REPORT OF 040526

last update on Wed May 26 13:27:43 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 any malfunctionning modules and
to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

- ASA_MS__0PNPDK20040525_205322_000000152027_00114_11691_0133.N1

Polarisation	Start Time
V	20040525 205322
H	20040524 194423

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.

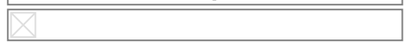
4.1 - Daily statistics

4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS

4.1.2 - Evolution for GM1

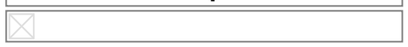
Evolution of cal pulses for GM1



4.2 - Cyclic statistics

4.2.1 - Evolution for WVS

Evolution of cal pulses for WVS



P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.581926	0.089290	0.215437
7	P1	-3.341058	0.063474	0.119204
11	P1	-4.562599	0.036075	0.134738
15	P1	-5.395638	0.201223	-1.132456
19	P1	-3.396640	0.005022	-0.069940
22	P1	-4.552086	0.012223	-0.034913
24	P1	-4.947706	0.017154	0.141102
30	P1	-6.833516	0.023043	-0.005269

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.431995	0.080941	-0.077791

7	P2	-22.884308	0.113715	-0.098736
11	P2	-15.742882	0.126015	0.126687
15	P2	-7.195421	0.092891	-0.077324
19	P2	-9.555596	0.129058	-0.045321
22	P2	-17.613256	0.095571	0.041091
24	P2	-20.924664	0.083211	0.041146
30	P2	-19.523943	0.080294	0.148302

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.143760	0.002214	-0.018054
7	P3	-8.143757	0.002214	-0.018067
11	P3	-8.143760	0.002214	-0.018060
15	P3	-8.143759	0.002214	-0.018066
19	P3	-8.143757	0.002214	-0.018078
22	P3	-8.143754	0.002215	-0.018102
24	P3	-8.143752	0.002215	-0.018117
30	P3	-8.143773	0.002212	-0.017416

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1


P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.142817	0.140269	-0.062182
7	P1	-2.838790	0.083453	0.062958
11	P1	-3.784162	0.020086	0.009658
15	P1	-4.161238	0.881649	-0.705355
19	P1	-3.336790	0.048817	-0.025765
22	P1	-5.731221	0.046561	0.010108
24	P1	-4.036263	0.081782	-0.086870
30	P1	-6.067180	0.053505	-0.053731

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.166098	0.042043	-0.052525
7	P2	-22.984459	0.026009	0.050764
11	P2	-11.124301	0.204787	0.106624
15	P2	-5.000192	0.037262	-0.024319
19	P2	-6.915150	0.042613	-0.077599
22	P2	-7.716789	0.022620	0.010876
24	P2	-11.081526	0.063769	0.009505
30	P2	-22.445398	0.089294	0.047452

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.985240	0.003256	-0.004161
7	P3	-7.985195	0.003250	-0.003845
11	P3	-7.985173	0.003263	-0.004269
15	P3	-7.985301	0.003255	-0.004785
19	P3	-7.985248	0.003258	-0.003901
22	P3	-7.985364	0.003232	-0.003957
24	P3	-7.984997	0.003274	-0.003986
30	P3	-7.985280	0.003263	-0.004303

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	0.000458951
	stdev	2.29253e-07
MEAN Q	mean	0.000514930
	stdev	2.48410e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.126129
	stdev	0.000997199
STDEV Q	mean	0.126345
	stdev	0.00100712

5.3 - Gain imbalance I/Q

6 - Doppler Analysis

No anomalies observed.
Analysis performed over the last 35 days.

6.1 - Unbiased Doppler Error for WVS

Evolution of unbiased Doppler error (Real - Expected)

Acsending

Descending

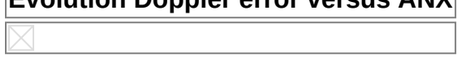
6.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler

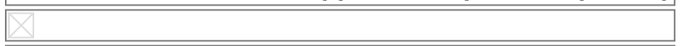
Acsending

Descending

6.3 - Doppler evolution versus ANX for WVS

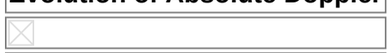
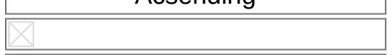
Evolution Doppler error versus ANX


6.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)

Acsending

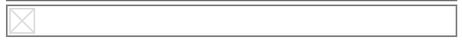
Descending

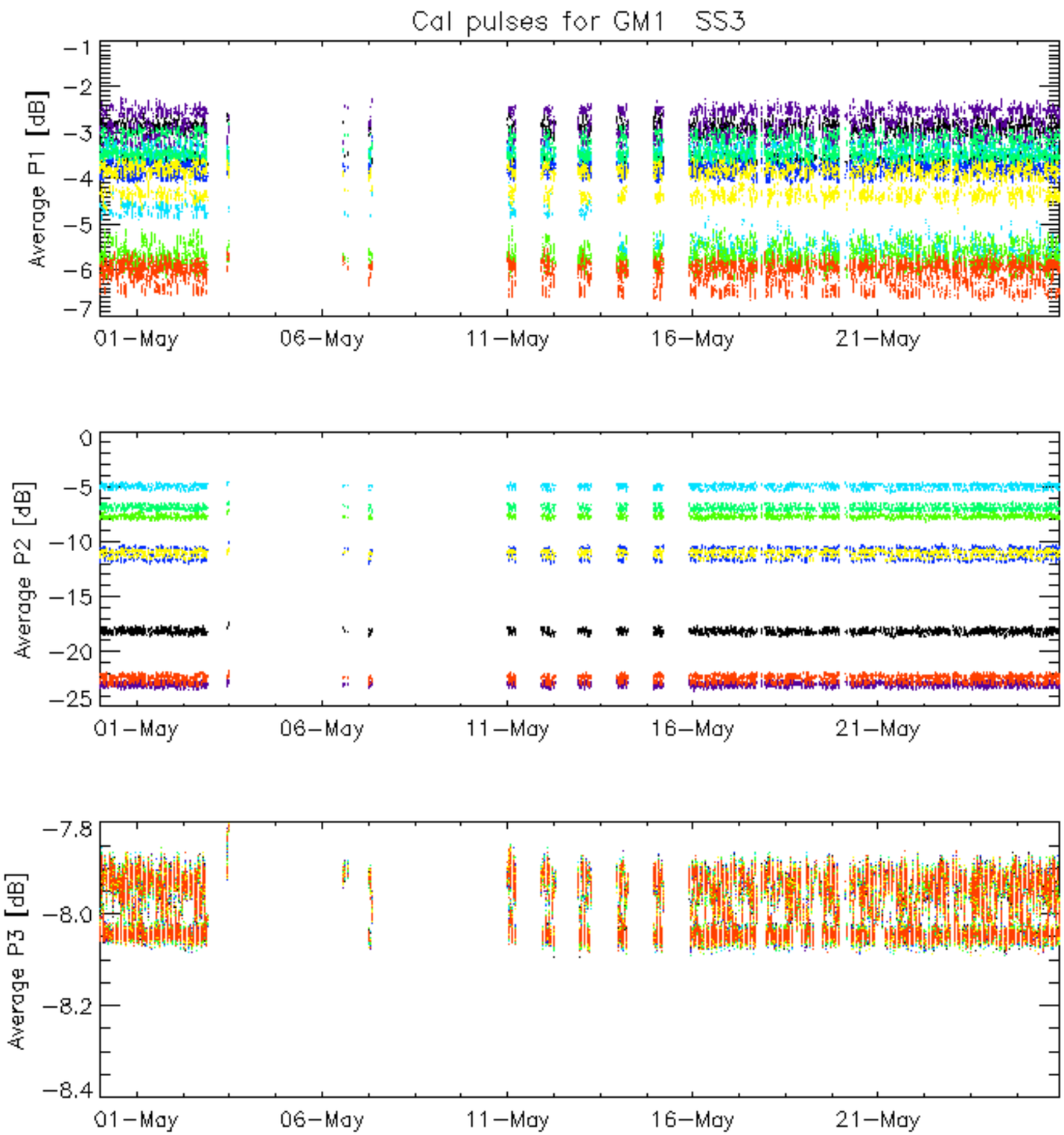
6.5 - Absolute Doppler for GM1

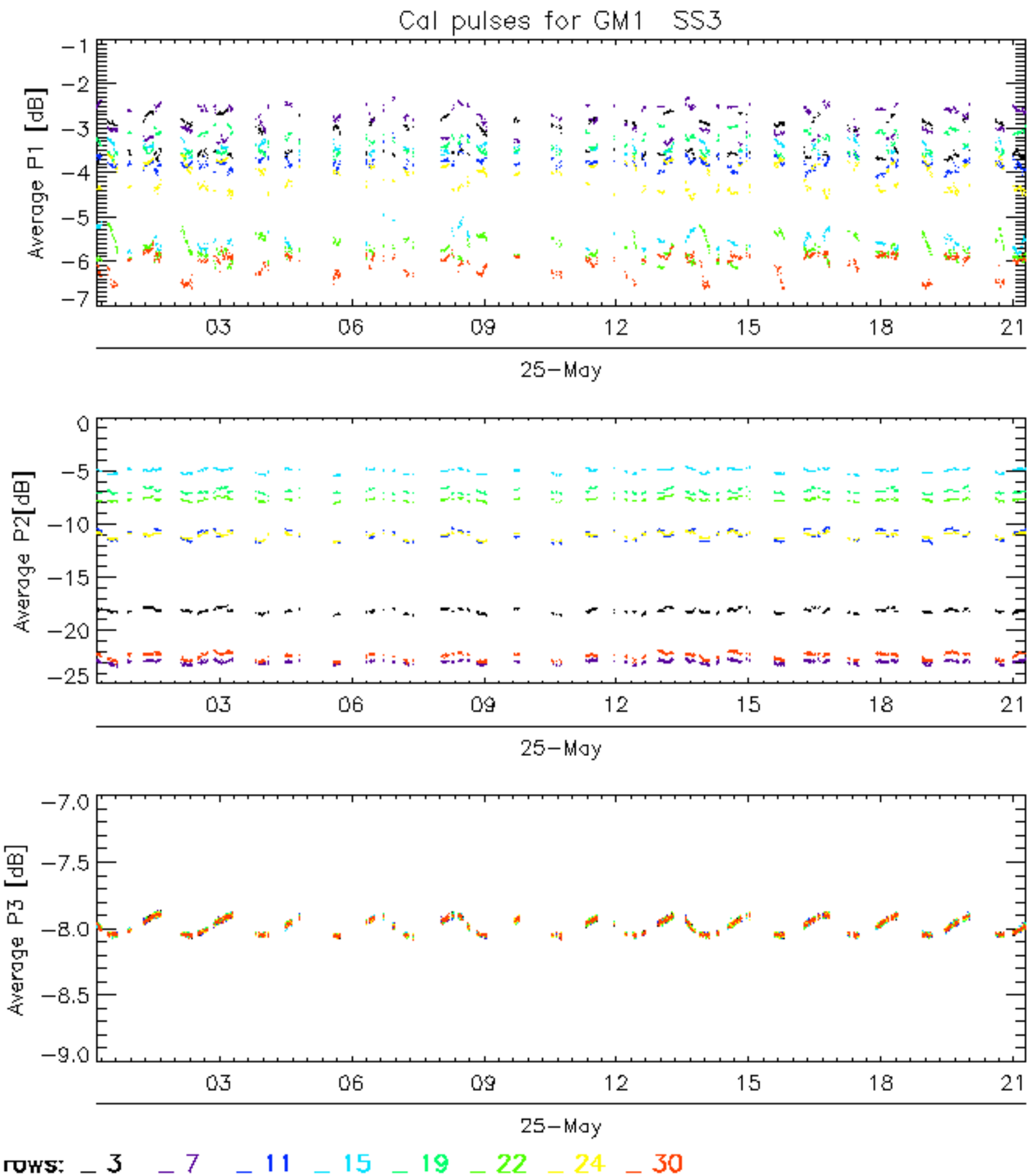
Evolution of Absolute Doppler

Acsending

Descending

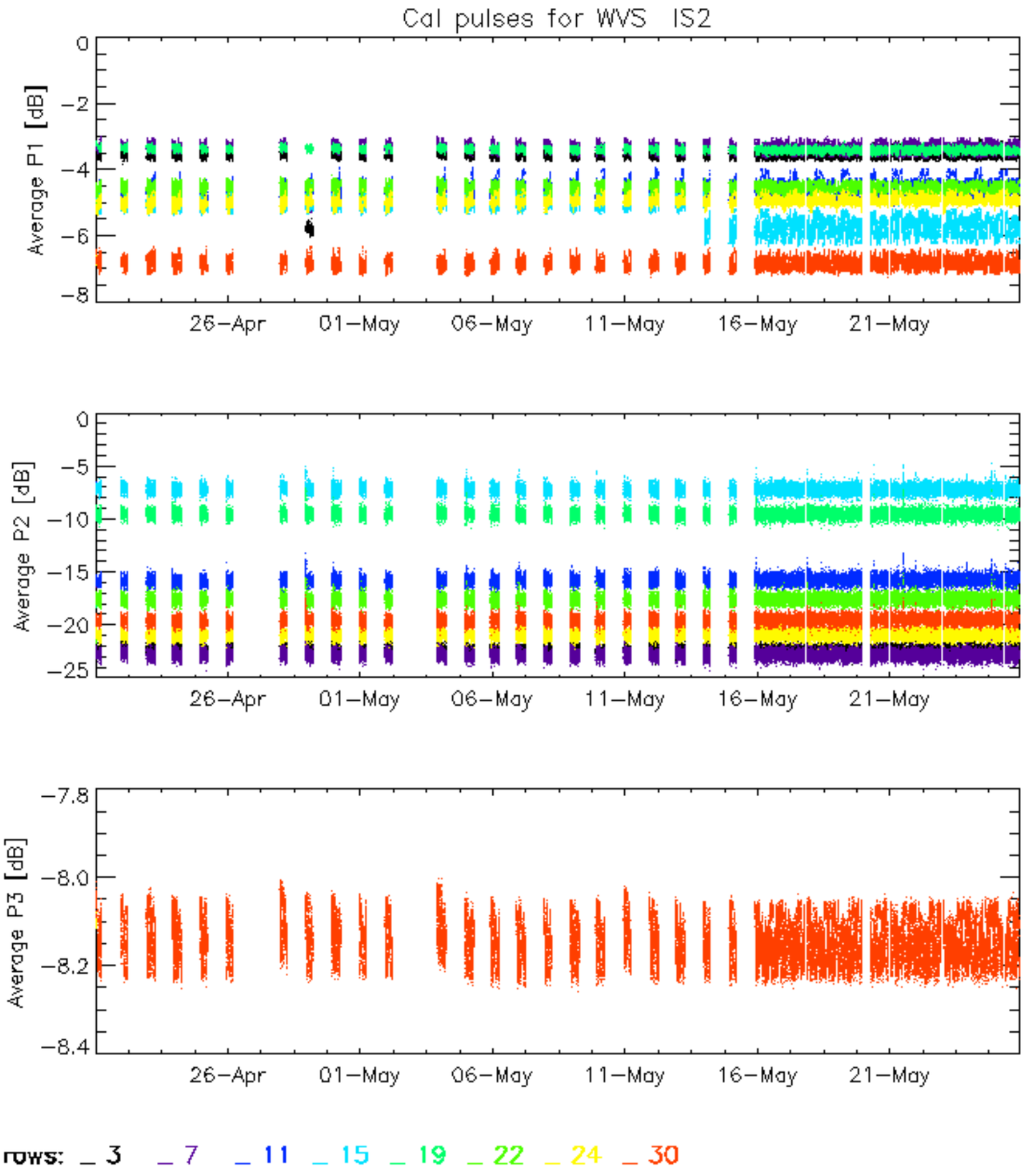
6.6 - Doppler evolution versus ANX for GM1

