PRELIMINARY REPORT OF 050905

last update on Mon Sep 5 10:50:00 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 2005-09-04 00:00:00 to 2005-09-05 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	10	31	14	1	19
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	10	31	14	1	19
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	10	31	14	1	19
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	10	31	14	1	19

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	35	61	42	13	49
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	35	61	42	13	49
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	35	61	42	13	49
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	35	61	42	13	49

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	20050904 023109
H	20050903 030246

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	-3.301113	0.027518	0.077972
7	P1	-3.179537	0.024534	0.016241
11	P1	-4.727097	0.033266	-0.021376
15	P1	-5.623854	0.050134	-0.016906
19	P1	-3.816431	0.004273	-0.013226
22	P1	-4.618152	0.011664	-0.000351
26	P1	-4.825135	0.023035	0.005302
30	P1	-7.252246	0.025791	-0.073876
3	P1	-15.540355	0.072995	-0.010297
7	P1	-15.560389	0.145059	-0.136664
11	P1	-21.809868	0.358474	-0.055525
15	P1	-11.316648	0.125205	-0.088223
19	P1	-14.520602	0.034371	-0.024044
22	P1	-15.542391	0.327154	0.250111
26	P1	-17.252575	0.172512	0.150108
30	P1	-17.868515	0.304492	-0.128481

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.741323	0.086695	0.118989
7	P2	-21.880468	0.101635	0.155747
11	P2	-13.443379	0.113517	0.205842
15	P2	-7.045806	0.093677	0.034896
19	P2	-9.581315	0.097885	0.033253
22	P2	-16.806696	0.100760	0.041382
26	P2	-16.503407	0.100825	0.020300
30	P2	-18.804260	0.088676	0.005782

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.156360	0.003620	0.004782
7	P3	-8.156360	0.003620	0.004782
11	P3	-8.156360	0.003620	0.004782
15	P3	-8.156360	0.003620	0.004782
19	P3	-8.156360	0.003620	0.004782
22	P3	-8.156360	0.003620	0.004782
26	P3	-8.156365	0.003620	0.004782
30	P3	-8.156365	0.003620	0.004782

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	-2.802250	0.093407	0.110347
7	P1	-2.972796	0.066433	0.088448
11	P1	-4.037077	0.026170	-0.033754
15	P1	-3.640850	0.062933	0.035125
19	P1	-3.632086	0.013974	-0.004378
22	P1	-5.707749	0.041616	-0.036843
26	P1	-7.361365	0.030117	0.018781
30	P1	-6.292796	0.070499	0.024461
3	P1	-10.954383	0.053219	-0.022086
7	P1	-10.491068	0.169146	-0.017962
11	P1	-12.662263	0.099076	-0.049346
15	P1	-11.632812	0.122205	-0.114760
19	P1	-15.463686	0.054605	0.036427
22	P1	-25.448238	1.997219	0.320115
26	P1	-15.194633	0.237179	0.191007
30	P1	-20.086546	1.341469	0.099640

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.450281	0.048530	0.150270
7	P2	-21.984924	0.035310	0.079257
11	P2	-9.490738	0.067590	0.176909
15	P2	-5.080039	0.037815	0.042021
19	P2	-6.849577	0.058142	0.061183
22	P2	-7.027341	0.041252	0.048708
26	P2	-23.949509	0.035224	0.028226
30	P2	-21.930817	0.042529	0.033269

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.000134	0.004152	-0.003624
7	P3	-8.000232	0.004149	-0.003672
11	P3	-8.000177	0.004148	-0.003632
15	P3	-8.000119	0.004157	-0.003770
19	P3	-8.000152	0.004154	-0.003580
22	P3	-8.000120	0.004153	-0.003636
26	P3	-8.000027	0.004150	-0.003772
30	P3	-8.000029	0.004147	-0.003364

4.3 - cal pulses monitoring (all rows)

4.3.1 - Evolution for WVS

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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	0.000438568
	stdev	2.30218e-07
MEAN Q	mean	0.000468615
	stdev	2.37545e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.126883
	stdev	0.00100885
STDEV Q	mean	0.127139
	stdev	0.00101851

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005090[345]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_WSM_1PNPDE20050904_231423_000001462040_00288_18378_7371.N1	0	42

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

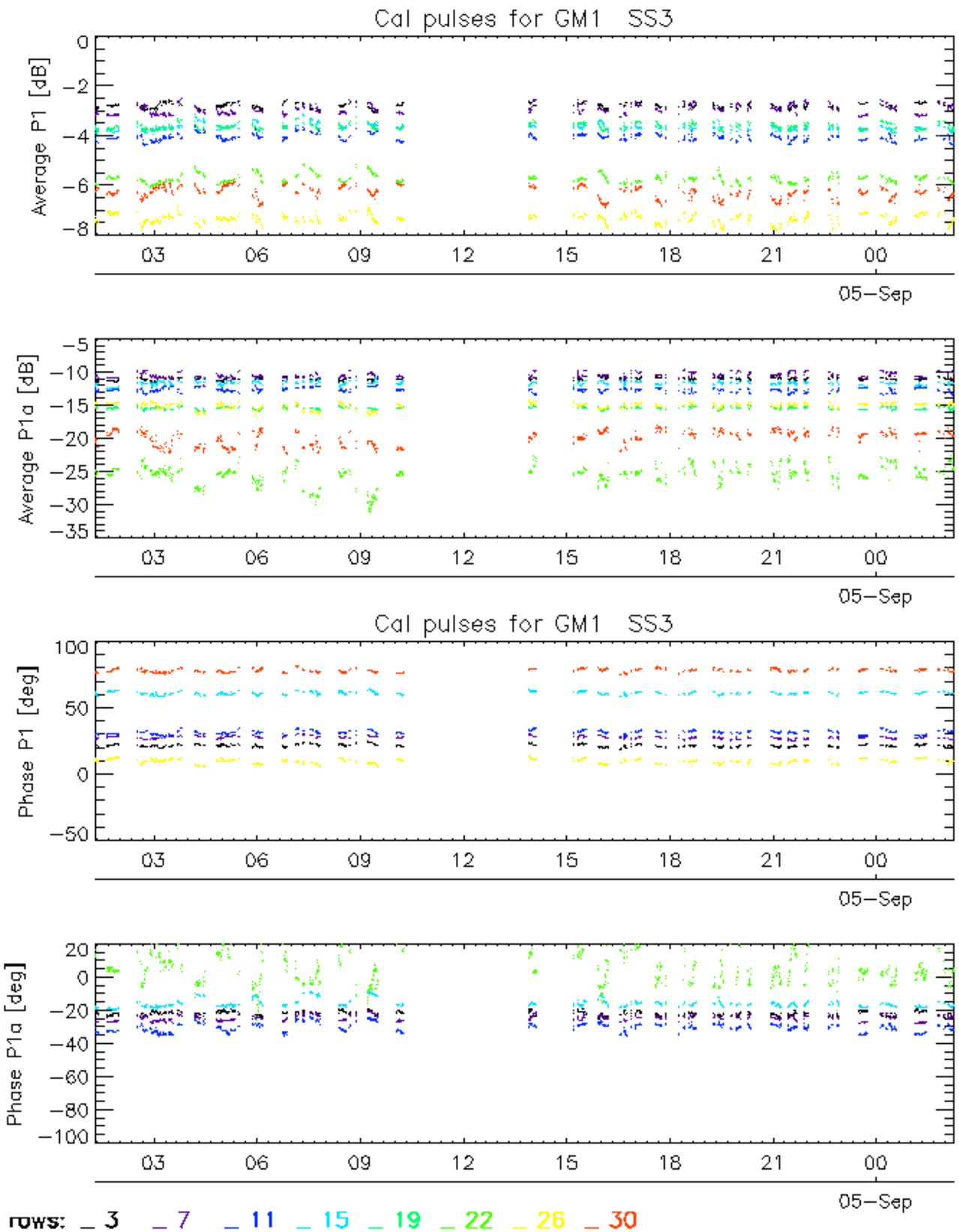
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

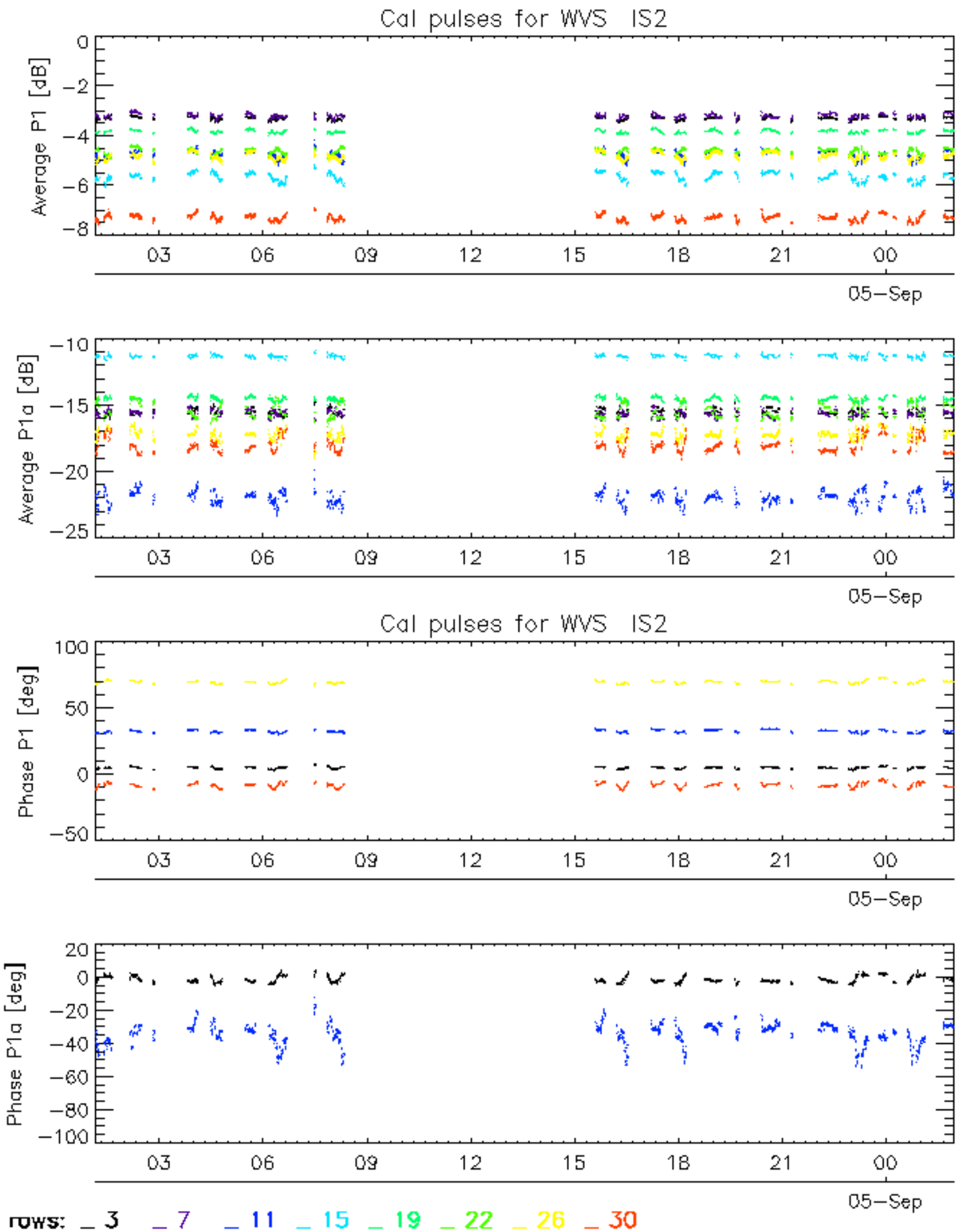
7.5 - Absolute Doppler for GM1

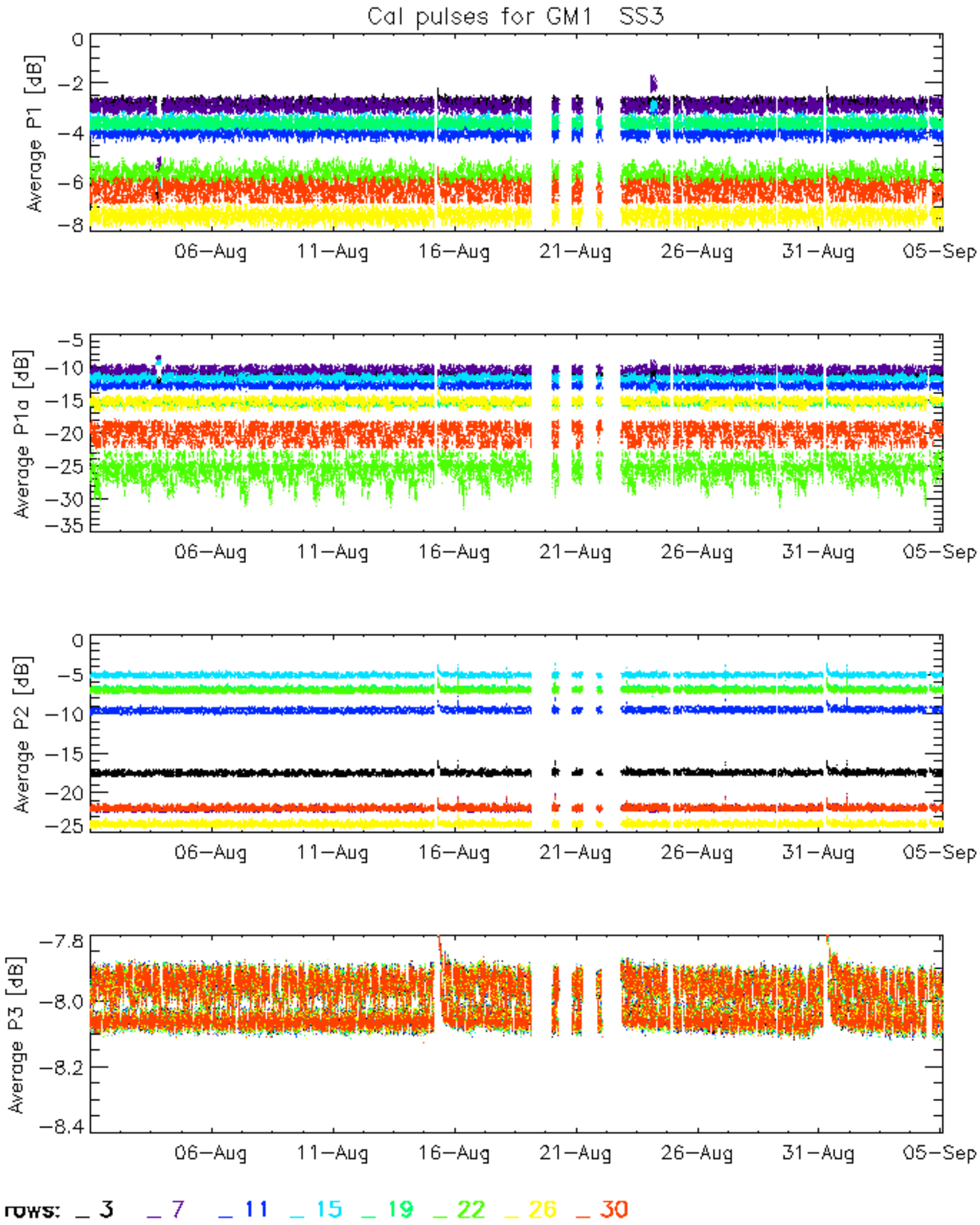
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

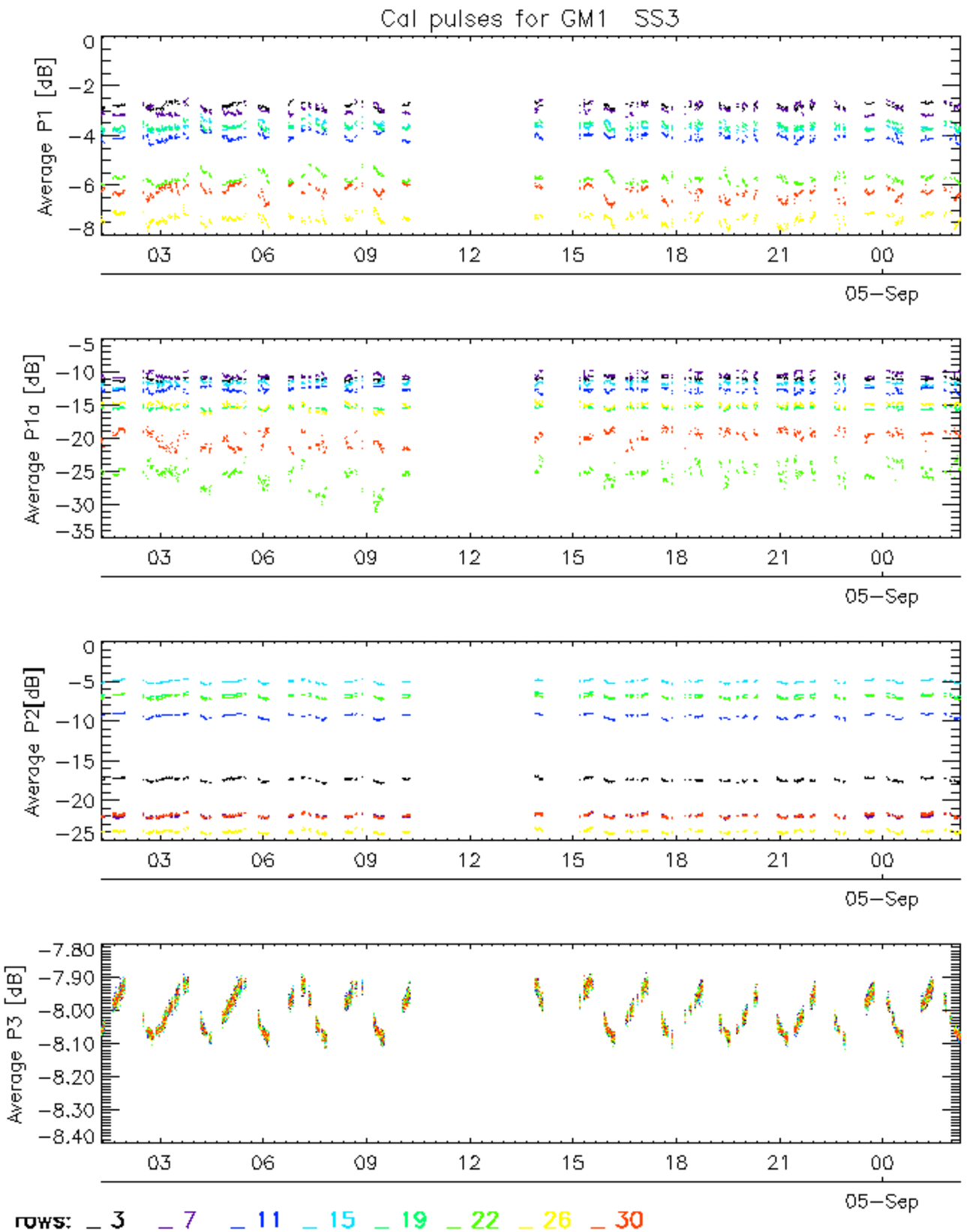
7.6 - Doppler evolution versus ANX for GM1

