REPORT OF 050517

last update on Tue May 17 12:17:24 GMT 2005

1 - Introduction

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 2005-05-16 00:00:00 to 2005-05-17 12:17:24

PDHS-K					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	0	0	15	3	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	0	0	15	3	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	0	0	15	3	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	0	0	15	3	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	0	0	34	9	1
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	0	0	34	9	1
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	0	0	34	9	1
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	0	0	34	9	1

2.3 - Browse Visual Inspection

2.2 - Browse Visual Inspection

No anomalies observed from browse visual inspection.

2.4 - Data Analysis

2.3 - 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
☒

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	-3.347043	0.006845	-0.025018
7	P1	-3.109905	0.013759	-0.015521
11	P1	-4.657894	0.027280	0.015715
15	P1	-5.545909	0.045138	0.049007
19	P1	-3.720217	0.004048	-0.031357
22	P1	-4.590491	0.013198	-0.019466
26	P1	-4.880599	0.019017	0.016191
30	P1	-7.138576	0.028722	-0.010969
3	P1	-15.716042	0.082154	0.070698
7	P1	-15.500574	0.096861	-0.016240
11	P1	-21.260365	0.230672	-0.195353
15	P1	-11.435845	0.032477	0.115747
19	P1	-14.332314	0.033979	-0.093811
22	P1	-15.939899	0.334978	-0.061051
26	P1	-17.625916	0.191043	-0.129470
30	P1	-17.862278	0.254933	-0.123862

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.053276	0.080161	-0.044083
7	P2	-22.232800	0.102493	-0.032013
11	P2	-14.136900	0.102225	0.168988
15	P2	-7.096791	0.088014	-0.073141
19	P2	-9.652405	0.091870	0.025954
22	P2	-16.888214	0.092162	-0.023802
26	P2	-16.486200	0.093124	-0.045689
30	P2	-18.821611	0.080921	0.003836

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.168408	0.003596	-0.011680
7	P3	-8.168408	0.003596	-0.011680
11	P3	-8.168407	0.003596	-0.011694
15	P3	-8.168407	0.003596	-0.011694
19	P3	-8.168407	0.003596	-0.011694
22	P3	-8.168407	0.003596	-0.011694
26	P3	-8.168407	0.003596	-0.011694
30	P3	-8.168408	0.003596	-0.011686

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	-2.768270	0.012067	-0.055560
7	P1	-2.993849	0.030688	0.065139
11	P1	-3.966329	0.017928	0.047584
15	P1	-3.525289	0.023358	-0.022178
19	P1	-3.629414	0.014728	0.007396
22	P1	-5.656808	0.049804	-0.011477
26	P1	-7.313103	0.022467	-0.011581
30	P1	-6.275575	0.059099	0.012805
3	P1	-10.776675	0.045041	-0.173732
7	P1	-10.417529	0.153658	0.041257
11	P1	-12.550750	0.103680	0.044901
15	P1	-11.636638	0.068077	0.001731
19	P1	-15.622163	0.064701	0.011139
22	P1	-25.399050	2.146654	-0.960809

26	P1	-15.674227	0.321055	0.041104
30	P1	-20.232286	1.224178	-0.064005

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.770849	0.037621	-0.104696
7	P2	-22.268515	0.045991	0.099483
11	P2	-10.039383	0.053223	0.083797
15	P2	-5.080667	0.037797	-0.063271
19	P2	-6.900863	0.052529	-0.040066
22	P2	-7.103623	0.035164	-0.040571
26	P2	-23.915422	0.036489	-0.044688
30	P2	-21.939146	0.039824	-0.062611

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.004049	0.003541	-0.002279
7	P3	-8.004089	0.003529	-0.001635
11	P3	-8.004033	0.003537	-0.002117
15	P3	-8.004187	0.003542	-0.000937
19	P3	-8.004125	0.003535	-0.001666
22	P3	-8.004111	0.003521	-0.001833
26	P3	-8.004045	0.003537	-0.001468
30	P3	-8.004045	0.003550	-0.002511

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	0.000450043
	stdev	2.28513e-07
MEAN Q	mean	0.000472621
	stdev	2.41085e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.126405
	stdev	0.00105239
STDEV Q	mean	0.126651
	stdev	0.00106263

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005051[567]
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_1PNPDE20050515_004104_000000622037_00174_16761_1765.N1	1	0

7 - Doppler Analysis

No anomalies observed from DOppler evolution.
Doppler analysis performed over the last 35 days.

6.1 - Unbiased Doppler Error for WVS

Evolution of unbiased Doppler error (Real - Expected)

Acsending

Descending

6.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler

Acsending

Descending

6.3 - Doppler evolution versus ANX for WVS

6.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)

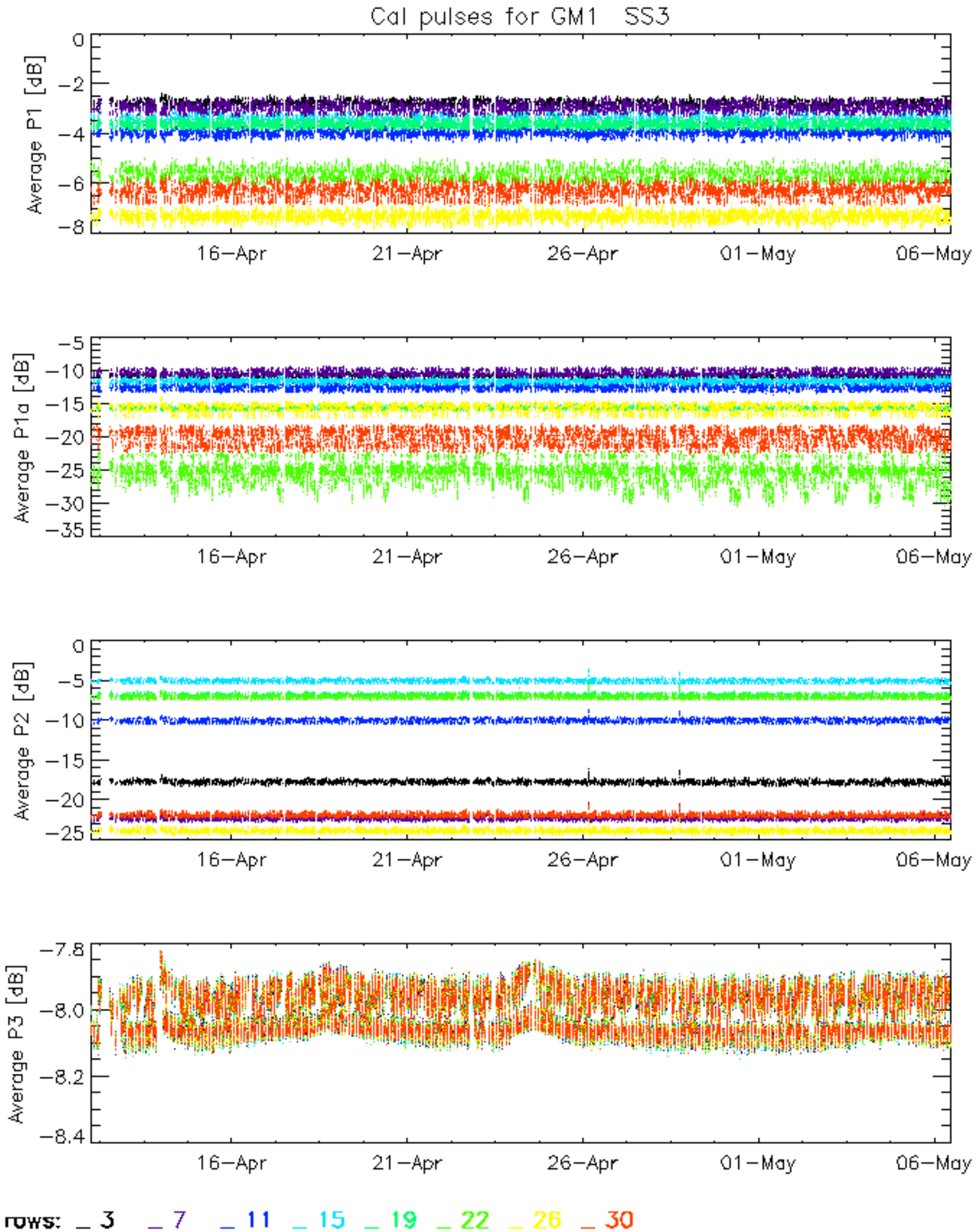
Acsending

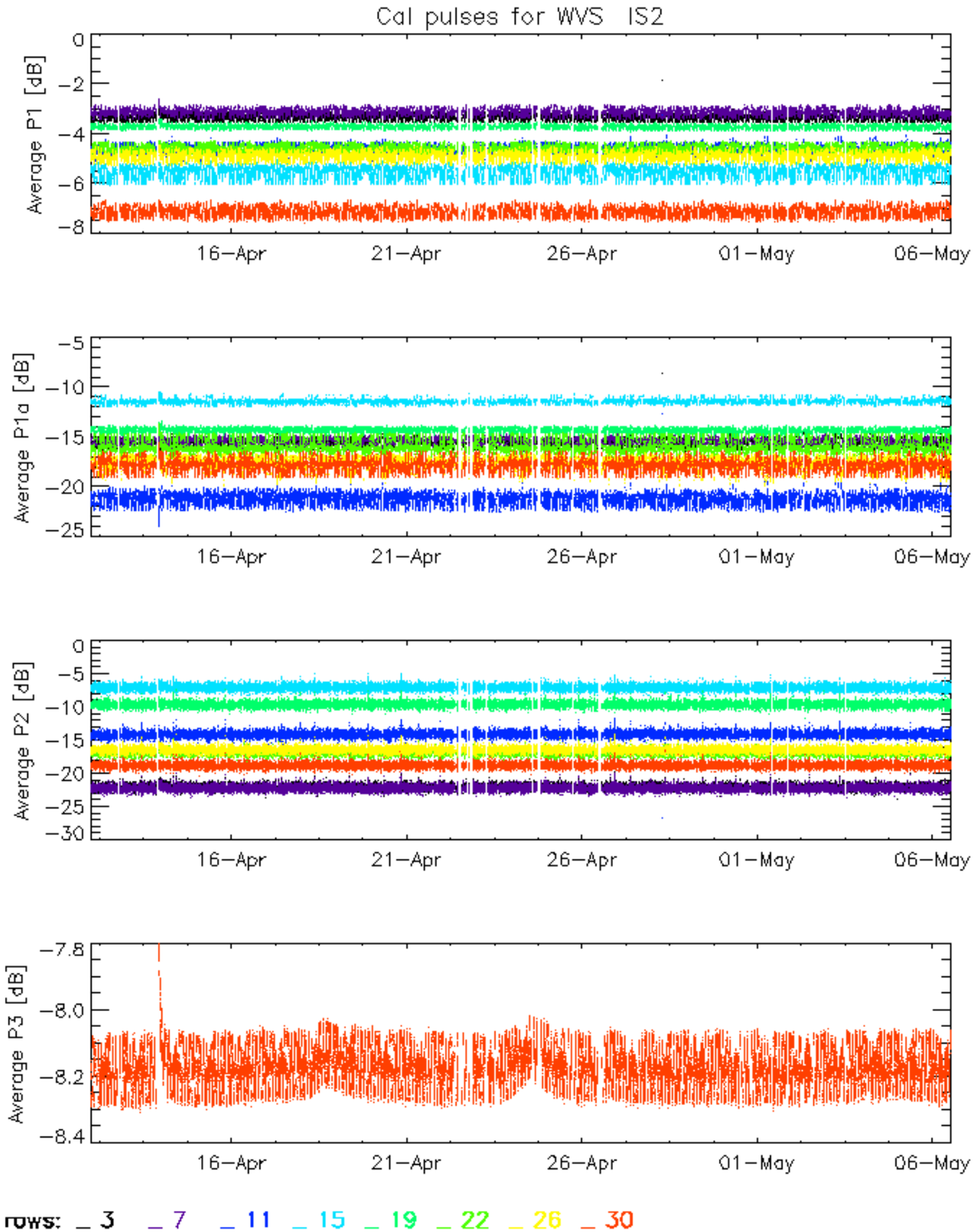

Descending

6.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler
☒
Acsending
☒
Descending

6.6 - Doppler evolution versus ANX for GM1


Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
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

