PRELIMINARY REPORT OF 040617

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

last update on Thu Jun 17 08:03:14 GMT 2004

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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	20040614 202339
H	20040615 195302

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.

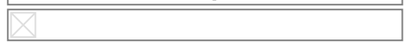
4.1 - Daily statistics

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	-3.520802	0.011132	0.060505
7	P1	-3.322987	0.015302	-0.008027
11	P1	-4.532315	0.037542	0.025947
15	P1	-5.681722	0.064508	0.009540
19	P1	-3.422919	0.004907	-0.027041
22	P1	-4.561061	0.011006	0.002822
24	P1	-4.917558	0.015064	0.038090
30	P1	-6.838999	0.023491	-0.012503

3	P1	-16.113123	0.224940	0.127838
7	P1	-13.987563	0.104329	-0.001400
11	P1	-19.813129	0.294453	-0.198133
15	P1	-11.791414	0.044660	0.064435
19	P1	-13.795768	0.035627	-0.062751
22	P1	-16.594189	0.424678	0.034688
24	P1	-14.706853	0.303186	0.036628
30	P1	-17.650297	0.377694	-0.094148

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.431768	0.081699	0.054867
7	P2	-22.876408	0.116644	0.057797
11	P2	-15.667315	0.124512	0.130008
15	P2	-7.202300	0.095720	0.036527
19	P2	-9.569351	0.132118	0.051228
22	P2	-17.574697	0.100397	0.130837
24	P2	-20.892365	0.085746	0.062261
30	P2	-19.460876	0.079775	0.113088

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.144593	0.002042	0.008063
7	P3	-8.144598	0.002042	0.008079
11	P3	-8.144605	0.002042	0.008108
15	P3	-8.144601	0.002042	0.008096
19	P3	-8.144595	0.002042	0.008088
22	P3	-8.144593	0.002042	0.008078
24	P3	-8.144593	0.002042	0.008064
30	P3	-8.144526	0.002039	0.007662

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	-3.150511	0.136461	-0.021926
7	P1	-2.812869	0.075250	0.062370
11	P1	-3.786796	0.021332	-0.018378
15	P1	-4.260087	1.026034	-0.068508
19	P1	-3.349883	0.048715	-0.013516
22	P1	-5.721972	0.045229	0.010993
24	P1	-4.047341	0.080897	-0.026700
30	P1	-6.094060	0.059345	-0.039795
3	P1	-11.034478	0.437059	-0.030304
7	P1	-9.766736	0.256271	0.077812
11	P1	-11.745122	0.163393	-0.112208
15	P1	-11.834551	0.284864	-0.038821
19	P1	-14.983222	0.822551	0.001098
22	P1	-21.500275	8.979583	0.107839
24	P1	-17.355858	0.286393	-0.037237
30	P1	-21.718431	4.133903	0.043776

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.171804	0.042786	0.002980
7	P2	-22.960960	0.028716	0.067646
11	P2	-11.072923	0.214732	0.148304
15	P2	-5.007331	0.043223	0.005926
19	P2	-6.933807	0.043514	-0.020989
22	P2	-7.701471	0.023329	0.057851
24	P2	-11.084023	0.070781	0.014098
30	P2	-22.422340	0.094127	0.079704

P3 Cyclic statistics

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

3	P3	-7.984834	0.003299	0.005731
7	P3	-7.984784	0.003289	0.005763
11	P3	-7.984811	0.003293	0.005815
15	P3	-7.984935	0.003282	0.005850
19	P3	-7.984809	0.003296	0.005923
22	P3	-7.984951	0.003280	0.005716
24	P3	-7.984693	0.003310	0.005618
30	P3	-7.984873	0.003289	0.005772

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	0.000474999
	stdev	2.19907e-07
MEAN Q	mean	0.000531021
	stdev	2.41660e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128170
	stdev	0.00100226

STDEV Q	mean	0.128403
	stdev	0.00101327

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

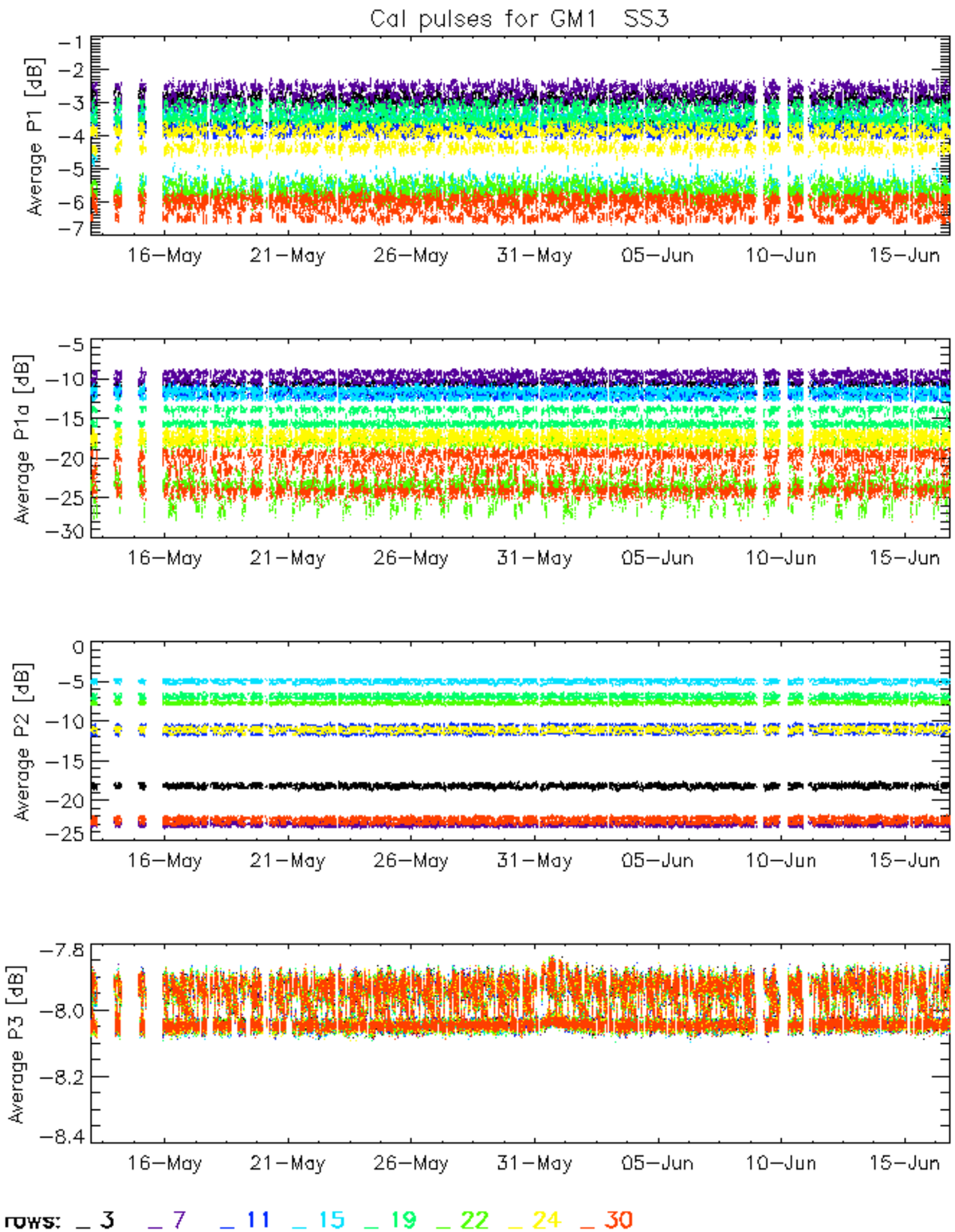
Evolution of unbiased Doppler error (Real - Expected)
Acsending
Descending

