PRELIMINARY REPORT OF 050811

last update on Thu Aug 11 10:50:01 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 2005-08-10 00:00:00 to 2005-08-11 10:50:01

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

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	23	42	15	6	23
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	23	42	15	6	23
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	23	42	15	6	23
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	23	42	15	6	23

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	33	58	33	13	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	33	58	33	13	0
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	33	58	33	13	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	33	58	33	13	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	20050809 042901
H	20050810 071836

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
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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	-3.319742	0.028287	-0.017726
7	P1	-3.156084	0.028708	-0.067873
11	P1	-4.711204	0.032738	-0.036598
15	P1	-5.589720	0.051708	-0.070818
19	P1	-3.795250	0.004192	-0.045330
22	P1	-4.639954	0.101412	0.003494
26	P1	-4.851820	0.132287	0.034405
30	P1	-7.244421	0.134702	0.008201
3	P1	-15.552833	0.076580	0.073070
7	P1	-15.513142	0.152999	0.027279
11	P1	-21.736071	0.261441	-0.190633
15	P1	-11.291662	0.072287	0.014973
19	P1	-14.488035	0.036542	-0.045705
22	P1	-15.700747	0.345089	0.158254
26	P1	-17.357113	0.198231	0.203777
30	P1	-17.765104	0.411517	-0.160320

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.820663	0.083632	0.089519
7	P2	-21.978754	0.100797	0.115134
11	P2	-13.573046	0.106152	0.197162
15	P2	-7.071405	0.091562	0.023816
19	P2	-9.589314	0.094859	-0.014132
22	P2	-16.839832	0.096571	0.041624
26	P2	-16.507986	0.098238	-0.012847
30	P2	-18.797356	0.086798	-0.035681

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.157232	0.002523	-0.006228
7	P3	-8.157232	0.002523	-0.006228
11	P3	-8.157232	0.002523	-0.006228
15	P3	-8.157232	0.002523	-0.006228
19	P3	-8.157232	0.002523	-0.006228
22	P3	-8.157232	0.002523	-0.006228
26	P3	-8.157232	0.002523	-0.006228
30	P3	-8.157232	0.002523	-0.006228

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	-2.806577	0.096393	-0.096892
7	P1	-2.973009	0.059685	-0.065607
11	P1	-4.010633	0.016045	-0.049361
15	P1	-3.611861	0.062384	-0.118093
19	P1	-3.632129	0.015807	0.015736
22	P1	-5.692067	0.104184	-0.031935
26	P1	-7.396130	0.180124	0.040230
30	P1	-6.329542	0.100169	0.047730
3	P1	-10.887122	0.052431	-0.228069
7	P1	-10.468030	0.167687	-0.039218
11	P1	-12.640908	0.103815	-0.054012
15	P1	-11.598653	0.098743	0.043573
19	P1	-15.508698	0.068437	0.118556
22	P1	-25.626047	2.906758	0.326196
26	P1	-15.312033	0.316165	0.203264
30	P1	-20.054647	1.264100	-0.047177

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.554321	0.043910	0.150143
7	P2	-22.026340	0.039055	0.048483
11	P2	-9.609434	0.063382	0.195723
15	P2	-5.108213	0.041879	0.043107
19	P2	-6.888831	0.062542	0.053643
22	P2	-7.060333	0.037417	0.051431
26	P2	-23.967531	0.037644	0.020479
30	P2	-21.949457	0.042963	0.018790

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.998724	0.004045	-0.000780
7	P3	-7.998607	0.004036	-0.000859
11	P3	-7.998575	0.004050	-0.001009
15	P3	-7.998546	0.004043	-0.000677
19	P3	-7.998648	0.004044	-0.000621
22	P3	-7.998644	0.004035	-0.000529
26	P3	-7.998573	0.004026	-0.000508
30	P3	-7.998574	0.004028	-0.000982

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	0.000464133
	stdev	2.19125e-07
MEAN Q	mean	0.000493956
	stdev	2.33656e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128452
	stdev	0.000987044
STDEV Q	mean	0.128711
	stdev	0.000997251

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005081[901]
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_1PNPDK20050810_063721_000004612039_00421_18010_1358.N1	0	1
ASA_WSM_1PNPDK20050810_114804_000000482039_00424_18013_1644.N1	0	1

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

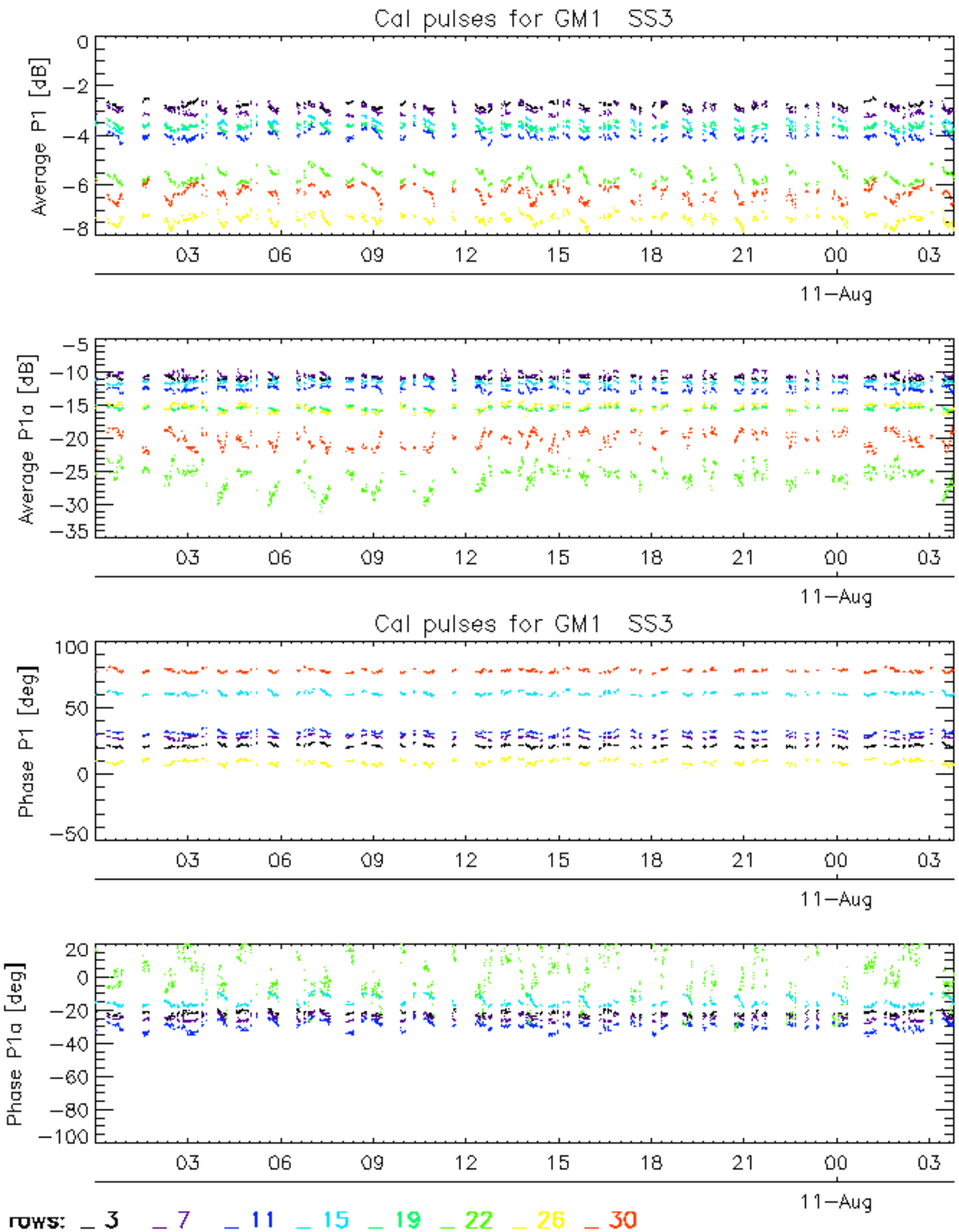
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

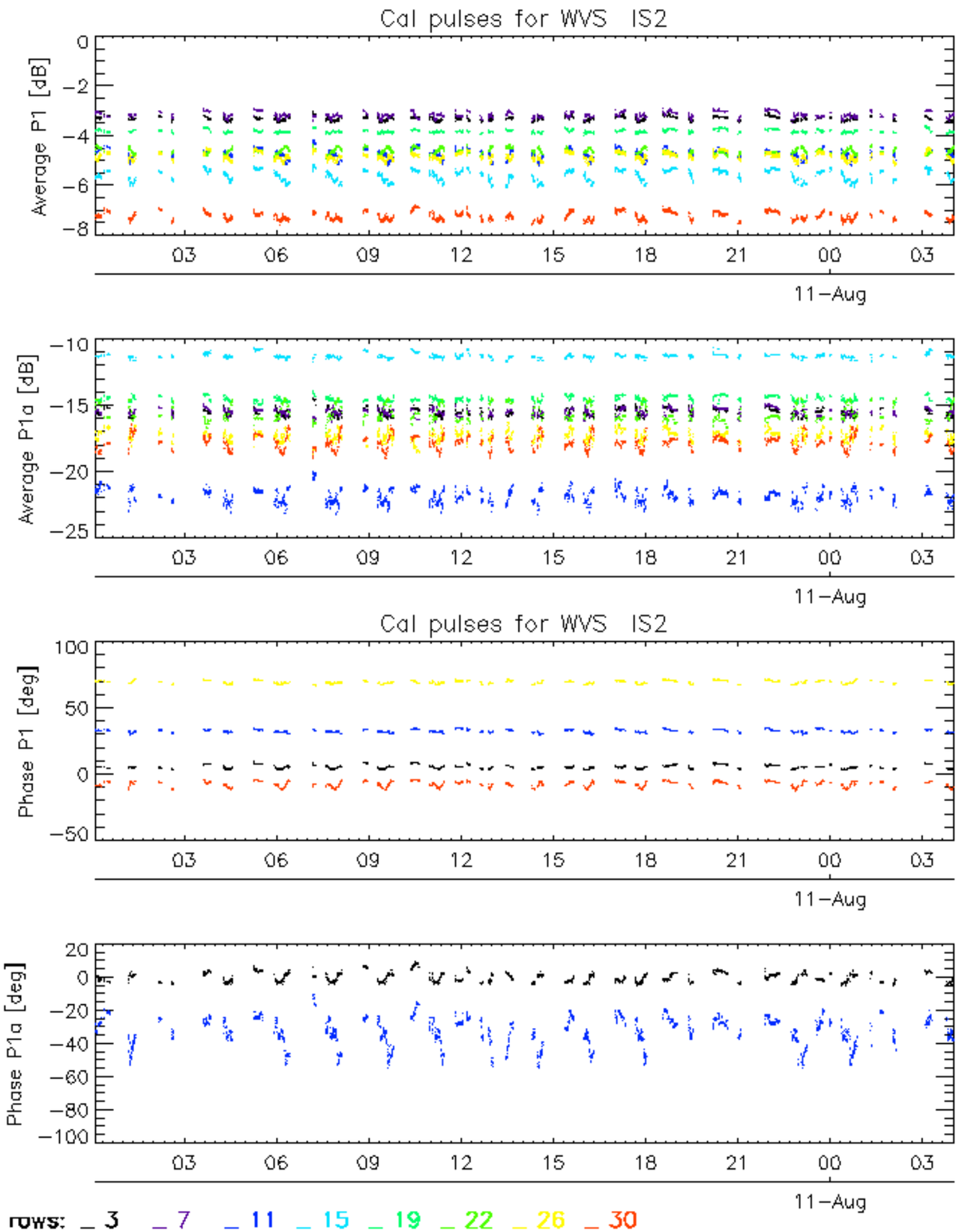
7.5 - Absolute Doppler for GM1

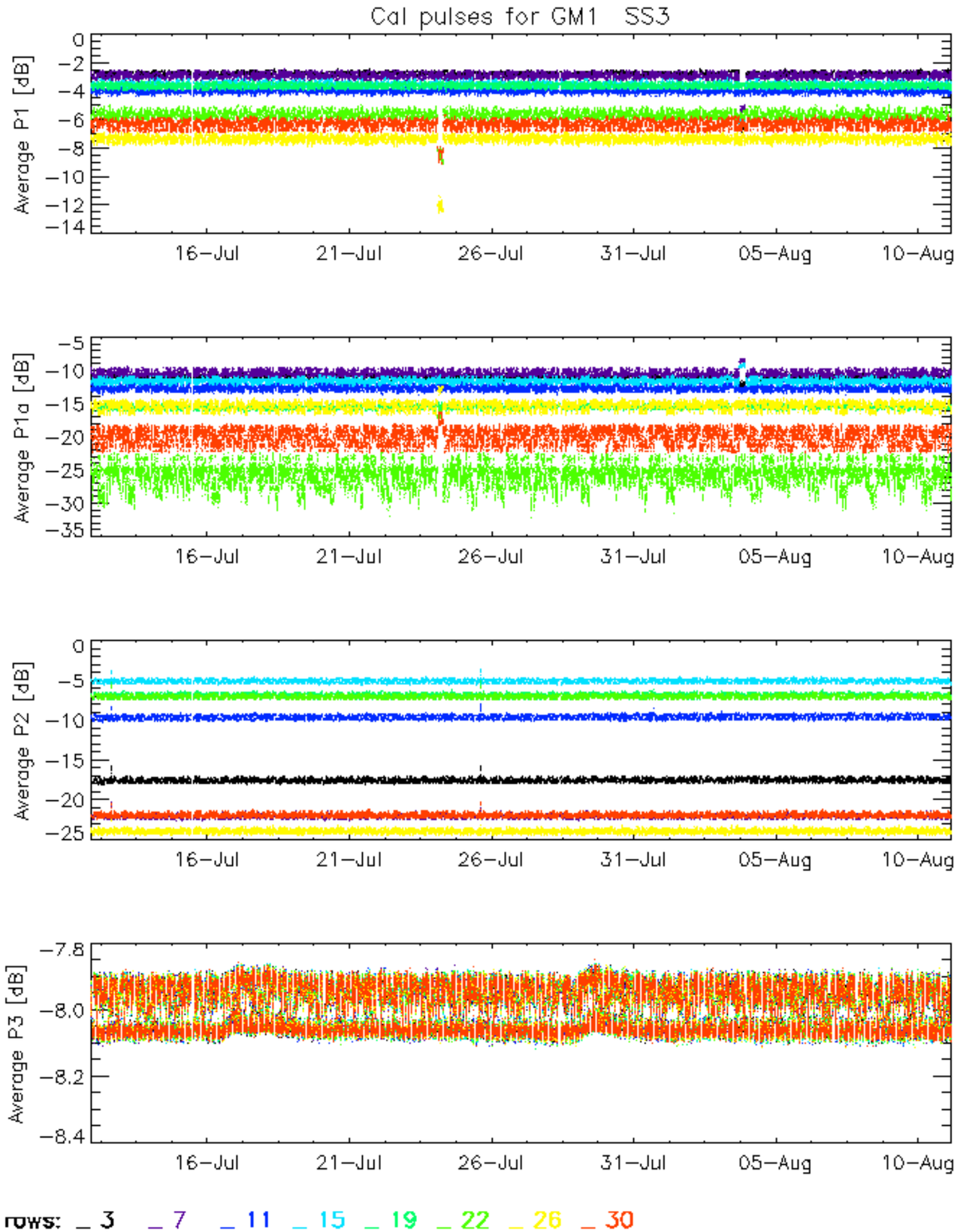
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

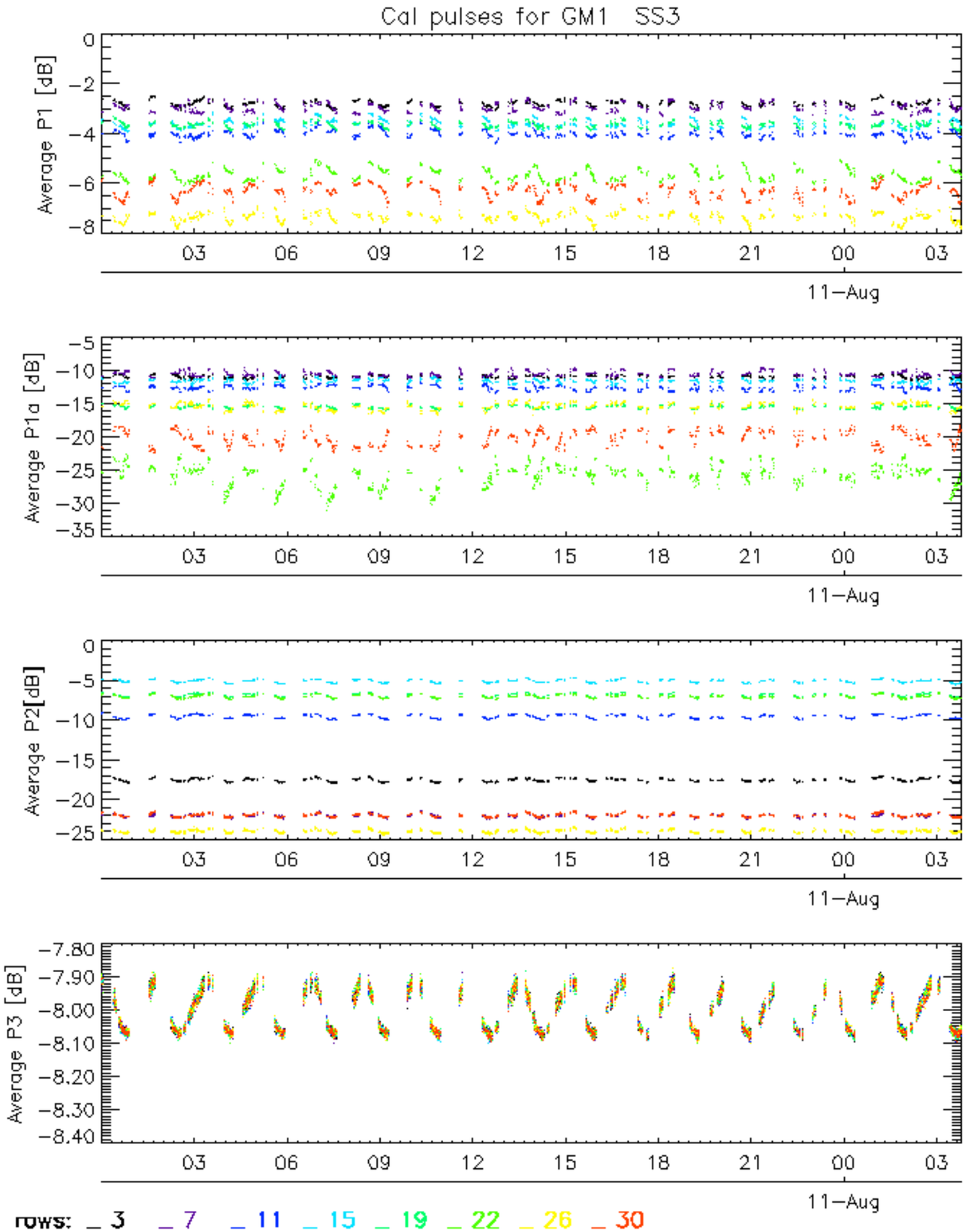
7.6 - Doppler evolution versus ANX for GM1

