PRELIMINARY REPORT OF 061002

last update on Mon Oct 2 16:38:26 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 2006-10-01 00:00:00 to 2006-10-02 16:38:26

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

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	39	47	12	2	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	39	47	12	2	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	39	47	12	2	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	39	47	12	2	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	17	24	0	0	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	17	24	0	0	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	17	24	0	0	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	17	24	0	0	0

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	20060929 063526
H	20060930 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	-3.943374	0.010292	-0.012747
7	P1	-3.073119	0.011152	-0.033573
11	P1	-4.074958	0.020754	-0.077870
15	P1	-6.190369	0.016024	-0.035711
19	P1	-3.544499	0.052716	0.001429
22	P1	-4.595417	0.011160	-0.071304
26	P1	-3.957689	0.019330	-0.015466
30	P1	-5.827985	0.142502	0.027037
3	P1	-16.602594	0.249171	0.088346
7	P1	-17.124924	0.111834	-0.082612
11	P1	-16.850677	0.369405	-0.250433
15	P1	-12.877928	0.113634	0.007576
19	P1	-14.681542	0.486767	0.015404
22	P1	-15.720402	0.490287	-0.242803
26	P1	-15.196671	0.228232	0.154215
30	P1	-16.966070	0.386332	-0.221105

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.817741	0.085115	-0.023595
7	P2	-21.827009	0.096831	0.111364
11	P2	-15.743095	0.108507	0.034539
15	P2	-7.093184	0.102241	-0.021794
19	P2	-9.127800	0.093939	-0.045718
22	P2	-18.131624	0.091179	-0.062133
26	P2	-16.425522	0.097959	-0.075708
30	P2	-19.469950	0.092172	-0.002259

P3 Cyclic statistics

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

3	P3	-8.188918	0.006104	-0.037459
7	P3	-8.188918	0.006104	-0.037459
11	P3	-8.188918	0.006104	-0.037459
15	P3	-8.188918	0.006104	-0.037459
19	P3	-8.188918	0.006104	-0.037459
22	P3	-8.188918	0.006104	-0.037459
26	P3	-8.188901	0.006105	-0.037546
30	P3	-8.188901	0.006105	-0.037546

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	-3.860285	0.017297	-0.040729
7	P1	-2.544376	0.047678	0.003668
11	P1	-2.887595	0.021293	0.011110
15	P1	-3.660184	0.032493	0.006148
19	P1	-3.479422	0.086882	0.030172
22	P1	-5.105394	0.021745	0.057634
26	P1	-5.882128	0.027979	-0.098682
30	P1	-5.222097	0.078698	-0.009618
3	P1	-11.650182	0.061127	-0.039182
7	P1	-10.012995	0.087913	-0.061904
11	P1	-10.360983	0.073043	-0.000915
15	P1	-10.850689	0.163188	0.082188
19	P1	-15.724986	3.983401	0.504743
22	P1	-20.907223	1.257481	-0.318822
26	P1	-15.931285	0.379104	-0.164486
30	P1	-18.103643	0.484664	0.146565

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.402977	0.062861	-0.025328
7	P2	-22.178308	0.157274	0.022242
11	P2	-10.904358	0.052449	-0.058990
15	P2	-4.867625	0.035803	-0.074766
19	P2	-6.856913	0.037442	-0.070382
22	P2	-8.169018	0.049918	-0.098045
26	P2	-24.182993	0.090171	-0.082615
30	P2	-21.964972	0.057278	-0.023827

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.038097	0.004045	-0.061892
7	P3	-8.037987	0.004046	-0.062392
11	P3	-8.037931	0.004069	-0.062807
15	P3	-8.037933	0.004074	-0.062552
19	P3	-8.038036	0.004082	-0.062527
22	P3	-8.038158	0.004052	-0.062418
26	P3	-8.038067	0.004071	-0.062435
30	P3	-8.037987	0.004051	-0.062738

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	0.000560465
	stdev	1.69441e-07
MEAN Q	mean	0.000524840
	stdev	2.17097e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.137733
	stdev	0.00113917
STDEV Q	mean	0.138099
	stdev	0.00115707

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006100[012]
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

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

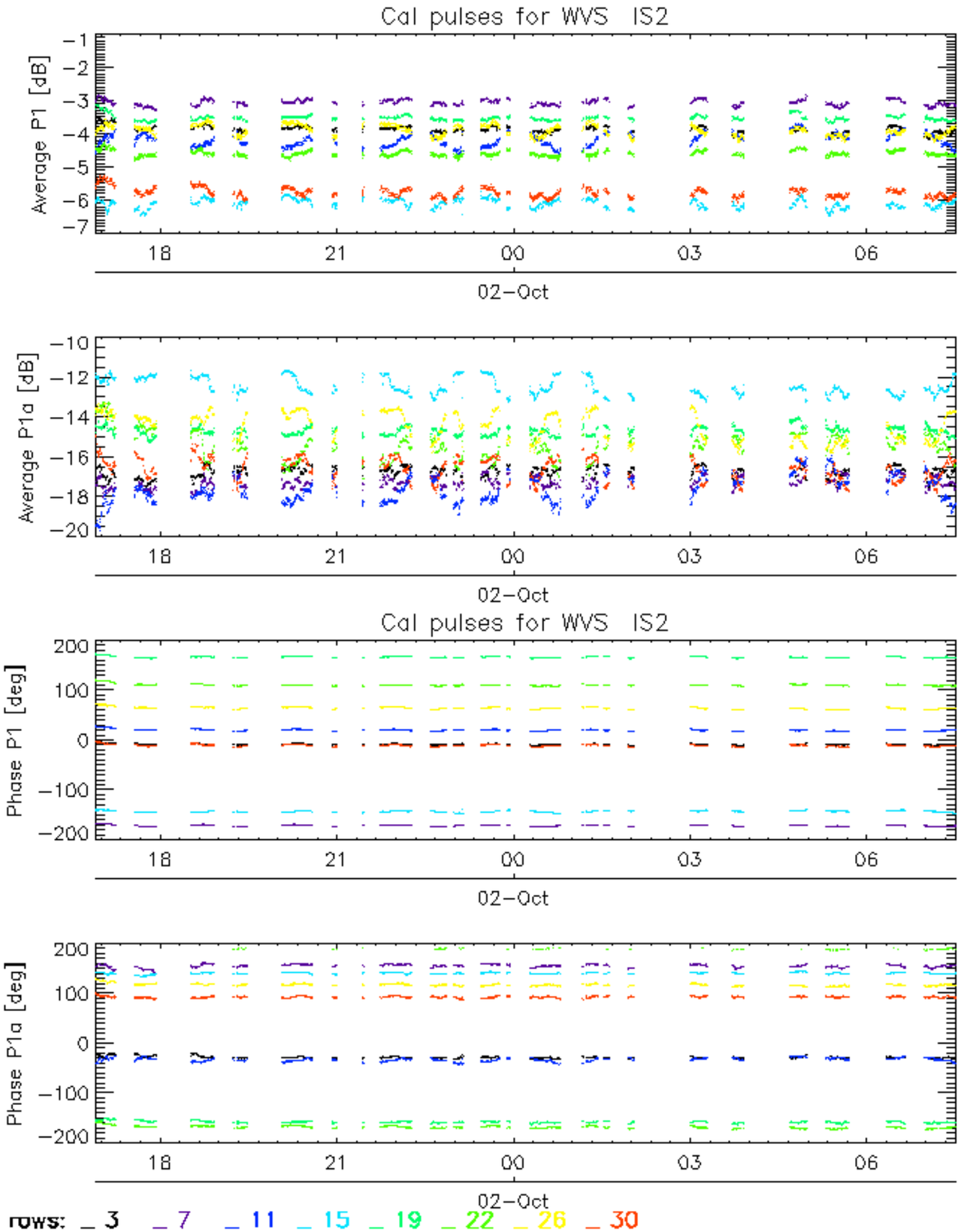
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

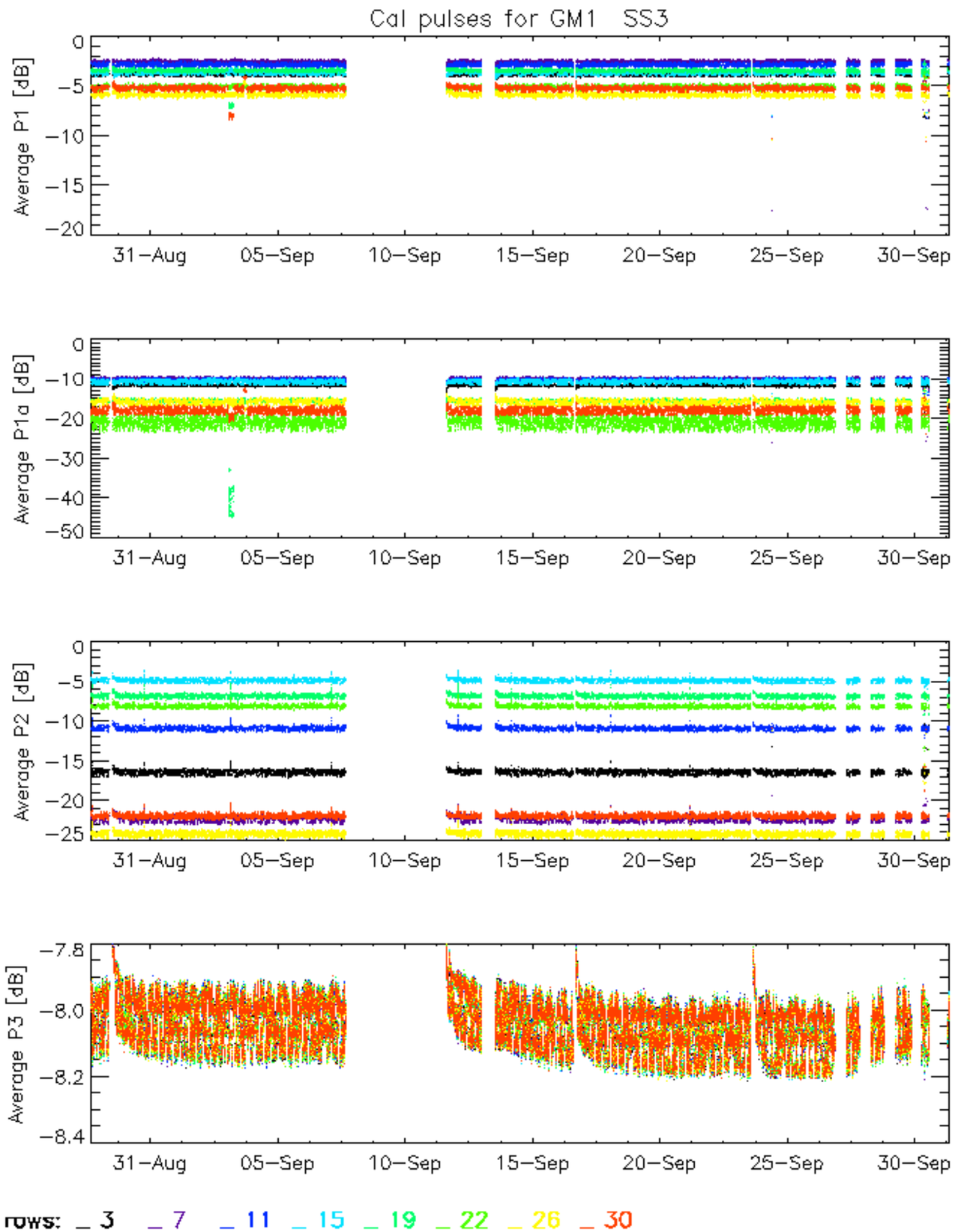
7.5 - Absolute Doppler for GM1

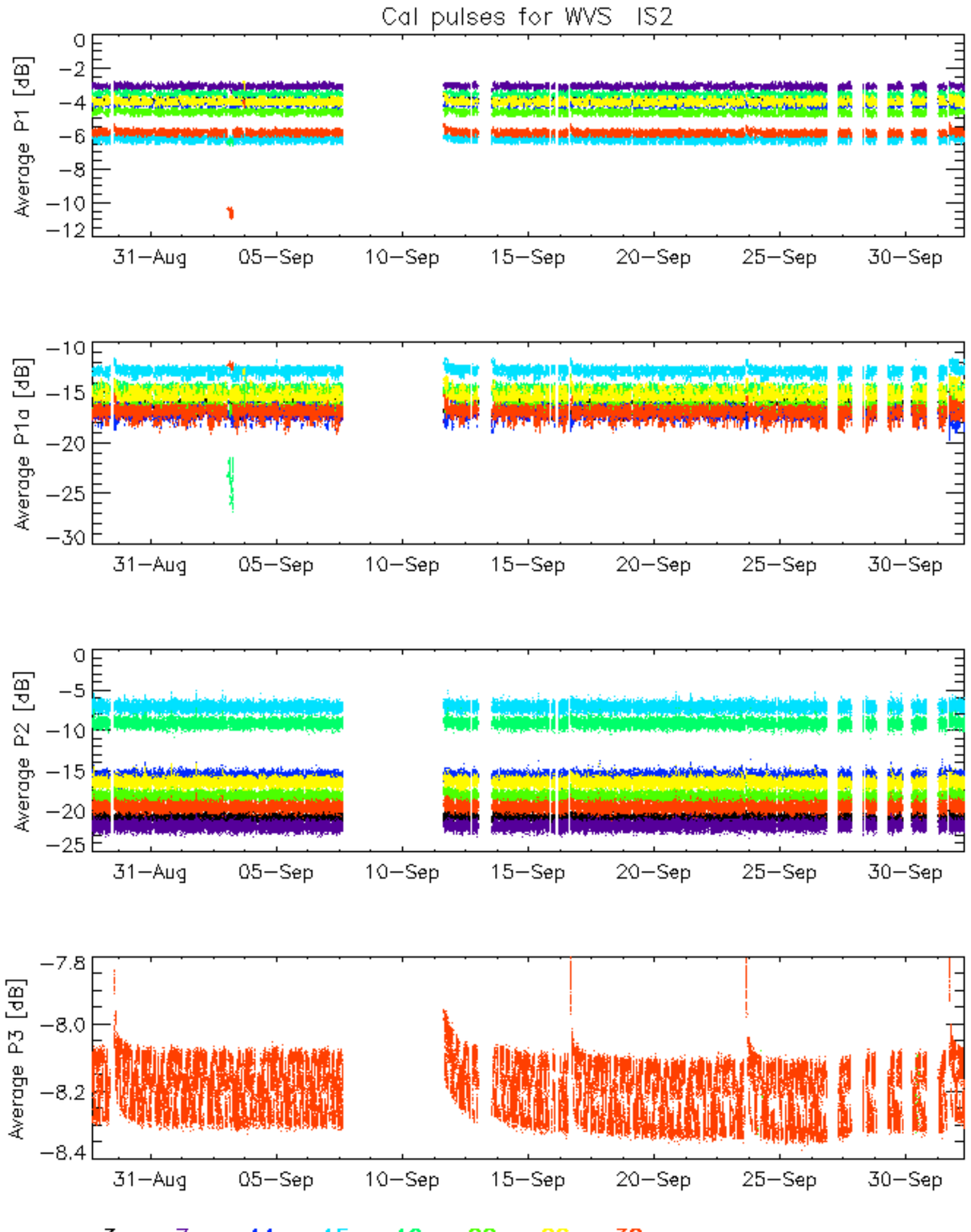
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

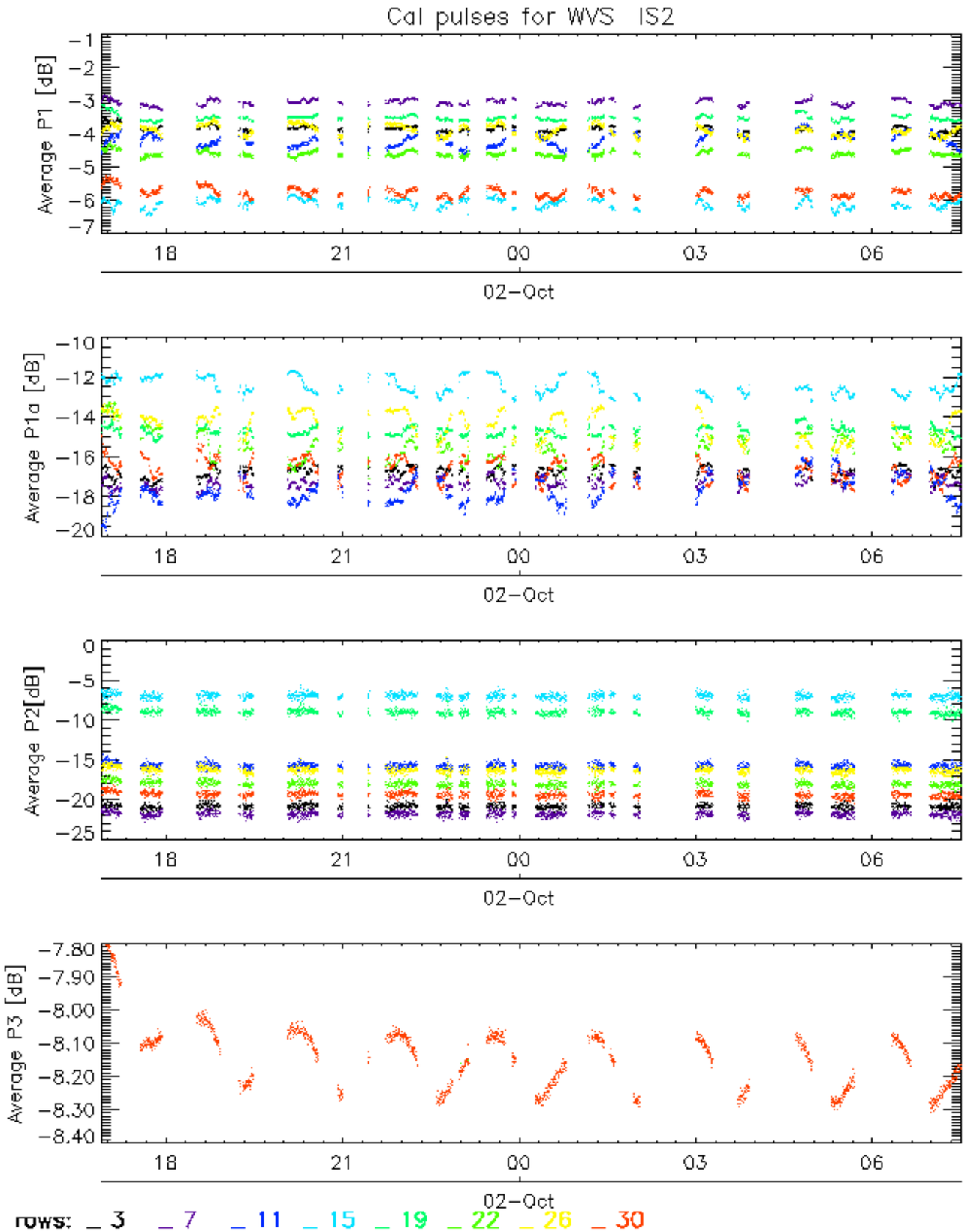
7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
☒

