PRELIMINARY REPORT OF 061011

last update on Wed Oct 11 16:42:22 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 2006-10-10 00:00:00 to 2006-10-11 16:42:22

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	40	77	12	7	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	40	77	12	7	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	40	77	12	7	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	40	77	12	7	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	26	45	10	2	14
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	26	45	10	2	14
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	26	45	10	2	14
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	26	45	10	2	14

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	20061009 180516
H	20061010 173340

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	-3.945062	0.010509	-0.012974
7	P1	-3.073804	0.010587	-0.012584
11	P1	-4.080918	0.022620	-0.027925
15	P1	-6.196622	0.016232	-0.038932
19	P1	-3.545270	0.008044	-0.049486
22	P1	-4.600178	0.010784	0.002340
26	P1	-3.987575	0.064351	-0.091121
30	P1	-5.841019	0.101861	-0.127041
3	P1	-16.629812	0.224181	-0.098702
7	P1	-17.115089	0.107050	0.005507
11	P1	-16.915623	0.386590	-0.295271
15	P1	-12.843260	0.104522	0.051870
19	P1	-14.659403	0.053195	-0.043504
22	P1	-15.639585	0.476007	0.357786
26	P1	-15.150662	0.257458	0.240805
30	P1	-16.939041	0.473384	0.171029

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.815712	0.086067	-0.025738
7	P2	-21.799685	0.096931	0.105749
11	P2	-15.738016	0.108081	0.012252
15	P2	-7.078948	0.105454	0.053467
19	P2	-9.125738	0.096254	0.020494
22	P2	-18.131027	0.093150	-0.007580
26	P2	-16.425241	0.100295	0.022070
30	P2	-19.467560	0.093298	0.003816

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.193733	0.006496	-0.018472
7	P3	-8.193733	0.006496	-0.018472
11	P3	-8.193733	0.006496	-0.018472
15	P3	-8.193733	0.006496	-0.018472
19	P3	-8.193733	0.006496	-0.018472
22	P3	-8.193733	0.006496	-0.018472
26	P3	-8.193608	0.006499	-0.018047
30	P3	-8.193608	0.006499	-0.018047

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	-3.879712	0.028552	-0.055894
7	P1	-2.551555	0.119119	-0.037013
11	P1	-2.903906	0.029986	-0.042252
15	P1	-3.691787	0.040180	-0.100017
19	P1	-3.460165	0.013623	-0.003350
22	P1	-5.102689	0.023069	0.019029
26	P1	-5.900410	0.108535	-0.077995
30	P1	-5.227199	0.117916	-0.076467
3	P1	-11.680889	0.088141	-0.098068
7	P1	-10.047175	0.173256	-0.092892
11	P1	-10.396565	0.088940	-0.088400
15	P1	-10.889828	0.178747	-0.190748
19	P1	-15.552465	0.102717	0.063945
22	P1	-20.964769	1.285025	-0.248031

26	P1	-15.817004	0.437115	0.309748
30	P1	-18.085461	0.416025	0.126870

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.368832	0.068667	0.080196
7	P2	-22.105318	0.221344	0.203733
11	P2	-10.865208	0.061933	0.115487
15	P2	-4.851691	0.033328	0.029481
19	P2	-6.829385	0.040847	0.072637
22	P2	-8.156141	0.071148	0.011114
26	P2	-24.175179	0.153371	0.014453
30	P2	-21.942820	0.094465	0.081817

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.042363	0.003542	-0.010952
7	P3	-8.042322	0.003536	-0.011187
11	P3	-8.042338	0.003538	-0.010919
15	P3	-8.042411	0.003542	-0.011126
19	P3	-8.042367	0.003541	-0.011030
22	P3	-8.042471	0.003538	-0.011098
26	P3	-8.042285	0.003547	-0.010506
30	P3	-8.042240	0.003534	-0.010717

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	0.000567781
	stdev	1.64287e-07
MEAN Q	mean	0.000527103
	stdev	2.13382e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138713
	stdev	0.00112149
STDEV Q	mean	0.139084
	stdev	0.00113955

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006101[901]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_WSM_1PNPDE20061010_002924_000001462052_00002_24104_4027.N1	0	29

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

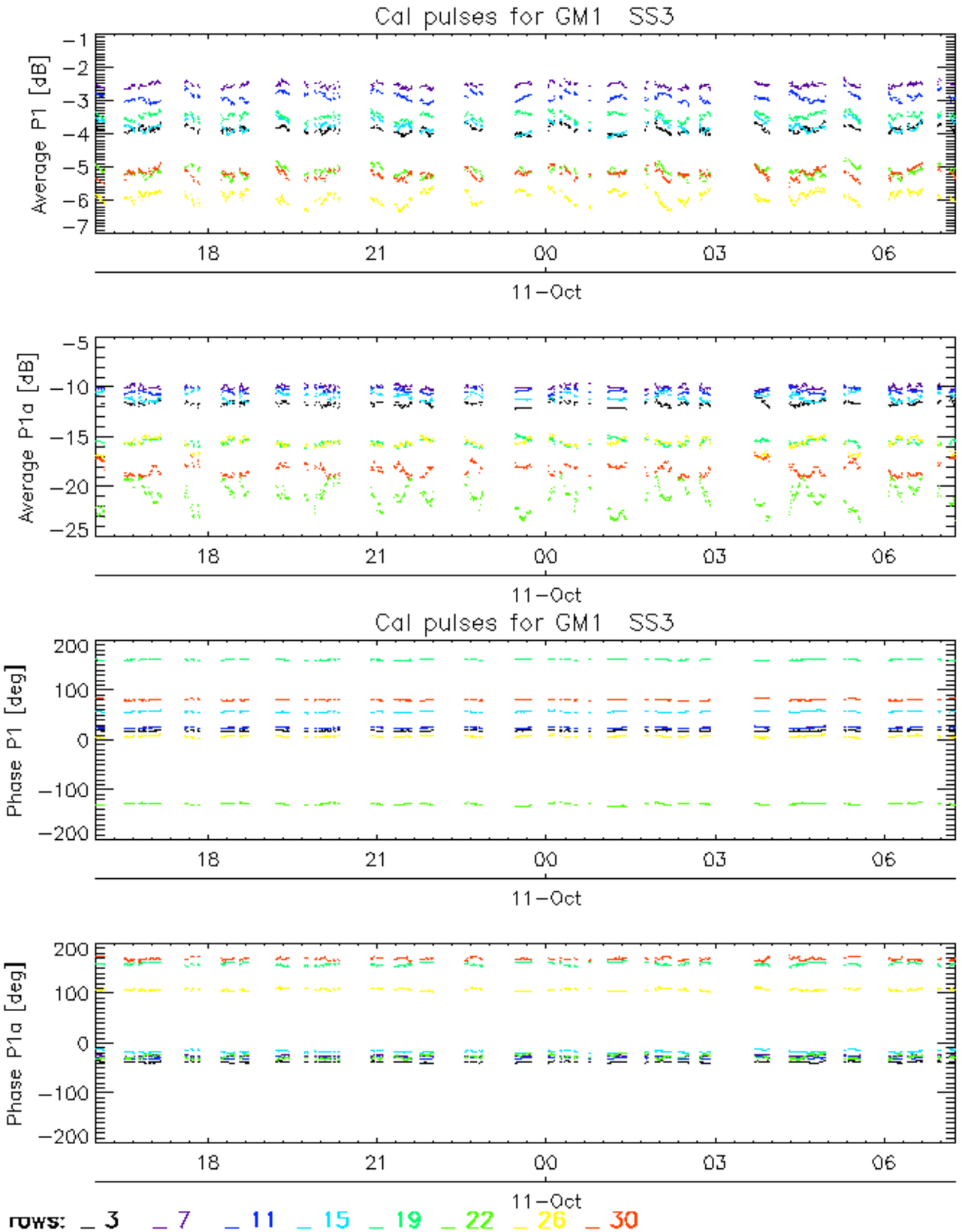
Descending

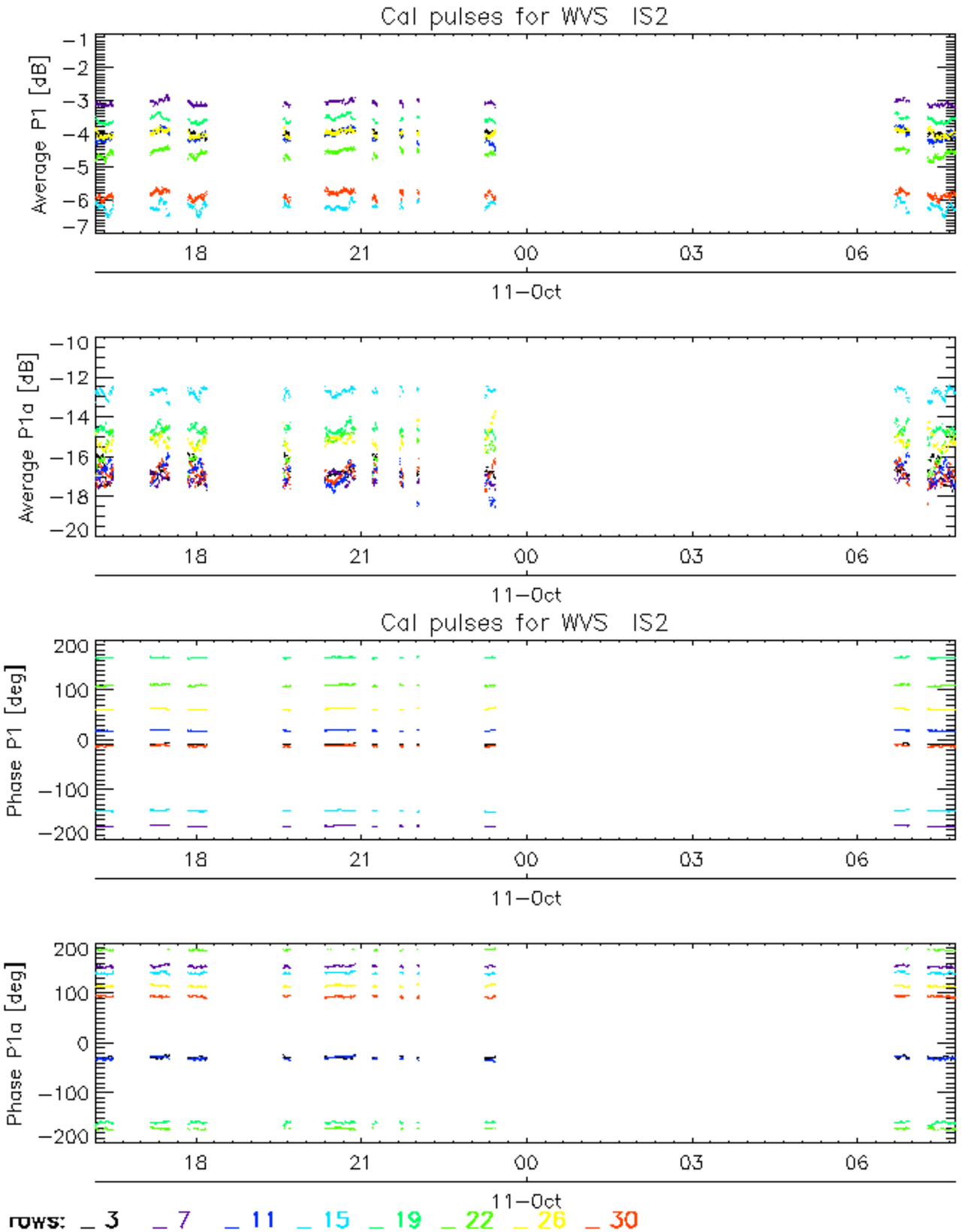
7.5 - Absolute Doppler for GM1

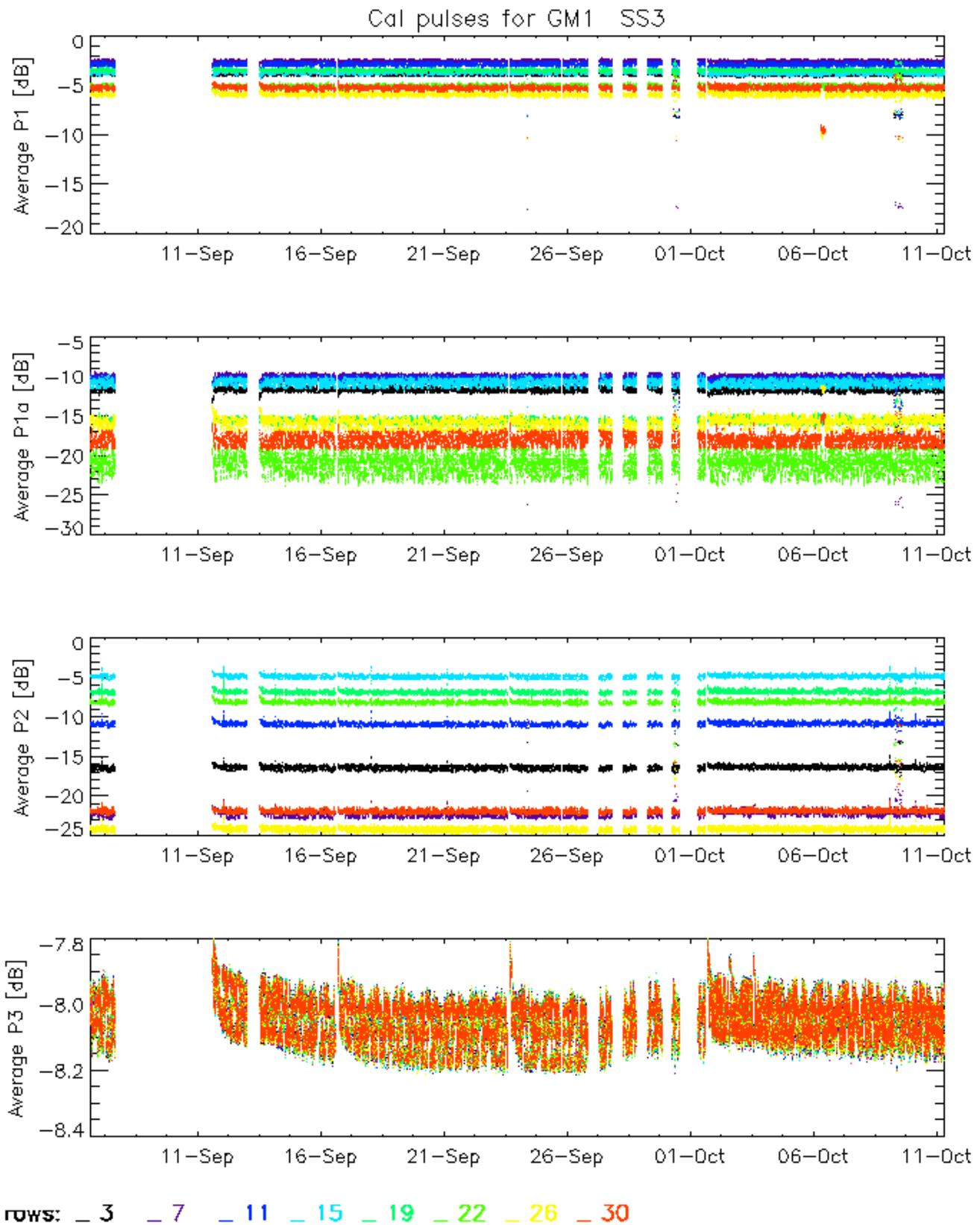
Evolution of Absolute Doppler
Acsending
Descending

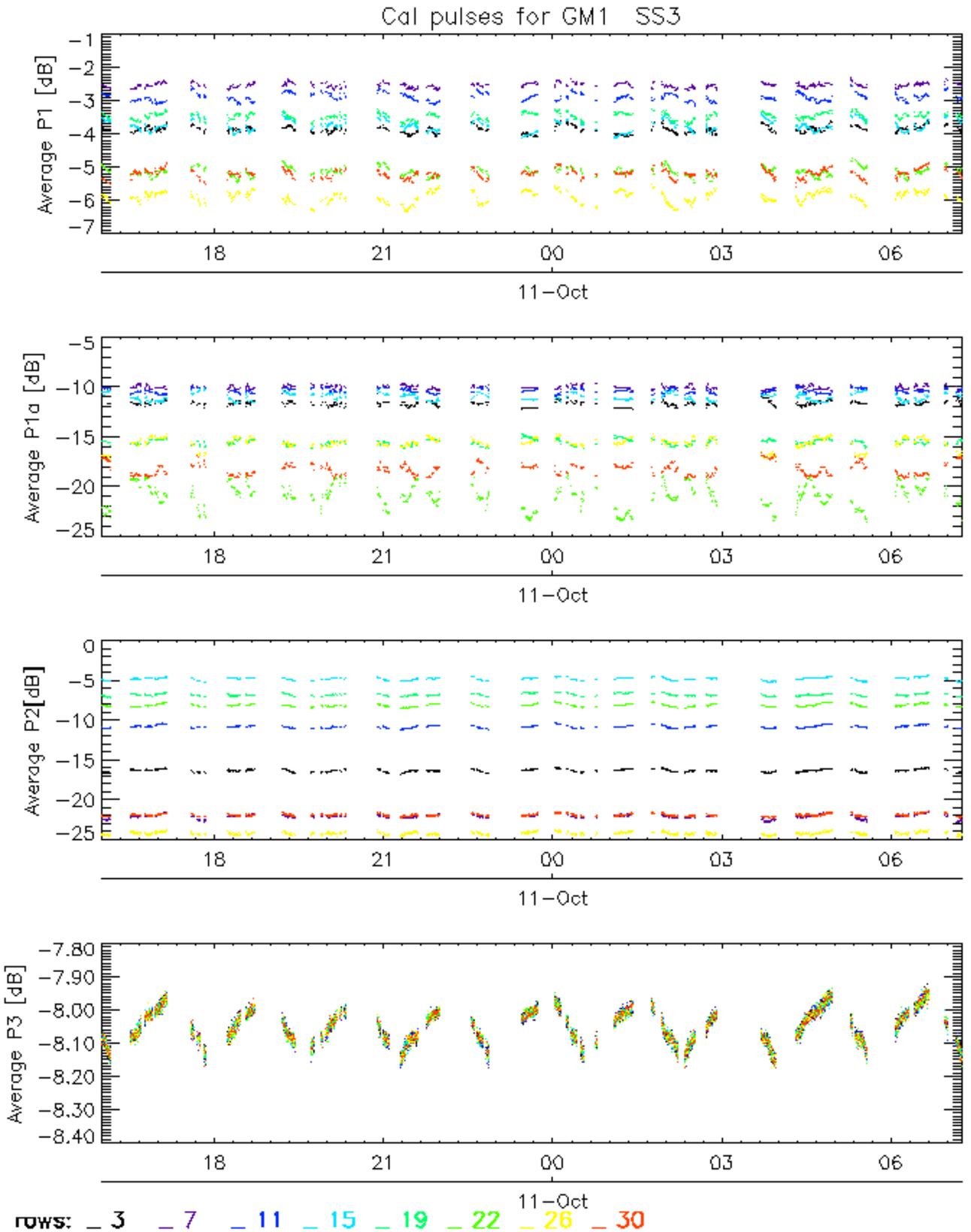
7.6 - Doppler evolution versus ANX for GM1

