PRELIMINARY REPORT OF 050912

last update on Mon Sep 12 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 2005-09-11 00:00:00 to 2005-09-12 10:50:01

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

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

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	20050902 033423
H	20050901 040600

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	-3.286081	0.006912	0.036076

7	P1	-3.172530	0.010513	-0.017104
11	P1	-4.729401	0.033595	-0.025199
15	P1	-5.622901	0.048967	-0.037452
19	P1	-3.817289	0.004426	-0.008064
22	P1	-4.618029	0.011930	-0.002252
26	P1	-4.825959	0.023240	0.005377
30	P1	-7.258017	0.025231	-0.059073
3	P1	-15.543338	0.073191	-0.012944
7	P1	-15.584268	0.085437	-0.017774
11	P1	-21.809132	0.389609	0.024987
15	P1	-11.332954	0.107602	-0.016584
19	P1	-14.523242	0.034465	-0.013158
22	P1	-15.513429	0.328830	0.259630
26	P1	-17.237612	0.175005	0.213247
30	P1	-17.865488	0.319764	-0.098485

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.727350	0.087395	0.135580
7	P2	-21.862165	0.101666	0.167371
11	P2	-13.427654	0.113876	0.206655
15	P2	-7.039301	0.094728	0.040358
19	P2	-9.576734	0.099608	0.030872
22	P2	-16.801086	0.102119	0.055337
26	P2	-16.500351	0.102400	0.027872
30	P2	-18.804052	0.090010	-0.005047

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.154744	0.003882	0.008184
7	P3	-8.154744	0.003882	0.008184
11	P3	-8.154744	0.003882	0.008184
15	P3	-8.154744	0.003882	0.008184
19	P3	-8.154744	0.003882	0.008184
22	P3	-8.154744	0.003882	0.008184
26	P3	-8.154749	0.003882	0.008195
30	P3	-8.154749	0.003882	0.008195

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	-2.777753	0.013645	0.029490
7	P1	-2.958438	0.038590	0.017946
11	P1	-4.040429	0.029461	-0.036494
15	P1	-3.629137	0.027152	-0.046288
19	P1	-3.634936	0.014031	0.016869
22	P1	-5.711663	0.041404	-0.066718
26	P1	-7.360479	0.030867	0.058725
30	P1	-6.289895	0.069987	0.054092
3	P1	-10.951120	0.046680	-0.096617
7	P1	-10.501723	0.150515	0.019324
11	P1	-12.659595	0.100273	-0.059269
15	P1	-11.651609	0.097807	-0.079783
19	P1	-15.463907	0.054293	0.069179
22	P1	-25.410816	1.981013	0.424336
26	P1	-15.177179	0.235686	0.294700
30	P1	-20.094959	1.356782	0.145854

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.432837	0.051305	0.185060
7	P2	-21.976425	0.035156	0.109544
11	P2	-9.473099	0.070073	0.239288
15	P2	-5.075990	0.038699	0.085298
19	P2	-6.841924	0.058644	0.102190
22	P2	-7.020100	0.044331	0.087925

26	P2	-23.947866	0.035610	0.046839
30	P2	-21.925770	0.043990	0.062476

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.000056	0.004284	0.004719
7	P3	-8.000159	0.004289	0.004804
11	P3	-8.000091	0.004279	0.004549
15	P3	-8.000053	0.004292	0.005006
19	P3	-8.000113	0.004284	0.004766
22	P3	-7.999917	0.004285	0.004692
26	P3	-7.999901	0.004293	0.004311
30	P3	-7.999912	0.004284	0.004811

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	0.000425396
	stdev	2.35131e-07
MEAN Q	mean	0.000447527
	stdev	2.43874e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.125536
	stdev	0.00105963
STDEV Q	mean	0.125792
	stdev	0.00106922

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005091[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

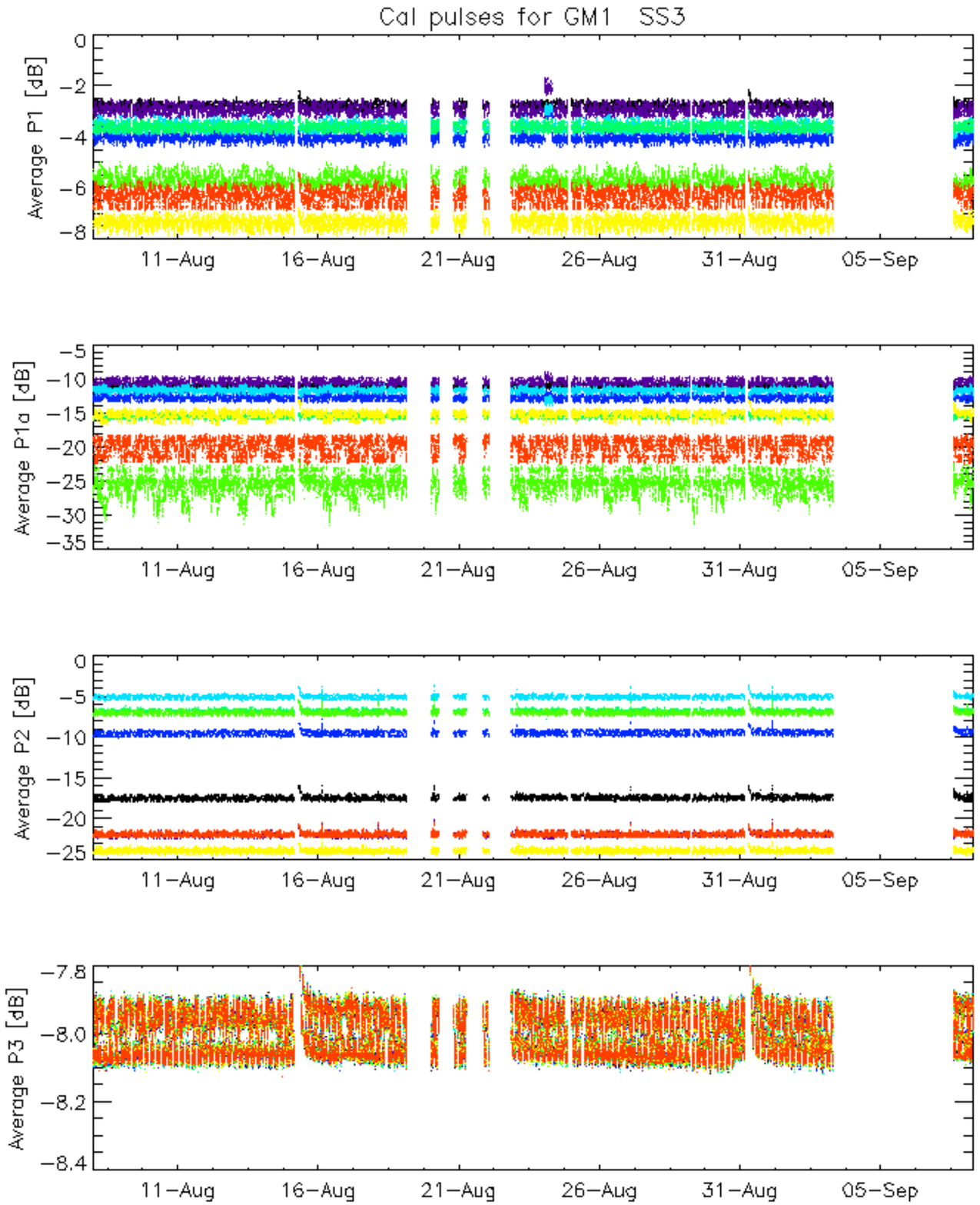
7.4 - Unbiased Doppler Error for GM1

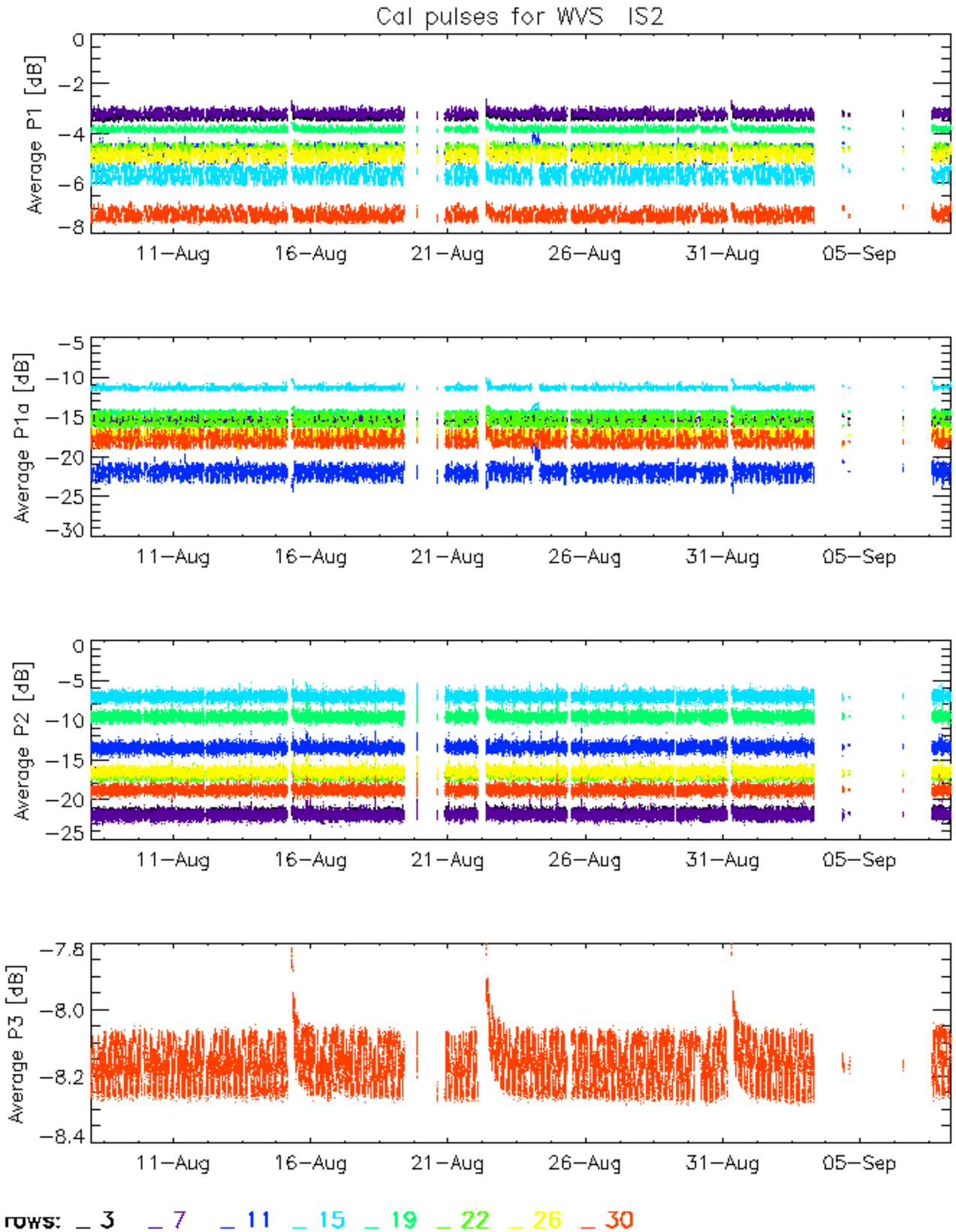
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler
☒
Acsending
☒
Descending