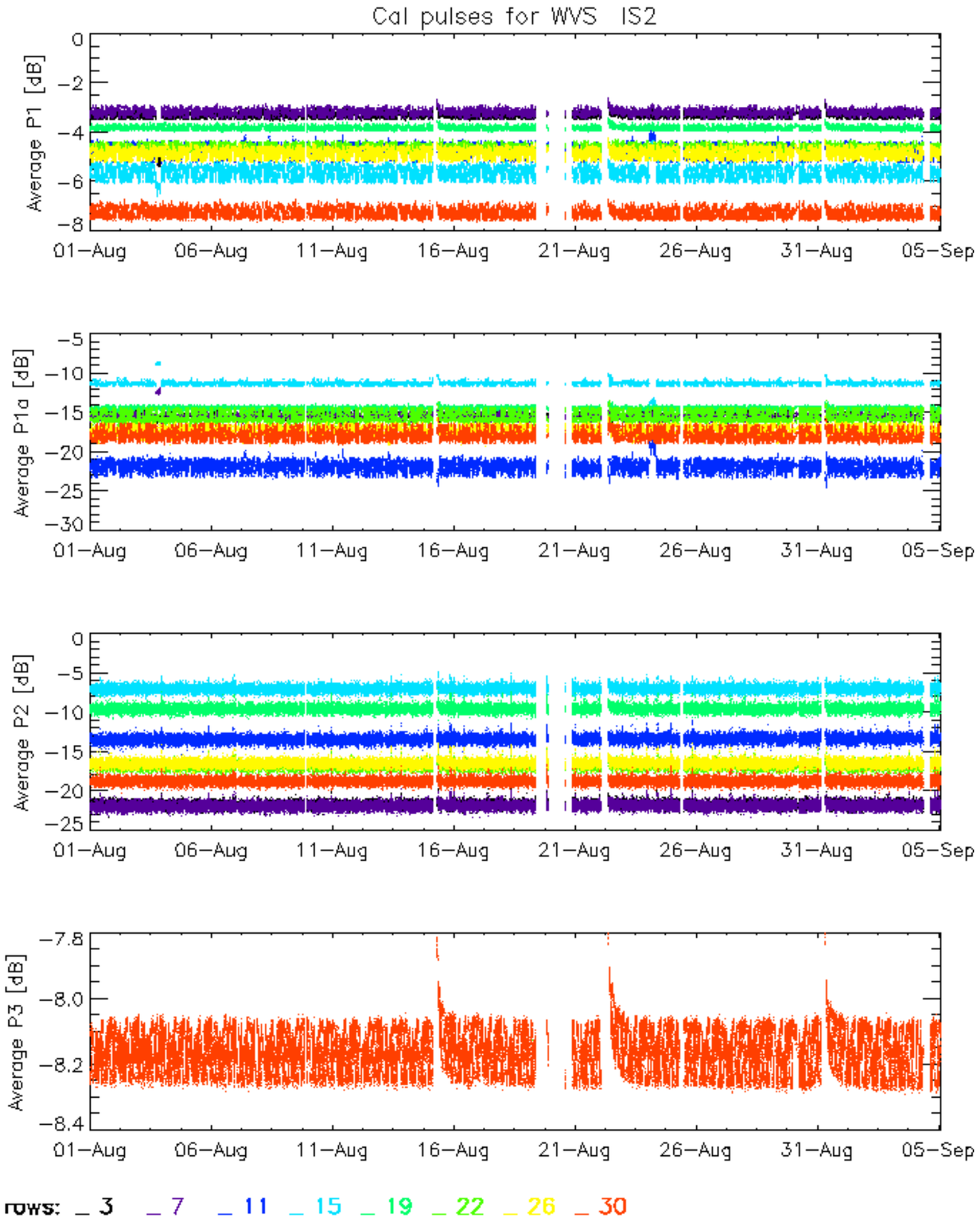
Evolution Doppler error versus ANX
☒

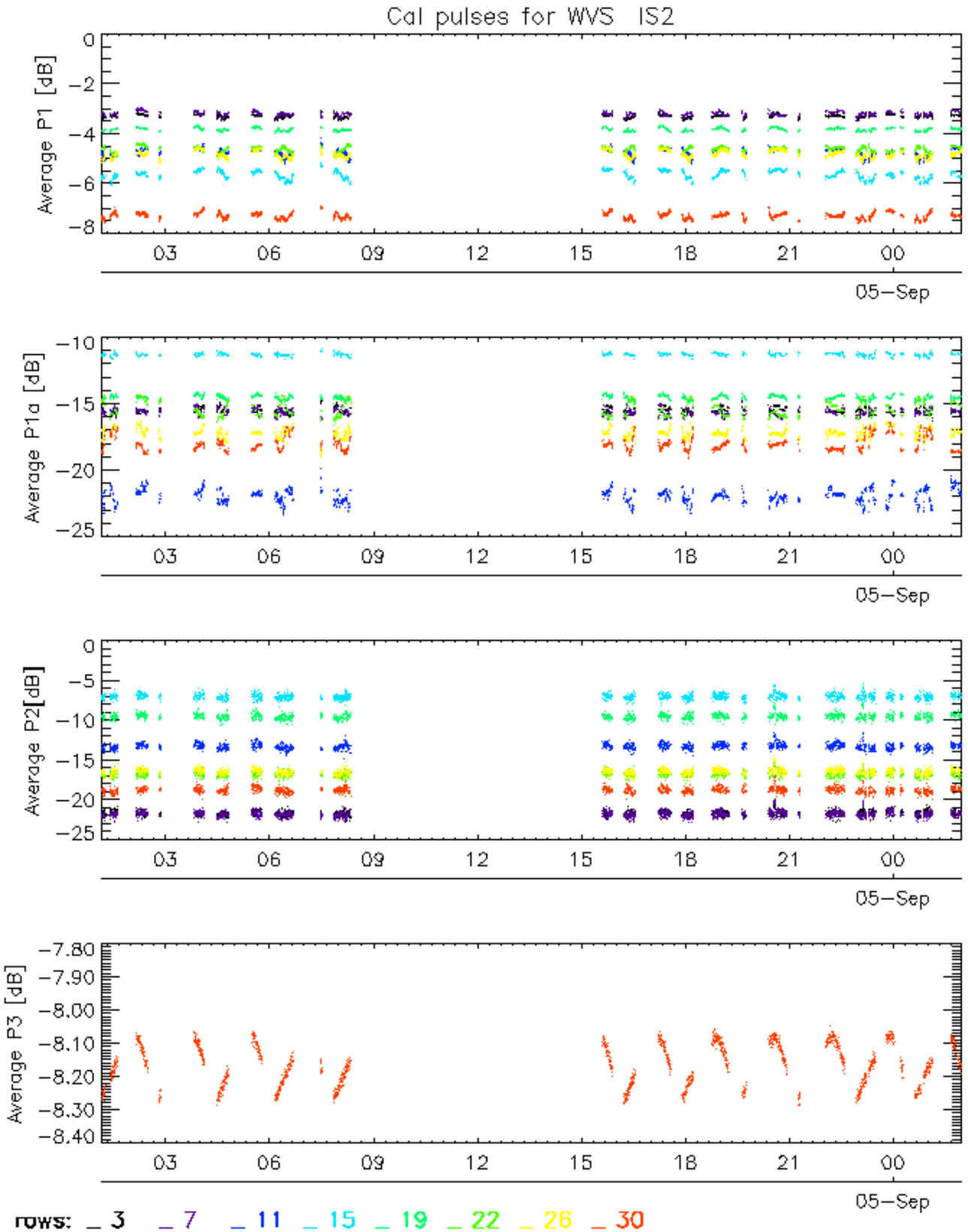

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
05−Sep
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
05−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

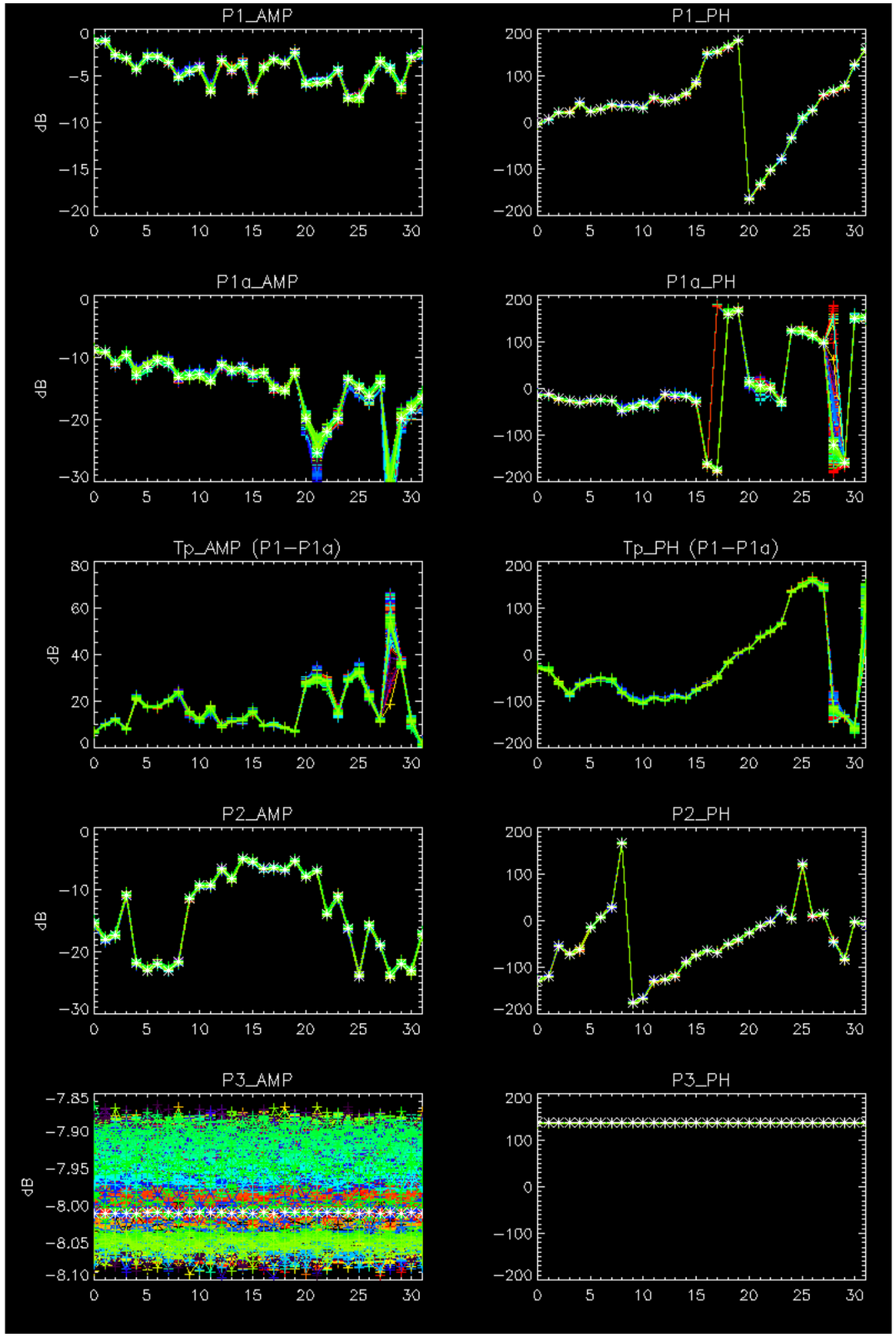

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
06−Aug
11−Aug
16−Aug
21−Aug
26−Aug
31−Aug
05−Sep
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

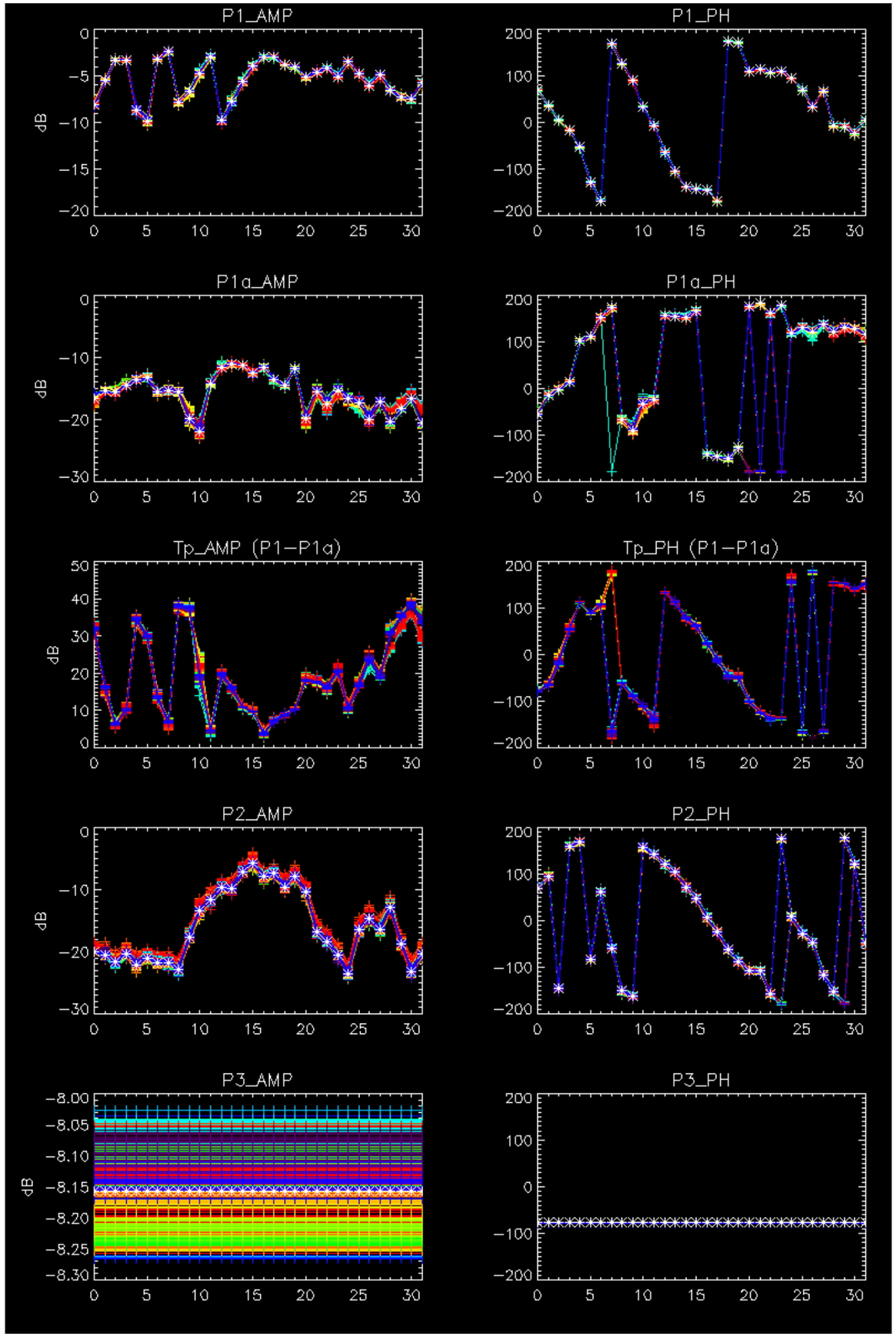

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
05−Sep
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: 3 7 11 15 19 22 26 30


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
01−Aug
06−Aug
11−Aug
16−Aug
21−Aug
26−Aug
31−Aug
05−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
05−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

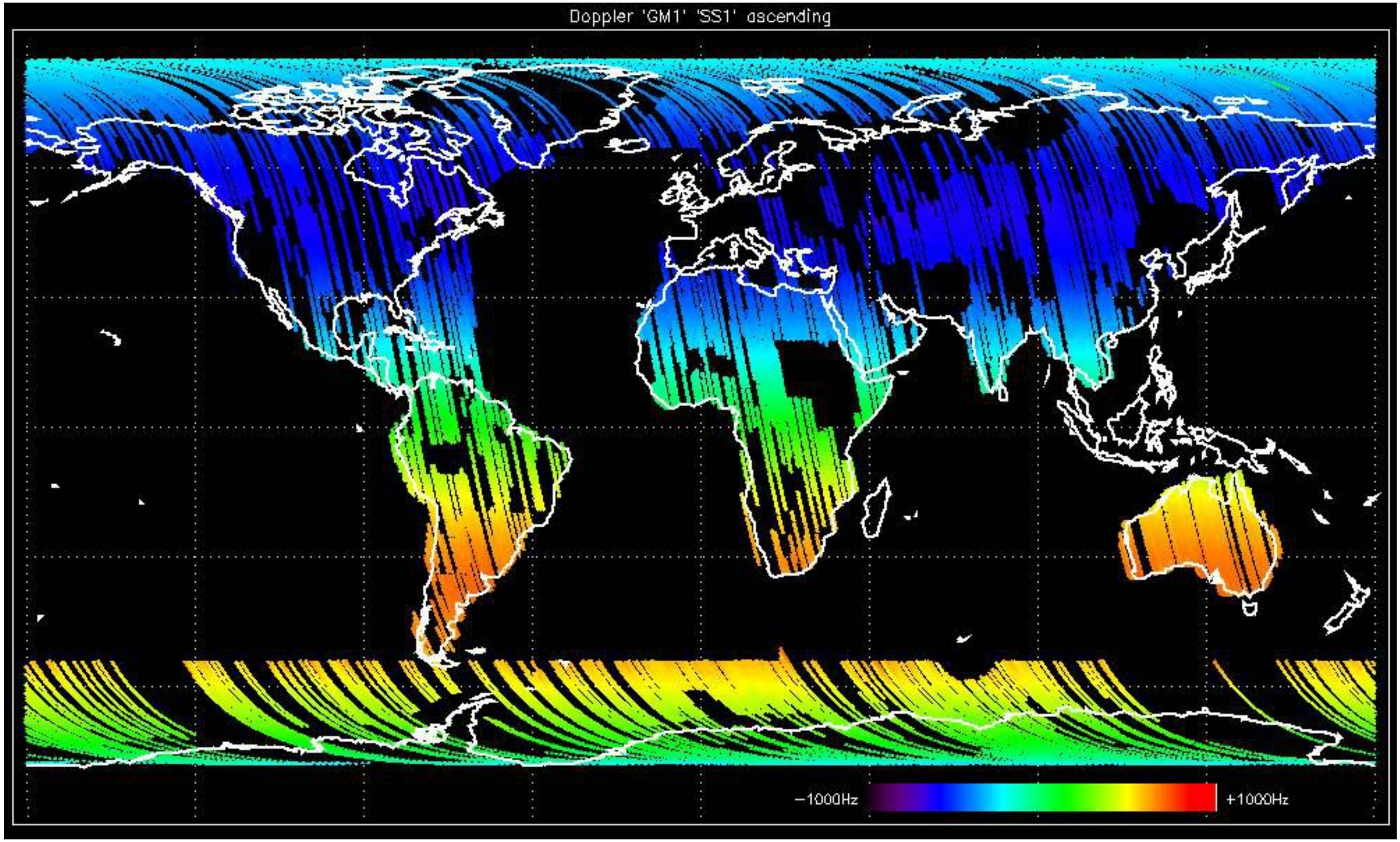
No anomalies observed.

