PRELIMINARY REPORT OF 050516

last update on Mon May 16 10:50:02 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 2005-05-15 00:00:00 to 2005-05-16 10:50:02

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

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	0	0	8	2	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	0	0	8	2	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	0	0	8	2	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	0	0	8	2	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	0	0	8	6	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	0	0	8	6	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	0	0	8	6	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	0	0	8	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

☒

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	-3.346934	0.006911	-0.023052
7	P1	-3.110245	0.013695	-0.011321
11	P1	-4.658399	0.027337	0.017921
15	P1	-5.547251	0.045372	0.053598
19	P1	-3.720090	0.004035	-0.028867
22	P1	-4.590100	0.013082	-0.020355
26	P1	-4.881520	0.018971	0.021570
30	P1	-7.139250	0.028870	-0.004575
3	P1	-15.716925	0.082688	0.069606
7	P1	-15.501314	0.096547	-0.009168
11	P1	-21.256937	0.230672	-0.199679
15	P1	-11.438144	0.032315	0.120140
19	P1	-14.331677	0.033894	-0.088203
22	P1	-15.938323	0.332428	-0.066211
26	P1	-17.626520	0.191045	-0.110025
30	P1	-17.861519	0.256421	-0.115033

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.053358	0.080591	-0.038304
7	P2	-22.232477	0.102727	-0.030227
11	P2	-14.139703	0.102890	0.171456
15	P2	-7.095802	0.088620	-0.072233
19	P2	-9.653164	0.092308	0.028869
22	P2	-16.887812	0.092538	-0.023852
26	P2	-16.485712	0.093648	-0.044228
30	P2	-18.822231	0.081313	0.008446

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.168725	0.003603	-0.007912

7	P3	-8.168725	0.003603	-0.007912
11	P3	-8.168724	0.003603	-0.007925
15	P3	-8.168724	0.003603	-0.007925
19	P3	-8.168724	0.003603	-0.007925
22	P3	-8.168724	0.003603	-0.007925
26	P3	-8.168724	0.003603	-0.007925
30	P3	-8.168724	0.003603	-0.007918

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	-2.768414	0.011946	-0.047780
7	P1	-2.993361	0.030576	0.053544
11	P1	-3.966691	0.017912	0.044942
15	P1	-3.525243	0.023507	-0.020346
19	P1	-3.629173	0.014782	0.004528
22	P1	-5.656270	0.050214	-0.015158
26	P1	-7.312910	0.022510	-0.011788
30	P1	-6.277341	0.058856	0.026502
3	P1	-10.776730	0.044991	-0.153244
7	P1	-10.414699	0.152995	0.012608
11	P1	-12.552323	0.103735	0.053022
15	P1	-11.638189	0.068074	0.015020
19	P1	-15.623179	0.064572	0.018670
22	P1	-25.390928	2.143059	-0.916036
26	P1	-15.673979	0.320615	0.035123
30	P1	-20.223677	1.215254	-0.128830

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.771120	0.037423	-0.090064
7	P2	-22.270044	0.046355	0.101281
11	P2	-10.042197	0.053402	0.098361
15	P2	-5.080829	0.037847	-0.054307
19	P2	-6.901528	0.052302	-0.029554
22	P2	-7.104409	0.035160	-0.029137
26	P2	-23.915415	0.036448	-0.039633
30	P2	-21.939775	0.039819	-0.049744

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.004673	0.003524	0.003288
7	P3	-8.004691	0.003511	0.003815
11	P3	-8.004646	0.003521	0.003359
15	P3	-8.004805	0.003524	0.004483
19	P3	-8.004745	0.003521	0.003920
22	P3	-8.004735	0.003505	0.003751
26	P3	-8.004644	0.003518	0.003893
30	P3	-8.004664	0.003537	0.003072

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	0.000453062
	stdev	2.27443e-07
MEAN Q	mean	0.000474377
	stdev	2.41041e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.126656
	stdev	0.00105717
STDEV Q	mean	0.126905
	stdev	0.00106747

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005051[456]
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