7.6 - Doppler evolution versus ANX for GM1

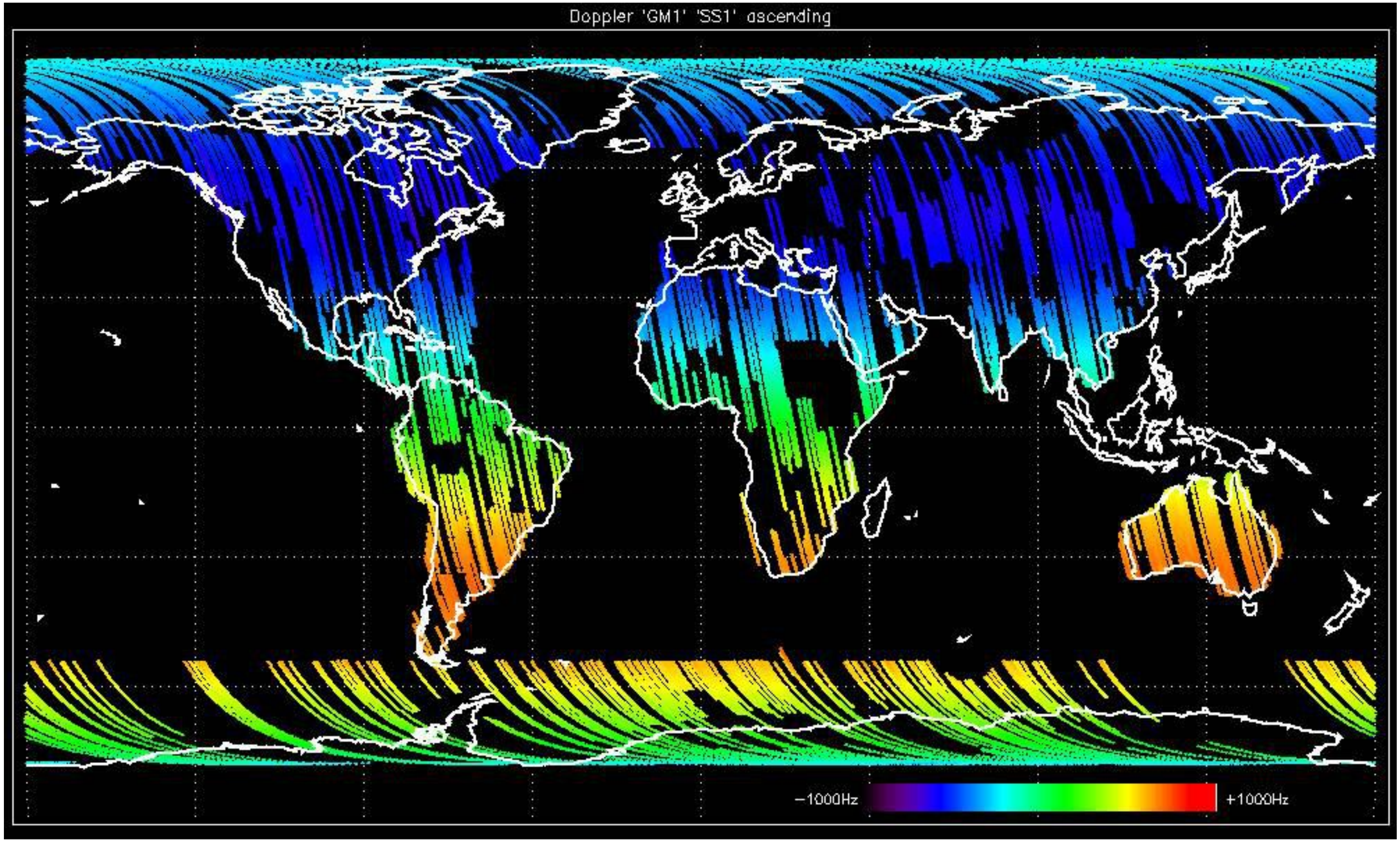

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
11−Aug
16−Aug
21−Aug
26−Aug
31−Aug
05−Sep
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

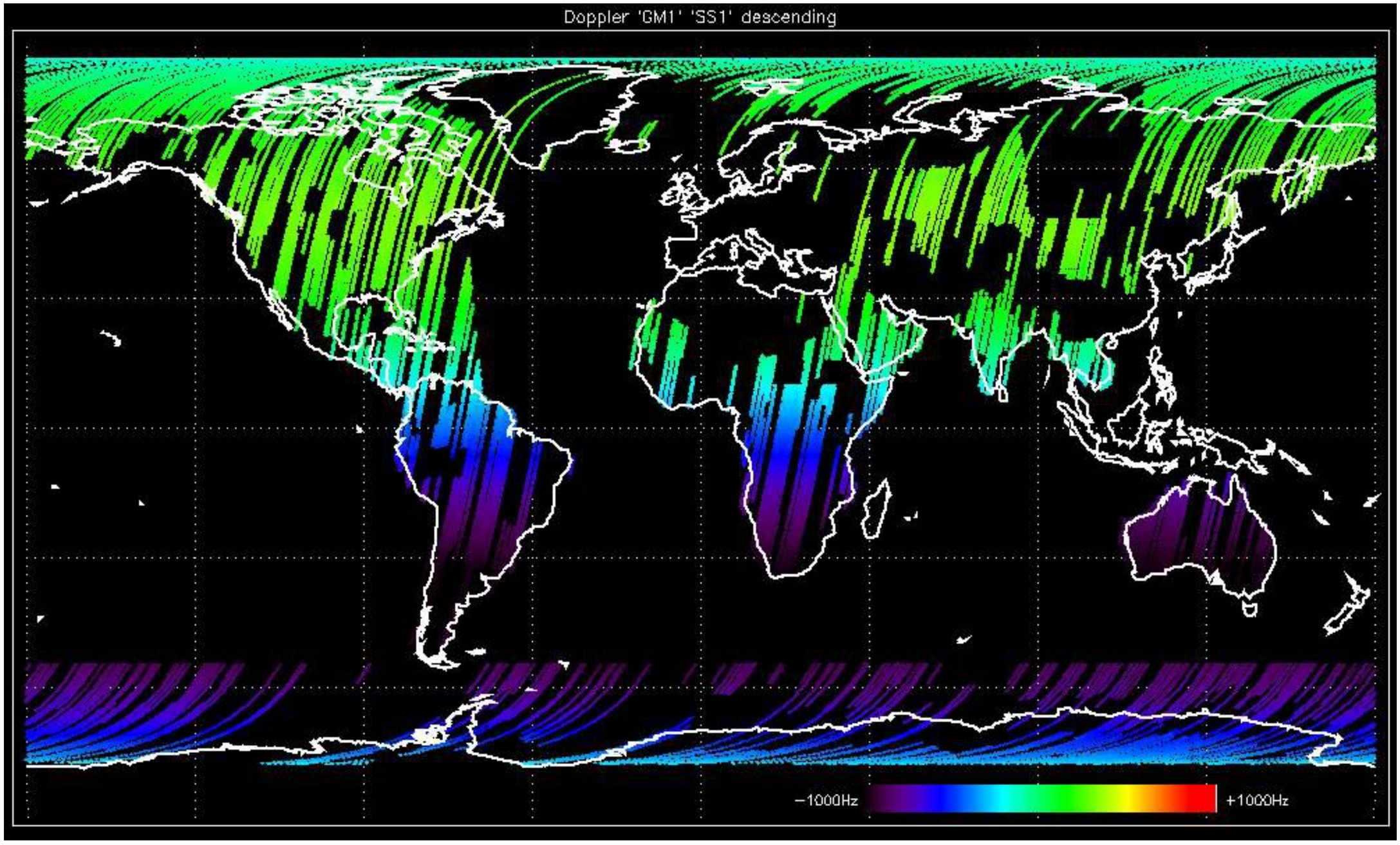

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
11−Aug
16−Aug
21−Aug
26−Aug
31−Aug
05−Sep
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

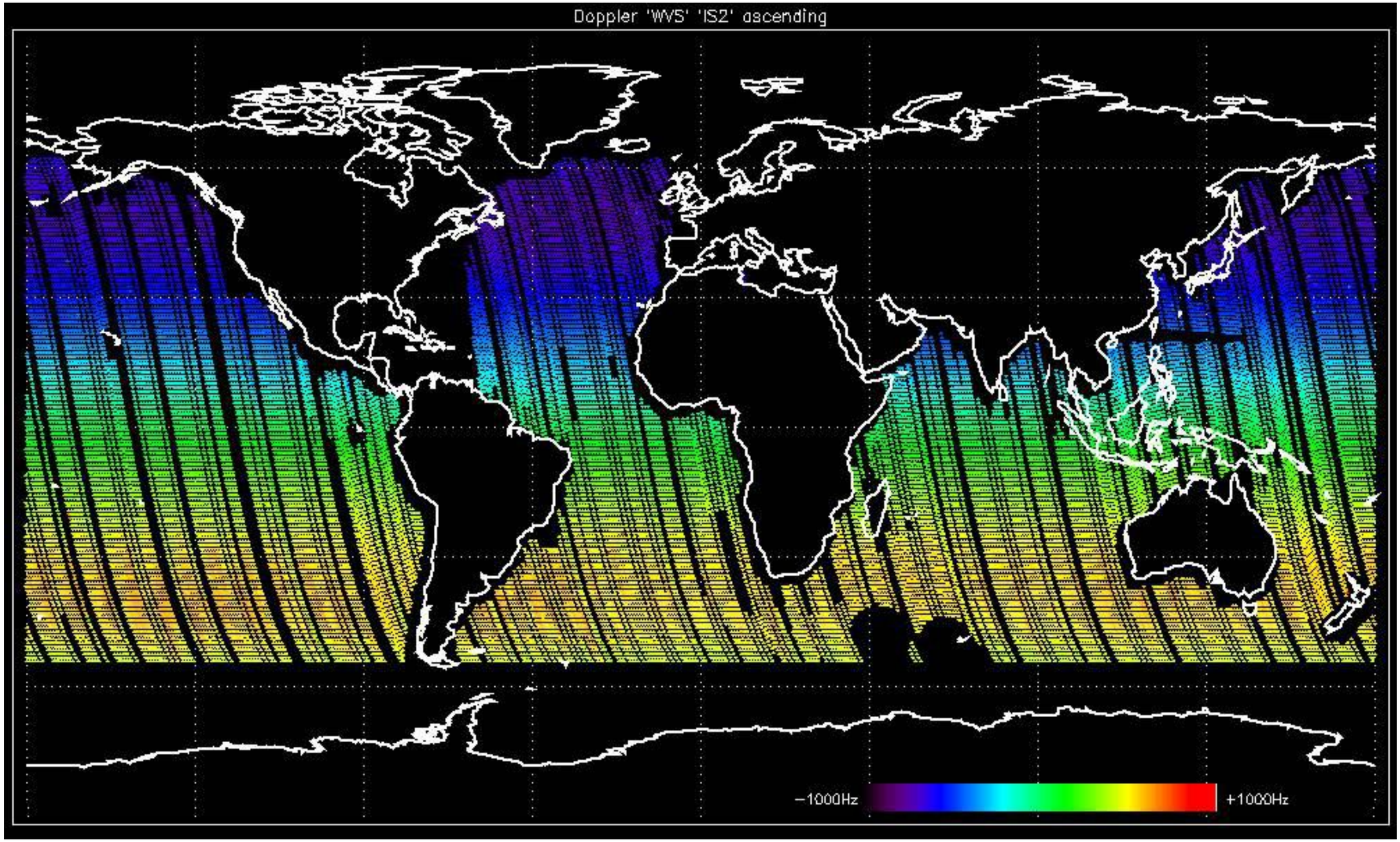
No anomalies observed.

