PRELIMINARY REPORT OF 040620

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

last update on Sun Jun 20 13:04:01 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	20040618 195746
H	20040619 192709

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.

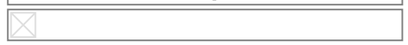
4.1 - Daily statistics

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	-3.517707	0.011281	0.057662
7	P1	-3.324588	0.015411	-0.011599
11	P1	-4.531067	0.038240	0.016067
15	P1	-5.685875	0.058522	0.040774
19	P1	-3.424659	0.004884	-0.026768
22	P1	-4.561021	0.011022	0.004062
24	P1	-4.915925	0.014878	0.024655
30	P1	-6.840161	0.023289	-0.017497

3	P1	-16.106777	0.227845	0.091688
7	P1	-13.989981	0.103460	-0.005026
11	P1	-19.823765	0.297872	-0.184315
15	P1	-11.788574	0.044736	0.054412
19	P1	-13.800289	0.035565	-0.061168
22	P1	-16.590715	0.425152	0.085756
24	P1	-14.704876	0.301968	0.045287
30	P1	-17.659519	0.377115	-0.080224

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.429960	0.081736	0.060959
7	P2	-22.873413	0.116044	0.071829
11	P2	-15.660390	0.123169	0.132317
15	P2	-7.202181	0.095406	0.042058
19	P2	-9.568611	0.130034	0.043188
22	P2	-17.569159	0.100460	0.128212
24	P2	-20.889233	0.086057	0.066671
30	P2	-19.455685	0.079829	0.099902

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.144573	0.002021	0.006383
7	P3	-8.144573	0.002021	0.006391
11	P3	-8.144579	0.002021	0.006415
15	P3	-8.144579	0.002021	0.006414
19	P3	-8.144575	0.002021	0.006407
22	P3	-8.144571	0.002021	0.006397
24	P3	-8.144572	0.002021	0.006392
30	P3	-8.144506	0.002018	0.006055

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	-3.149996	0.136217	0.004643
7	P1	-2.810376	0.074376	0.035221
11	P1	-3.787333	0.021634	-0.019728
15	P1	-4.263326	1.026417	-0.003820
19	P1	-3.351368	0.048601	-0.024873
22	P1	-5.721780	0.045199	-0.001650
24	P1	-4.048188	0.080656	-0.015980
30	P1	-6.094766	0.059863	-0.041453
3	P1	-11.032794	0.431484	0.020525
7	P1	-9.764469	0.254653	0.039805
11	P1	-11.750971	0.166938	-0.089594
15	P1	-11.836393	0.281957	-0.026160
19	P1	-14.985432	0.821414	-0.037382
22	P1	-21.502449	8.953064	0.037526
24	P1	-17.360239	0.285774	-0.058935
30	P1	-21.717243	4.139262	0.109206

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.170528	0.042873	0.016544
7	P2	-22.957075	0.028845	0.065944
11	P2	-11.064977	0.215417	0.137175
15	P2	-5.006525	0.043673	0.009079
19	P2	-6.933350	0.043601	-0.013816
22	P2	-7.697764	0.023344	0.067124
24	P2	-11.082479	0.071311	0.018007
30	P2	-22.416941	0.093277	0.077193

P3 Cyclic statistics

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

3	P3	-7.984577	0.003298	0.003278
7	P3	-7.984474	0.003285	0.003386
11	P3	-7.984527	0.003292	0.003534
15	P3	-7.984705	0.003282	0.003581
19	P3	-7.984508	0.003297	0.003480
22	P3	-7.984676	0.003276	0.003403
24	P3	-7.984426	0.003309	0.003324
30	P3	-7.984573	0.003285	0.003511

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	0.000480218
	stdev	2.16912e-07
MEAN Q	mean	0.000535158
	stdev	2.39768e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128623
	stdev	0.00100530

STDEV Q	mean	0.128860
	stdev	0.00101665

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

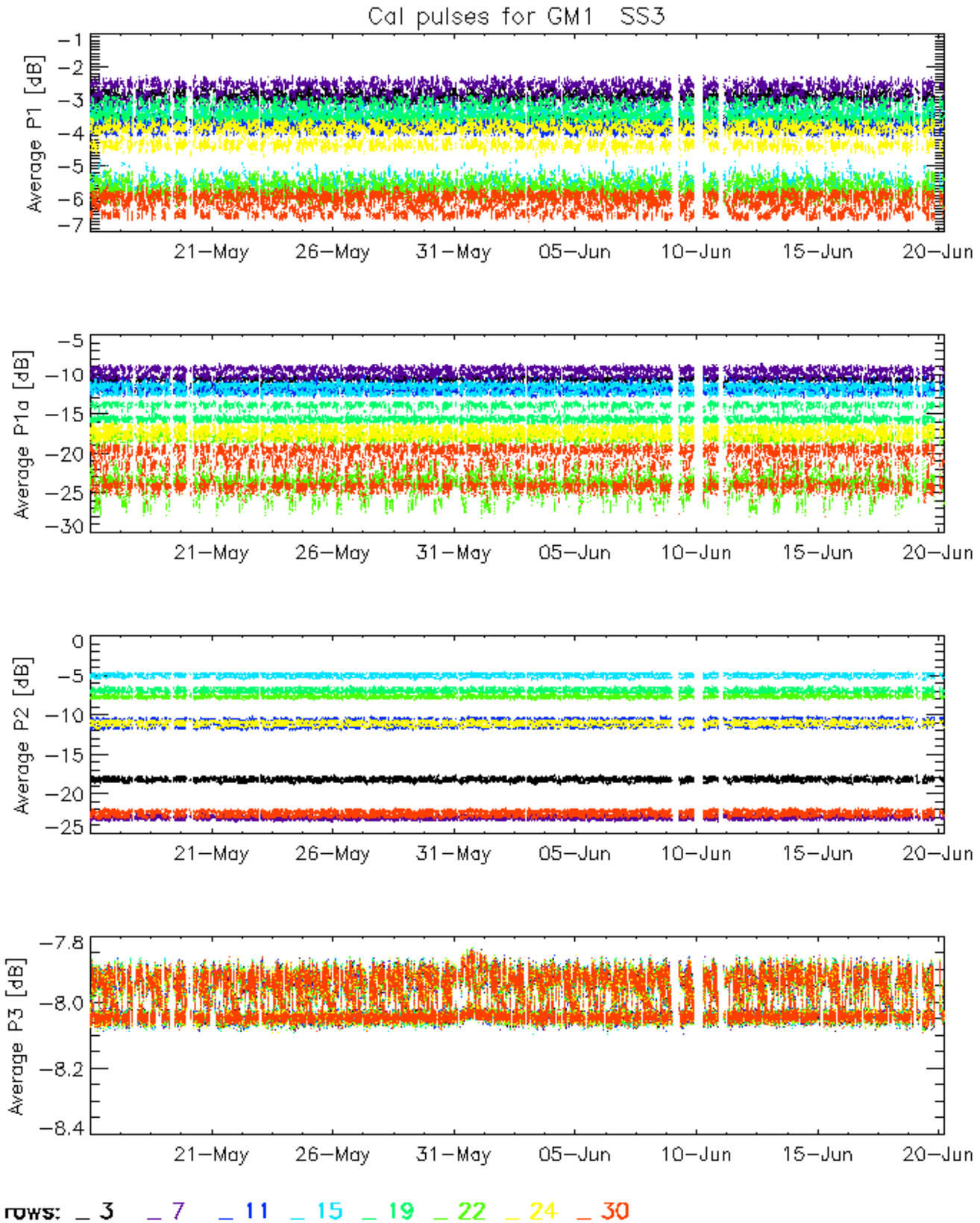
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

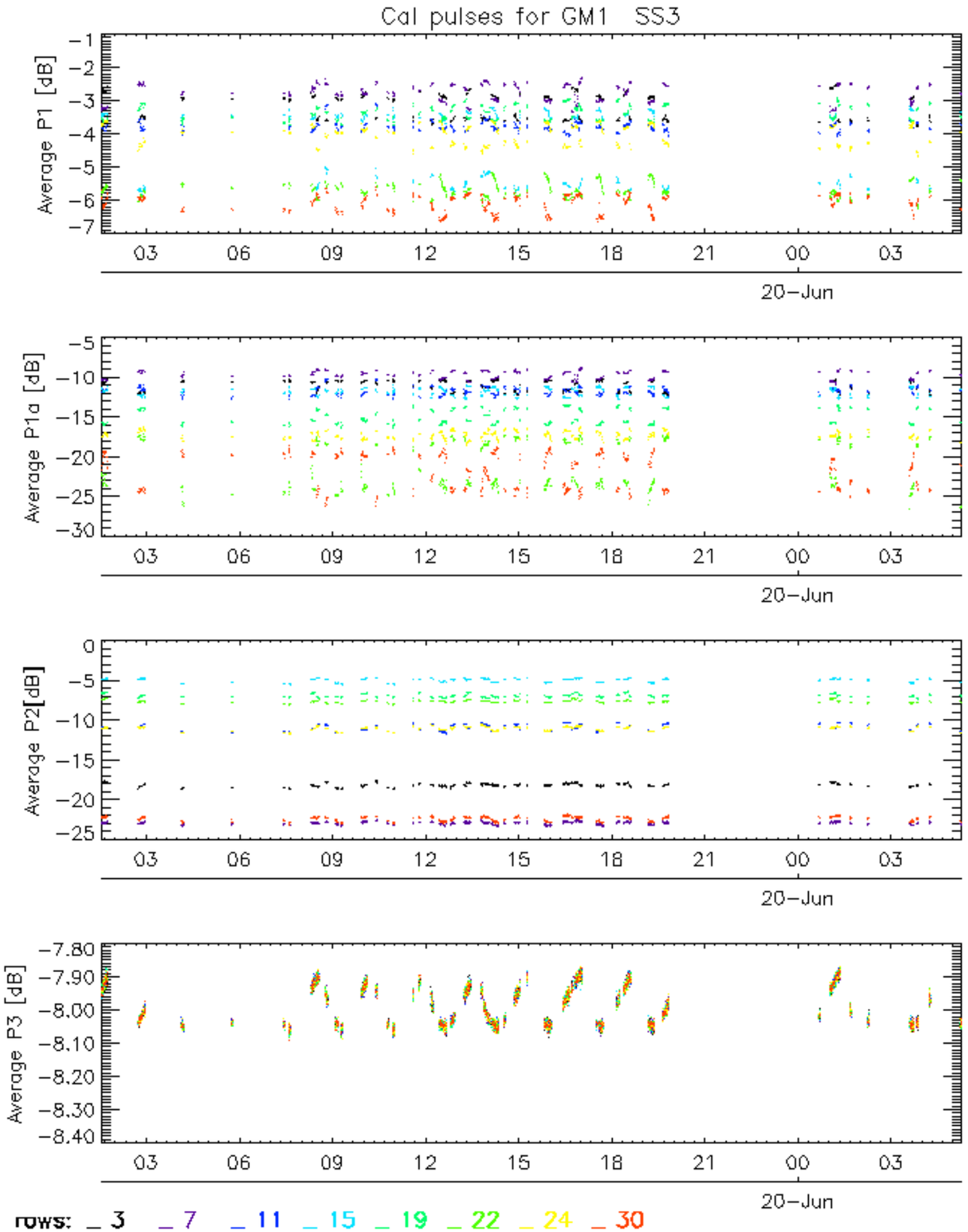
6.5 - Absolute Doppler for GM1

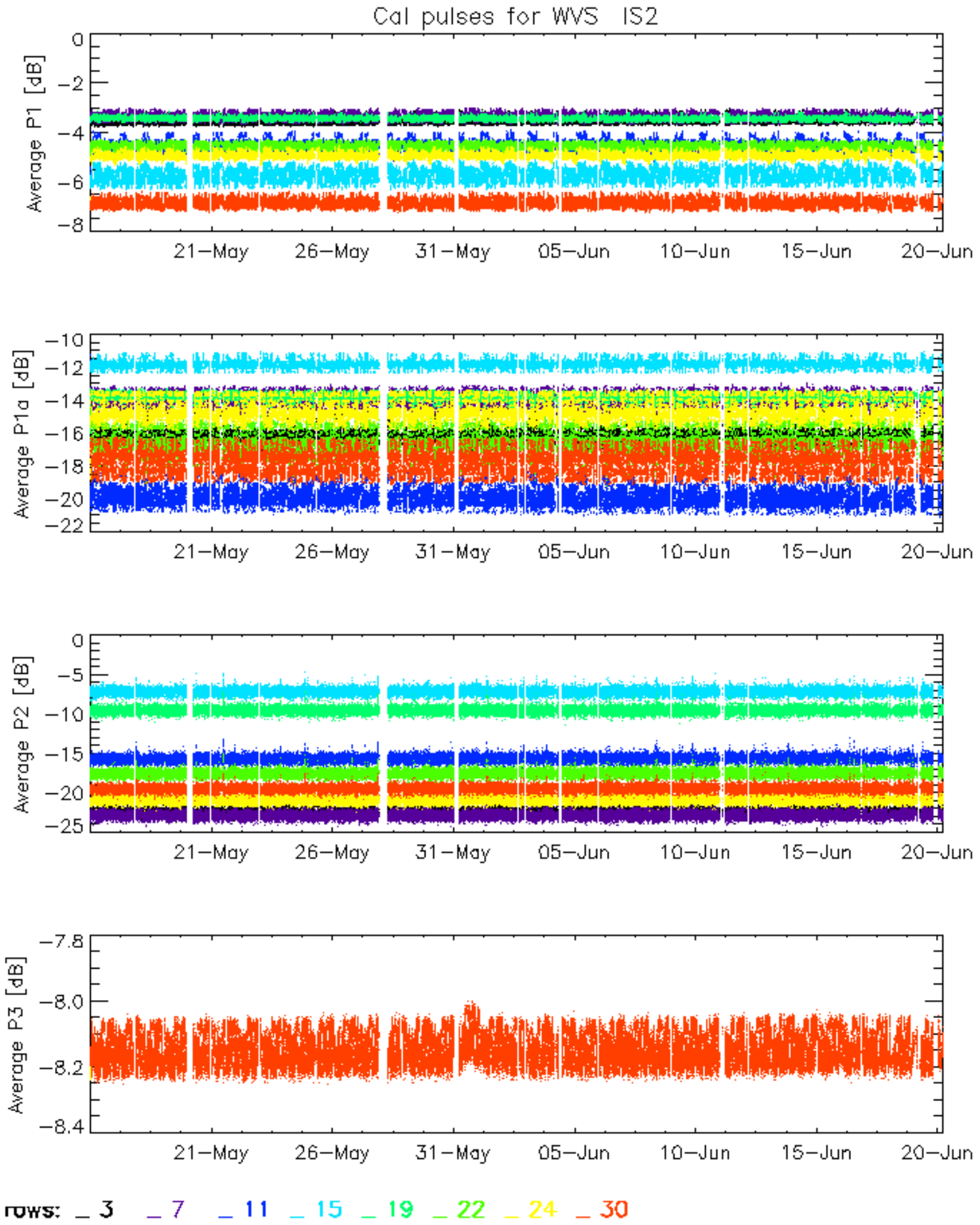
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

