PRELIMINARY REPORT OF 061009

last update on Mon Oct 9 16:42:06 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 2006-10-08 00:00:00 to 2006-10-09 16:42:06

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	42	94	30	5	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	42	94	30	5	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	42	94	30	5	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	42	94	30	5	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	28	47	8	0	9
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	28	47	8	0	9
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	28	47	8	0	9
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	28	47	8	0	9

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	20061008 183653

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
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☒

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	-3.943733	0.010455	-0.007045
7	P1	-3.072939	0.010646	-0.015285
11	P1	-4.078149	0.022338	-0.040978
15	P1	-6.195082	0.016275	-0.028079
19	P1	-3.541627	0.008024	-0.042657
22	P1	-4.597726	0.010807	-0.016356
26	P1	-3.986290	0.064326	-0.089077
30	P1	-5.838501	0.101565	-0.138882
3	P1	-16.625988	0.226785	-0.043195
7	P1	-17.114483	0.107643	-0.032649
11	P1	-16.898476	0.384898	-0.310827
15	P1	-12.847784	0.105712	0.056358
19	P1	-14.652321	0.054174	-0.073563
22	P1	-15.647699	0.474926	0.192273
26	P1	-15.159970	0.254061	0.269352
30	P1	-16.937752	0.473316	0.173569

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.814978	0.085410	-0.016140
7	P2	-21.808094	0.096698	0.118289
11	P2	-15.741849	0.107882	0.033202
15	P2	-7.081903	0.104287	0.048750
19	P2	-9.125883	0.094878	0.013931
22	P2	-18.129929	0.092094	-0.007367
26	P2	-16.424522	0.098851	0.006906
30	P2	-19.467819	0.092410	0.018200

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.192044	0.006376	-0.015733
7	P3	-8.192044	0.006376	-0.015733
11	P3	-8.192044	0.006376	-0.015733
15	P3	-8.192044	0.006376	-0.015733
19	P3	-8.192044	0.006376	-0.015733
22	P3	-8.192044	0.006376	-0.015733
26	P3	-8.192033	0.006378	-0.015772
30	P3	-8.192033	0.006378	-0.015772

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	-3.875923	0.017789	-0.053556
7	P1	-2.545535	0.043538	0.001306
11	P1	-2.901940	0.021936	-0.029149
15	P1	-3.687600	0.033549	-0.069841
19	P1	-3.459237	0.011905	-0.007883
22	P1	-5.106057	0.021921	0.033516
26	P1	-5.896942	0.103356	-0.092198
30	P1	-5.226216	0.113419	-0.093472
3	P1	-11.673994	0.064730	-0.105091
7	P1	-10.036182	0.081300	-0.051392
11	P1	-10.388857	0.072093	-0.074712
15	P1	-10.883318	0.159391	-0.083777
19	P1	-15.553355	0.086516	0.037201
22	P1	-20.958443	1.261620	-0.262488
26	P1	-15.830274	0.437461	0.271249
30	P1	-18.084246	0.406558	0.191786

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.376741	0.056083	0.072728
7	P2	-22.121887	0.145443	0.171745
11	P2	-10.873379	0.051422	0.090566
15	P2	-4.853480	0.033200	0.025655
19	P2	-6.832478	0.039160	0.079524
22	P2	-8.154369	0.048655	0.014409
26	P2	-24.181797	0.080790	-0.008018
30	P2	-21.951973	0.053028	0.049347

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.041229	0.003602	-0.014217
7	P3	-8.041105	0.003591	-0.014446
11	P3	-8.041157	0.003599	-0.014546
15	P3	-8.041173	0.003606	-0.014441
19	P3	-8.041137	0.003612	-0.014563
22	P3	-8.041266	0.003598	-0.014329
26	P3	-8.041176	0.003608	-0.014122
30	P3	-8.041060	0.003597	-0.014166

4.3 - cal pulses monitoring (all rows)

4.3.1 - Evolution for WVS

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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	0.000564453
	stdev	1.66399e-07
MEAN Q	mean	0.000528012
	stdev	2.13981e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138167
	stdev	0.00111787
STDEV Q	mean	0.138534
	stdev	0.00113538

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006100[789]
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_GM1_1PNPDK20061007_154556_000011352051_00469_24070_5988.N1	0	15
ASA_GM1_1PNPDK20061008_092411_000007792051_00480_24081_6027.N1	0	9
ASA_WSM_1PNPDE20061007_230553_000001092051_00474_24075_3983.N1	0	75
ASA_WSM_1PNPDE20061007_230553_000001092051_00474_24075_3986.N1	0	75
ASA_WSM_1PNPDK20061007_094431_000000862051_00466_24067_6880.N1	0	21

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)

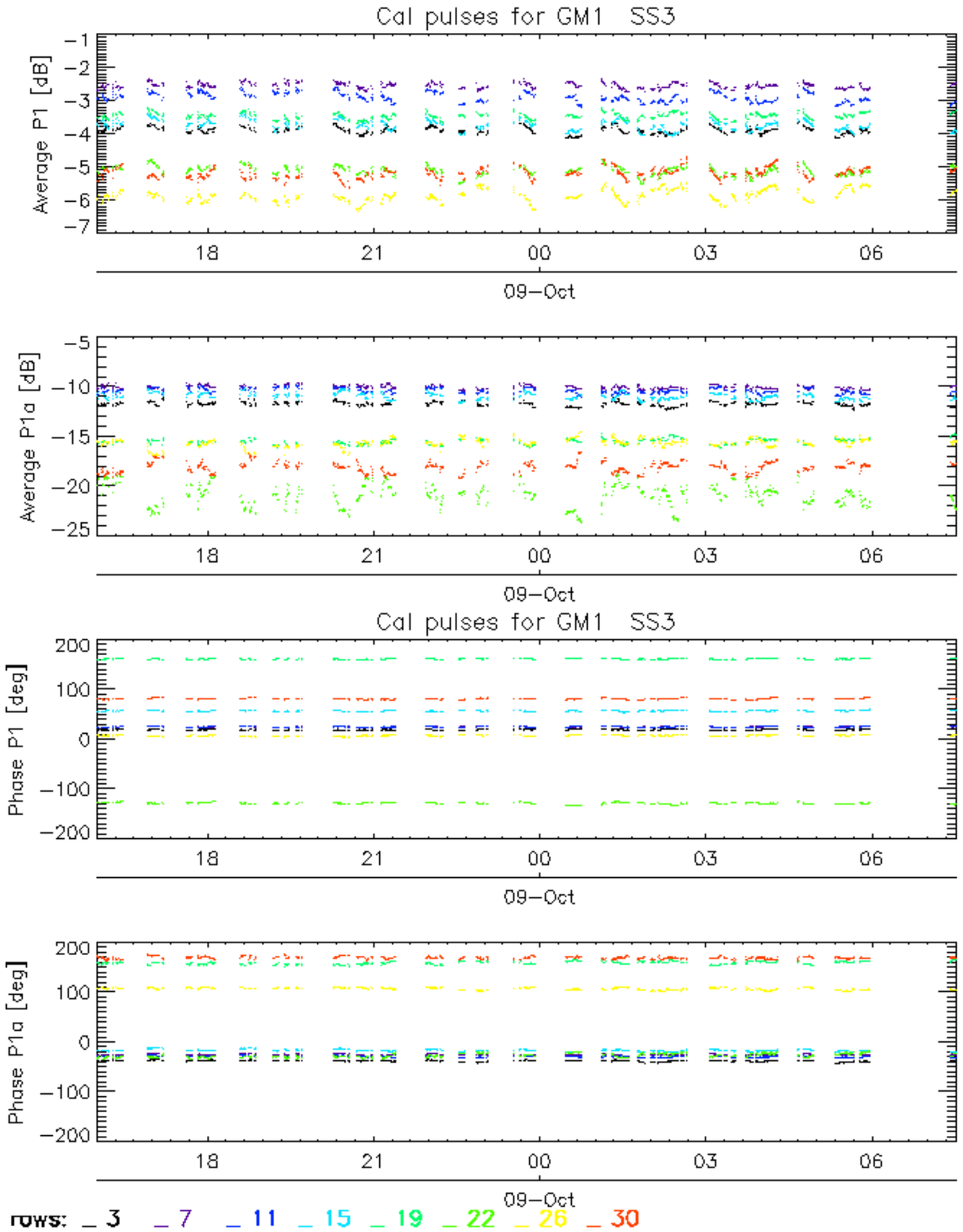

Acsending
☒
Descending

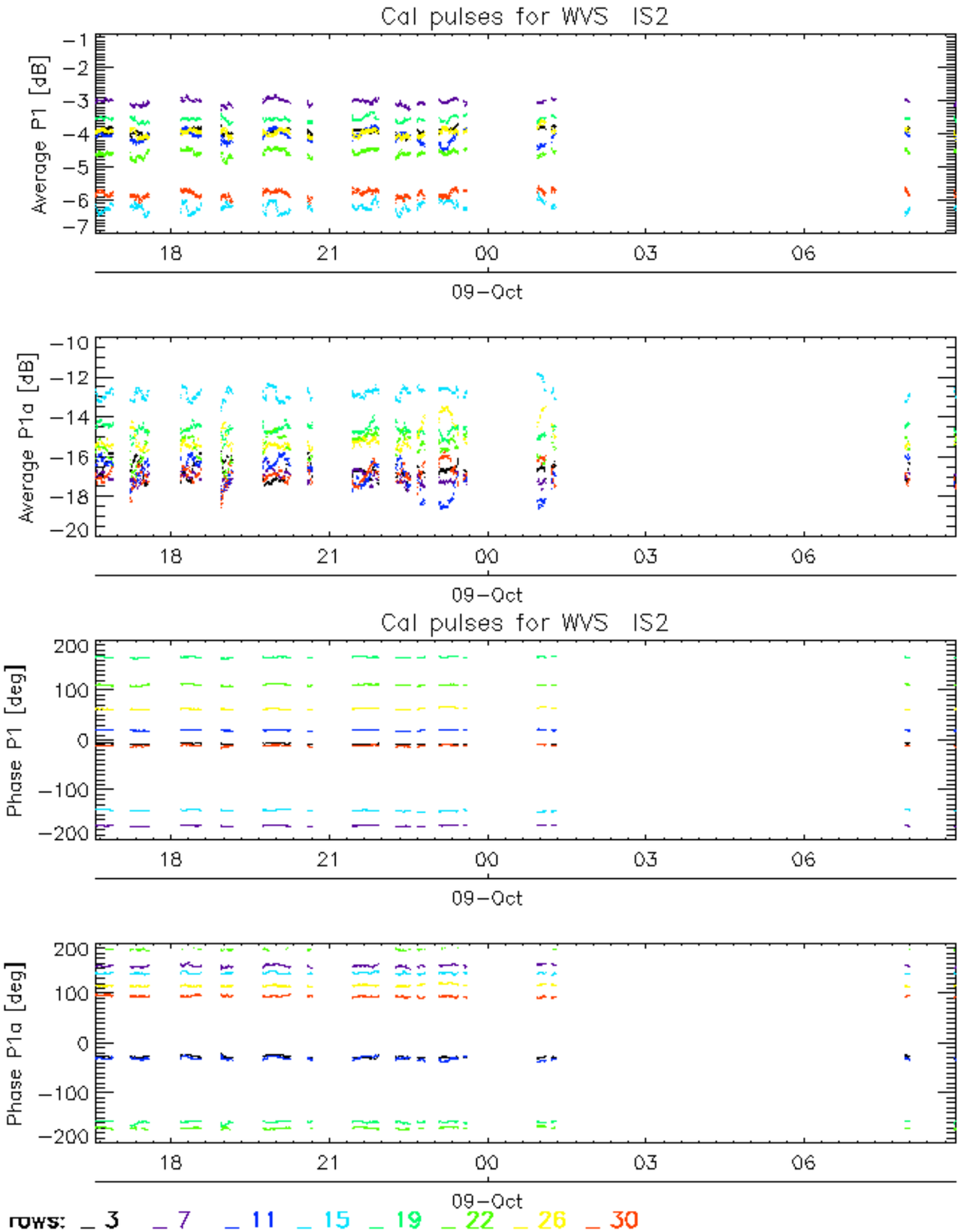
7.5 - Absolute Doppler for GM1

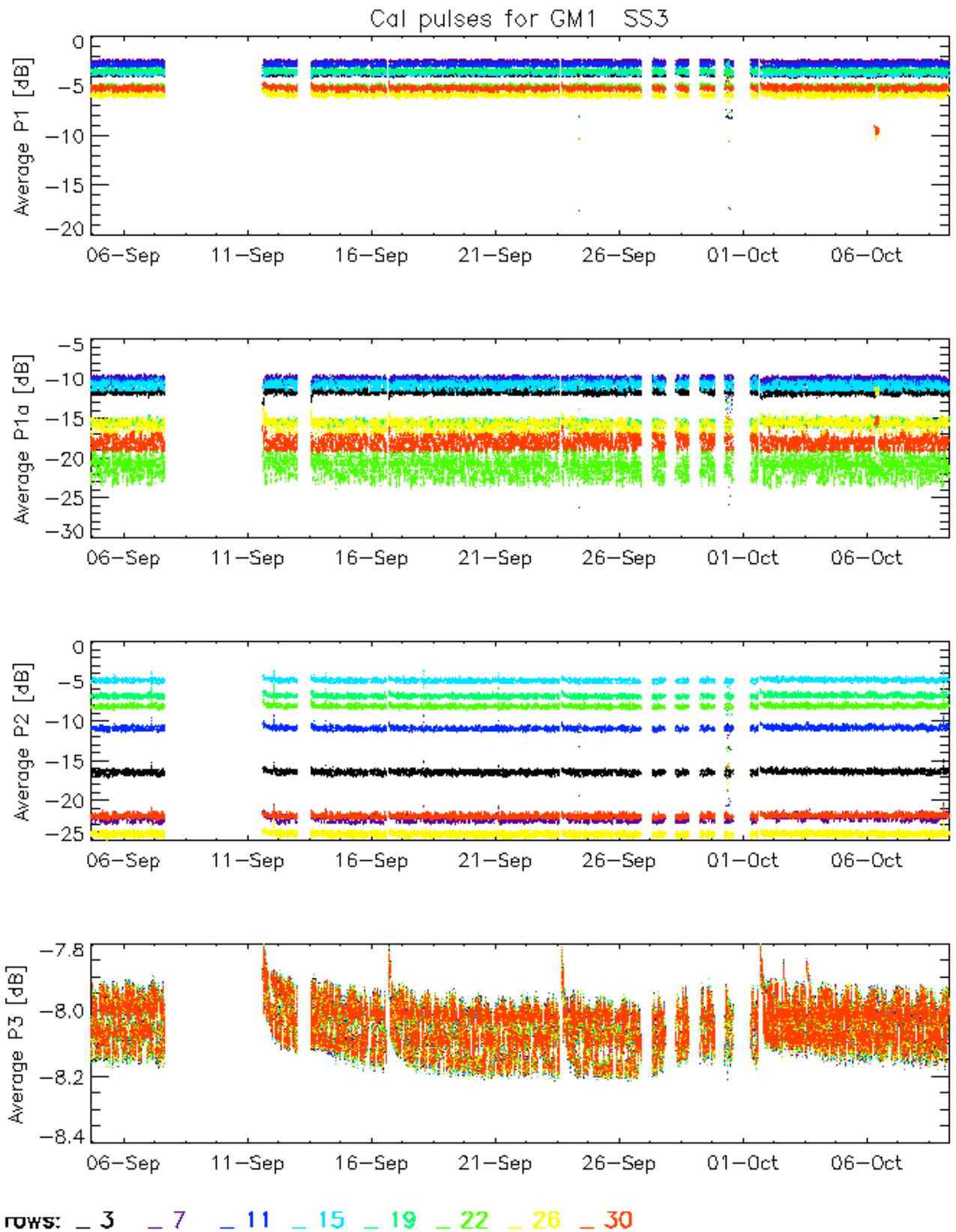
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

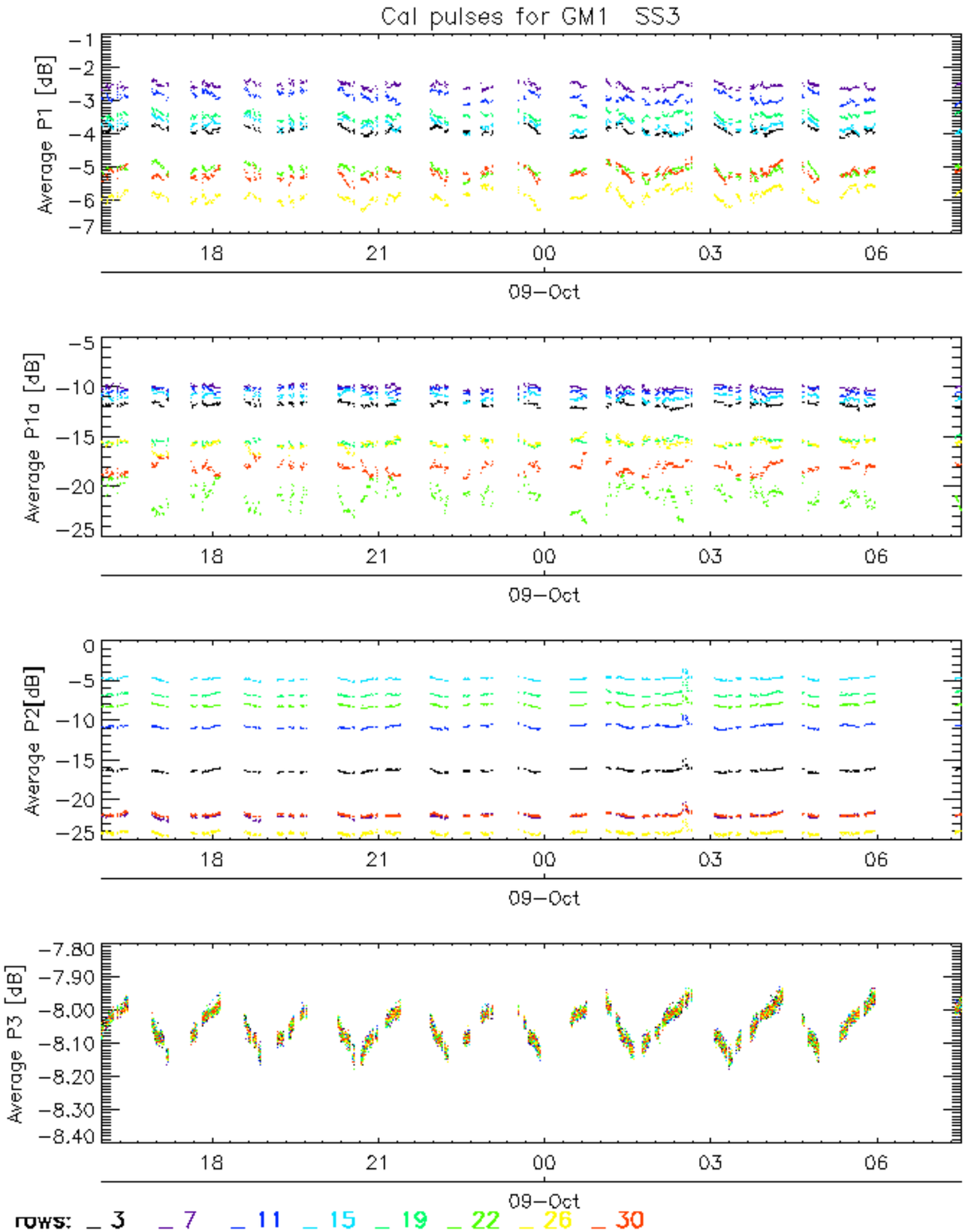
7.6 - Doppler evolution versus ANX for GM1

