PRELIMINARY REPORT OF 060103

last update on Tue Jan 3 16:30:46 GMT 2006

1. Introduction
2. Summary
   - Instrument Unavailability
   - Auxiliary files used
   - Browse Visual Inspection
   - Module Stepping Results
   - Data Analysis
3. Module Stepping
4. Internal Calibration pulses
   - Daily statistics
   - Cyclic statistics
   - cal pulses monitoring (all rows)
5. Raw Data Statistics
   - raw data mean I and Q
   - raw data stdev I and Q
   - raw gain imbalance
6. TLM analysis
7. Wave Doppler analysis
   - Unbiased Doppler Error for WVS
   - Absolute Doppler for WVS
   - Doppler evolution versus ANX for WVS
   - Unbiased Doppler Error for GM1
   - Absolute Doppler for GM1
   - Doppler evolution versus ANX for GM1

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 2006-01-02 00:00:00 to 2006-01-03 16:30:46

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	0	0	1	0	0
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	0	0	1	0	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	0	0	1	0	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	0	0	1	0	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	0	0	2	1	5
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	0	0	2	1	5
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	0	0	2	1	5
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	0	0	2	1	5

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	20051231 204859
H	20051230 143812

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	-3.716008	0.252608	-1.486751
7	P1	-2.753955	0.128625	-1.034254
11	P1	-4.137559	0.036690	0.099089
15	P1	-5.103907	1.723567	-4.084107
19	P1	-3.049600	0.067897	-0.771457
22	P1	-4.437860	0.024111	-0.233780
26	P1	-4.391993	0.062594	0.697305
30	P1	-5.656286	0.035448	-0.484082
3	P1	-15.793200	2.829213	-5.137243
7	P1	-15.337058	2.746873	-5.107202
11	P1	-16.319180	0.475026	-1.180767
15	P1	-12.698317	0.890762	-2.573609
19	P1	-13.448375	0.378852	-1.770474
22	P1	-15.910090	0.625243	-0.529885
26	P1	-15.078217	1.053978	-2.871323
30	P1	-15.564824	2.470242	-4.549843

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.781914	0.115849	0.386300
7	P2	-22.537428	0.106582	0.048498
11	P2	-16.484217	0.134784	0.509123
15	P2	-7.273262	0.106640	0.108753
19	P2	-9.208550	0.104847	0.003611
22	P2	-17.882479	0.112854	-0.274390
26	P2	-16.375689	0.132864	0.560400
30	P2	-19.788750	0.119279	0.459365

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.234377	0.007677	0.023744

7	P3	-8.234377	0.007677	0.023744
11	P3	-8.234377	0.007677	0.023744
15	P3	-8.234377	0.007677	0.023744
19	P3	-8.234377	0.007677	0.023744
22	P3	-8.234377	0.007677	0.023744
26	P3	-8.234377	0.007677	0.023744
30	P3	-8.234377	0.007677	0.023744

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	-3.711369	0.008561	-0.038337
7	P1	-2.768387	0.007653	-0.003165
11	P1	-2.877379	0.009401	0.000666
15	P1	-3.421216	0.016814	-0.065697
19	P1	-3.393979	0.014447	-0.005314
22	P1	-5.125443	0.019155	-0.021417
26	P1	-5.853790	0.016155	-0.020307
30	P1	-5.280397	0.033242	0.014649
3	P1	-11.490403	0.040209	-0.043033
7	P1	-9.967855	0.047323	0.045609
11	P1	-10.053833	0.056618	-0.034867
15	P1	-10.563411	0.070995	-0.090447
19	P1	-15.522346	0.074916	0.035475
22	P1	-20.960989	0.923809	0.476362
26	P1	-17.133781	0.289173	0.359935
30	P1	-18.182882	0.275786	0.142440

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.588827	0.029311	0.150652
7	P2	-23.042694	0.055399	0.162095
11	P2	-11.569309	0.019754	0.183000
15	P2	-4.993169	0.021213	0.061587
19	P2	-6.976825	0.021391	0.022480
22	P2	-8.213728	0.022564	-0.012502
26	P2	-24.050755	0.030221	0.069430
30	P2	-22.137419	0.017316	0.009670

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.078361	0.002472	0.007235
7	P3	-8.078609	0.002469	0.006724
11	P3	-8.078679	0.002453	0.006682
15	P3	-8.078545	0.002449	0.007370
19	P3	-8.078618	0.002473	0.007274
22	P3	-8.078520	0.002457	0.007578
26	P3	-8.078508	0.002444	0.007843
30	P3	-8.078375	0.002462	0.006741

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	0.000456592
	stdev	2.20240e-07
MEAN Q	mean	0.000464575
	stdev	2.36147e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129341
	stdev	0.00114190
STDEV Q	mean	0.129630
	stdev	0.00115497

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006010[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_WSM_1PNPDE20060101_012925_000004582043_00475_20068_6595.N1	0	49

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

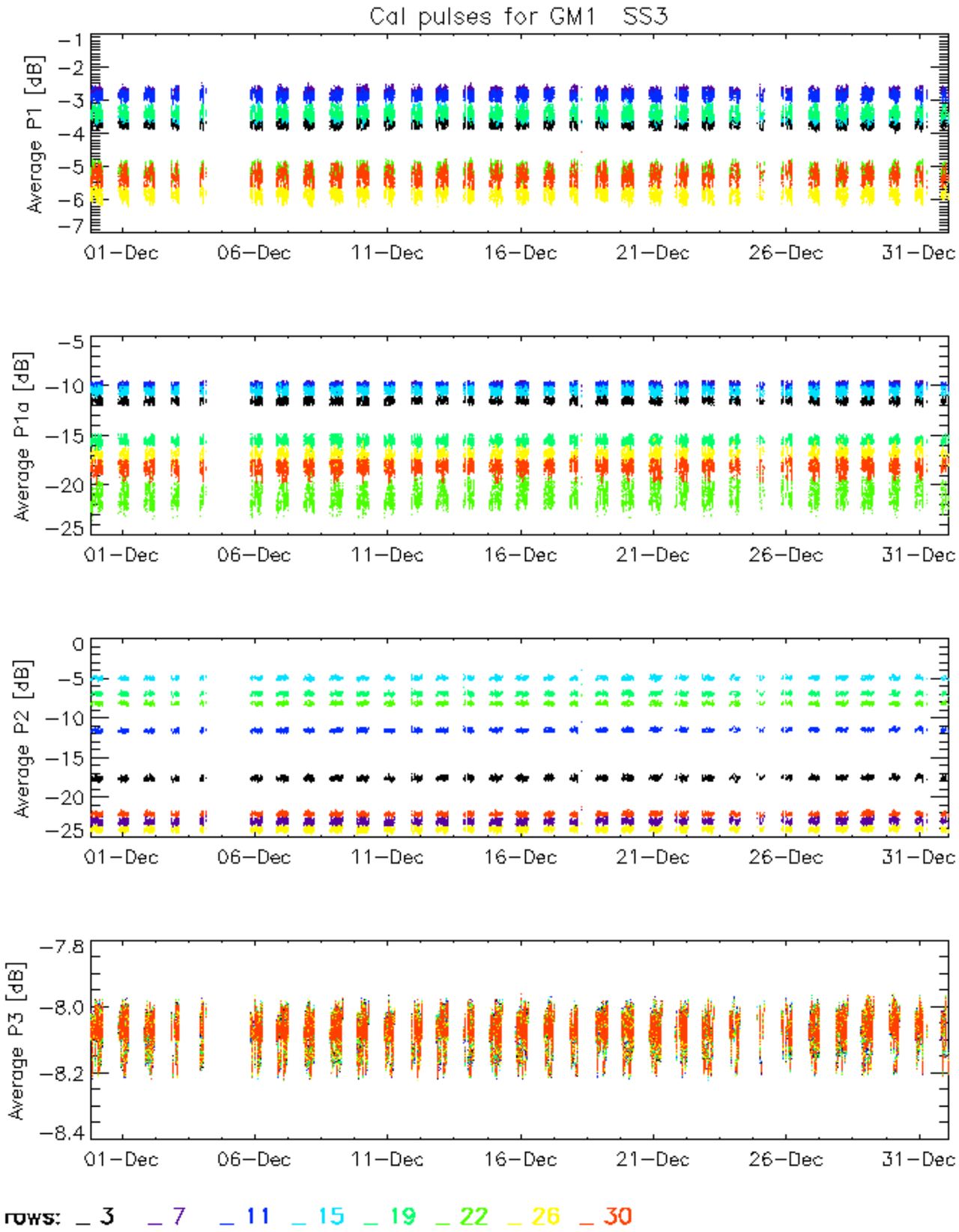
7.4 - Unbiased Doppler Error for GM1

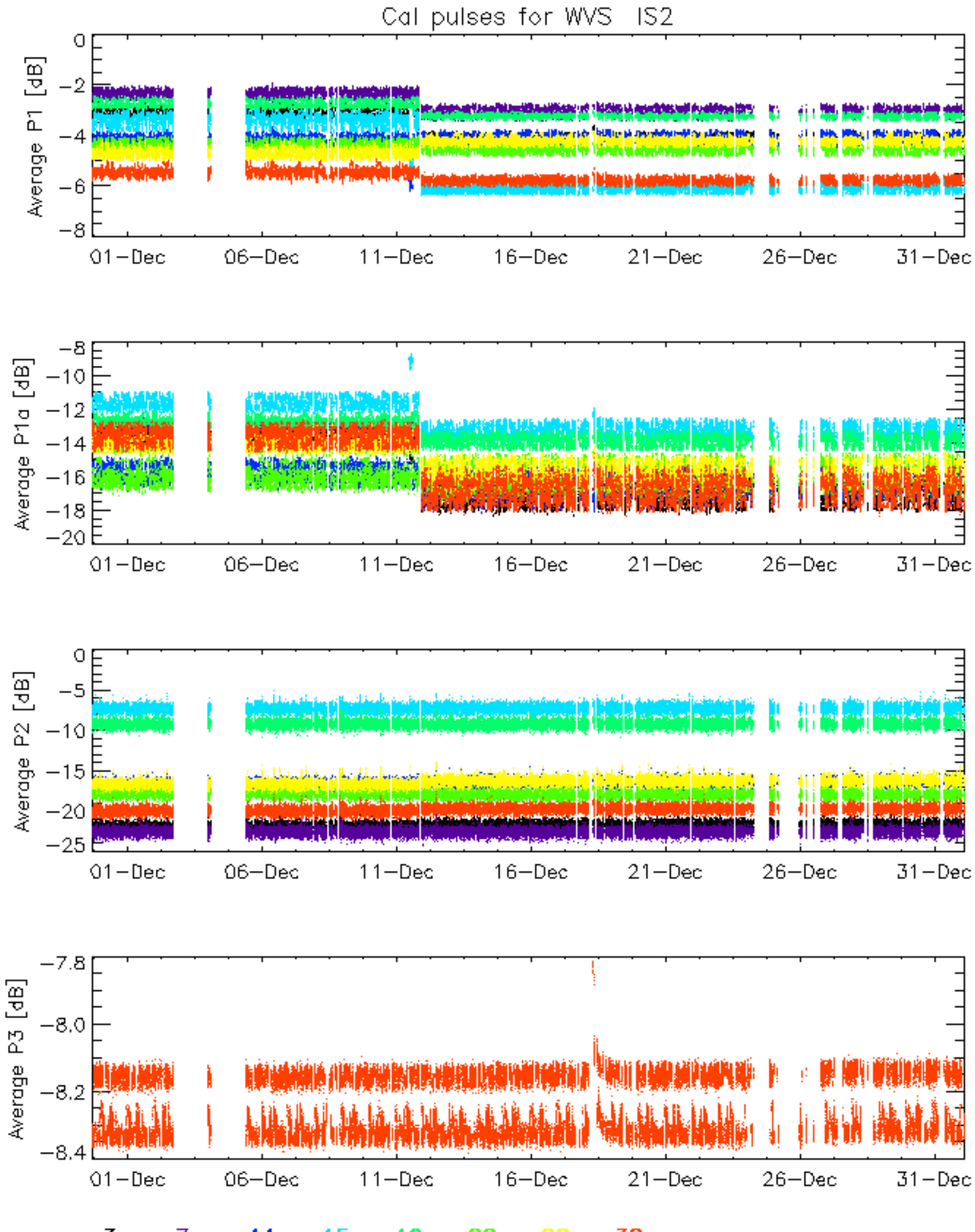
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler
☒
Acsending
☒
Descending

7.6 - Doppler evolution versus ANX for GM1

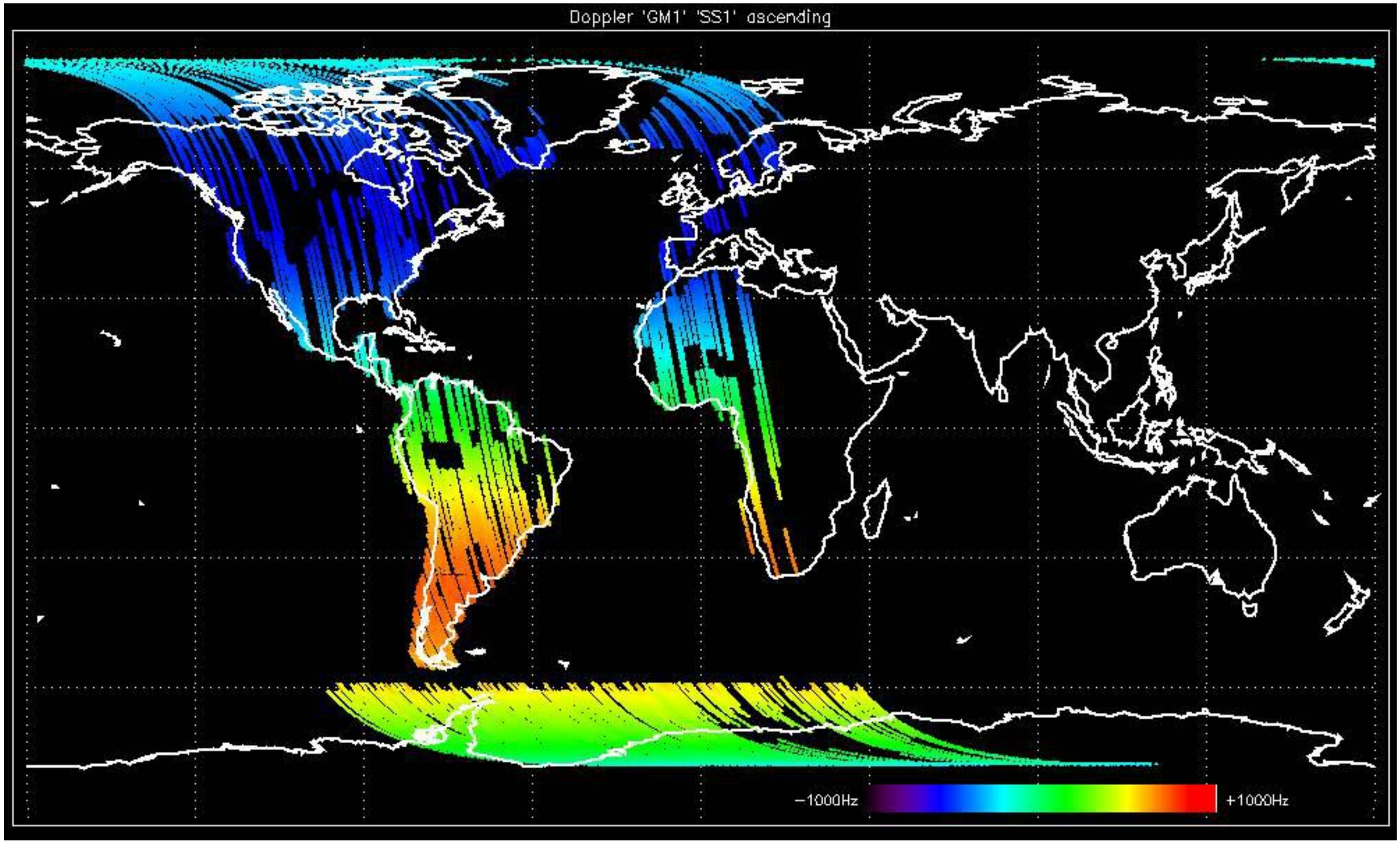

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
0
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

