PRELIMINARY REPORT OF 040724

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

last update on Sat Jul 24 12:59:26 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	20040723 143825
H	20040722 100814

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.

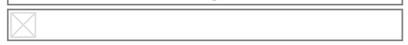
4.1 - Daily statistics

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	-3.482584	0.006504	0.018684
7	P1	-3.325708	0.013858	0.027395
11	P1	-4.582457	0.033870	-0.076511
15	P1	-5.711015	0.057694	-0.062598
19	P1	-3.443763	0.004982	-0.007224
22	P1	-4.557818	0.011126	-0.008560
24	P1	-4.936841	0.017419	-0.038407
30	P1	-6.878274	0.025059	-0.035474

3	P1	-16.164440	0.148748	-0.138136
7	P1	-13.977825	0.094561	0.066899
11	P1	-19.987455	0.278982	-0.194214
15	P1	-11.785480	0.044352	0.015443
19	P1	-13.838490	0.037016	-0.015942
22	P1	-16.364761	0.364104	0.208164
24	P1	-14.614104	0.282946	0.085584
30	P1	-17.685509	0.404864	0.095206

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.361139	0.080395	0.106466
7	P2	-22.760981	0.123967	0.136488
11	P2	-15.506536	0.147362	0.136012
15	P2	-7.135027	0.092050	0.100632
19	P2	-9.565064	0.163574	0.055039
22	P2	-17.458832	0.106444	0.153903
24	P2	-20.786194	0.084834	0.083984
30	P2	-19.386503	0.077073	0.068690

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.143322	0.001911	0.000584
7	P3	-8.143316	0.001911	0.000568
11	P3	-8.143315	0.001911	0.000551
15	P3	-8.143312	0.001912	0.000525
19	P3	-8.143319	0.001911	0.000538
22	P3	-8.143325	0.001911	0.000559
24	P3	-8.143330	0.001911	0.000598
30	P3	-8.143464	0.001910	0.000493

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1

P1a Cyclic statistics

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

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.036894	0.132770	0.397098
7	P1	-2.887810	0.132248	-0.260444
11	P1	-3.829872	0.030608	-0.029248
15	P1	-4.072631	0.869988	0.953053
19	P1	-3.387834	0.047398	-0.137034
22	P1	-5.711942	0.048326	0.100921
24	P1	-3.994629	0.077296	0.266129
30	P1	-6.138824	0.078603	-0.130044
3	P1	-10.885915	0.406869	0.548127
7	P1	-9.886718	0.308111	-0.422627
11	P1	-11.881087	0.233423	-0.353751
15	P1	-11.818851	0.295005	0.291890
19	P1	-15.152247	0.733482	-0.778648
22	P1	-21.808493	6.931450	-2.158324
24	P1	-17.420448	0.320227	-0.282870
30	P1	-21.279949	4.117657	1.953538

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.074060	0.075186	0.197451
7	P2	-22.853260	0.236615	0.158263
11	P2	-10.959994	0.221357	-0.129481
15	P2	-4.959362	0.041913	0.028590
19	P2	-6.879454	0.048166	0.164094
22	P2	-7.576279	0.093088	0.171387
24	P2	-11.027912	0.152339	-0.019176
30	P2	-22.291012	0.134632	0.115780

P3 Cyclic statistics

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

3	P3	-7.982534	0.003584	0.000284
7	P3	-7.982600	0.003579	-0.000194
11	P3	-7.982496	0.003587	0.000054
15	P3	-7.982512	0.003595	-0.000074
19	P3	-7.982457	0.003593	0.000065
22	P3	-7.982549	0.003576	0.000059
24	P3	-7.982494	0.003617	-0.000173
30	P3	-7.982555	0.003586	-0.000031

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	0.000492591
	stdev	2.14373e-07
MEAN Q	mean	0.000537807
	stdev	2.42825e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129411
	stdev	0.00105087

STDEV Q	mean	0.129663
	stdev	0.00106286

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

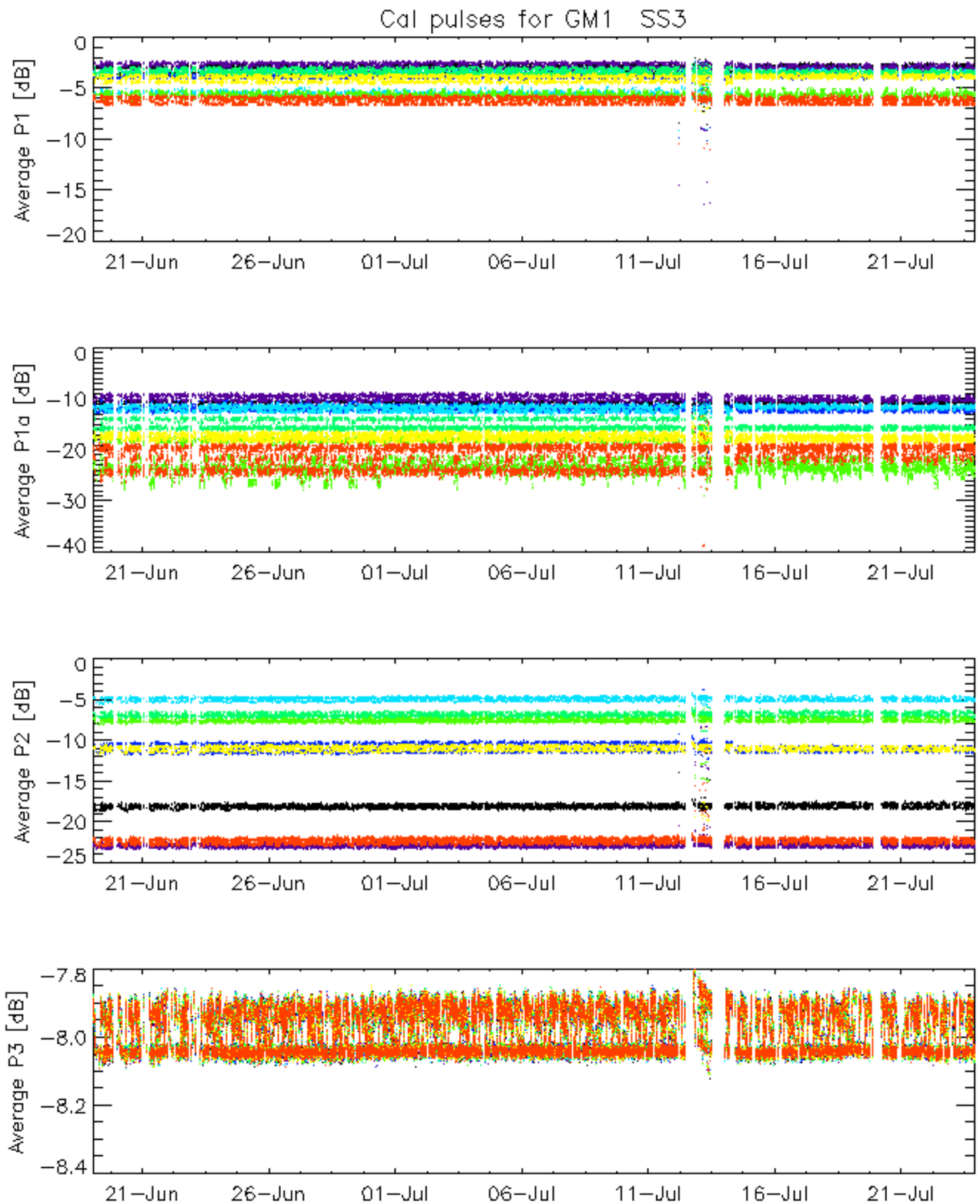
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

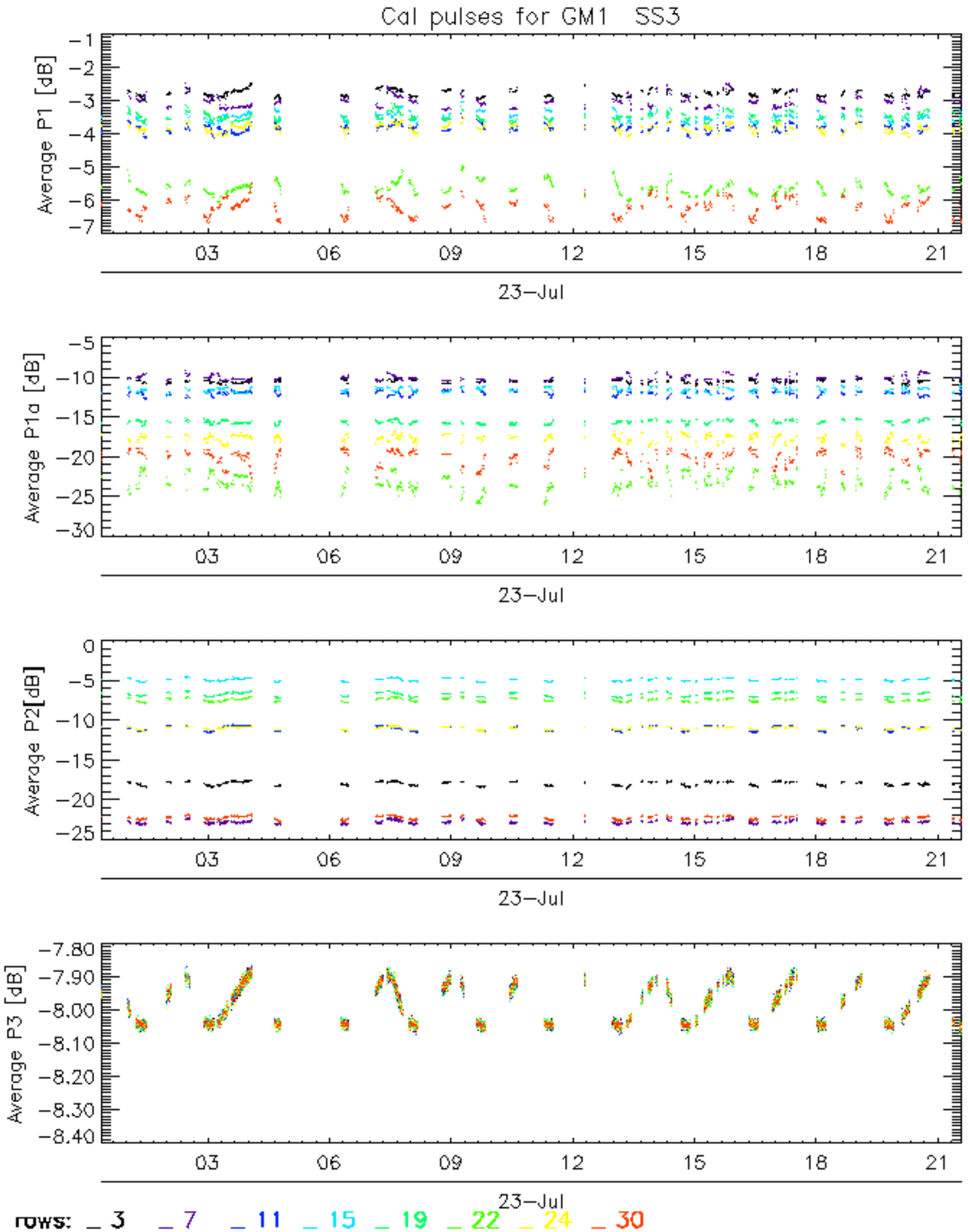
6.5 - Absolute Doppler for GM1

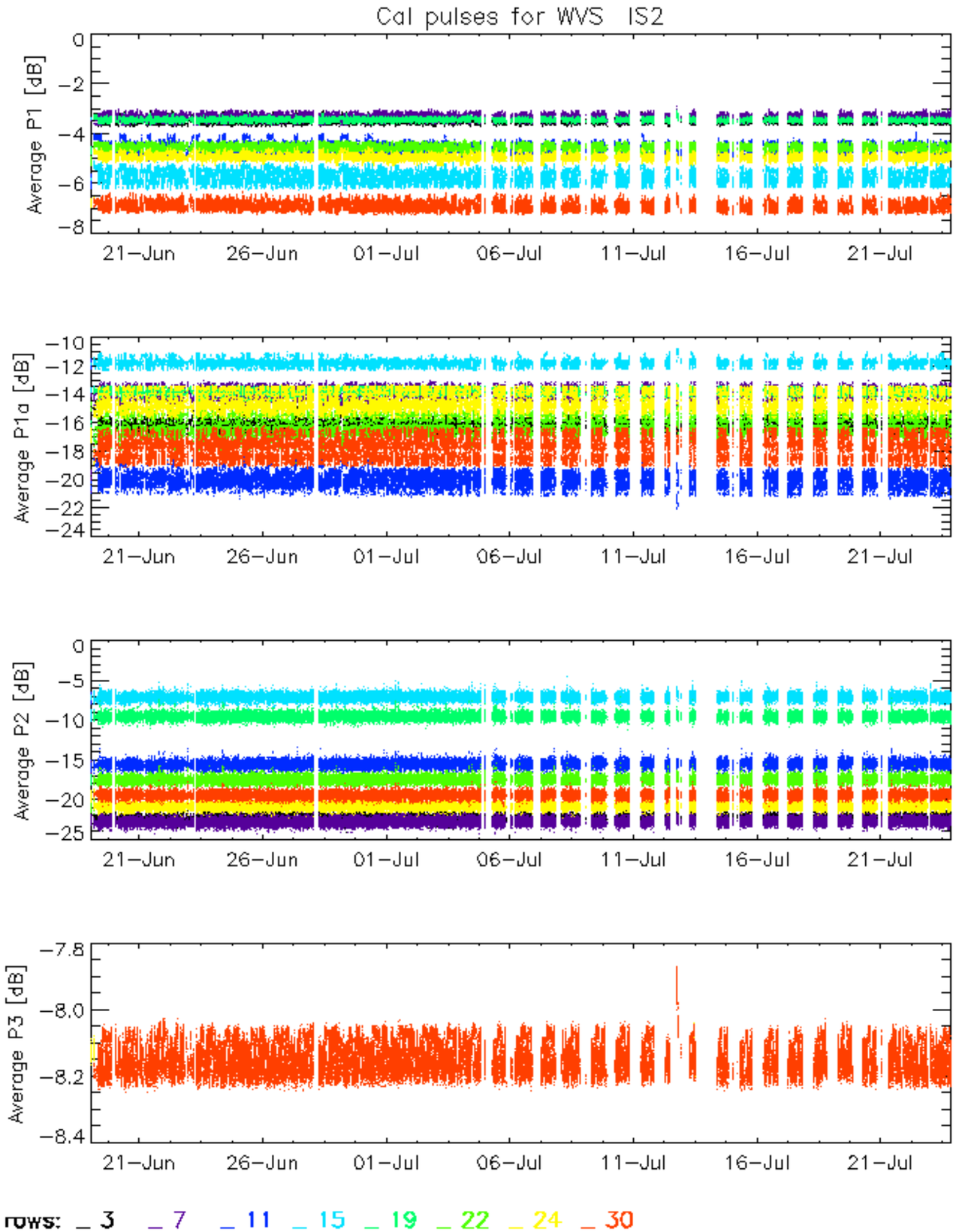
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

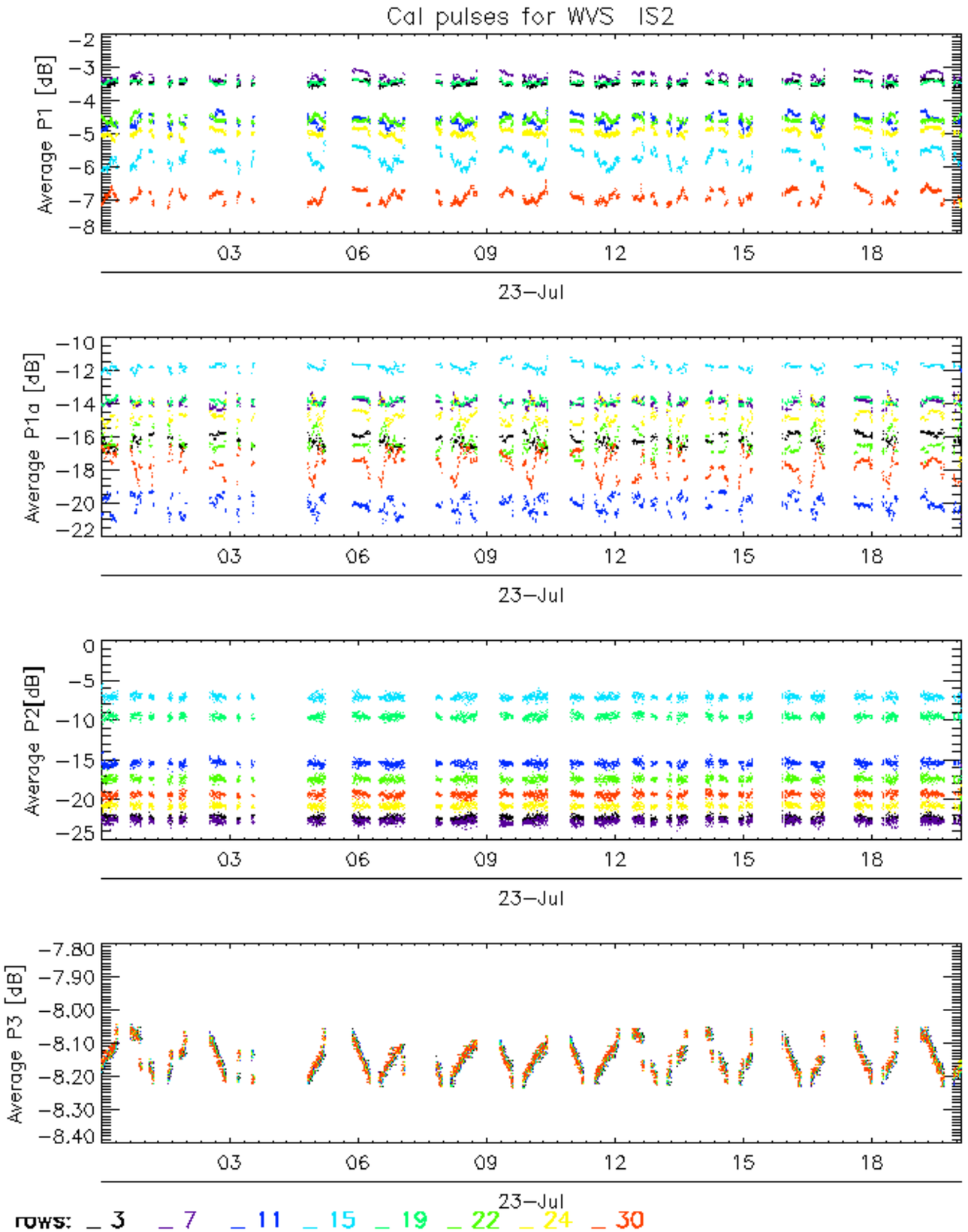
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
☒

