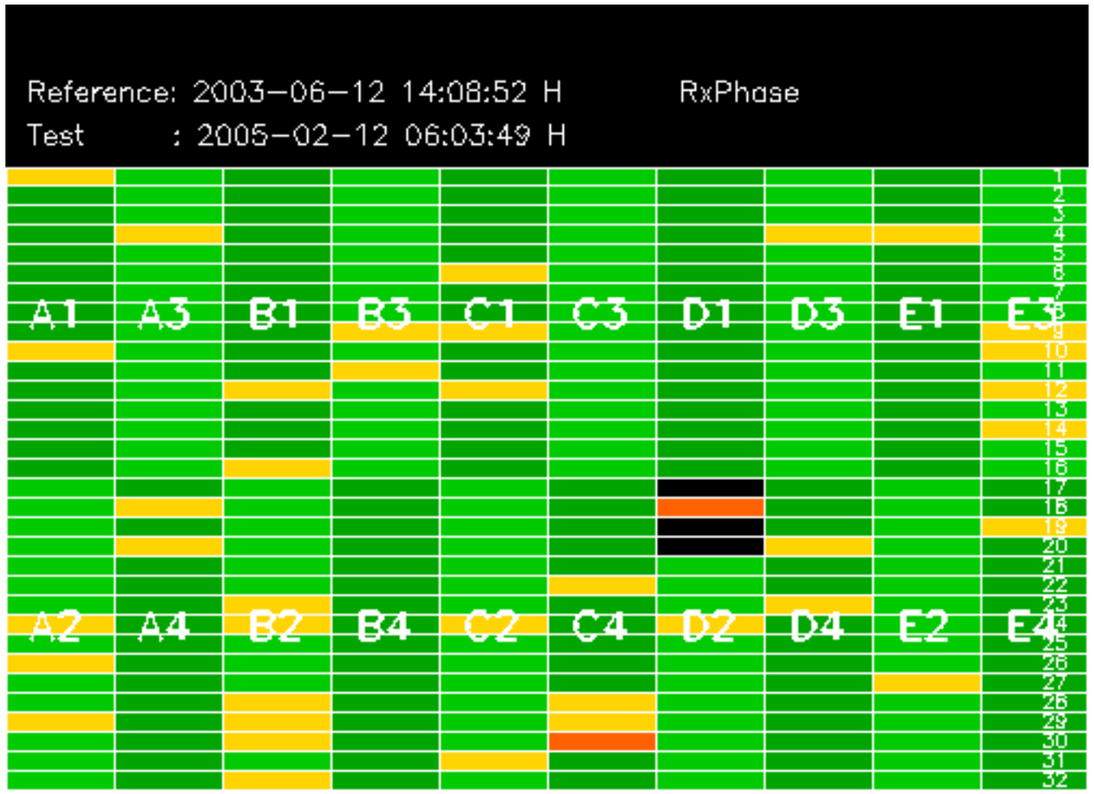
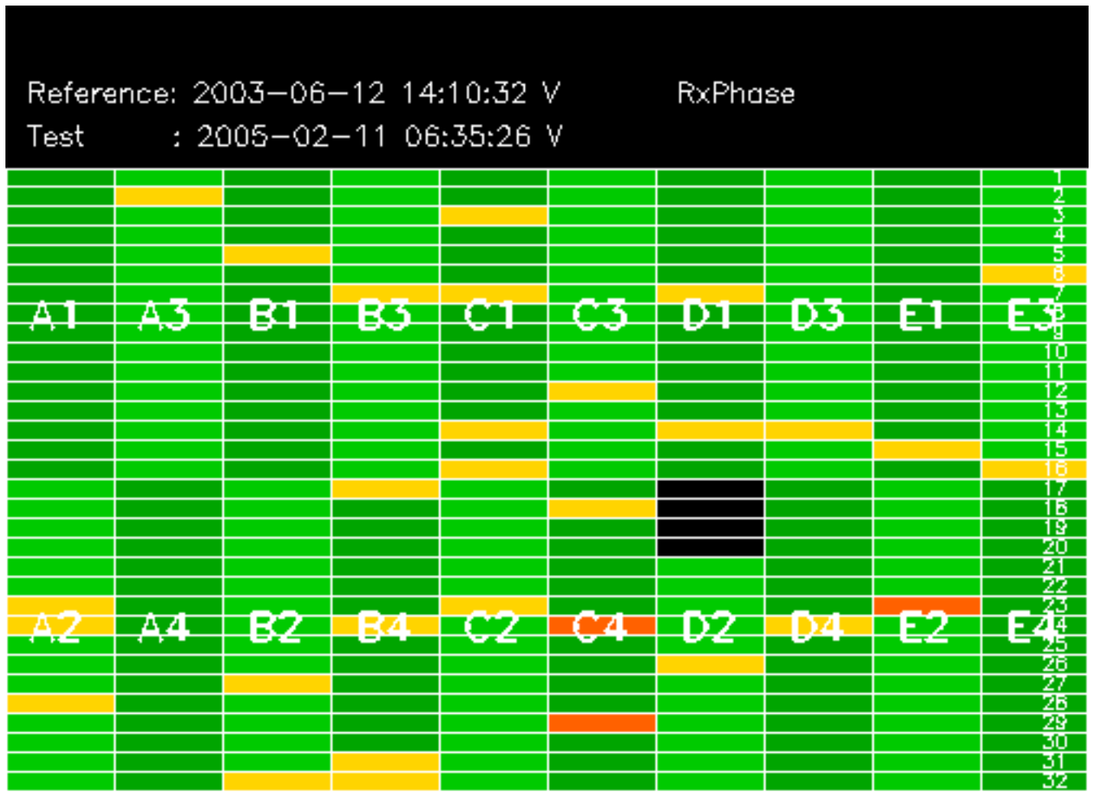
31
32