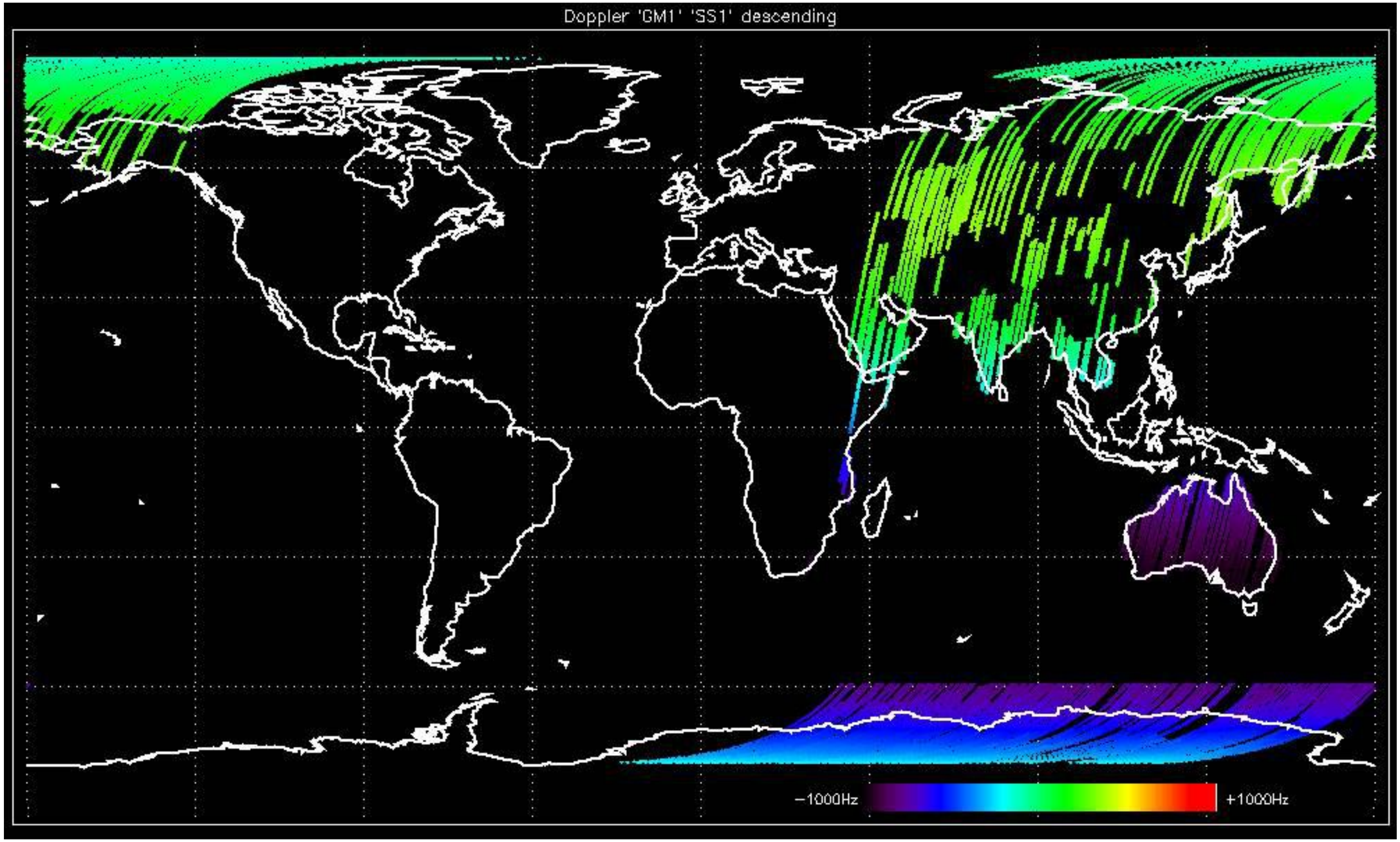

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
Average P1a [dB]
−8
−10
−12
−14
−16
−18
−20
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: 3 7 11 15 19 22 26 30

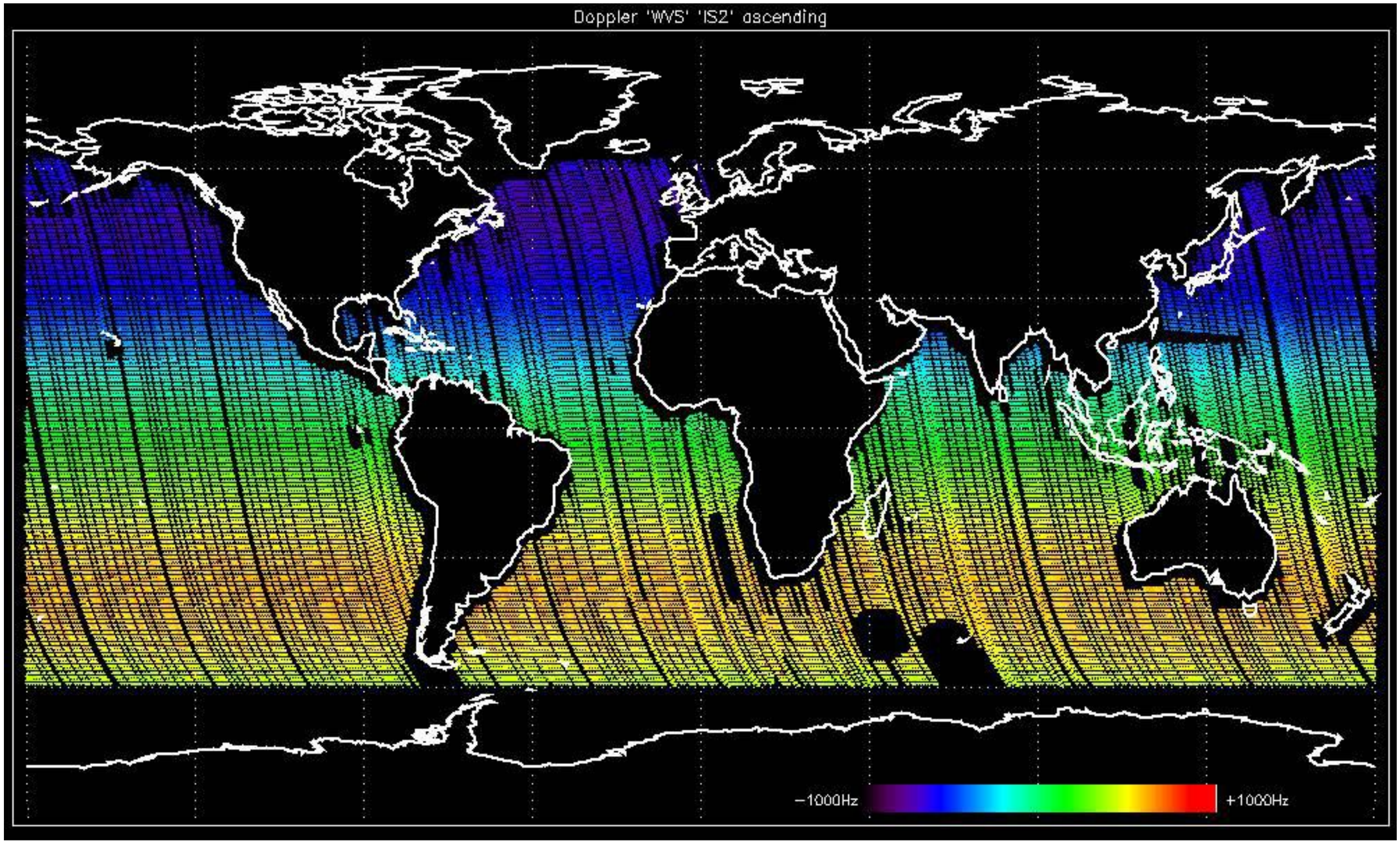
No anomalies observed.

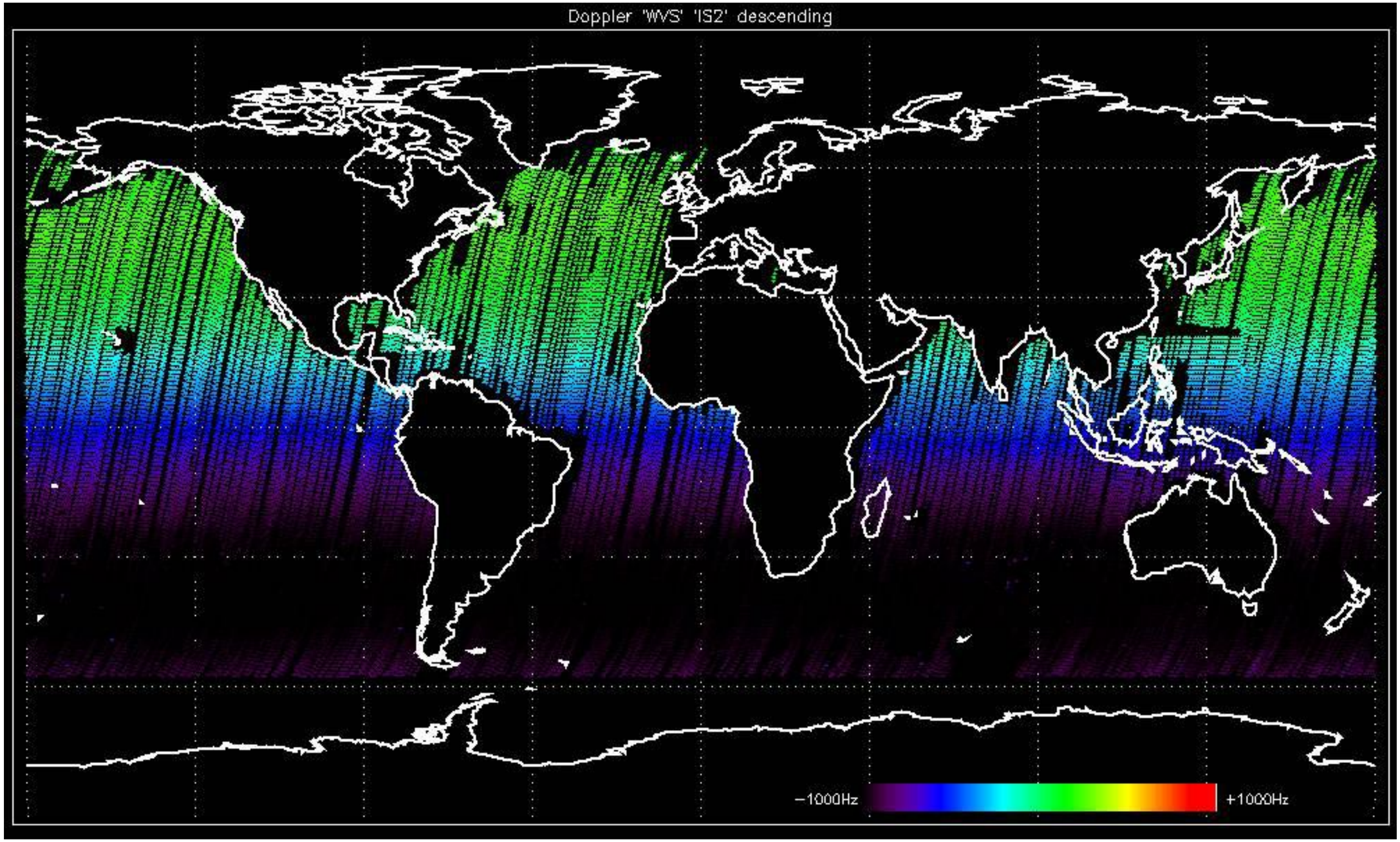
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

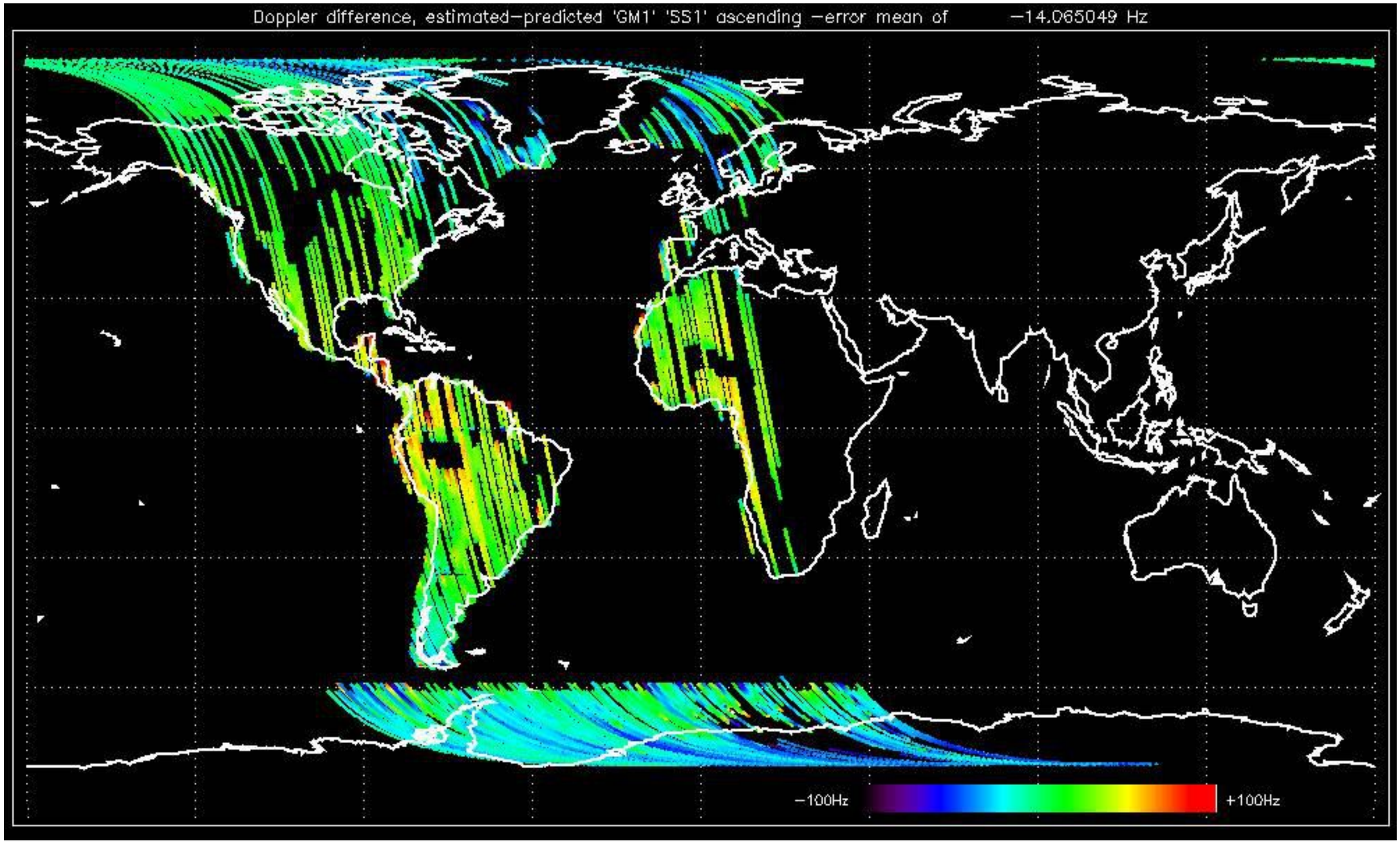
Preliminary report.The data is not yet controled

