PRELIMINARY REPORT OF 061016

last update on Mon Oct 16 16:44:33 GMT 2006

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 2006-10-15 00:00:00 to 2006-10-16 16:44:33

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	27	20	0	1	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	27	20	0	1	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	27	20	0	1	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	27	20	0	1	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	24	48	0	2	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	24	48	0	2	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	24	48	0	2	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	24	48	0	2	0

2.3 - Browse Visual Inspection

No anomalies observed on available browse products

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	20061013 055513
H	20061016 092210

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	-3.947412	0.010369	-0.015891
7	P1	-3.074202	0.010327	-0.008262
11	P1	-4.083388	0.022882	-0.028575
15	P1	-6.199738	0.016026	-0.038379
19	P1	-3.549840	0.008008	-0.049849
22	P1	-4.601144	0.010592	0.004475
26	P1	-3.987653	0.057467	-0.052777
30	P1	-5.840975	0.089766	-0.070658
3	P1	-16.636982	0.215473	-0.095739
7	P1	-17.109077	0.103537	0.030042
11	P1	-16.942951	0.391453	-0.297515
15	P1	-12.840645	0.100447	0.029868
19	P1	-14.667108	0.052528	-0.045497
22	P1	-15.614739	0.465913	0.343213
26	P1	-15.139701	0.257332	0.199716
30	P1	-16.948303	0.441479	0.083411

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.817764	0.086769	-0.027997
7	P2	-21.790886	0.097356	0.090527
11	P2	-15.735307	0.109036	0.014431
15	P2	-7.074051	0.106999	0.054641
19	P2	-9.124475	0.097640	0.024771
22	P2	-18.132196	0.093860	-0.006083
26	P2	-16.423073	0.101237	0.029382
30	P2	-19.466425	0.093640	0.010469

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)

3	P3	-8.195897	0.006526	-0.017349
7	P3	-8.195897	0.006526	-0.017349
11	P3	-8.195897	0.006526	-0.017349
15	P3	-8.195897	0.006526	-0.017349
19	P3	-8.195897	0.006526	-0.017349
22	P3	-8.195897	0.006526	-0.017349
26	P3	-8.195653	0.006535	-0.016964
30	P3	-8.195653	0.006535	-0.016964

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	-3.905034	0.150277	-0.174725
7	P1	-2.628408	0.912648	-0.443525
11	P1	-2.924101	0.117552	-0.146814
15	P1	-3.705424	0.110609	-0.169817
19	P1	-3.462372	0.035654	-0.004585
22	P1	-5.086322	0.036944	0.084269
26	P1	-5.911074	0.168297	-0.099885
30	P1	-5.232365	0.172409	-0.079102
3	P1	-11.731541	0.388048	-0.359382
7	P1	-10.148628	1.185574	-0.611049
11	P1	-10.453386	0.344861	-0.366876
15	P1	-10.945914	0.473475	-0.493088
19	P1	-15.551960	0.318196	0.081164
22	P1	-20.946754	1.407063	-0.034429
26	P1	-15.806607	0.458649	0.365938
30	P1	-18.077482	0.526456	0.128347

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.339396	0.225964	0.226495
7	P2	-21.996748	1.279155	0.748833
11	P2	-10.839919	0.199419	0.235798
15	P2	-4.857003	0.036066	0.012498
19	P2	-6.835164	0.061547	0.038510
22	P2	-8.199265	0.400603	-0.202793
26	P2	-24.094776	0.943377	0.466576
30	P2	-21.891251	0.486067	0.360899

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.044356	0.003463	-0.008874
7	P3	-8.044324	0.003459	-0.009008
11	P3	-8.044324	0.003456	-0.008615
15	P3	-8.044387	0.003461	-0.009074
19	P3	-8.044350	0.003459	-0.008869
22	P3	-8.044355	0.003457	-0.008686
26	P3	-8.044024	0.003451	-0.007221
30	P3	-8.043972	0.003446	-0.007455

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	0.000568075
	stdev	1.62731e-07
MEAN Q	mean	0.000526368
	stdev	2.13390e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138863
	stdev	0.00112943
STDEV Q	mean	0.139236
	stdev	0.00114790

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006101[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
ASA_WSM_1PNPDE20061014_000331_000000852052_00059_24161_4168.N1	0	35

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

Evolution Doppler error versus ANX
☒

7.4 - Unbiased Doppler Error for GM1

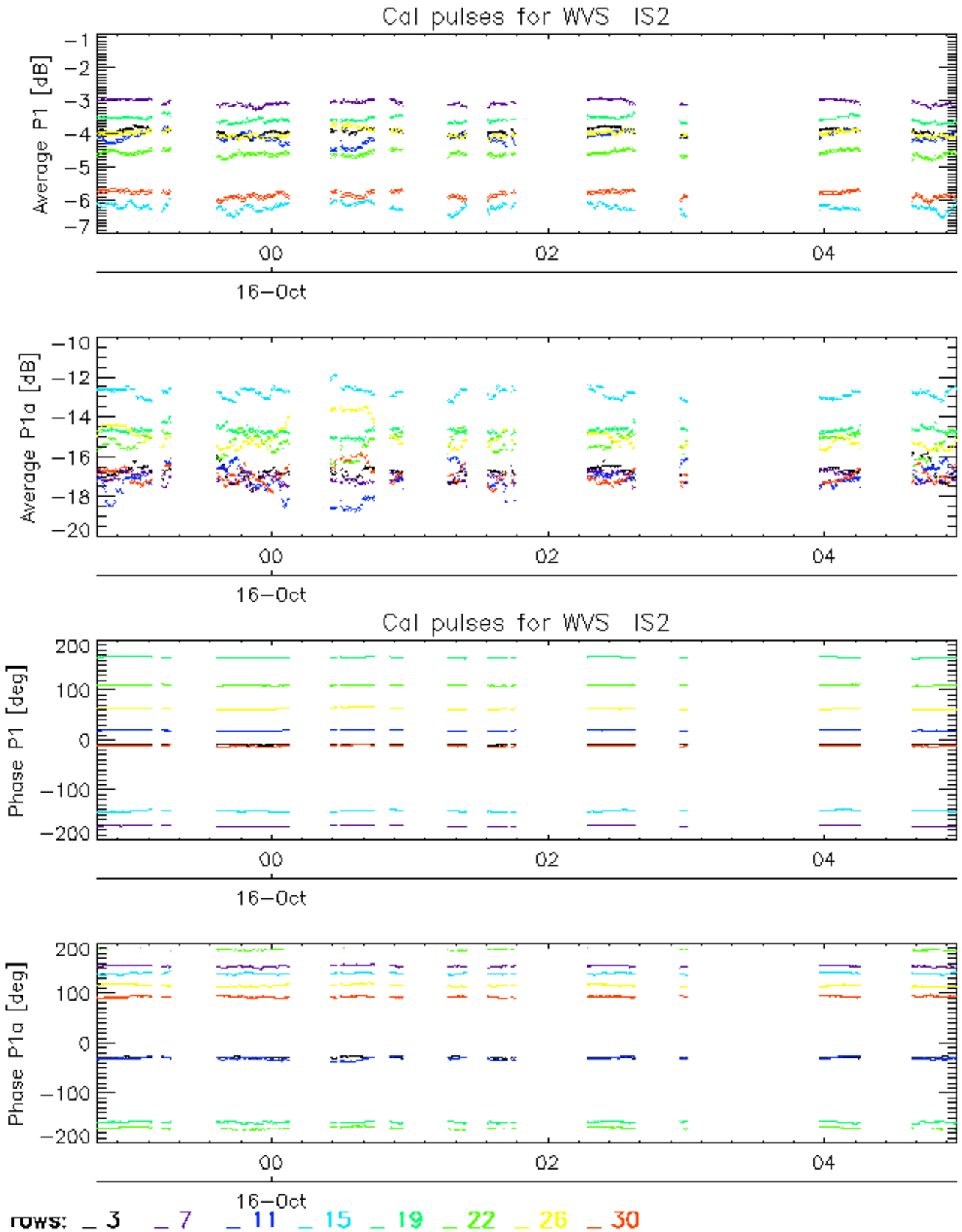
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

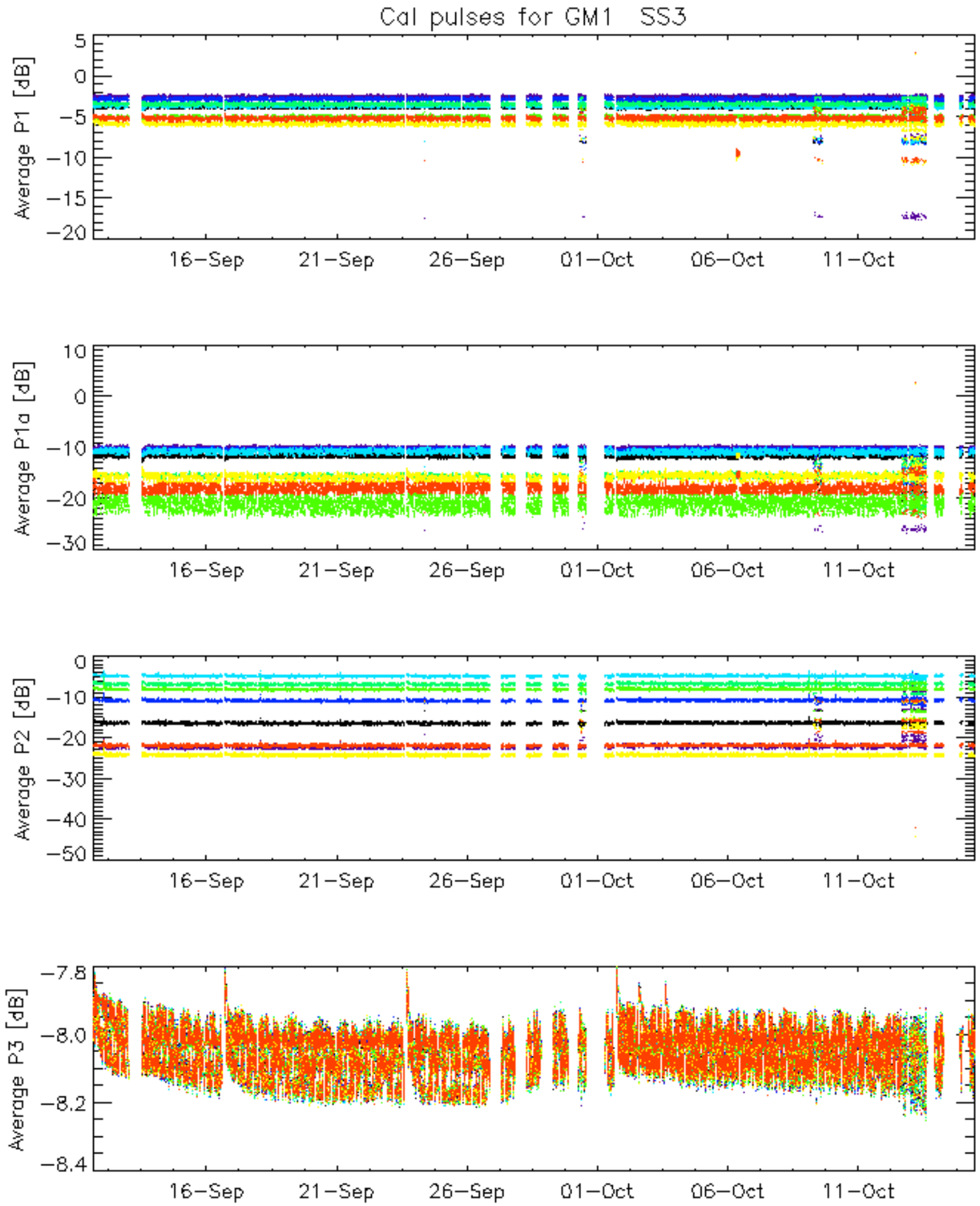
7.5 - Absolute Doppler for GM1

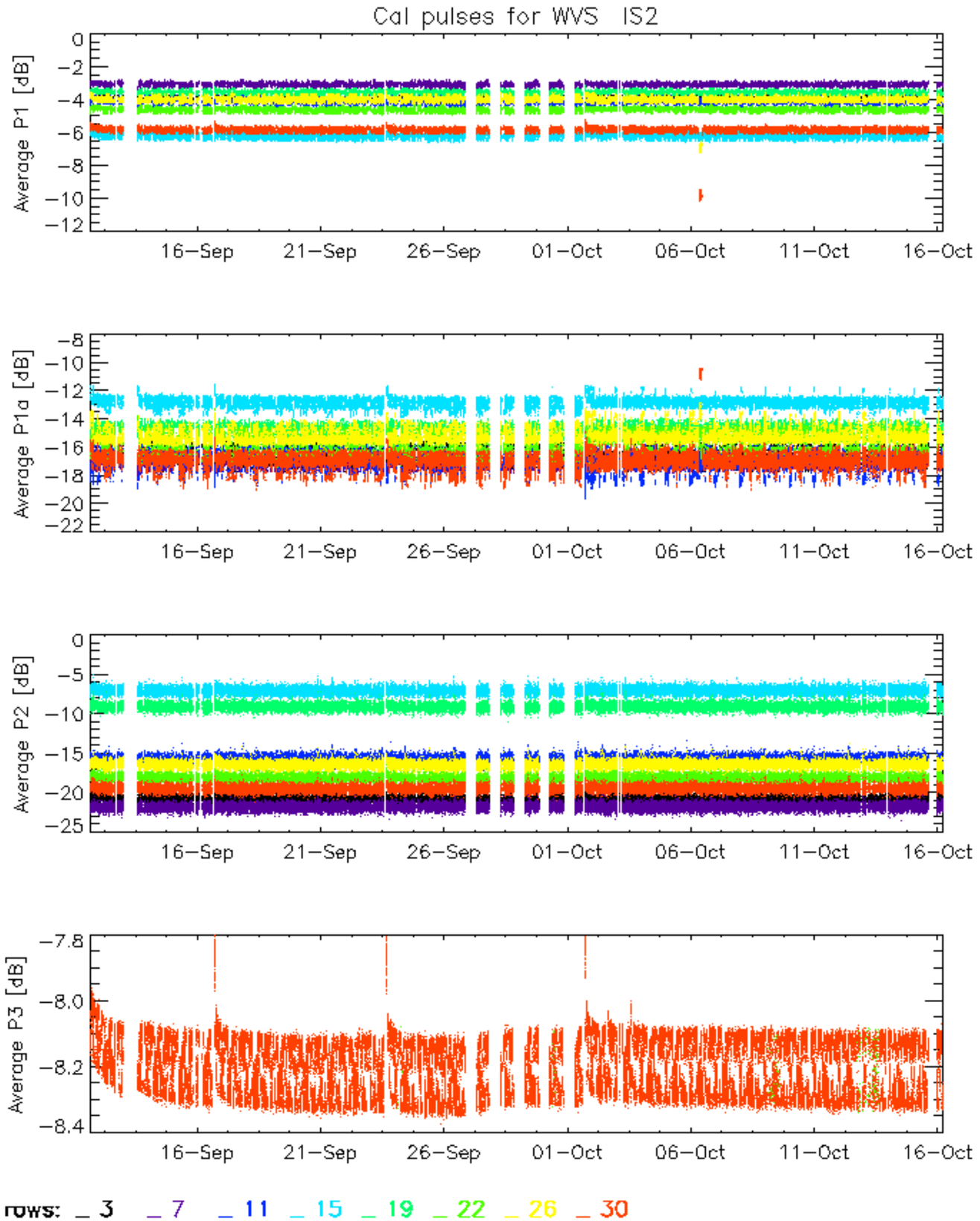
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

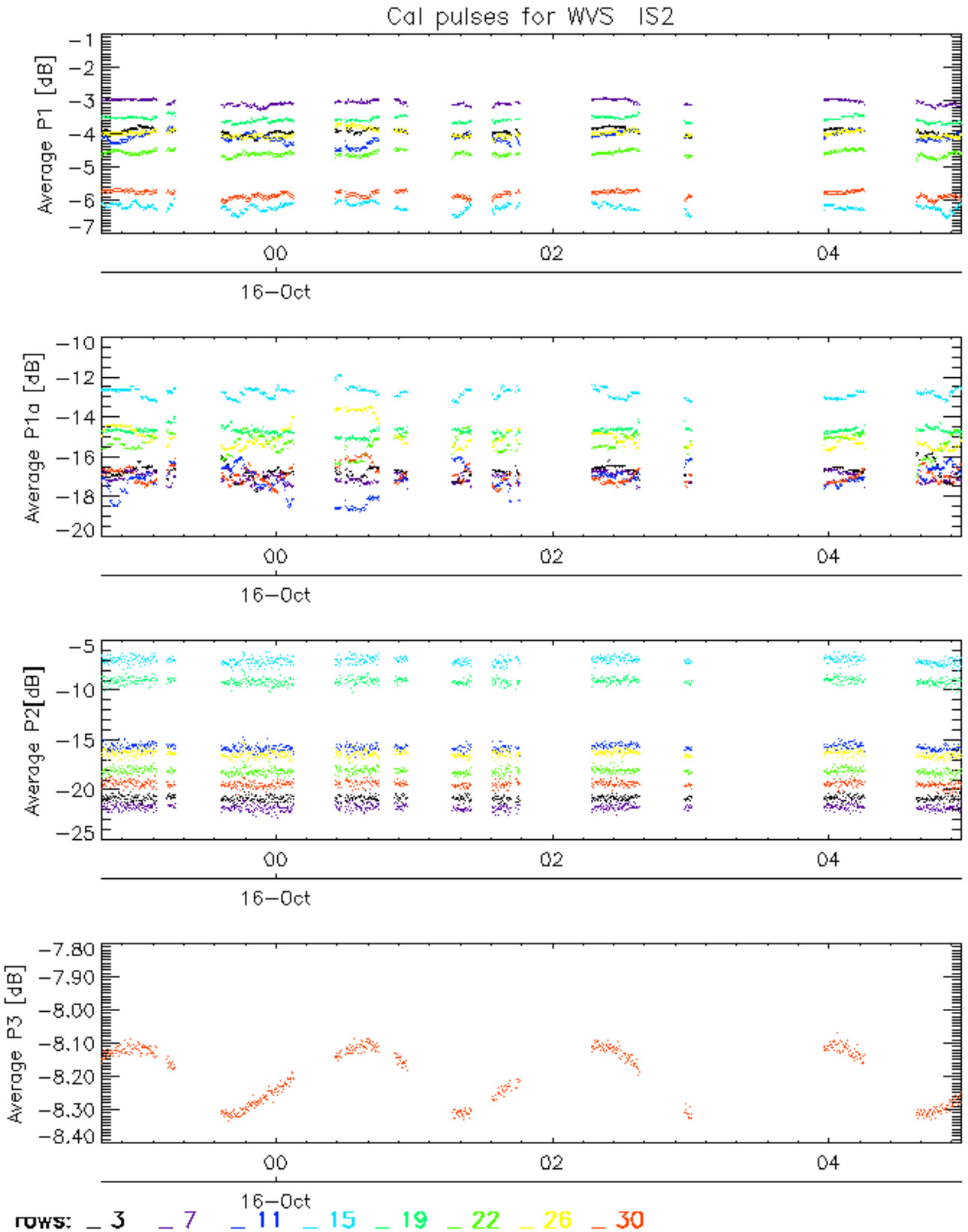
7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
☒


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
00
02
04
16−Oct
Average P1a [dB]
−10
−12
−14
−16
−18
−20
00
02
04
16−Oct
Cal pulses for WVS IS2
Phase P1 [deg]
200
100
0
−100
−200
00
02
04
16−Oct
Phase P1a [deg]
200
100
0
−100
−200
00
02
04
16−Oct
rows: 3 7 11 15 19 22 26 30

