PRELIMINARY REPORT OF 040822

ATTENTION: This report is automatically generated no comments are provided on data analysis

last update on Sun Aug 22 13:10:32 GMT 2004

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 - Browse Visual Inspection

2.3 - Data Analysis

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

3 - Module Stepping Mode

The MS mode provides an internal health check on an individual module basis.
The purpose of this mode is to identify to identify any malfunctionning modules and to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

Polarisation	Start Time
V	20040818 073843
H	20040821 060352

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.

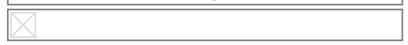
4.1 - Daily statistics

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	-3.471929	0.050934	0.076152
7	P1	-3.306614	0.055987	0.113099
11	P1	-4.646684	0.111252	-0.033324
15	P1	-5.751523	0.120437	-0.037956
19	P1	-3.458088	0.005446	-0.000712
22	P1	-4.550586	0.011169	0.063773
24	P1	-4.960684	0.019441	0.007791
30	P1	-6.923884	0.024070	-0.079395

3	P1	-15.913737	1.563250	1.356140
7	P1	-14.024876	0.167866	-0.201544
11	P1	-20.112165	0.414968	-0.310669
15	P1	-11.790589	0.165833	-0.027464
19	P1	-13.876444	0.034832	-0.033080
22	P1	-16.243330	0.351220	0.282197
24	P1	-14.562464	0.293891	0.210256
30	P1	-17.747349	0.441389	-0.285063

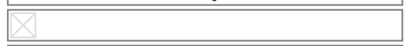
P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.305428	0.080754	0.042186
7	P2	-22.644329	0.132714	0.142692
11	P2	-15.370058	0.163887	0.146079
15	P2	-7.074032	0.094435	0.101030
19	P2	-9.558651	0.186041	0.096877
22	P2	-17.368246	0.114066	0.134674
24	P2	-20.747913	0.086390	0.008567
30	P2	-19.288967	0.080026	0.135850

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.140152	0.002527	0.014730
7	P3	-8.140165	0.002528	0.014796
11	P3	-8.140161	0.002528	0.014770
15	P3	-8.140155	0.002527	0.014708
19	P3	-8.140145	0.002527	0.014679
22	P3	-8.140142	0.002527	0.014636
24	P3	-8.140144	0.002527	0.014631
30	P3	-8.140067	0.002524	0.014266

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	-2.696699	0.270831	0.490826
7	P1	-2.955532	0.220837	0.340265
11	P1	-3.872621	0.169234	-0.053109
15	P1	-3.529674	0.137927	-0.030794
19	P1	-3.479648	0.014486	0.005172
22	P1	-5.672050	0.042144	-0.090788
24	P1	-3.877794	0.015858	-0.105668
30	P1	-6.177723	0.066496	0.057428
3	P1	-10.336153	1.056587	0.949773
7	P1	-10.068474	0.160106	0.184661
11	P1	-12.095108	0.117397	-0.202800
15	P1	-11.632203	0.108646	-0.147461
19	P1	-15.626480	0.051041	0.023282
22	P1	-23.346182	1.180957	-0.072198
24	P1	-17.807518	0.228825	-0.358067
30	P1	-20.360613	1.205767	-0.287473

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.977053	0.059446	0.056195
7	P2	-22.777887	0.052930	0.130350
11	P2	-11.025627	0.074095	0.176023
15	P2	-4.952262	0.039820	0.042833
19	P2	-6.766706	0.058534	0.078116
22	P2	-7.456393	0.049065	0.078414
24	P2	-11.038611	0.053837	0.027287
30	P2	-22.229933	0.045769	0.140050

P3 Cyclic statistics

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

3	P3	-7.986762	0.003790	0.005400
7	P3	-7.986743	0.003798	0.005868
11	P3	-7.986845	0.003789	0.005326
15	P3	-7.986727	0.003792	0.005468
19	P3	-7.986792	0.003798	0.005605
22	P3	-7.986673	0.003791	0.005832
24	P3	-7.986763	0.003803	0.005633
30	P3	-7.986758	0.003793	0.005446

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	0.000492287
	stdev	2.14418e-07
MEAN Q	mean	0.000540109
	stdev	2.41913e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129221
	stdev	0.00100636

STDEV Q	mean	0.129461
	stdev	0.00101811

5.3 - Gain imbalance I/Q

6 - Doppler Analysis

Preliminary report.The data is not yet controled

6.1 - Unbiased Doppler Error for WVS

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

6.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler
Acsending
Descending

6.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX

6.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)

Acsending

Descending

6.5 - Absolute Doppler for GM1

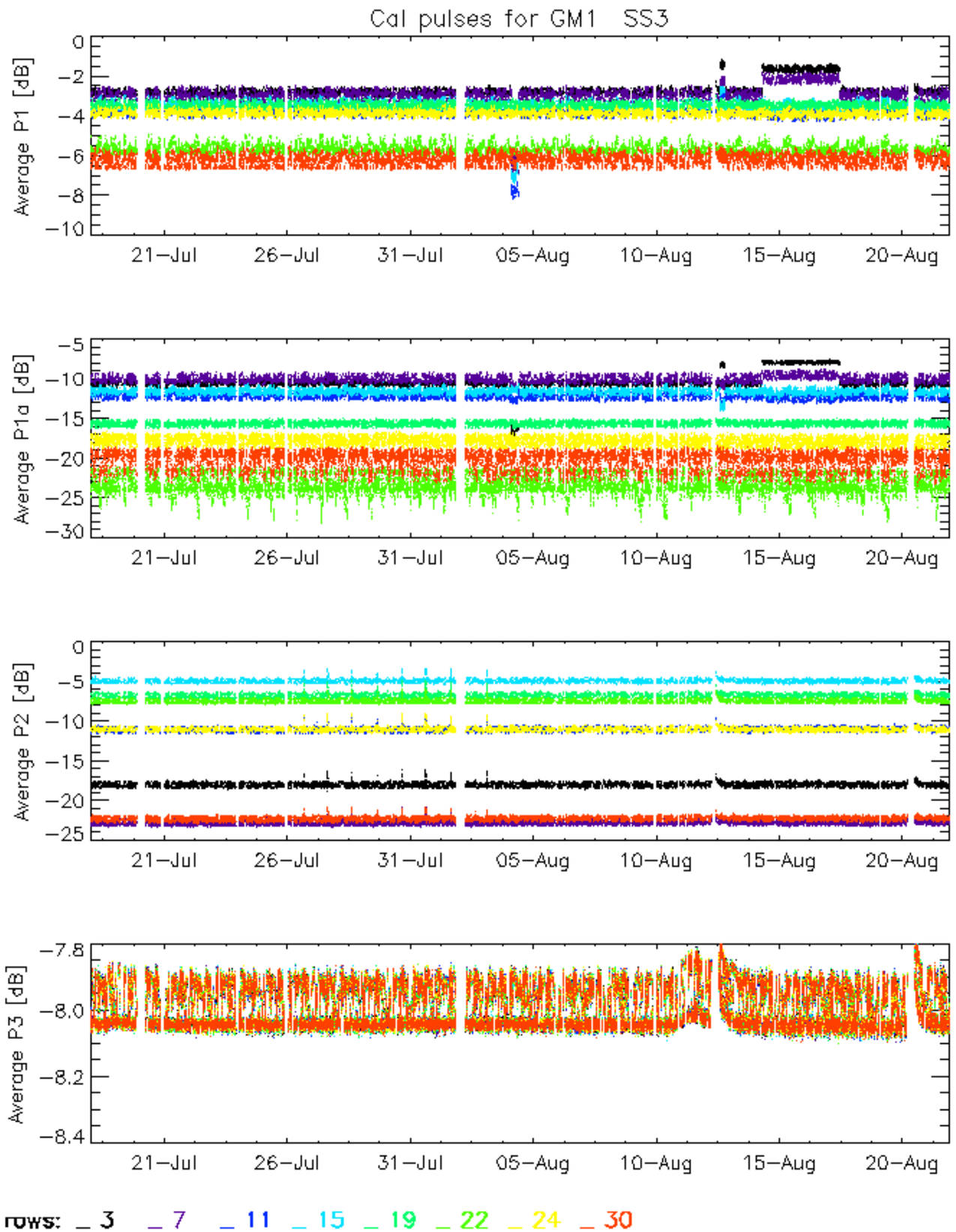
Evolution of Absolute Doppler

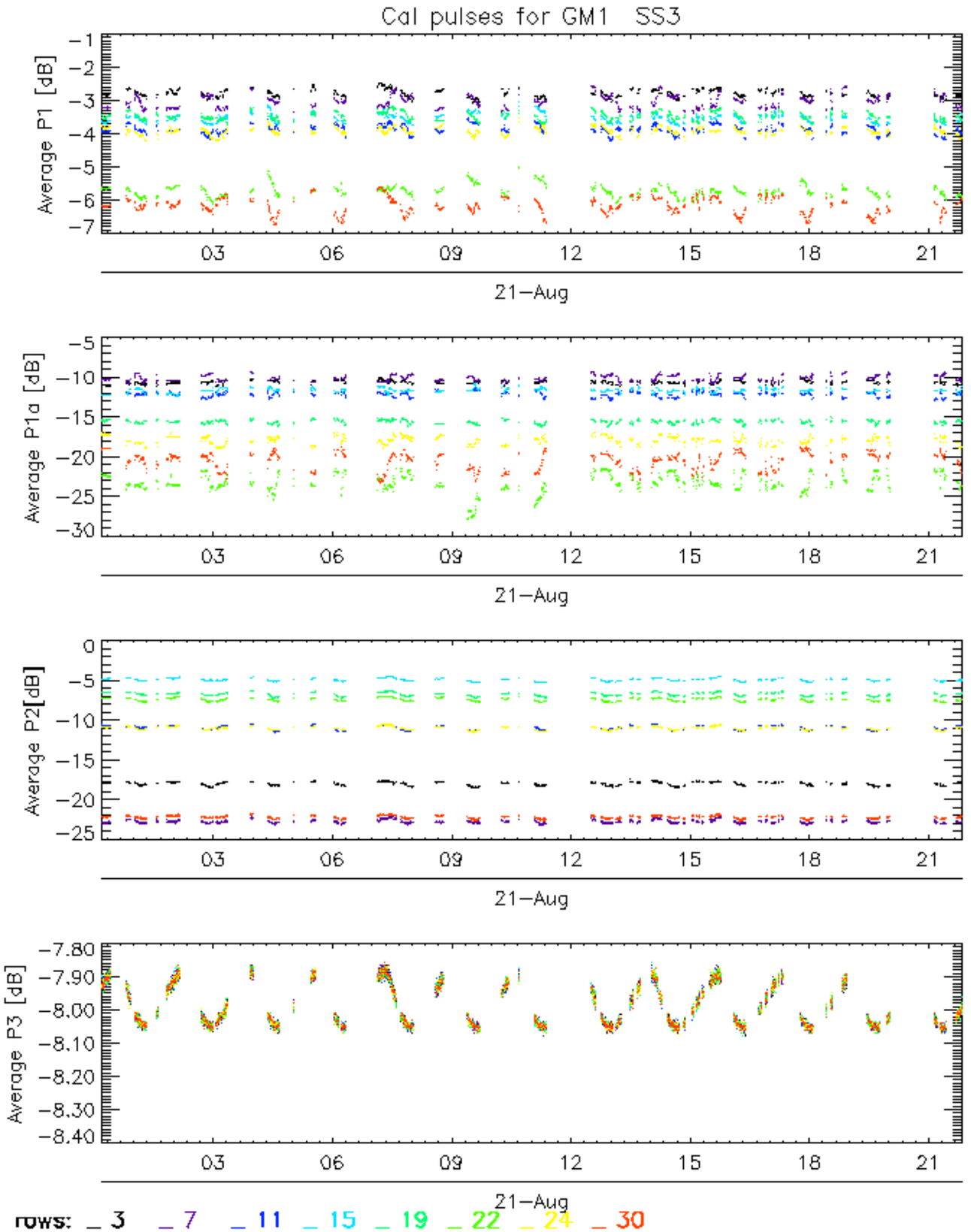
Acsending

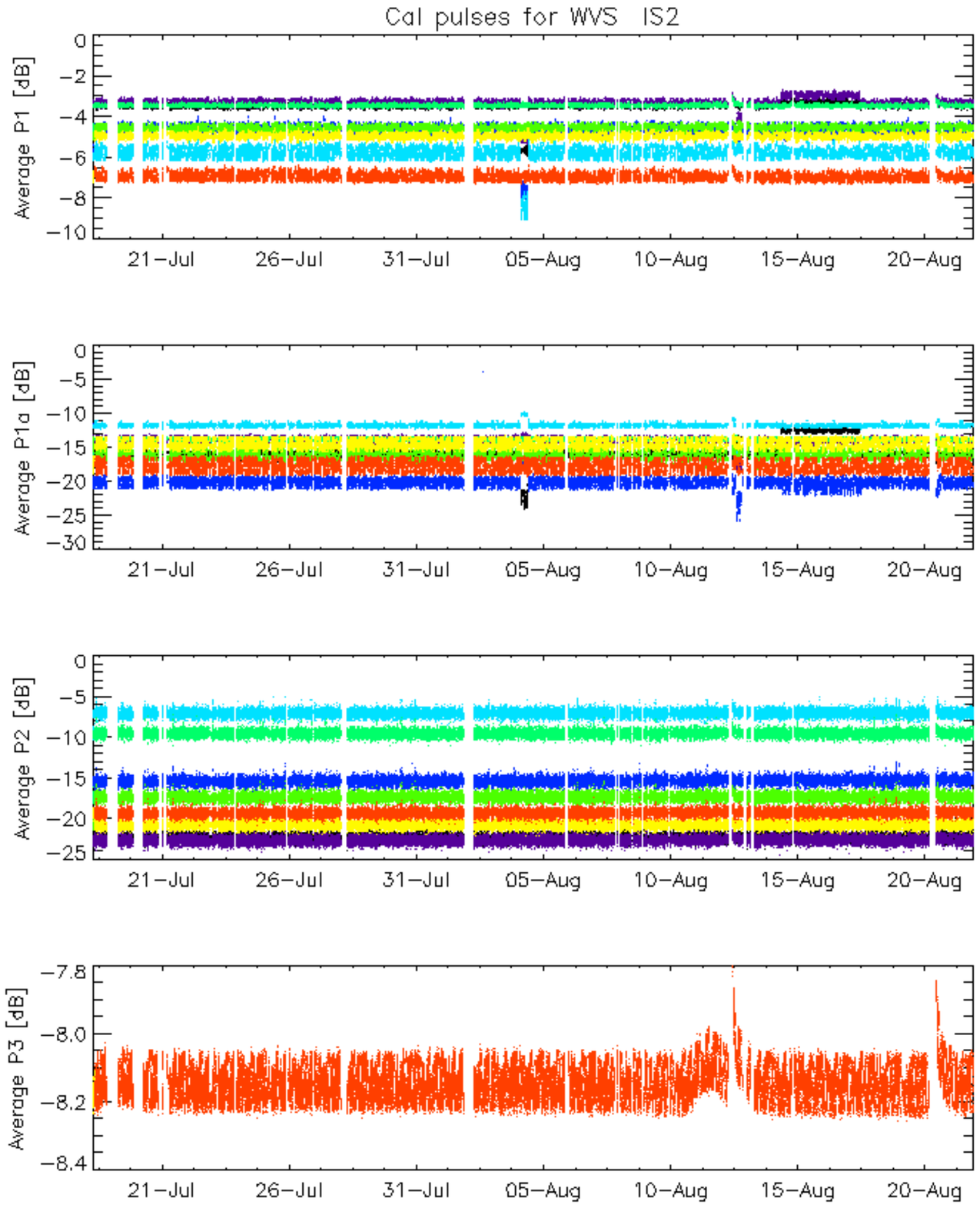
Descending

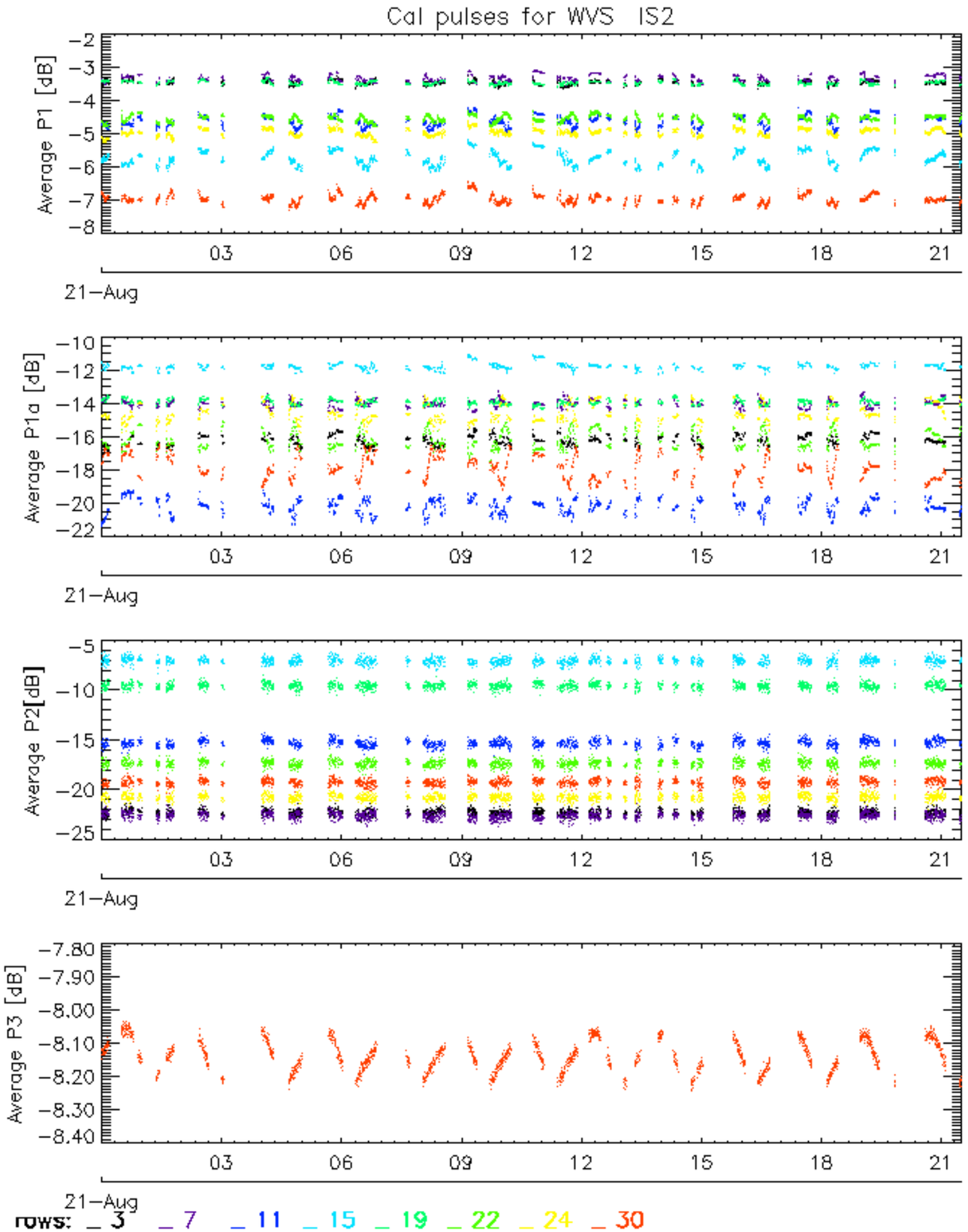
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

