PRELIMINARY REPORT OF 050513

last update on Fri May 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 2005-05-12 00:00:00 to 2005-05-13 10:50:01

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

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	0	0	11	4	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	0	0	11	4	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	0	0	11	4	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	0	0	11	4	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	0	0	21	9	1
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	0	0	21	9	1
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	0	0	21	9	1
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	0	0	21	9	1

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

☒

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	-3.347838	0.006883	-0.010801
7	P1	-3.111293	0.013417	-0.001418
11	P1	-4.659829	0.027491	0.022155
15	P1	-5.553056	0.045406	0.075811
19	P1	-3.719418	0.003979	-0.025070
22	P1	-4.586501	0.012973	-0.038109
26	P1	-4.884930	0.019245	0.037353
30	P1	-7.143284	0.028783	0.022591
3	P1	-15.724644	0.082385	0.099339
7	P1	-15.505122	0.094357	0.018678
11	P1	-21.246786	0.231543	-0.207004
15	P1	-11.444897	0.032313	0.128820
19	P1	-14.331819	0.033333	-0.062069
22	P1	-15.924381	0.332801	-0.137870
26	P1	-17.628572	0.190001	-0.064713
30	P1	-17.868362	0.261977	-0.037347

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.053028	0.080589	-0.029534
7	P2	-22.231785	0.102118	-0.025051
11	P2	-14.147118	0.103954	0.170109
15	P2	-7.093779	0.089613	-0.064690
19	P2	-9.653284	0.092567	0.021112
22	P2	-16.888130	0.093228	-0.015085
26	P2	-16.484417	0.093746	-0.039813
30	P2	-18.823713	0.082235	0.015650

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.169175	0.003612	-0.002578

7	P3	-8.169175	0.003612	-0.002578
11	P3	-8.169174	0.003612	-0.002585
15	P3	-8.169174	0.003612	-0.002585
19	P3	-8.169174	0.003612	-0.002585
22	P3	-8.169174	0.003612	-0.002585
26	P3	-8.169174	0.003612	-0.002585
30	P3	-8.169174	0.003612	-0.002581

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	-2.767454	0.011816	-0.040105
7	P1	-2.993018	0.030560	0.034608
11	P1	-3.968684	0.018010	0.043944
15	P1	-3.528062	0.023432	0.004940
19	P1	-3.628494	0.014739	-0.002163
22	P1	-5.659733	0.049901	0.012803
26	P1	-7.314429	0.023541	0.002644
30	P1	-6.281653	0.059407	0.048325
3	P1	-10.771646	0.044514	-0.142867
7	P1	-10.406276	0.153150	-0.049875
11	P1	-12.554031	0.103980	0.046734
15	P1	-11.644555	0.067875	0.054181
19	P1	-15.623793	0.063498	0.017406
22	P1	-25.347174	2.140061	-0.942523
26	P1	-15.668203	0.316143	-0.013581
30	P1	-20.201965	1.220500	-0.238667

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.771057	0.036728	-0.062736
7	P2	-22.274508	0.046617	0.100649
11	P2	-10.049833	0.054335	0.122347
15	P2	-5.079124	0.037465	-0.049653
19	P2	-6.901351	0.052093	-0.021745
22	P2	-7.106081	0.034968	-0.008786
26	P2	-23.913471	0.036772	-0.041204
30	P2	-21.939756	0.039900	-0.035137

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.005795	0.003459	0.010157
7	P3	-8.005833	0.003447	0.010495
11	P3	-8.005802	0.003458	0.010263
15	P3	-8.005896	0.003457	0.010494
19	P3	-8.005905	0.003457	0.010730
22	P3	-8.005813	0.003438	0.010048
26	P3	-8.005781	0.003455	0.010530
30	P3	-8.005823	0.003472	0.010058

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	0.000461546
	stdev	2.23856e-07
MEAN Q	mean	0.000480744
	stdev	2.40381e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127334
	stdev	0.00105925
STDEV Q	mean	0.127586
	stdev	0.00106997

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005051[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_IMM_1PNPDK20050511_090620_000000542037_00122_16709_4142.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

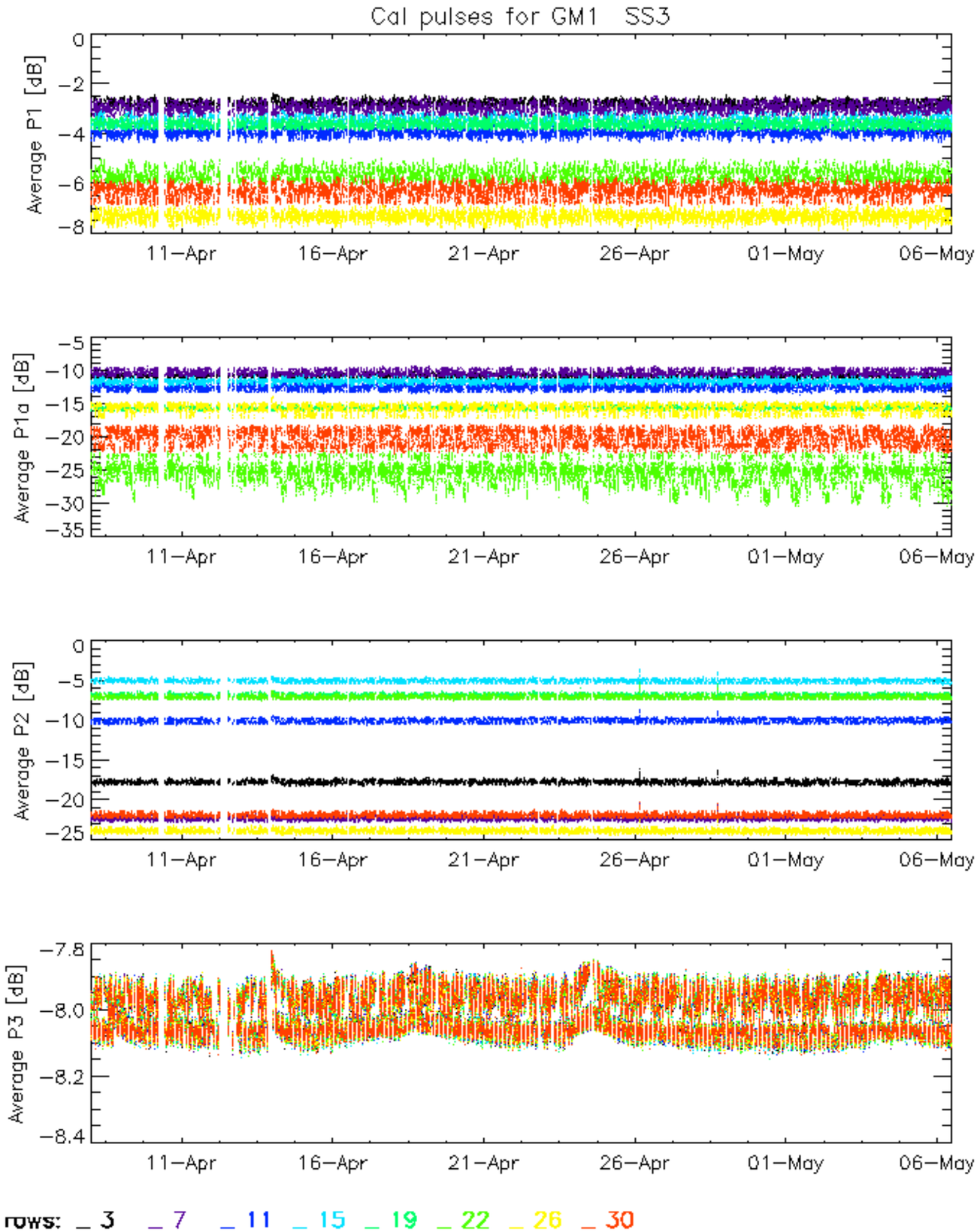
7.4 - Unbiased Doppler Error for GM1

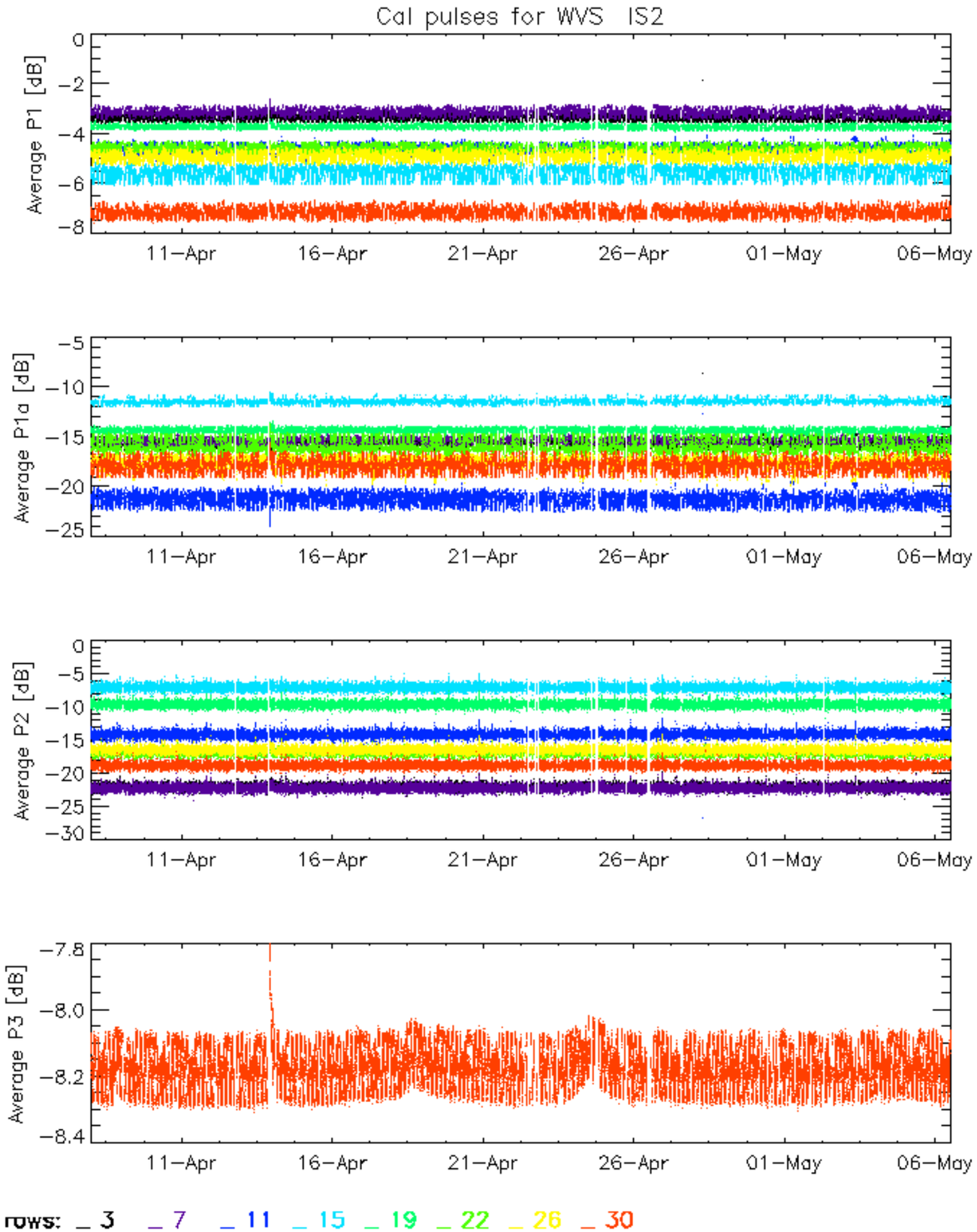
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler
☒
Acsending
☒
Descending

7.6 - Doppler evolution versus ANX for GM1

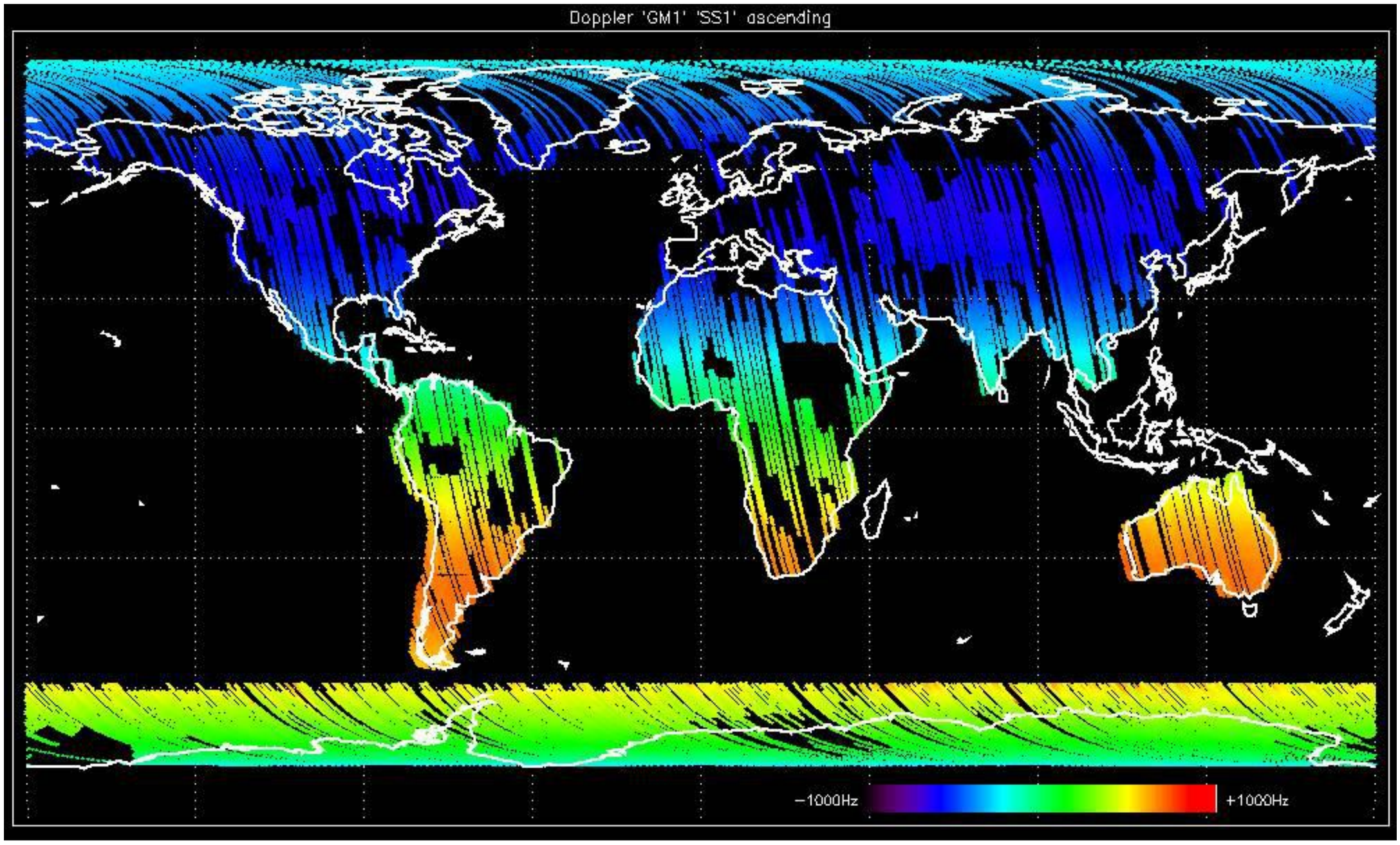

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
11−Apr
16−Apr
21−Apr
26−Apr
01−May
06−May
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