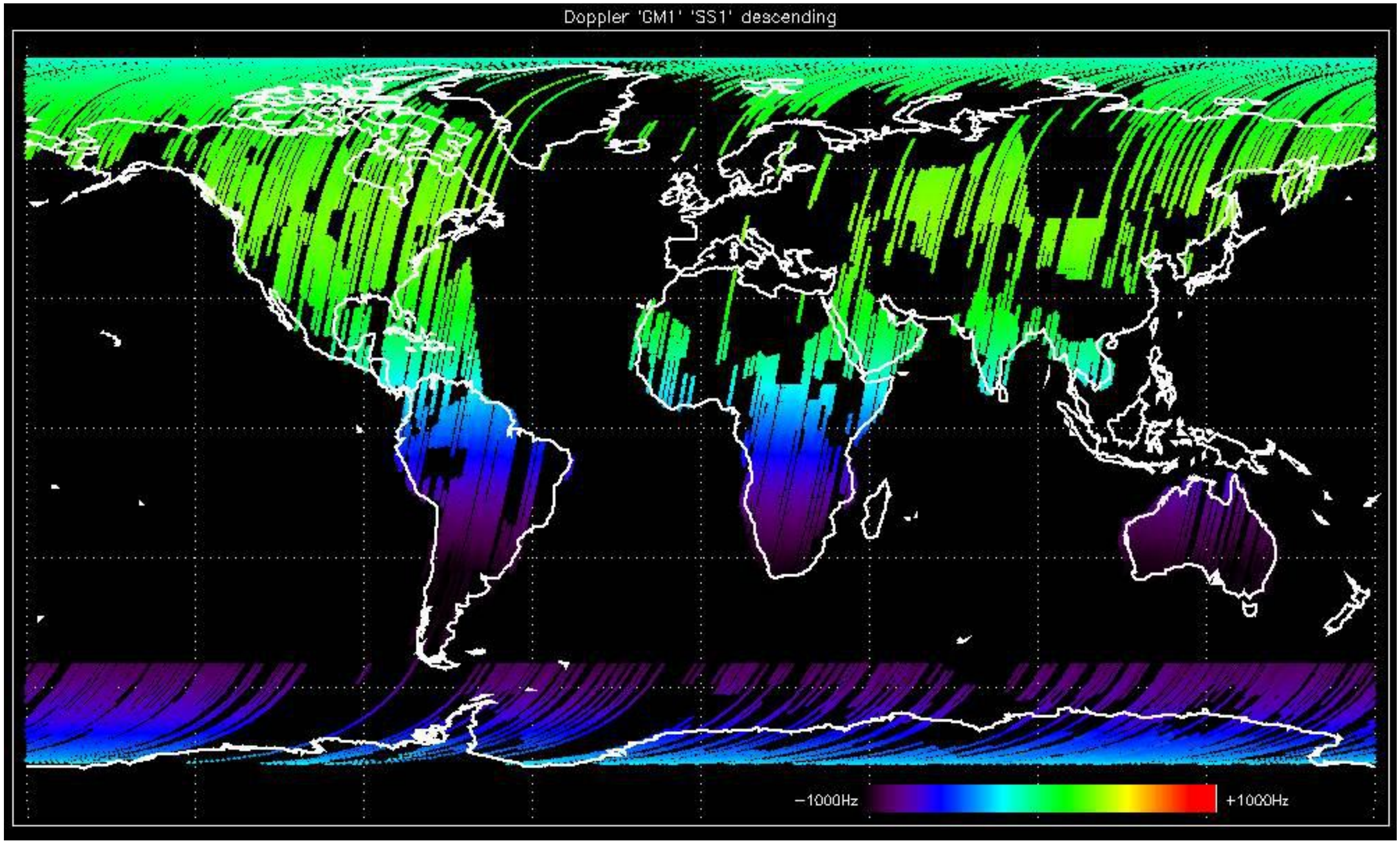

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

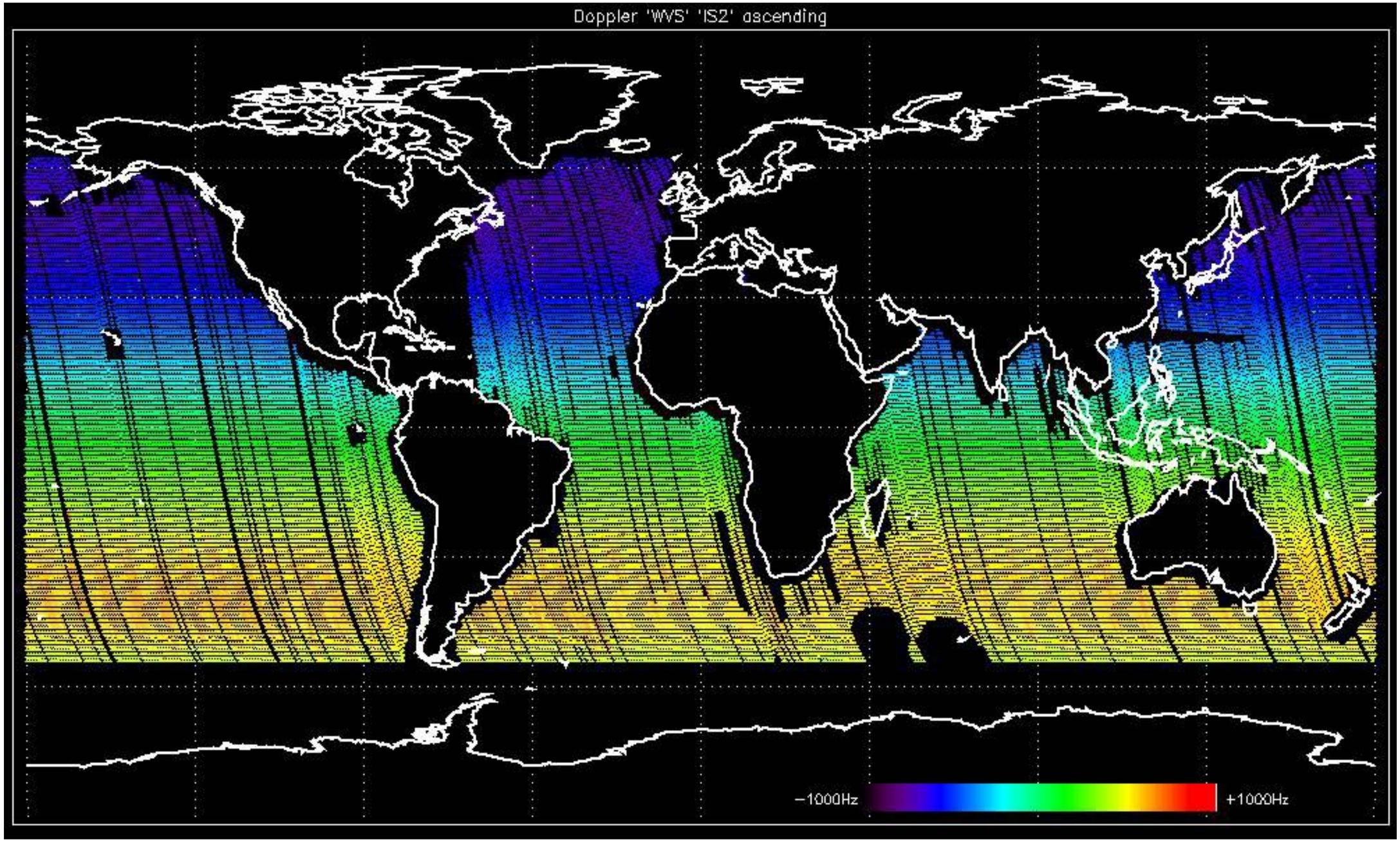

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

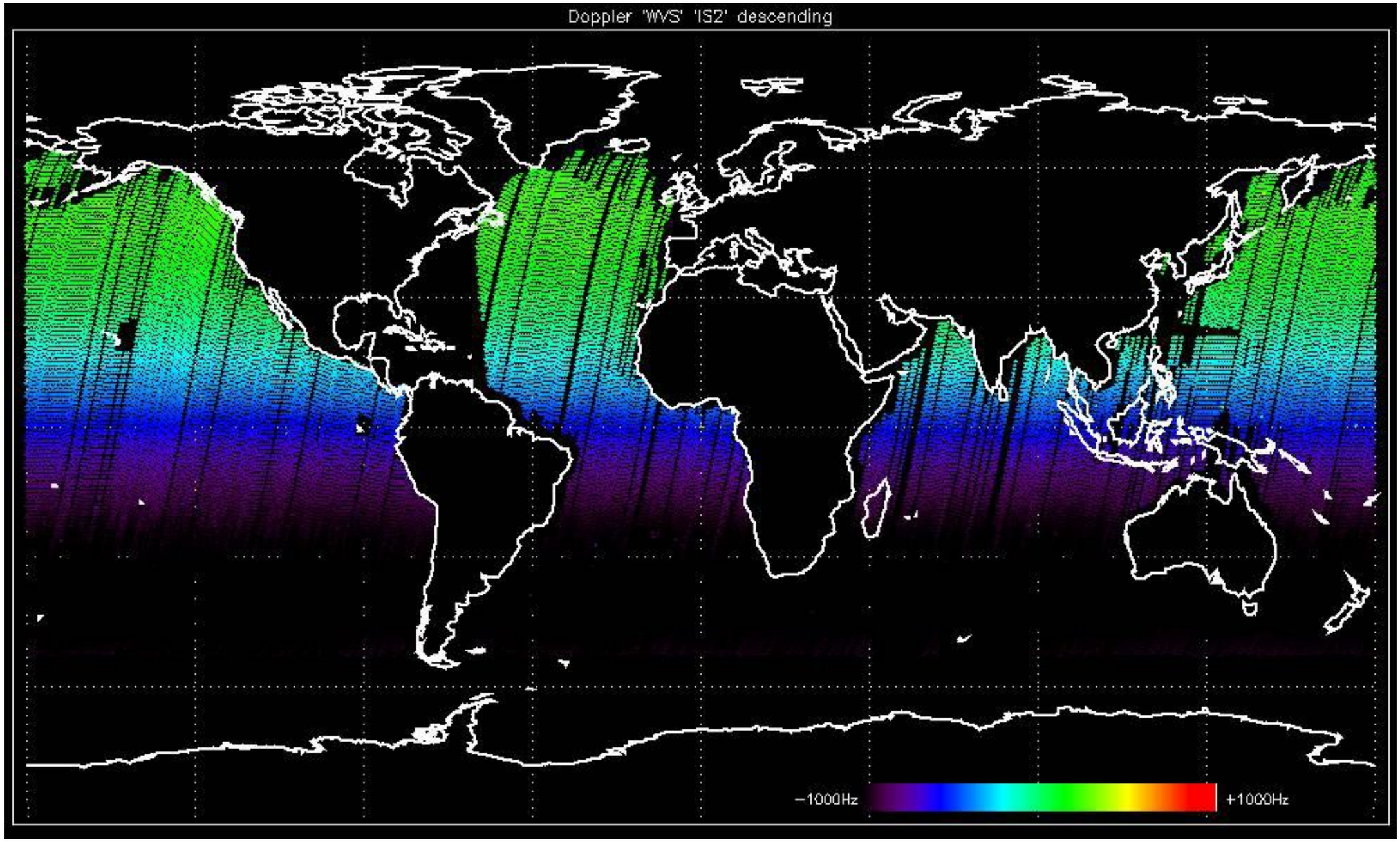
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

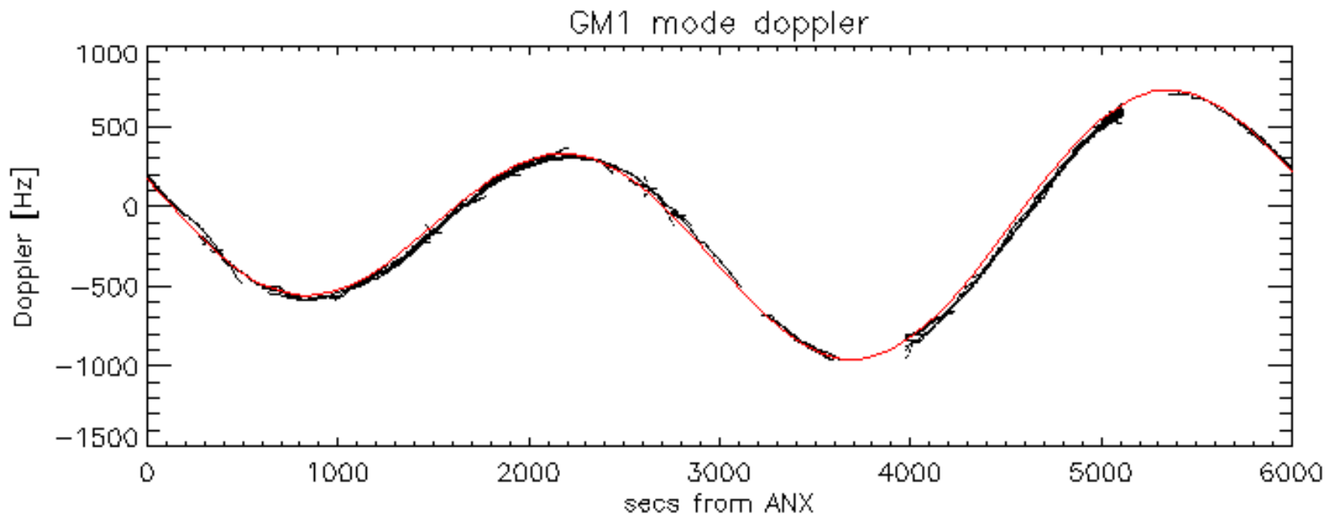
Preliminary report.The data is not yet controled