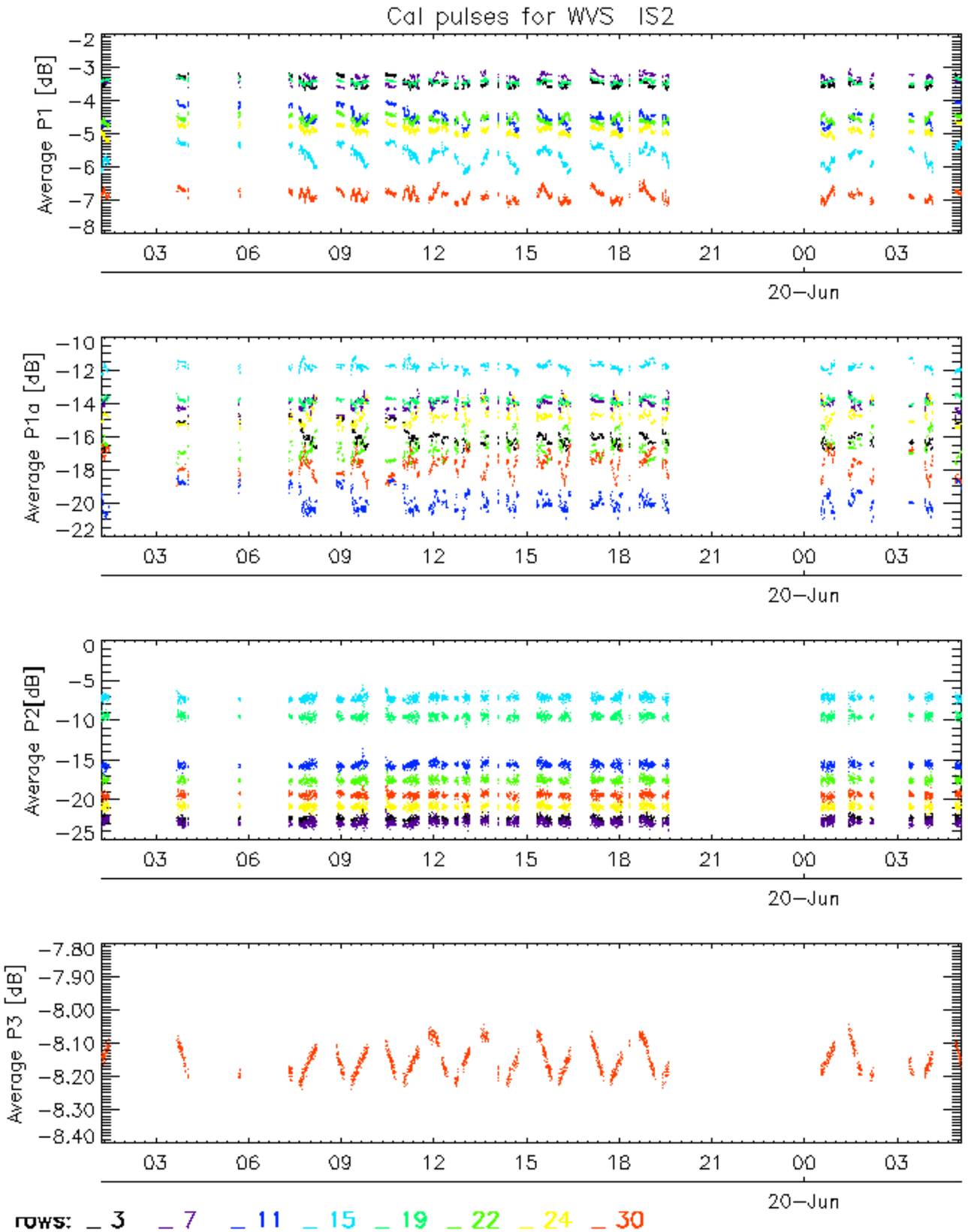
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
☒

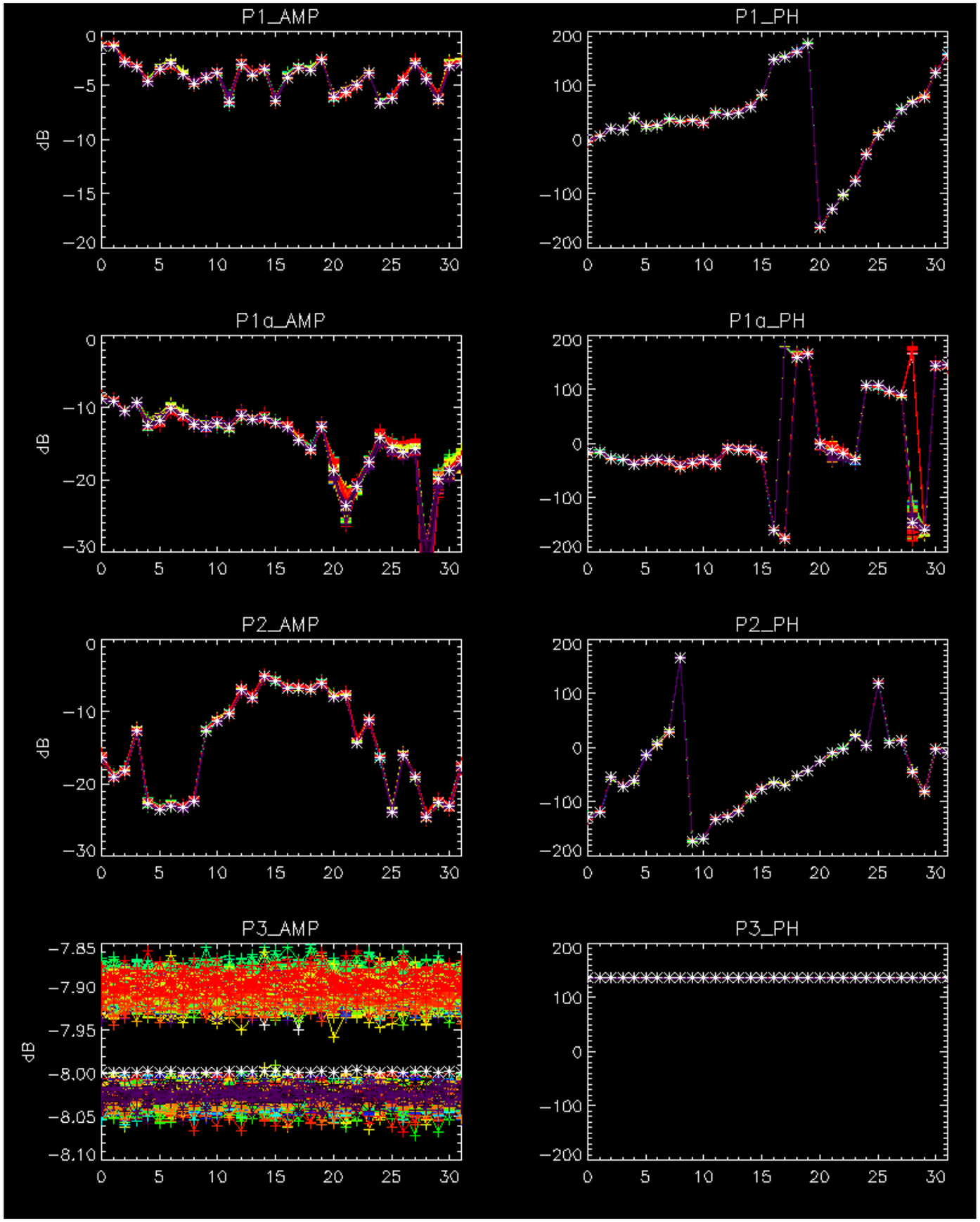

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
21−May
26−May
31−May
05−Jun
10−Jun
15−Jun
20−Jun
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: 3 7 11 15 19 22 24 30

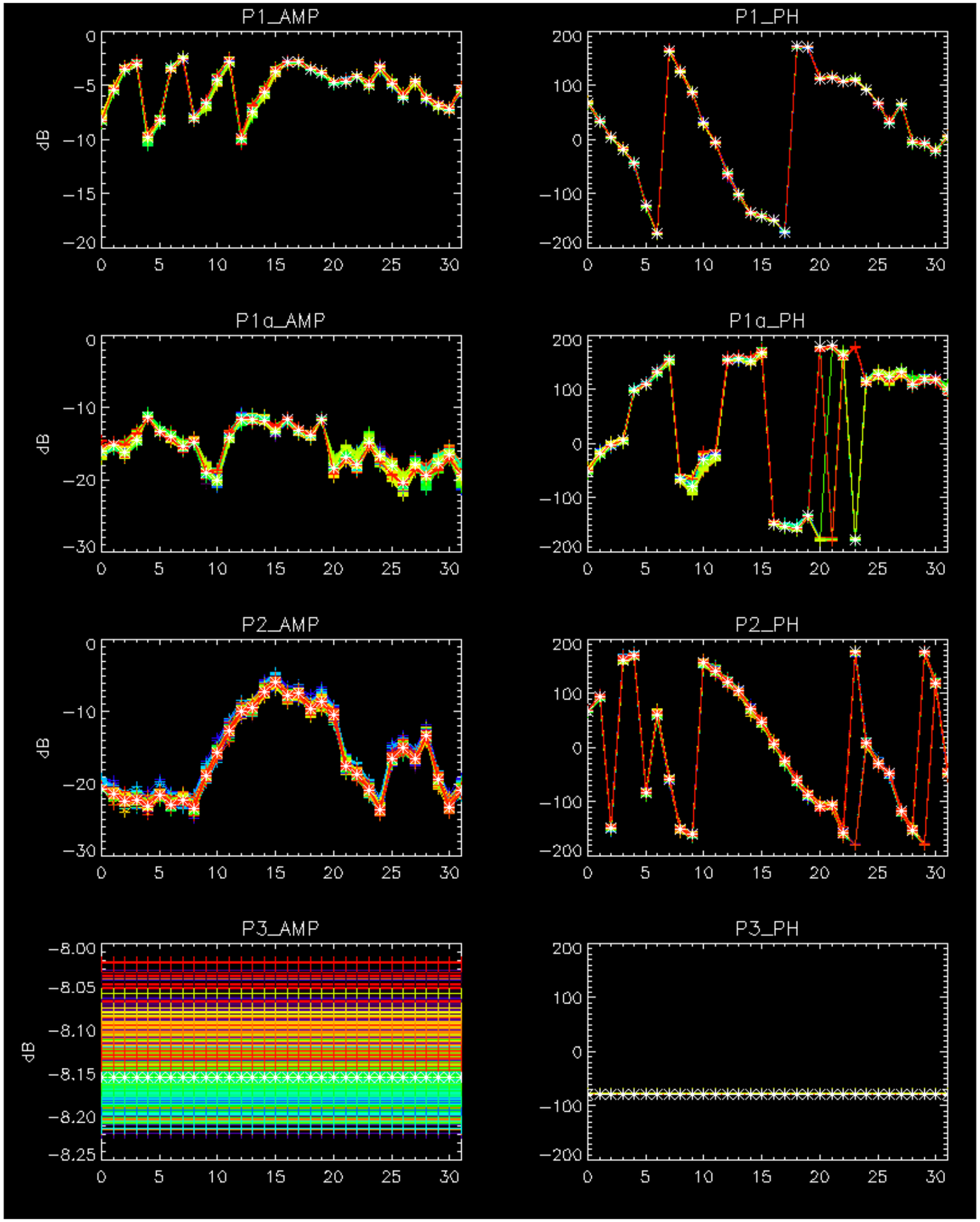

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
20−Jun
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
21
00
03
20−Jun
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
03
20−Jun
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06
09
12
15
18
21
00
03
20−Jun
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]
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
21−May
26−May
31−May
05−Jun
10−Jun
15−Jun
20−Jun
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
00
03
20−Jun
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
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

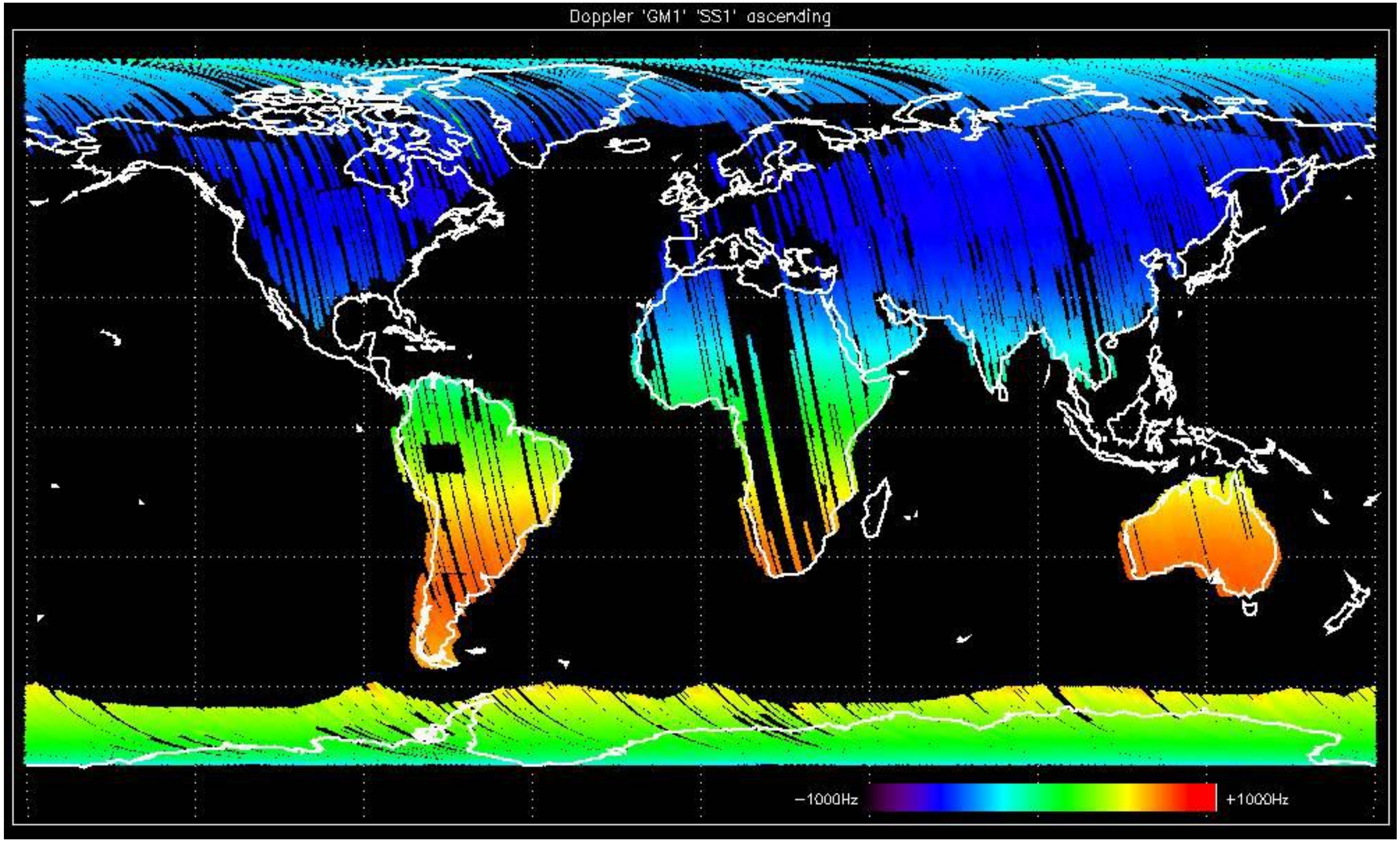
No anomalies observed.

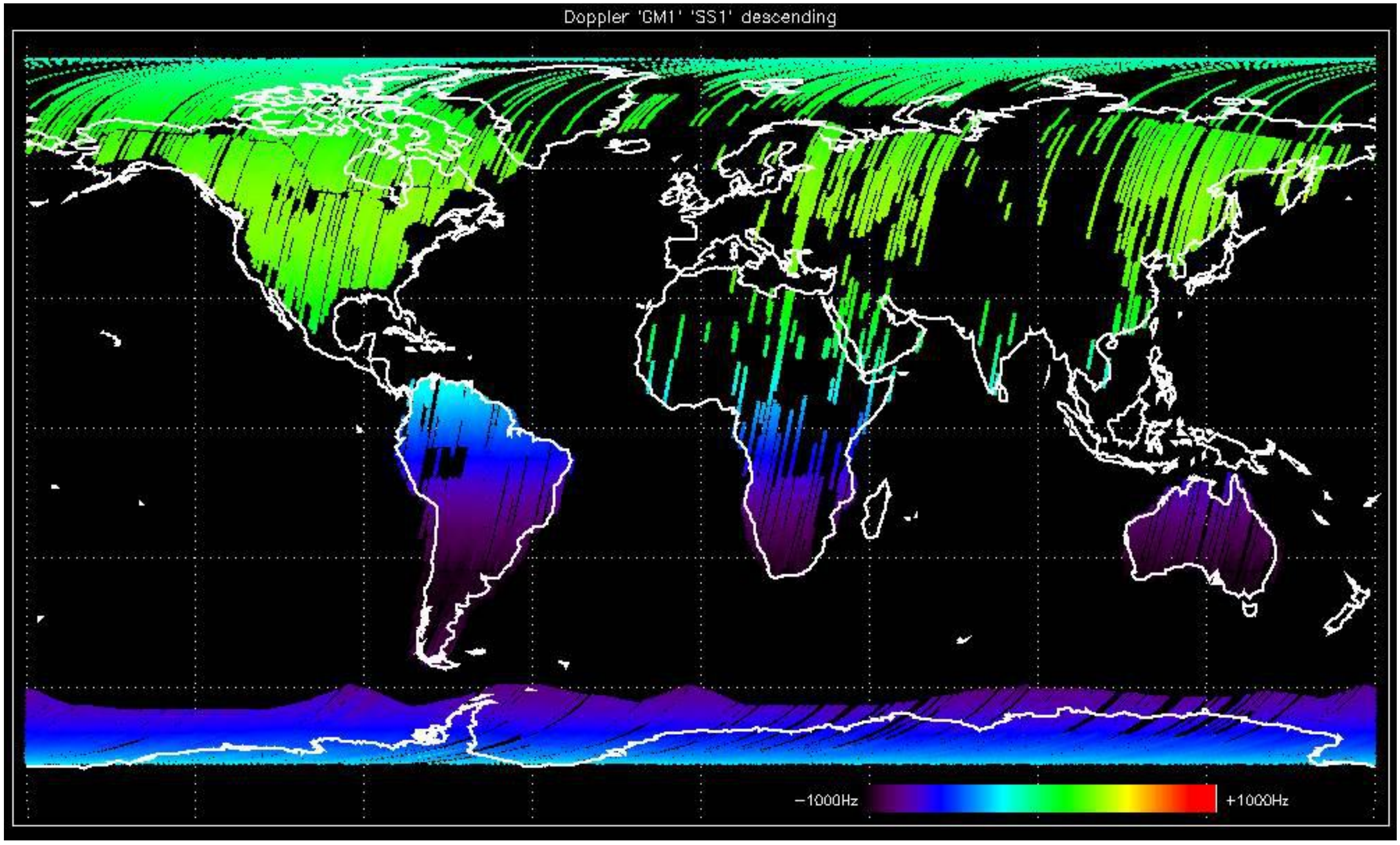

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.85
−7.90
−7.95
−8.00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

