PRELIMINARY REPORT OF 050325

last update on Fri Mar 25 10:50:02 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 2005-03-24 00:00:00 to 2005-03-25 10:50:02

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

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	5	5	0	1	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	27	42	3	5	2
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	27	42	3	5	2
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	22	37	3	4	2
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	27	42	3	5	2

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	16	14	0	1	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	41	43	4	1	5
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	41	43	4	1	5
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	25	29	4	0	5
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	41	43	4	1	5

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	20050324 100807
H	20050323 071832

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

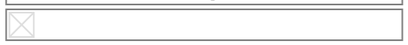
4.1.2 - Evolution for GM1

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	-3.353677	0.013691	0.065876
7	P1	-3.098329	0.008152	-0.025967
11	P1	-4.686176	0.029402	0.059460
15	P1	-5.644954	0.036738	0.061026
19	P1	-3.685186	0.003703	-0.019998
22	P1	-4.516738	0.012372	-0.004058
26	P1	-4.942475	0.016932	0.039356
30	P1	-7.193411	0.018060	-0.007820
3	P1	-15.901599	0.326186	0.368593
7	P1	-15.519958	0.065462	0.025697
11	P1	-20.961880	0.447422	0.083486
15	P1	-11.582003	0.048159	-0.032755
19	P1	-14.299723	0.023684	-0.049437
22	P1	-15.641782	0.308527	-0.011118
26	P1	-17.606522	0.207567	-0.039026
30	P1	-17.982708	0.453361	0.026880

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.085203	0.082424	0.067704
7	P2	-22.271446	0.094352	0.070969
11	P2	-14.387421	0.106641	0.224535
15	P2	-7.043117	0.090970	0.010611
19	P2	-9.631334	0.093448	0.014898
22	P2	-16.914696	0.092962	0.052834
26	P2	-16.443926	0.091885	0.017591
30	P2	-18.853619	0.082831	0.068666

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.165411	0.004926	0.008153
7	P3	-8.165411	0.004926	0.008153
11	P3	-8.165411	0.004926	0.008153
15	P3	-8.165411	0.004926	0.008153
19	P3	-8.165411	0.004926	0.008153
22	P3	-8.165411	0.004926	0.008153
26	P3	-8.165411	0.004926	0.008153
30	P3	-8.165411	0.004926	0.008153

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	-2.713843	0.025809	0.083064
7	P1	-3.019575	0.048258	0.044522
11	P1	-3.982945	0.026590	0.053376
15	P1	-3.557290	0.034081	0.100720
19	P1	-3.596009	0.013163	-0.020444
22	P1	-5.744699	0.035329	0.042734
26	P1	-7.291787	0.025106	0.003722
30	P1	-6.229489	0.046073	-0.000723
3	P1	-10.711133	0.171841	0.210968
7	P1	-10.327315	0.175247	0.014189
11	P1	-12.535684	0.136797	0.137939
15	P1	-11.741581	0.101219	0.165562
19	P1	-15.566724	0.043867	-0.007795
22	P1	-24.537407	1.177682	-0.354397

26	P1	-15.487965	0.173905	-0.049148
30	P1	-20.217646	1.169799	-0.071307

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.791729	0.033654	0.086161
7	P2	-22.355568	0.038010	0.091706
11	P2	-10.164799	0.050403	0.178991
15	P2	-4.981988	0.022088	-0.010258
19	P2	-6.830936	0.033089	0.011664
22	P2	-7.093478	0.031089	0.063056
26	P2	-23.849829	0.028182	0.020806
30	P2	-21.895721	0.033451	0.034602

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.998539	0.002810	0.010246
7	P3	-7.998552	0.002815	0.010005
11	P3	-7.998463	0.002836	0.010333
15	P3	-7.998559	0.002829	0.010663
19	P3	-7.998475	0.002834	0.010229
22	P3	-7.998486	0.002816	0.009893
26	P3	-7.998497	0.002824	0.010305
30	P3	-7.998473	0.002830	0.010278

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	0.000452859
	stdev	2.27310e-07
MEAN Q	mean	0.000481639
	stdev	2.36565e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127903
	stdev	0.00104749
STDEV Q	mean	0.128152
	stdev	0.00105886

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005032[345]
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_1PNPDK20050323_130209_000000812035_00425_16010_1201.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

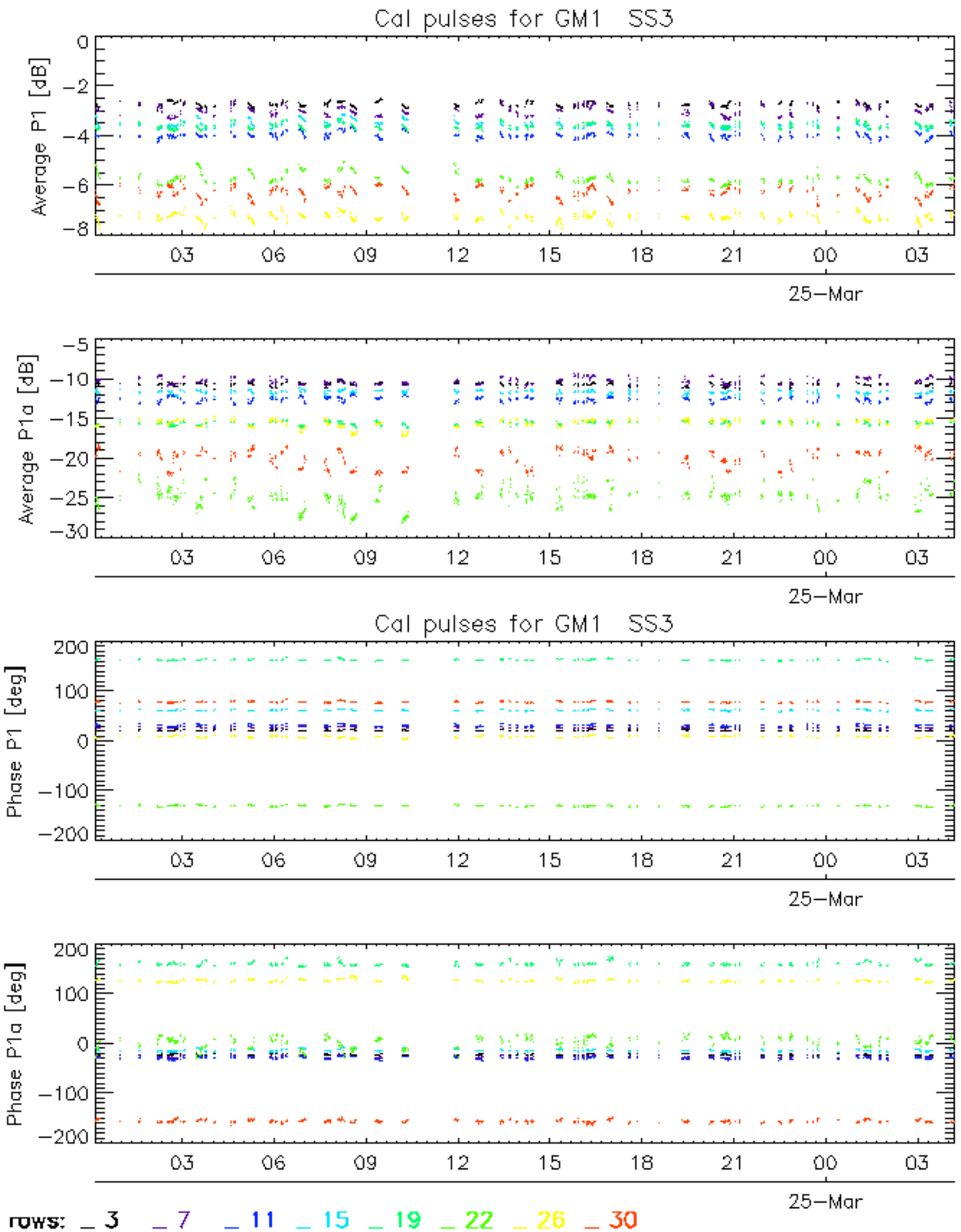
Descending

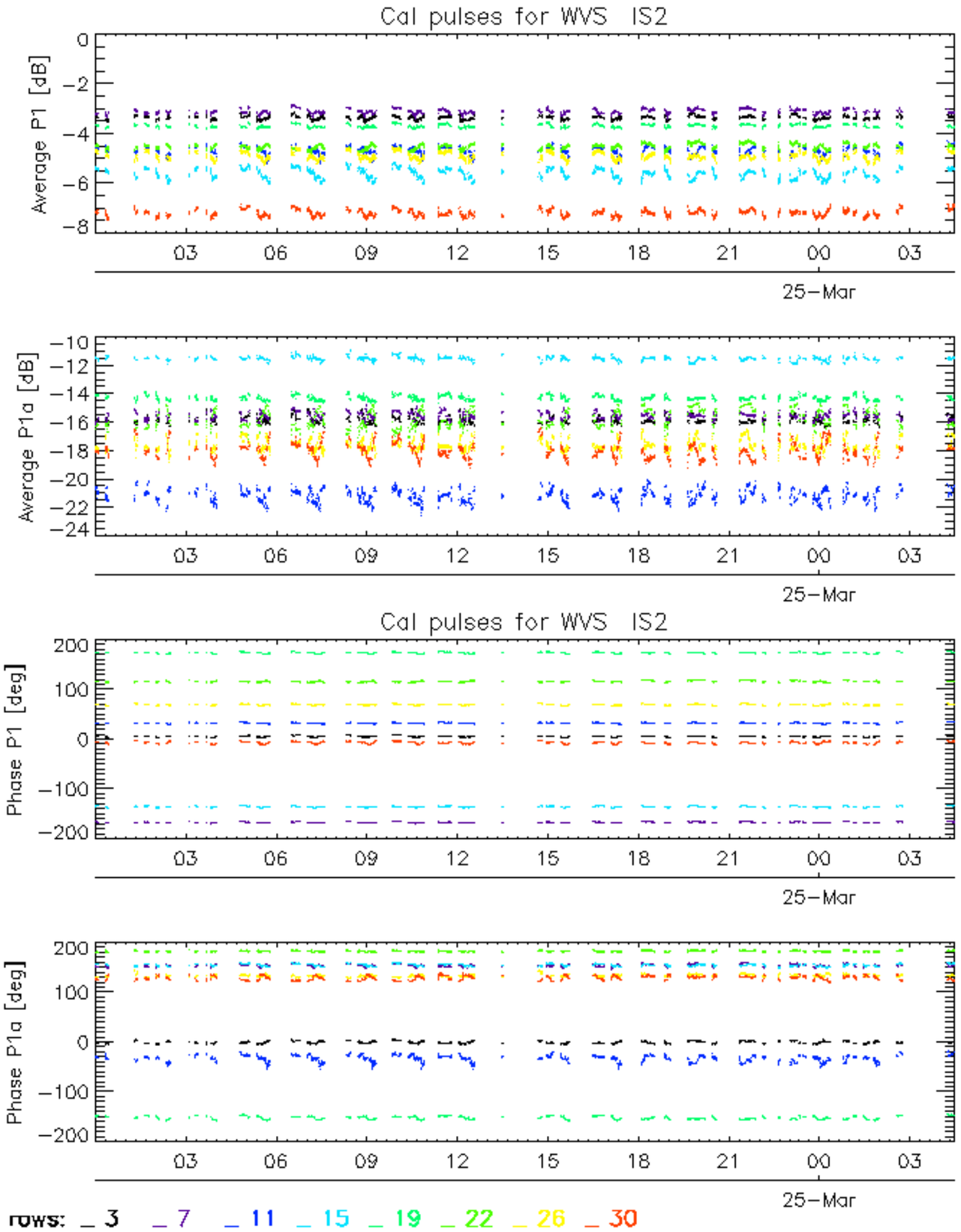
7.5 - Absolute Doppler for GM1

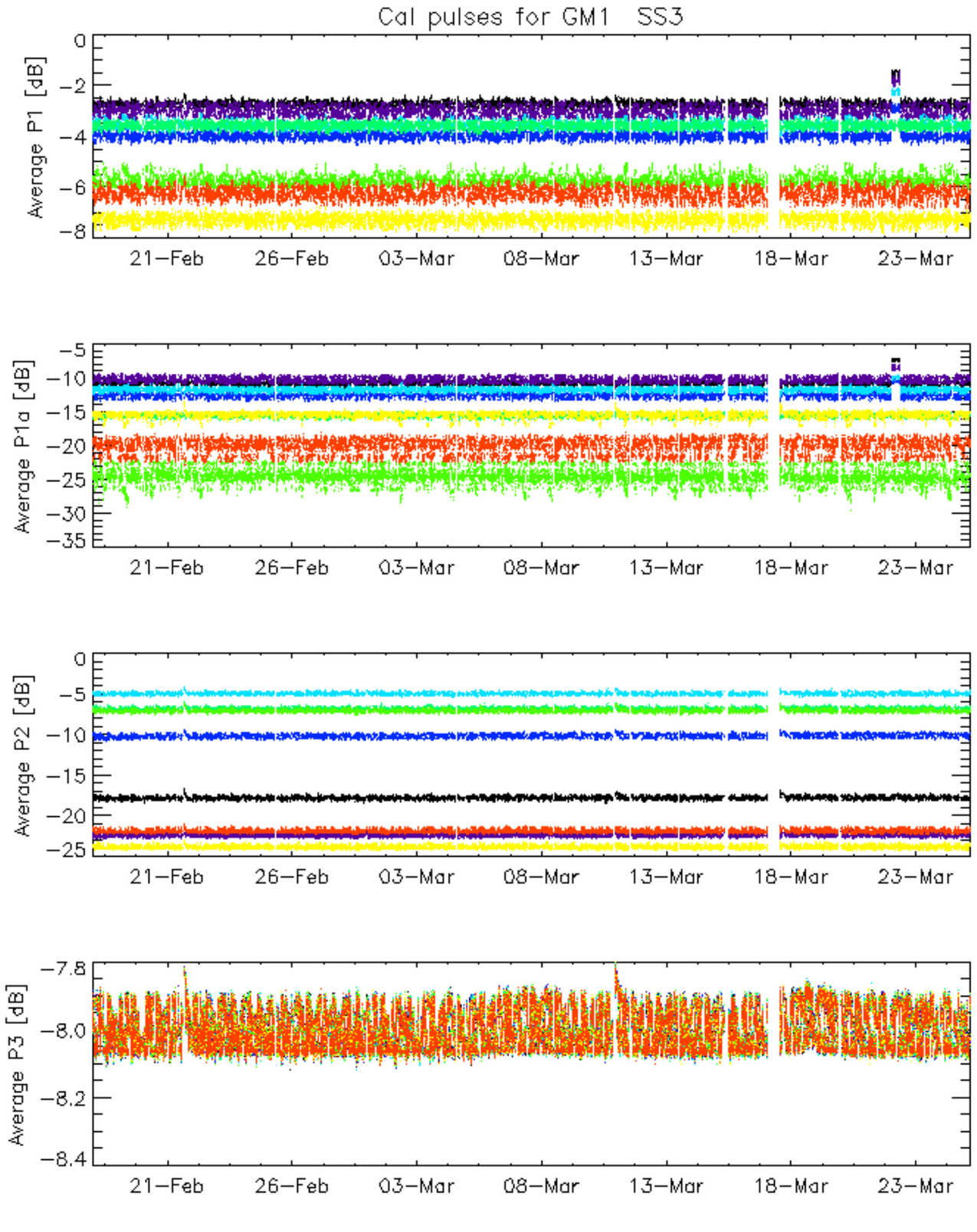
Evolution of Absolute Doppler
Acsending
Descending

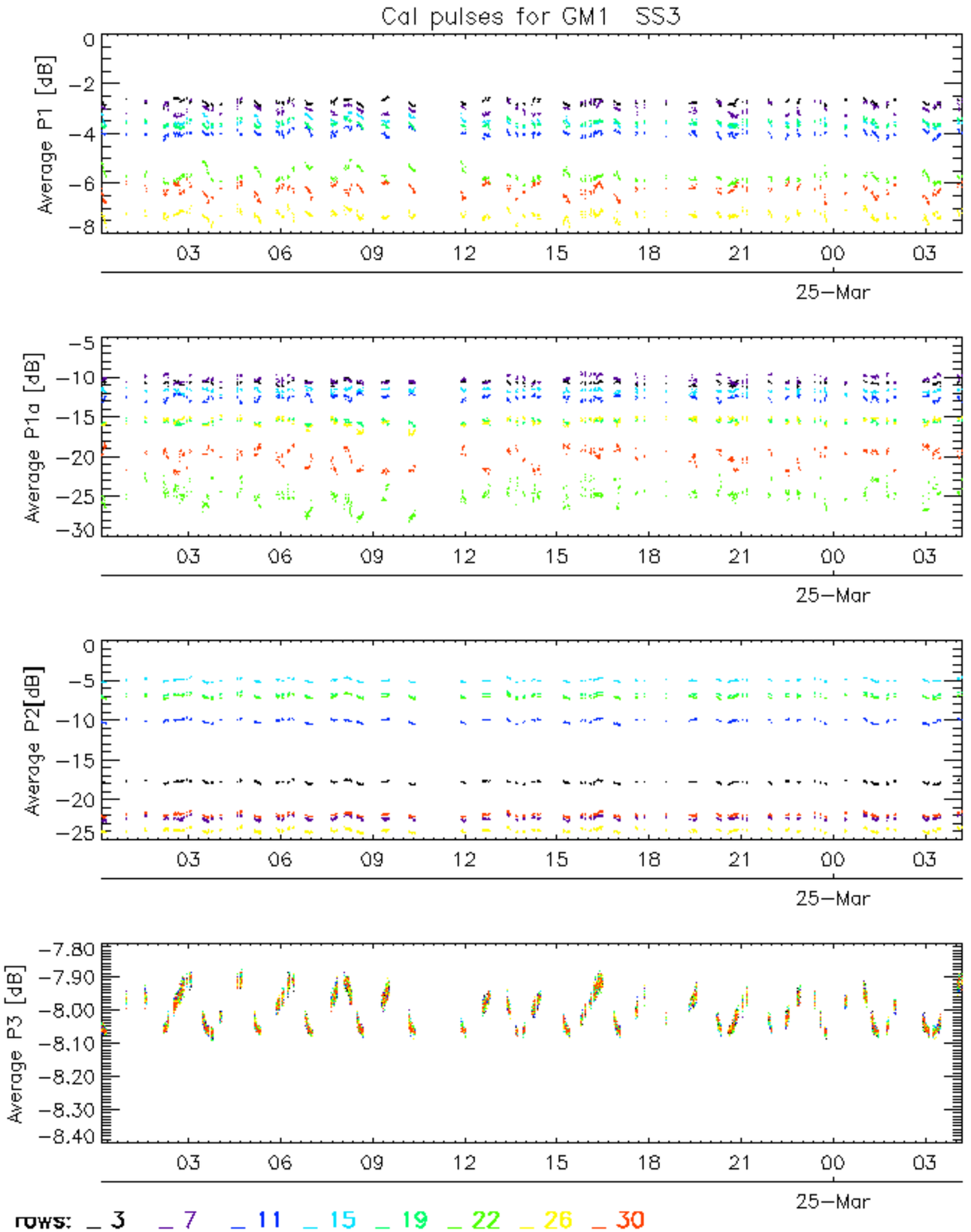
7.6 - Doppler evolution versus ANX for GM1

