PRELIMINARY REPORT OF 050313

last update on Sun Mar 13 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 2005-03-12 00:00:00 to 2005-03-13 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	29	55	1	1	3
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	29	55	1	1	3
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	29	55	1	1	3
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	29	55	1	1	3

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	45	44	2	5	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	45	44	2	5	4
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	45	44	2	5	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	45	44	2	5	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	20050311 033421
H	20050312 030244

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
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☒

4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1
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☒

4.2 - Cyclic statistics

4.2.1 - Evolution for WVS

Evolution of cal pulses for WVS
☒

P1a Cyclic statistics

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

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.365843	0.007488	0.022615
7	P1	-3.090906	0.007798	-0.015836
11	P1	-4.695973	0.022087	-0.023096
15	P1	-5.659855	0.030557	-0.009859
19	P1	-3.677104	0.003849	-0.026552
22	P1	-4.518971	0.012851	0.019830
26	P1	-4.950898	0.015622	-0.001634
30	P1	-7.185531	0.018175	-0.033552
3	P1	-15.971481	0.063352	0.000043
7	P1	-15.522412	0.048375	-0.019985
11	P1	-20.956089	0.274253	-0.106785
15	P1	-11.578748	0.024580	0.014332
19	P1	-14.276994	0.024235	-0.102213
22	P1	-15.660004	0.311781	0.222860
26	P1	-17.598406	0.227829	0.011187
30	P1	-17.959045	0.475339	-0.025570

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.104086	0.084274	0.079975
7	P2	-22.295681	0.098060	0.086937
11	P2	-14.463250	0.104010	0.198308
15	P2	-7.048010	0.093330	0.048433
19	P2	-9.640265	0.093295	0.044140
22	P2	-16.932974	0.094142	0.068388
26	P2	-16.448896	0.092516	0.030487
30	P2	-18.874434	0.082074	0.052183

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.166688	0.005264	0.005371
7	P3	-8.166688	0.005264	0.005371
11	P3	-8.166688	0.005264	0.005371
15	P3	-8.166688	0.005264	0.005371
19	P3	-8.166688	0.005264	0.005371
22	P3	-8.166688	0.005264	0.005371
26	P3	-8.166688	0.005264	0.005371
30	P3	-8.166688	0.005264	0.005371

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	-2.732075	0.011170	0.032539
7	P1	-3.020206	0.033824	-0.081935
11	P1	-3.990940	0.014298	-0.031340
15	P1	-3.570061	0.016009	-0.035039
19	P1	-3.590946	0.013409	-0.020723
22	P1	-5.746436	0.036297	-0.036652
26	P1	-7.292760	0.025138	0.001759
30	P1	-6.227237	0.040204	0.026108
3	P1	-10.750366	0.052976	0.000556
7	P1	-10.309752	0.145441	-0.194285
11	P1	-12.568851	0.092697	0.036600
15	P1	-11.766075	0.066141	-0.024578
19	P1	-15.567784	0.043380	0.007566
22	P1	-24.410120	1.144376	-0.283064
26	P1	-15.483342	0.156427	0.070156
30	P1	-20.205498	1.084457	-0.138924

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.815281	0.031068	0.089853
7	P2	-22.381178	0.035914	0.072358
11	P2	-10.218828	0.047095	0.207248
15	P2	-4.979045	0.020064	0.012213
19	P2	-6.829877	0.028681	0.024566
22	P2	-7.110978	0.028738	0.071165
26	P2	-23.852411	0.025488	0.025817
30	P2	-21.905487	0.030754	0.056900

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.999526	0.002655	0.005350
7	P3	-7.999434	0.002672	0.005587
11	P3	-7.999407	0.002682	0.005388
15	P3	-7.999537	0.002672	0.005548
19	P3	-7.999459	0.002684	0.005466
22	P3	-7.999468	0.002663	0.005497
26	P3	-7.999430	0.002671	0.005472
30	P3	-7.999448	0.002681	0.006119

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	0.000464156
	stdev	2.19693e-07
MEAN Q	mean	0.000509871
	stdev	2.31586e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128820
	stdev	0.00100762
STDEV Q	mean	0.129065
	stdev	0.00101877

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005031[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_IMM_1PNPDE20050311_004255_000001512035_00245_15830_4465.N1	1	0
ASA_WVS_1PNPDK20050311_130608_000000002035_00253_15838_6778.N1	1	0

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

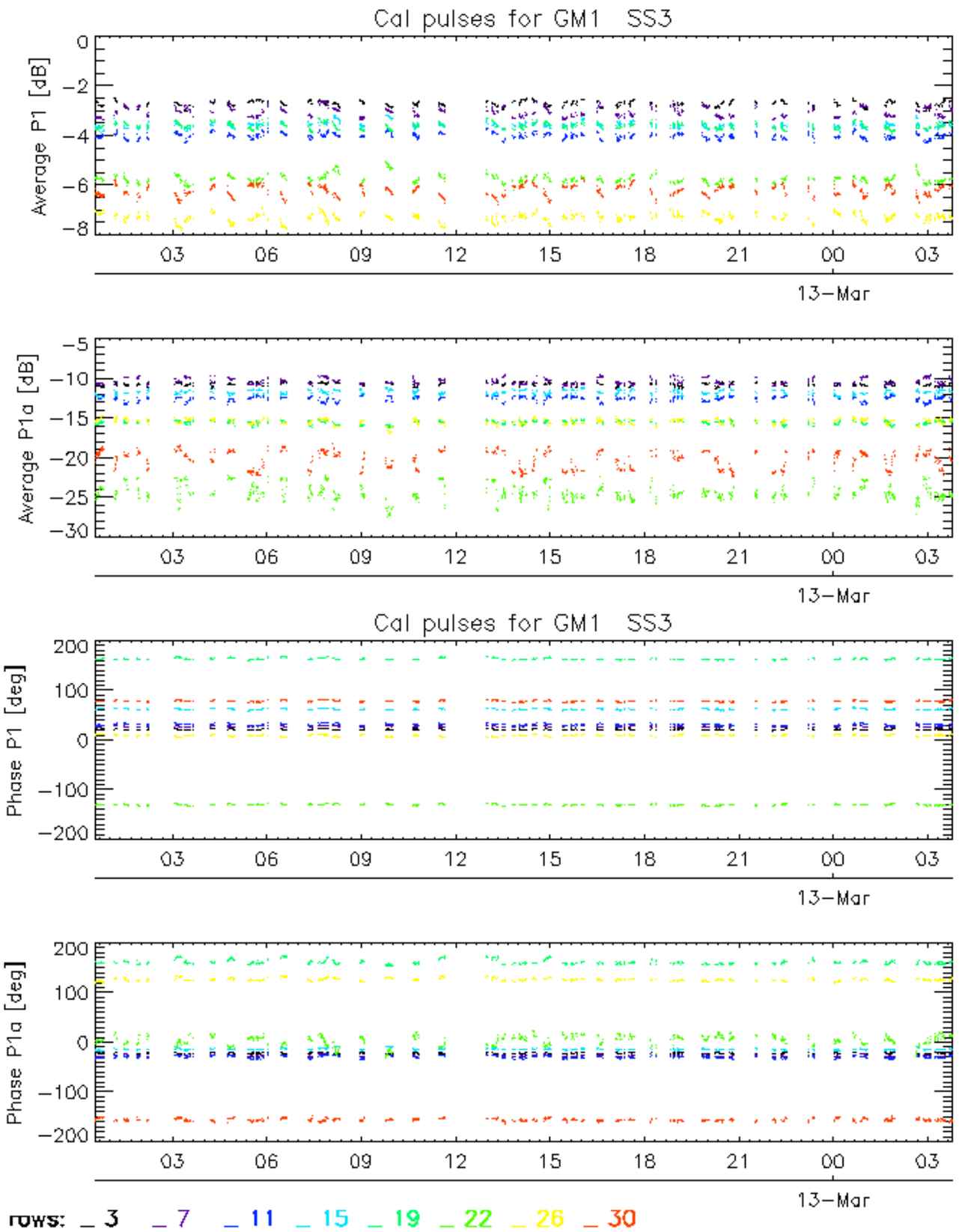
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

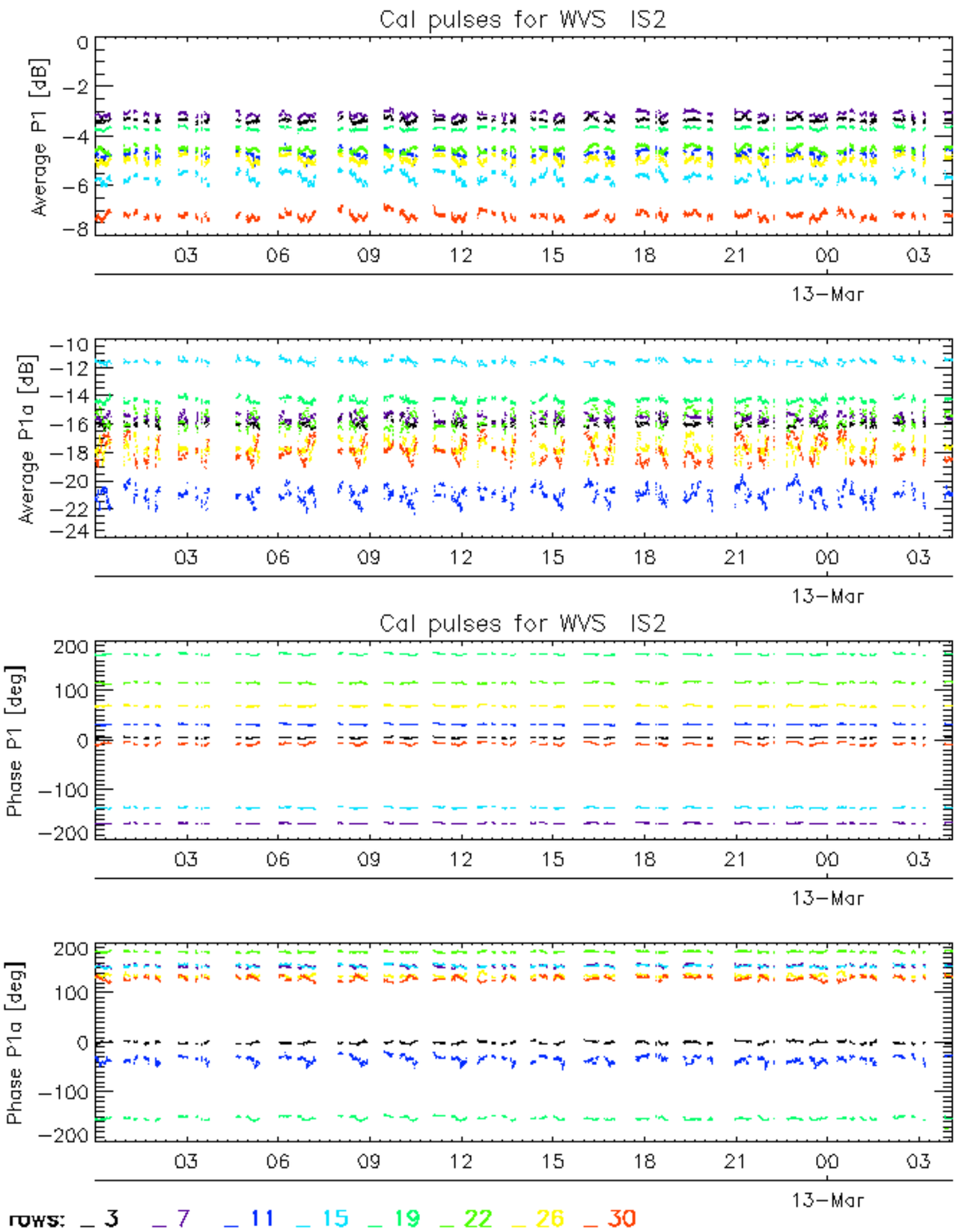
7.5 - Absolute Doppler for GM1

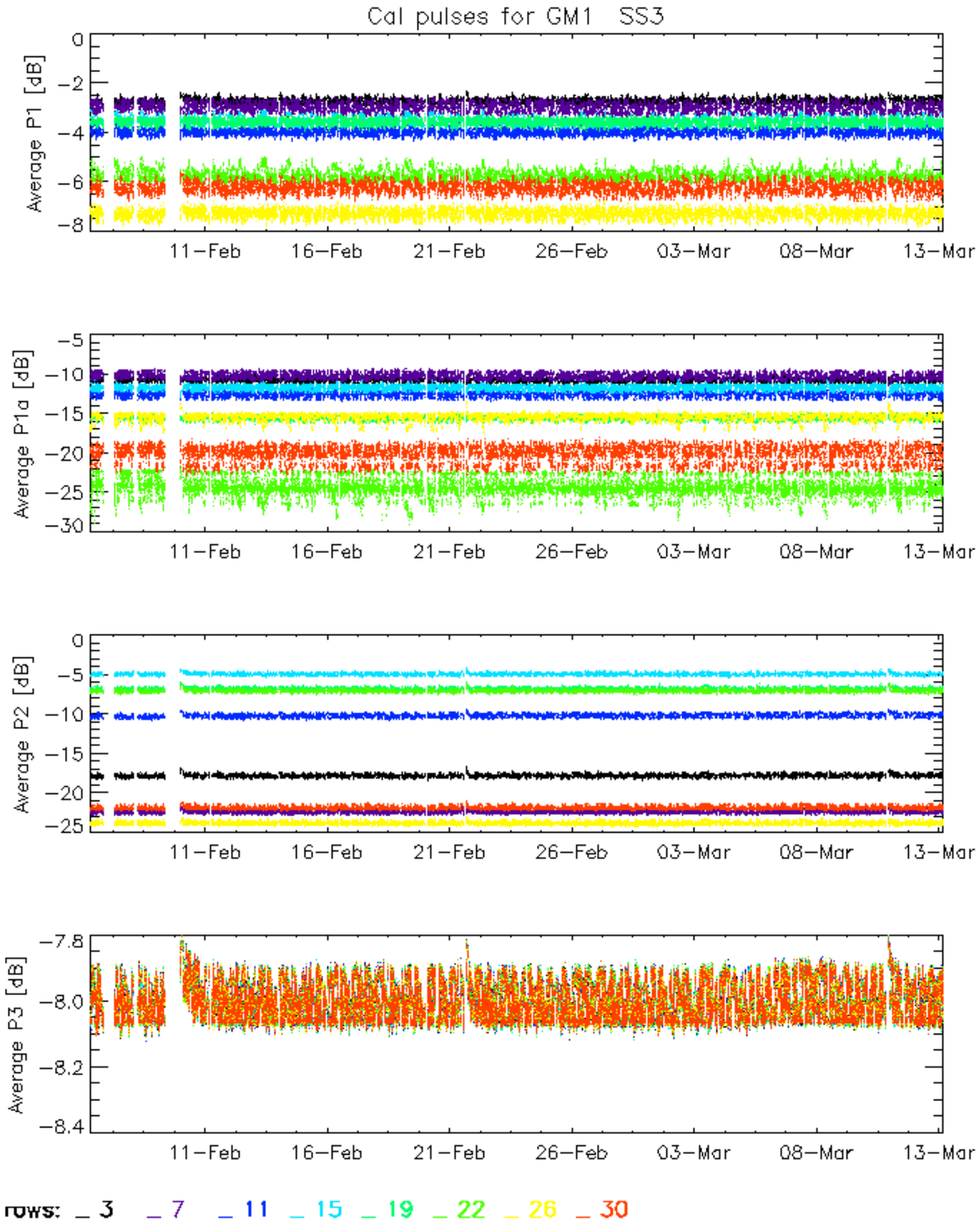
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

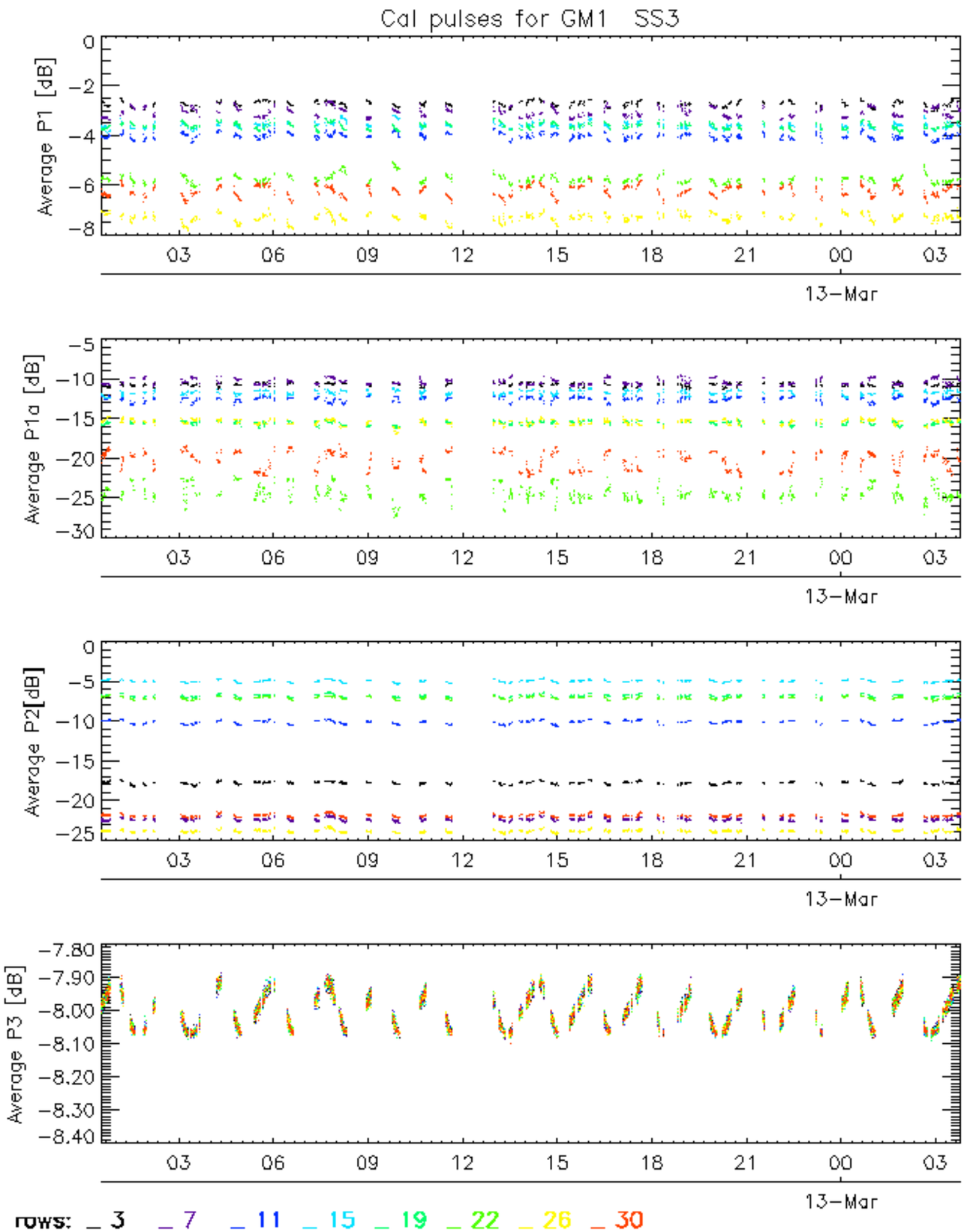
7.6 - Doppler evolution versus ANX for GM1