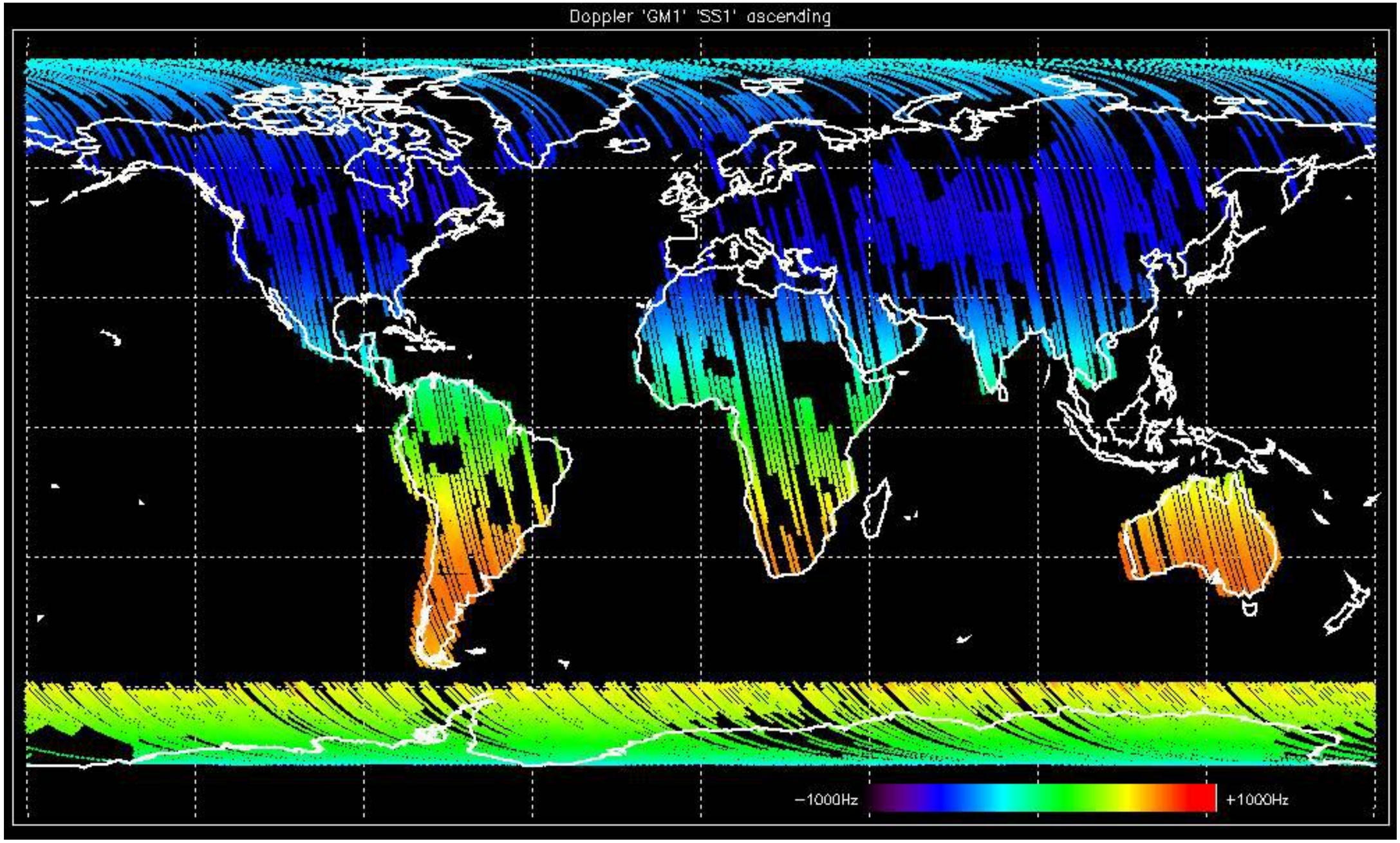

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
16−Apr
21−Apr
26−Apr
01−May
06−May
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
−30
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

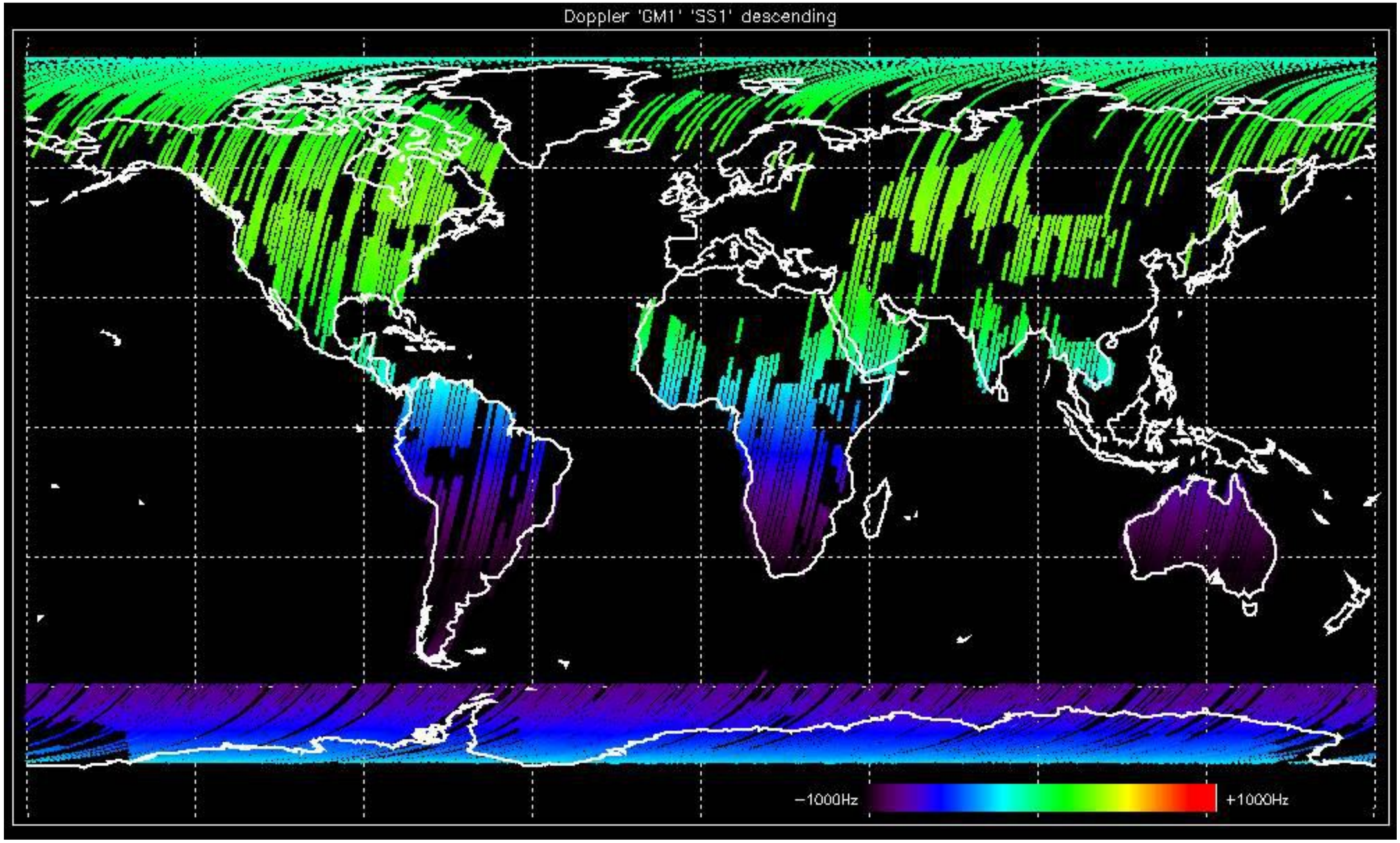
No anomalies observed from browse visual inspection.

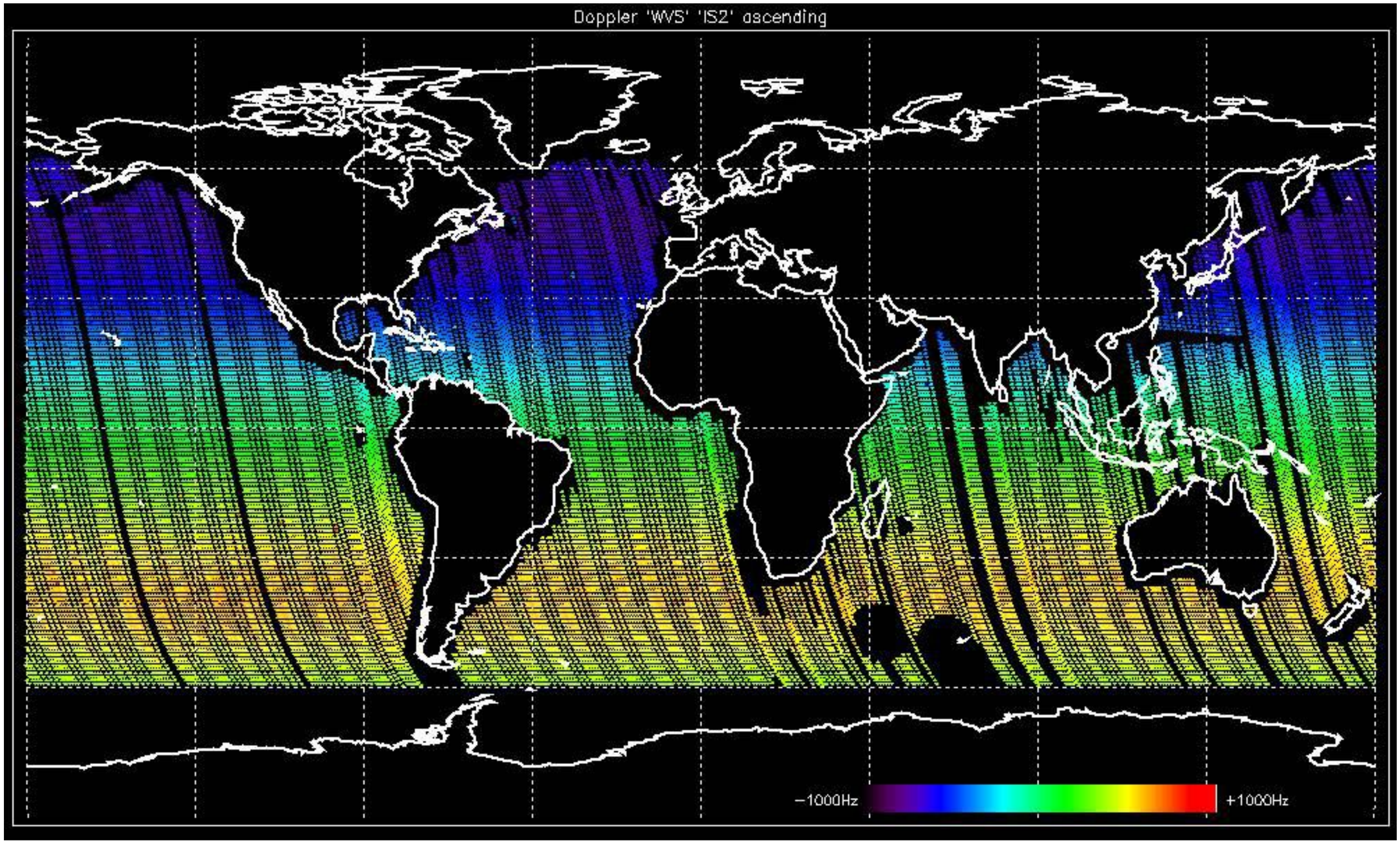
No anomalies observed.

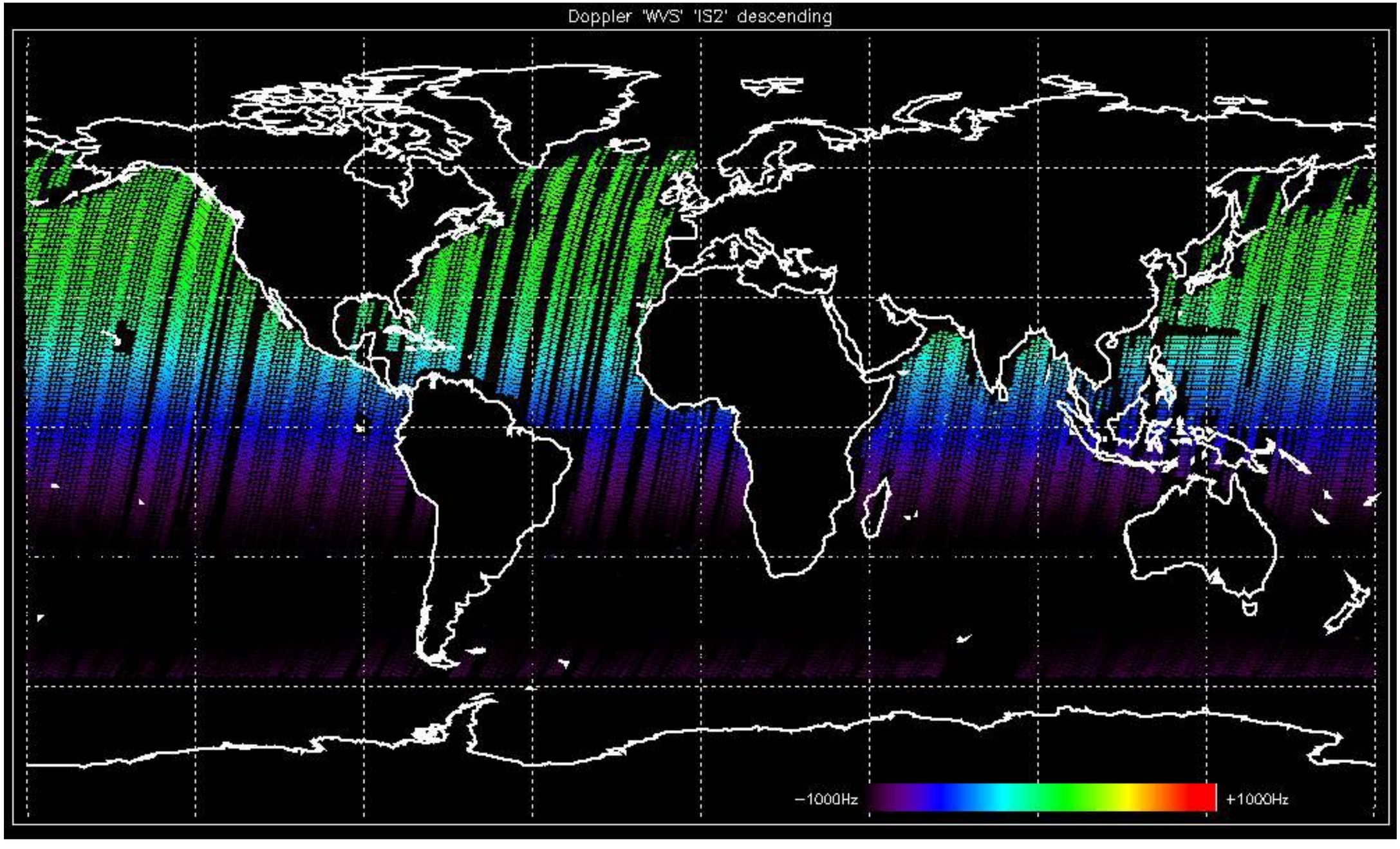
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

