PRELIMINARY REPORT OF 050514

last update on Sat May 14 10:50:01 GMT 2005

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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 2005-05-13 00:00:00 to 2005-05-14 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	0	0	16	4	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	0	0	16	4	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	0	0	16	4	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	0	0	16	4	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	0	0	14	6	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	0	0	14	6	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	0	0	14	6	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	0	0	14	6	0

2.3 - Browse Visual Inspection

2.4 - Data Analysis

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

3 - Module Stepping Mode

No anomalies observed on available MS products:

Polarisation	Start Time
V	20050506 055519
H	20050505 062656

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

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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	-3.347561	0.006913	-0.014242
7	P1	-3.110732	0.013541	-0.005762
11	P1	-4.659596	0.027387	0.023008
15	P1	-5.551208	0.045486	0.070484
19	P1	-3.719719	0.004001	-0.025737
22	P1	-4.588328	0.012982	-0.028629
26	P1	-4.884184	0.019224	0.035850
30	P1	-7.141913	0.028826	0.014713
3	P1	-15.722004	0.082588	0.090968
7	P1	-15.502592	0.095104	0.001704
11	P1	-21.249399	0.231936	-0.211720
15	P1	-11.442929	0.032315	0.129167
19	P1	-14.331530	0.033628	-0.071668
22	P1	-15.930034	0.332266	-0.110695
26	P1	-17.627838	0.190796	-0.078452
30	P1	-17.863491	0.261725	-0.078972

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.053217	0.080577	-0.031817
7	P2	-22.231823	0.102479	-0.028207
11	P2	-14.145796	0.103593	0.179762
15	P2	-7.094622	0.089156	-0.065892
19	P2	-9.653836	0.092380	0.027939
22	P2	-16.888260	0.092833	-0.015694
26	P2	-16.485447	0.093603	-0.036923
30	P2	-18.824217	0.081857	0.020877

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.169292	0.003607	-0.002392

7	P3	-8.169292	0.003607	-0.002392
11	P3	-8.169291	0.003607	-0.002400
15	P3	-8.169291	0.003607	-0.002400
19	P3	-8.169291	0.003607	-0.002400
22	P3	-8.169291	0.003607	-0.002400
26	P3	-8.169291	0.003607	-0.002400
30	P3	-8.169291	0.003607	-0.002396

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	-2.768046	0.011865	-0.040447
7	P1	-2.993313	0.030486	0.041628
11	P1	-3.969023	0.017944	0.052829
15	P1	-3.527036	0.023466	-0.002902
19	P1	-3.629405	0.014718	0.005279
22	P1	-5.658402	0.050079	0.003524
26	P1	-7.313533	0.022970	-0.004587
30	P1	-6.280472	0.059403	0.044702
3	P1	-10.774295	0.044758	-0.139252
7	P1	-10.409675	0.152631	-0.028007
11	P1	-12.555715	0.103895	0.067220
15	P1	-11.642836	0.067786	0.046849
19	P1	-15.624338	0.063901	0.024109
22	P1	-25.362675	2.126837	-0.935664
26	P1	-15.668596	0.316232	-0.012565
30	P1	-20.207716	1.213146	-0.221962

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.770979	0.036872	-0.072050
7	P2	-22.273649	0.046552	0.106810
11	P2	-10.046863	0.053997	0.113123
15	P2	-5.079994	0.037513	-0.049011
19	P2	-6.901302	0.052139	-0.025103
22	P2	-7.106053	0.034909	-0.010408
26	P2	-23.914368	0.036517	-0.039729
30	P2	-21.940247	0.039775	-0.035674

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.005490	0.003482	0.008806
7	P3	-8.005520	0.003471	0.009114
11	P3	-8.005468	0.003480	0.008818
15	P3	-8.005588	0.003482	0.009318
19	P3	-8.005584	0.003480	0.009411
22	P3	-8.005507	0.003461	0.008845
26	P3	-8.005445	0.003478	0.009093
30	P3	-8.005495	0.003494	0.008519

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	0.000459004
	stdev	2.25149e-07
MEAN Q	mean	0.000478350
	stdev	2.40928e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127177
	stdev	0.00106025
STDEV Q	mean	0.127429
	stdev	0.00107080

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005051[234]
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_IMM_1PNPDK20050513_080407_000000682037_00150_16737_4253.N1	1	0

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

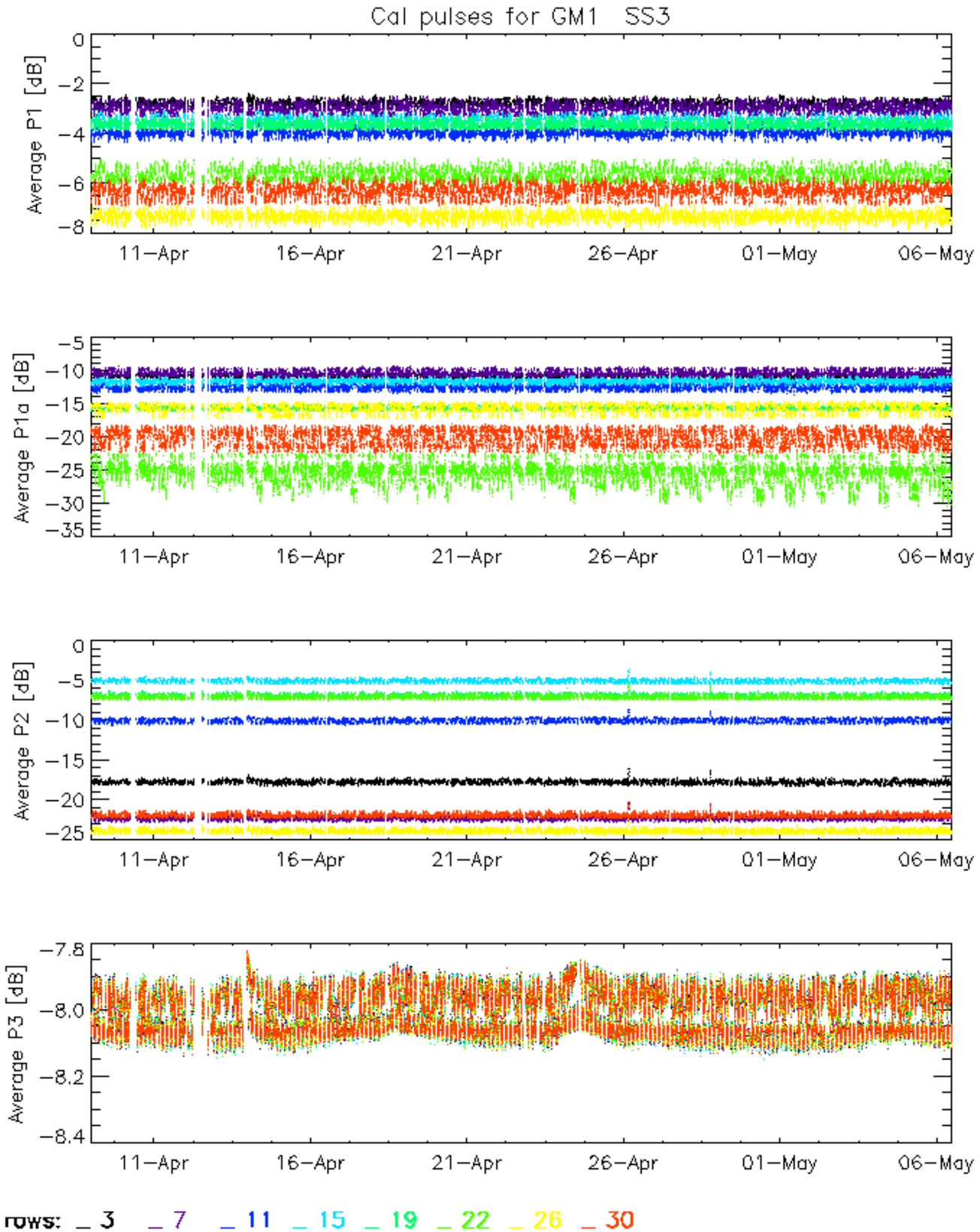
7.4 - Unbiased Doppler Error for GM1

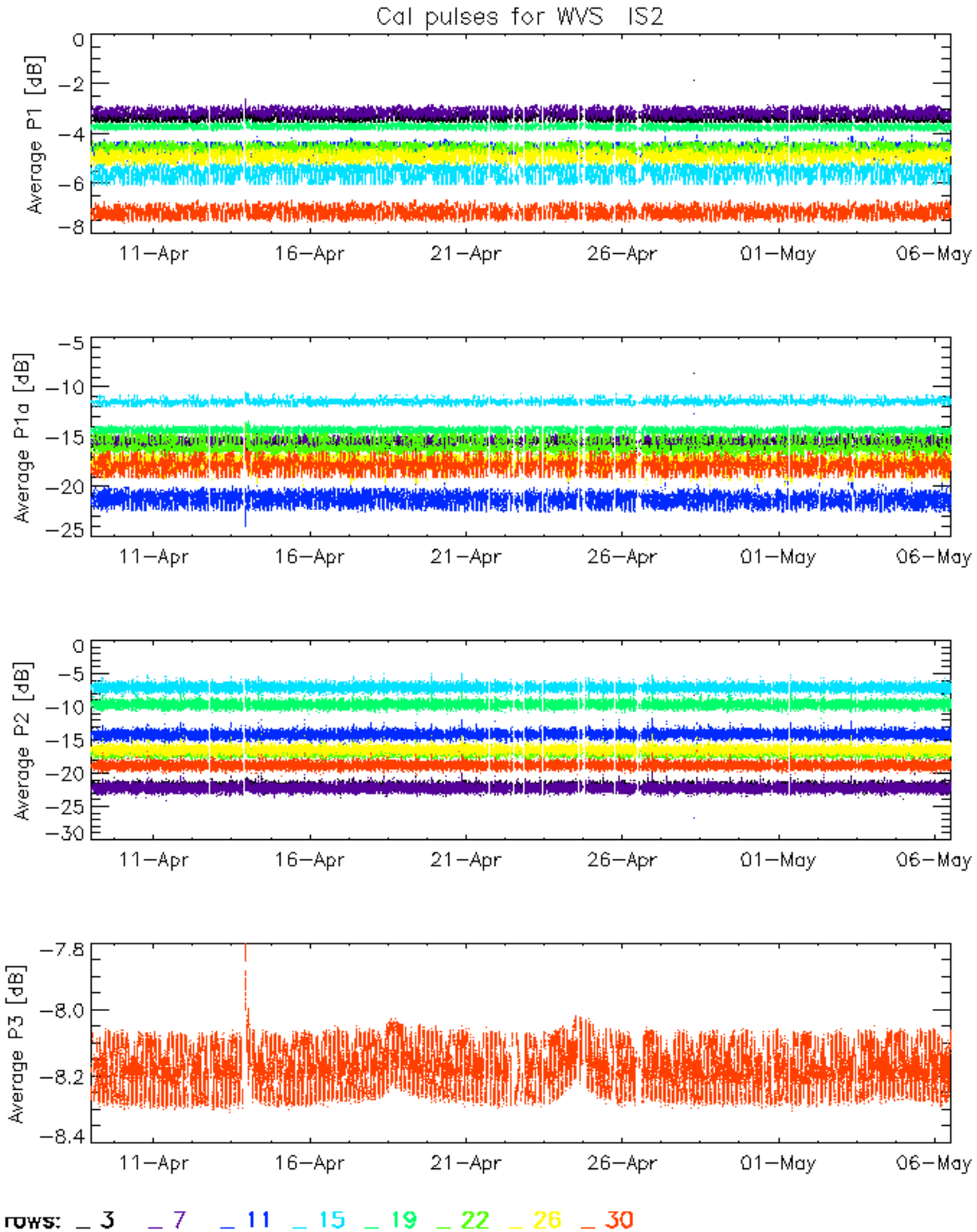
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler
☒
Acsending
☒
Descending