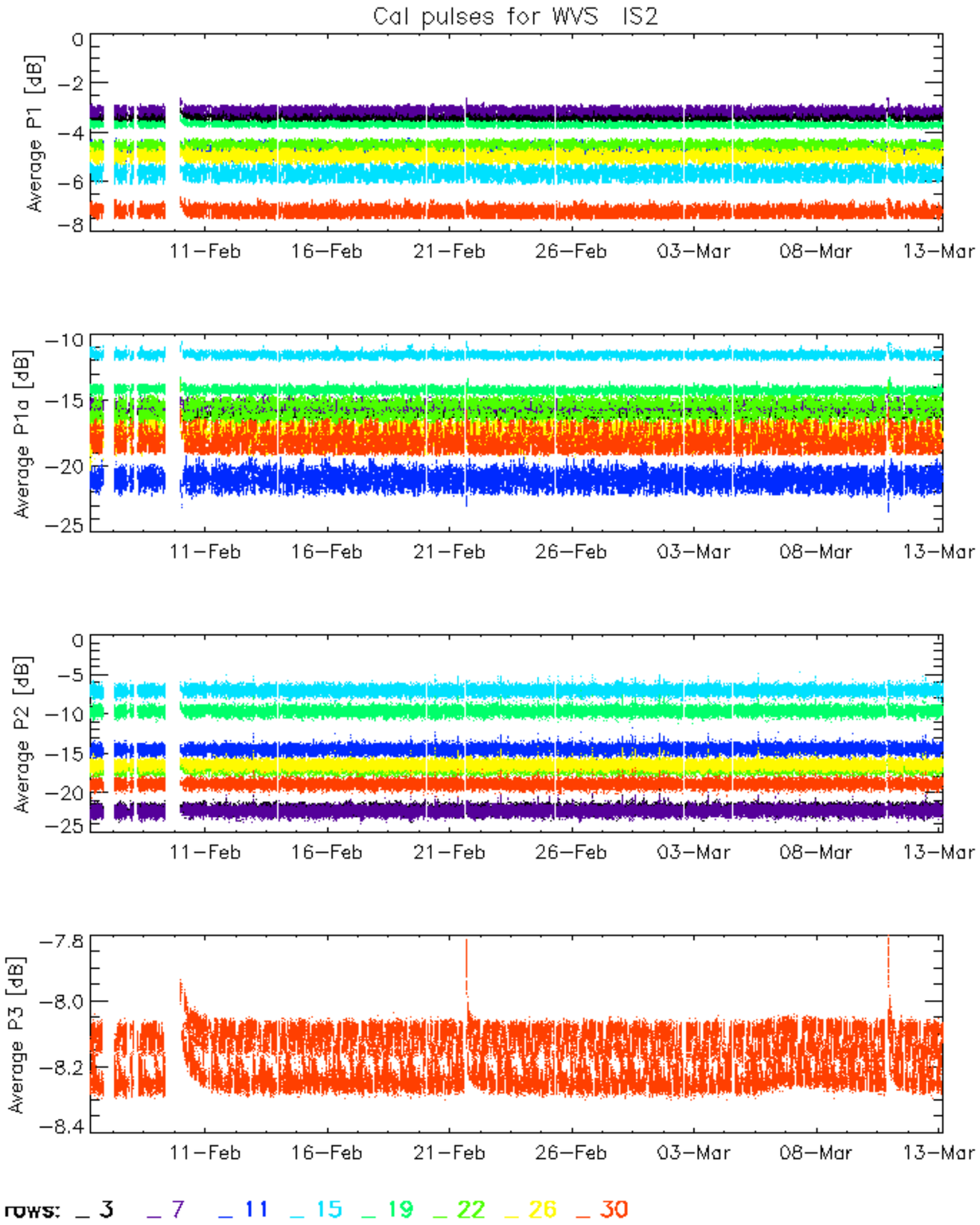
Evolution Doppler error versus ANX
☒

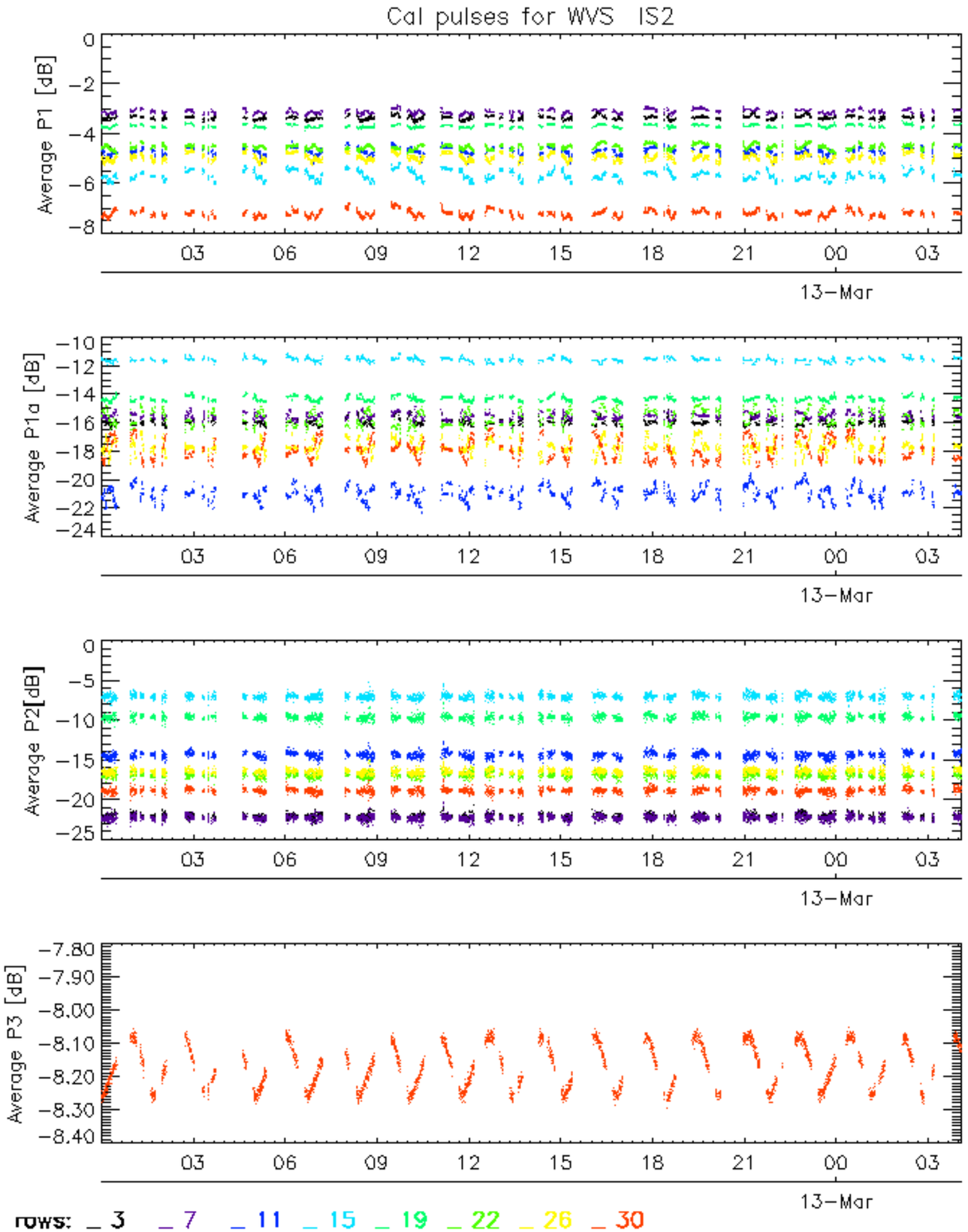

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
13−Mar
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
Phase P1a [deg]
rows: 3 7 11 15 19 22 26 30


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

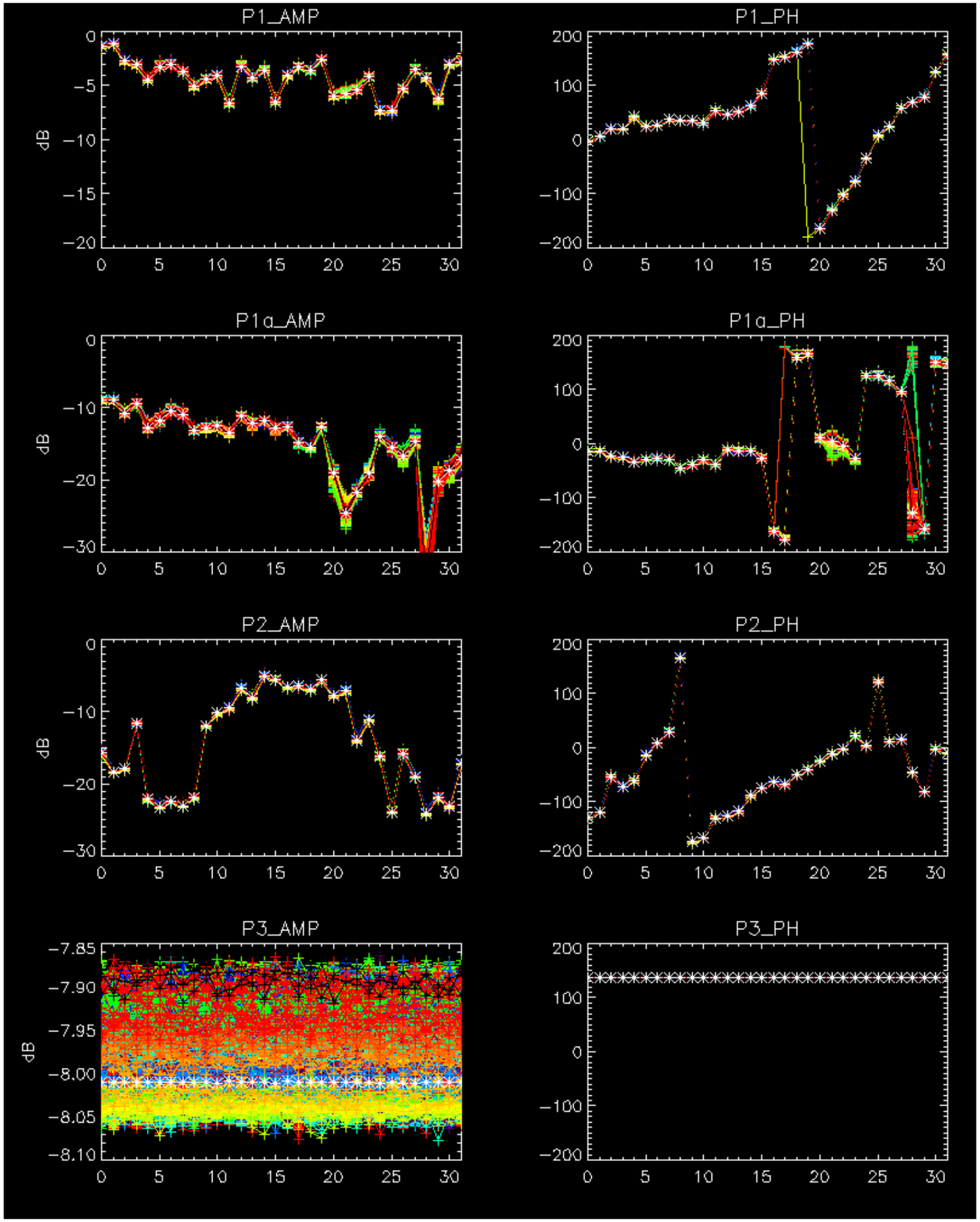

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
11−Feb
16−Feb
21−Feb
26−Feb
03−Mar
08−Mar
13−Mar
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

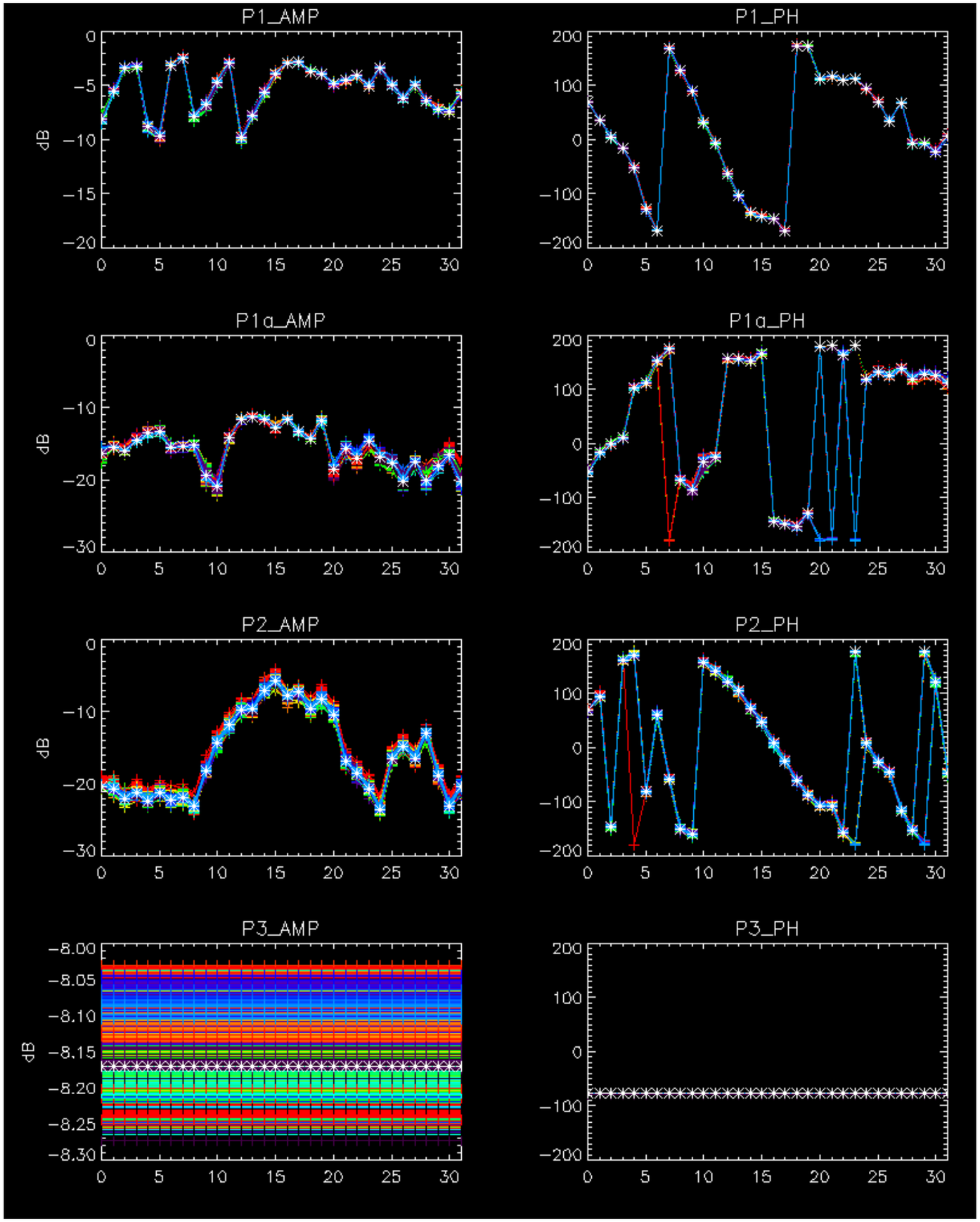

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
13−Mar
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
11−Feb
16−Feb
21−Feb
26−Feb
03−Mar
08−Mar
13−Mar
Average P1a [dB]
−10
−15
−20
−25
Average P2 [dB]
−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 WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
13−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

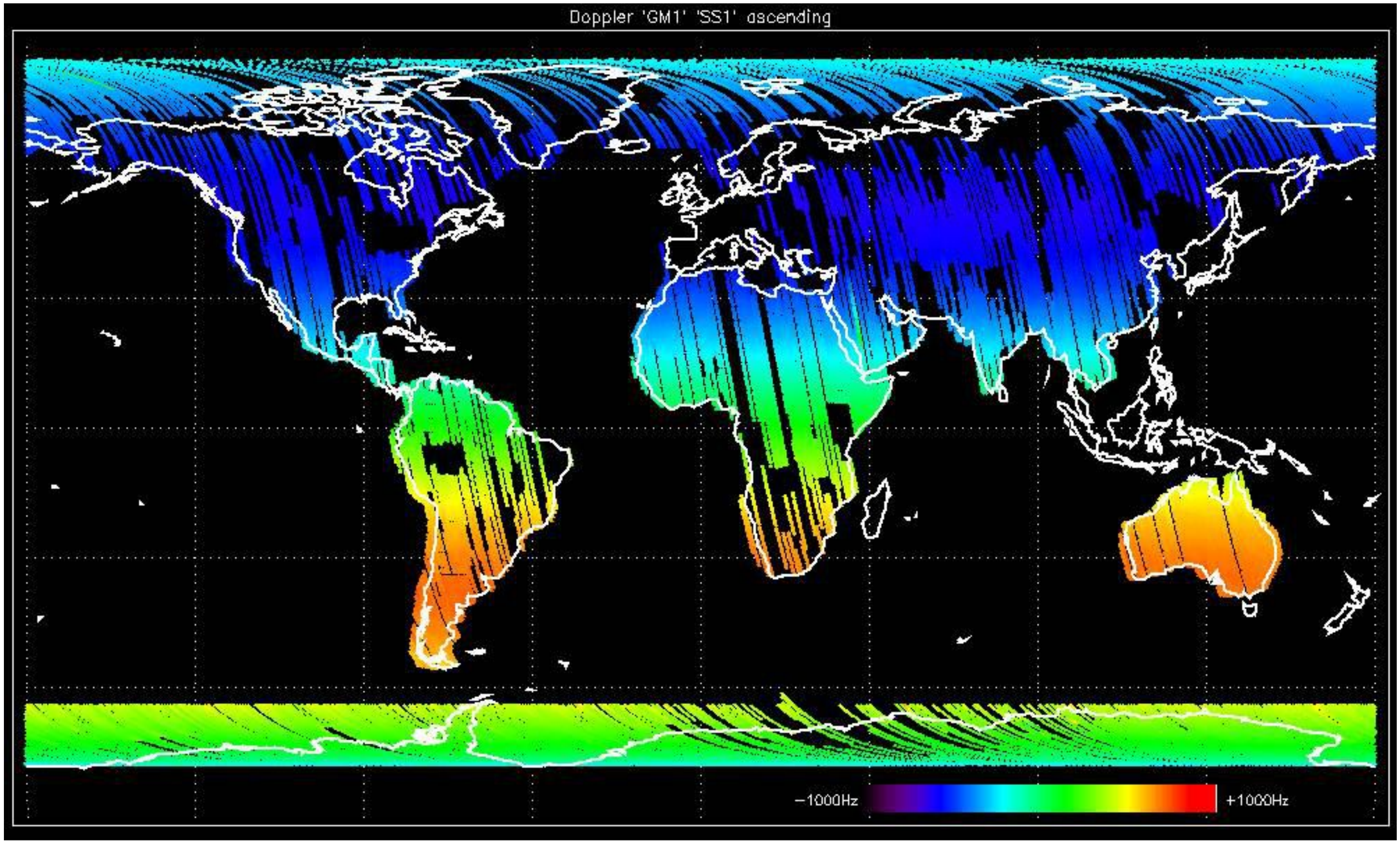
No anomalies observed.