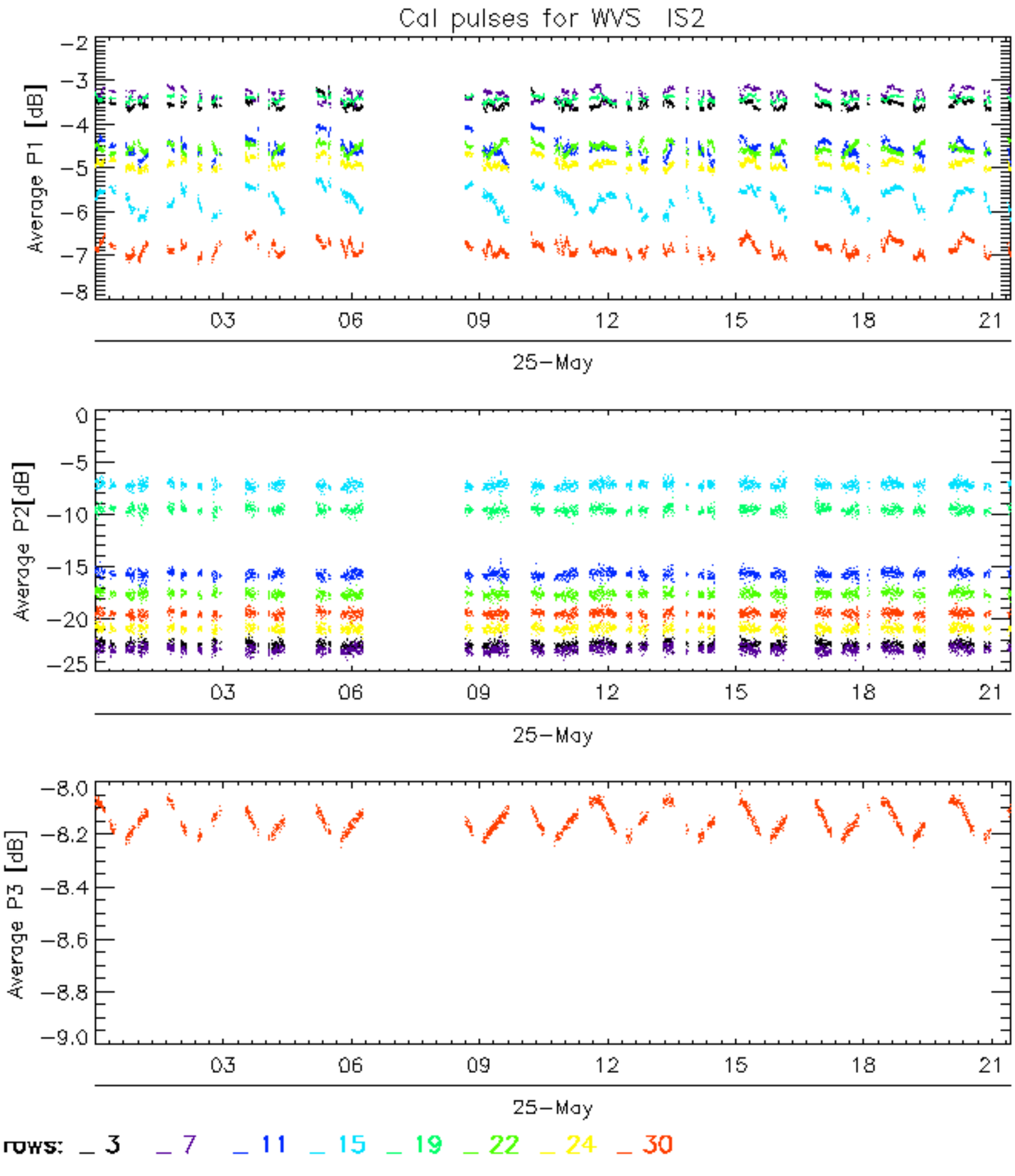
Evolution Doppler error versus ANX




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

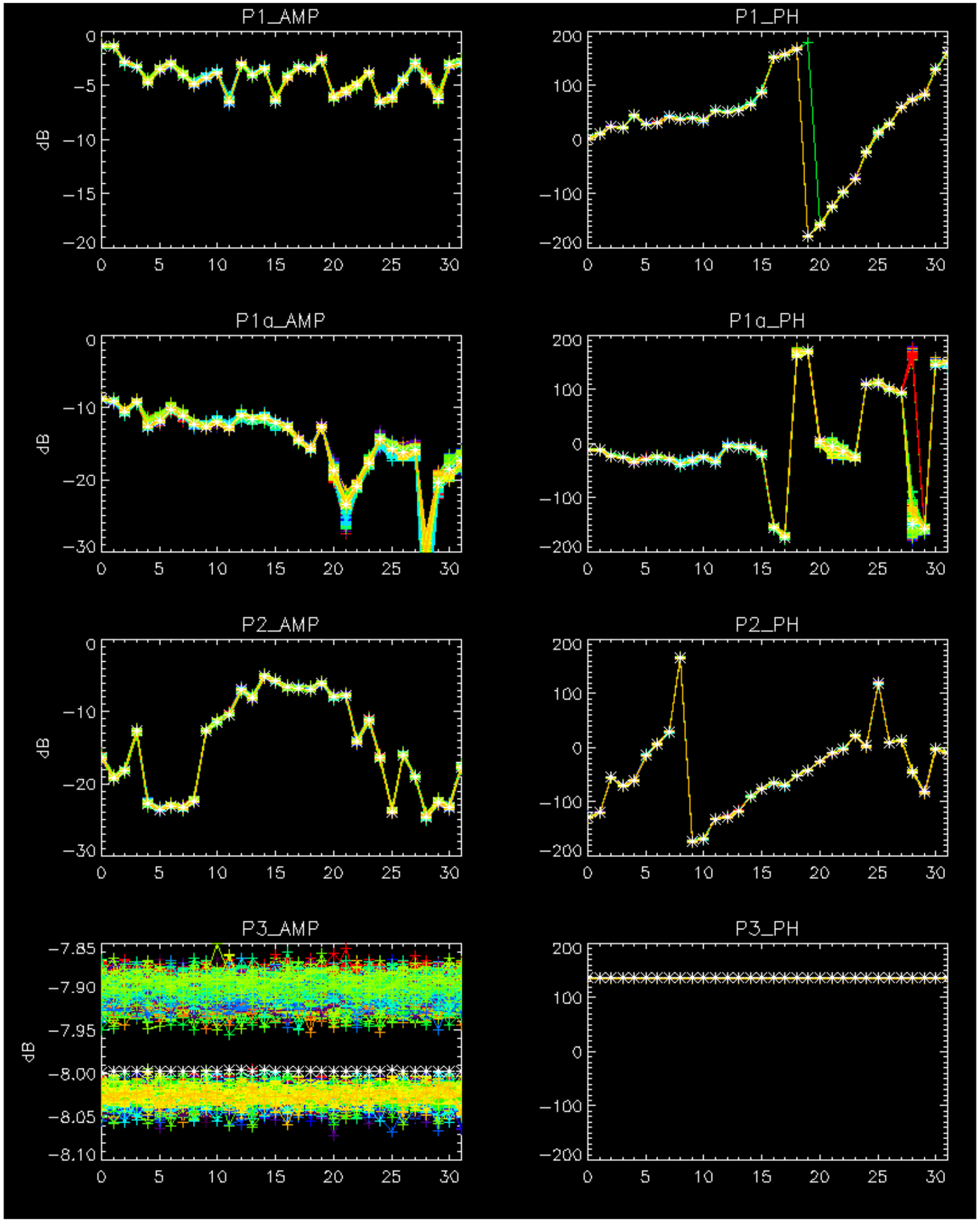

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
25−May
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
25−May
Average P3 [dB]
−7.0
−7.5
−8.0
−8.5
−9.0
03
06
09
12
15
18
21
25−May
rows: 3 7 11 15 19 22 24 30

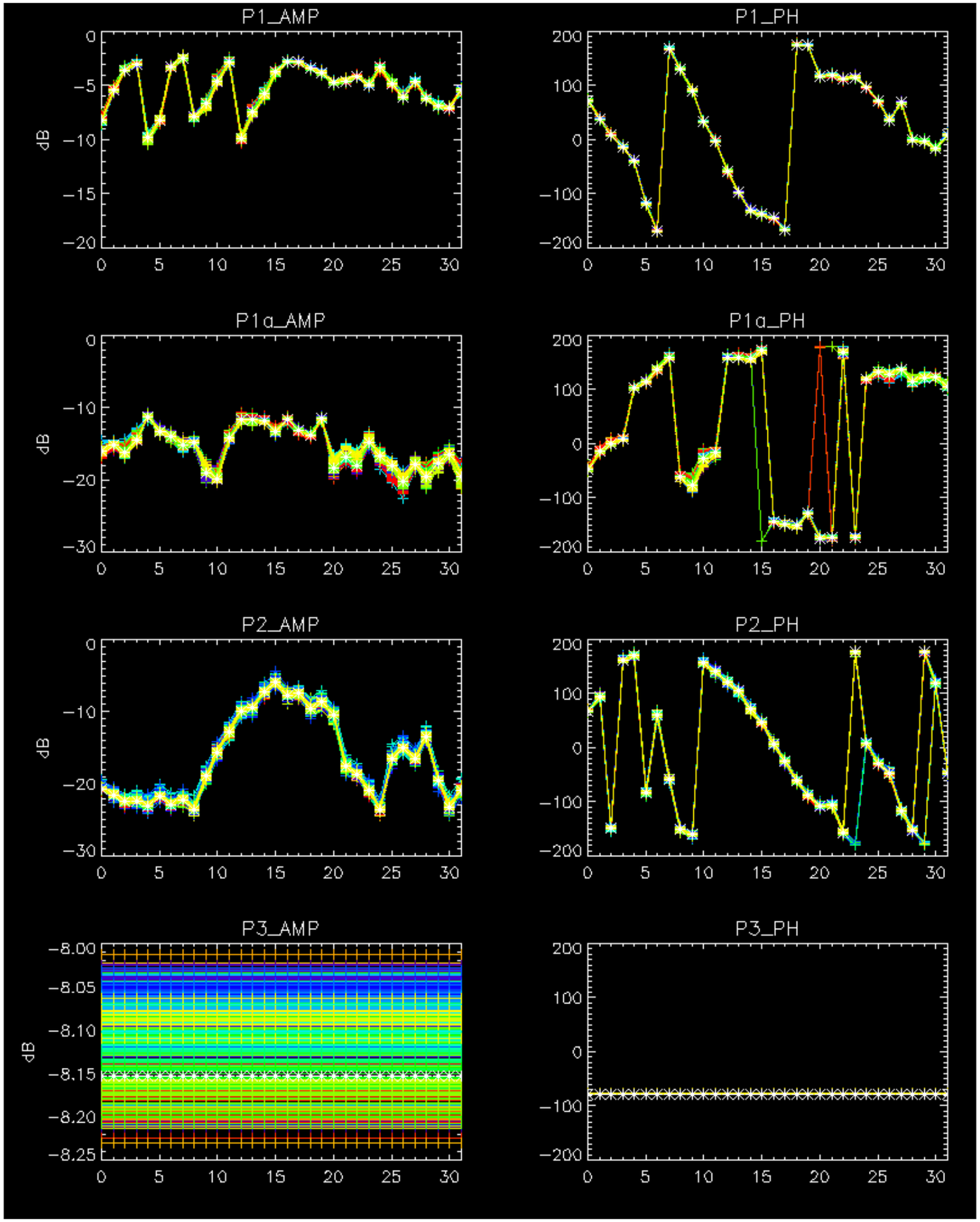

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
26−Apr
01−May
06−May
11−May
16−May
21−May
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: 3 7 11 15 19 22 24 30


Cal pulses for WVS IS2
Average P1 [dB]
−2
−3
−4
−5
−6
−7
−8
03
06
09
12
15
18
21
25−May
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
25−May
Average P3 [dB]
−8.0
−8.2
−8.4
−8.6
−8.8
−9.0
03
06
09
12
15
18
21
25−May
rows: 3 7 11 15 19 22 24 30

No anomalies observed on available browse products.

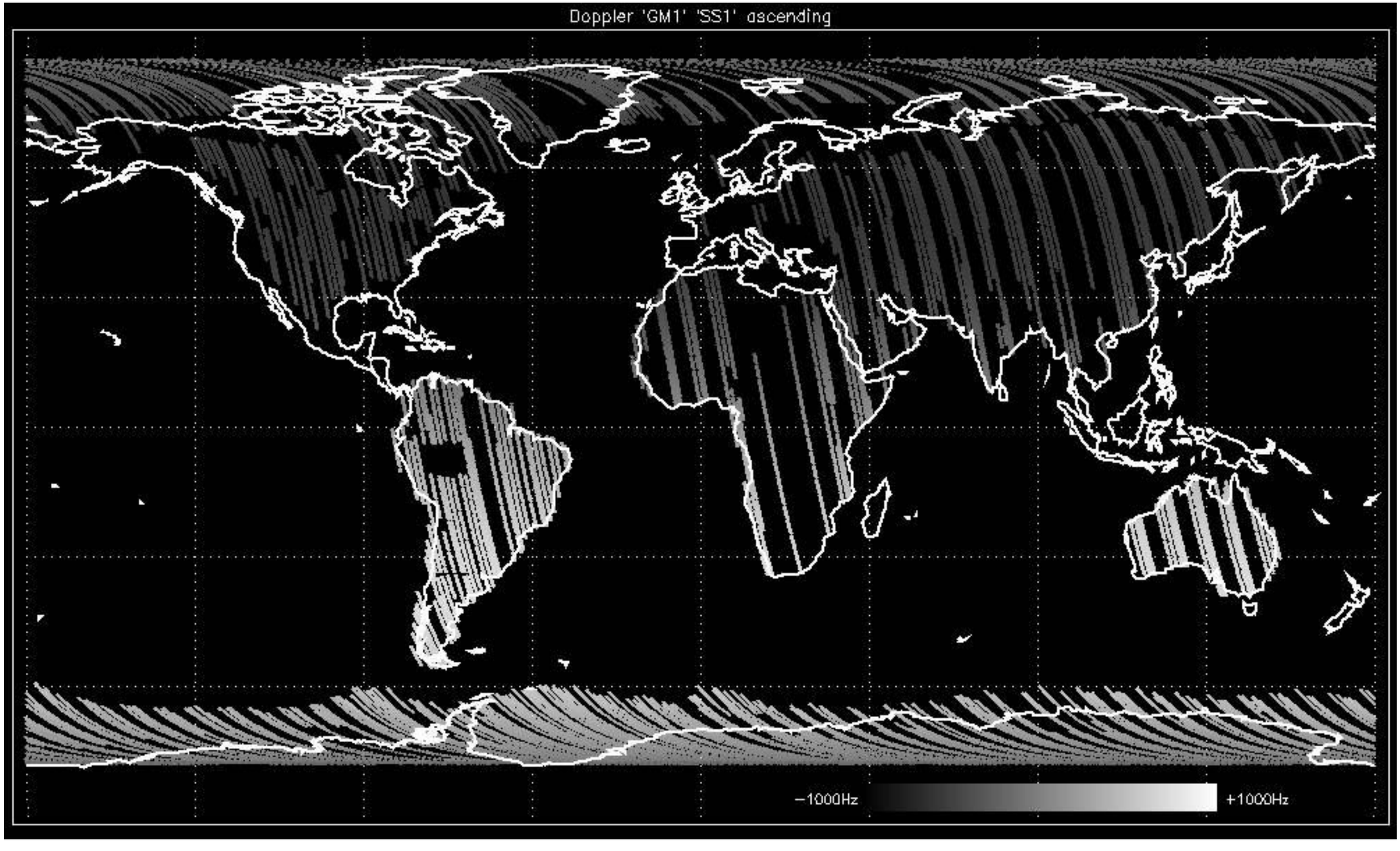
No anomalies observed.