7.6 - Doppler evolution versus ANX for GM1

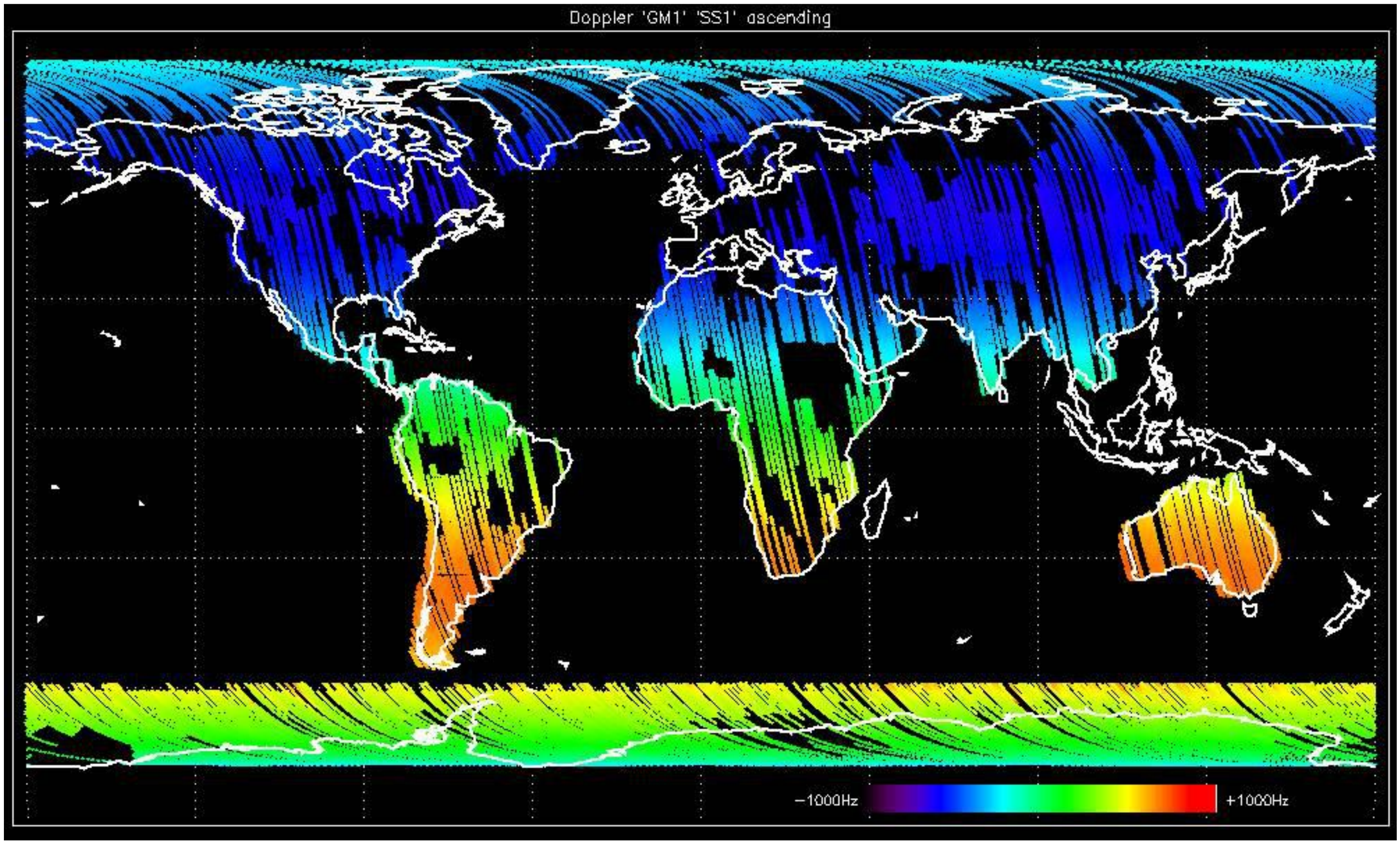

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
11−Apr
16−Apr
21−Apr
26−Apr
01−May
06−May
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

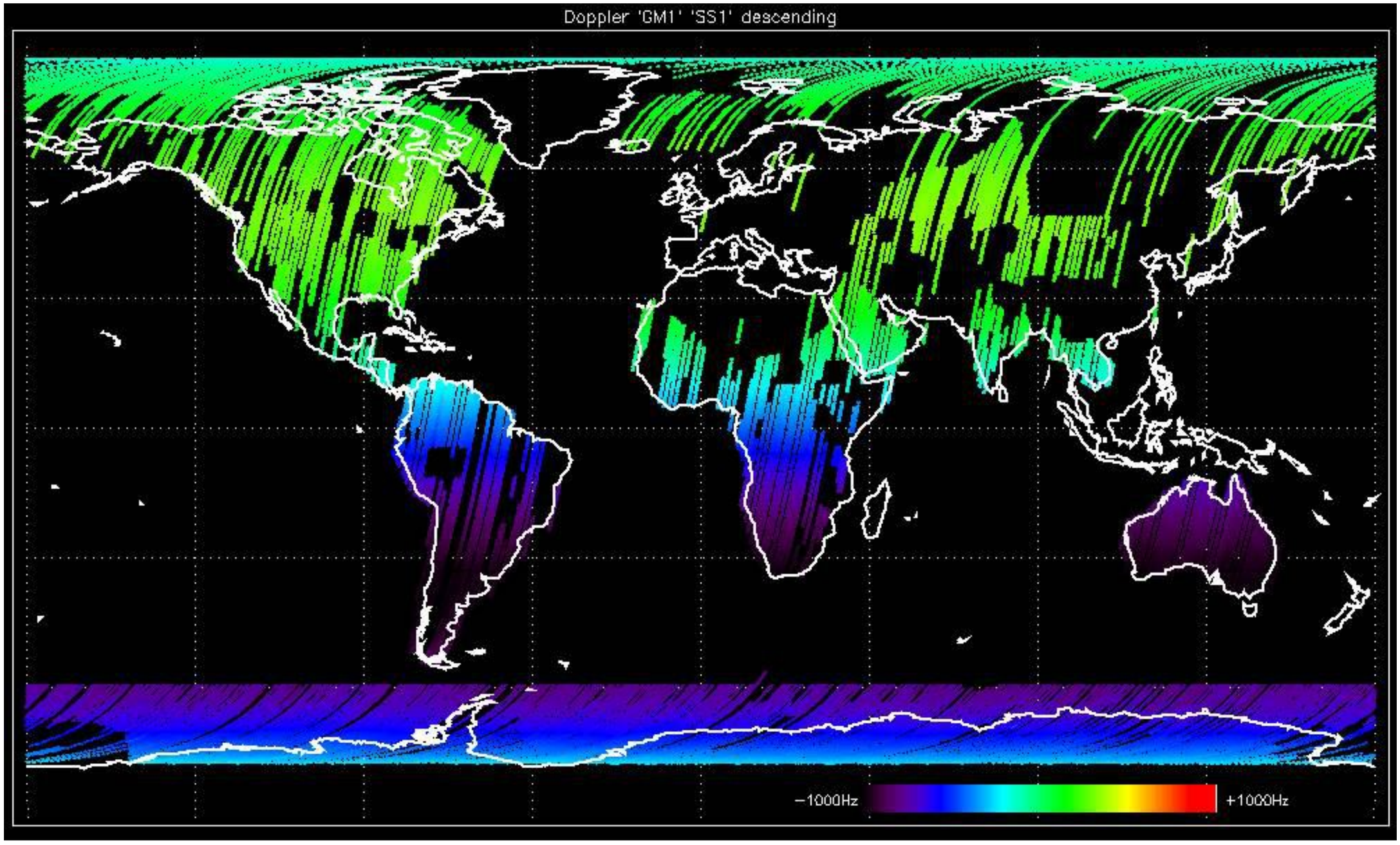

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
11−Apr
16−Apr
21−Apr
26−Apr
01−May
06−May
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
−30
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

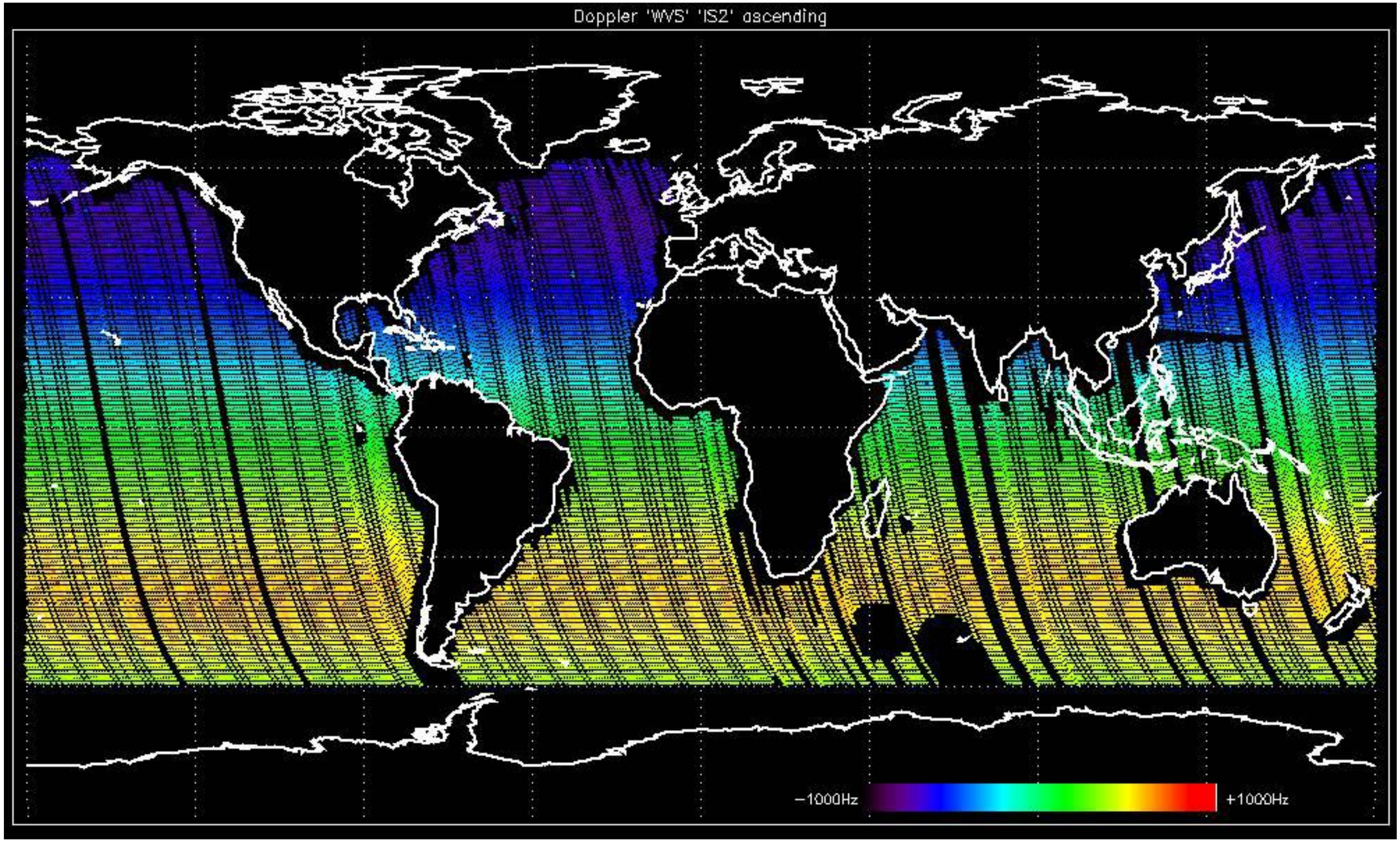
No anomalies observed.

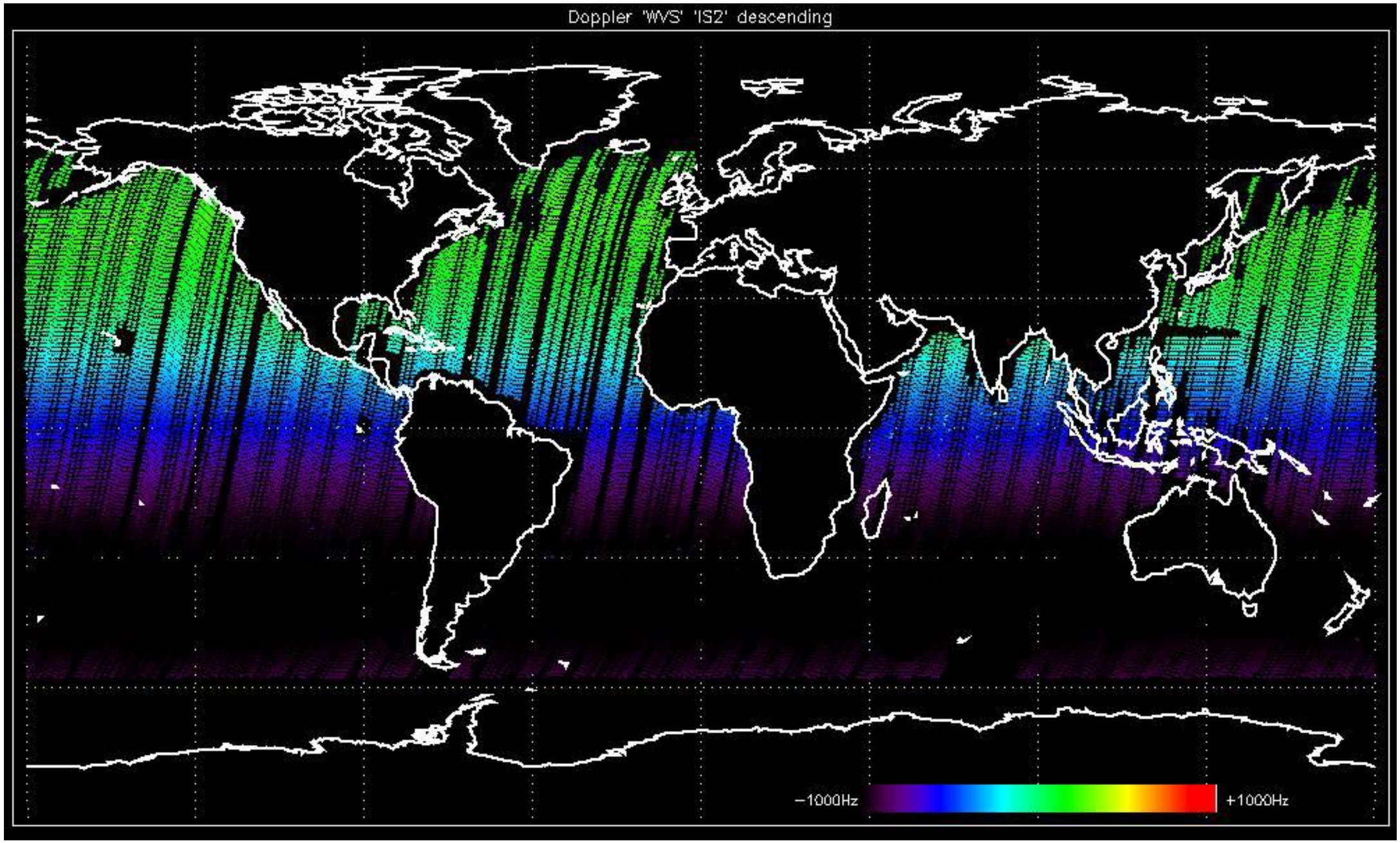
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