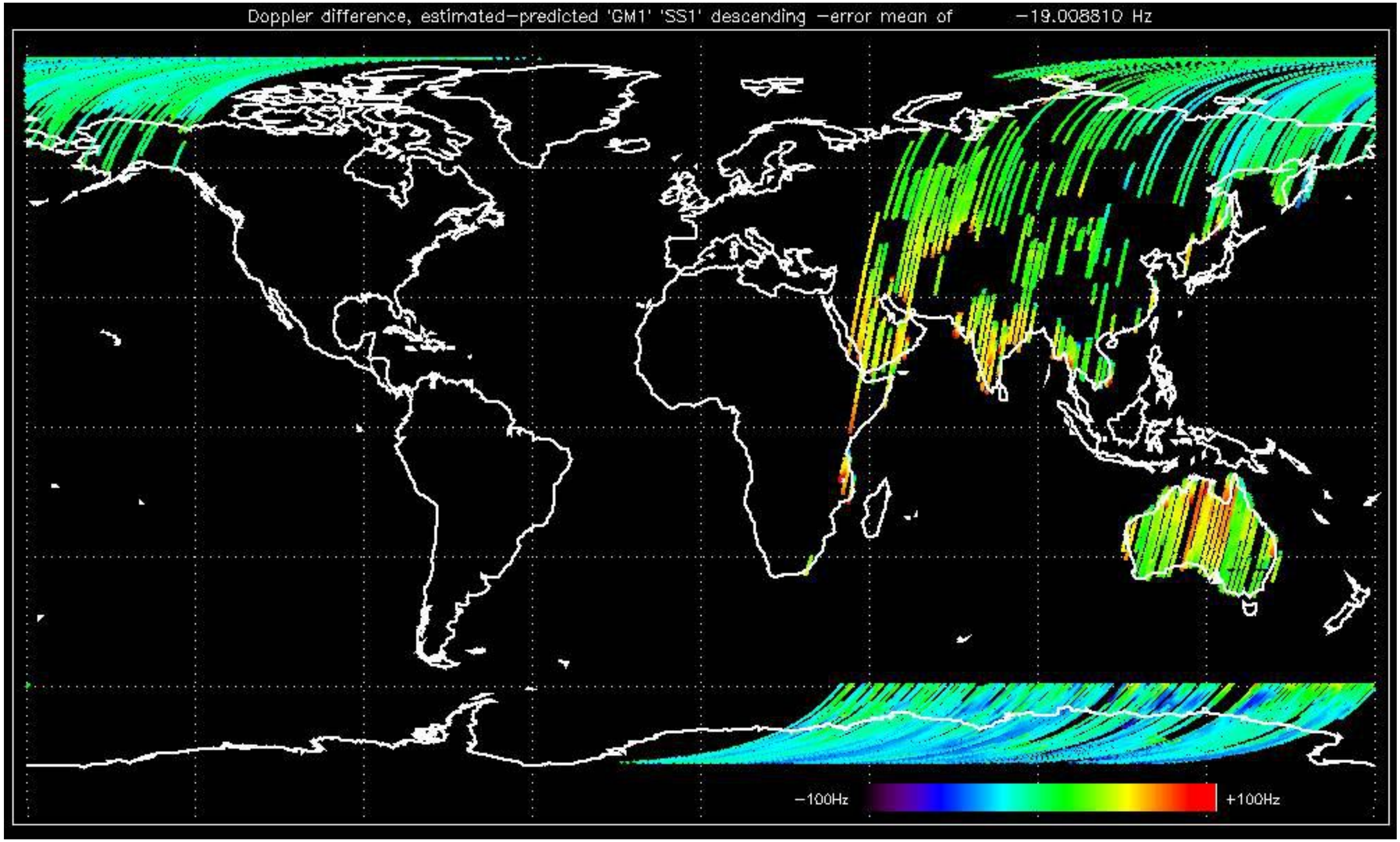

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

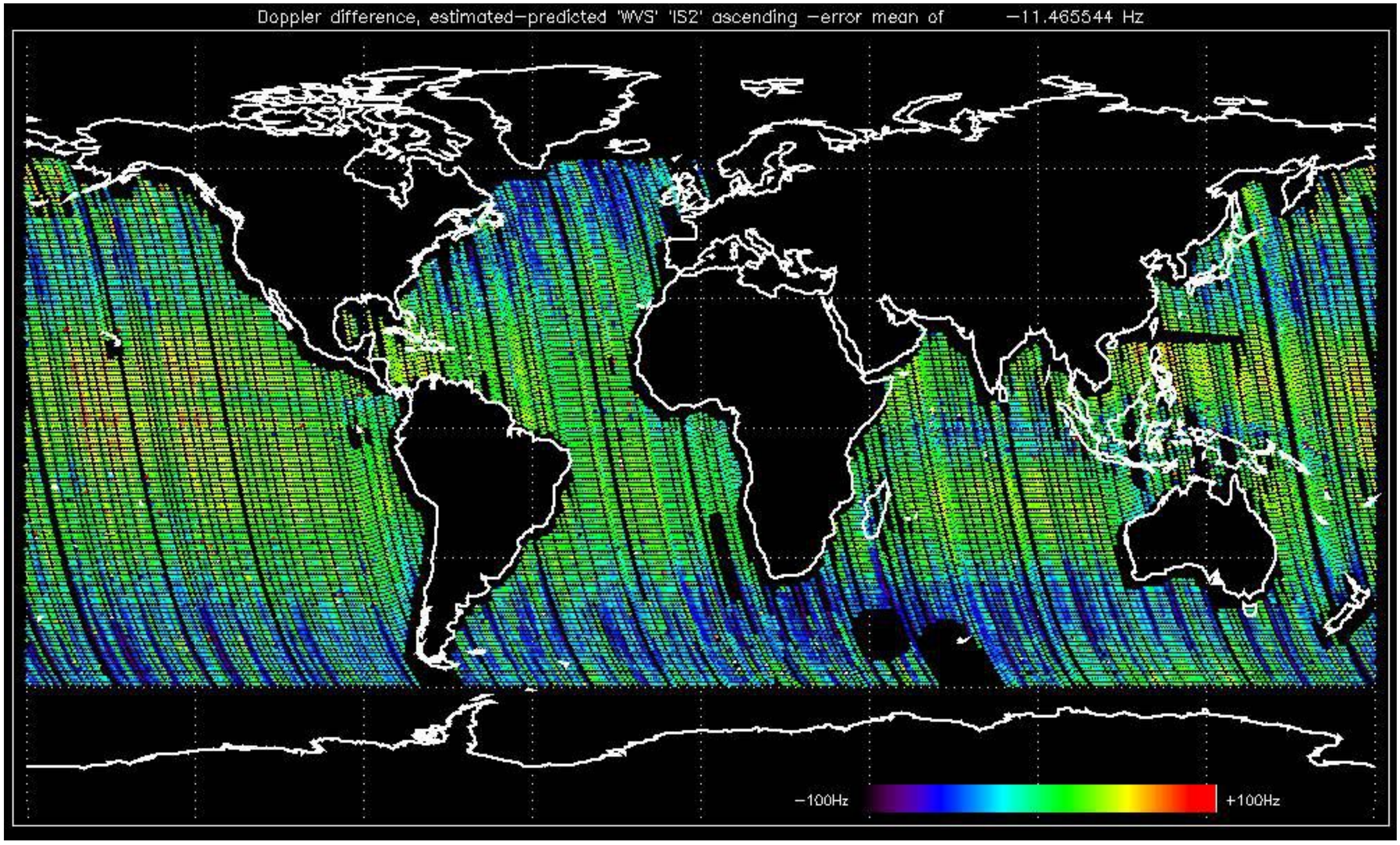

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

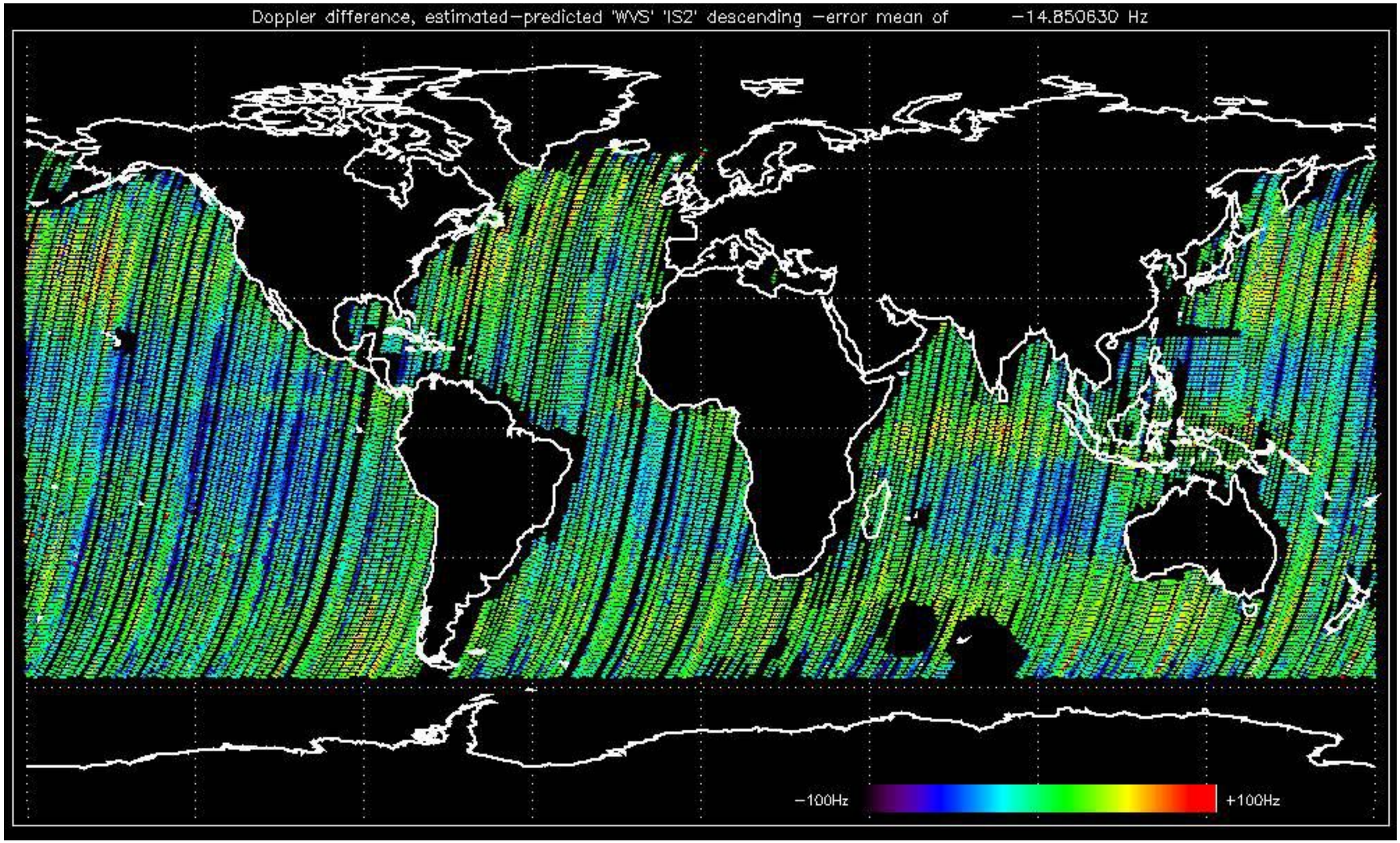

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −14.065049 Hz
−100Hz
+100Hz

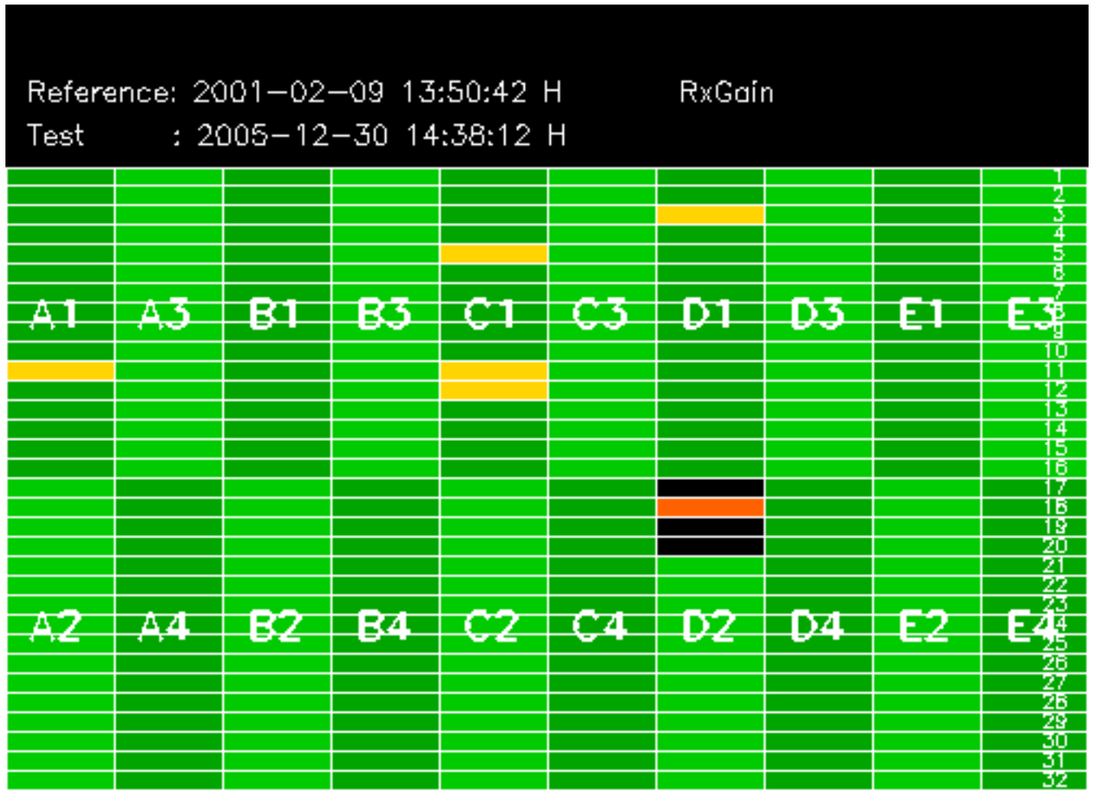

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -19.008810 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −11.465544 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −14.850630 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2005-12-30 14:38:12 H
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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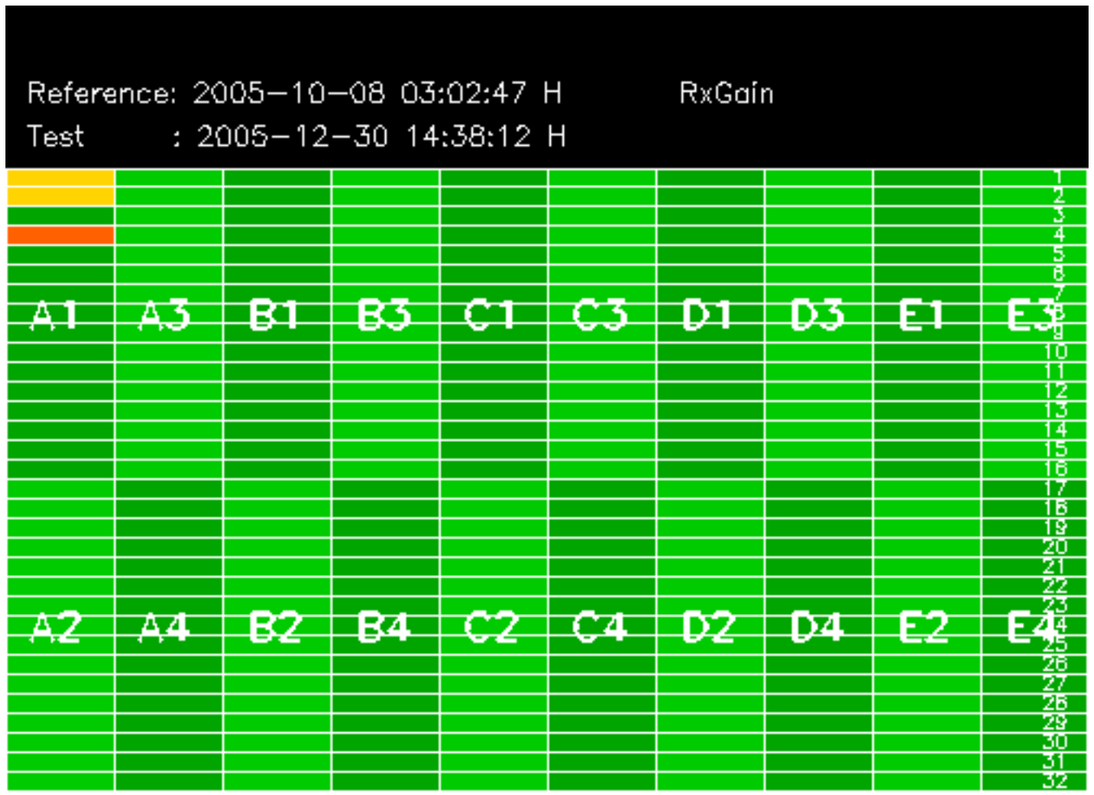
