PRELIMINARY REPORT OF 050913

last update on Tue Sep 13 10:50:01 GMT 2005

1 - Introduction

This report is based on the analysis of wave mode level-1 cross spectra (ASA_WVS_1P), global monitoring products (ASA_GM1_1P), which are the available few hours after the acquisition, on the browse (BP) products and
on the Module Stepping (MS) product.

2 - Summary

2.1 - Instrument Unavailability

No unavailabilities during the reported period.

2.2 - Auxiliary files

Summary of the auxiliary files used from 2005-09-12 00:00:00 to 2005-09-13 10:50:01

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

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	23	53	17	4	3
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	23	53	17	4	3
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	23	53	17	4	3
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	23	53	17	4	3

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	35	37	26	7	43
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	35	37	26	7	43
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	35	37	26	7	43
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	35	37	26	7	43

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	20050911 053214
H	20050912 050037

MSM in V/V polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference

MSM in H/H polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
☒	☒
☒	☒
☒	☒
☒	☒

4 - Internal calibration Results

No anomalies observed.

4.1 - Daily statistics

4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS
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4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1
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4.2 - Cyclic statistics

4.2.1 - Evolution for WVS

Evolution of cal pulses for WVS
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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	-3.285596	0.006759	0.016602
7	P1	-3.176572	0.010201	-0.024077
11	P1	-4.734112	0.032964	-0.039723
15	P1	-5.628676	0.047197	-0.041616
19	P1	-3.821570	0.004439	-0.026019
22	P1	-4.619759	0.011958	-0.019178
26	P1	-4.827435	0.023079	-0.007422
30	P1	-7.265388	0.024716	-0.063033
3	P1	-15.539171	0.070900	0.025971
7	P1	-15.591821	0.082849	-0.028078
11	P1	-21.824049	0.381632	-0.086225
15	P1	-11.327339	0.097366	0.026335
19	P1	-14.530334	0.033786	-0.037643
22	P1	-15.495997	0.326102	0.181921
26	P1	-17.227701	0.168342	0.147520
30	P1	-17.880962	0.320980	-0.139085

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.716576	0.088093	0.109844
7	P2	-21.856304	0.102111	0.095858
11	P2	-13.411663	0.115757	0.178449
15	P2	-7.039860	0.096061	0.004017
19	P2	-9.575560	0.101204	0.011367
22	P2	-16.800919	0.102892	0.013911
26	P2	-16.502352	0.103417	-0.005855
30	P2	-18.804497	0.091235	-0.013201

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.156290	0.003982	-0.008596
7	P3	-8.156290	0.003982	-0.008596
11	P3	-8.156290	0.003982	-0.008596
15	P3	-8.156290	0.003982	-0.008596
19	P3	-8.156290	0.003982	-0.008596
22	P3	-8.156290	0.003982	-0.008596
26	P3	-8.156295	0.003982	-0.008584
30	P3	-8.156295	0.003982	-0.008584

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	-2.778869	0.013248	0.006659
7	P1	-2.956619	0.037760	0.022661
11	P1	-4.043548	0.028429	-0.034230
15	P1	-3.631776	0.026548	-0.037661
19	P1	-3.634692	0.013949	0.010586
22	P1	-5.713008	0.040964	-0.029211
26	P1	-7.361164	0.030537	0.031503
30	P1	-6.289193	0.068282	0.024701
3	P1	-10.956715	0.047193	-0.076146
7	P1	-10.499410	0.151220	0.024539
11	P1	-12.666009	0.099577	-0.076726
15	P1	-11.651921	0.095828	-0.025127
19	P1	-15.461005	0.054008	0.047822
22	P1	-25.418303	1.923008	0.105744
26	P1	-15.165931	0.229724	0.196278
30	P1	-20.082632	1.343858	0.152809

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.423307	0.050141	0.143986
7	P2	-21.972107	0.034112	0.083411
11	P2	-9.460280	0.068235	0.189068
15	P2	-5.075969	0.037344	0.041789
19	P2	-6.839651	0.056598	0.055290
22	P2	-7.020377	0.043014	0.045951
26	P2	-23.946688	0.034253	0.023373
30	P2	-21.927565	0.042537	0.020859

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.001092	0.004165	-0.005982
7	P3	-8.001161	0.004170	-0.005827
11	P3	-8.001096	0.004160	-0.005996
15	P3	-8.001051	0.004174	-0.005786
19	P3	-8.001145	0.004162	-0.006067
22	P3	-8.000951	0.004166	-0.006037
26	P3	-8.000922	0.004174	-0.006524
30	P3	-8.000951	0.004169	-0.005918

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	0.000424997
	stdev	2.36318e-07
MEAN Q	mean	0.000445797
	stdev	2.45577e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.125366
	stdev	0.00106658
STDEV Q	mean	0.125623
	stdev	0.00107615

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005091[123]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_WSM_1PNPDE20050912_011917_000003912040_00389_18479_8359.N1	0	67
ASA_WSM_1PNPDE20050912_035553_000001642040_00391_18481_8375.N1	0	21

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

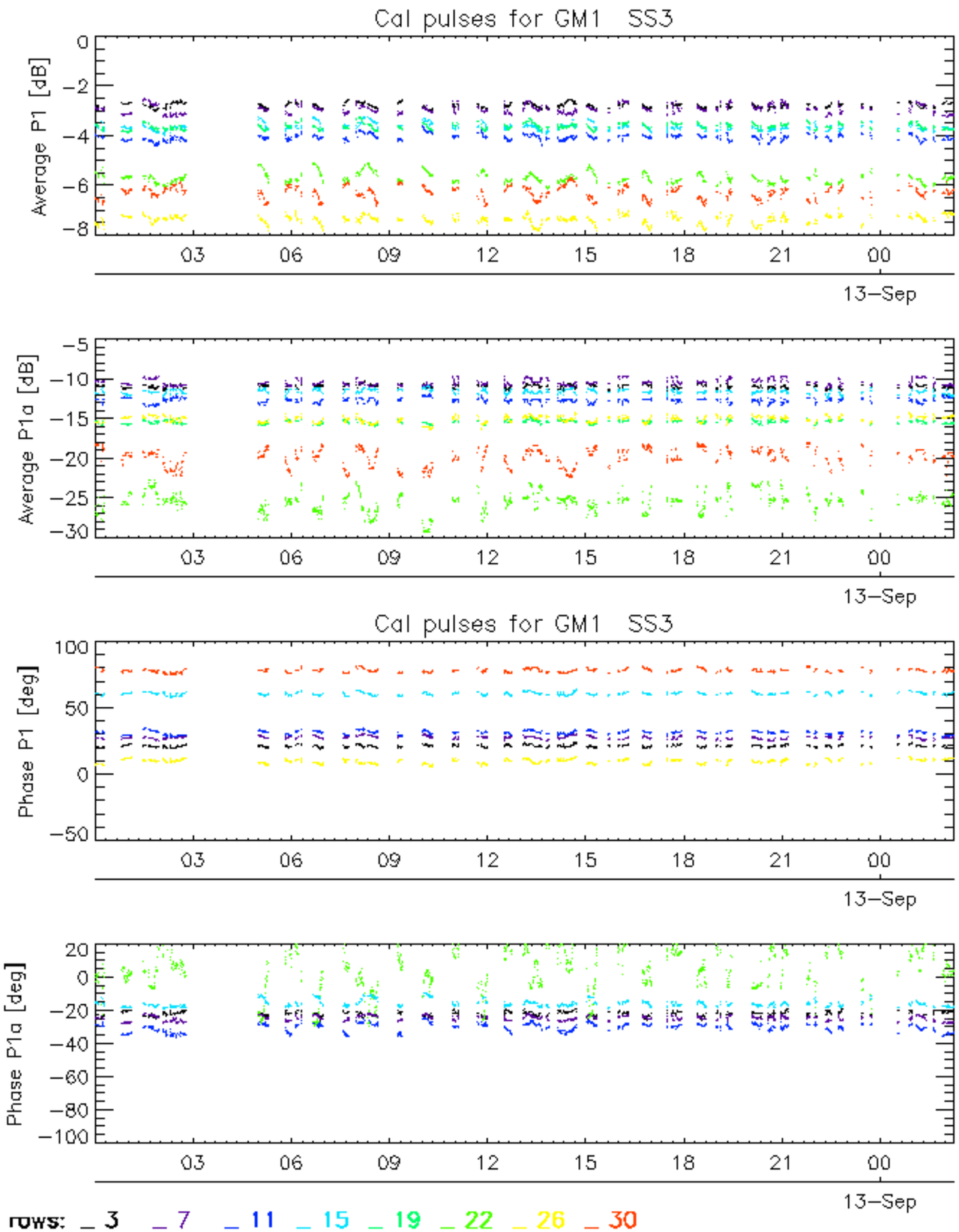
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

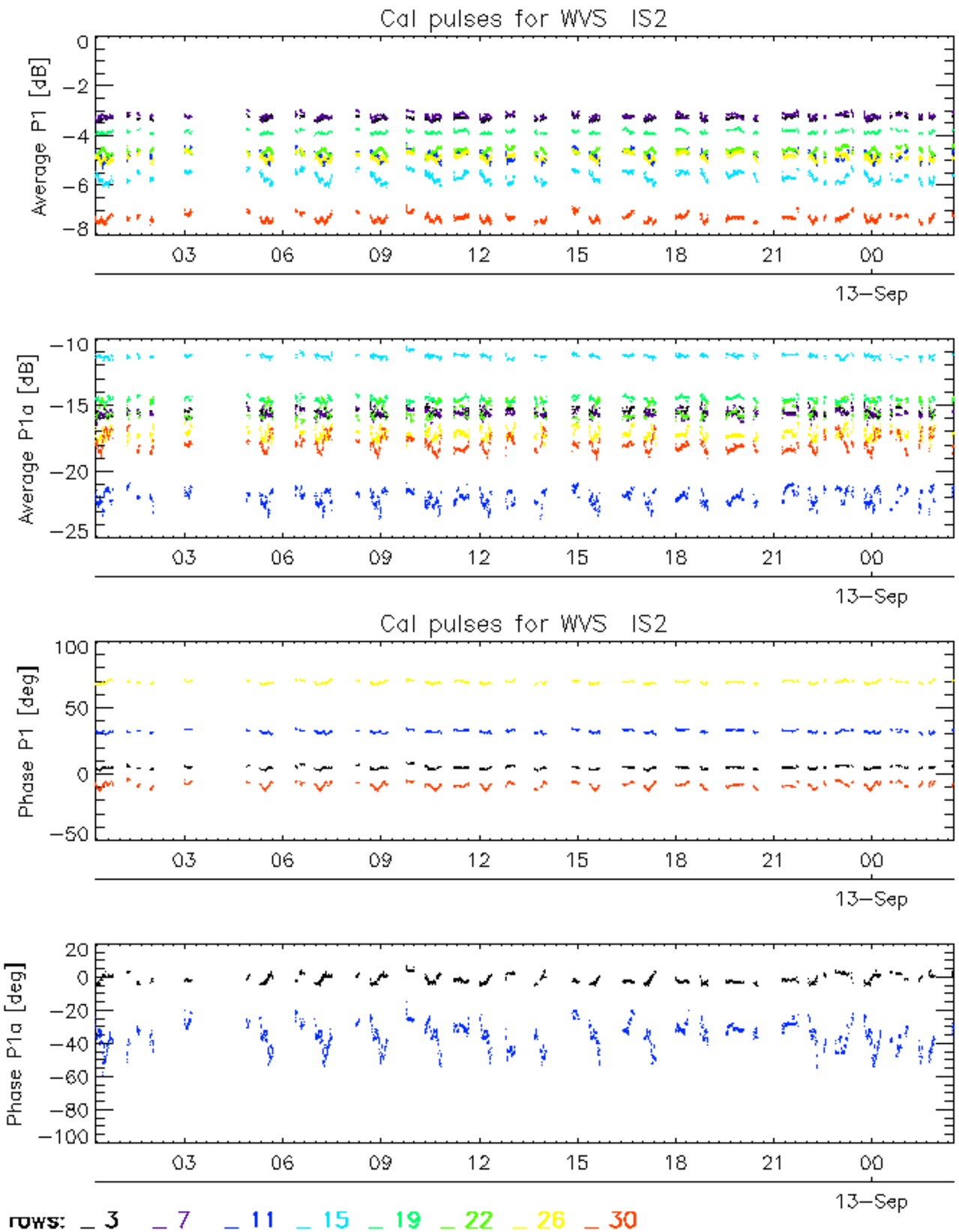
7.5 - Absolute Doppler for GM1

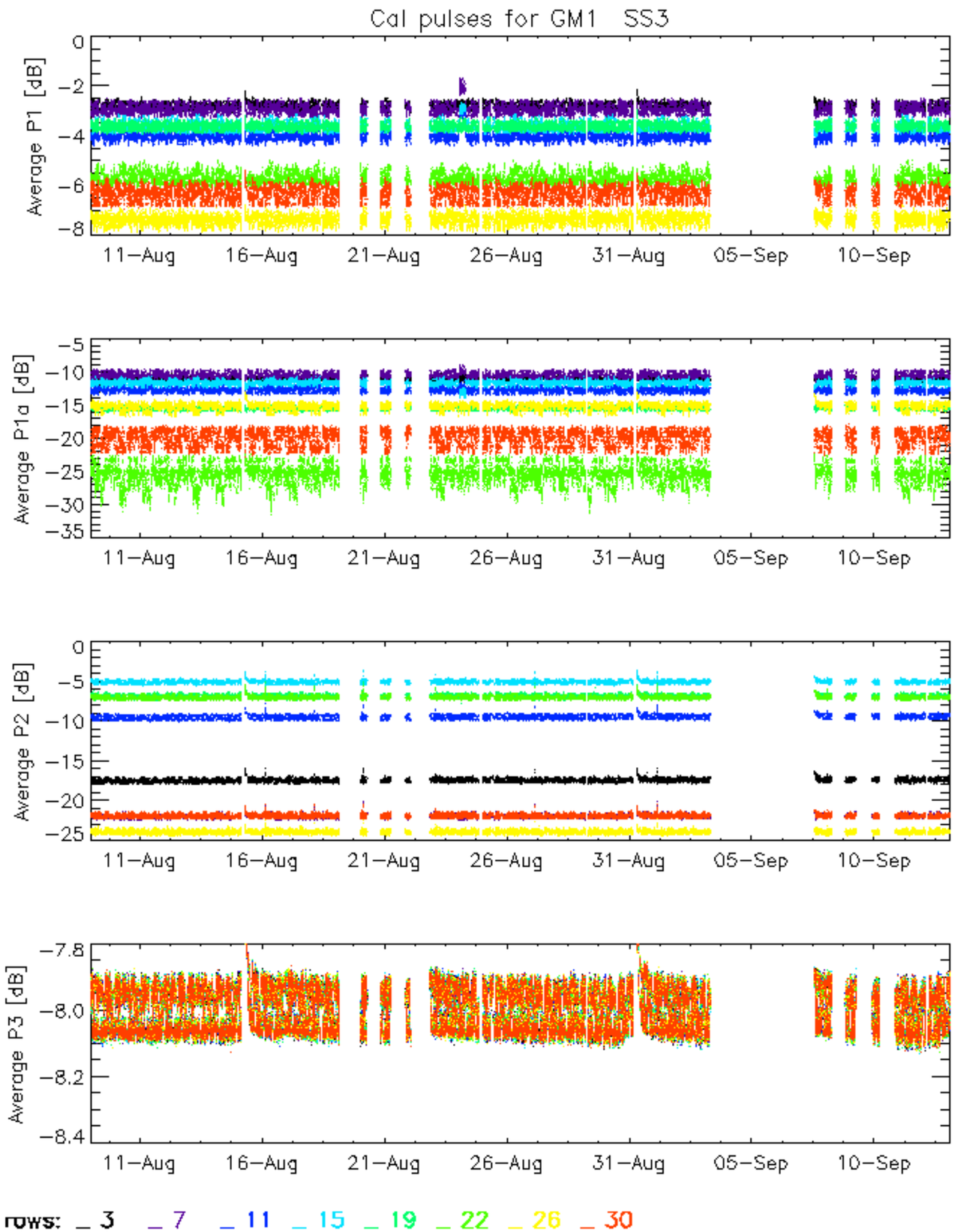
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

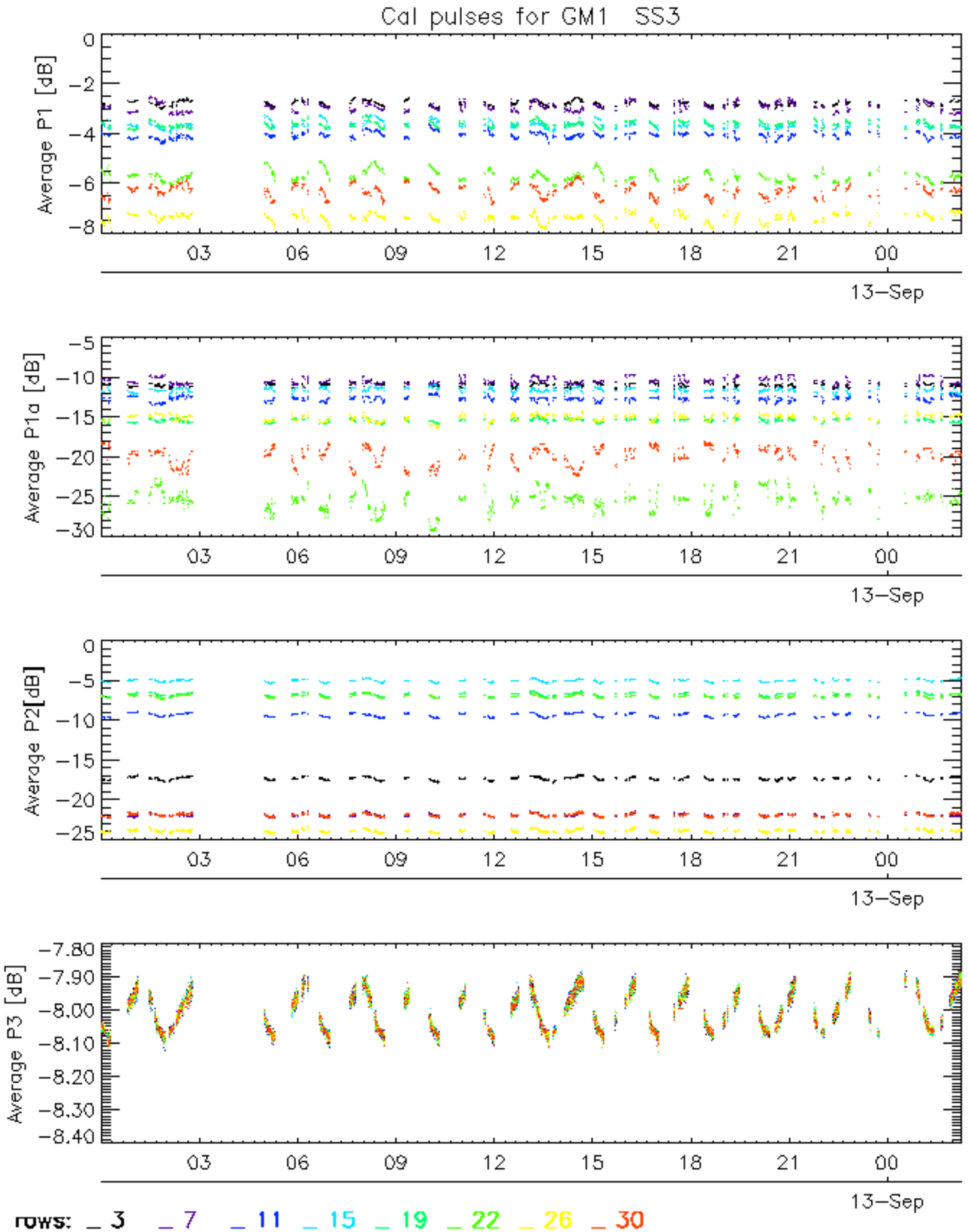
7.6 - Doppler evolution versus ANX for GM1

