PRELIMINARY REPORT OF 061208

last update on Fri Dec 8 16:42:51 GMT 2006

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 2006-12-07 00:00:00 to 2006-12-08 16:42:51

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

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	47	72	32	14	65
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	47	72	32	14	65
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	47	72	32	14	65
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	47	72	32	14	65

2.3 - Browse Visual Inspection

No anomalies observed on available browse products

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	20061206 073841
H	20061207 070704

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	-3.961551	0.008224	-0.006058
7	P1	-3.154193	0.024163	0.006747
11	P1	-4.130963	0.025085	0.009228
15	P1	-6.308825	0.014719	-0.039480
19	P1	-3.624664	0.006325	-0.063705
22	P1	-4.651953	0.012966	-0.017659
26	P1	-3.950890	0.010379	-0.012201
30	P1	-5.876982	0.009372	-0.048343
3	P1	-16.518188	0.240708	-0.029728
7	P1	-17.294662	0.183382	-0.032769
11	P1	-17.193827	0.458731	-0.050972
15	P1	-13.073183	0.134983	-0.001333
19	P1	-14.942320	0.092901	-0.143802
22	P1	-15.861152	0.526660	0.037844
26	P1	-15.057716	0.193725	-0.027020
30	P1	-17.508266	0.472819	-0.075456

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.829729	0.093199	0.058204
7	P2	-21.733187	0.095905	-0.001840
11	P2	-15.629427	0.104403	0.113807
15	P2	-7.123431	0.107918	0.004977
19	P2	-9.193474	0.106683	0.001107
22	P2	-18.238195	0.098442	-0.005559
26	P2	-16.567278	0.113733	-0.052665
30	P2	-19.469452	0.089316	0.027573

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.244872	0.008573	-0.012337

7	P3	-8.244872	0.008573	-0.012337
11	P3	-8.244872	0.008573	-0.012337
15	P3	-8.244872	0.008573	-0.012337
19	P3	-8.244872	0.008573	-0.012337
22	P3	-8.244872	0.008573	-0.012337
26	P3	-8.244824	0.008583	-0.012728
30	P3	-8.244824	0.008583	-0.012728

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	-3.912514	0.024970	-0.008574
7	P1	-2.498162	0.119260	0.067683
11	P1	-2.854681	0.027591	0.018751
15	P1	-3.682745	0.040472	0.014108
19	P1	-3.530904	0.017989	-0.031570
22	P1	-5.032798	0.022532	0.033852
26	P1	-6.010430	0.028890	-0.055273
30	P1	-5.329028	0.039686	-0.062241
3	P1	-11.730402	0.092802	-0.037403
7	P1	-10.060371	0.200174	0.016390
11	P1	-10.326992	0.133066	-0.000823
15	P1	-10.728477	0.157237	0.110317
19	P1	-15.705584	0.107327	-0.074727
22	P1	-21.516783	1.424709	-0.327293
26	P1	-16.067057	0.325256	-0.065497
30	P1	-17.887365	0.382679	0.038191

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.467457	0.108714	-0.020826
7	P2	-22.232454	0.279421	-0.033003
11	P2	-10.929142	0.126529	0.082409
15	P2	-4.978992	0.218911	-0.036090
19	P2	-6.959934	0.252419	0.001871
22	P2	-8.257450	0.173655	0.019080
26	P2	-24.325041	0.201740	0.022176
30	P2	-21.954468	0.157883	0.006408

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.090807	0.003833	-0.009825
7	P3	-8.090723	0.003825	-0.010070
11	P3	-8.090809	0.003827	-0.009924
15	P3	-8.090697	0.003824	-0.010006
19	P3	-8.090823	0.003831	-0.009809
22	P3	-8.090722	0.003818	-0.010268
26	P3	-8.090778	0.003831	-0.009936
30	P3	-8.090722	0.003840	-0.009401

4.3 - cal pulses monitoring (all rows)

4.3.1 - Evolution for WVS

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4.3.2 - Evolution for GM1

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5 - RAW data statistics

No anomalies observed.

5.1 - Input mean I/Q

channel	stat	DSS-B
MEAN I	mean	0.000548058
	stdev	1.77311e-07
MEAN Q	mean	0.000513599
	stdev	2.19773e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.137334
	stdev	0.00116787
STDEV Q	mean	0.137709
	stdev	0.00118665

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006120[678]
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_1PNPDE20061208_012029_000000352053_00346_24949_3814.N1	1	0
ASA_WSM_1PNPDE20061206_003703_000002612053_00317_24920_0976.N1	0	34
ASA_WSM_1PNPDE20061207_000625_000003242053_00331_24934_2346.N1	0	37
ASA_WSM_1PNPDE20061207_142735_000000852053_00340_24943_3217.N1	0	32
ASA_WSM_1PNPDE20061207_233448_000003242053_00345_24948_3807.N1	0	37

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

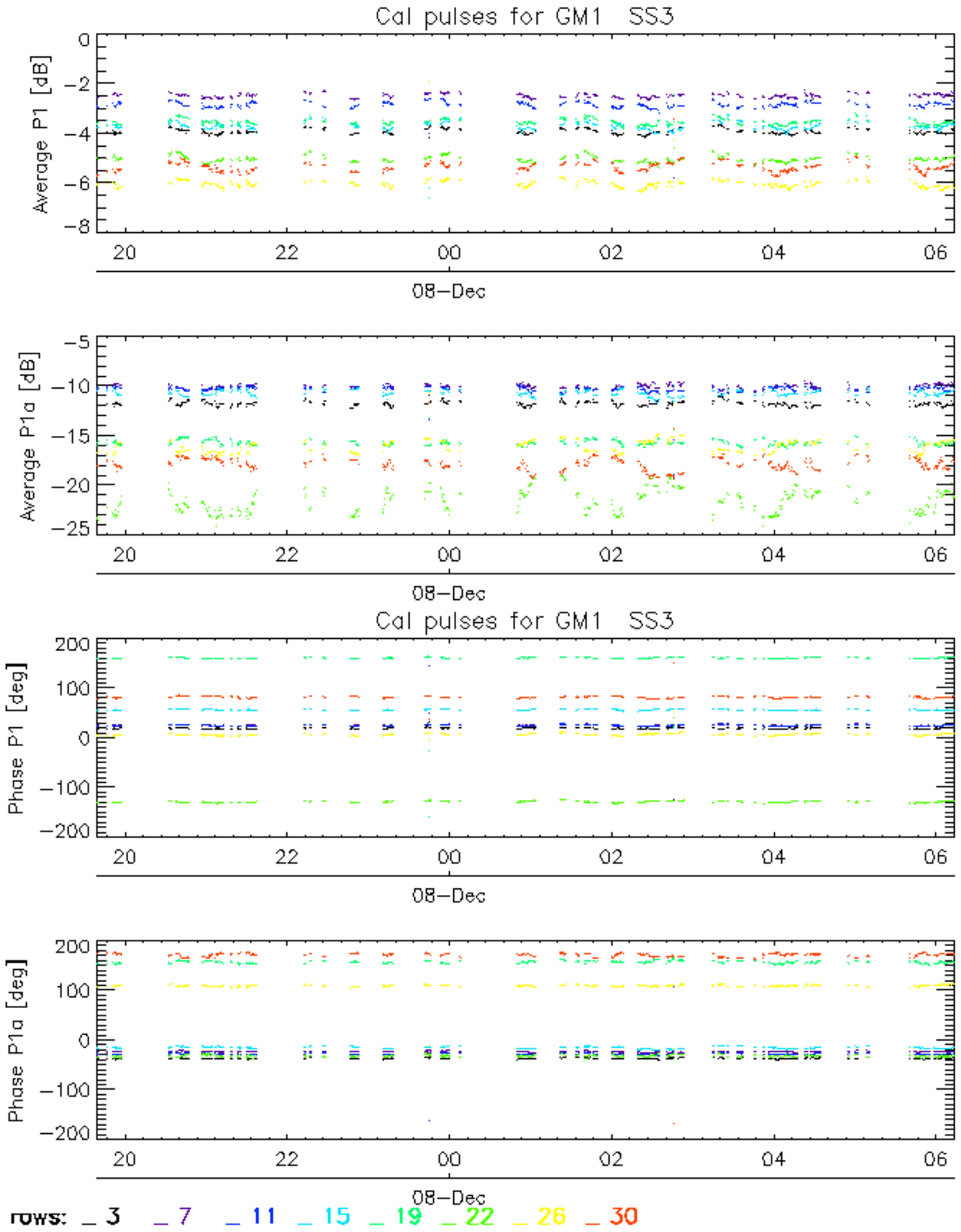

Descending

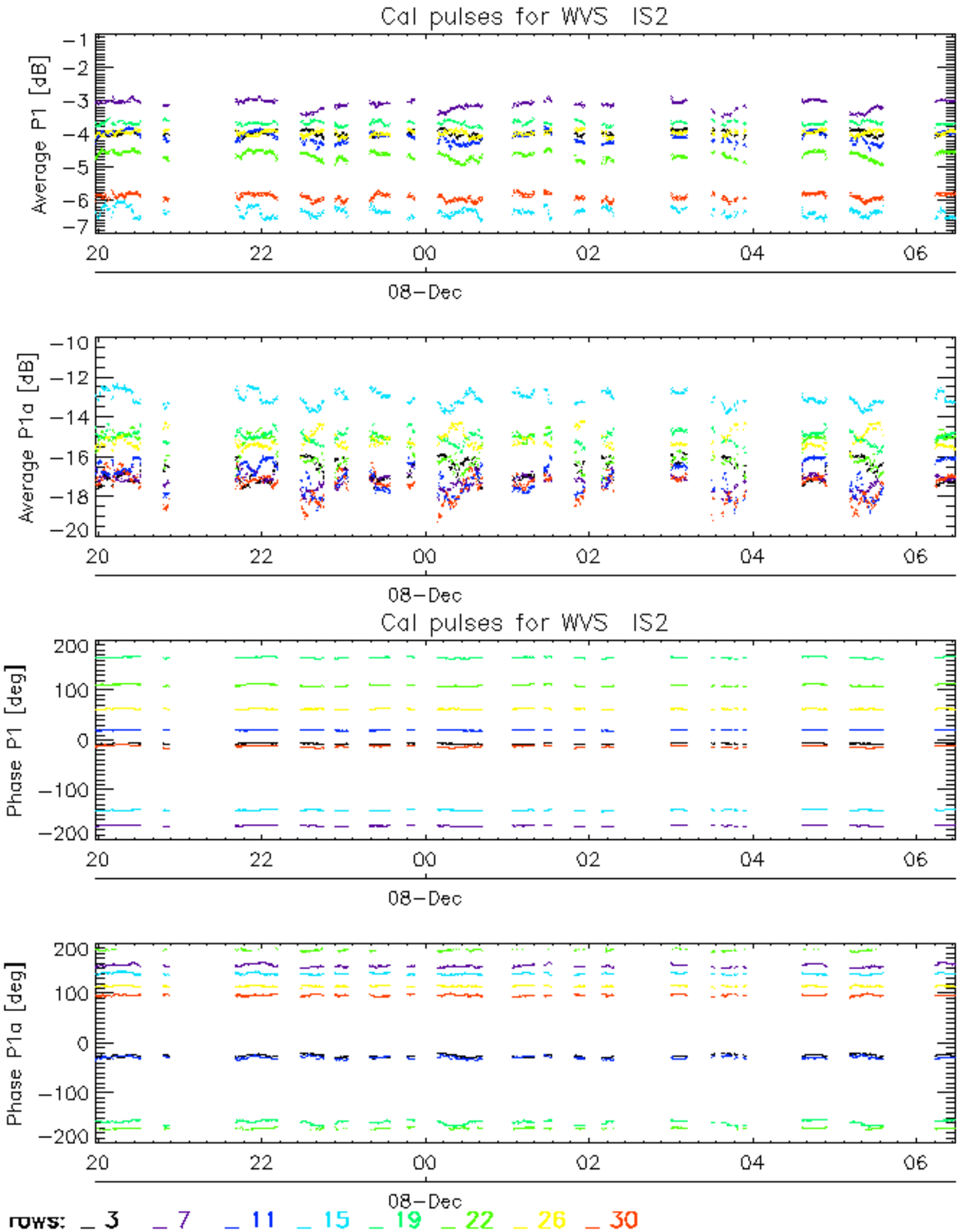
7.5 - Absolute Doppler for GM1

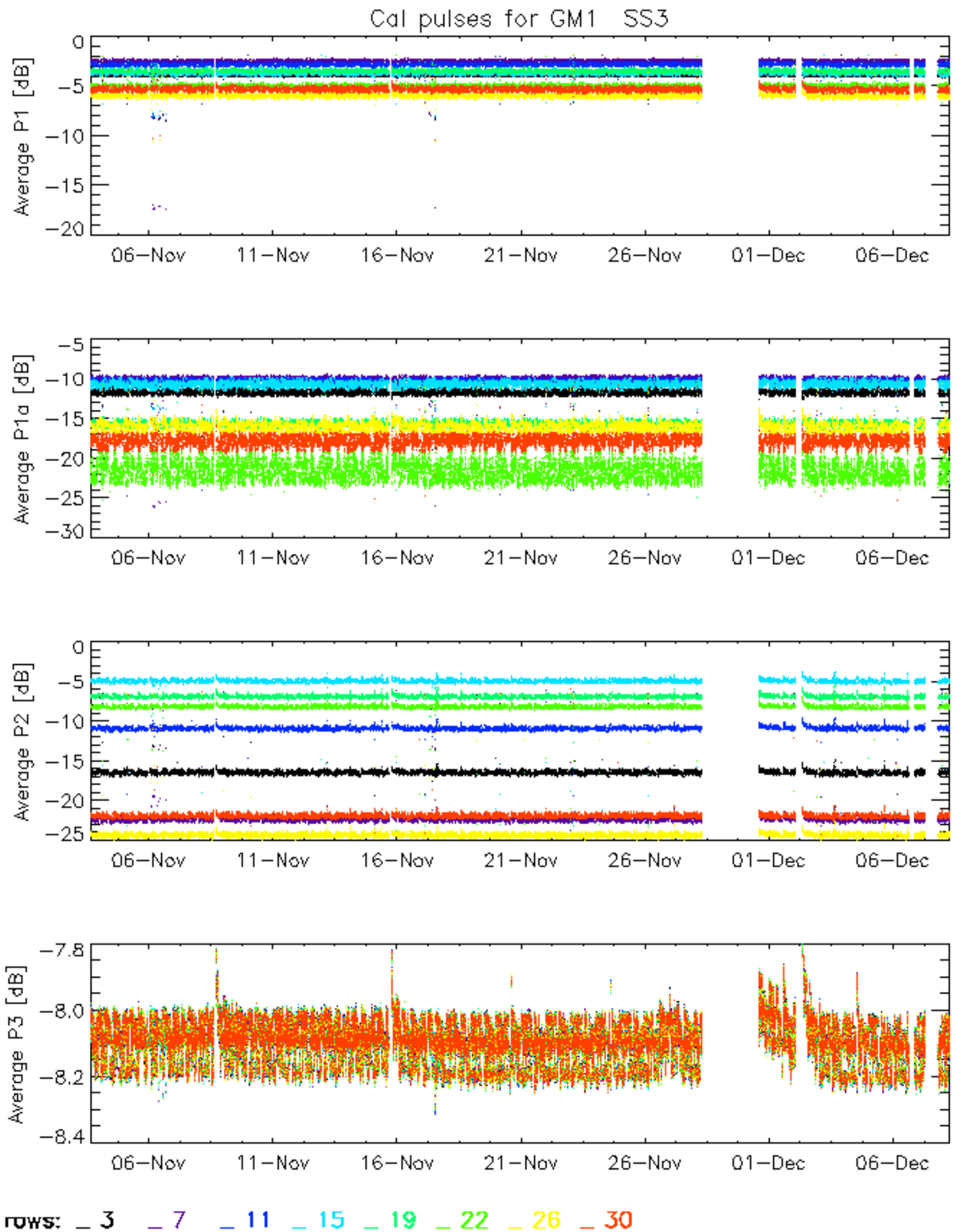
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

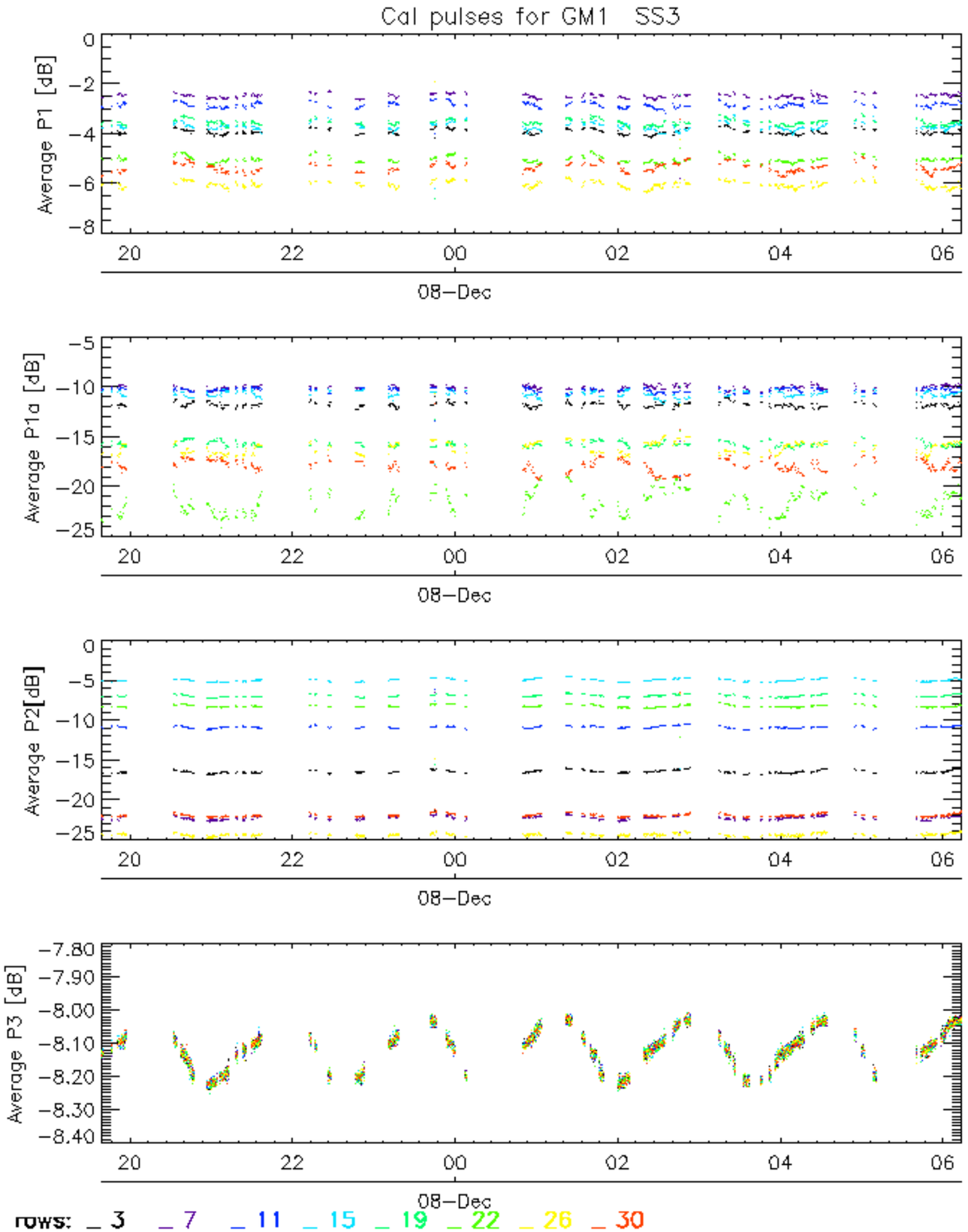
7.6 - Doppler evolution versus ANX for GM1

