PRELIMINARY REPORT OF 050815

last update on Mon Aug 15 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 2005-08-14 00:00:00 to 2005-08-15 10:50:01

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

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	27	50	13	4	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	27	50	13	4	0
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	27	50	13	4	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	27	50	13	4	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	37	38	27	6	28
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	37	38	27	6	28
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	37	38	27	6	28
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	37	38	27	6	28

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	20050813 204908
H	20050814 183655

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	-3.317164	0.025778	0.002034
7	P1	-3.158779	0.026592	-0.061627
11	P1	-4.712266	0.033182	-0.031740
15	P1	-5.593302	0.051057	-0.069046
19	P1	-3.798566	0.004208	-0.049227
22	P1	-4.637345	0.090812	0.016933
26	P1	-4.848133	0.119535	0.043528
30	P1	-7.243977	0.122013	0.006913
3	P1	-15.549072	0.077044	0.068338
7	P1	-15.525408	0.145611	-0.050054
11	P1	-21.746096	0.264516	-0.185915
15	P1	-11.294994	0.066798	-0.008702
19	P1	-14.493456	0.036132	-0.061683
22	P1	-15.688822	0.343172	0.175412
26	P1	-17.347673	0.199244	0.190670
30	P1	-17.775259	0.395111	-0.163127

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.814054	0.083327	0.097531
7	P2	-21.972216	0.100027	0.114667
11	P2	-13.562995	0.106354	0.189710
15	P2	-7.069714	0.090835	0.026009
19	P2	-9.590486	0.094062	-0.016006
22	P2	-16.837431	0.096065	0.041844
26	P2	-16.509678	0.097174	-0.017488
30	P2	-18.798473	0.086074	-0.030302

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.157668	0.002568	-0.006924
7	P3	-8.157668	0.002568	-0.006924
11	P3	-8.157668	0.002568	-0.006924
15	P3	-8.157668	0.002568	-0.006924
19	P3	-8.157668	0.002568	-0.006924
22	P3	-8.157668	0.002568	-0.006924
26	P3	-8.157668	0.002568	-0.006924
30	P3	-8.157668	0.002568	-0.006924

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	-2.805704	0.086722	-0.062351
7	P1	-2.971661	0.055837	-0.038434
11	P1	-4.013539	0.016336	-0.050127
15	P1	-3.613980	0.057875	-0.093993
19	P1	-3.632419	0.015569	0.009239
22	P1	-5.692396	0.097369	-0.024402
26	P1	-7.394690	0.162744	0.034884
30	P1	-6.327416	0.096802	0.044023
3	P1	-10.894512	0.051993	-0.198339
7	P1	-10.470113	0.163900	-0.038687
11	P1	-12.641592	0.102964	-0.041408
15	P1	-11.603474	0.096153	0.002663
19	P1	-15.504988	0.067208	0.101897
22	P1	-25.626795	2.846584	0.228345
26	P1	-15.305155	0.308595	0.180111
30	P1	-20.058903	1.267041	-0.053929

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.547777	0.044108	0.139737
7	P2	-22.024471	0.038208	0.043446
11	P2	-9.602449	0.063955	0.173251
15	P2	-5.108253	0.041095	0.029491
19	P2	-6.888107	0.061951	0.041176
22	P2	-7.060467	0.037189	0.034749
26	P2	-23.967552	0.037531	0.013553
30	P2	-21.950661	0.042377	0.006471

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.999557	0.004009	-0.005157
7	P3	-7.999443	0.003996	-0.005308
11	P3	-7.999419	0.004010	-0.005406
15	P3	-7.999365	0.004007	-0.005140
19	P3	-7.999474	0.004005	-0.005108
22	P3	-7.999437	0.003996	-0.004878
26	P3	-7.999361	0.003991	-0.004831
30	P3	-7.999383	0.003988	-0.005228

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	0.000457346
	stdev	2.22555e-07
MEAN Q	mean	0.000487315
	stdev	2.35260e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127925
	stdev	0.000997253
STDEV Q	mean	0.128182
	stdev	0.00100739

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005081[345]
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_1PNPDE20050815_032905_000002292039_00490_18079_2564.N1	1	0
ASA_IMM_1PNPDK20050814_124040_000000362039_00482_18071_1689.N1	1	0
ASA_WSM_1PNPDE20050813_162408_000000912039_00470_18059_4387.N1	0	42
ASA_APM_1PNPDE20050814_141422_000000582039_00483_18072_0499.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

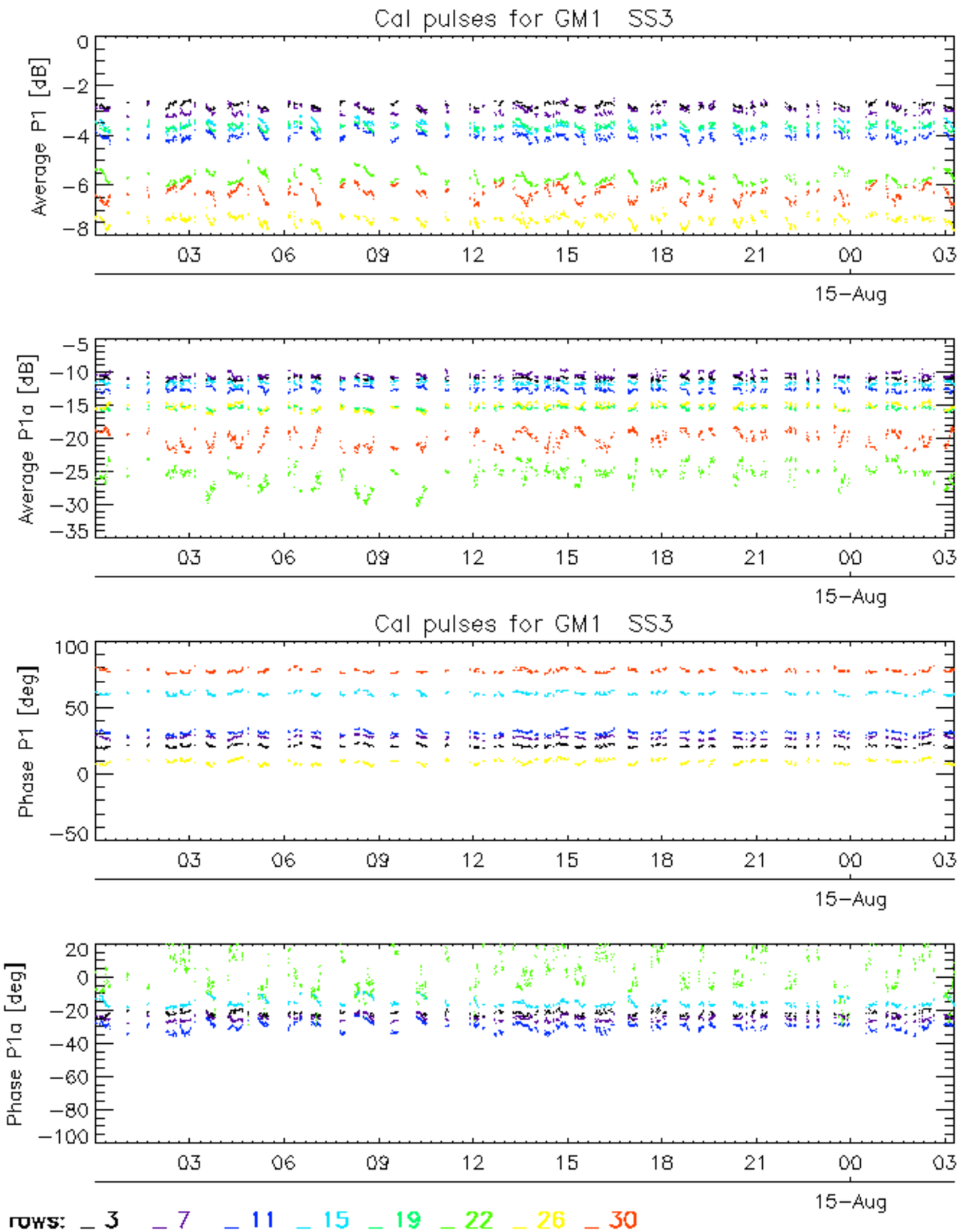
Descending

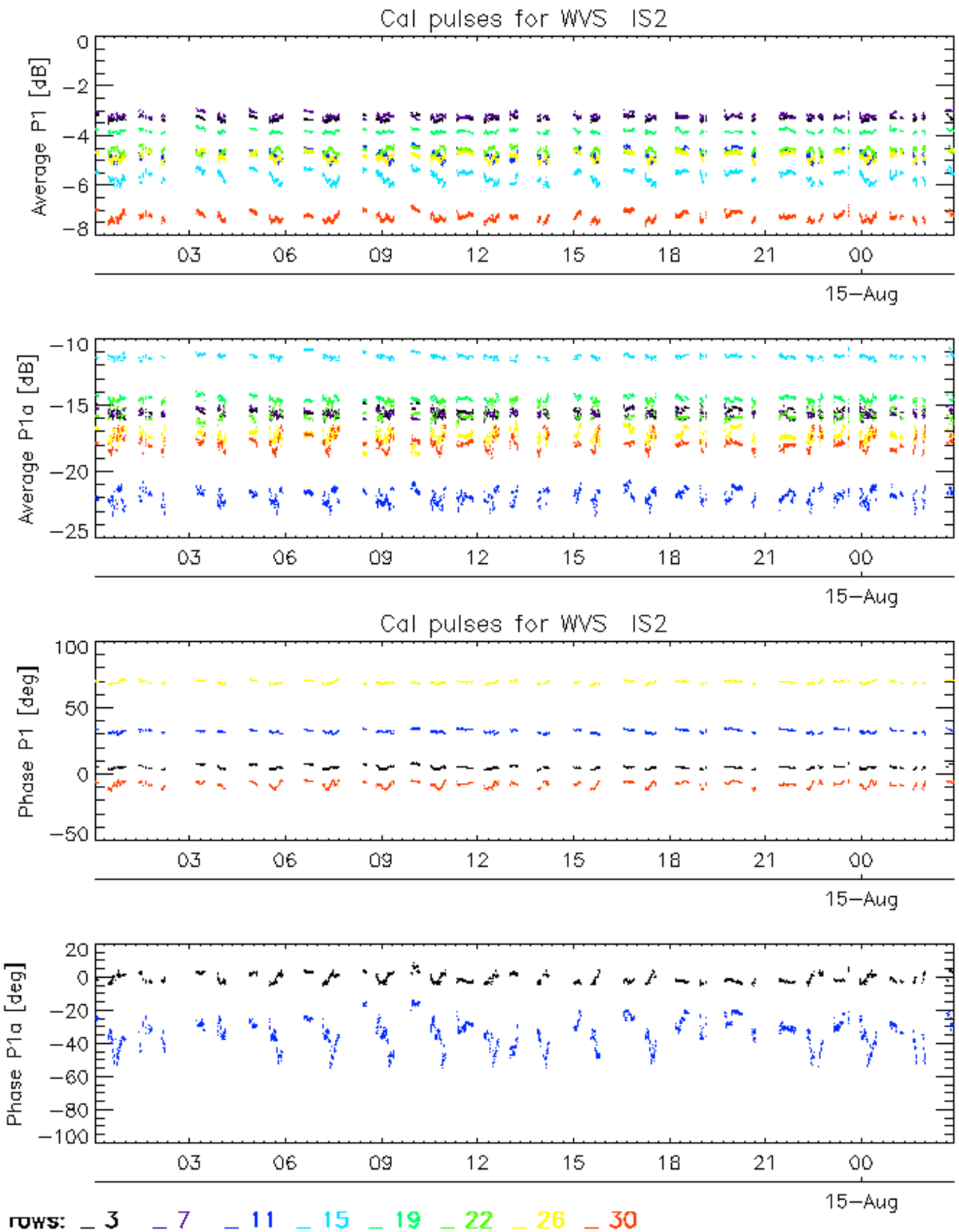
7.5 - Absolute Doppler for GM1

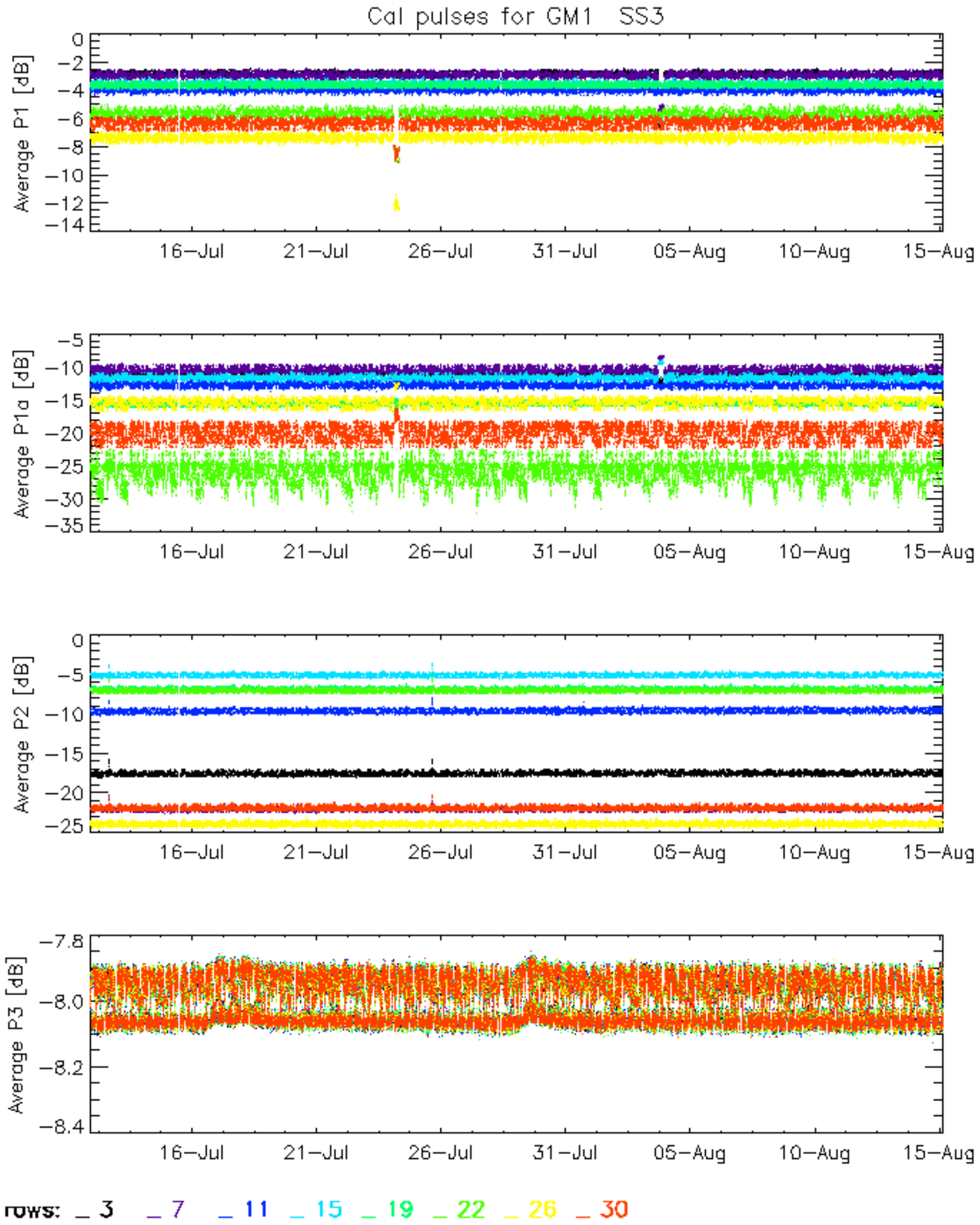
Evolution of Absolute Doppler
Acsending
Descending

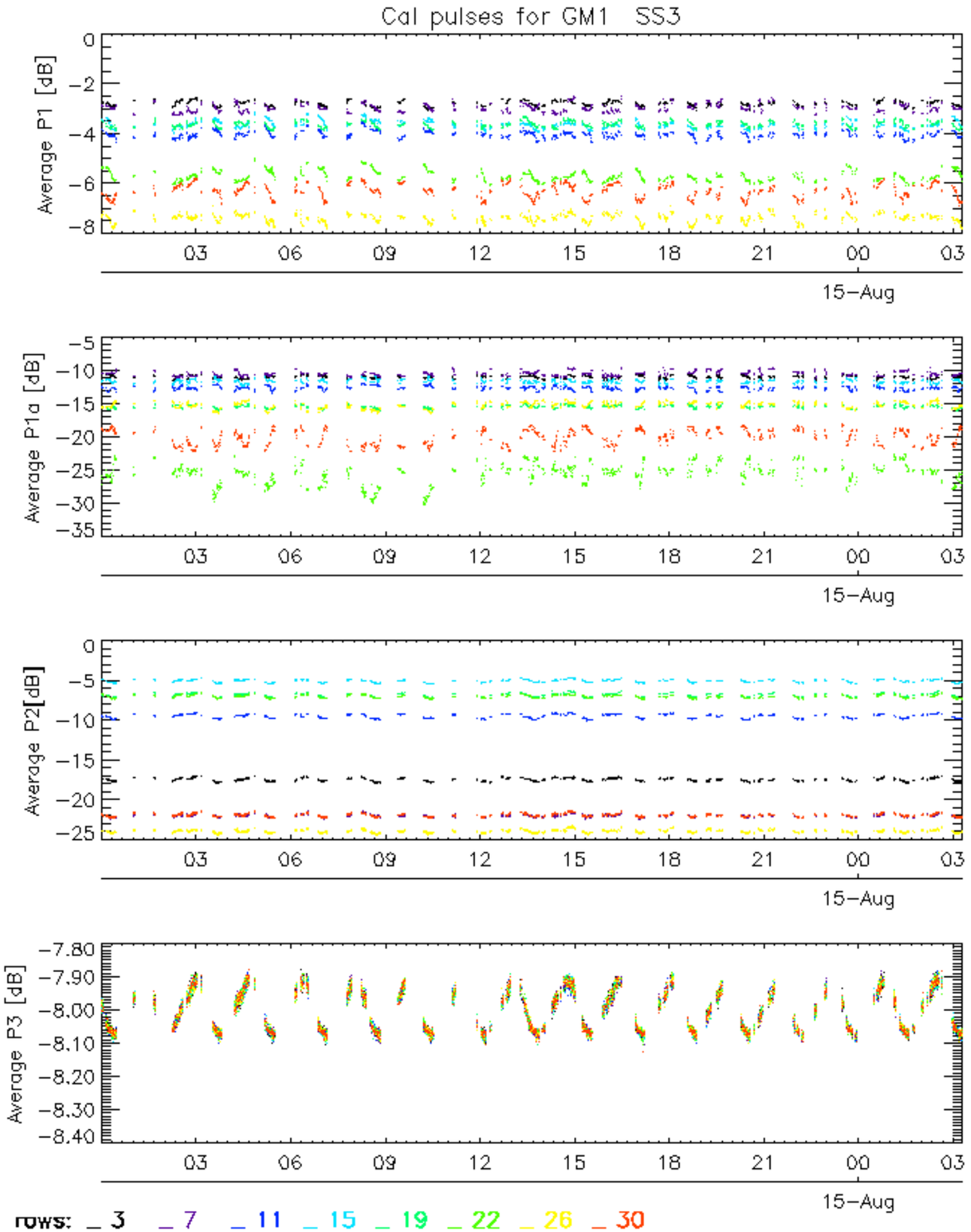
7.6 - Doppler evolution versus ANX for GM1