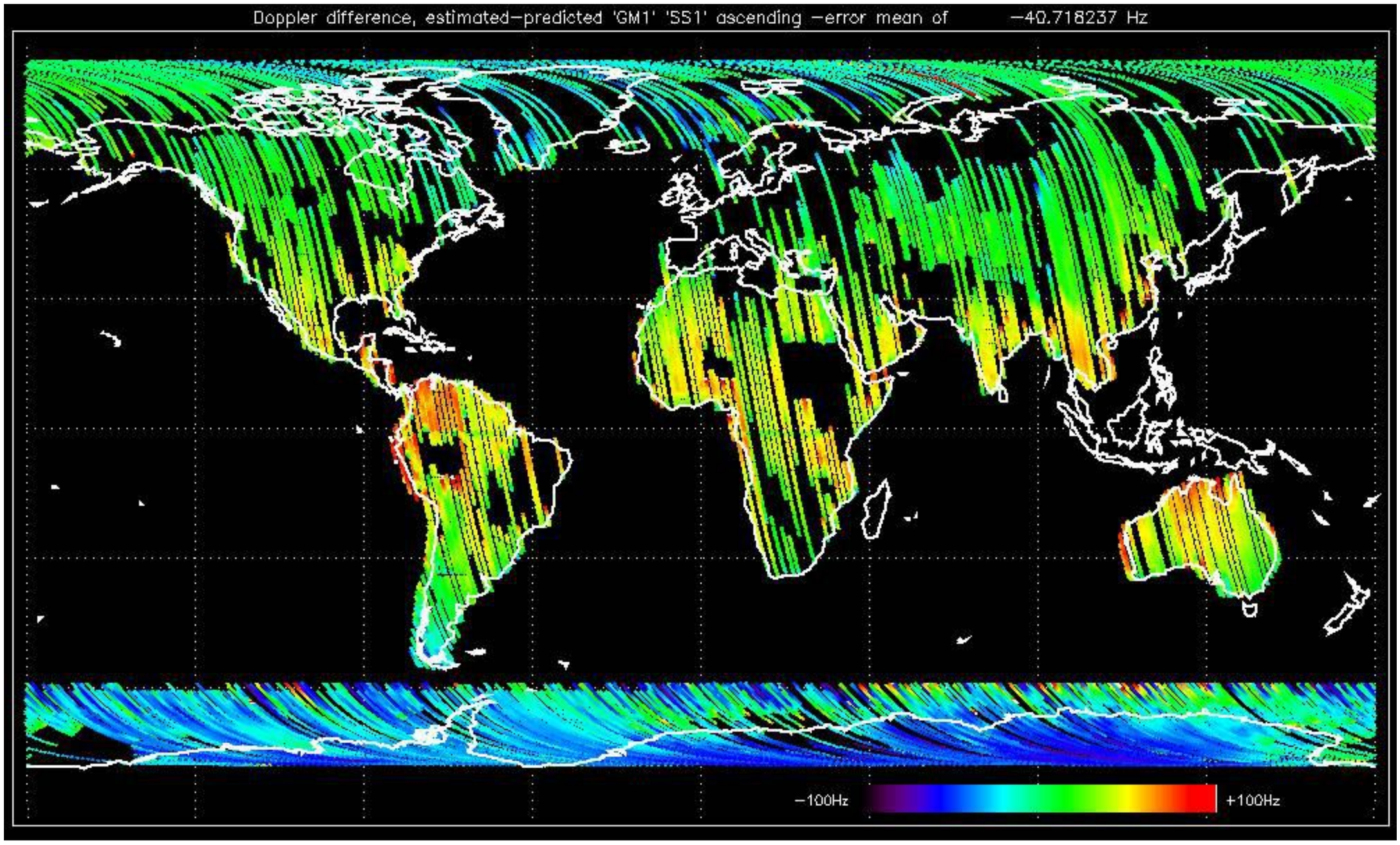
Preliminary report.The data is not yet controled