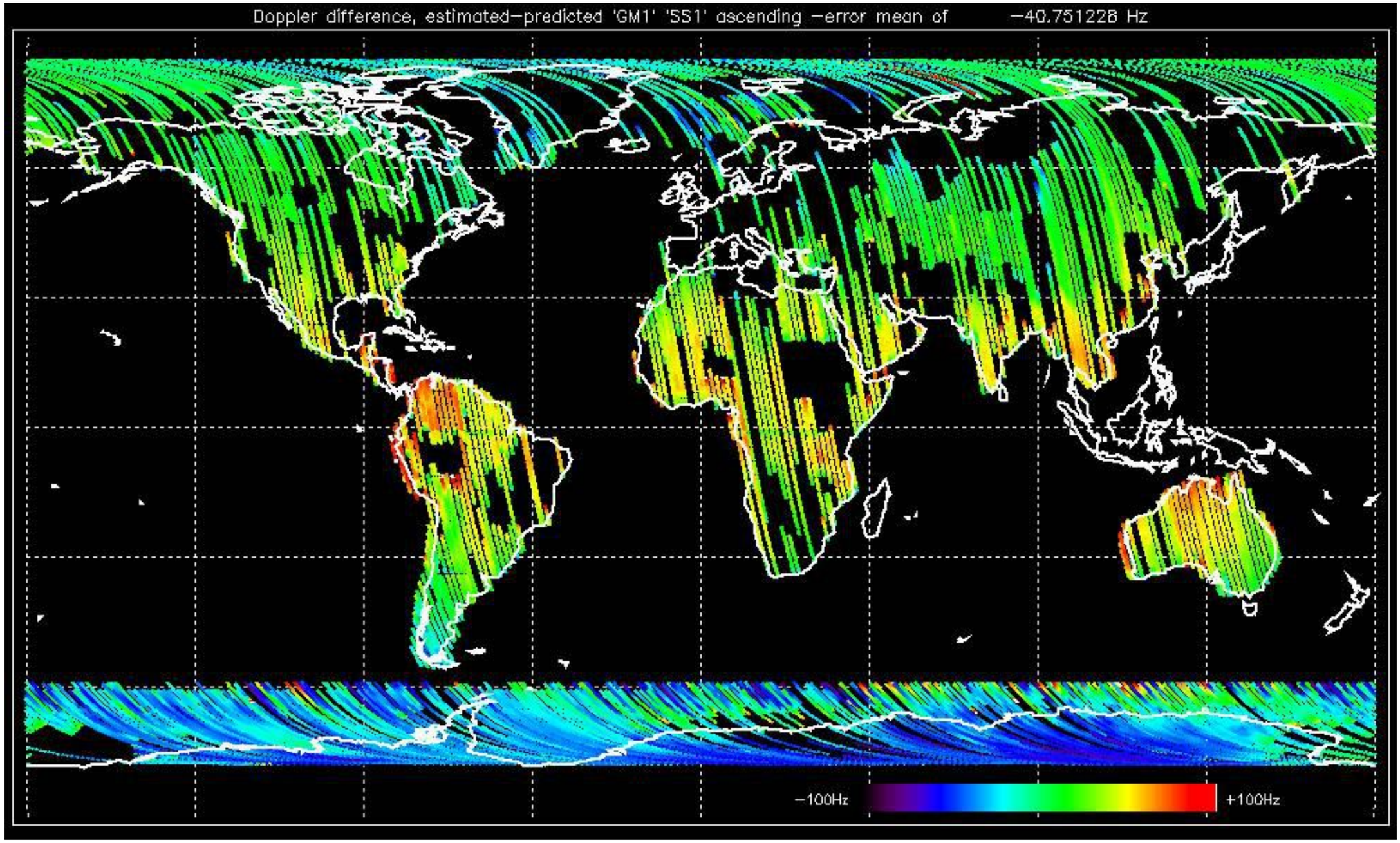
No anomalies observed from DOppler evolution.
Doppler analysis performed over the last 35 days.