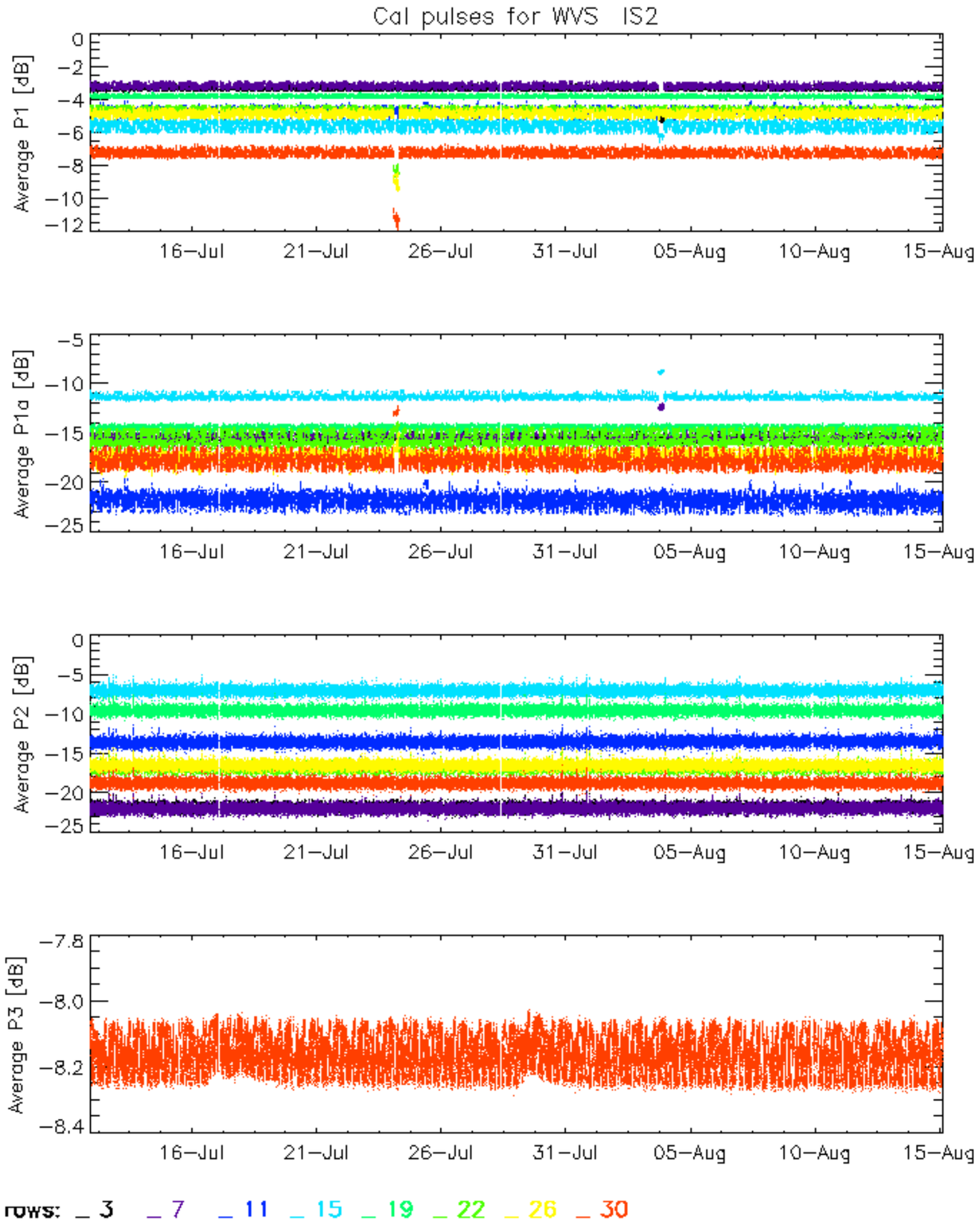
Evolution Doppler error versus ANX

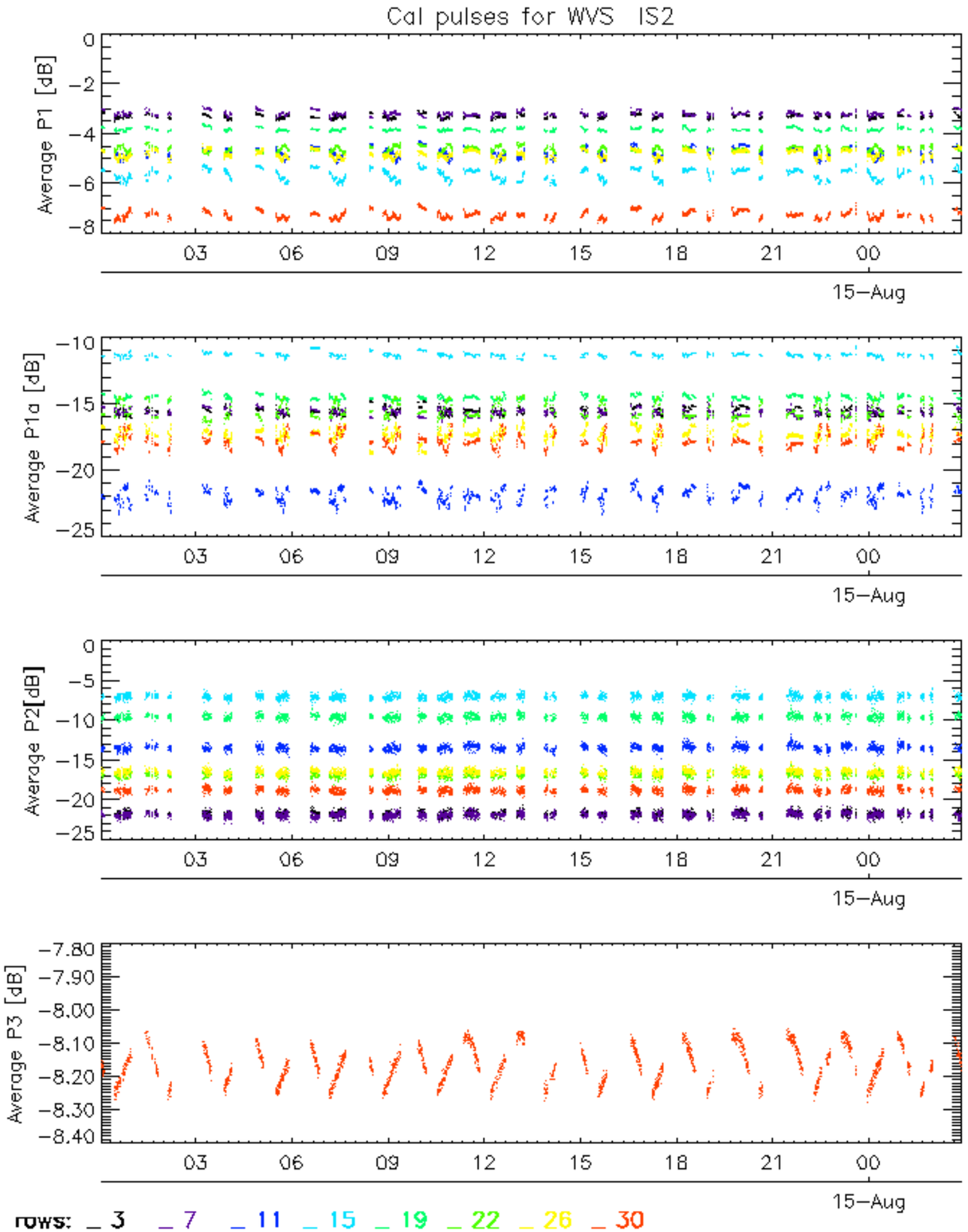

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
15−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
15−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

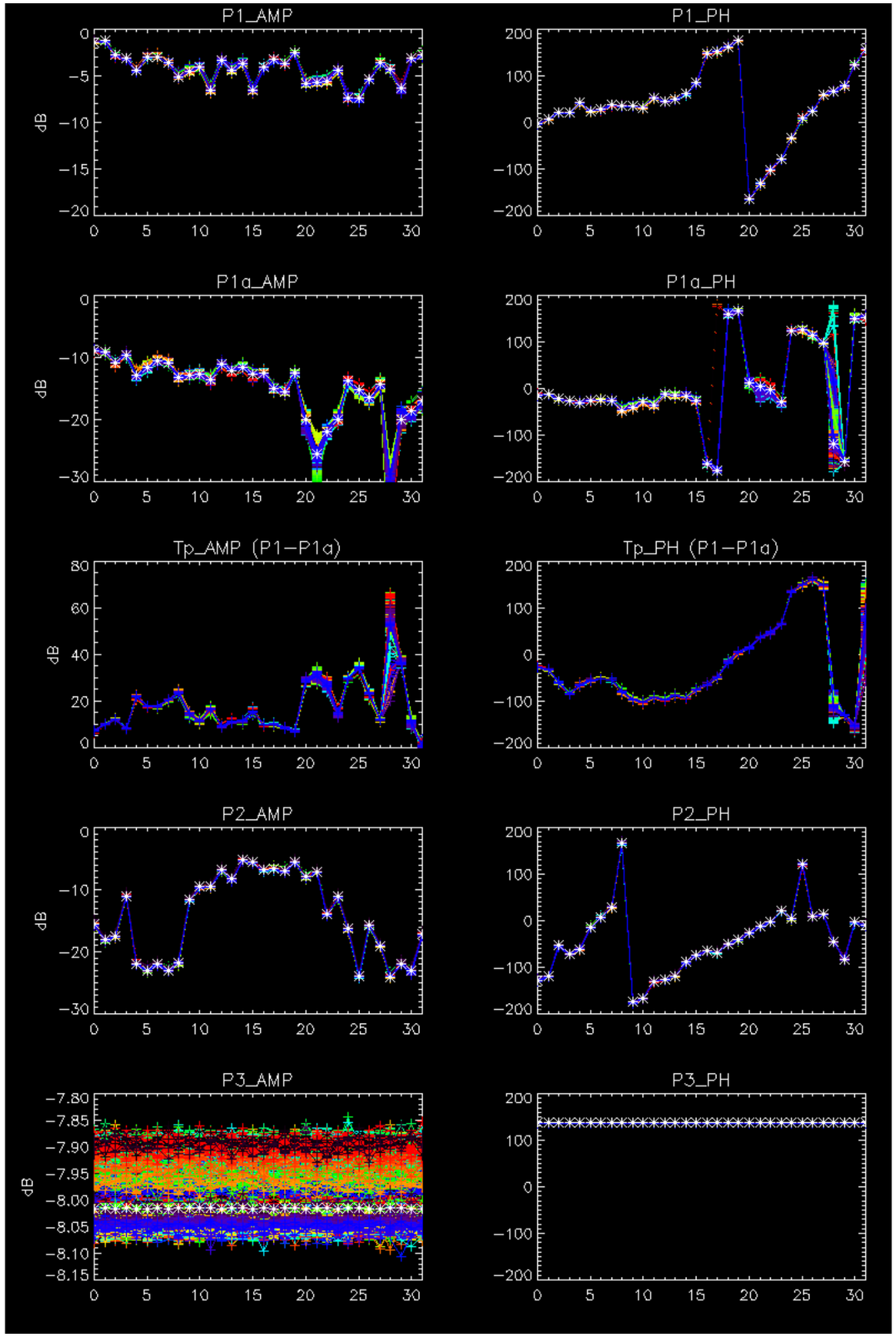

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
−14
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

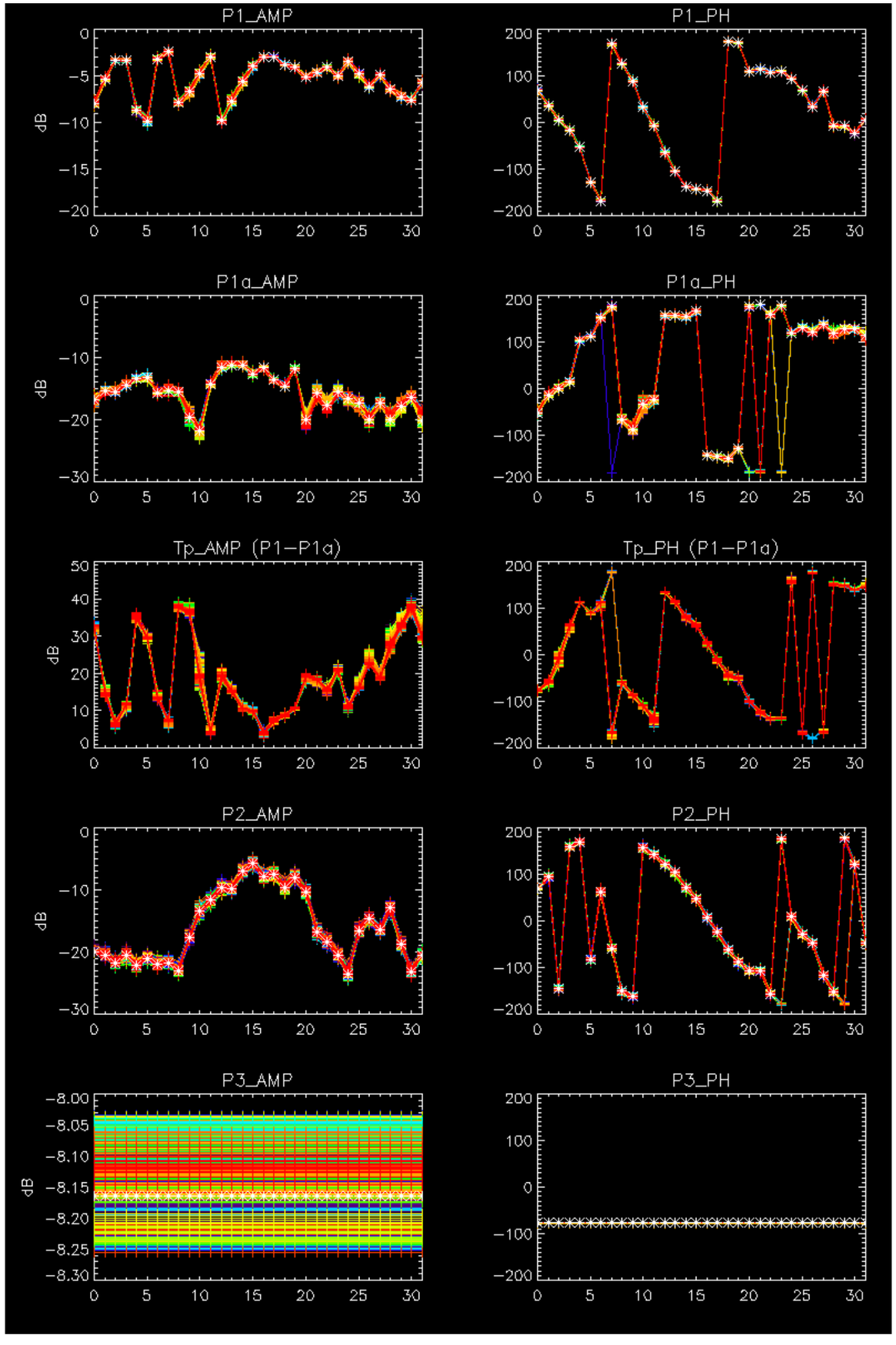

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
15−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


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
15−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
15−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

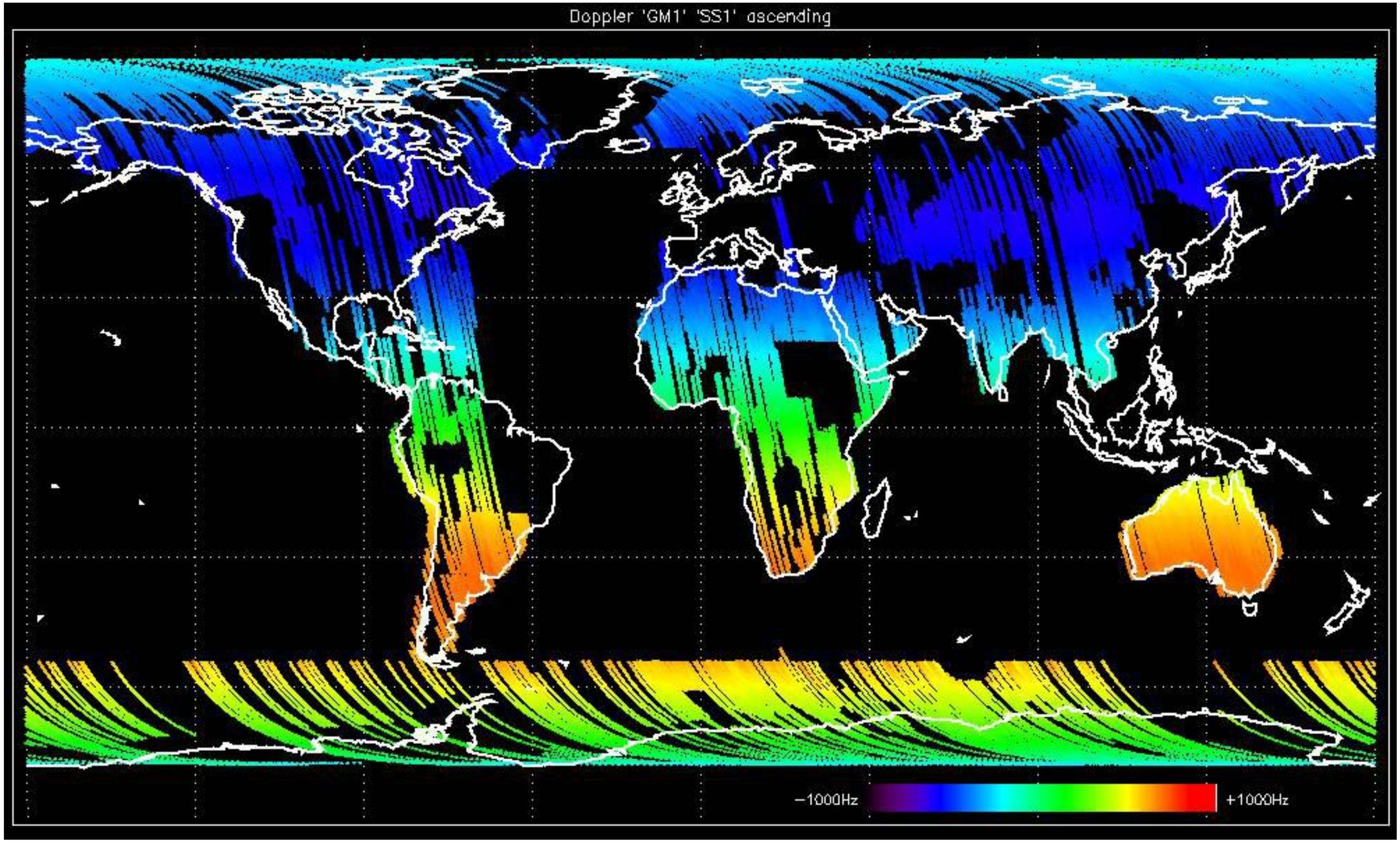
No anomalies observed.