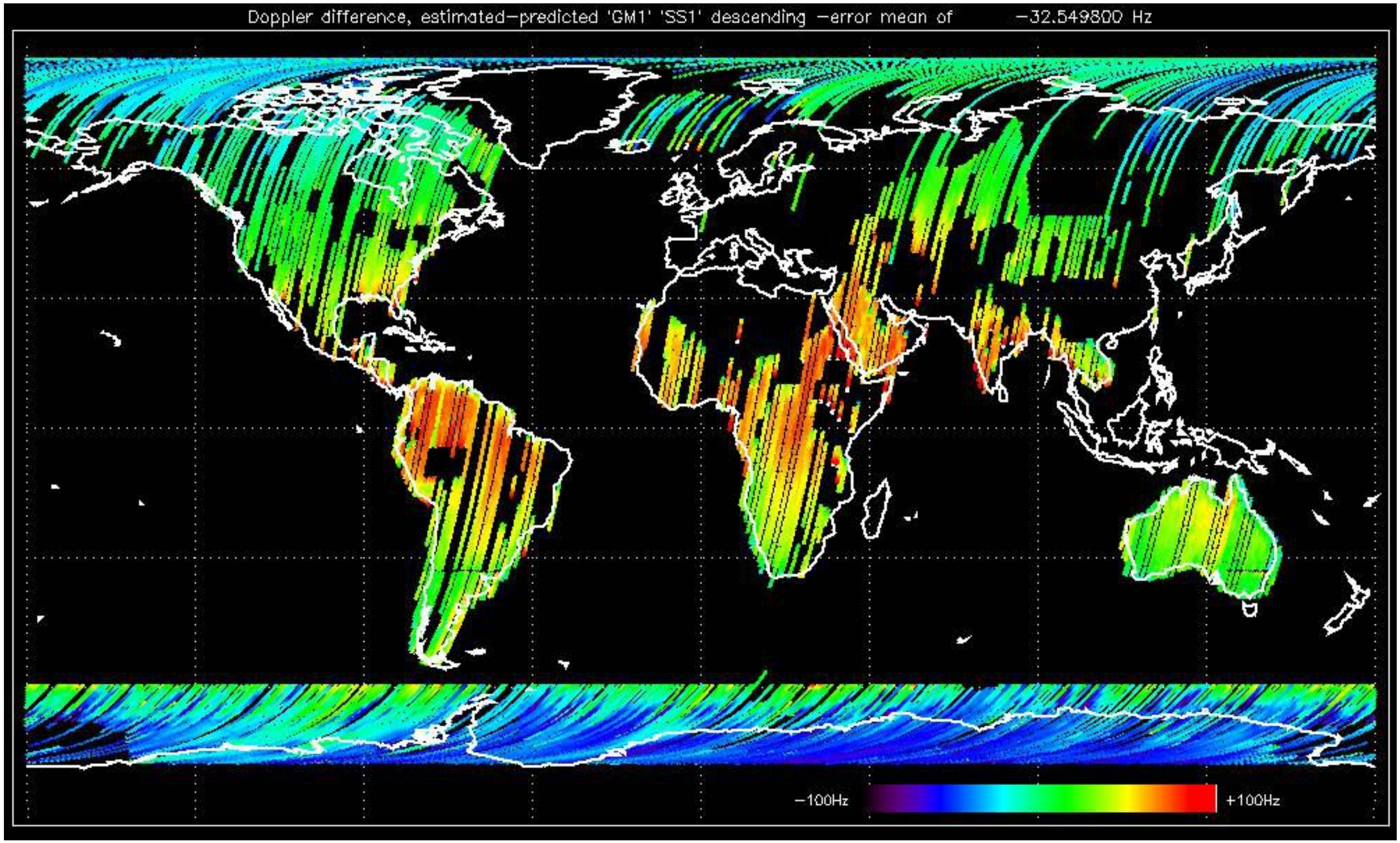

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

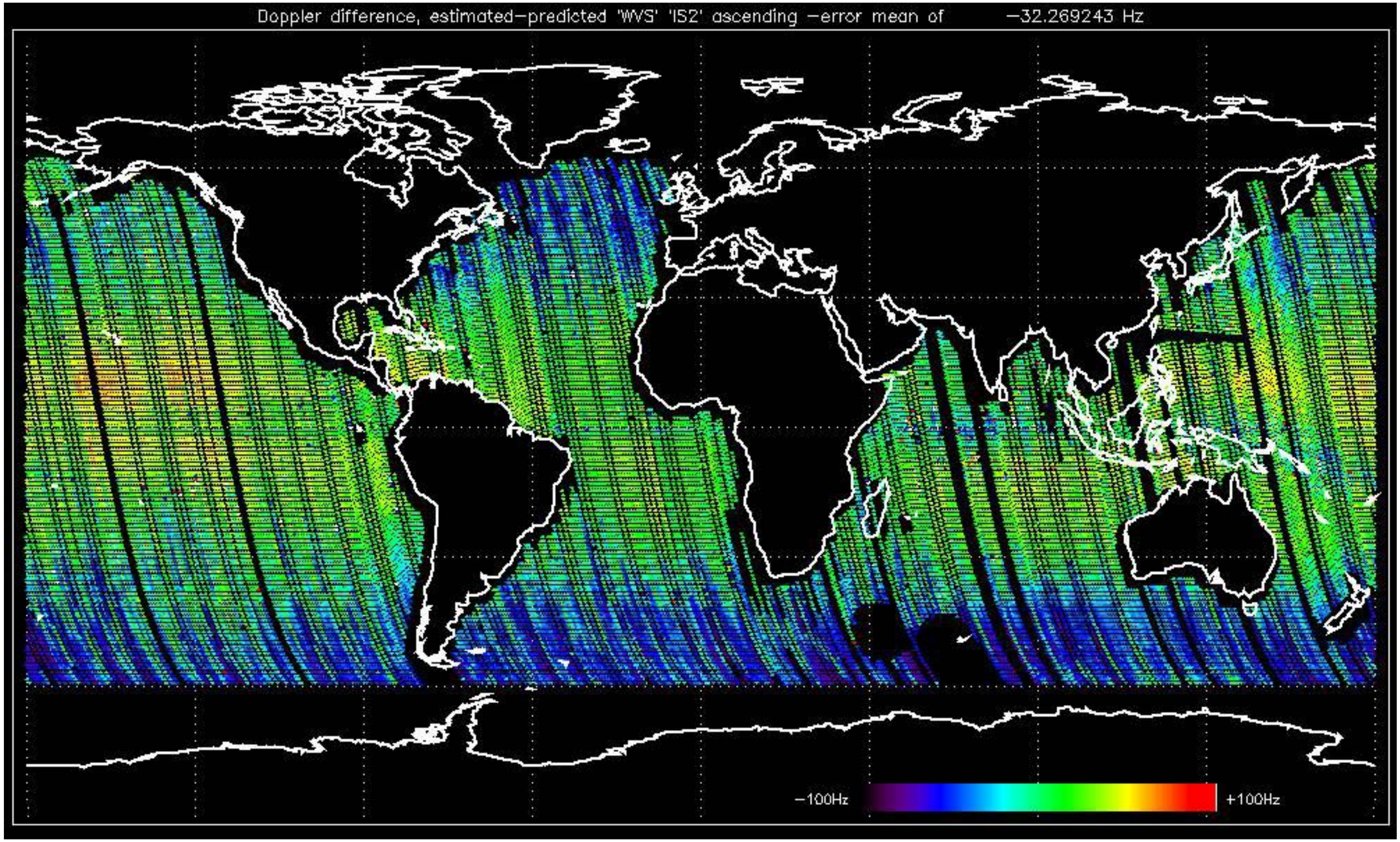

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

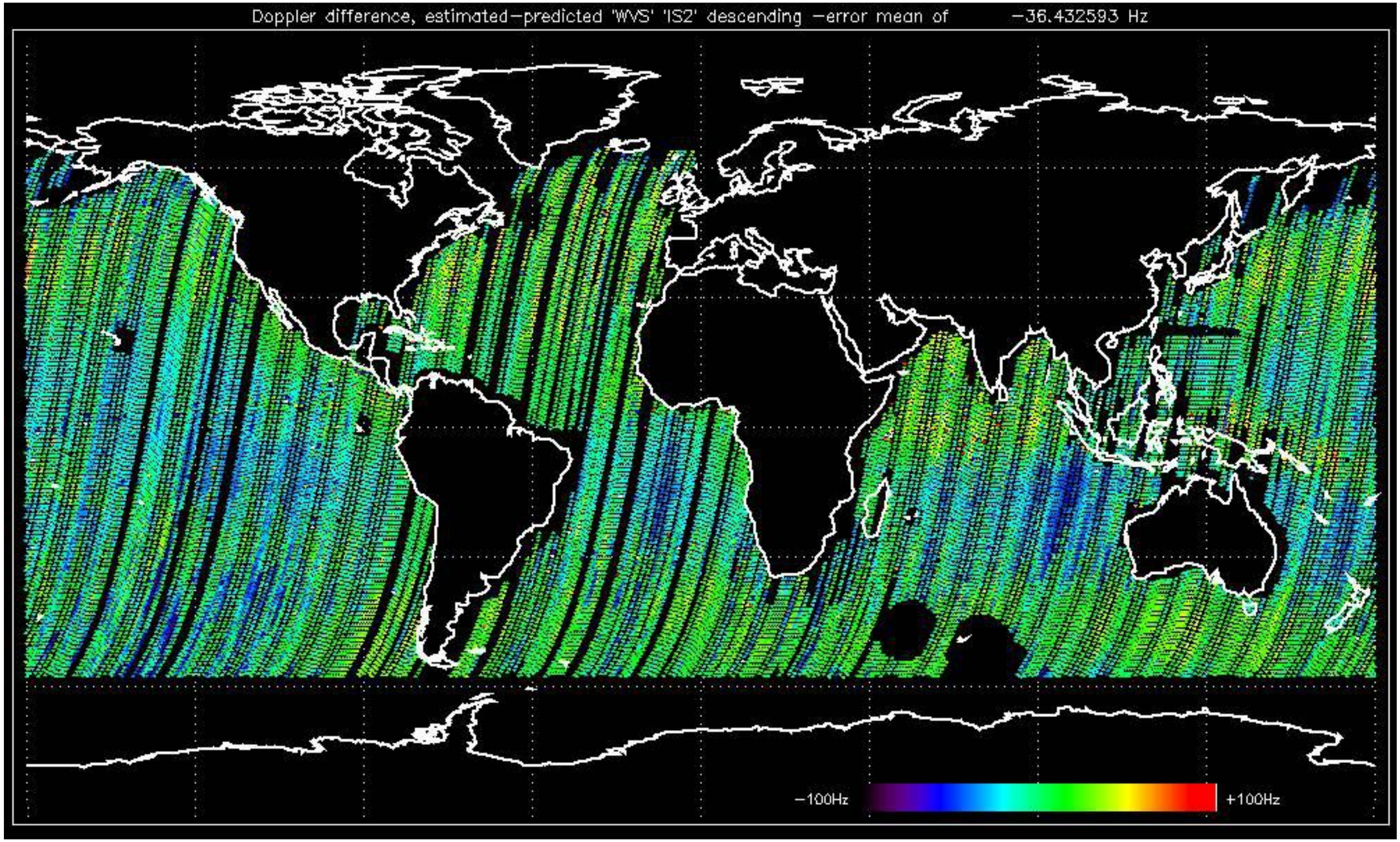

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −40.718237 Hz
−100Hz
+100Hz

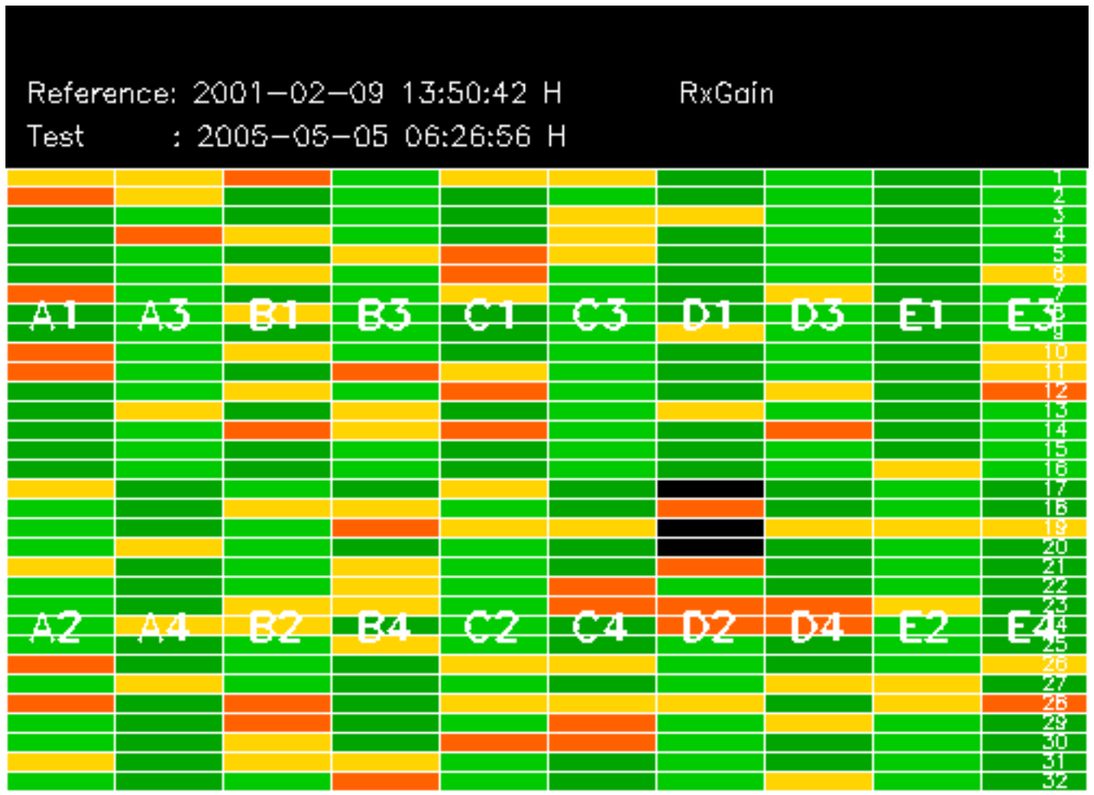

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -32.549800 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −32.269243 Hz
−100Hz
+100Hz

