REPORT OF 040708

last update on Thu Jul 8 15:37:47 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

No anomalies observed on available browse products

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	20040705 192416
H	20040706 203315

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.

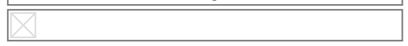
4.1 - Daily statistics

4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS

4.1.2 - Evolution for GM1

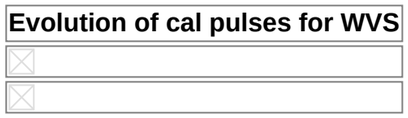
Evolution of cal pulses for GM1



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	-3.494913	0.009510	0.036784
7	P1	-3.328777	0.014928	0.012799
11	P1	-4.548901	0.037485	-0.096030
15	P1	-5.689364	0.058243	-0.089755
19	P1	-3.437145	0.004931	-0.002568
22	P1	-4.557965	0.011378	0.018251
24	P1	-4.921369	0.017645	-0.016476
30	P1	-6.857431	0.023835	-0.051331
3	P1	-16.113655	0.205599	-0.157486
7	P1	-13.987794	0.103793	0.059386

11	P1	-19.914503	0.304491	-0.236989
15	P1	-11.783990	0.044835	-0.031983
19	P1	-13.825218	0.035962	0.006461
22	P1	-16.478180	0.417062	0.368766
24	P1	-14.657844	0.303627	0.217494
30	P1	-17.691368	0.383649	-0.030252

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.397758	0.082933	0.086194
7	P2	-22.819263	0.129234	0.132281
11	P2	-15.578596	0.146030	0.142555
15	P2	-7.172554	0.097968	0.119178
19	P2	-9.566871	0.159436	0.071362
22	P2	-17.512405	0.108319	0.163043
24	P2	-20.835949	0.088706	0.123517
30	P2	-19.416193	0.079281	0.060631

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.143446	0.001935	0.004562
7	P3	-8.143451	0.001934	0.004592
11	P3	-8.143465	0.001934	0.004680
15	P3	-8.143471	0.001934	0.004713
19	P3	-8.143475	0.001934	0.004734
22	P3	-8.143471	0.001934	0.004710
24	P3	-8.143463	0.001934	0.004665
30	P3	-8.143421	0.001930	0.004527

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	-3.130972	0.132692	0.065359
7	P1	-2.819368	0.070983	-0.061068
11	P1	-3.811295	0.022882	-0.070190
15	P1	-4.267781	1.003975	-0.010398
19	P1	-3.358151	0.049951	0.002545
22	P1	-5.730775	0.043126	-0.037765
24	P1	-4.051389	0.078915	0.006583
30	P1	-6.107455	0.066761	-0.036415
3	P1	-11.011272	0.396521	0.089079
7	P1	-9.778703	0.241625	-0.091181
11	P1	-11.789937	0.167949	-0.076519
15	P1	-11.863067	0.268483	-0.084651
19	P1	-14.990208	0.824175	0.016328
22	P1	-21.419249	8.478620	0.264945
24	P1	-17.367281	0.300513	0.042304
30	P1	-21.693514	4.325640	0.125304

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.139725	0.043097	0.106852
7	P2	-22.912786	0.029744	0.087934
11	P2	-10.976453	0.225237	0.190562
15	P2	-4.980438	0.044115	0.084916
19	P2	-6.922435	0.041954	0.046499
22	P2	-7.638763	0.027744	0.154289
24	P2	-11.043063	0.073439	0.120952
30	P2	-22.350576	0.087216	0.148597

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.983027	0.003359	0.004758

7	P3	-7.982985	0.003353	0.004538
11	P3	-7.982939	0.003360	0.004571
15	P3	-7.982917	0.003368	0.004834
19	P3	-7.982913	0.003364	0.005003
22	P3	-7.982969	0.003353	0.004920
24	P3	-7.982938	0.003388	0.004671
30	P3	-7.982916	0.003362	0.004699

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	0.000501325
	stdev	2.07105e-07
MEAN Q	mean	0.000551659
	stdev	2.36701e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.130154
	stdev	0.00101740
STDEV Q	mean	0.130404

stdev	0.00102939

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

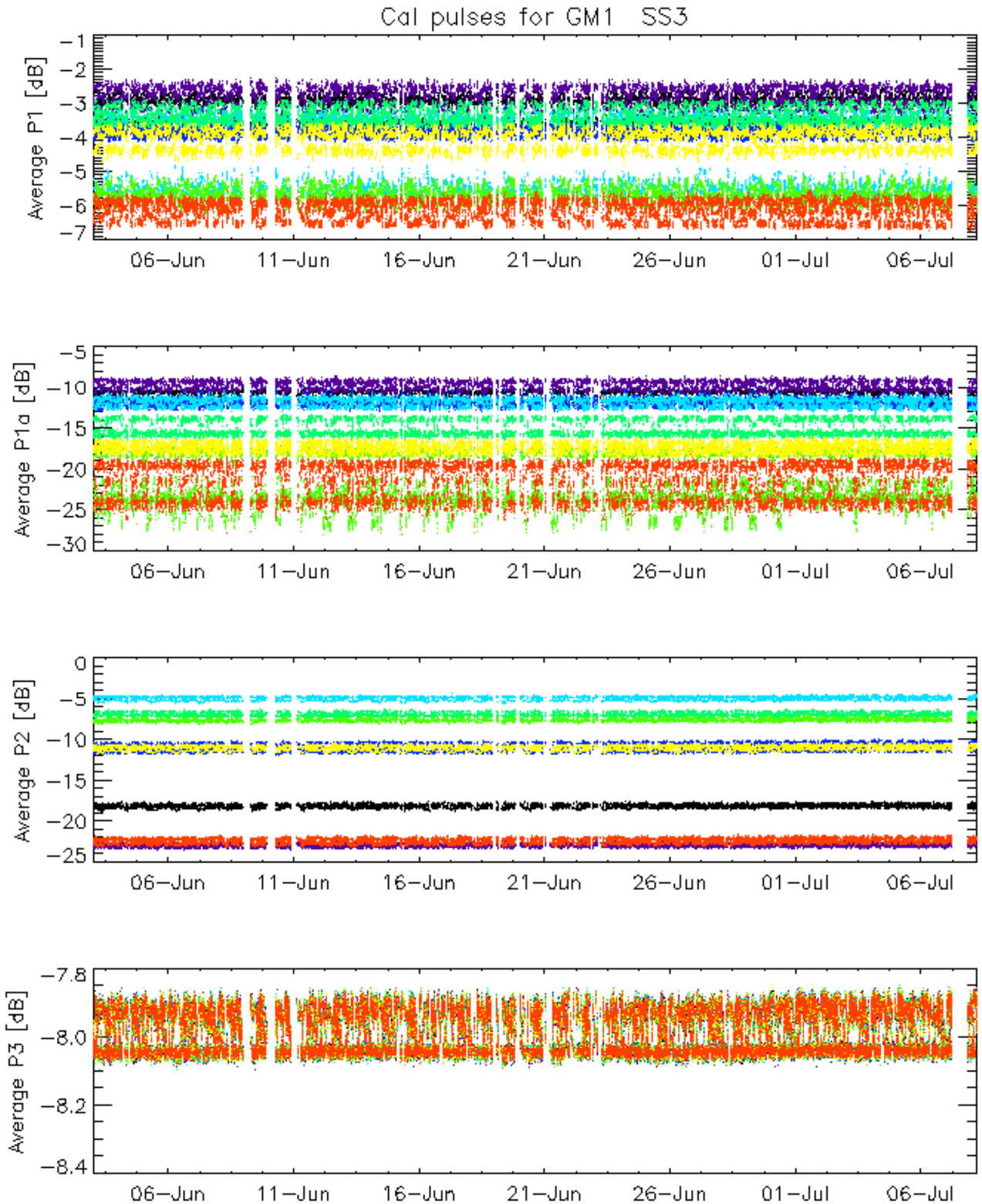
Evolution of Absolute Doppler

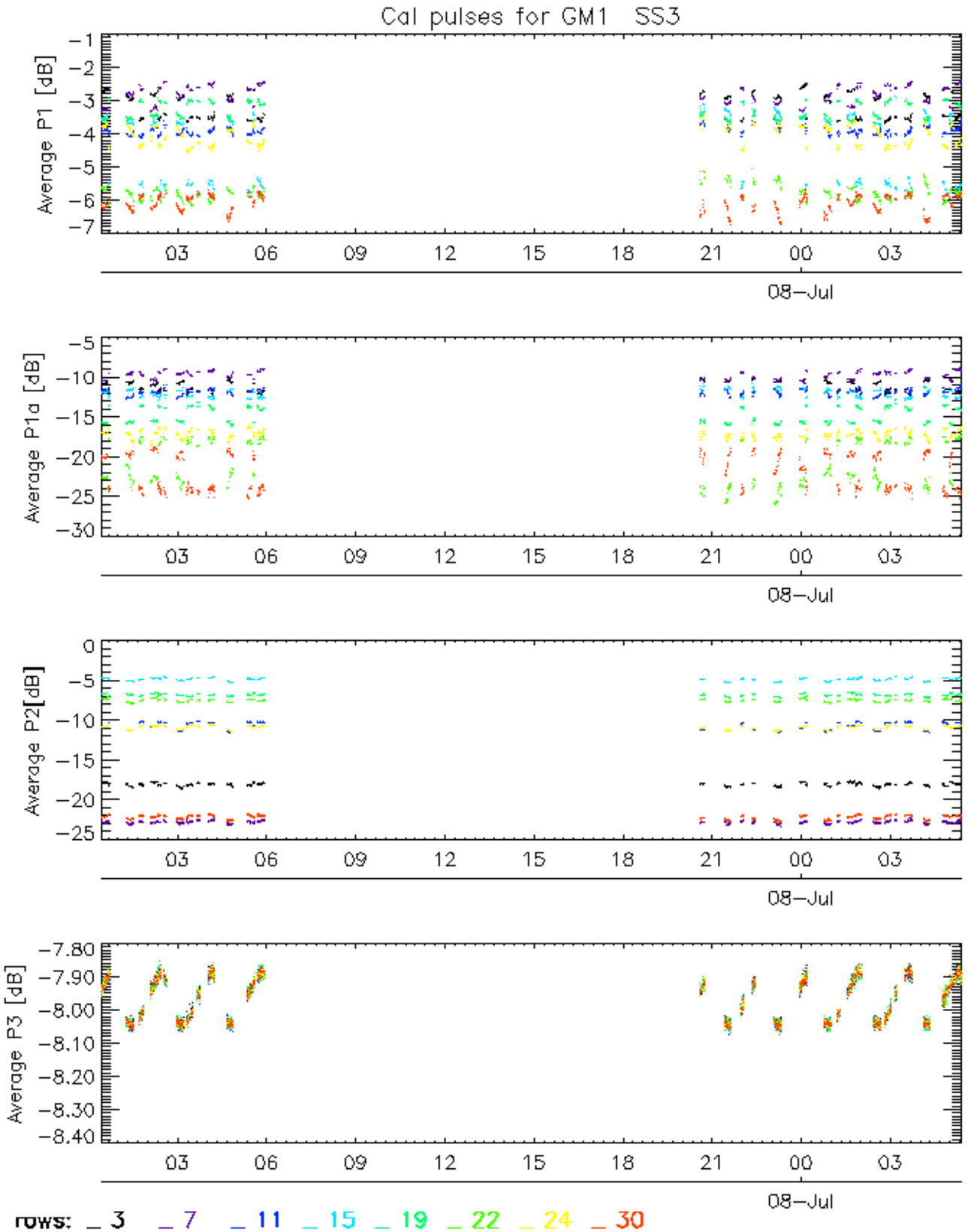
Acsending

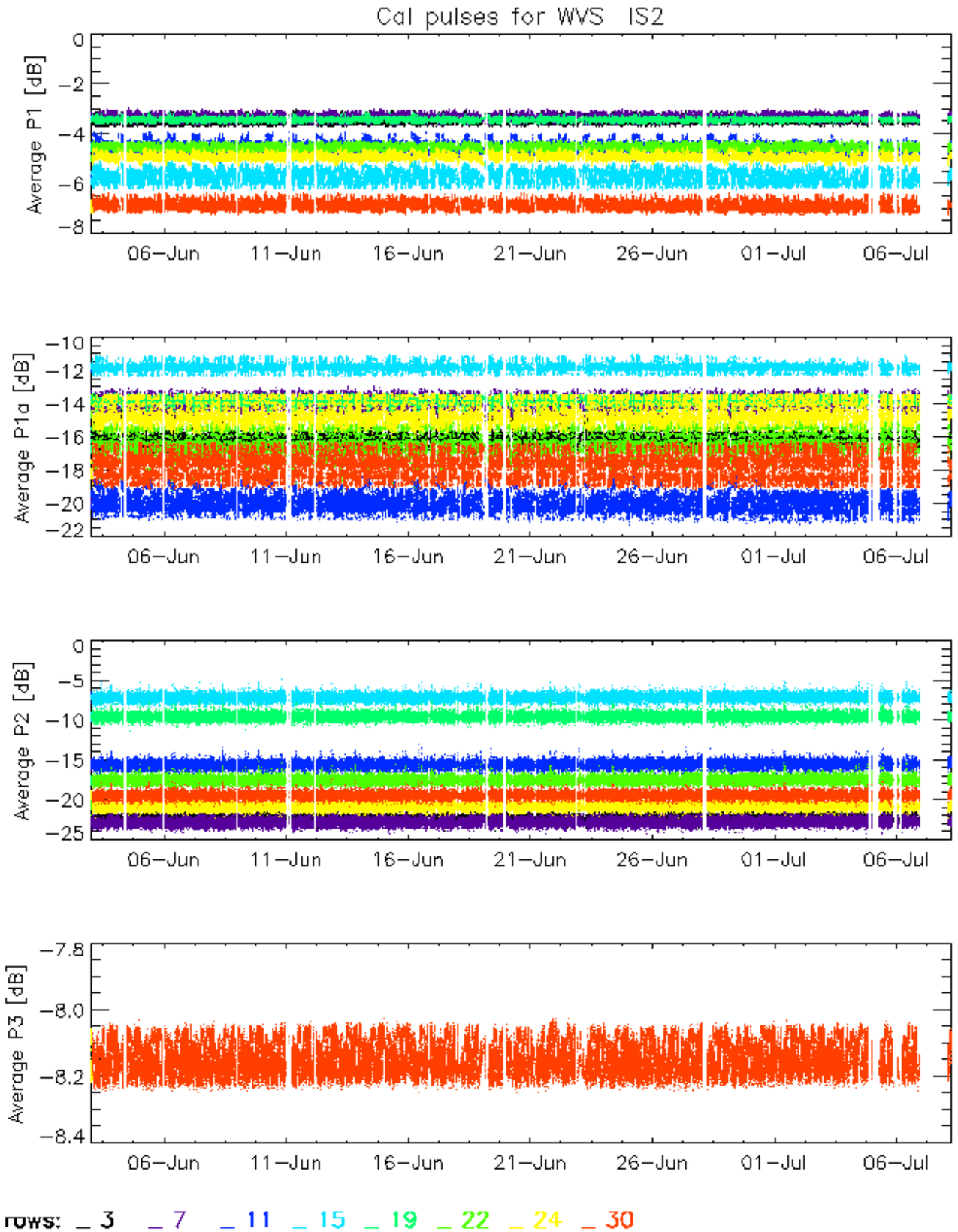
Descending

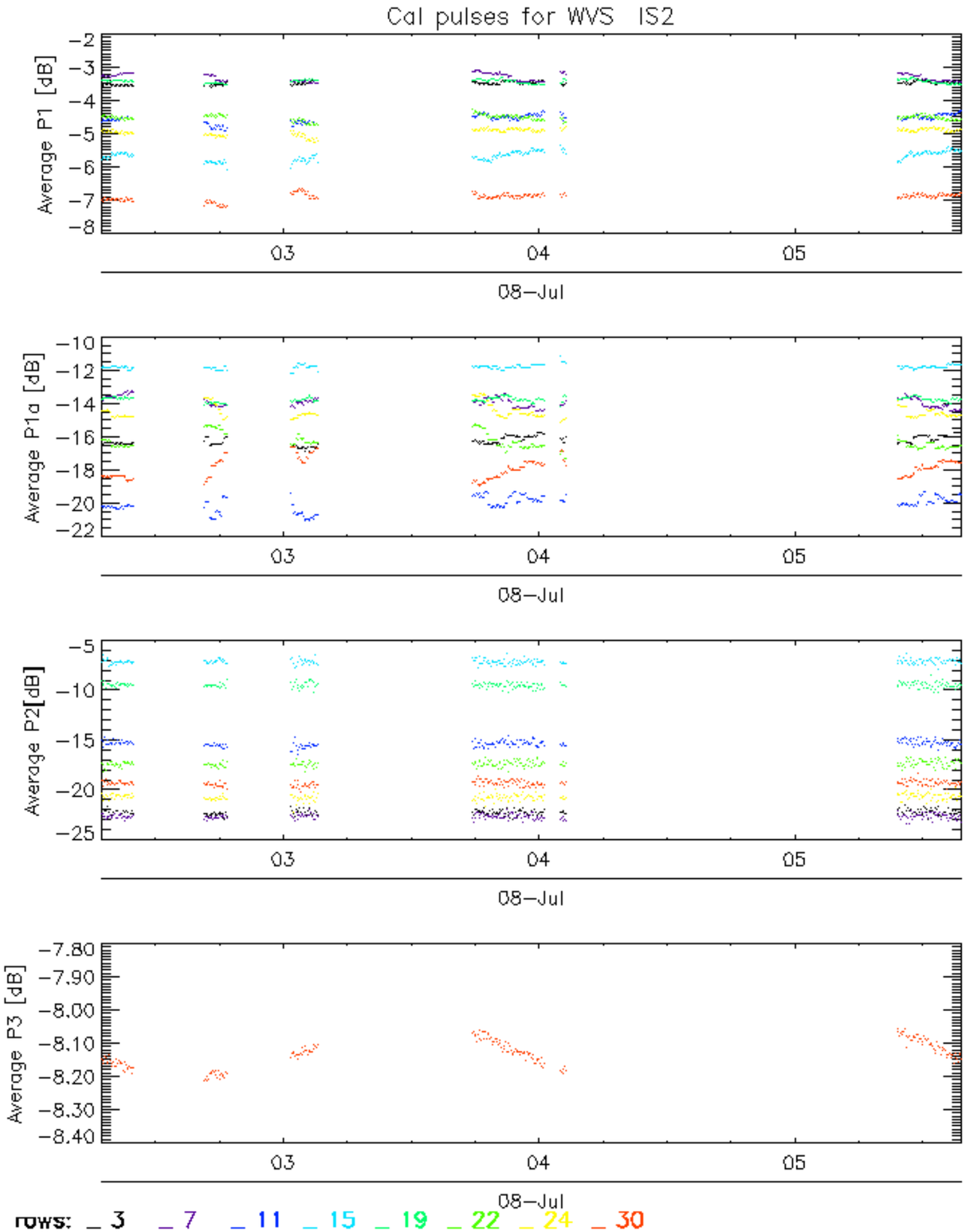
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX



Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
06−Jun
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
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

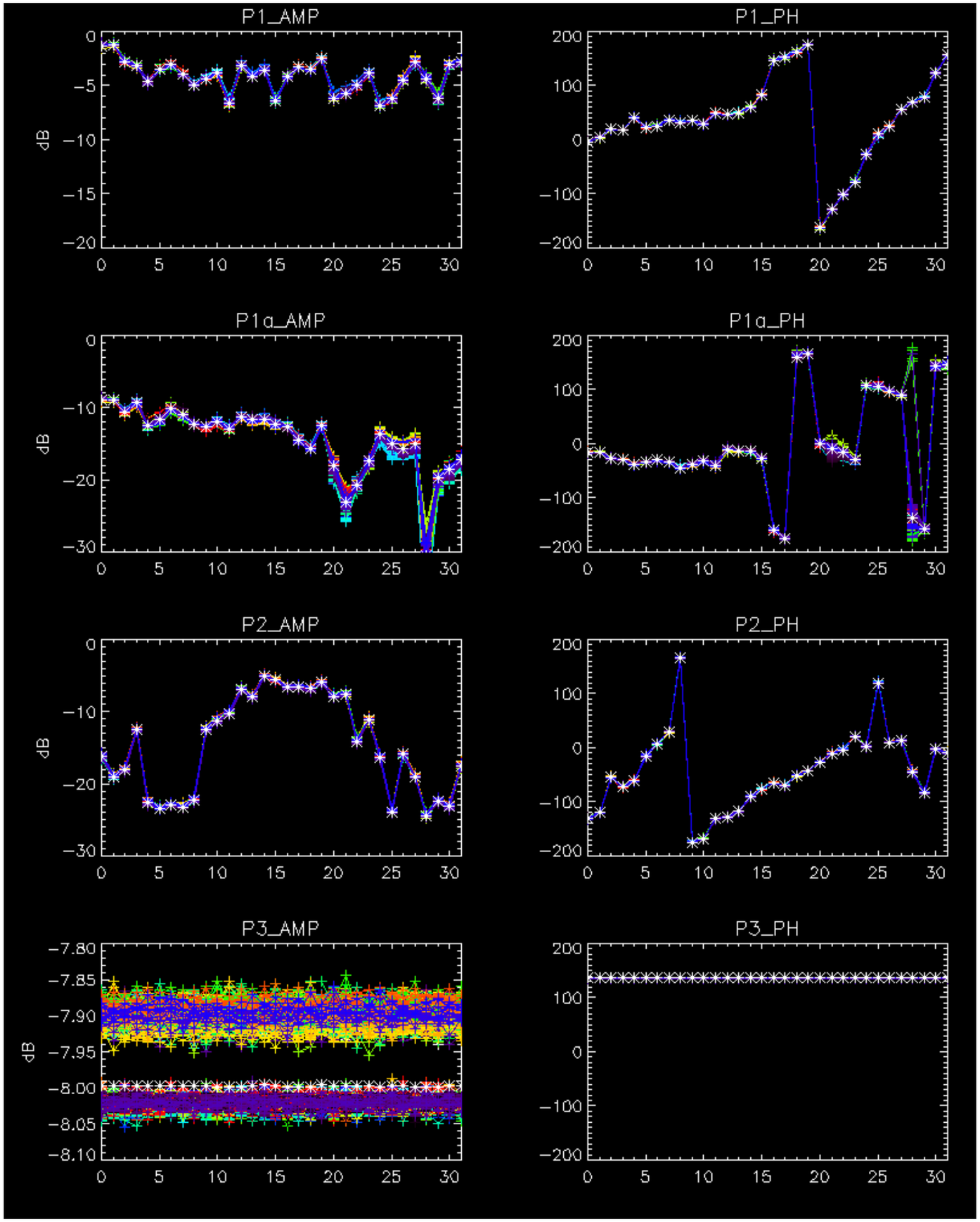

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
08–Jul
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2[dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

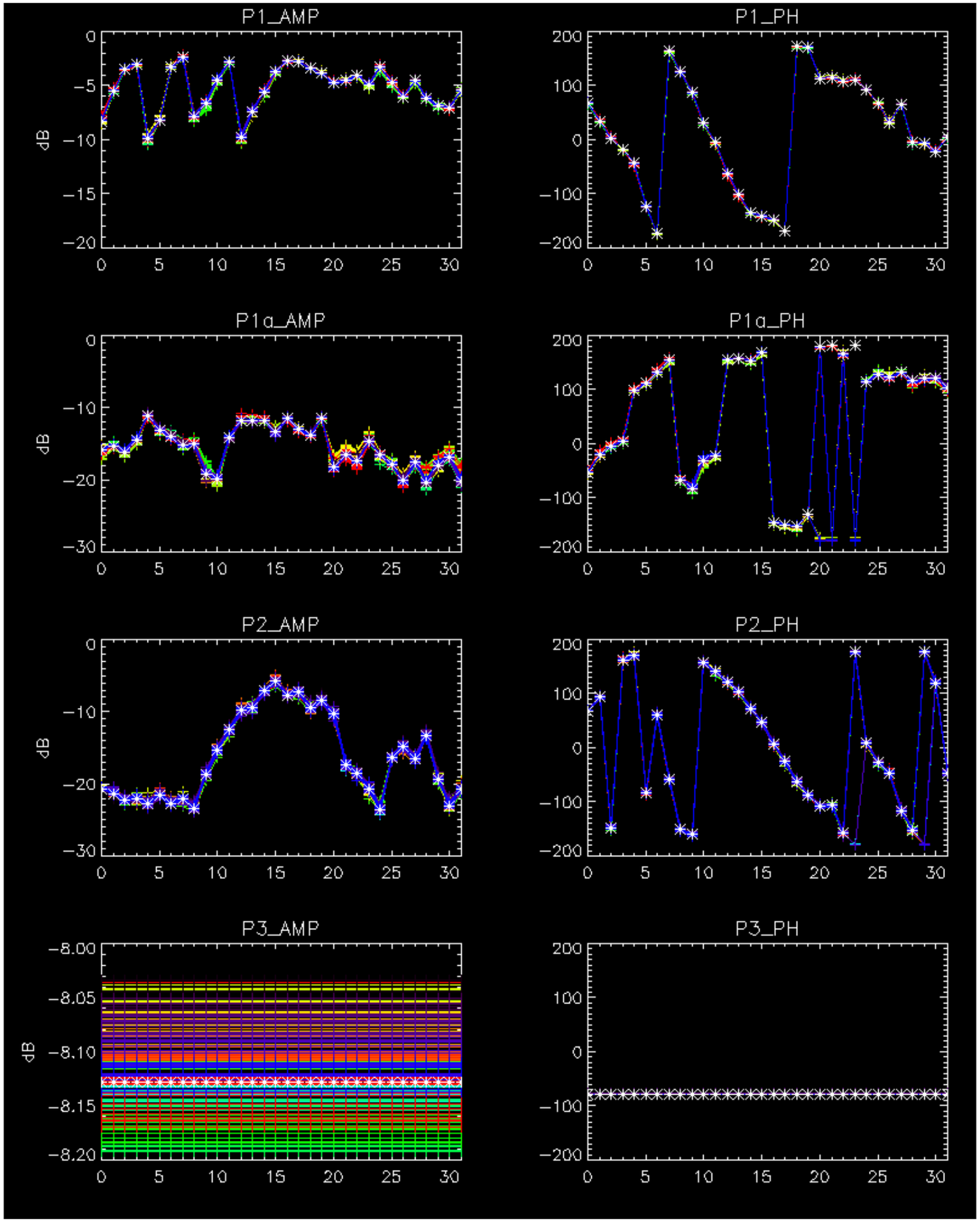

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
06−Jun
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−2
−3
−4
−5
−6
−7
−8
03
04
05
08−Jul
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
03
04
05
08−Jul
Average P2[dB]
−5
−10
−15
−20
−25
03
04
05
08−Jul
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
04
05
08−Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

No anomalies observed on available browse products

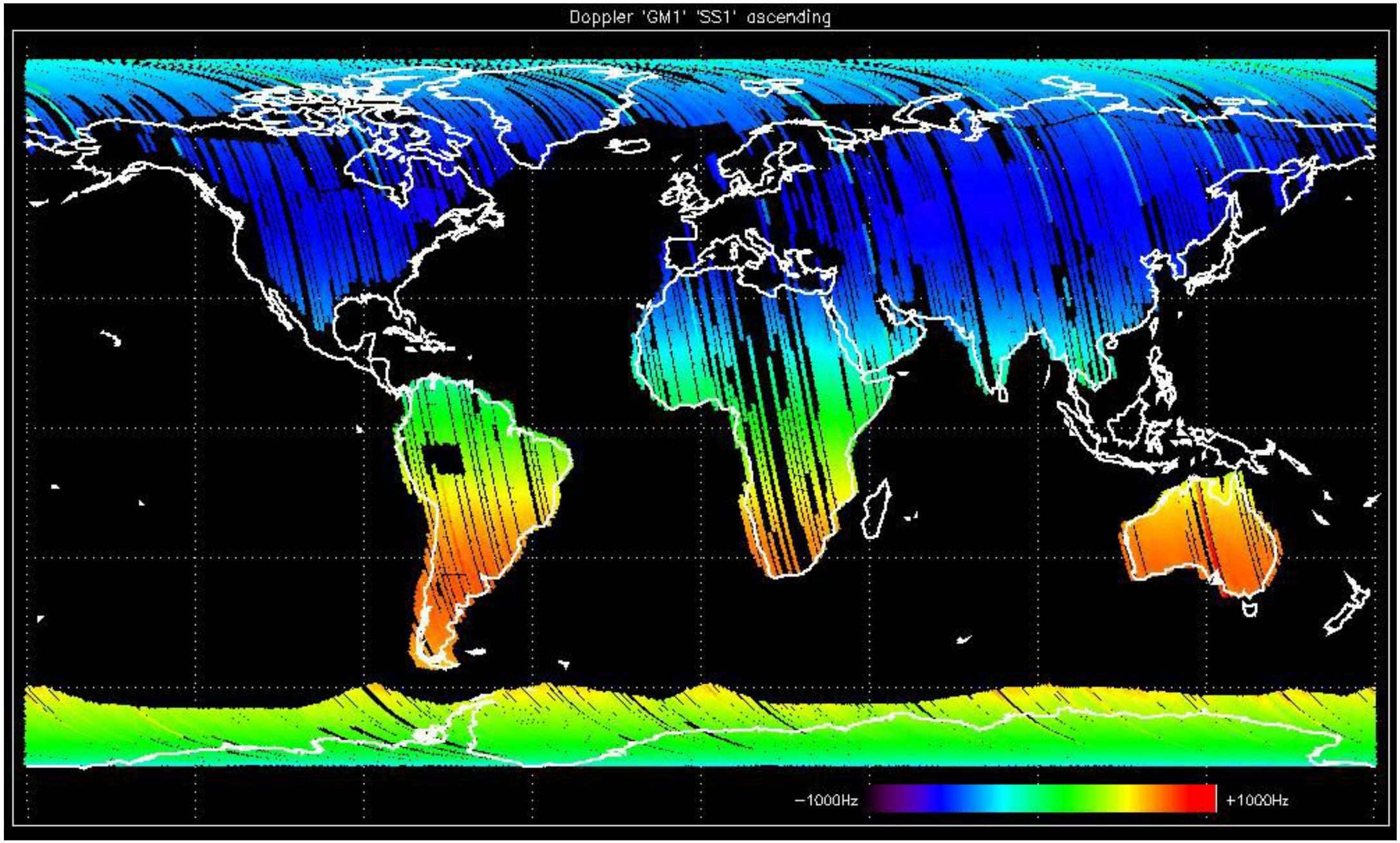
No anomalies observed.

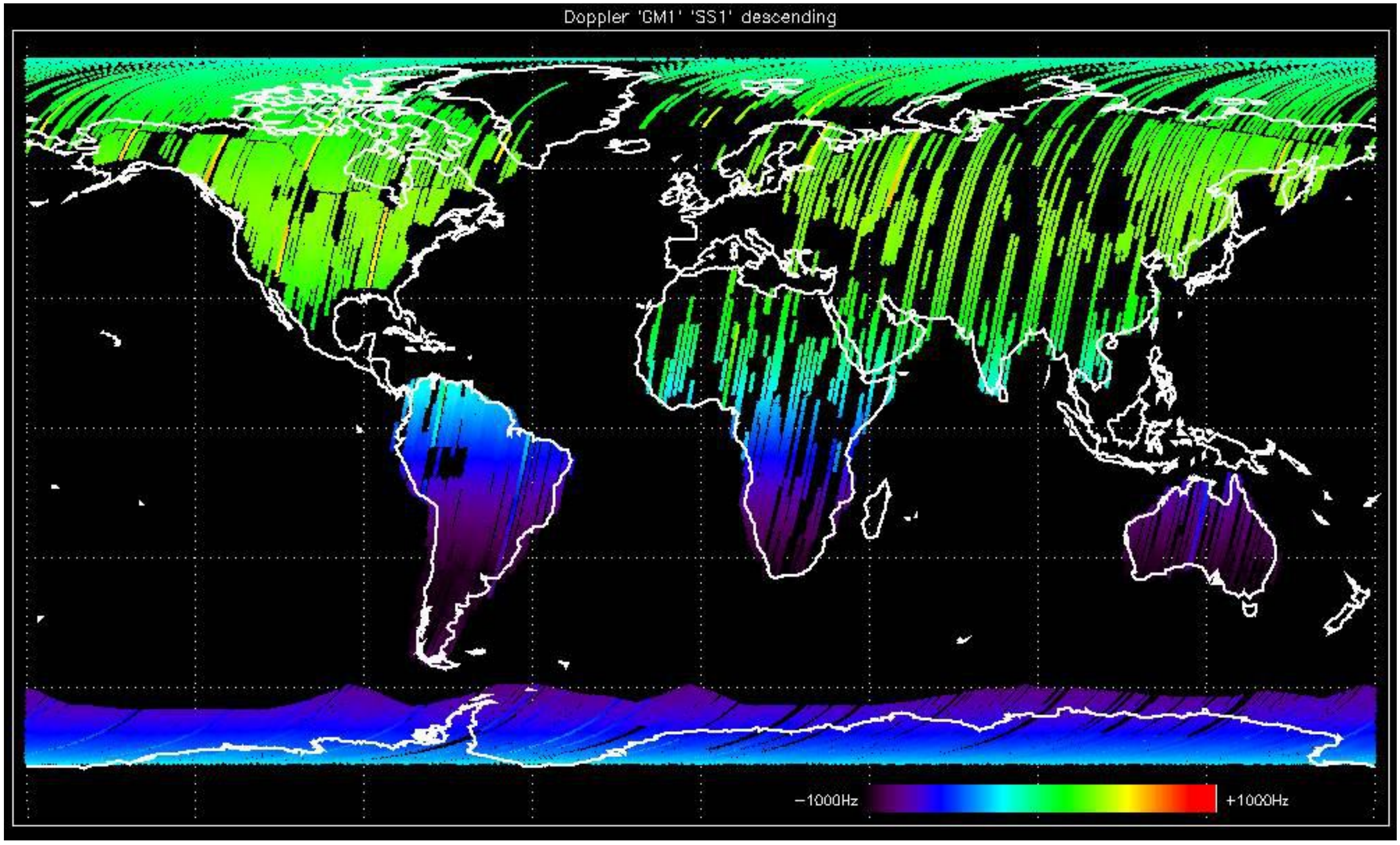

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.80
−7.85
−7.90
−7.95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