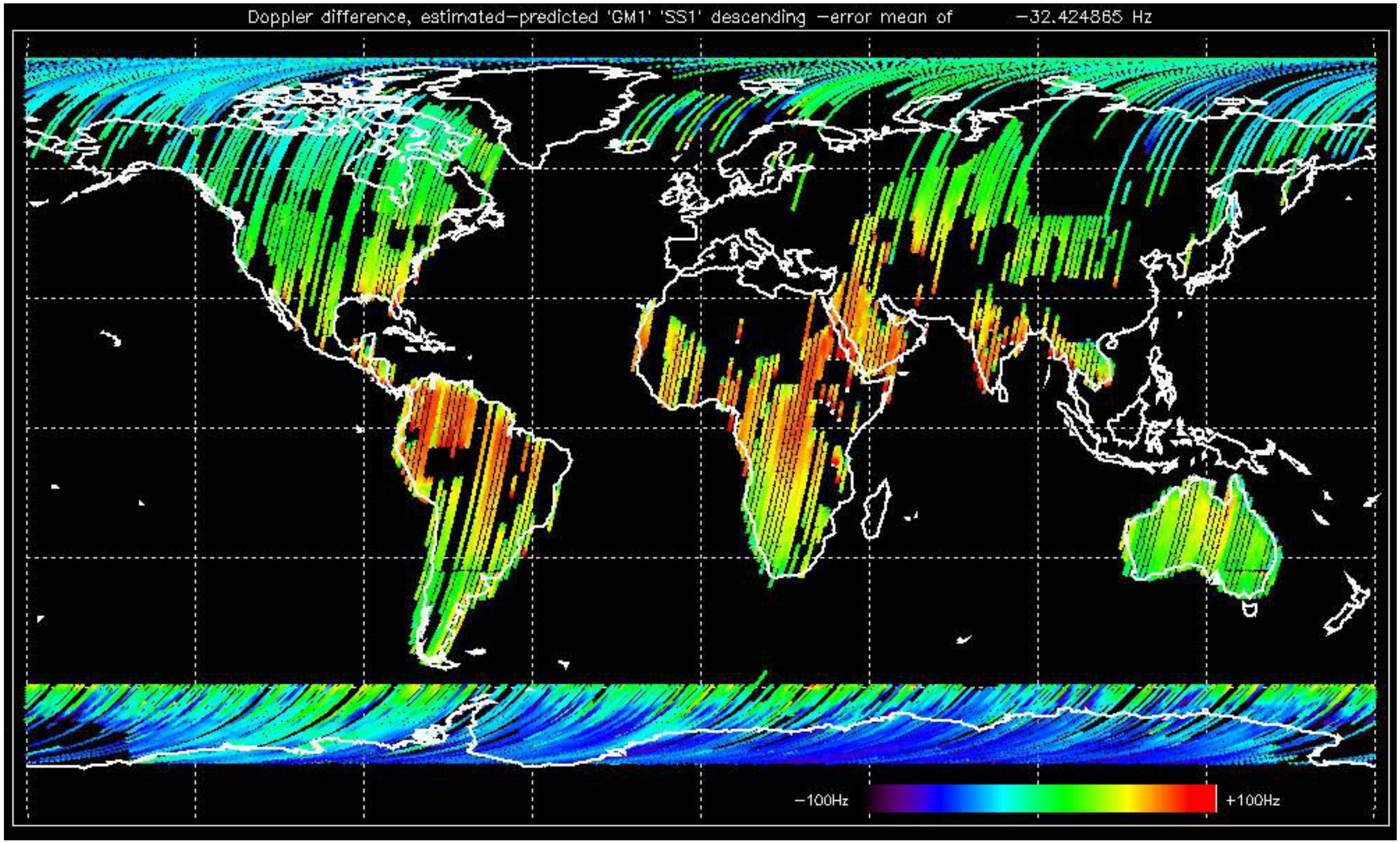

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

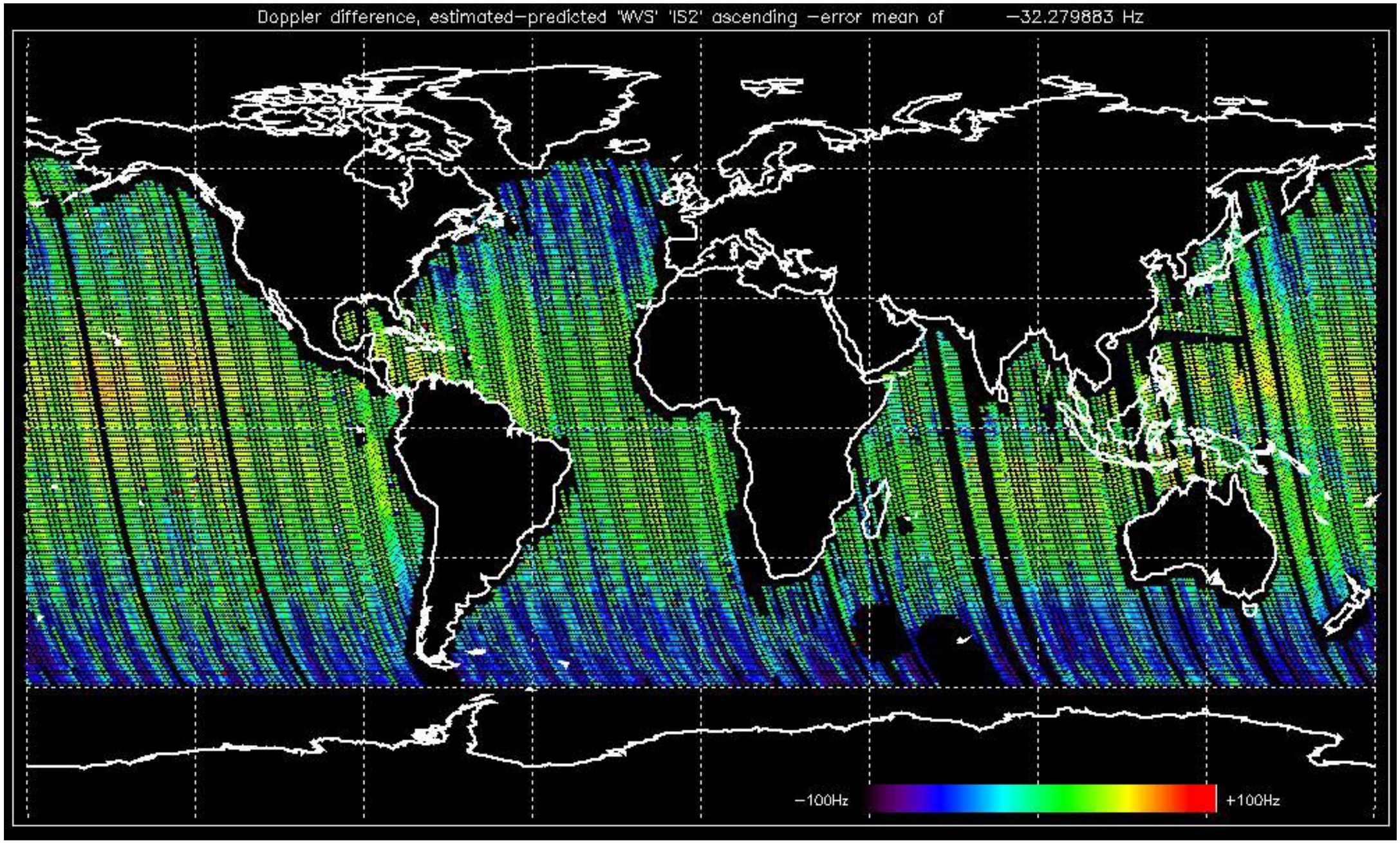

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

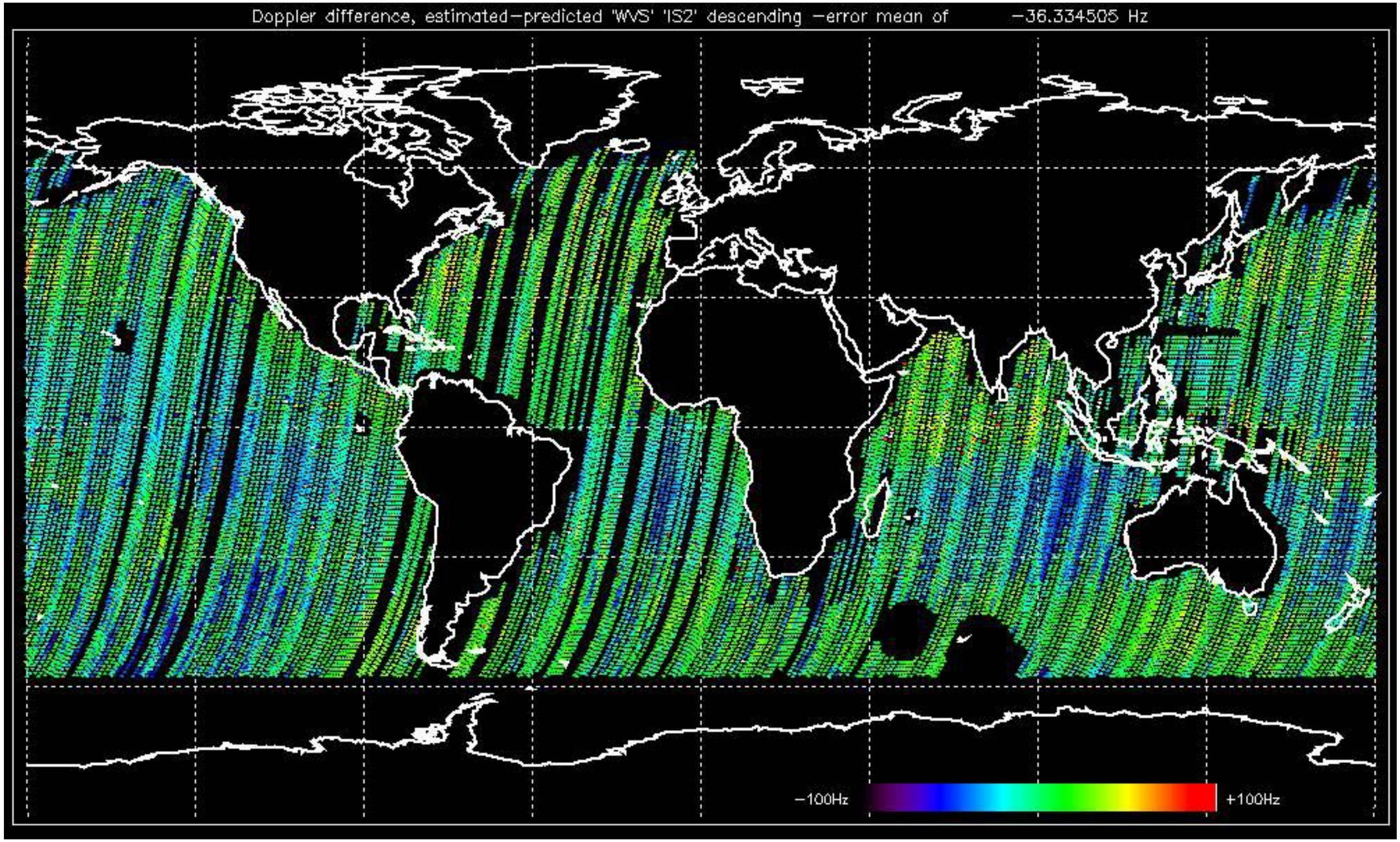

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −40.751228 Hz
−100Hz
+100Hz

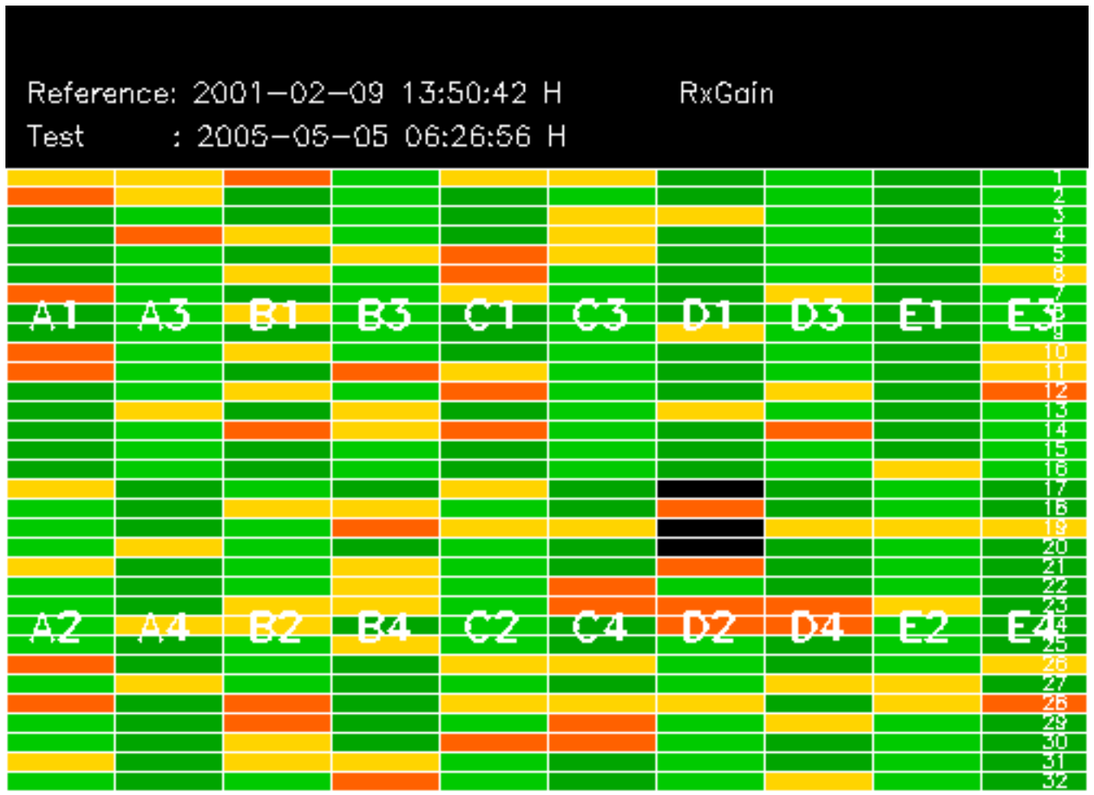

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -32.424865 Hz
-100Hz
+100Hz

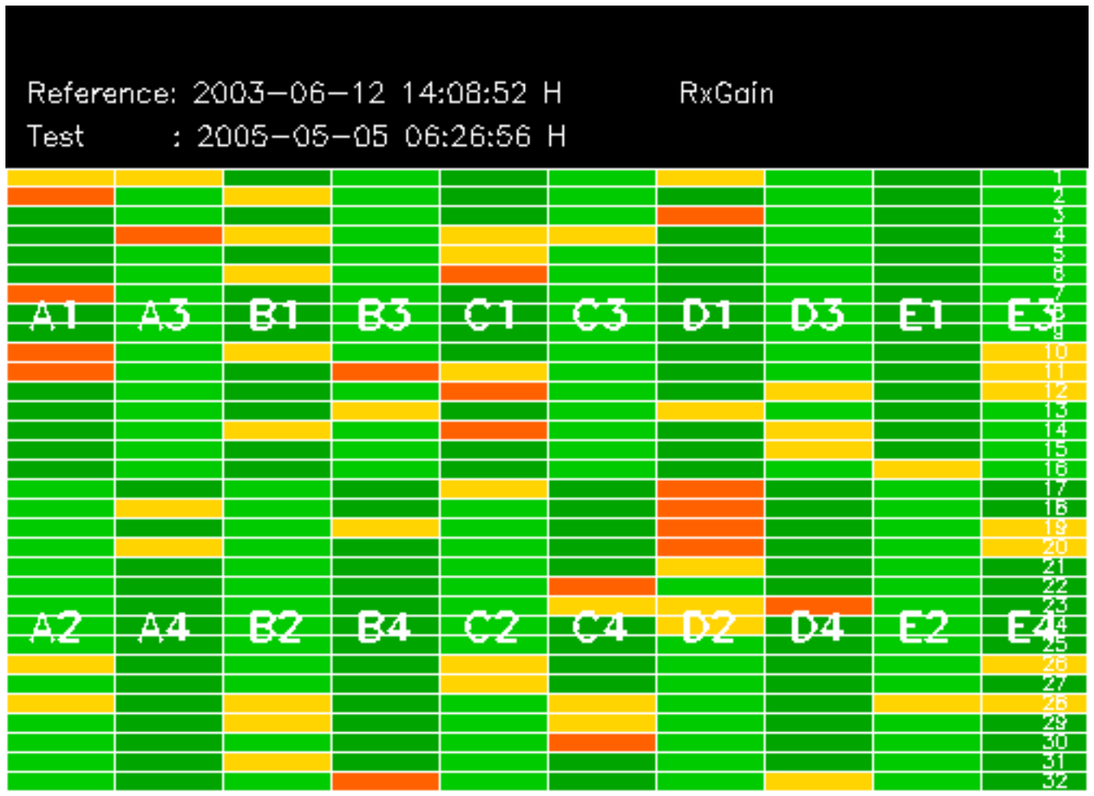

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −32.279883 Hz
−100Hz
+100Hz

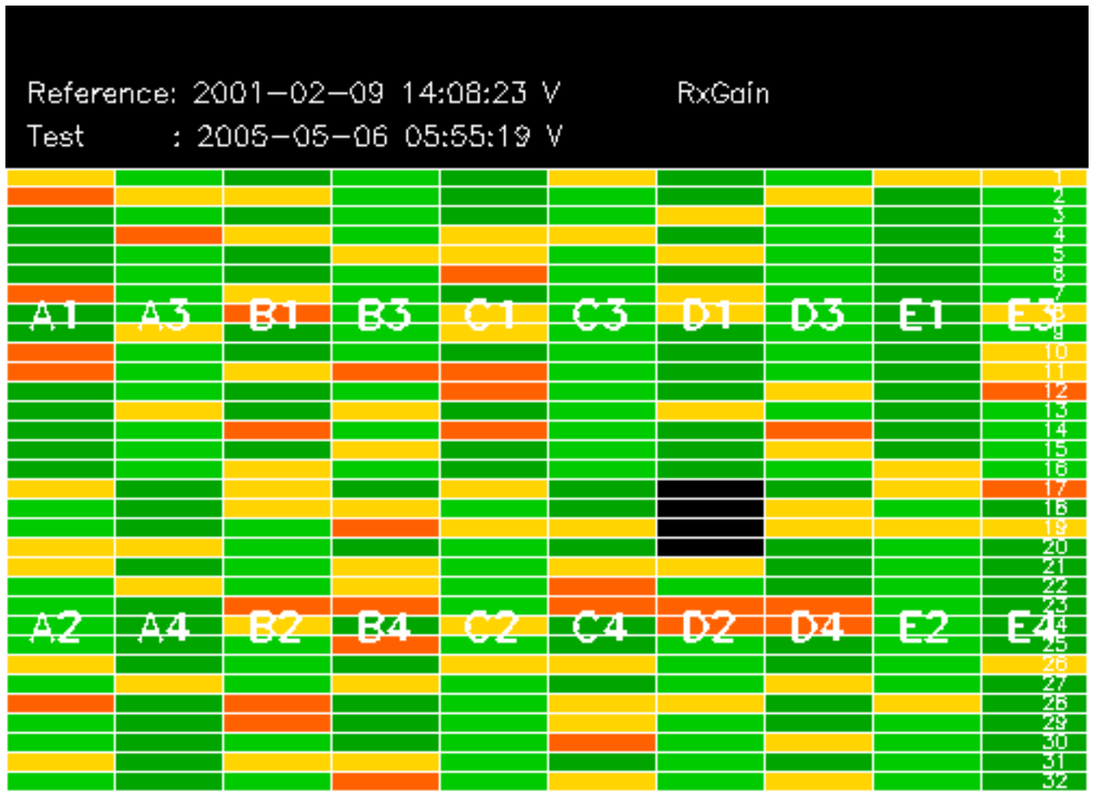

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −36.334505 Hz
−100Hz
+100Hz

