PRELIMINARY REPORT OF 040821

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

last update on Sat Aug 21 13:08:20 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	20040819 070706

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.

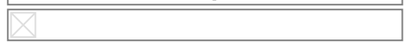
4.1 - Daily statistics

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	-3.472547	0.051326	0.077364
7	P1	-3.306174	0.056316	0.121763
11	P1	-4.646801	0.112042	-0.042711
15	P1	-5.751293	0.120935	-0.047932
19	P1	-3.457360	0.005425	0.000054
22	P1	-4.552000	0.011247	0.064745
24	P1	-4.960263	0.019262	0.006913
30	P1	-6.921874	0.024210	-0.077097

3	P1	-15.911544	1.575929	1.495963
7	P1	-14.024466	0.167030	-0.225062
11	P1	-20.109119	0.413731	-0.311636
15	P1	-11.790805	0.167000	-0.035678
19	P1	-13.874025	0.034257	-0.028919
22	P1	-16.249498	0.352415	0.293643
24	P1	-14.565140	0.291433	0.222007
30	P1	-17.740177	0.439768	-0.289132

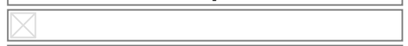
P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.306168	0.080484	0.046810
7	P2	-22.646902	0.131441	0.151849
11	P2	-15.375236	0.161860	0.147027
15	P2	-7.075485	0.094292	0.109009
19	P2	-9.558384	0.183713	0.100209
22	P2	-17.370602	0.113481	0.142286
24	P2	-20.748835	0.085545	0.013089
30	P2	-19.292599	0.080026	0.138975

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.140362	0.002521	0.016396
7	P3	-8.140371	0.002522	0.016466
11	P3	-8.140368	0.002521	0.016417
15	P3	-8.140363	0.002521	0.016371
19	P3	-8.140357	0.002520	0.016333
22	P3	-8.140352	0.002520	0.016317
24	P3	-8.140347	0.002521	0.016270
30	P3	-8.140291	0.002518	0.016224

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	-2.696602	0.269991	0.520819
7	P1	-2.955800	0.220491	0.357230
11	P1	-3.870537	0.168701	-0.063428
15	P1	-3.527166	0.138086	-0.045992
19	P1	-3.479708	0.014495	0.006610
22	P1	-5.668643	0.043198	-0.095941
24	P1	-3.874049	0.016225	-0.111002
30	P1	-6.177916	0.066371	0.061674
3	P1	-10.333501	1.052586	1.030211
7	P1	-10.069363	0.160109	0.201739
11	P1	-12.090777	0.116852	-0.189758
15	P1	-11.628212	0.110171	-0.154113
19	P1	-15.627260	0.050941	0.031731
22	P1	-23.347330	1.161426	-0.093748
24	P1	-17.796446	0.229221	-0.382816
30	P1	-20.349663	1.197972	-0.301910

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.976540	0.059361	0.062299
7	P2	-22.780771	0.052746	0.134366
11	P2	-11.028545	0.074047	0.182088
15	P2	-4.951812	0.039949	0.042890
19	P2	-6.766653	0.058585	0.080281
22	P2	-7.457199	0.049102	0.078963
24	P2	-11.037929	0.053575	0.032179
30	P2	-22.232441	0.046297	0.140097

P3 Cyclic statistics

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

3	P3	-7.986271	0.003785	0.006007
7	P3	-7.986267	0.003789	0.006598
11	P3	-7.986350	0.003781	0.005935
15	P3	-7.986223	0.003786	0.006181
19	P3	-7.986312	0.003791	0.006254
22	P3	-7.986198	0.003781	0.006546
24	P3	-7.986269	0.003795	0.006328
30	P3	-7.986289	0.003787	0.006083

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	0.000493080
	stdev	2.14171e-07
MEAN Q	mean	0.000540134
	stdev	2.42400e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129222
	stdev	0.00101226

STDEV Q	mean	0.129462
	stdev	0.00102413

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

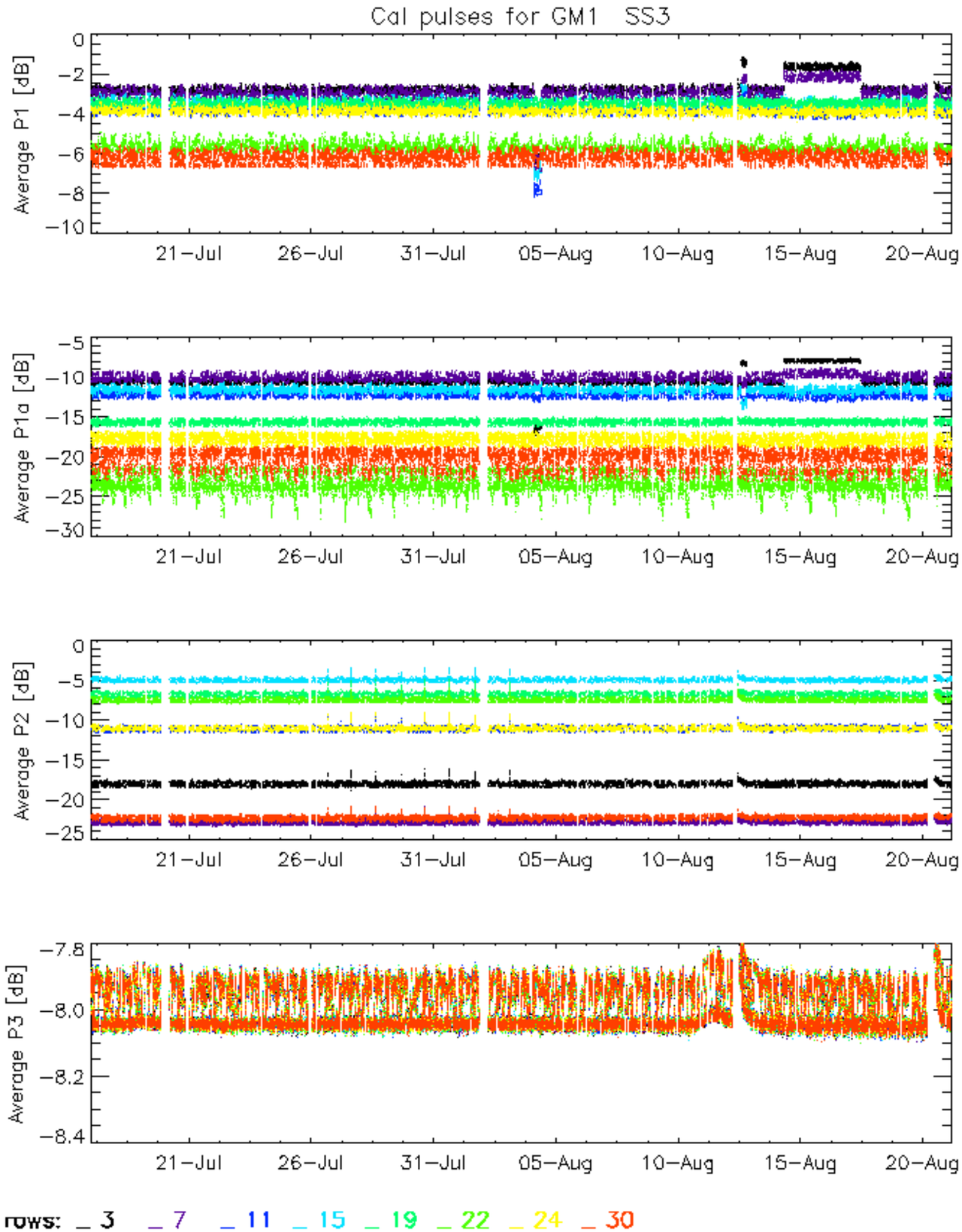
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

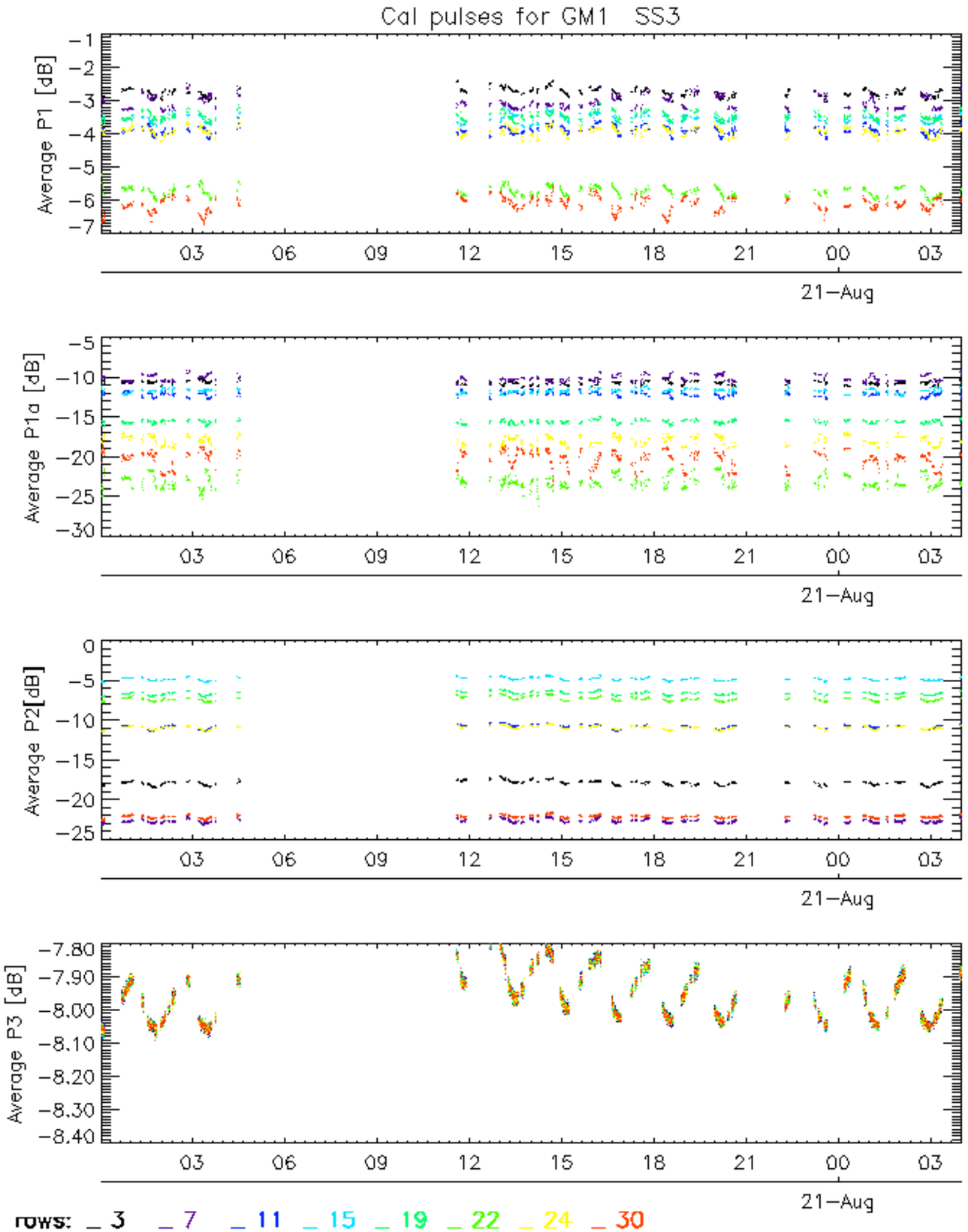
6.5 - Absolute Doppler for GM1

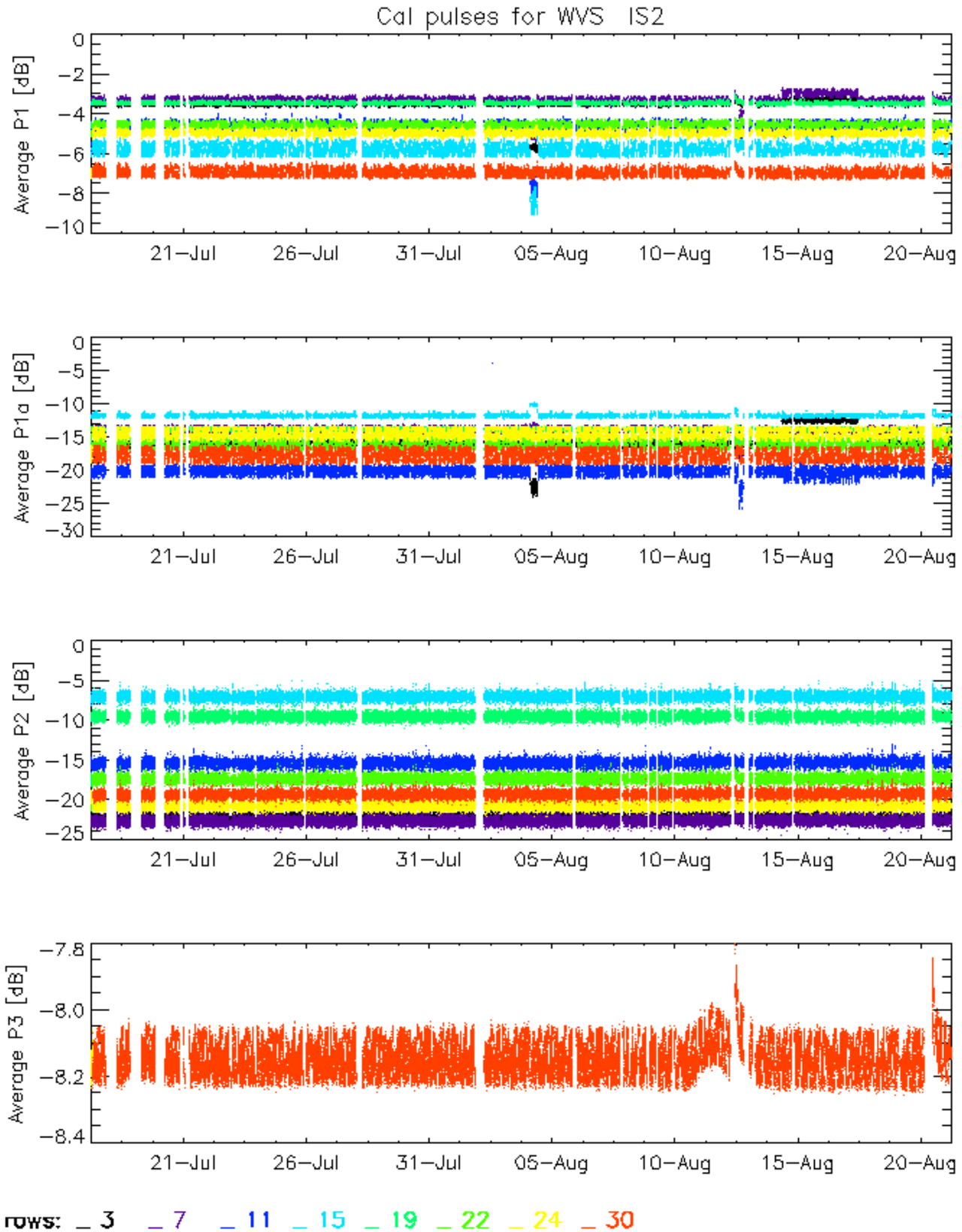
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

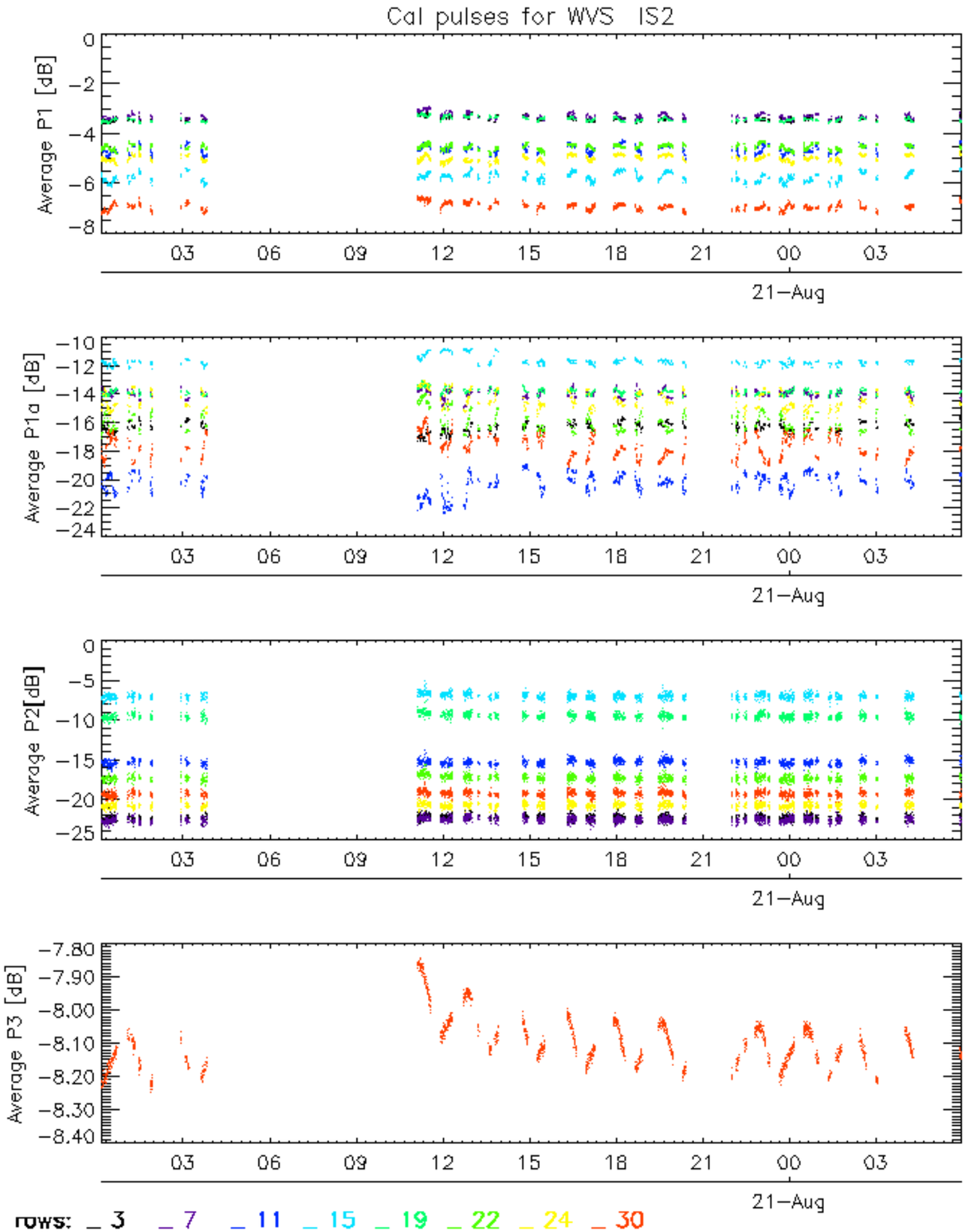
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
☒