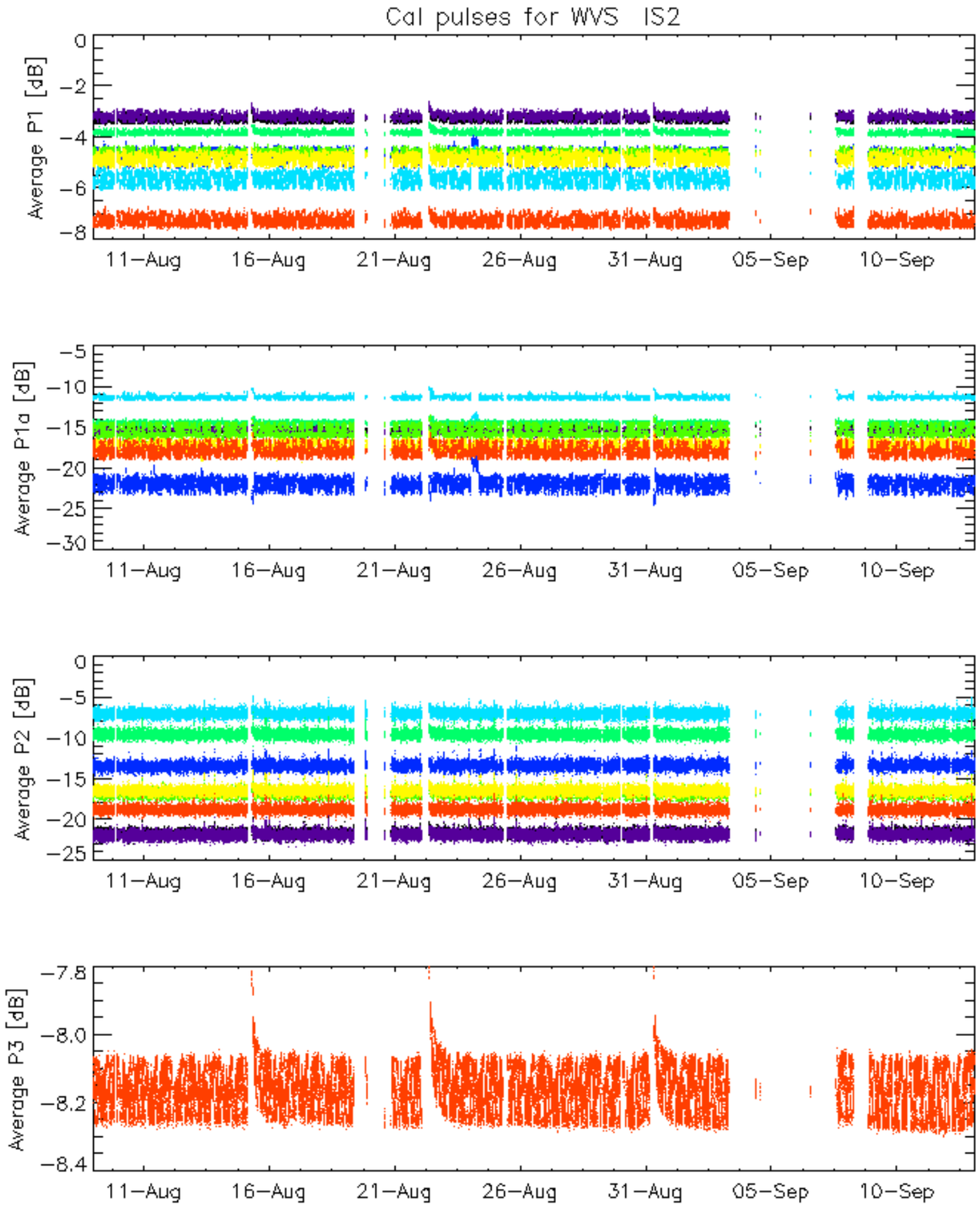
Evolution Doppler error versus ANX
☒

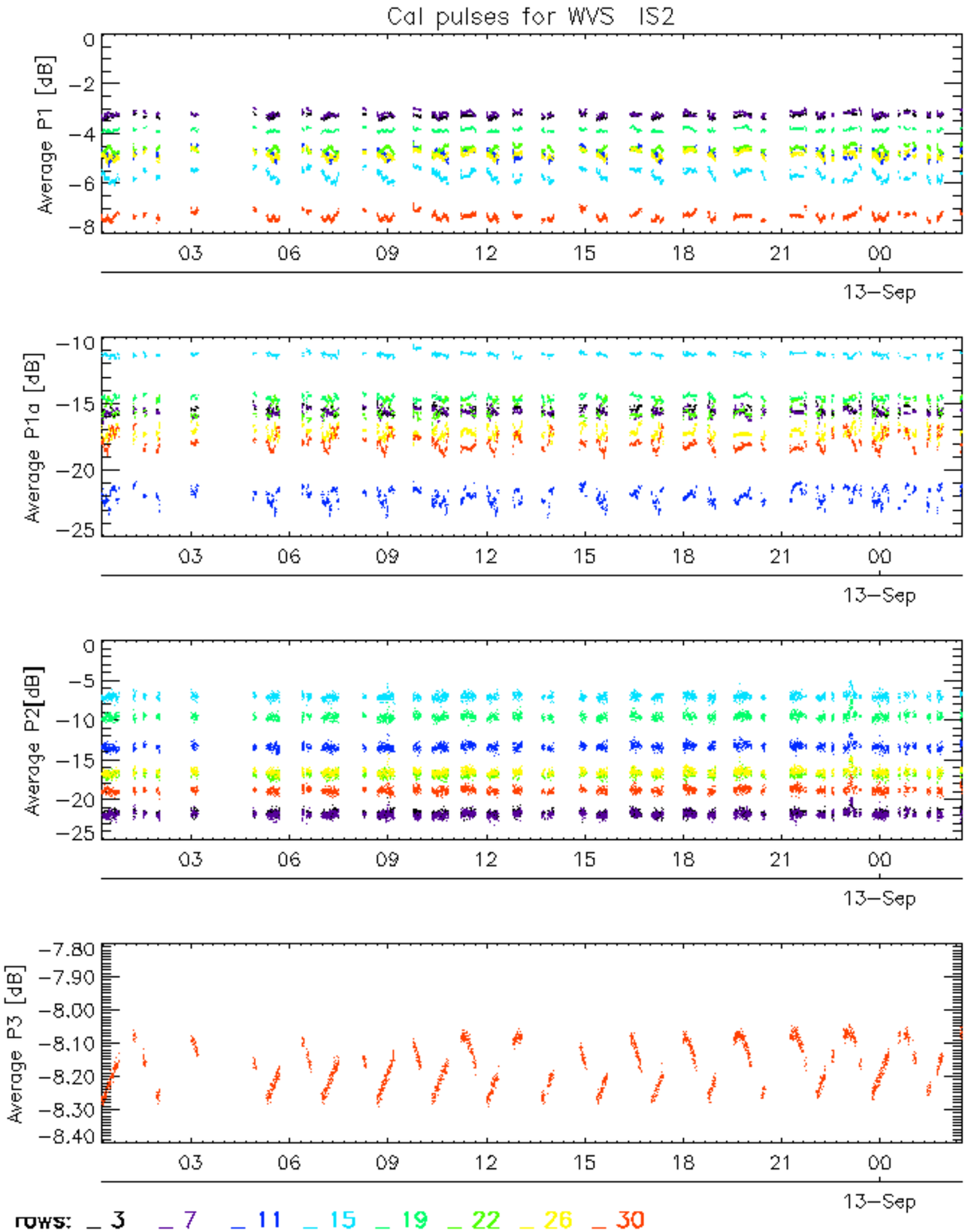

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
13−Sep
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
13−Sep
Average P1a [dB]
−10
−15
−20
−25
Cal pulses for WVS IS2
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30

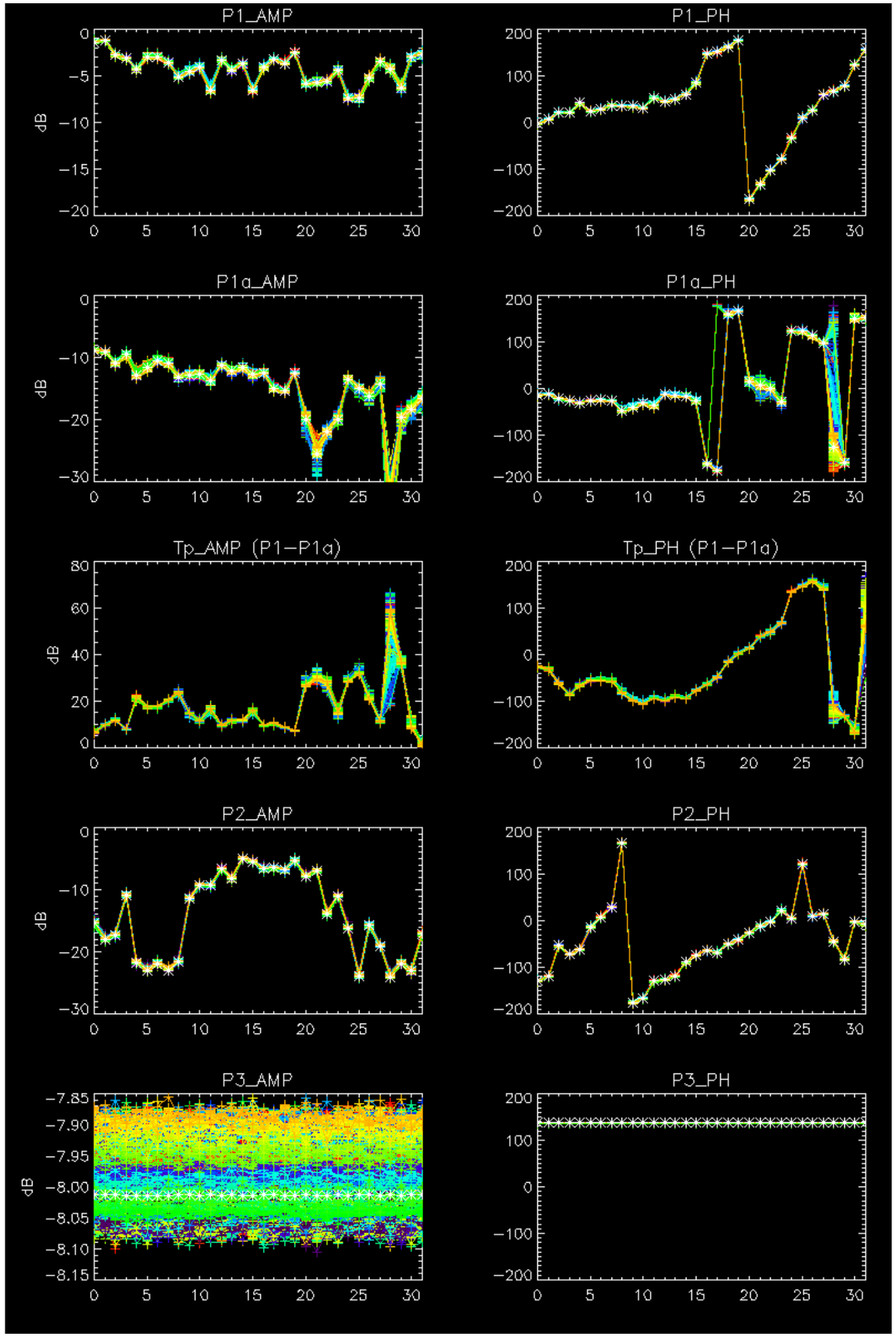

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
11−Aug
16−Aug
21−Aug
26−Aug
31−Aug
05−Sep
10−Sep
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

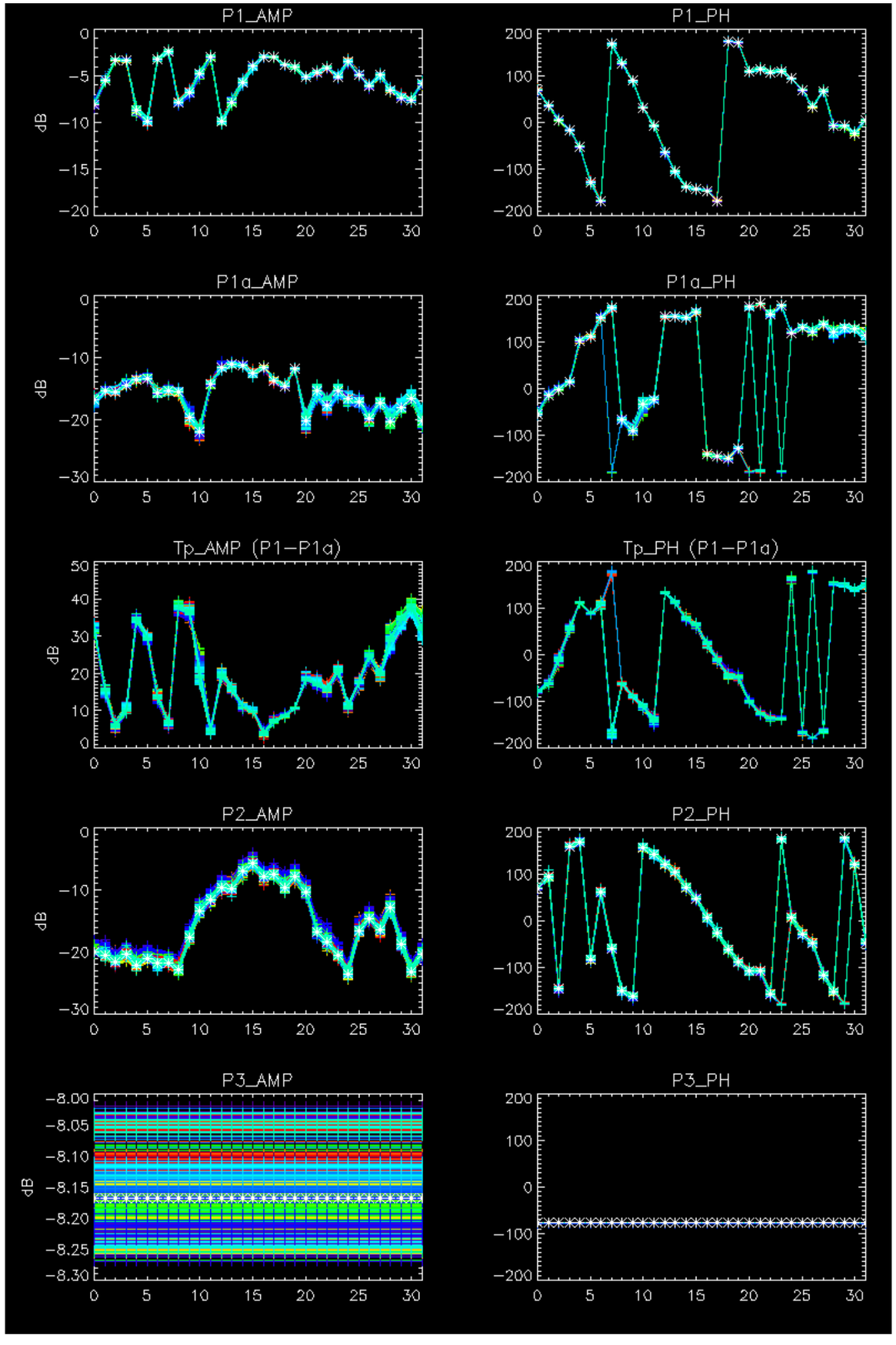

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
13−Sep
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
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−Aug
16−Aug
21−Aug
26−Aug
31−Aug
05−Sep
10−Sep
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
13−Sep
Average P1a [dB]
−10
−15
−20
−25
Average P2[dB]
−5
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

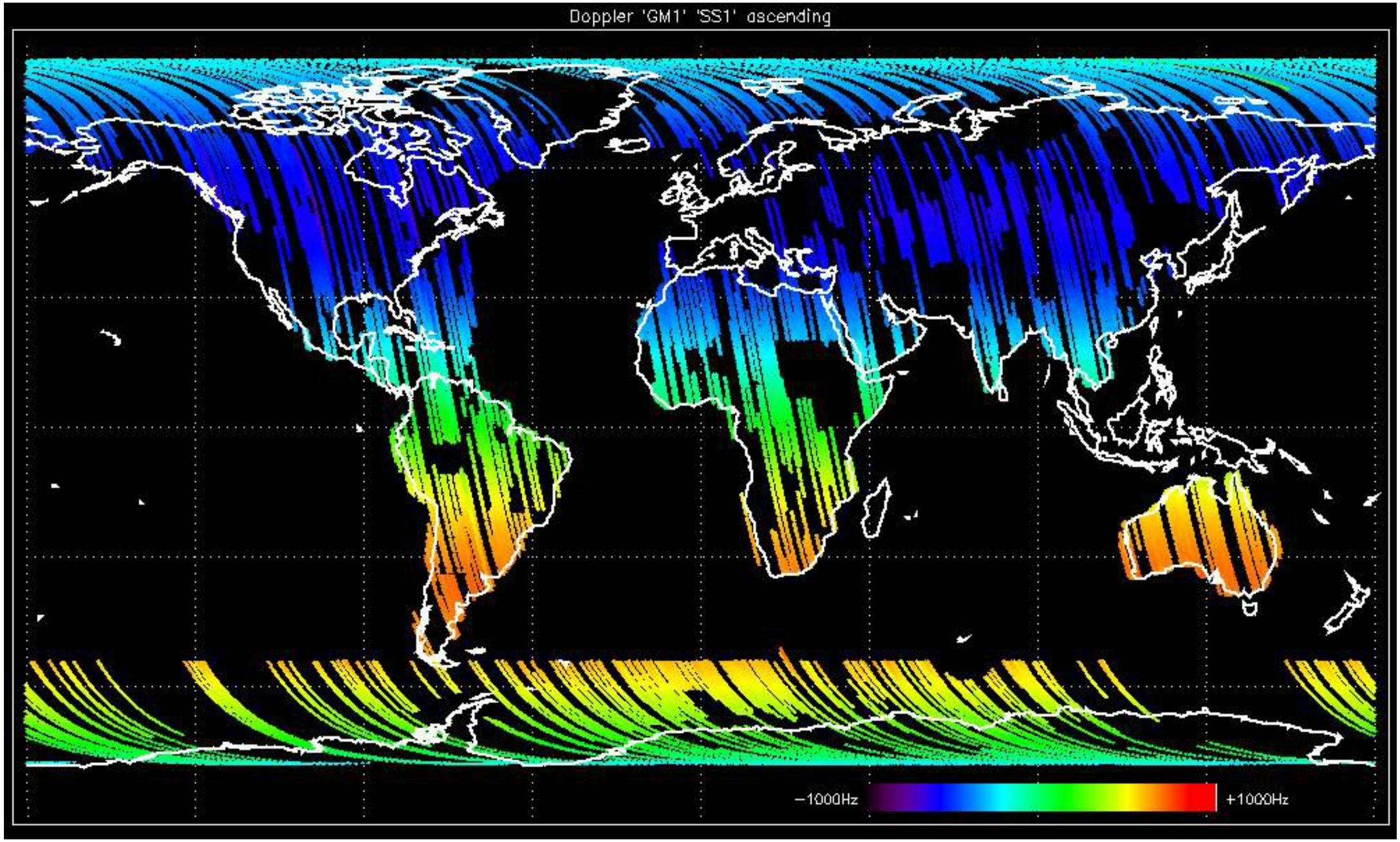
No anomalies observed.

