PRELIMINARY REPORT OF 061008

last update on Sun Oct 8 16:41:31 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 2006-10-07 00:00:00 to 2006-10-08 16:41:32

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	39	84	28	5	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	39	84	28	5	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	39	84	28	5	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	39	84	28	5	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	25	44	11	2	17
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	25	44	11	2	17
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	25	44	11	2	17
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	25	44	11	2	17

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	20061005 100808
H	20061004 071833

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
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☒

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	-3.944010	0.010377	-0.004028
7	P1	-3.073408	0.010540	-0.014193
11	P1	-4.077755	0.022133	-0.040256
15	P1	-6.194347	0.016157	-0.021441
19	P1	-3.539803	0.008107	-0.041721
22	P1	-4.596875	0.010709	-0.020189
26	P1	-3.983474	0.067008	-0.105825
30	P1	-5.833005	0.109389	-0.173952
3	P1	-16.625343	0.227563	-0.032018
7	P1	-17.117107	0.107254	-0.040618
11	P1	-16.896221	0.383345	-0.321949
15	P1	-12.849382	0.105756	0.064096
19	P1	-14.649001	0.055095	-0.087064
22	P1	-15.648869	0.473262	0.153456
26	P1	-15.158500	0.263624	0.247886
30	P1	-16.936281	0.472285	0.172226

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.815895	0.085020	-0.013465
7	P2	-21.812382	0.097028	0.124352
11	P2	-15.743759	0.107884	0.038187
15	P2	-7.083394	0.103624	0.051673
19	P2	-9.125757	0.094236	0.011130
22	P2	-18.129902	0.091462	-0.003126
26	P2	-16.424395	0.098274	0.003689
30	P2	-19.468466	0.092157	0.022253

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.191913	0.006312	-0.015119
7	P3	-8.191913	0.006312	-0.015119
11	P3	-8.191913	0.006312	-0.015119
15	P3	-8.191913	0.006312	-0.015119
19	P3	-8.191913	0.006312	-0.015119
22	P3	-8.191913	0.006312	-0.015119
26	P3	-8.191901	0.006314	-0.015154
30	P3	-8.191901	0.006314	-0.015154

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	-3.874570	0.017772	-0.052096
7	P1	-2.545783	0.043852	0.001089
11	P1	-2.901707	0.021762	-0.028675
15	P1	-3.685651	0.033481	-0.062323
19	P1	-3.458704	0.011938	-0.011115
22	P1	-5.106669	0.021875	0.038317
26	P1	-5.894359	0.107196	-0.127085
30	P1	-5.223940	0.117222	-0.121679
3	P1	-11.671325	0.064629	-0.108594
7	P1	-10.033848	0.081912	-0.053770
11	P1	-10.387651	0.072134	-0.072708
15	P1	-10.882027	0.159960	-0.059432
19	P1	-15.553432	0.086638	0.027892
22	P1	-20.954376	1.262374	-0.263697
26	P1	-15.838365	0.449232	0.279614
30	P1	-18.075781	0.473085	0.117969

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.378895	0.056565	0.065014
7	P2	-22.127584	0.146369	0.162086
11	P2	-10.876273	0.051174	0.075495
15	P2	-4.854680	0.033299	0.017857
19	P2	-6.834605	0.038652	0.070475
22	P2	-8.155490	0.048389	0.003475
26	P2	-24.180990	0.081231	-0.016029
30	P2	-21.953939	0.052960	0.039478

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.040681	0.003646	-0.017943
7	P3	-8.040552	0.003637	-0.018243
11	P3	-8.040628	0.003644	-0.018359
15	P3	-8.040624	0.003654	-0.018270
19	P3	-8.040621	0.003658	-0.018466
22	P3	-8.040747	0.003640	-0.018003
26	P3	-8.040634	0.003651	-0.017978
30	P3	-8.040523	0.003639	-0.017976

4.3 - cal pulses monitoring (all rows)

4.3.1 - Evolution for WVS

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4.3.2 - Evolution for GM1

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5 - RAW data statistics

No anomalies observed.

5.1 - Input mean I/Q

channel	stat	DSS-B
MEAN I	mean	0.000563365
	stdev	1.66613e-07
MEAN Q	mean	0.000528352
	stdev	2.13997e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.137989
	stdev	0.00111436
STDEV Q	mean	0.138353
	stdev	0.00113181

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006100[678]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDK20061006_120210_000001222051_00453_24054_2403.N1	1	0
ASA_IMM_1PNPDK20061006_181201_000001342051_00456_24057_2430.N1	0	1
ASA_IMM_1PNPDK20061006_210706_000000602051_00458_24059_2441.N1	1	0
ASA_GM1_1PNPDK20061007_154556_000011352051_00469_24070_5988.N1	0	15

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

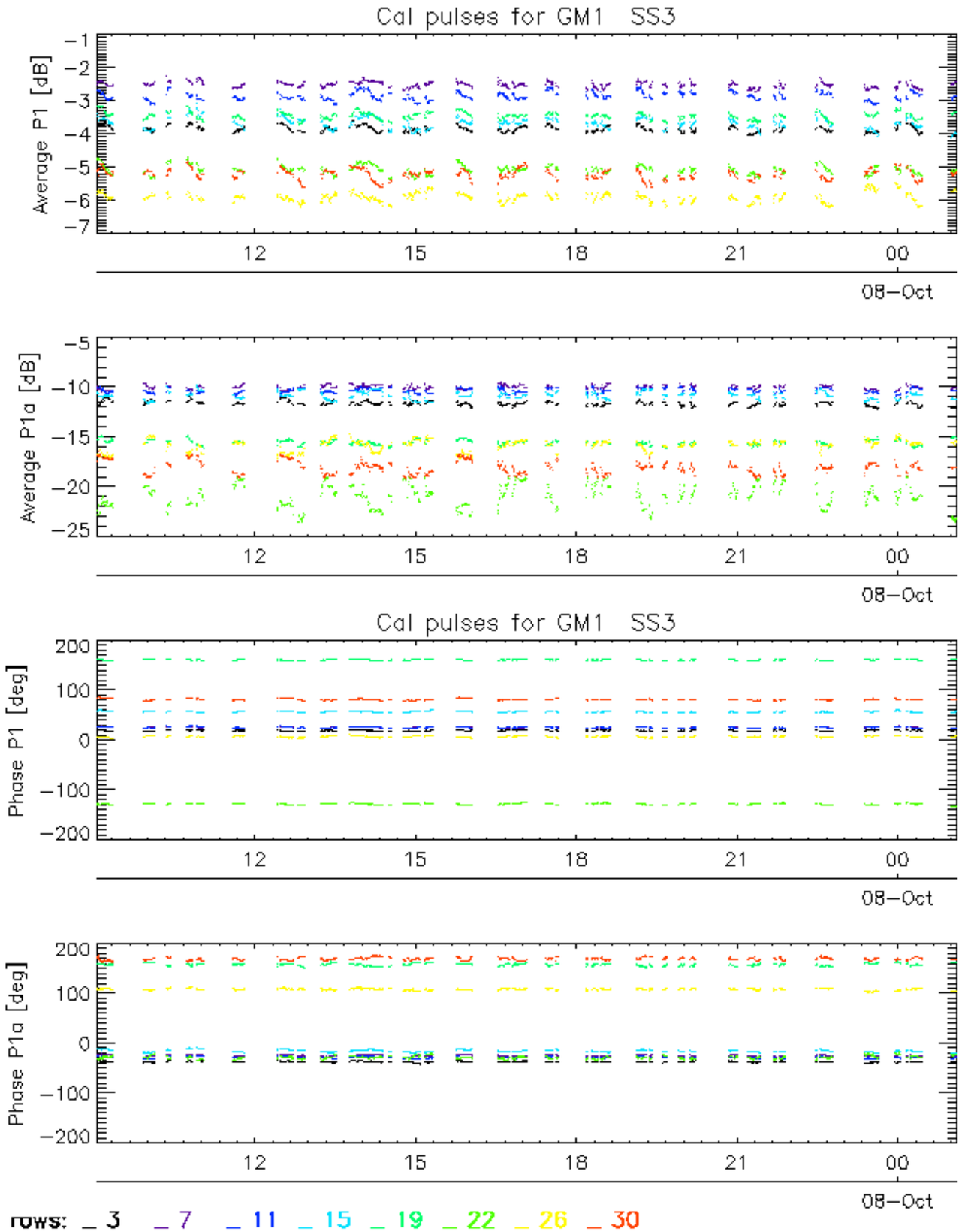
Descending

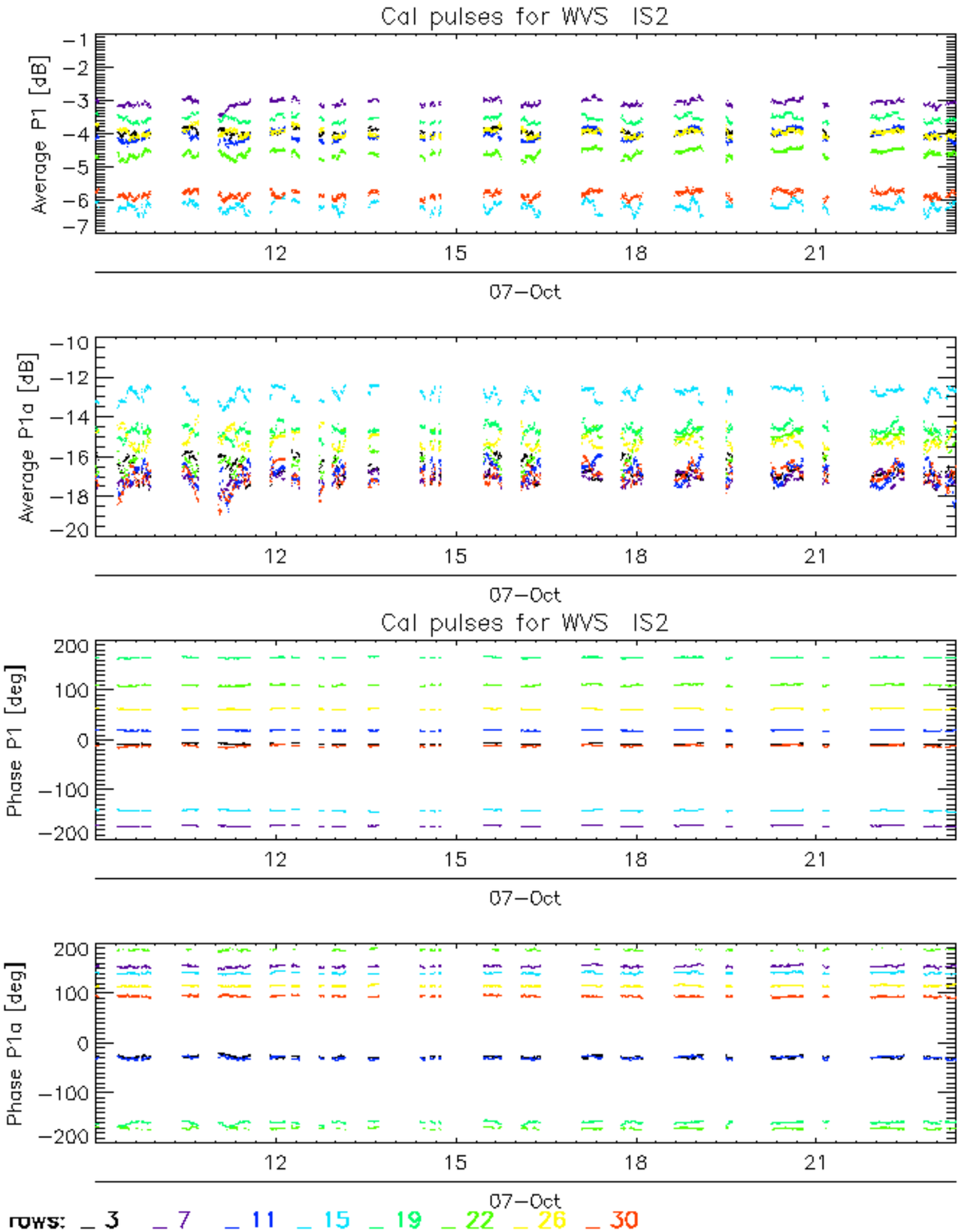
7.5 - Absolute Doppler for GM1

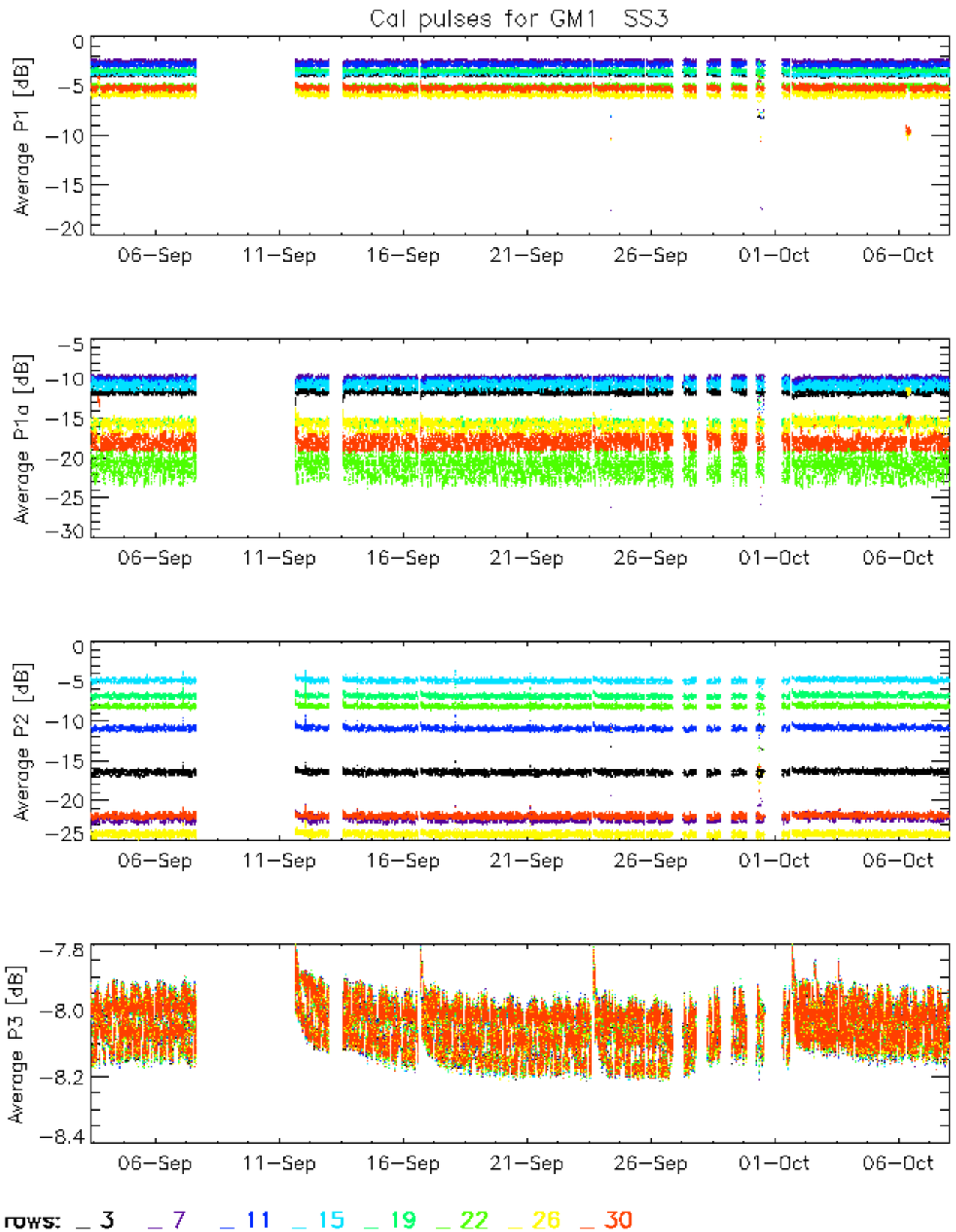
Evolution of Absolute Doppler
Acsending
Descending

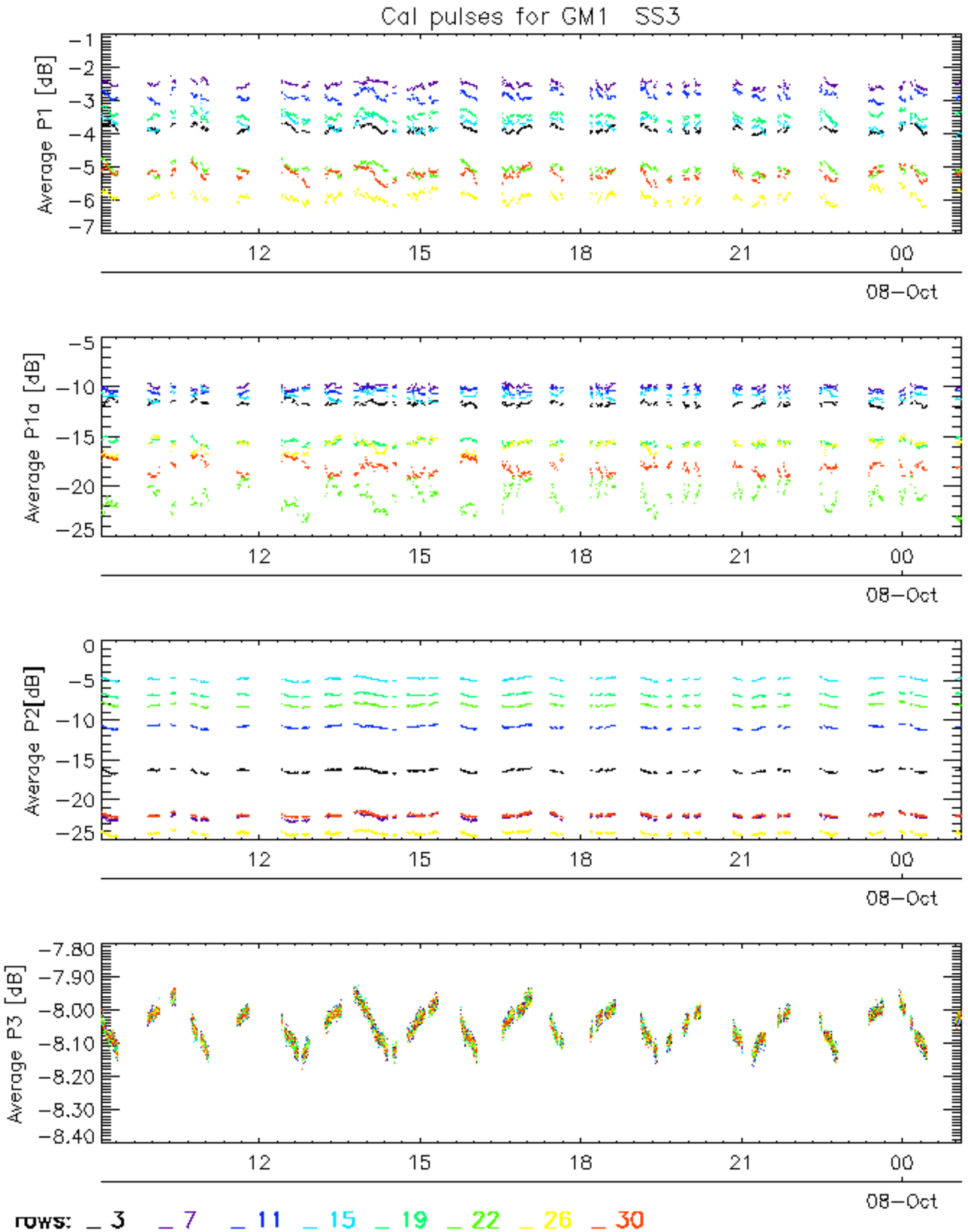
7.6 - Doppler evolution versus ANX for GM1