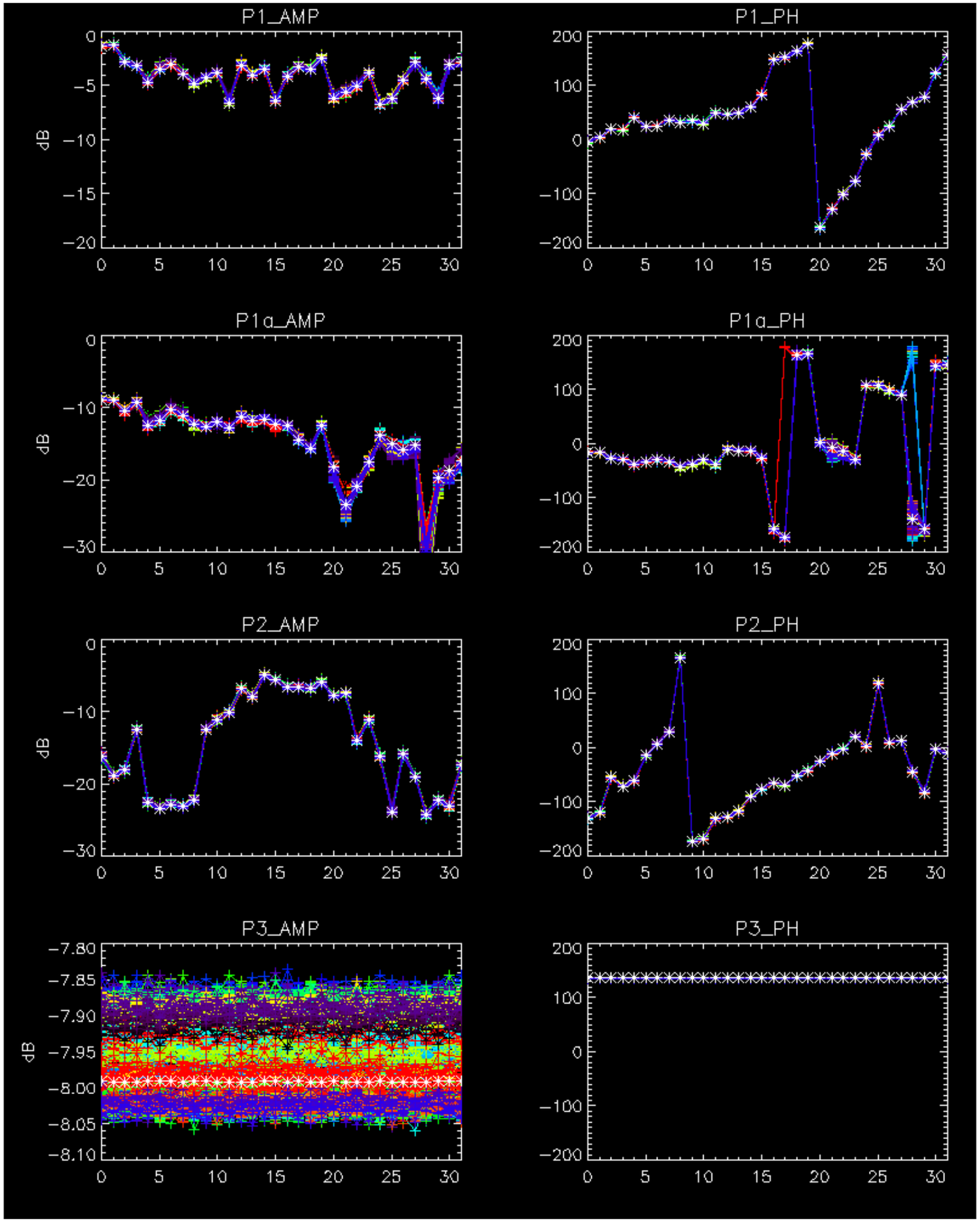

Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
−20
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
Average P1a [dB]
0
−10
−20
−30
−40
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
Average P2 [dB]
0
−5
−10
−15
−20
−25
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

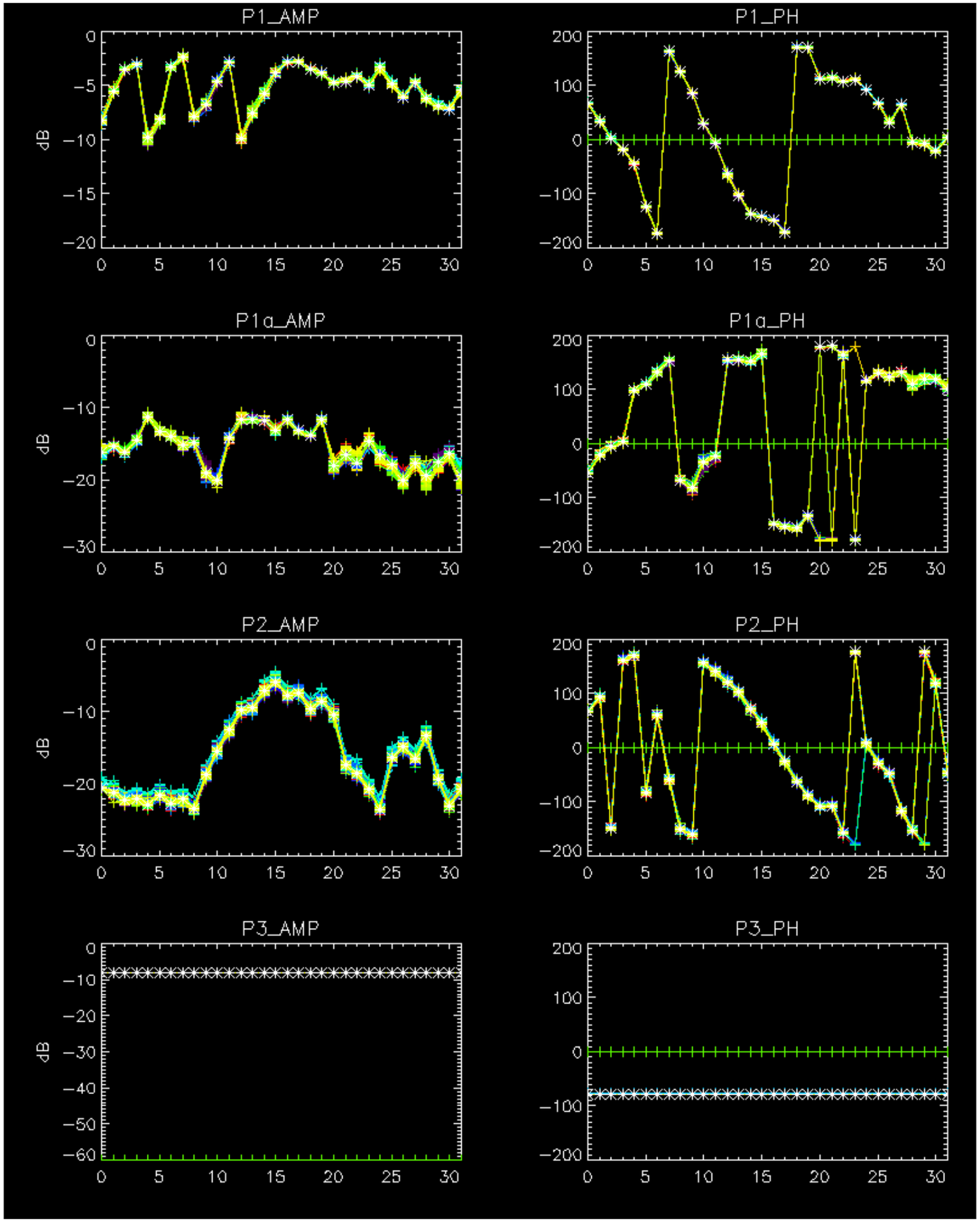

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
23−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
21
23−Jul
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
23−Jul
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06
09
12
15
18
21
23−Jul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


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
Average P2 [dB]
−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]
−2
−3
−4
−5
−6
−7
−8
03
06
09
12
15
18
23−Jul
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
03
06
09
12
15
18
23−Jul
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
23−Jul
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06
09
12
15
18
23−Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

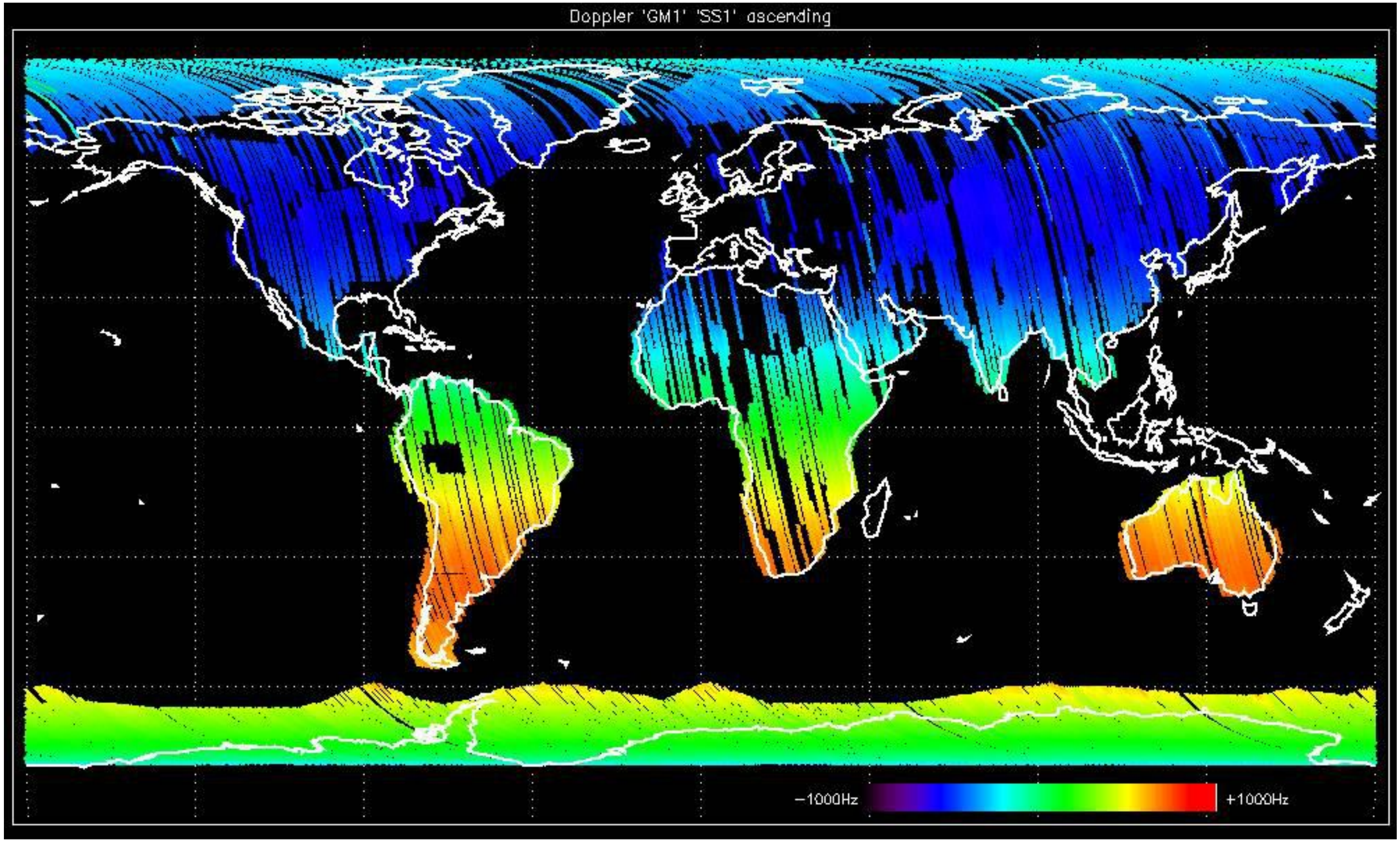
No anomalies observed.

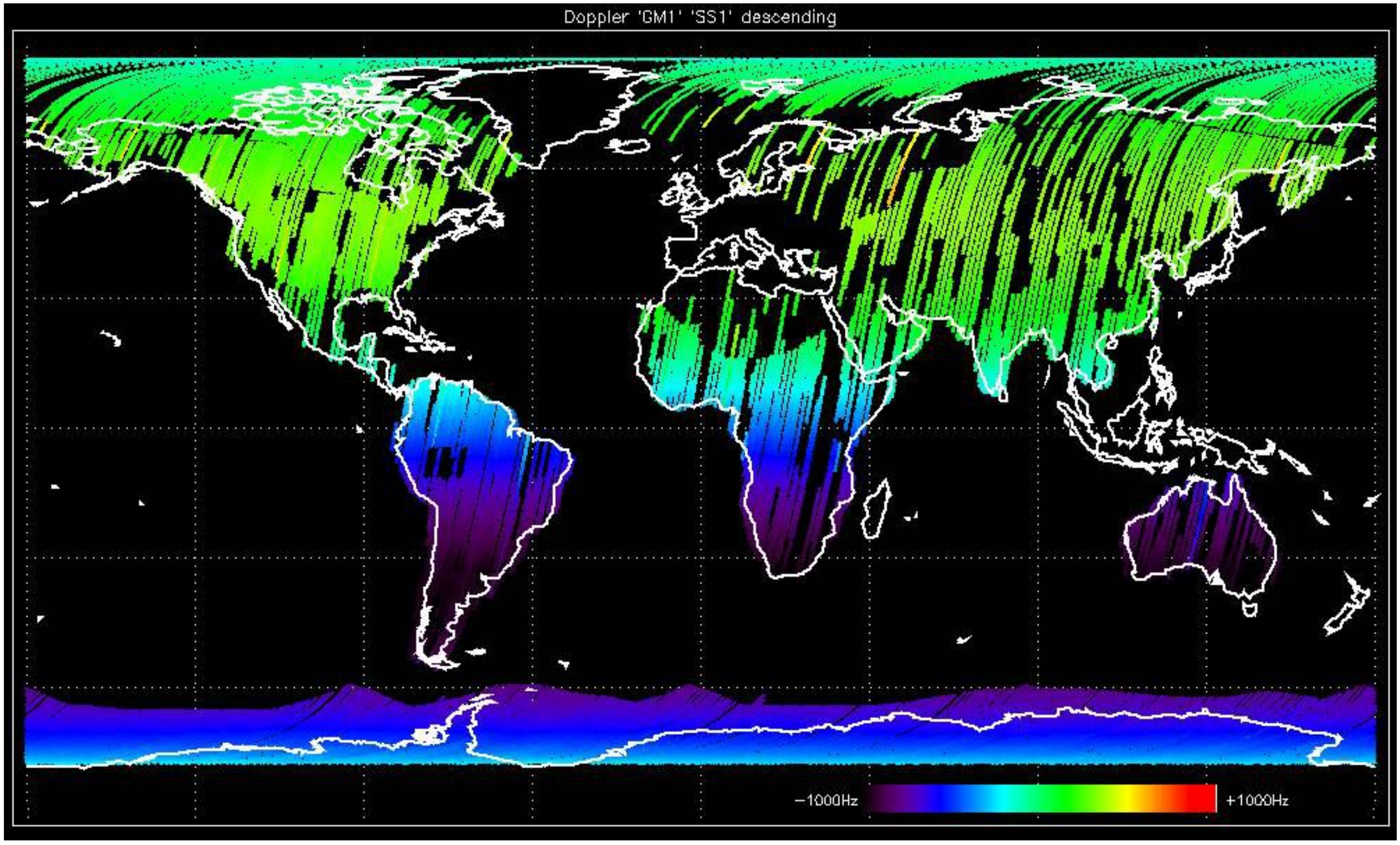

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.80
−7.85
−7.90
−7.95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