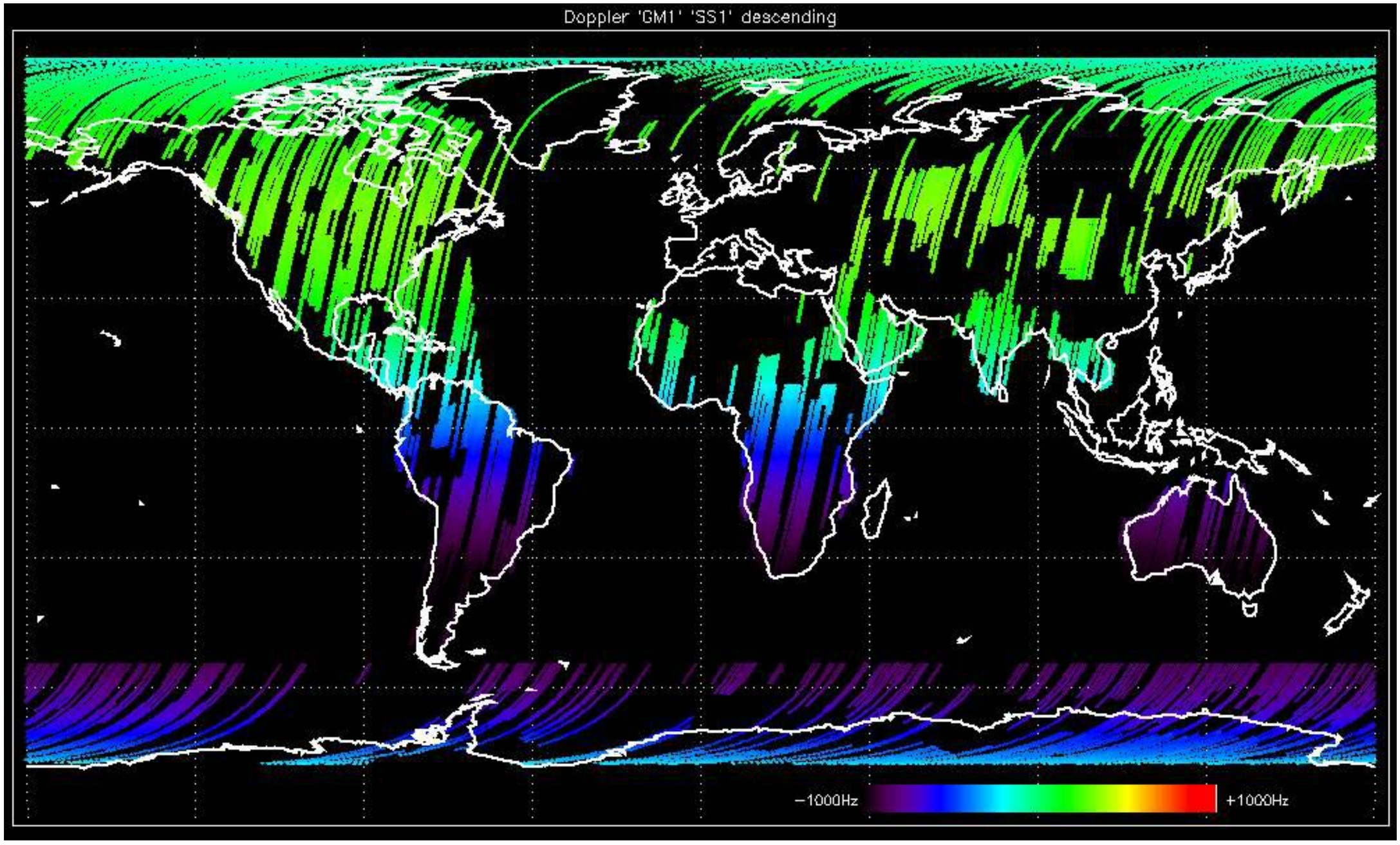

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

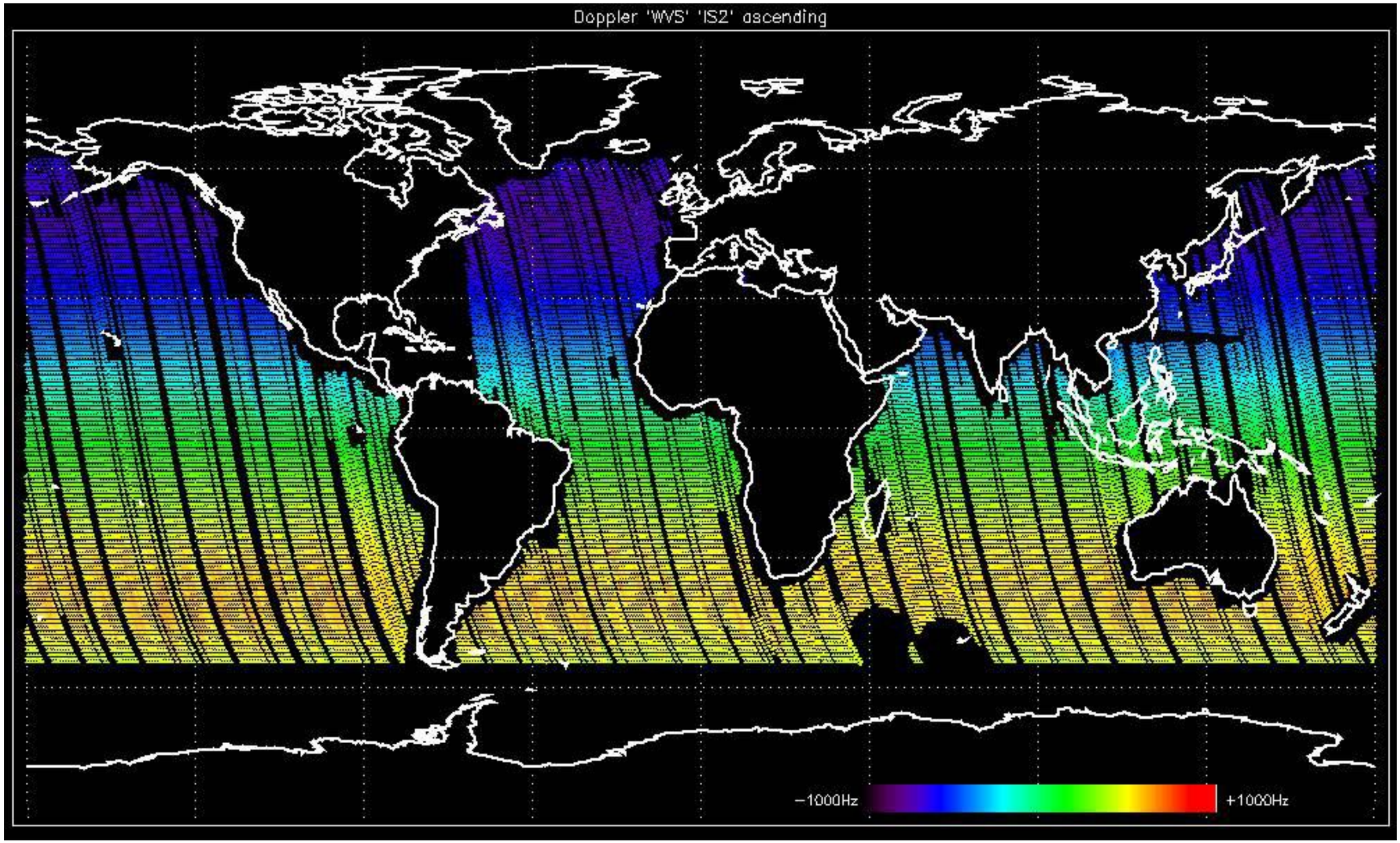

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

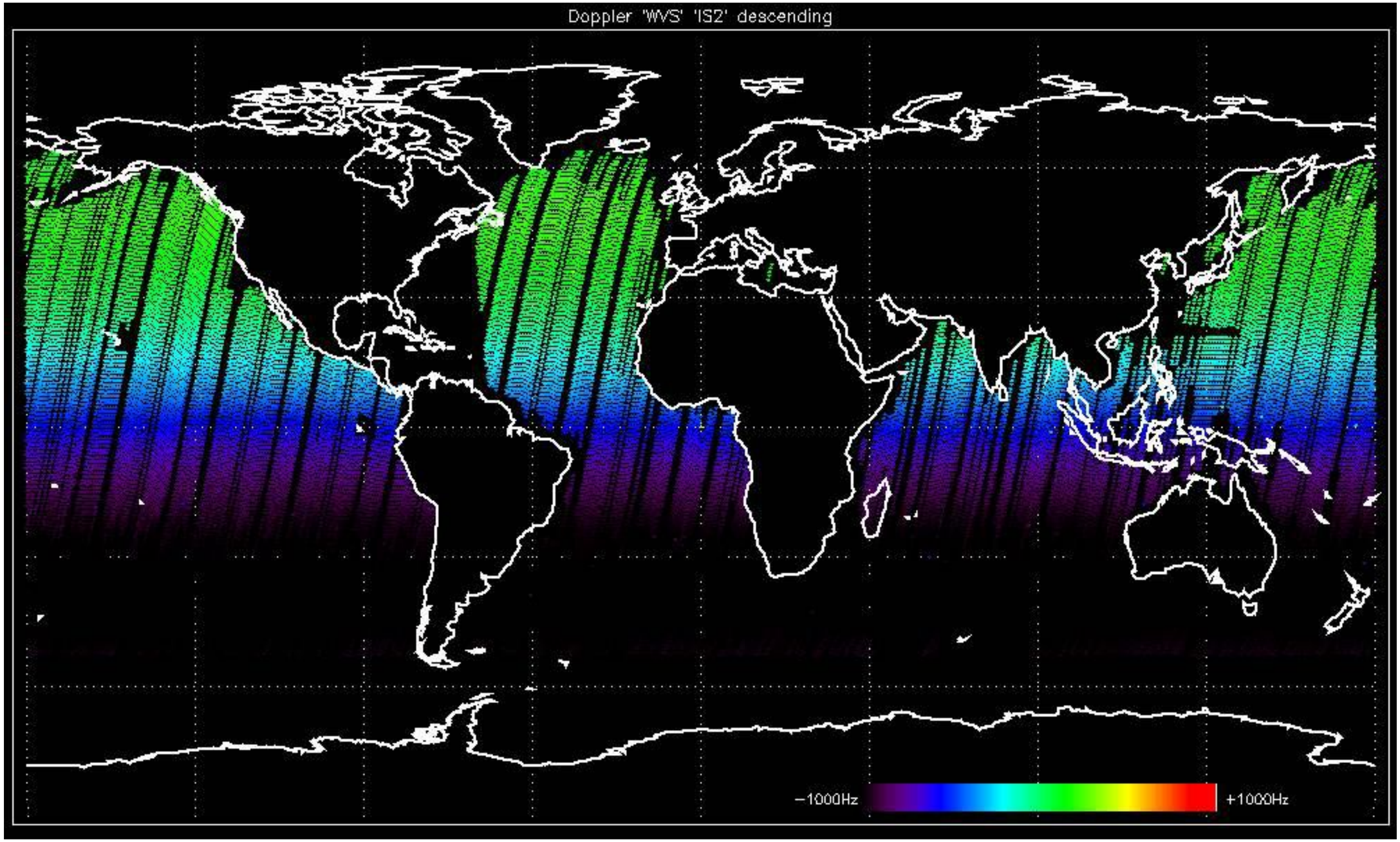
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

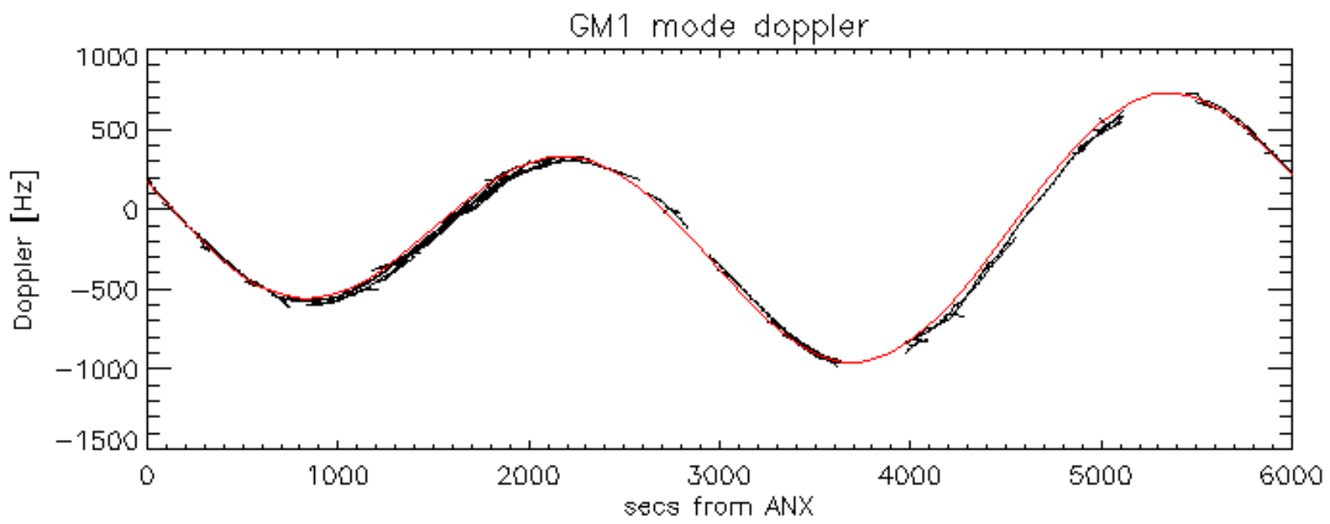
Preliminary report.The data is not yet controled

