PRELIMINARY REPORT OF 050826

last update on Fri Aug 26 10:50:00 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 2005-08-25 00:00:00 to 2005-08-26 10:50:01

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

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	8	7	8	4	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	8	7	8	4	0
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	8	7	8	4	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	8	7	8	4	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	14	16	14	4	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	14	16	14	4	0
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	14	16	14	4	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	14	16	14	4	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	20050825 074720
H	20050824 081857

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	-3.313325	0.030216	0.038966
7	P1	-3.168317	0.028399	-0.044944
11	P1	-4.717823	0.032934	-0.035532
15	P1	-5.605182	0.049550	-0.081942
19	P1	-3.806650	0.004159	-0.045624
22	P1	-4.646155	0.106870	0.163748
26	P1	-4.853055	0.140742	0.165659
30	P1	-7.256778	0.141424	0.115800
3	P1	-15.539638	0.078187	0.019571
7	P1	-15.536718	0.155322	-0.135706
11	P1	-21.784595	0.281182	-0.169751
15	P1	-11.294618	0.071002	-0.024395
19	P1	-14.501336	0.035678	-0.077074
22	P1	-15.649125	0.342057	0.267311
26	P1	-17.303938	0.192171	0.112793
30	P1	-17.790516	0.434870	-0.286910

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.792524	0.085183	0.150554
7	P2	-21.939516	0.101251	0.181320
11	P2	-13.520495	0.107356	0.206752
15	P2	-7.060636	0.091167	0.065228
19	P2	-9.589848	0.095365	0.007761
22	P2	-16.826551	0.097906	0.064286
26	P2	-16.509636	0.098239	0.009619
30	P2	-18.802355	0.086266	-0.005094

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.157471	0.002799	0.002192

7	P3	-8.157471	0.002799	0.002192
11	P3	-8.157471	0.002799	0.002192
15	P3	-8.157471	0.002799	0.002192
19	P3	-8.157471	0.002799	0.002192
22	P3	-8.157471	0.002799	0.002192
26	P3	-8.157480	0.002799	0.002131
30	P3	-8.157480	0.002799	0.002131

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	-2.806284	0.095393	0.050620
7	P1	-2.968640	0.066830	0.036460
11	P1	-4.017958	0.025494	-0.003678
15	P1	-3.623246	0.064935	-0.003876
19	P1	-3.630121	0.014723	-0.013633
22	P1	-5.709974	0.101784	0.033218
26	P1	-7.394966	0.177792	0.164807
30	P1	-6.318480	0.101947	0.105221
3	P1	-10.932991	0.051460	-0.036192
7	P1	-10.478206	0.169369	-0.046805
11	P1	-12.645288	0.101355	0.009358
15	P1	-11.621248	0.121618	-0.153785
19	P1	-15.480126	0.061369	0.058510
22	P1	-25.501451	2.740690	0.191791
26	P1	-15.246250	0.296698	0.131507
30	P1	-20.063972	1.331461	-0.171521

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.502419	0.048013	0.194890
7	P2	-22.006613	0.037472	0.063366
11	P2	-9.552350	0.066292	0.186989
15	P2	-5.093147	0.040387	0.052728
19	P2	-6.868602	0.061093	0.067402
22	P2	-7.042029	0.040078	0.062930
26	P2	-23.961174	0.037329	0.032370
30	P2	-21.938501	0.043097	0.042606

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.997852	0.004171	-0.000602
7	P3	-7.997837	0.004167	-0.001244
11	P3	-7.997793	0.004170	-0.000987
15	P3	-7.997716	0.004171	-0.001213
19	P3	-7.997765	0.004168	-0.000985
22	P3	-7.997750	0.004168	-0.000771
26	P3	-7.997725	0.004162	-0.000518
30	P3	-7.997711	0.004159	-0.000957

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	0.000448576
	stdev	2.25343e-07
MEAN Q	mean	0.000477380
	stdev	2.36533e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127413
	stdev	0.00100538
STDEV Q	mean	0.127668
	stdev	0.00101556

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005082[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

Evolution Doppler error versus ANX
☒

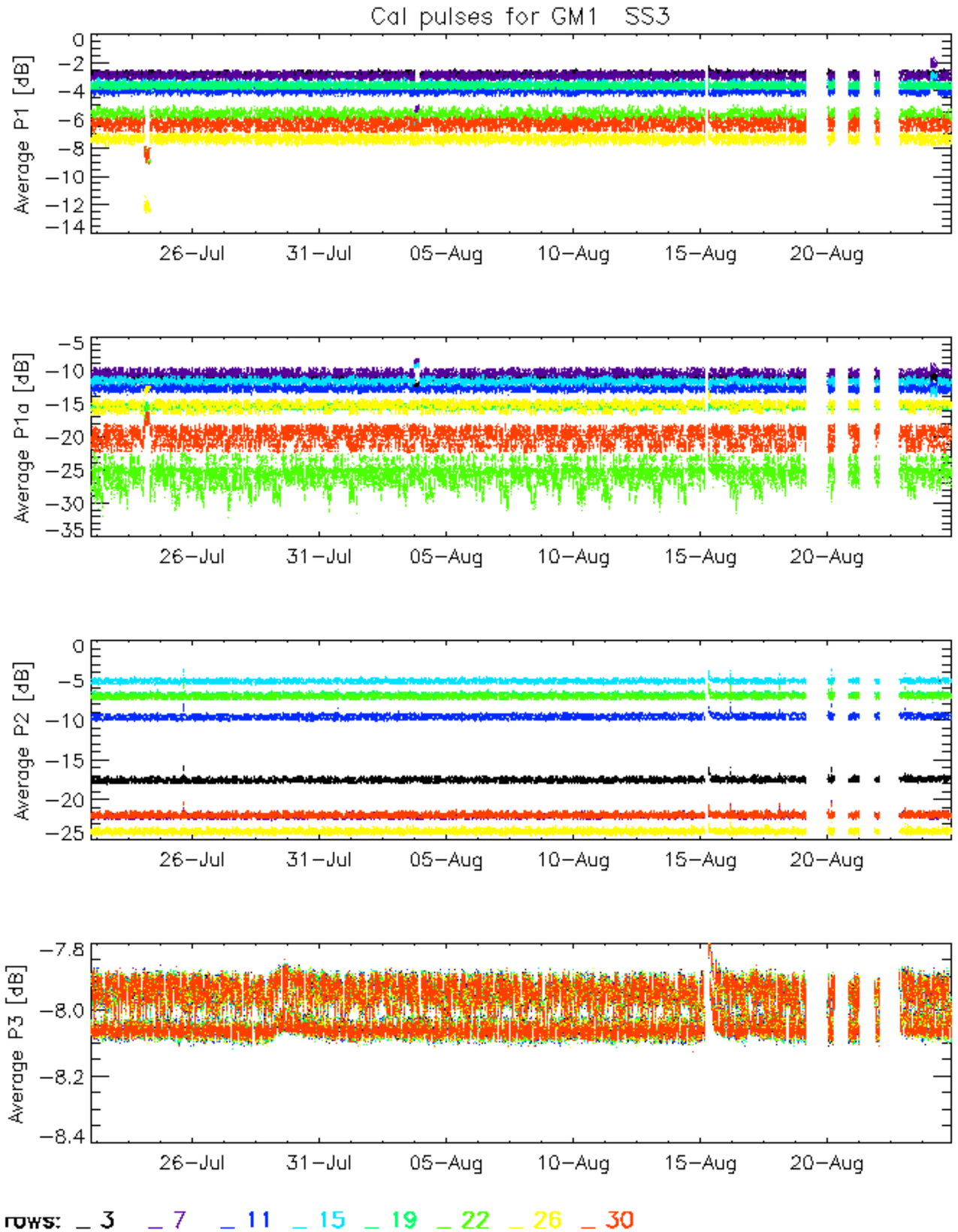
7.4 - Unbiased Doppler Error for GM1

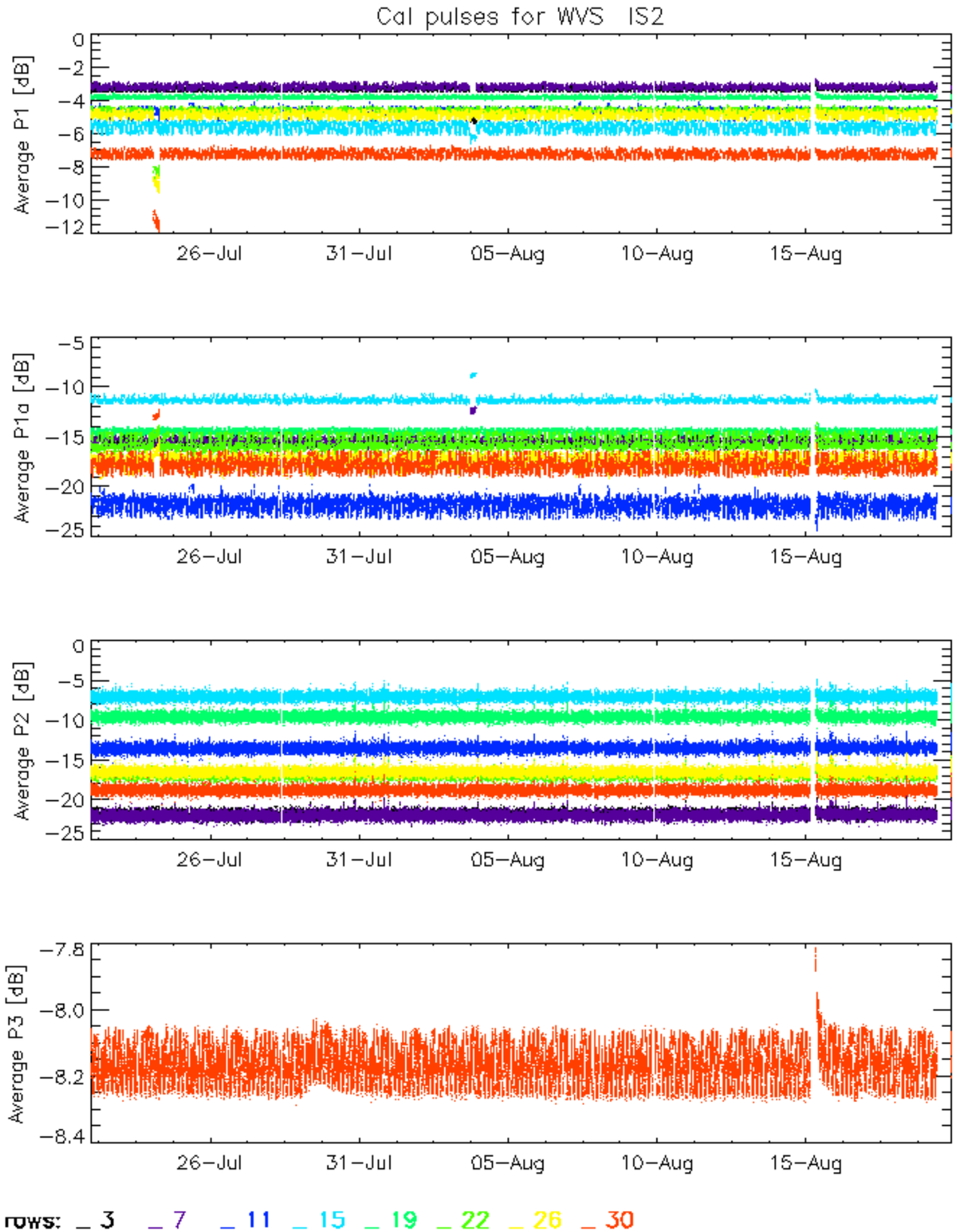
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler
☒
Acsending
☒
Descending

7.6 - Doppler evolution versus ANX for GM1

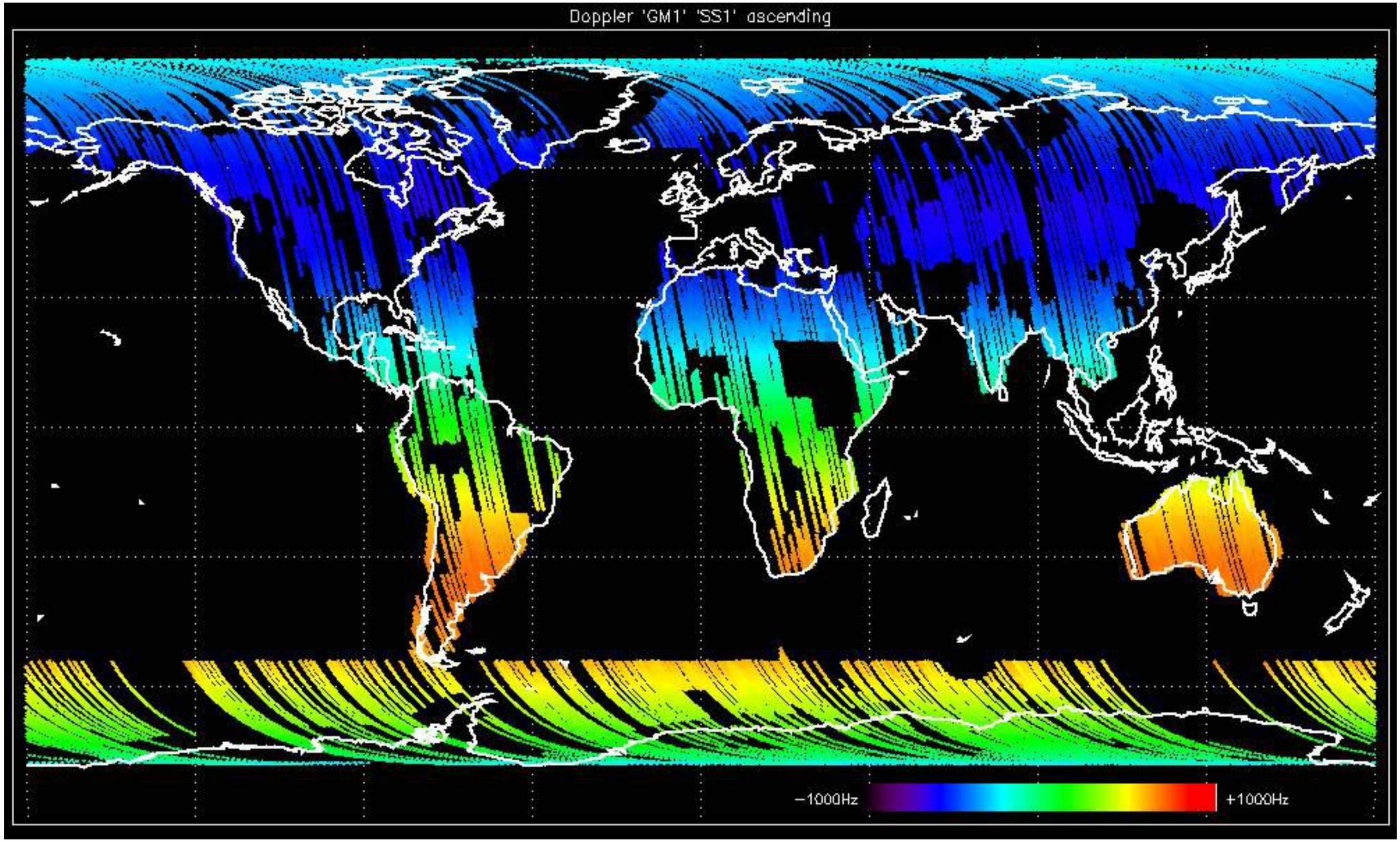

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
−14
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug
20−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