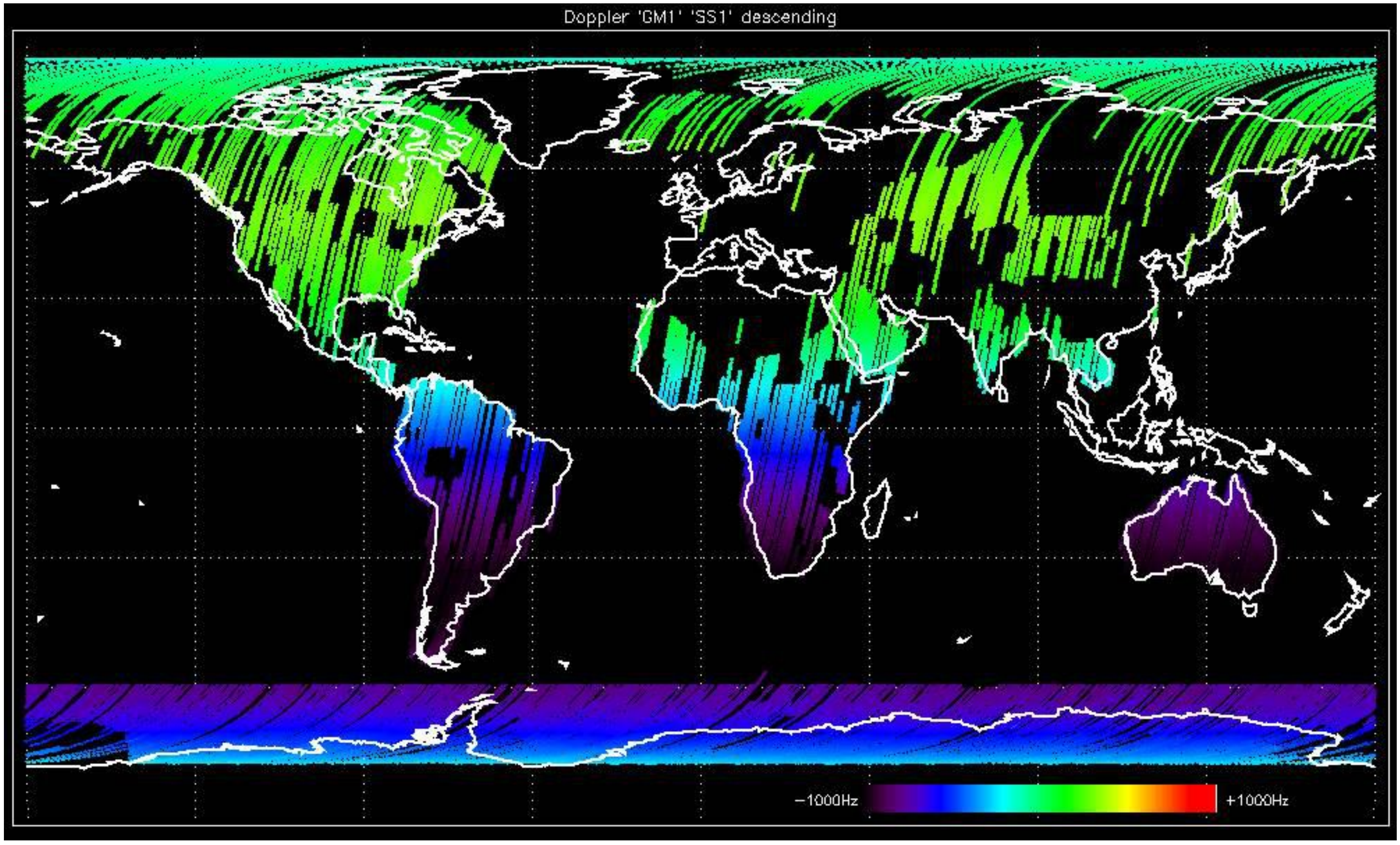

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
11−Apr
16−Apr
21−Apr
26−Apr
01−May
06−May
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
−30
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

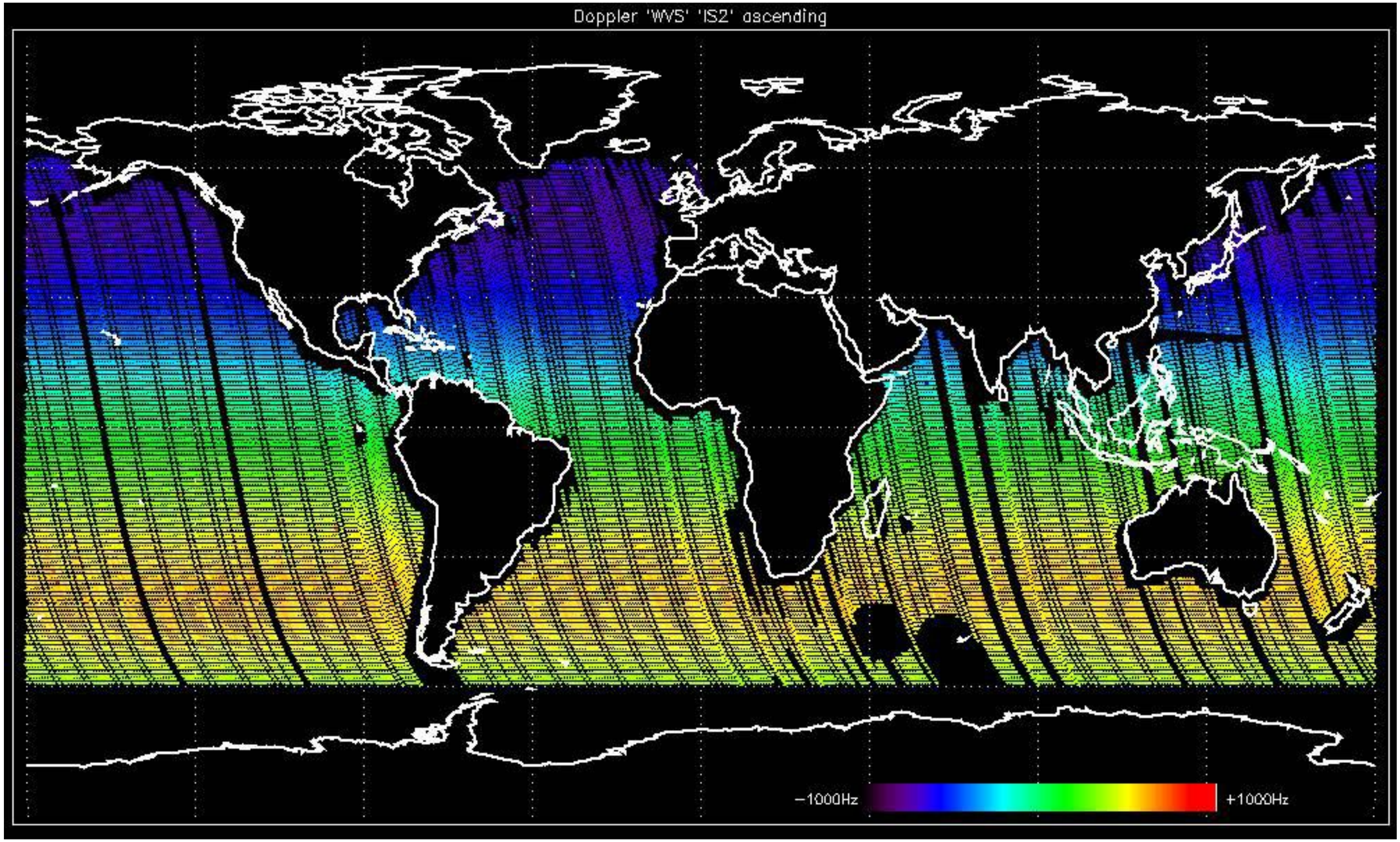
No anomalies observed.

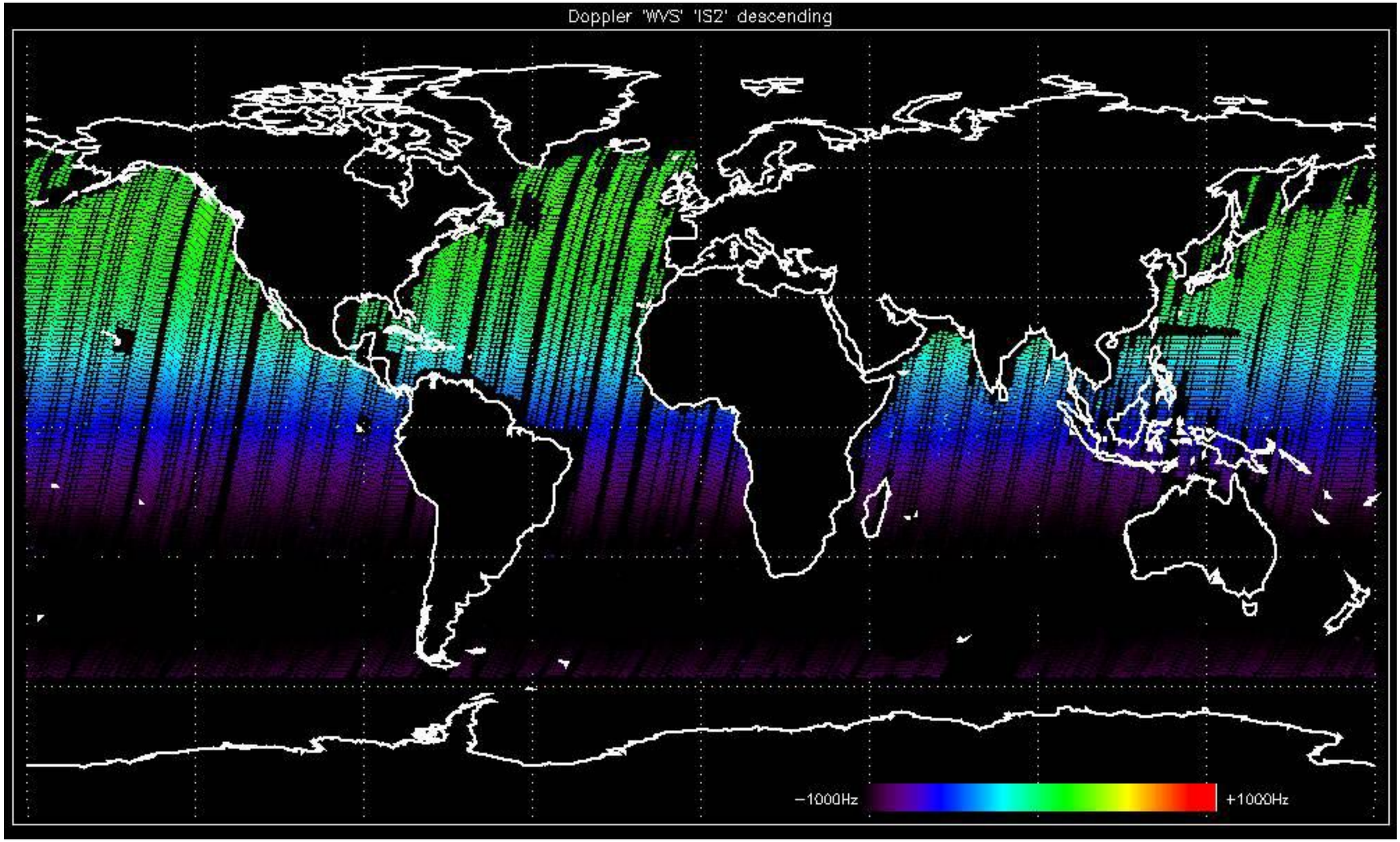
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