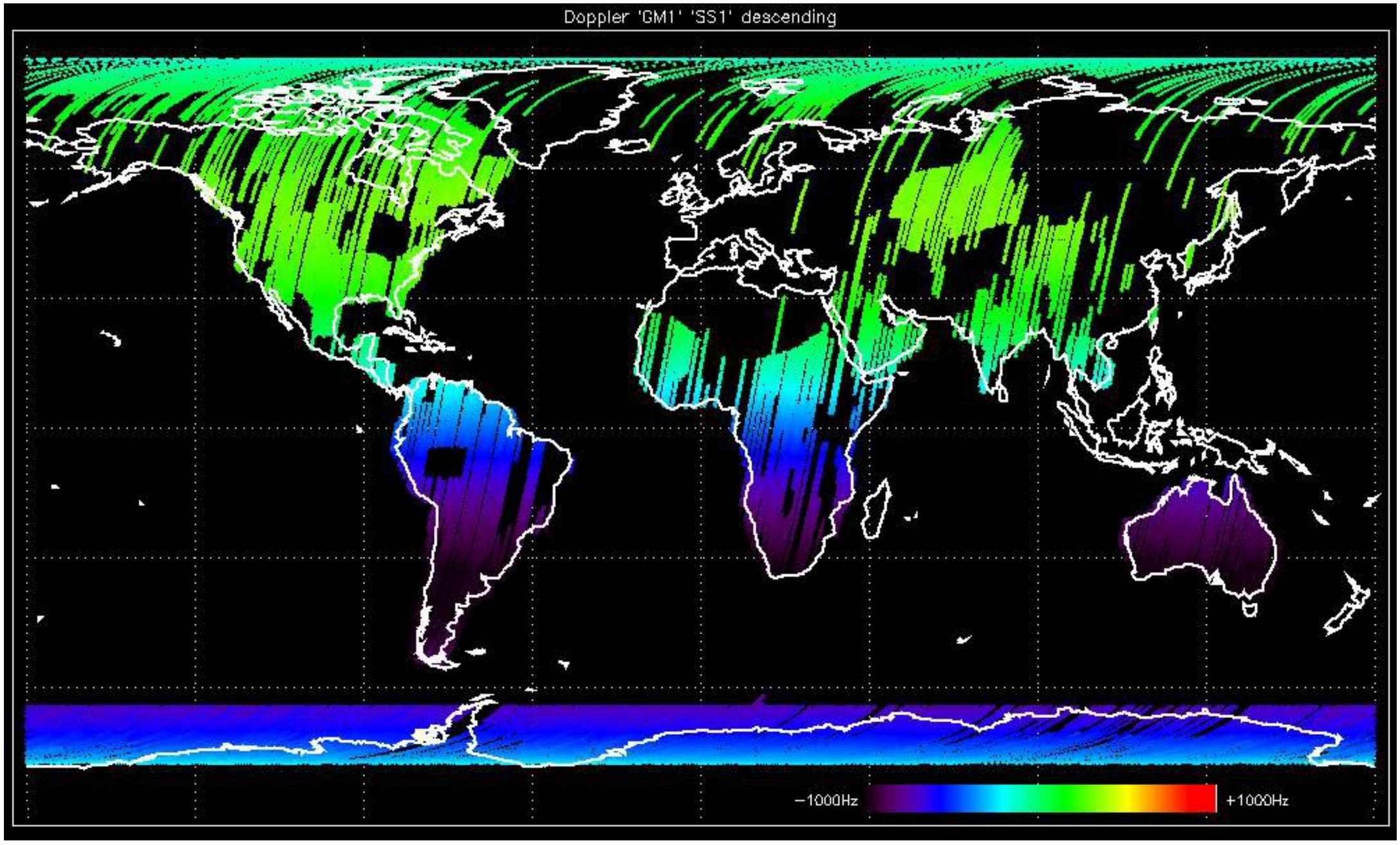

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.85
−7.90
−7.95
−8.00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

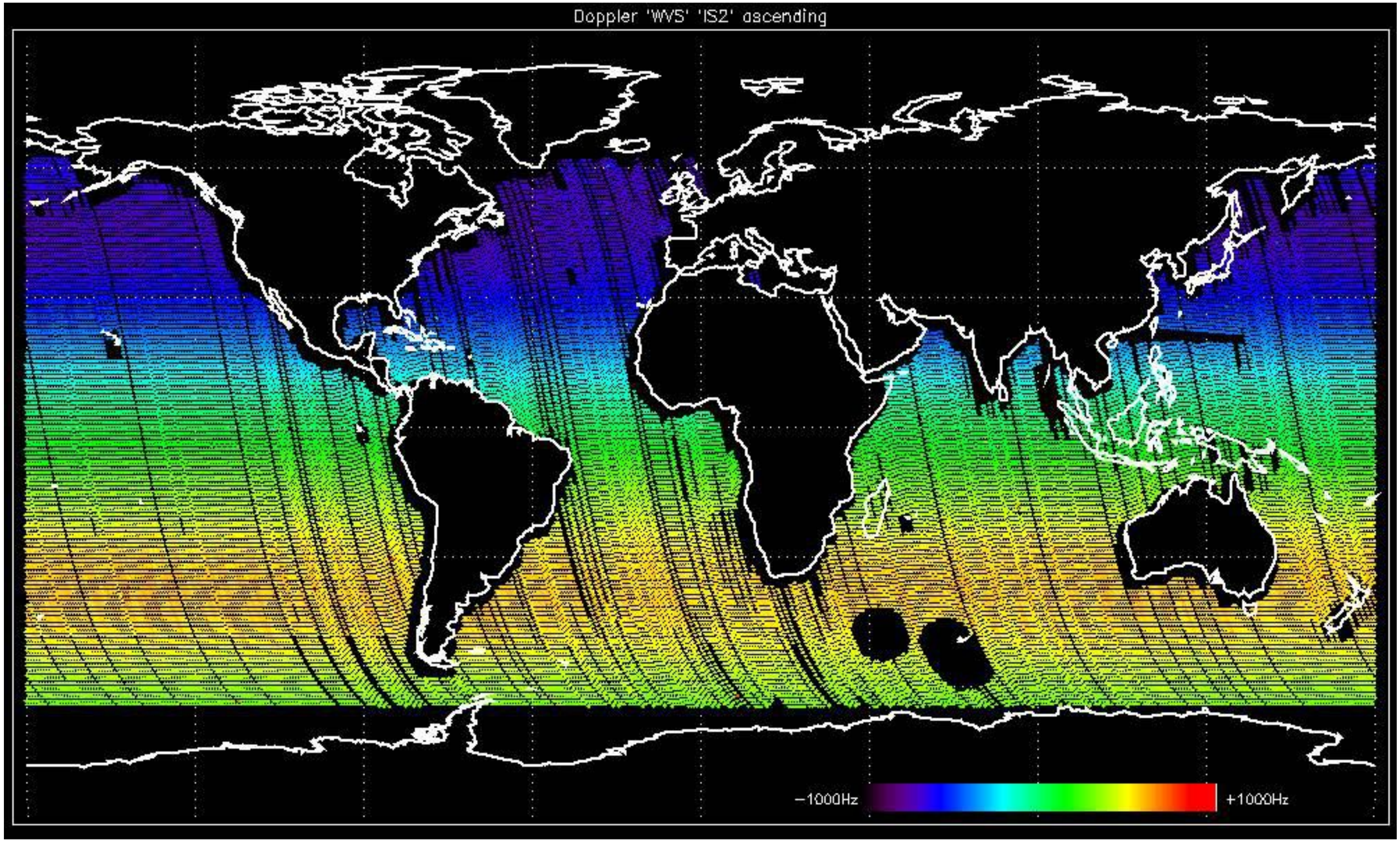

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15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

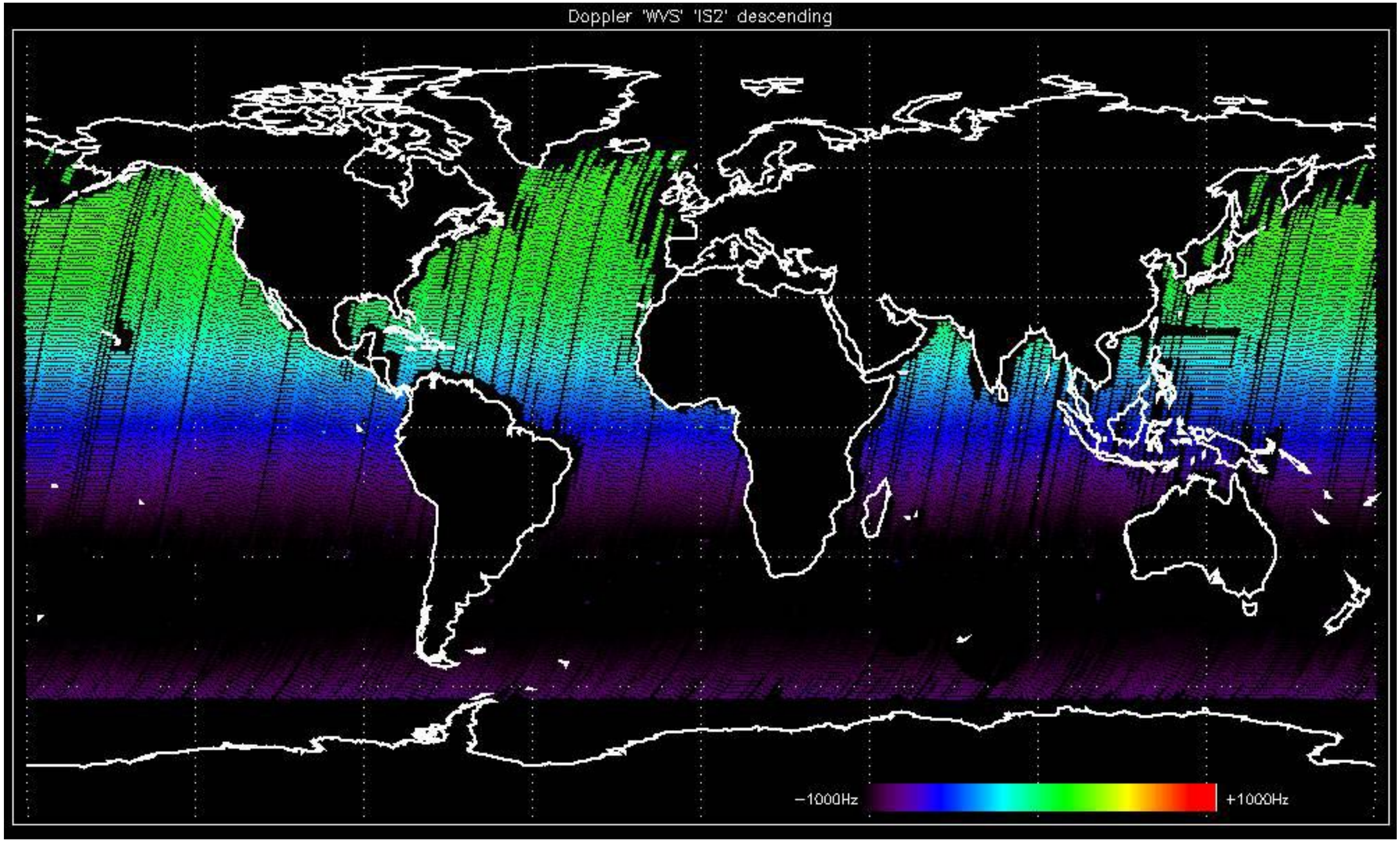
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

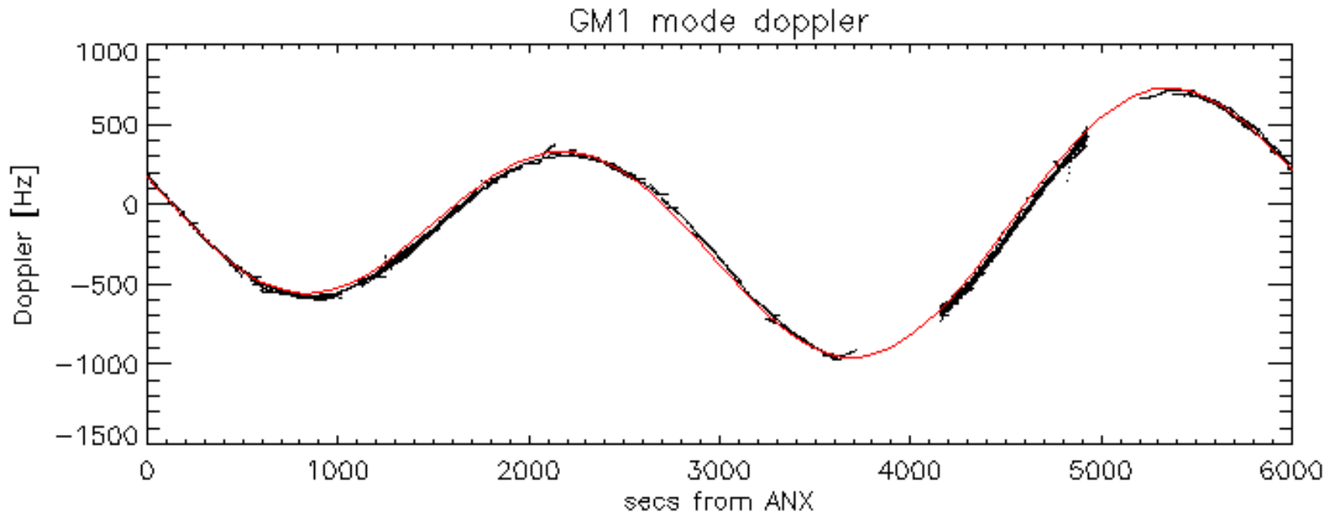
Preliminary report.The data is not yet controled