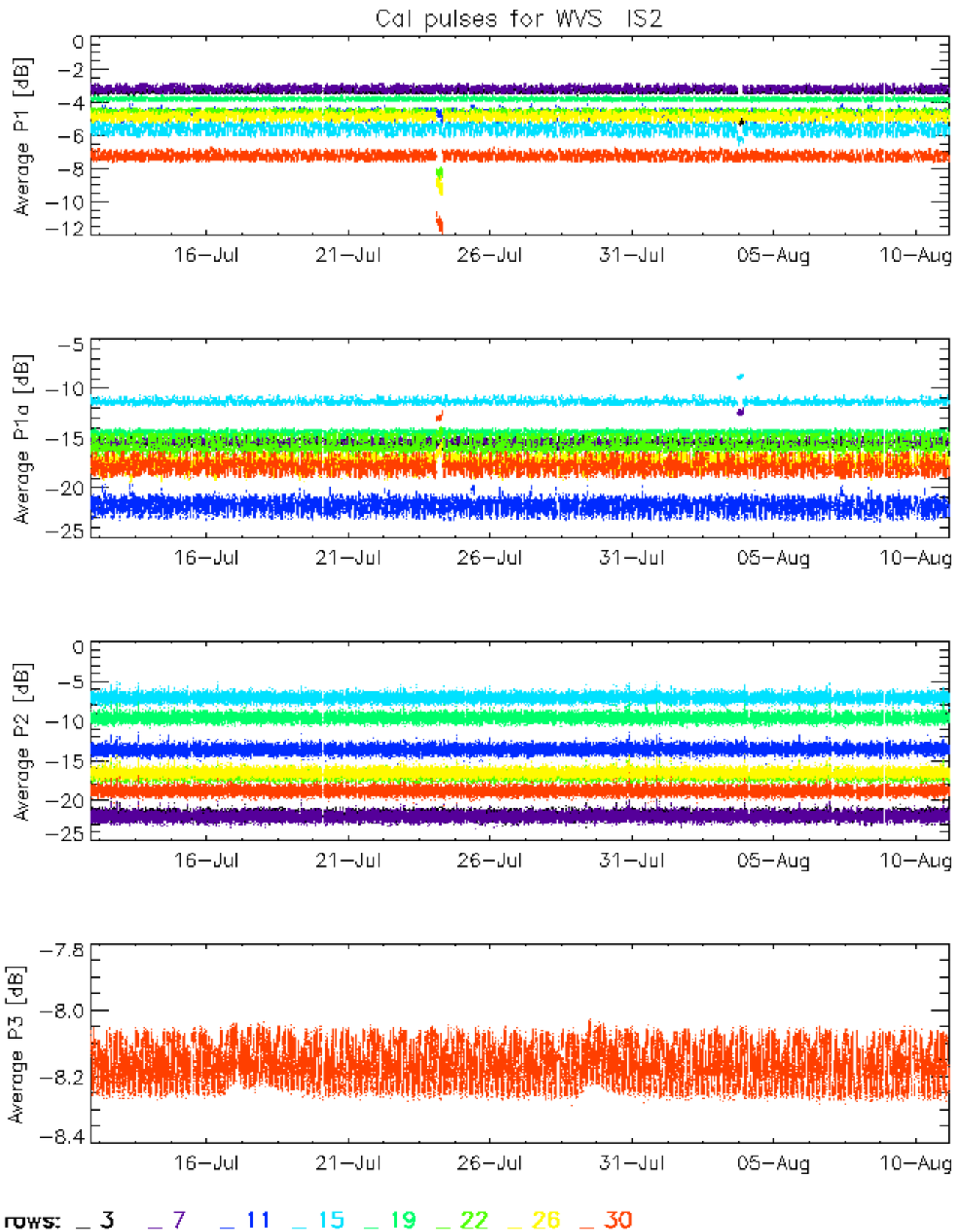
Evolution Doppler error versus ANX
☒

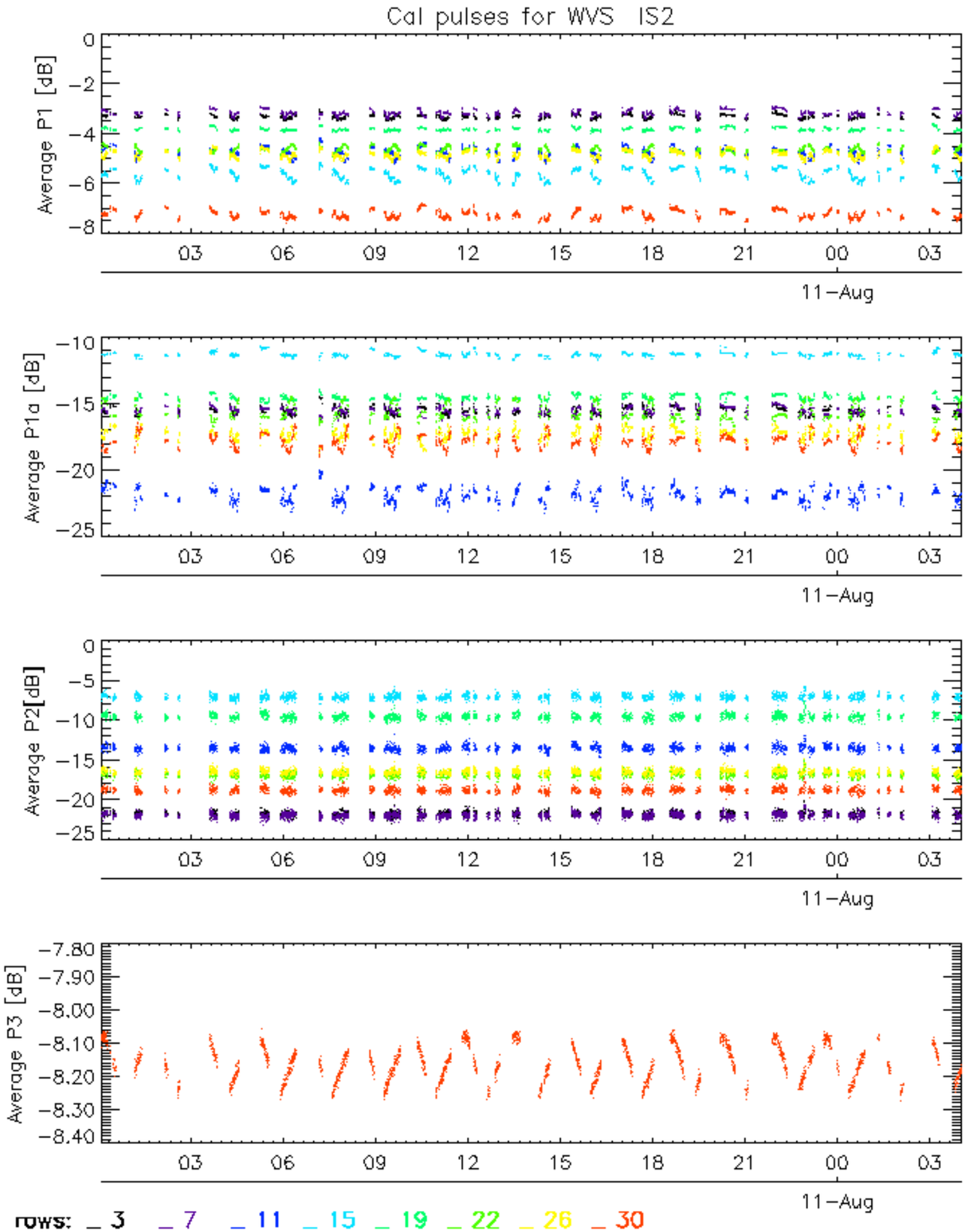

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
11−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
11−Aug
Average P1a [dB]
−10
−15
−20
−25
Cal pulses for WVS IS2
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30

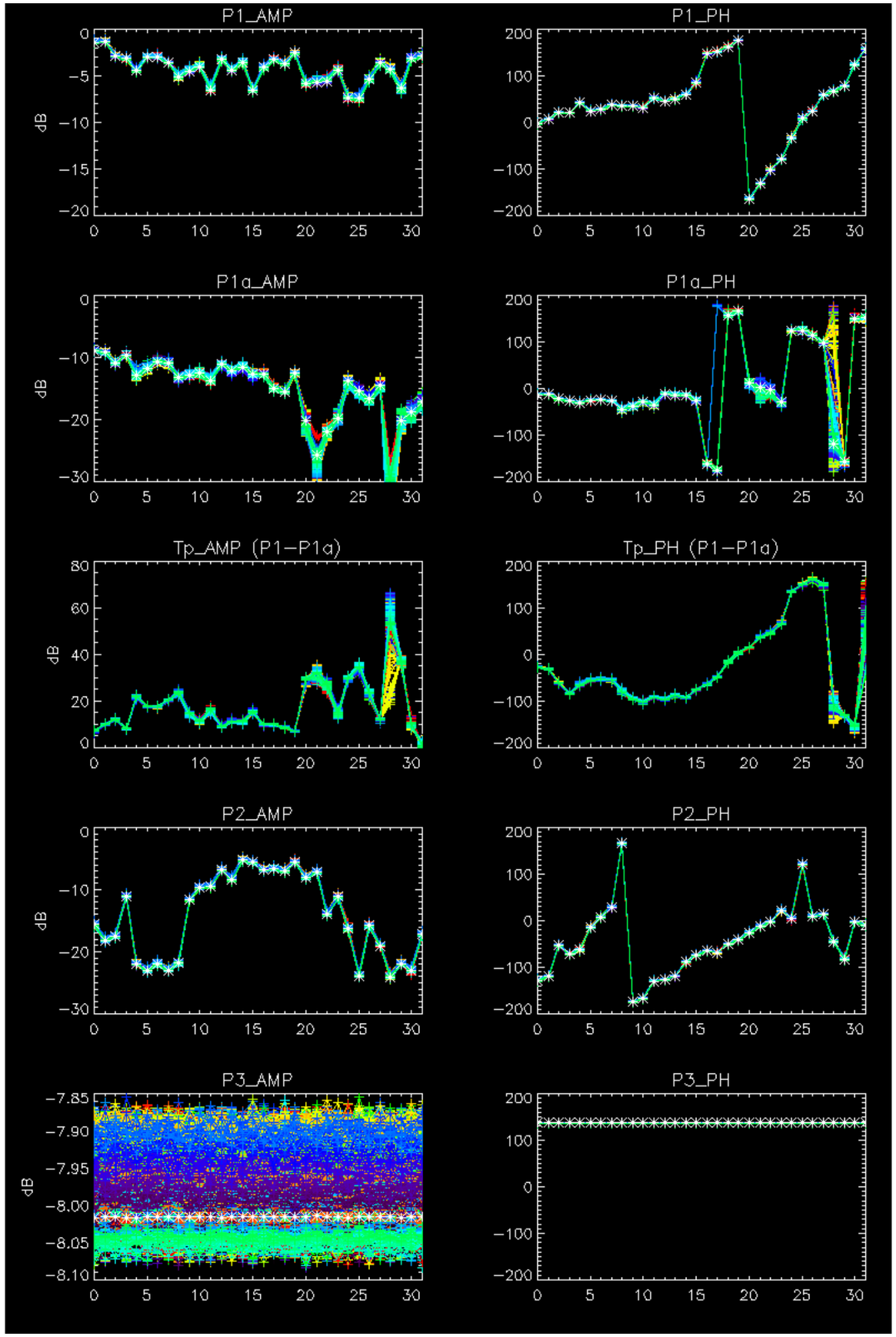

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
−14
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

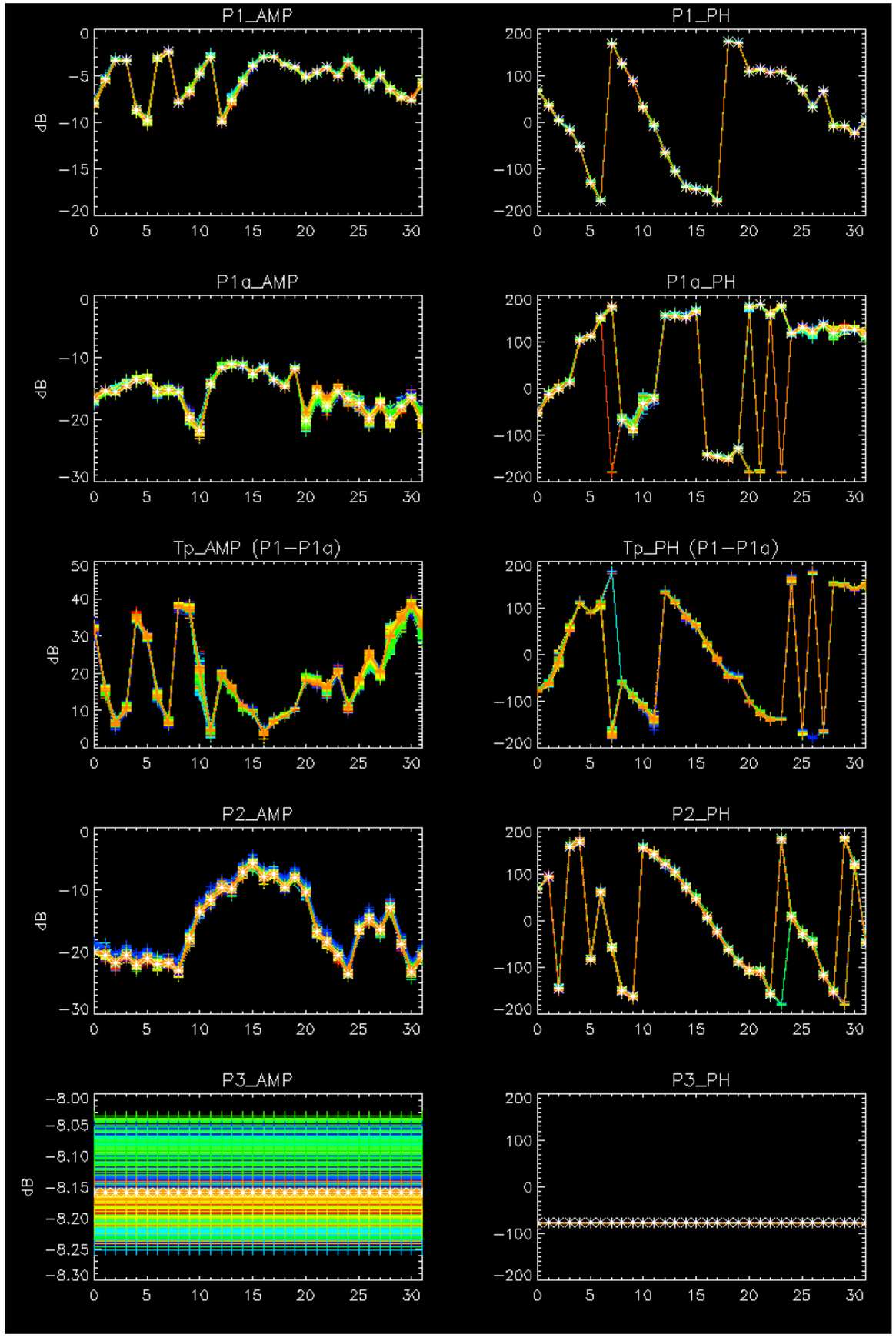

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
11−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug
10−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


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
11−Aug
Average P1a [dB]
−10
−15
−20
−25
Average P2[dB]
−5
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

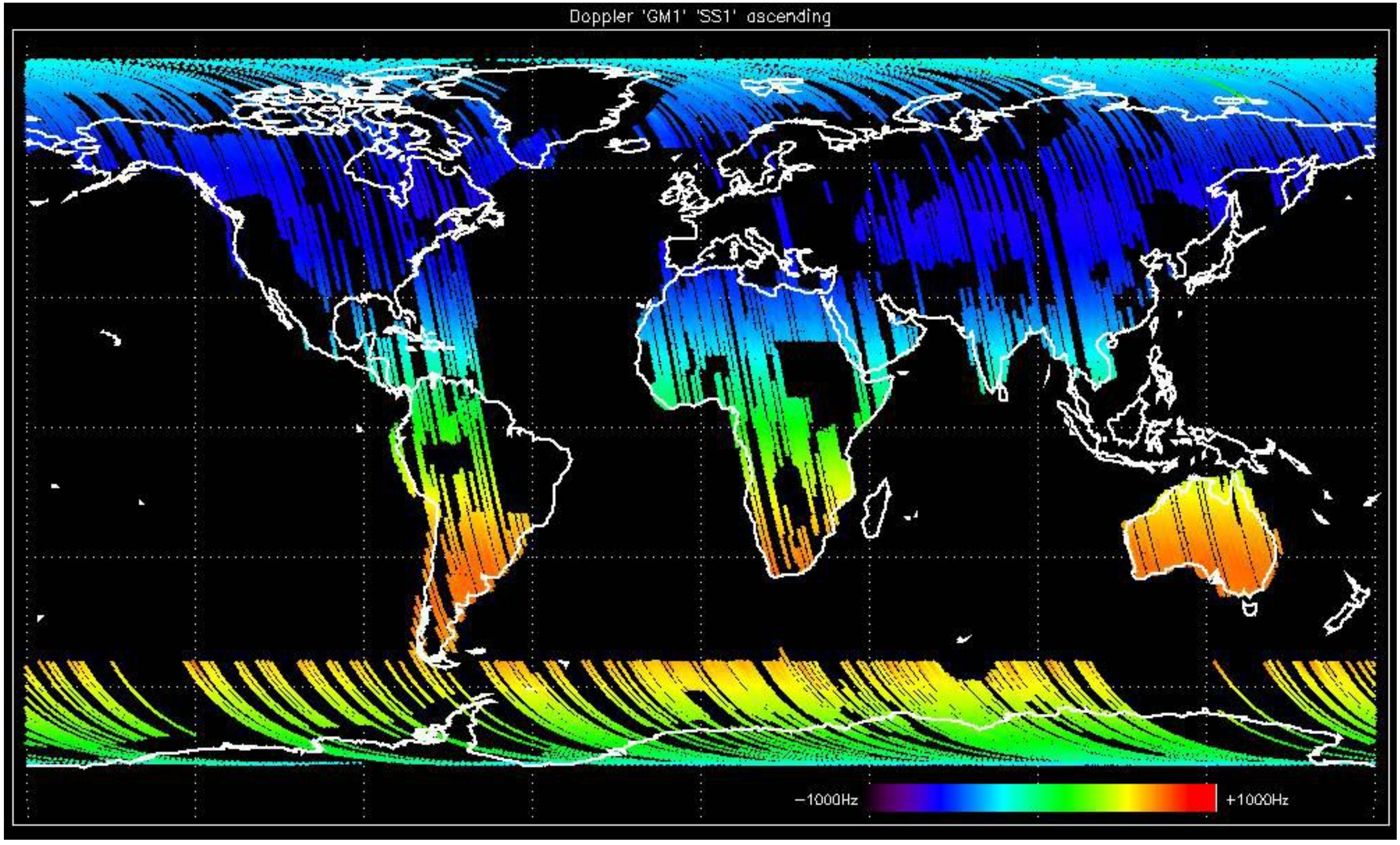
No anomalies observed.