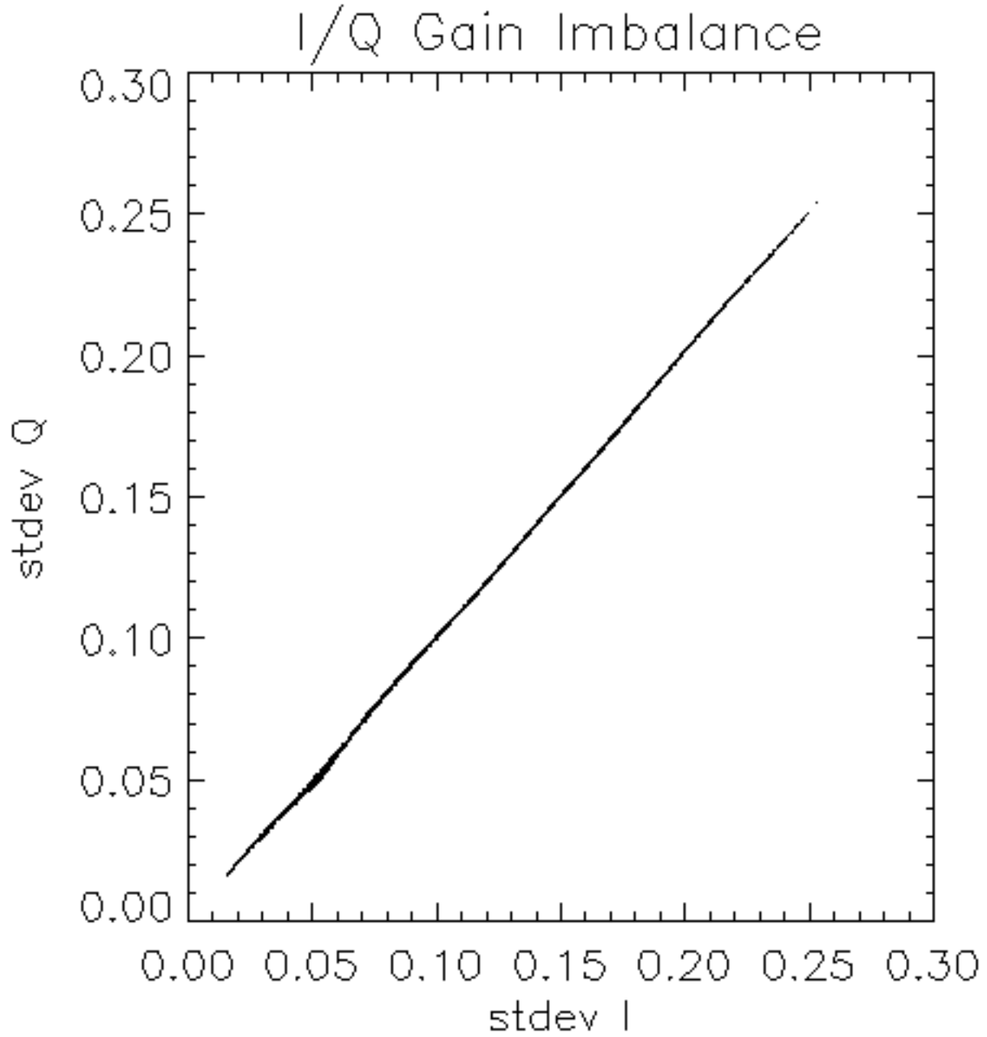

Reference: 2003-06-12 14:10:32 V
Test : 2005-02-11 06:35:26 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

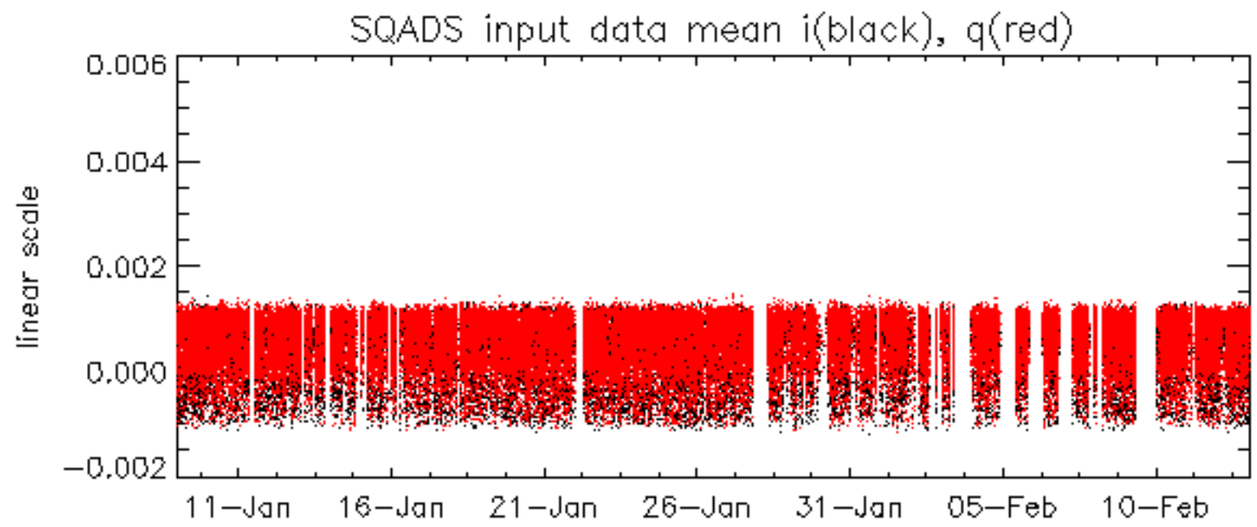

Reference: 2001-02-09 13:50:42 H
Test : 2005-02-12 06:03:49 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

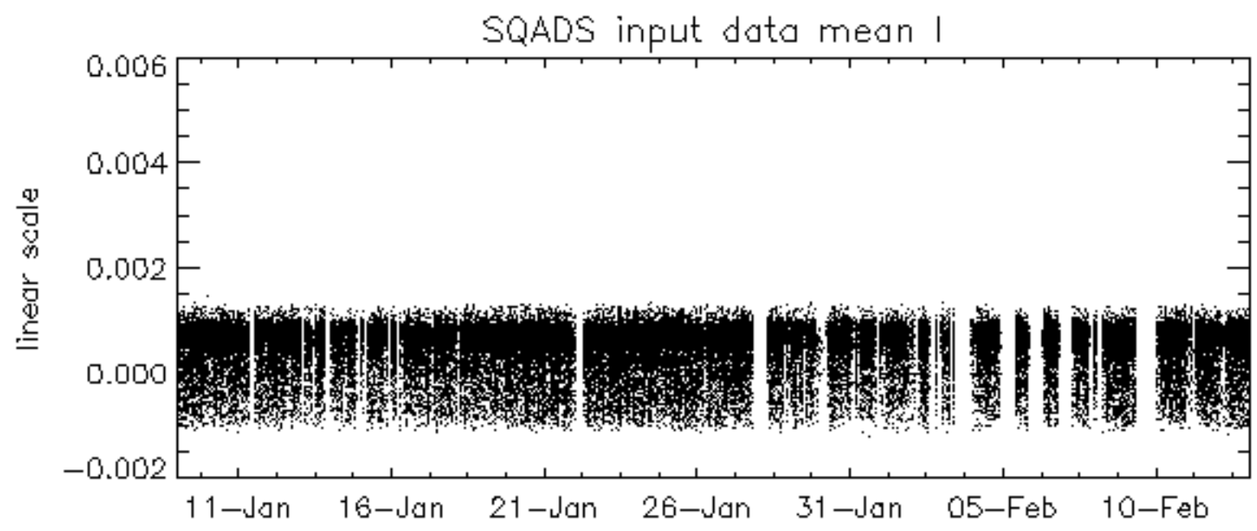

Reference: 2003-06-12 14:08:52 H
Test : 2005-02-12 06:03:49 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

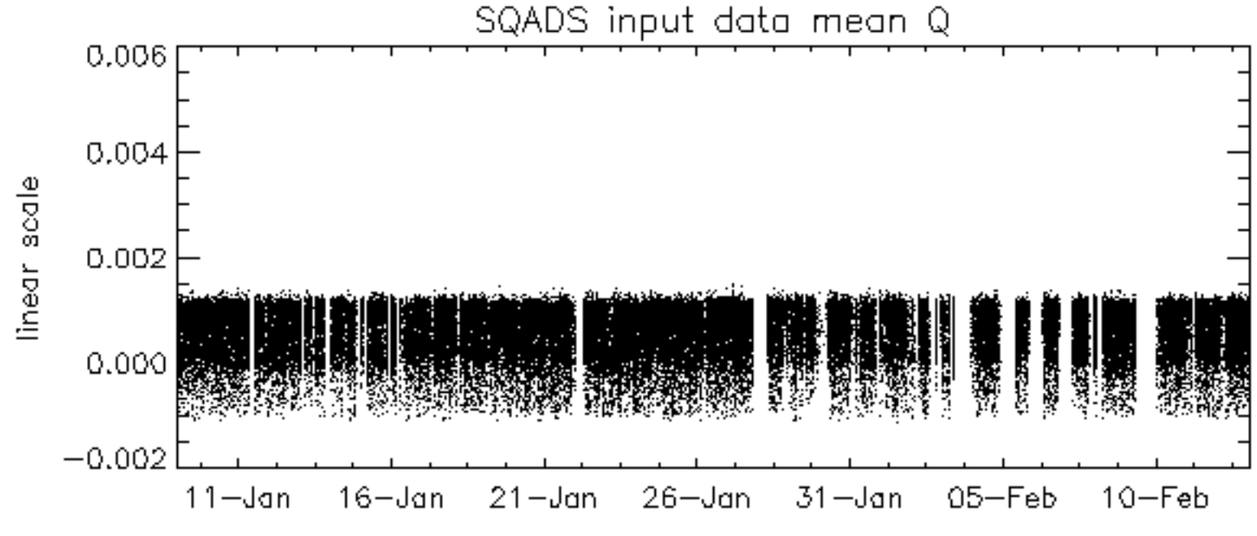

Reference: 2001-02-09 14:08:23 V
RxPhase
Test : 2005-02-11 06:35:26 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