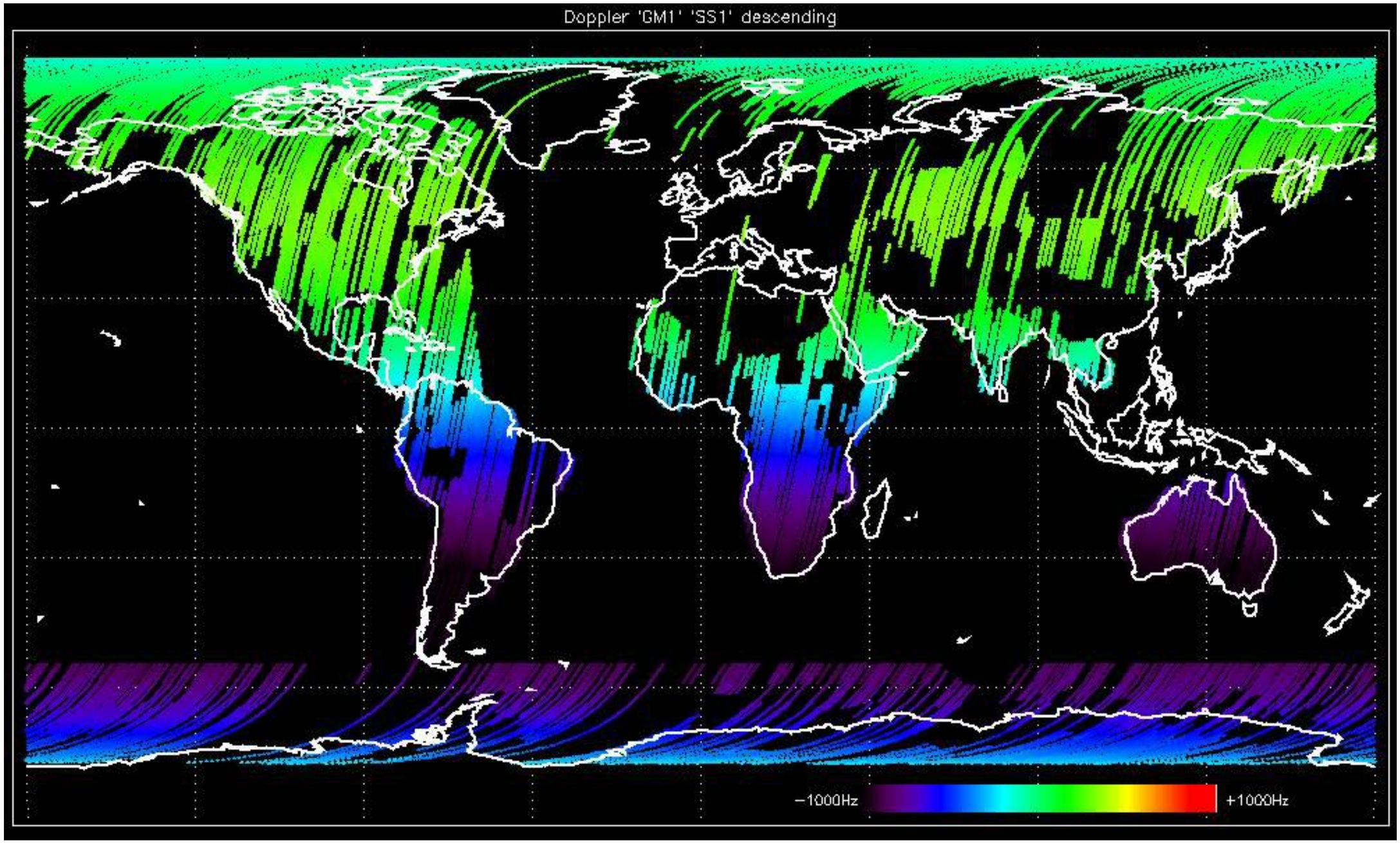

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

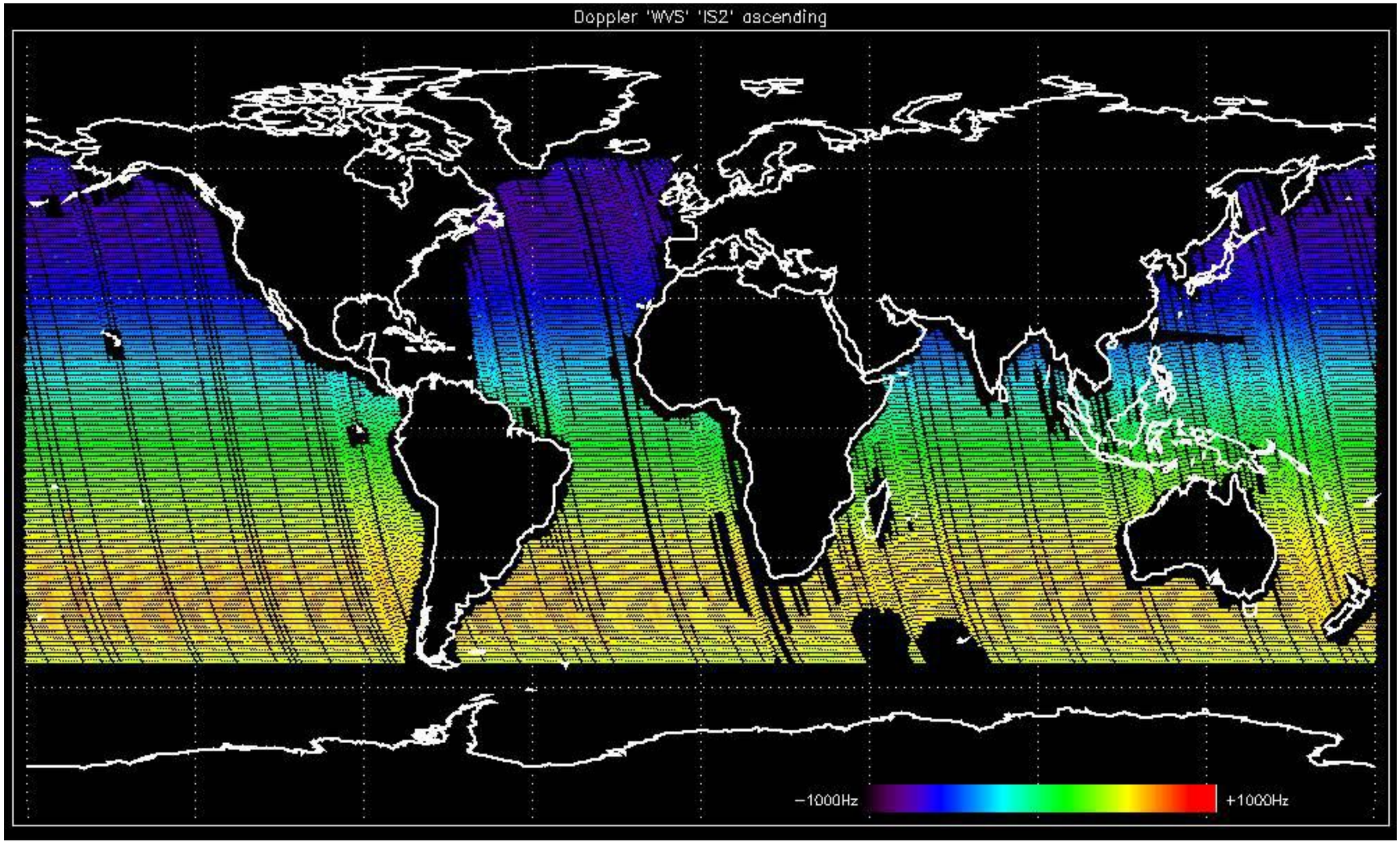
No anomalies observed.

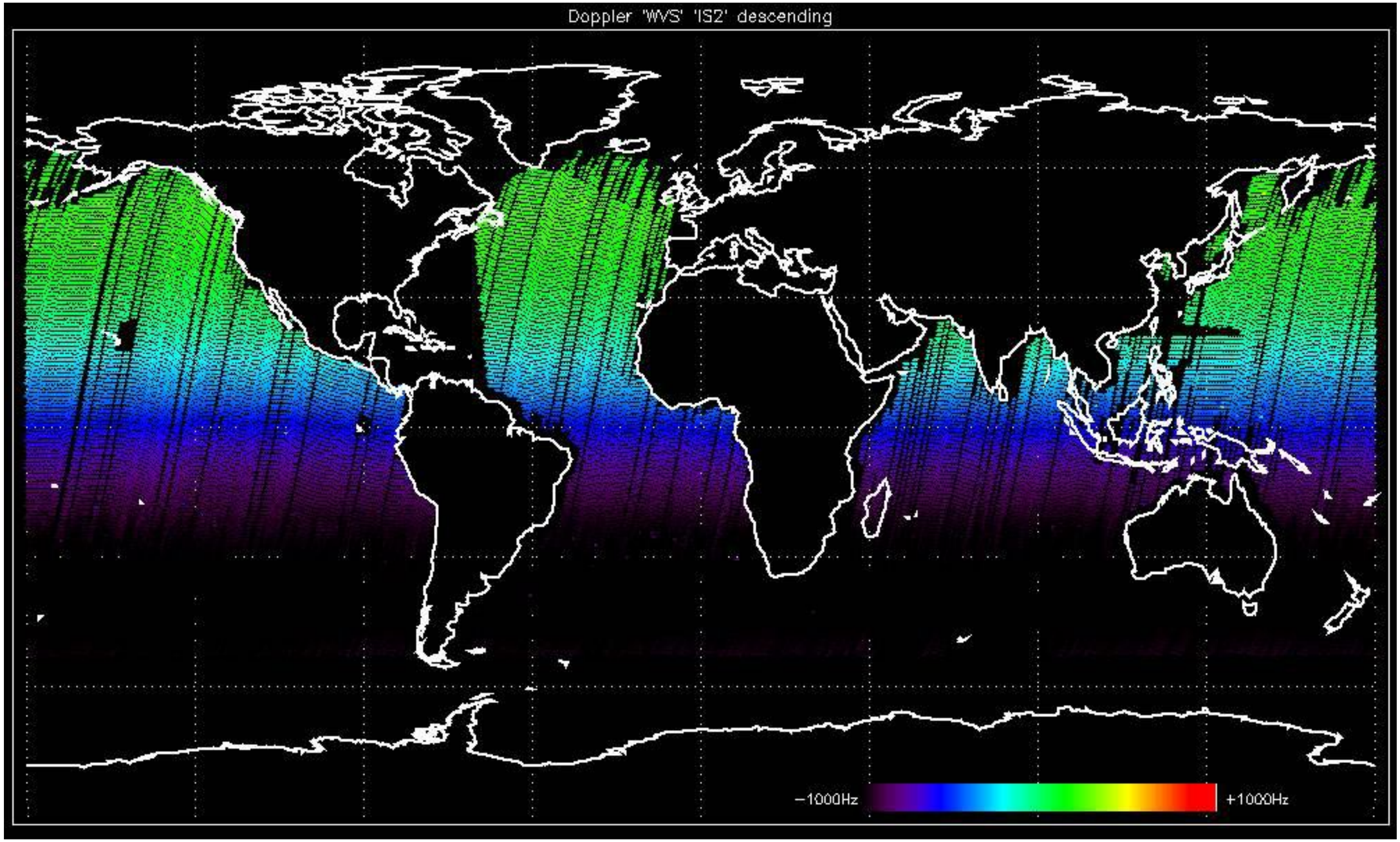
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

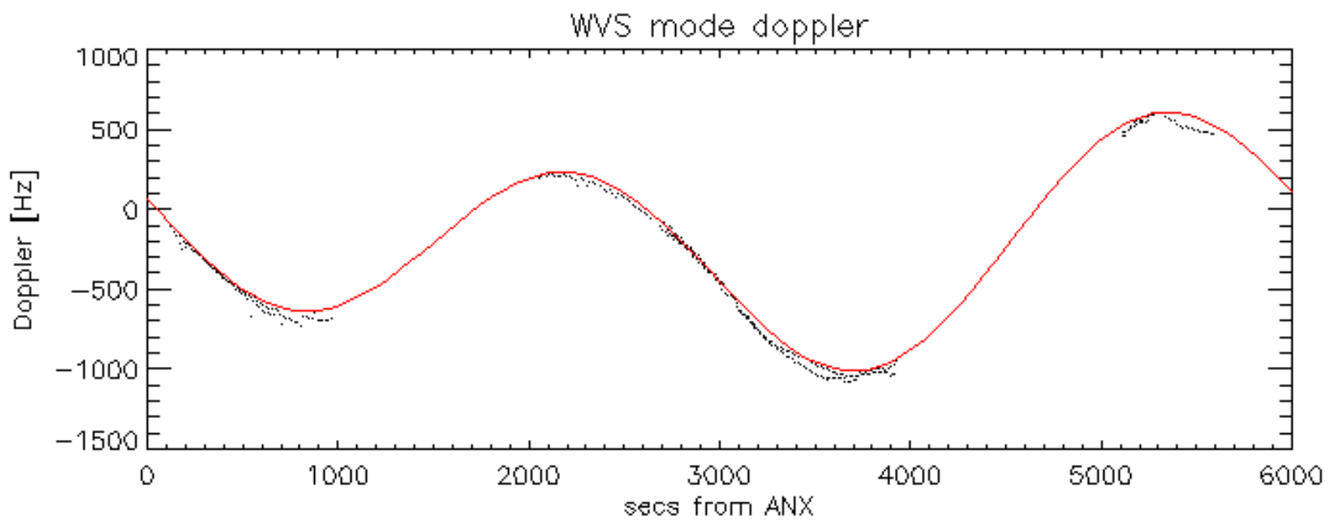
Preliminary report.The data is not yet controled