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
1
2
3
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8
9
10
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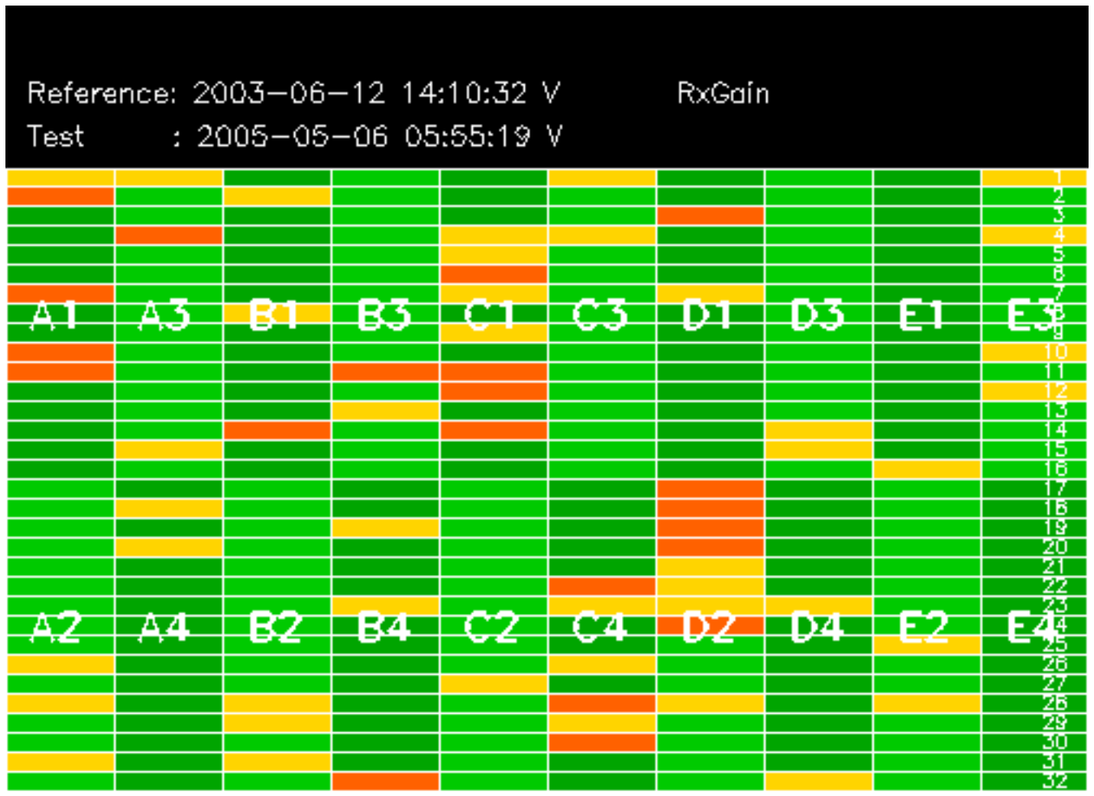
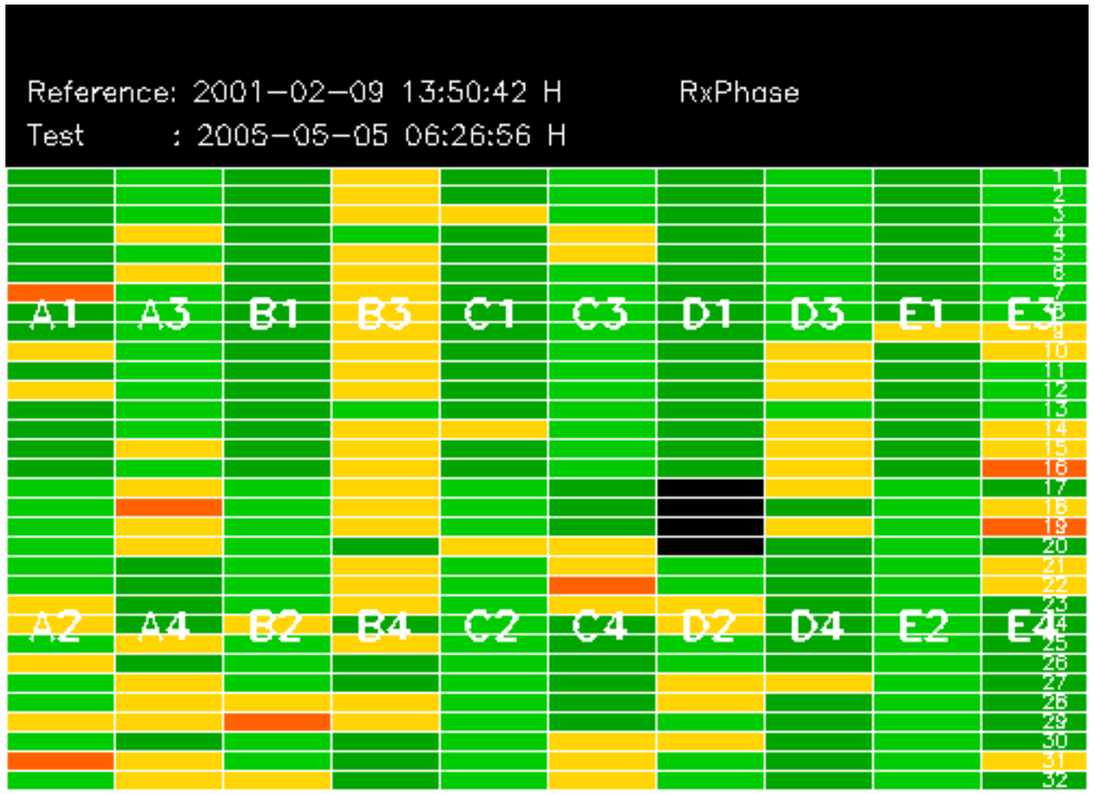
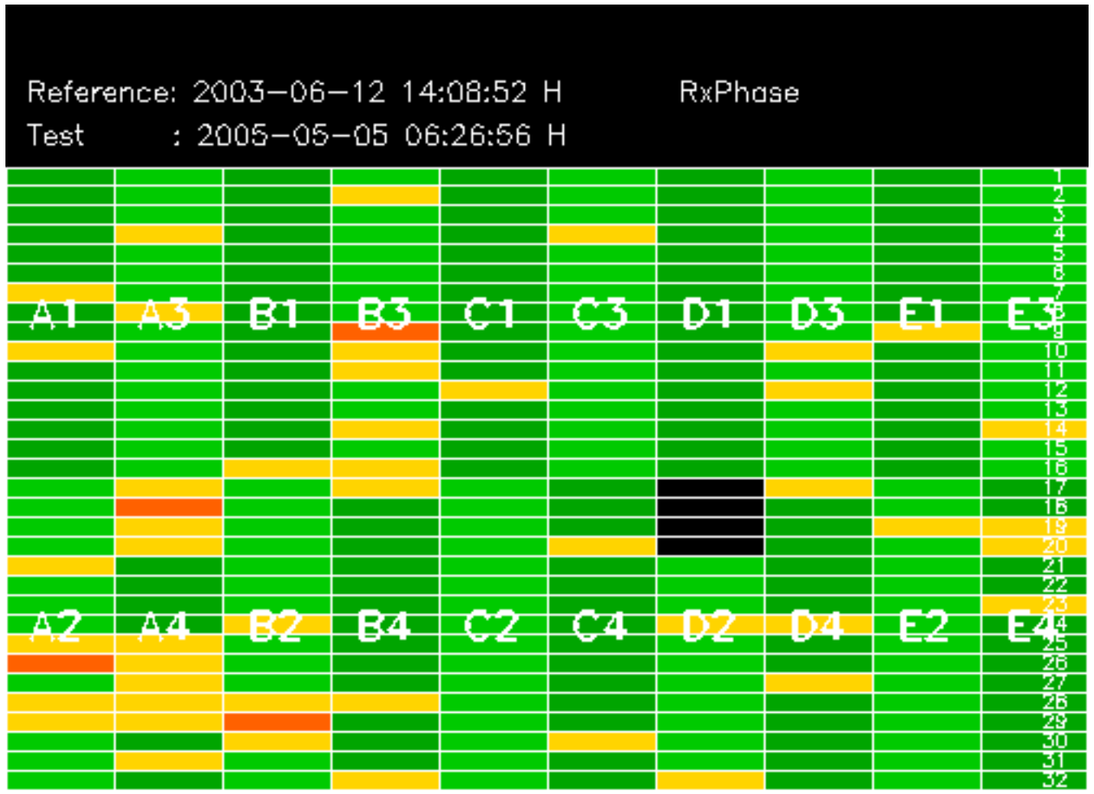
32


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


Reference: 2001-02-09 13:50:42 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


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
2
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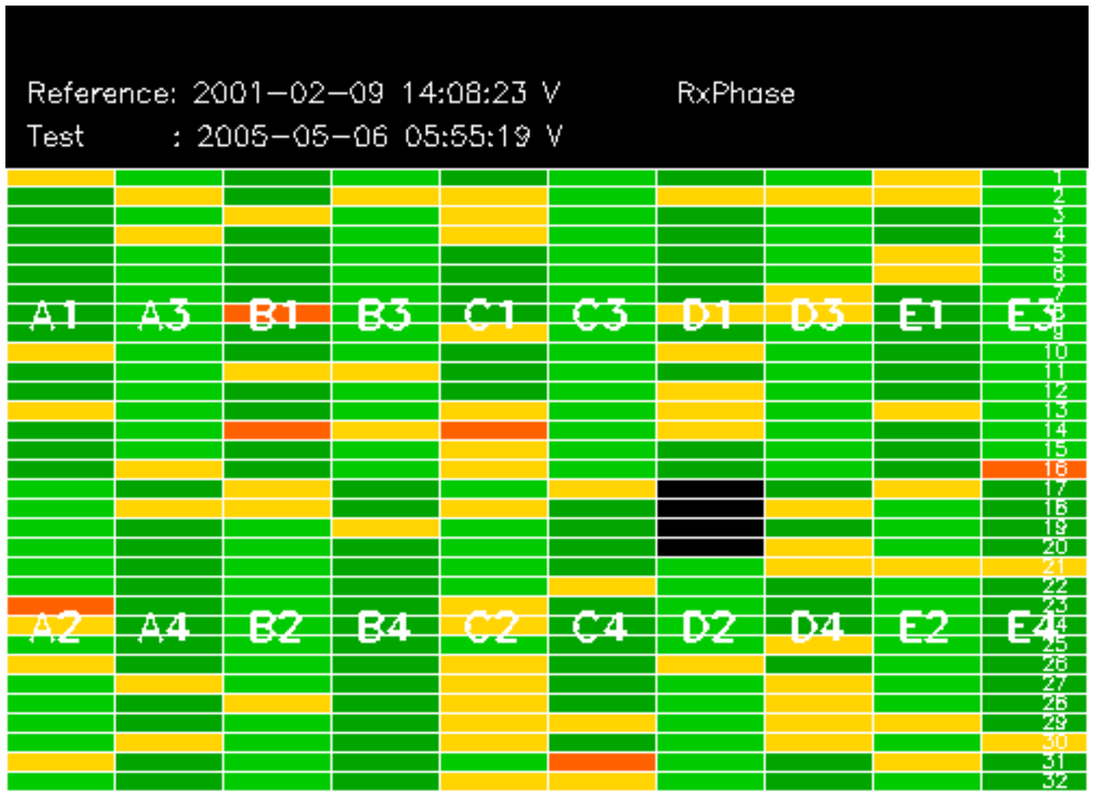
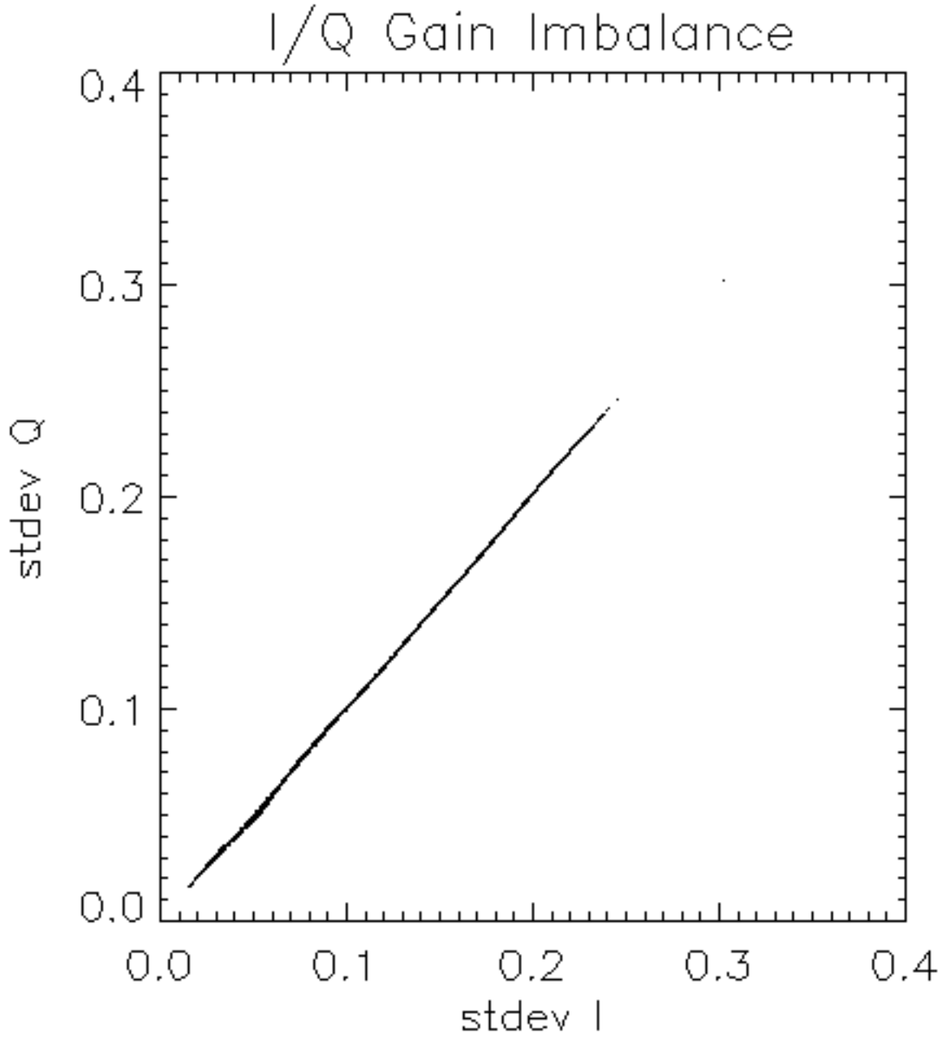
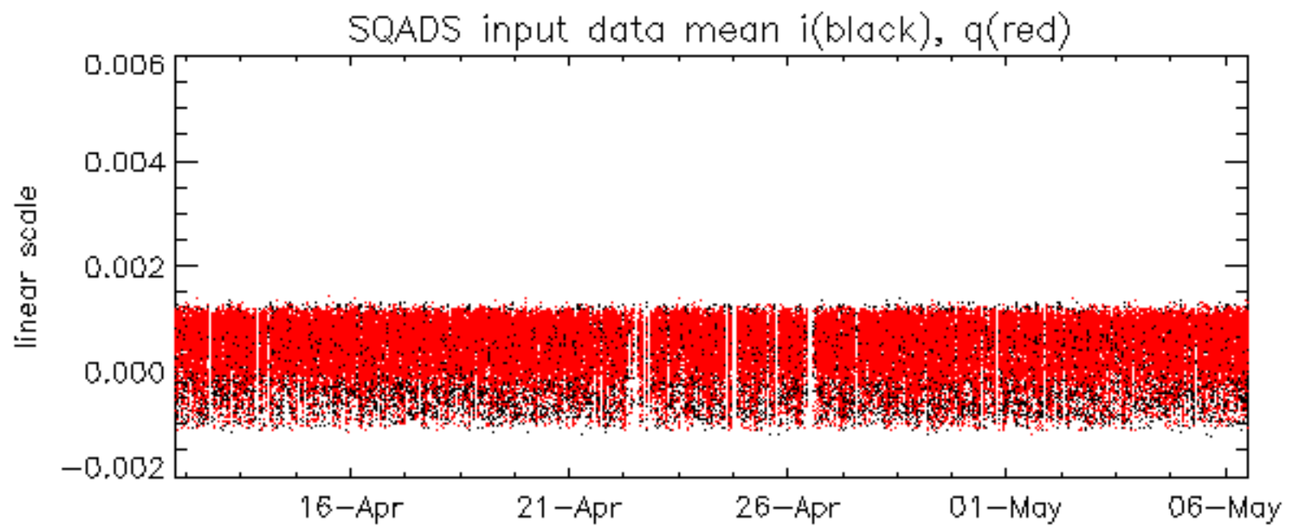
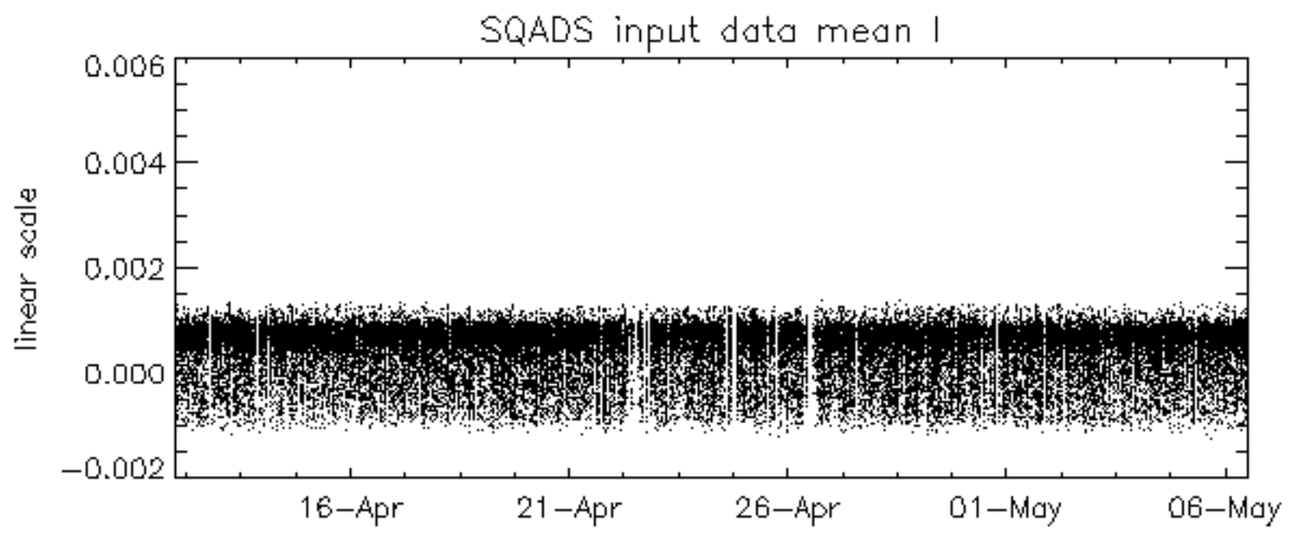
32