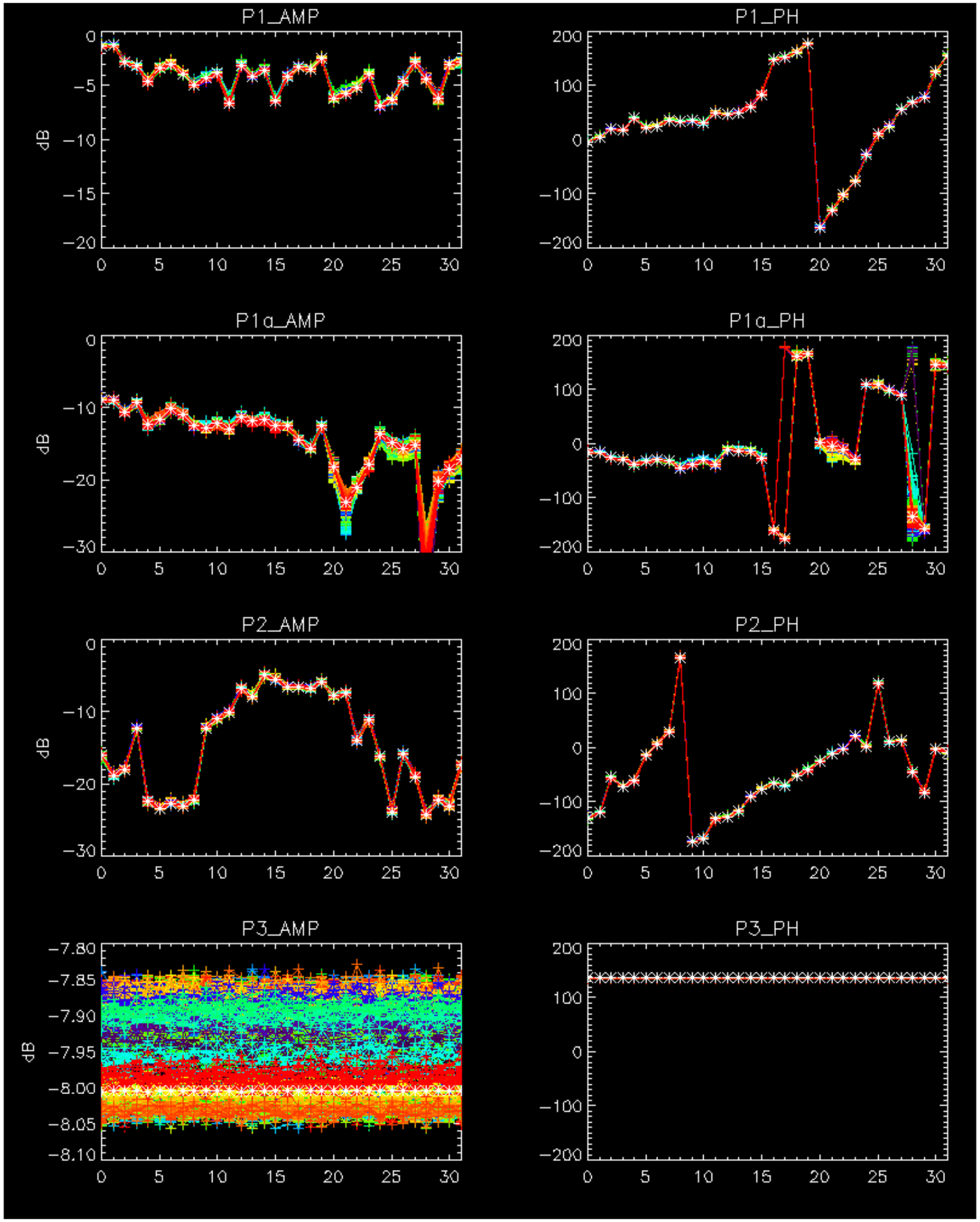


Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
−10
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug
20−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

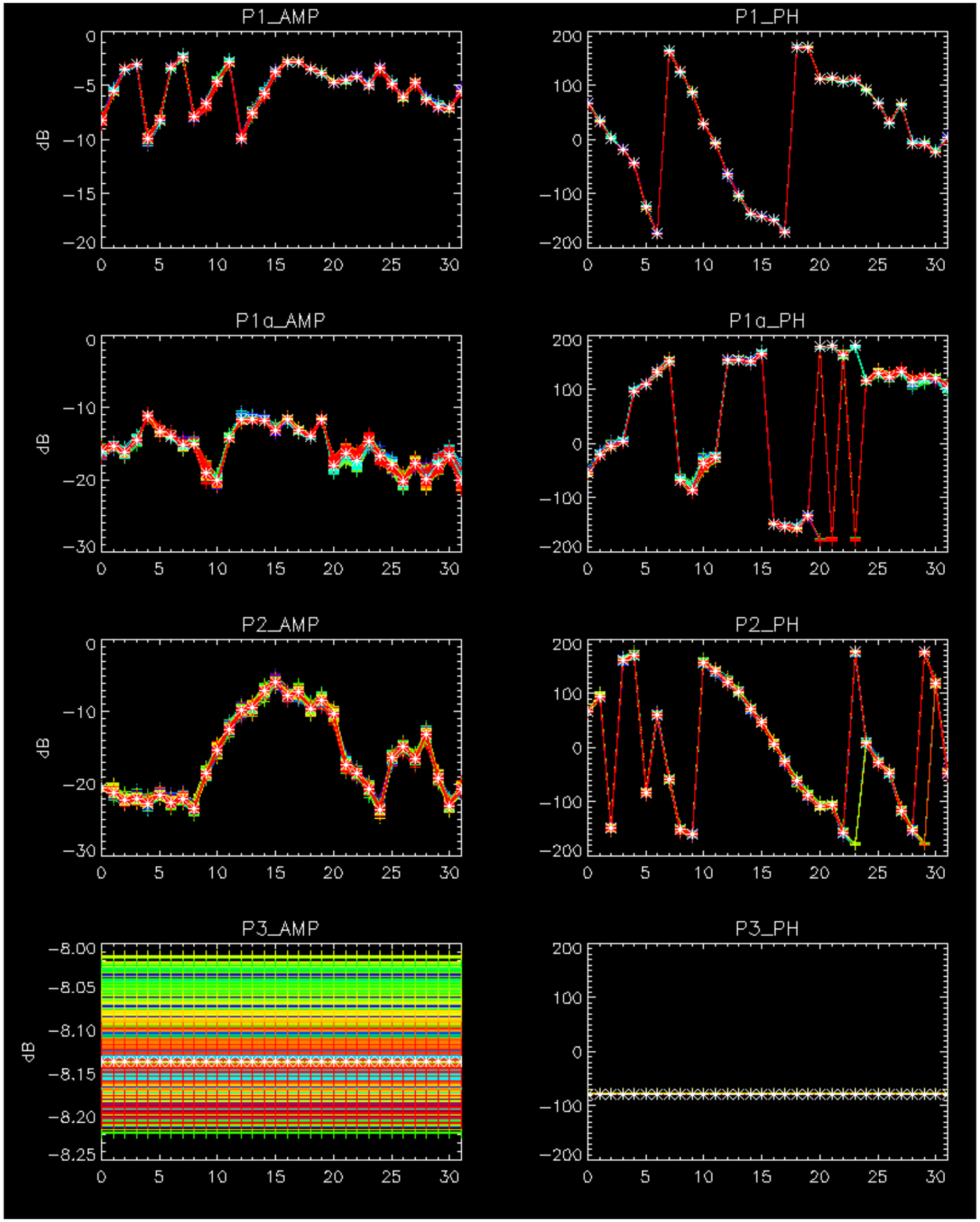

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
21−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
21
21−Aug
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
21−Aug
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06
09
12
15
18
21
21−Aug
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug
20−Aug
Average P1a [dB]
0
−5
−10
−15
−20
−25
−30
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−2
−3
−4
−5
−6
−7
−8
03
06
09
12
15
18
21
21−Aug
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
03
06
09
12
15
18
21
21−Aug
Average P2[dB]
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
21−Aug
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06
09
12
15
18
21
21−Aug
rows: 3 7 11 15 19 22 24 30

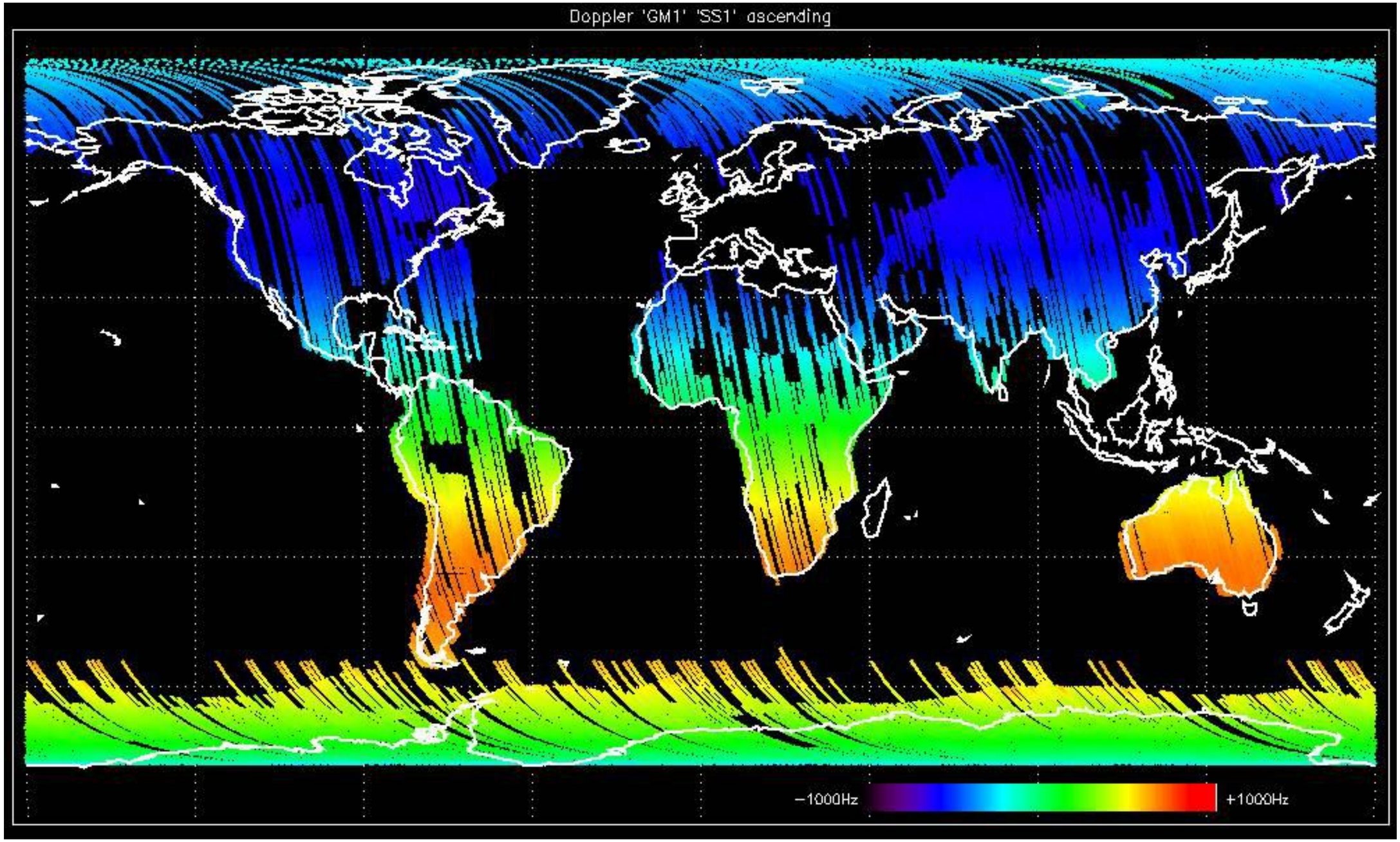
No anomalies observed.

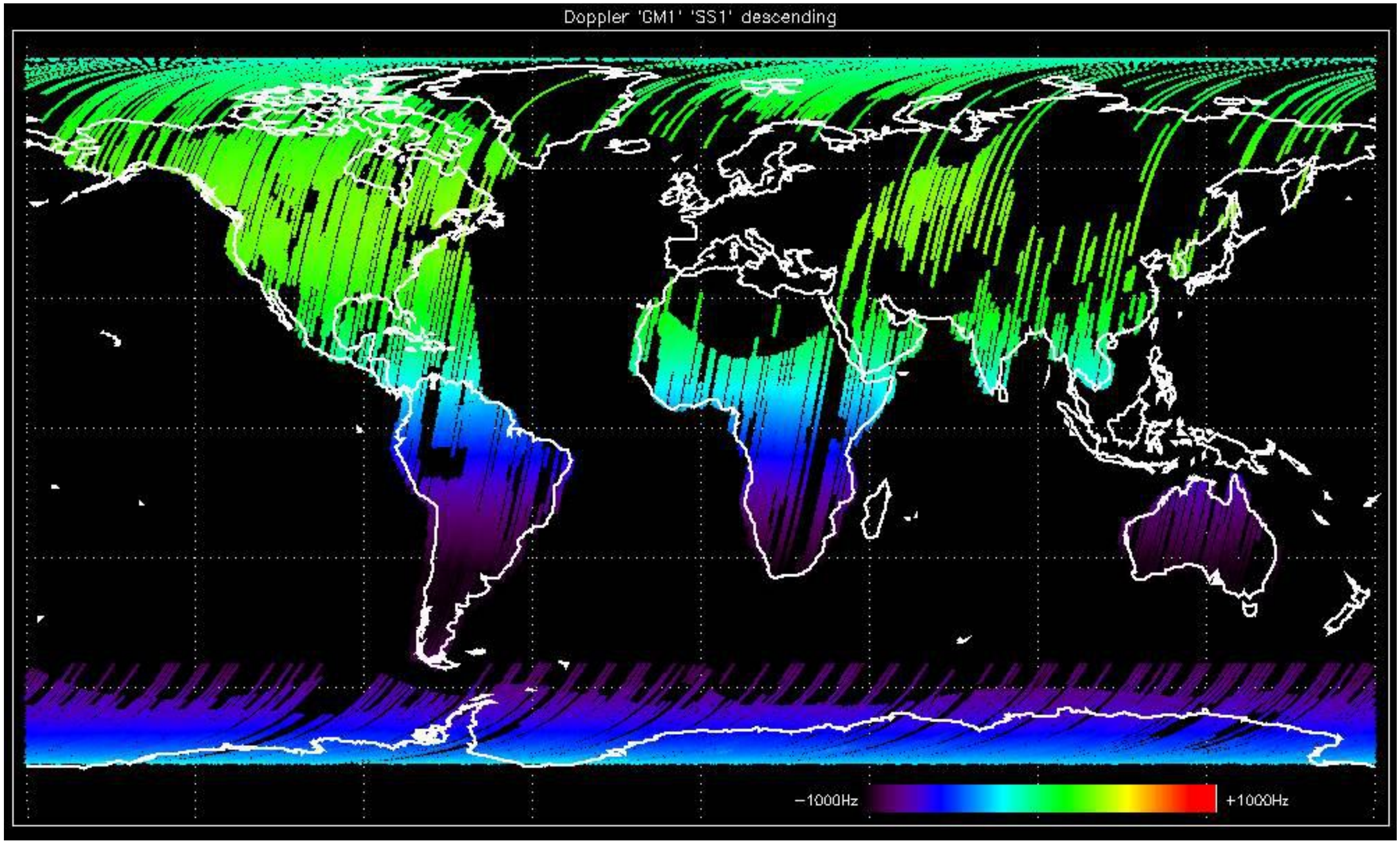

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.80
−7.85
−7.90
−7.95
−8.00
−8.05
−8.10
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