Reference: 2005-10-08 03:02:47 H
Test : 2005-12-30 14:38:12 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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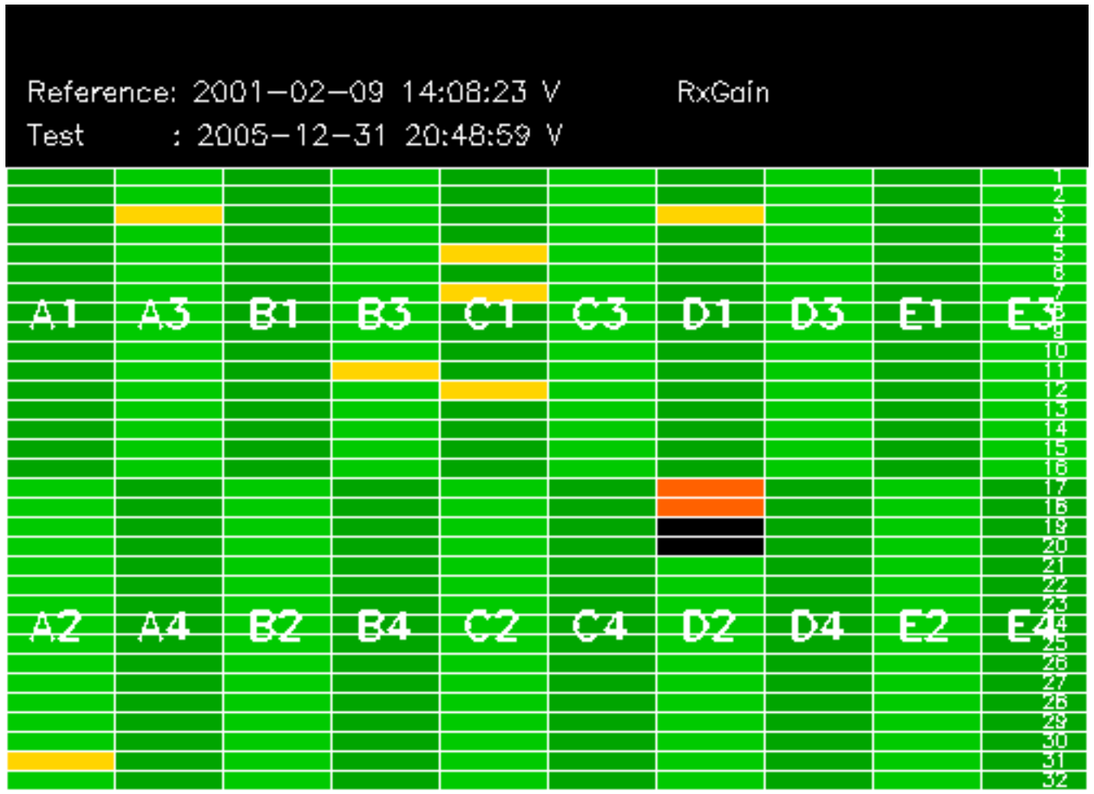
Reference: 2001-02-09 14:08:23 V
Test : 2005-12-31 20:48:59 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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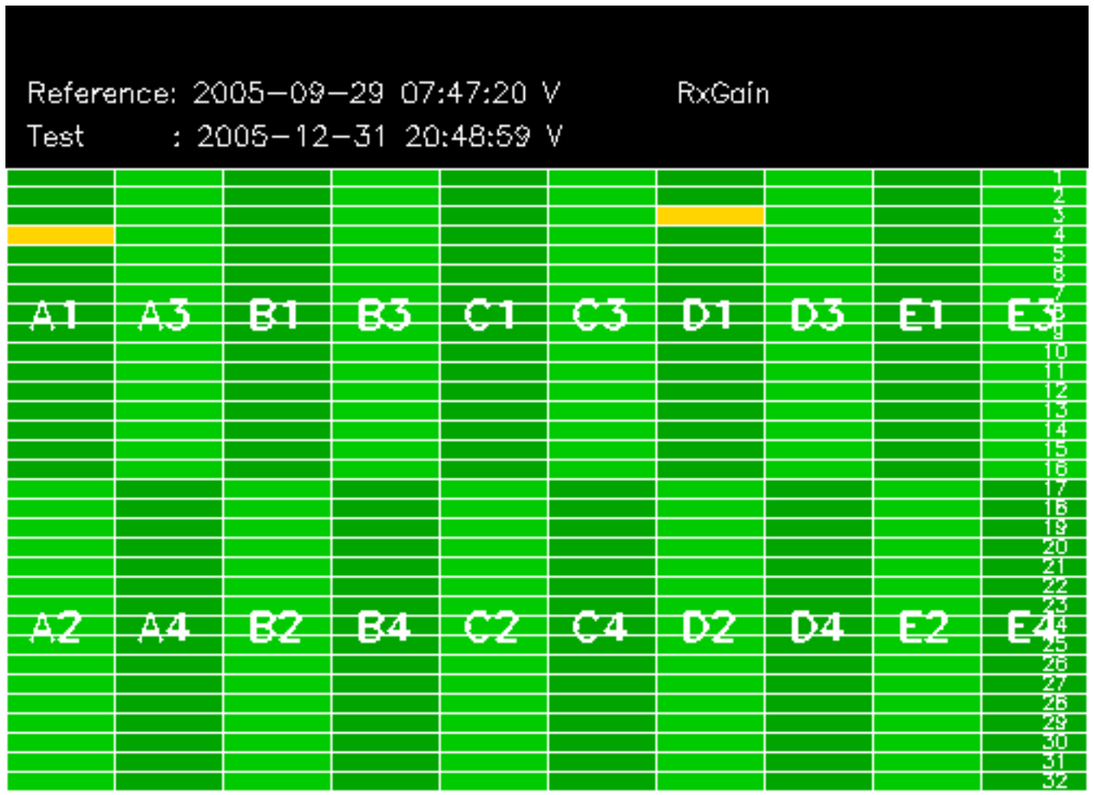
Reference: 2005-09-29 07:47:20 V
Test : 2005-12-31 20:48:59 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
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B4
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D4
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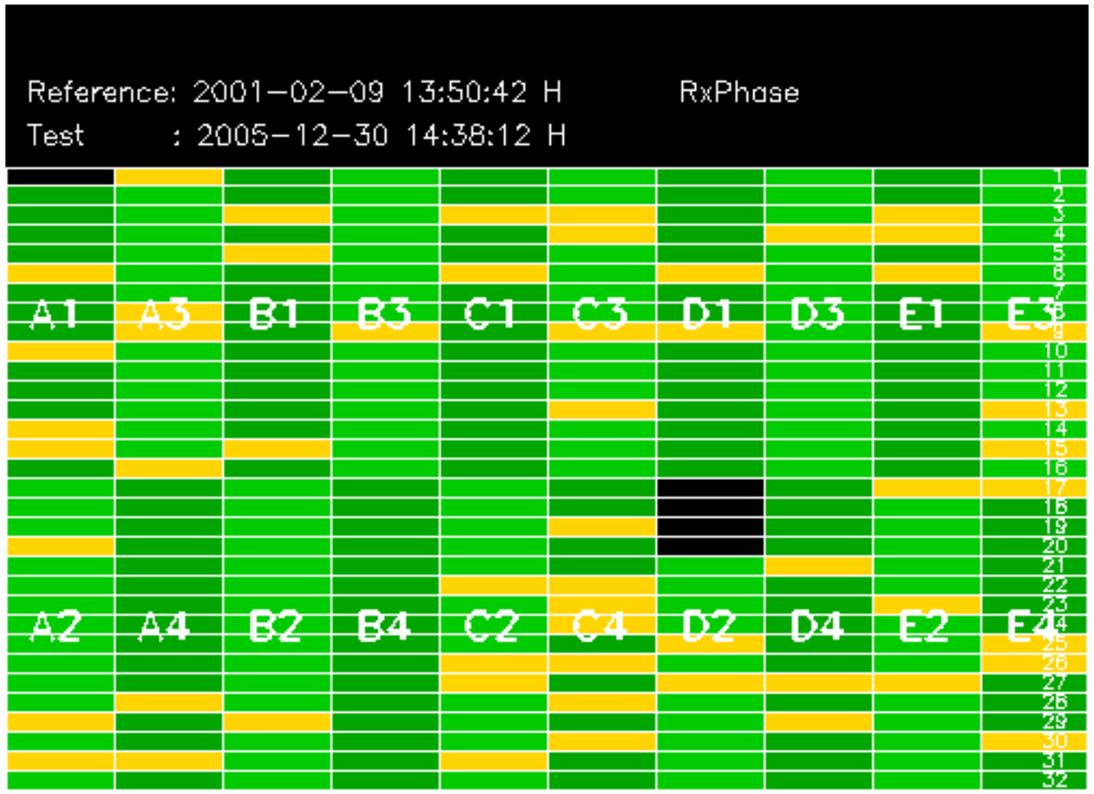
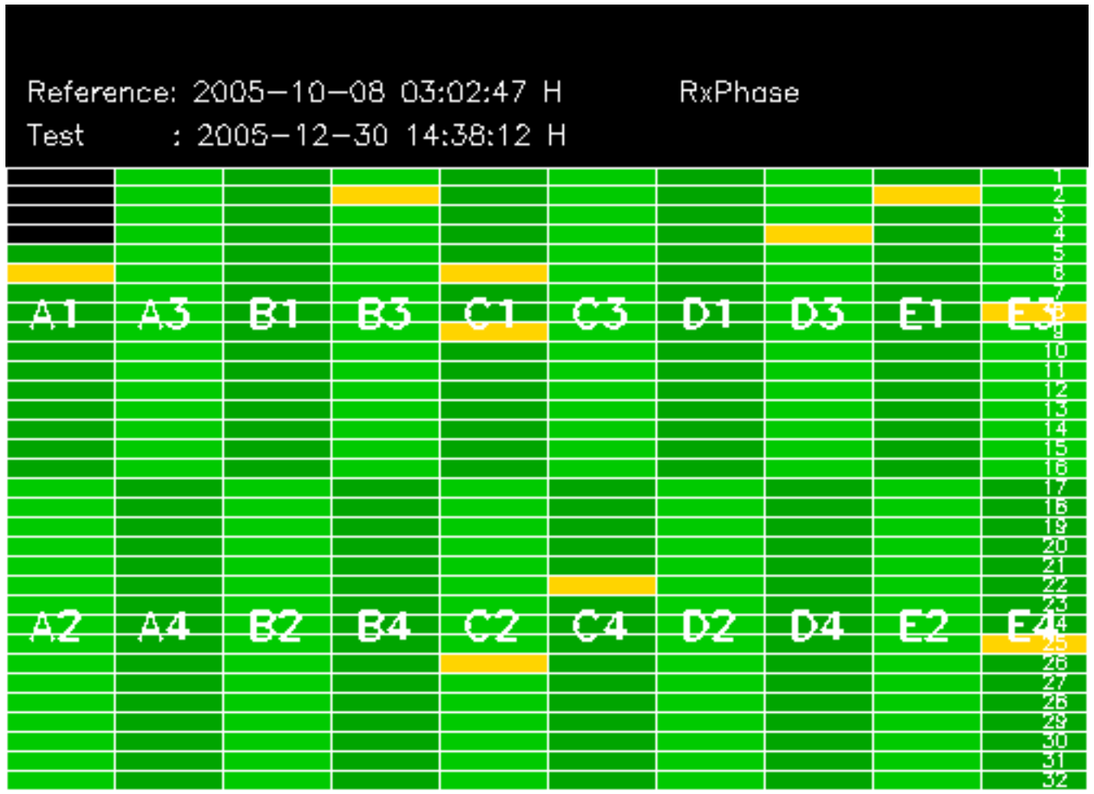