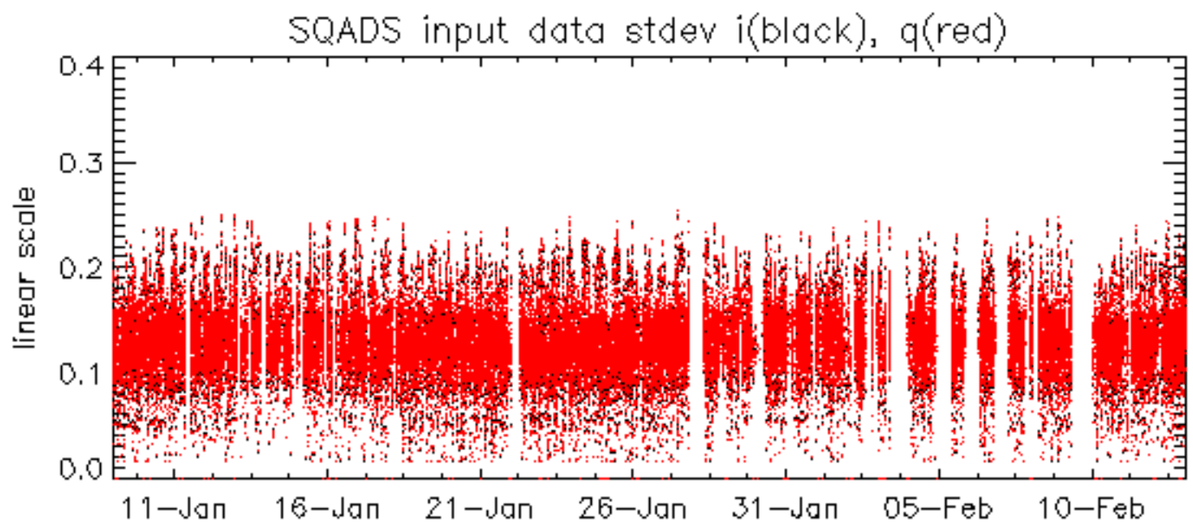

Reference: 2003-06-12 14:10:32 V
Test : 2005-02-11 06:35:26 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

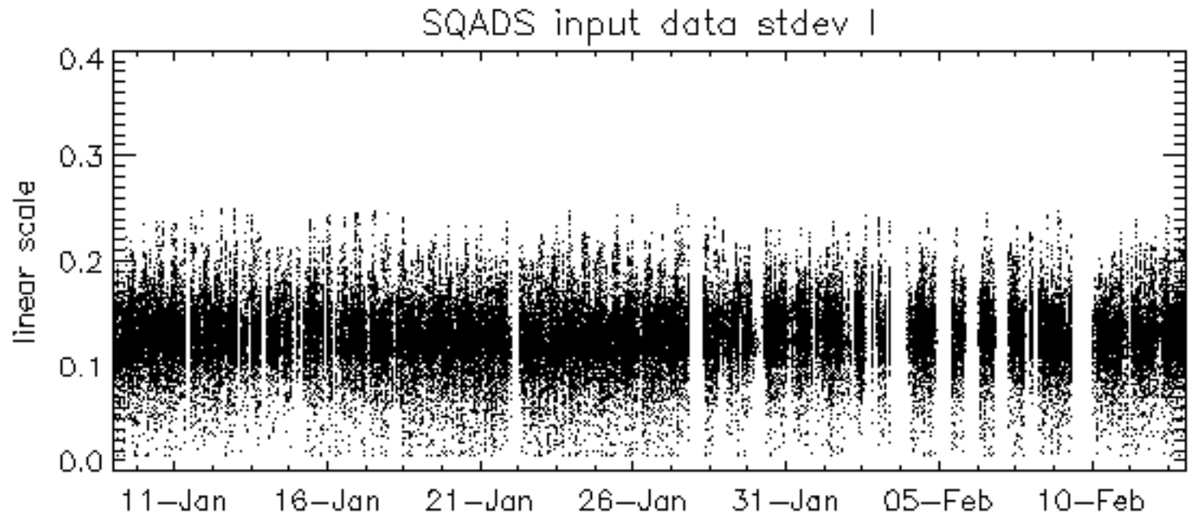

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

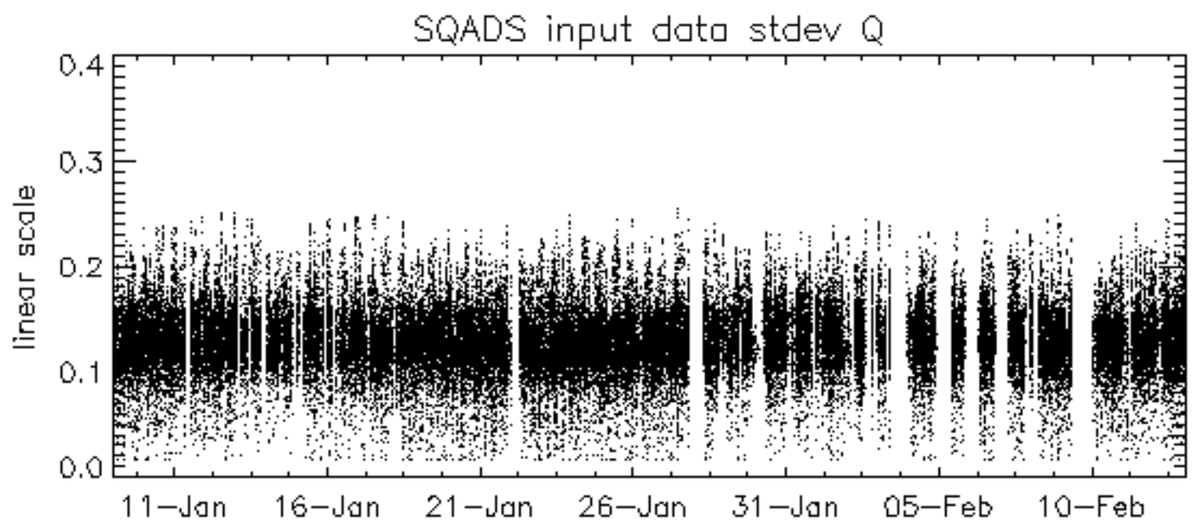

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Jan
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb
10−Feb