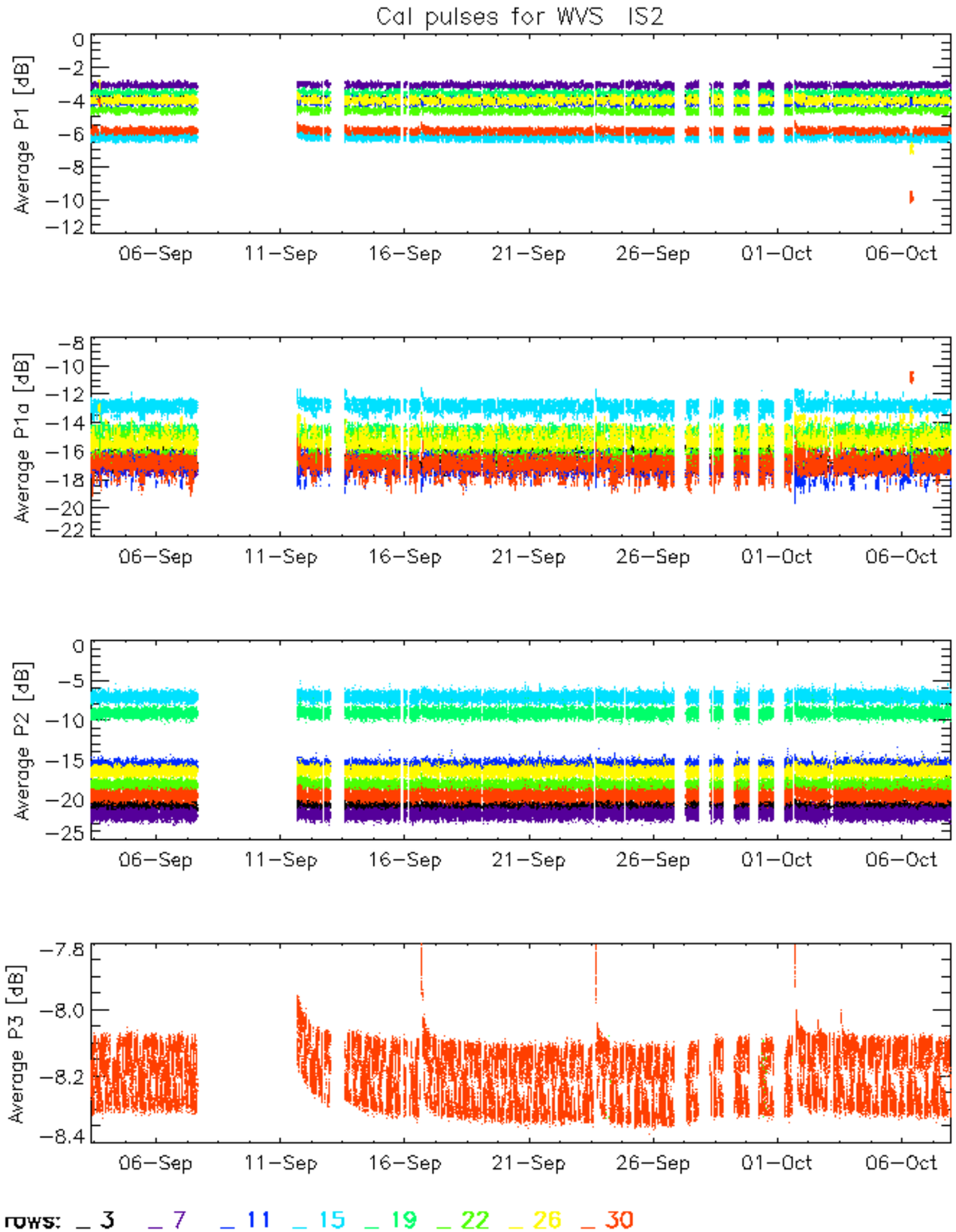
Evolution Doppler error versus ANX

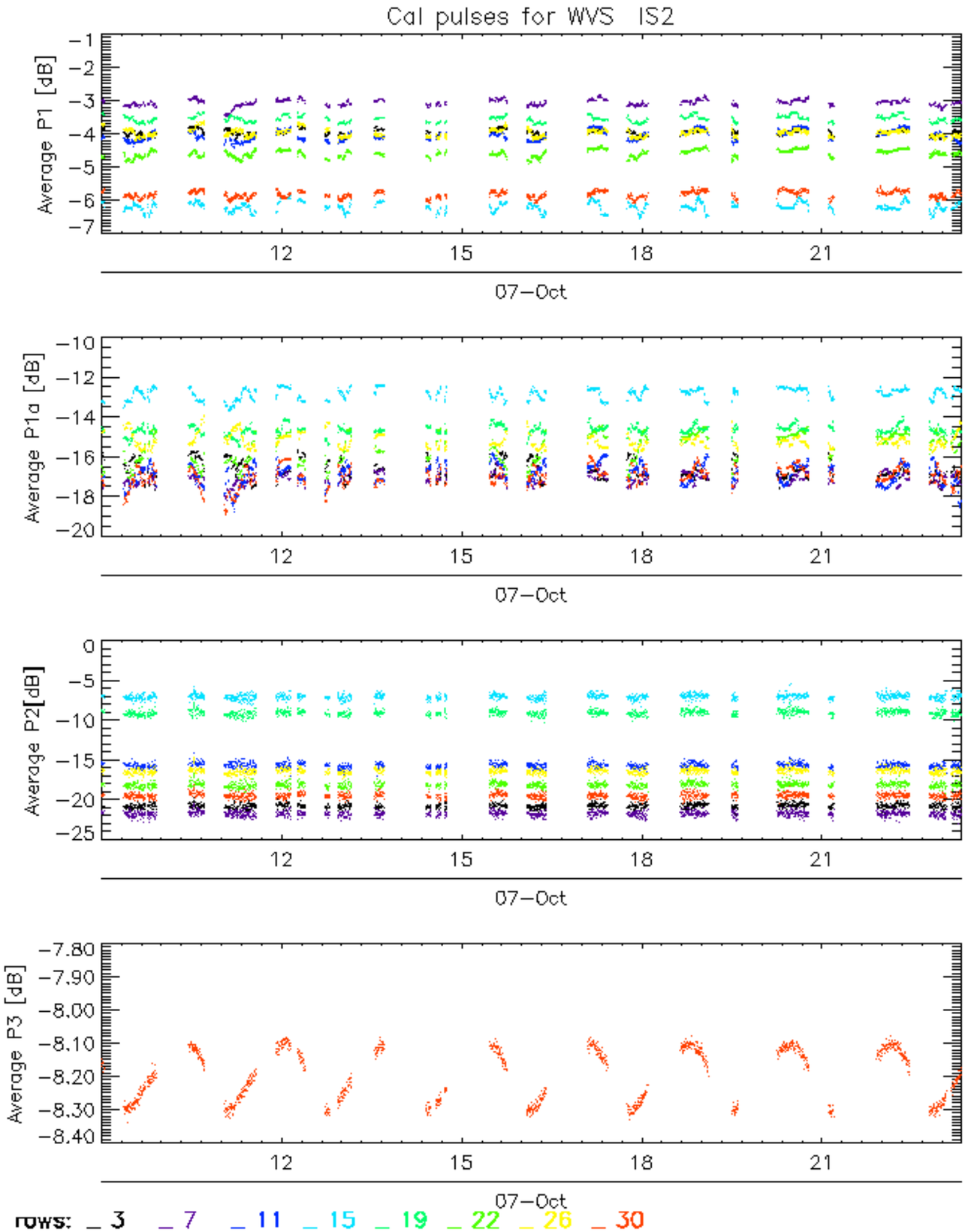

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
12
15
18
21
00
08−Oct
Average P1a [dB]
−5
−10
−15
−20
−25
12
15
18
21
00
08−Oct
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
12
15
18
21
00
08−Oct
Phase P1a [deg]
200
100
0
−100
−200
12
15
18
21
00
08−Oct
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
12
15
18
21
07−Oct
Average P1a [dB]
−10
−12
−14
−16
−18
−20
12
15
18
21
07−Oct
Cal pulses for WVS IS2
Phase P1 [deg]
200
100
0
−100
−200
12
15
18
21
07−Oct
Phase P1a [deg]
200
100
0
−100
−200
12
15
18
21
07−Oct
rows: 3 7 11 15 19 22 26 30

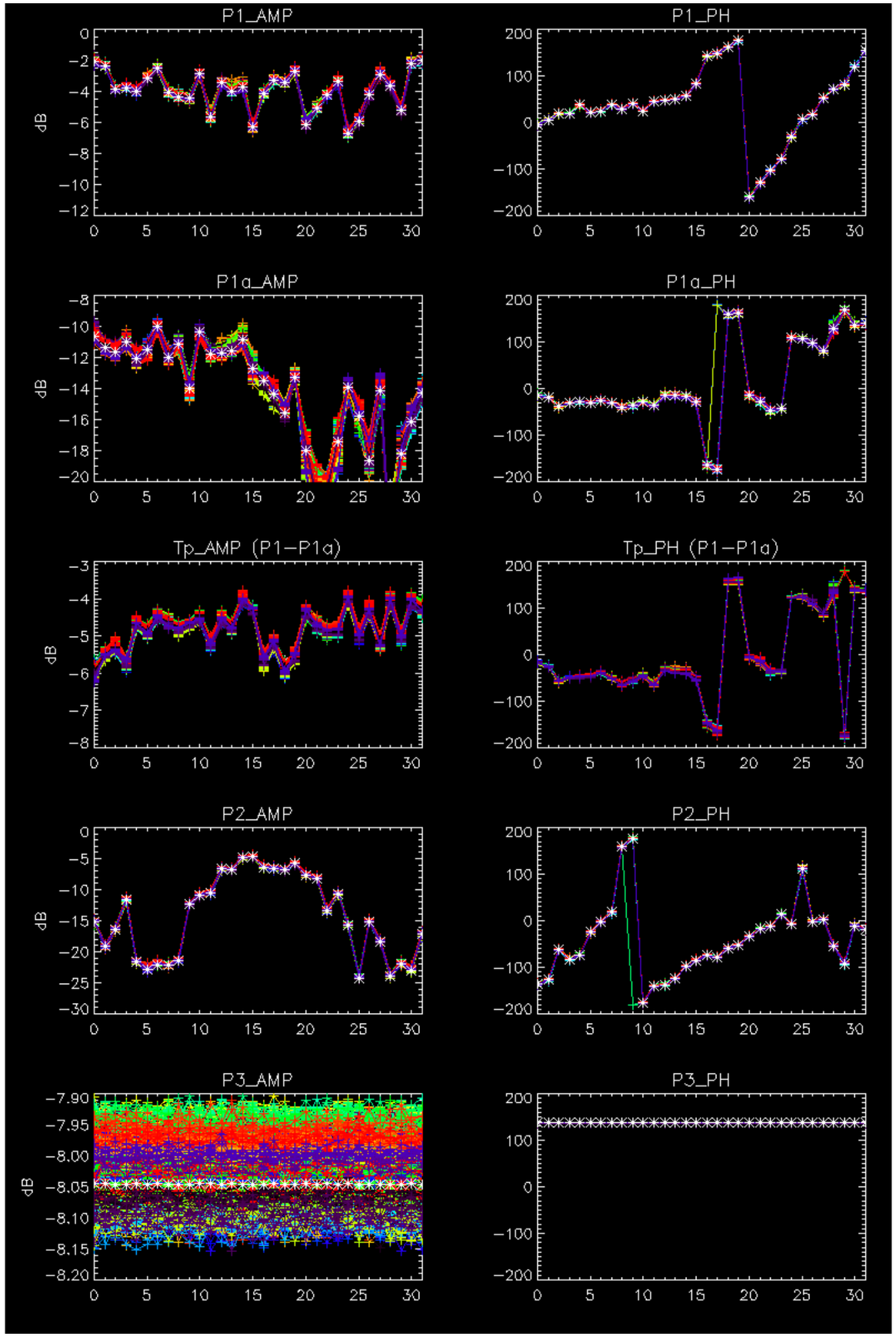

Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
−20
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
06−Sep
11−Sep
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

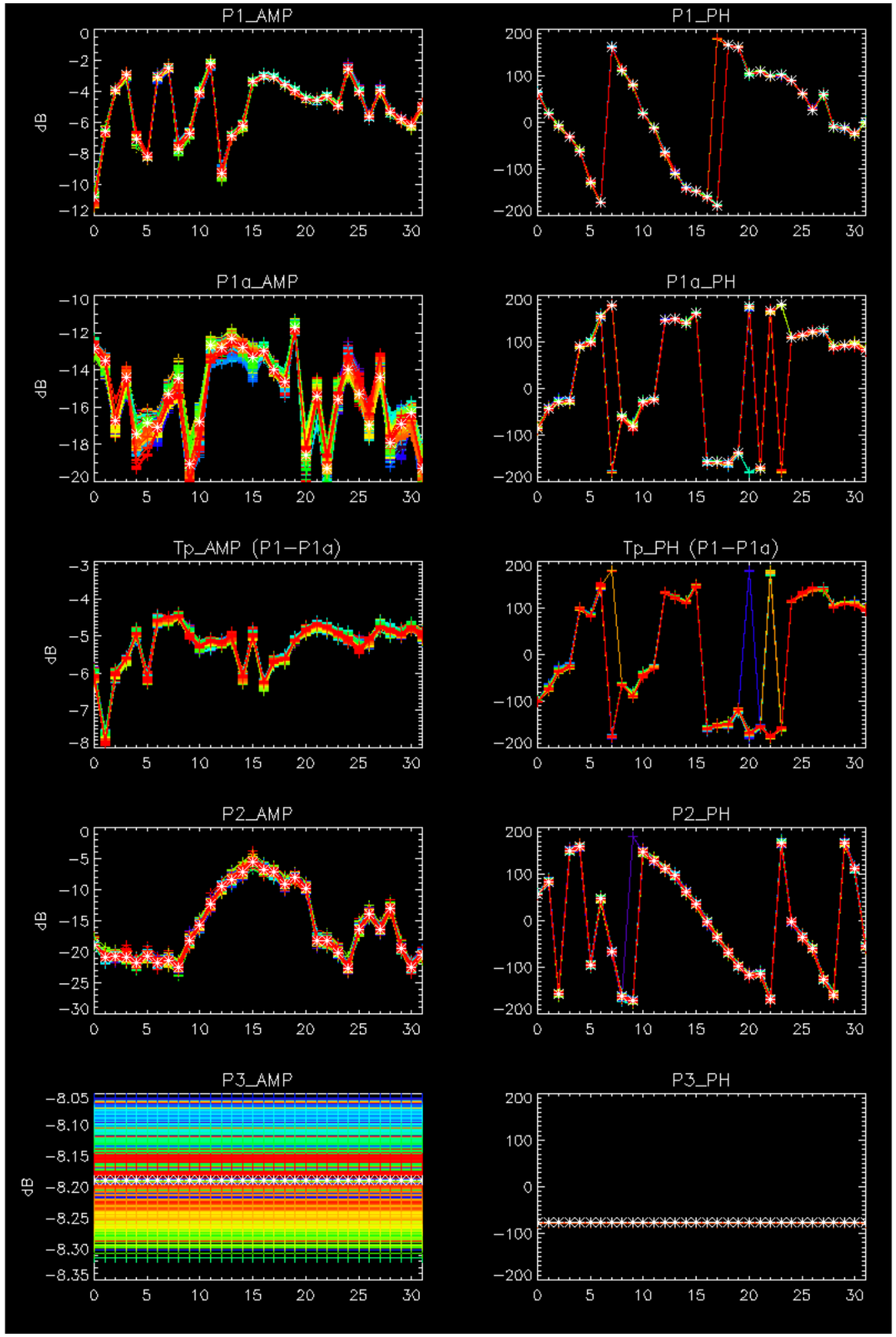

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
12
15
18
21
00
08−Oct
Average P1a [dB]
−5
−10
−15
−20
−25
12
15
18
21
00
08−Oct
Average P2[dB]
0
−5
−10
−15
−20
−25
12
15
18
21
00
08−Oct
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
12
15
18
21
00
08−Oct
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
06−Sep
11−Sep
16−Sep
21−Sep
26−Sep
01−Oct
06−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
12
15
18
21
07−Oct
Average P1a [dB]
−10
−12
−14
−16
−18
−20
12
15
18
21
07−Oct
Average P2[dB]
0
−5
−10
−15
−20
−25
12
15
18
21
07−Oct
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
12
15
18
21
07−Oct
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

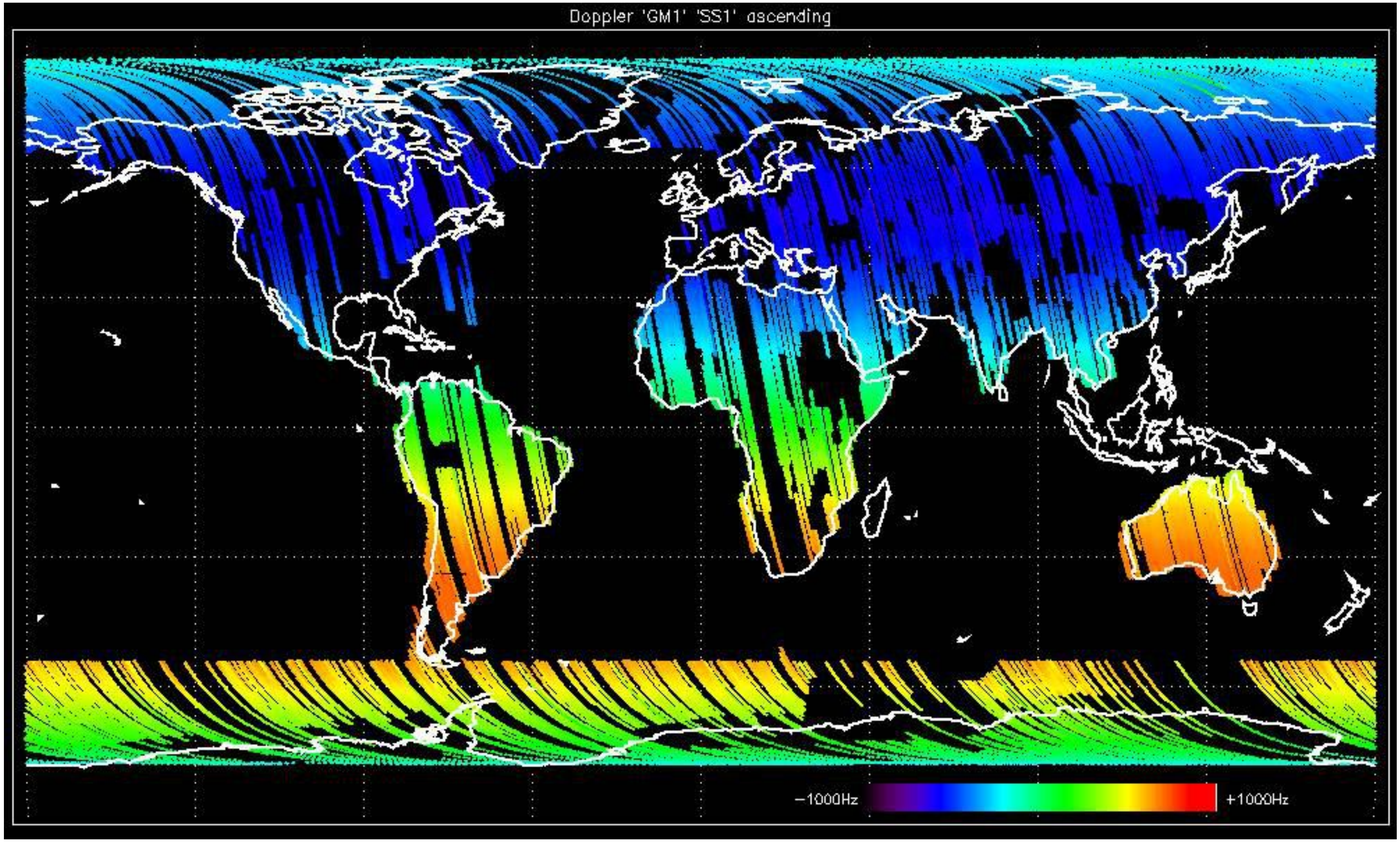
No anomalies observed.