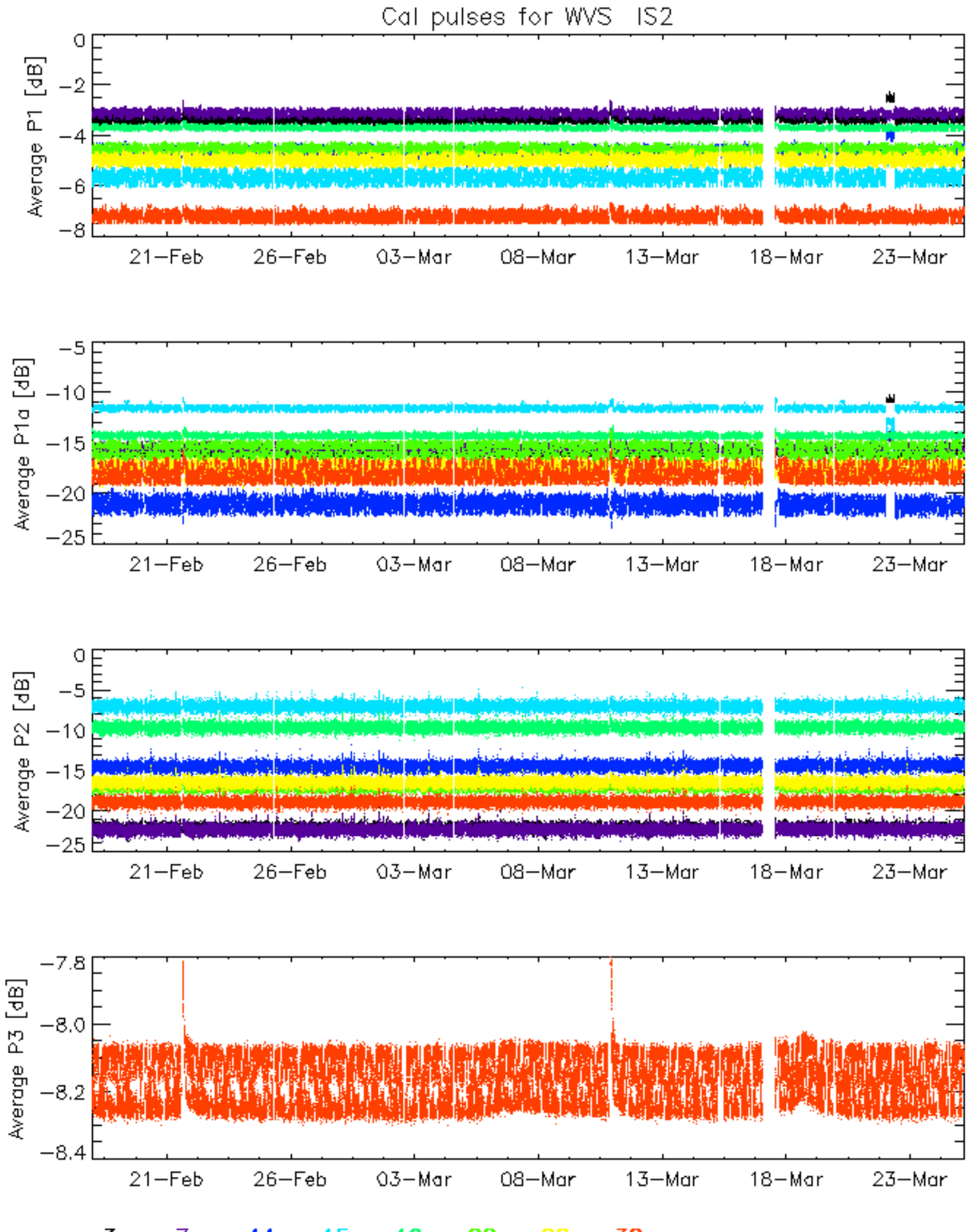
Evolution Doppler error versus ANX

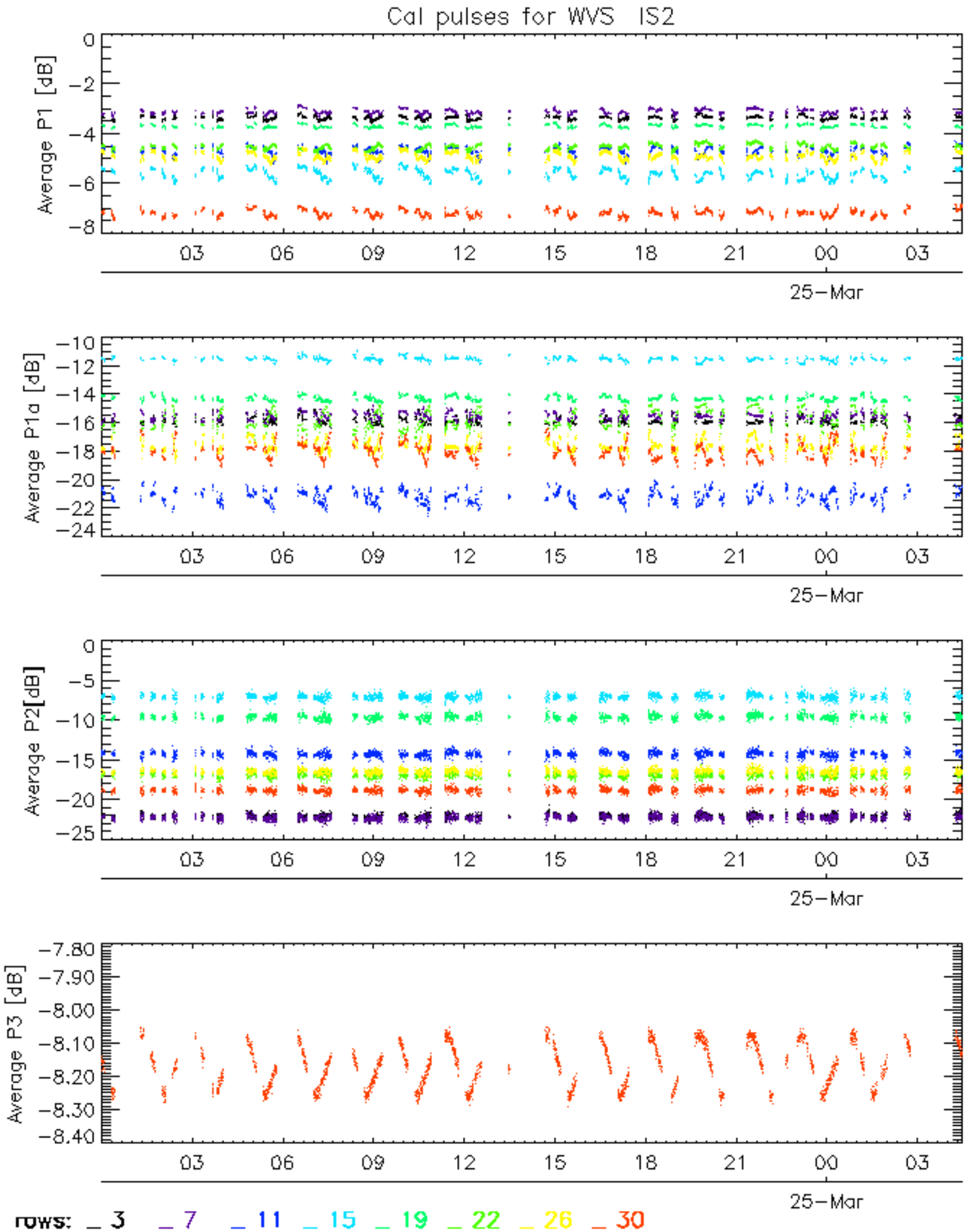

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
25−Mar
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
Phase P1a [deg]
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
25−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

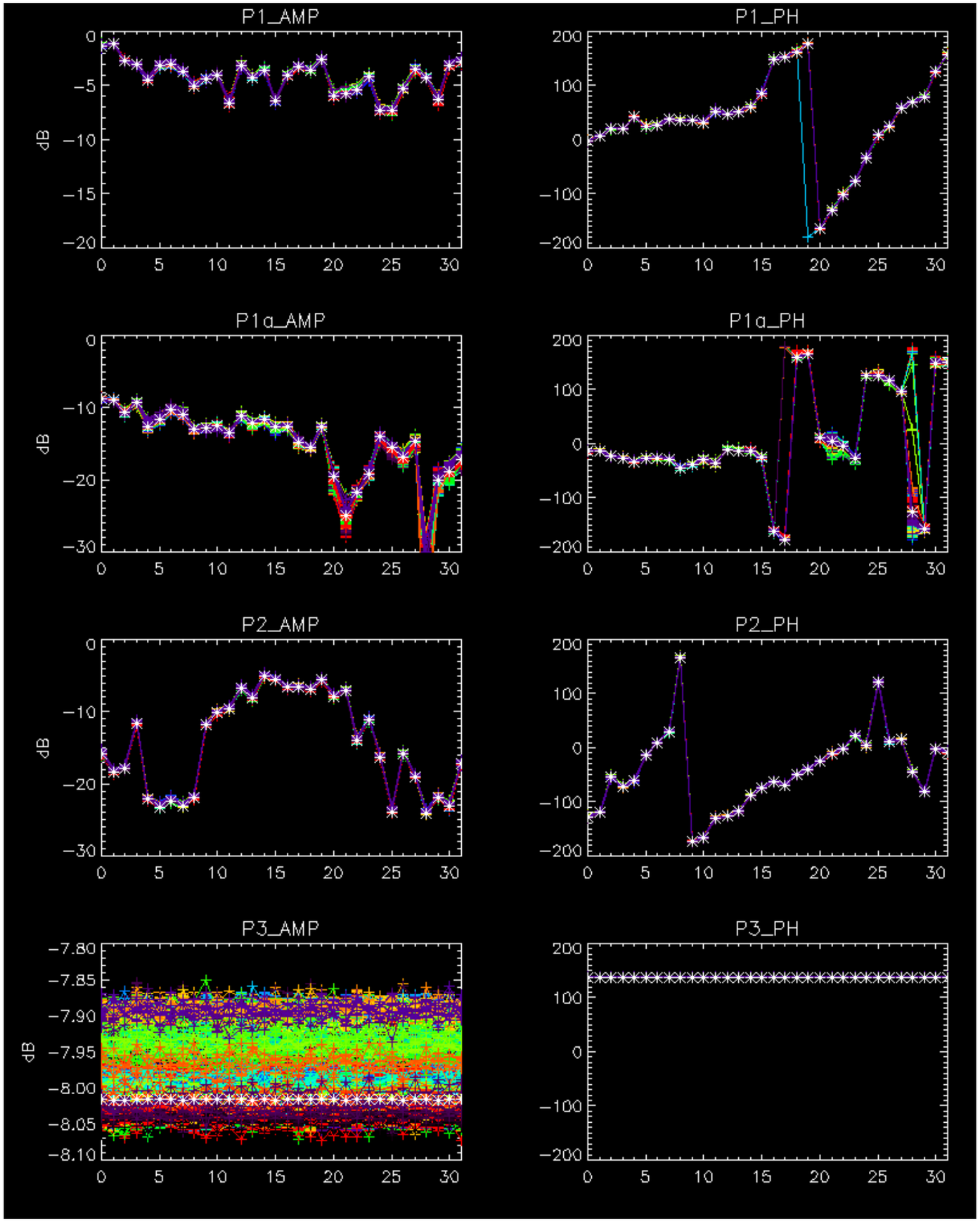

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
21−Feb
26−Feb
03−Mar
08−Mar
13−Mar
18−Mar
23−Mar
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

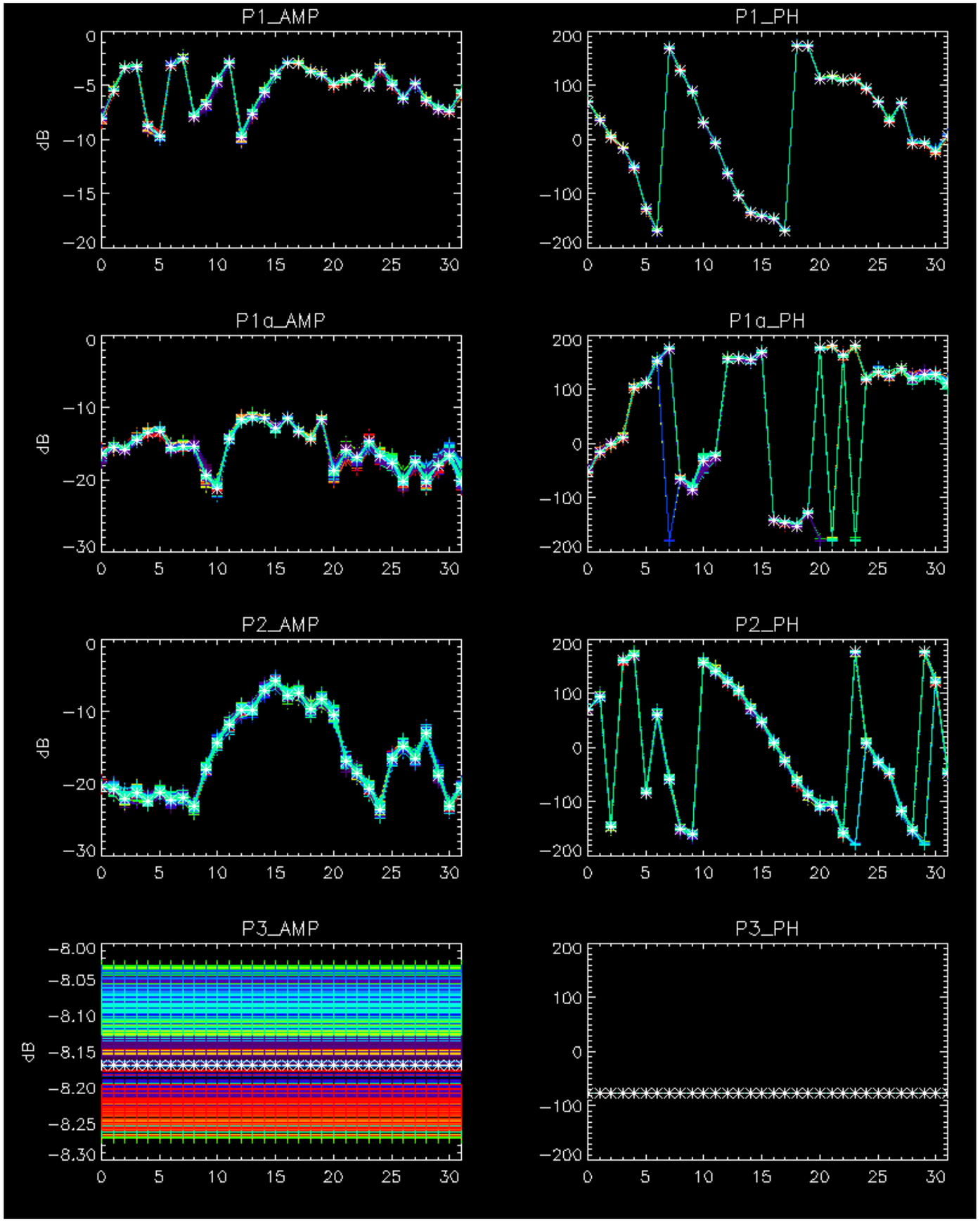

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
25−Mar
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
21−Feb
26−Feb
03−Mar
08−Mar
13−Mar
18−Mar
23−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
25−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

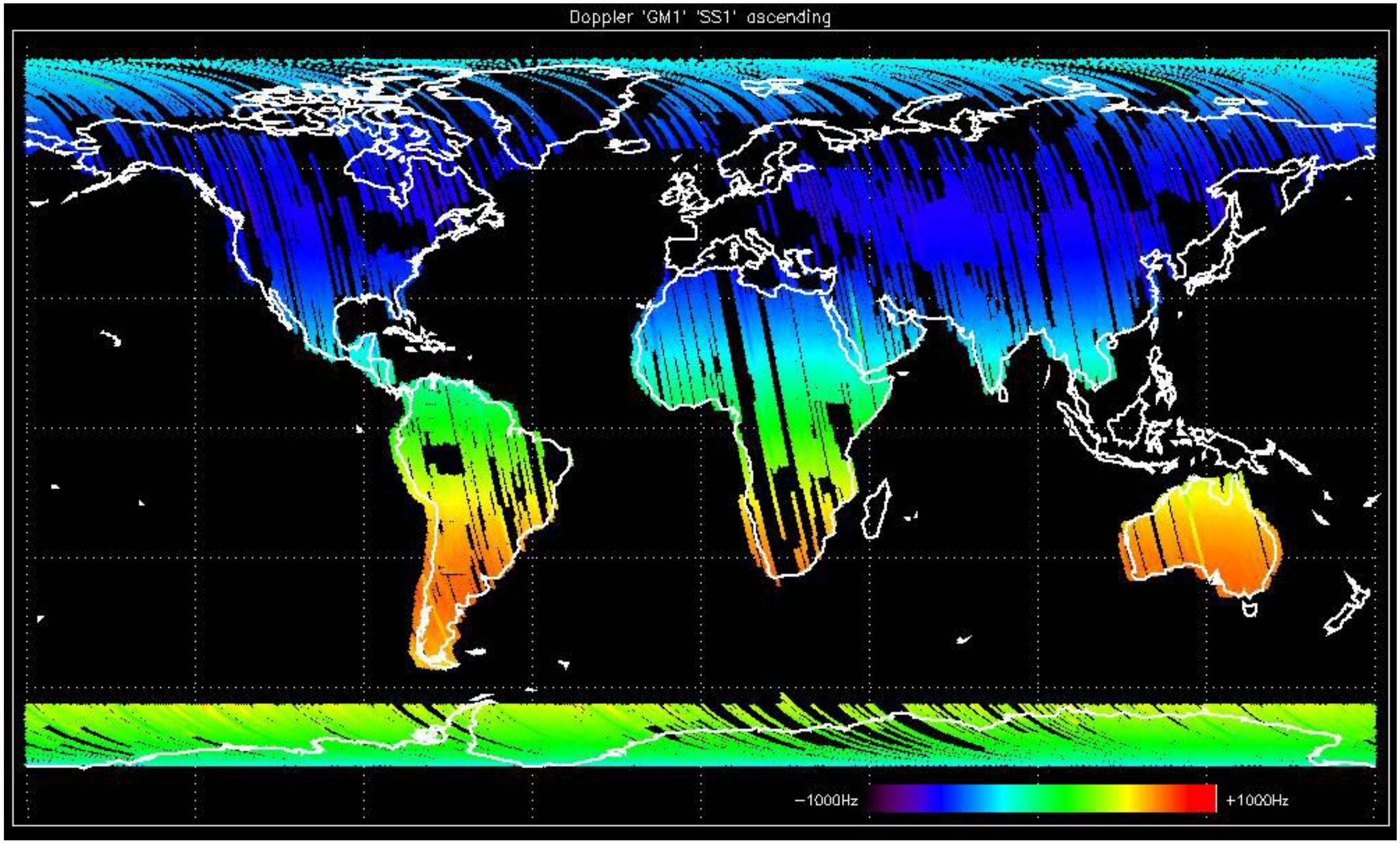
No anomalies observed.