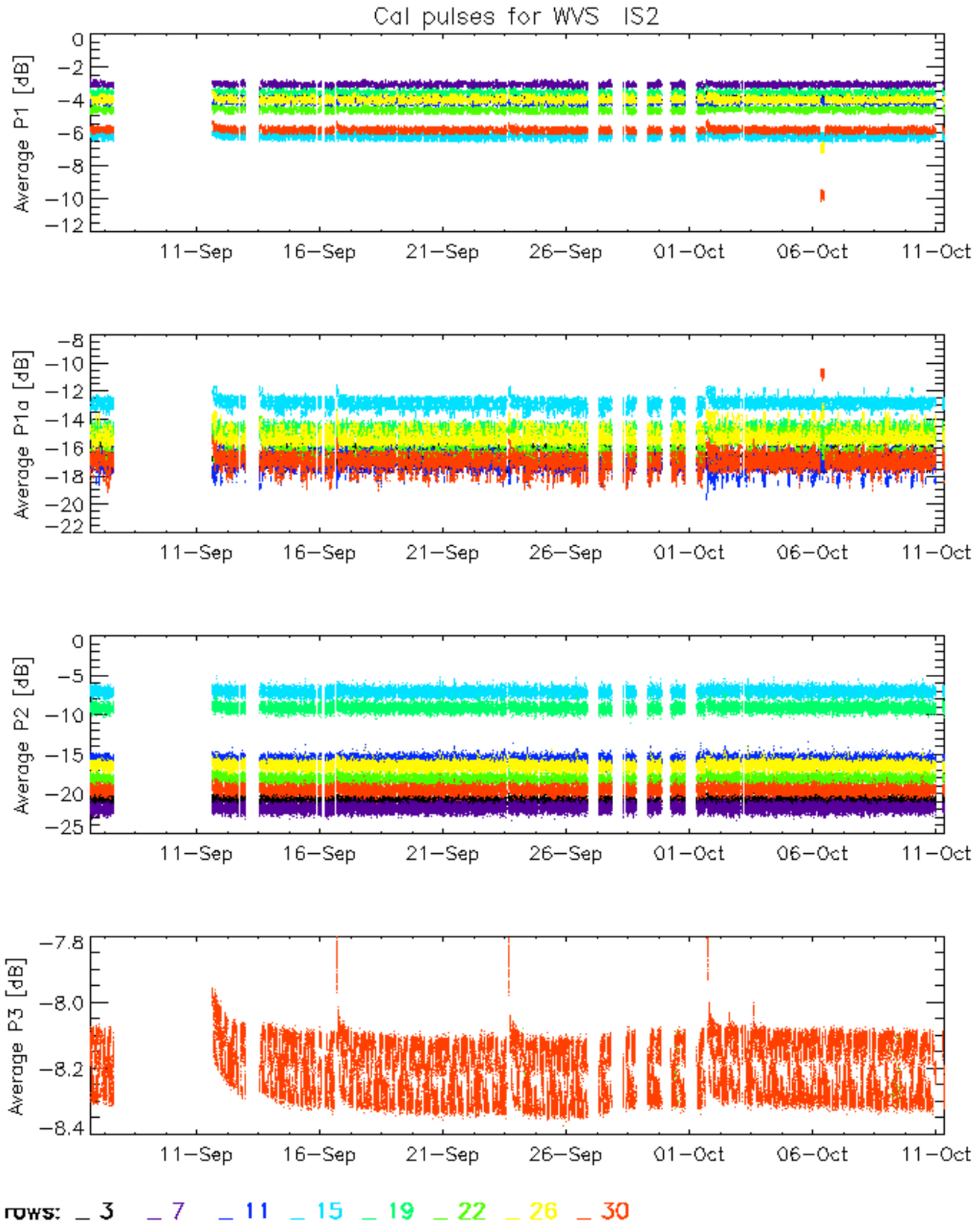
Evolution Doppler error versus ANX

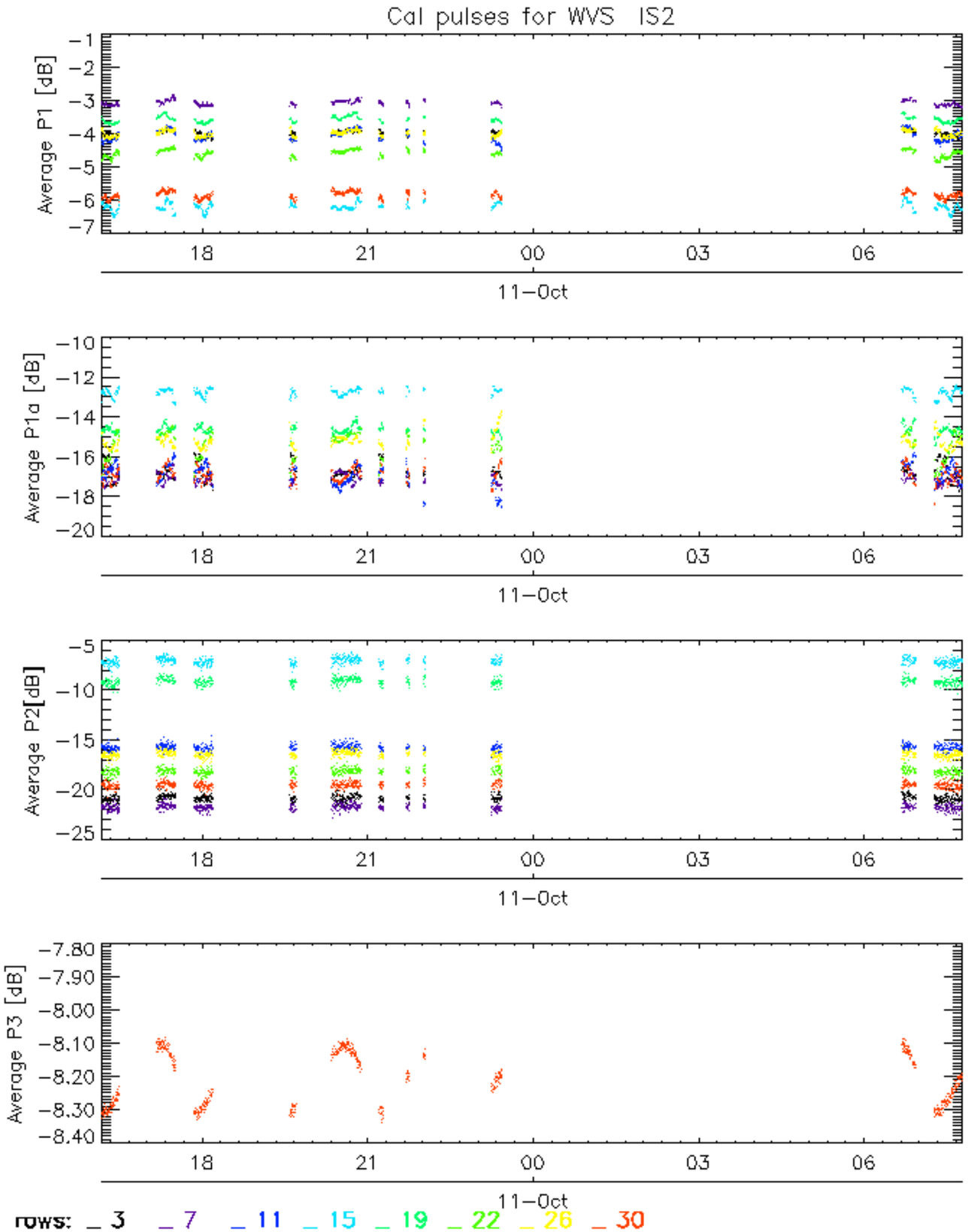

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
11−Oct
Average P1a [dB]
−5
−10
−15
−20
−25
18
21
00
03
06
11−Oct
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
18
21
00
03
06
11−Oct
Phase P1a [deg]
200
100
0
−100
−200
18
21
00
03
06
11−Oct
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


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

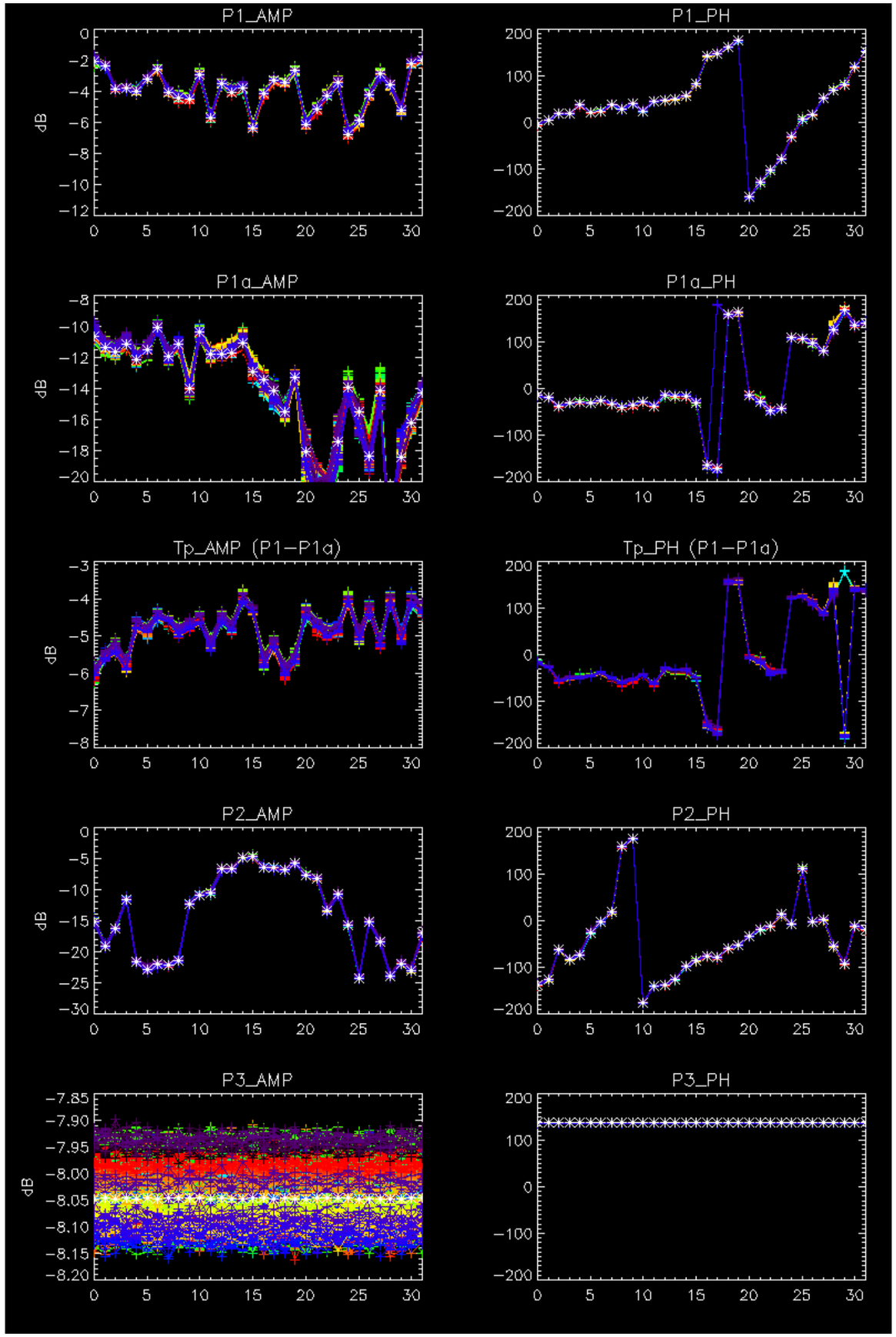

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
11−Oct
Average P1a [dB]
−5
−10
−15
−20
−25
18
21
00
03
06
11−Oct
Average P2[dB]
0
−5
−10
−15
−20
−25
18
21
00
03
06
11−Oct
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
18
21
00
03
06
11−Oct
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

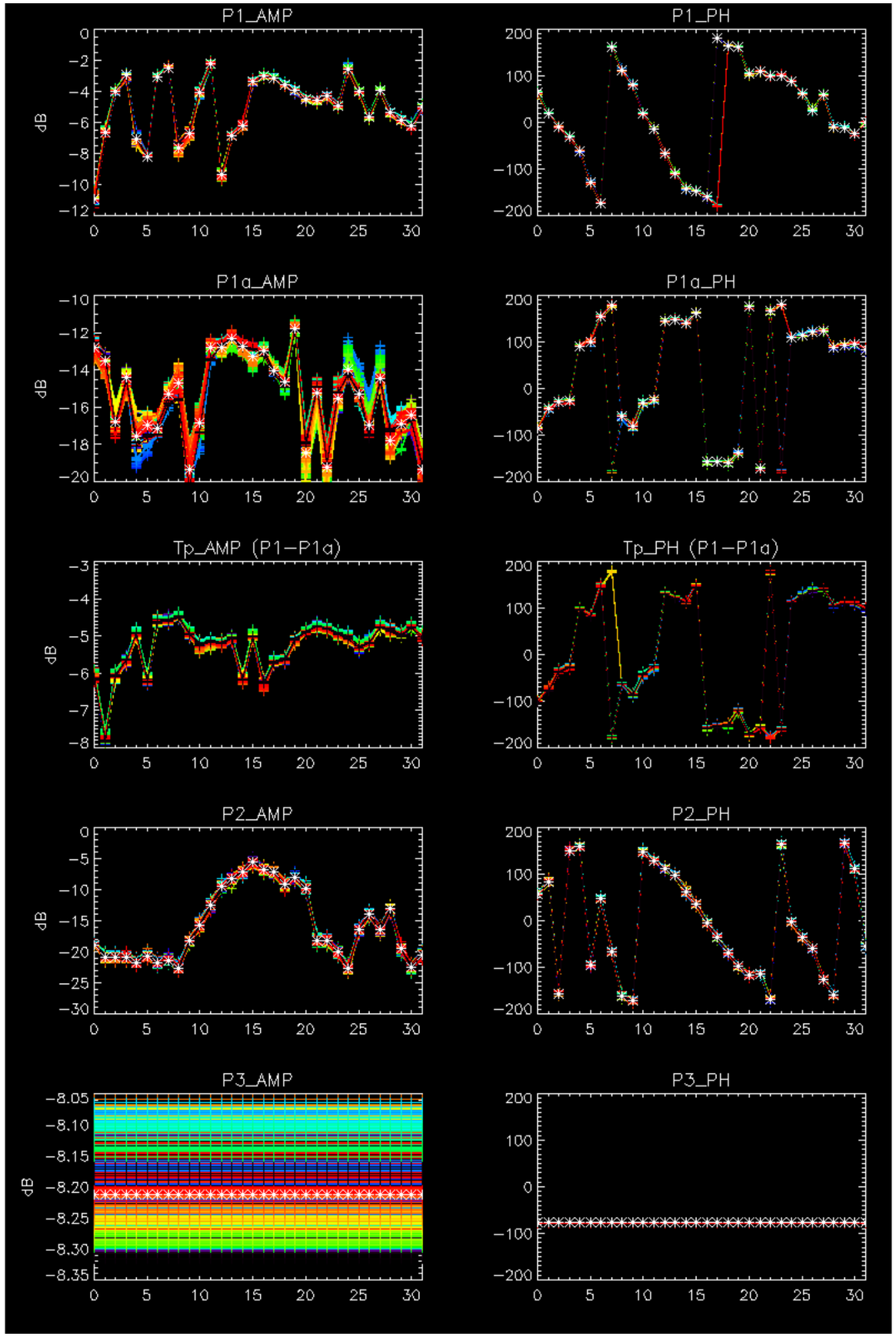

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
11−Sep
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct
11−Oct
Average P1a [dB]
−8
−10
−12
−14
−16
−18
−20
−22
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


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

No anomalies observed on available browse products

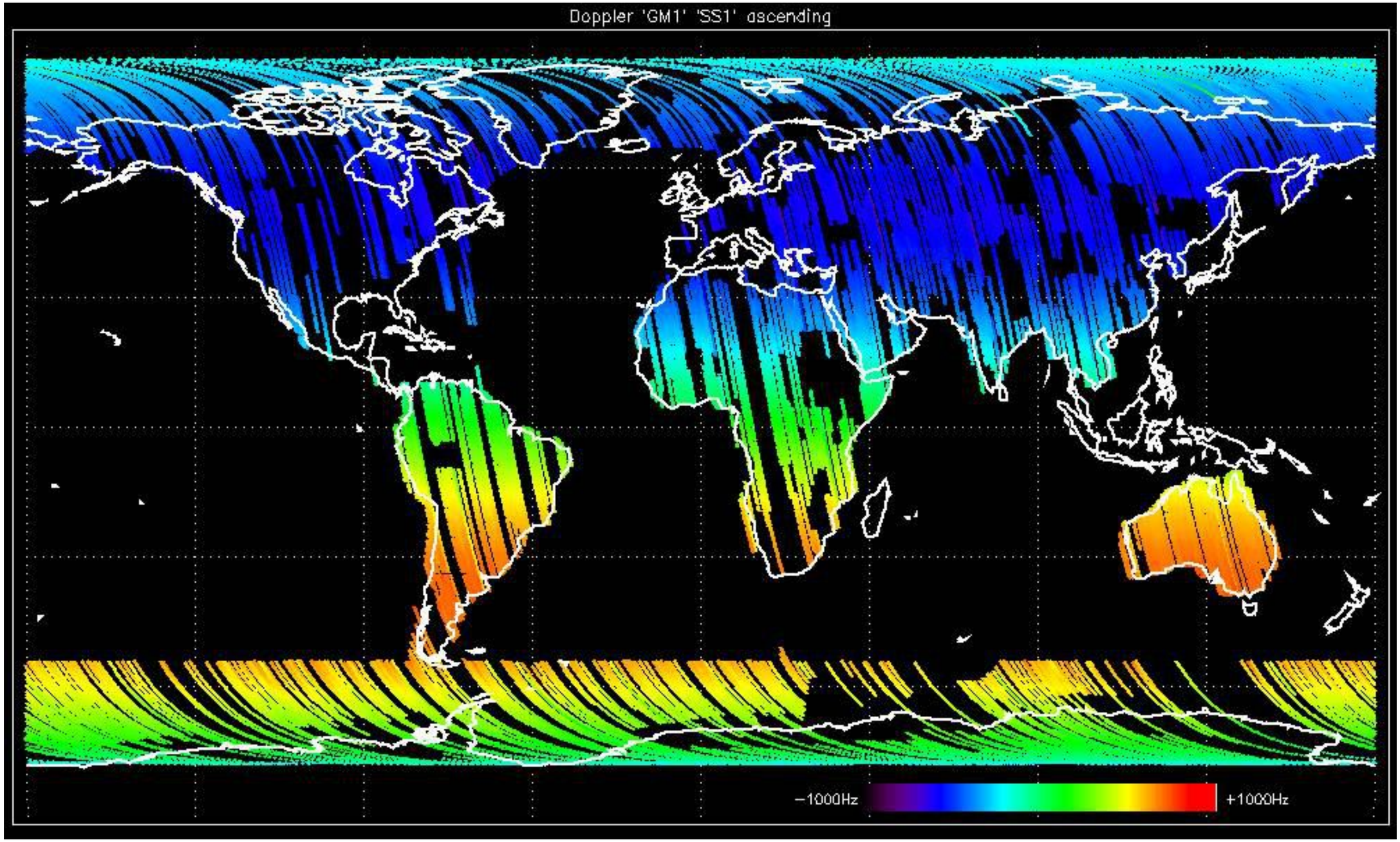
No anomalies observed.