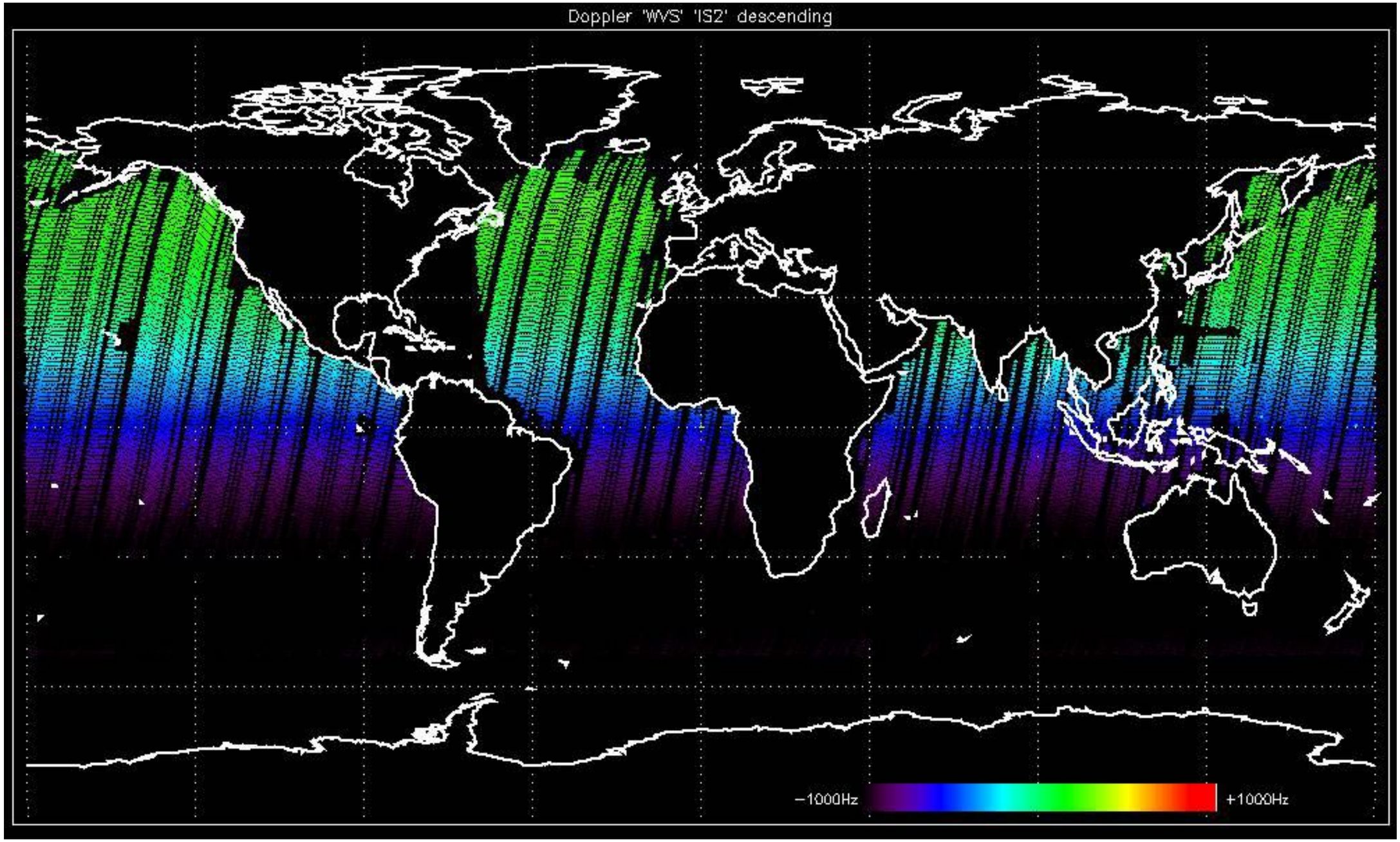
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

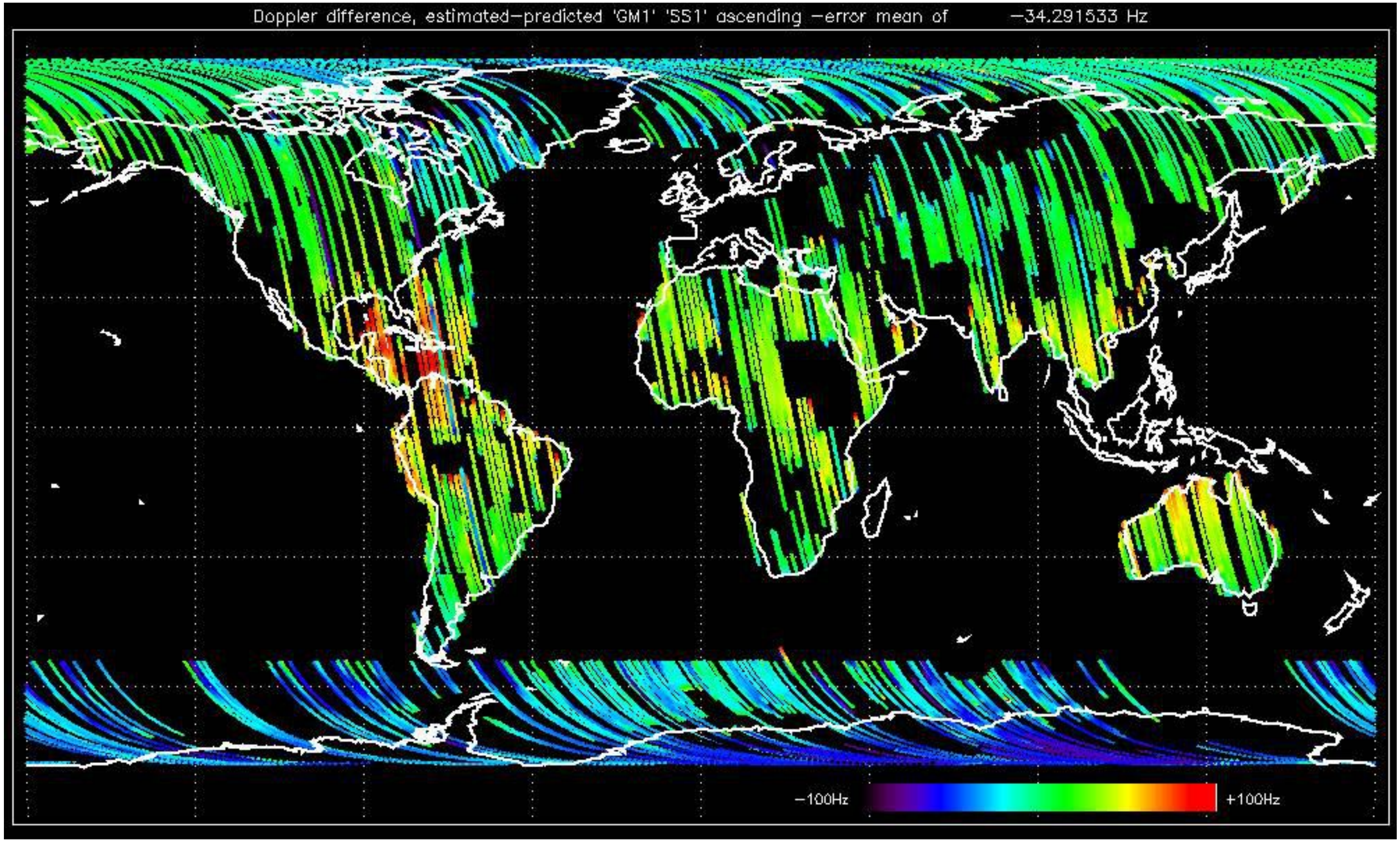
Preliminary report.The data is not yet controled