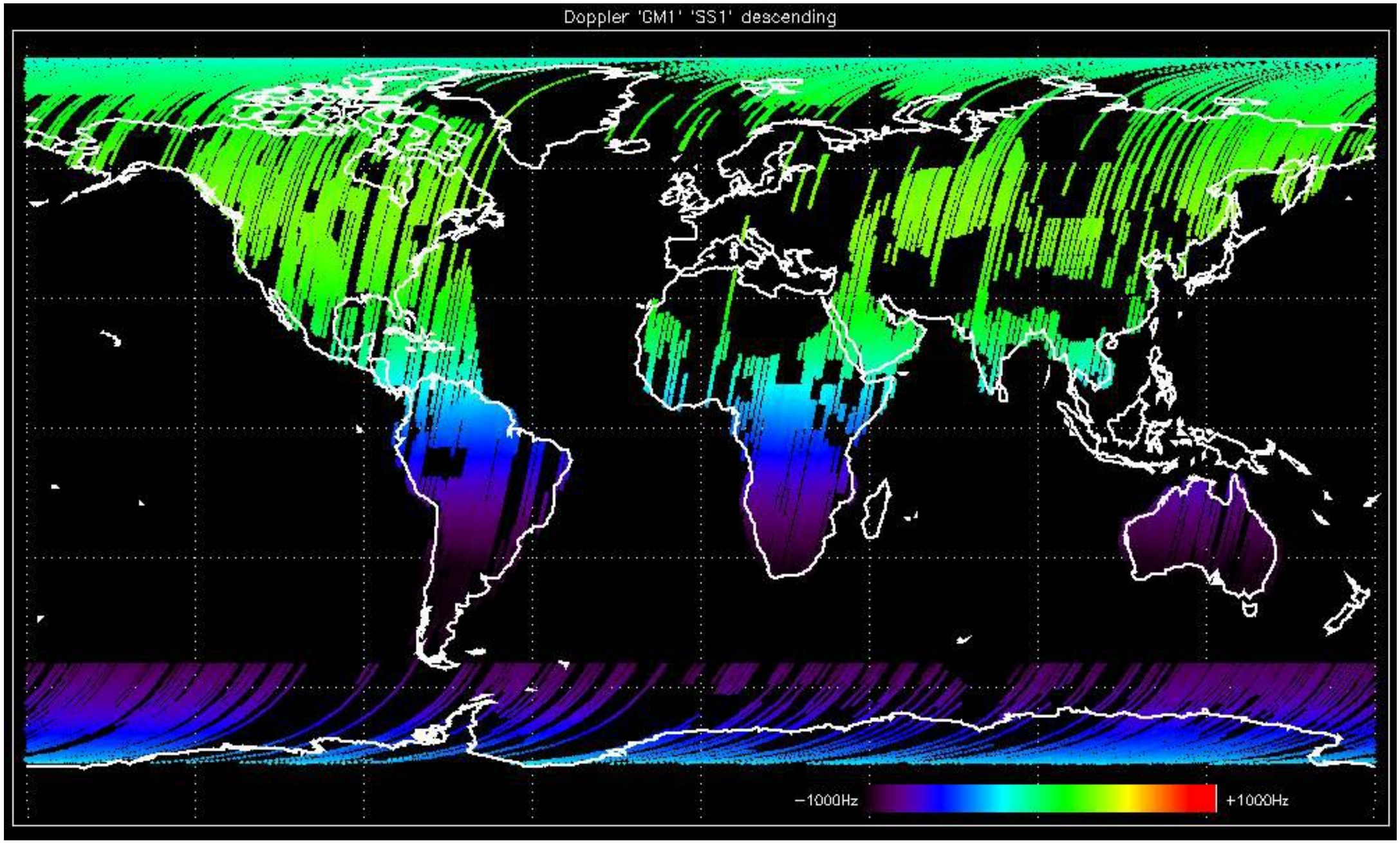

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

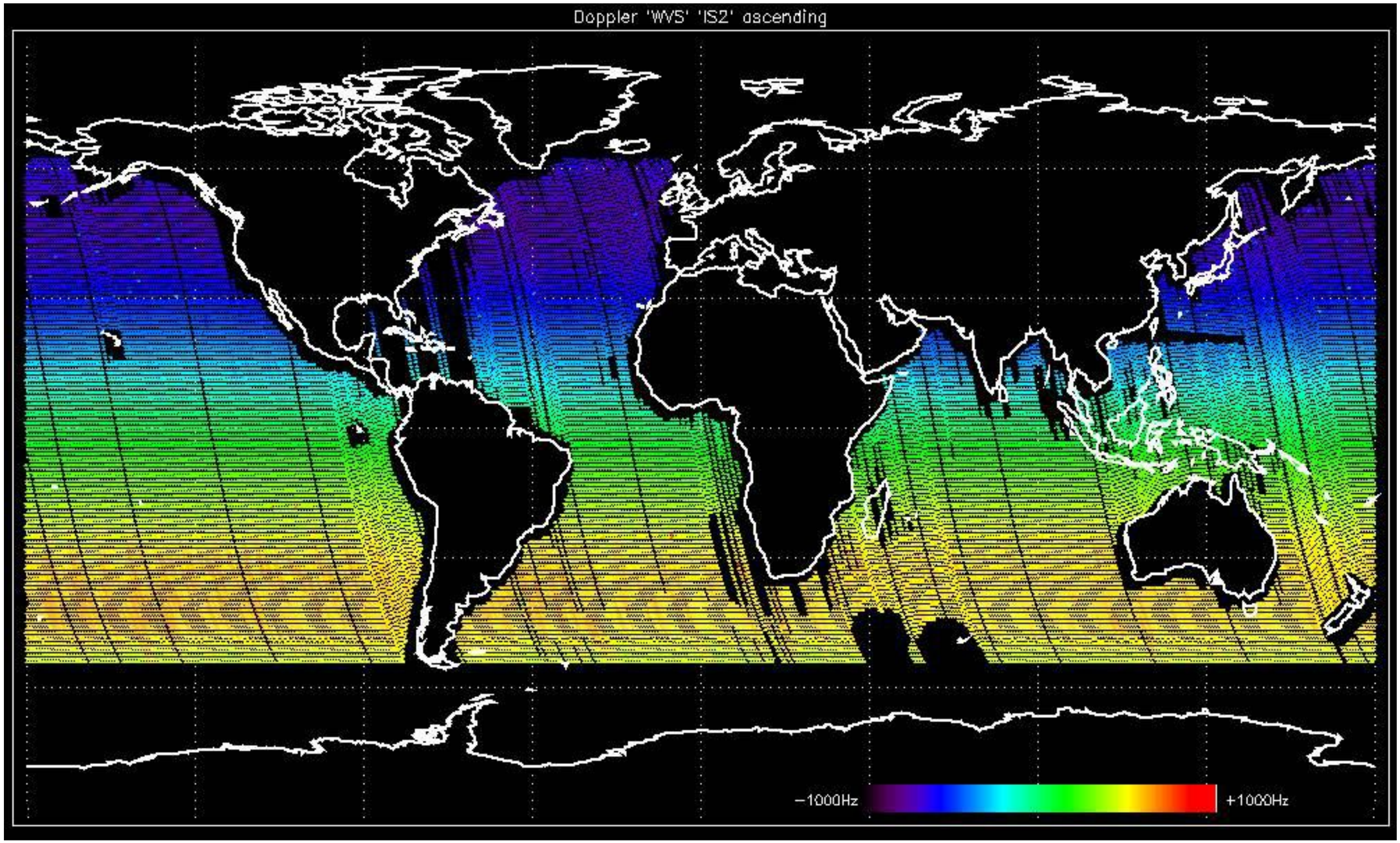

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

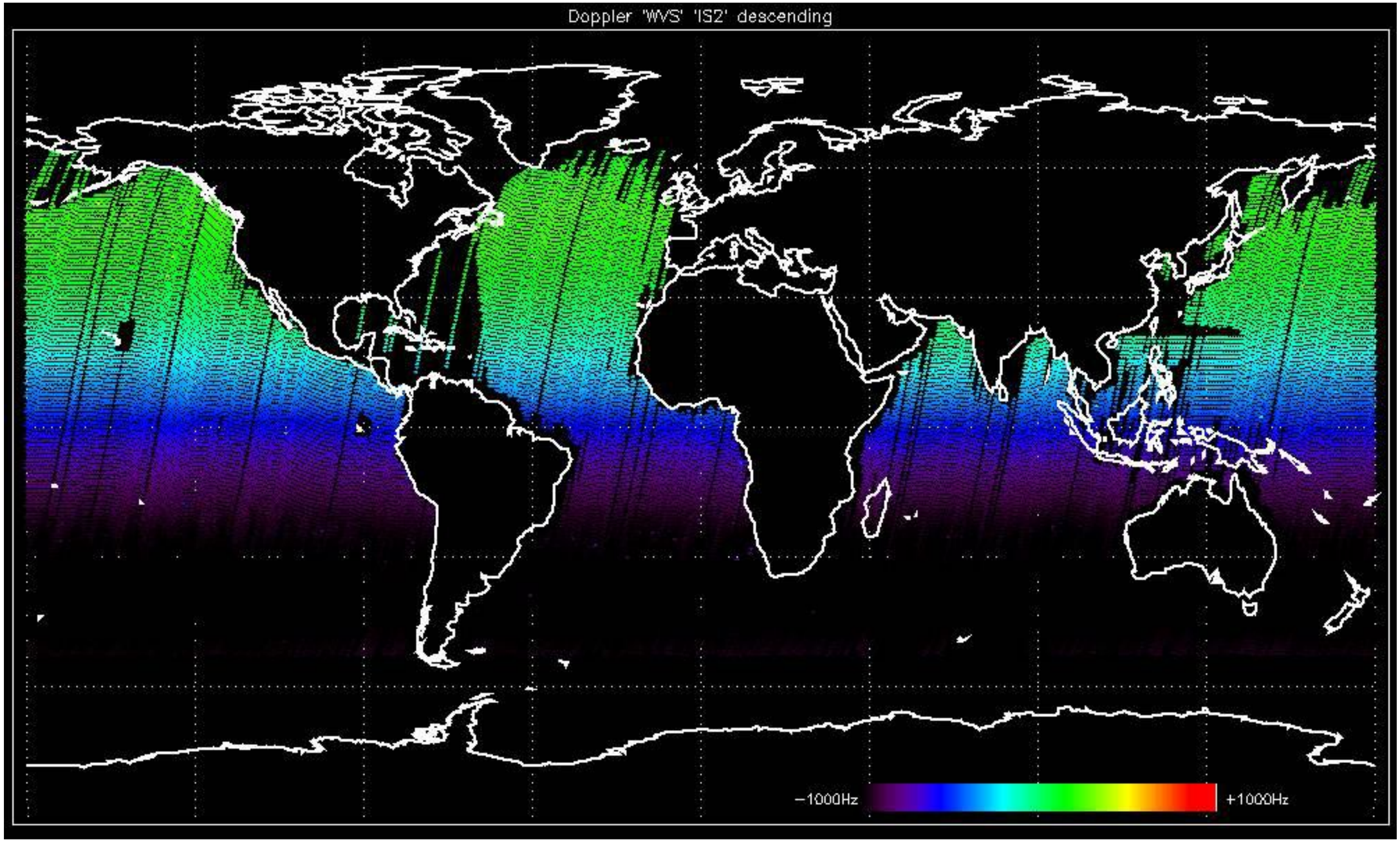
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

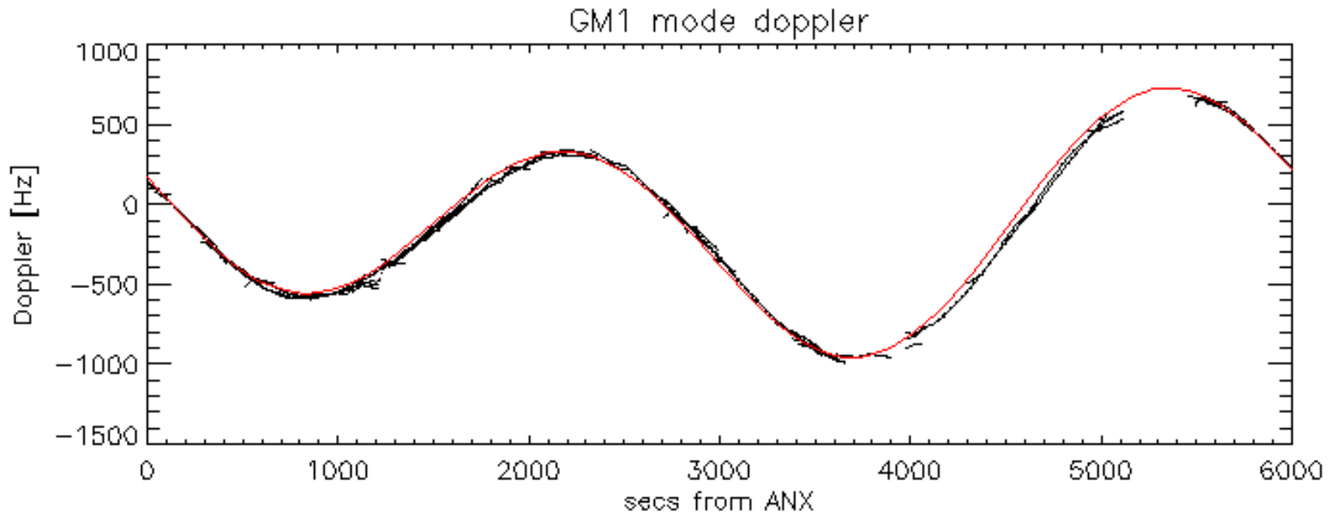
Preliminary report.The data is not yet controled