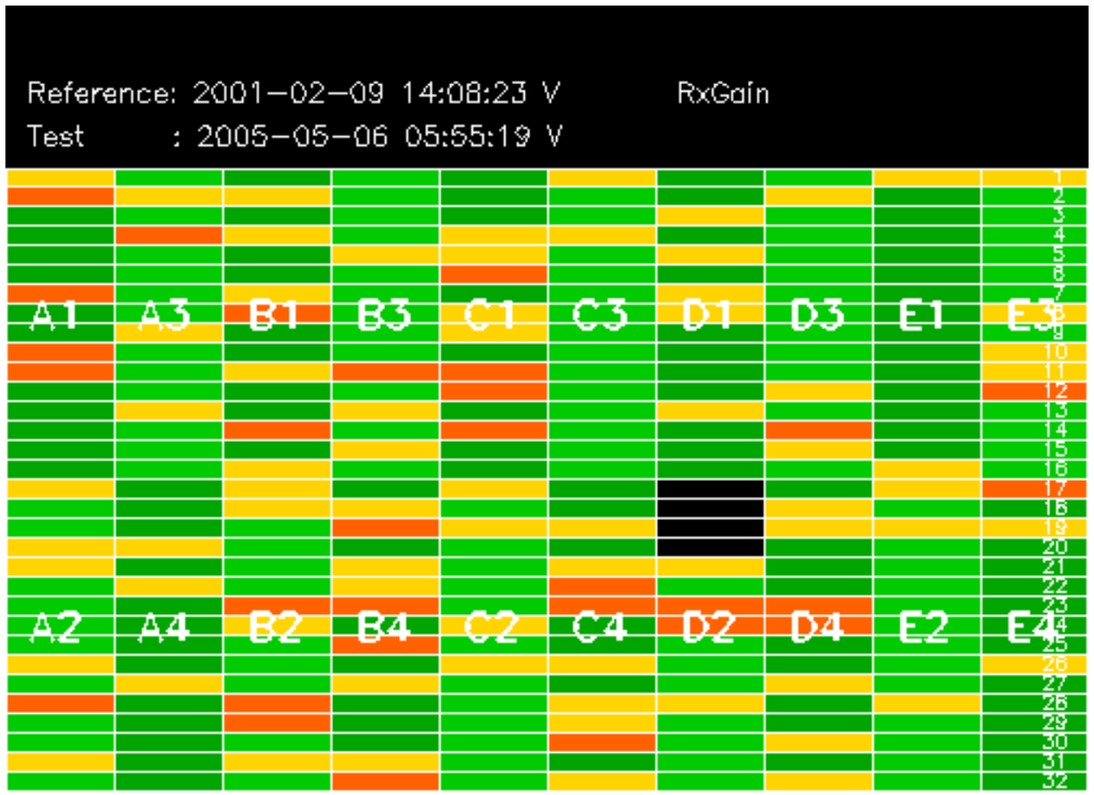

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −36.432593 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2005-05-05 06:26:56 H
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 14:08:52 H
Test : 2005-05-05 06:26:56 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 : 2005-05-06 05:55:19 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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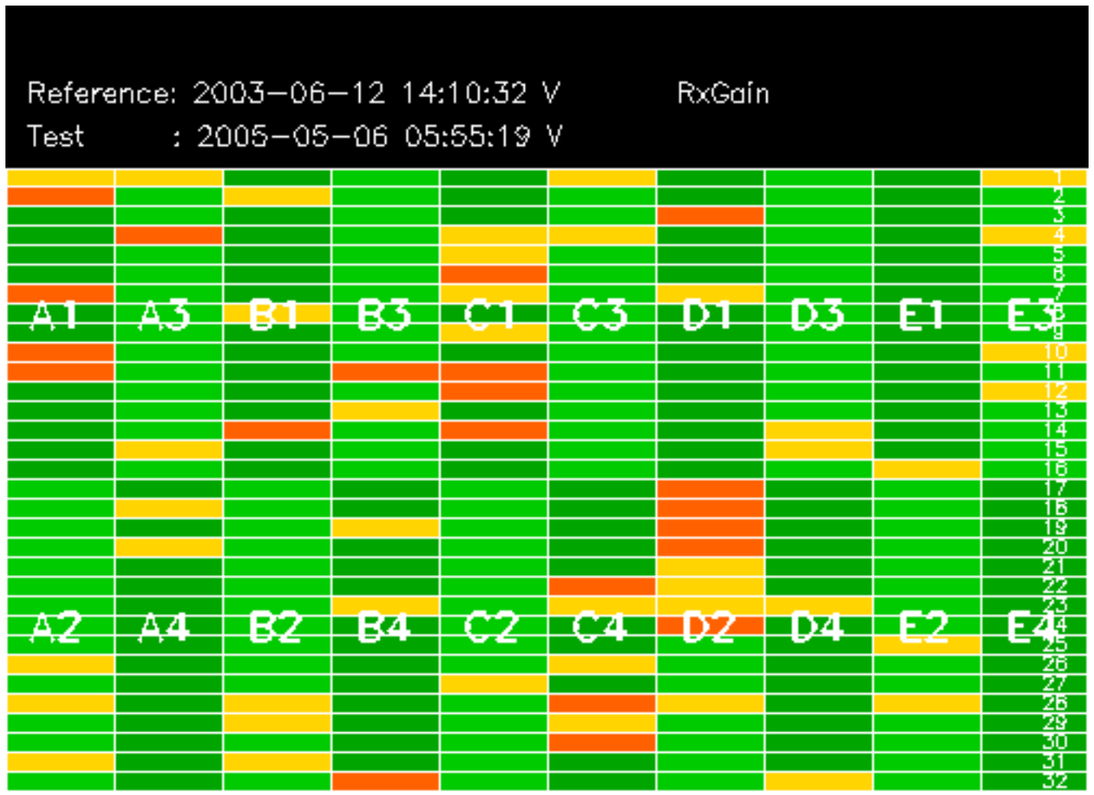
Reference: 2003-06-12 14:10:32 V
Test : 2005-05-06 05:55:19 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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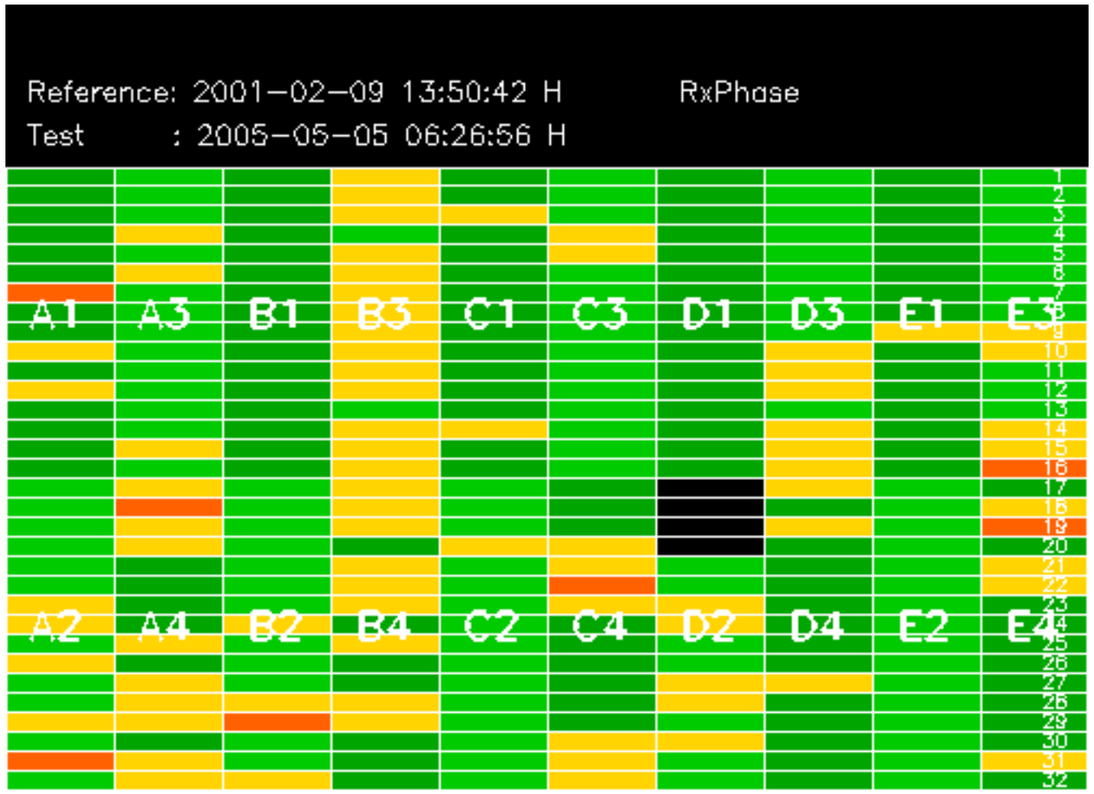
Reference: 2001-02-09 13:50:42 H
Test : 2005-05-05 06:26:56 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
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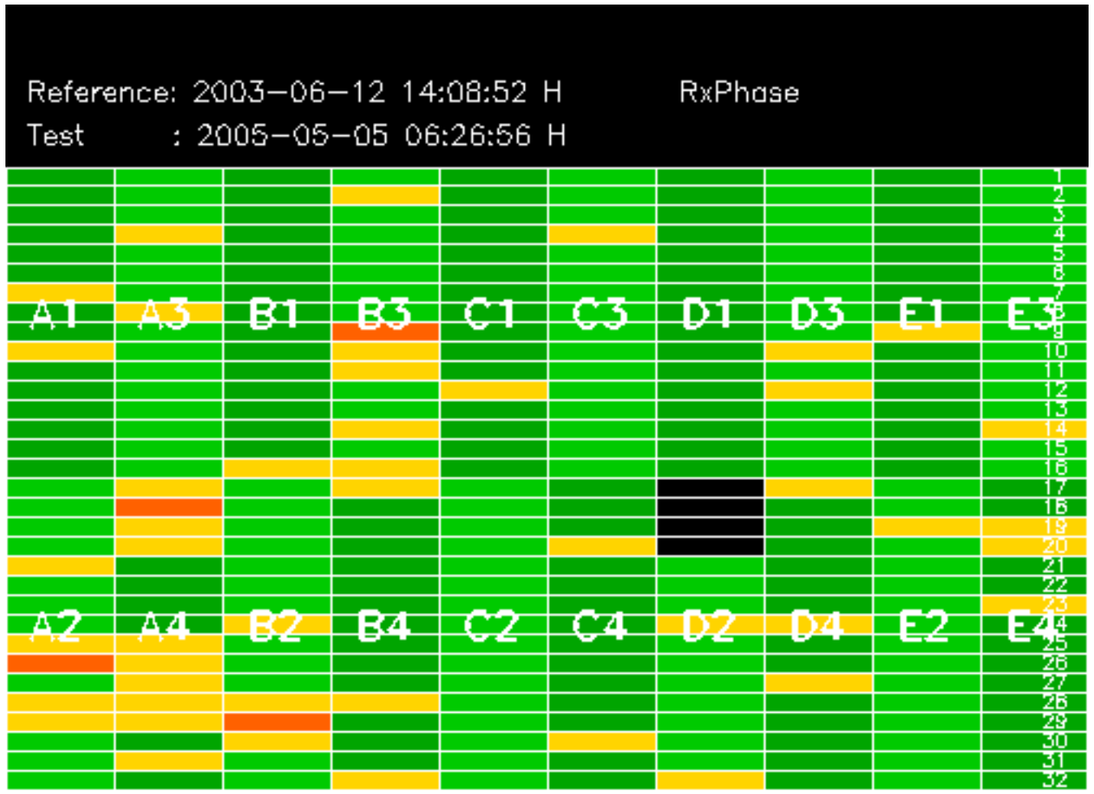
Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2005-05-05 06:26:56 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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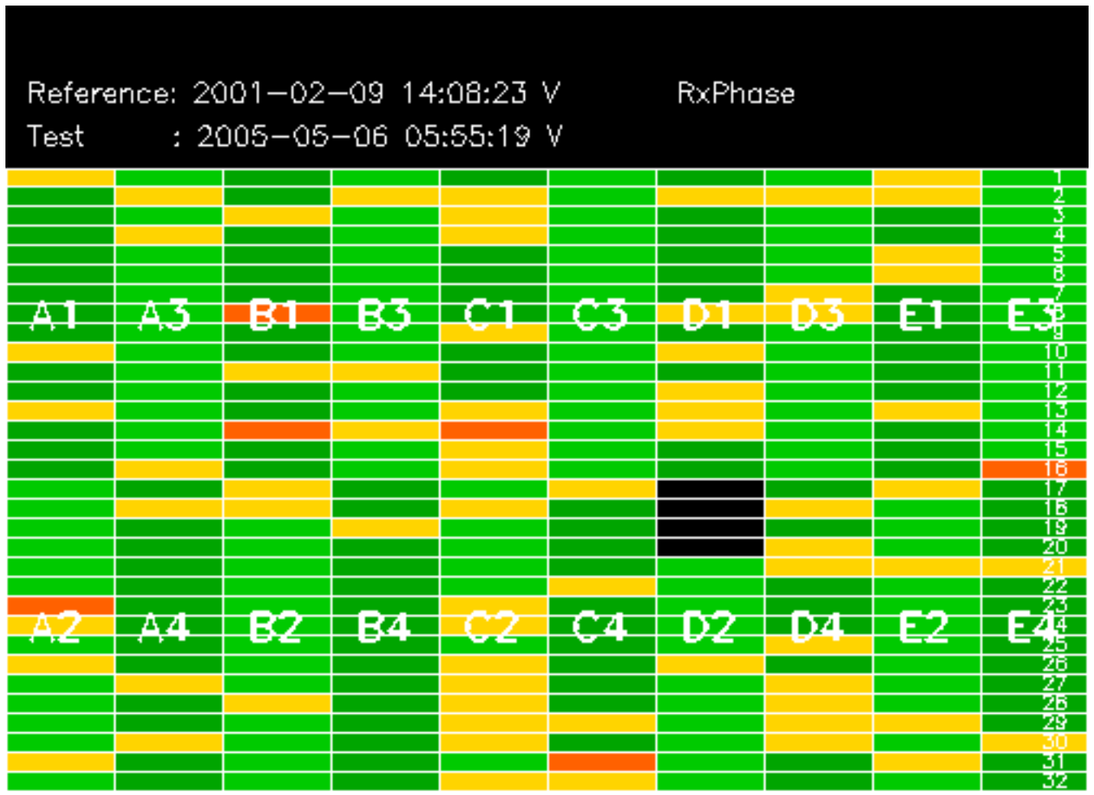
Reference: 2001-02-09 14:08:23 V
Test : 2005-05-06 05:55:19 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
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9
10
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23
24
25
26
27
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29
30
31
32