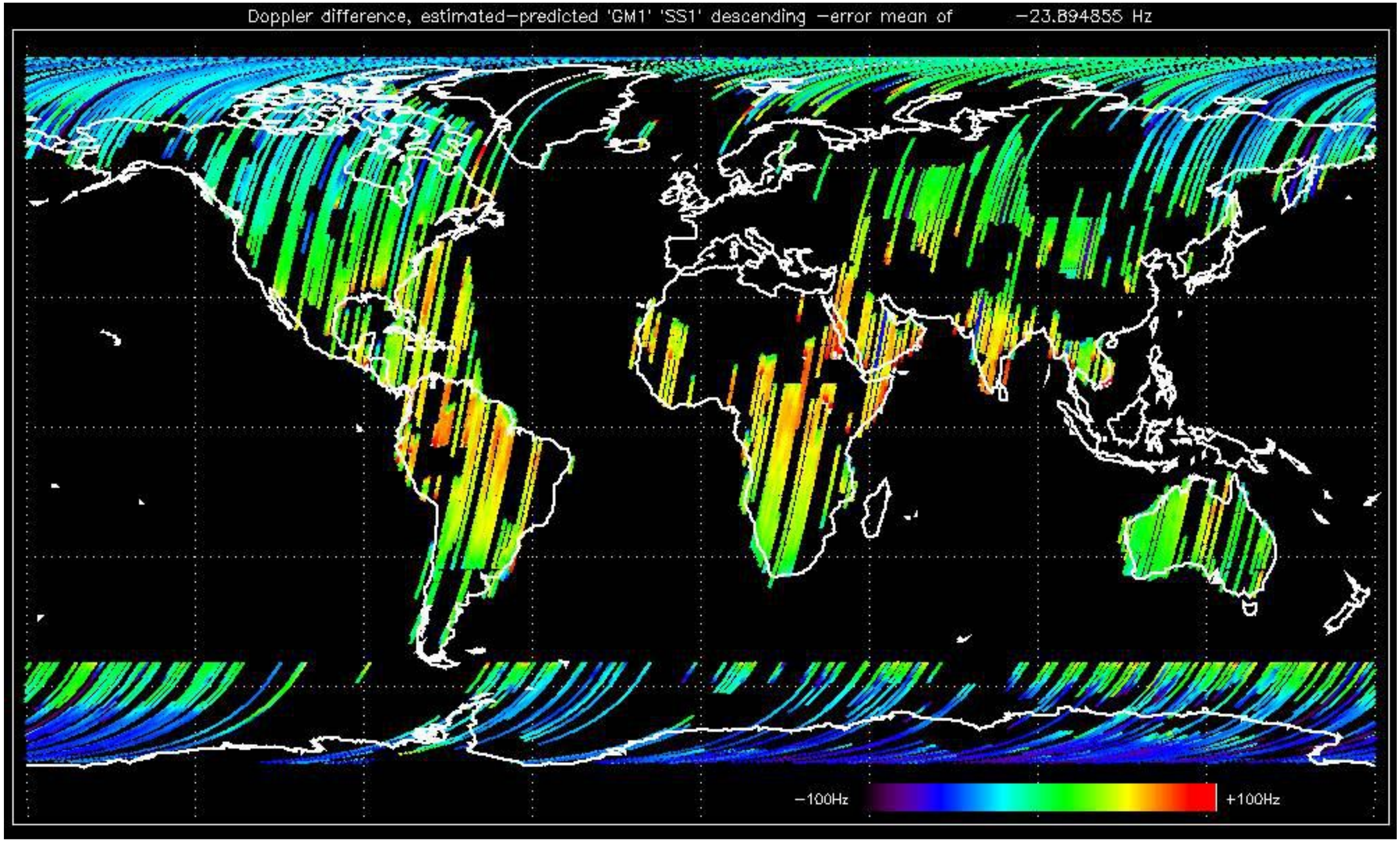

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

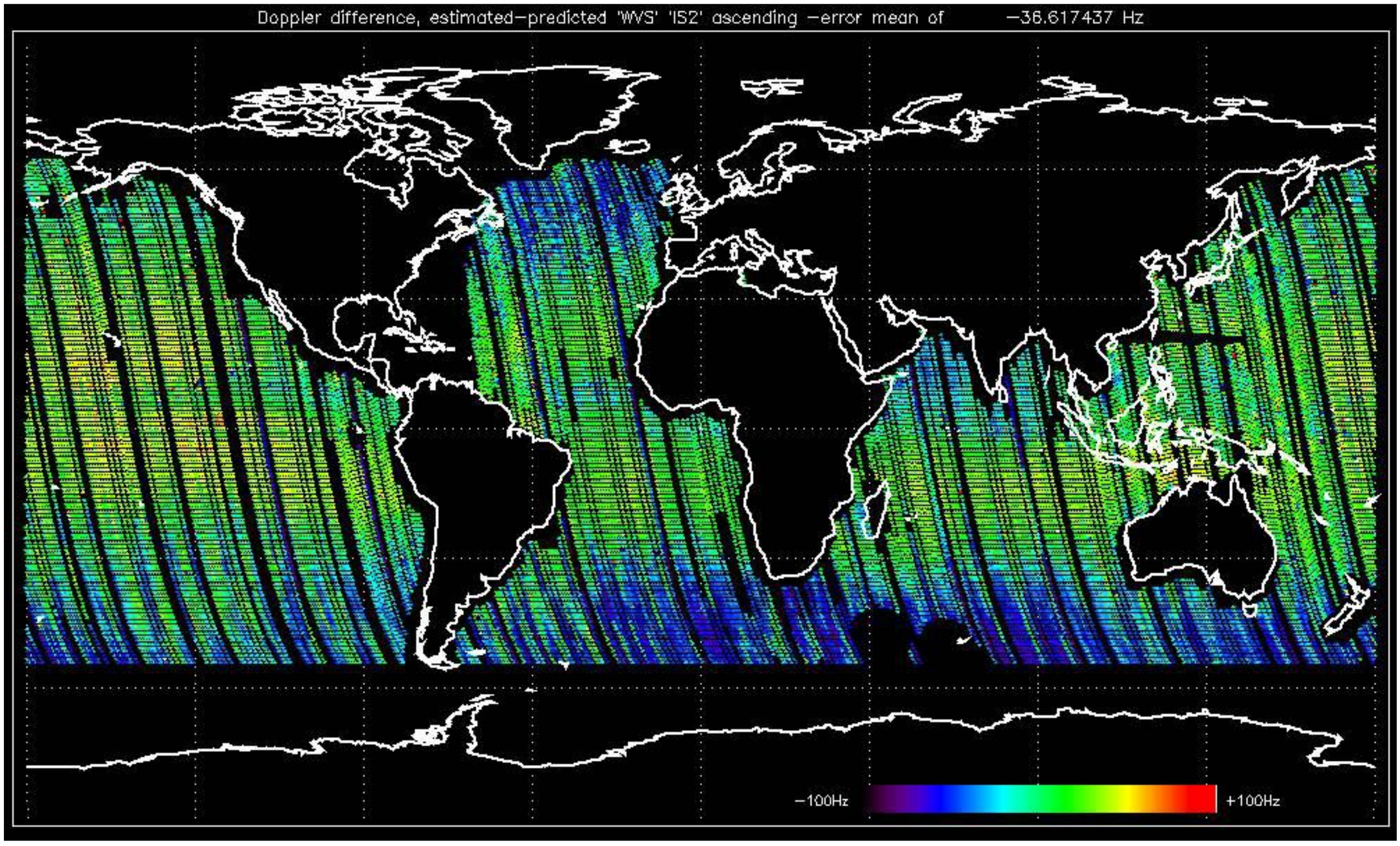

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

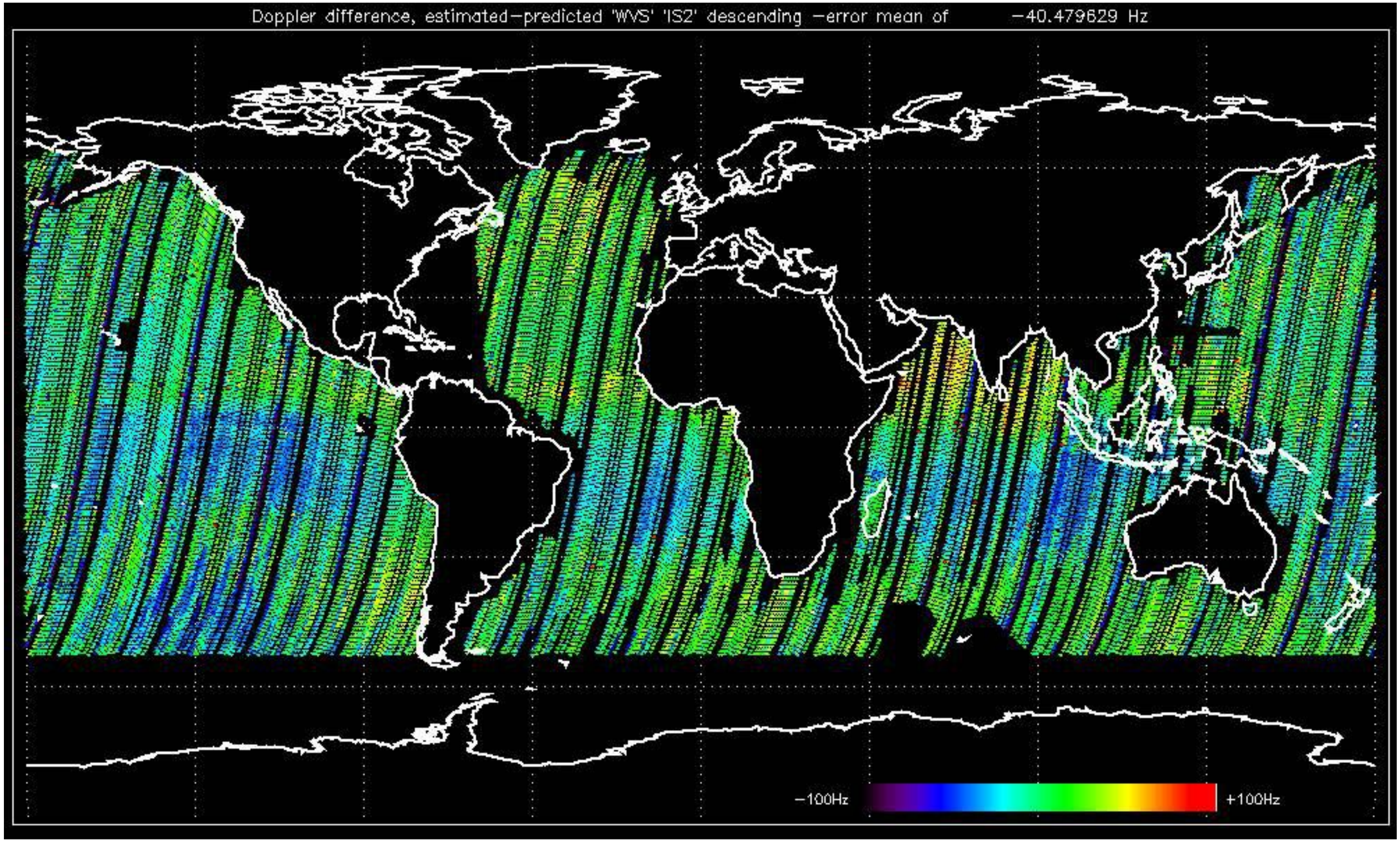

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −34.291533 Hz
−100Hz
+100Hz

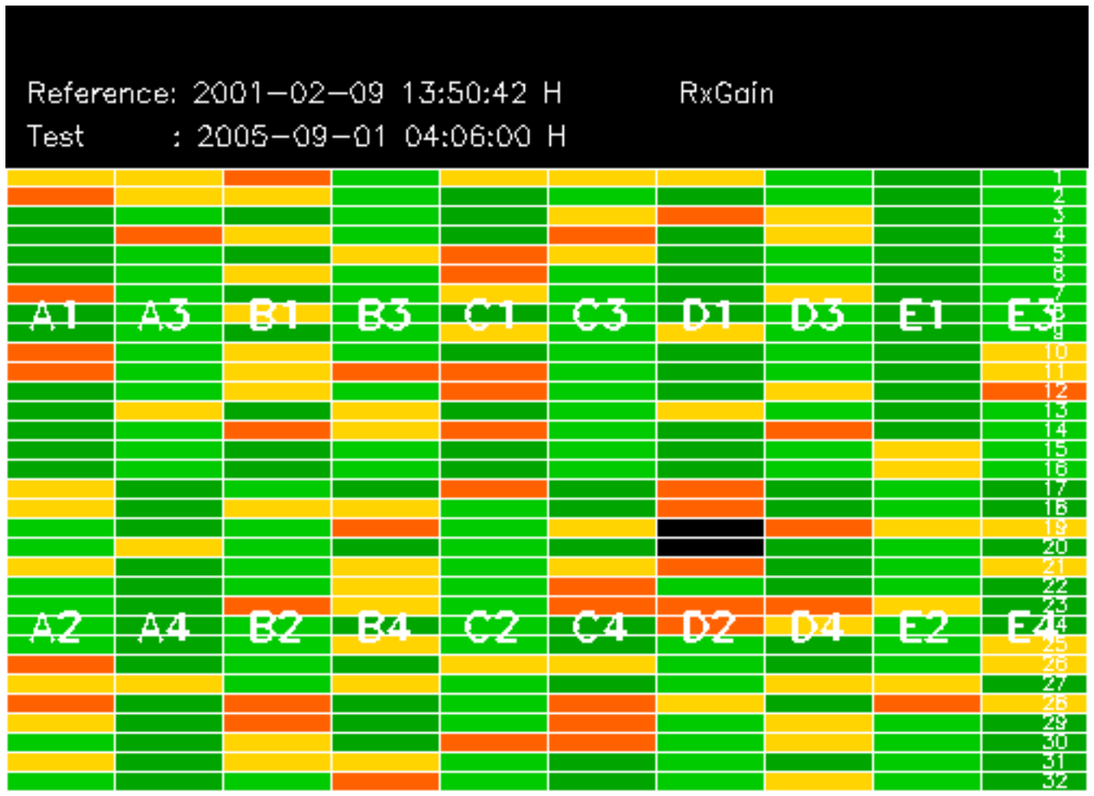

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −23.894855 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −36.617437 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −40.479629 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2005-09-01 04:06:00 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
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10
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12
13
14
15
16
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18
19
20
21
22
23
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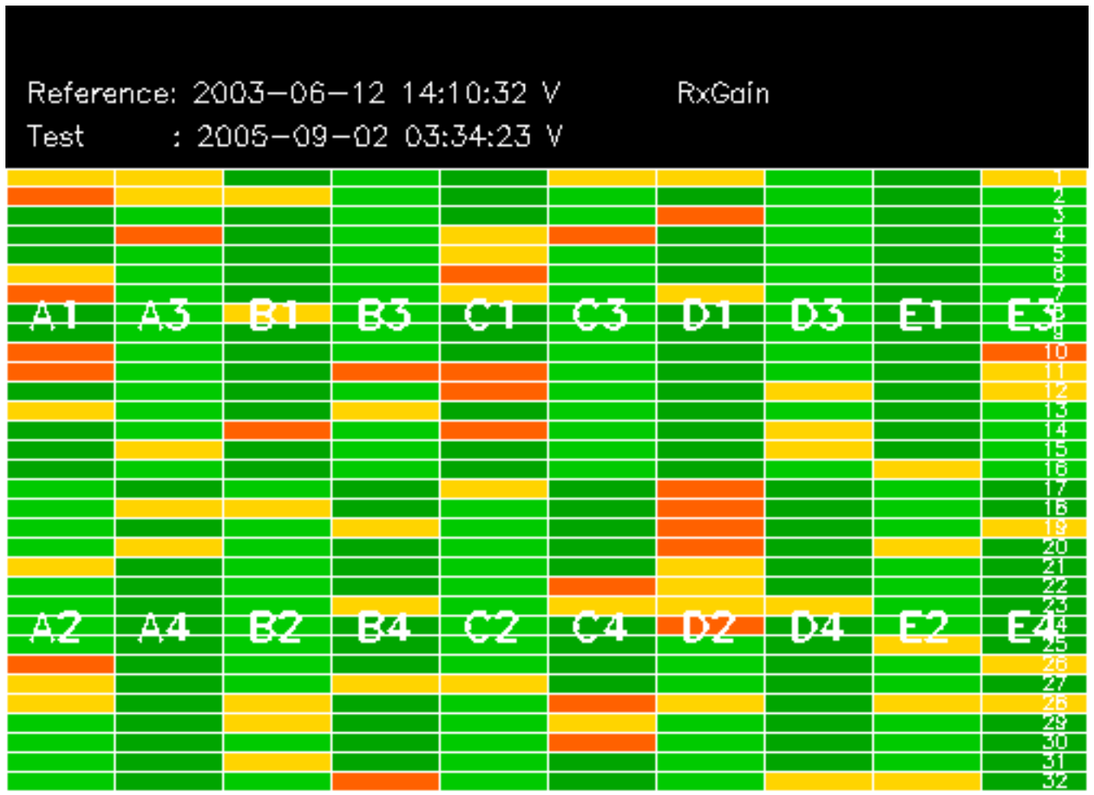