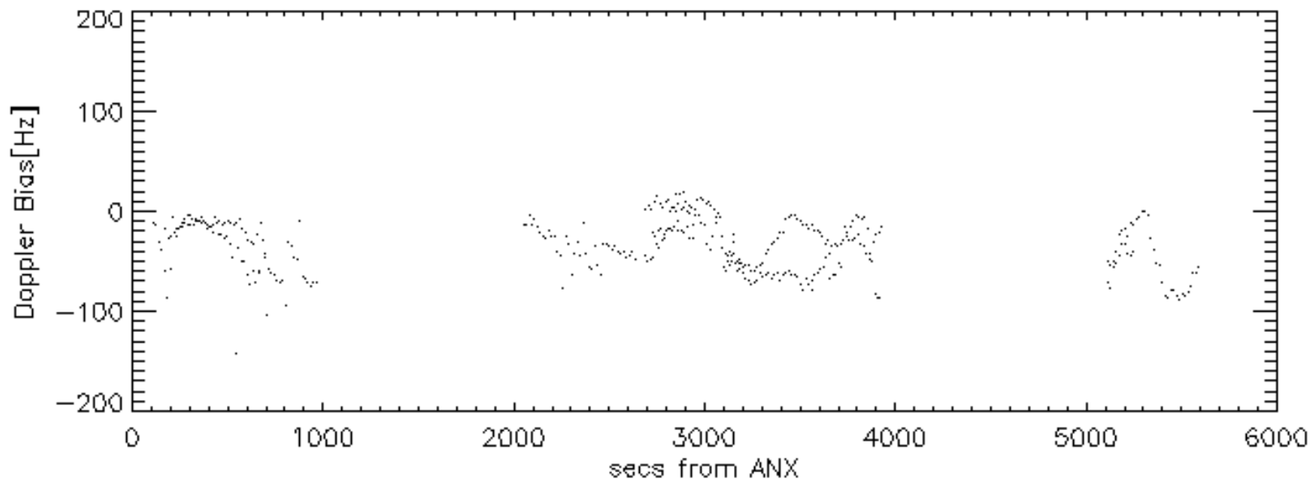

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

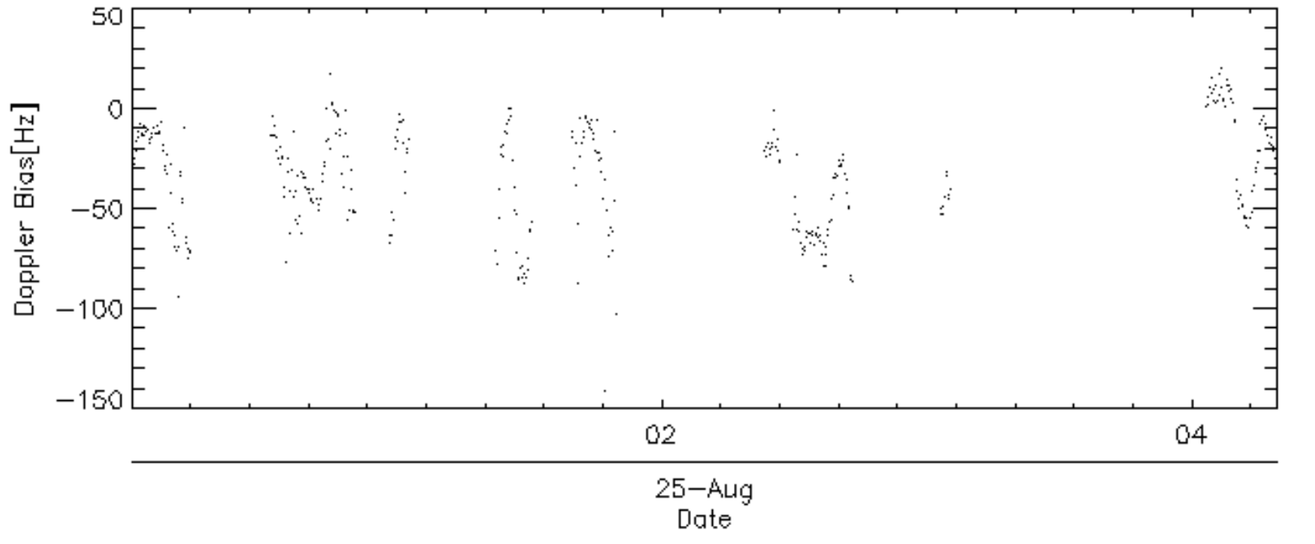

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

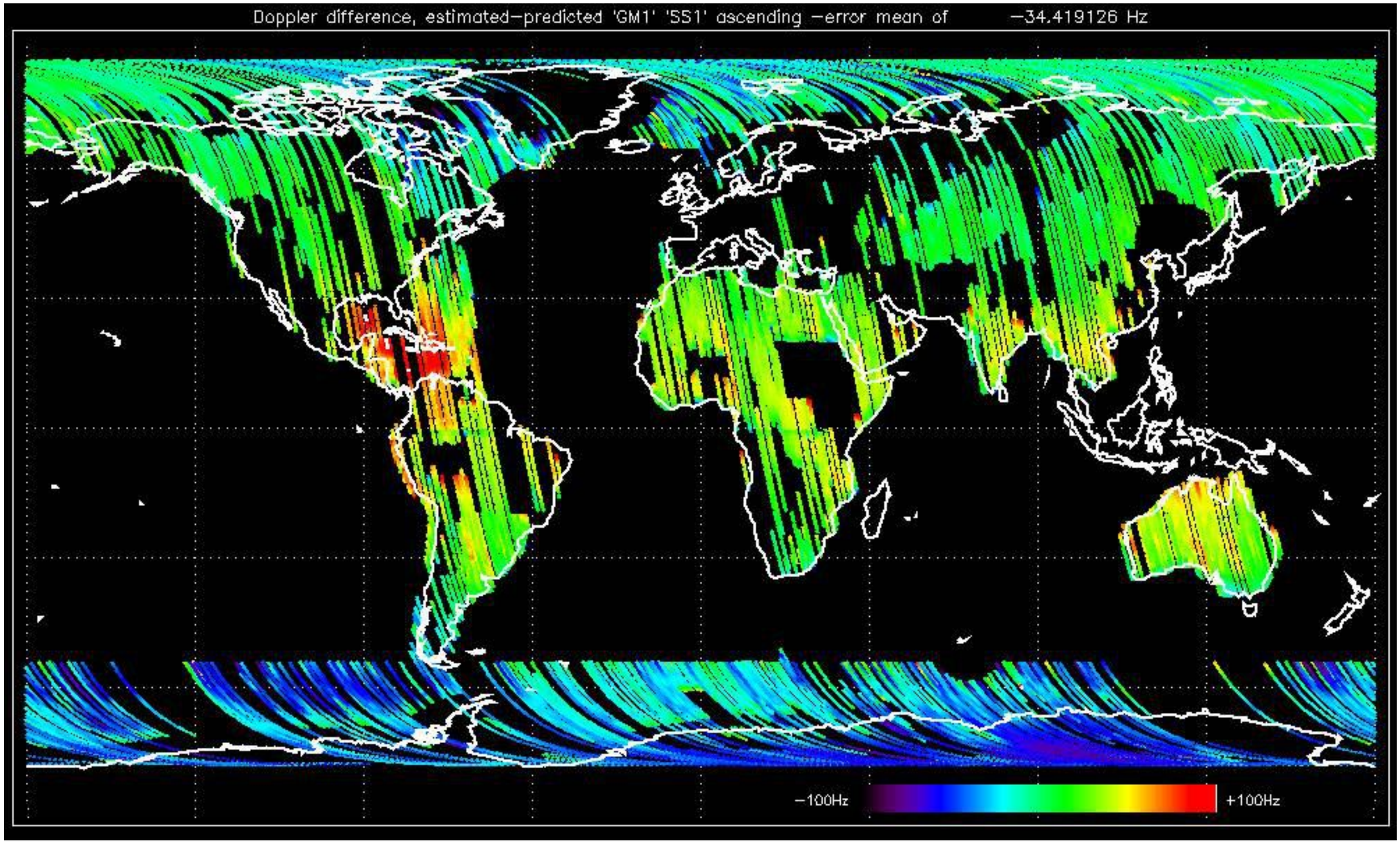

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

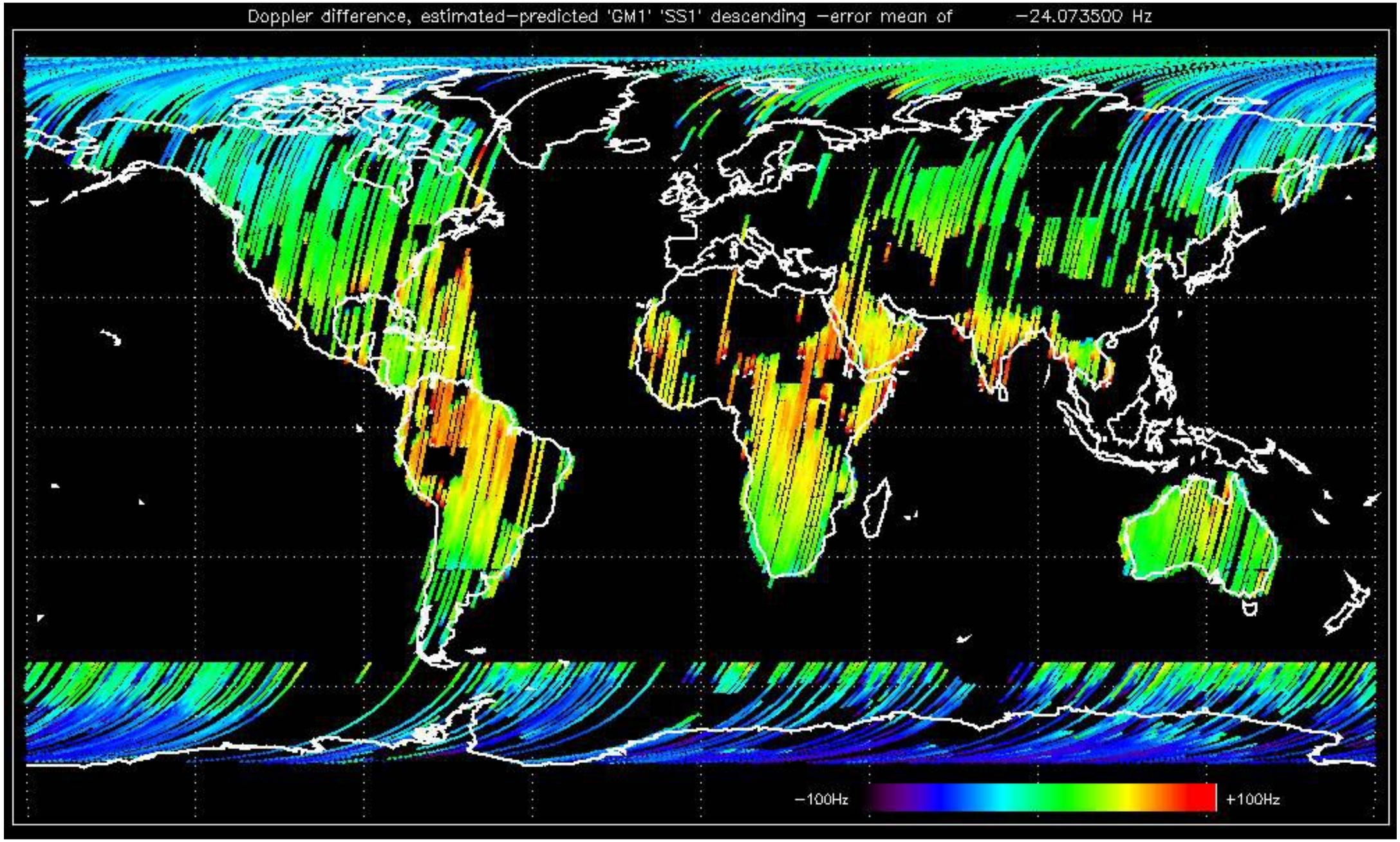

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

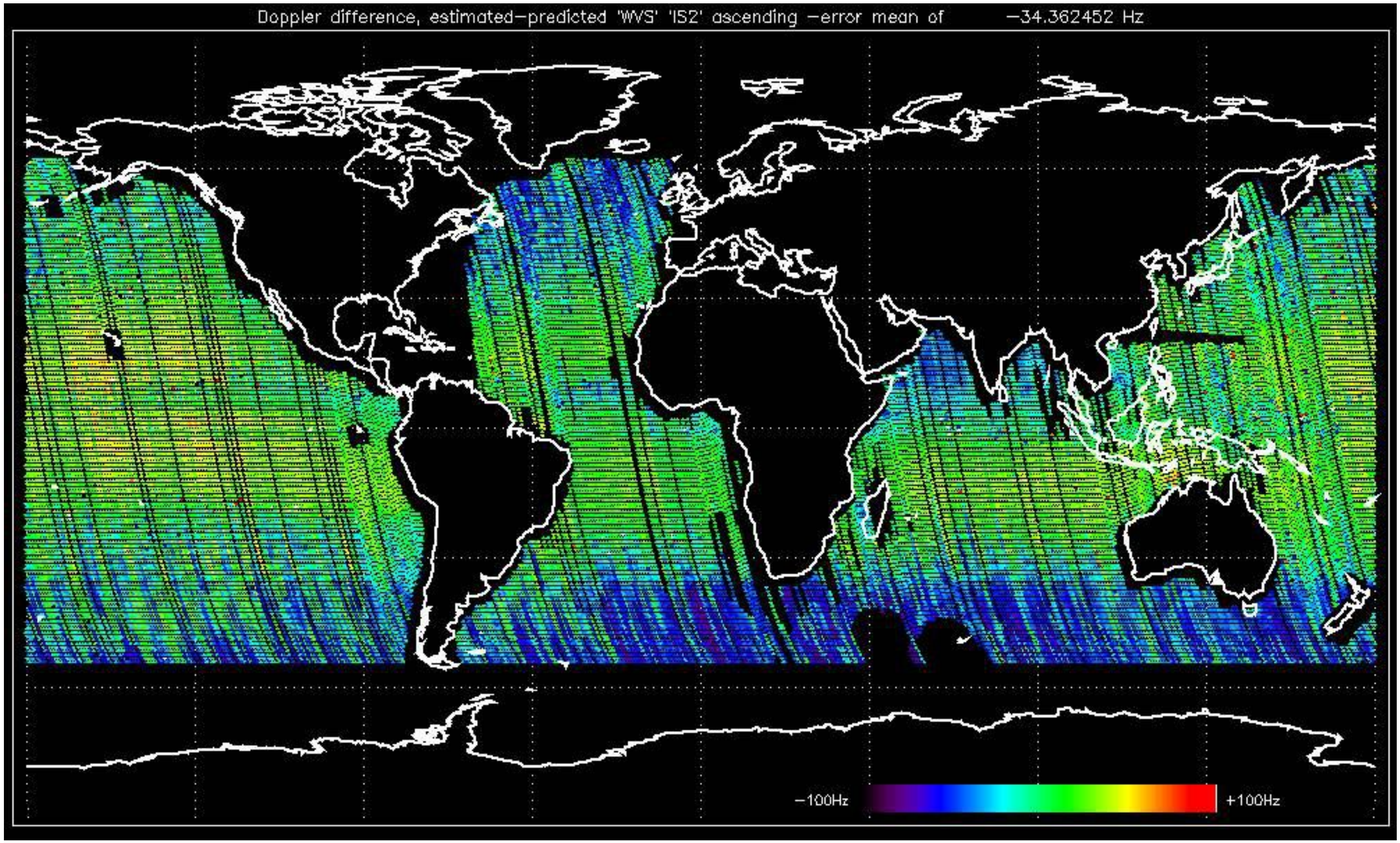

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

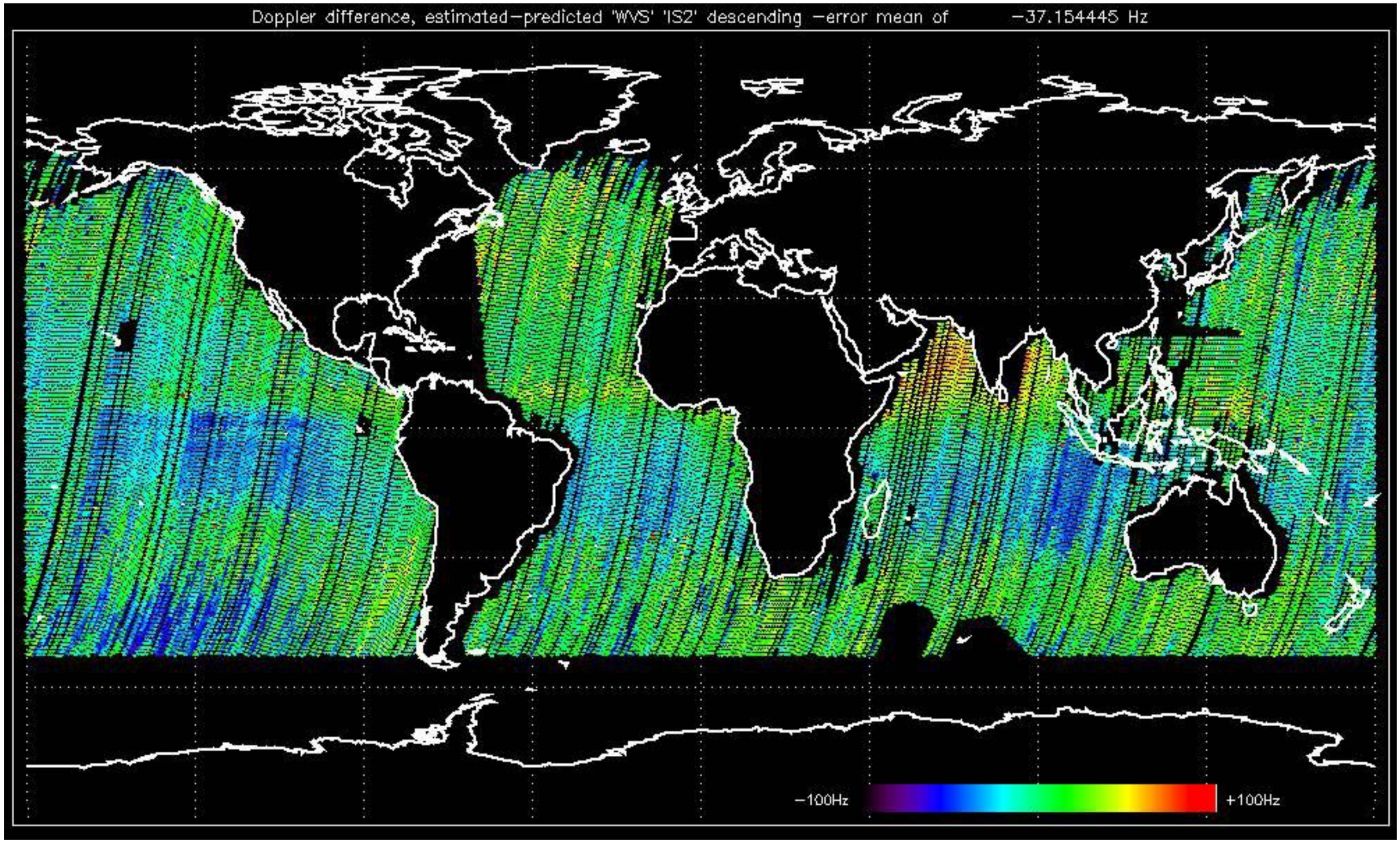

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


Doppler Bias[Hz]
50
0
−50
−100
−150
02
04
25−Aug
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −34.419126 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −24.073500 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −34.362452 