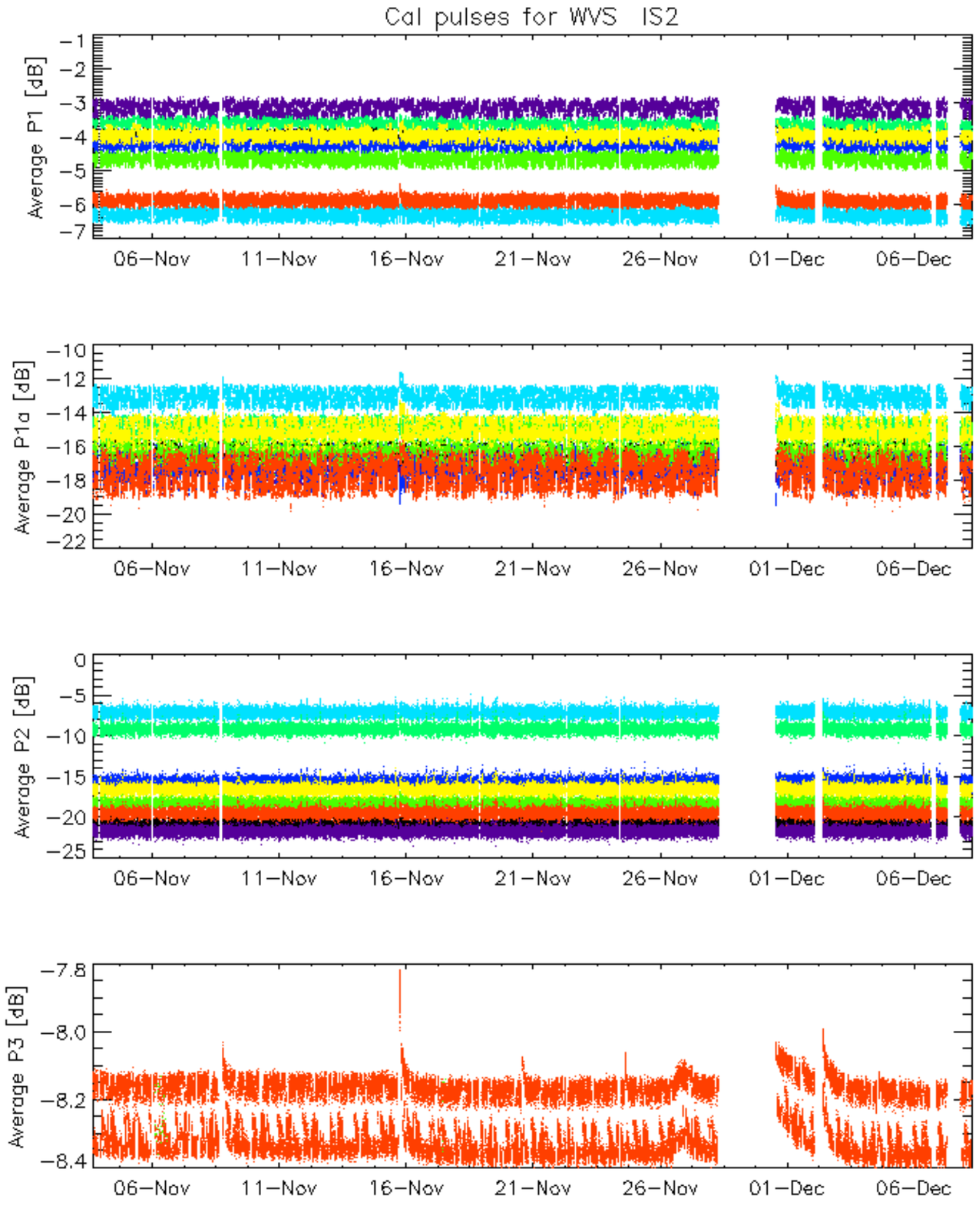
Evolution Doppler error versus ANX
☒

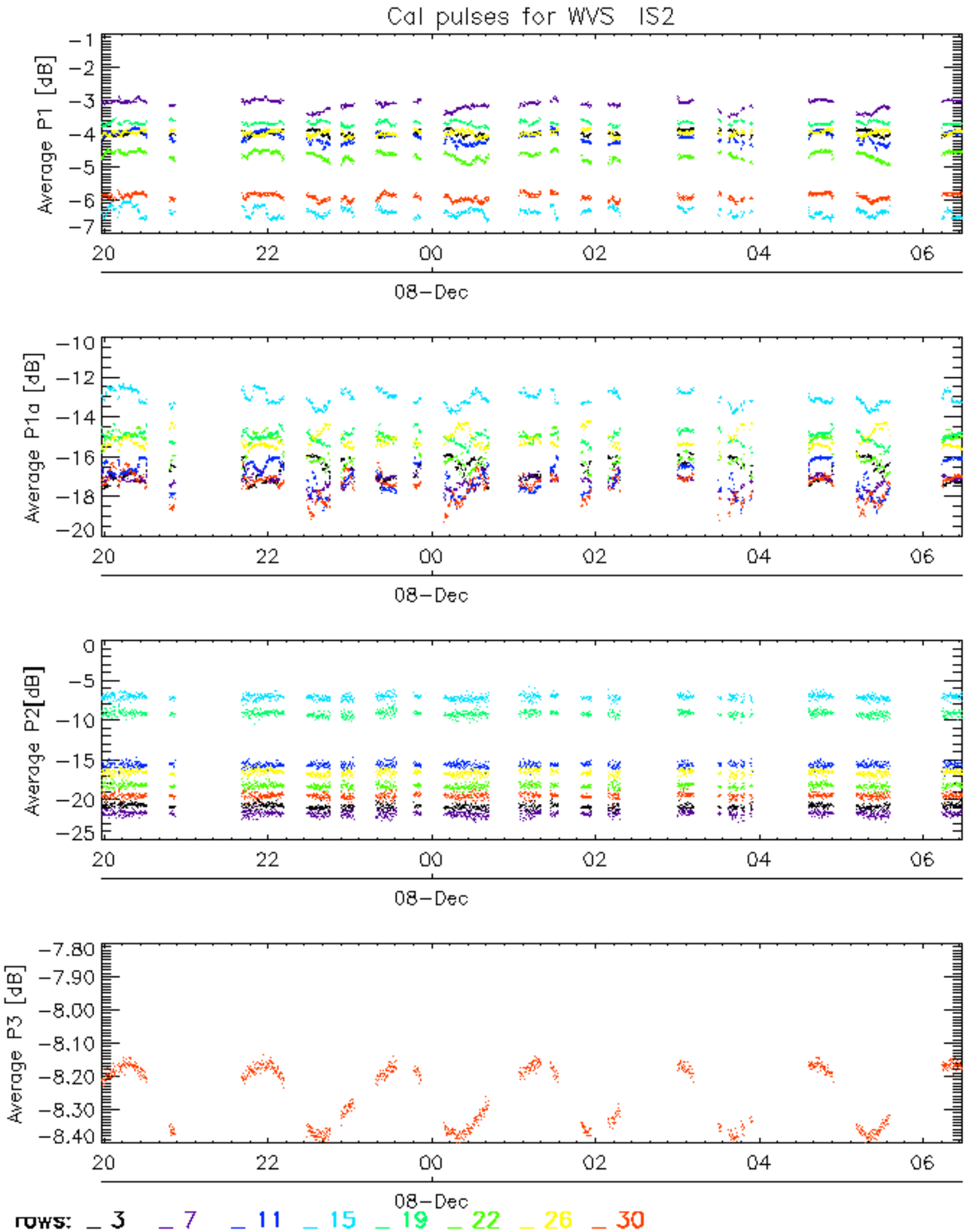

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
20
22
00
02
04
06
08−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
Phase P1a [deg]
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
20
22
00
02
04
06
08−Dec
Average P1a [dB]
−10
−12
−14
−16
−18
−20
20
22
00
02
04
06
08−Dec
Cal pulses for WVS IS2
Phase P1 [deg]
200
100
0
−100
−200
20
22
00
02
04
06
08−Dec
Phase P1a [deg]
200
100
0
−100
−200
20
22
00
02
04
06
08−Dec
rows: 3 7 11 15 19 22 26 30


Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
−20
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
06−Nov
11−Nov
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec
rows: 3 7 11 15 19 22 26 30

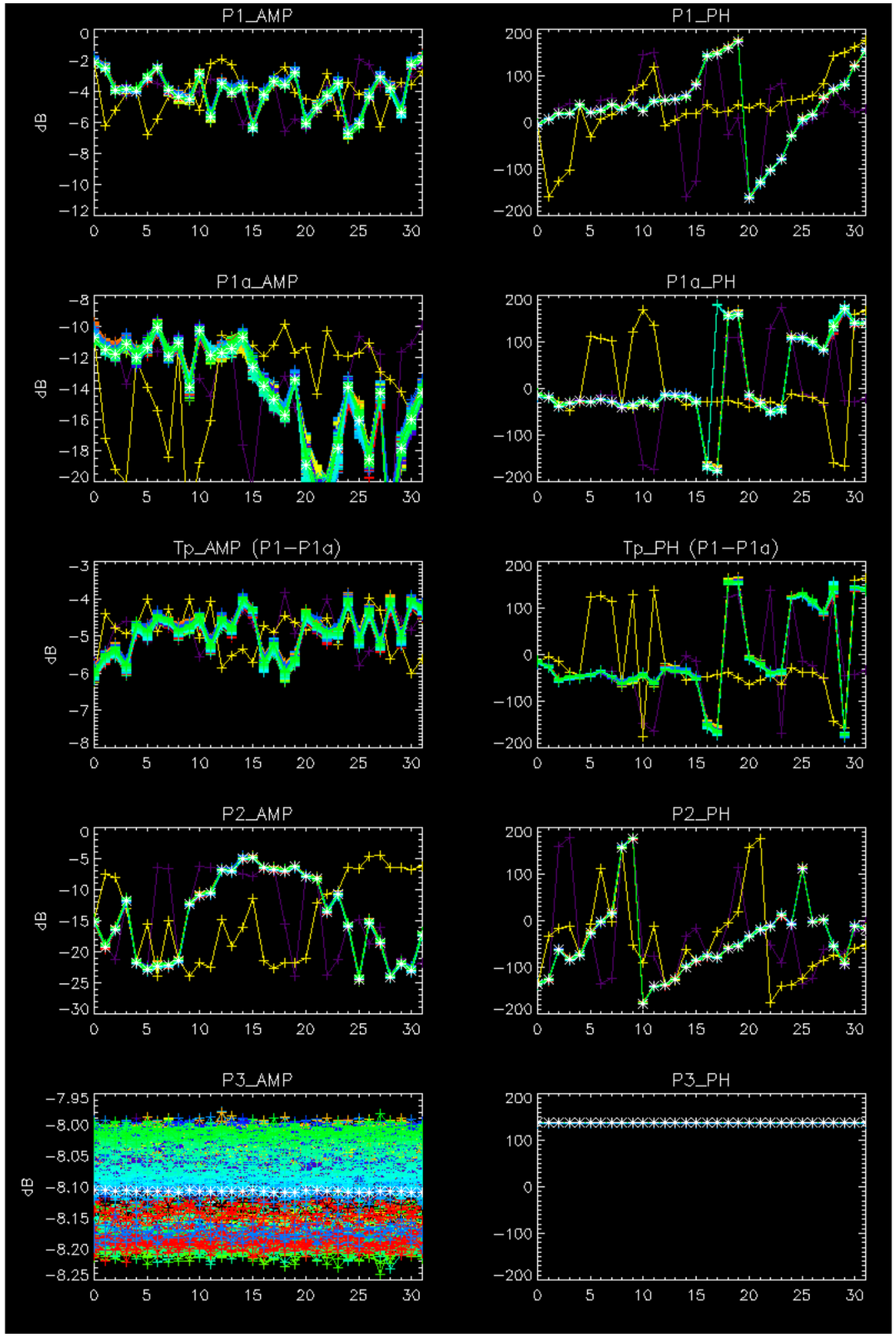

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
20
22
00
02
04
06
08−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
20
22
00
02
04
06
08−Dec
Average P2[dB]
0
−5
−10
−15
−20
−25
20
22
00
02
04
06
08−Dec
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
20
22
00
02
04
06
08−Dec
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

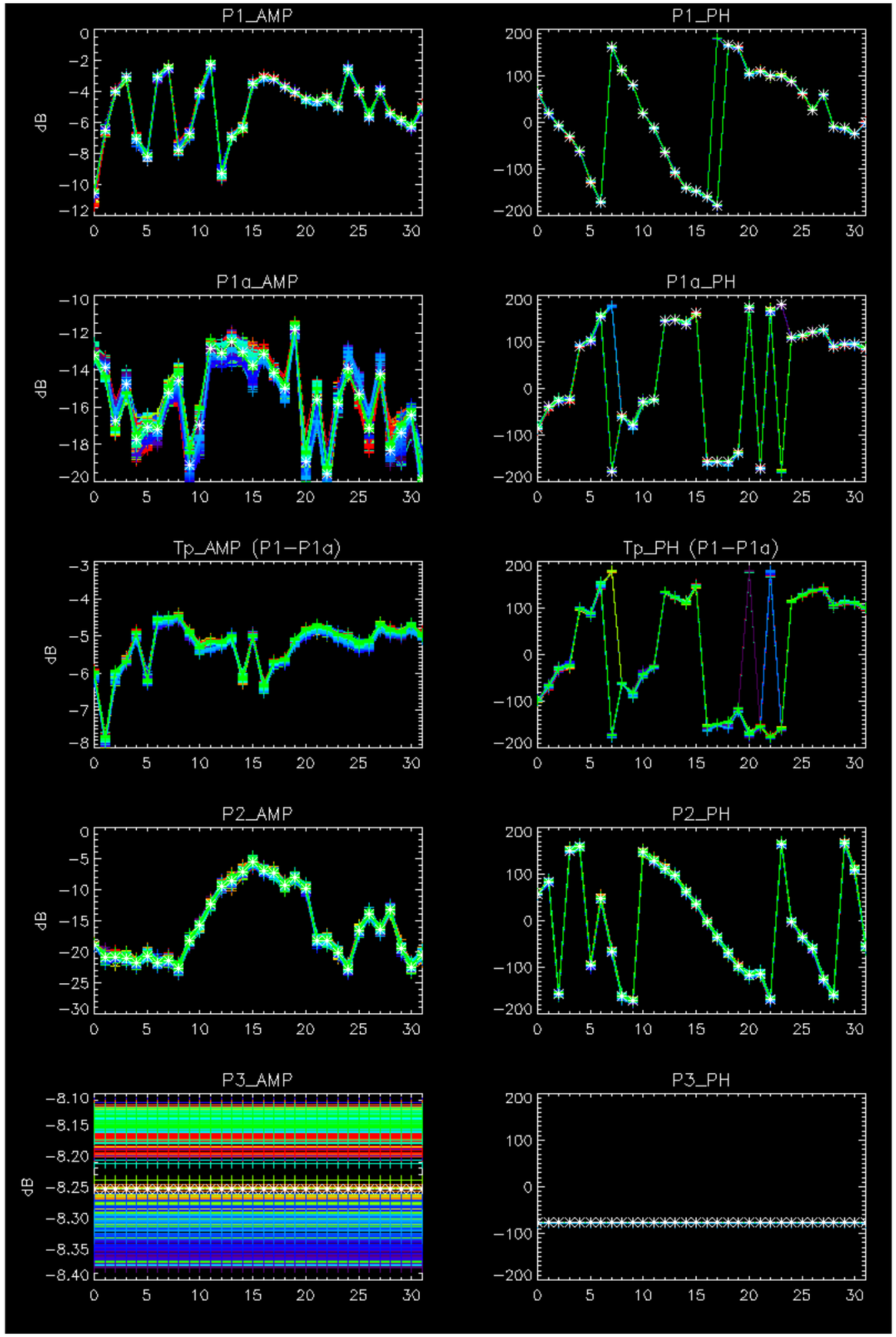

Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
06−Nov
11−Nov
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
20
22
00
02
04
06
08−Dec
Average P1a [dB]
−10
−12
−14
−16
−18
−20
20
22
00
02
04
06
08−Dec
Average P2[dB]
0
−5
−10
−15
−20
−25
20
22
00
02
04
06
08−Dec
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
20
22
00
02
04
06
08−Dec
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

No anomalies observed on available browse products

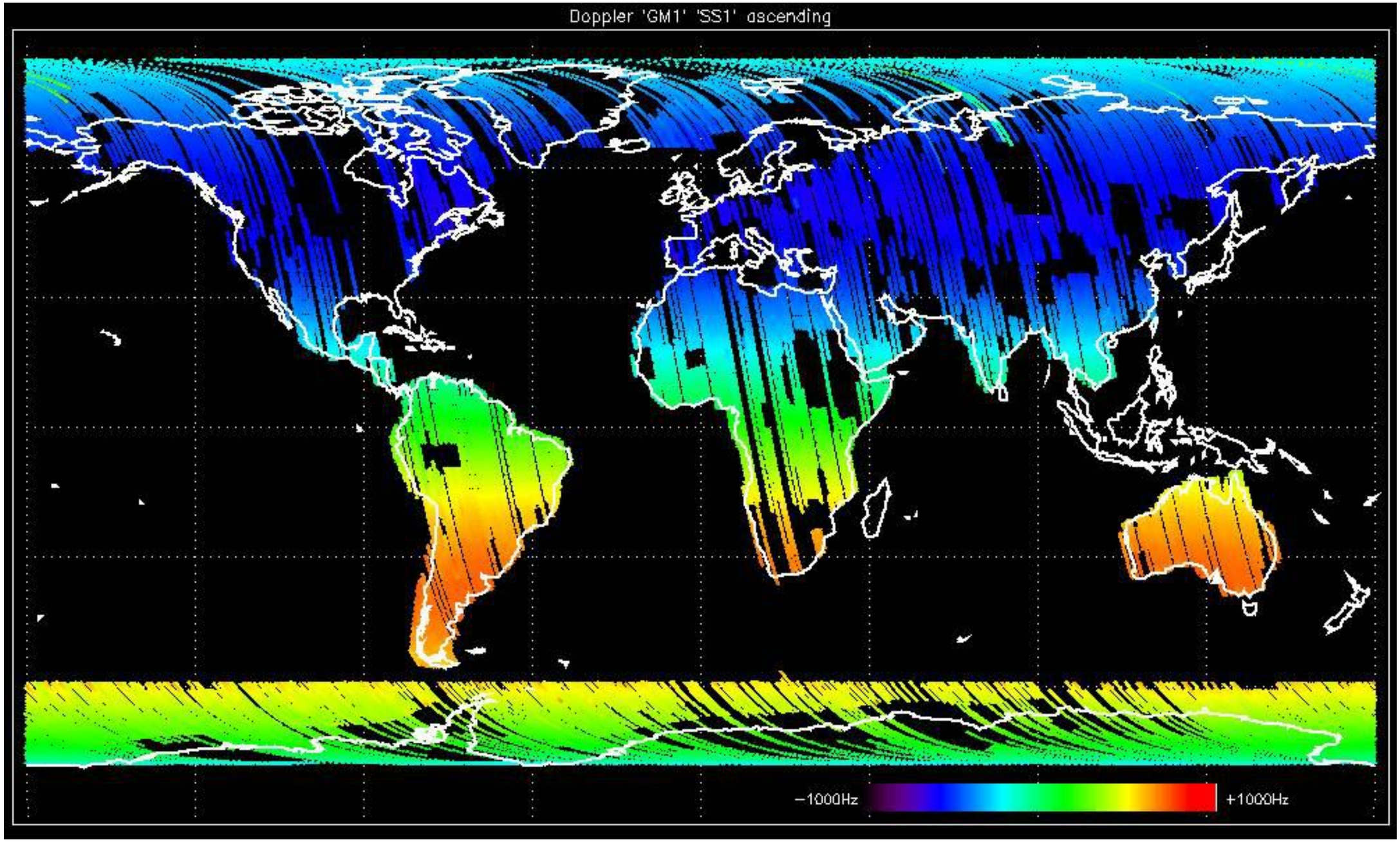
No anomalies observed.