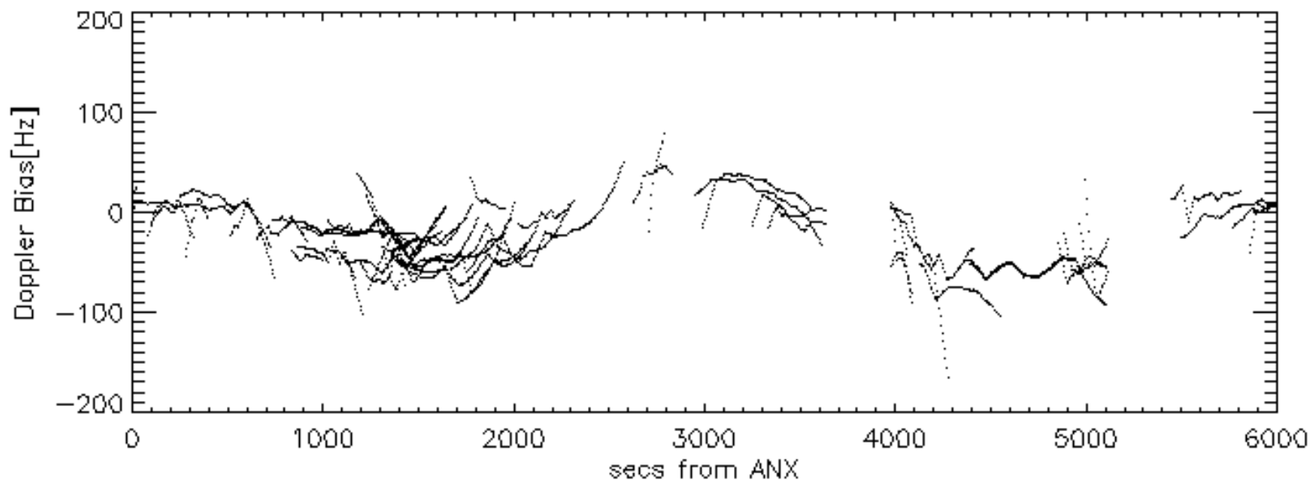

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

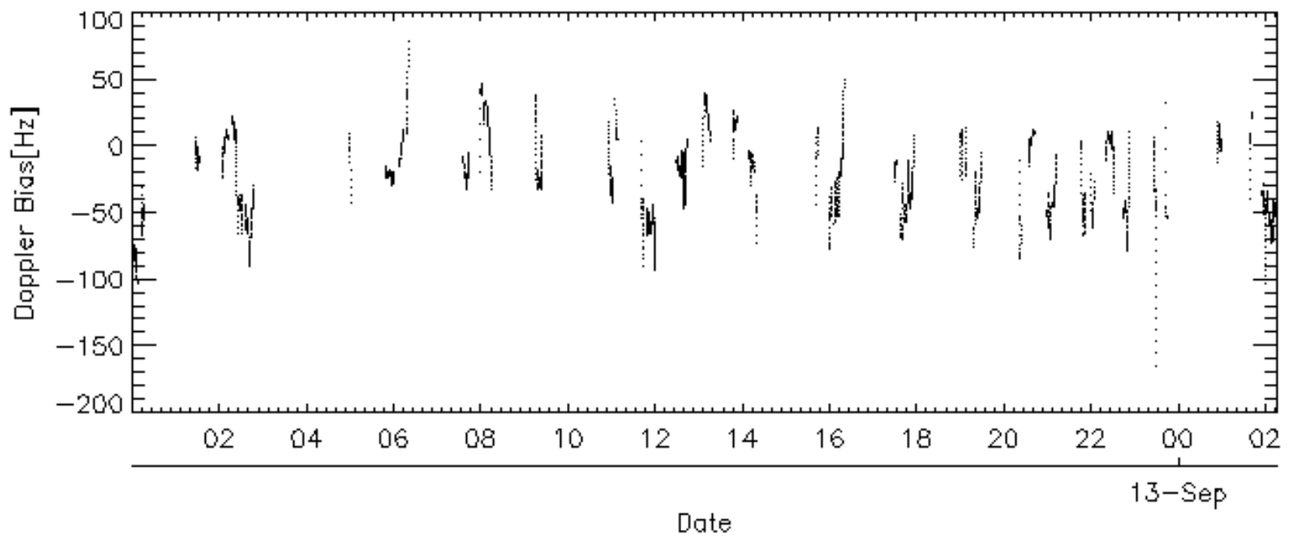

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

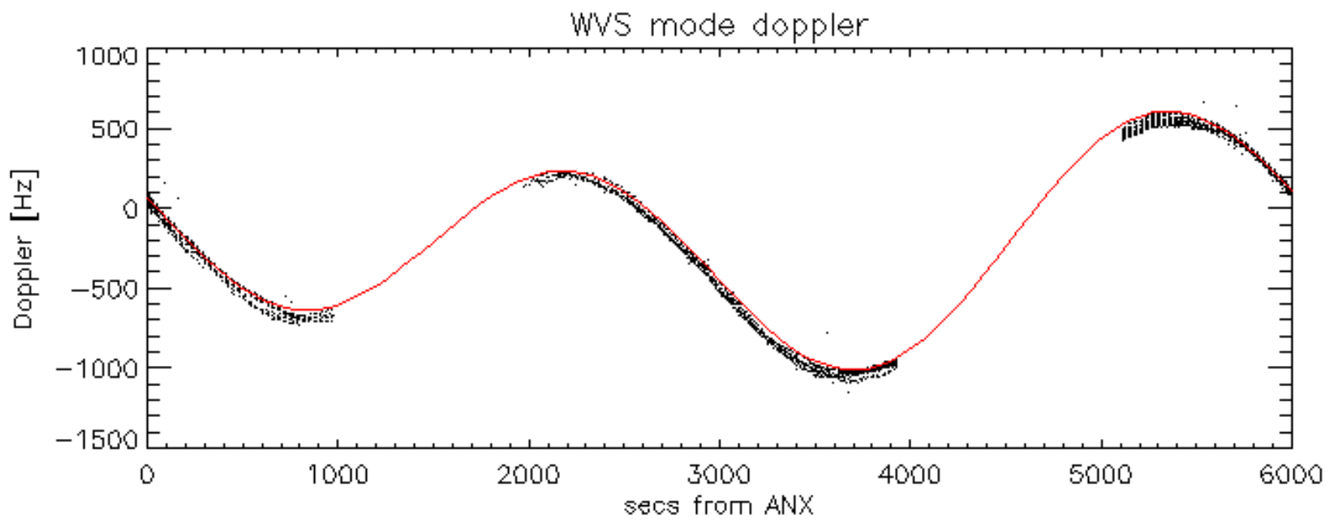

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

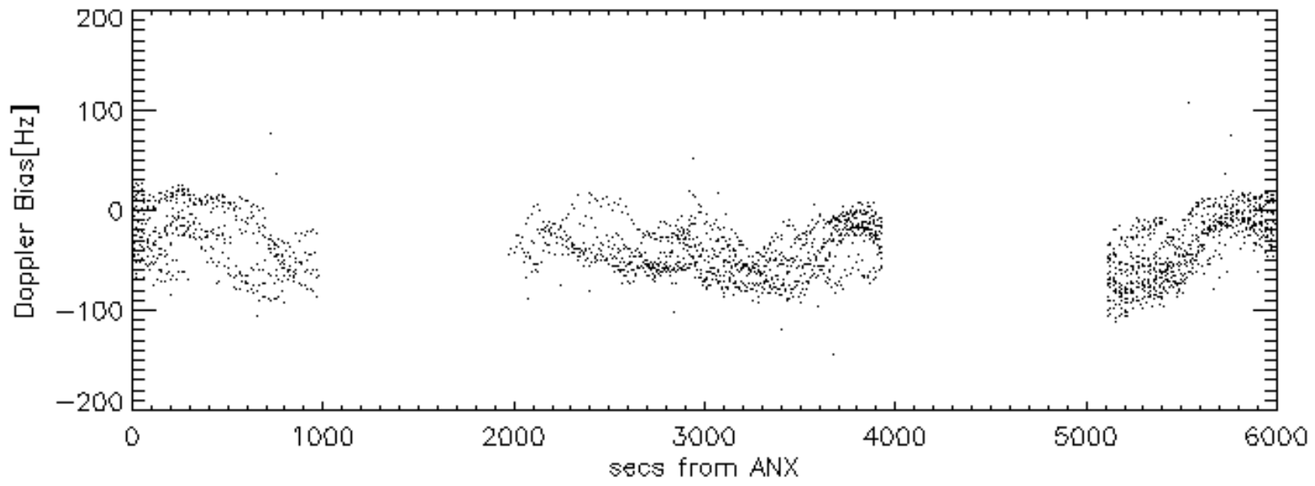

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

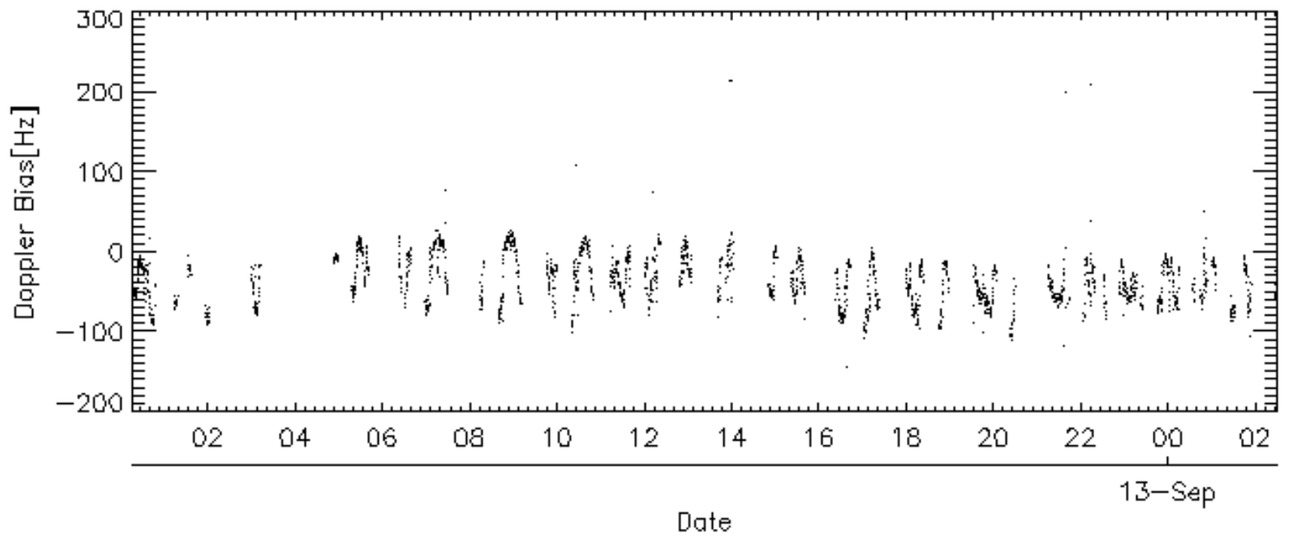

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

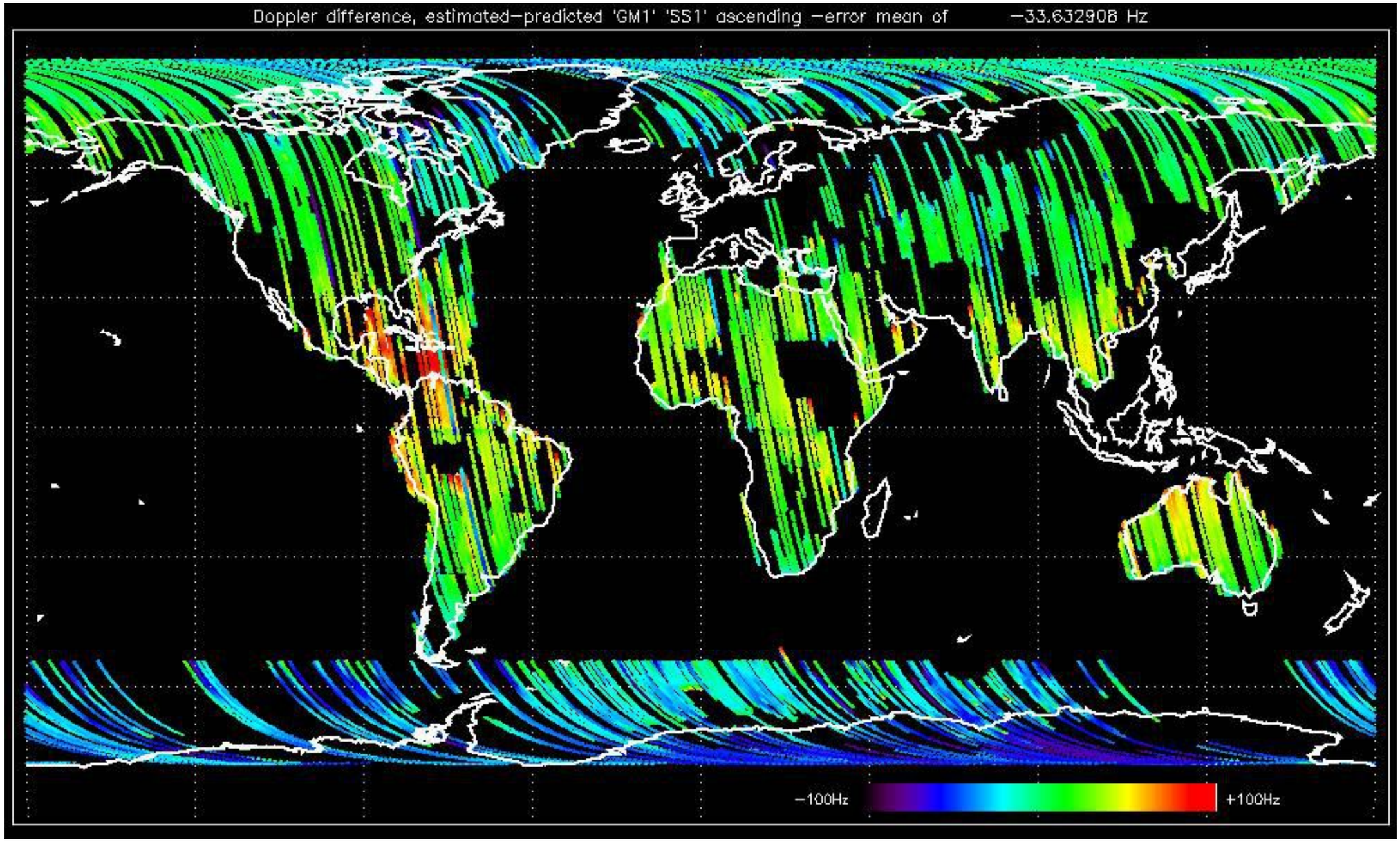

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

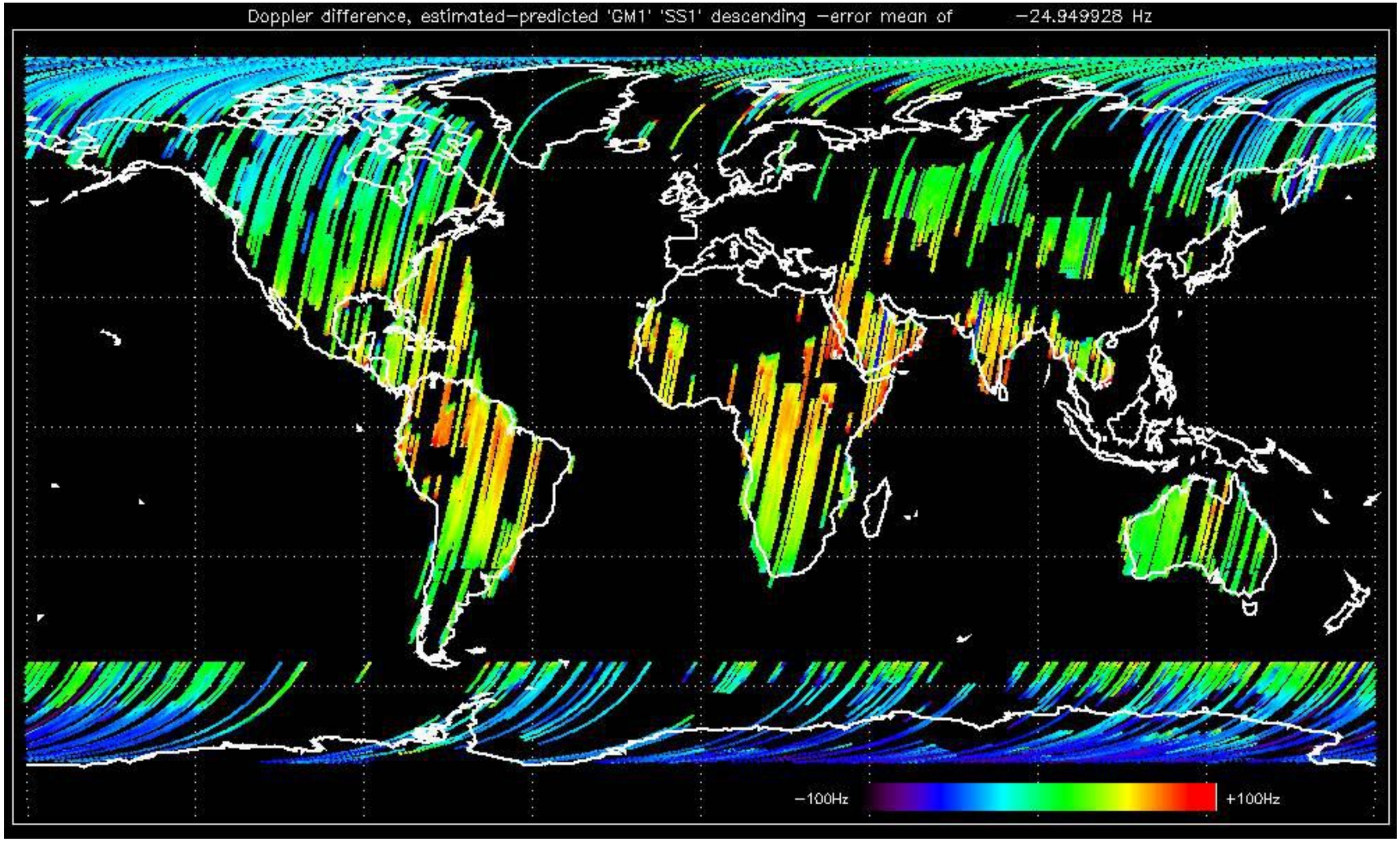

Doppler Bias[Hz]
100
50
0
−50
−100
−150
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
13−Sep
Date