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −37.154445 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2005-08-24 08:18:57 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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8
9
10
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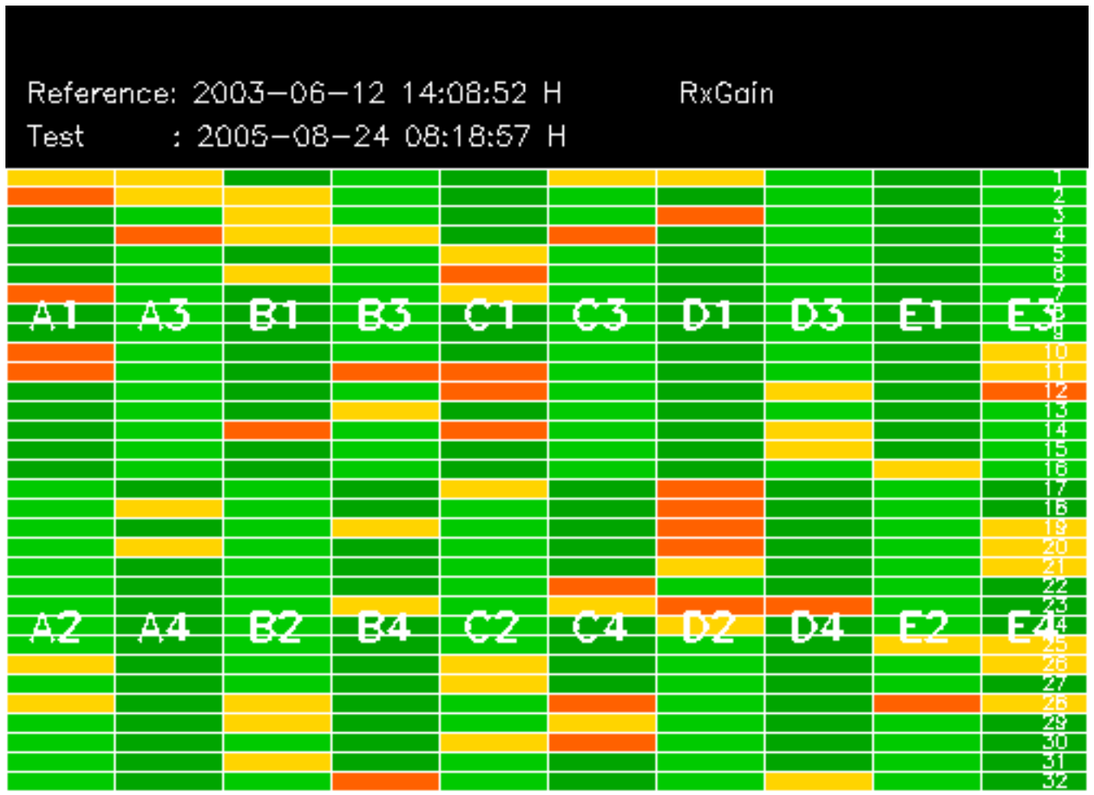
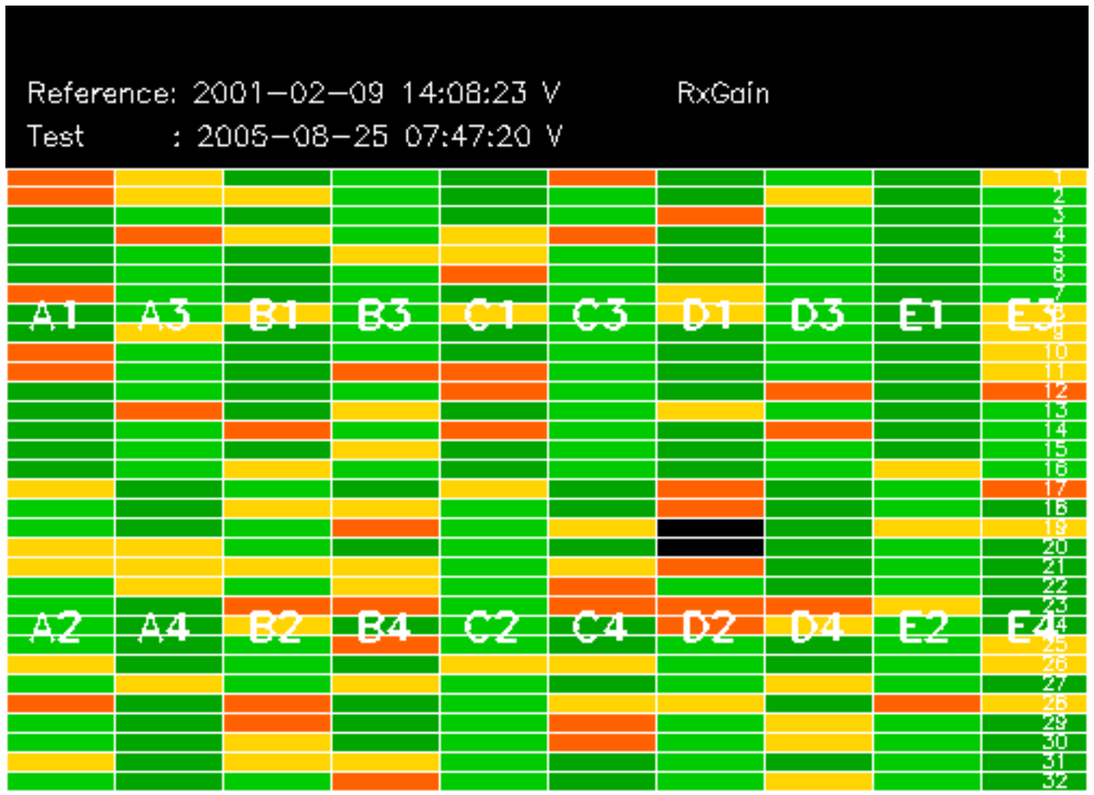

Reference: 2003-06-12 14:08:52 H
Test : 2005-08-24 08:18:57 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2005-08-25 07:47:20 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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9
10
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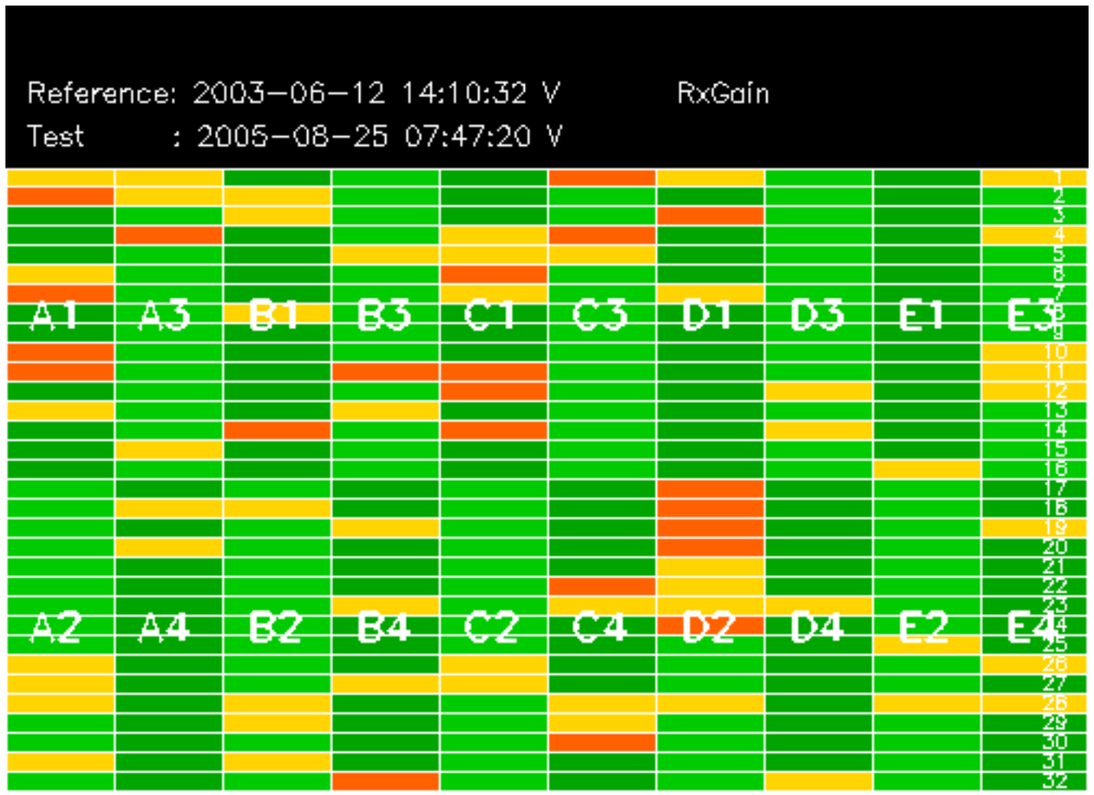
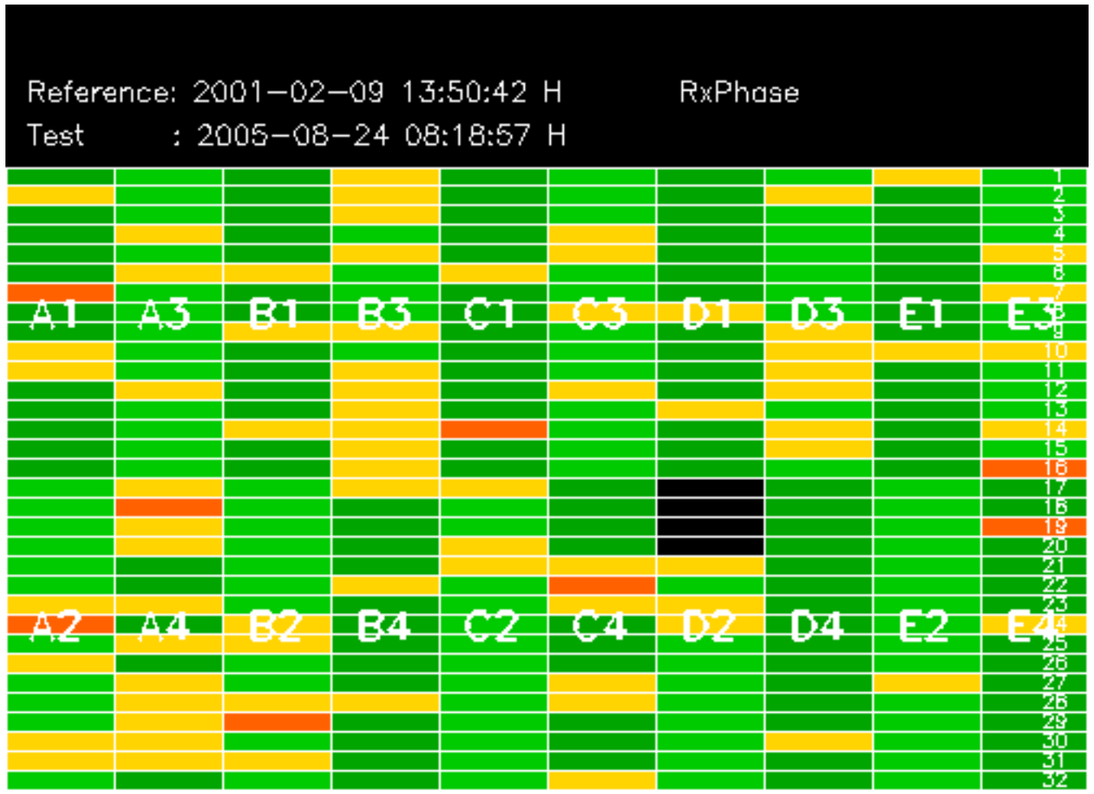
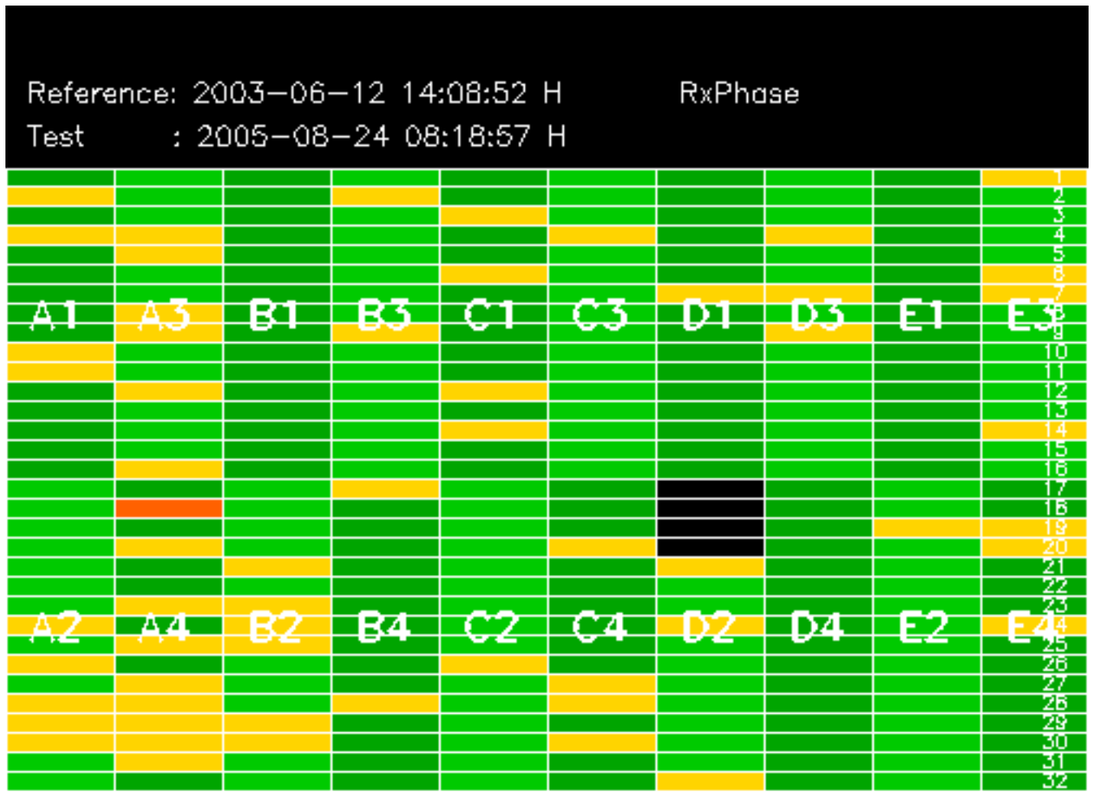