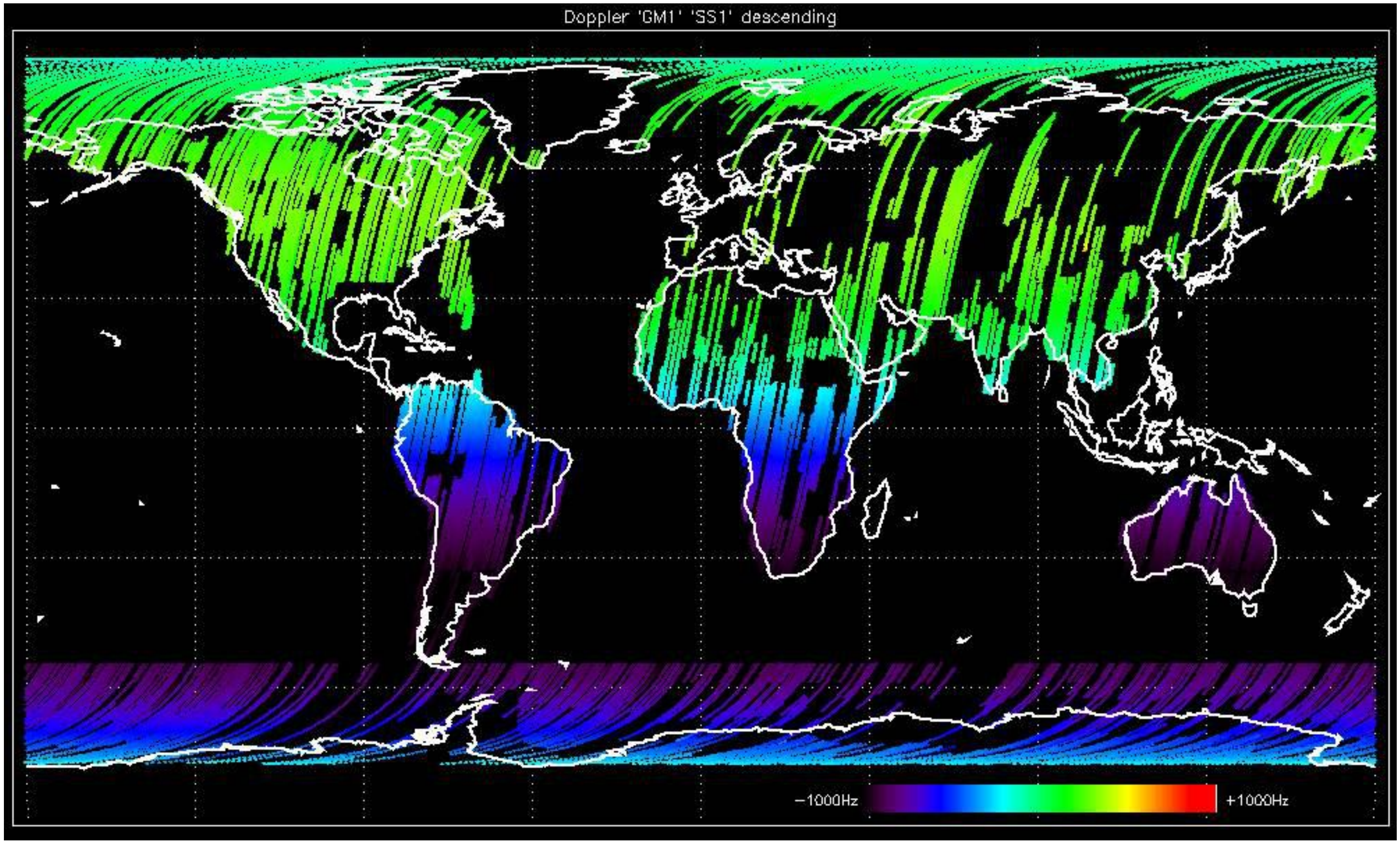

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

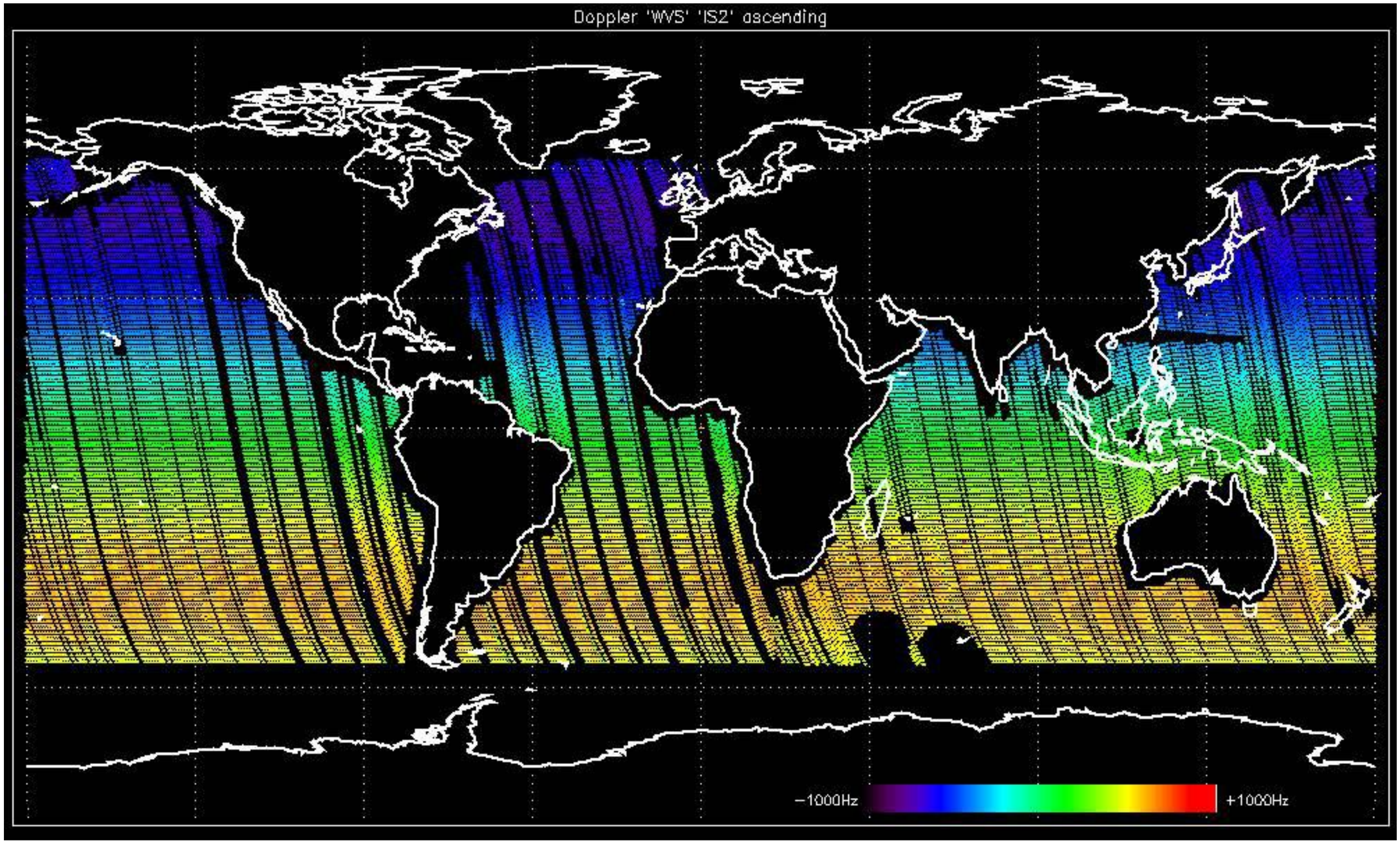

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

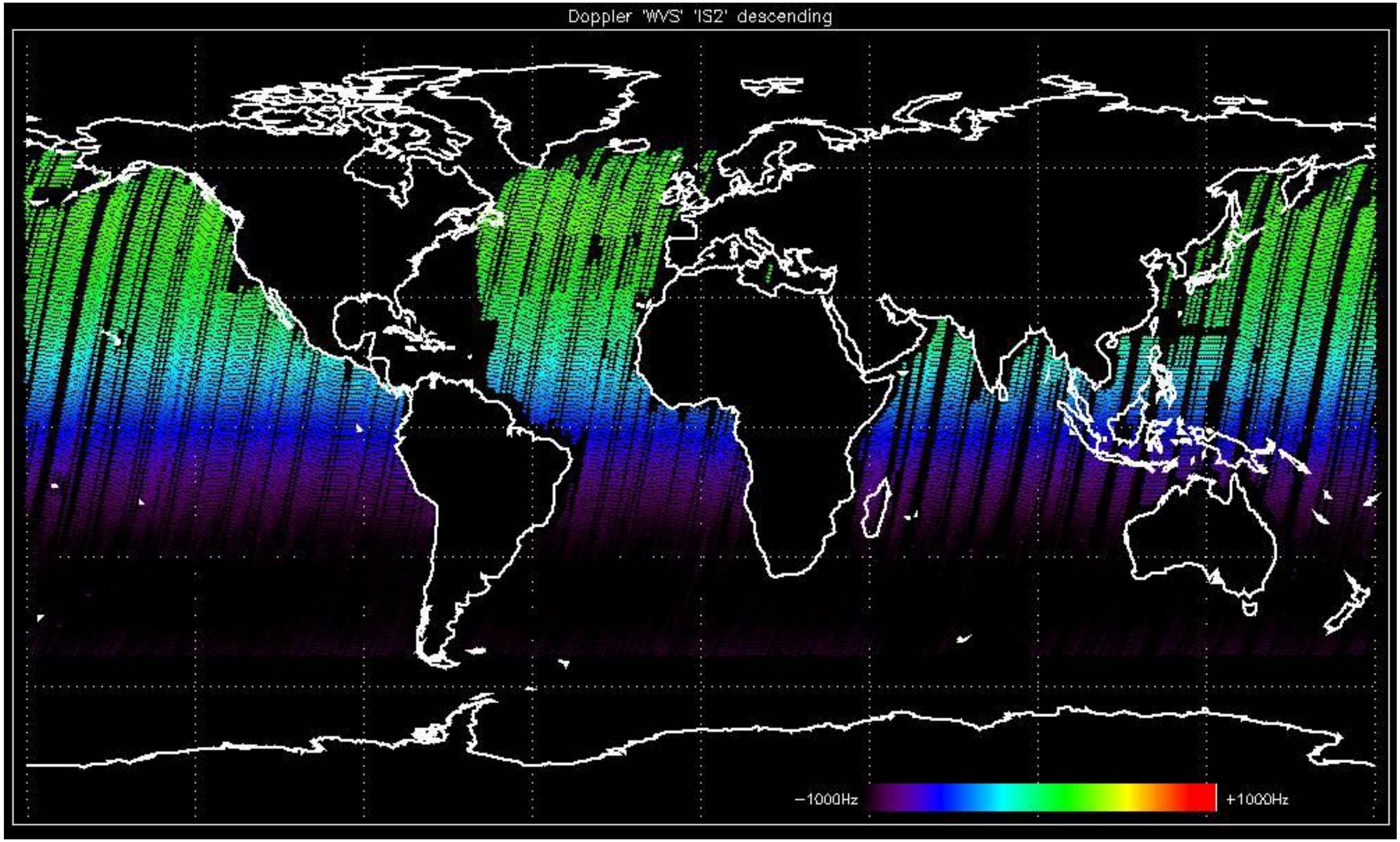
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

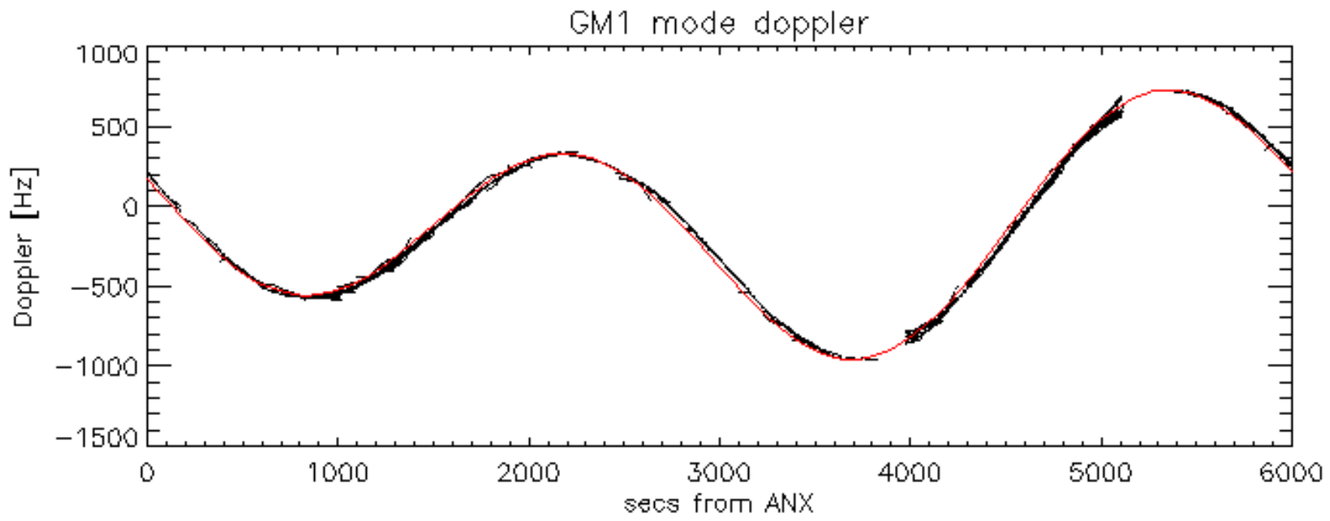
Preliminary report.The data is not yet controled