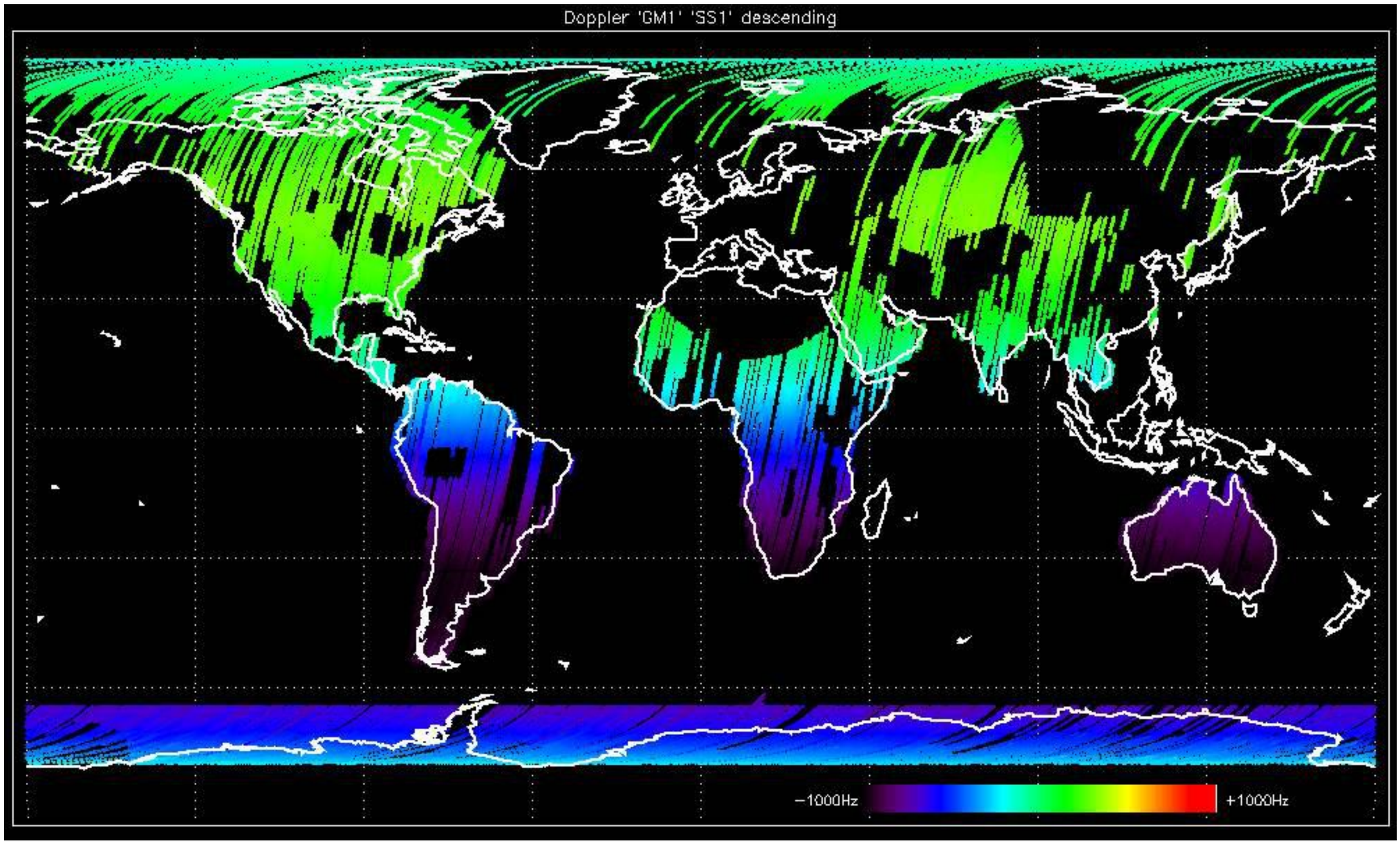

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.80
−7.85
−7.90
−7.95
−8.00
−8.05
−8.10
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

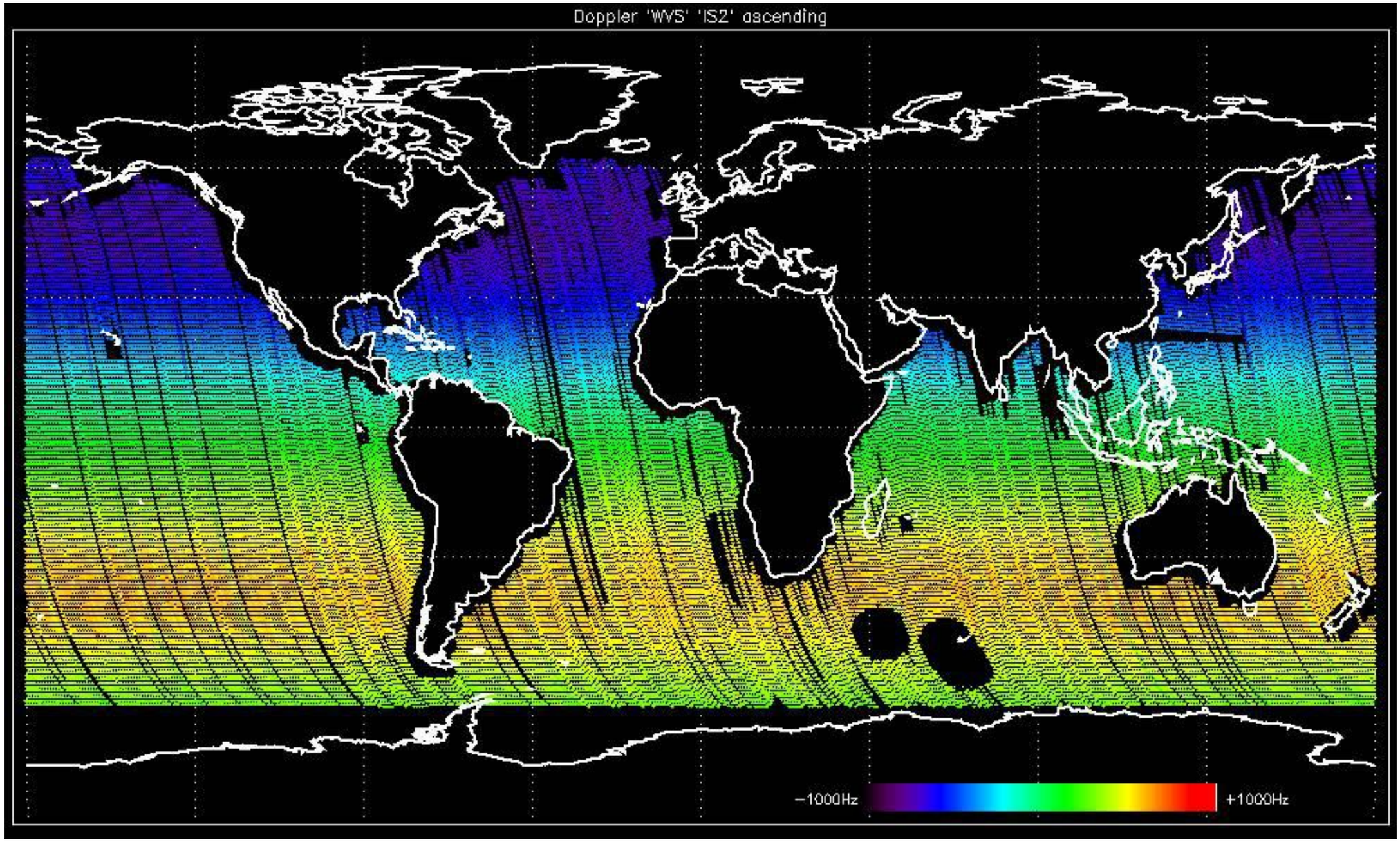

P1_AMP
P1_PH
P1a_AMP
P1a_PH
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

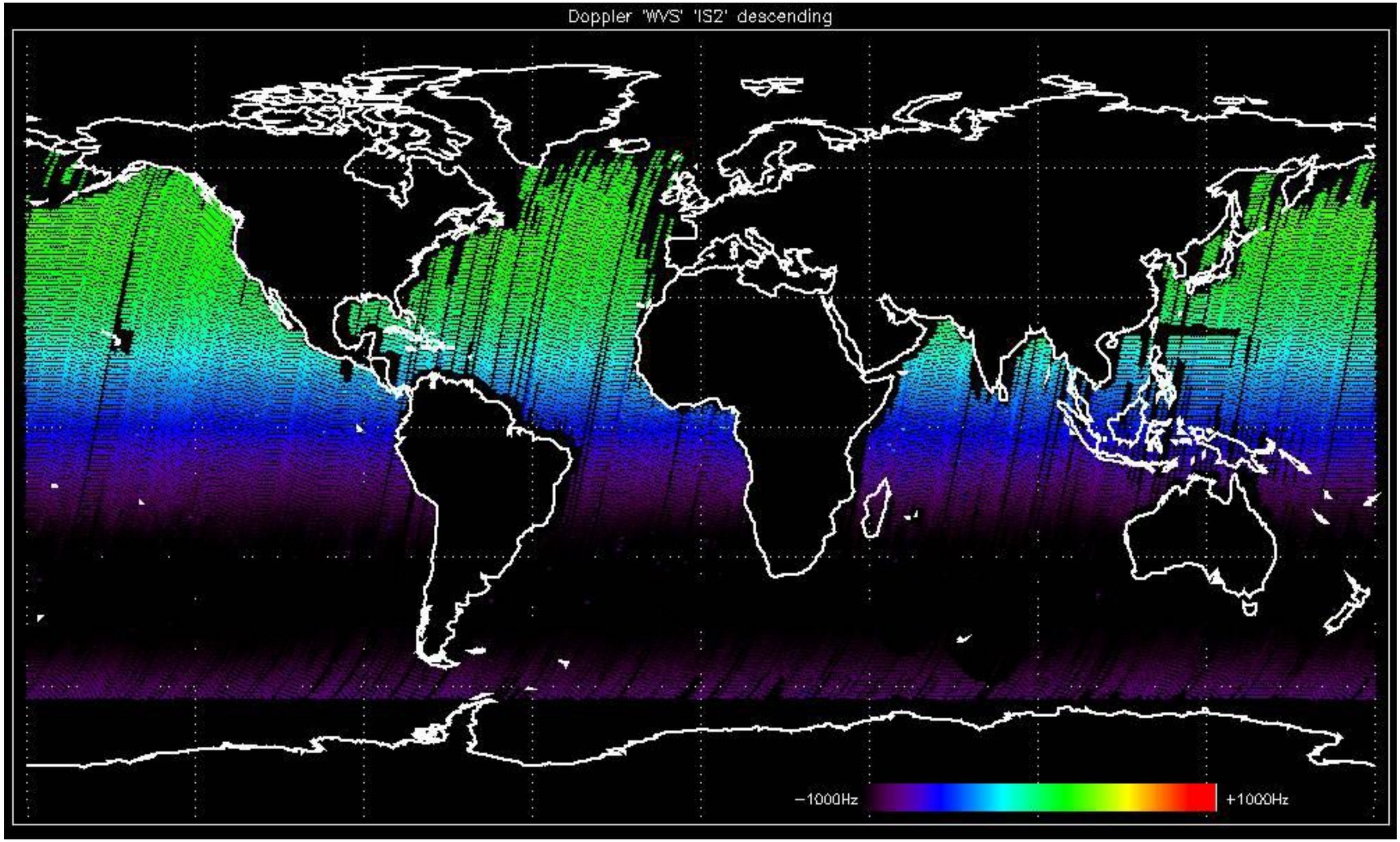
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

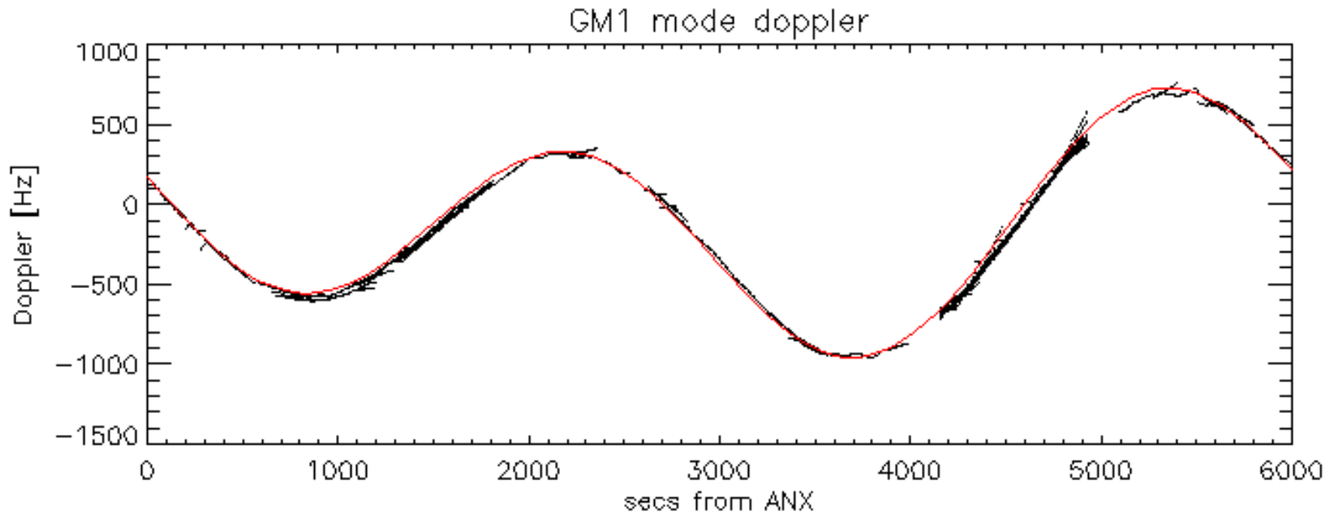
Preliminary report.The data is not yet controled