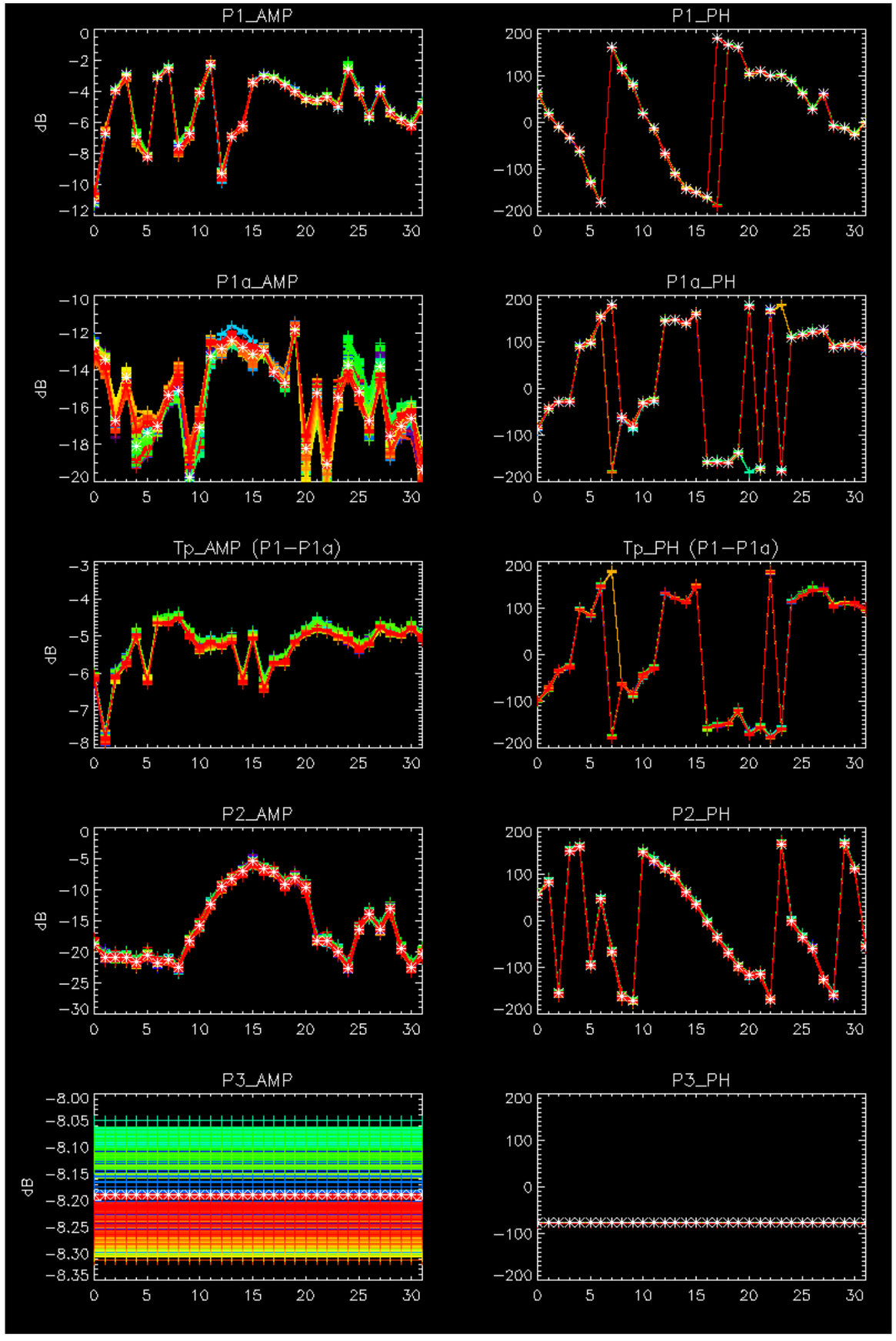

Cal pulses for GM1 SS3
Average P1 [dB]
5
0
−5
−10
−15
−20
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct
11−Oct
Average P1a [dB]
10
0
−10
−20
−30
Average P2 [dB]
−30
−40
−50
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct
11−Oct
16−Oct
Average P1a [dB]
−8
−10
−12
−14
−16
−18
−20
−22
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


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
00
02
04
16−Oct
Average P1a [dB]
−10
−12
−14
−16
−18
−20
00
02
04
16−Oct
Average P2[dB]
−5
−10
−15
−20
−25
00
02
04
16−Oct
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
00
02
04
16−Oct
rows: 3 7 11 15 19 22 26 30

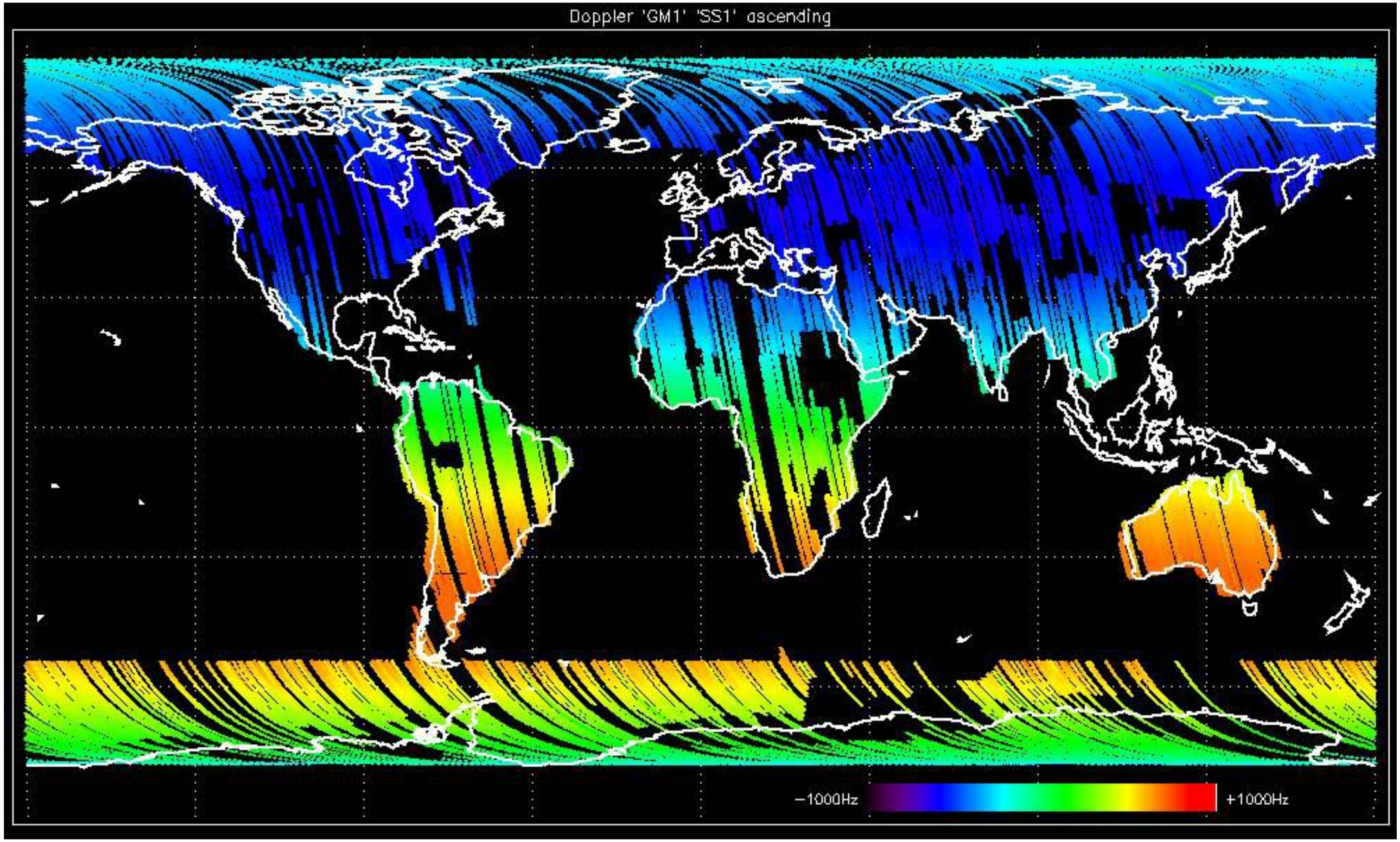
No anomalies observed on available browse products

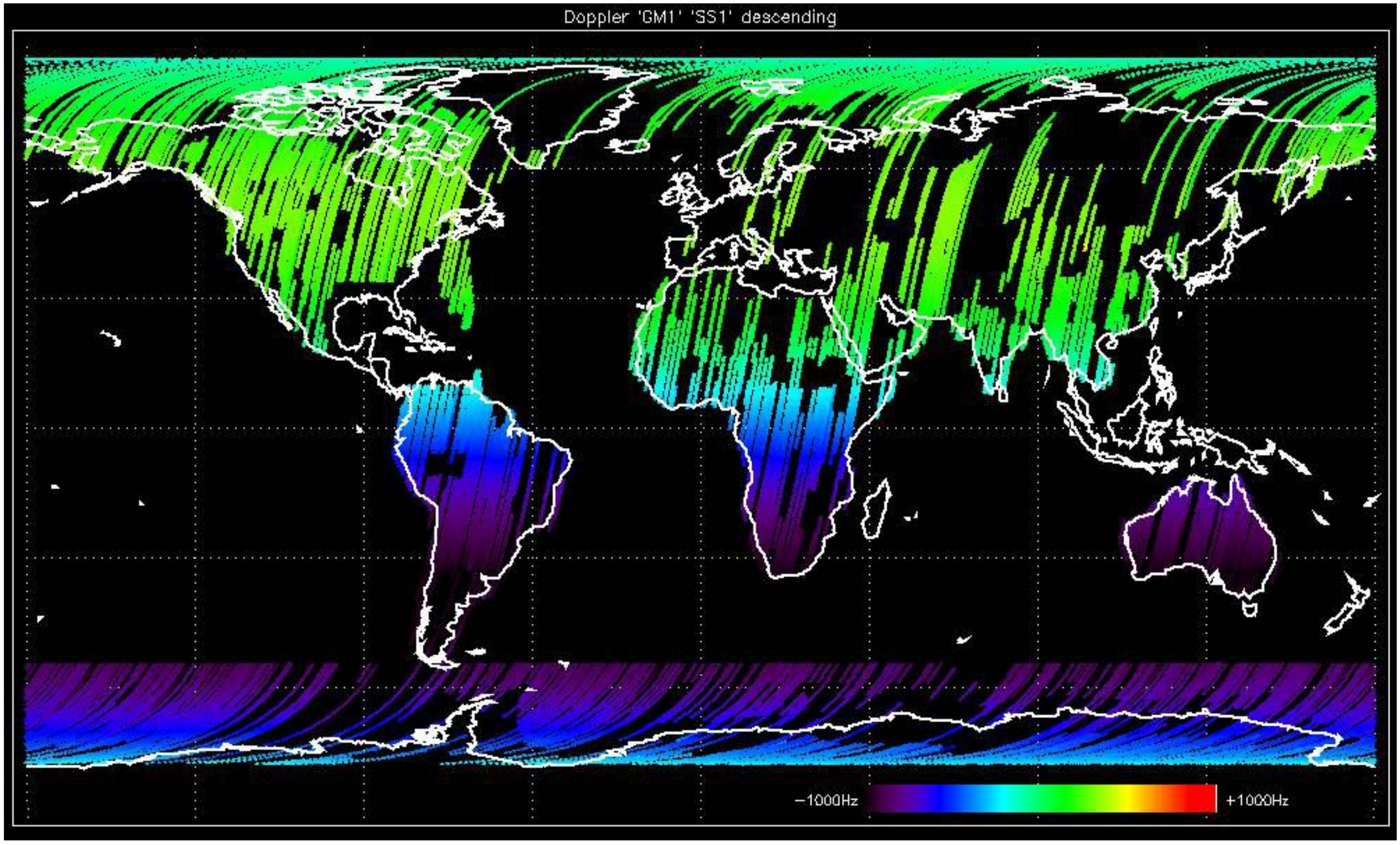
No anomalies observed.

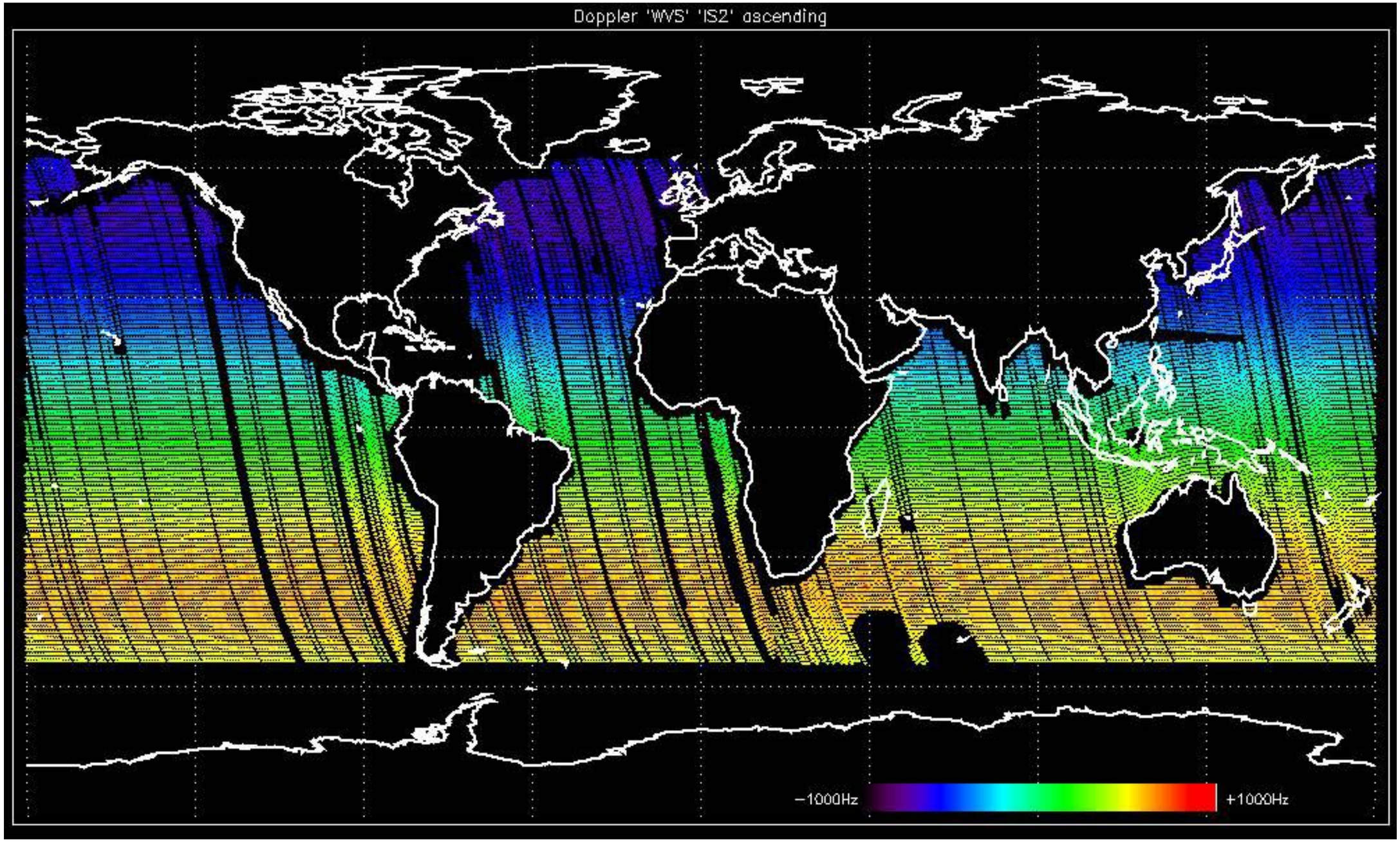

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

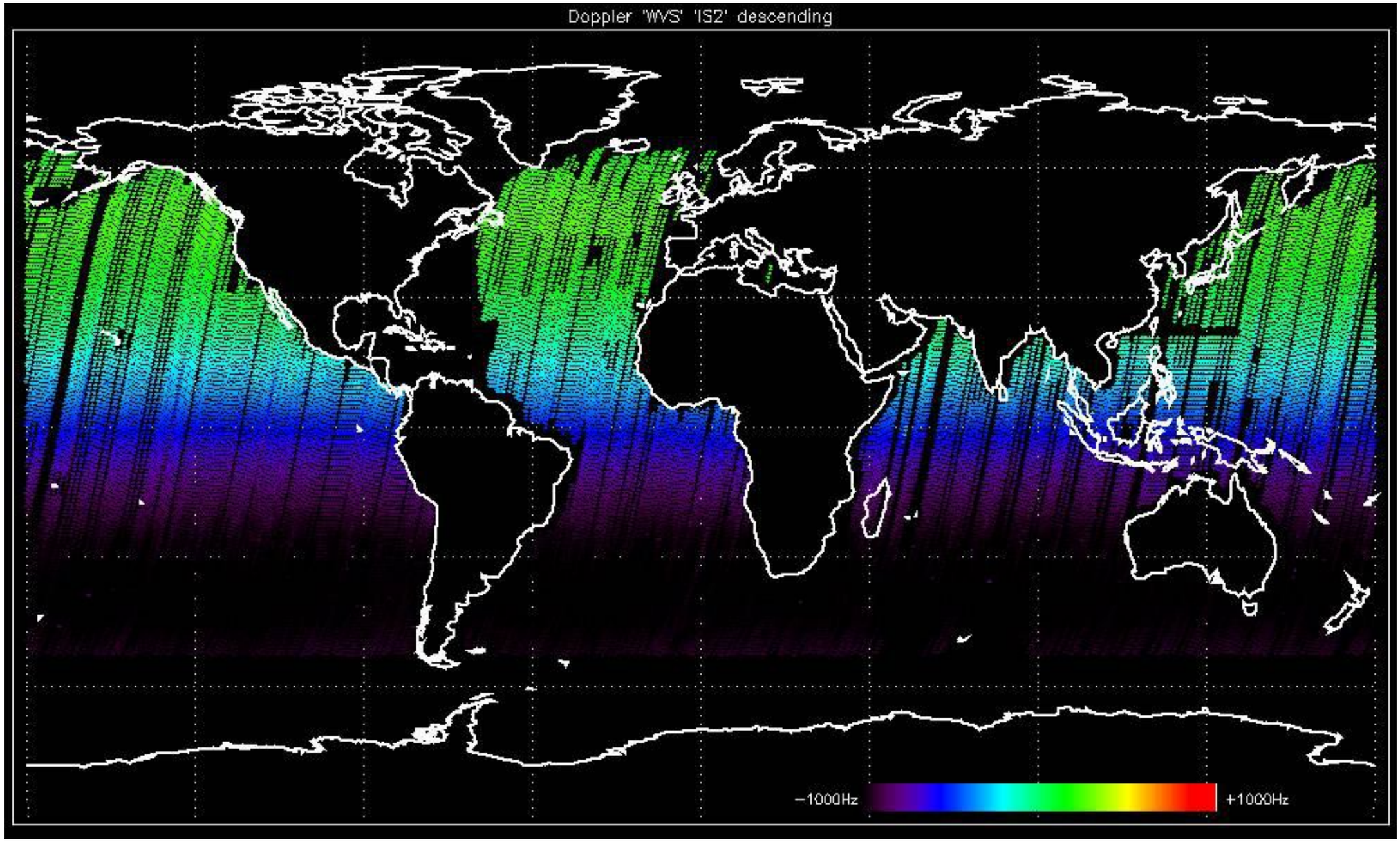
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