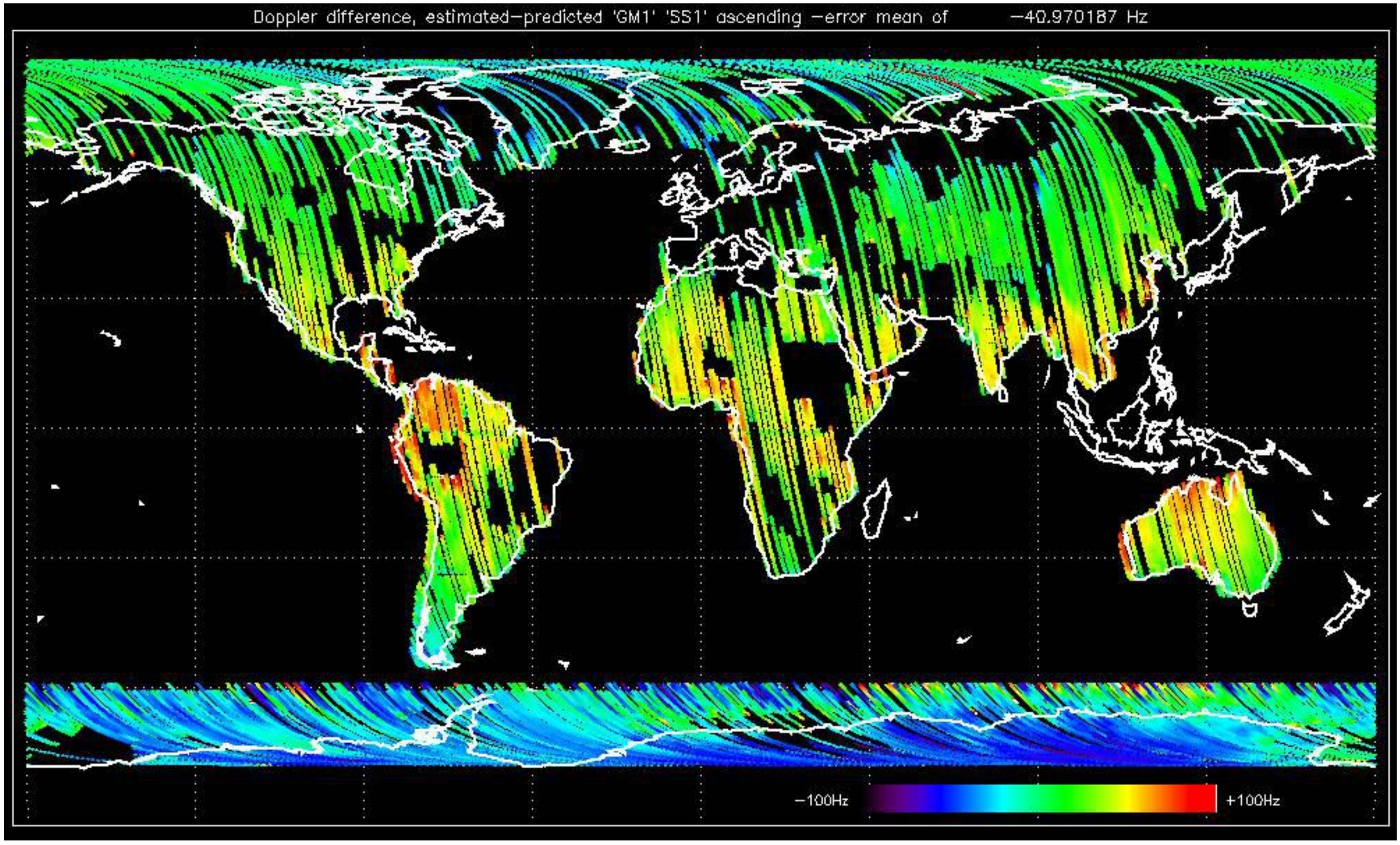
Preliminary report.The data is not yet controled