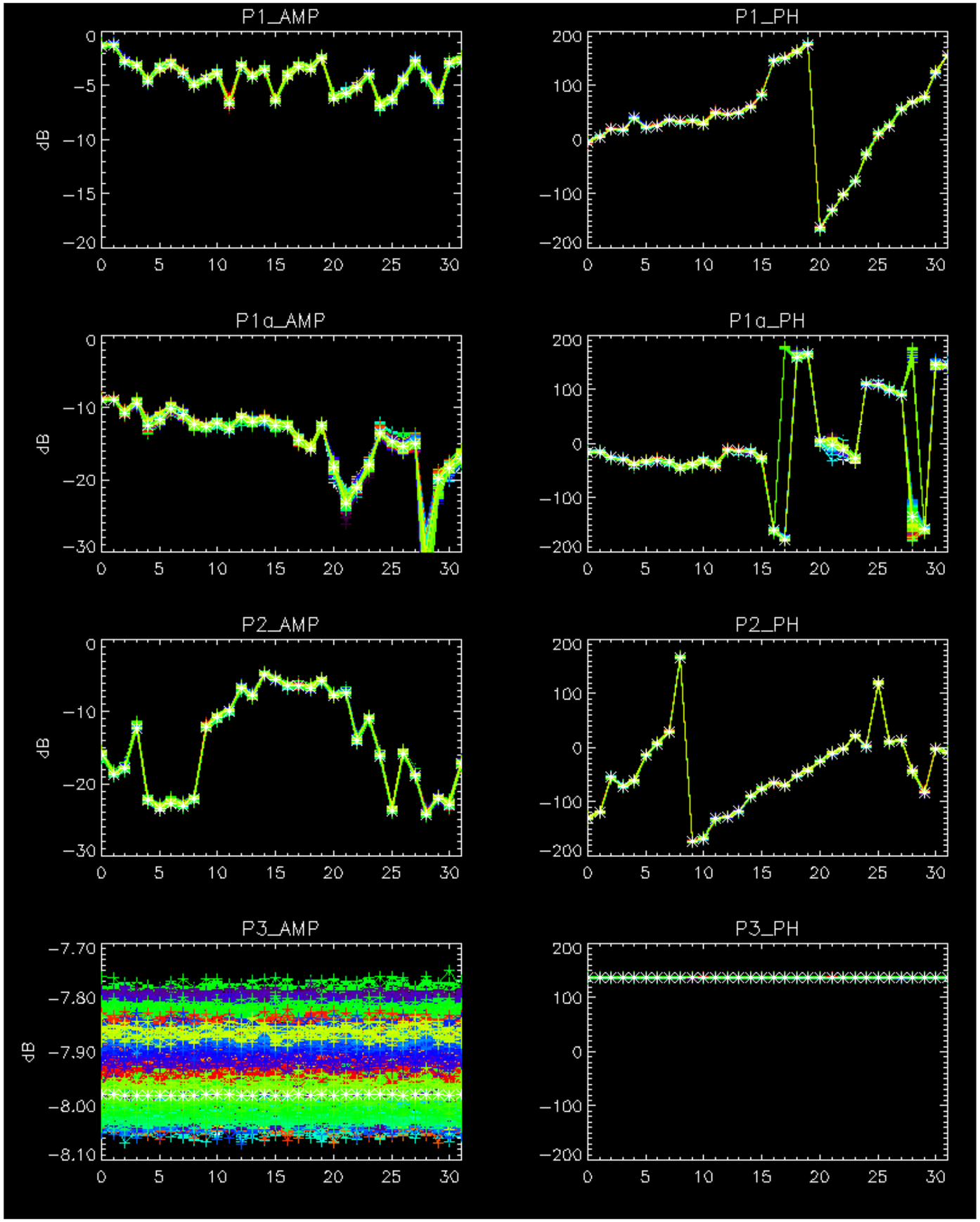

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
−10
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug
20−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

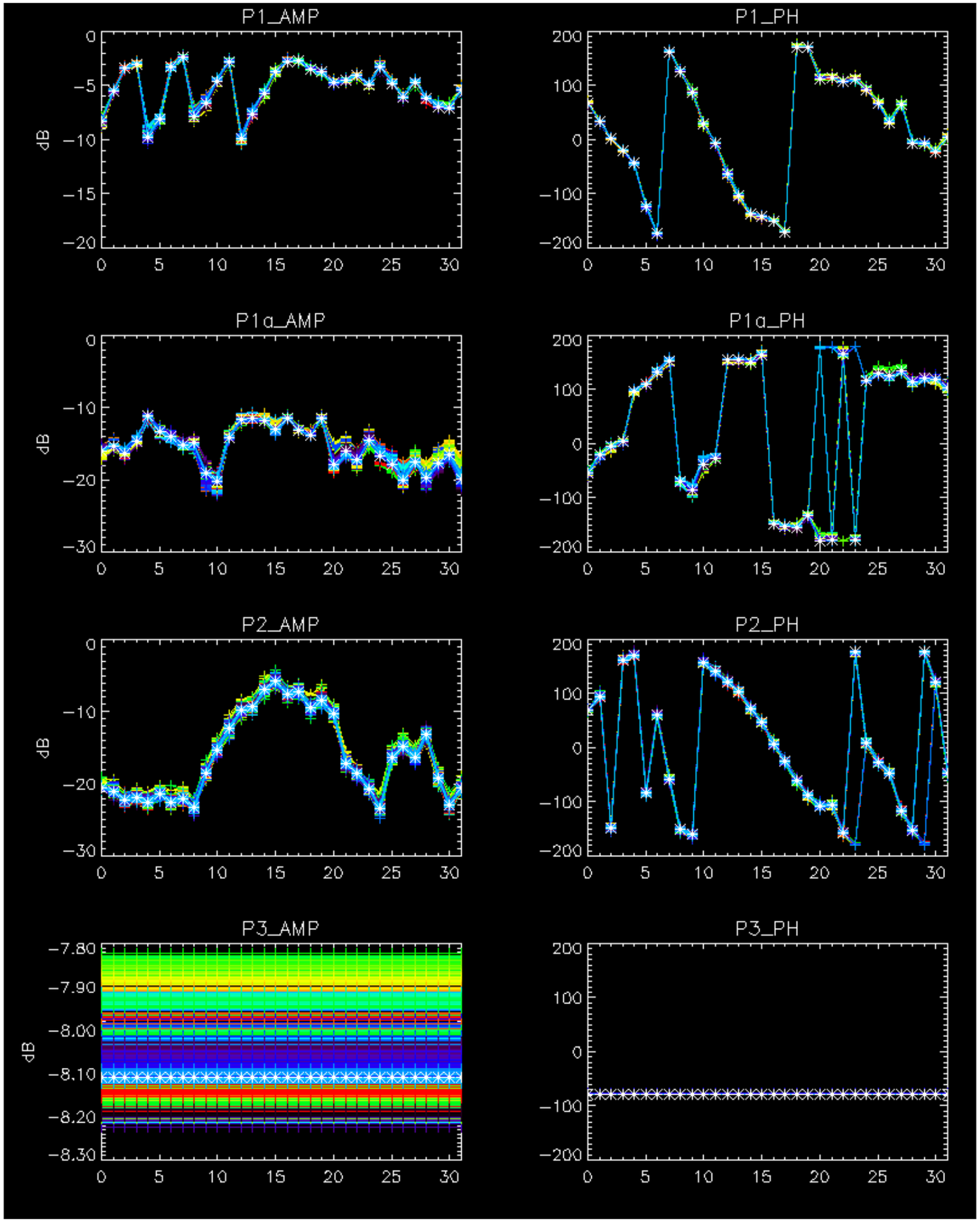

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
21−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
21
00
03
21−Aug
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
03
21−Aug
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06
09
12
15
18
21
00
03
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]
0
−5
−10
−15
−20
−25
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]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
21−Aug
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
Average P2[dB]
−5
−10
−15
−20
−25
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

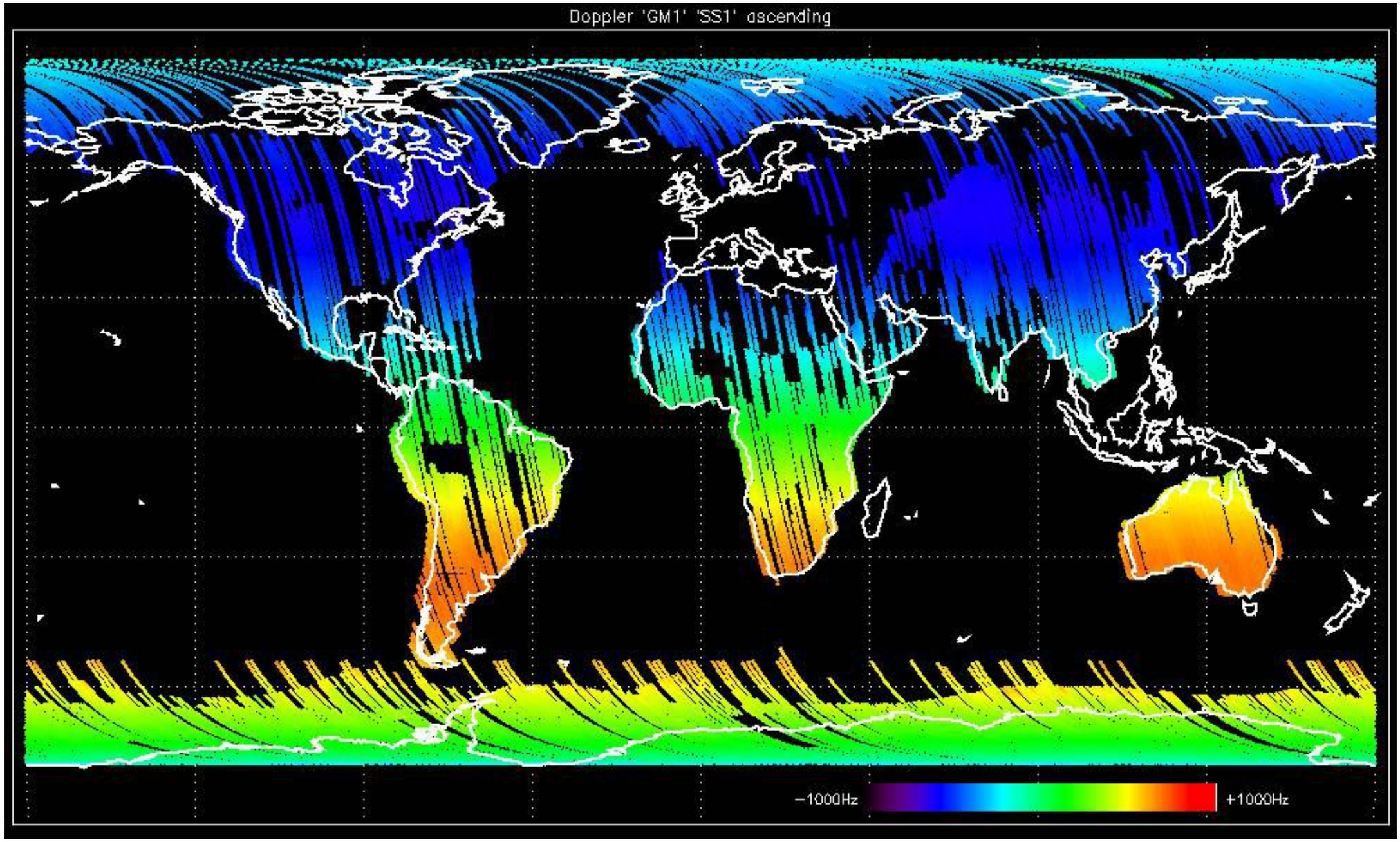
No anomalies observed.

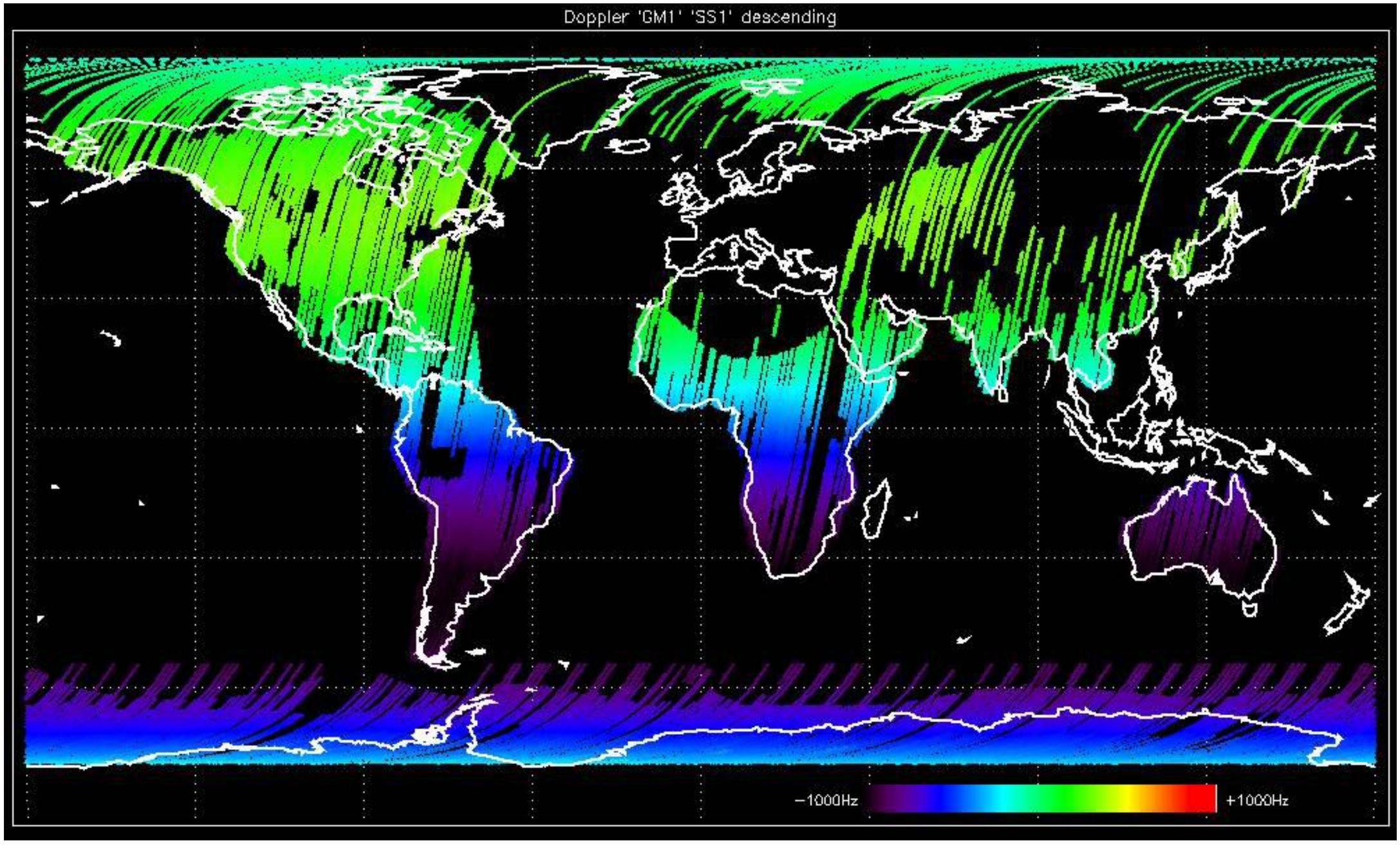

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.70
−7.80
−7.90
−8.00
−8.10
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