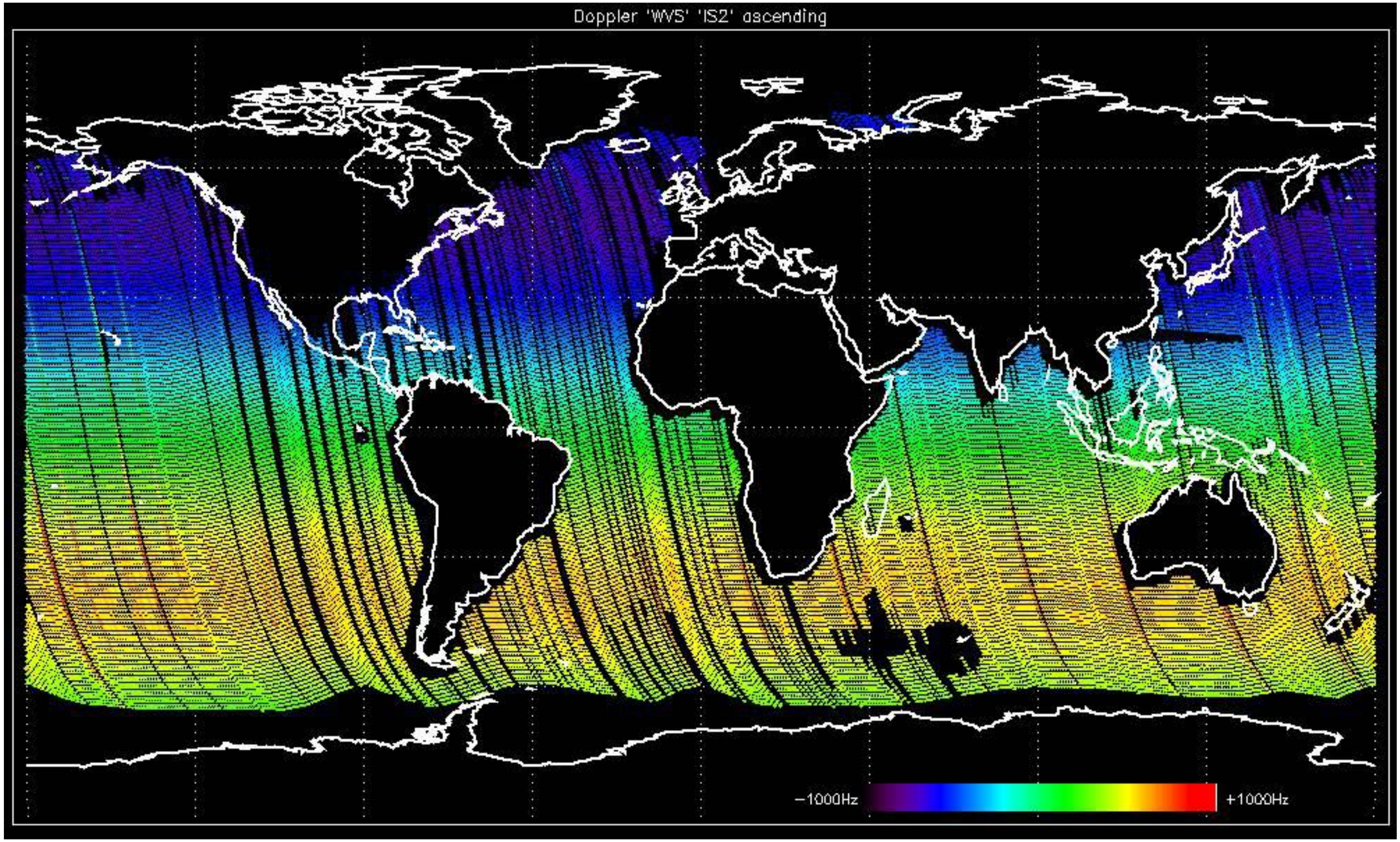

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15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

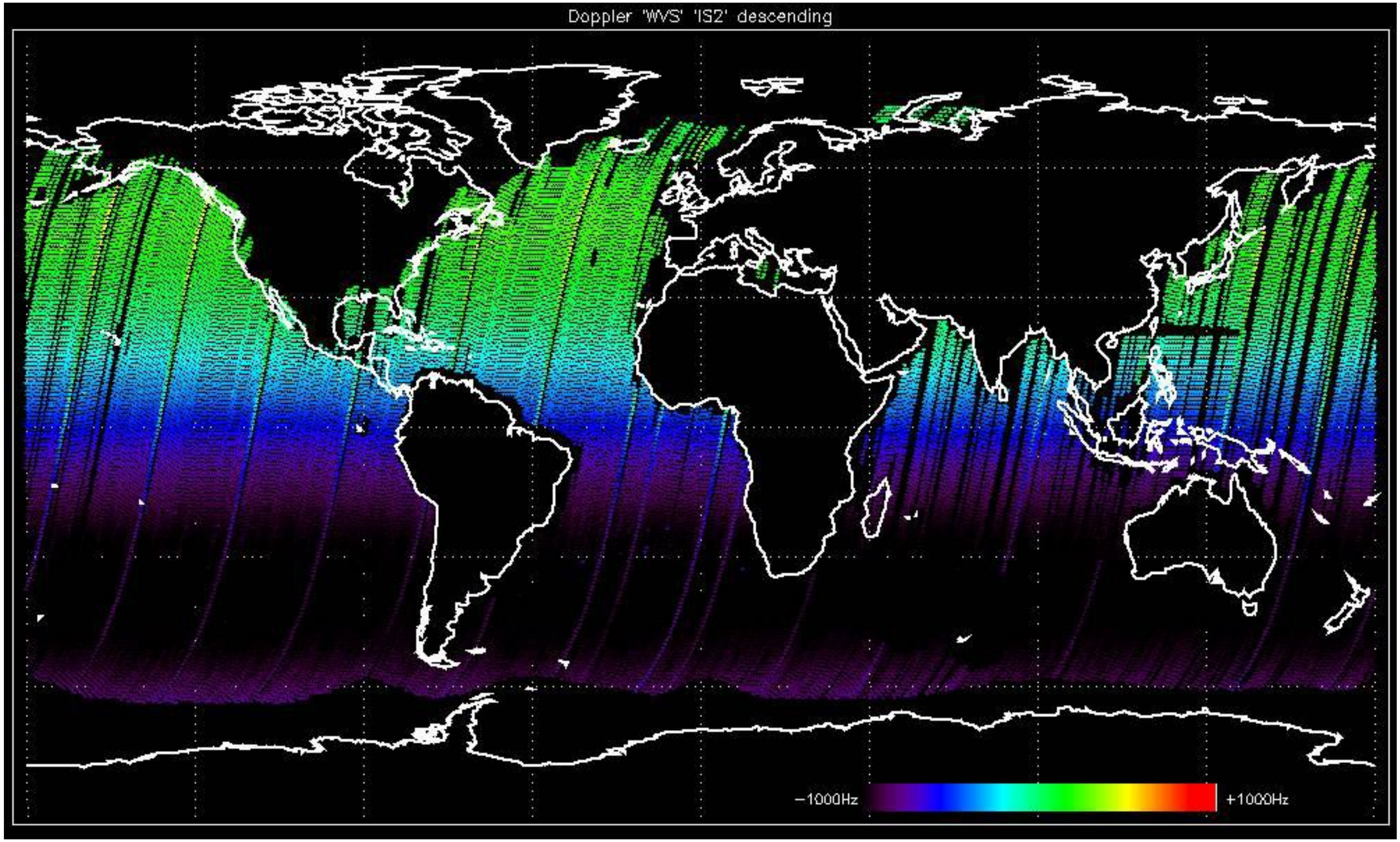
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

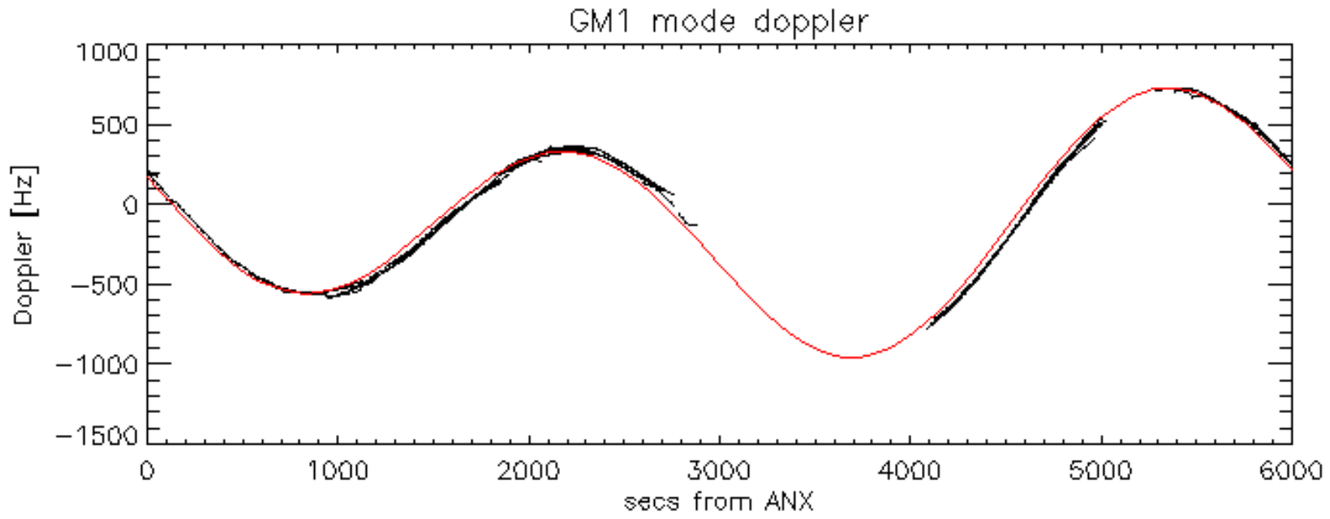
Preliminary report.The data is not yet controled