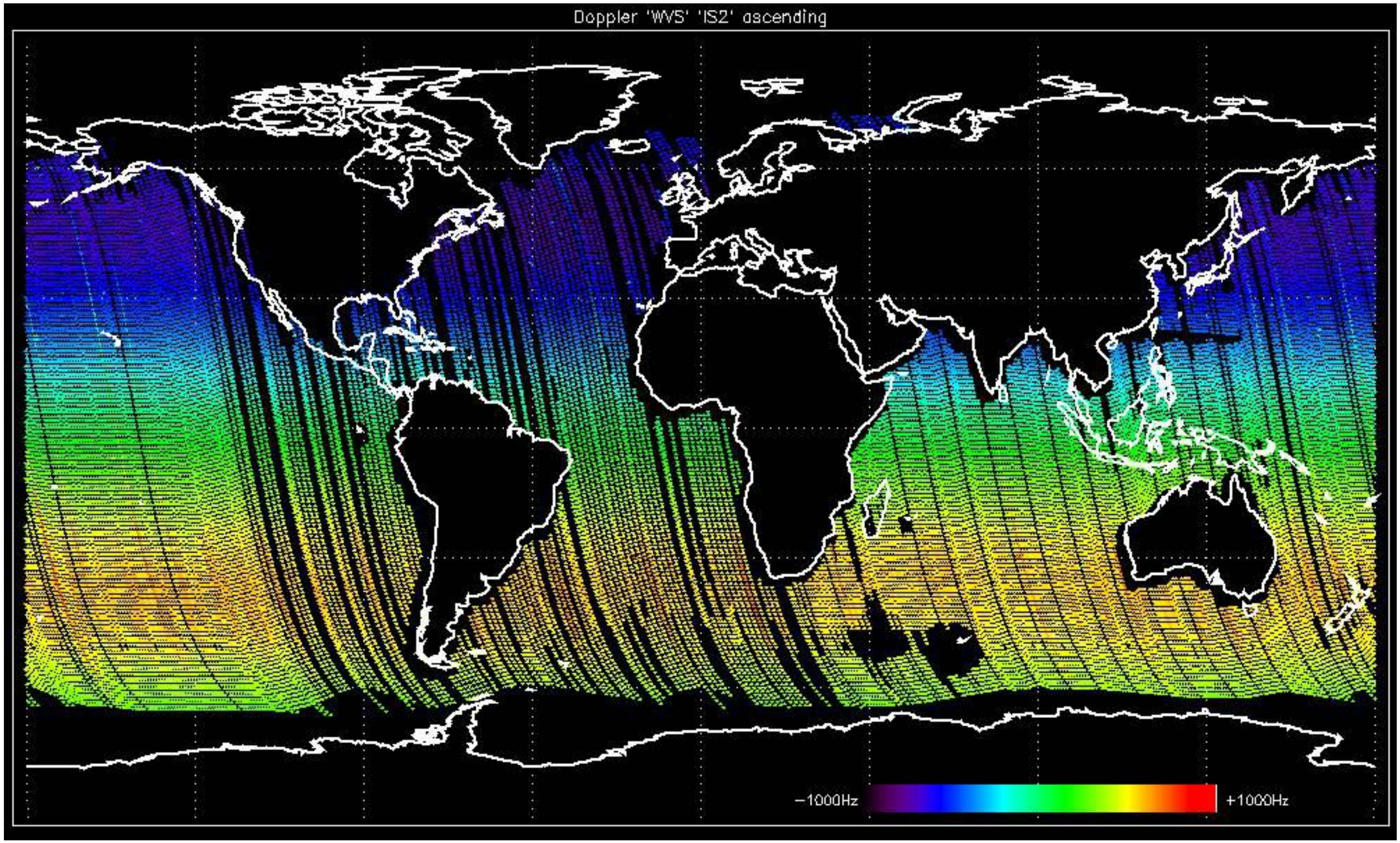

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
0
−10
−20
−30
−40
−50
−60
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

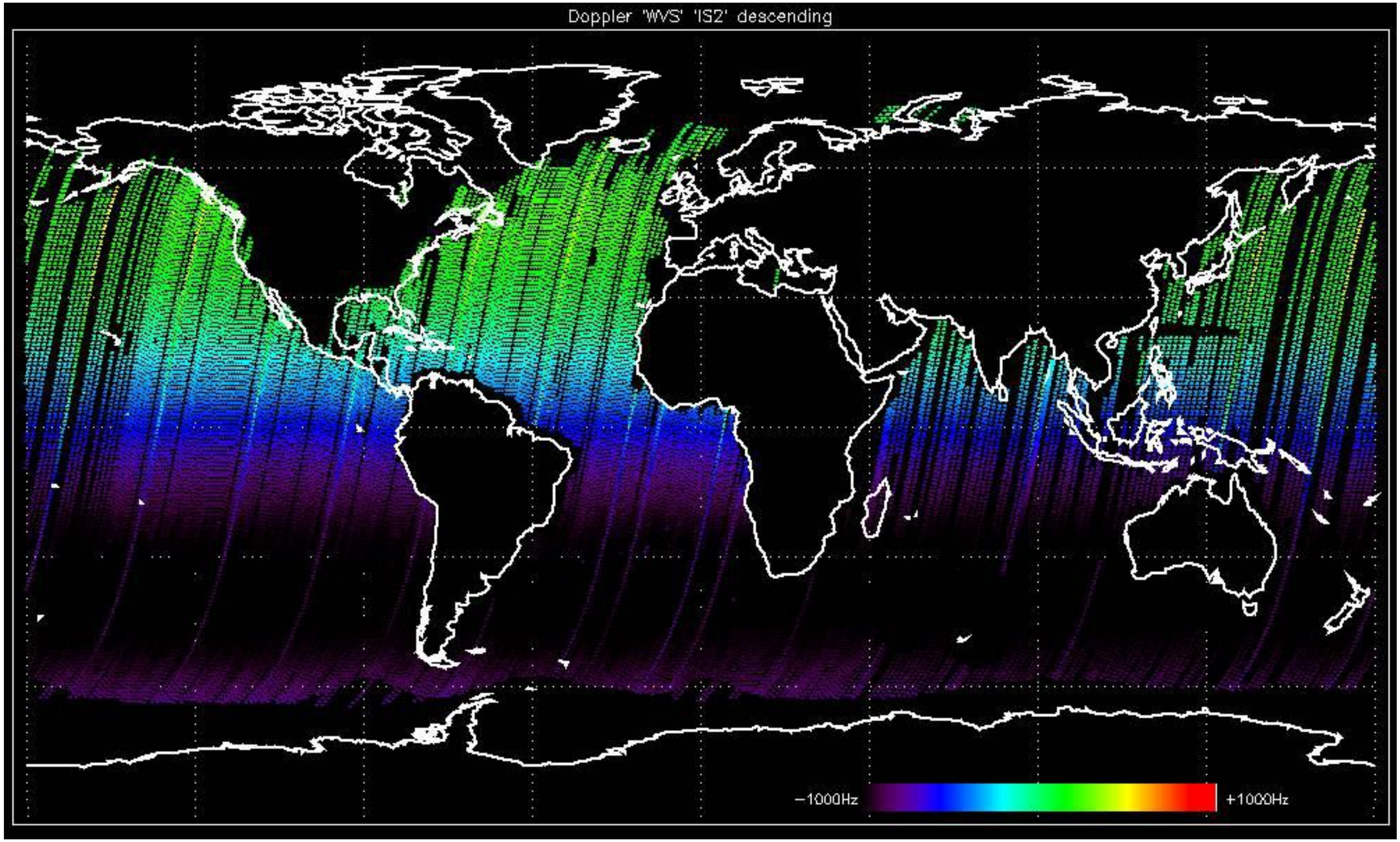
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

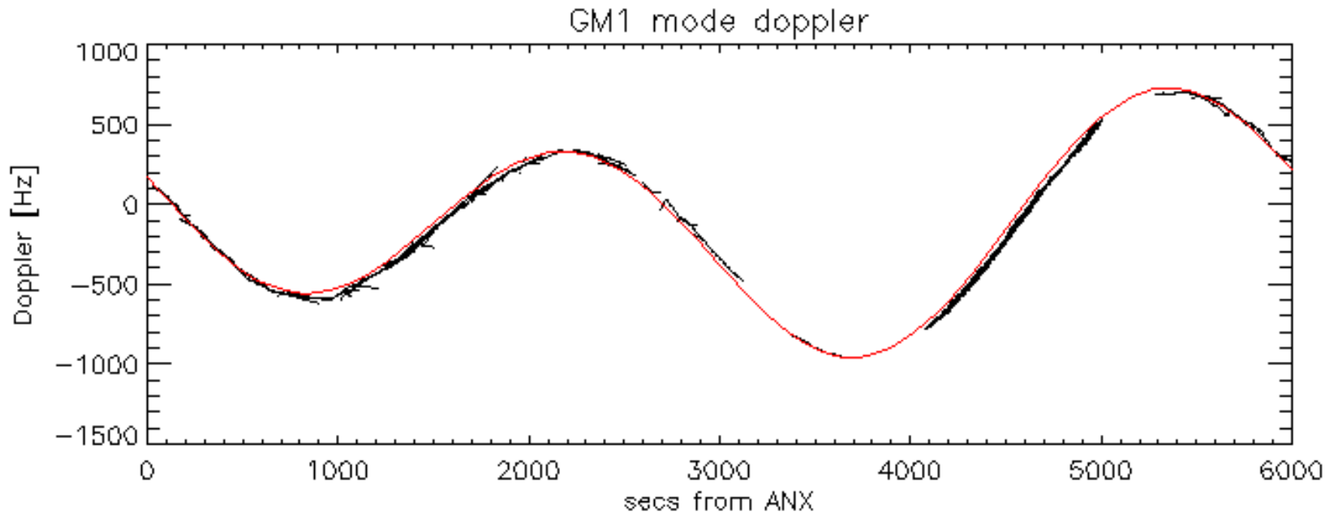
Preliminary report.The data is not yet controled