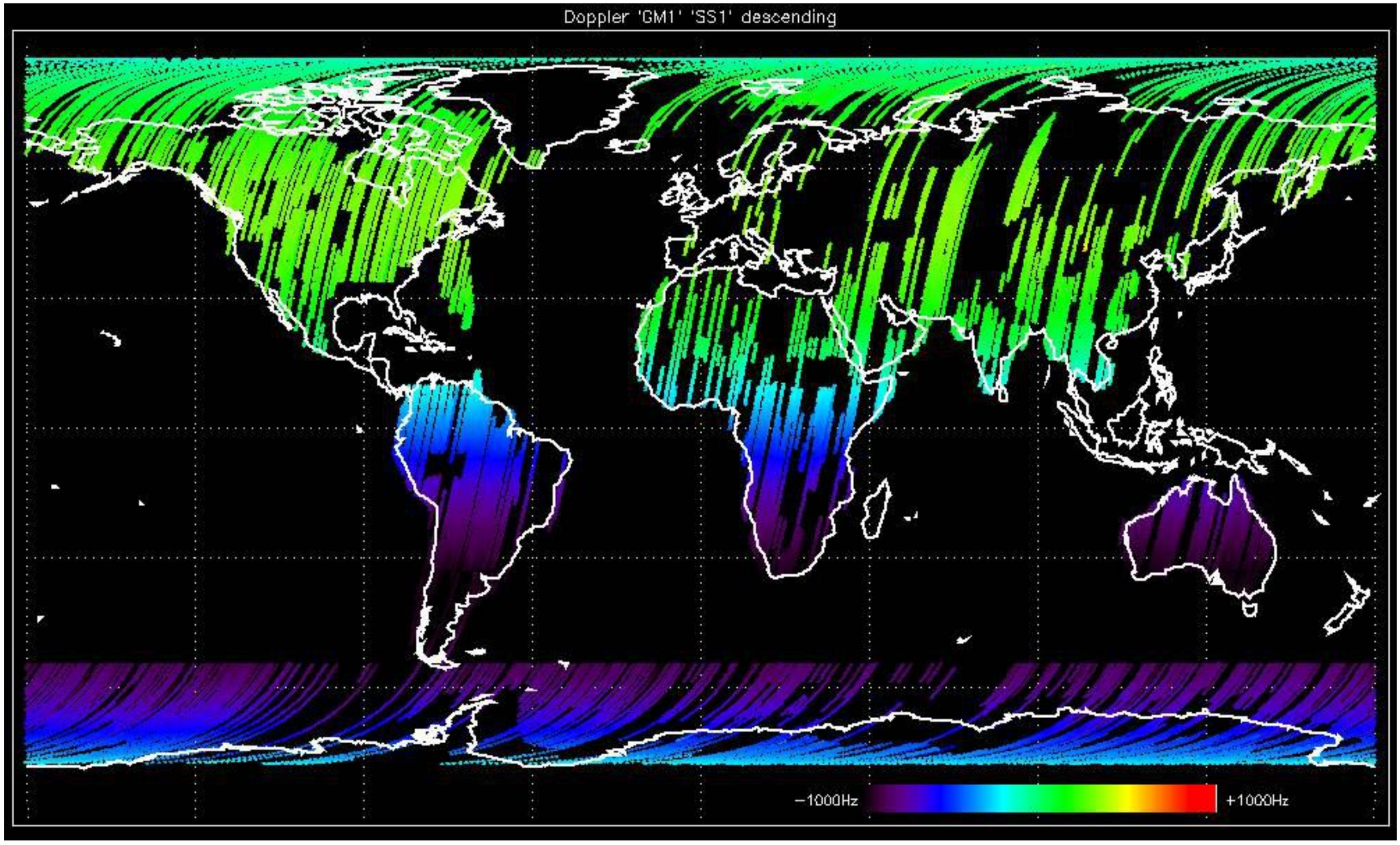

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

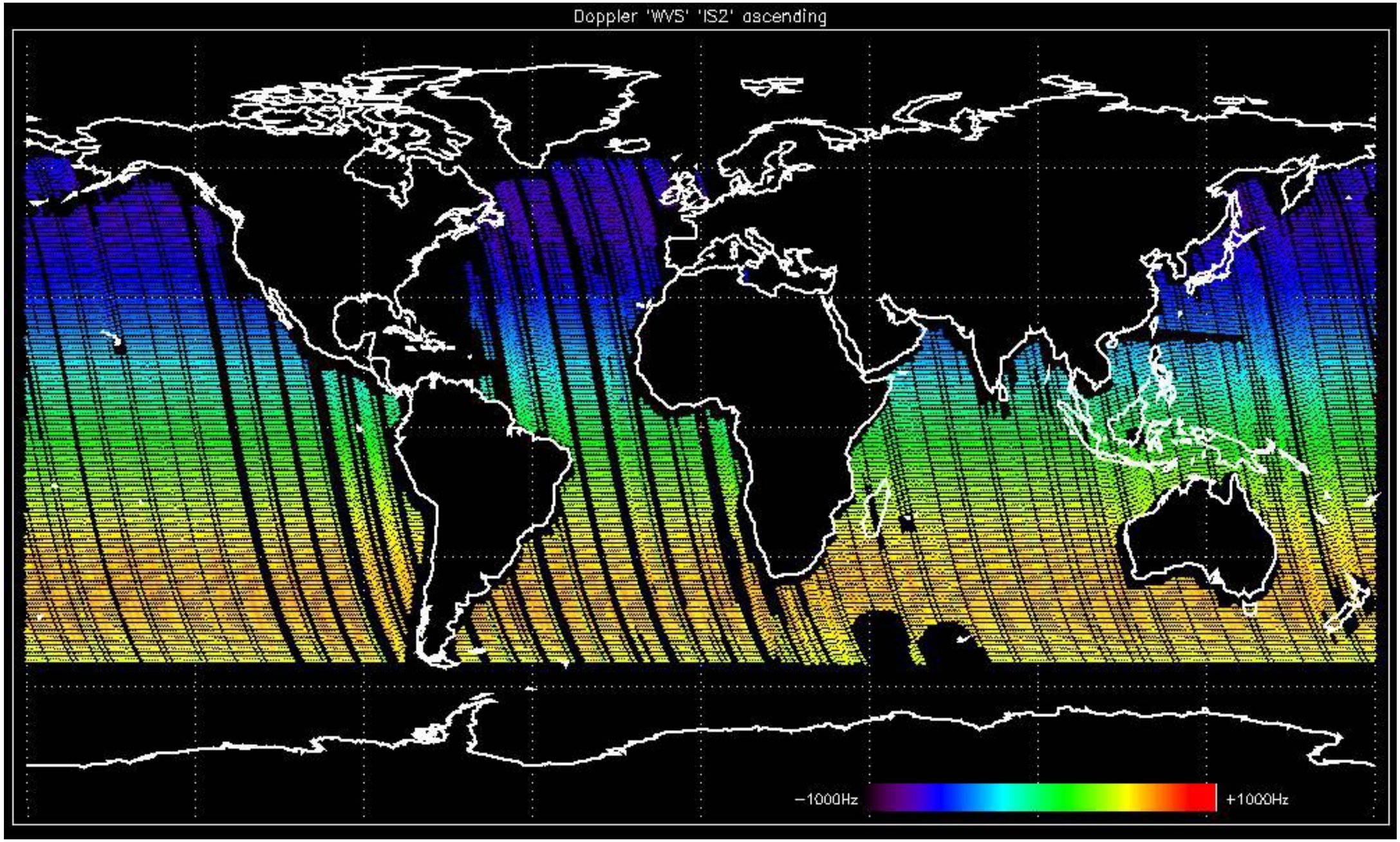

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

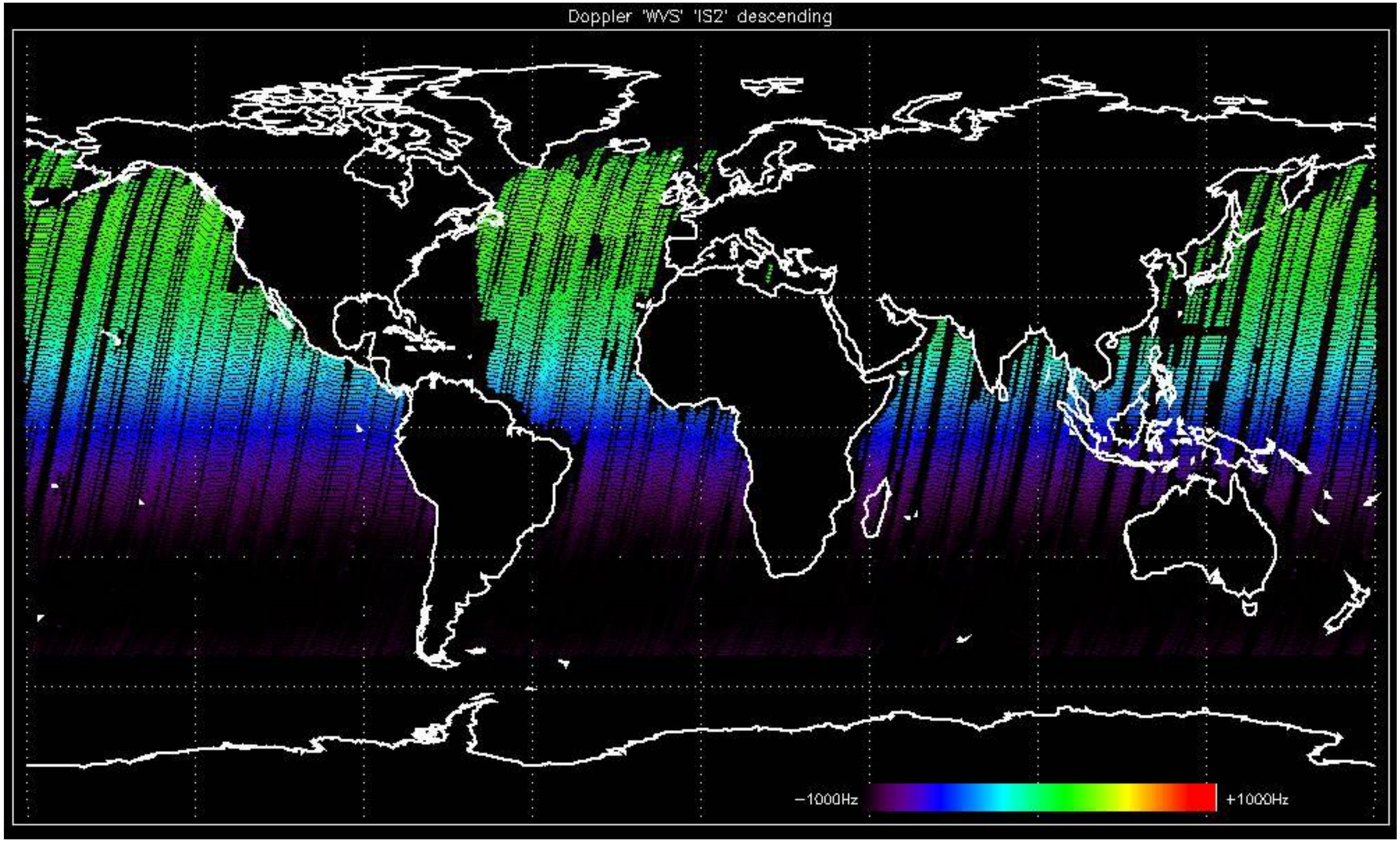
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

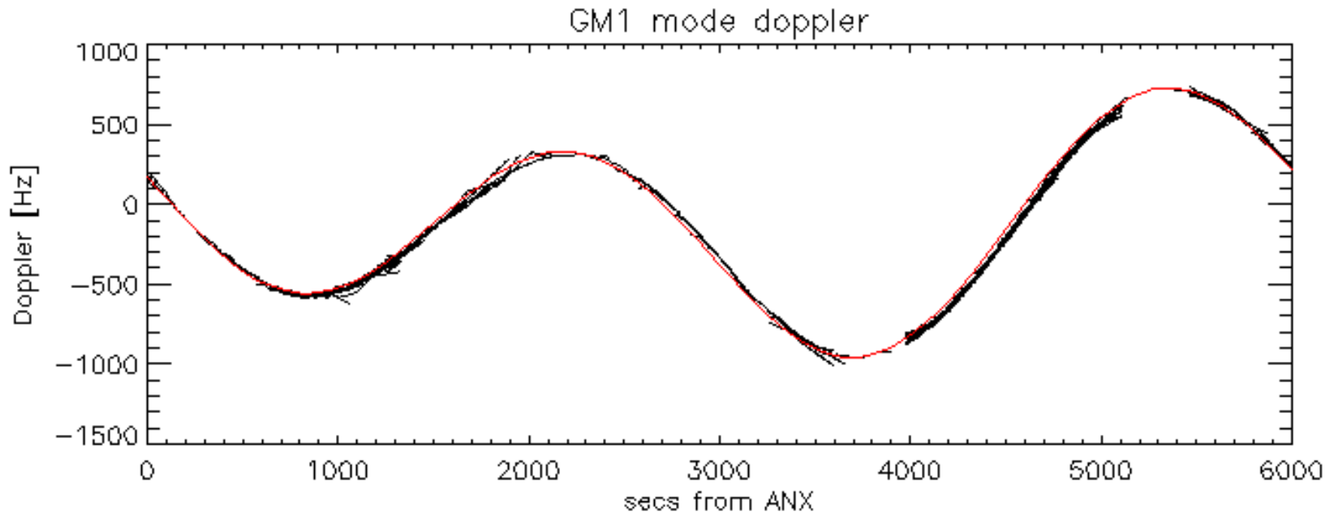
Preliminary report.The data is not yet controled