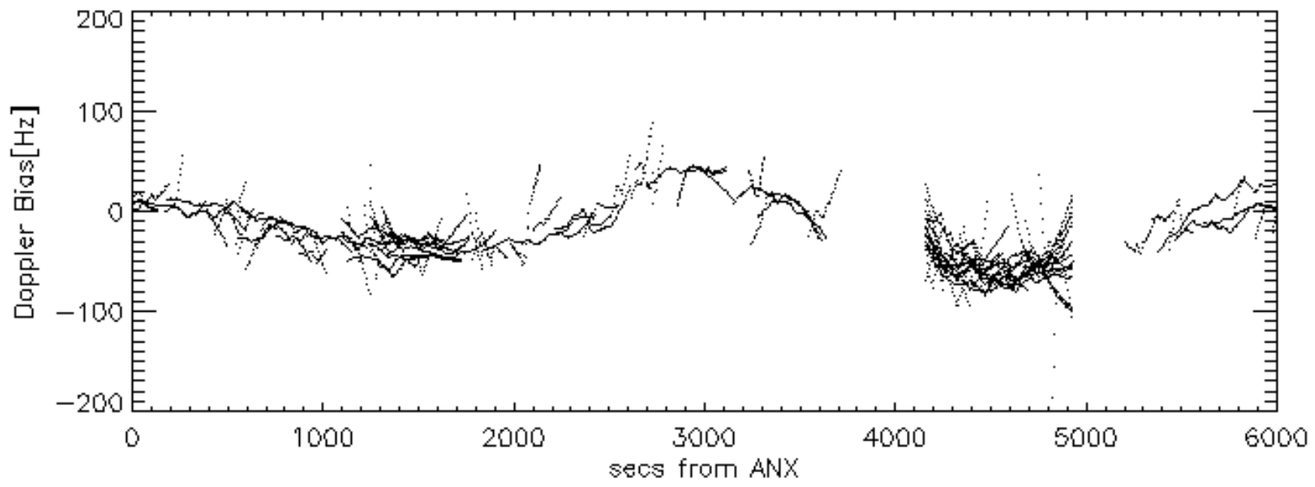

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

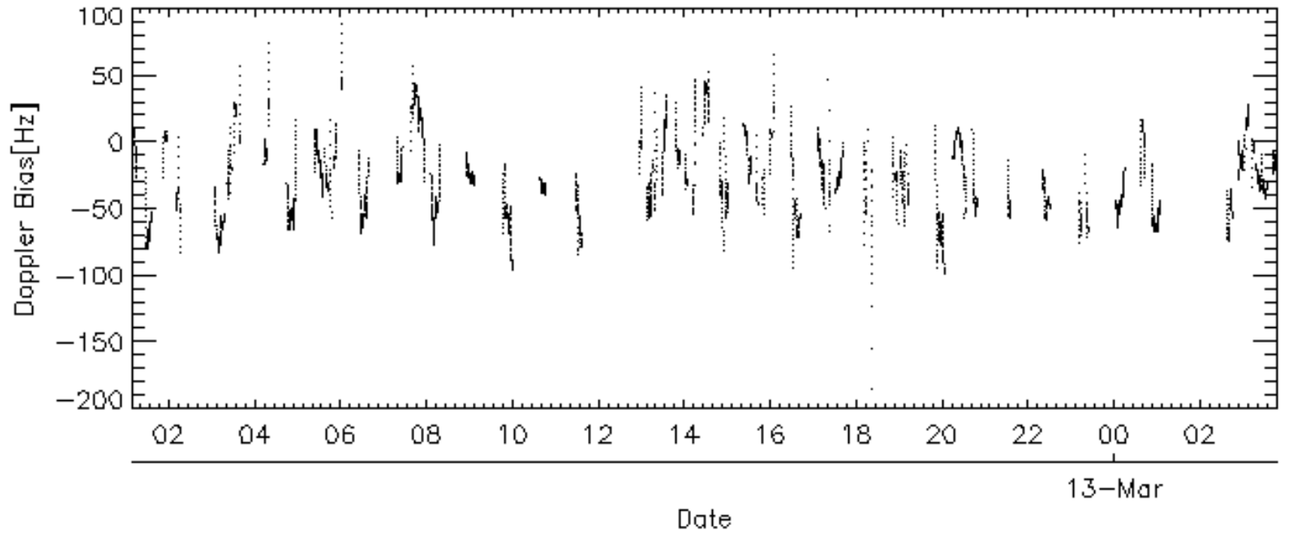

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

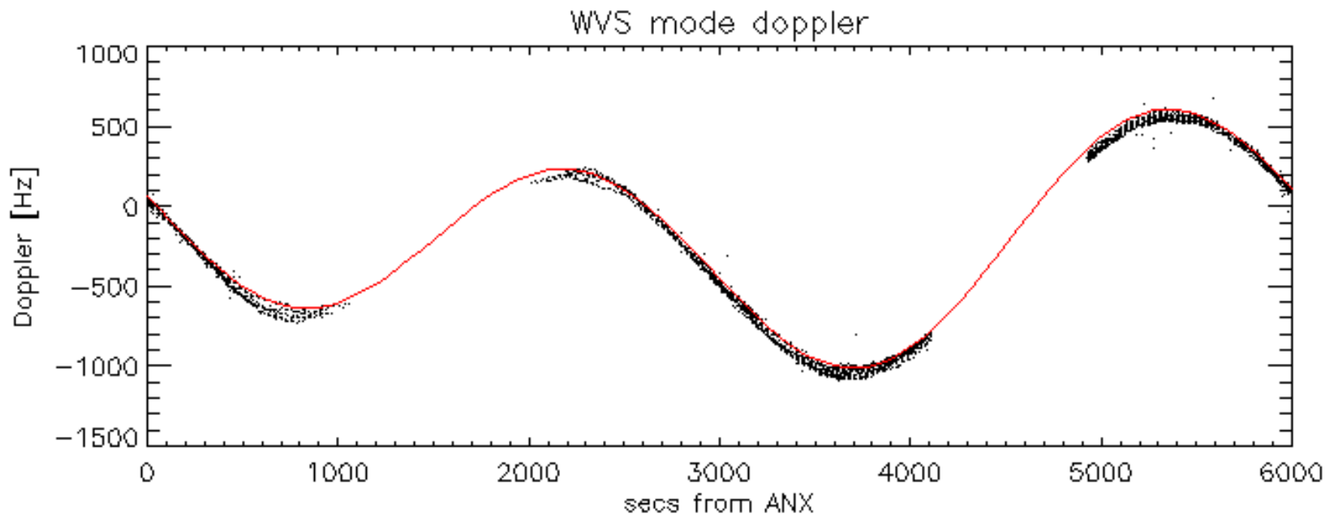

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

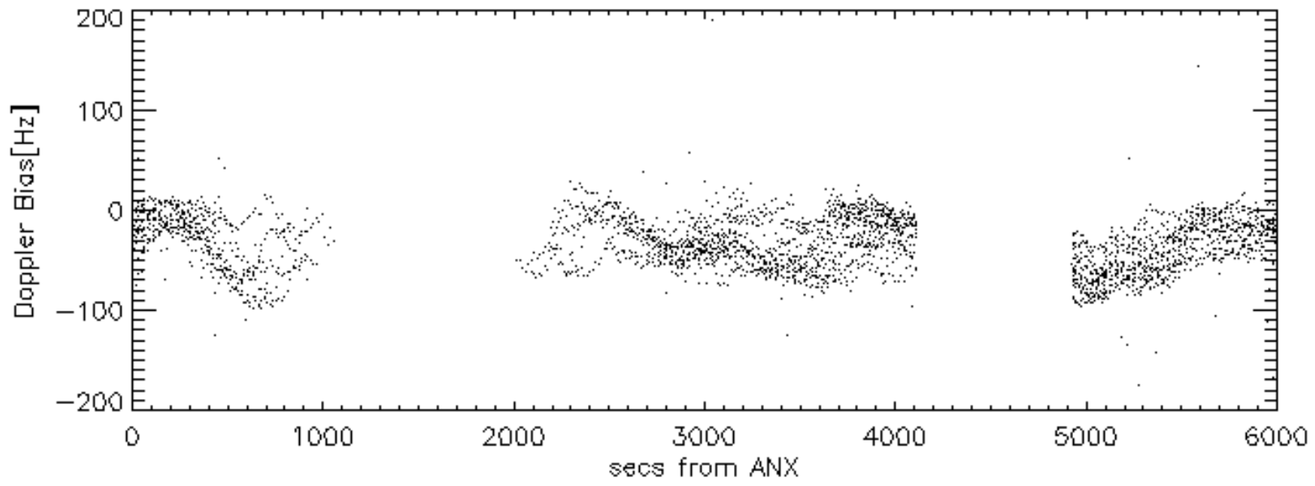

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

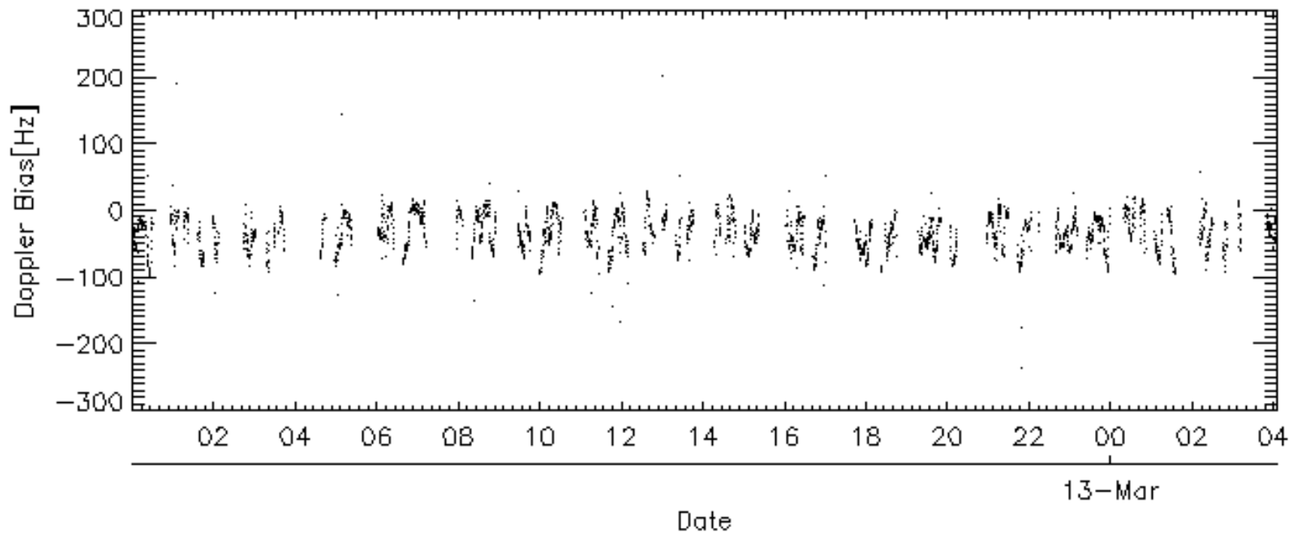

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

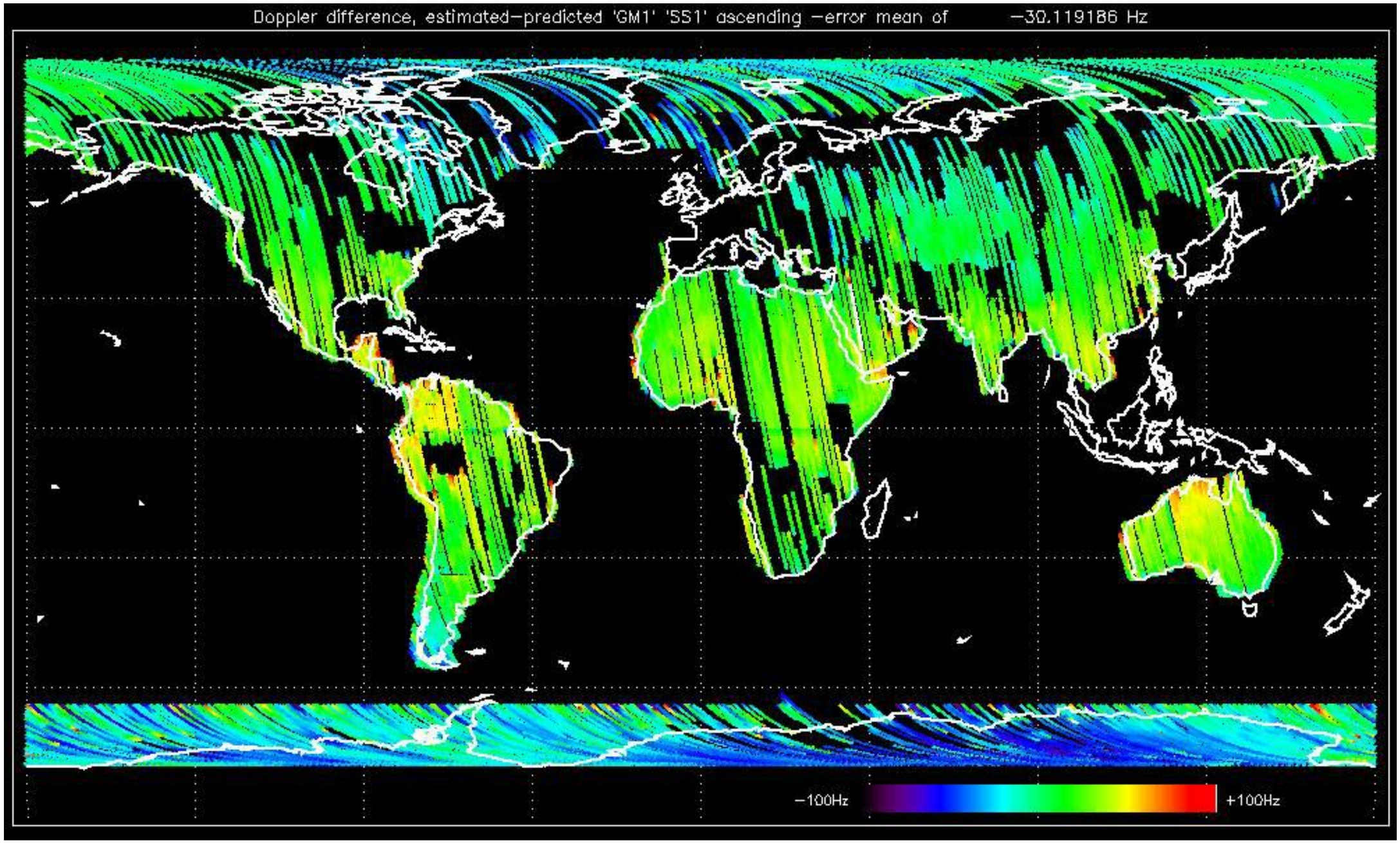

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

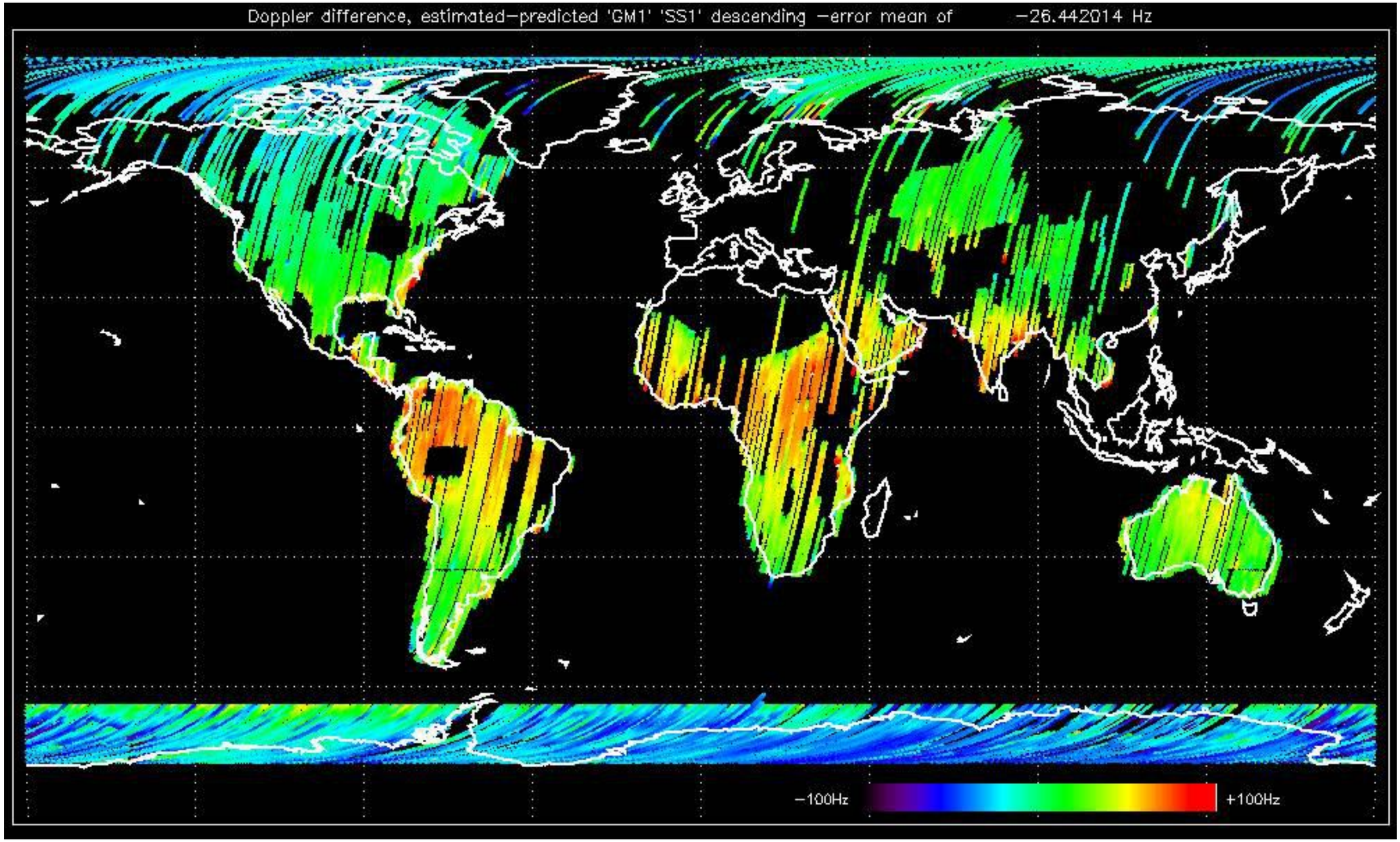

Doppler Bias[Hz]
100
50
0
−50
−100
−150
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
13−Mar
Date