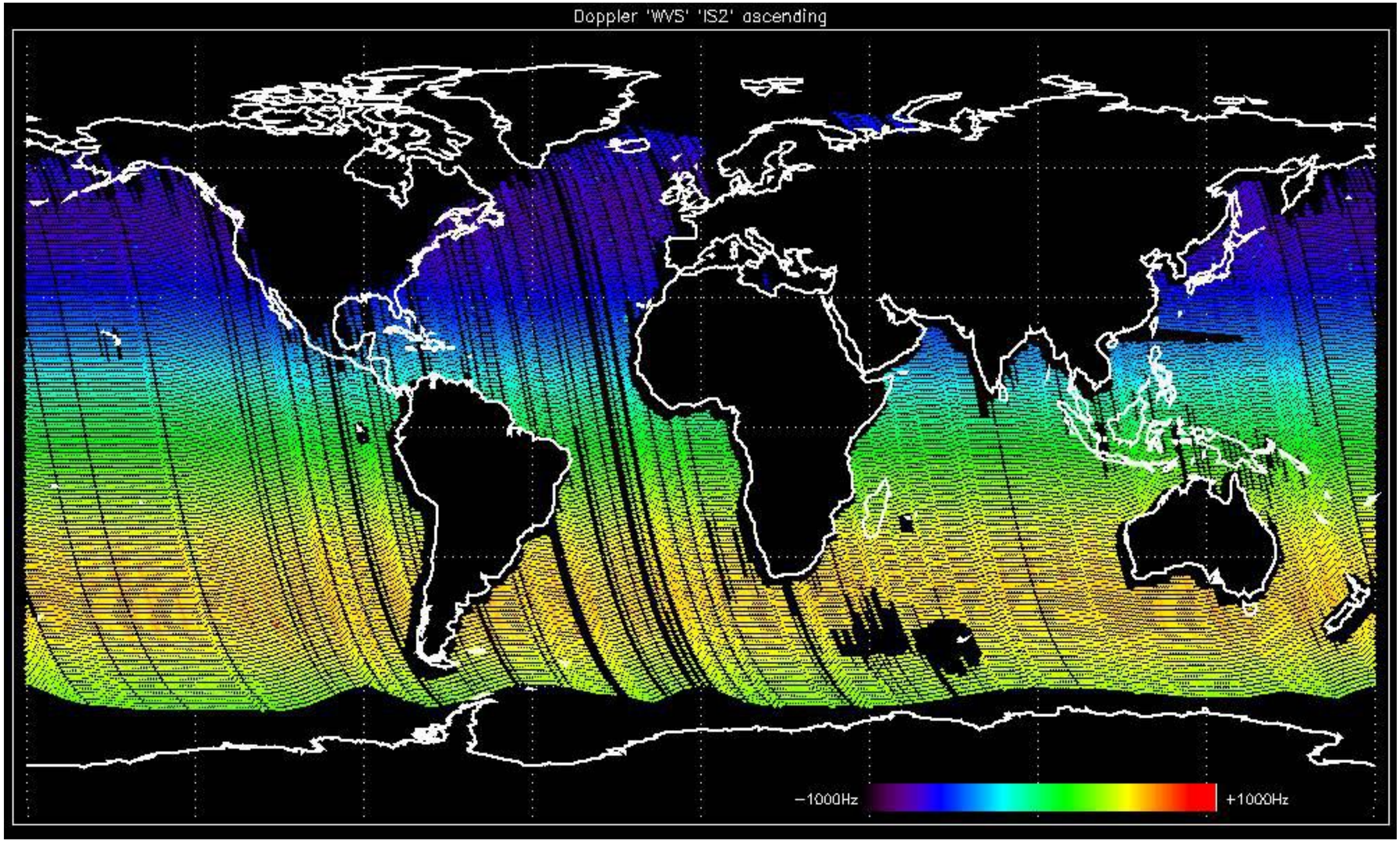

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15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

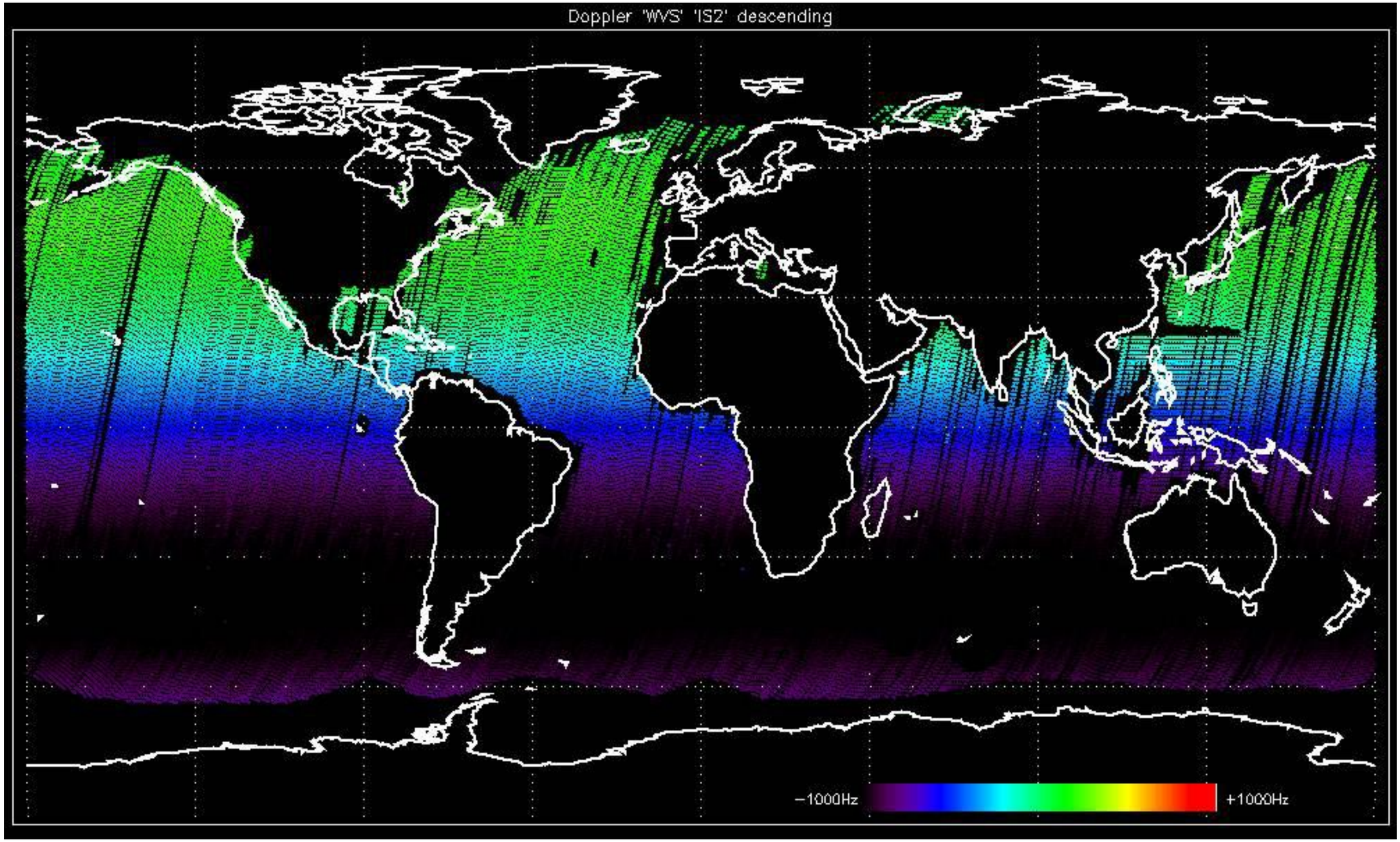
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

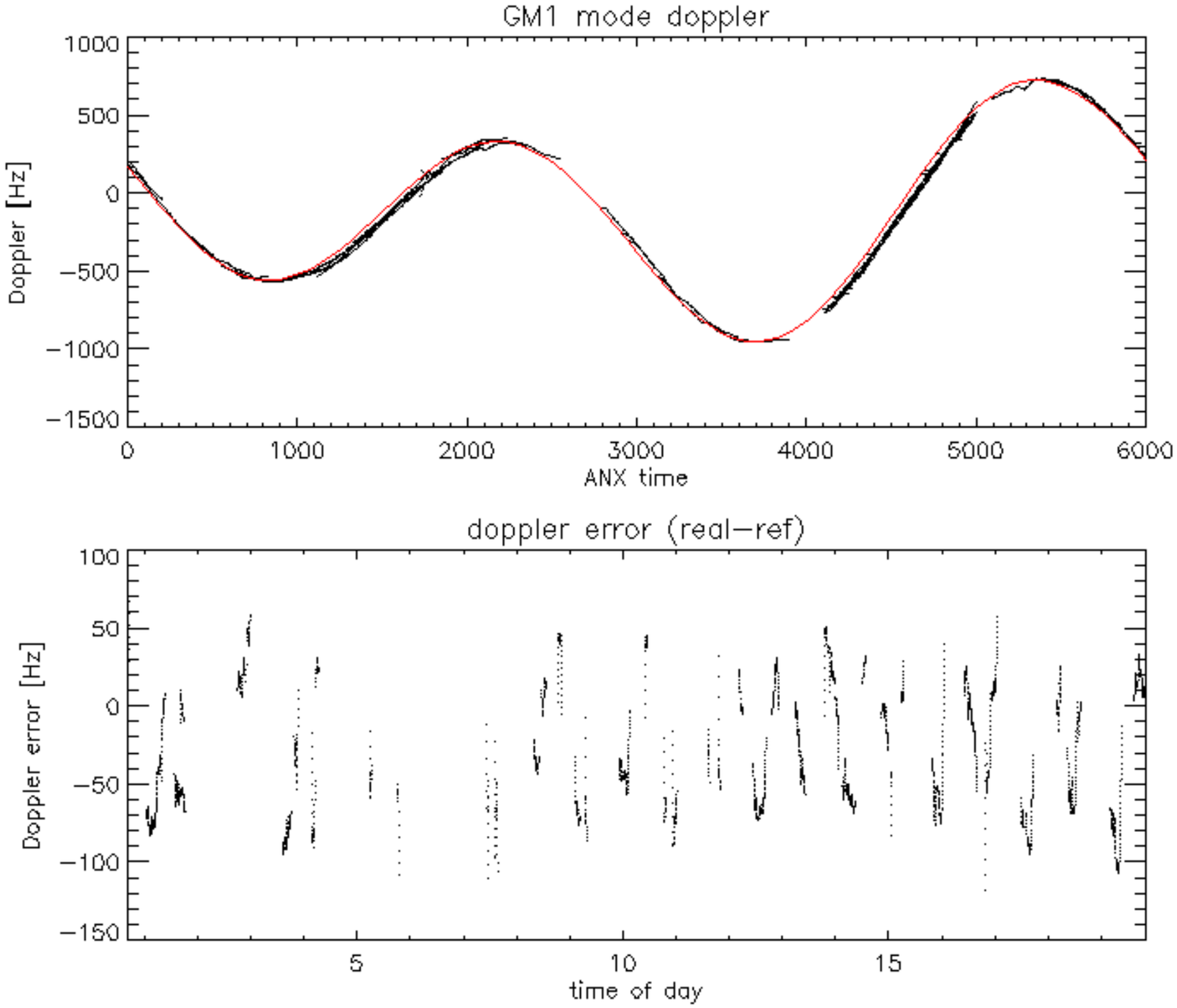
Preliminary report.The data is not yet controled