Reference: 2003-06-12 14:10:32 V
Test : 2005-05-06 05:55:19 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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7
8
9
10
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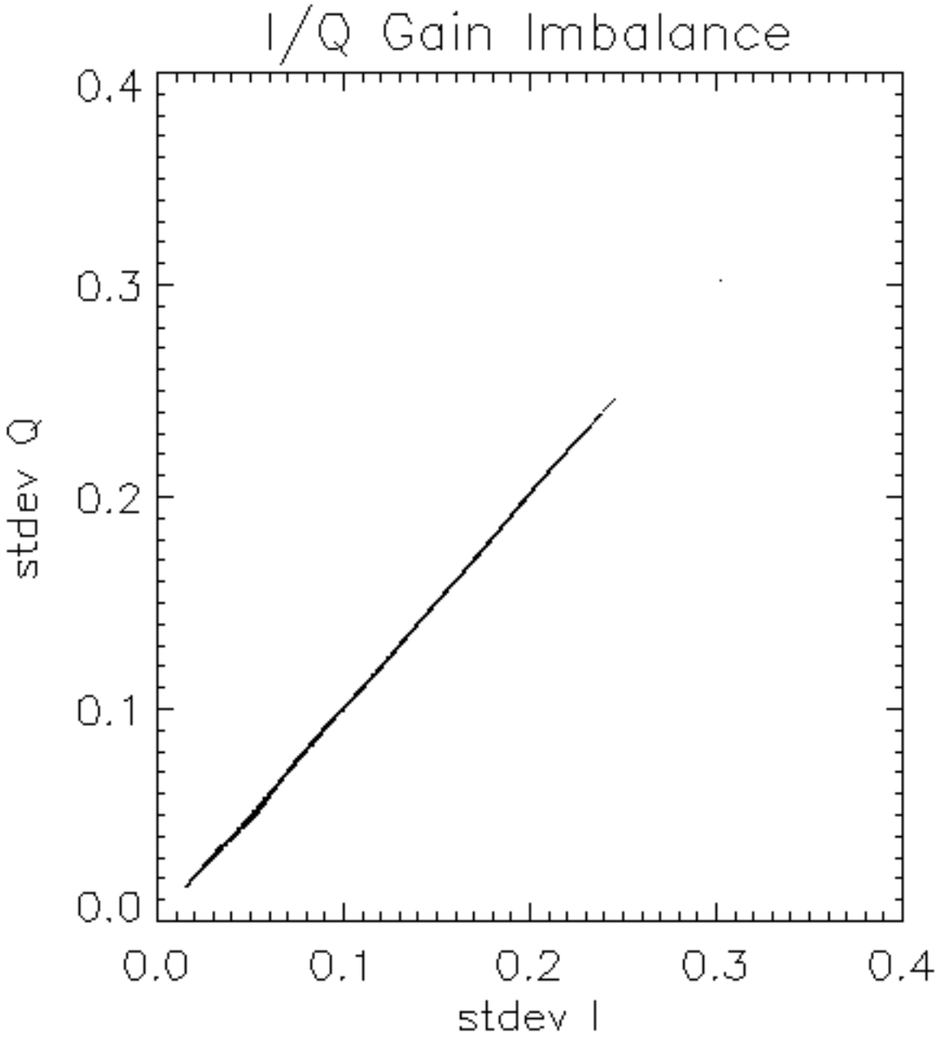
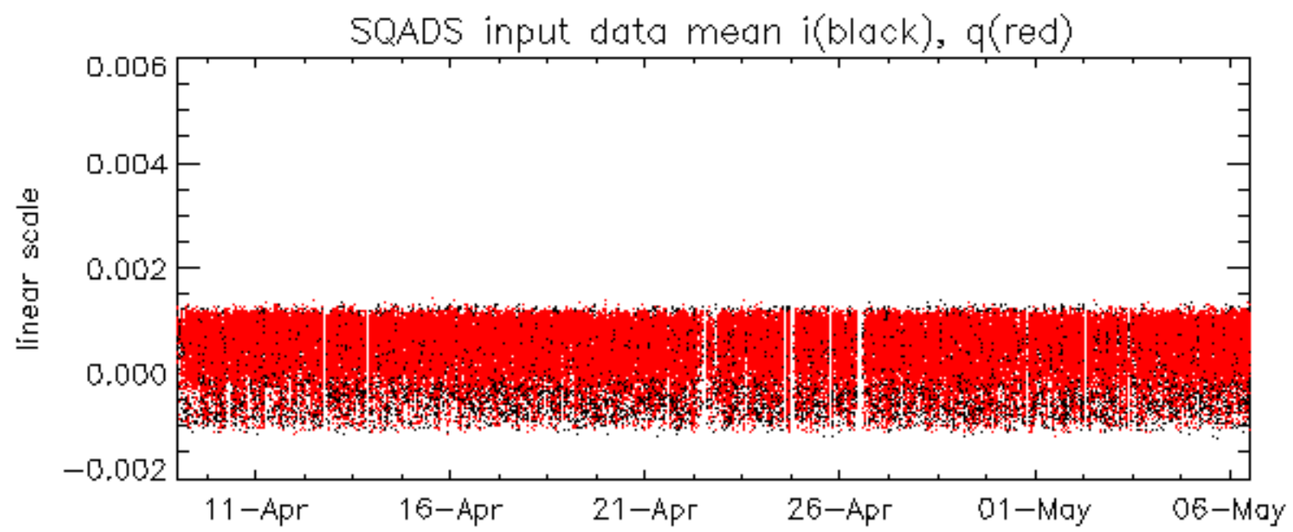
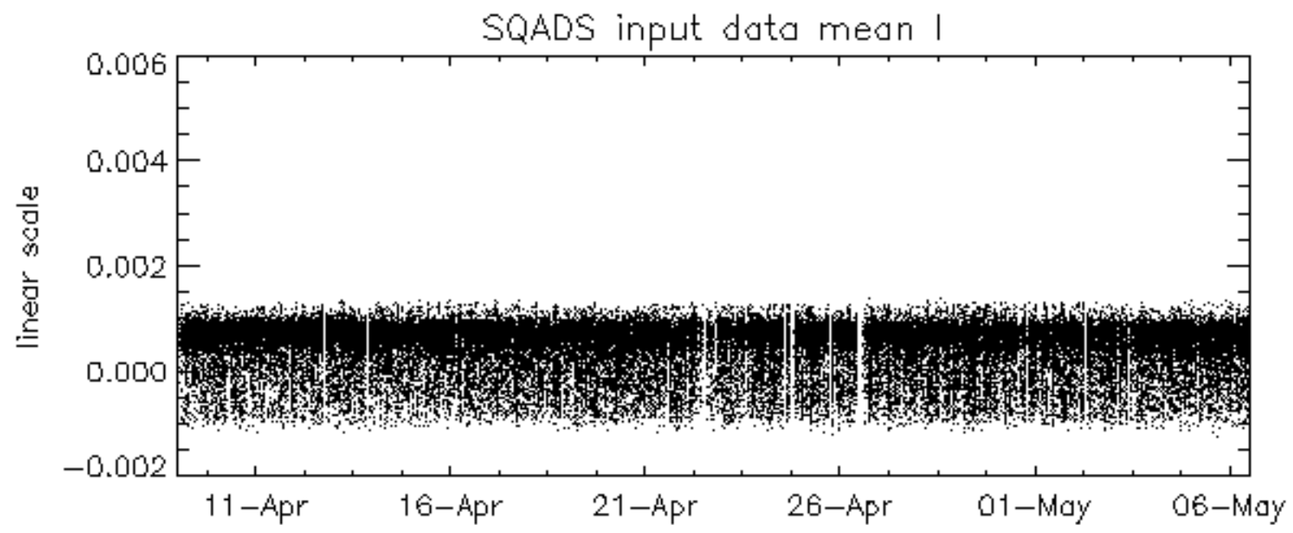
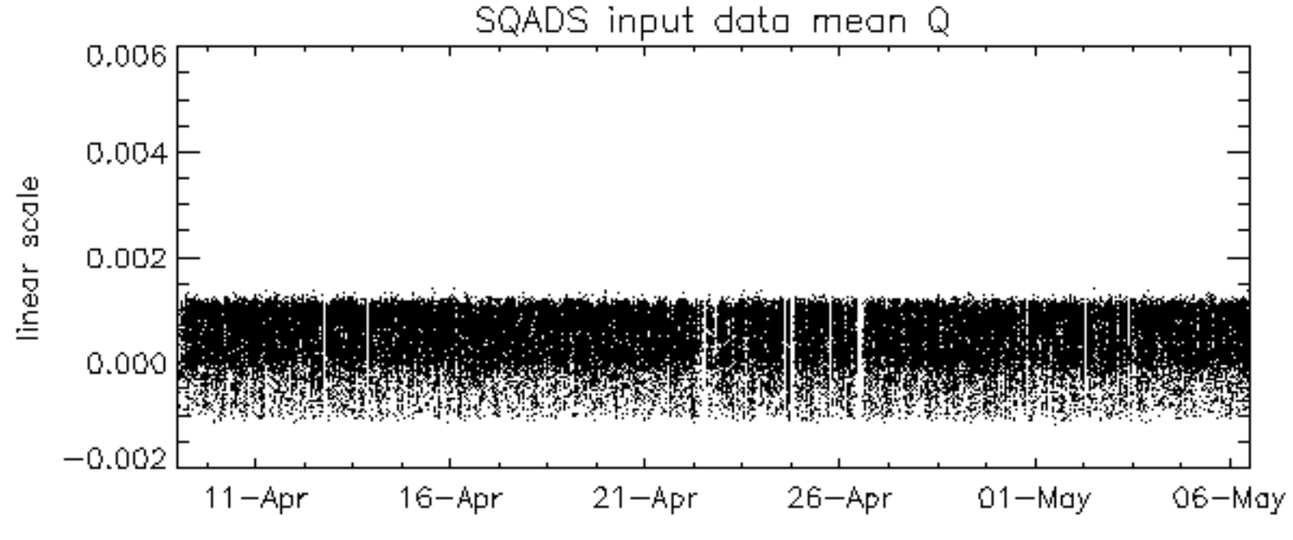
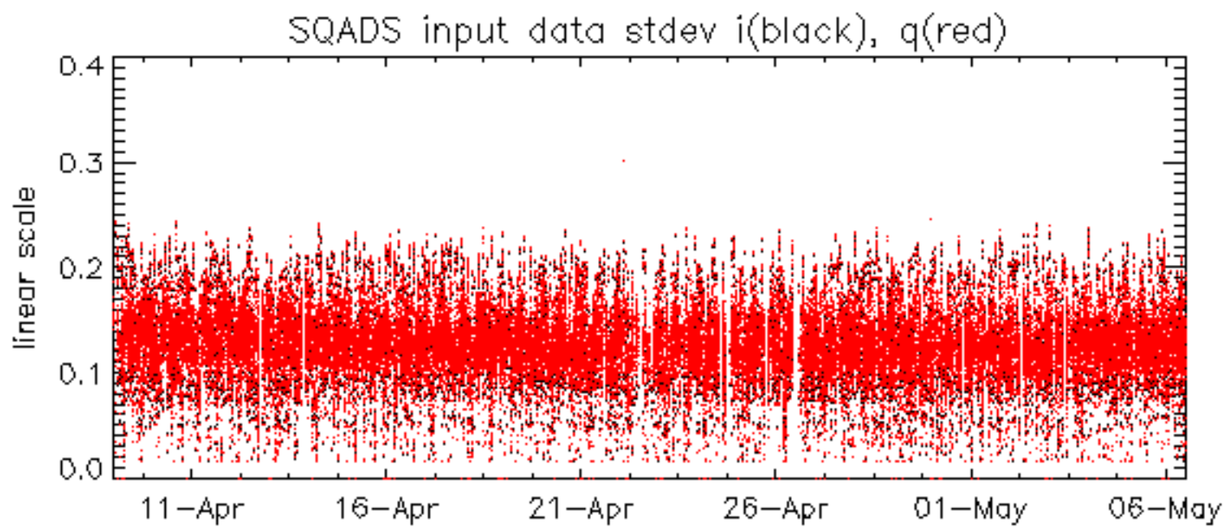
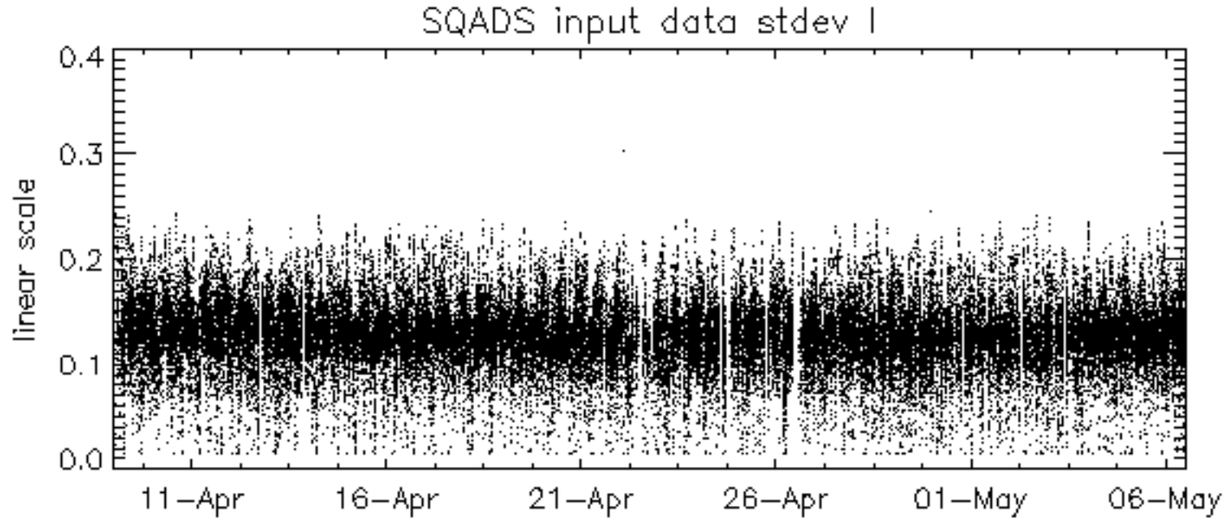

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

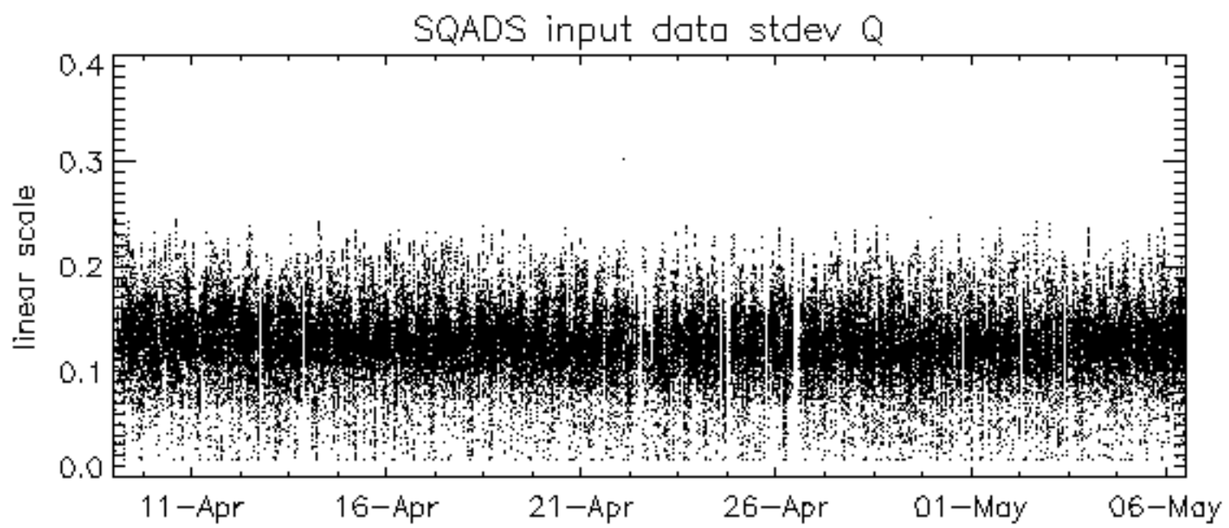

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Apr
16−Apr
21−Apr
26−Apr
01−May
06−May

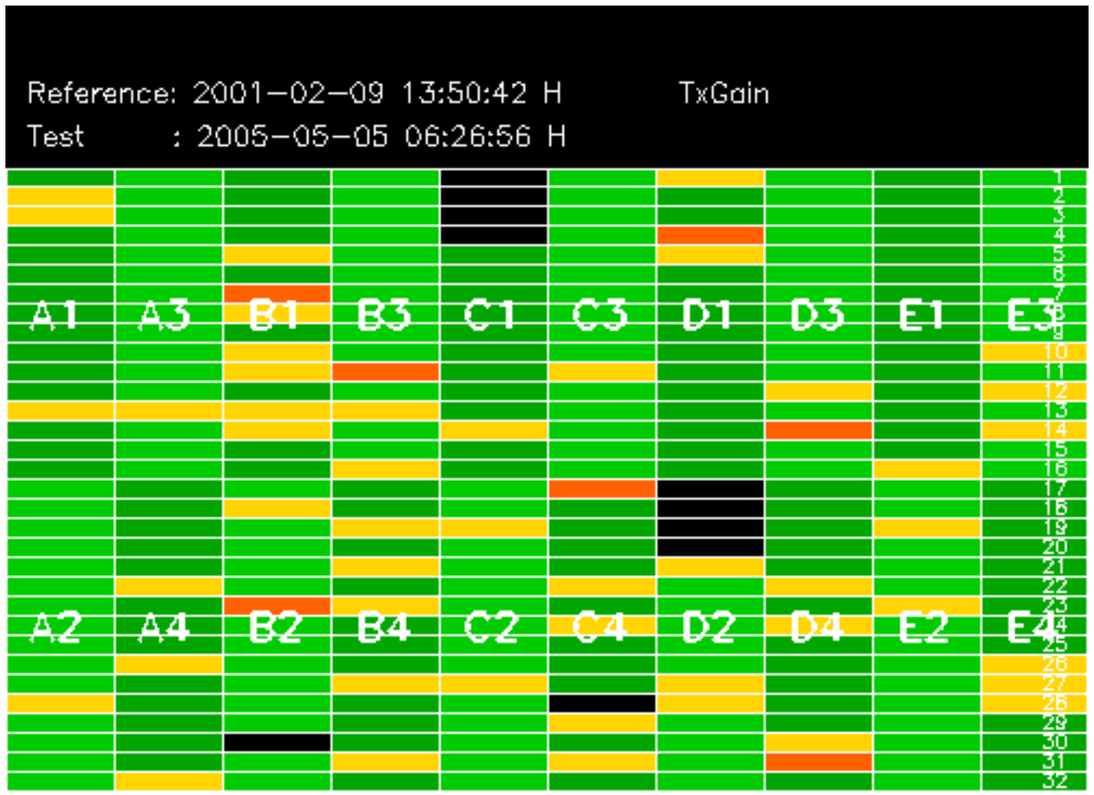

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Apr
16−Apr
21−Apr
26−Apr
01−May
06−May