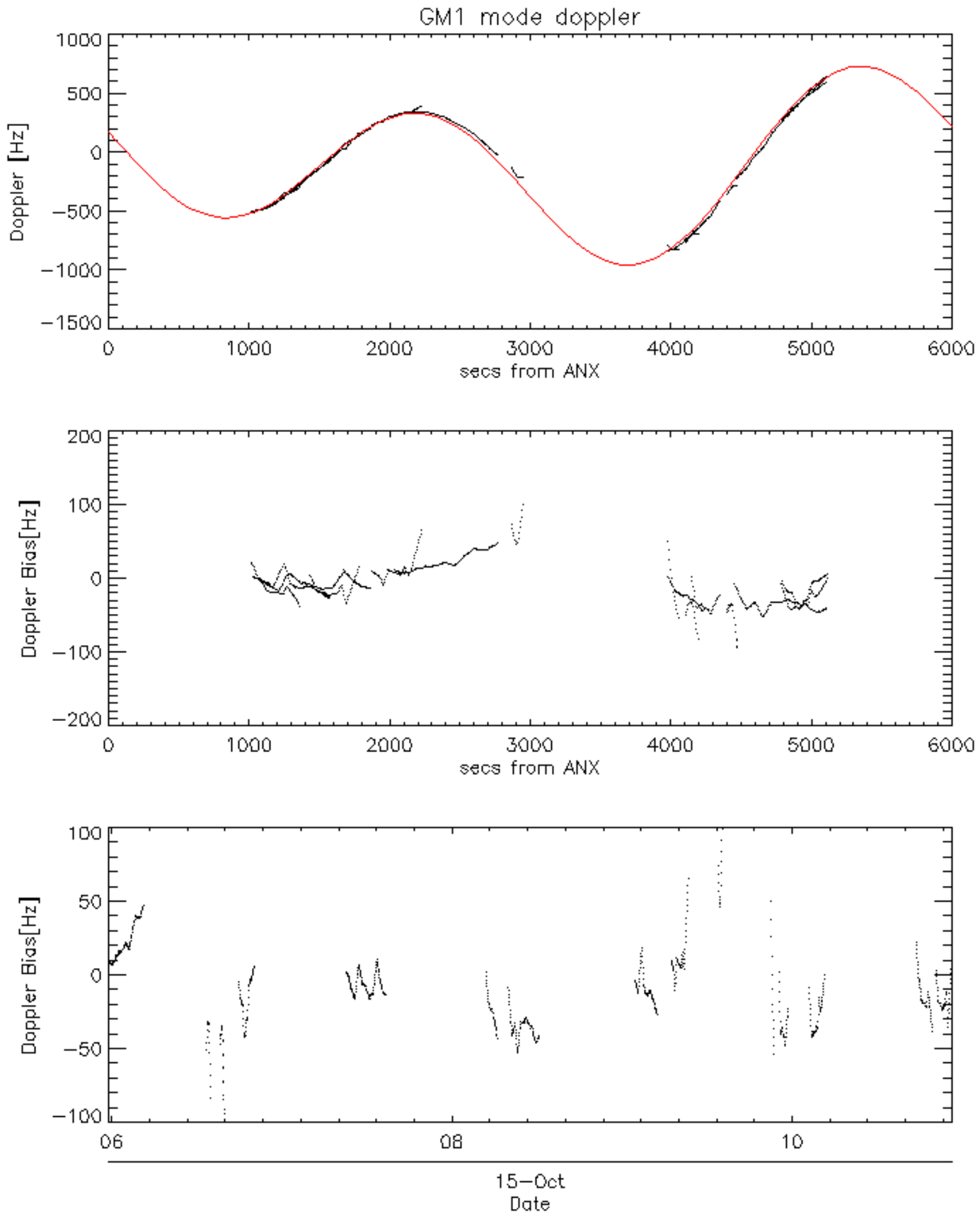
Preliminary report.The data is not yet controled

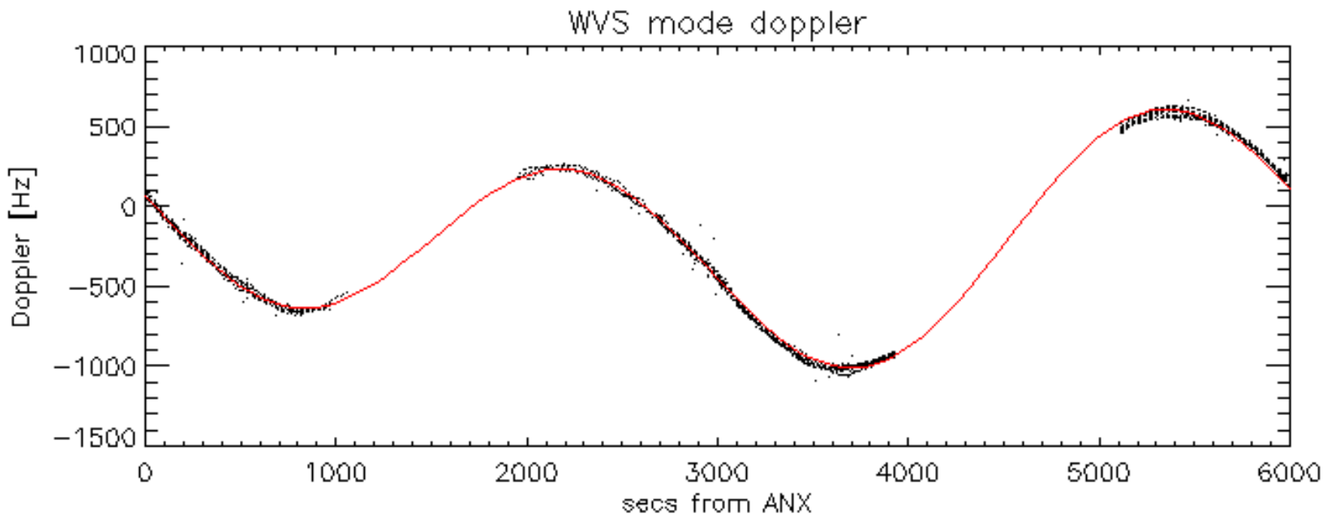

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

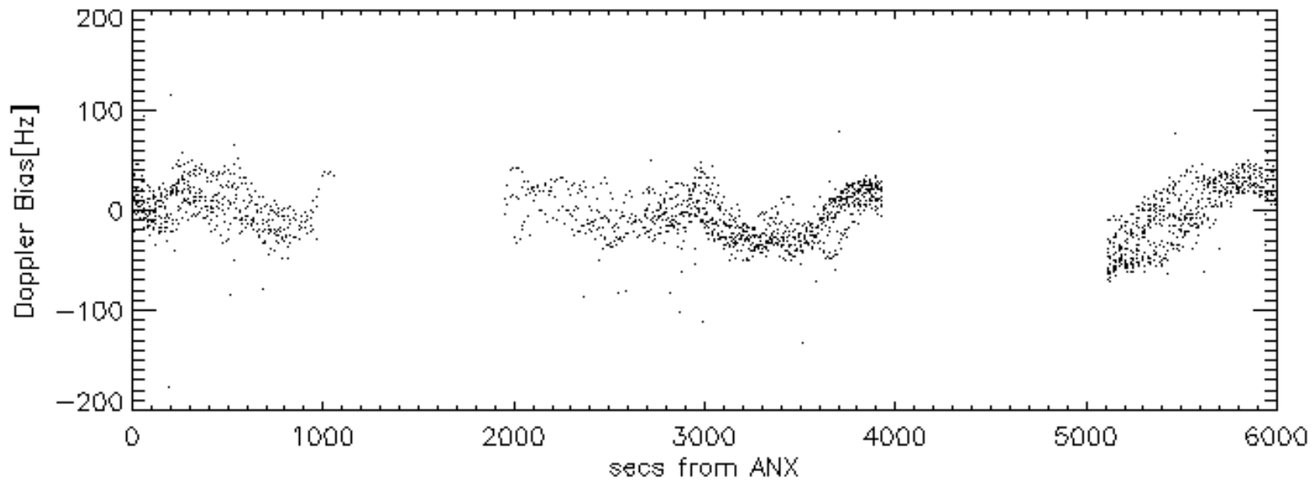

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

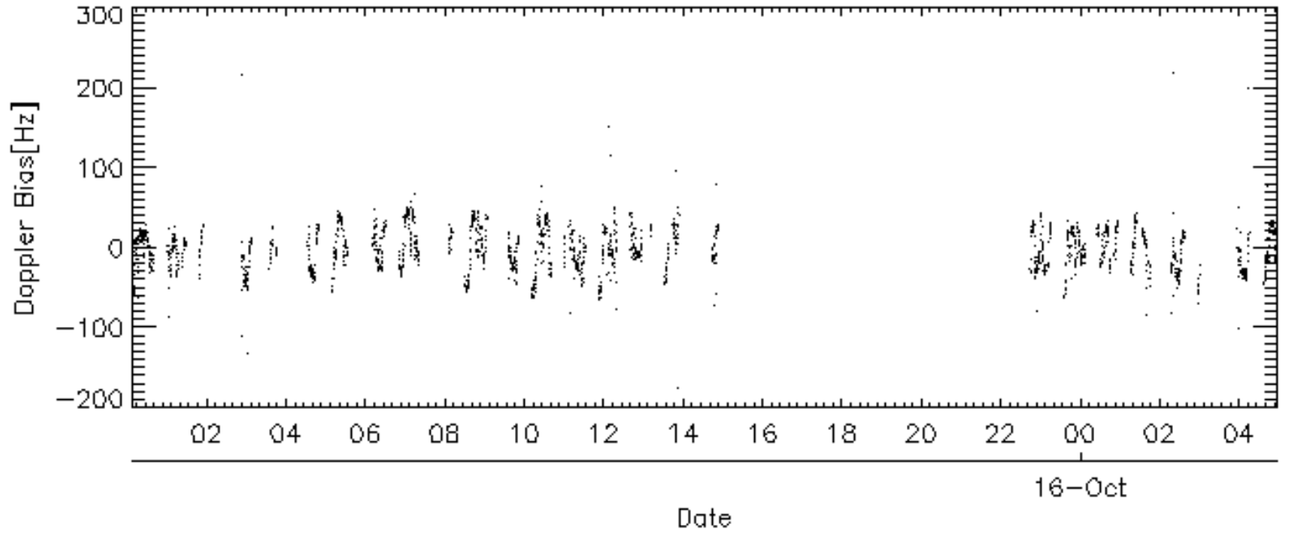

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

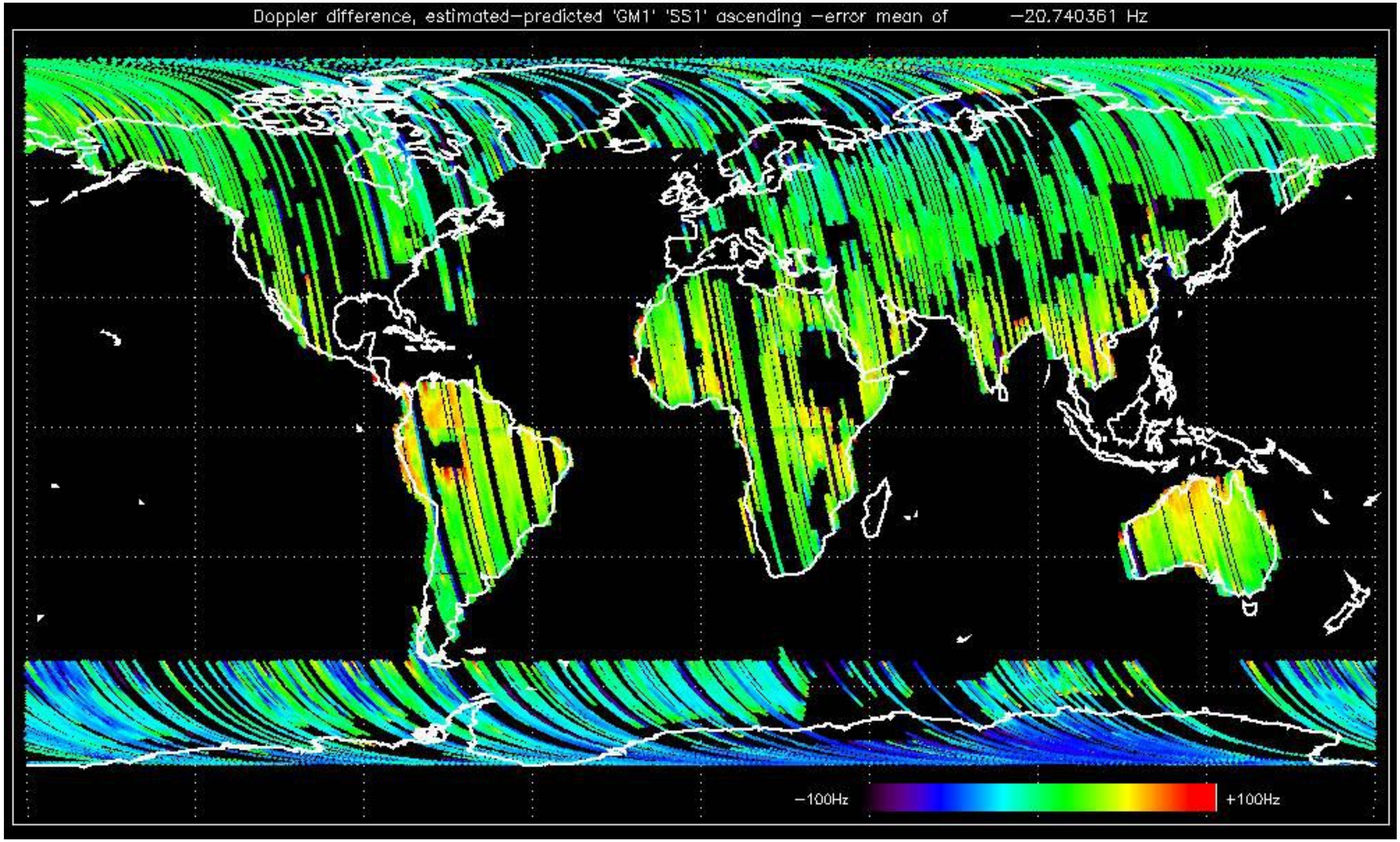

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

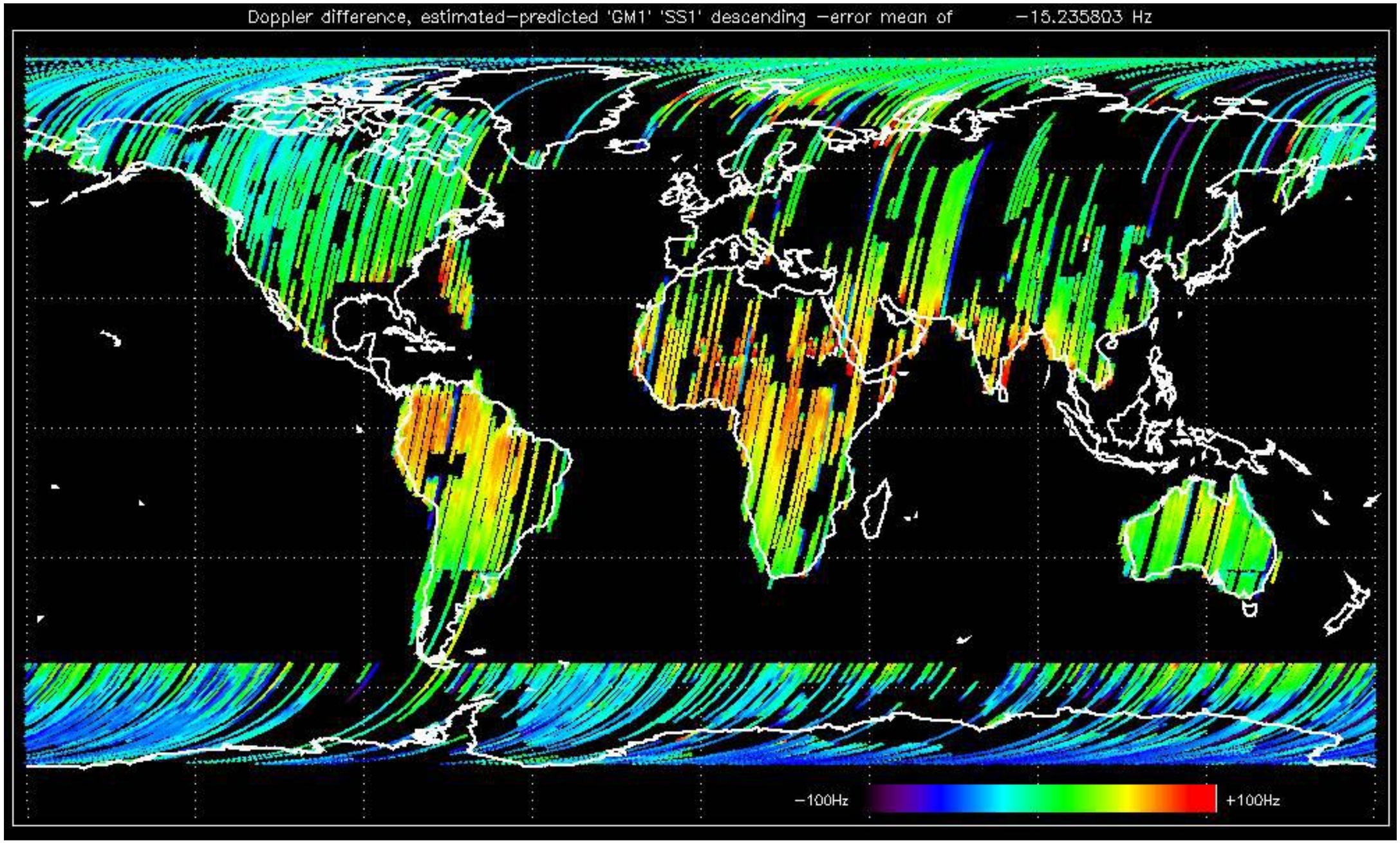

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
100
50
0
−50
−100
06
08
10
15−Oct
Date