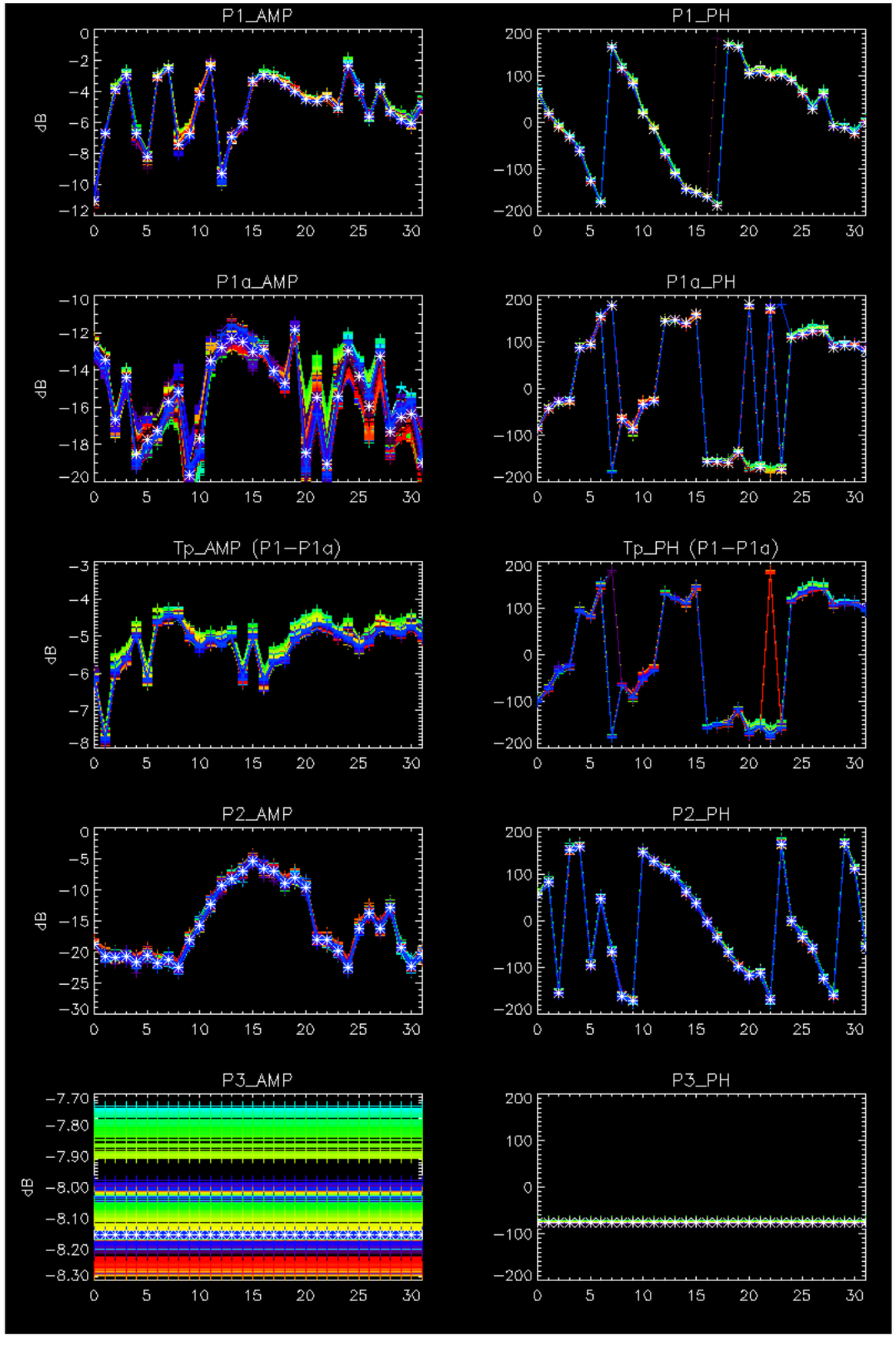

Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
02−Oct
Average P1a [dB]
−10
−12
−14
−16
−18
−20
18
21
00
03
06
02−Oct
Cal pulses for WVS IS2
Phase P1 [deg]
200
100
0
−100
−200
18
21
00
03
06
02−Oct
Phase P1a [deg]
200
100
0
−100
−200
18
21
00
03
06
02−Oct
rows: 3 7 11 15 19 22 26 30


Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
−20
Average P1a [dB]
0
−10
−20
−30
−40
−50
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
25−Sep
30−Sep
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
25−Sep
30−Sep
Average P1a [dB]
−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
rows: 3 7 11 15 19 22 26 30

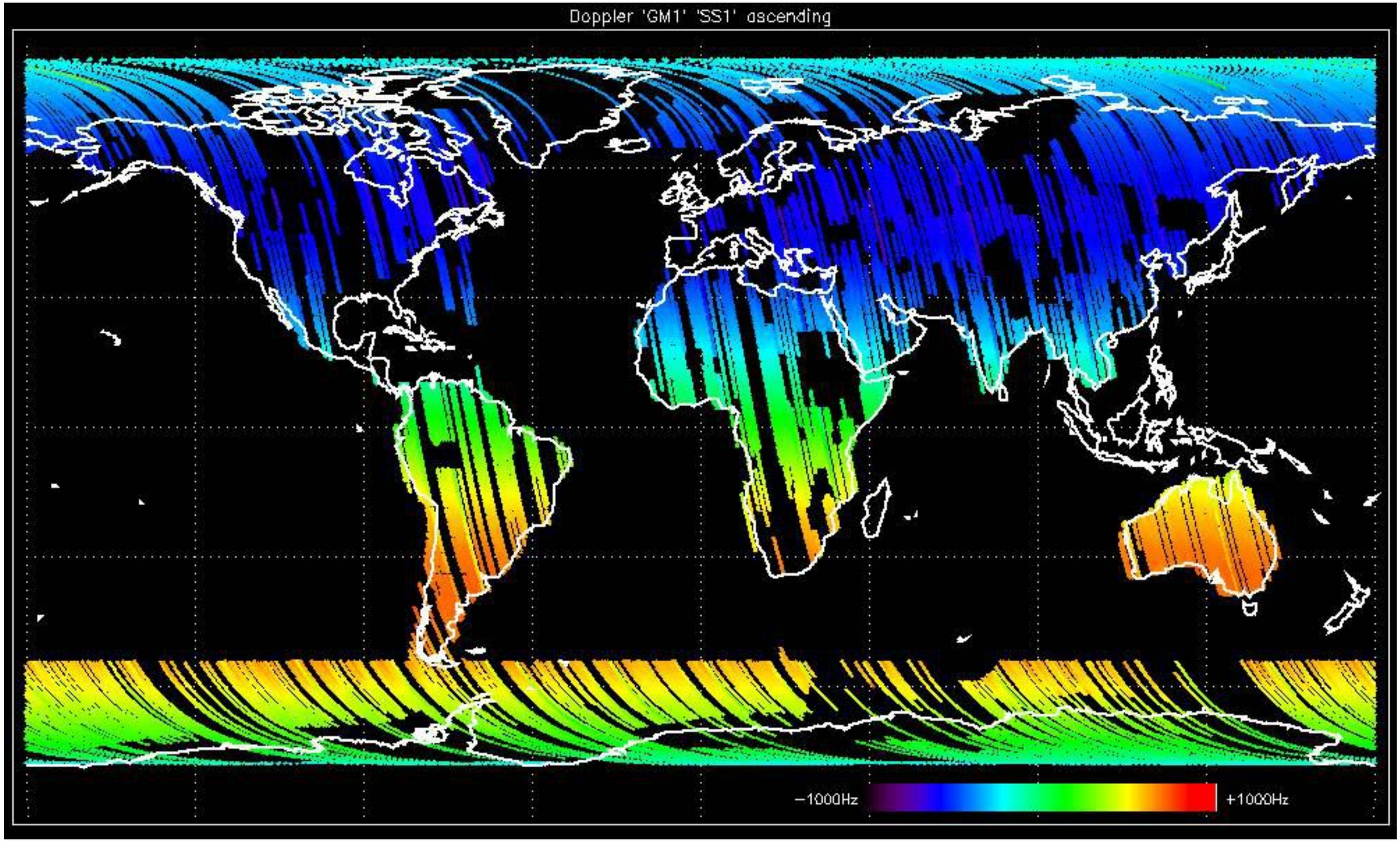

Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
02−Oct
Average P1a [dB]
−10
−12
−14
−16
−18
−20
18
21
00
03
06
02−Oct
Average P2[dB]
0
−5
−10
−15
−20
−25
18
21
00
03
06
02−Oct
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
18
21
00
03
06
02−Oct
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

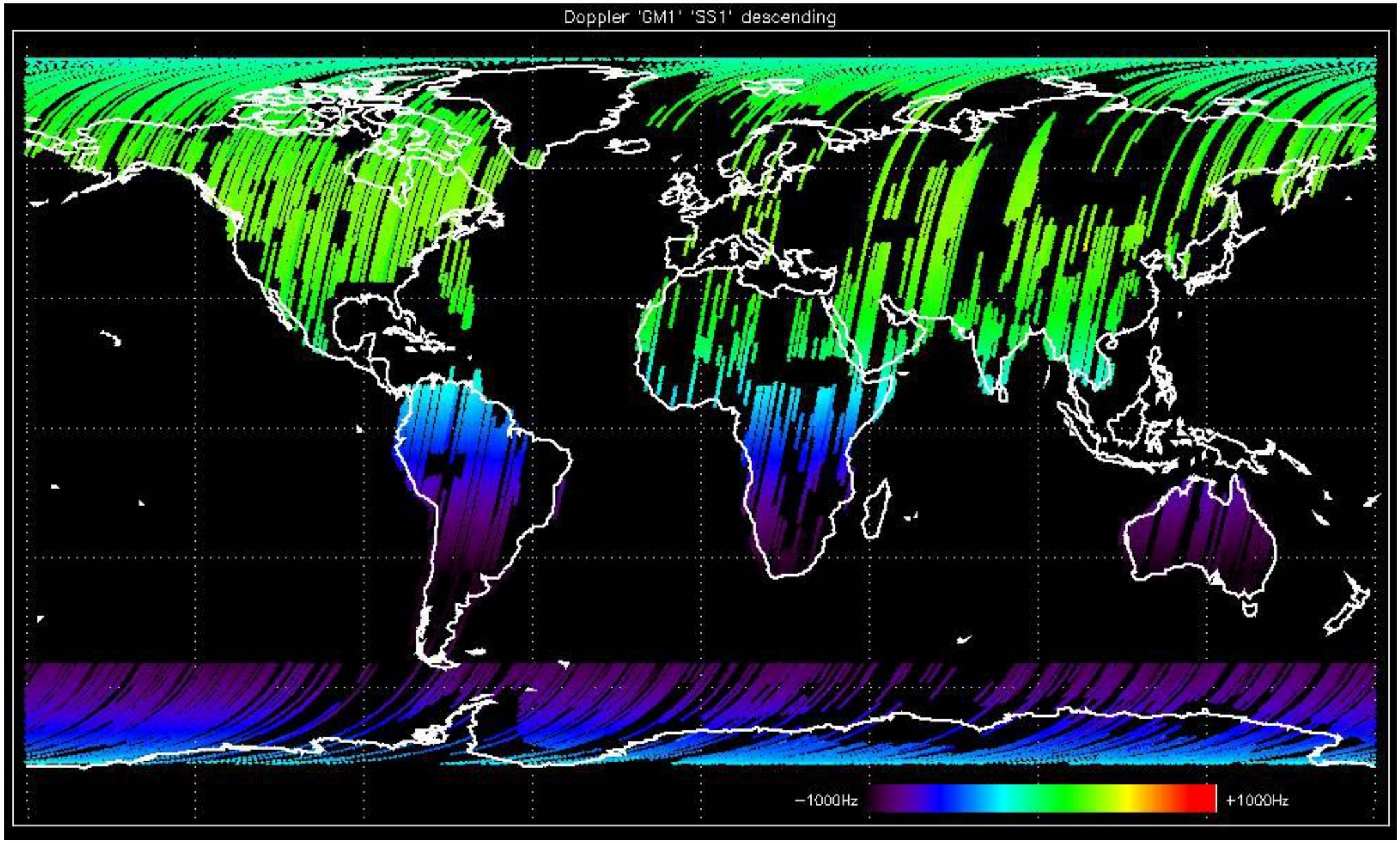
No anomalies observed.

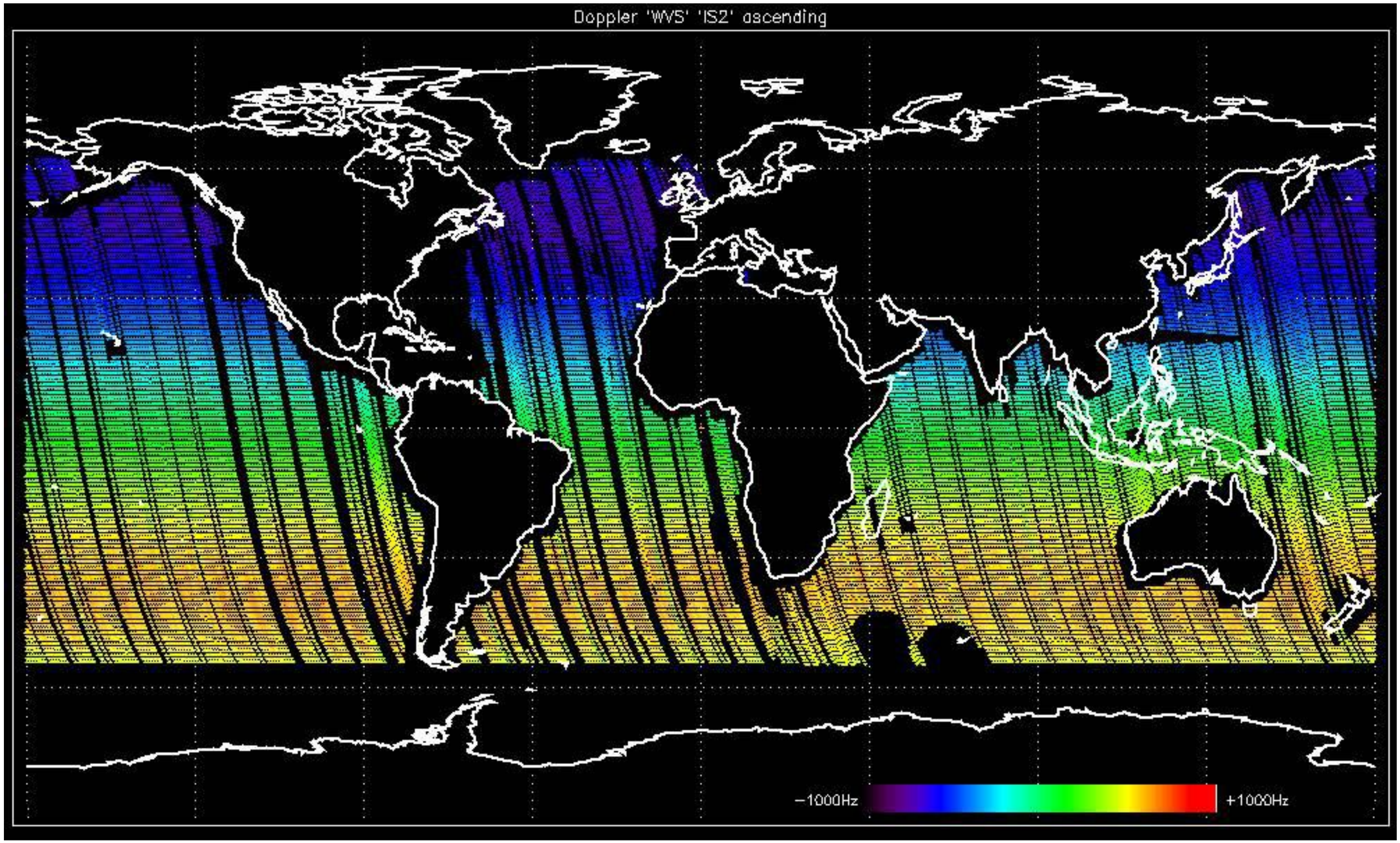

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

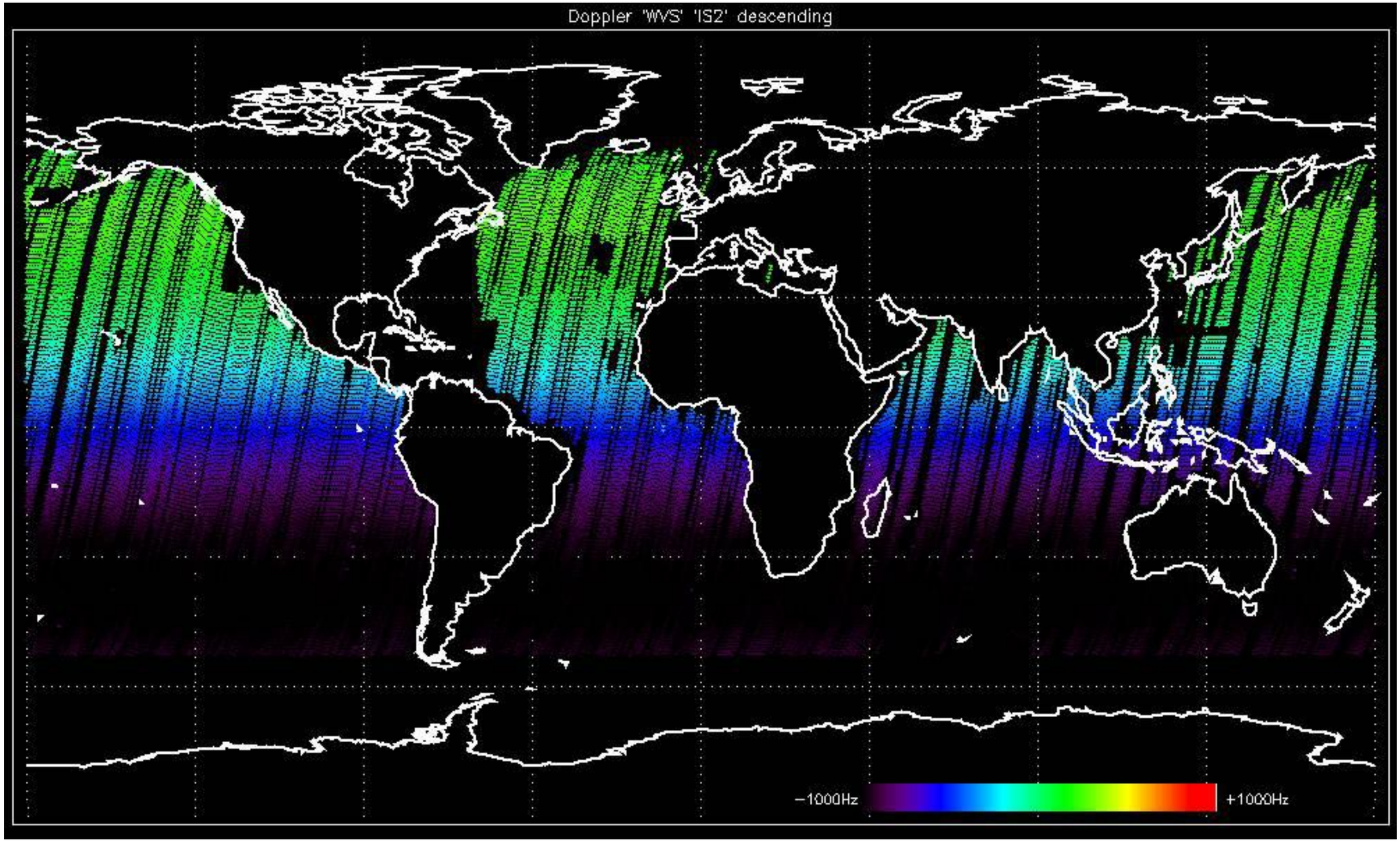
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