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

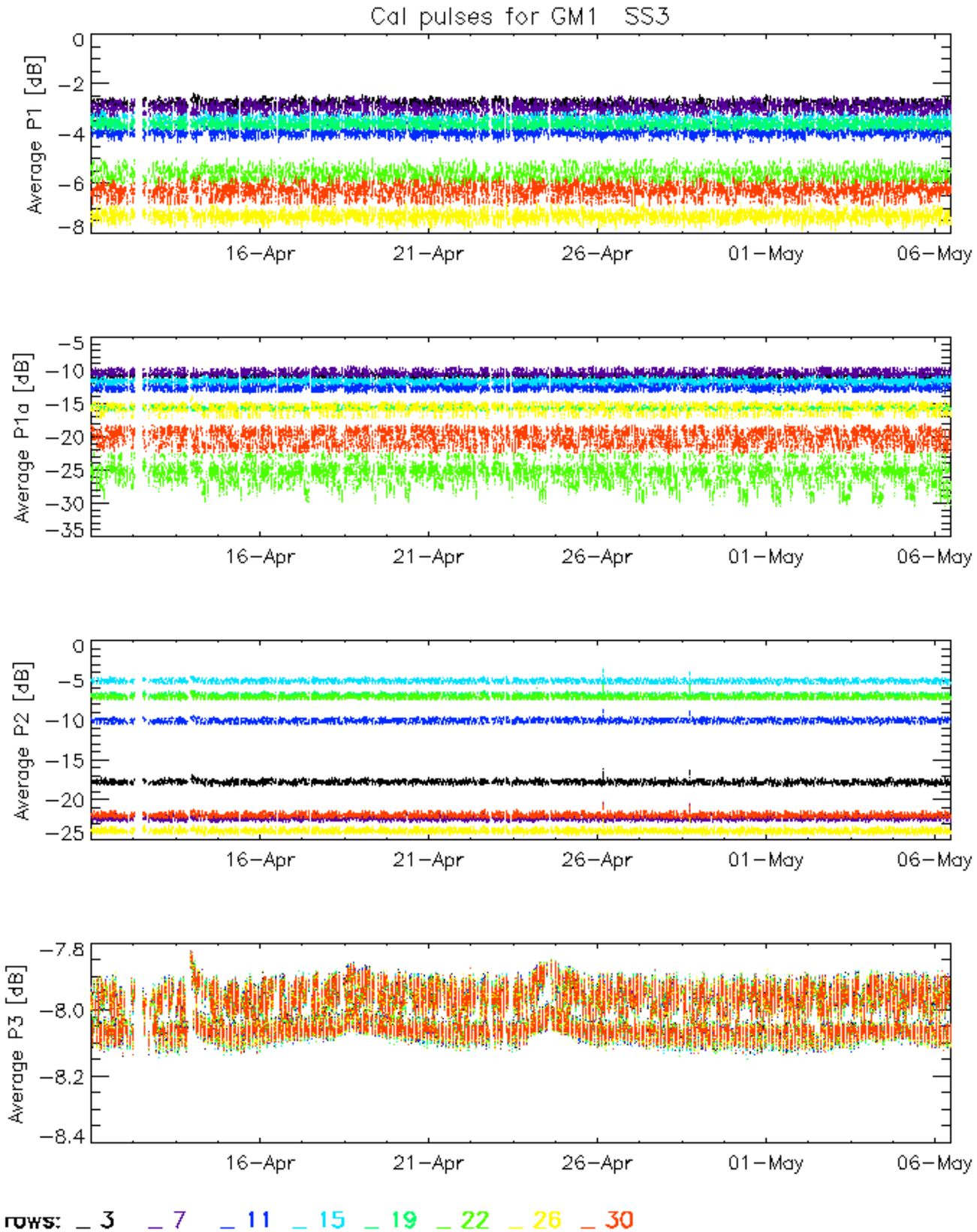
☒

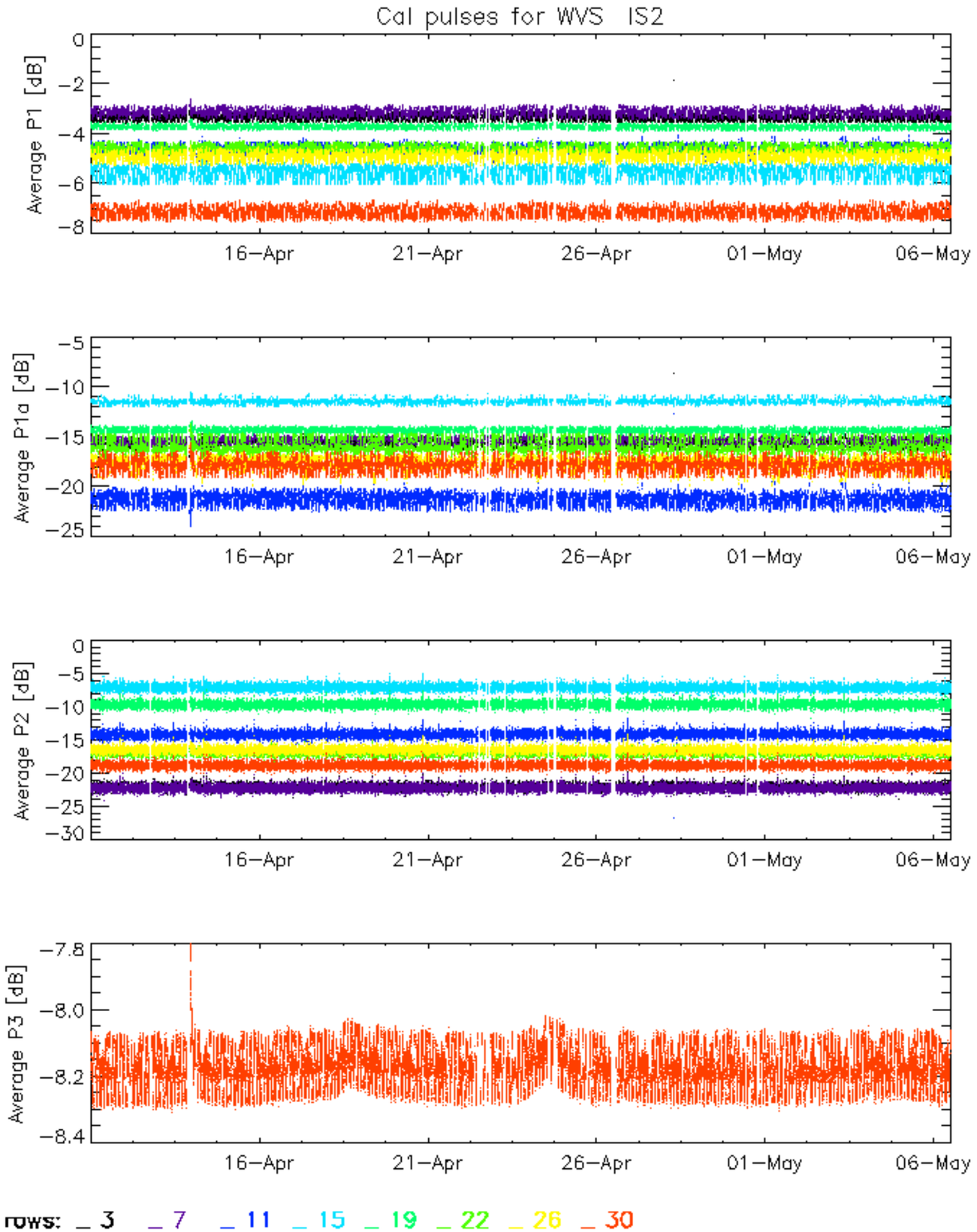
Acsending

☒

Descending

7.6 - Doppler evolution versus ANX for GM1

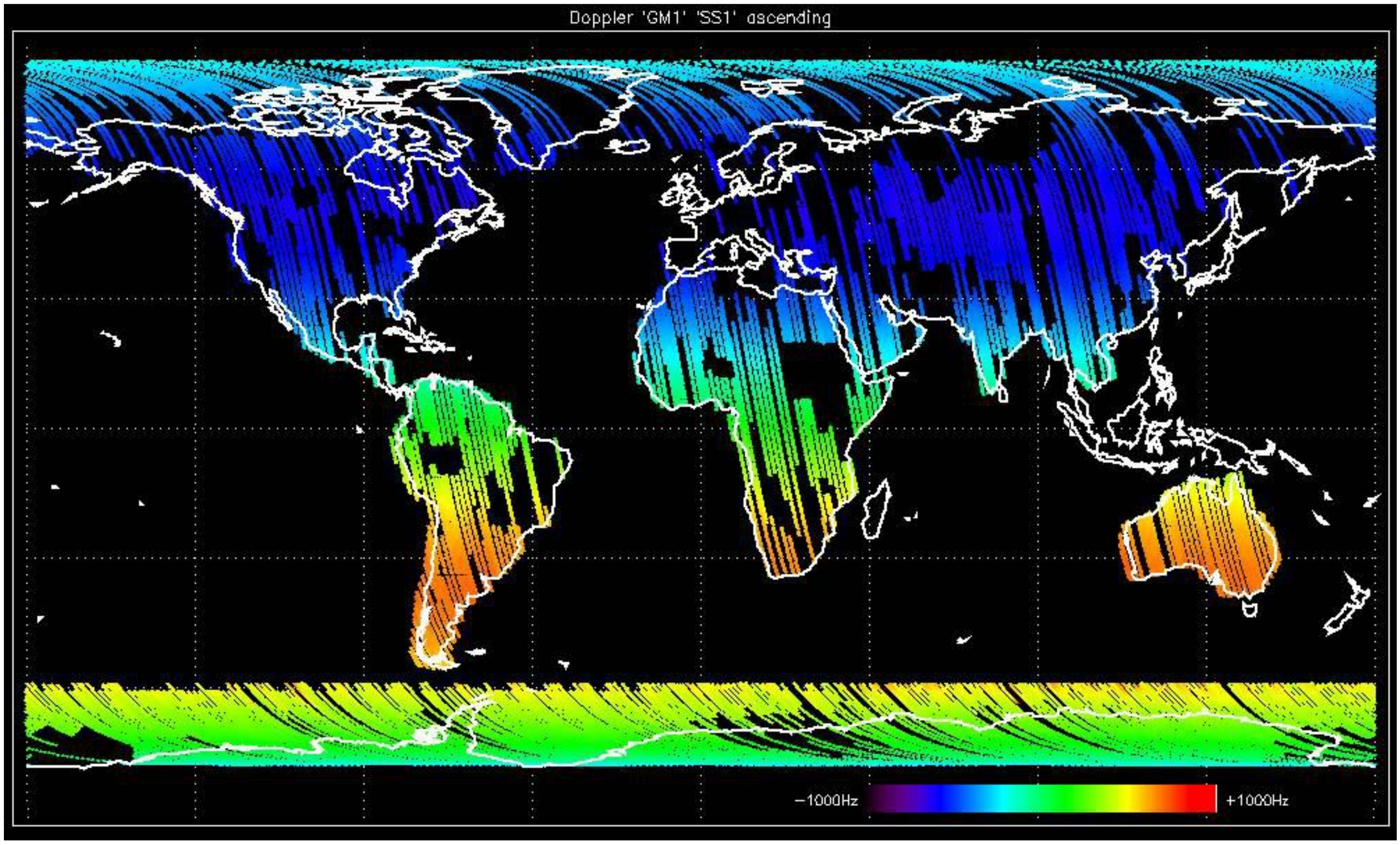

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
16−Apr
21−Apr
26−Apr
01−May
06−May
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

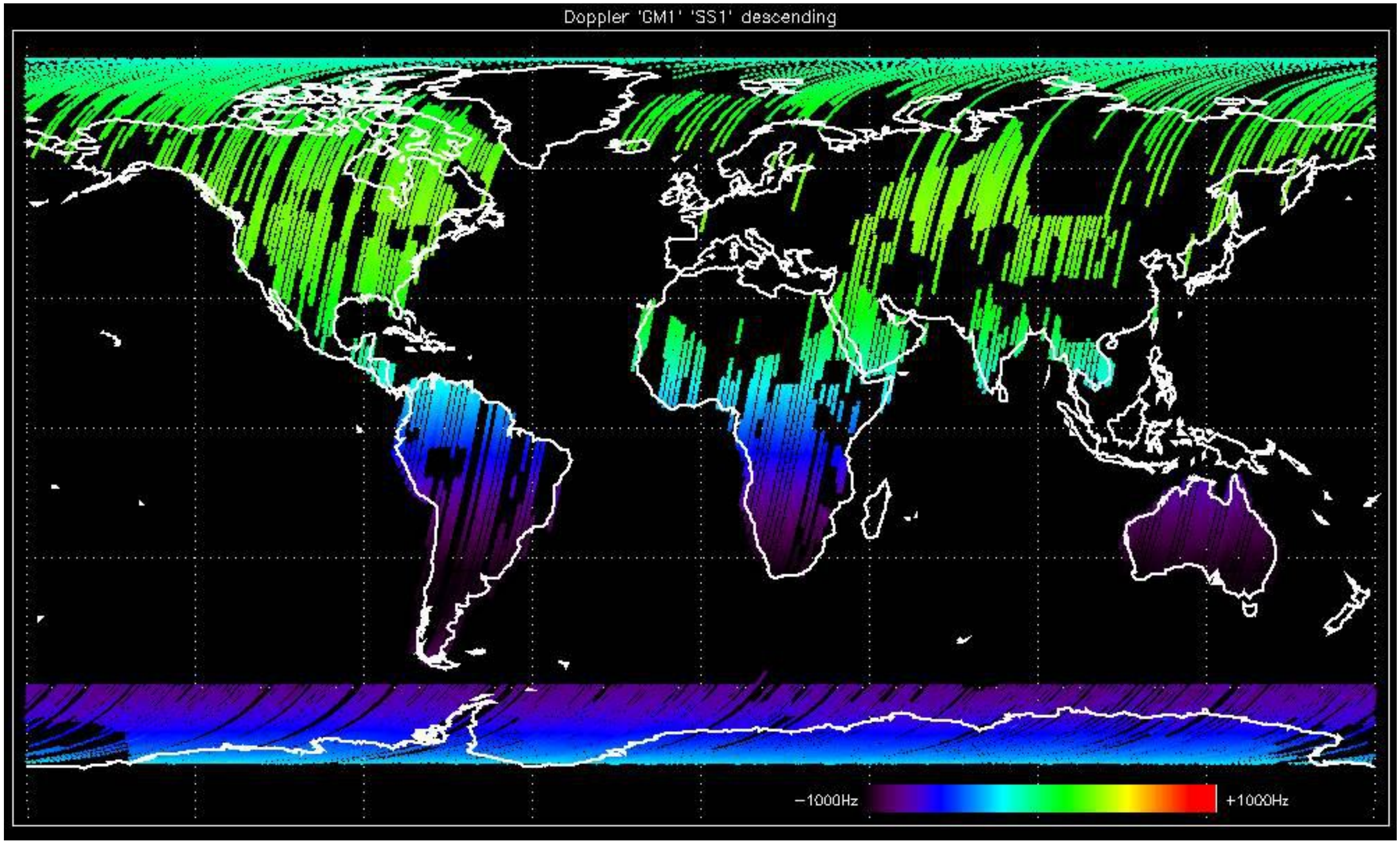

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
16−Apr
21−Apr
26−Apr
01−May
06−May
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
−30
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

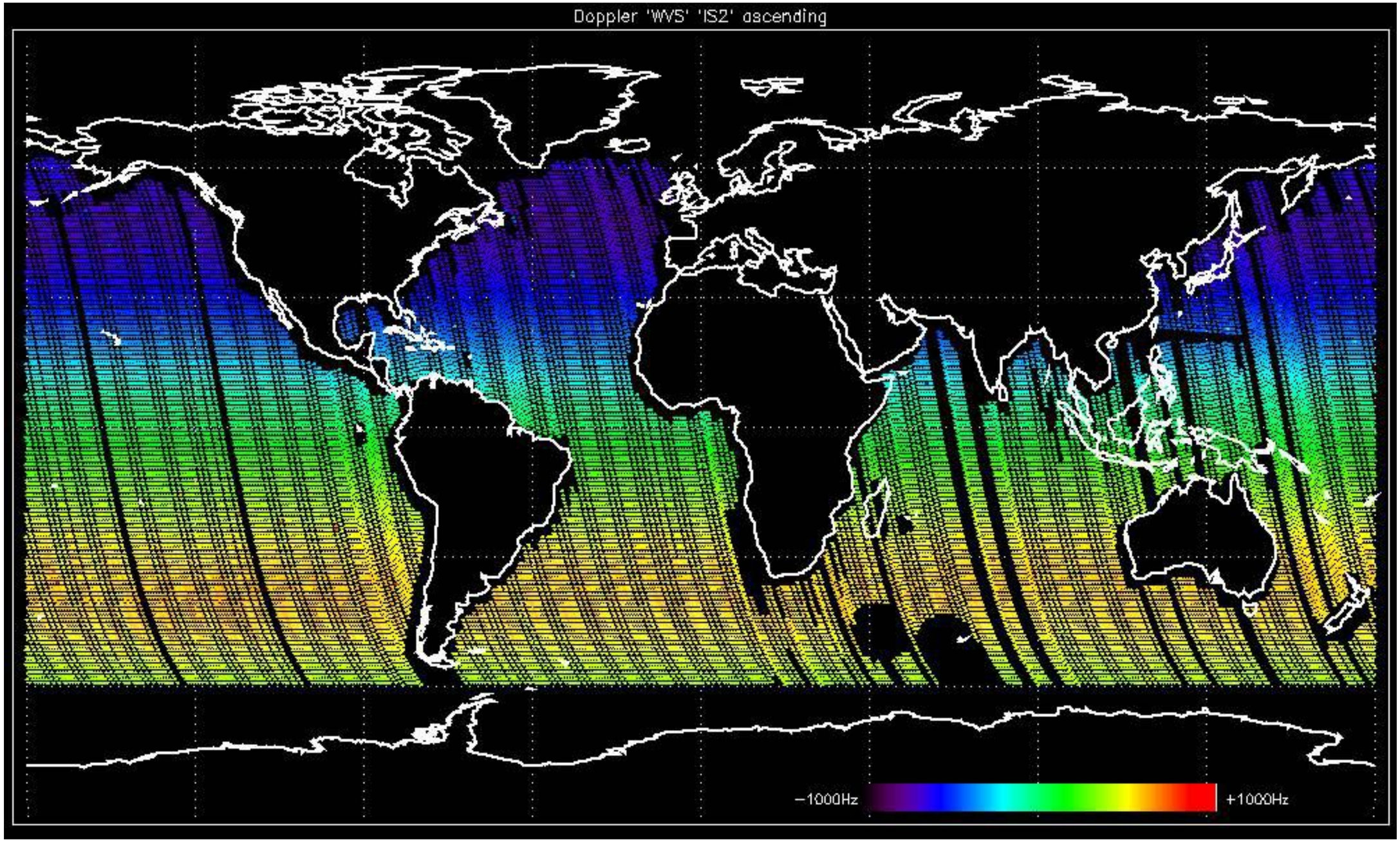
No anomalies observed.

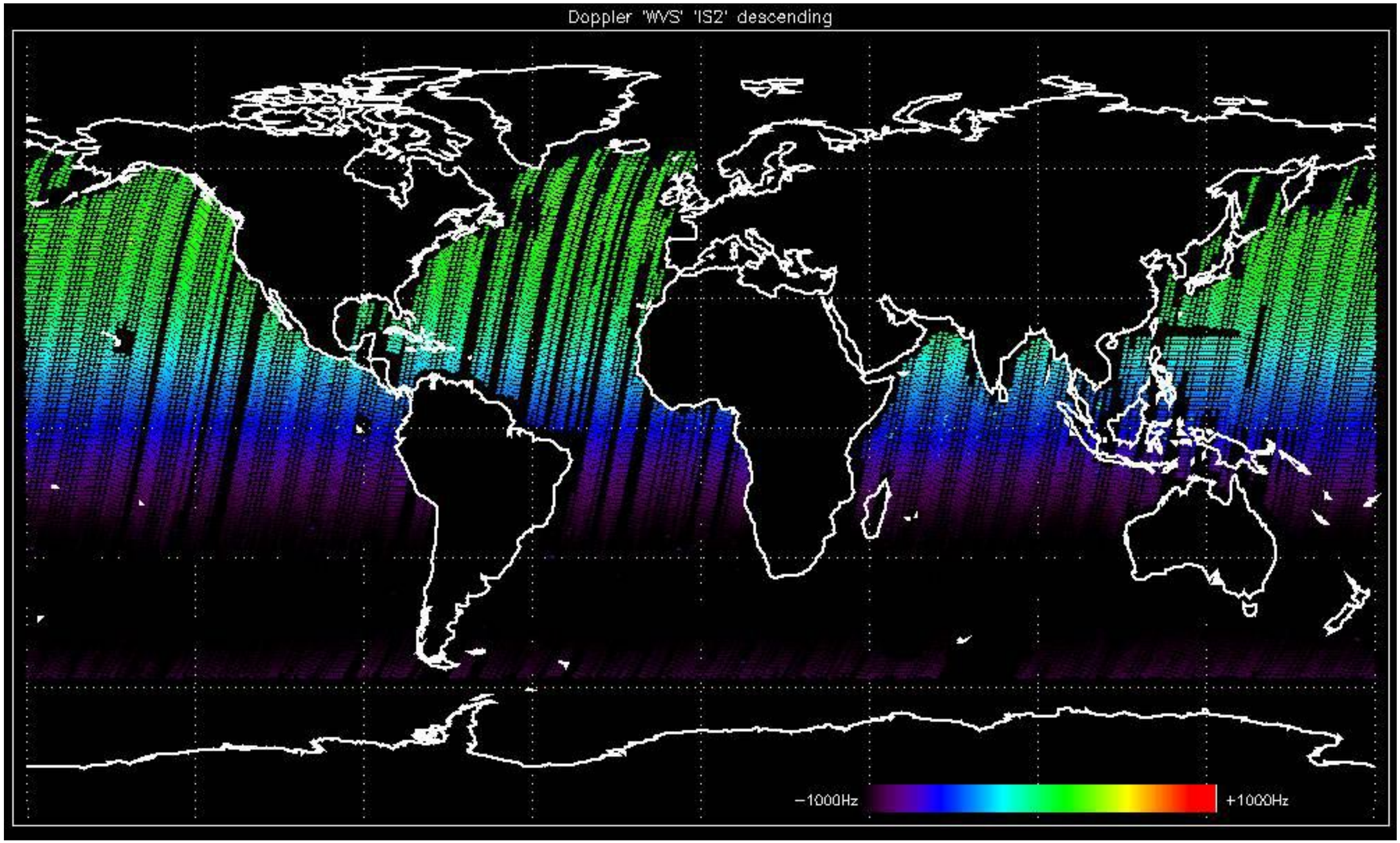
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