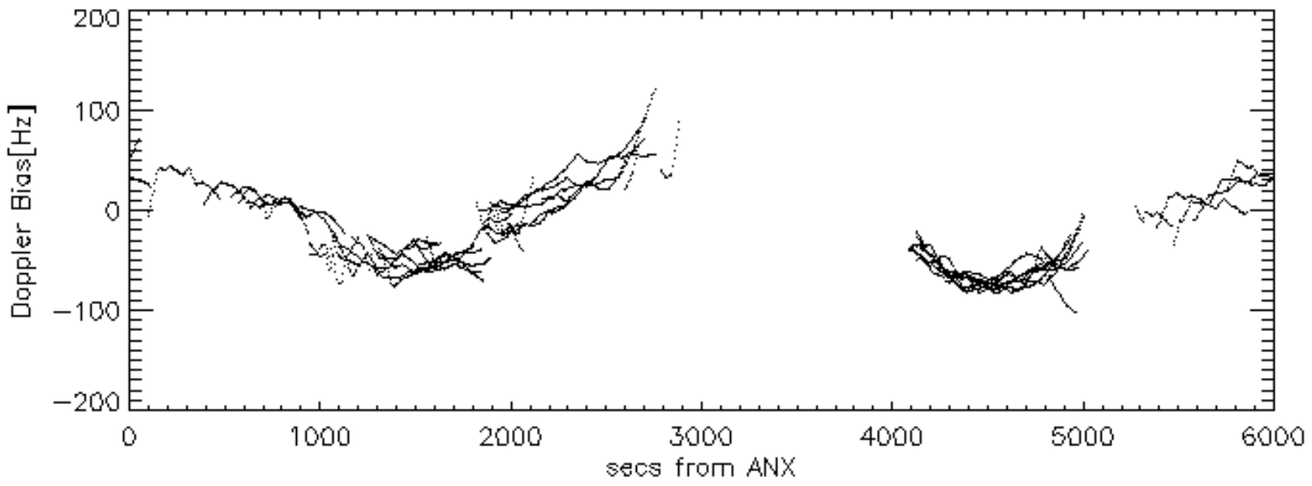

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

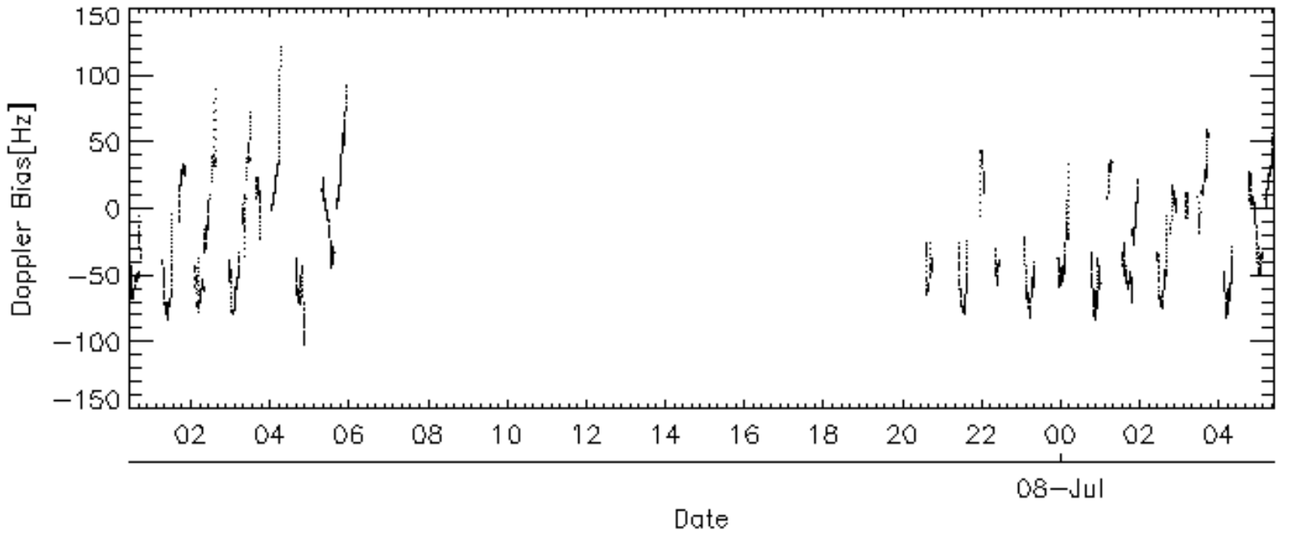

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

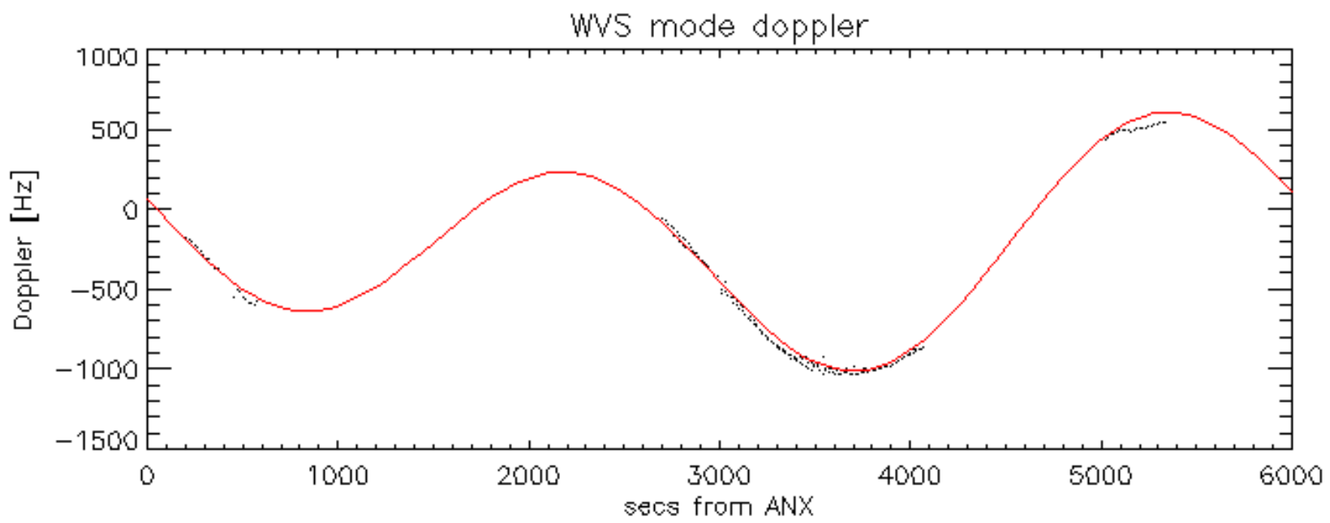

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

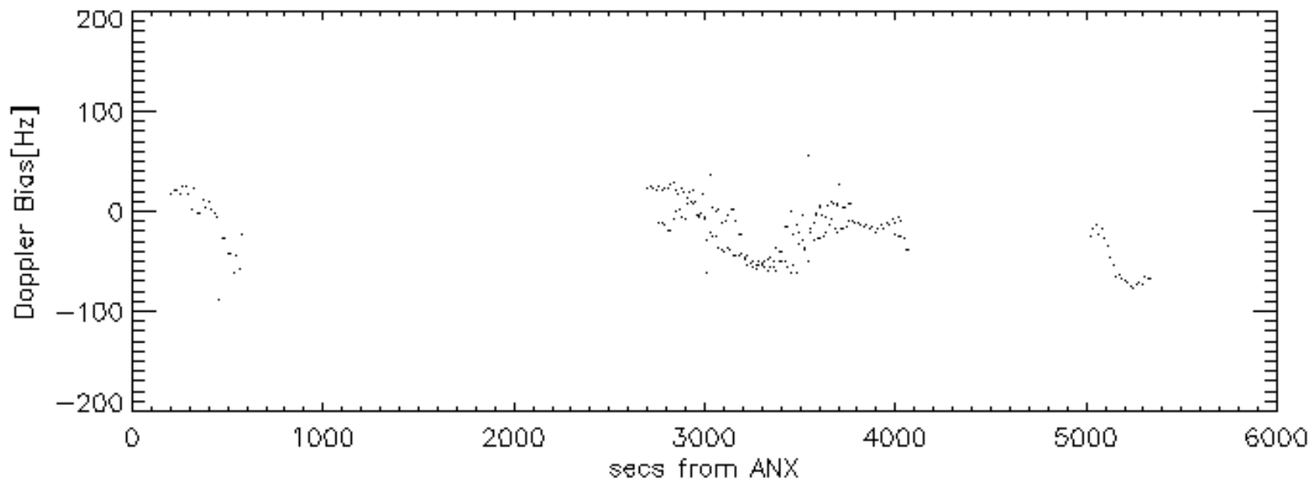

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

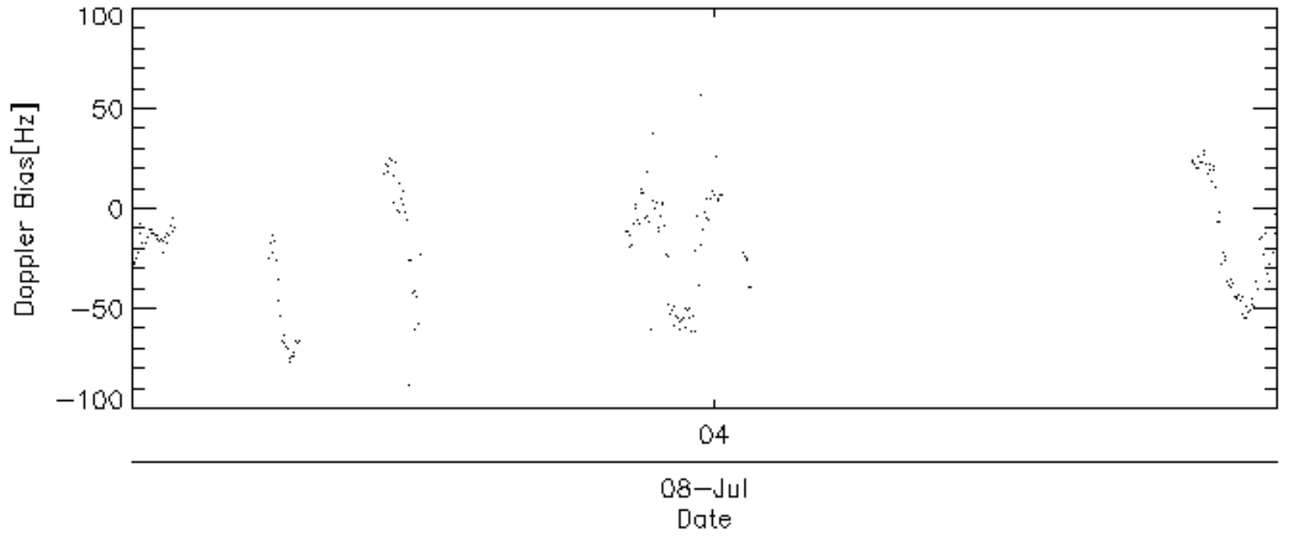

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

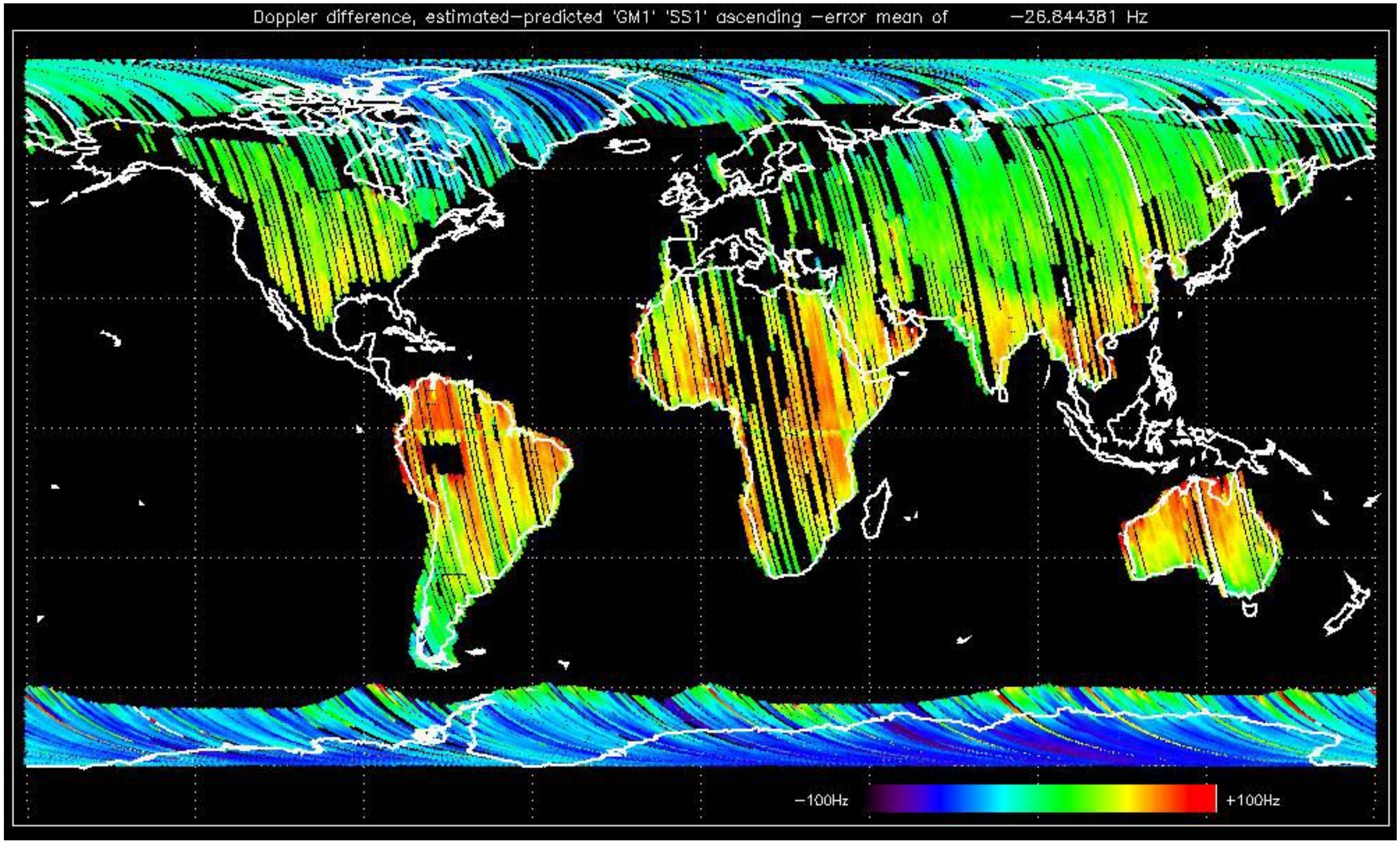

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

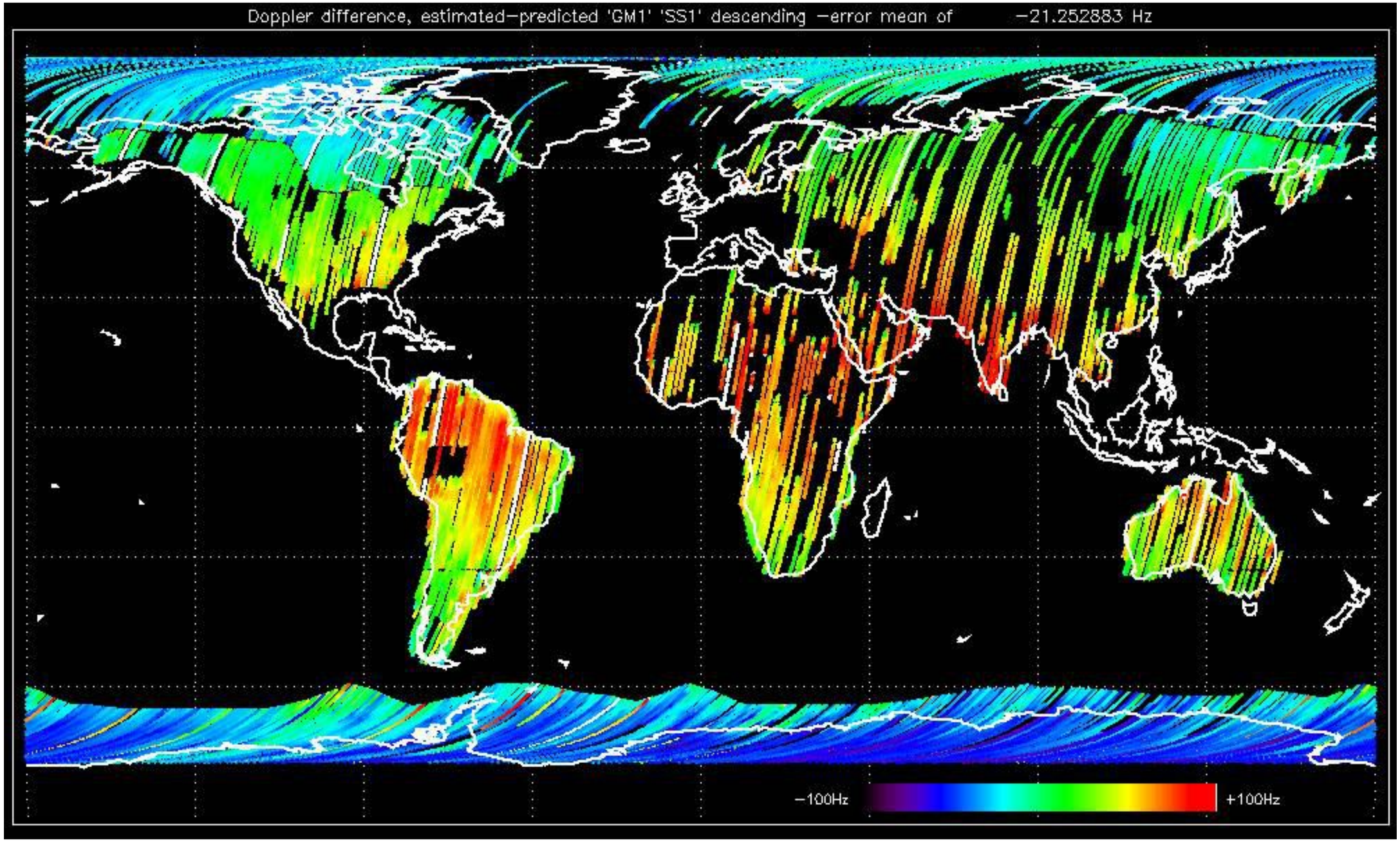

Doppler Bias[Hz]
150
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
04
08−Jul
Date

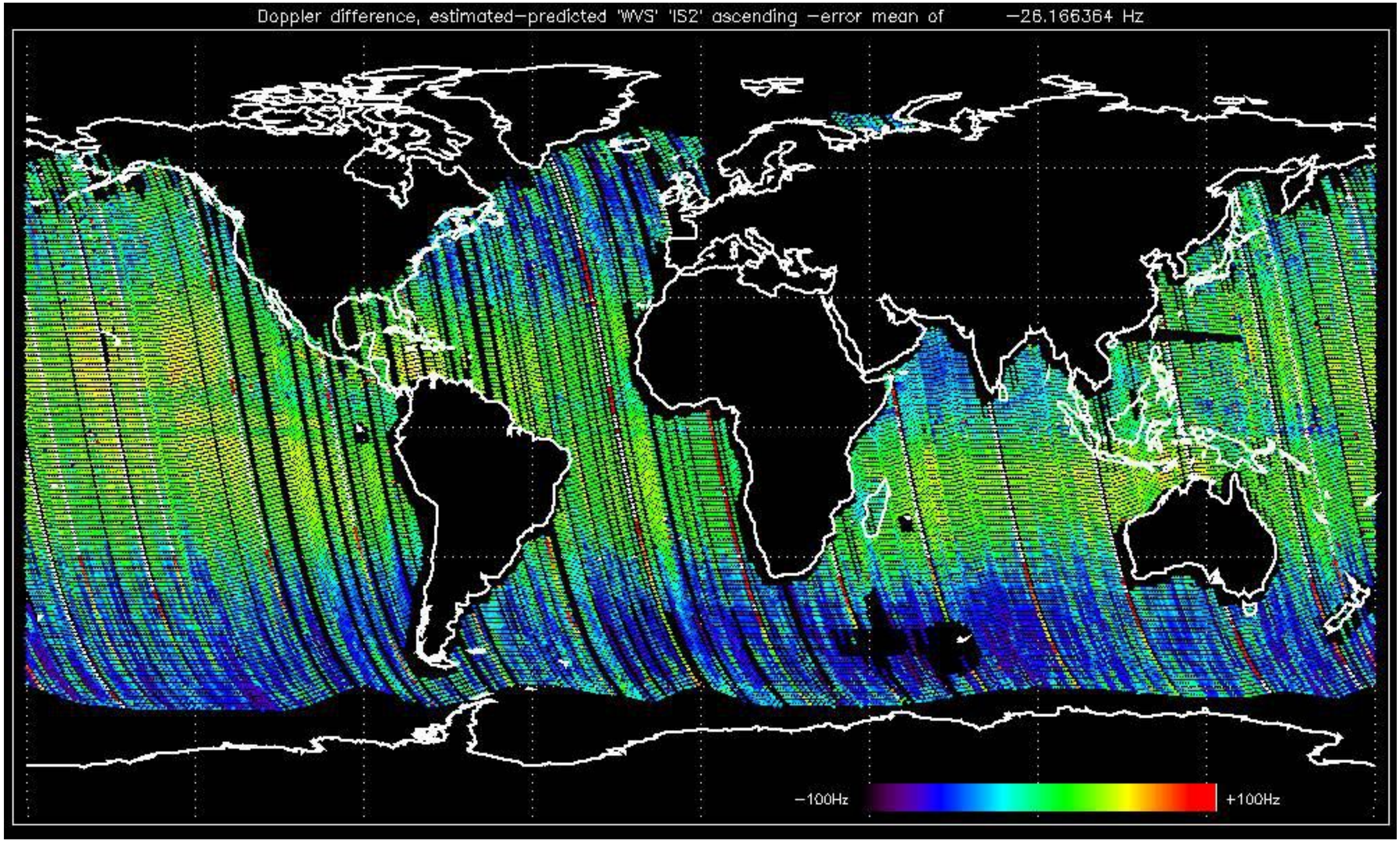

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

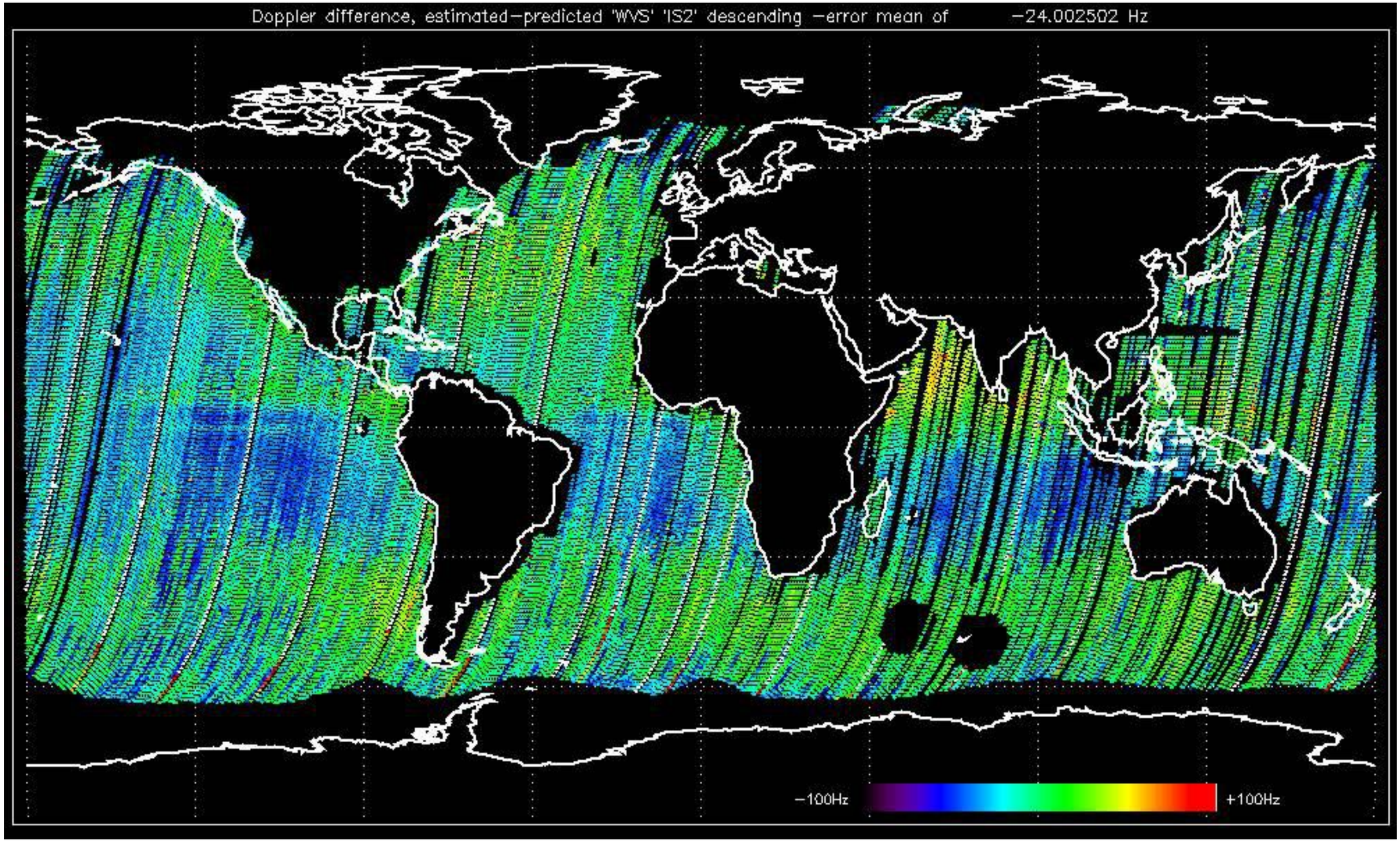

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


Doppler Bias[Hz]
100
50
0
−50
−100
04
08−Jul
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −26.844381 Hz
−100Hz
+100Hz