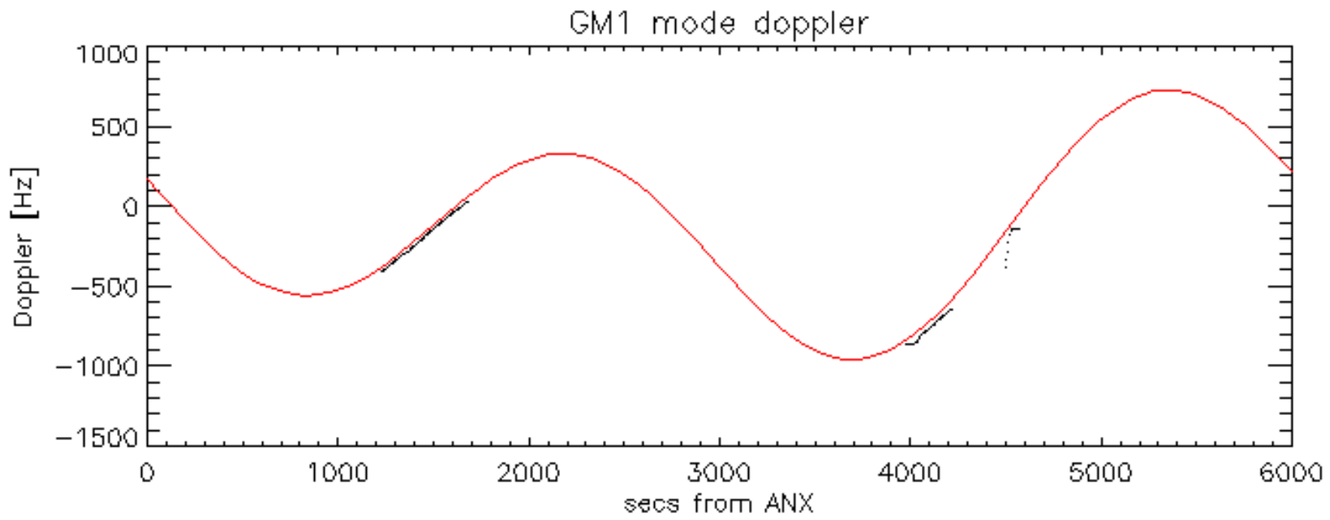
Preliminary report.The data is not yet controled