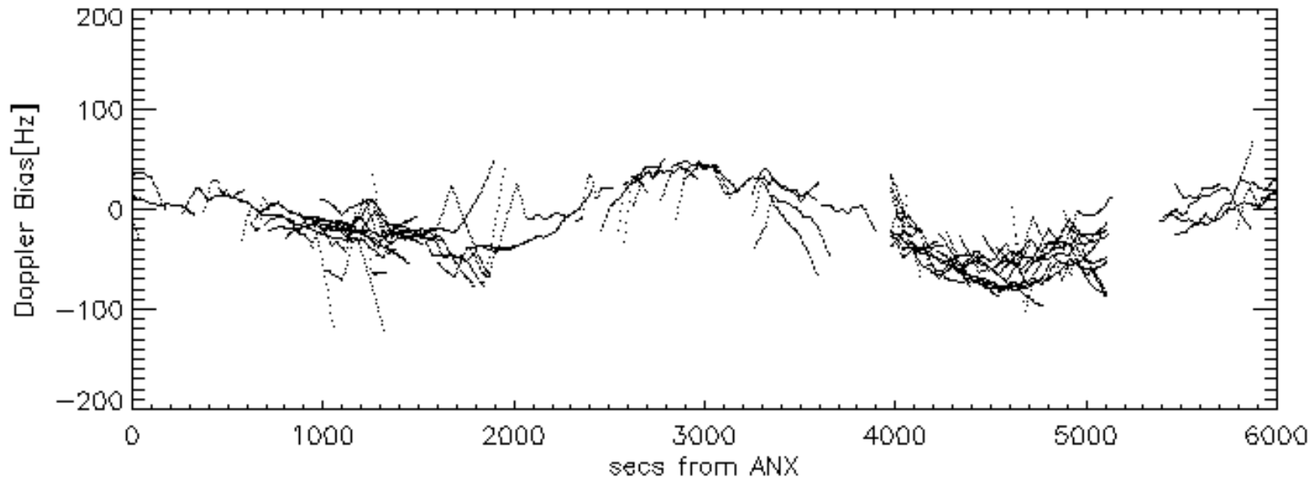

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

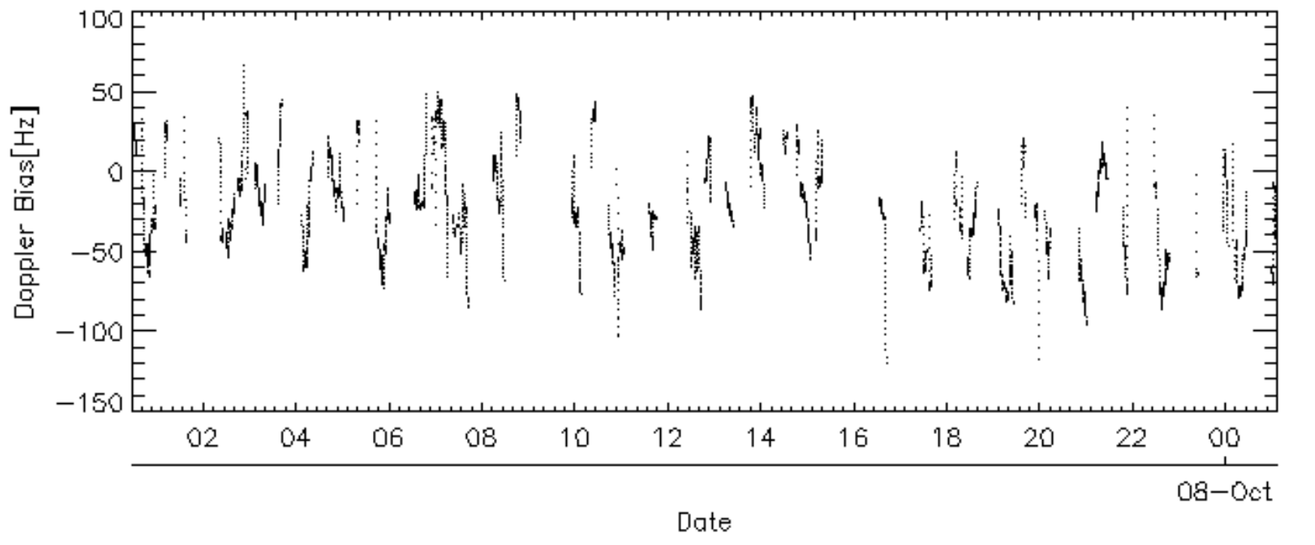

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

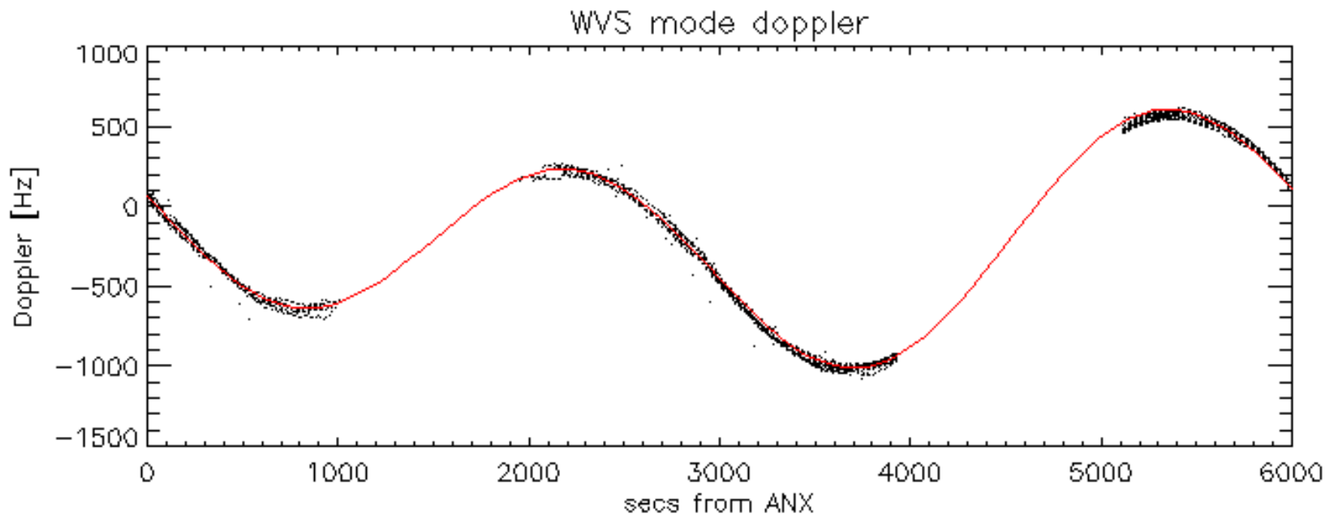

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

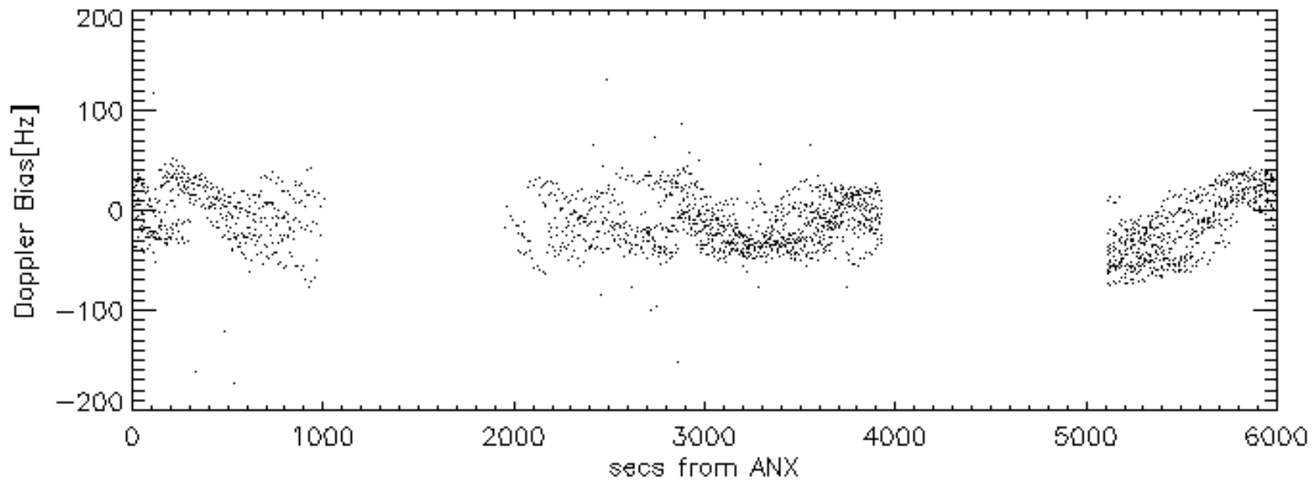

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

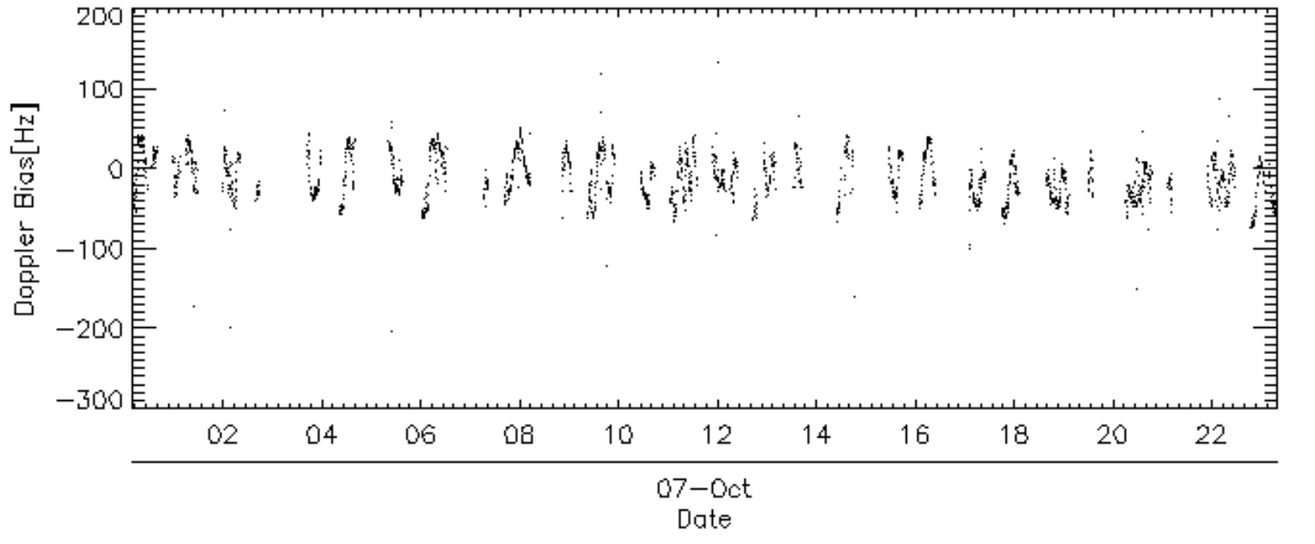

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

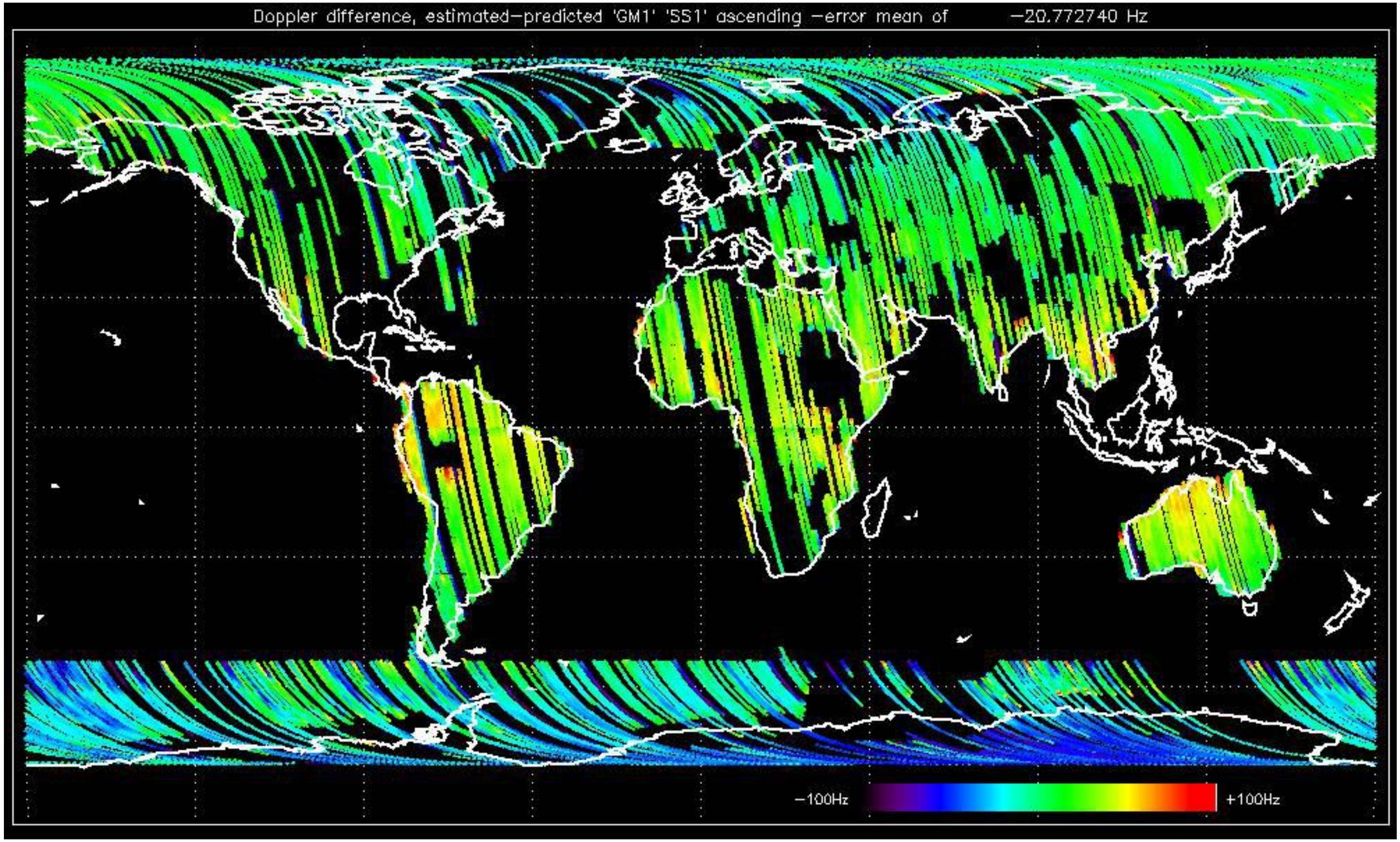

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

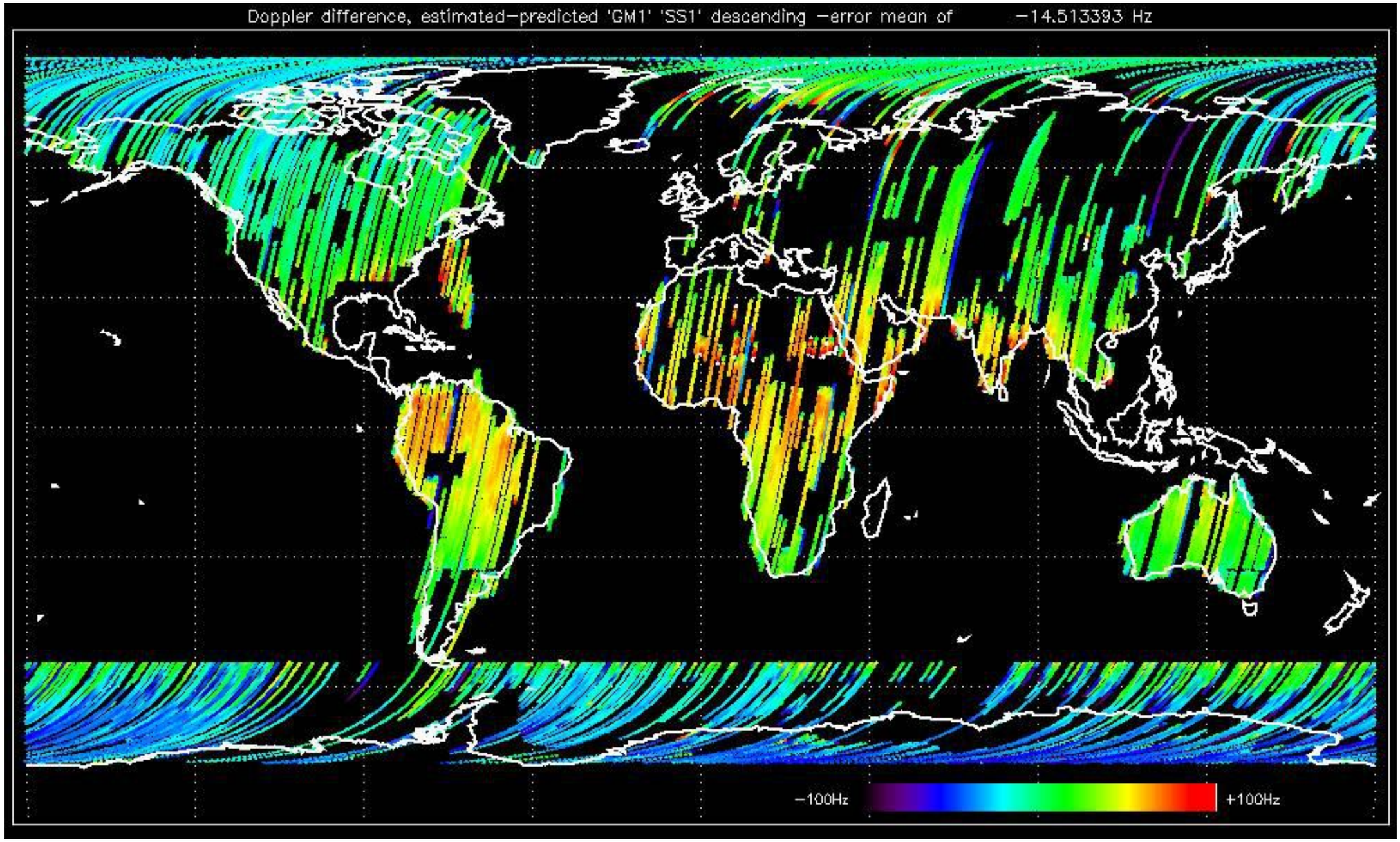

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
08−Oct
Date

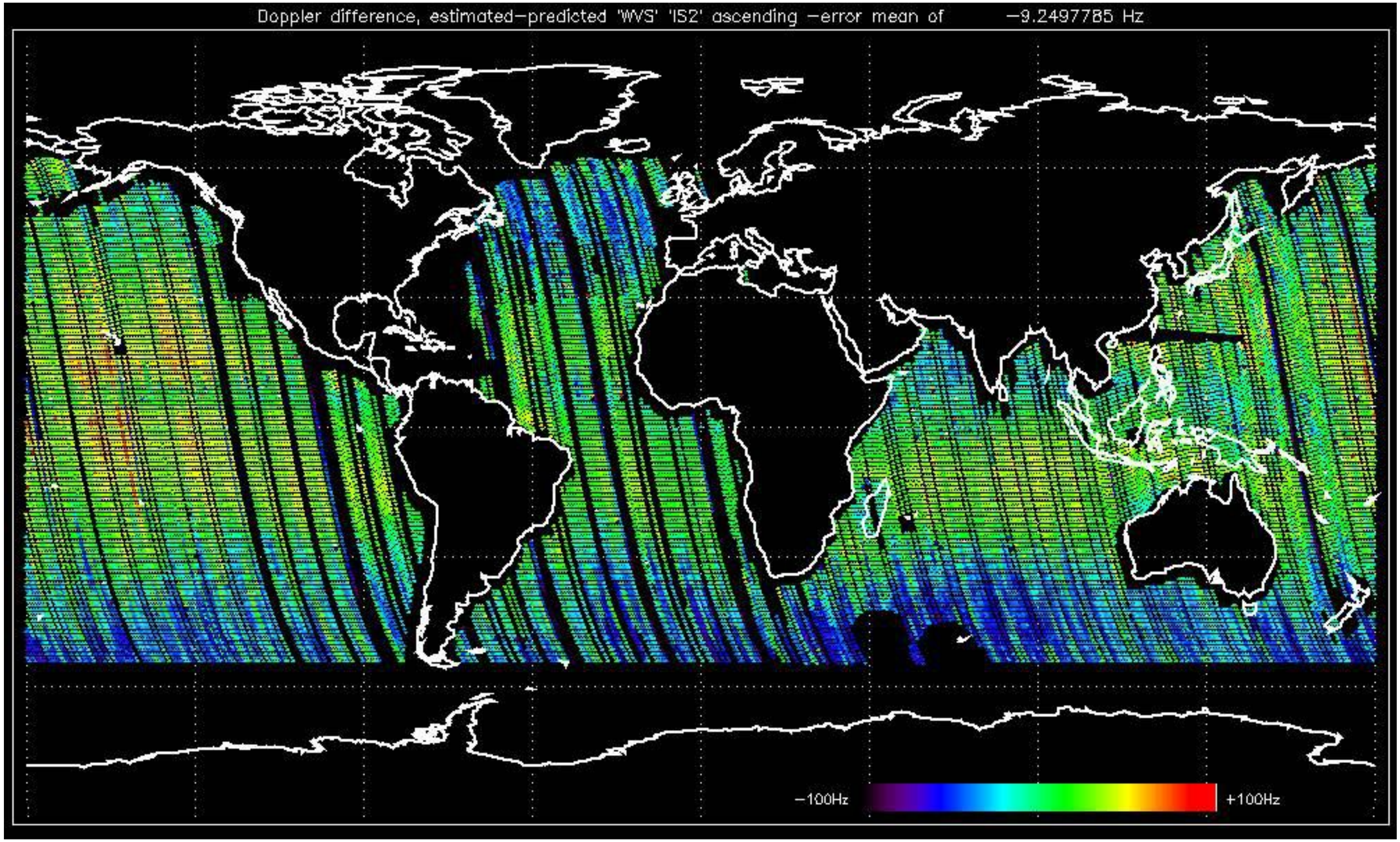

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

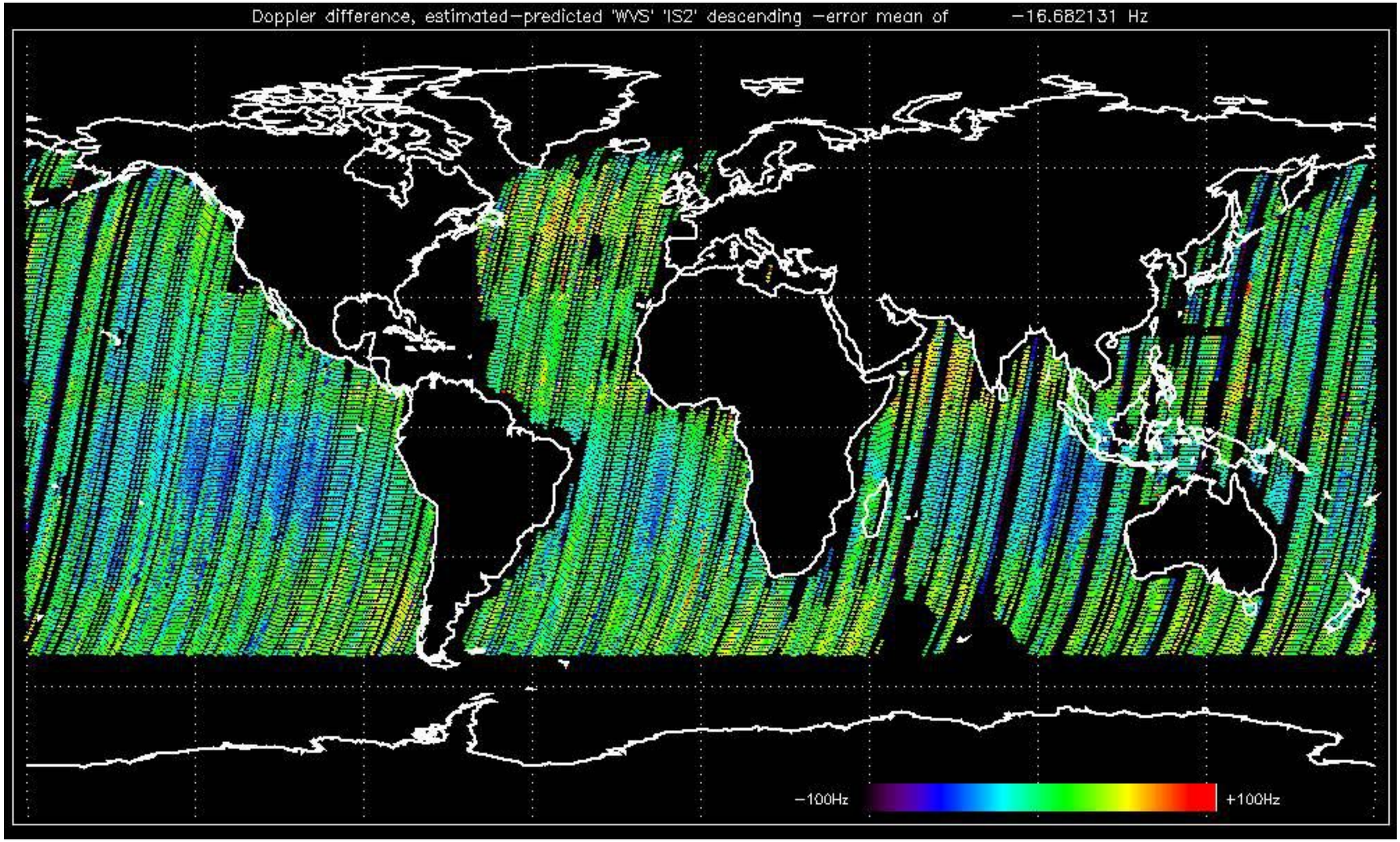

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −20.772740 Hz
−100Hz
+100Hz

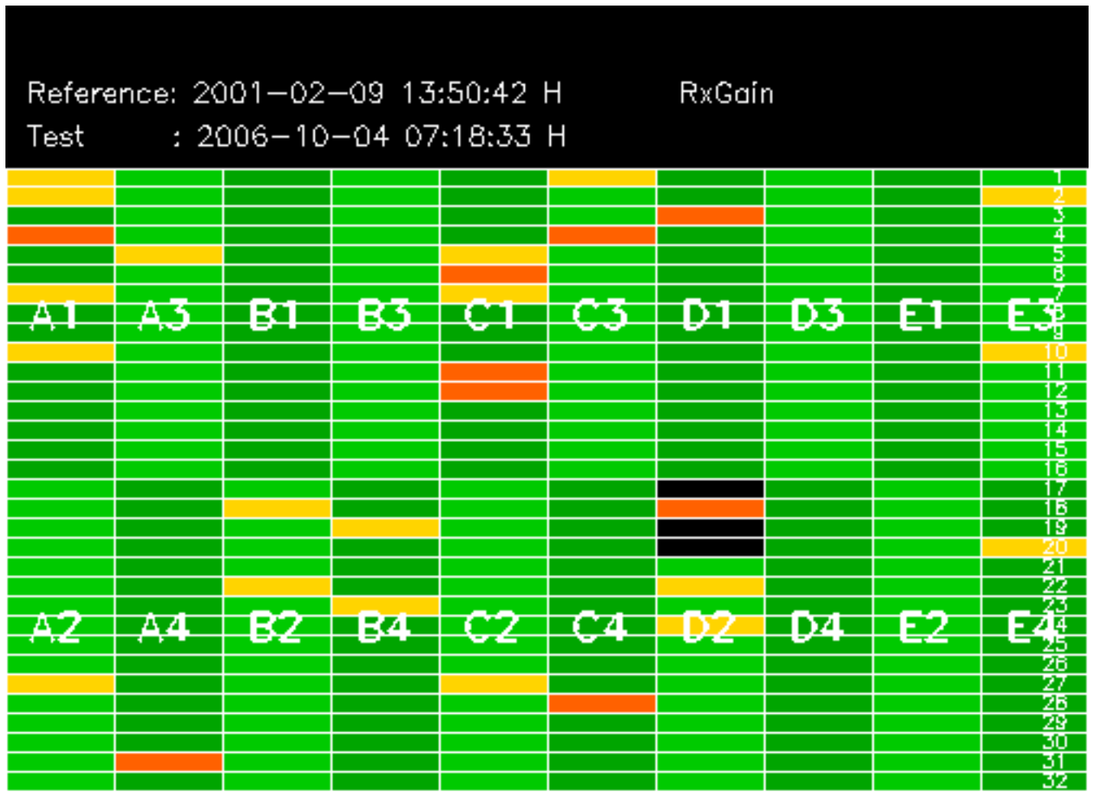

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −14.513393 Hz
−100Hz
+100Hz

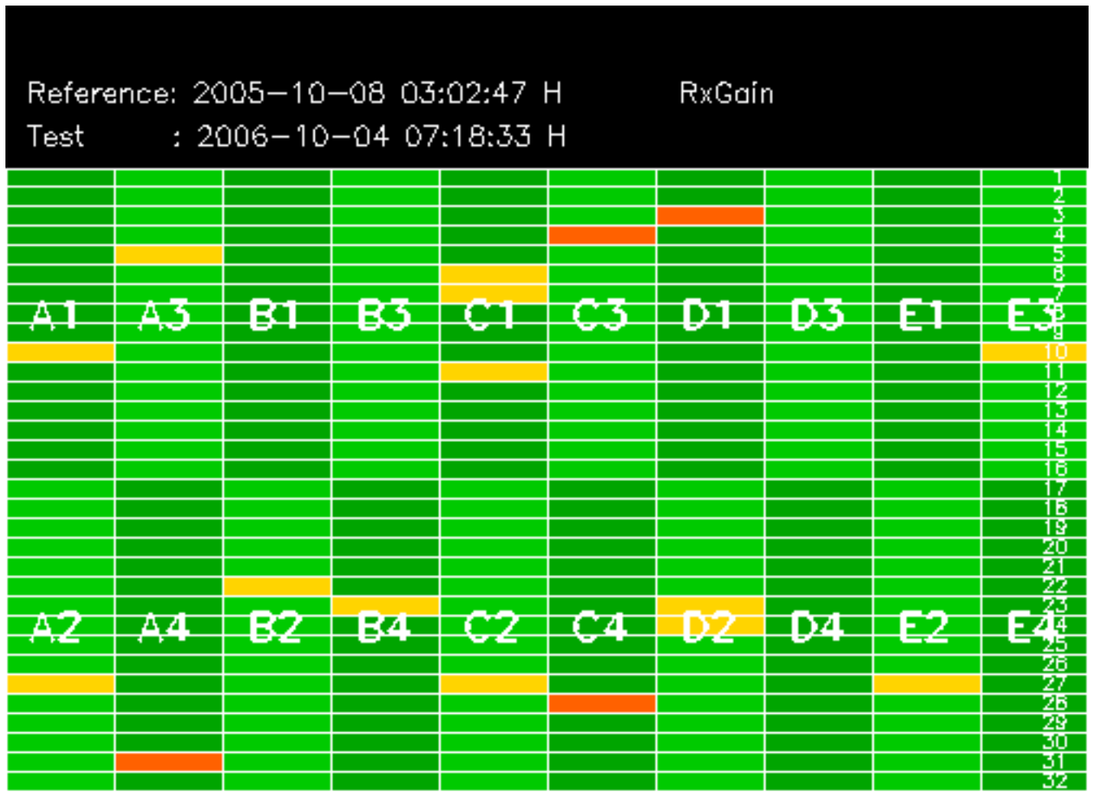