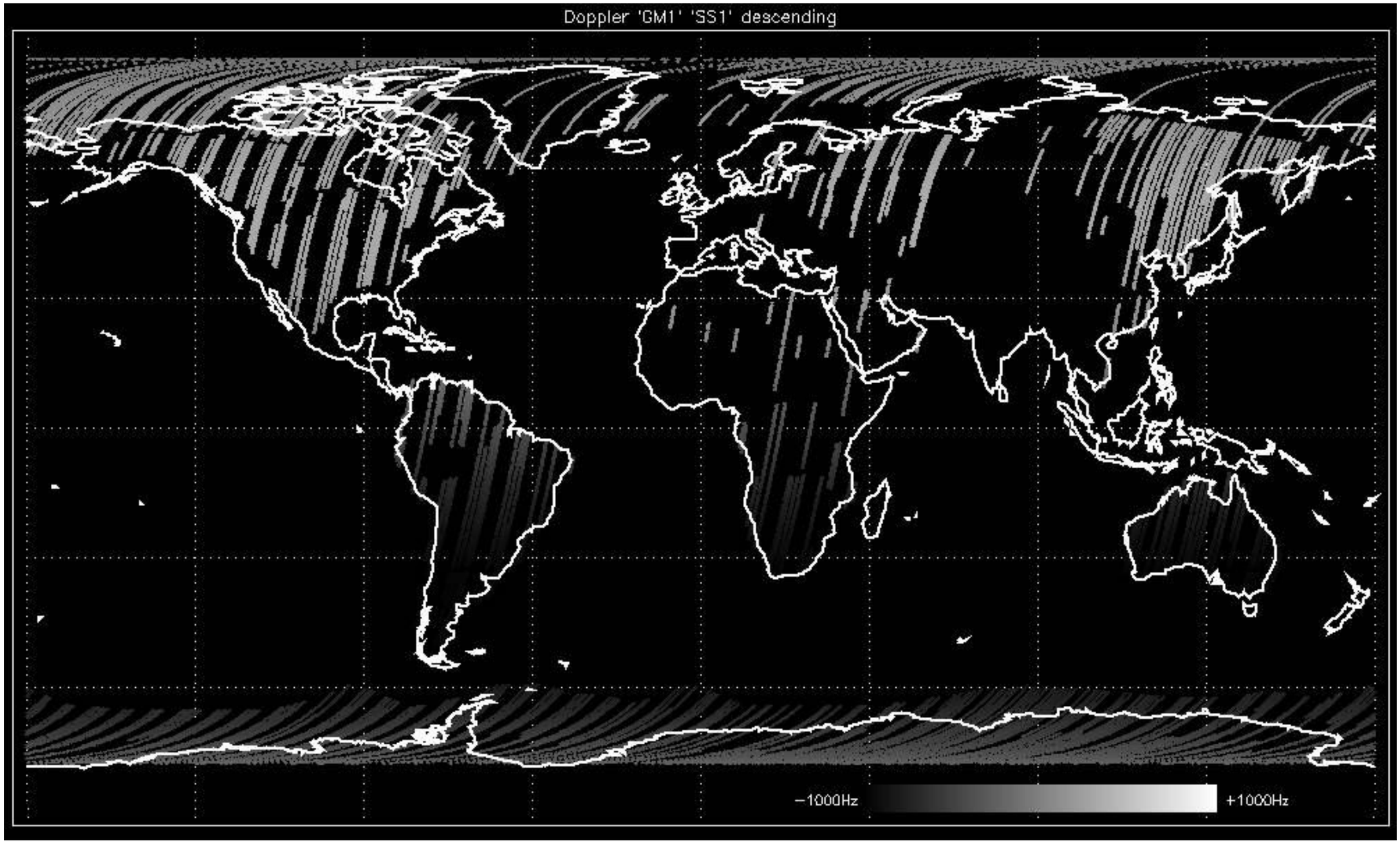

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.85
−7.90
−7.95
−8.00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

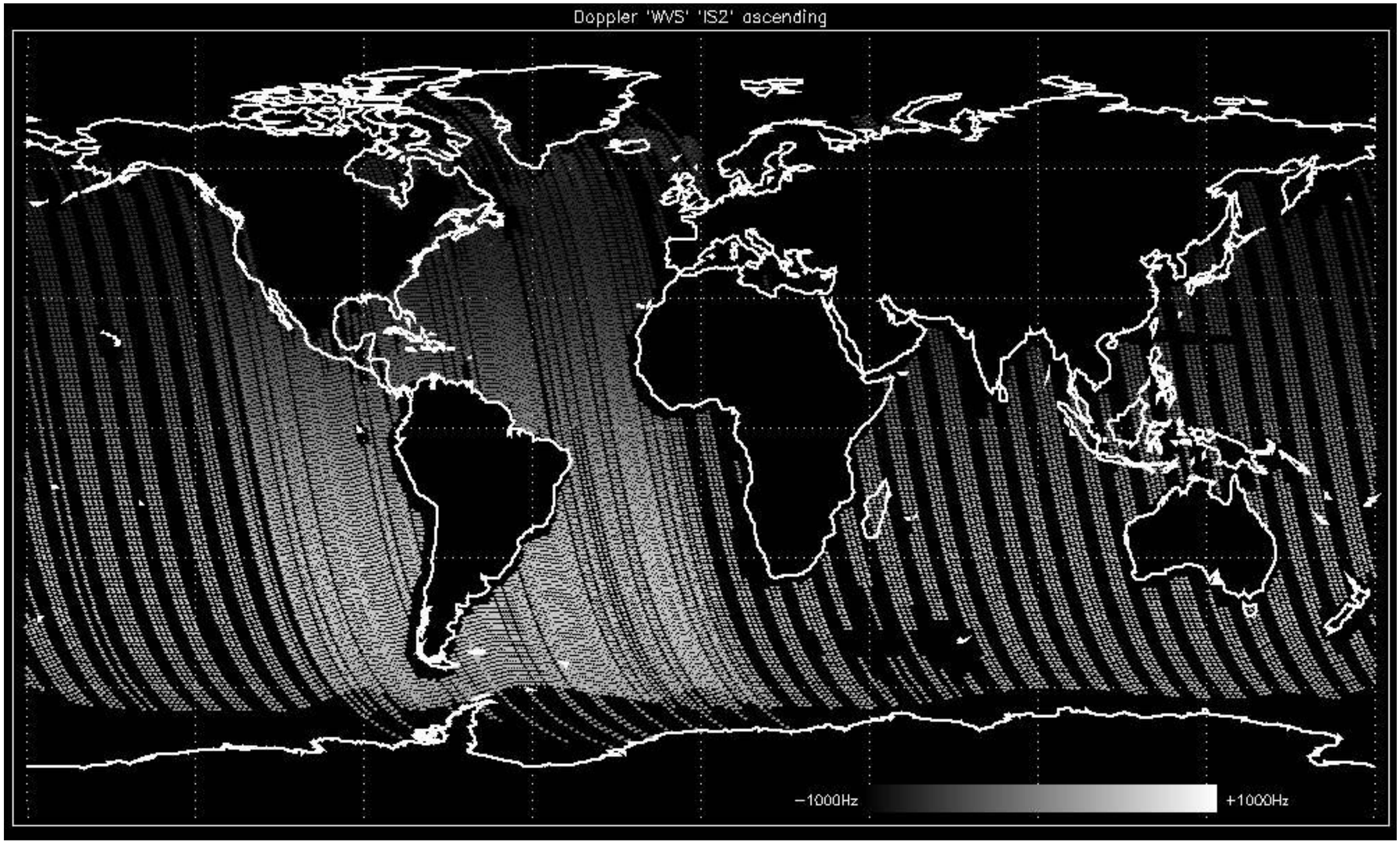

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15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

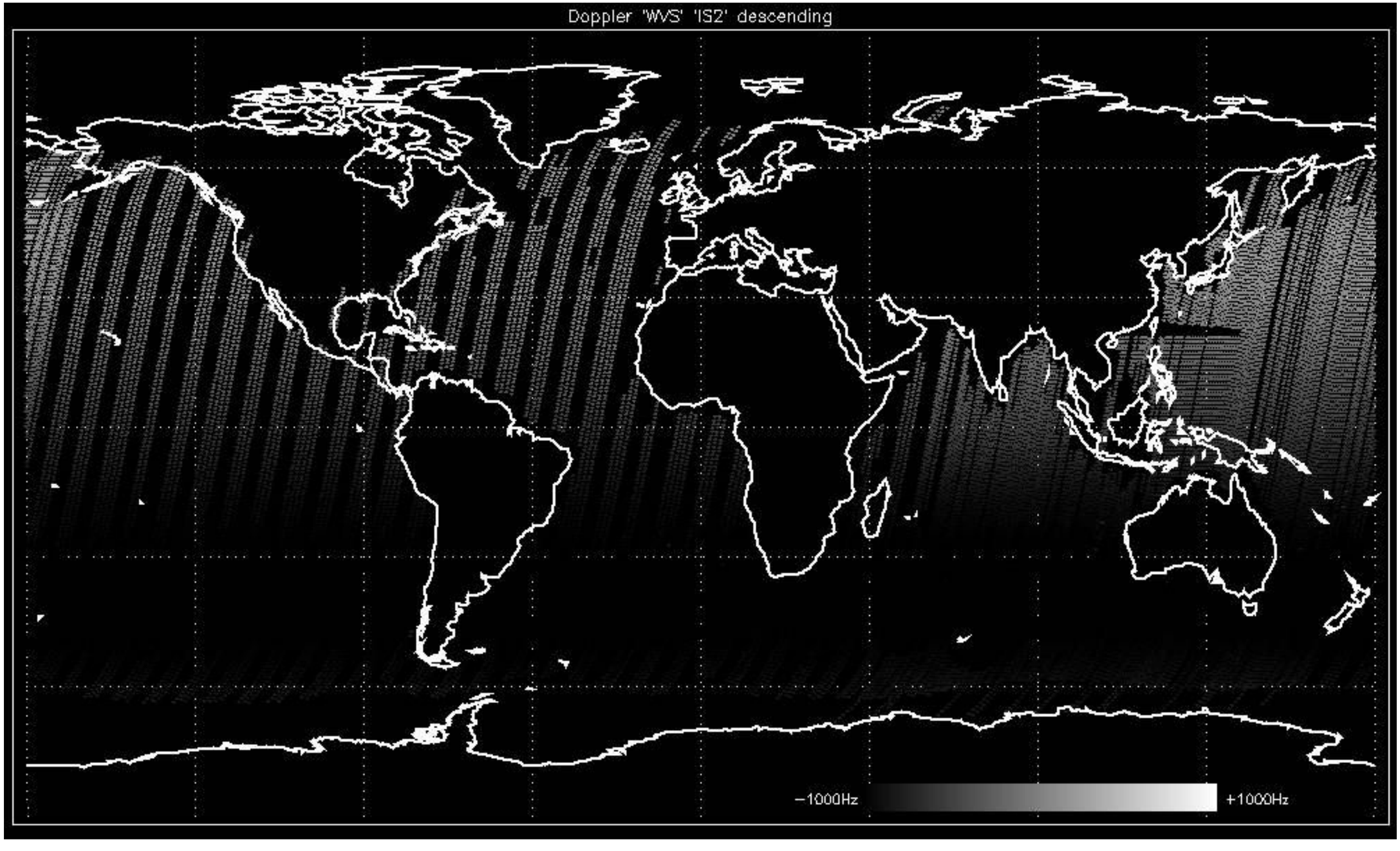
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

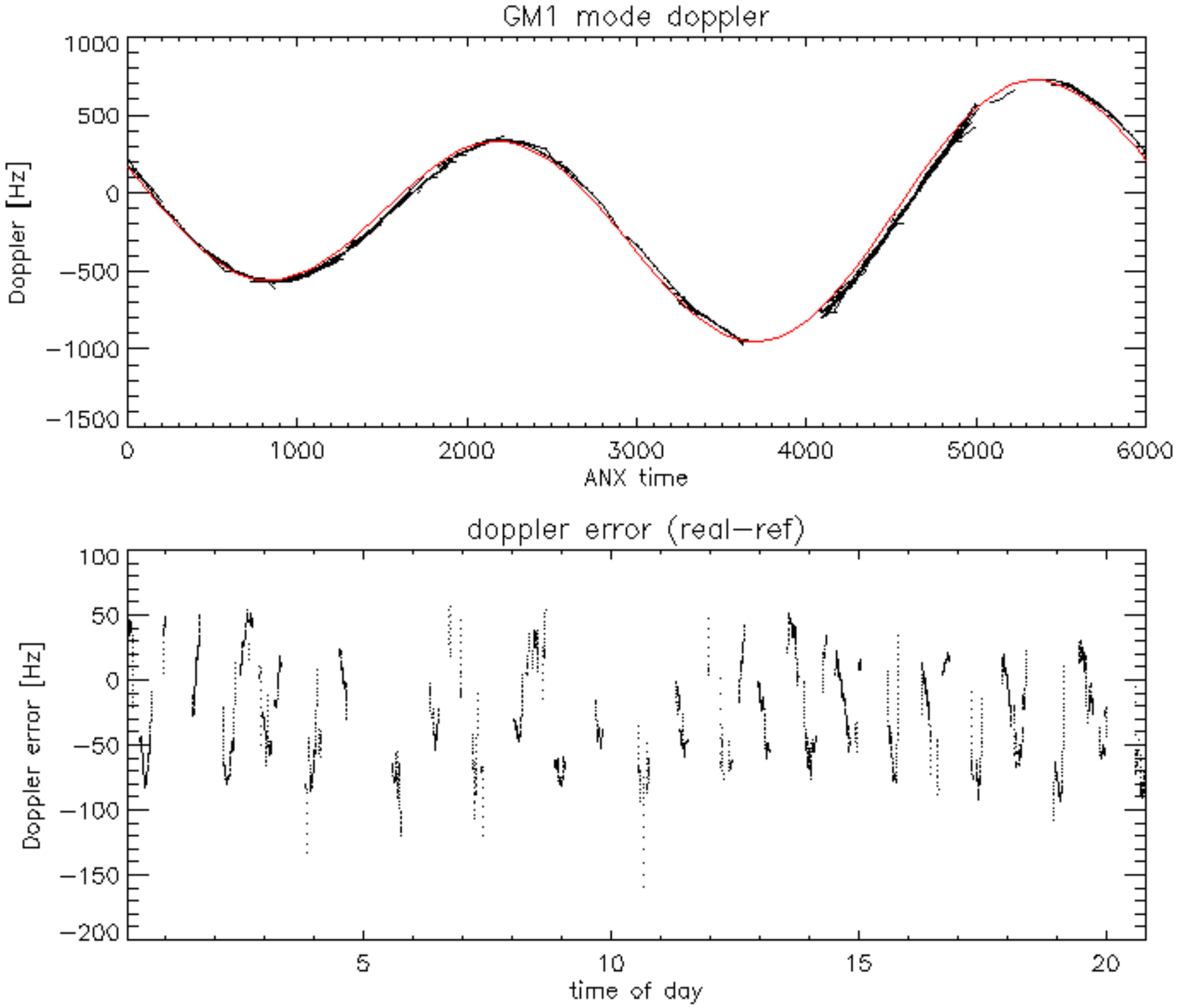
No anomalies observed.
Analysis performed over the last 35 days.