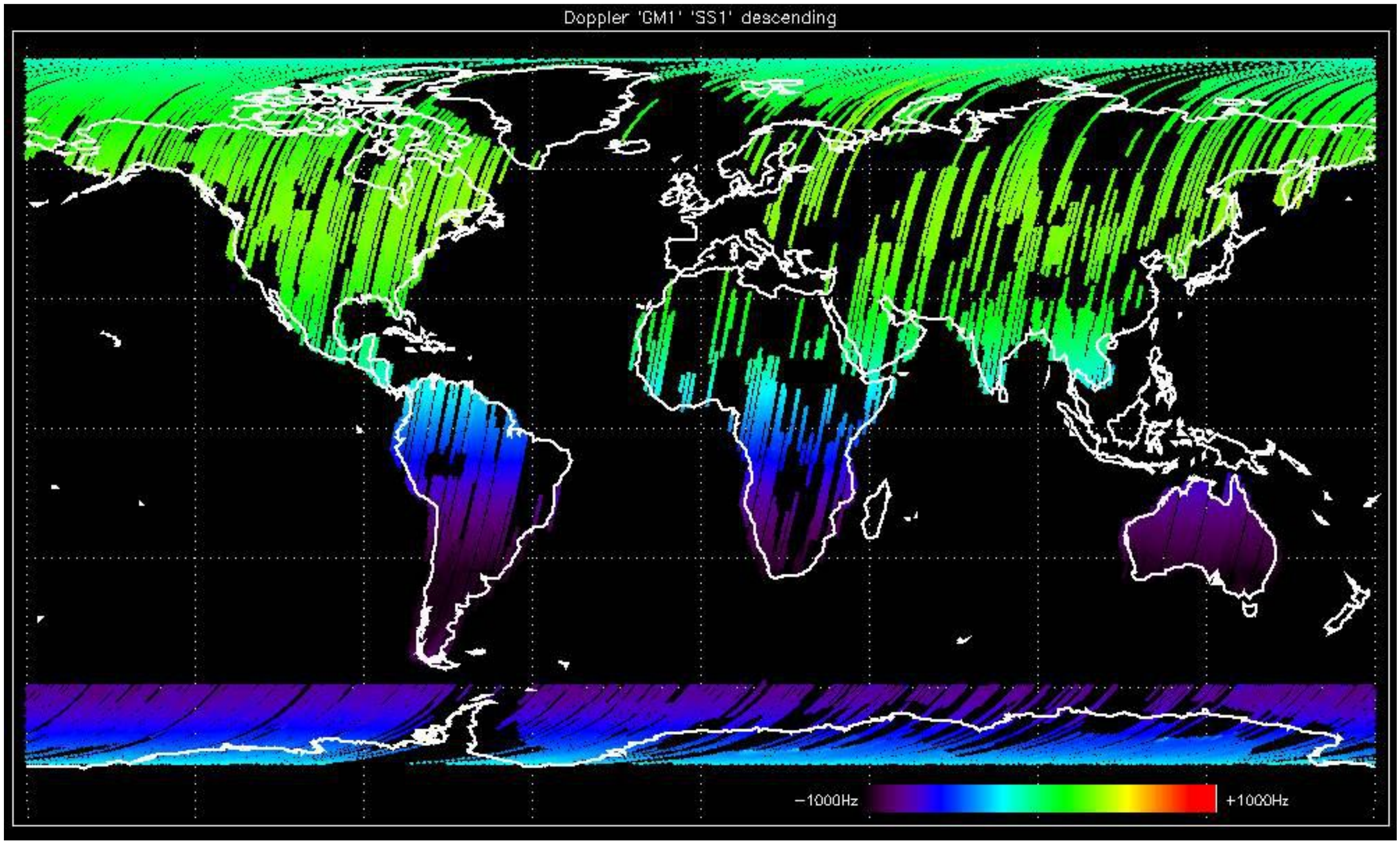

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

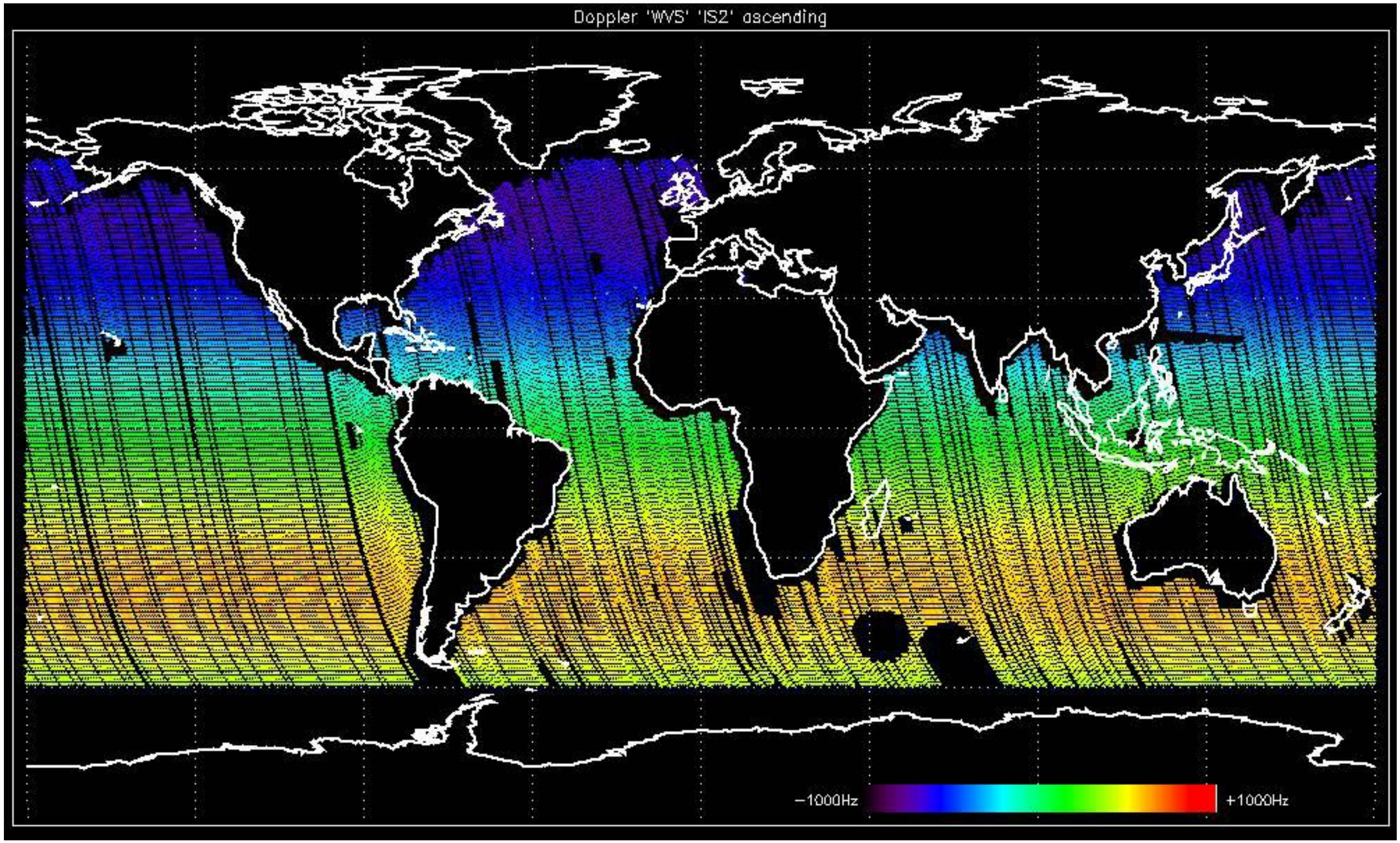

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

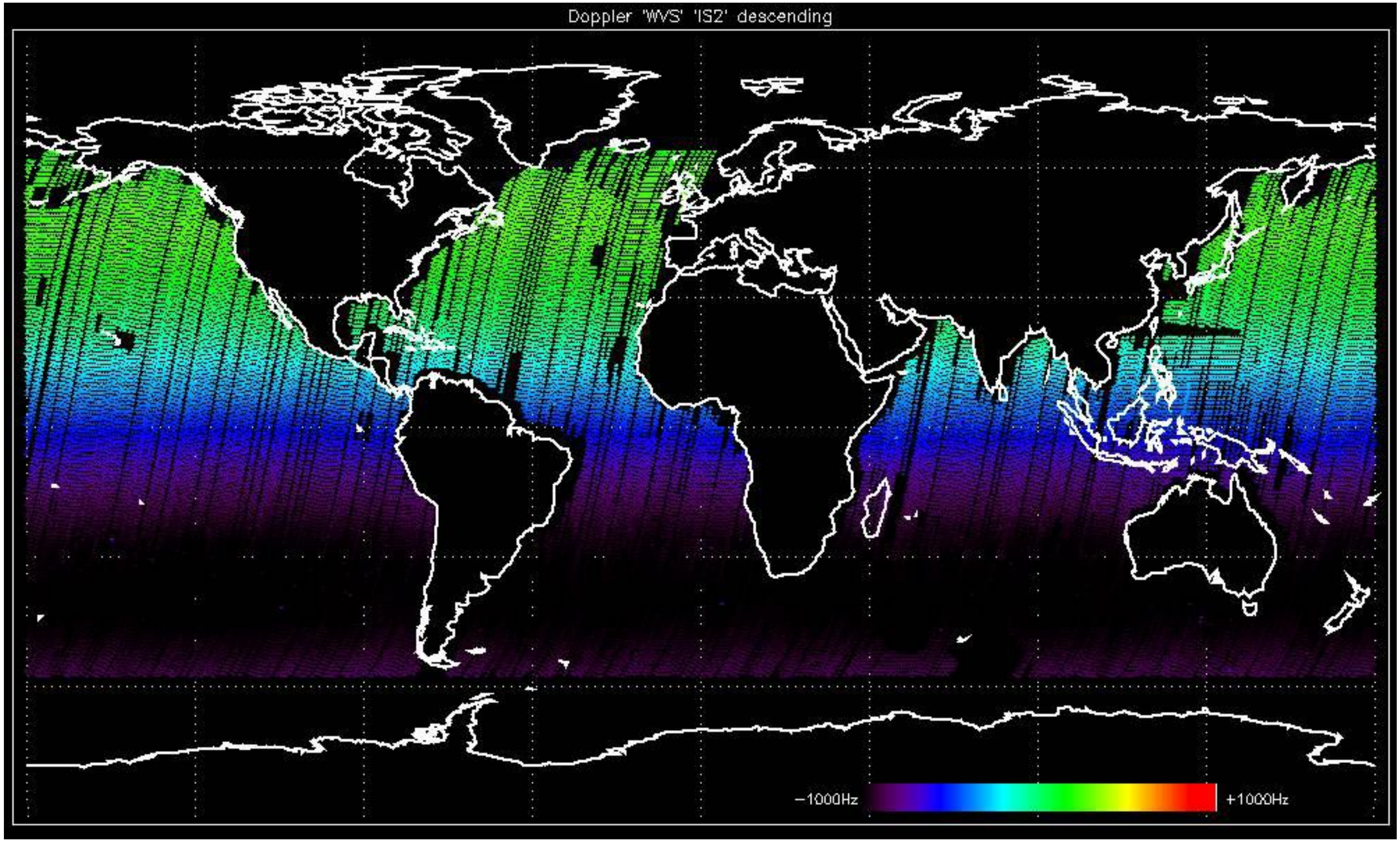
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

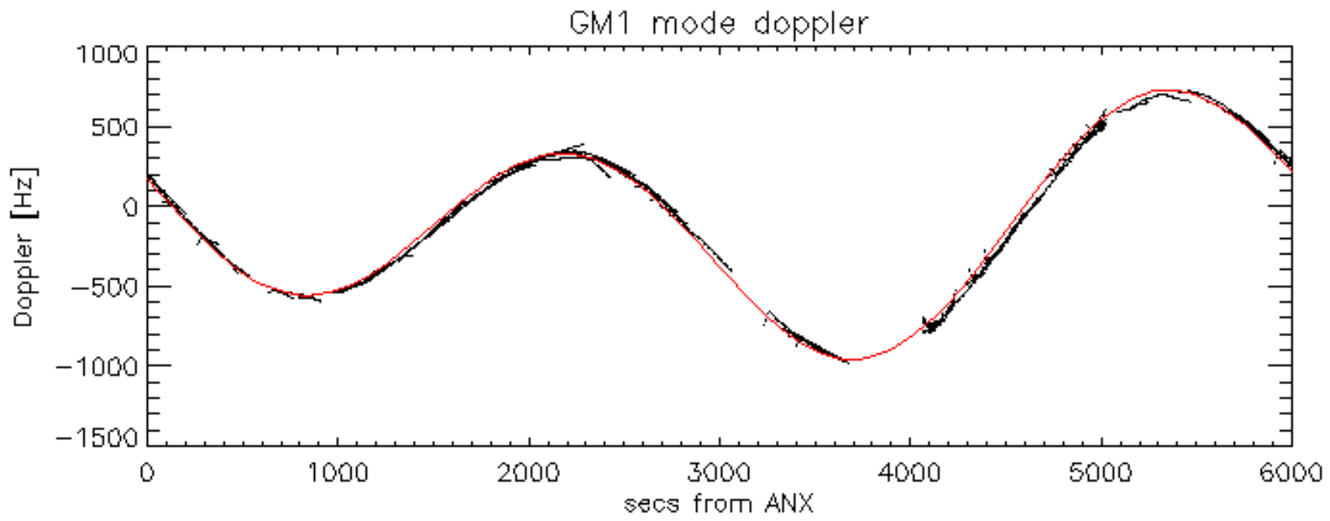
Preliminary report.The data is not yet controled