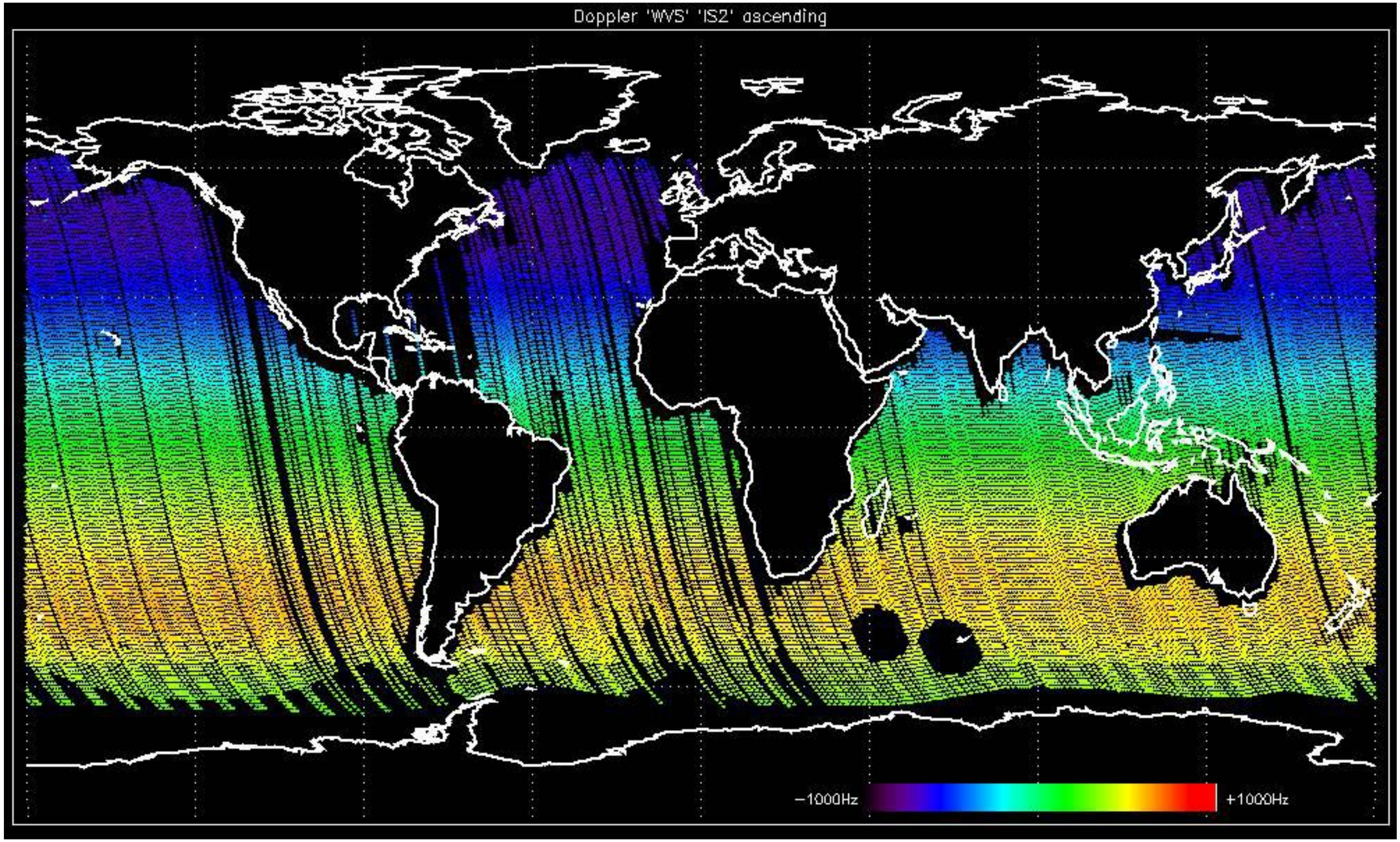

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15
−8.20
−8.25
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

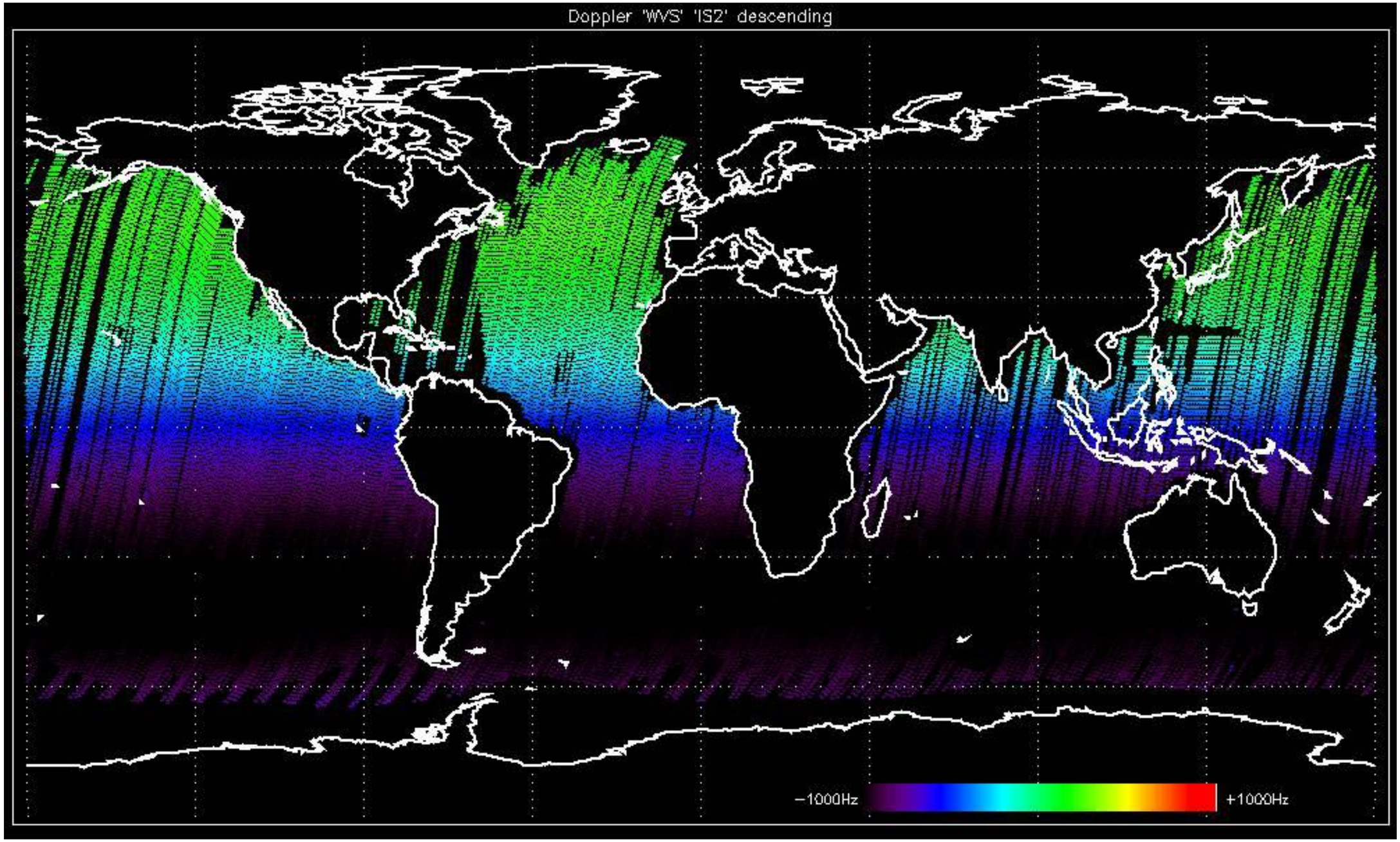
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

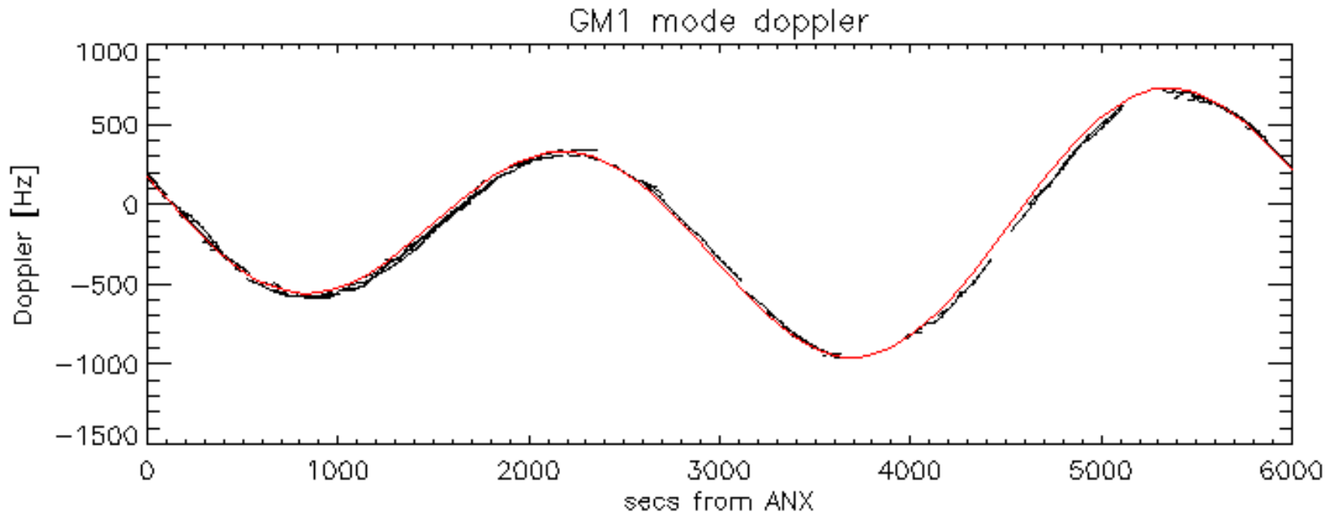
Preliminary report.The data is not yet controled