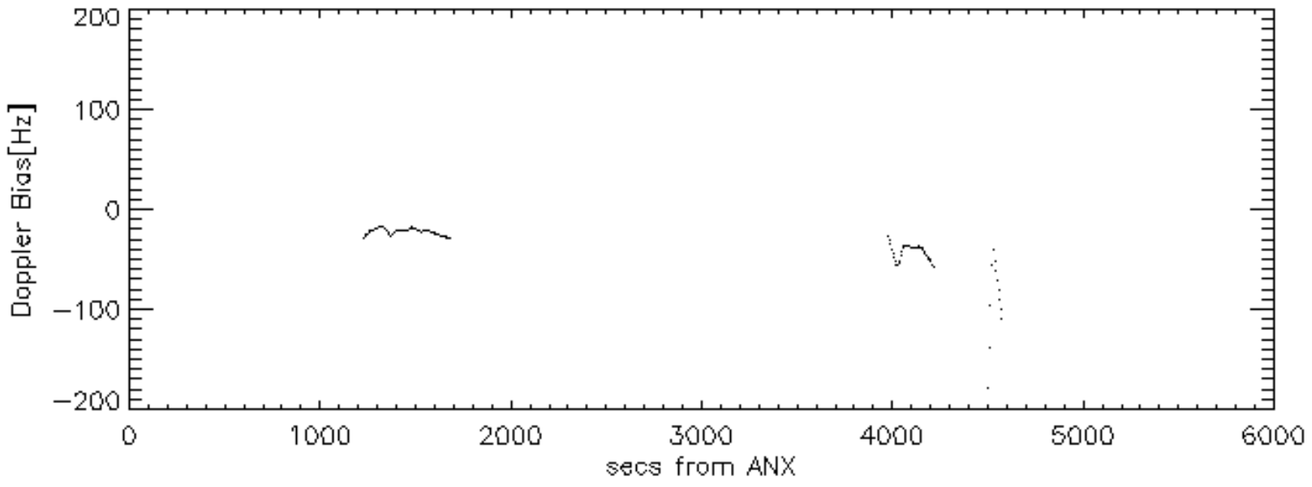

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

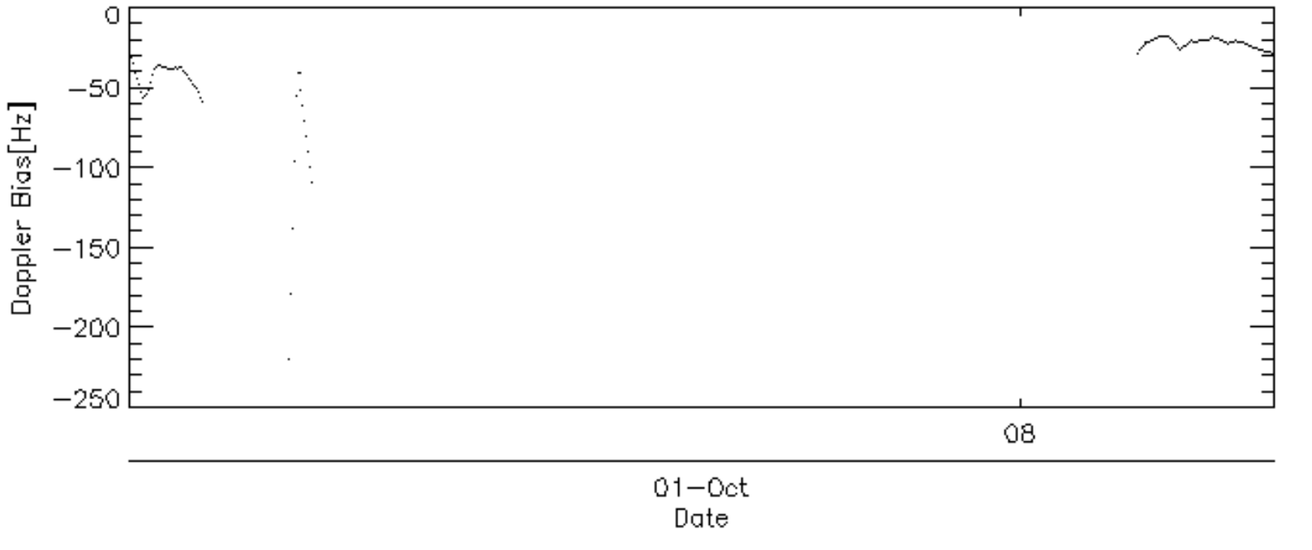

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

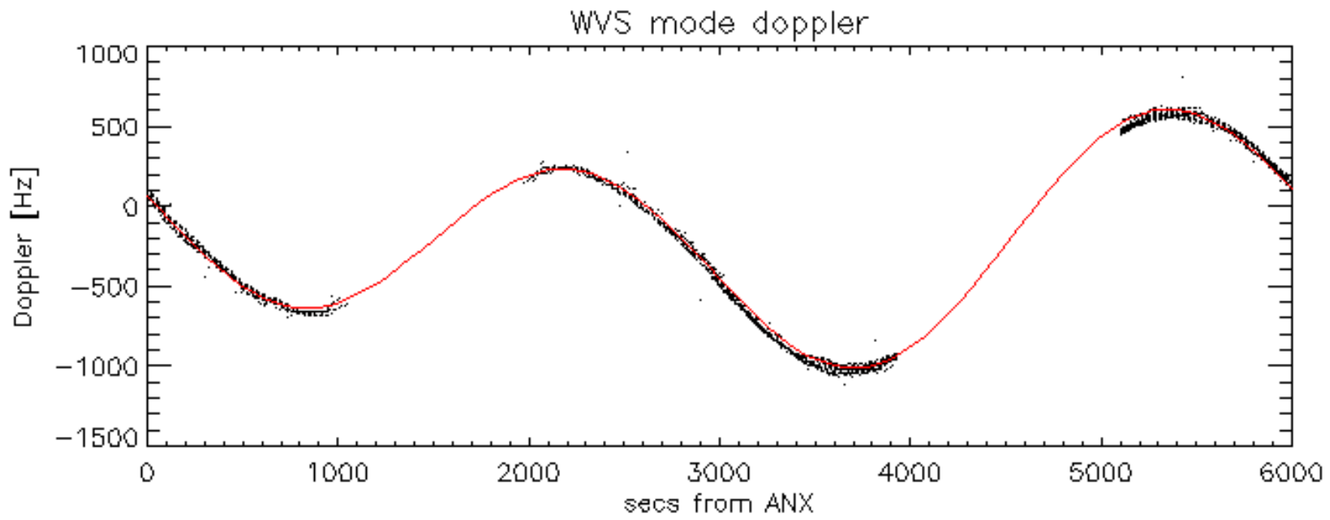

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

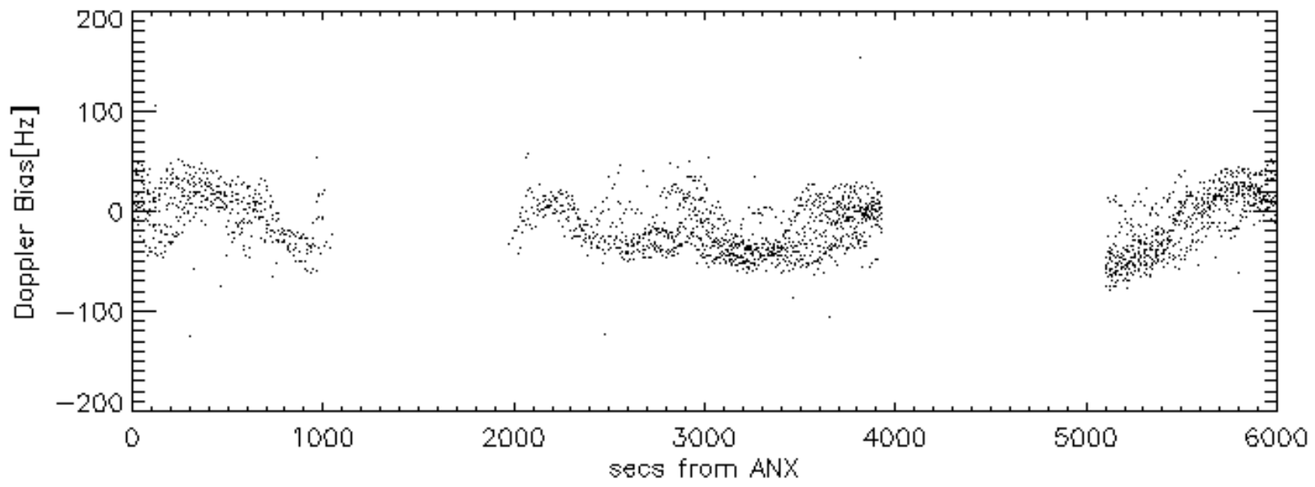

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

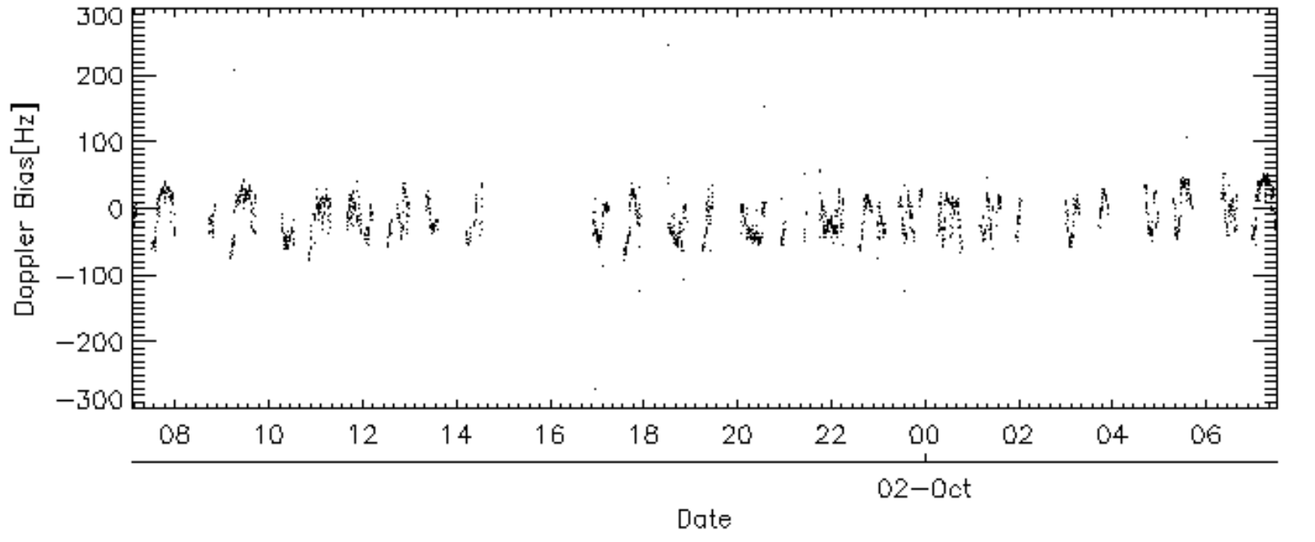

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

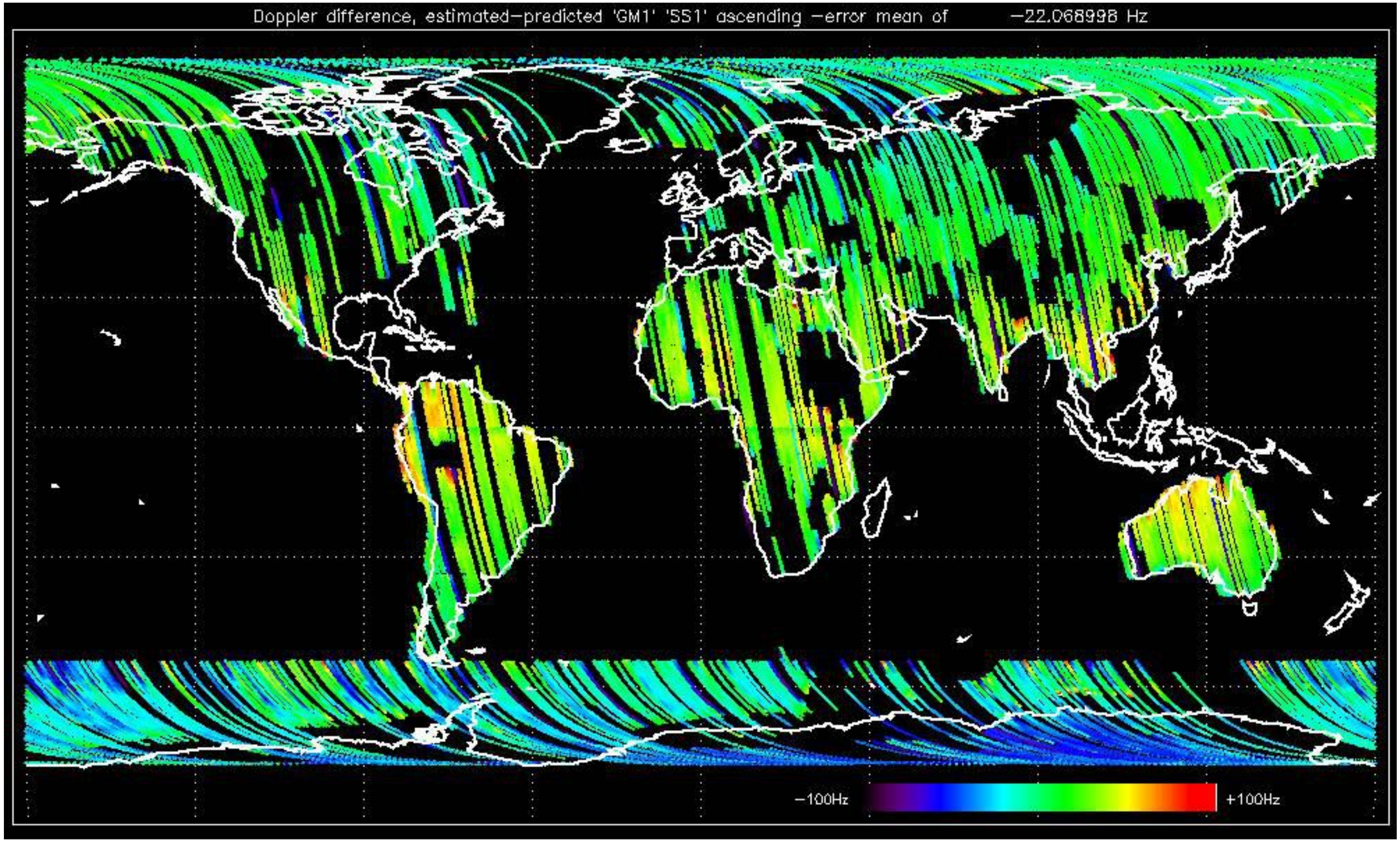

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

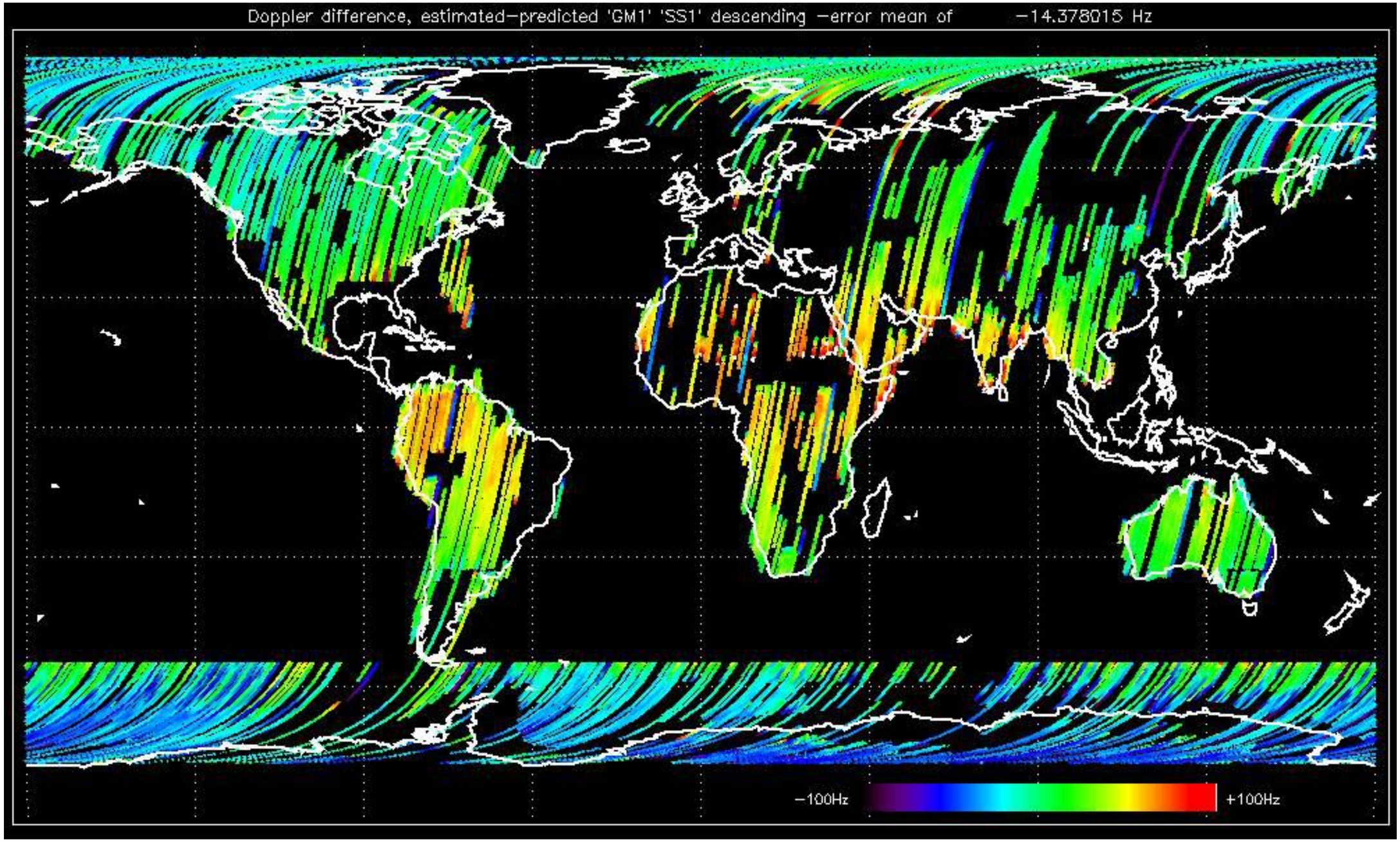

Doppler Bias[Hz]
0
−50
−100
−150
−200
−250
08
01−Oct
Date

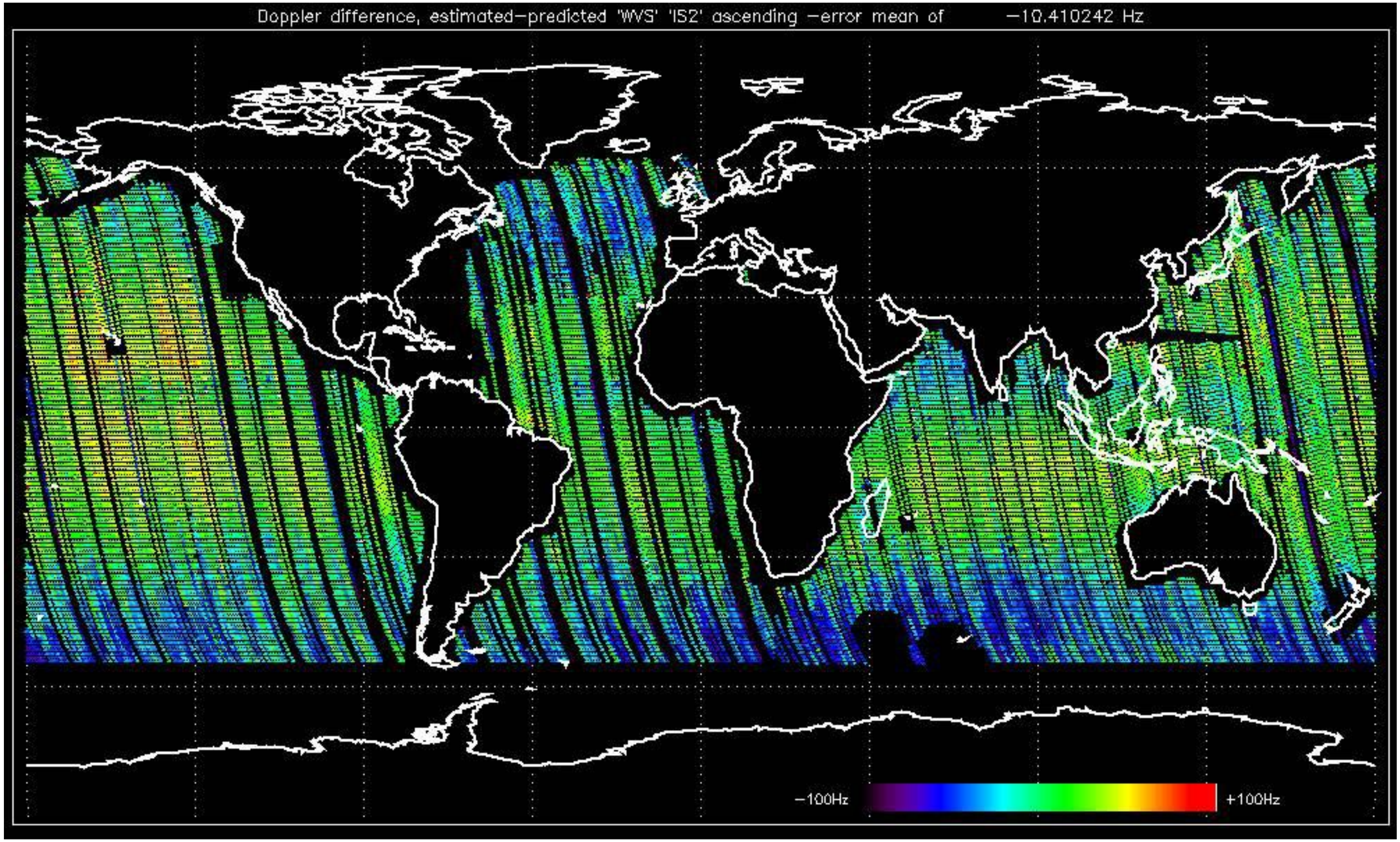

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

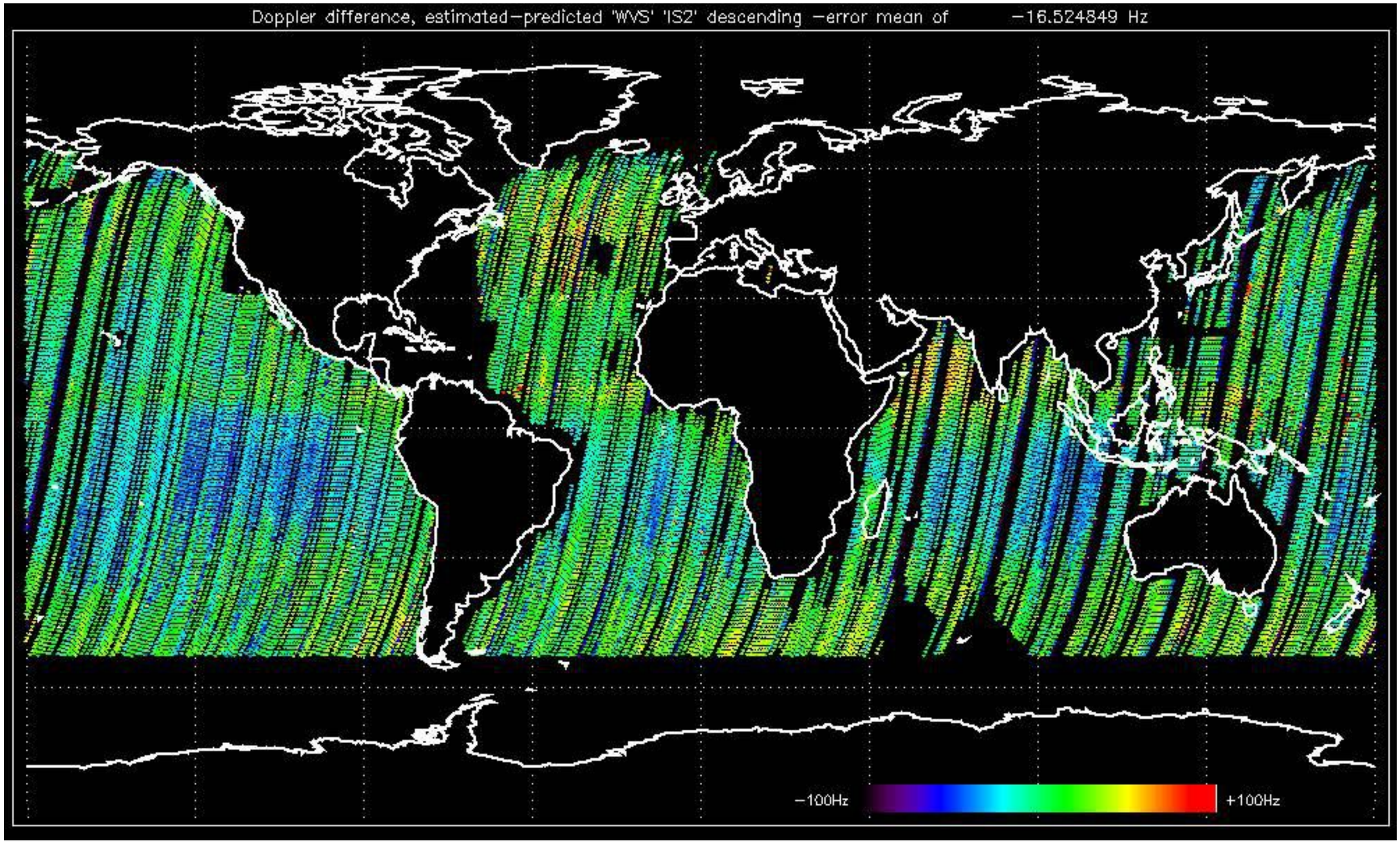

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −22.068998 Hz
−100Hz
+100Hz

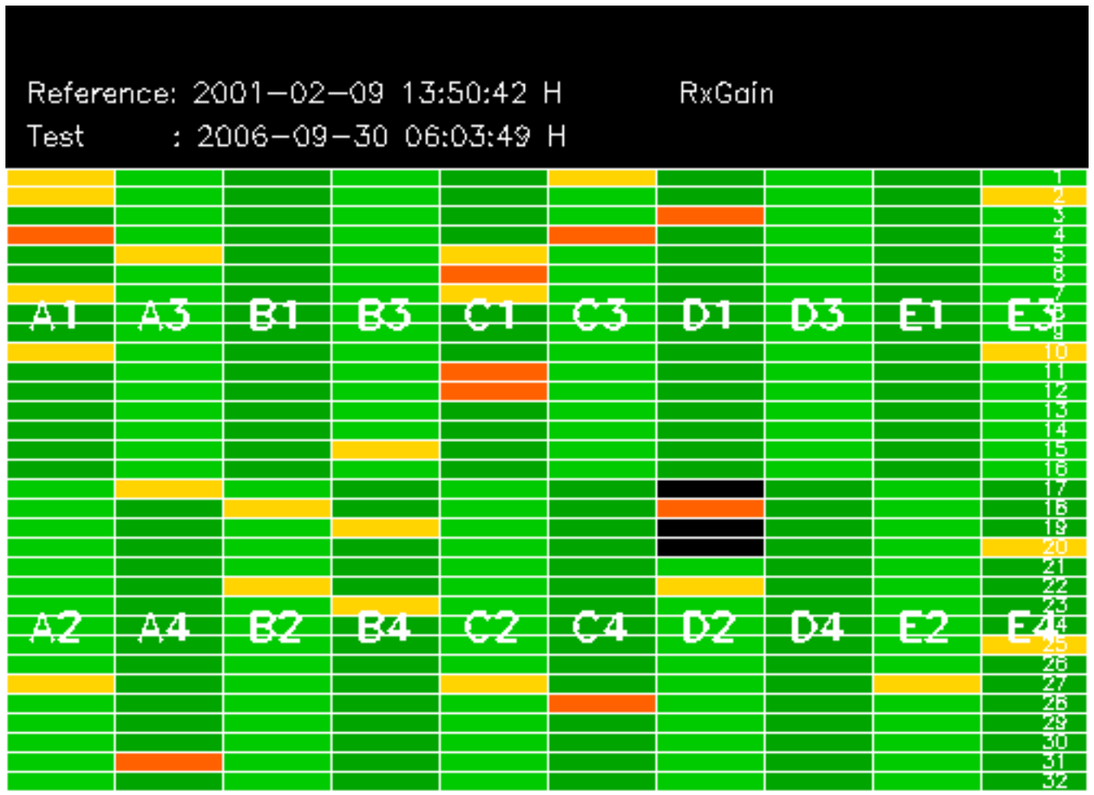

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −14.378015 Hz
−100Hz
+100Hz

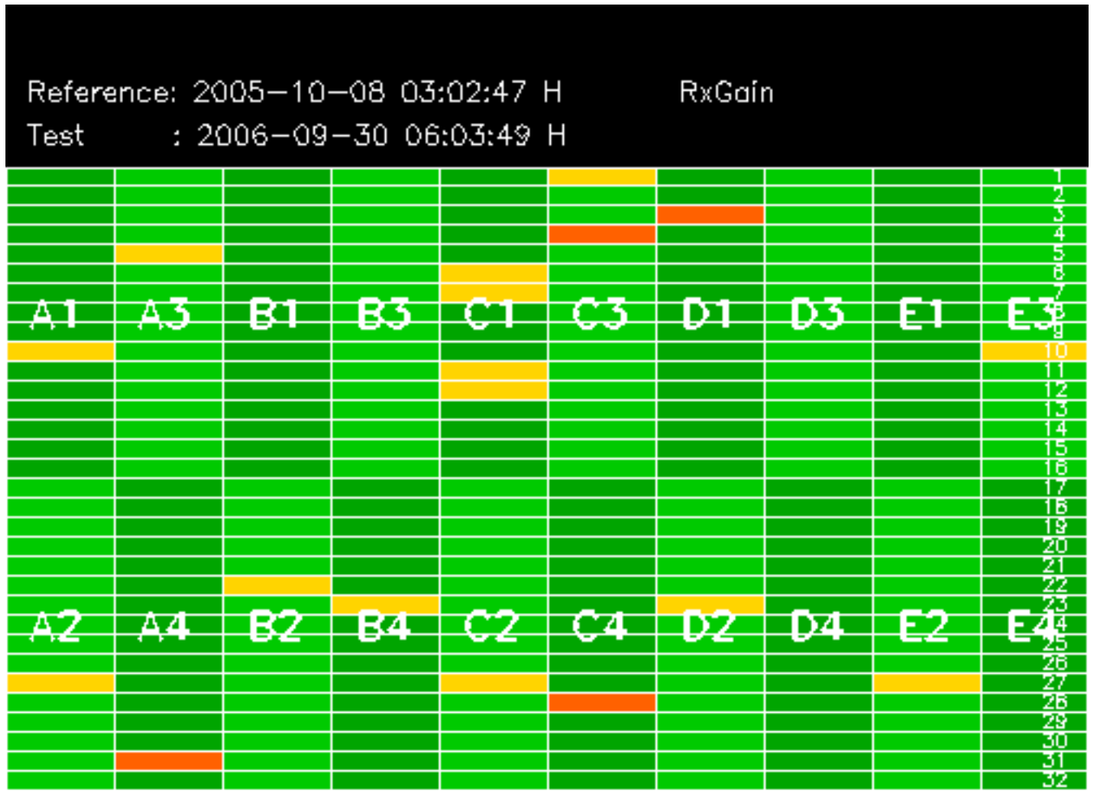