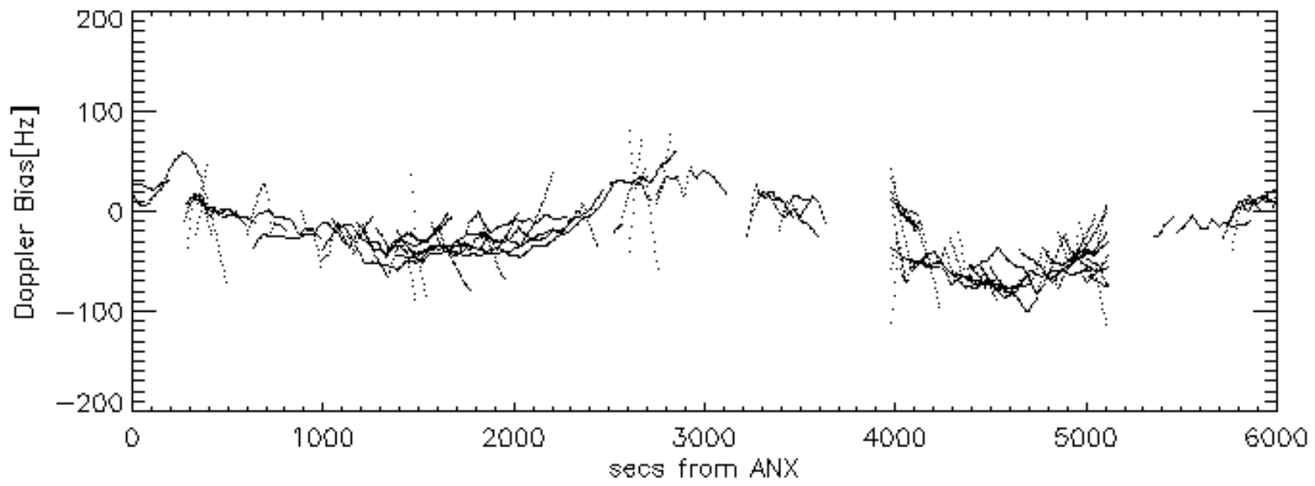

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

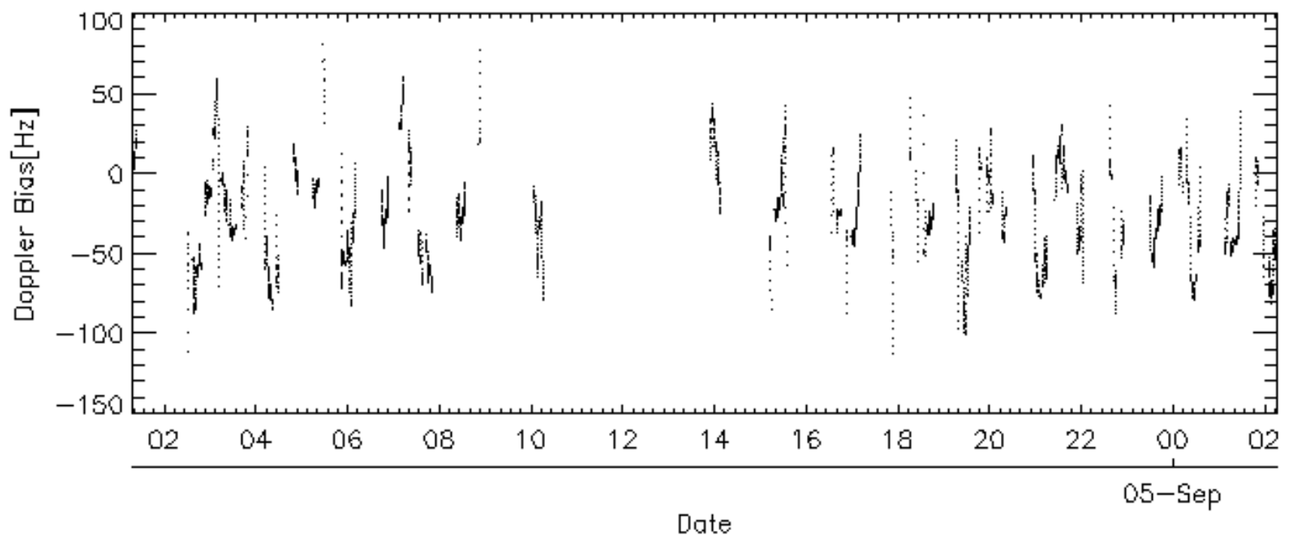

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

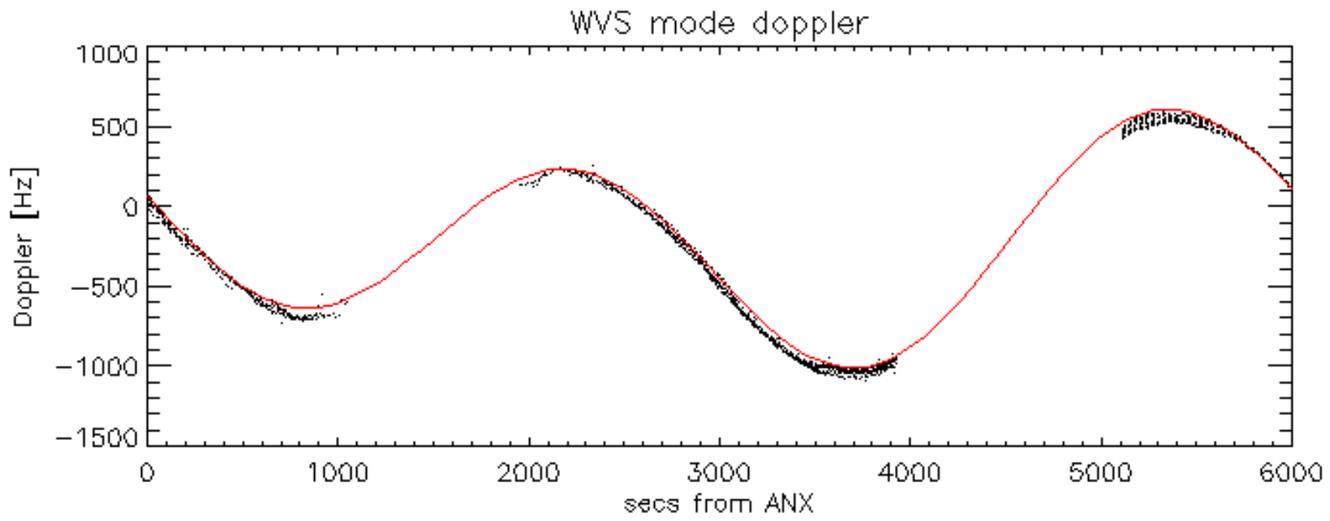

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

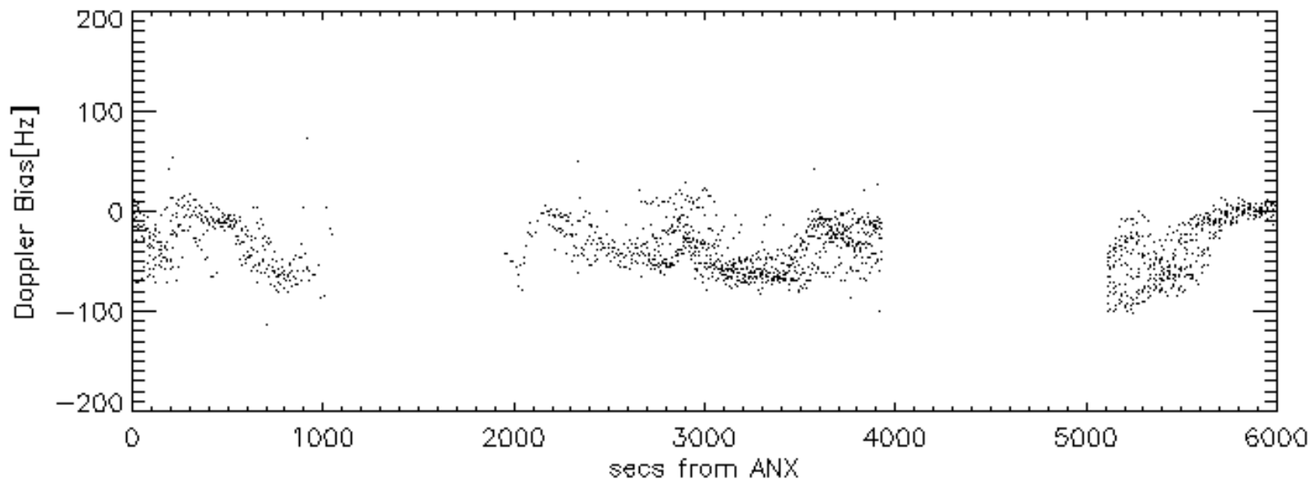

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

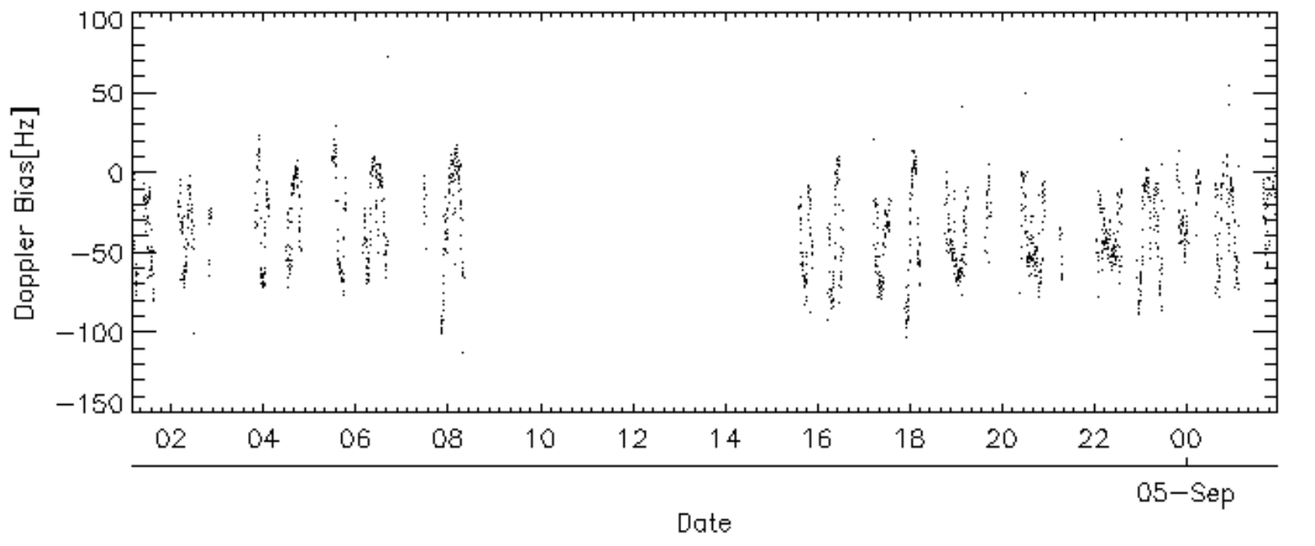

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

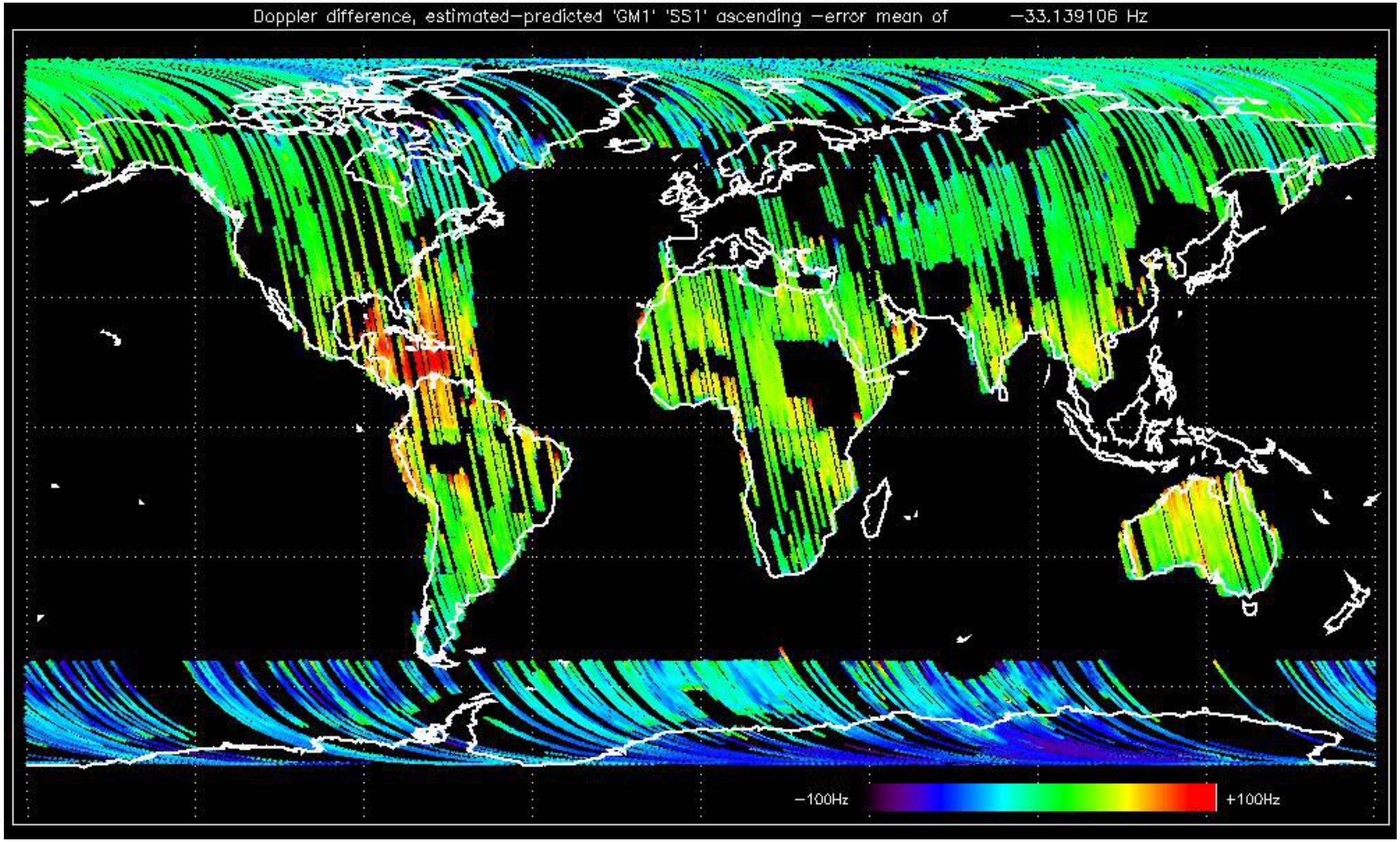

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

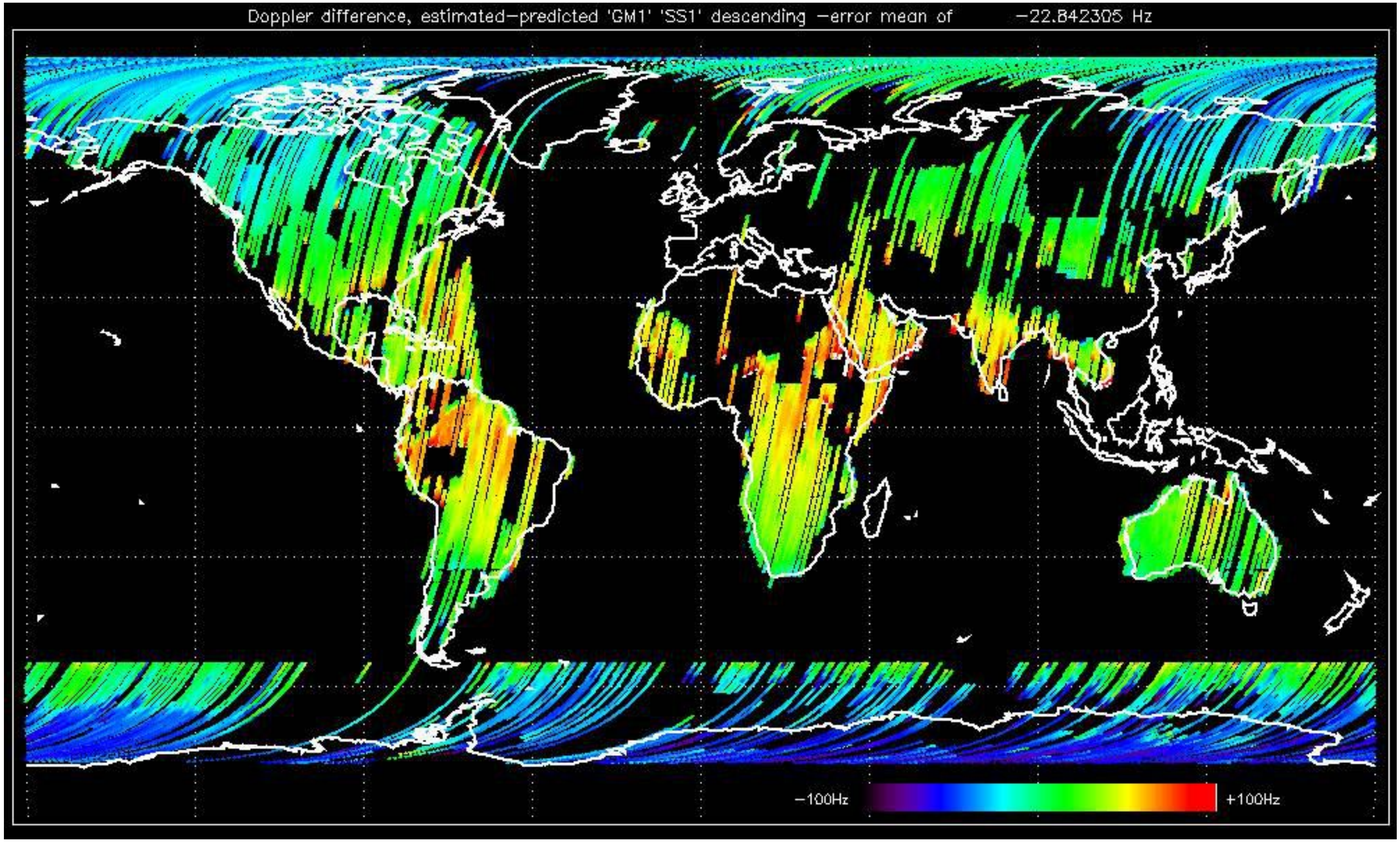

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
05−Sep
Date

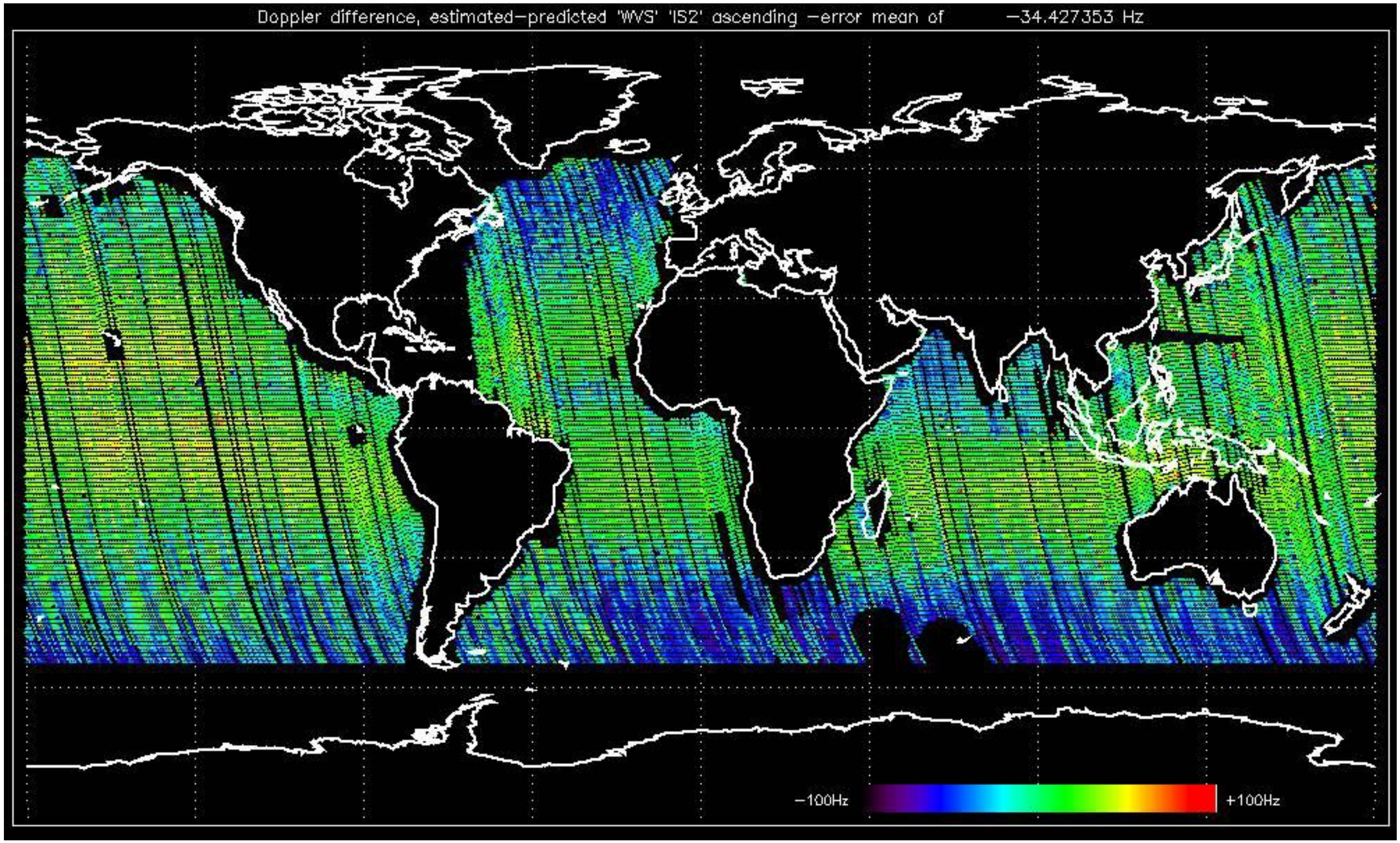

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

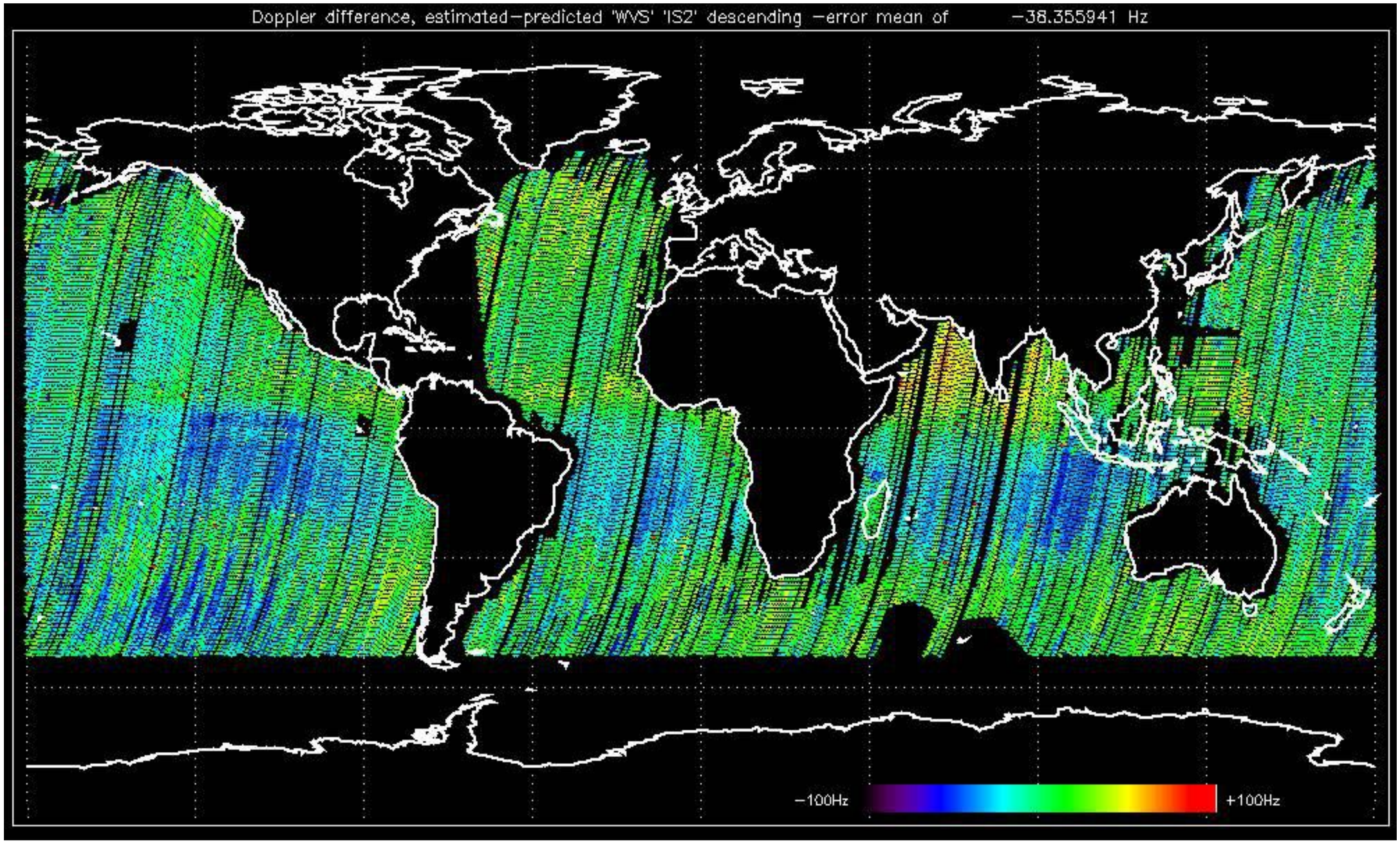

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −33.139106 Hz
−100Hz
+100Hz

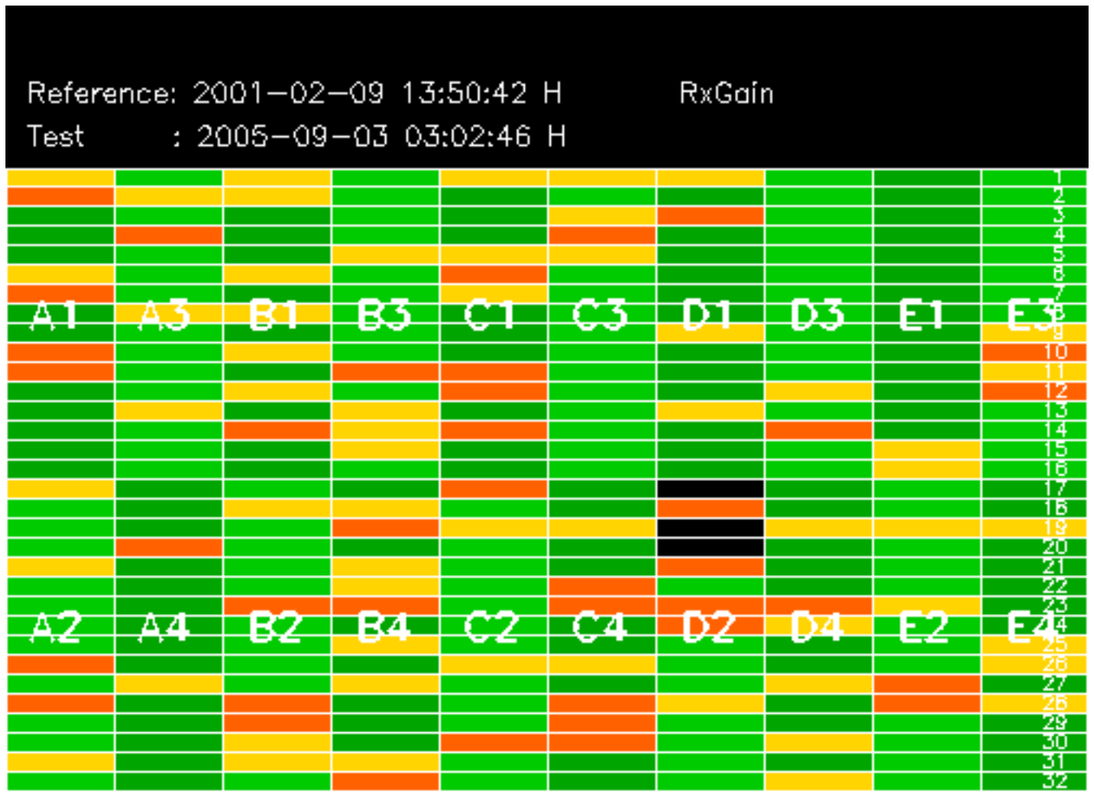