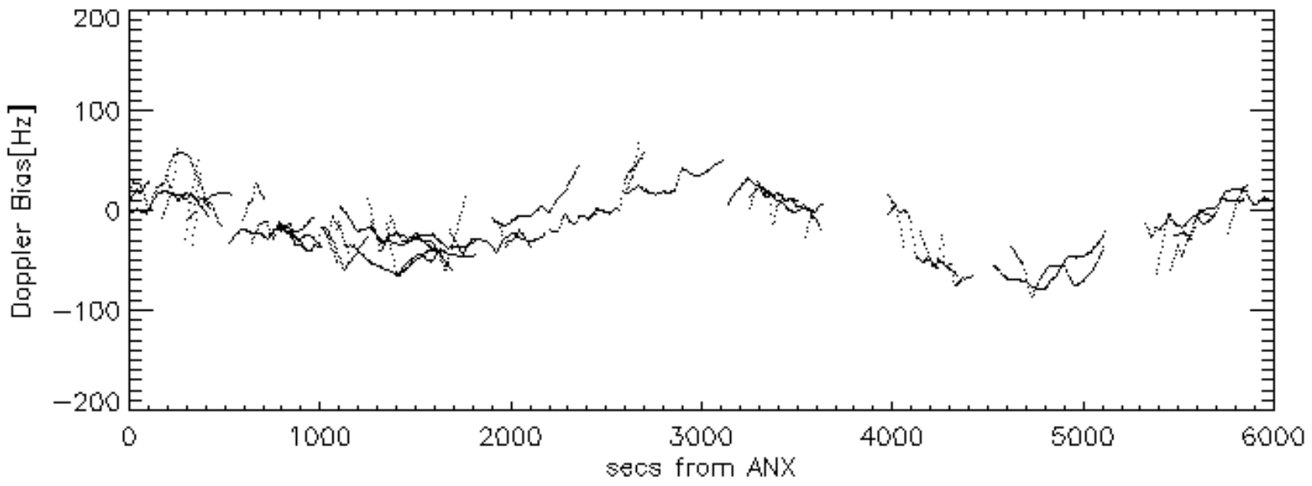

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

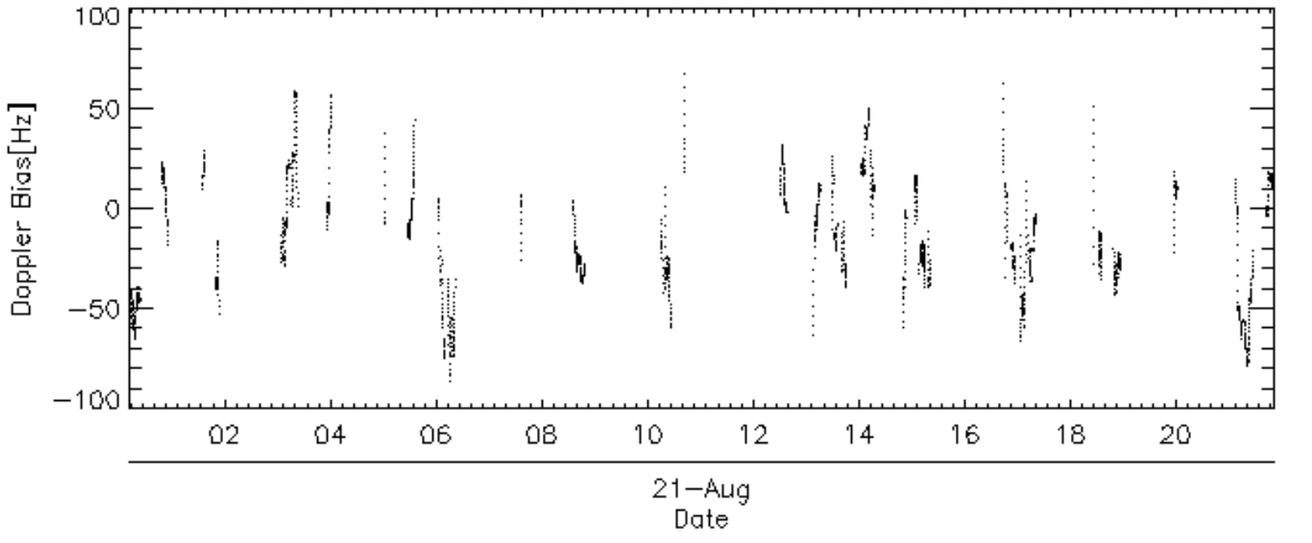

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

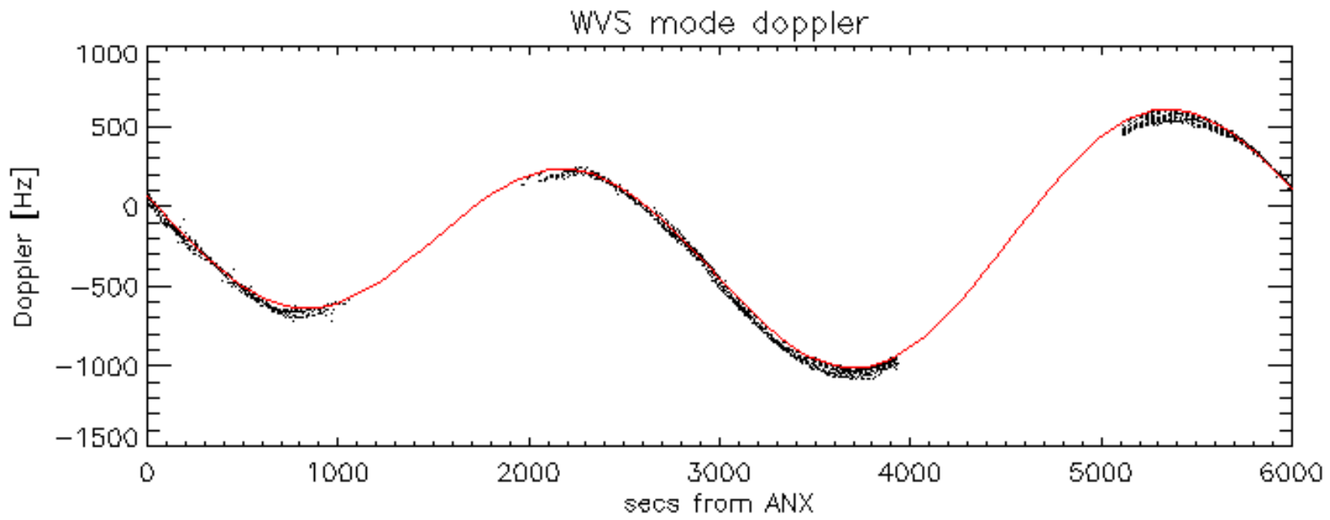

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

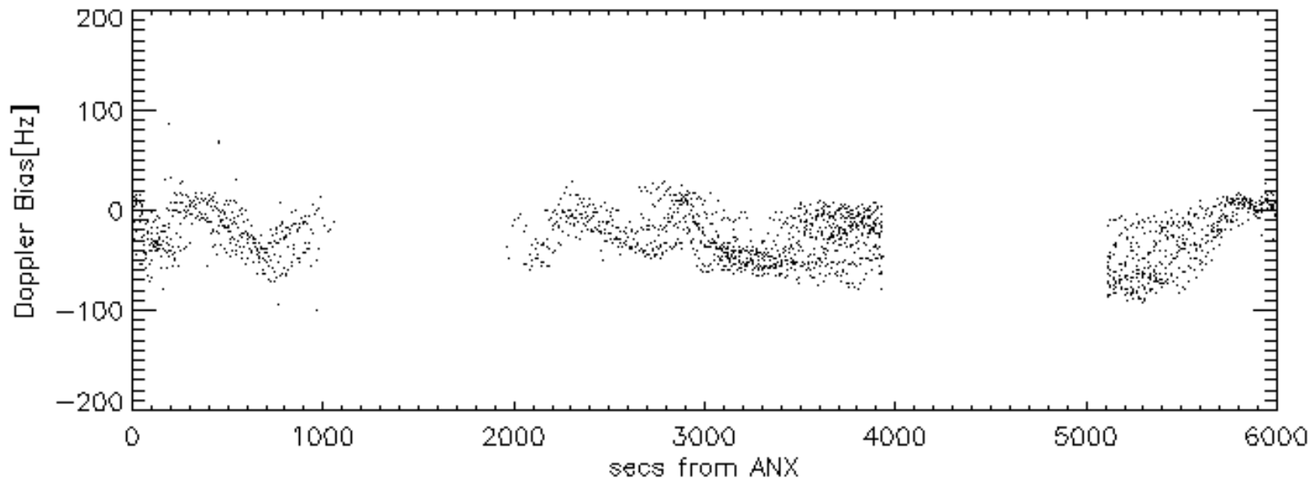

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

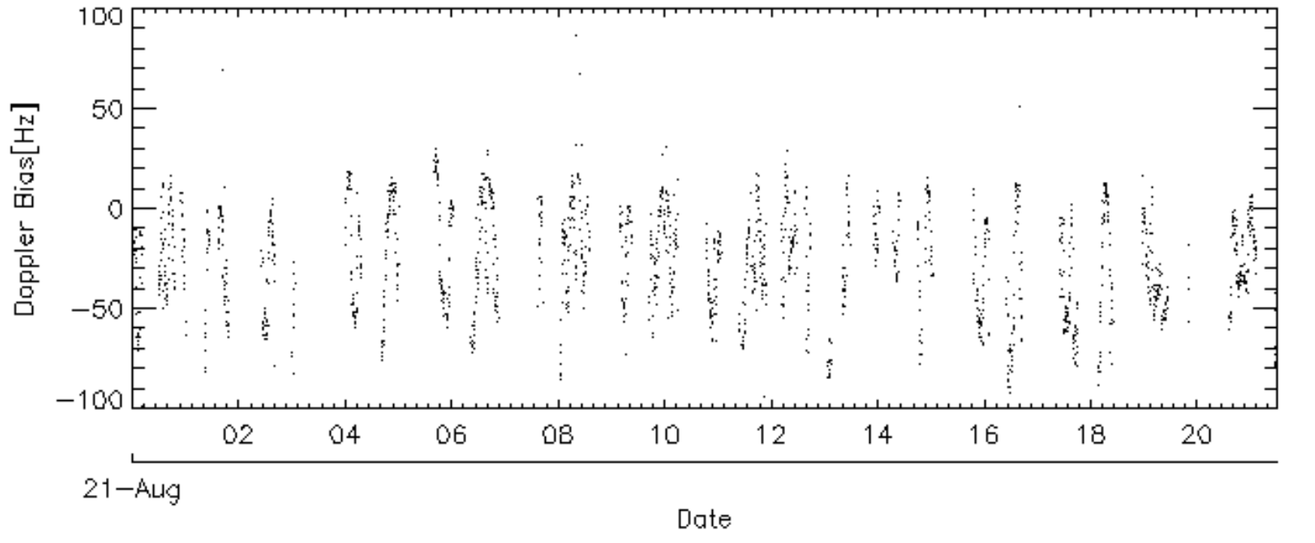

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

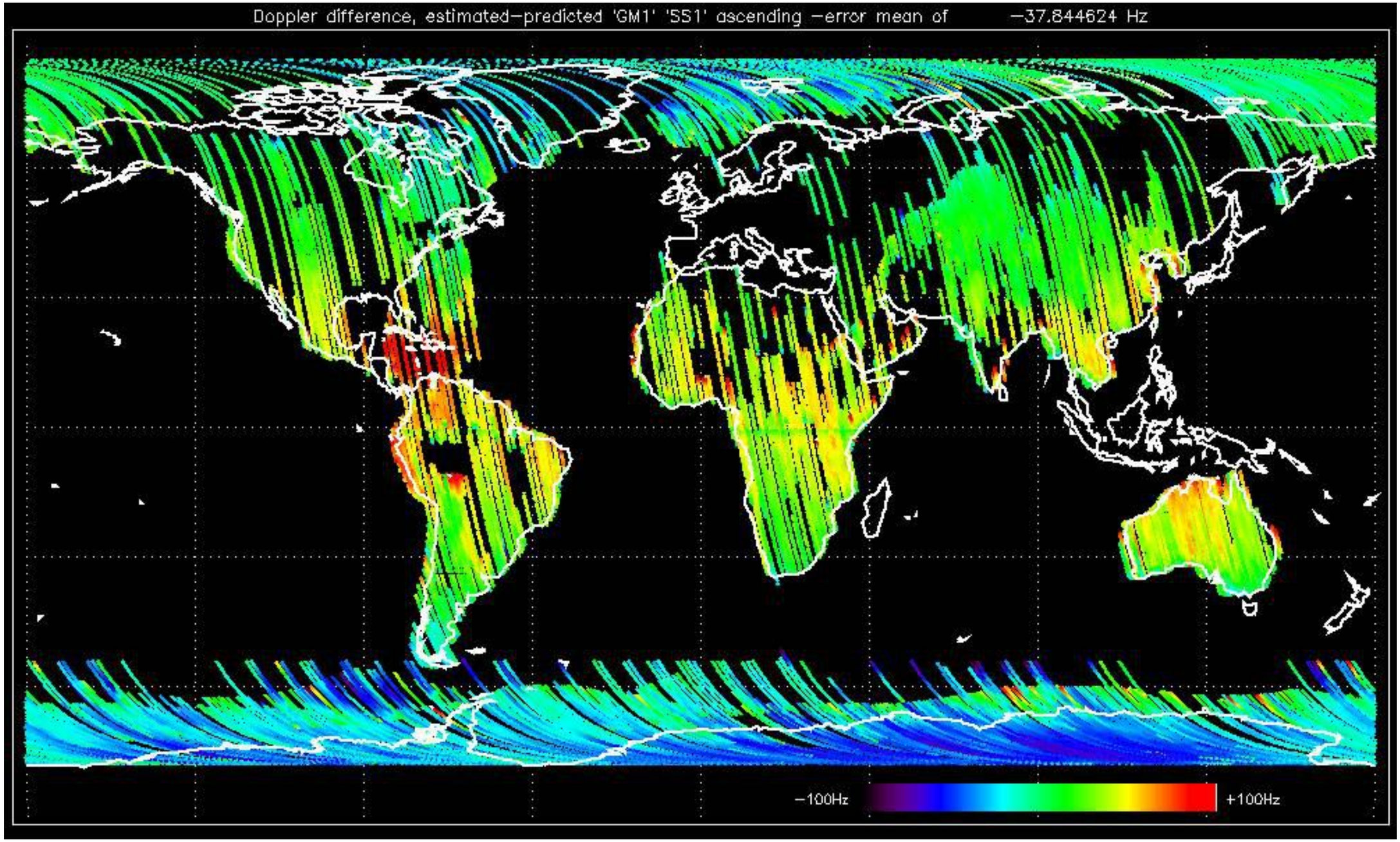

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

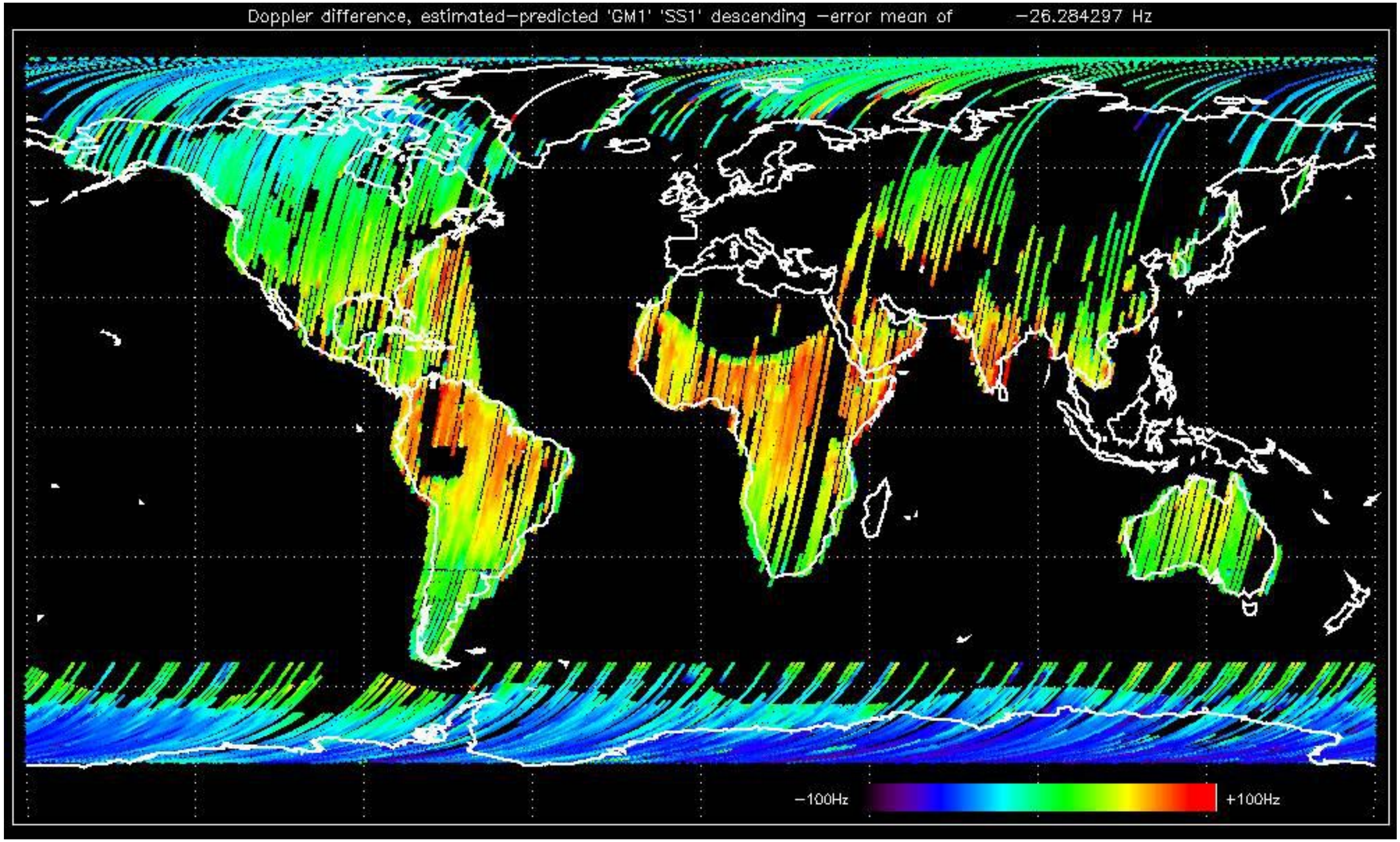

Doppler Bias[Hz]
100
50
0
−50
−100
02
04
06
08
10
12
14
16
18
20
21−Aug
Date

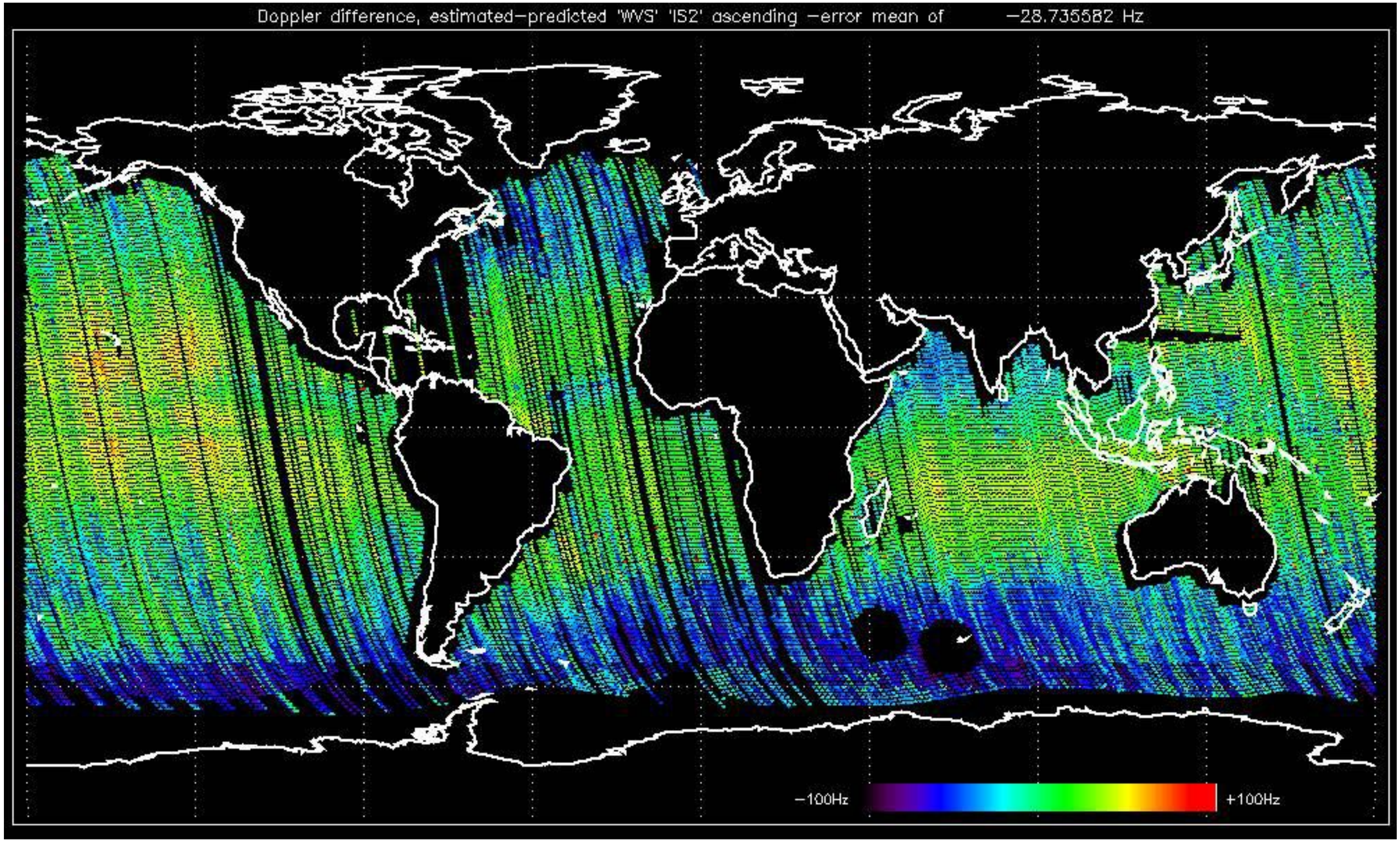

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

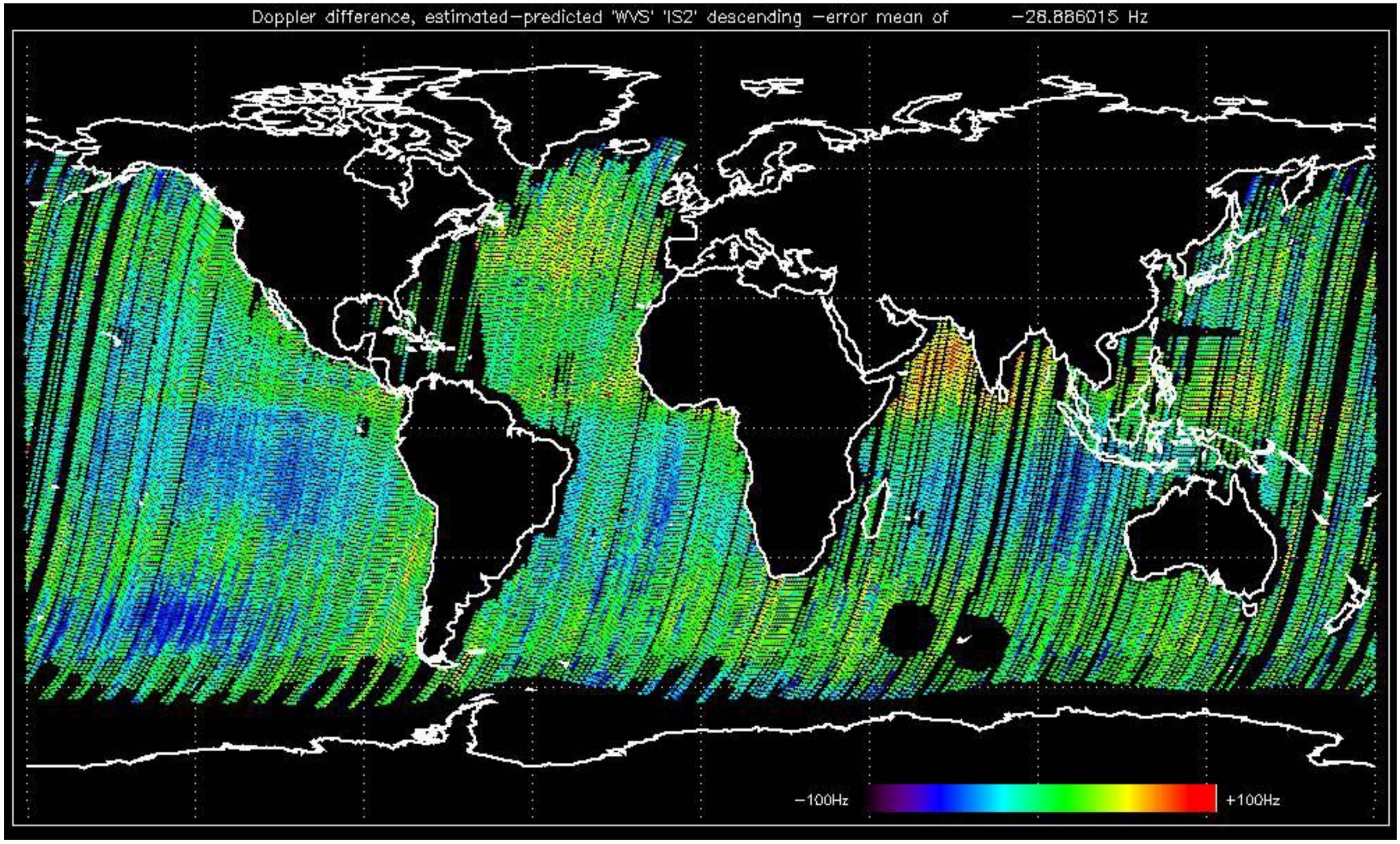

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −37.844624 Hz
−100Hz
+100Hz

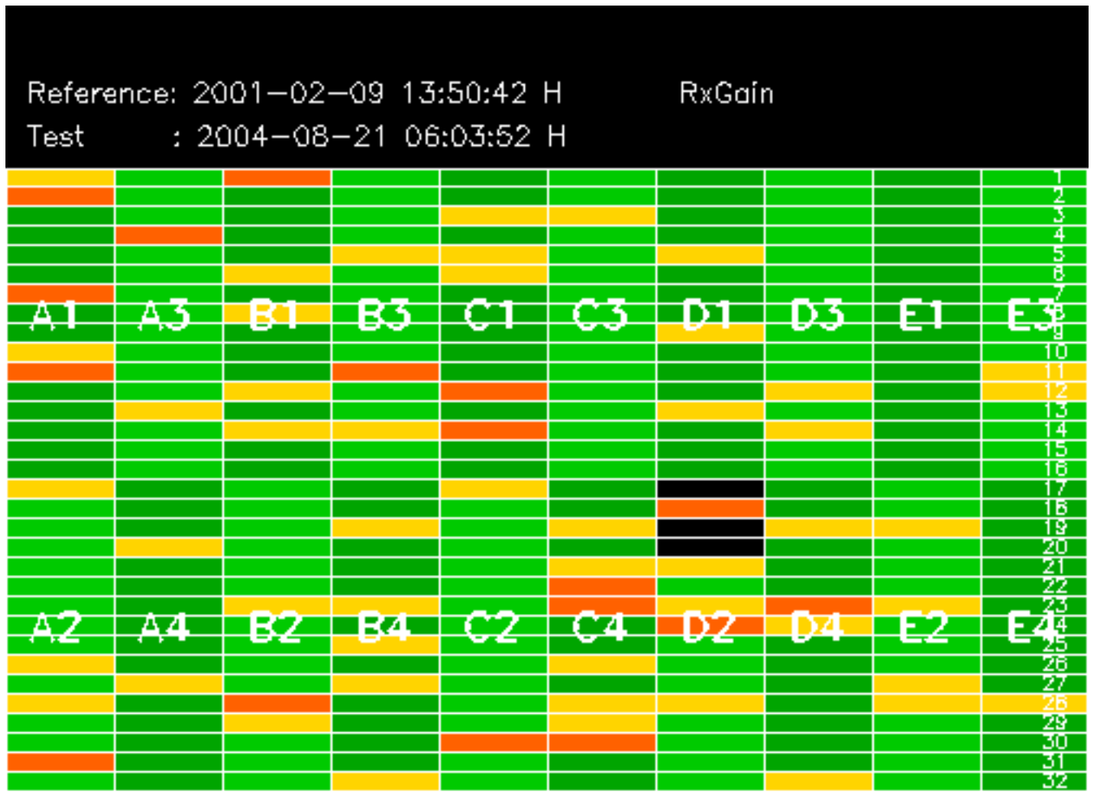

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -26.284297 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −28.735582 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −28.886015 Hz
−100Hz
+100Hz