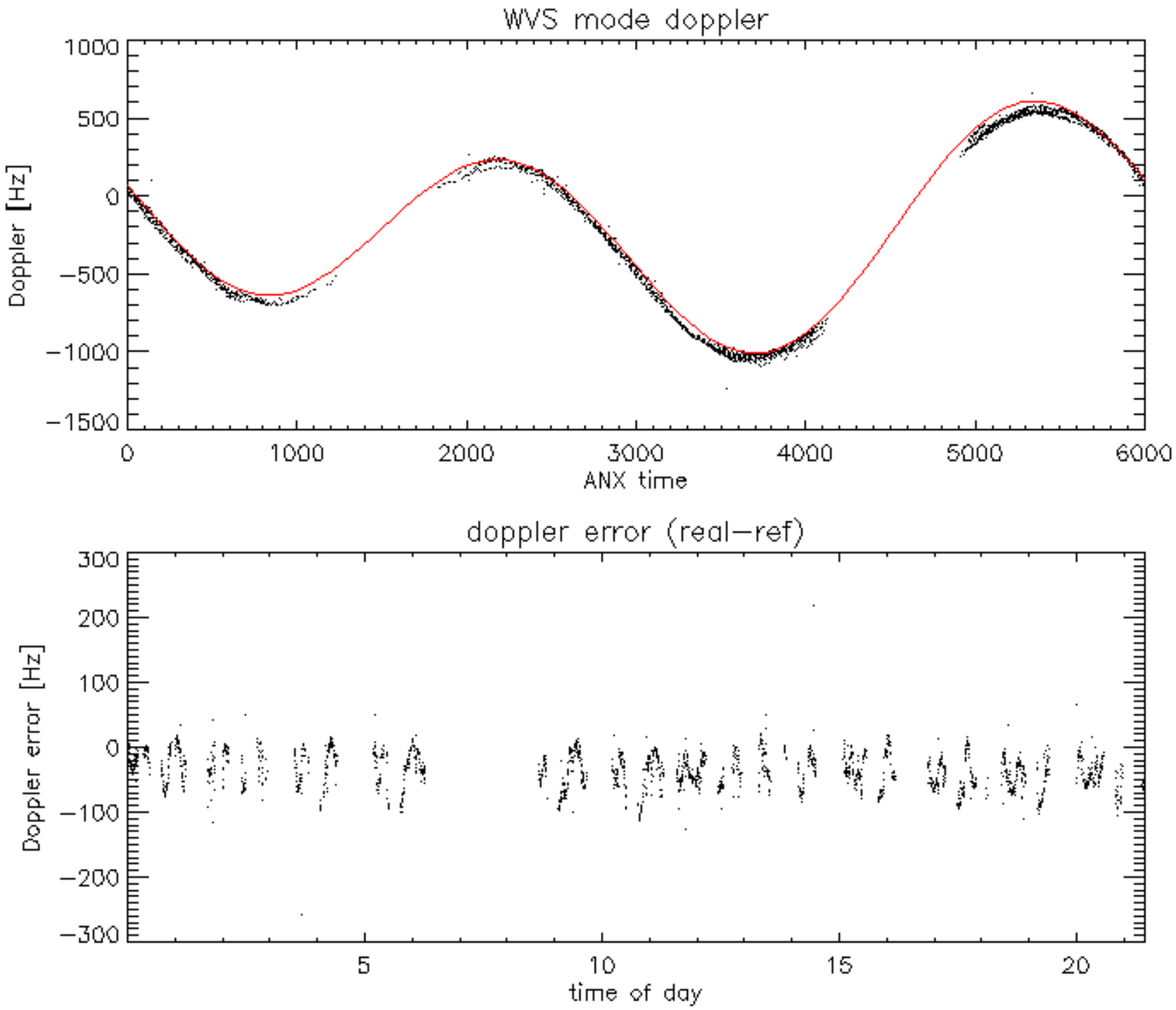

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

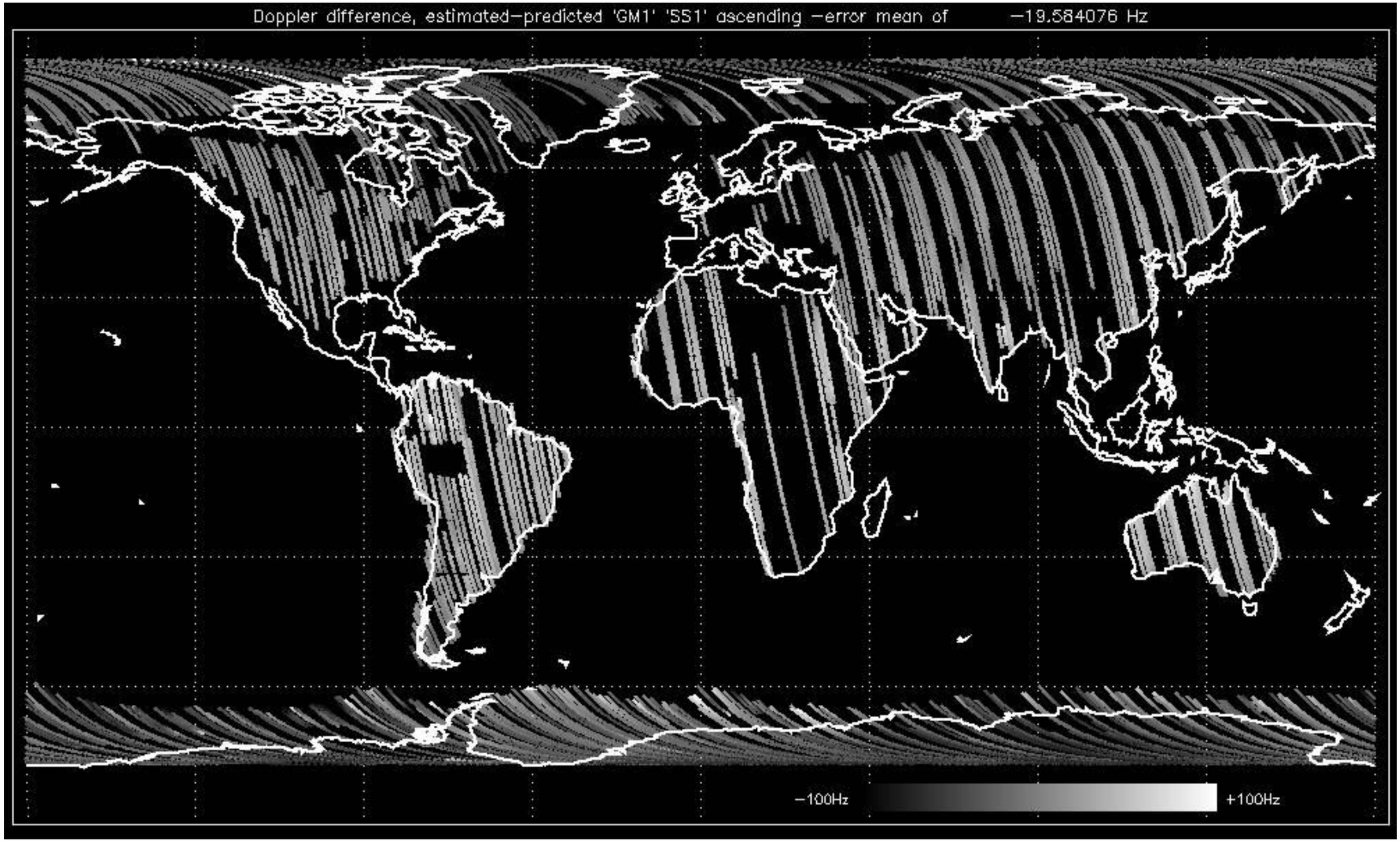

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

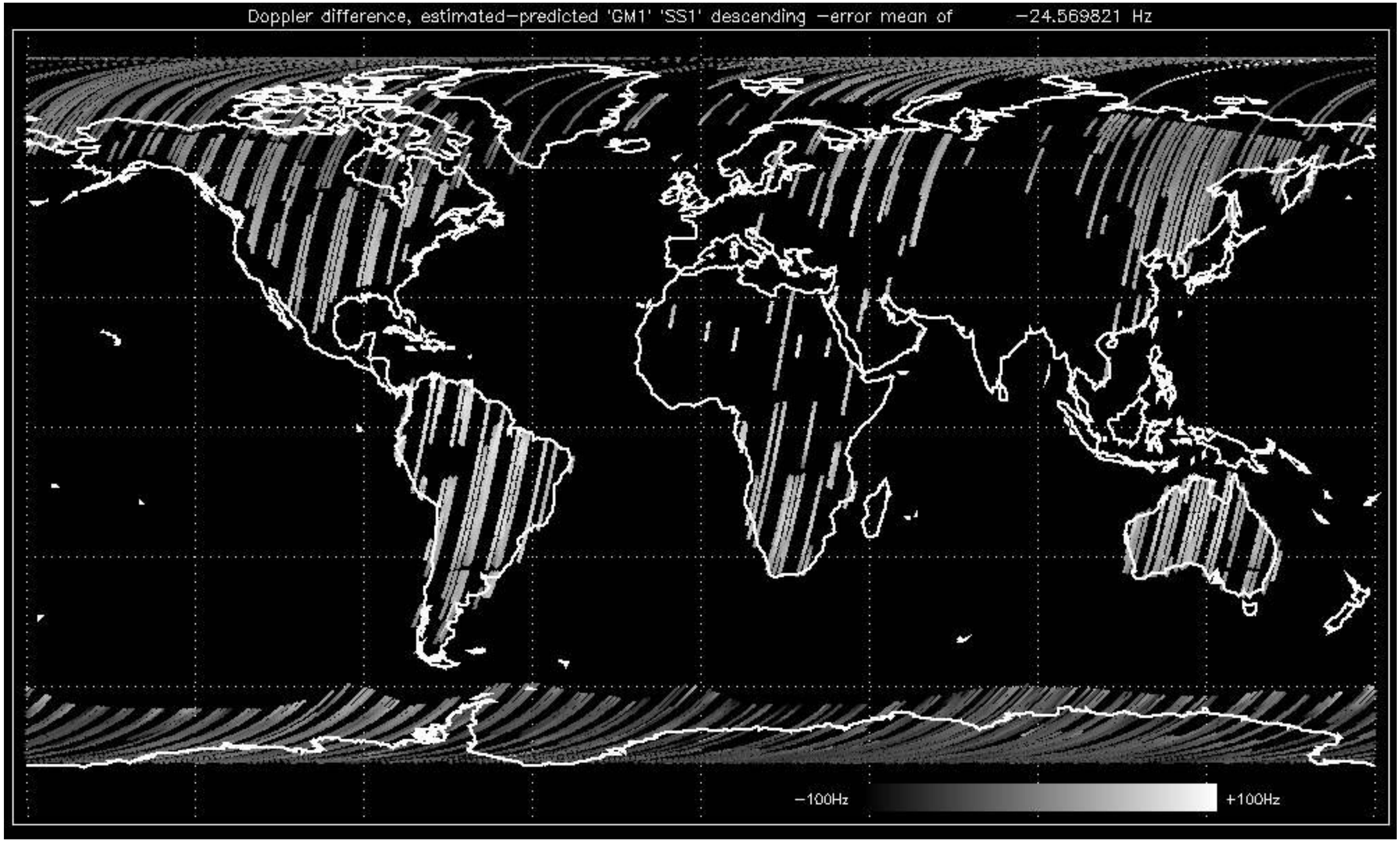

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

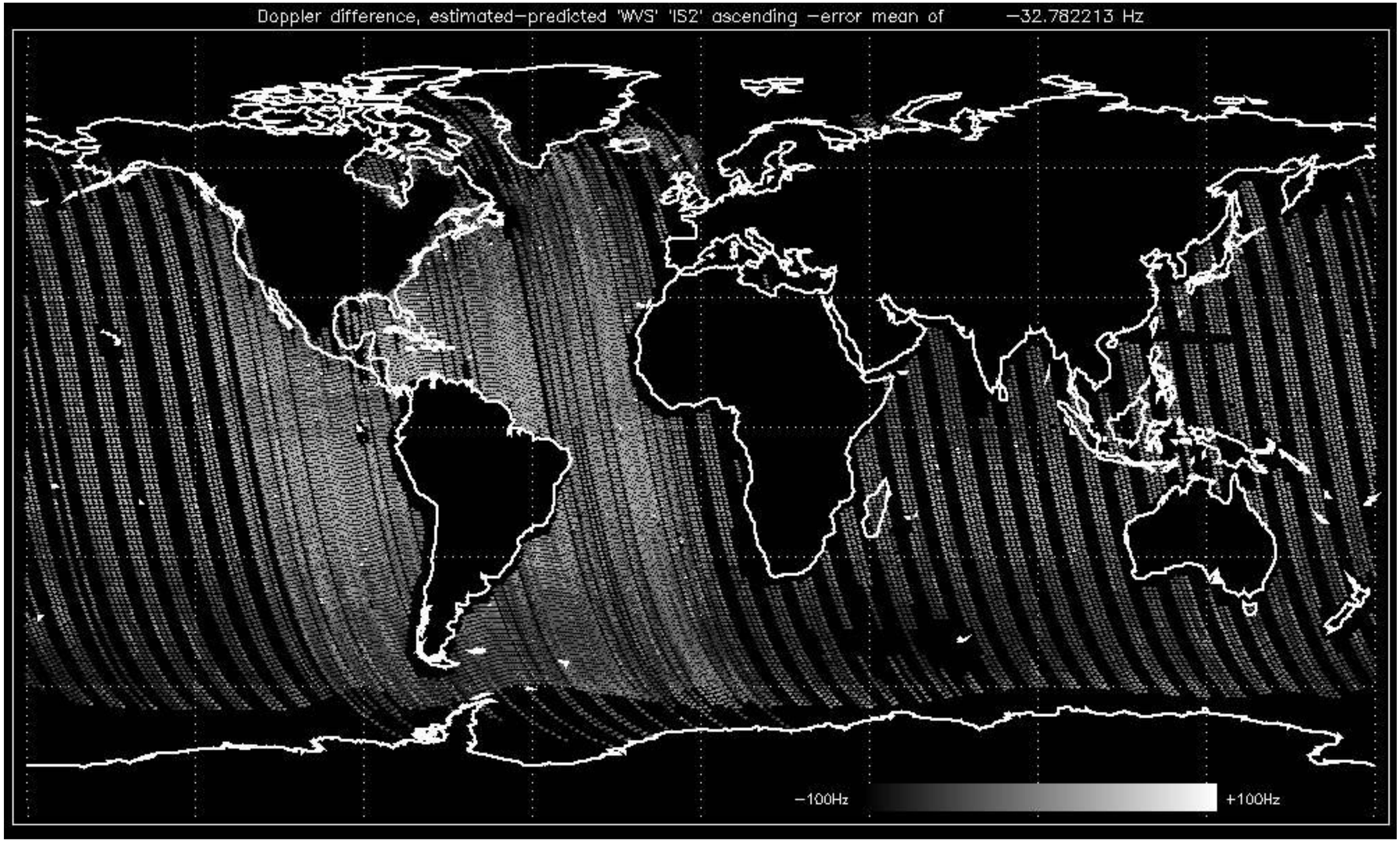

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

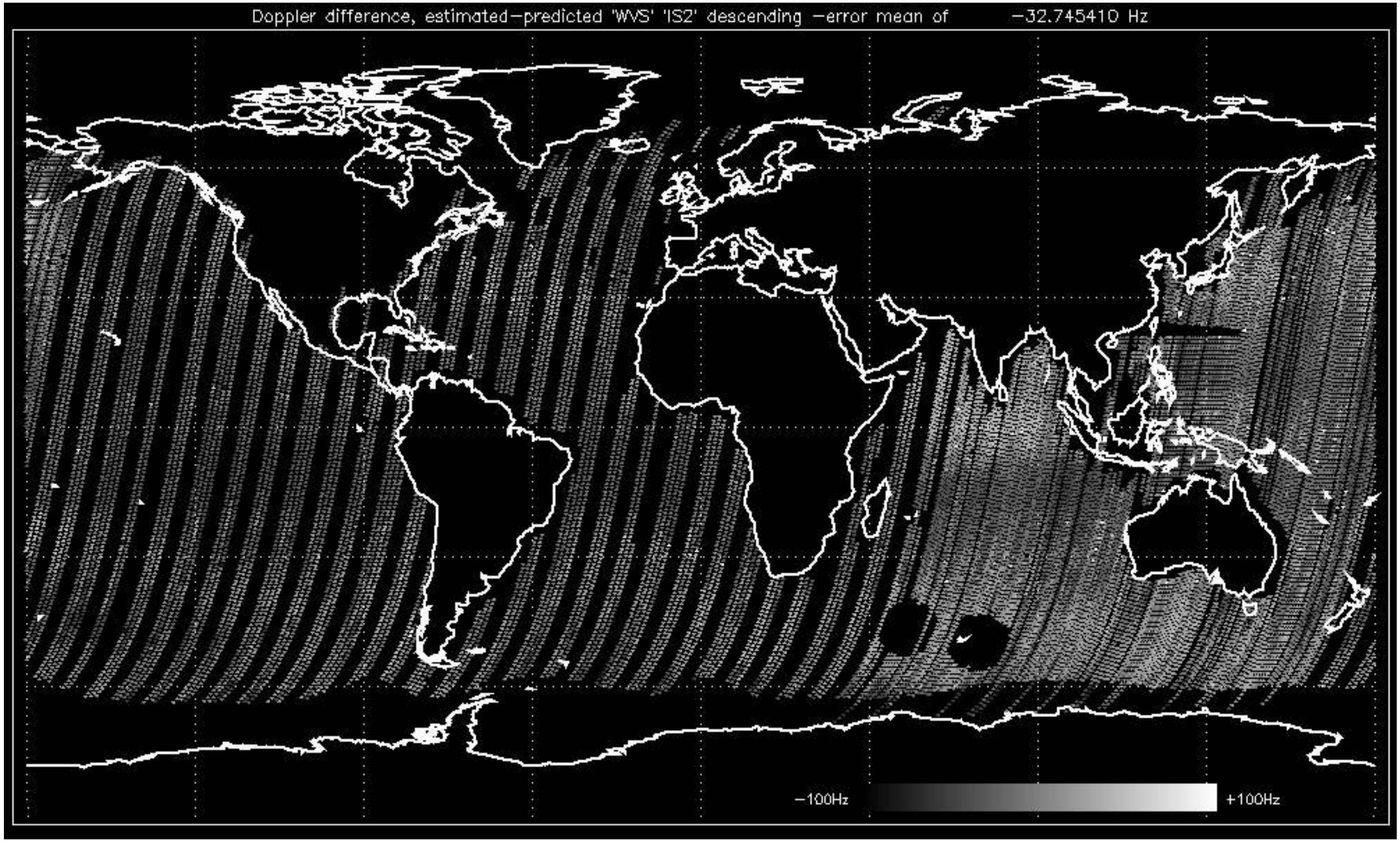

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
ANX time
doppler error (real−ref)
Doppler error [Hz]
100
50
0
−50
−100
−150
−200
5
10
15
20
time of day


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
−300
5
10
15
20
time of day


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −19.584076 Hz
−100Hz
+100Hz


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -24.569821 Hz