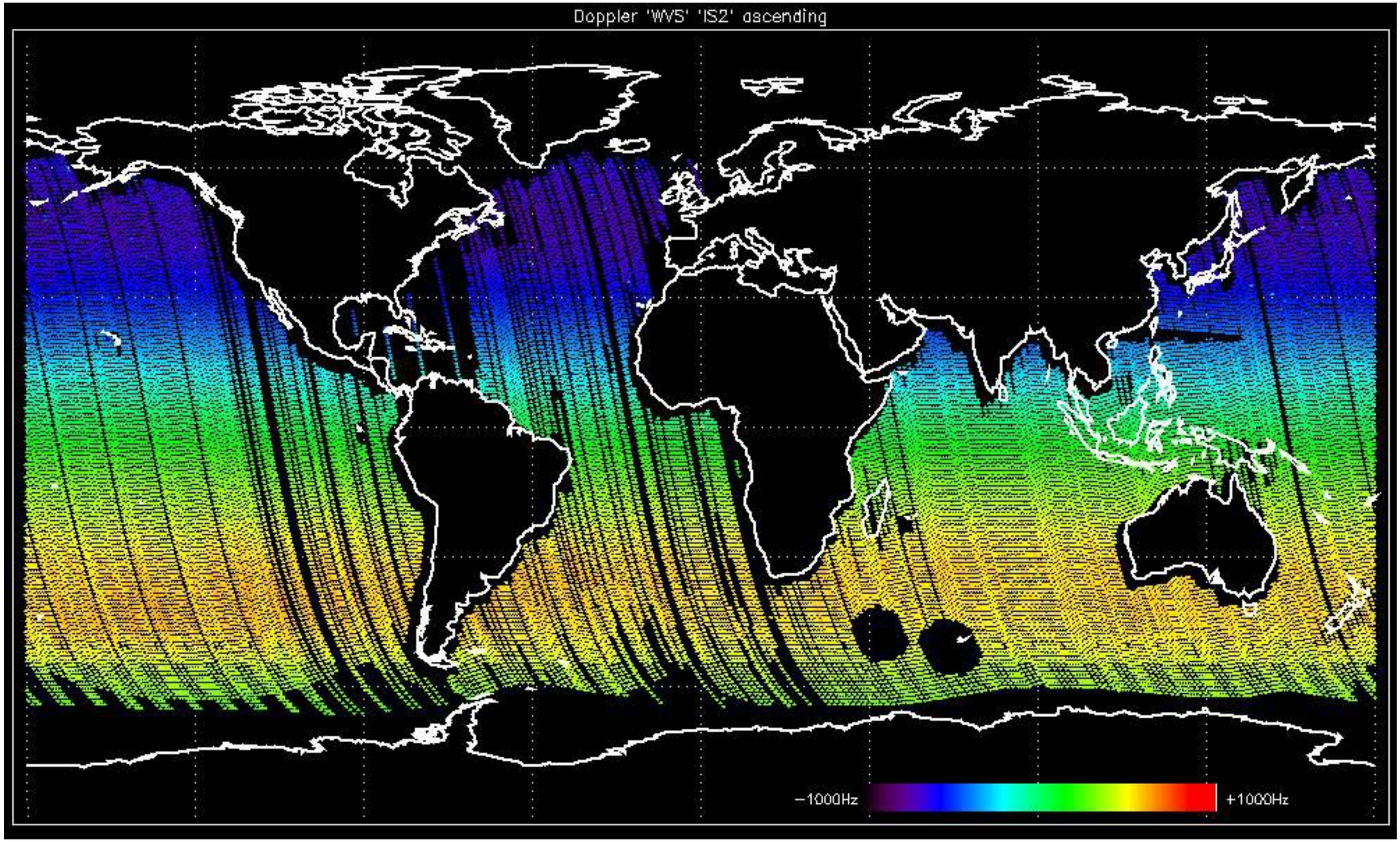

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

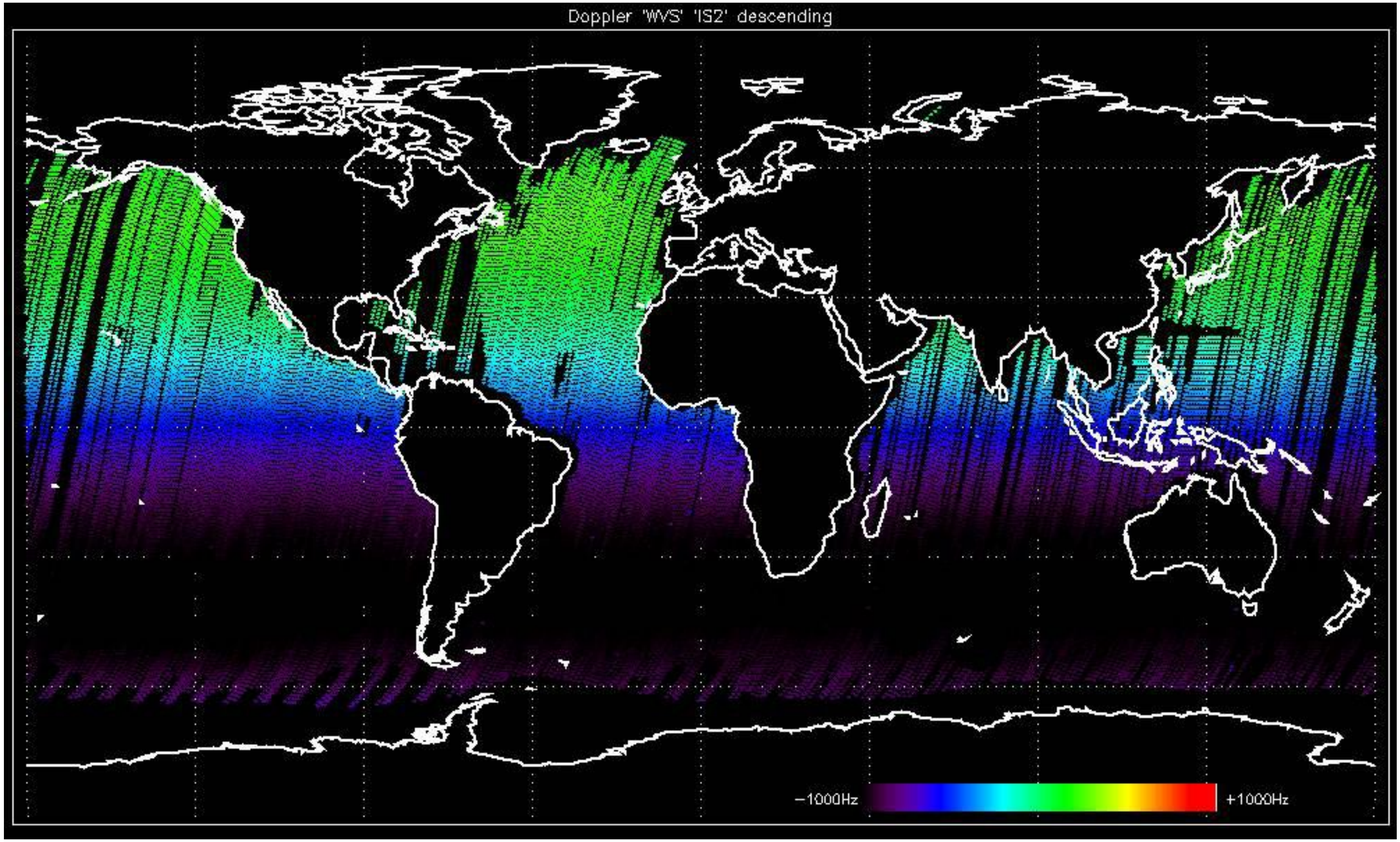
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

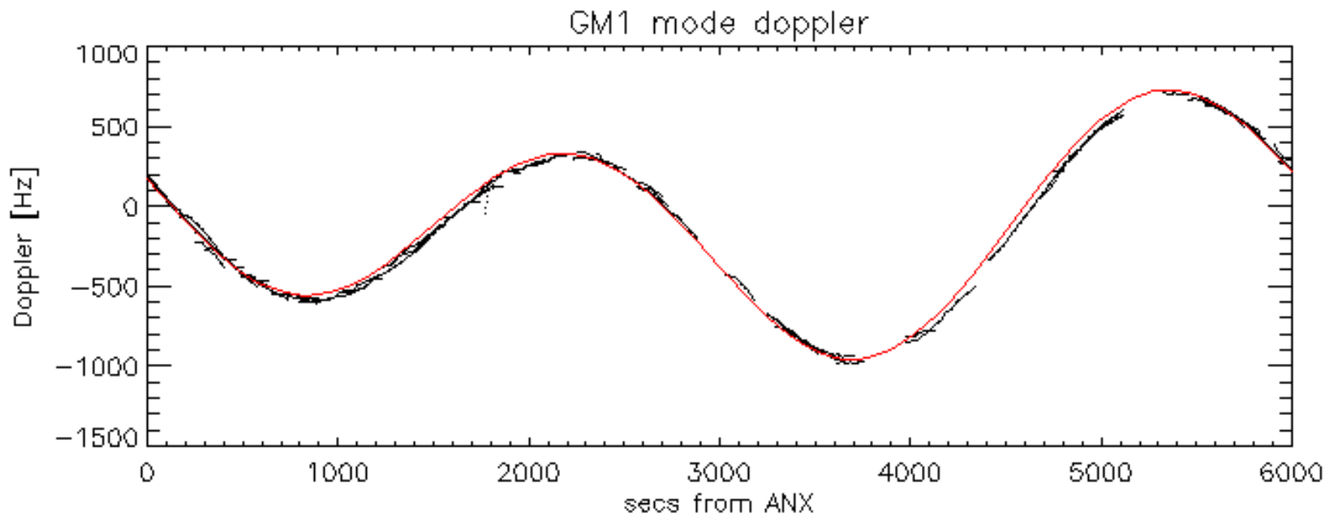
Preliminary report.The data is not yet controled