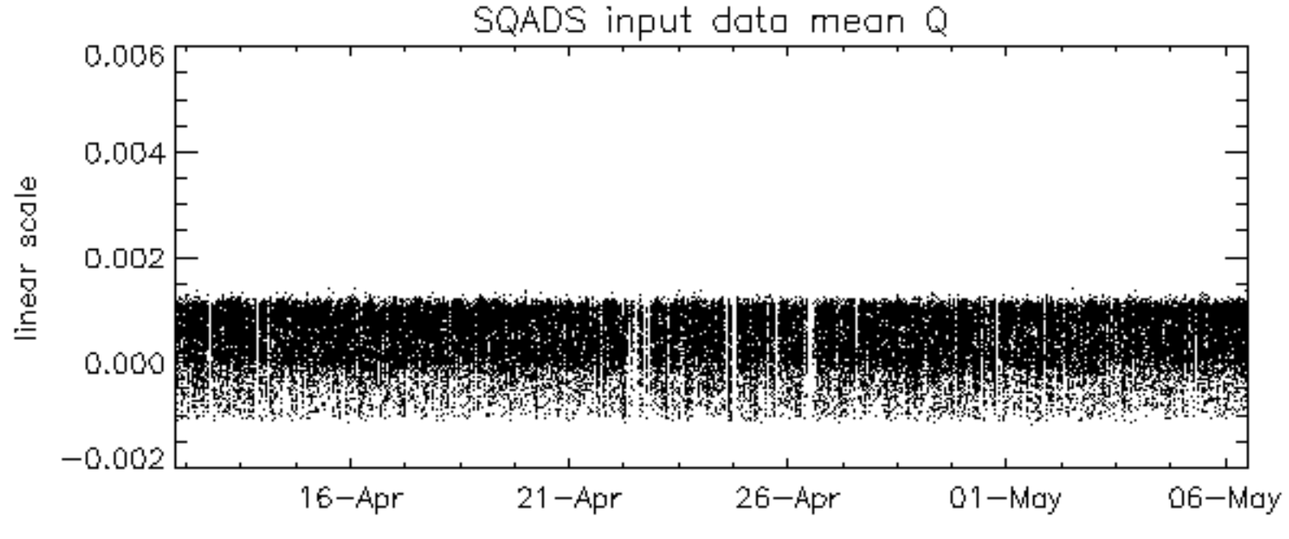

Reference: 2001-02-09 14:08:23 V
Test : 2005-05-06 05:55:19 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

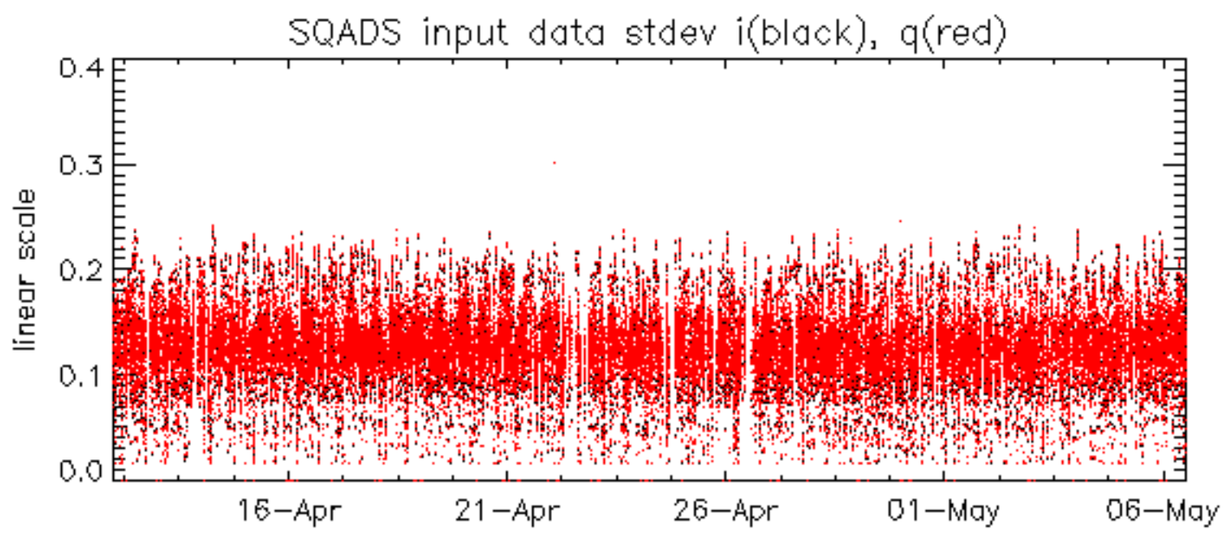

Reference: 2003-06-12 14:10:32 V
Test : 2005-05-06 05:55:19 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

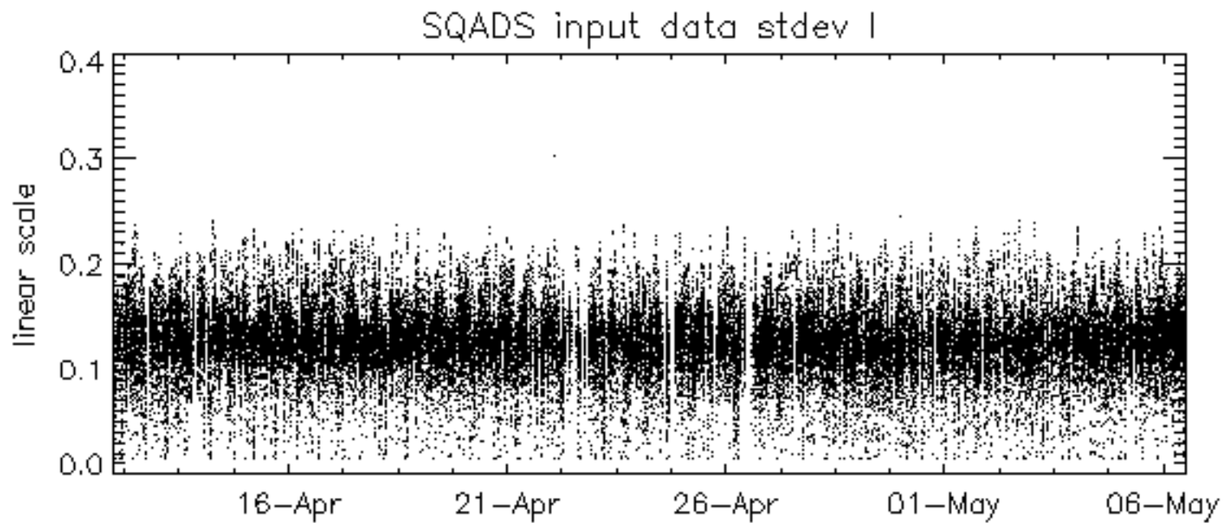

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

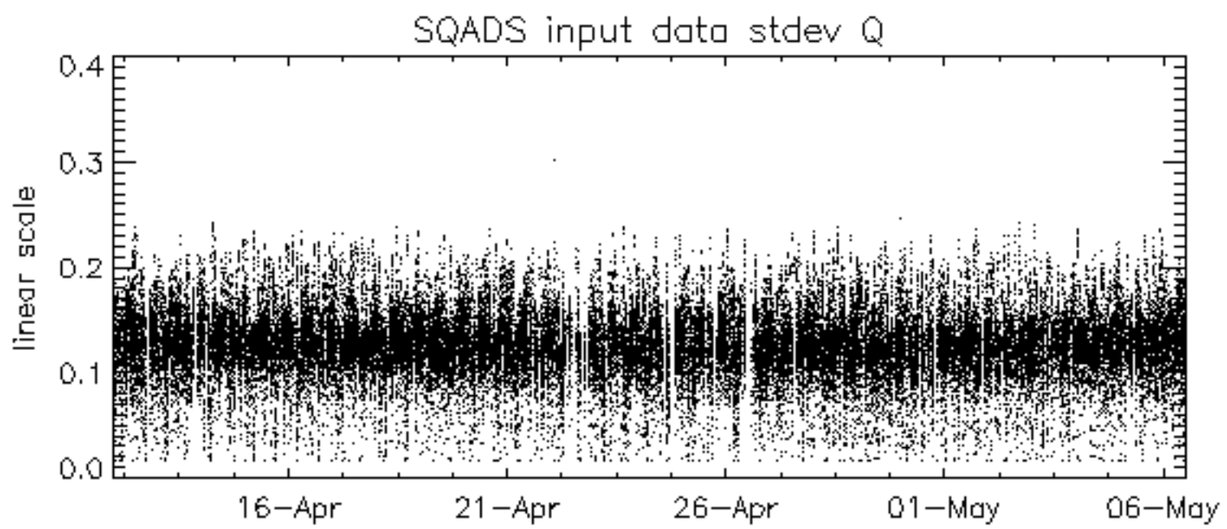

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Apr
21−Apr
26−Apr
01−May
06−May

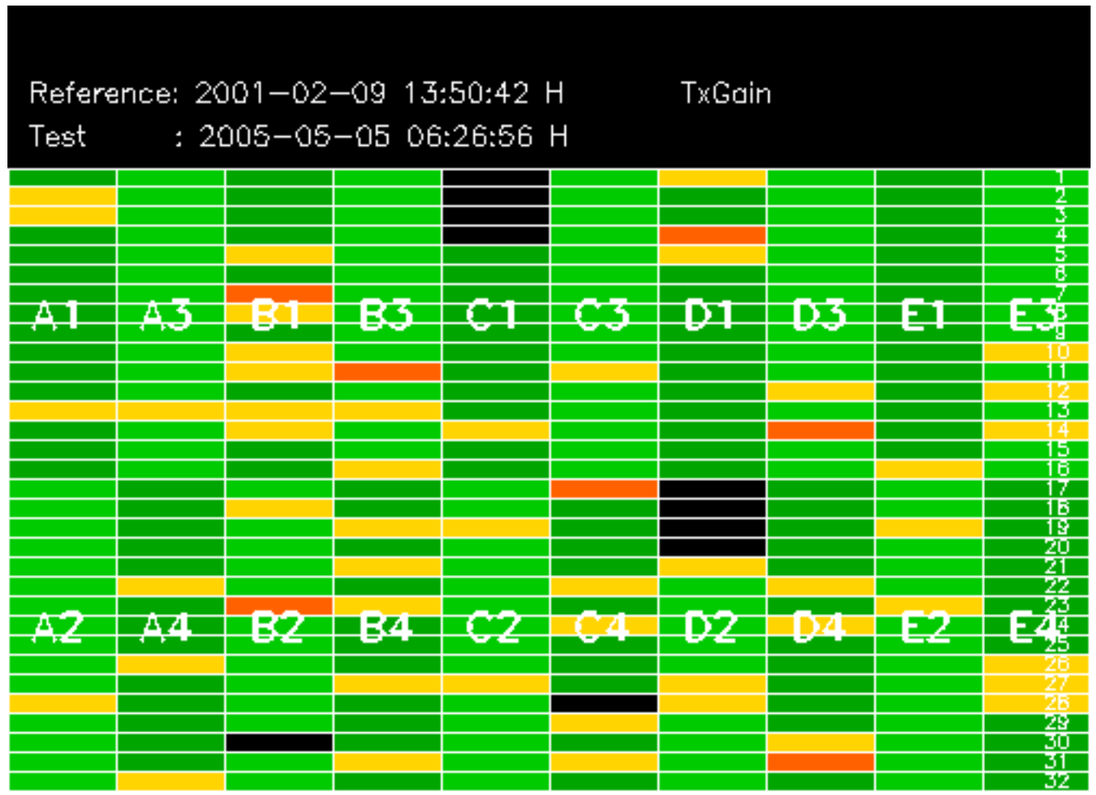

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Apr
21−Apr
26−Apr
01−May
06−May


SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
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
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
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
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
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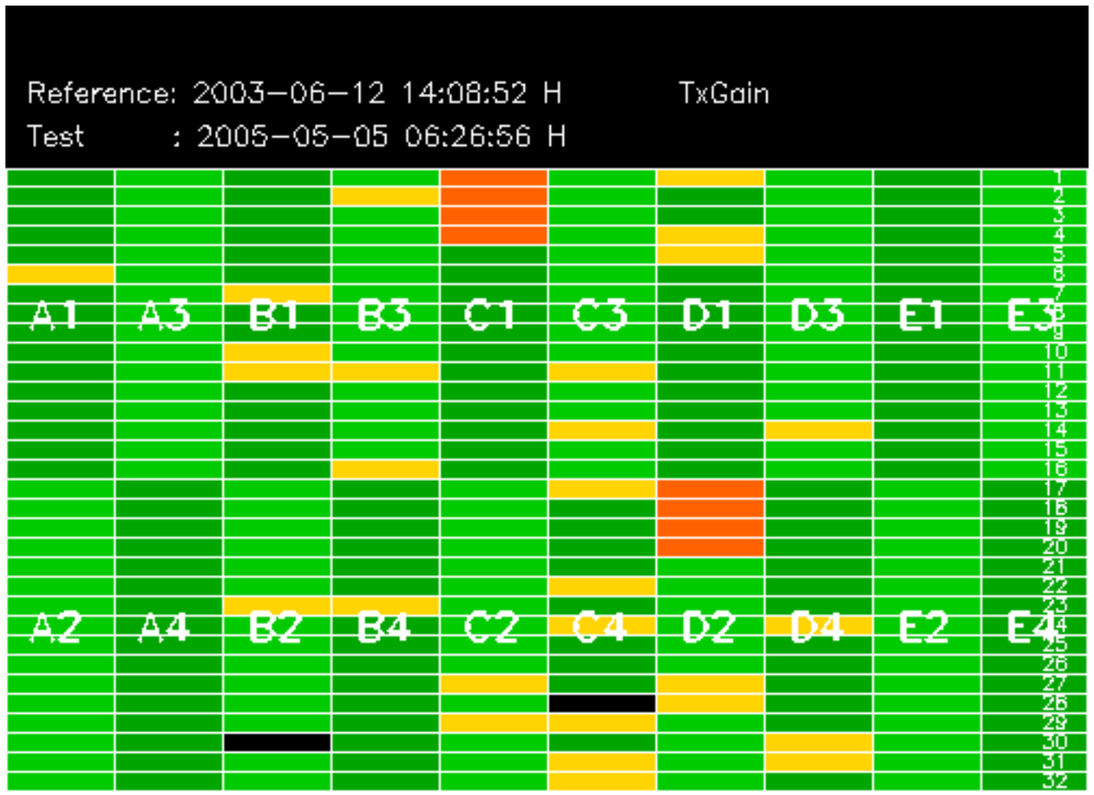
32


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
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12
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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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14
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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
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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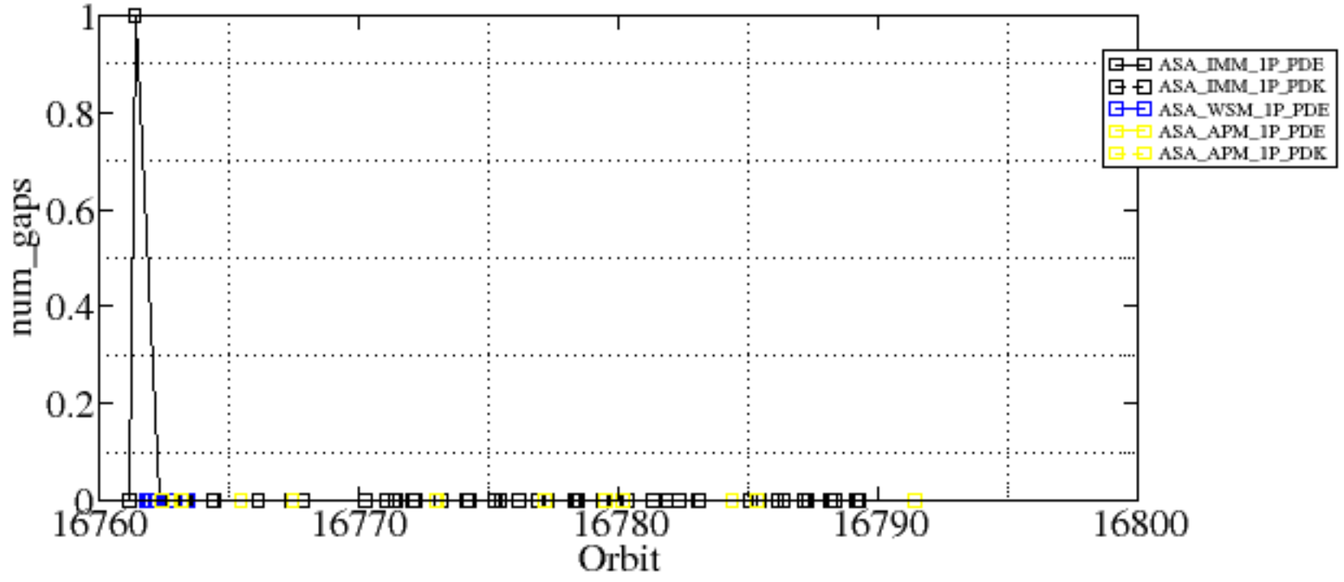
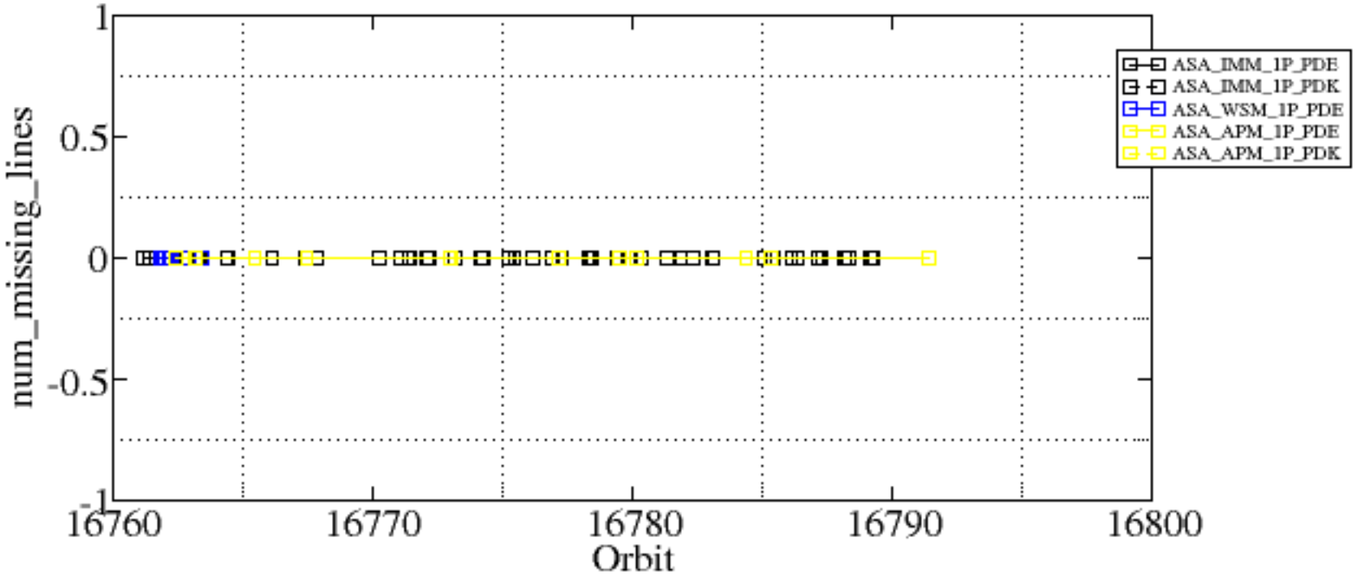
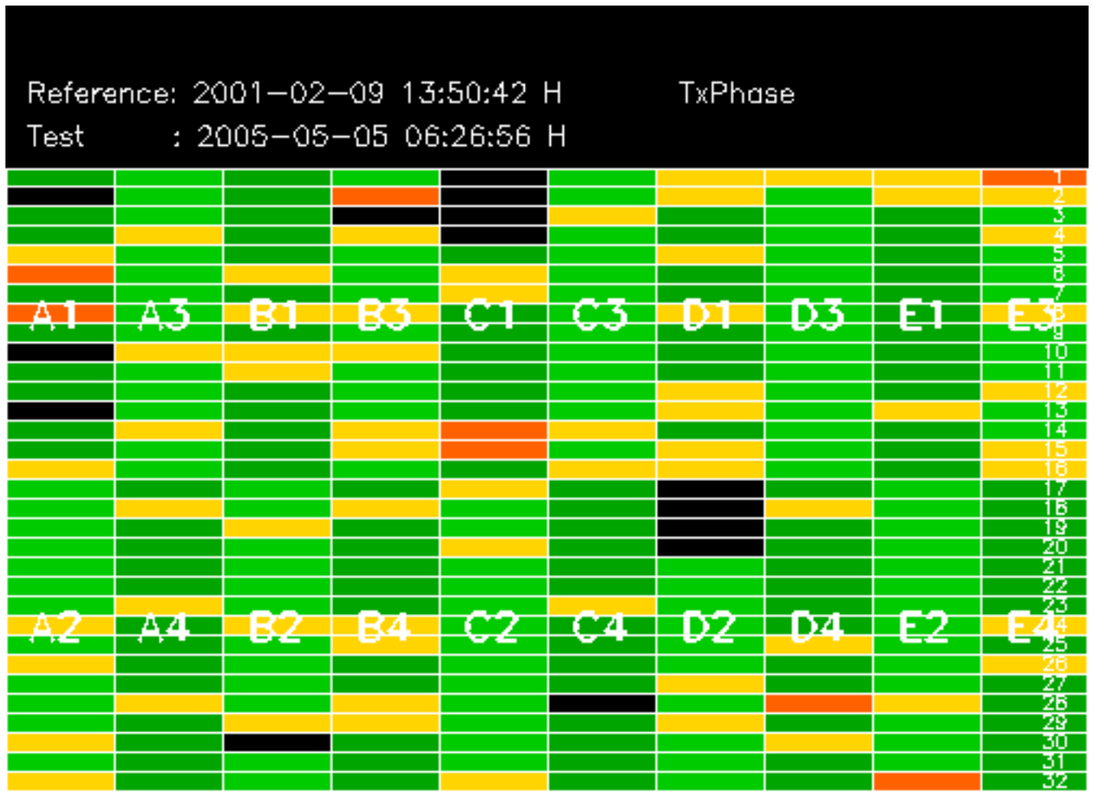
31
32

Summary of analysis for the last 3 days 2005051[567]
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_1PNPDE20050515_004104_000000622037_00174_16761_1765.N1 </td> <td>1 </td> <td>0 </td></tr>
</table>


num_gaps
Orbit
1
0.8
0.6
0.4
0.2
0
16760
16770
16780
16790
16800
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WSM_1P_PDE
ASA_APM_1P_PDE
ASA_APM_1P_PDK