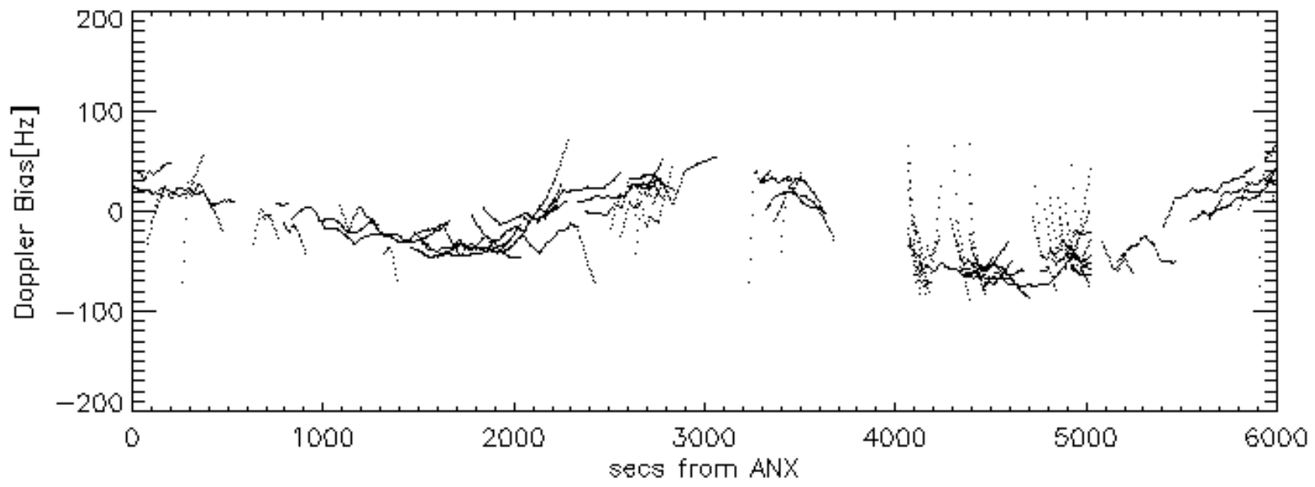

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

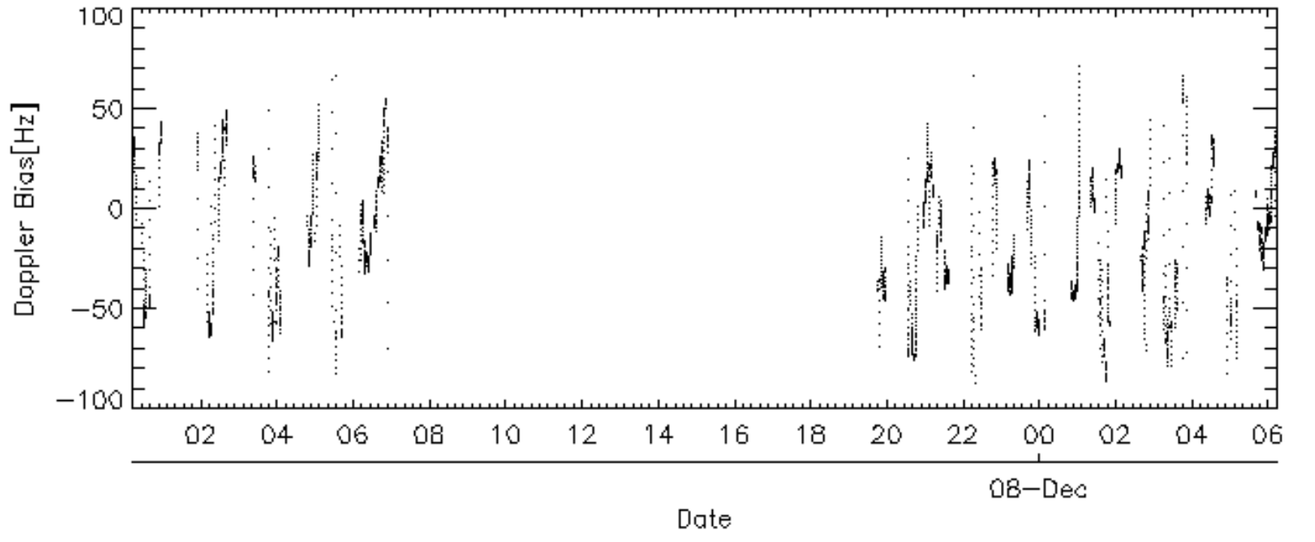

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

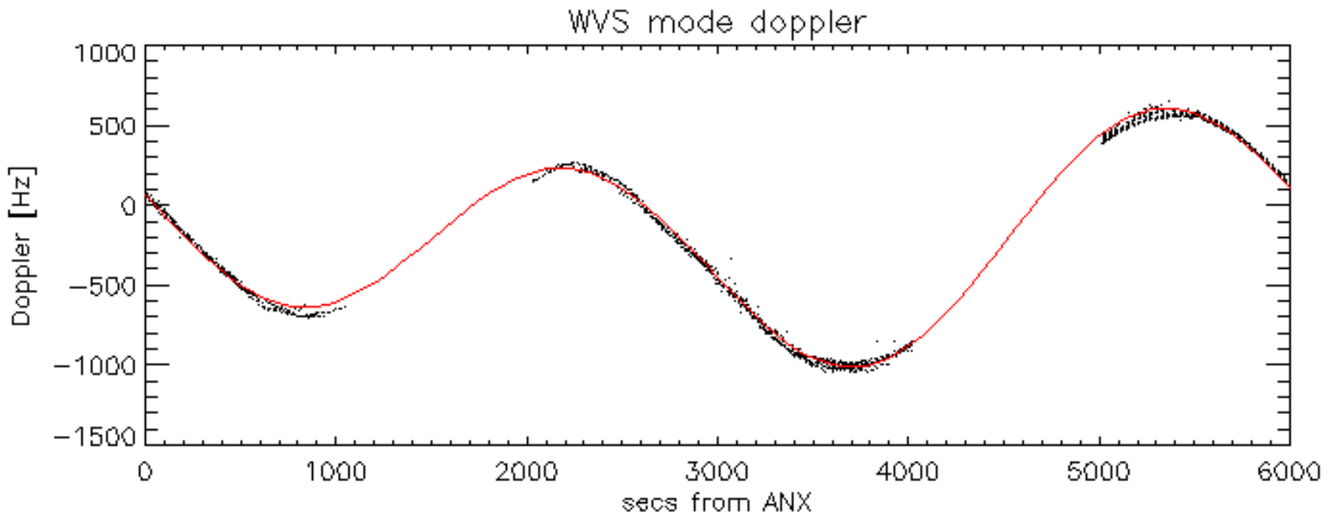

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

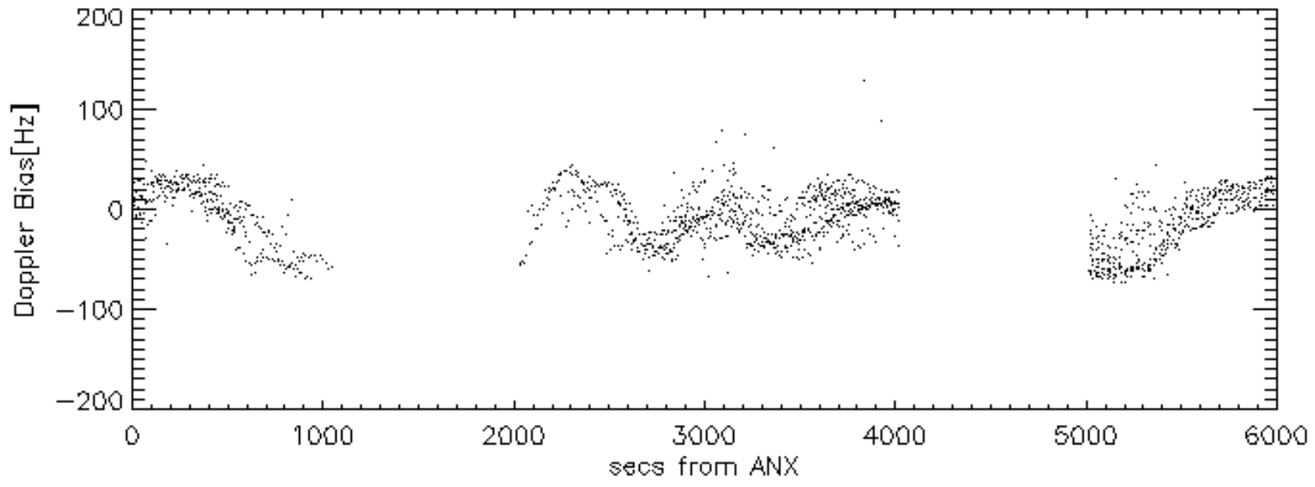

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

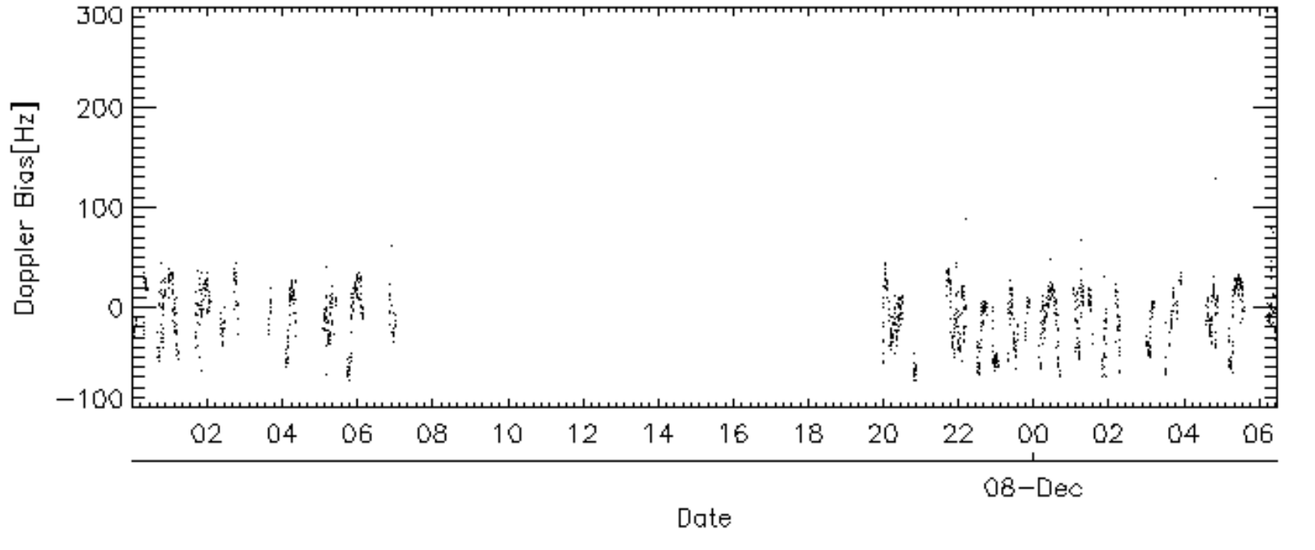

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

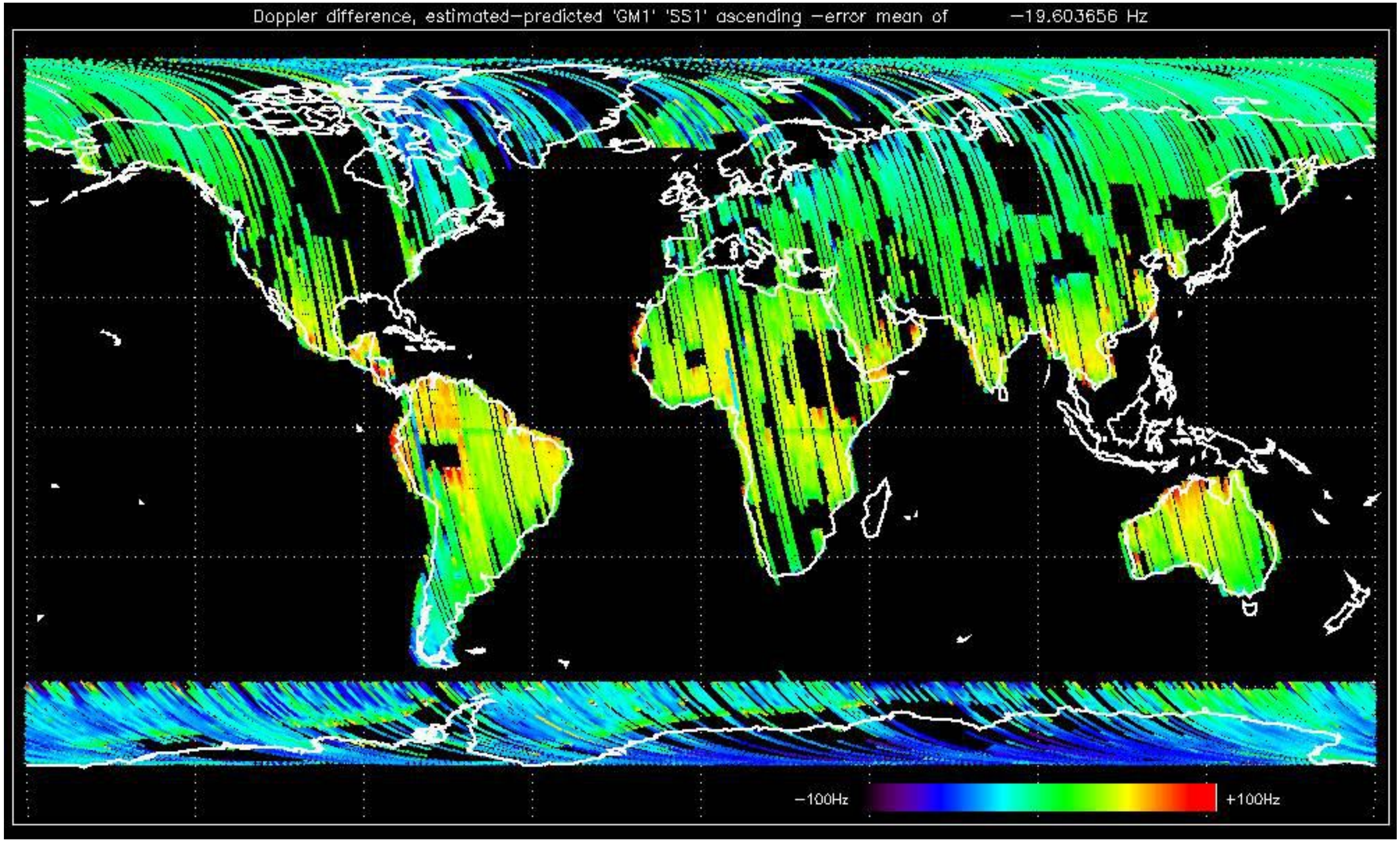

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

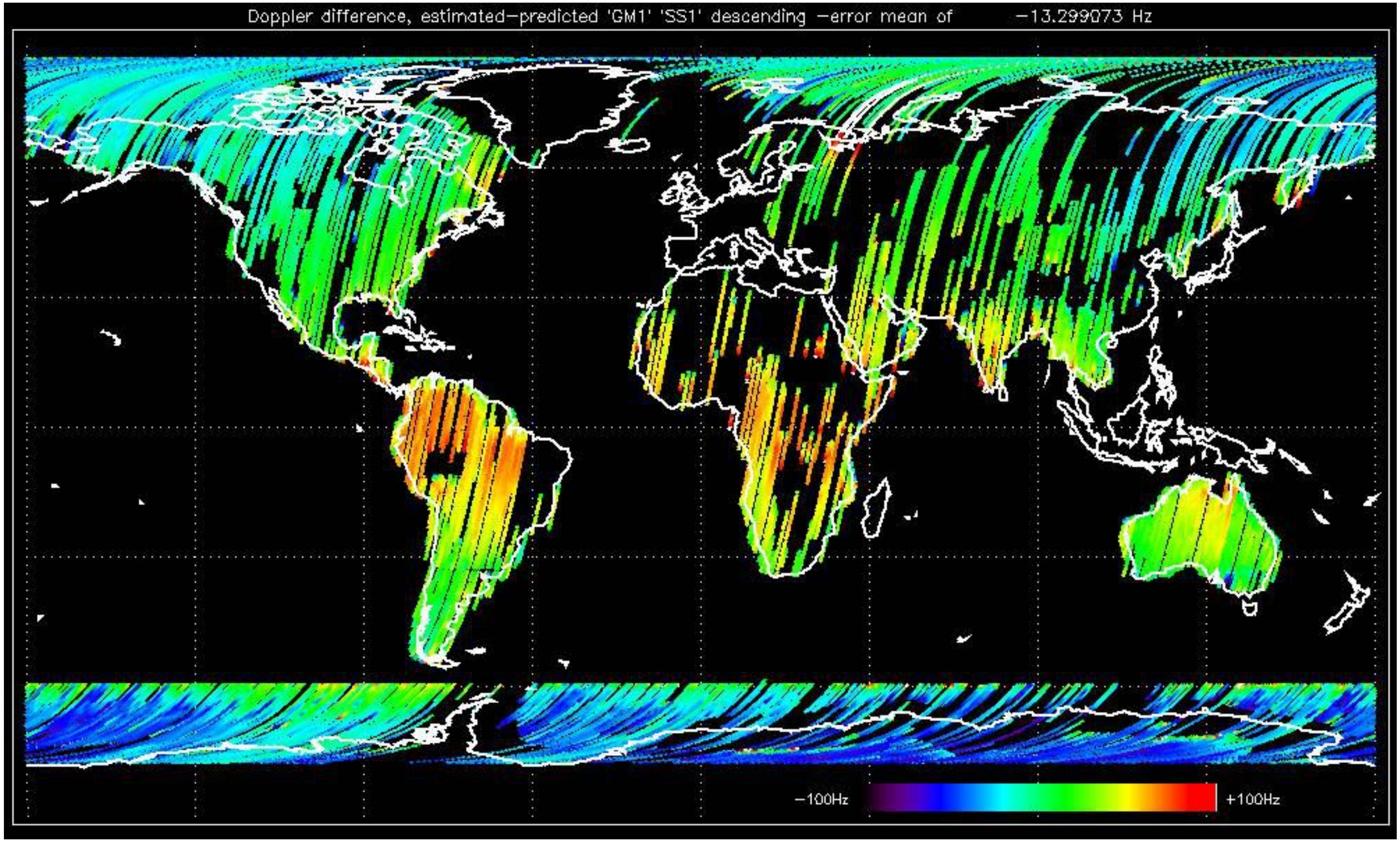

Doppler Bias[Hz]
100
50
0
−50
−100
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
08−Dec
Date