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −22.842305 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −34.427353 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −38.355941 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2005-09-03 03:02:46 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
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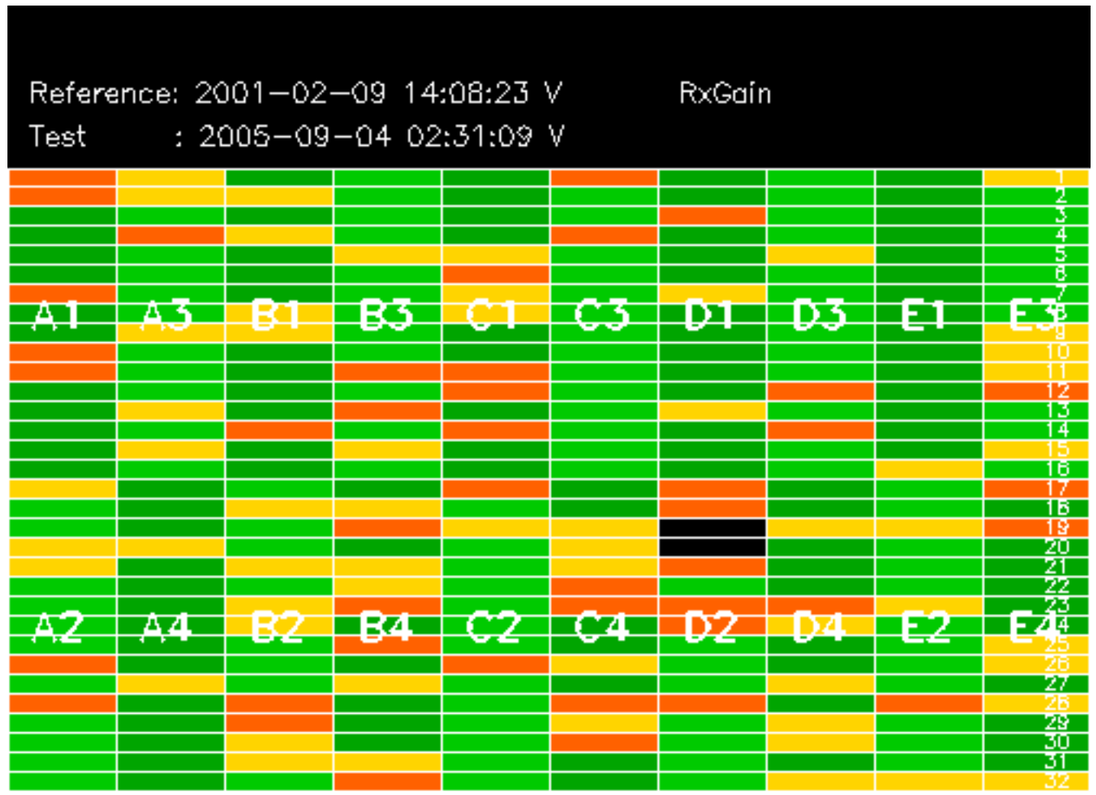
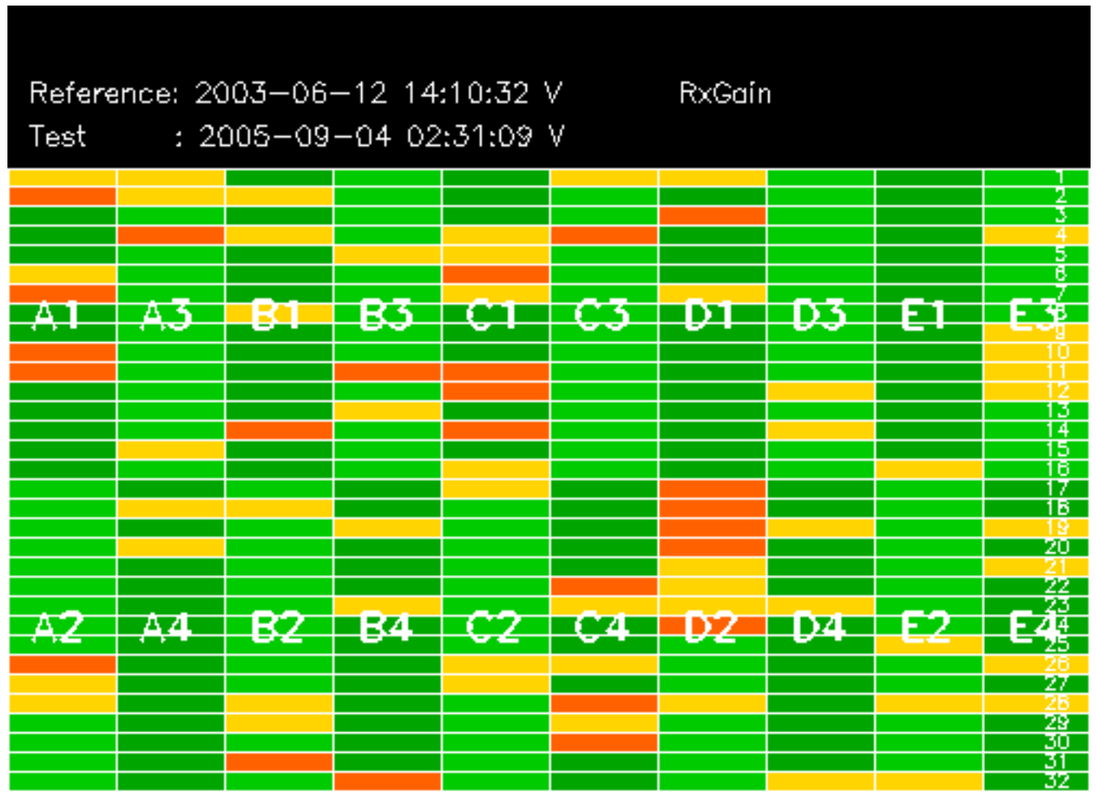
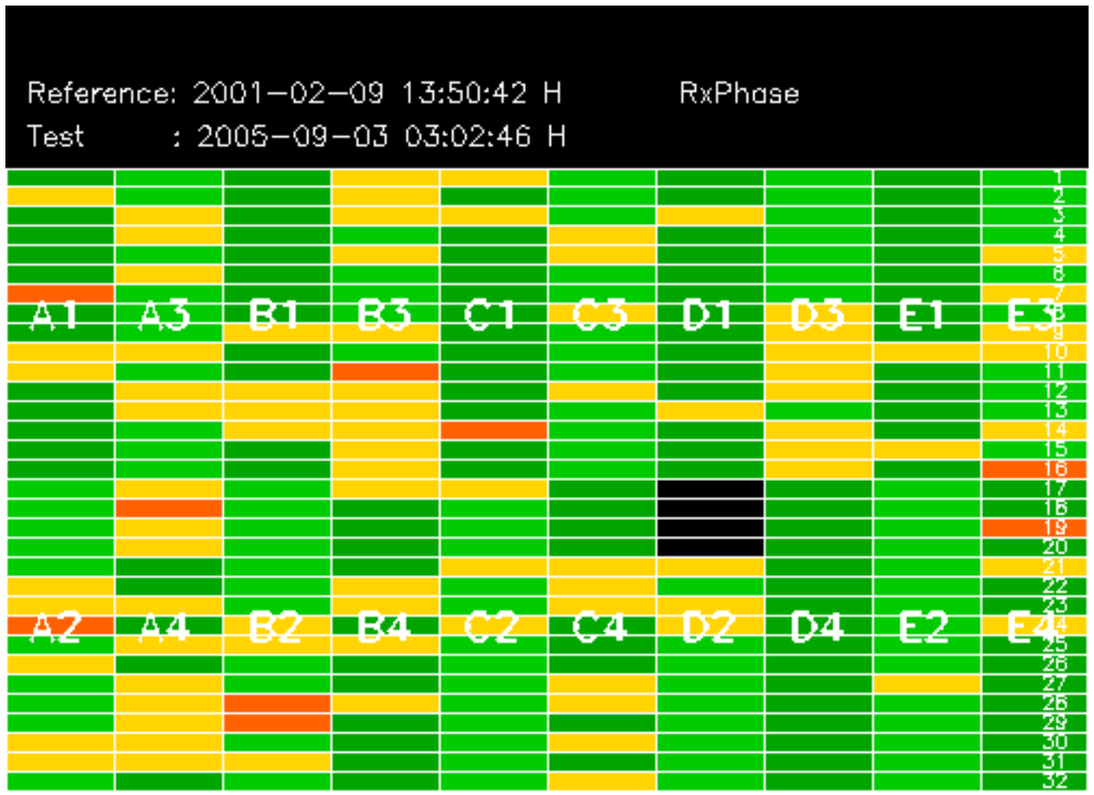
Reference: 2003-06-12 14:08:52 H
Test : 2005-09-03 03:02:46 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2005-09-04 02:31:09 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-09-04 02:31:09 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-09-03 03:02:46 H
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 : 2005-09-03 03:02:46 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
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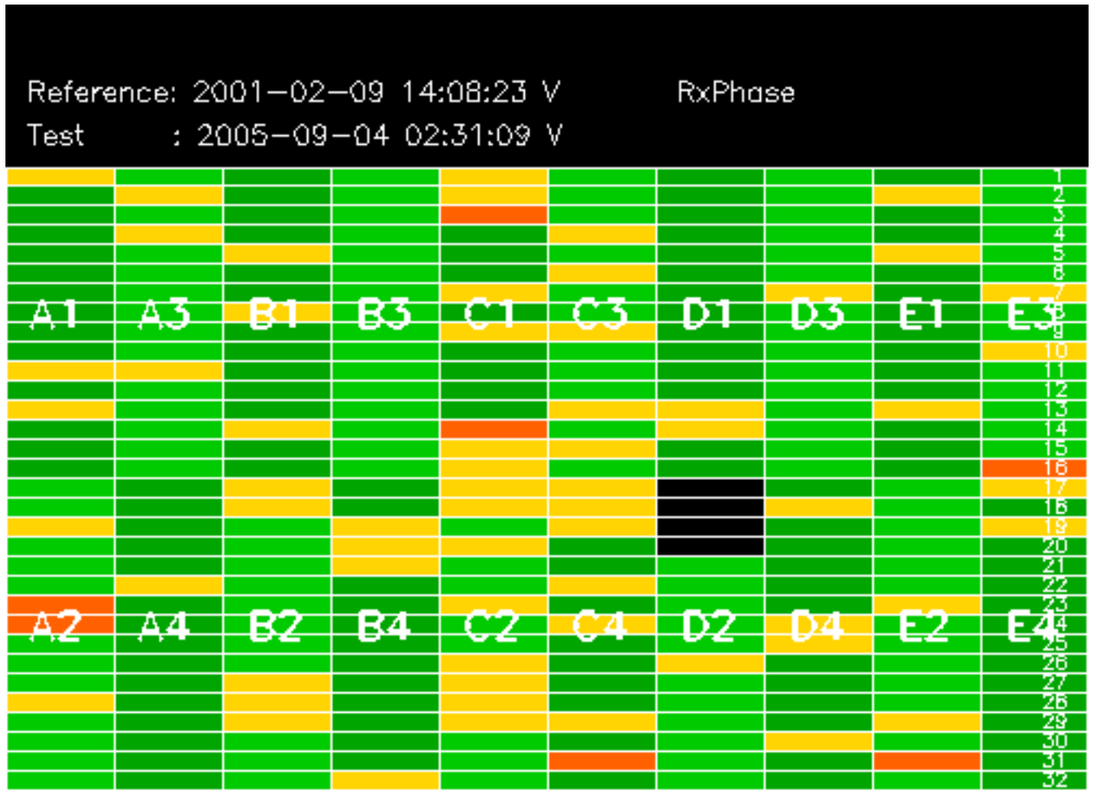
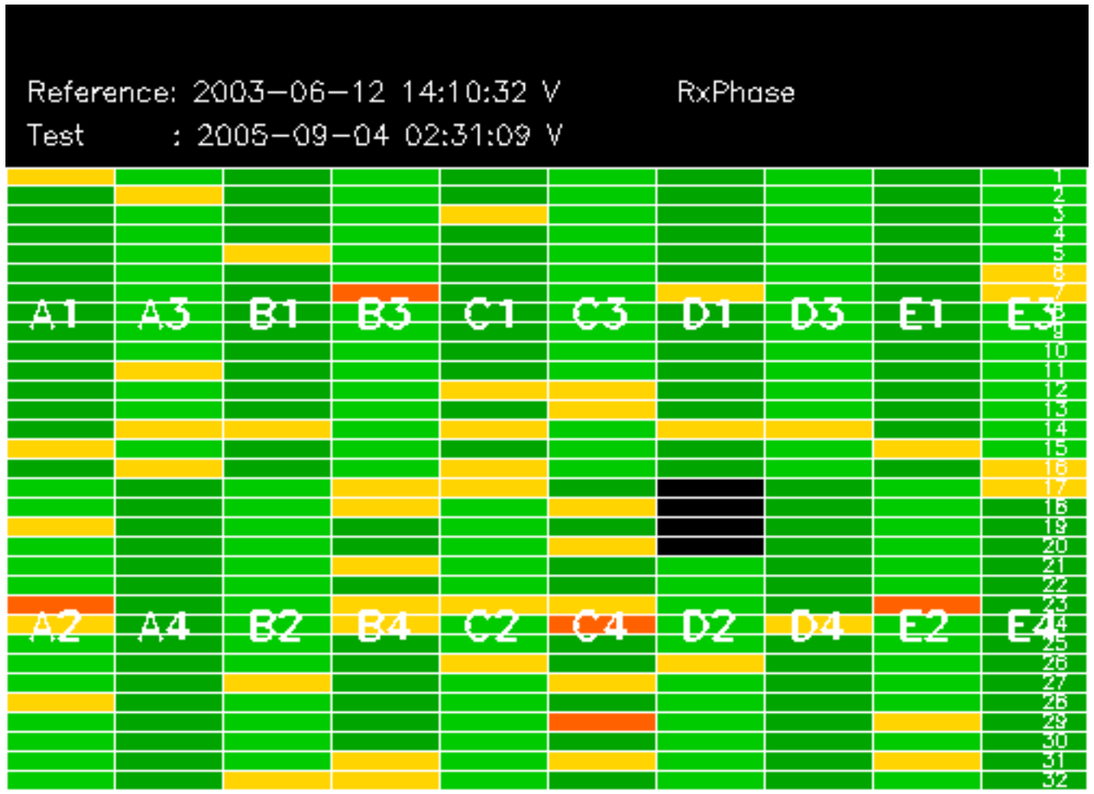
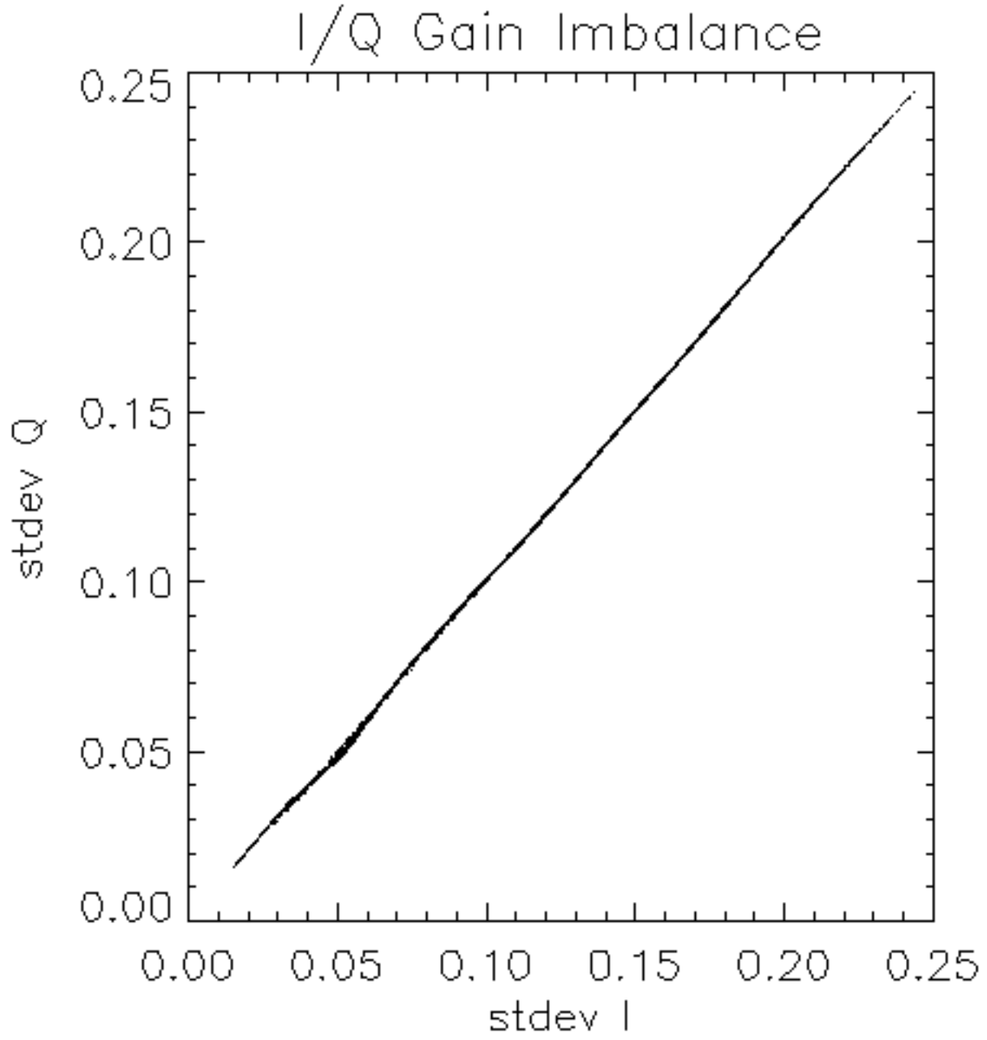
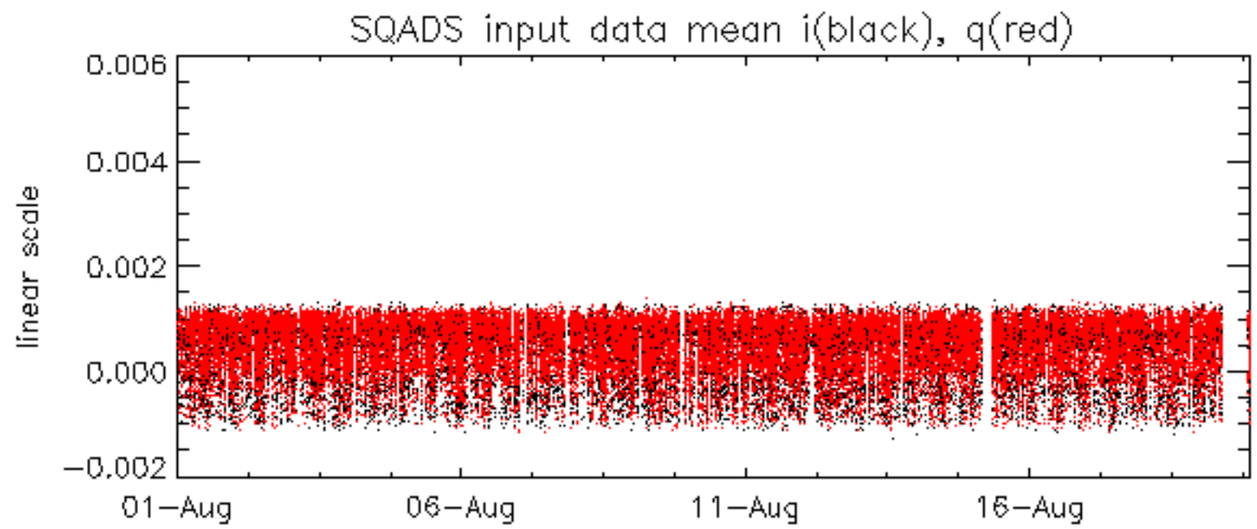
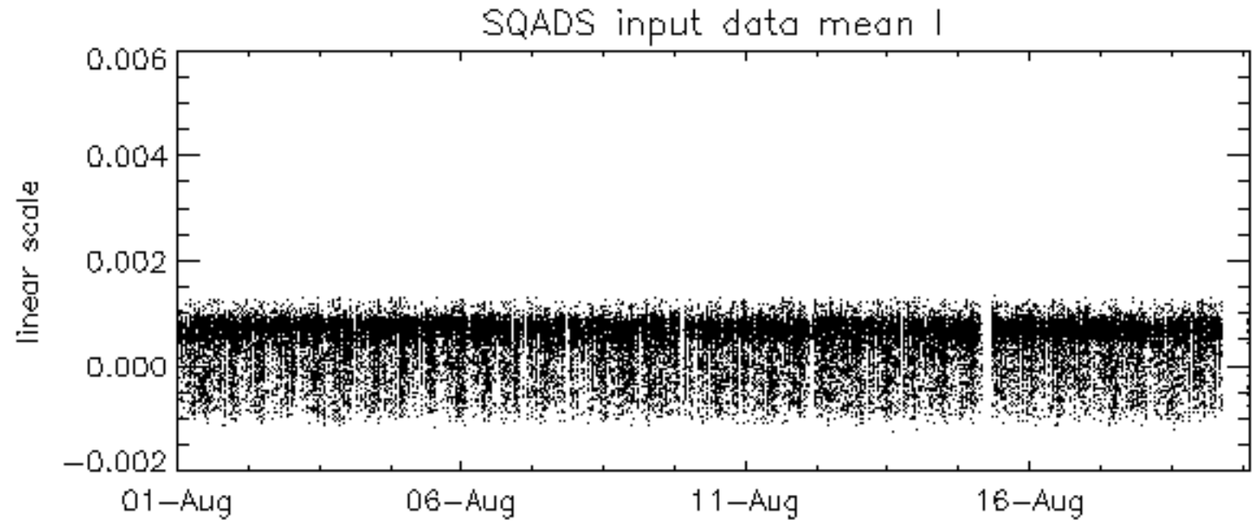
32