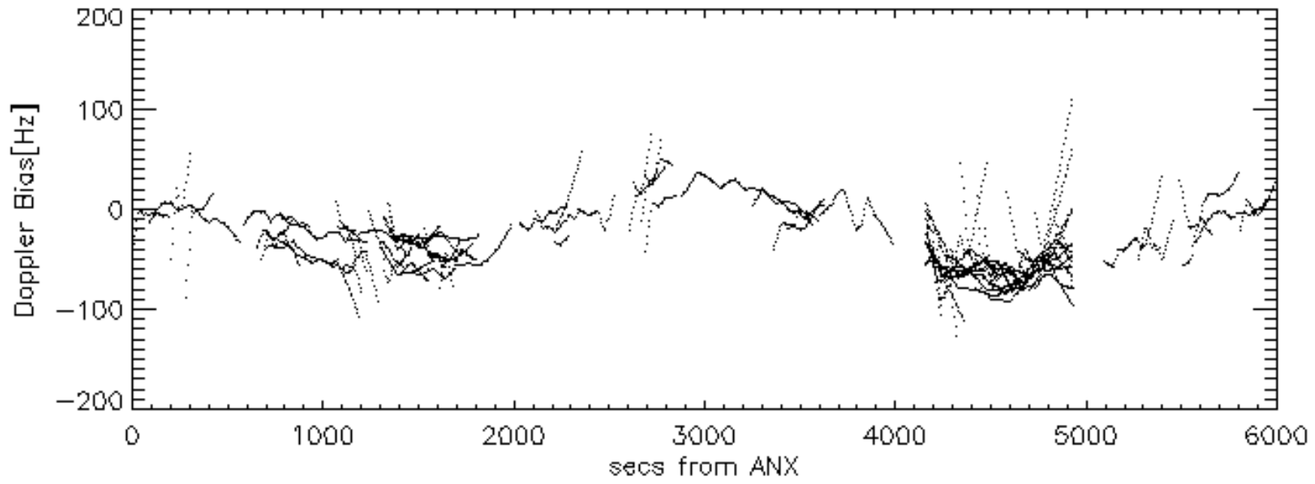

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

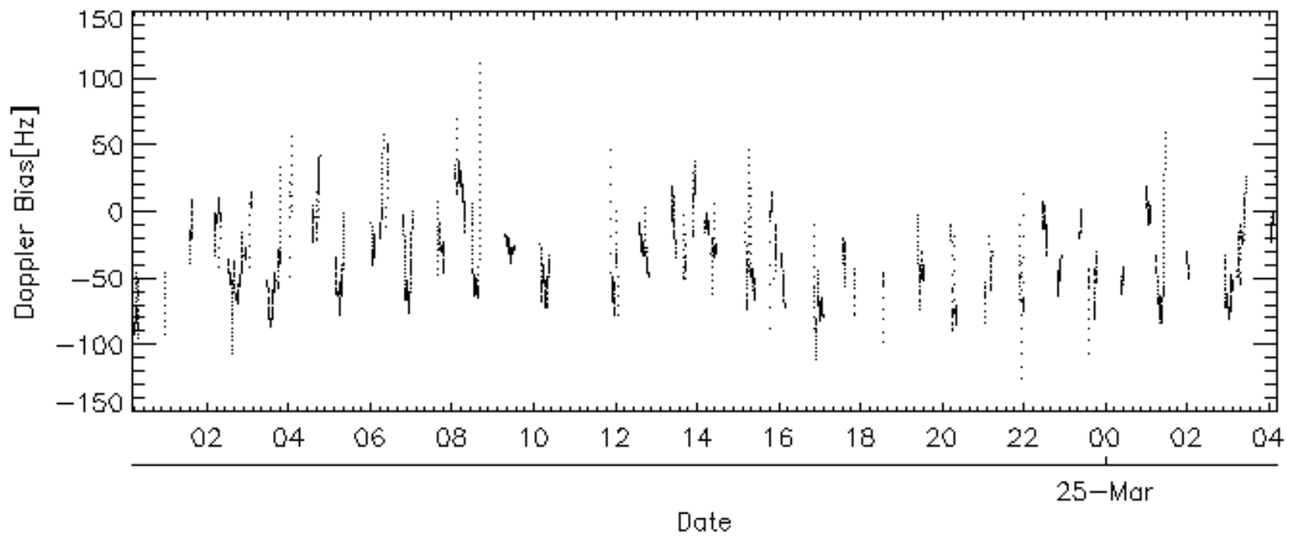

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

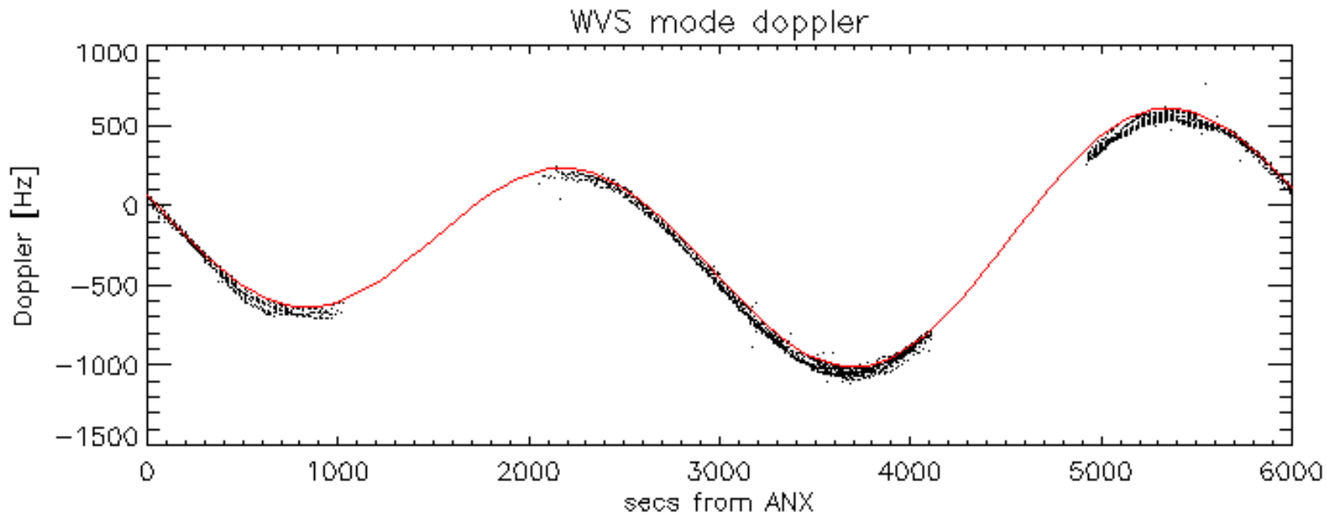

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

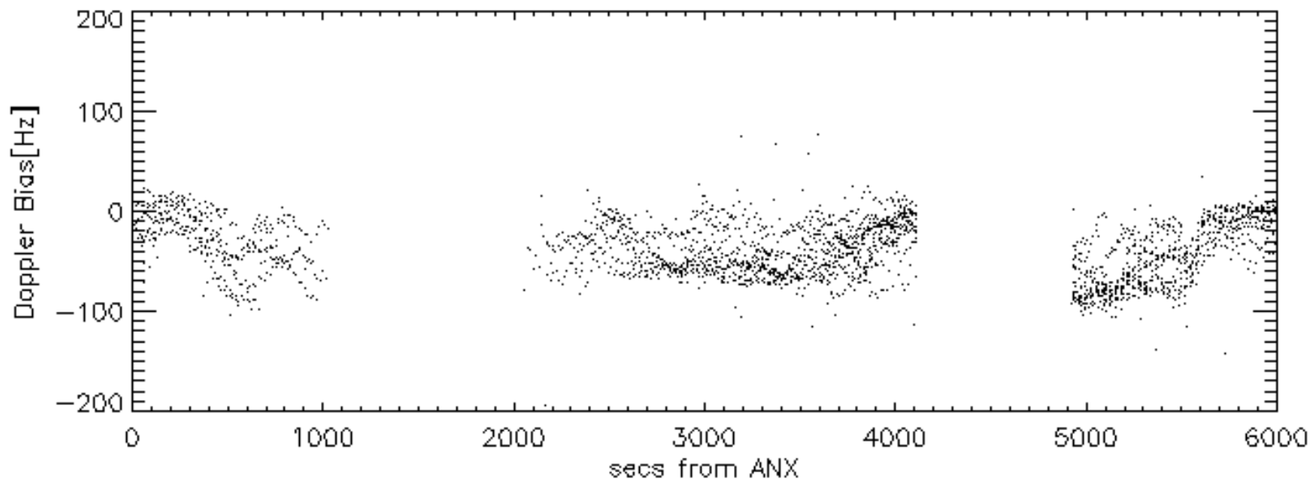

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

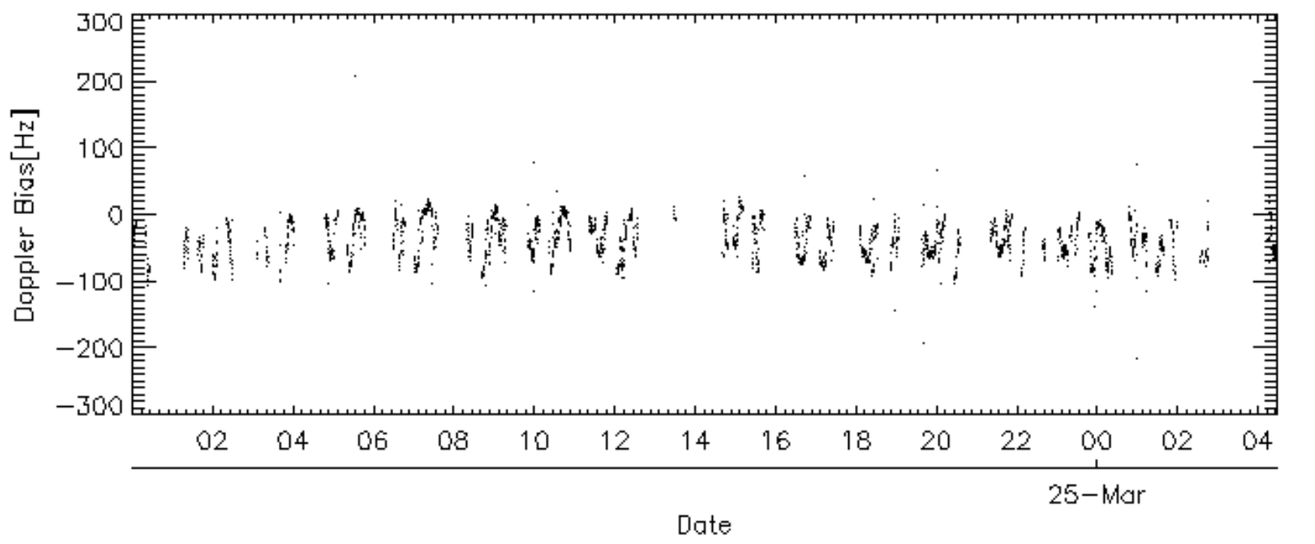

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

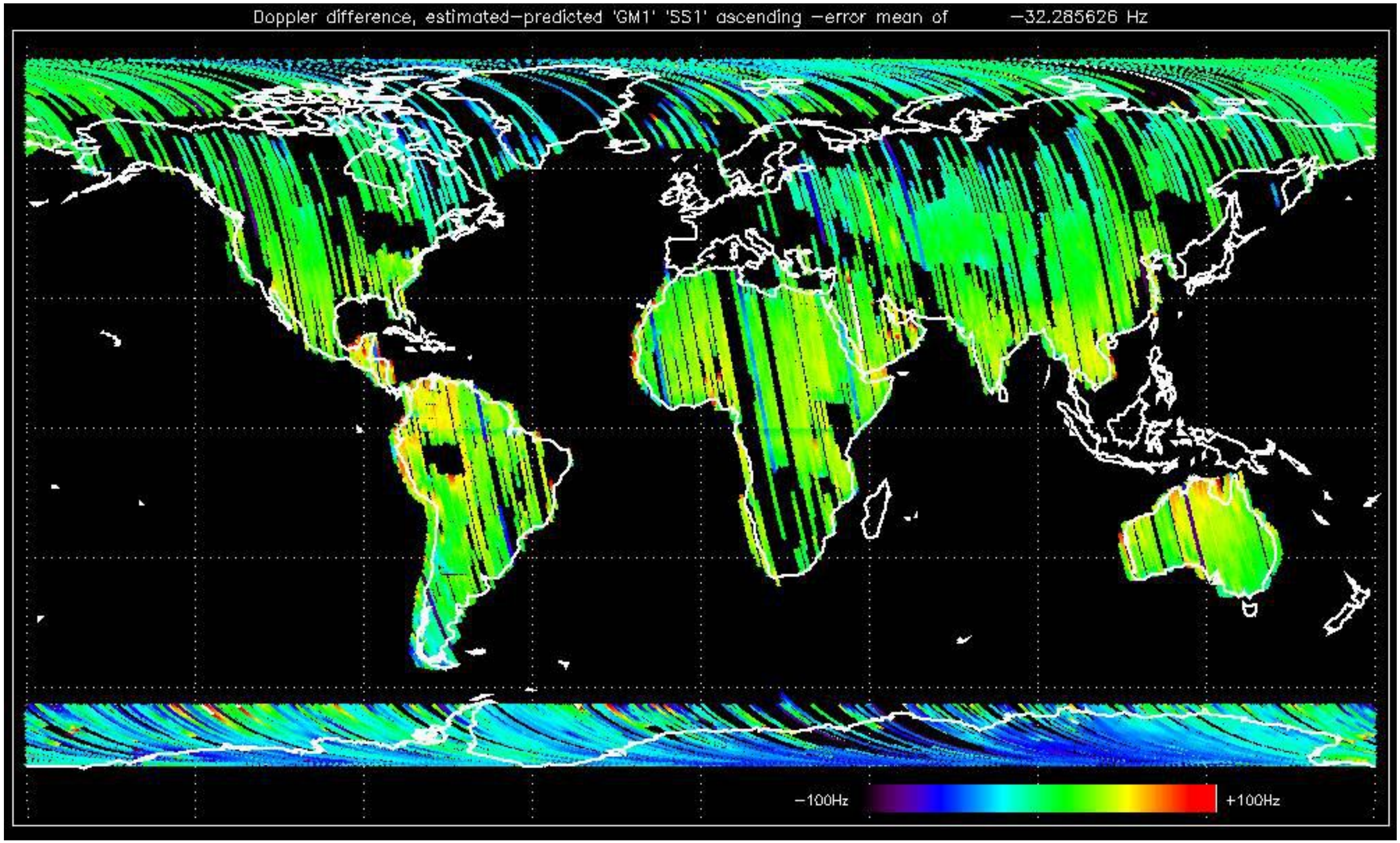

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

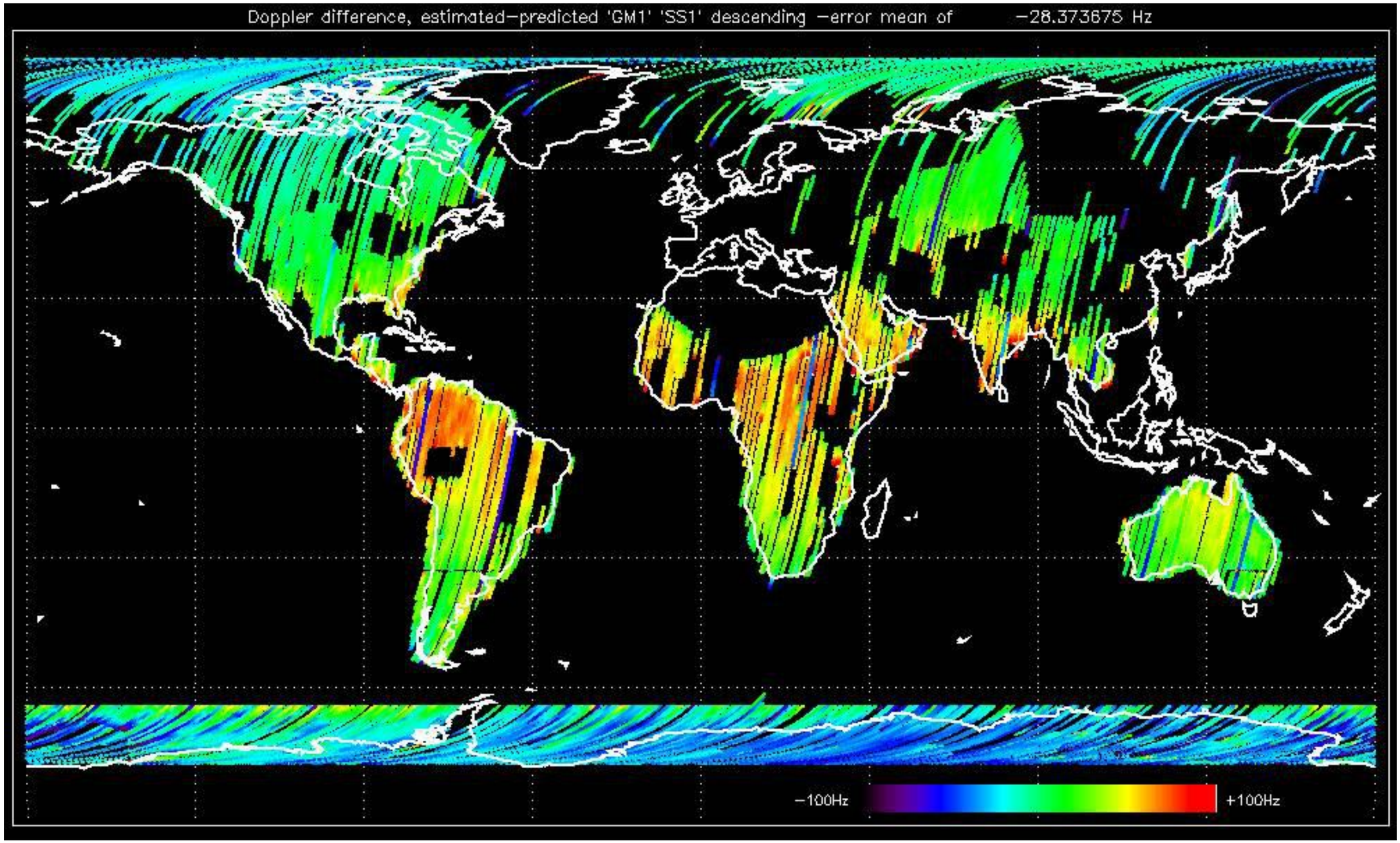

Doppler Bias[Hz]
150
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
04
25−Mar
Date