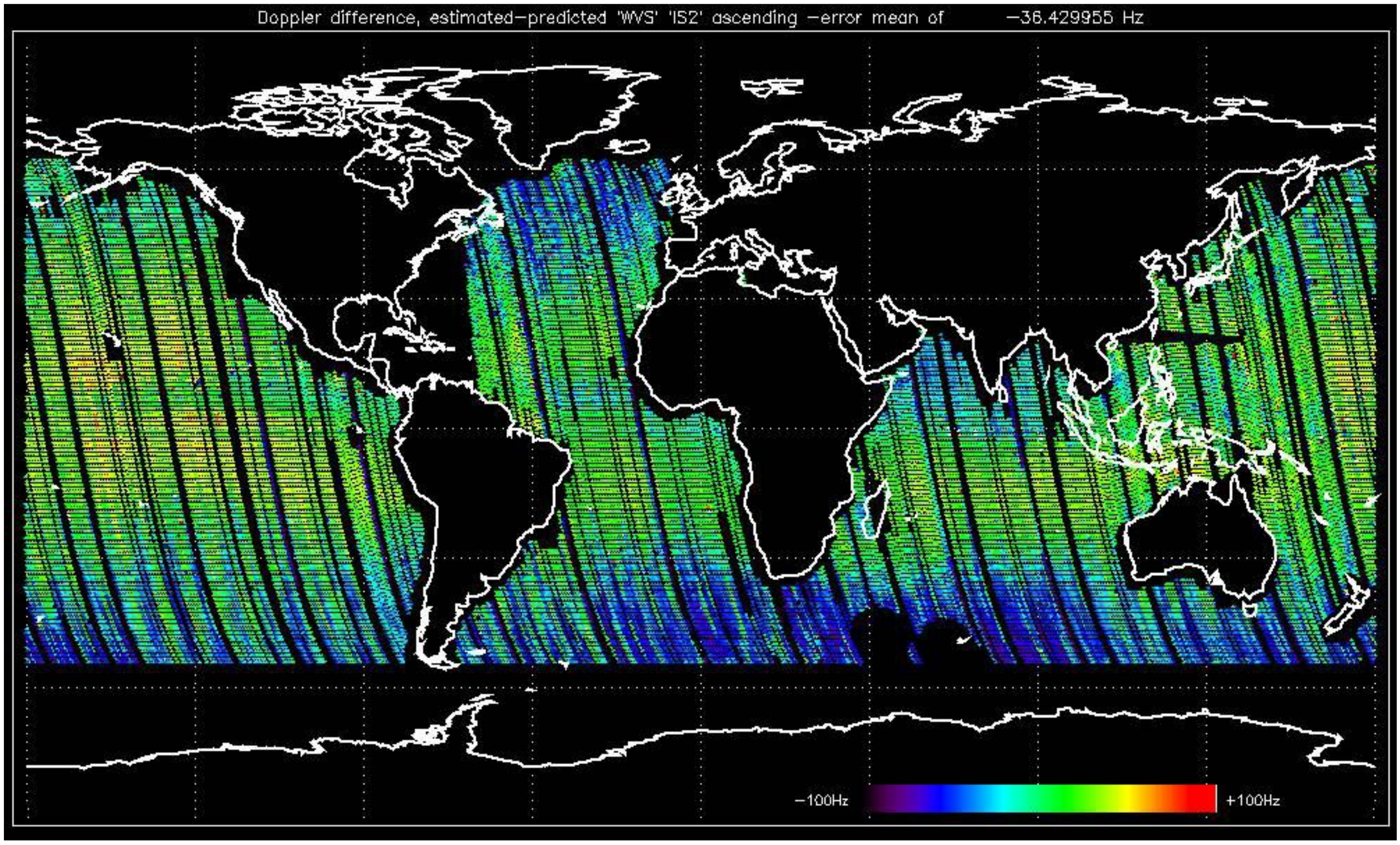

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

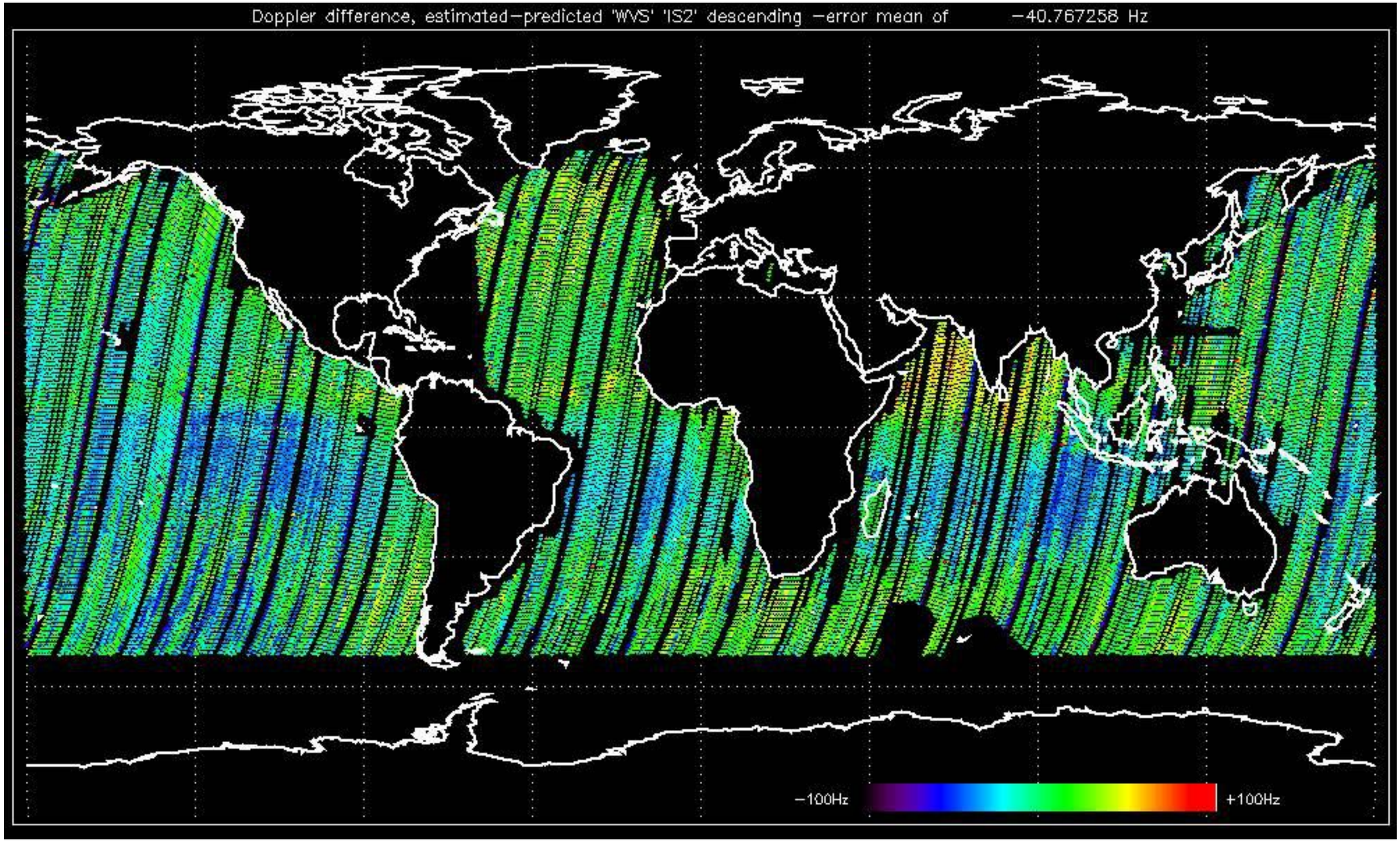

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −33.632908 Hz
−100Hz
+100Hz


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -24.949928 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −36.429955 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −40.767258 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2005-09-12 05:00:37 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
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-09-12 05:00:37 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
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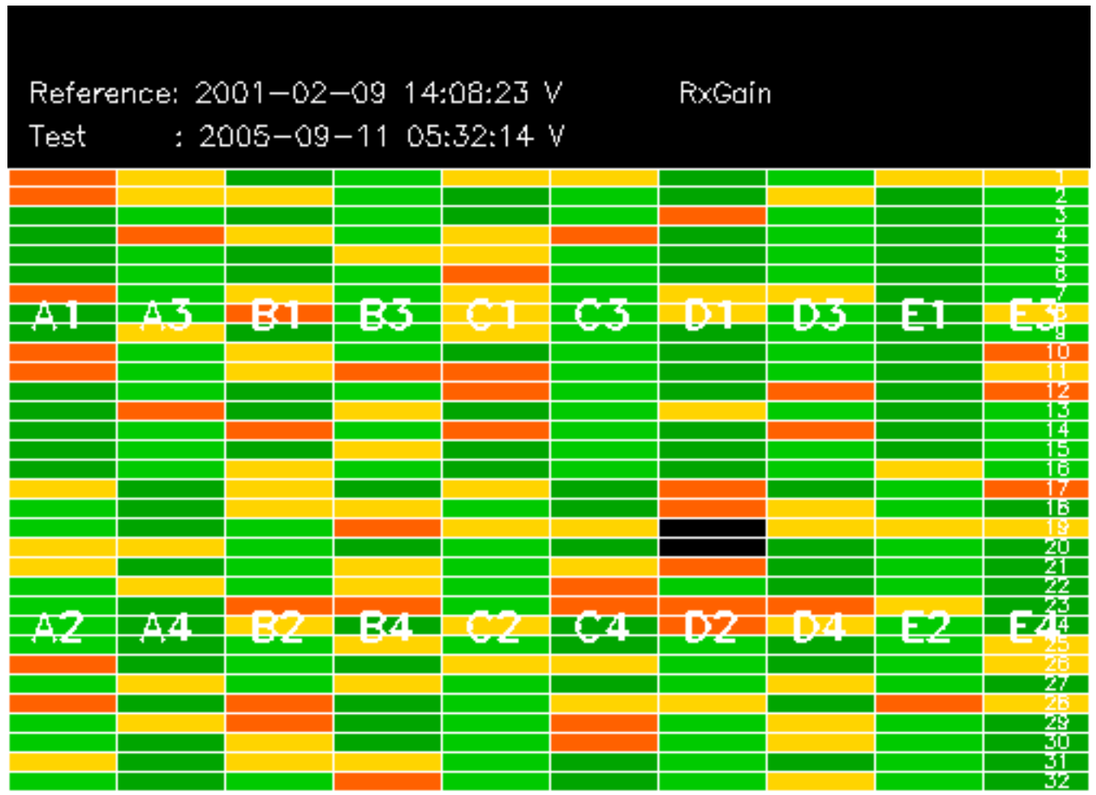
Reference: 2001-02-09 14:08:23 V
Test : 2005-09-11 05:32:14 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
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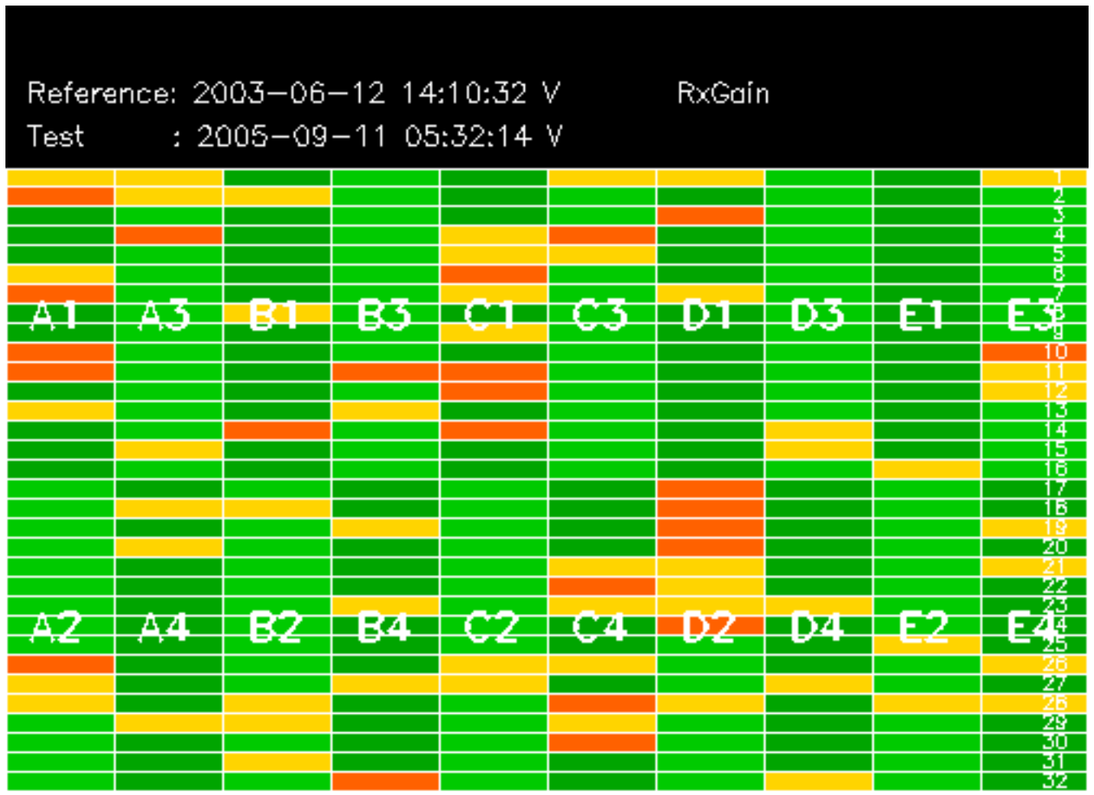