-100Hz
+100Hz

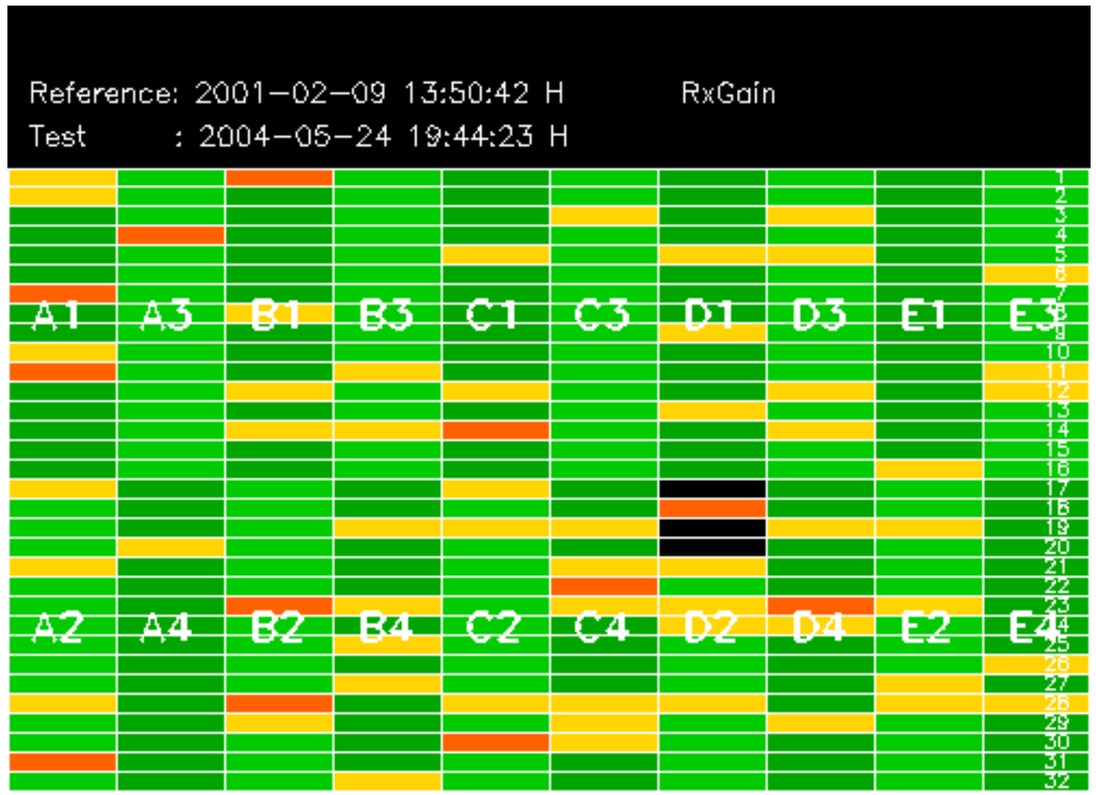

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −32.782213 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −32.745410 Hz
−100Hz
+100Hz

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

- ASA_MS__0PNPDK20040525_205322_000000152027_00114_11691_0133.N1

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2004-05-24 19:44:23 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
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22
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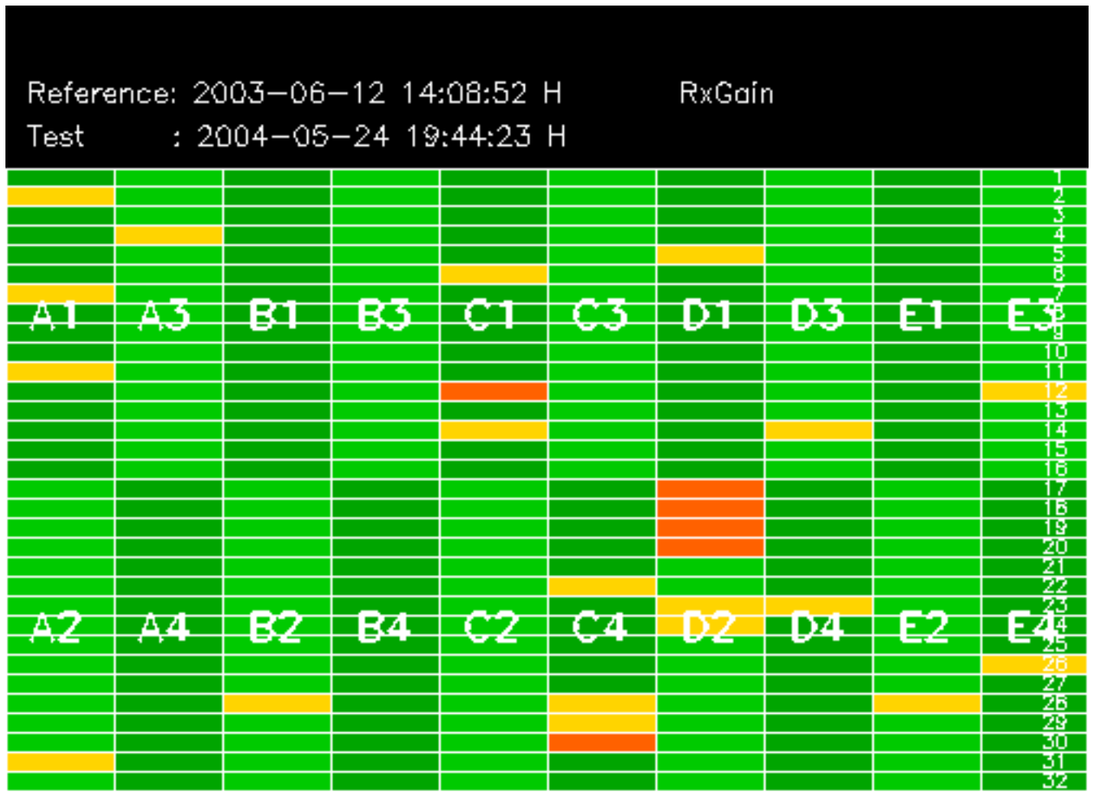
Reference: 2003-06-12 14:08:52 H
Test : 2004-05-24 19:44:23 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
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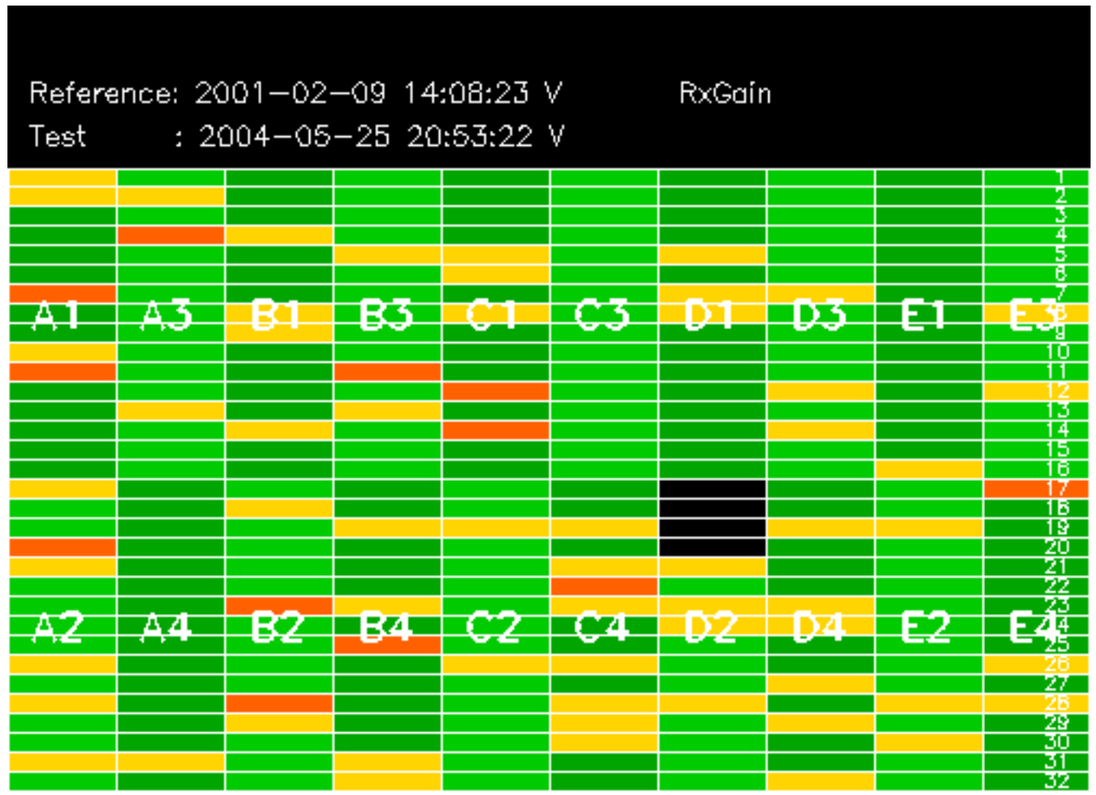
32