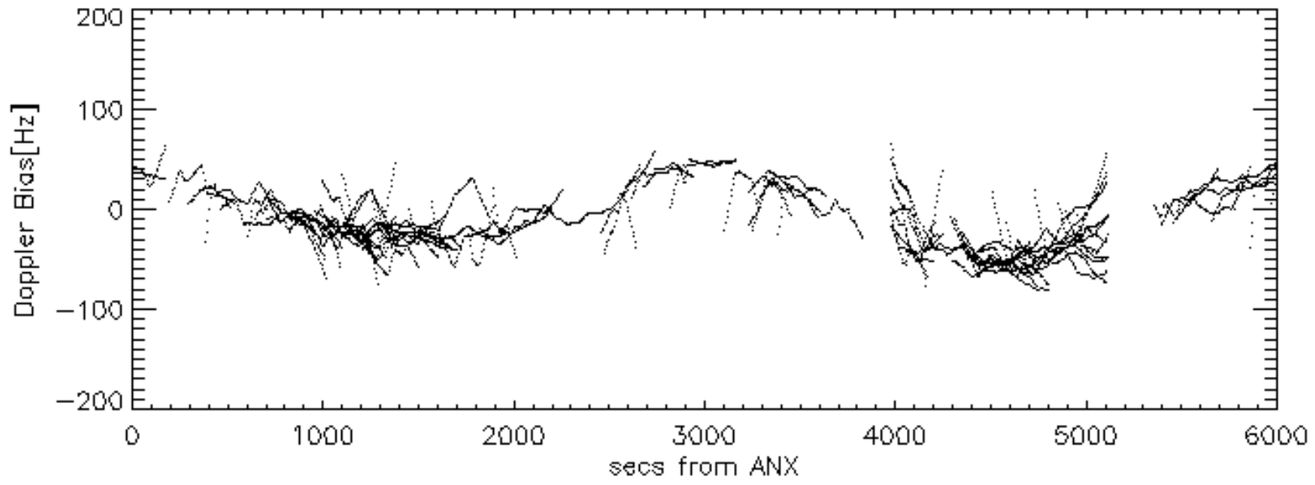

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

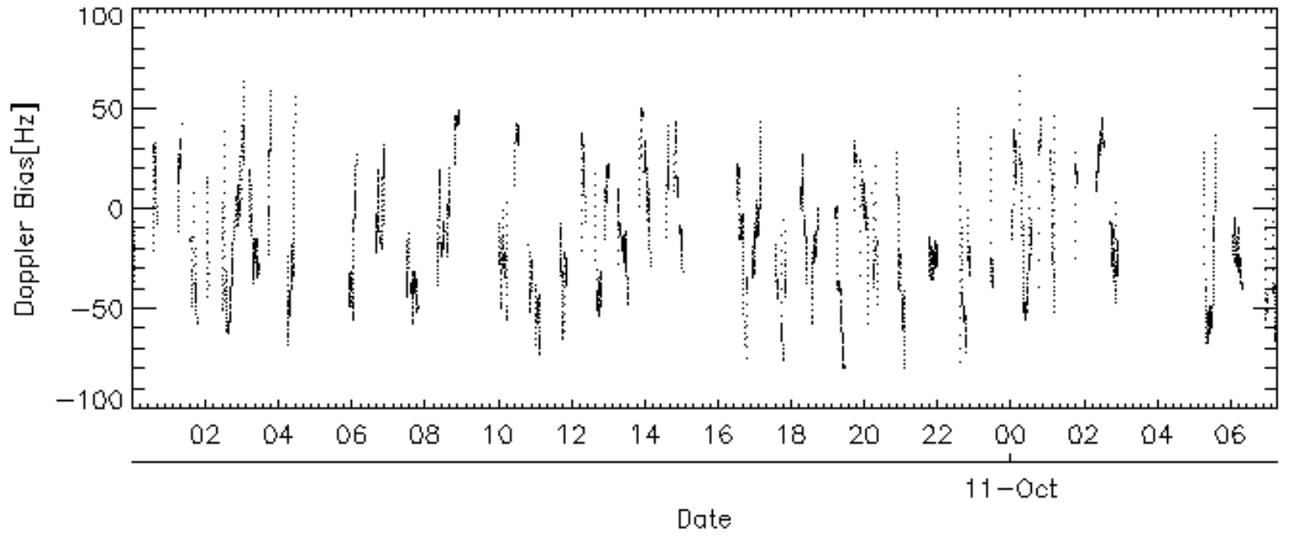

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

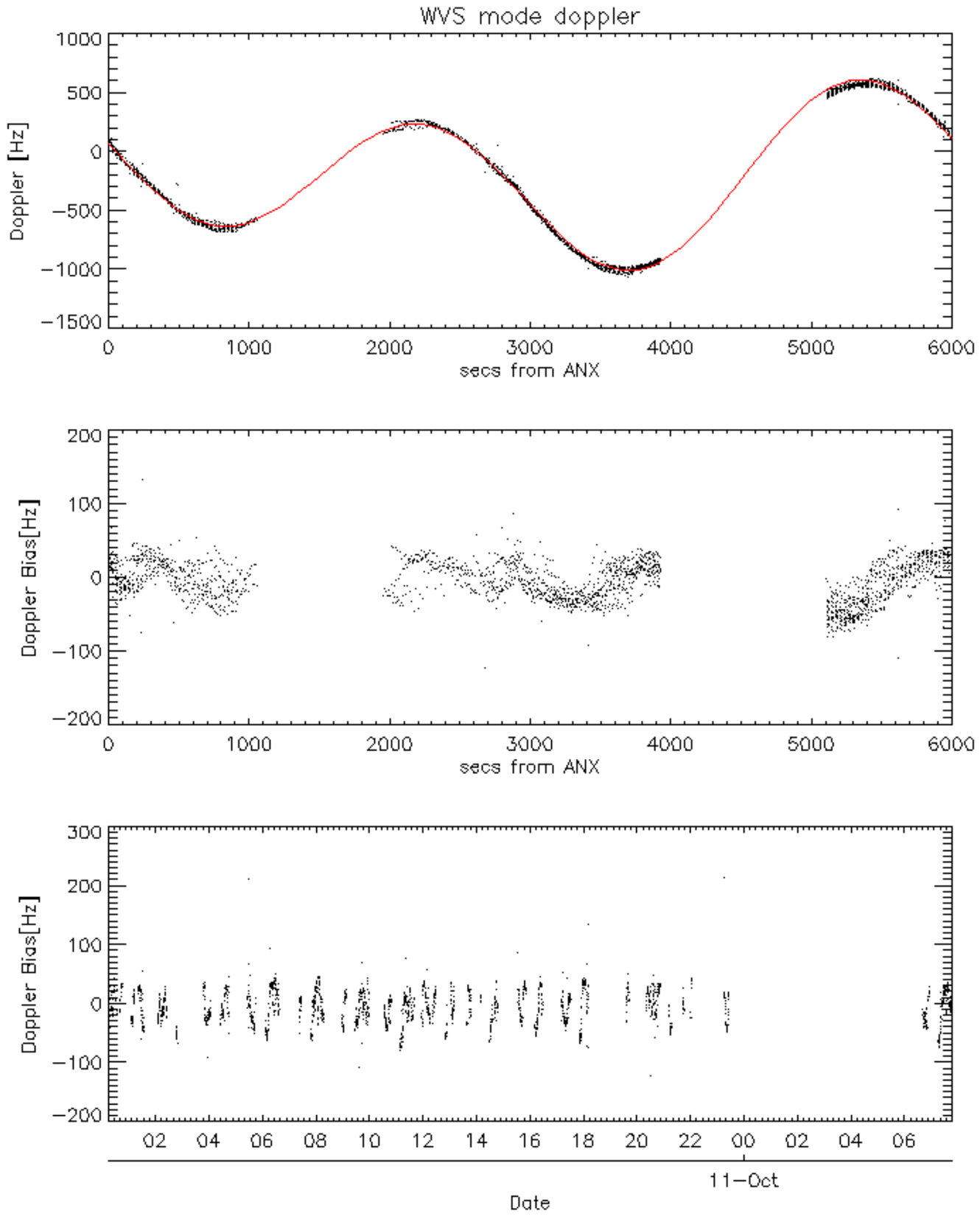

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

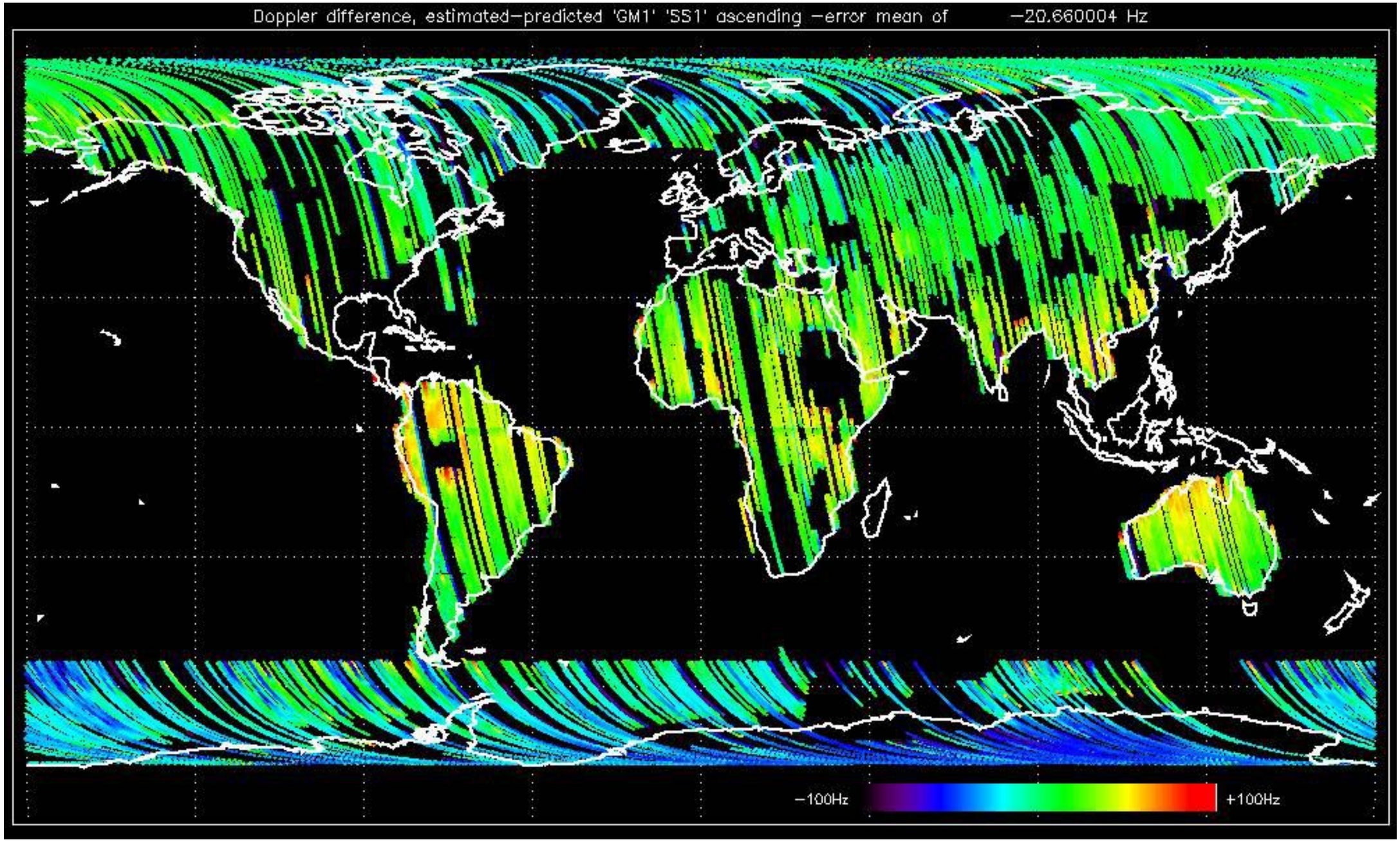

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

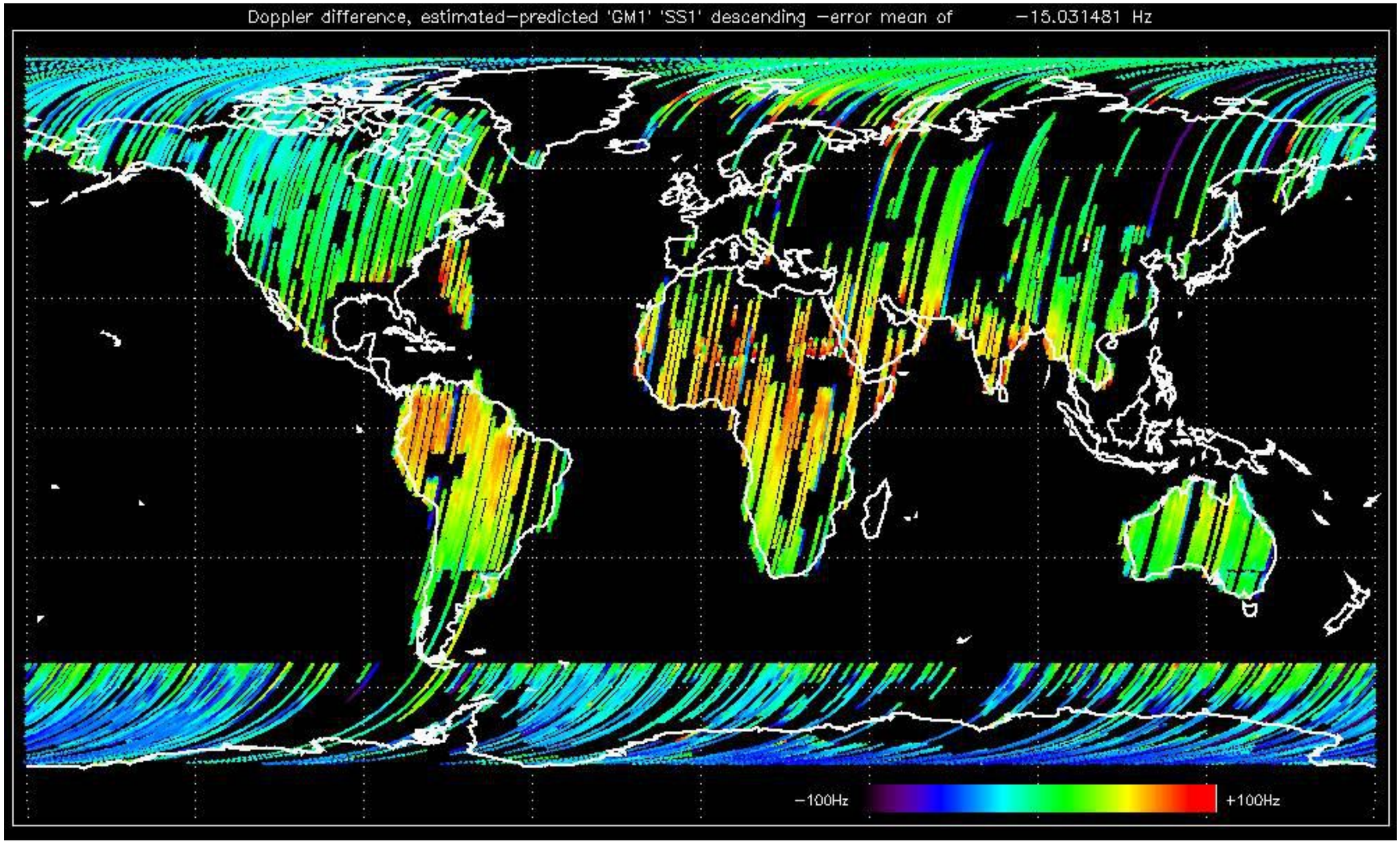

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

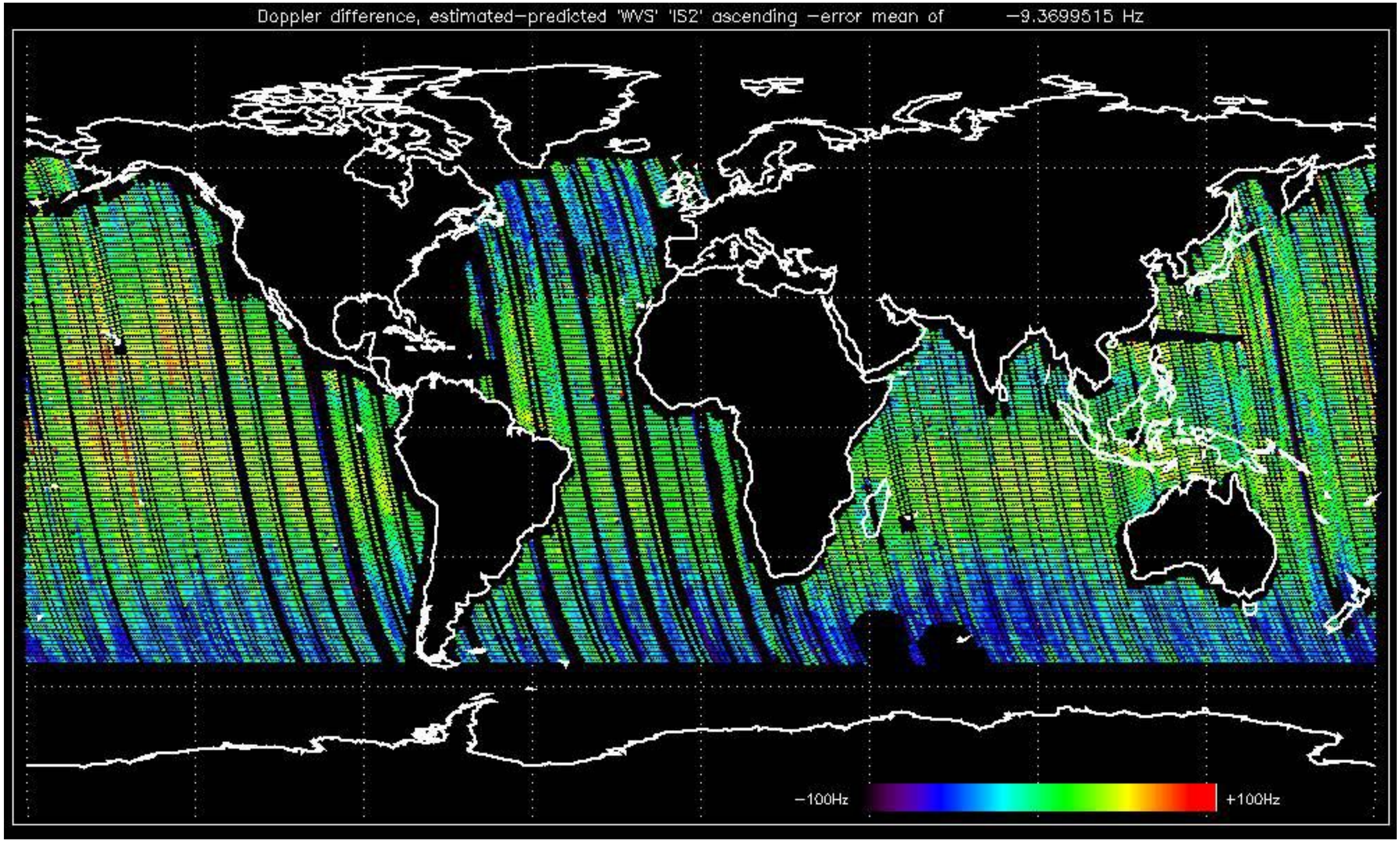

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

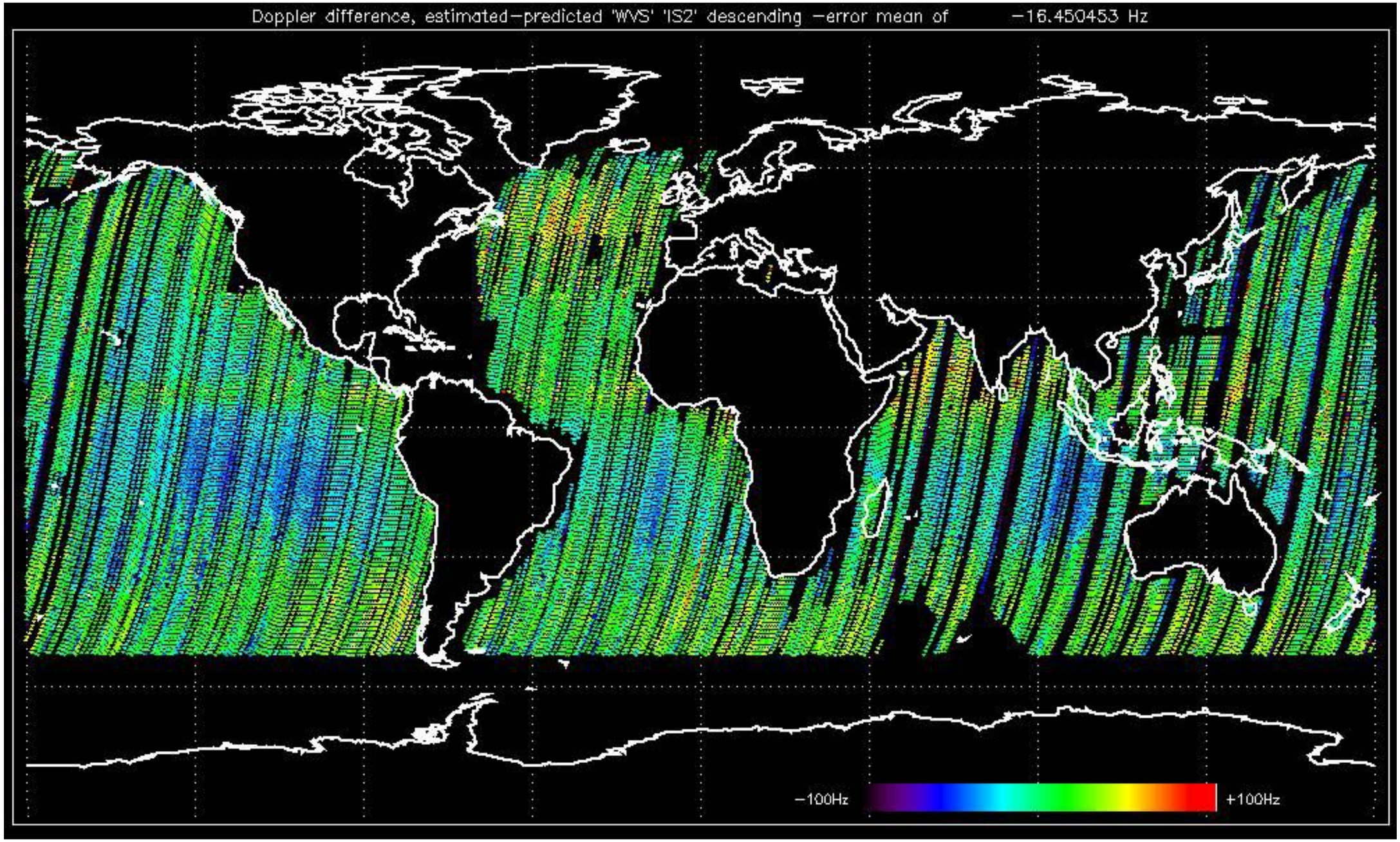

Doppler Bias[Hz]
100
50
0
−50
−100
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
11−Oct
Date


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
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
11−Oct
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −20.660004 Hz
−100Hz
+100Hz