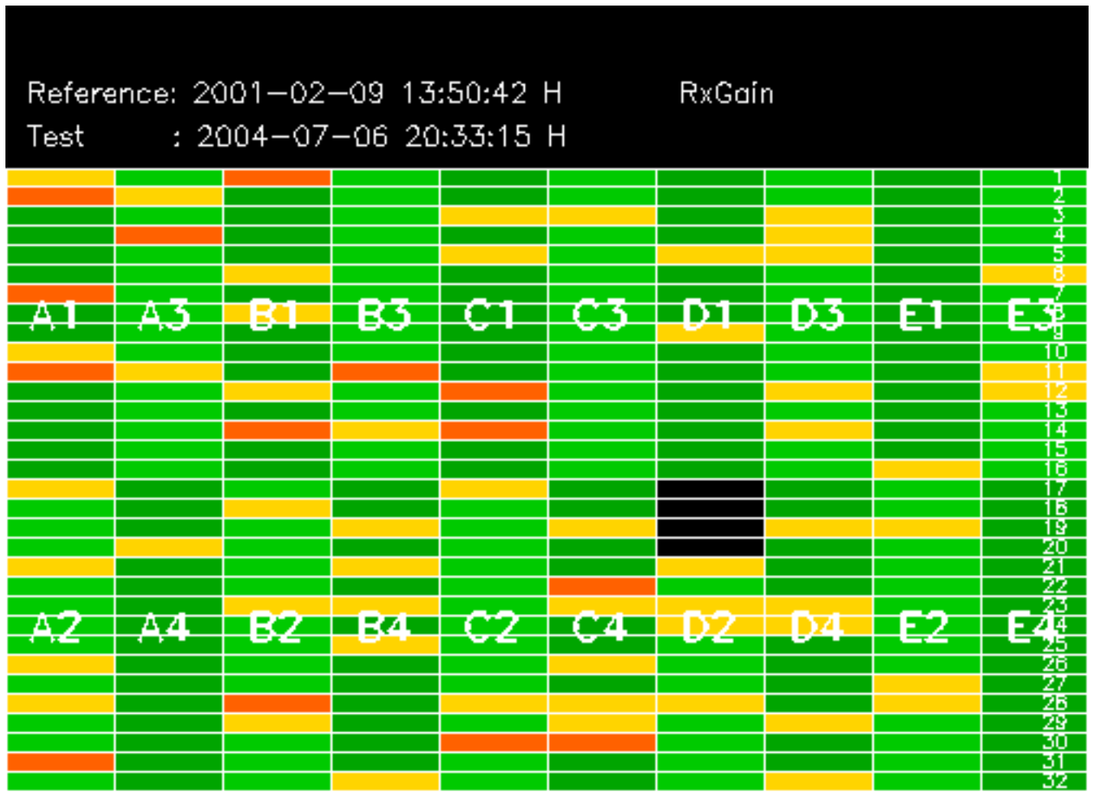

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -21.252883 Hz
-100Hz
+100Hz

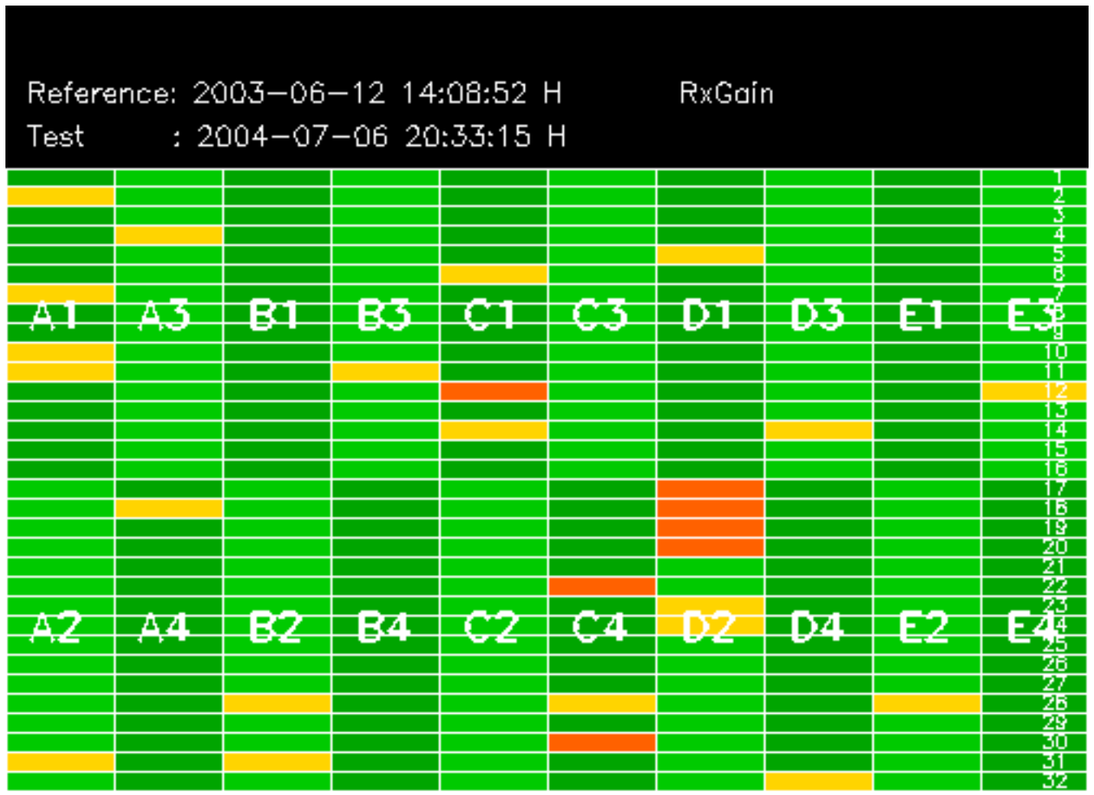

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −26.166364 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −24.002502 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 : 2004-07-06 20:33:15 H
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 14:08:52 H
Test : 2004-07-06 20:33:15 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
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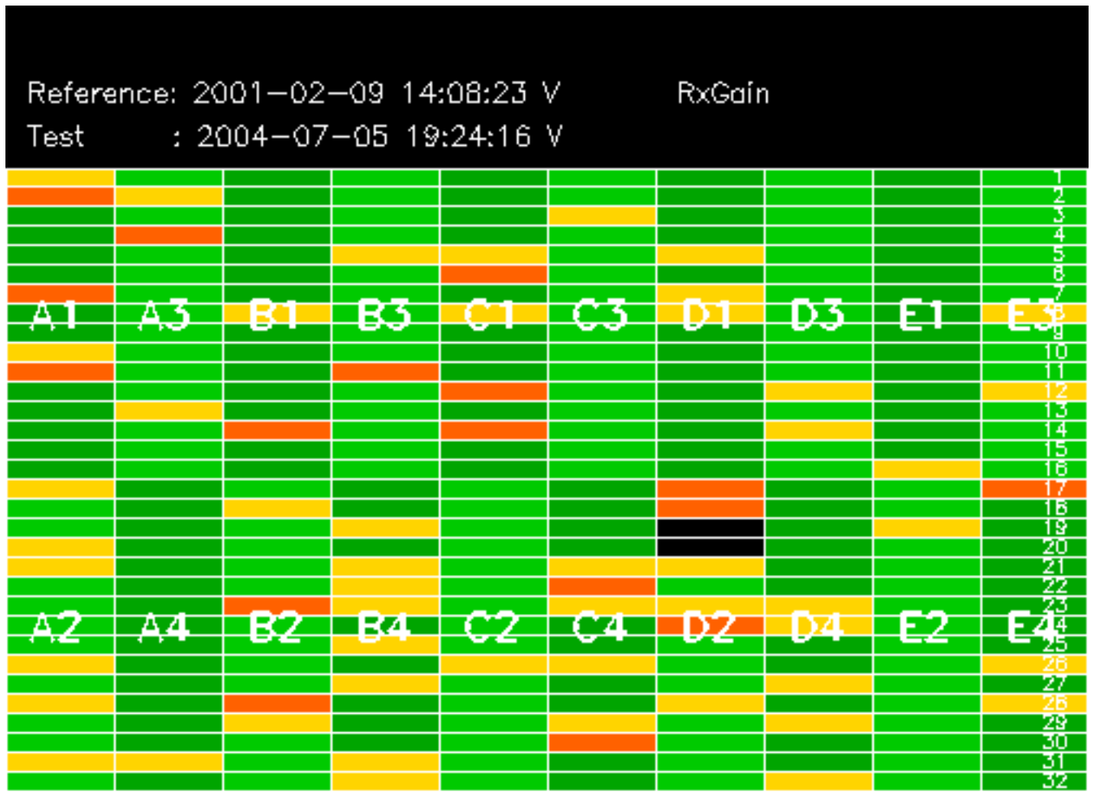
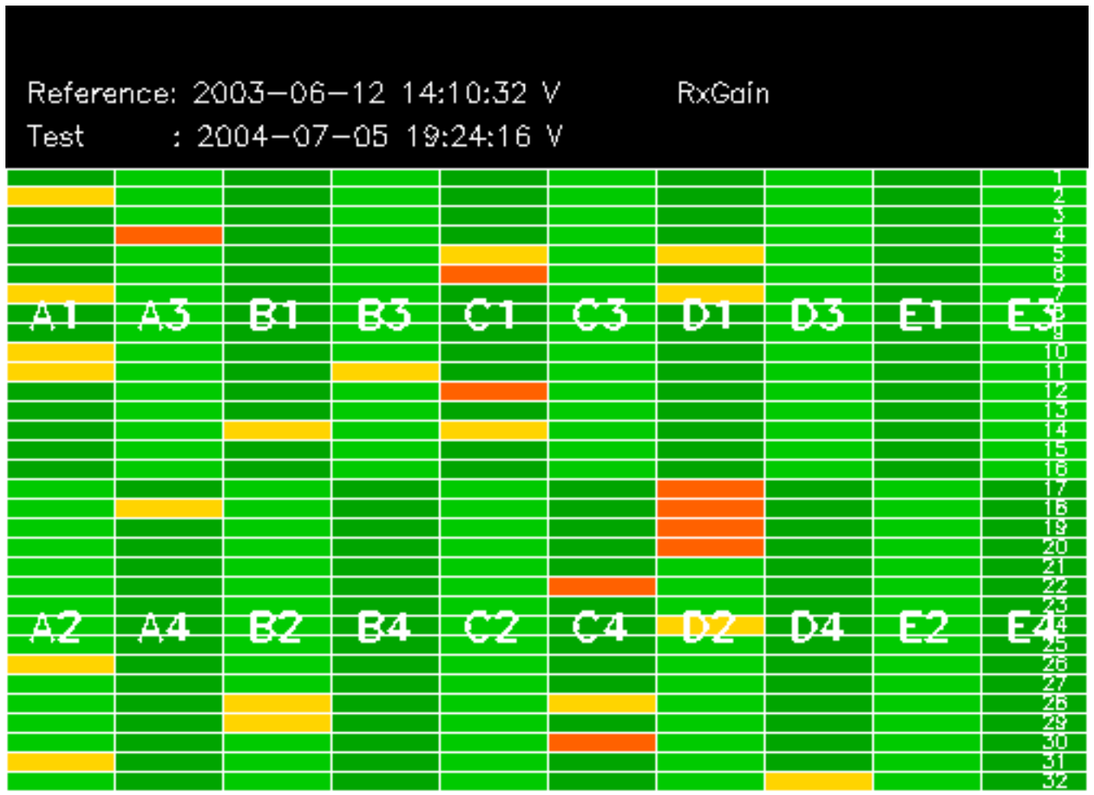

Reference: 2001-02-09 14:08:23 V
Test : 2004-07-05 19:24:16 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-07-05 19:24:16 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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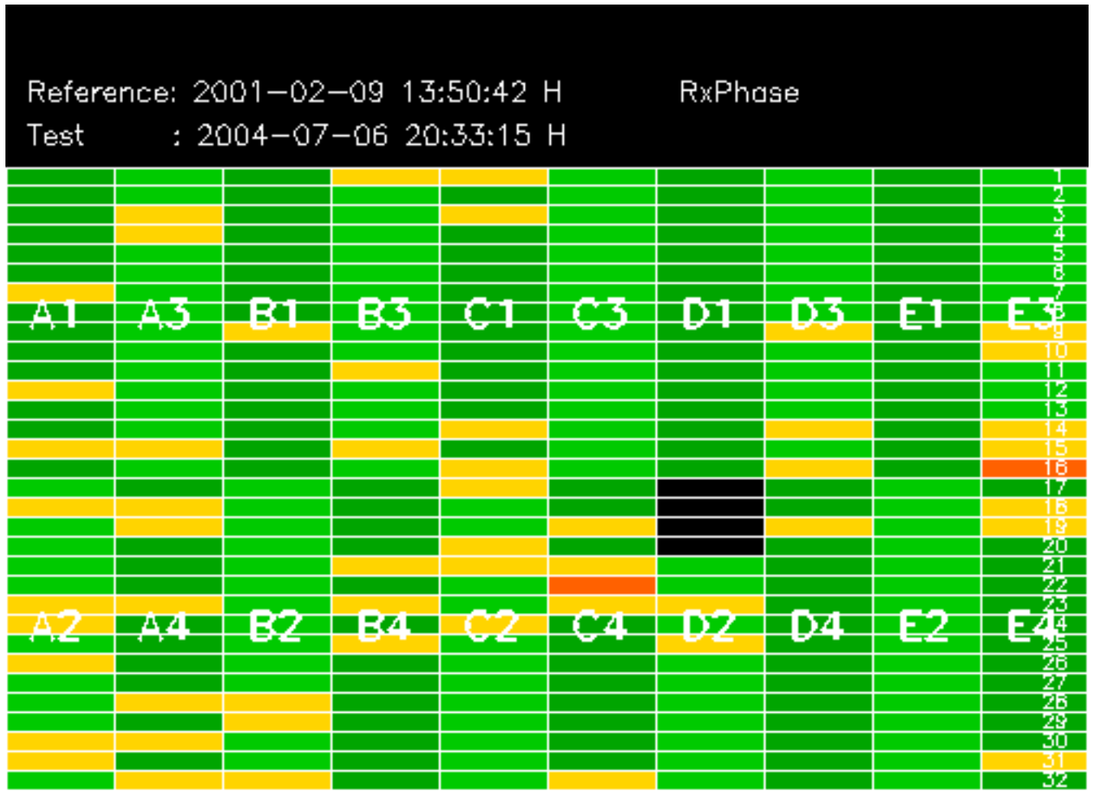
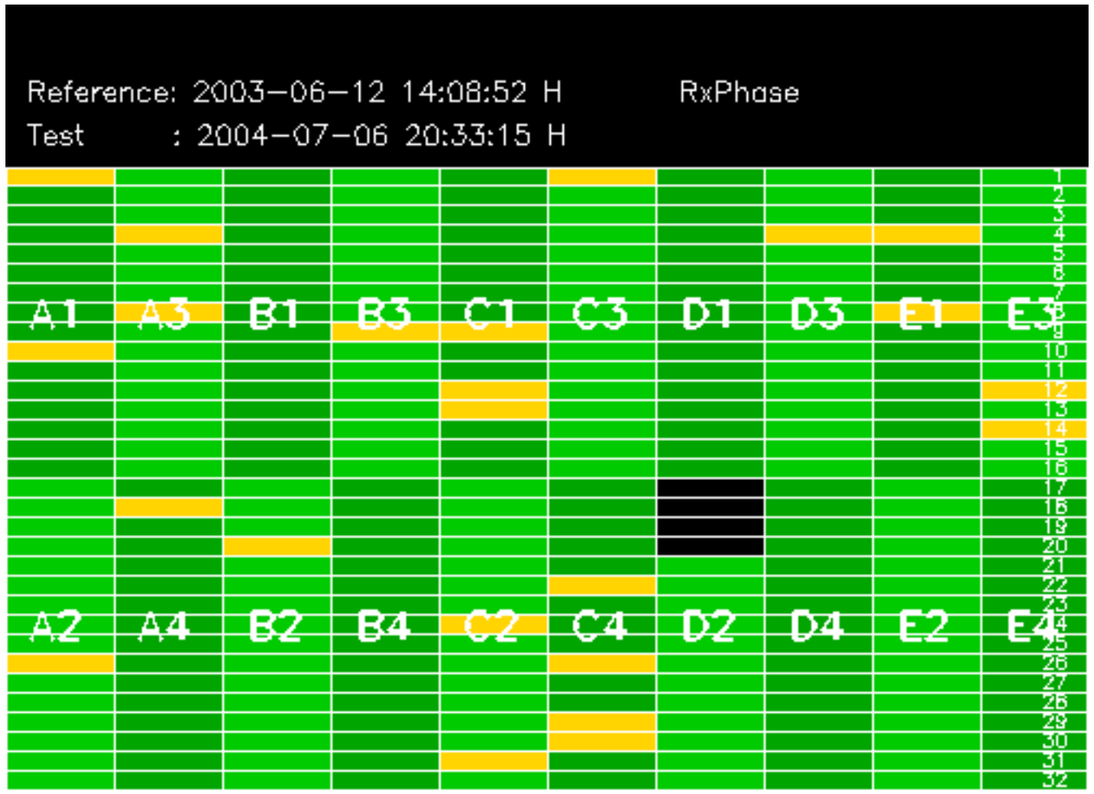