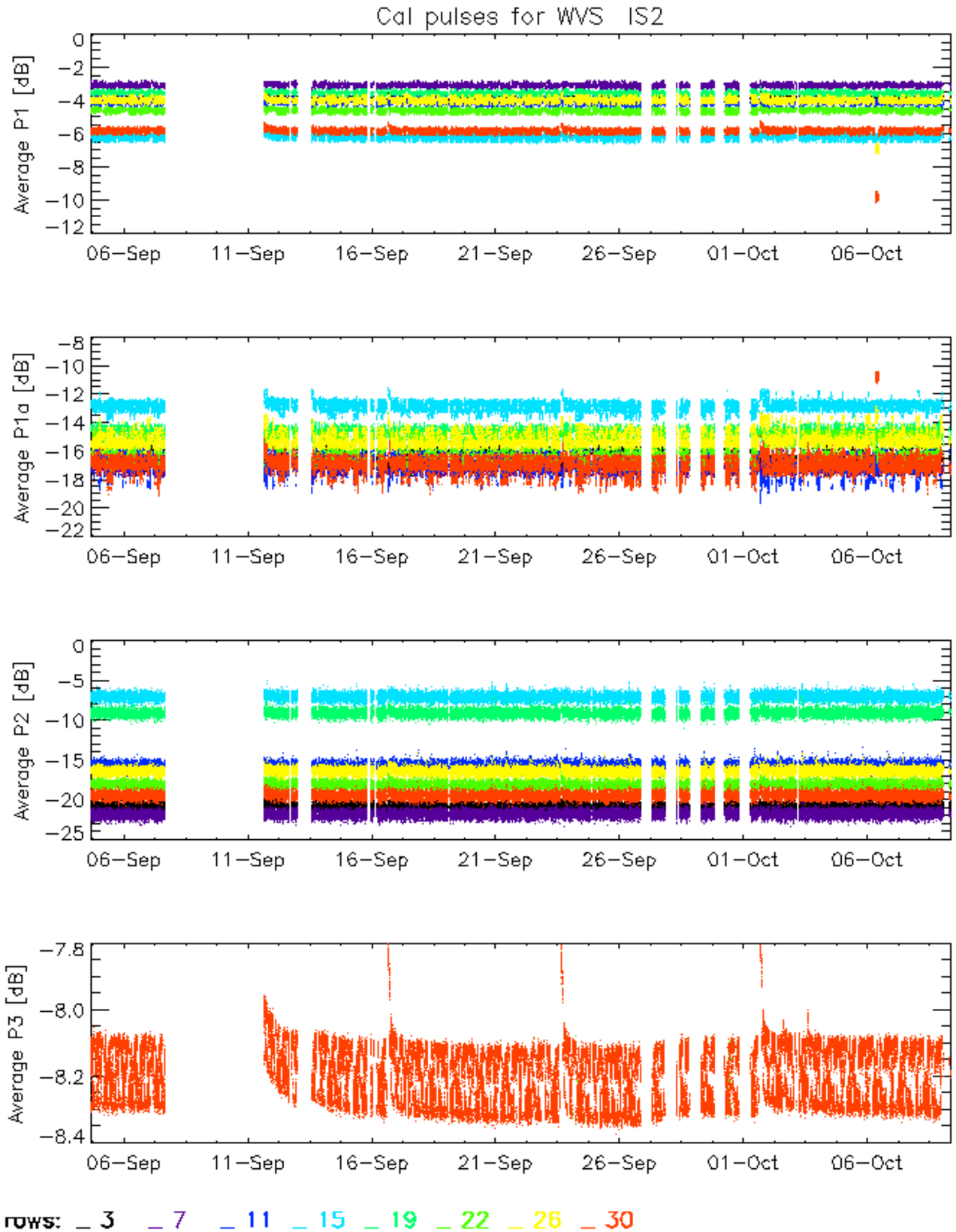
Evolution Doppler error versus ANX
☒

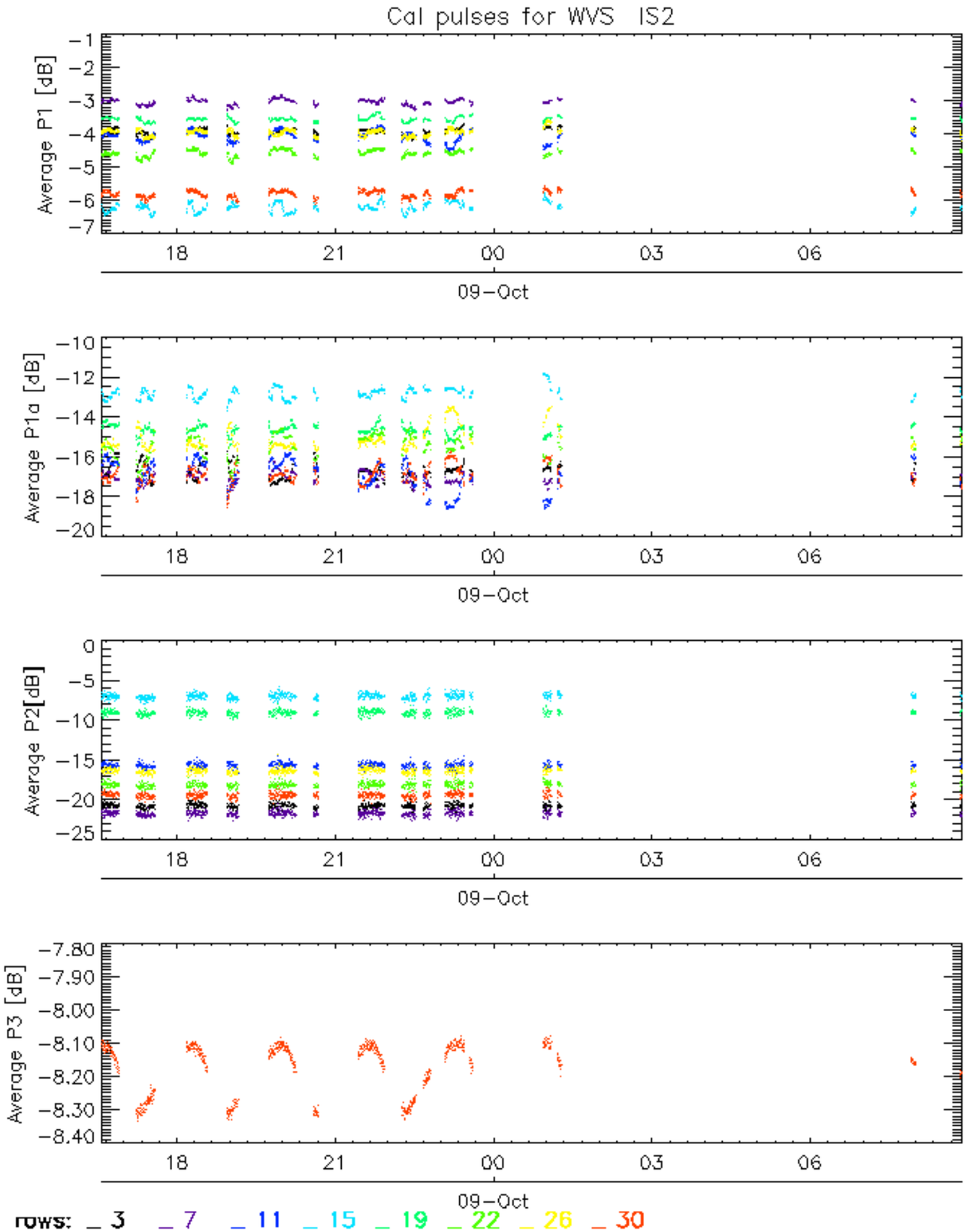

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
09−Oct
Average P1a [dB]
−5
−10
−15
−20
−25
18
21
00
03
06
09−Oct
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
18
21
00
03
06
09−Oct
Phase P1a [deg]
200
100
0
−100
−200
18
21
00
03
06
09−Oct
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
09−Oct
Average P1a [dB]
−10
−12
−14
−16
−18
−20
18
21
00
03
06
09−Oct
Cal pulses for WVS IS2
Phase P1 [deg]
200
100
0
−100
−200
18
21
00
03
06
09−Oct
Phase P1a [deg]
200
100
0
−100
−200
18
21
00
03
06
09−Oct
rows: 3 7 11 15 19 22 26 30

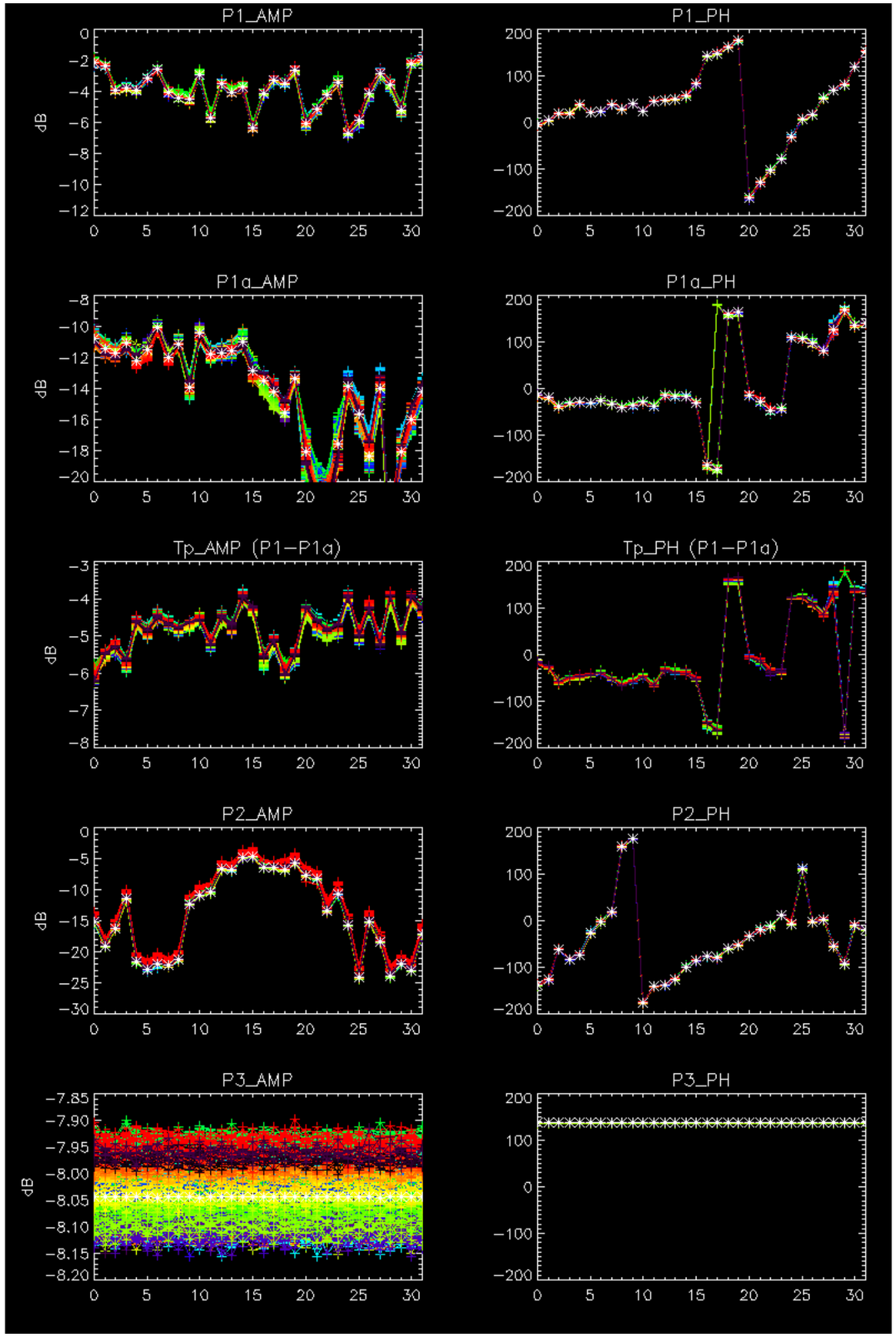

Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
−20
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
06−Sep
11−Sep
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

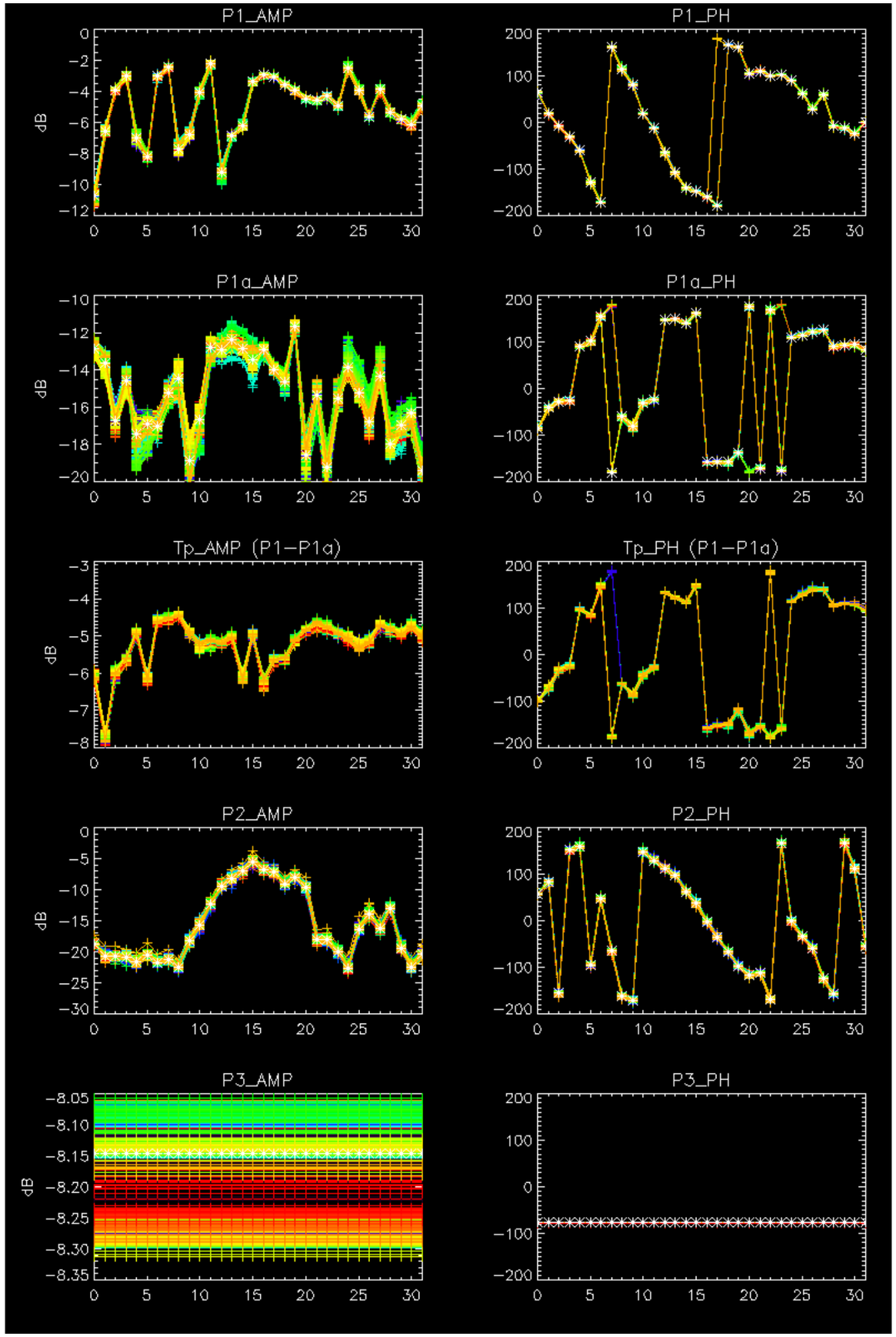

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
09−Oct
Average P1a [dB]
−5
−10
−15
−20
−25
18
21
00
03
06
09−Oct
Average P2[dB]
0
−5
−10
−15
−20
−25
18
21
00
03
06
09−Oct
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
18
21
00
03
06
09−Oct
rows: _ 3 _ 7 _ 11 _ 15 _ 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
18
21
00
03
06
09−Oct
Average P1a [dB]
−10
−12
−14
−16
−18
−20
18
21
00
03
06
09−Oct
Average P2[dB]
0
−5
−10
−15
−20
−25
18
21
00
03
06
09−Oct
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
18
21
00
03
06
09−Oct
rows: 3 7 11 15 19 22 26 30

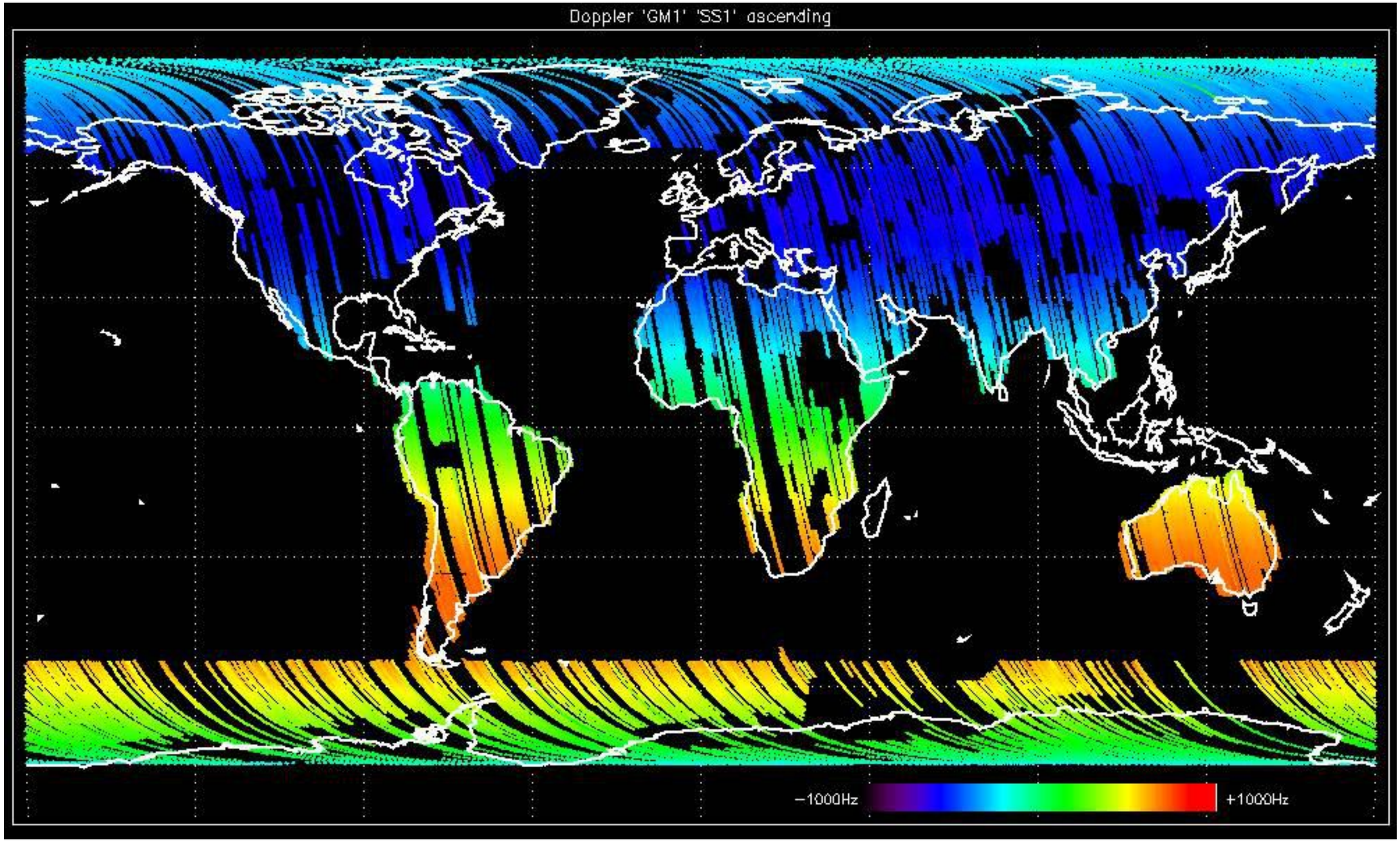
No anomalies observed.