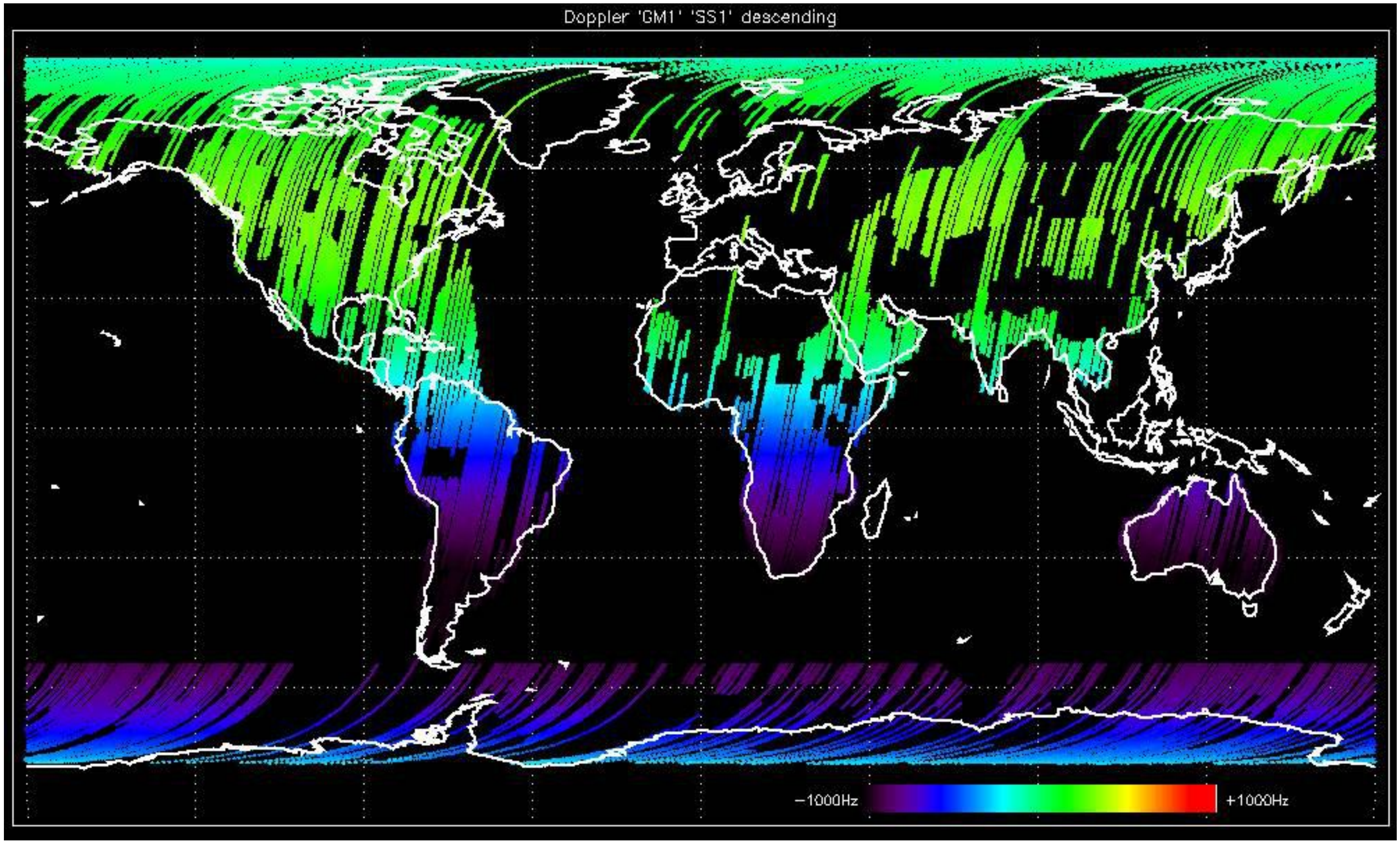

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

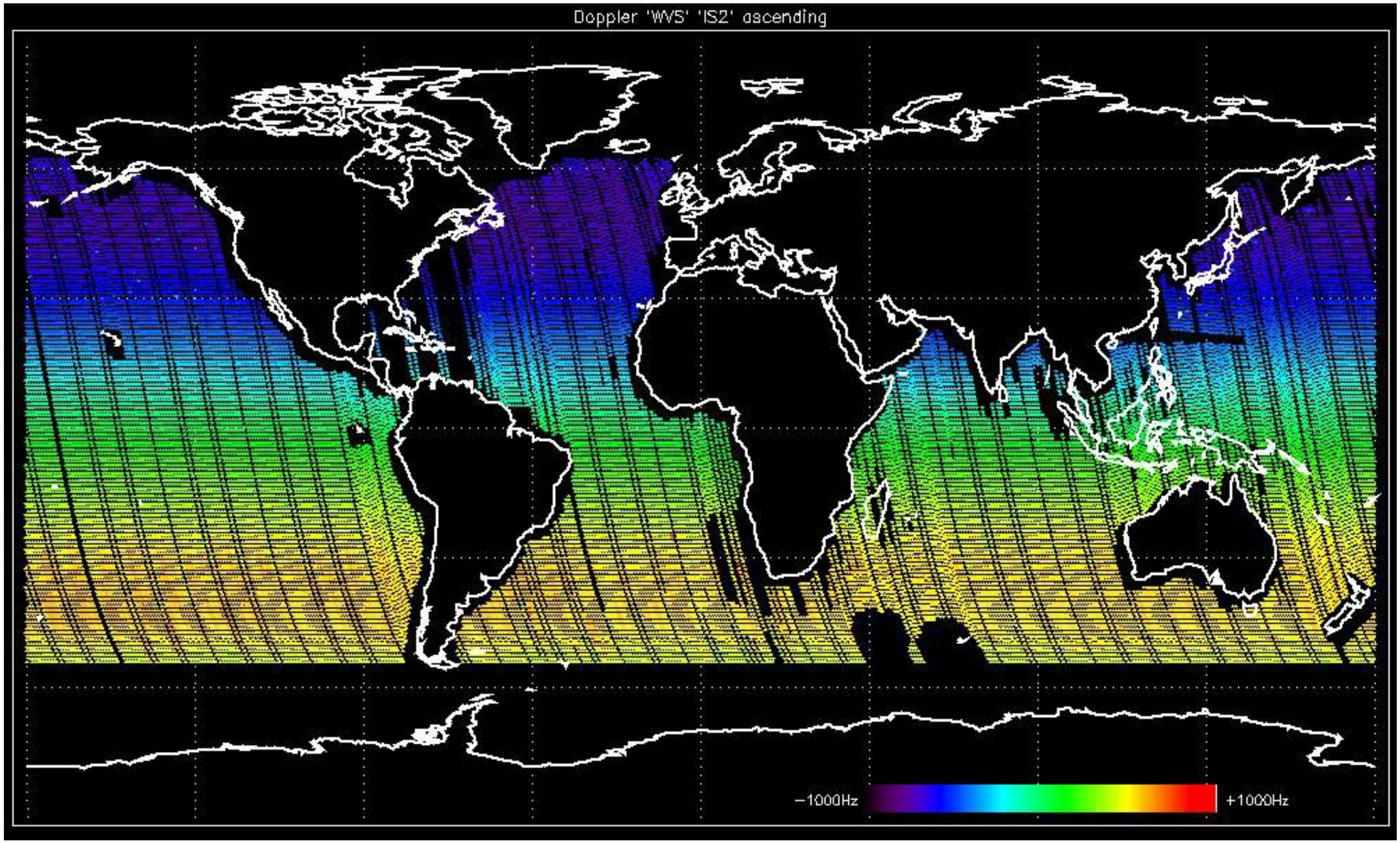

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

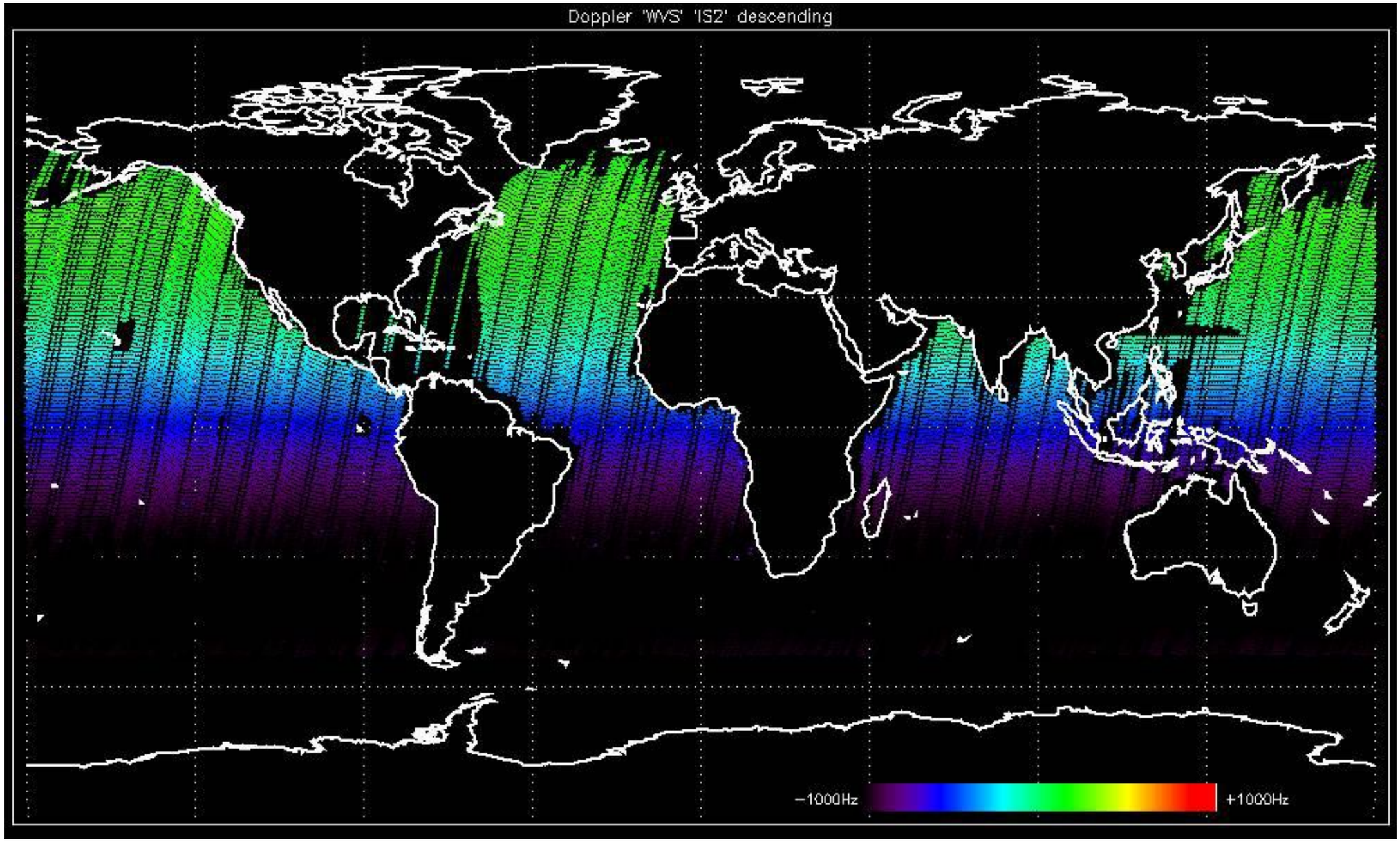
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

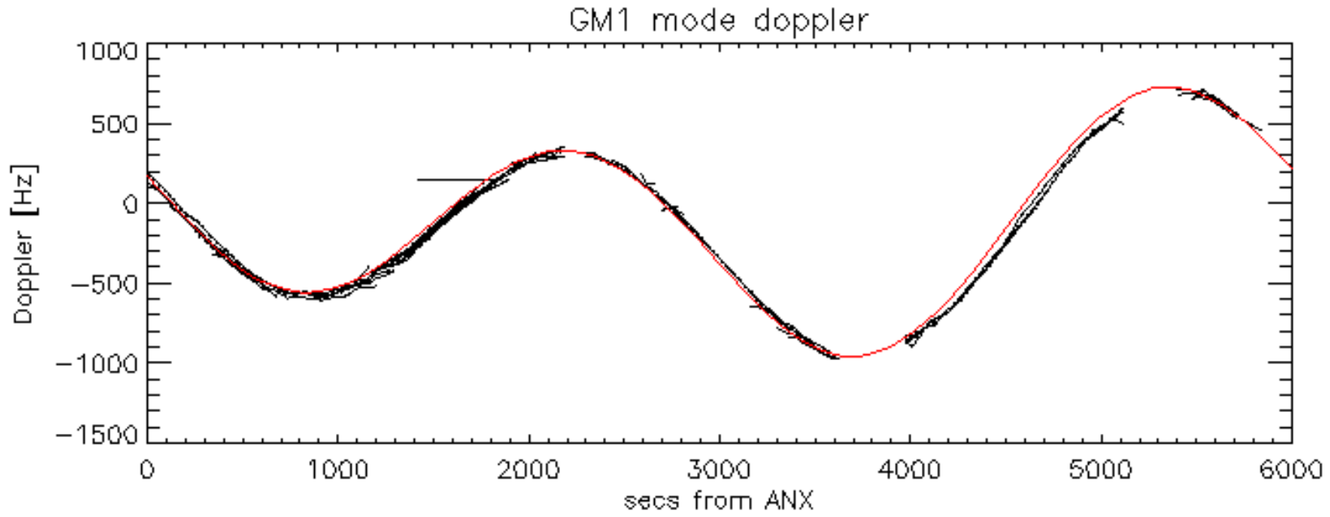
Preliminary report.The data is not yet controled