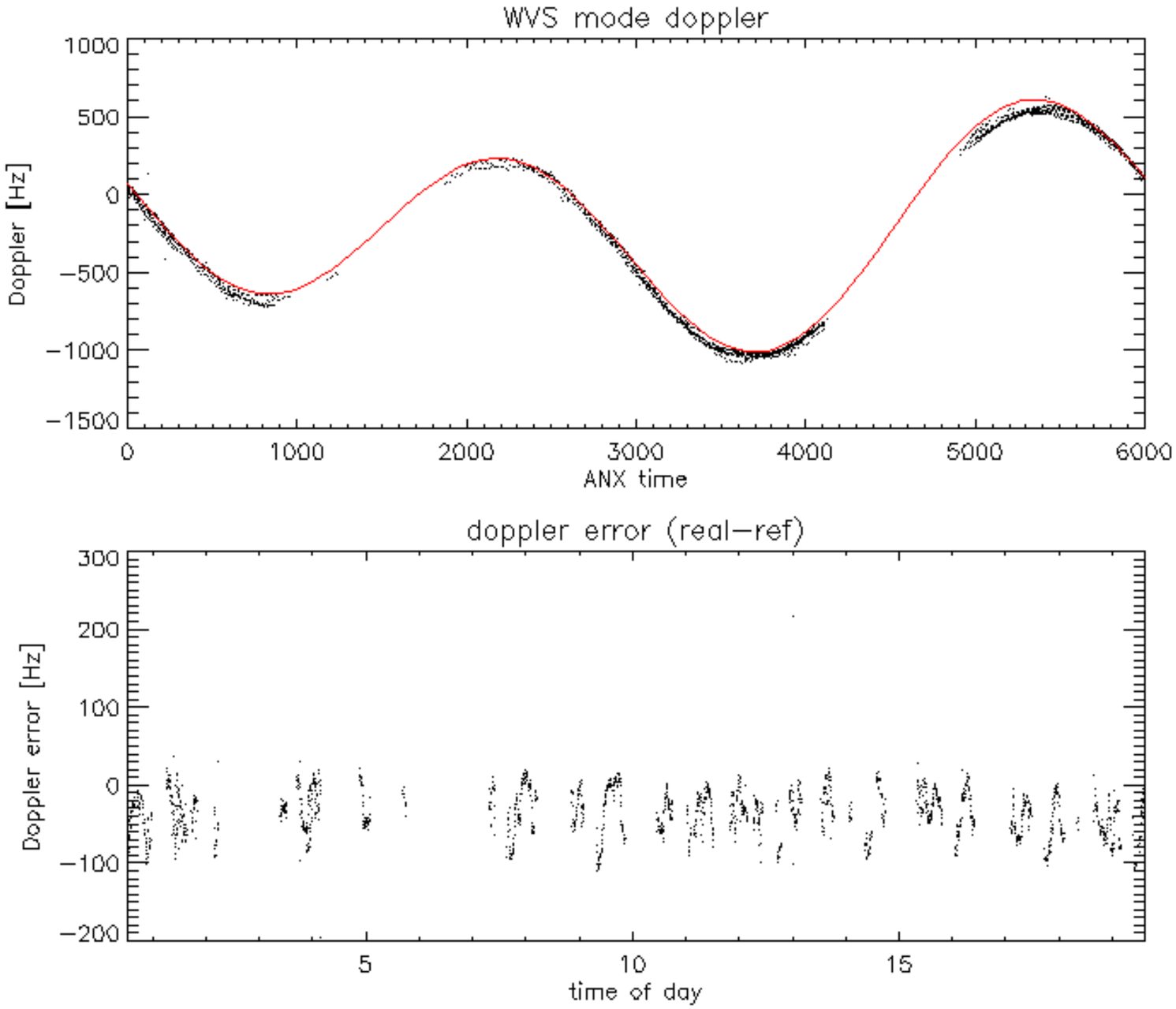

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

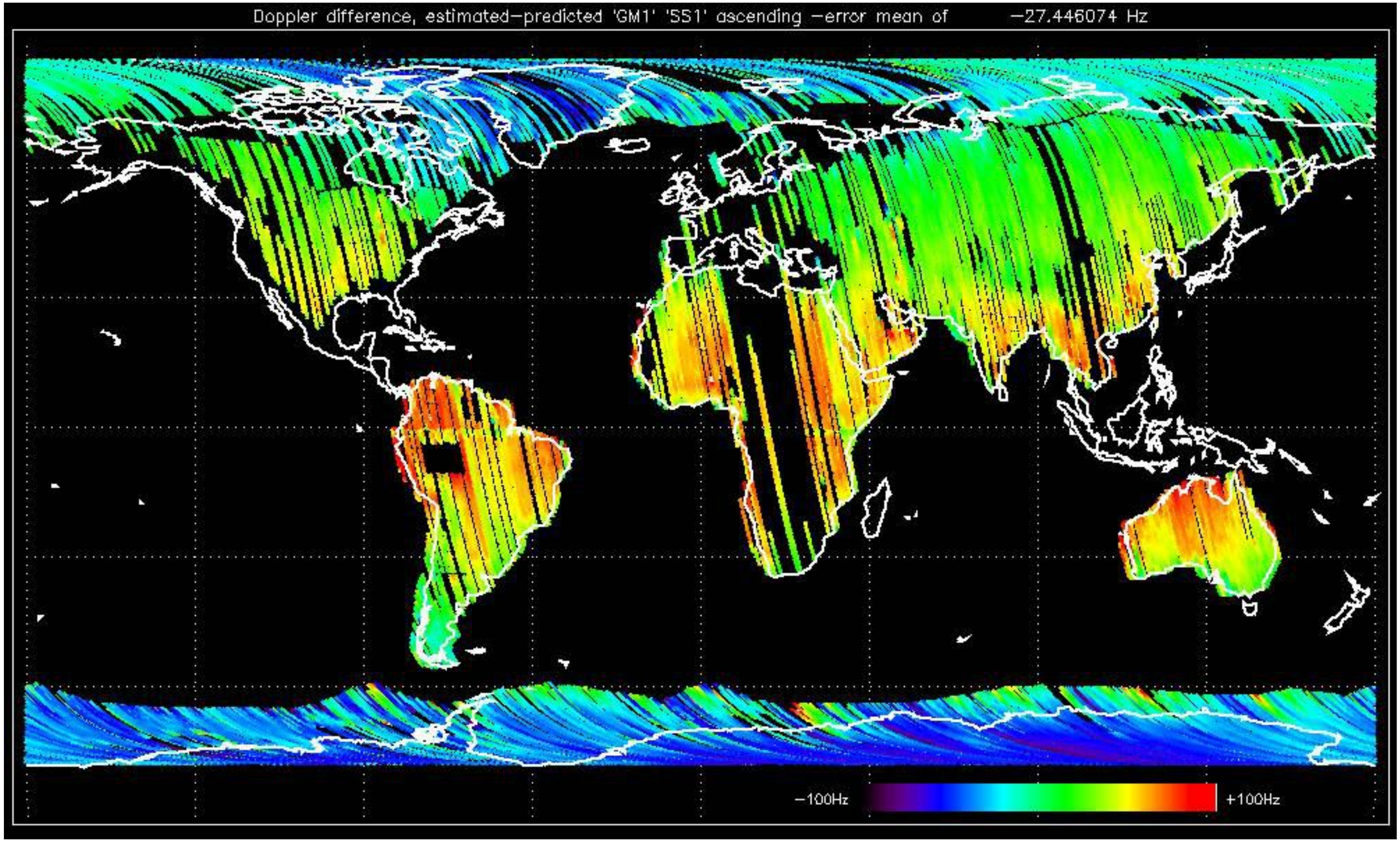

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

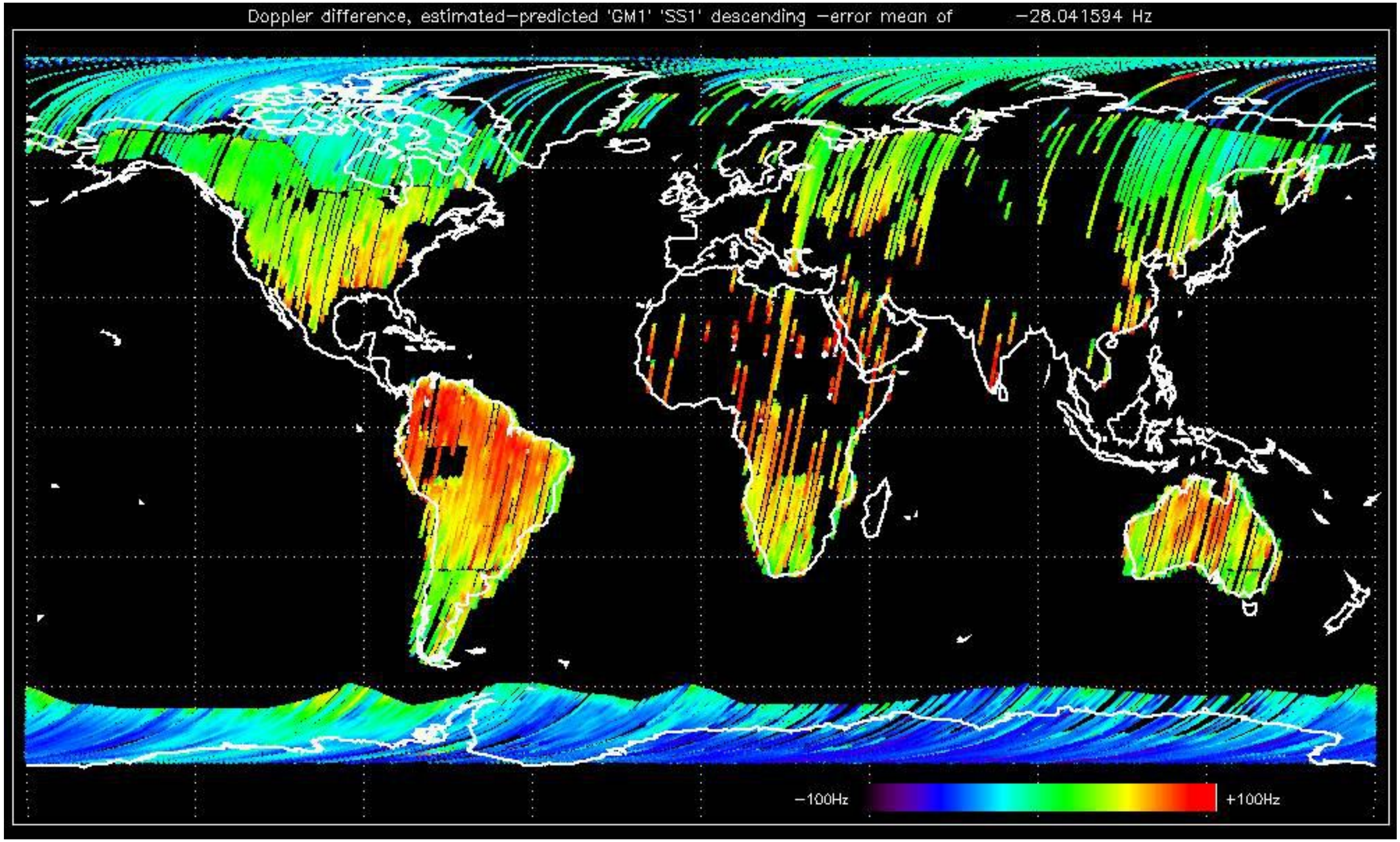

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

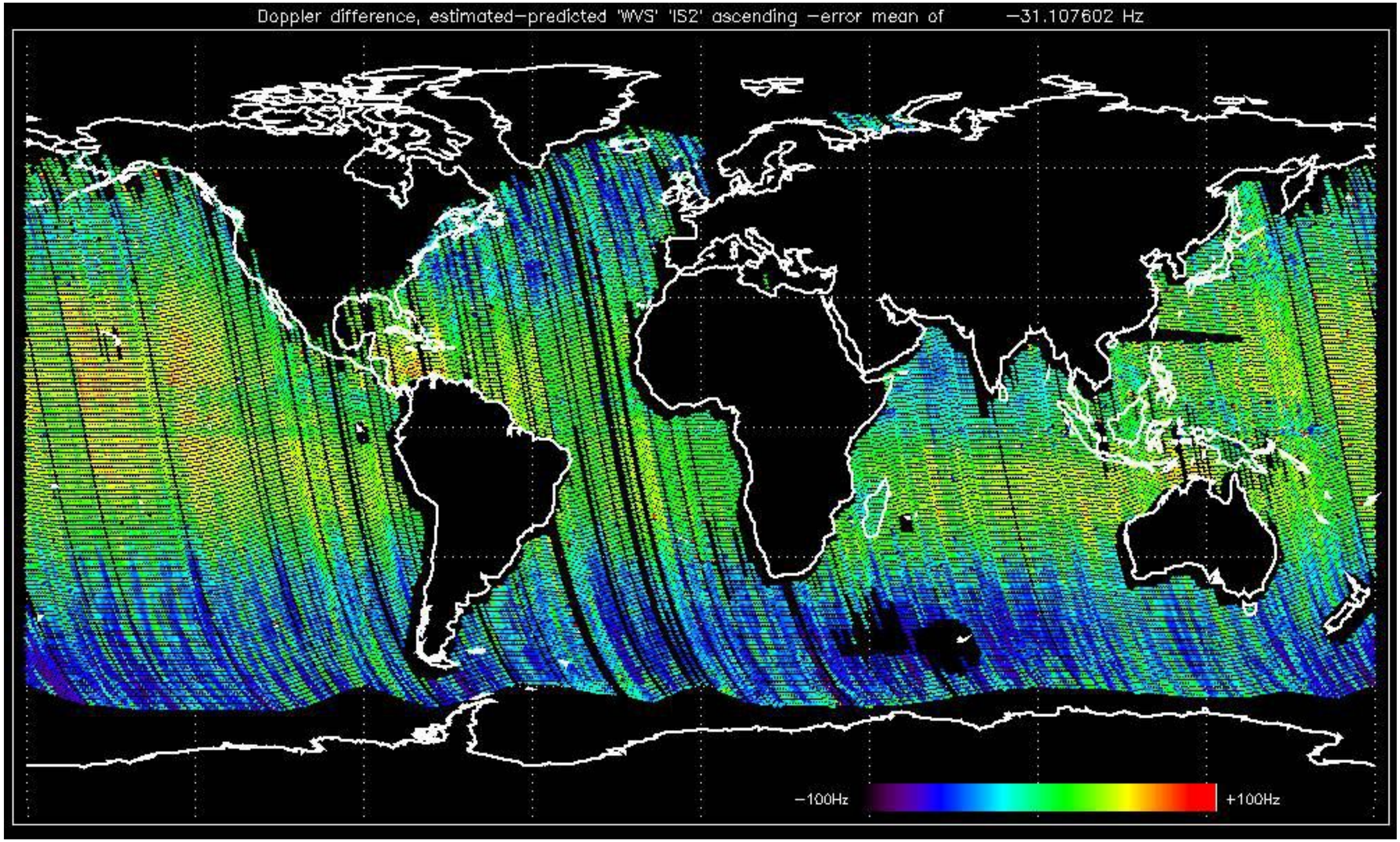

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

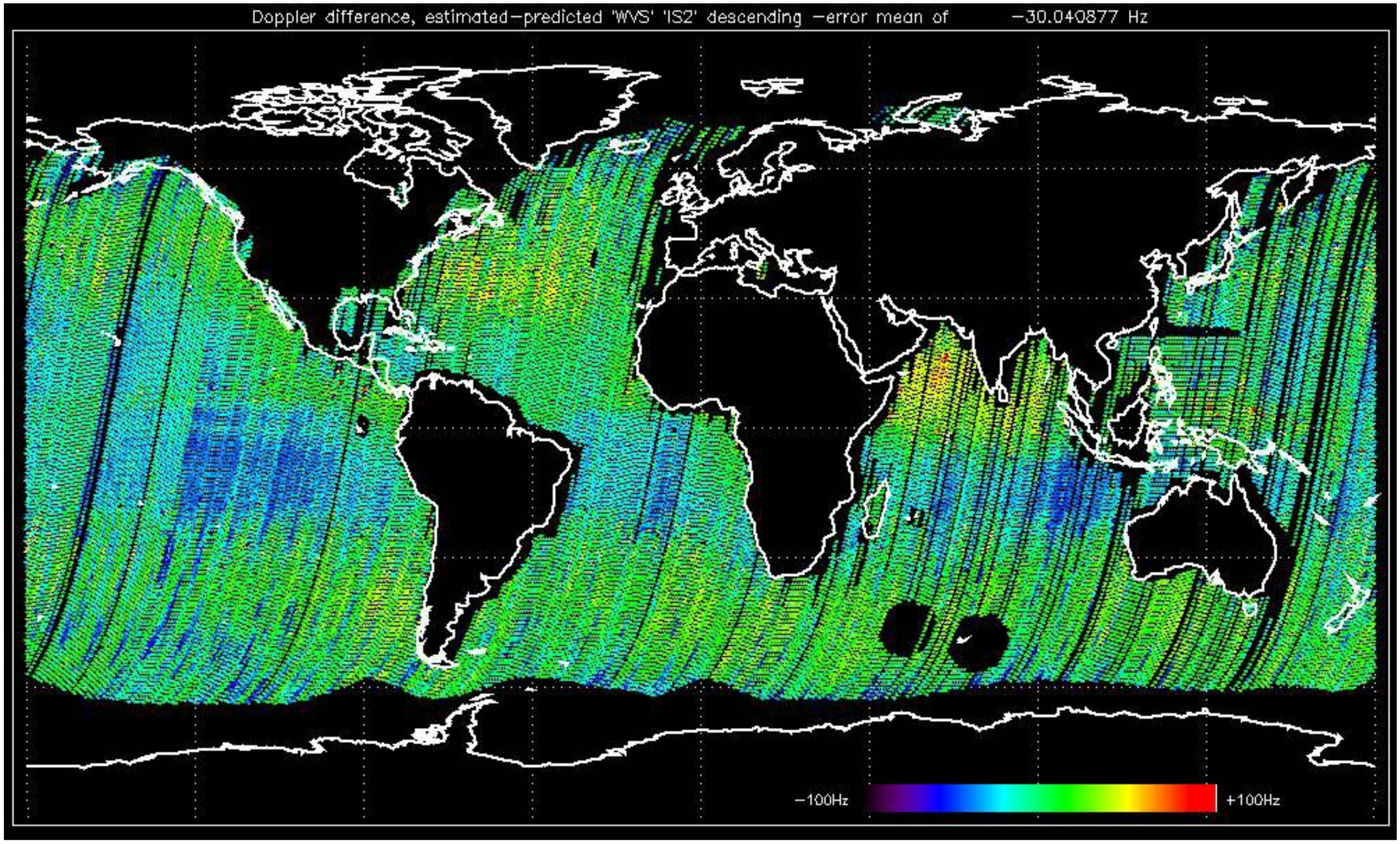

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
ANX time
doppler error (real−ref)
Doppler error [Hz]
100
50
0
−50
−100
−150
5
10
15
time of day


WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
ANX time
doppler error (real−ref)
Doppler error [Hz]
300
200
100
0
−100
−200
5
10
15
time of day