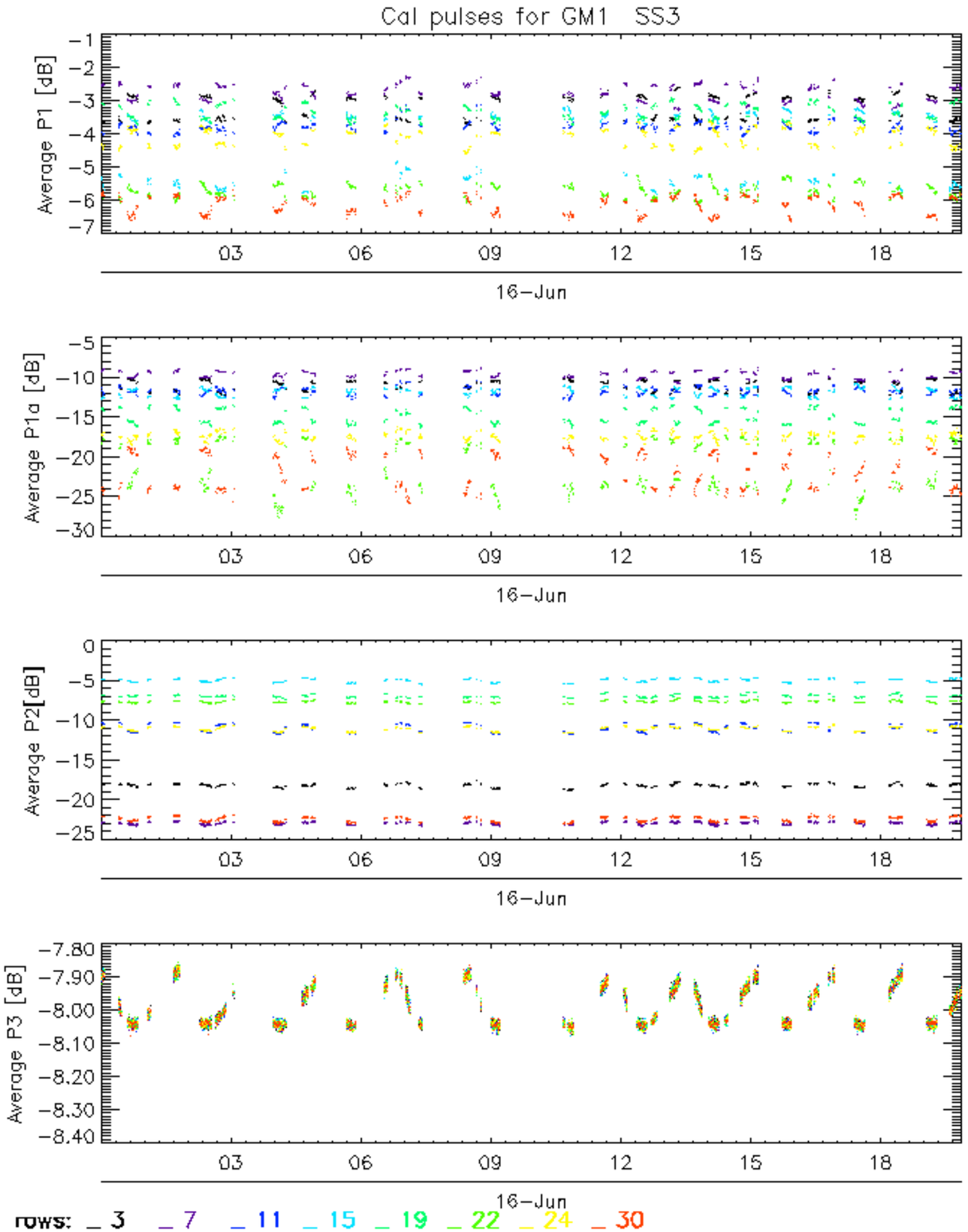
6.5 - Absolute Doppler for GM1

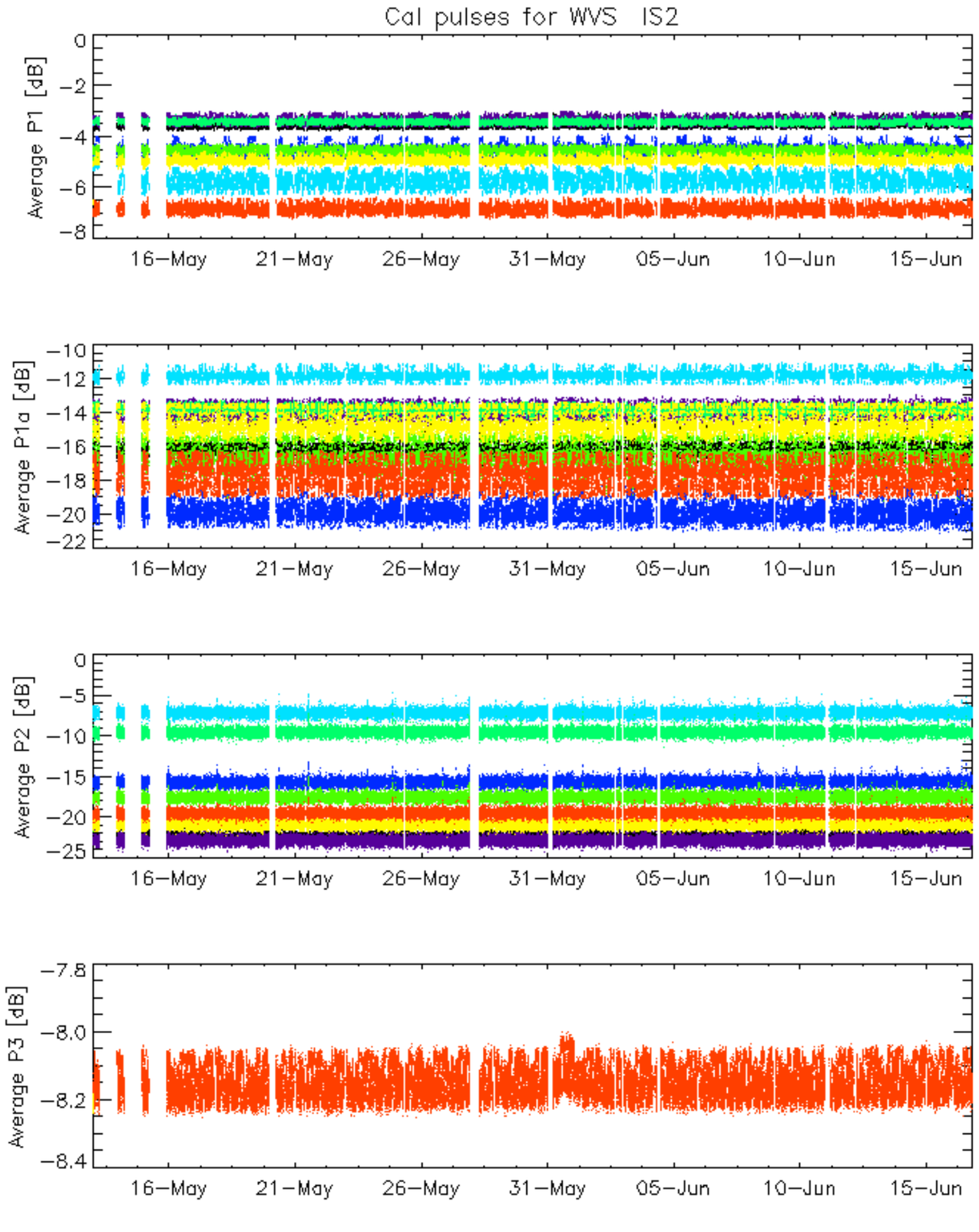
Evolution of Absolute Doppler