Reference: 2003-06-12 14:10:32 V
Test : 2005-08-25 07:47:20 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-08-24 08:18:57 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 : 2005-08-24 08:18:57 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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4
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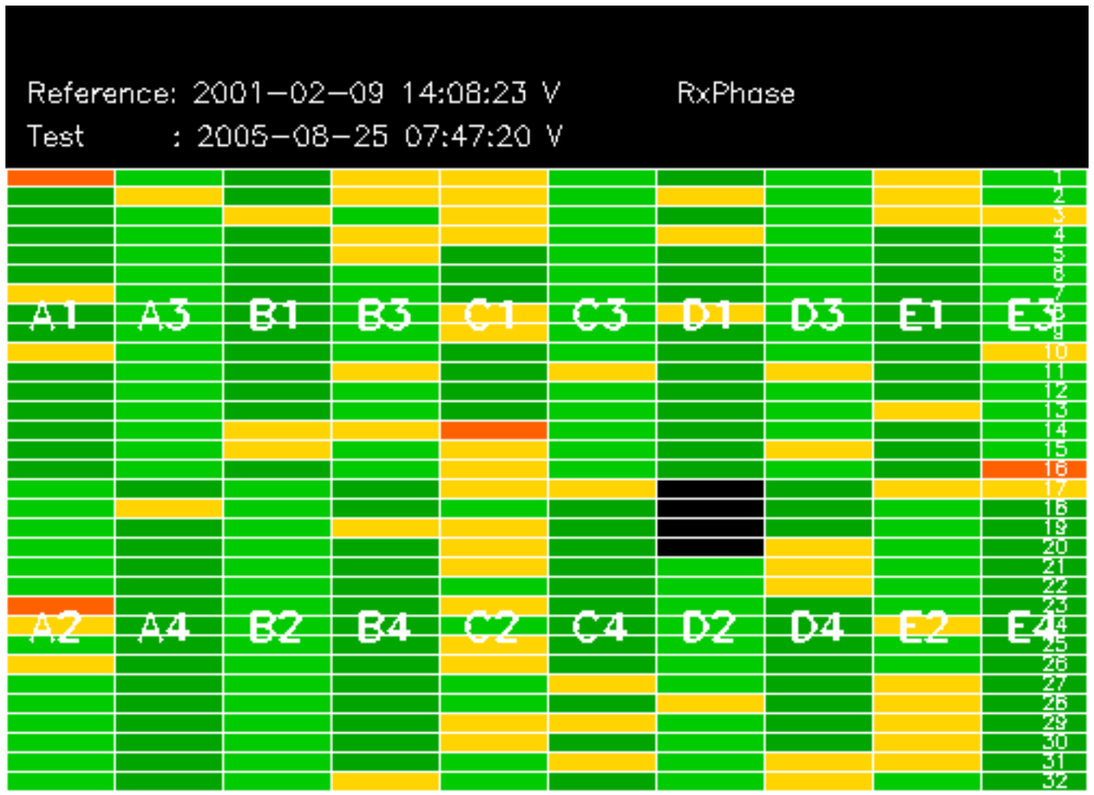
Reference: 2001-02-09 14:08:23 V
RxPhase
Test : 2005-08-25 07:47:20 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
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8
9
10
11
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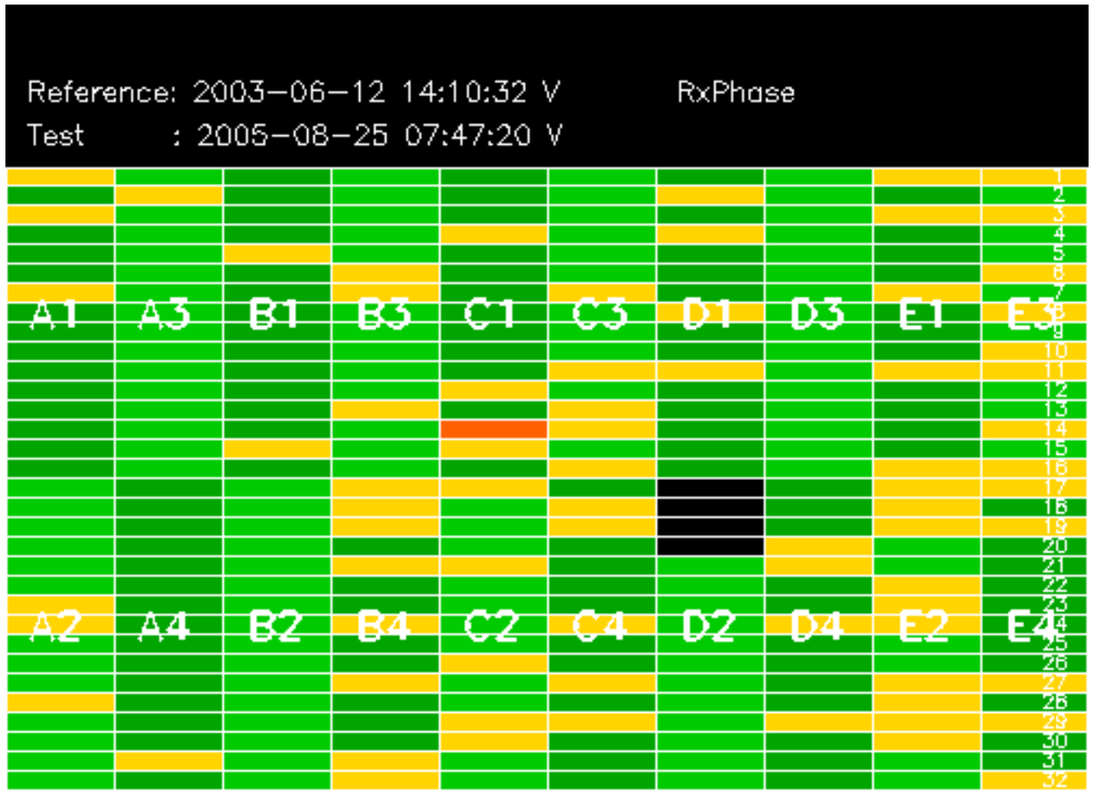
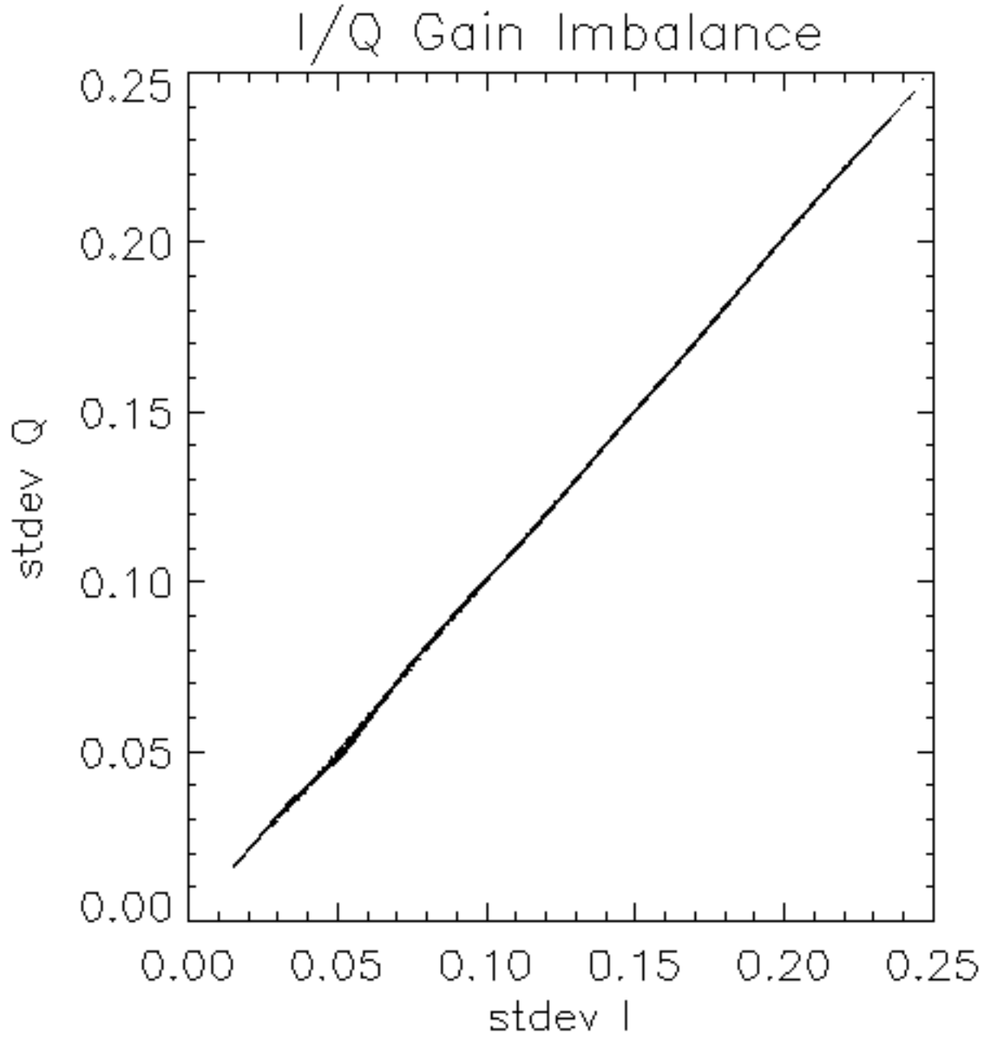
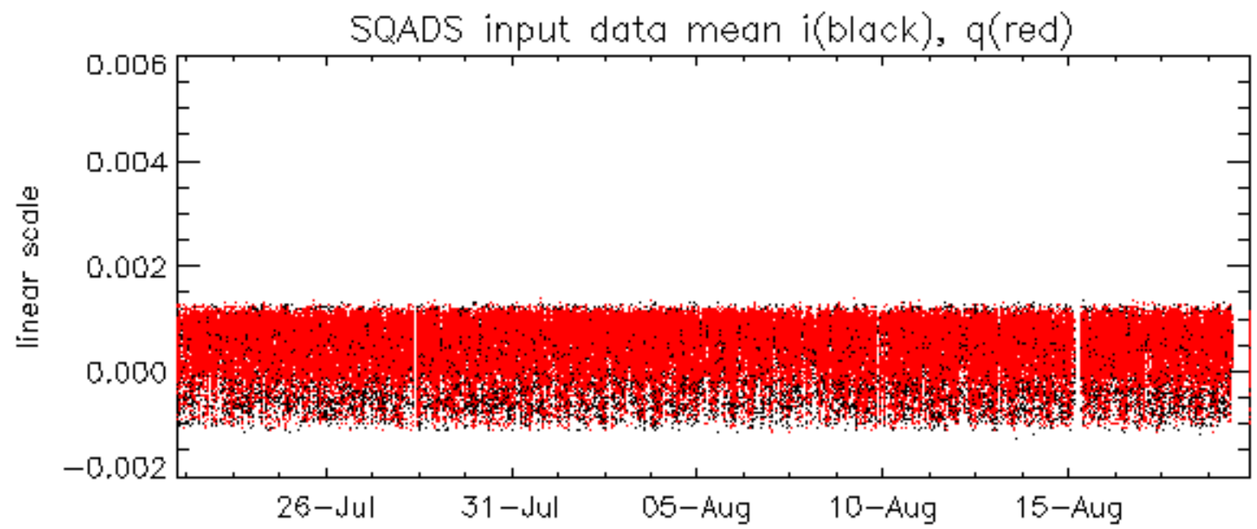
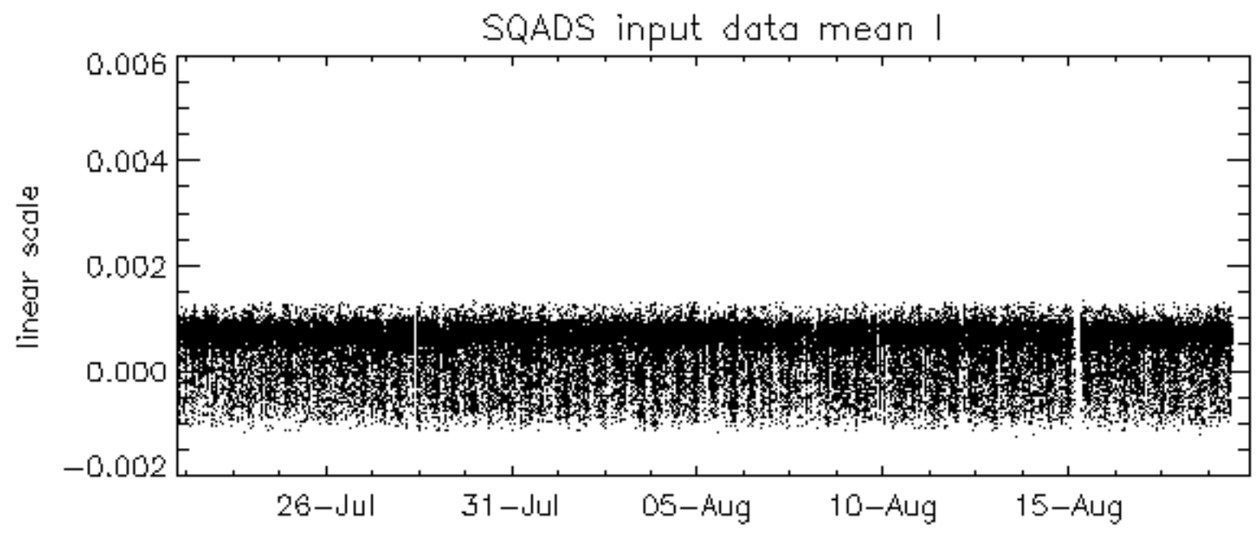
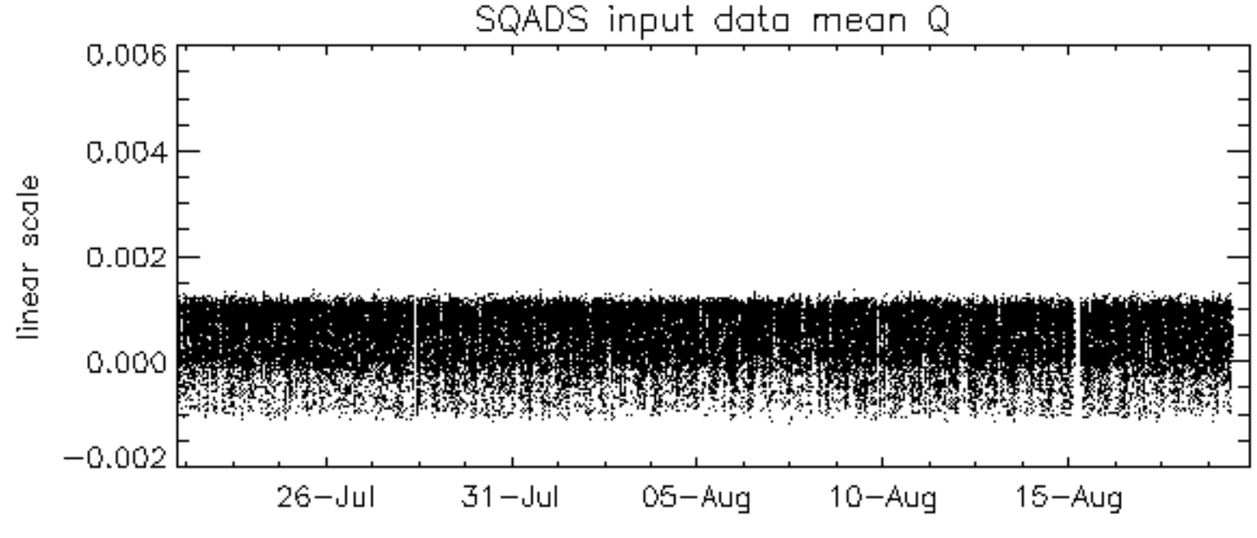
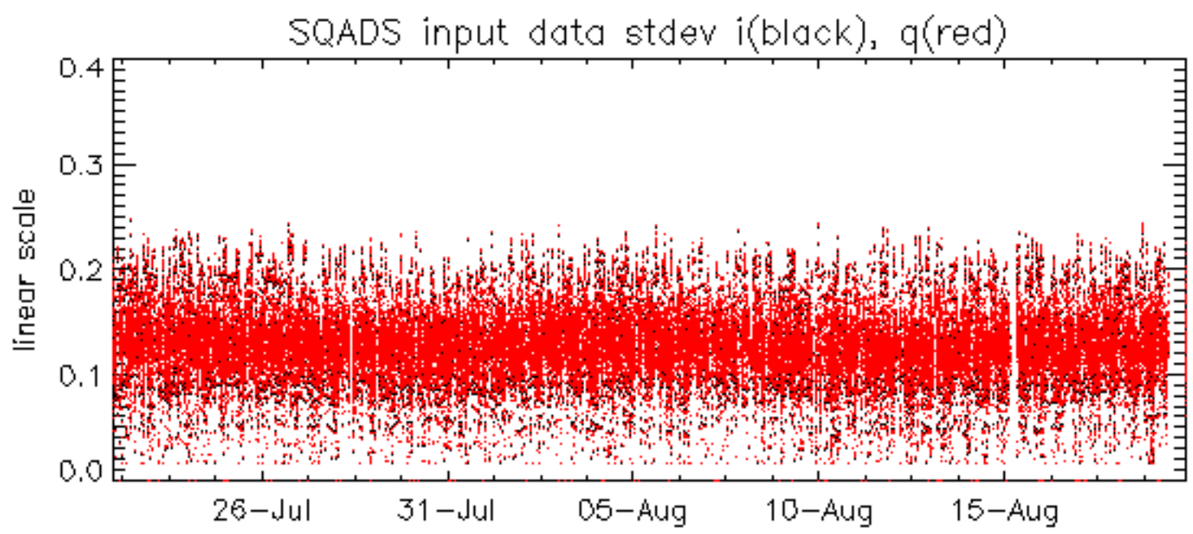