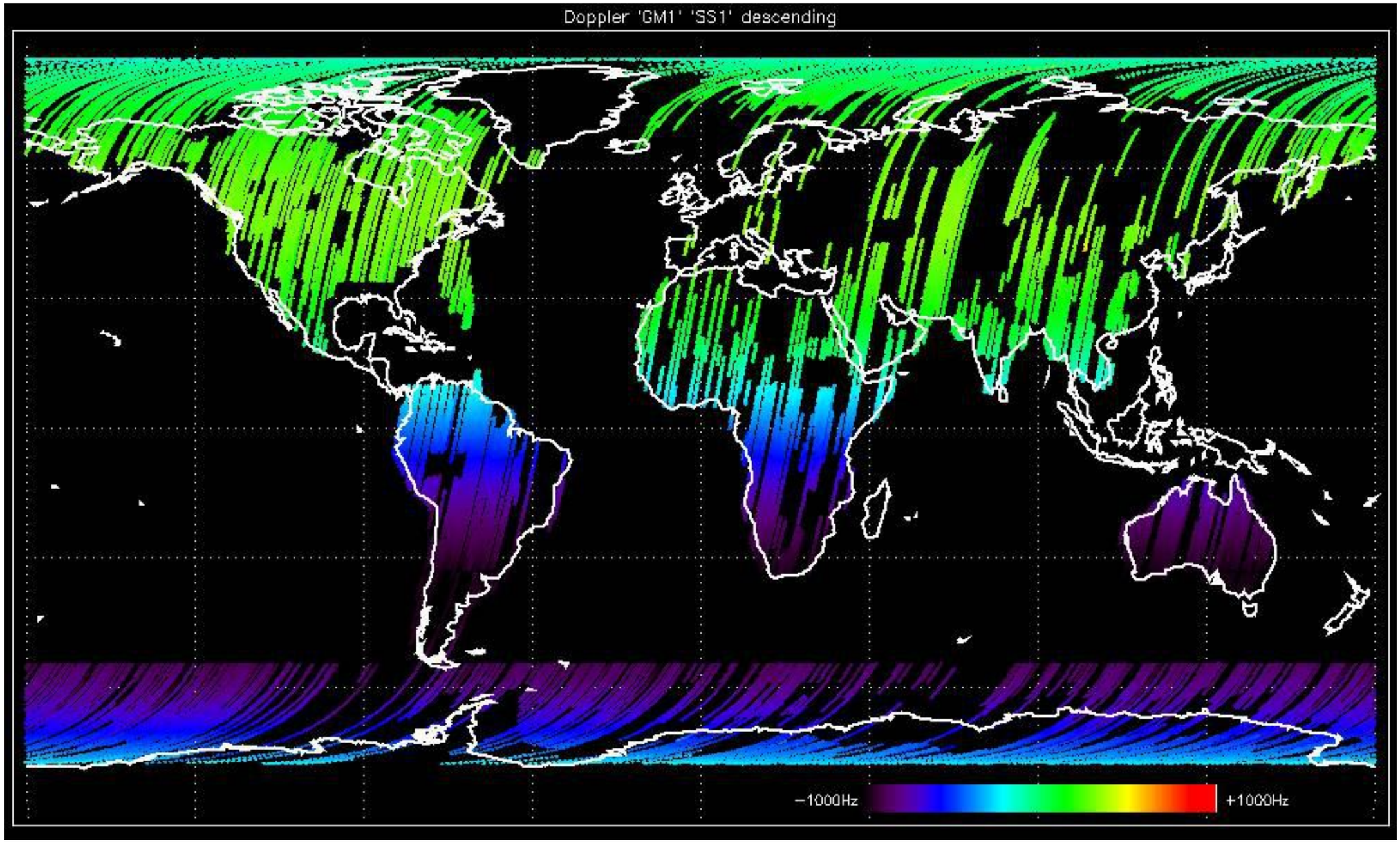

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

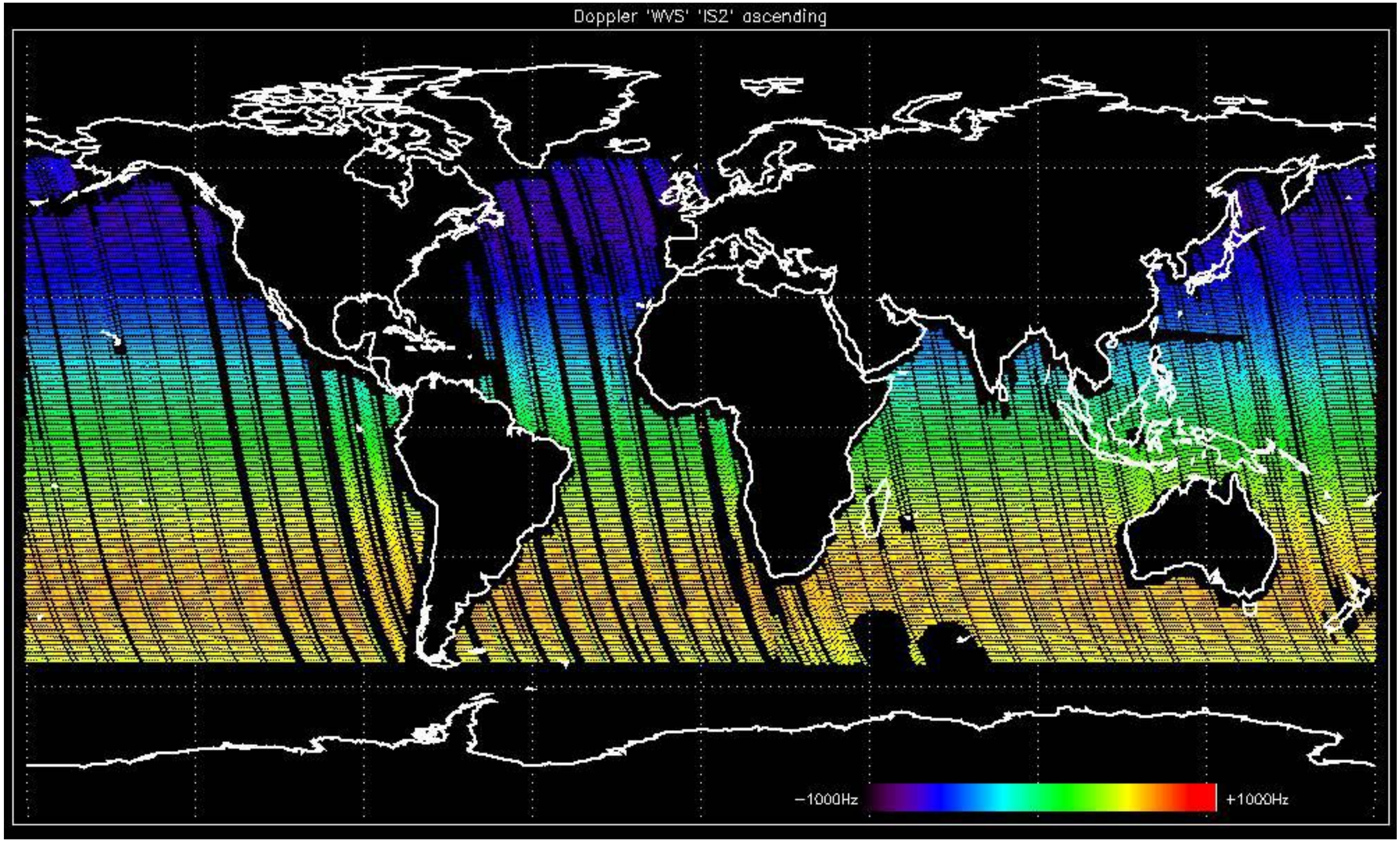

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

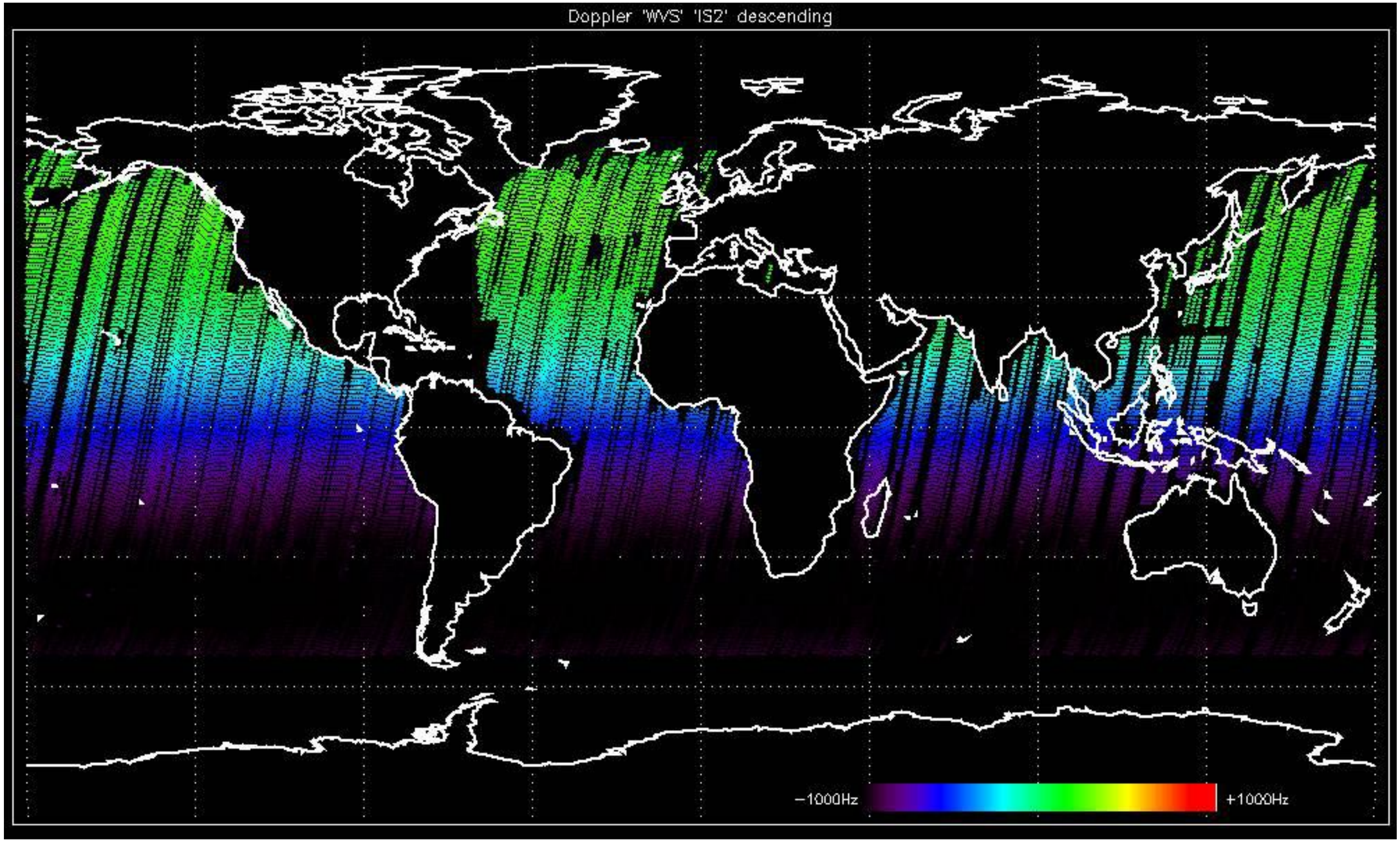
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

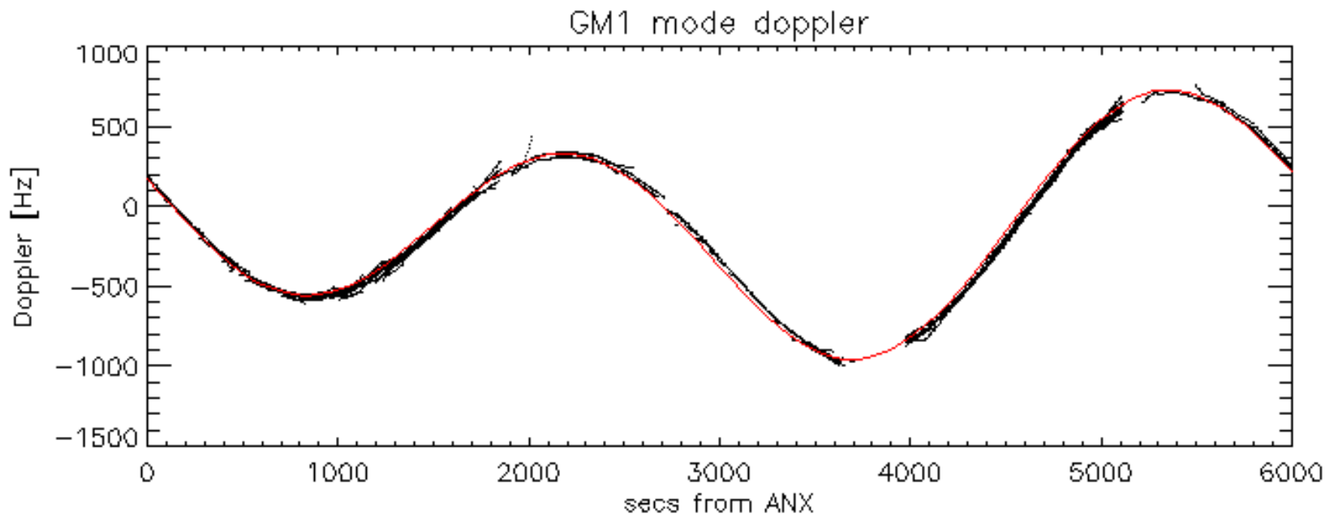
Preliminary report.The data is not yet controled