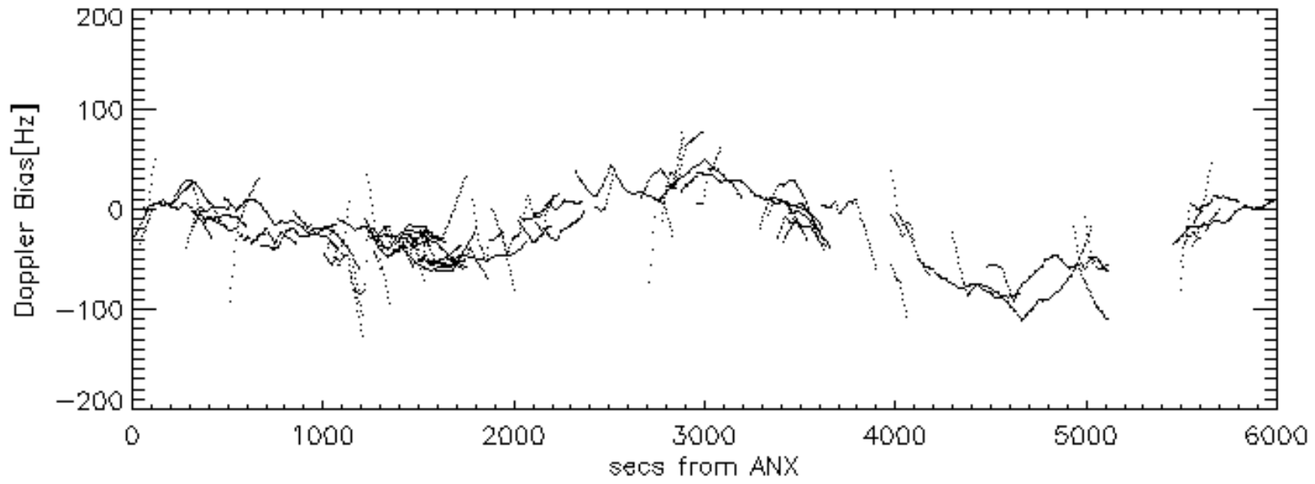

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

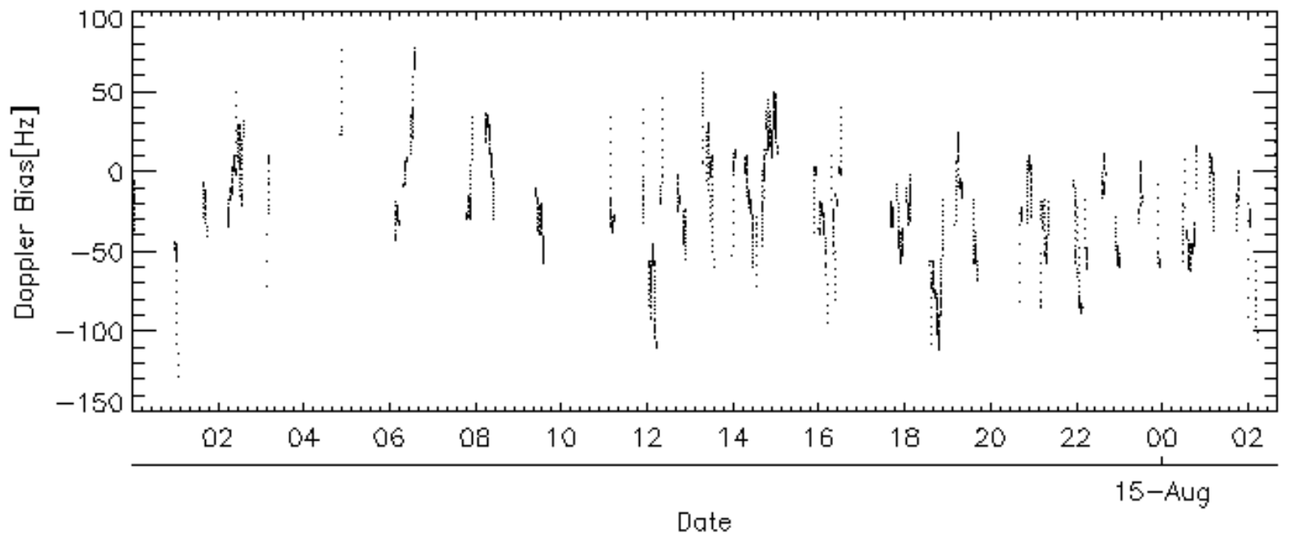

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

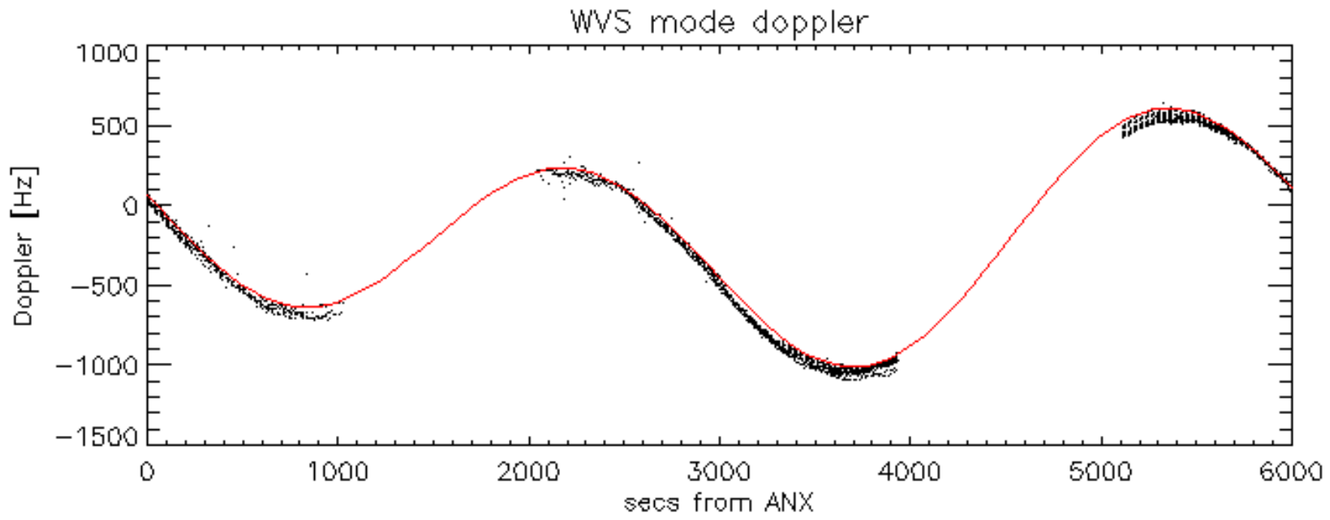

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

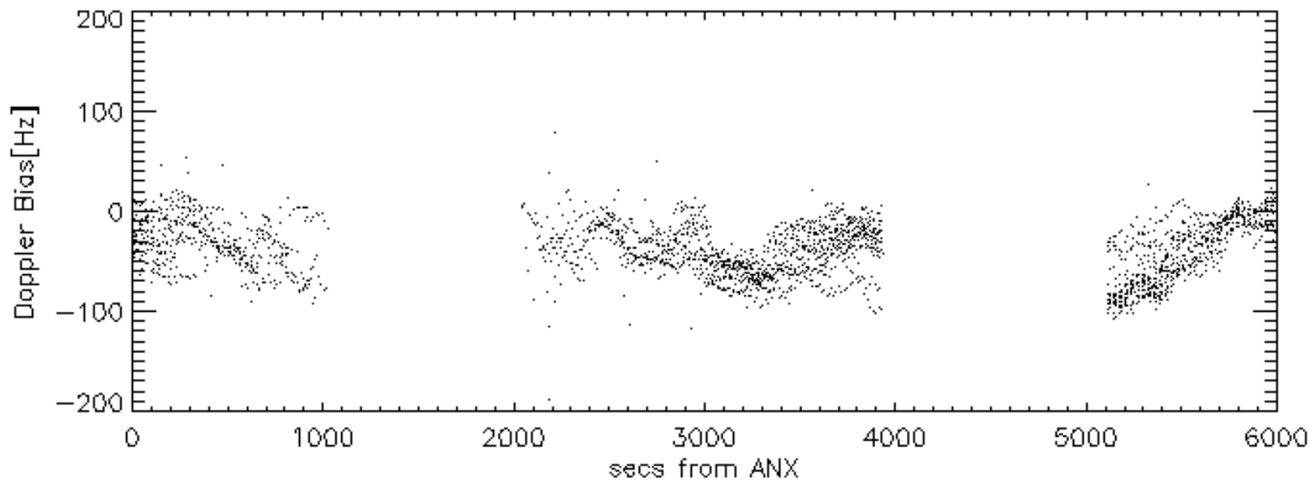

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

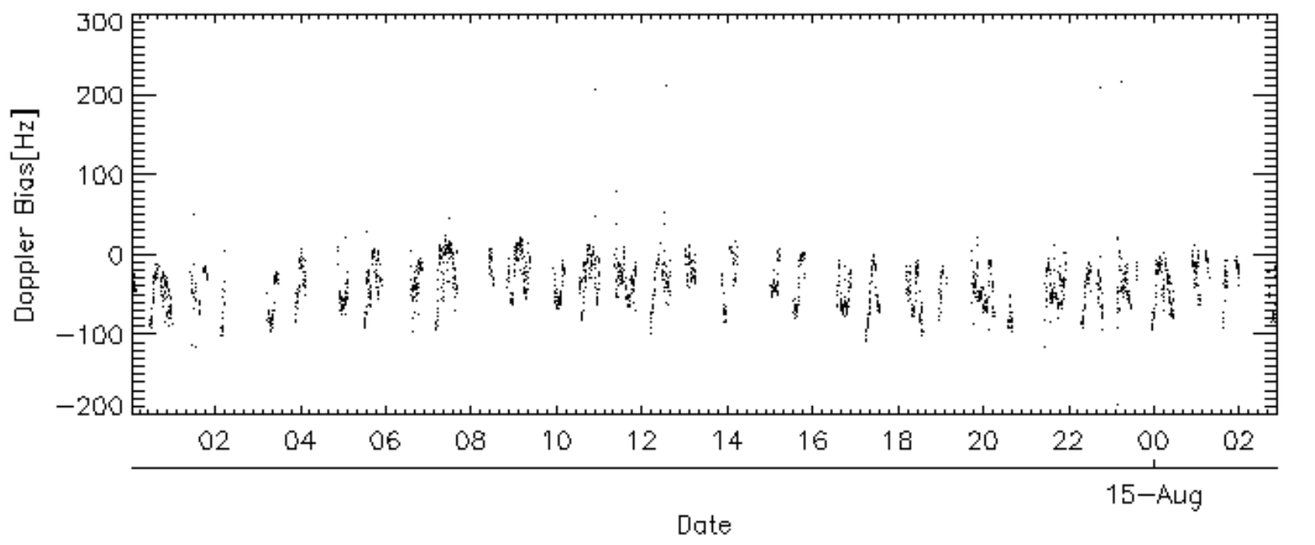

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

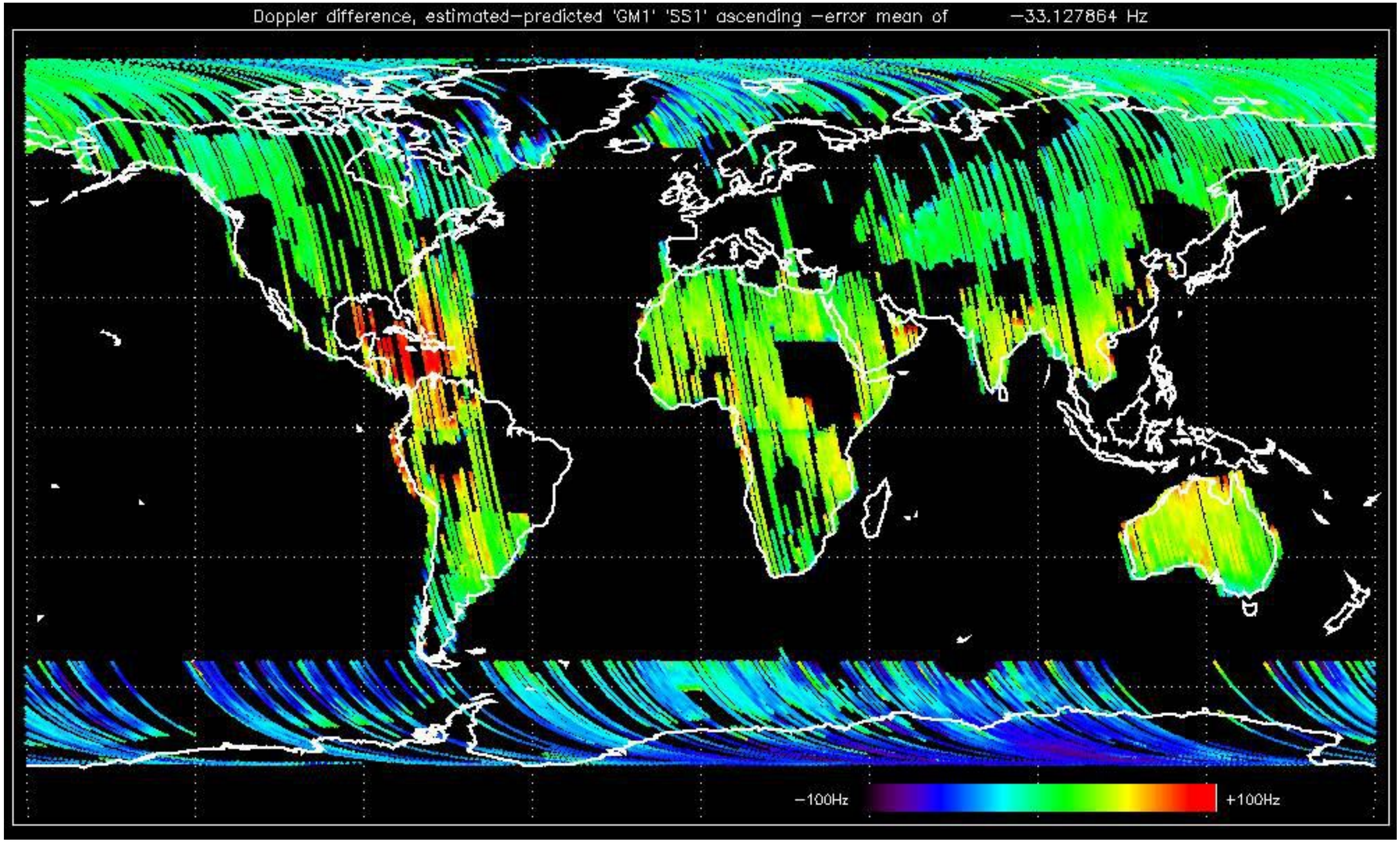

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

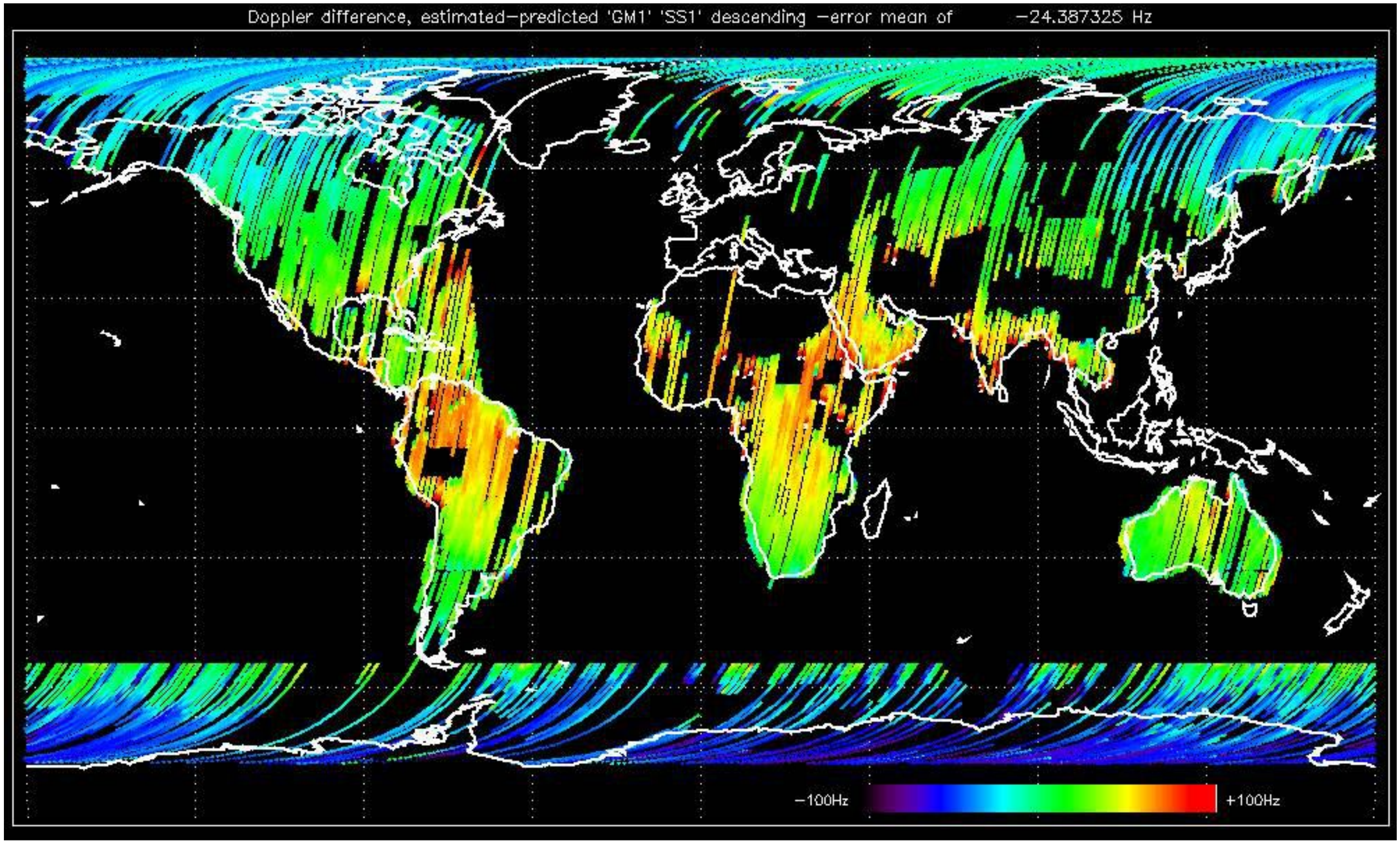

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
15−Aug
Date

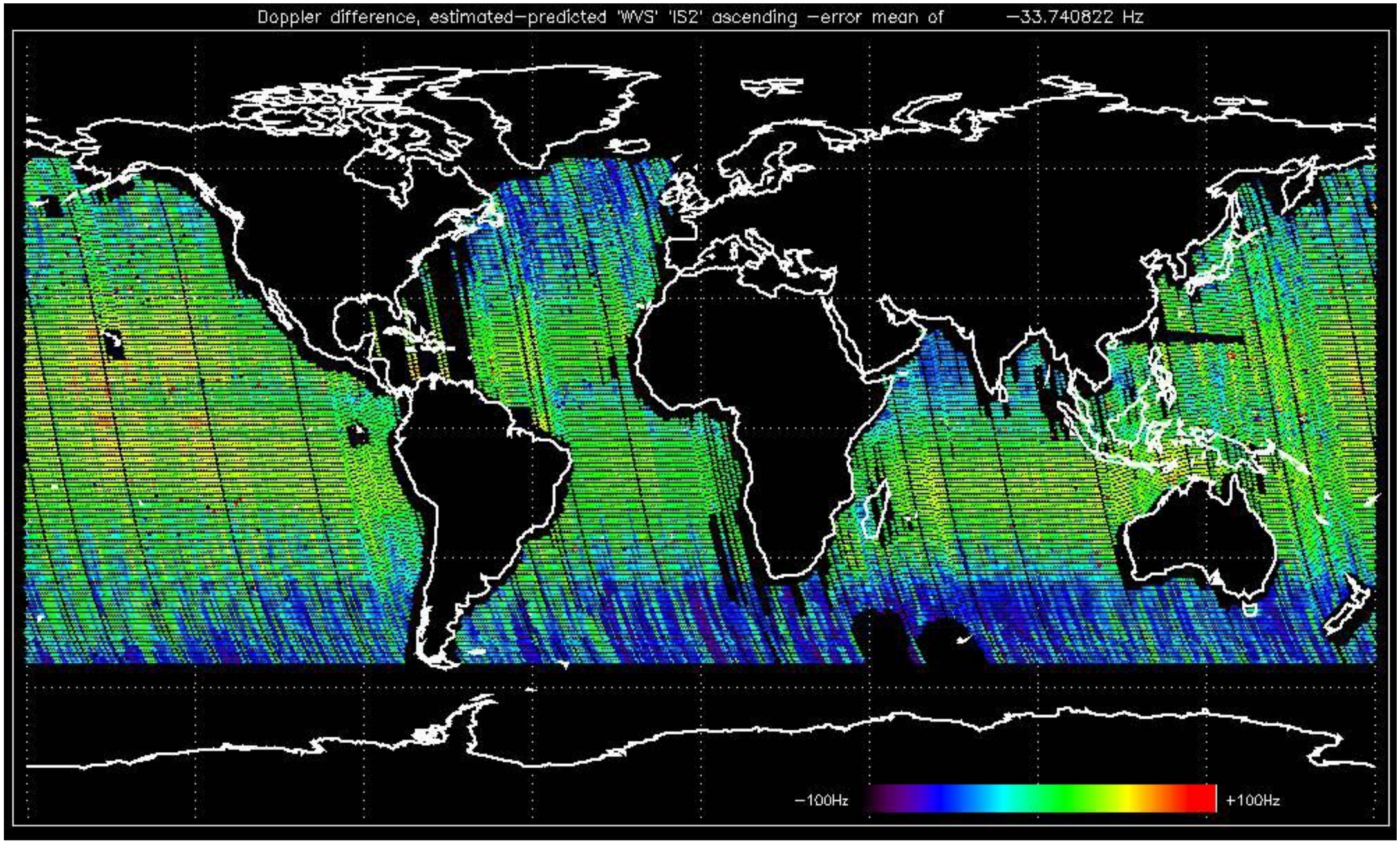

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

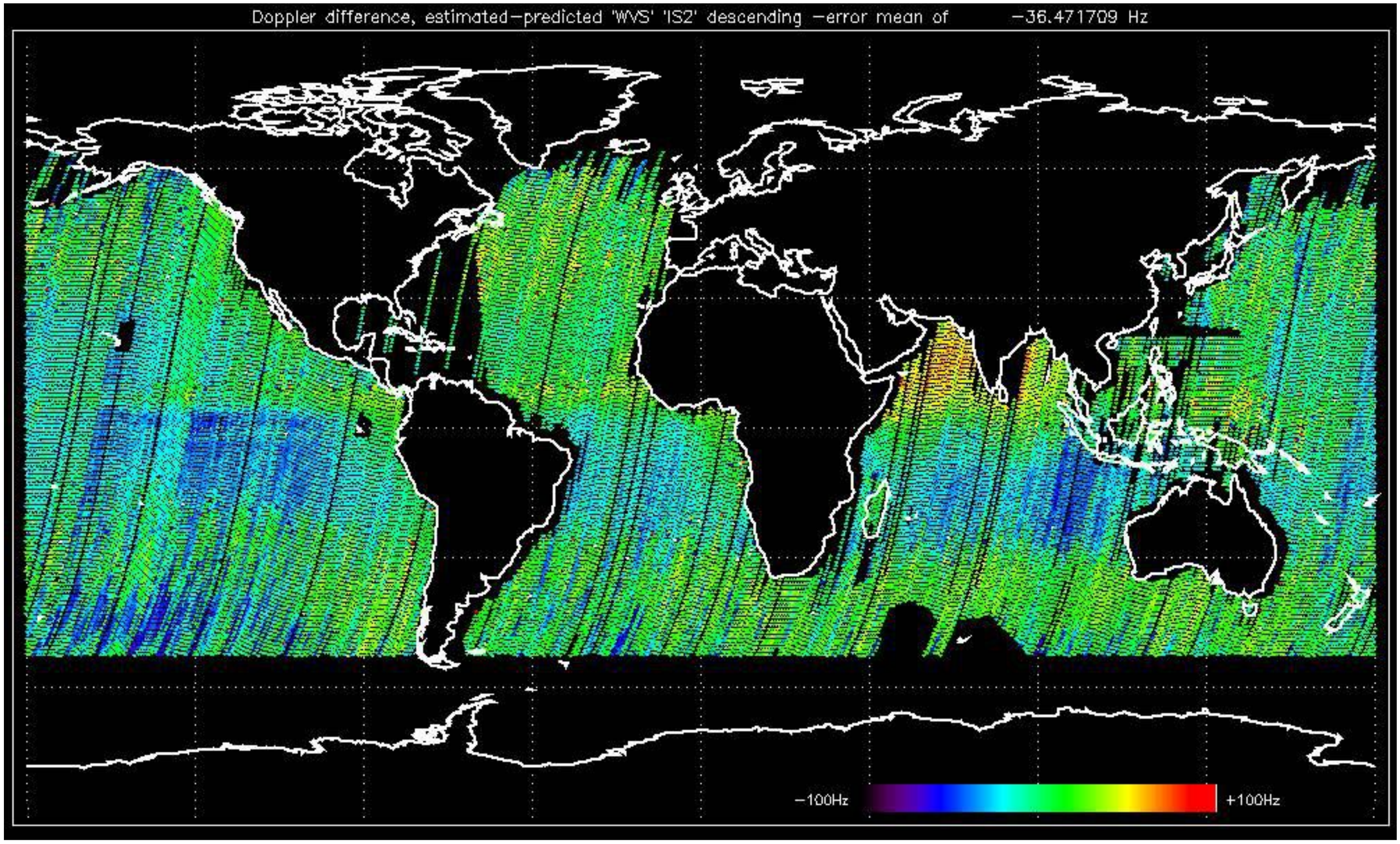

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −33.127864 Hz
−100Hz
+100Hz

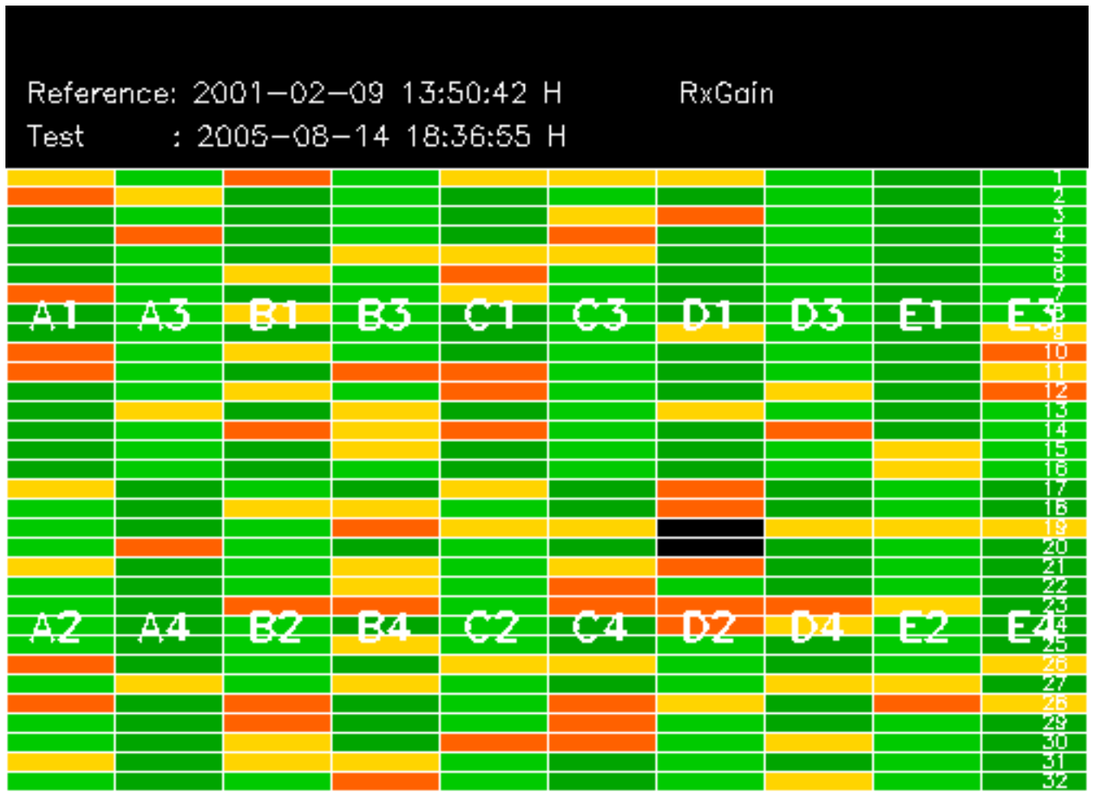