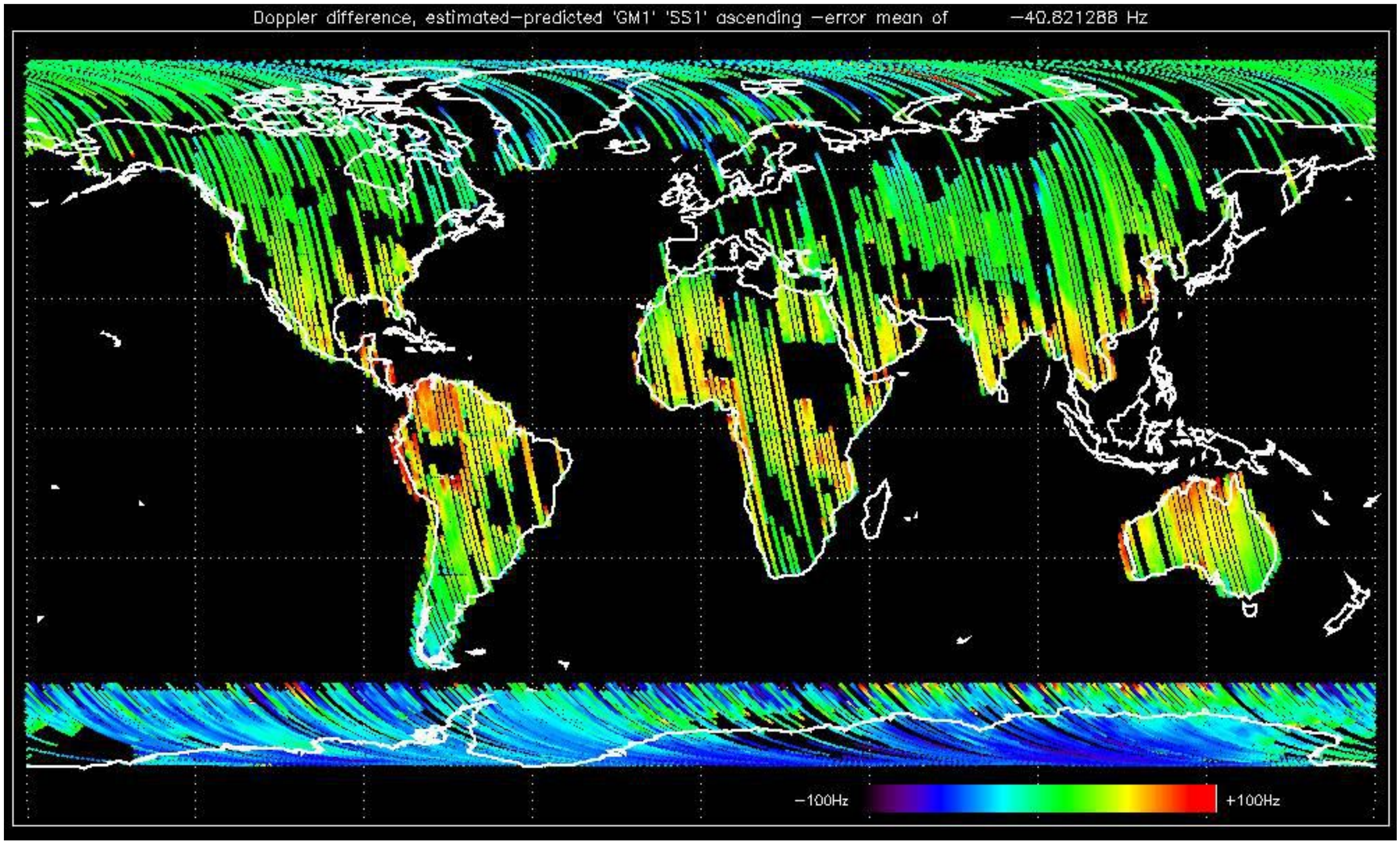
Preliminary report.The data is not yet controled