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −27.446074 Hz
−100Hz
+100Hz

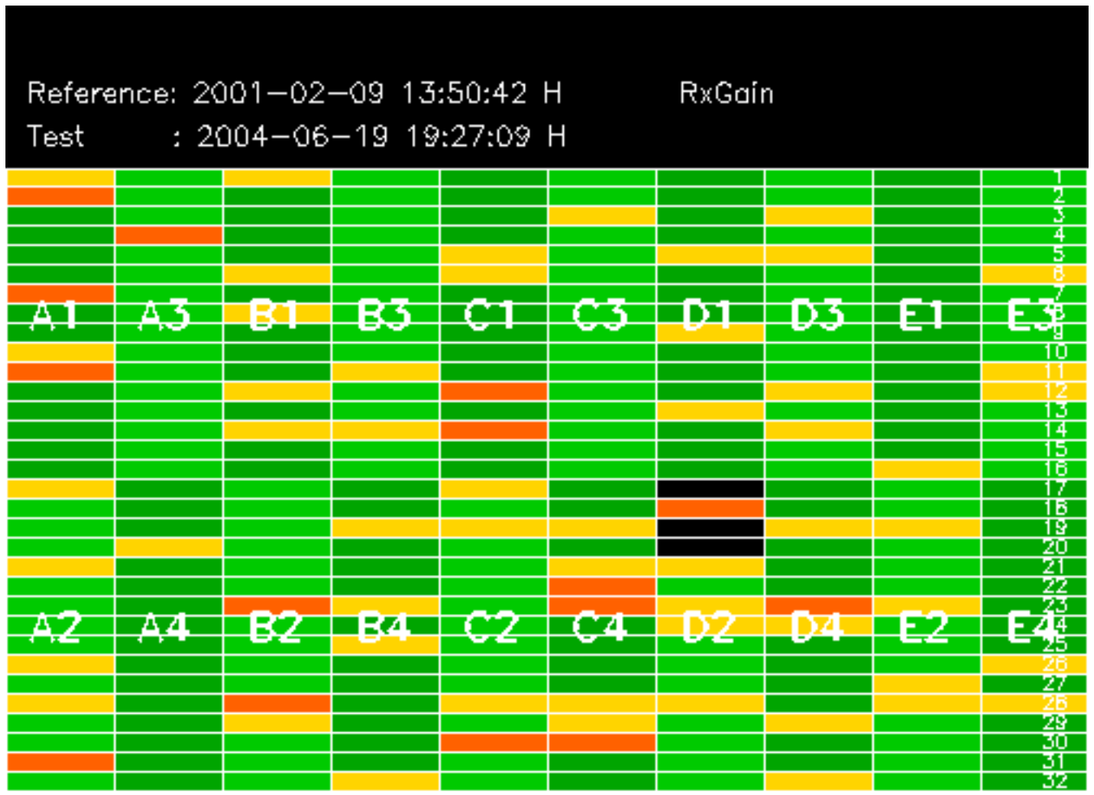

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −28.041594 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −31.107602 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −30.040877 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 : 2004-06-19 19:27:09 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
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17
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23
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26
27
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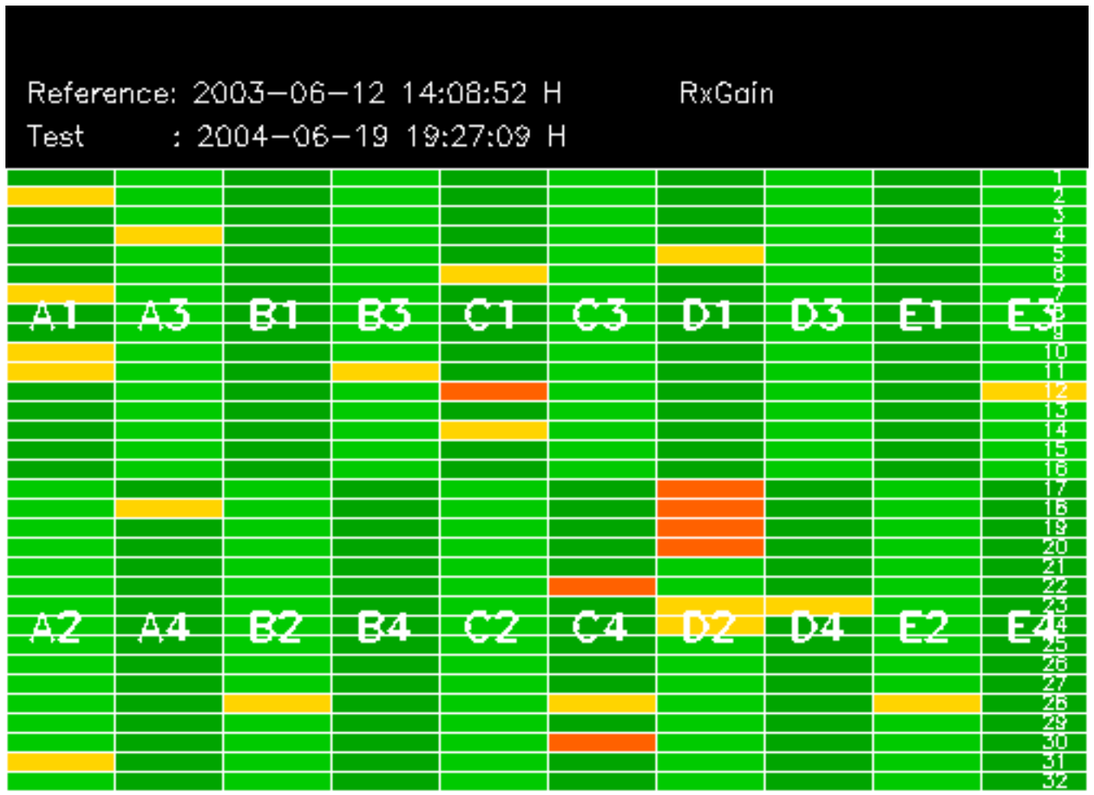
29
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2004-06-19 19:27:09 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
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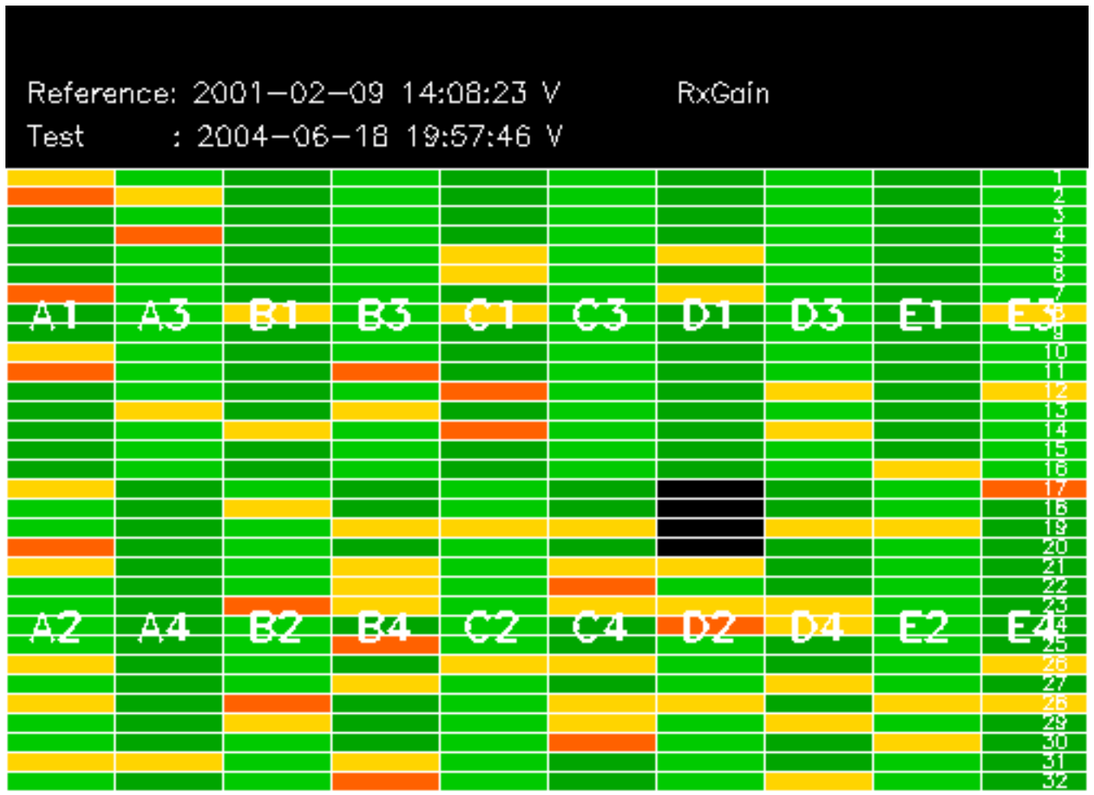
Reference: 2001-02-09 14:08:23 V
RxGain
Test : 2004-06-18 19:57:46 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
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22
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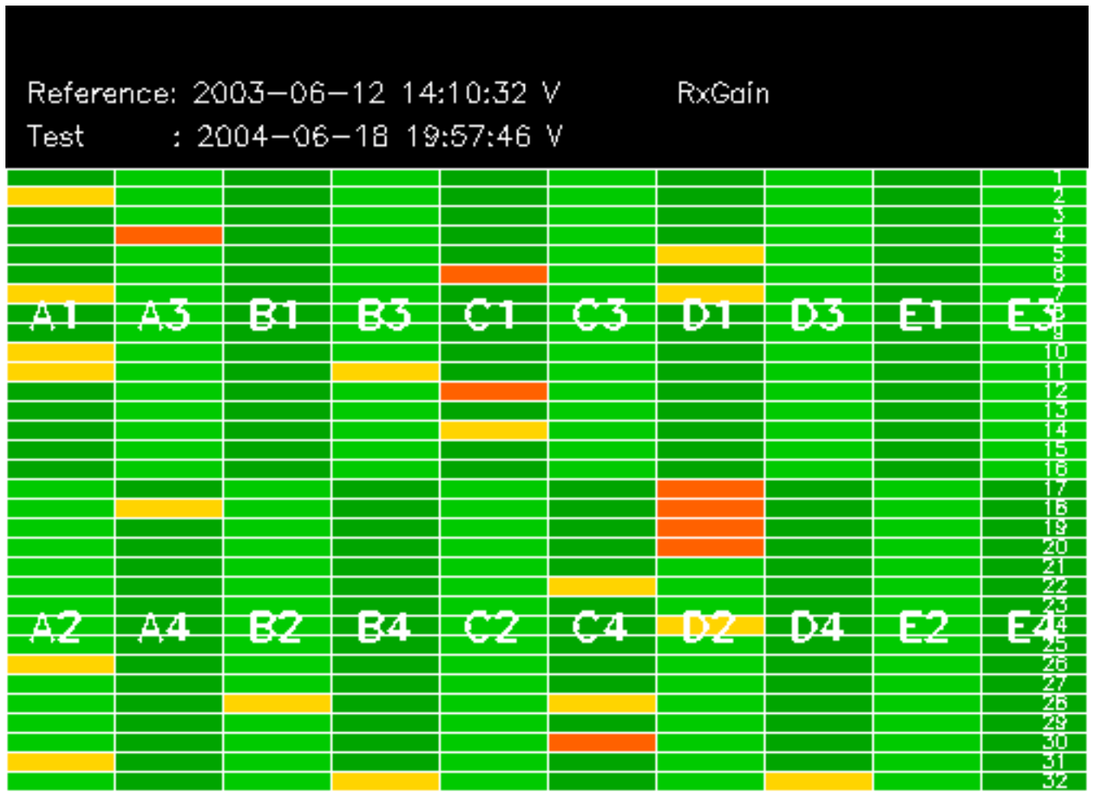
30
31
32


Reference: 2003-06-12 14:10:32 V
Test : 2004-06-18 19:57:46 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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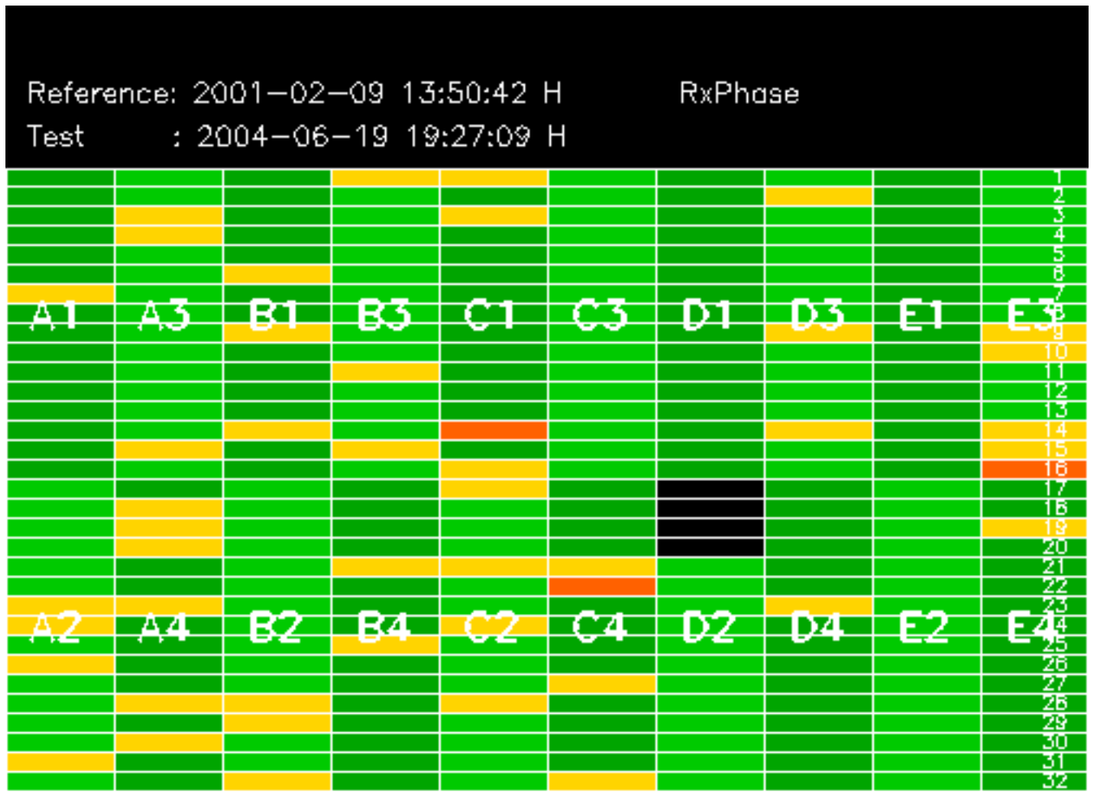
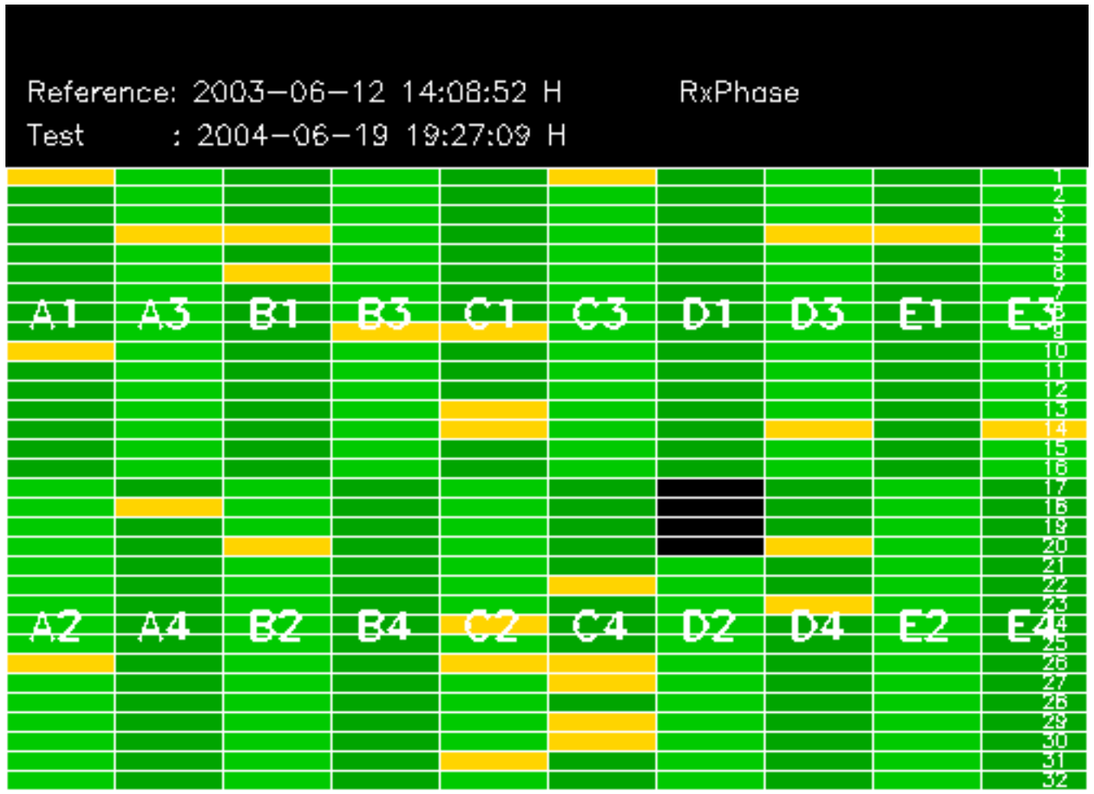