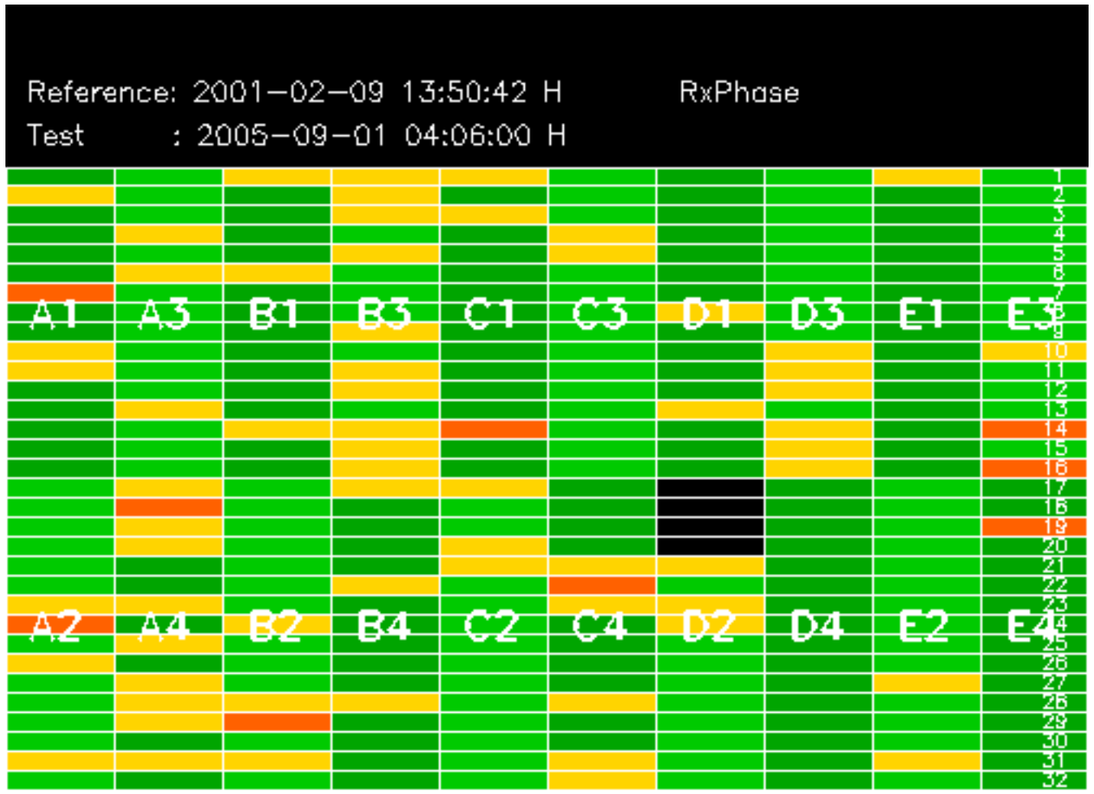
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-09-01 04:06:00 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 : 2005-09-02 03:34:23 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 : 2005-09-02 03:34:23 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 : 2005-09-01 04:06:00 H
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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9
10
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22
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24
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2005-09-01 04:06:00 H
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
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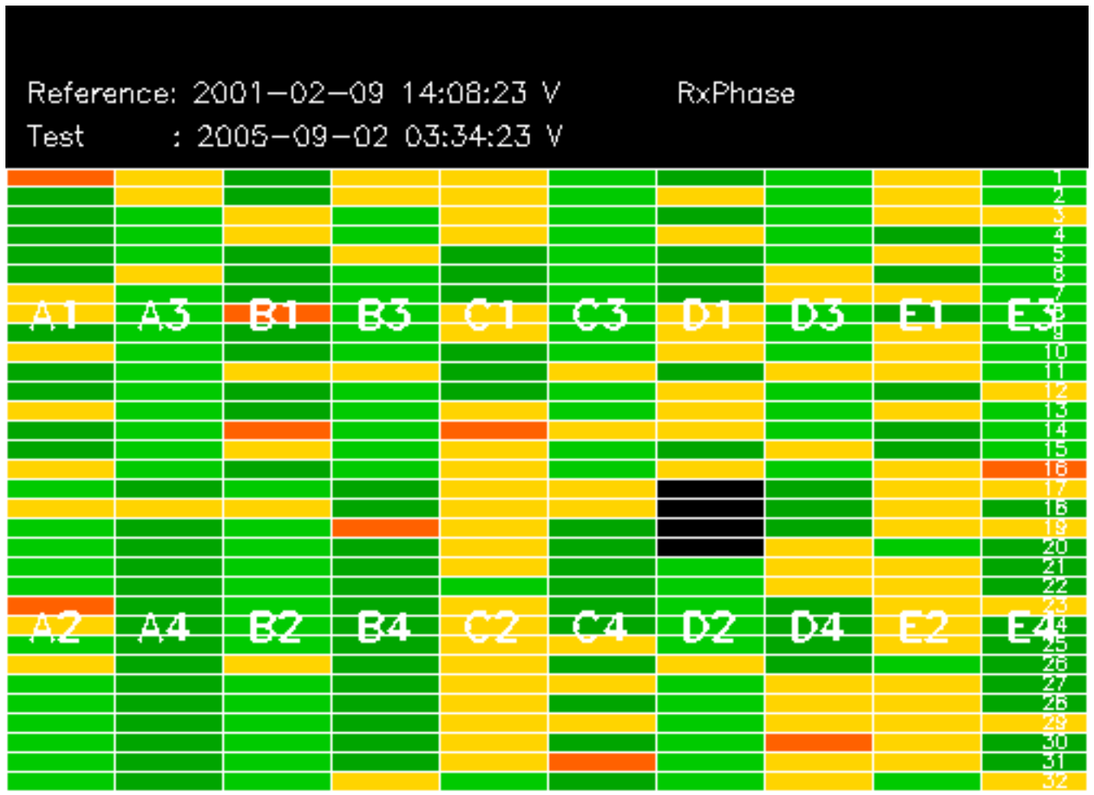
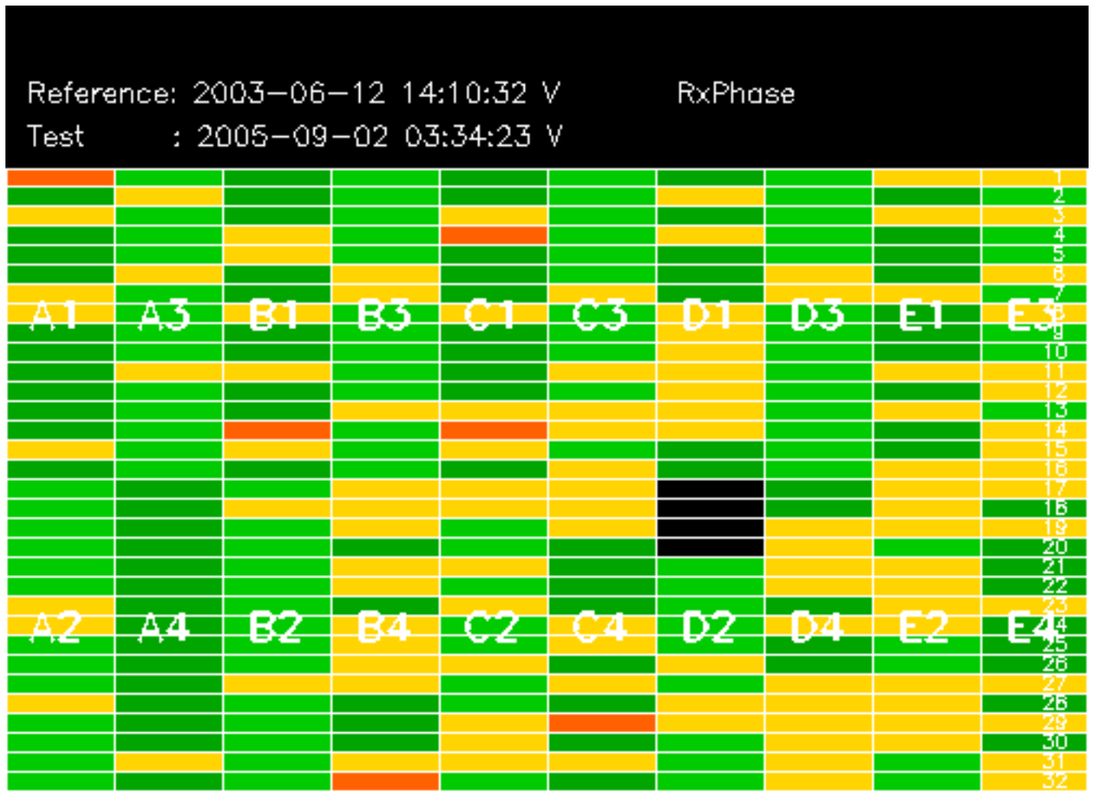
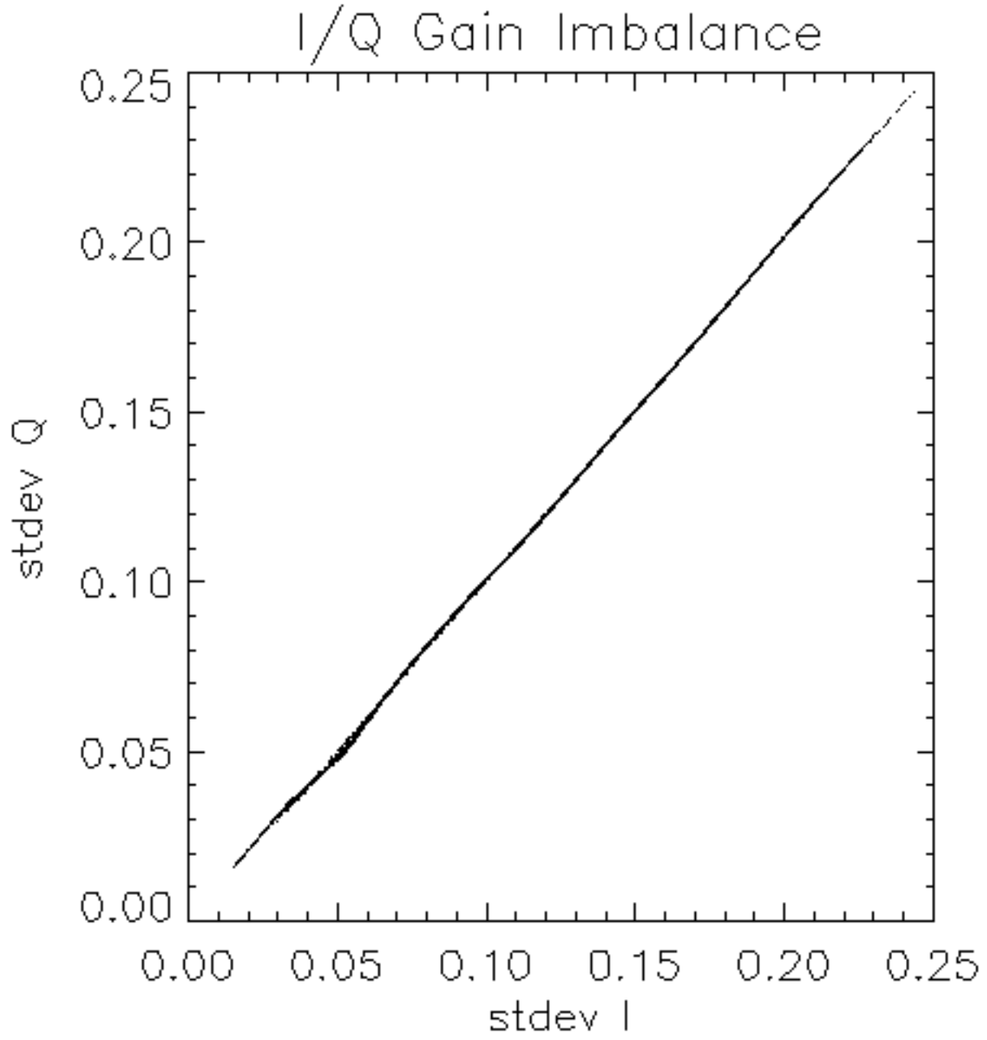
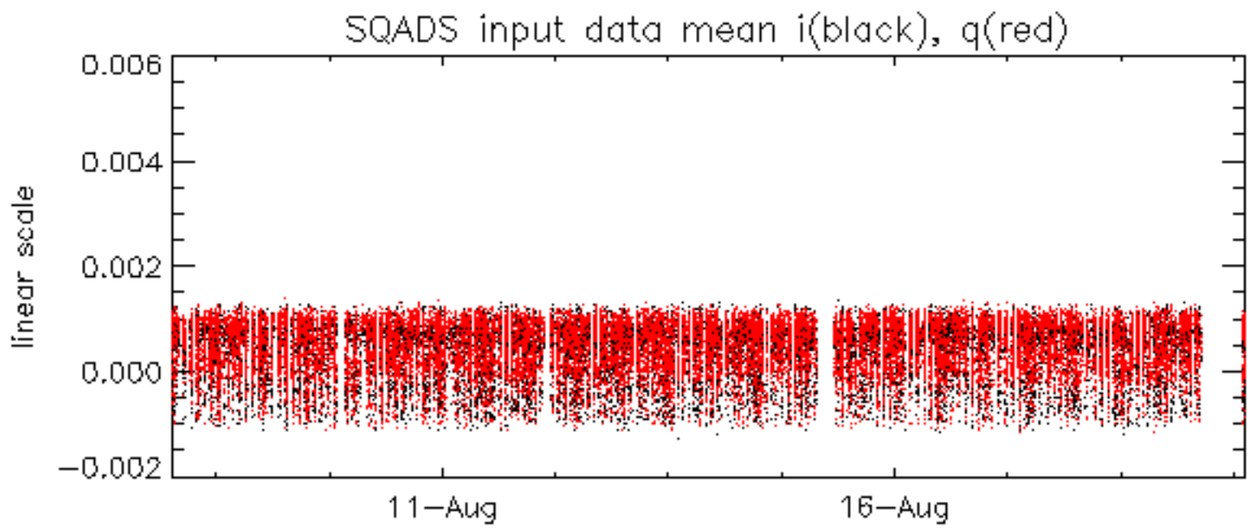
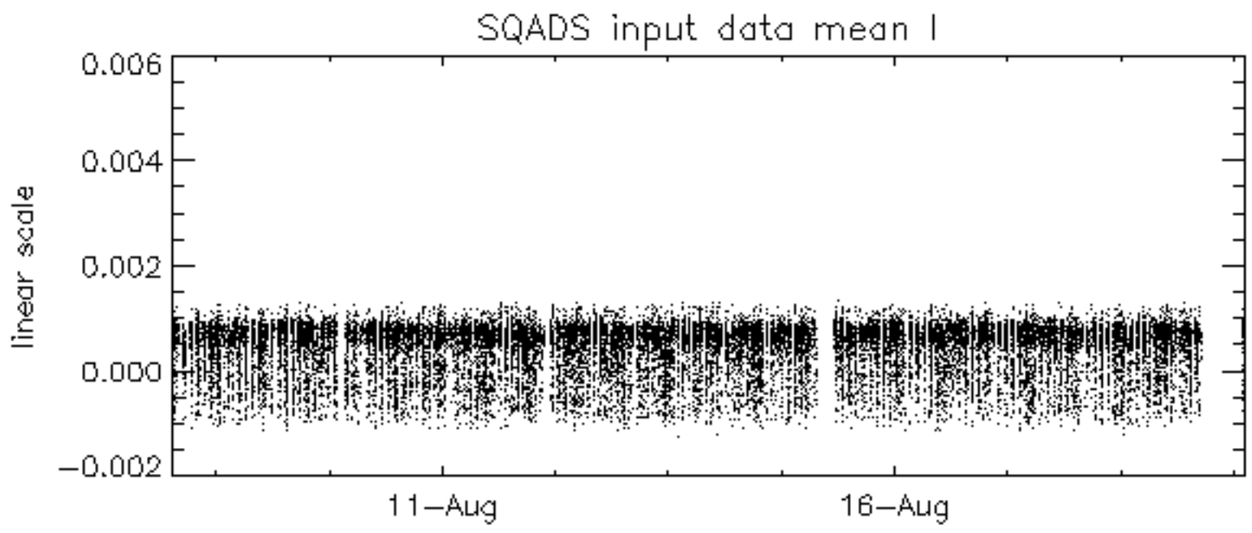
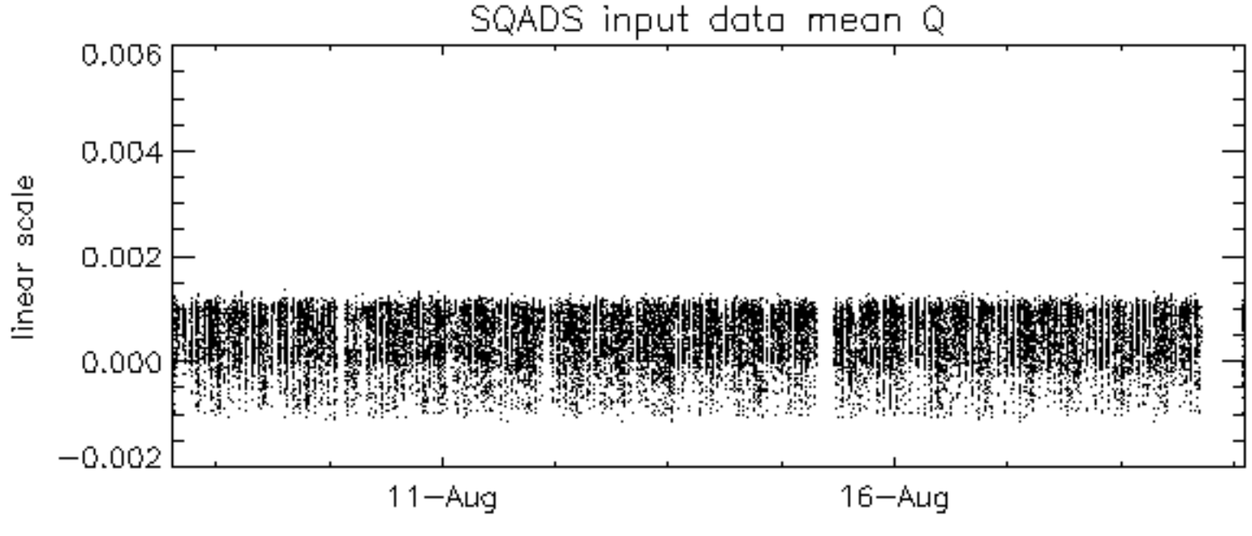