Reference: 2003-06-12 14:10:32 V
Test : 2005-08-25 07:47:20 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

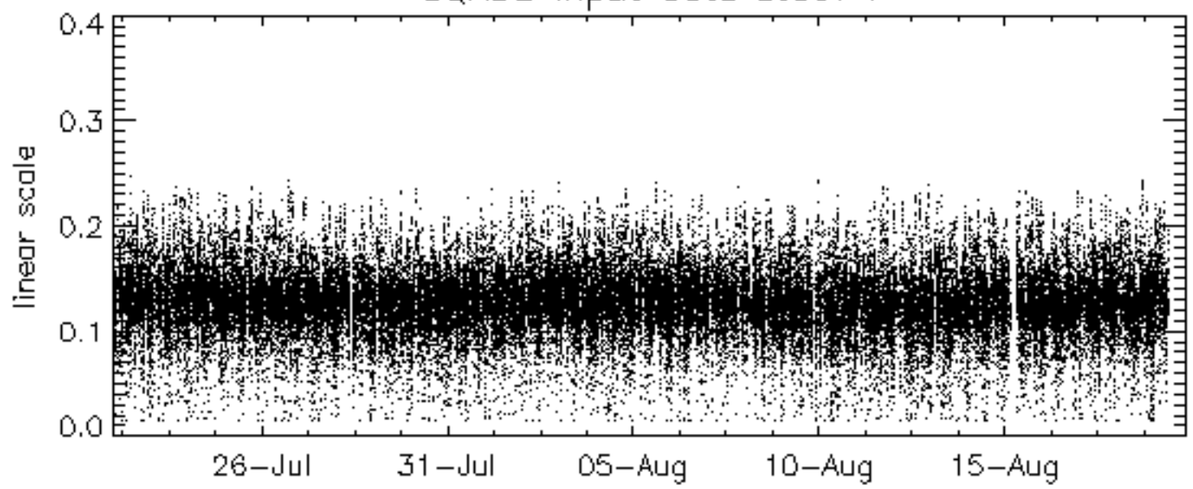

I/Q Gain Imbalance
stdev Q
stdev I
0.00
0.05
0.10
0.15
0.20
0.25

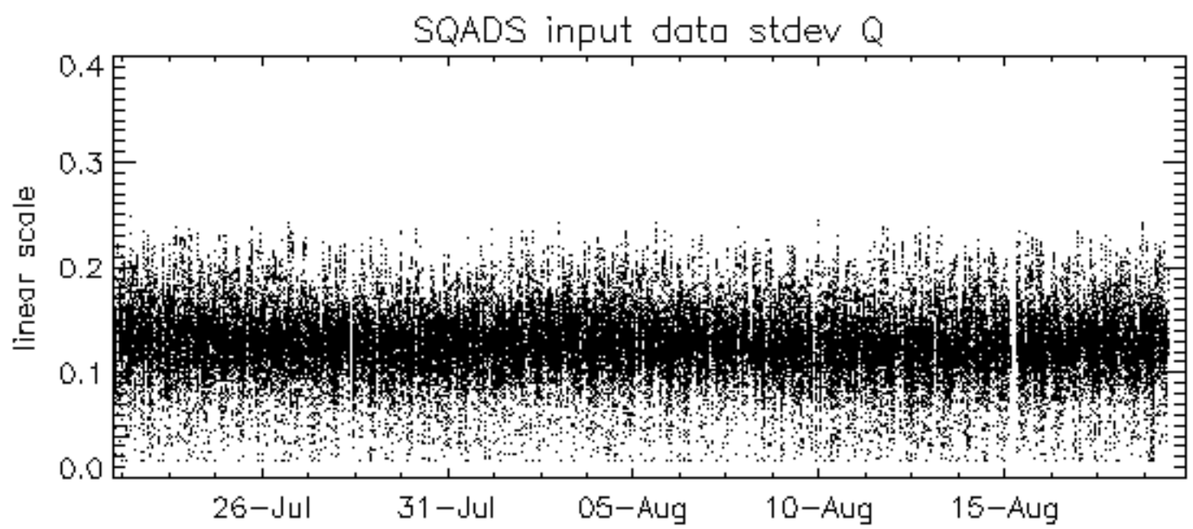

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug

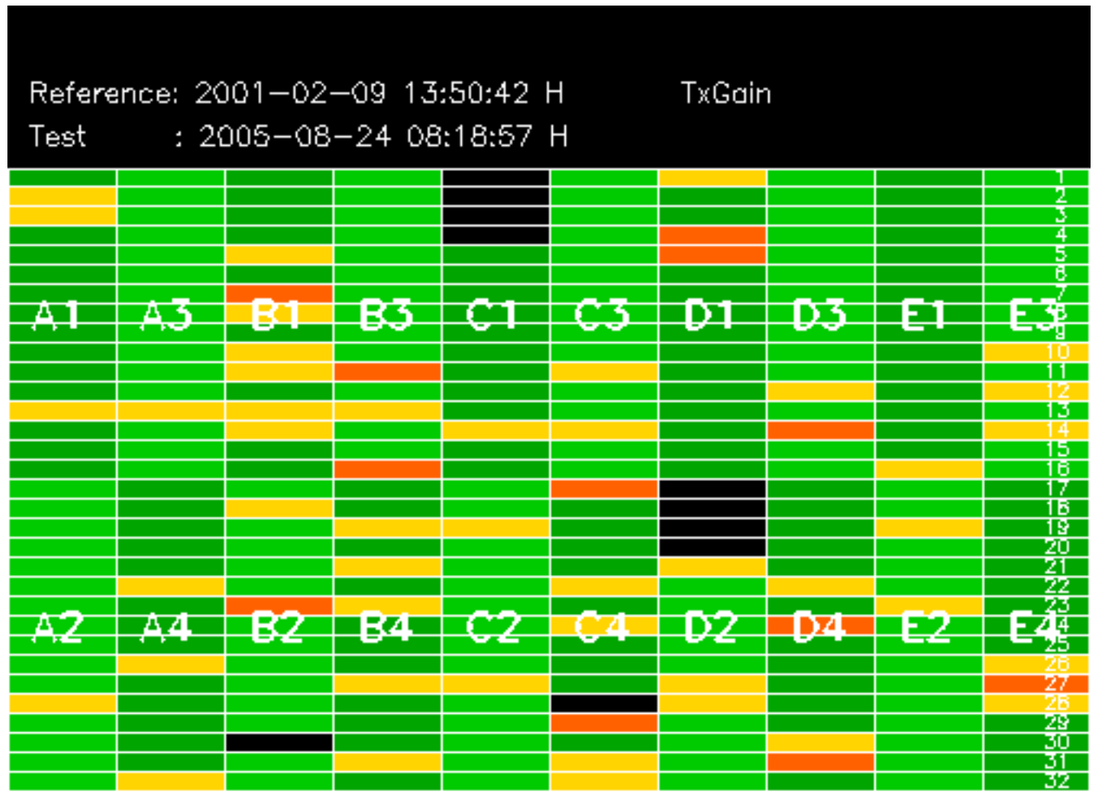

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug

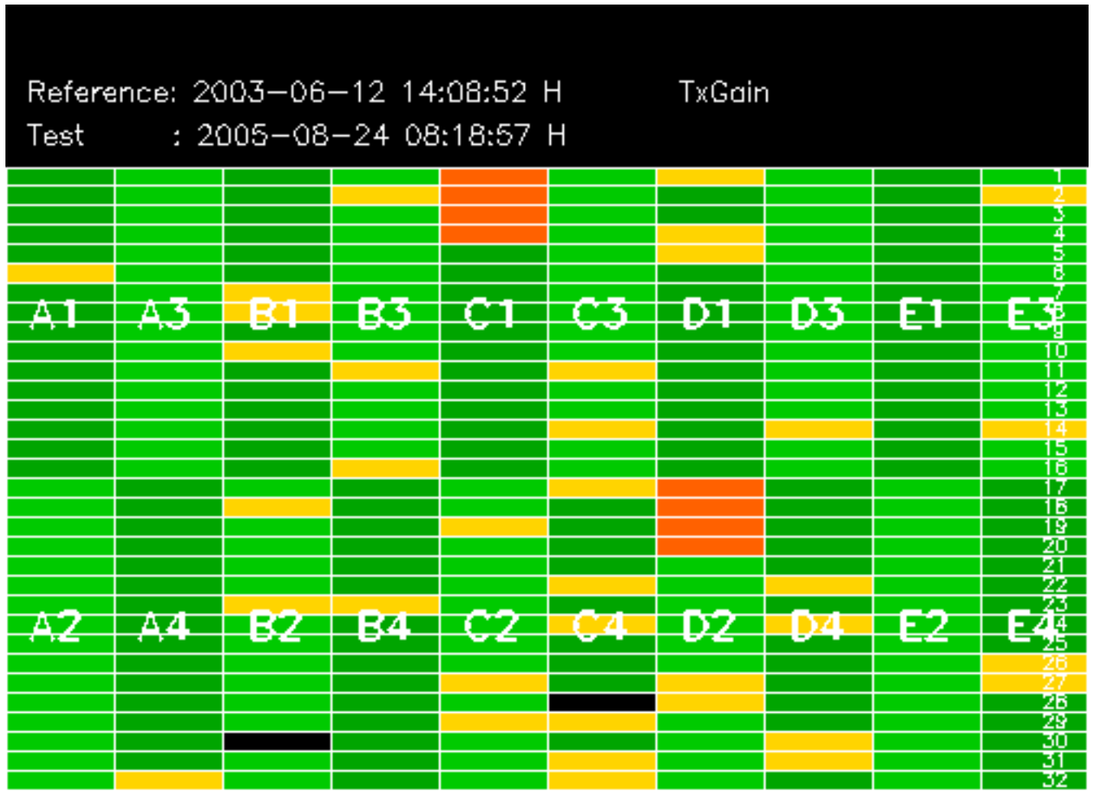

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug

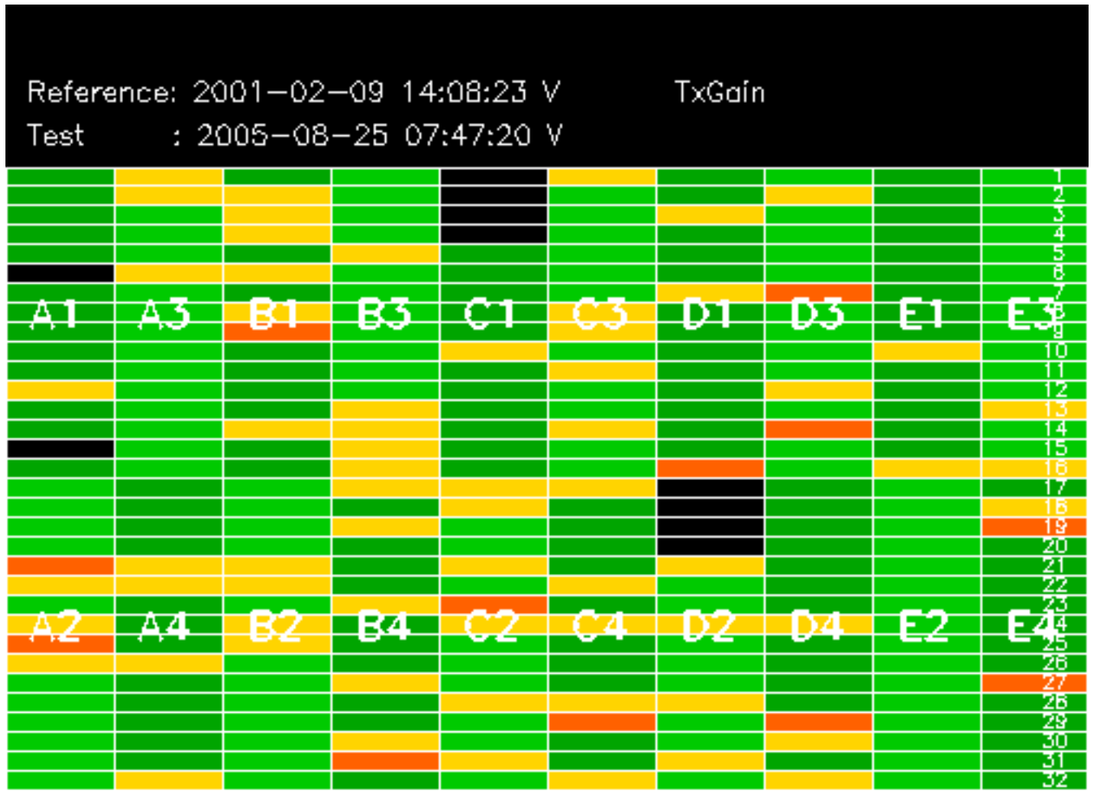

SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
26-Jul
31-Jul
05-Aug
10-Aug
15-Aug


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
26-Jul
31-Jul