Acsending
Descending

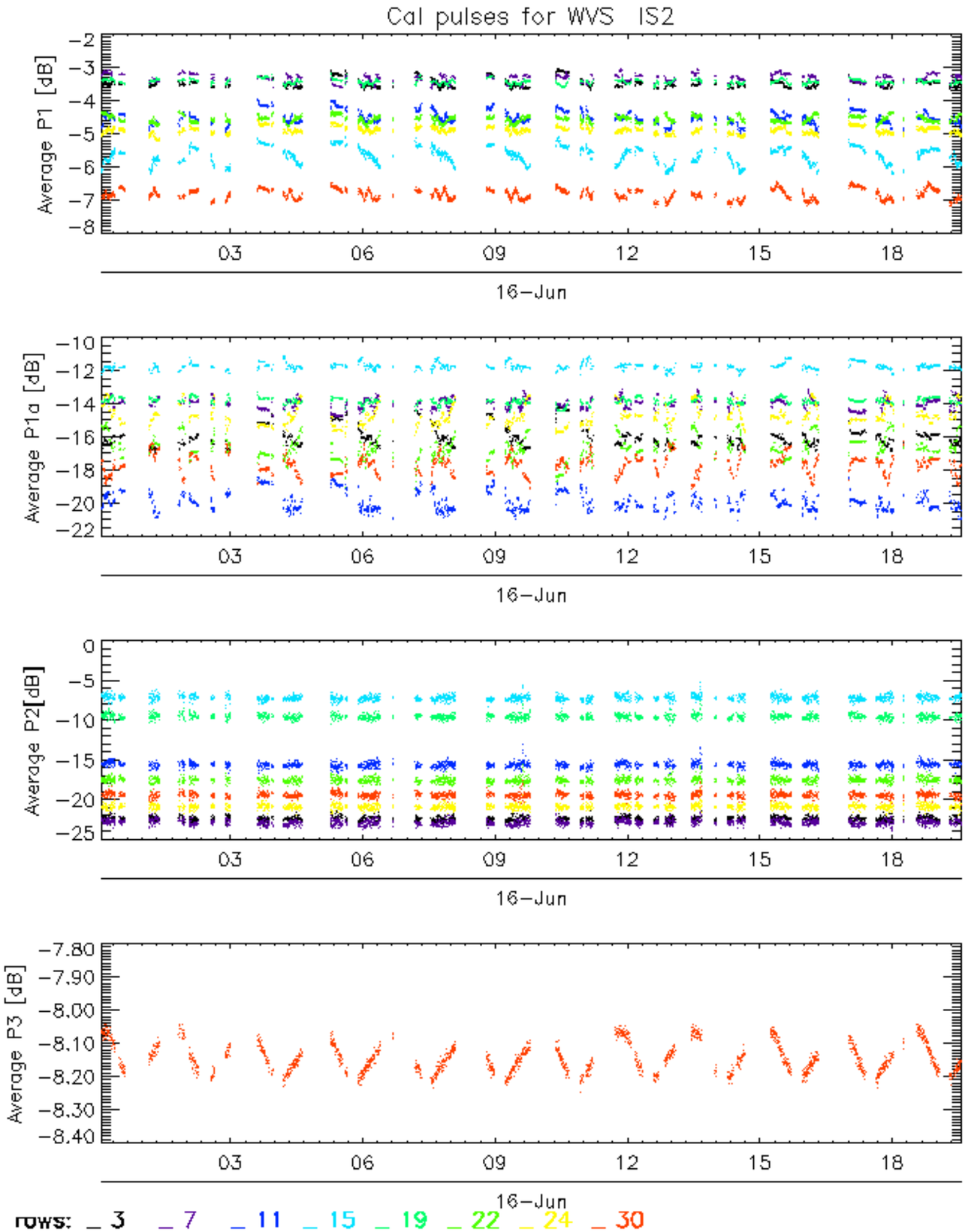
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