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-12-30 14:38:12 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-10-08 03:02:47 H
RxPhase
Test : 2005-12-30 14:38:12 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
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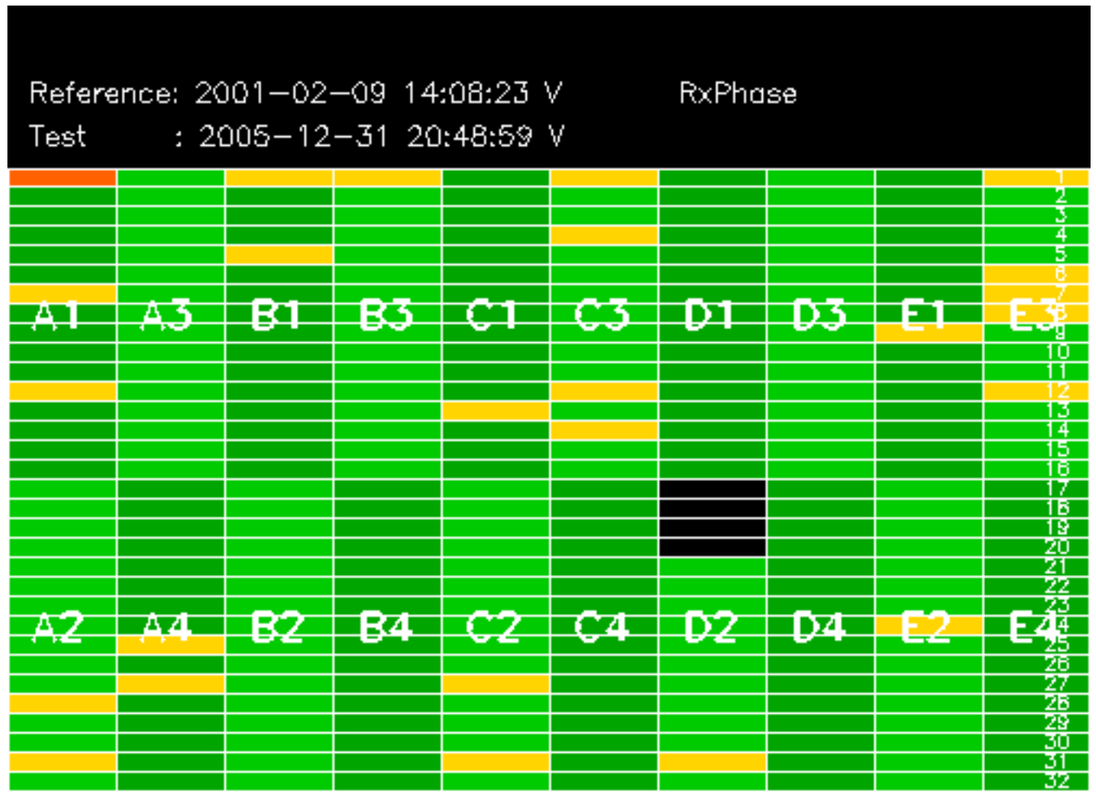
Reference: 2001-02-09 14:08:23 V
Test : 2005-12-31 20:48:59 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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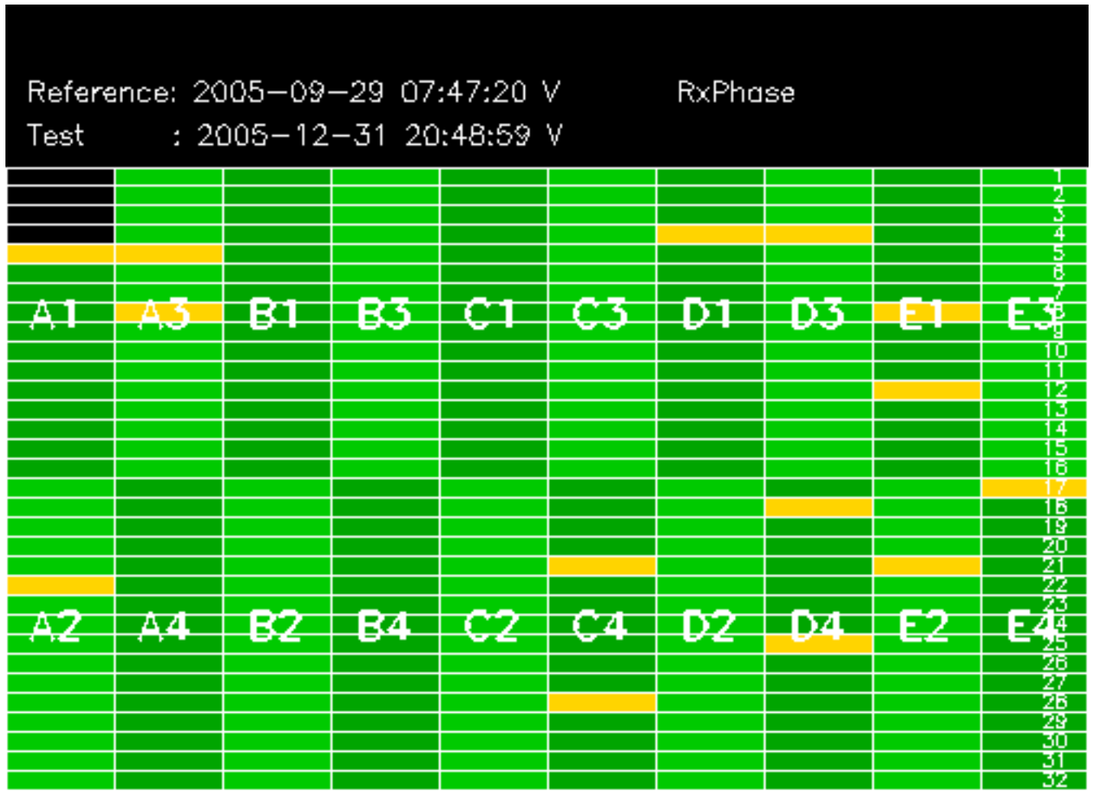
Reference: 2005-09-29 07:47:20 V
Test : 2005-12-31 20:48:59 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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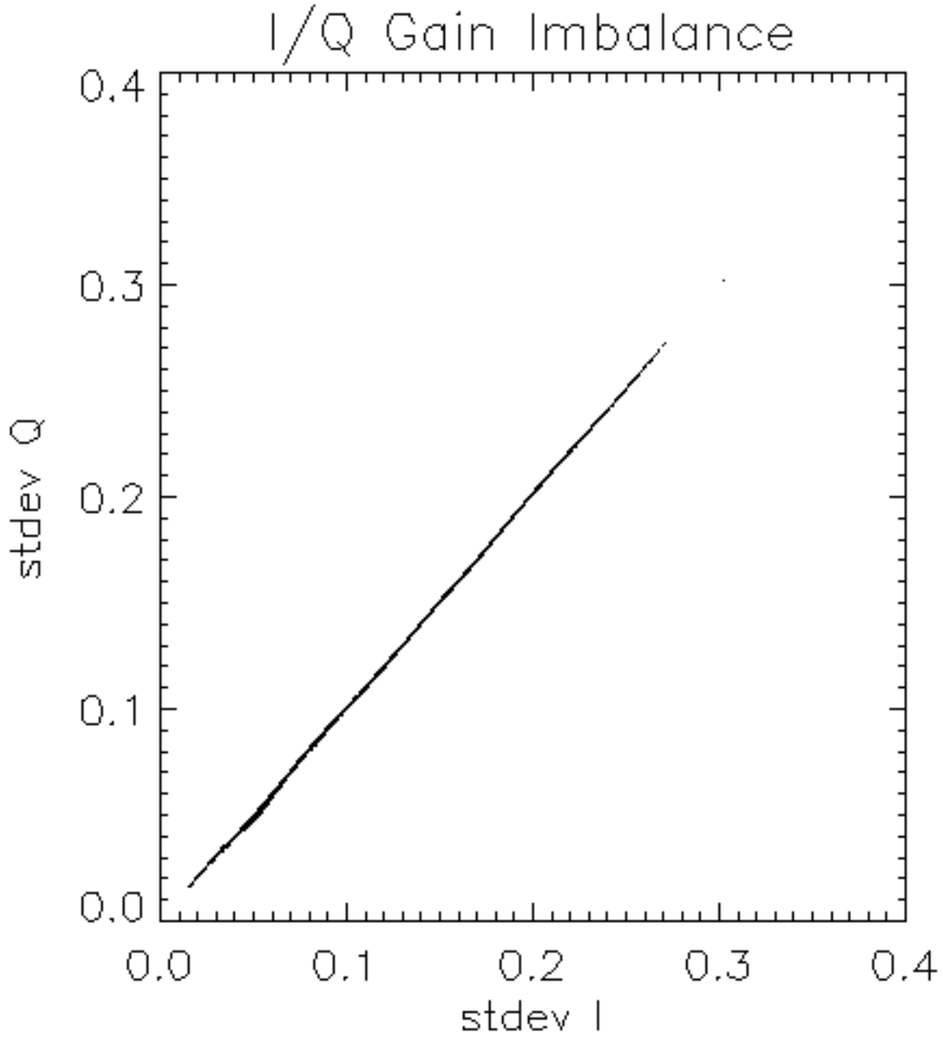
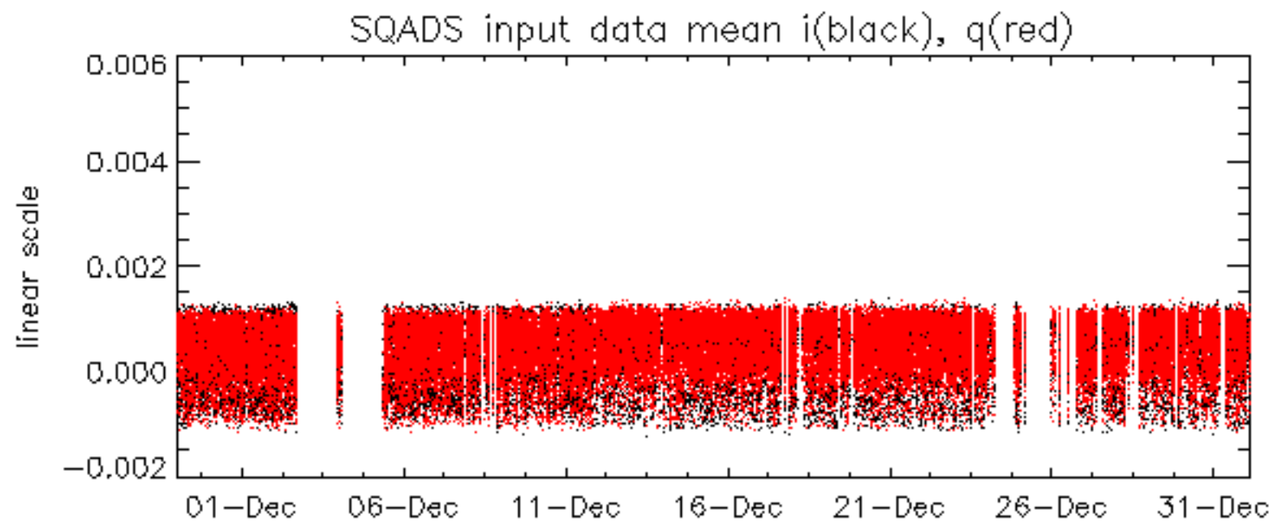
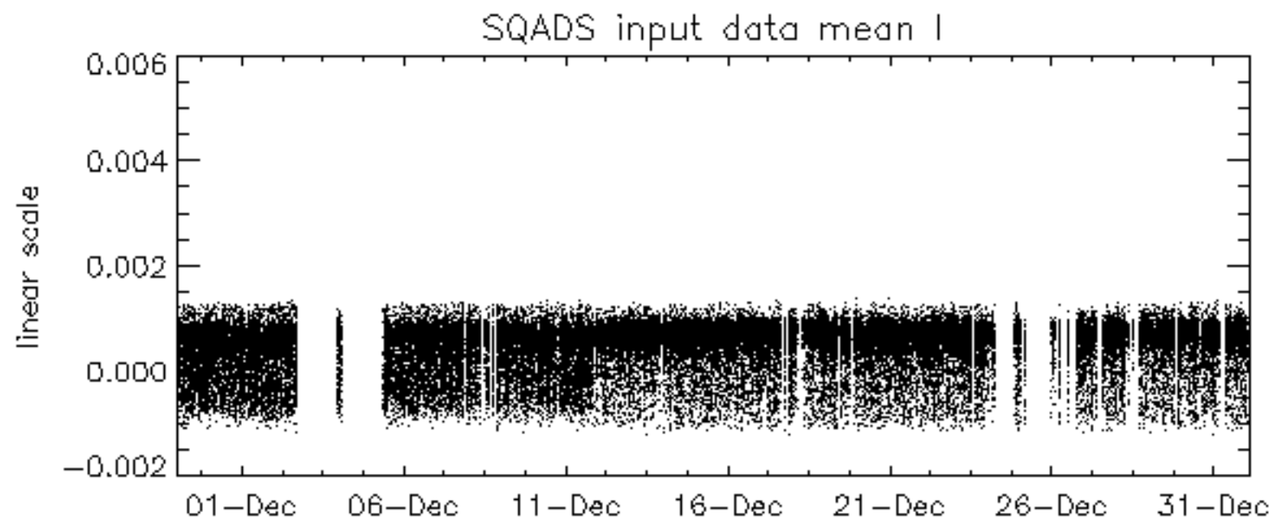
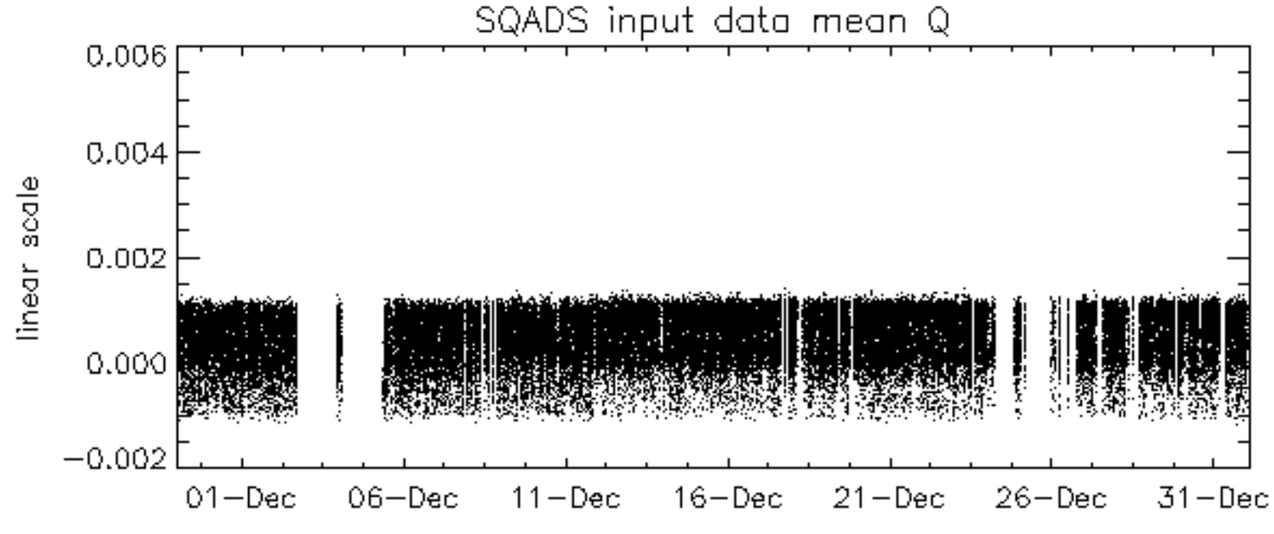
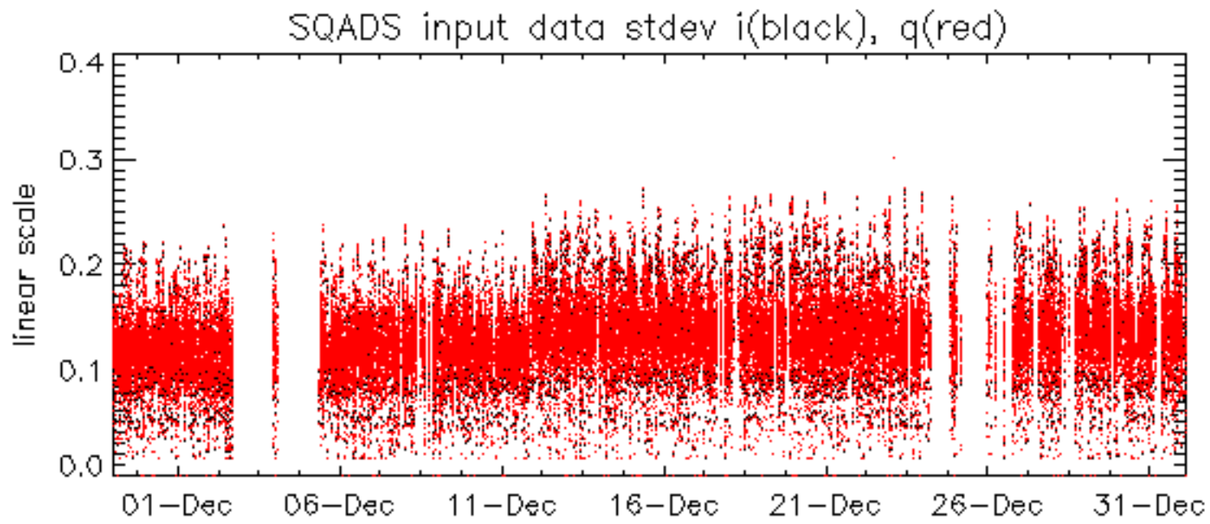
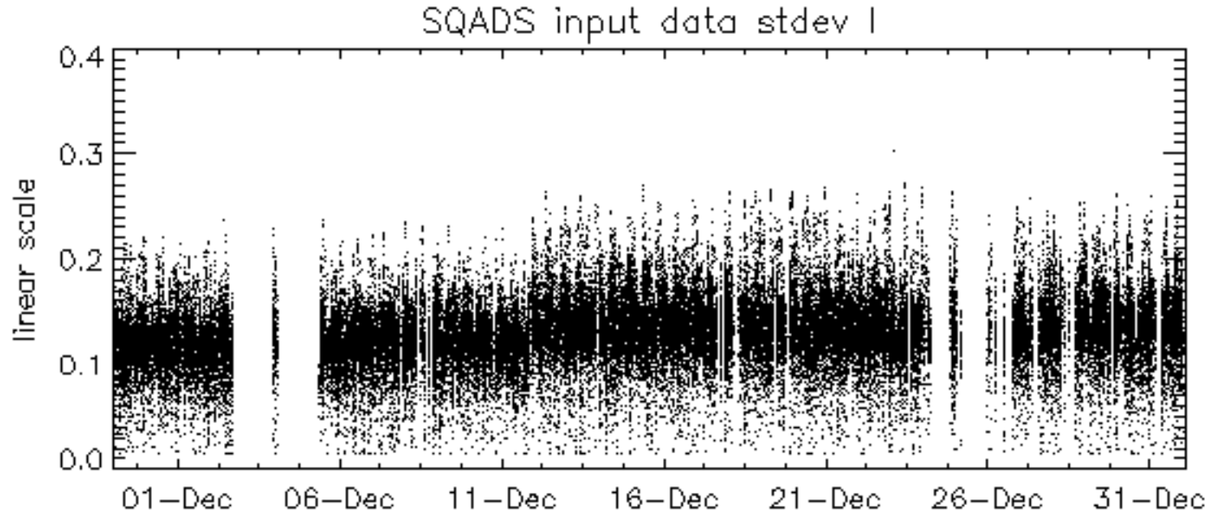