The MS mode provides an internal health check on an individual module basis.
The purpose of this mode is to identify to identify any malfunctionning modules and
to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2004-08-21 06:03:52 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
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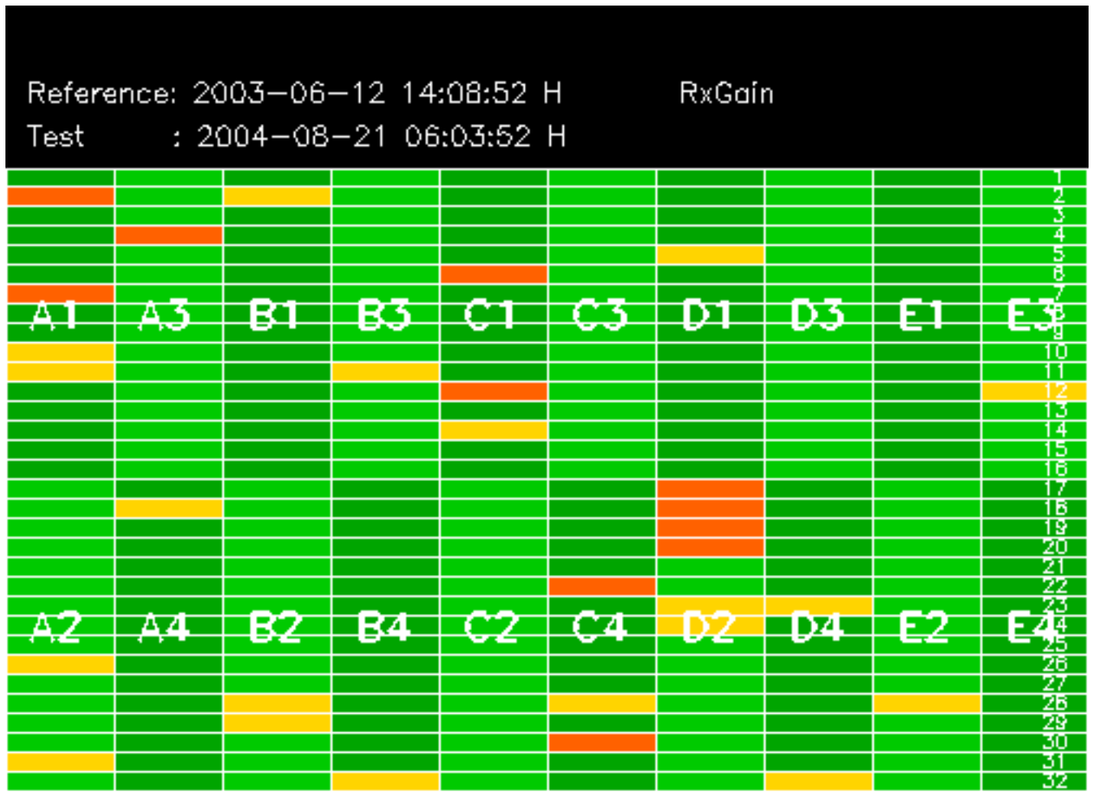
23
24
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2004-08-21 06:03:52 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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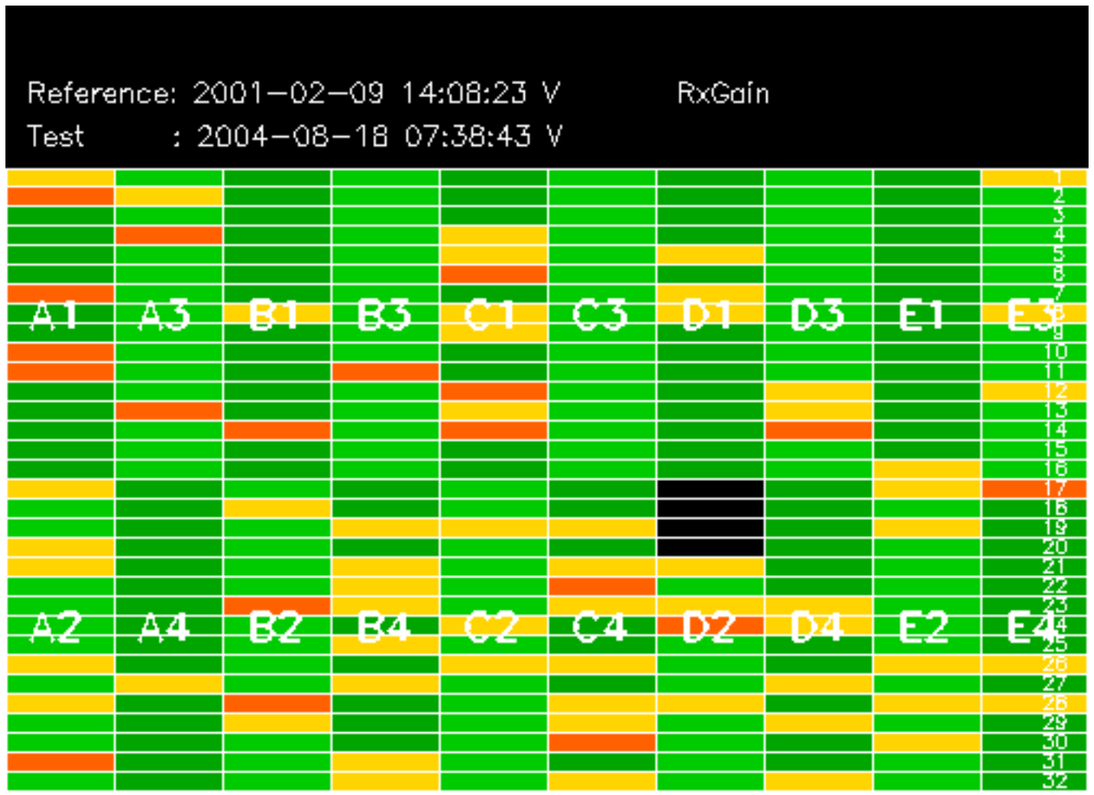
Reference: 2001-02-09 14:08:23 V
Test : 2004-08-18 07:38:43 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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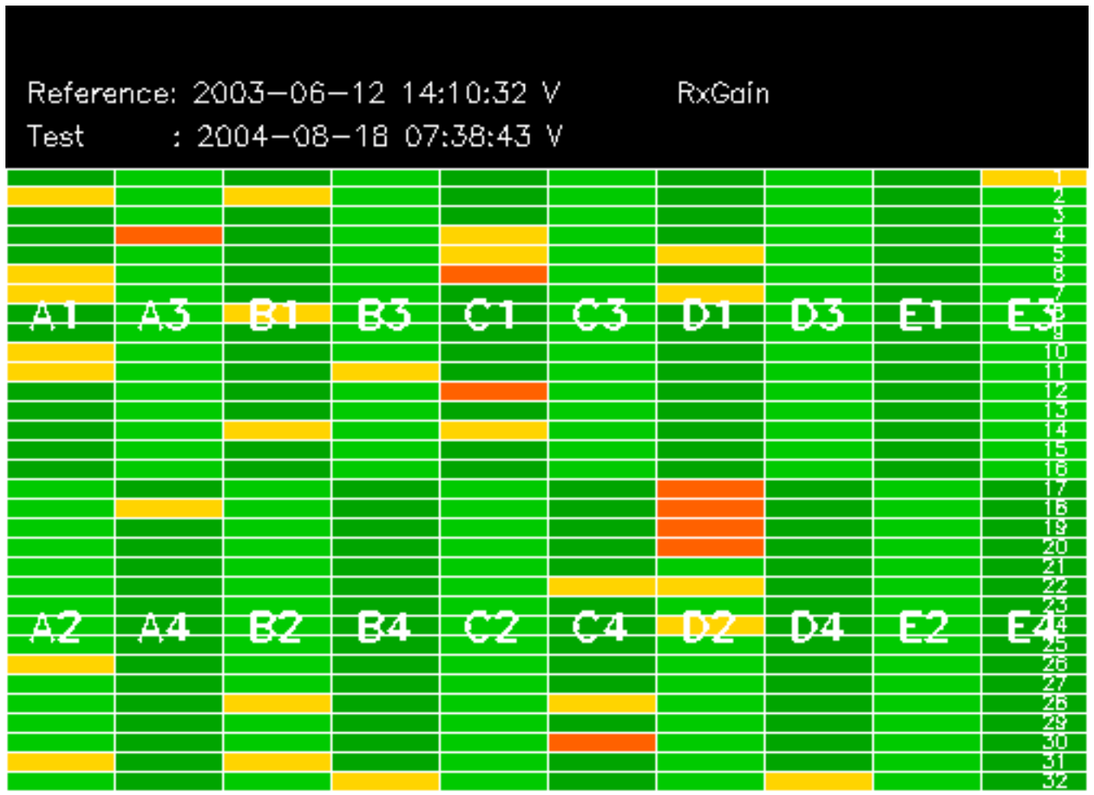
Reference: 2003-06-12 14:10:32 V
Test : 2004-08-18 07:38:43 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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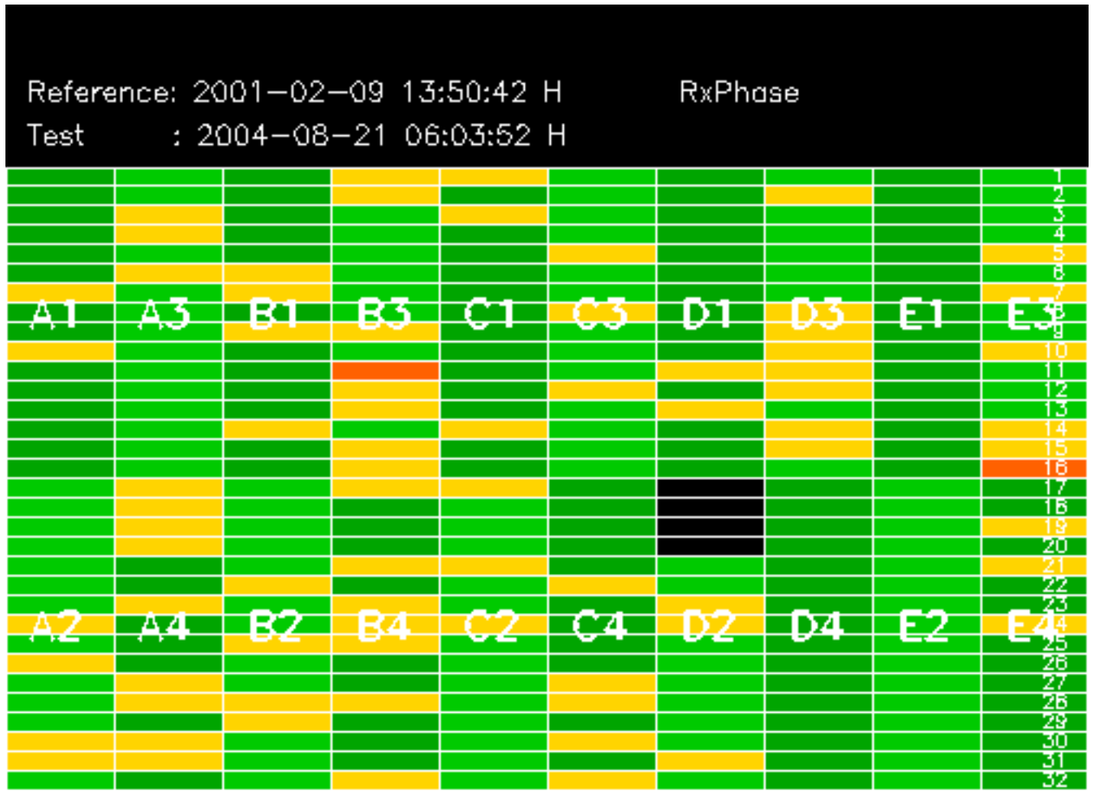
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-08-21 06:03:52 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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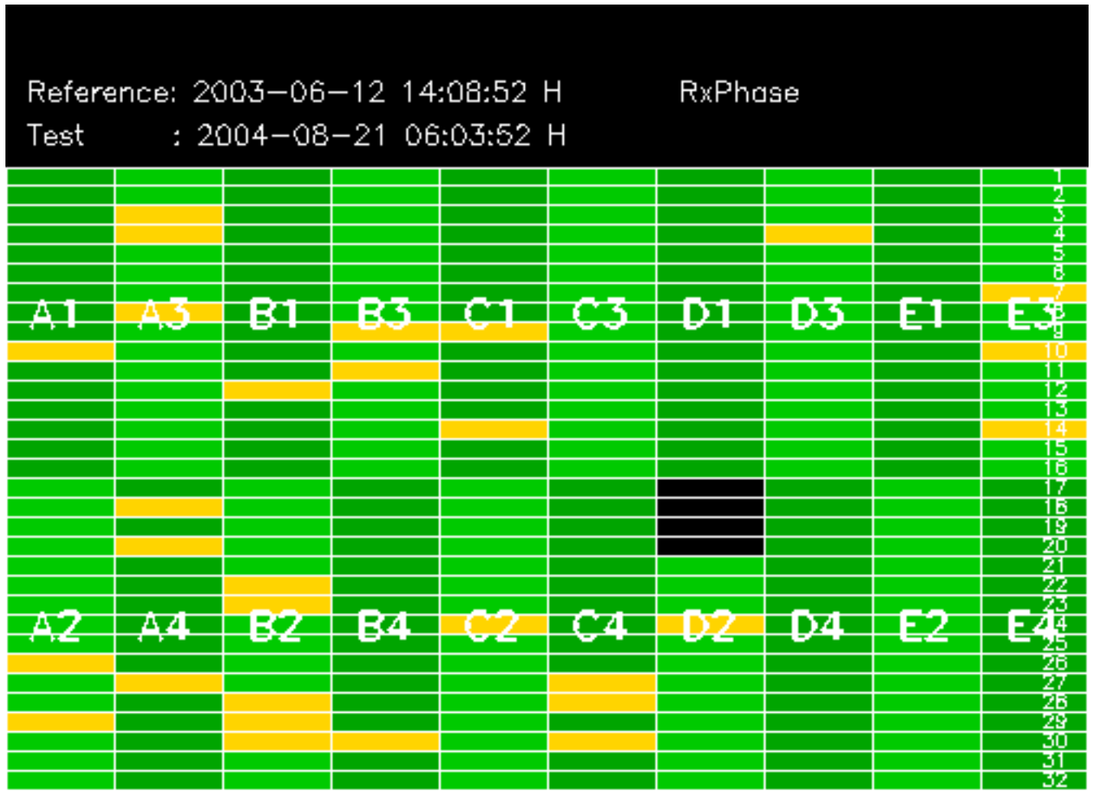
Reference: 2003-06-12 14:08:52 H
Test : 2004-08-21 06:03:52 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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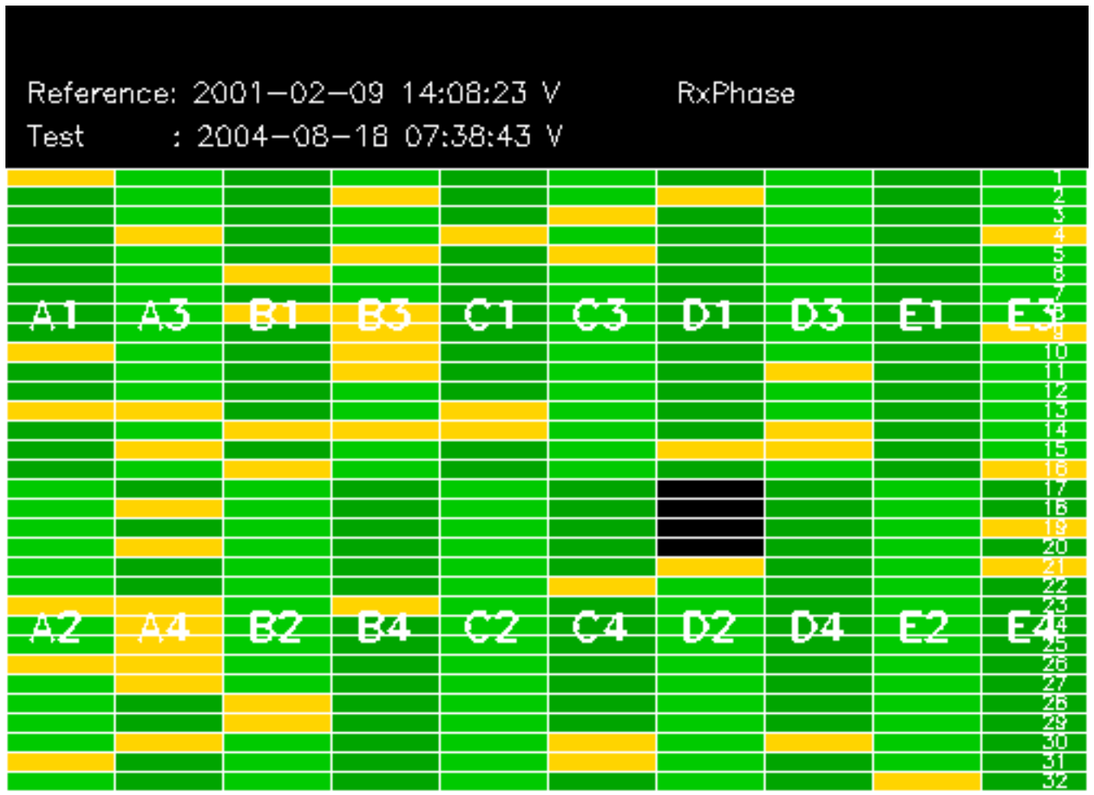
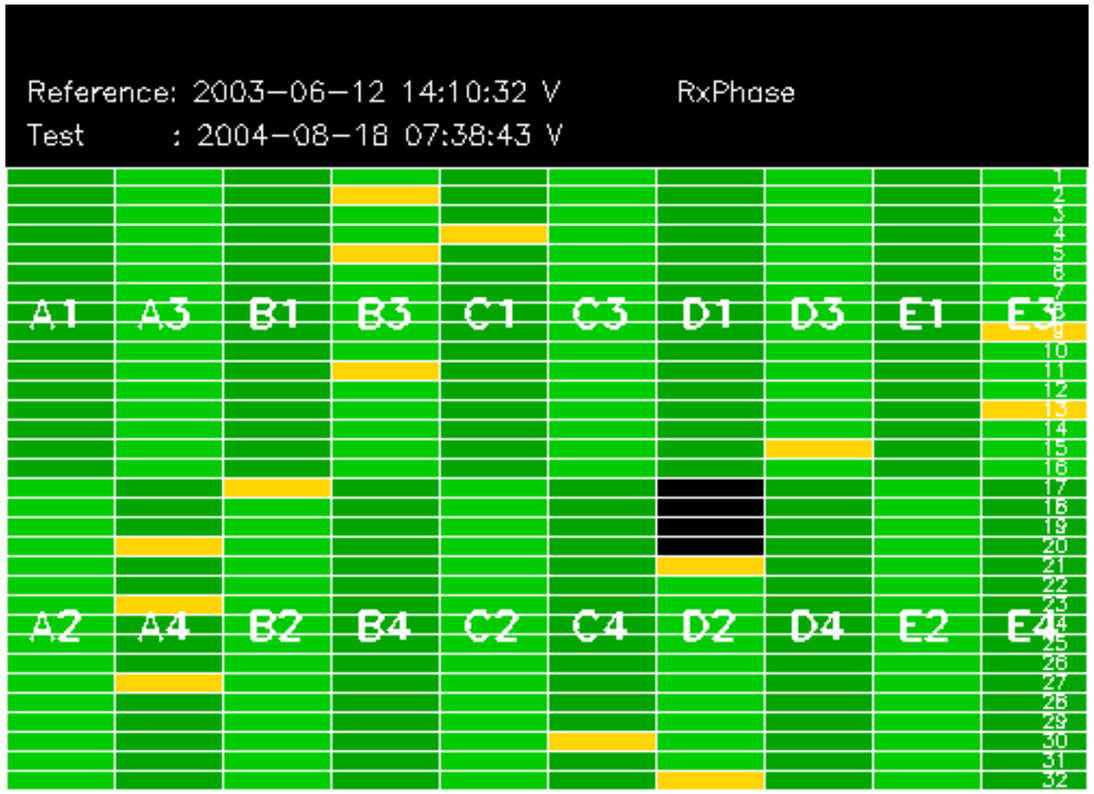
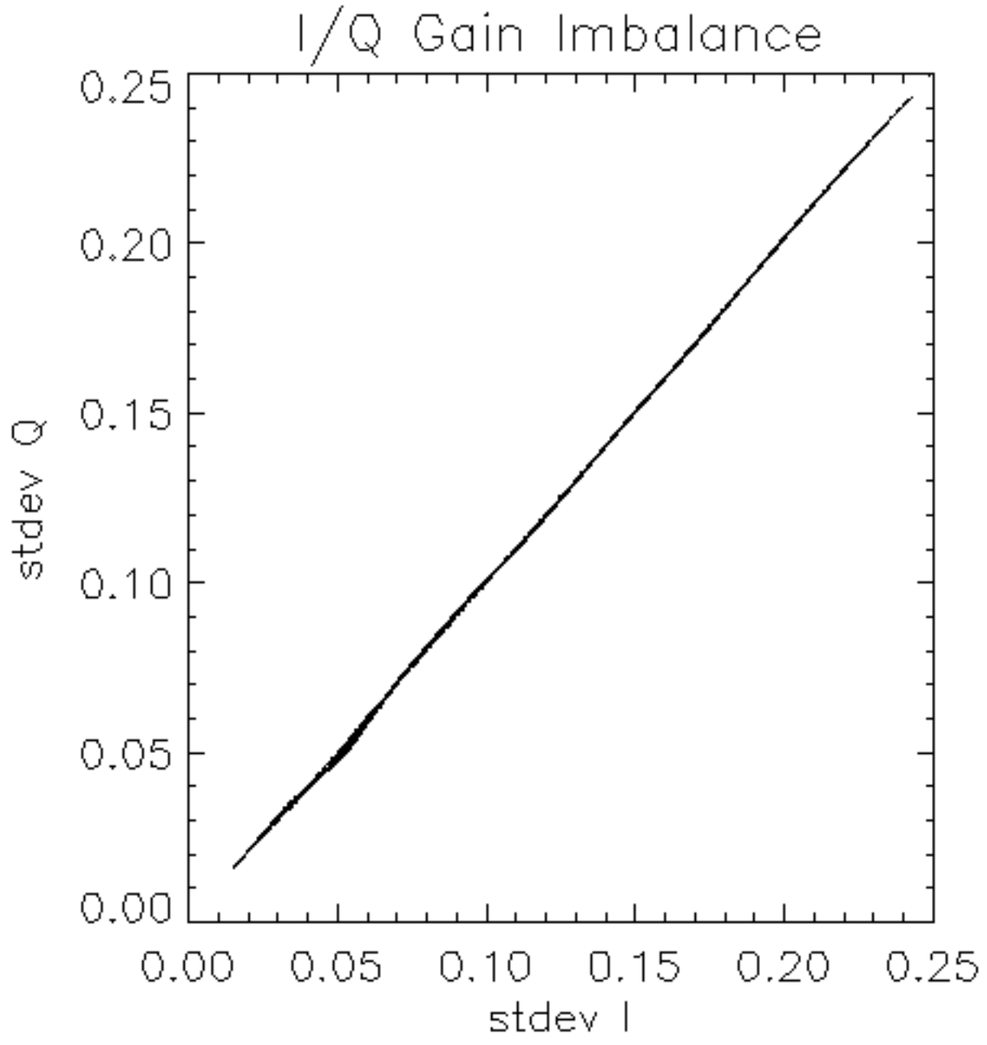
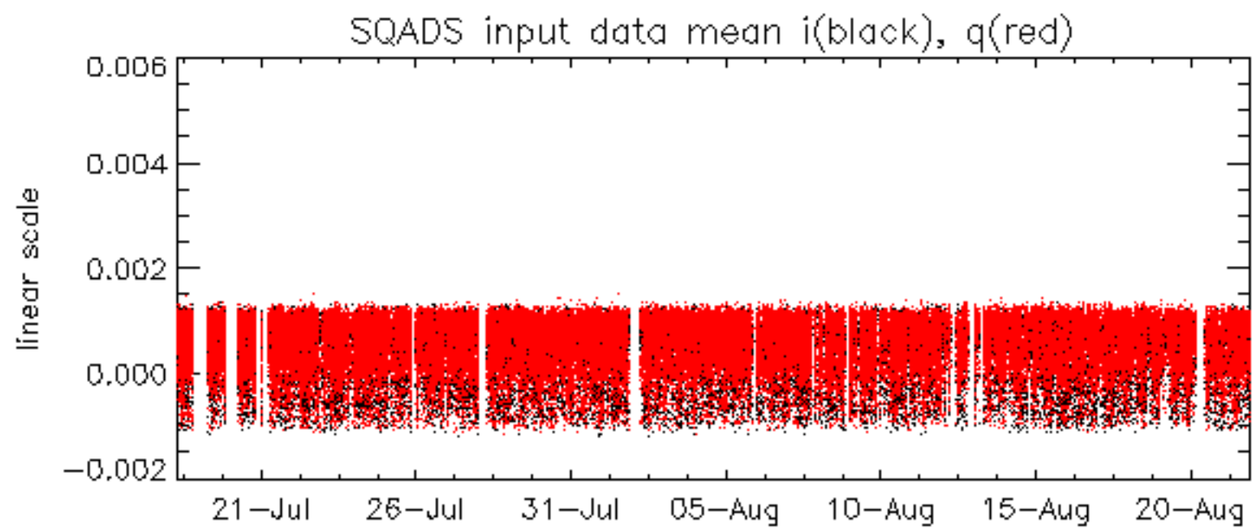
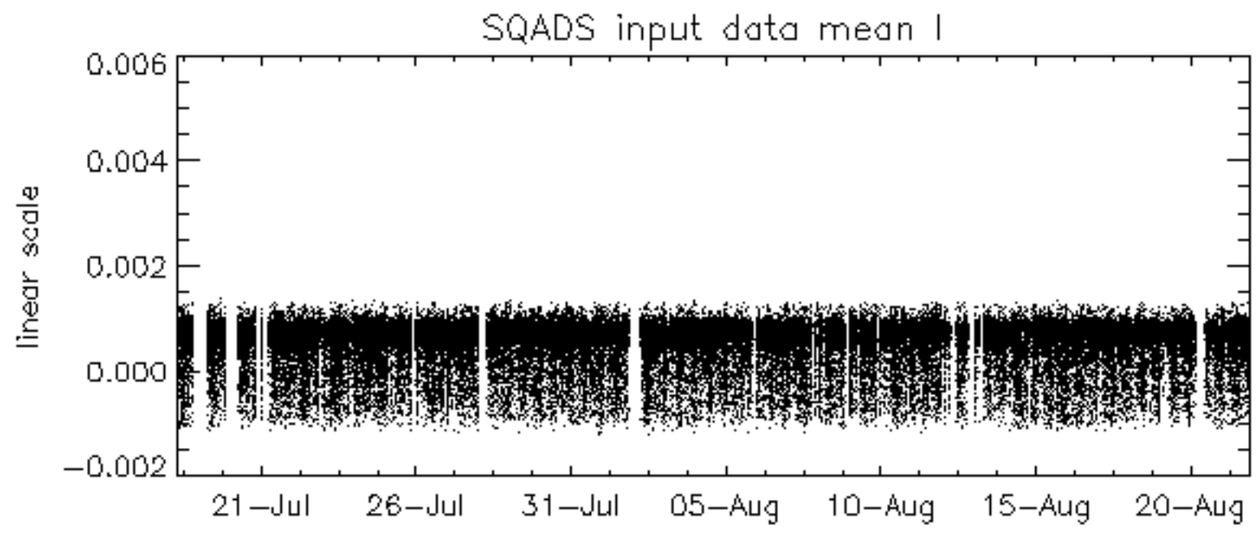
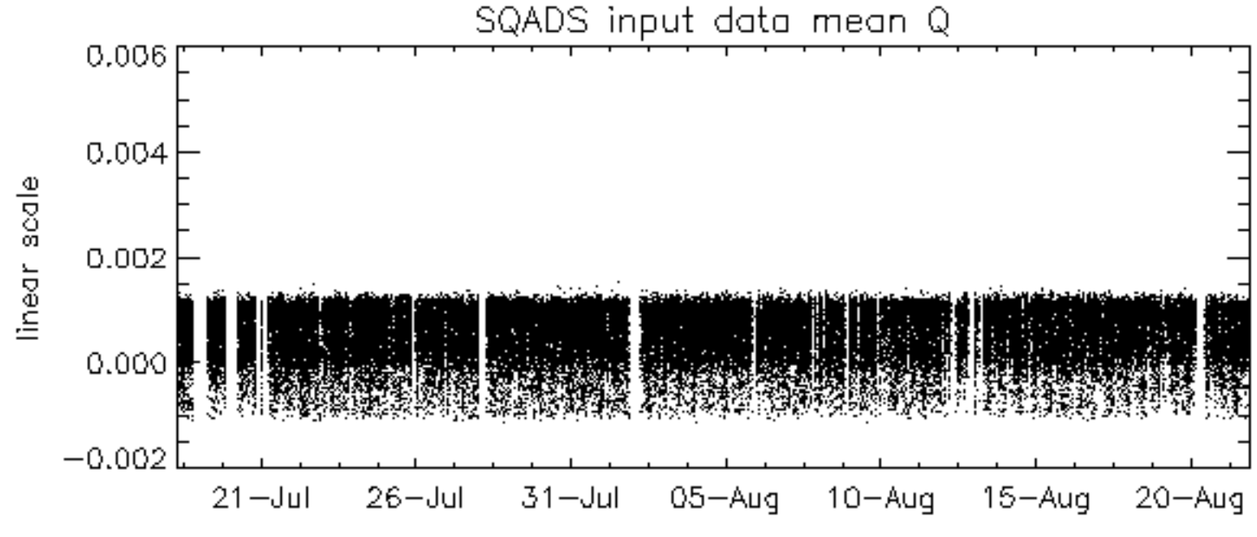