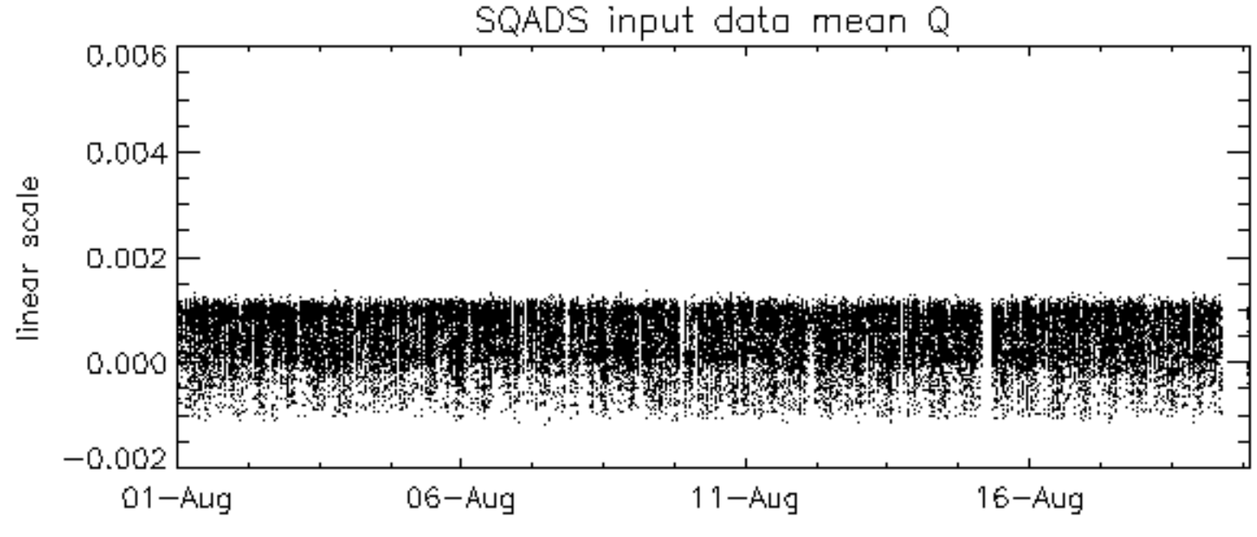

Reference: 2001-02-09 14:08:23 V
RxPhase
Test : 2005-09-04 02:31:09 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

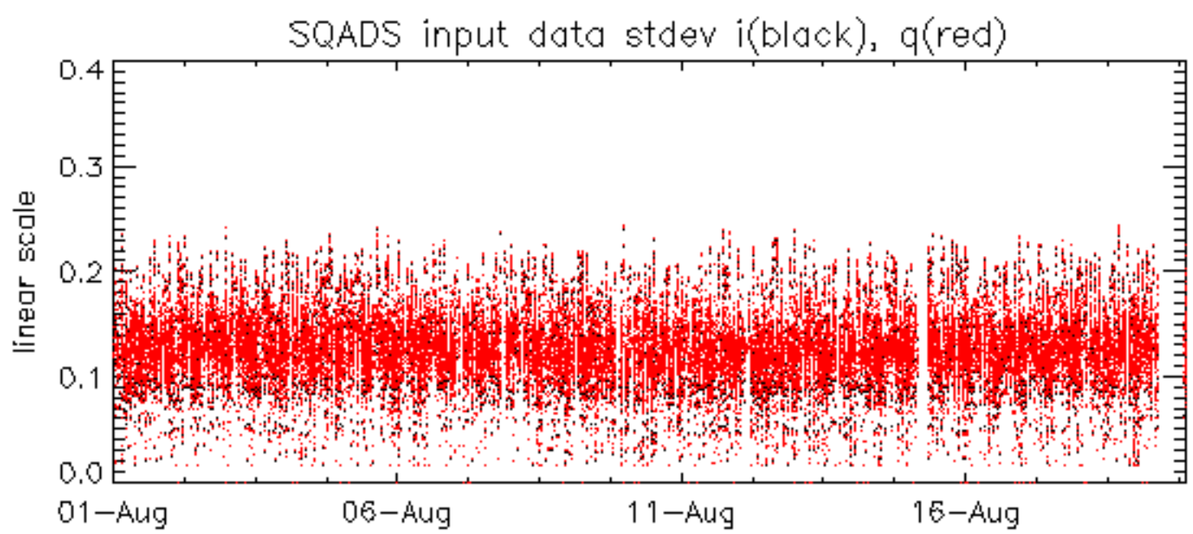

Reference: 2003-06-12 14:10:32 V
Test : 2005-09-04 02:31:09 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