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

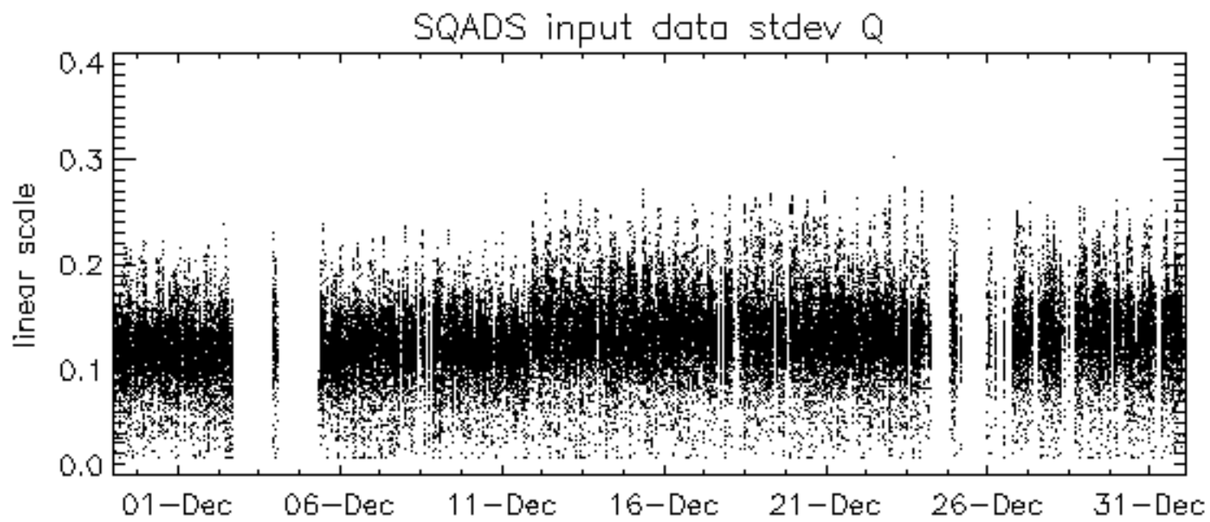

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec

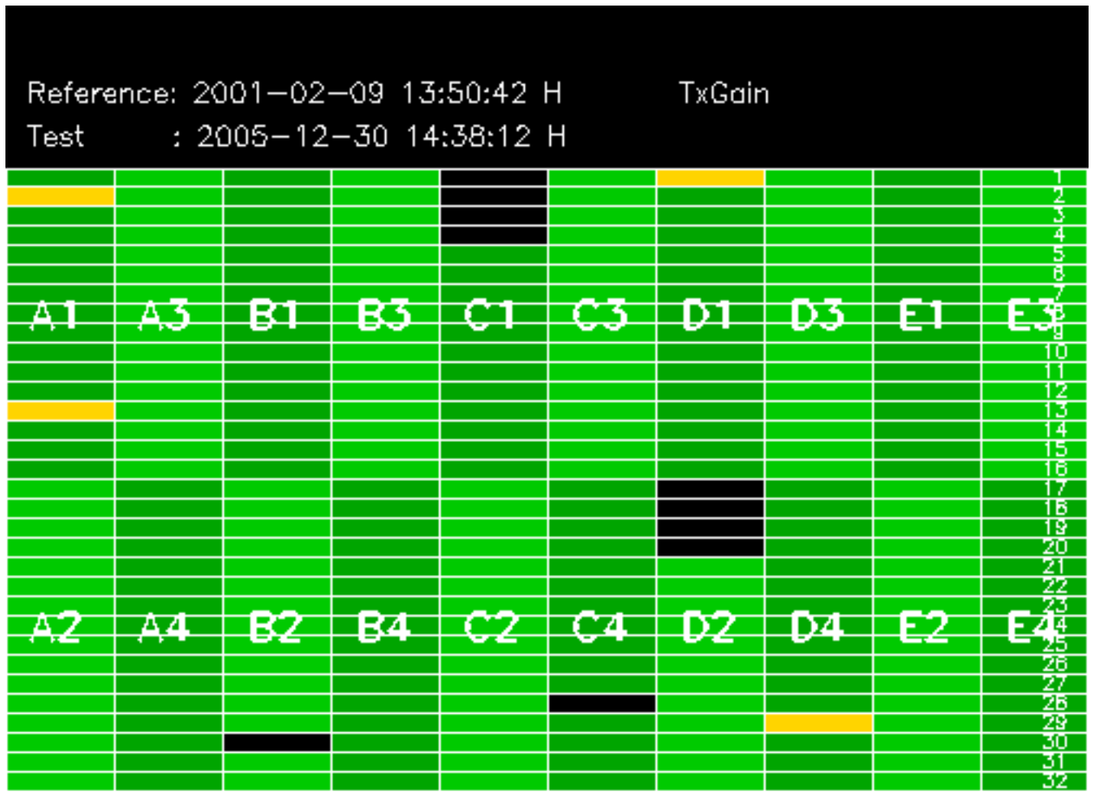

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec

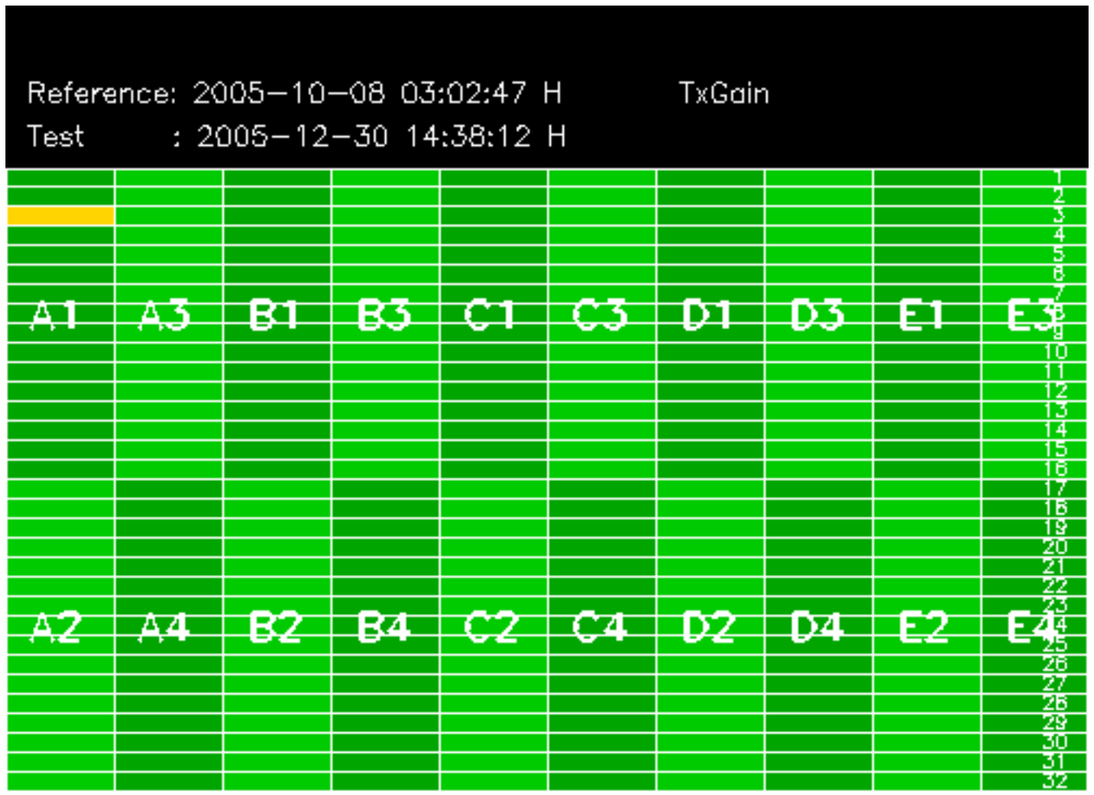

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2005-12-30 14:38:12 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-10-08 03:02:47 H
Test : 2005-12-30 14:38:12 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
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9
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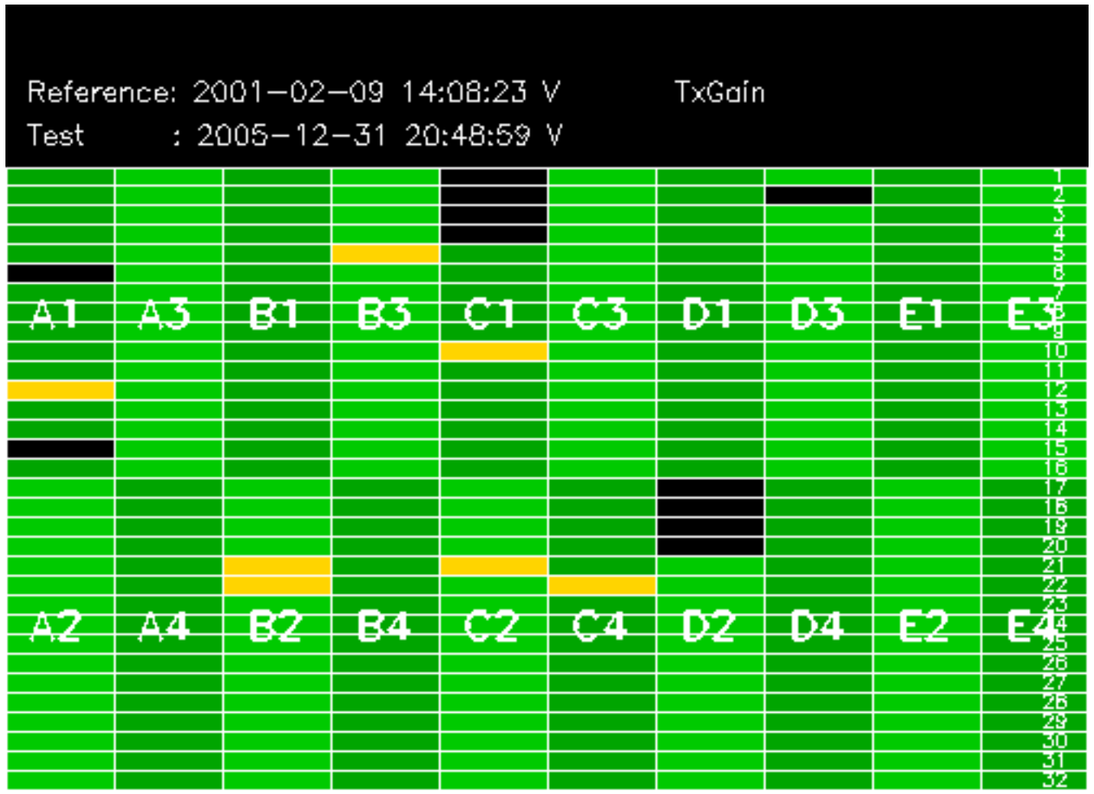
Reference: 2001-02-09 14:08:23 V
Test : 2005-12-31 20:48:59 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
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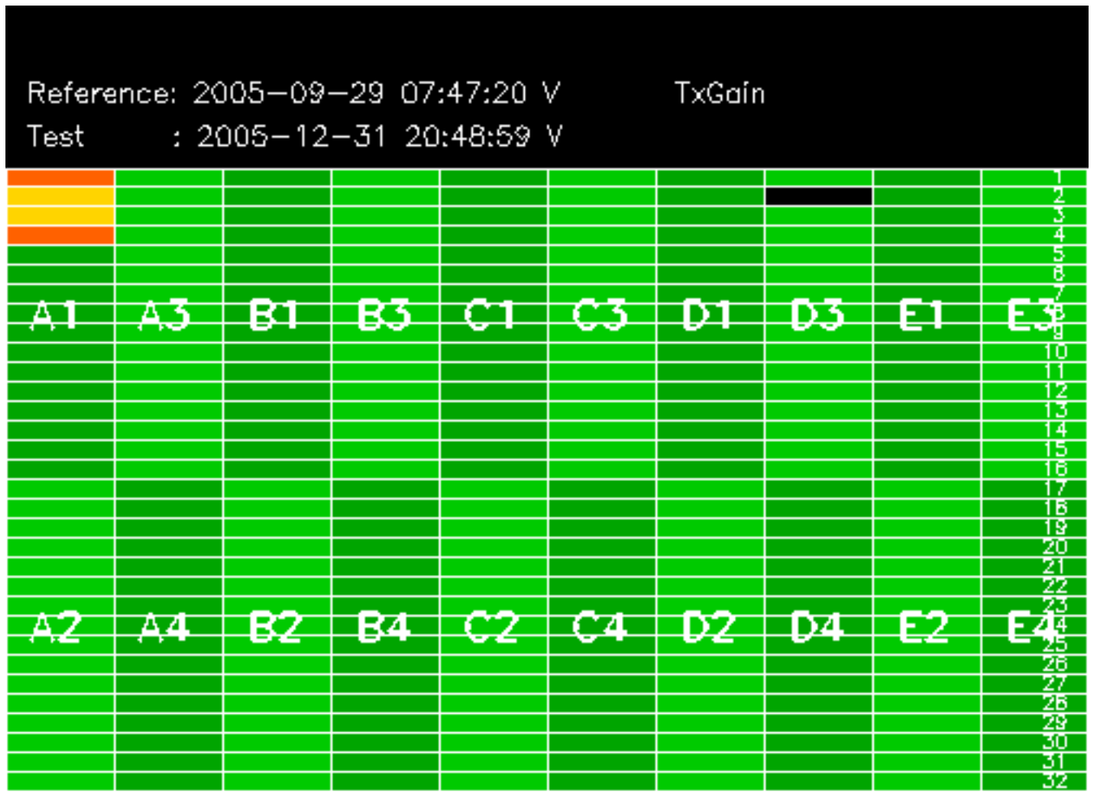