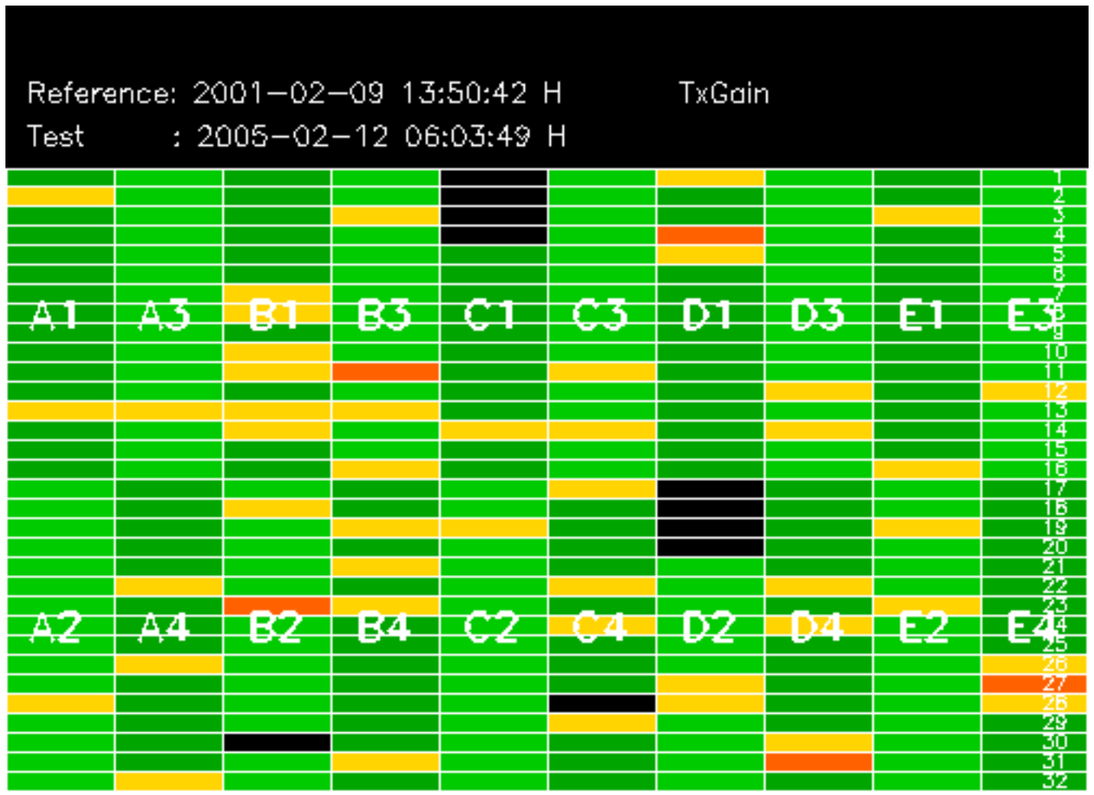

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Jan
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb
10−Feb