Reference: 2001-02-09 14:08:23 V
Test : 2005-09-02 03:34:23 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

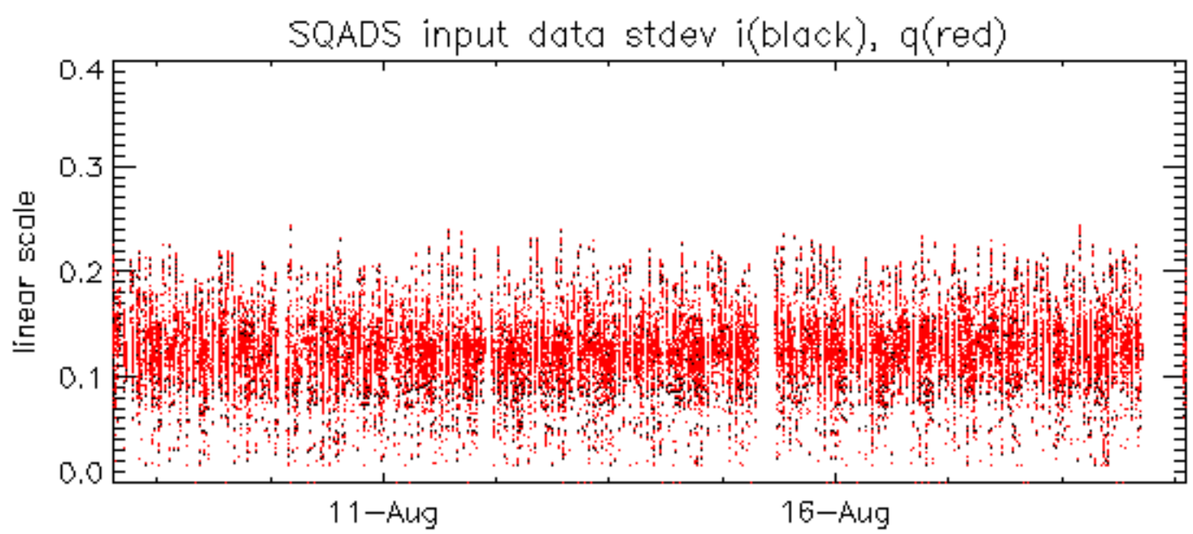

Reference: 2003-06-12 14:10:32 V
Test : 2005-09-02 03:34:23 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