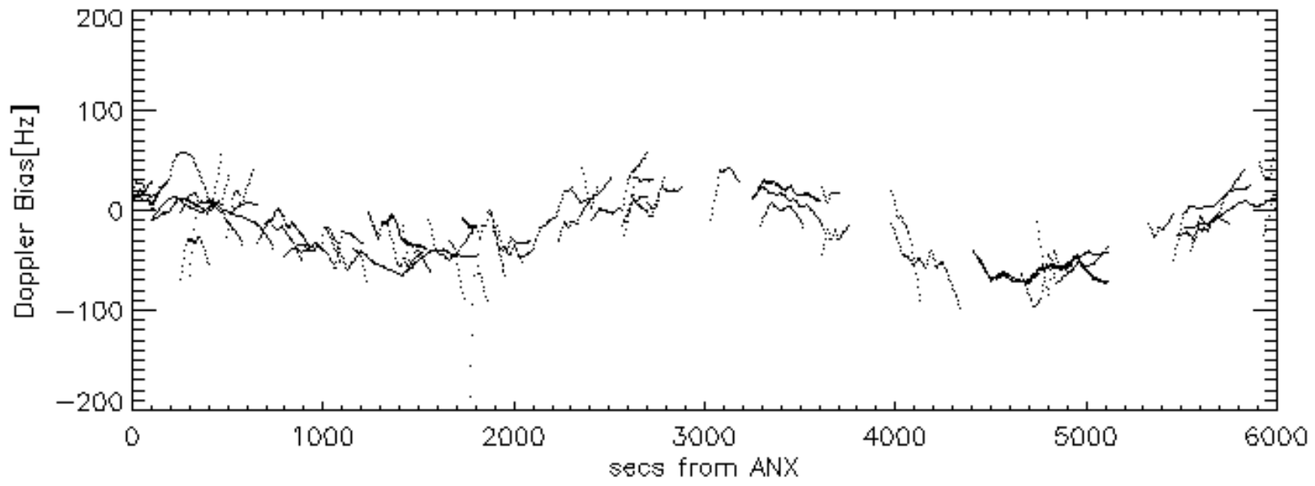

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

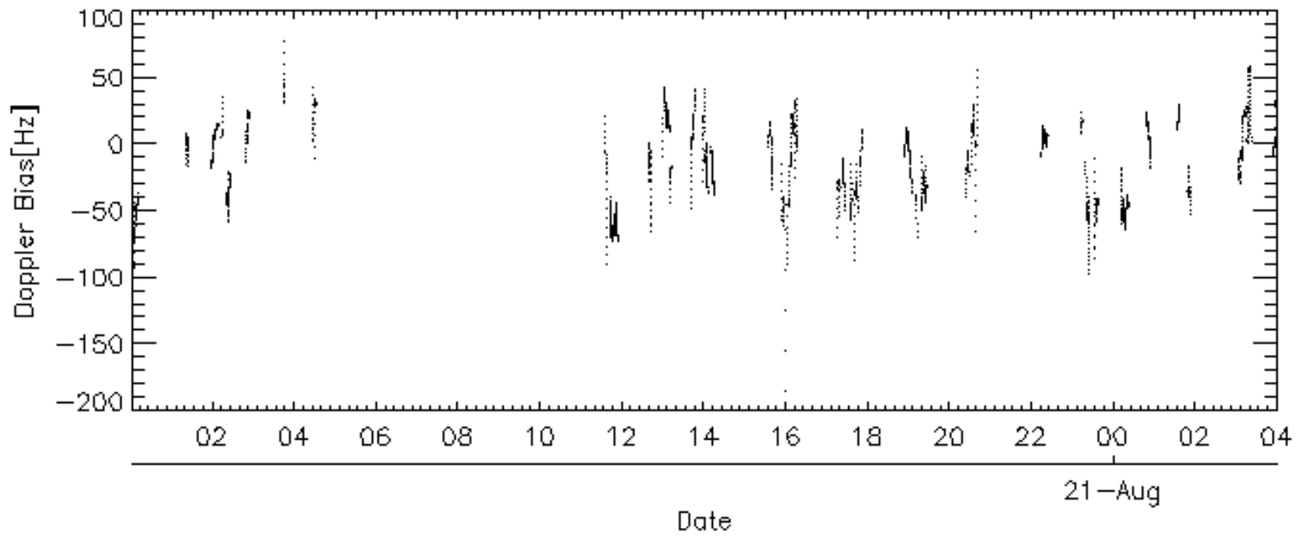

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

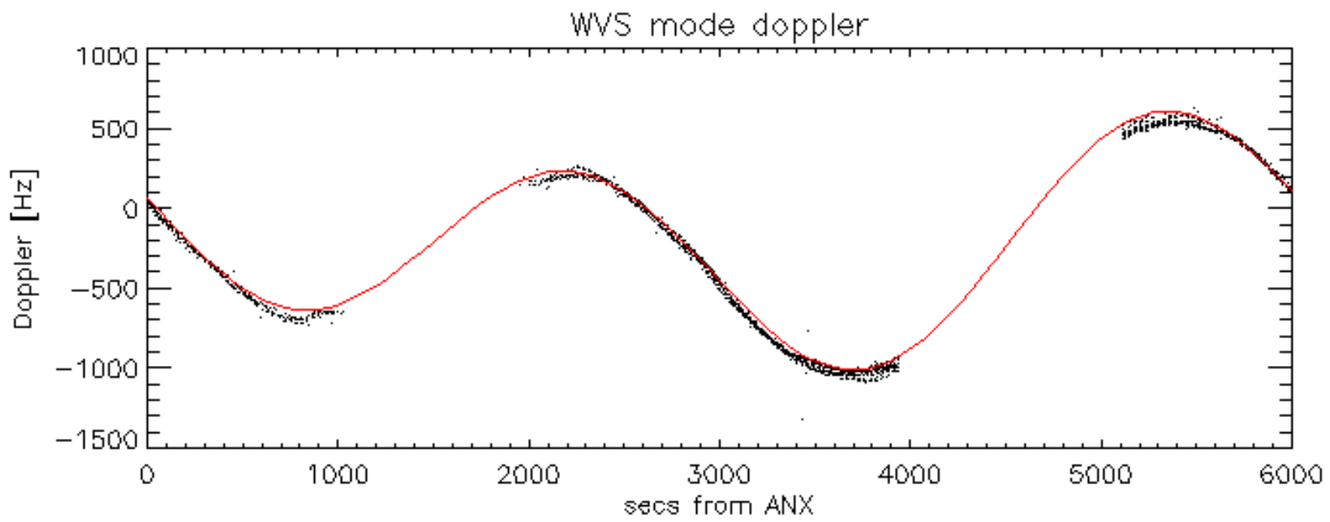

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

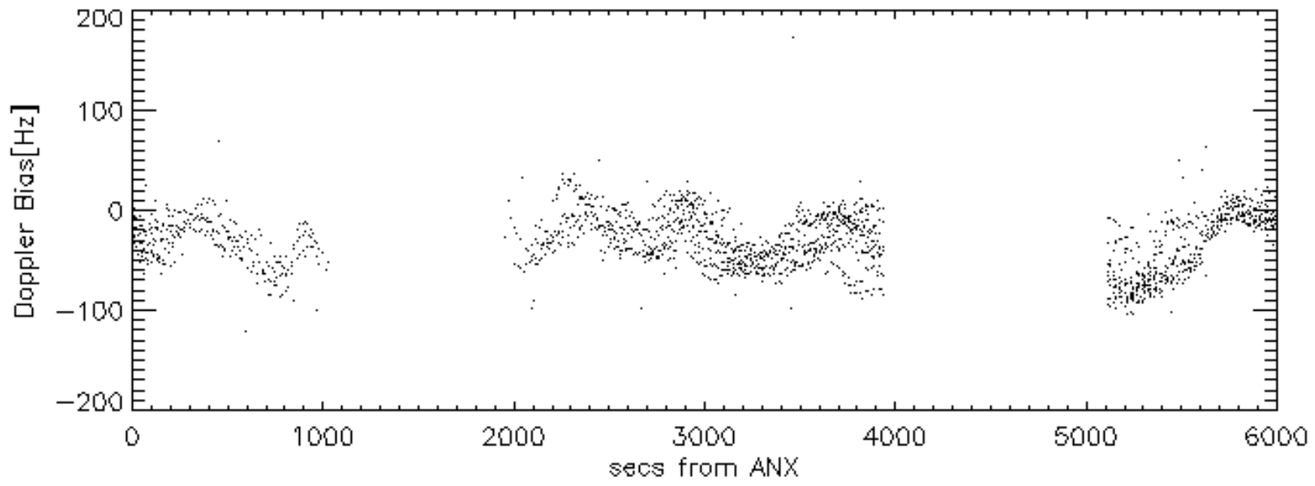

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

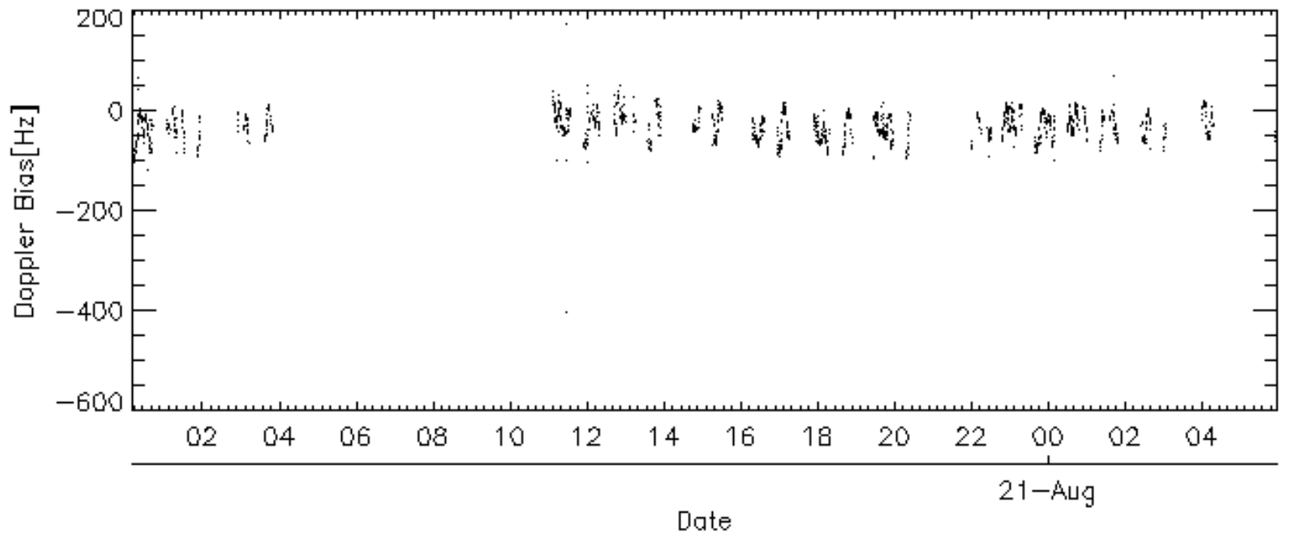

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

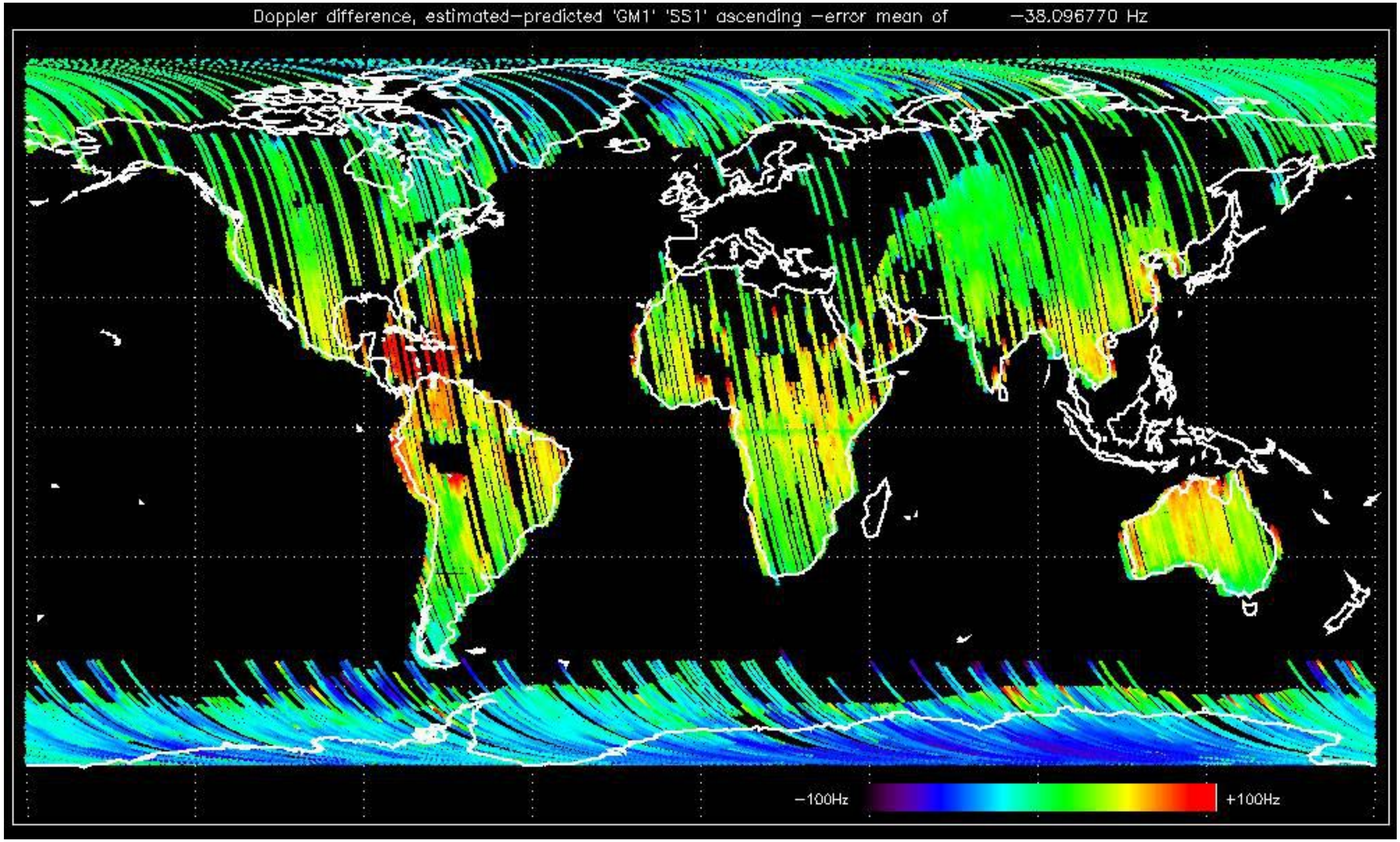

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

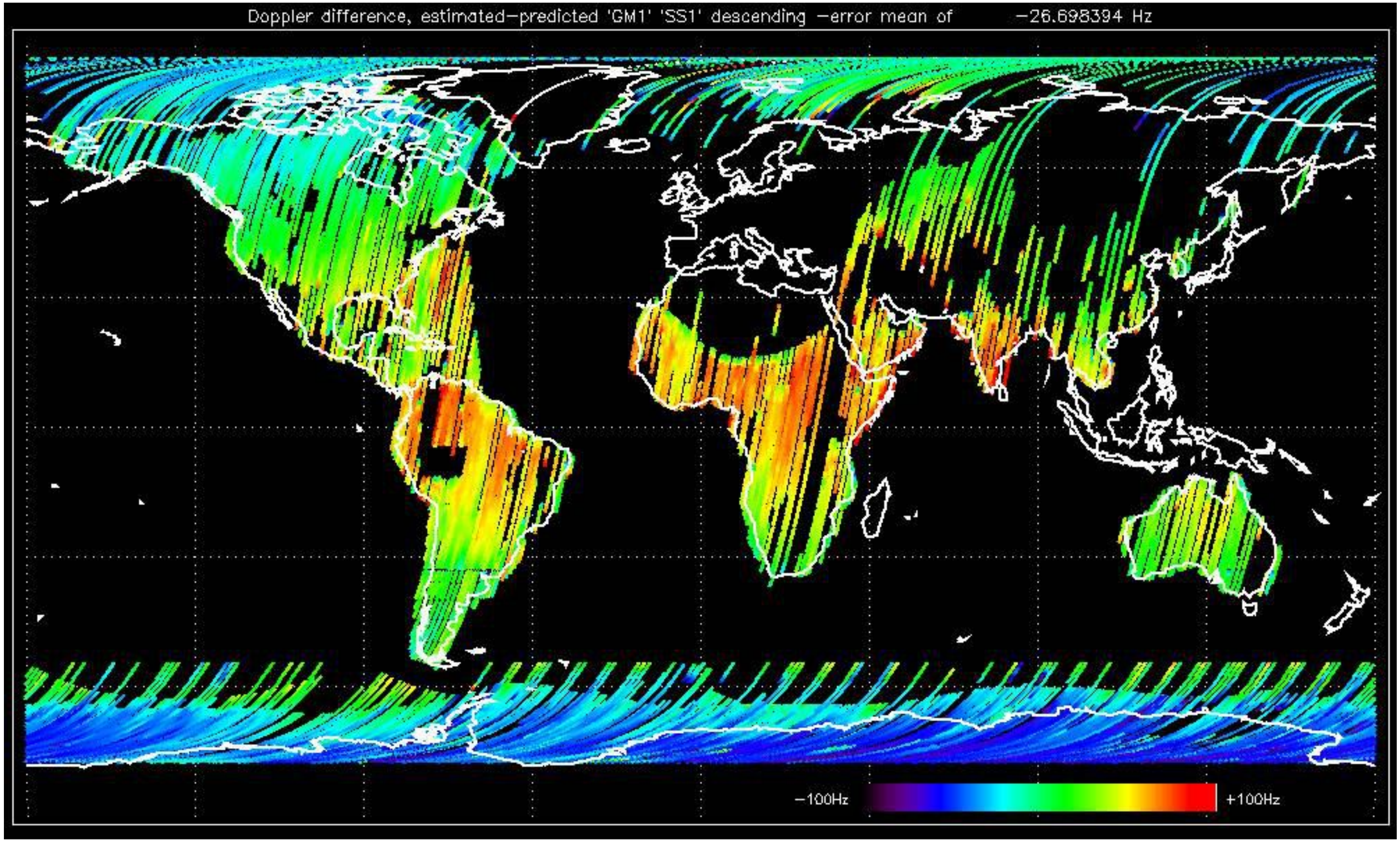

Doppler Bias[Hz]
100
50
0
−50
−100
−150
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
04
21−Aug
Date

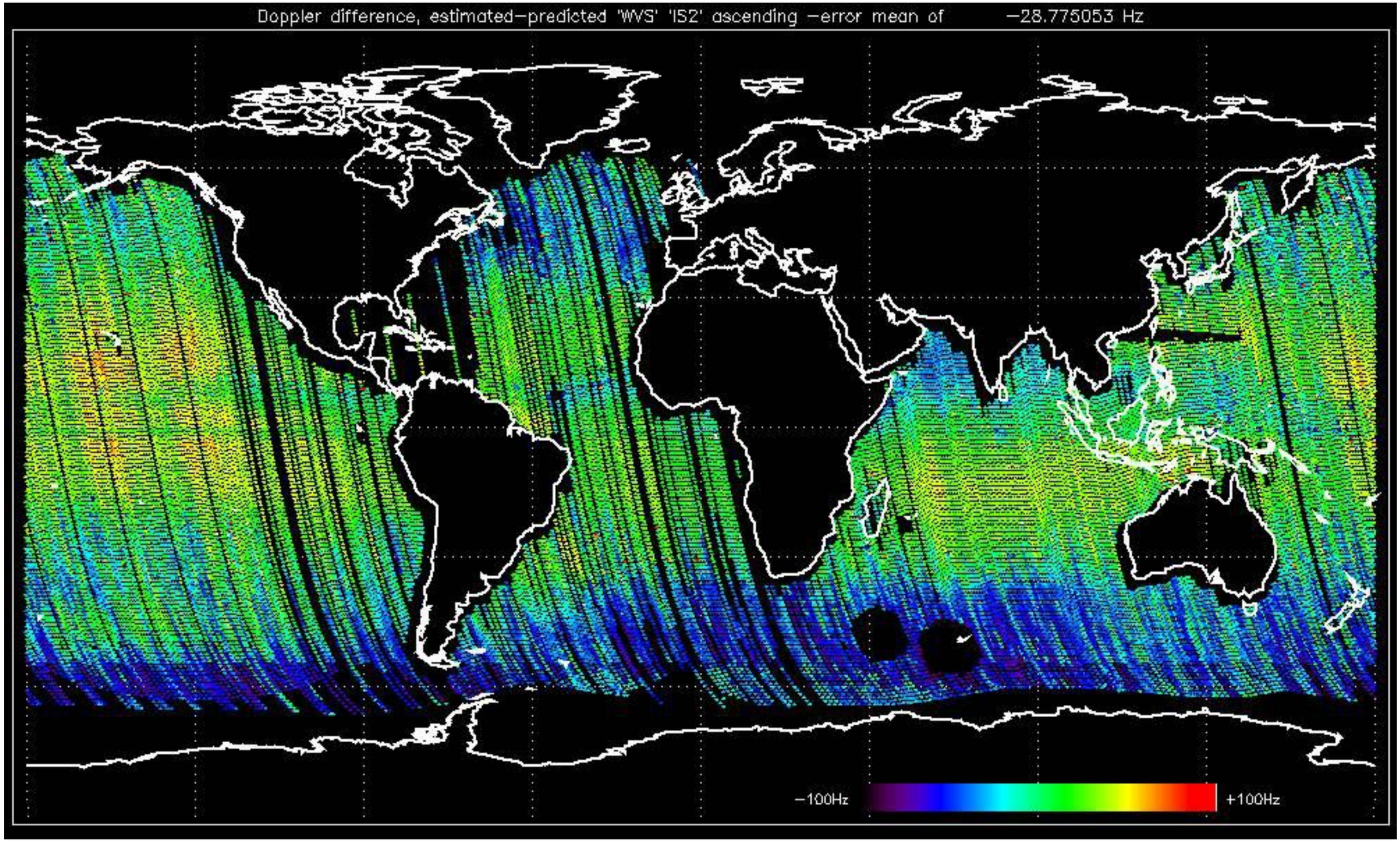

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

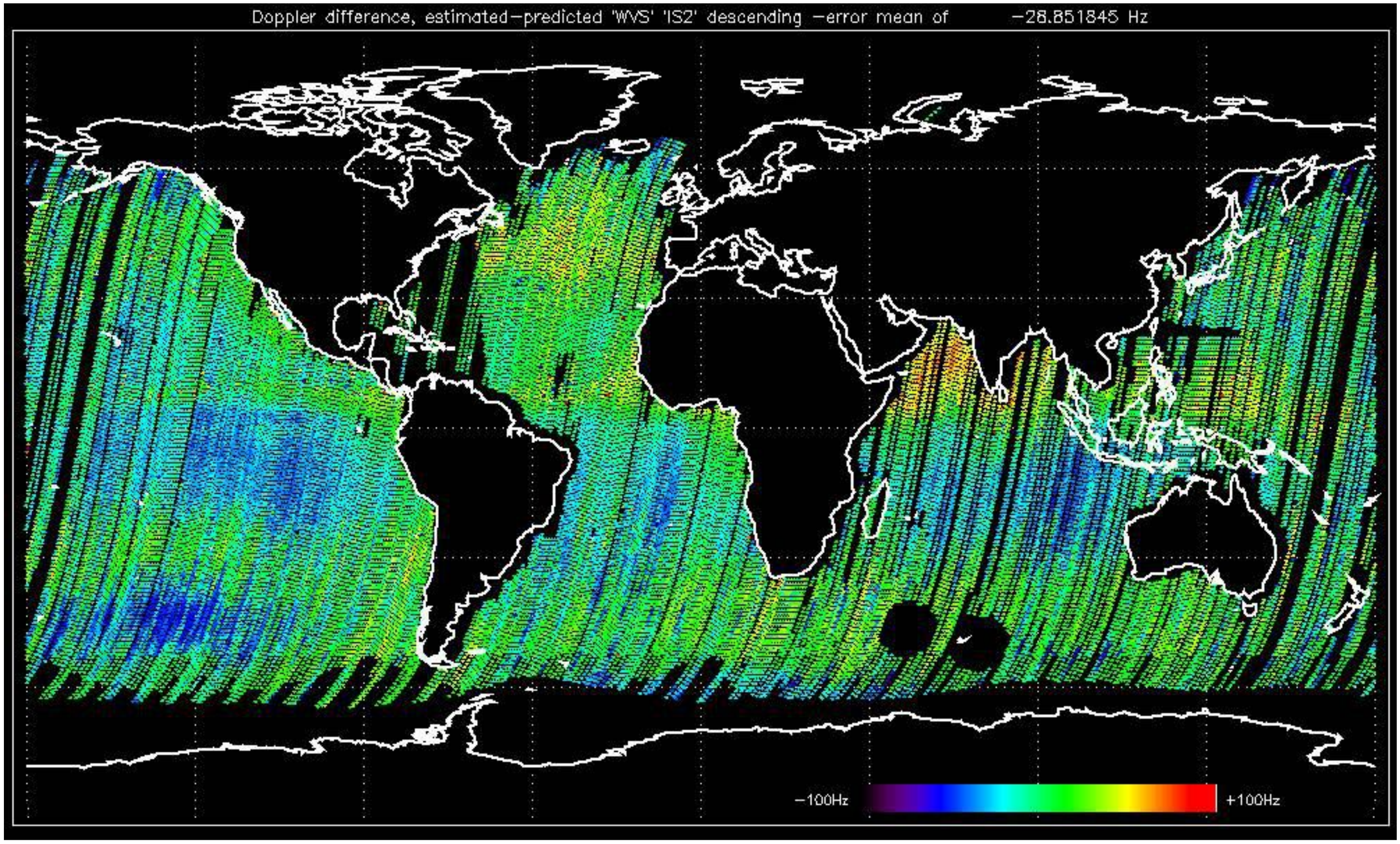

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


Doppler Bias[Hz]
200
0
−200
−400
−600
02
04
06
08
10
12
14
16
18
20
22
00
02
04
21−Aug
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −38.096770 Hz
−100Hz
+100Hz