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2005-02-12 06:03:49 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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4
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17
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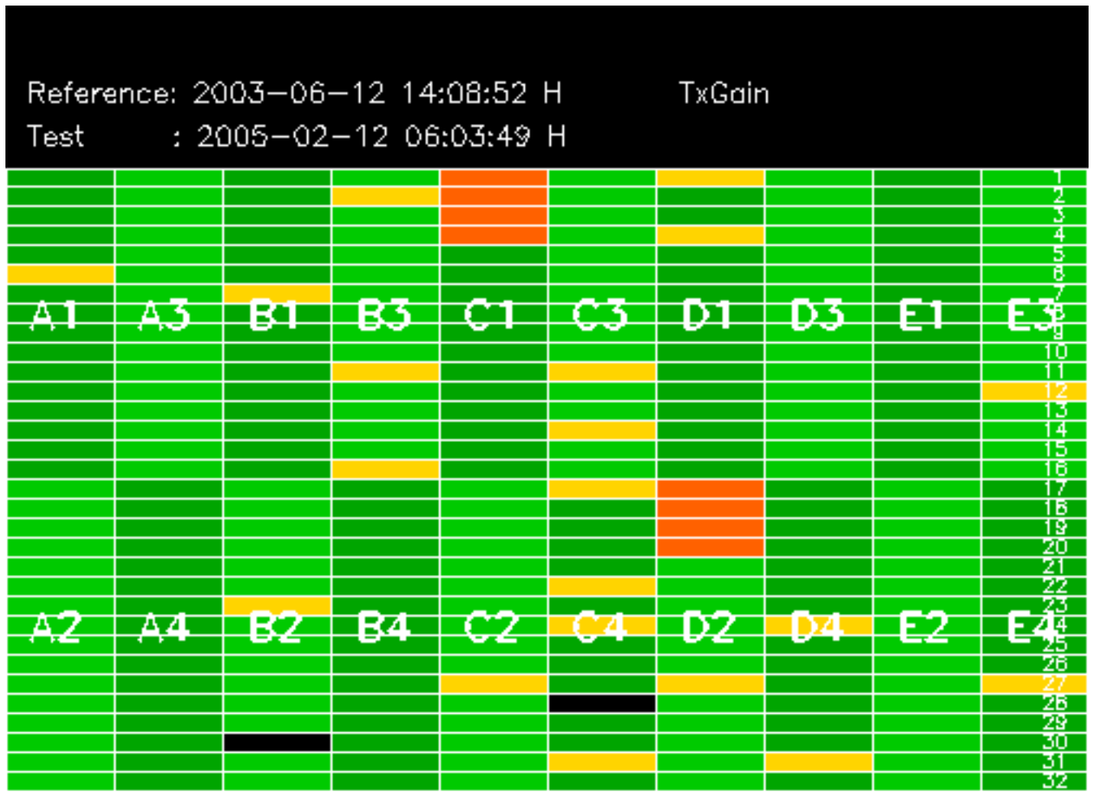
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-02-12 06:03:49 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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8
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27
28
29
30
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2005-02-11 06:35:26 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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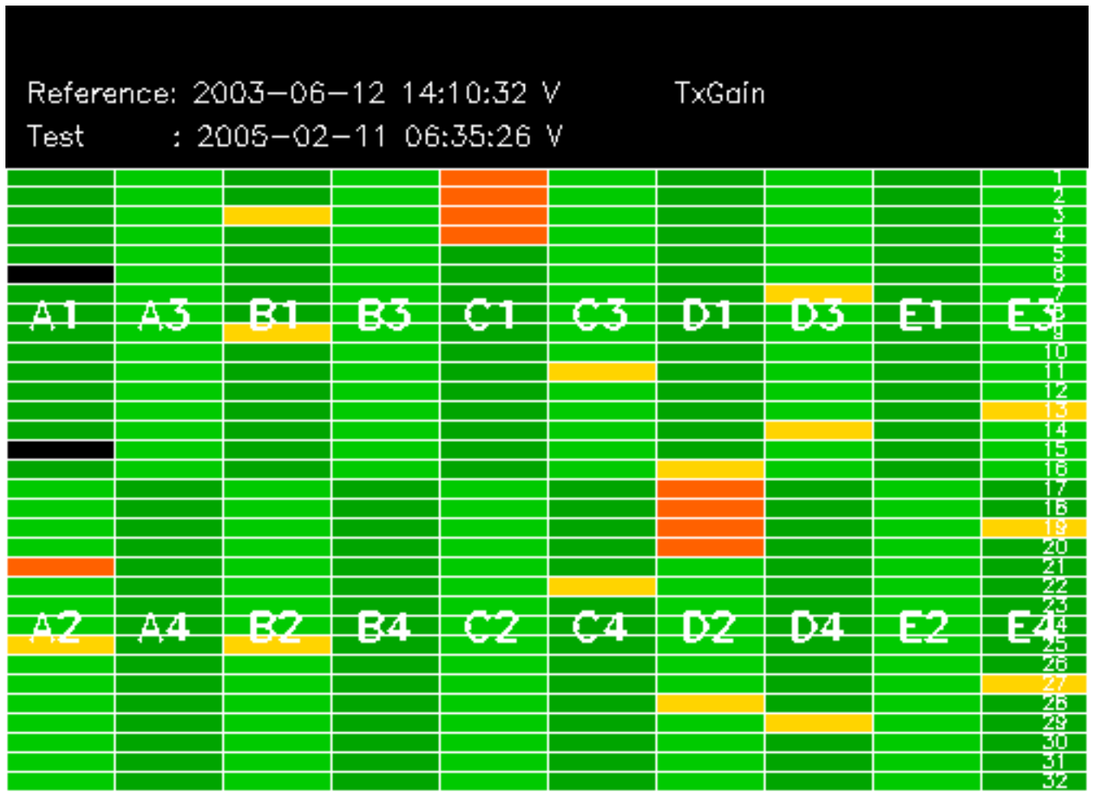
Reference: 2003-06-12 14:10:32 V
Test : 2005-02-11 06:35:26 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
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8
9
10
11
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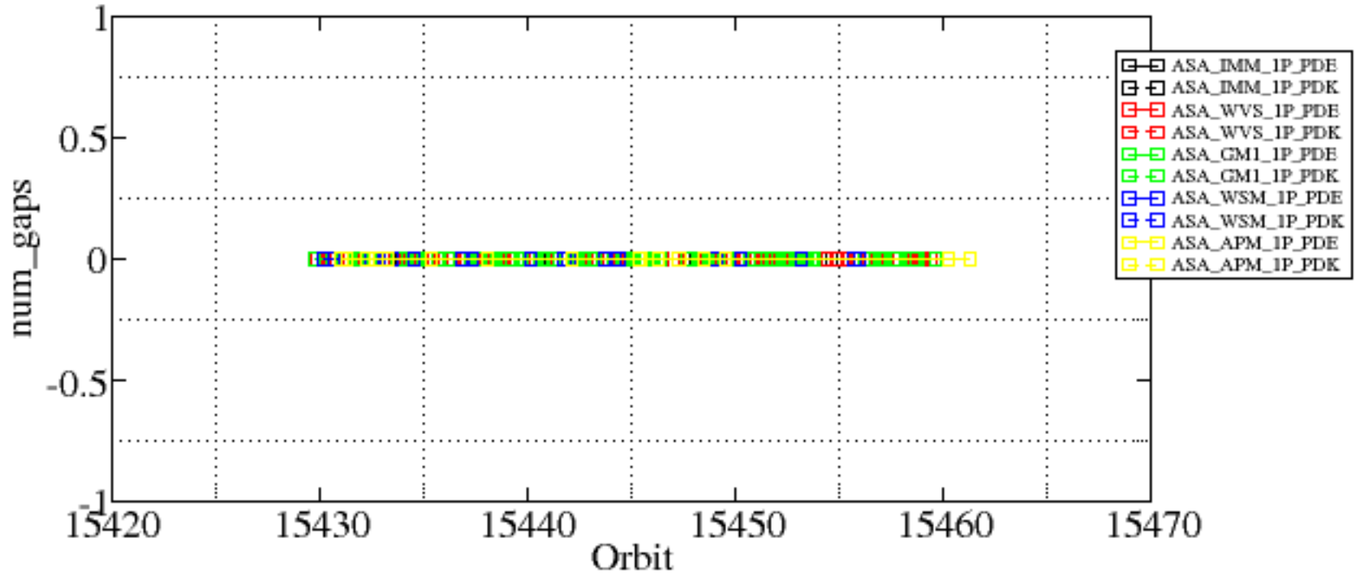
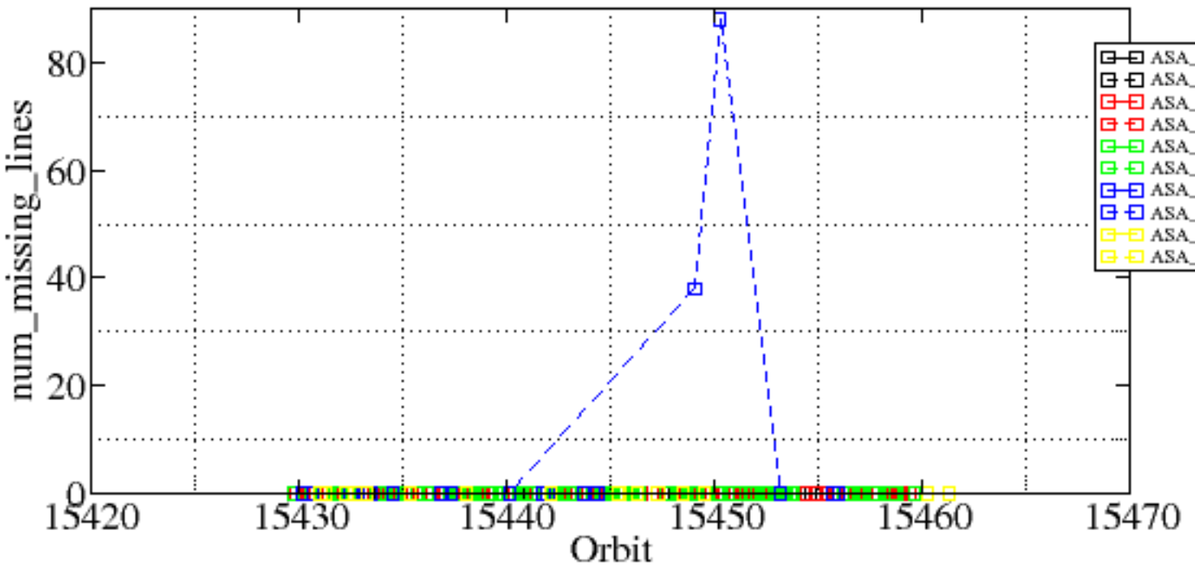
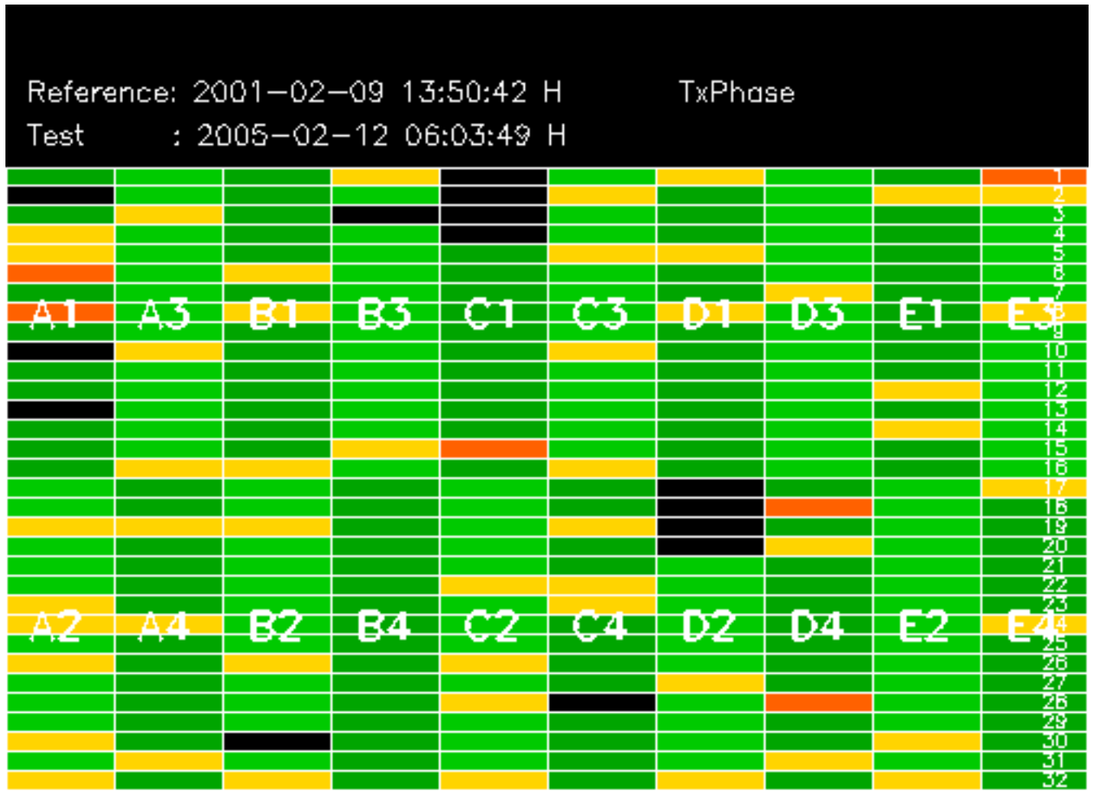
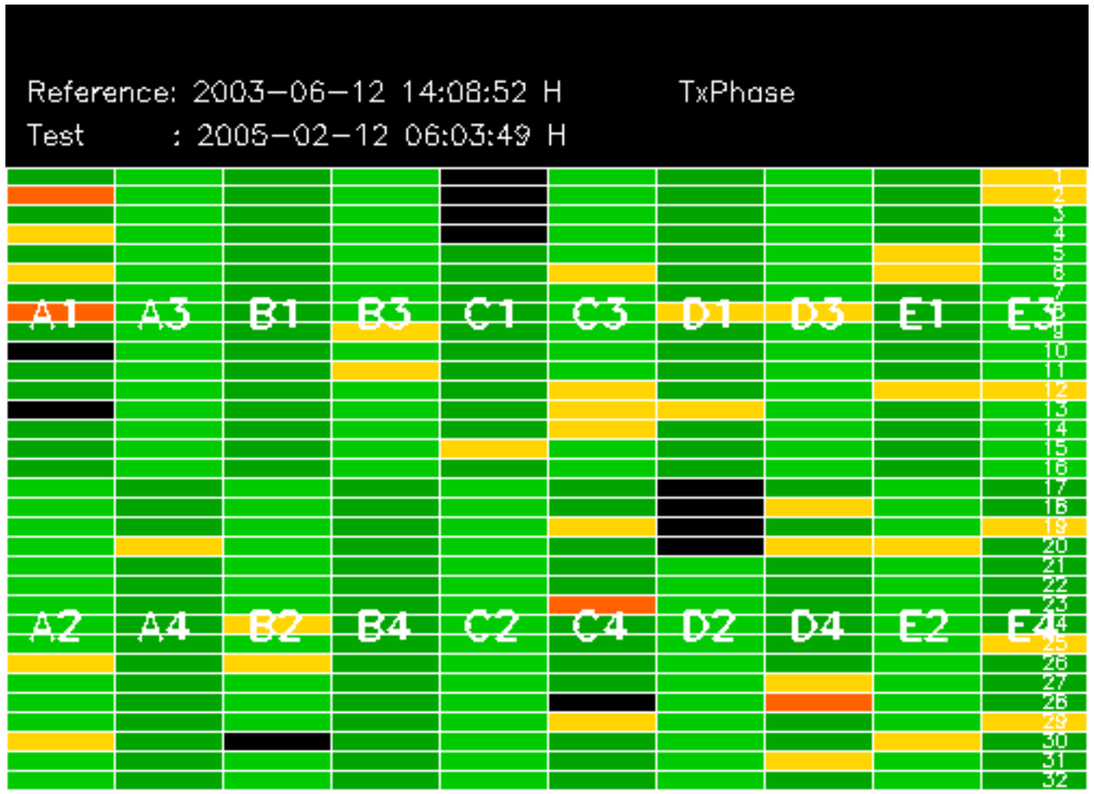
32