Reference: 2001-02-09 13:50:42 H
Test : 2004-07-06 20:33:15 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-07-06 20:33:15 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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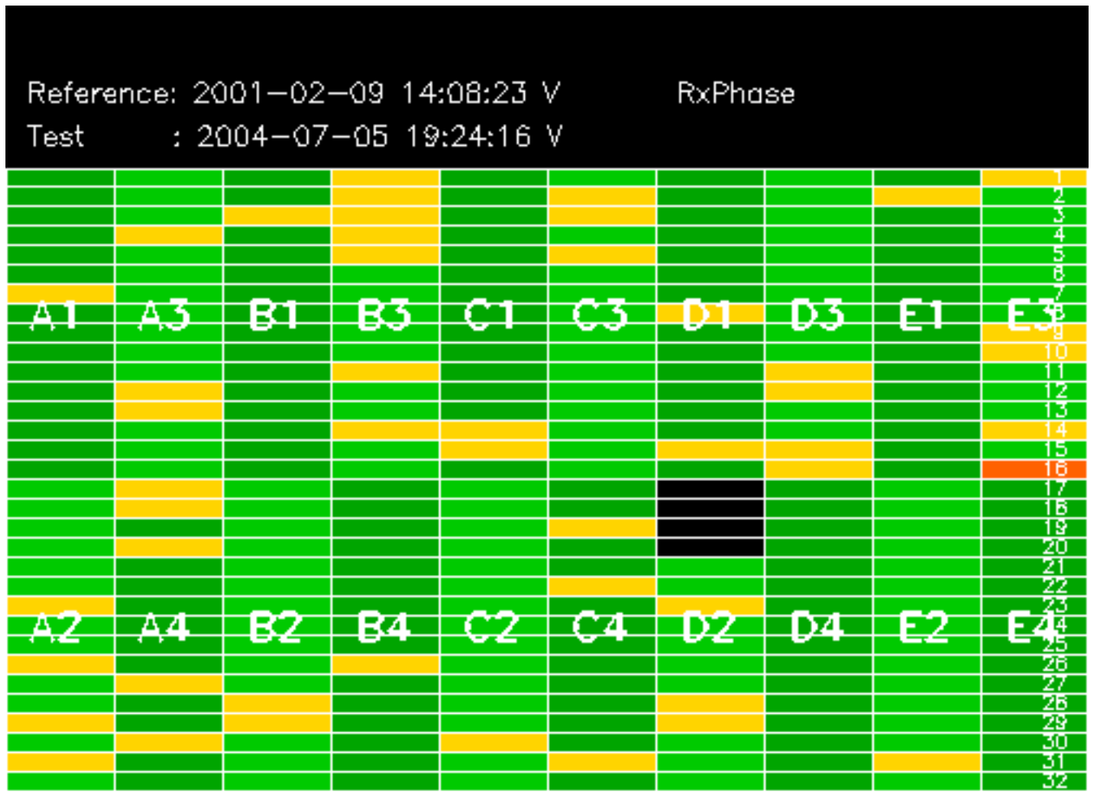
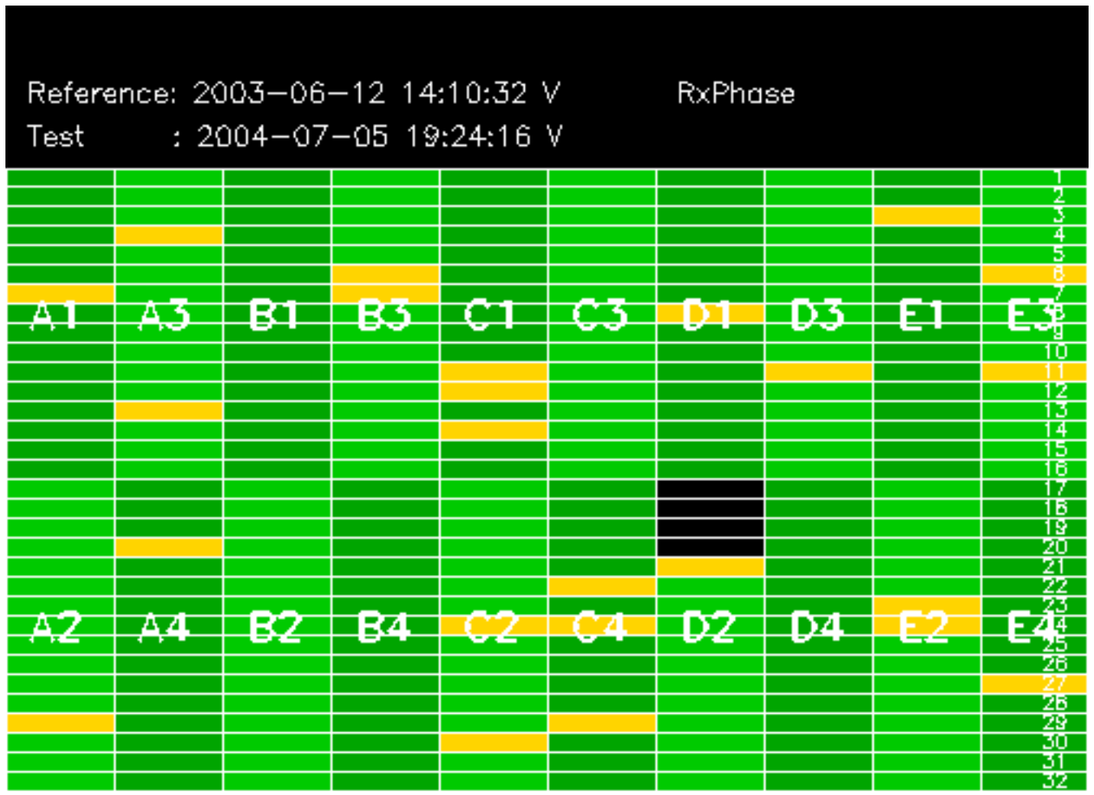
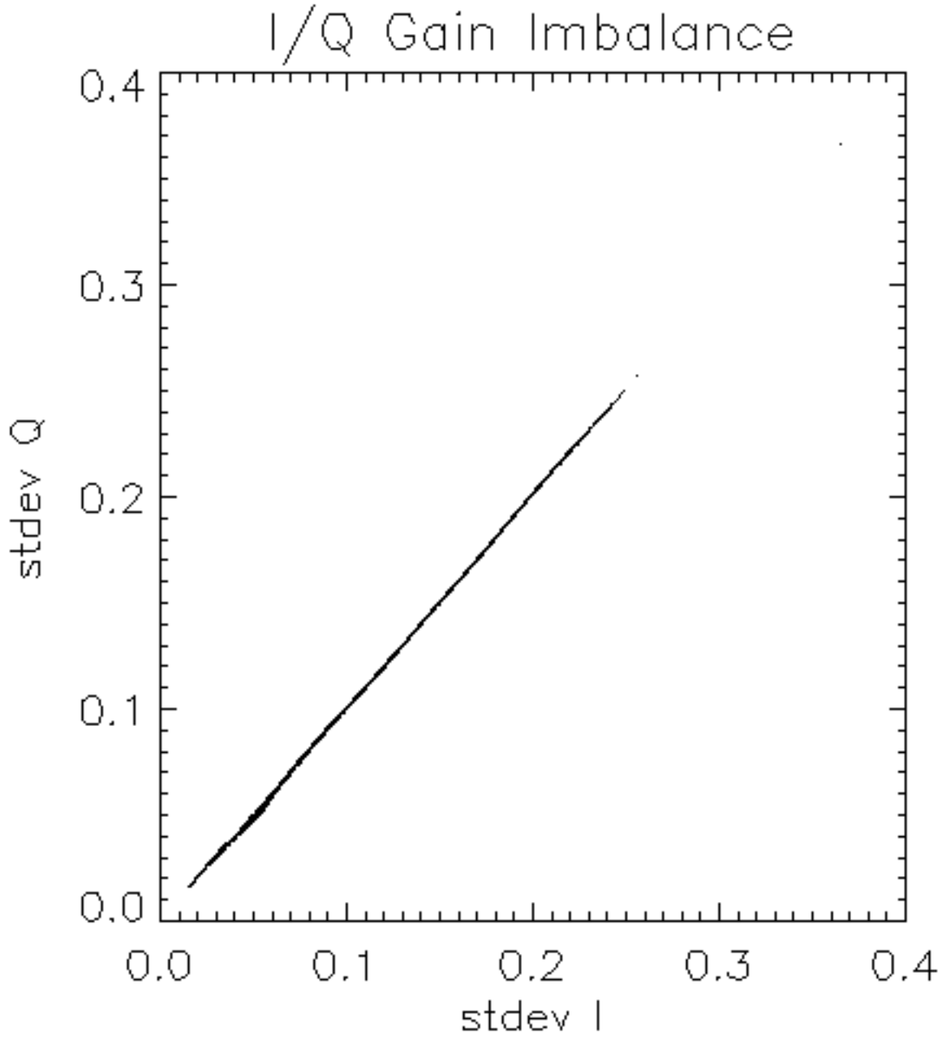
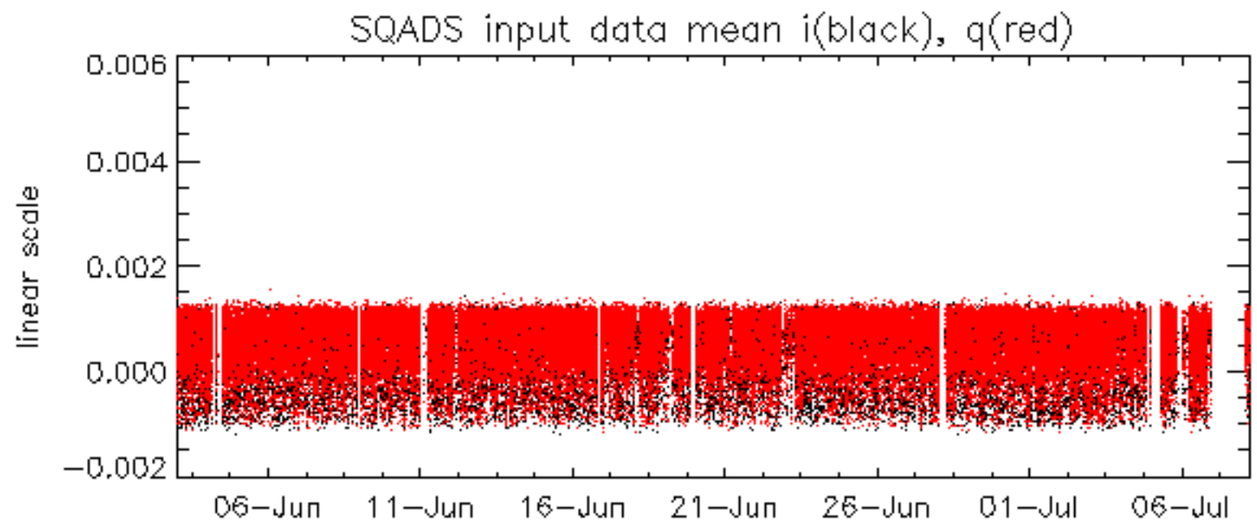
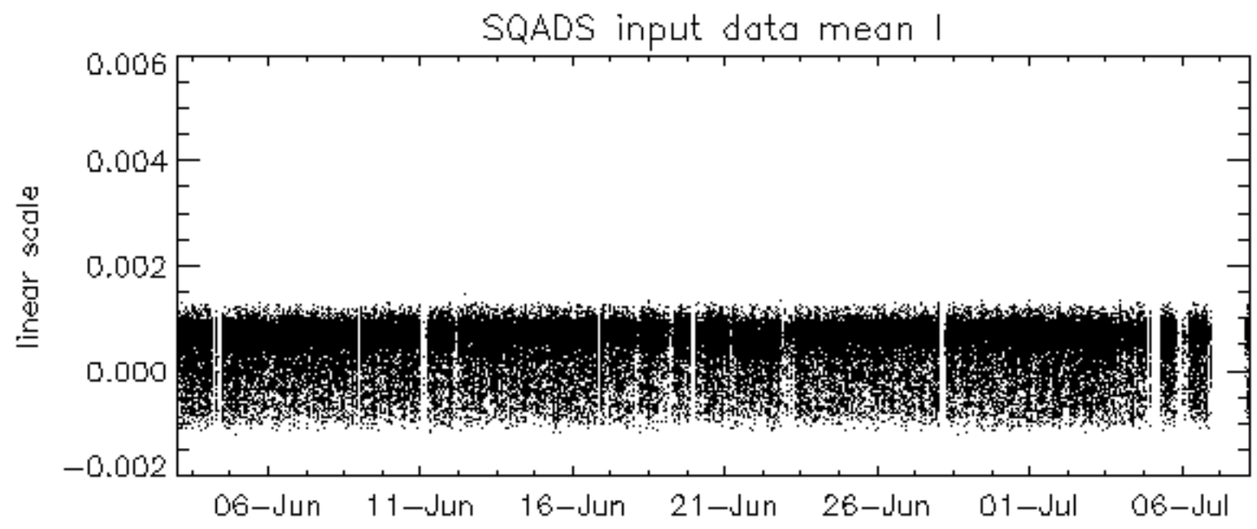
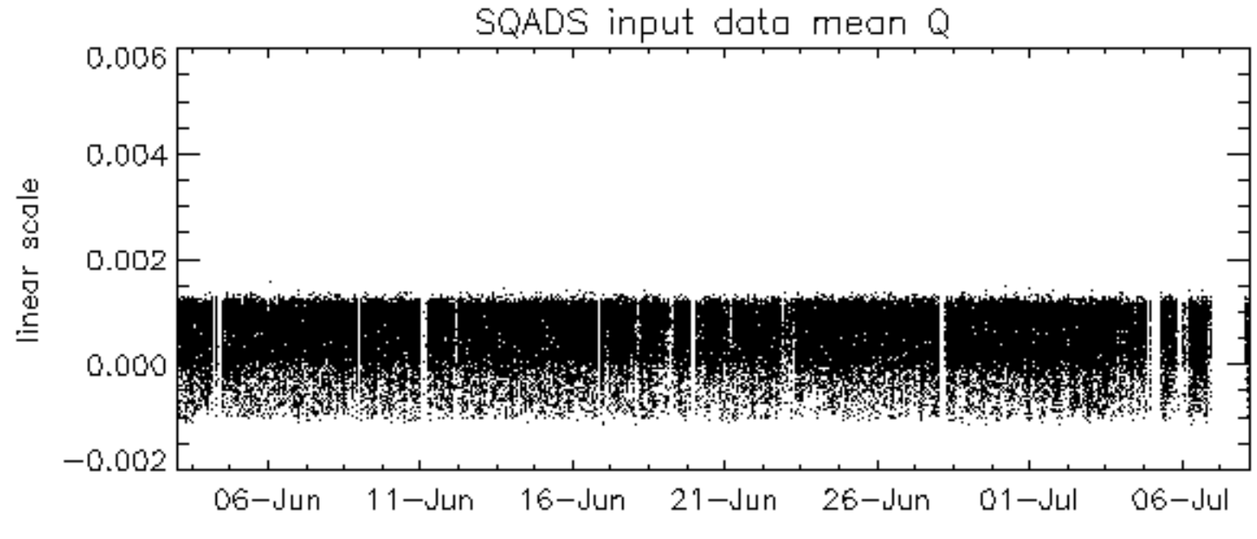

Reference: 2001-02-09 14:08:23 V
Test : 2004-07-05 19:24:16 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

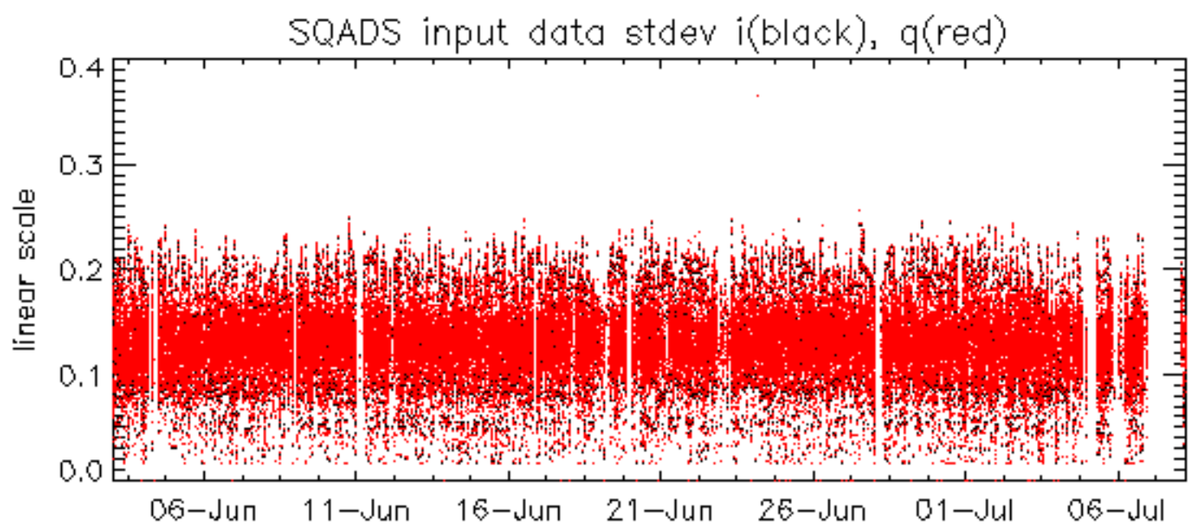

Reference: 2003-06-12 14:10:32 V
Test : 2004-07-05 19:24:16 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

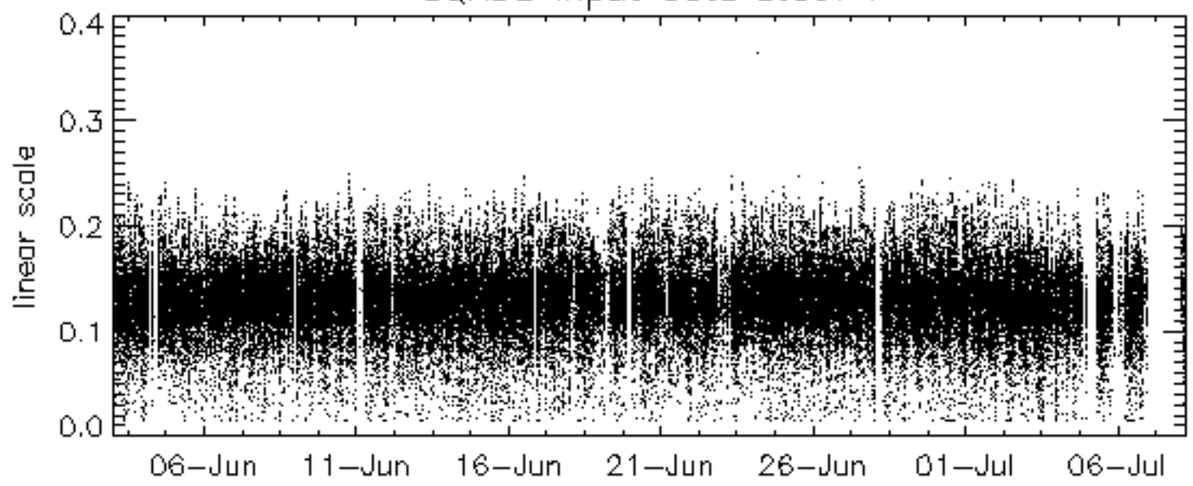

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

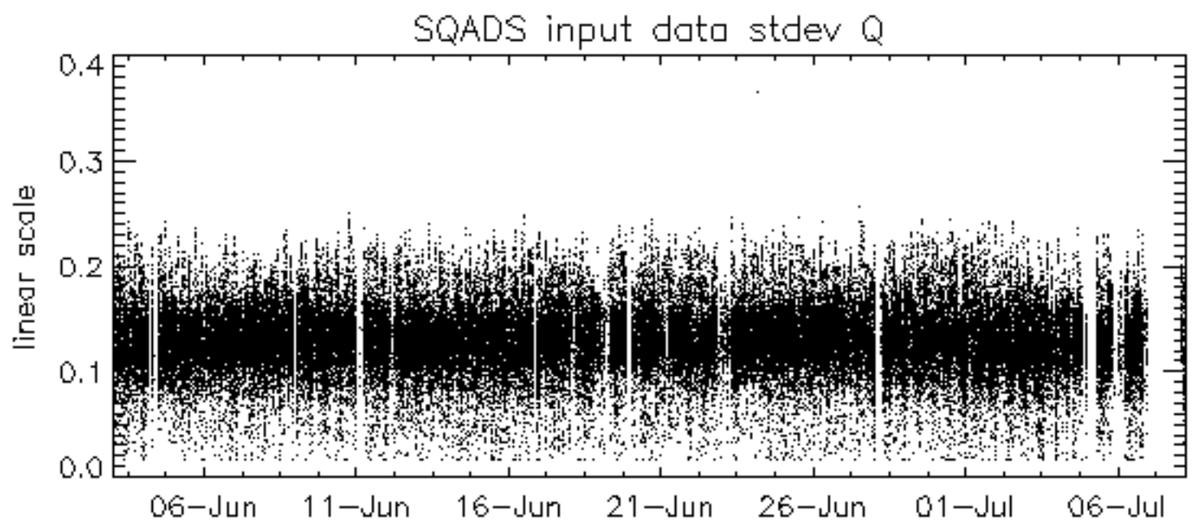

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Jun
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul