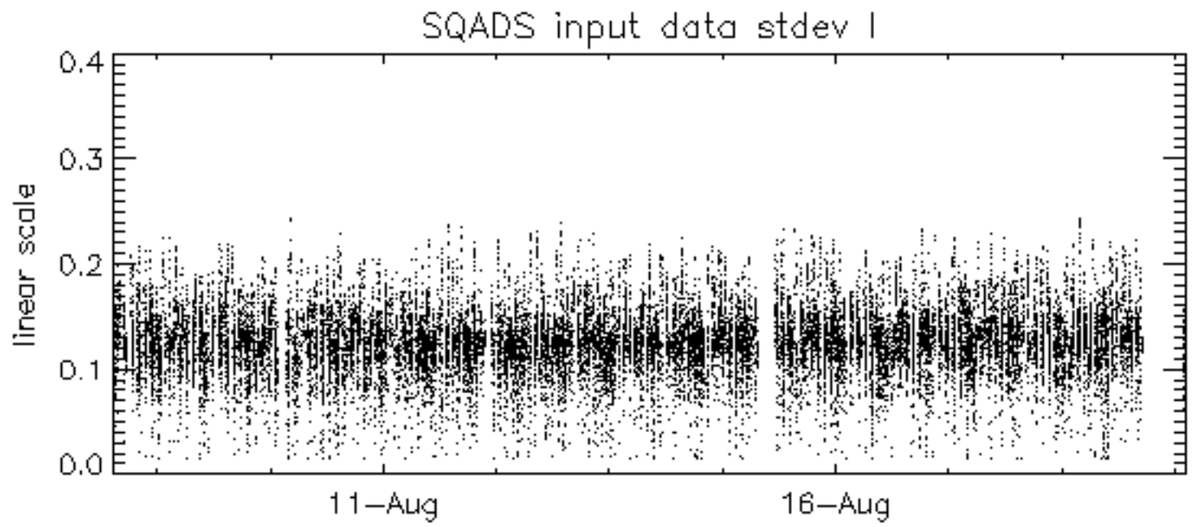

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

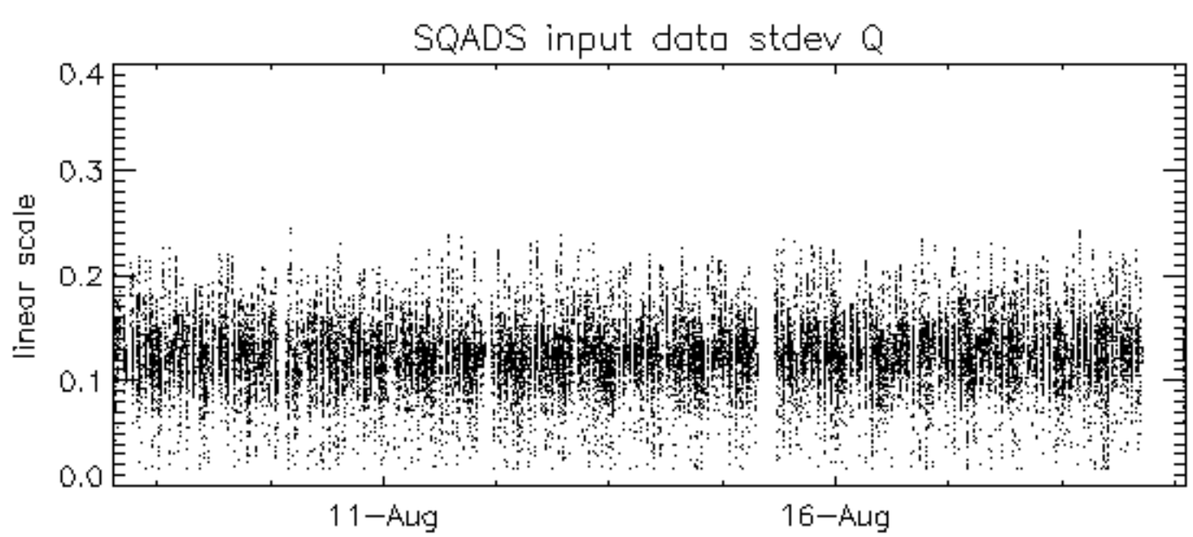

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Aug
16−Aug

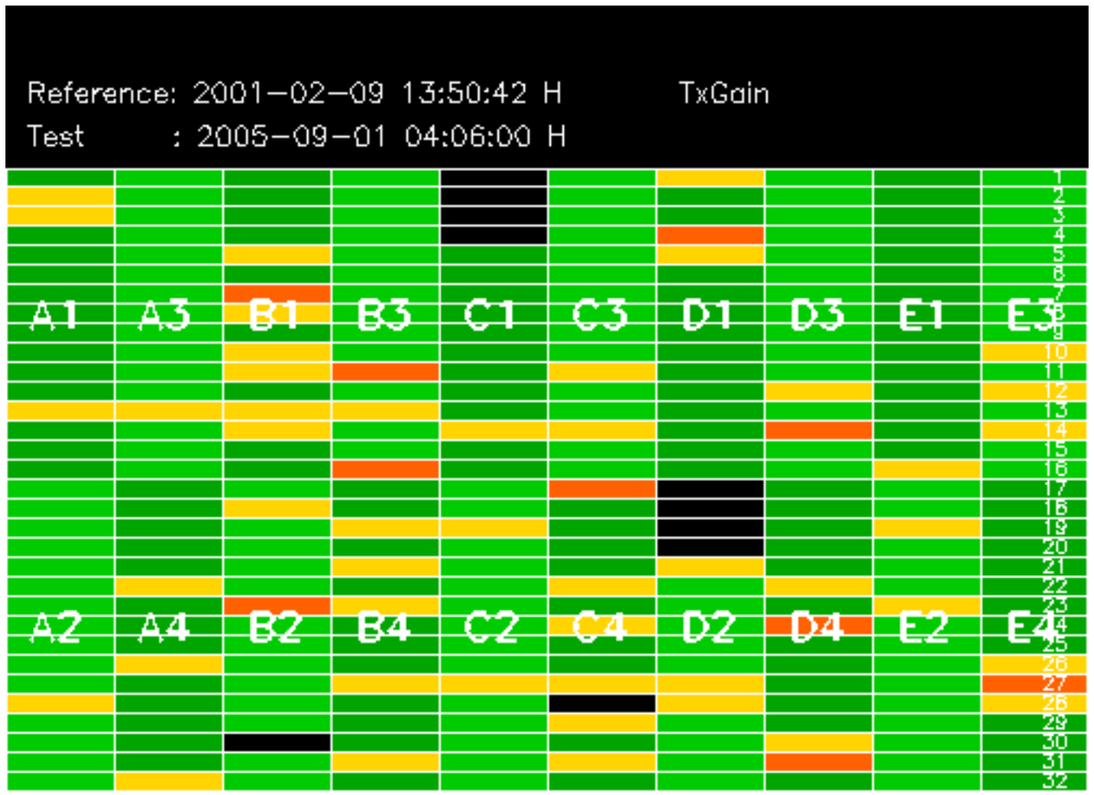

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Aug
16−Aug


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 : 2005-09-01 04:06:00 H
TxGain
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
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8
9
10
11
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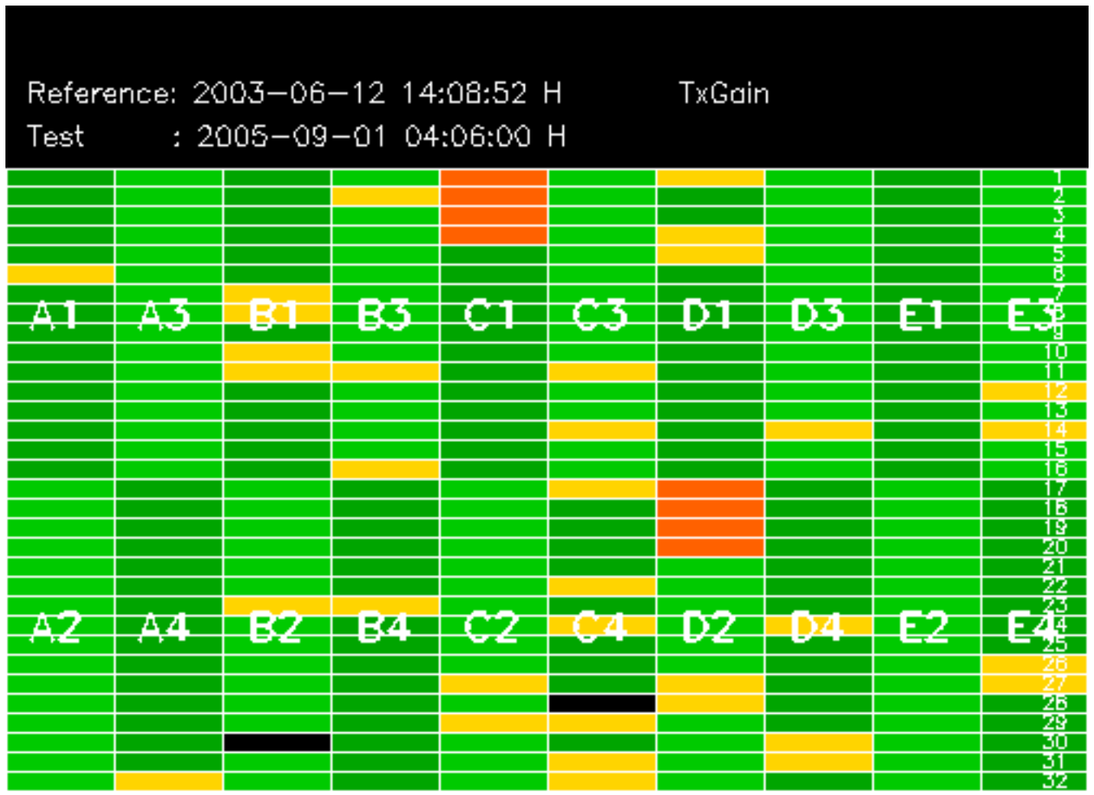
Reference: 2003-06-12 14:08:52 H
Test : 2005-09-01 04:06:00 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2005-09-02 03:34:23 V
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 14:10:32 V
Test : 2005-09-02 03:34:23 V
TxGain
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
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8
9
10
11
12
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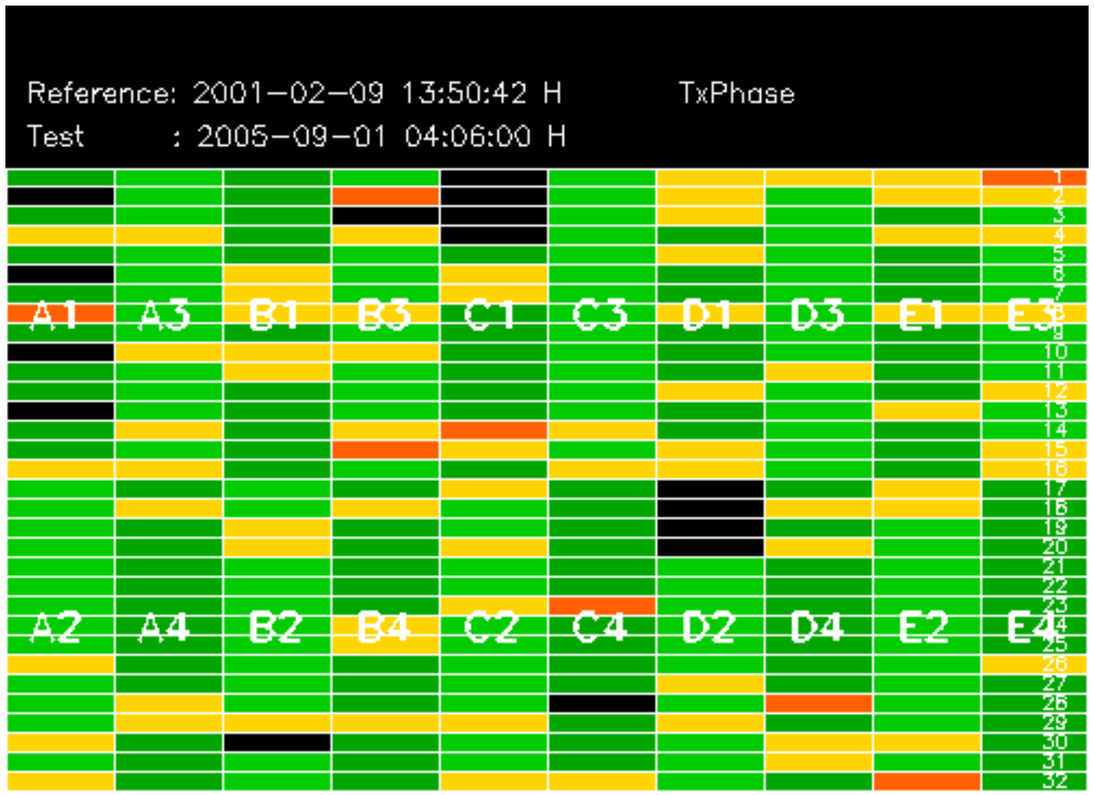
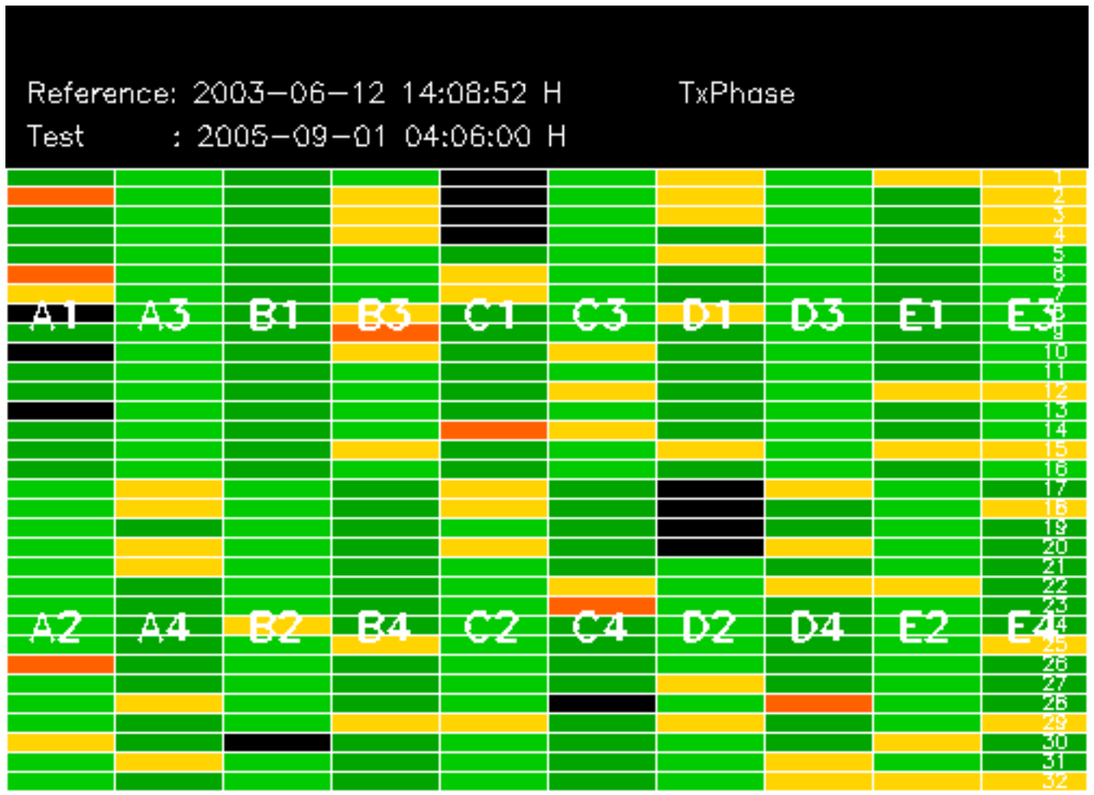
Summary of analysis for the last 3 days 2005091[012]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
</table>