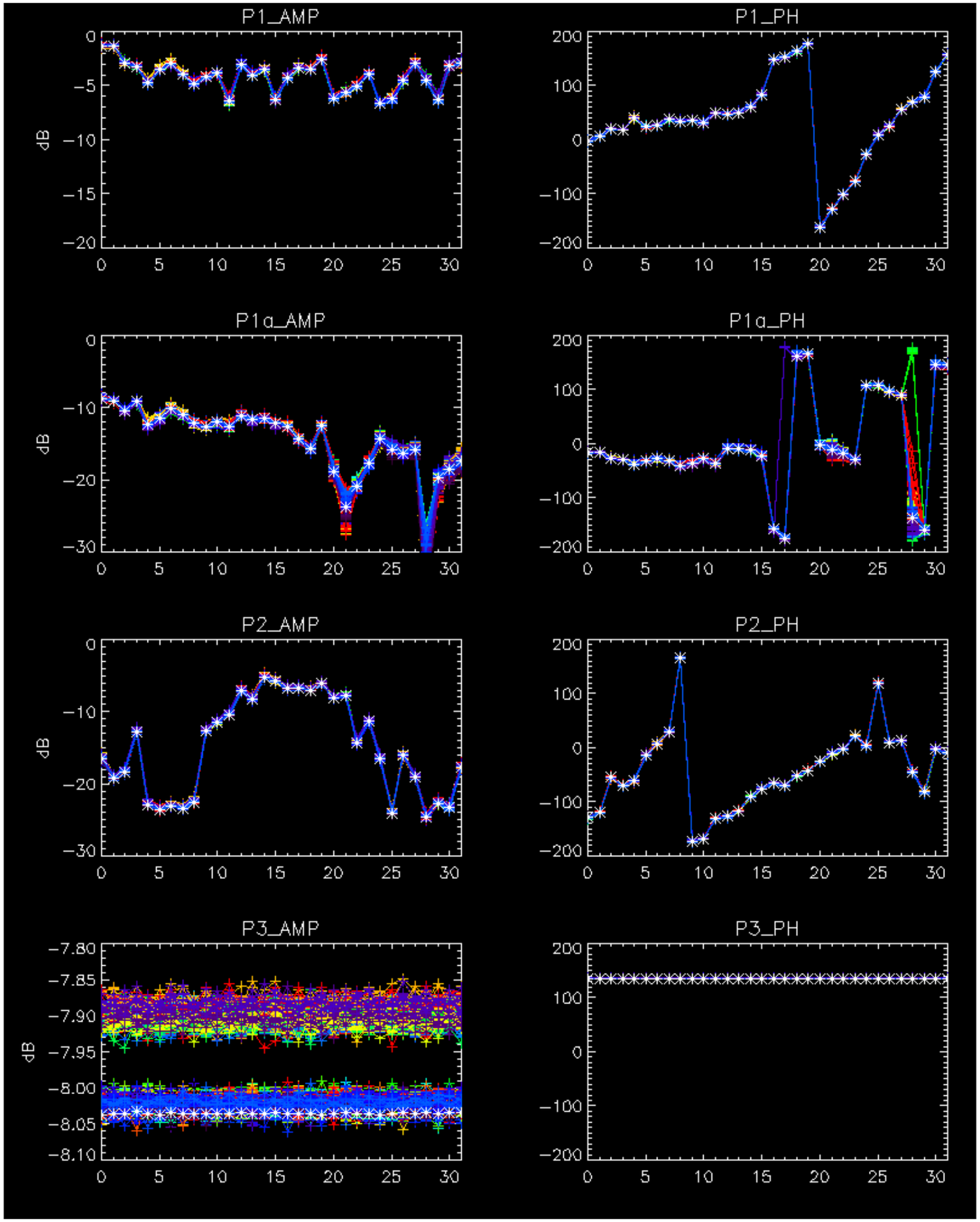

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
16−May
21−May
26−May
31−May
05−Jun
10−Jun
15−Jun
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