Reference: 2001-02-09 14:08:23 V
Test : 2004-05-25 20:53:22 V
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
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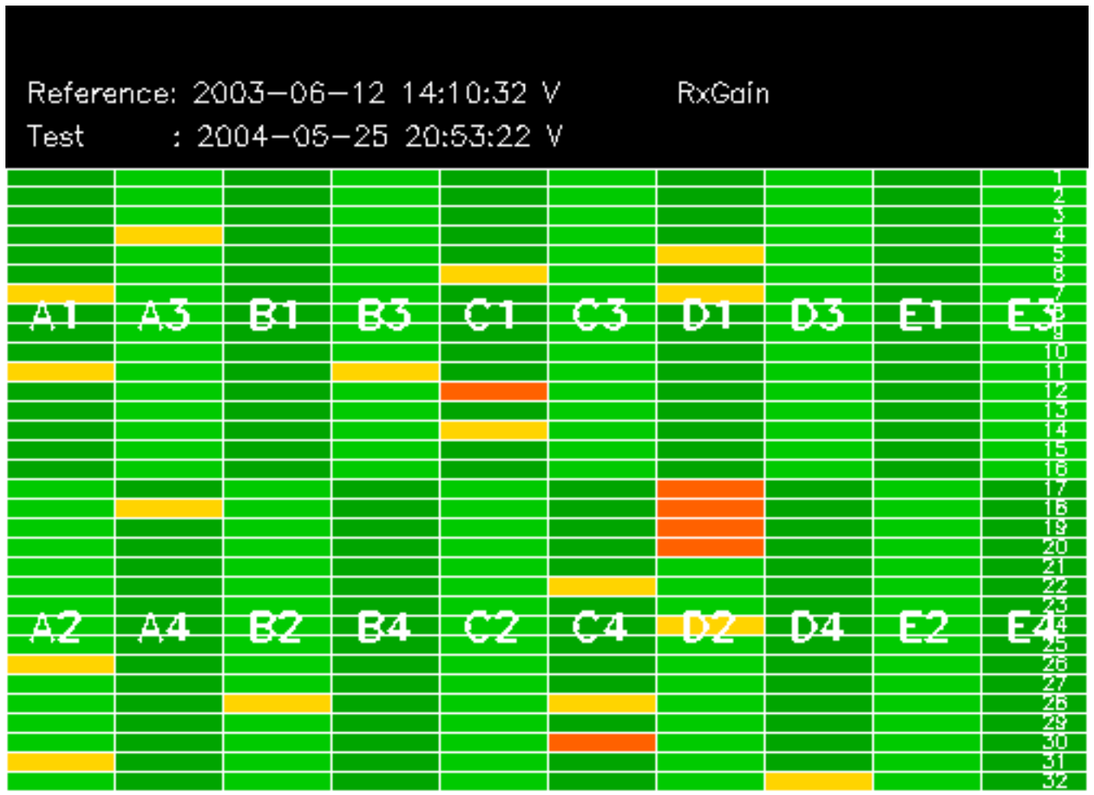
Reference: 2003-06-12 14:10:32 V
Test : 2004-05-25 20:53:22 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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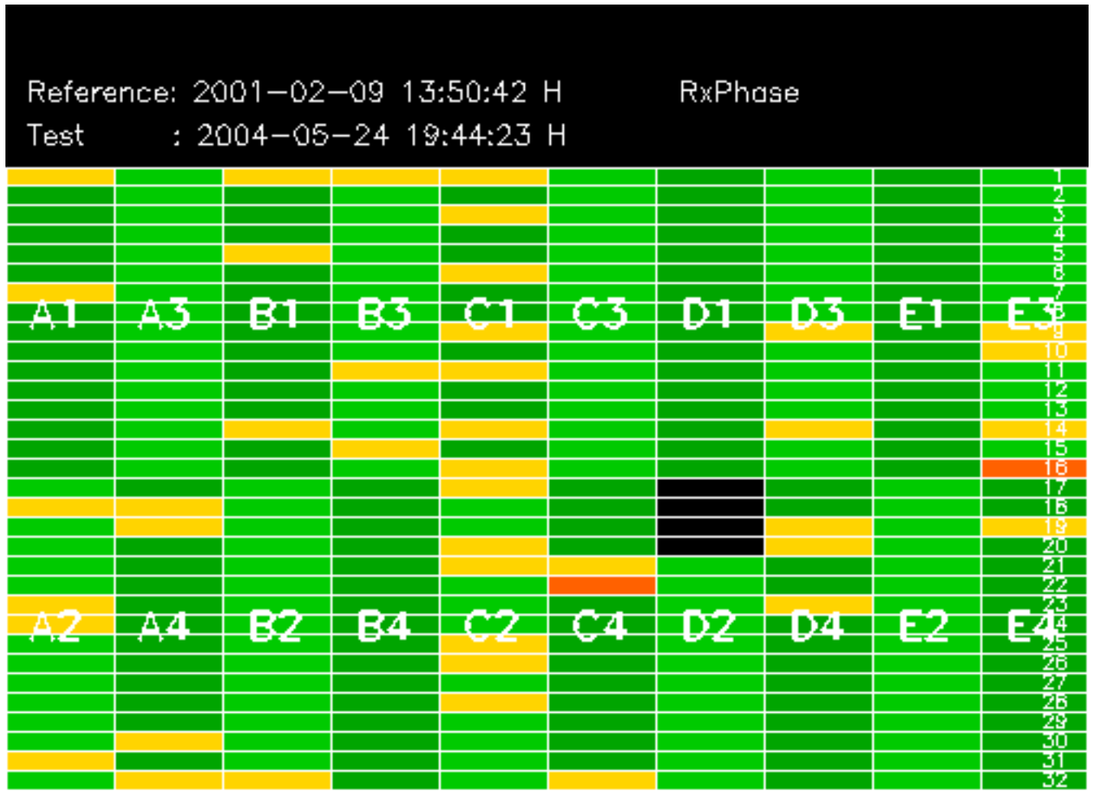
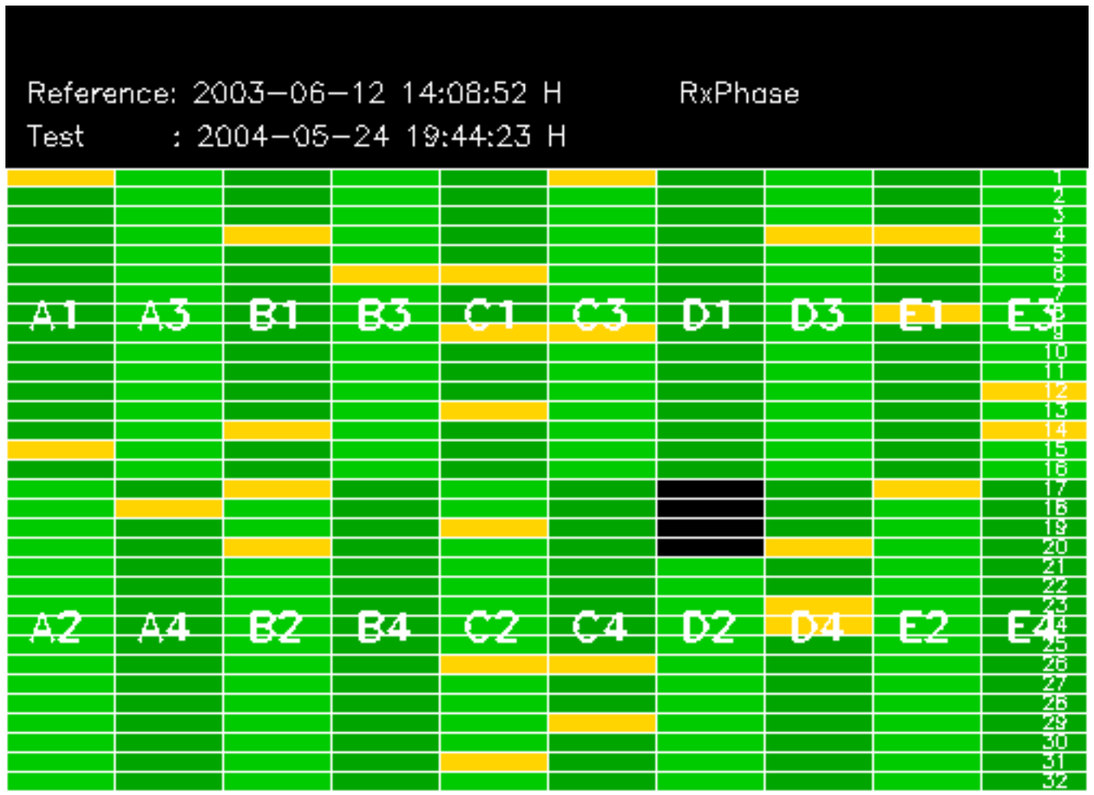

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-05-24 19:44:23 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2004-05-24 19:44:23 H
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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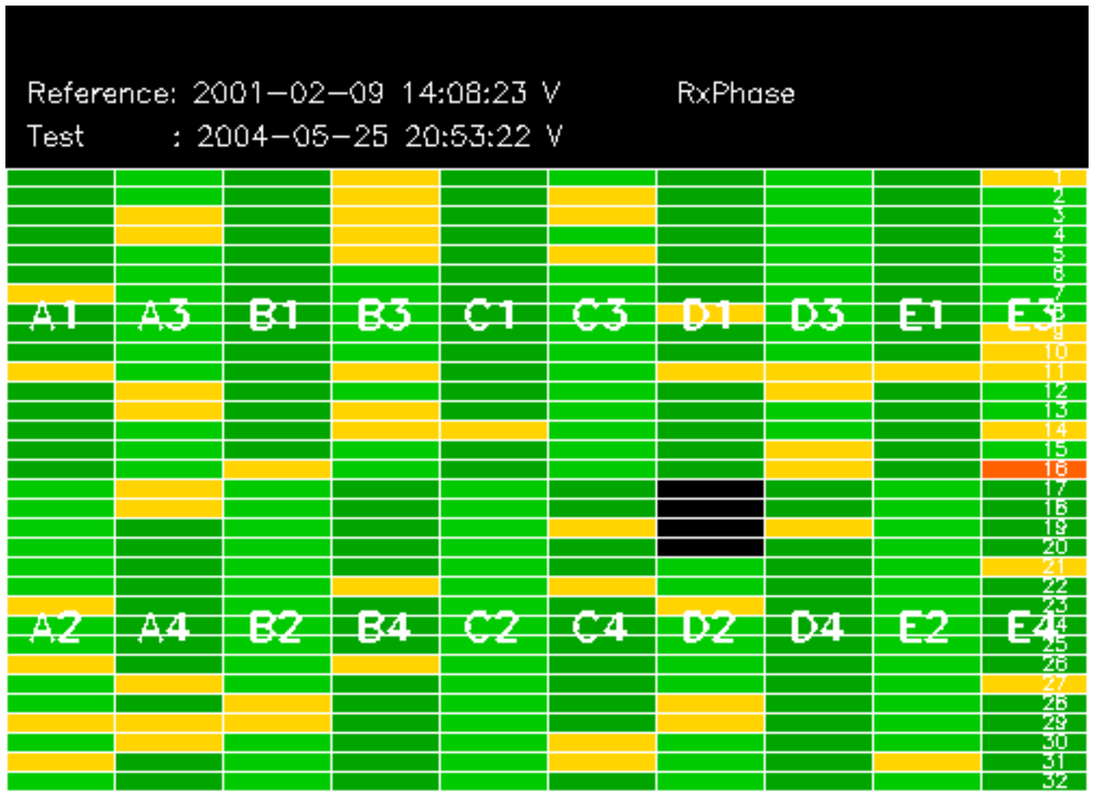
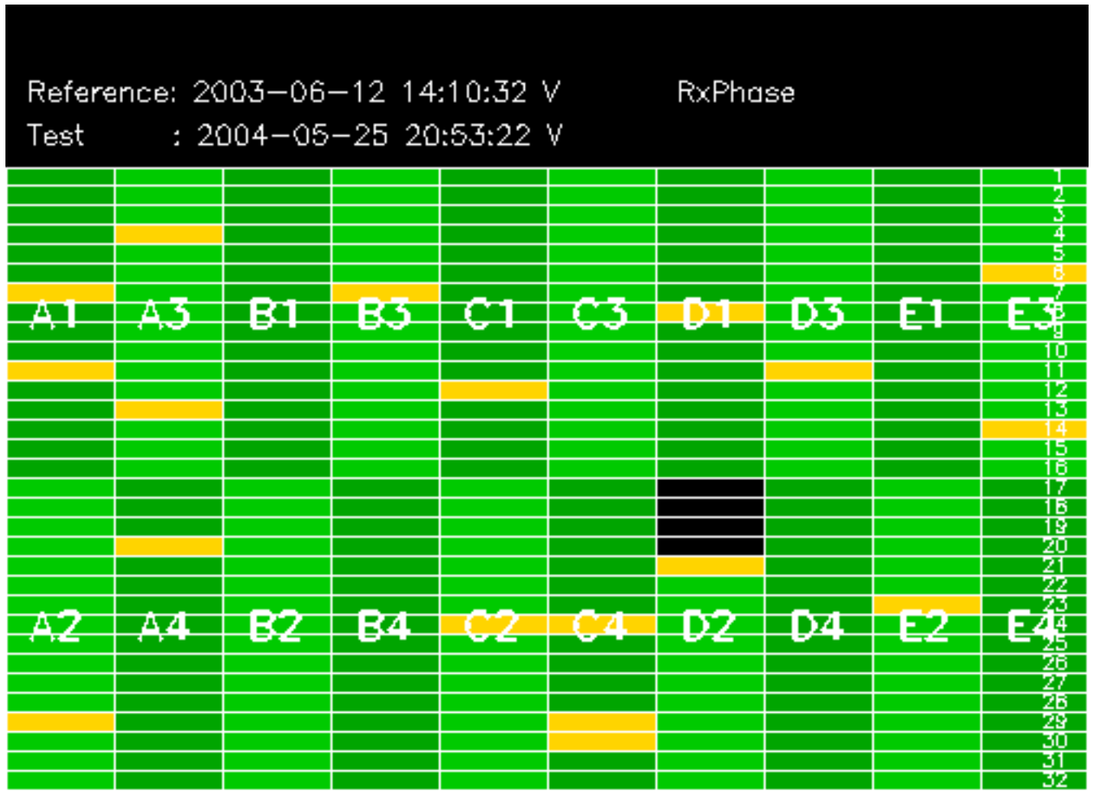
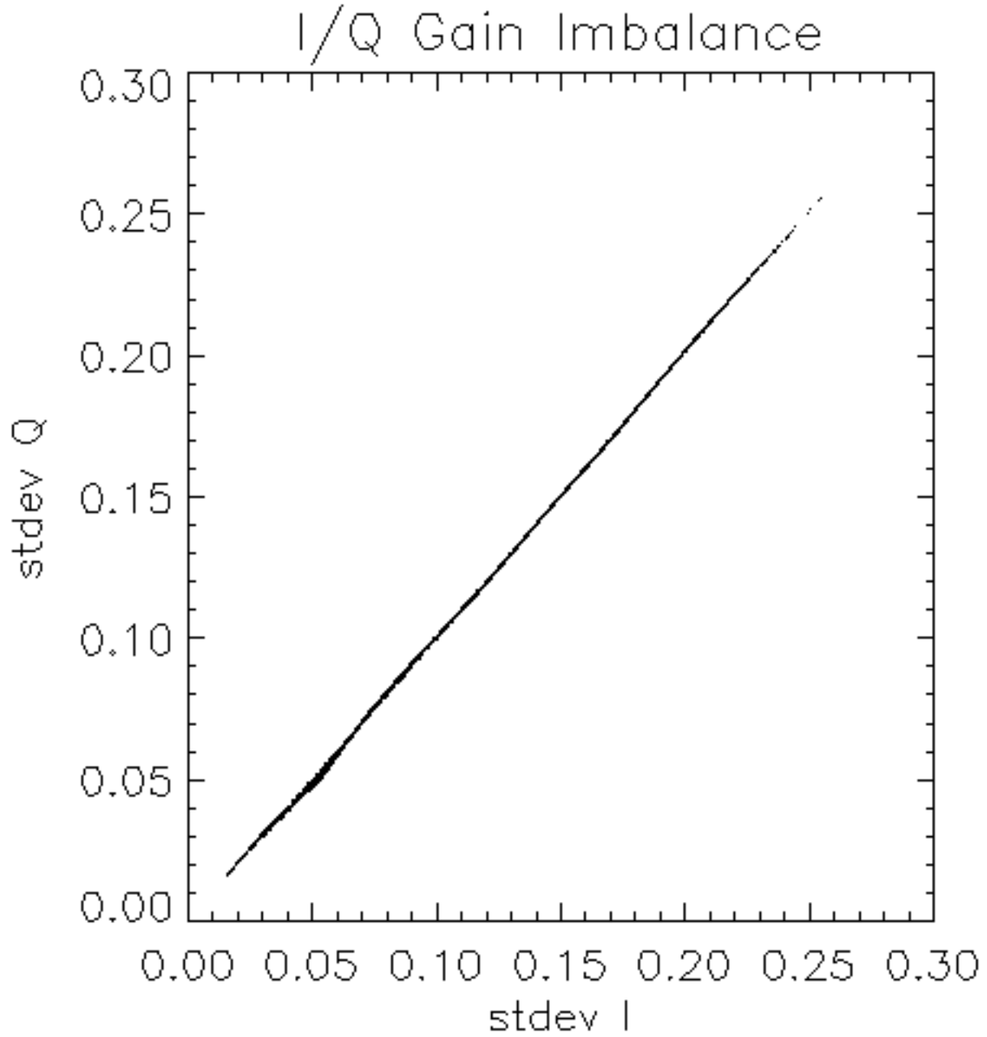
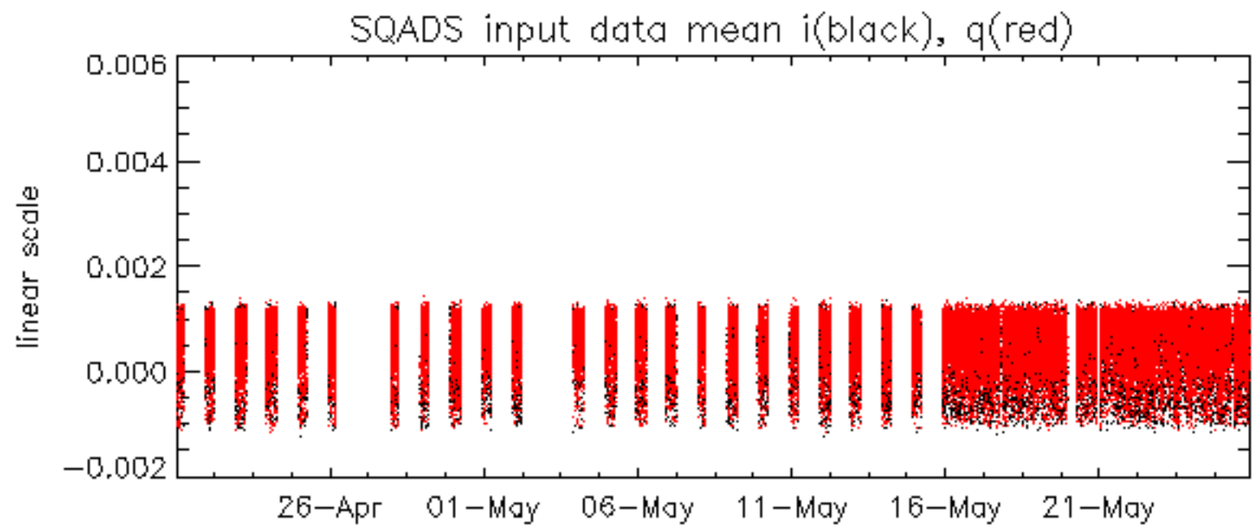
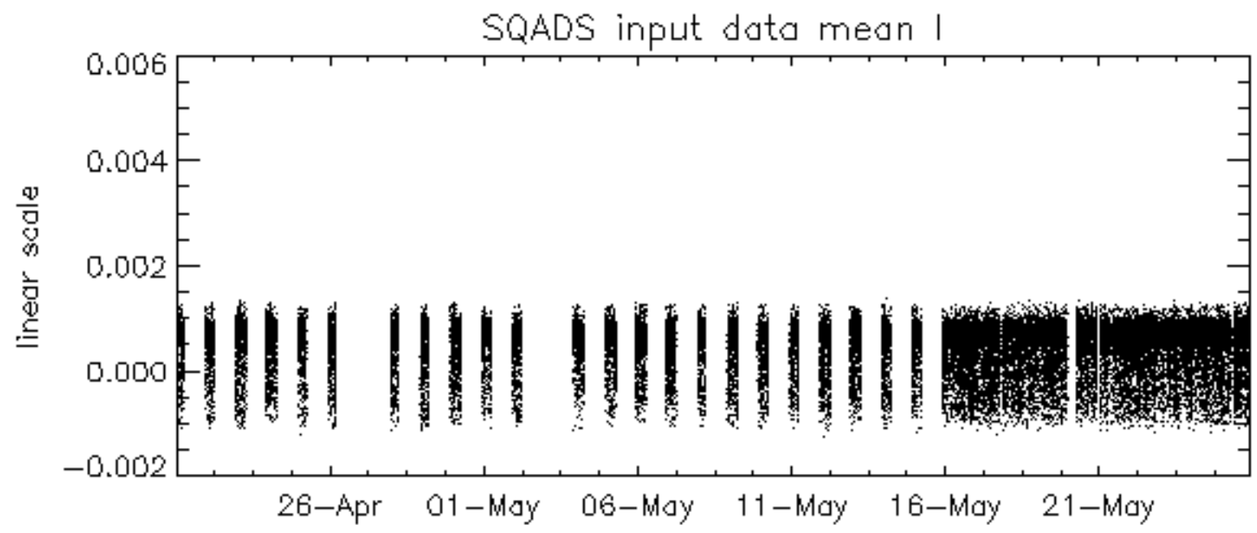
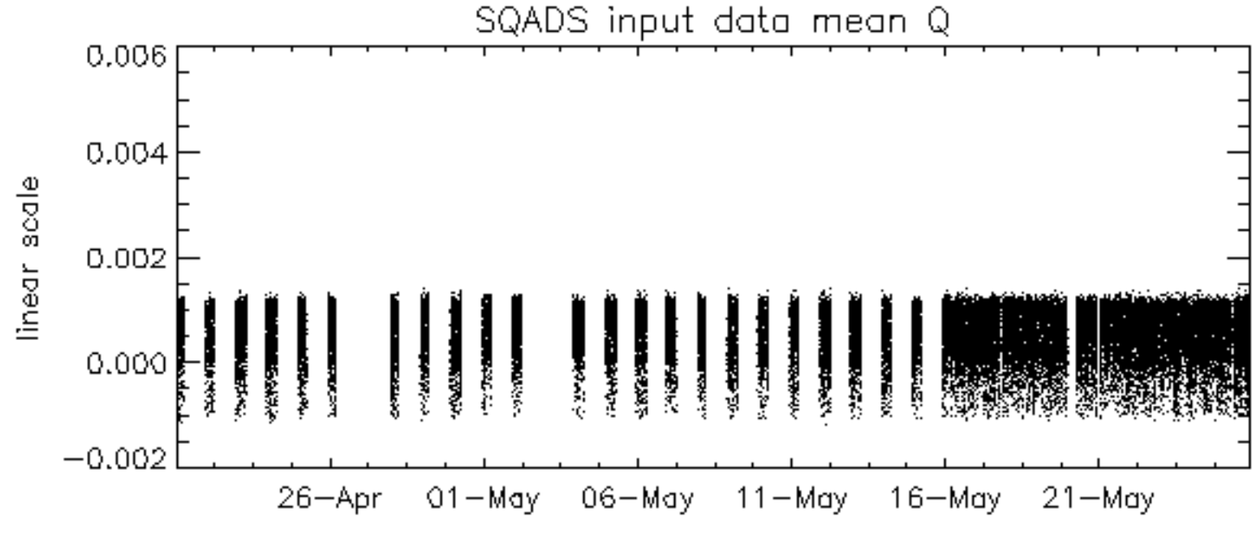