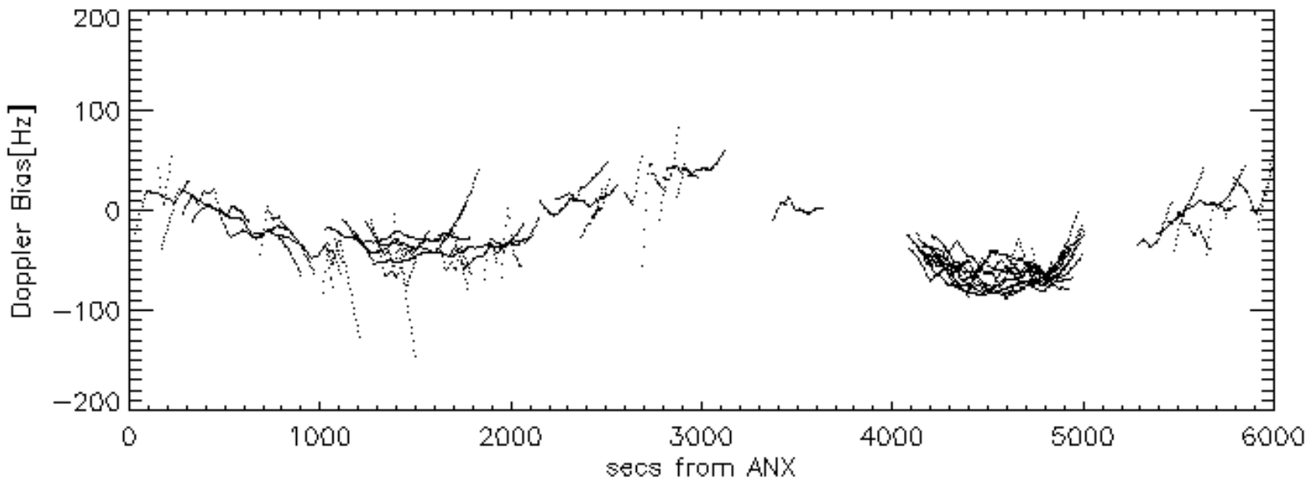

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

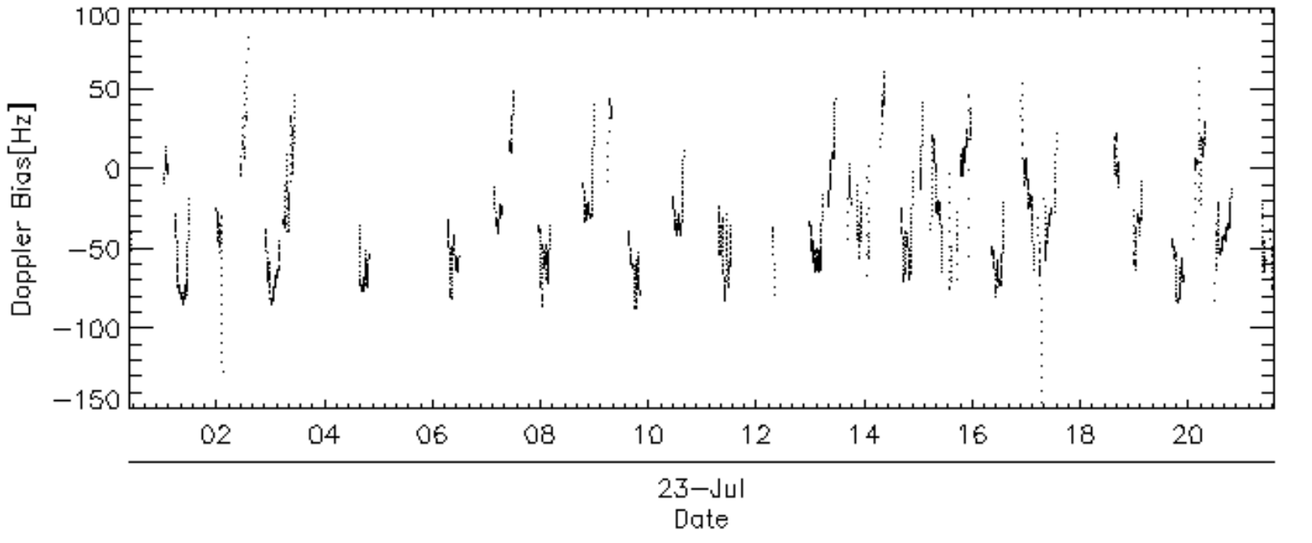

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

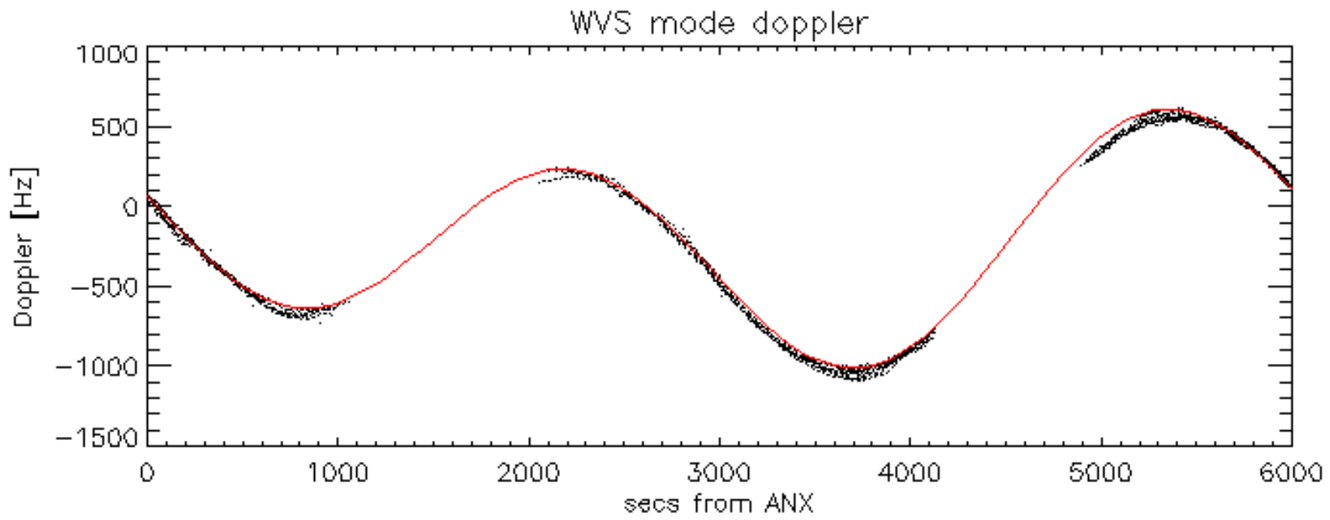

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

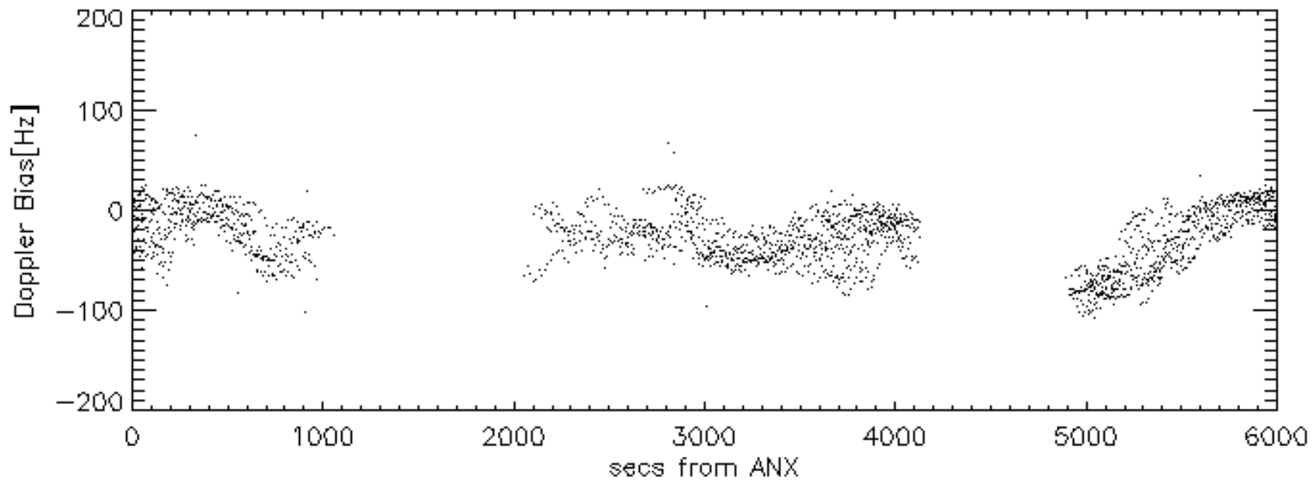

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

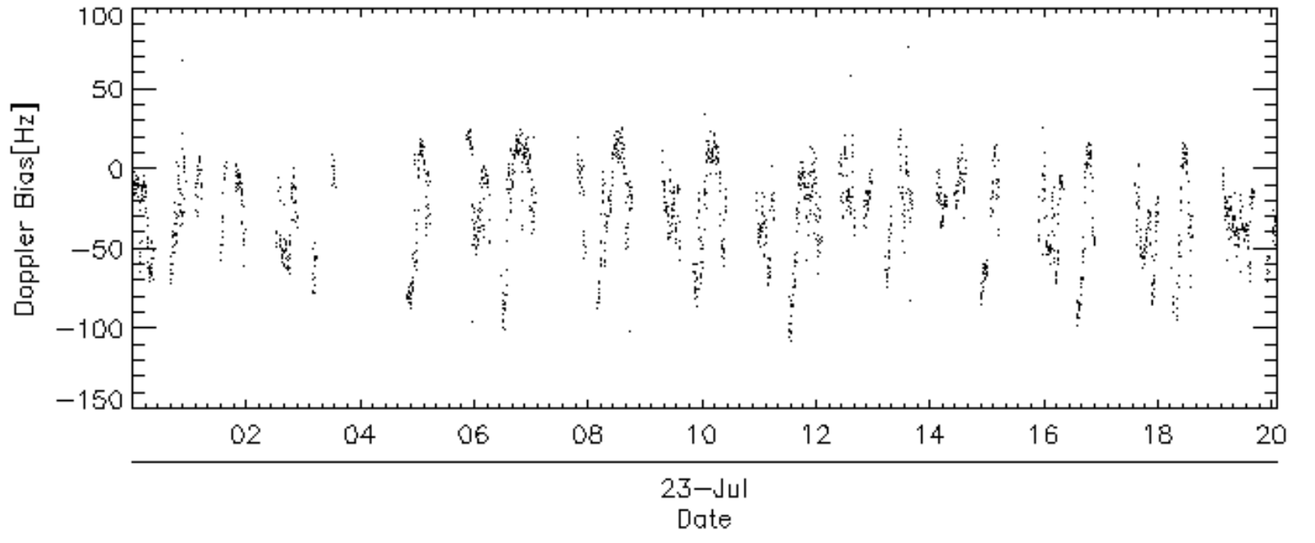

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

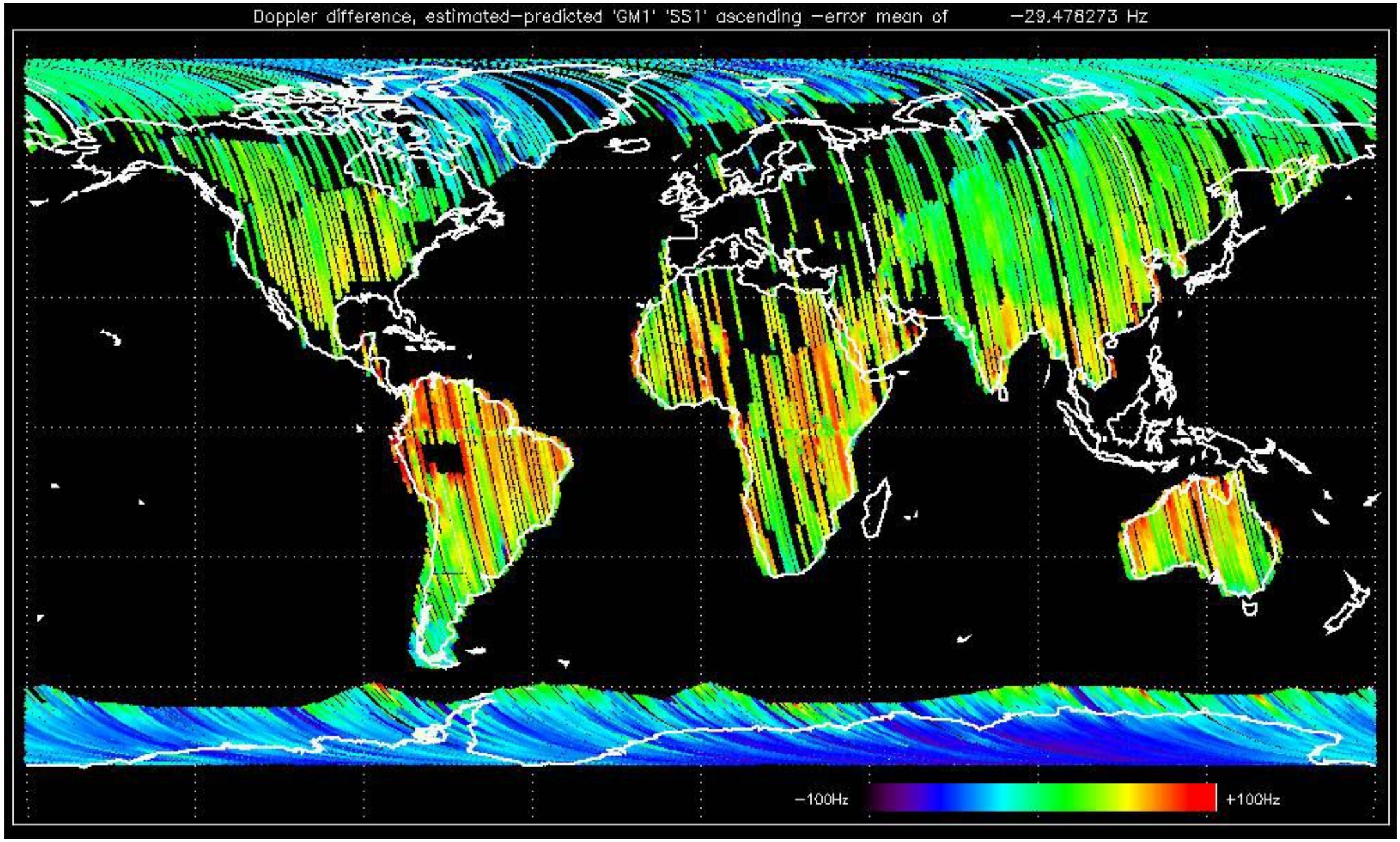

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

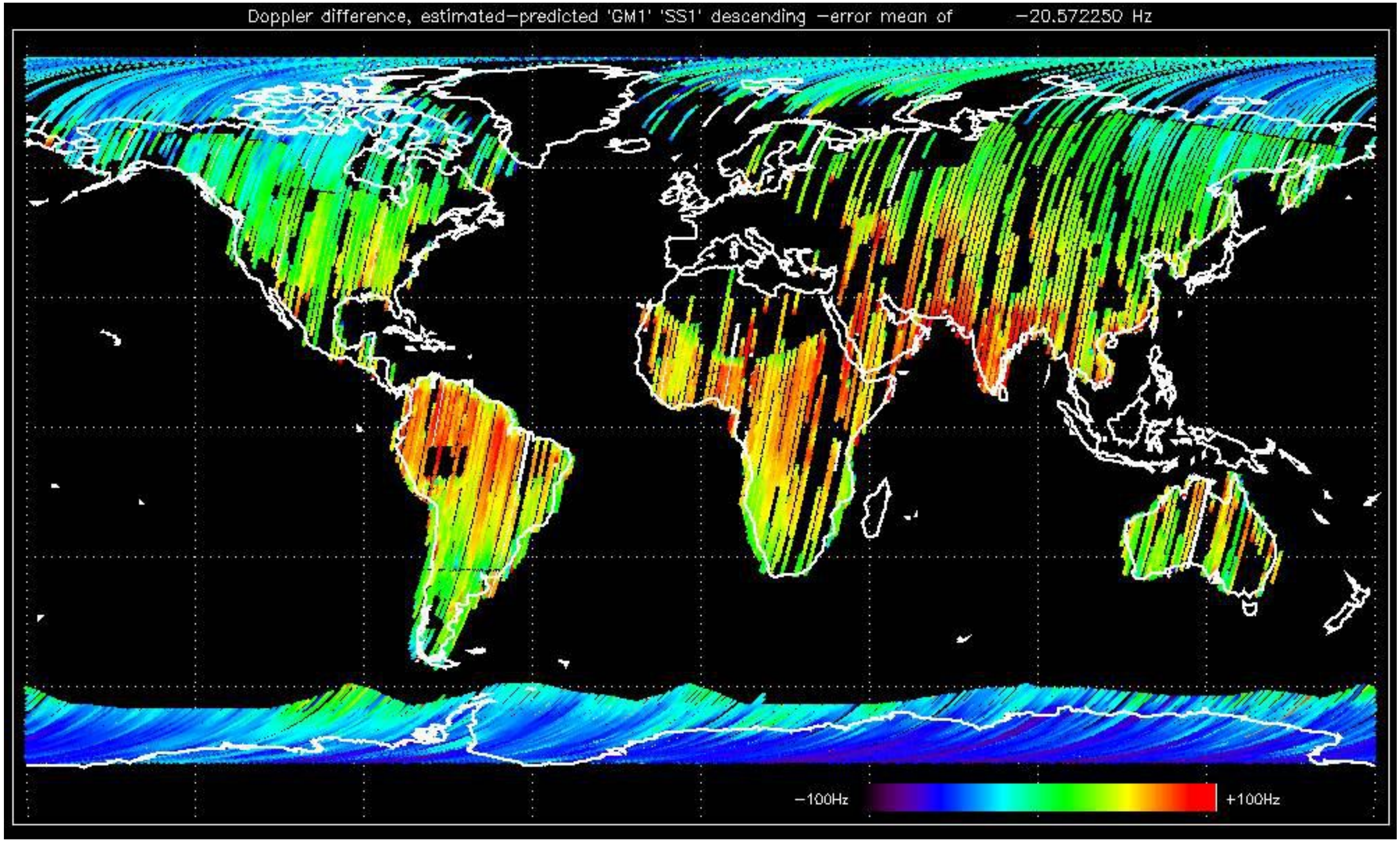

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
23−Jul
Date

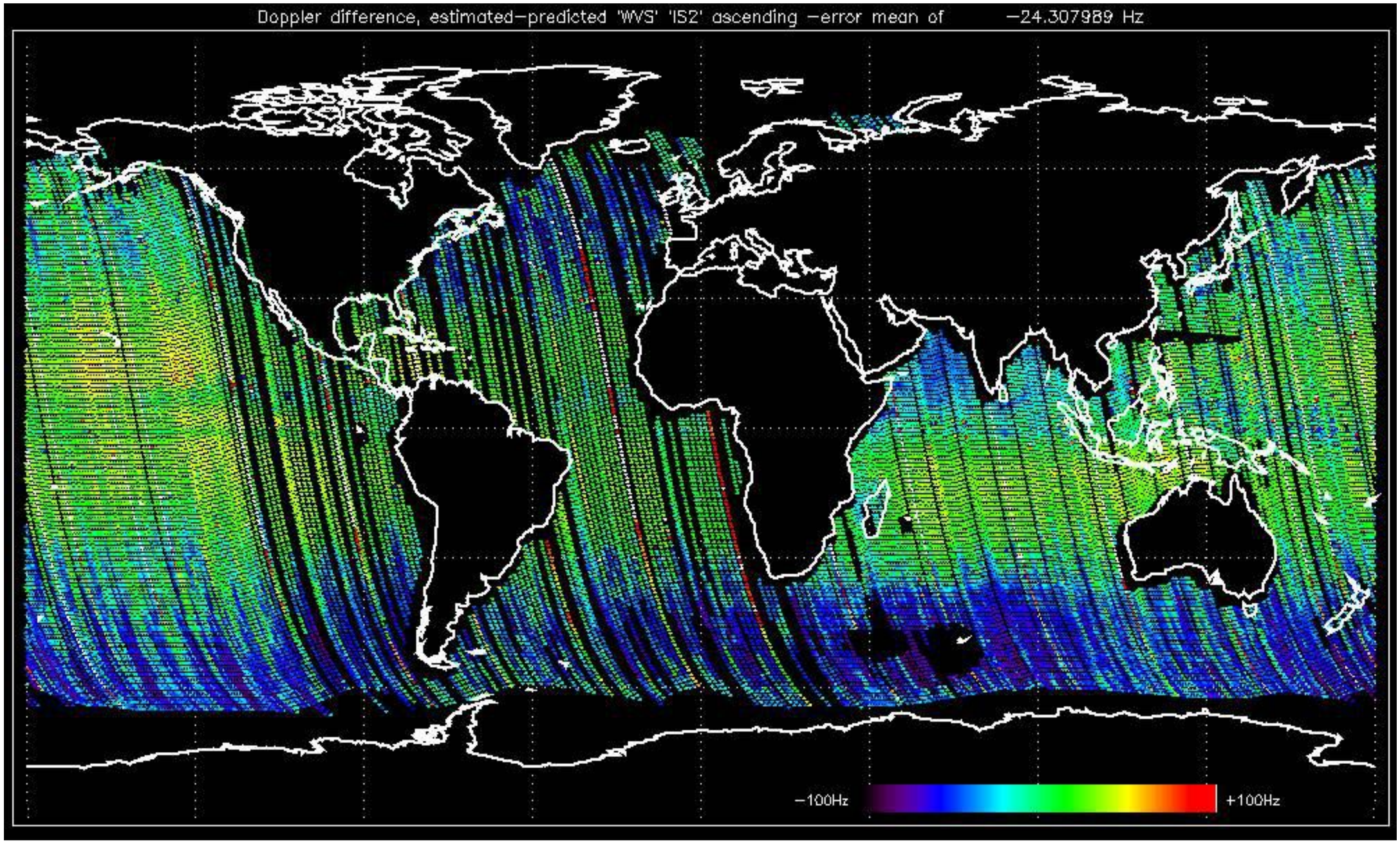

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

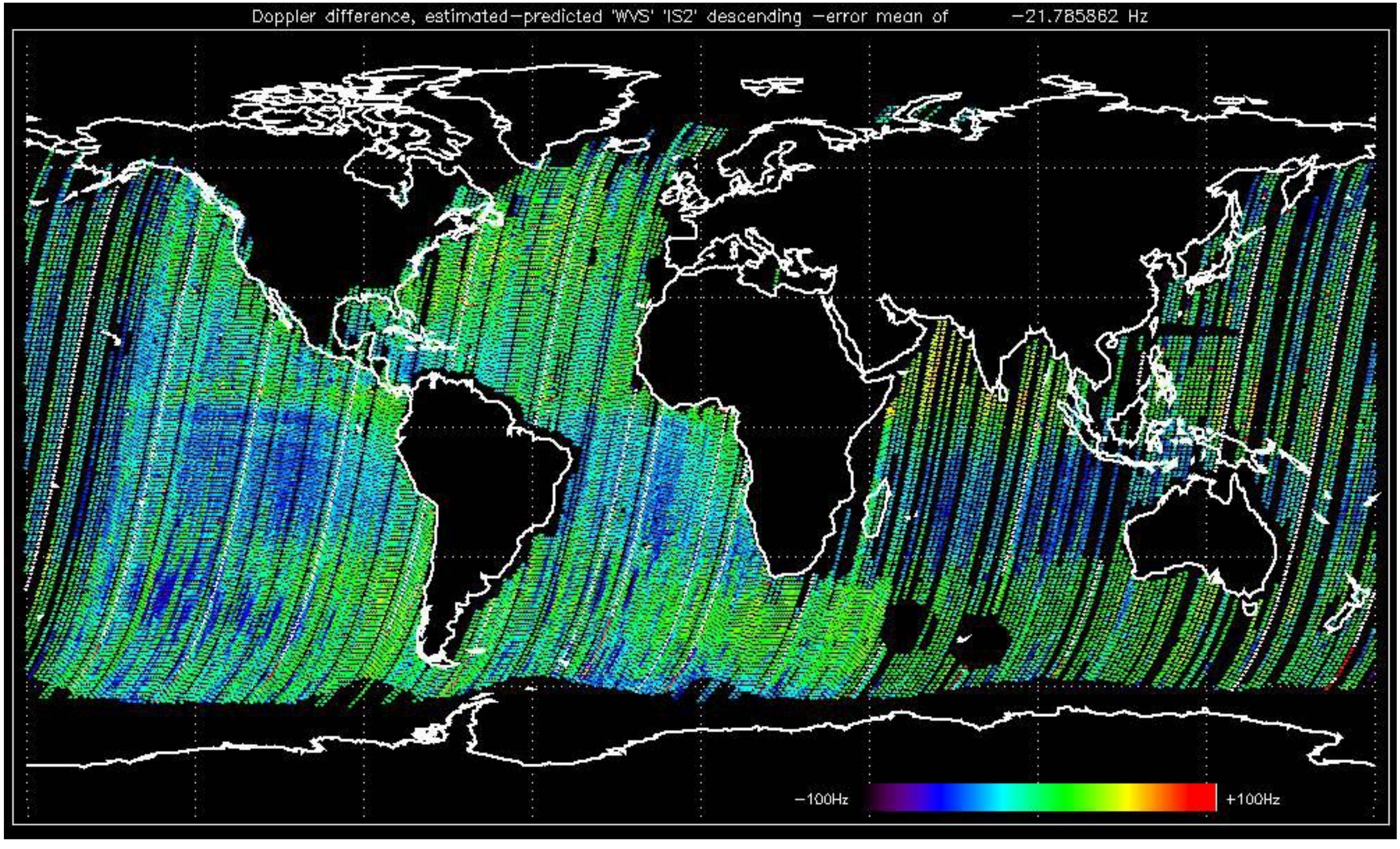

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
23−Jul
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −29.478273 Hz
−100Hz
+100Hz