Reference: 2005-09-29 07:47:20 V
Test : 2005-12-31 20:48:59 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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11
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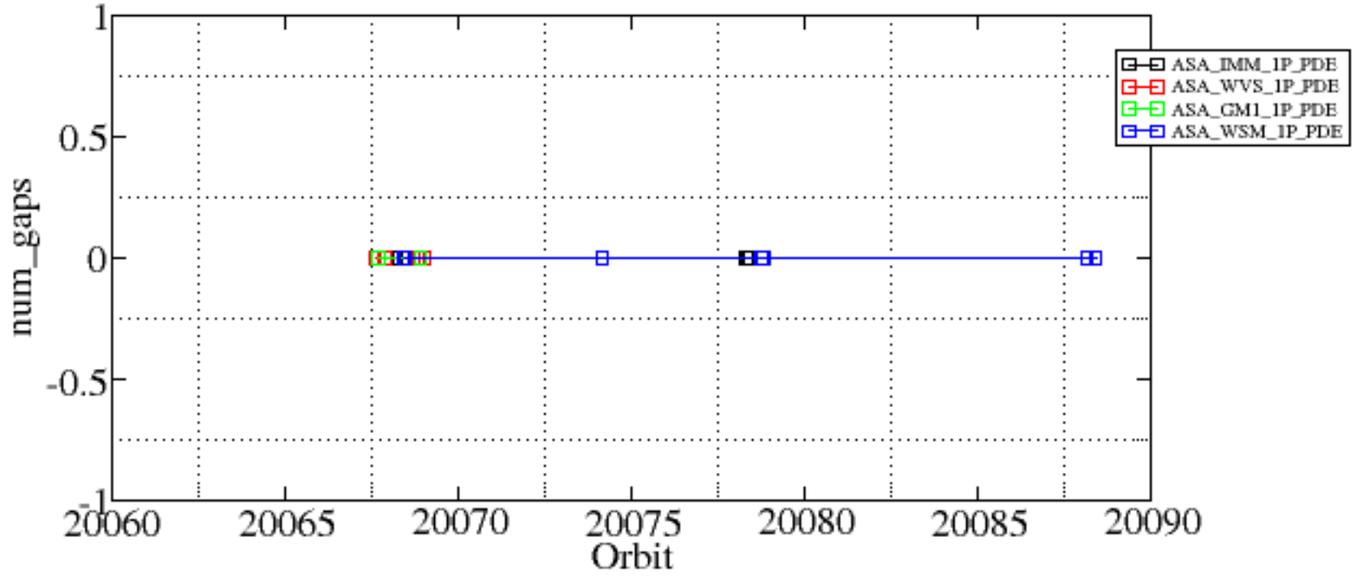
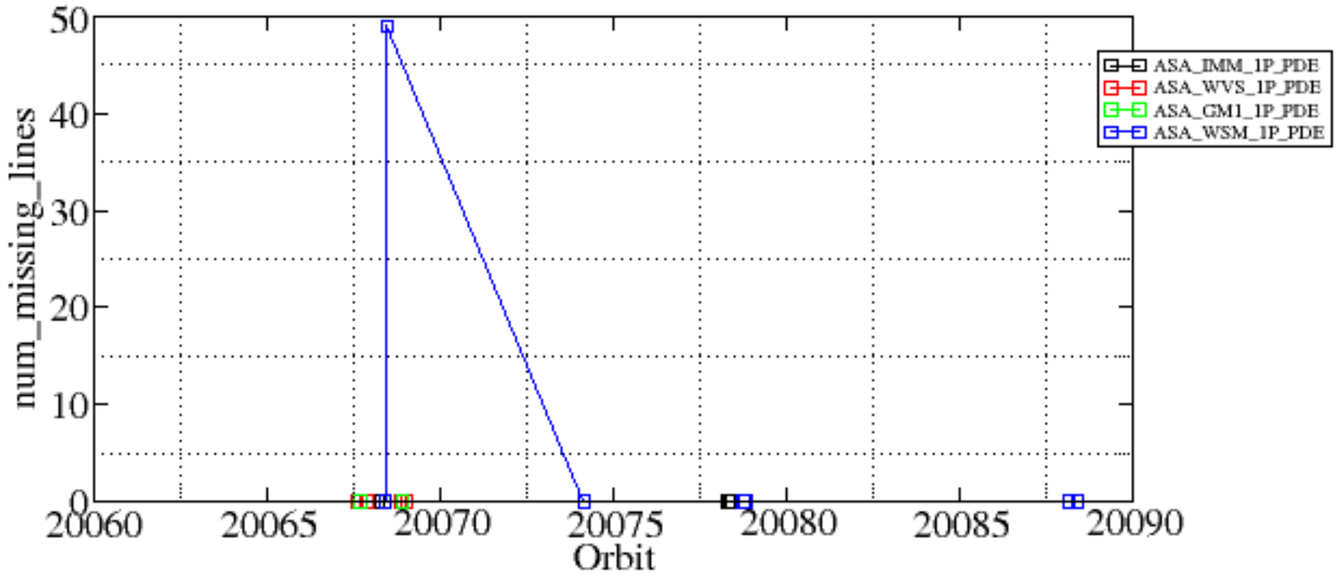
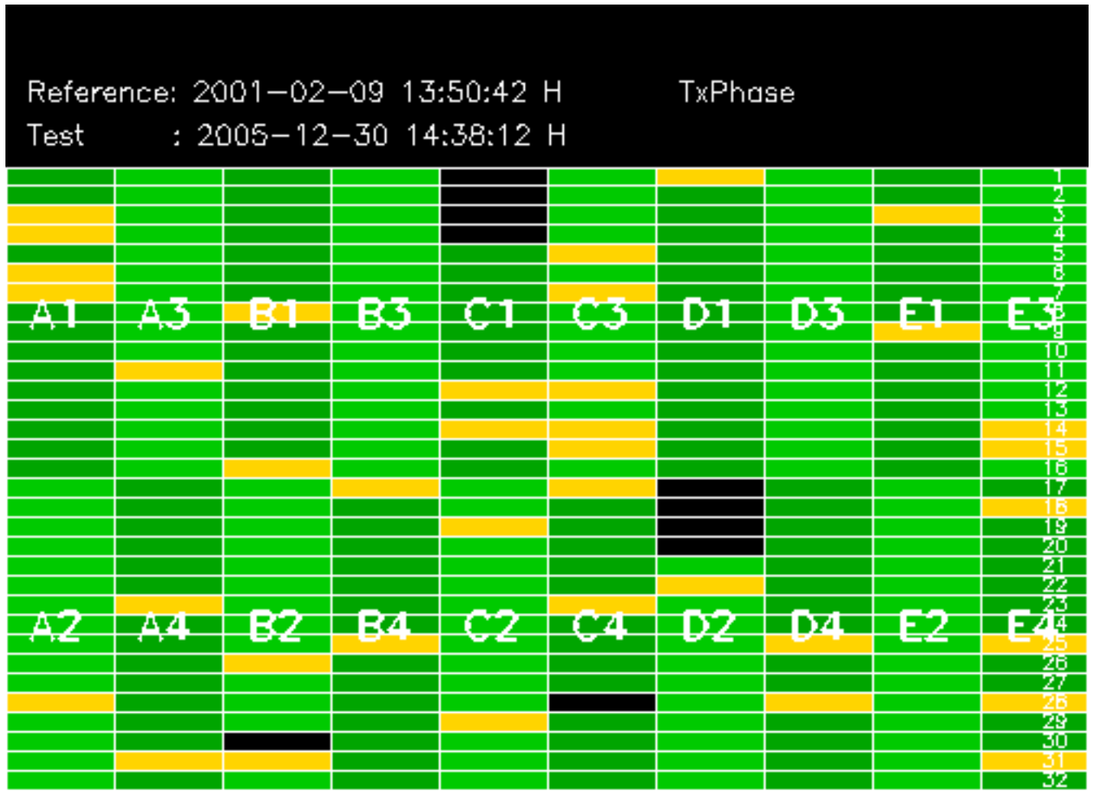
Summary of analysis for the last 3 days 2006010[123]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_WSM_1PNPDE20060101_012925_000004582043_00475_20068_6595.N1 </td> <td>0 </td> <td>49 </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
20060
20065
20070
20075
20080
20085
20090
Orbit
ASA_IMM_1P_PDE
ASA_WVS_1P_PDE
ASA_GM1_1P_PDE
ASA_WSM_1P_PDE


num_missing_lines
Orbit
50
40
30
20
10
0
20060
20065
20070
20075
20080
20085
20090
ASA_IMM_1P_PDE
ASA_WVS_1P_PDE
ASA_GM1_1P_PDE
ASA_WSM_1P_PDE