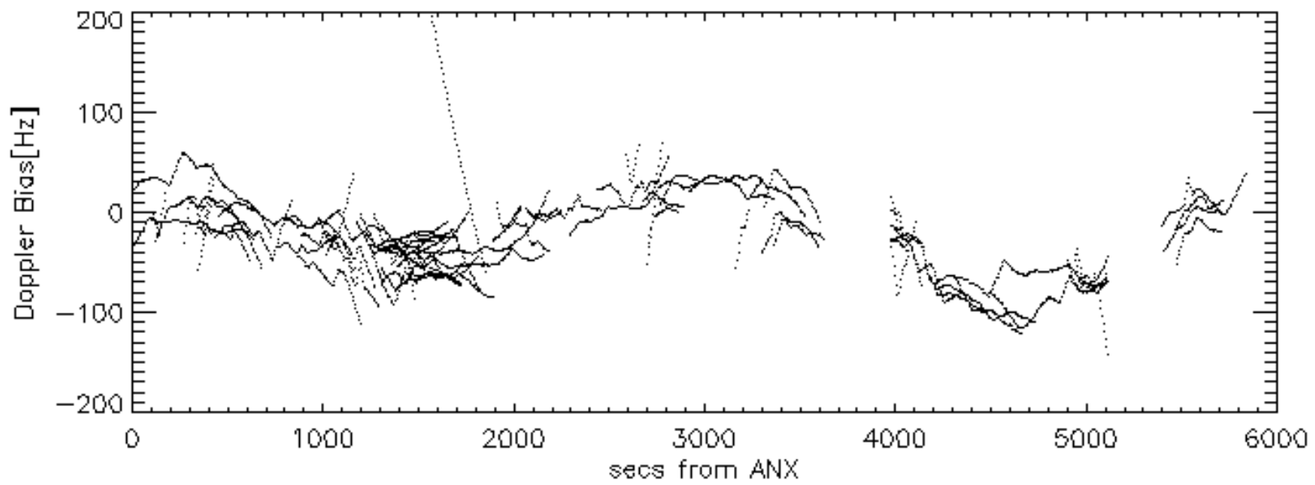

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

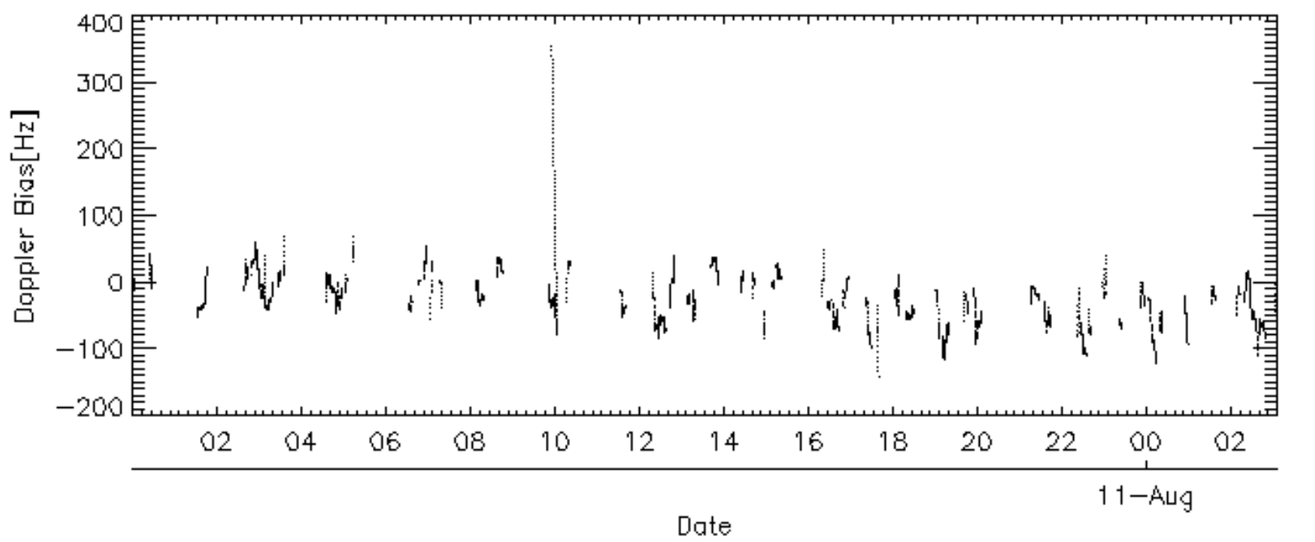

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

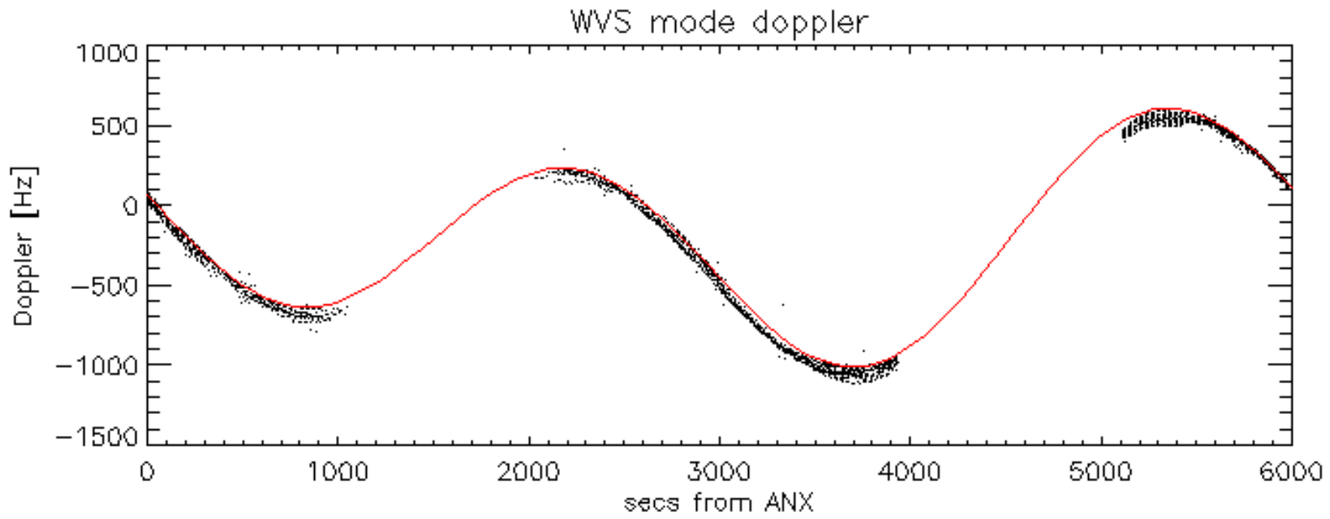

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

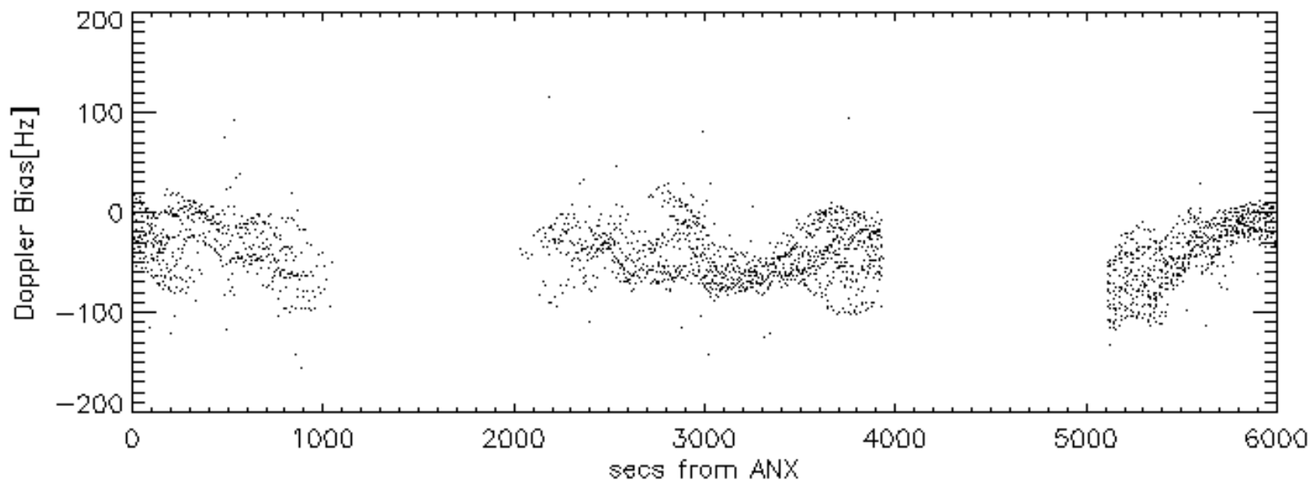

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

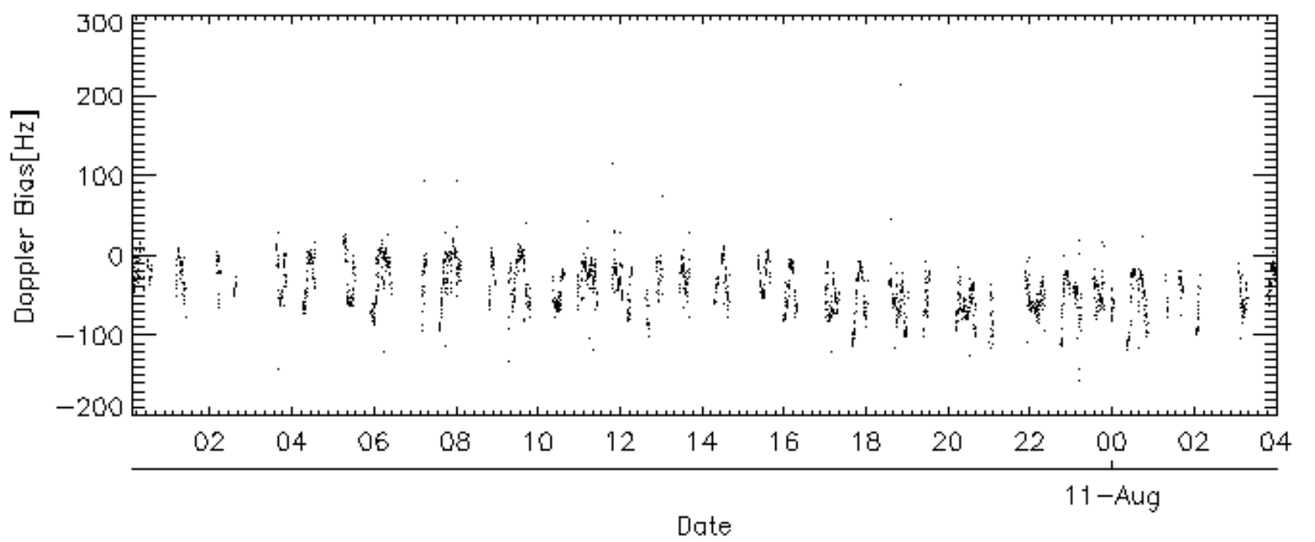

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

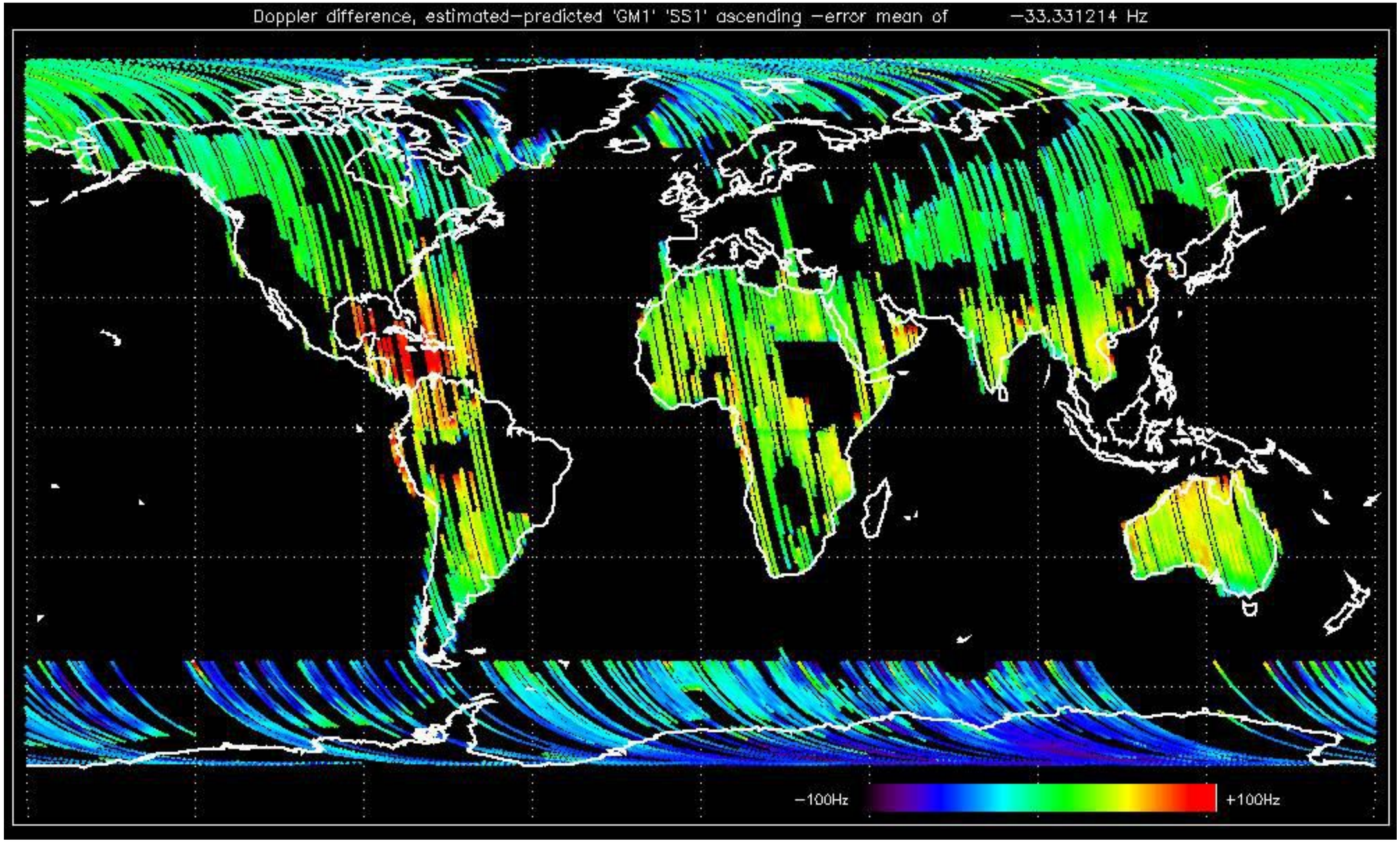

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

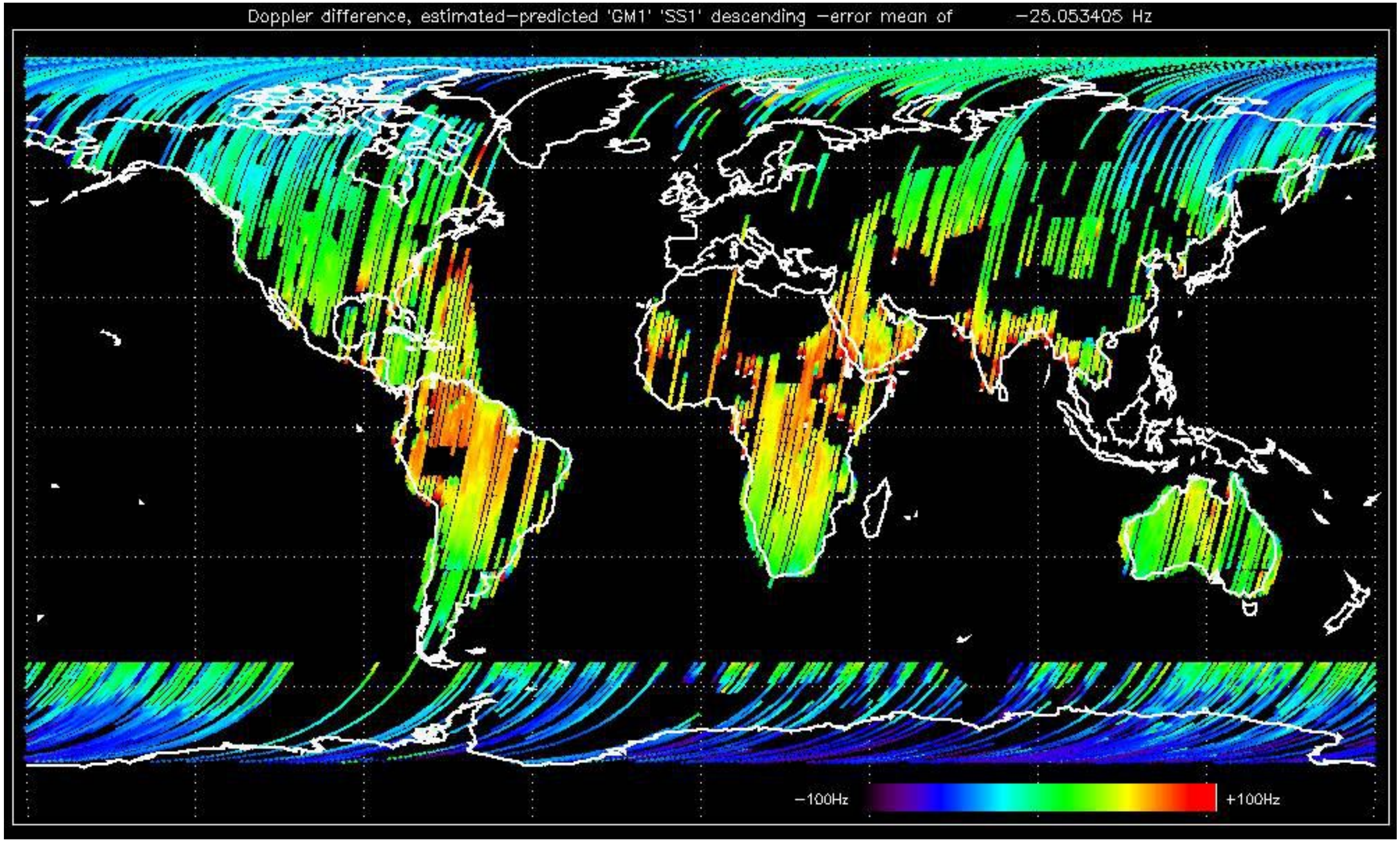

Doppler Bias[Hz]
400
300
200
100
0
−100
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
11−Aug
Date