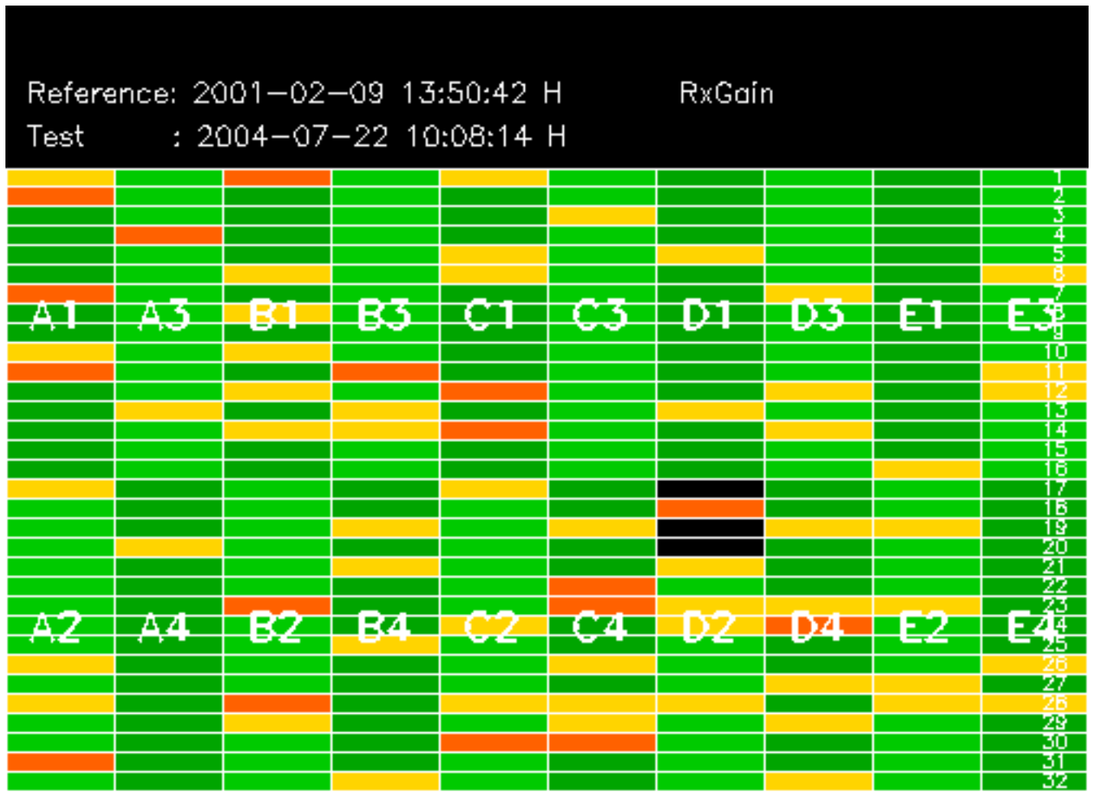

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −20.572250 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −24.307989 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −21.785862 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 : 2004-07-22 10:08:14 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
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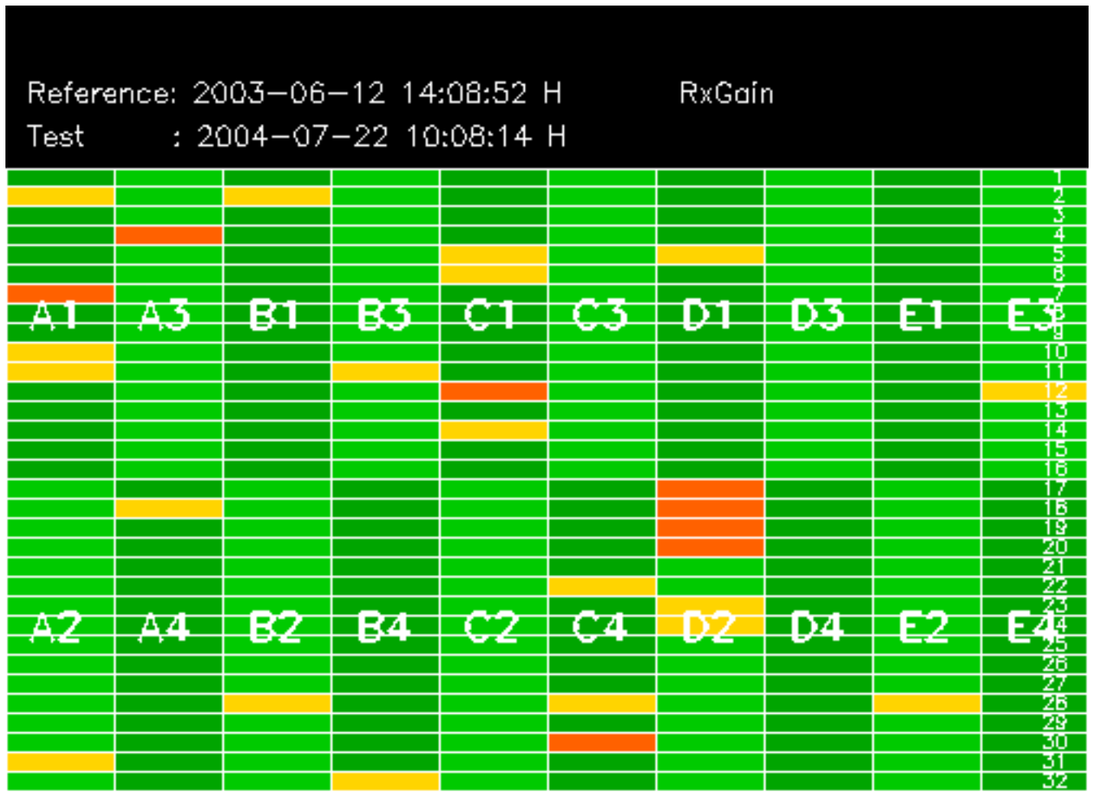
23
24
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2004-07-22 10:08:14 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
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D4
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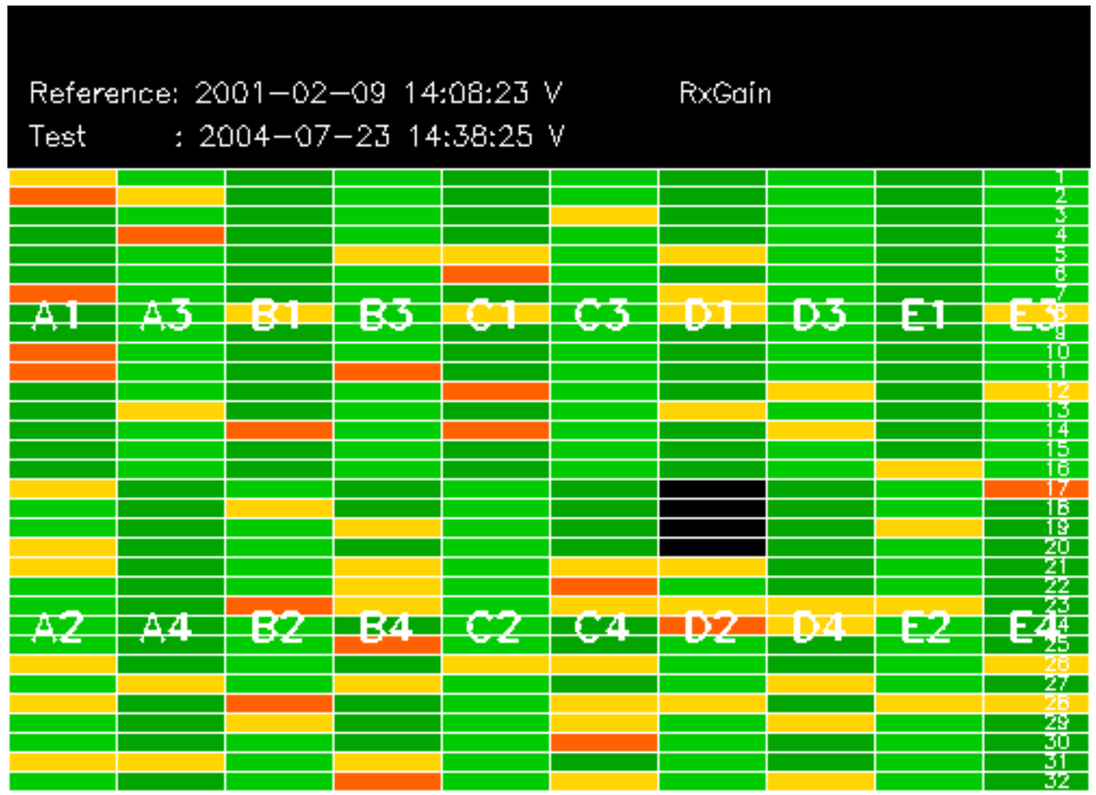
Reference: 2001-02-09 14:08:23 V
Test : 2004-07-23 14:38:25 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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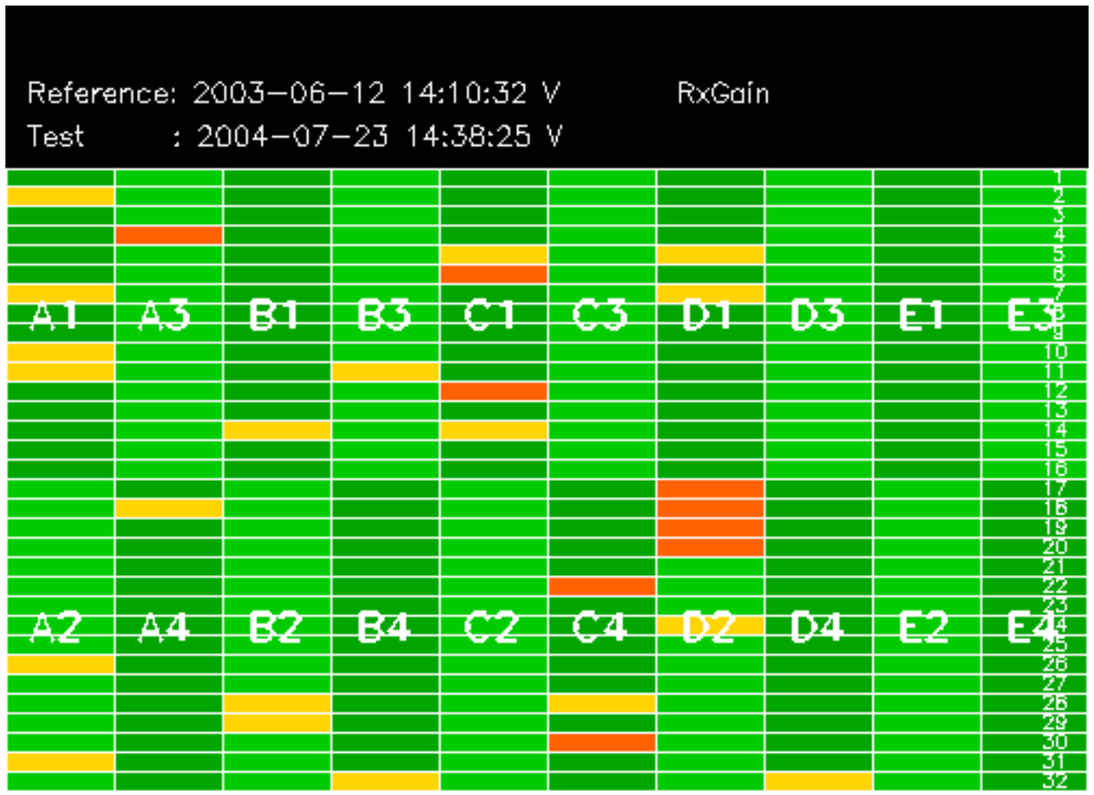
Reference: 2003-06-12 14:10:32 V
Test : 2004-07-23 14:38:25 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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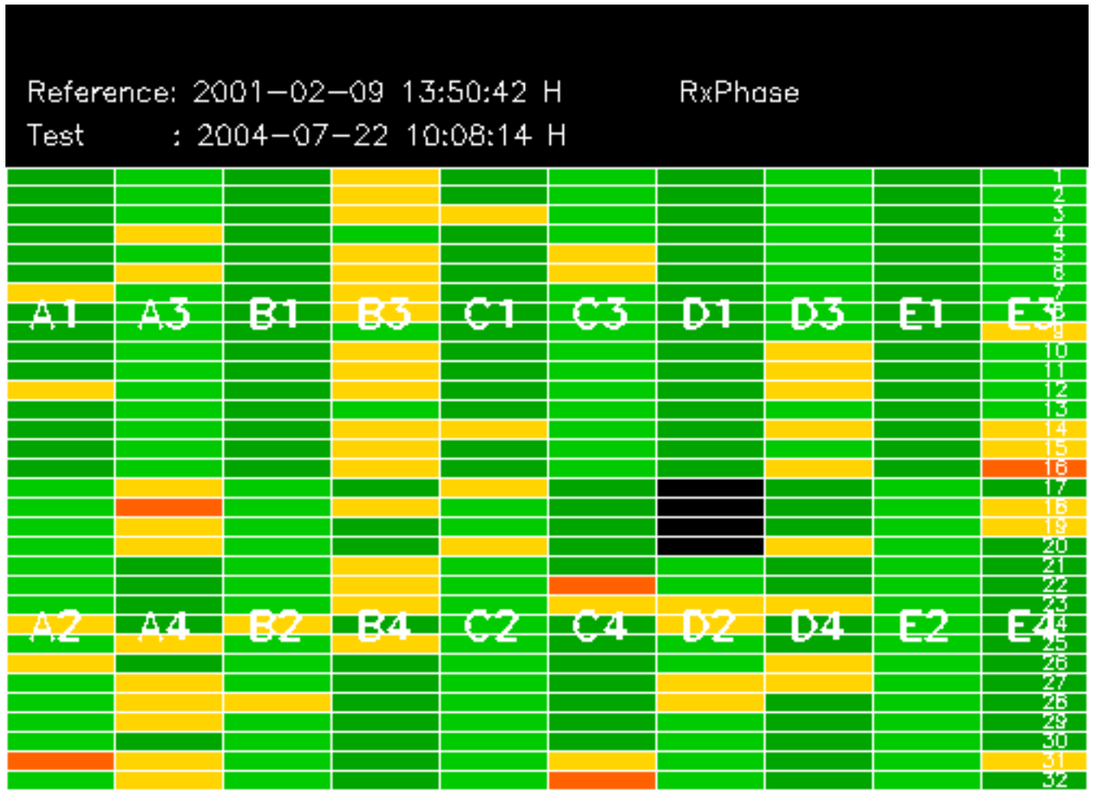