Reference: 2001-02-09 13:50:42 H
Test : 2005-12-30 14:38:12 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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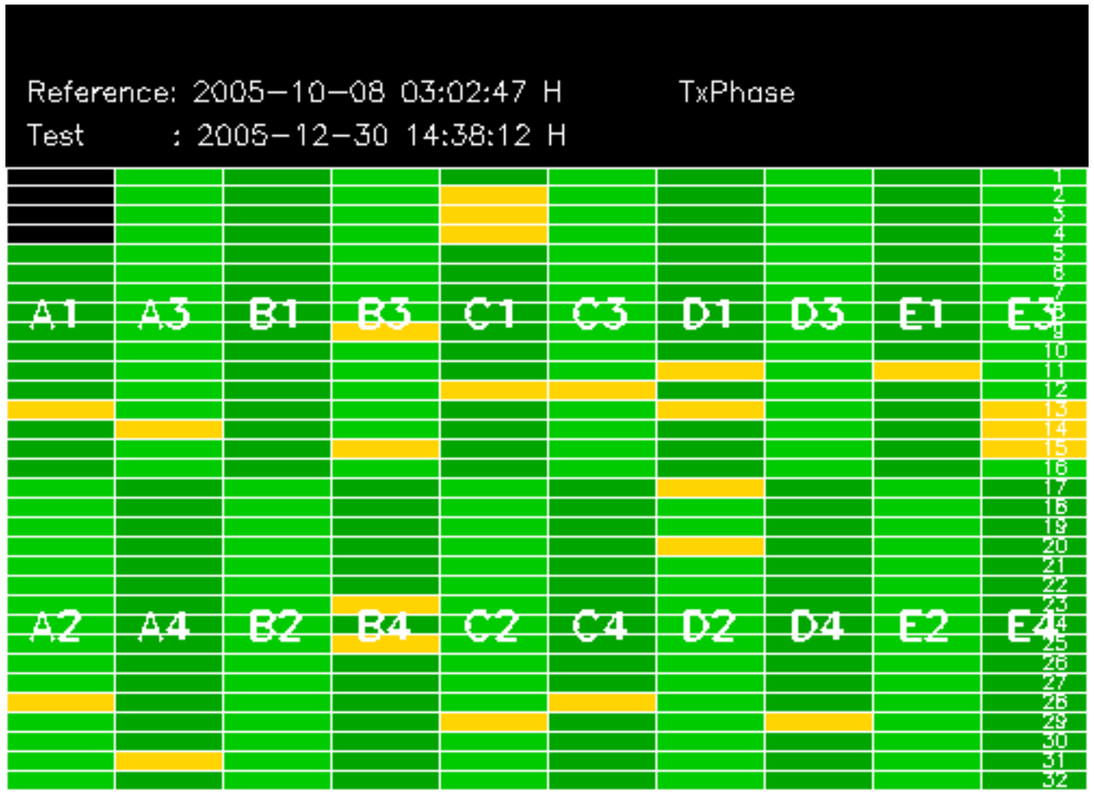
Reference: 2005-10-08 03:02:47 H
Test : 2005-12-30 14:38:12 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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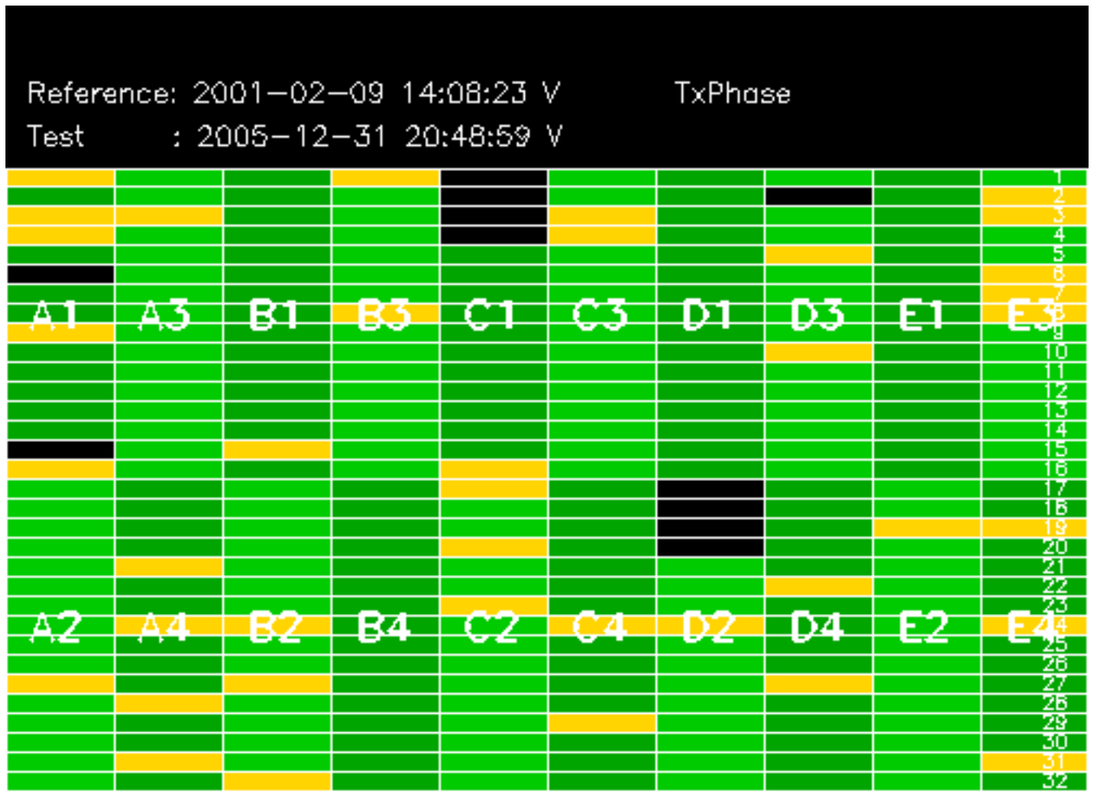
Reference: 2001-02-09 14:08:23 V
Test : 2005-12-31 20:48:59 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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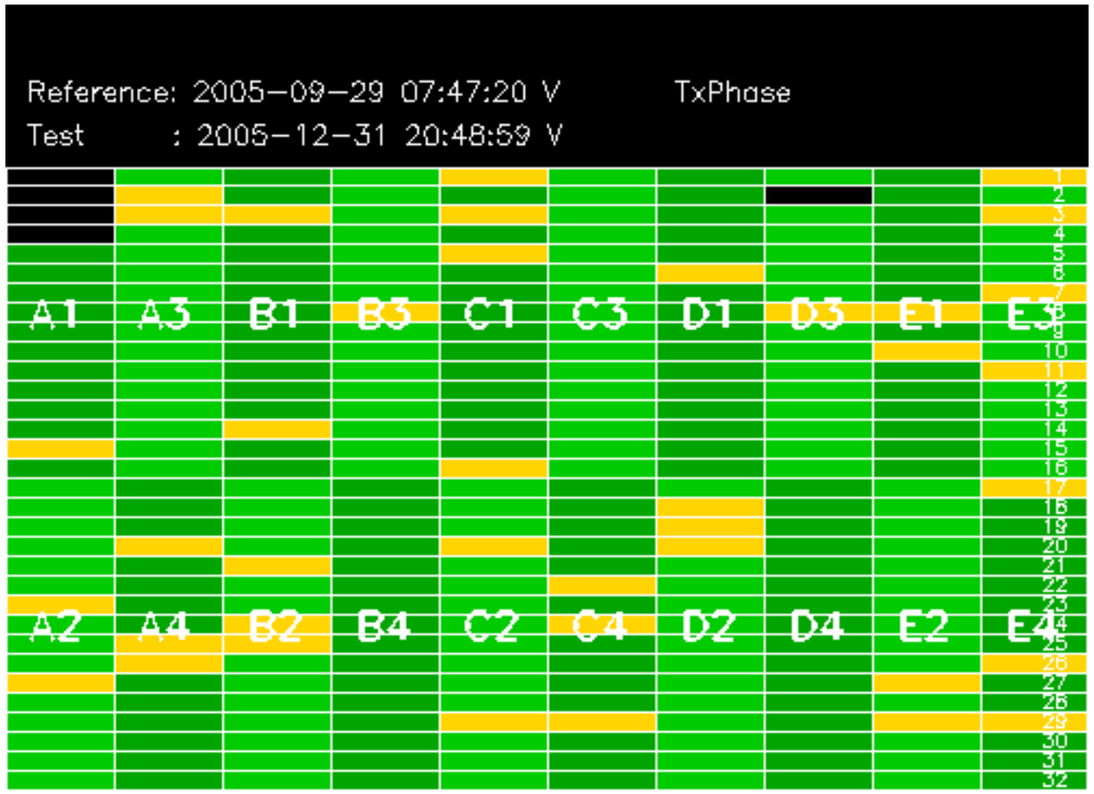
Reference: 2005-09-29 07:47:20 V
Test : 2005-12-31 20:48:59 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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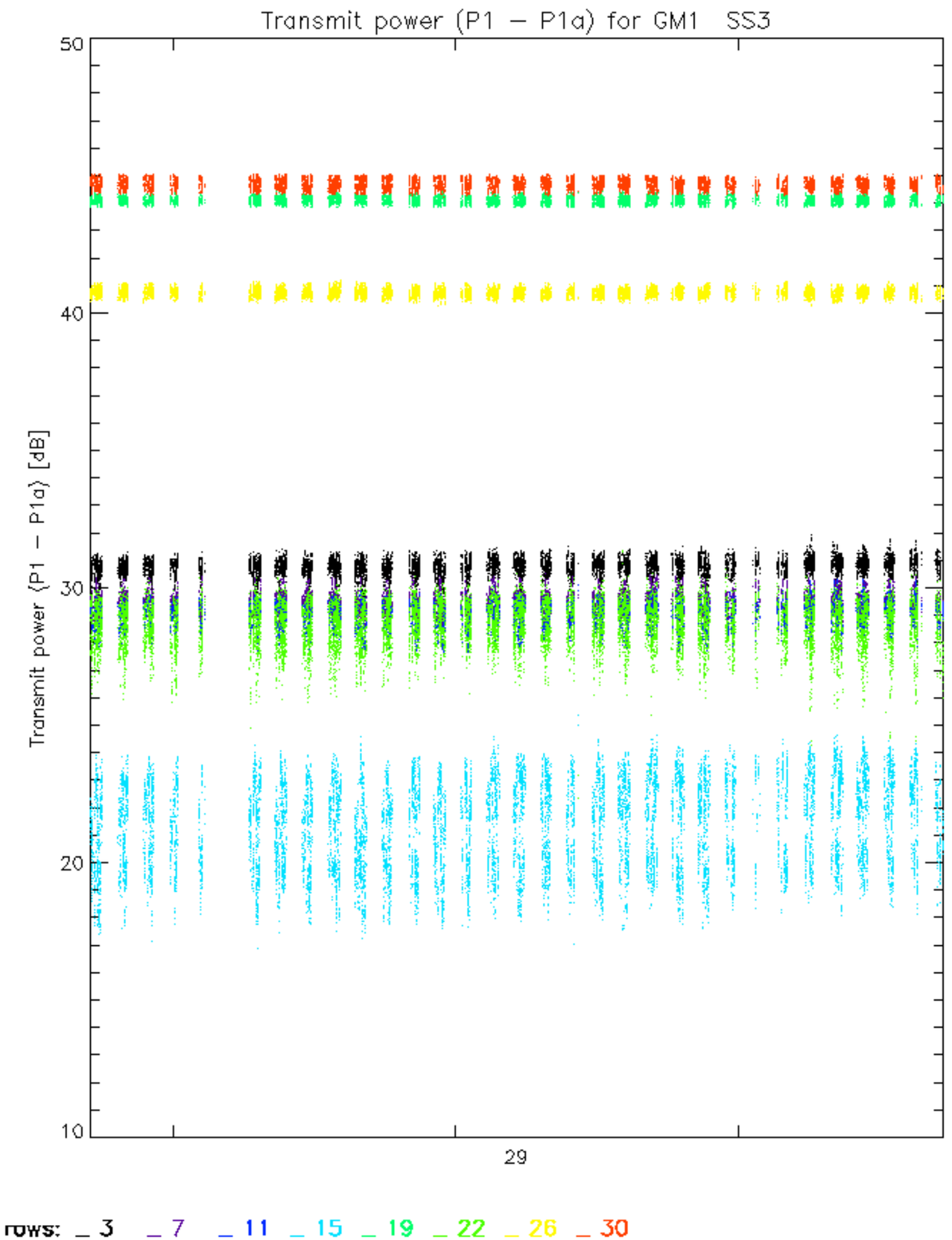
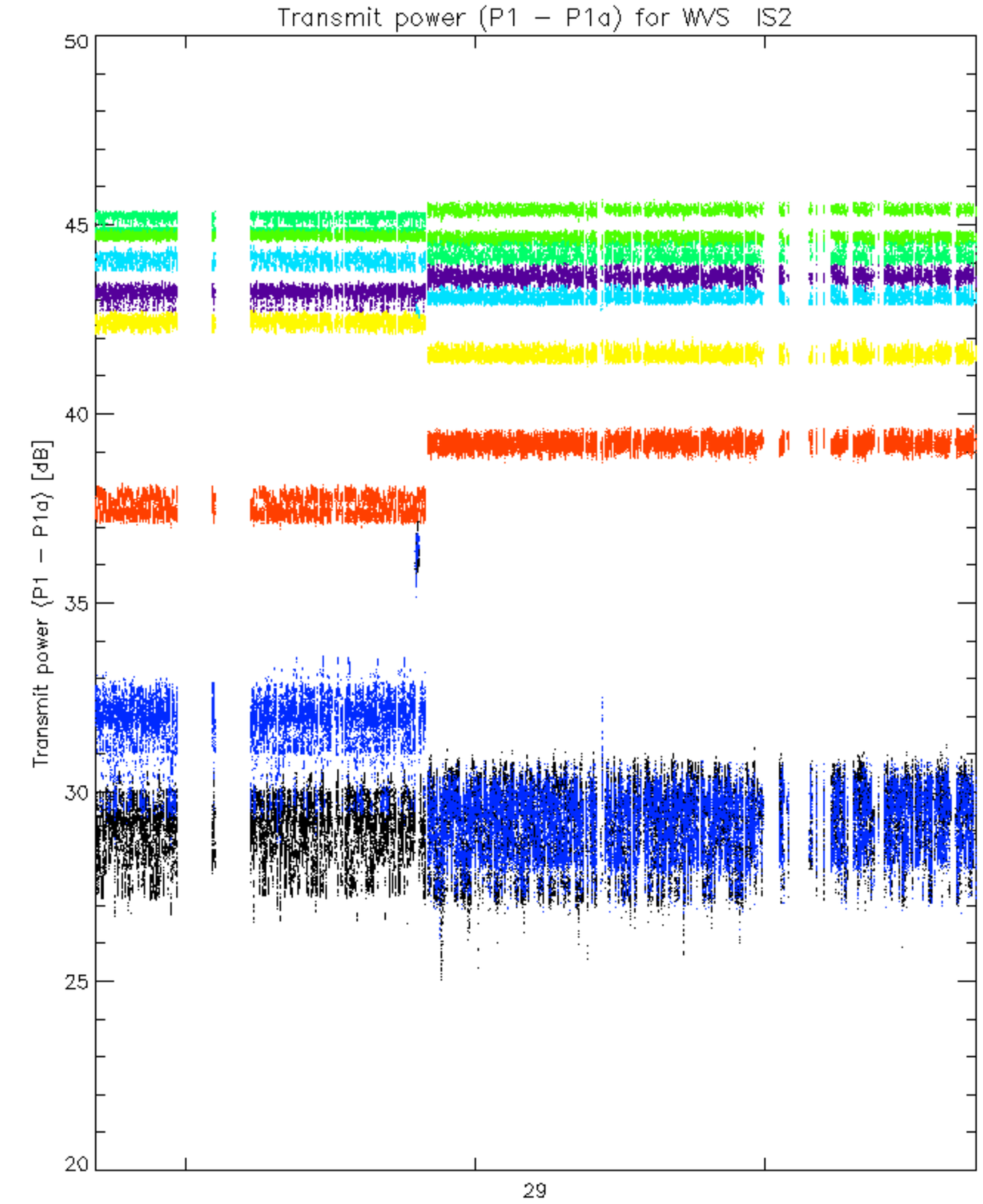

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
29
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
Transmit power (P1 – P1a) [dB]
50
45
40
35
30
25
20
29
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.