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −9.2497785 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −16.682131 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2006-10-04 07:18:33 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 : 2006-10-04 07:18:33 H
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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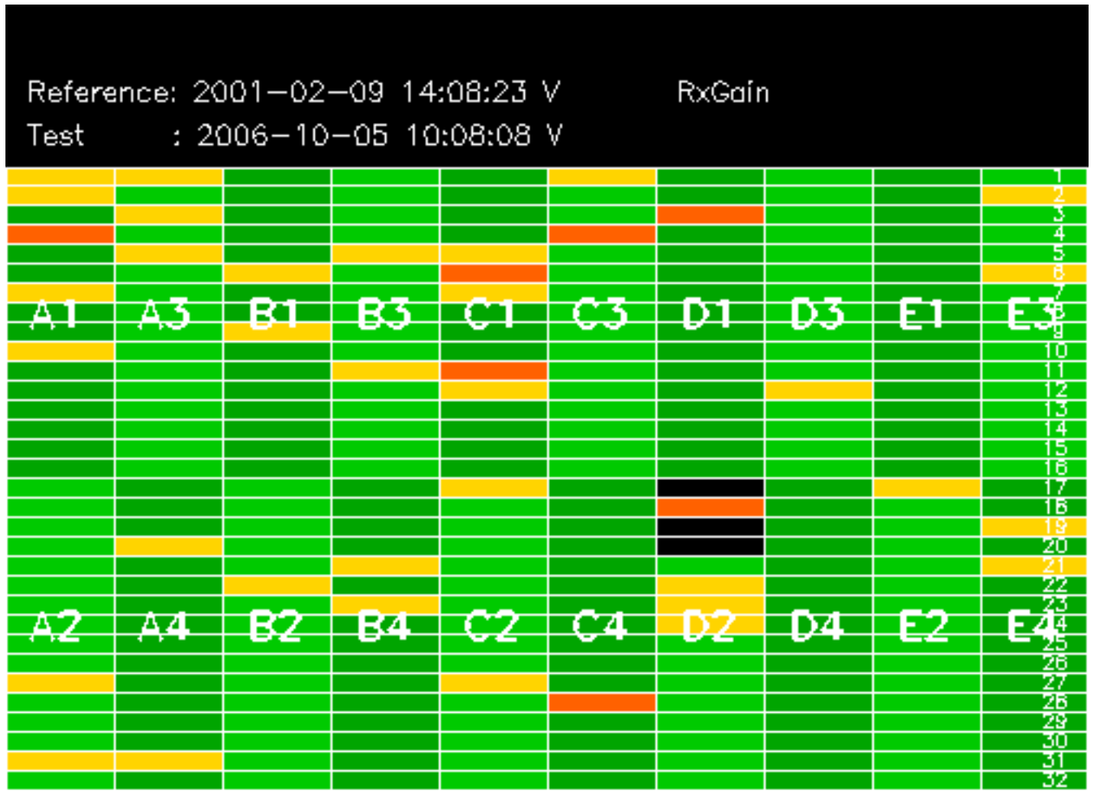
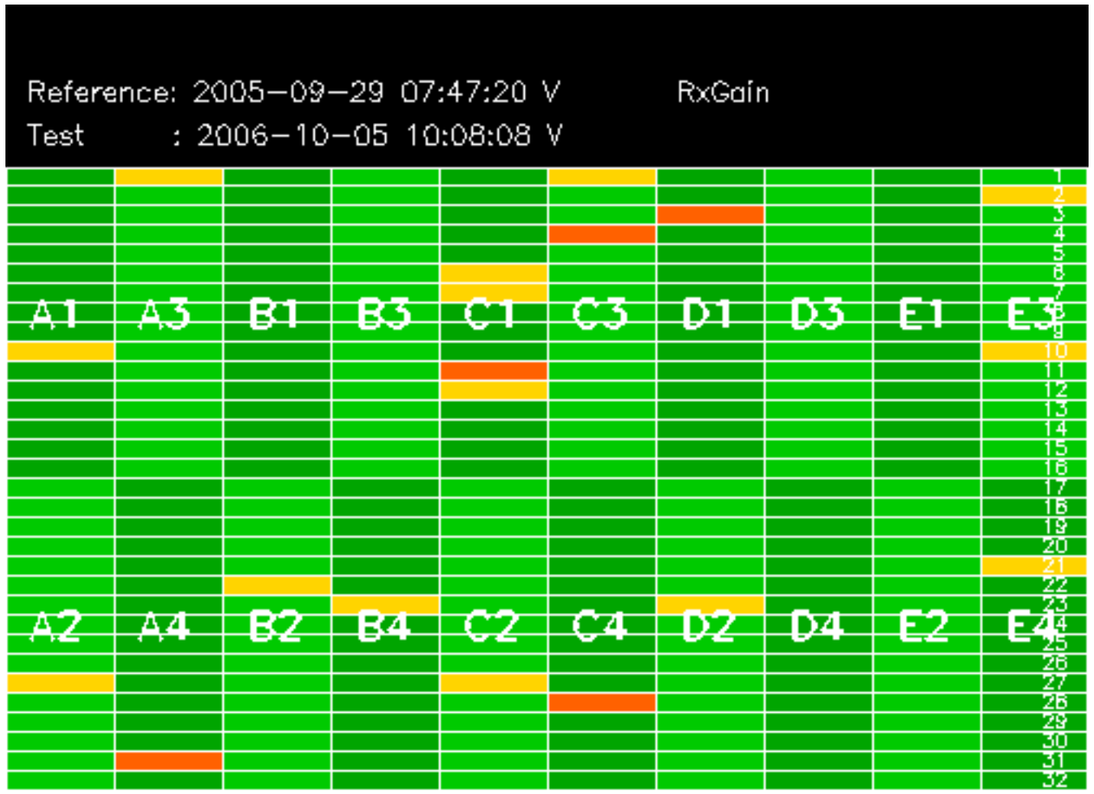

Reference: 2001-02-09 14:08:23 V
Test : 2006-10-05 10:08:08 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-10-05 10:08:08 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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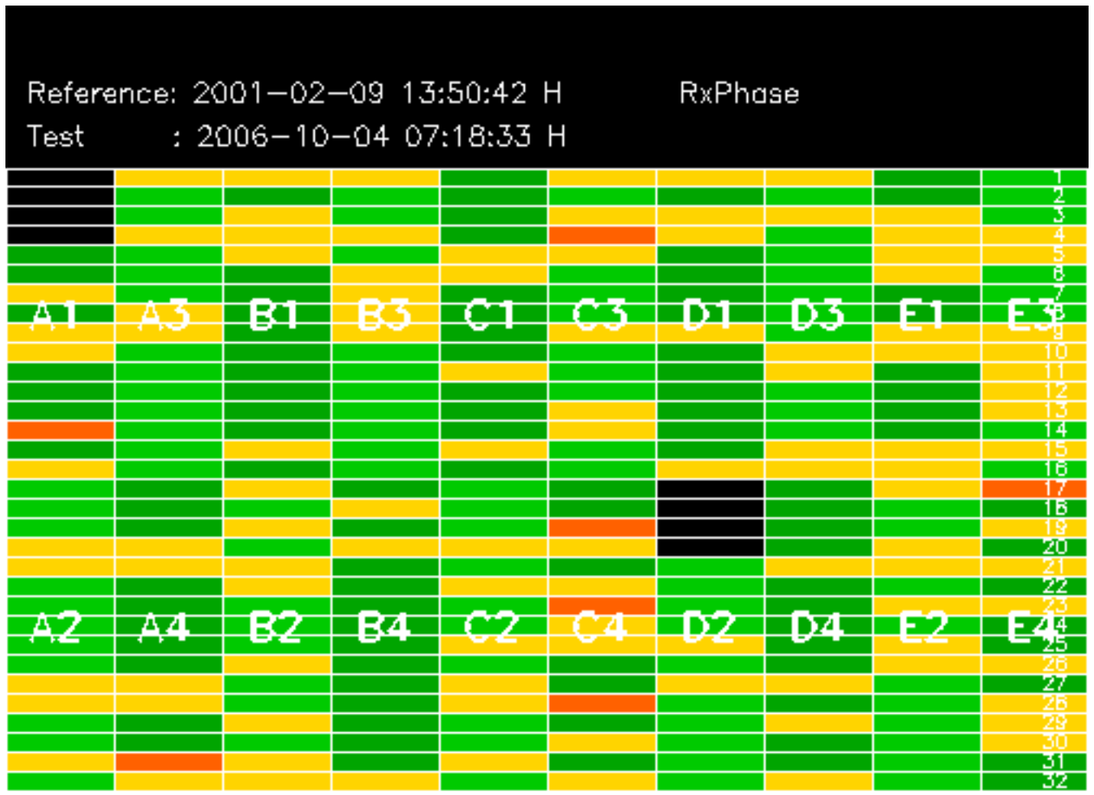
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-10-04 07:18:33 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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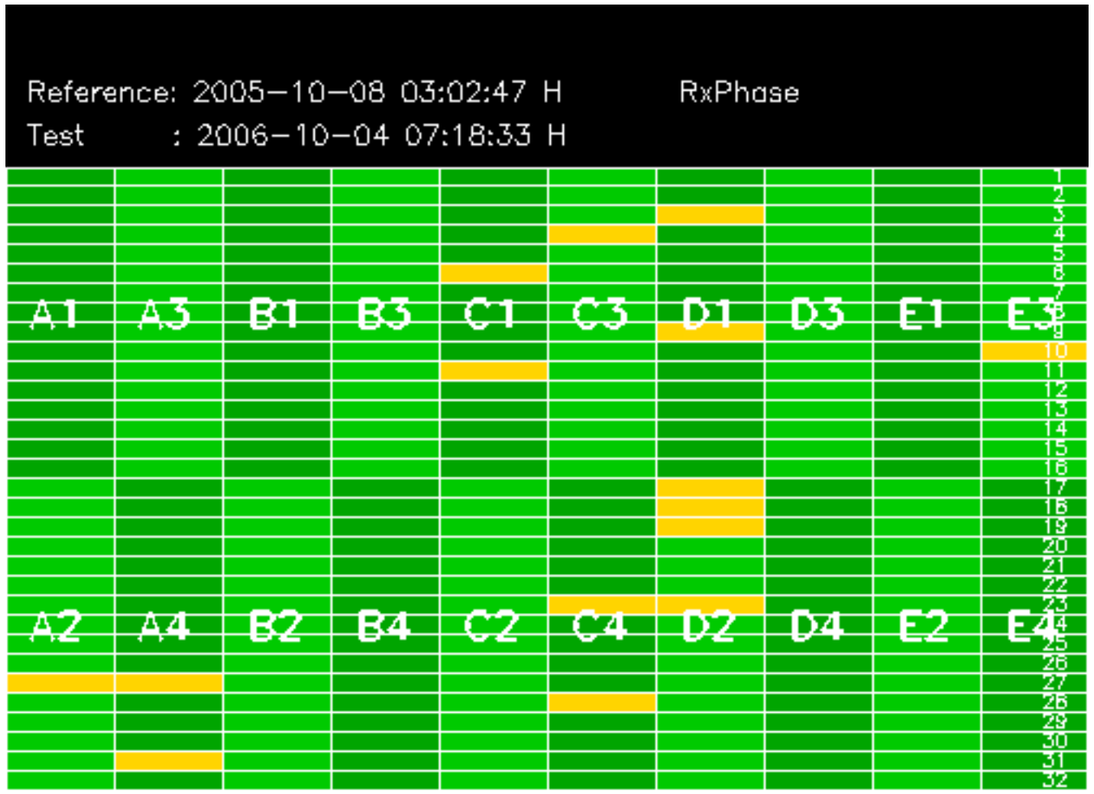
Reference: 2005-10-08 03:02:47 H
RxPhase
Test : 2006-10-04 07:18:33 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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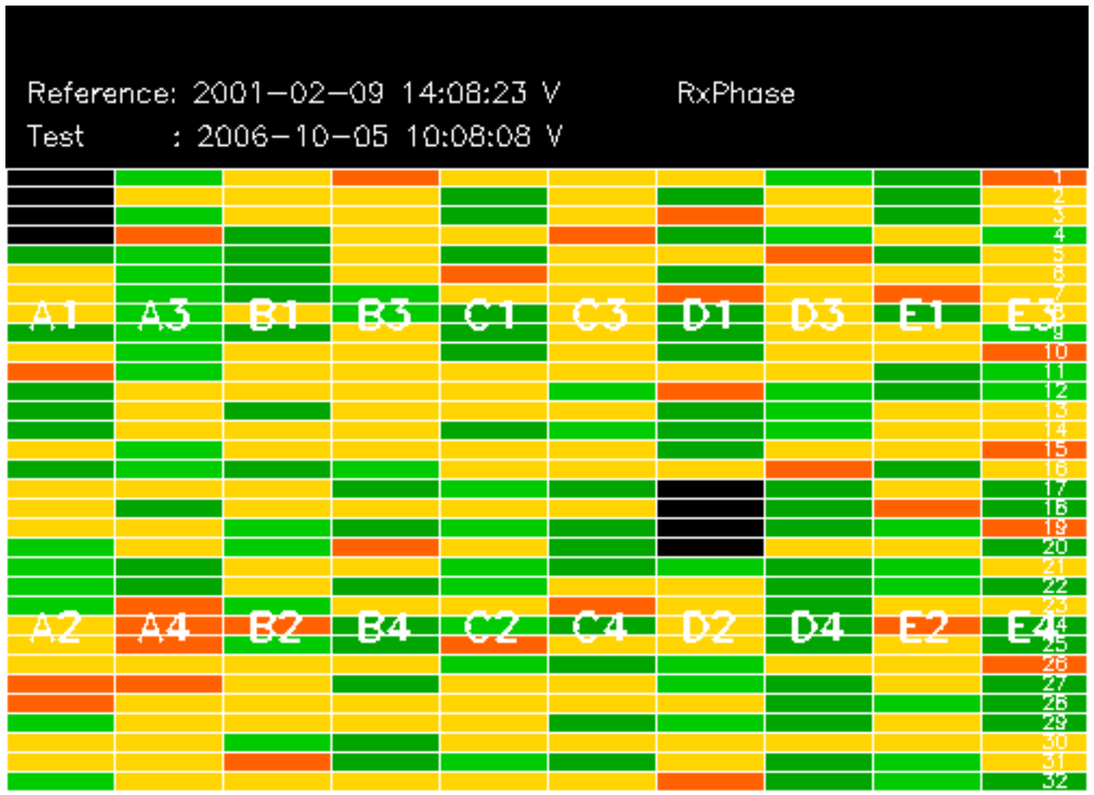
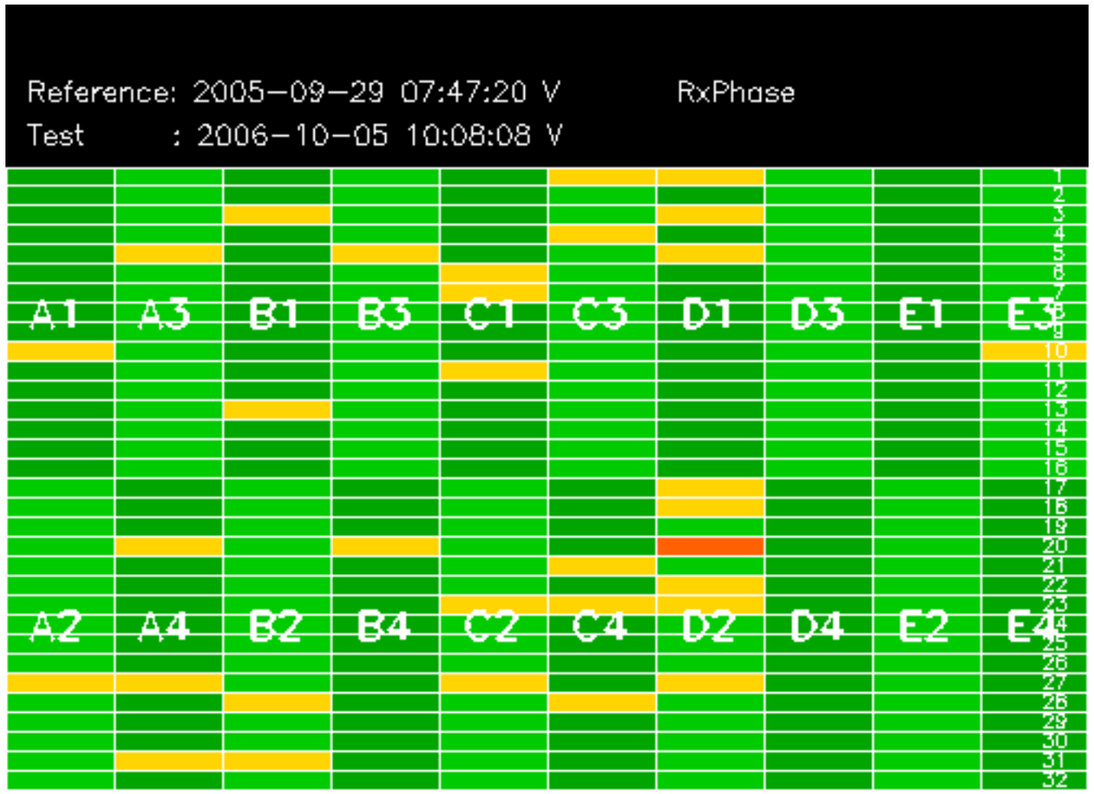