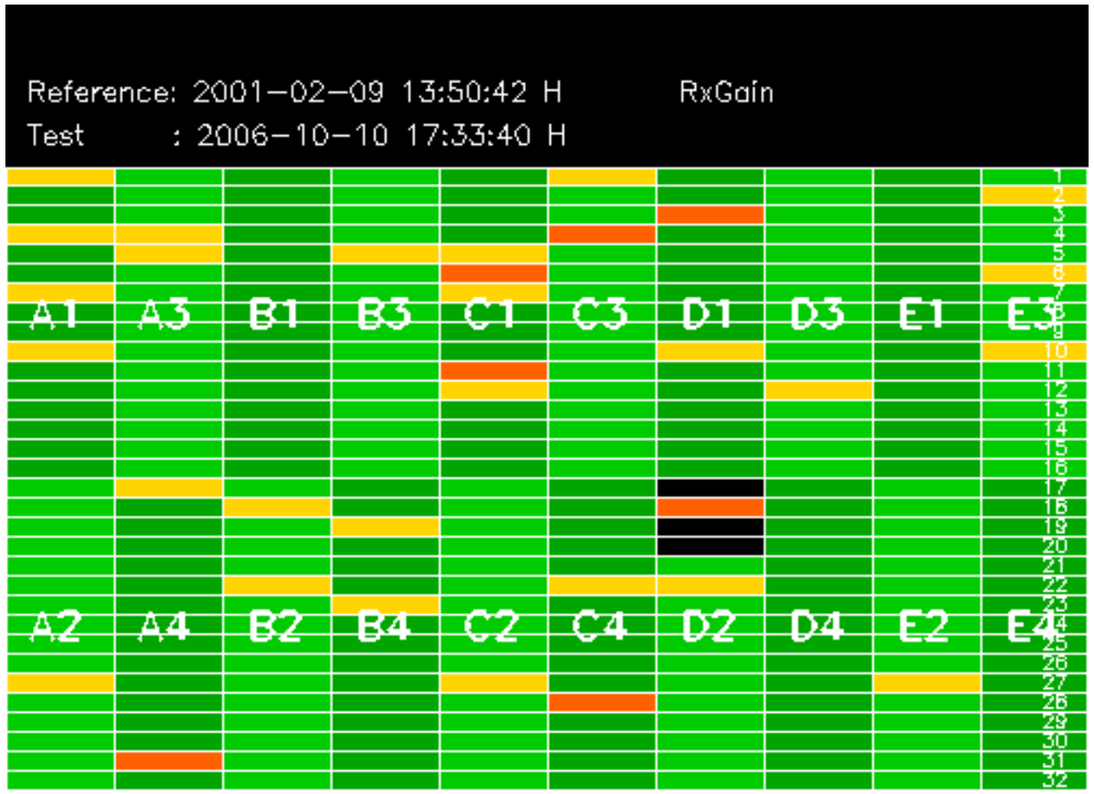

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −15.031481 Hz
−100Hz
+100Hz

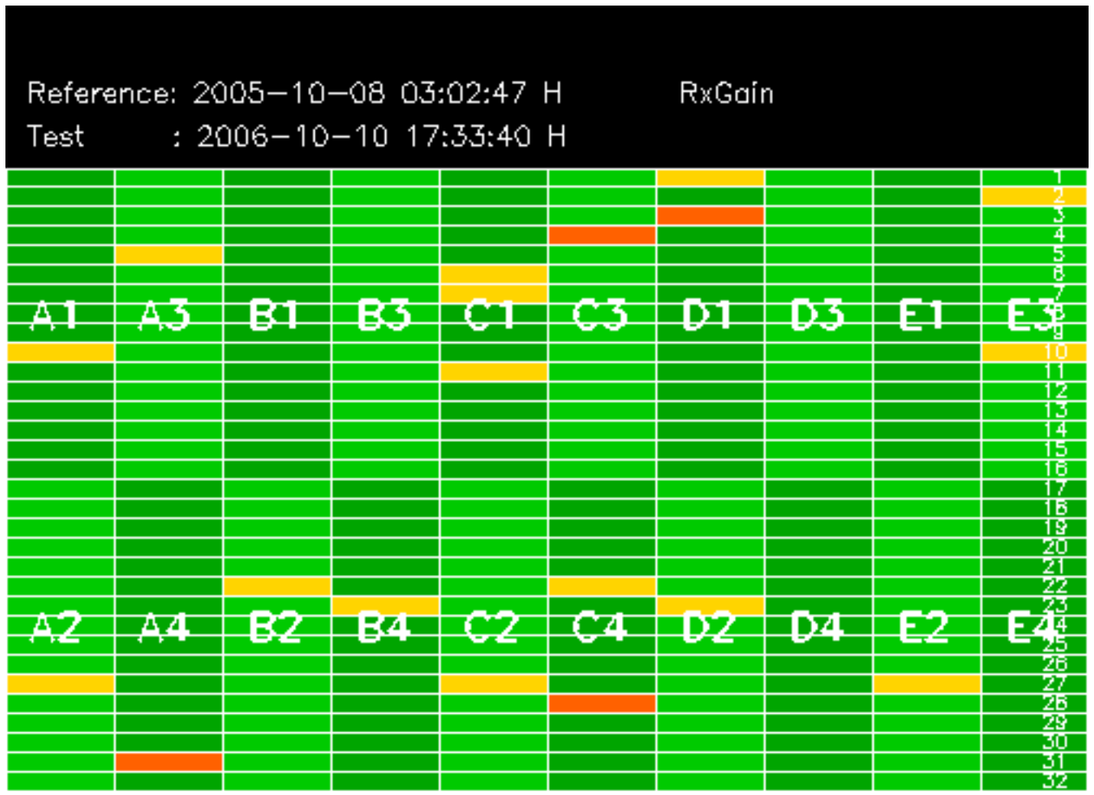

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −9.3699515 Hz
−100Hz
+100Hz

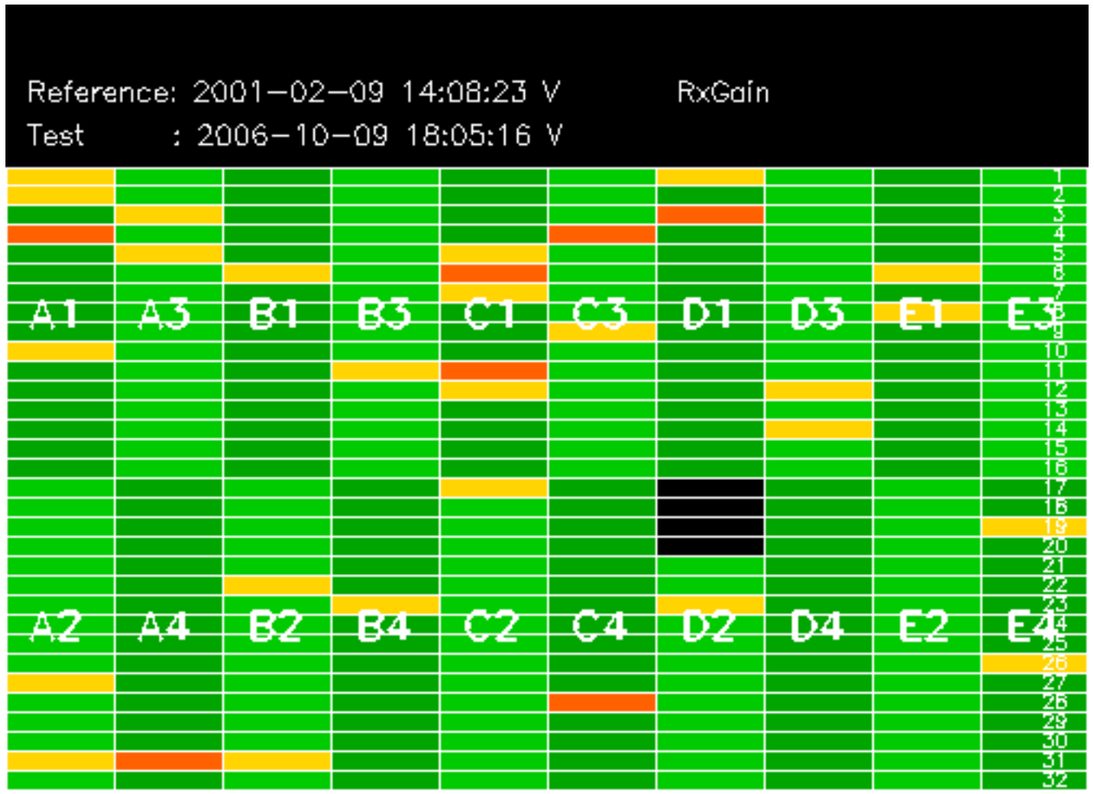

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −16.450453 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2006-10-10 17:33:40 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 : 2006-10-10 17:33:40 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 : 2006-10-09 18:05:16 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
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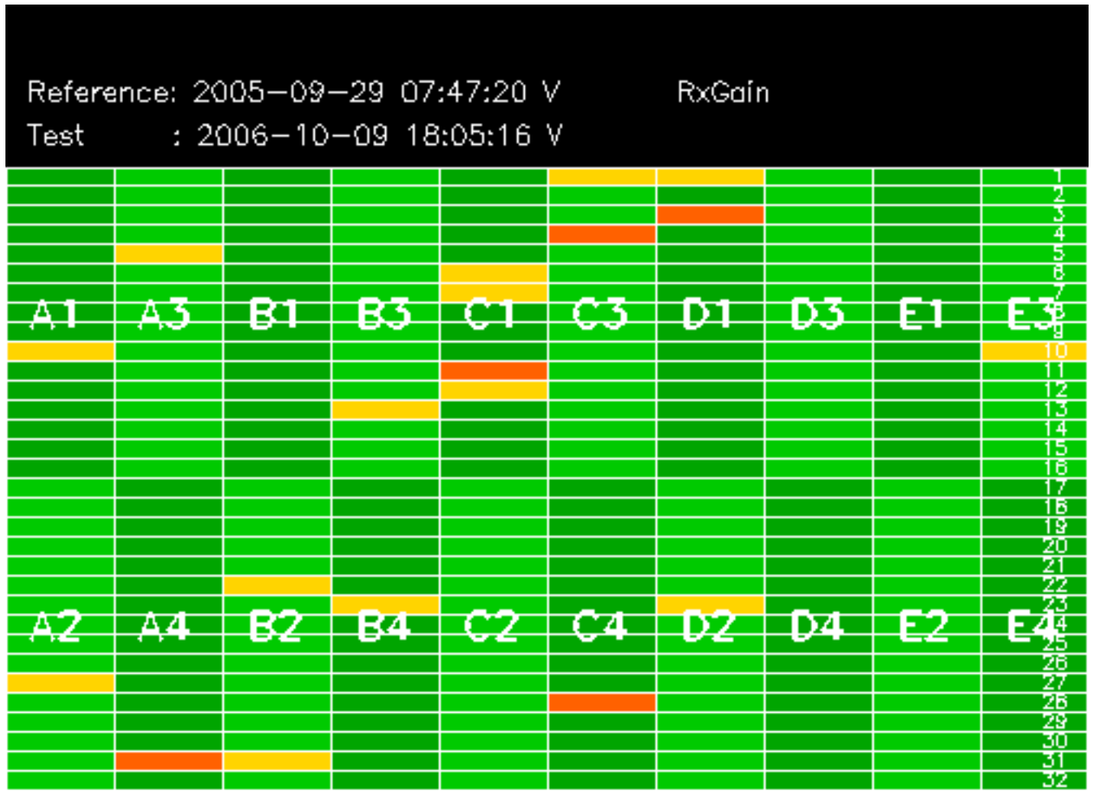
Reference: 2005-09-29 07:47:20 V
Test : 2006-10-09 18:05:16 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
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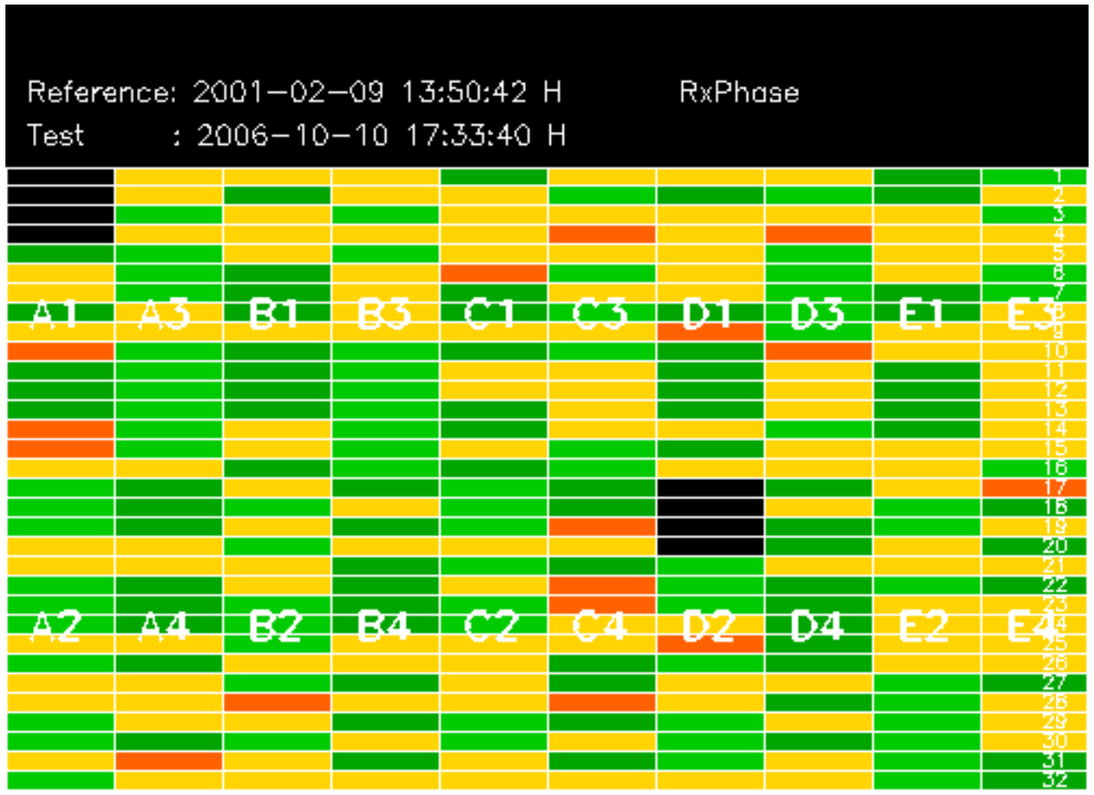
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-10-10 17:33:40 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
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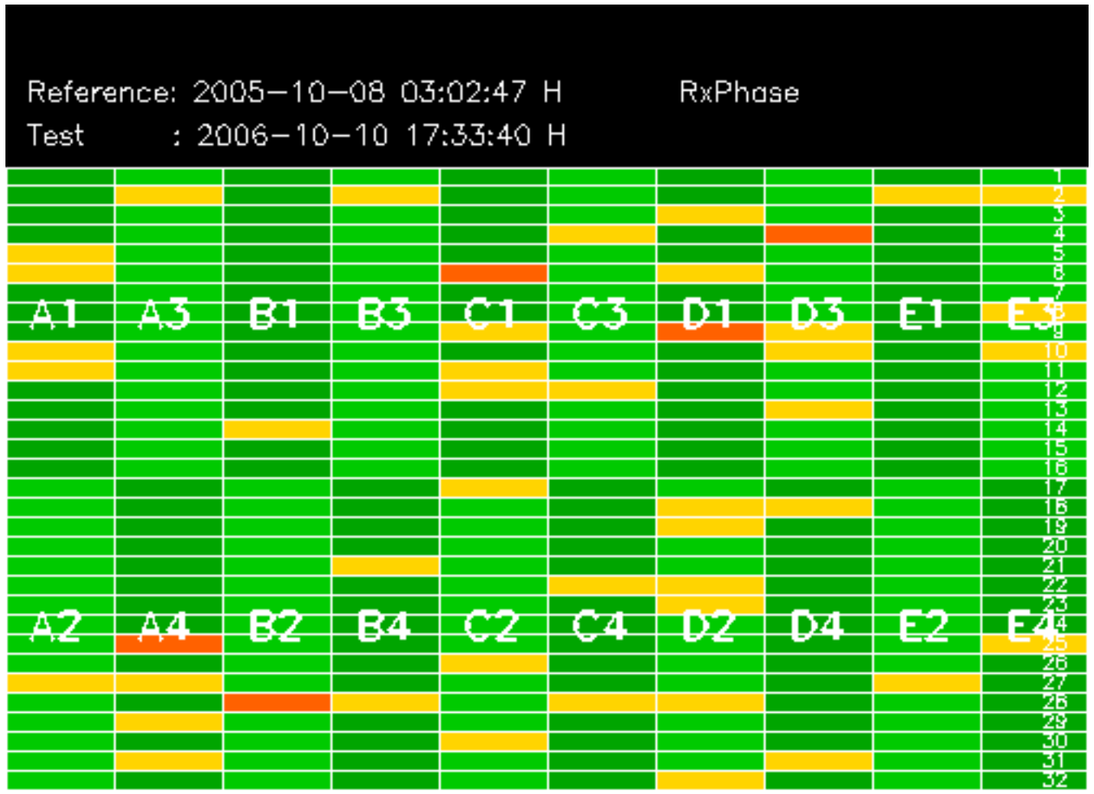
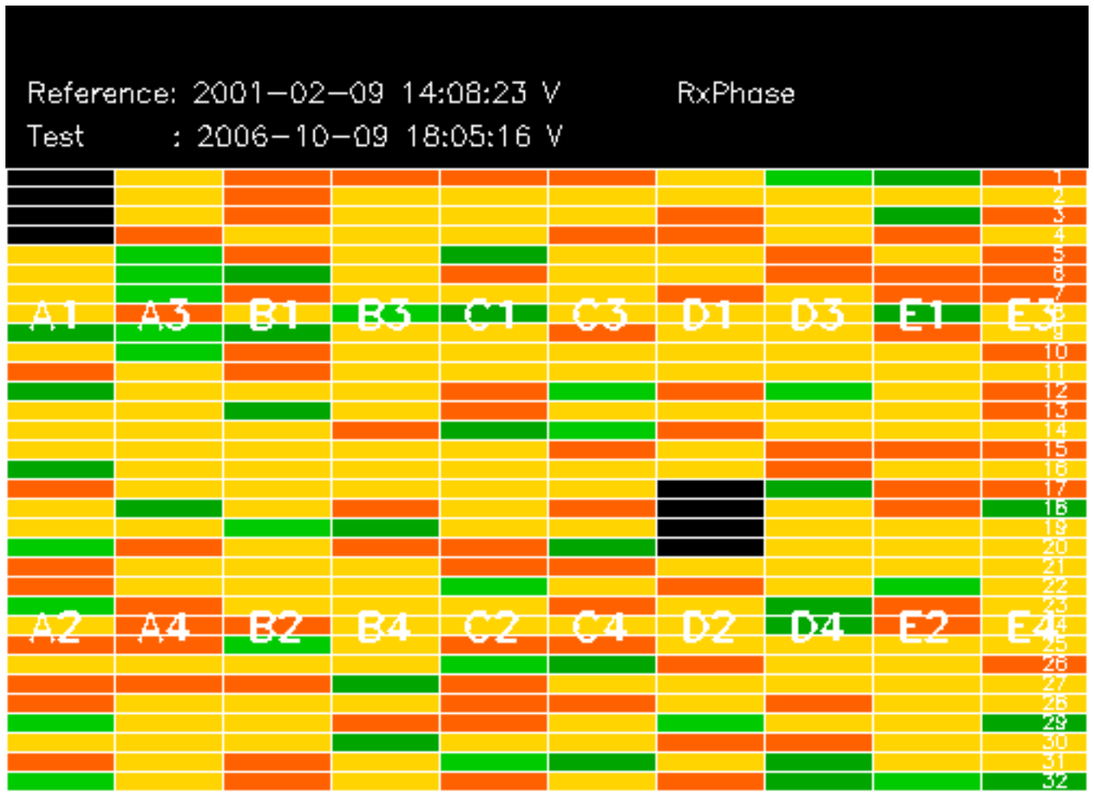
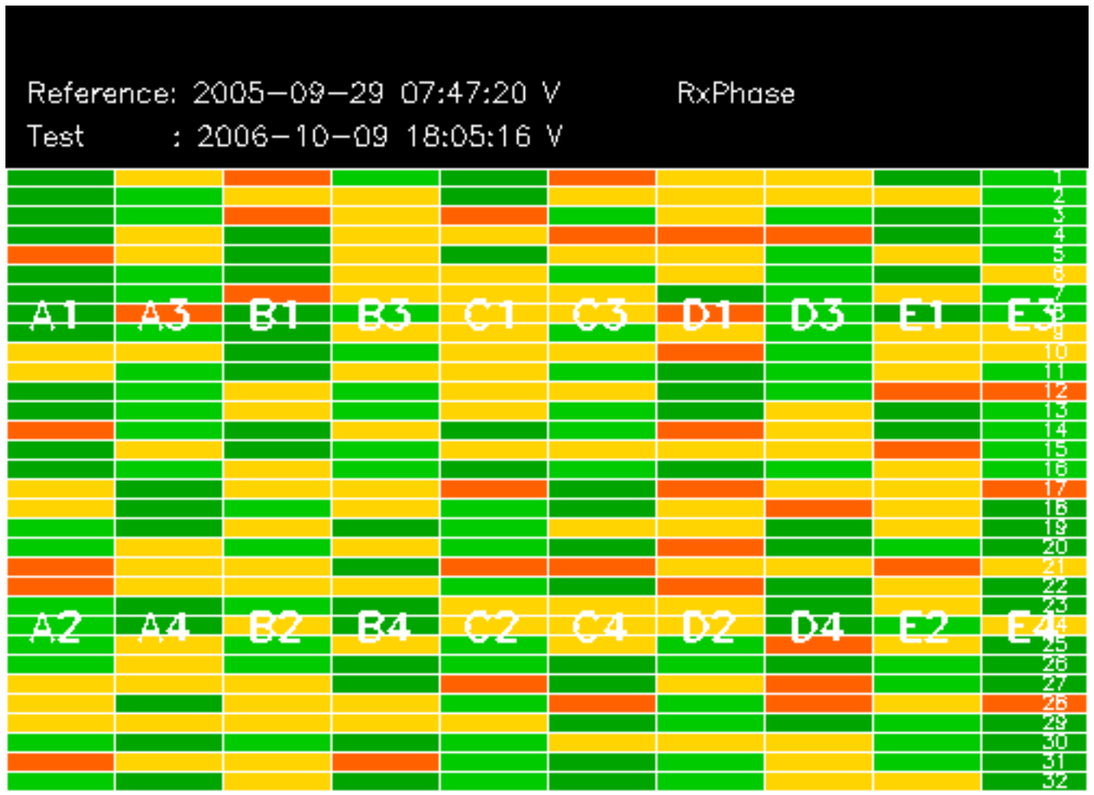