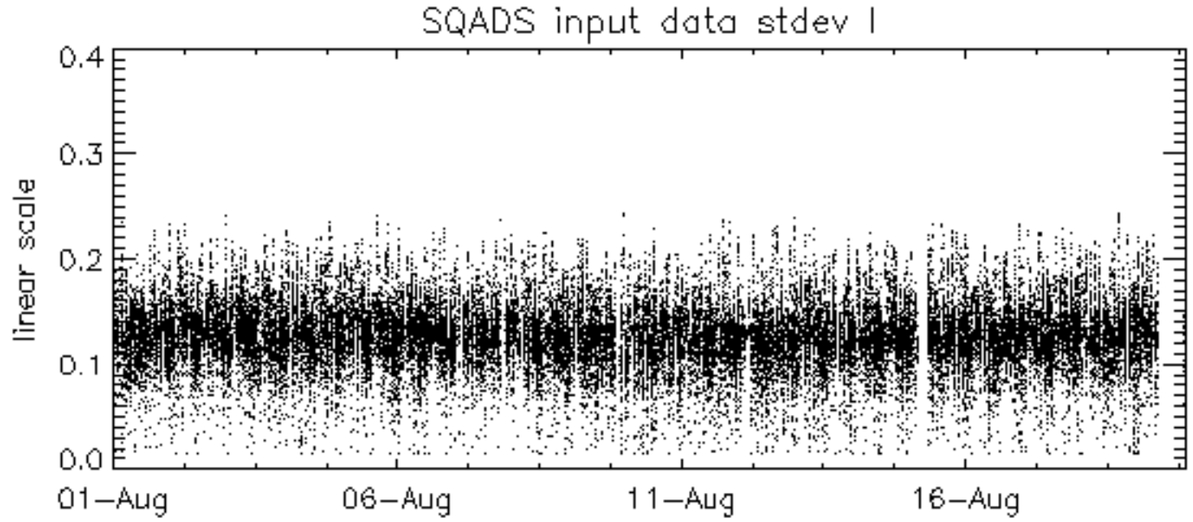

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

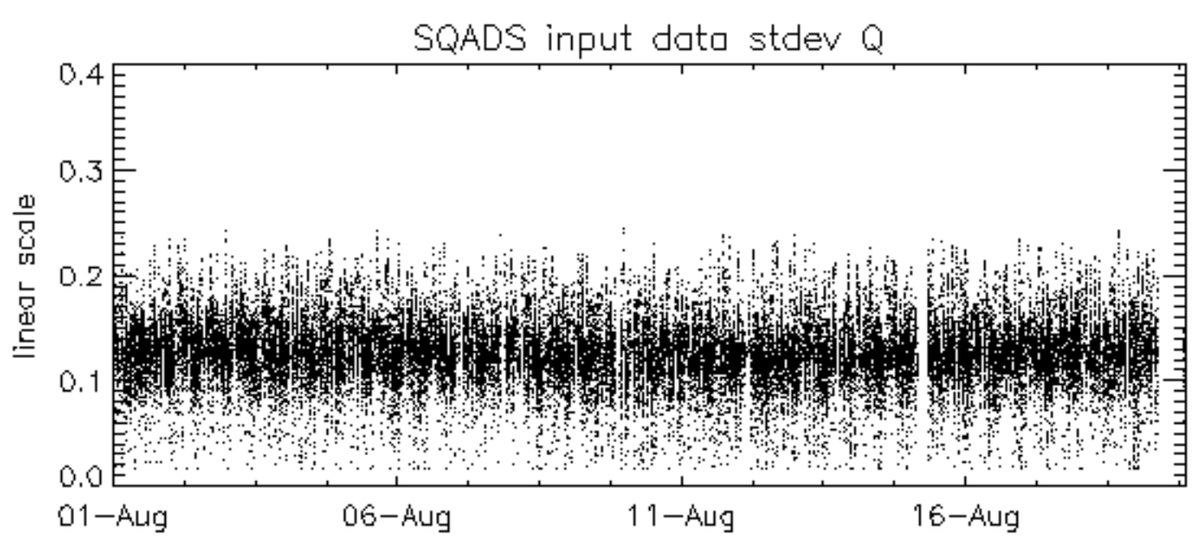

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Aug
06−Aug
11−Aug
16−Aug

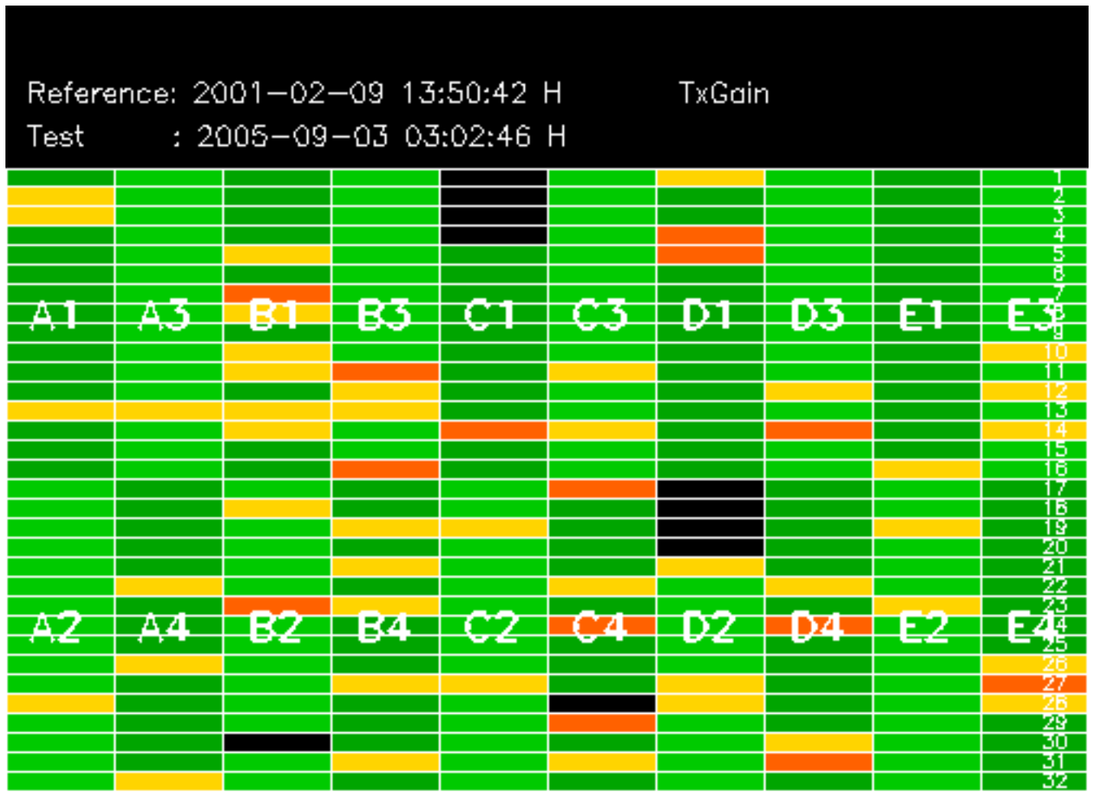

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Aug
06−Aug
11−Aug
16−Aug

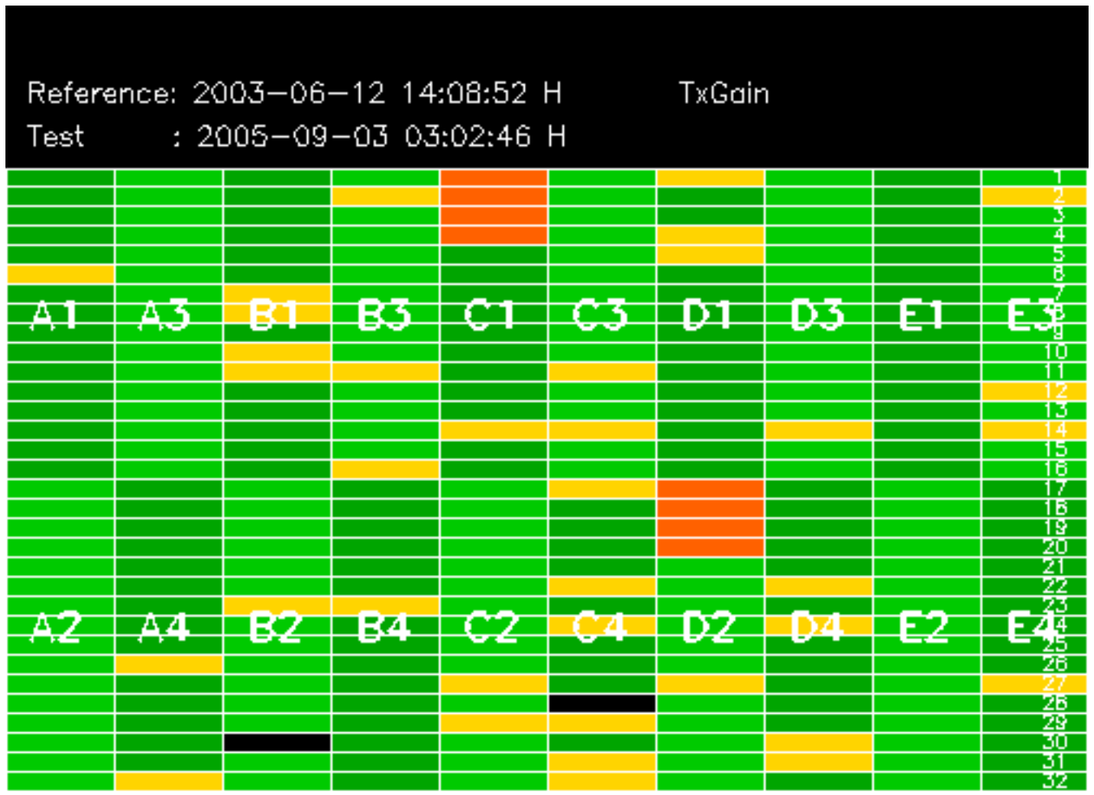

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Aug
06−Aug
11−Aug
16−Aug


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


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
01–Aug
06–Aug
11–Aug
16–Aug


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
01–Aug
06–Aug
11–Aug
16–Aug


Reference: 2001-02-09 13:50:42 H
Test : 2005-09-03 03:02:46 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 : 2005-09-03 03:02:46 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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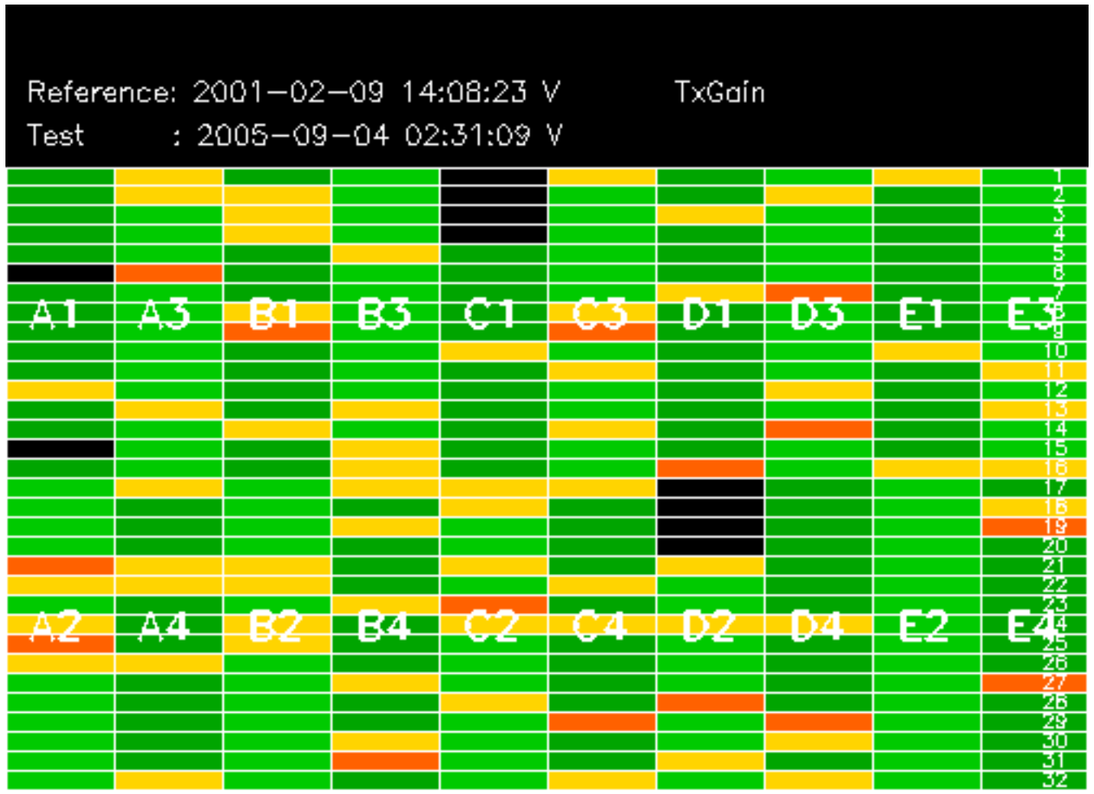
Reference: 2001-02-09 14:08:23 V
Test : 2005-09-04 02:31:09 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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8
9
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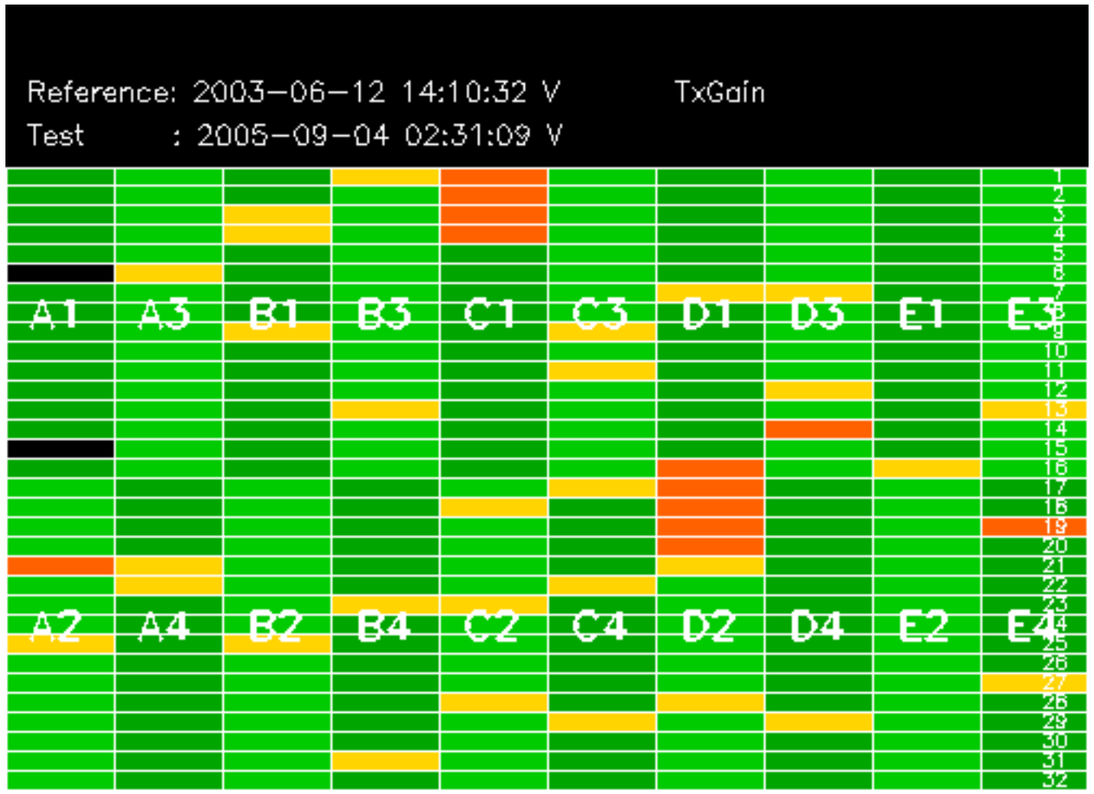
31
32


Reference: 2003-06-12 14:10:32 V
Test : 2005-09-04 02:31:09 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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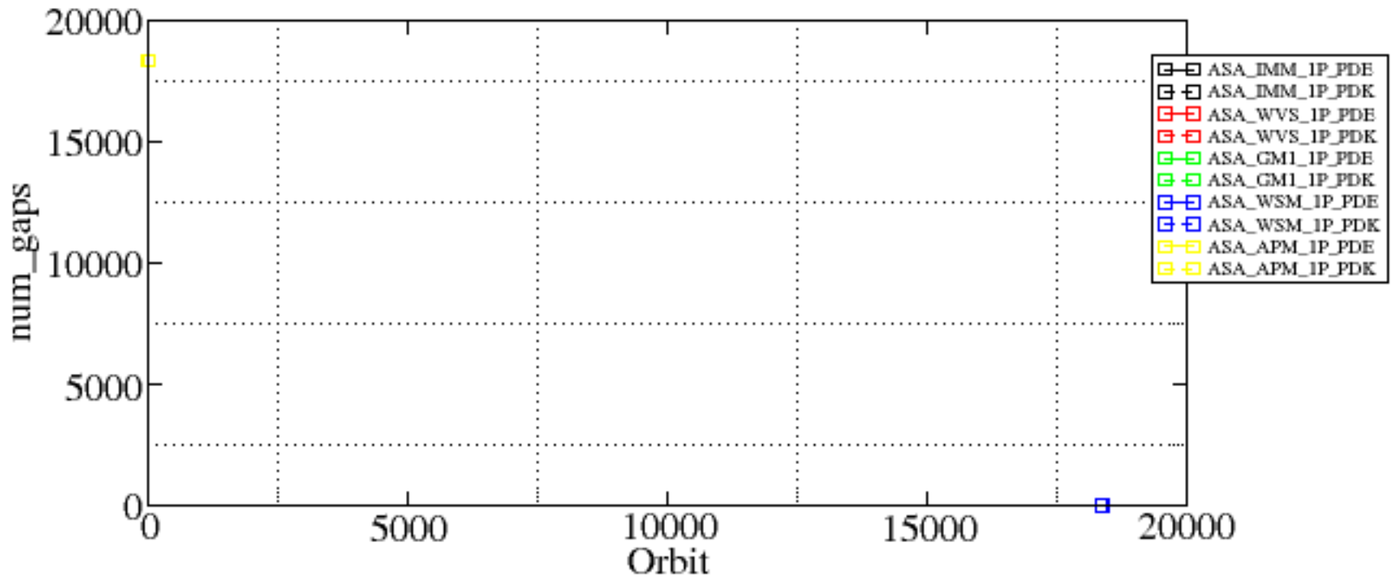
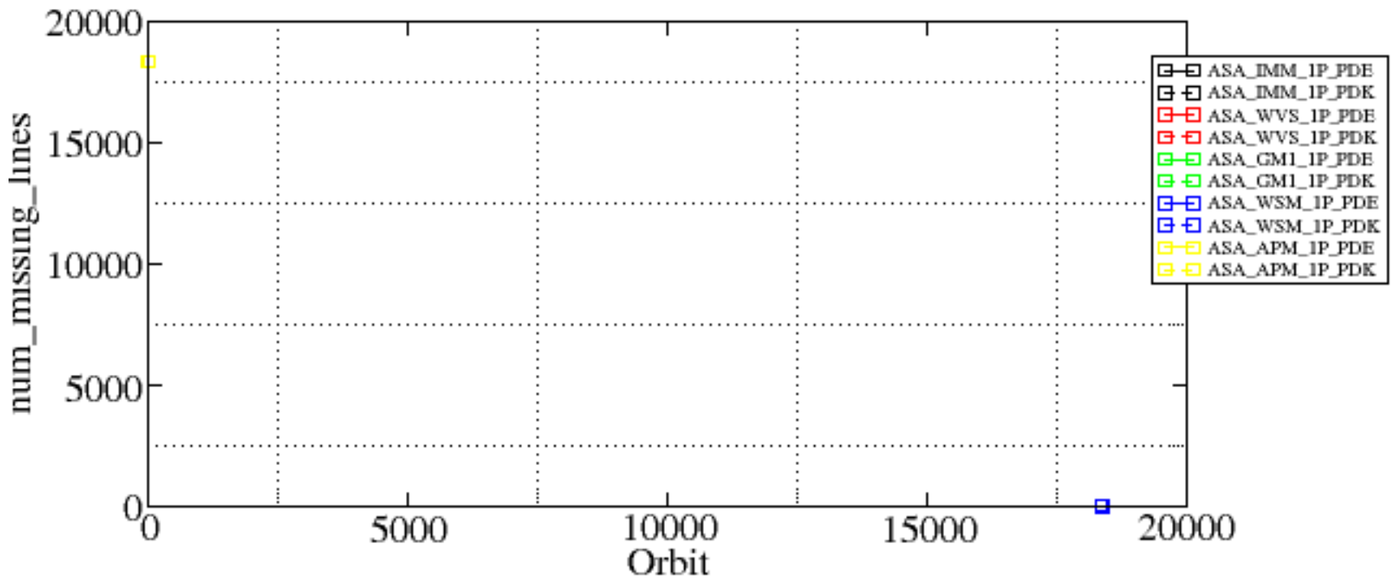
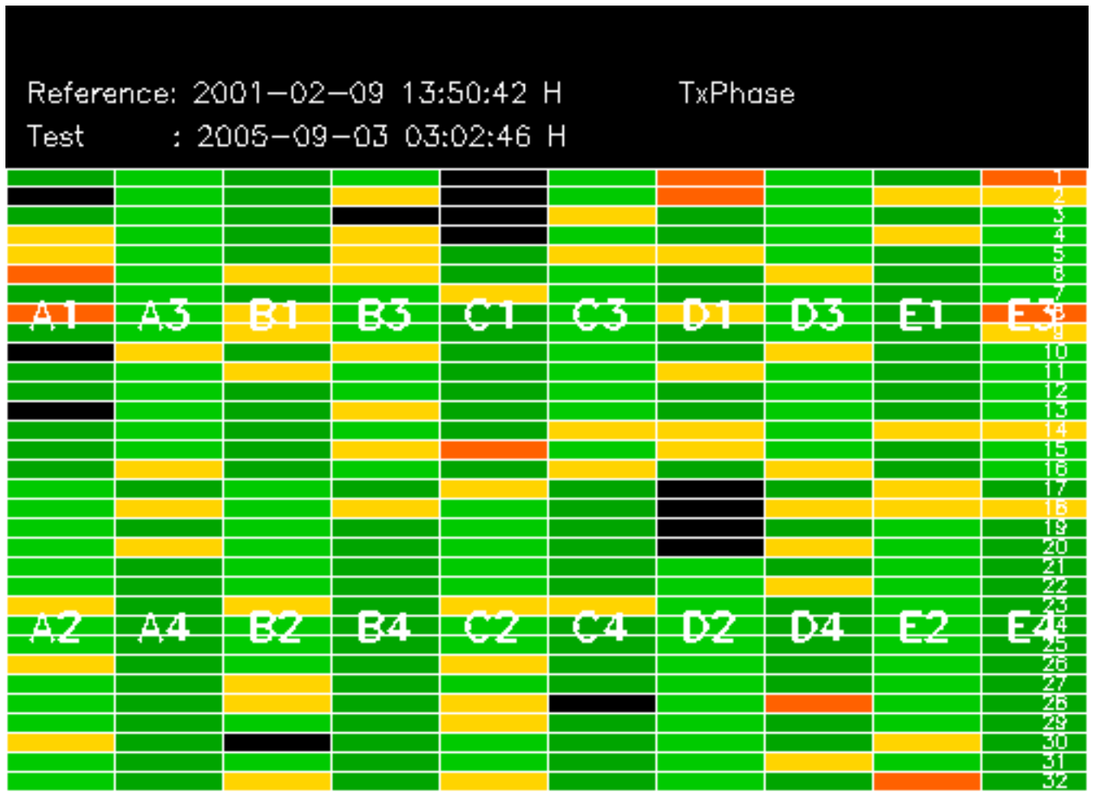
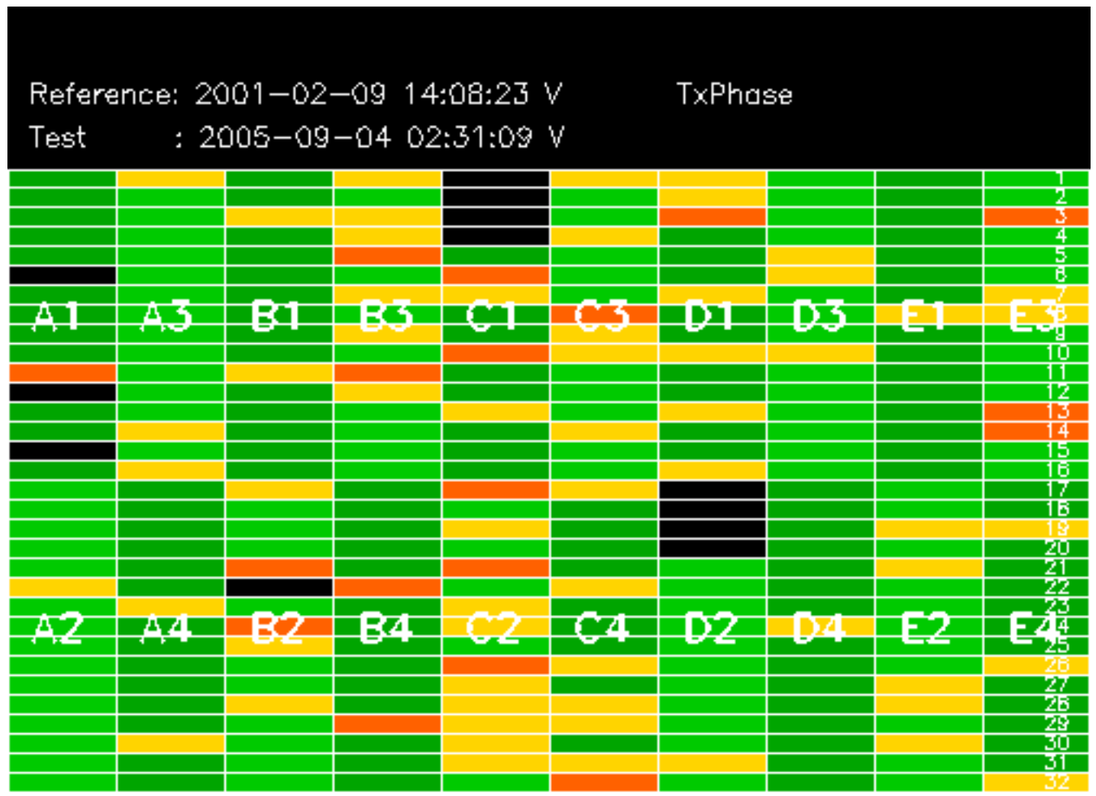
Summary of analysis for the last 3 days 2005090[345]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename   </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_WSM_1PNPDE20050904_231423_000001462040_00288_18378_7371.N1 </td> <td>0   </td> <td>42   </td></tr>
</table>