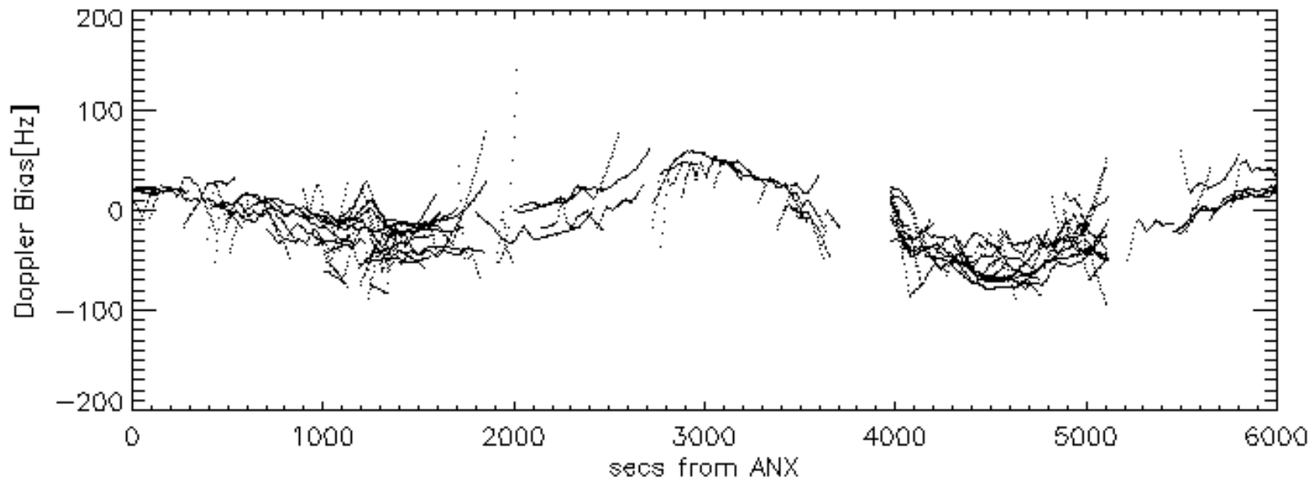

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

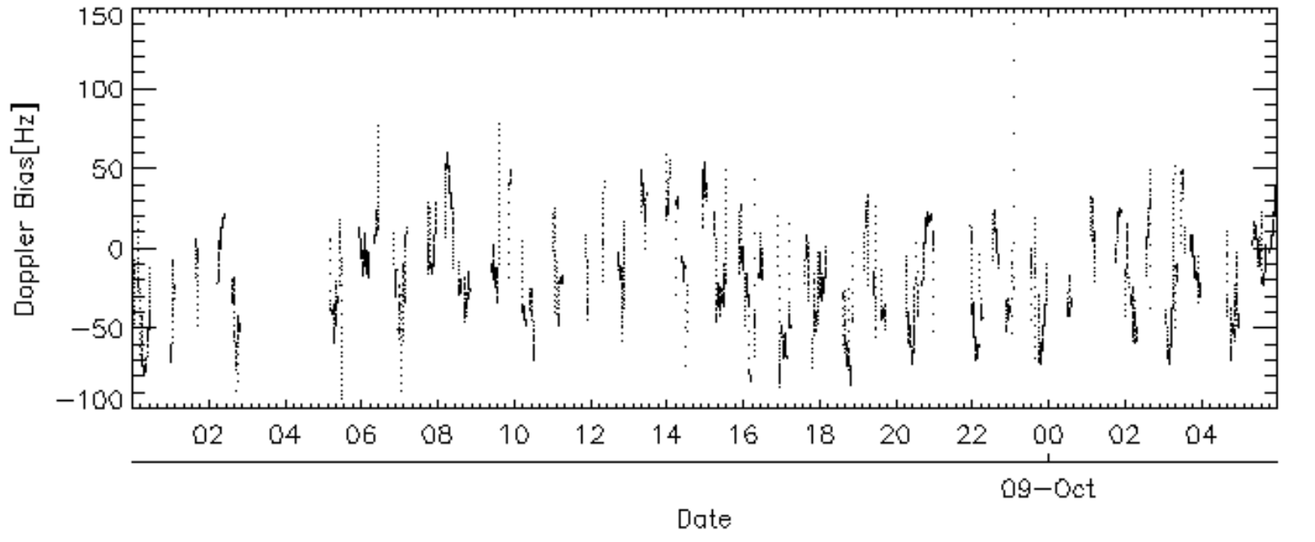

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

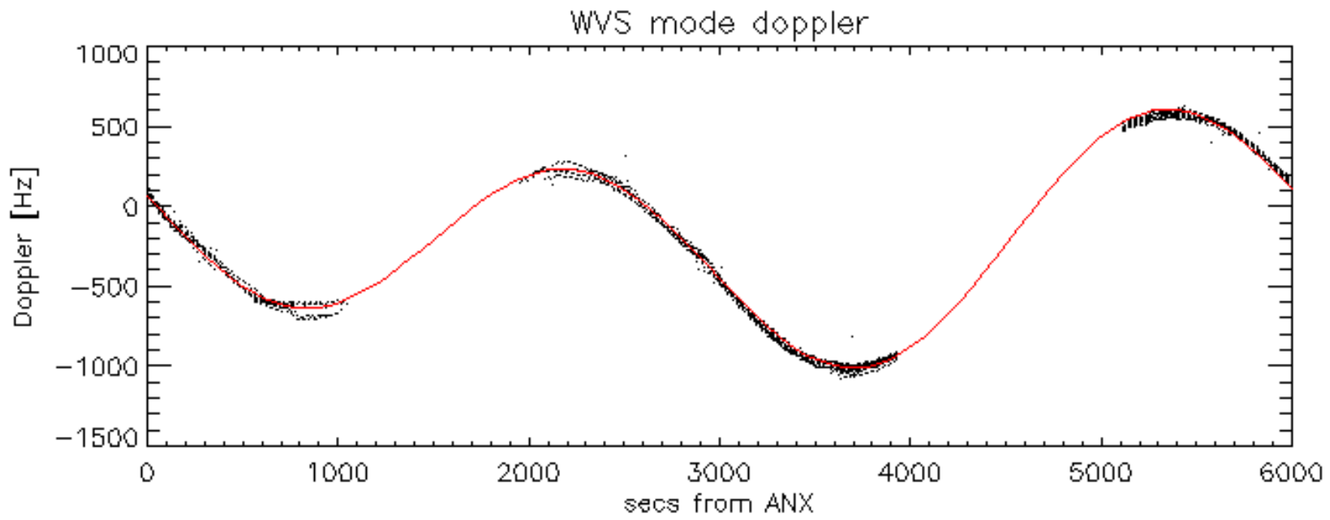

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

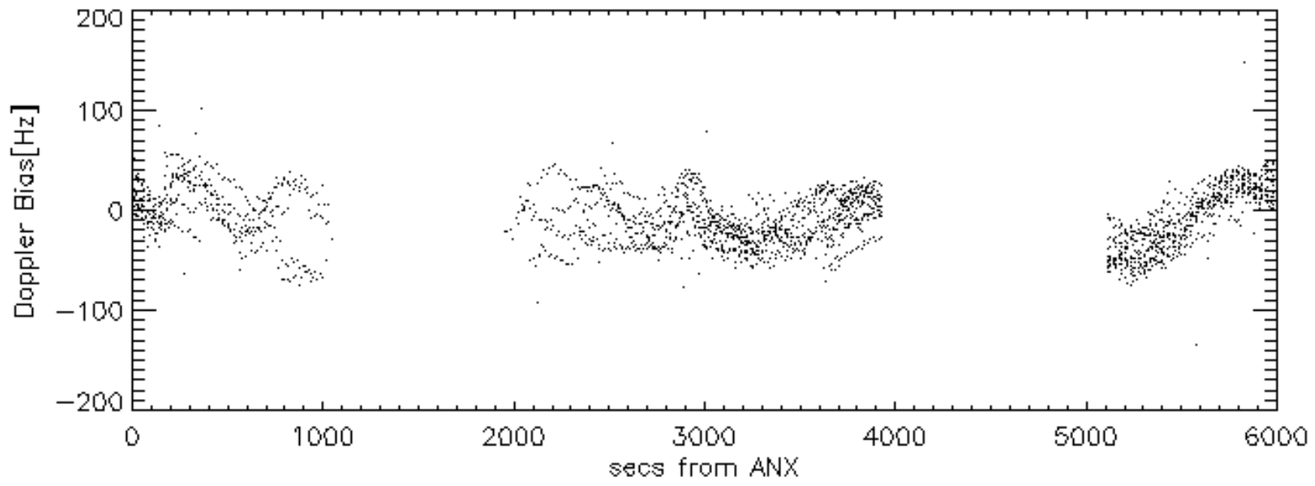

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

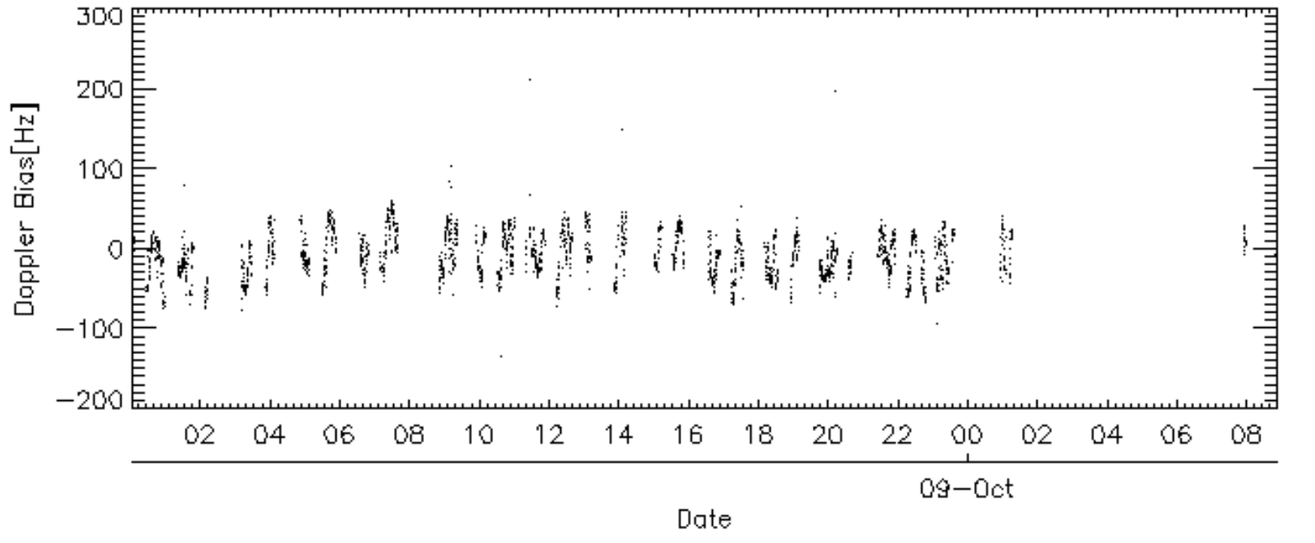

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

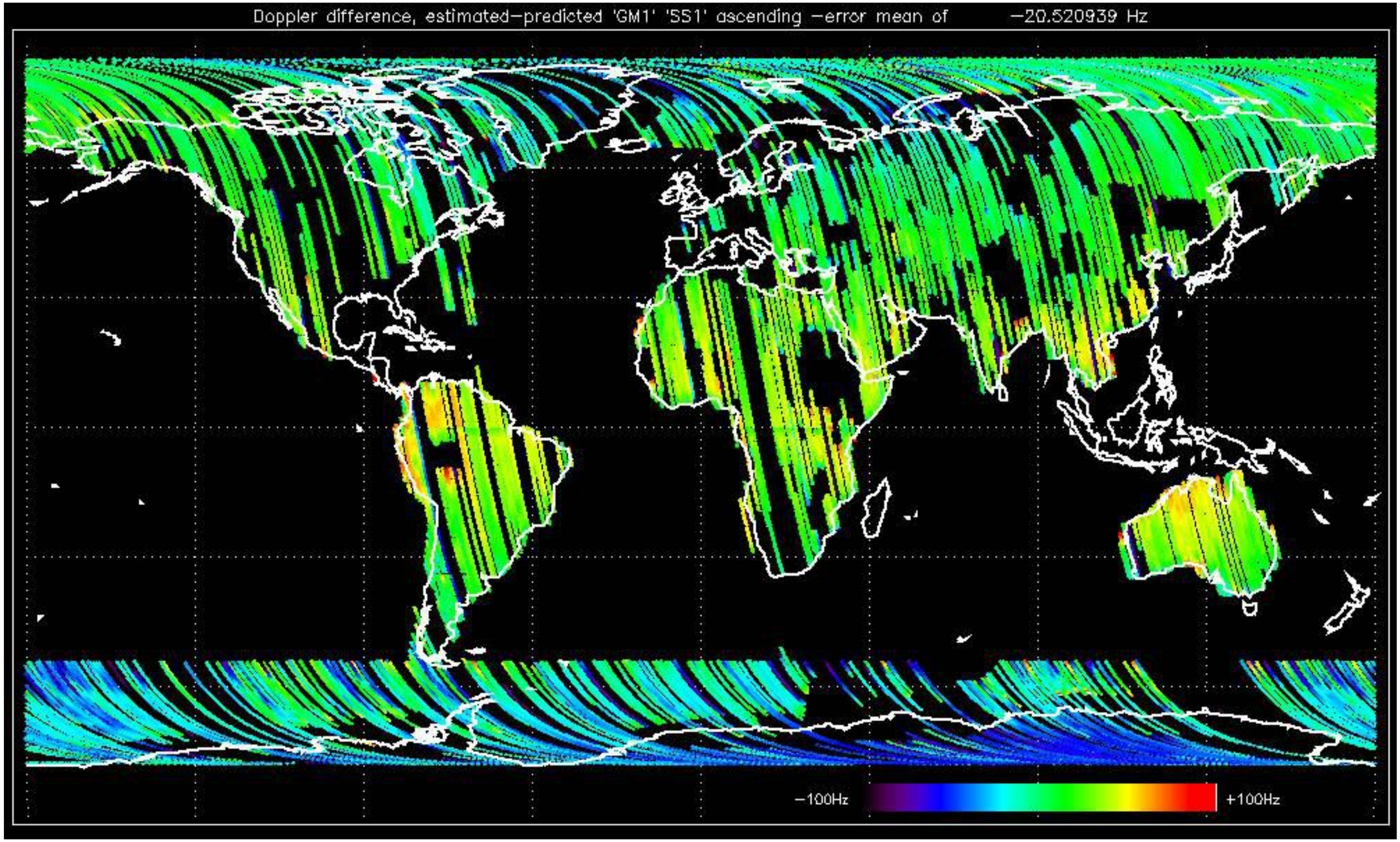

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

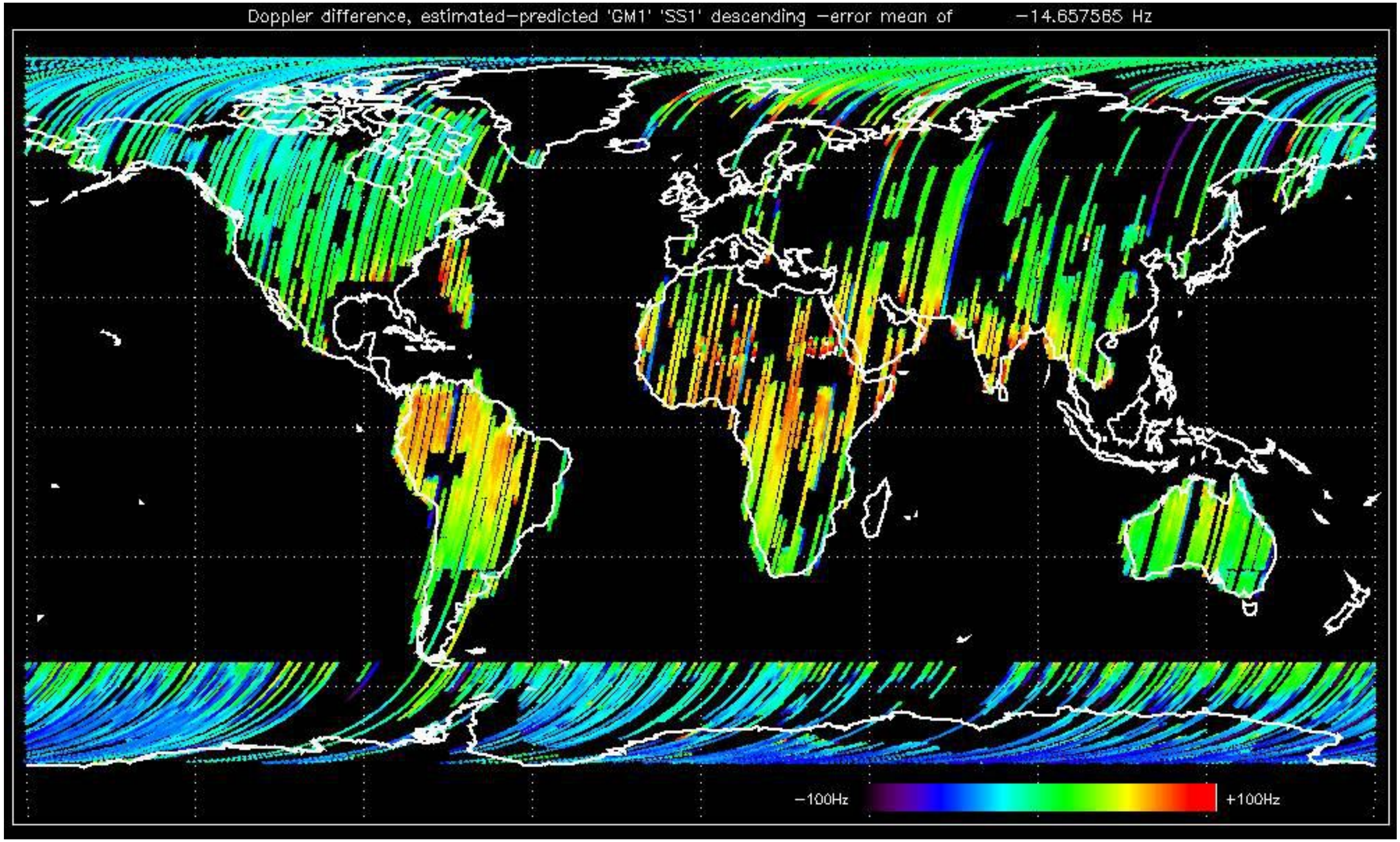

Doppler Bias[Hz]
150
100
50
0
−50
−100
02
04
06
08
10
12
14
16
18
20
22
00
02
04
09−Oct
Date