Reference: 2001-02-09 14:08:23 V
Test : 2006-10-05 10:08:08 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-10-05 10:08:08 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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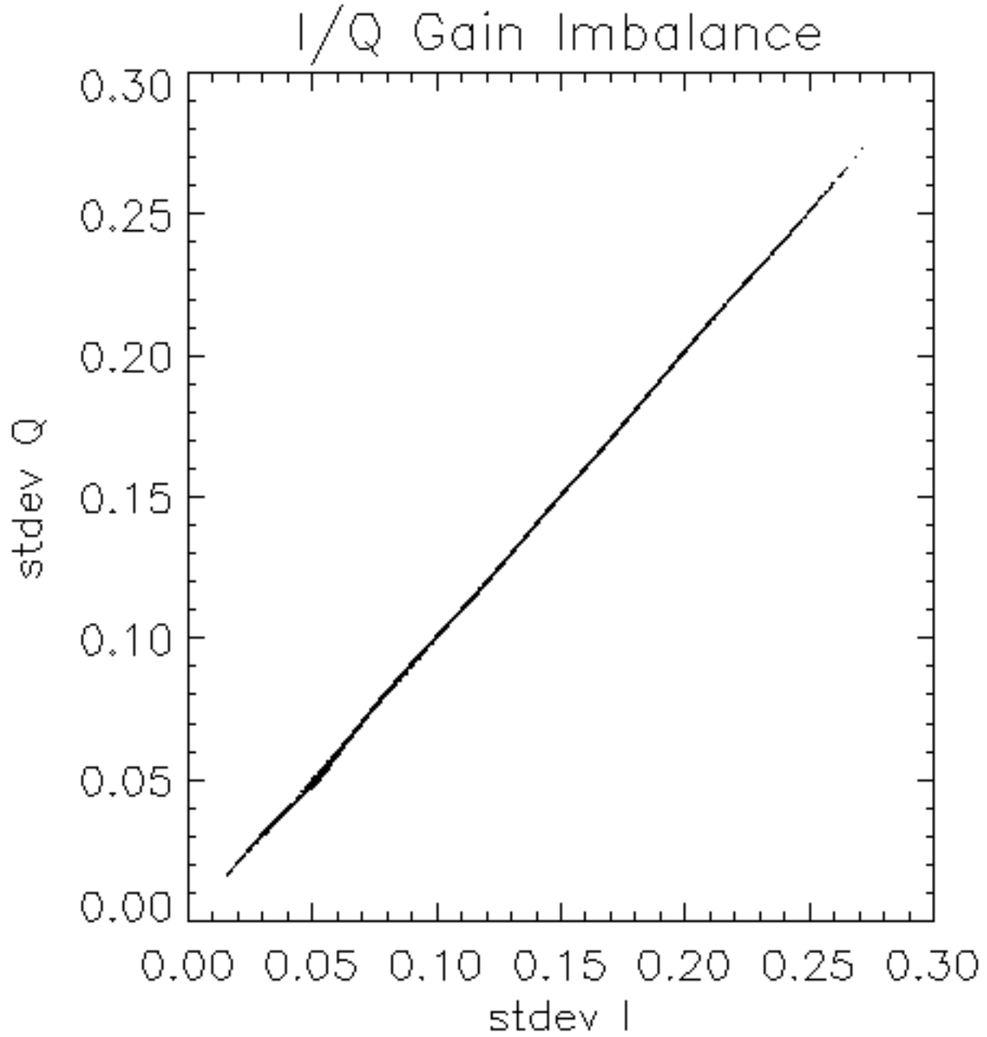
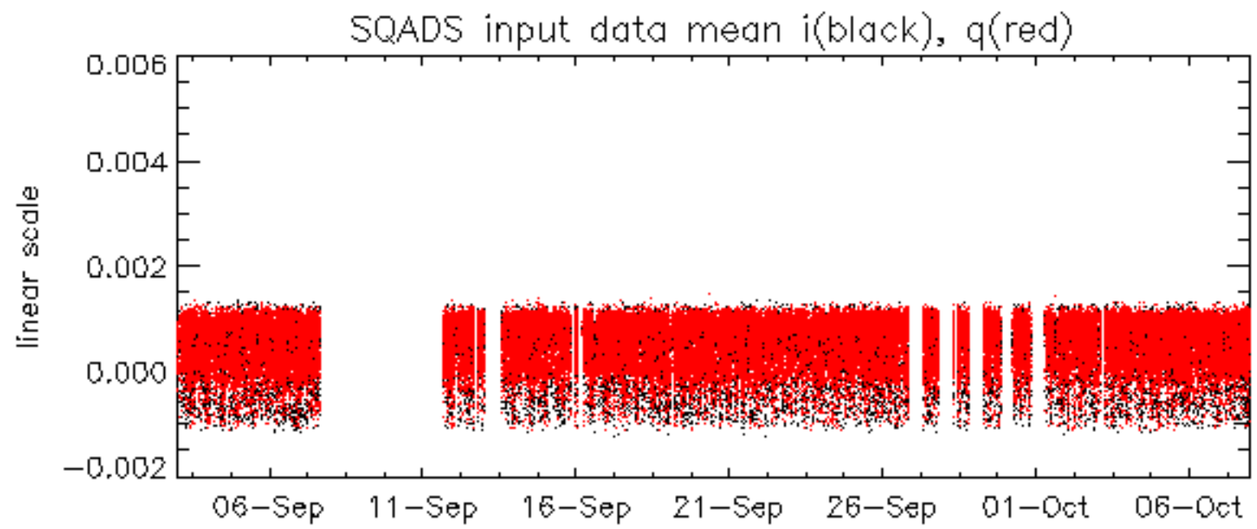
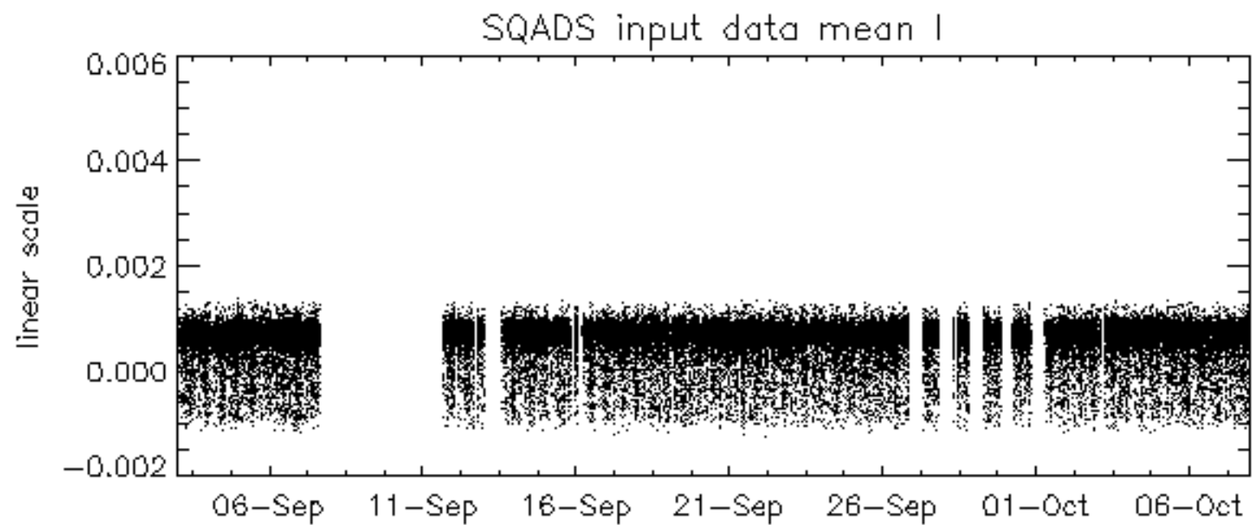
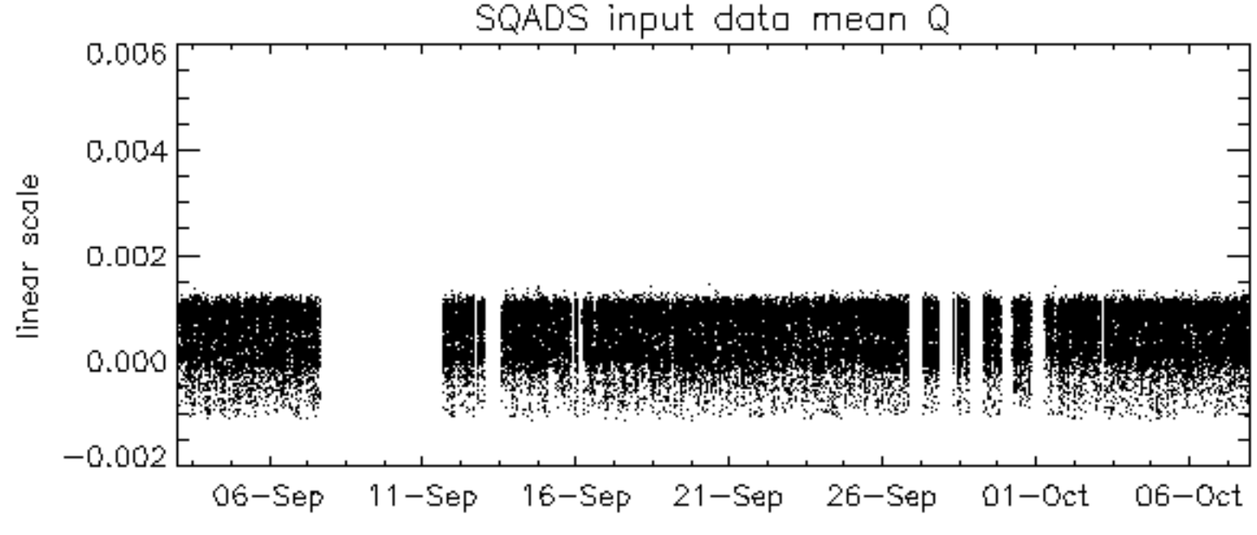
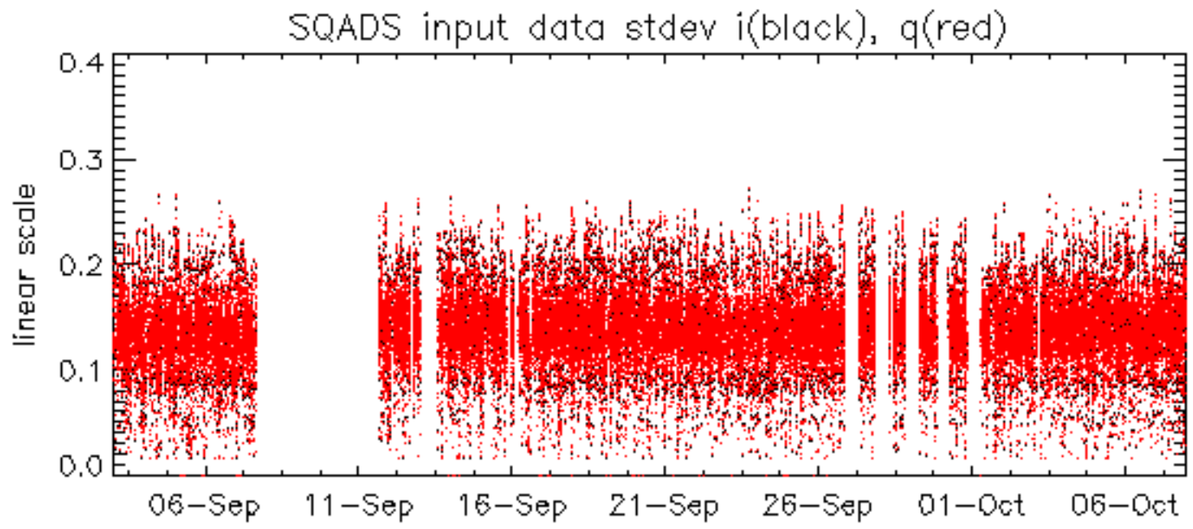
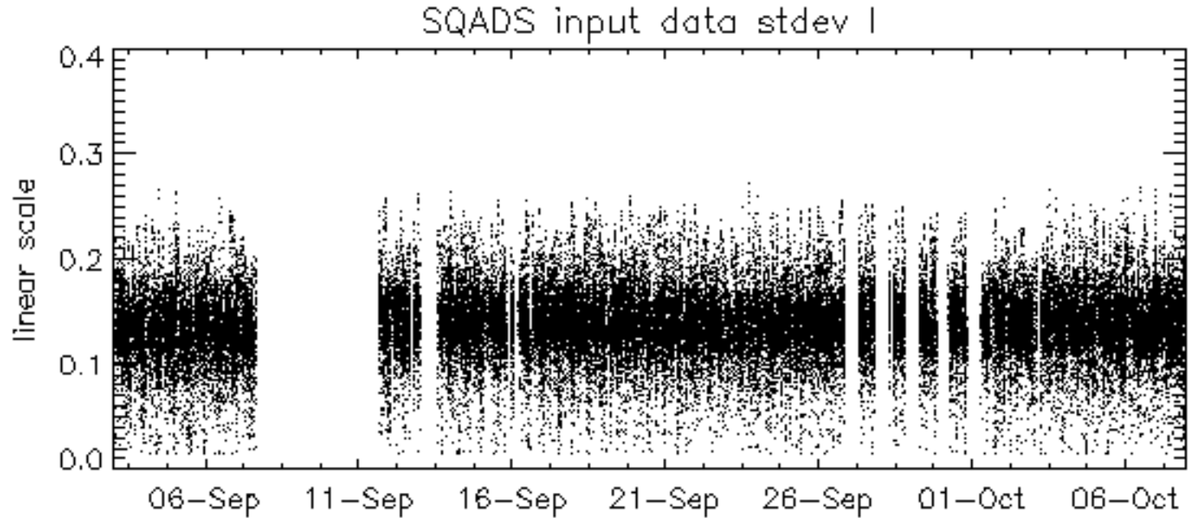

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

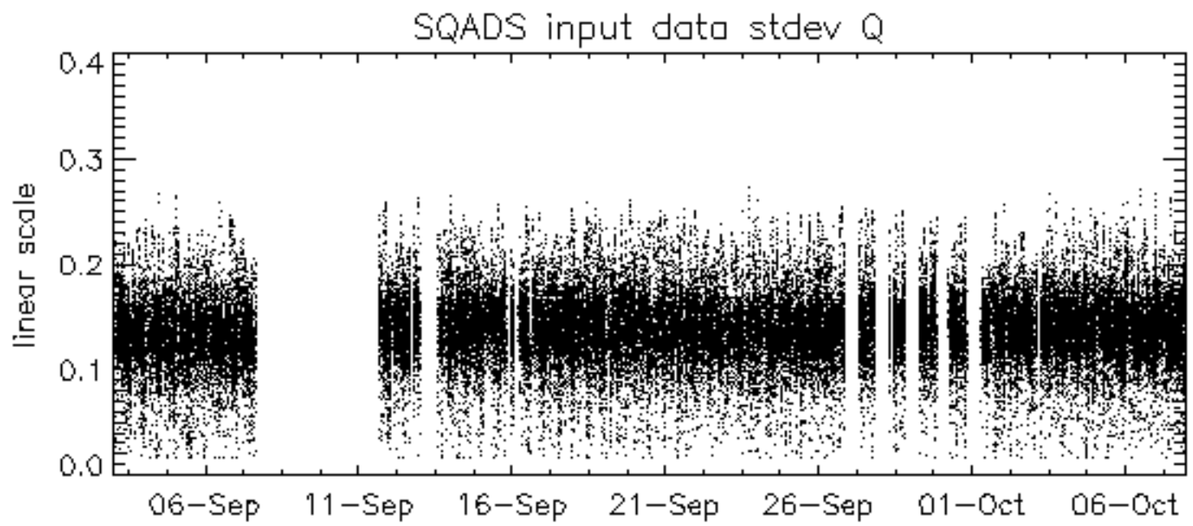

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Sep
11−Sep
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct

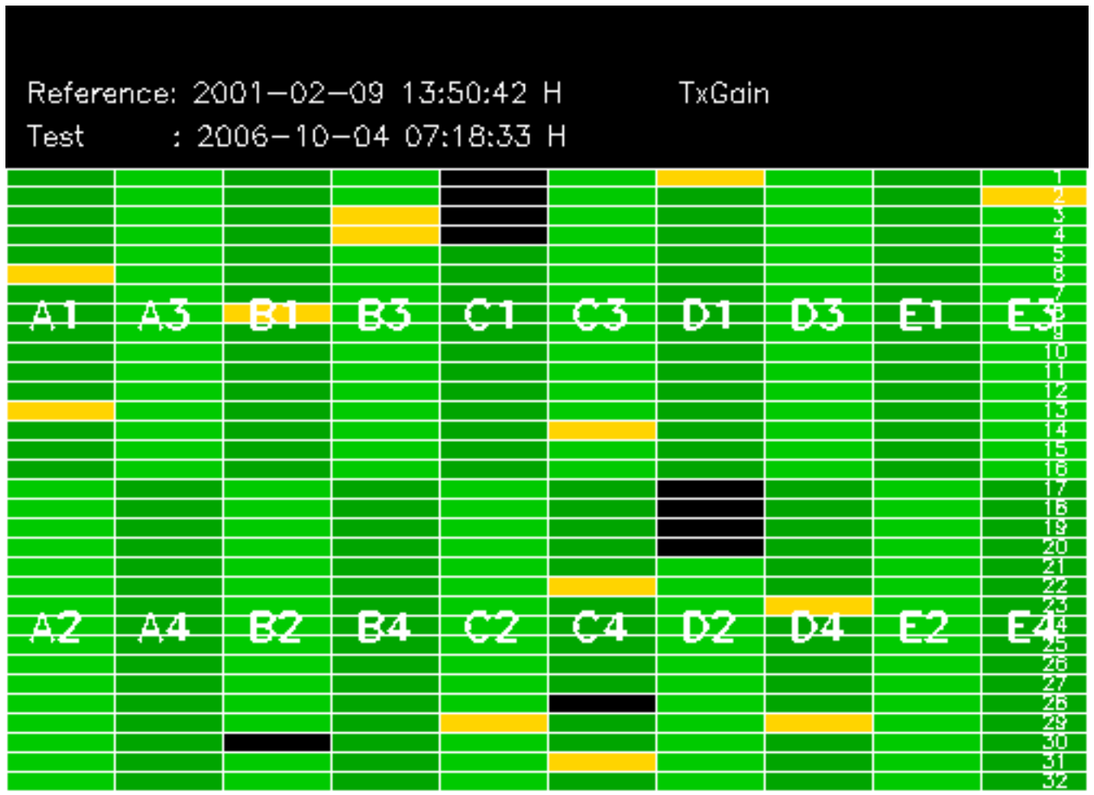

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Sep
11−Sep
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2006-10-04 07:18:33 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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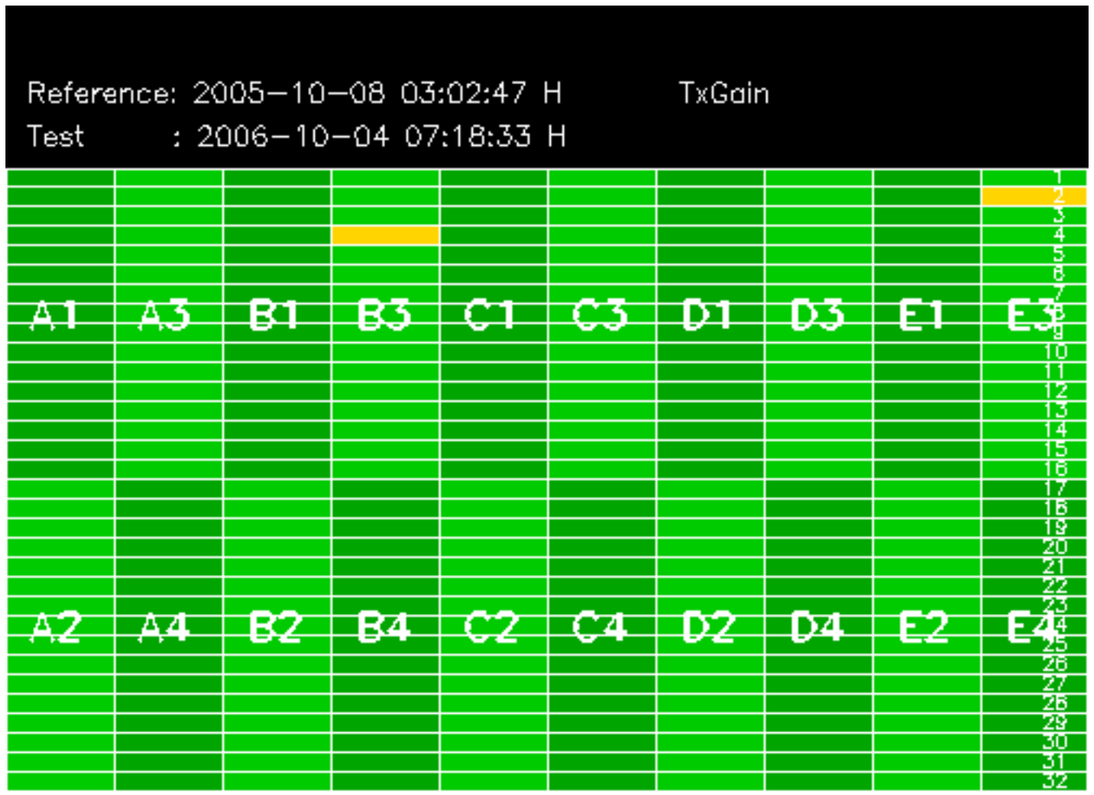
Reference: 2005-10-08 03:02:47 H
Test : 2006-10-04 07:18:33 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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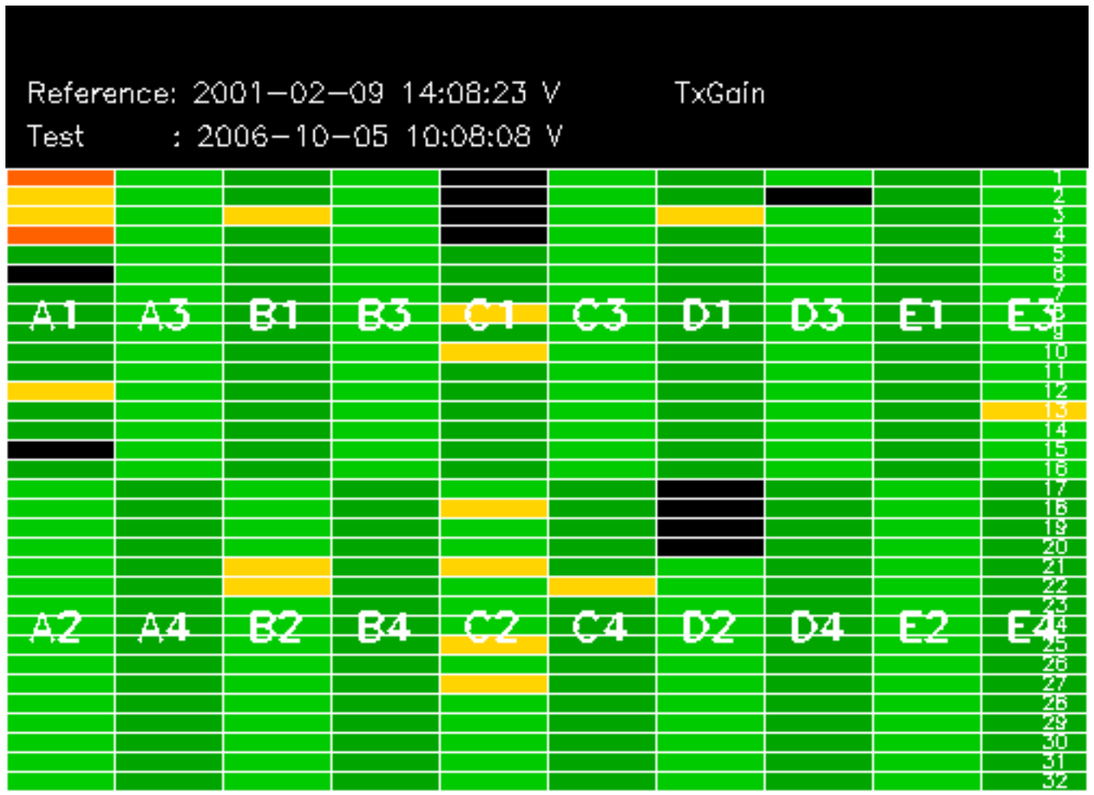
Reference: 2001-02-09 14:08:23 V
Test : 2006-10-05 10:08:08 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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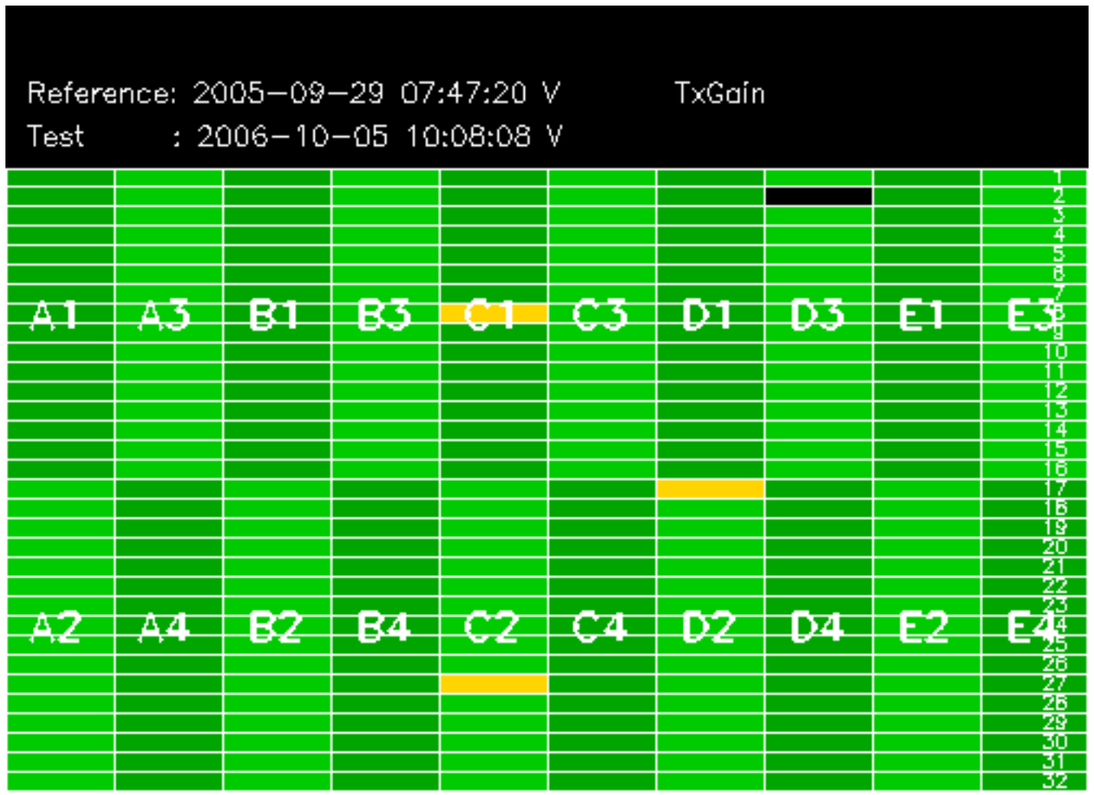
Reference: 2005-09-29 07:47:20 V
Test : 2006-10-05 10:08:08 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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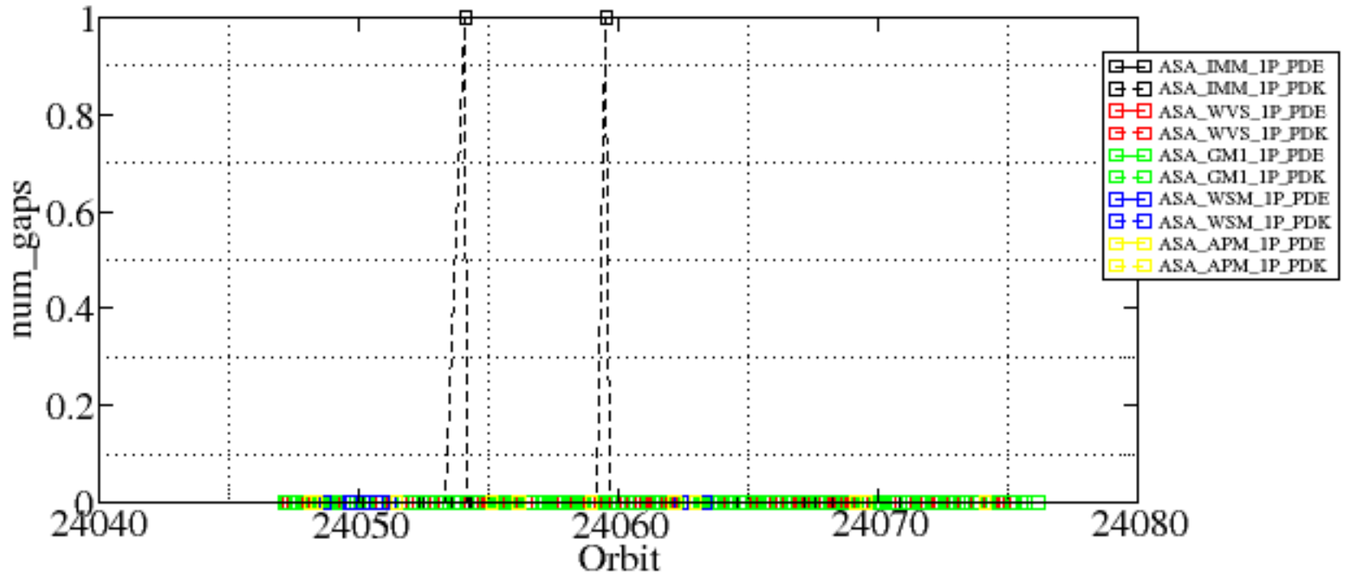
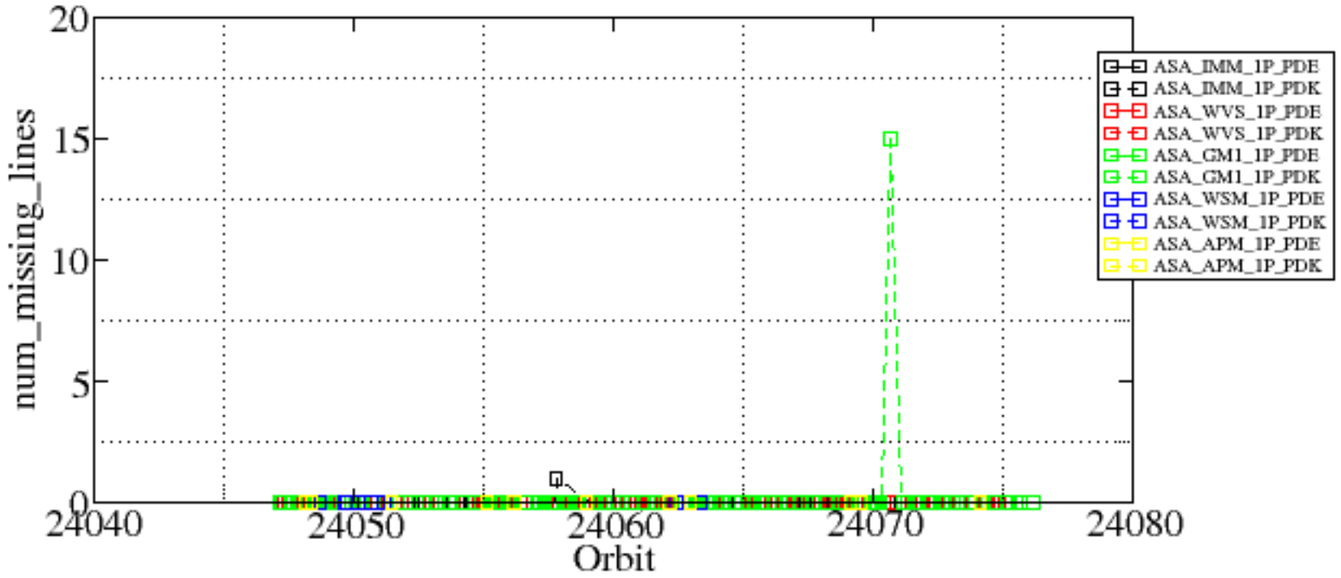
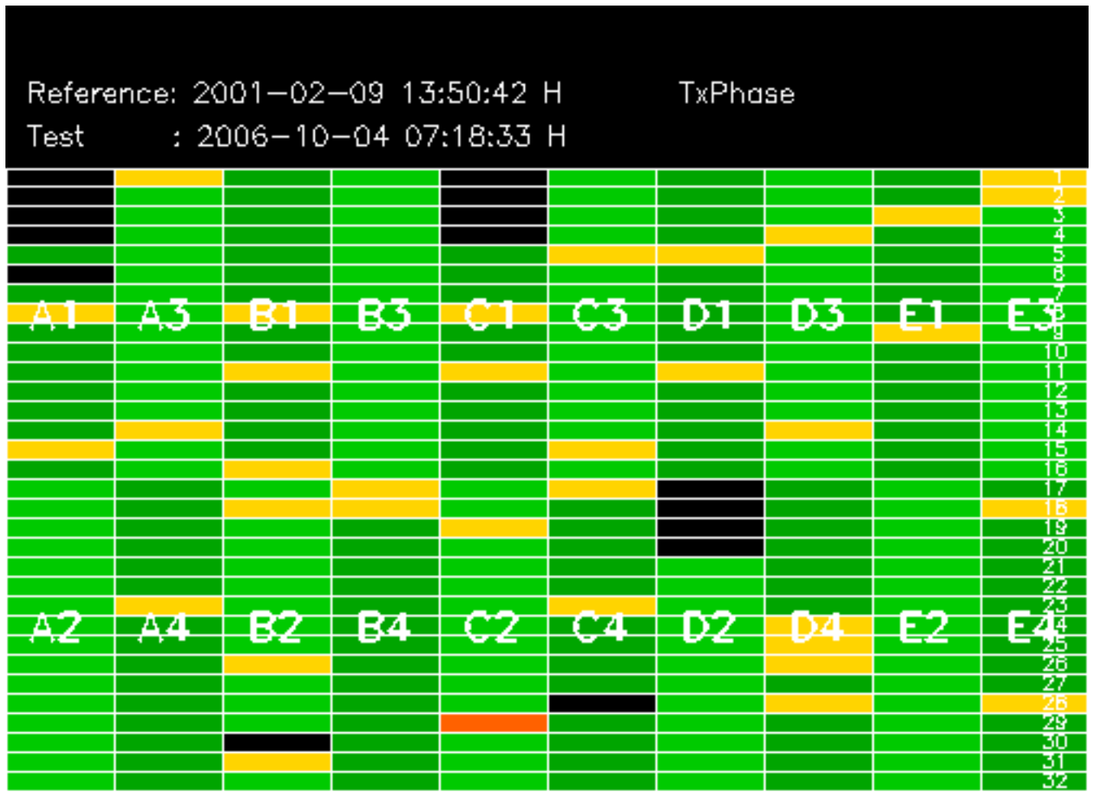
Summary of analysis for the last 3 days 2006100[678]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

<table border=1>
<tr> <th>Filename</th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_IMM_1PNPDK20061006_120210_000001222051_00453_24054_2403.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_IMM_1PNPDK20061006_181201_000001342051_00456_24057_2430.N1 </td> <td>0 </td> <td>1 </td></tr>
<tr> <td>ASA_IMM_1PNPDK20061006_210706_000000602051_00458_24059_2441.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_GM1_1PNPDK20061007_154556_000011352051_00469_24070_5988.N1 </td> <td>0 </td> <td>15 </td></tr>
</table>


num_gaps
1
0.8
0.6
0.4
0.2
0
24040
24050
24060
24070
24080
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_WSM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK