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −24.387325 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −33.740822 Hz
−100Hz
+100Hz

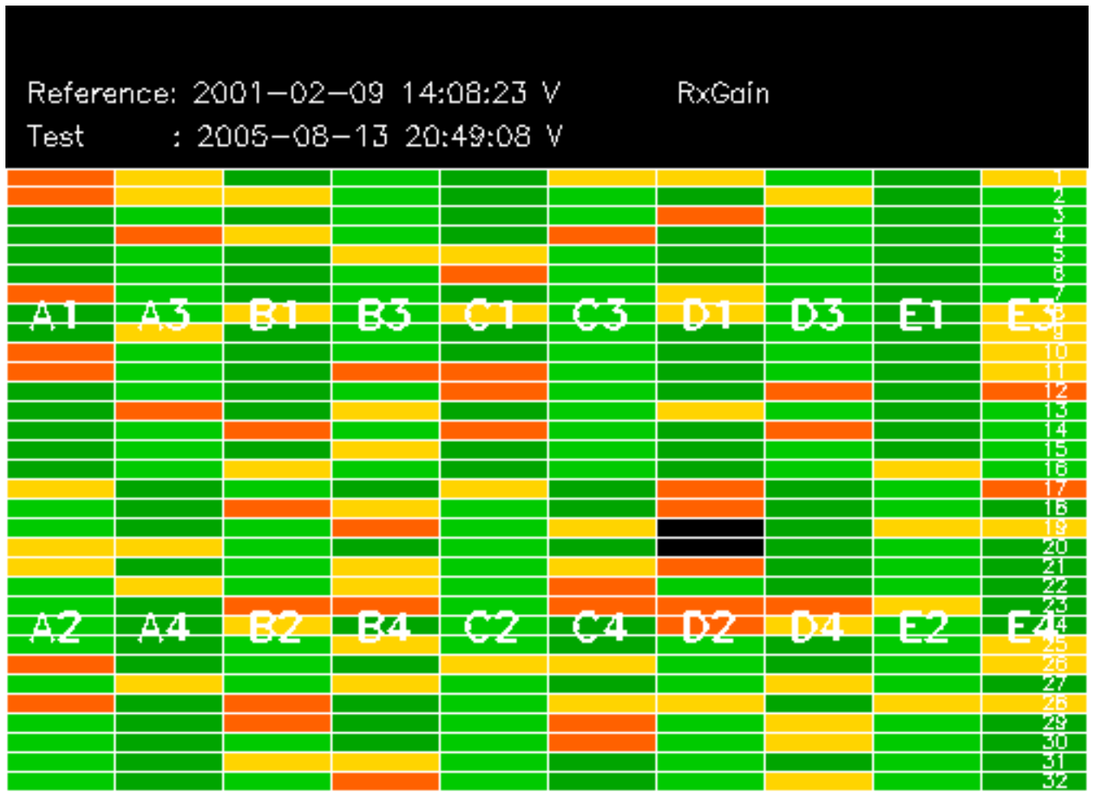

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −36.471709 Hz
−100Hz
+100Hz

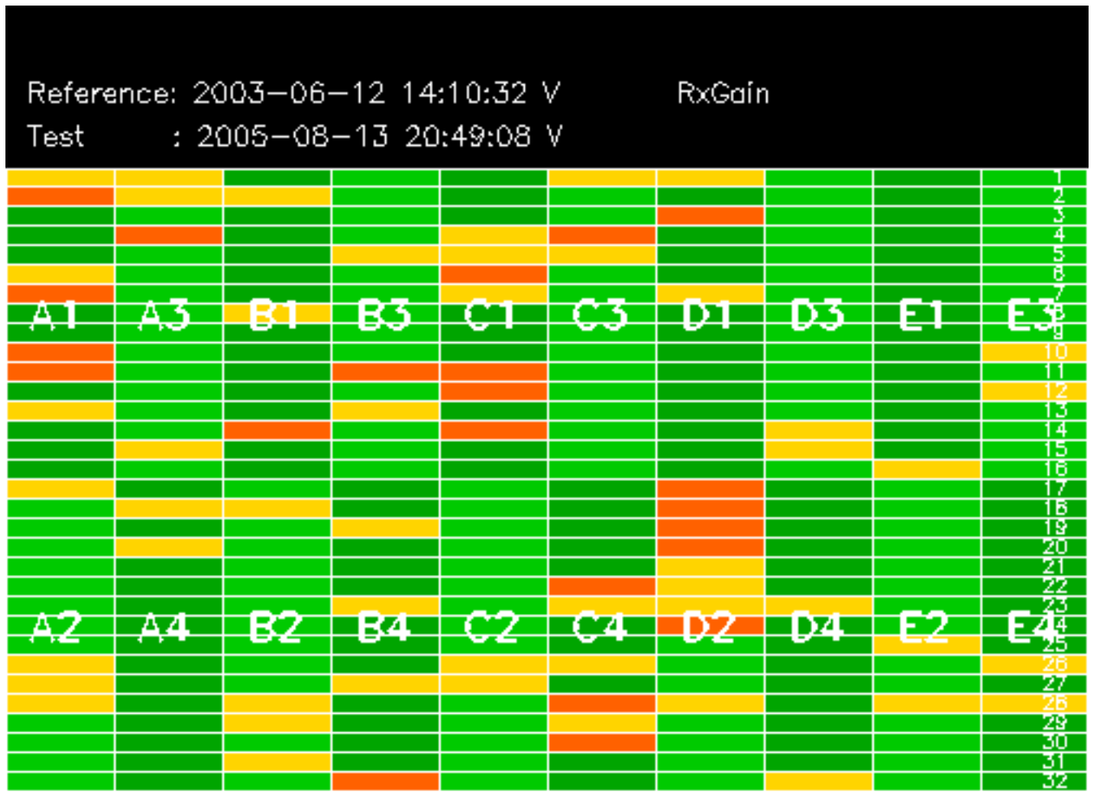
No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2005-08-14 18:36:55 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2005-08-14 18:36:55 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2005-08-13 20:49:08 V
RxGain
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 : 2005-08-13 20:49:08 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
10
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14
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21
22
23
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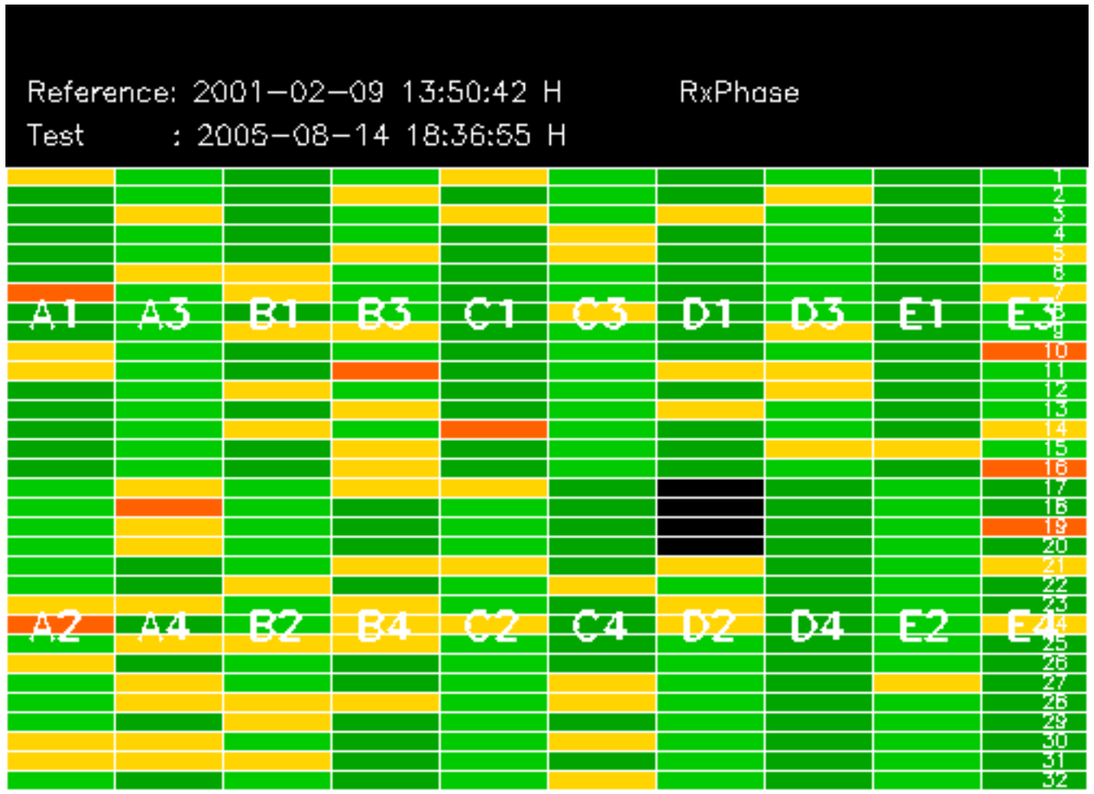
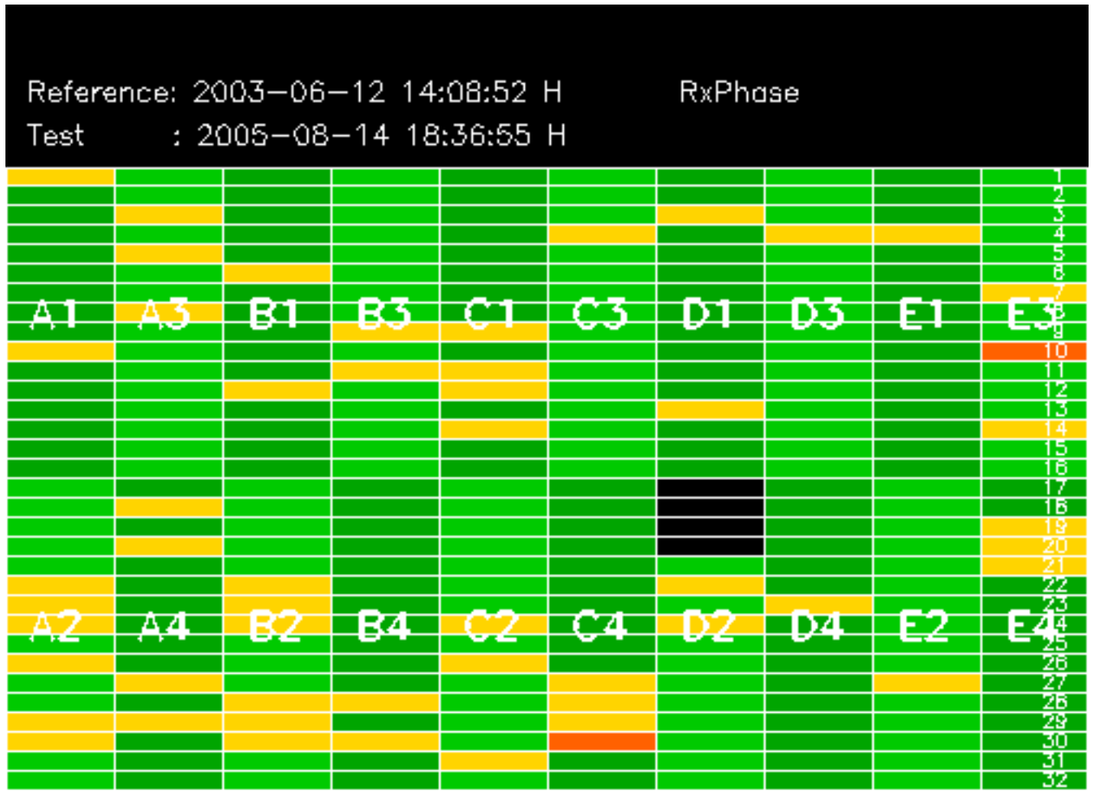
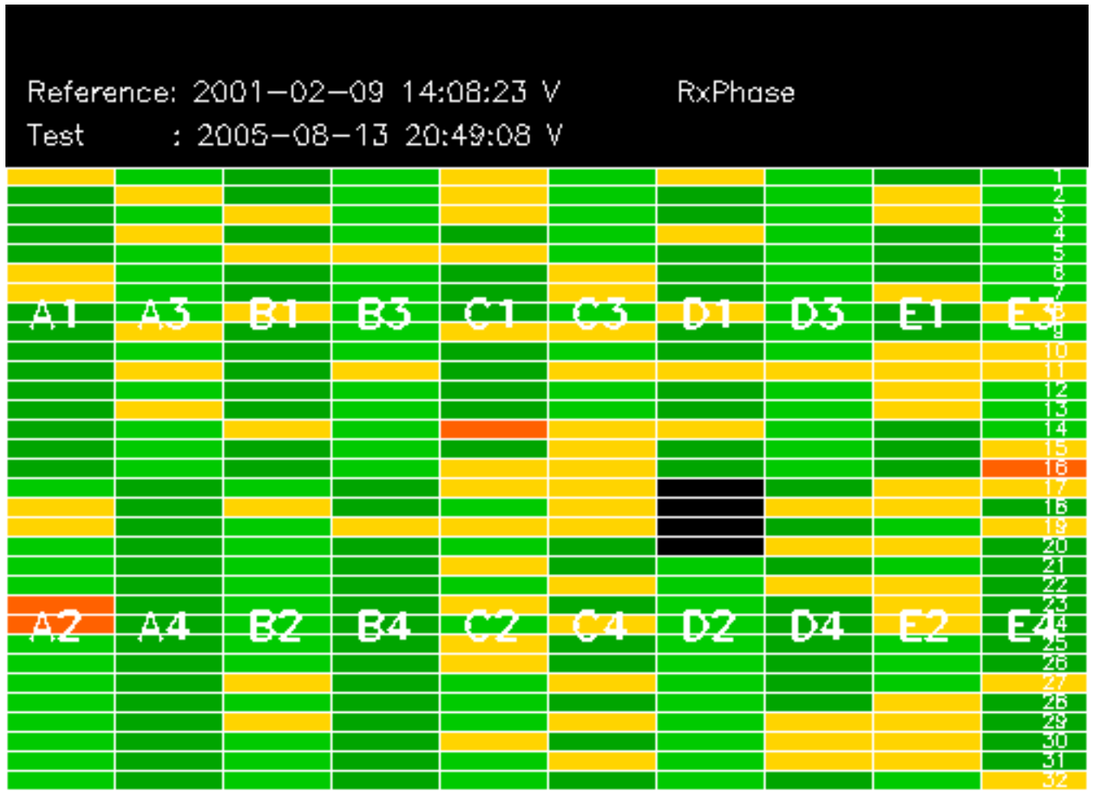
30
31
32