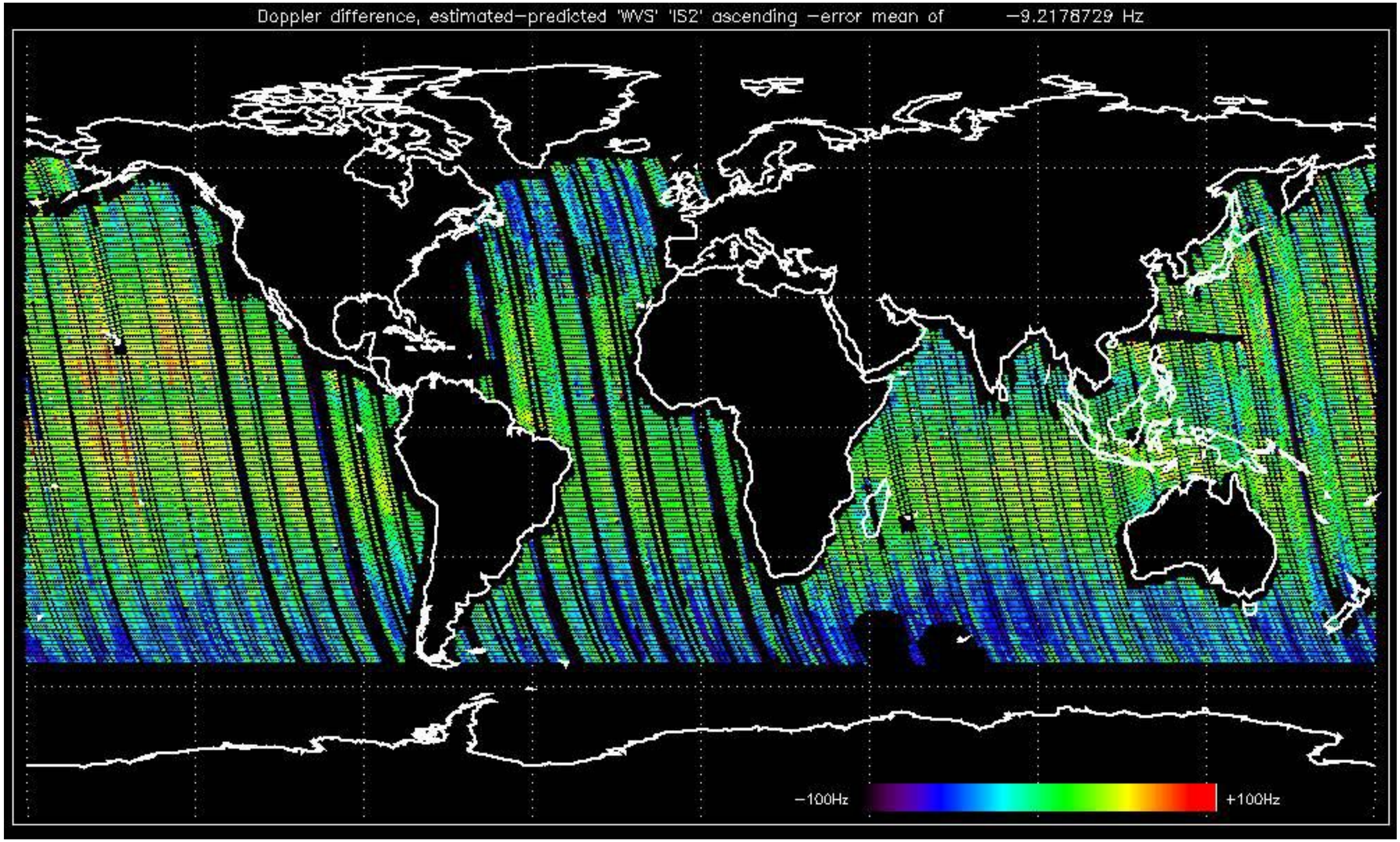

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

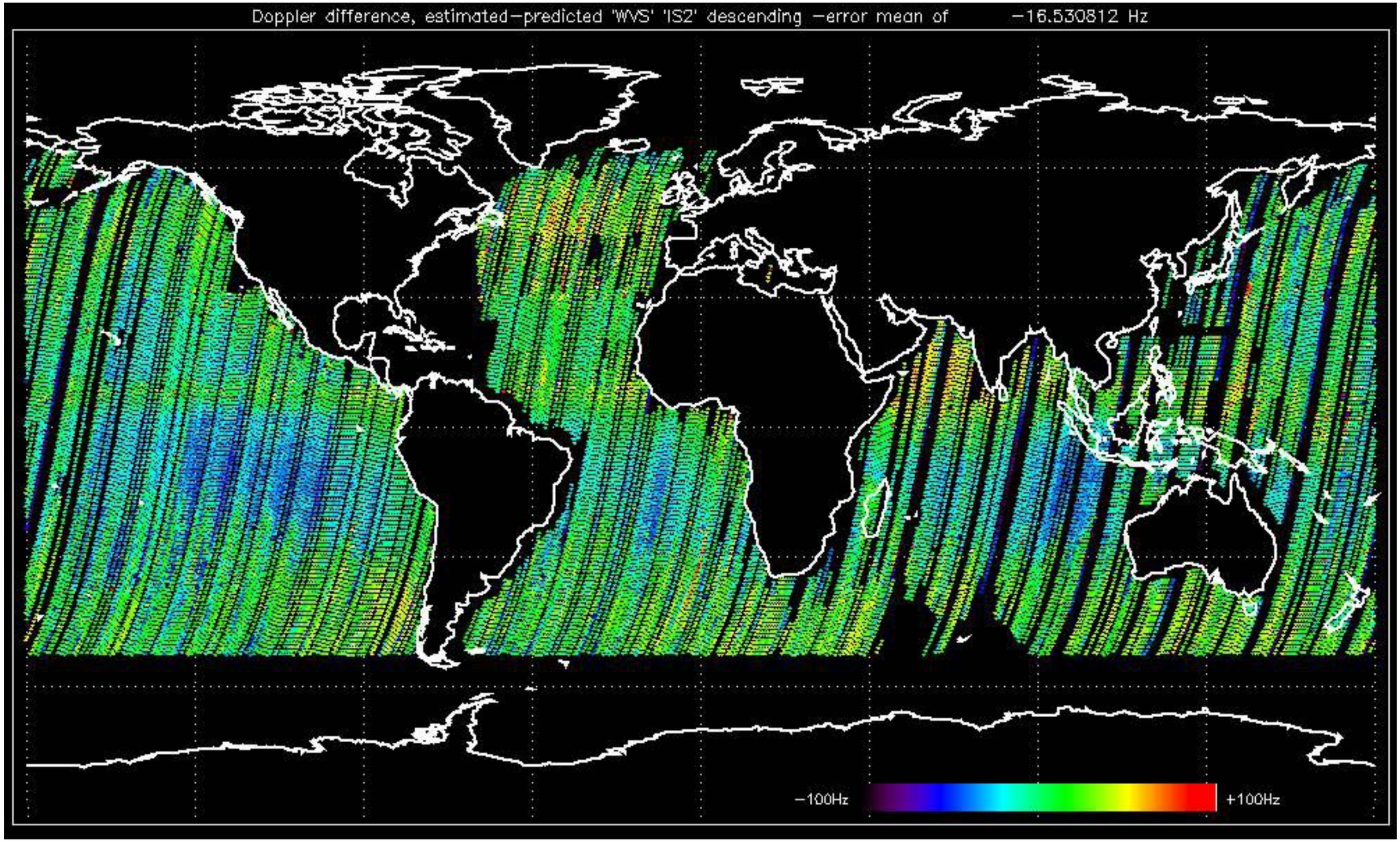

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −20.520939 Hz
−100Hz
+100Hz

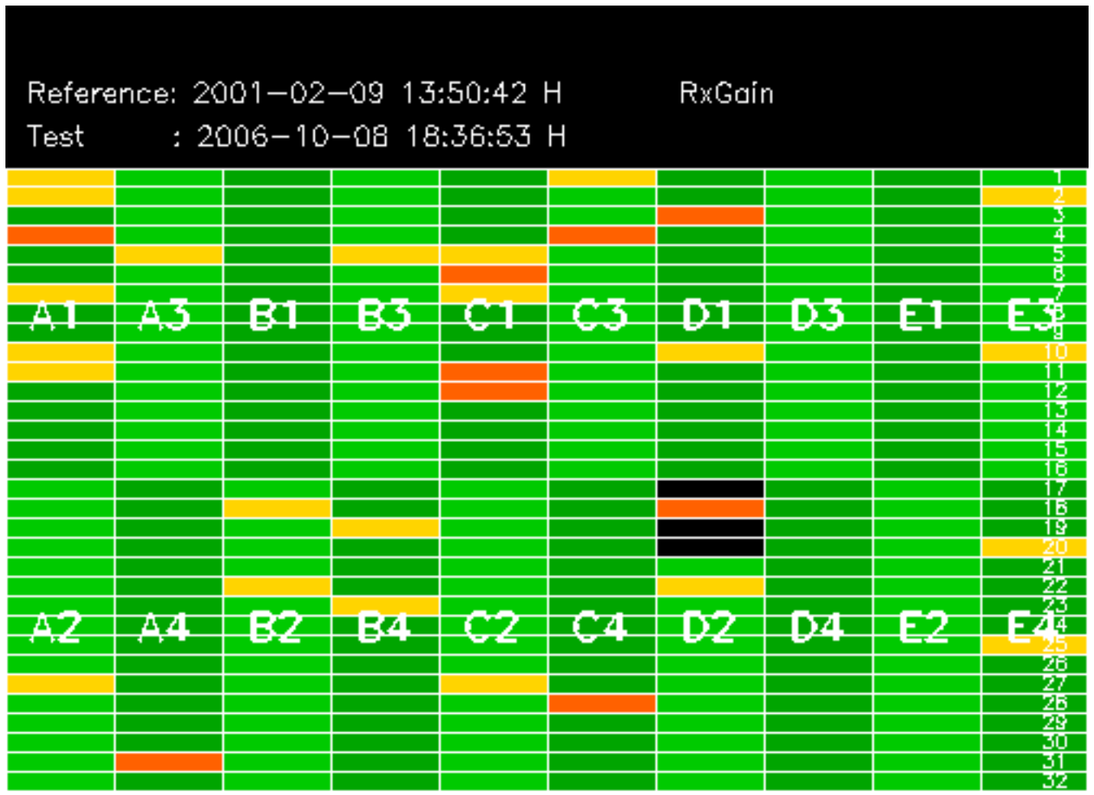

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -14.657565 Hz
-100Hz
+100Hz

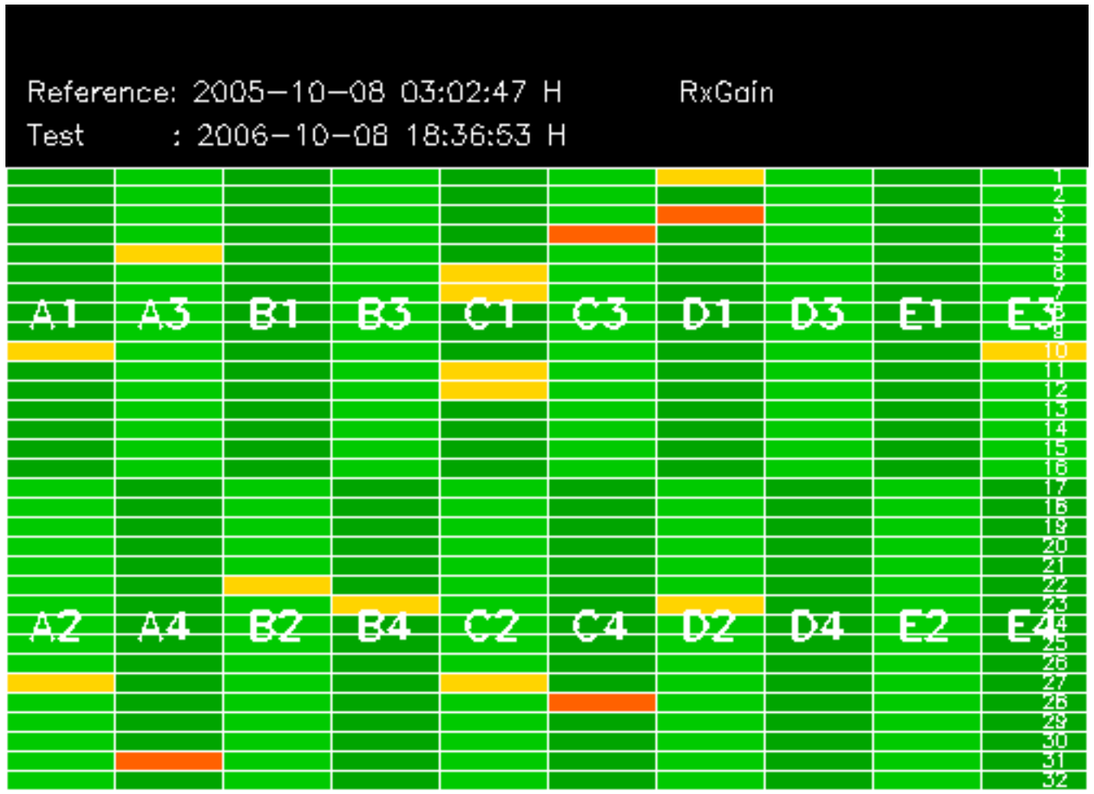

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −9.2178729 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −16.530812 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2006-10-08 18:36:53 H
RxGain
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 : 2006-10-08 18:36:53 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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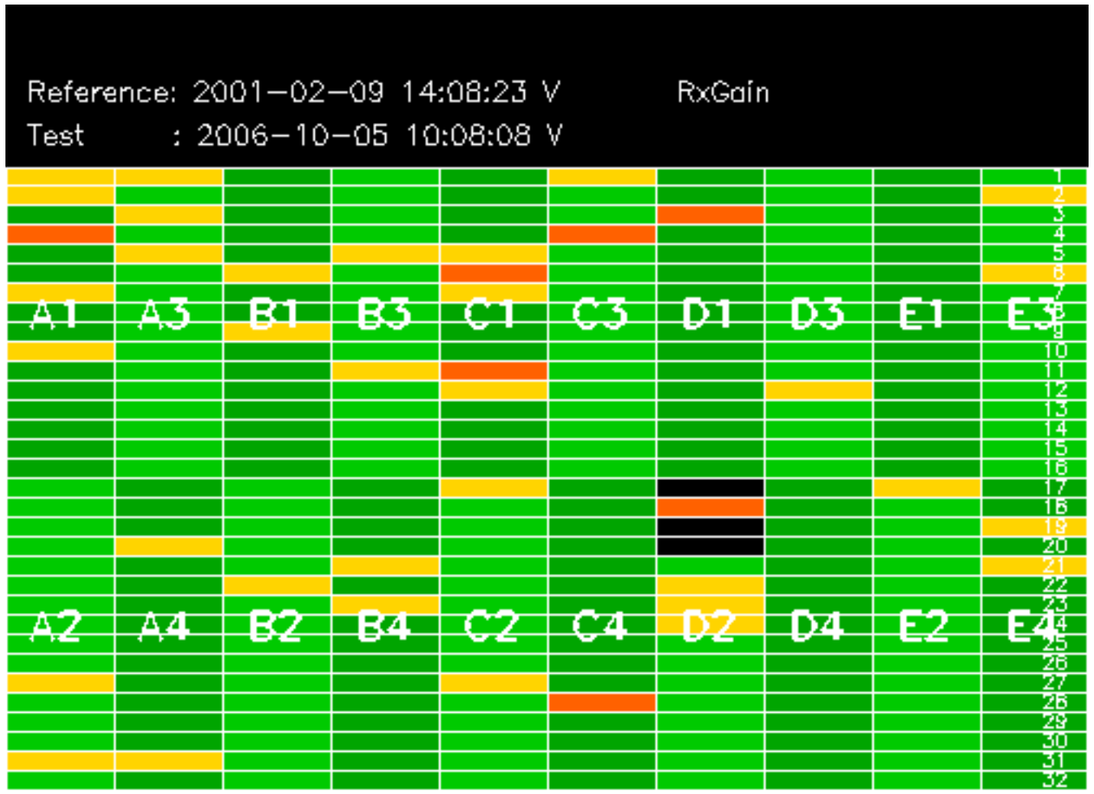
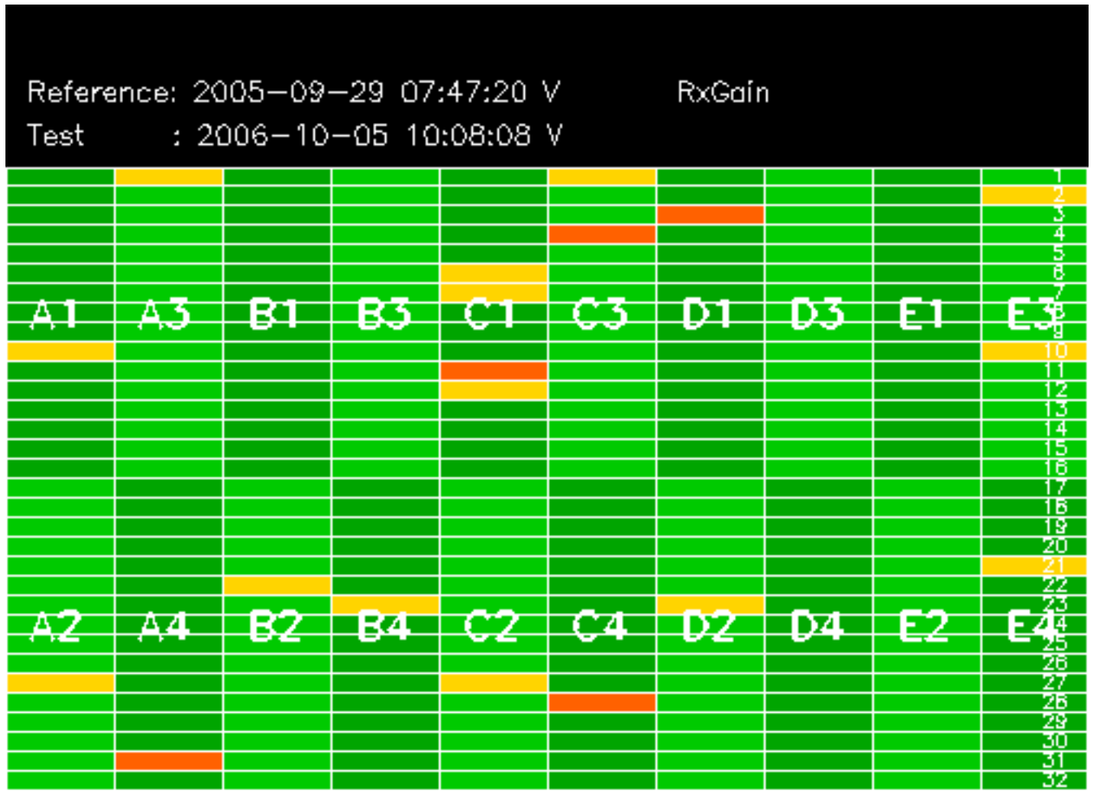

Reference: 2001-02-09 14:08:23 V
Test : 2006-10-05 10:08:08 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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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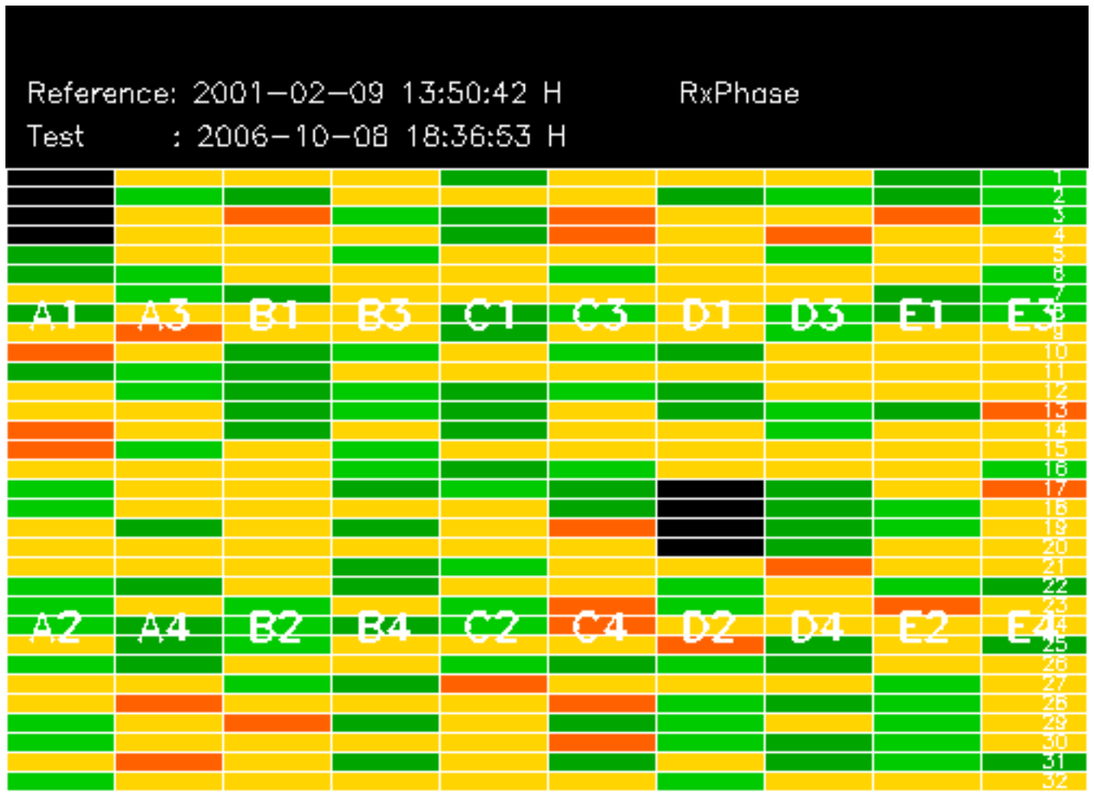
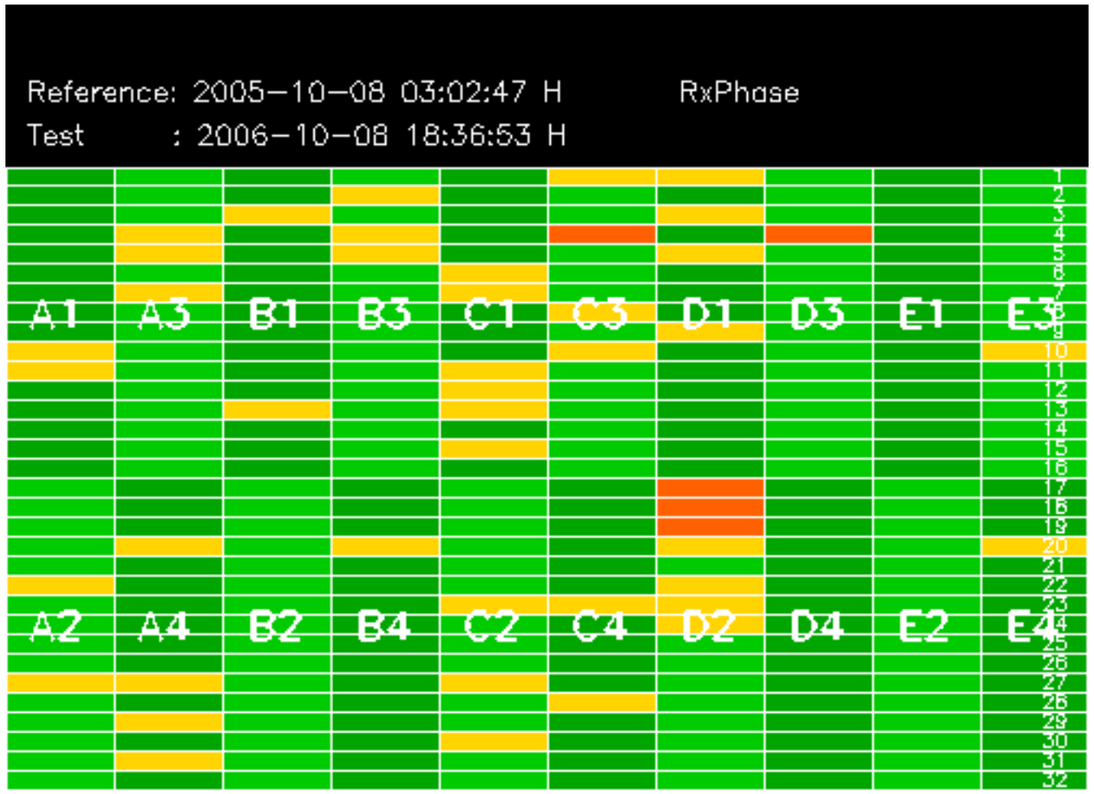

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-10-08 18:36:53 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-10-08 03:02:47 H
RxPhase
Test : 2006-10-08 18:36:53 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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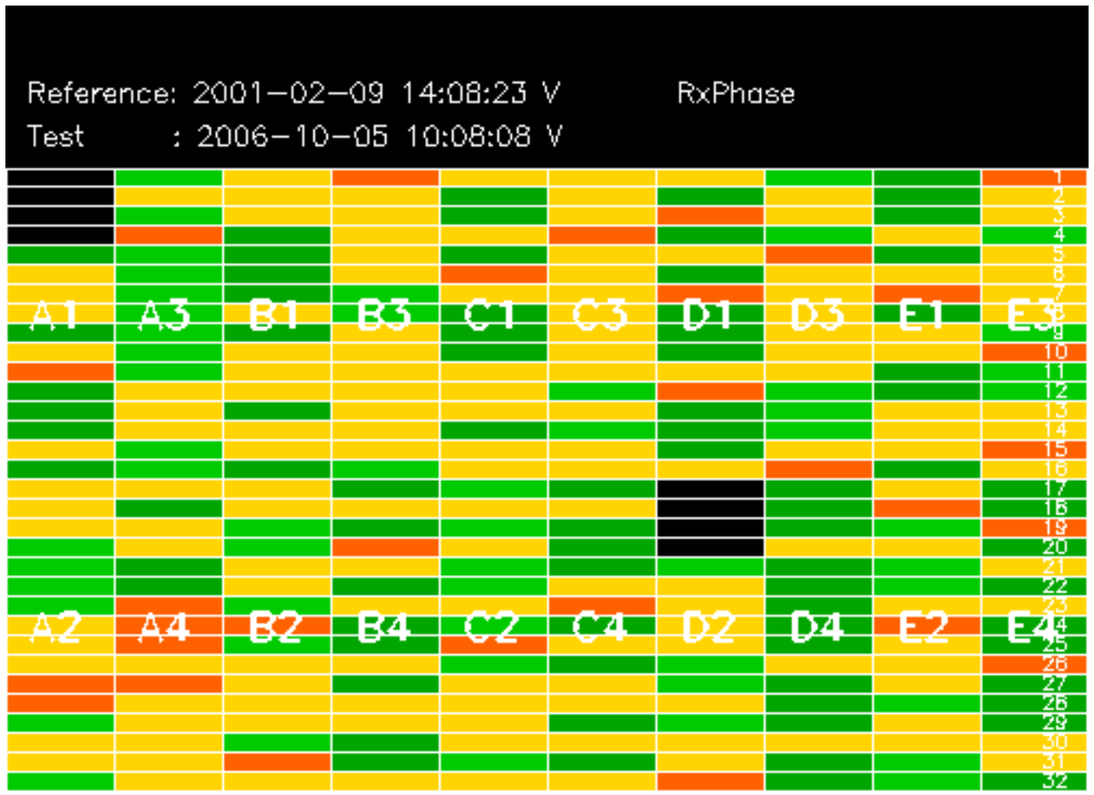
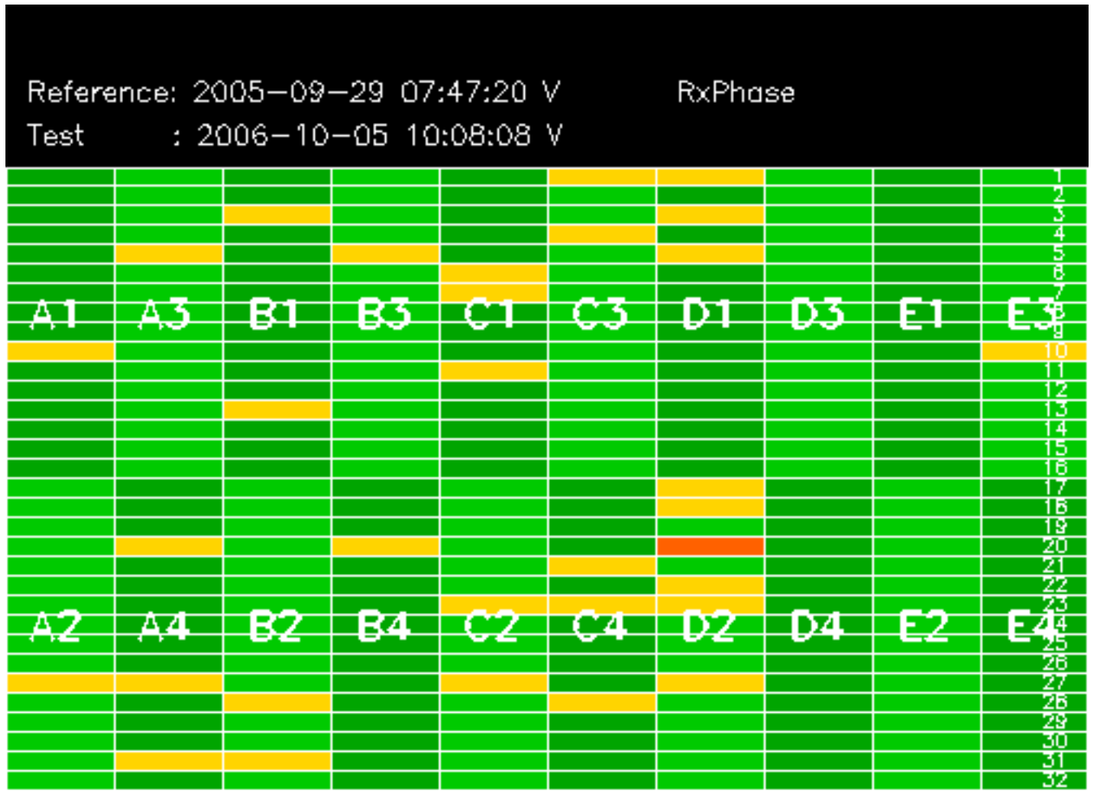