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −10.410242 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −16.524849 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2006-09-30 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: 2005-10-08 03:02:47 H
Test : 2006-09-30 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
7
8
9
10
11
12
13
14
15
16
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18
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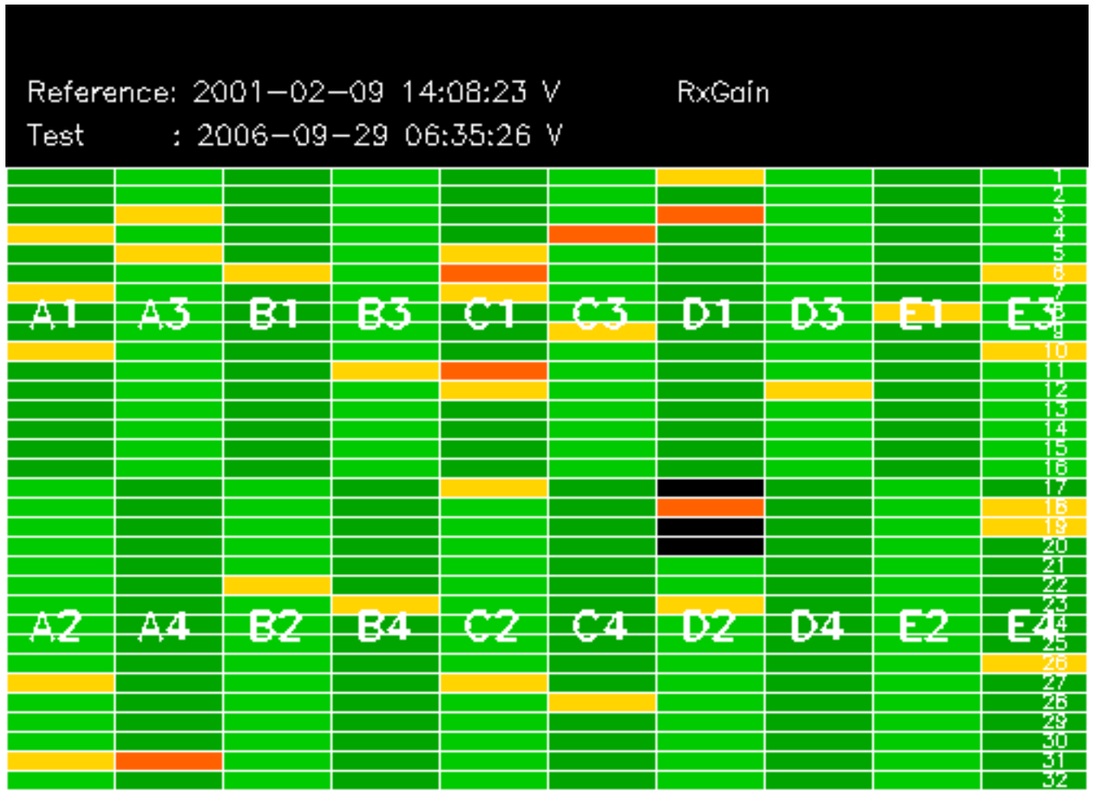
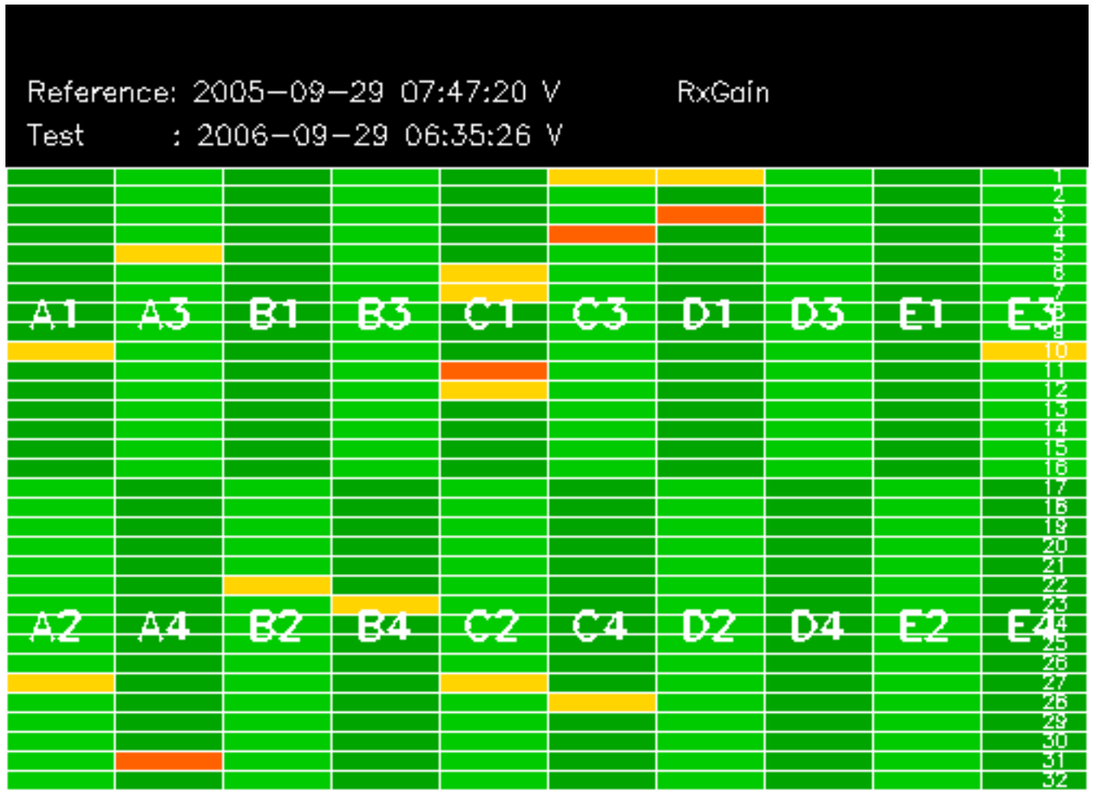
22
23
24
25
26
27
28
29
30
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2006-09-29 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: 2005-09-29 07:47:20 V
Test : 2006-09-29 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
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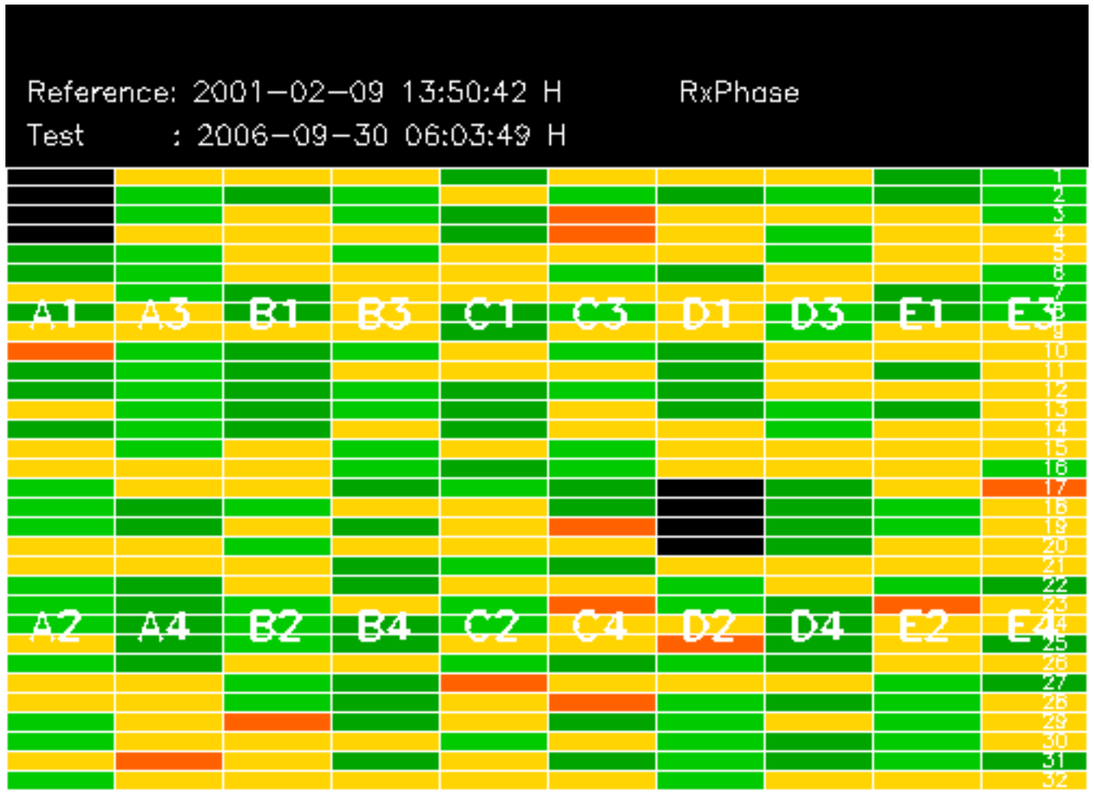
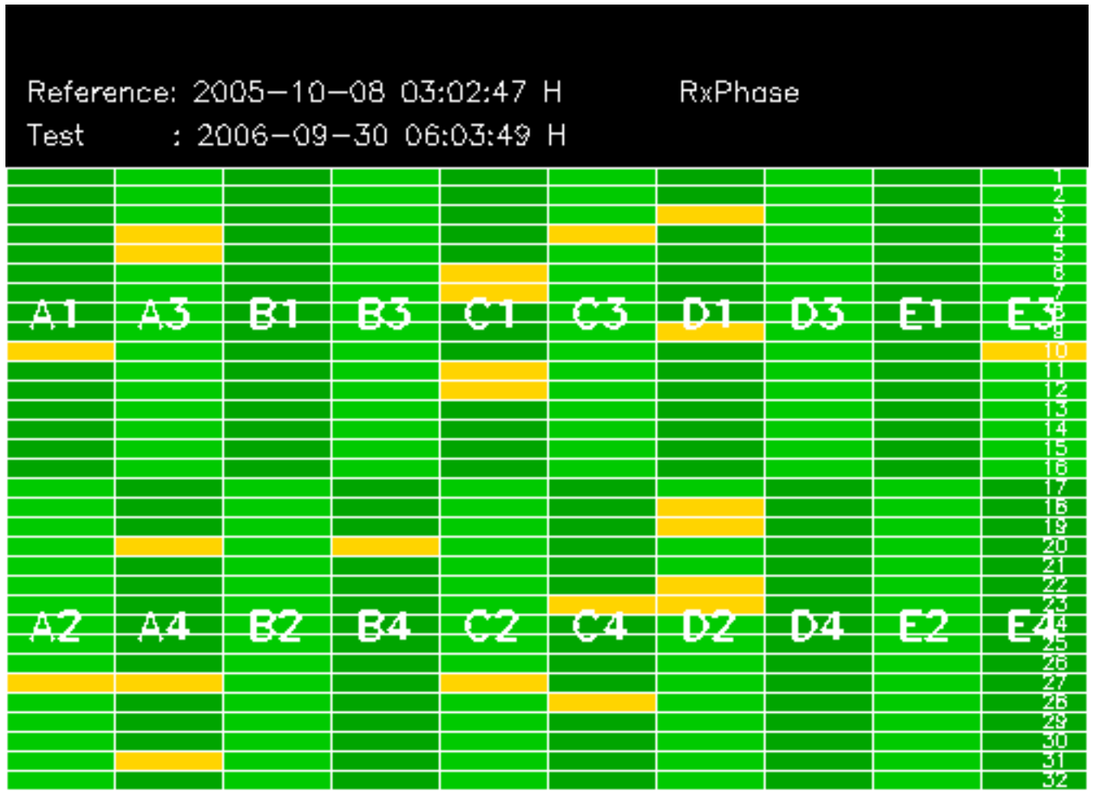

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-09-30 06:03:49 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-10-08 03:02:47 H
Test : 2006-09-30 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
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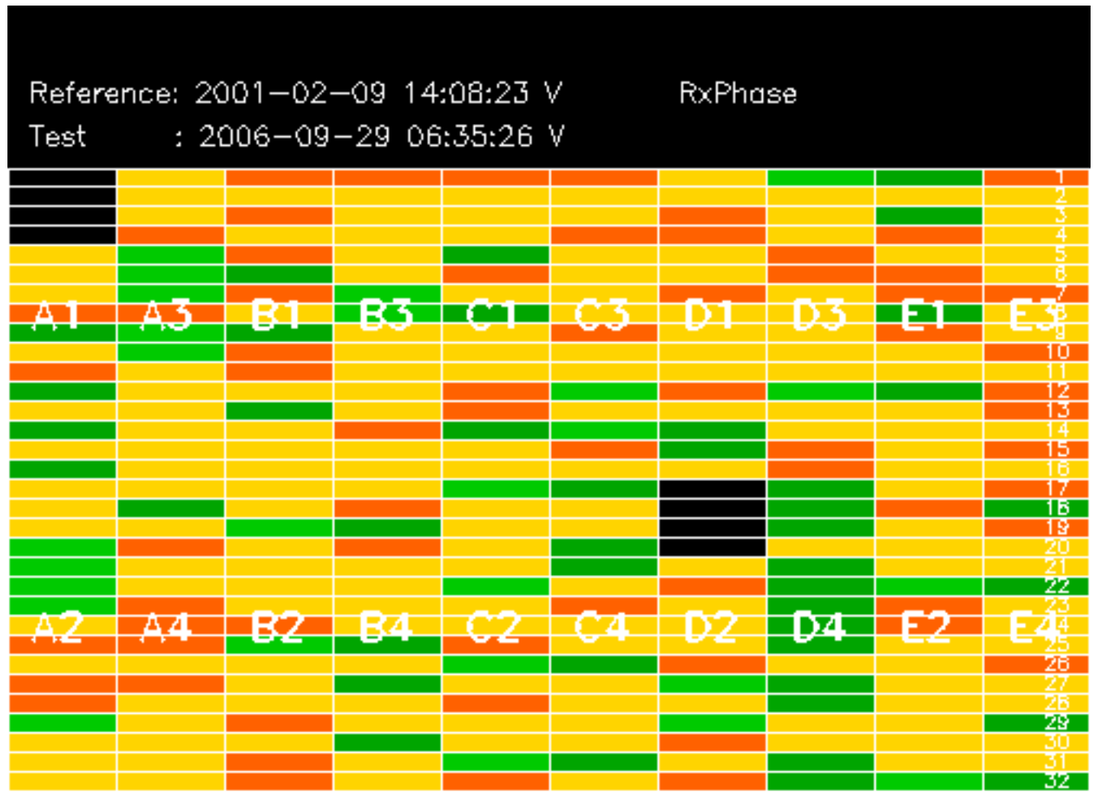
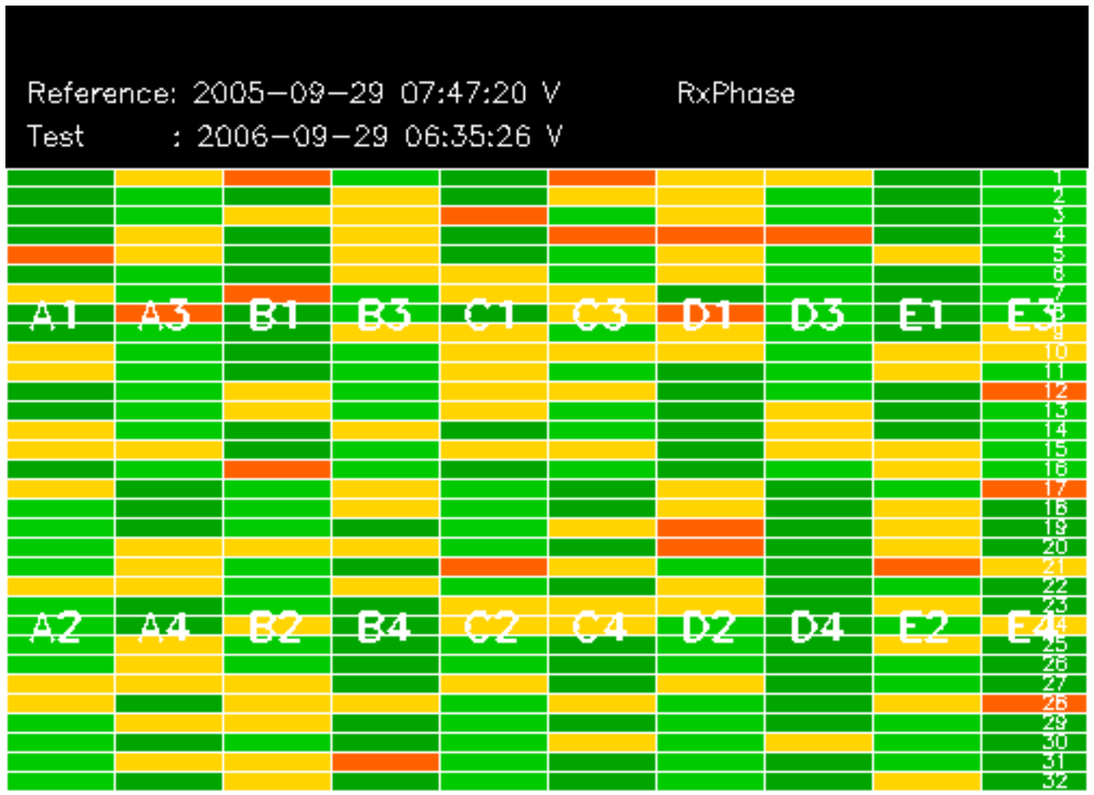