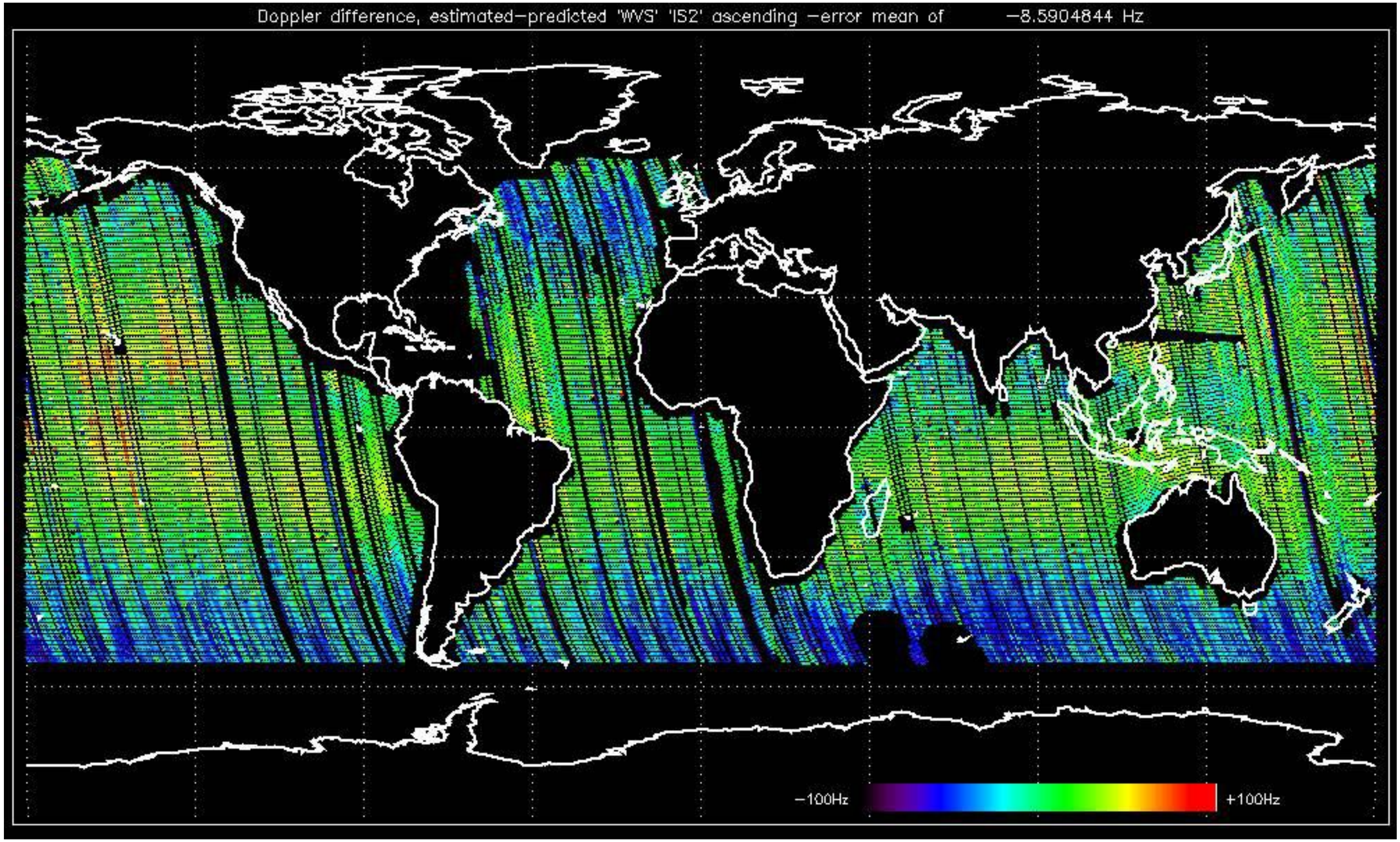

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

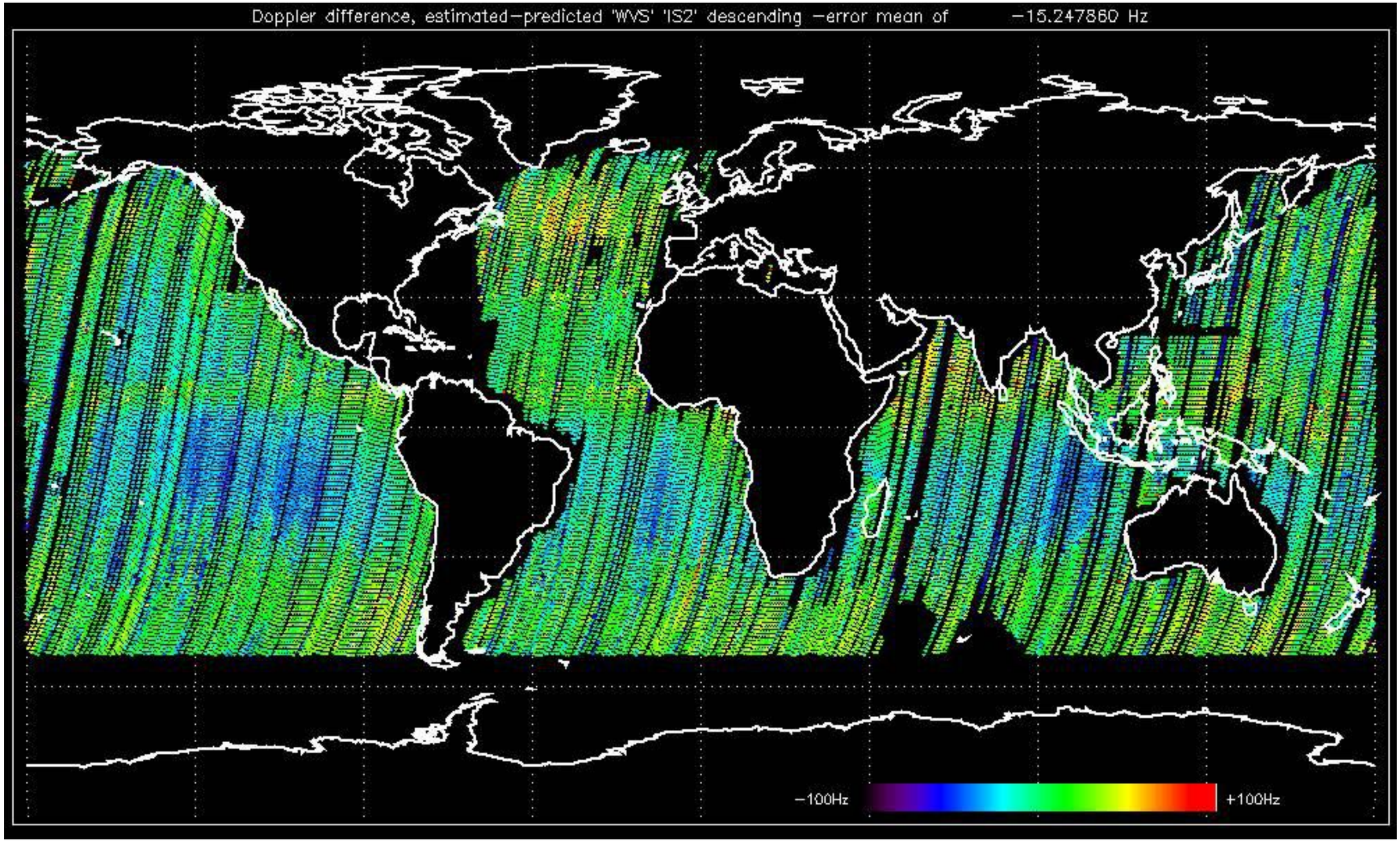

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


Doppler Bias[Hz]
300
200
100
0
−100
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
04
16−Oct
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −20.740361 Hz
−100Hz
+100Hz

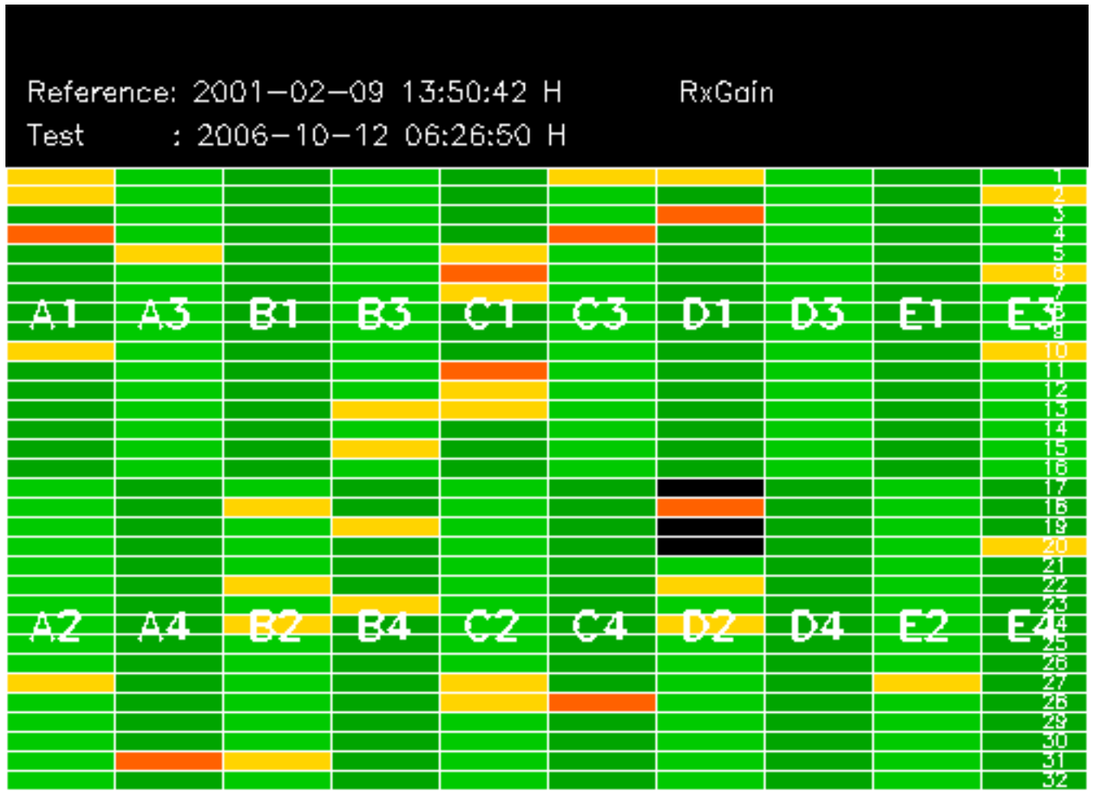

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −15.235803 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −8.5904844 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −15.247860 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2006-10-12 06:26:50 H
RxGain
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
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17
18
19
20
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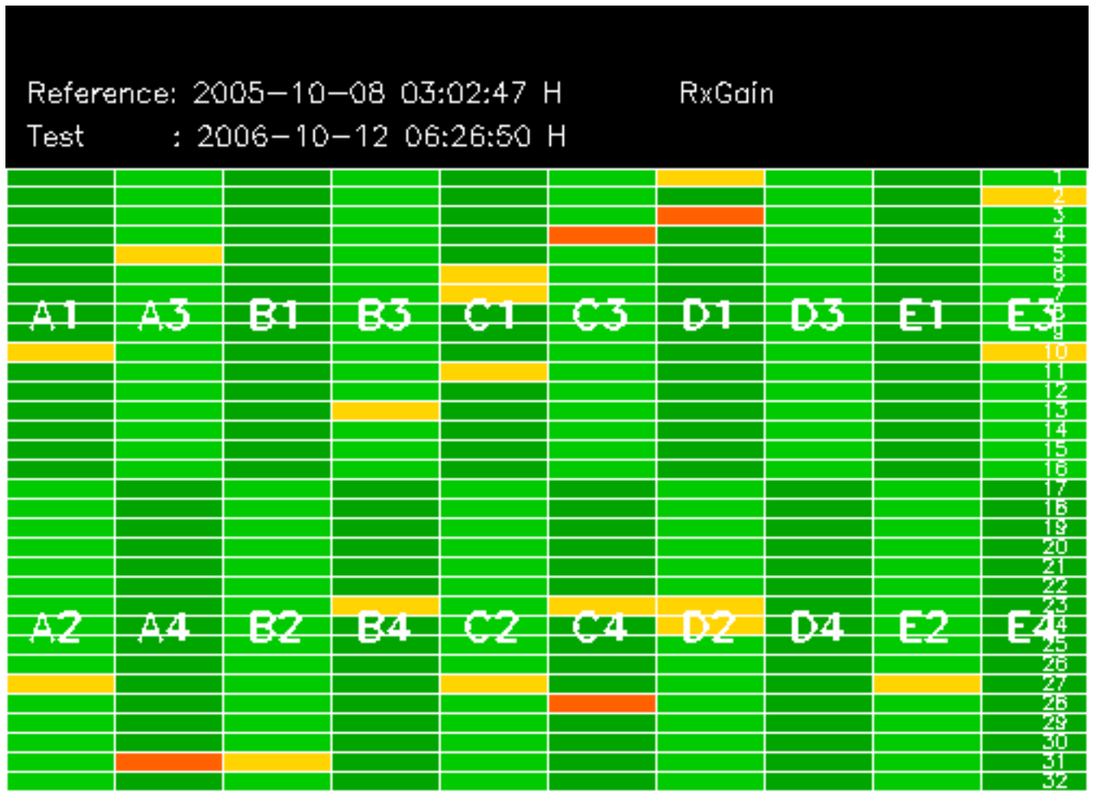
22
23
24
25
26
27
28
29
30
31
32


Reference: 2005-10-08 03:02:47 H
Test : 2006-10-12 06:26:50 H
RxGain
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
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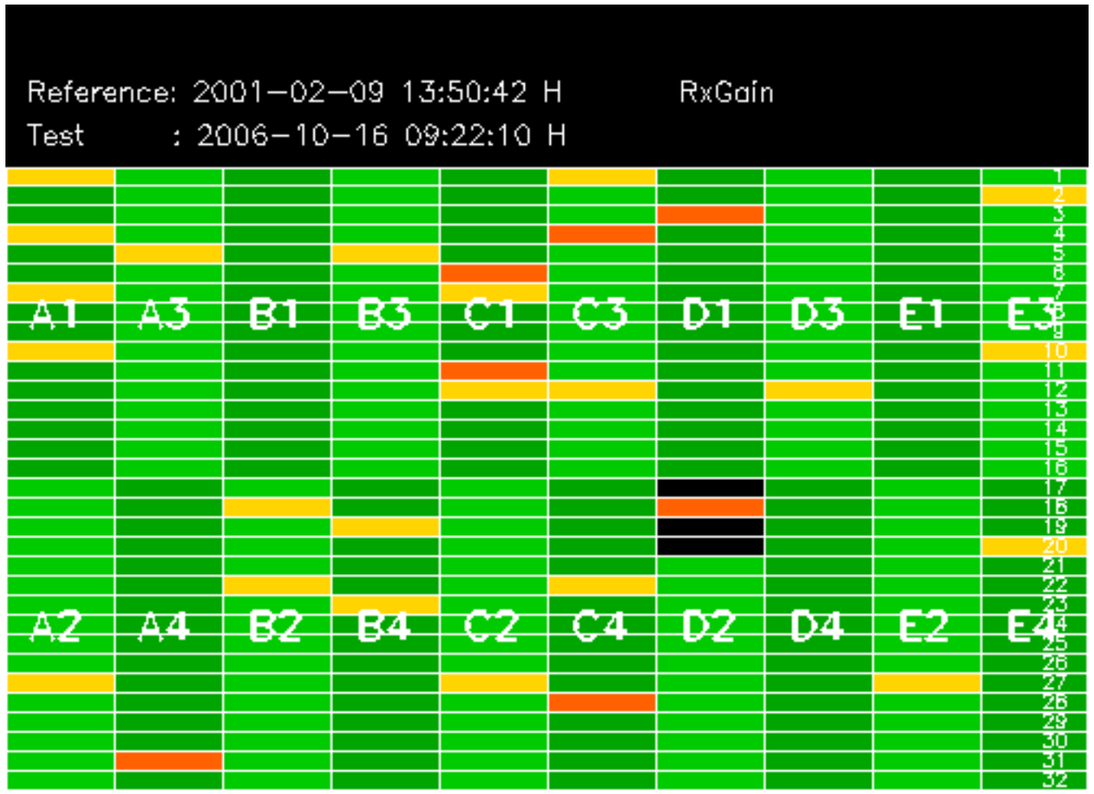
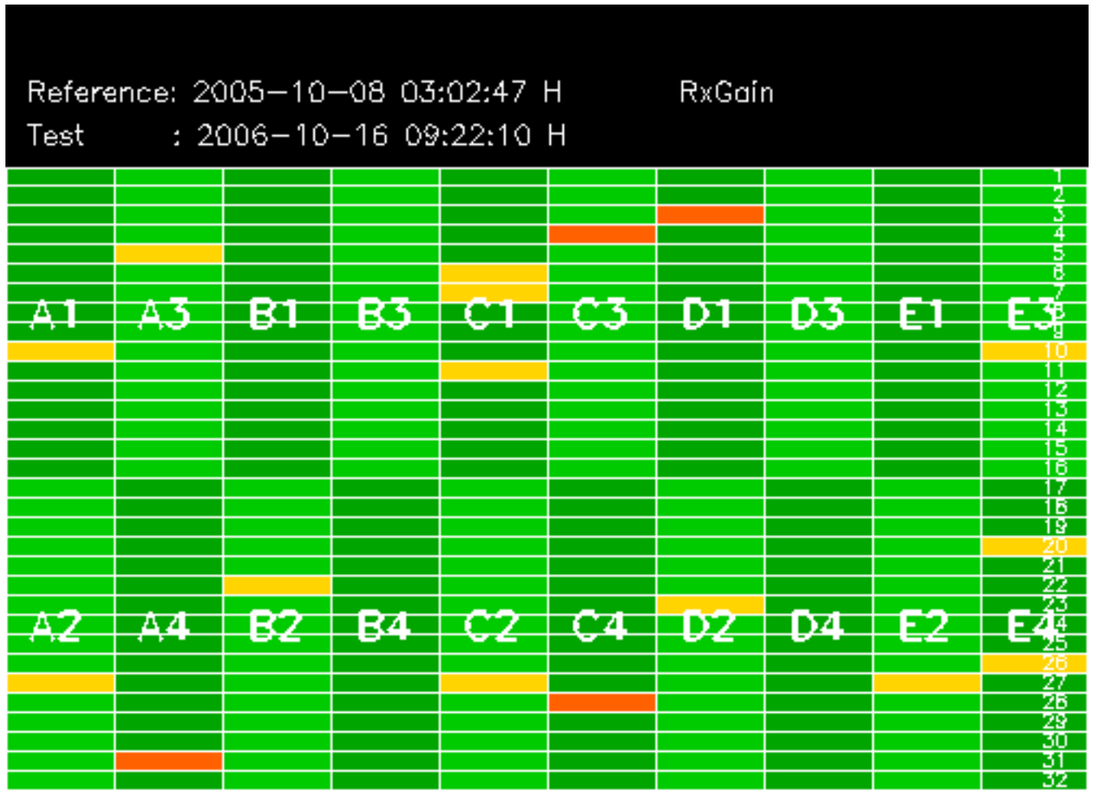
31
32


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2006-10-16 09:22:10 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
Test : 2006-10-16 09:22:10 H
RxGain
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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31
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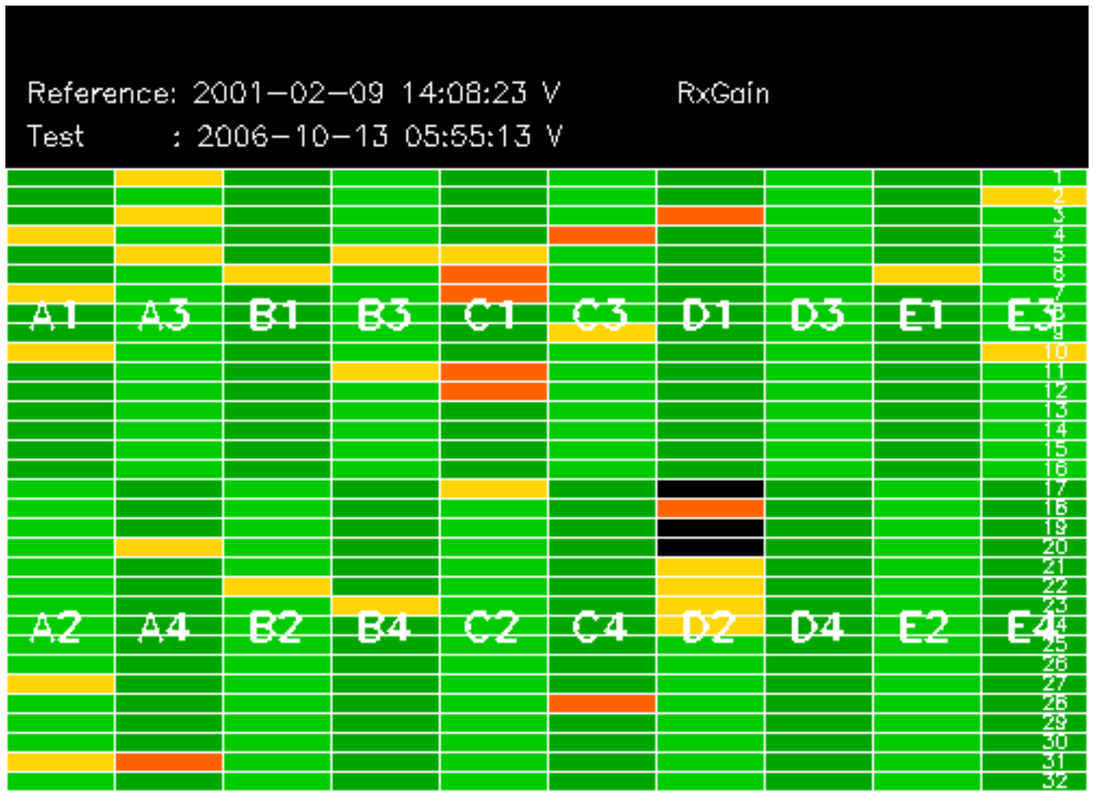
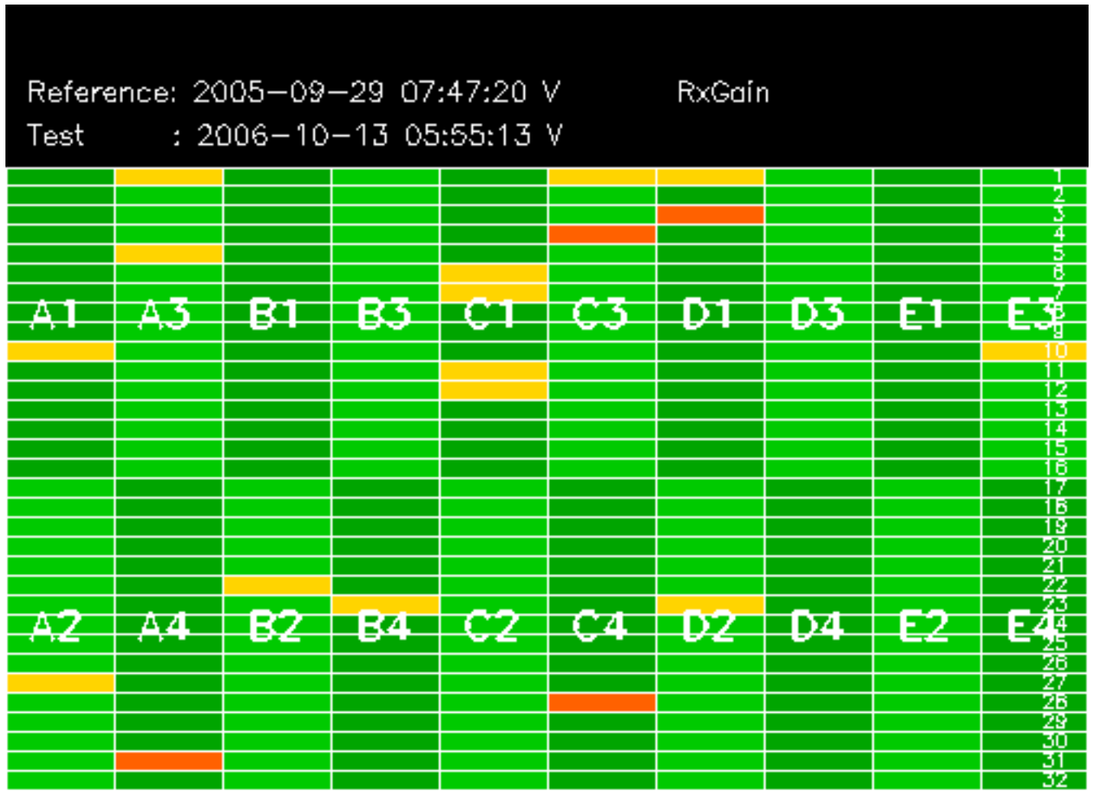