Reference: 2001-02-09 14:08:23 V
Test : 2006-10-05 10:08:08 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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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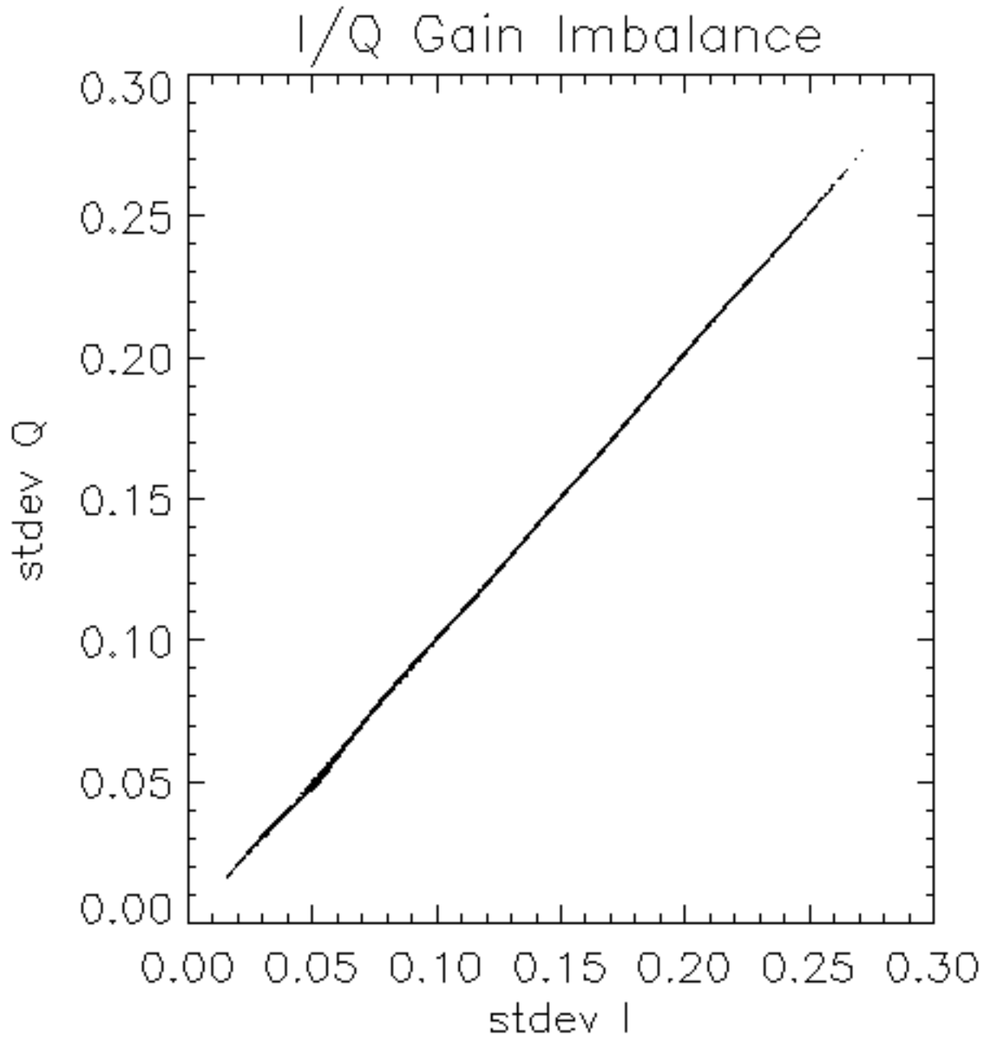
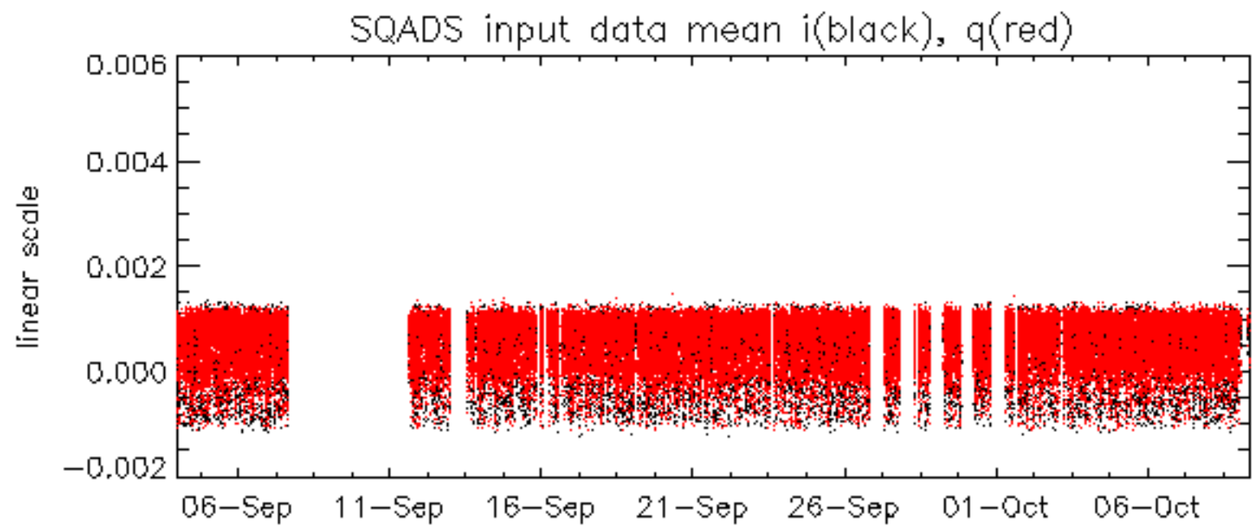
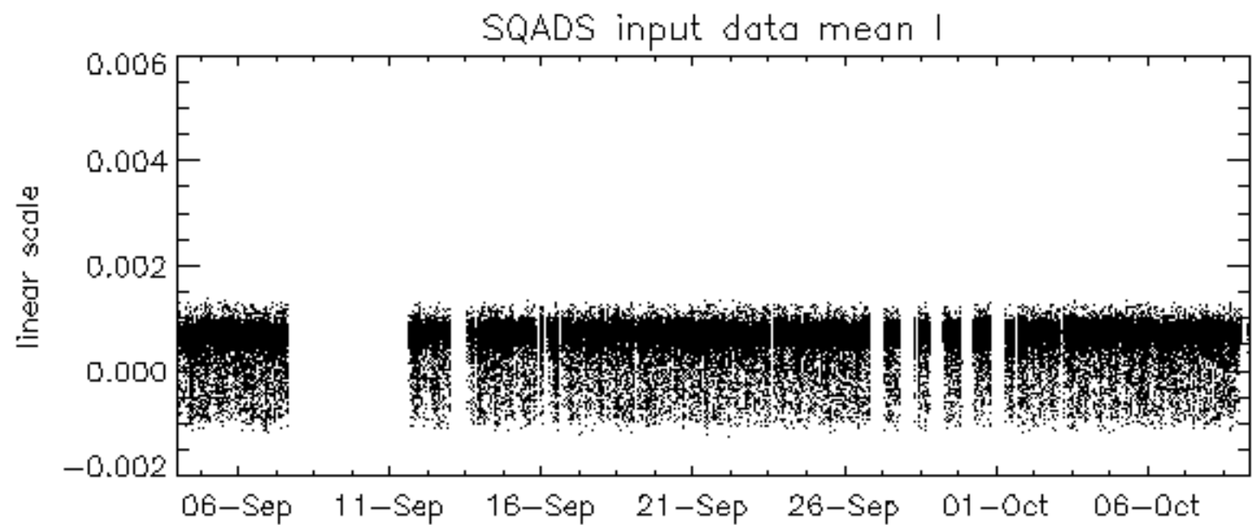
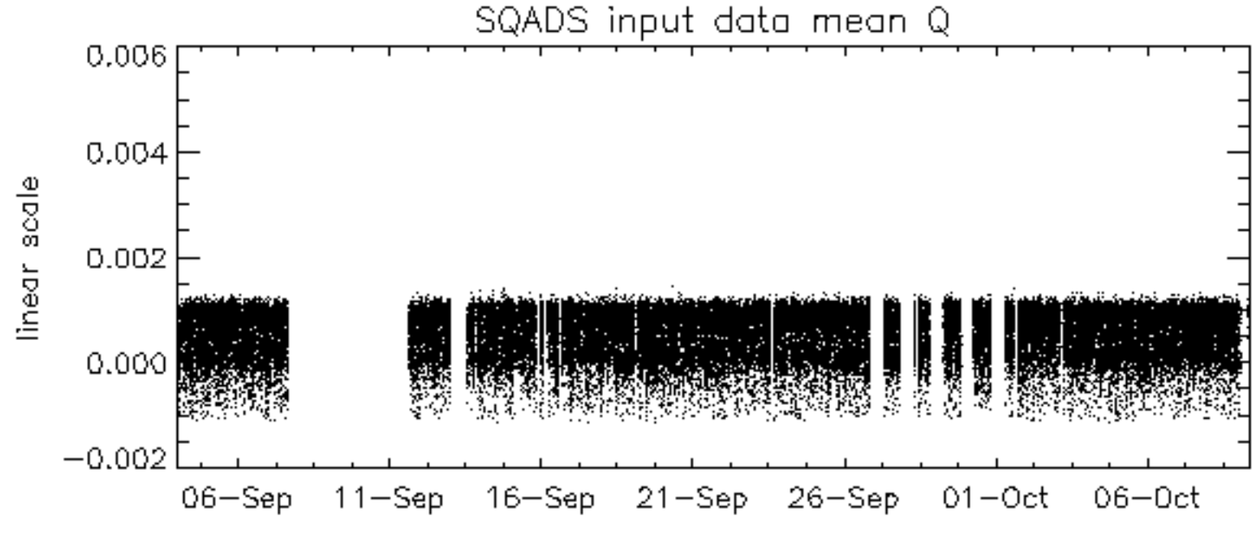
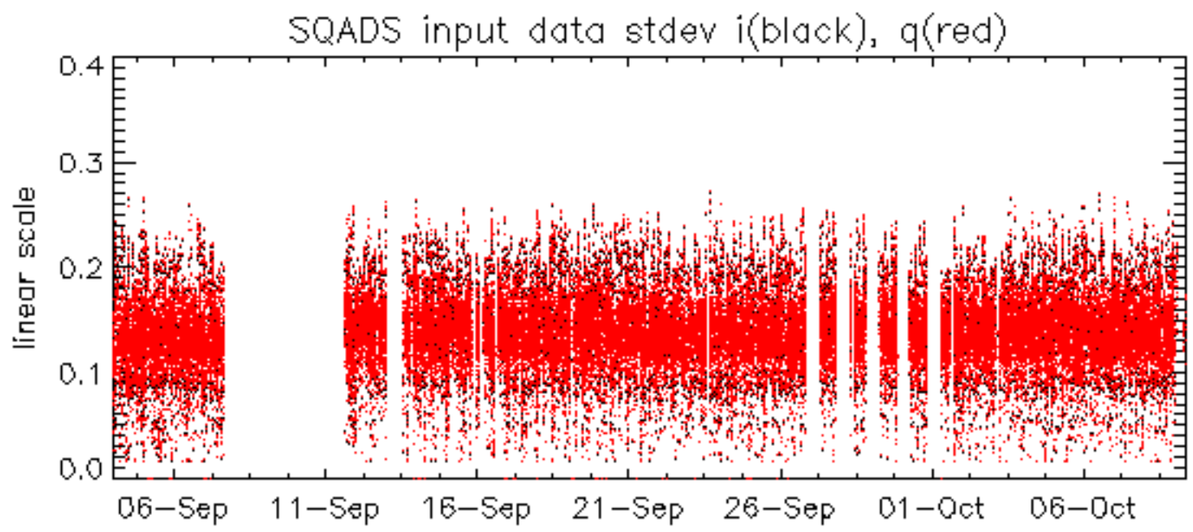
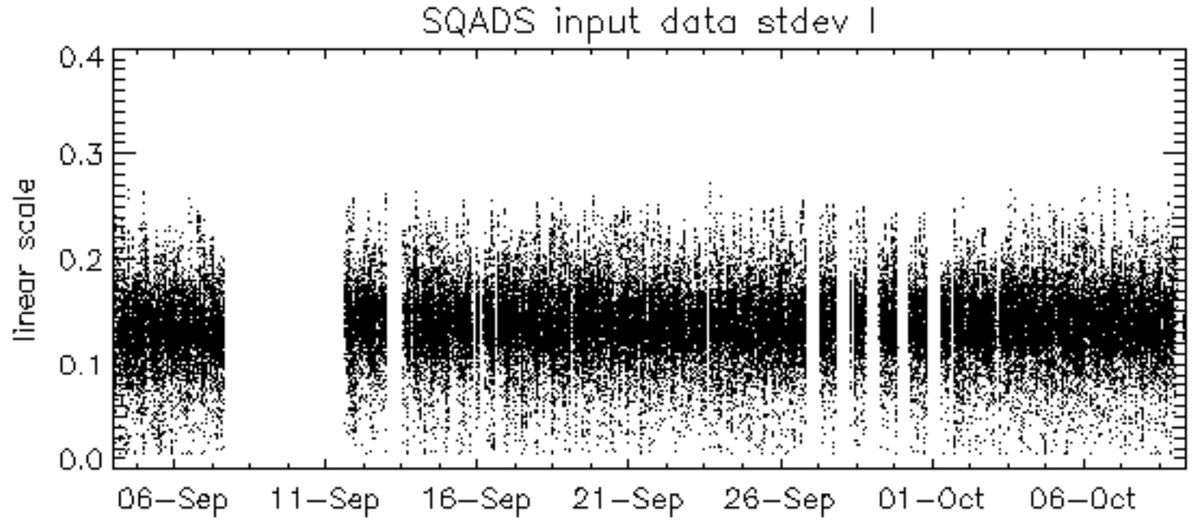

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

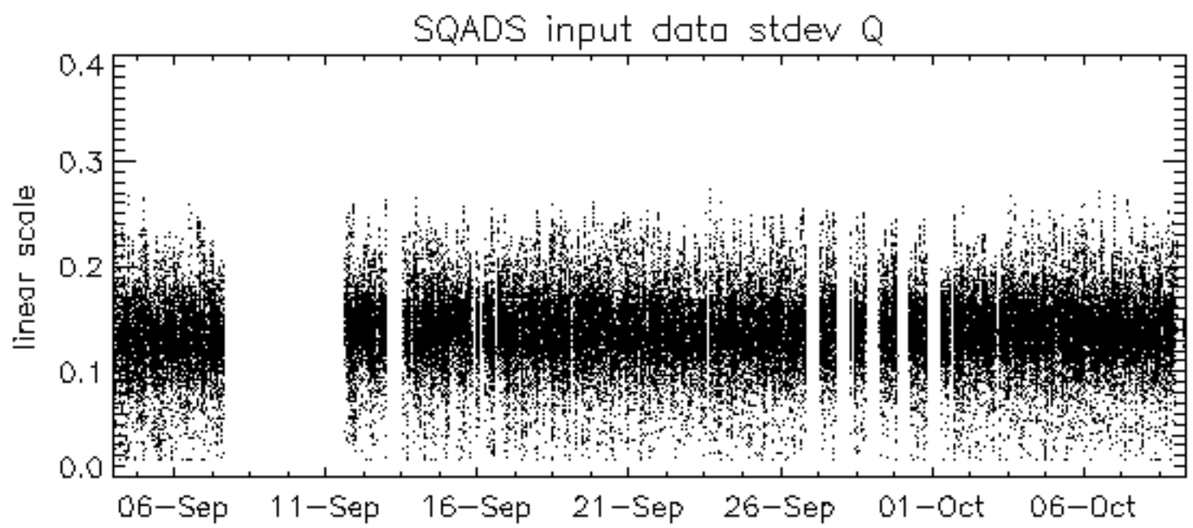

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Sep
11−Sep
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct

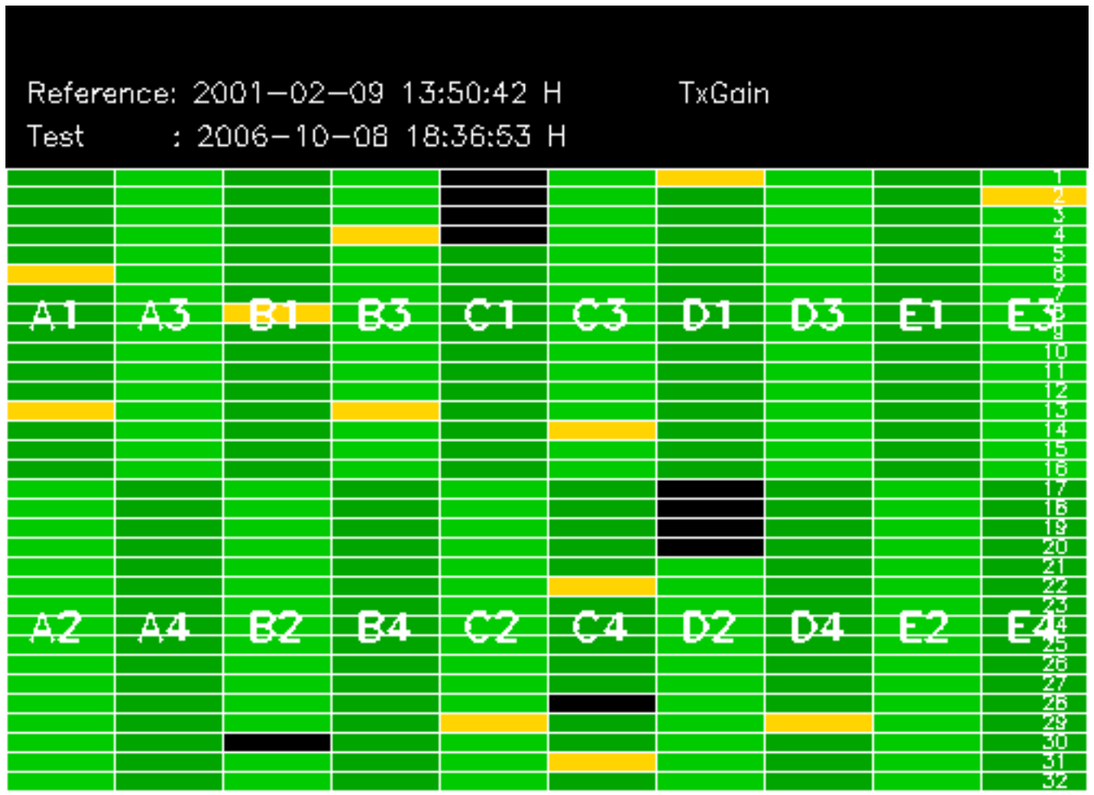

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Sep
11−Sep
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct