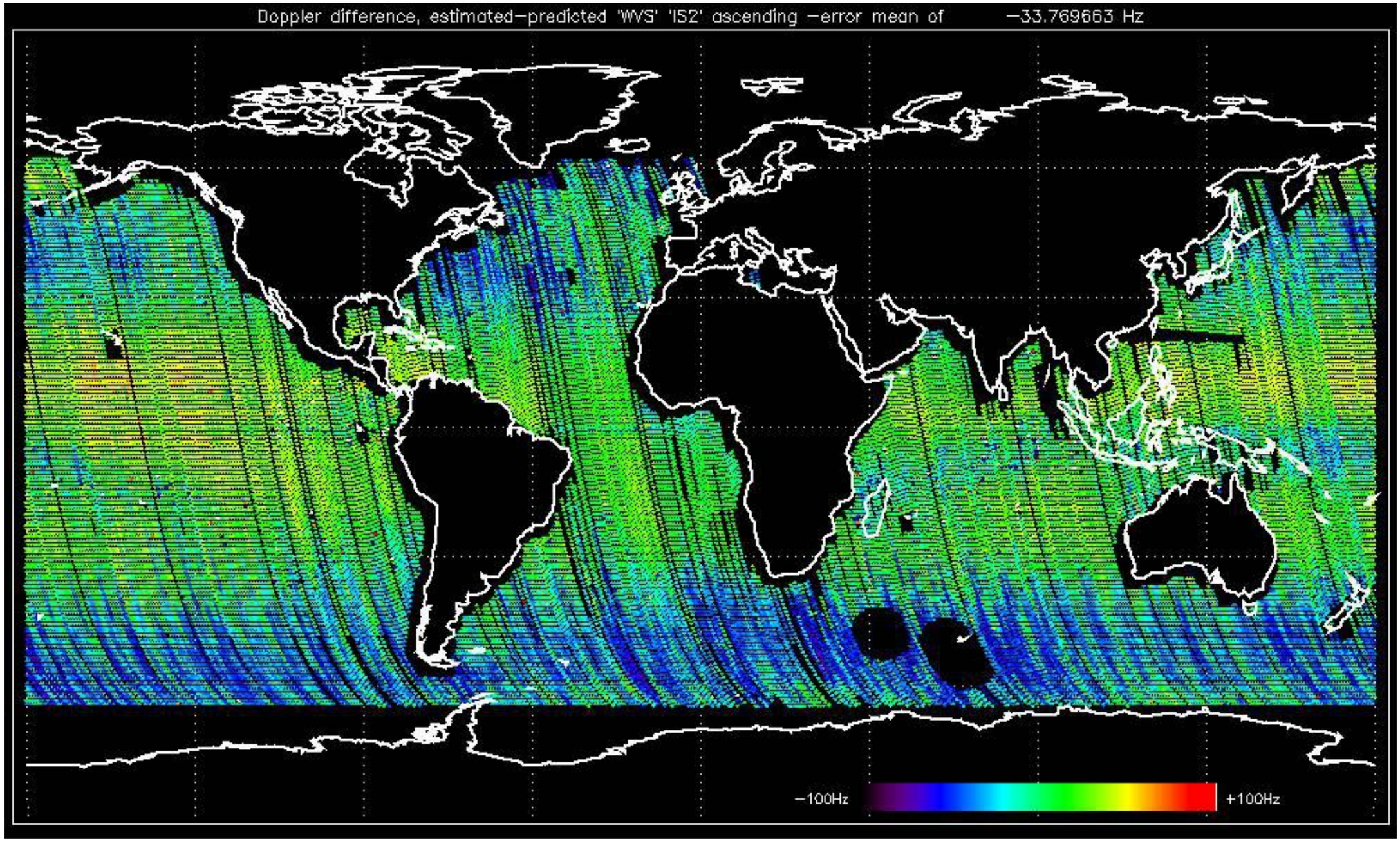

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

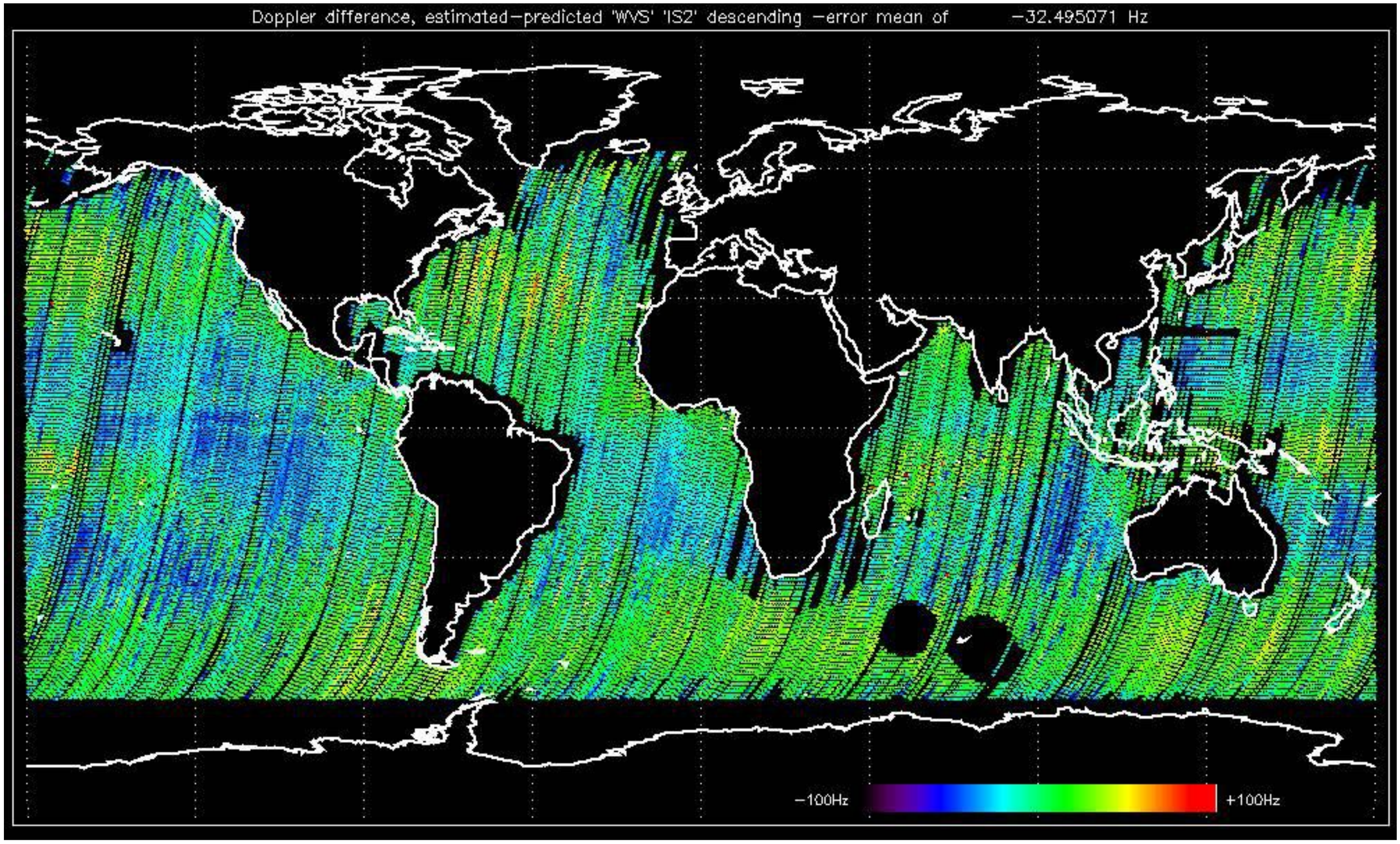

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −30.119186 Hz
−100Hz
+100Hz


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -26.442014 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −33.769663 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −32.495071 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2005-03-12 03:02:44 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
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8
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23
24
25
26
27
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29
30
31
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Reference: 2003-06-12 14:08:52 H
Test : 2005-03-12 03:02:44 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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3
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8
9
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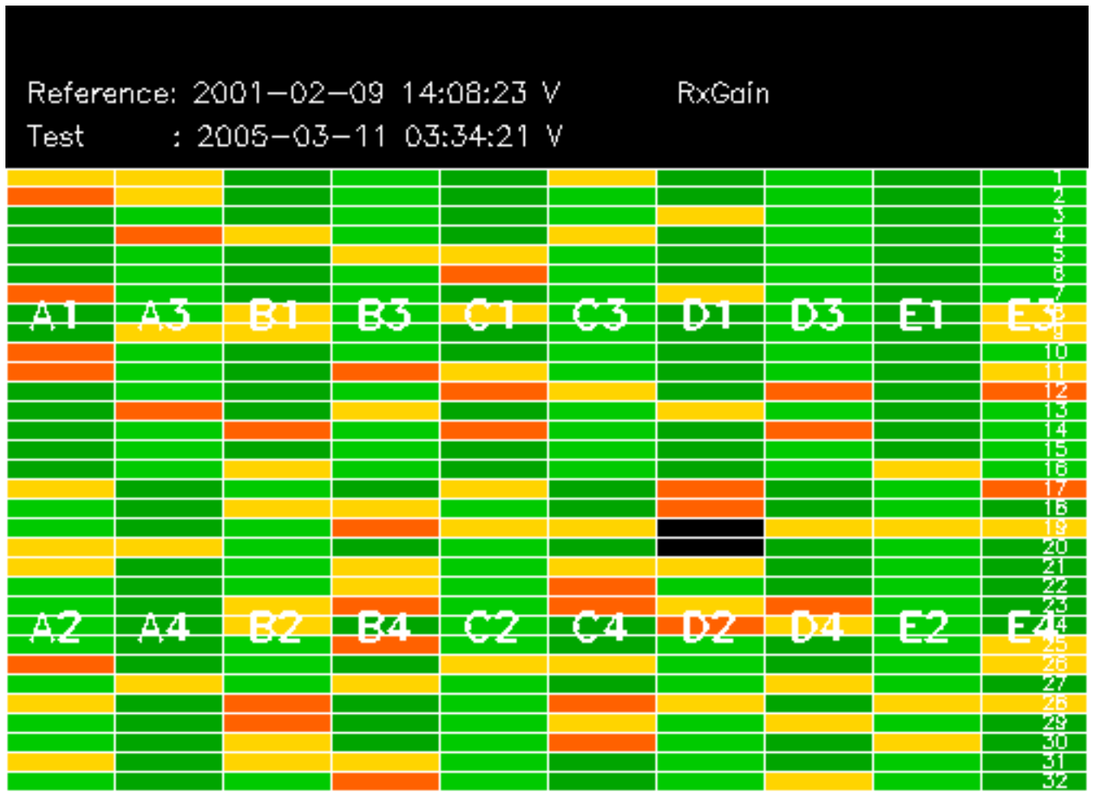
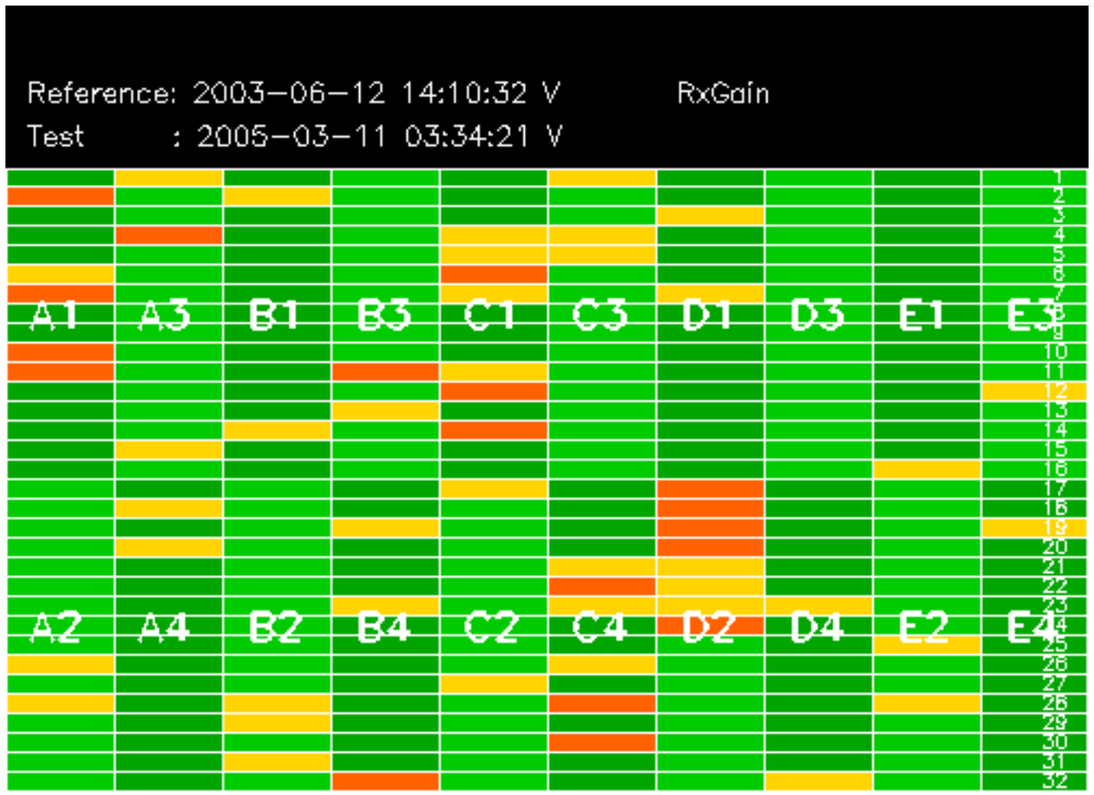
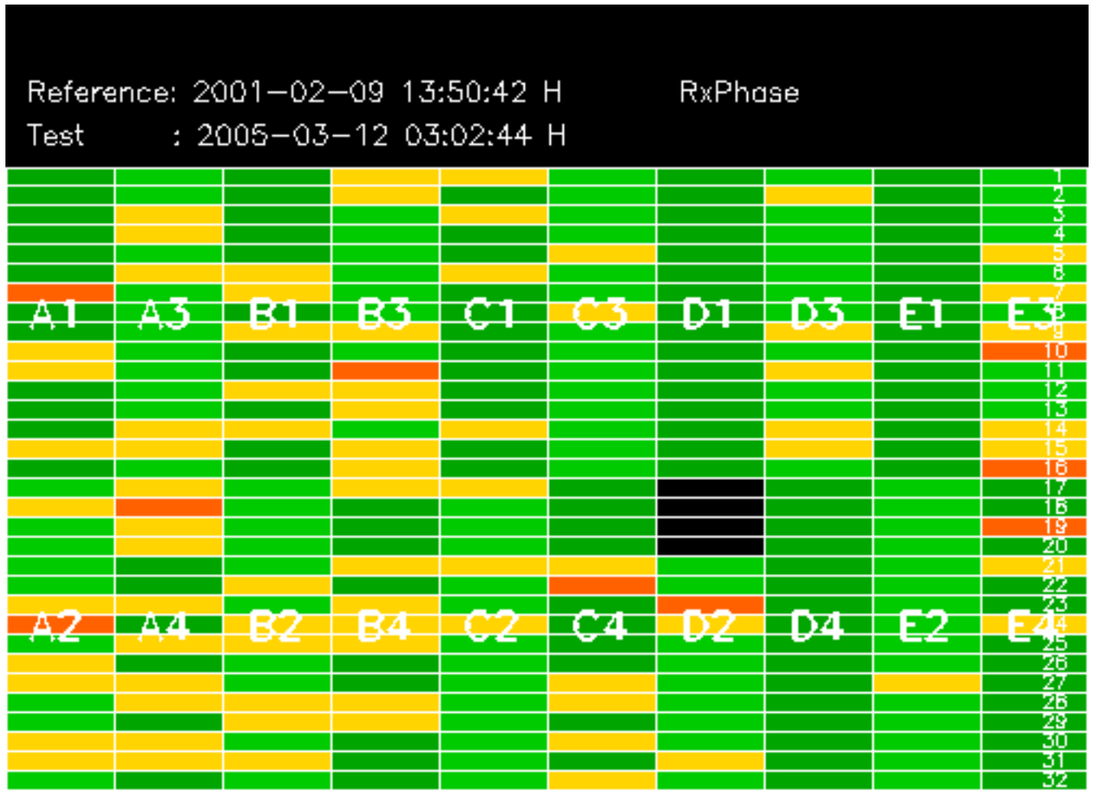
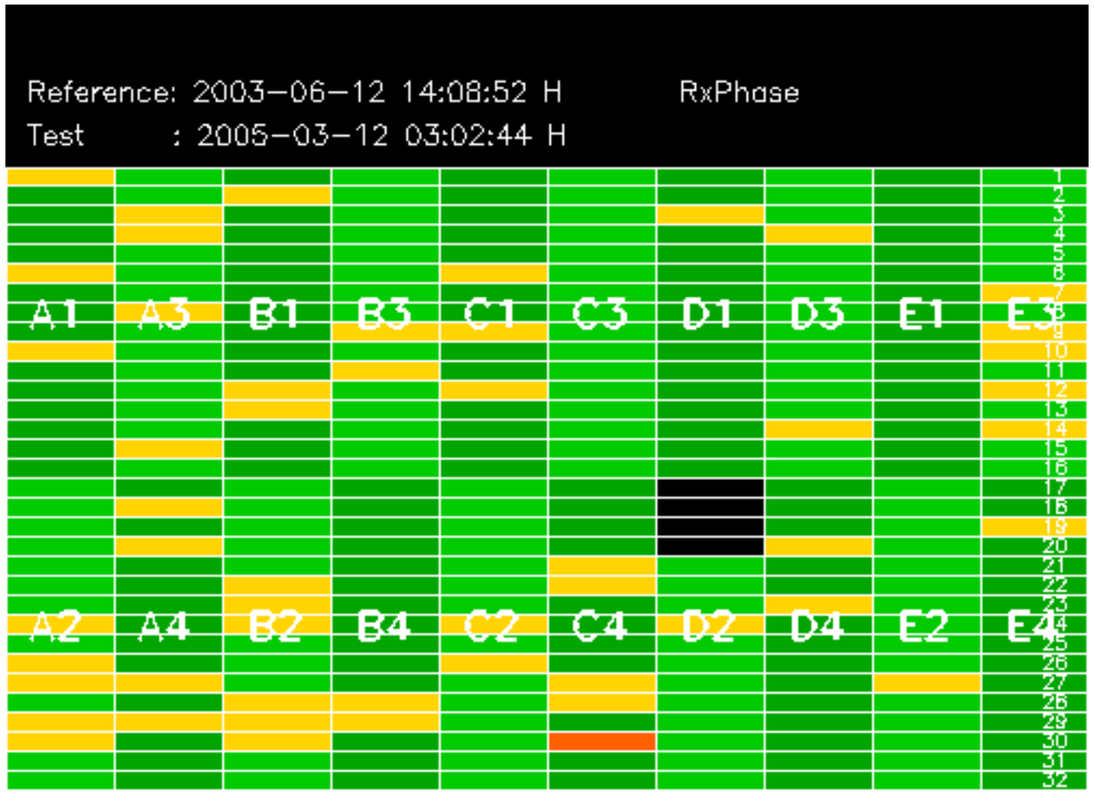
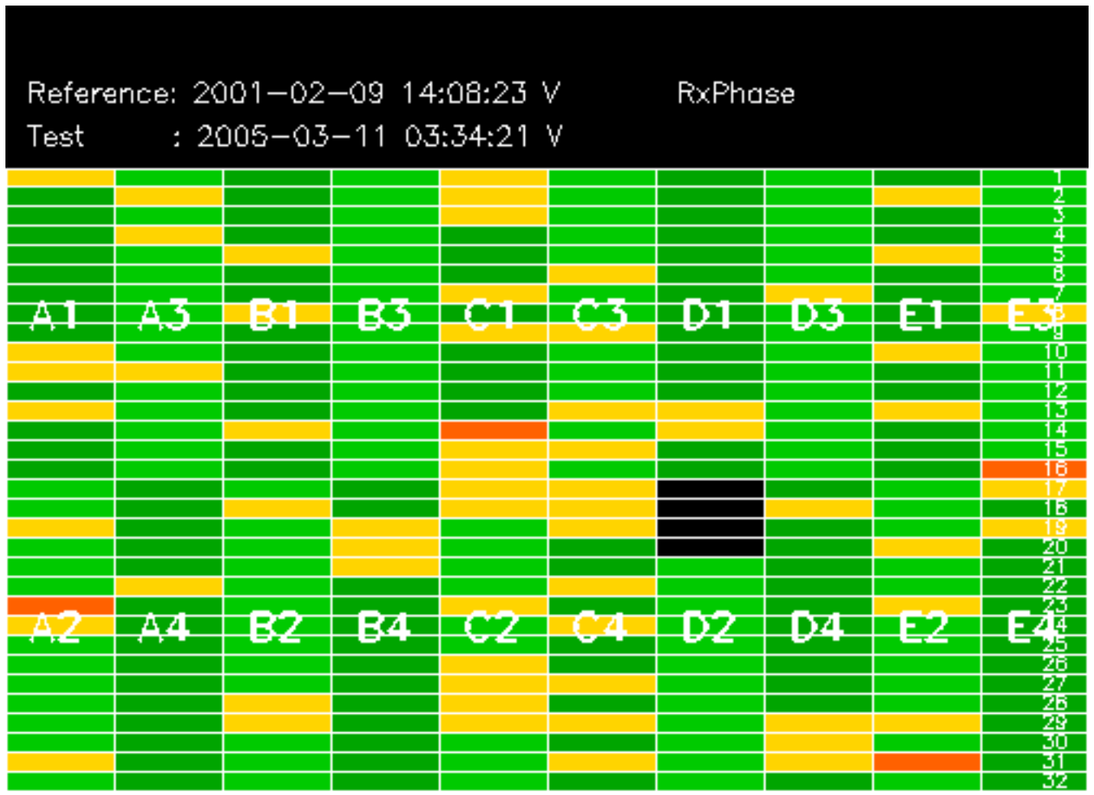