Reference: 2001-02-09 14:08:23 V
Test : 2006-10-13 05:55:13 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-10-13 05:55:13 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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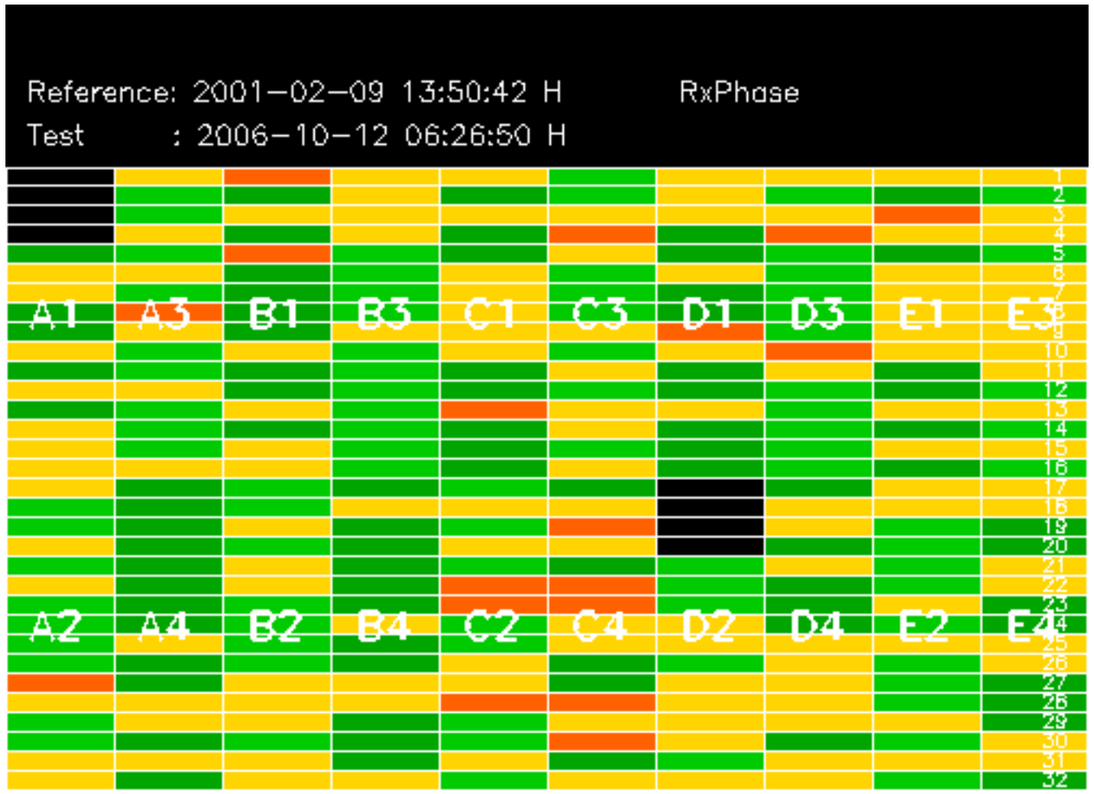
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-10-12 06:26:50 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-10-08 03:02:47 H
RxPhase
Test : 2006-10-12 06:26:50 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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30
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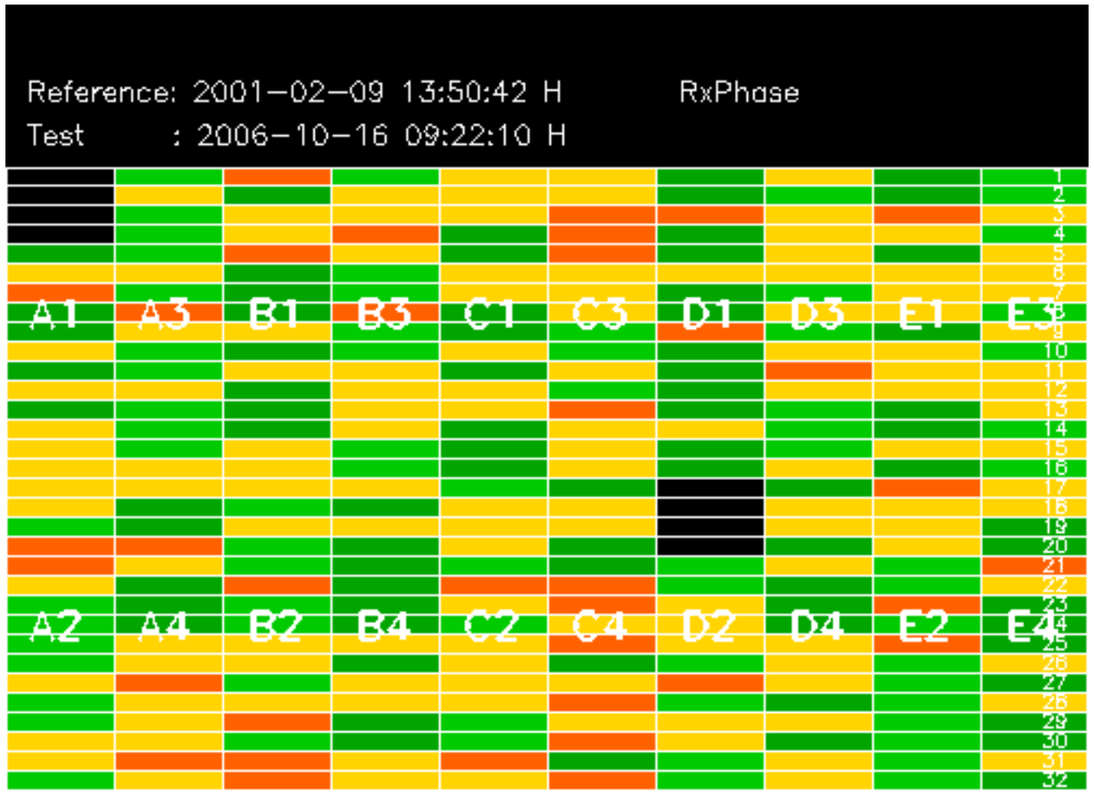
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-10-16 09:22:10 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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31
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Reference: 2005-10-08 03:02:47 H
RxPhase
Test : 2006-10-16 09:22:10 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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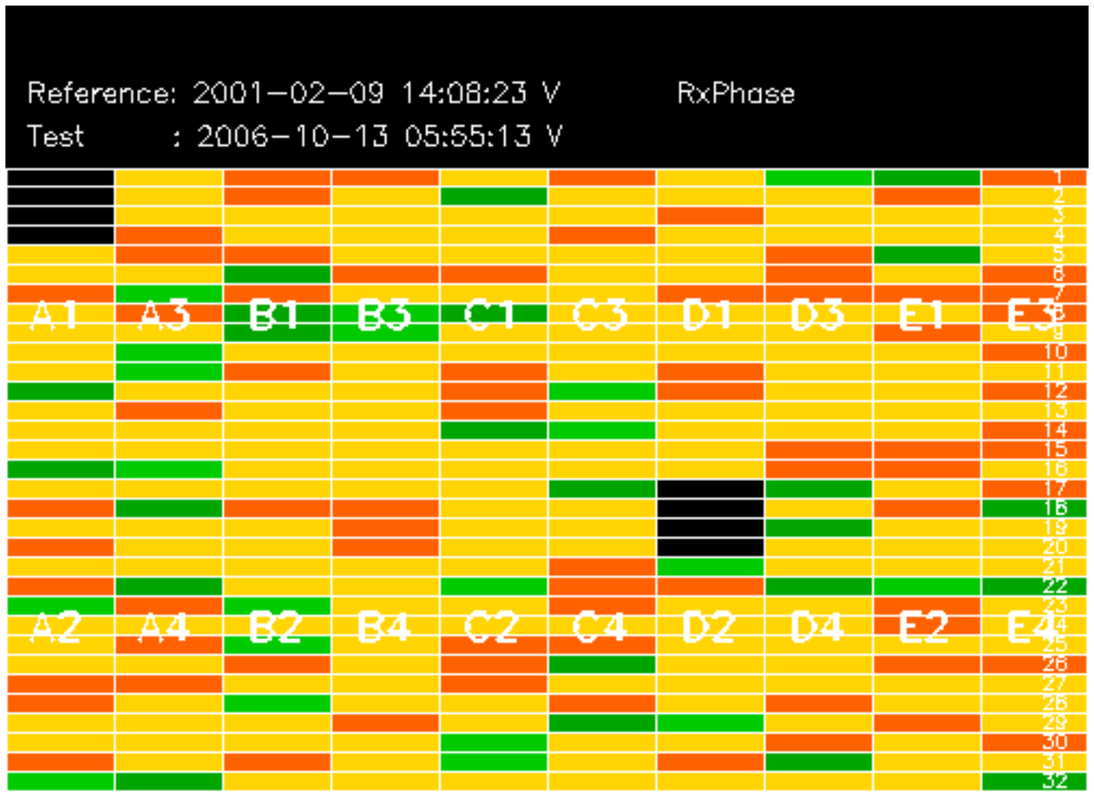
Reference: 2001-02-09 14:08:23 V
RxPhase
Test : 2006-10-13 05:55:13 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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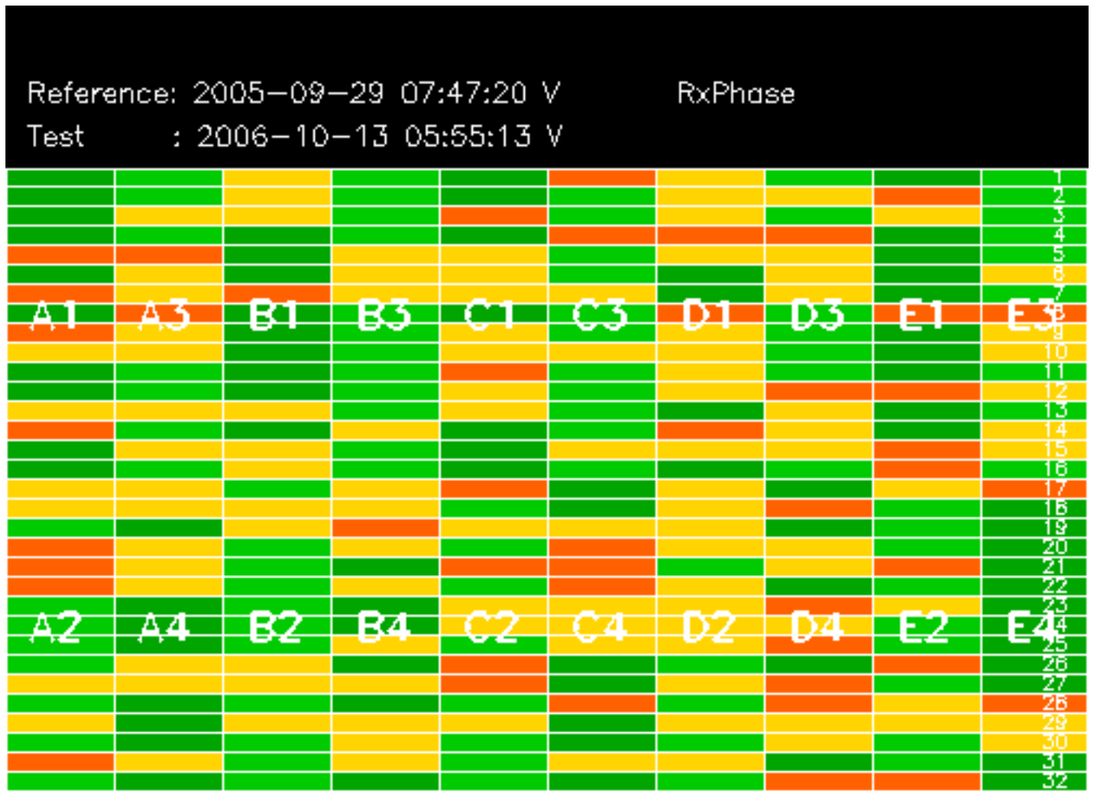
Reference: 2005-09-29 07:47:20 V
Test : 2006-10-13 05:55:13 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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9
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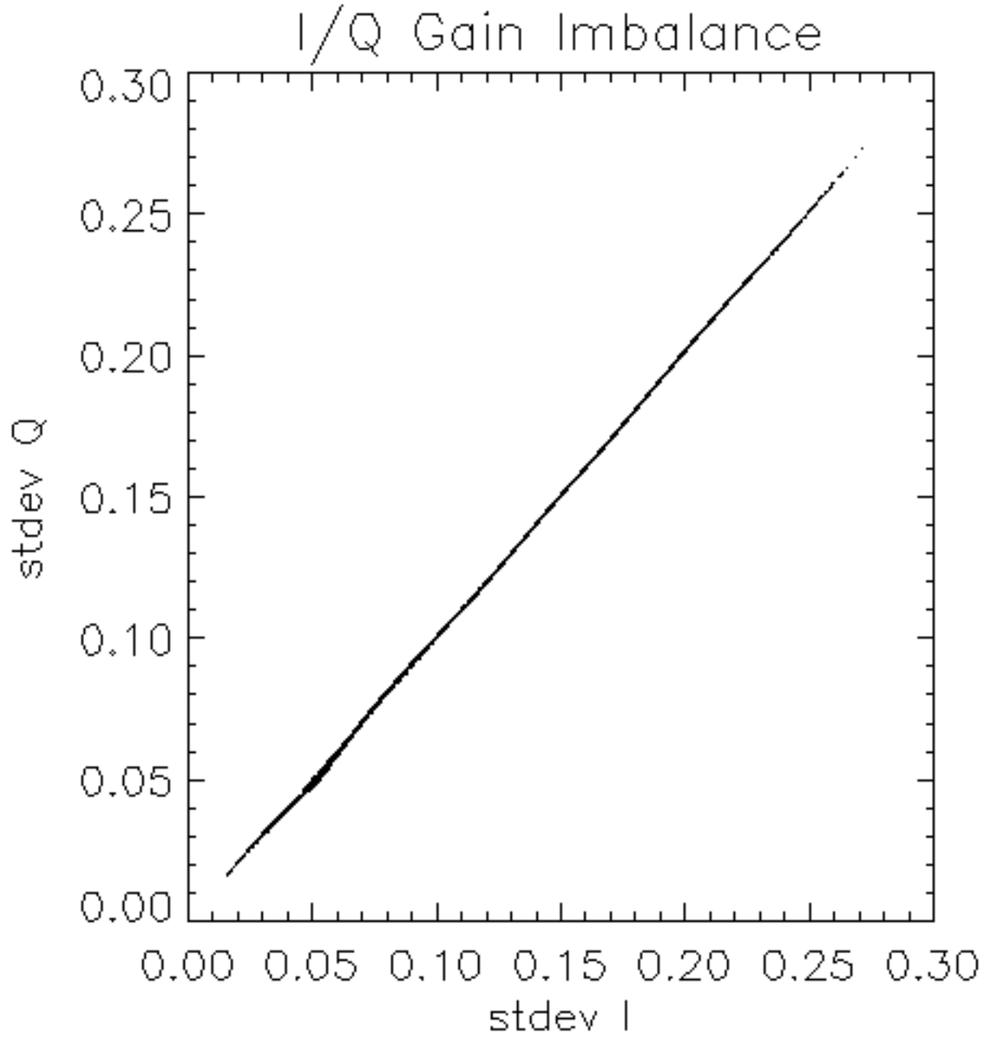
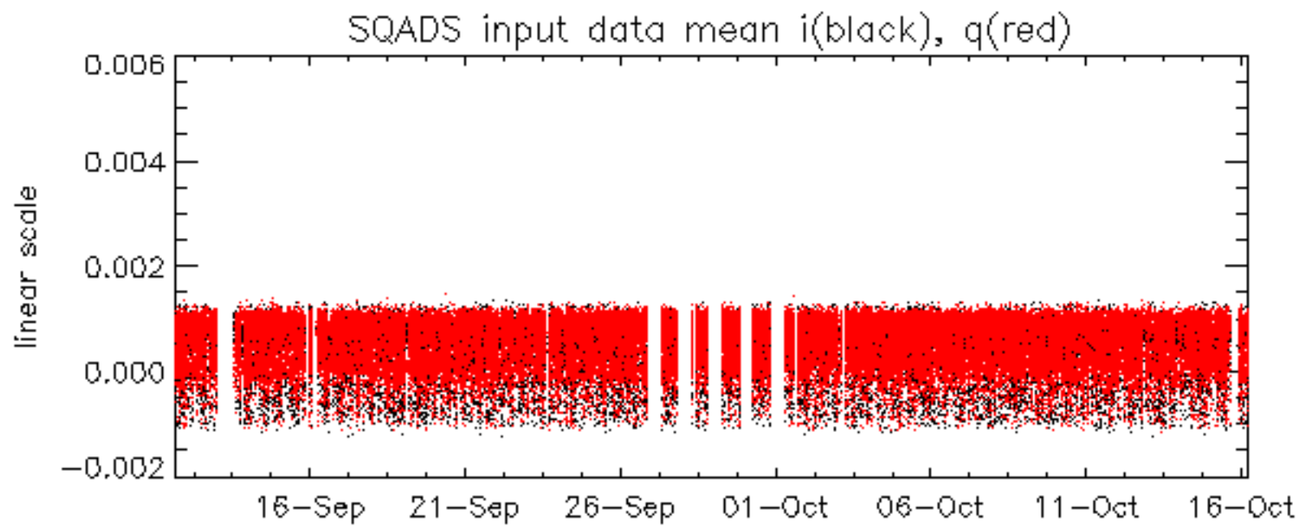
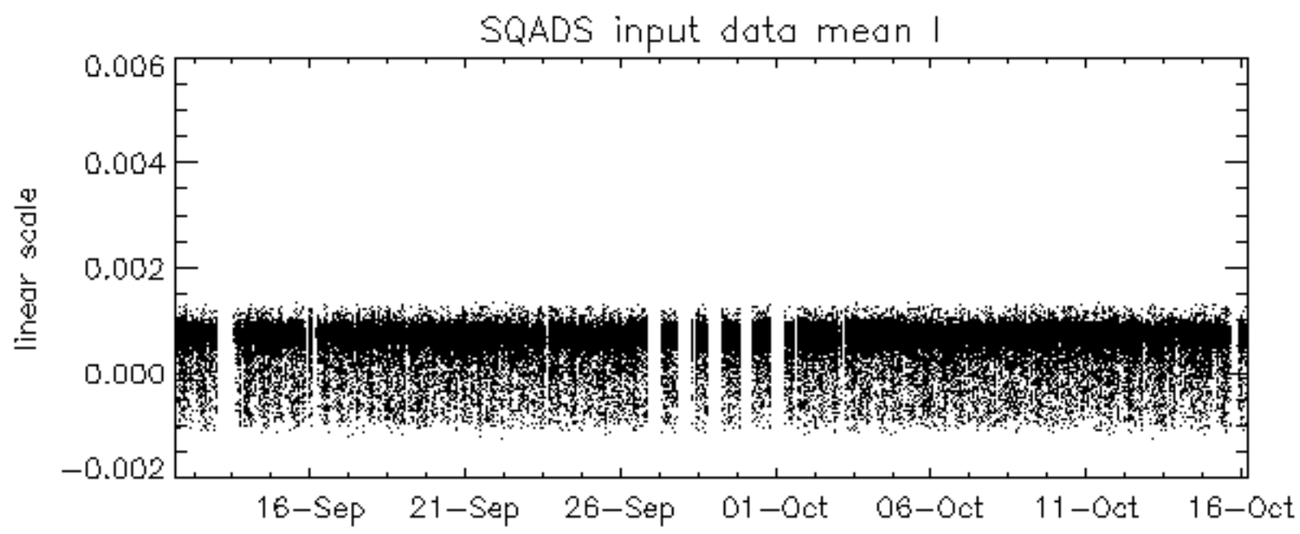
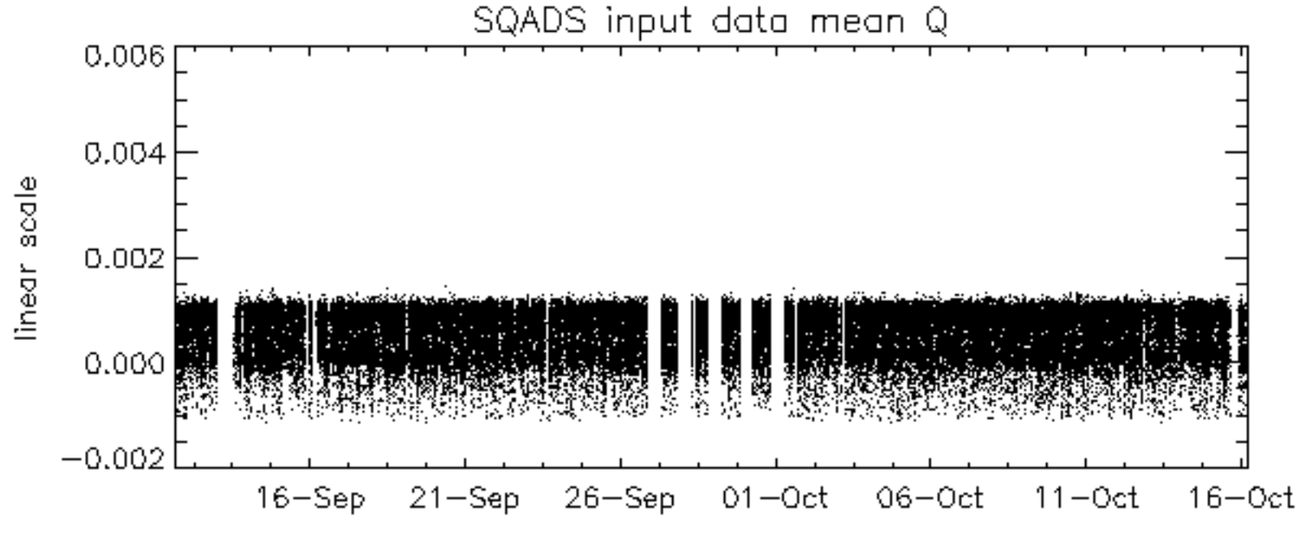
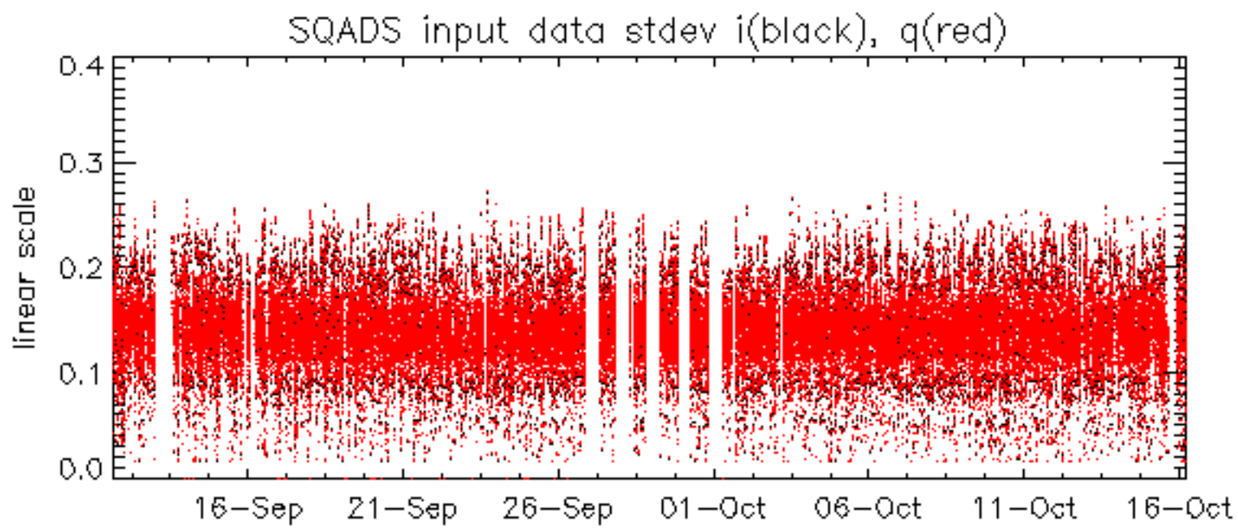
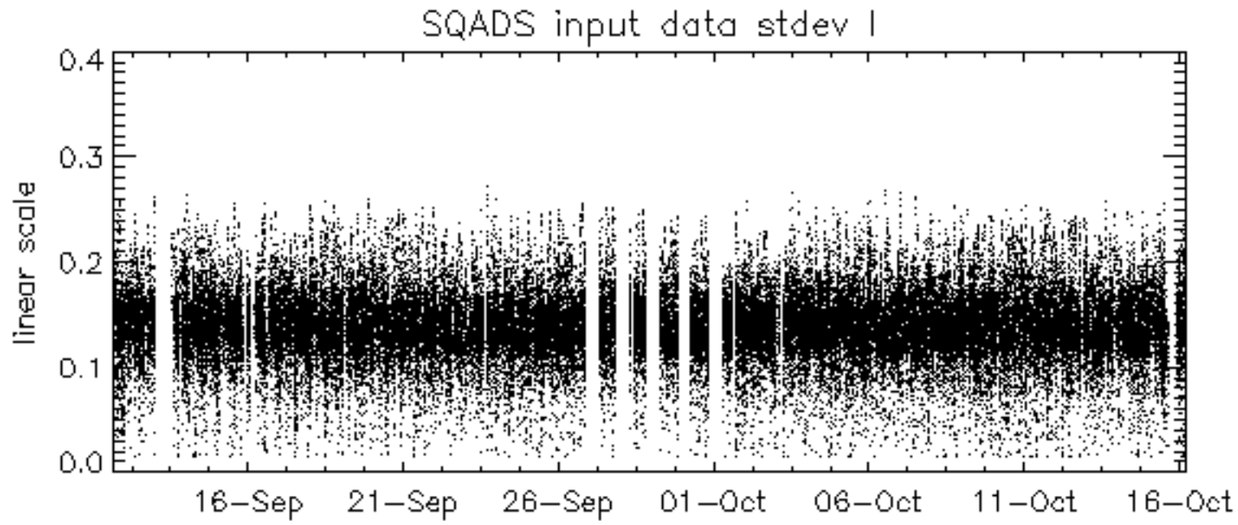