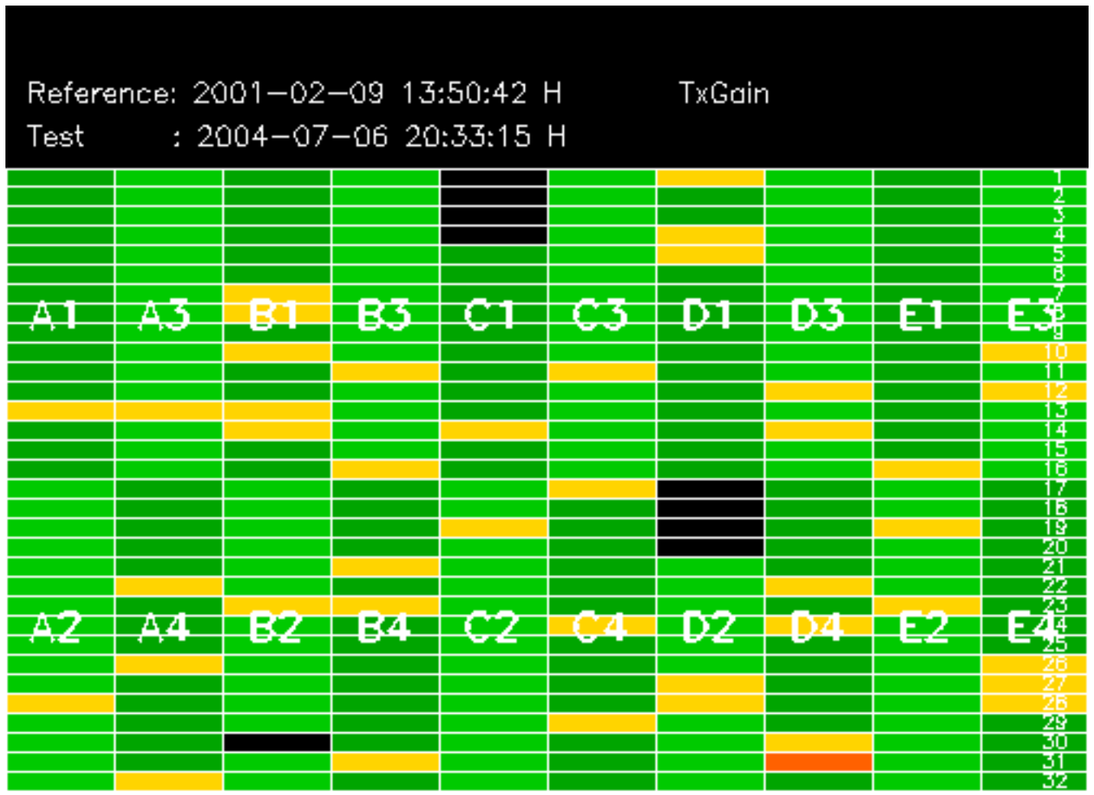

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Jun
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul

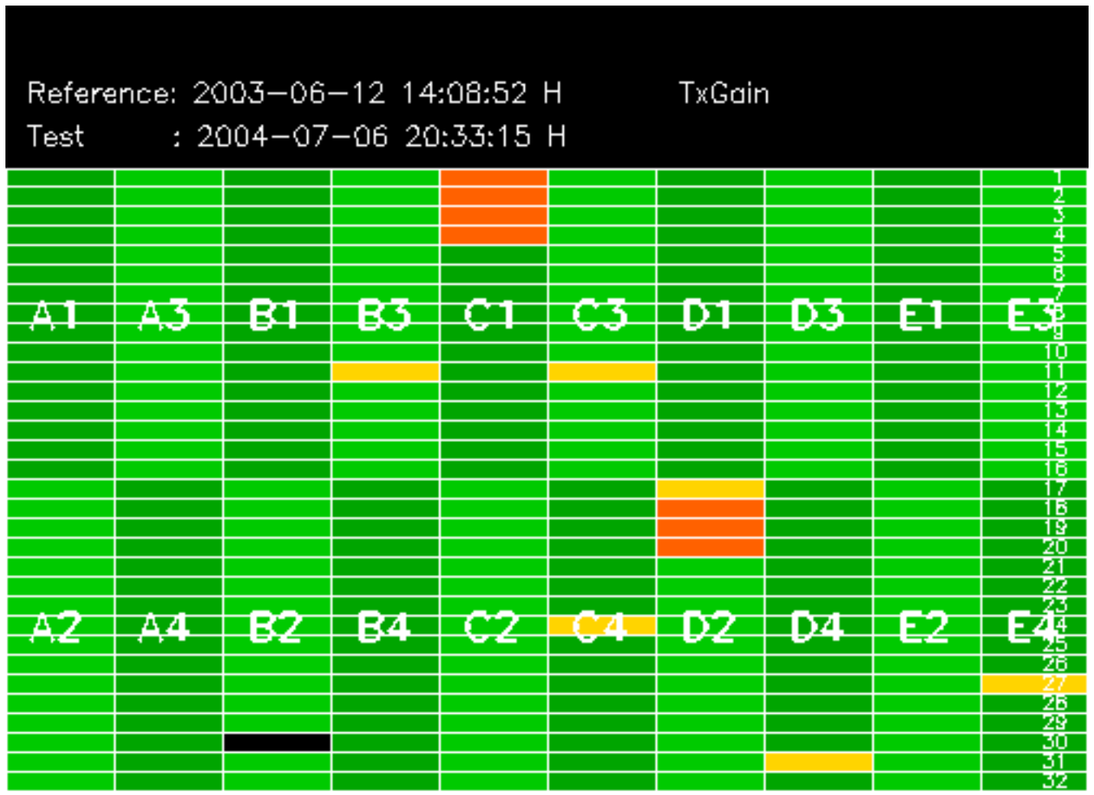

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Jun
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2004-07-06 20:33:15 H
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 14:08:52 H
Test : 2004-07-06 20:33:15 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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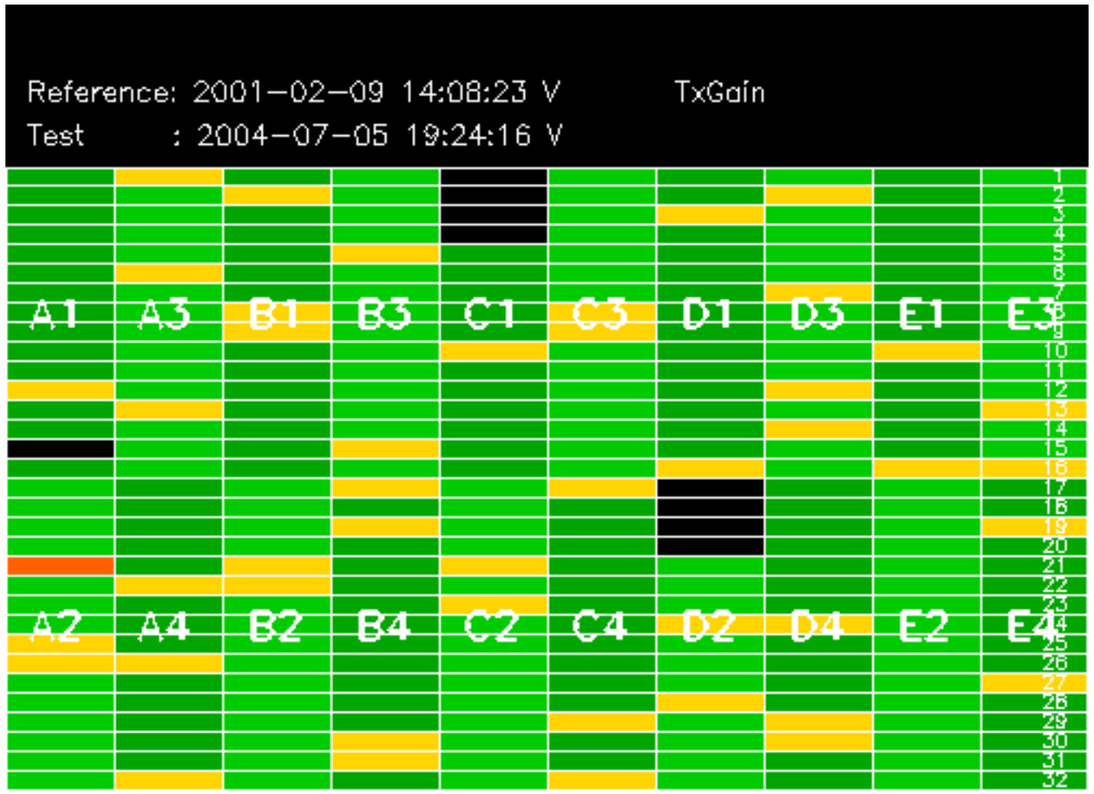
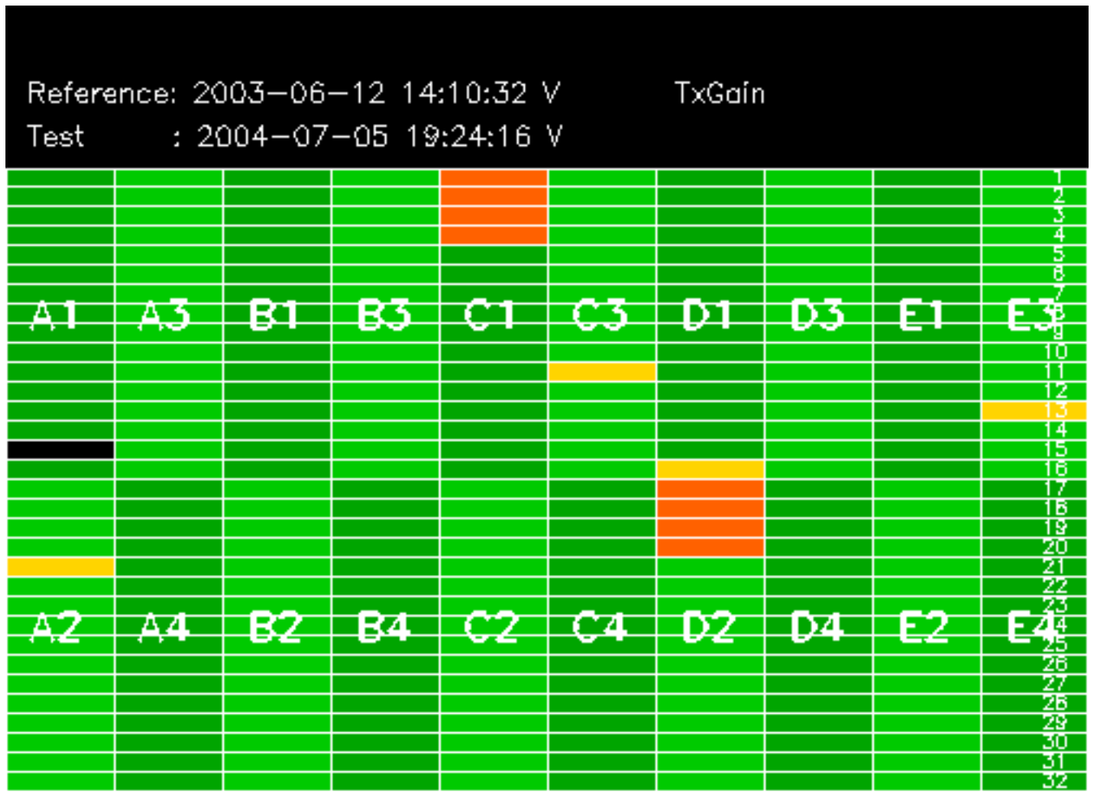