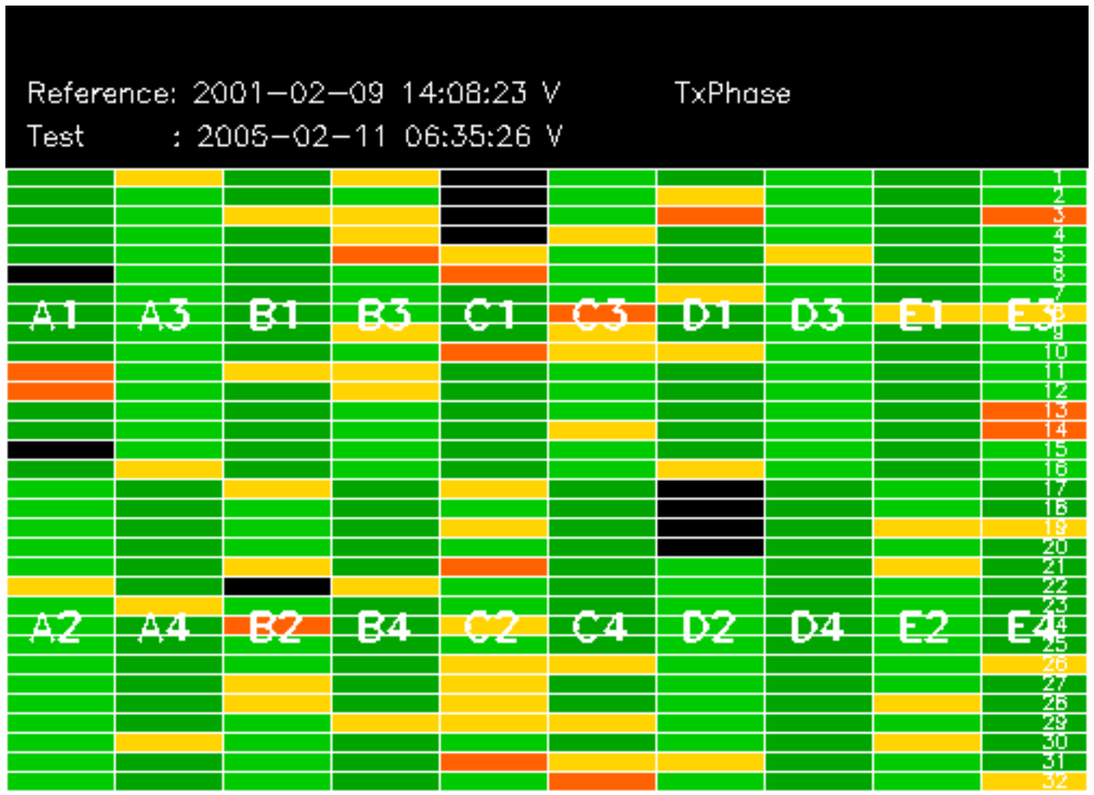
Summary of analysis for the last 3 days 2005021[123]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_WSM_1PNPDK20050212_082228_000000852034_00365_15449_4845.N1 </td> <td>0 </td> <td>38 </td></tr>
<tr> <td>ASA_WSM_1PNPDK20050212_102512_000000672034_00366_15450_4850.N1 </td> <td>0 </td> <td>88 </td></tr>
</table>

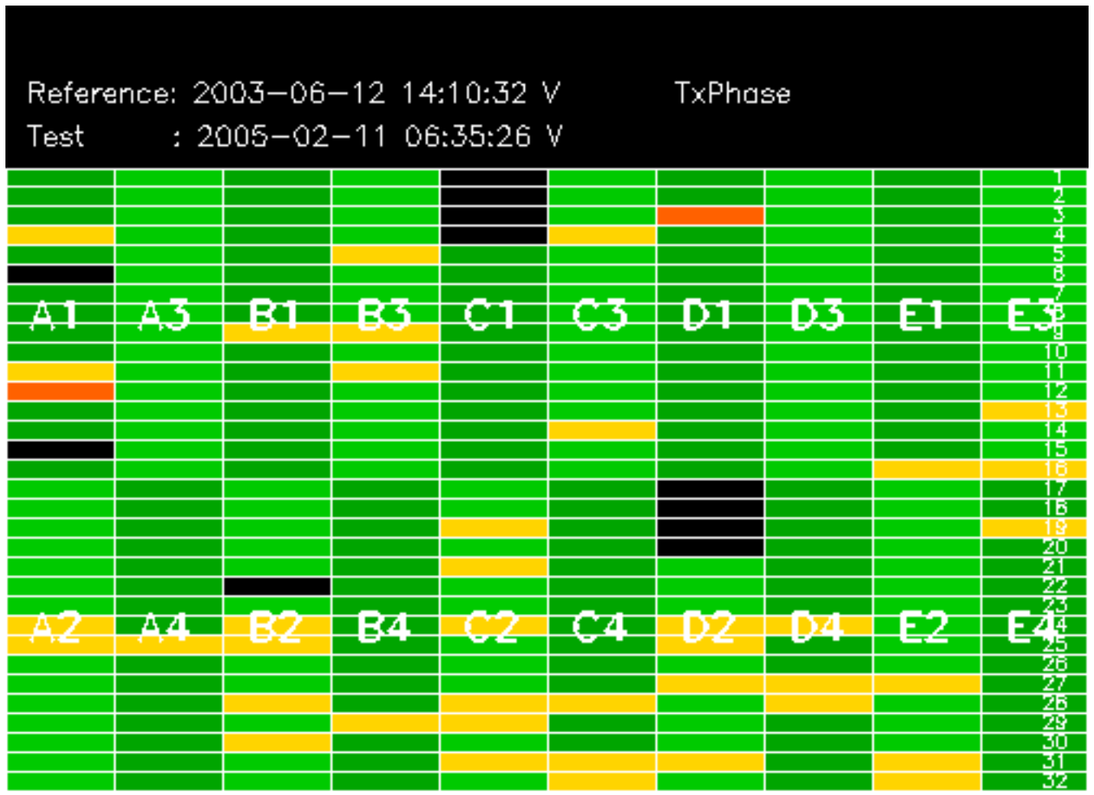

num_gaps
1
0.5
0
-0.5
-1
15420
15430
15440
15450
15460
15470
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK

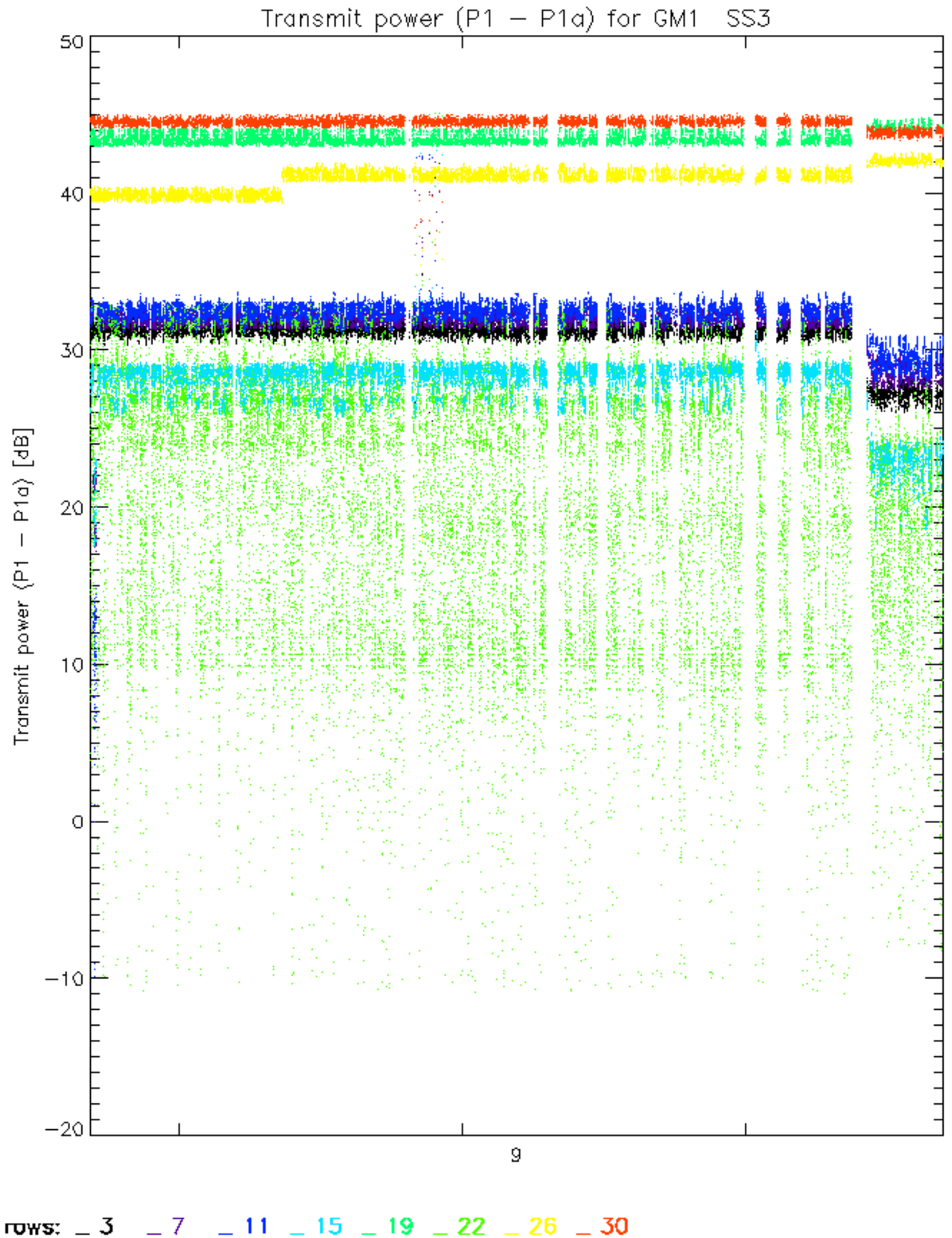

num_missing_lines
80
60
40
20
0
15420
15430
15440
15450
15460
15470
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK

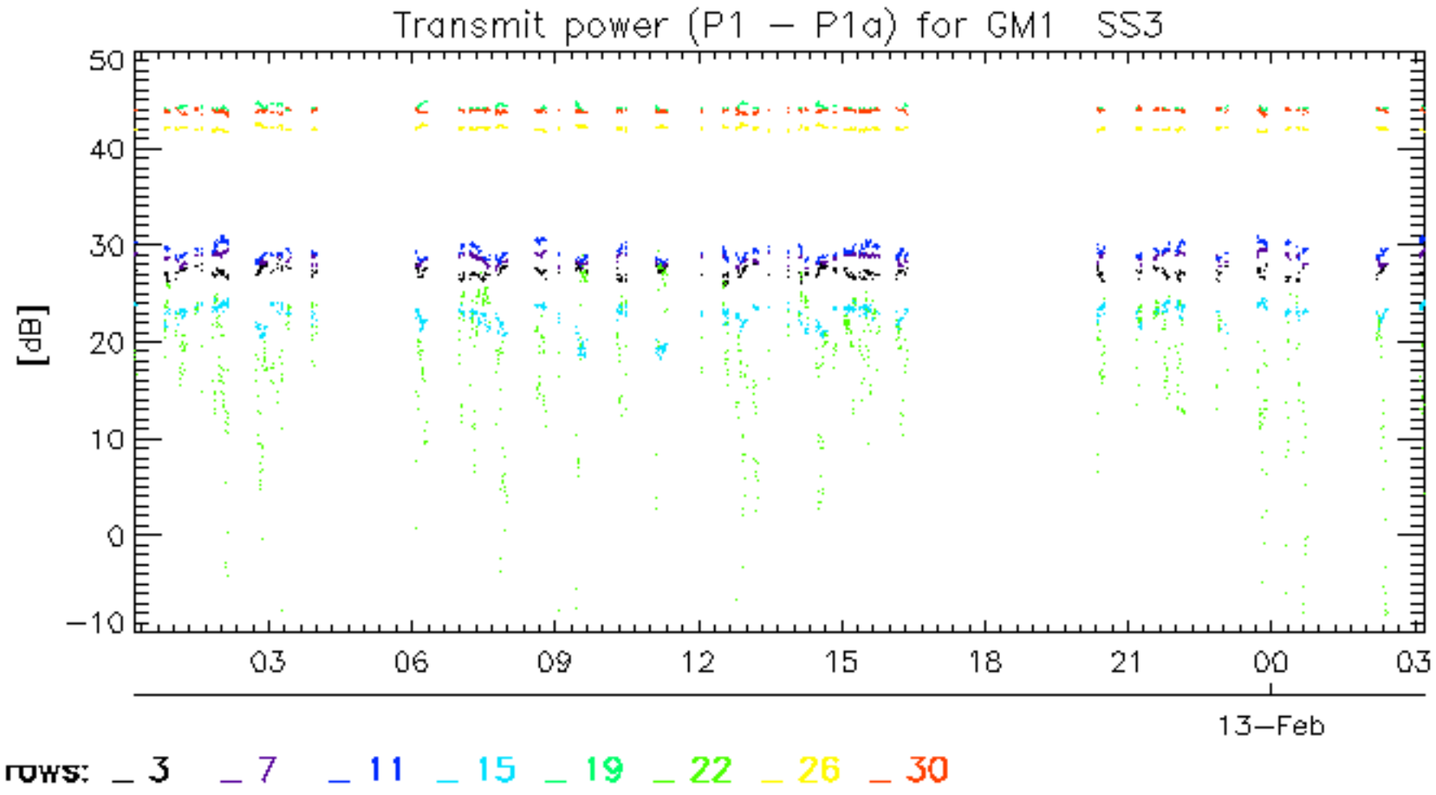

Reference: 2001-02-09 13:50:42 H
Test : 2005-02-12 06:03:49 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