Reference: 2001-02-09 14:08:23 V
RxPhase
Test : 2006-09-29 06:35:26 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-09-29 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
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8
9
10
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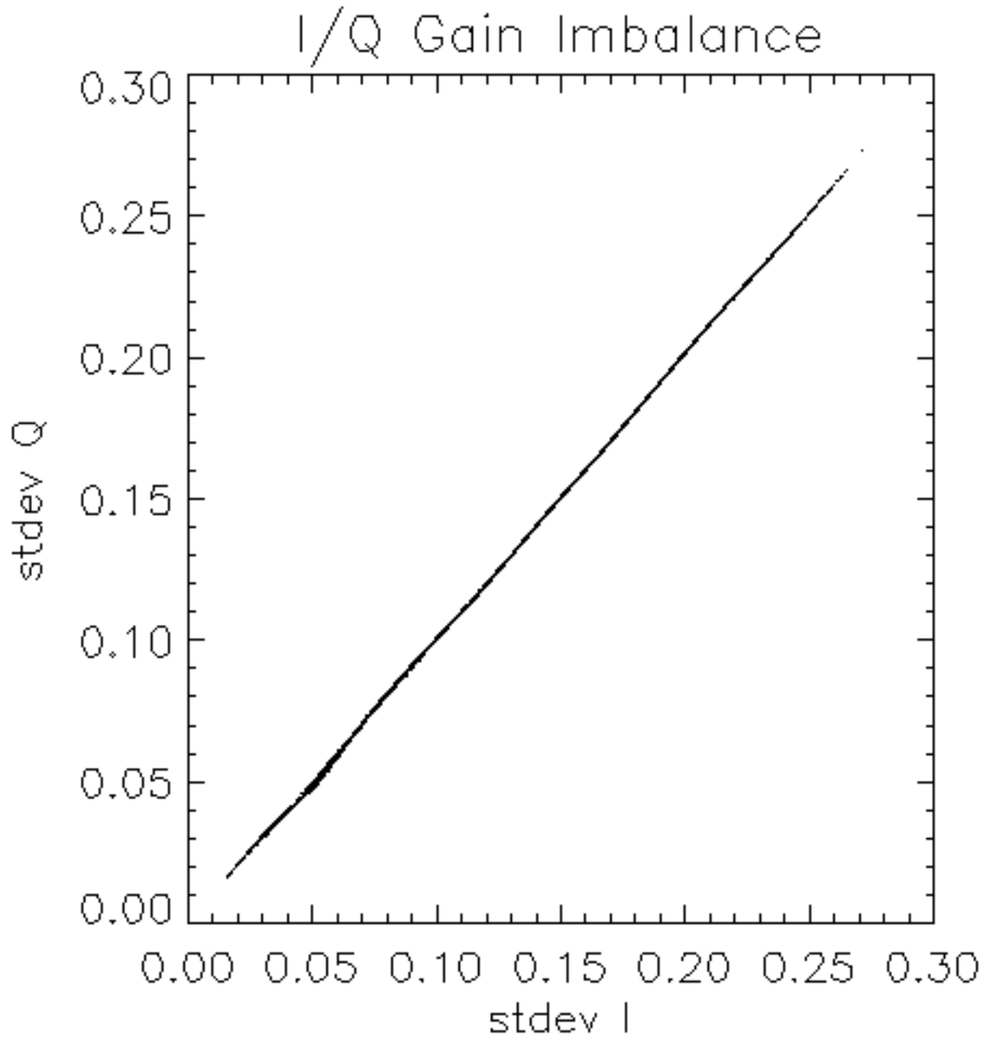
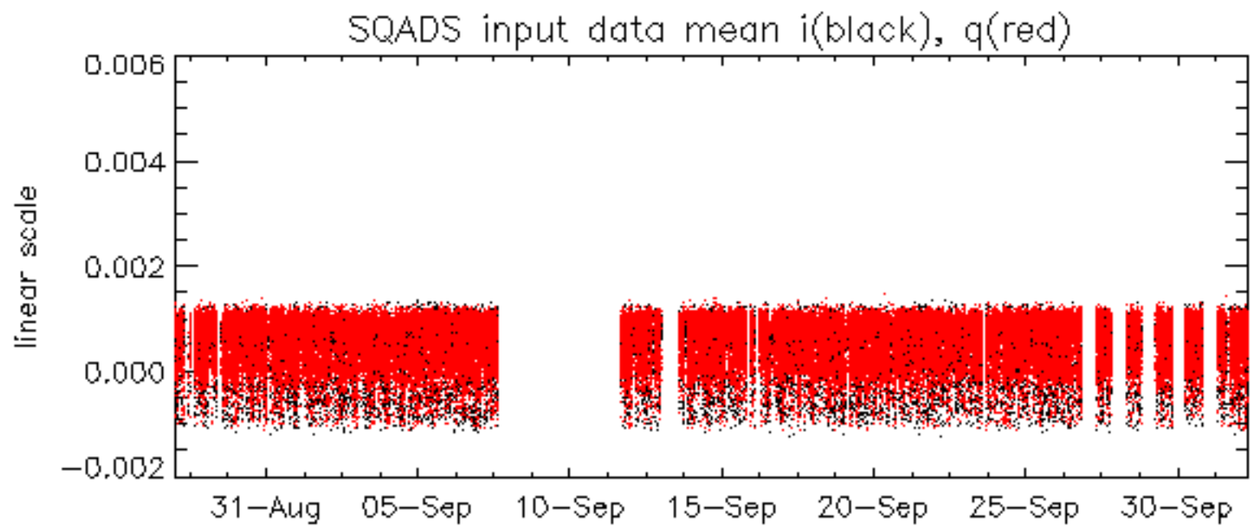
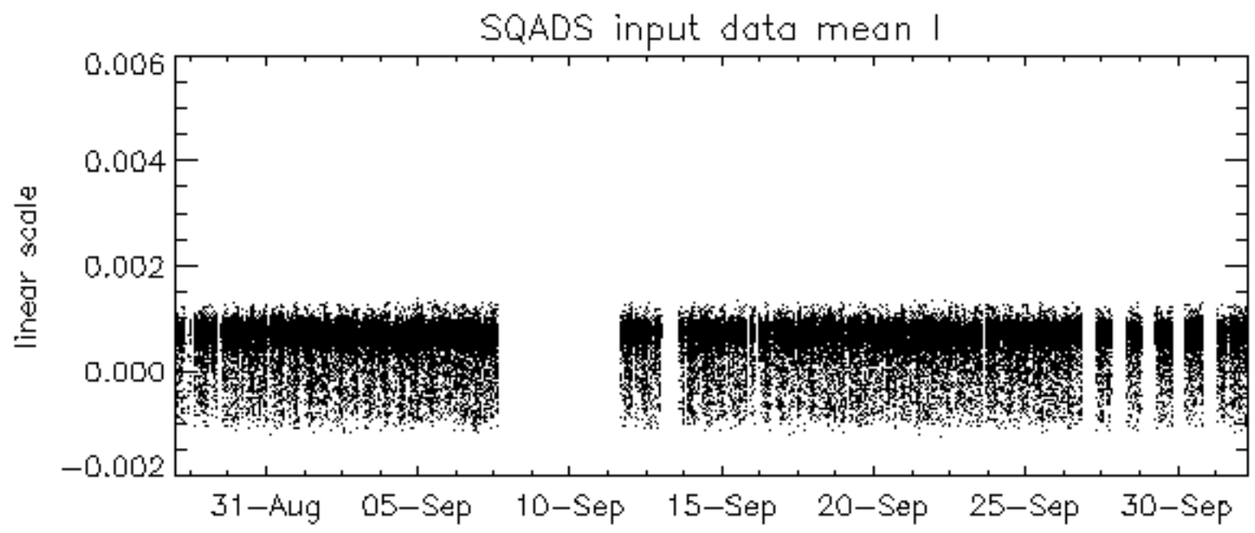
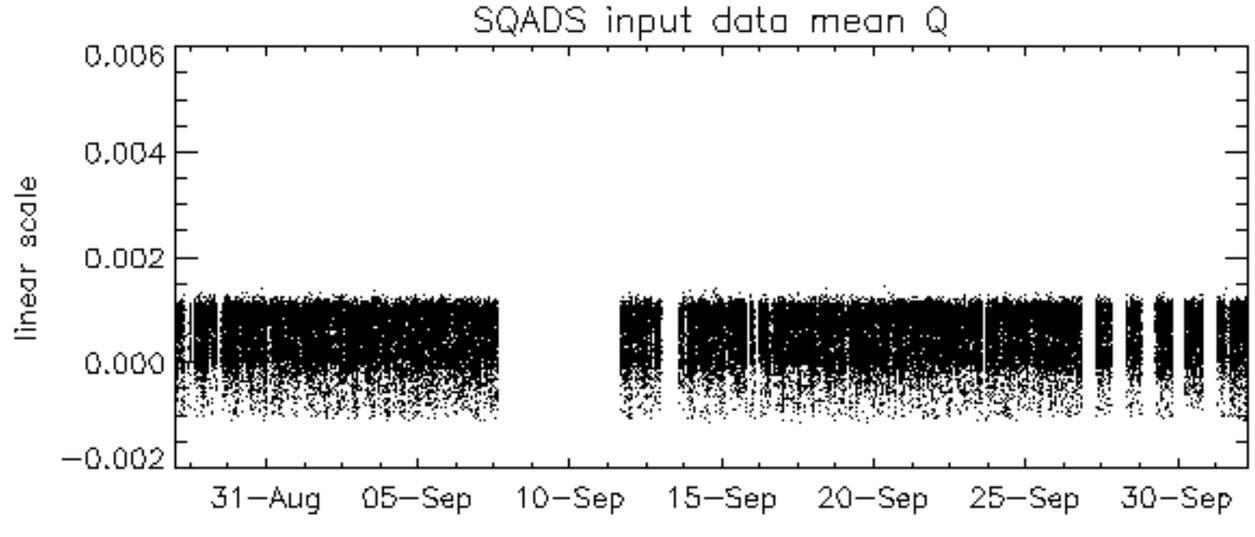
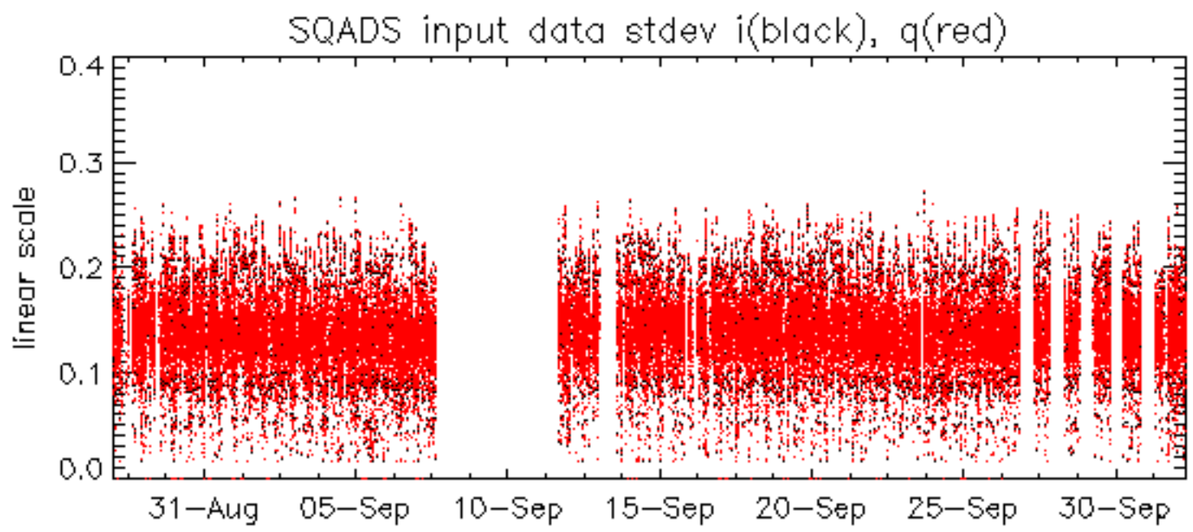
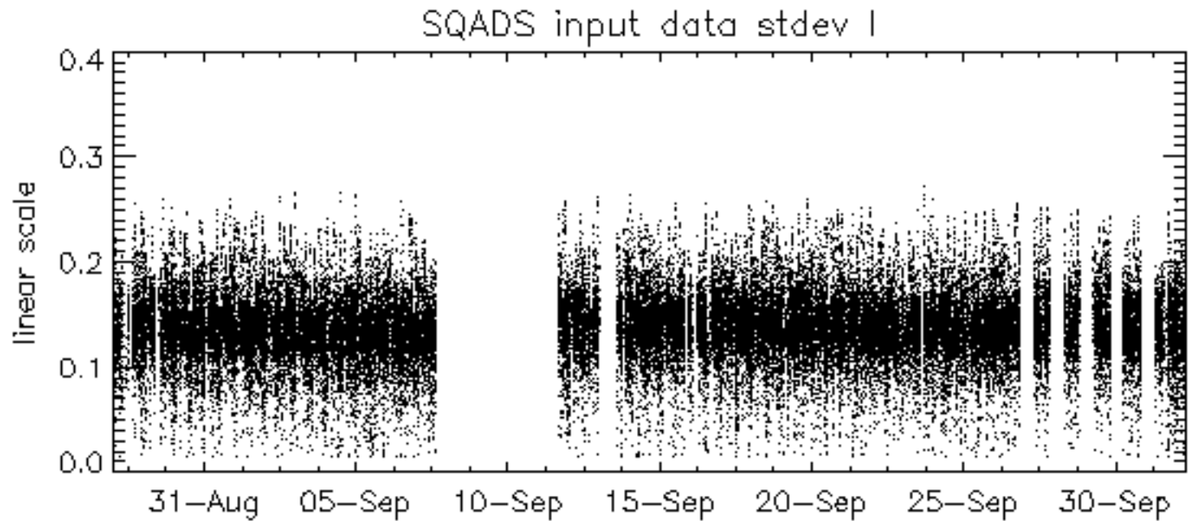