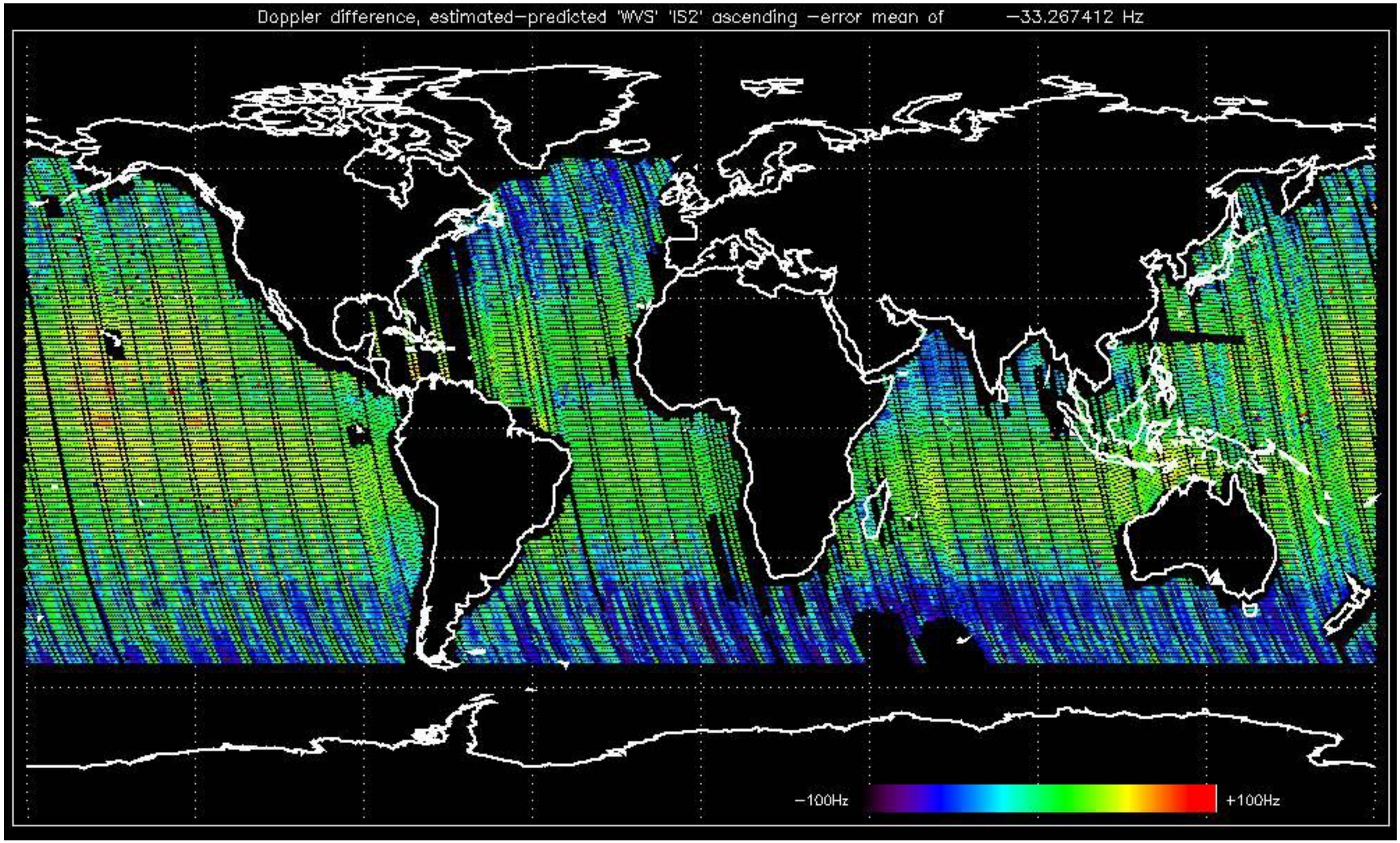

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

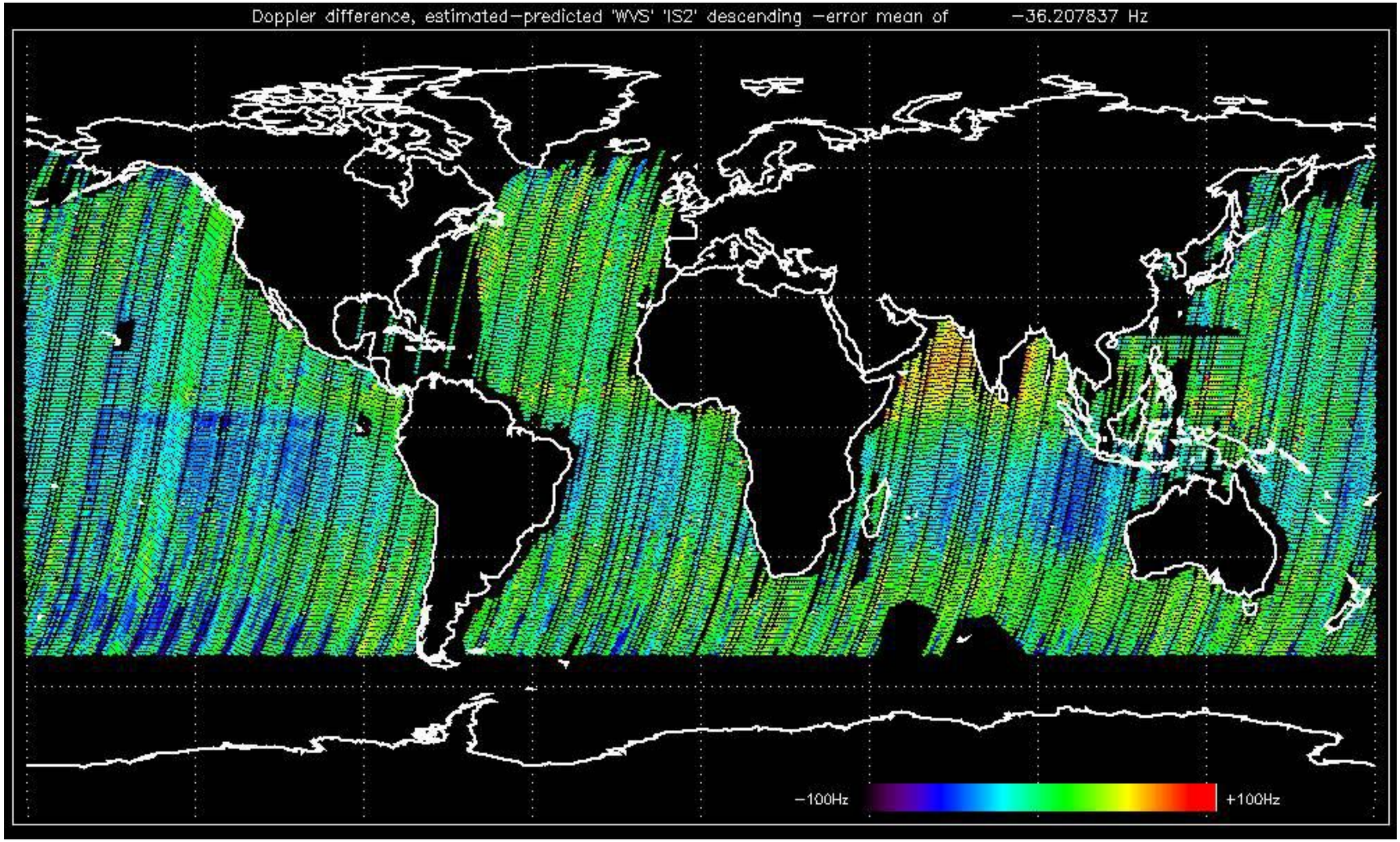

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −33.331214 Hz
−100Hz
+100Hz

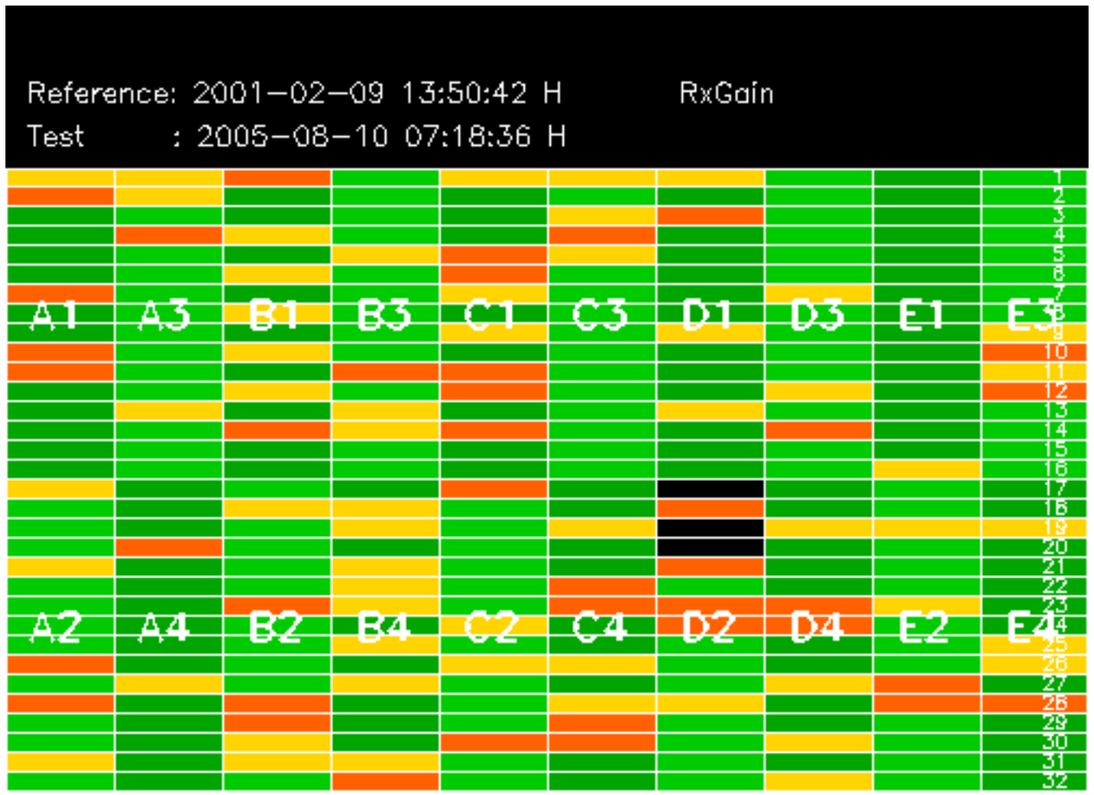

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −25.053405 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −33.267412 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −36.207837 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2005-08-10 07:18:36 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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27
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29
30
31
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Reference: 2003-06-12 14:08:52 H
Test : 2005-08-10 07:18:36 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
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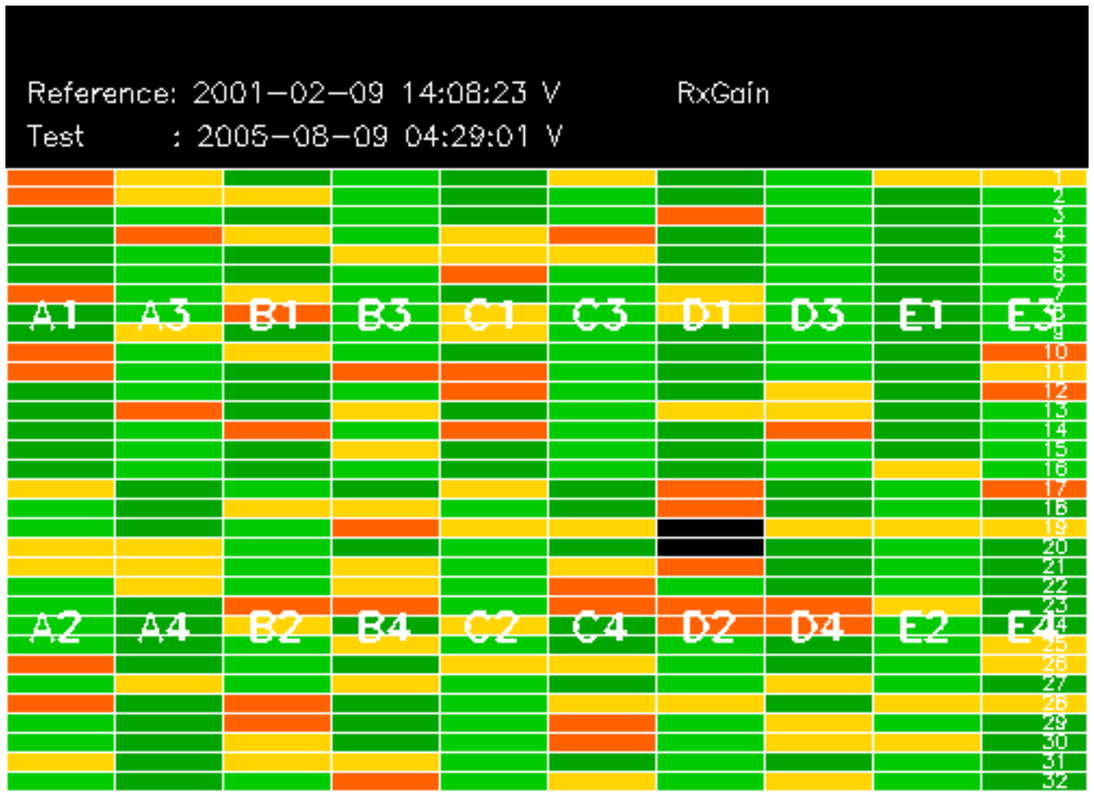
Reference: 2001-02-09 14:08:23 V
Test : 2005-08-09 04:29:01 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
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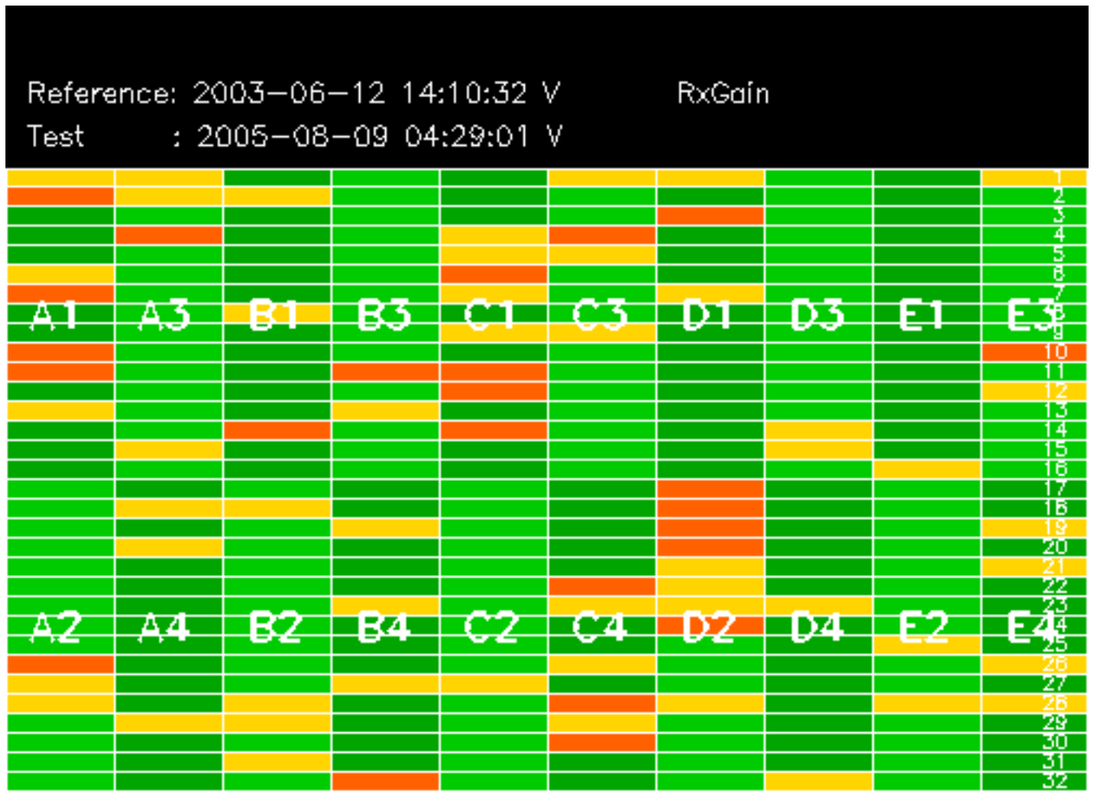
Reference: 2003-06-12 14:10:32 V
Test : 2005-08-09 04:29:01 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
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8
9
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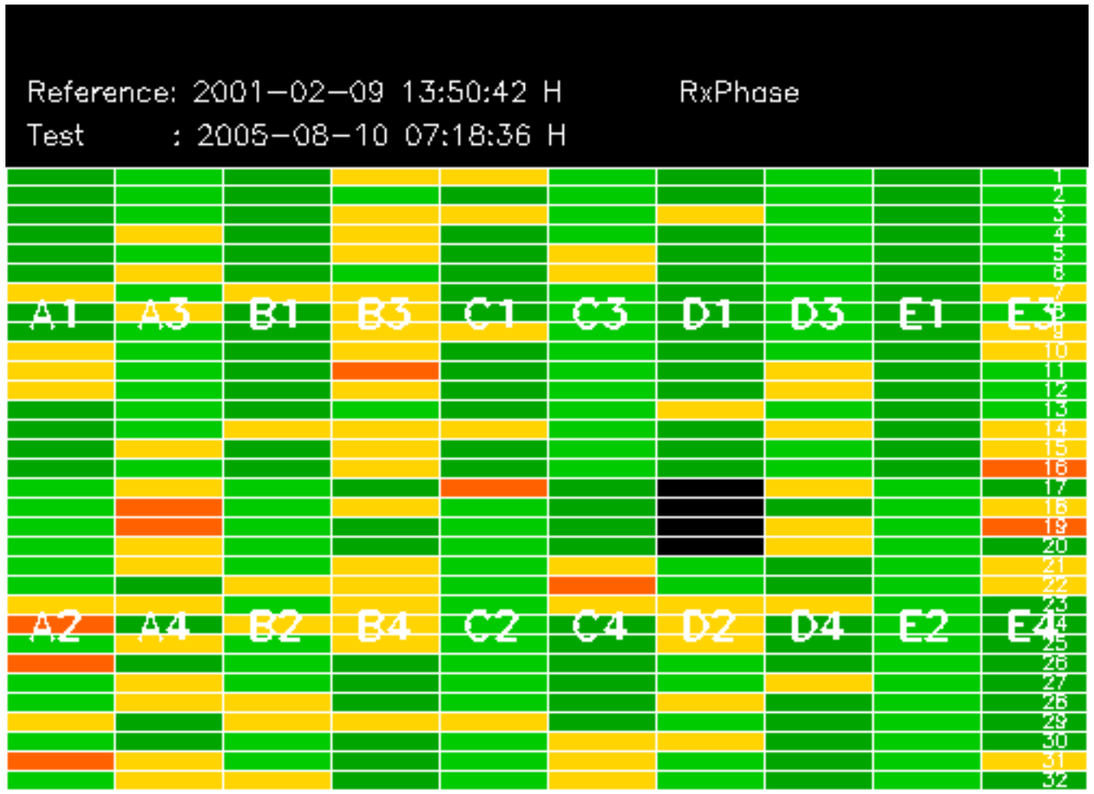
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-08-10 07:18:36 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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31
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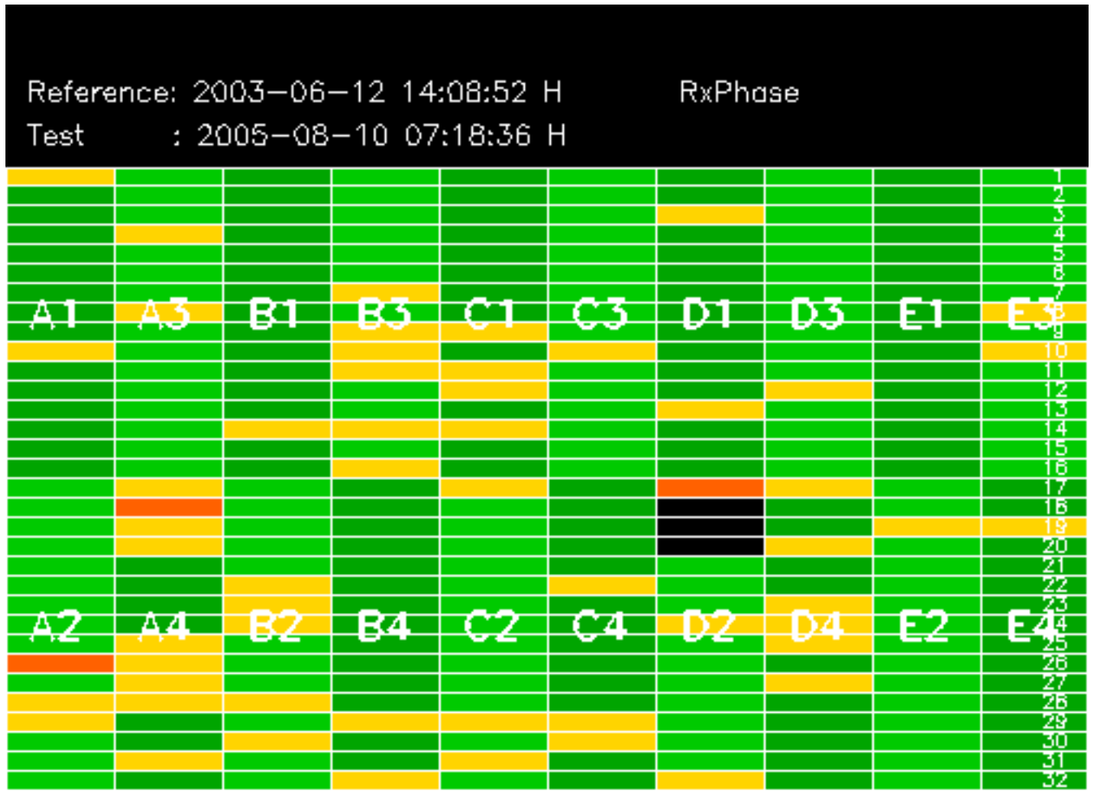
Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2005-08-10 07:18:36 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
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8
9
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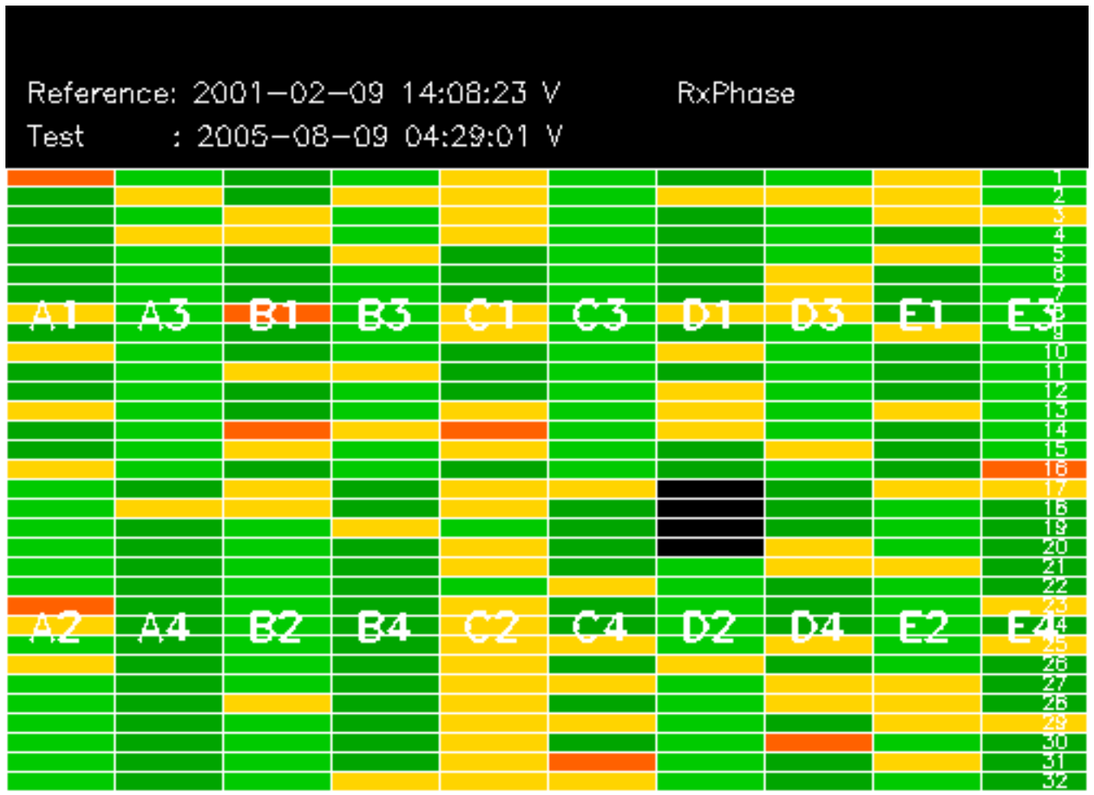
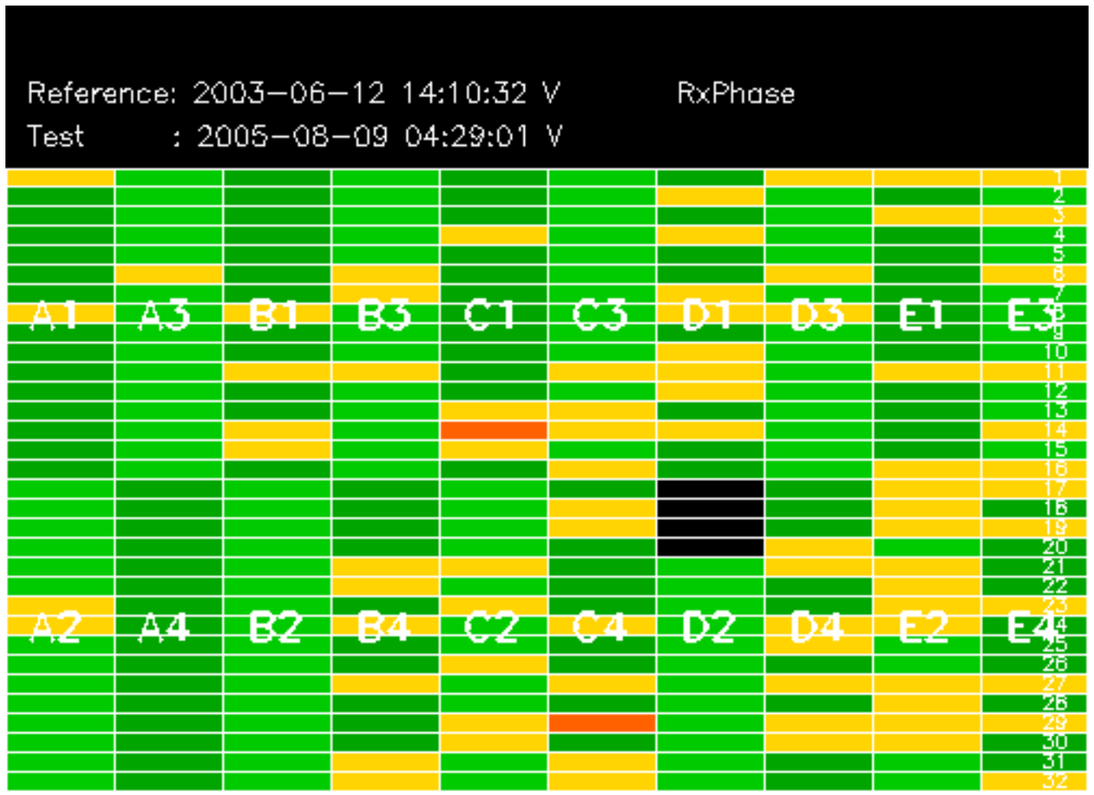
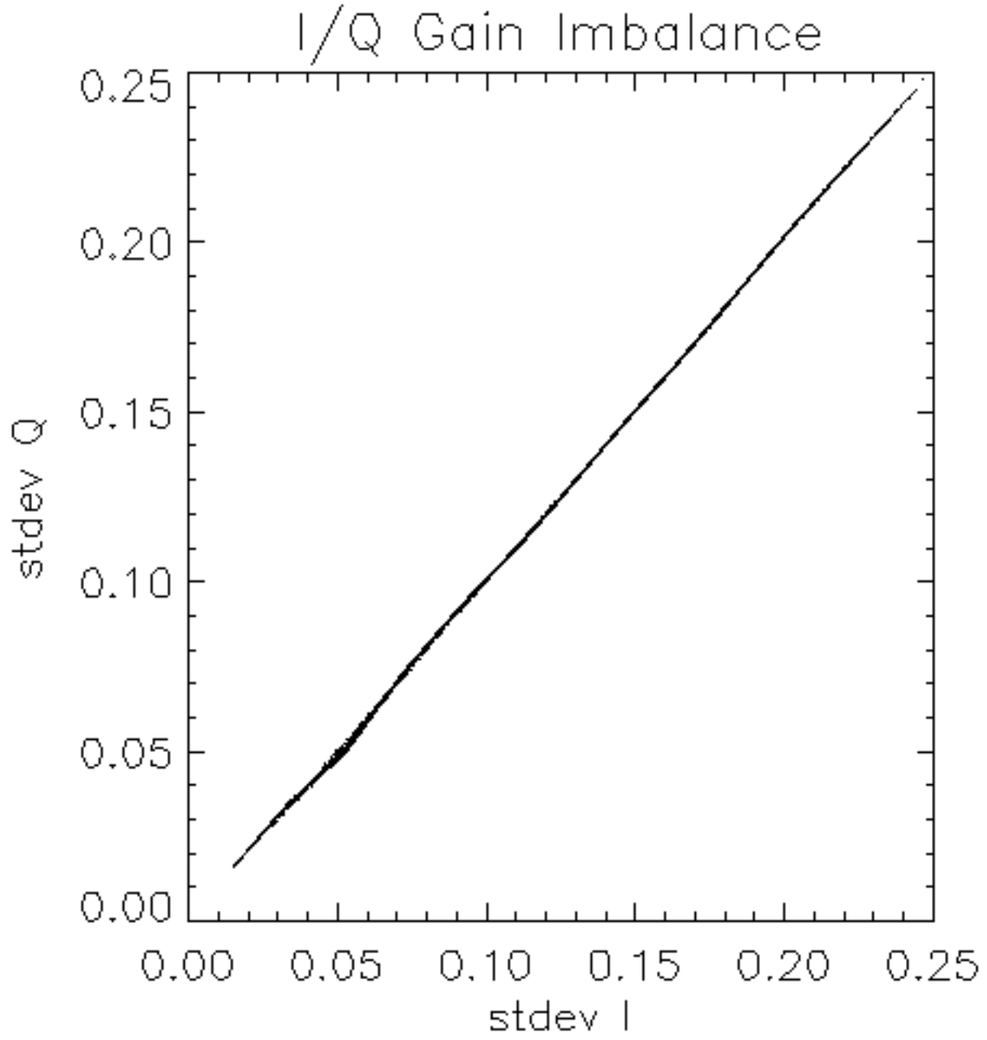
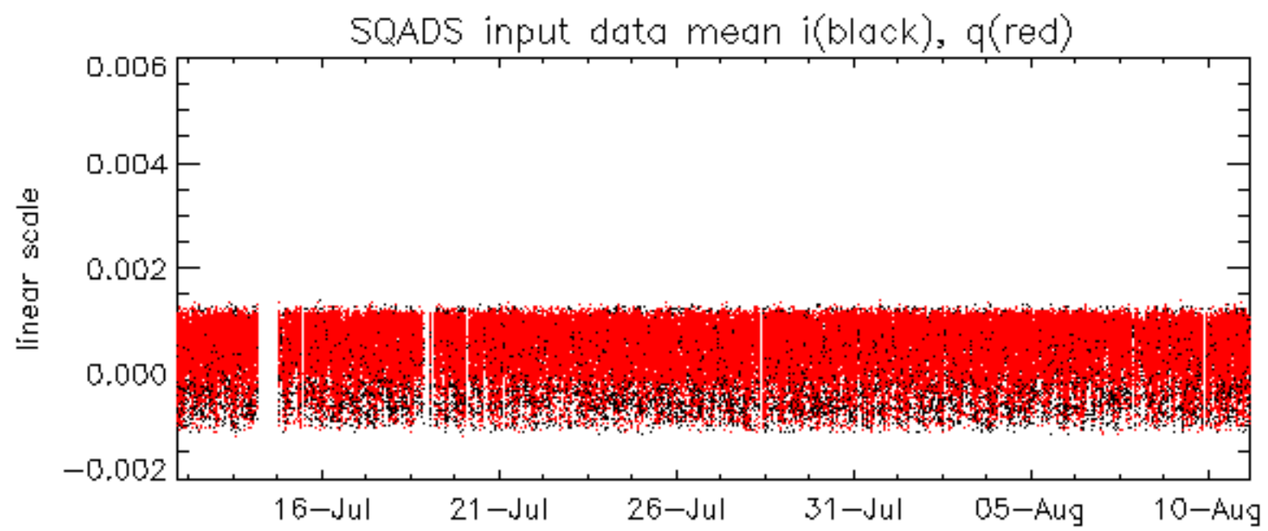
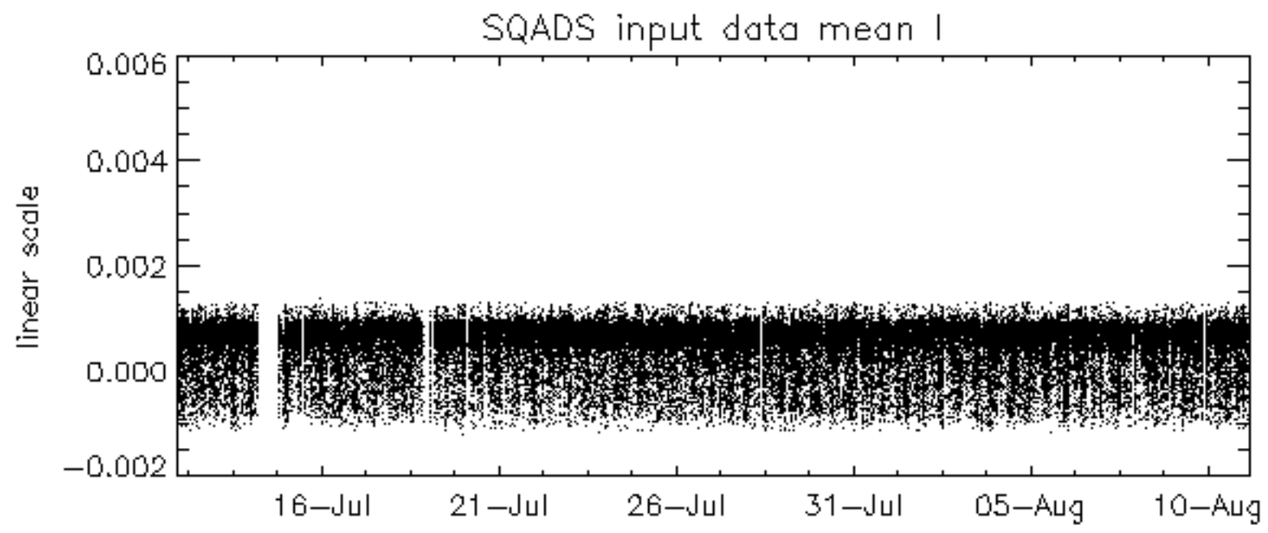
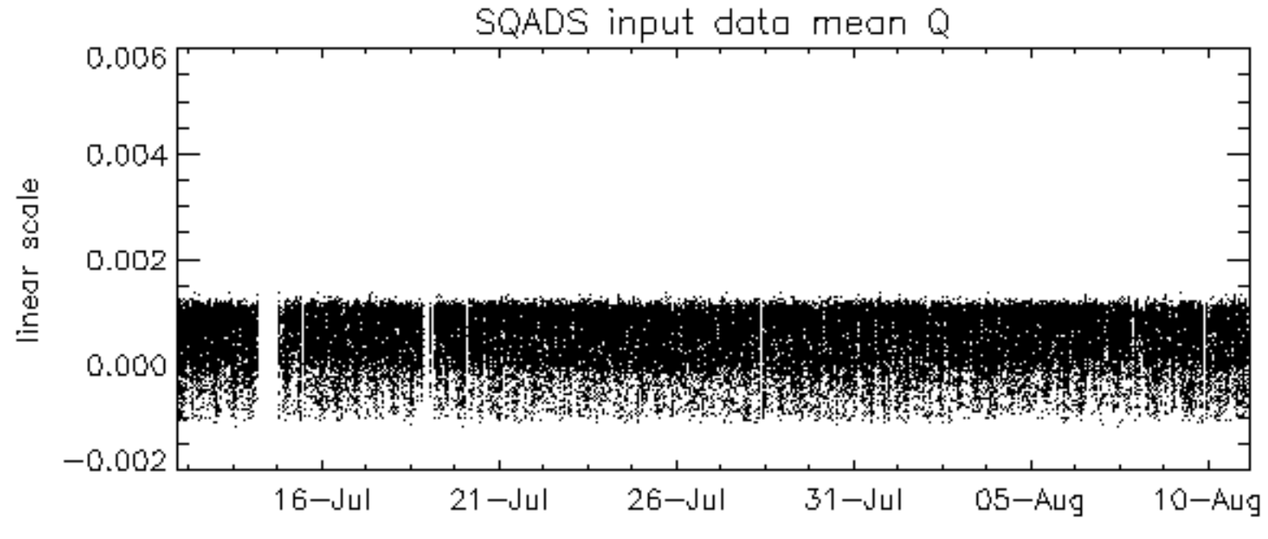