Reference: 2001-02-09 14:08:23 V
Test : 2004-08-18 07:38:43 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

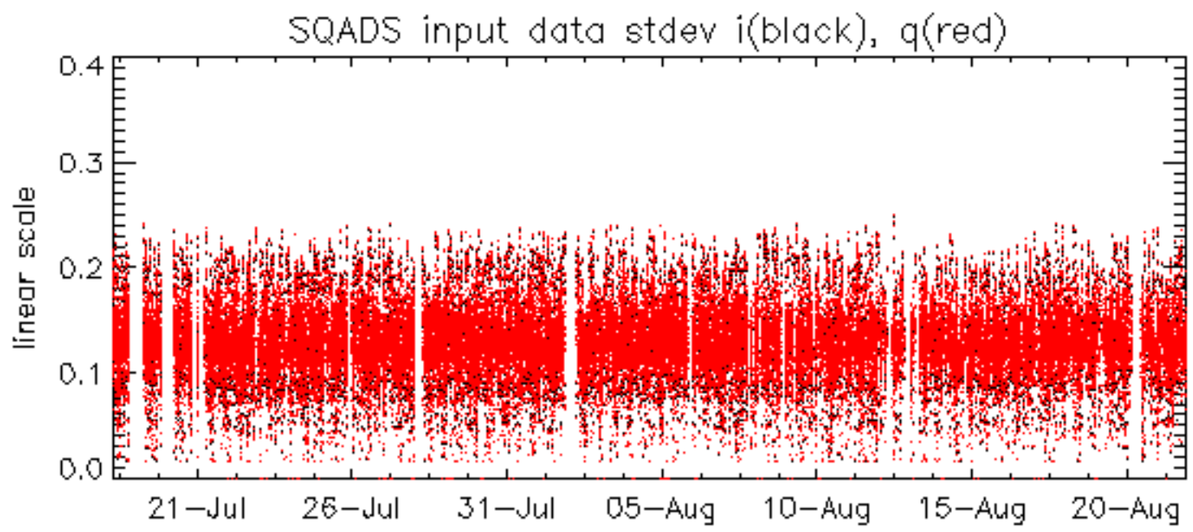

Reference: 2003-06-12 14:10:32 V
Test : 2004-08-18 07:38:43 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