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-08-14 18:36:55 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2005-08-14 18:36:55 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
RxPhase
Test : 2005-08-13 20:49:08 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
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8
9
10
11
12
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14
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16
17
18
19
20
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22
23
24
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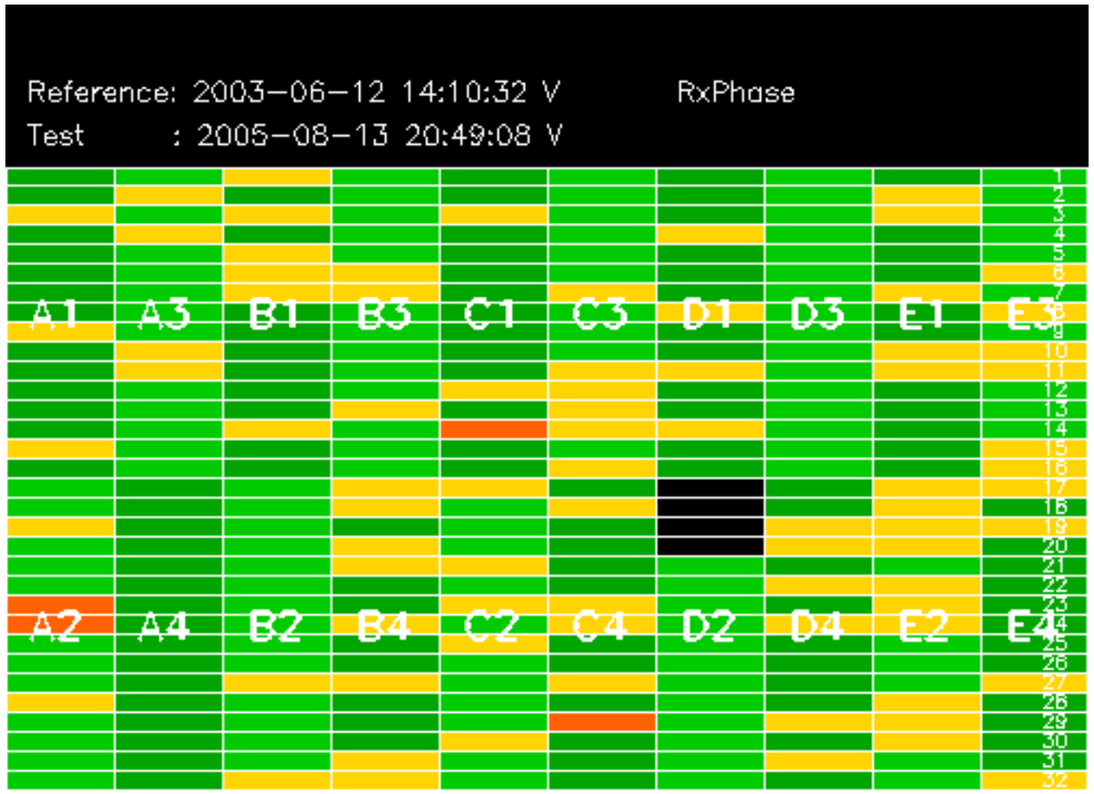
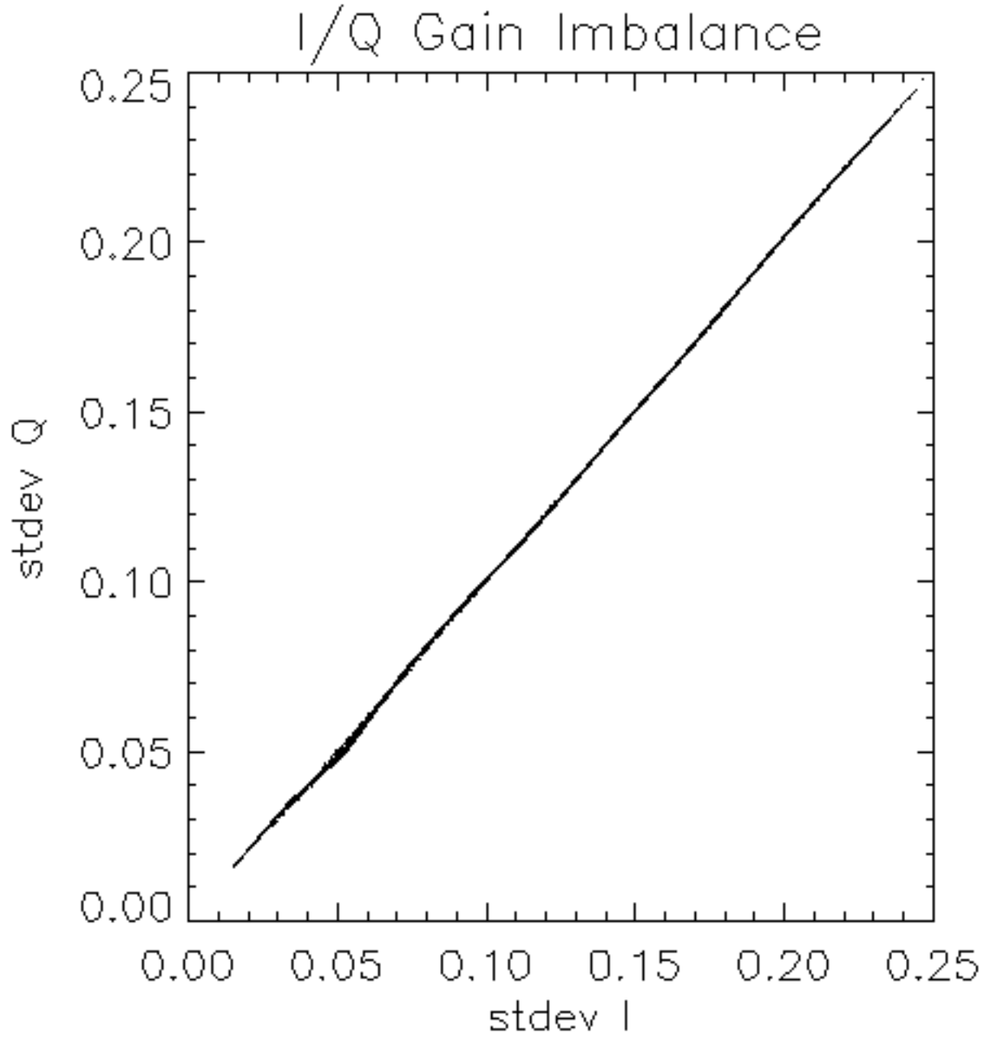
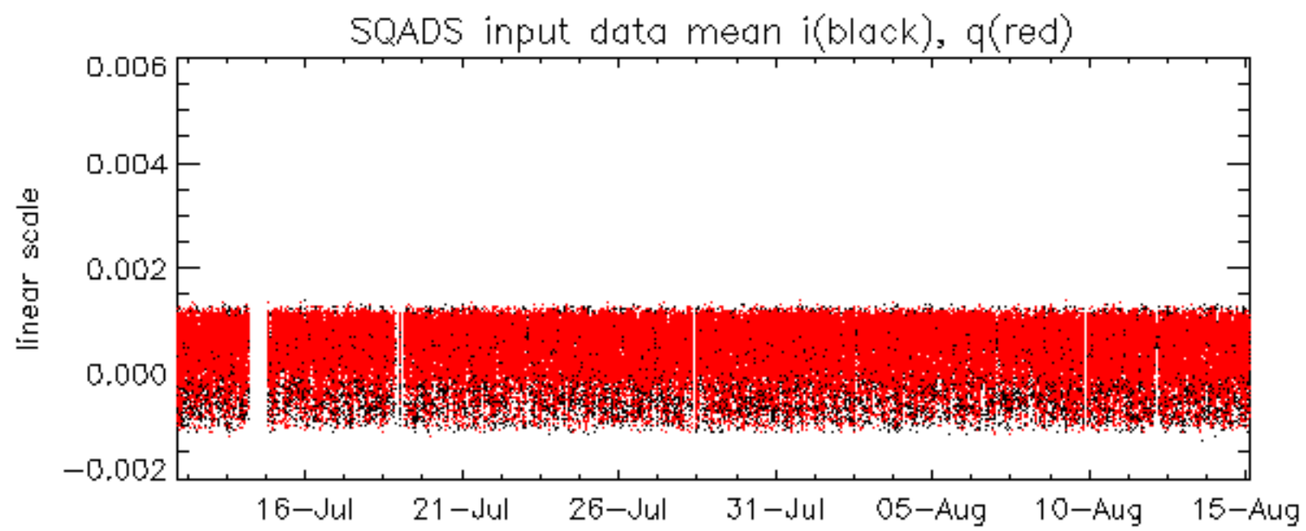
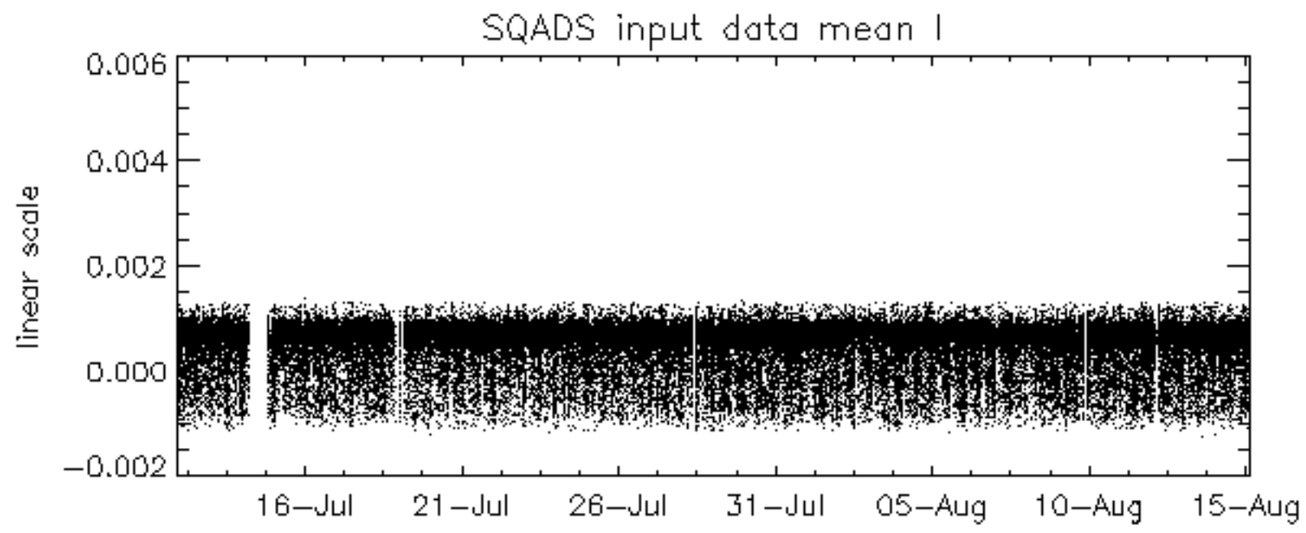
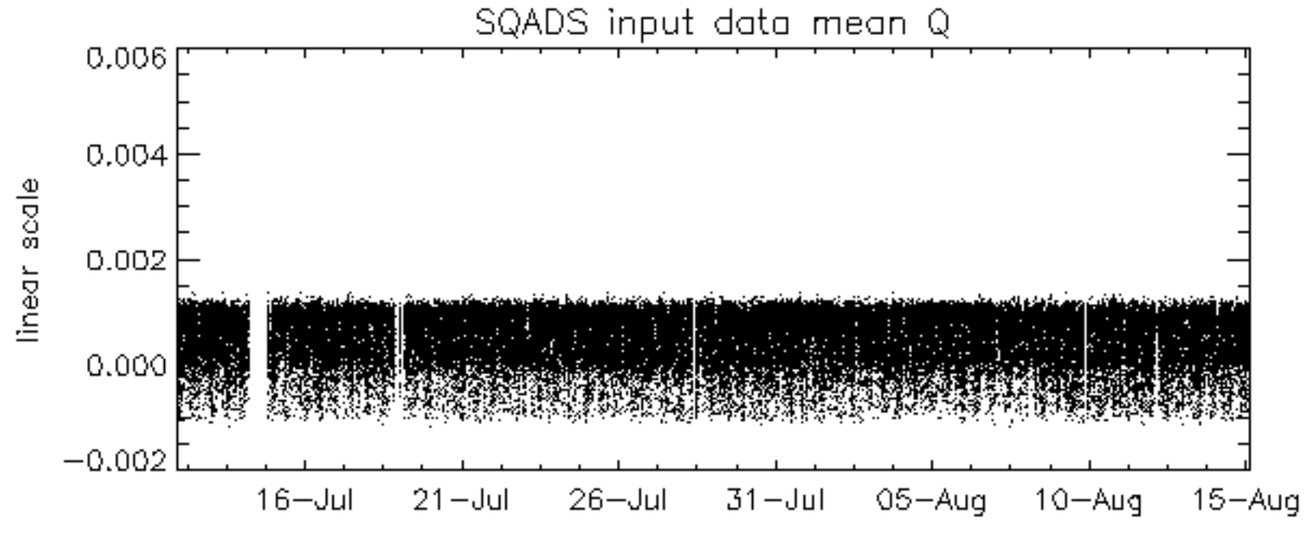
26
27
28
29
30
31
32

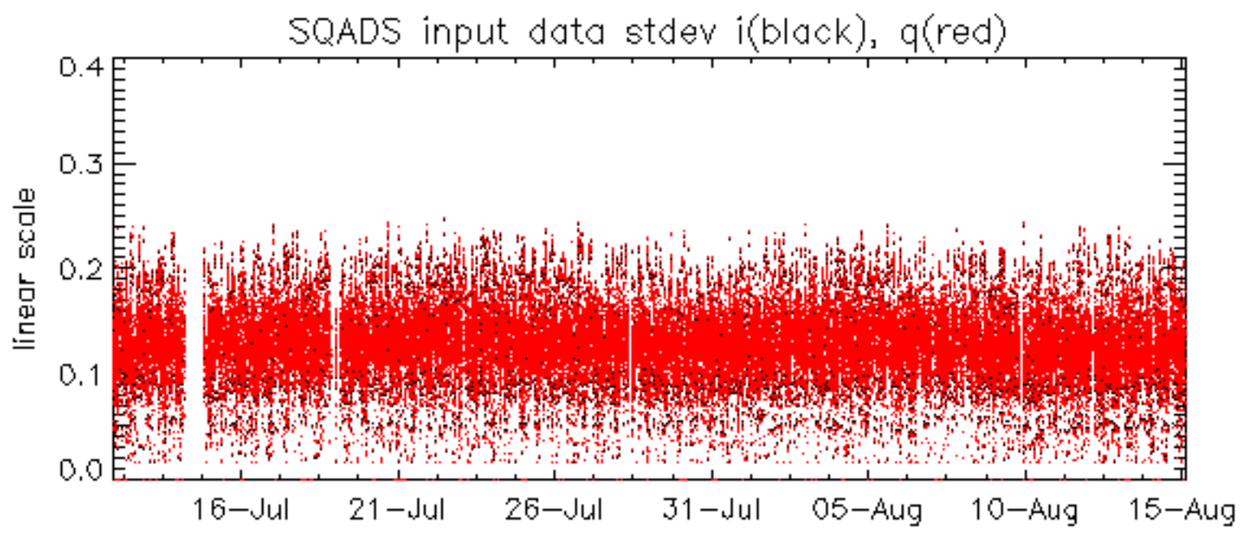

Reference: 2003-06-12 14:10:32 V
Test : 2005-08-13 20:49:08 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

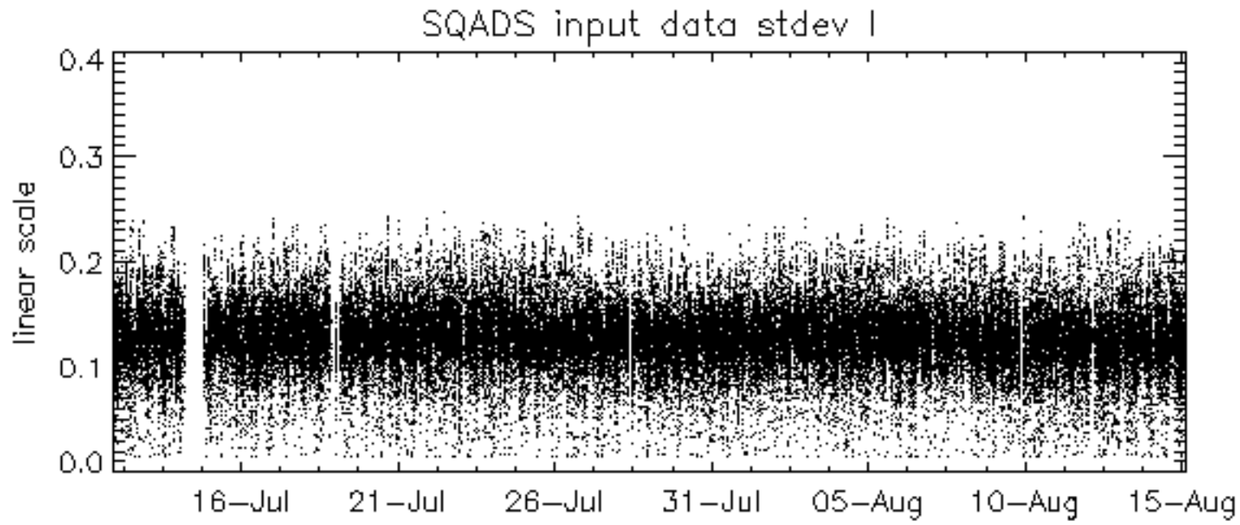

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

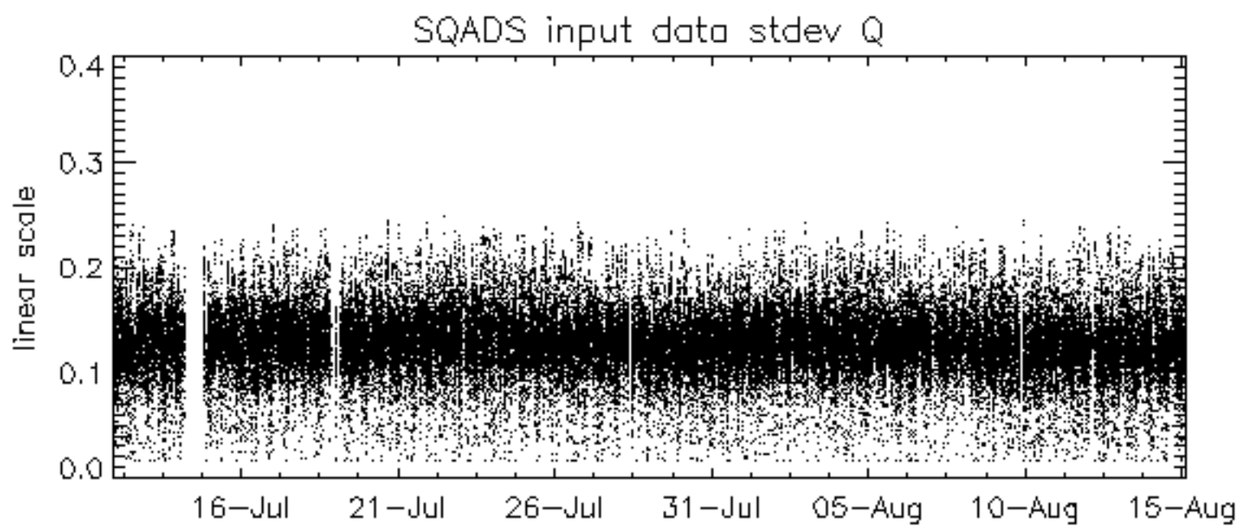

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug

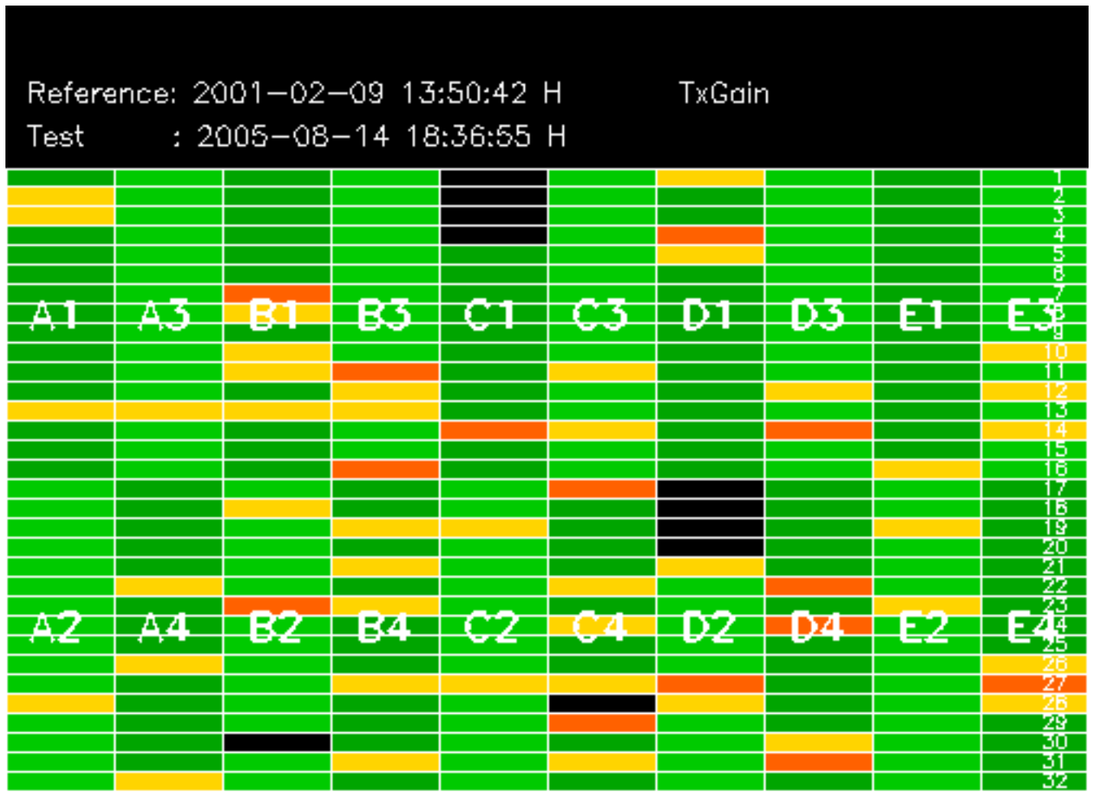

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug


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
15−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
15−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
15−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
15−Aug