Reference: 2001-02-09 14:08:23 V
Test : 2004-05-25 20:53:22 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

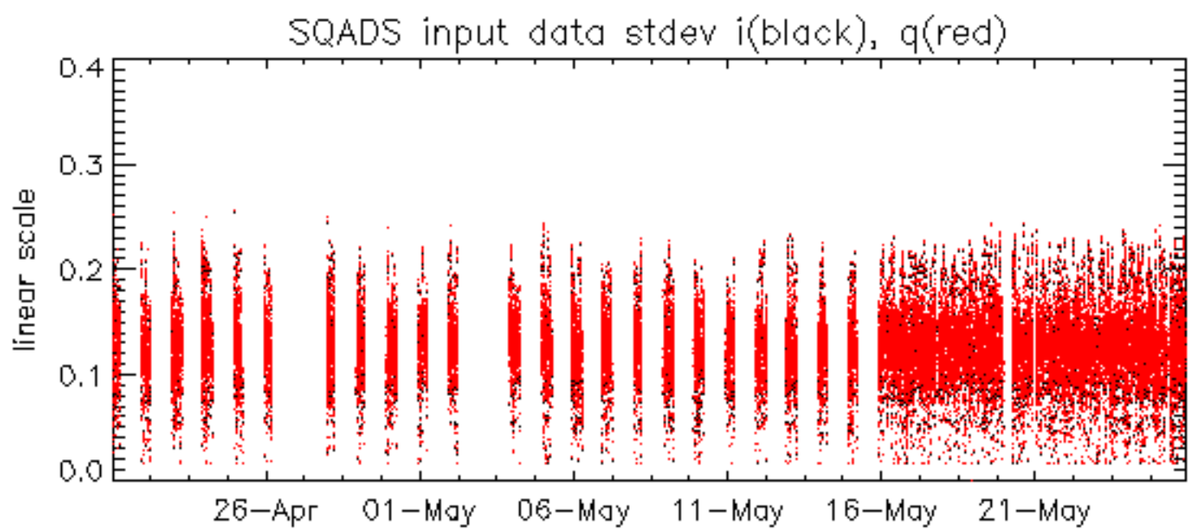

Reference: 2003-06-12 14:10:32 V
Test : 2004-05-25 20:53:22 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

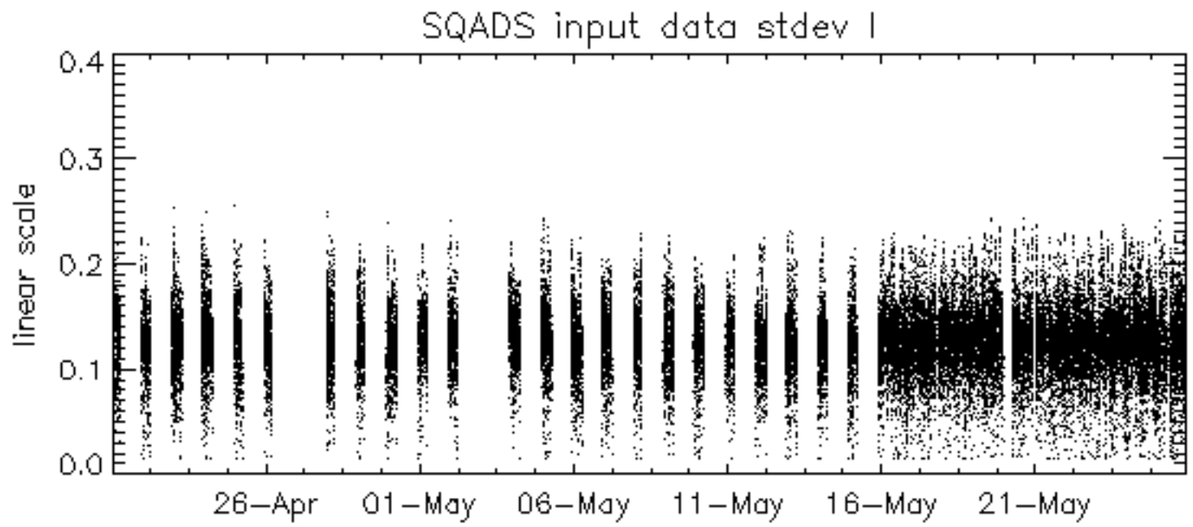

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

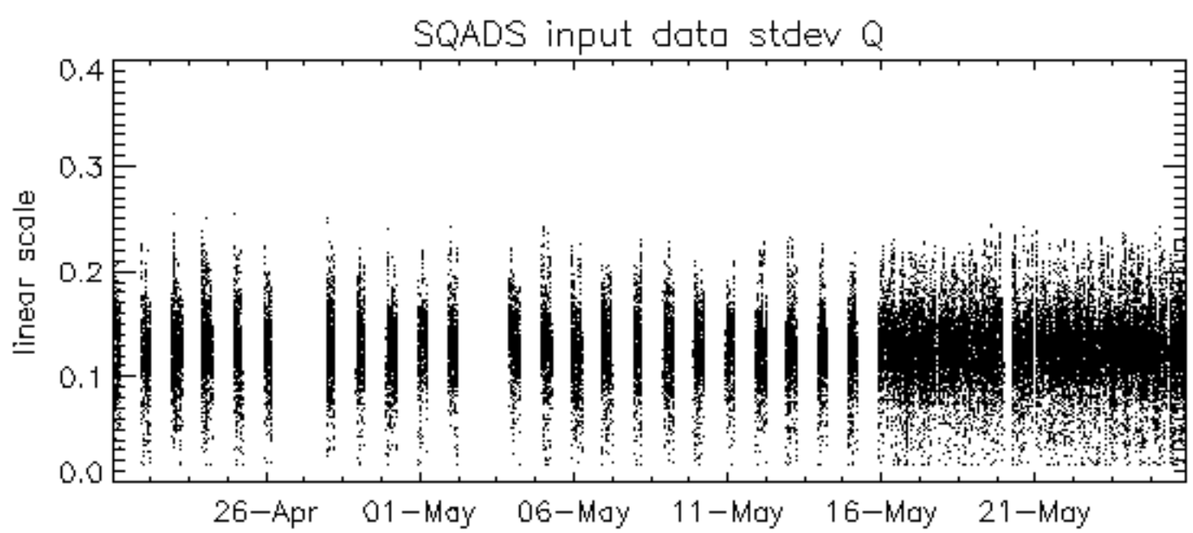

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Apr
01−May
06−May
11−May
16−May
21−May

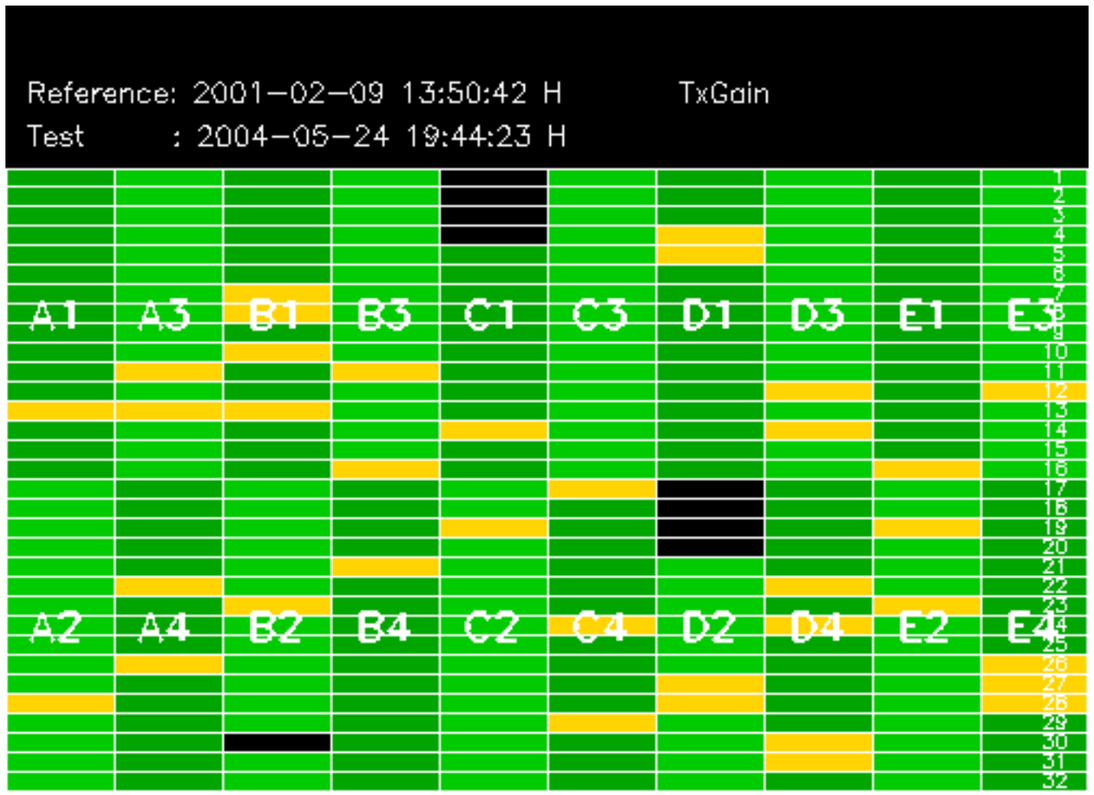

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Apr
01−May
06−May
11−May
16−May
21−May

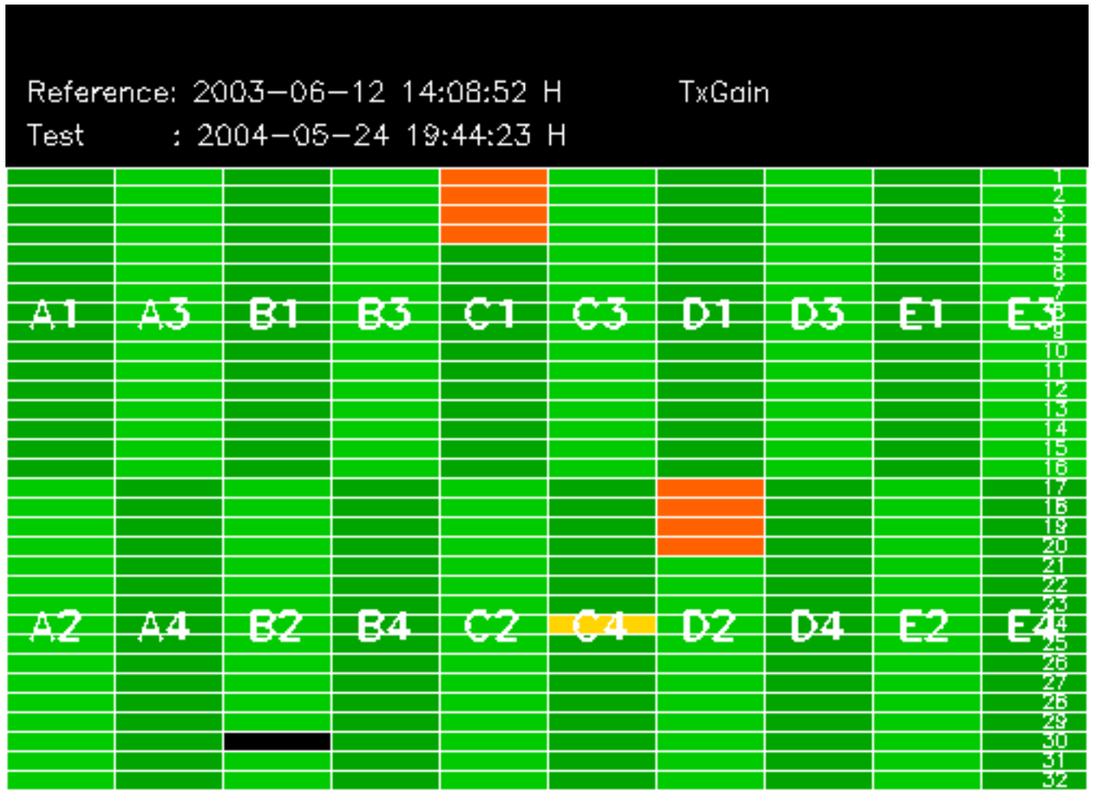

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Apr
01−May
06−May
11−May
16−May
21−May