Reference: 2003-06-12 14:10:32 V
Test : 2005-09-11 05:32:14 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
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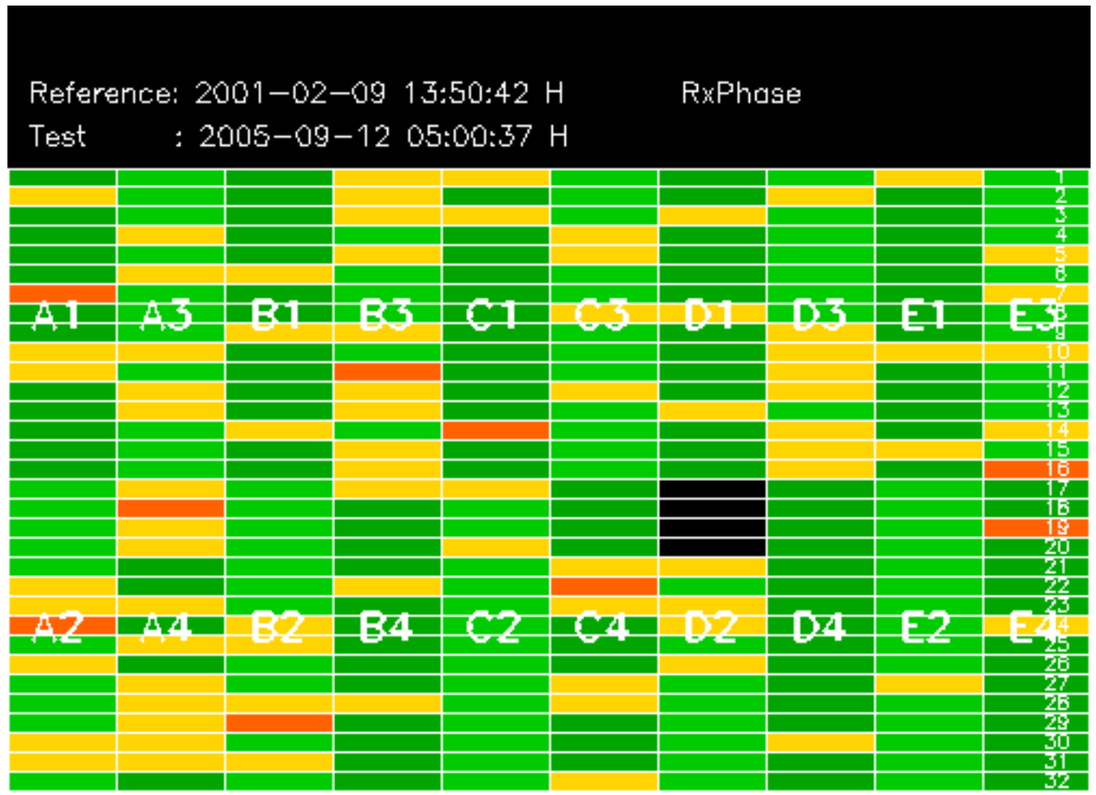
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-09-12 05:00:37 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-09-12 05:00:37 H
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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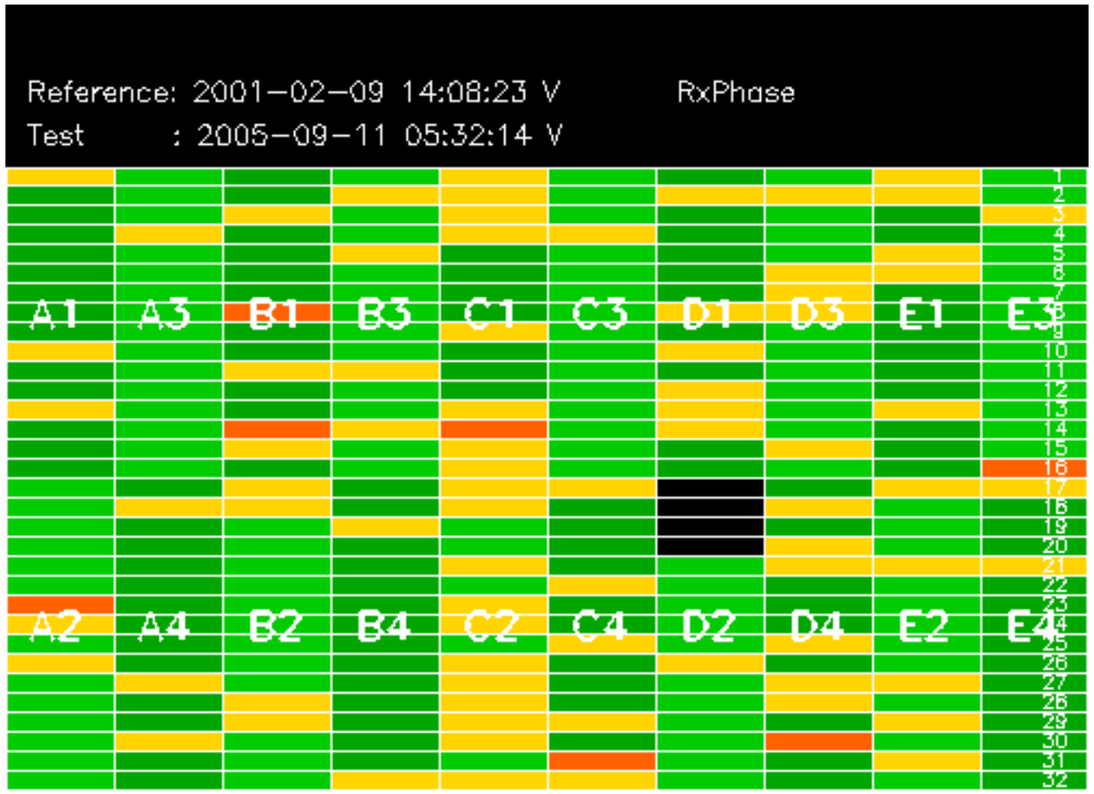
Reference: 2001-02-09 14:08:23 V
Test : 2005-09-11 05:32:14 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
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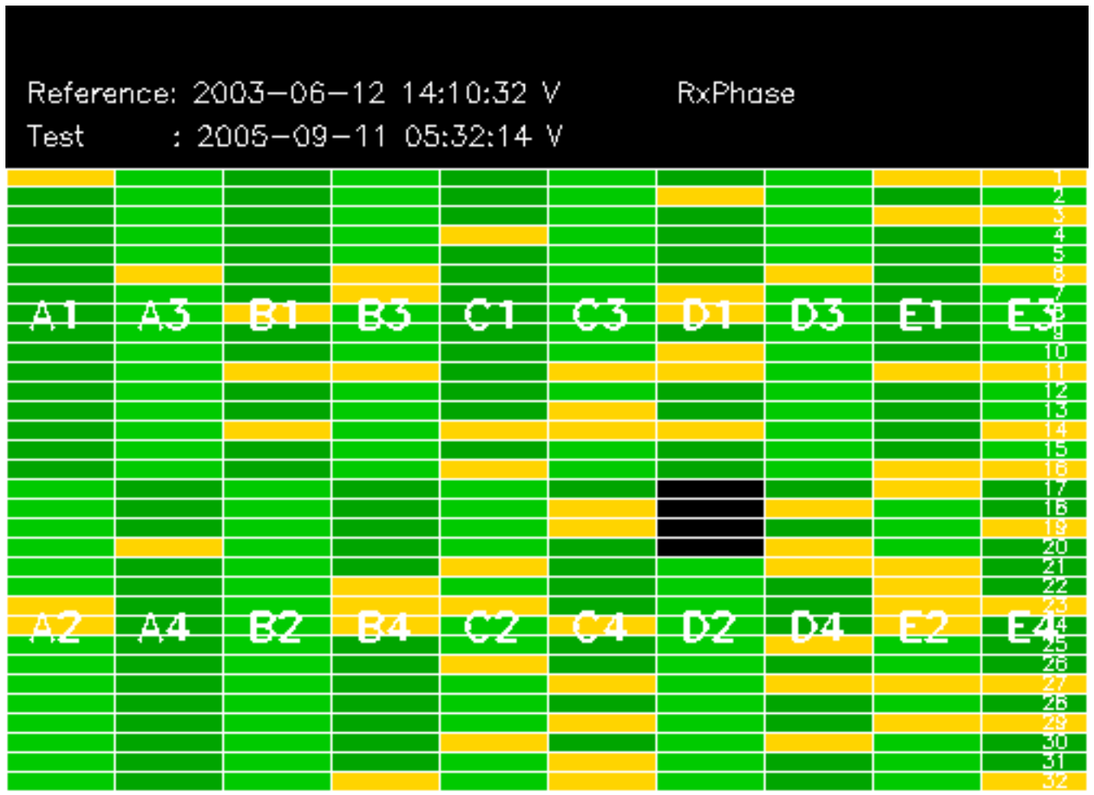
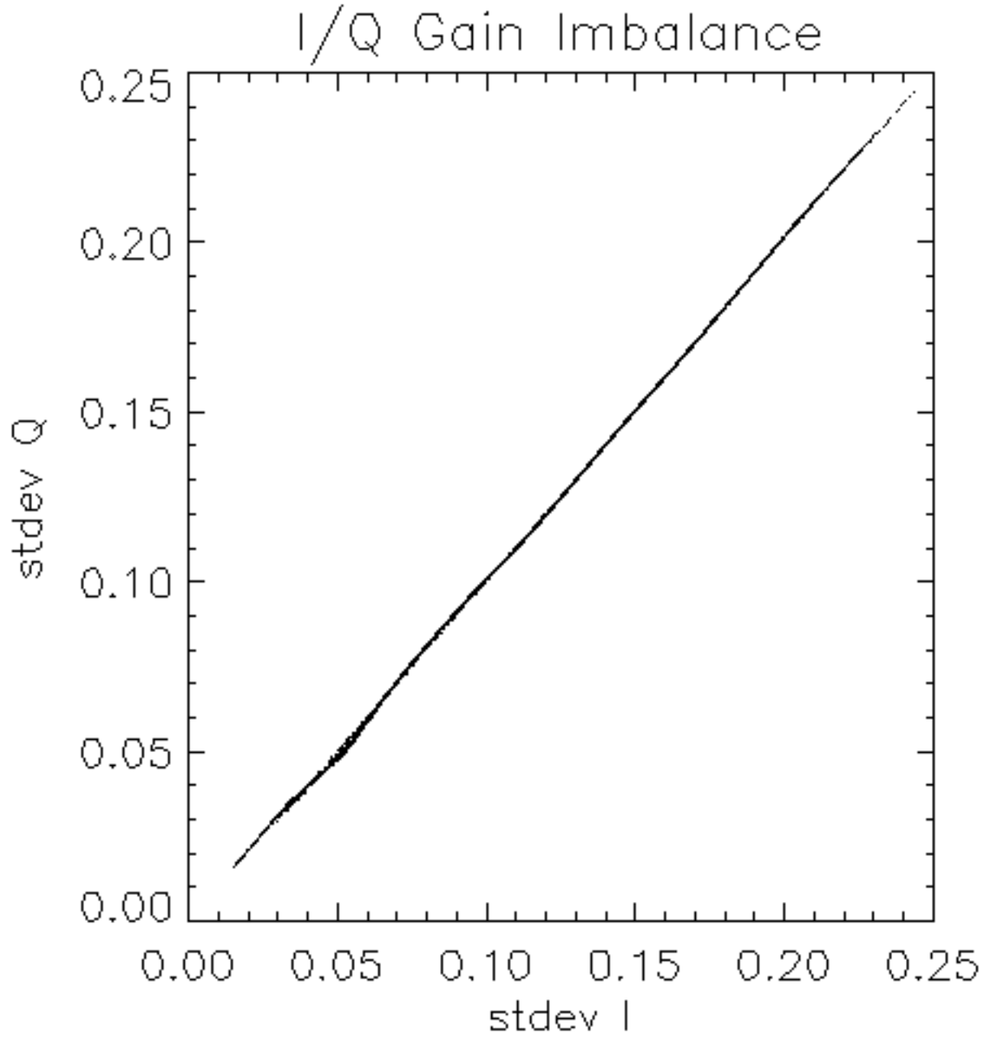
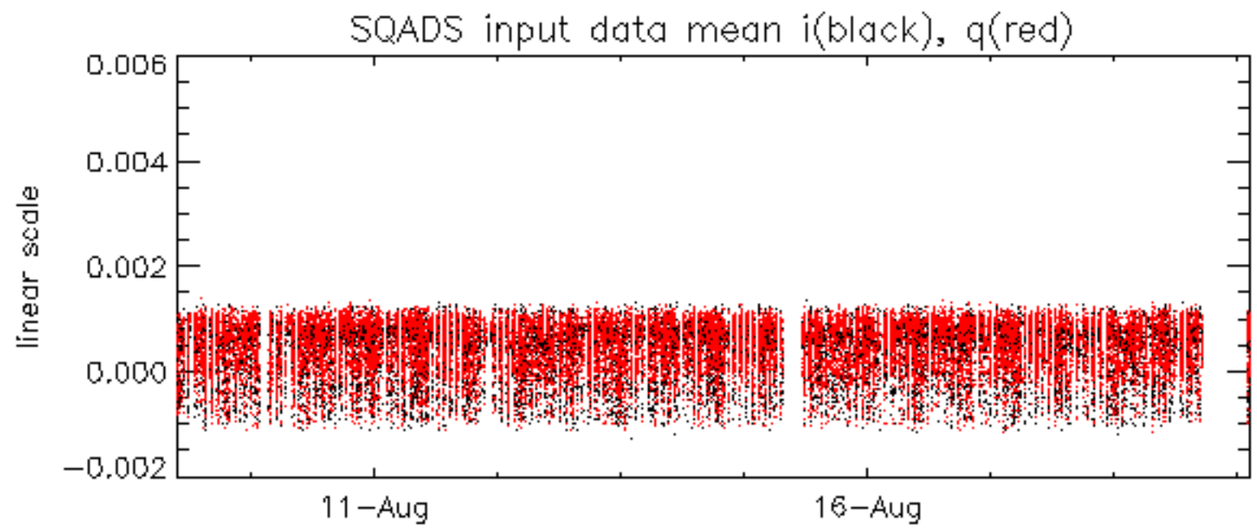
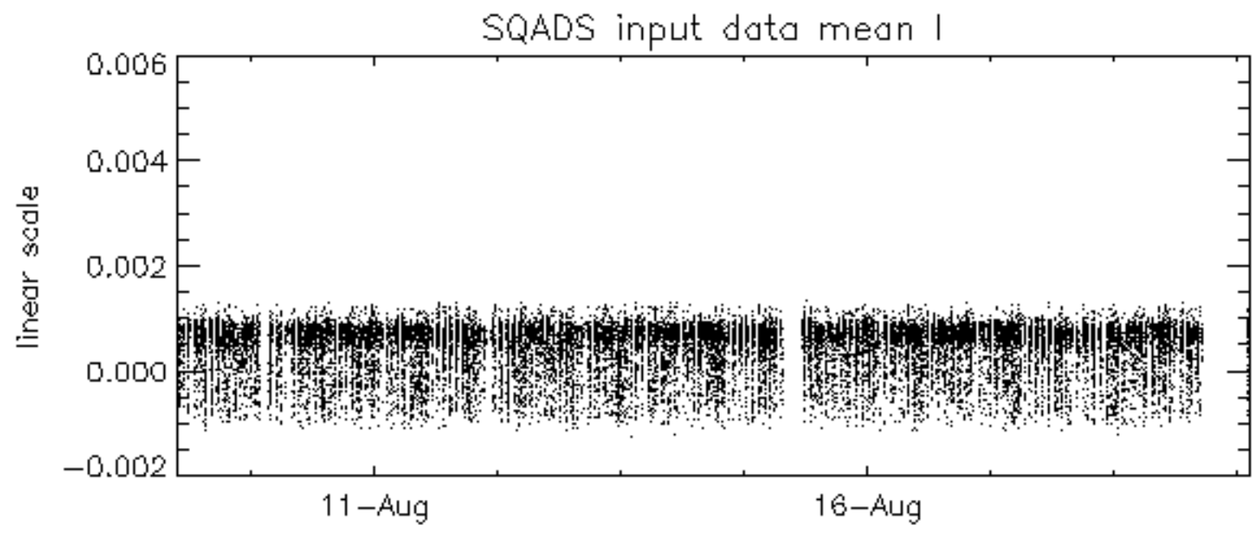
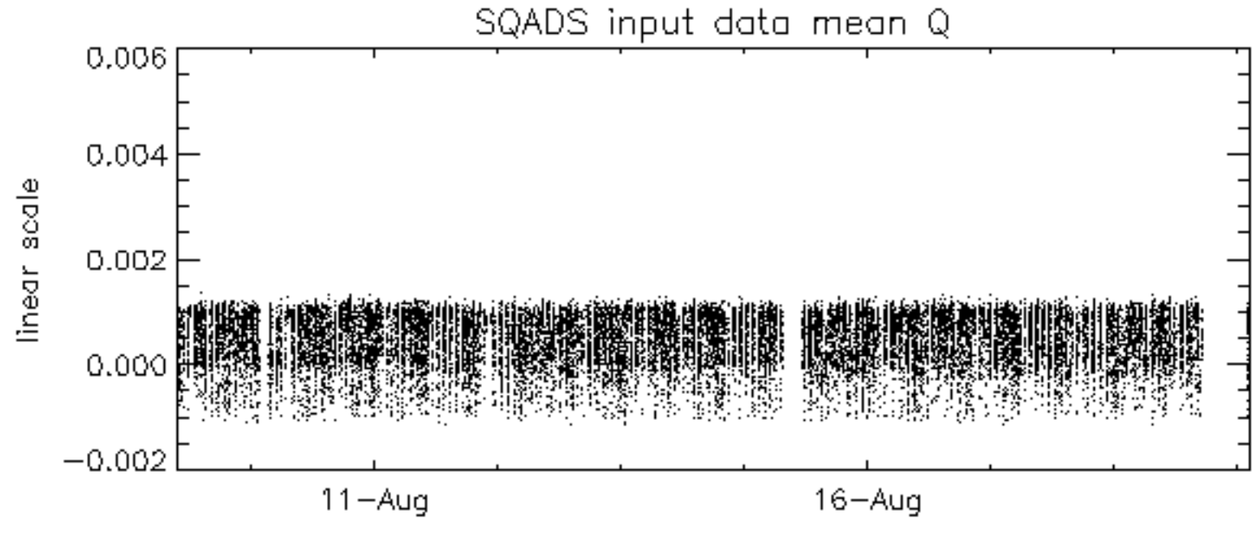
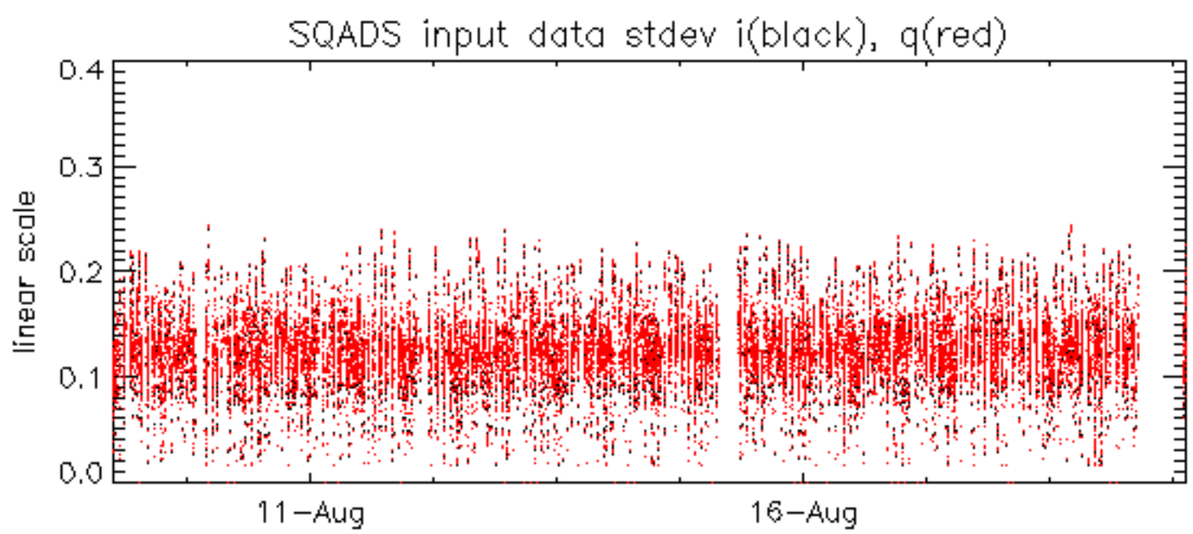