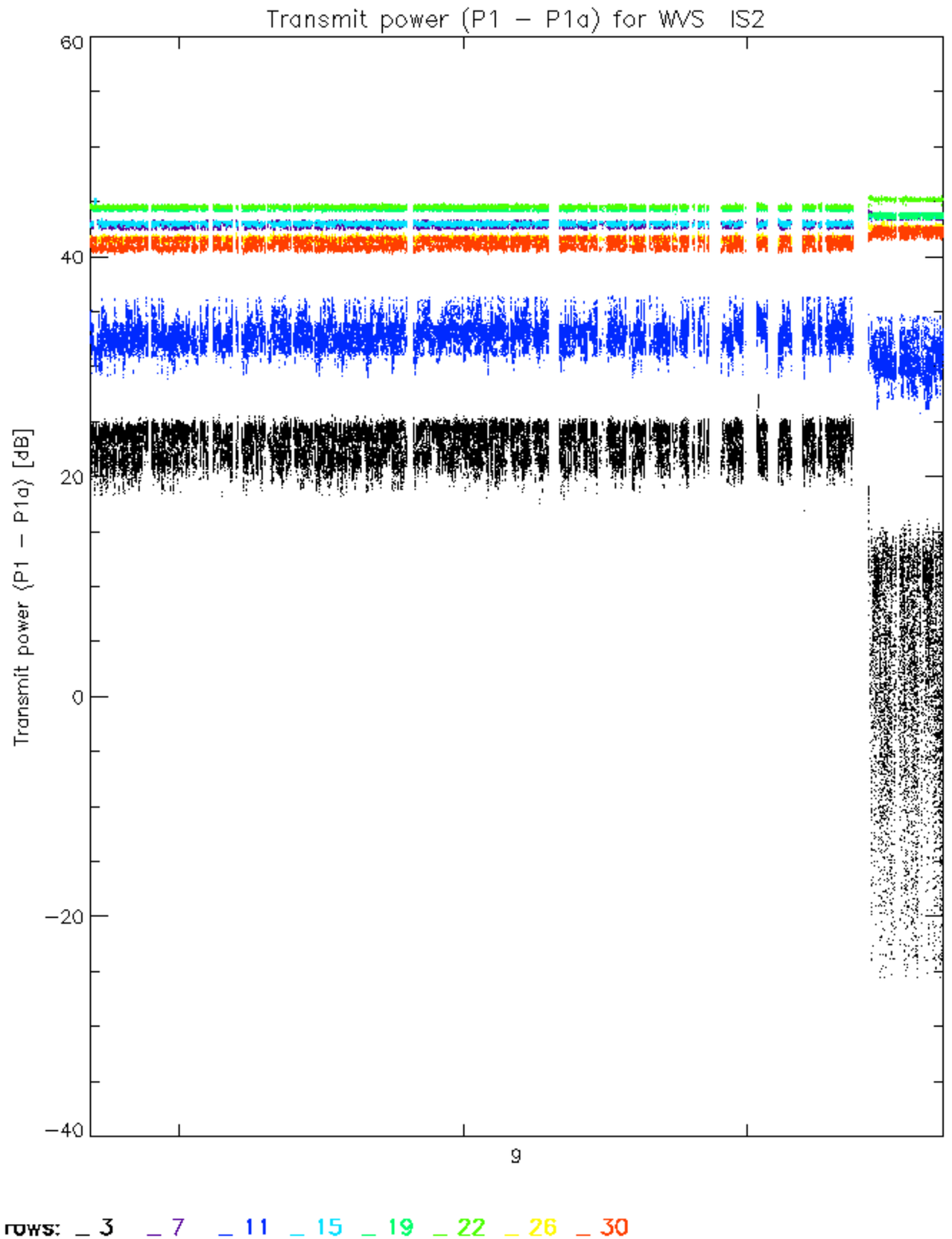

Reference: 2003-06-12 14:08:52 H
Test : 2005-02-12 06:03:49 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

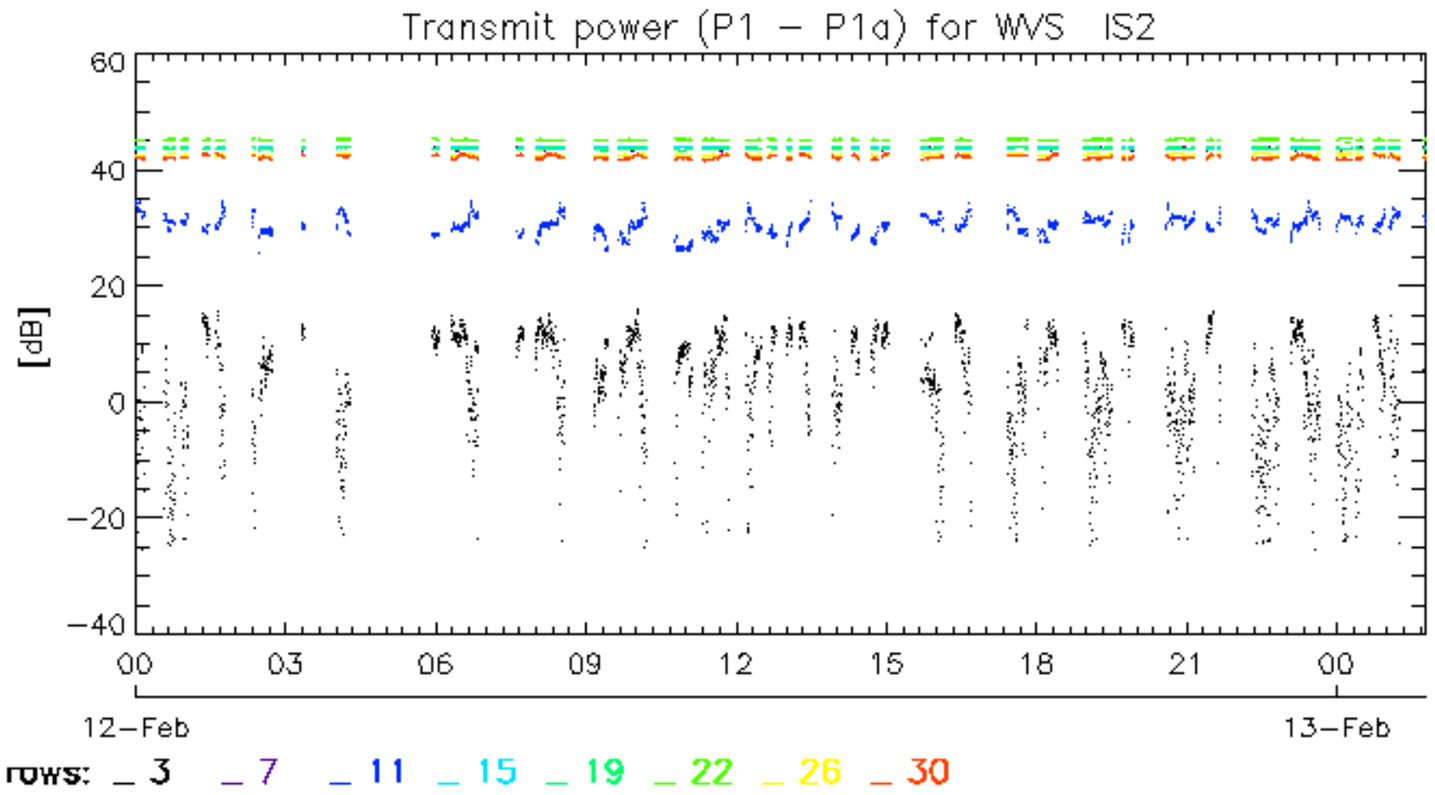

Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2005-02-11 06:35:26 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-02-11 06:35:26 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
9
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
13–Feb
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
9
rows: 3 7 11 15 19 22 26 30


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

No unavailabilities during the reported period.