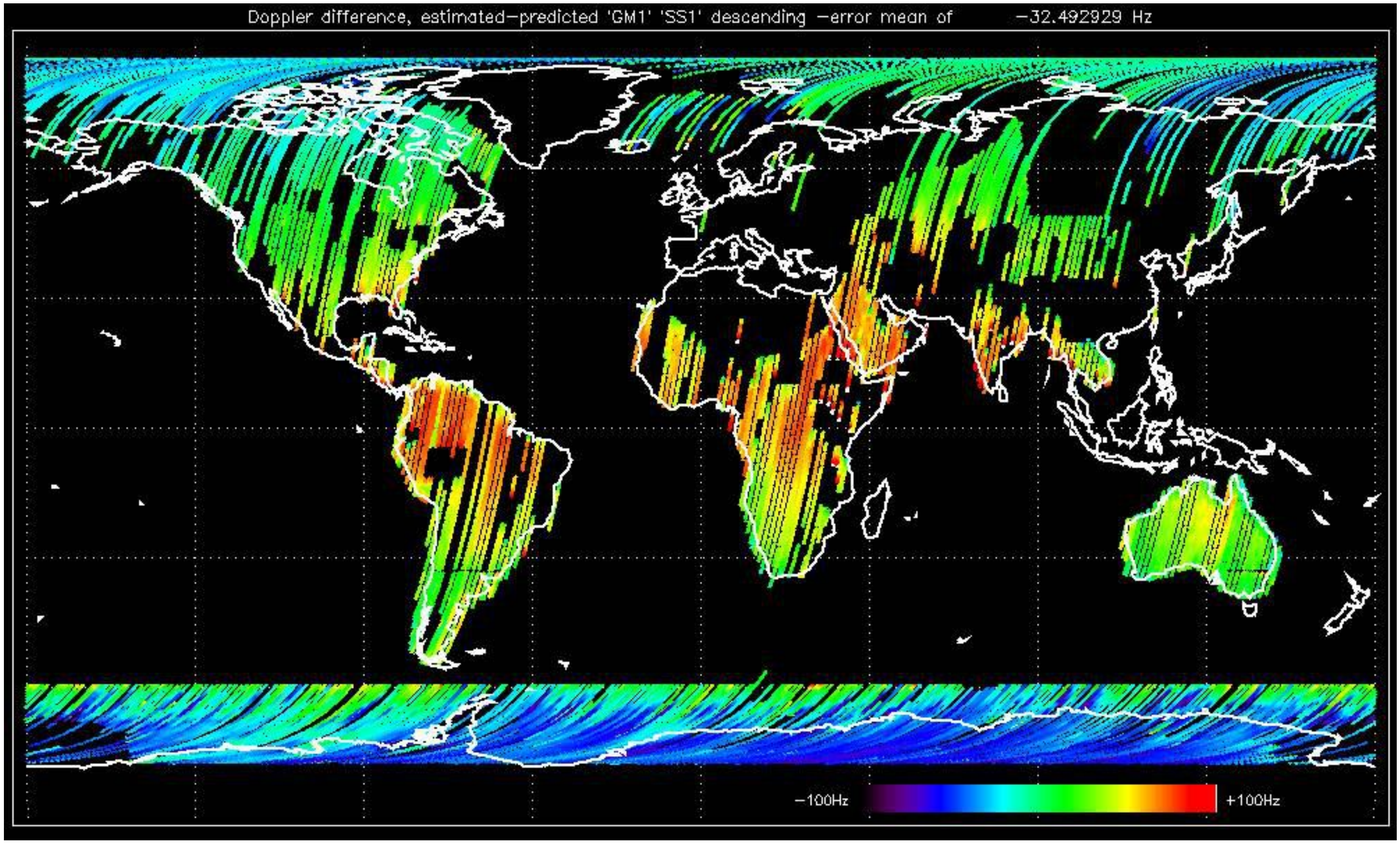

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

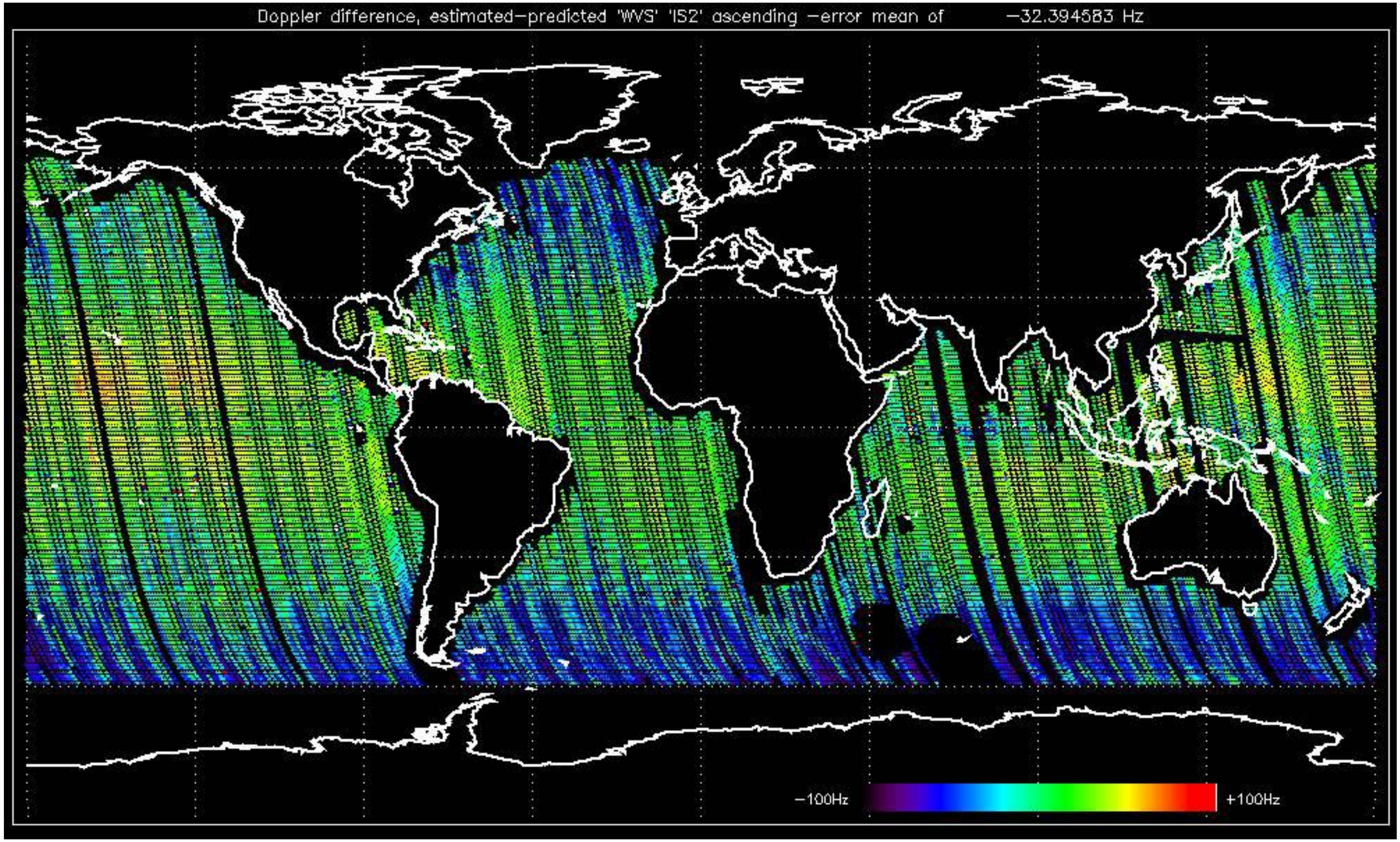

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

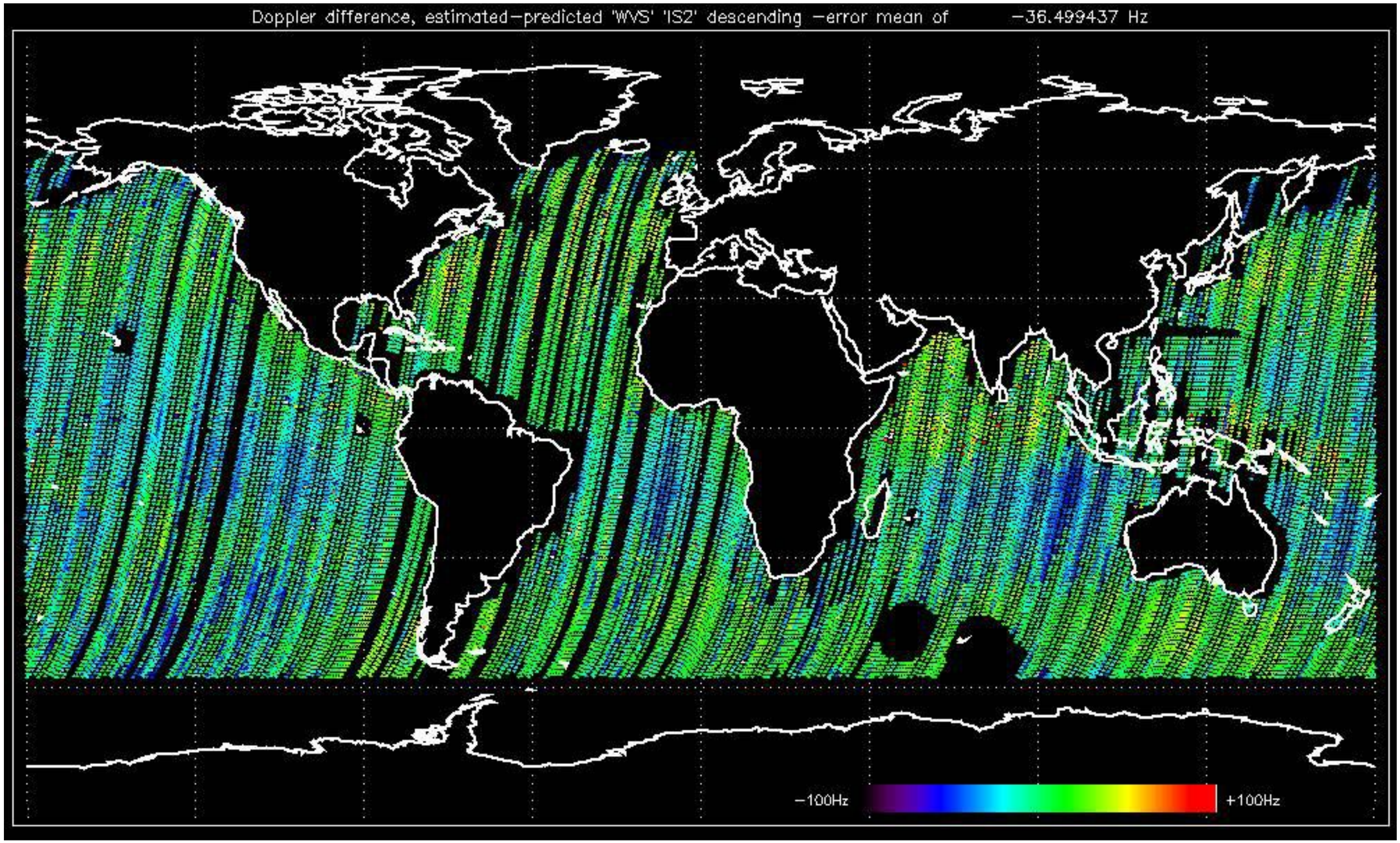

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −40.821288 Hz
−100Hz
+100Hz

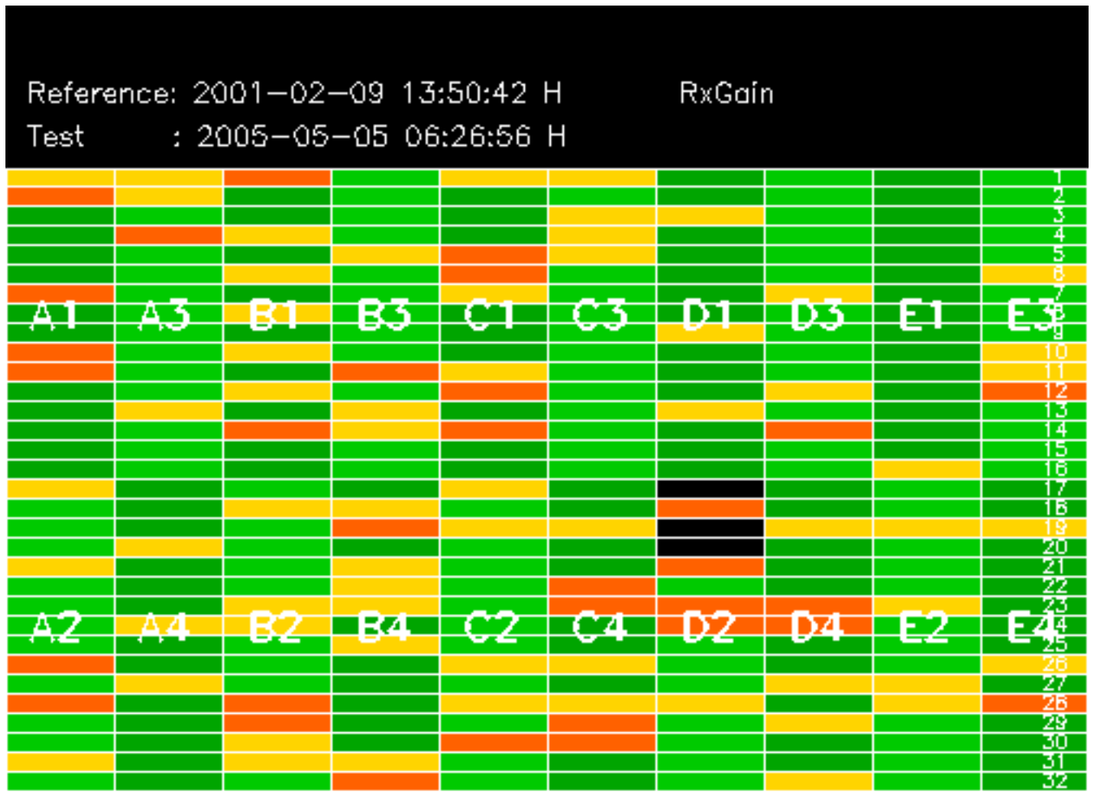

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -32.492929 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −32.394583 Hz
−100Hz
+100Hz