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

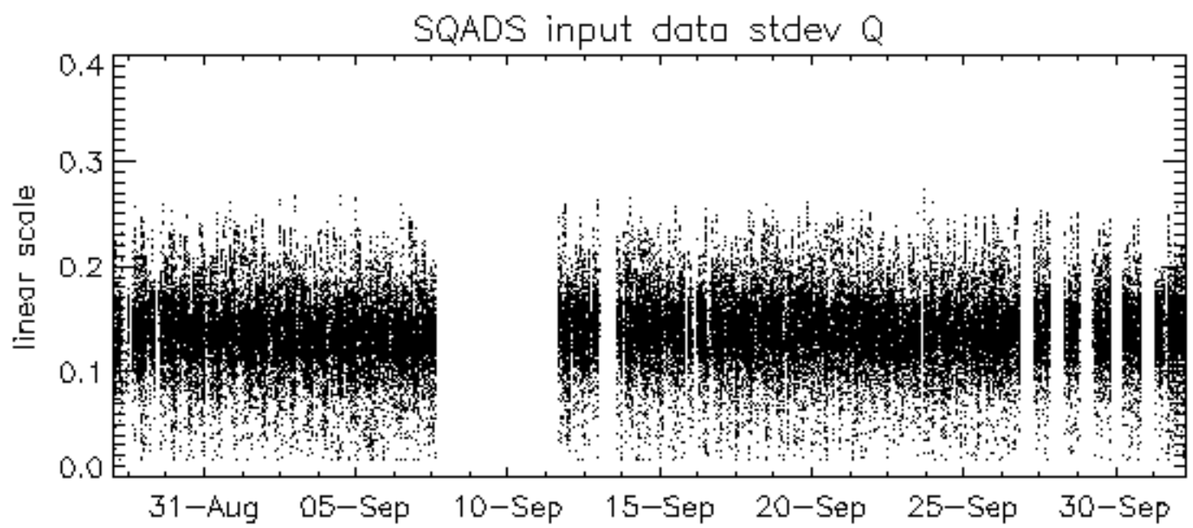

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
25−Sep
30−Sep

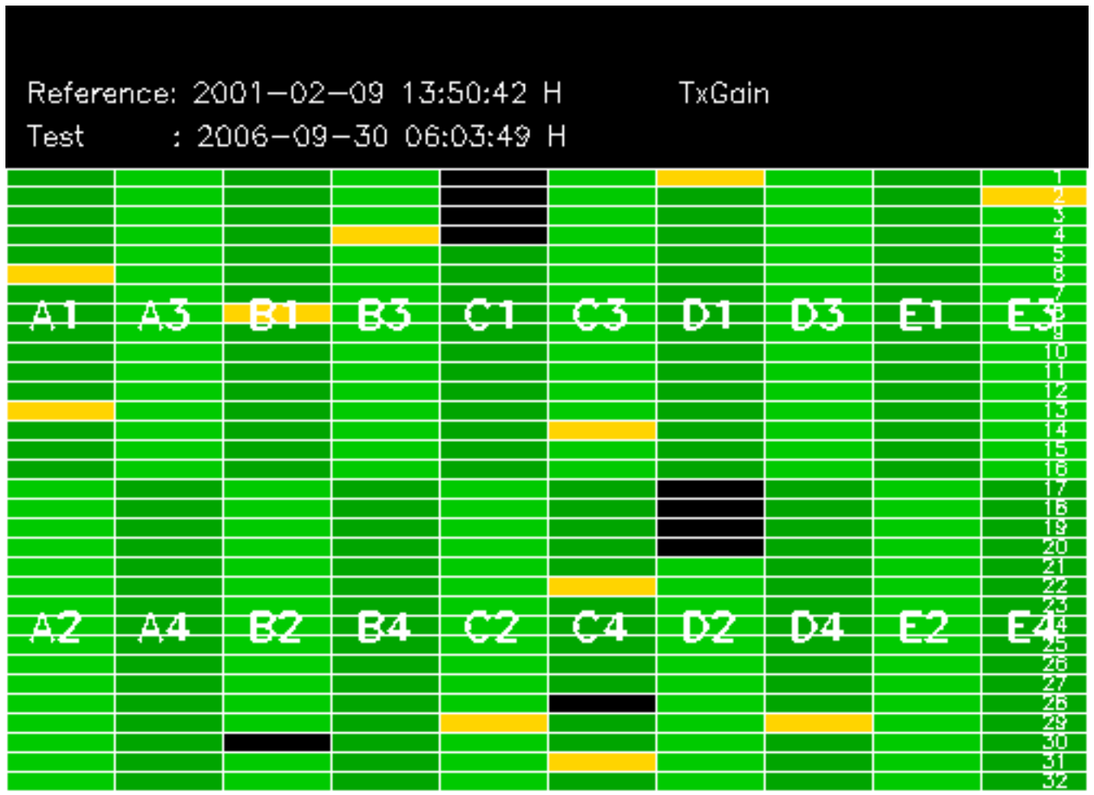

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
25−Sep
30−Sep


SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
25−Sep
30−Sep


SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
25−Sep
30−Sep


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
25−Sep
30−Sep


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
25−Sep
30−Sep


Reference: 2001-02-09 13:50:42 H
Test : 2006-09-30 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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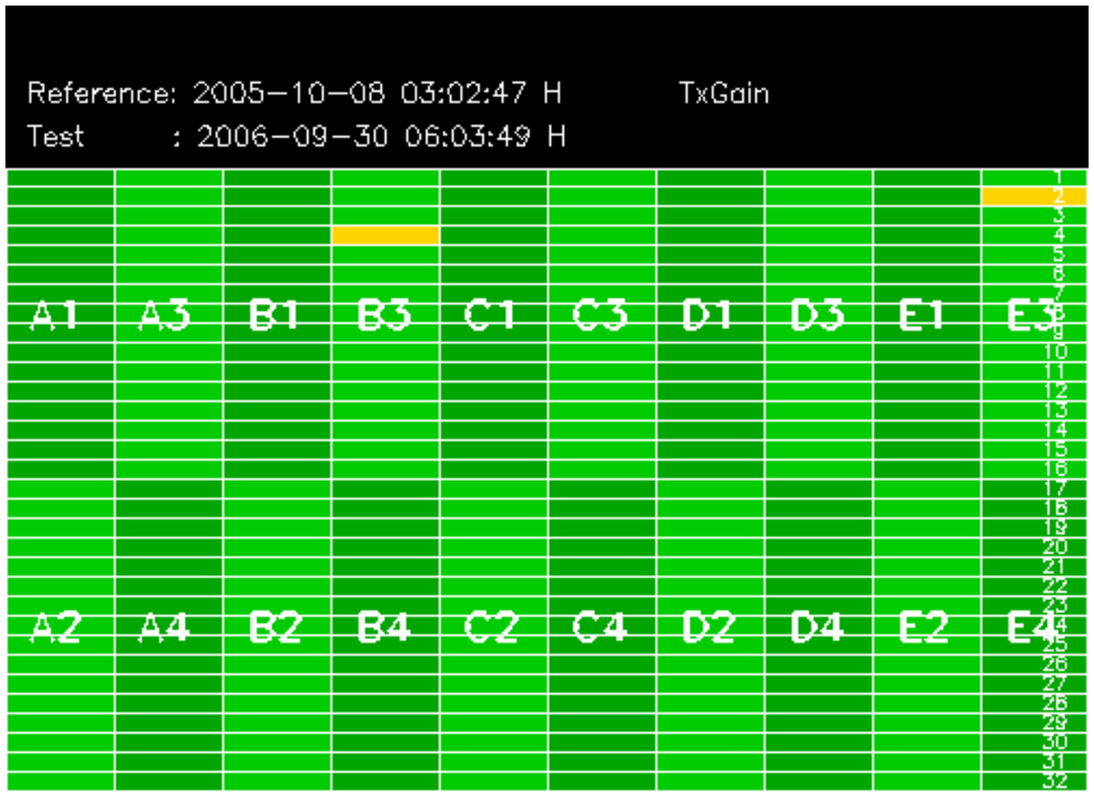
Reference: 2005-10-08 03:02:47 H
Test : 2006-09-30 06:03:49 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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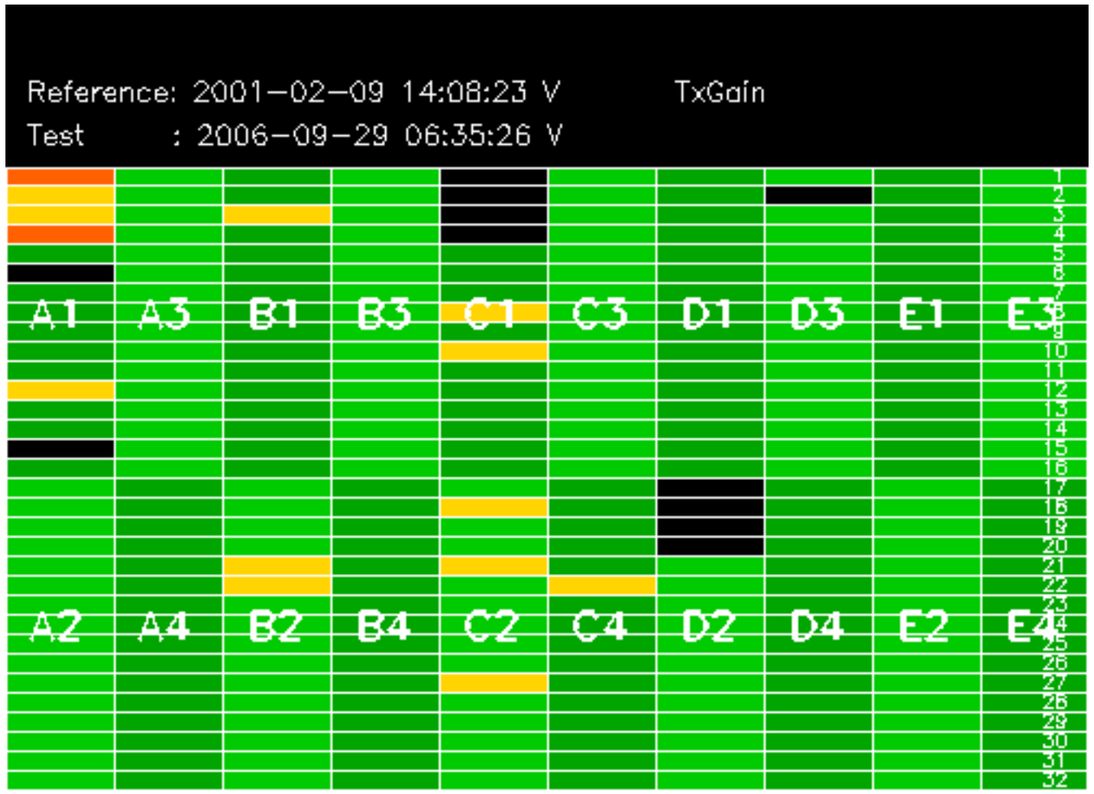
Reference: 2001-02-09 14:08:23 V
Test : 2006-09-29 06:35:26 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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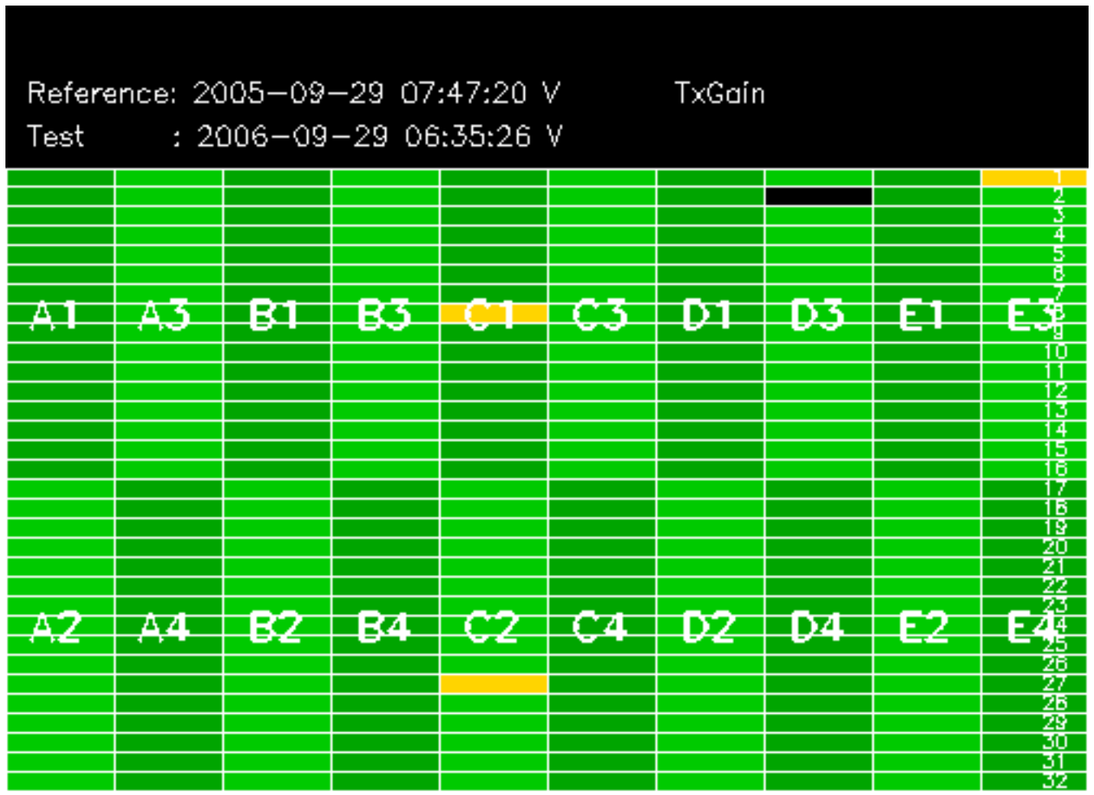
Reference: 2005-09-29 07:47:20 V
Test : 2006-09-29 06:35:26 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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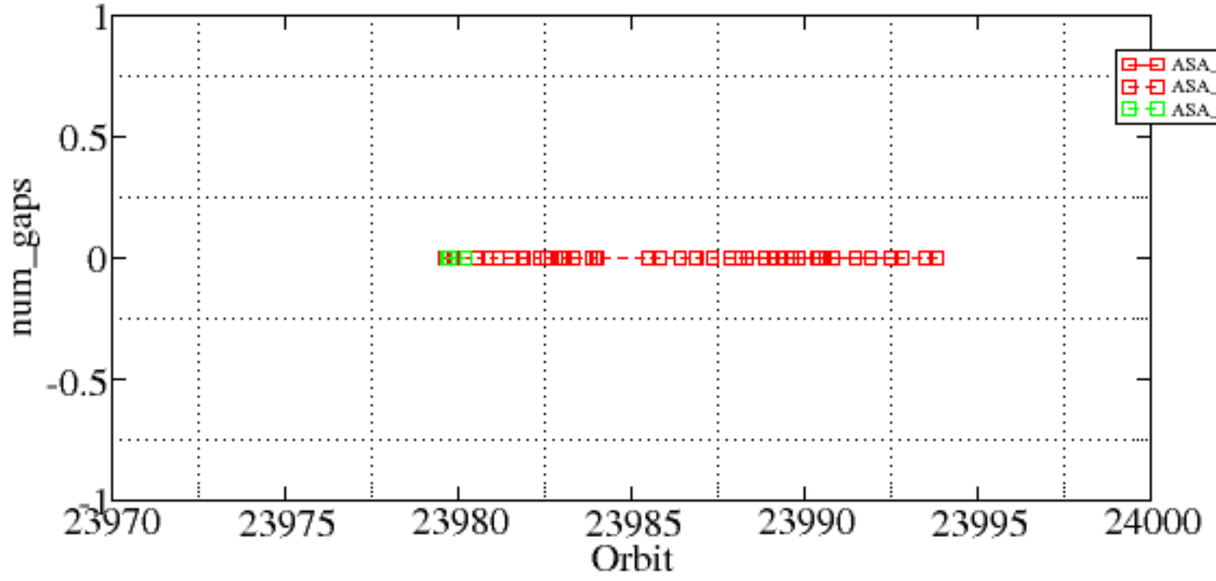
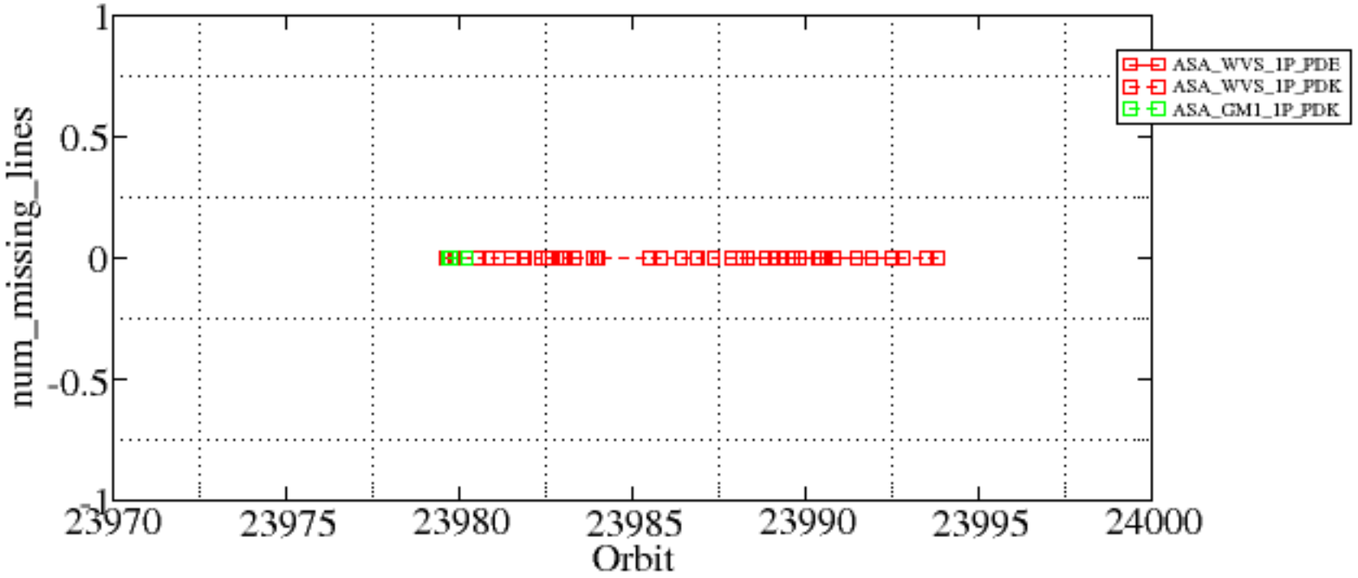
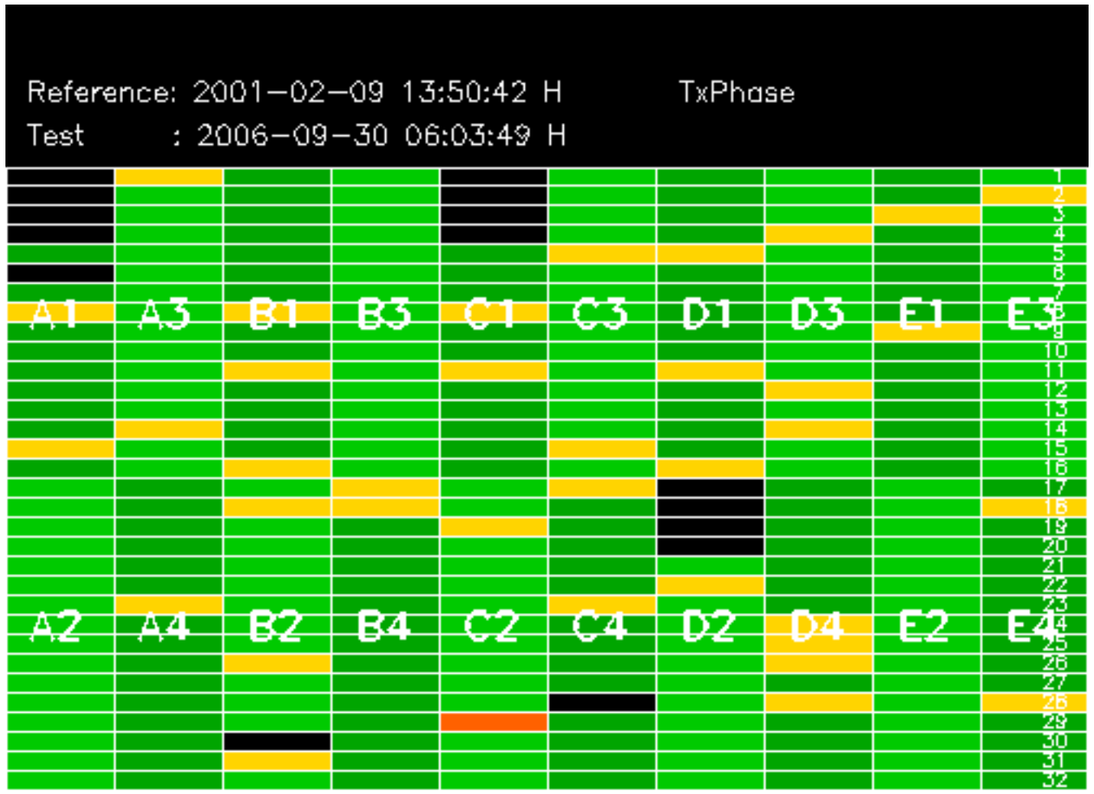
Summary of analysis for the last 3 days 2006100[012]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
23970
23975
23980
23985
23990
23995
24000
Orbit
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDK


num_missing_lines
1
0.5
0
-0.5
-1
23970
23975
23980
23985
23990
23995
24000
Orbit
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDK


Reference: 2001-02-09 13:50:42 H
Test : 2006-09-30 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
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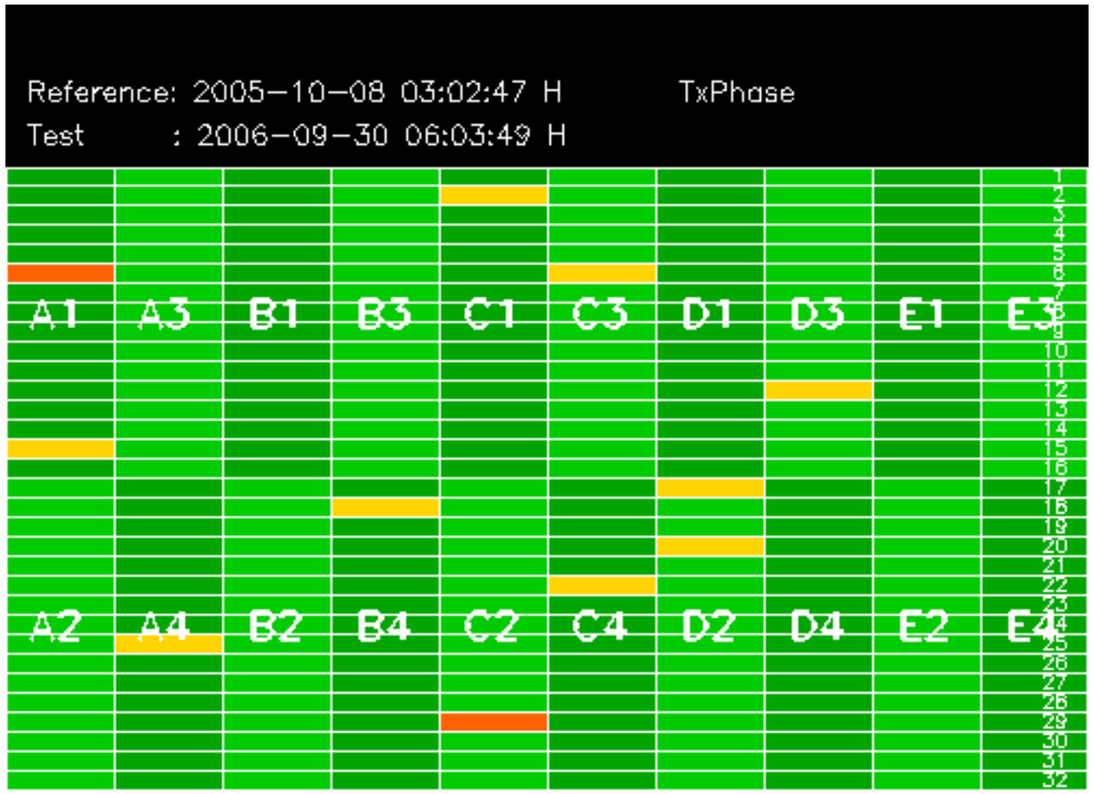
32