Reference: 2001-02-09 13:50:42 H
Test : 2004-07-22 10:08:14 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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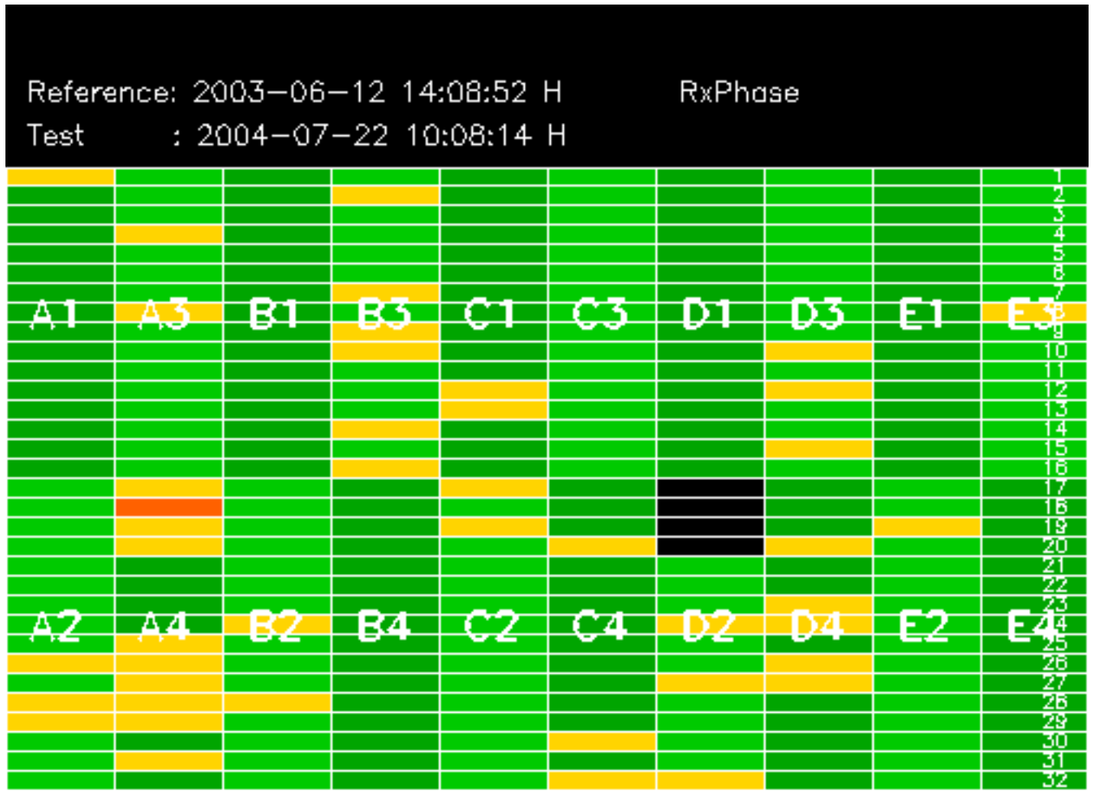
Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2004-07-22 10:08:14 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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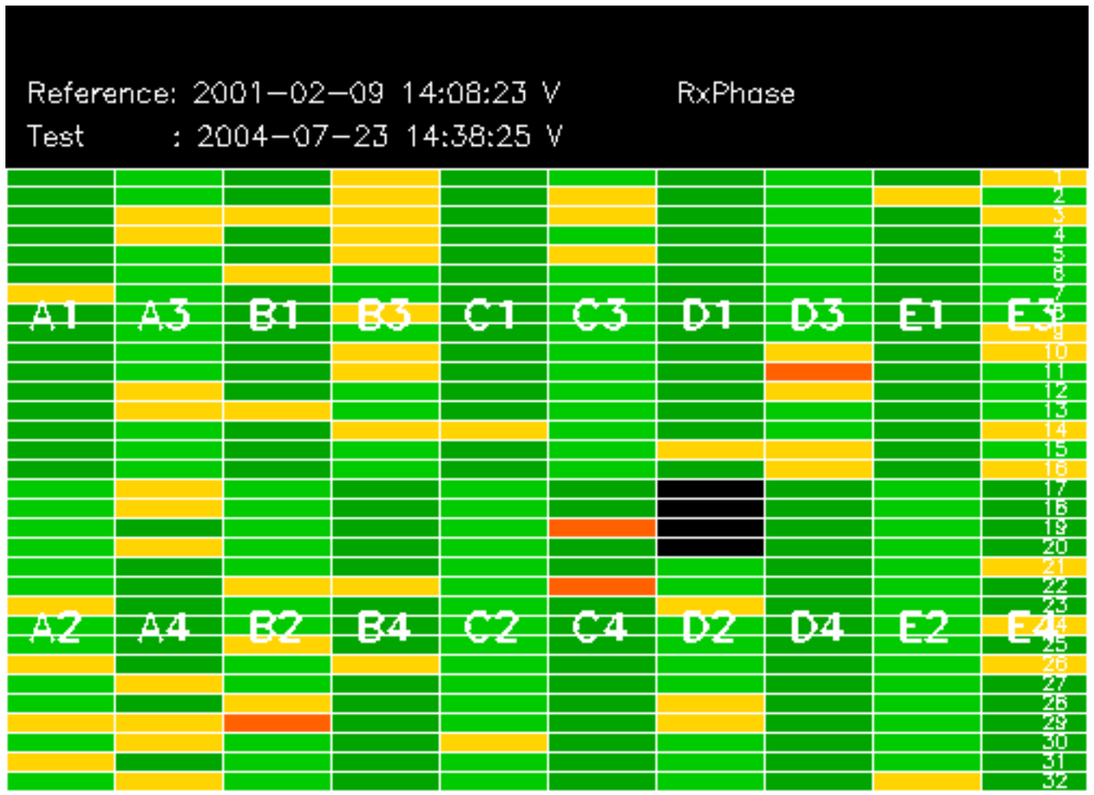
Reference: 2001-02-09 14:08:23 V
Test : 2004-07-23 14:38:25 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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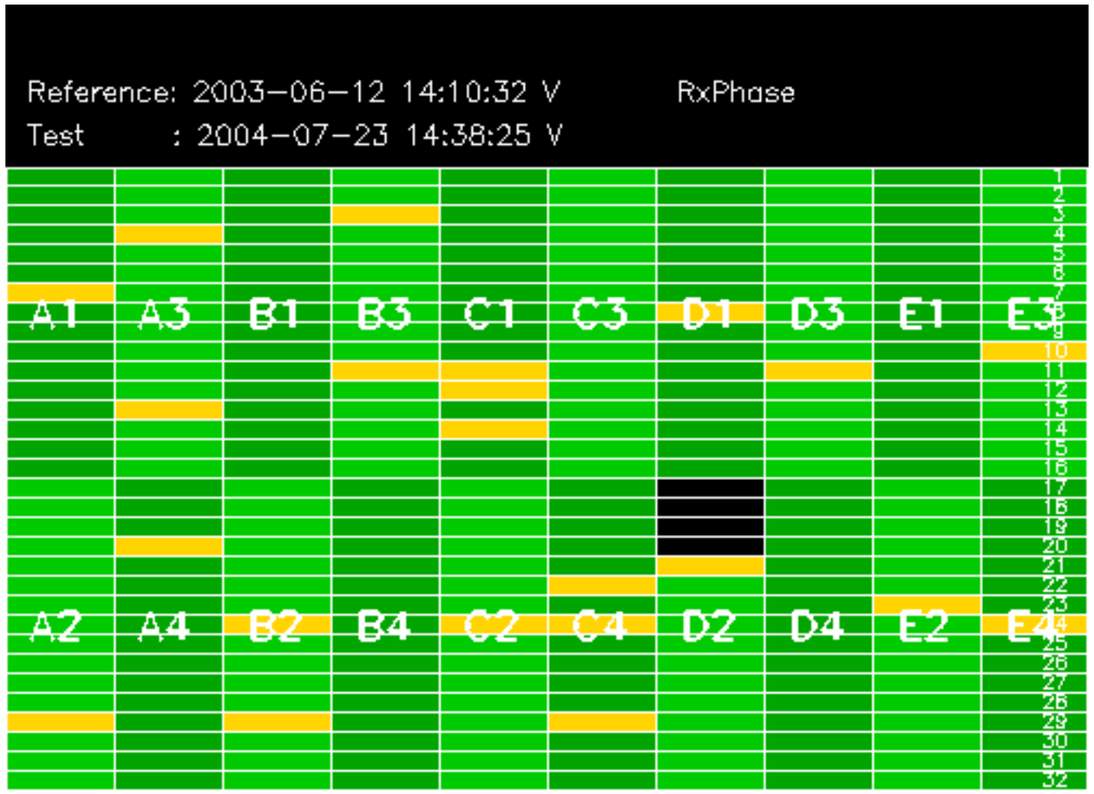
Reference: 2003-06-12 14:10:32 V
Test : 2004-07-23 14:38:25 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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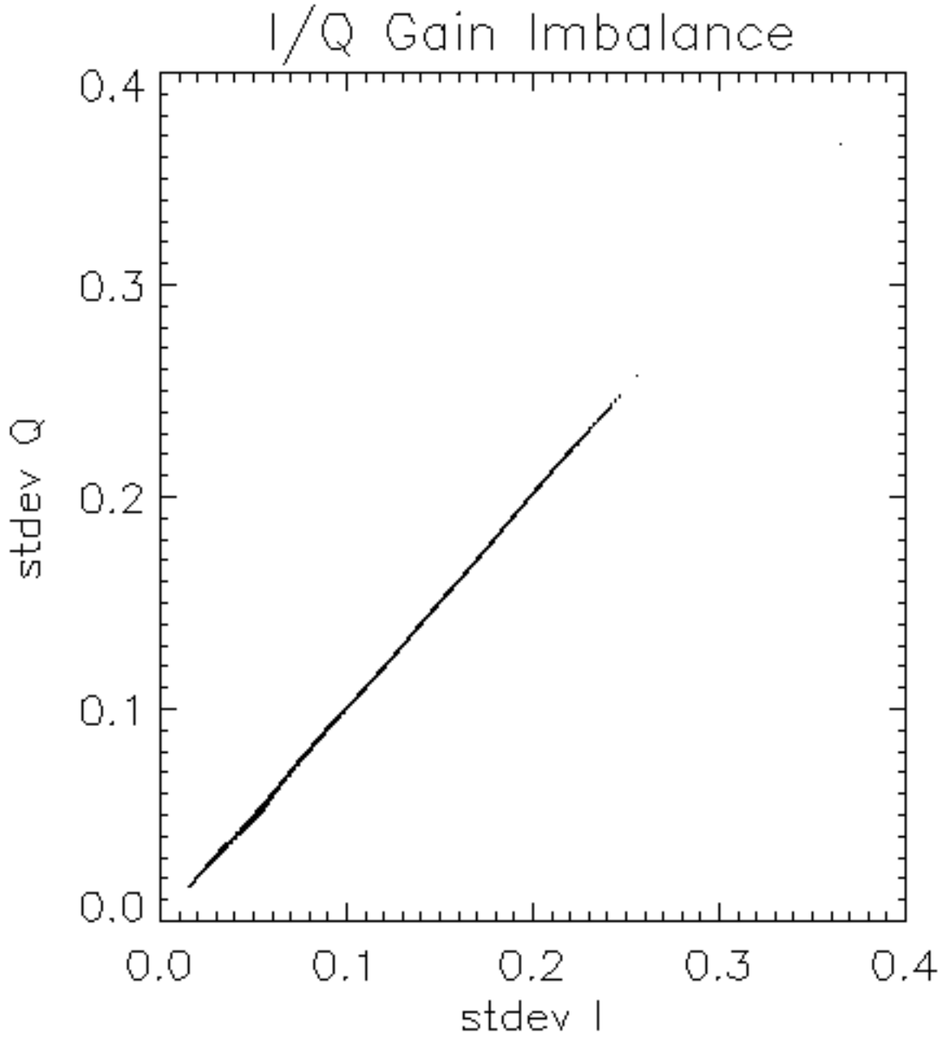
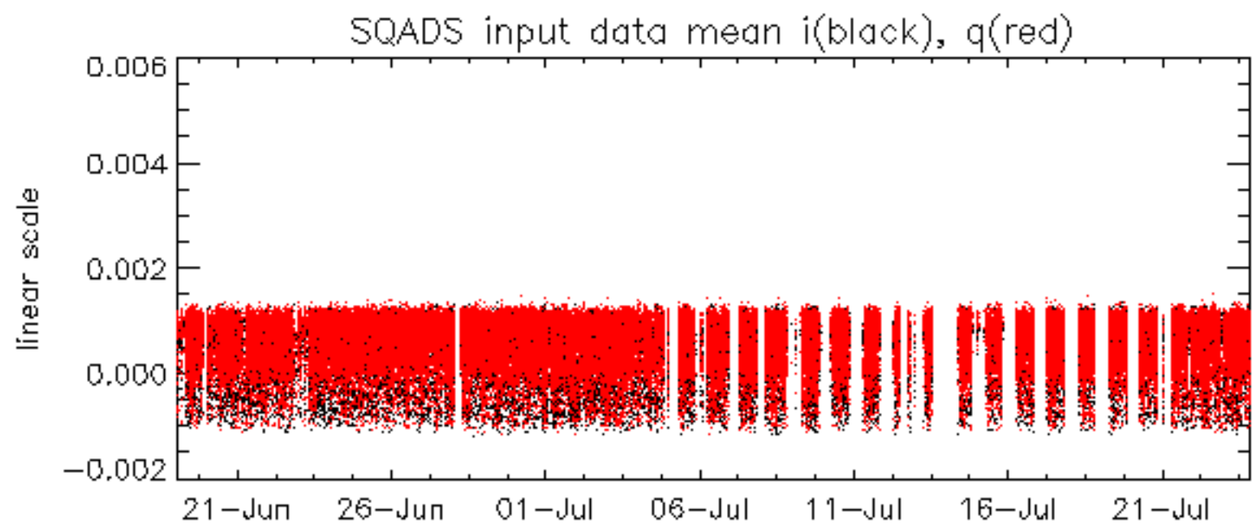
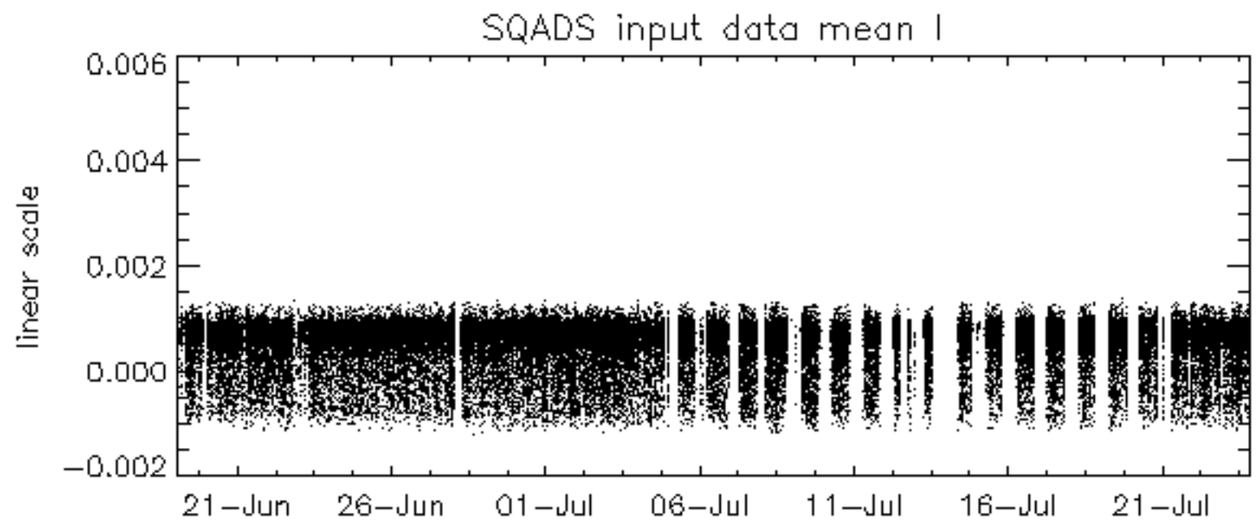
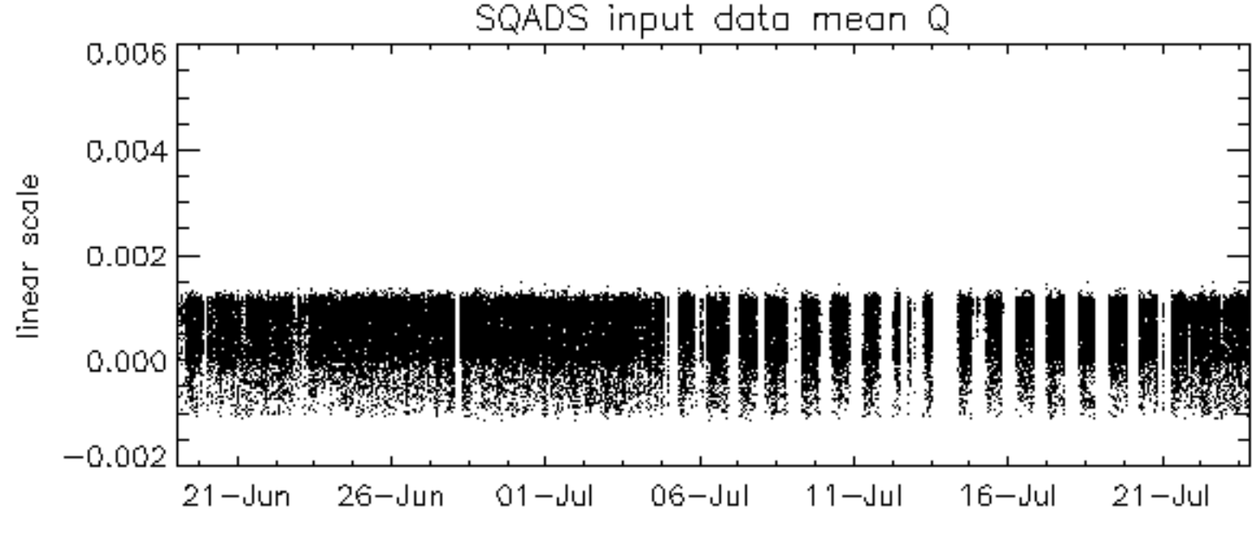
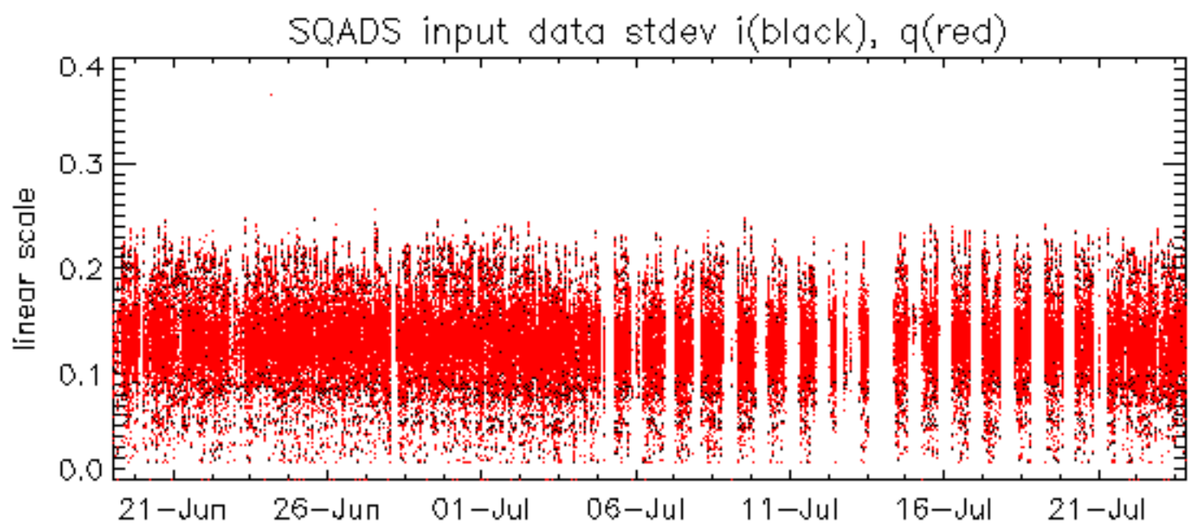
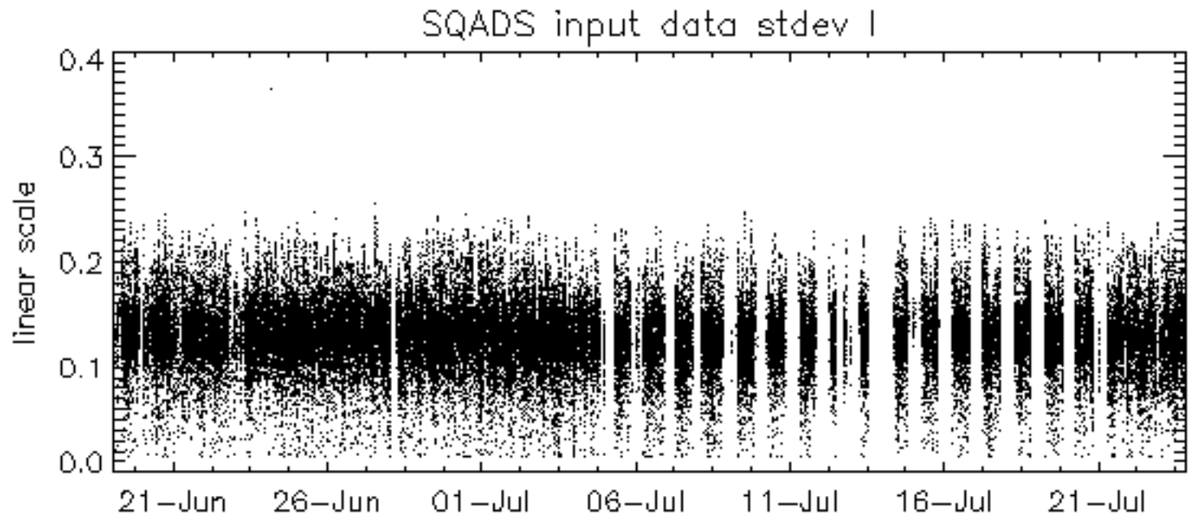