Reference: 2001-02-09 14:08:23 V
Test : 2005-08-09 04:29:01 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

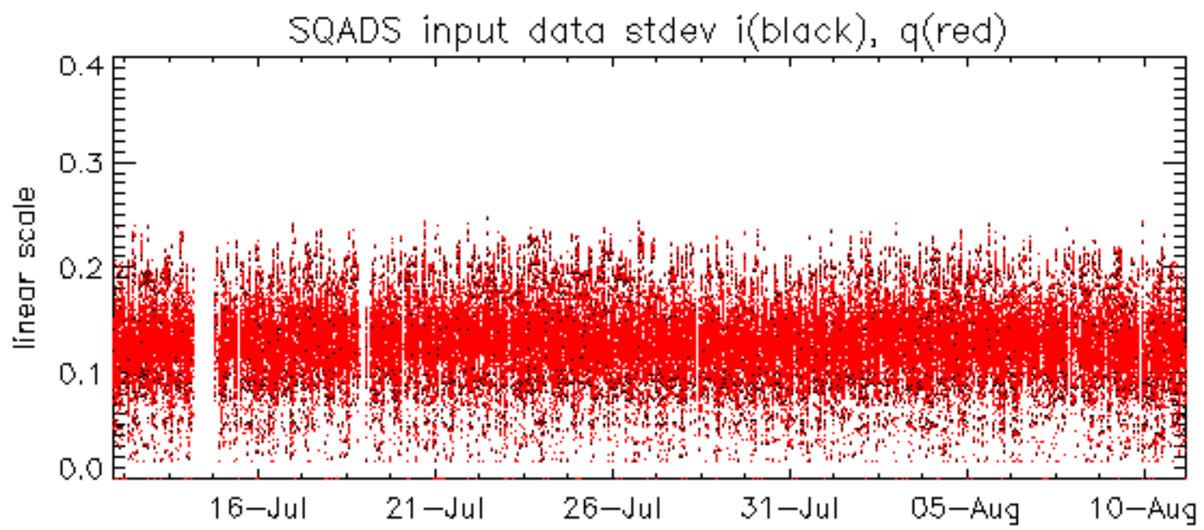

Reference: 2003-06-12 14:10:32 V
Test : 2005-08-09 04:29:01 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

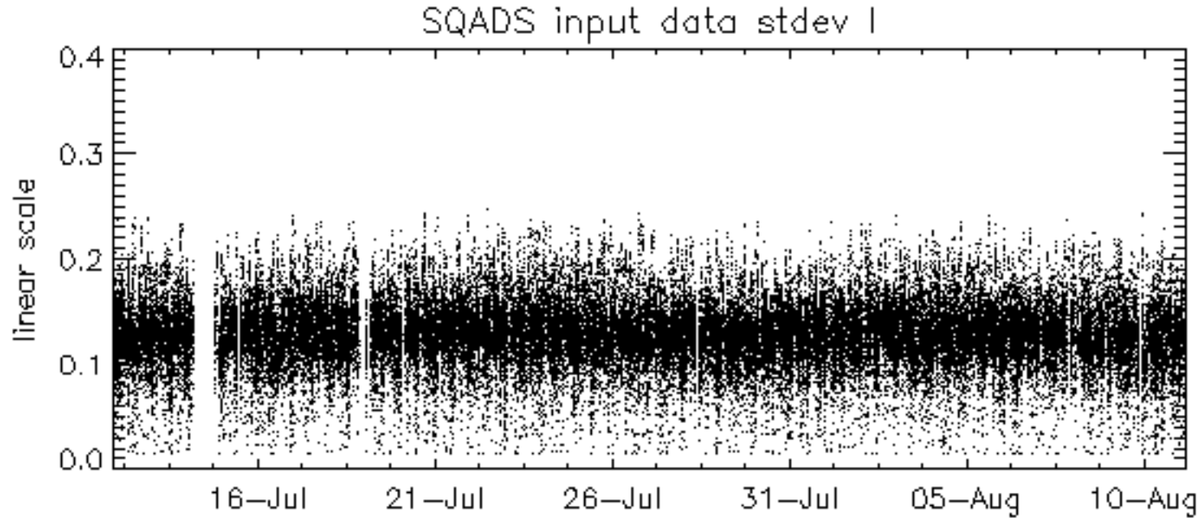

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

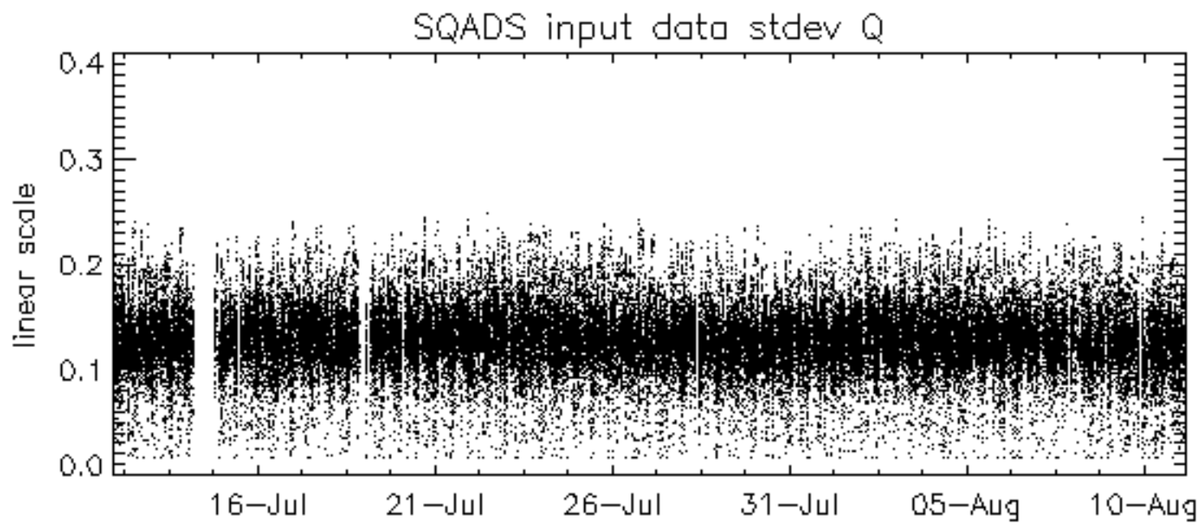

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug

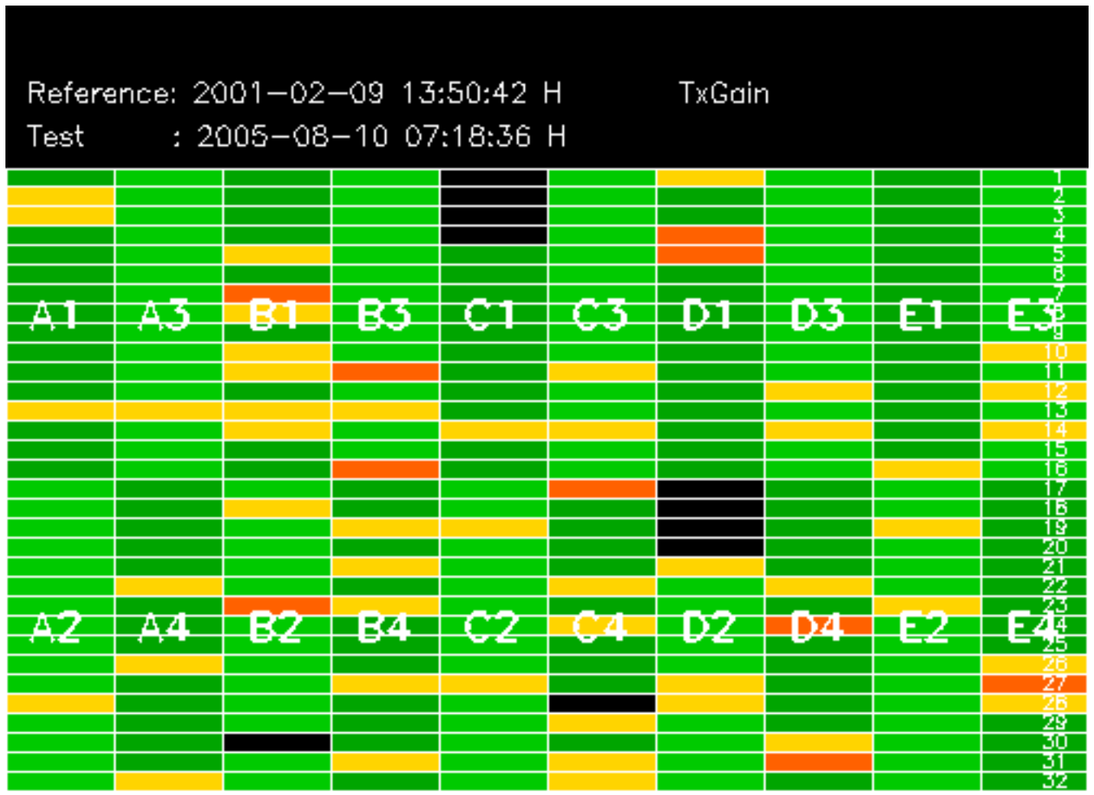

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug


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


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


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
16–Jul
21–Jul
26–Jul
31–Jul
05–Aug
10–Aug


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
16–Jul
21–Jul
26–Jul
31–Jul
05–Aug
10–Aug