Reference: 2001-02-09 14:08:23 V
Test : 2005-03-11 03:34:21 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-03-11 03:34:21 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 : 2005-03-12 03:02:44 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
Test : 2005-03-12 03:02:44 H
RxPhase
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 : 2005-03-11 03:34:21 V
RxPhase
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
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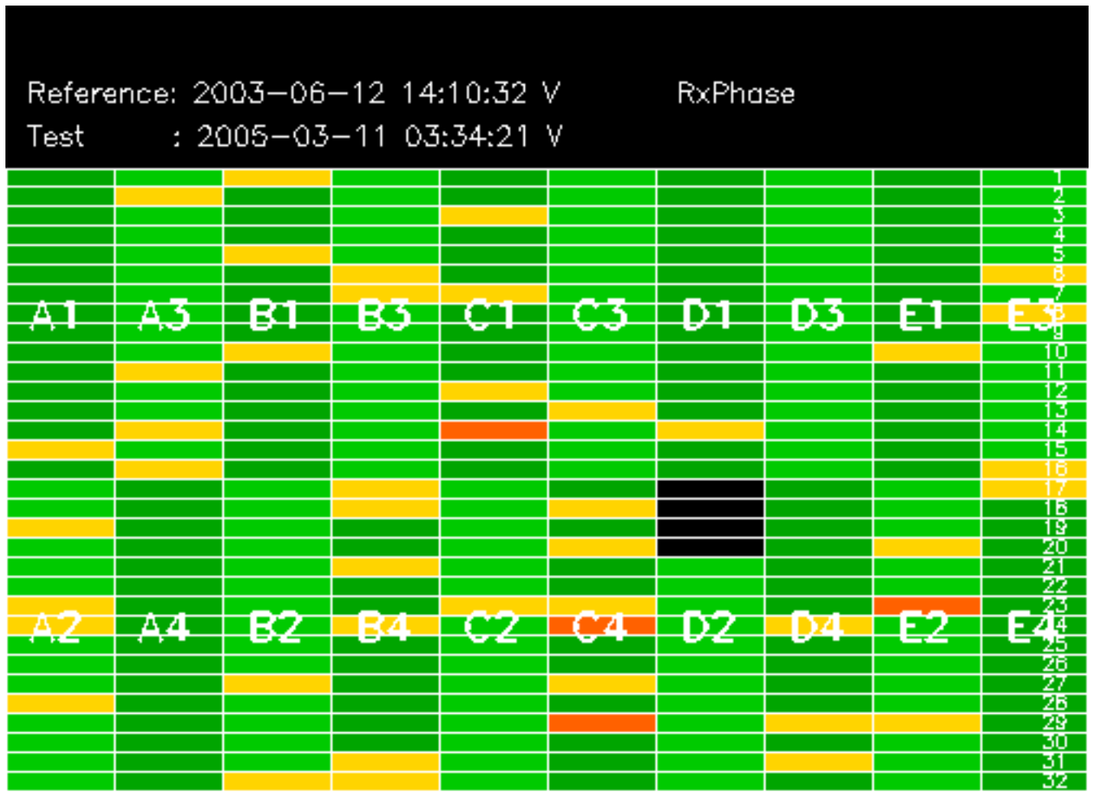
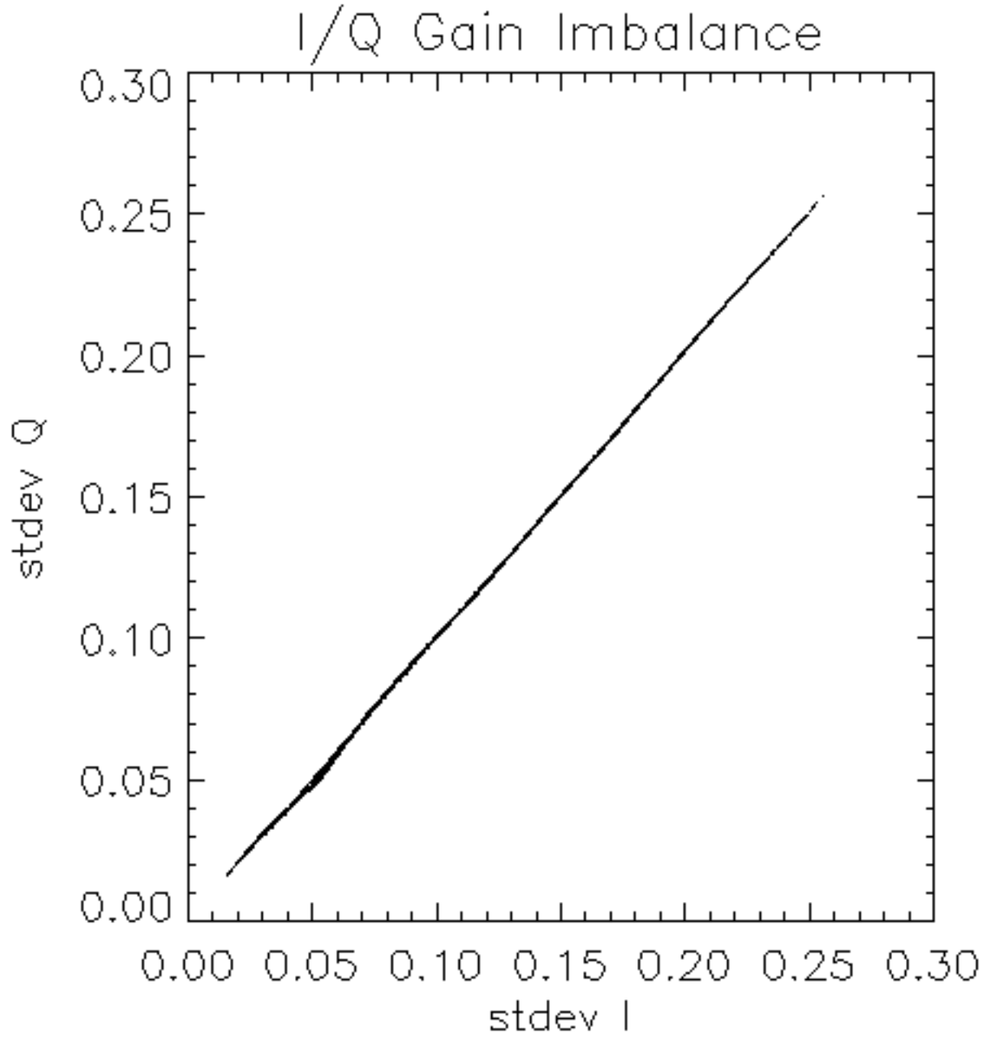
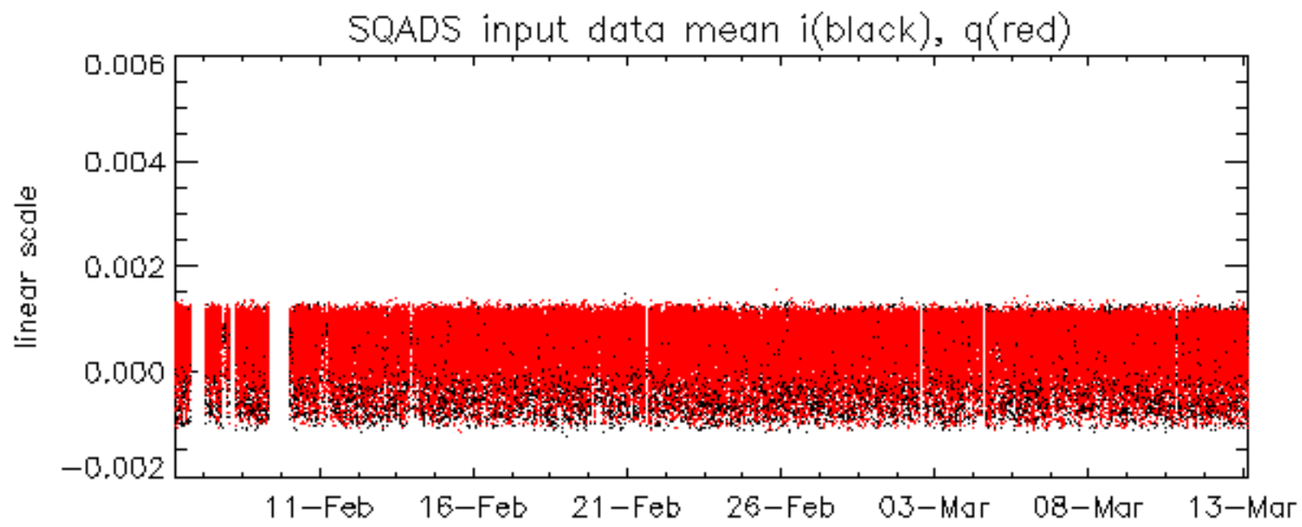
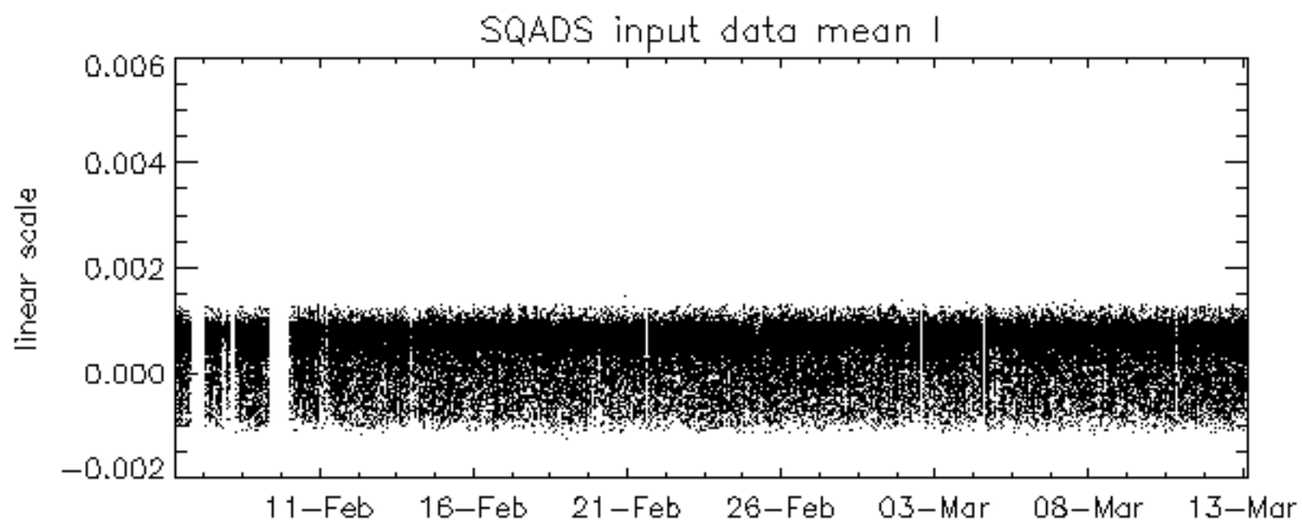
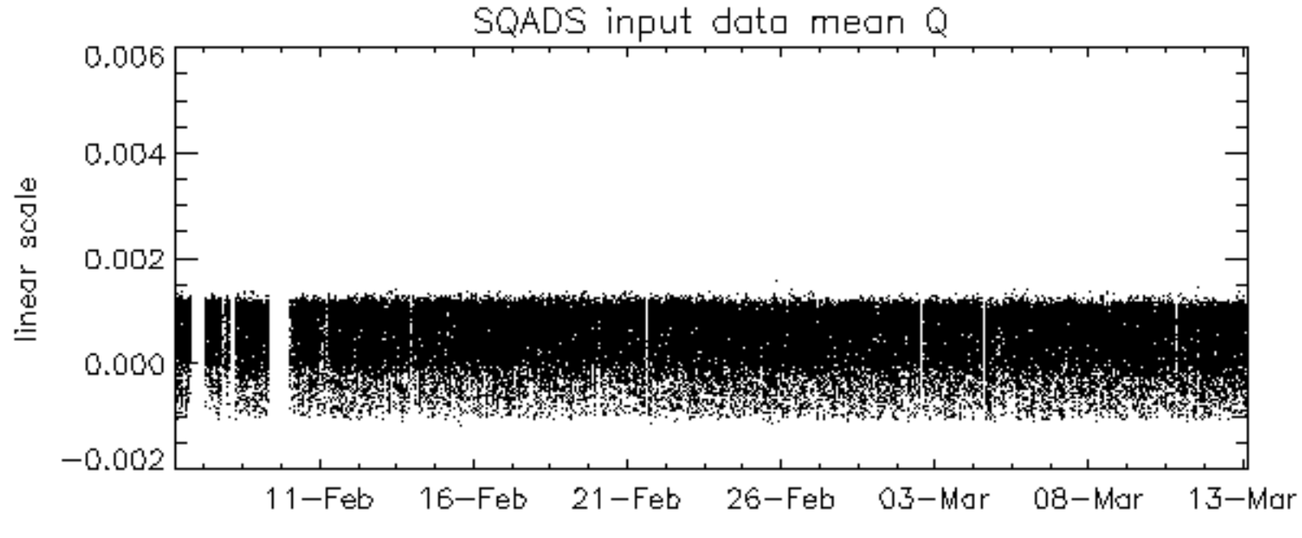
30
31
32

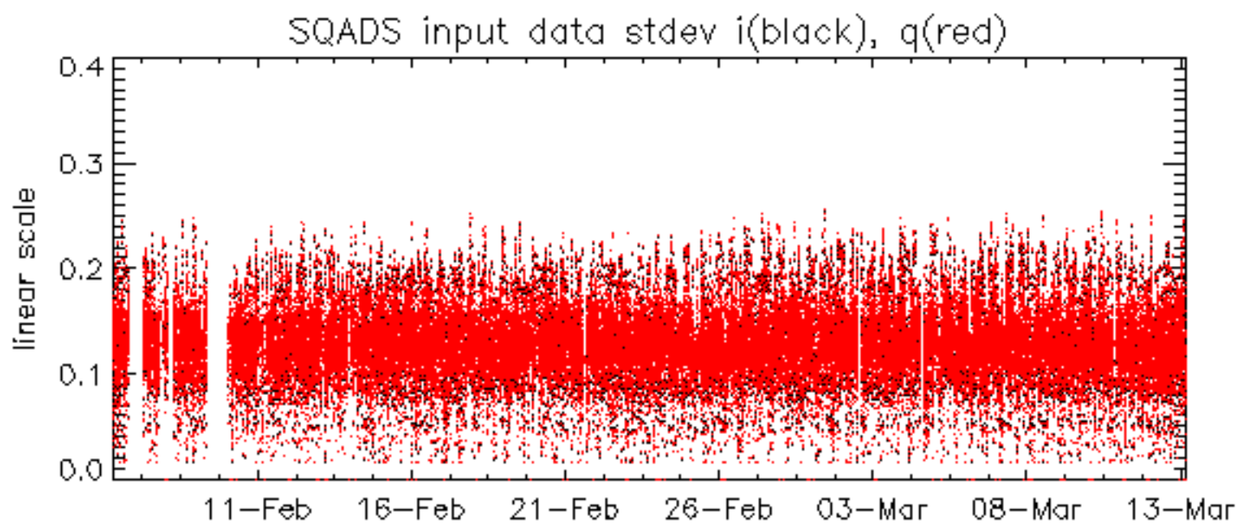

Reference: 2003-06-12 14:10:32 V
Test : 2005-03-11 03:34:21 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

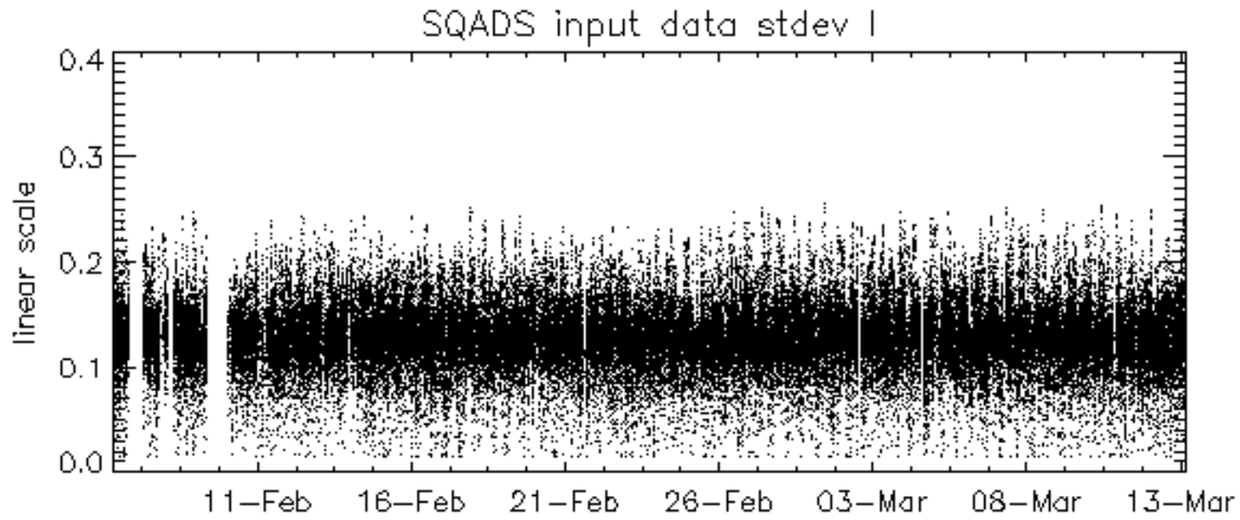

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

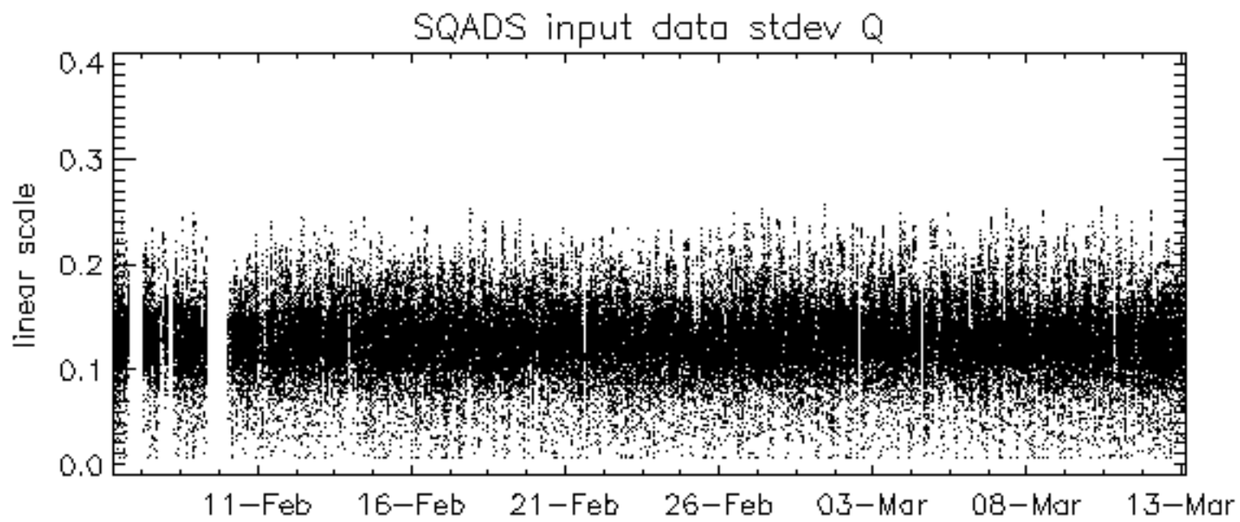

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Feb
16−Feb
21−Feb
26−Feb
03−Mar
08−Mar
13−Mar

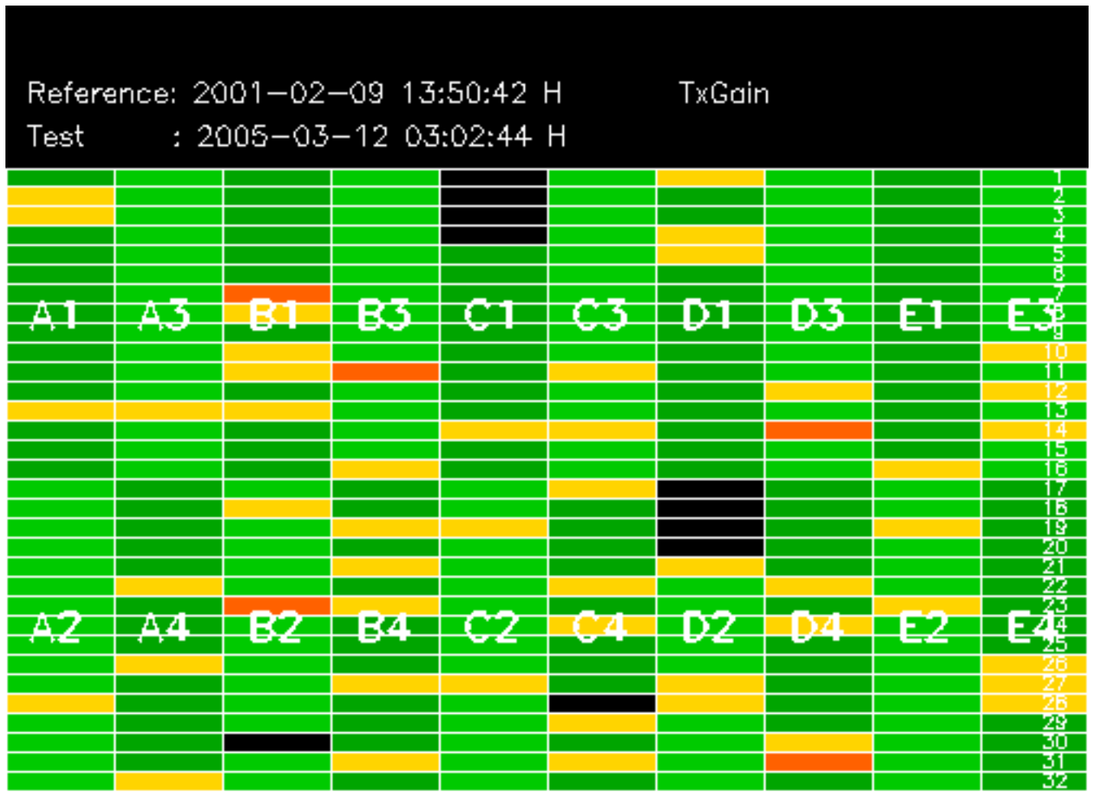

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Feb
16−Feb
21−Feb
26−Feb
03−Mar
08−Mar
13−Mar