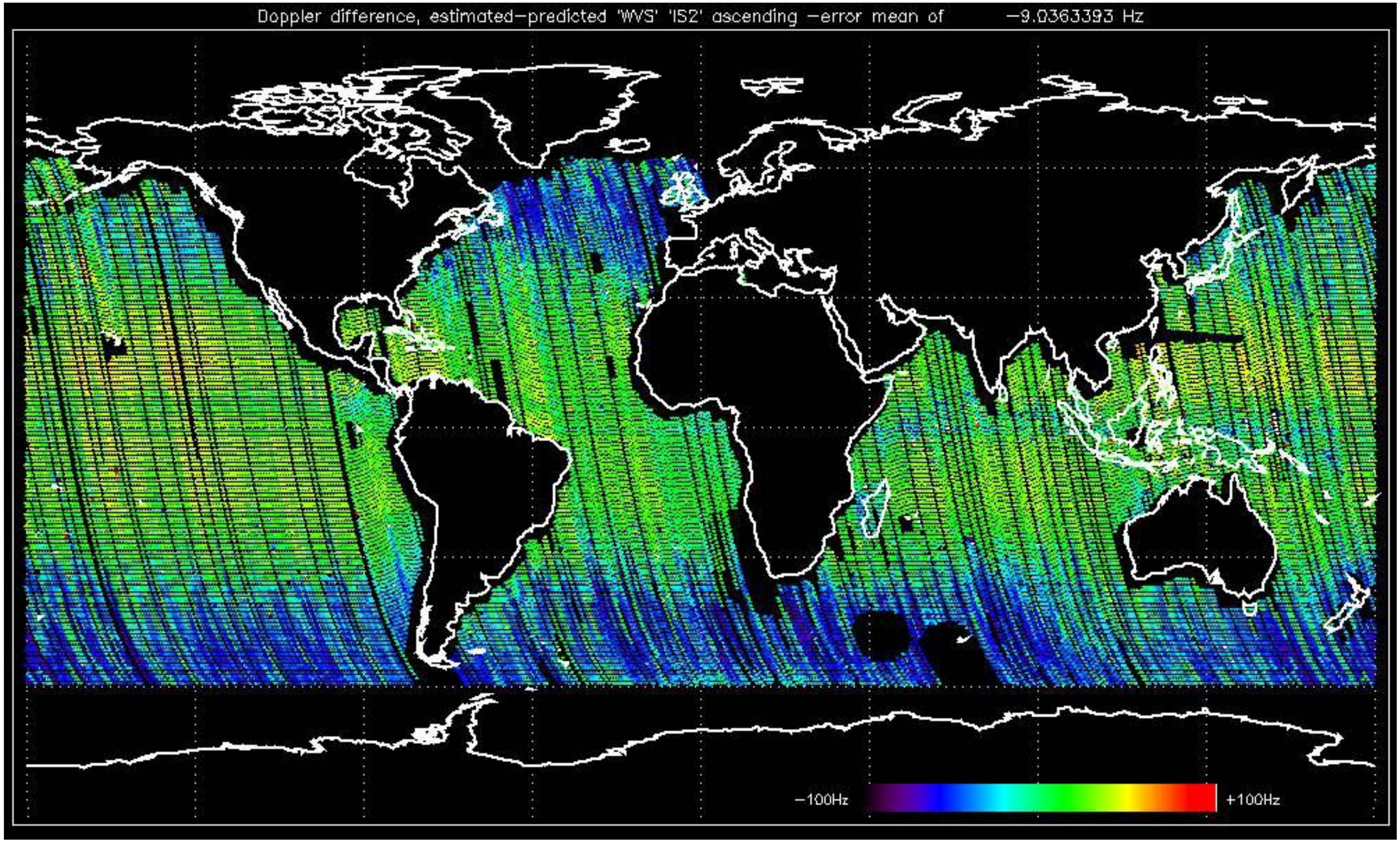

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

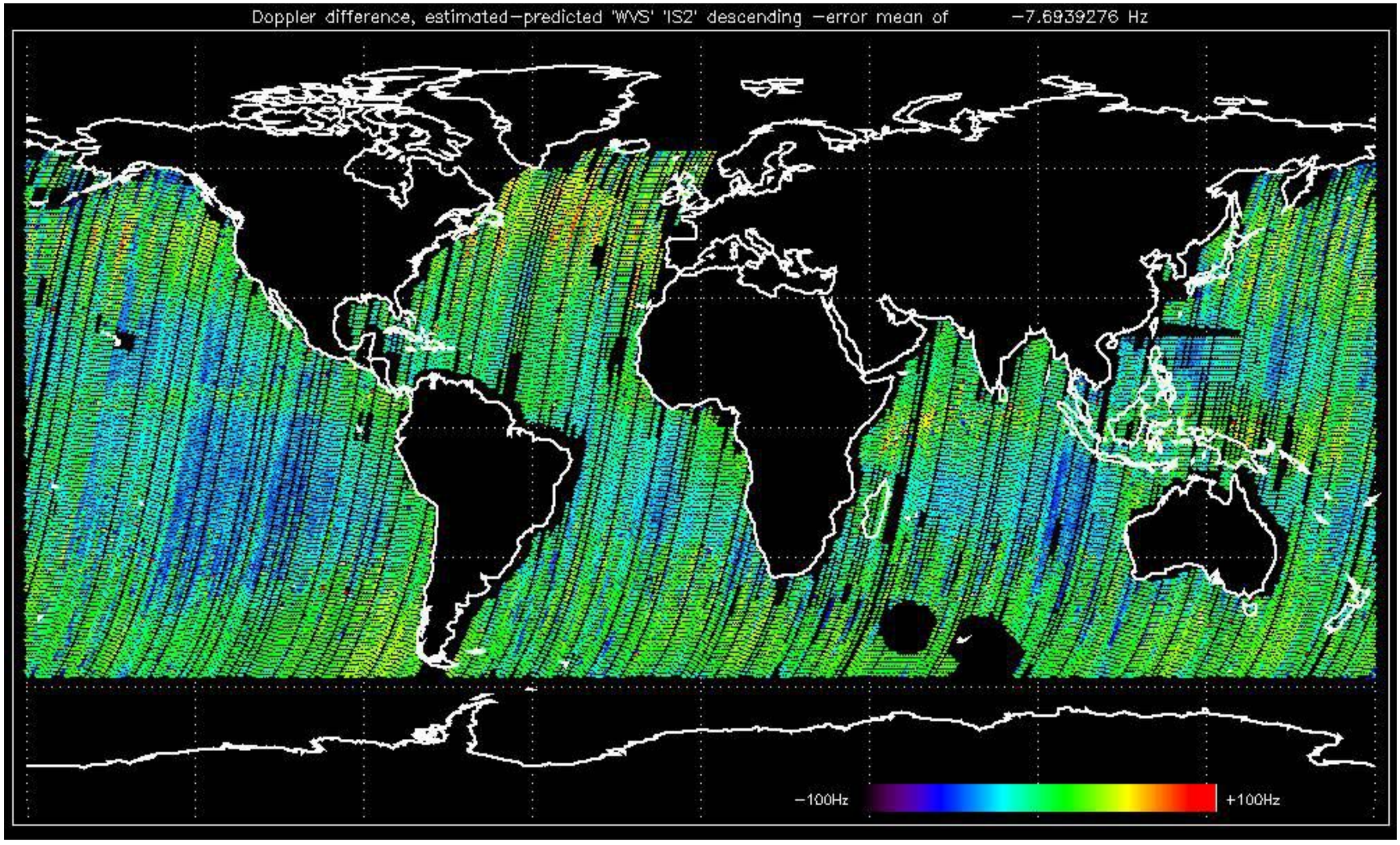

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −19.603656 Hz
−100Hz
+100Hz

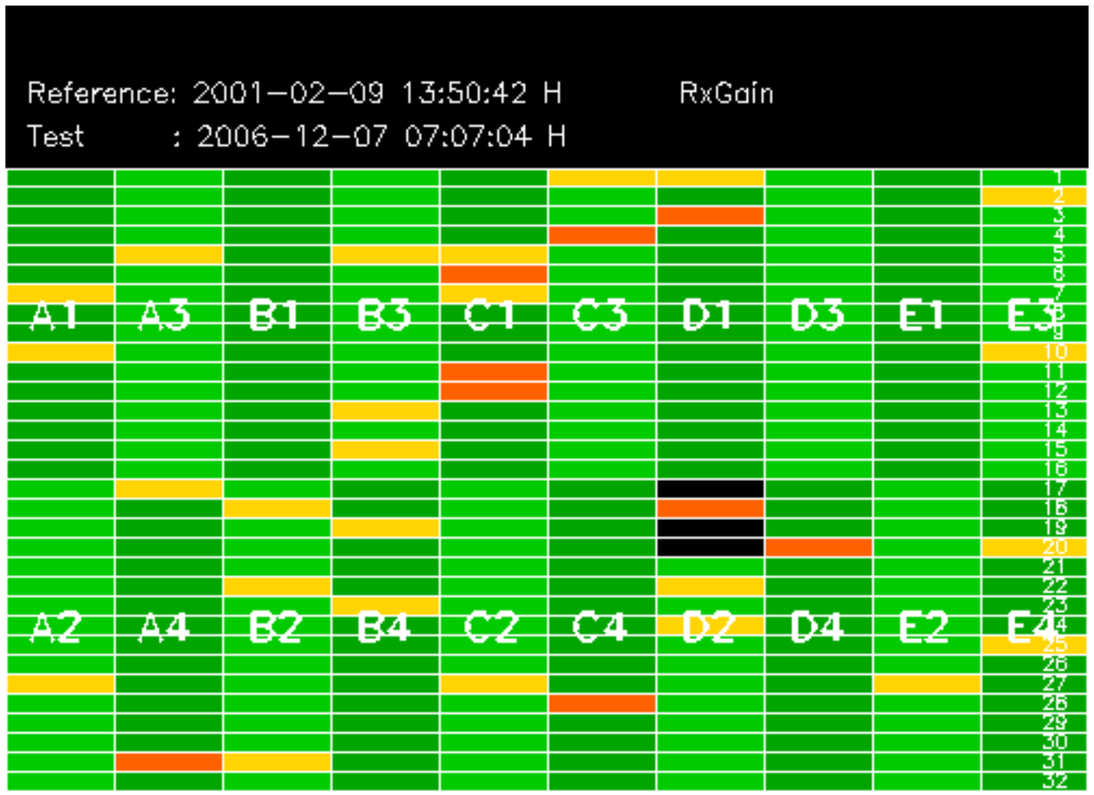

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −13.299073 Hz
−100Hz
+100Hz

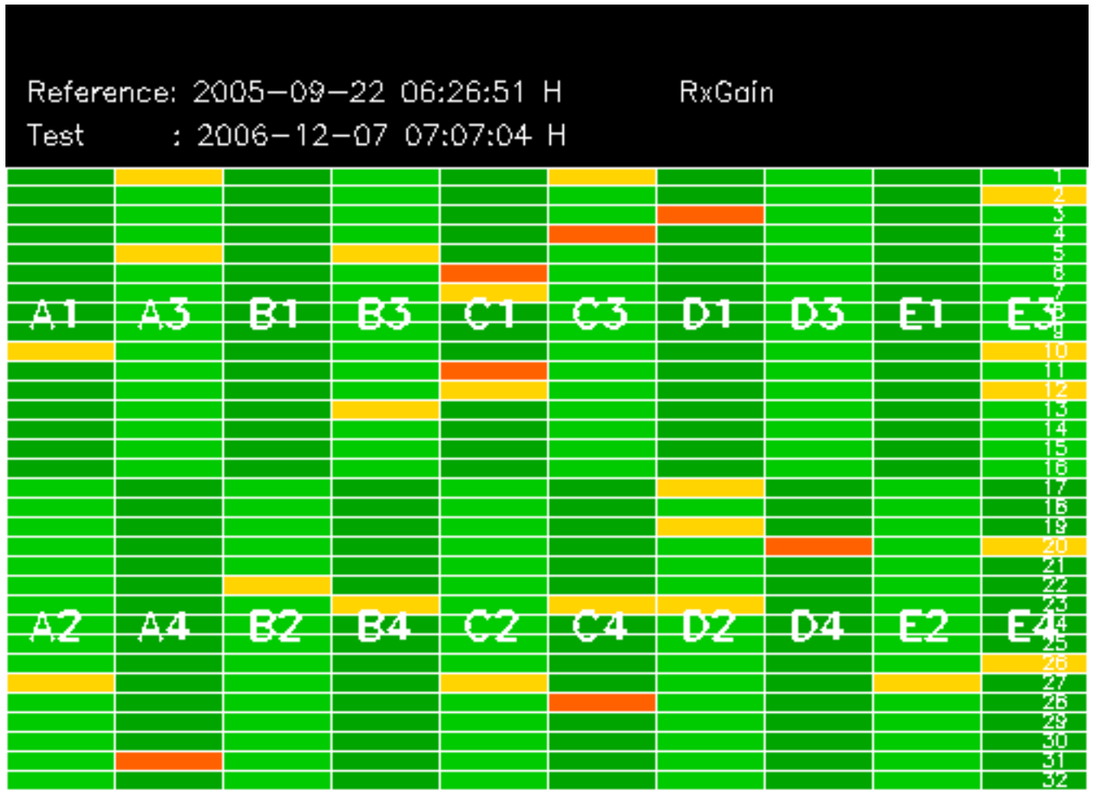

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −9.0363393 Hz
−100Hz
+100Hz

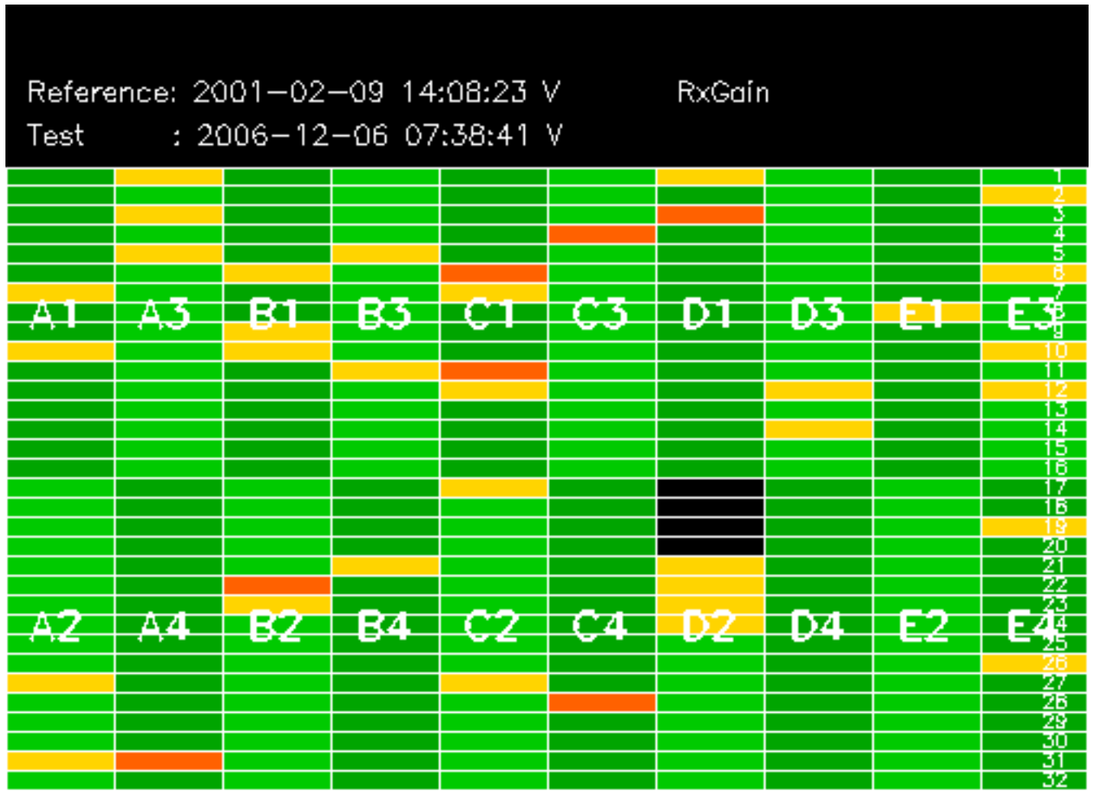

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −7.6939276 Hz
−100Hz
+100Hz

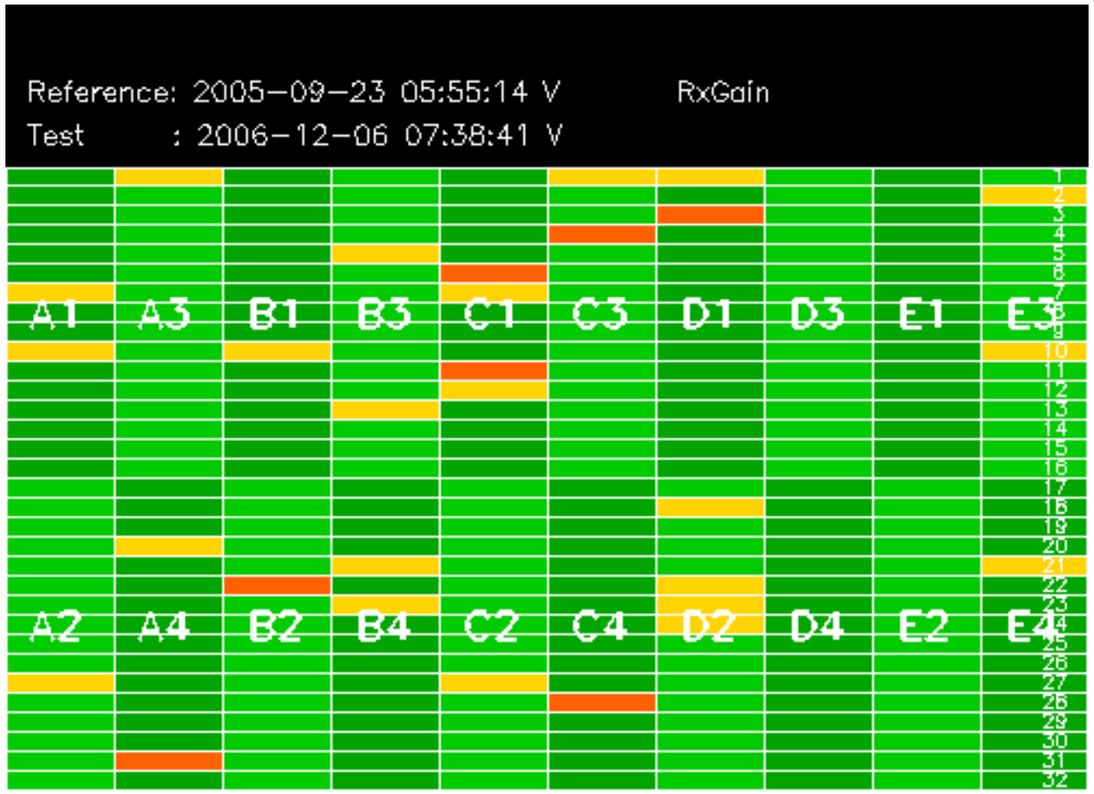
No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2006-12-07 07:07:04 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-22 06:26:51 H
Test : 2006-12-07 07:07:04 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 : 2006-12-06 07:38:41 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-23 05:55:14 V
Test : 2006-12-06 07:38:41 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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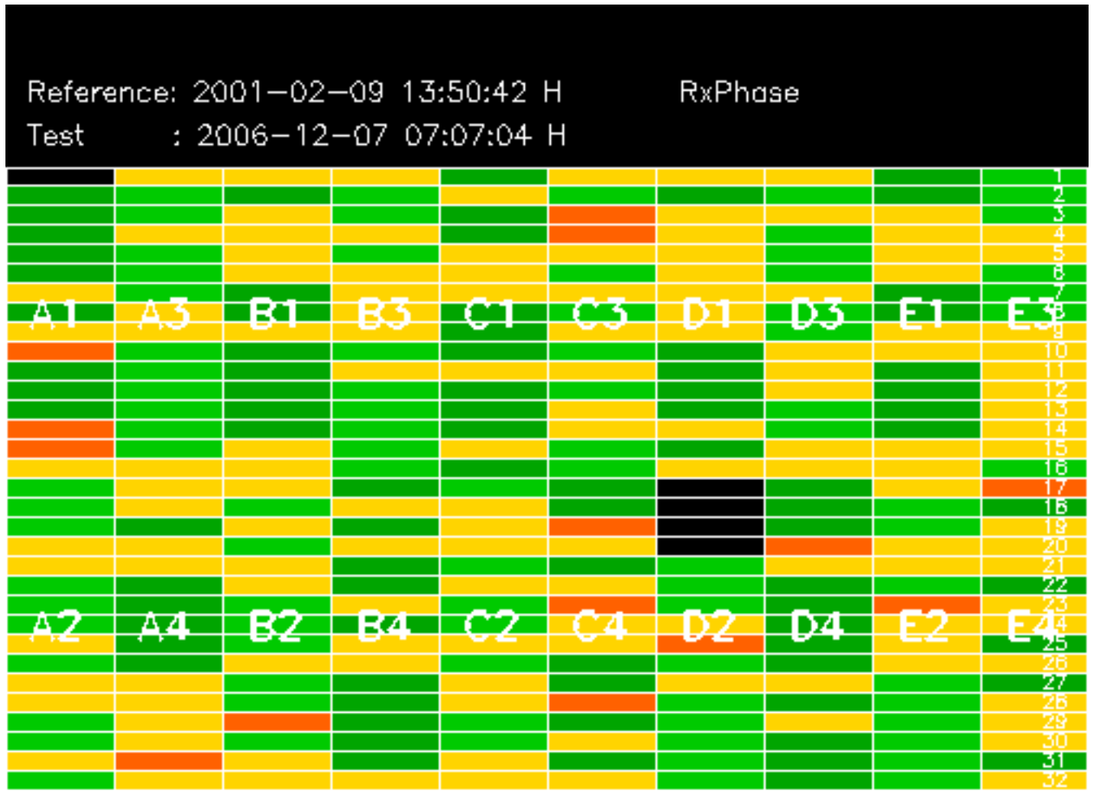
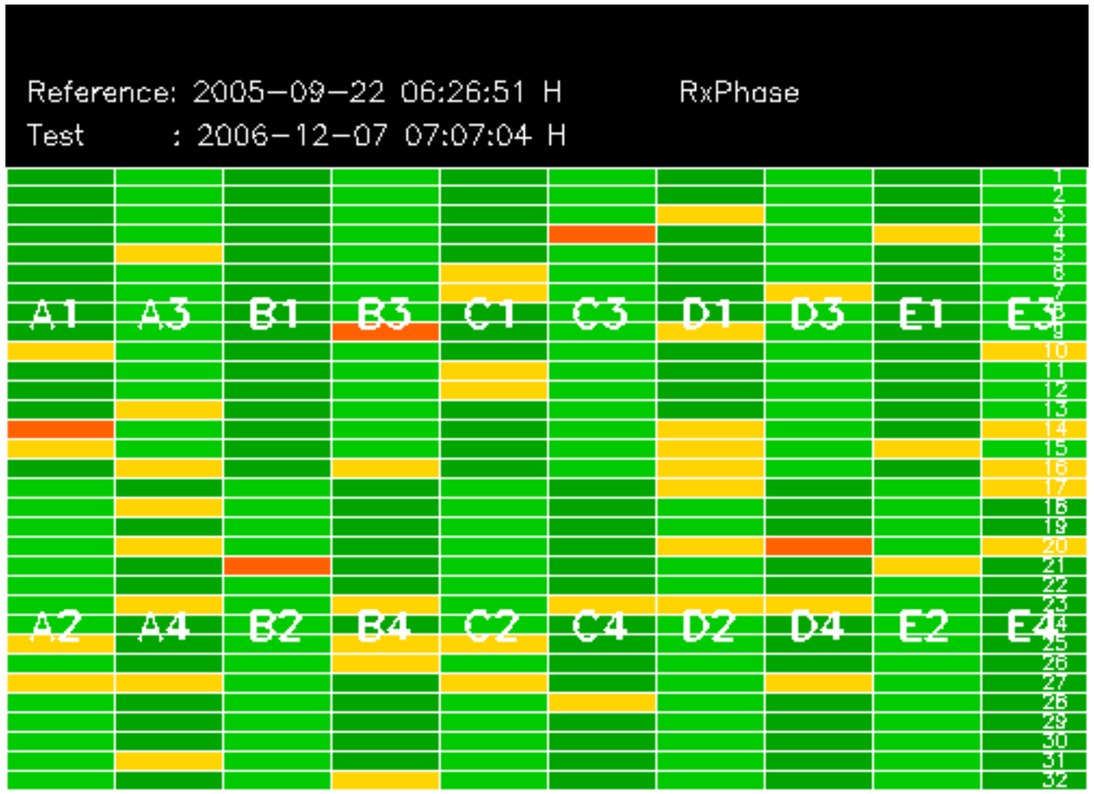