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2004-05-24 19:44:23 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 : 2004-05-24 19:44:23 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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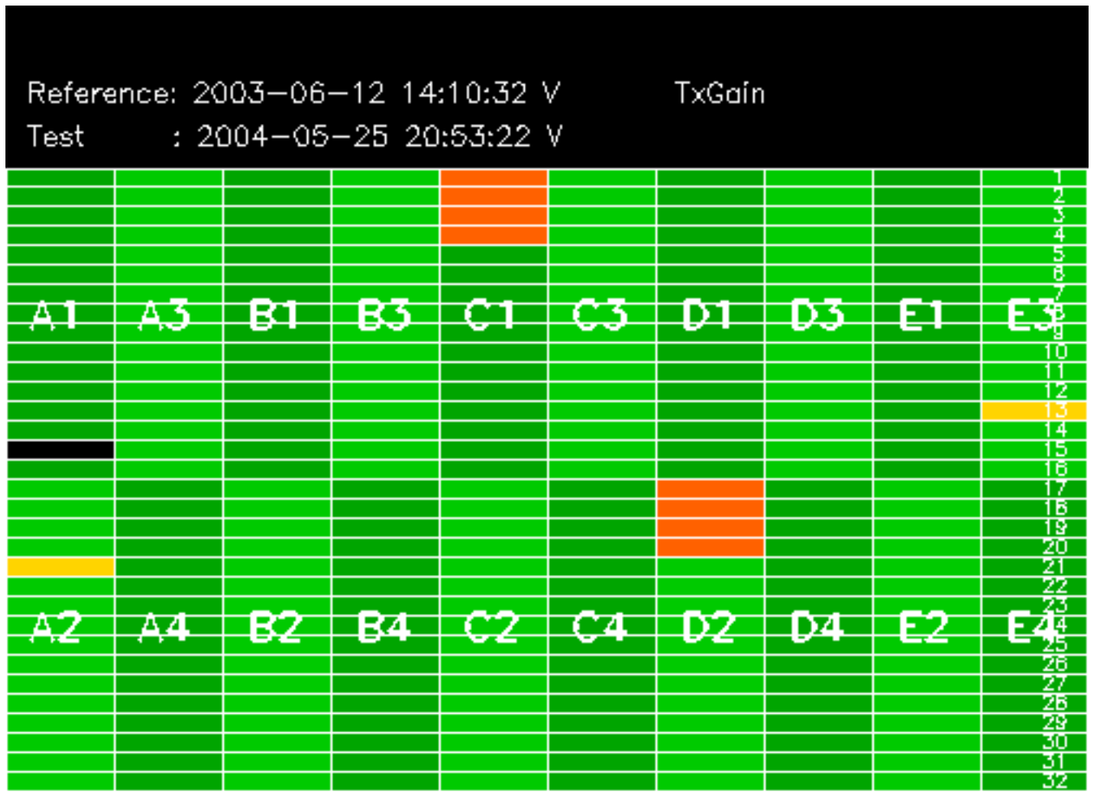
Reference: 2001-02-09 14:08:23 V
Test : 2004-05-25 20:53:22 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-05-25 20:53:22 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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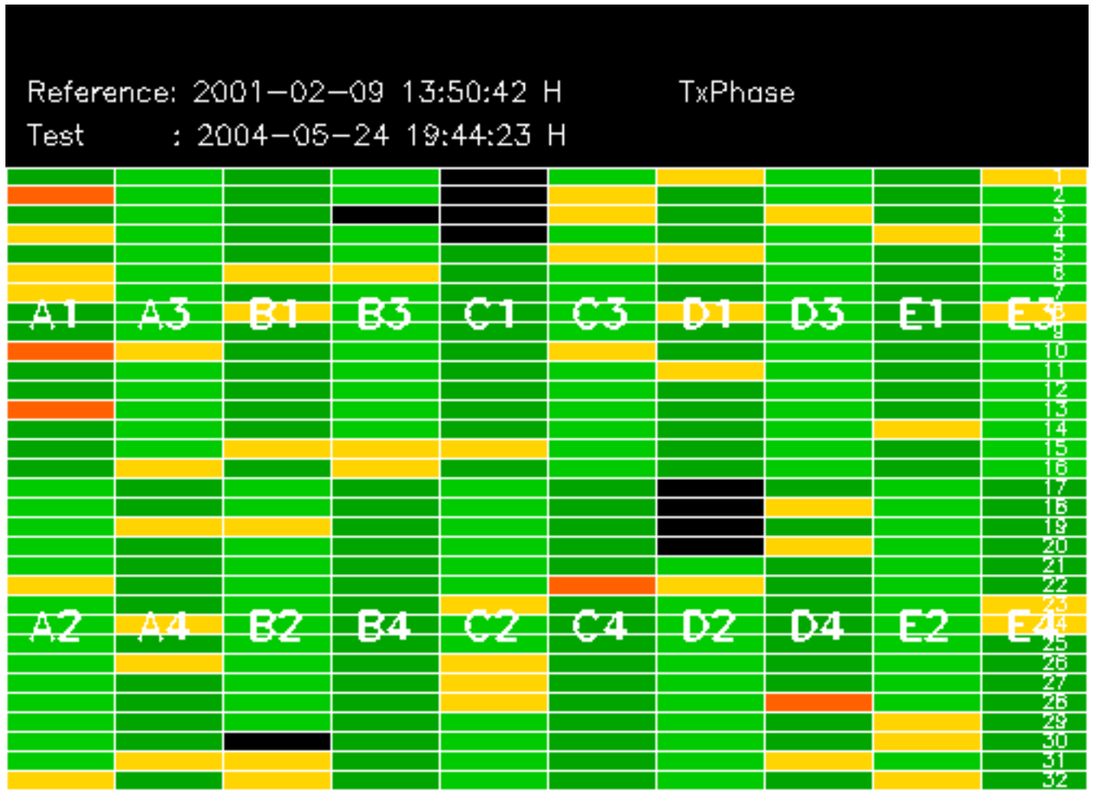
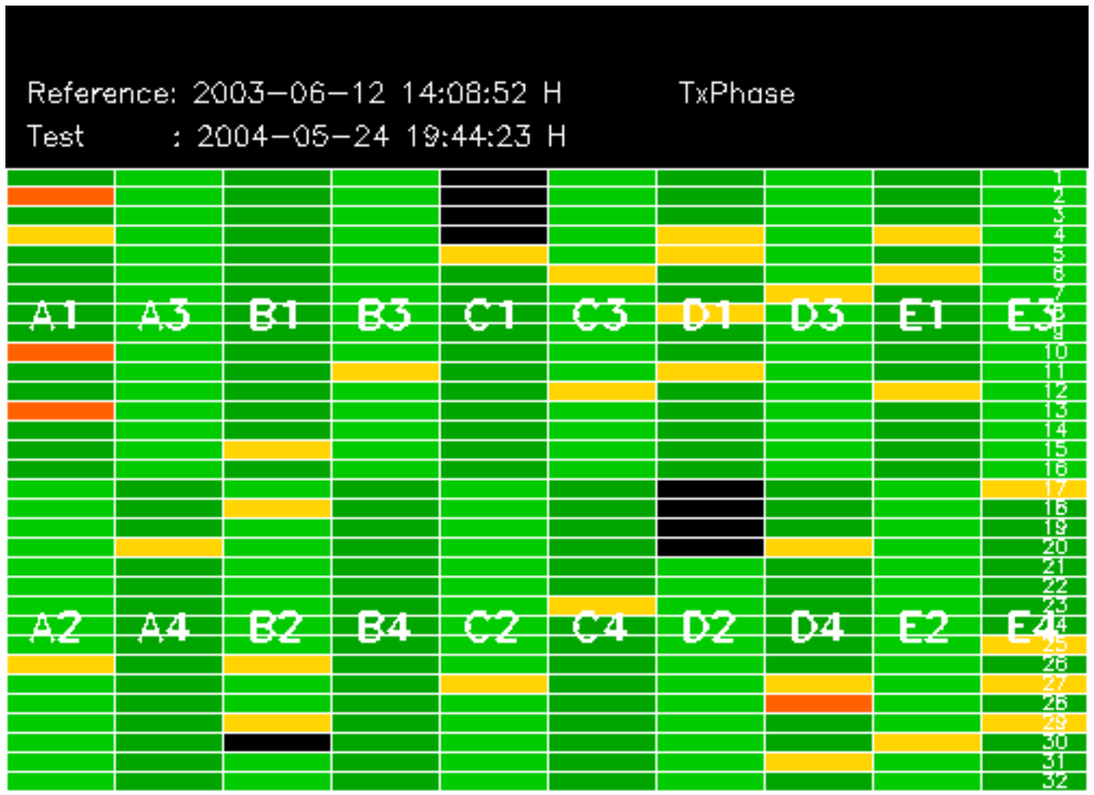

Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-05-24 19:44:23 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-05-24 19:44:23 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
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B4
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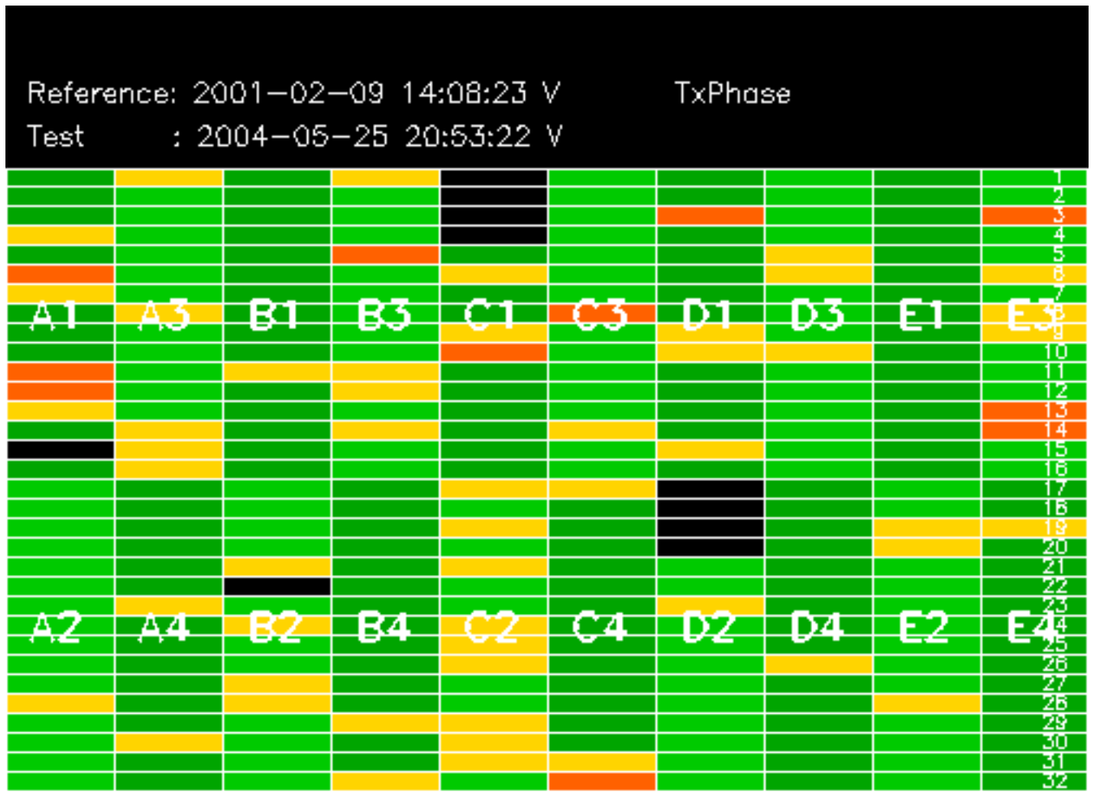
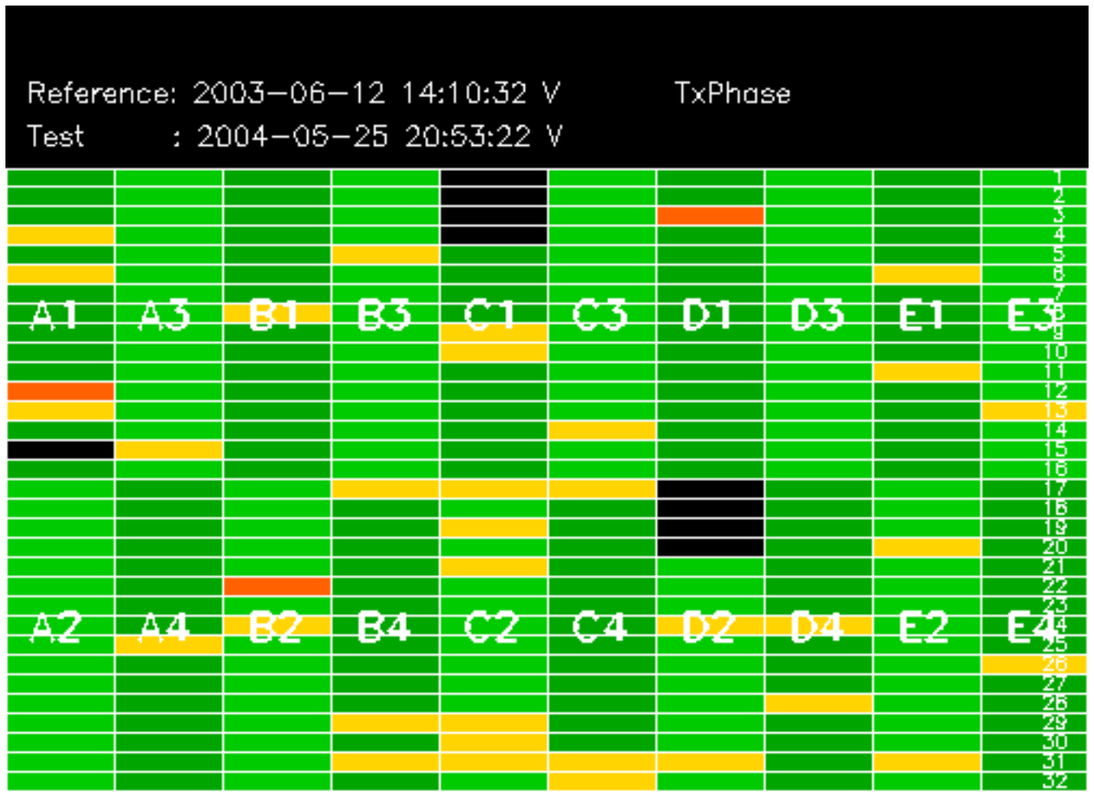

Reference: 2001-02-09 14:08:23 V
Test : 2004-05-25 20:53:22 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-05-25 20:53:22 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

No unavailabilities during the reported period.