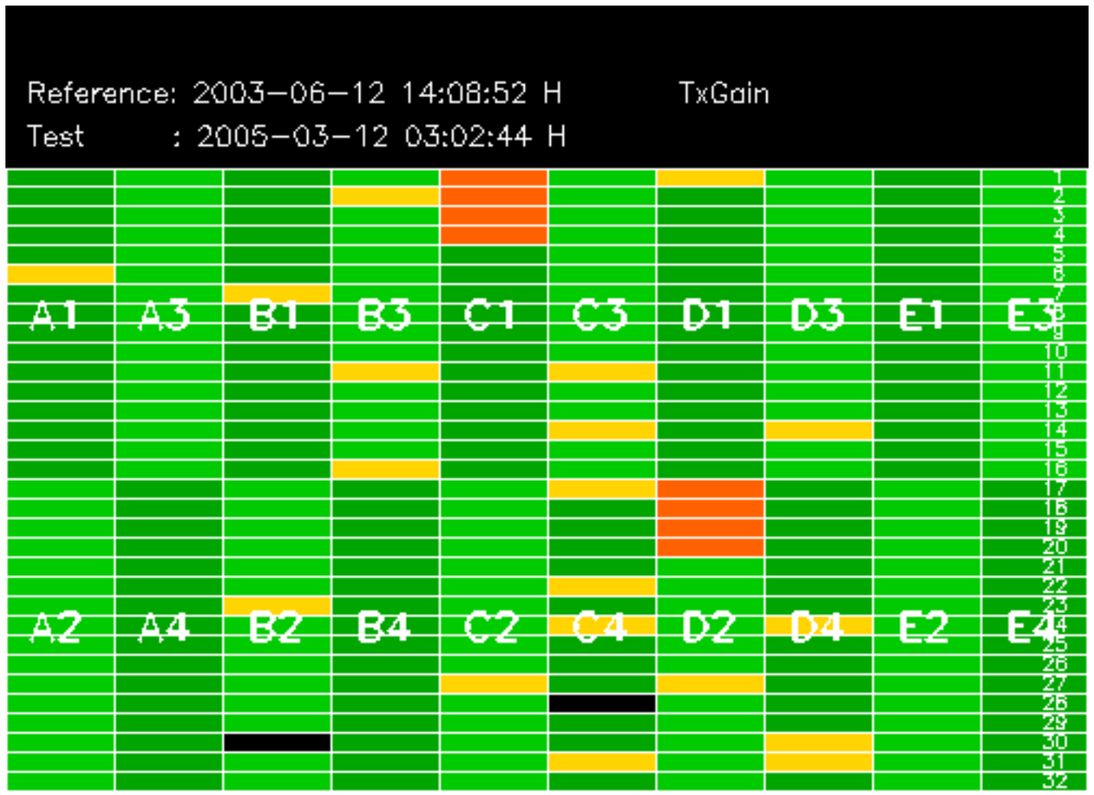

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Feb
16−Feb
21−Feb
26−Feb
03−Mar
08−Mar
13−Mar


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2005-03-12 03:02:44 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 : 2005-03-12 03:02:44 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: 2001-02-09 14:08:23 V
Test : 2005-03-11 03:34:21 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
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22
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28
29
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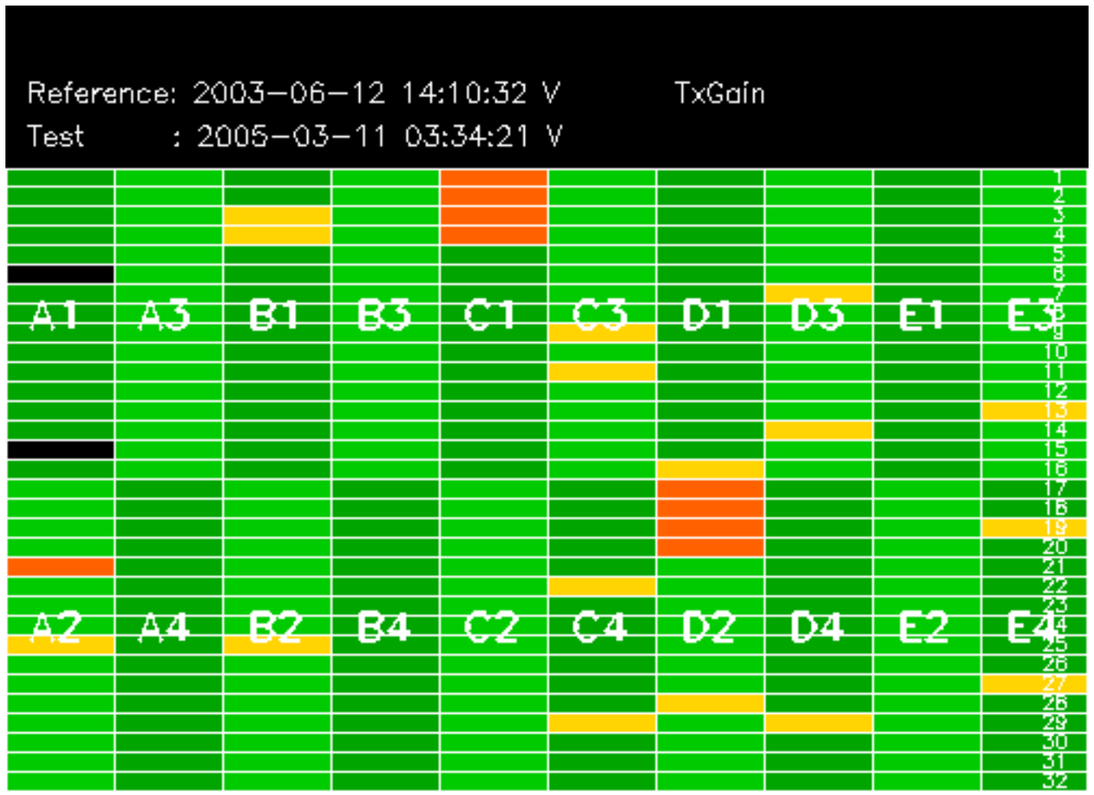
31
32


Reference: 2003-06-12 14:10:32 V
Test : 2005-03-11 03:34:21 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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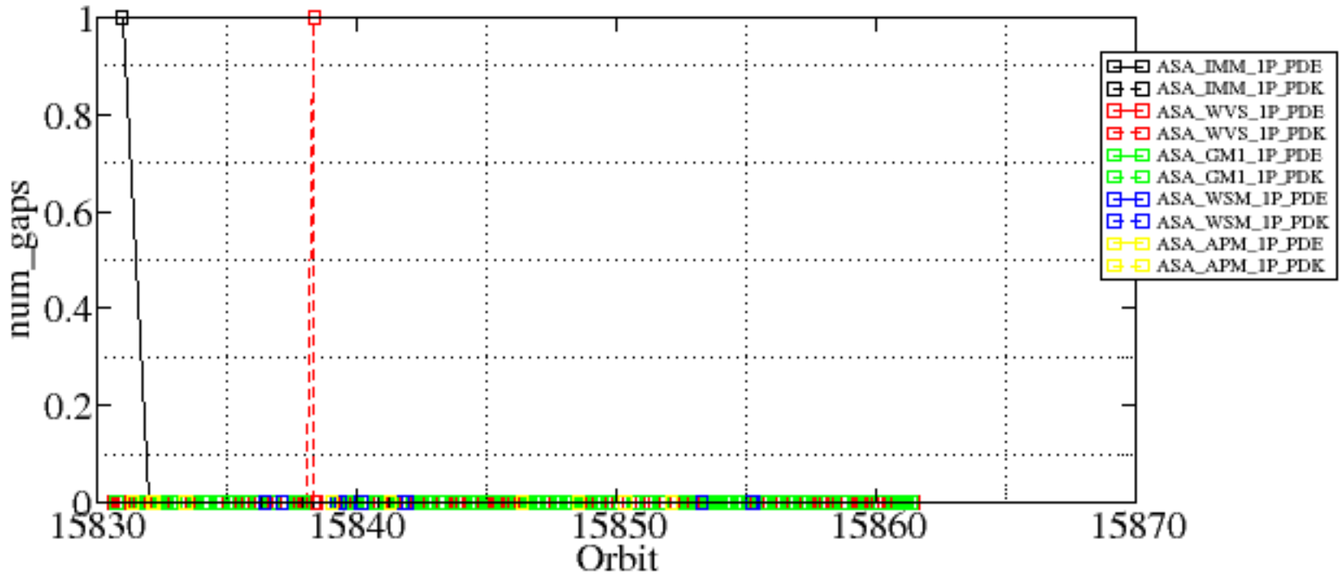
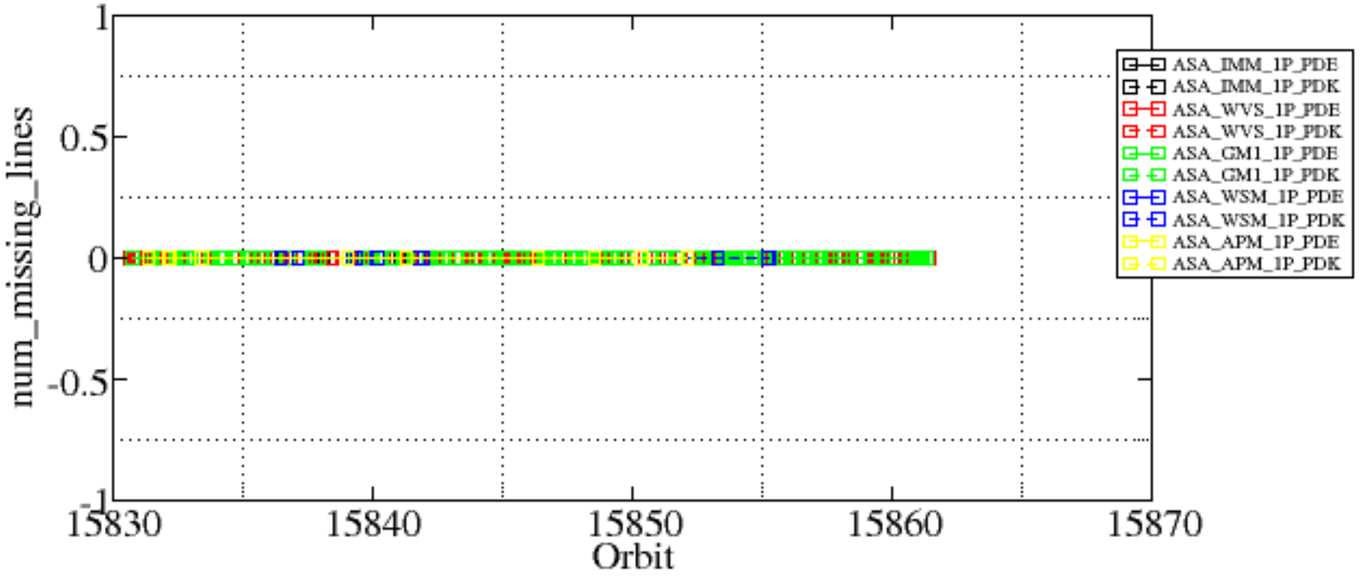
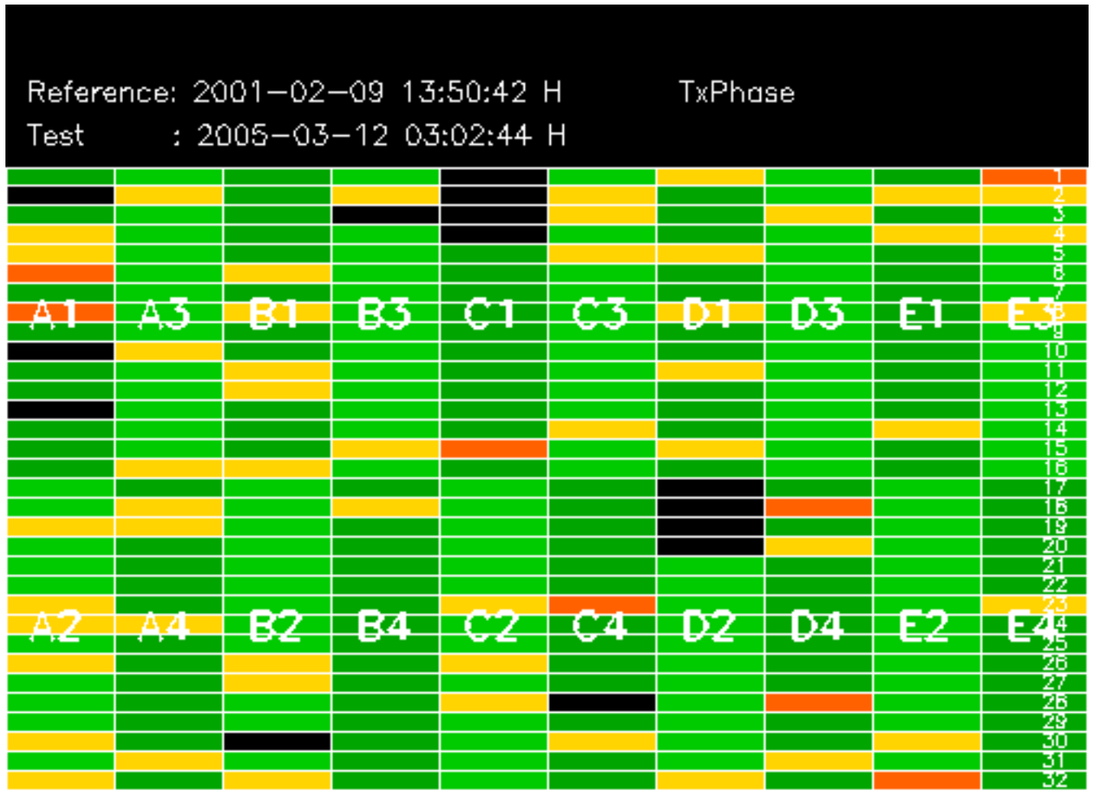
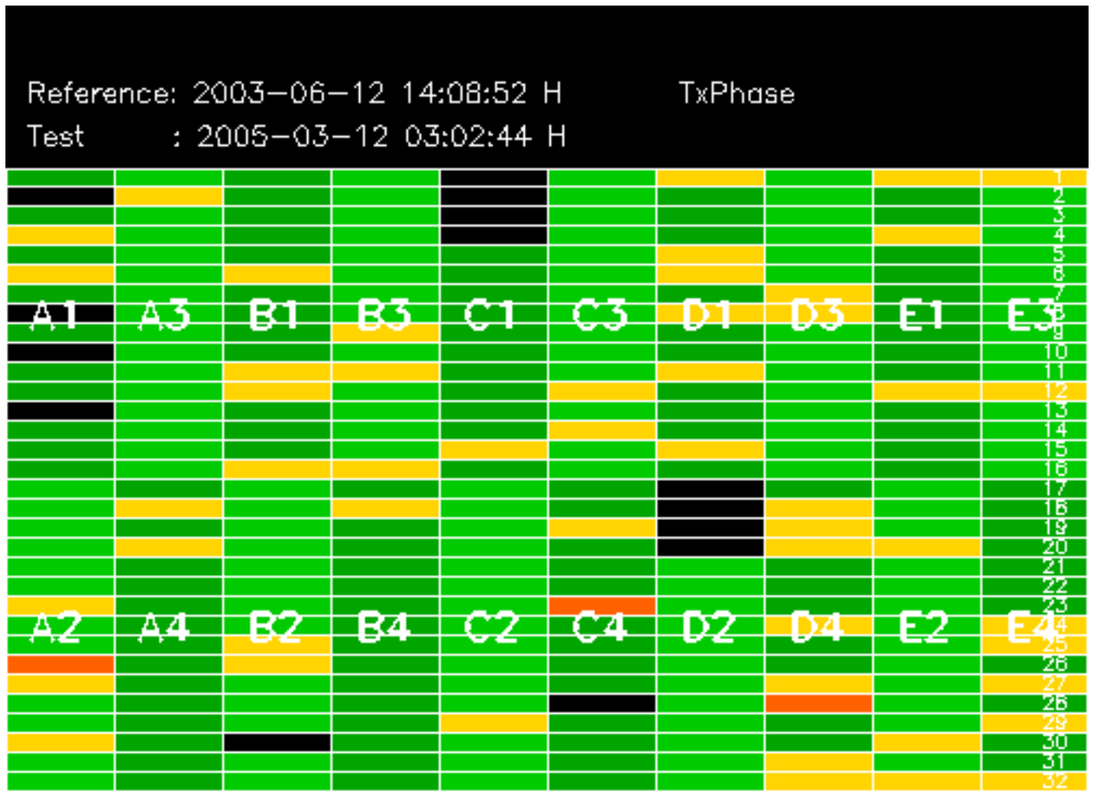
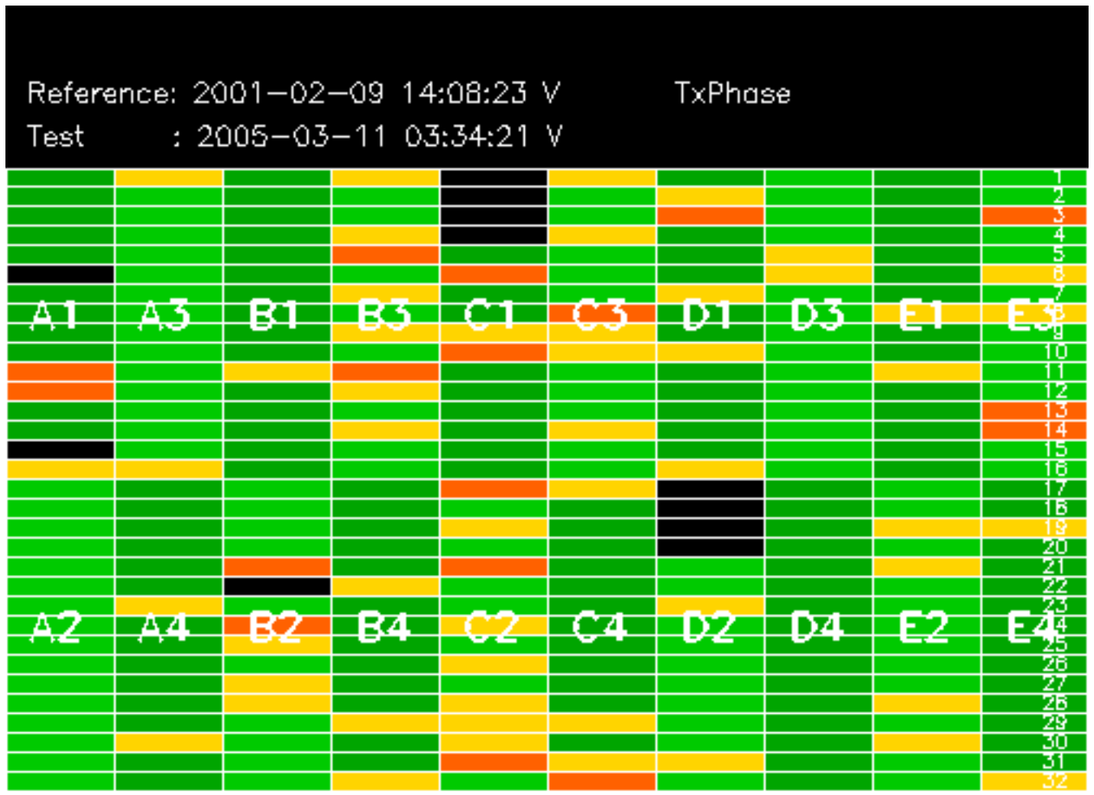
Summary of analysis for the last 3 days 2005031[123]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_IMM_1PNPDE20050311_004255_000001512035_00245_15830_4465.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_WVS_1PNPDK20050311_130608_000000002035_00253_15838_6778.N1 </td> <td>1 </td> <td>0 </td></tr>
</table>