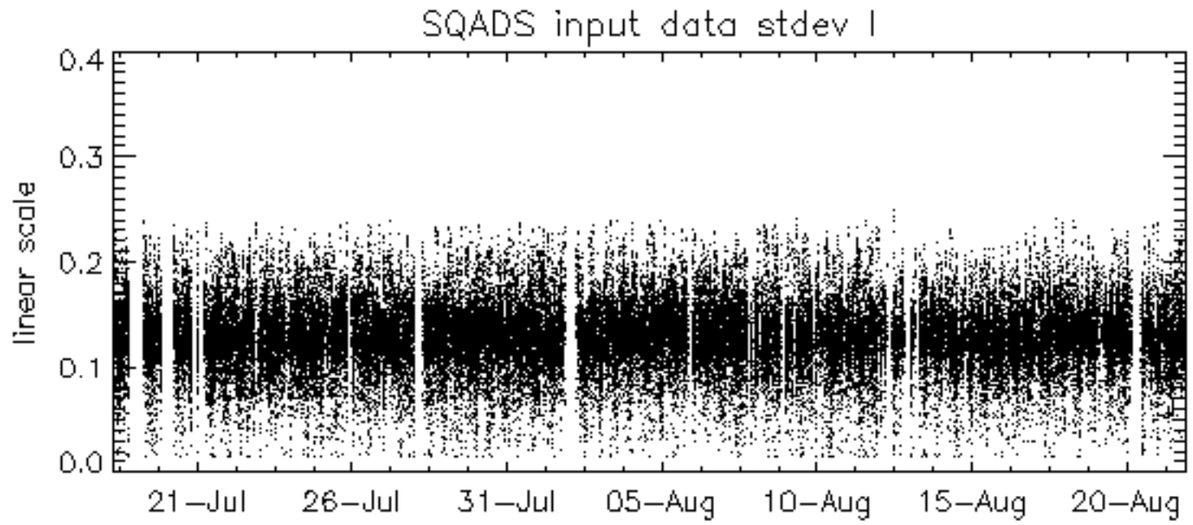

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

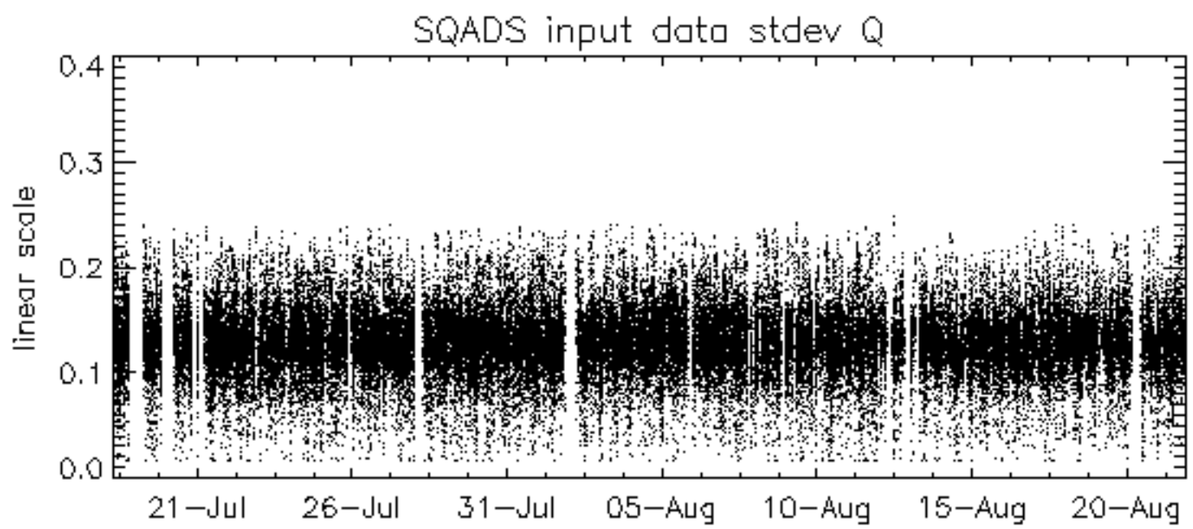

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug
20−Aug

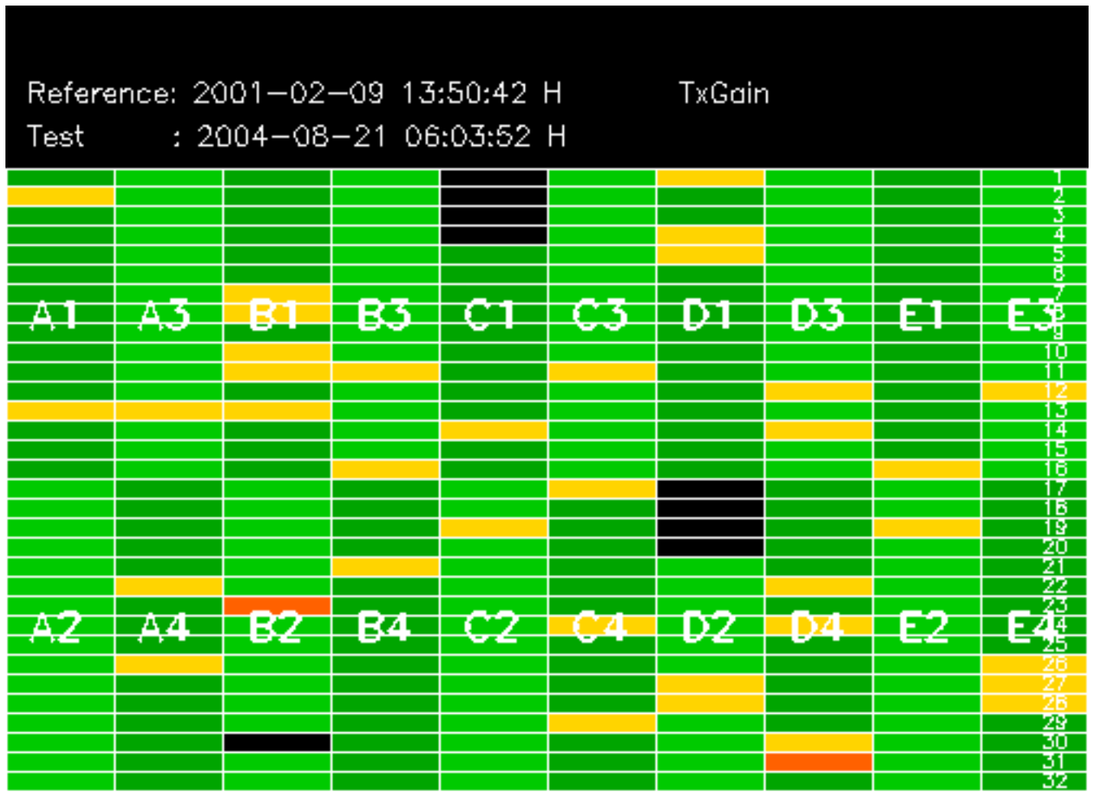

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug
20−Aug


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


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


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug
20−Aug


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug
20−Aug


Reference: 2001-02-09 13:50:42 H
Test : 2004-08-21 06:03:52 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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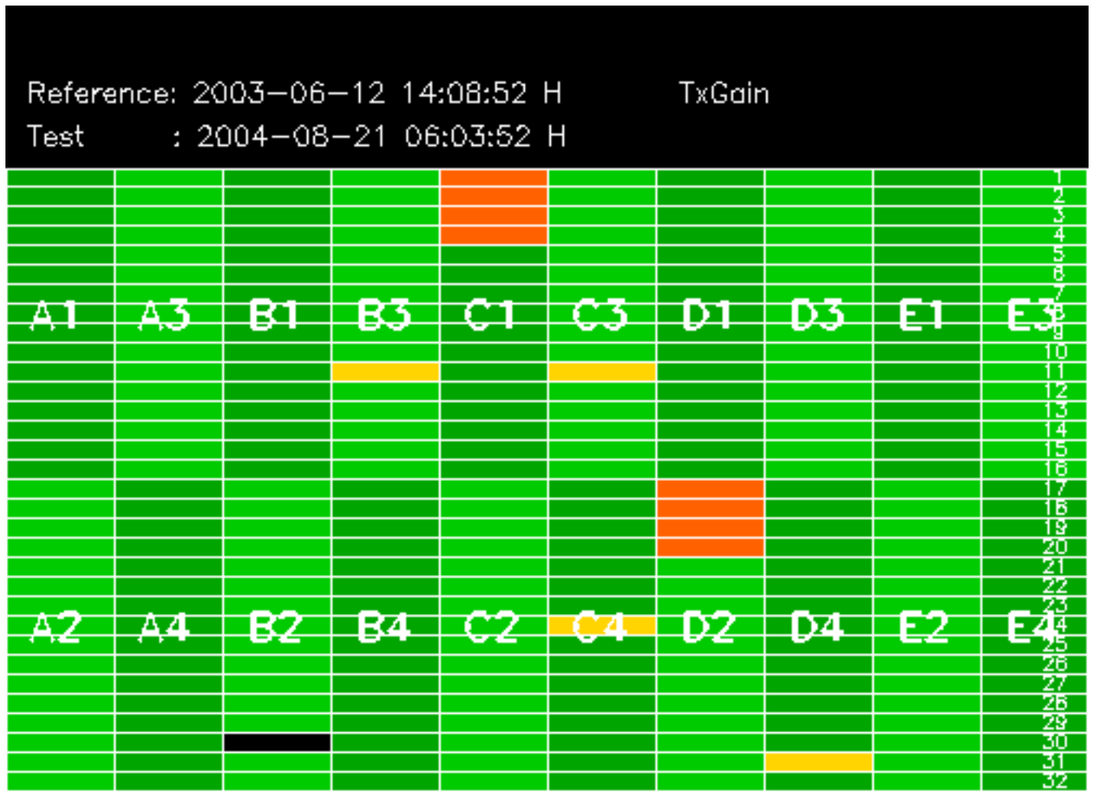
Reference: 2003-06-12 14:08:52 H
Test : 2004-08-21 06:03:52 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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Reference: 2001-02-09 14:08:23 V
Test : 2004-08-18 07:38:43 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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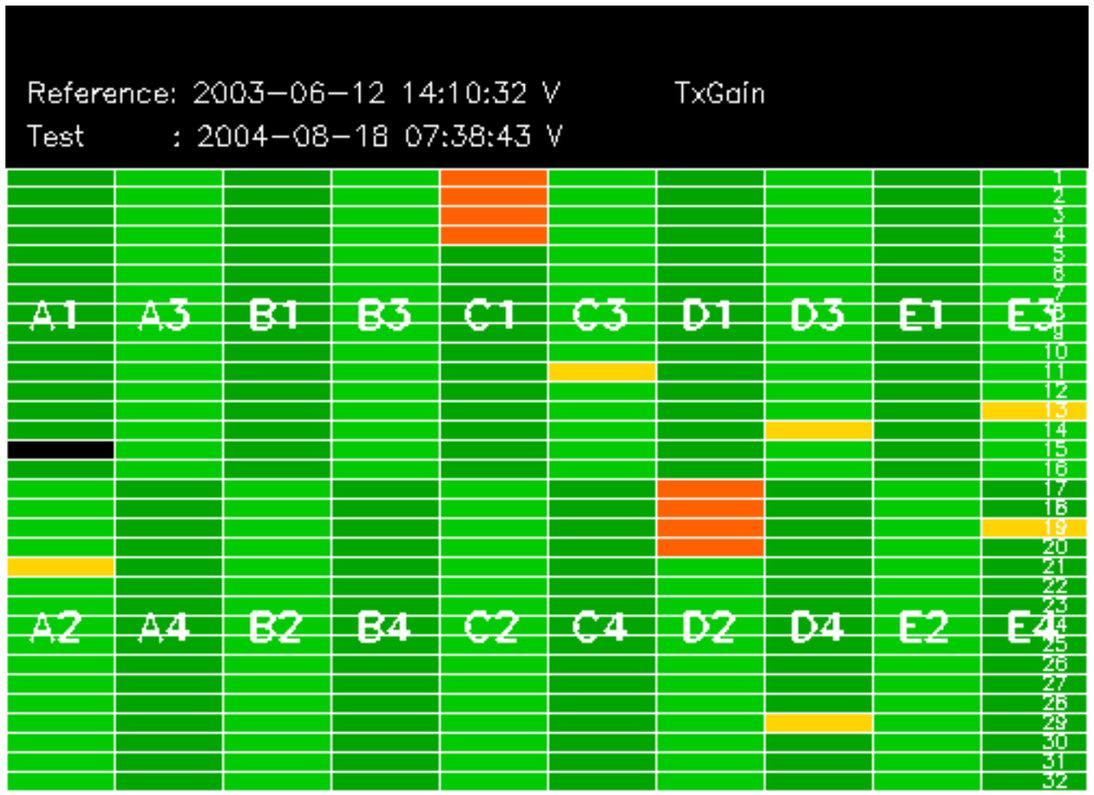
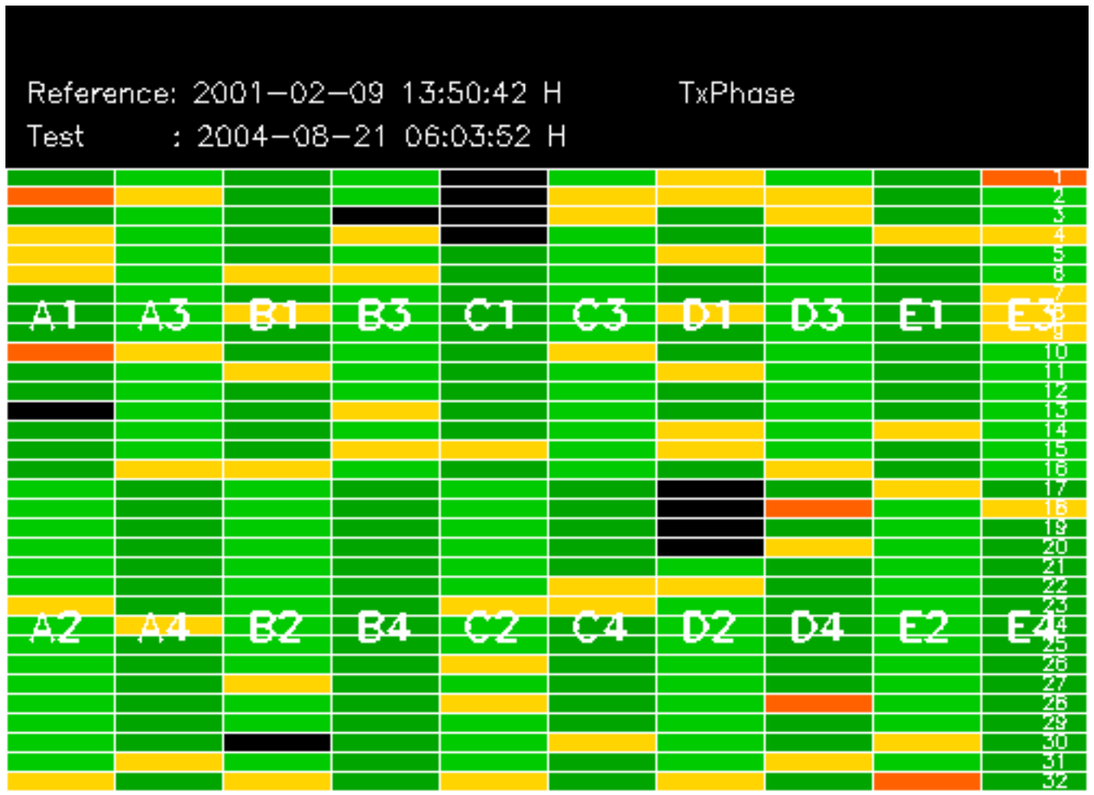