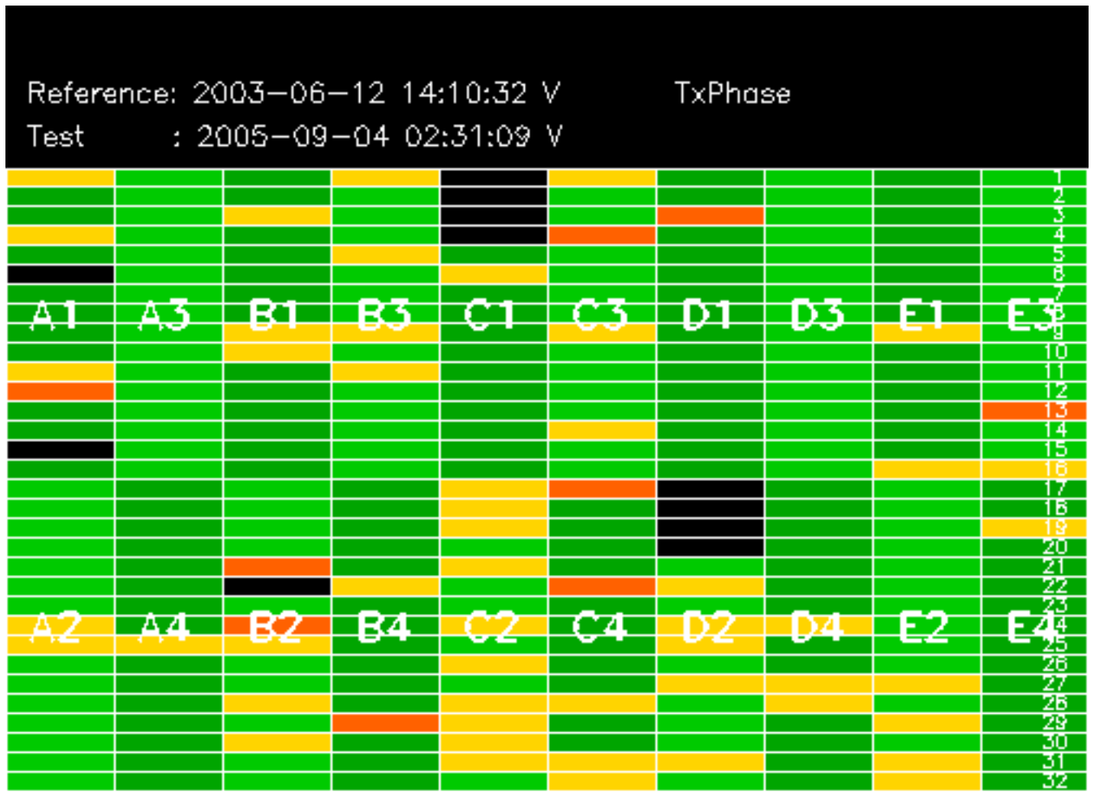

num_gaps
20000
15000
10000
5000
0
0
5000
10000
15000
20000
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK


num_missing_lines
20000
15000
10000
5000
0
0
5000
10000
15000
20000
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
Test : 2005-09-03 03:02:46 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2005-09-03 03:02:46 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
TxPhase
Test : 2005-09-04 02:31:09 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-09-04 02:31:09 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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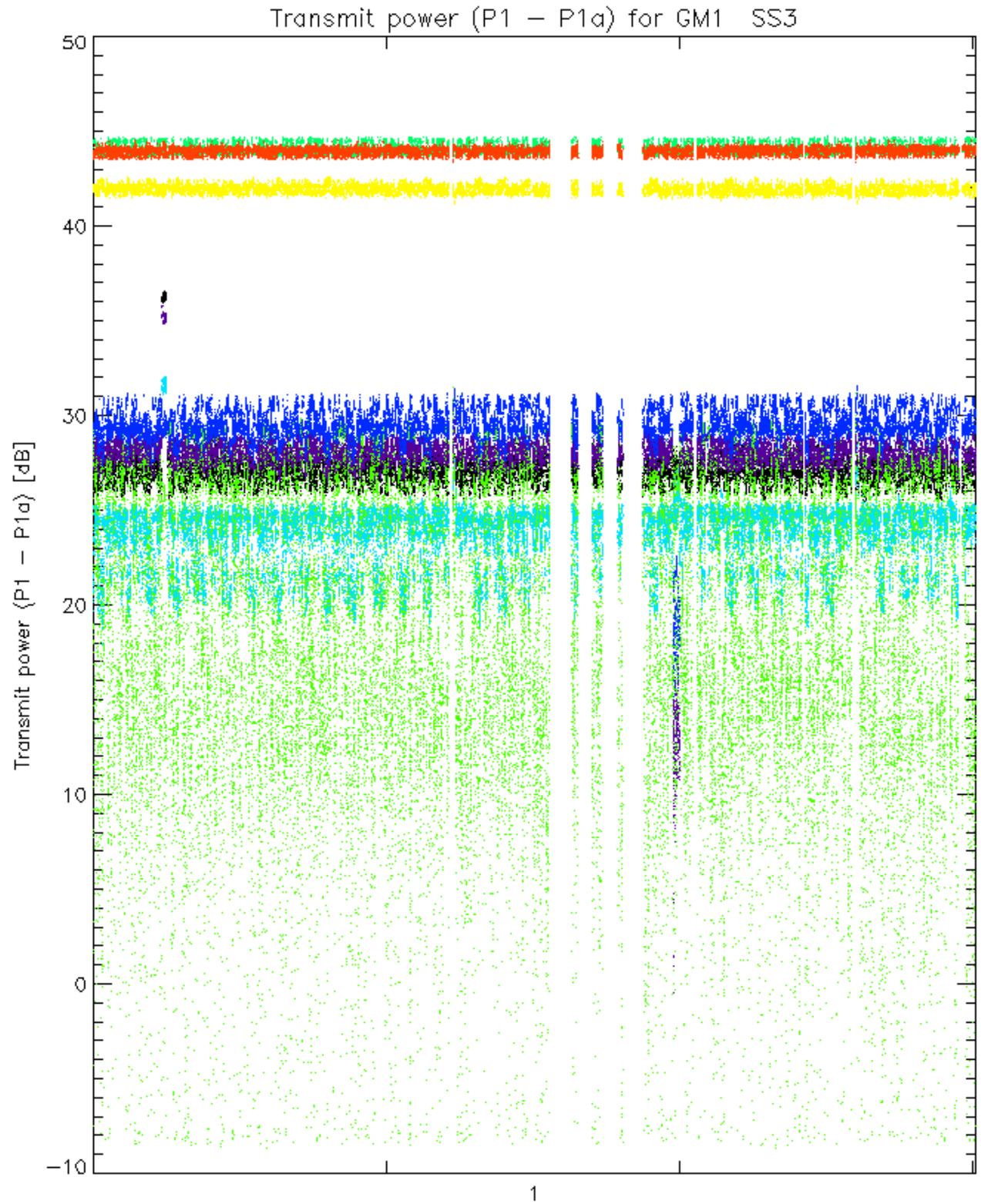
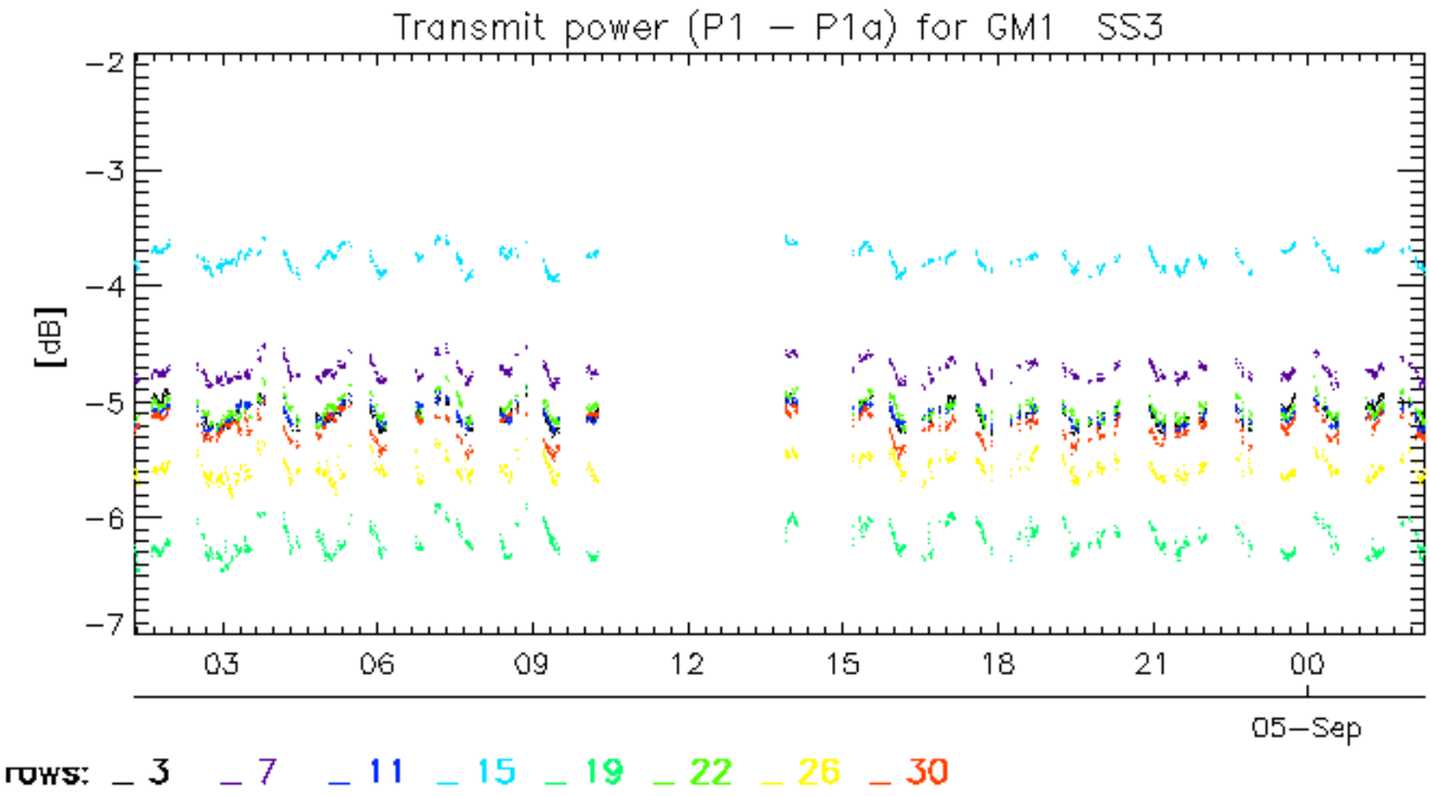
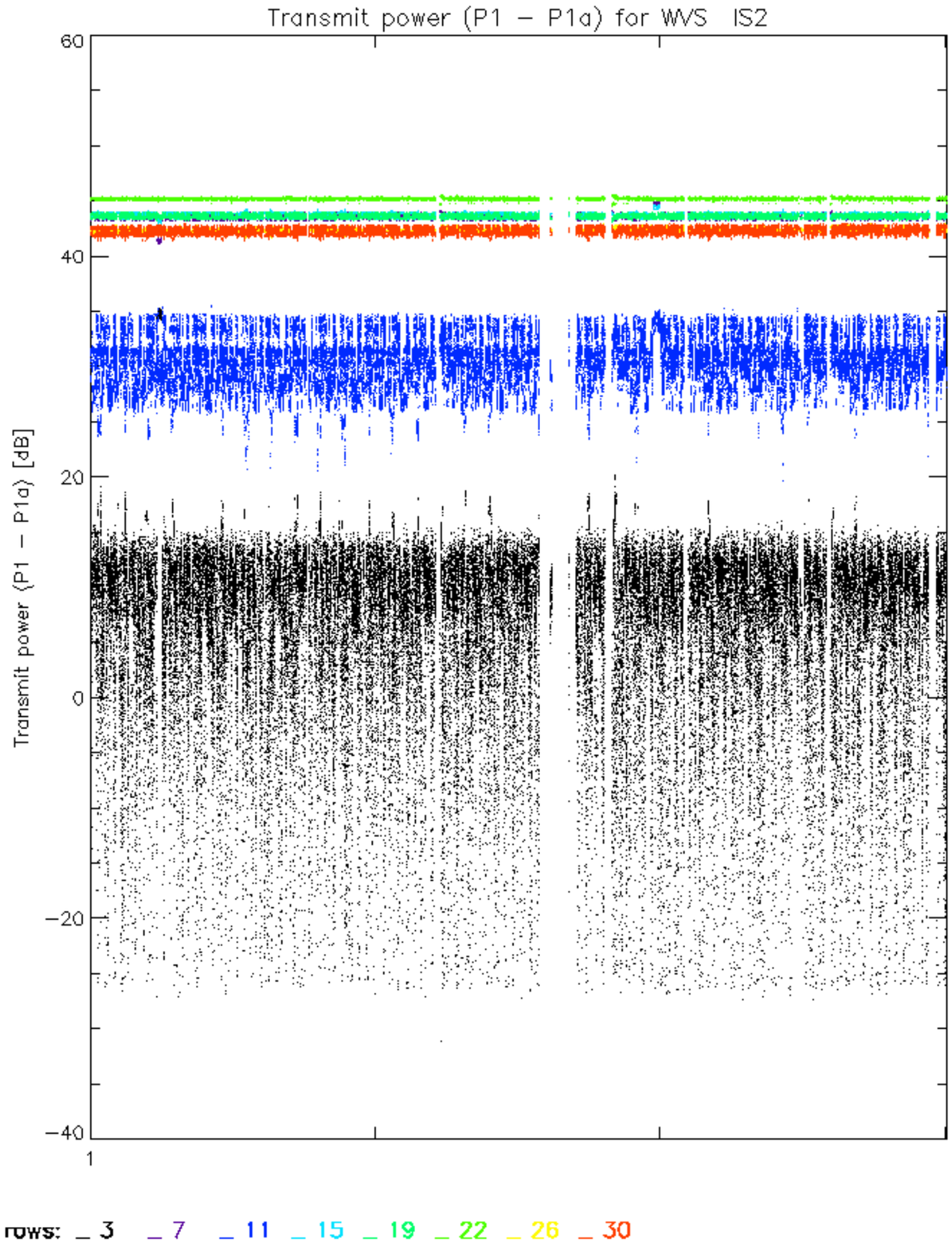
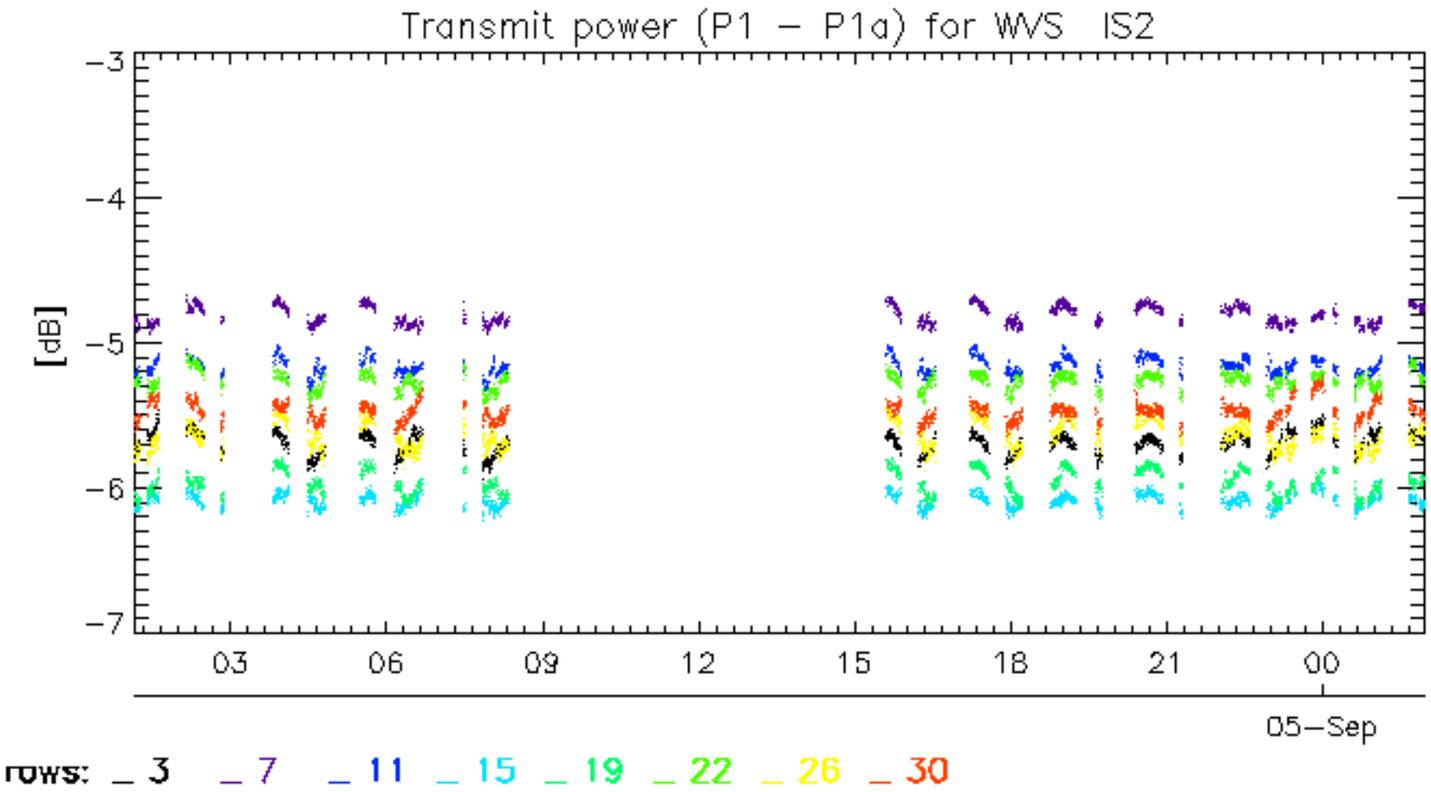

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
1
rows: 3 7 11 15 19 22 26 30


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


Transmit power (P1 – P1a) for WVS IS2
Transmit power (P1 – P1a) [dB]
60
40
20
0
−20
−40
1
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
05–Sep
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.