num_missing_lines
20
15
10
5
0
24040
24050
24060
24070
24080
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_WSM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
Test : 2006-10-04 07:18:33 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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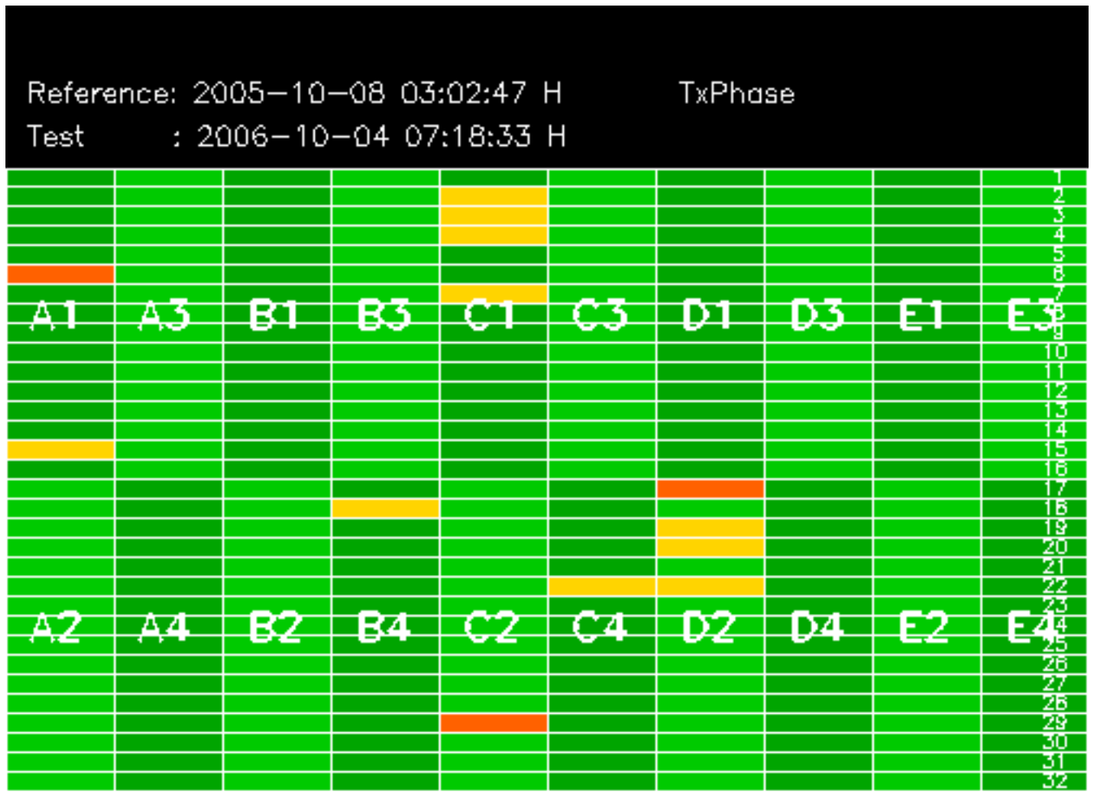
Reference: 2005-10-08 03:02:47 H
Test : 2006-10-04 07:18:33 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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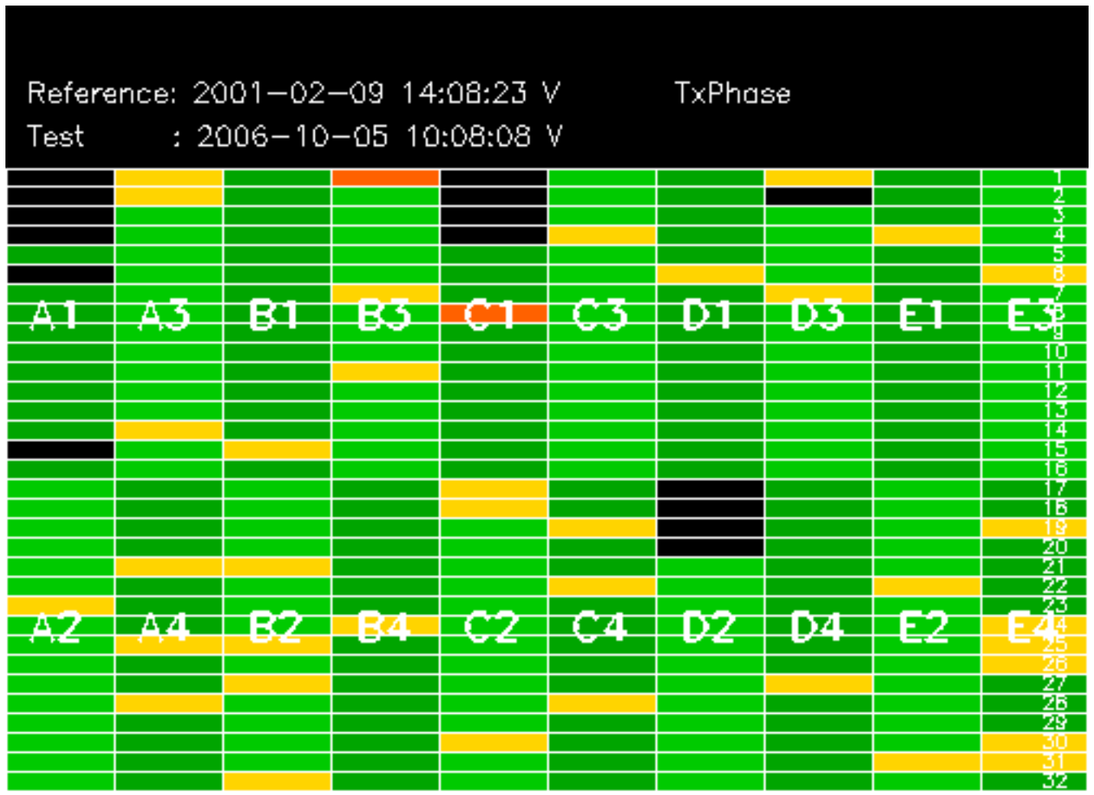
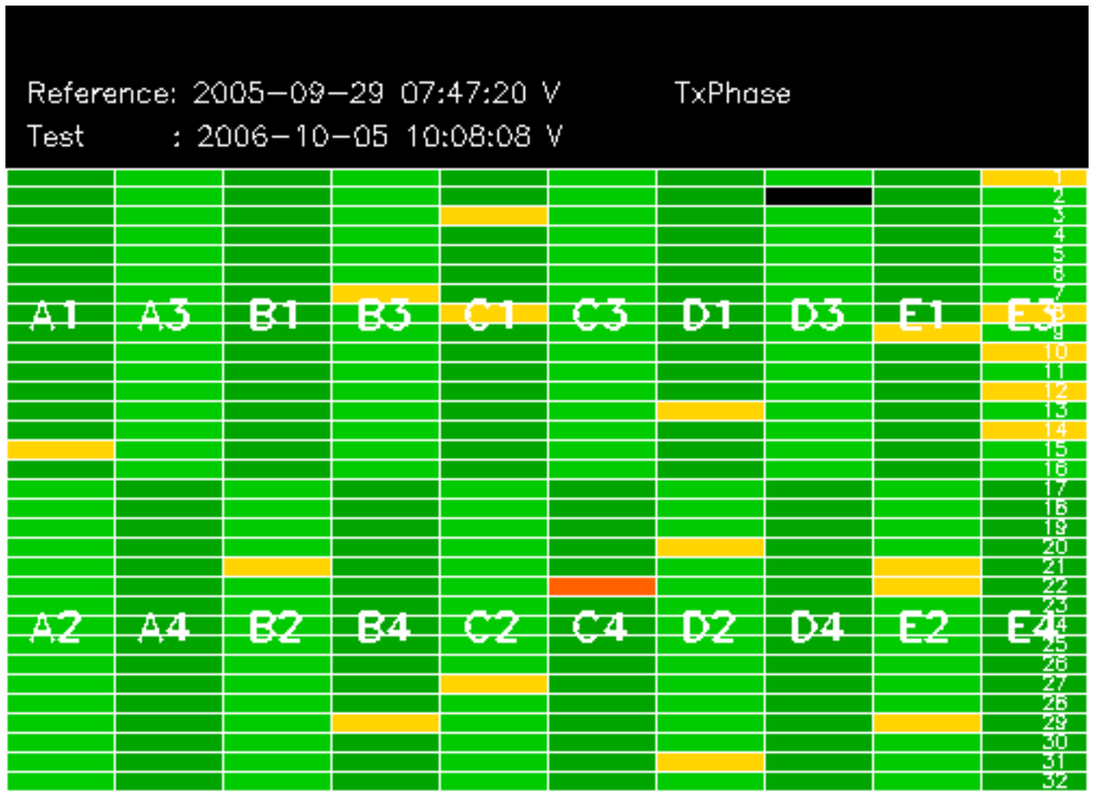

Reference: 2001-02-09 14:08:23 V
Test : 2006-10-05 10:08:08 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-10-05 10:08:08 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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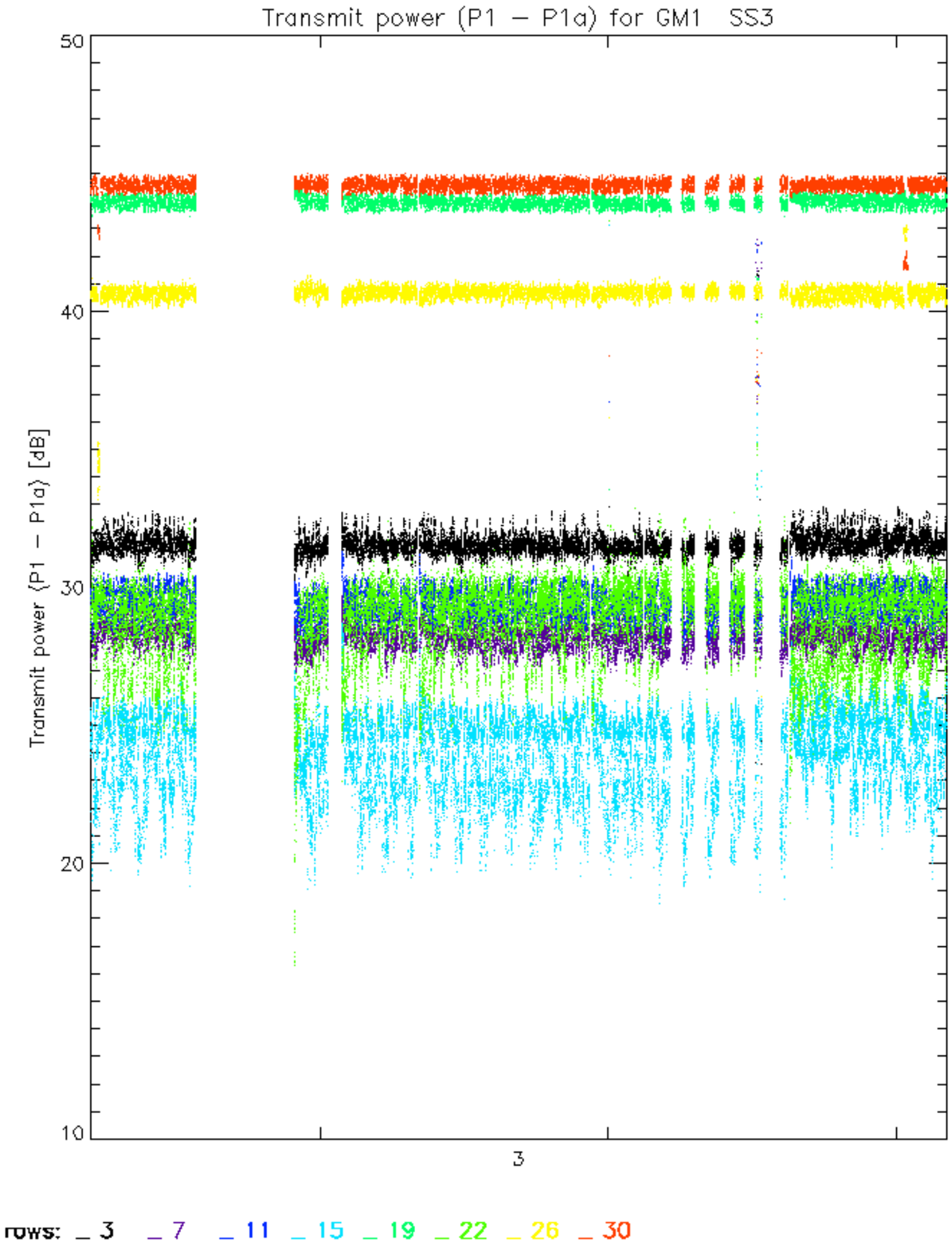
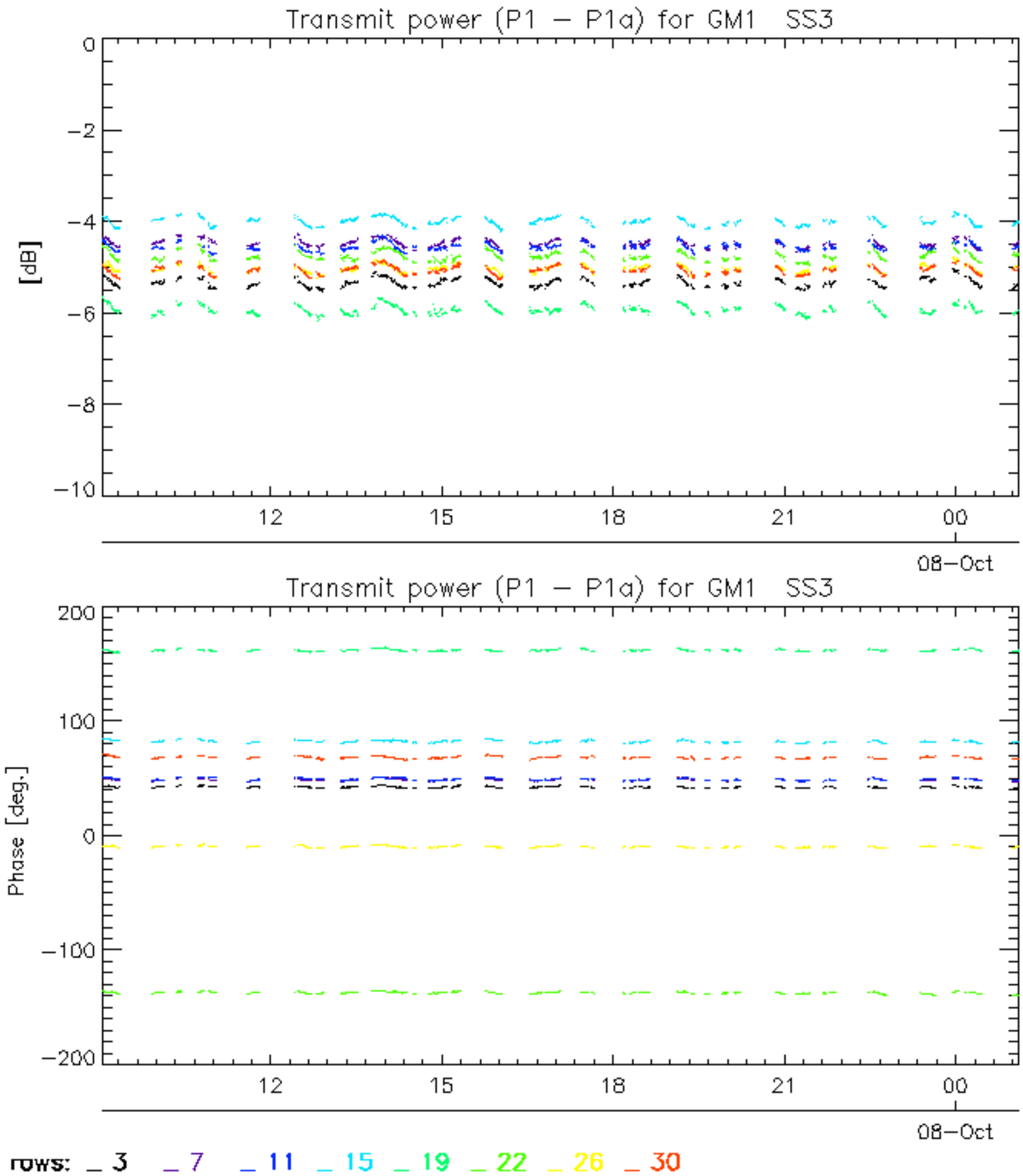
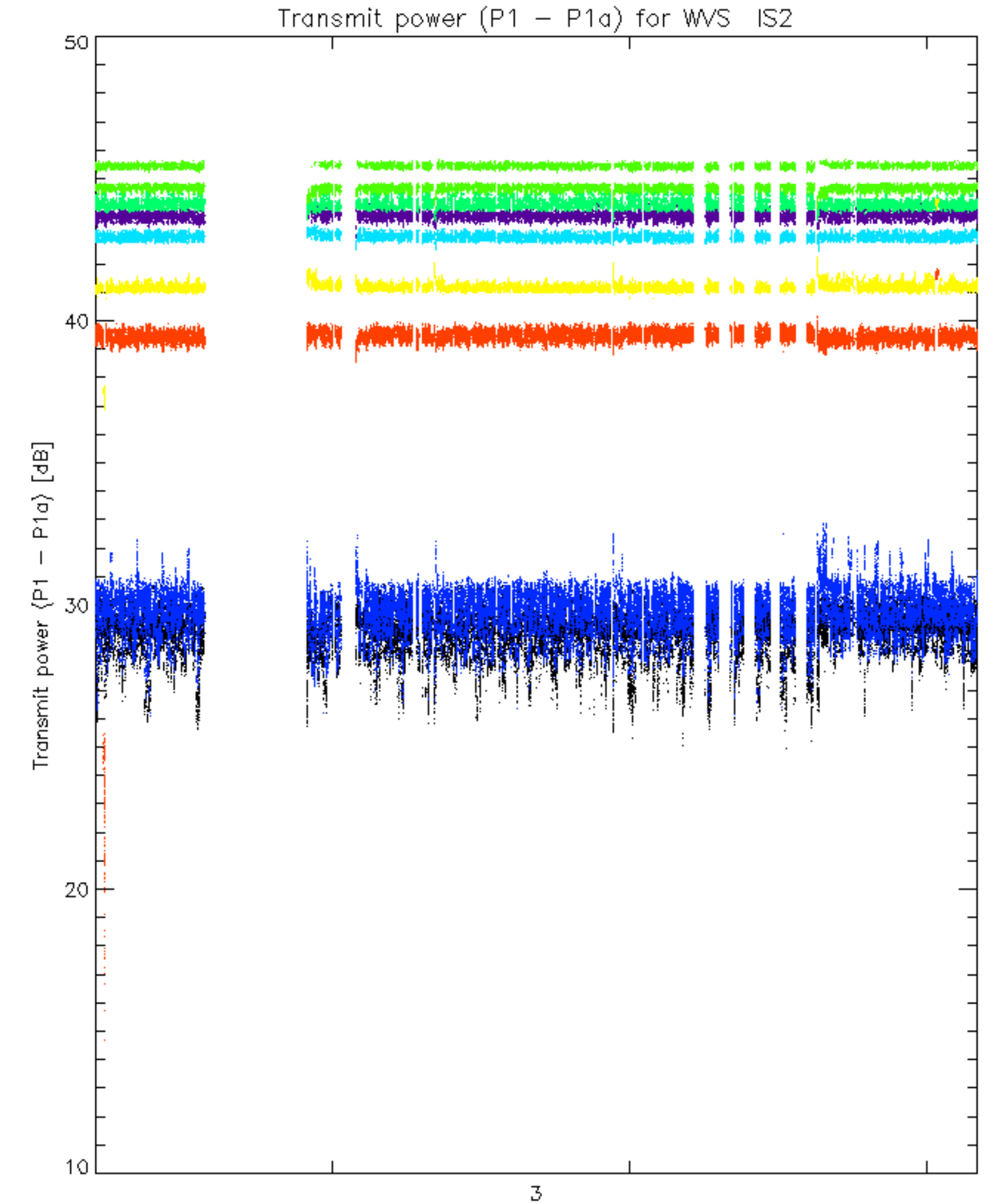
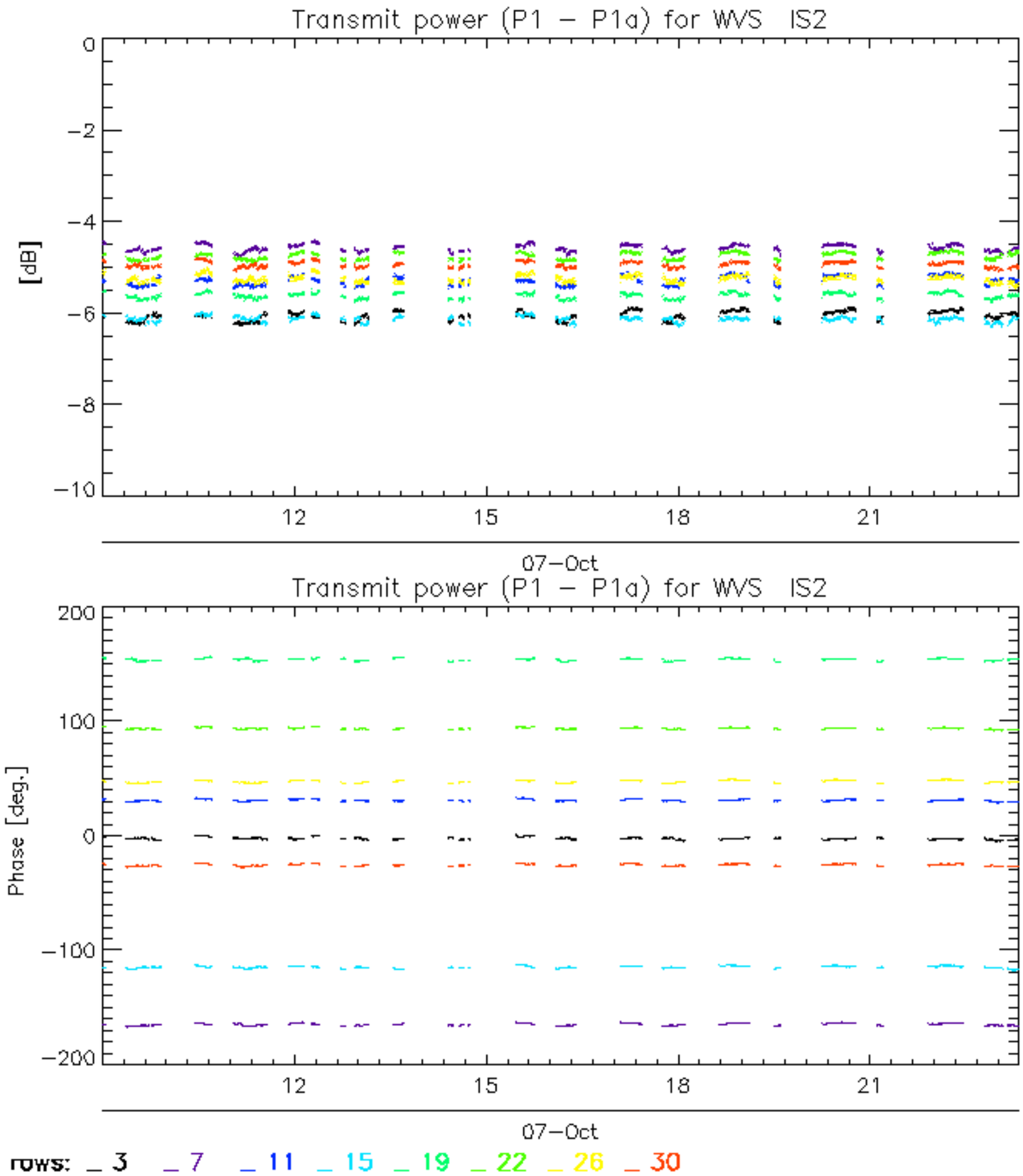

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
3
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
0
−2
−4
−6
−8
−10
12
15
18
21
00
08−Oct
Transmit power (P1 – P1a) for GM1 SS3
Phase [deg.]
200
100
0
−100
−200
12
15
18
21
00
08−Oct
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
50
40
30
20
10
Transmit power (P1 – P1a) [dB]
3
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
0
−2
−4
−6
−8
−10
[dB]
12
15
18
21
07−Oct
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
12
15
18
21
07−Oct
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.