Reference: 2001-02-09 13:50:42 H
Test : 2004-06-19 19:27:09 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-06-19 19:27:09 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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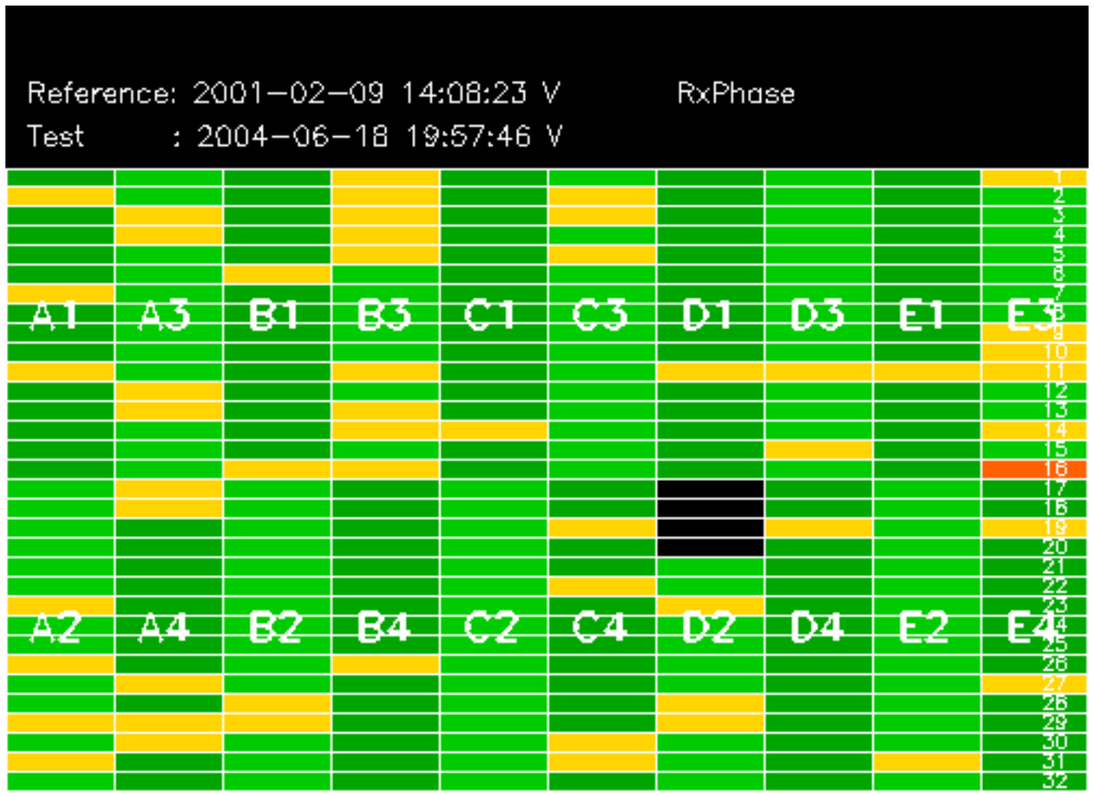
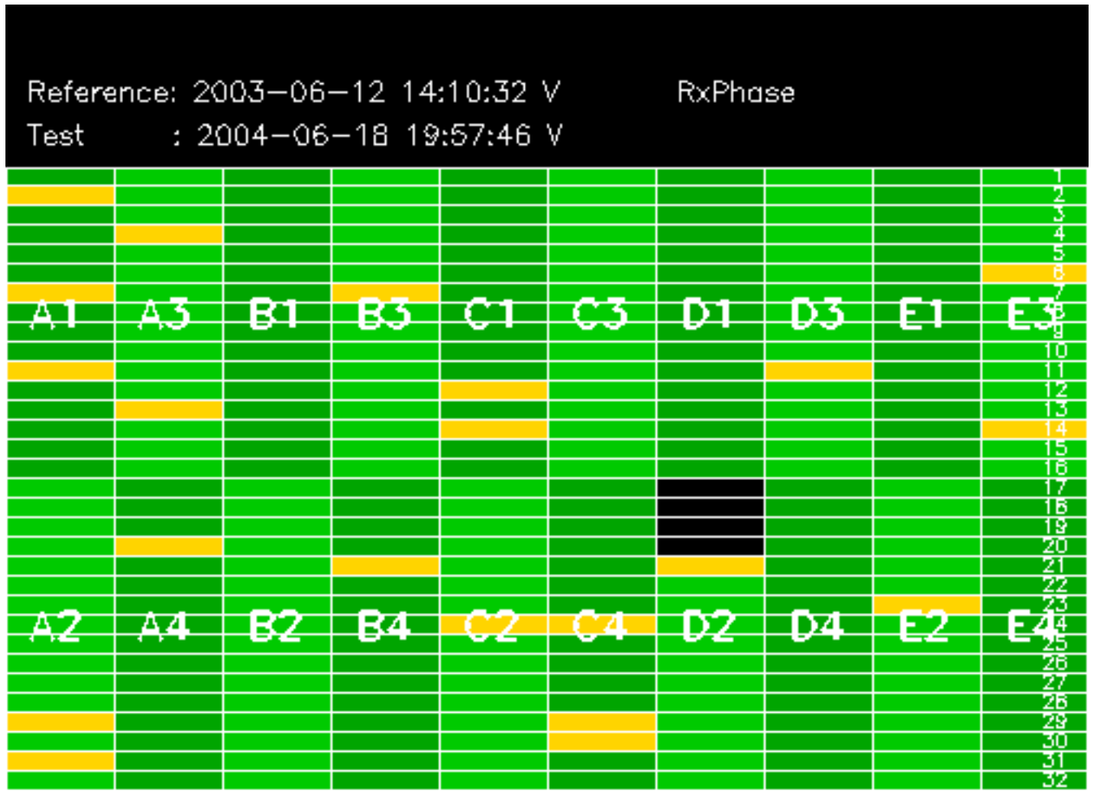

Reference: 2001-02-09 14:08:23 V
Test : 2004-06-18 19:57:46 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-06-18 19:57:46 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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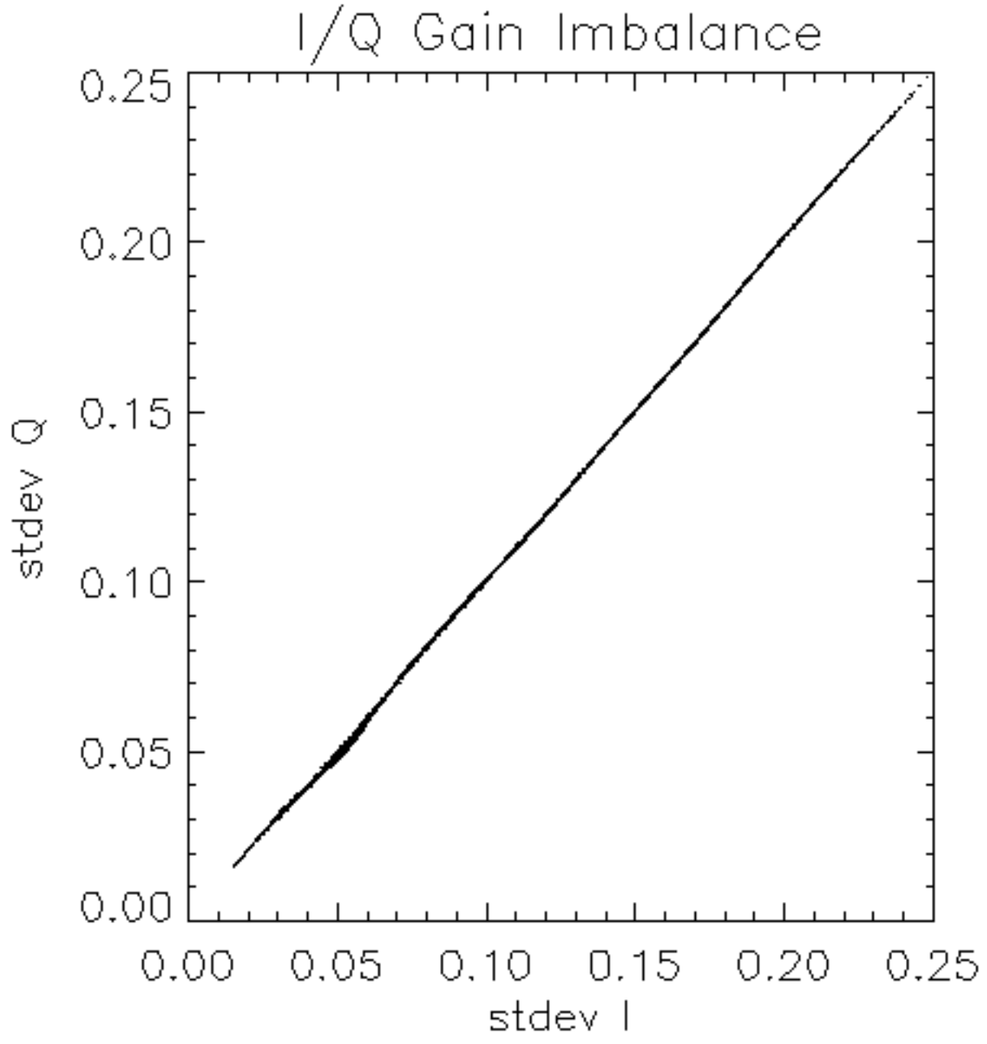
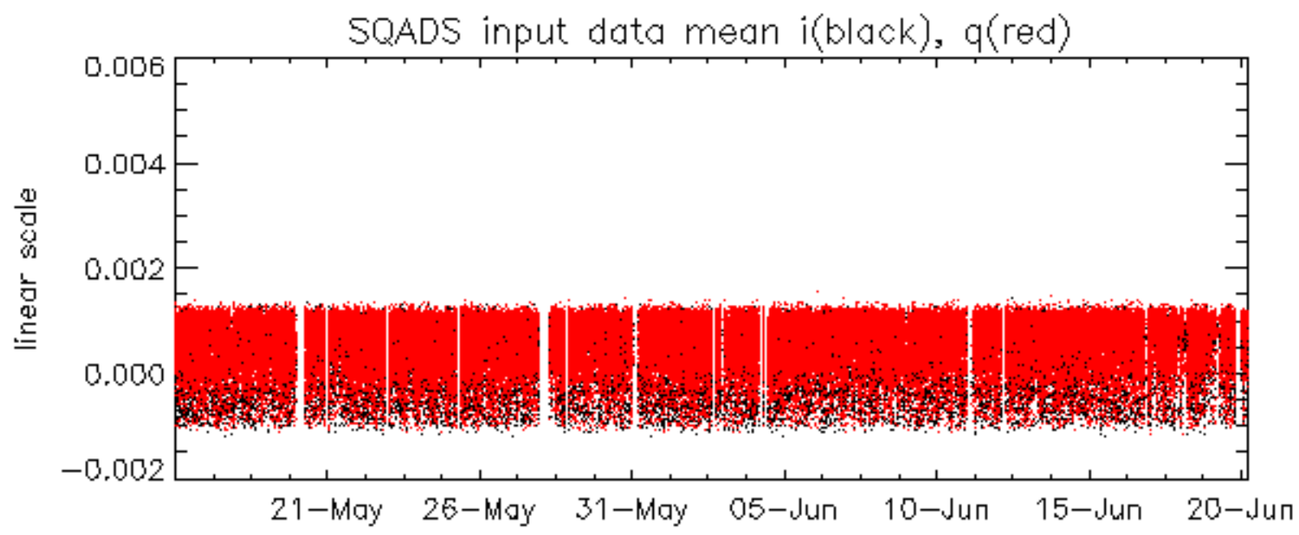
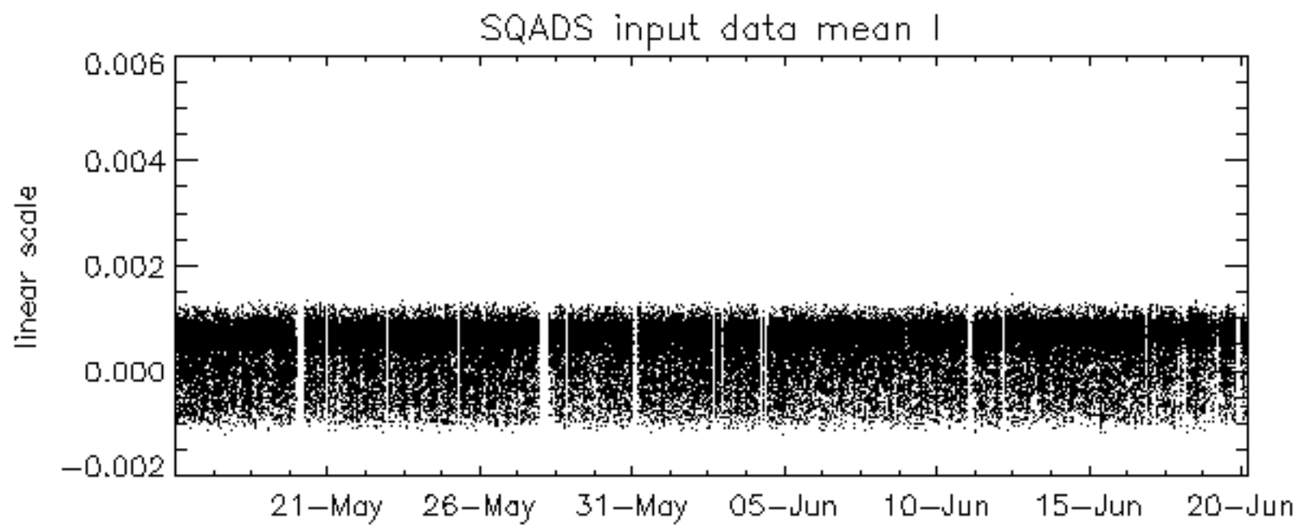
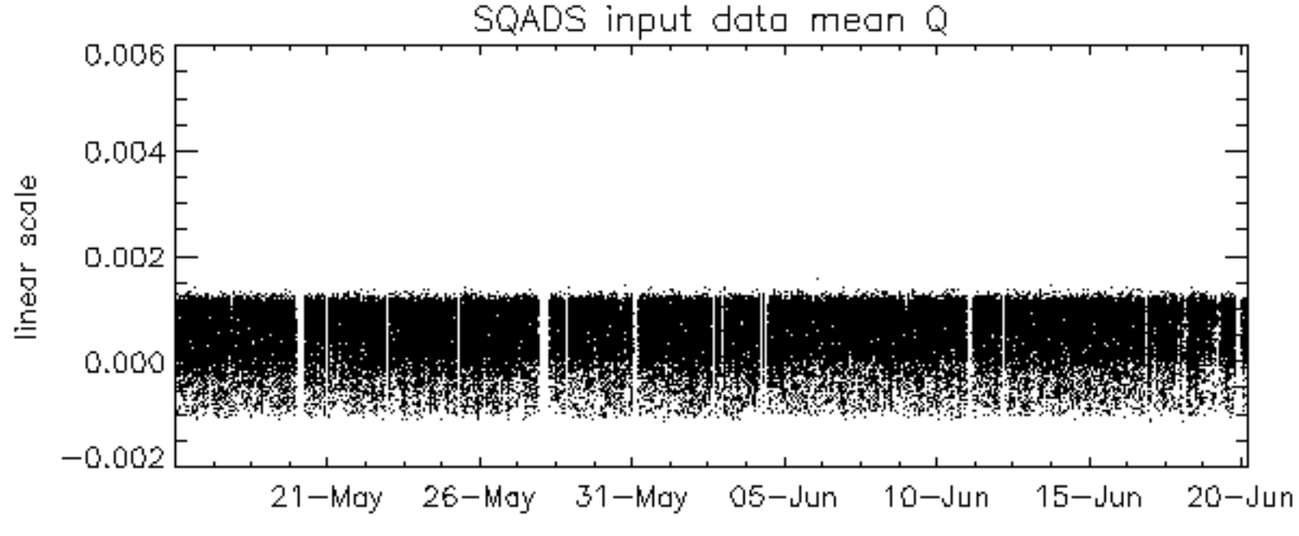
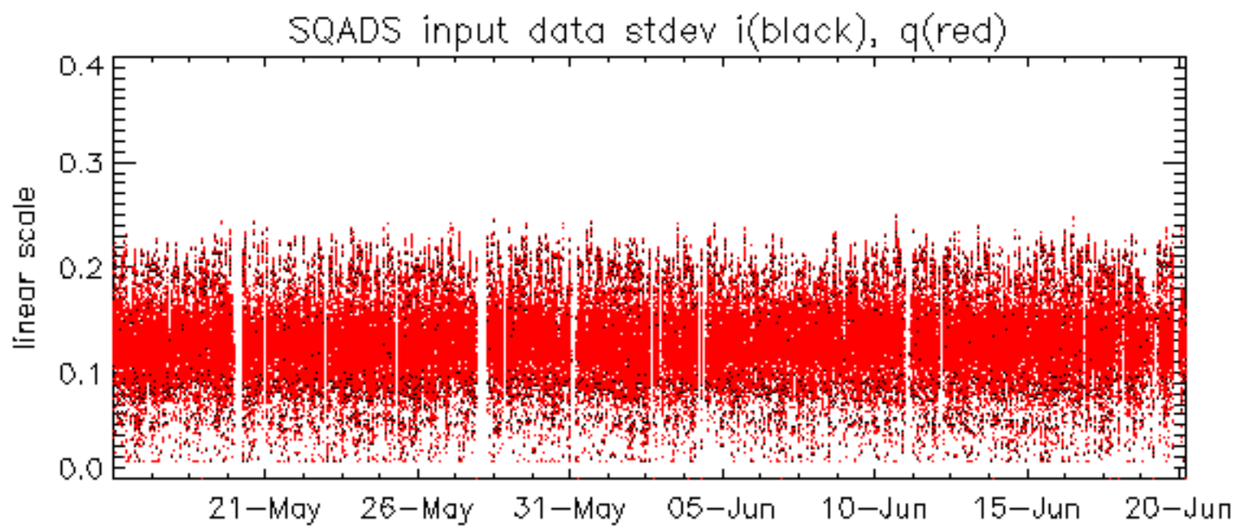
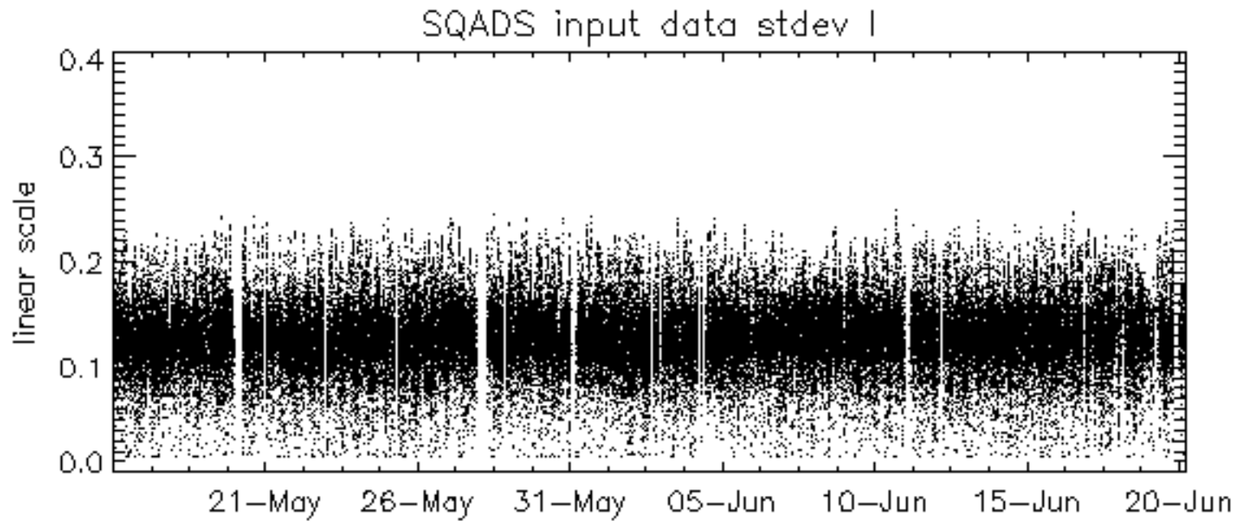