Reference: 2003-06-12 14:10:32 V
Test : 2005-09-11 05:32:14 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

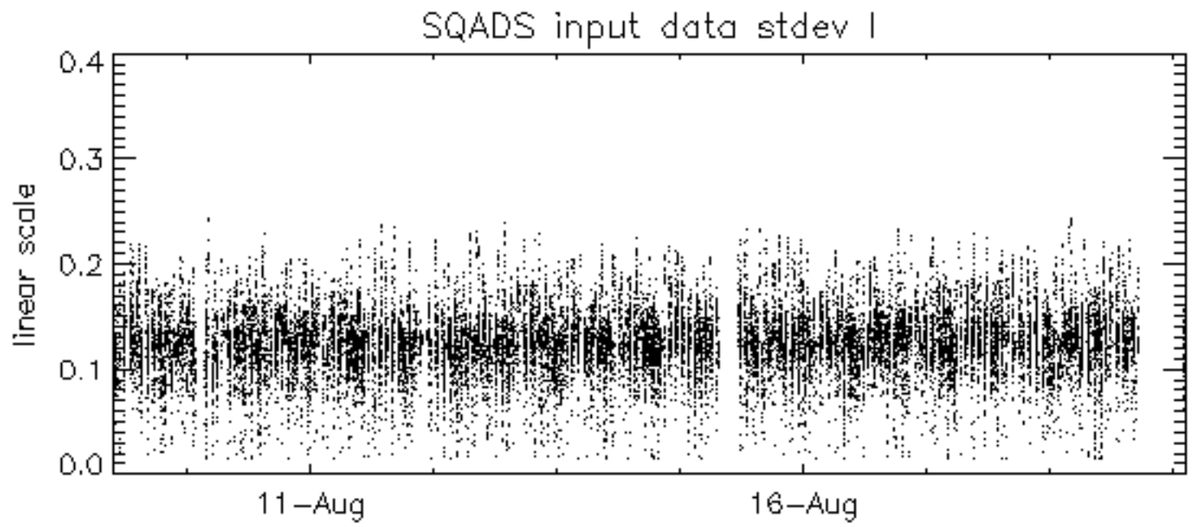

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

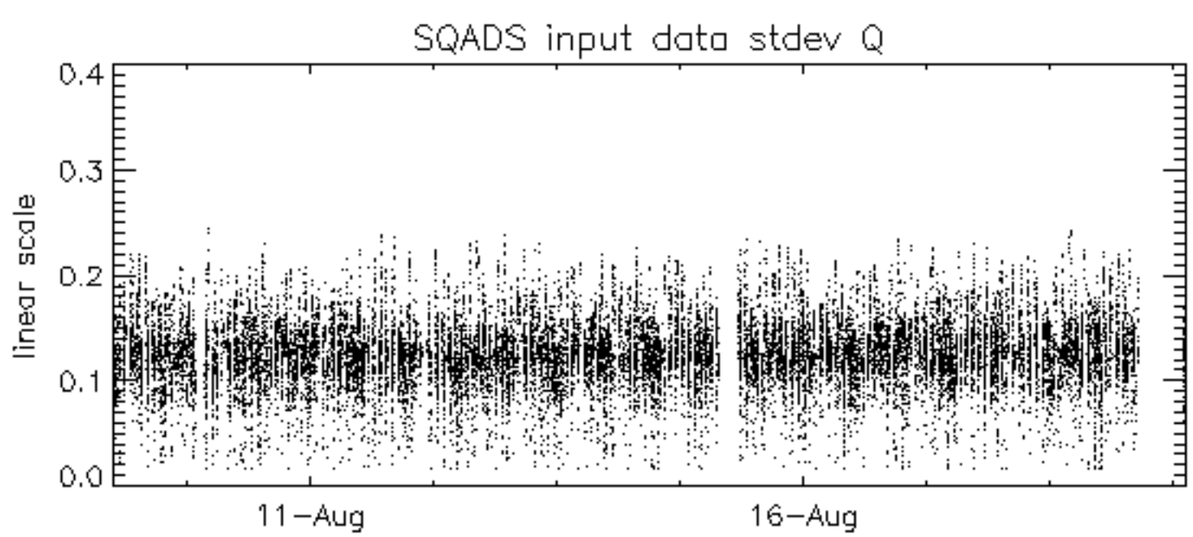

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Aug
16−Aug

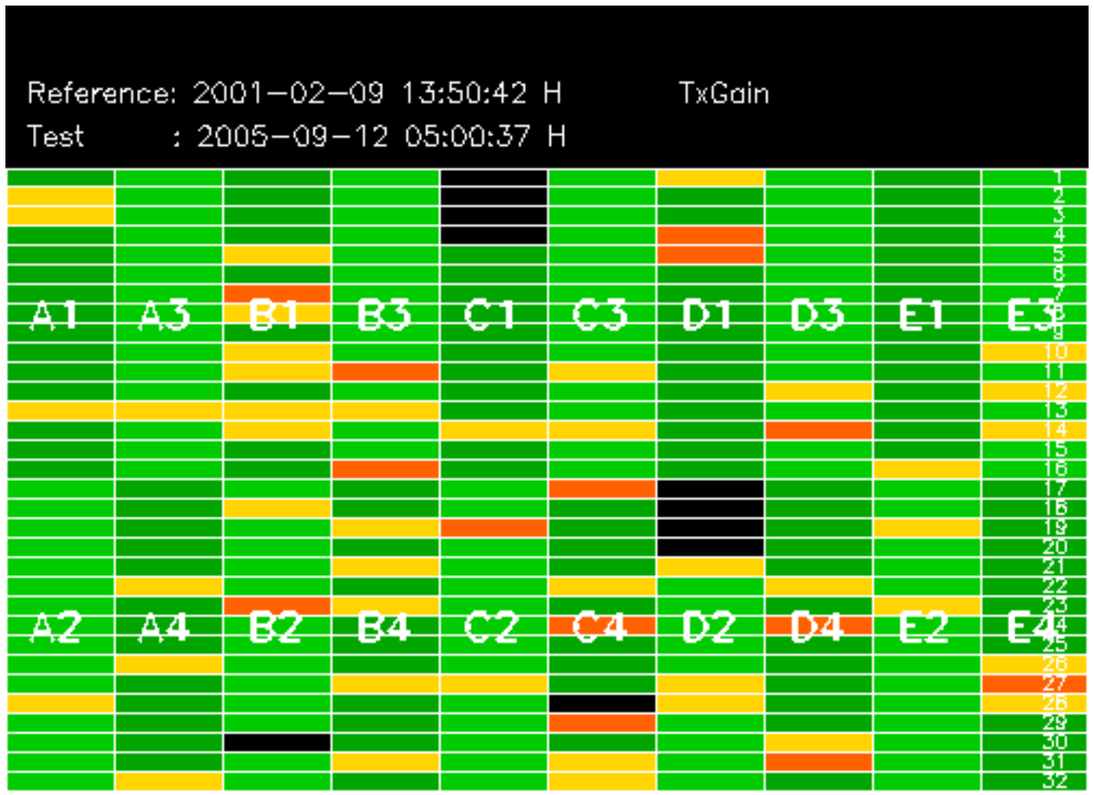

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Aug
16−Aug

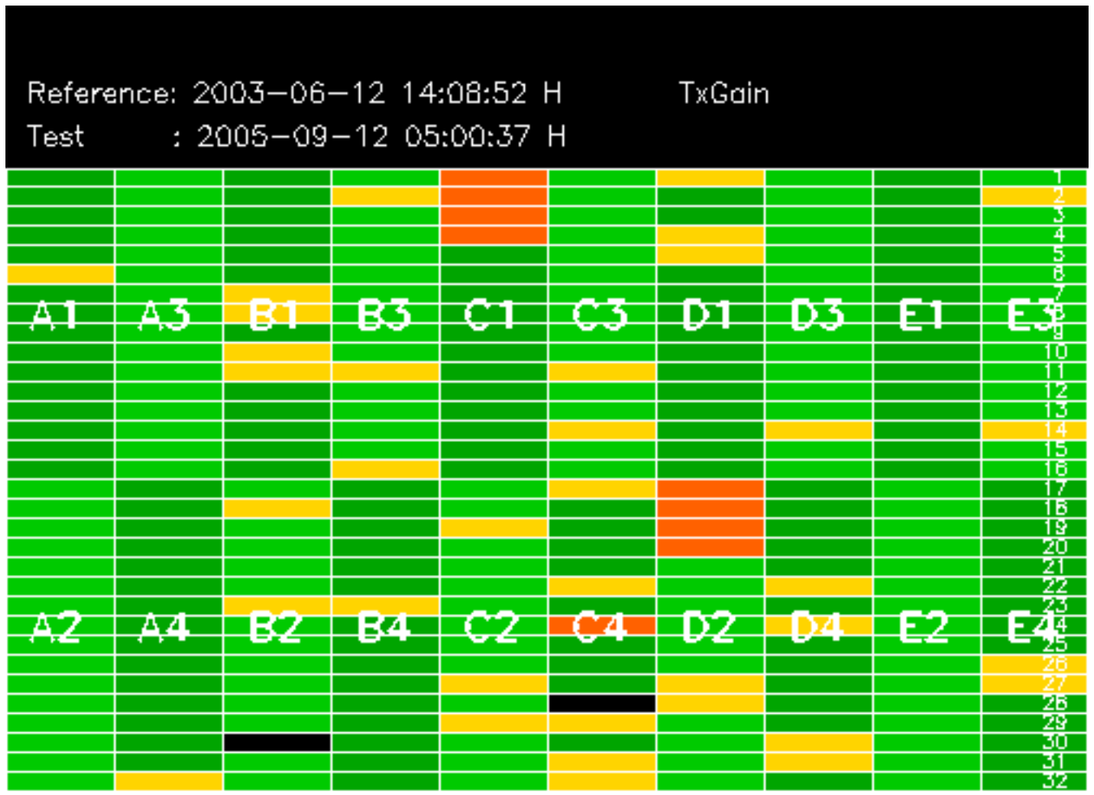

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Aug
16−Aug


SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
11-Aug
16-Aug


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
11-Aug
16-Aug


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
11-Aug
16-Aug


Reference: 2001-02-09 13:50:42 H
Test : 2005-09-12 05:00:37 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2005-09-12 05:00:37 H
TxGain
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 : 2005-09-11 05:32:14 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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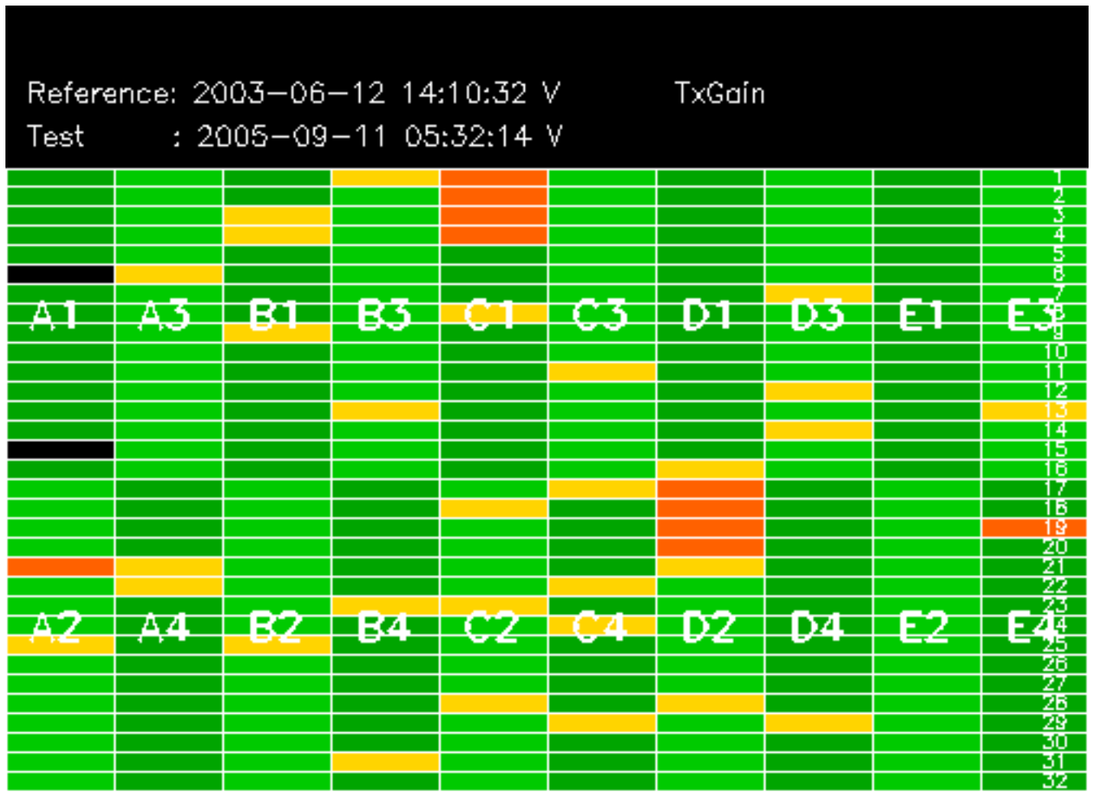
Reference: 2003-06-12 14:10:32 V
Test : 2005-09-11 05:32:14 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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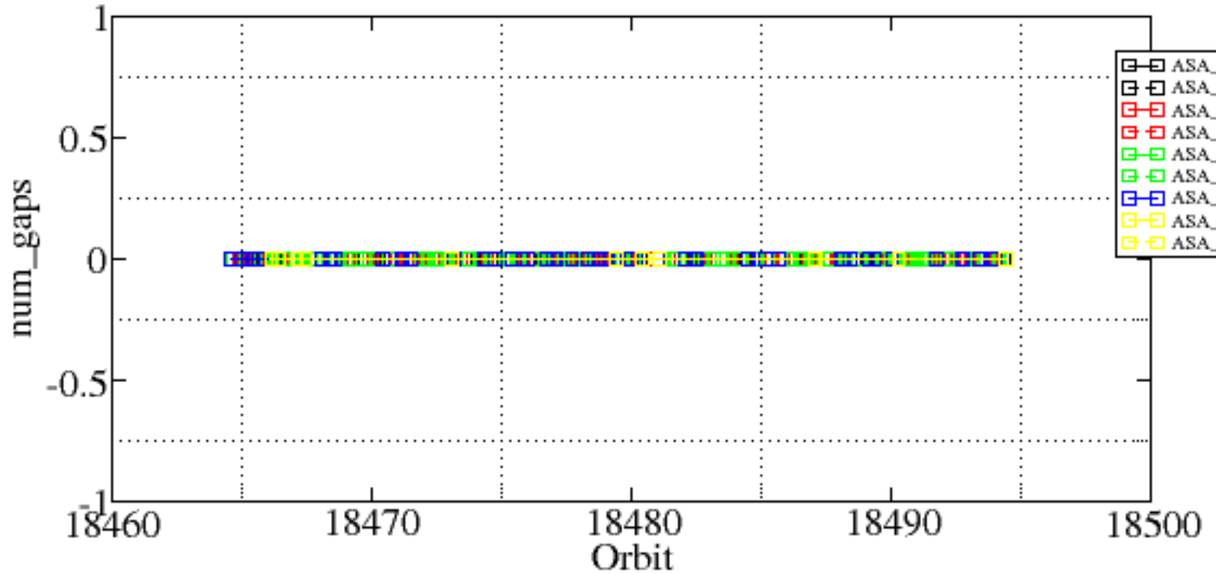
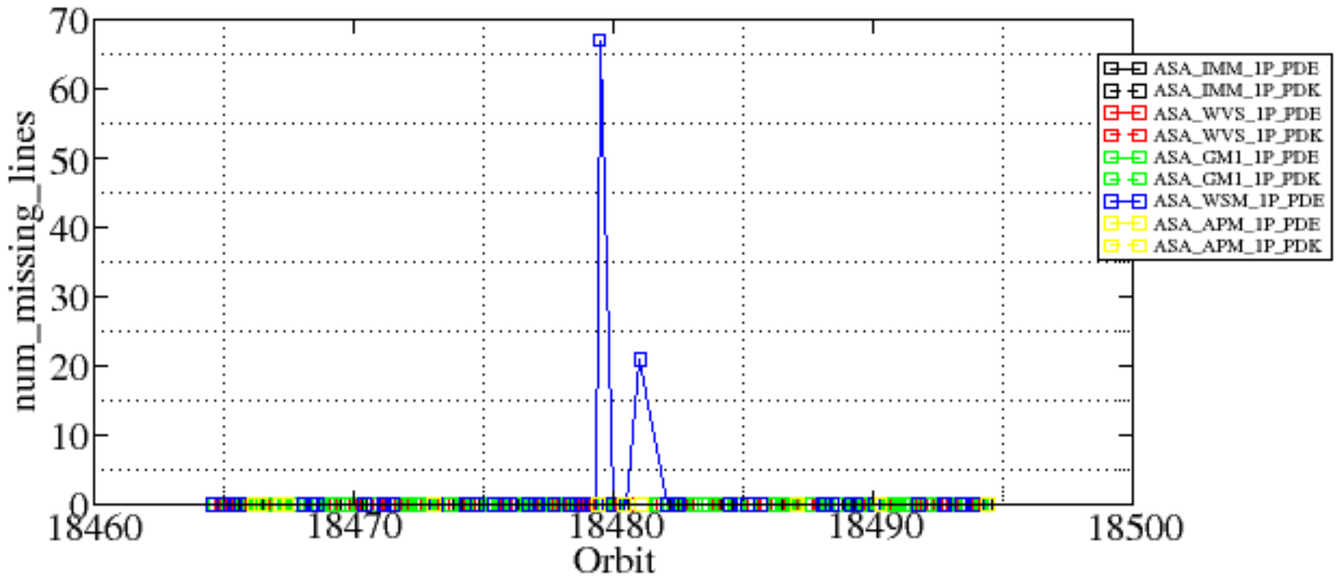
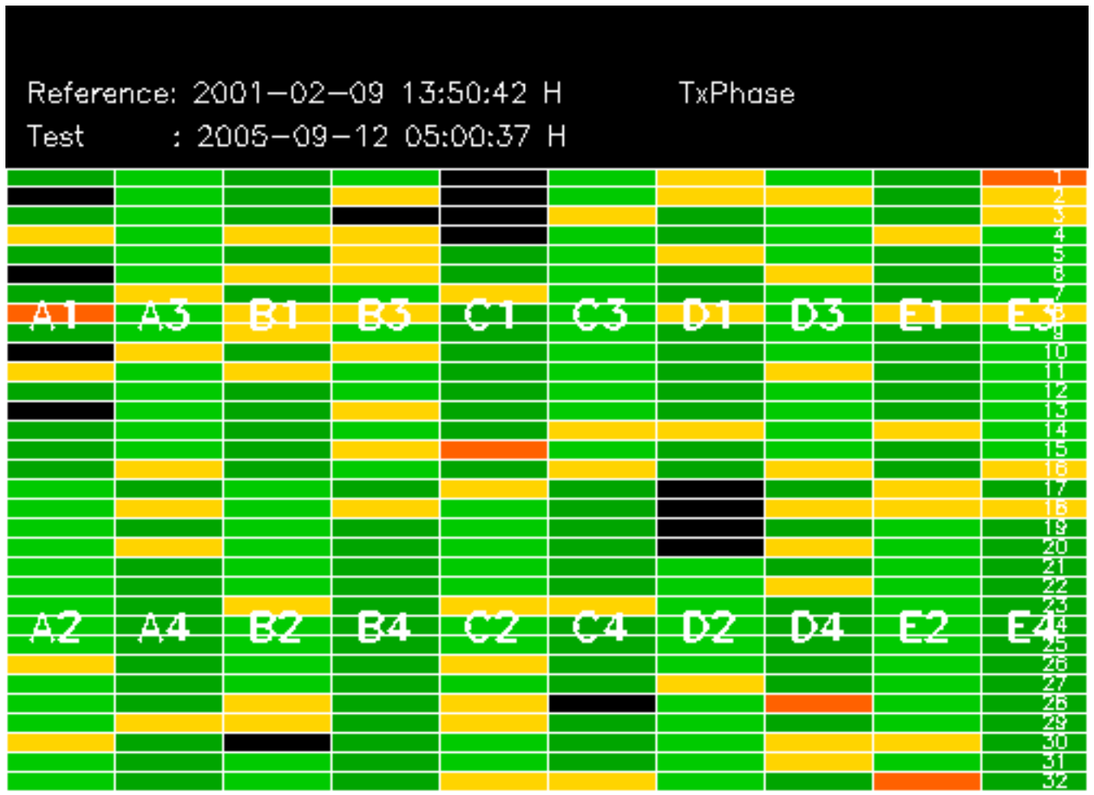
Summary of analysis for the last 3 days 2005091[123]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_WSM_1PNPDE20050912_011917_000003912040_00389_18479_8359.N1 </td> <td>0 </td> <td>67 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20050912_035553_000001642040_00391_18481_8375.N1 </td> <td>0 </td> <td>21 </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
18460
18470
18480
18490
18500
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
70
60
50
40
30
20
10
0
18460
18470
18480
18490
18500
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
TxPhase
Test : 2005-09-12 05:00:37 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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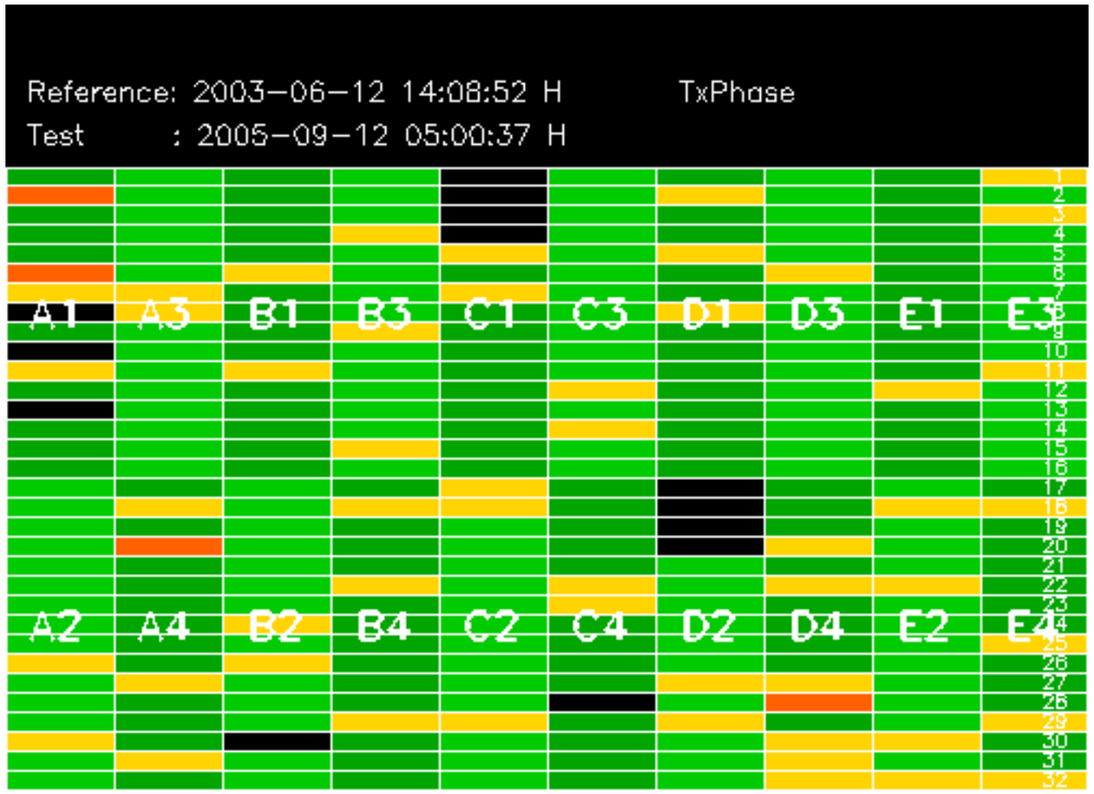
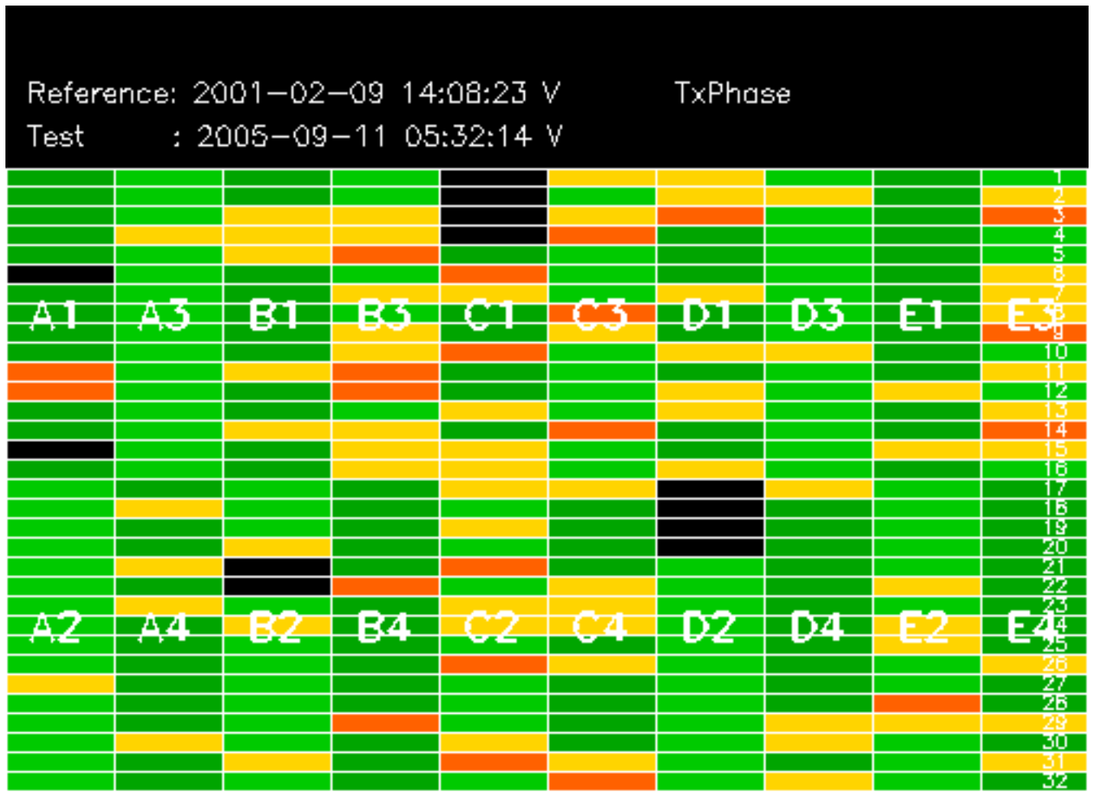