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 : 2006-10-08 18:36:53 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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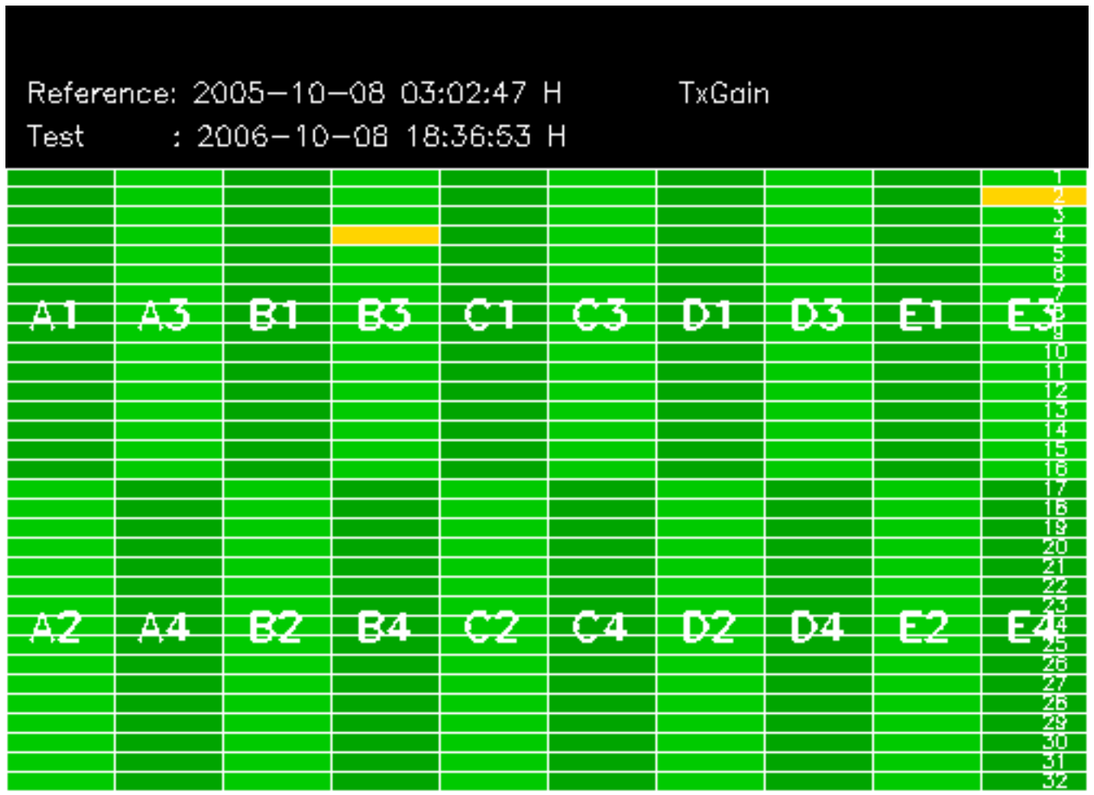
Reference: 2005-10-08 03:02:47 H
TxGain
Test : 2006-10-08 18:36:53 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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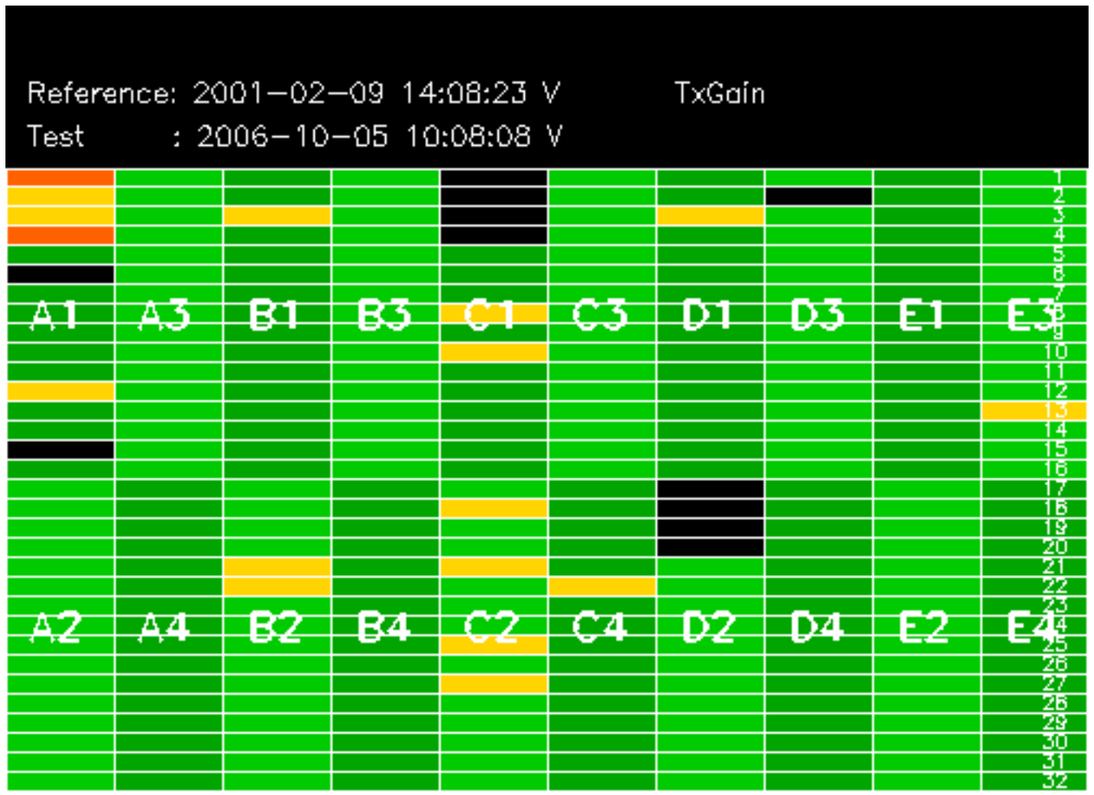
Reference: 2001-02-09 14:08:23 V
Test : 2006-10-05 10:08:08 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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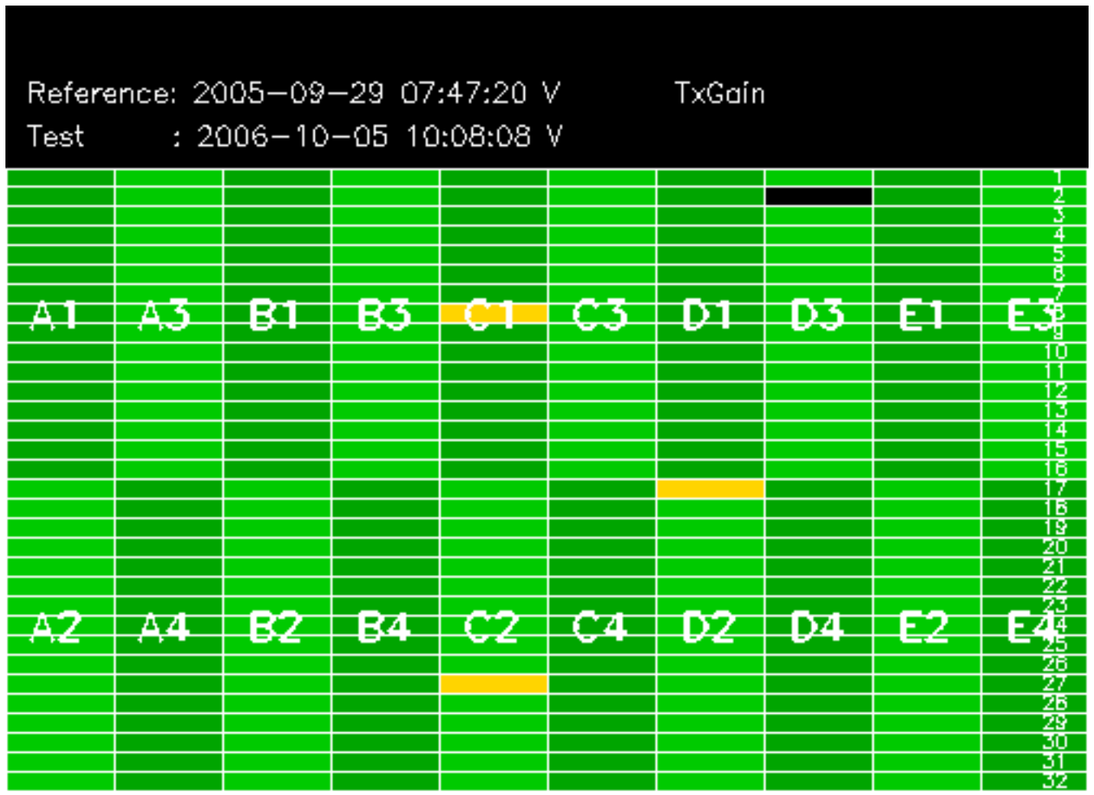
Reference: 2005-09-29 07:47:20 V
Test : 2006-10-05 10:08:08 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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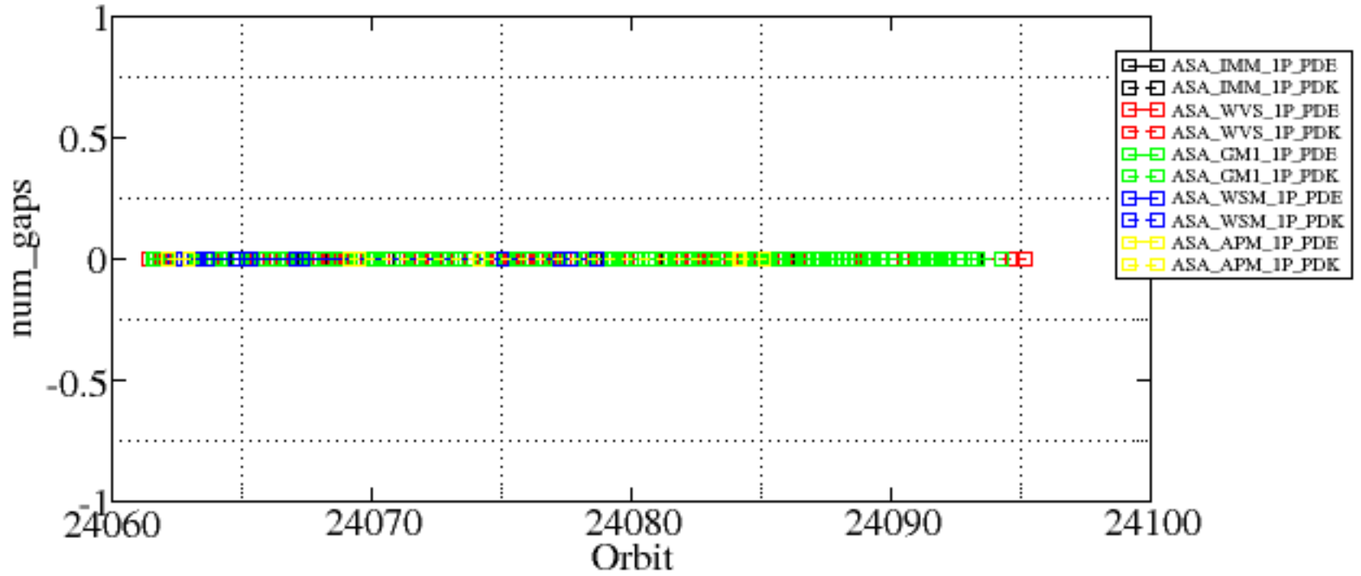
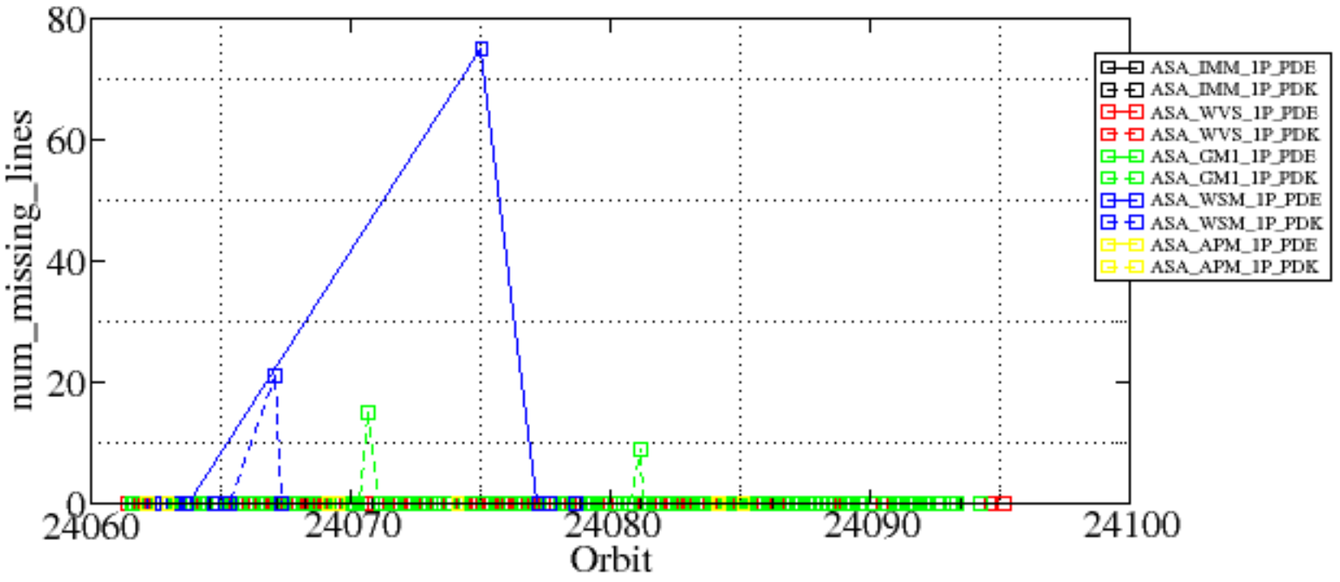
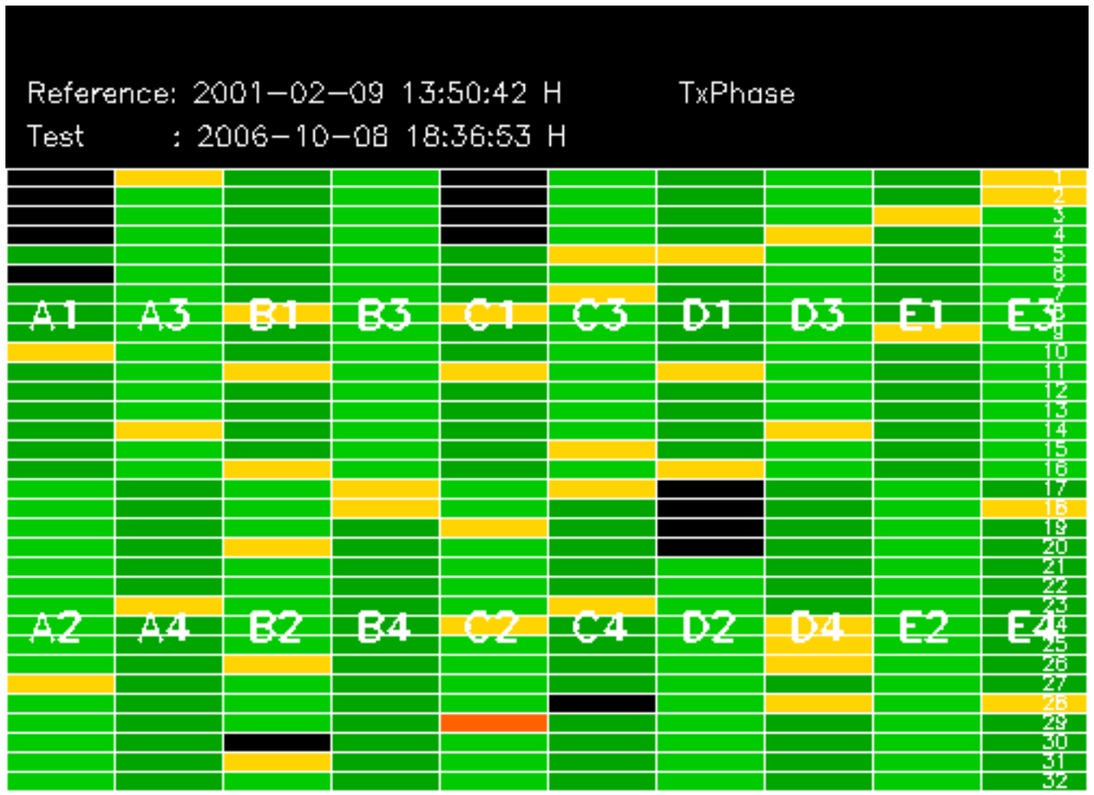
Summary of analysis for the last 3 days 2006100[789]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_GM1_1PNPDK20061007_154556_000011352051_00469_24070_5988.N1	0	15
ASA_GM1_1PNPDK20061008_092411_000007792051_00480_24081_6027.N1	0	9
ASA_WSM_1PNPDE20061007_230553_000001092051_00474_24075_3983.N1	0	75
ASA_WSM_1PNPDE20061007_230553_000001092051_00474_24075_3986.N1	0	75
ASA_WSM_1PNPDK20061007_094431_000000862051_00466_24067_6880.N1	0	21