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

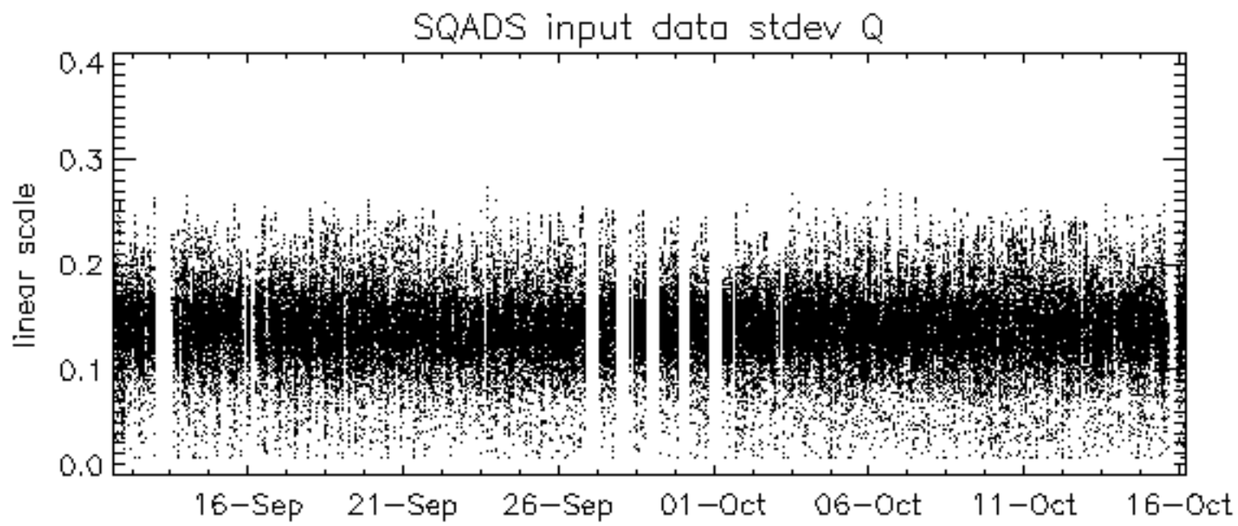

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct
11−Oct
16−Oct

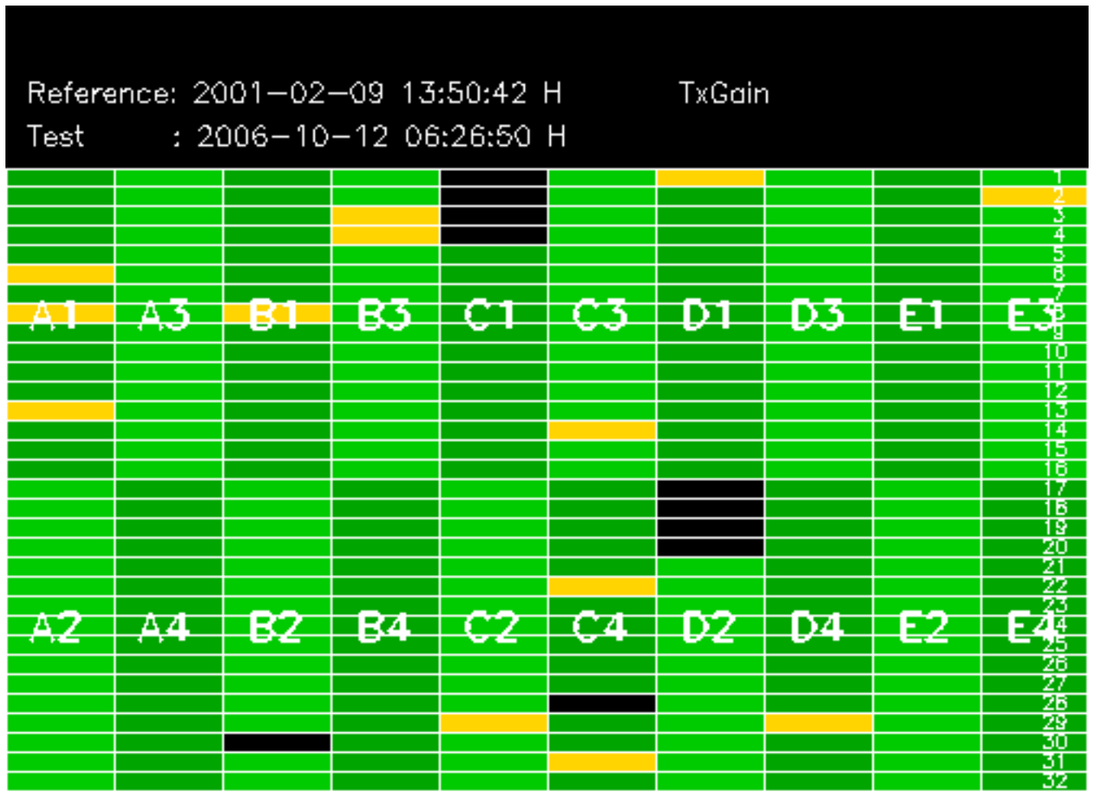

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct
11−Oct
16−Oct


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2006-10-12 06:26:50 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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D4
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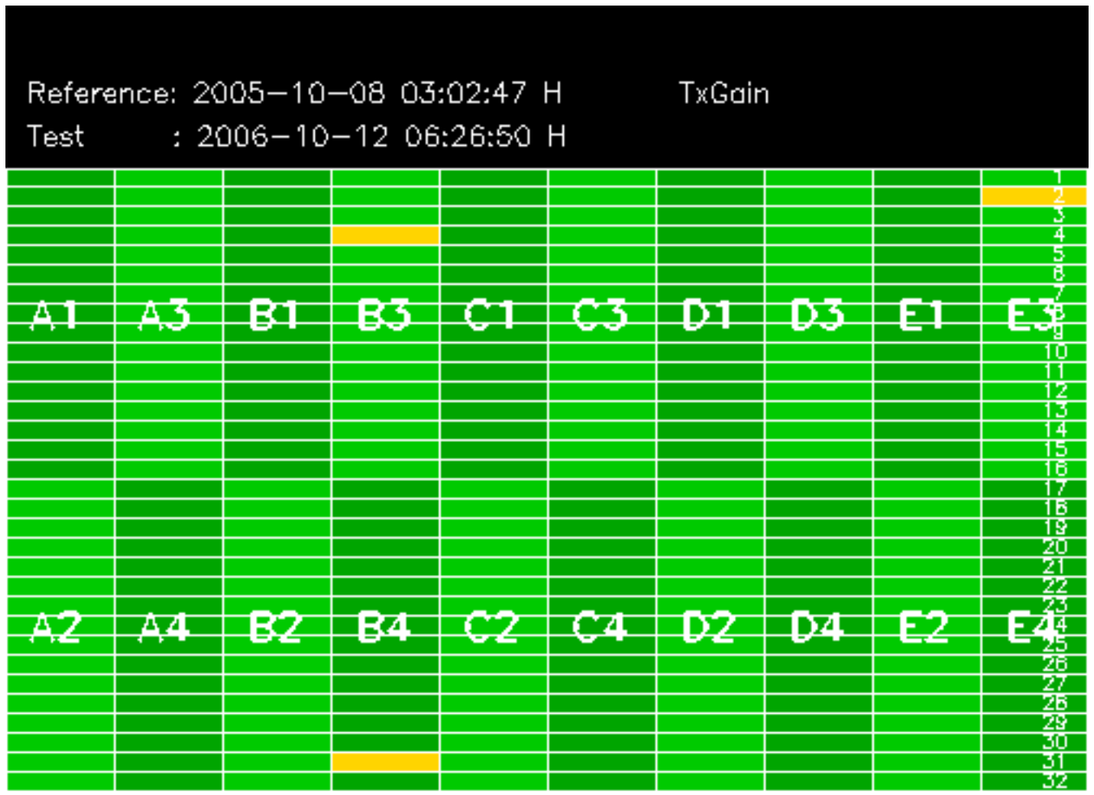
Reference: 2005-10-08 03:02:47 H
Test : 2006-10-12 06:26:50 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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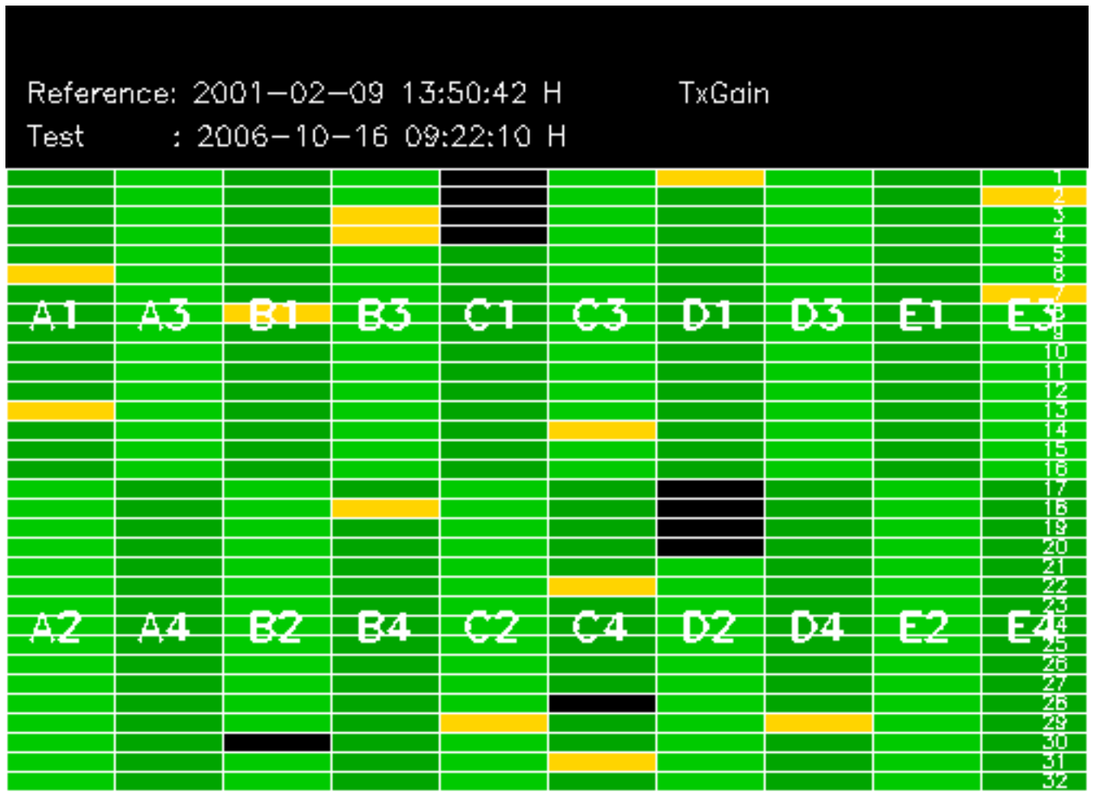
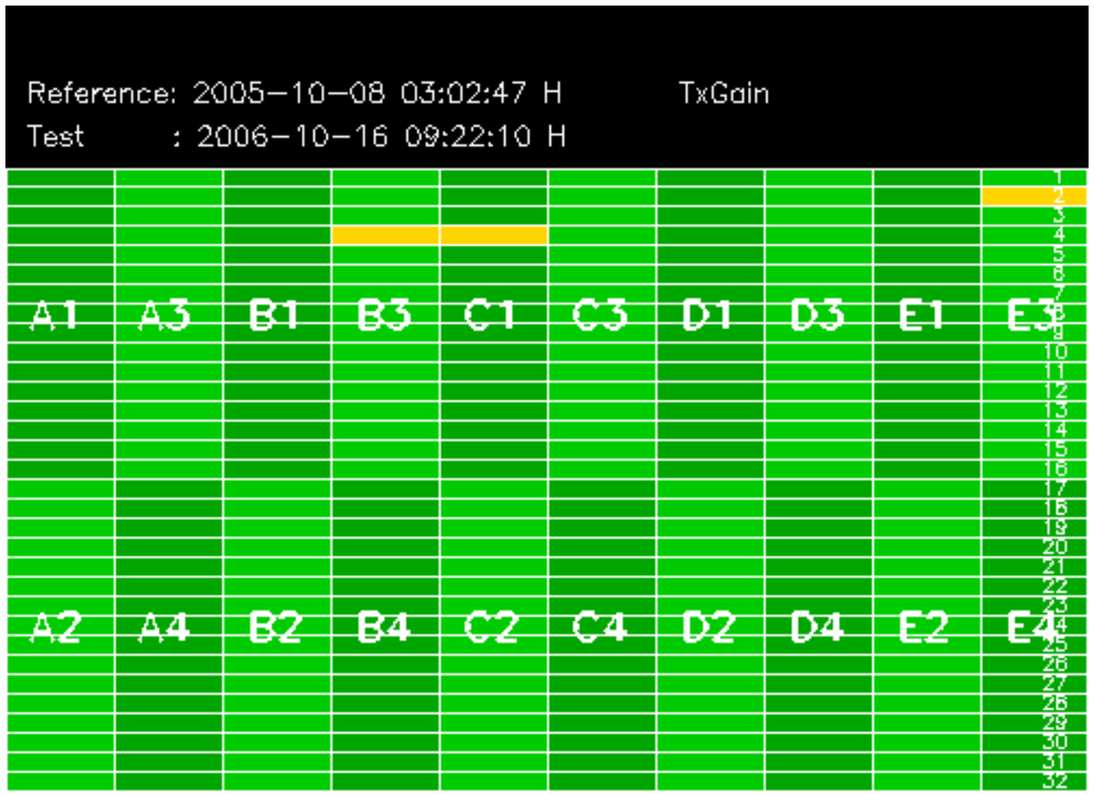