Reference: 2005-10-08 03:02:47 H
Test : 2006-09-30 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
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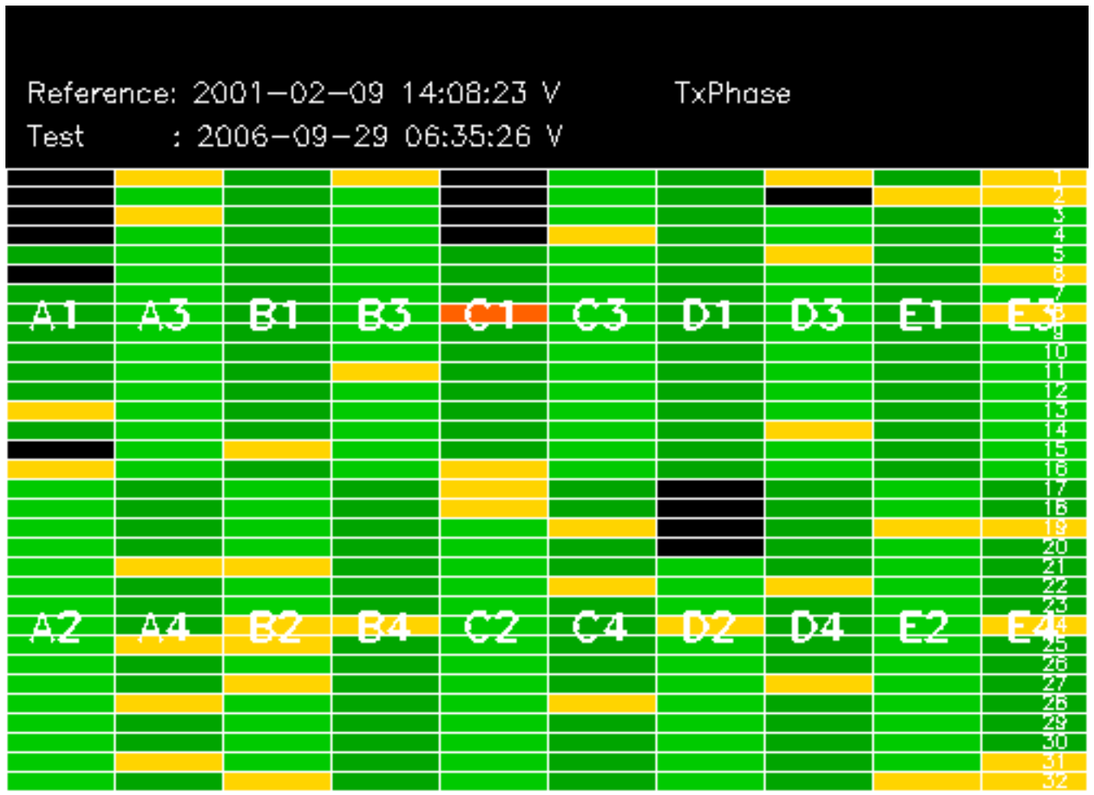
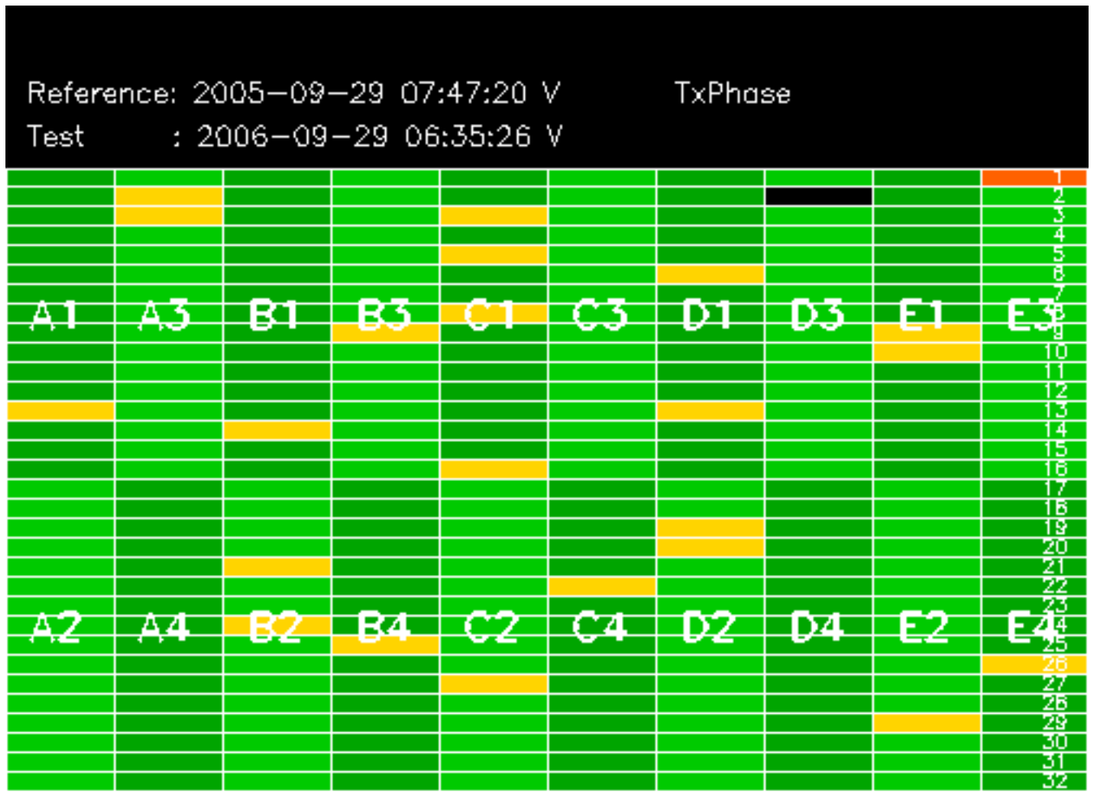

Reference: 2001-02-09 14:08:23 V
Test : 2006-09-29 06:35:26 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-09-29 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
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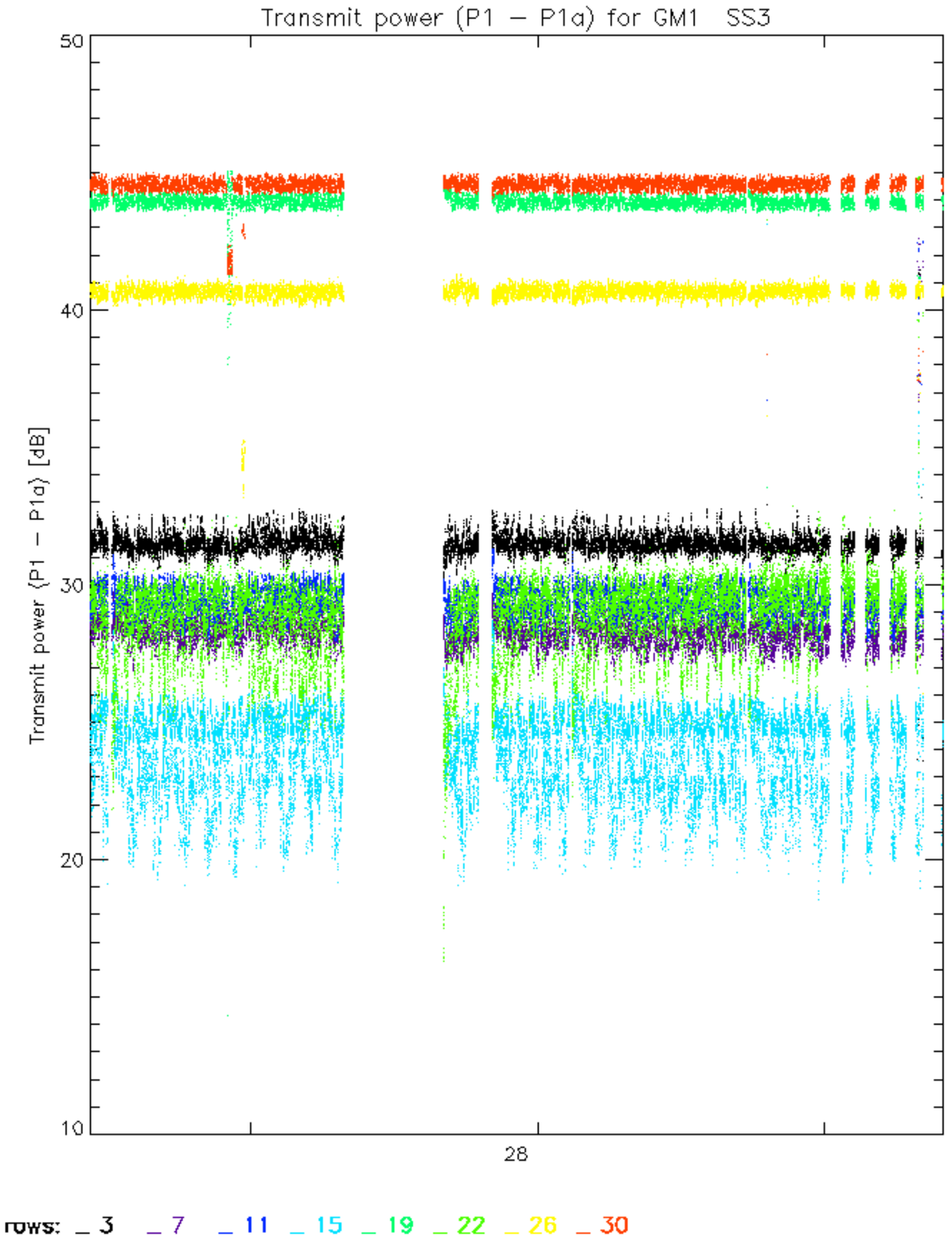
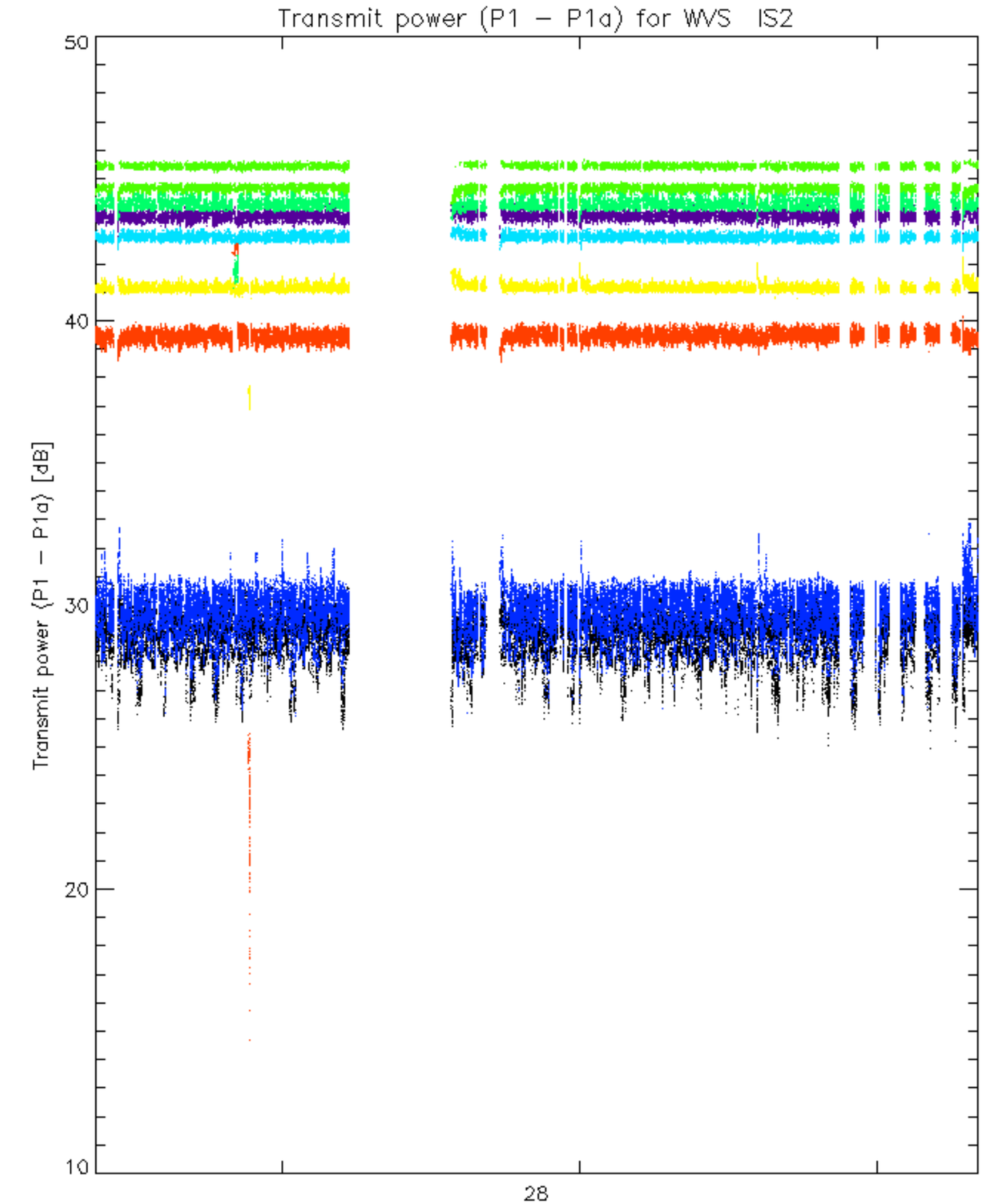
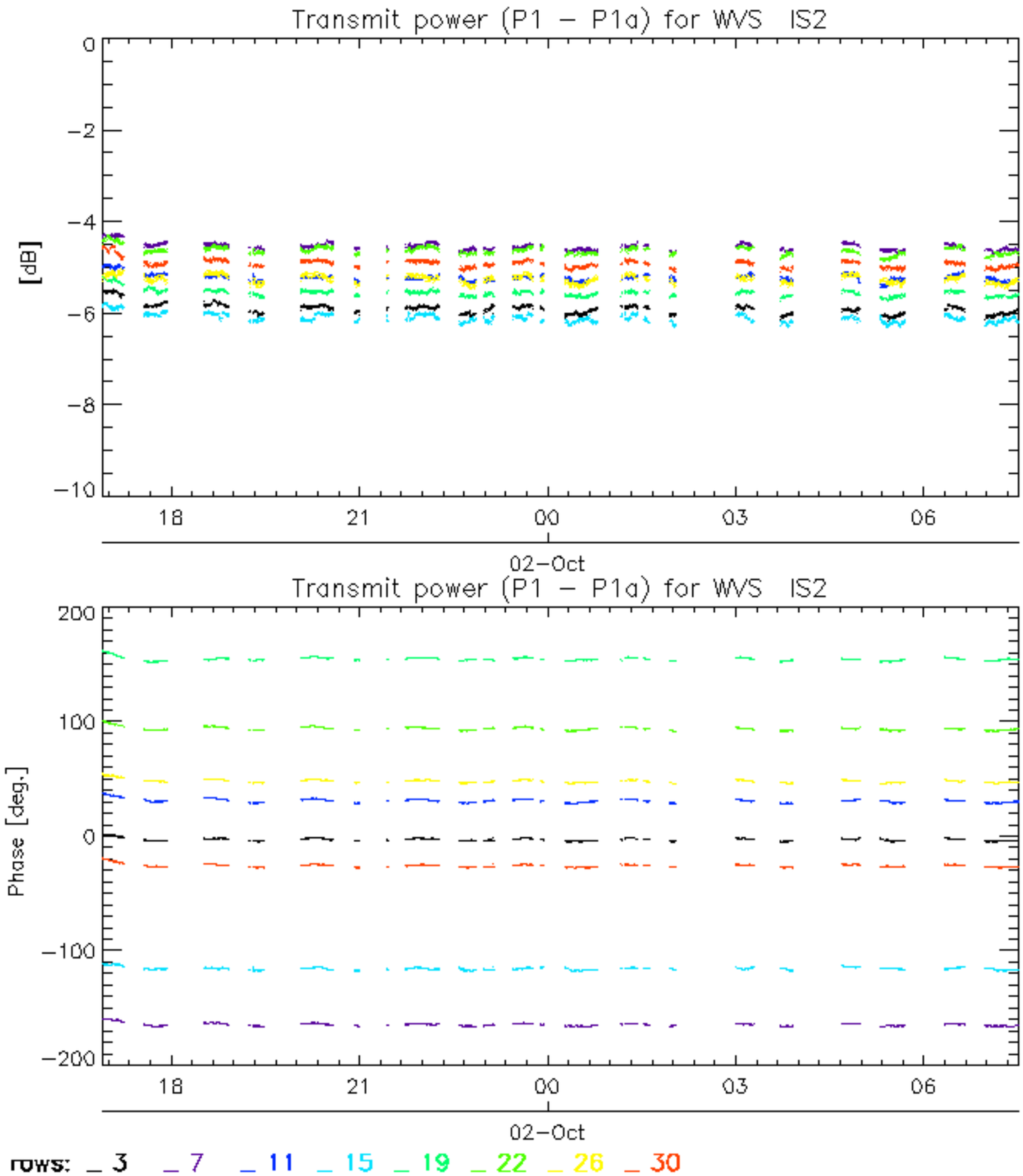

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
28
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
28
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
0
−2
−4
−6
−8
−10
[dB]
18
21
00
03
06
02−Oct
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
18
21
00
03
06
02−Oct
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.