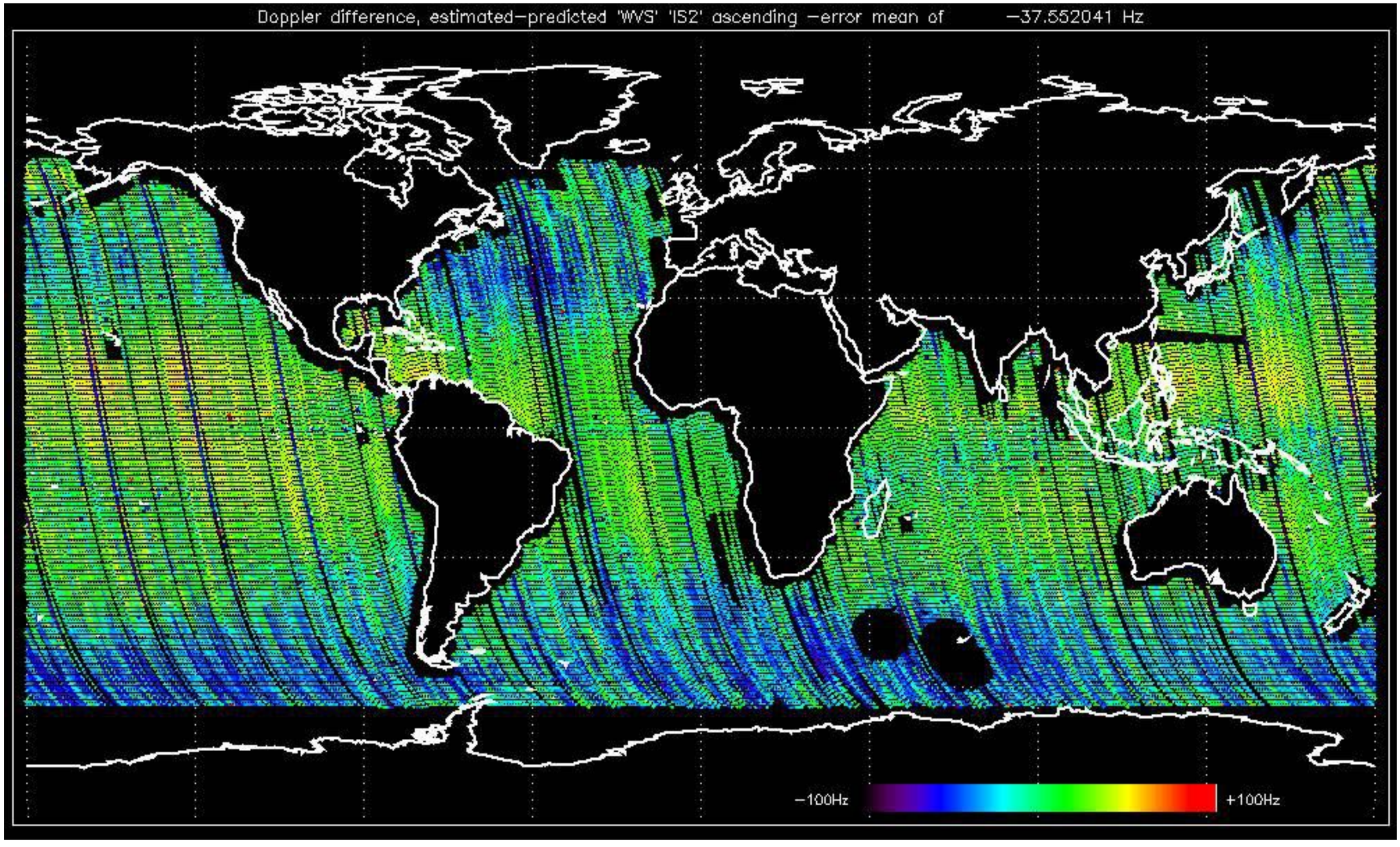

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

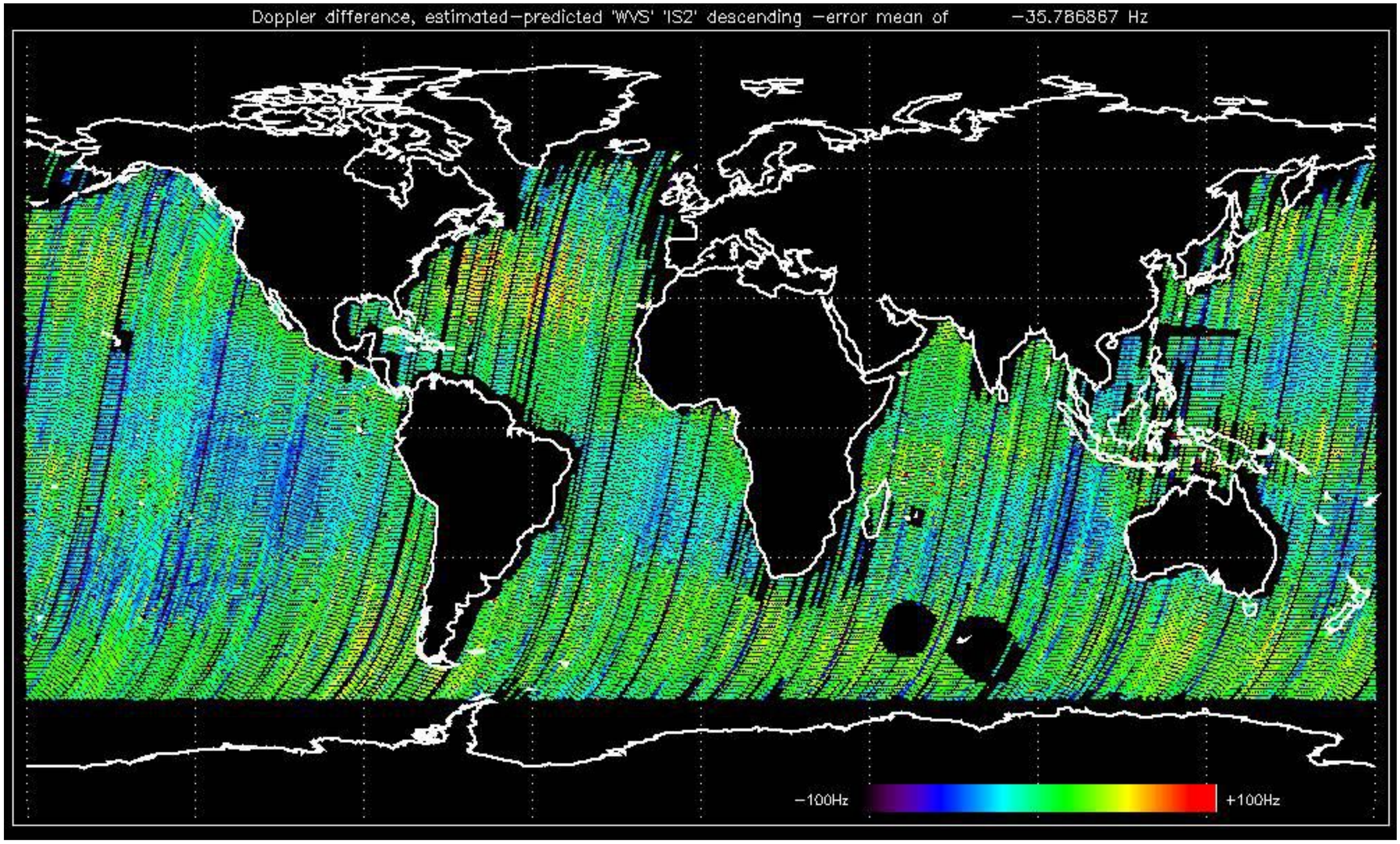

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −32.285626 Hz
−100Hz
+100Hz

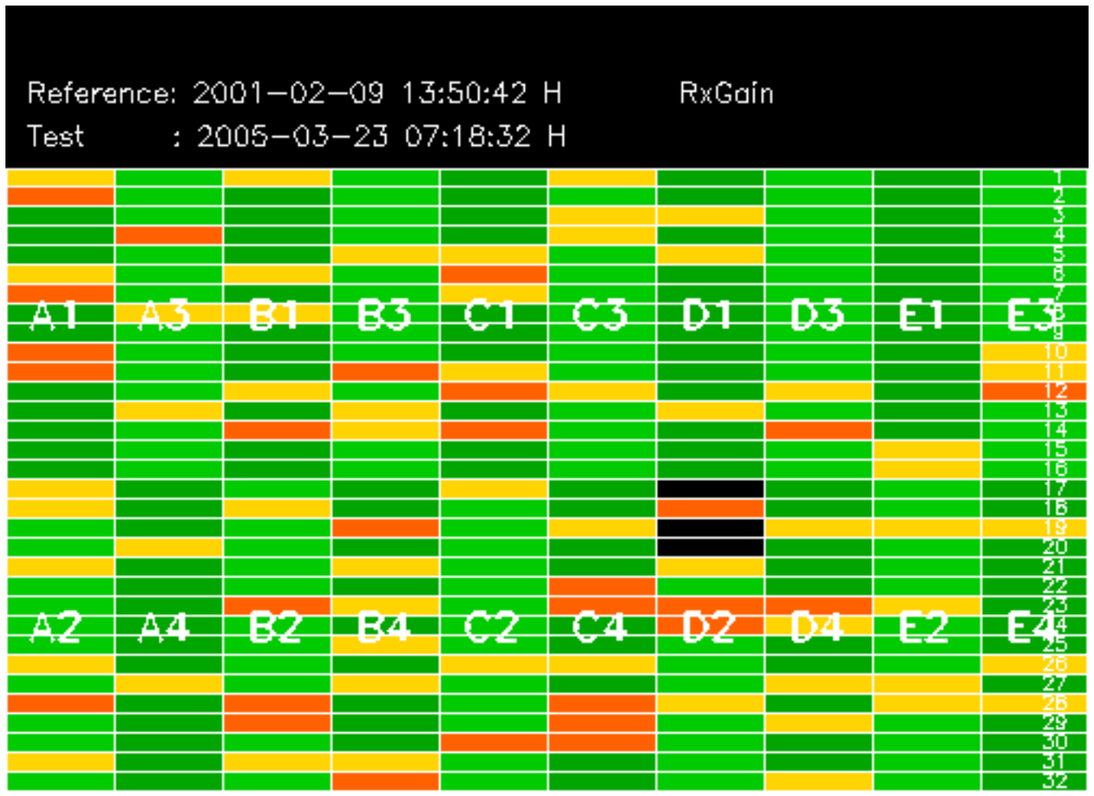

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -28.373675 Hz
-100Hz
+100Hz

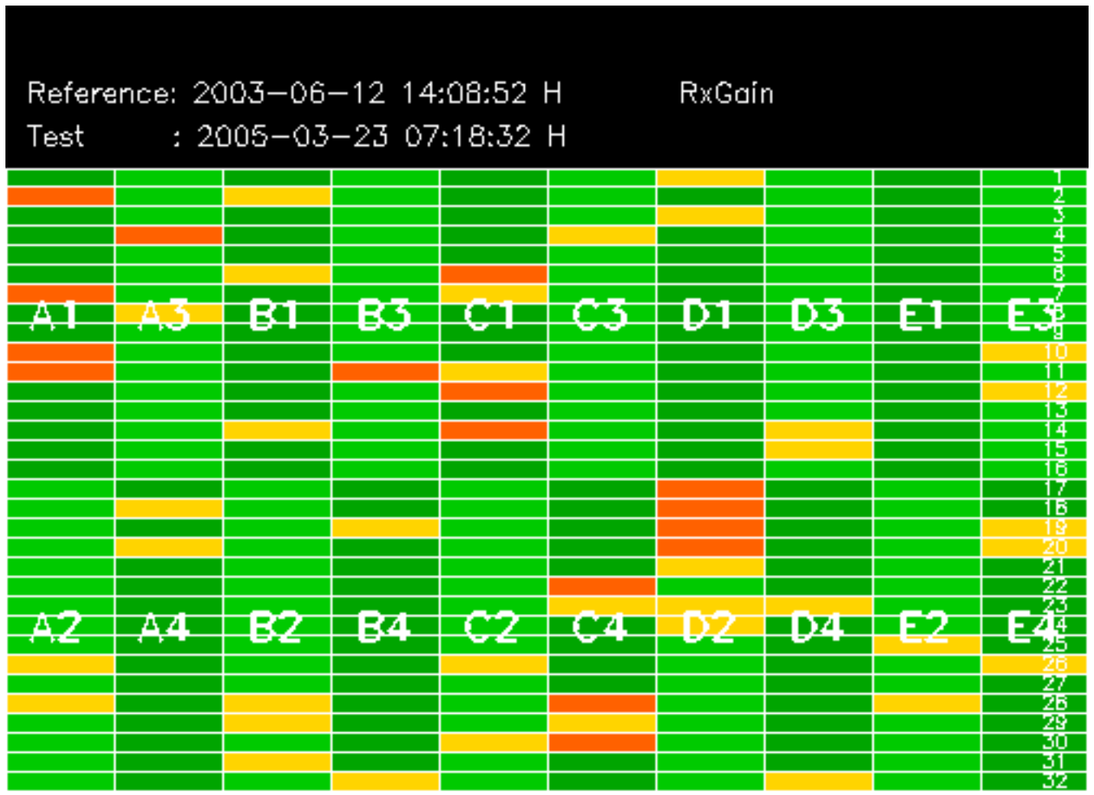

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −37.552041 Hz
−100Hz
+100Hz

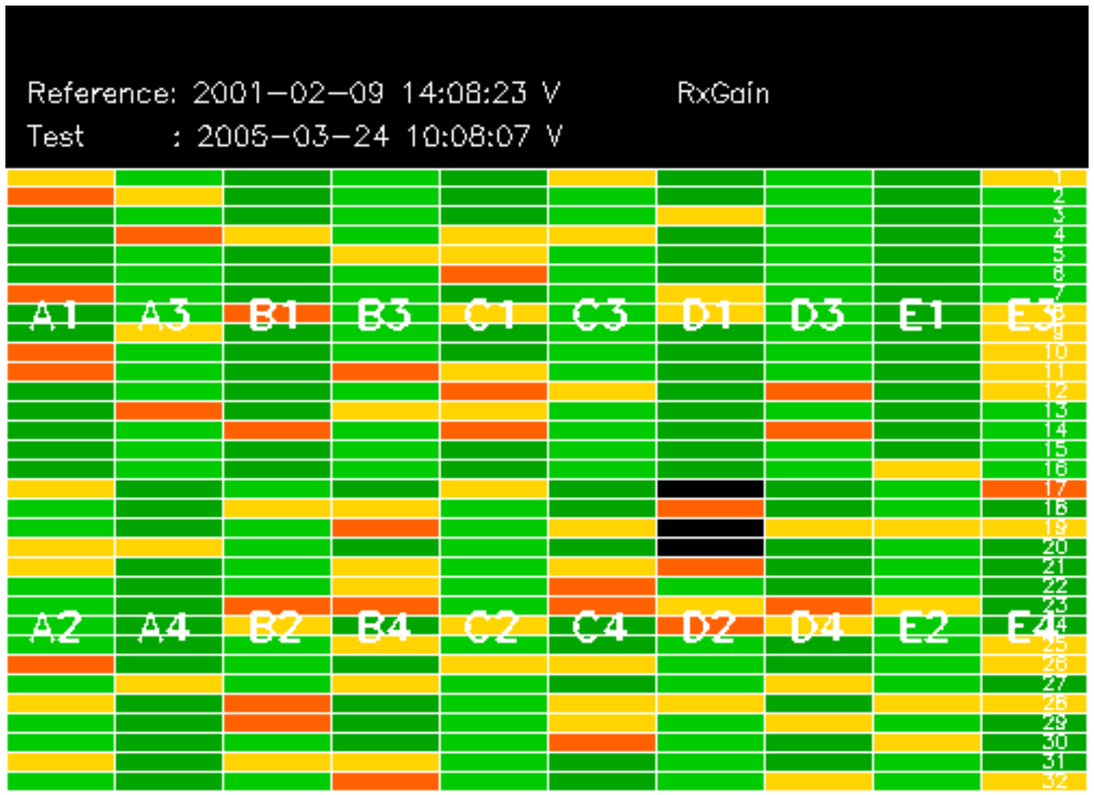

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −35.786867 Hz
−100Hz
+100Hz

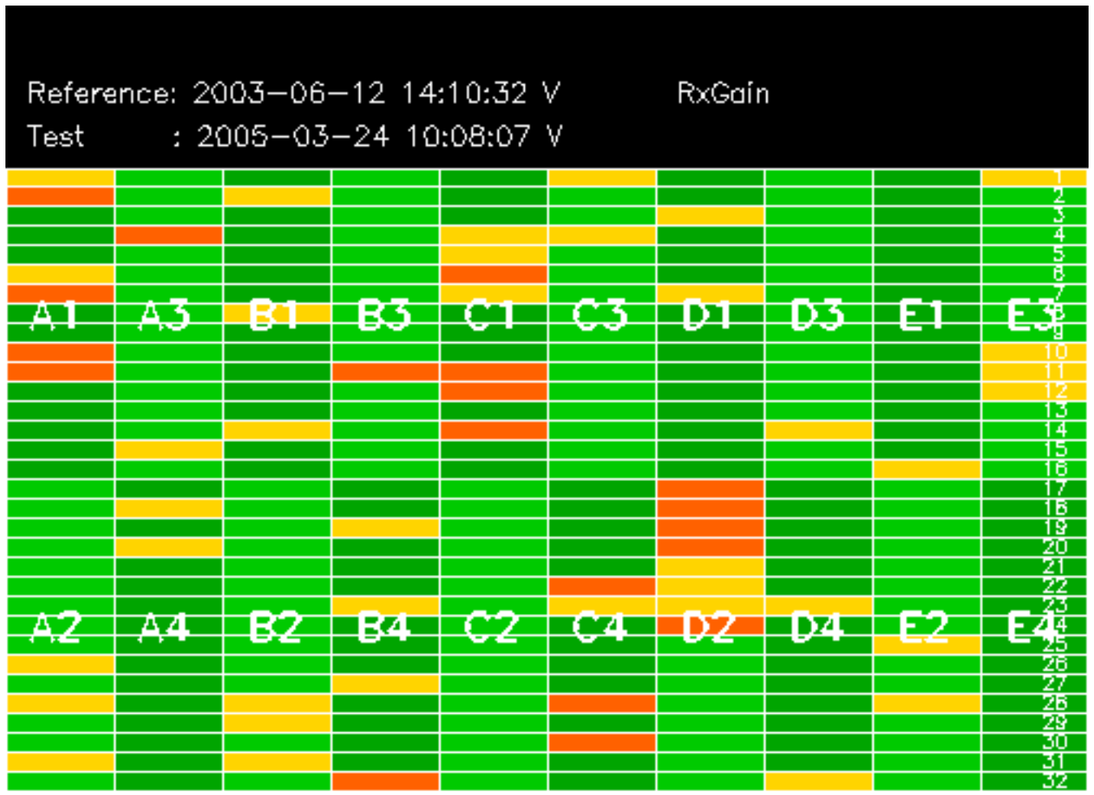
No anomalies observed on available MS products:

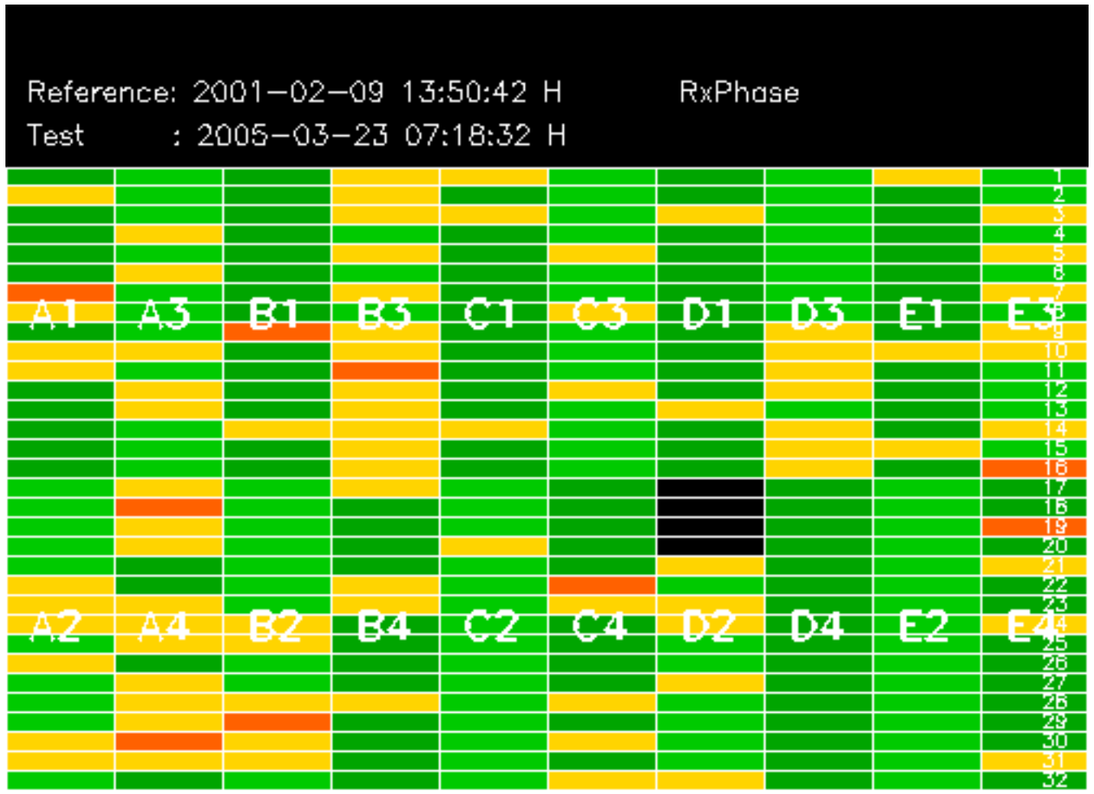
No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2005-03-23 07:18:32 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2005-03-23 07:18:32 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2005-03-24 10:08:07 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 : 2005-03-24 10:08:07 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 : 2005-03-23 07:18:32 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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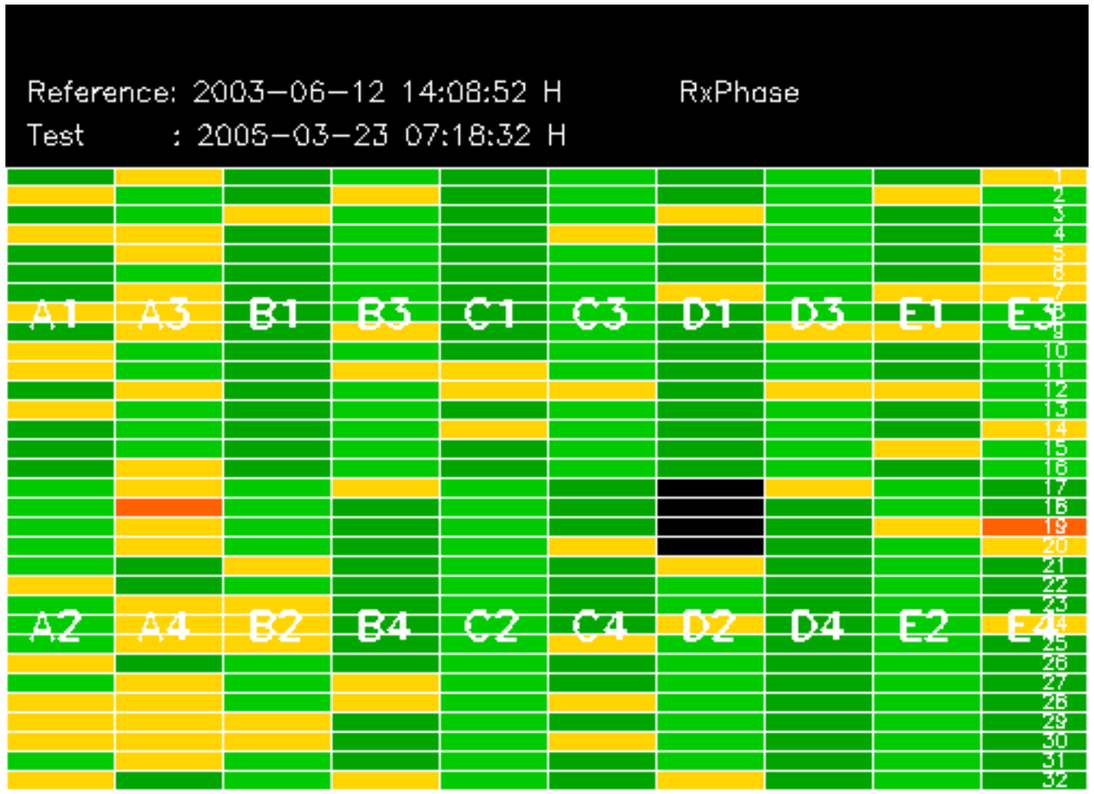
Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2005-03-23 07:18:32 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
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8
9
10
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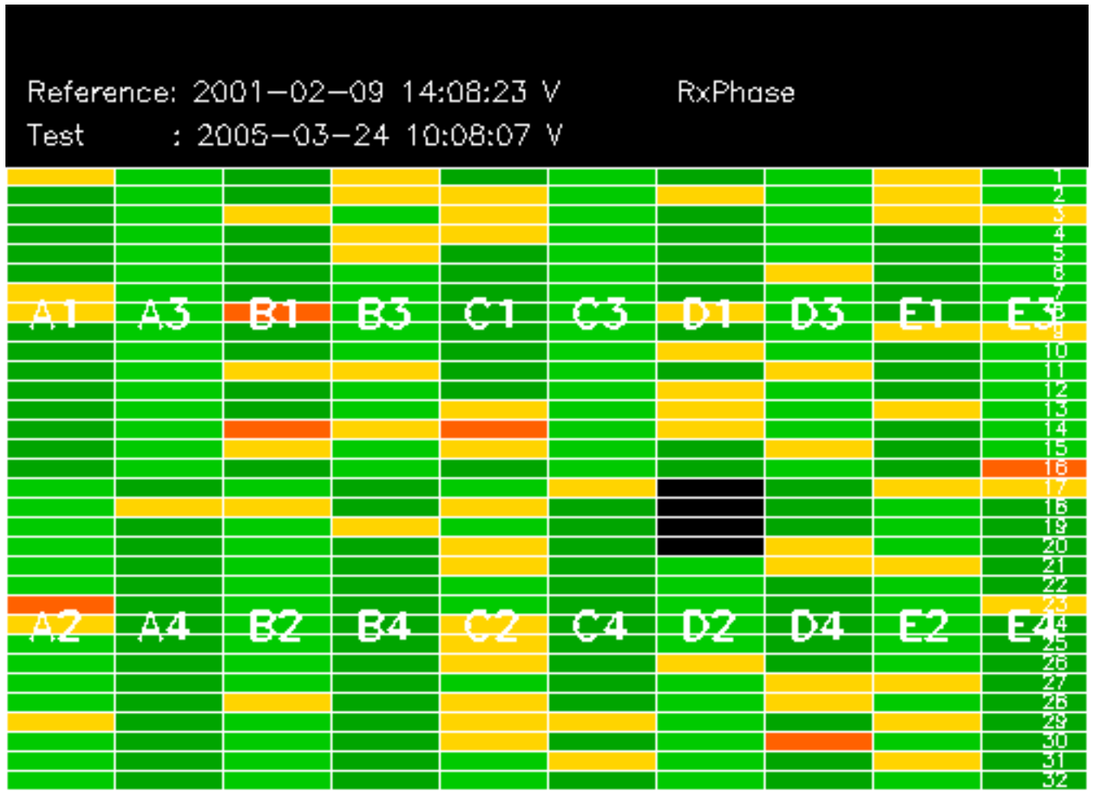
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2005-03-24 10:08:07 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
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8
9
10
11
12
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14
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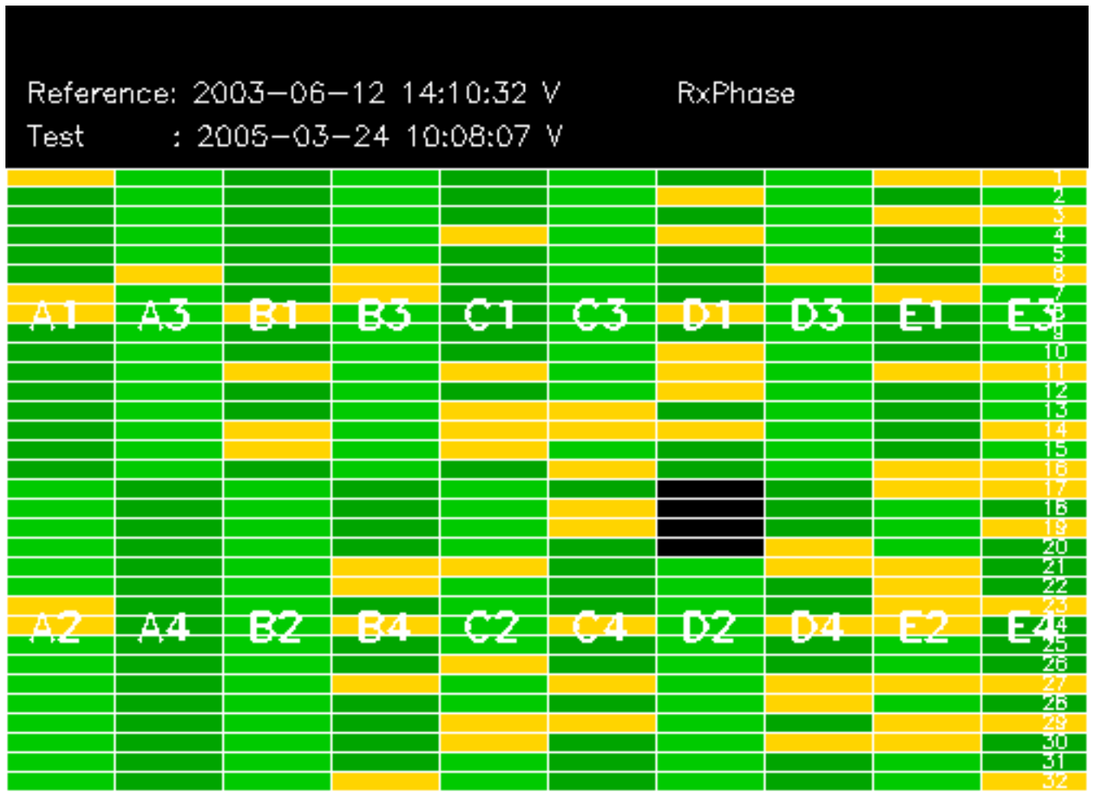
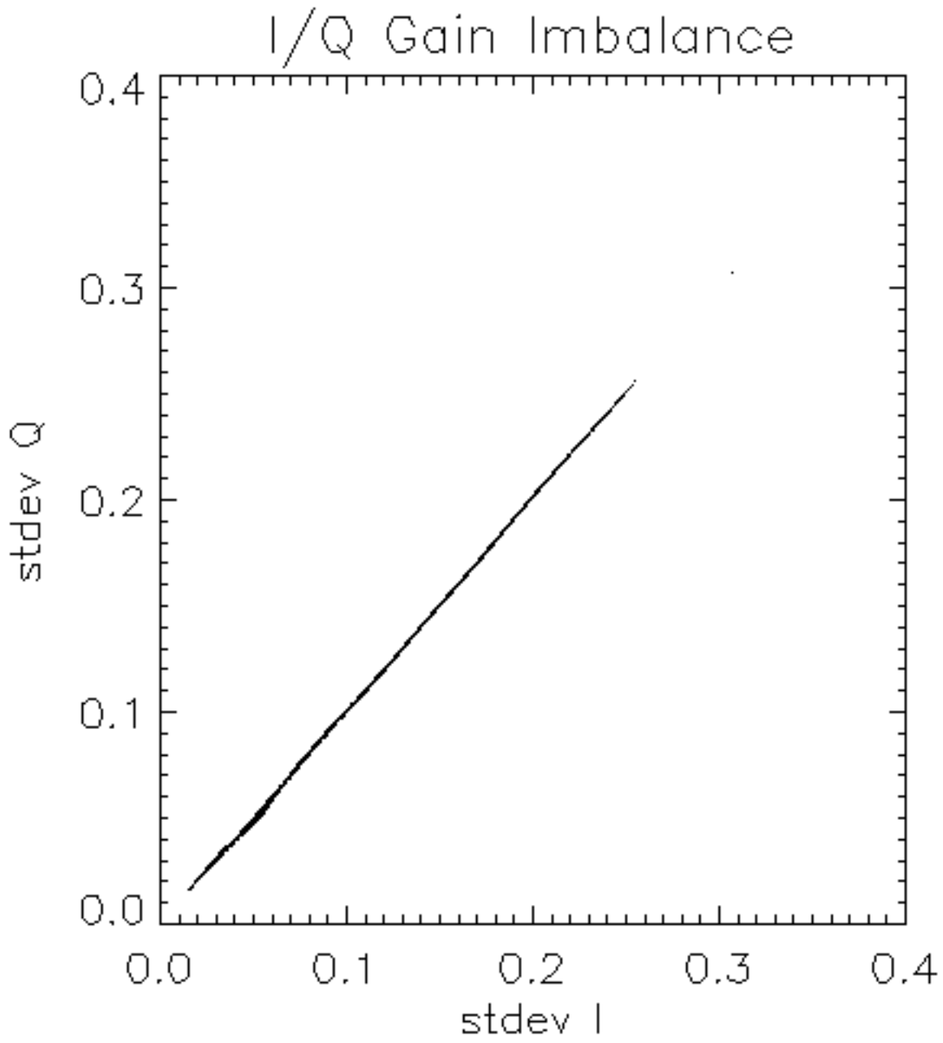
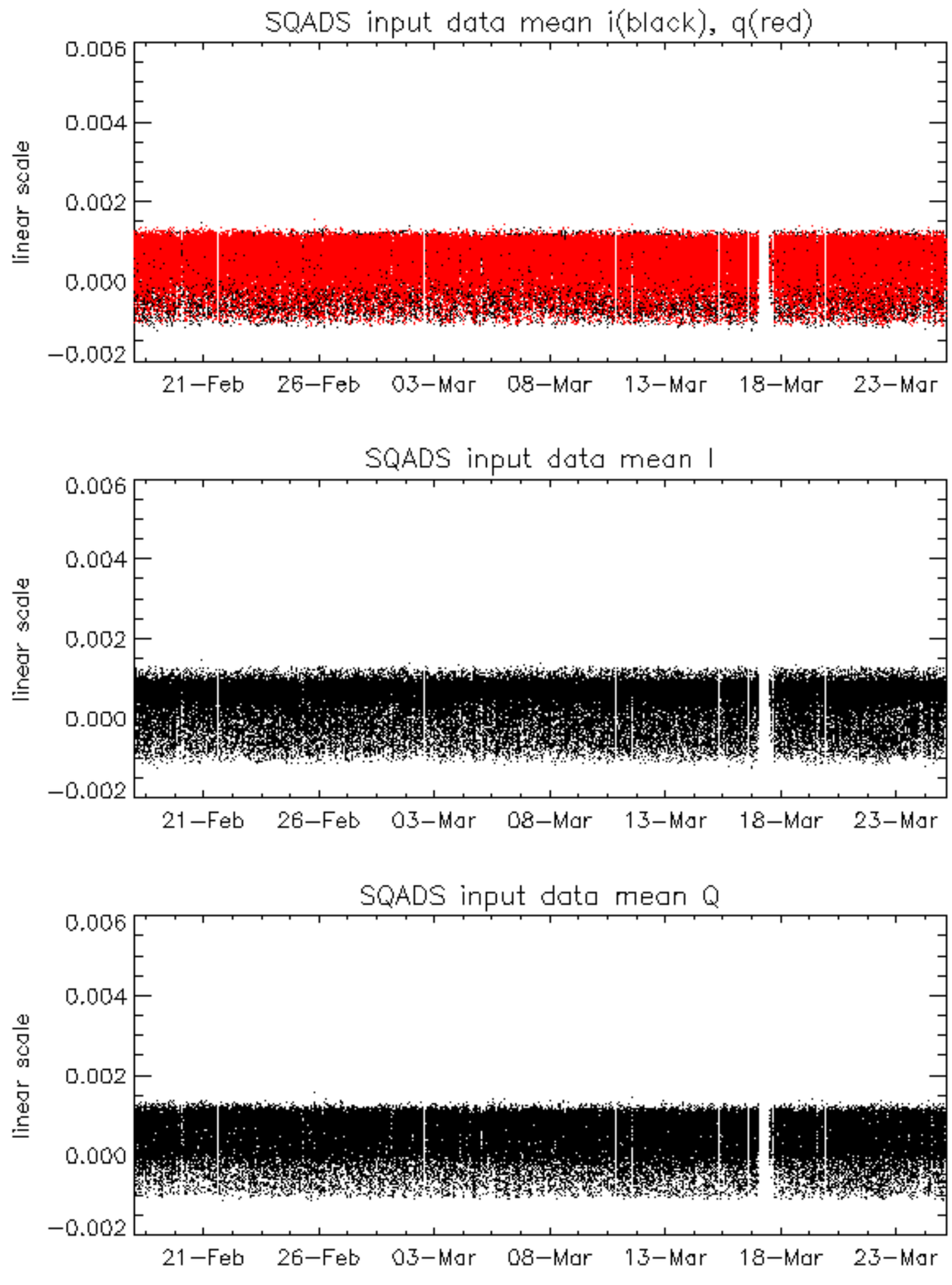
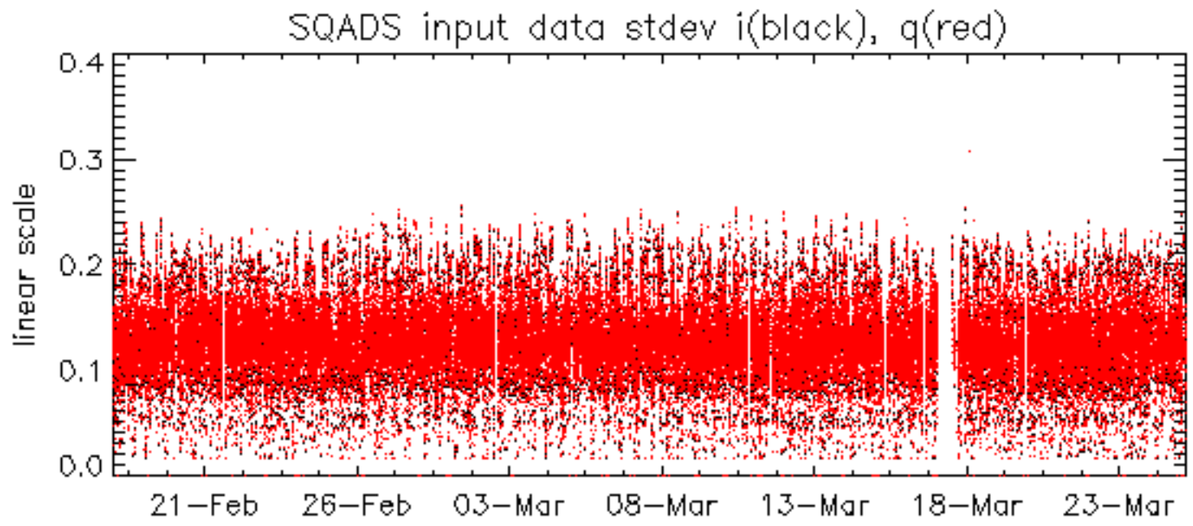
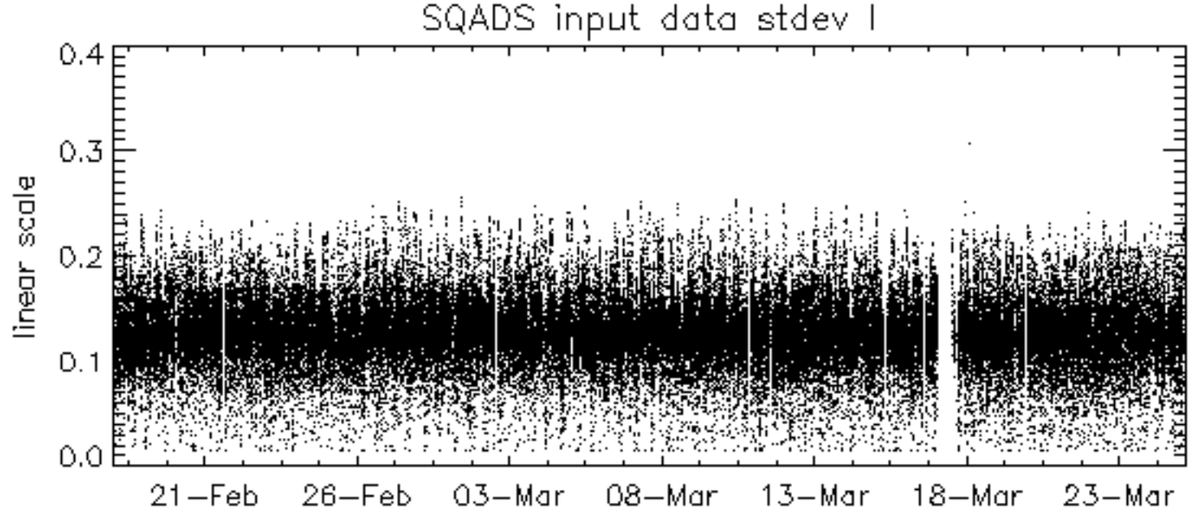
31
32

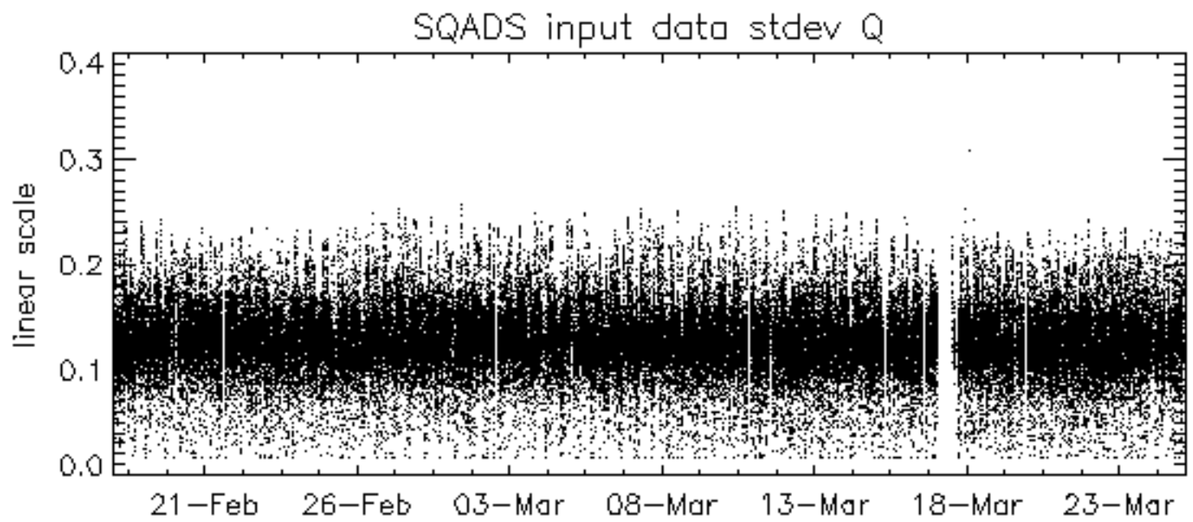

Reference: 2003-06-12 14:10:32 V
Test : 2005-03-24 10:08:07 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