num_gaps
1
0.5
0
-0.5
-1
24060
24070
24080
24090
24100
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
80
60
40
20
0
24060
24070
24080
24090
24100
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 : 2006-10-08 18:36:53 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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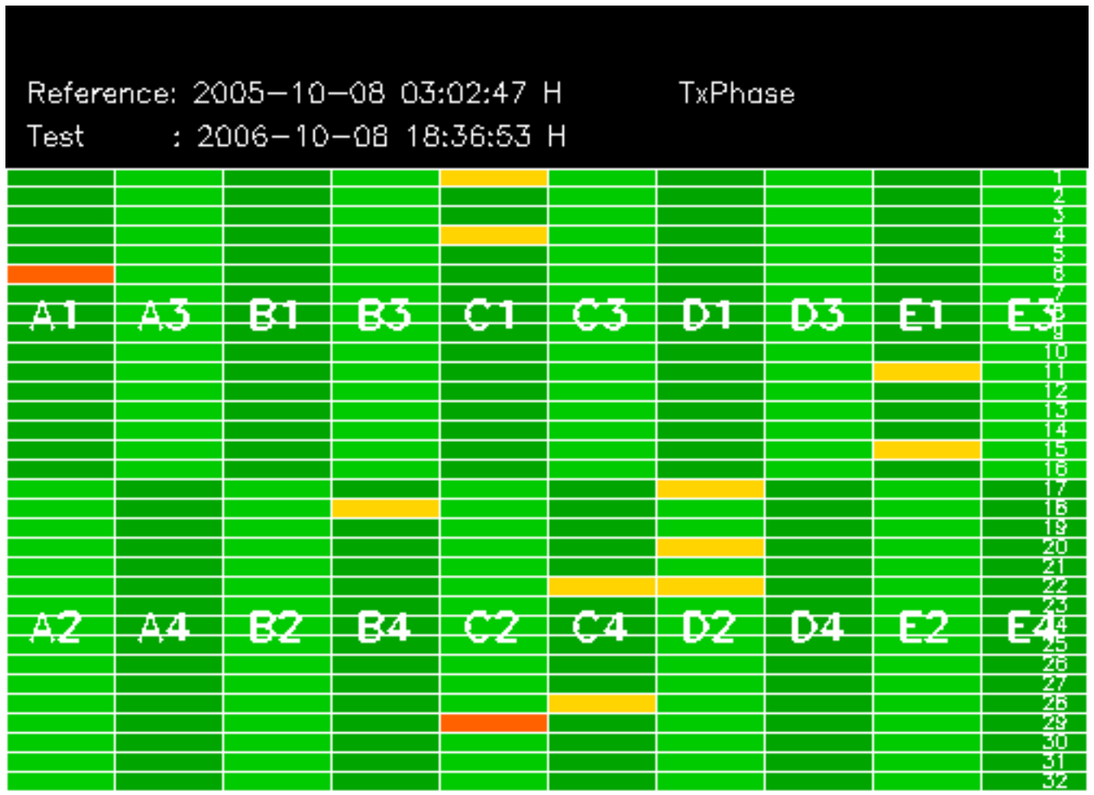
Reference: 2005-10-08 03:02:47 H
Test : 2006-10-08 18:36:53 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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E4
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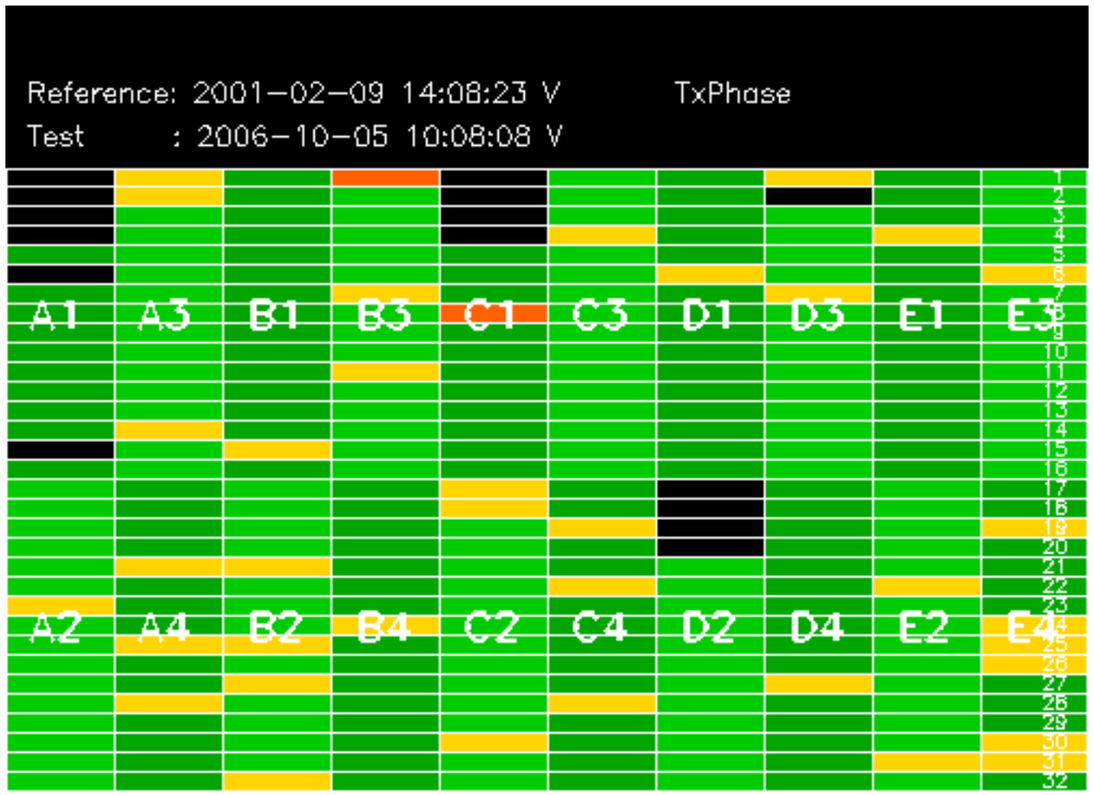
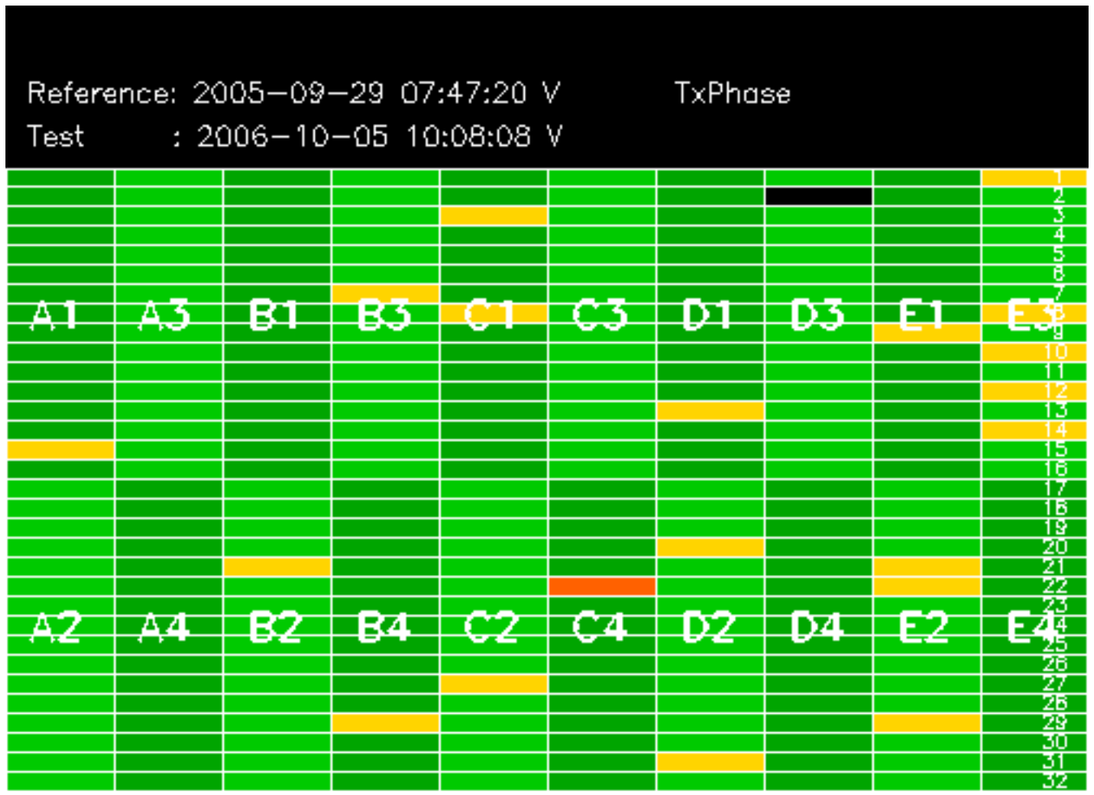

Reference: 2001-02-09 14:08:23 V
Test : 2006-10-05 10:08:08 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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
E4
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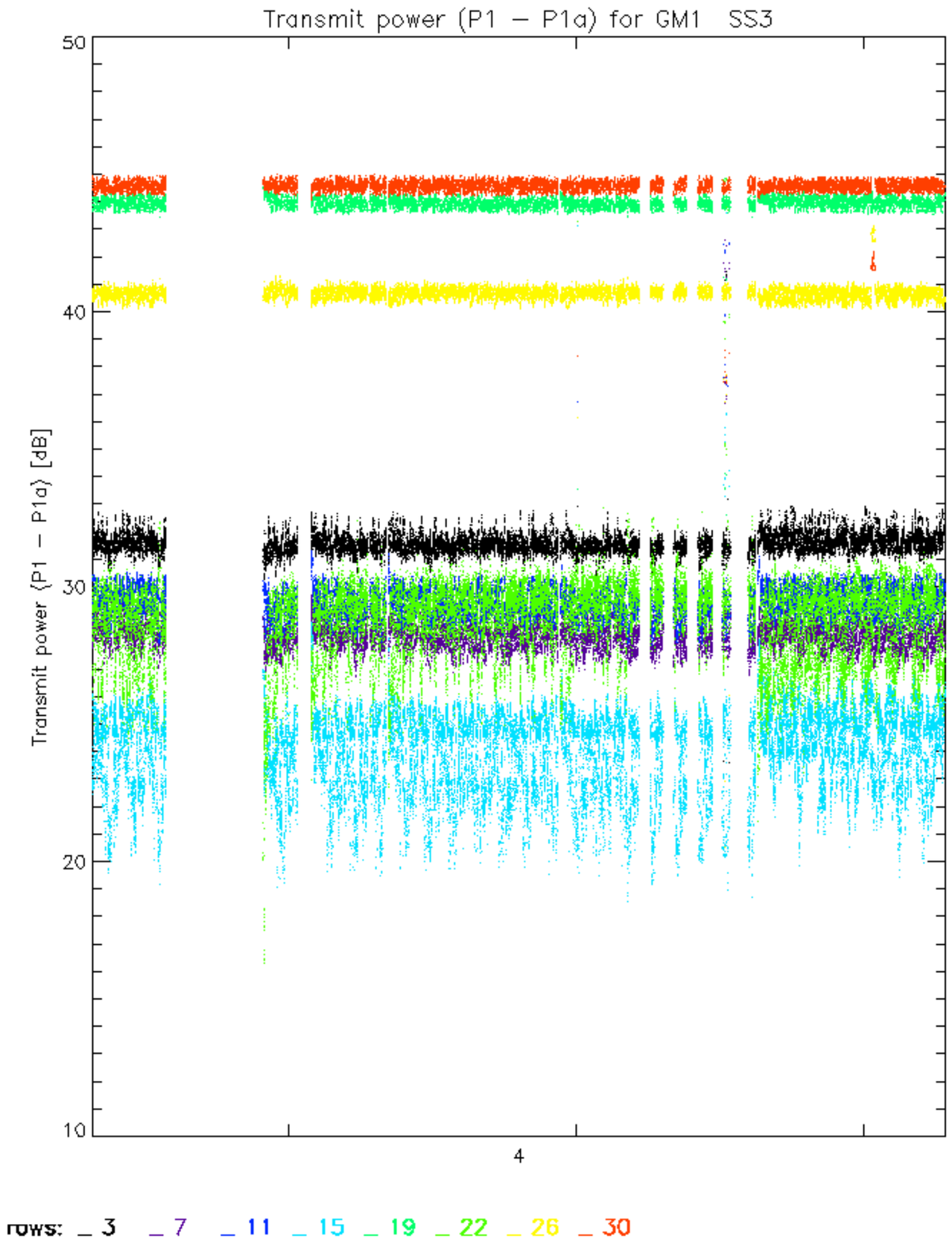
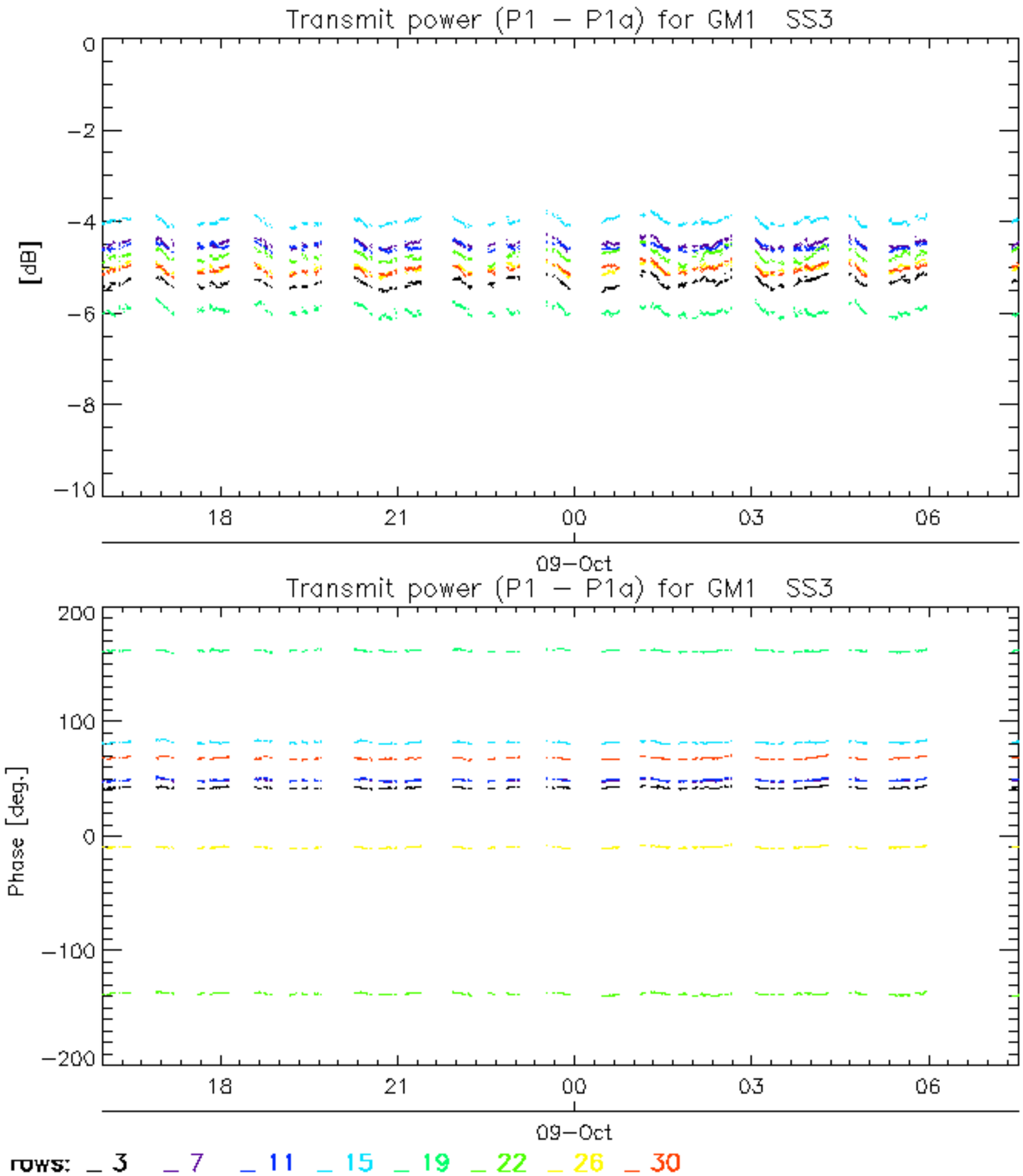
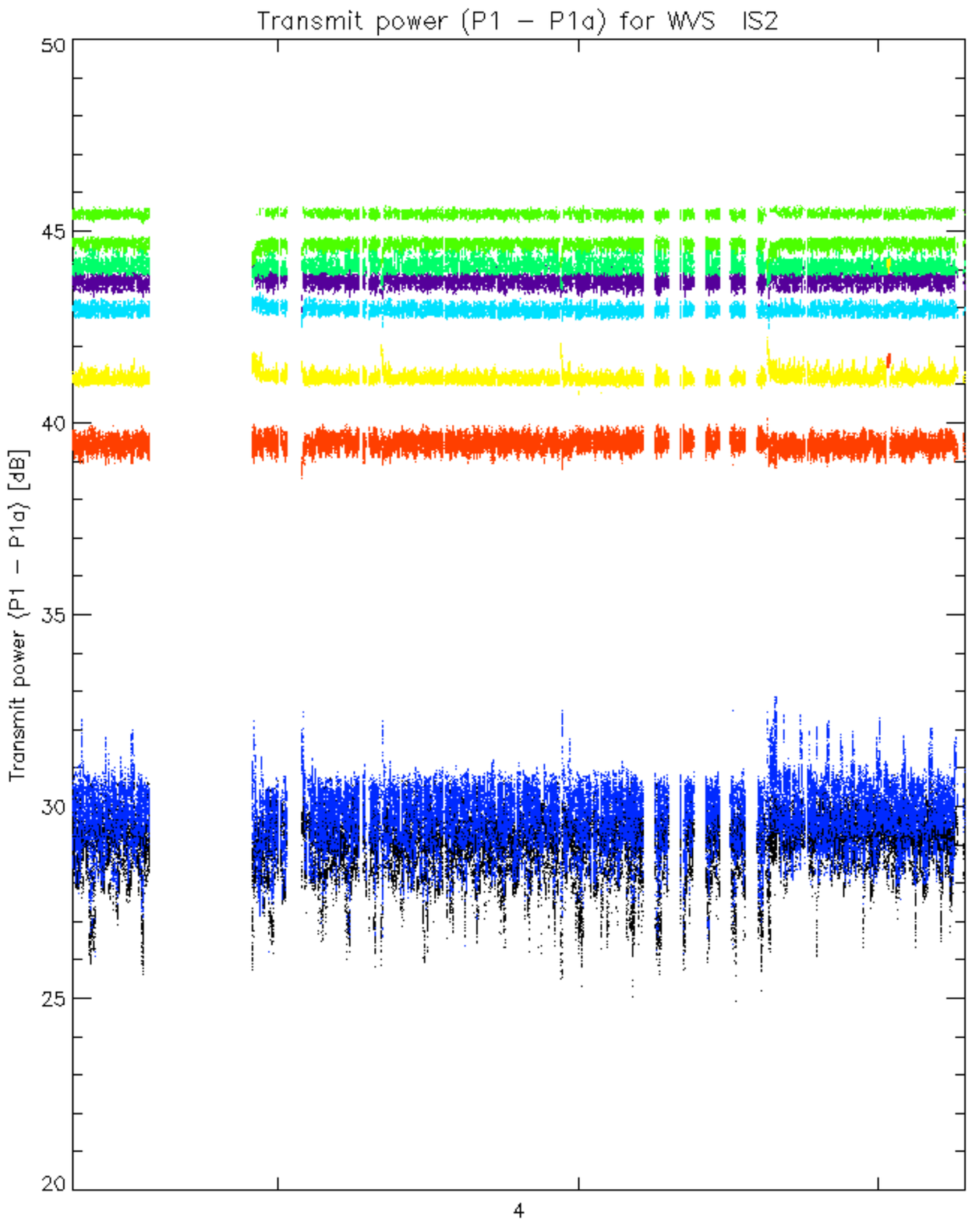
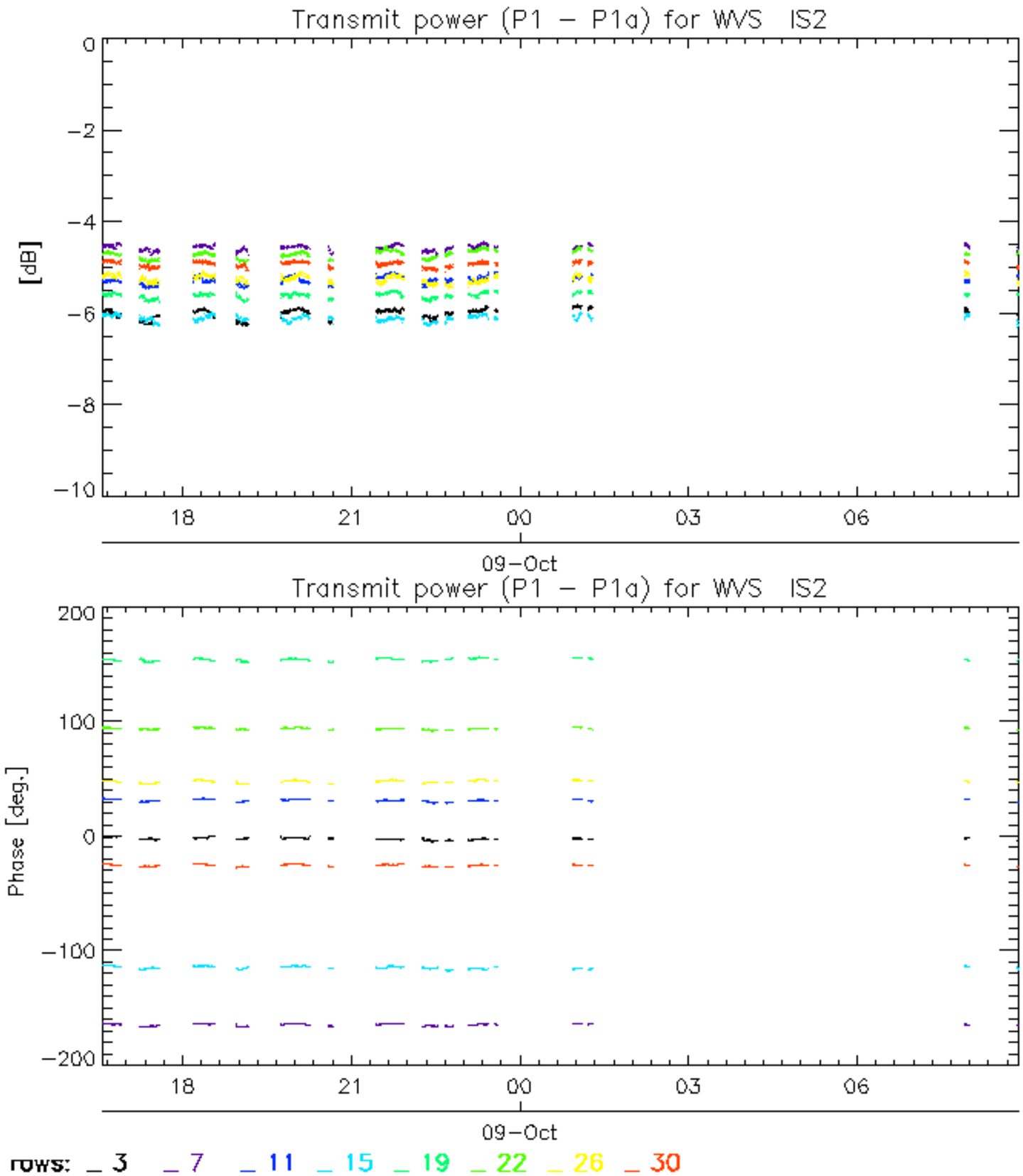

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
4
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
0
−2
−4
−6
−8
−10
[dB]
18
21
00
03
06
09–Oct
Transmit power (P1 – P1a) for GM1 SS3
200
100
0
−100
−200
Phase [deg.]
18
21
00
03
06
09–Oct
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
4
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
0
−2
−4
−6
−8
−10
[dB]
18
21
00
03
06
09−Oct
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
18
21
00
03
06
09−Oct
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.