Reference: 2001-02-09 13:50:42 H
Test : 2006-10-16 09:22:10 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-10-08 03:02:47 H
Test : 2006-10-16 09:22:10 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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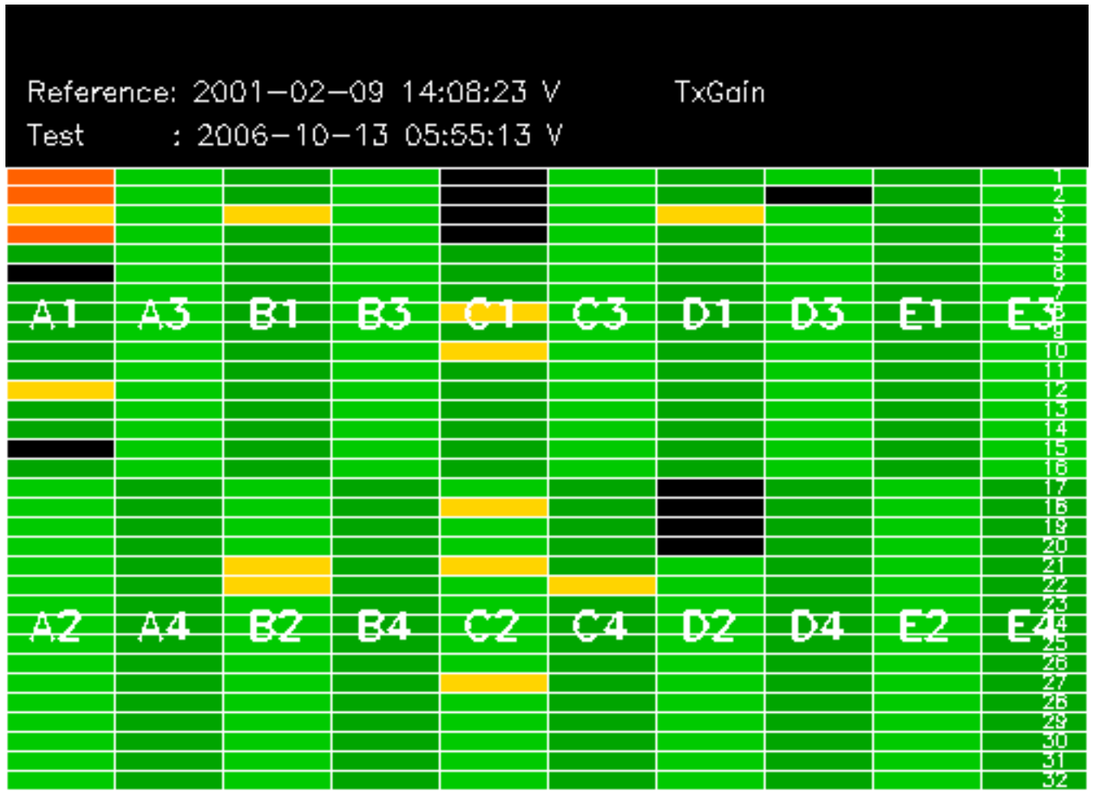
Reference: 2001-02-09 14:08:23 V
Test : 2006-10-13 05:55:13 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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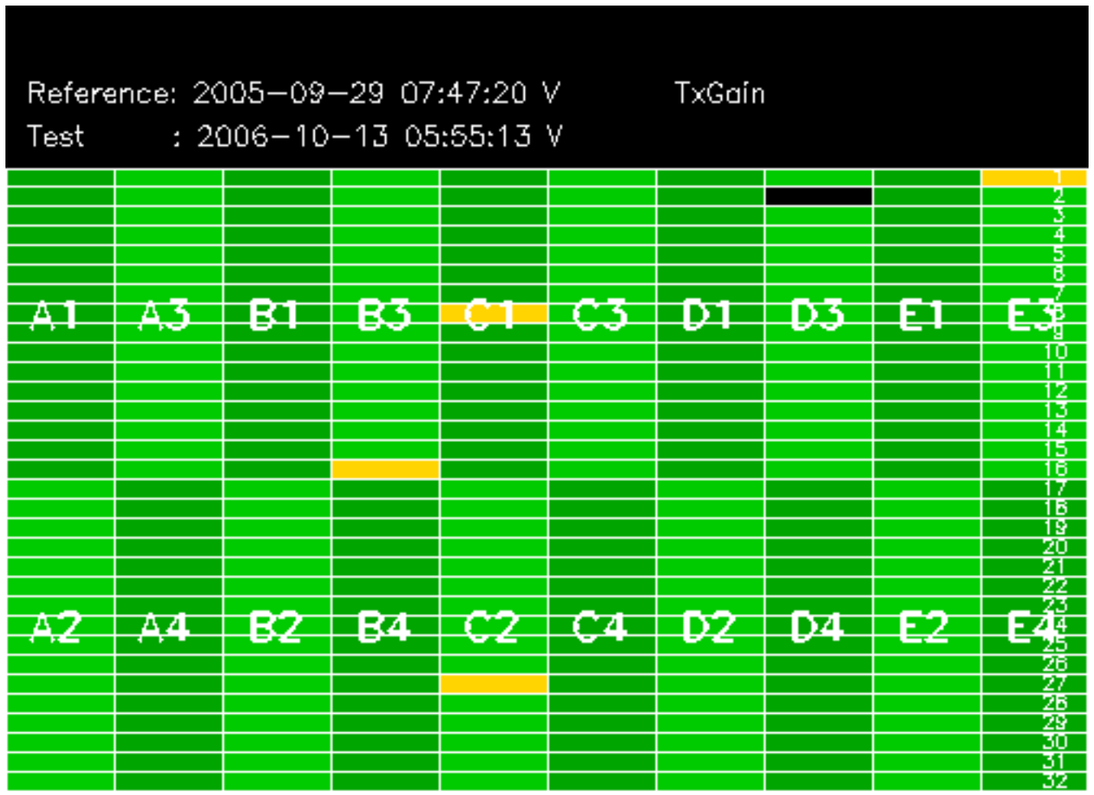
Reference: 2005-09-29 07:47:20 V
Test : 2006-10-13 05:55:13 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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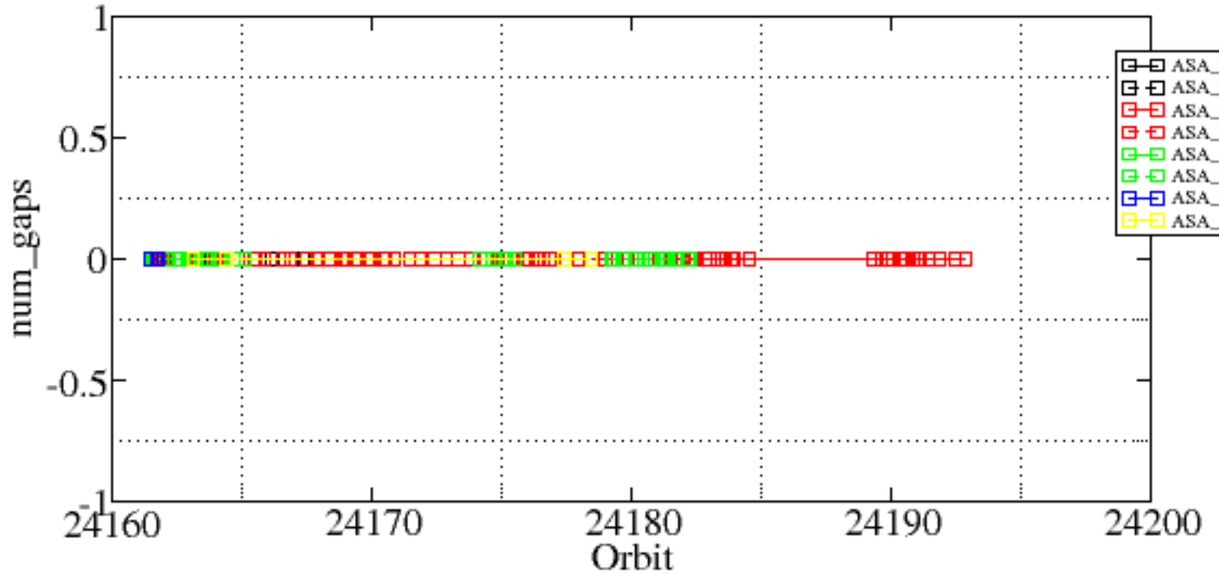
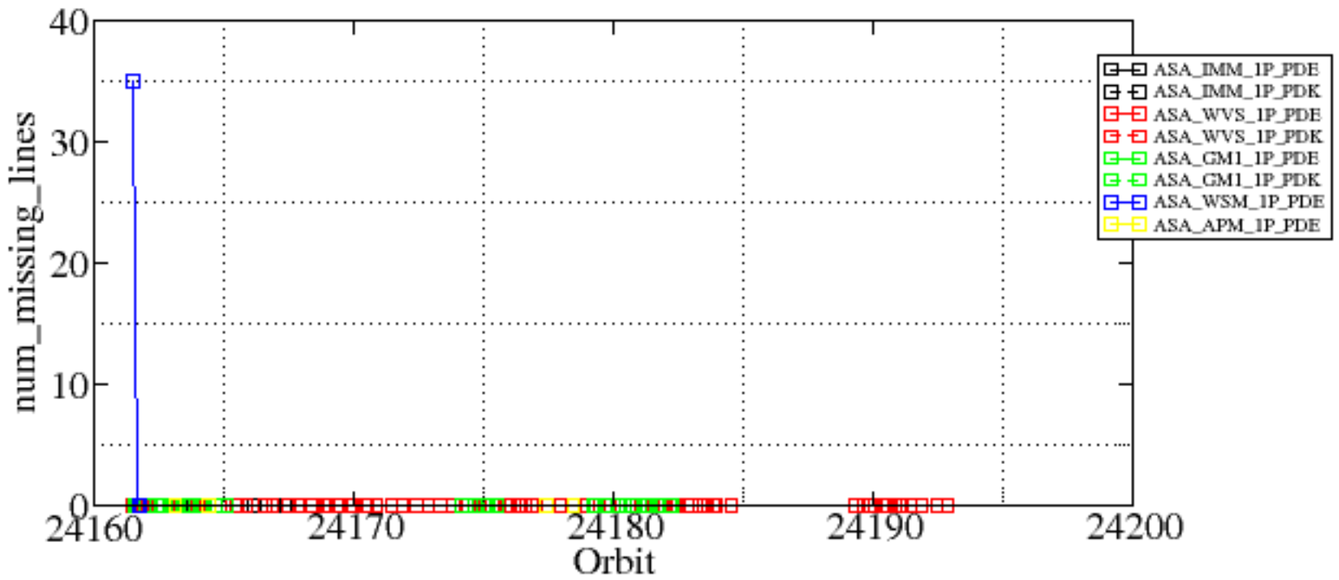
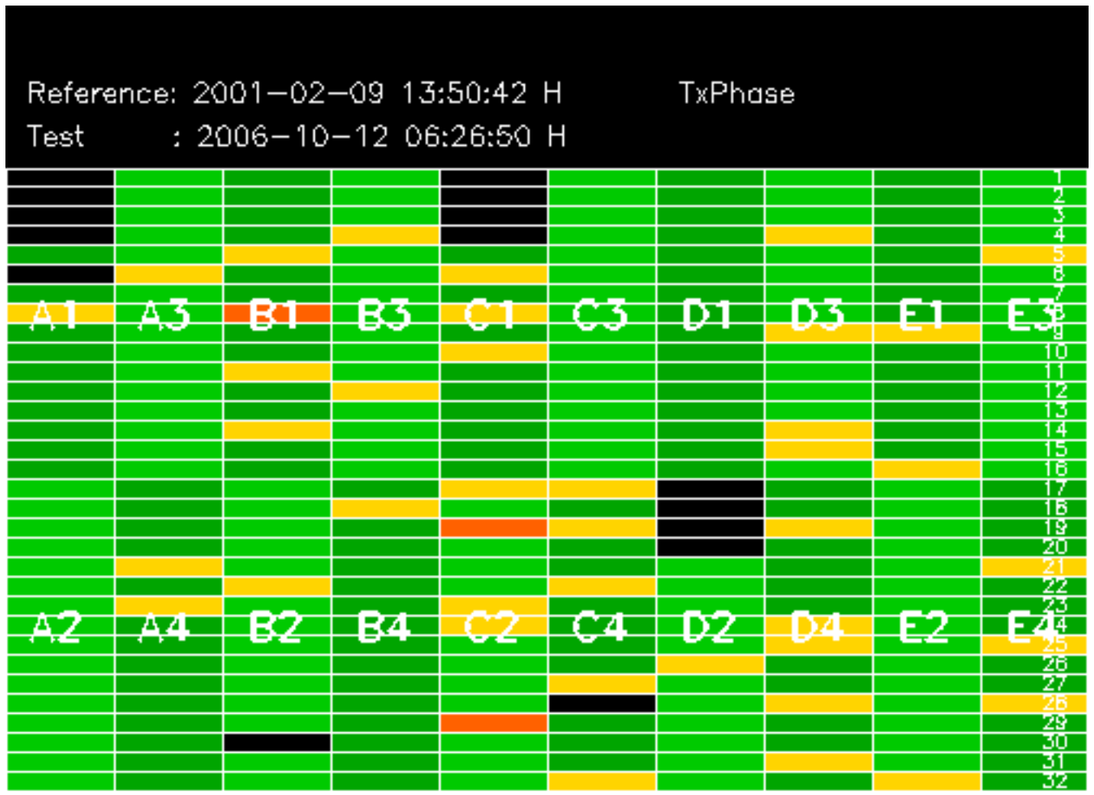
Summary of analysis for the last 3 days 2006101[456]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_WSM_1PNPDE20061014_000331_000000852052_00059_24161_4168.N1 </td> <td>0 </td> <td>35 </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
24160
24170
24180
24190
24200
Orbit
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


num_missing_lines
40
30
20
10
0
24160
24170
24180
24190
24200
Orbit
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