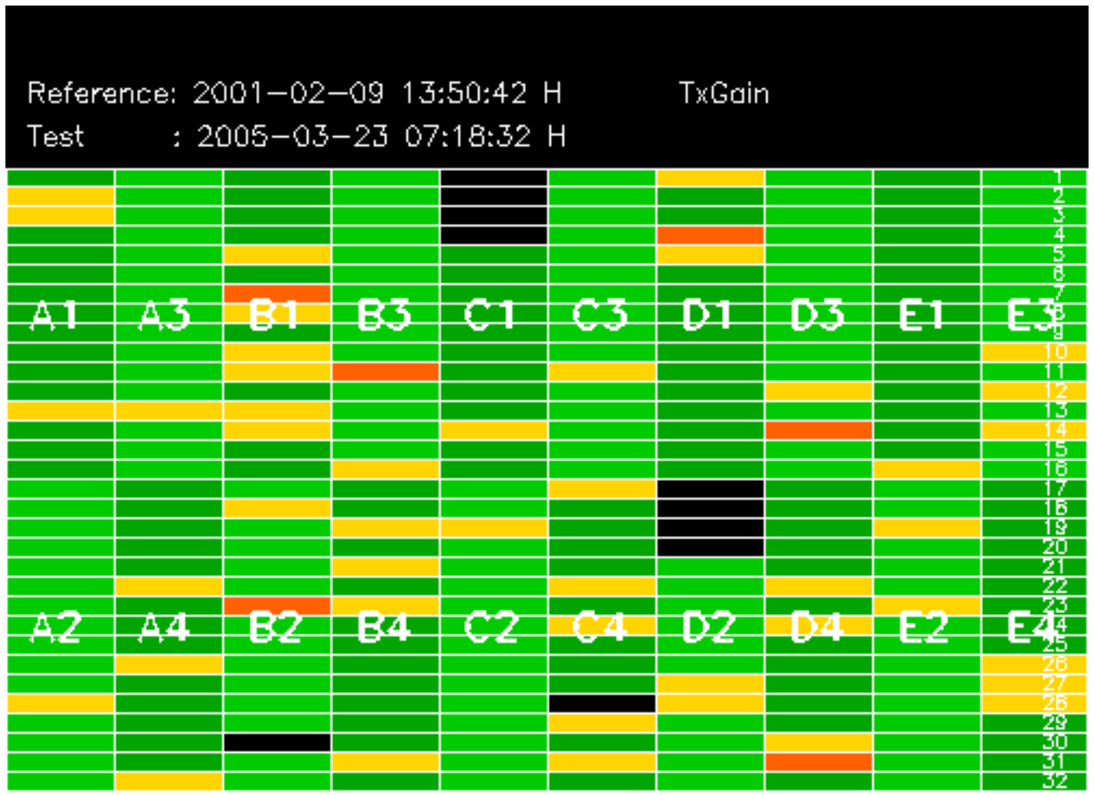

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2005-03-23 07:18:32 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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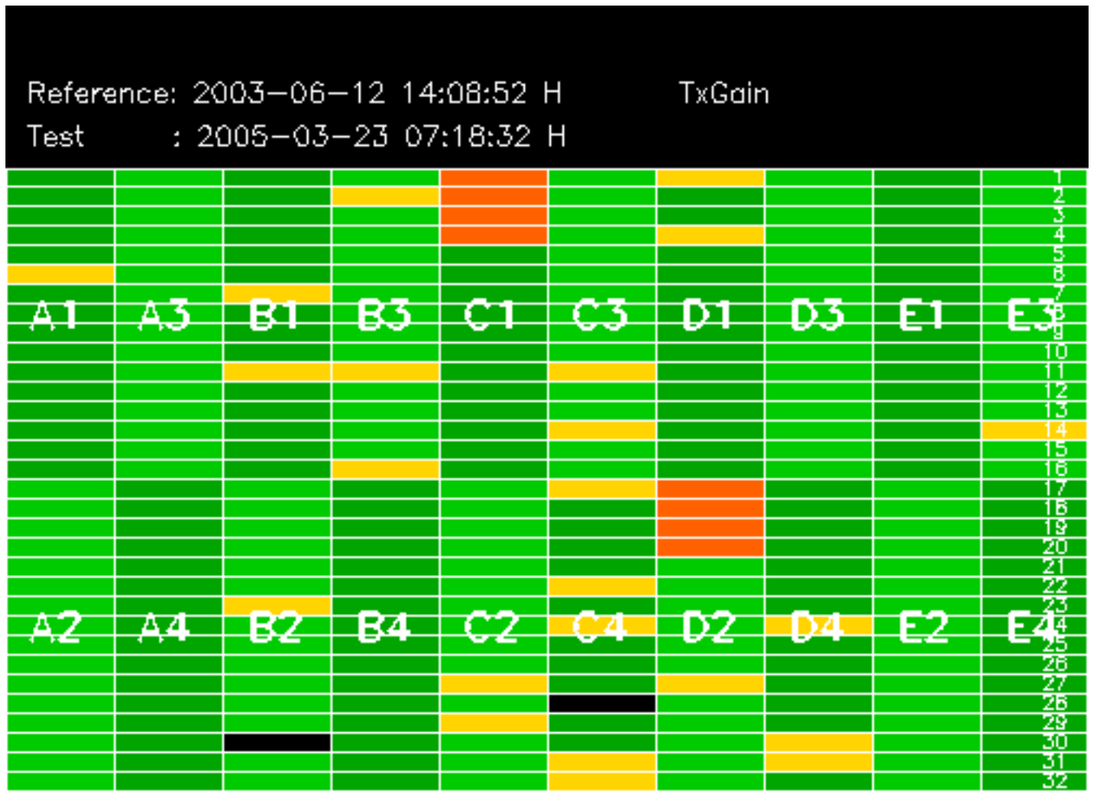
Reference: 2003-06-12 14:08:52 H
Test : 2005-03-23 07:18:32 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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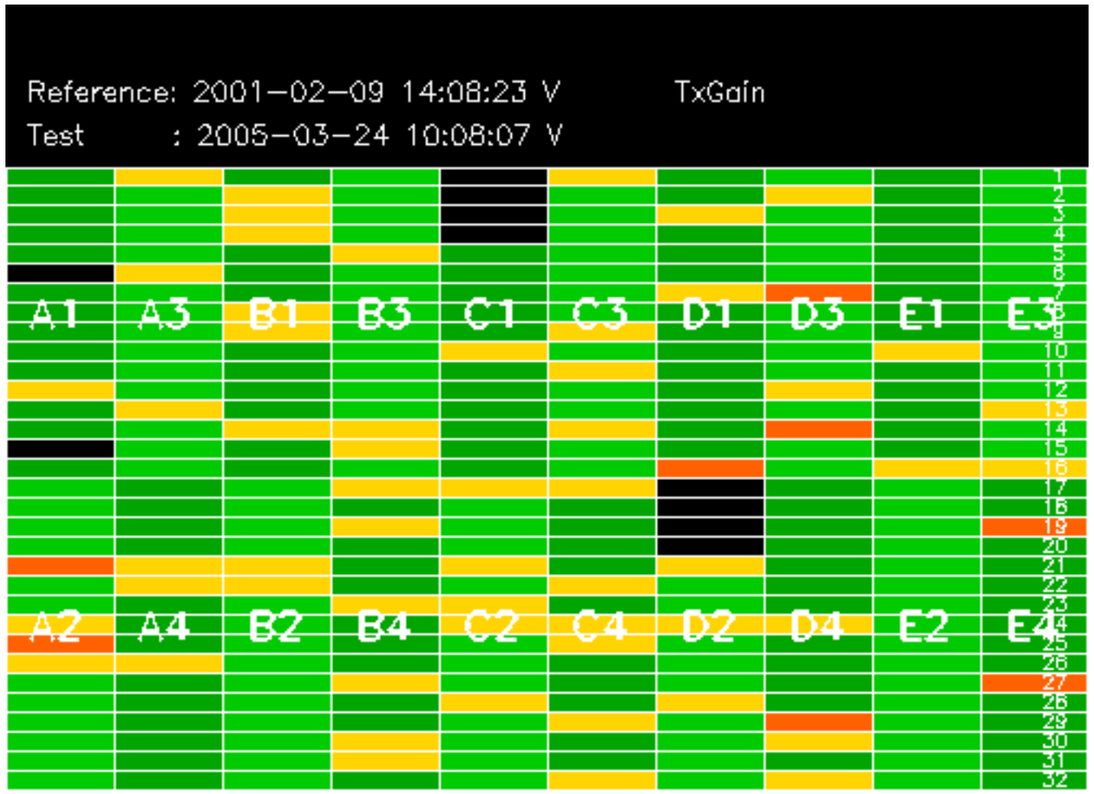
Reference: 2001-02-09 14:08:23 V
Test : 2005-03-24 10:08:07 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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29
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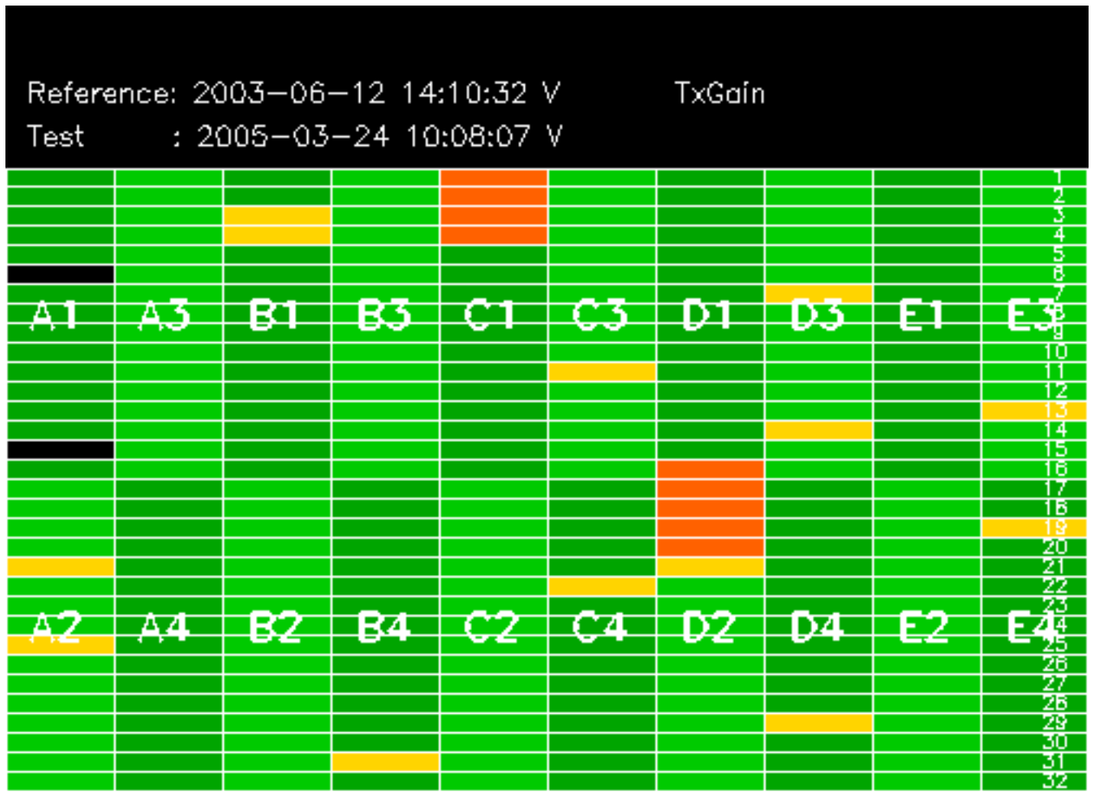
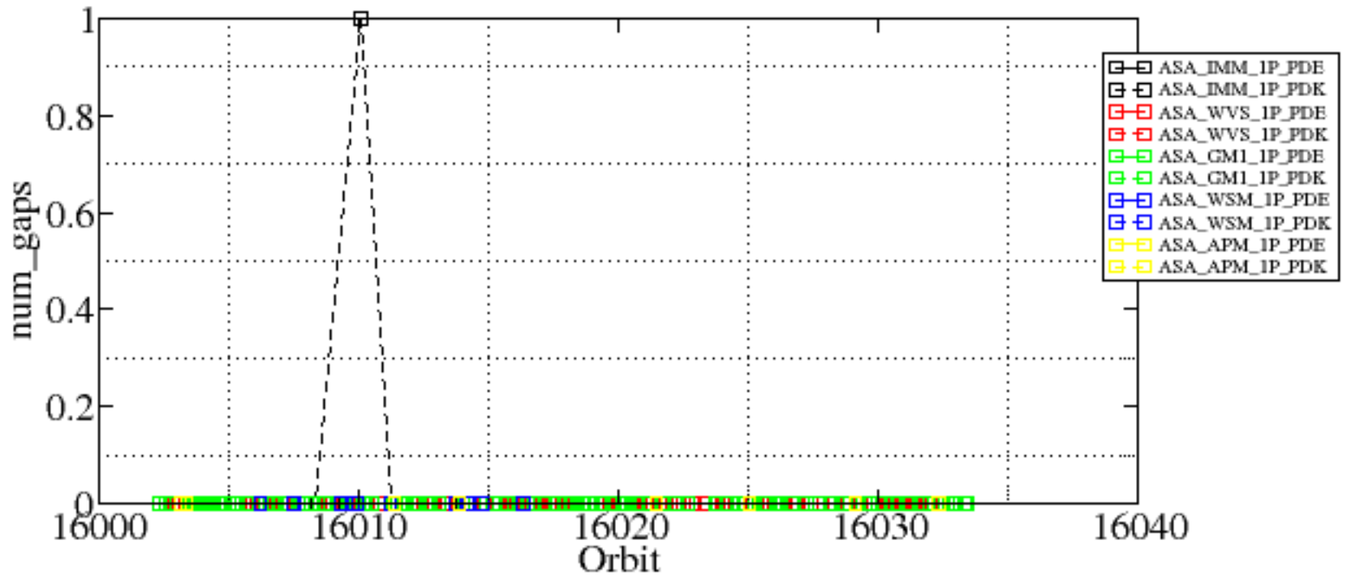
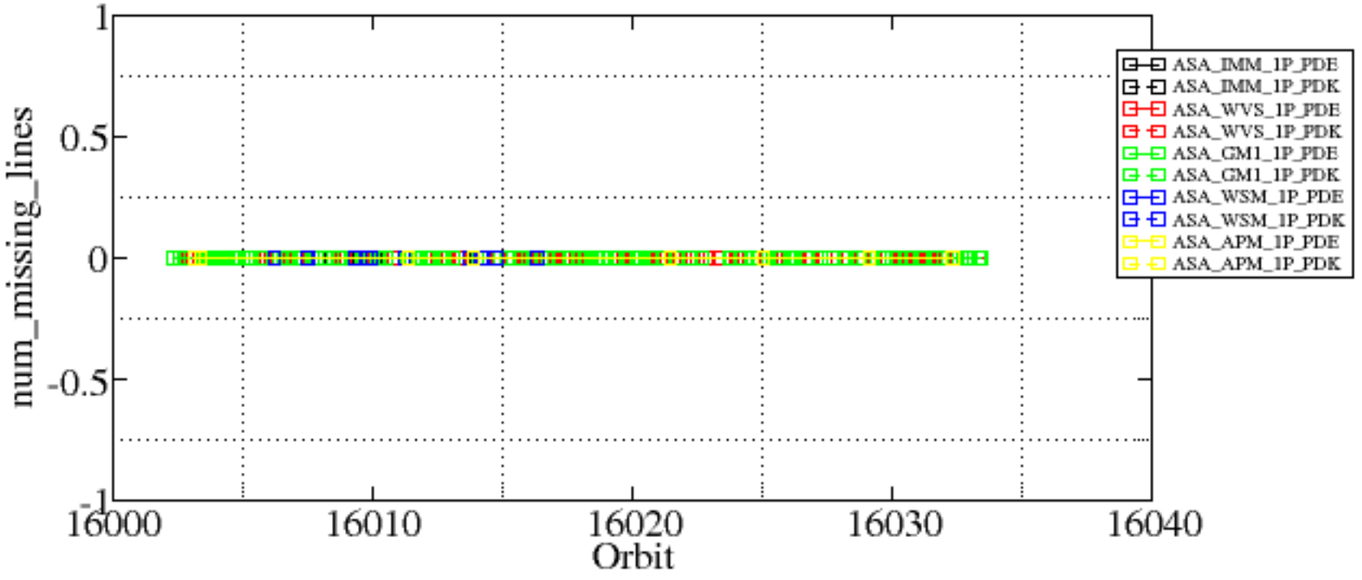
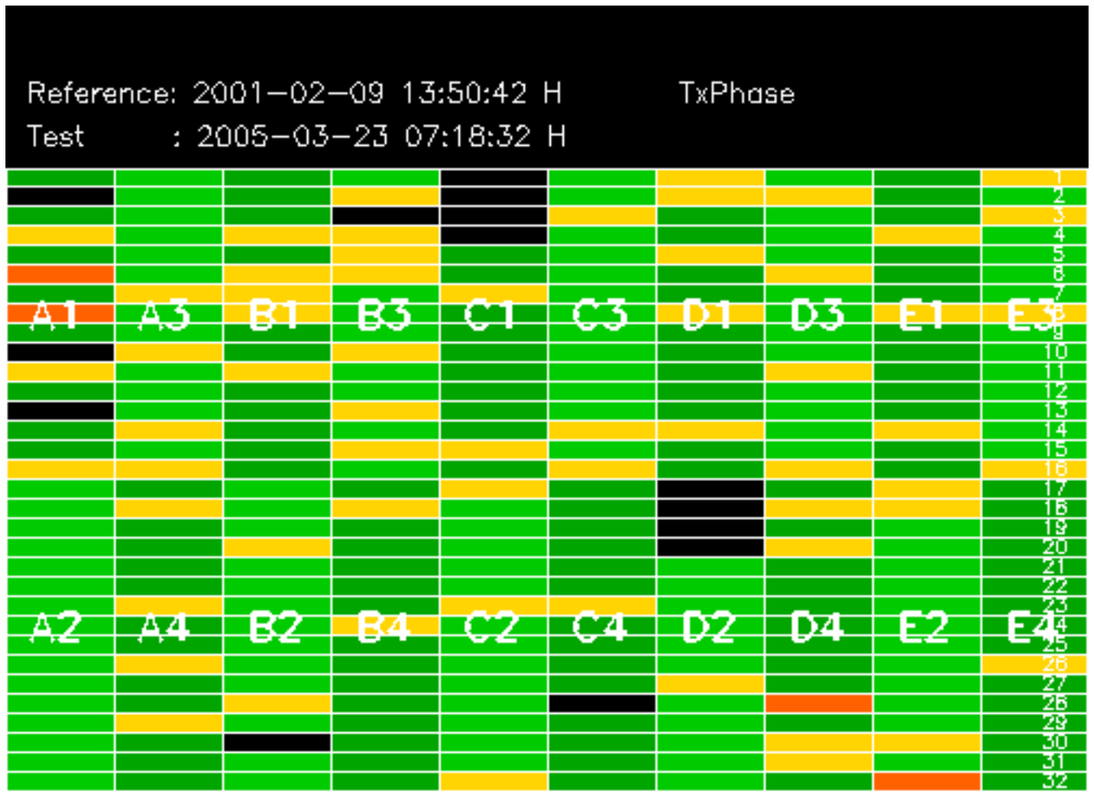
32


Reference: 2003-06-12 14:10:32 V
Test : 2005-03-24 10:08:07 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 2005032[345]
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_1PNPDK20050323_130209_000000812035_00425_16010_1201.N1 </td> <td>1 </td> <td>0 </td></tr>
</table>