Reference: 2001-02-09 13:50:42 H
Test : 2005-08-10 07:18:36 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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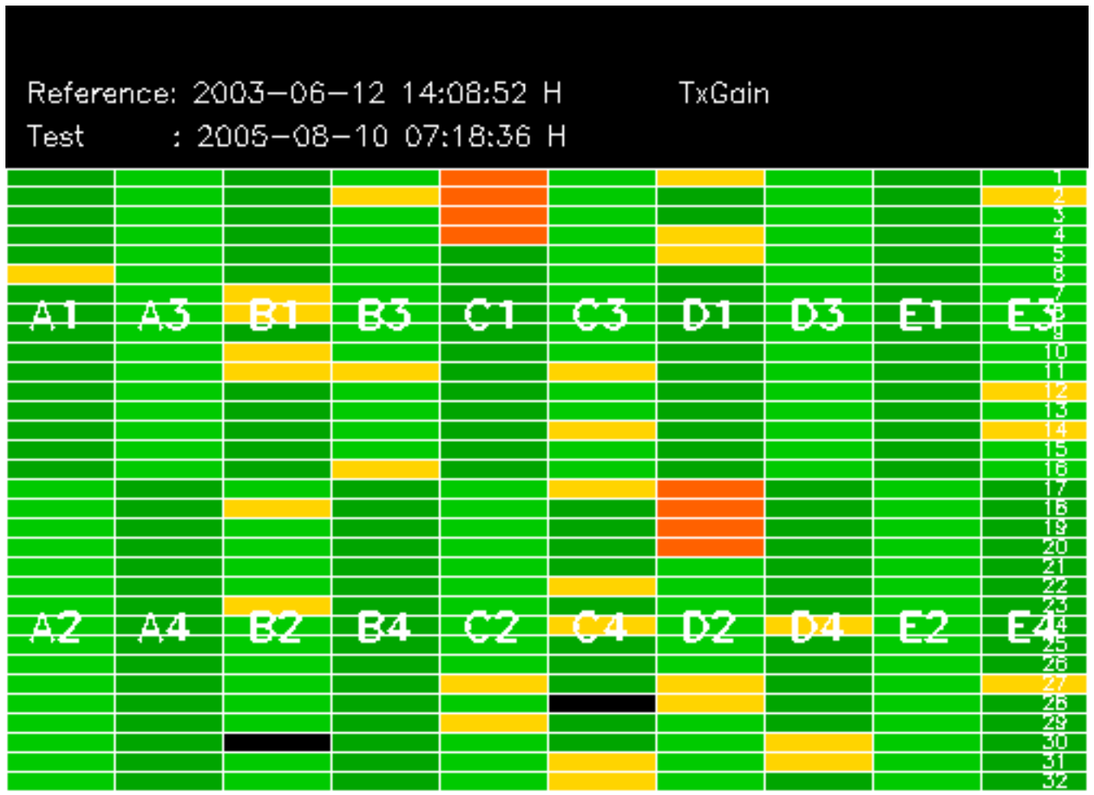
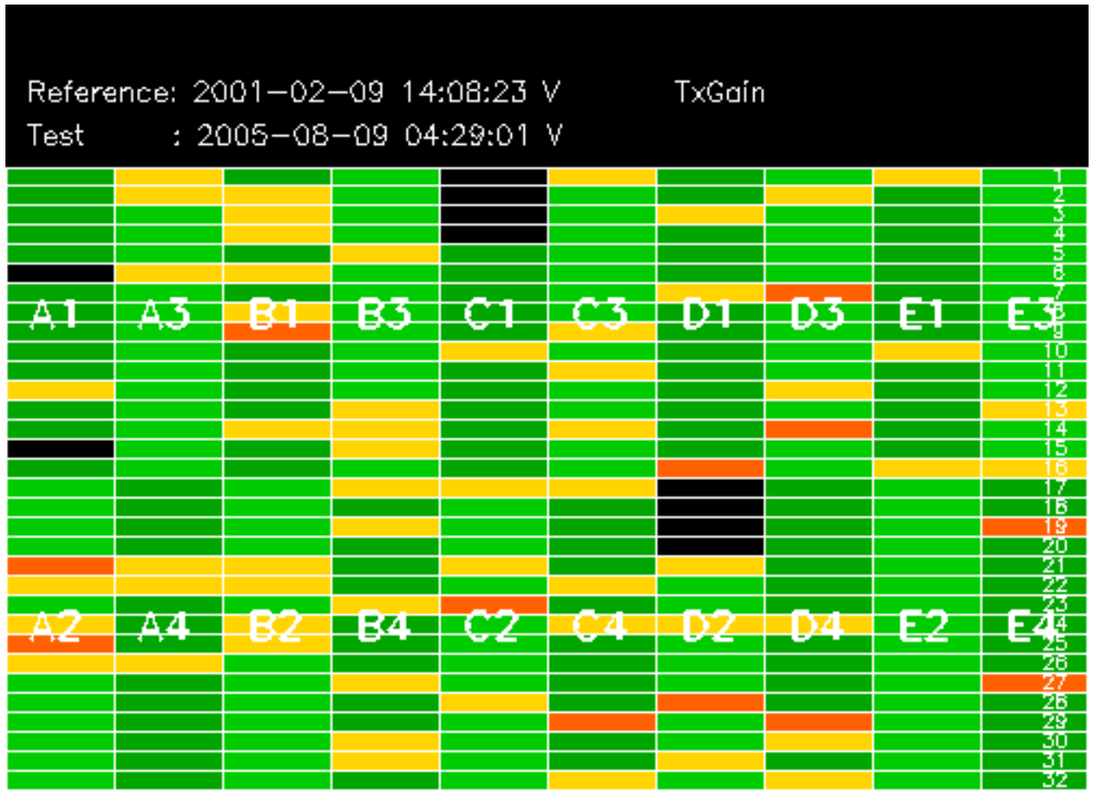
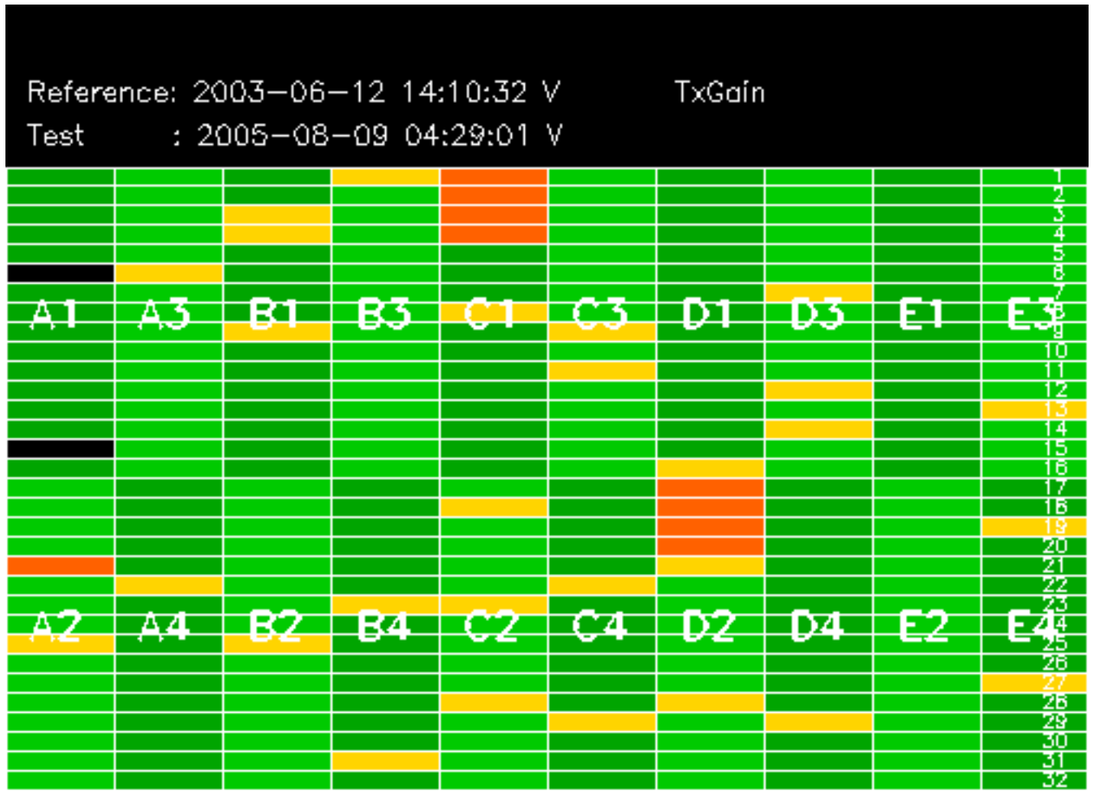

Reference: 2003-06-12 14:08:52 H
Test : 2005-08-10 07:18:36 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2005-08-09 04:29:01 V
TxGain
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 : 2005-08-09 04:29:01 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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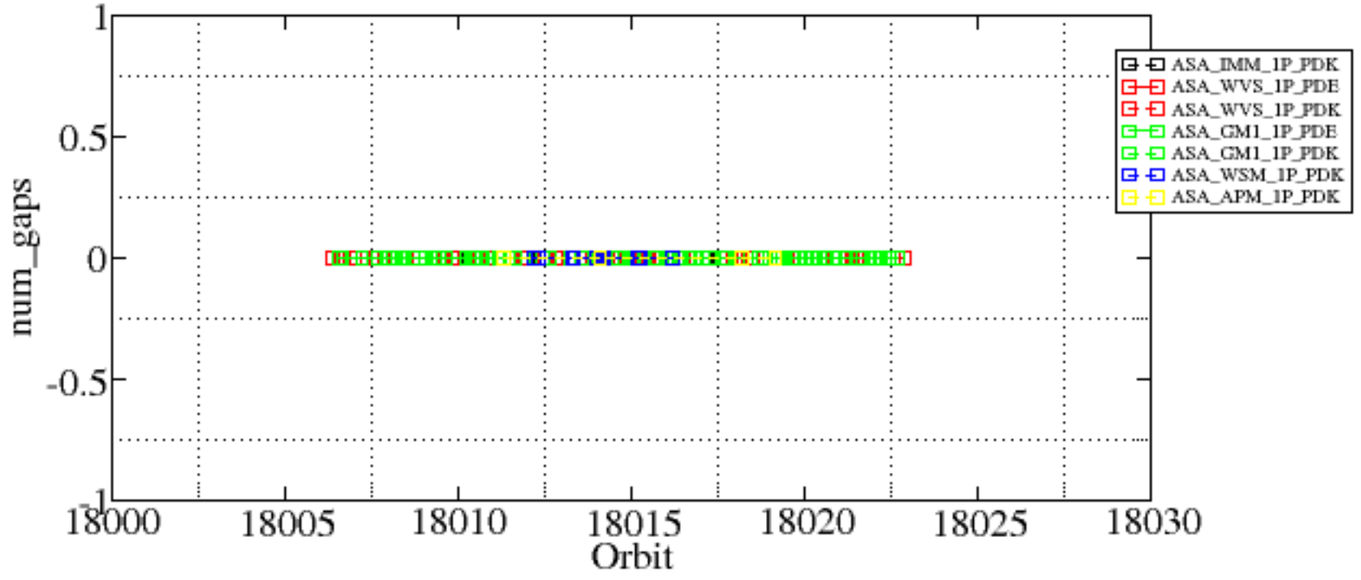
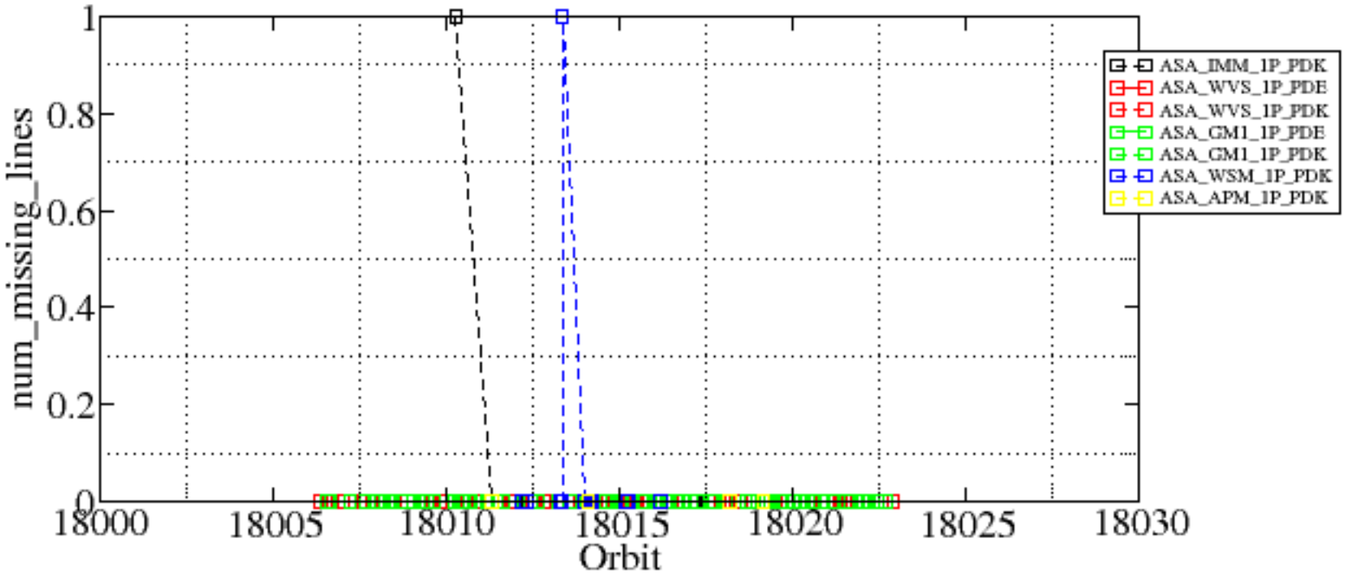
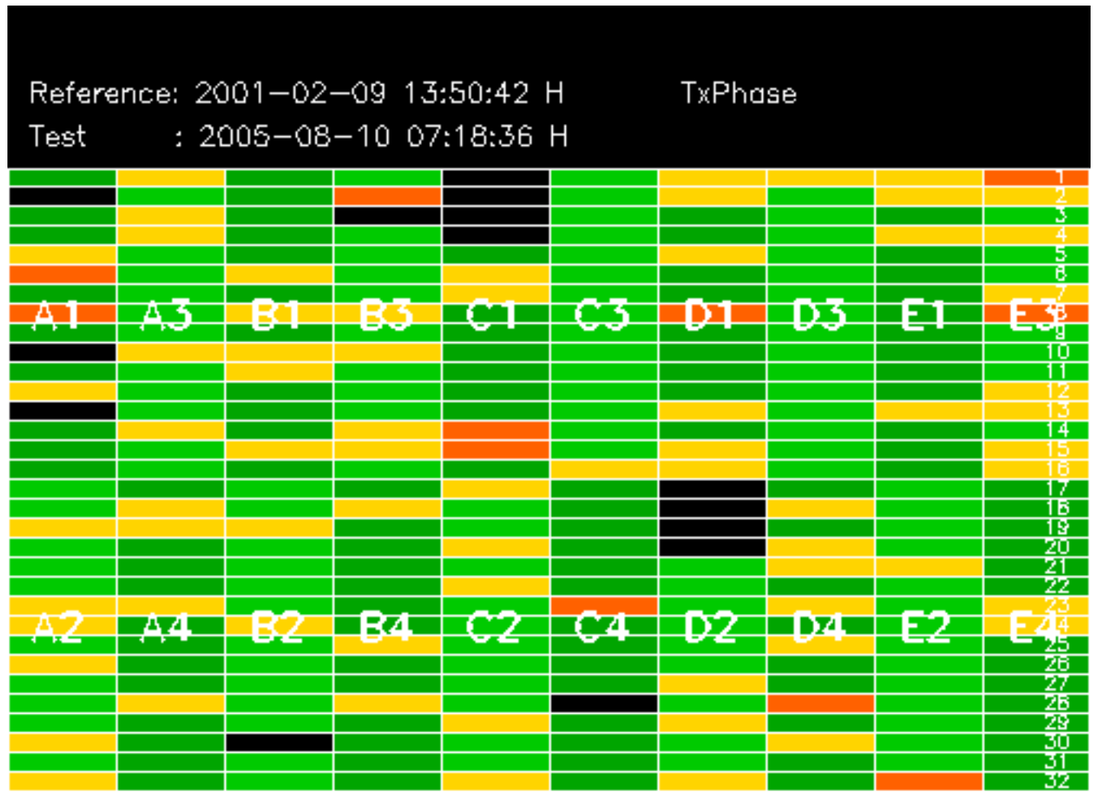
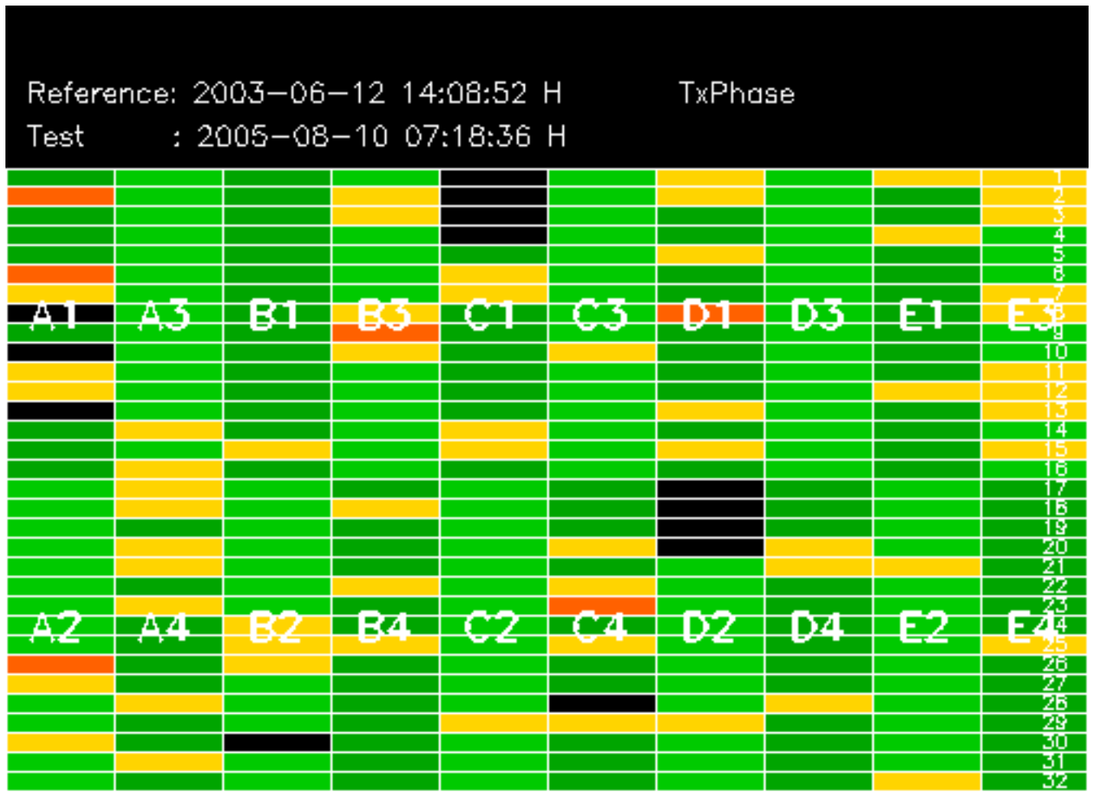
32