num_missing_lines
1
0.5
0
-0.5
-1
16760
16770
16780
16790
16800
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WSM_1P_PDE
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
1
2
3
4
5
6
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9
10
11
12
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14
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17
18
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21
22
23
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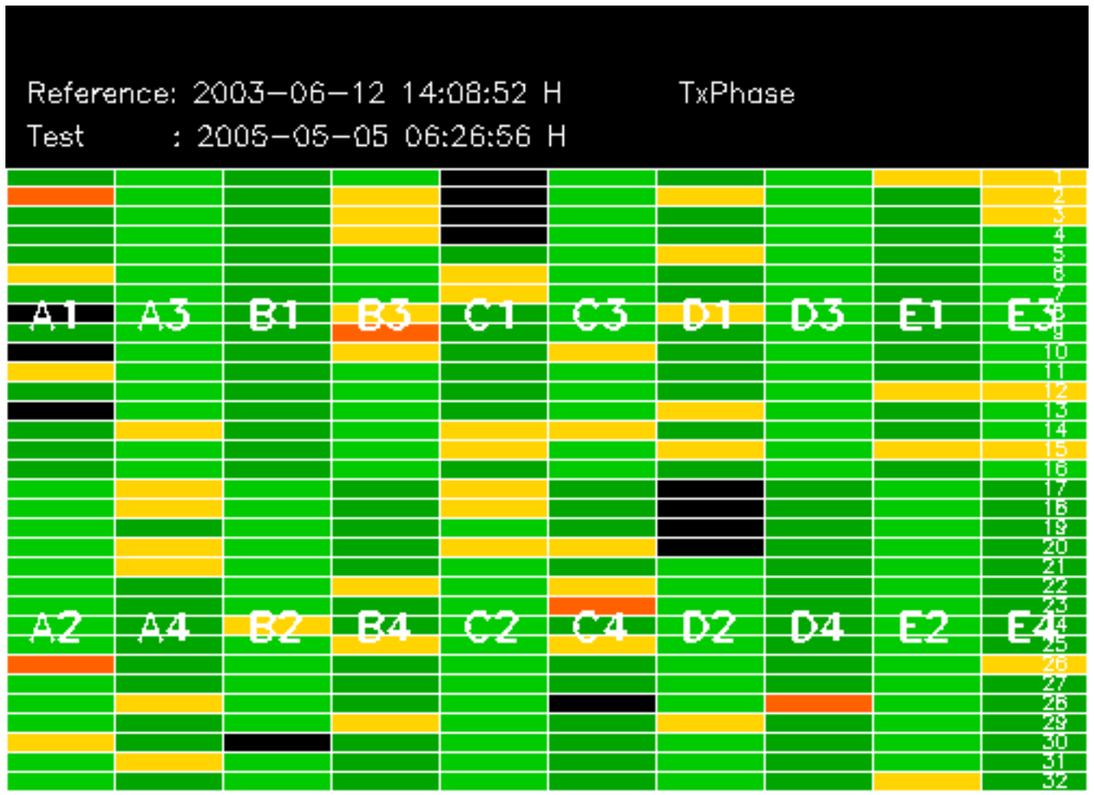
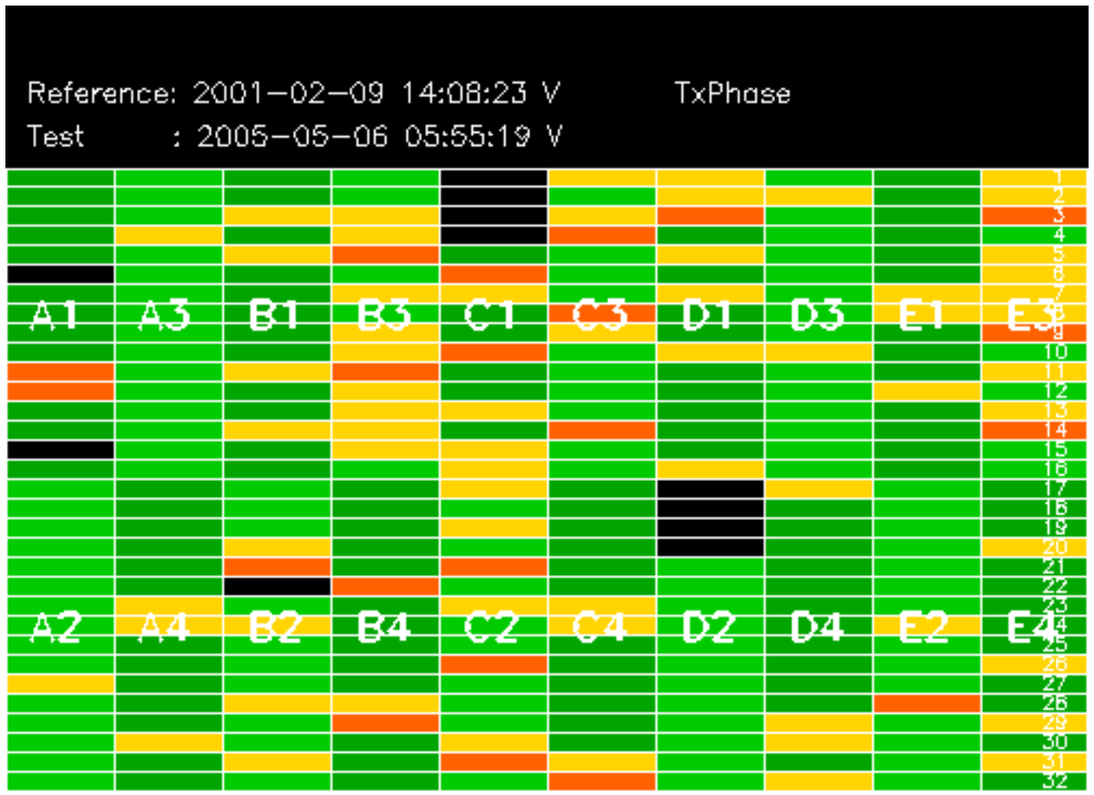
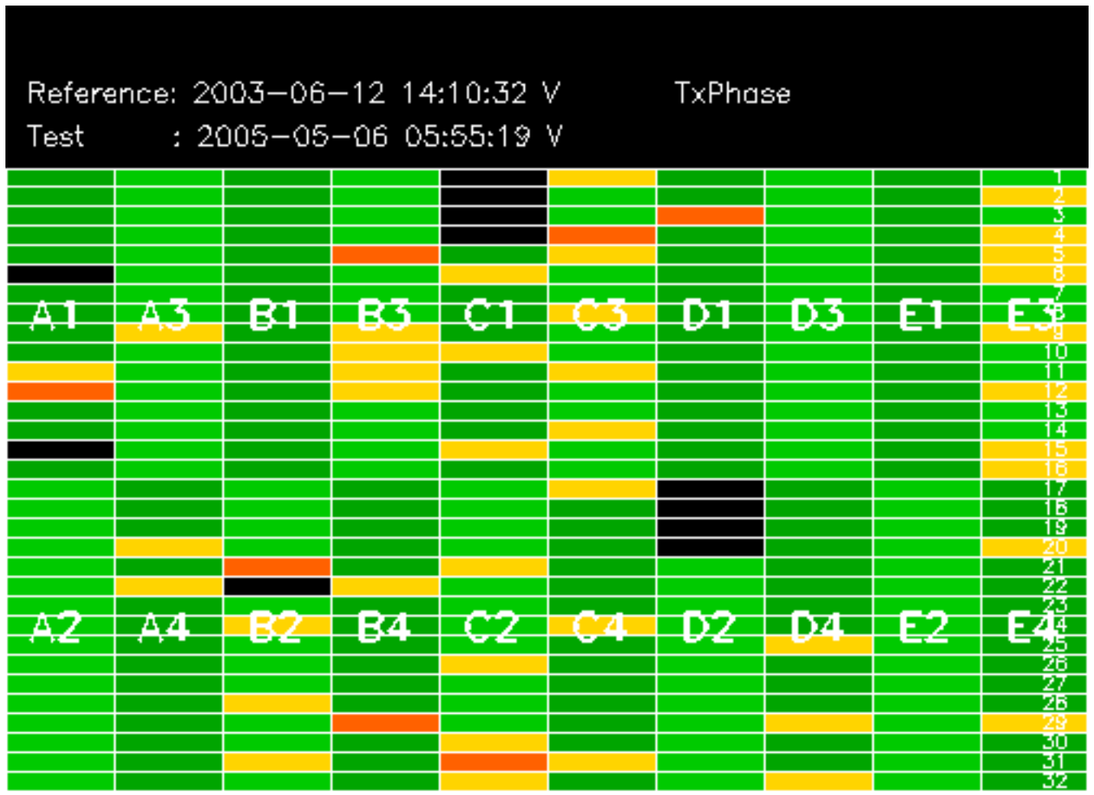
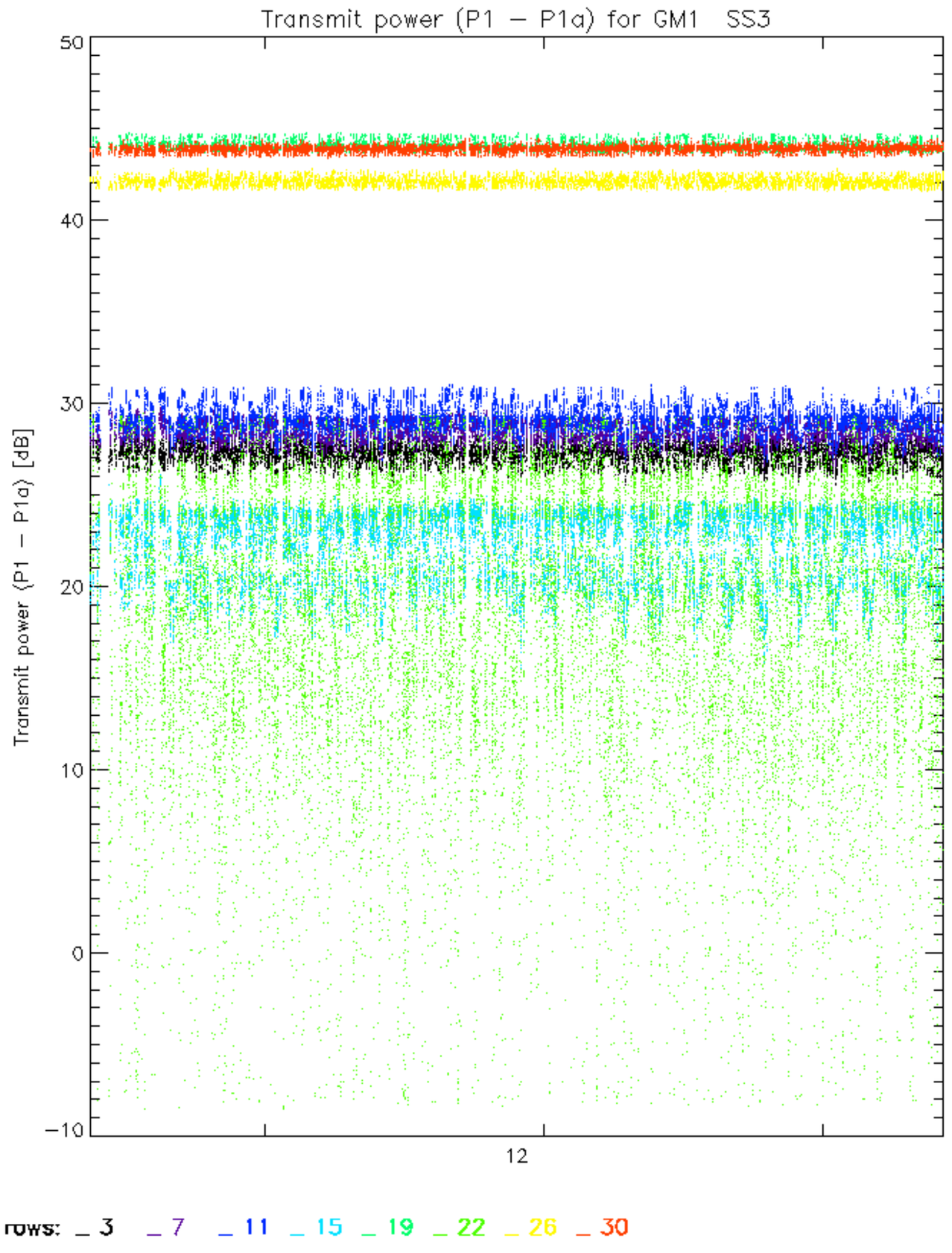
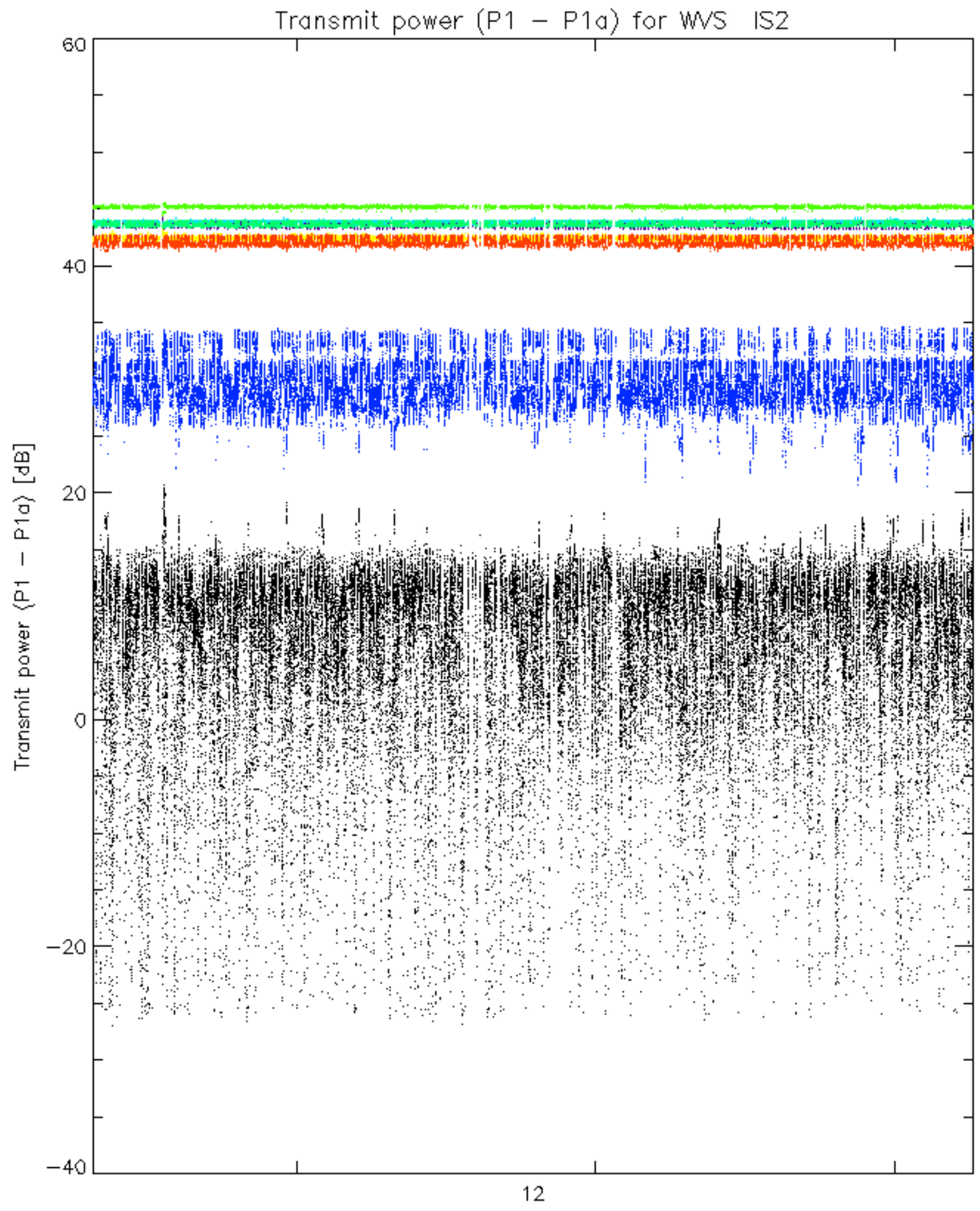
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-05-05 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: 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


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
12
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]
12
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.