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

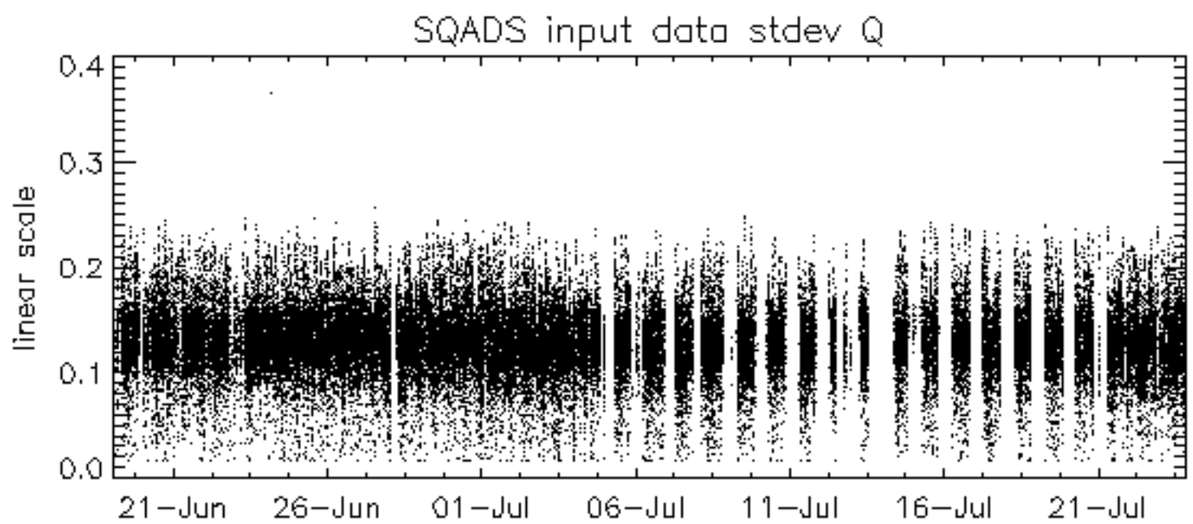

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul

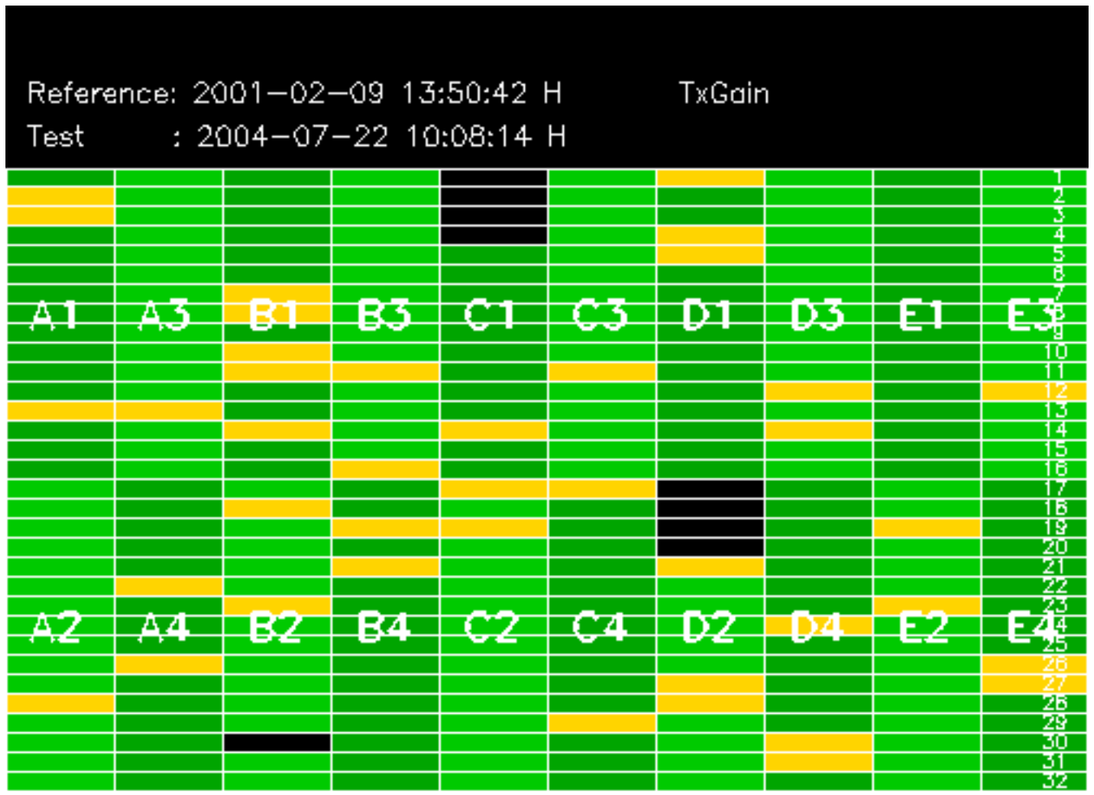

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul


SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul


SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul


Reference: 2001-02-09 13:50:42 H
Test : 2004-07-22 10:08:14 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
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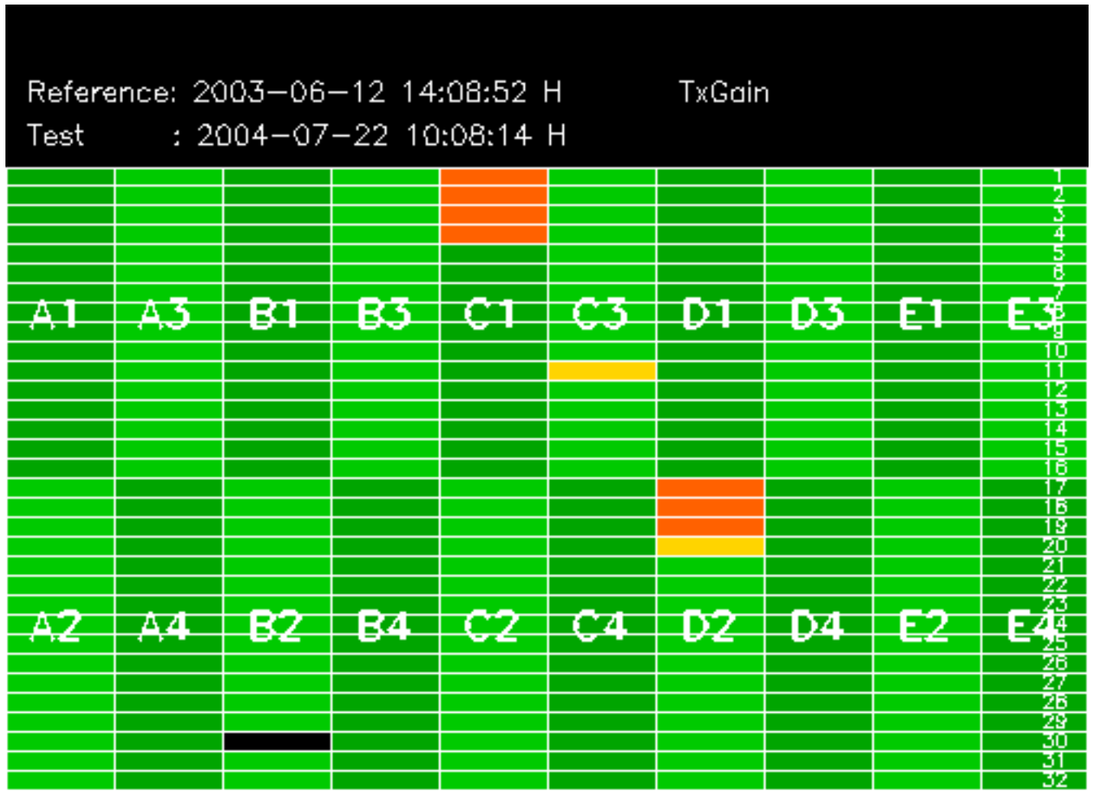
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-07-22 10:08:14 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
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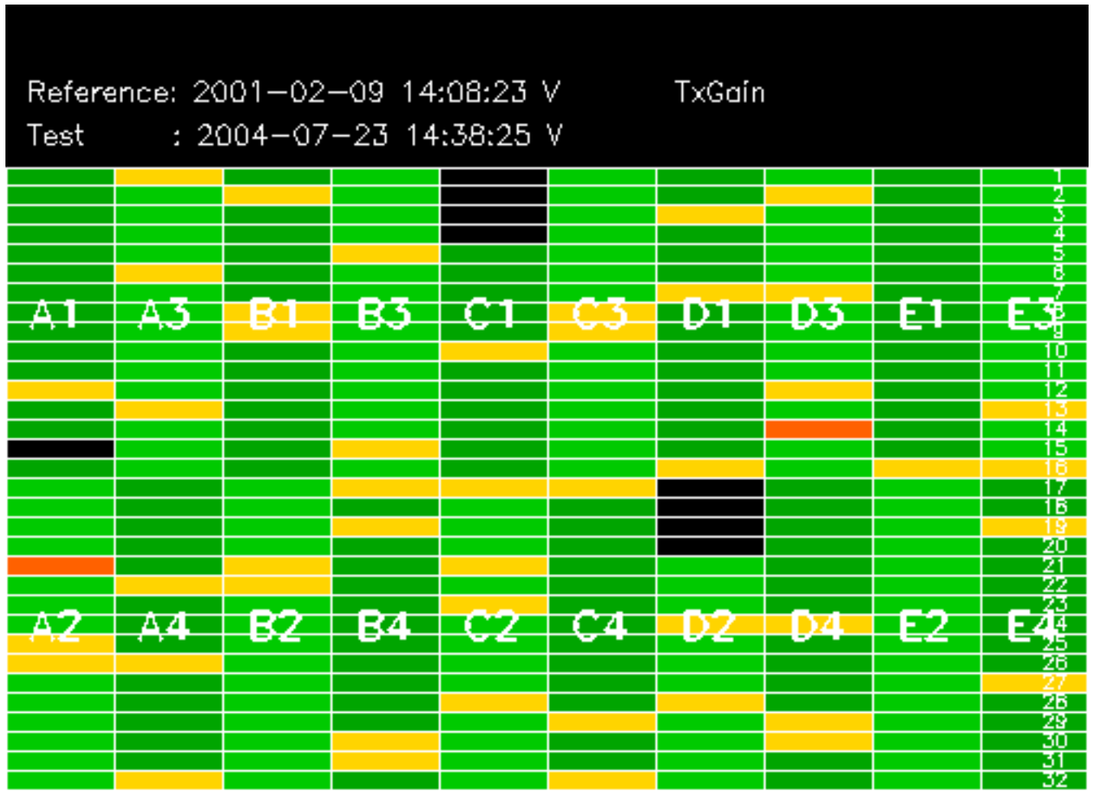
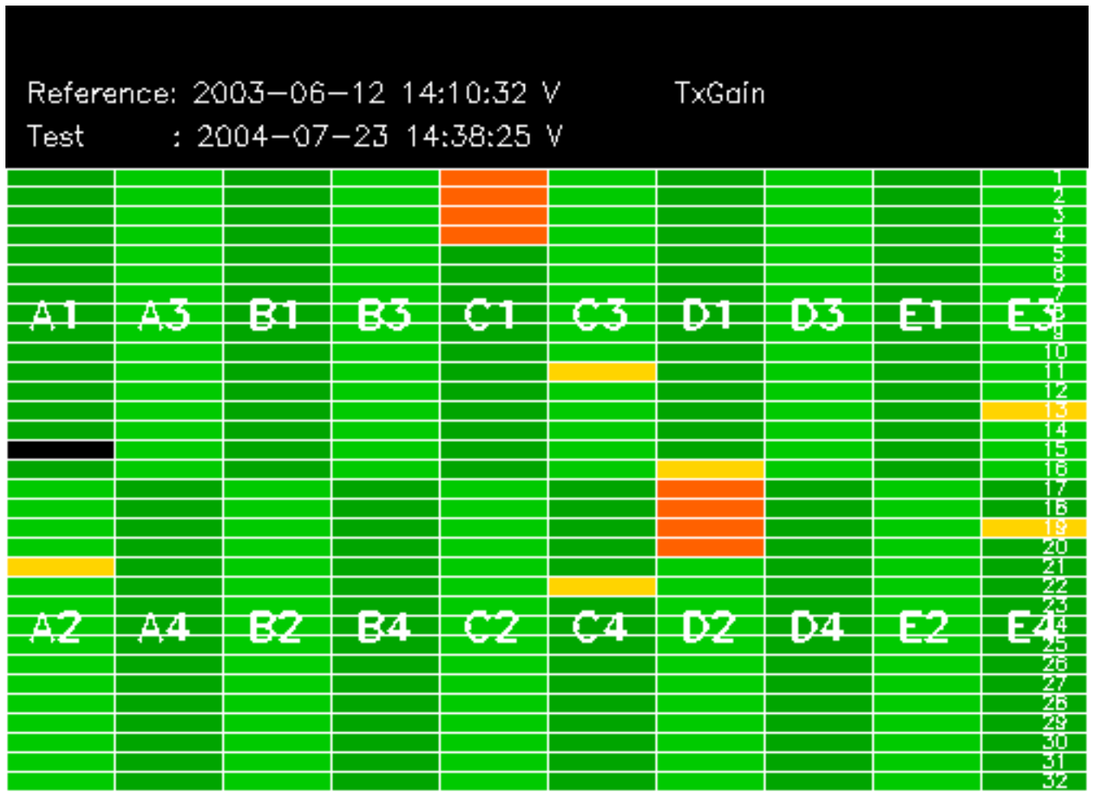

Reference: 2001-02-09 14:08:23 V
Test : 2004-07-23 14:38:25 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-07-23 14:38:25 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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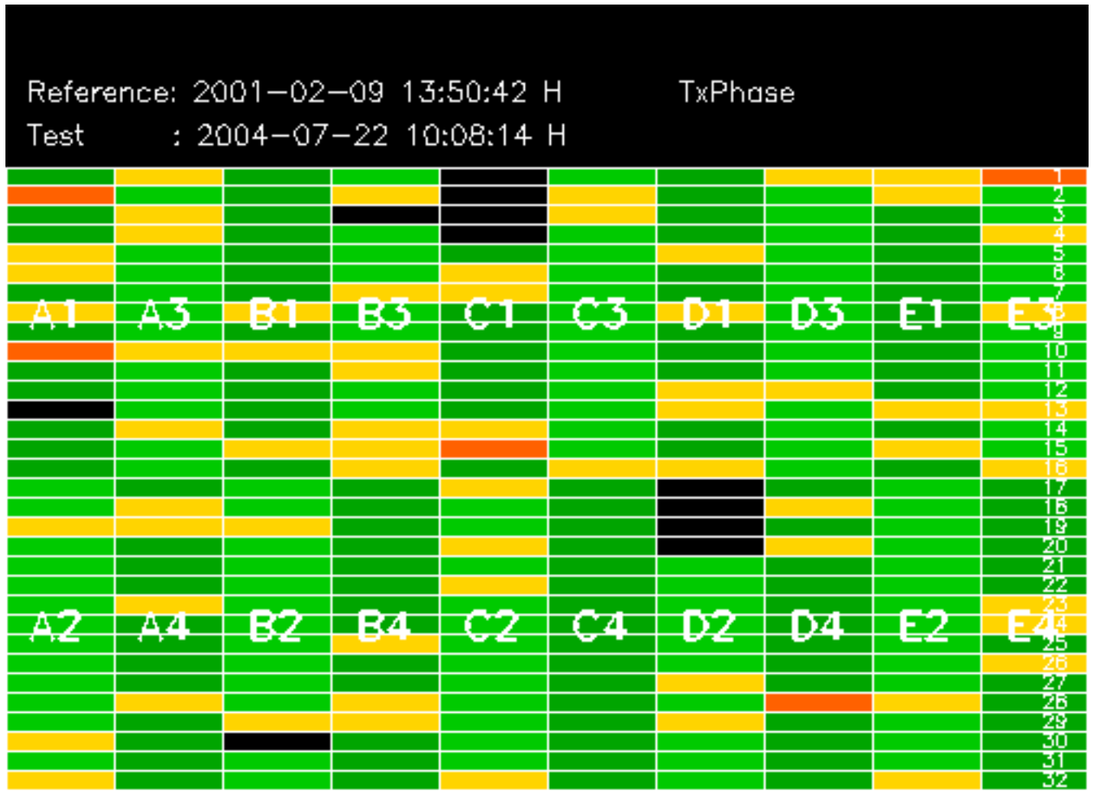
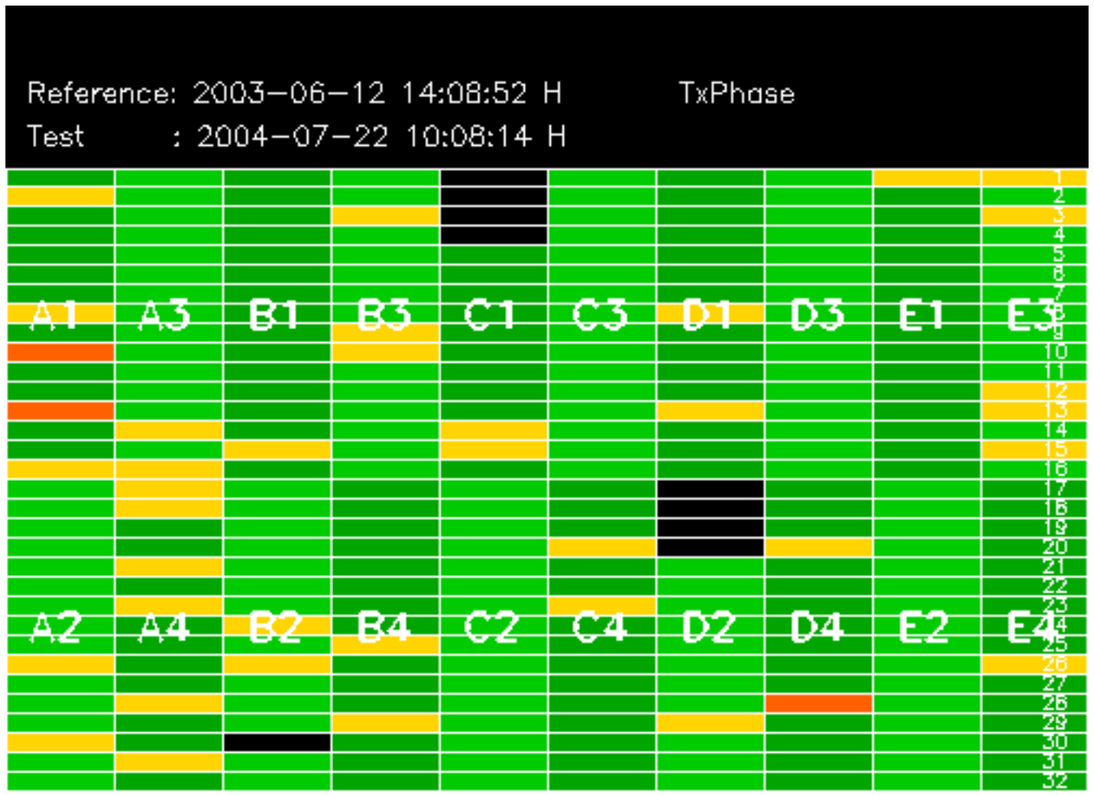