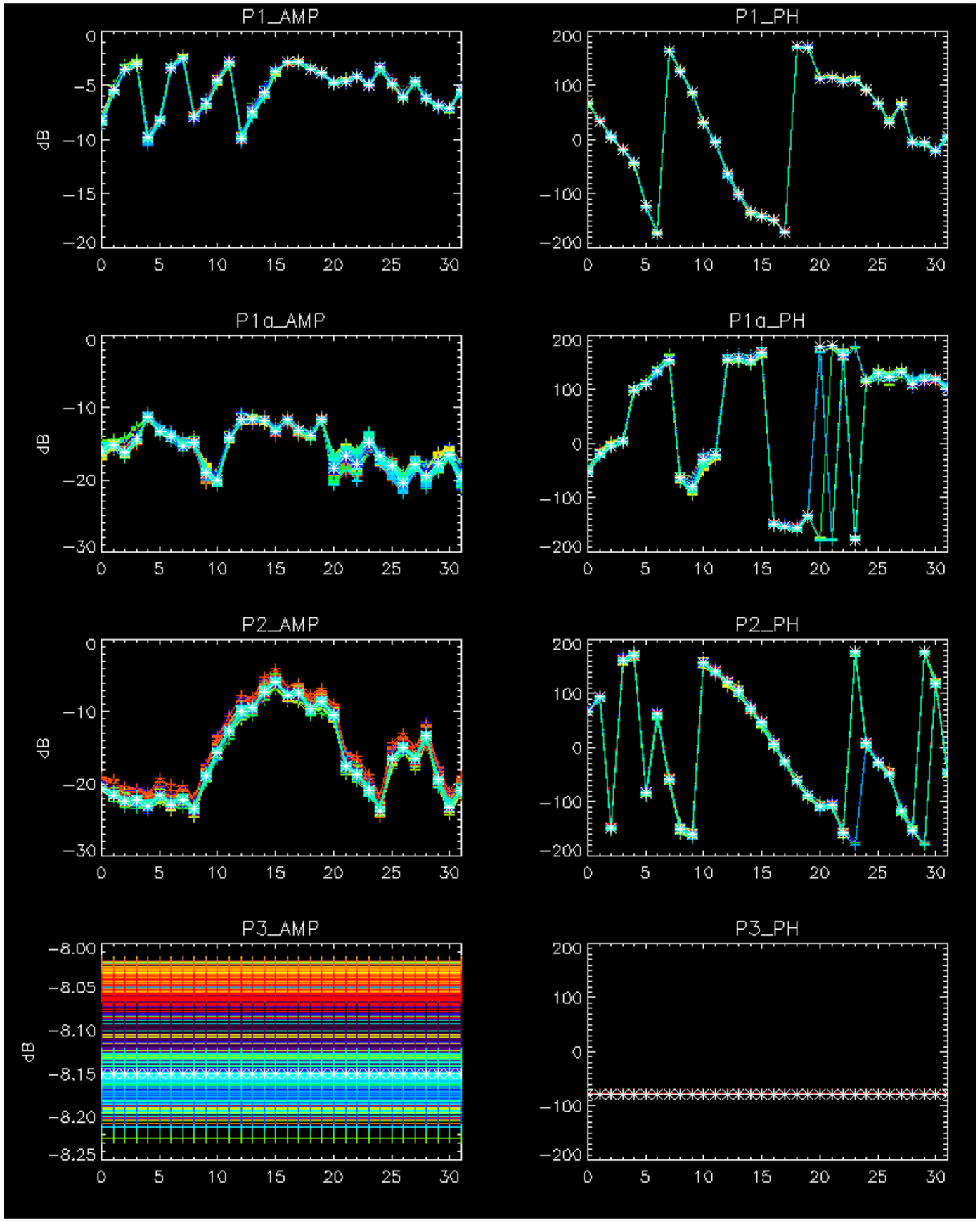

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
16−Jun
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
16−Jun
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
16−Jun
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06
09
12
15
18
16−Jun
rows: _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


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

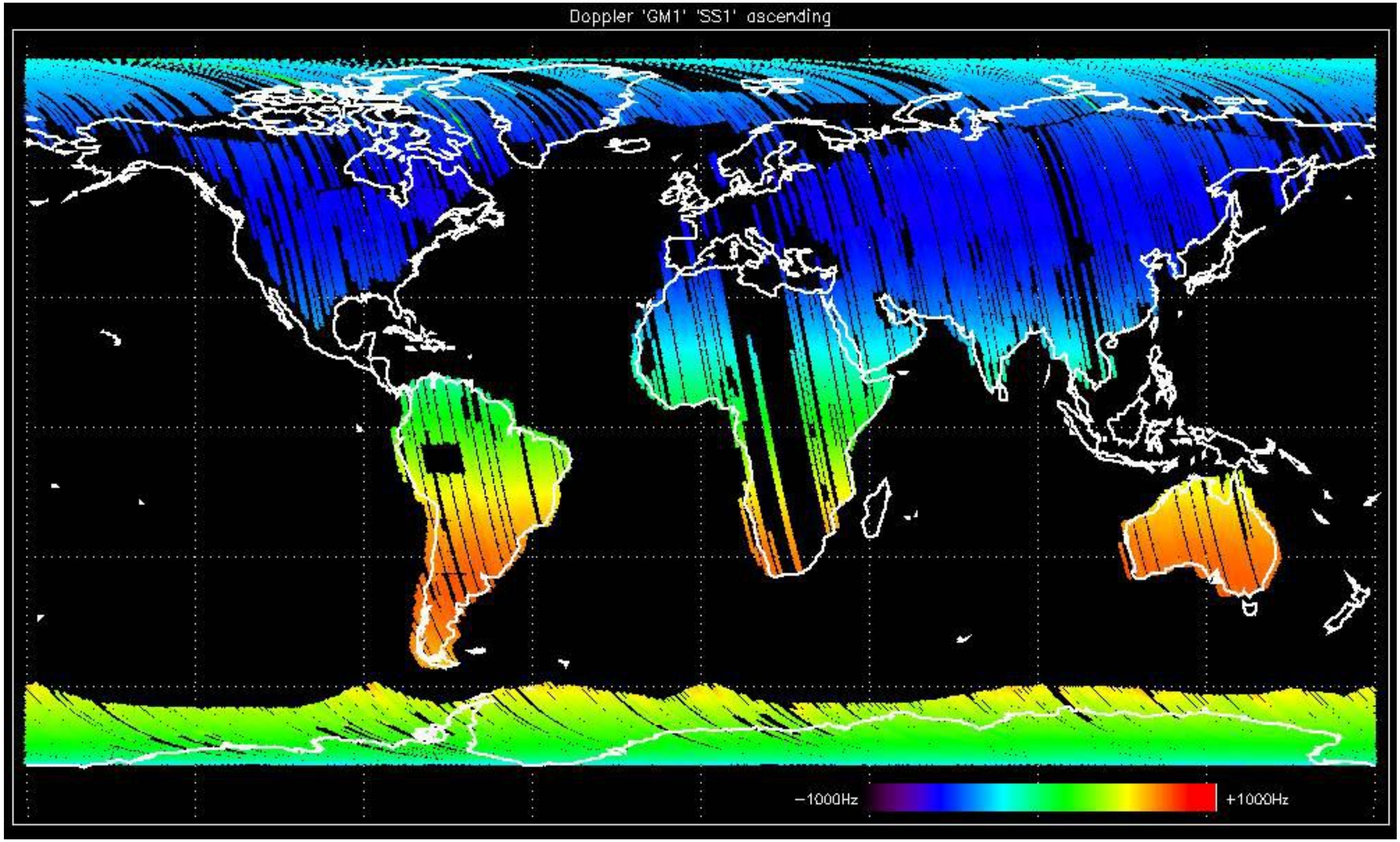
No anomalies observed.