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

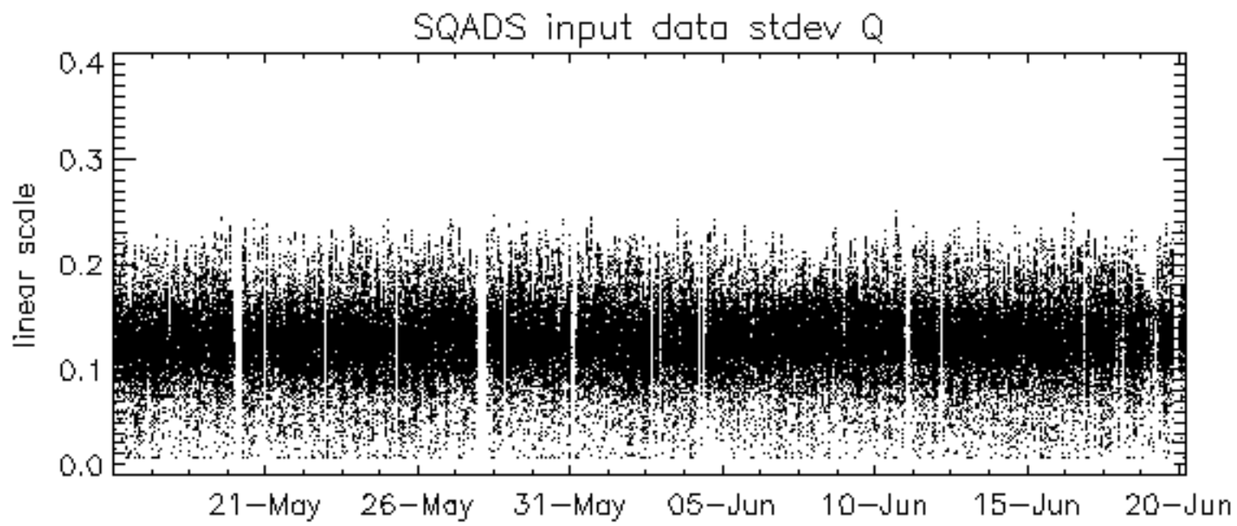

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−May
26−May
31−May
05−Jun
10−Jun
15−Jun
20−Jun

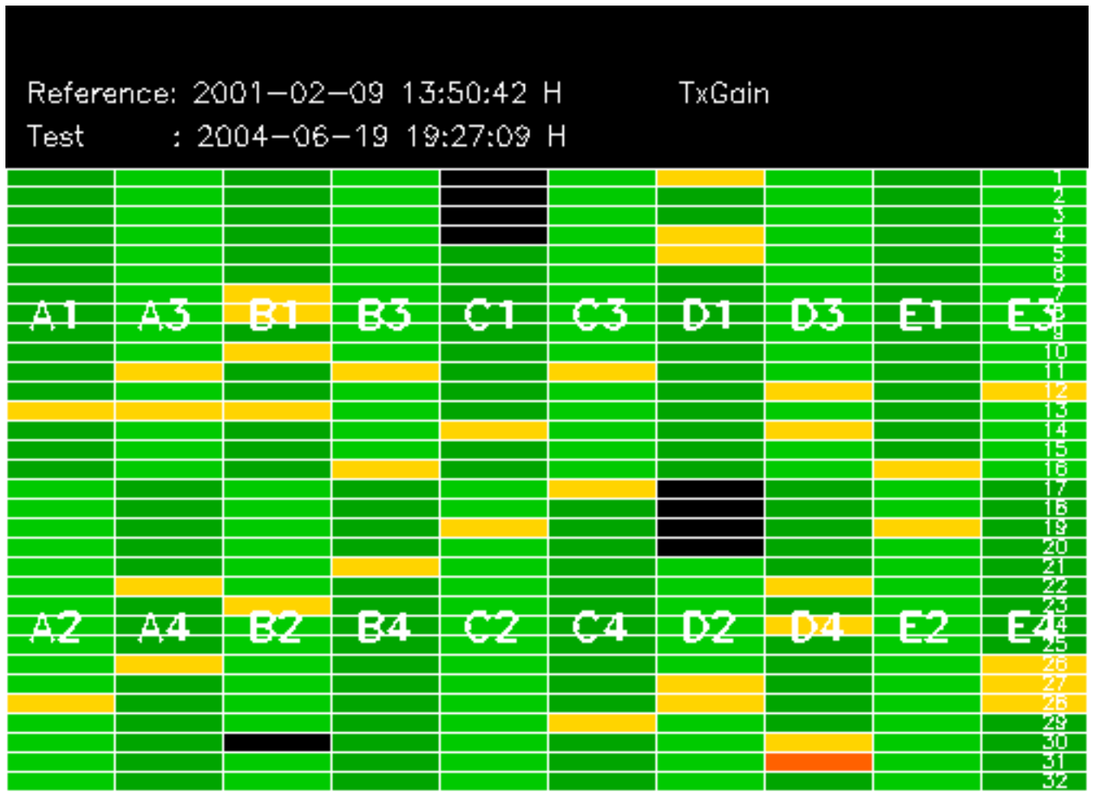

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−May
26−May
31−May
05−Jun
10−Jun
15−Jun
20−Jun


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


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


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


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


Reference: 2001-02-09 13:50:42 H
TxGain
Test : 2004-06-19 19:27:09 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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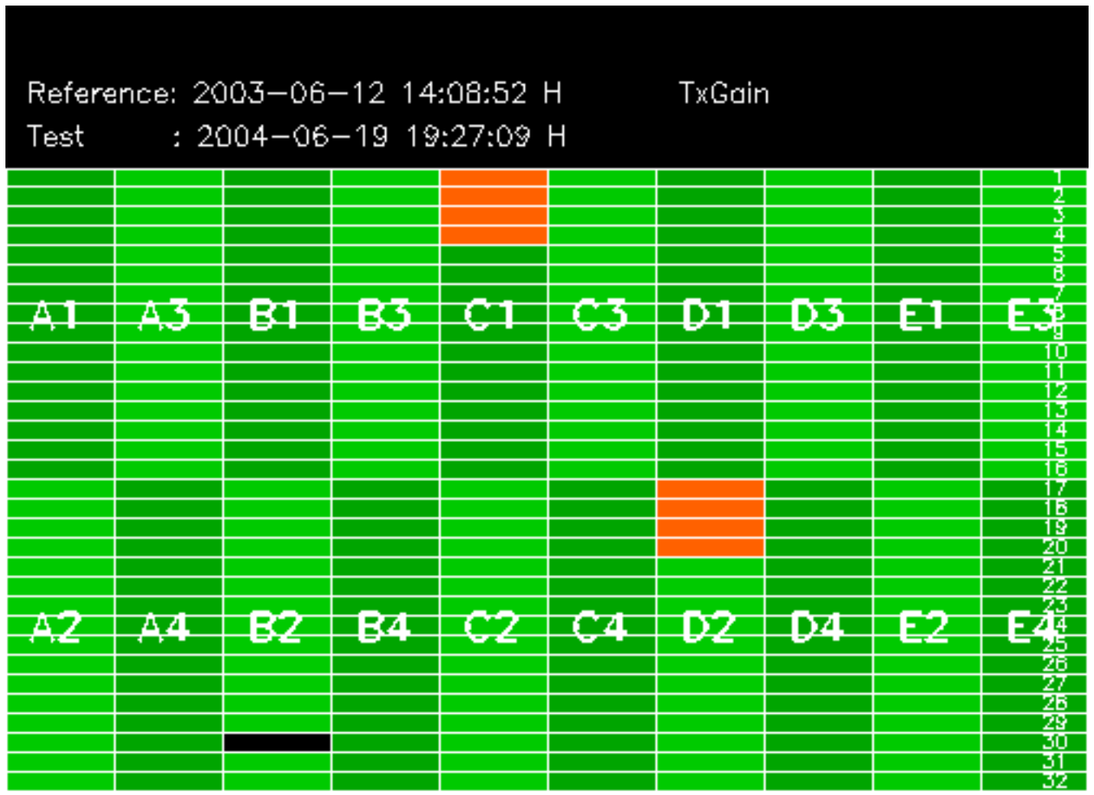
Reference: 2003-06-12 14:08:52 H
Test : 2004-06-19 19:27:09 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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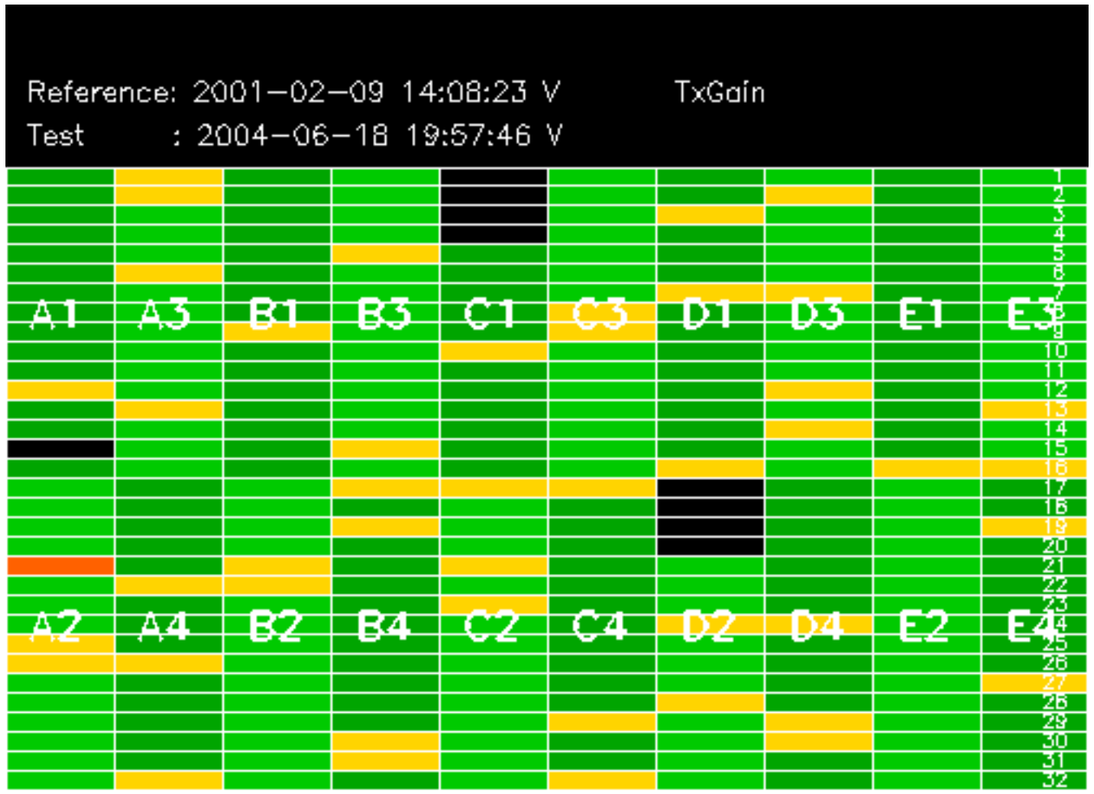
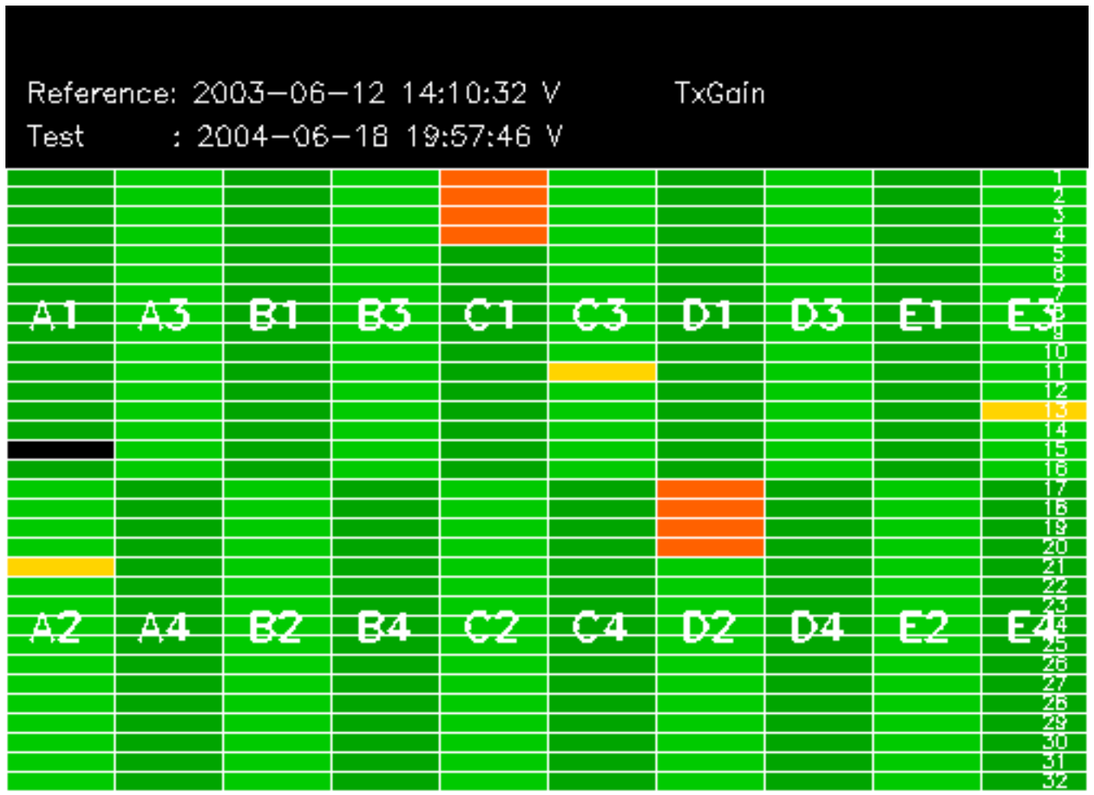