Reference: 2001-02-09 13:50:42 H
Test : 2004-07-22 10:08:14 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-07-22 10:08:14 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
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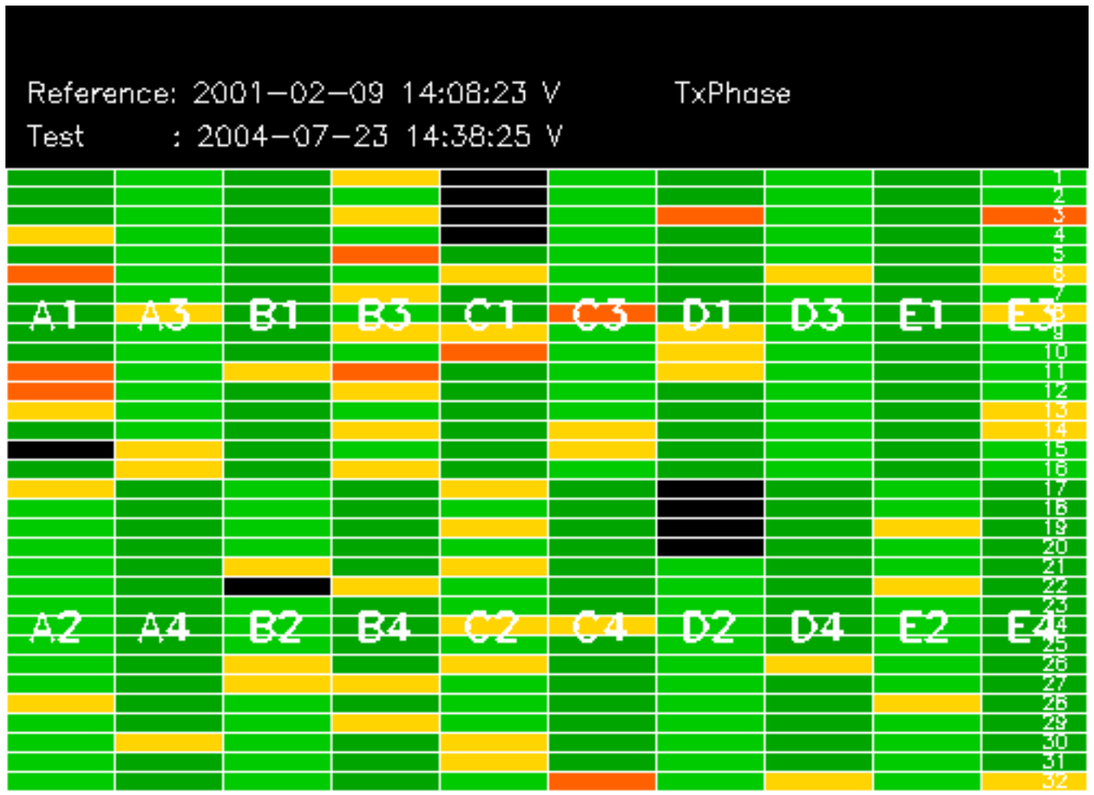
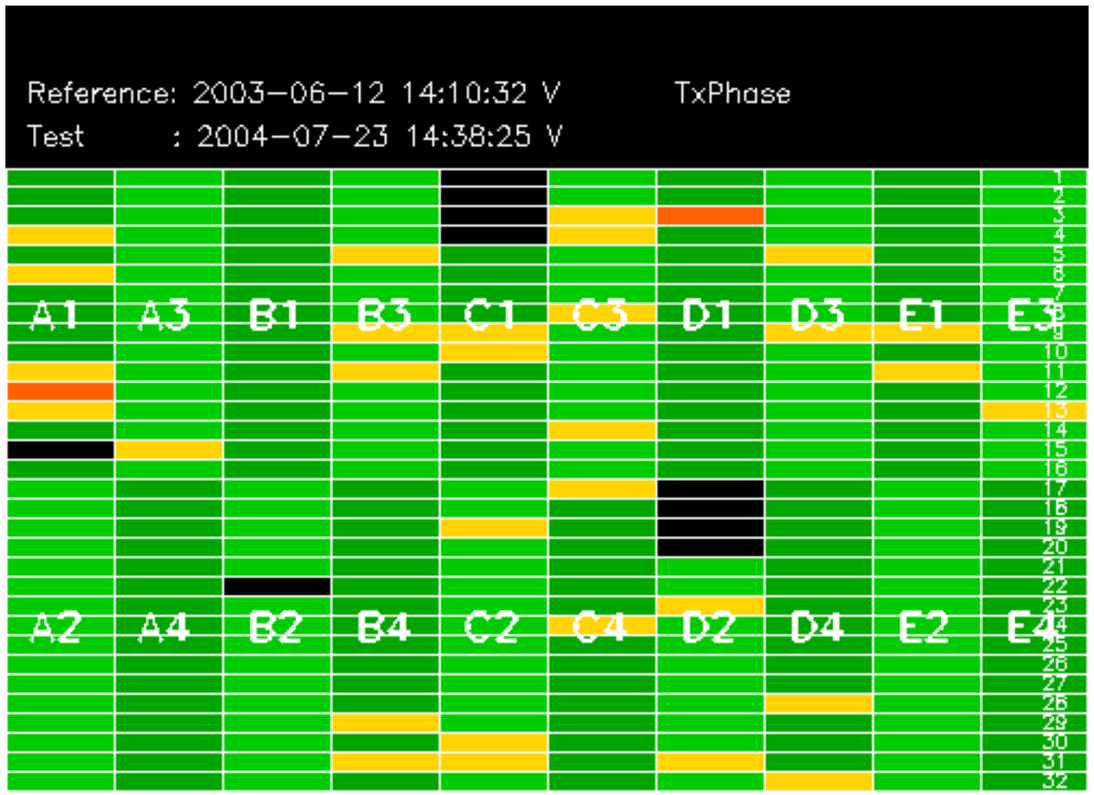

Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2004-07-23 14:38:25 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-07-23 14:38:25 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
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E3
A2
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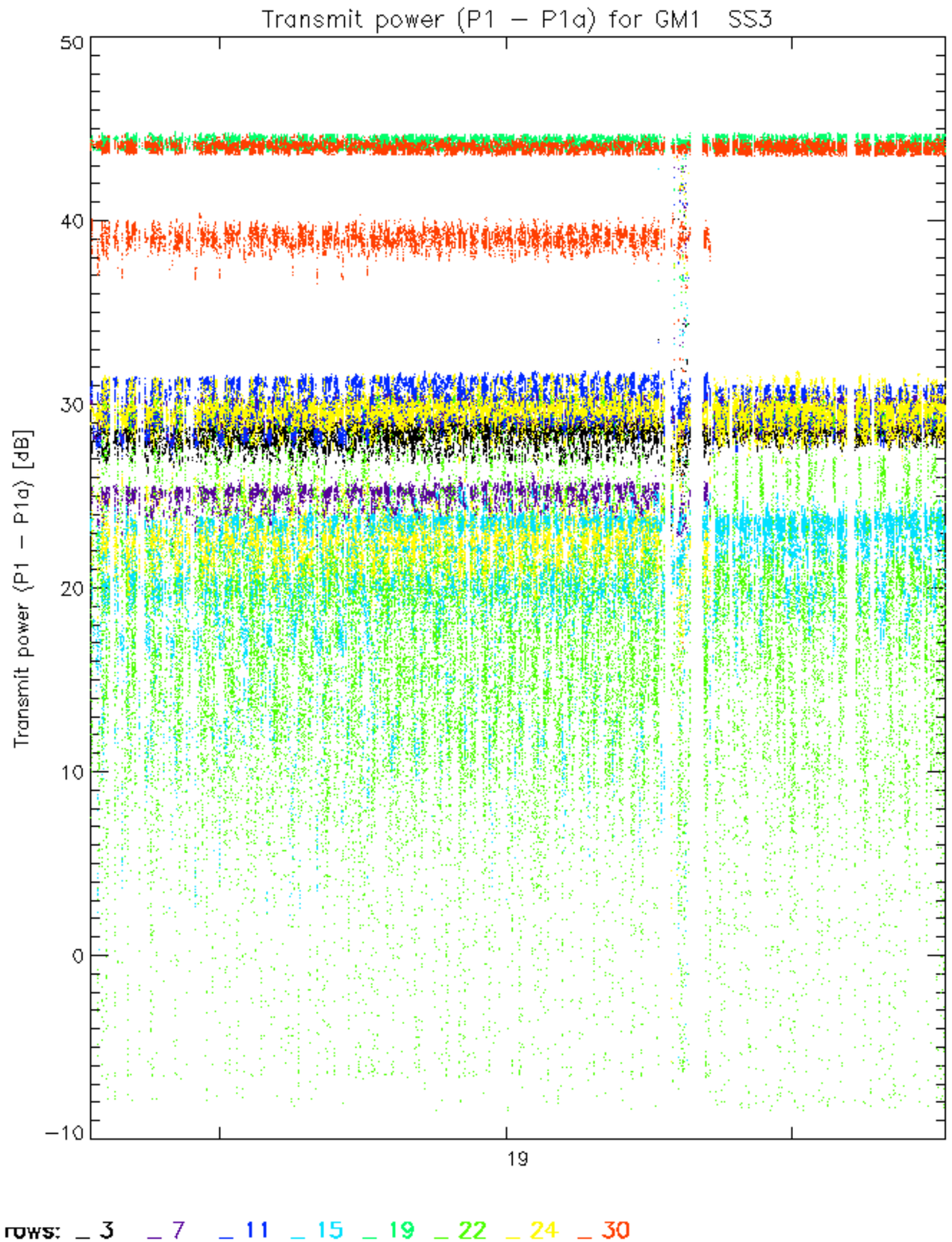
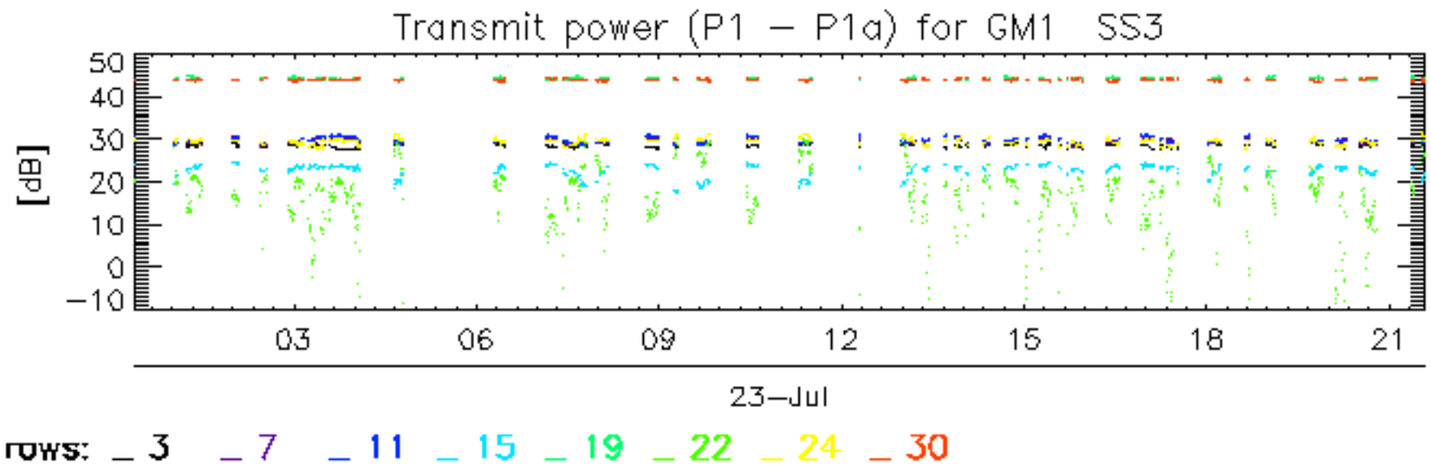
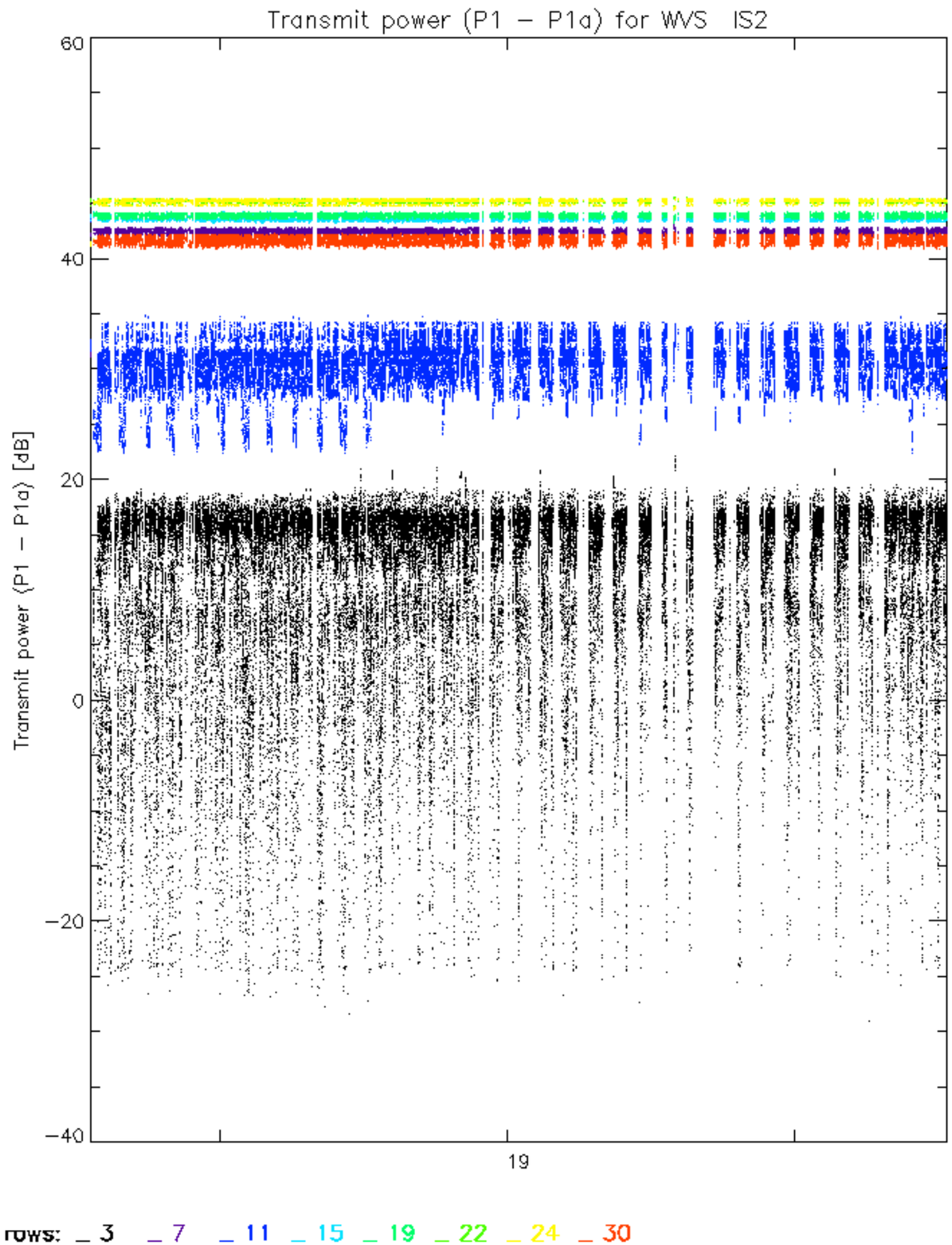
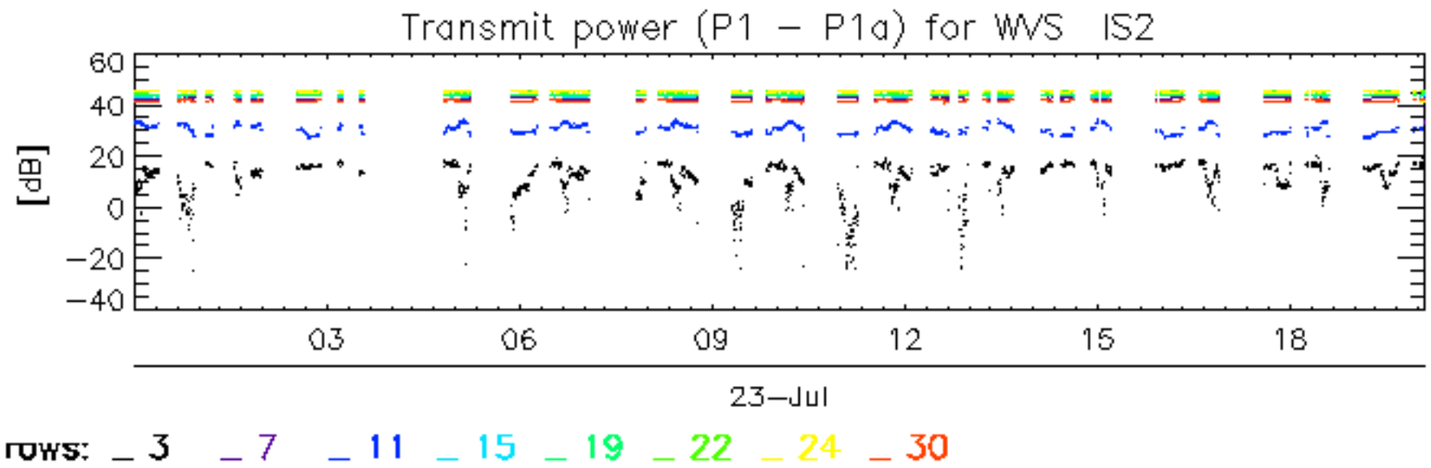

Transmit power (P1 – P1a) for GM1 SS3
Transmit power ⟨P1 – P1a⟩ [dB]
50
40
30
20
10
0
−10
19
rows: 3 7 11 15 19 22 24 30


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

No unavailabilities during the reported period.