Reference: 2001-02-09 13:50:42 H
Test : 2006-10-12 06:26:50 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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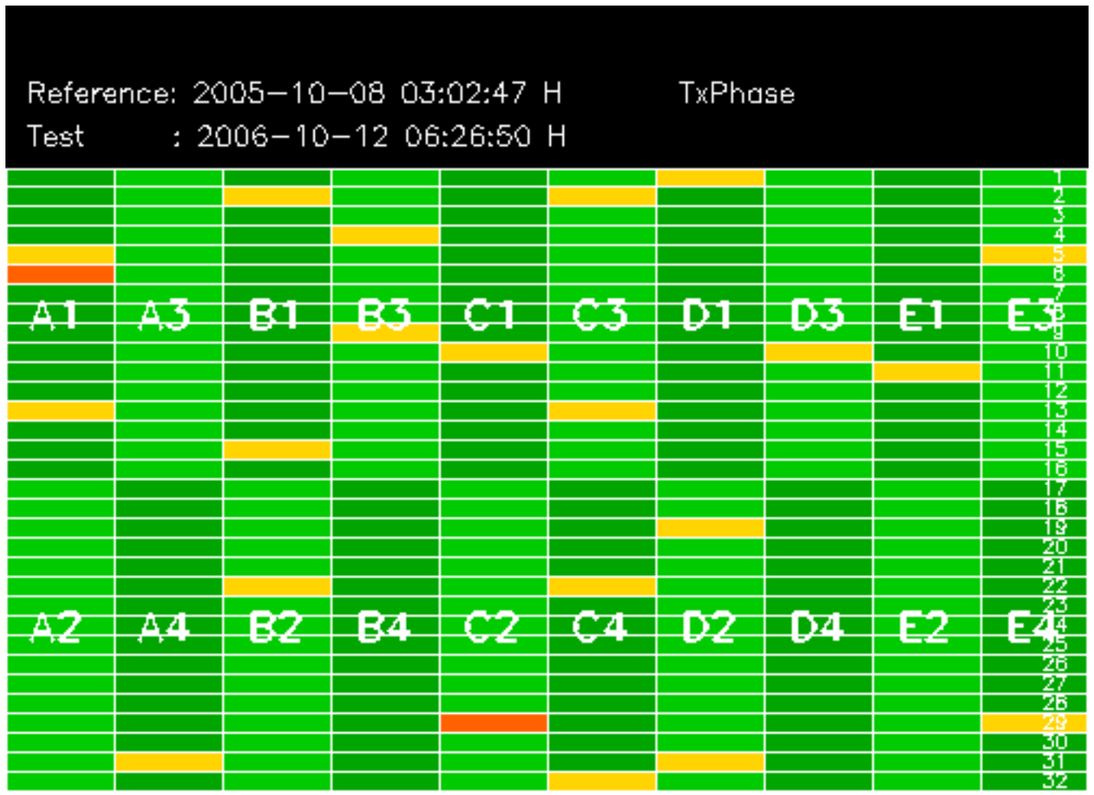
Reference: 2005-10-08 03:02:47 H
TxPhase
Test : 2006-10-12 06:26:50 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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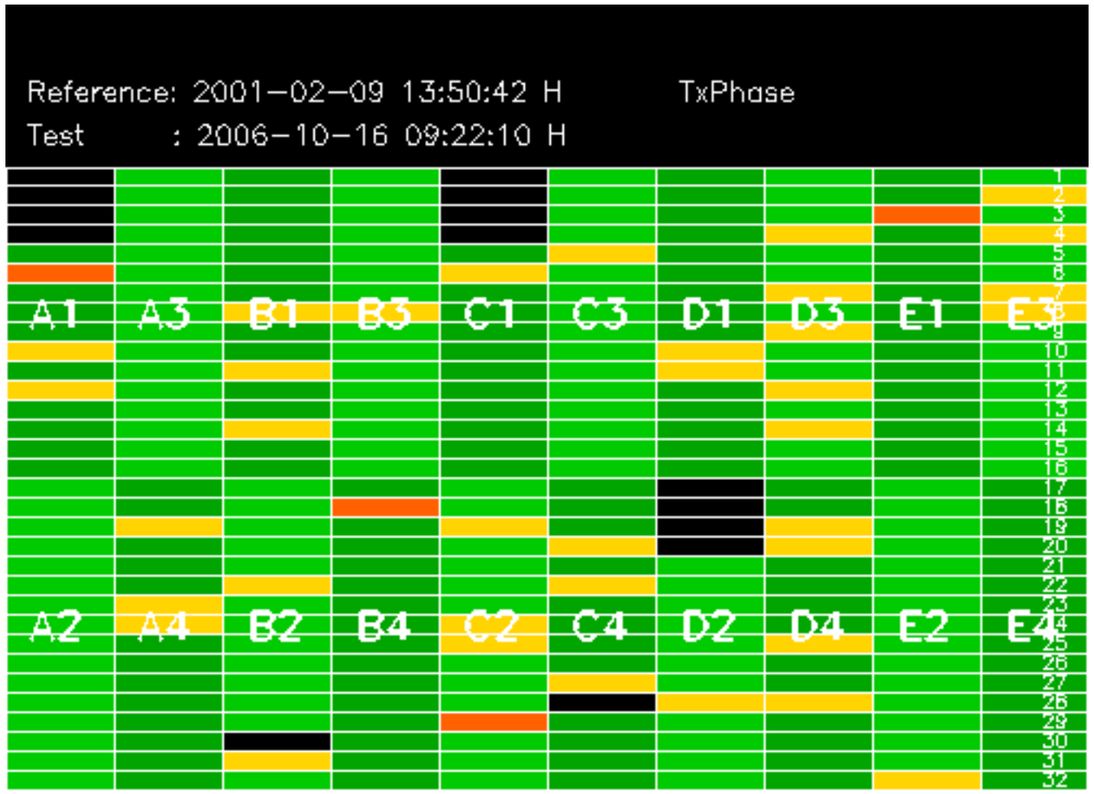
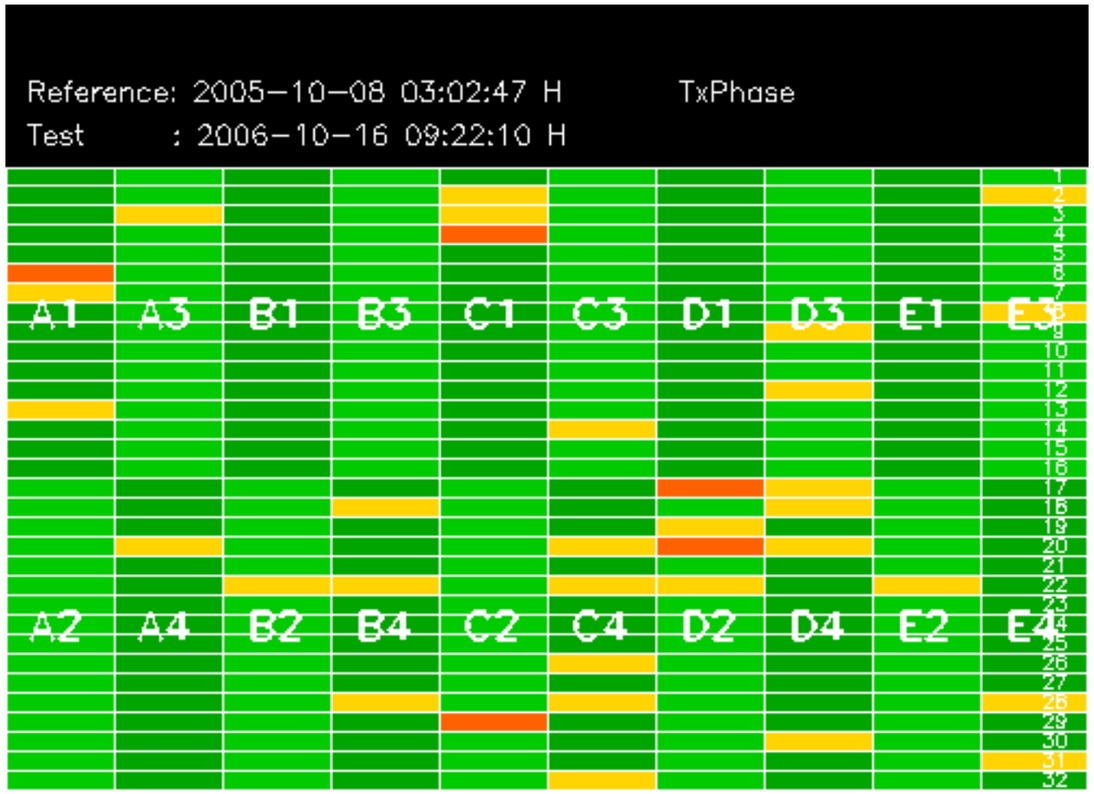
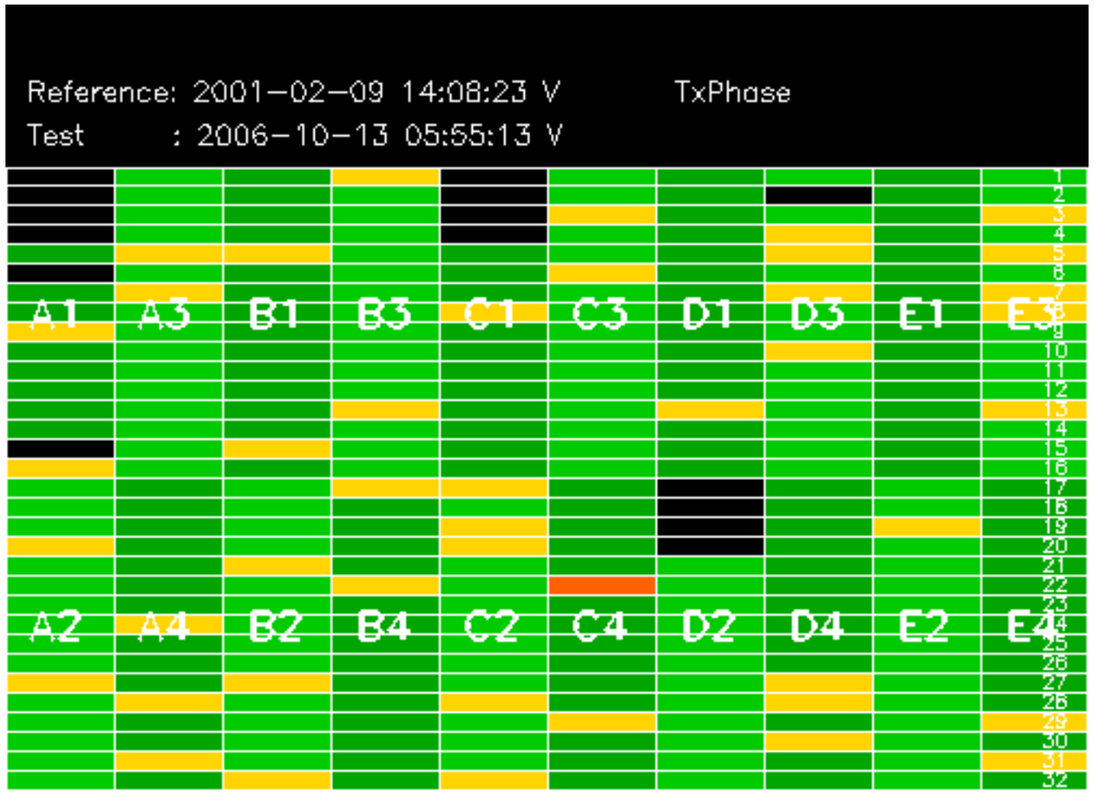
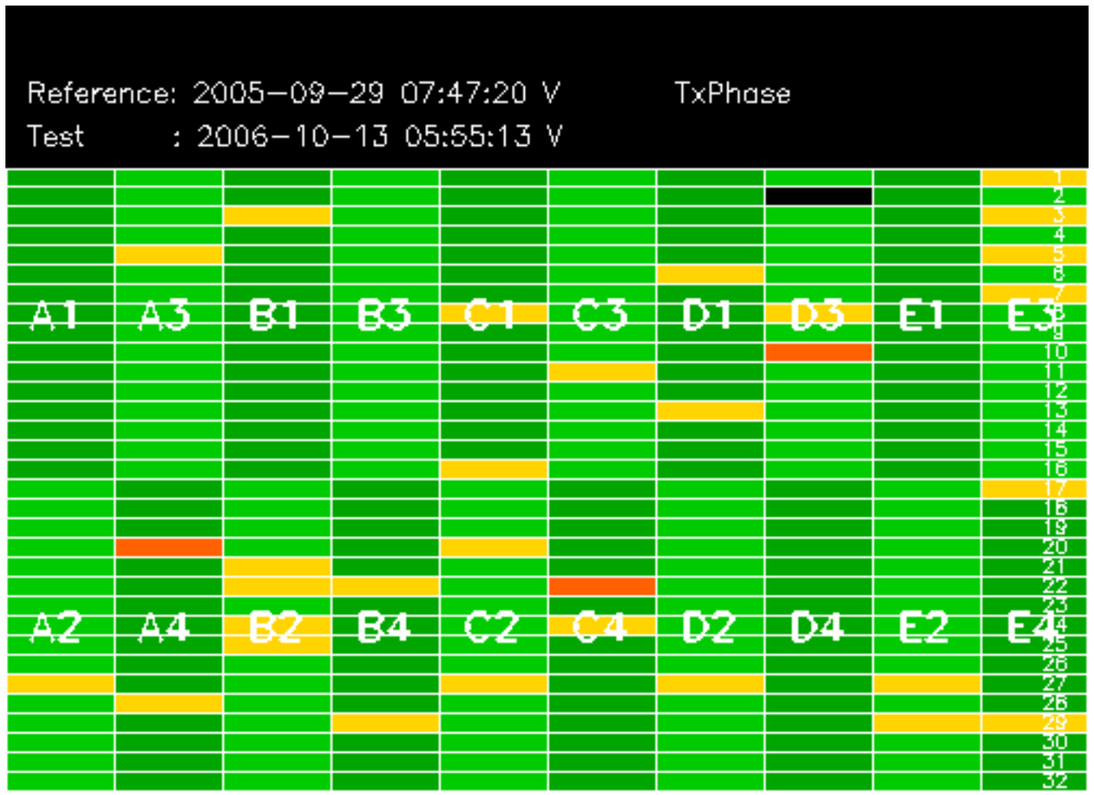
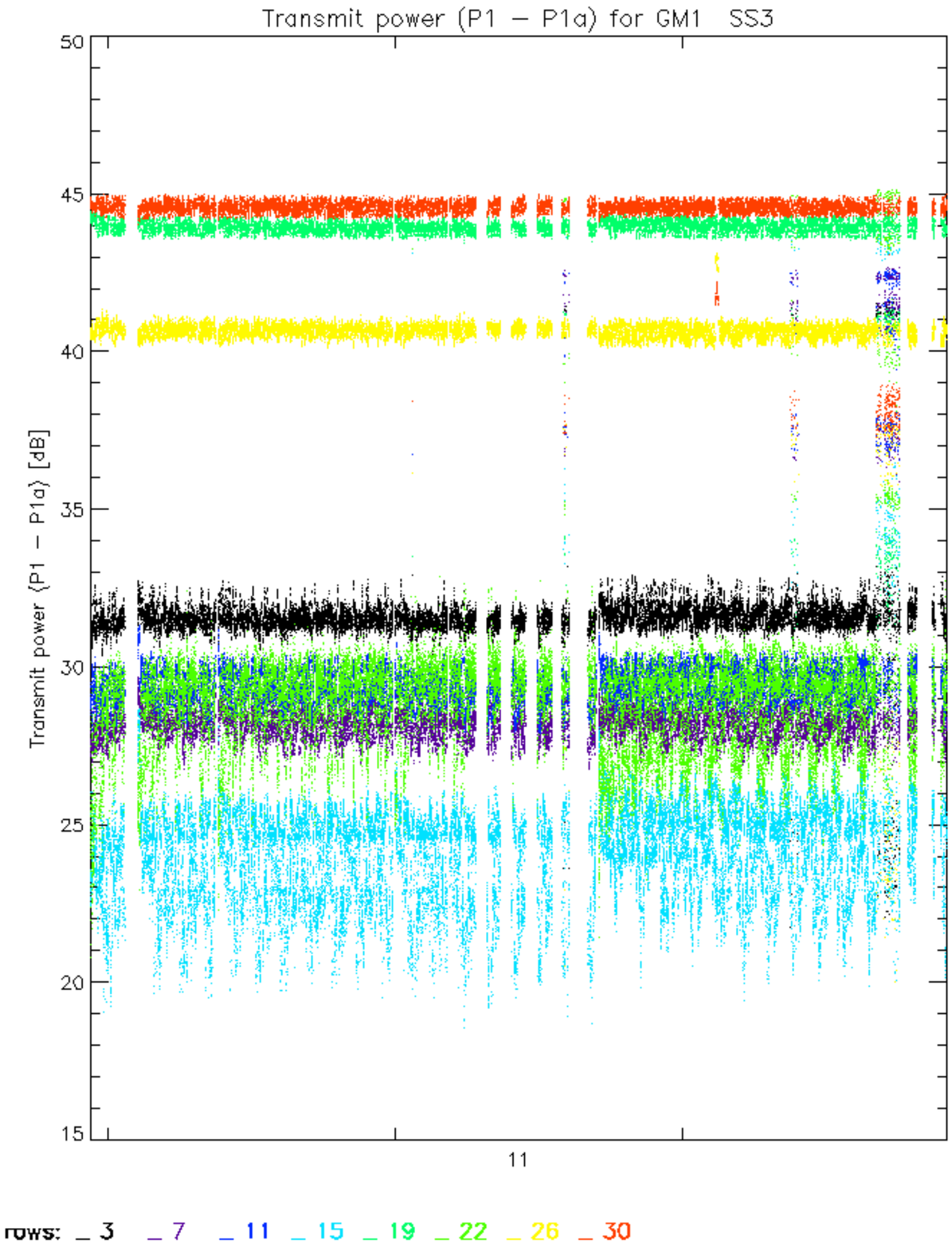
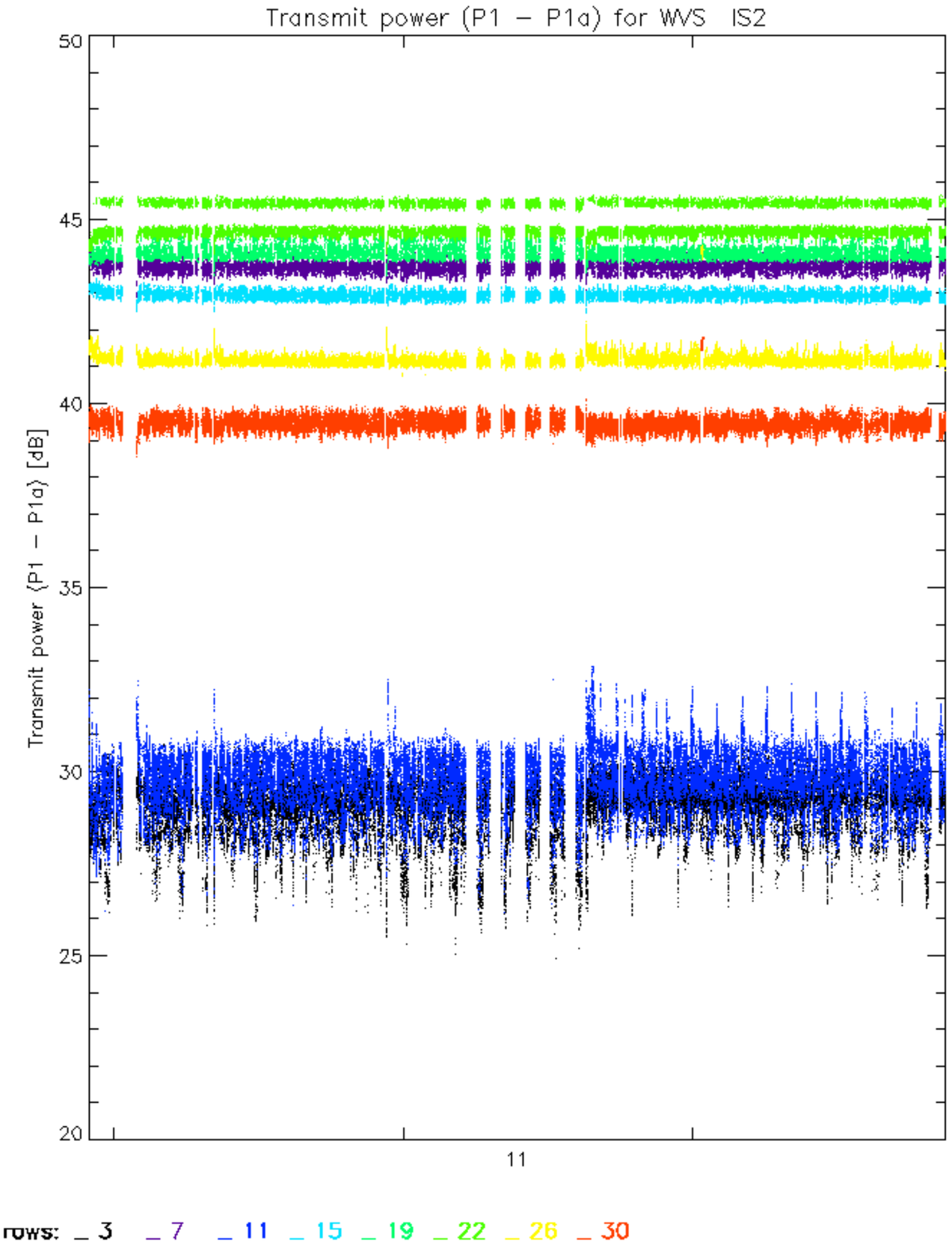

Reference: 2001-02-09 13:50:42 H
Test : 2006-10-16 09:22:10 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

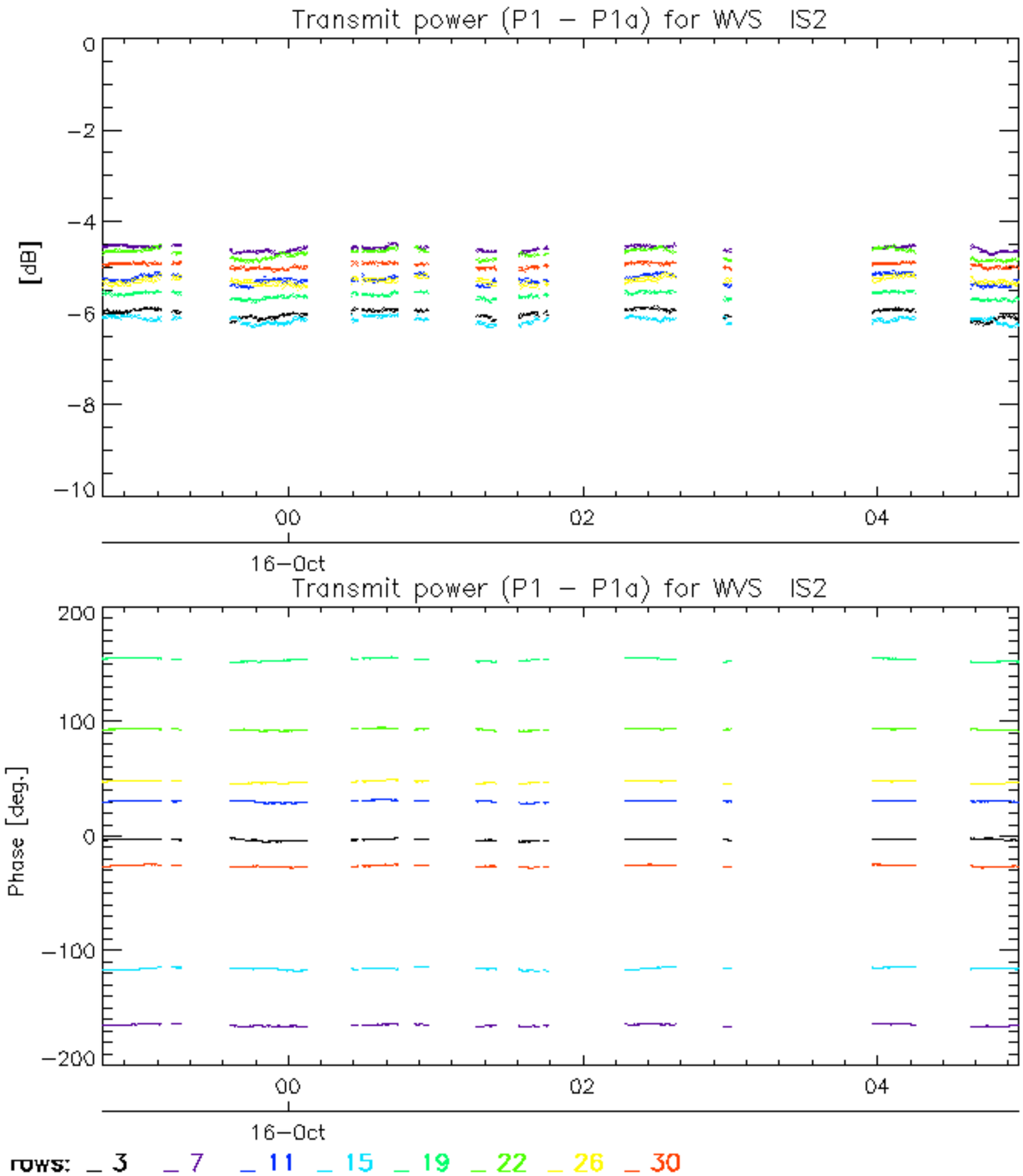

Reference: 2005-10-08 03:02:47 H
TxPhase
Test : 2006-10-16 09:22:10 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2006-10-13 05:55:13 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-10-13 05:55:13 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
45
40
35
30
25
20
15
11
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
11
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
0
−2
−4
−6
−8
−10
[dB]
00
02
04
16–Oct
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
00
02
04
16–Oct
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.