Reference: 2003-06-12 14:08:52 H
Test : 2005-09-12 05:00:37 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2005-09-11 05:32:14 V
TxPhase
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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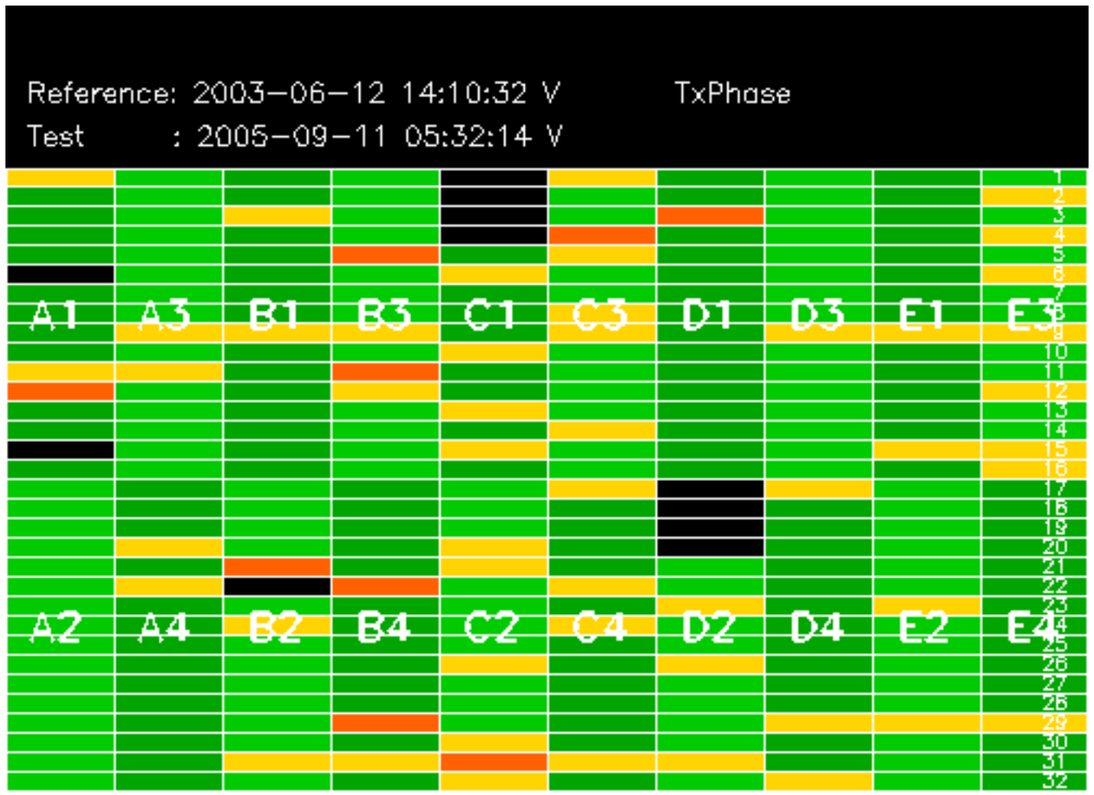
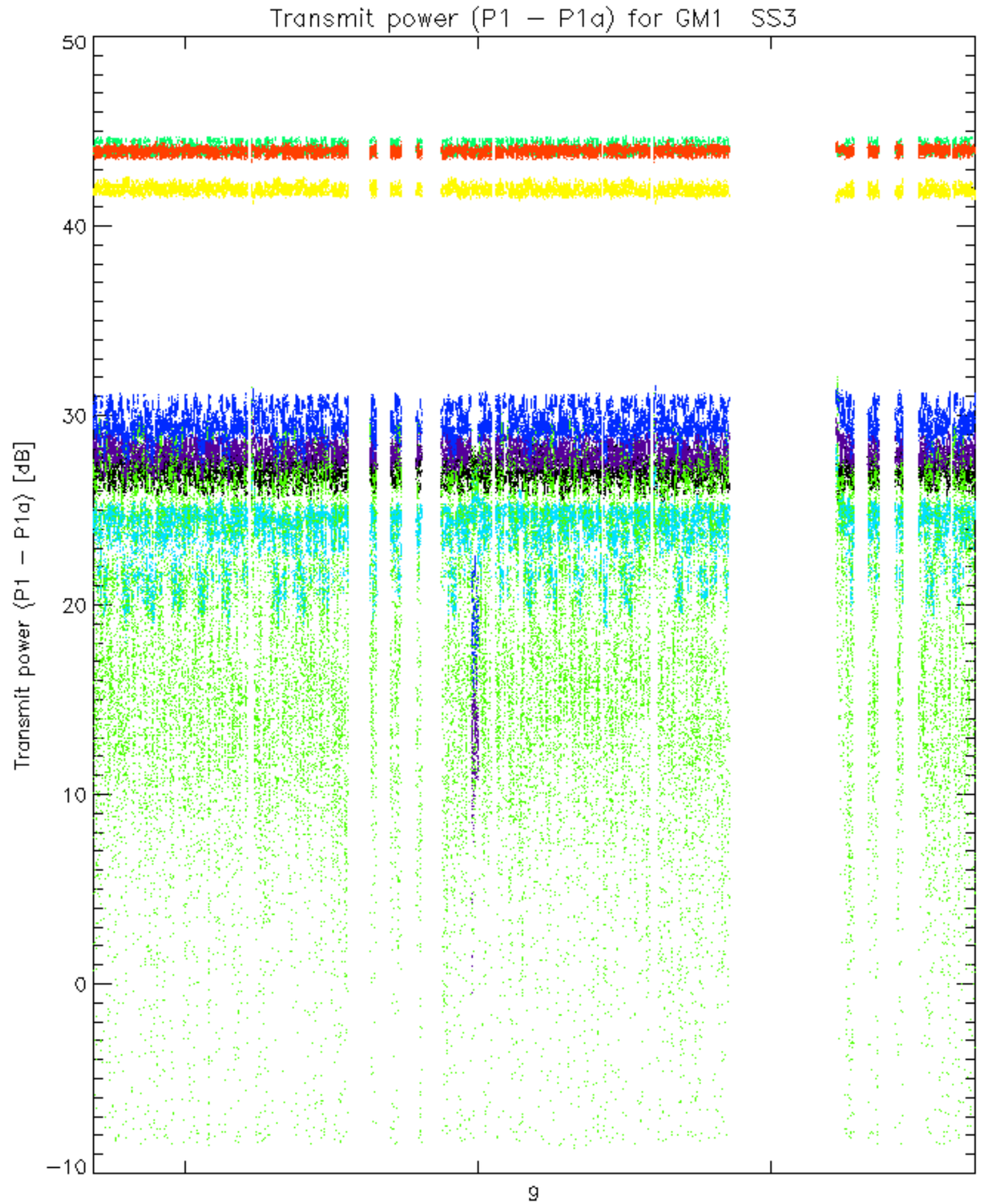
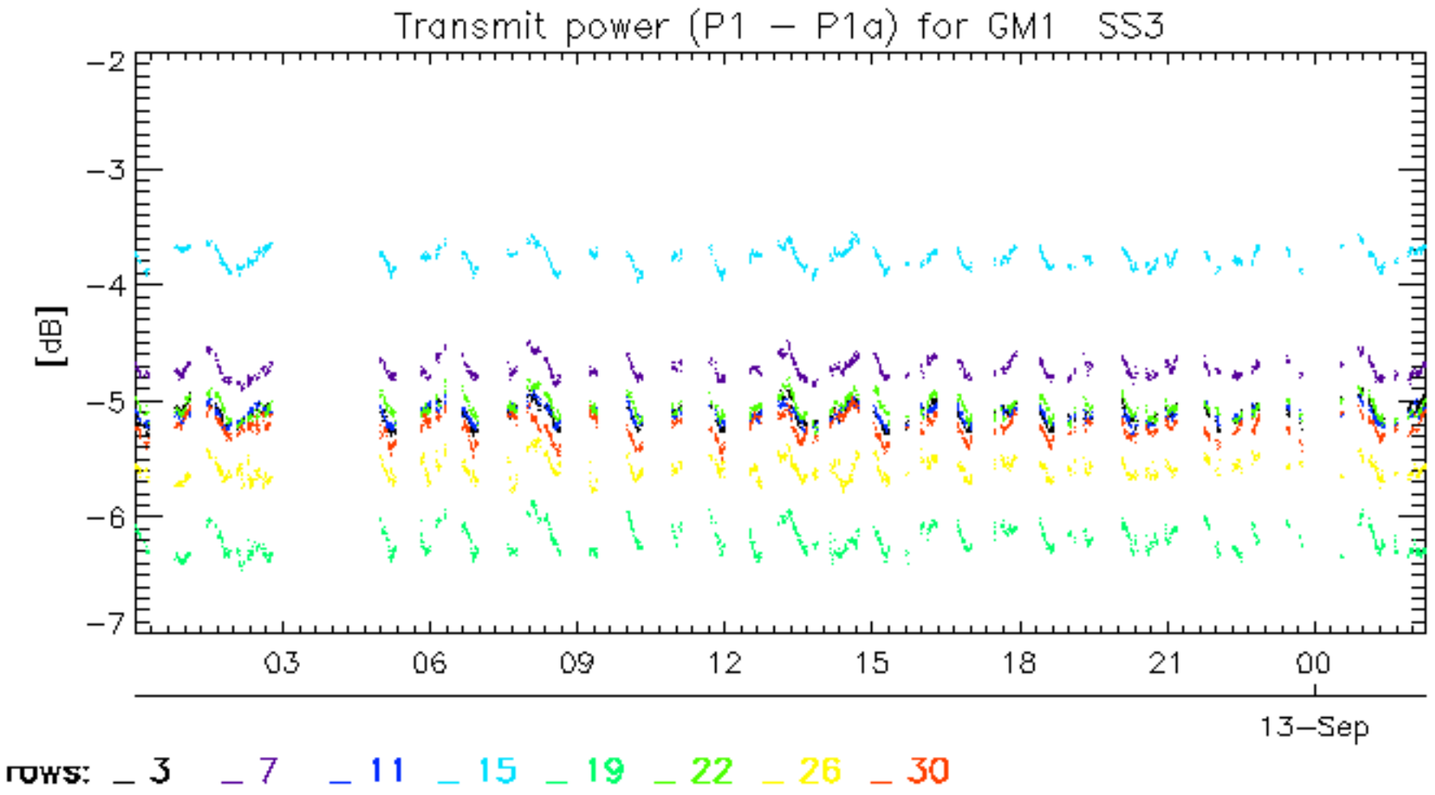
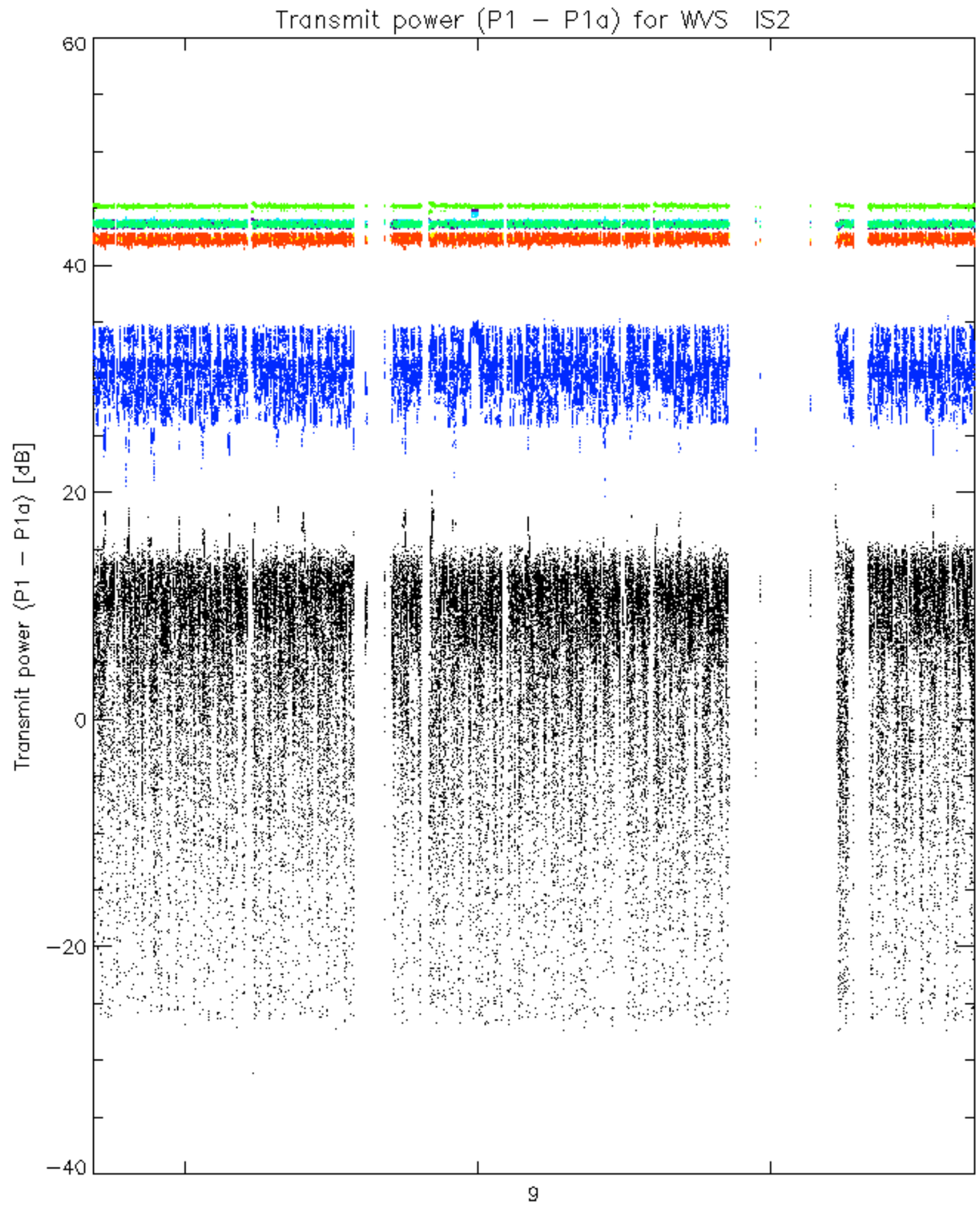
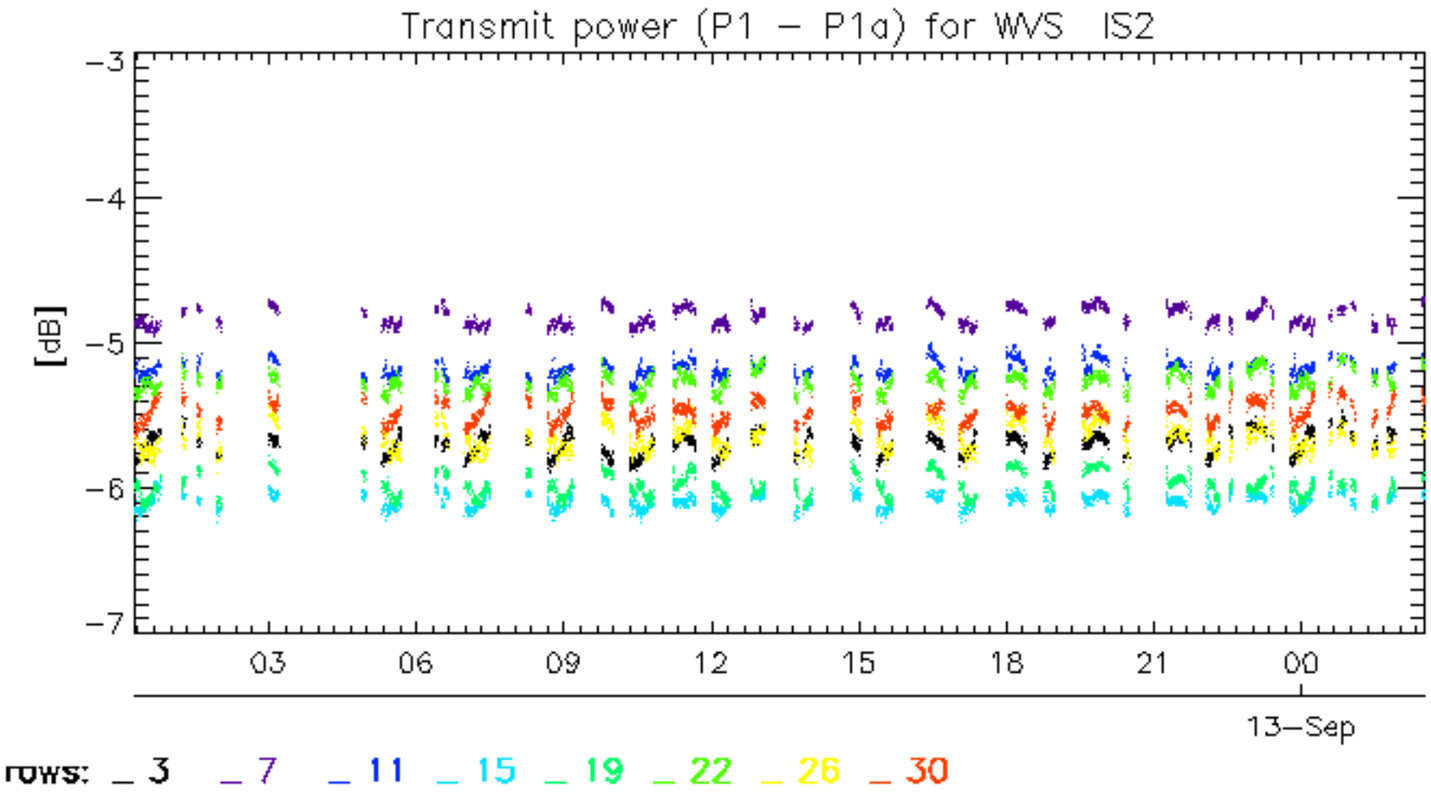

Reference: 2003-06-12 14:10:32 V
Test : 2005-09-11 05:32:14 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
9
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
13–Sep
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]
9
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
[dB]
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
13–Sep
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.