num_gaps
1
0.8
0.6
0.4
0.2
0
15830
15840
15850
15860
15870
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
1
0.5
0
-0.5
-1
15830
15840
15850
15860
15870
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 : 2005-03-12 03:02:44 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 : 2005-03-12 03:02:44 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2005-03-11 03:34:21 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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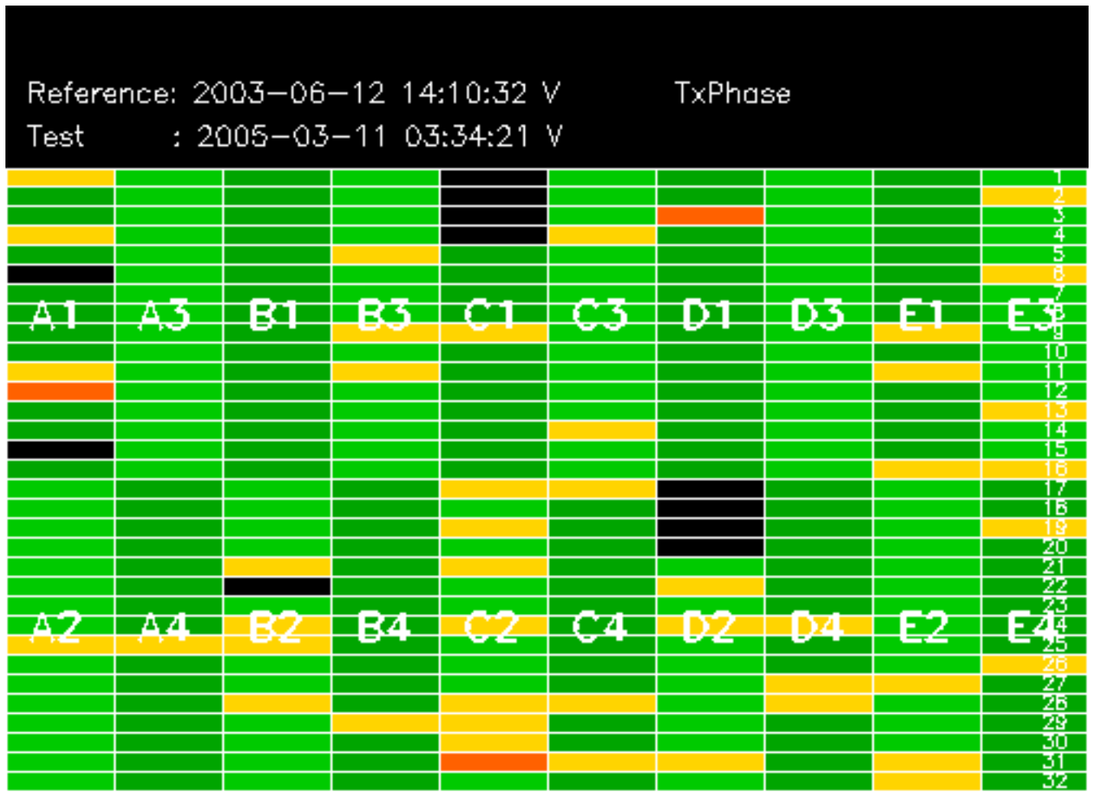
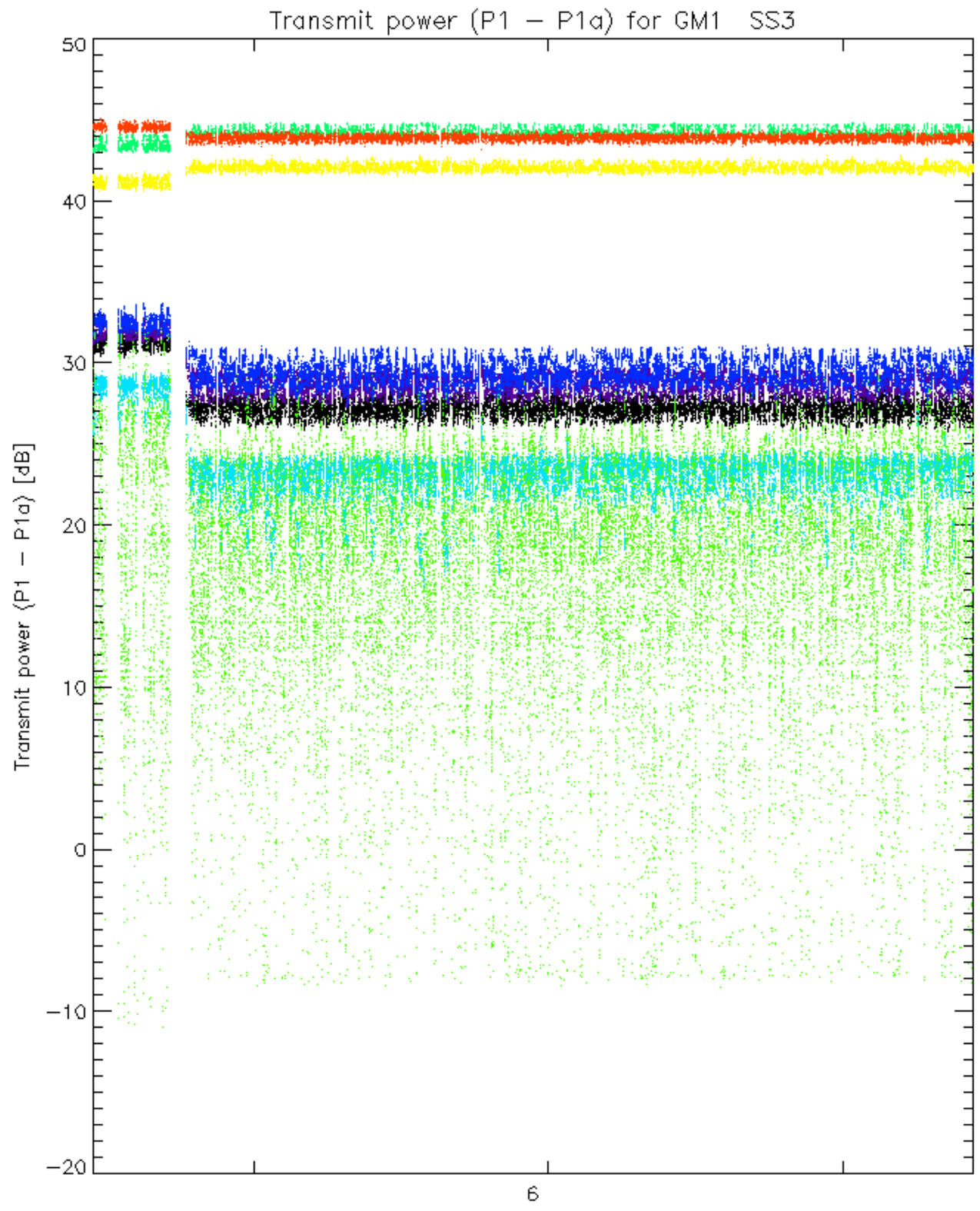
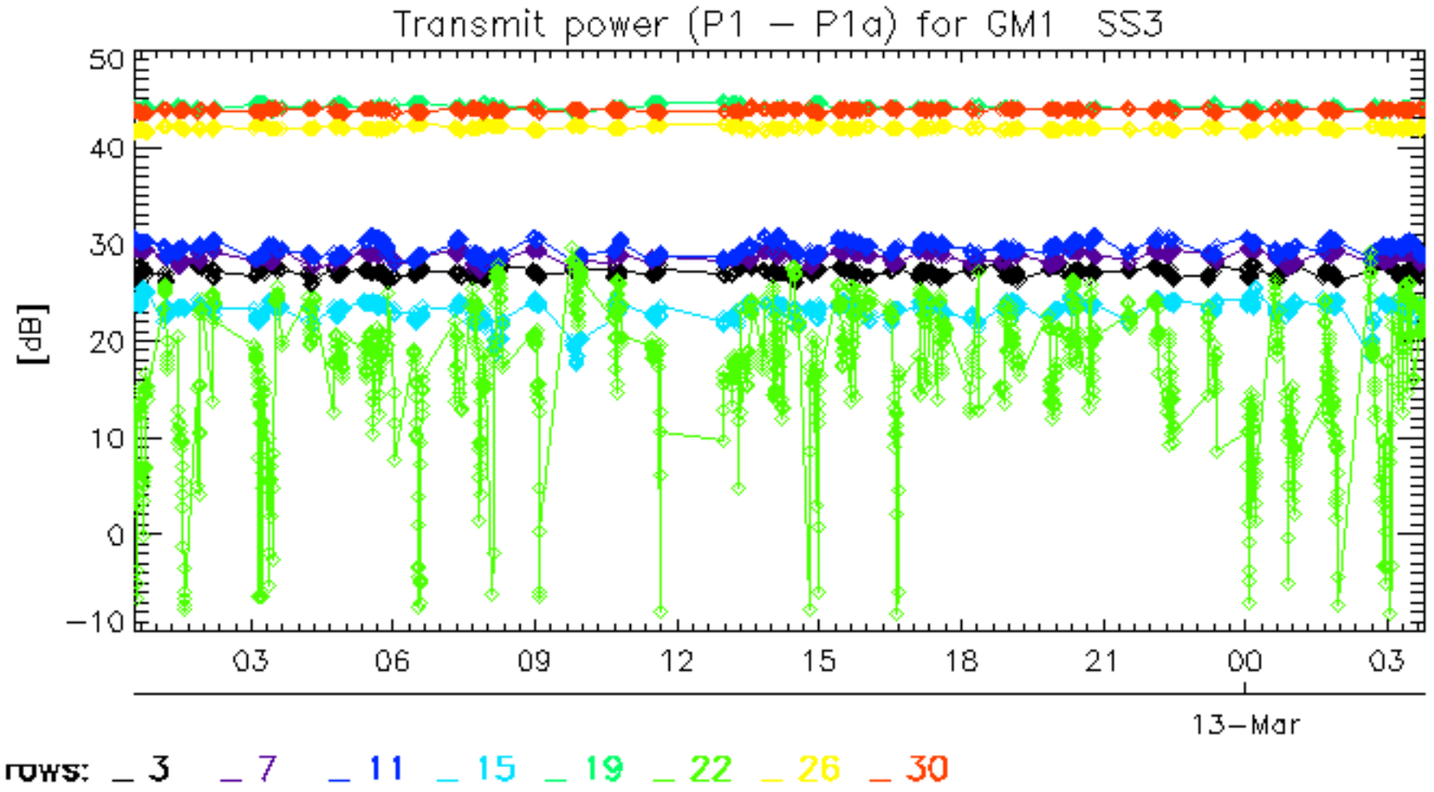
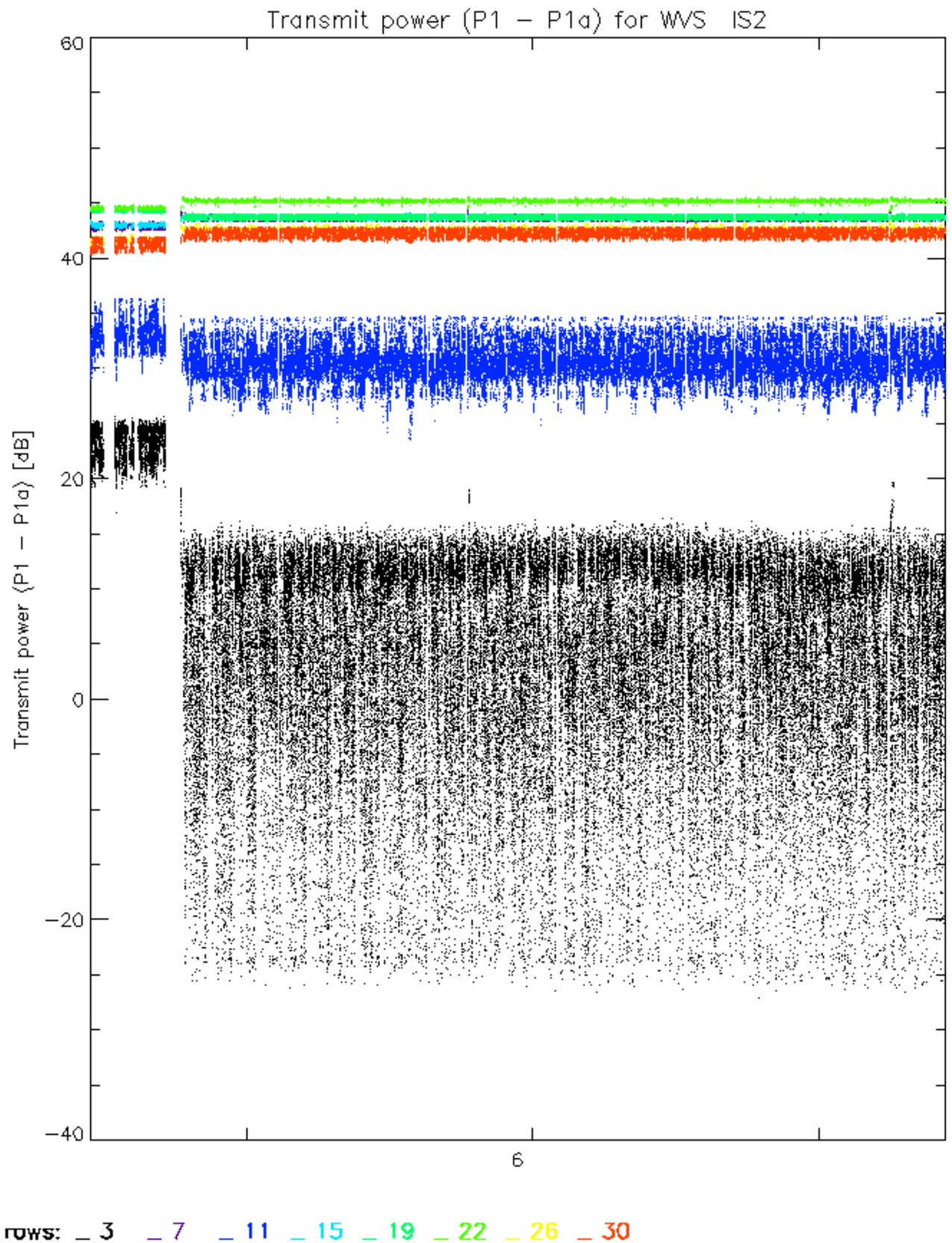
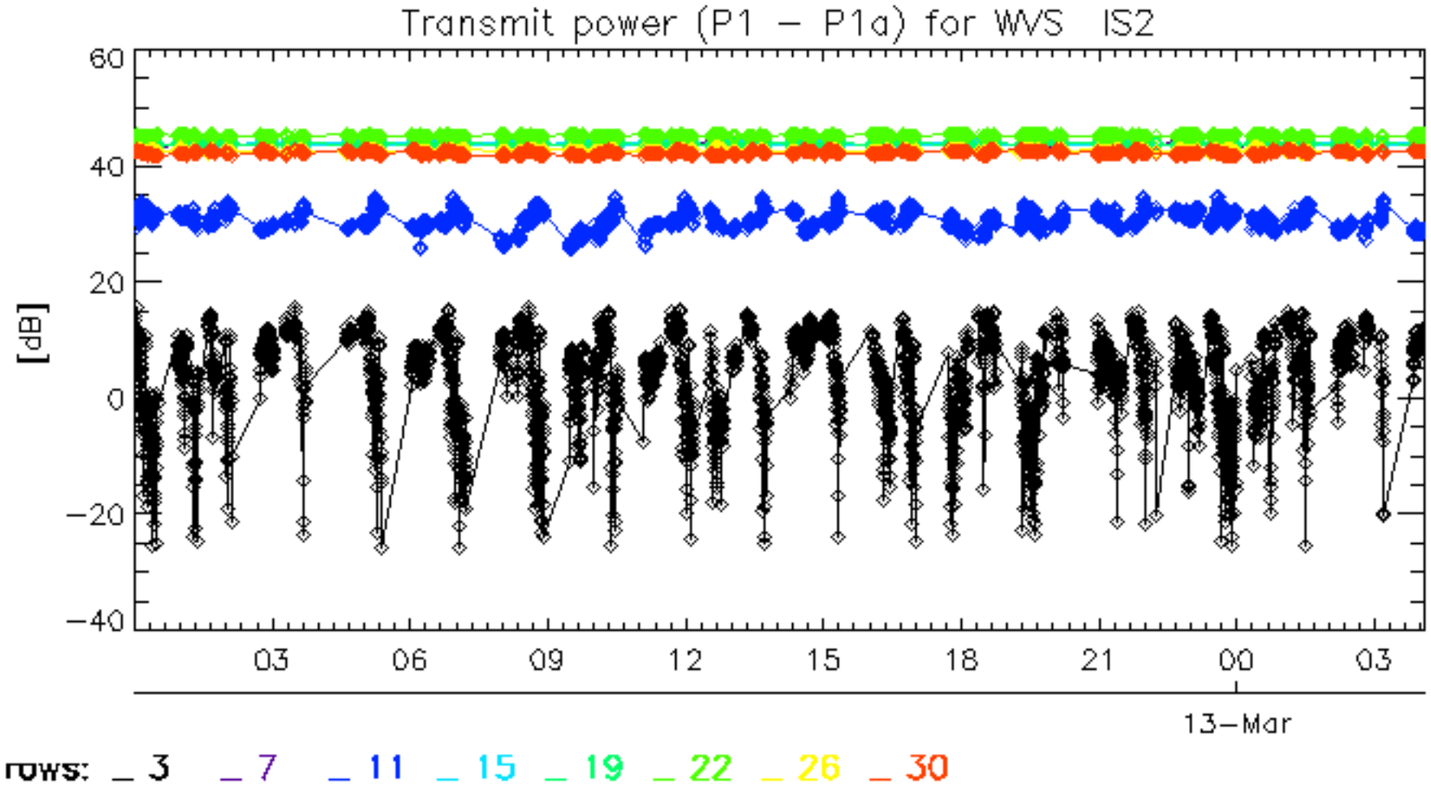

Reference: 2003-06-12 14:10:32 V
Test : 2005-03-11 03:34:21 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Transmit power (P1 – P1a) for GM1 SS3
Transmit power ⟨P1 – P1a⟩ [dB]
50
40
30
20
10
0
−10
−20
6
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–Mar
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 − P1a) for WVS IS2
60
40
20
0
−20
−40
Transmit power ⟨P1 − P1a⟩ [dB]
6
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
13–Mar
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

No unavailabilities during the reported period.