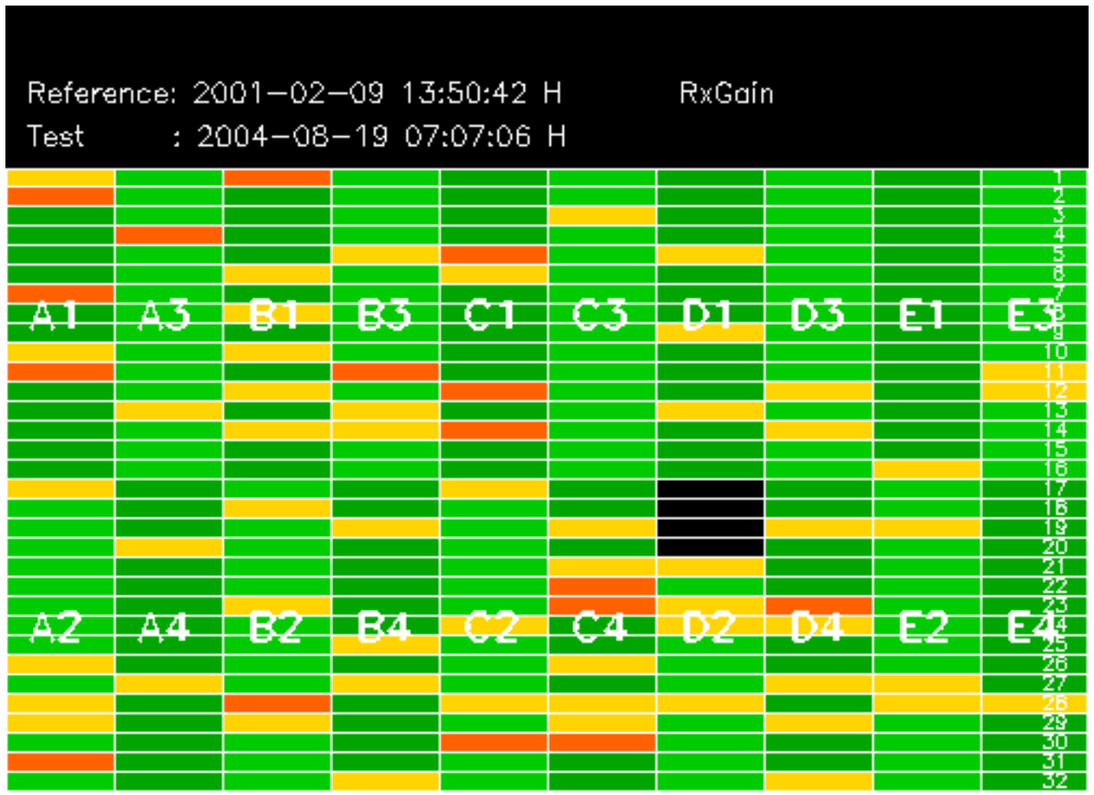

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −26.698394 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −28.775053 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −28.851845 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
RxGain
Test : 2004-08-19 07:07:06 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
6
7
8
9
10
11
12
13
14
15
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17
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23
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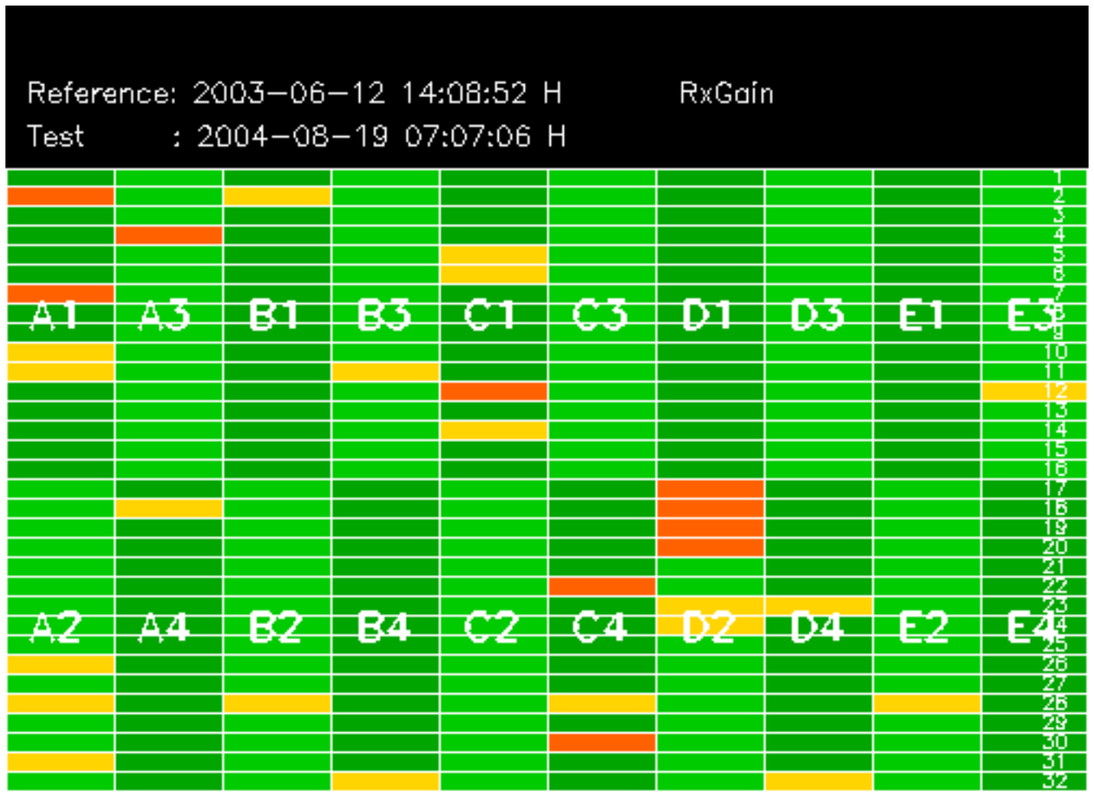
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2004-08-19 07:07:06 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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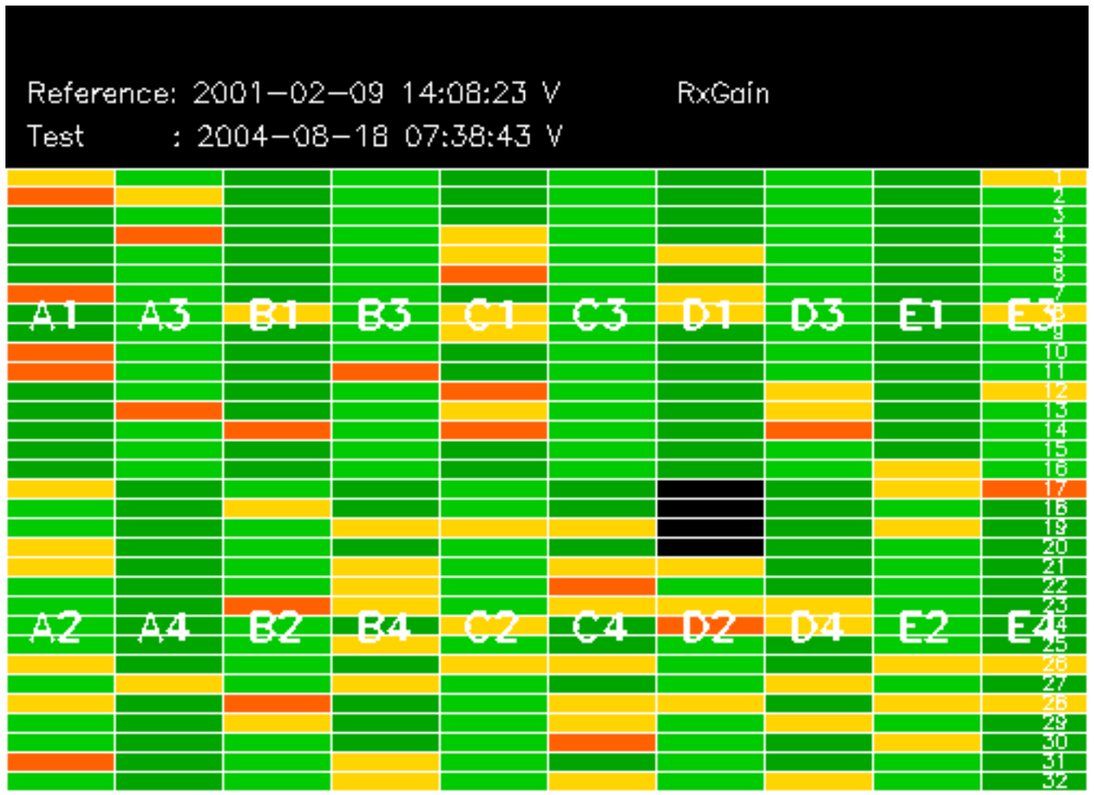
Reference: 2001-02-09 14:08:23 V
Test : 2004-08-18 07:38:43 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
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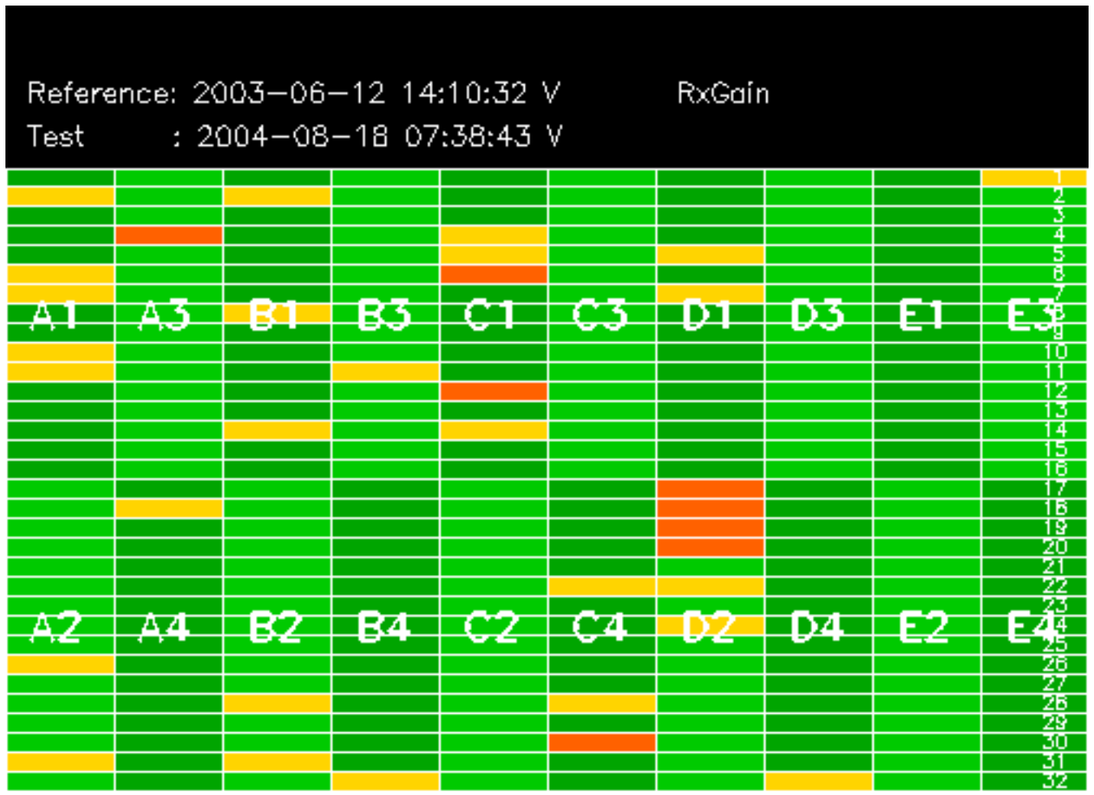
Reference: 2003-06-12 14:10:32 V
Test : 2004-08-18 07:38:43 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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9
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31
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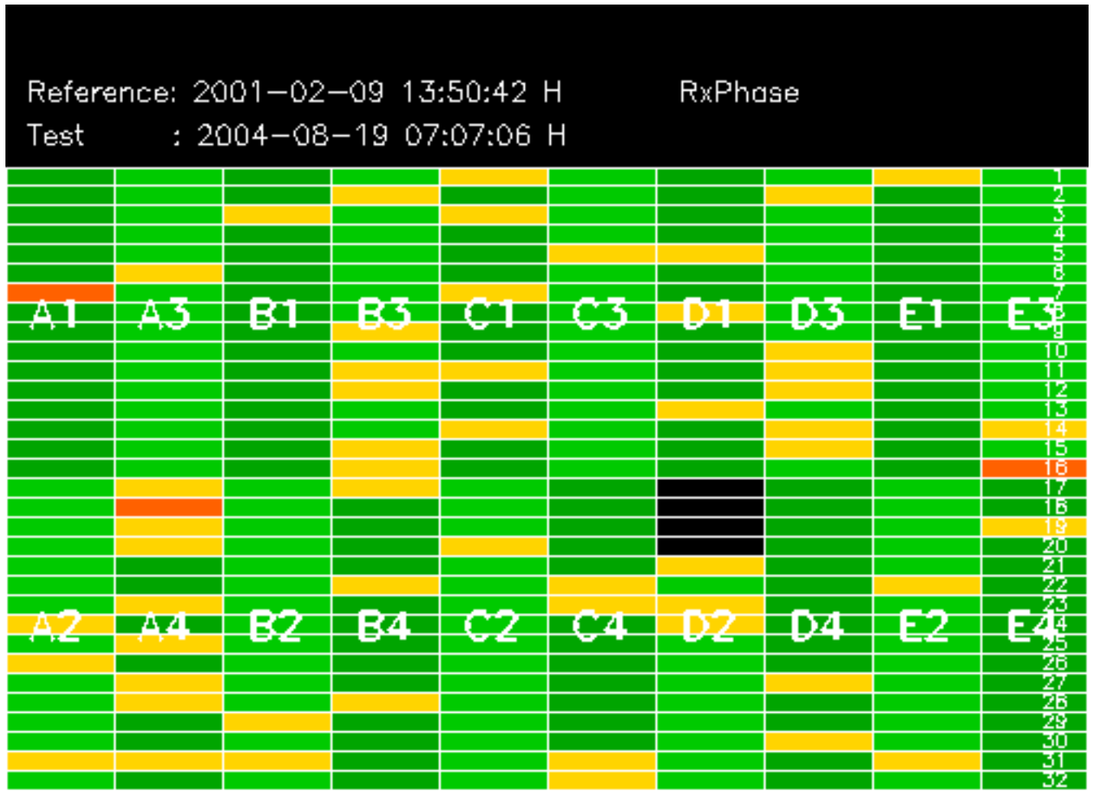
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-08-19 07:07:06 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
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8
9
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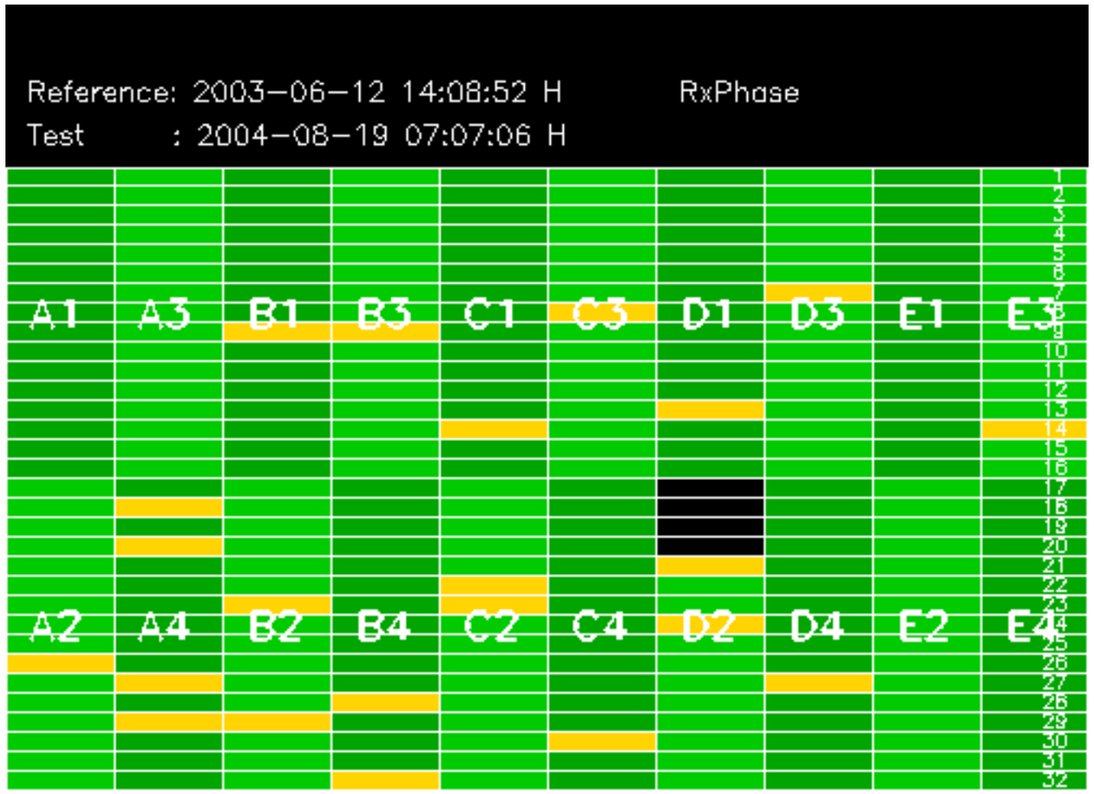
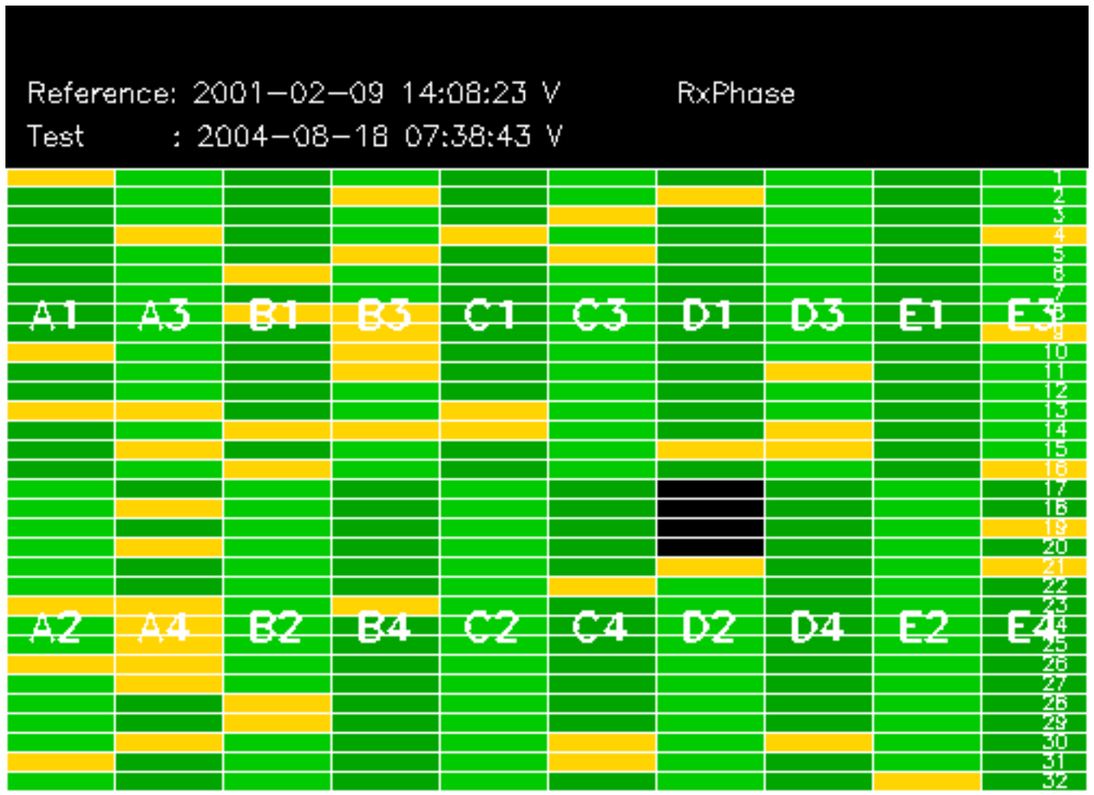
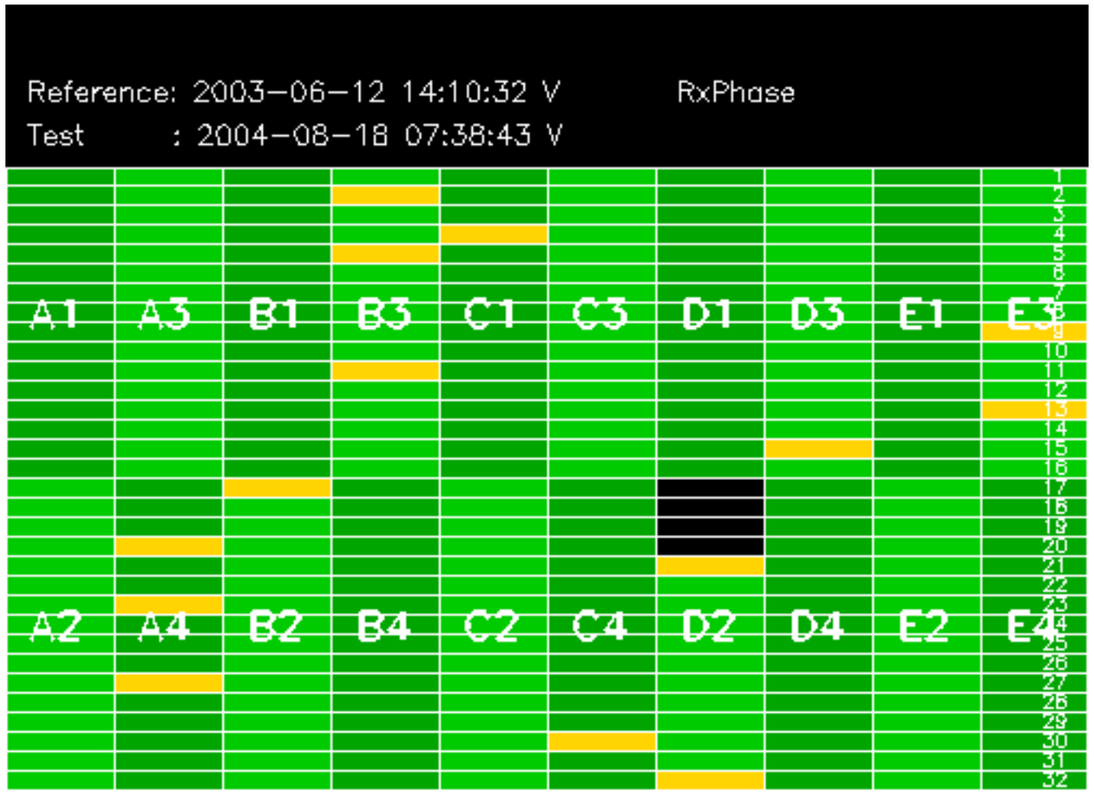
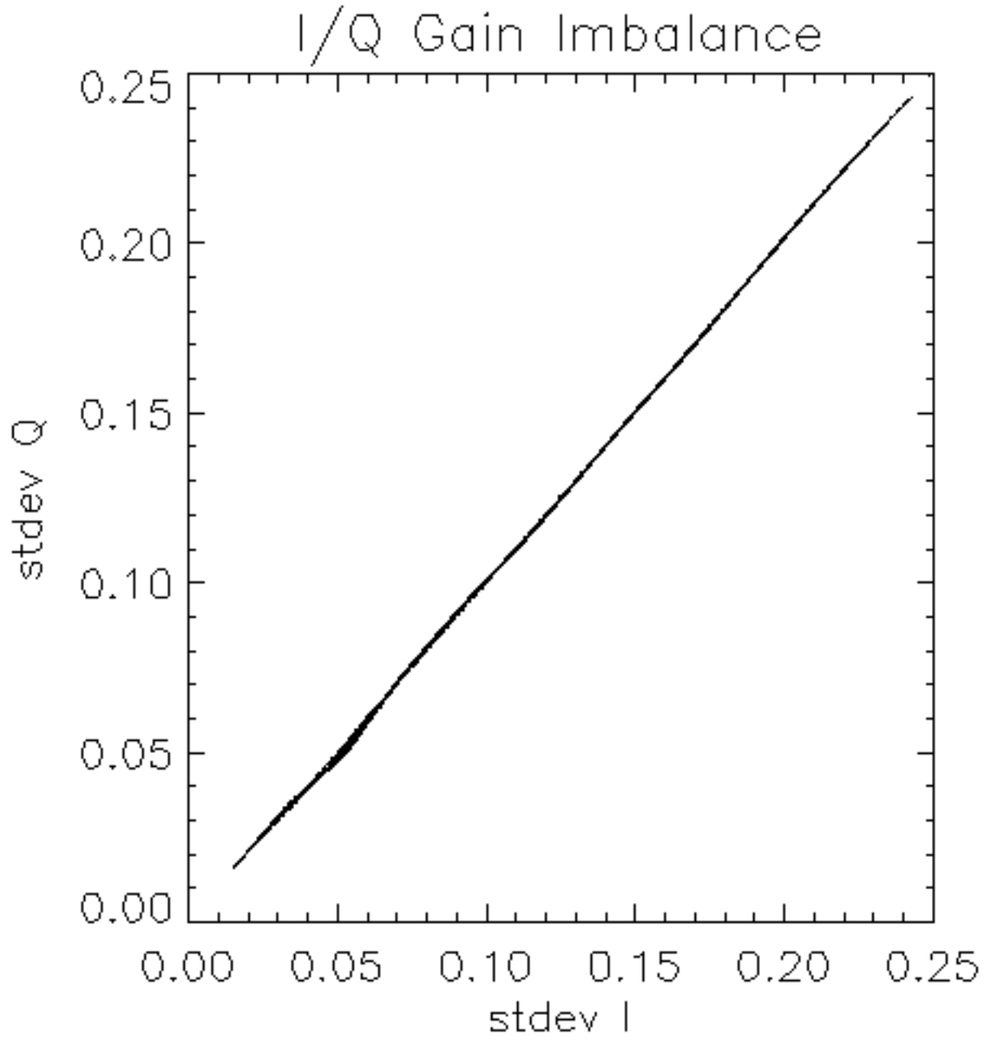
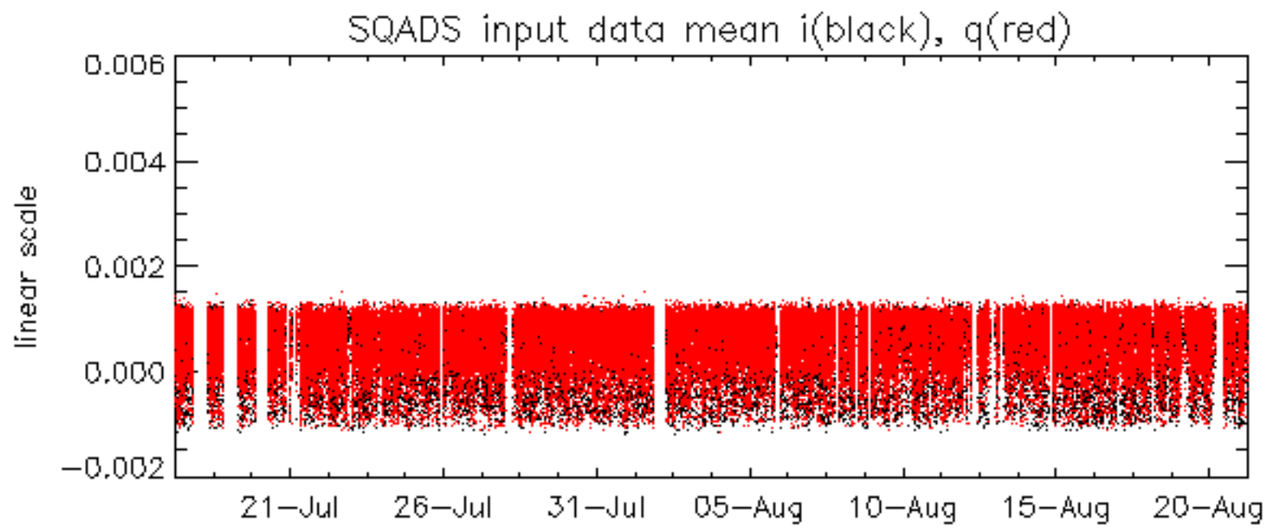
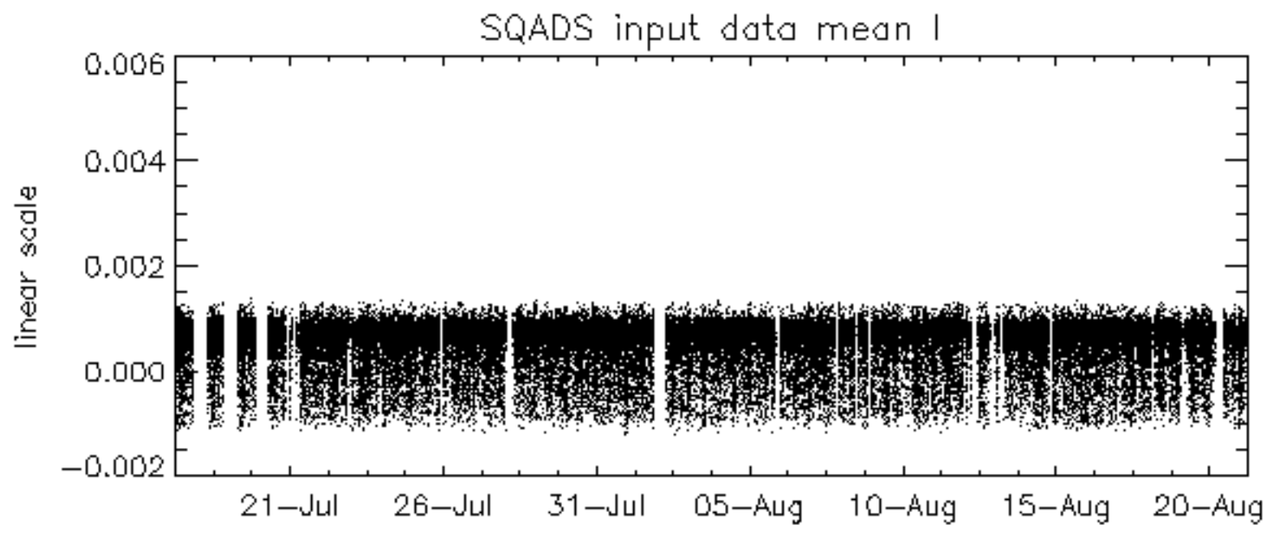