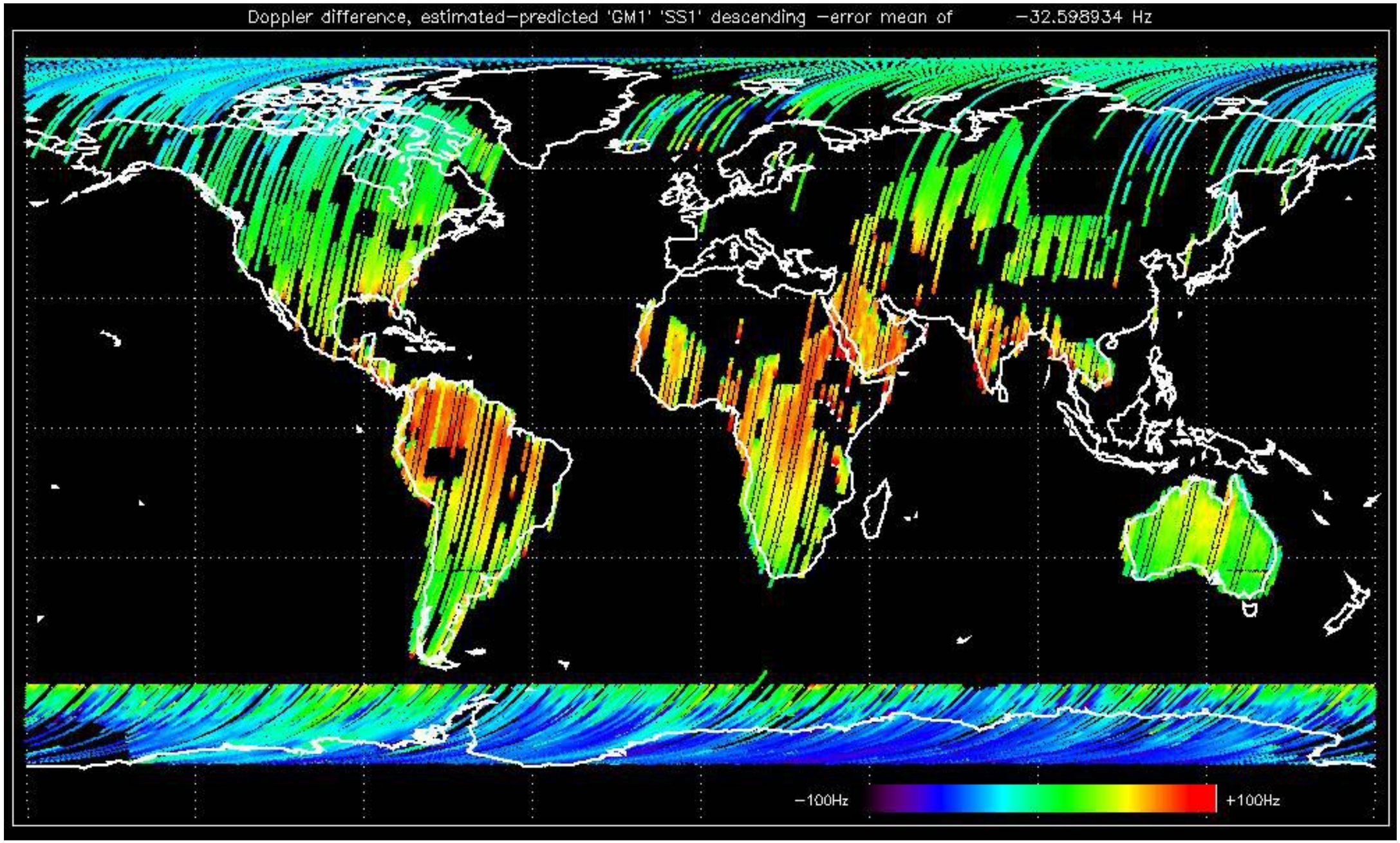

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

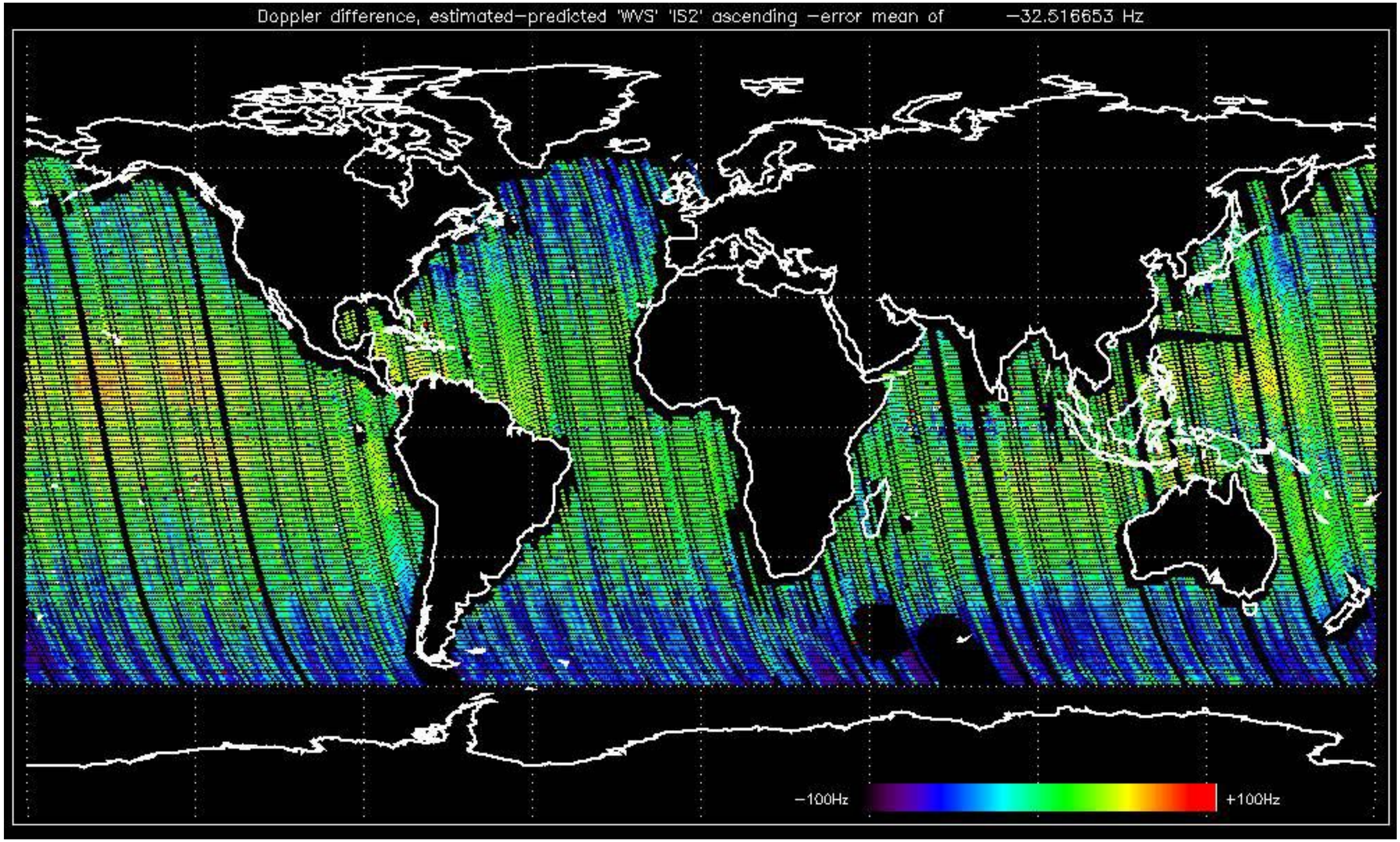

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

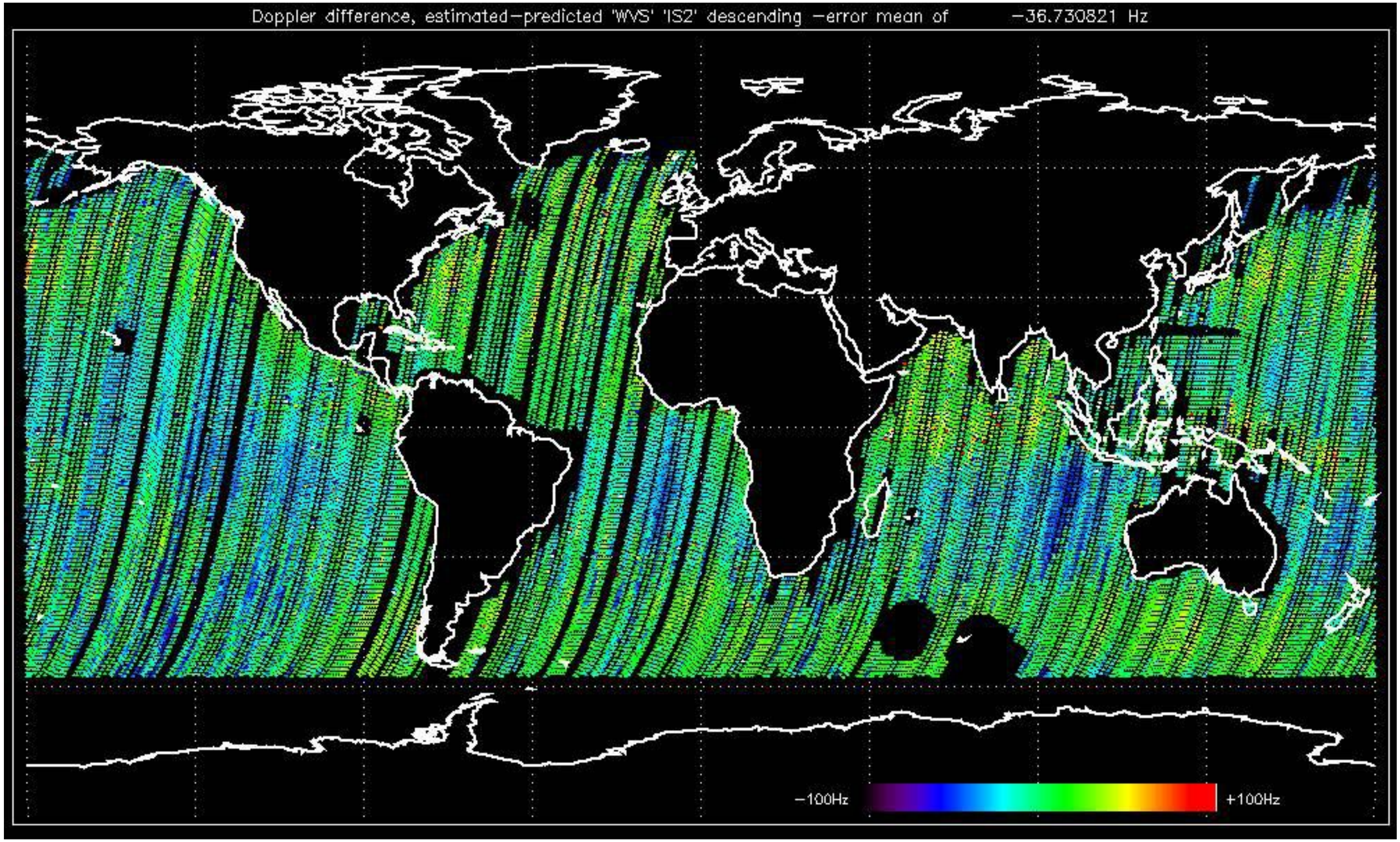

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −40.970187 Hz
−100Hz
+100Hz

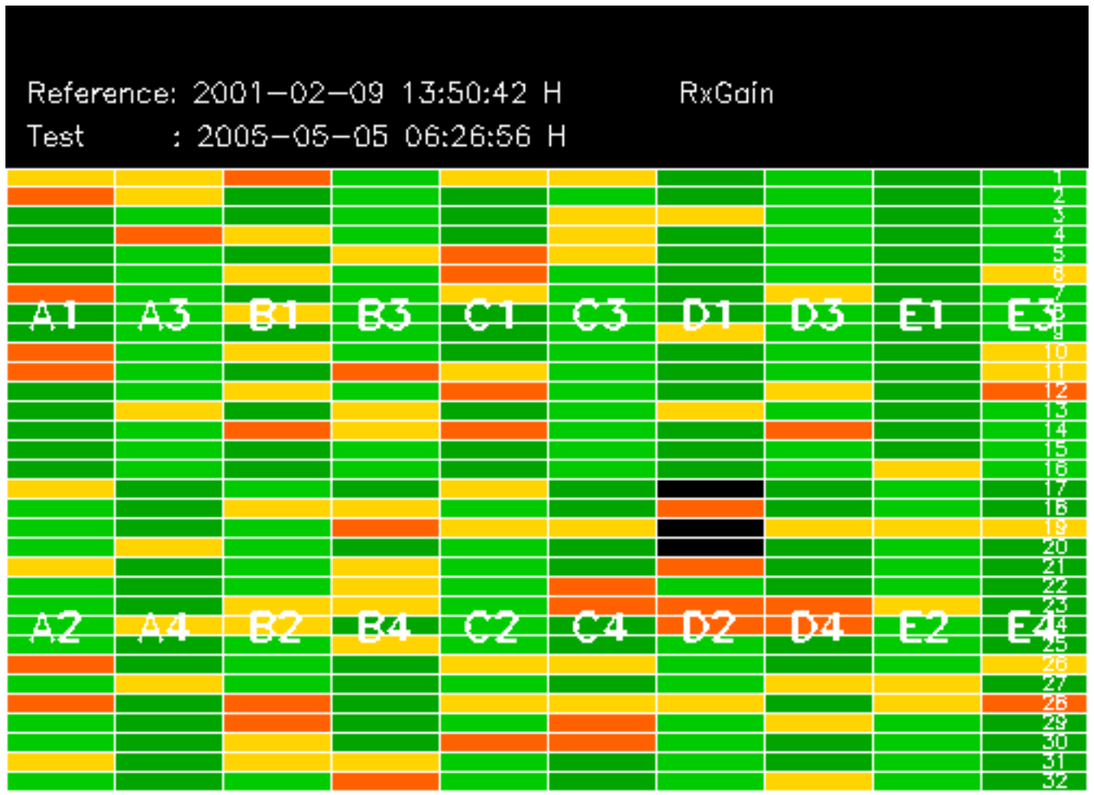

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −32.598934 Hz
−100Hz
+100Hz

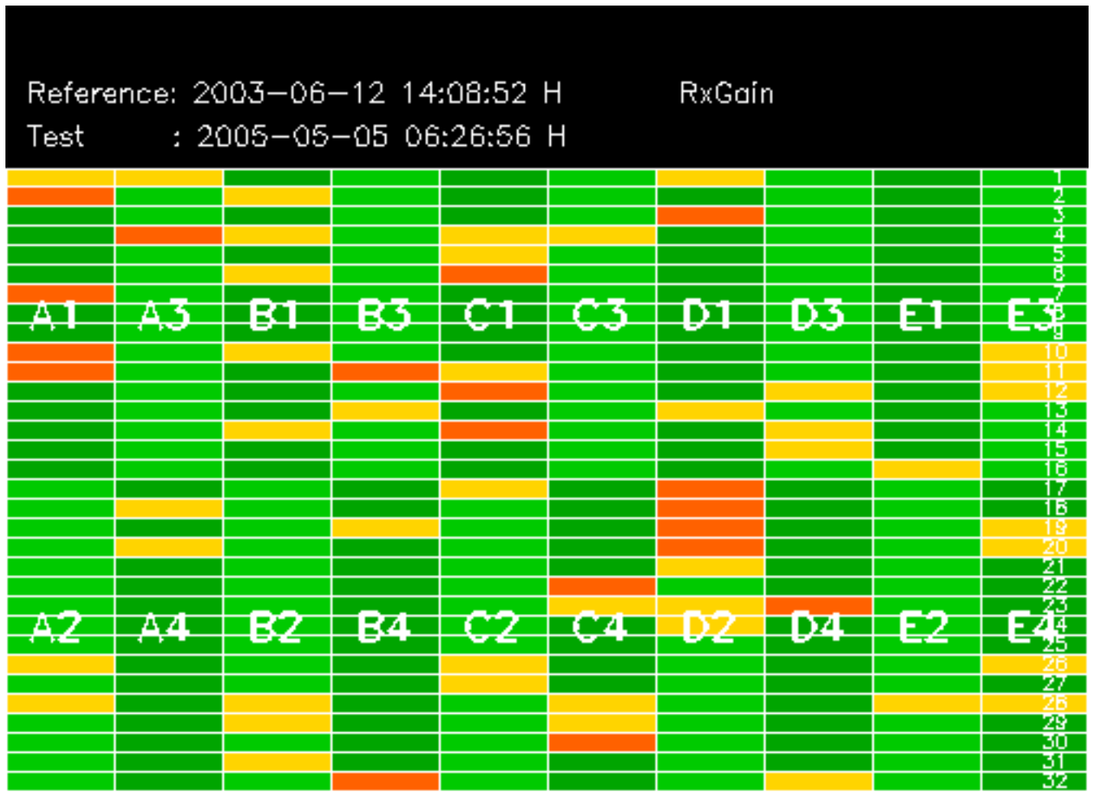

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −32.516653 Hz
−100Hz
+100Hz

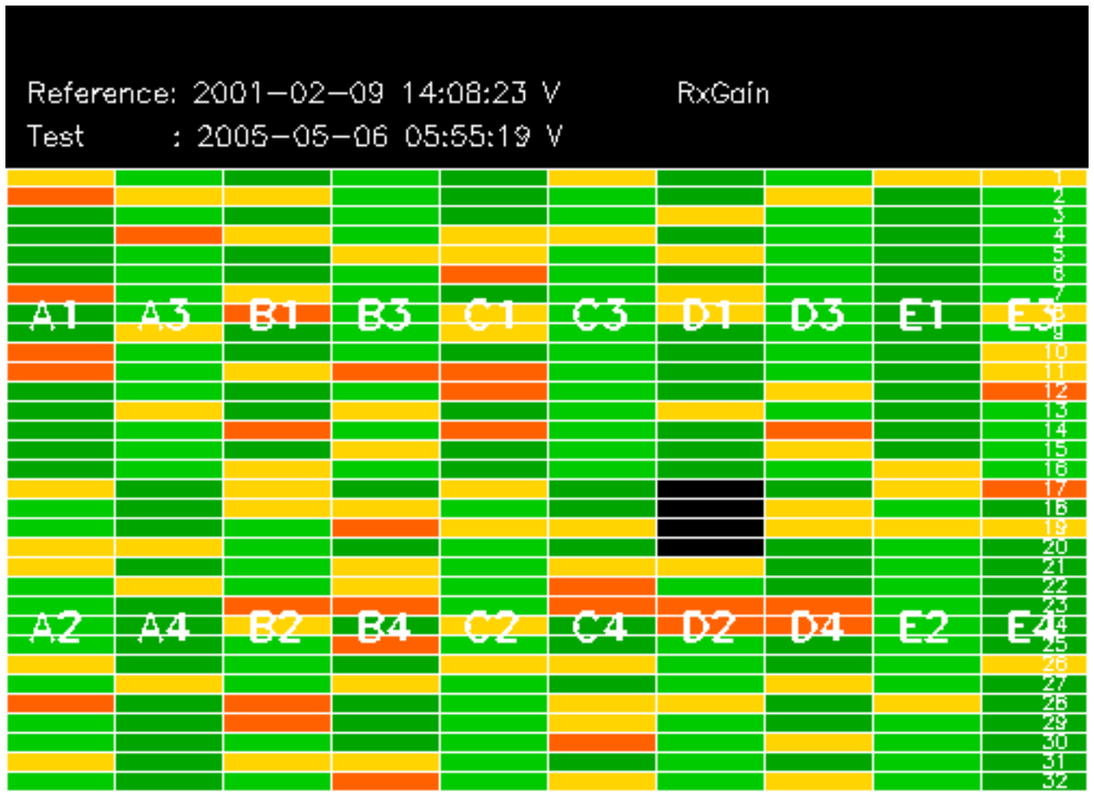

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −36.730821 Hz
−100Hz
+100Hz

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
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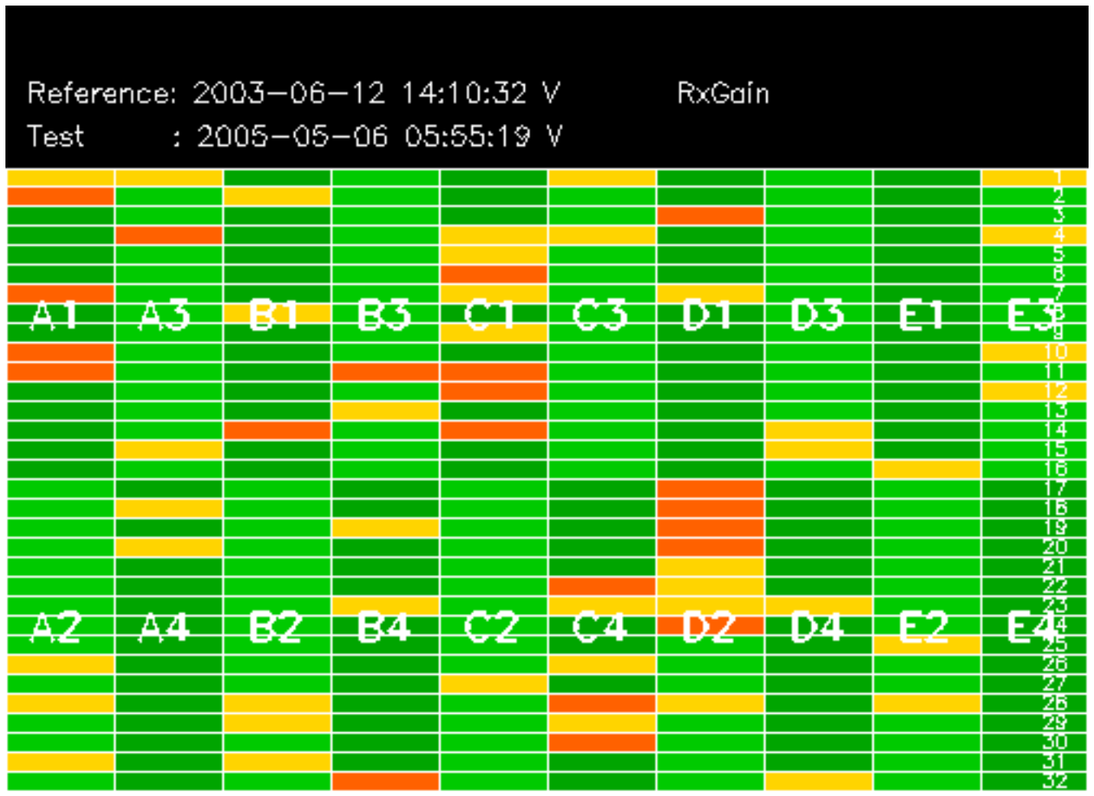