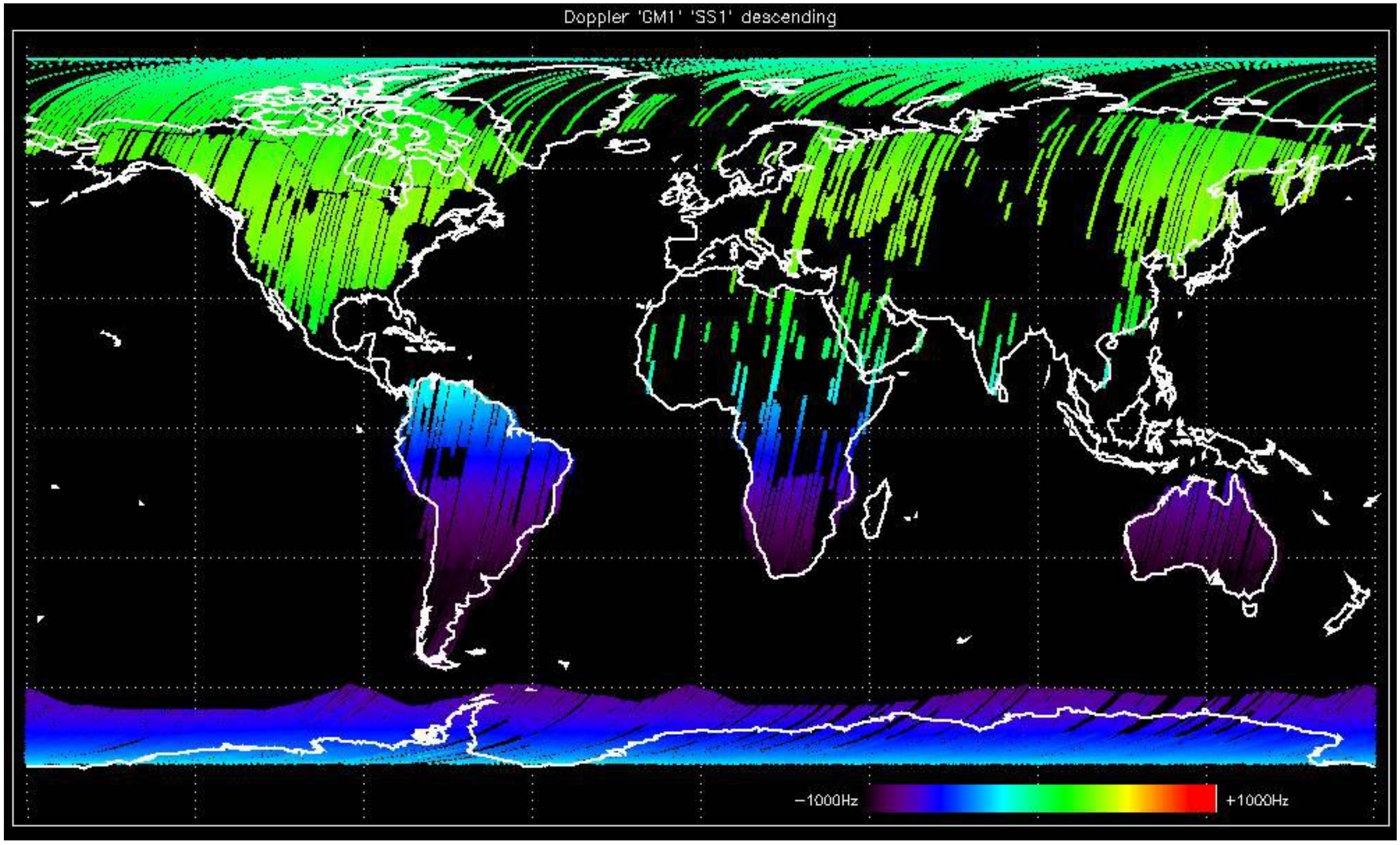

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.80
−7.85
−7.90
−7.95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