Reference: 2001-02-09 13:50:42 H
Test : 2005-08-14 18:36:55 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
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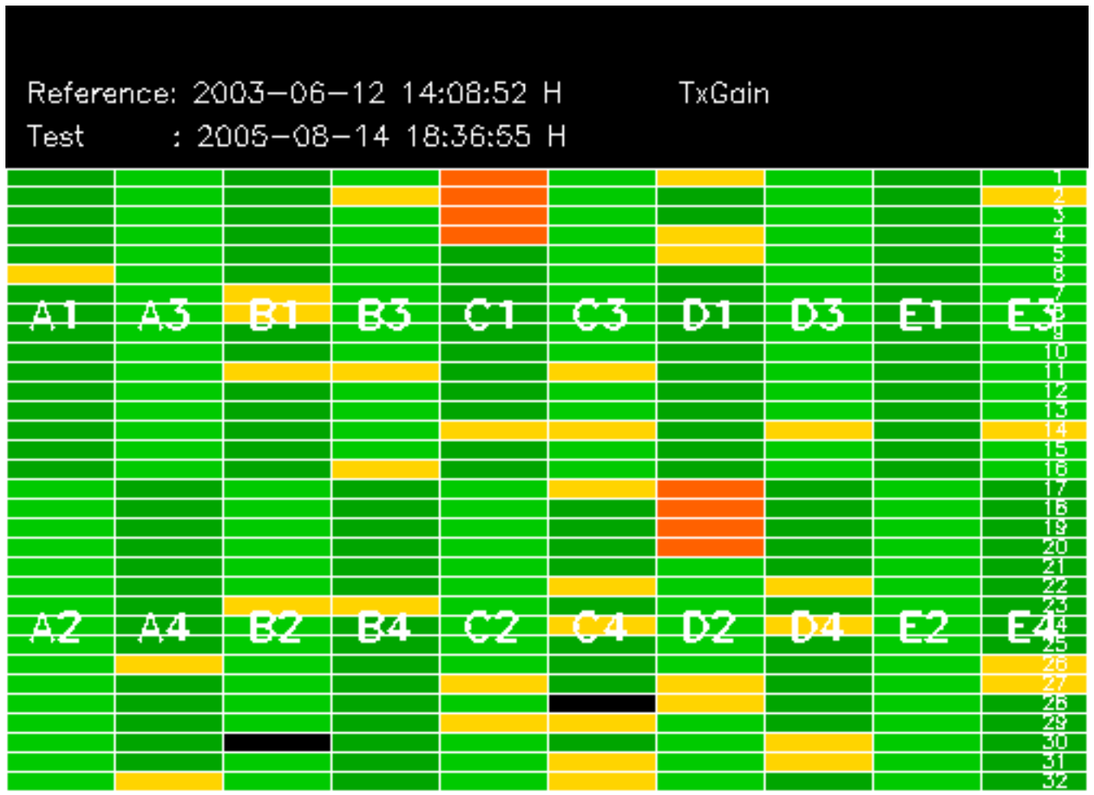
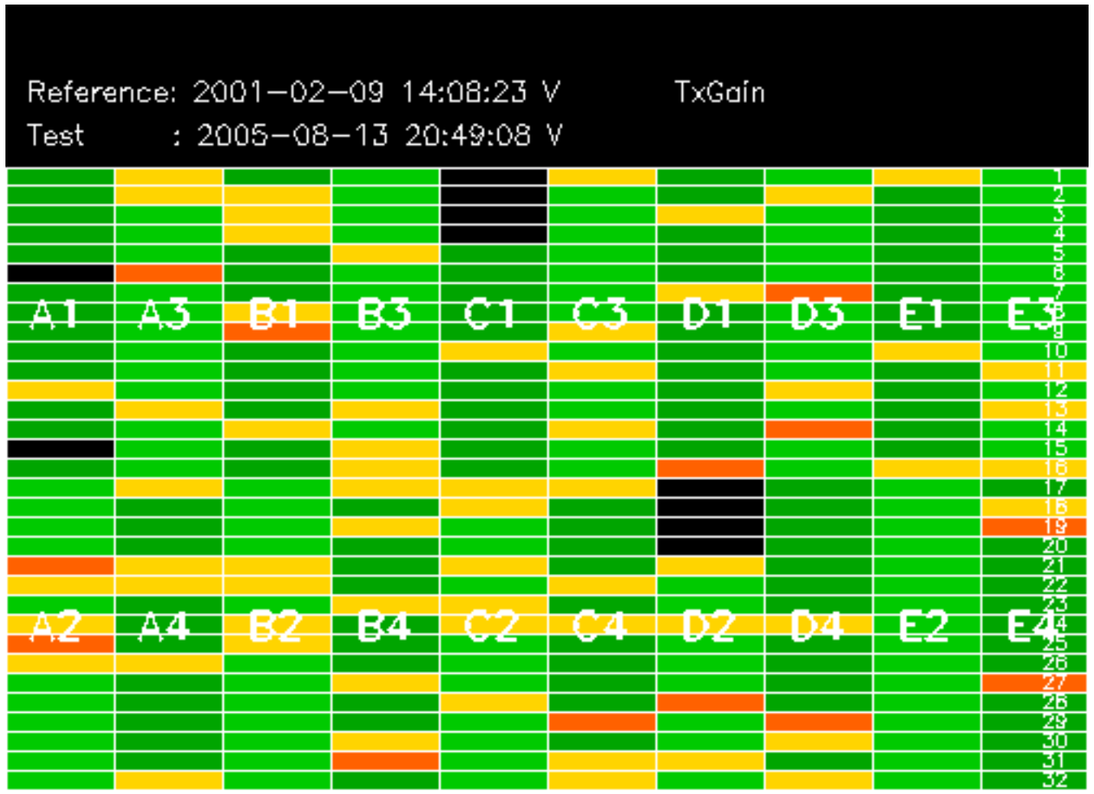

Reference: 2003-06-12 14:08:52 H
Test : 2005-08-14 18:36:55 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2005-08-13 20:49:08 V
TxGain
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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29
30
31
32


Reference: 2003-06-12 14:10:32 V
Test : 2005-08-13 20:49:08 V
TxGain
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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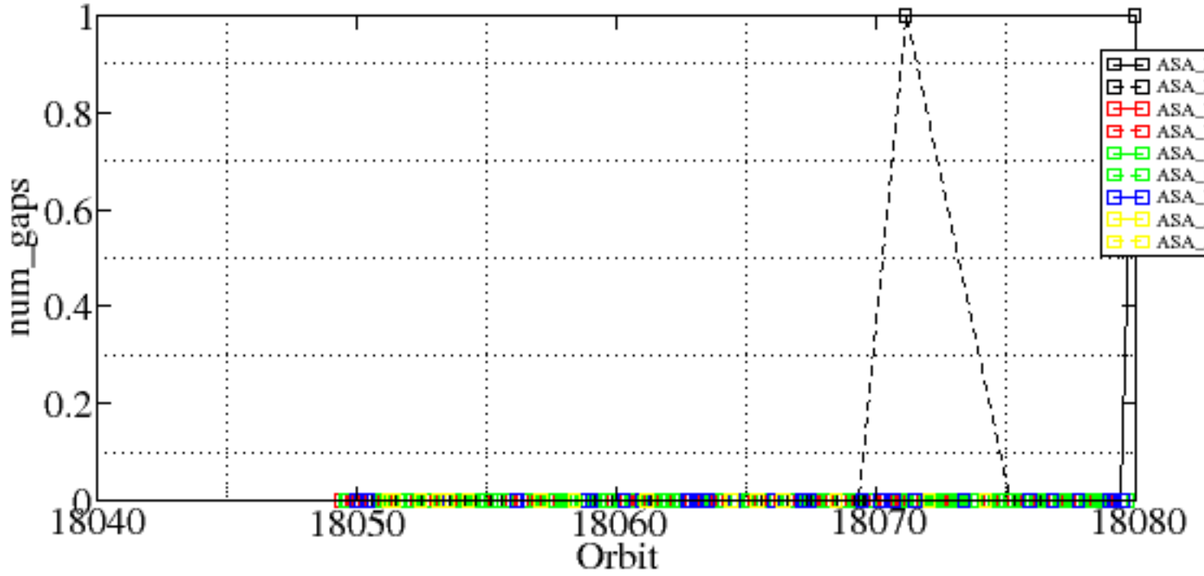
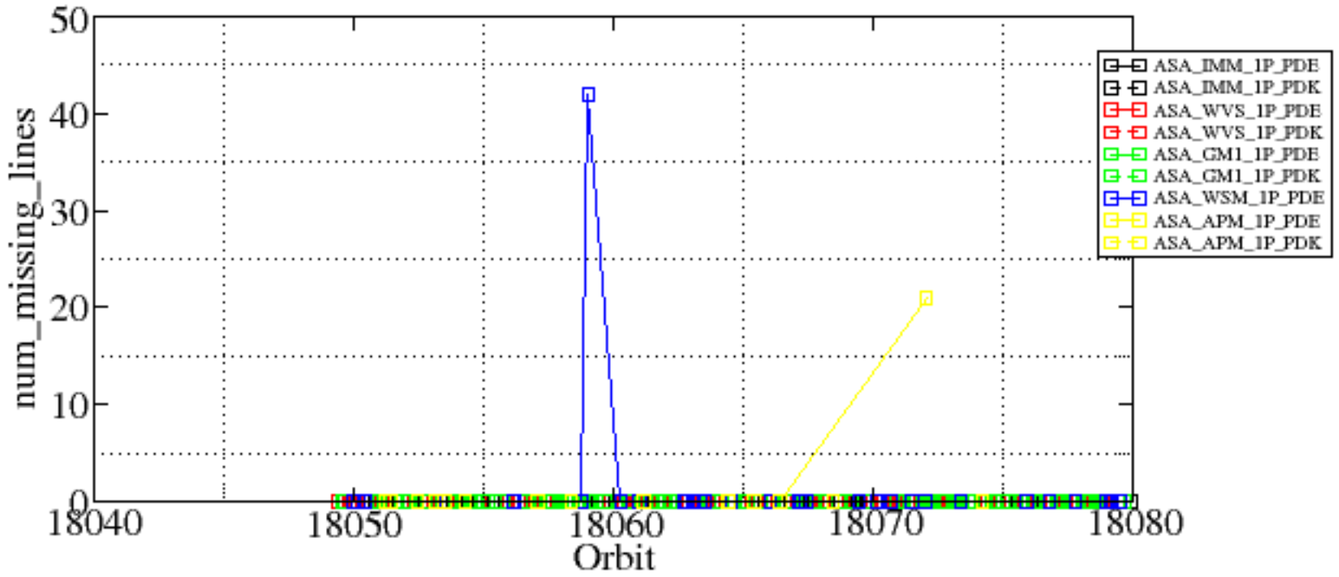
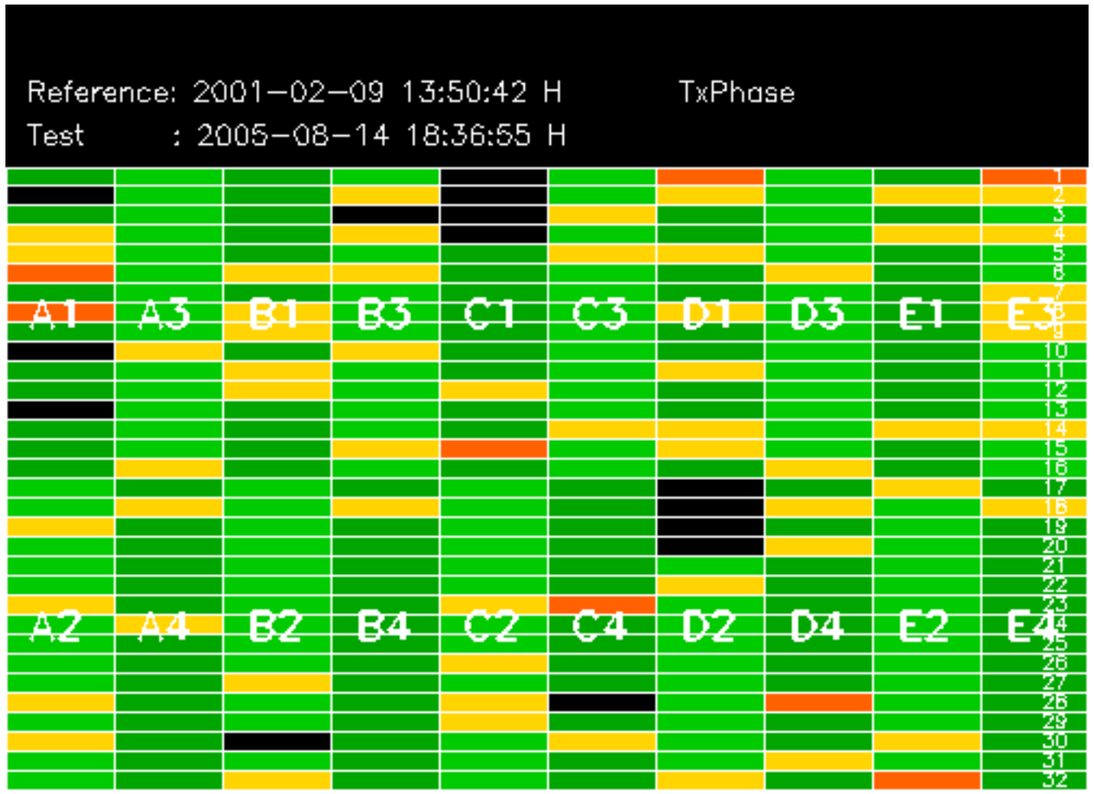
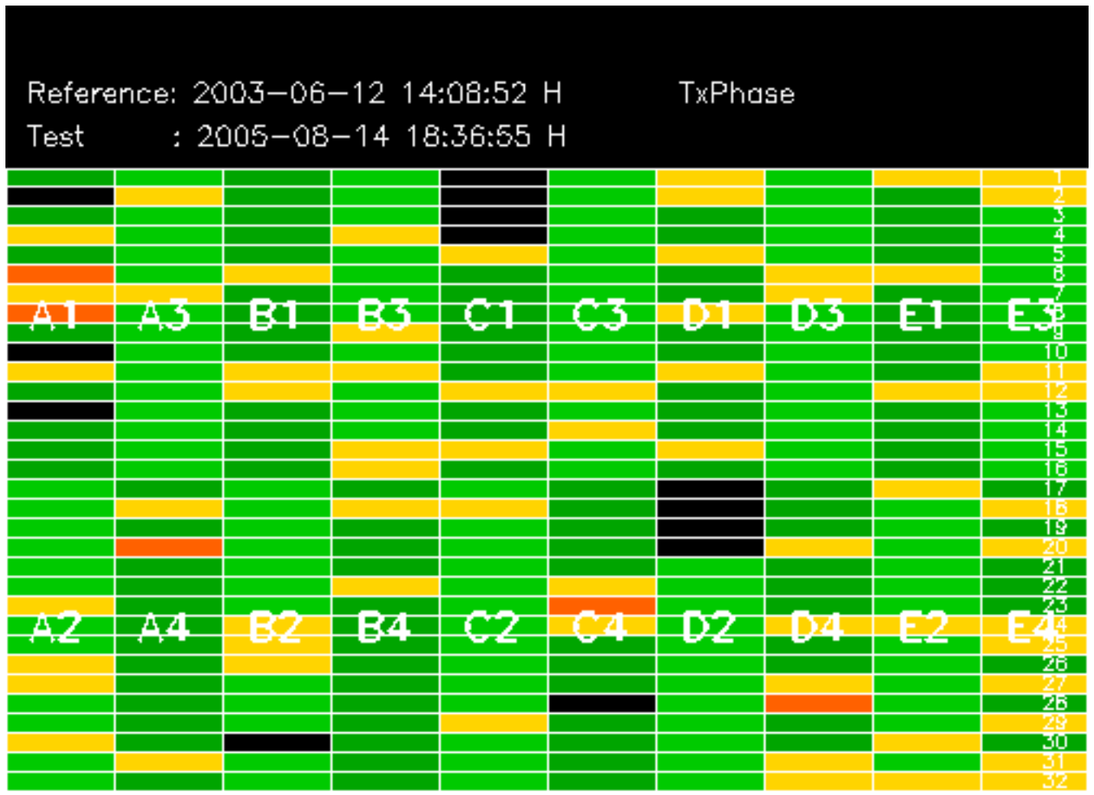
31
32

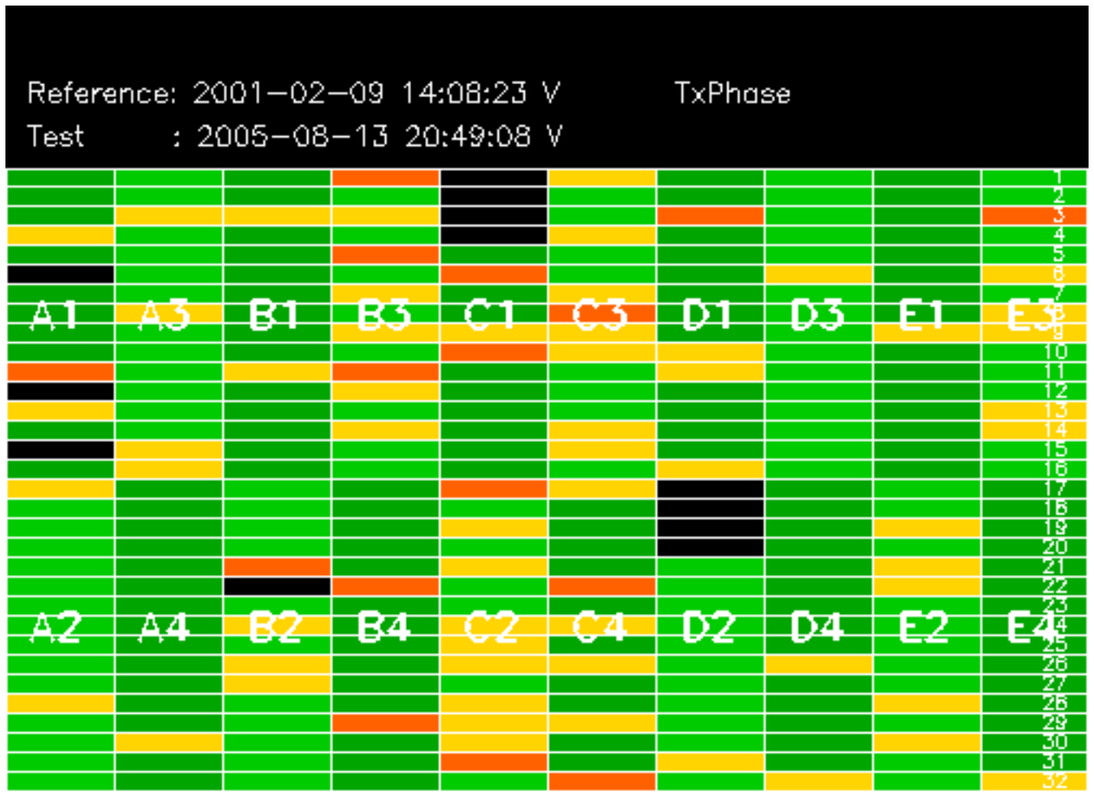
Summary of analysis for the last 3 days 2005081[345]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_IMM_1PNPDE20050815_032905_000002292039_00490_18079_2564.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_IMM_1PNPDK20050814_124040_000000362039_00482_18071_1689.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20050813_162408_000000912039_00470_18059_4387.N1 </td> <td>0 </td> <td>42 </td></tr>
<tr> <td>ASA_APM_1PNPDE20050814_141422_000000582039_00483_18072_0499.N1 </td> <td>0 </td> <td>21 </td></tr>
</table>