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2005-09-01 04:06:00 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 : 2005-09-01 04:06:00 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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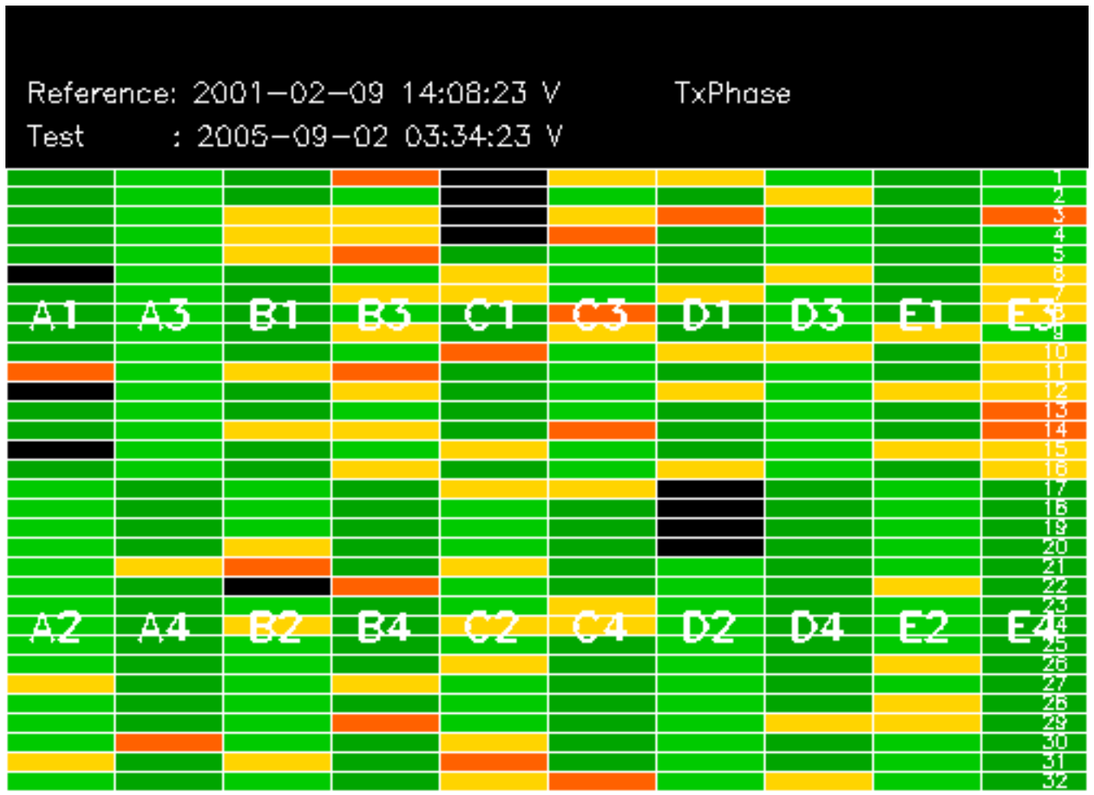
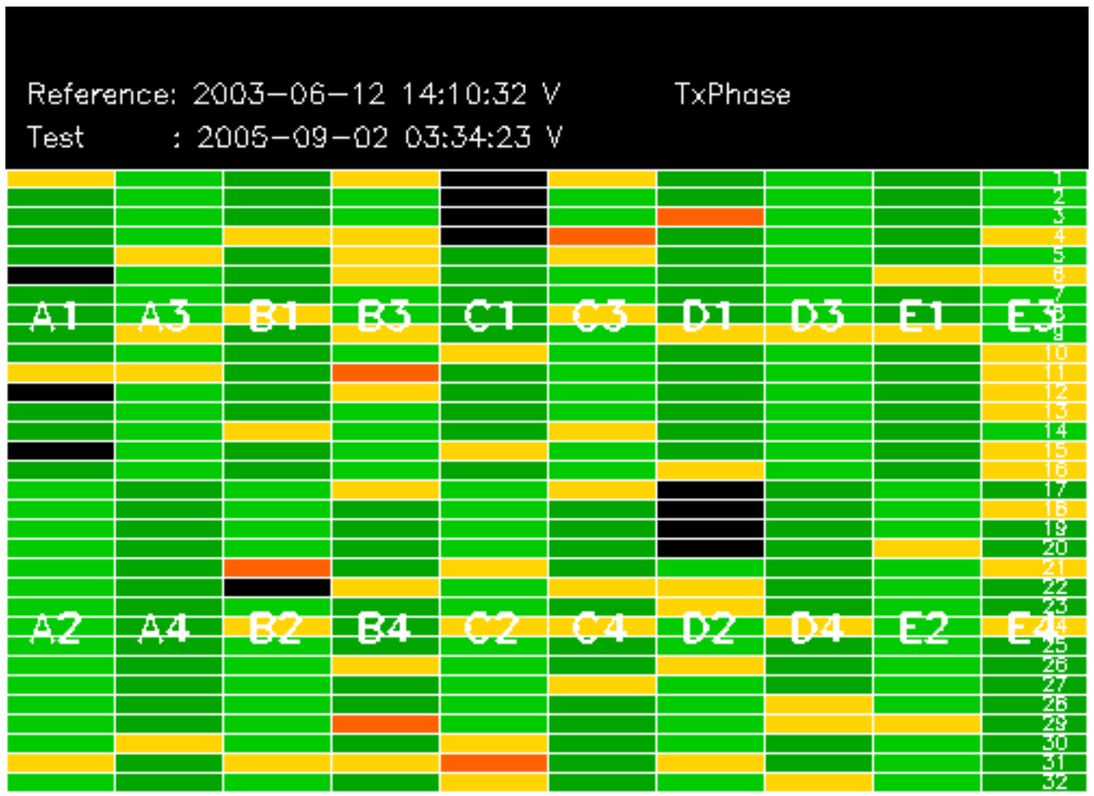
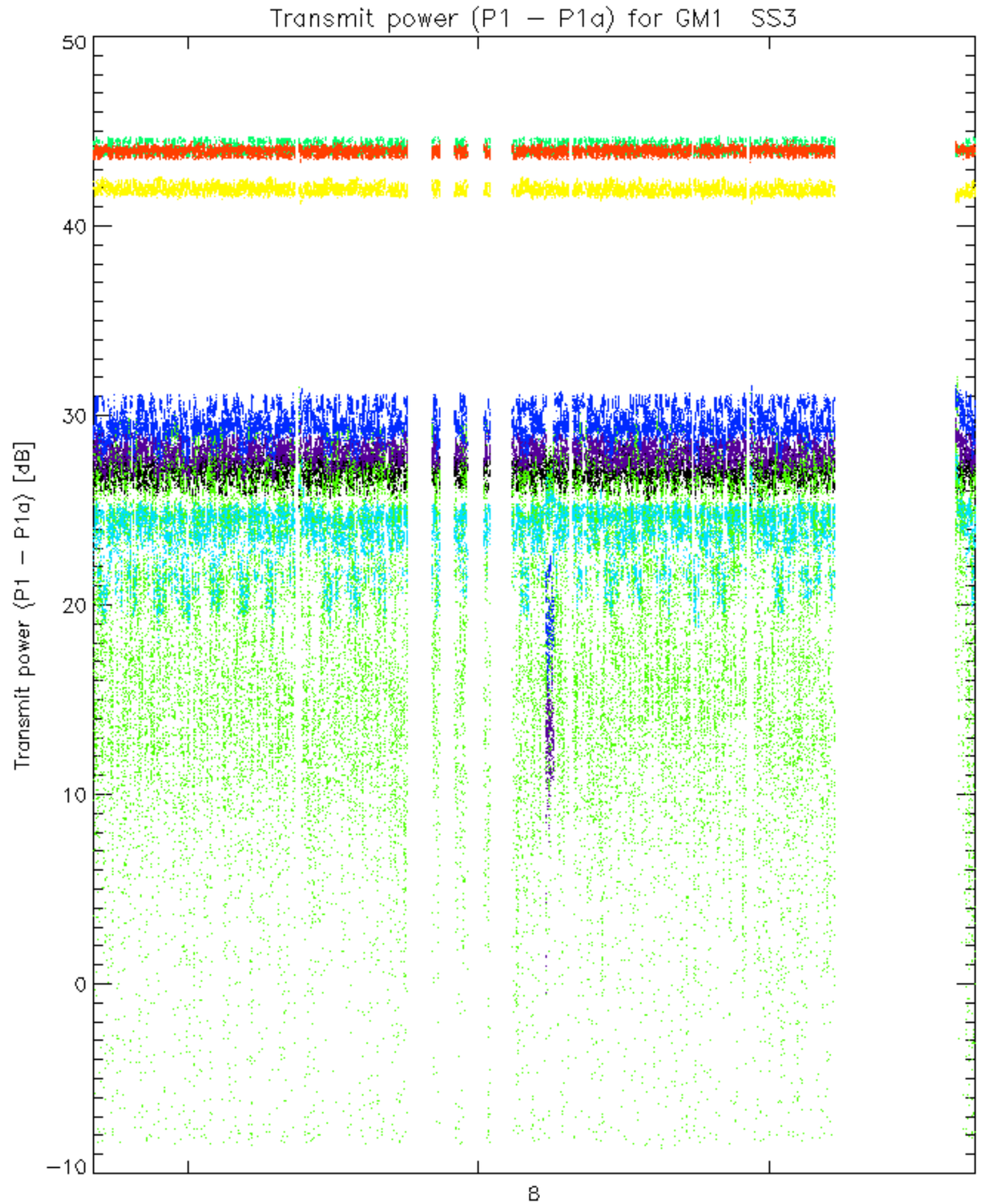
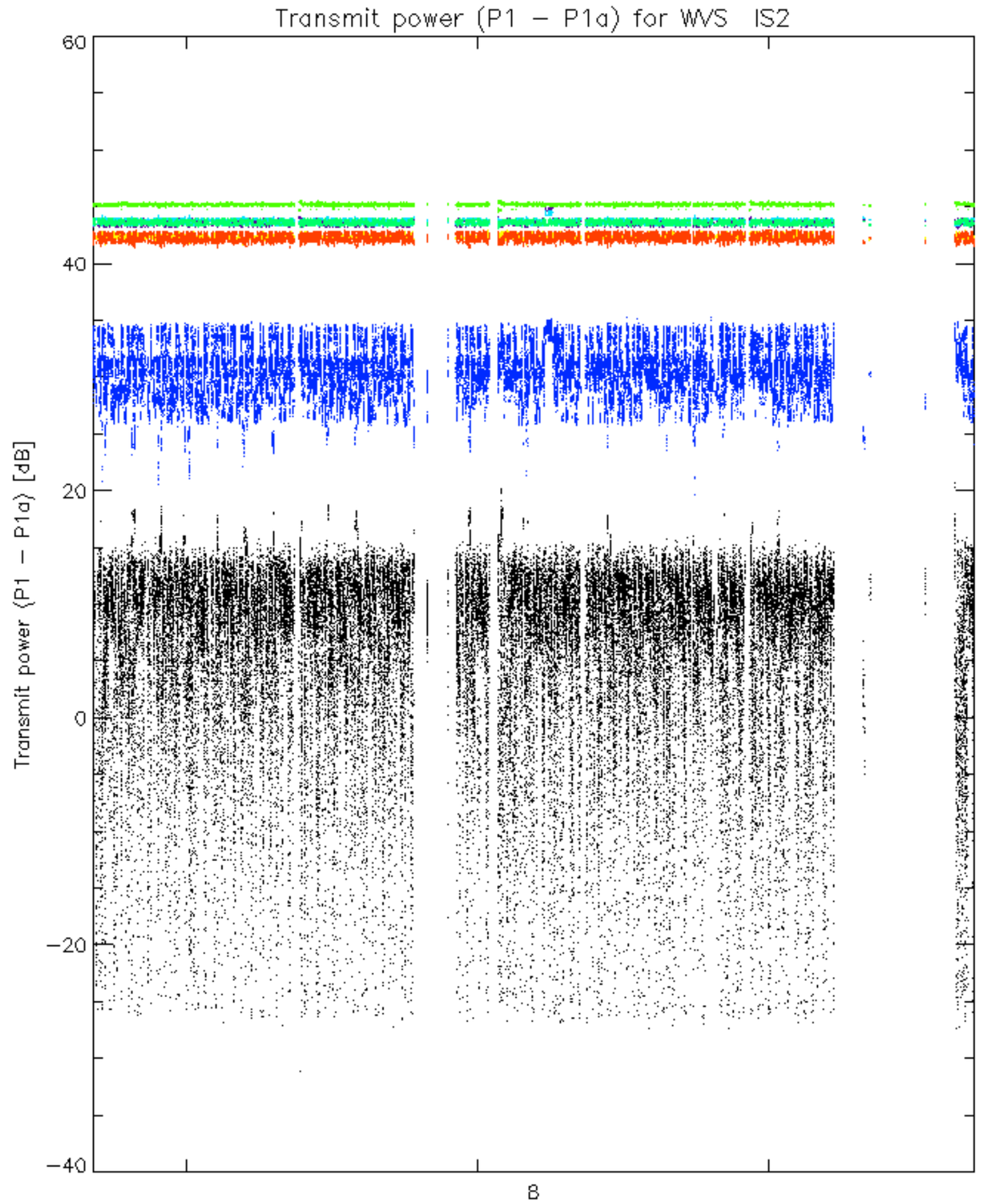

Reference: 2001-02-09 14:08:23 V
Test : 2005-09-02 03:34:23 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-09-02 03:34:23 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
8
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]
8
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.