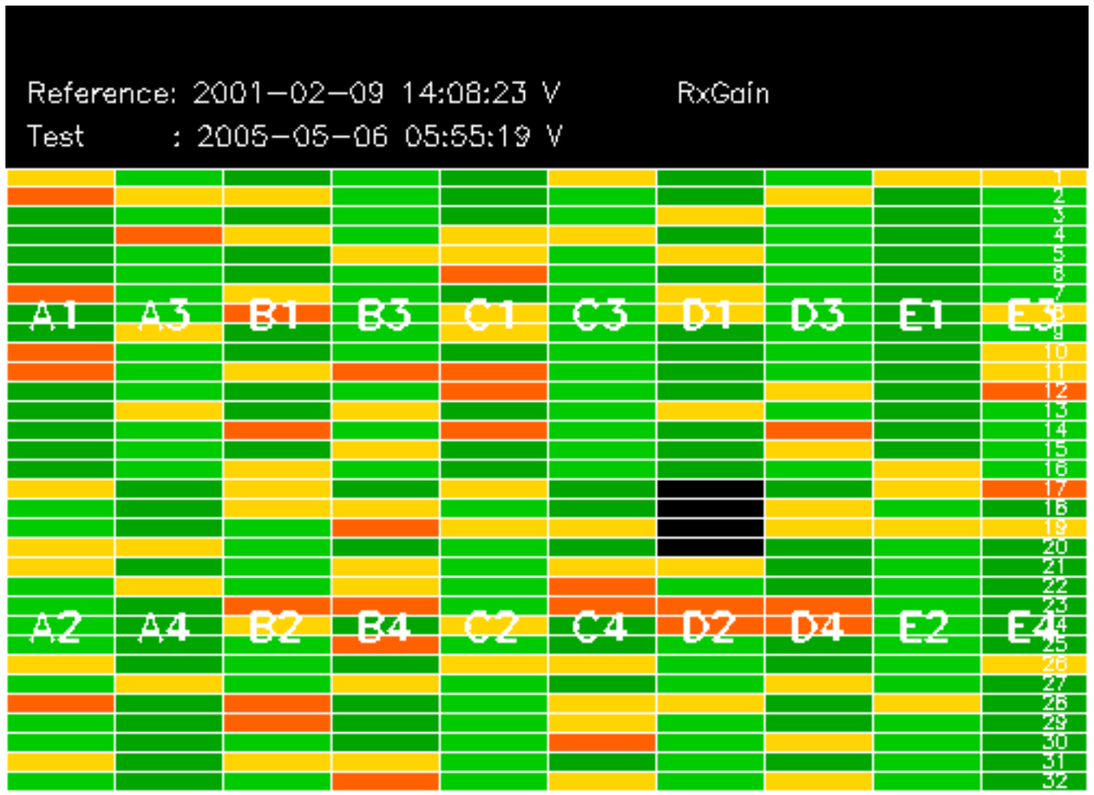

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −36.499437 Hz
−100Hz
+100Hz

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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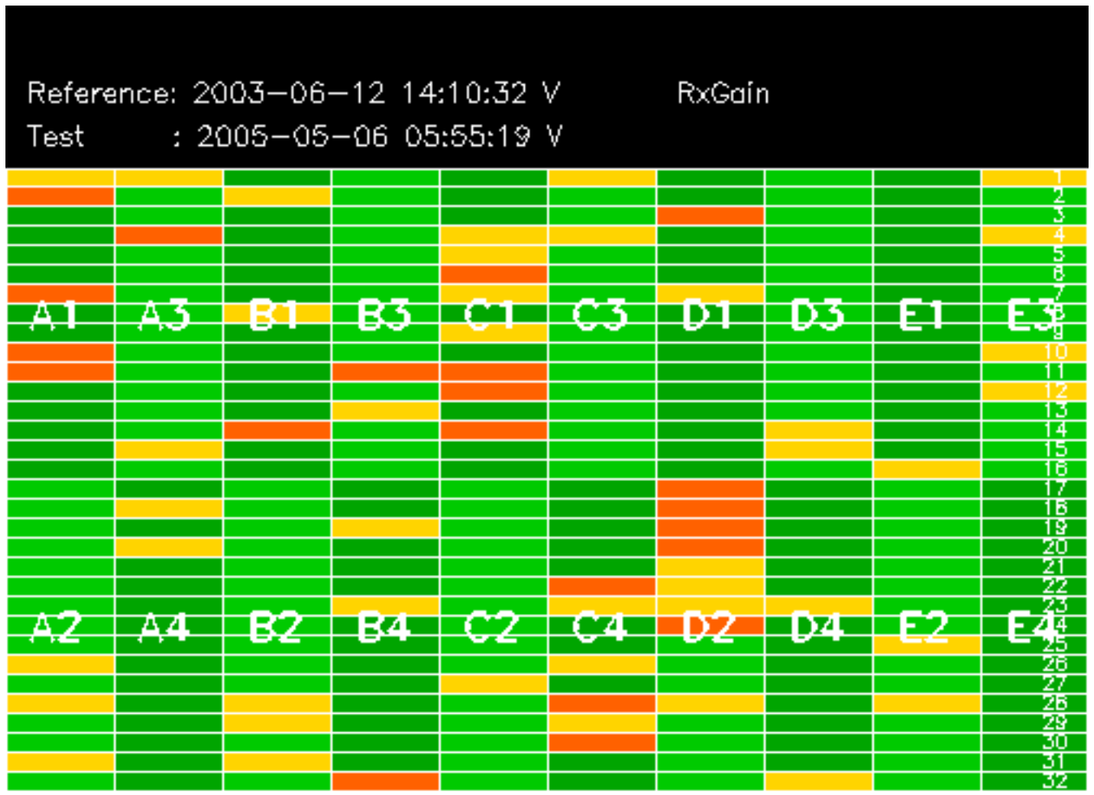
Reference: 2003-06-12 14:10:32 V
Test : 2005-05-06 05:55:19 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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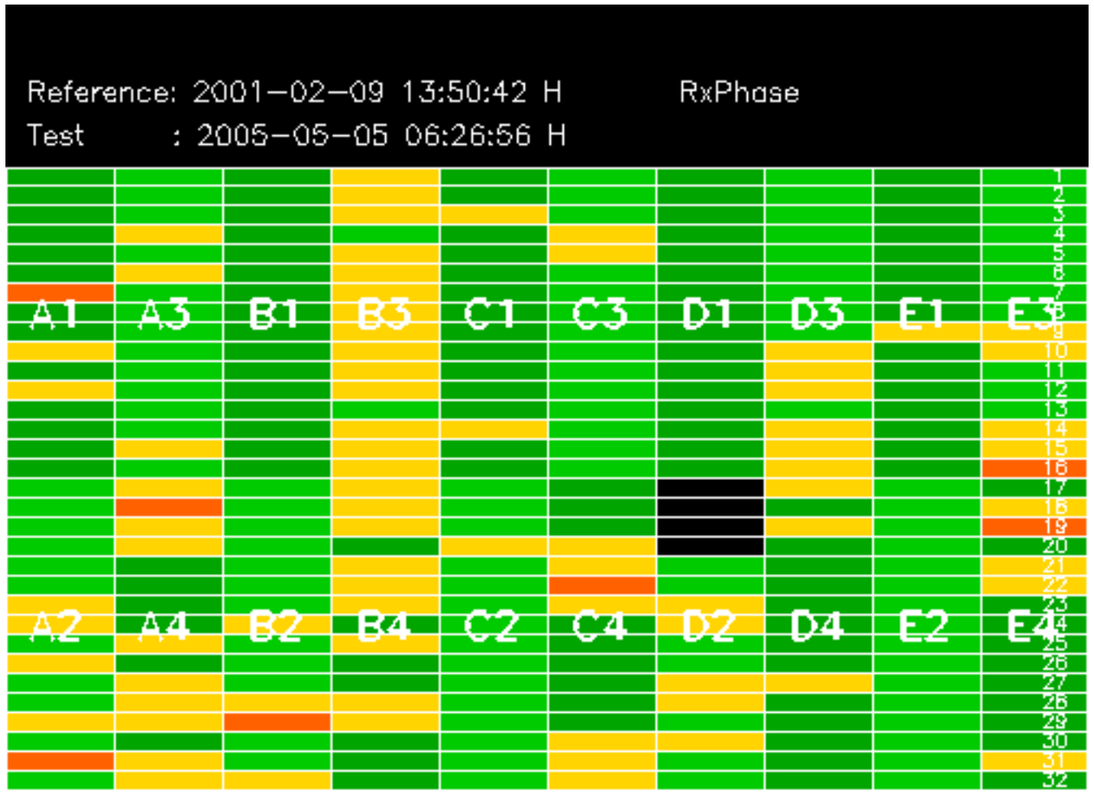
Reference: 2001-02-09 13:50:42 H
Test : 2005-05-05 06:26:56 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
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9
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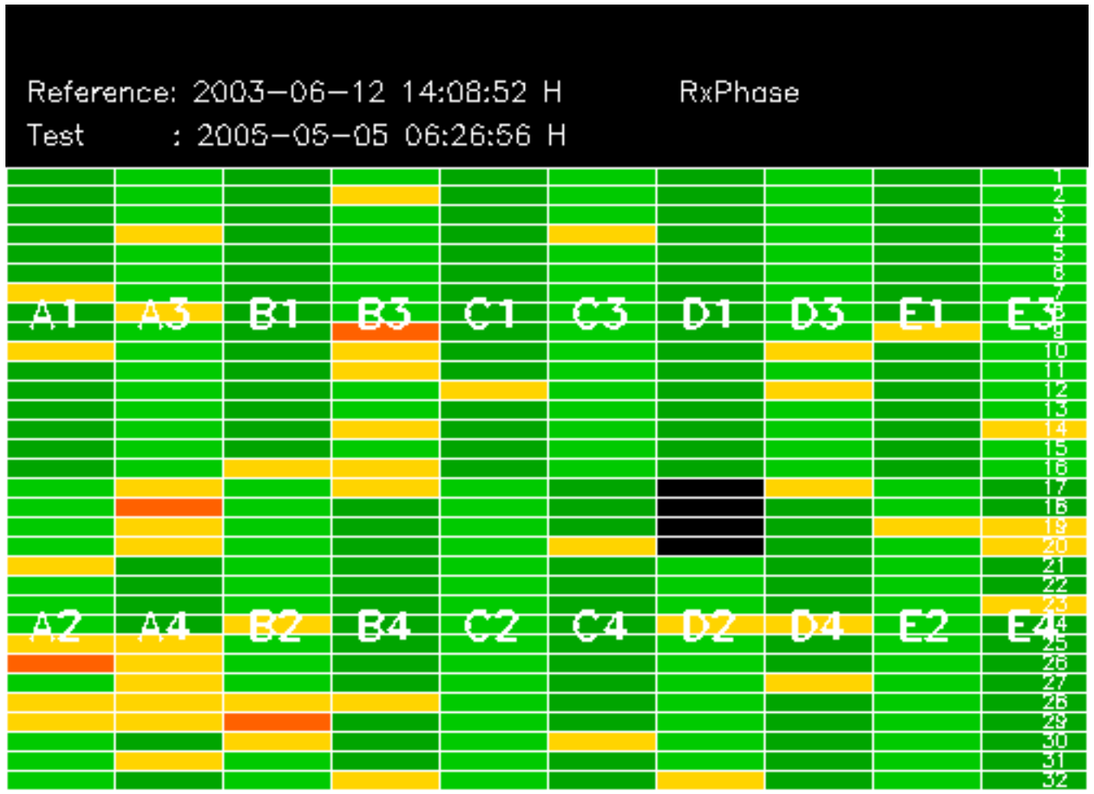
Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2005-05-05 06:26:56 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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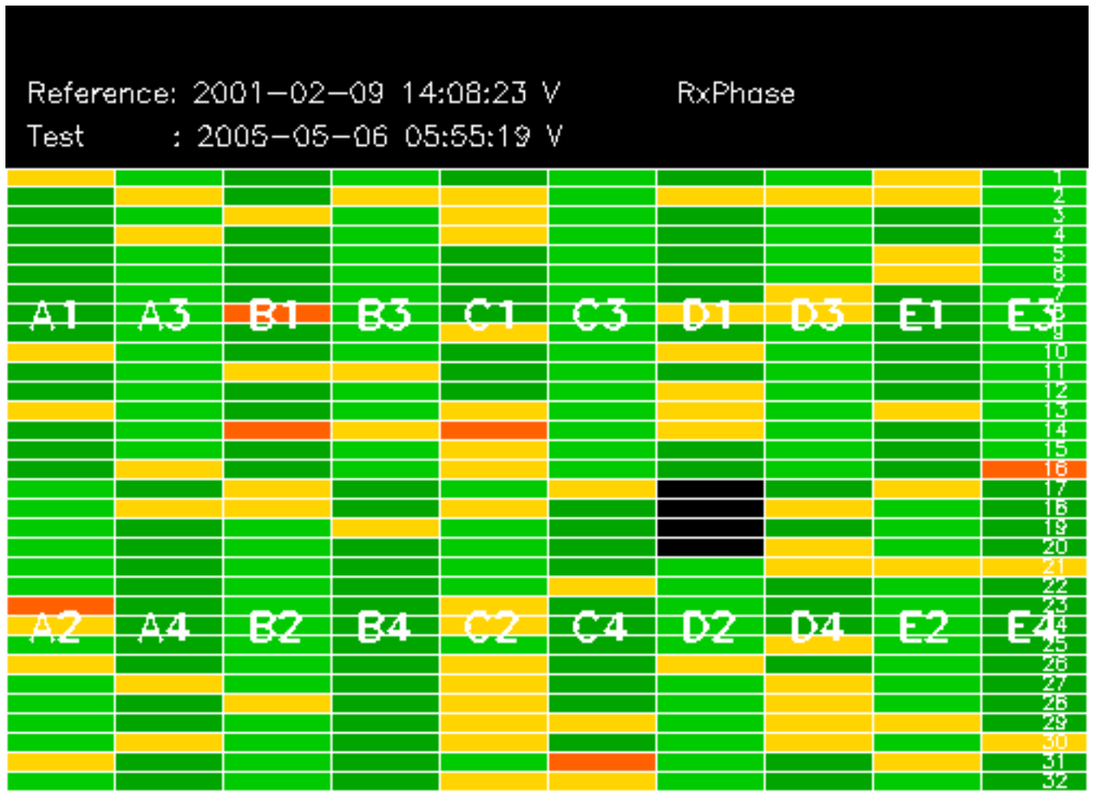
Reference: 2001-02-09 14:08:23 V
Test : 2005-05-06 05:55:19 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
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7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32