Reference: 2001-02-09 14:08:23 V
Test : 2004-06-18 19:57:46 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-06-18 19:57:46 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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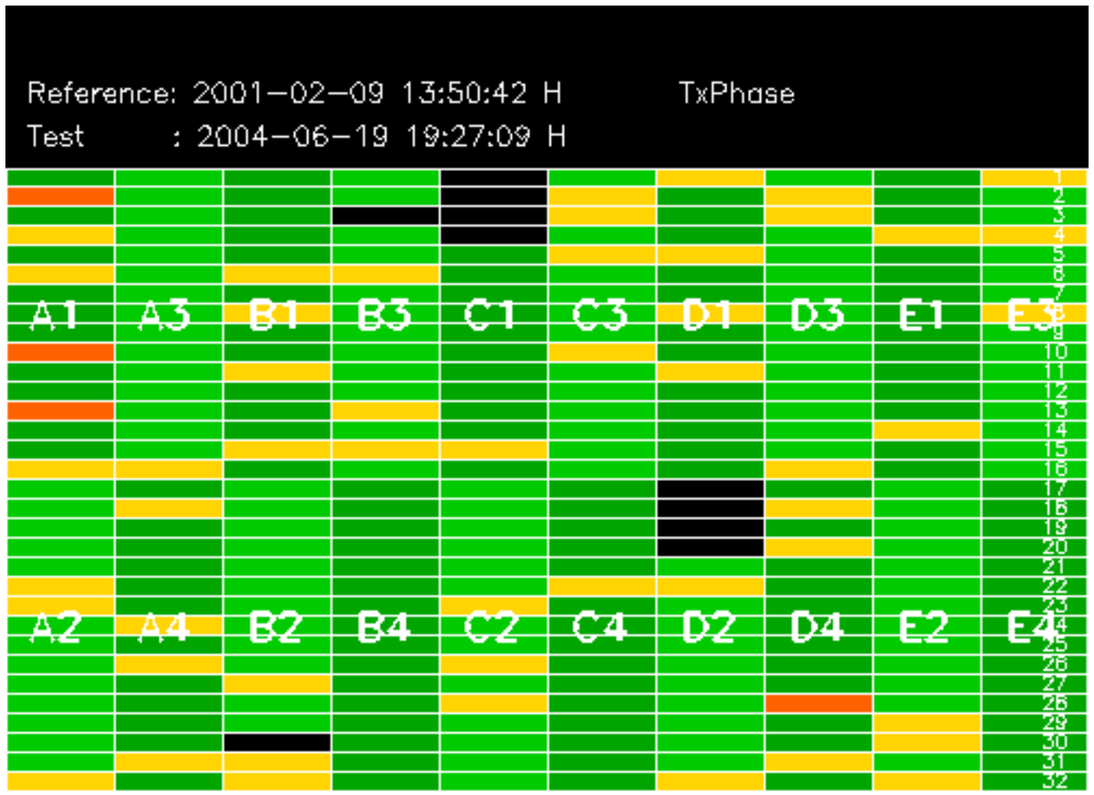
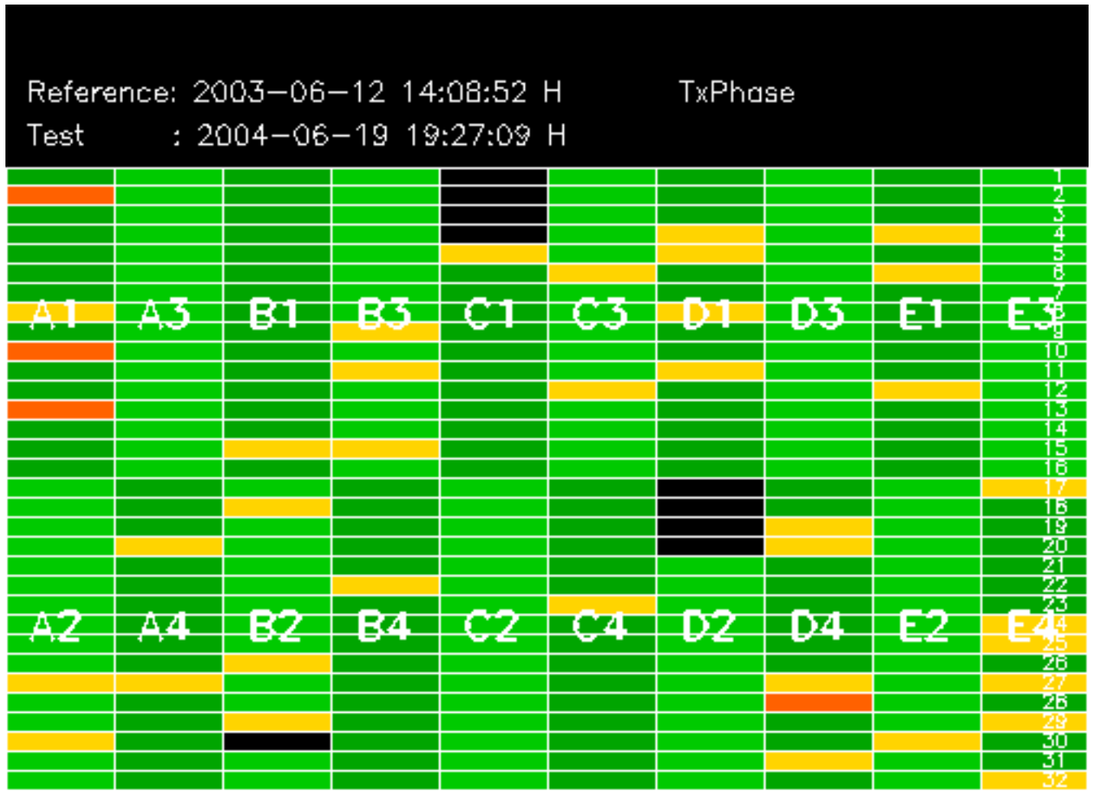
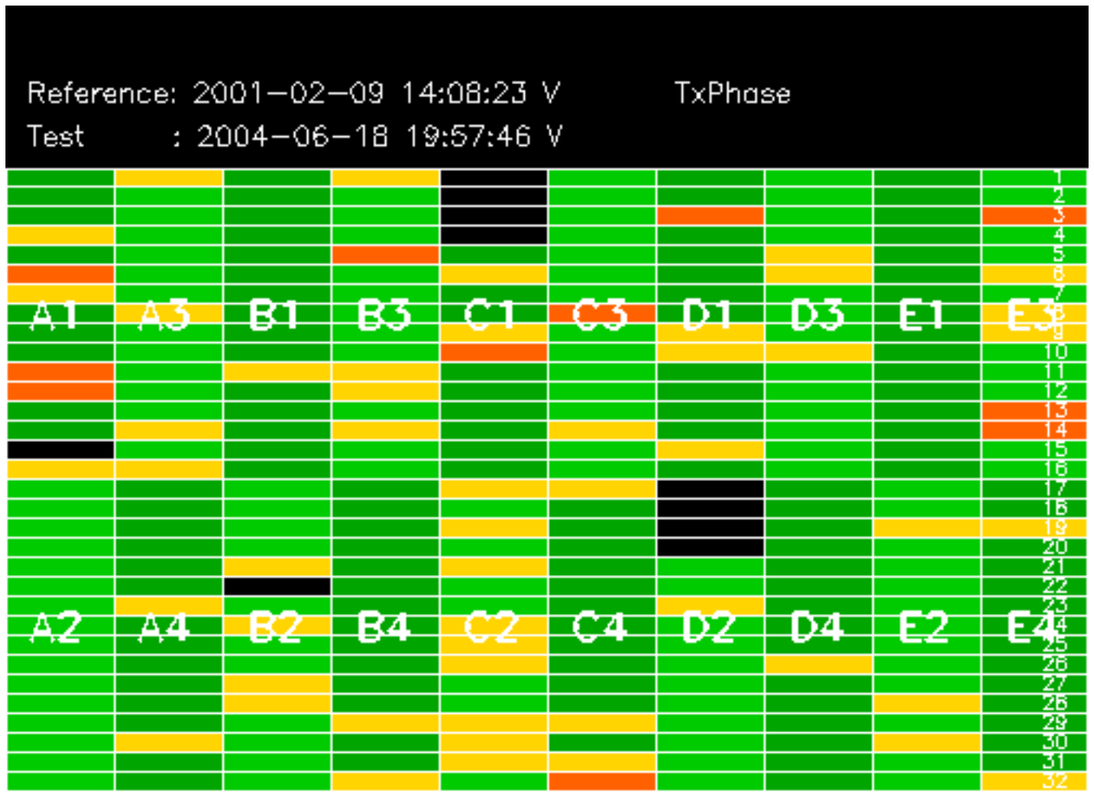
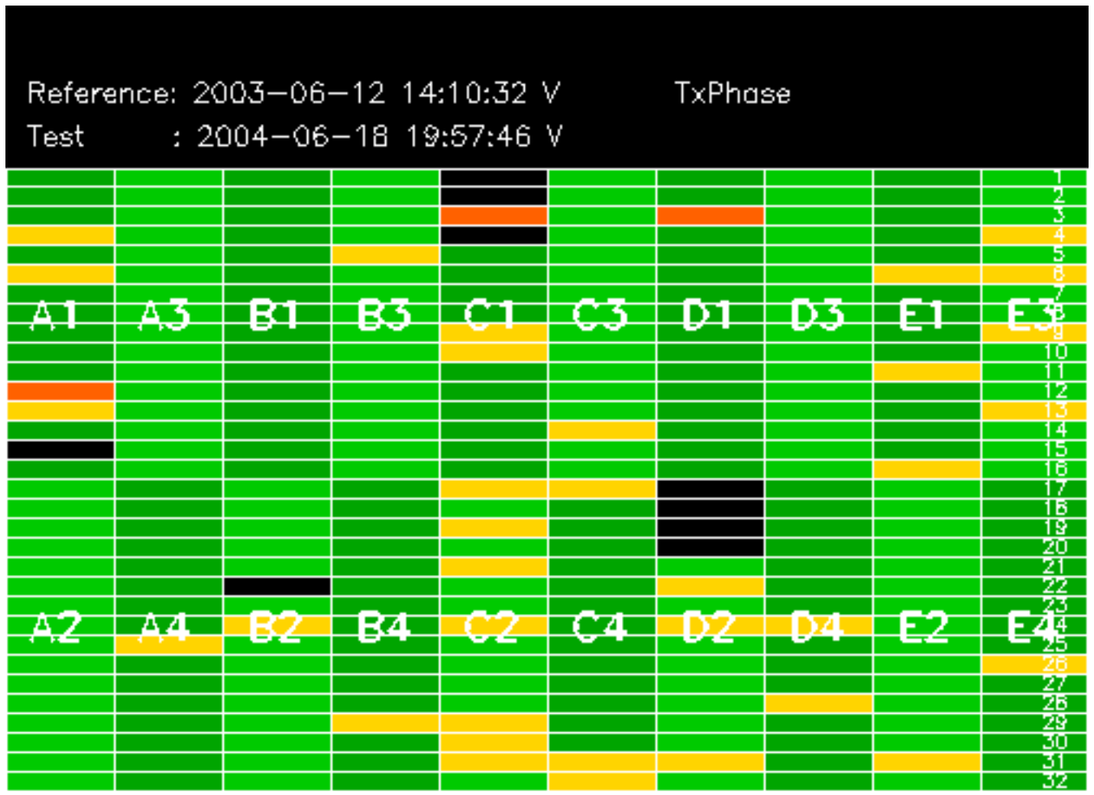
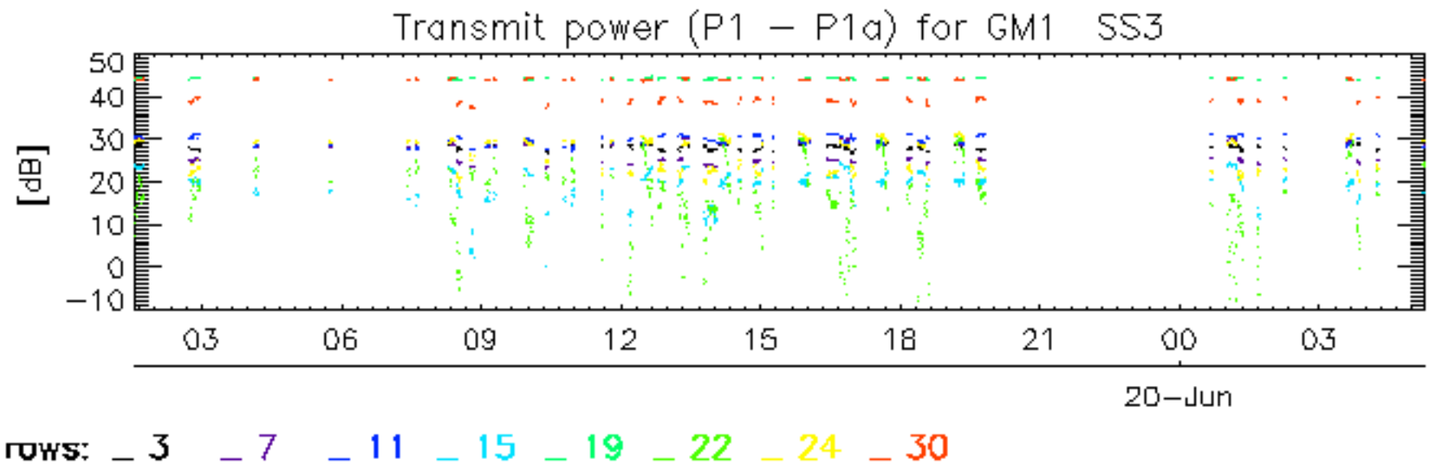
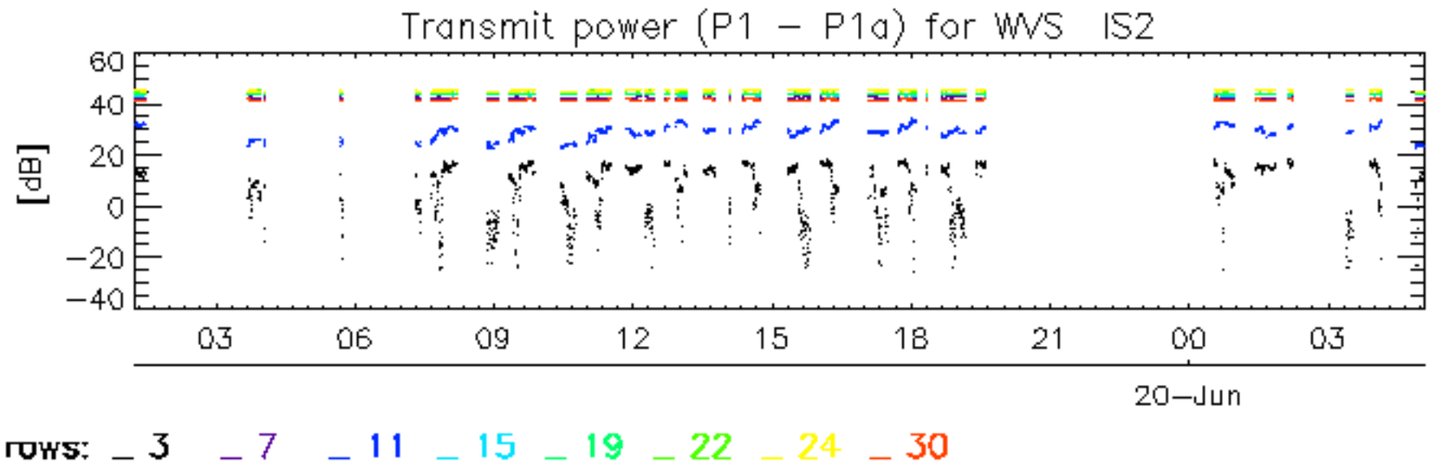

Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-06-19 19:27:09 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-06-19 19:27:09 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2004-06-18 19:57:46 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 : 2004-06-18 19:57:46 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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

No unavailabilities during the reported period.