Reference: 2003-06-12 14:08:52 H
Test : 2004-08-19 07:07:06 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

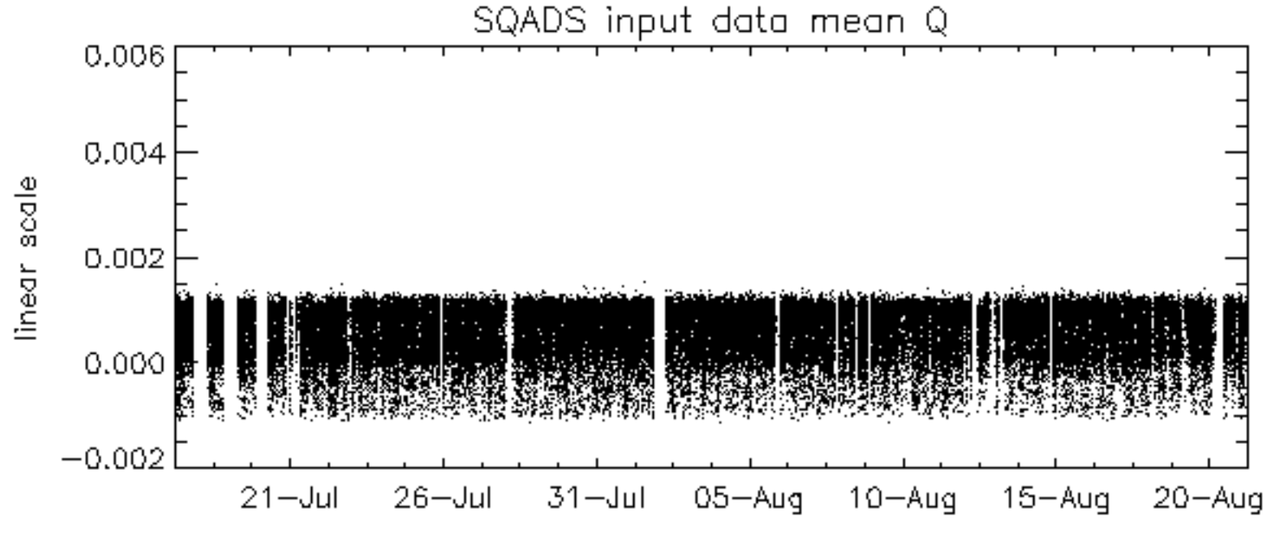

Reference: 2001-02-09 14:08:23 V
Test : 2004-08-18 07:38:43 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

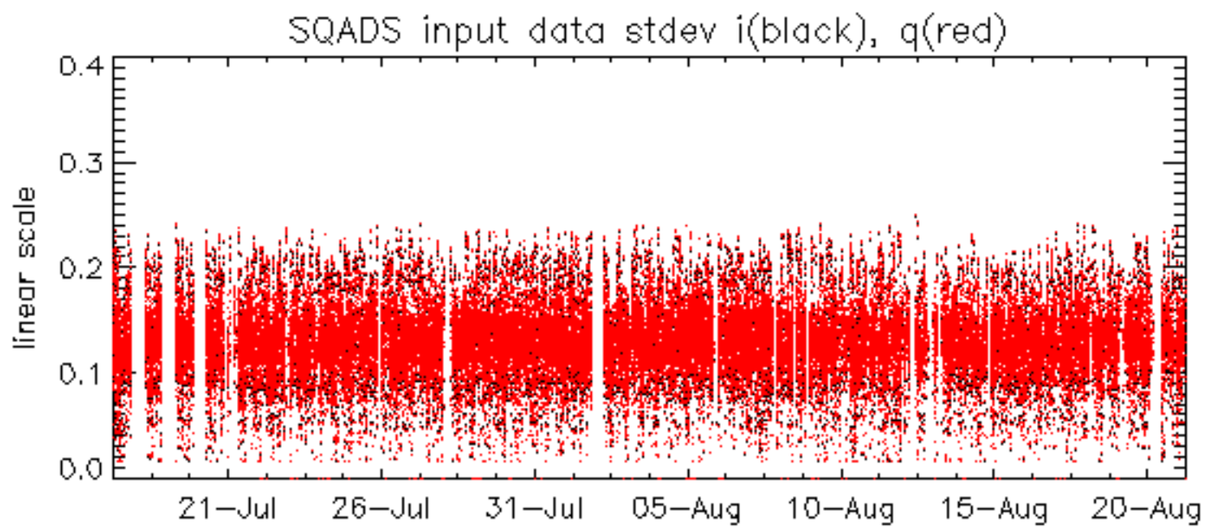

Reference: 2003-06-12 14:10:32 V
Test : 2004-08-18 07:38:43 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