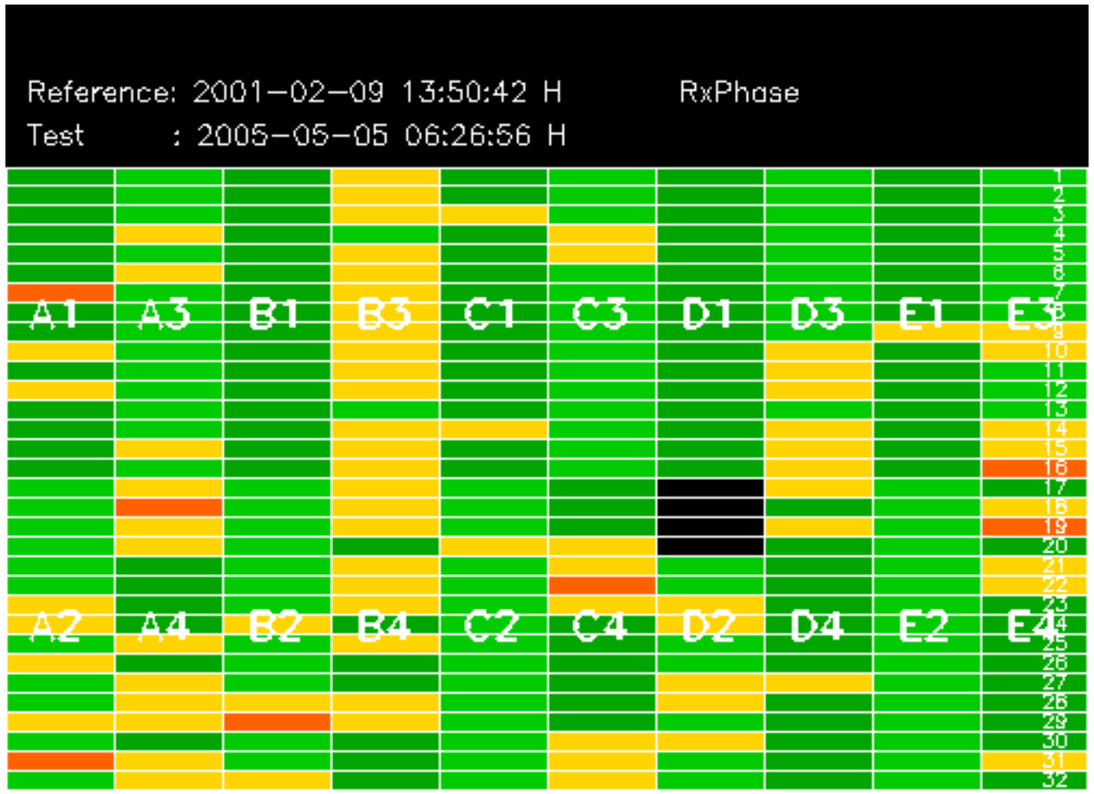
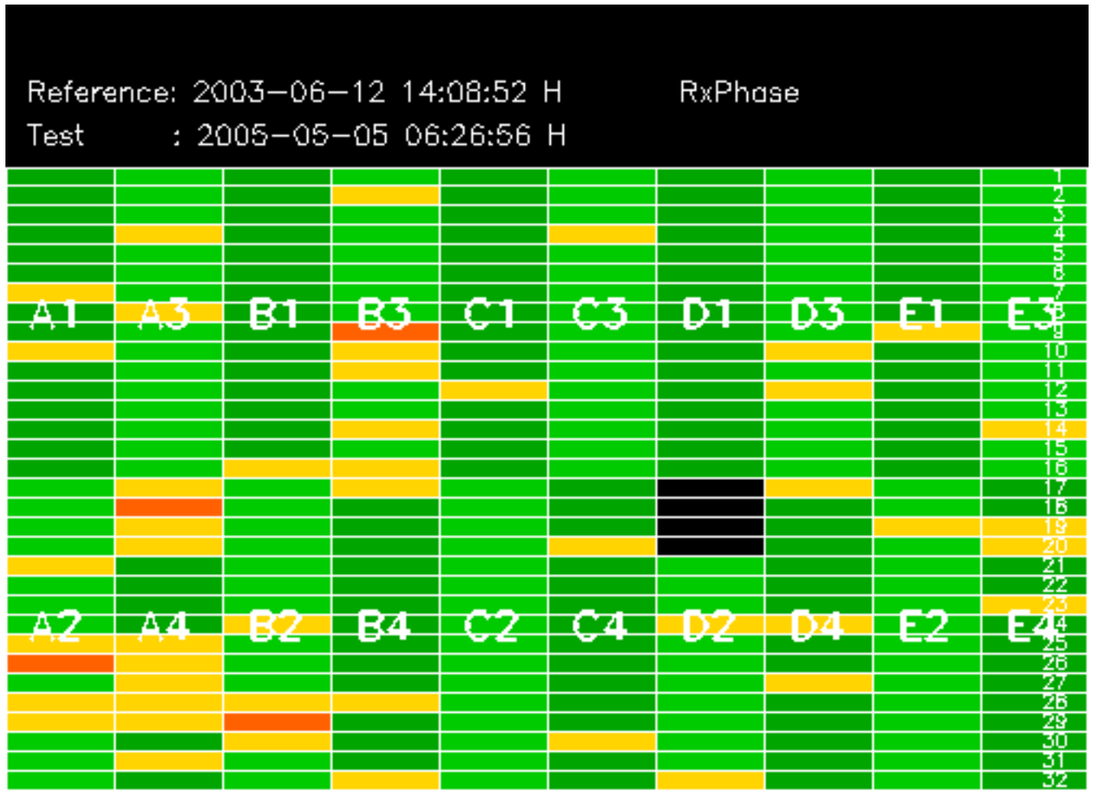

Reference: 2003-06-12 14:10:32 V
Test : 2005-05-06 05:55:19 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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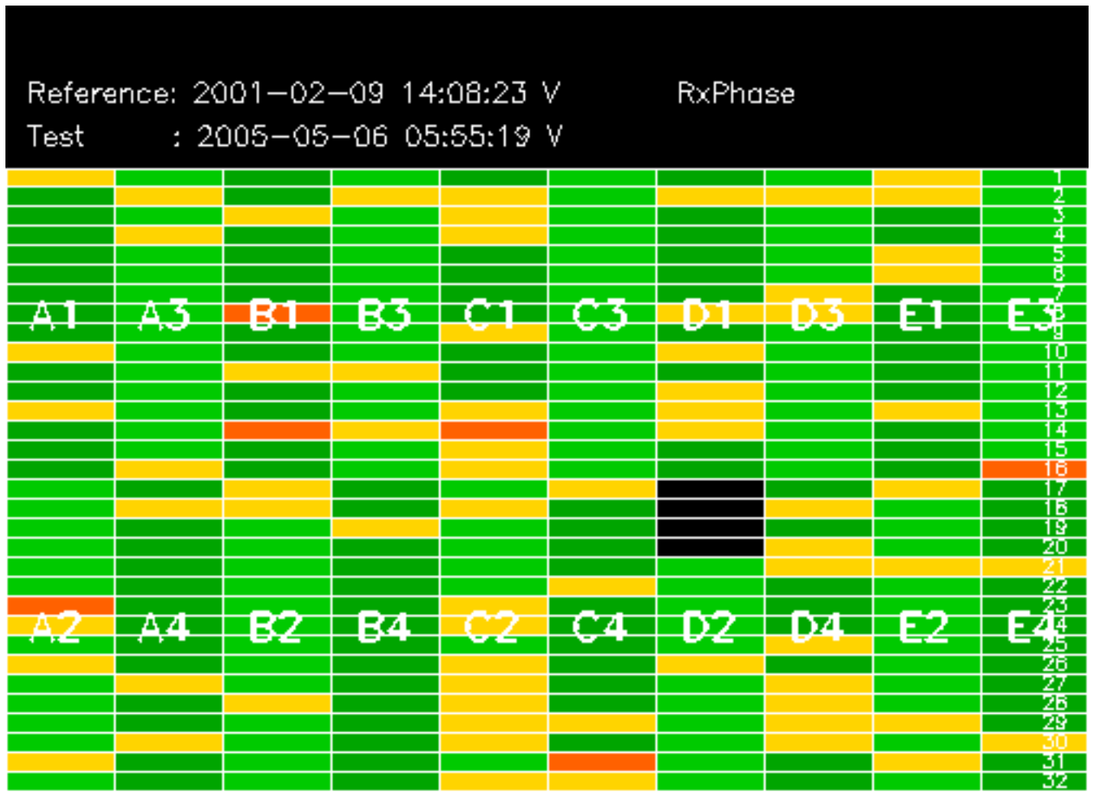
Reference: 2001-02-09 14:08:23 V
Test : 2005-05-06 05:55:19 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
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9
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16
17
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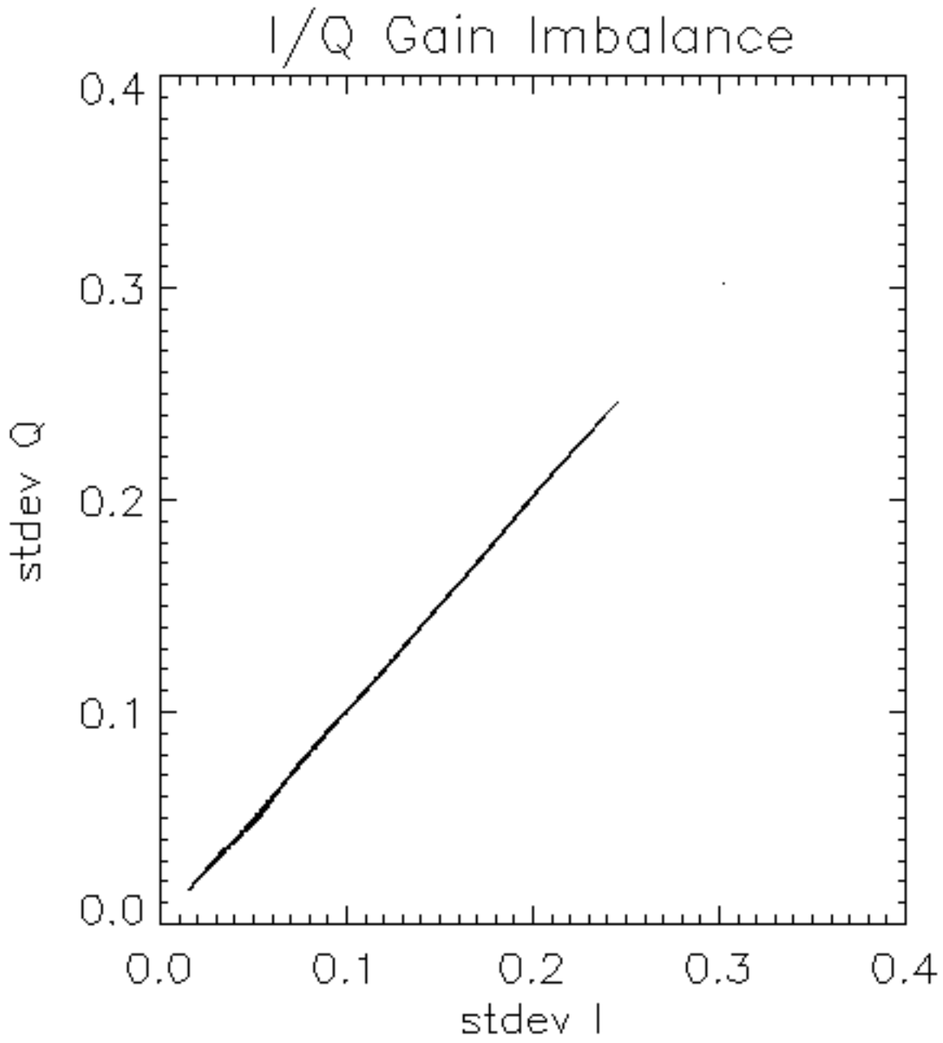
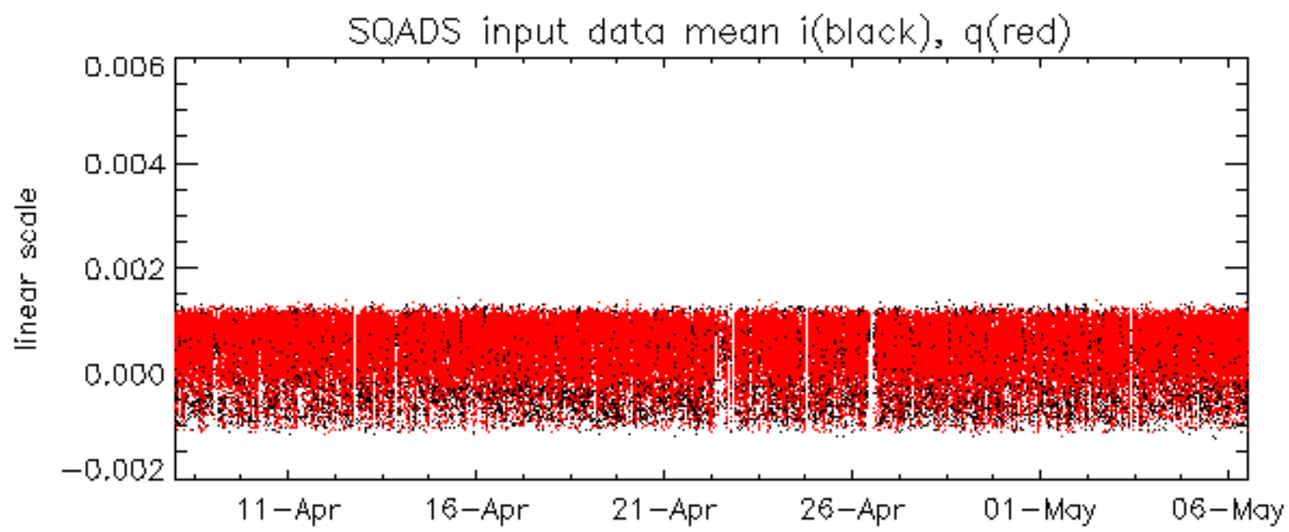
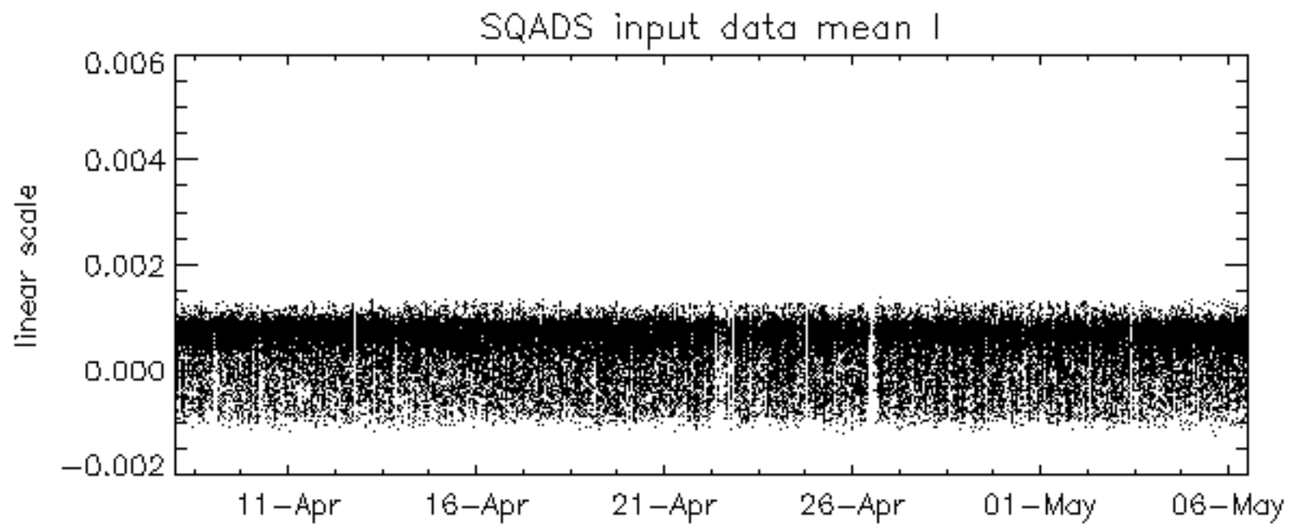
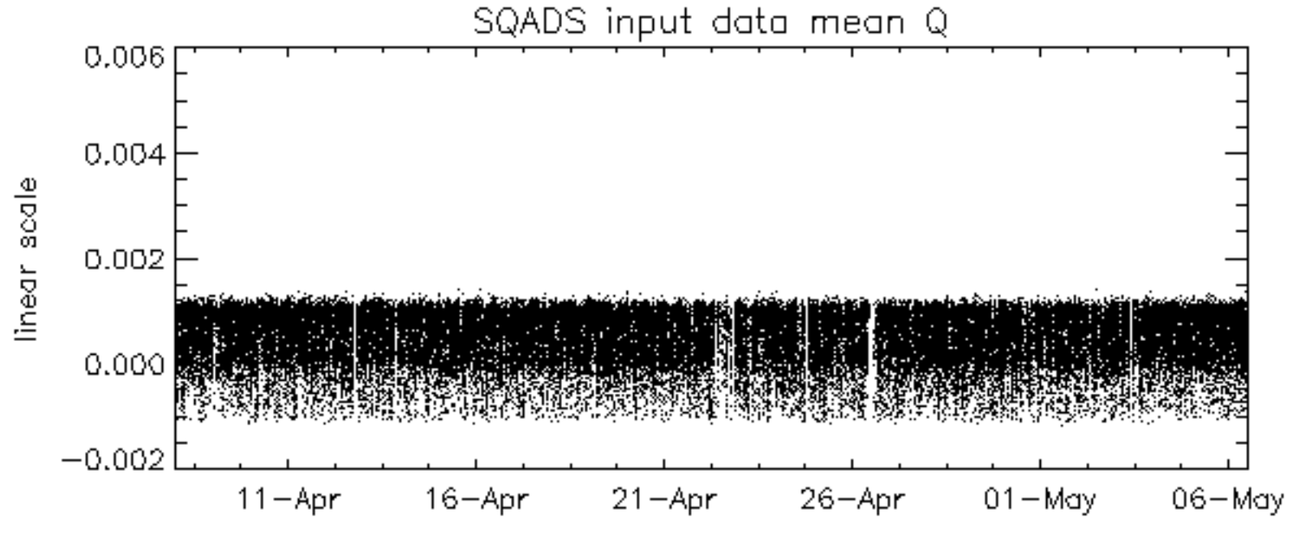
22
23
24
25
26
27
28
29
30
31
32