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
1
2
3
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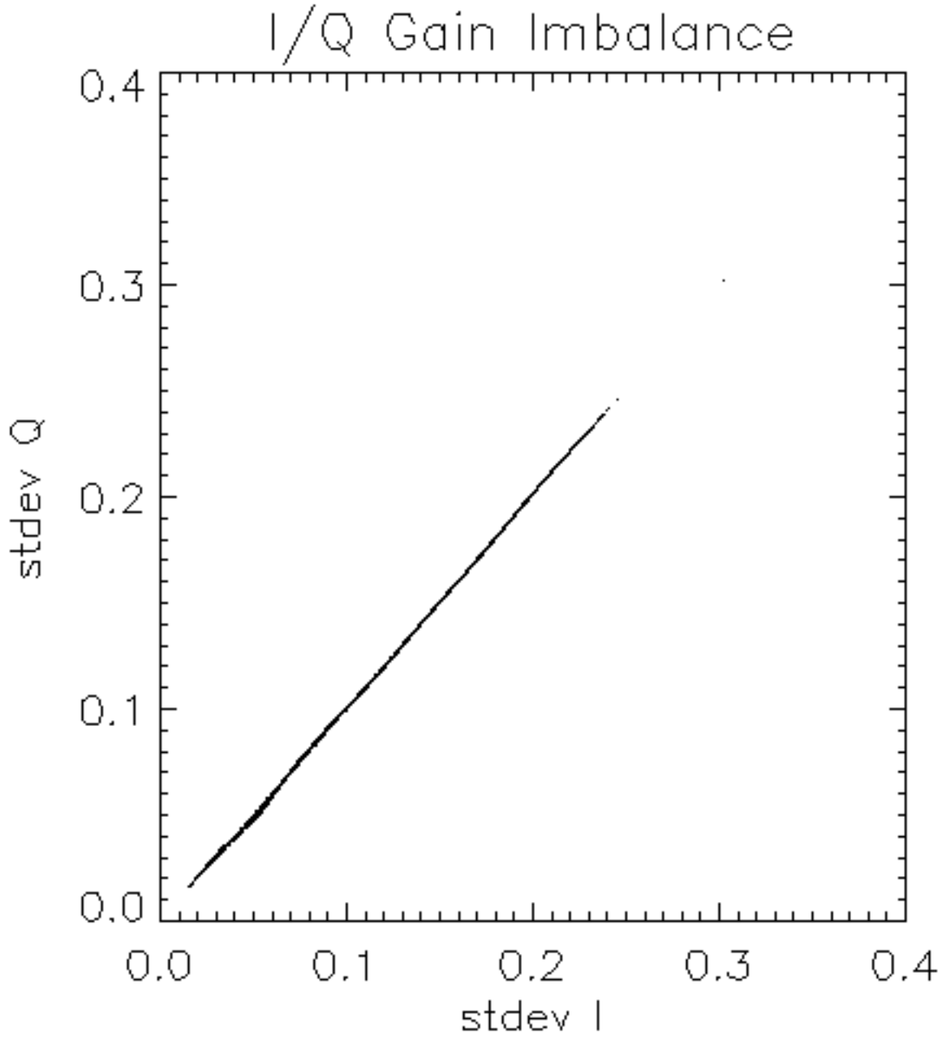
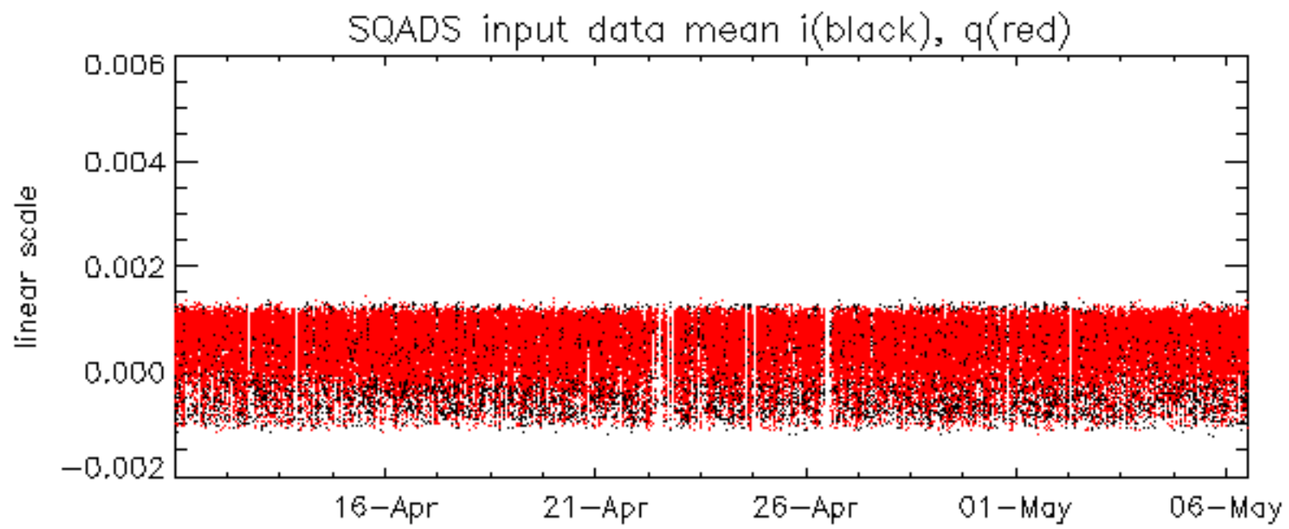
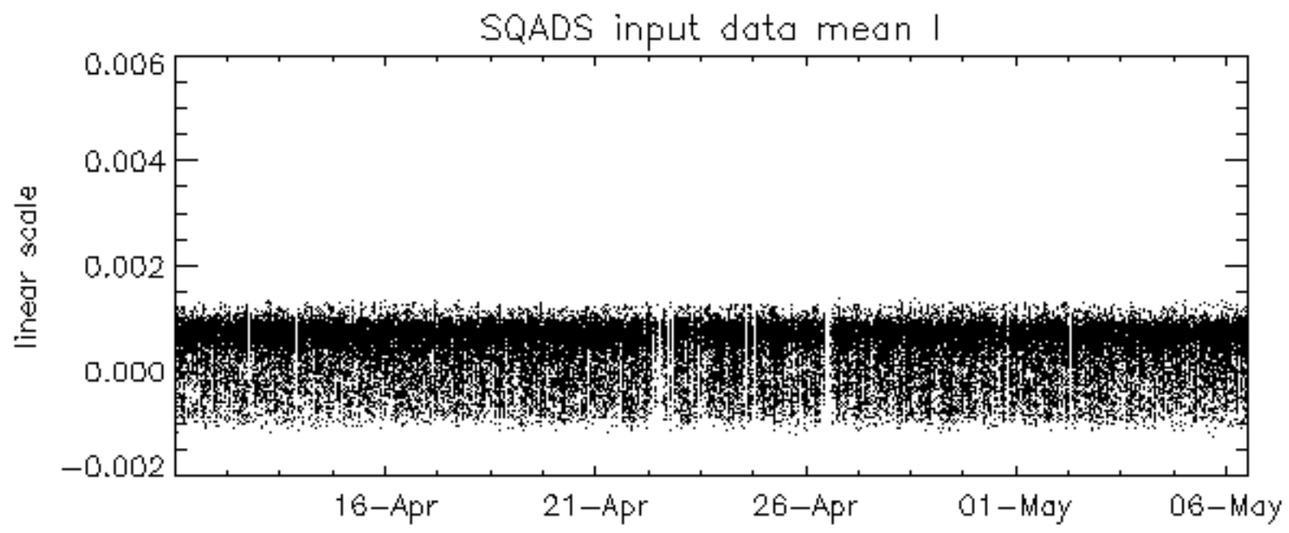
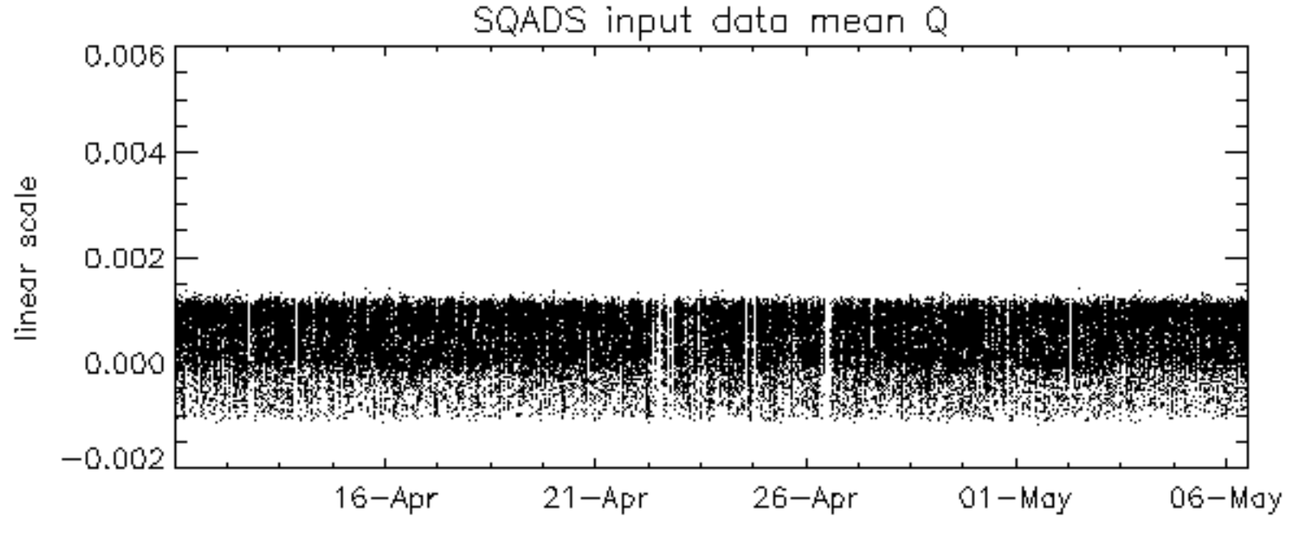
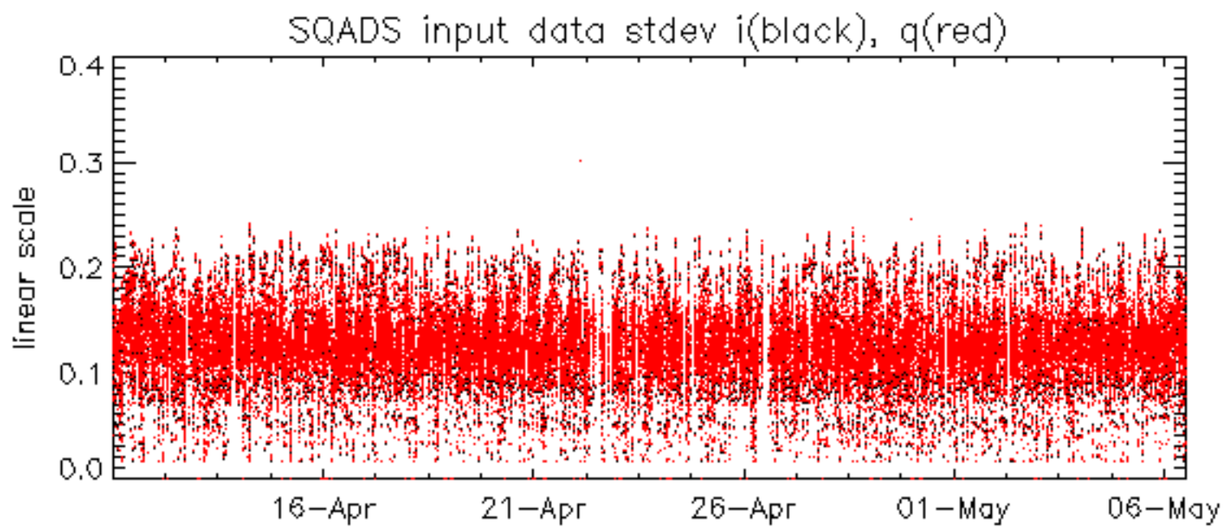
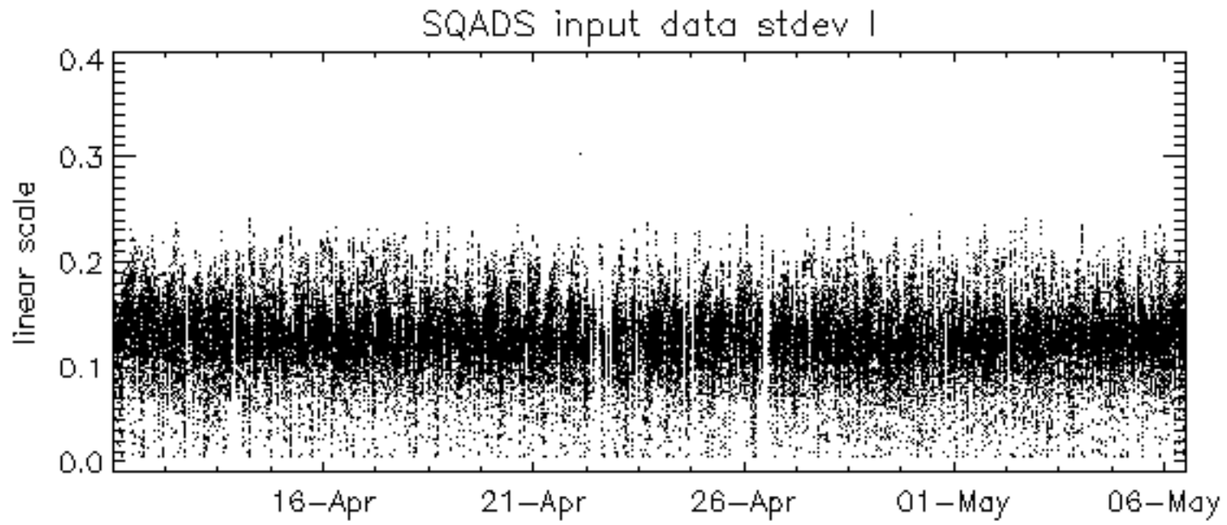

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

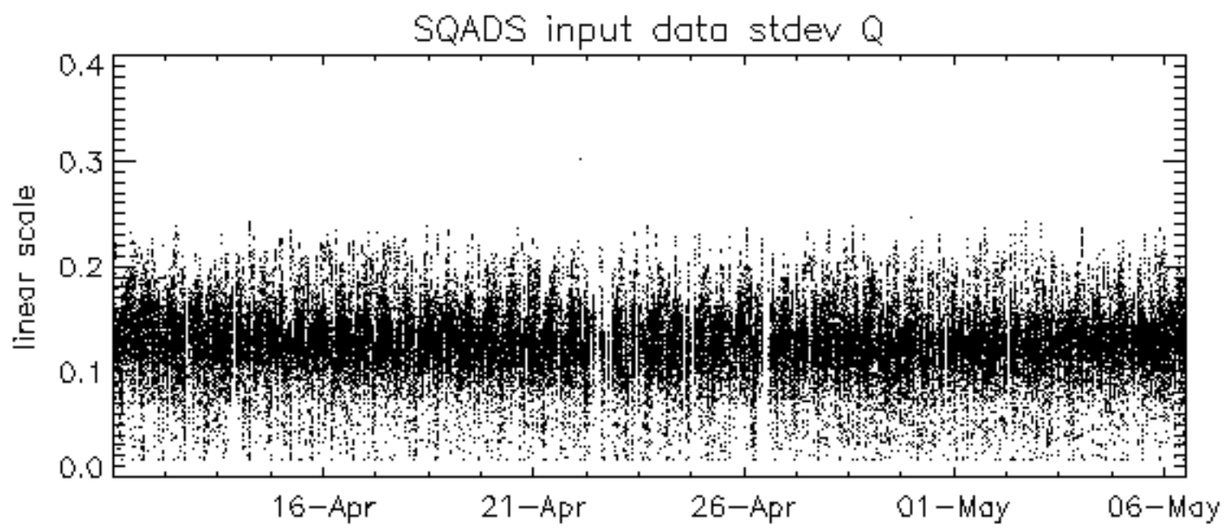

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Apr
21−Apr
26−Apr
01−May
06−May

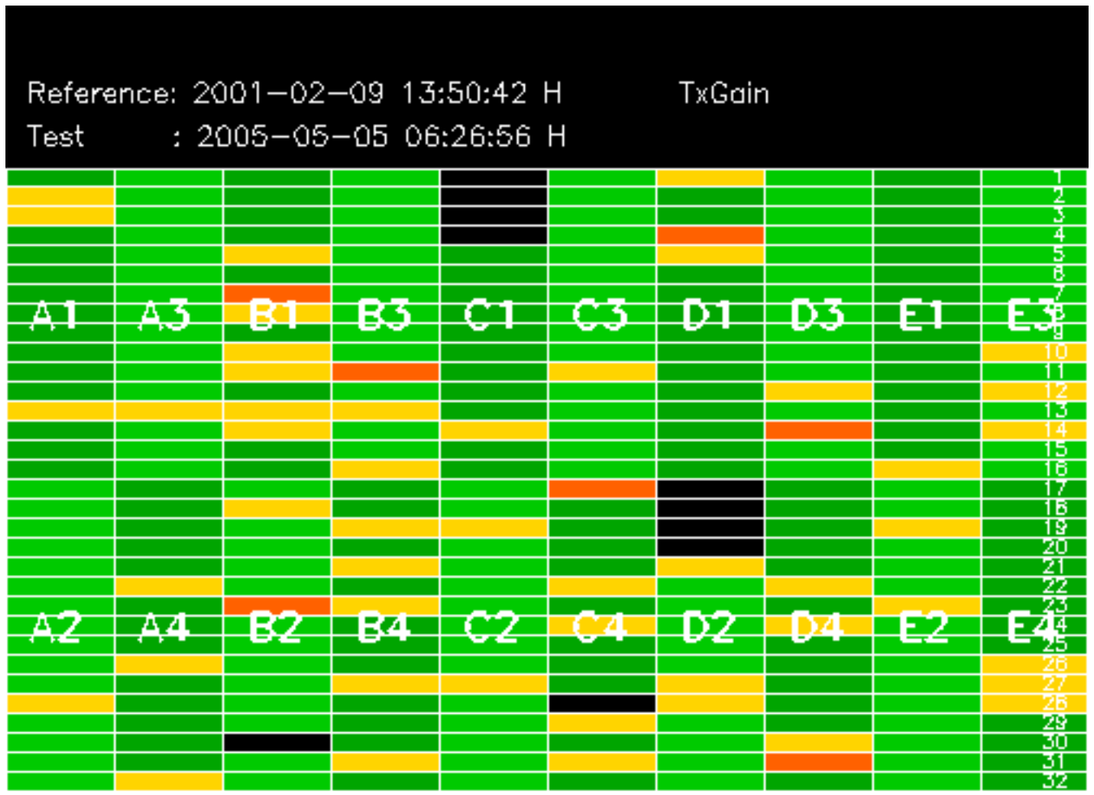

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Apr
21−Apr
26−Apr
01−May
06−May