05-Aug
10-Aug
15-Aug


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
26-Jul
31-Jul
05-Aug
10-Aug
15-Aug


Reference: 2001-02-09 13:50:42 H
TxGain
Test : 2005-08-24 08:18:57 H
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 : 2005-08-24 08:18:57 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 : 2005-08-25 07:47:20 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
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14
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17
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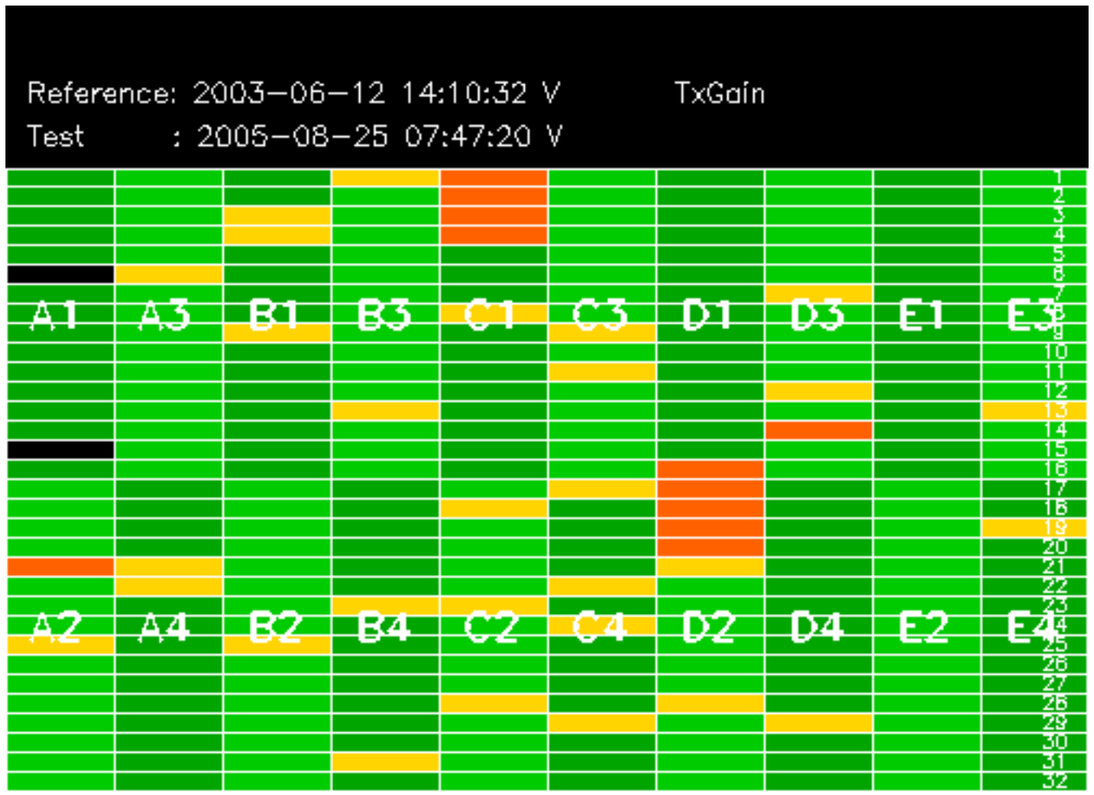
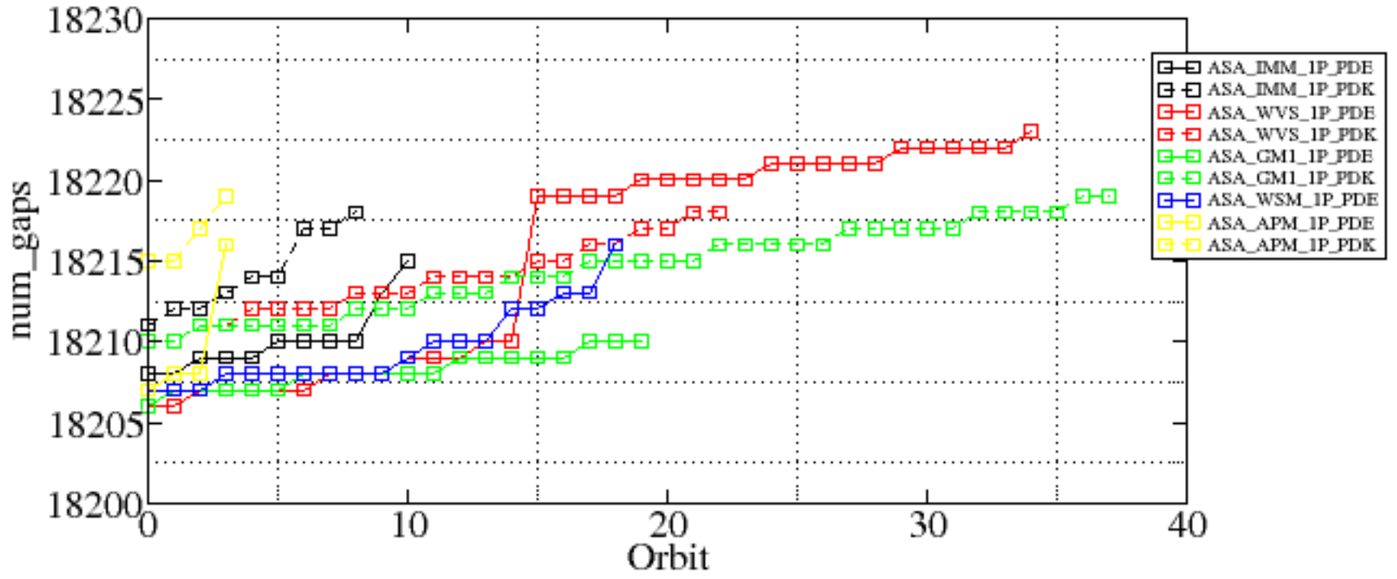
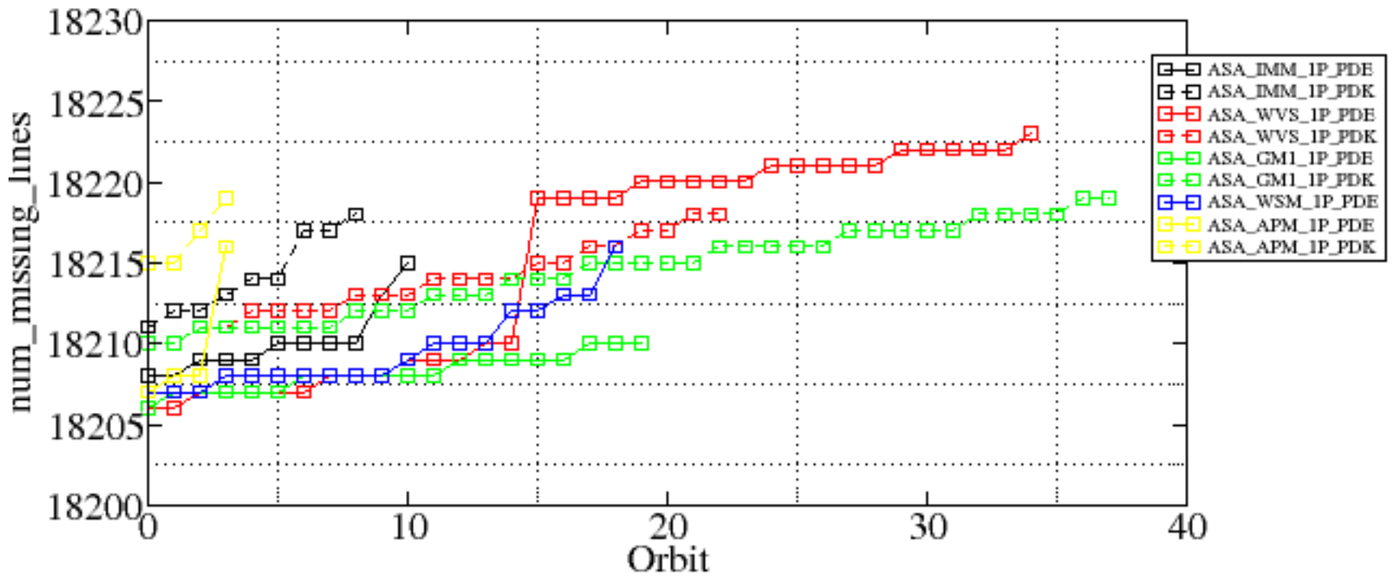
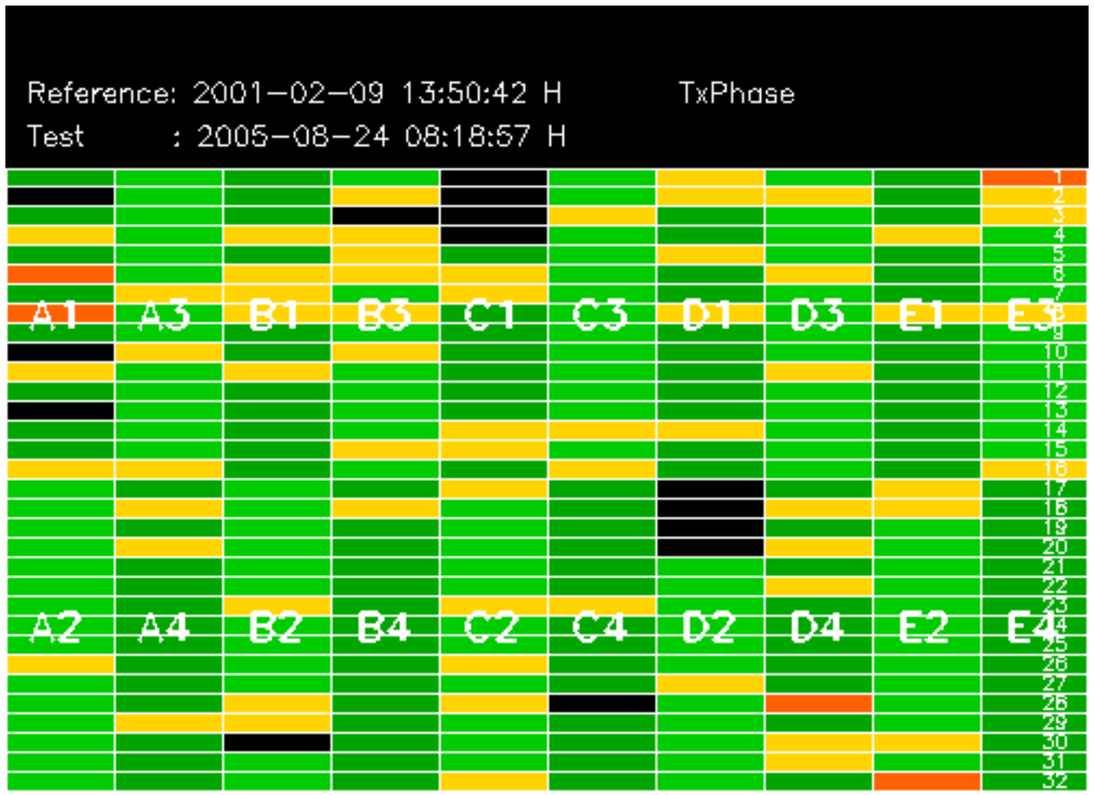
31
32