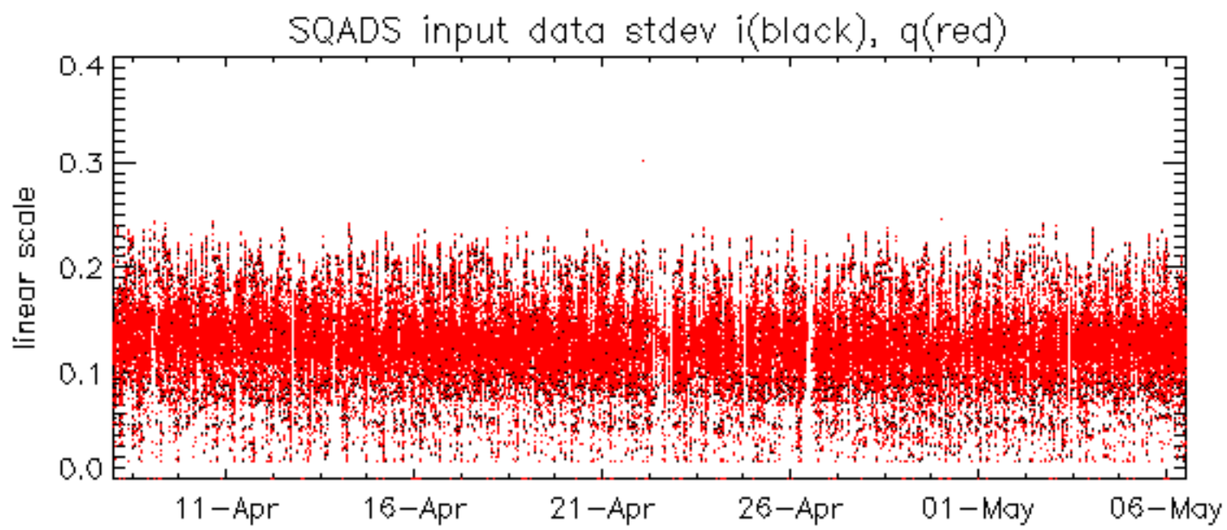

Reference: 2003-06-12 14:10:32 V
Test : 2005-05-06 05:55:19 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

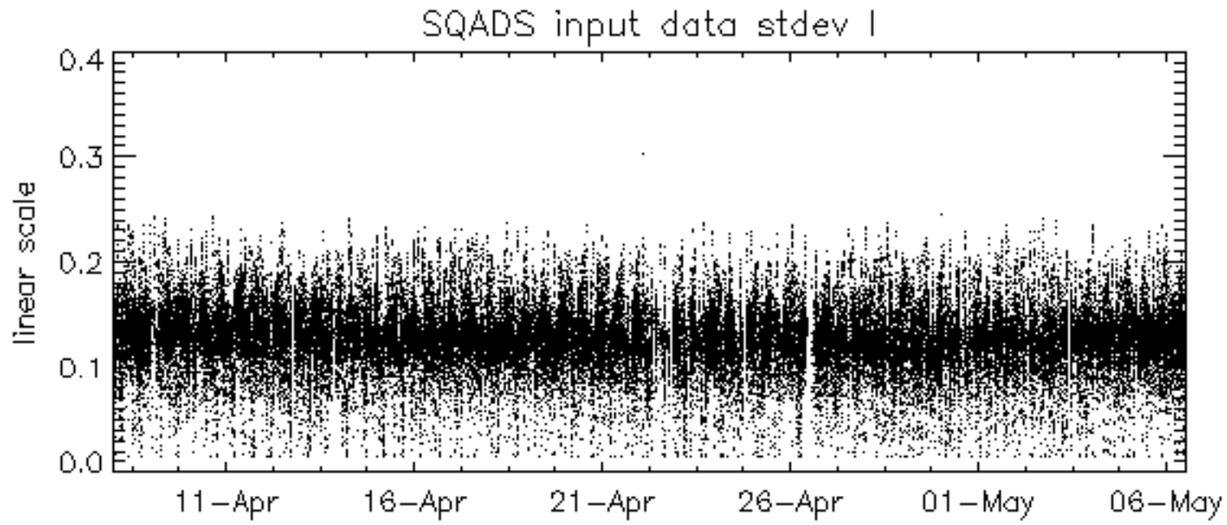

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

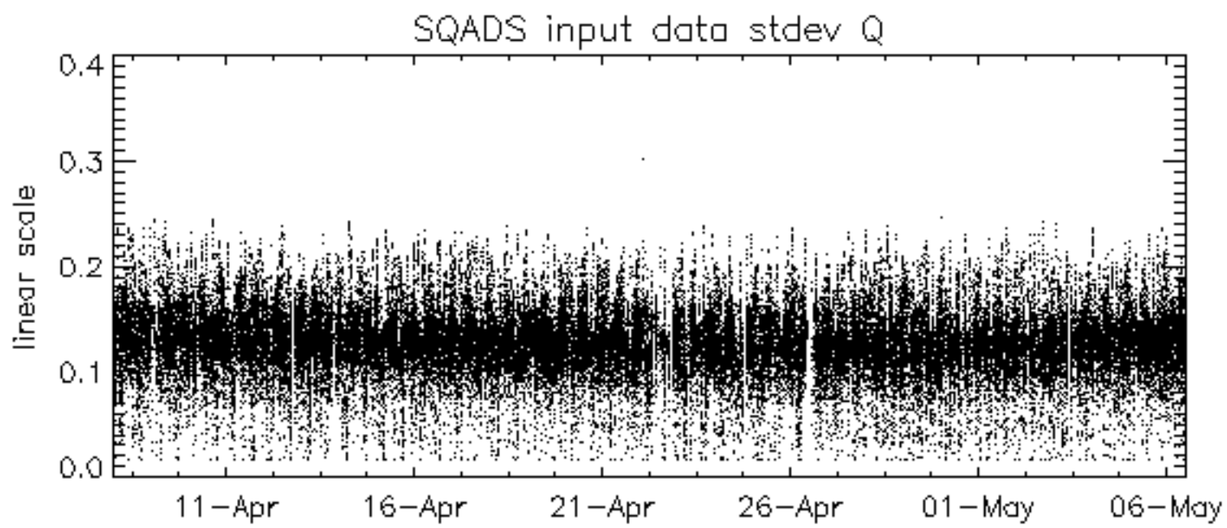

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Apr
16−Apr
21−Apr
26−Apr
01−May
06−May

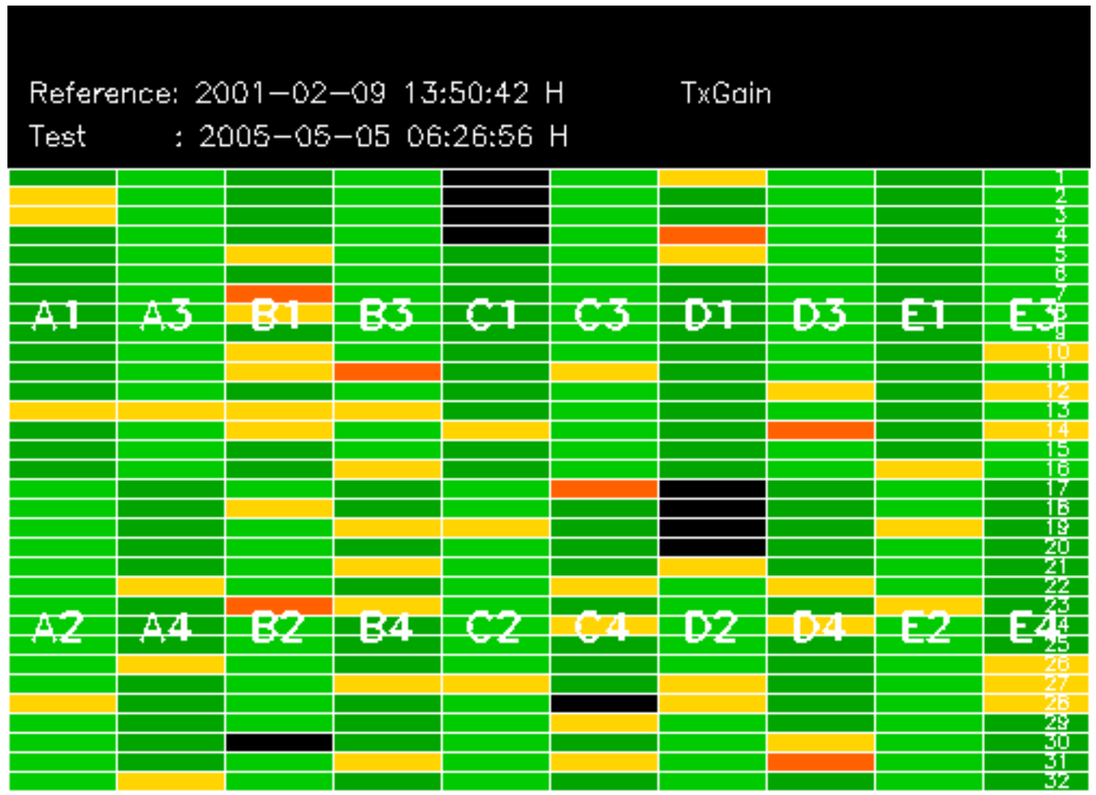

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Apr
16−Apr
21−Apr
26−Apr
01−May
06−May