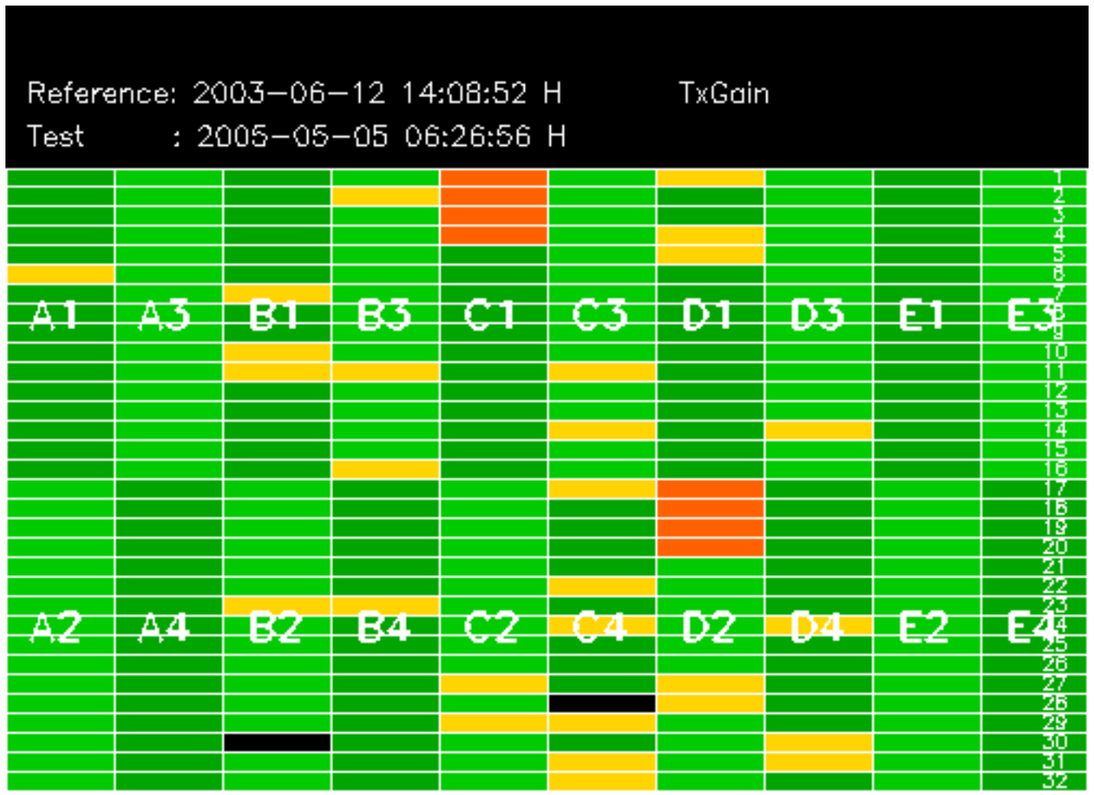

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Apr
21−Apr
26−Apr
01−May
06−May


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
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
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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
6
7
8
9
10
11
12
13
14
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16
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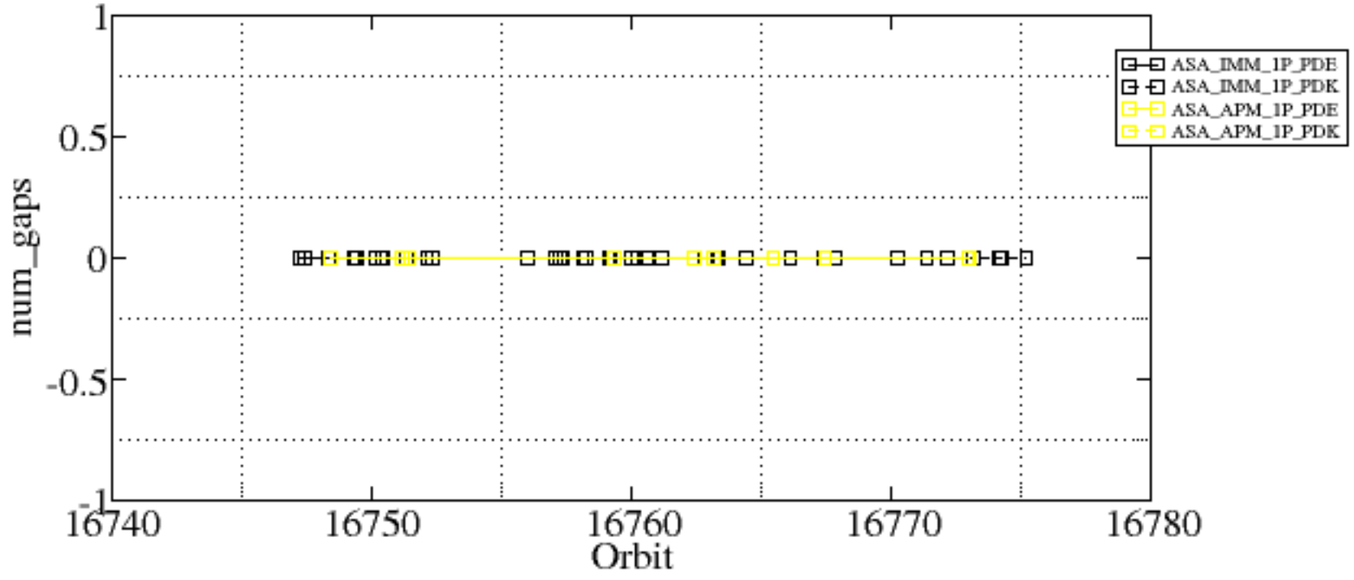
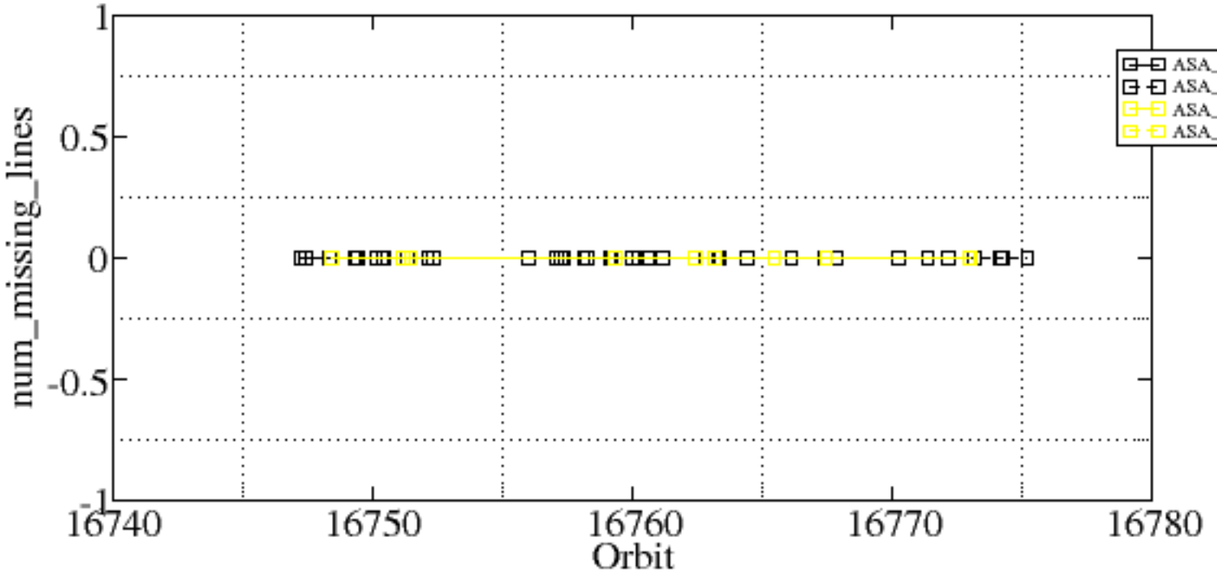
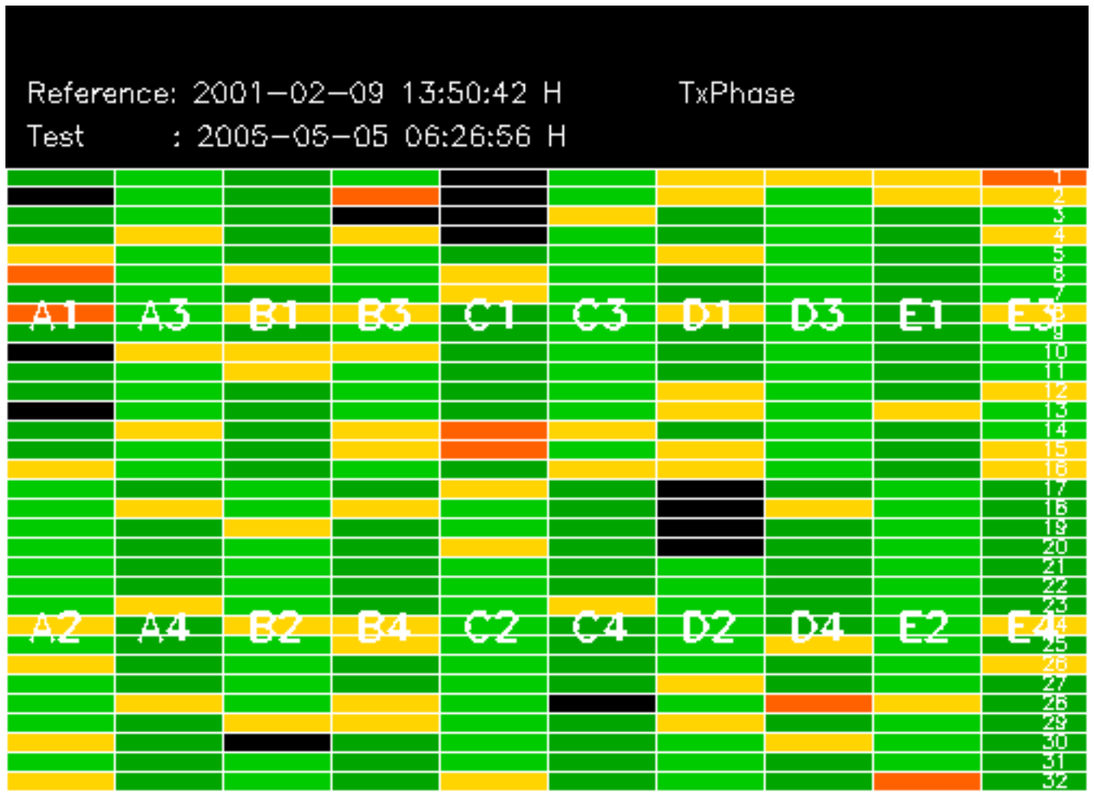
21
22
23
24
25
26
27
28
29
30
31
32

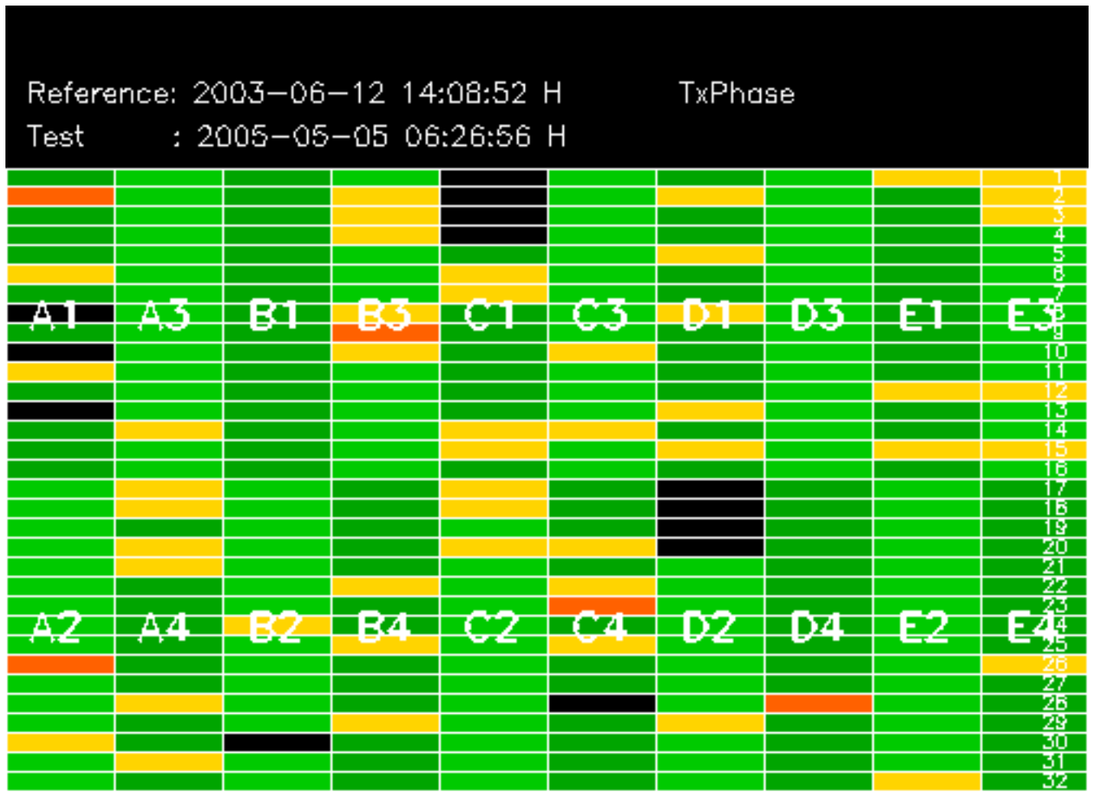

Reference: 2003-06-12 14:10:32 V
Test : 2005-05-06 05:55:19 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