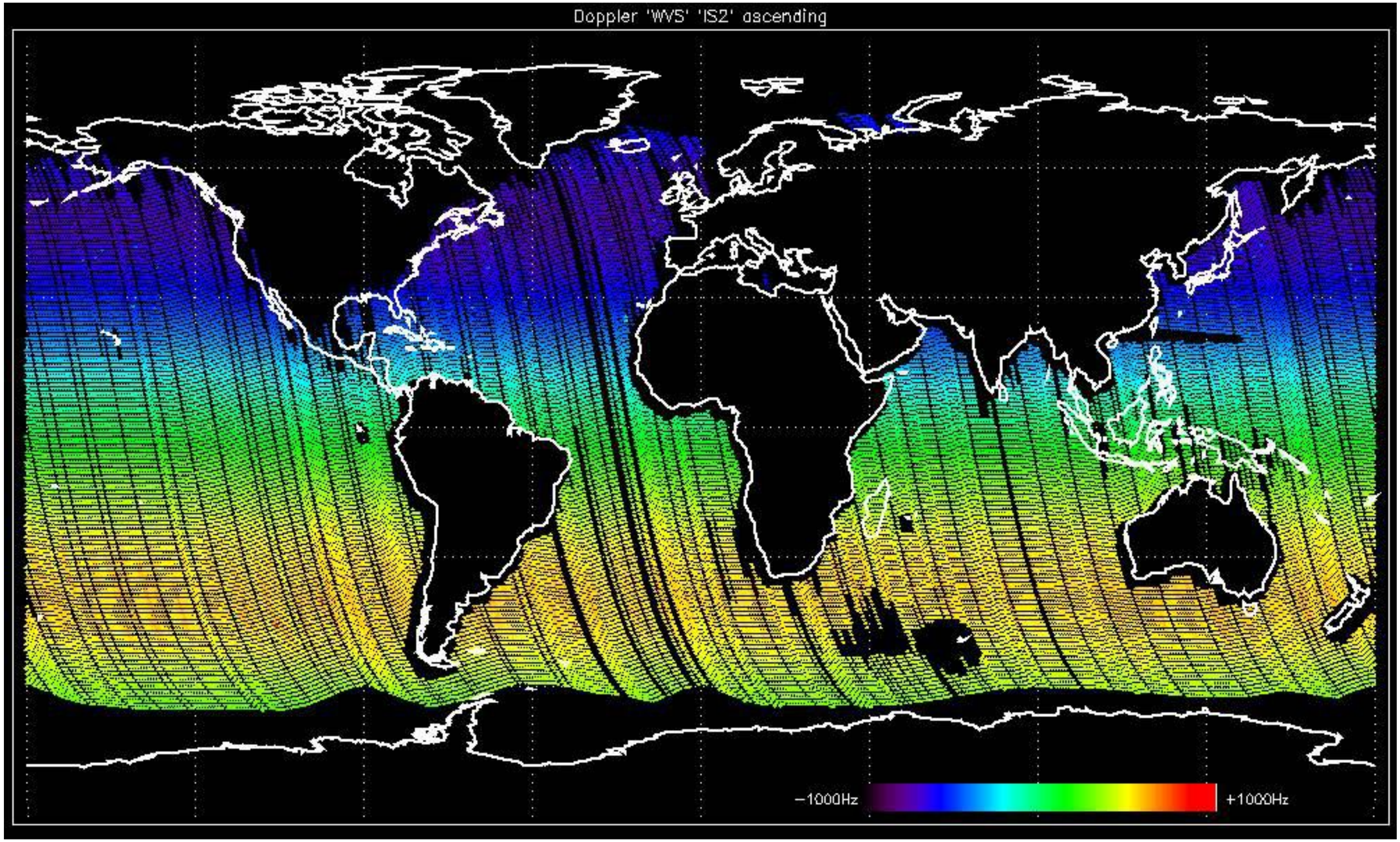

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15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

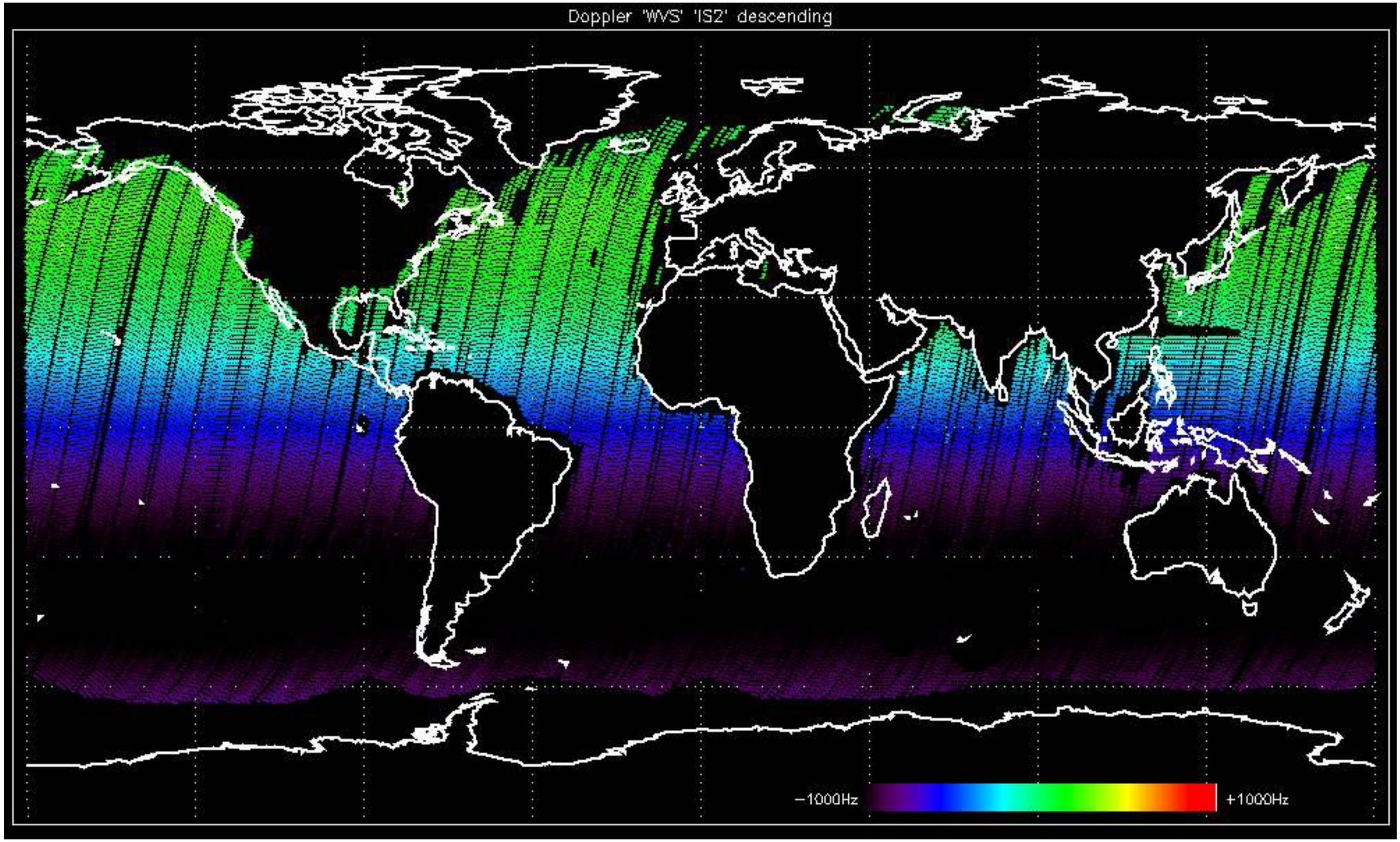
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