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
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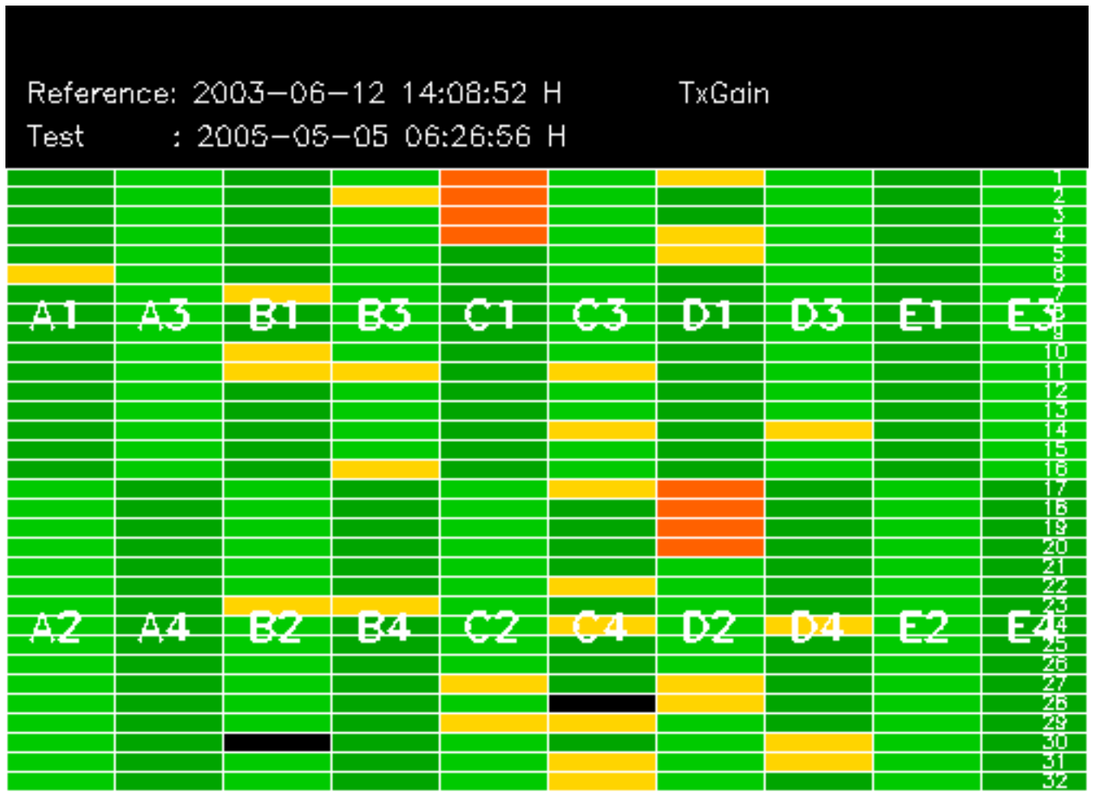
32


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
6
7
8
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10
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14
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23
24
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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
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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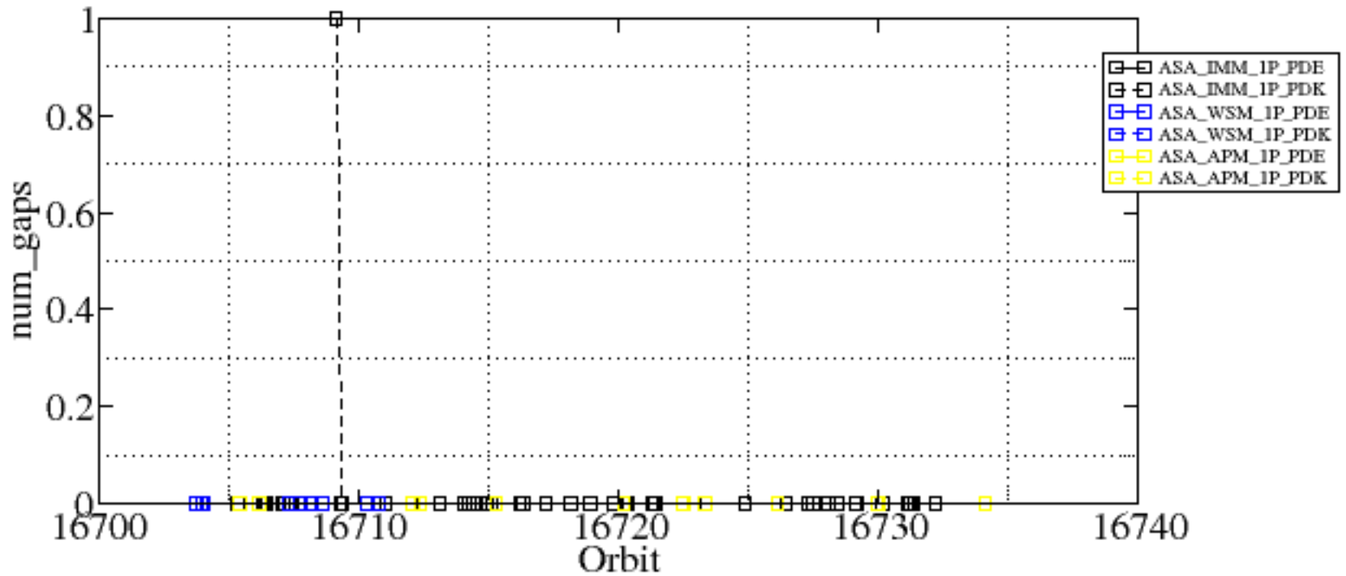
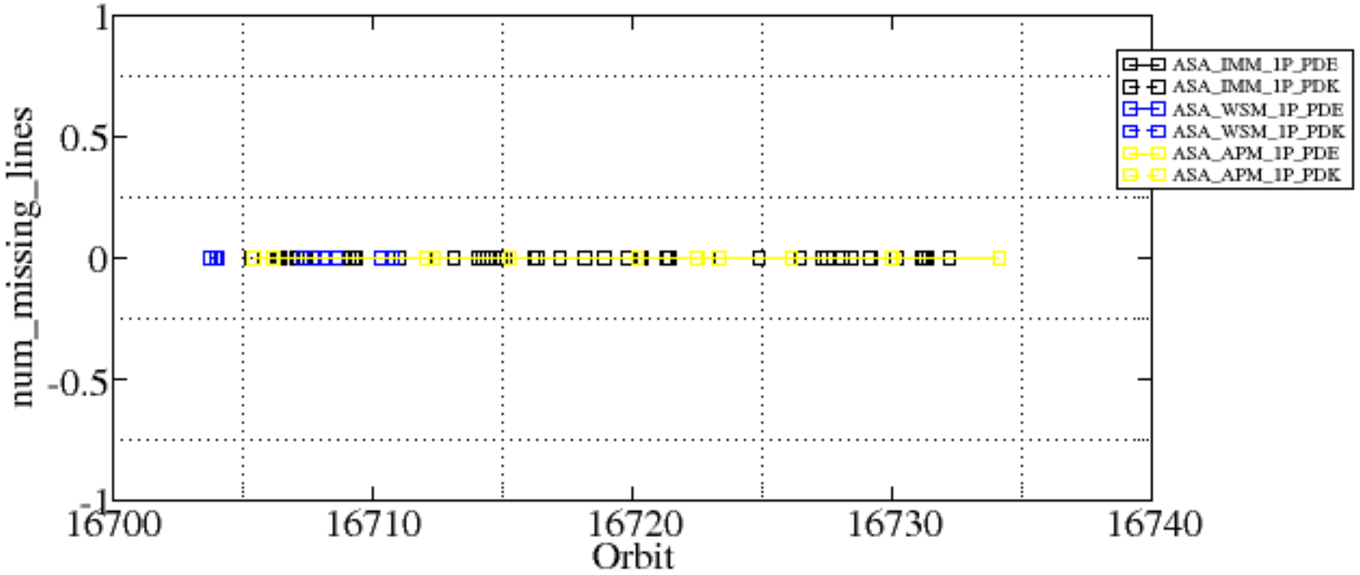
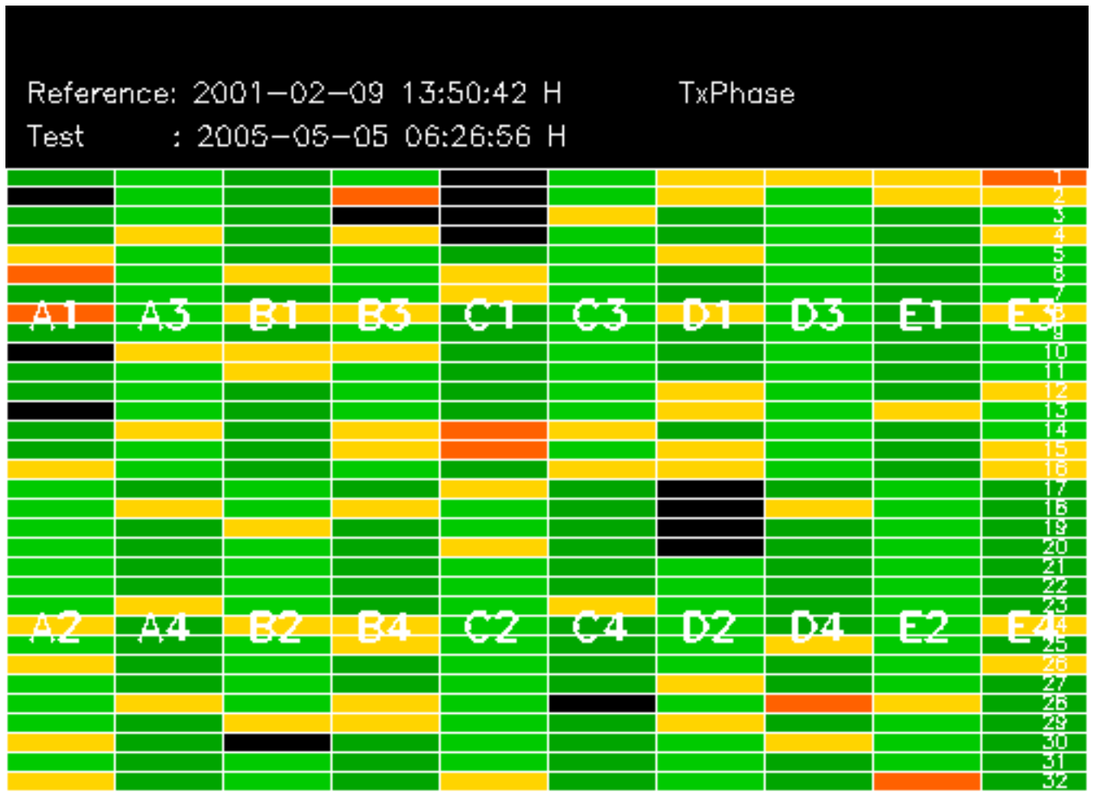
31
32

Summary of analysis for the last 3 days 2005051[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_IMM_1PNPDK20050511_090620_000000542037_00122_16709_4142.N1 </td> <td>1 </td> <td>0 </td></tr>
</table>


num_gaps
1
0.8
0.6
0.4
0.2
0
16700
16710
16720
16730
16740
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WSM_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK


num_missing_lines
1
0.5
0
-0.5
-1
16700
16710
16720
16730
16740
Orbit
ASA_IMM_1P_PDE
ASA_IMM_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 : 2005-05-05 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
7
8
9
10
11
12
13
14
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17
18
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21
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23
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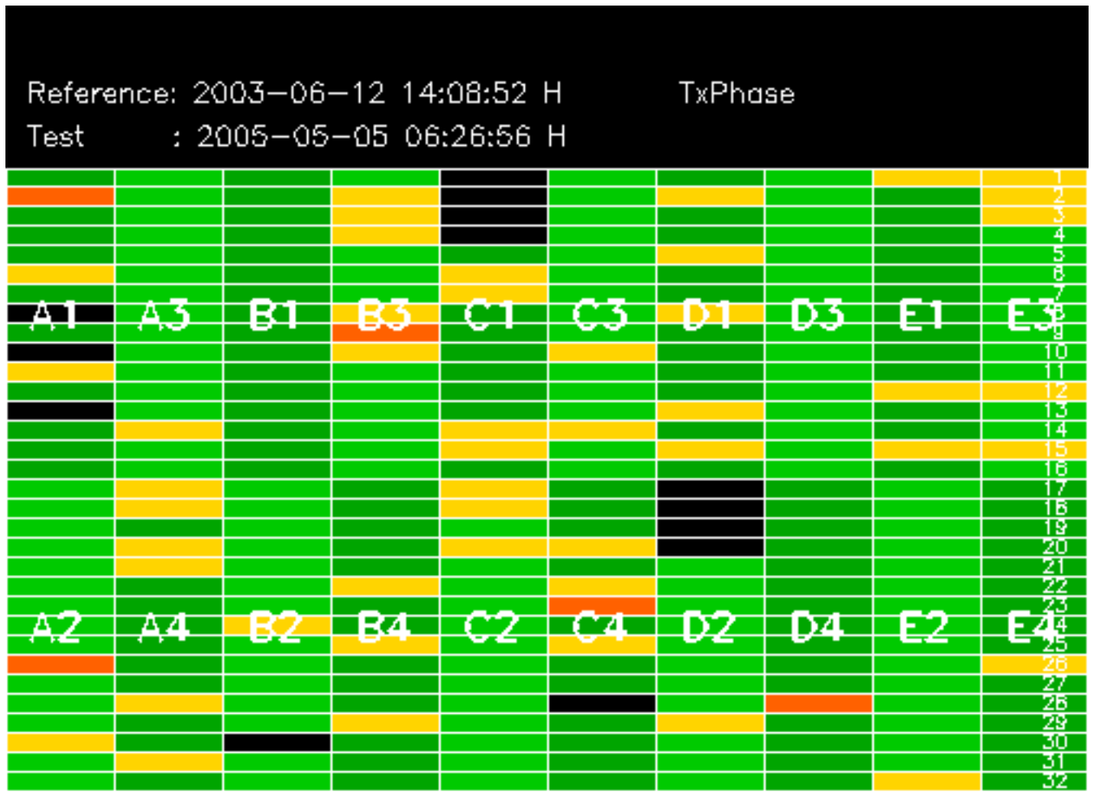
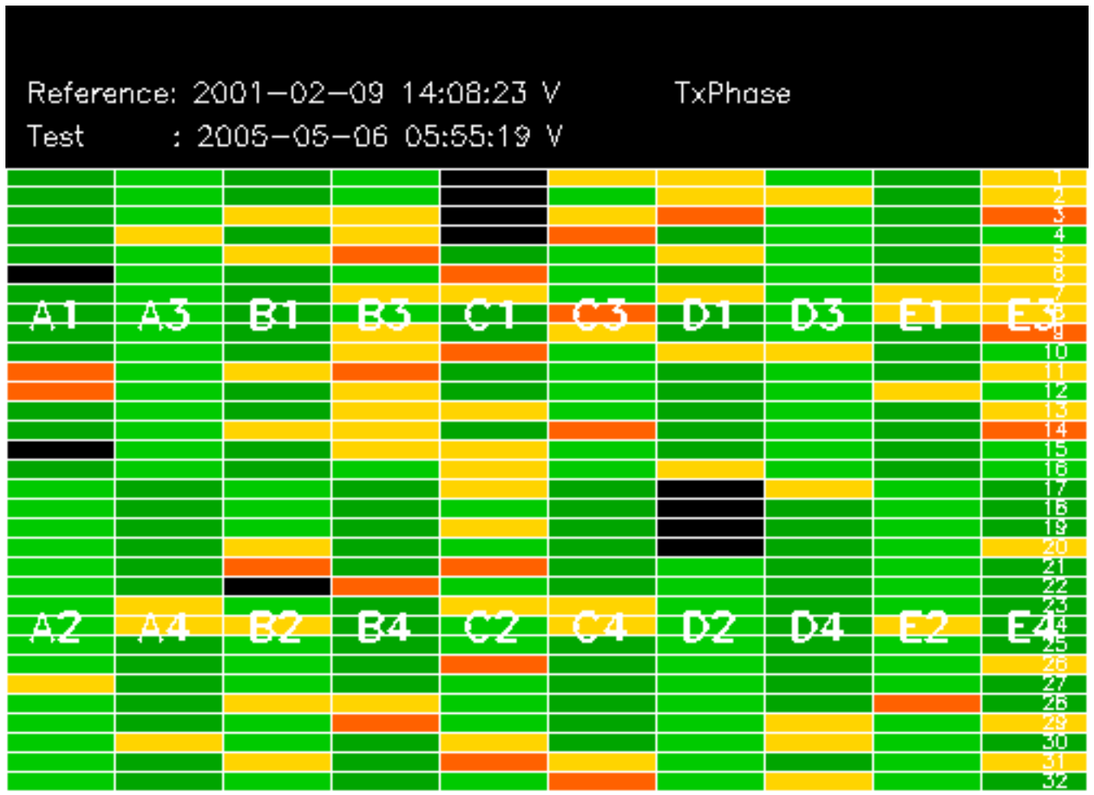
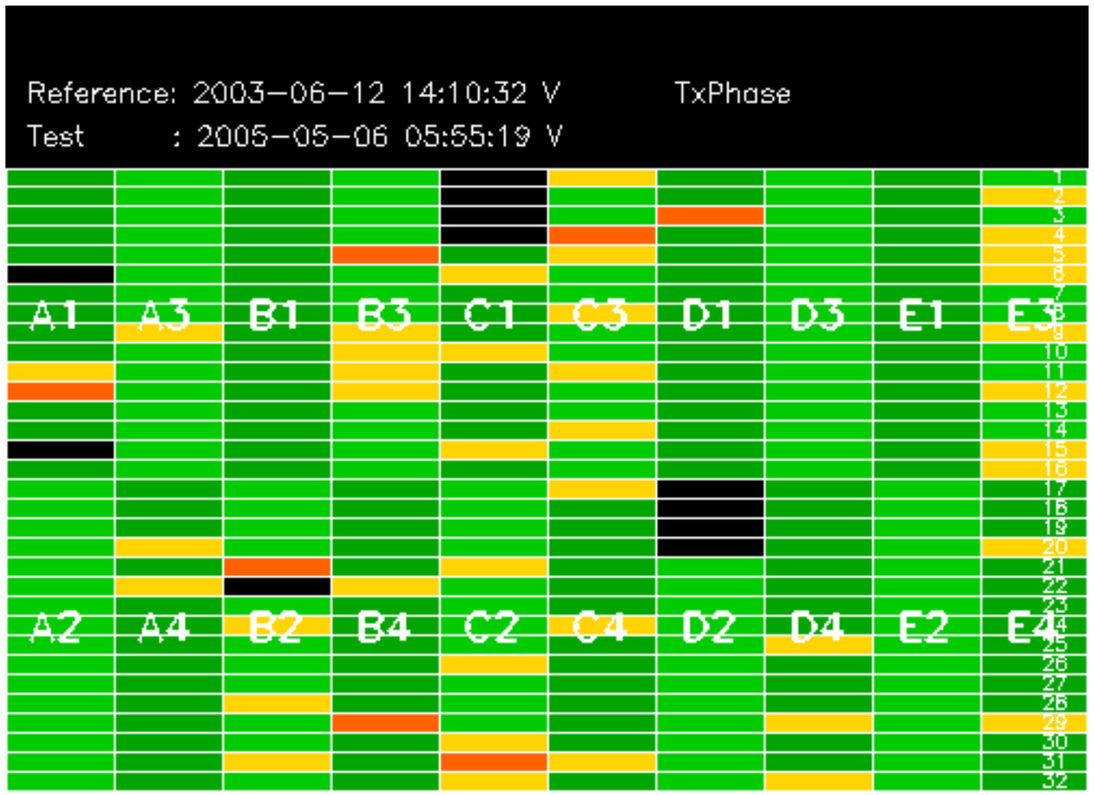
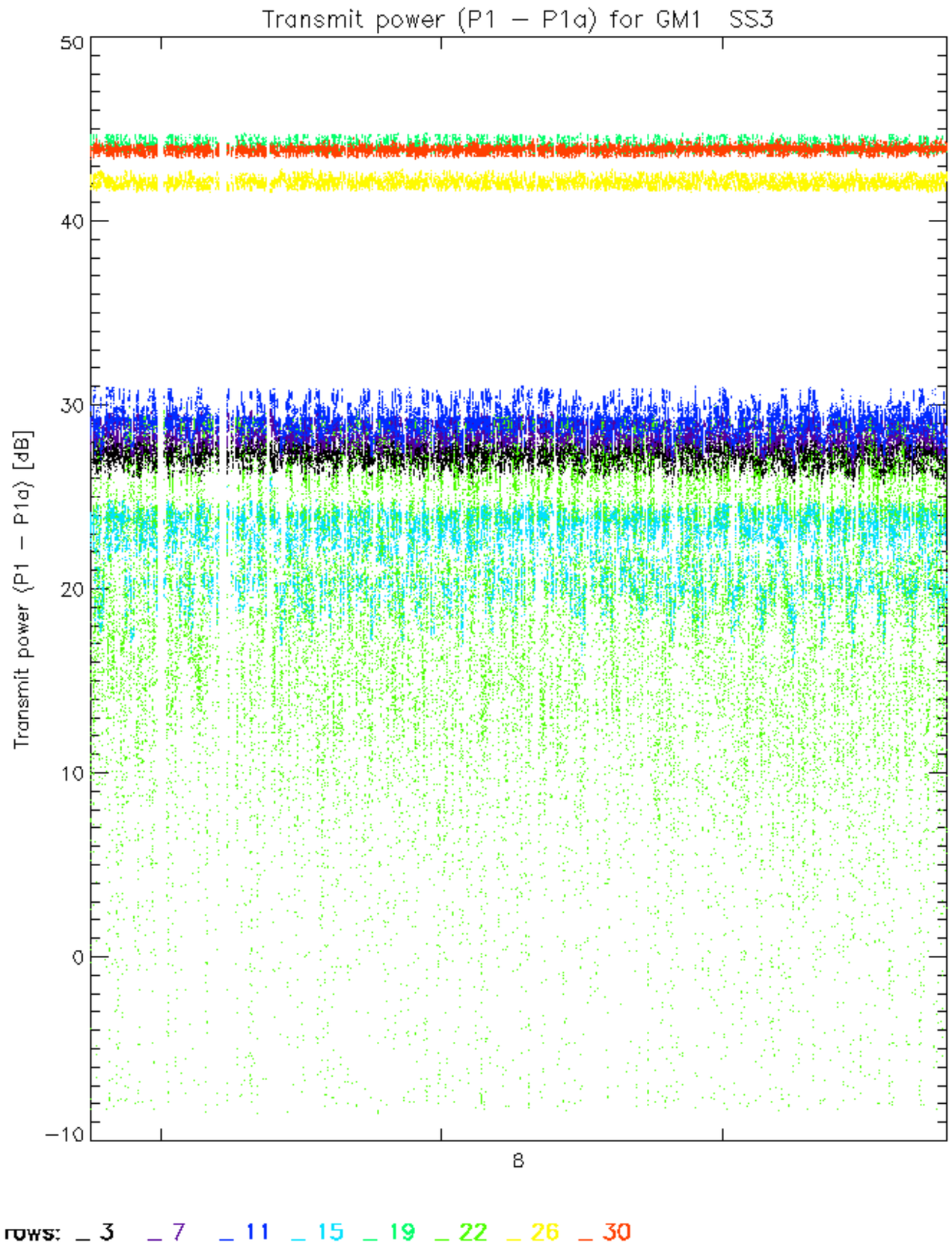
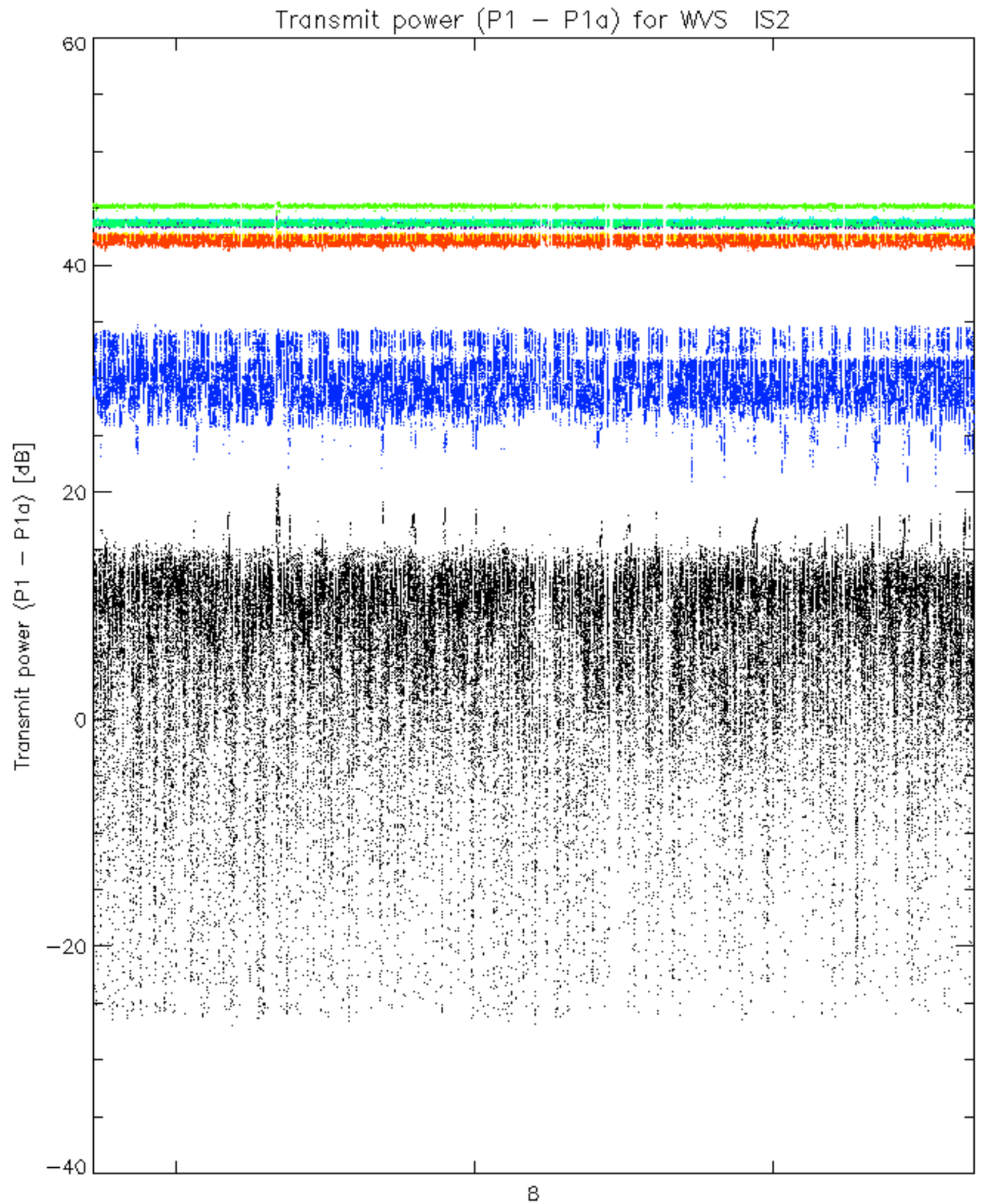
25
26
27
28
29
30
31
32


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
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.