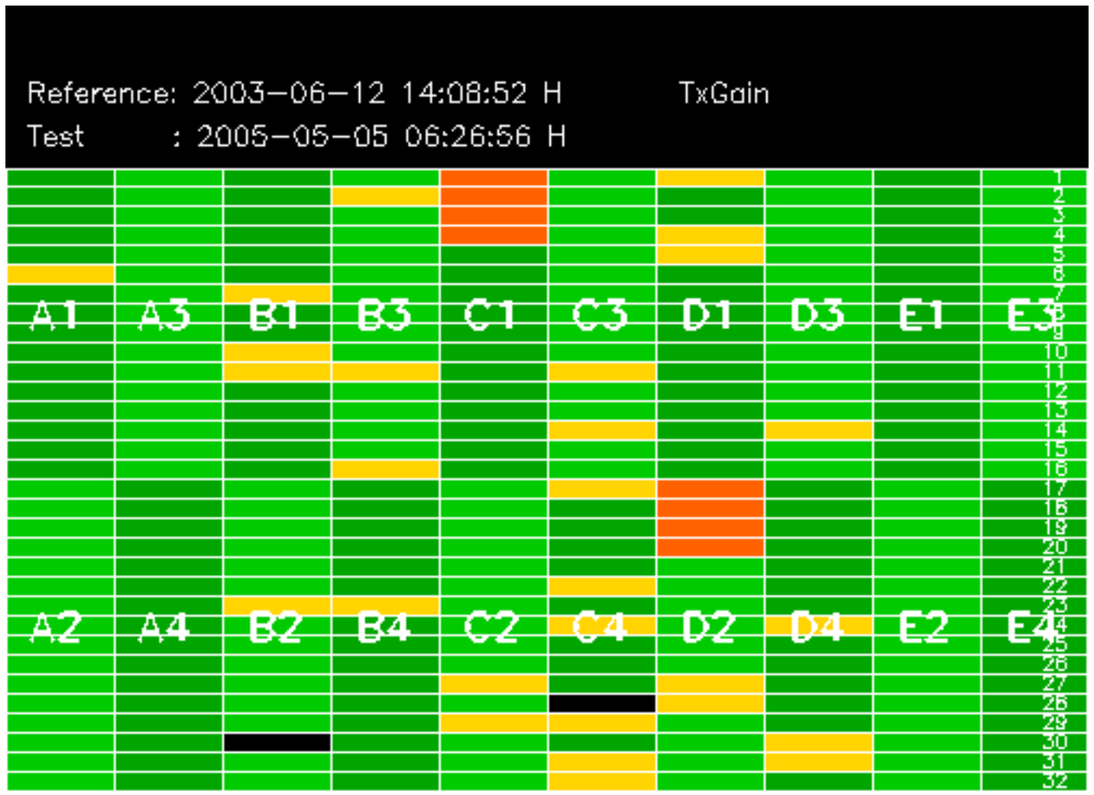

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Apr
16−Apr
21−Apr
26−Apr
01−May
06−May


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2005-05-05 06:26:56 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: 2003-06-12 14:08:52 H
Test : 2005-05-05 06:26:56 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 : 2005-05-06 05:55:19 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
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8
9
10
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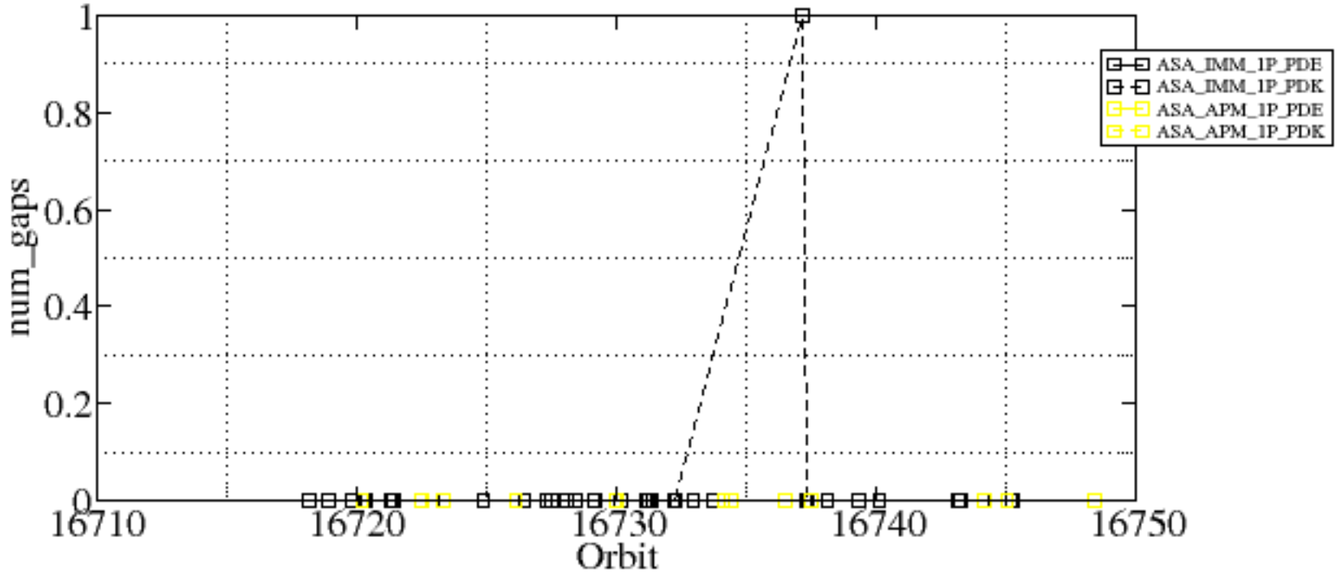
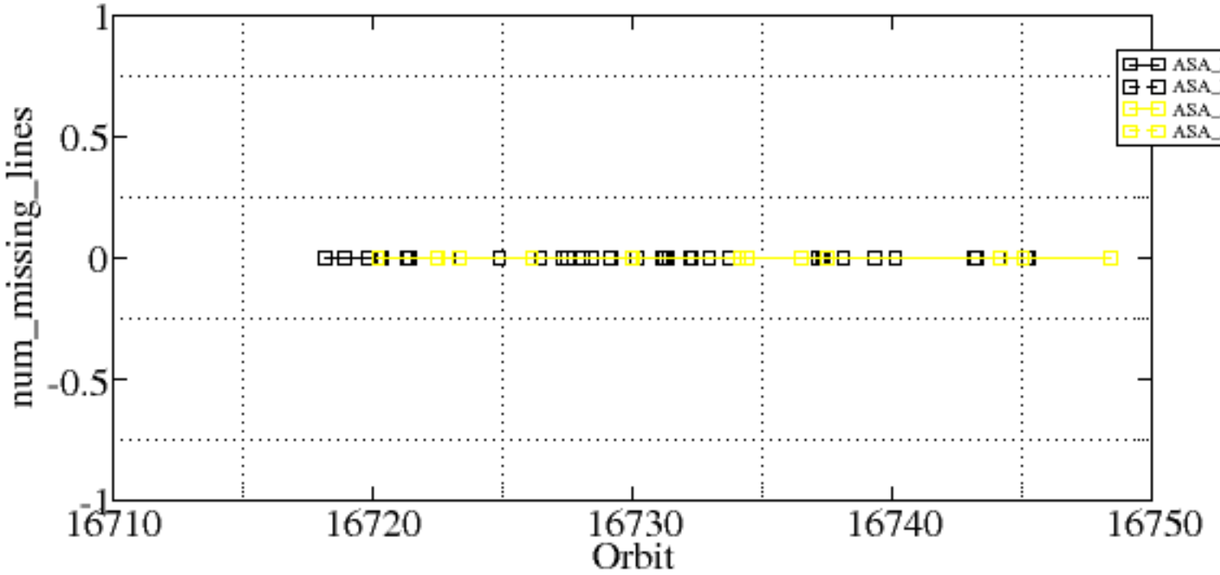
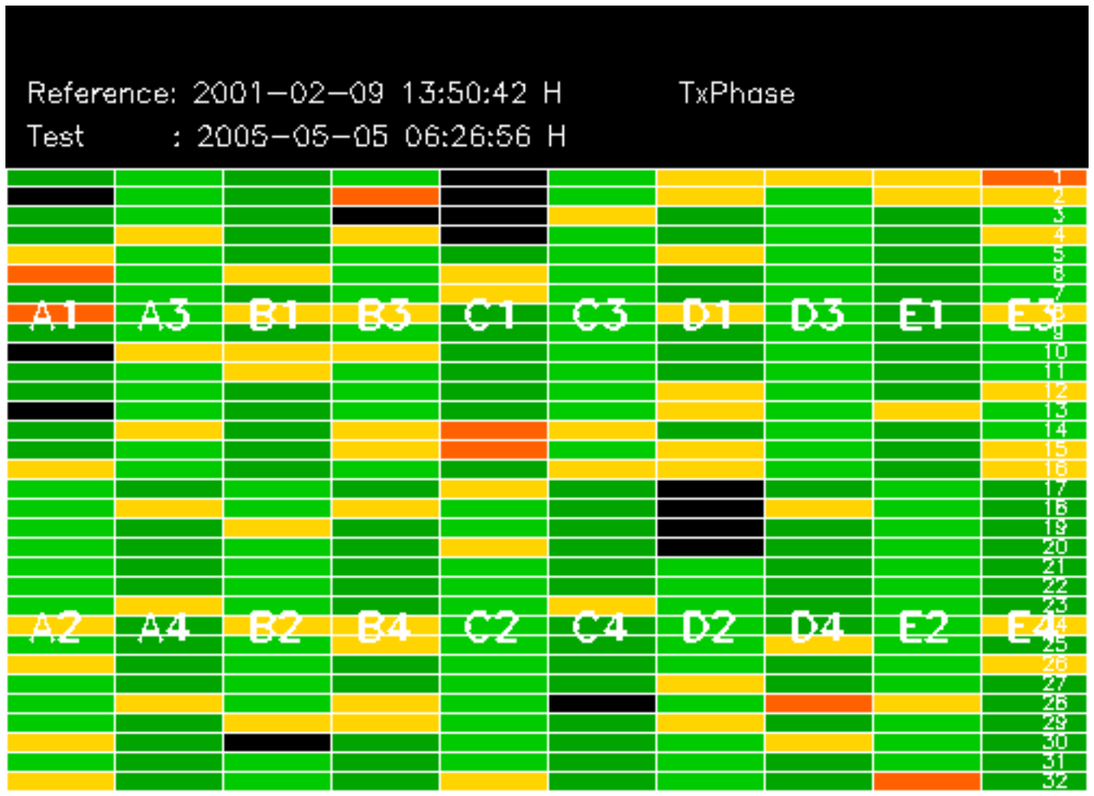
27
28
29
30
31
32

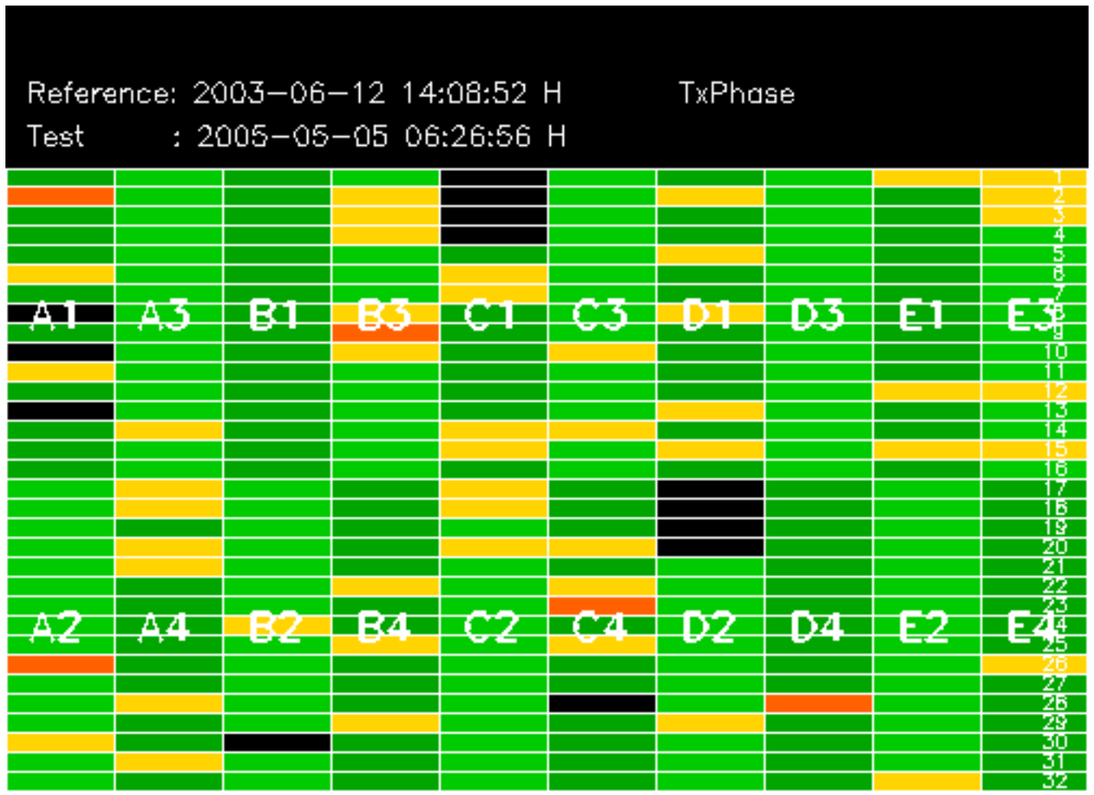
Reference: 2003-06-12 14:10:32 V
Test : 2005-05-06 05:55:19 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