Reference: 2003-06-12 14:10:32 V
Test : 2004-08-18 07:38:43 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
Test : 2004-08-21 06:03:52 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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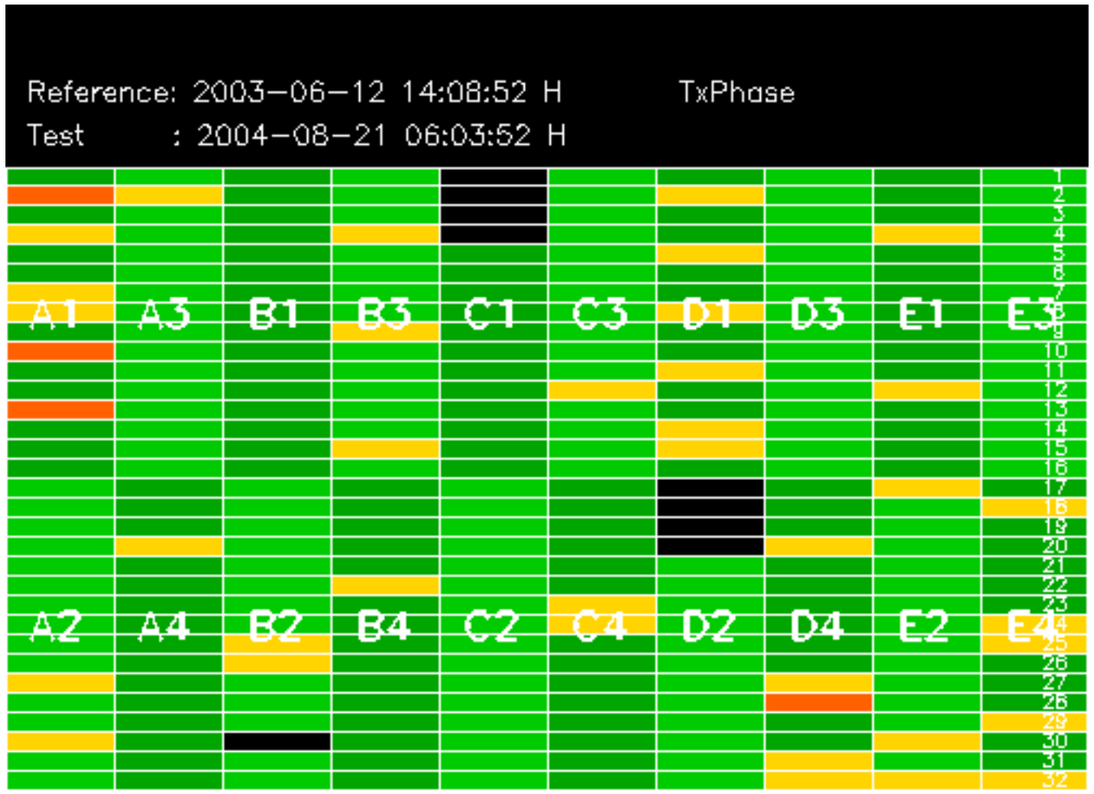
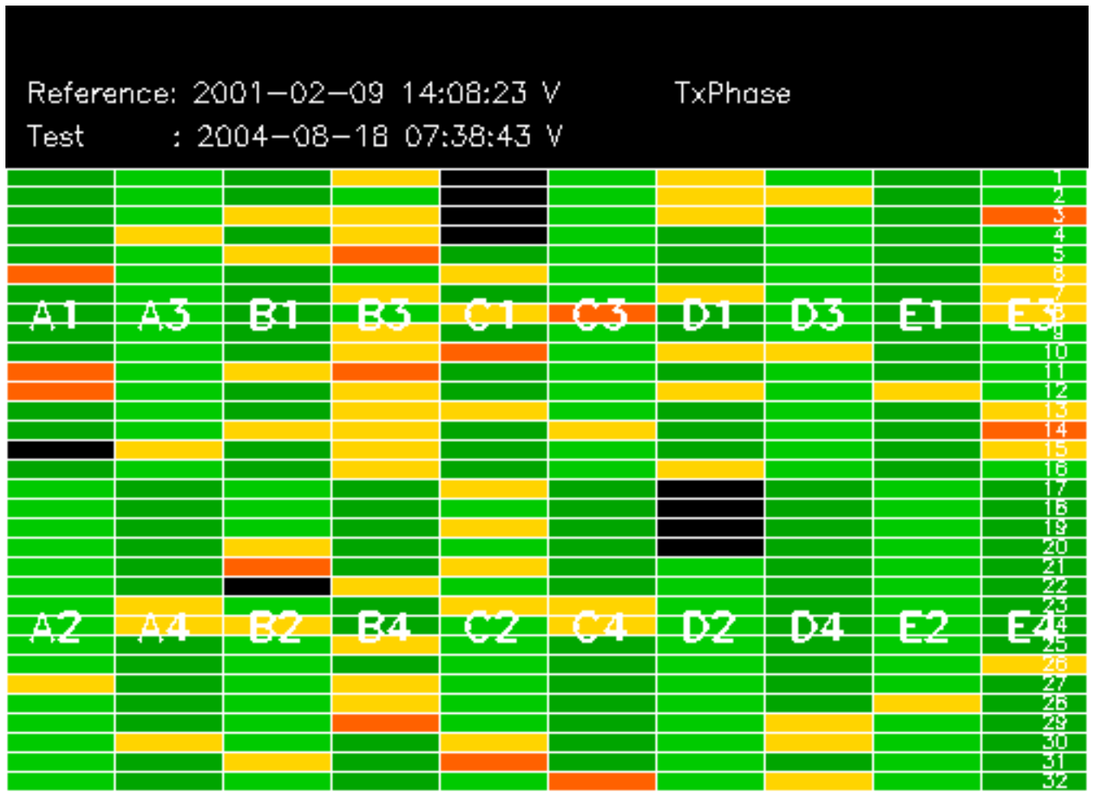
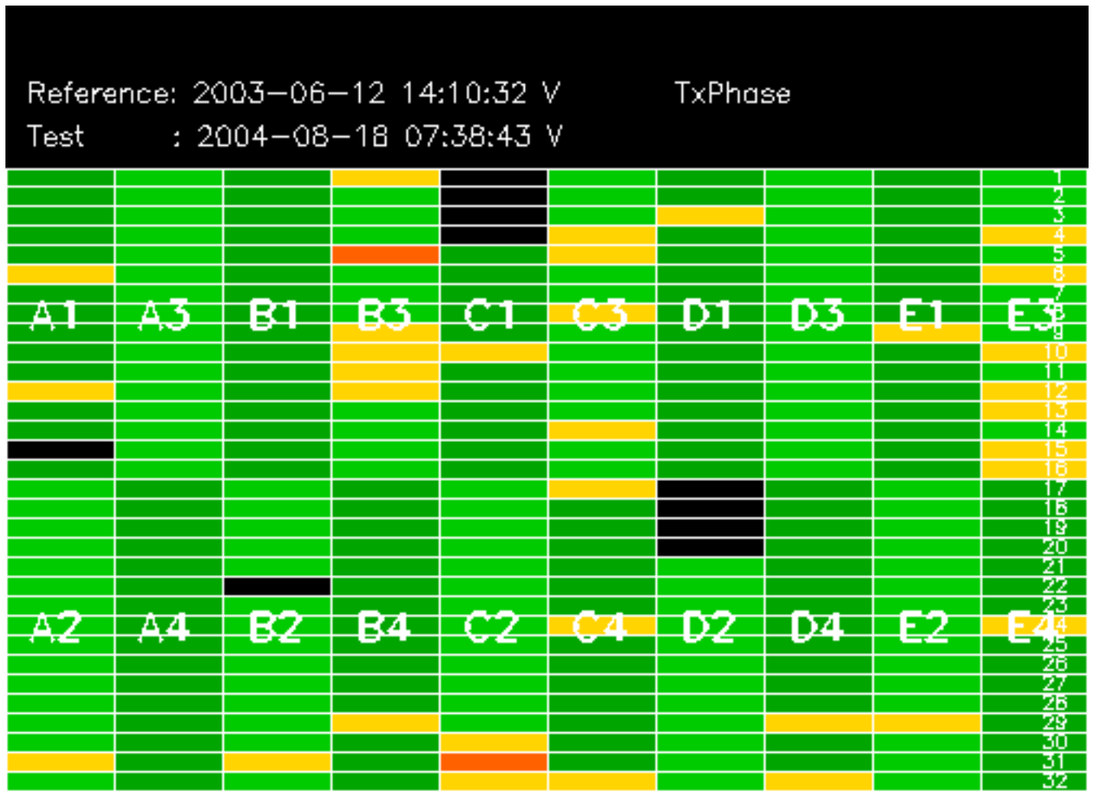

Reference: 2003-06-12 14:08:52 H
Test : 2004-08-21 06:03:52 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-08-18 07:38:43 V
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 14:10:32 V
Test : 2004-08-18 07:38:43 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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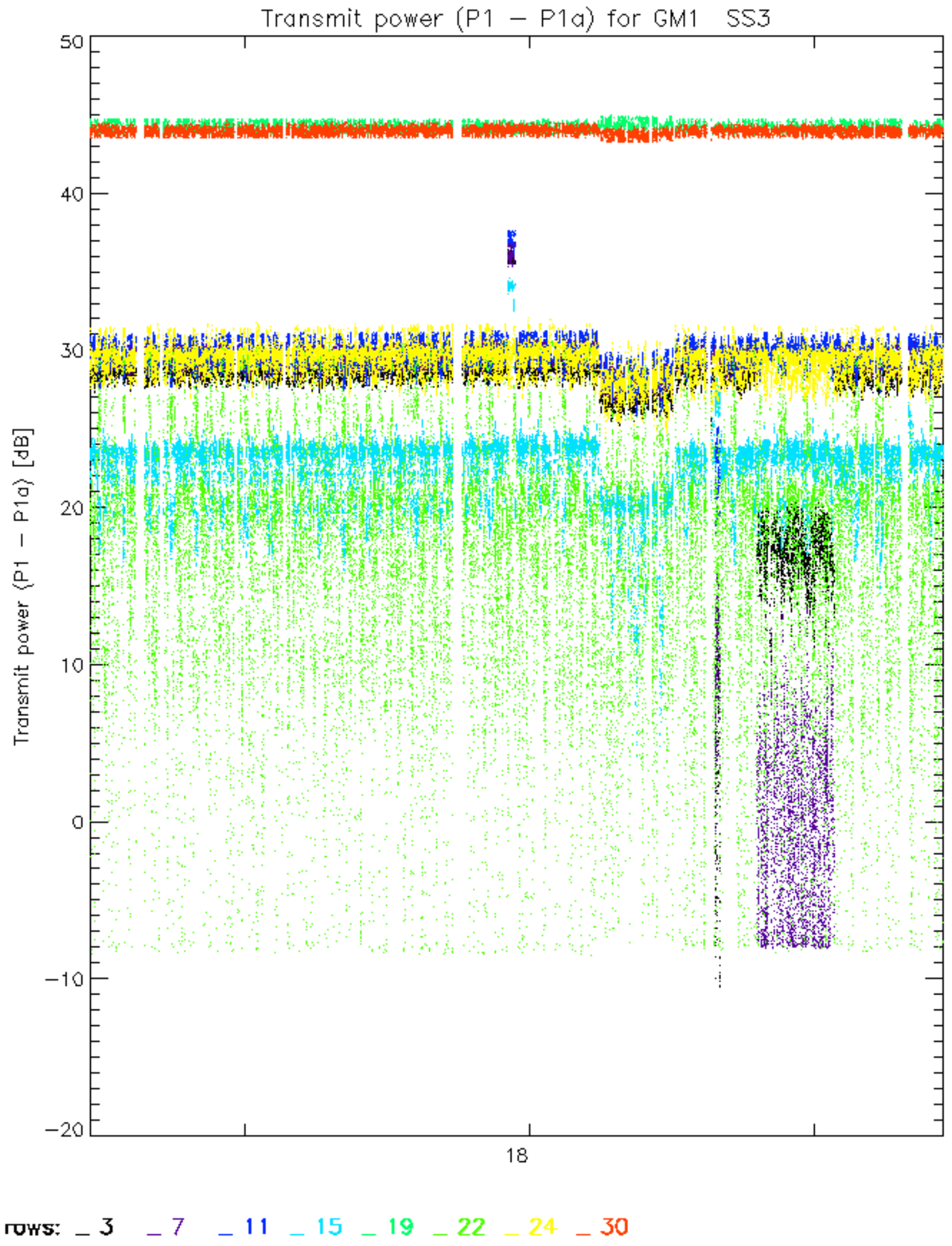
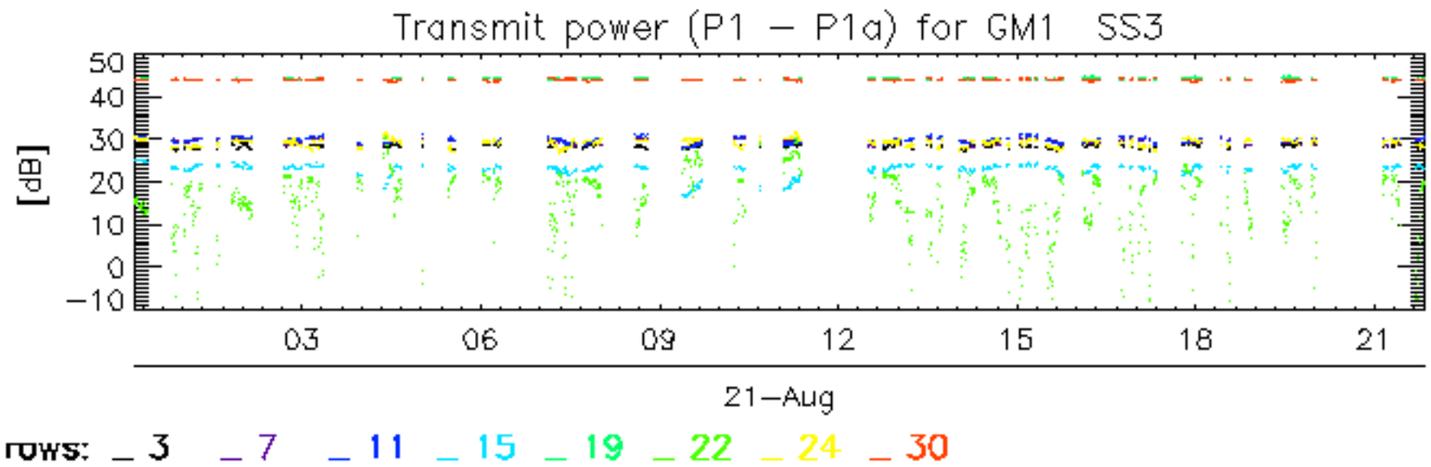
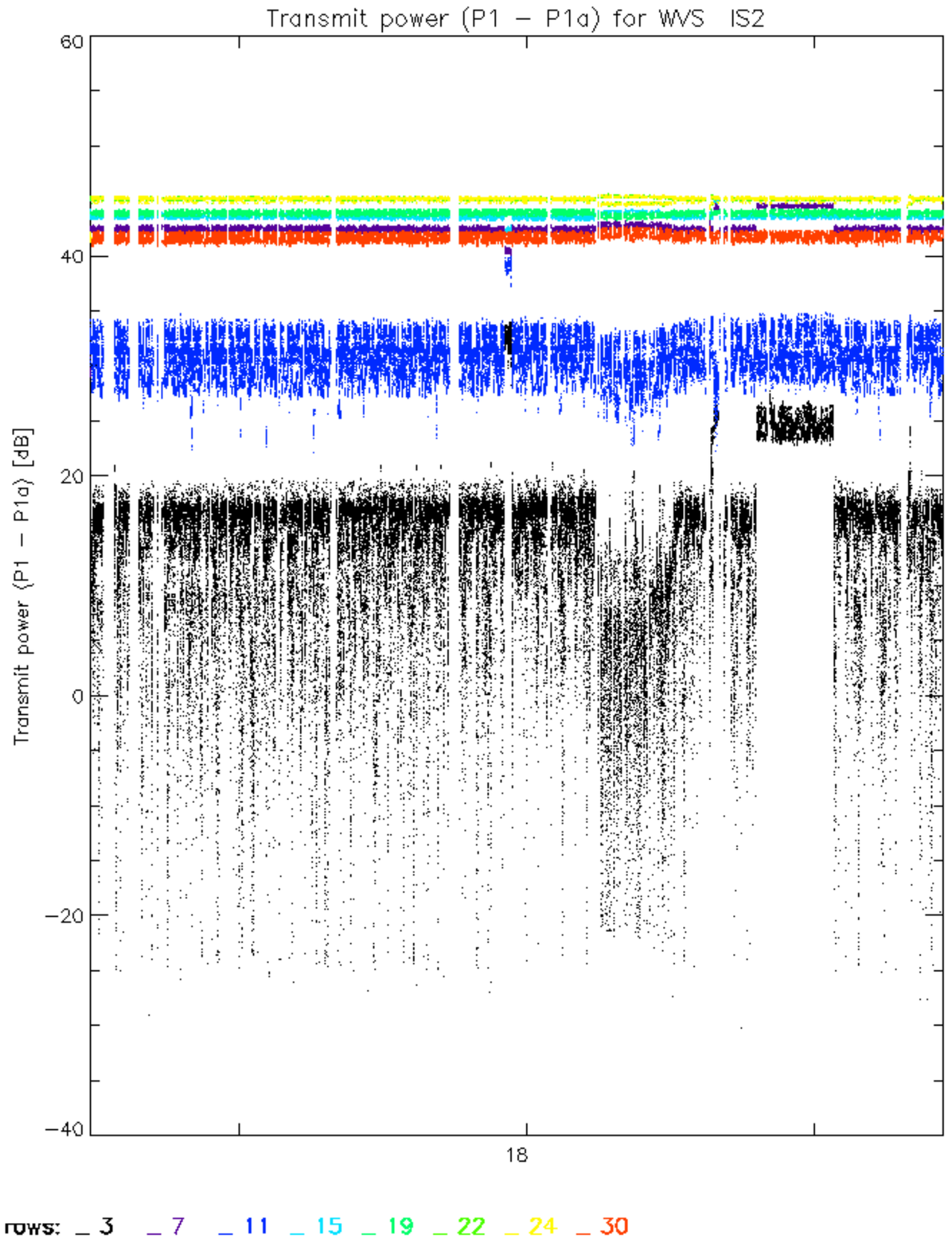
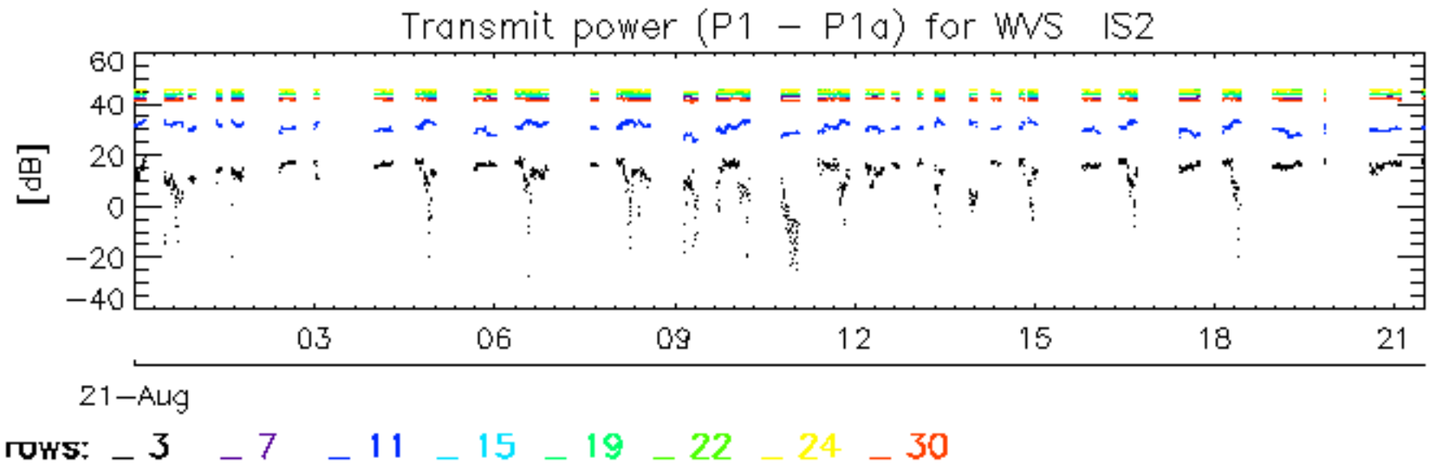

Transmit power (P1 – P1a) for GM1 SS3
Transmit power ⟨P1 – P1a⟩ [dB]
50
40
30
20
10
0
−10
−20
18
rows: 3 7 11 15 19 22 24 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
50
40
30
20
10
0
−10
03
06
09
12
15
18
21
21–Aug
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30


Transmit power (P1 − P1a) for WVS IS2
Transmit power ⟨P1 − P1a⟩ [dB]
60
40
20
0
−20
−40
18
rows: 3 7 11 15 19 22 24 30


Transmit power (P1 – P1a) for WVS IS2
[dB]
60
40
20
0
−20
−40
03
06
09
12
15
18
21
21–Aug
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

No unavailabilities during the reported period.