Reference: 2005-10-08 03:02:47 H
RxPhase
Test : 2006-10-10 17:33:40 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2006-10-09 18:05:16 V
RxPhase
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 : 2006-10-09 18:05:16 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
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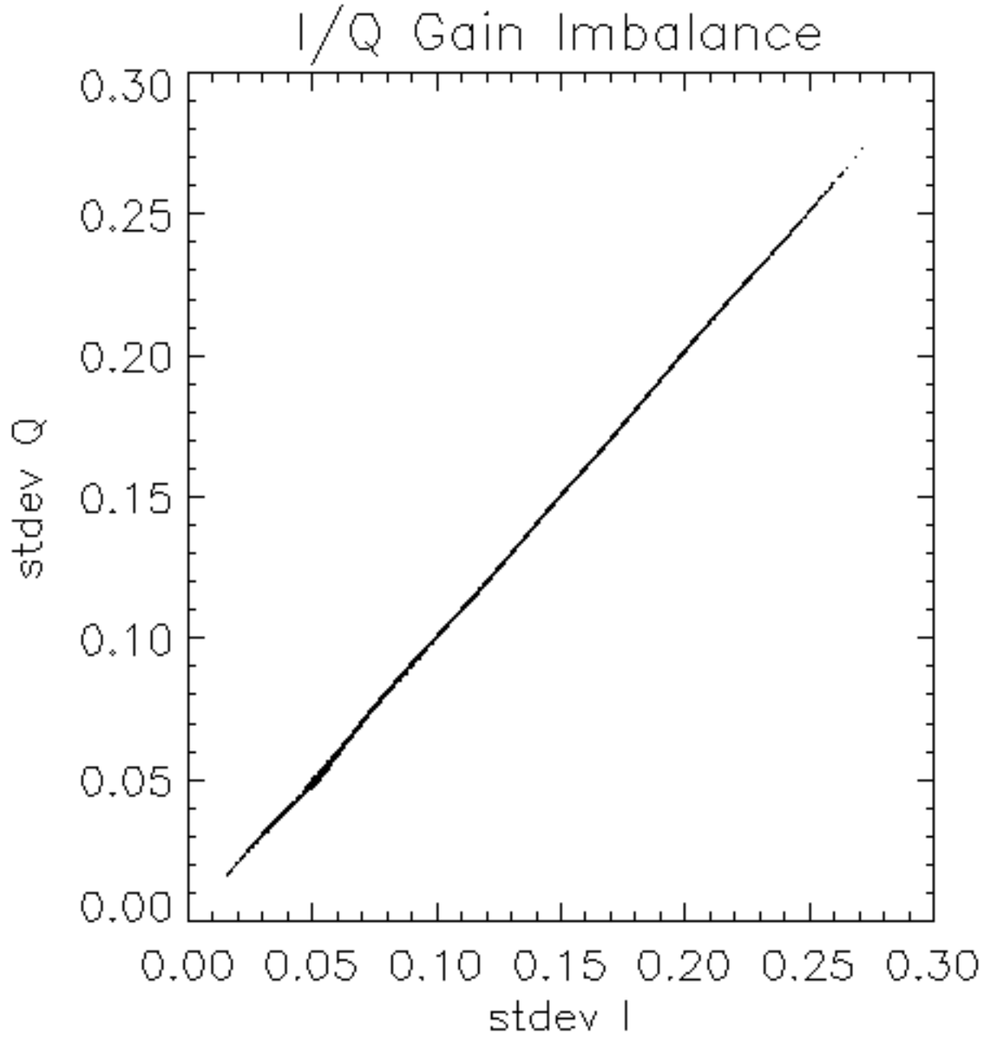
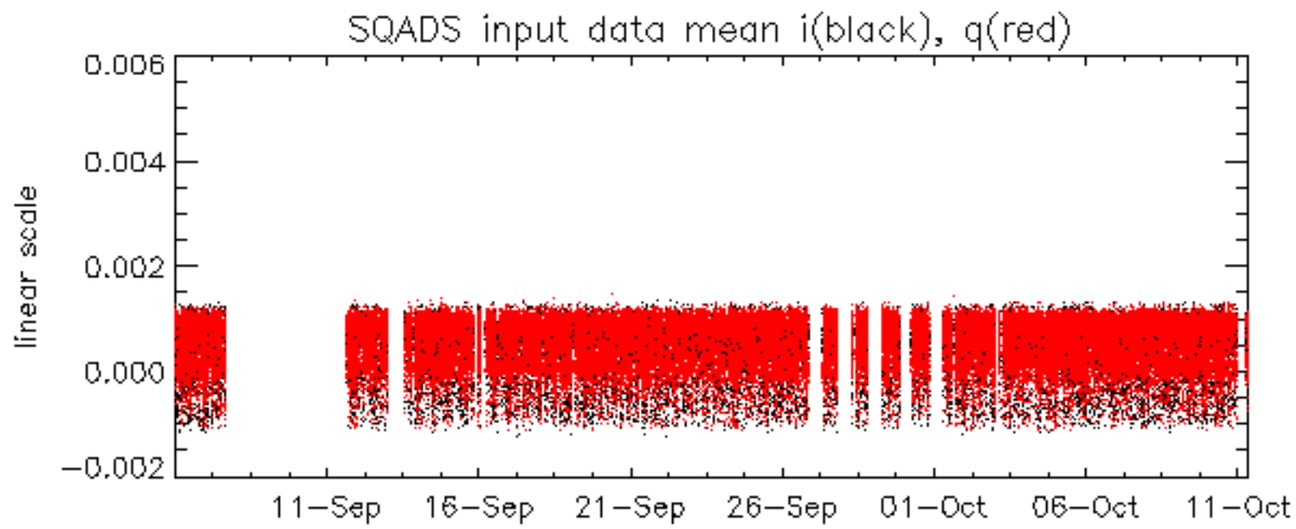
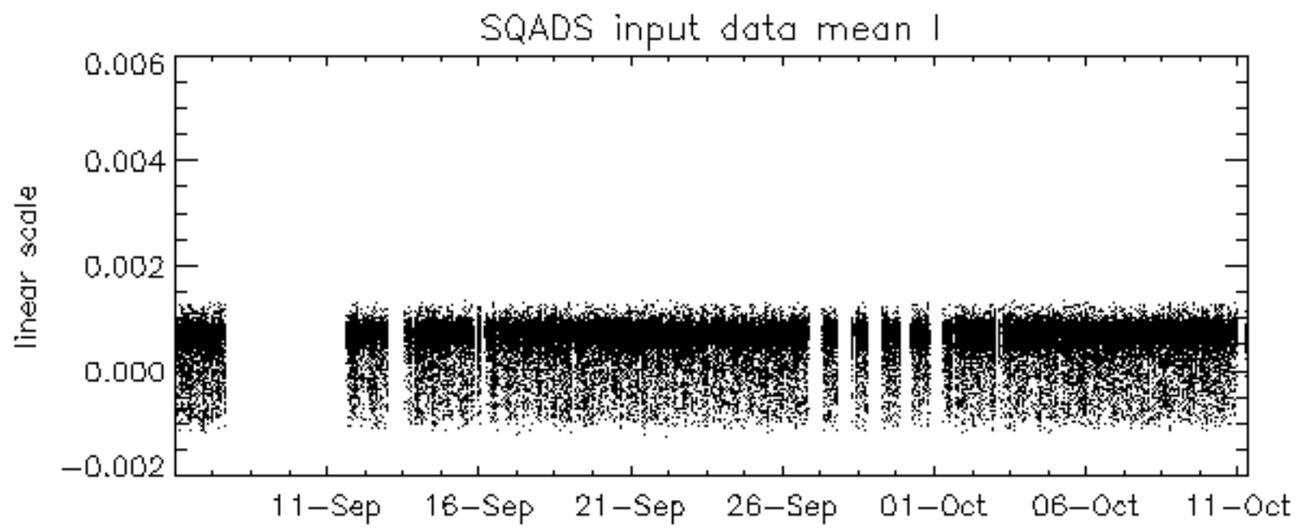
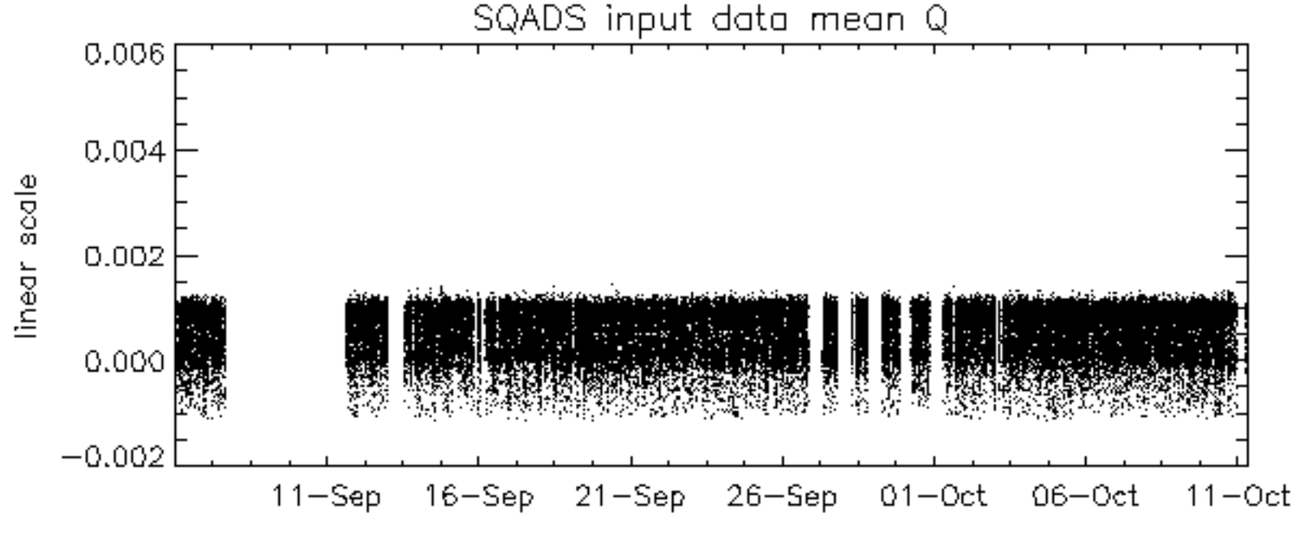
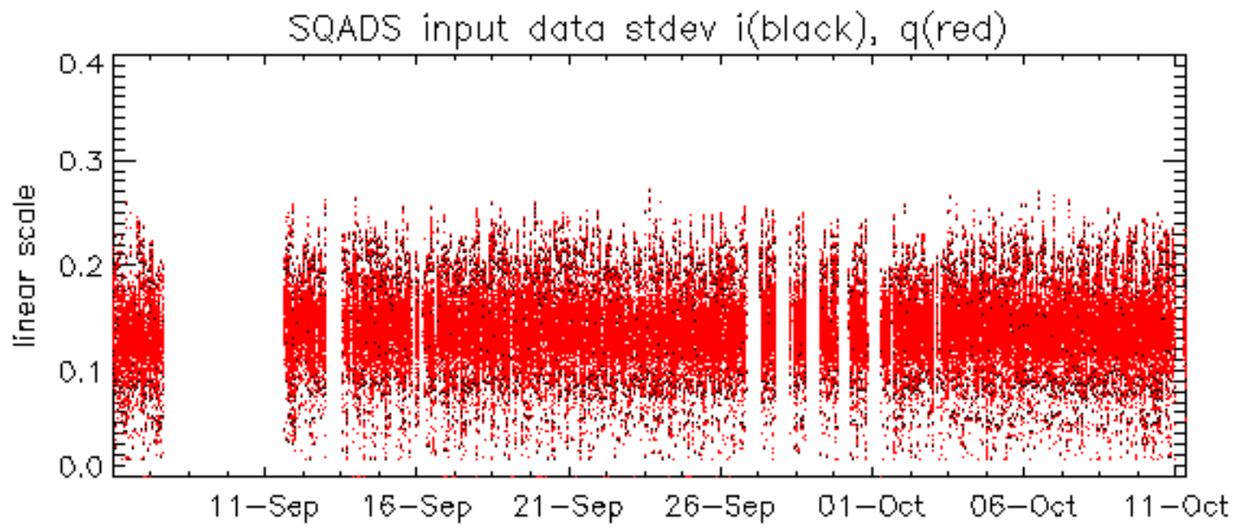
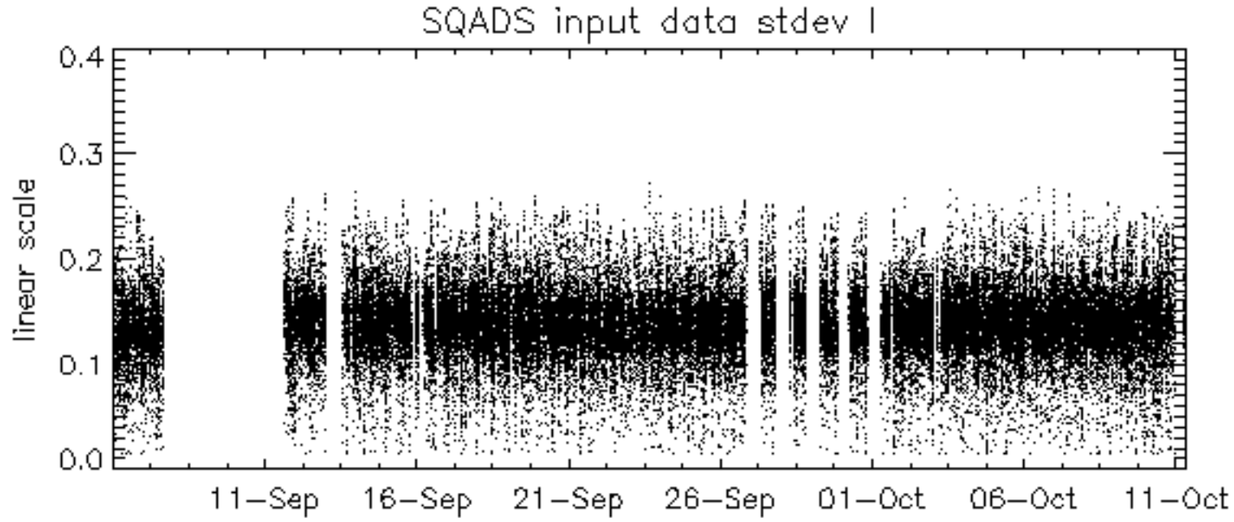

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

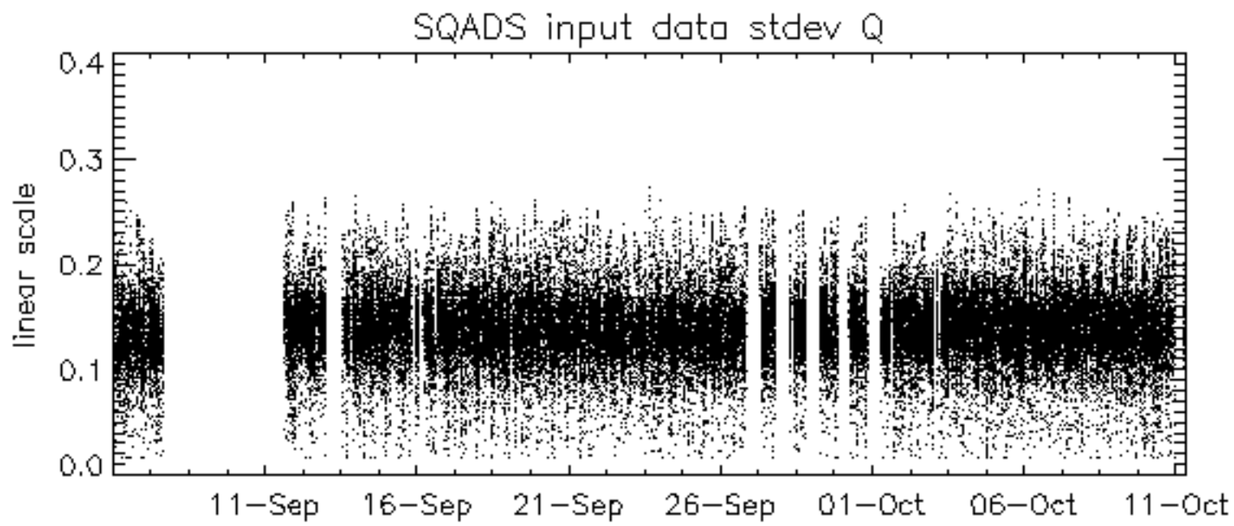

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Sep
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct
11−Oct

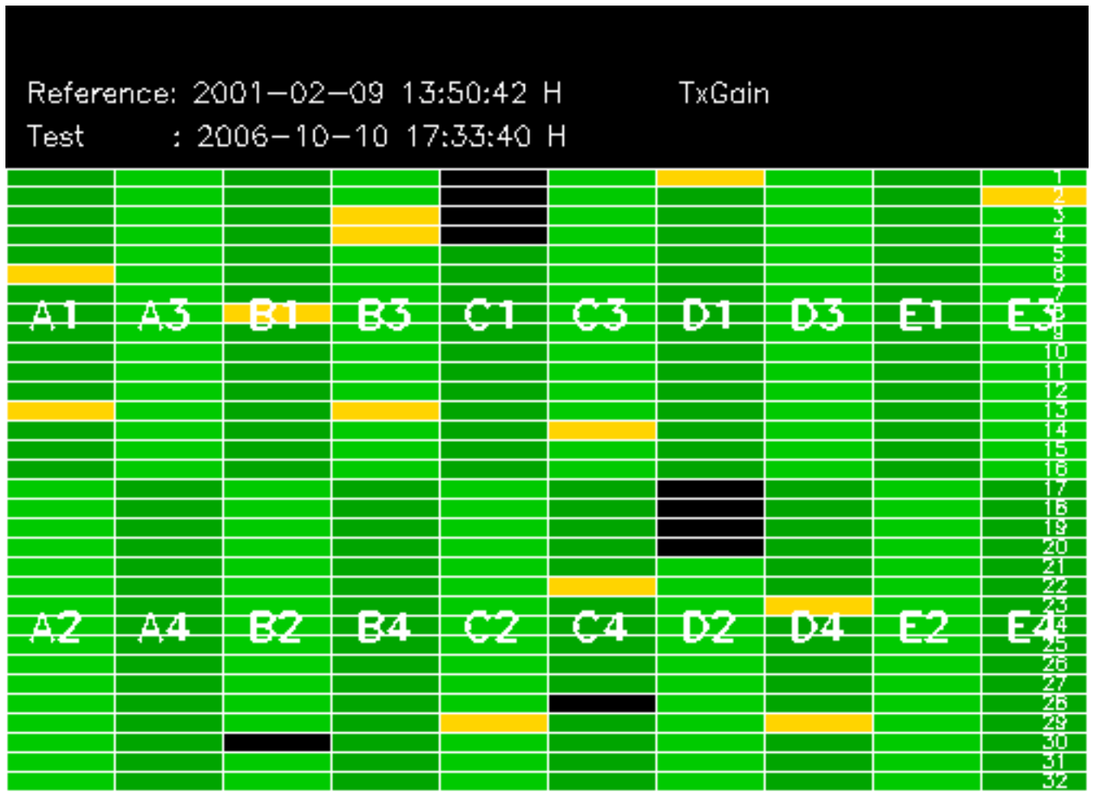

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Sep
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct
11−Oct