Reference: 2001-02-09 14:08:23 V
Test : 2004-07-05 19:24:16 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-07-05 19:24:16 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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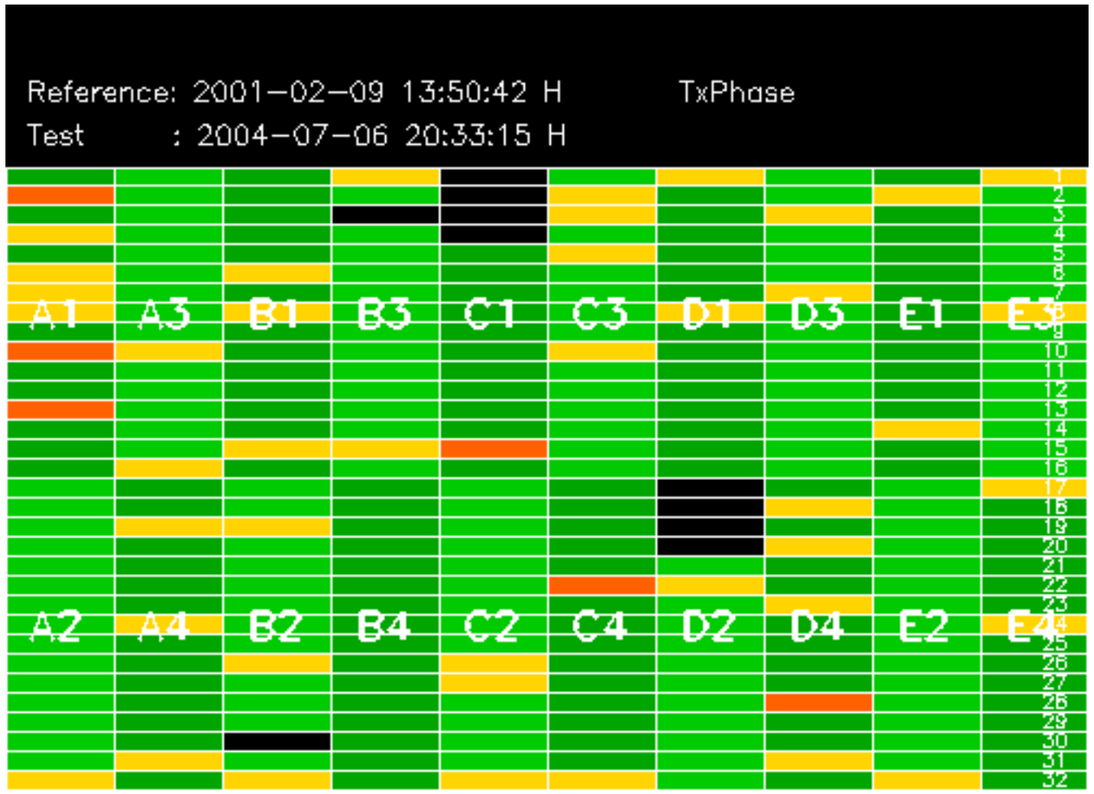
Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-07-06 20:33:15 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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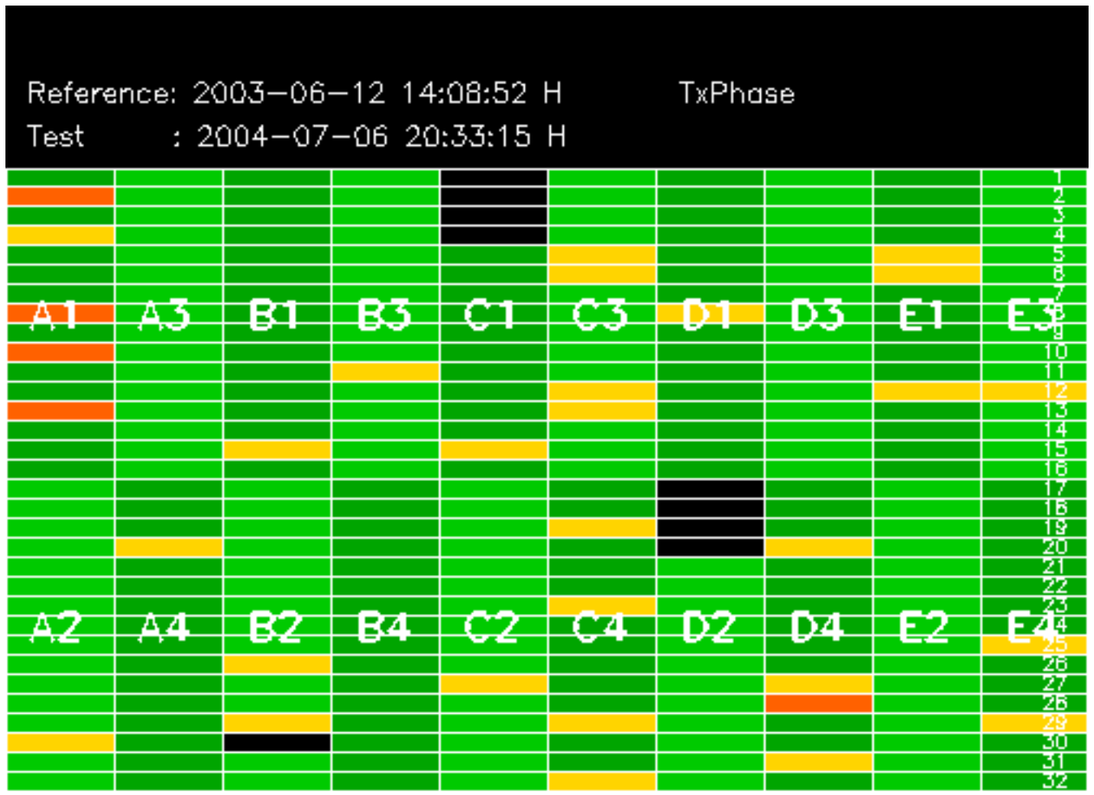
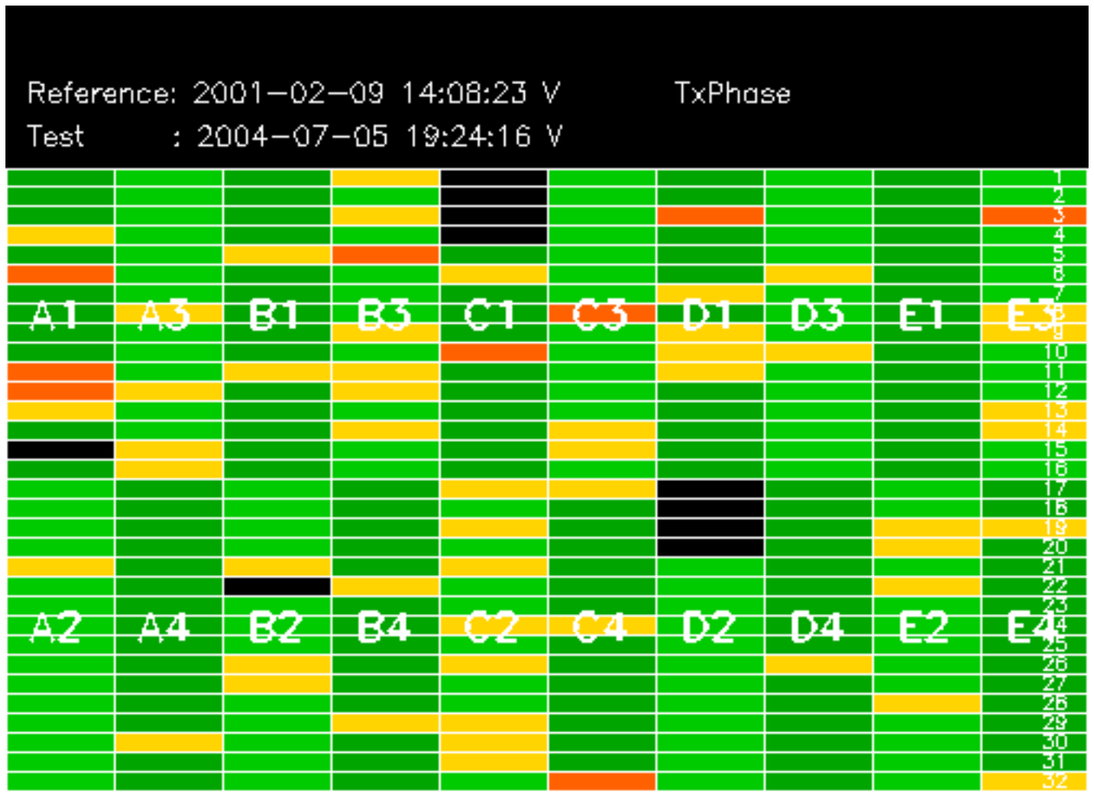
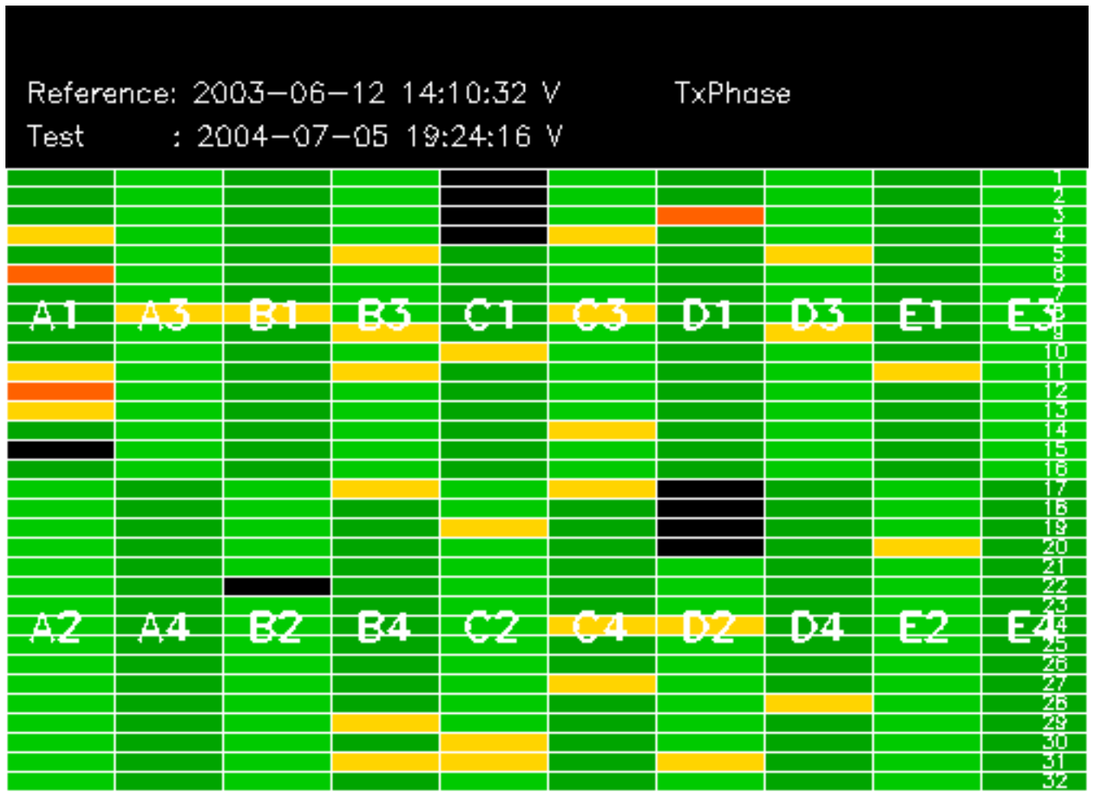

Reference: 2003-06-12 14:08:52 H
Test : 2004-07-06 20:33:15 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-07-05 19:24:16 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 : 2004-07-05 19:24:16 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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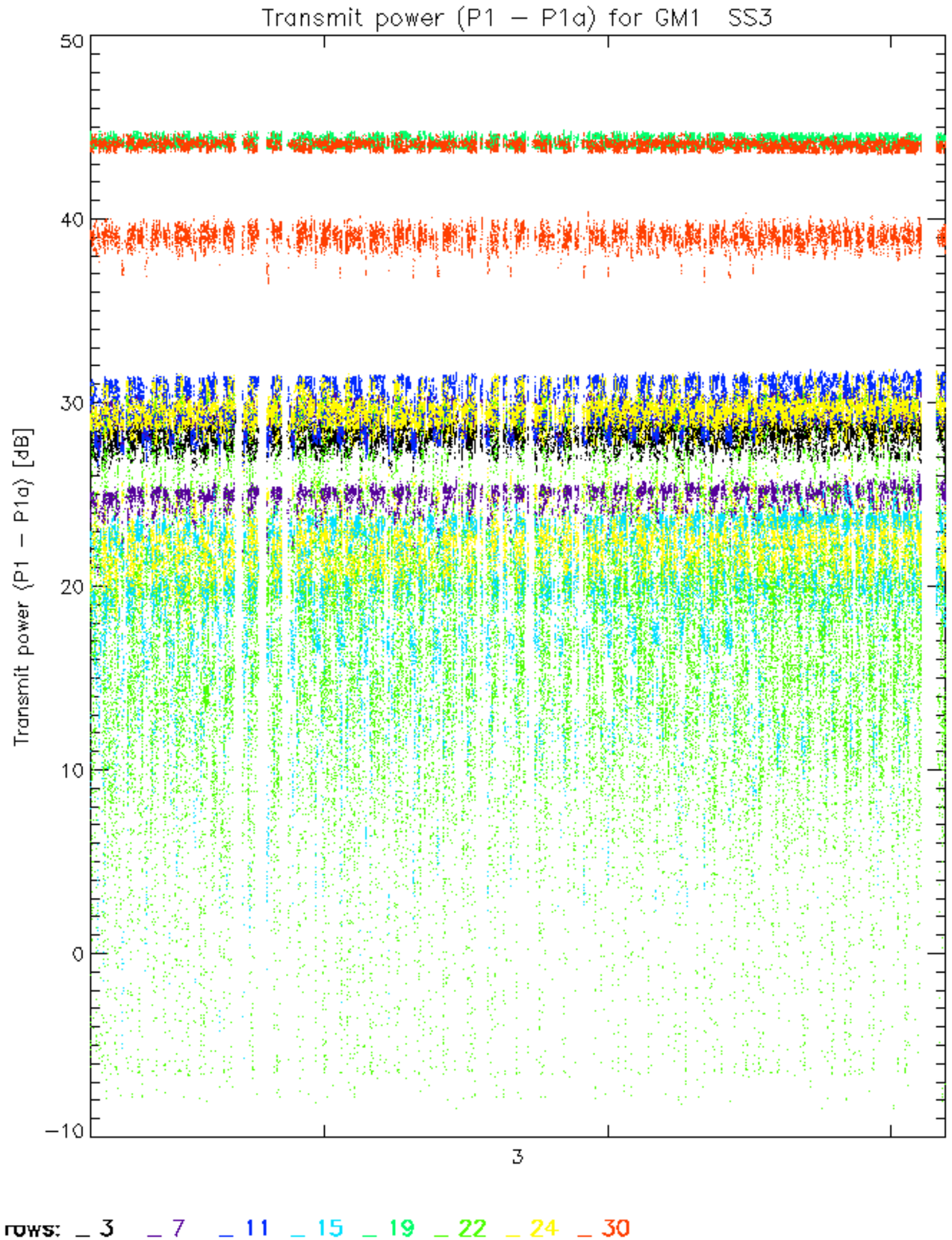
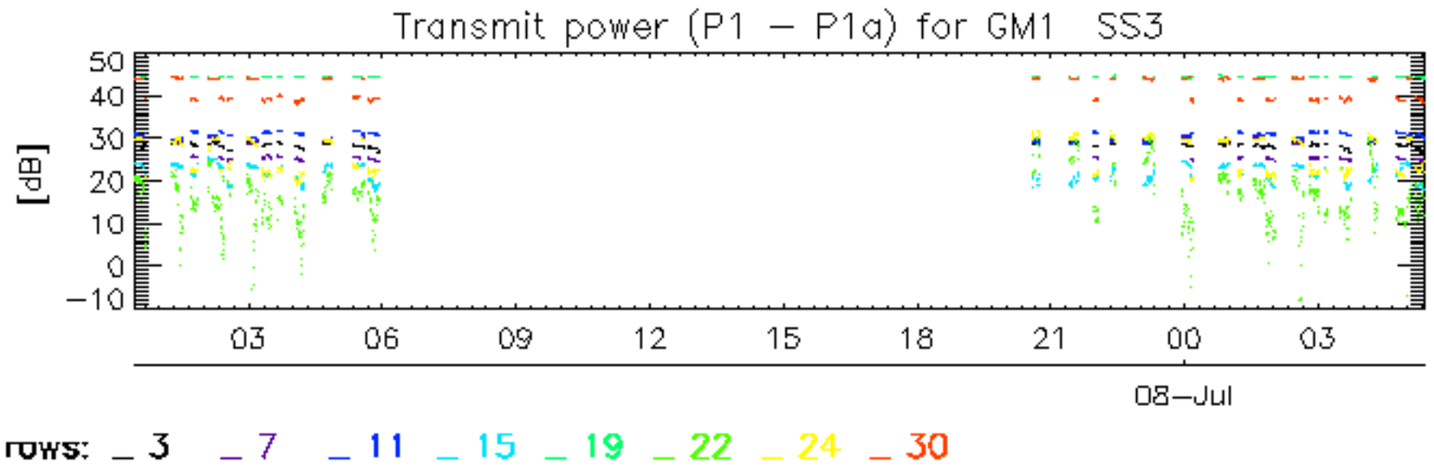
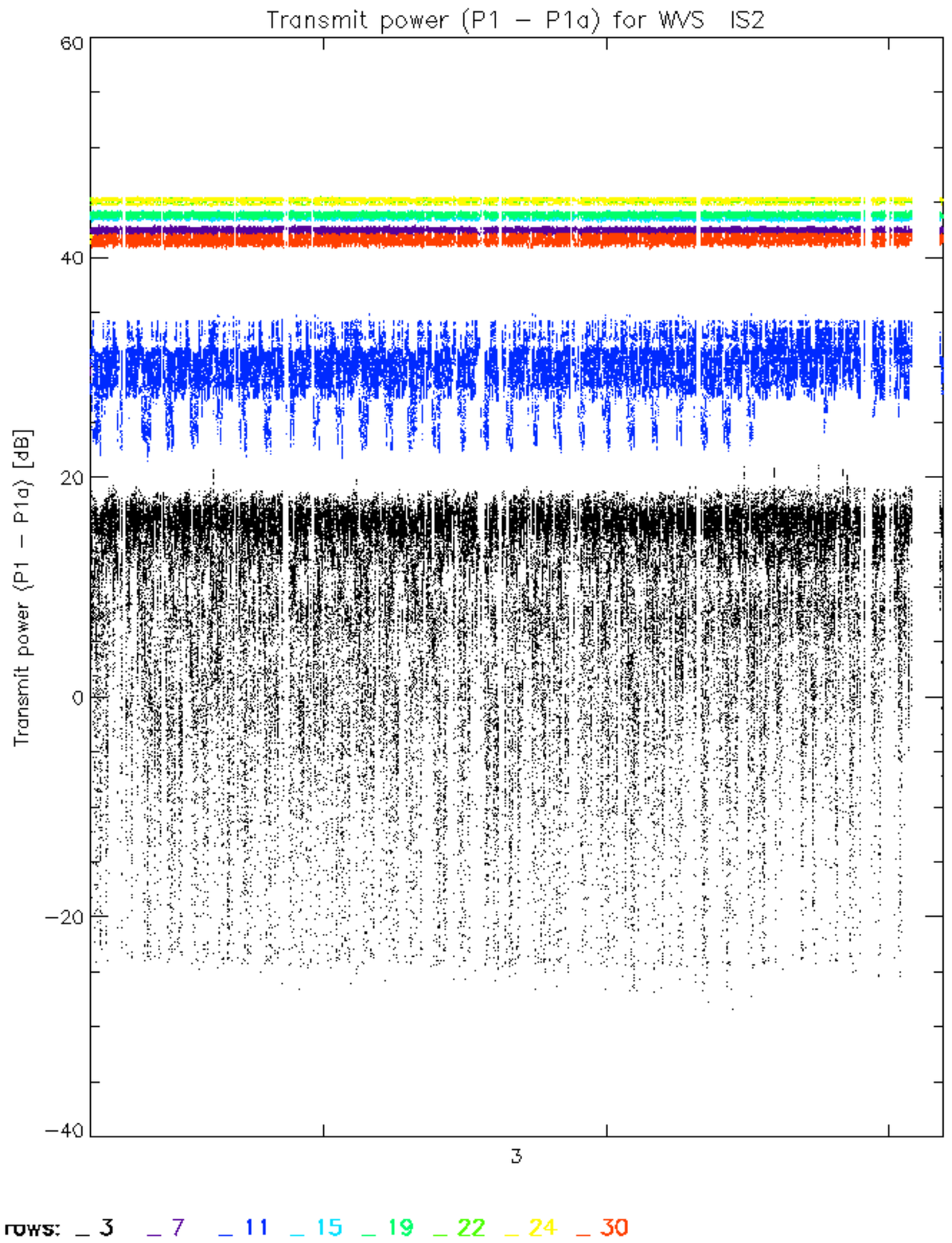
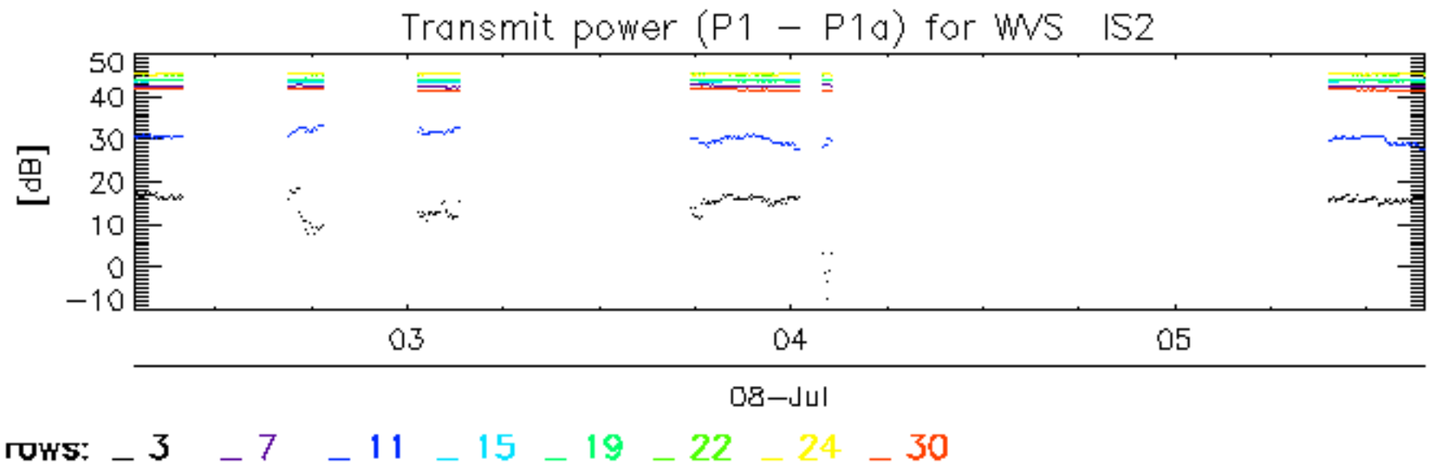

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
3
rows: 3 7 11 15 19 22 24 30


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


Transmit power (P1 – P1a) for WVS IS2
[dB]
50
40
30
20
10
0
−10
03
04
05
08–Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

No unavailabilities during the reported period.