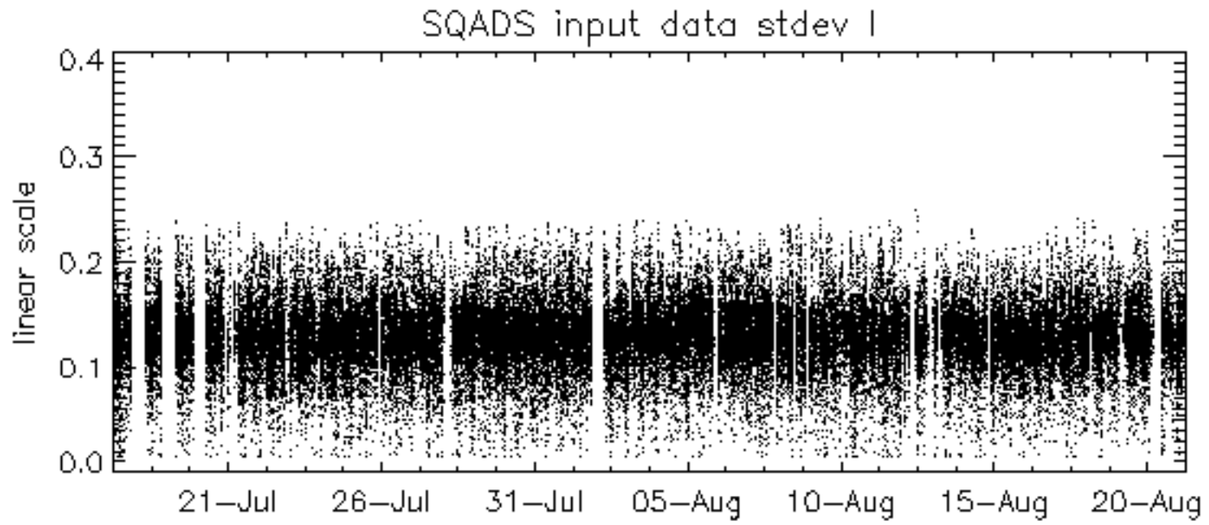

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

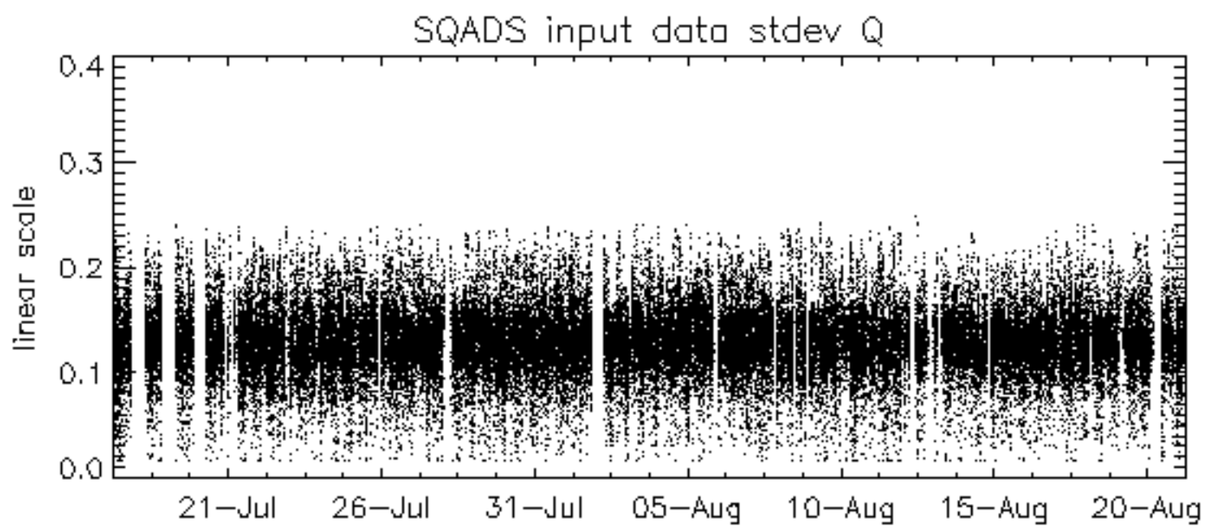

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug
20−Aug

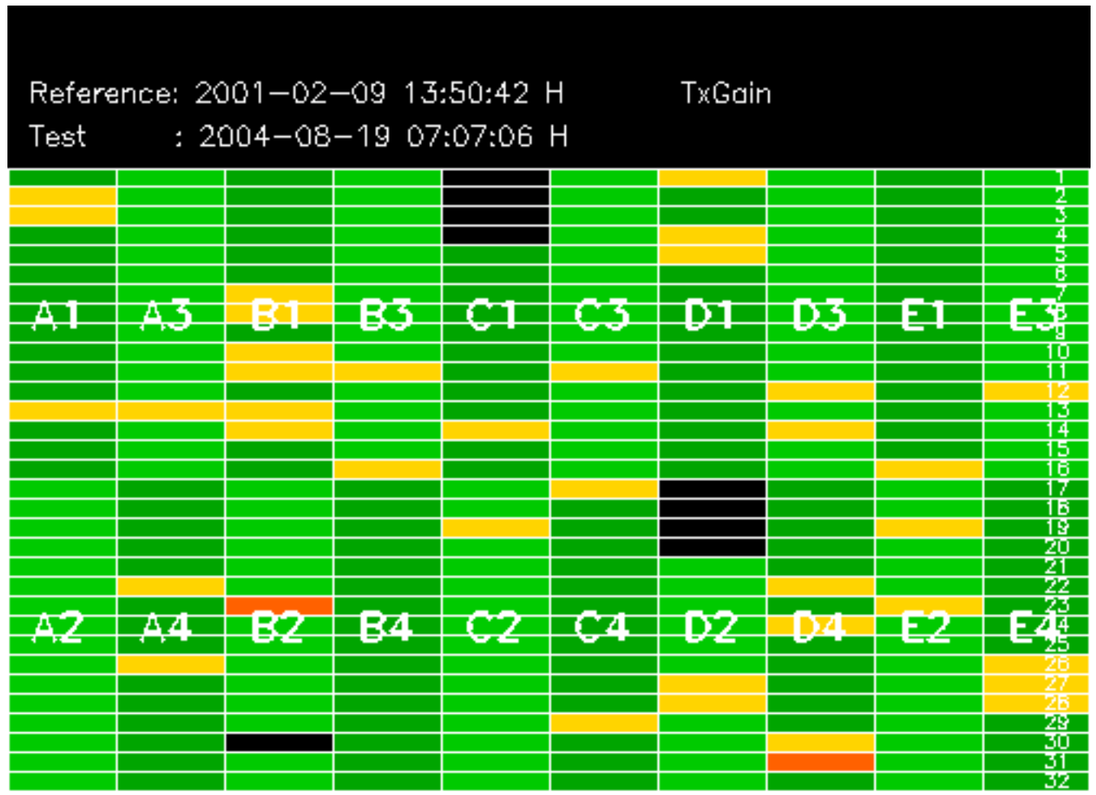

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug
20−Aug


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 : 2004-08-19 07:07:06 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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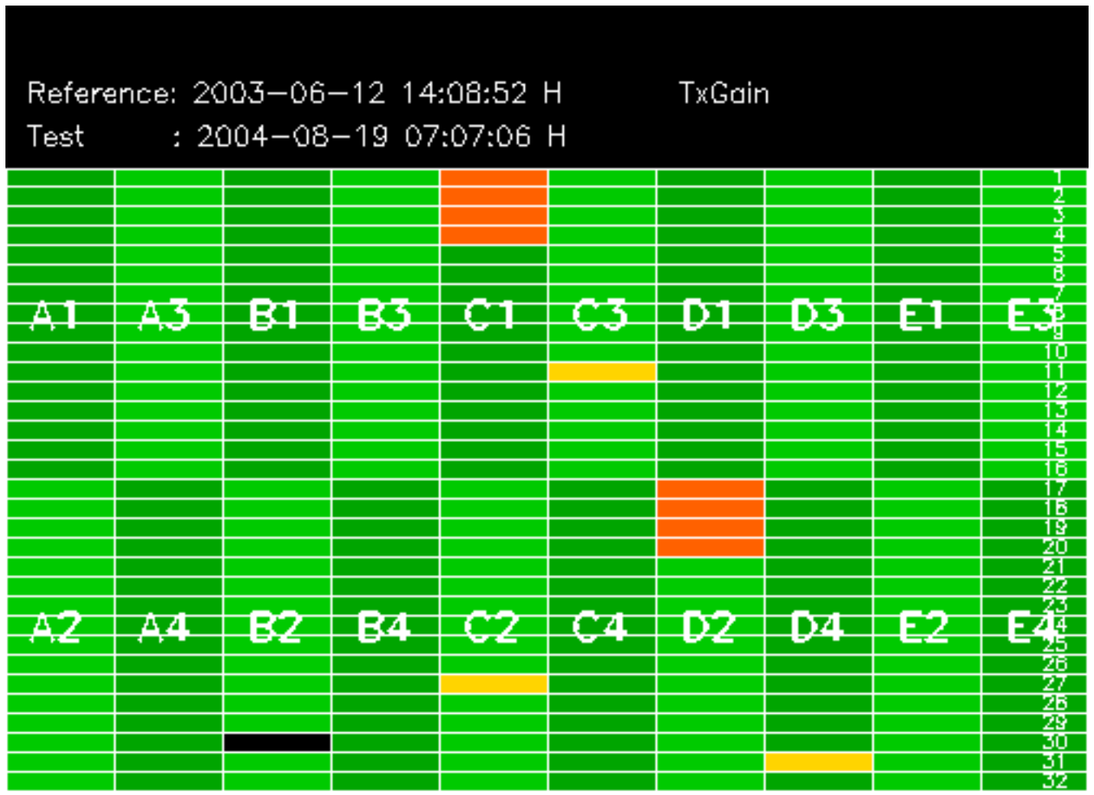
Reference: 2003-06-12 14:08:52 H
Test : 2004-08-19 07:07:06 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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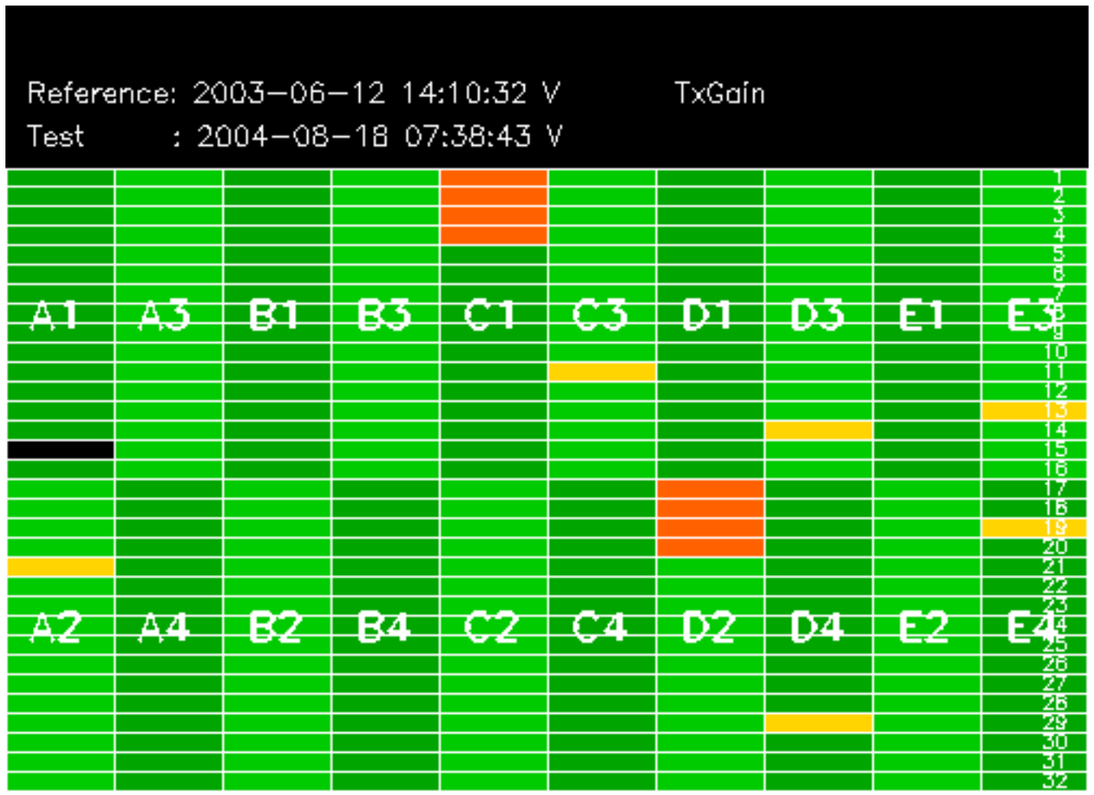
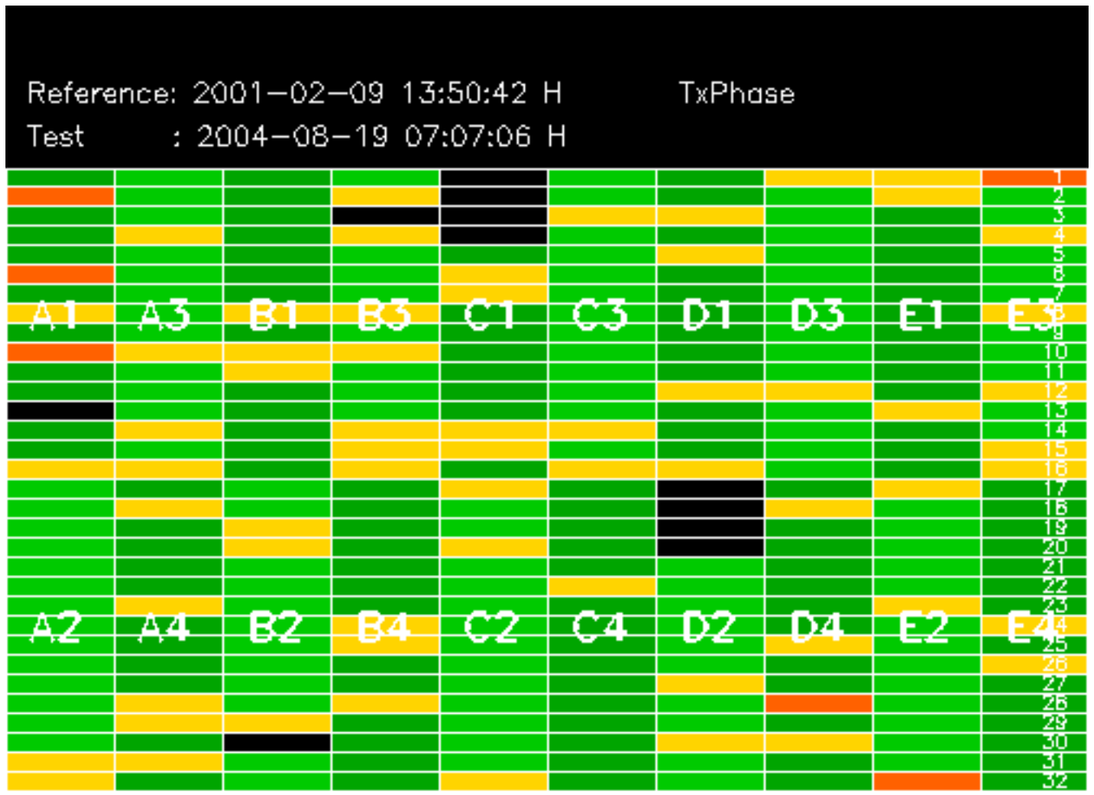
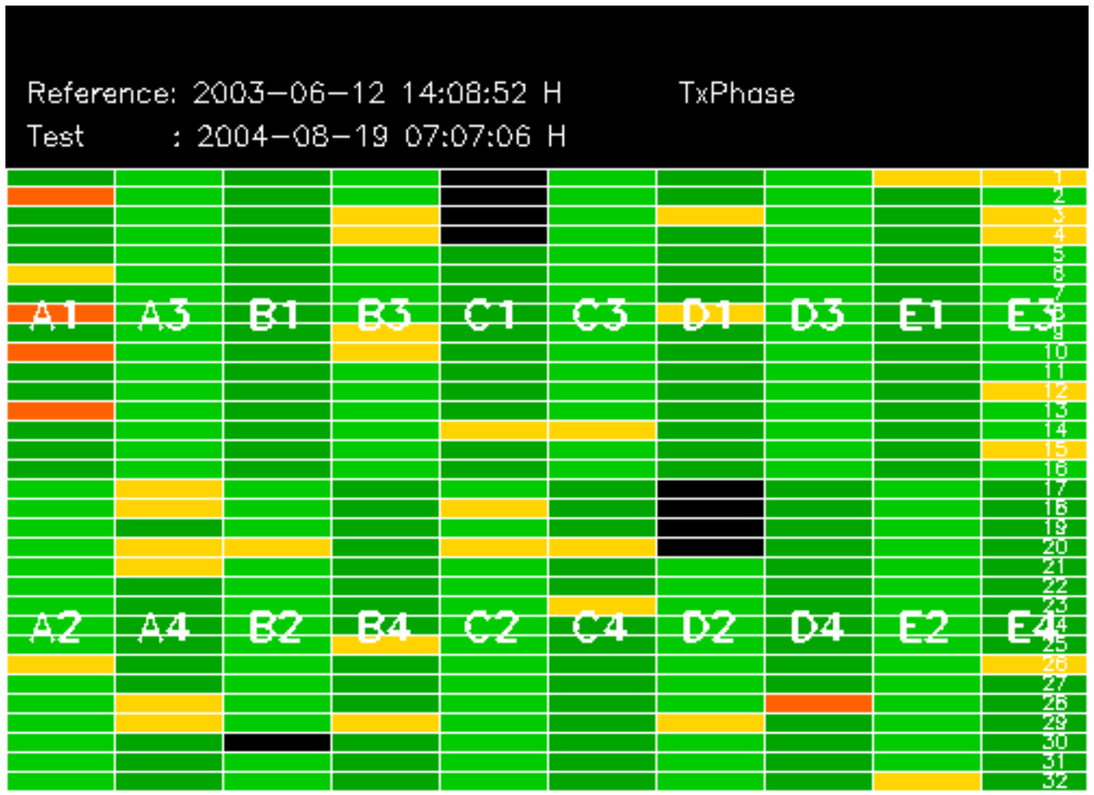
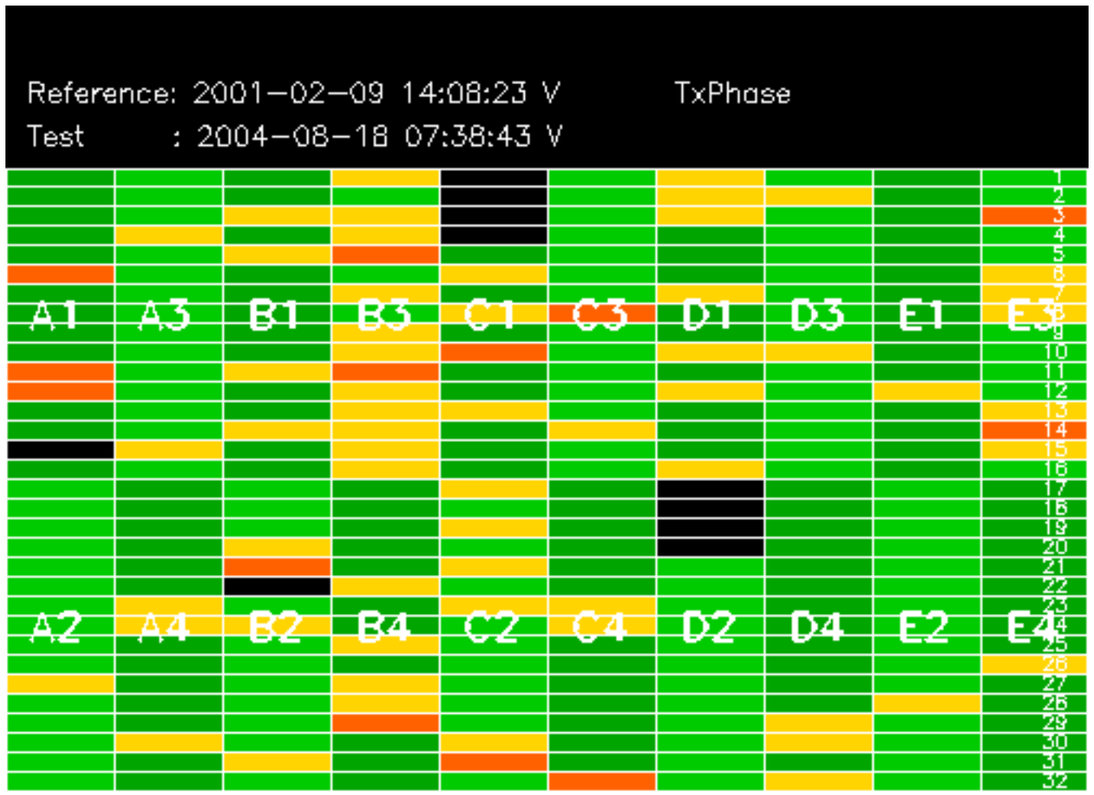
Reference: 2001-02-09 14:08:23 V
TxGain
Test : 2004-08-18 07:38:43 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 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
TxPhase