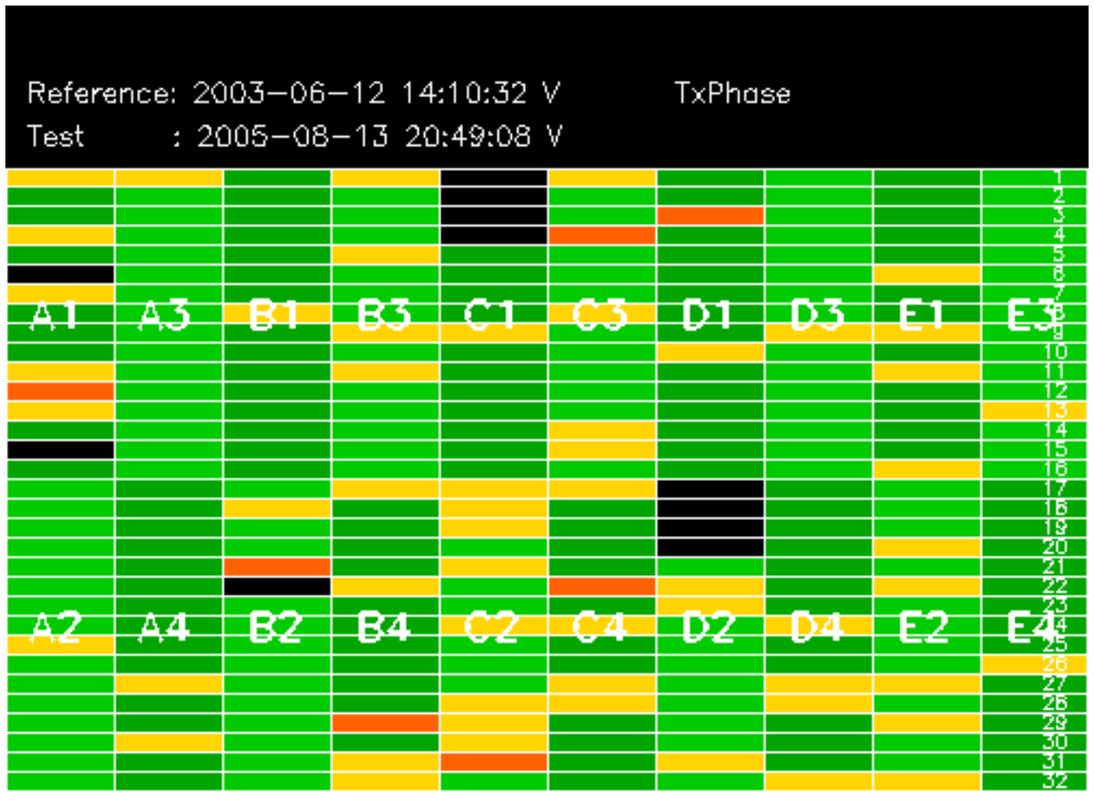

num_gaps
1
0.8
0.6
0.4
0.2
0
18040
18050
18060
18070
18080
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_APM_1P_PDE
ASA_APM_1P_PDK


num_missing_lines
50
40
30
20
10
0
18040
18050
18060
18070
18080
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
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2005-08-14 18:36:55 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2005-08-14 18:36:55 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 : 2005-08-13 20:49:08 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-08-13 20:49:08 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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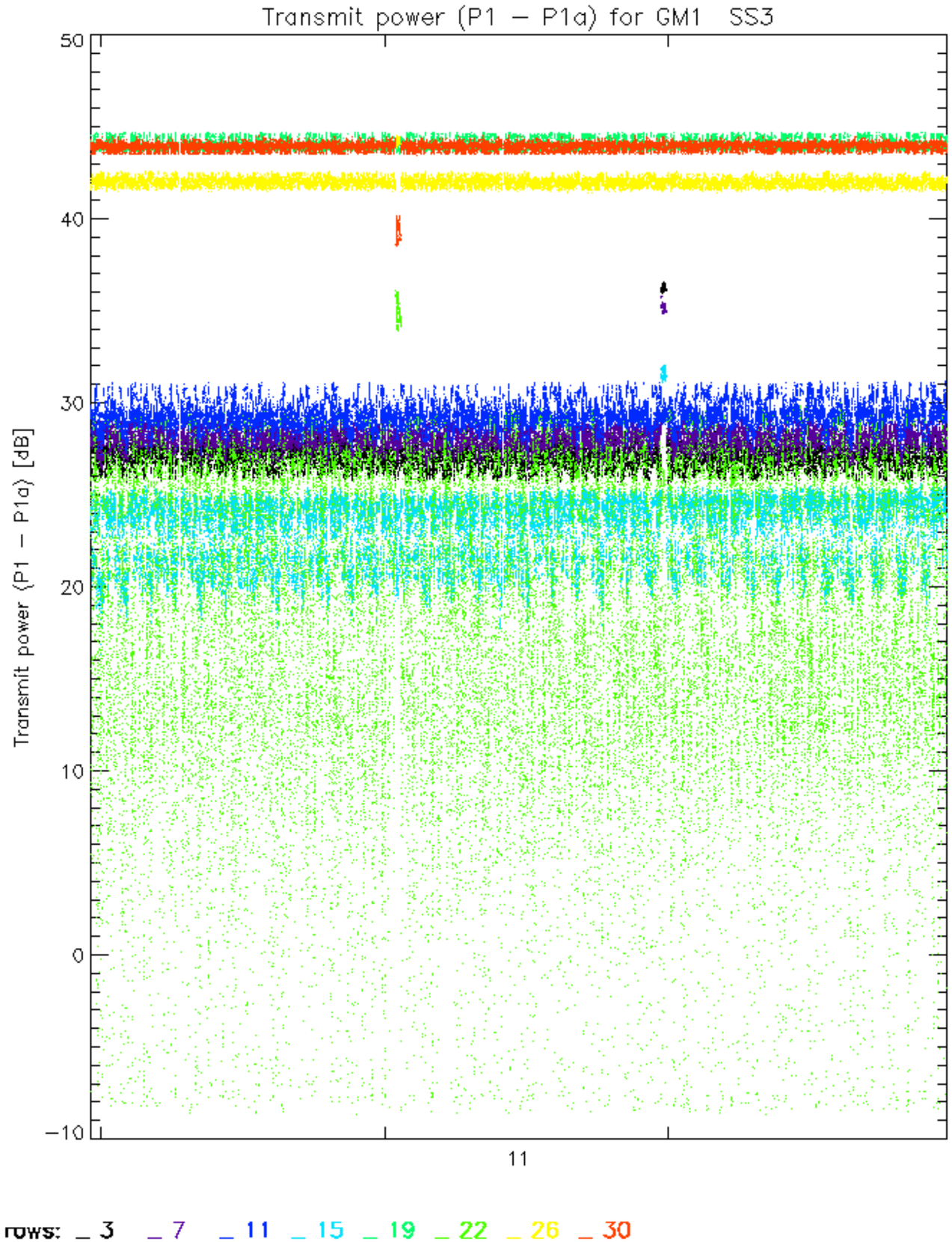
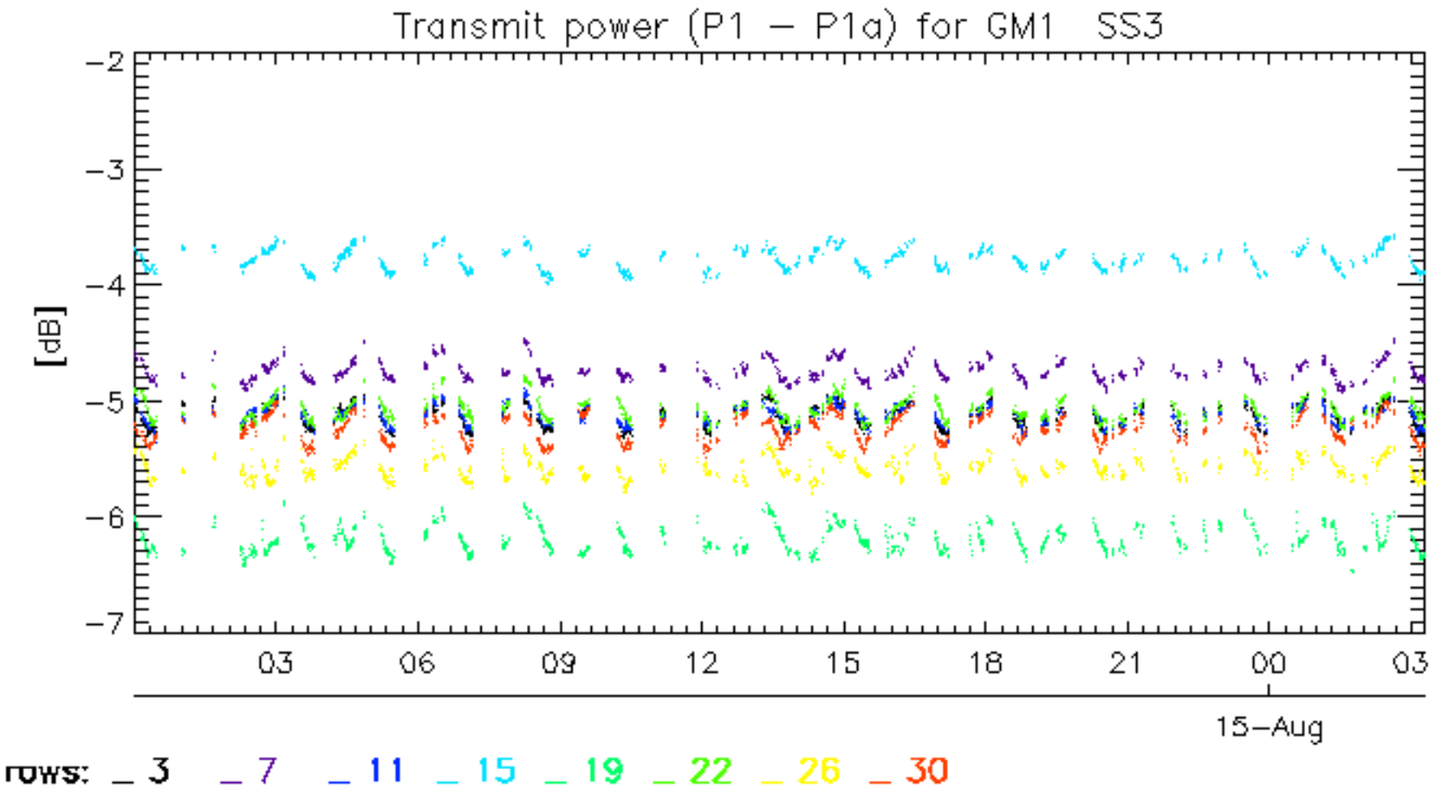
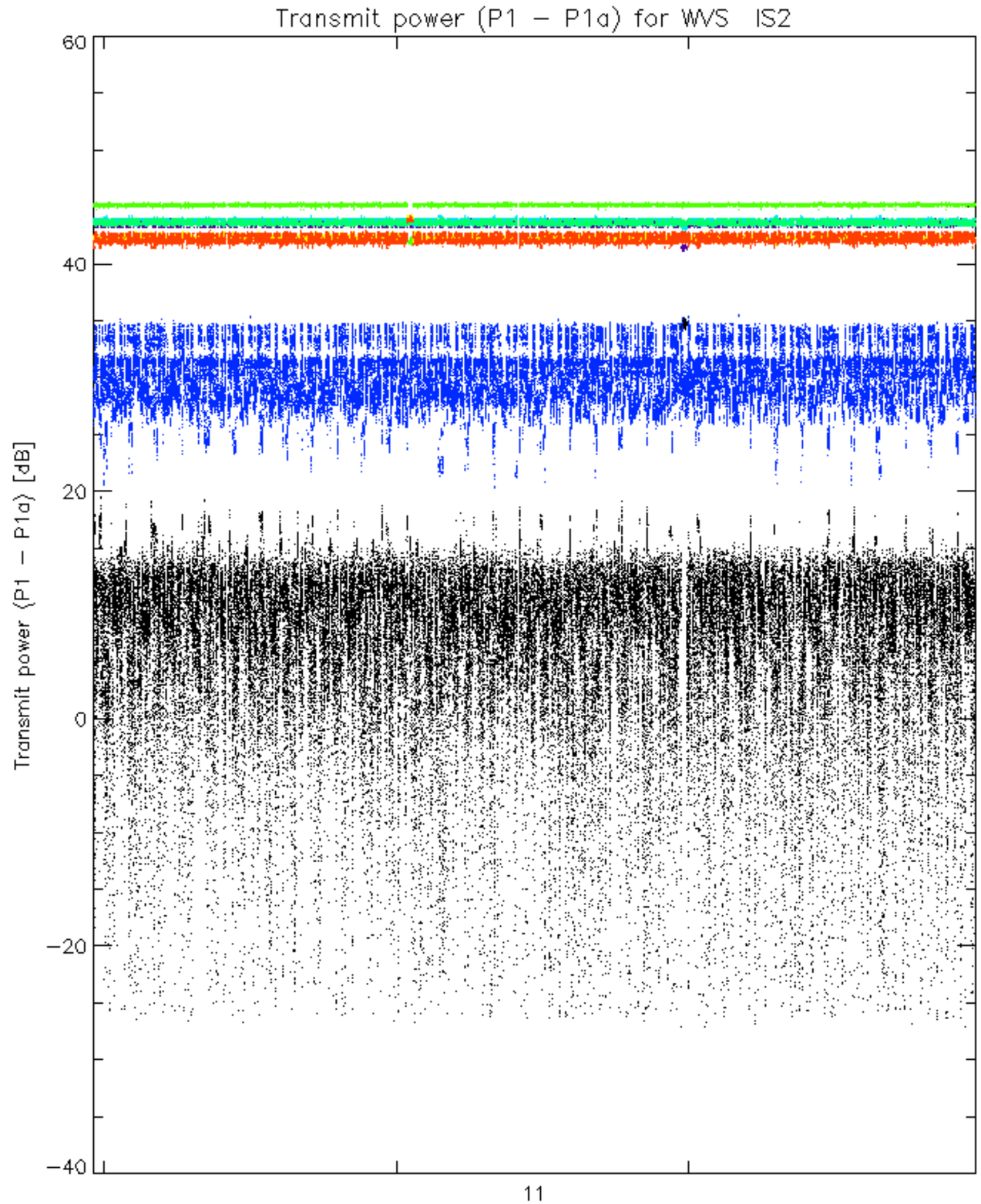
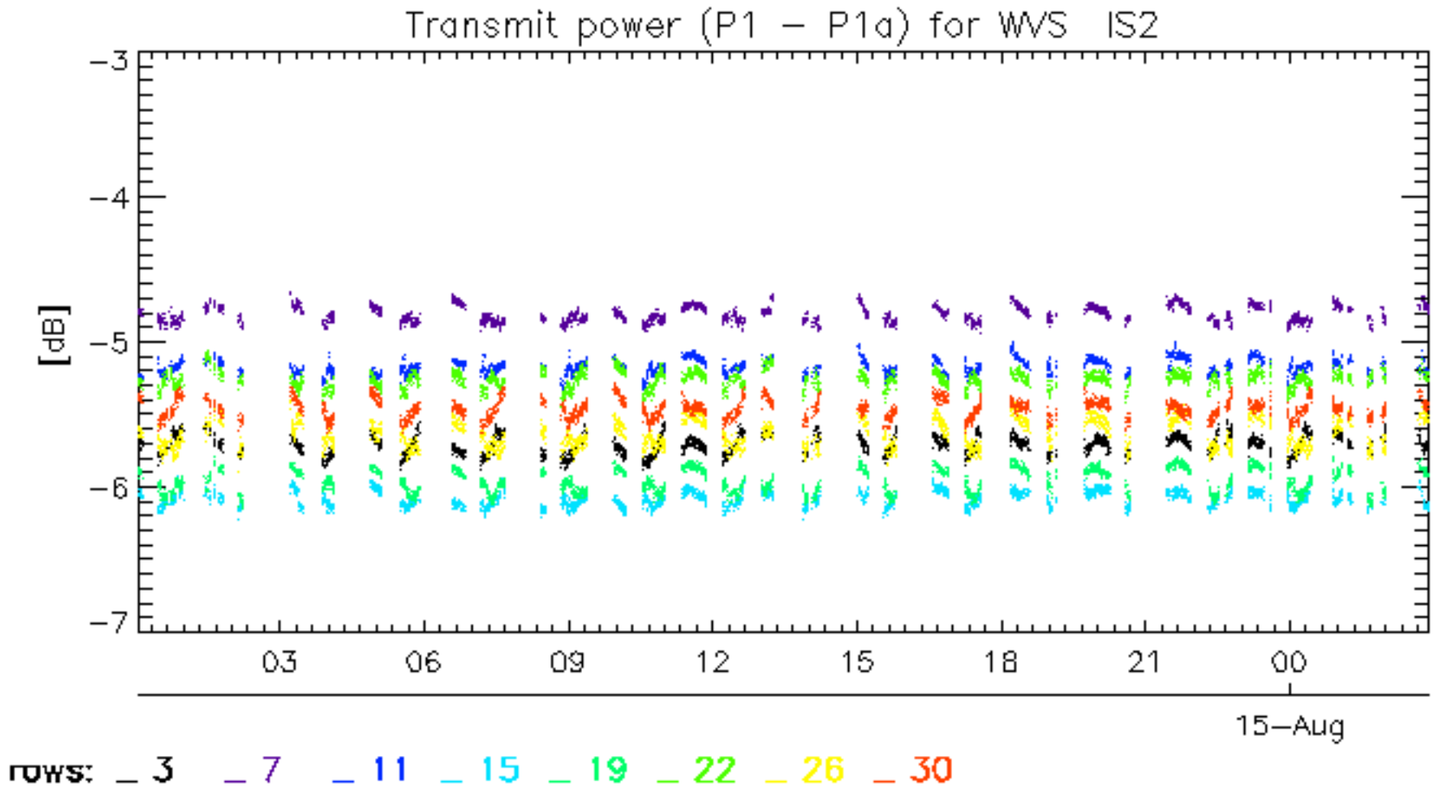
32


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
15–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
15–Aug
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.