Summary of analysis for the last 3 days 2005051[234]
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_IMM_1PNPDK20050513_080407_000000682037_00150_16737_4253.N1 </td> <td>1 </td> <td>0 </td></tr>
</table>


num_gaps
Orbit
1
0.8
0.6
0.4
0.2
0
16710
16720
16730
16740
16750
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK


num_missing_lines
1
0.5
0
-0.5
-1
16710
16720
16730
16740
16750
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
Test : 2005-05-05 06:26:56 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 : 2005-05-05 06:26:56 H
TxPhase
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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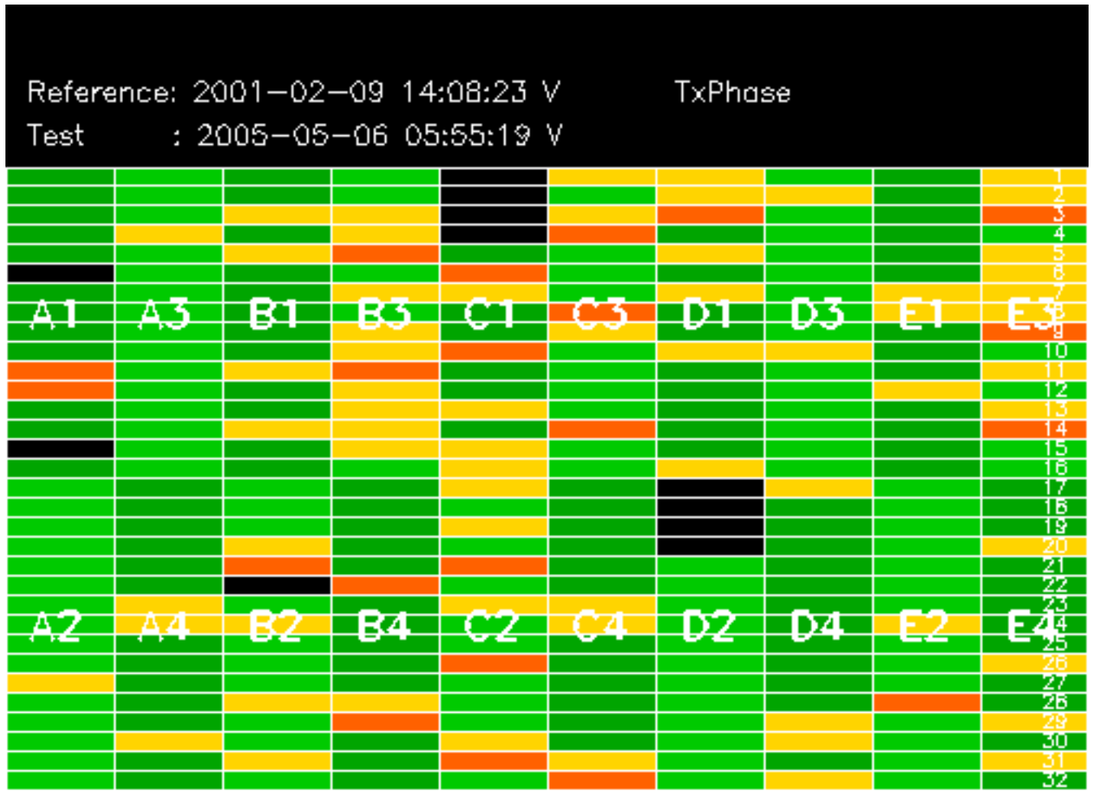
32


Reference: 2001-02-09 14:08:23 V
Test : 2005-05-06 05:55:19 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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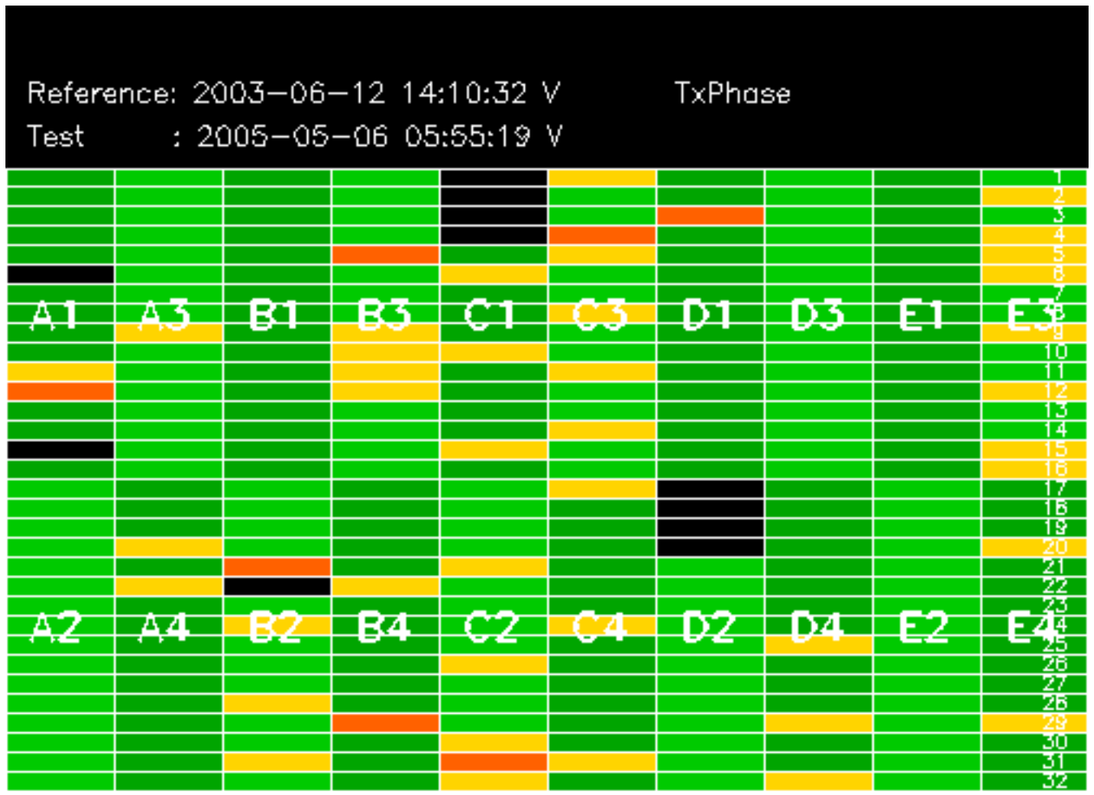
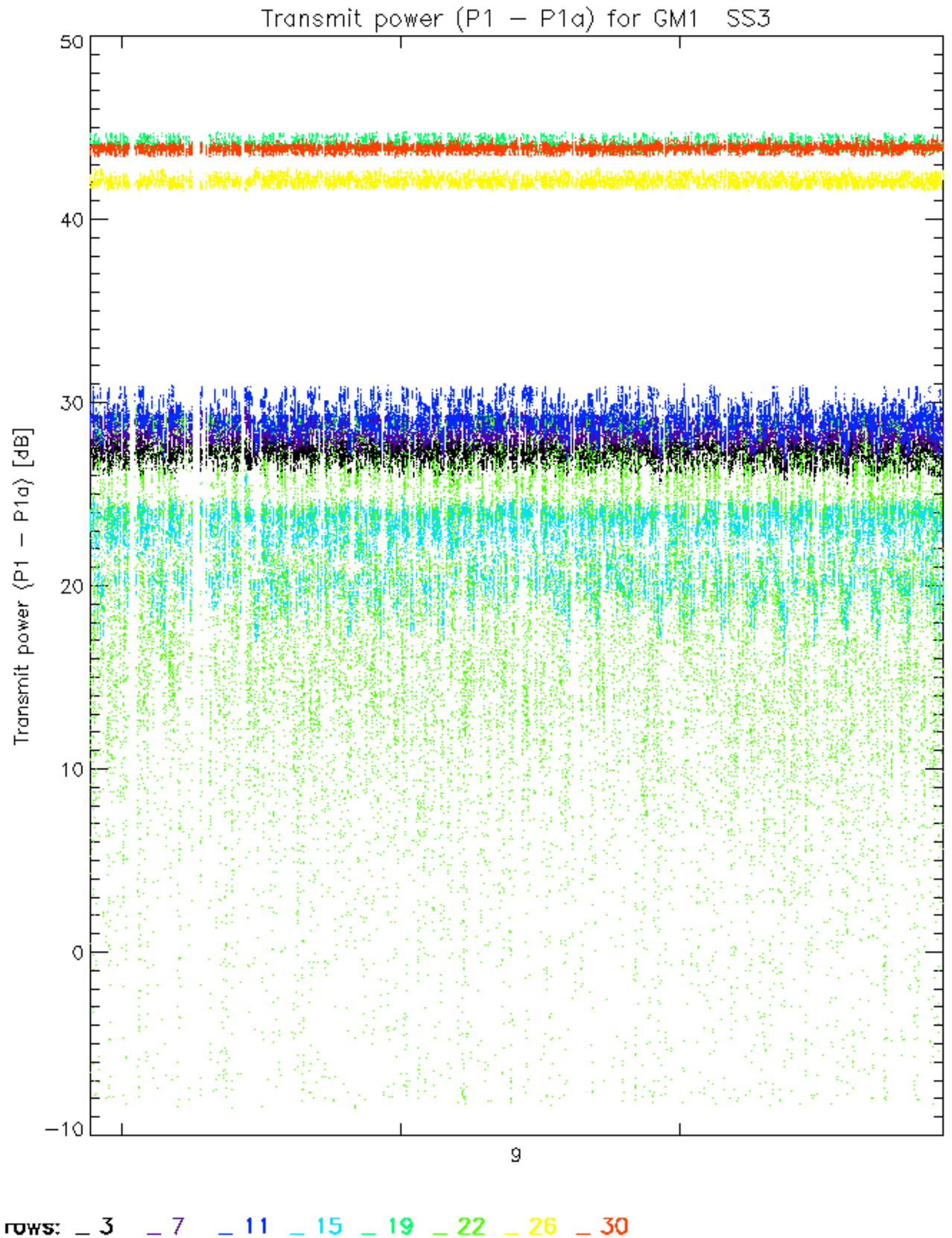
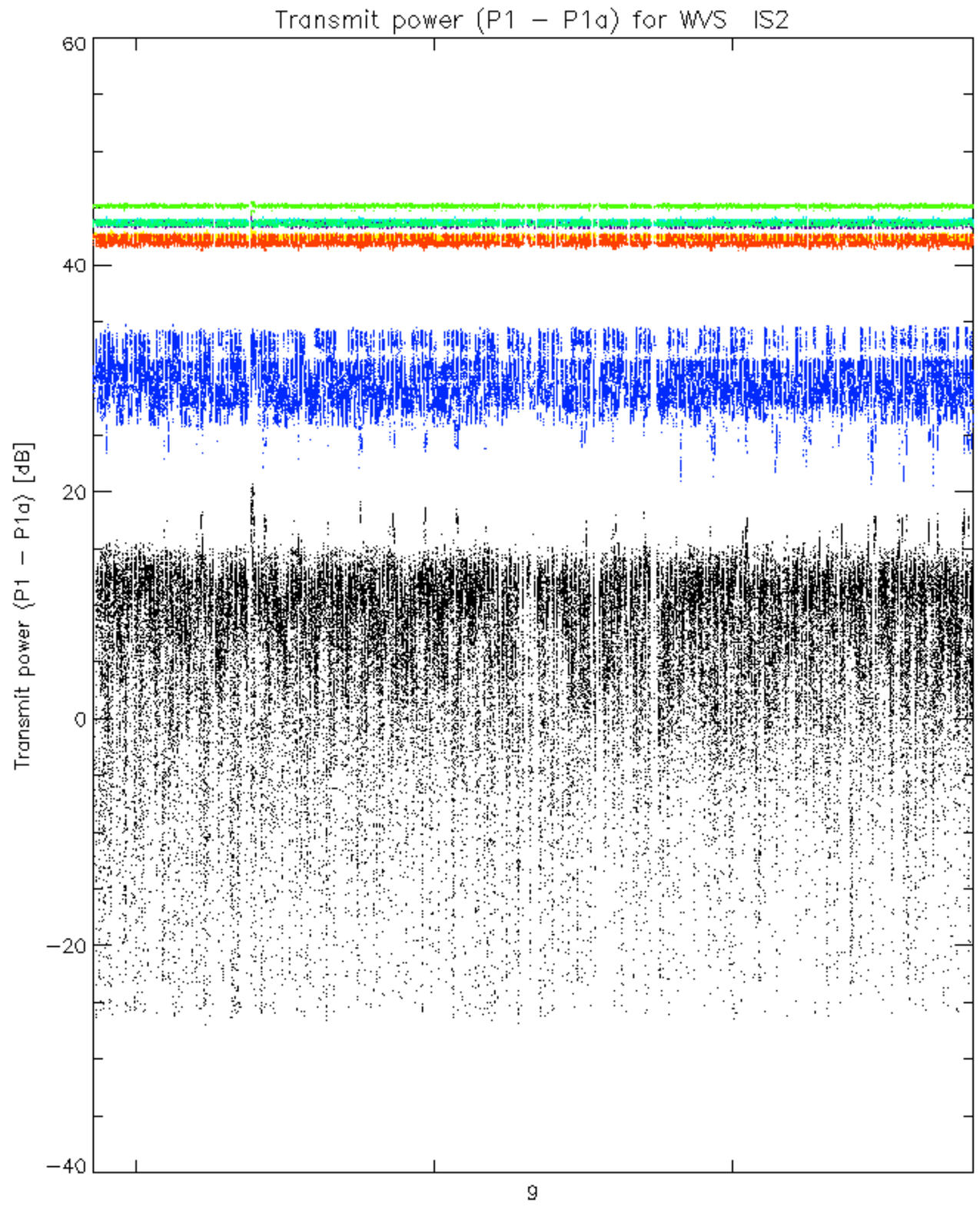

Reference: 2003-06-12 14:10:32 V
Test : 2005-05-06 05:55:19 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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 WVS IS2
60
40
20
0
−20
−40
Transmit power ⟨P1 – P1a⟩ [dB]
9
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.