Test : 2004-08-19 07:07:06 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 : 2004-08-19 07:07:06 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
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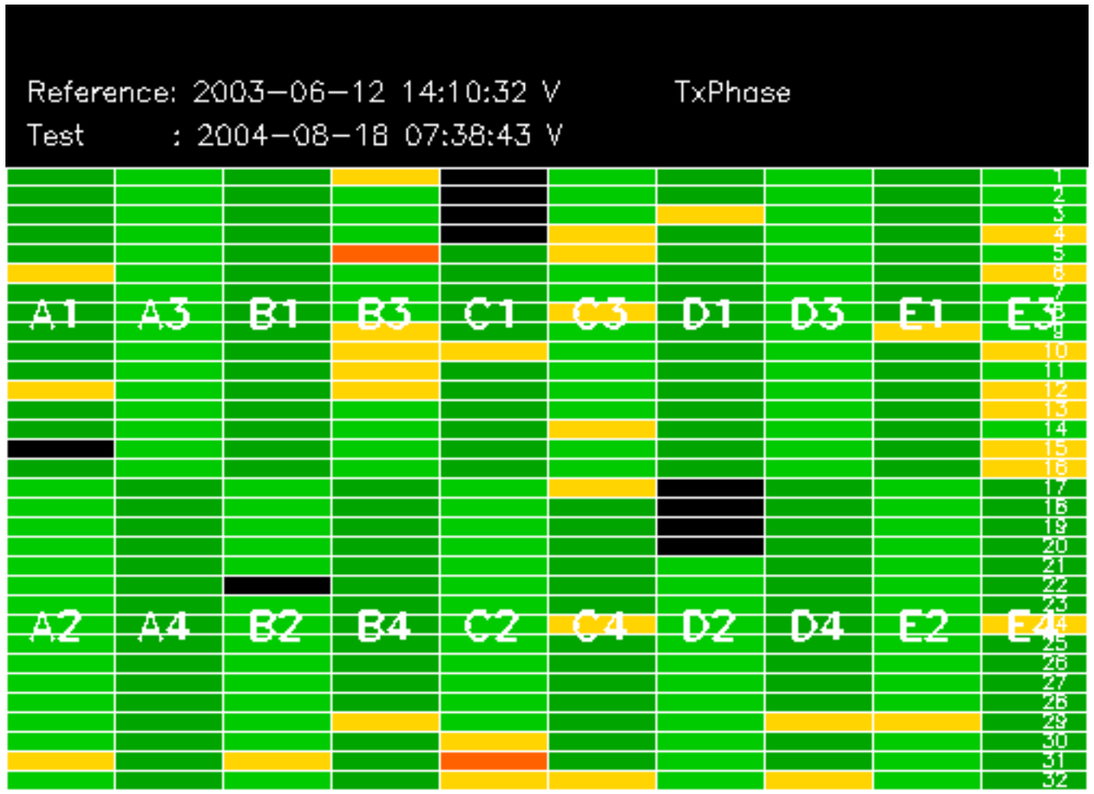
Reference: 2003-06-12 14:10:32 V
Test : 2004-08-18 07:38:43 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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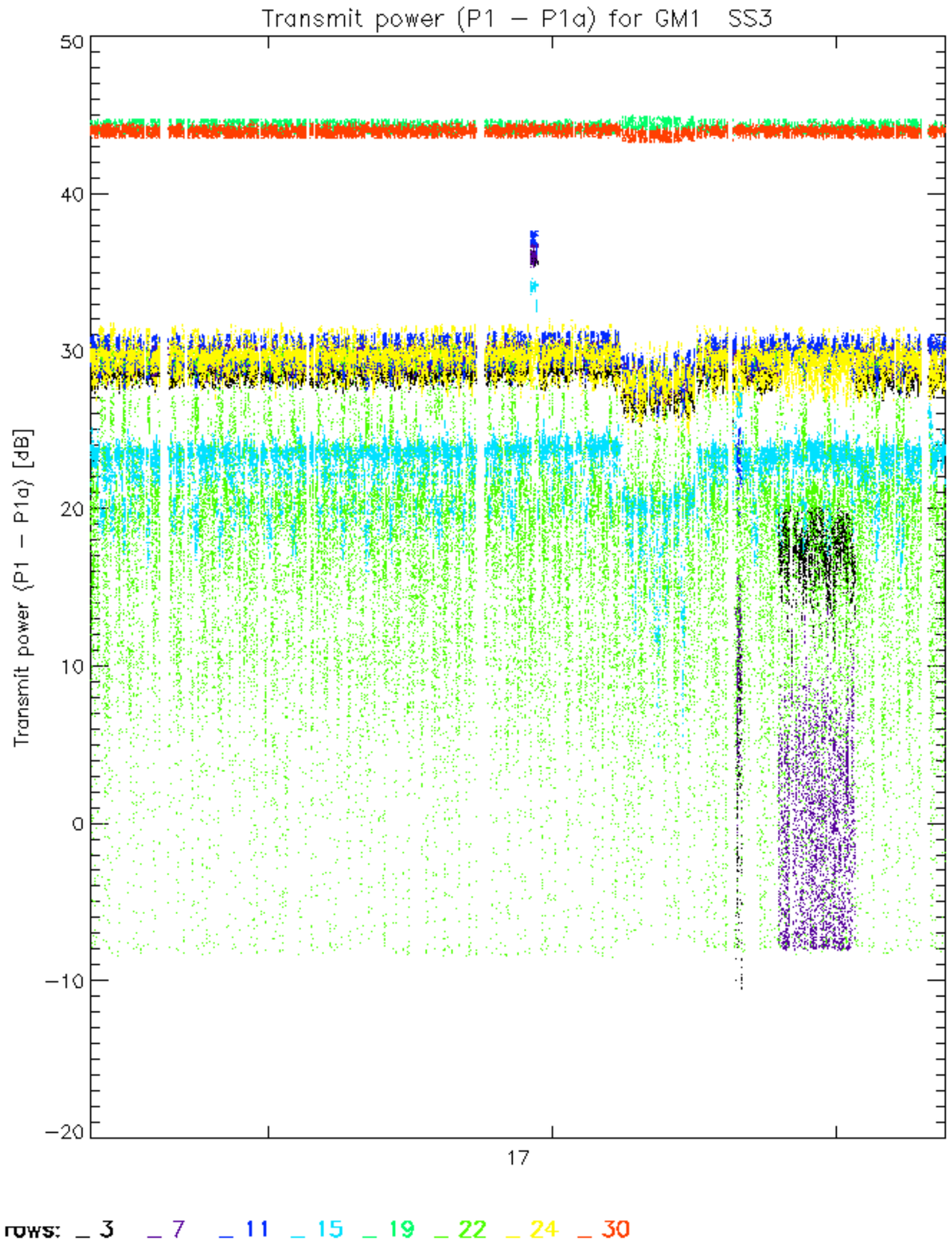
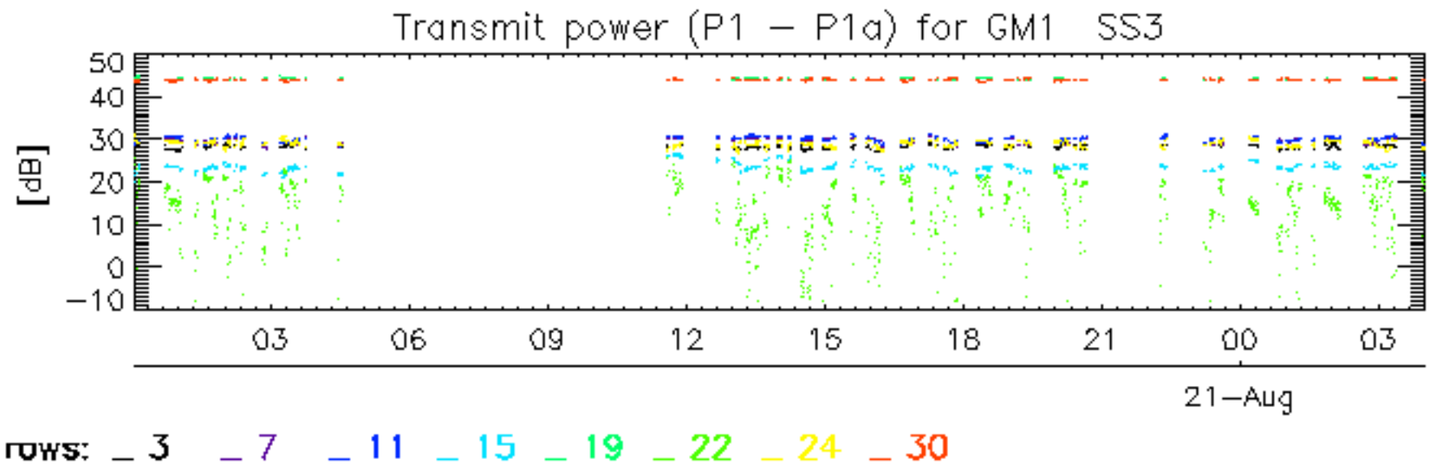
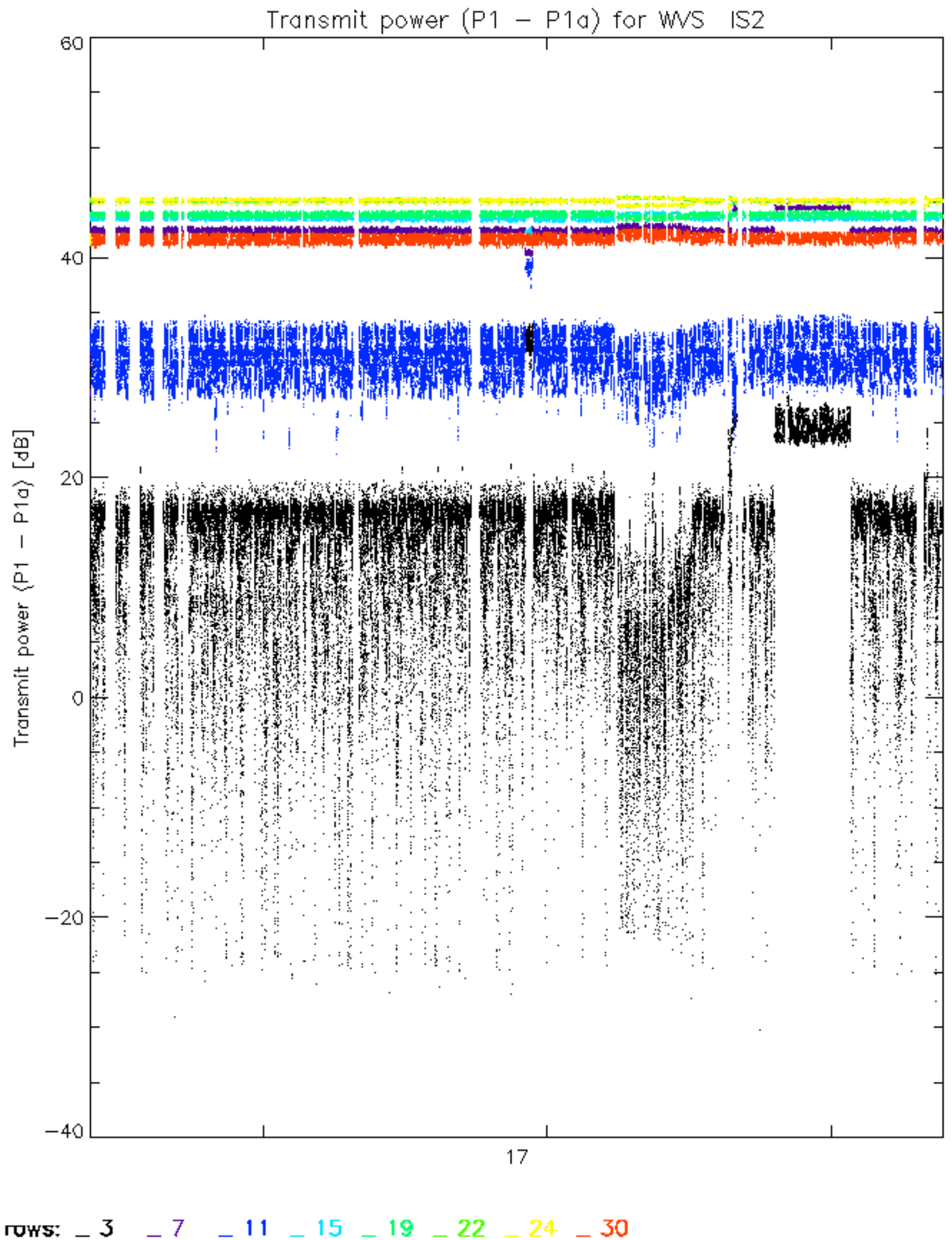
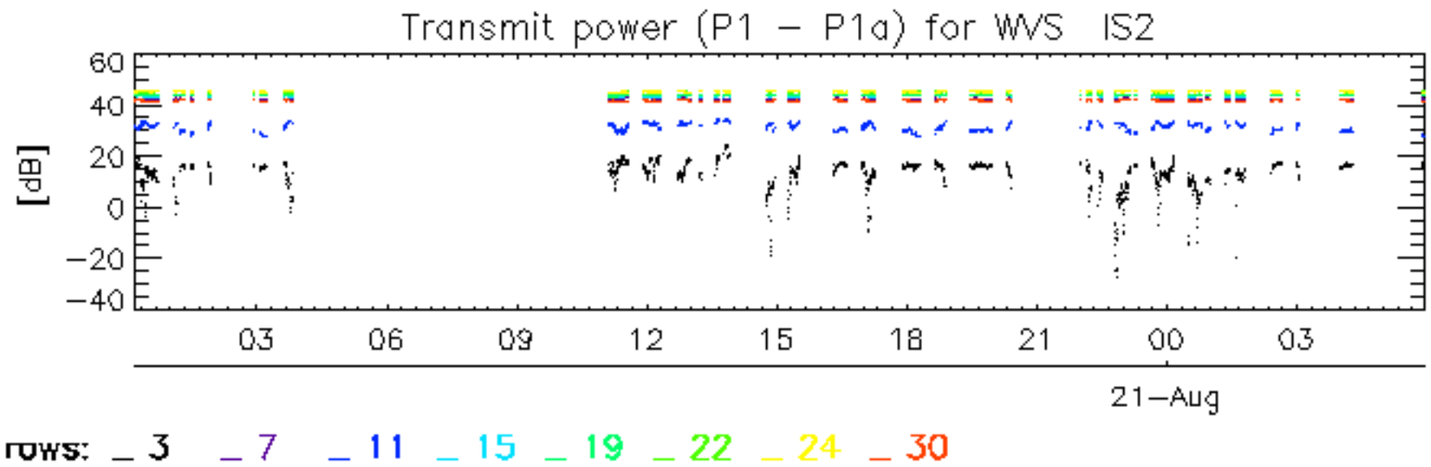

Transmit power (P1 – P1a) for GM1 SS3
Transmit power ⟨P1 – P1a⟩ [dB]
50
40
30
20
10
0
−10
−20
17
rows: 3 7 11 15 19 22 24 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
50
40
30
20
10
0
−10
03
06
09
12
15
18
21
00
03
21–Aug
rows: 3 7 11 15 19 22 24 30


Transmit power (P1 – P1a) for WVS IS2
60
40
20
0
−20
−40
Transmit power ⟨P1 – P1a⟩ [dB]
17
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
00
03
21–Aug
rows: 3
7
11
15
19
22
24
30

No unavailabilities during the reported period.