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-12-07 07:07:04 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-22 06:26:51 H
Test : 2006-12-07 07:07:04 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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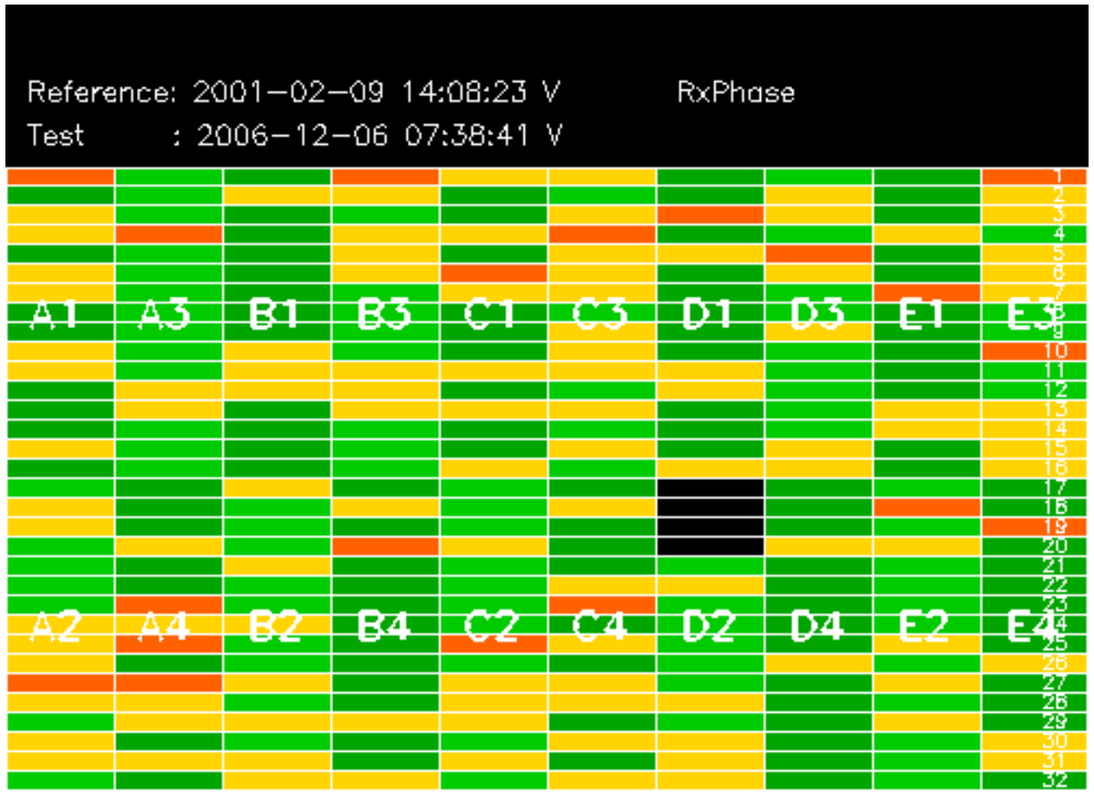
Reference: 2001-02-09 14:08:23 V
Test : 2006-12-06 07:38:41 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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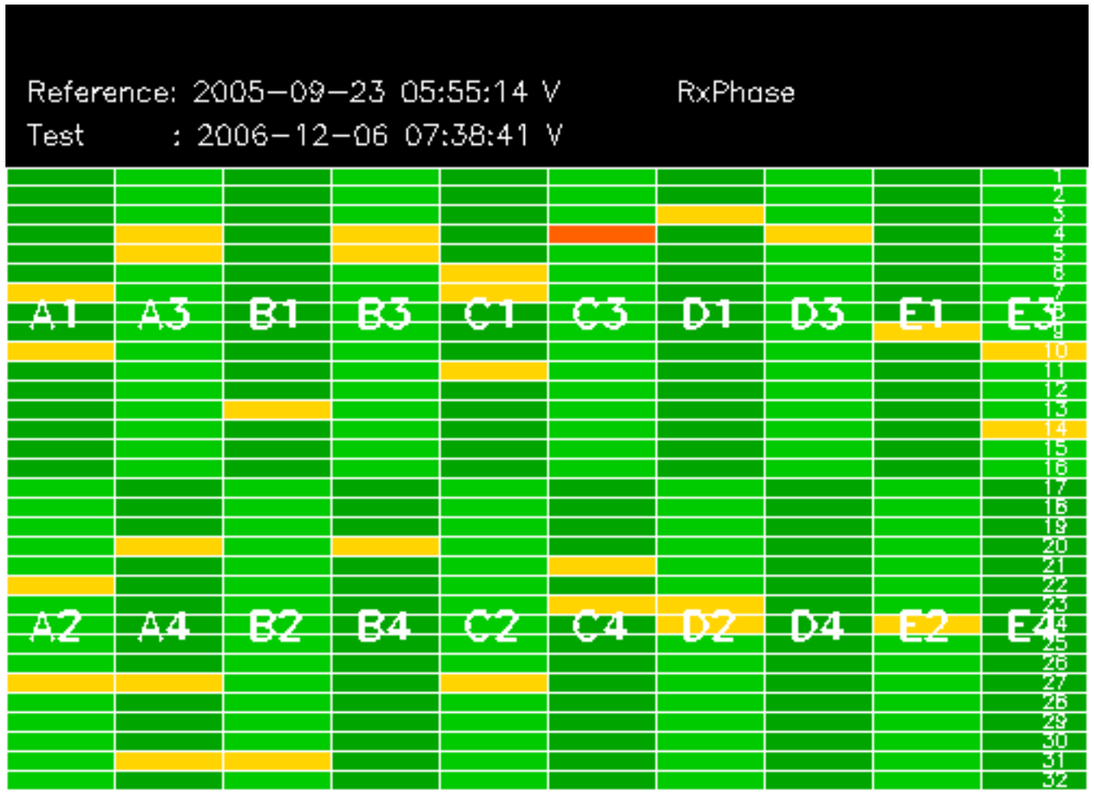
Reference: 2005-09-23 05:55:14 V
Test : 2006-12-06 07:38:41 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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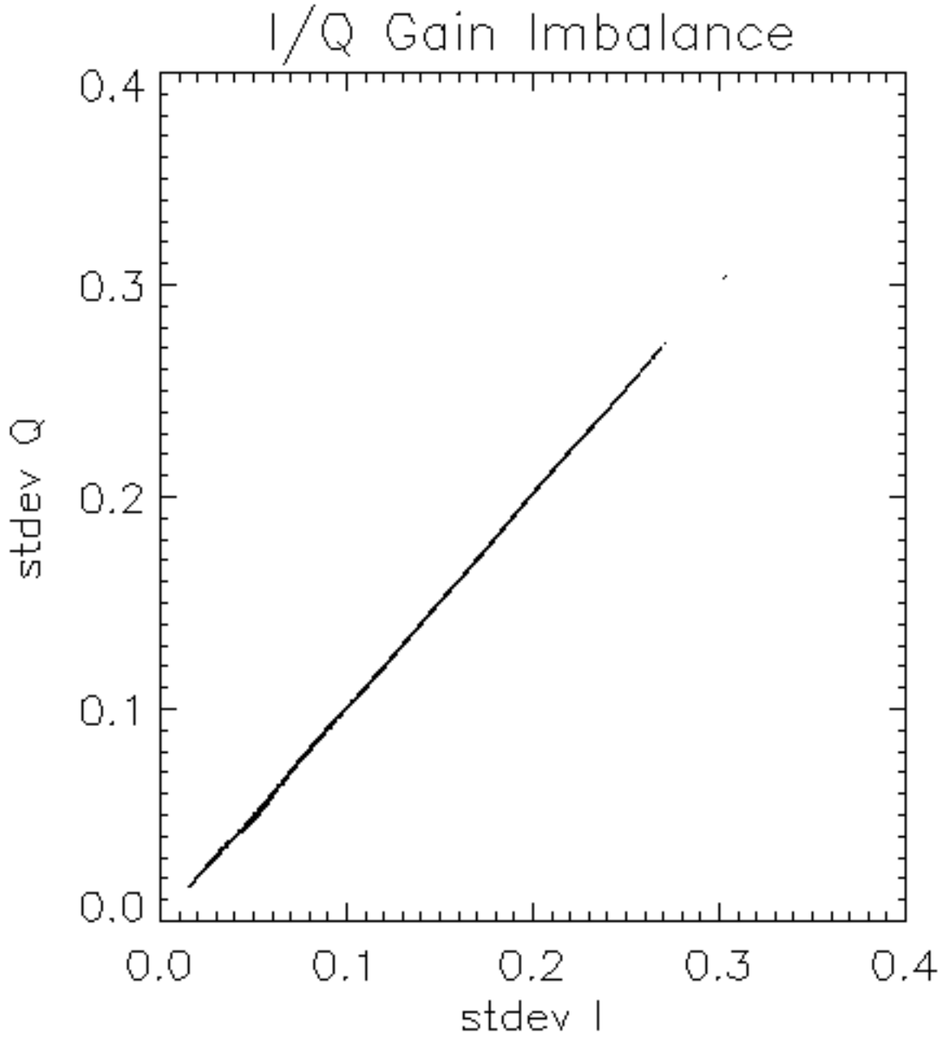
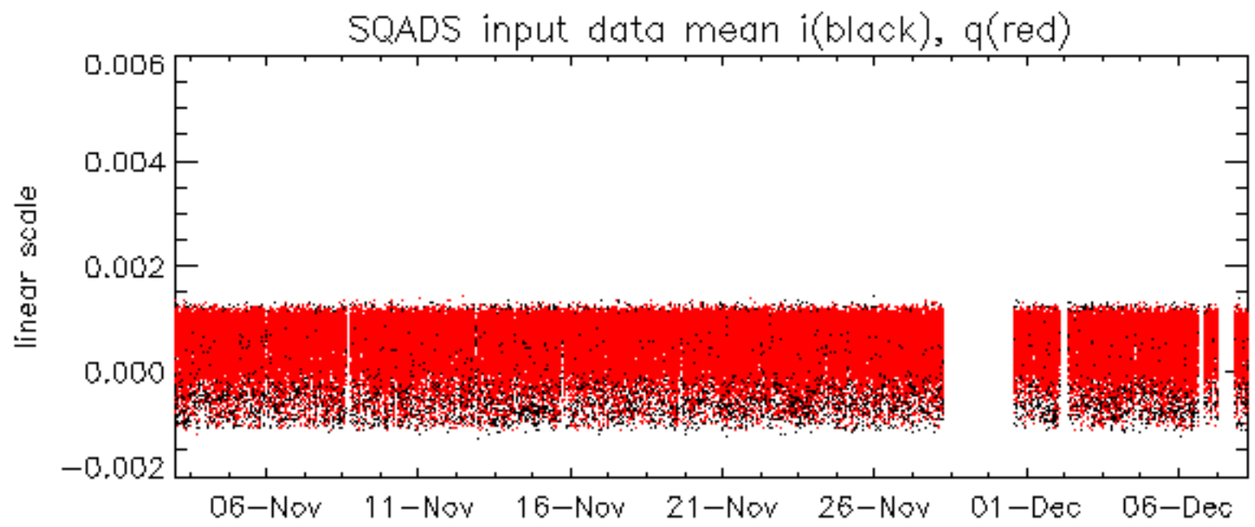
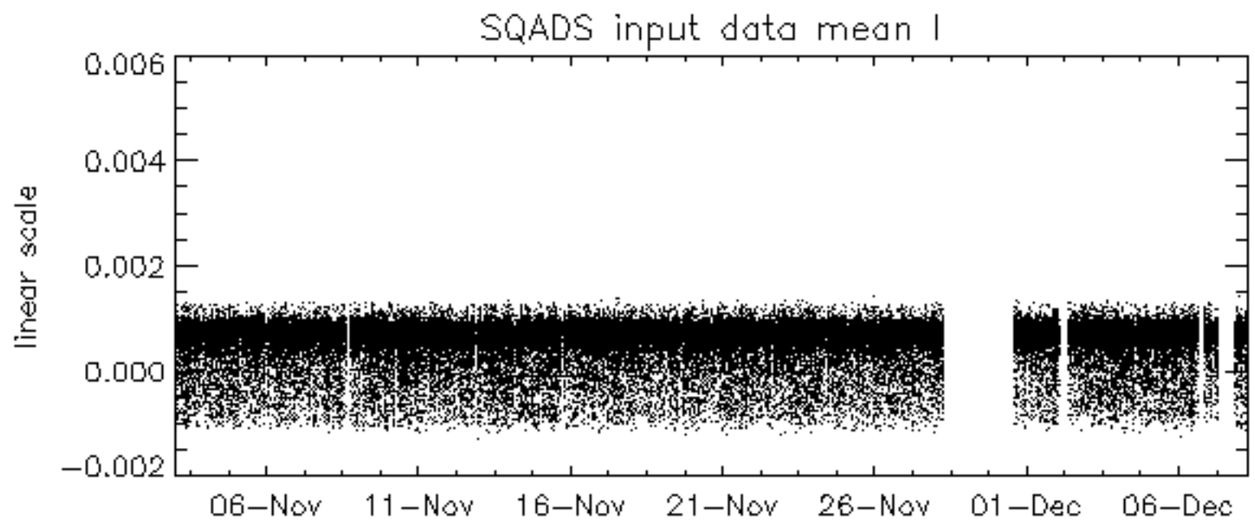
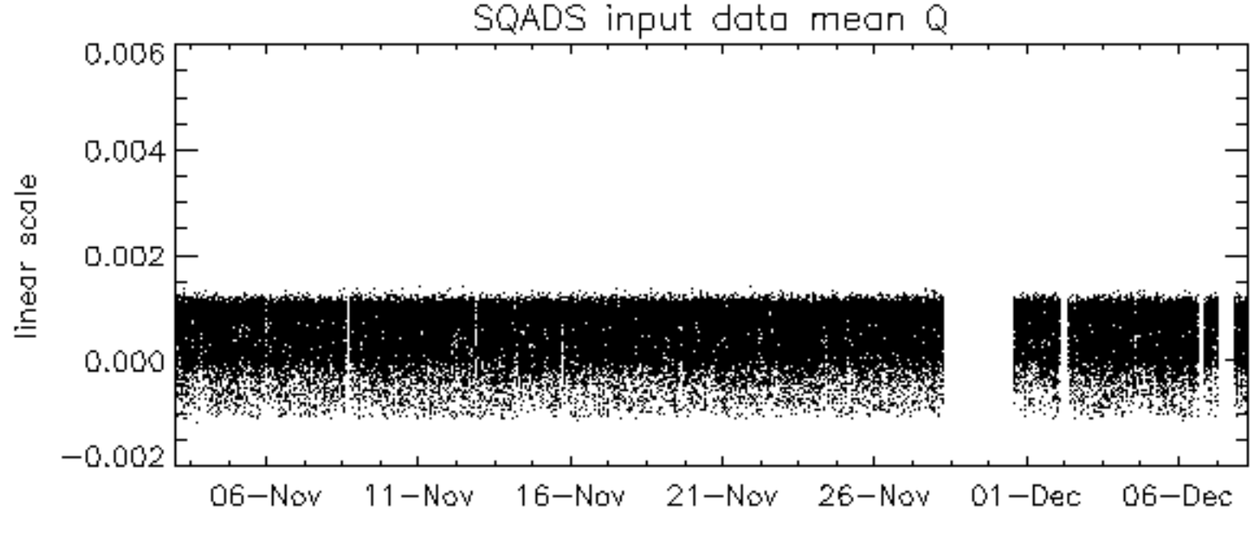
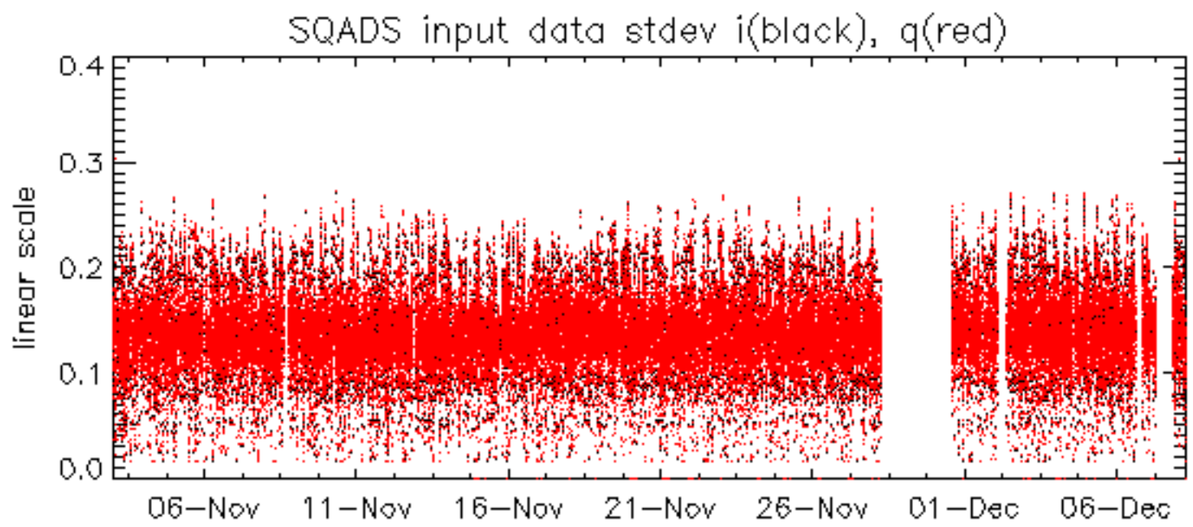
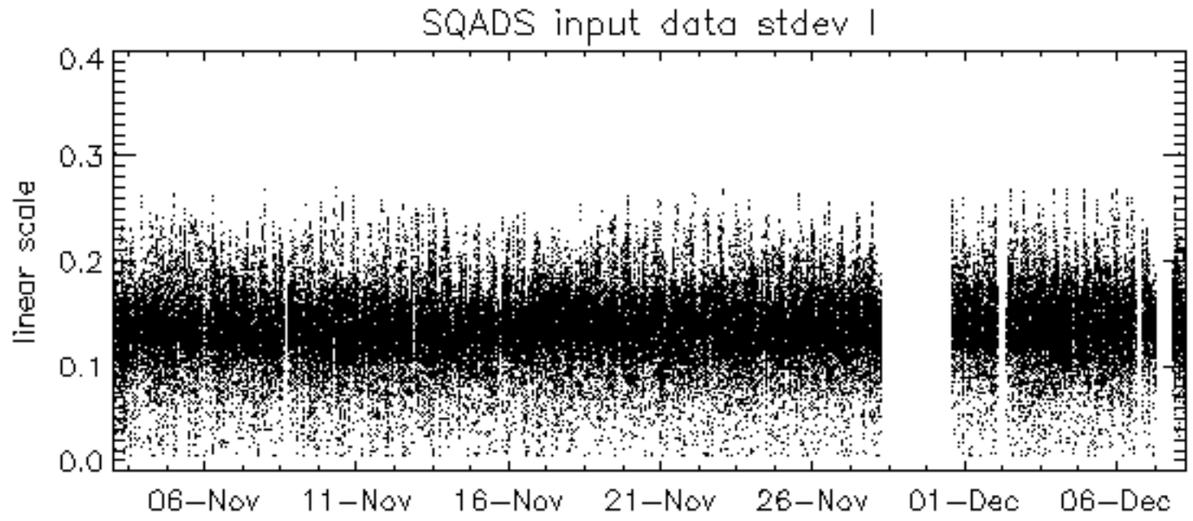

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

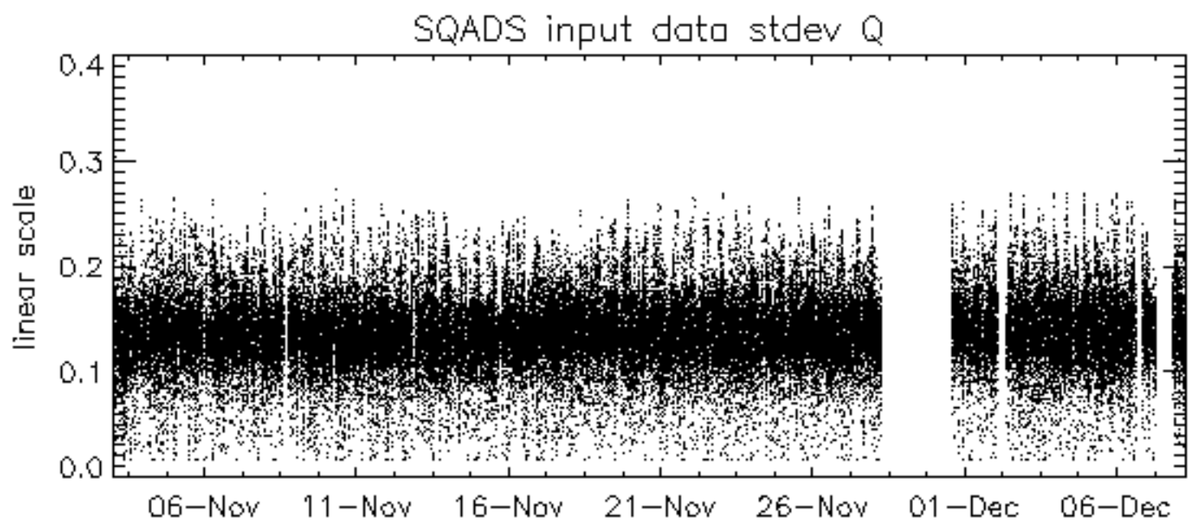

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Nov
11−Nov
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec

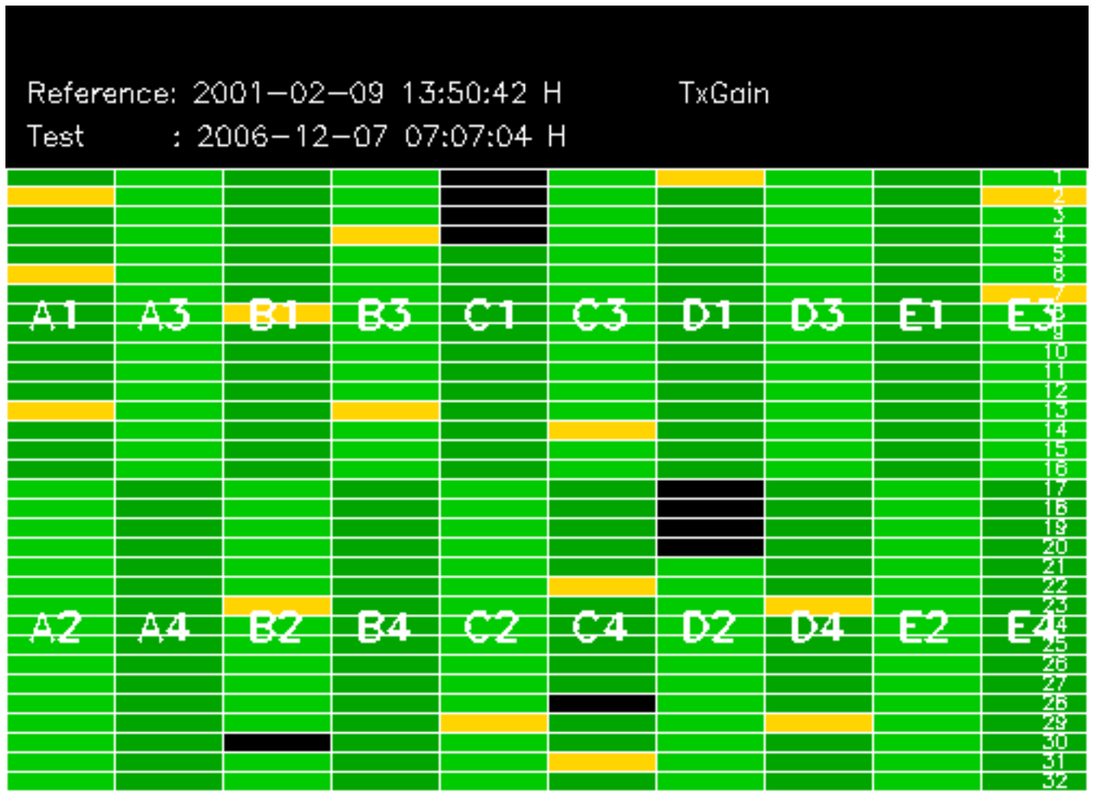

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Nov
11−Nov
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec

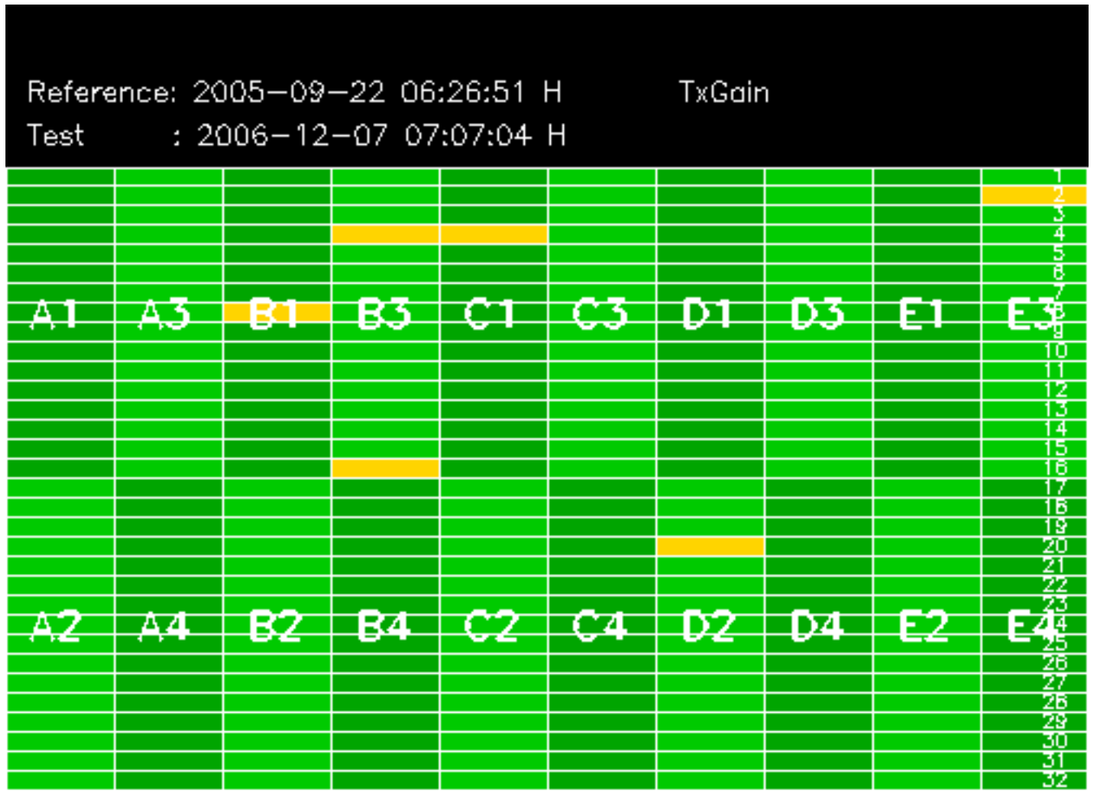

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Nov
11−Nov
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec


SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
06−Nov
11−Nov
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
06−Nov
11−Nov
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
06−Nov
11−Nov
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec


Reference: 2001-02-09 13:50:42 H
Test : 2006-12-07 07:07:04 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-22 06:26:51 H
Test : 2006-12-07 07:07:04 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
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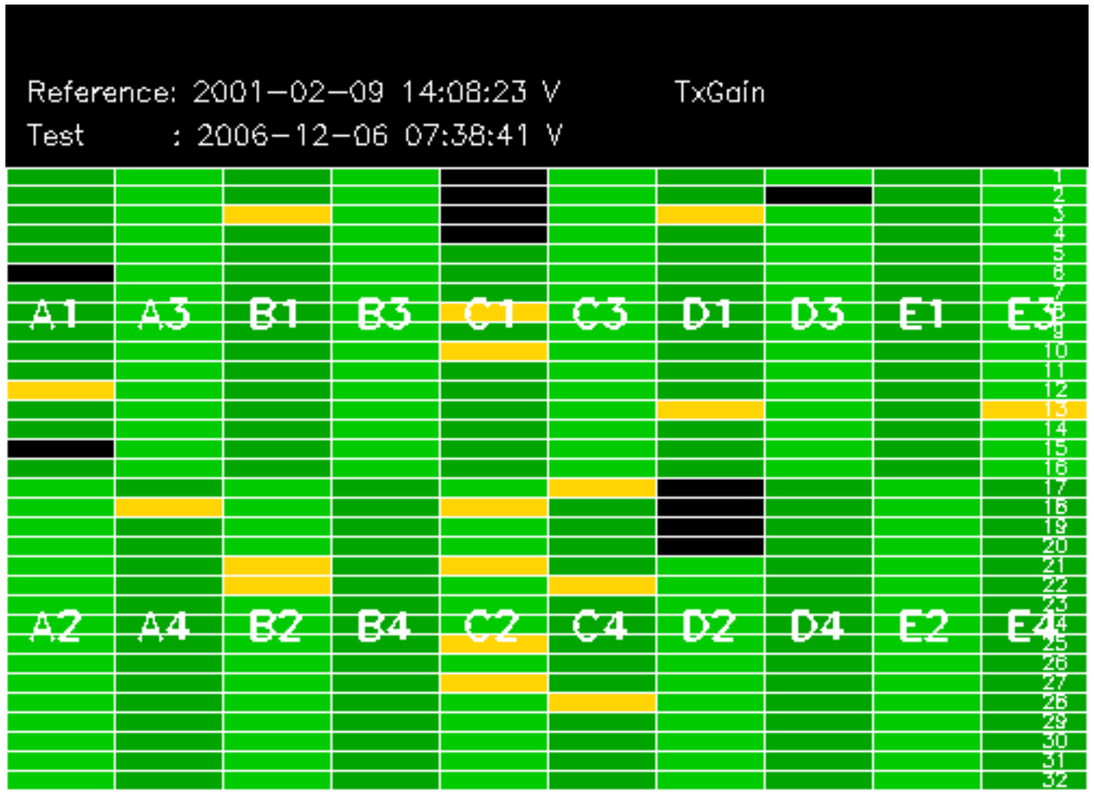
Reference: 2001-02-09 14:08:23 V
Test : 2006-12-06 07:38:41 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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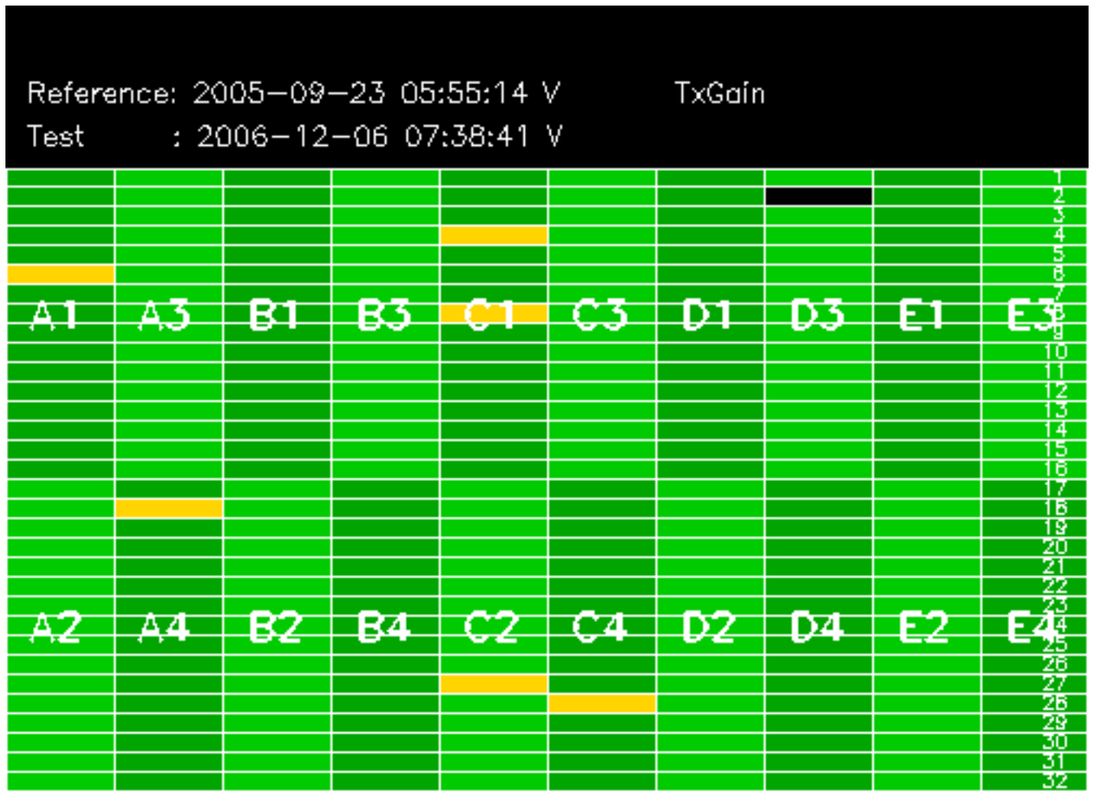
Reference: 2005-09-23 05:55:14 V
Test : 2006-12-06 07:38:41 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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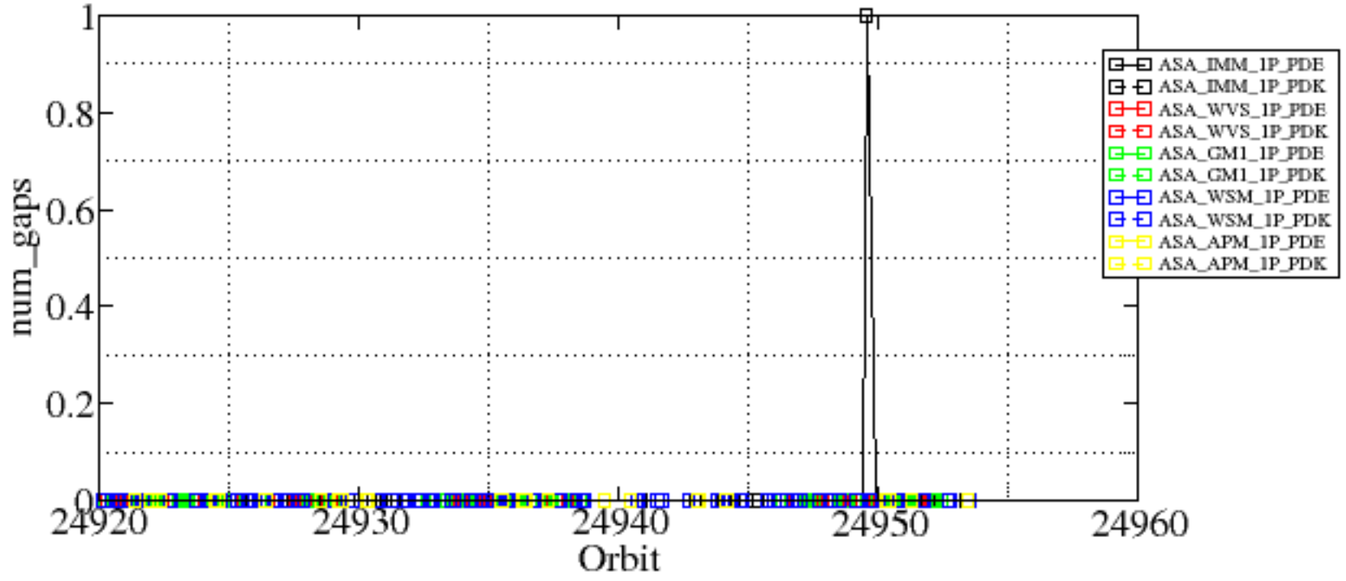
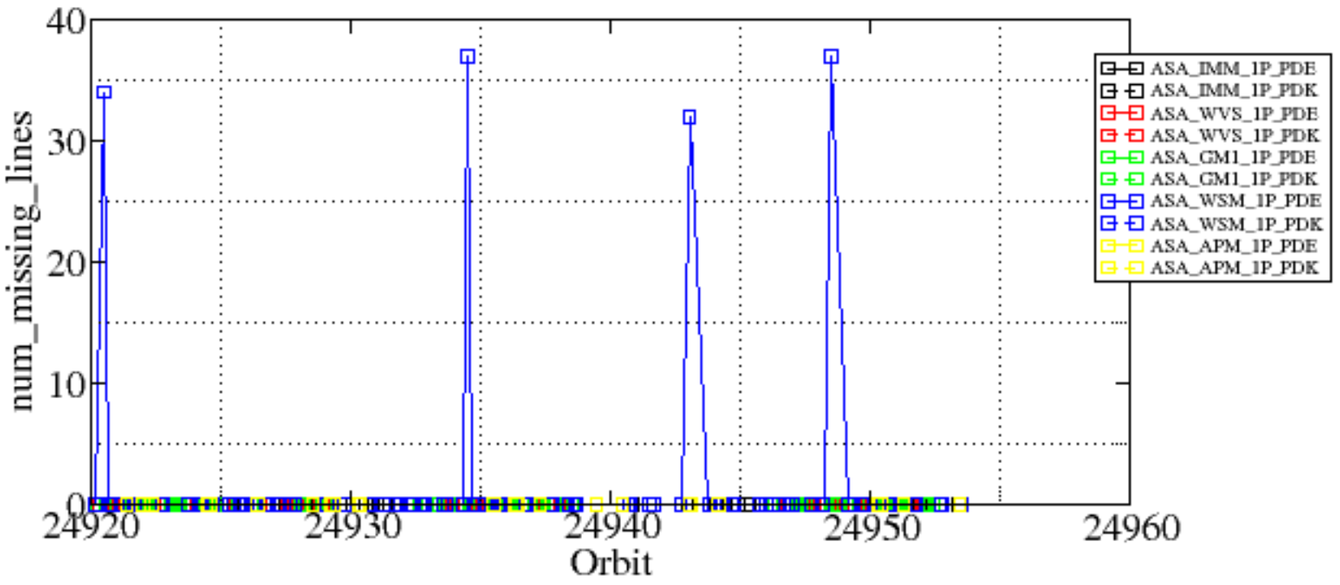
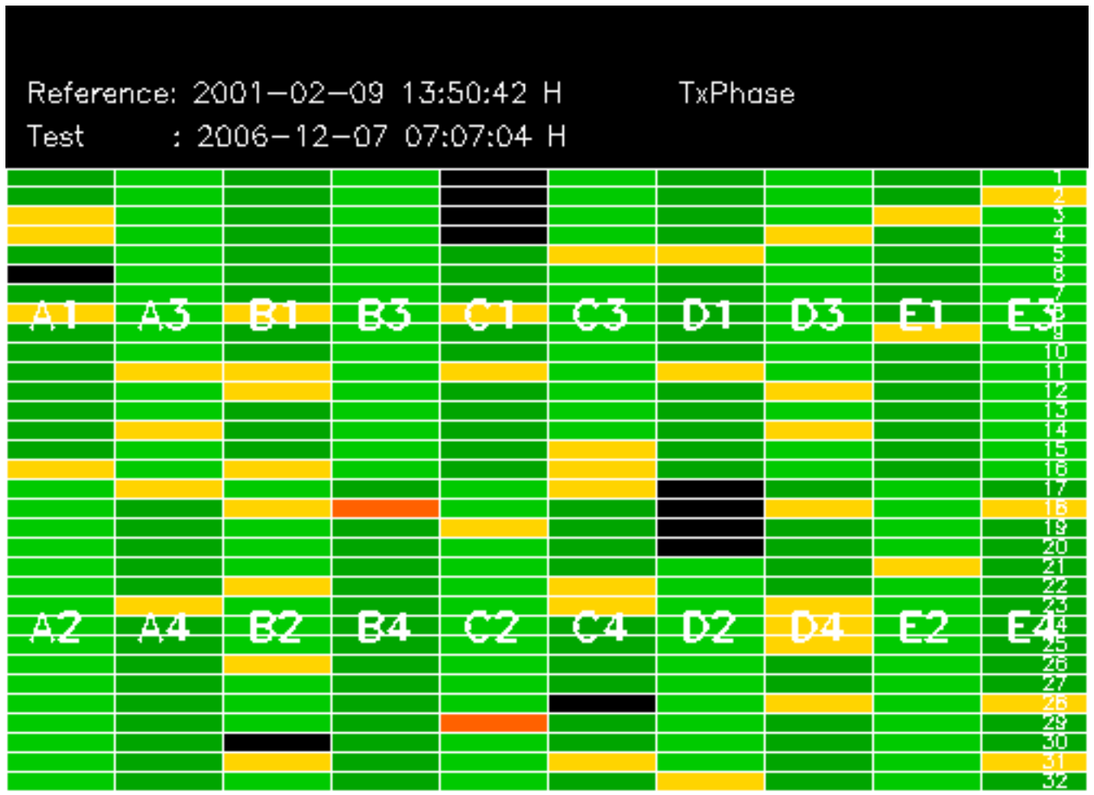
Summary of analysis for the last 3 days 2006120[678]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_IMM_1PNPDE20061208_012029_000000352053_00346_24949_3814.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20061206_003703_000002612053_00317_24920_0976.N1 </td> <td>0 </td> <td>34 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20061207_000625_000003242053_00331_24934_2346.N1 </td> <td>0 </td> <td>37 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20061207_142735_000000852053_00340_24943_3217.N1 </td> <td>0 </td> <td>32 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20061207_233448_000003242053_00345_24948_3807.N1 </td> <td>0 </td> <td>37 </td></tr>
</table>