Summary of analysis for the last 3 days 2005051[456]
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>


num_gaps
1
0.5
0
-0.5
-1
16740
16750
16760
16770
16780
Orbit
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
16740
16750
16760
16770
16780
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
3
4
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29
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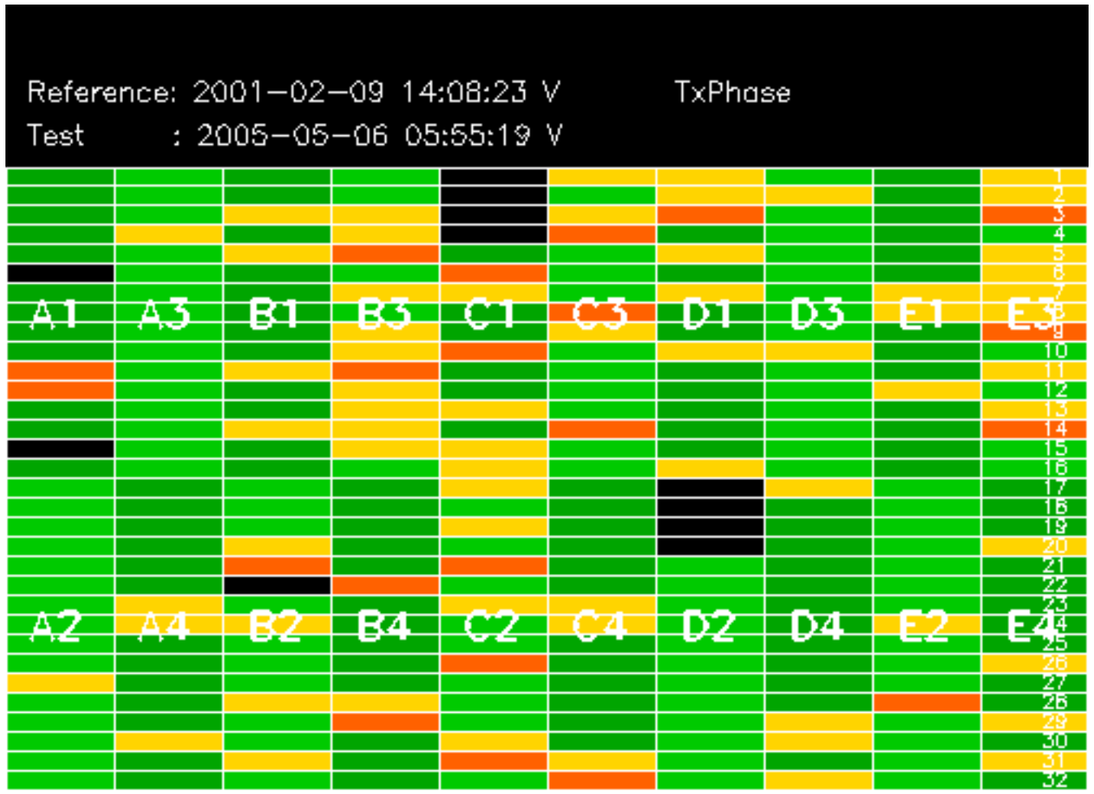
31
32


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
1
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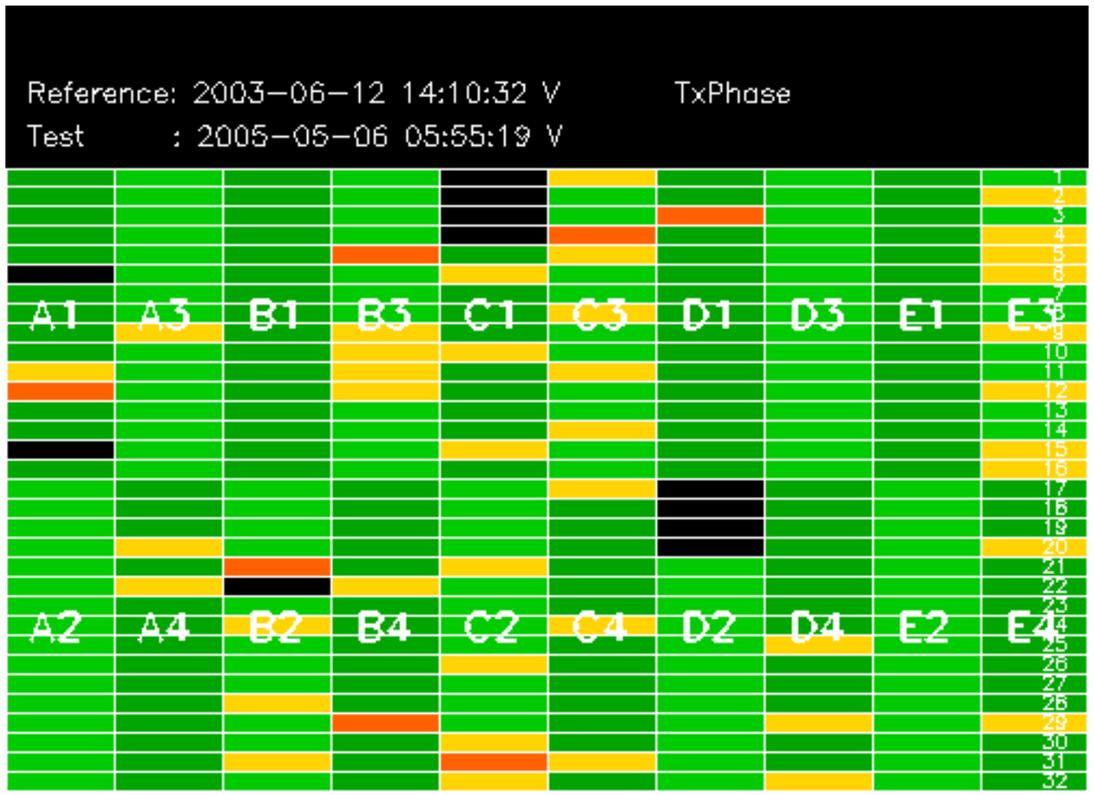
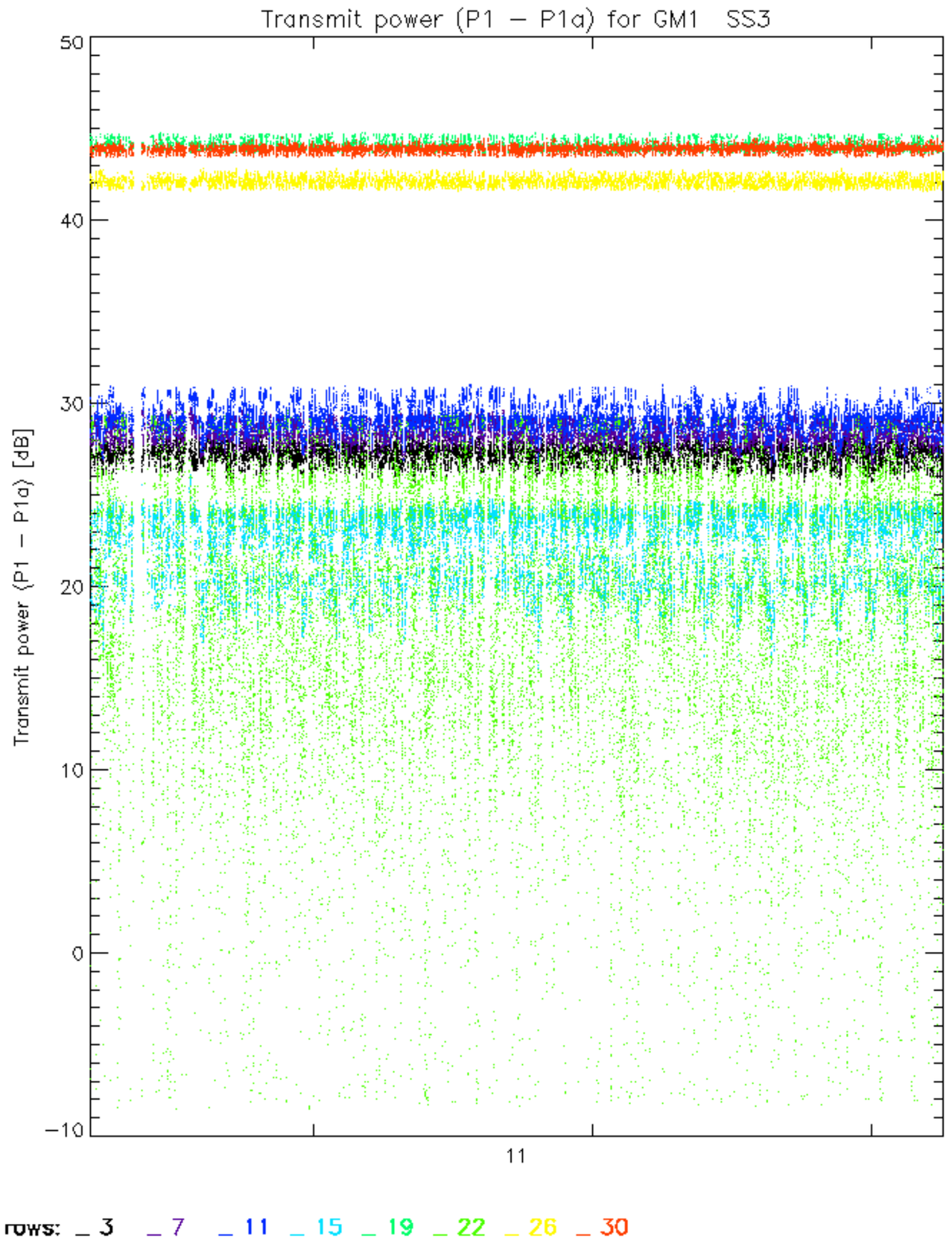
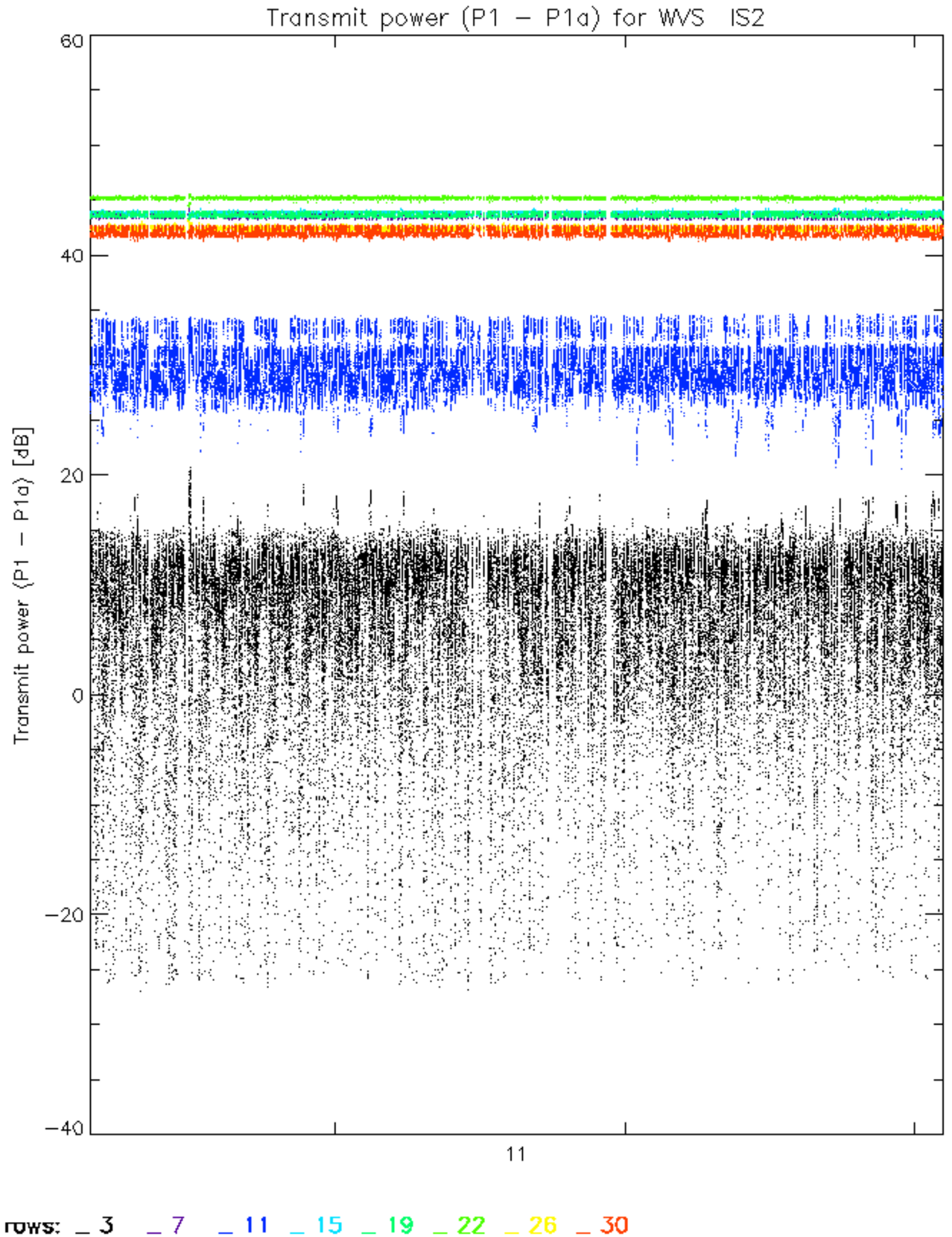

Reference: 2003-06-12 14:10:32 V
Test : 2005-05-06 05:55:19 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
11
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]
11
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.