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2006-10-10 17:33:40 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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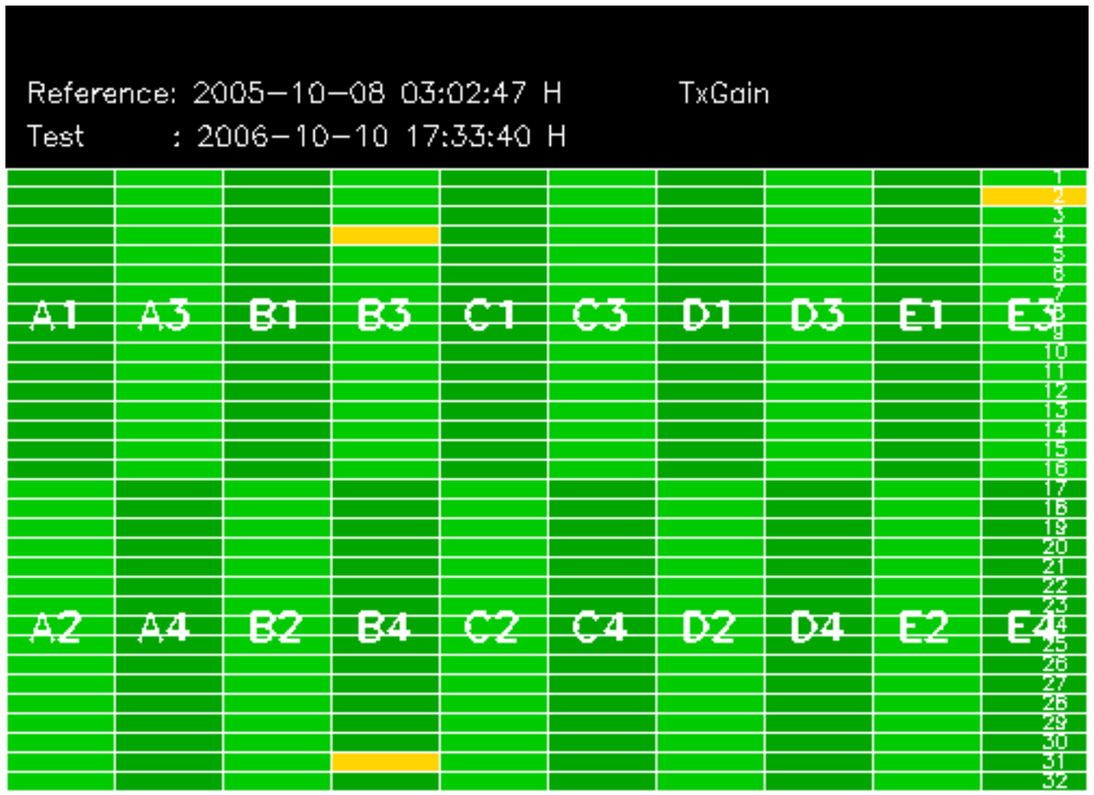
Reference: 2005-10-08 03:02:47 H
Test : 2006-10-10 17:33:40 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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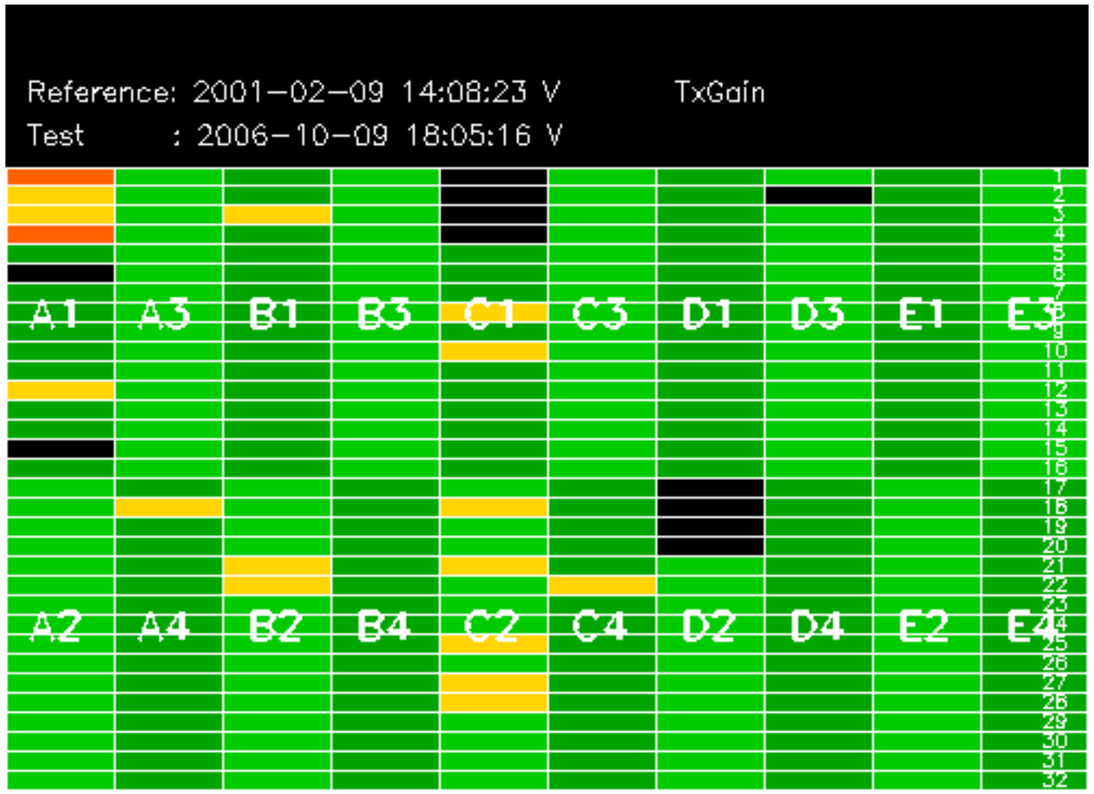
Reference: 2001-02-09 14:08:23 V
Test : 2006-10-09 18:05:16 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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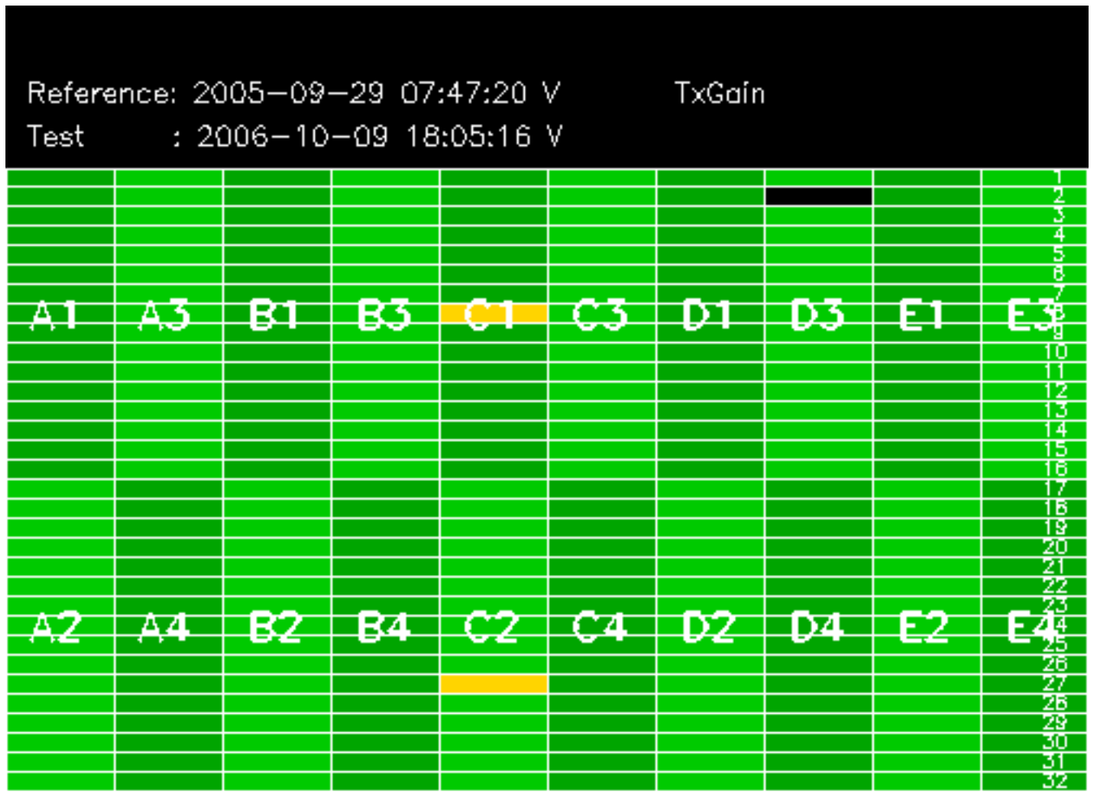
Reference: 2005-09-29 07:47:20 V
Test : 2006-10-09 18:05:16 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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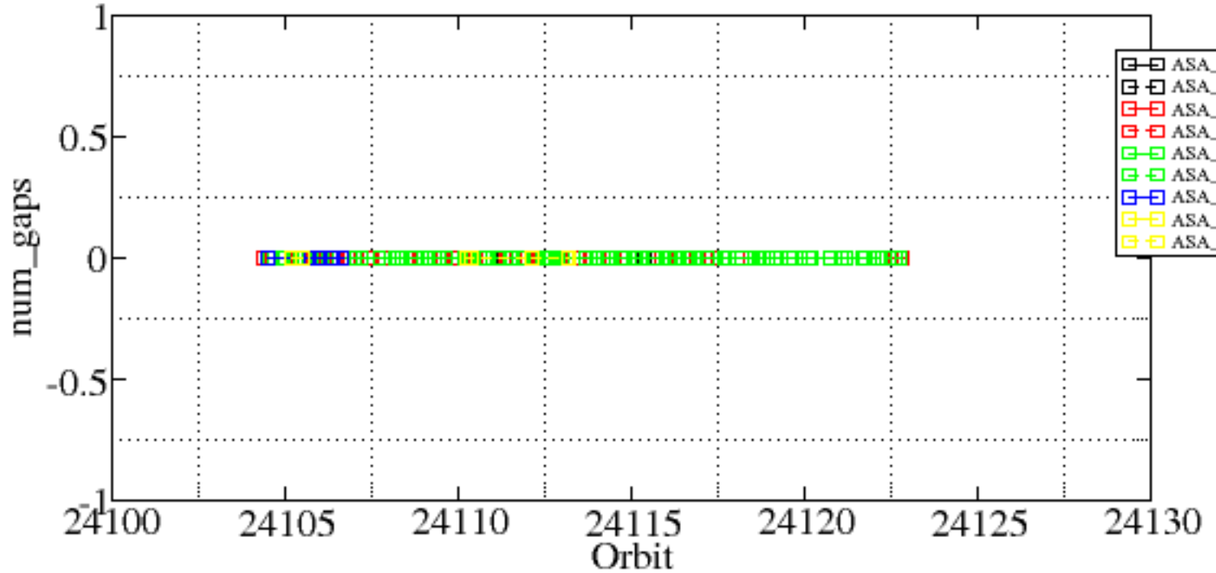
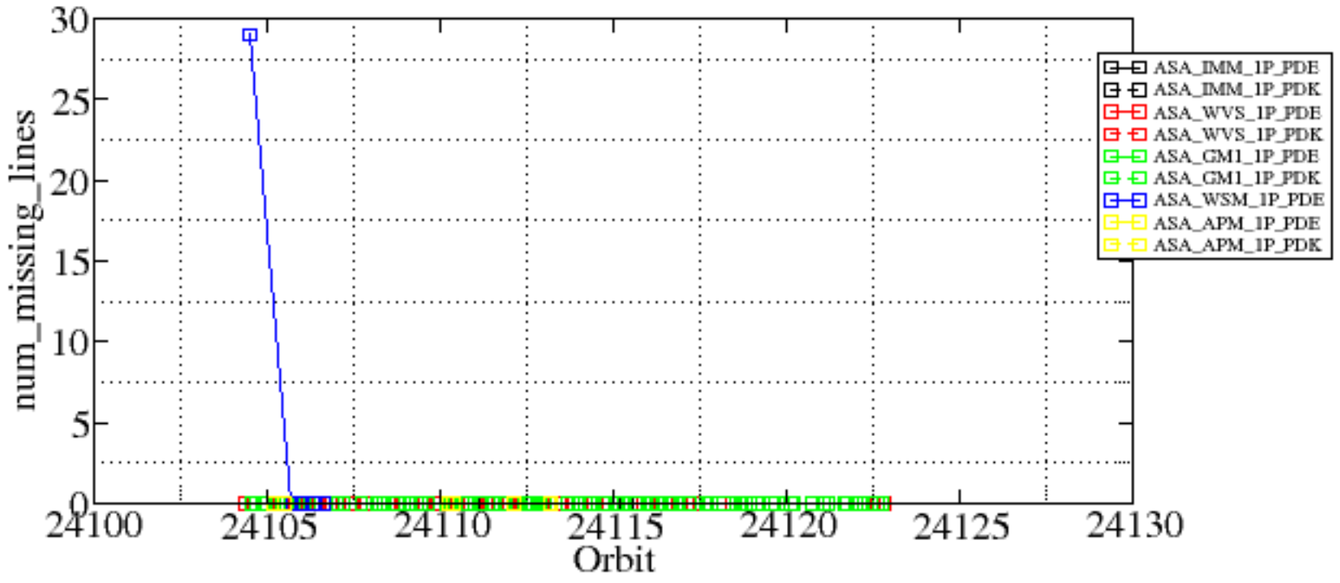
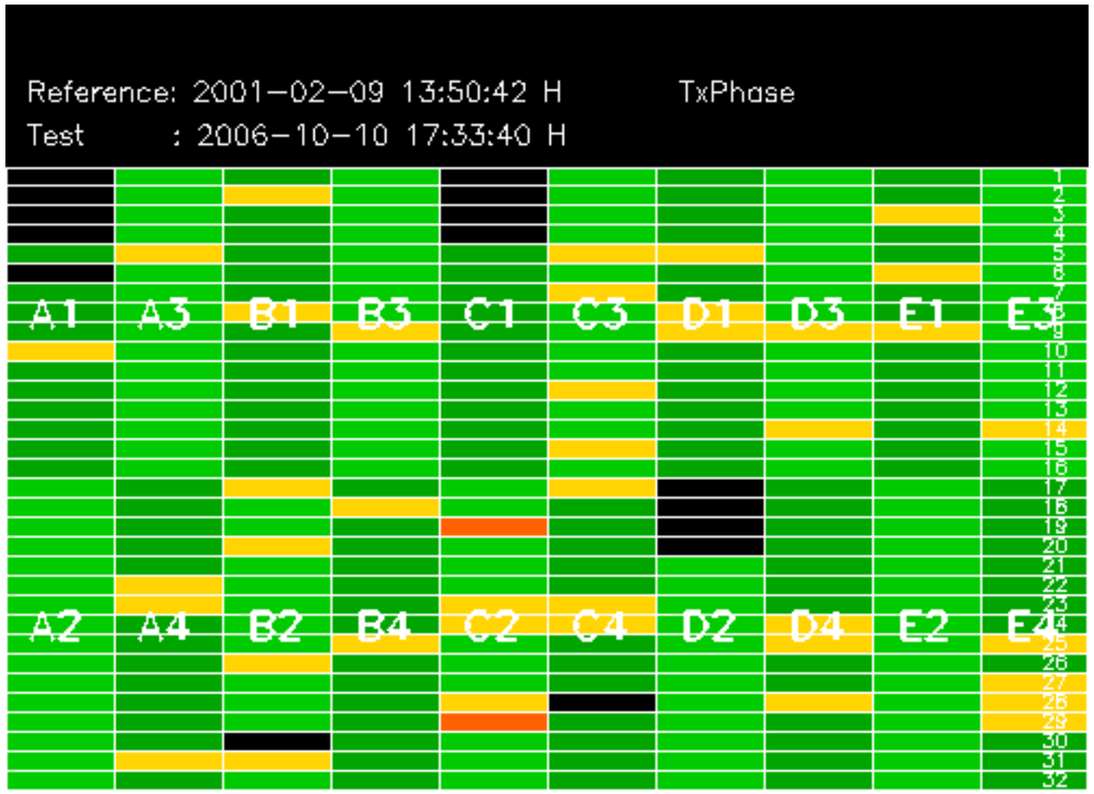
Summary of analysis for the last 3 days 2006101[901]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_WSM_1PNPDE20061010_002924_000001462052_00002_24104_4027.N1 </td> <td>0 </td> <td>29 </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
24100
24105
24110
24115
24120
24125
24130
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_APM_1P_PDE
ASA_APM_1P_PDK