Reference: 2003-06-12 14:10:32 V
Test : 2005-08-25 07:47:20 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 2005082[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
Orbit
18230
18225
18220
18215
18210
18205
18200
0
10
20
30
40
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_APM_1P_PDE
ASA_APM_1P_PDK


num_missing_lines
Orbit
18230
18225
18220
18215
18210
18205
18200
0
10
20
30
40
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_APM_1P_PDE
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2005-08-24 08:18:57 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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4
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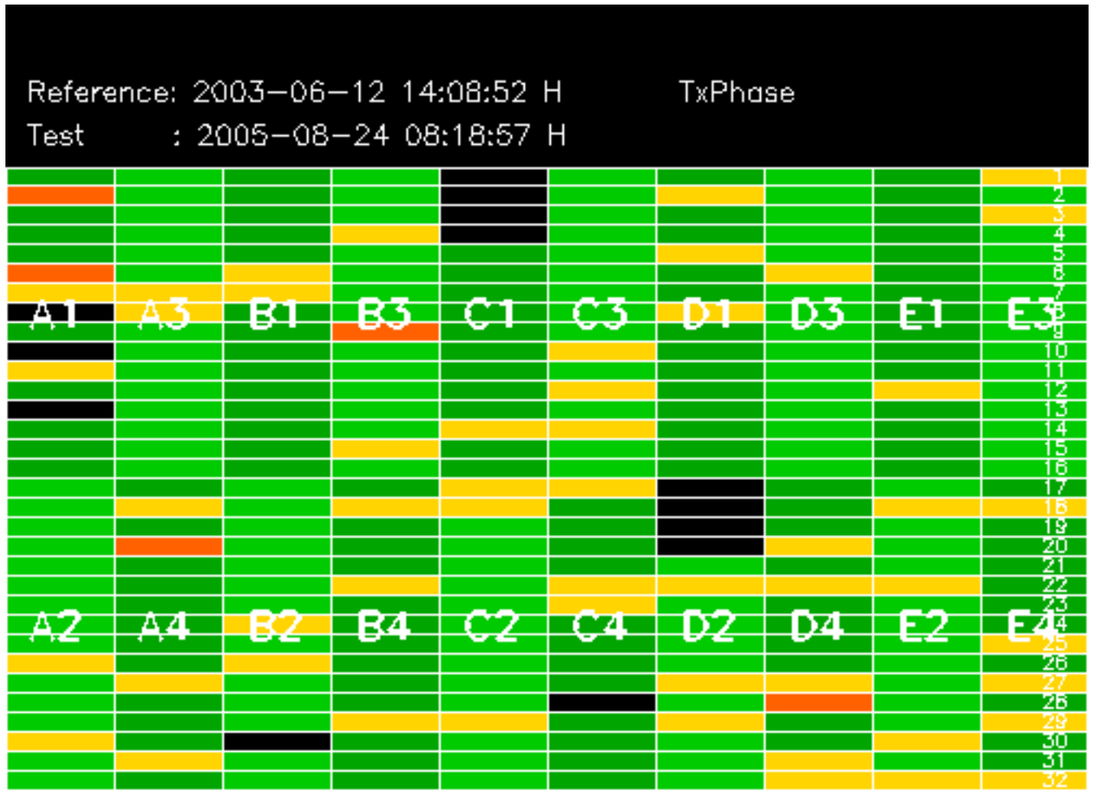
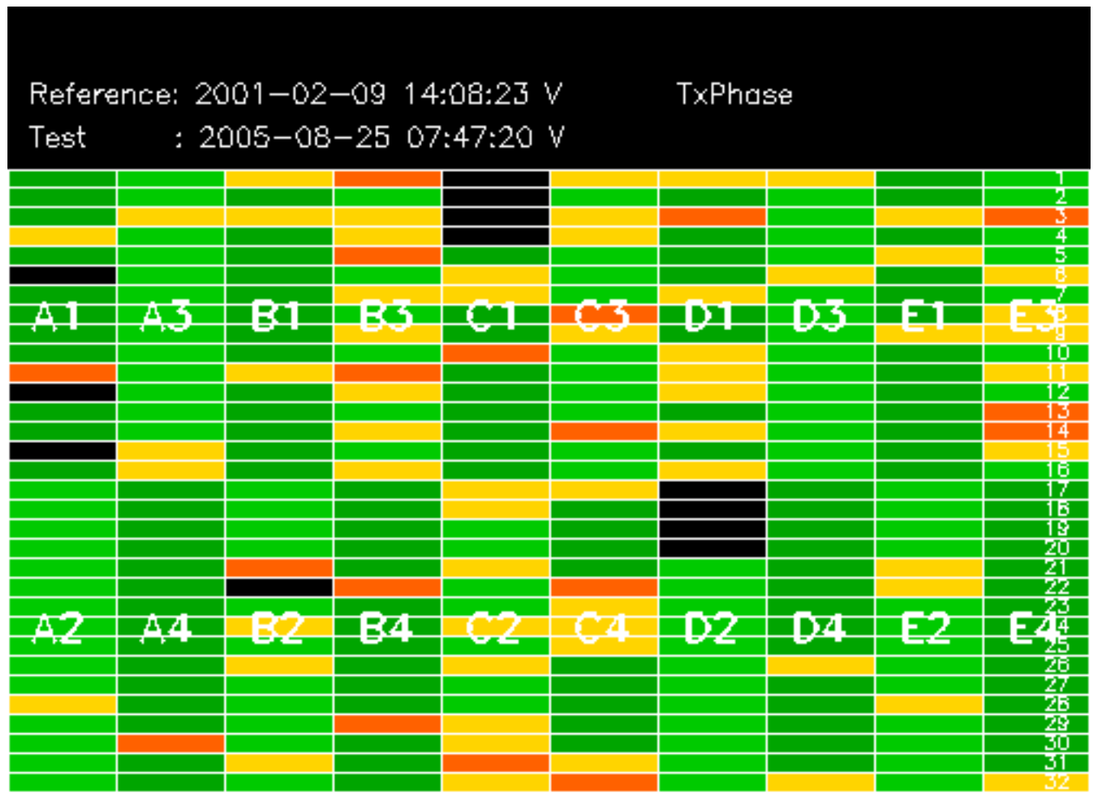
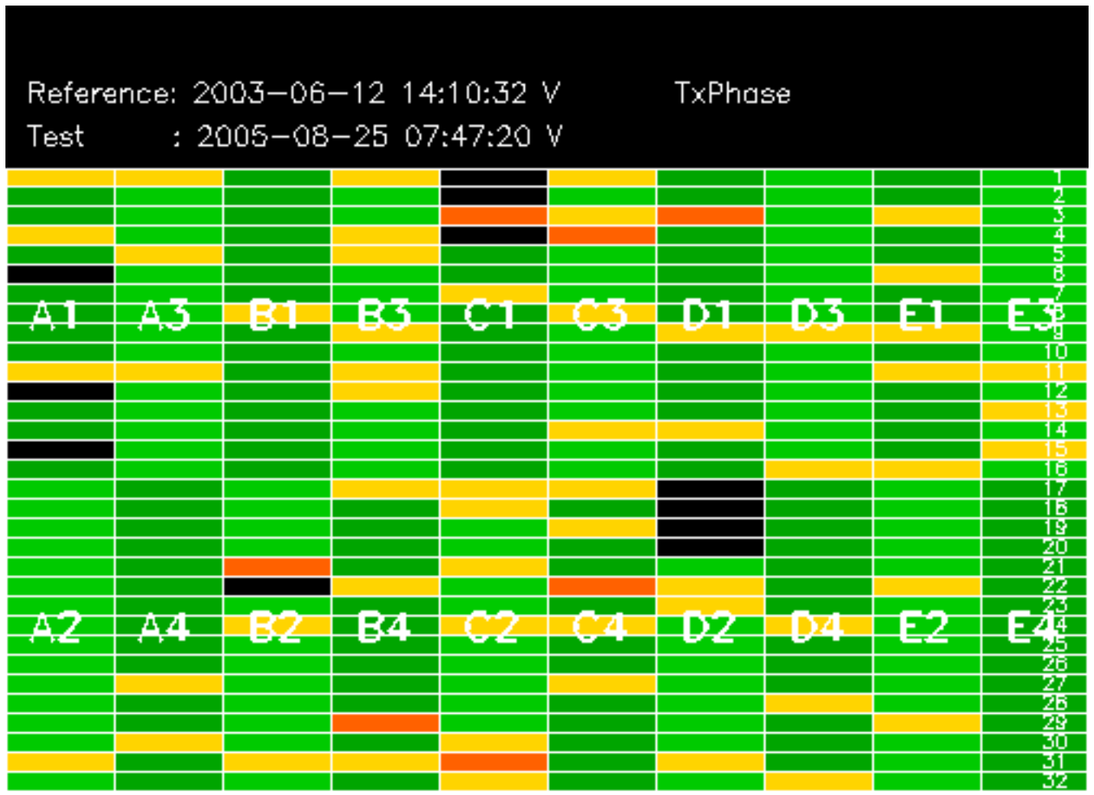
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-08-24 08:18:57 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
TxPhase
Test : 2005-08-25 07:47:20 V
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 : 2005-08-25 07:47:20 V
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
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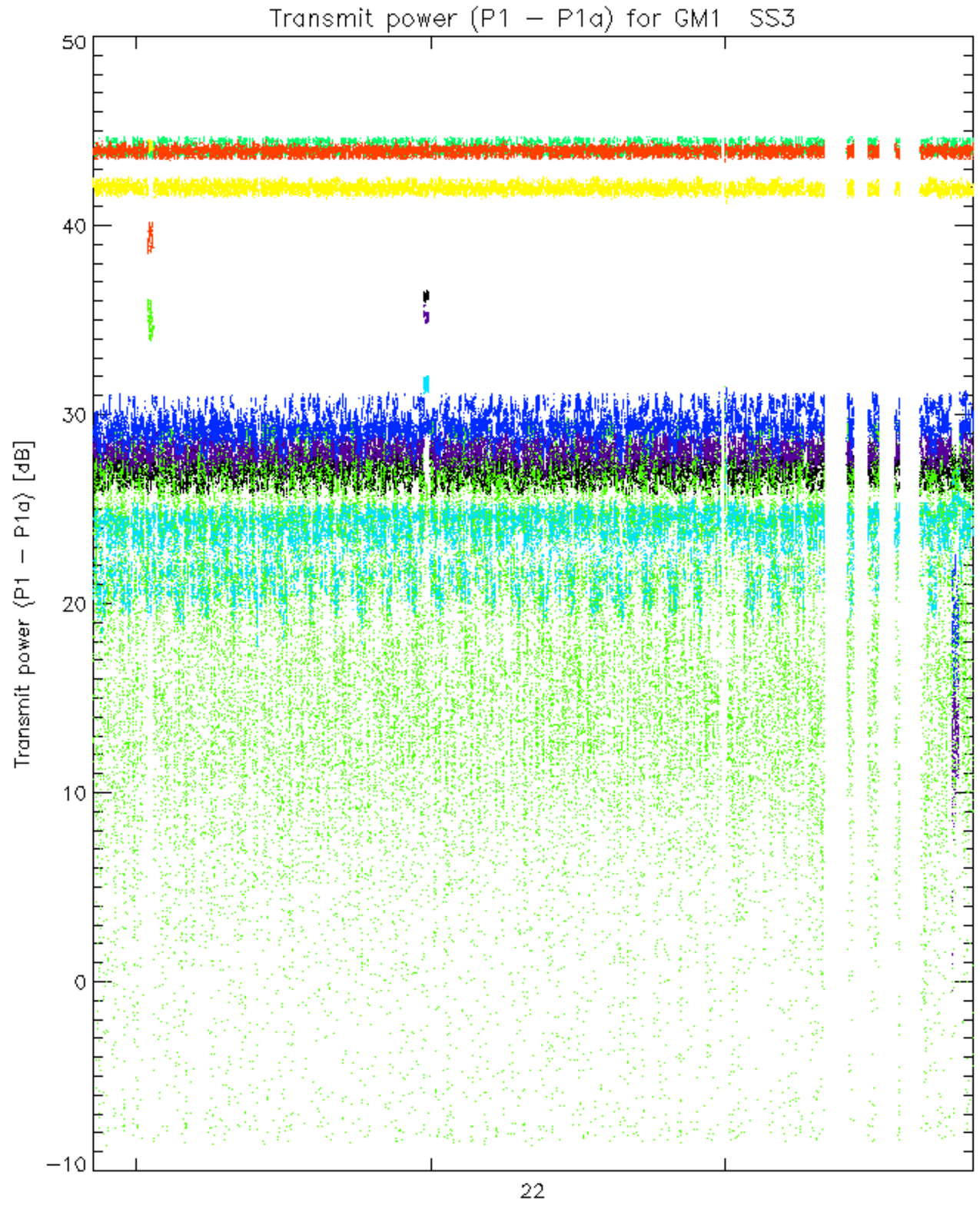
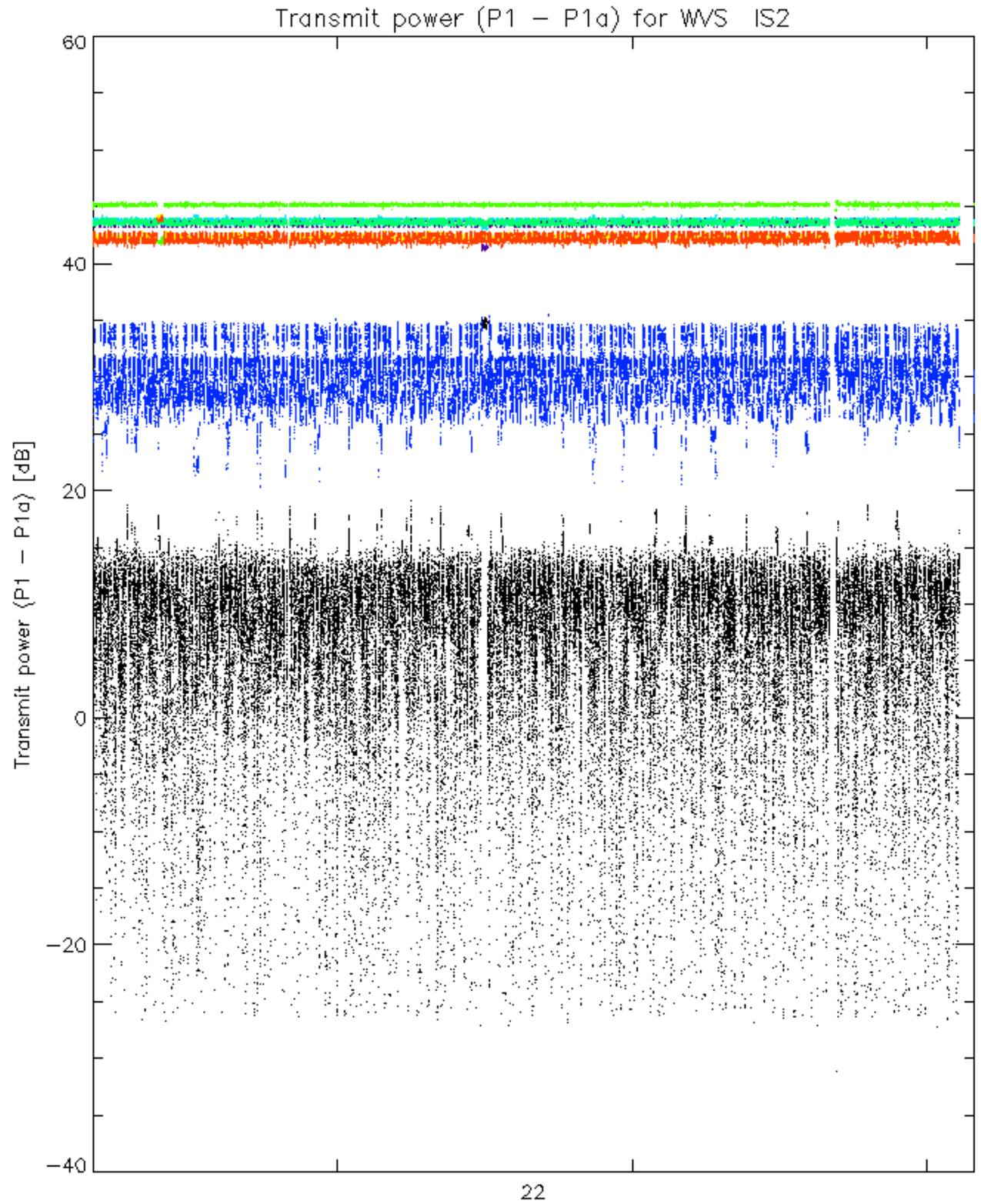
32


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

No unavailabilities during the reported period.