num_gaps
1
0.8
0.6
0.4
0.2
0
24920
24930
24940
24950
24960
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
40
30
20
10
0
24920
24930
24940
24950
24960
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 : 2006-12-07 07:07:04 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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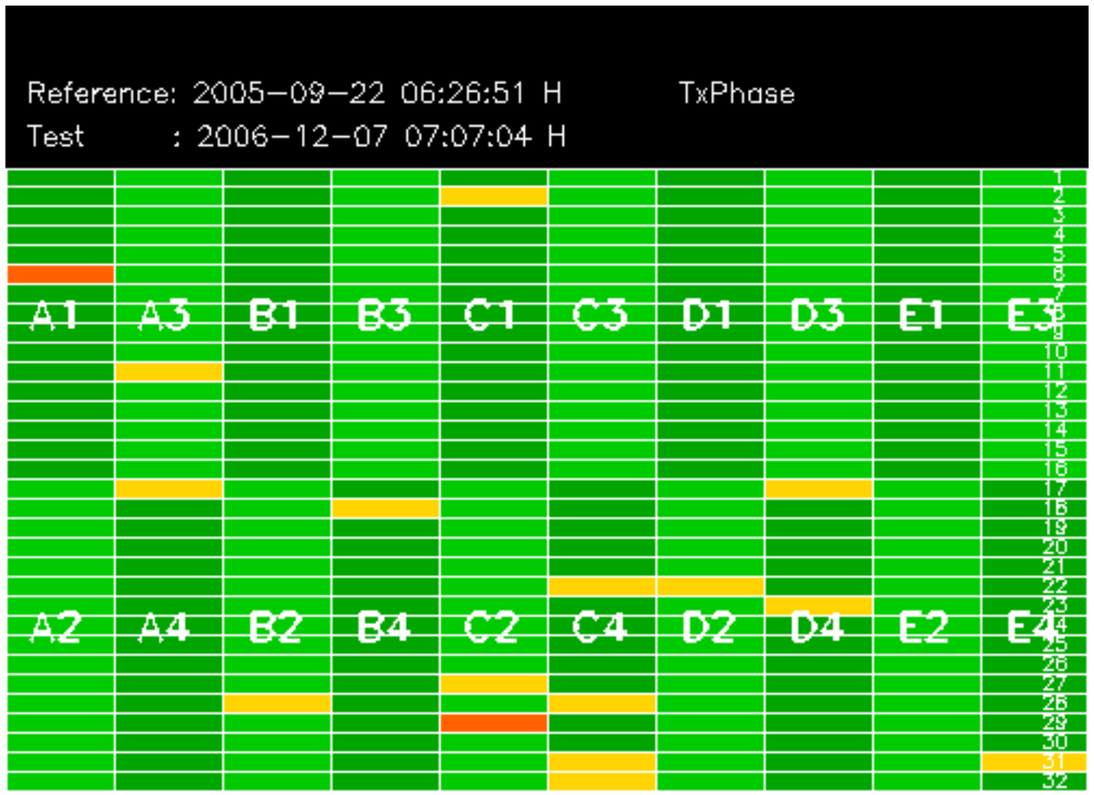
Reference: 2005-09-22 06:26:51 H
TxPhase
Test : 2006-12-07 07:07:04 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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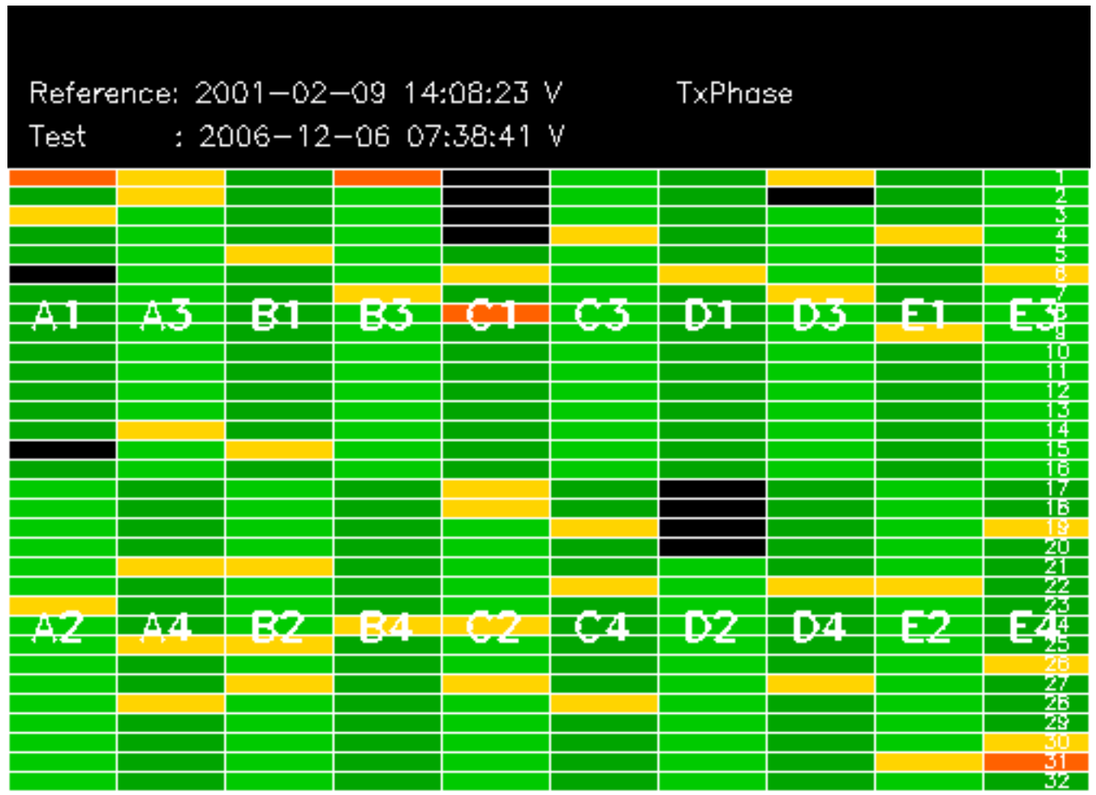
Reference: 2001-02-09 14:08:23 V
Test : 2006-12-06 07:38:41 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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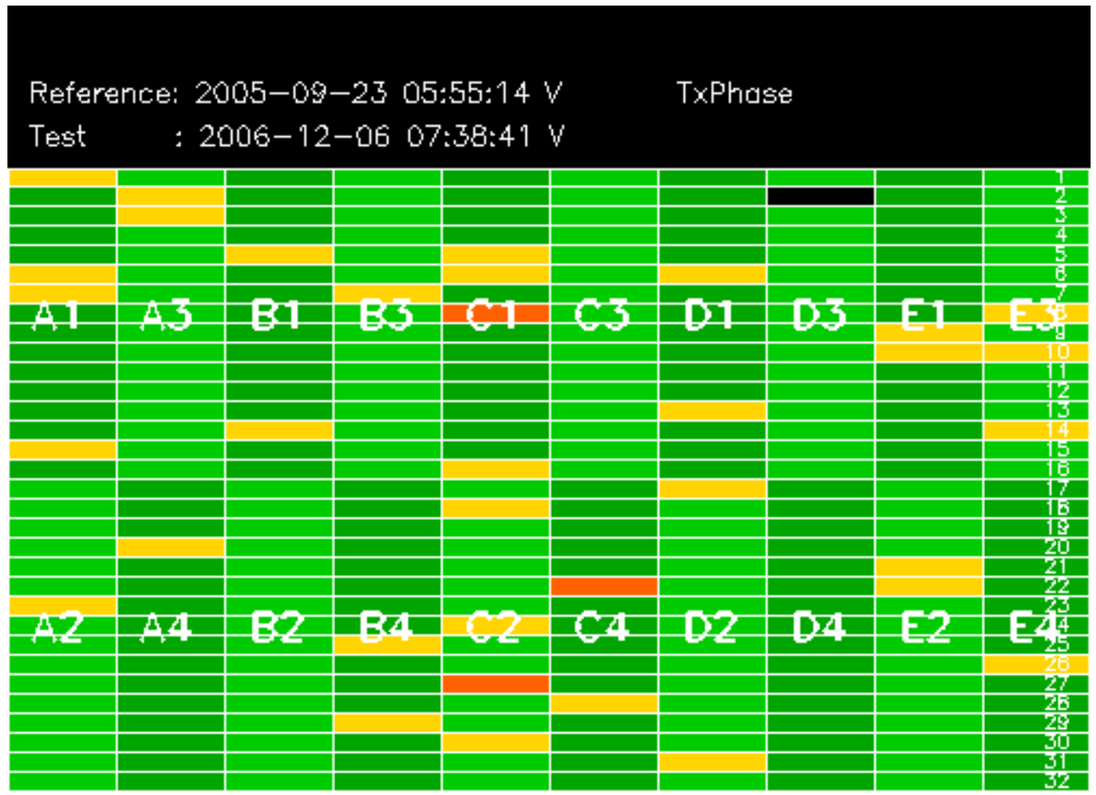
Reference: 2005-09-23 05:55:14 V
Test : 2006-12-06 07:38:41 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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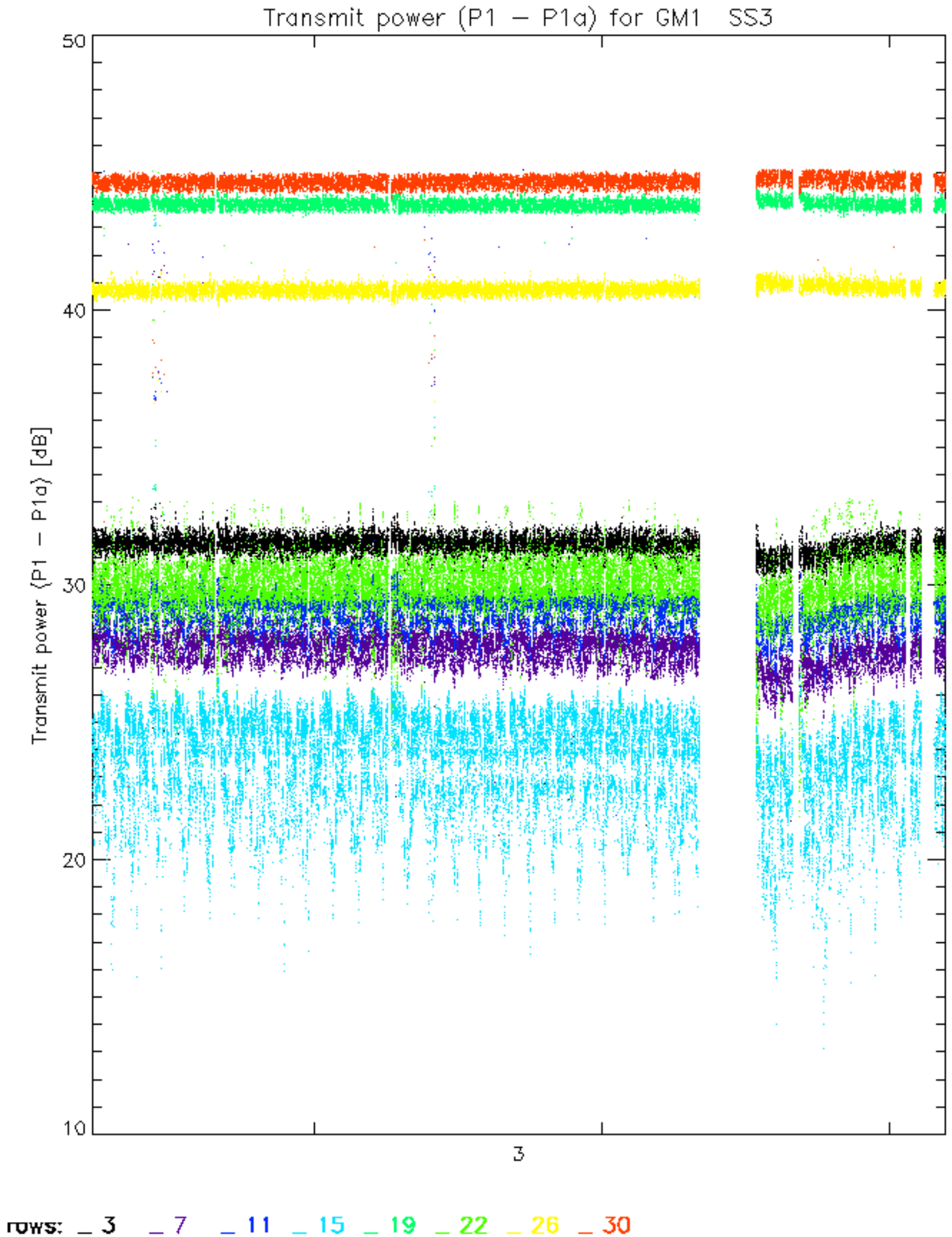
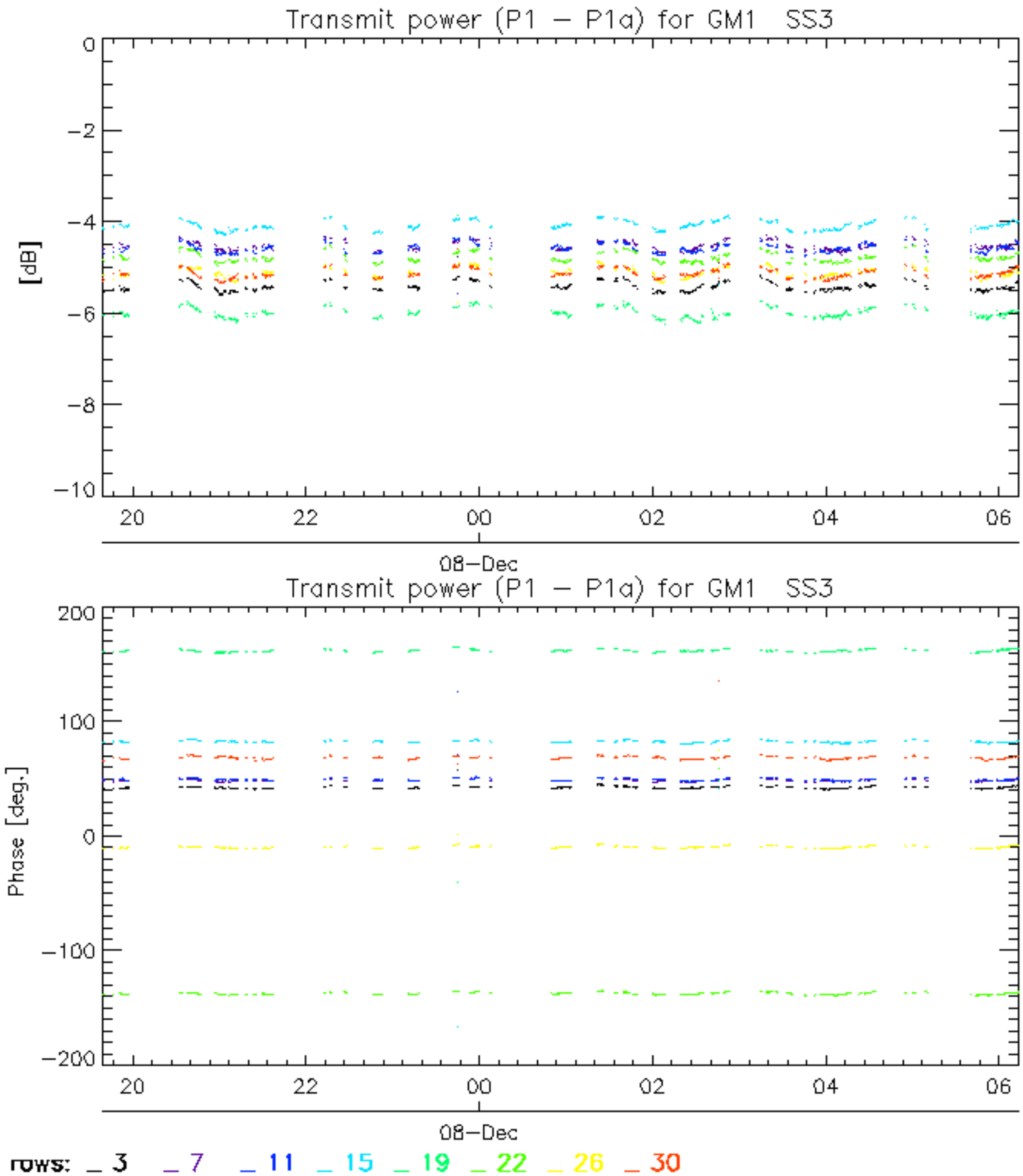
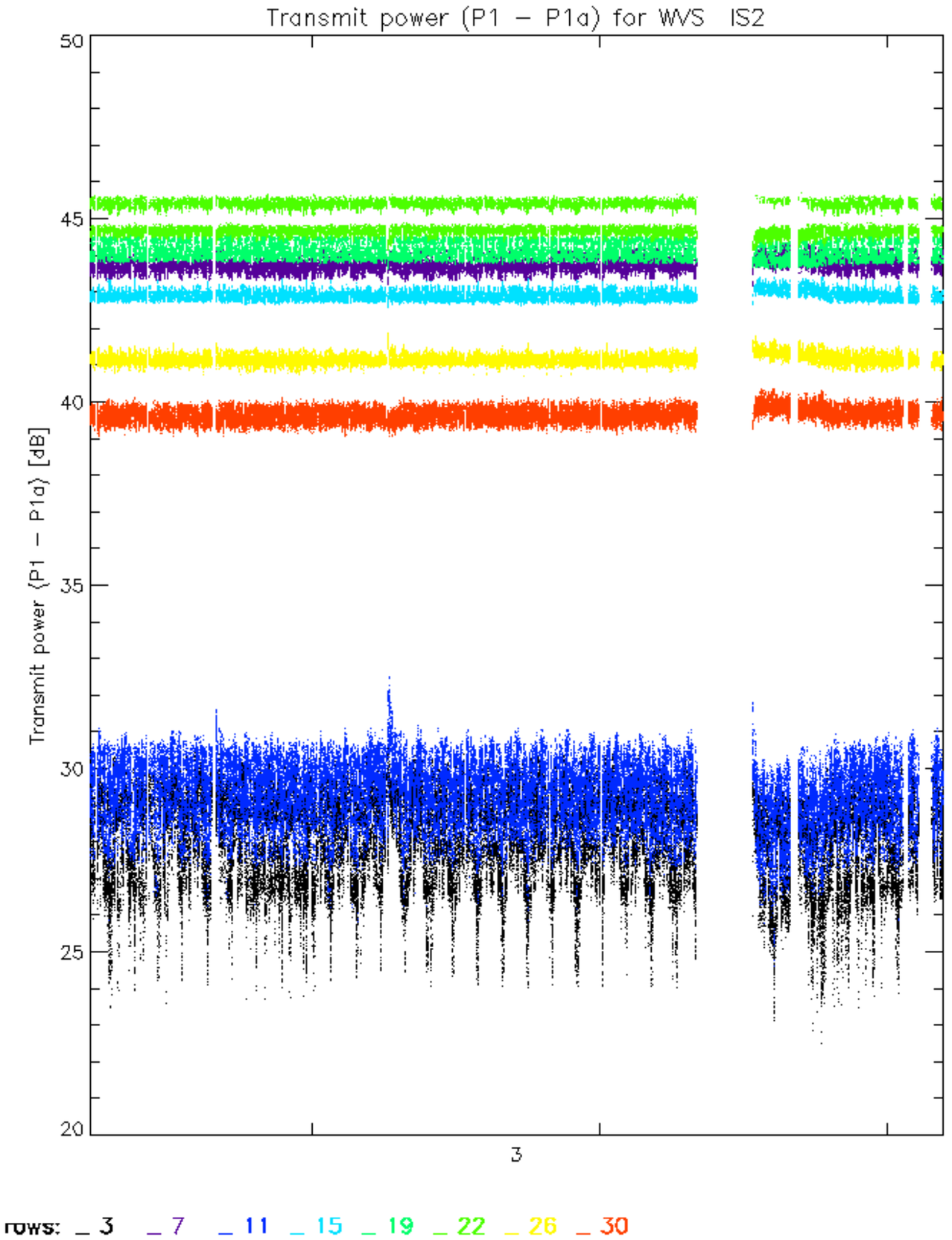
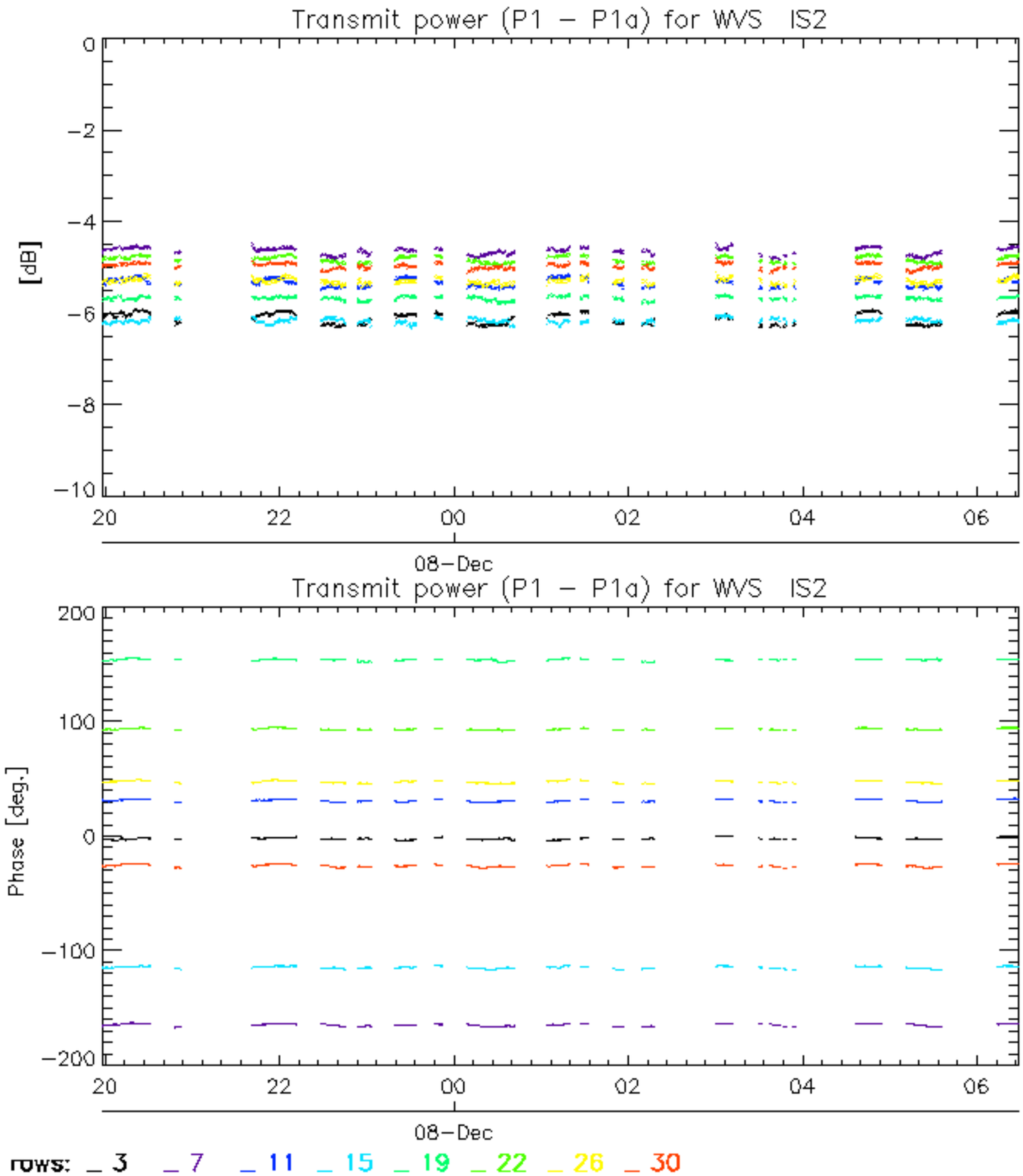

Transmit power (P1 – P1a) for GM1 SS3
50
40
30
20
10
Transmit power (P1 – P1a) [dB]
3
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
0
−2
−4
−6
−8
−10
20
22
00
02
04
06
08–Dec
Transmit power (P1 – P1a) for GM1 SS3
Phase [deg.]
200
100
0
−100
−200
20
22
00
02
04
06
08–Dec
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
Transmit power (P1 – P1a) [dB]
50
45
40
35
30
25
20
3
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
0
−2
−4
−6
−8
−10
[dB]
20
22
00
02
04
06
08–Dec
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
20
22
00
02
04
06
08–Dec
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.