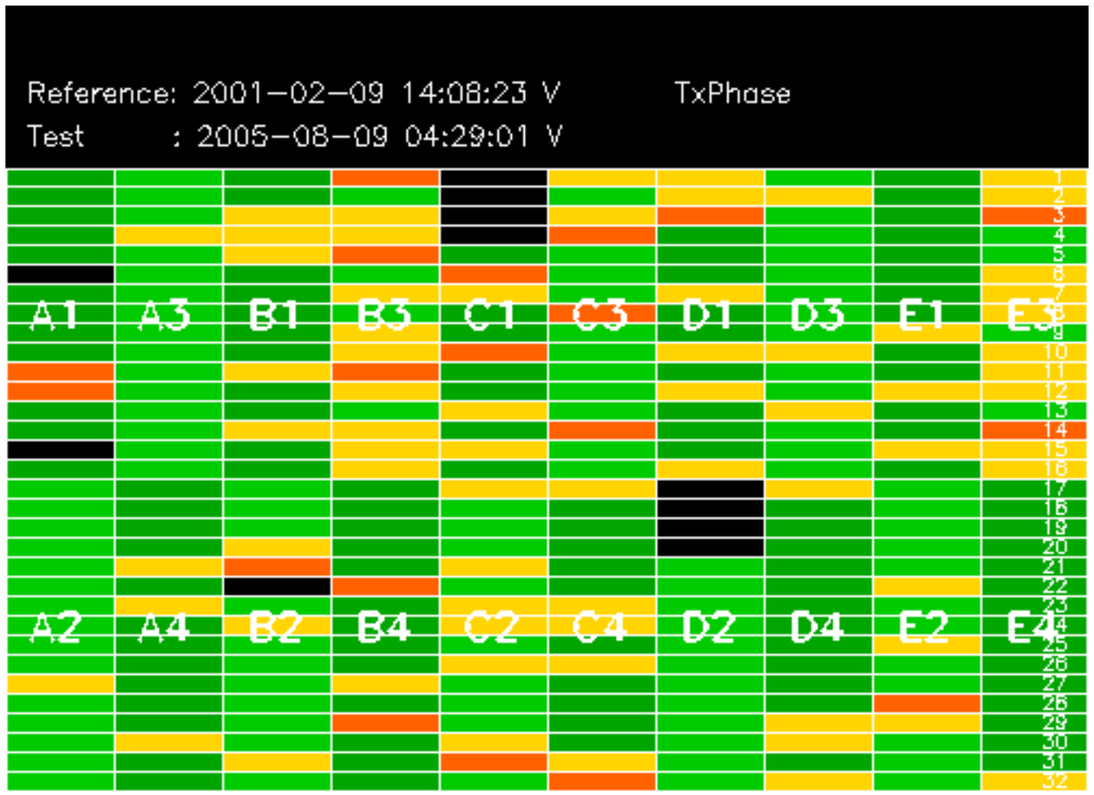
Summary of analysis for the last 3 days 2005081[901]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_IMM_1PNPDK20050810_063721_000004612039_00421_18010_1358.N1 </td> <td>0 </td> <td>1 </td></tr>
<tr> <td>ASA_WSM_1PNPDK20050810_114804_000000482039_00424_18013_1644.N1 </td> <td>0 </td> <td>1 </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
18000
18005
18010
18015
18020
18025
18030
Orbit
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDK
ASA_APM_1P_PDK


num_missing_lines
1
0.8
0.6
0.4
0.2
0
18000
18005
18010
18015
18020
18025
18030
Orbit
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDK
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
Test : 2005-08-10 07:18:36 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2005-08-10 07:18:36 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 : 2005-08-09 04:29:01 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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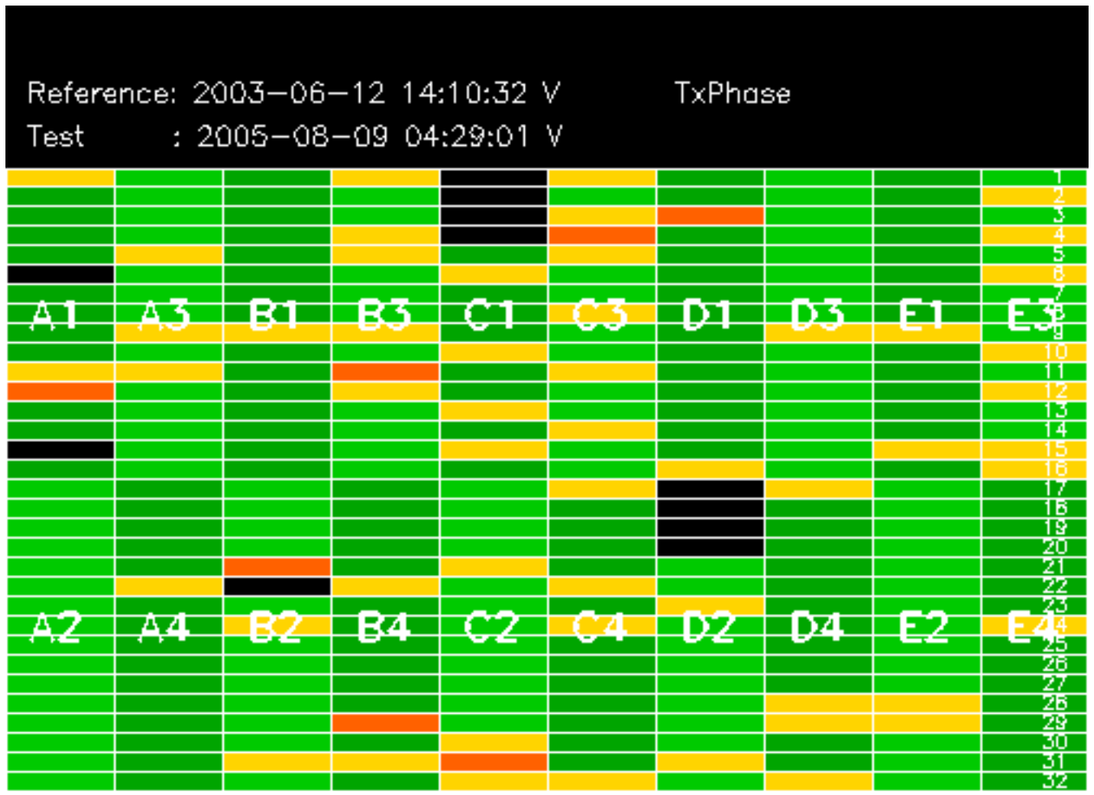
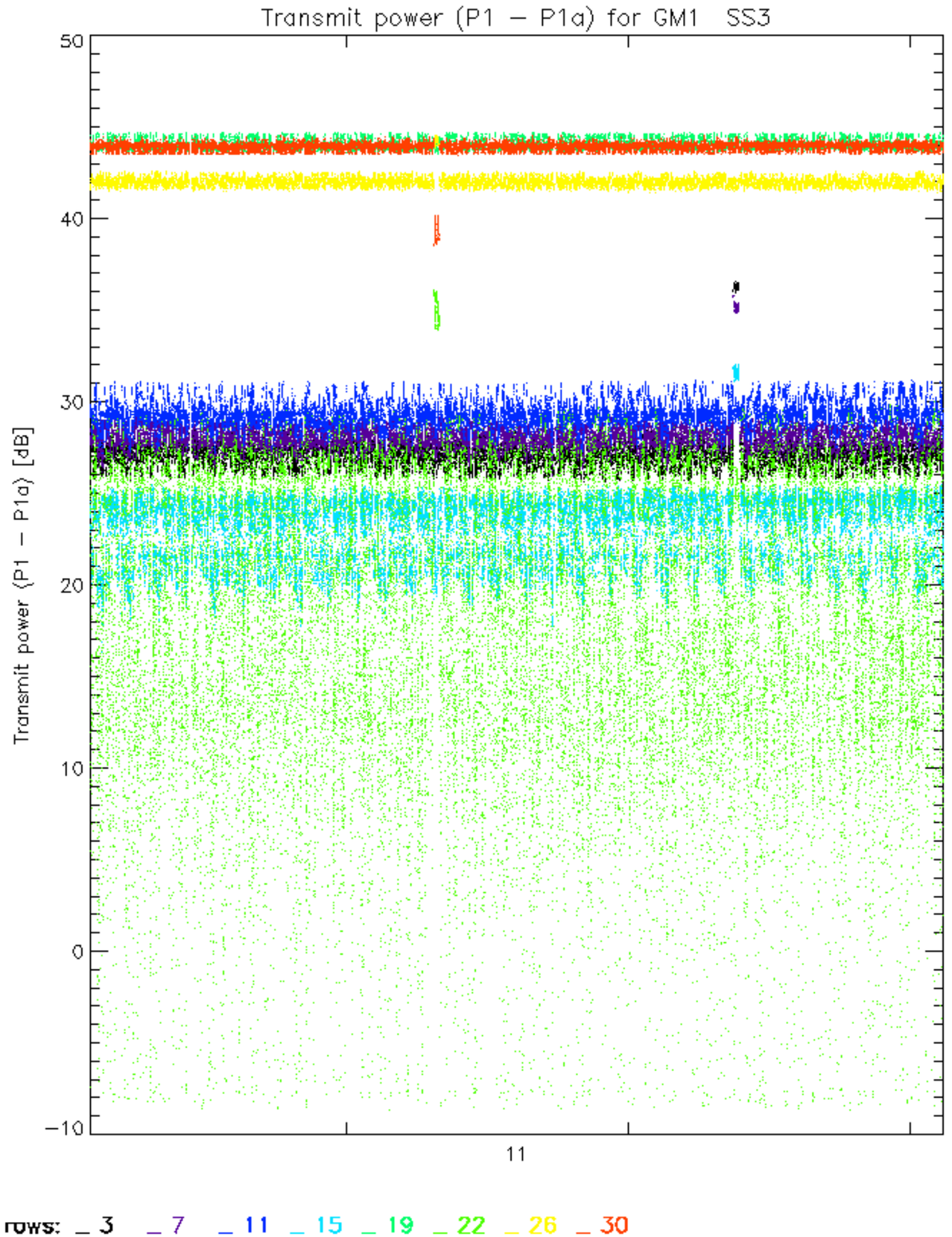
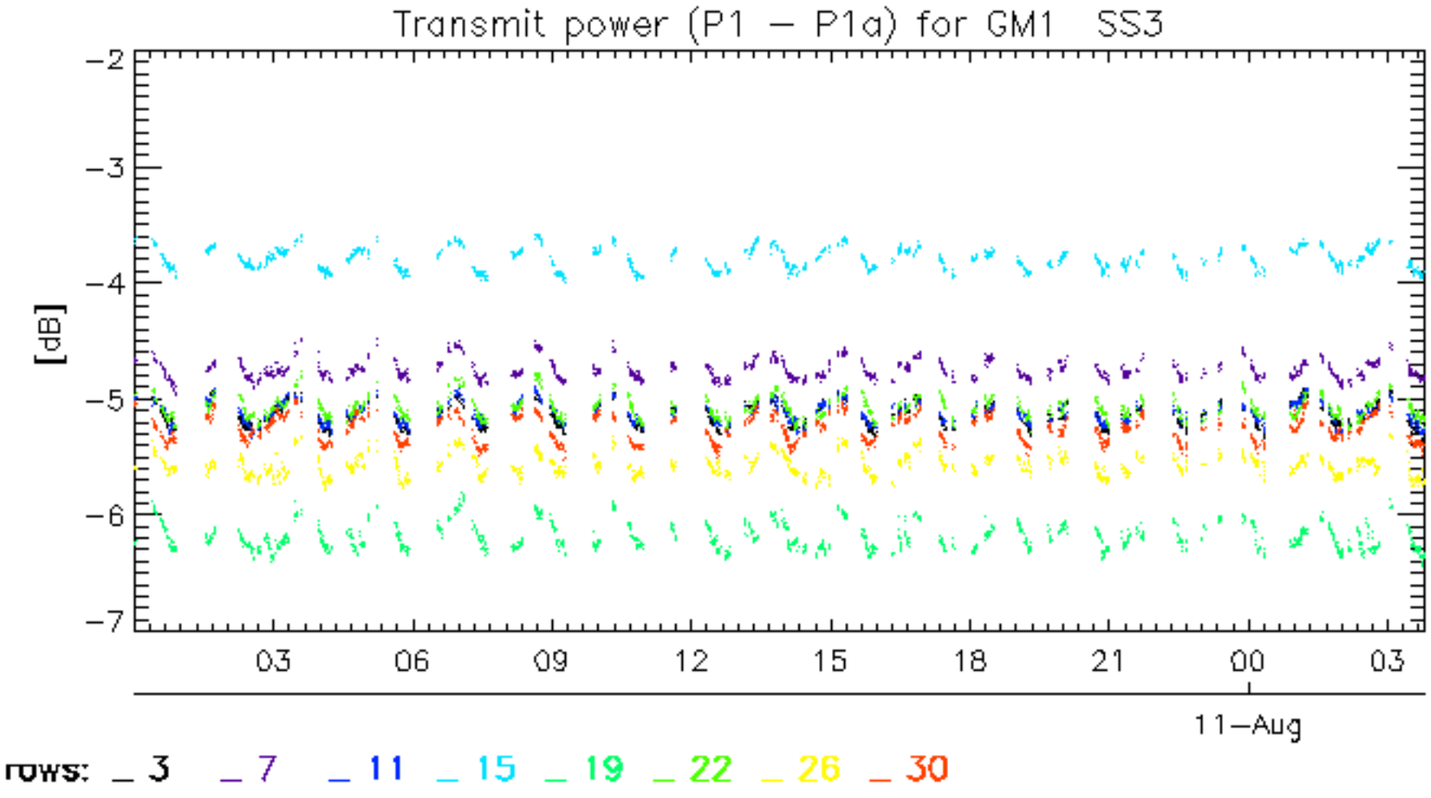
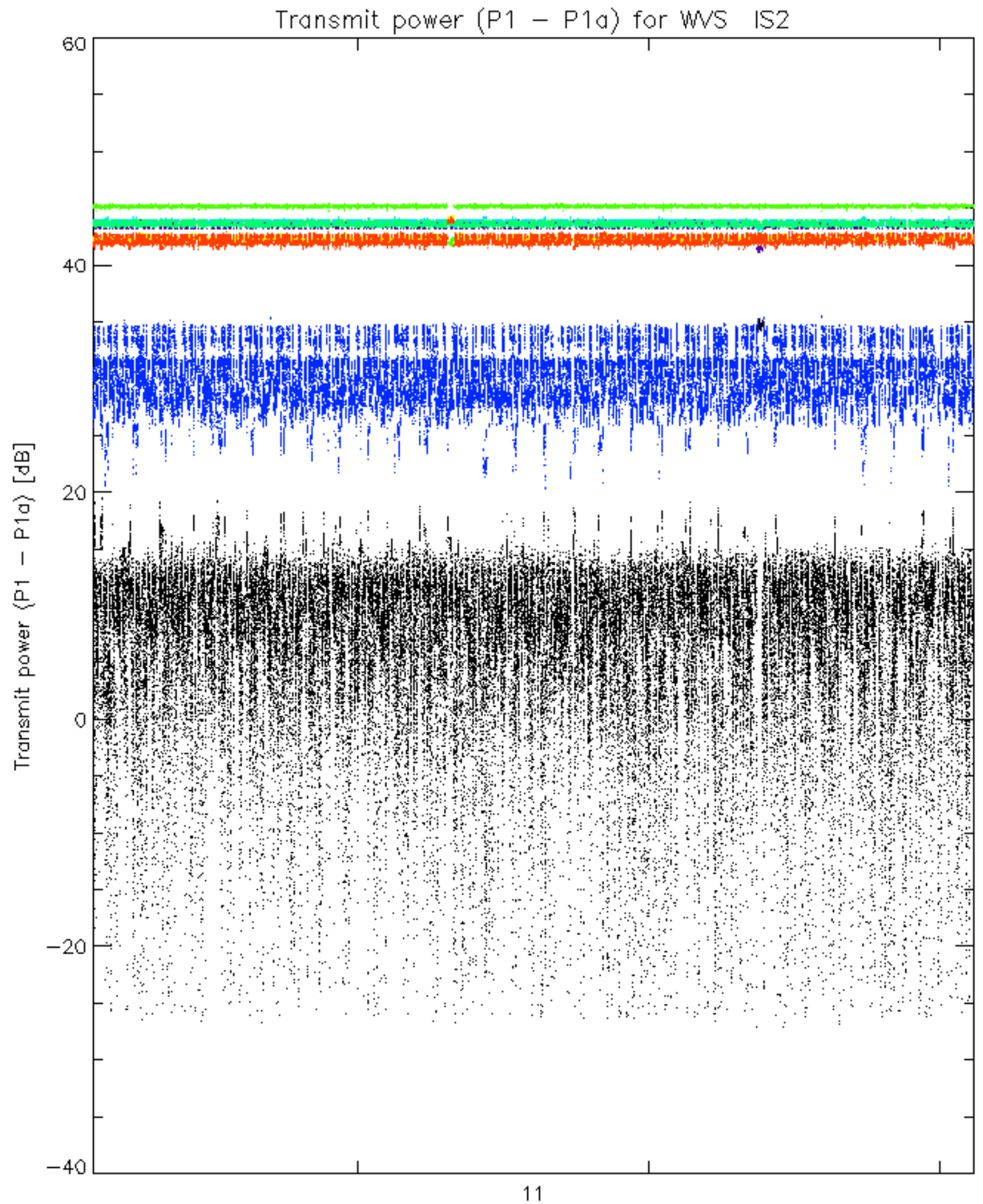
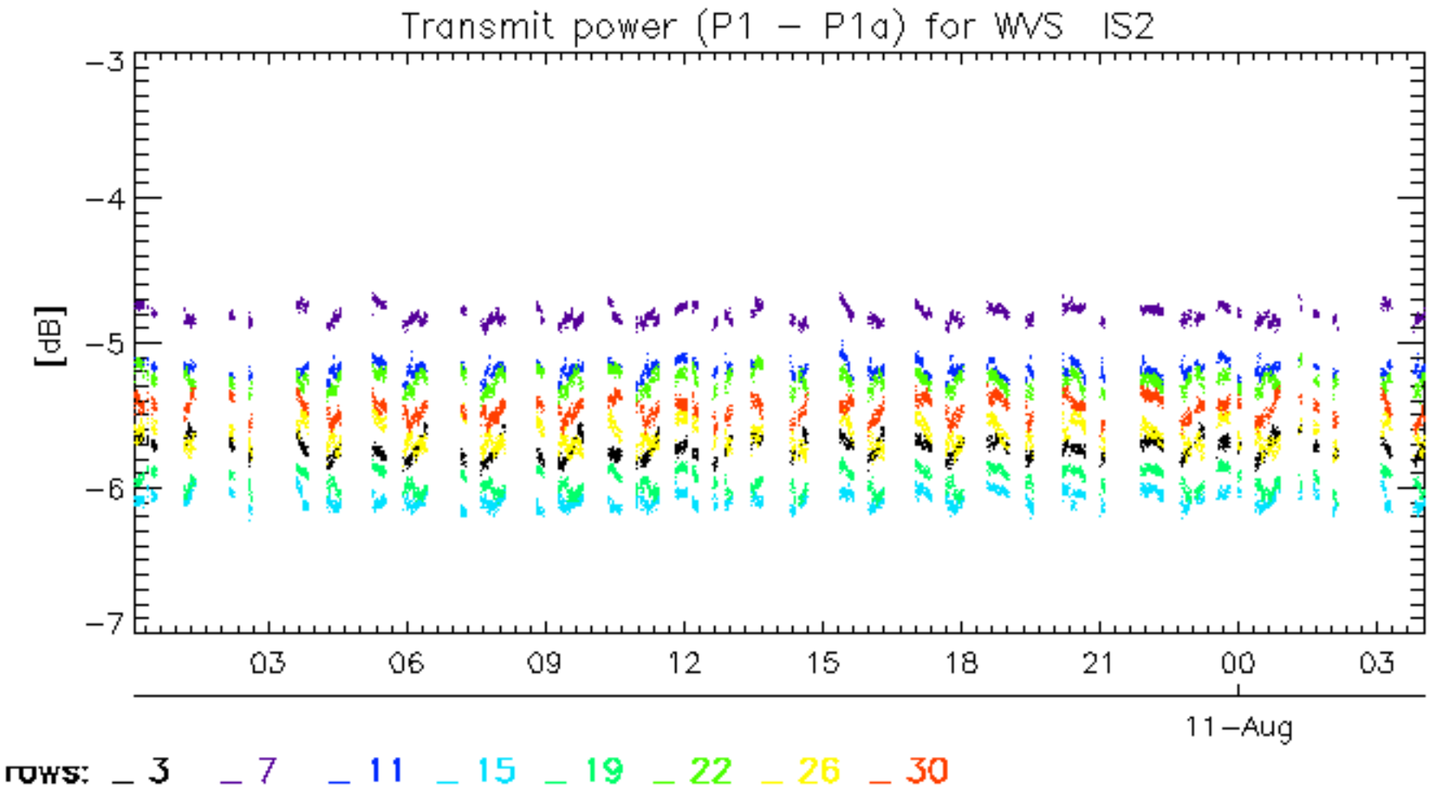

Reference: 2003-06-12 14:10:32 V
Test : 2005-08-09 04:29:01 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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


Transmit power (P1 – P1a) for GM1 SS3
[dB]
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
11–Aug
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Transmit power (P1 – P1a) for WVS IS2
60
40
20
0
−20
−40
Transmit power (P1 – P1a) [dB]
11
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
[dB]
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
11–Aug
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

No unavailabilities during the reported period.