num_gaps
1
0.8
0.6
0.4
0.2
0
16000
16010
16020
16030
16040
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
16000
16010
16020
16030
16040
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 : 2005-03-23 07:18:32 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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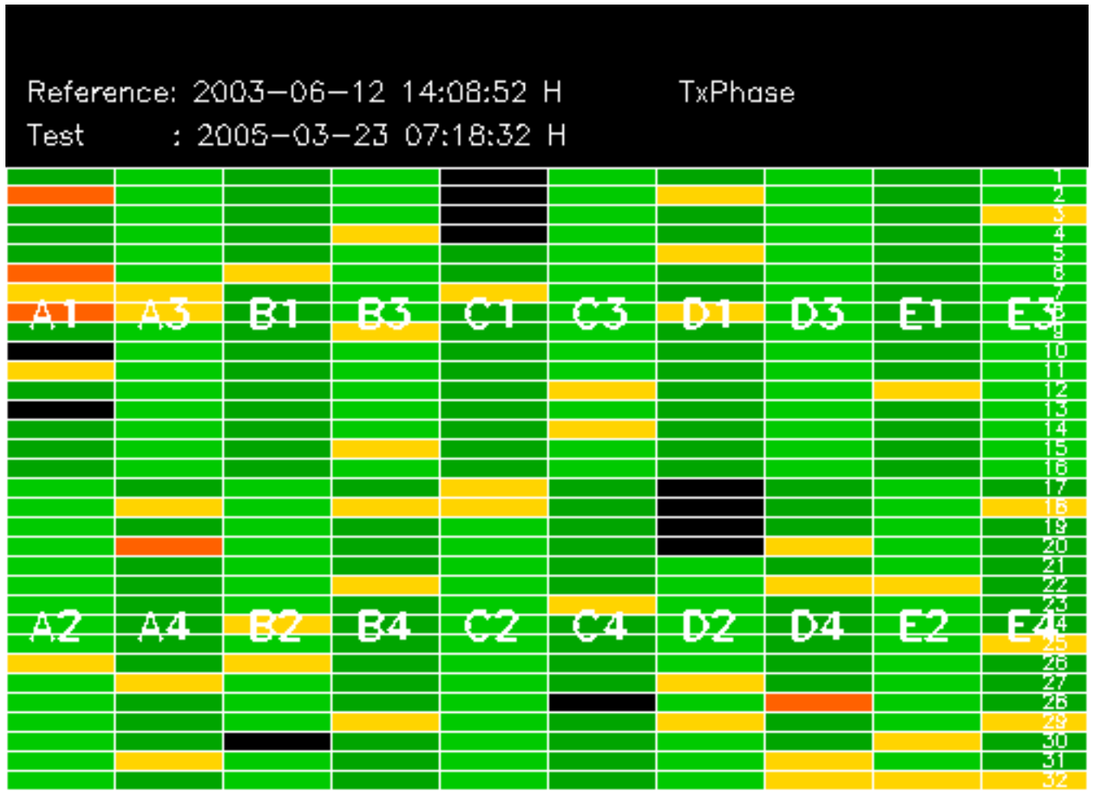
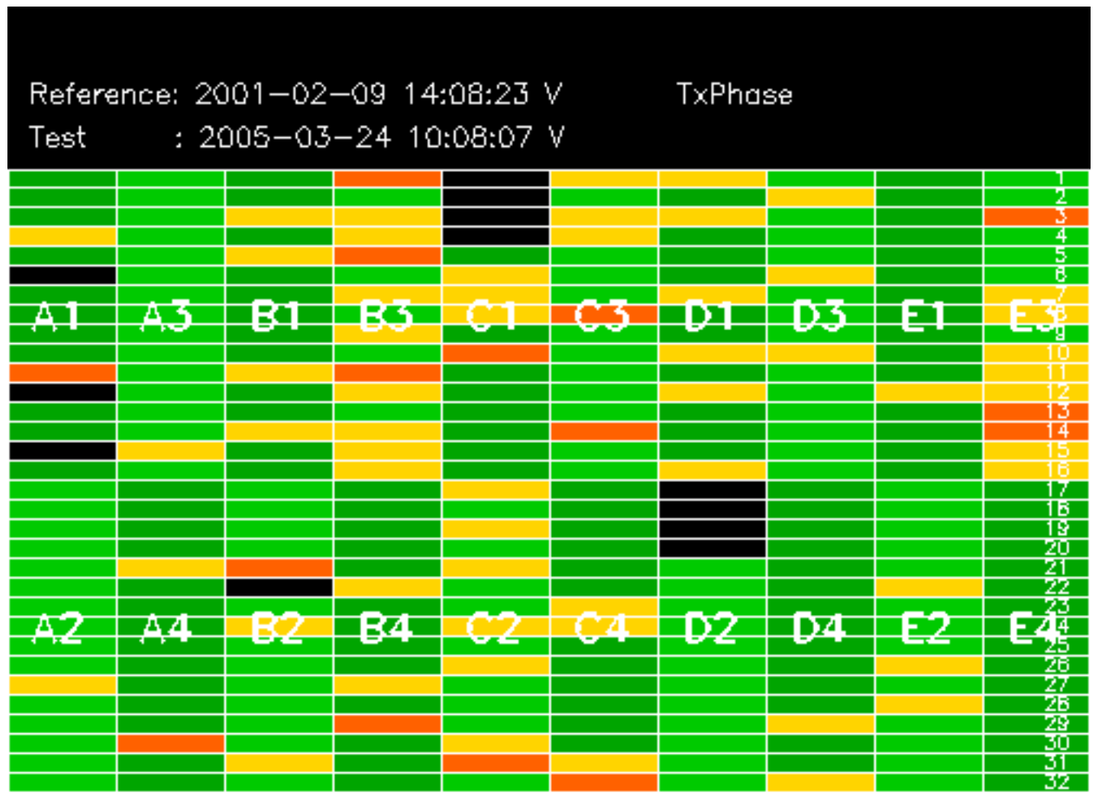
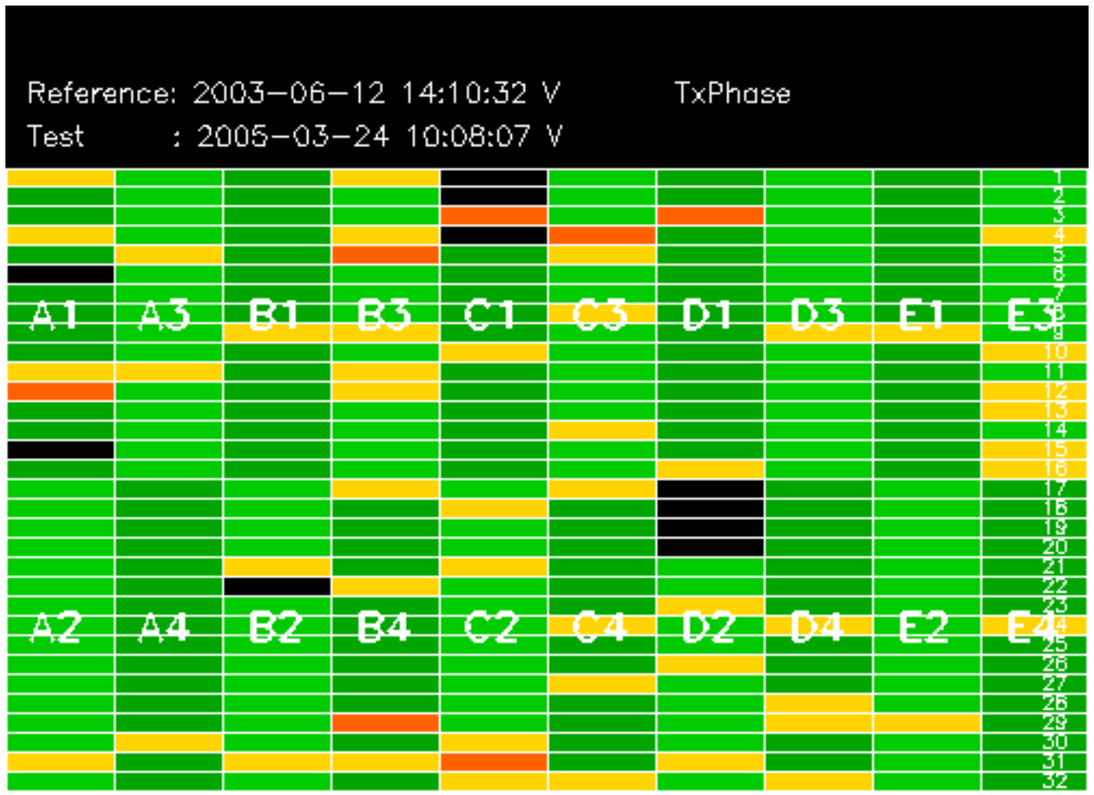

Reference: 2003-06-12 14:08:52 H
Test : 2005-03-23 07:18:32 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2005-03-24 10:08:07 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-03-24 10:08:07 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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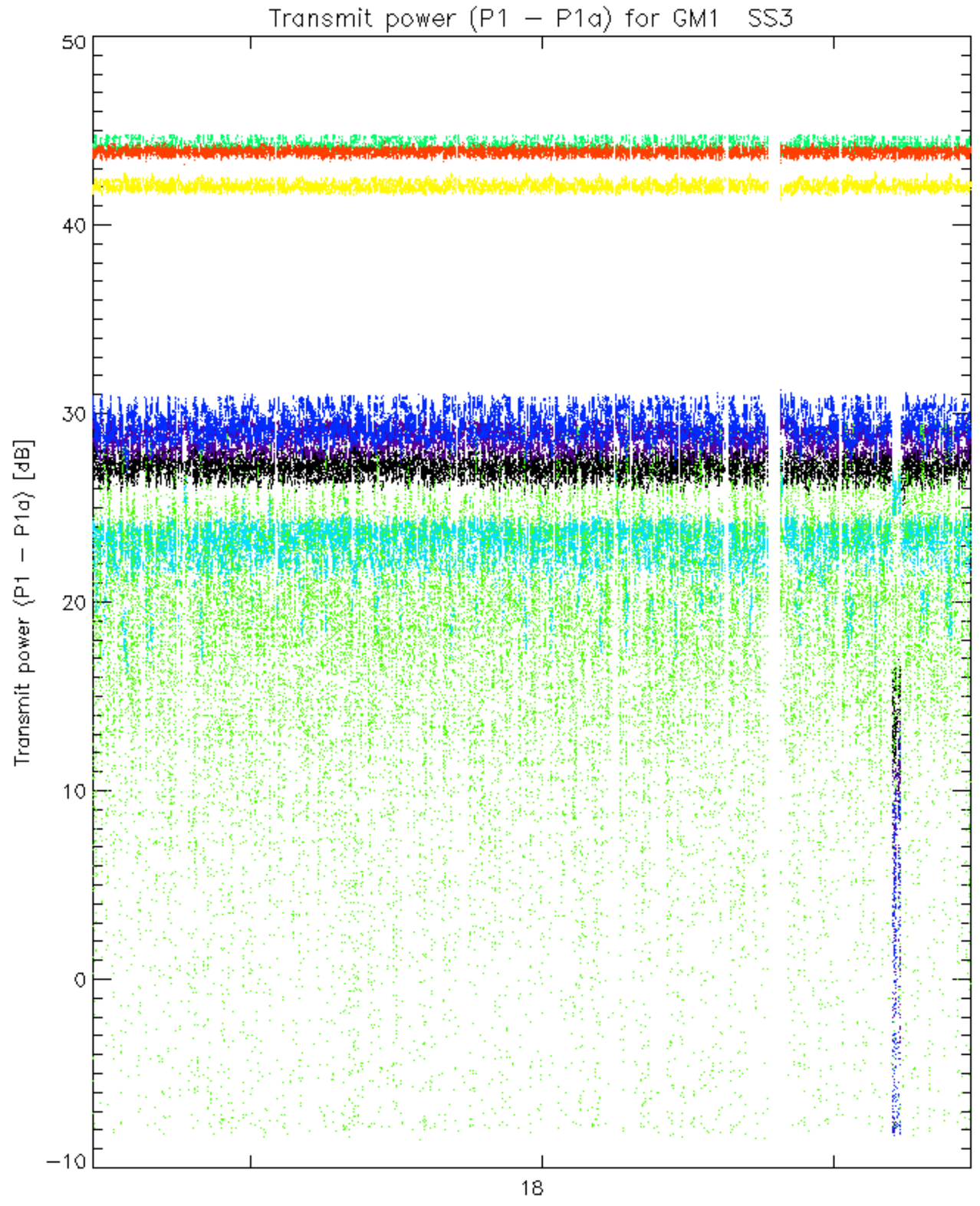
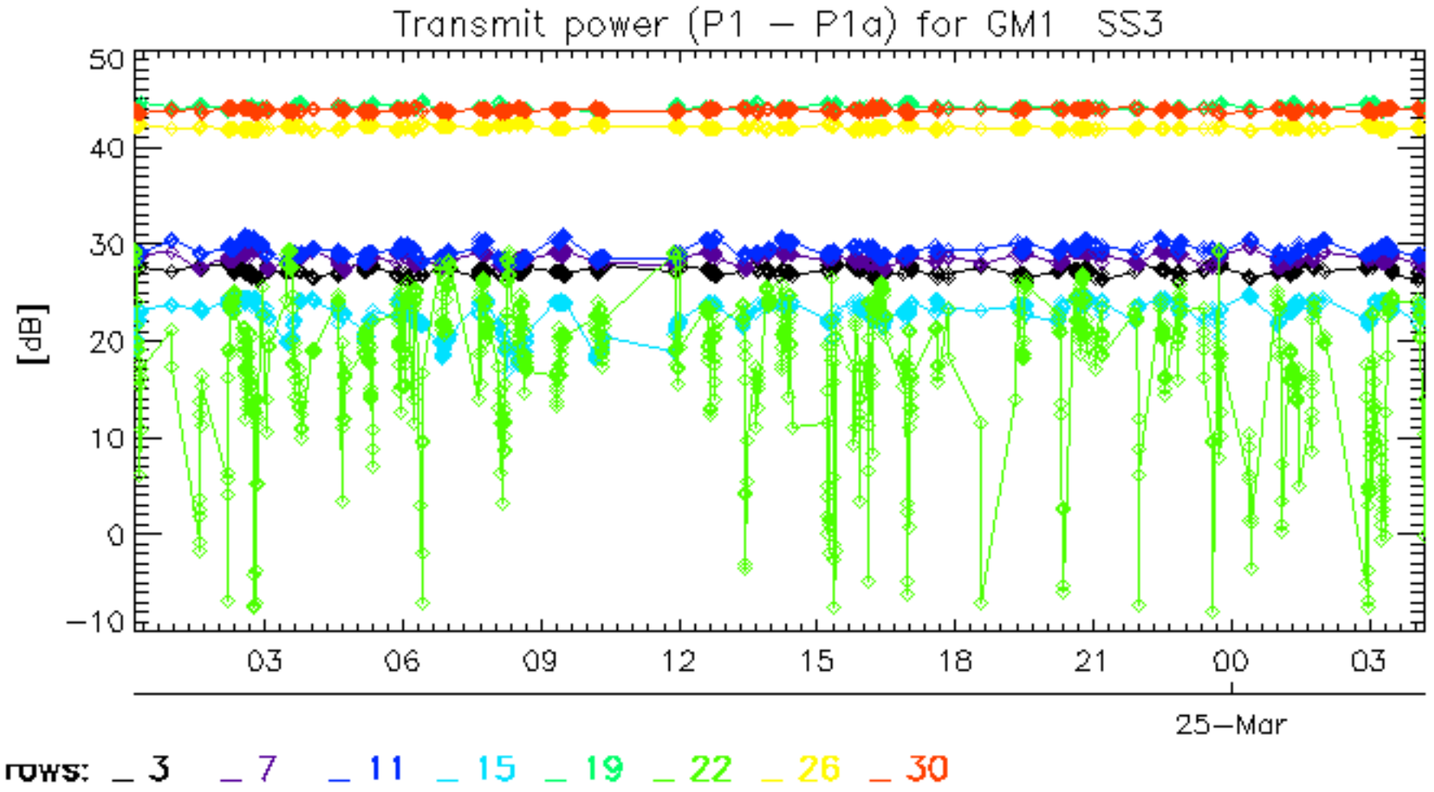
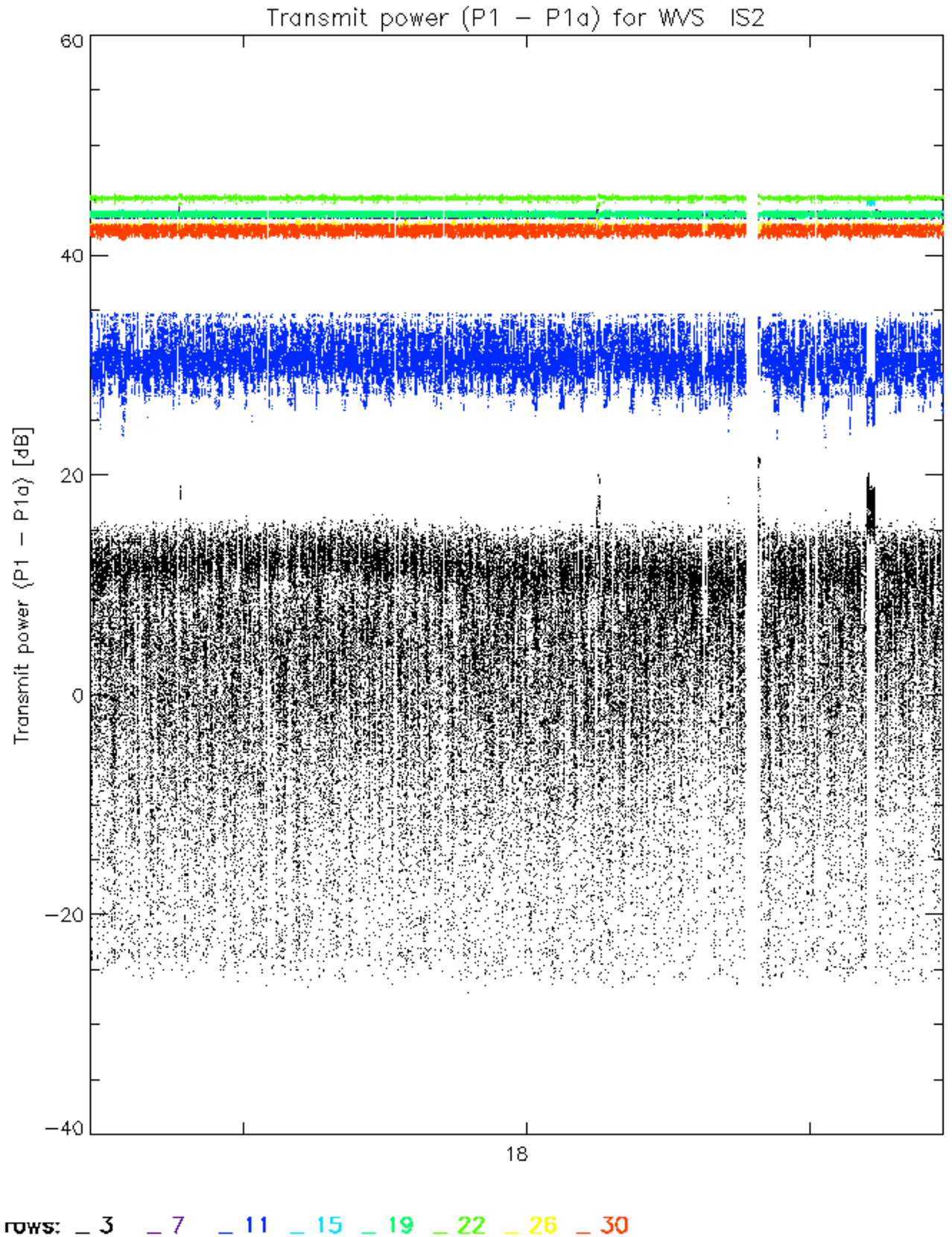
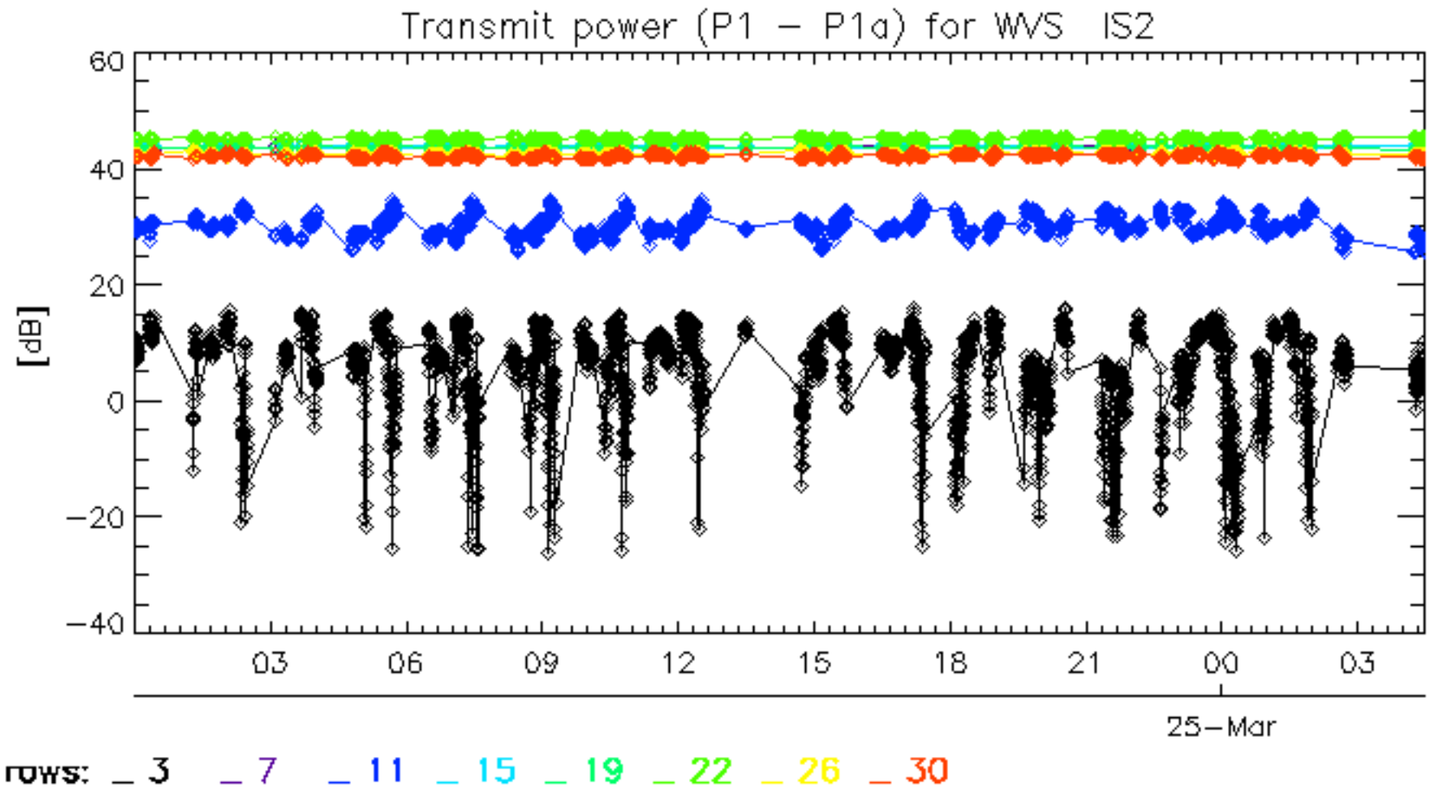
32


Transmit power (P1 – P1a) for GM1 SS3
Transmit power ⟨P1 – P1a⟩ [dB]
50
40
30
20
10
0
−10
18
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
25–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]
18
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
25−Mar
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

No unavailabilities during the reported period.