num_missing_lines
30
25
20
15
10
5
0
24100
24105
24110
24115
24120
24125
24130
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_APM_1P_PDE
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
Test : 2006-10-10 17:33:40 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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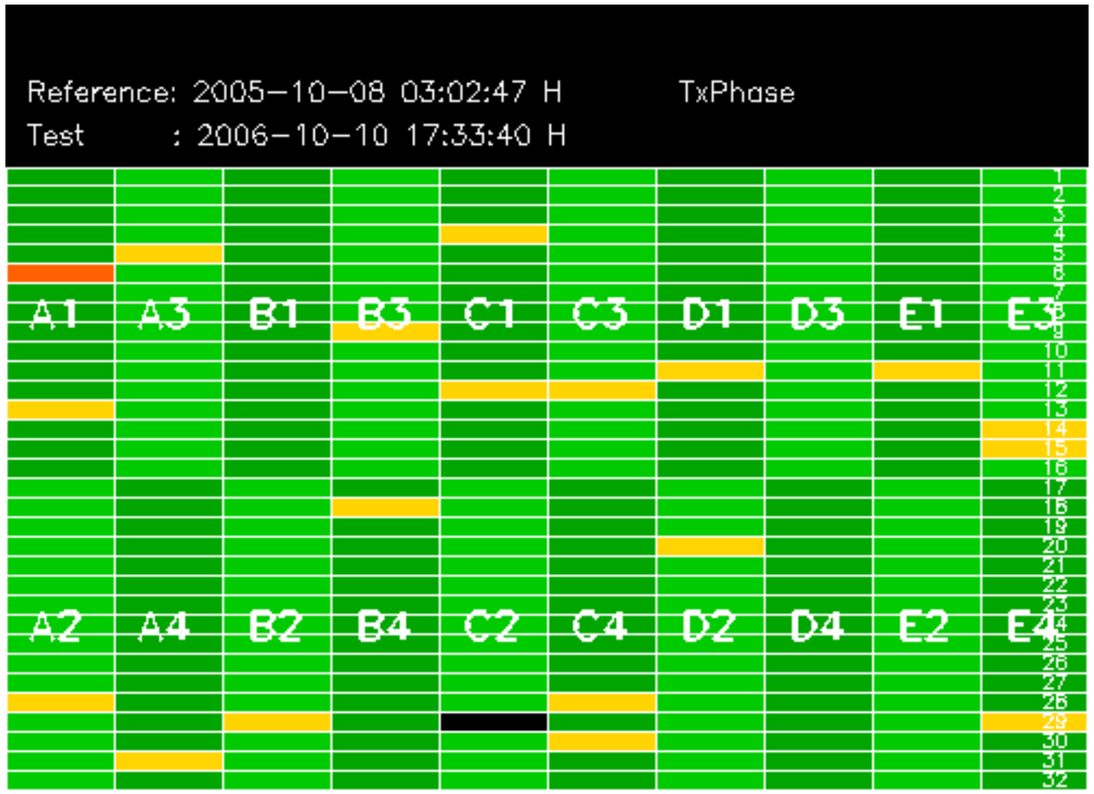
Reference: 2005-10-08 03:02:47 H
TxPhase
Test : 2006-10-10 17:33:40 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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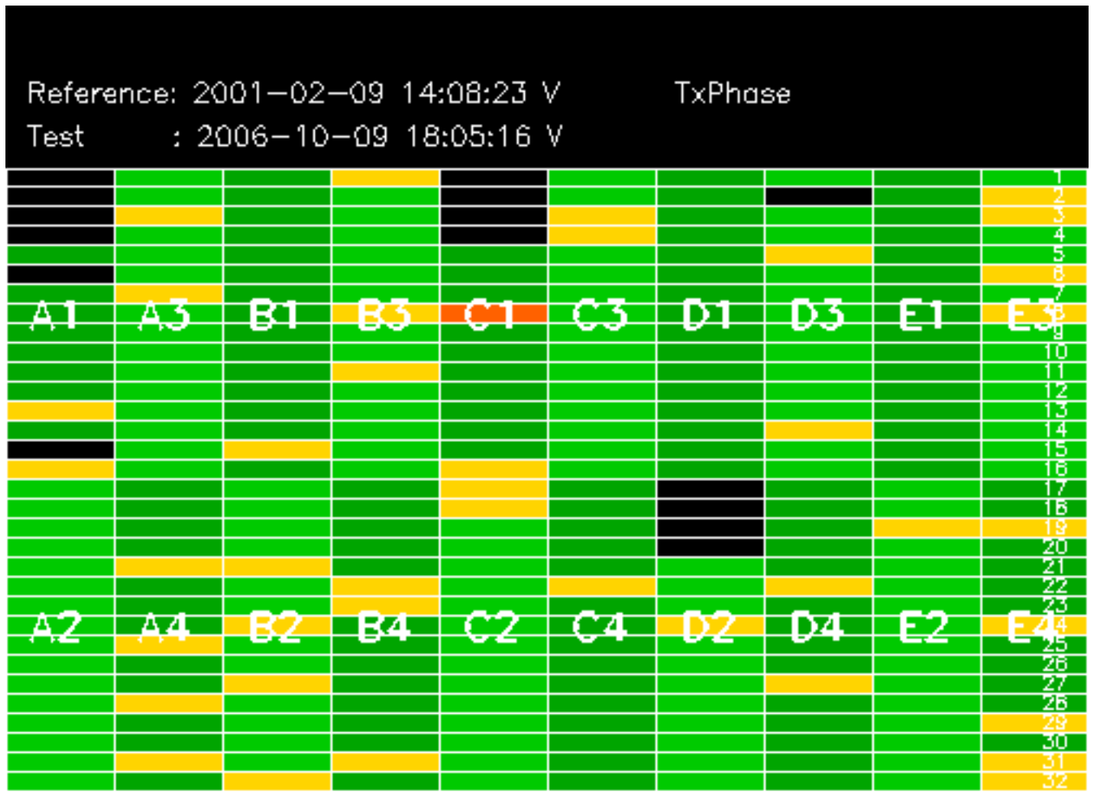
Reference: 2001-02-09 14:08:23 V
Test : 2006-10-09 18:05:16 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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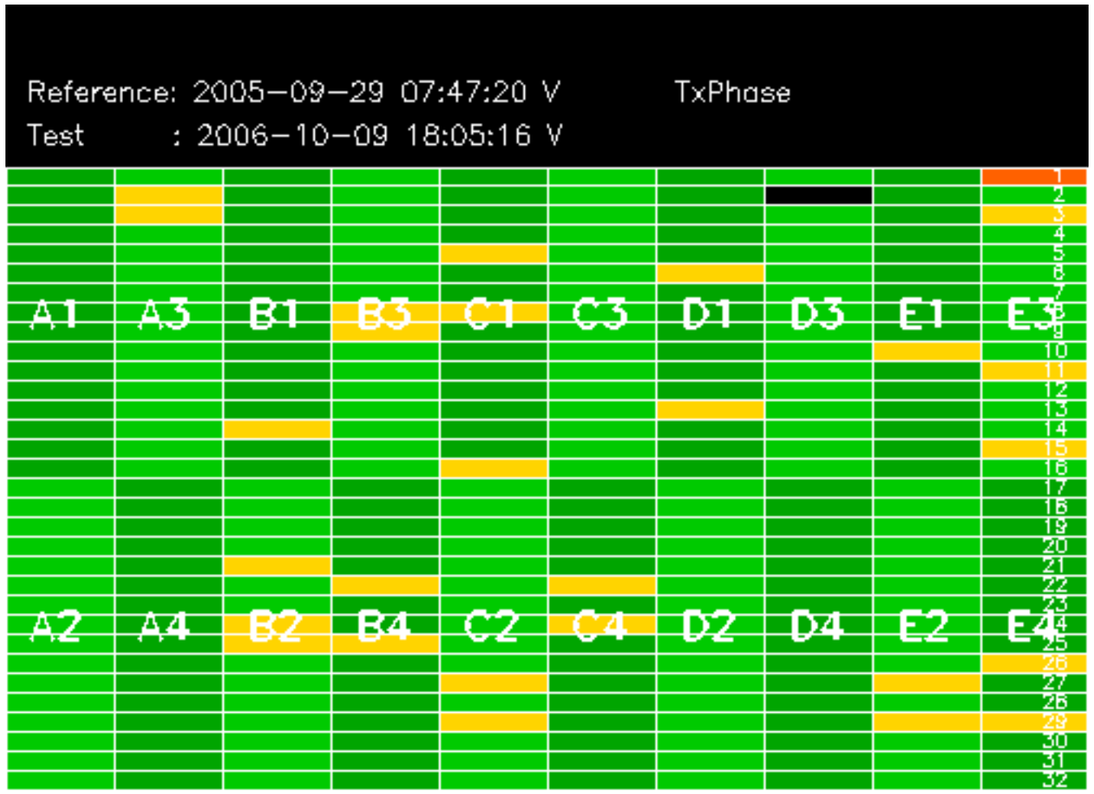
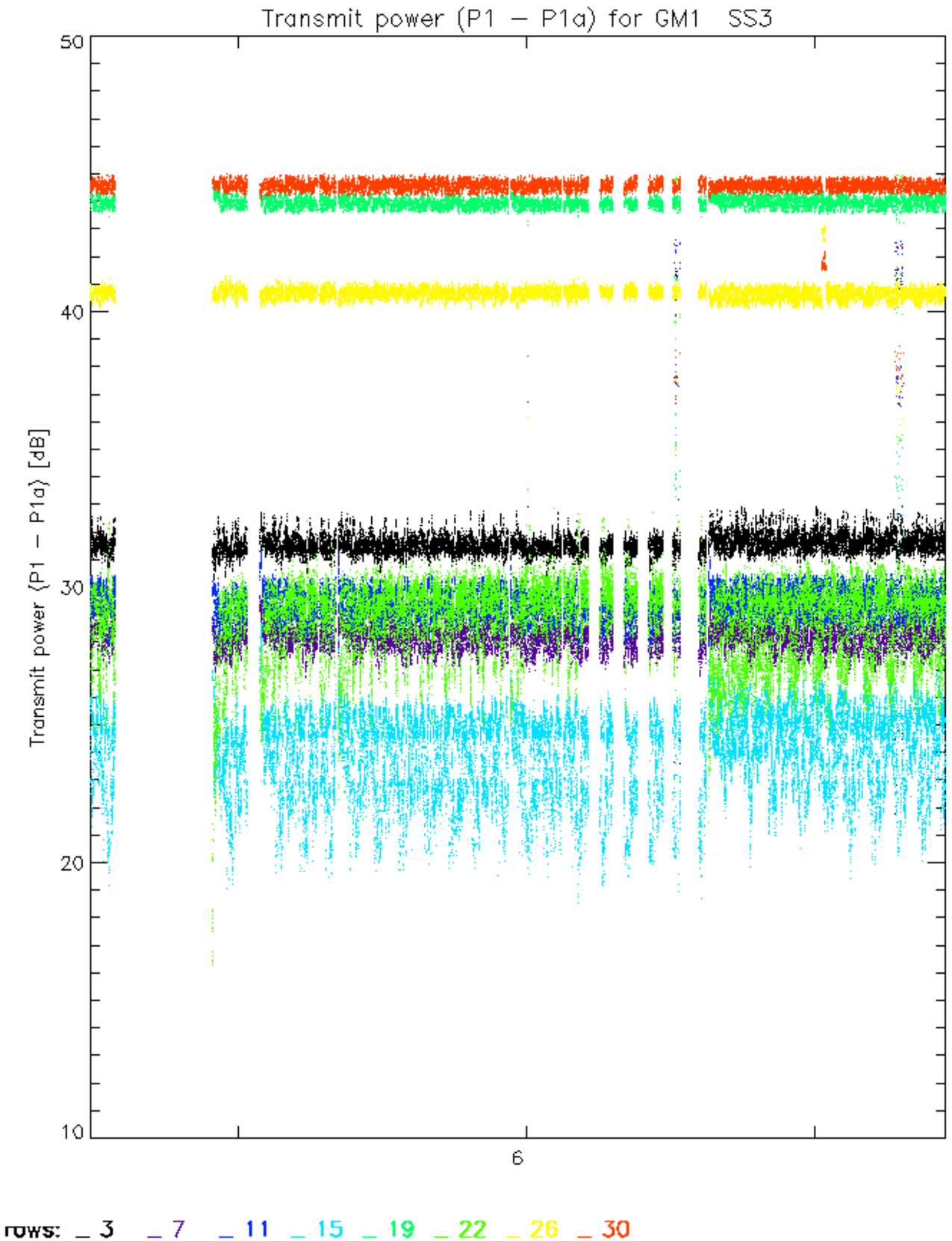
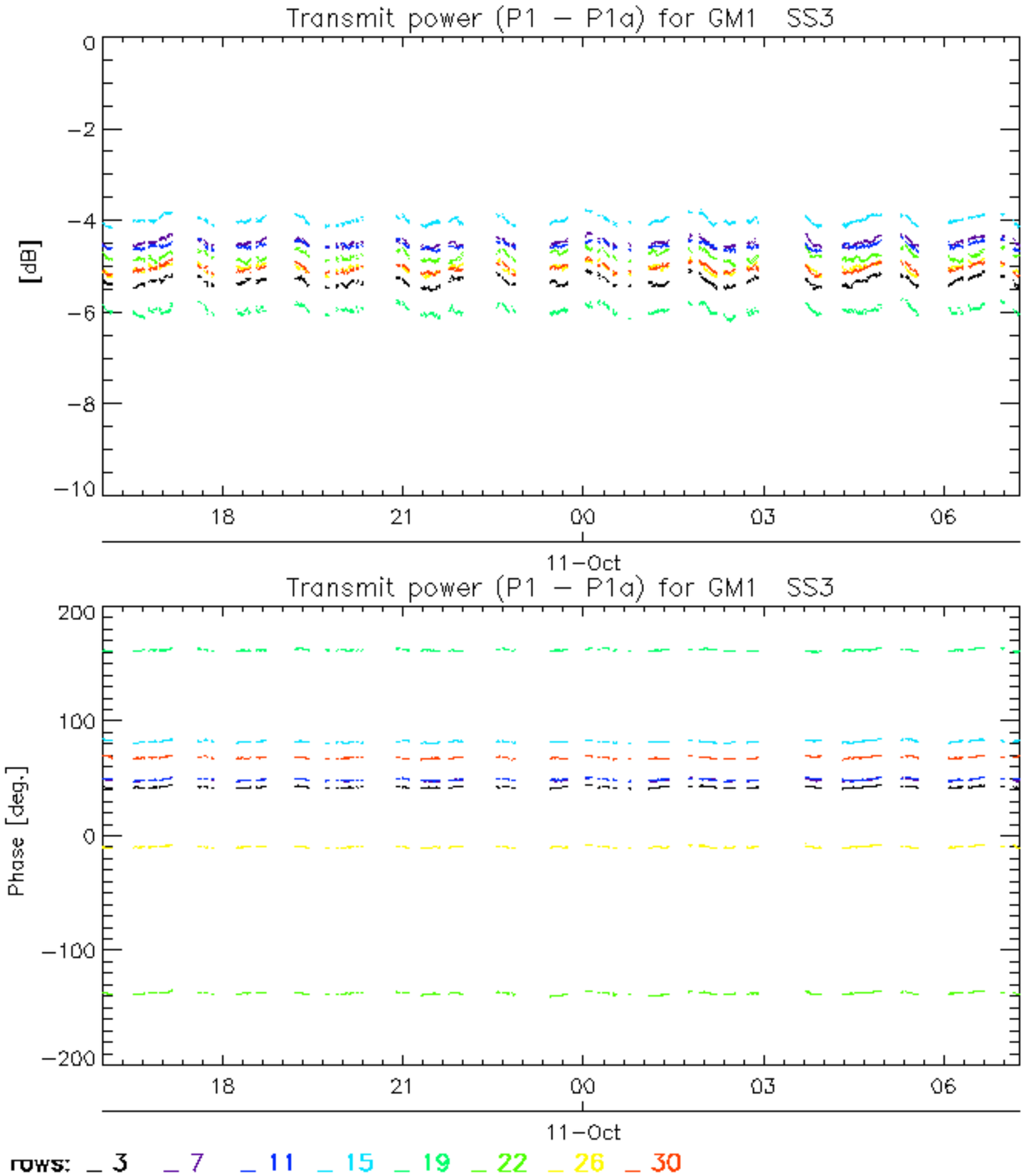
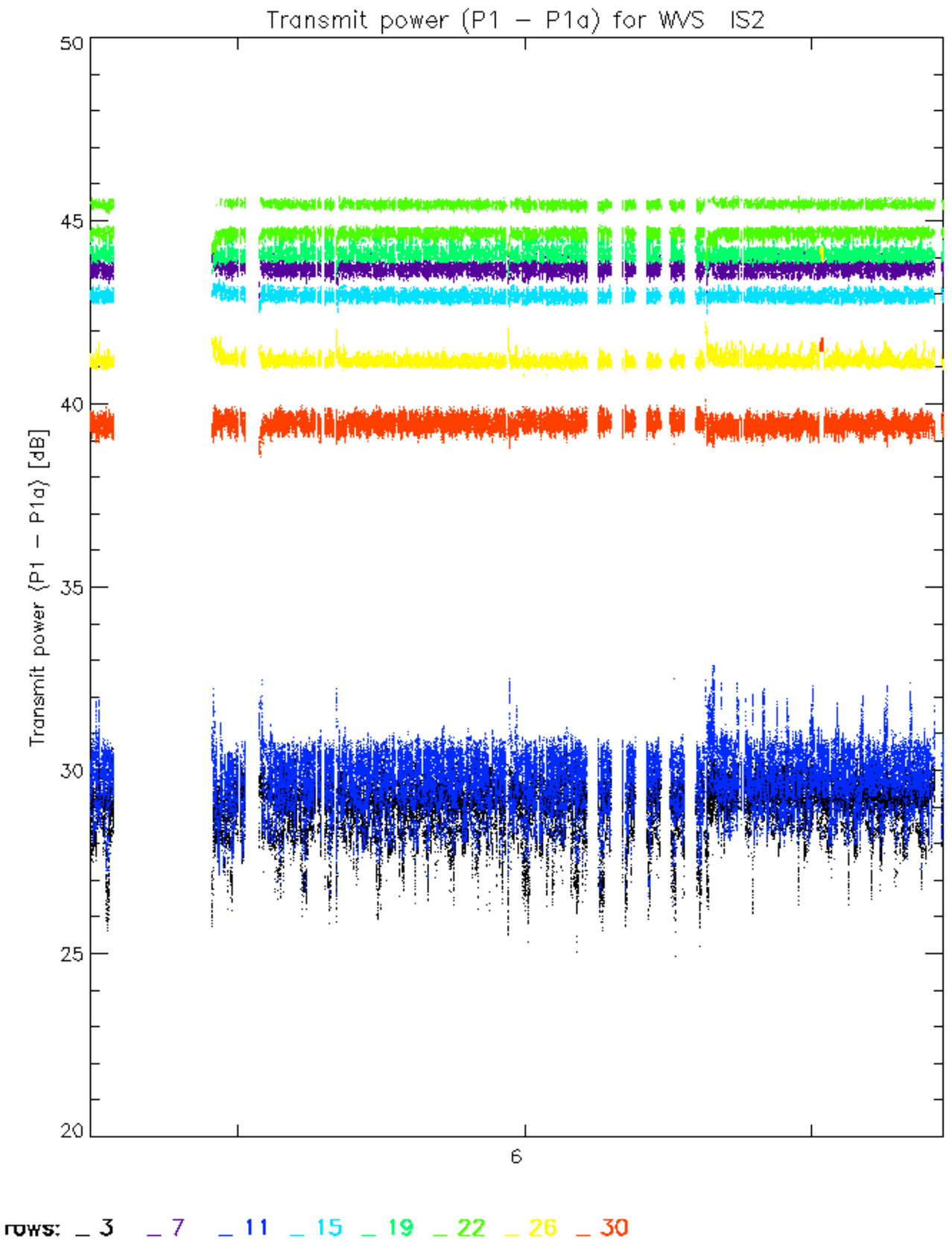
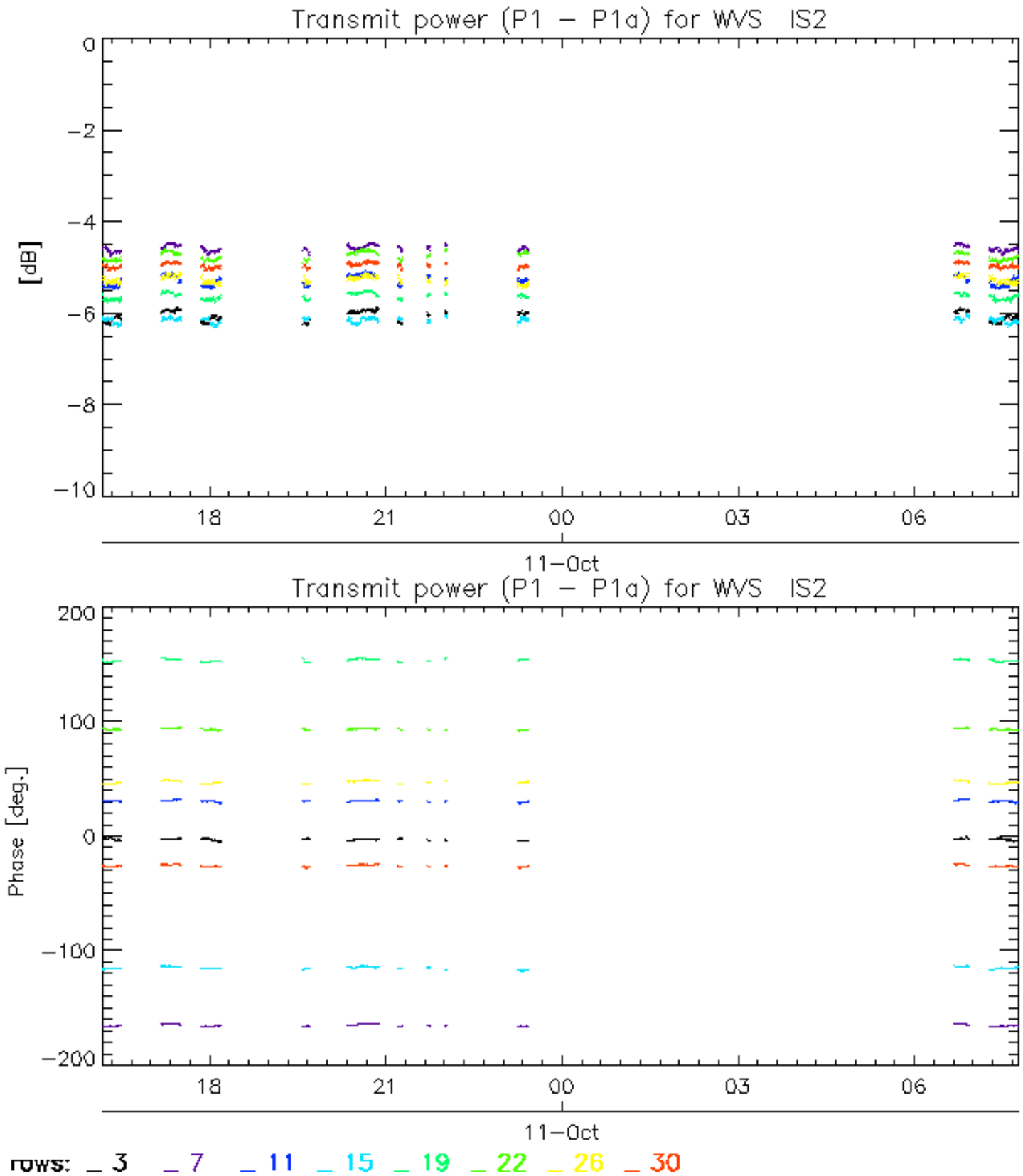

Reference: 2005-09-29 07:47:20 V
Test : 2006-10-09 18:05:16 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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


Transmit power (P1 – P1a) for GM1 SS3
0
−2
−4
−6
−8
−10
[dB]
18
21
00
03
06
11−Oct
Transmit power (P1 – P1a) for GM1 SS3
200
100
0
−100
−200
Phase [deg.]
18
21
00
03
06
11−Oct
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
6
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
11–Oct
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
18
21
00
03
06
11–Oct
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.