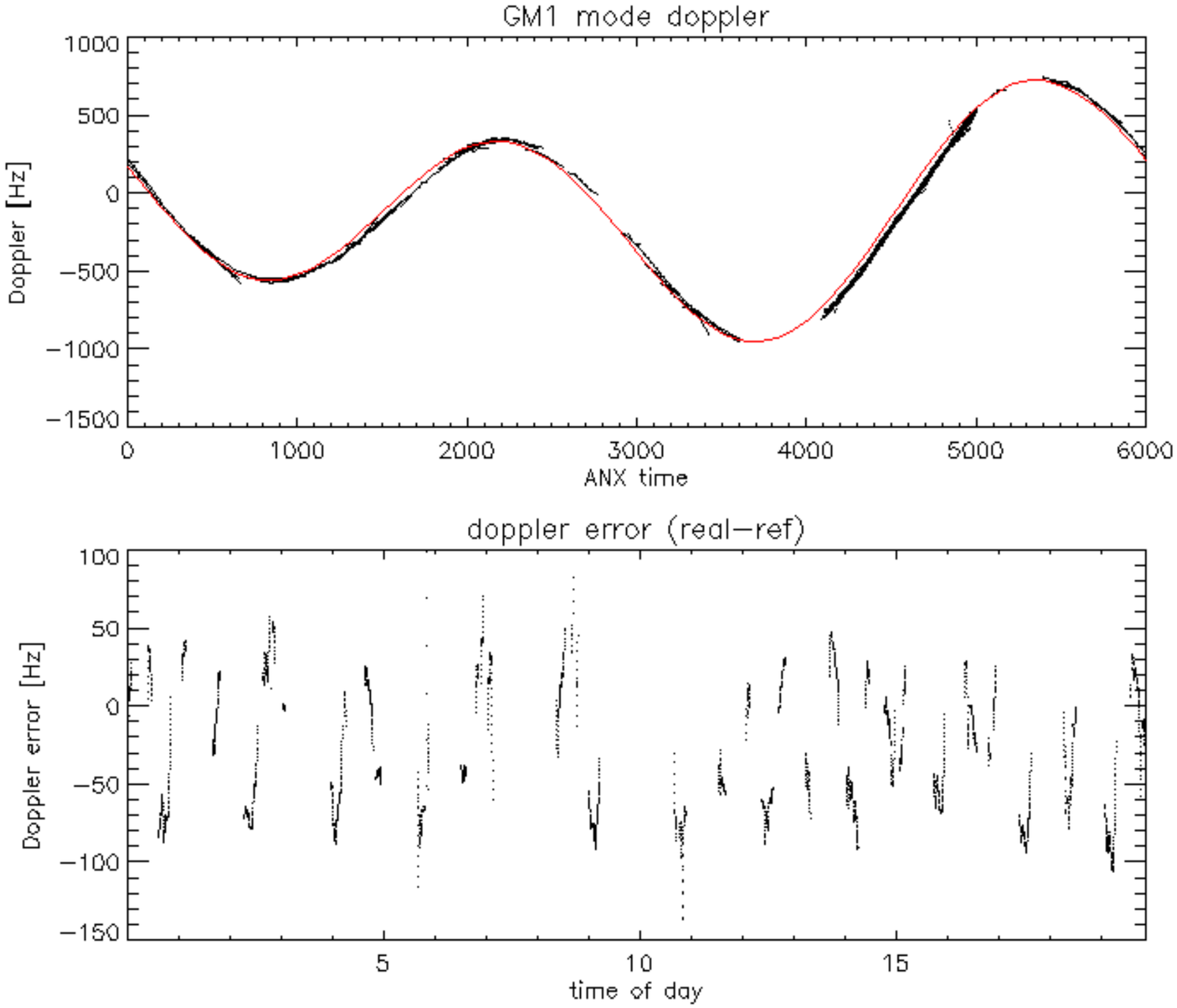
Preliminary report.The data is not yet controled

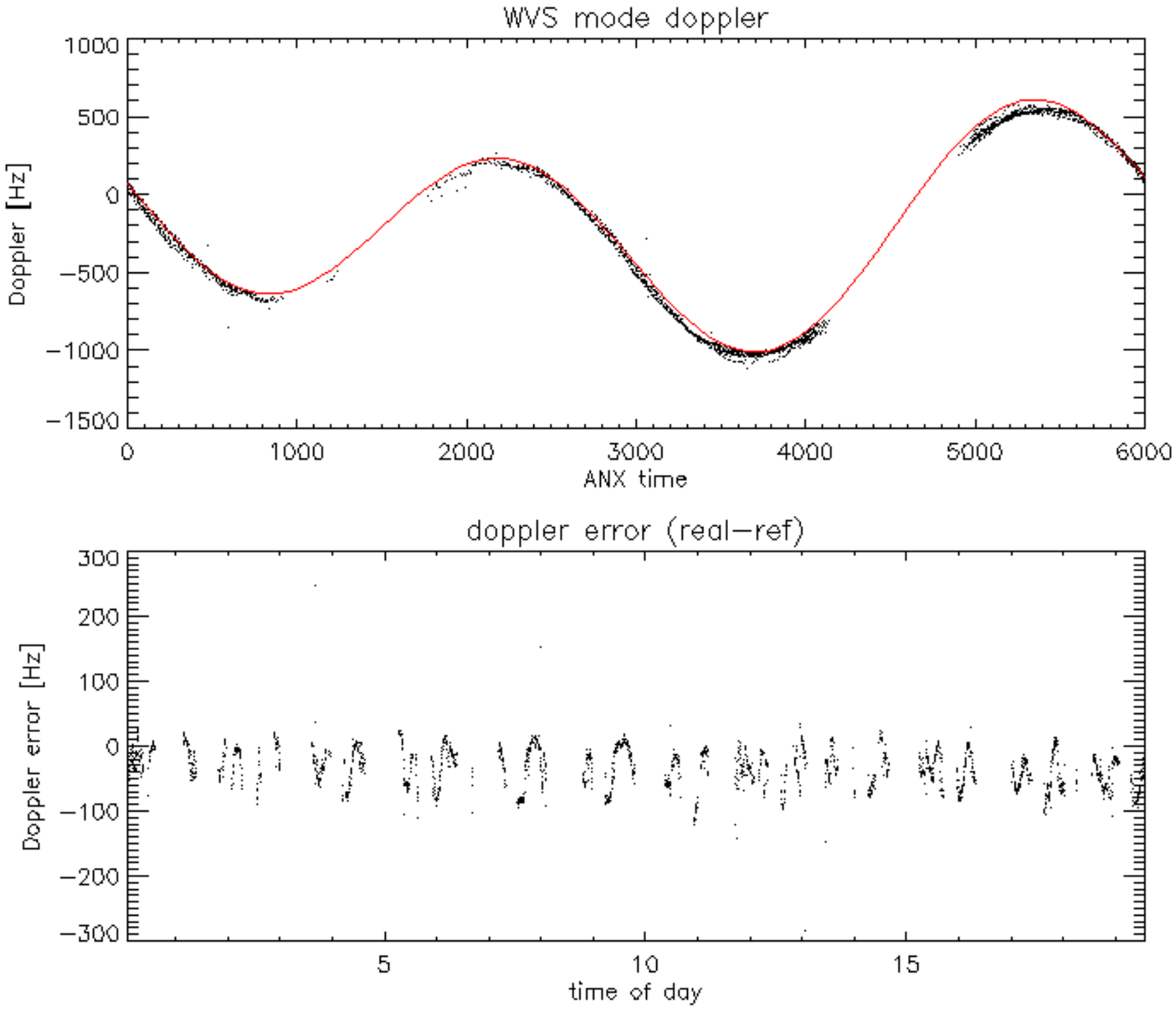

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

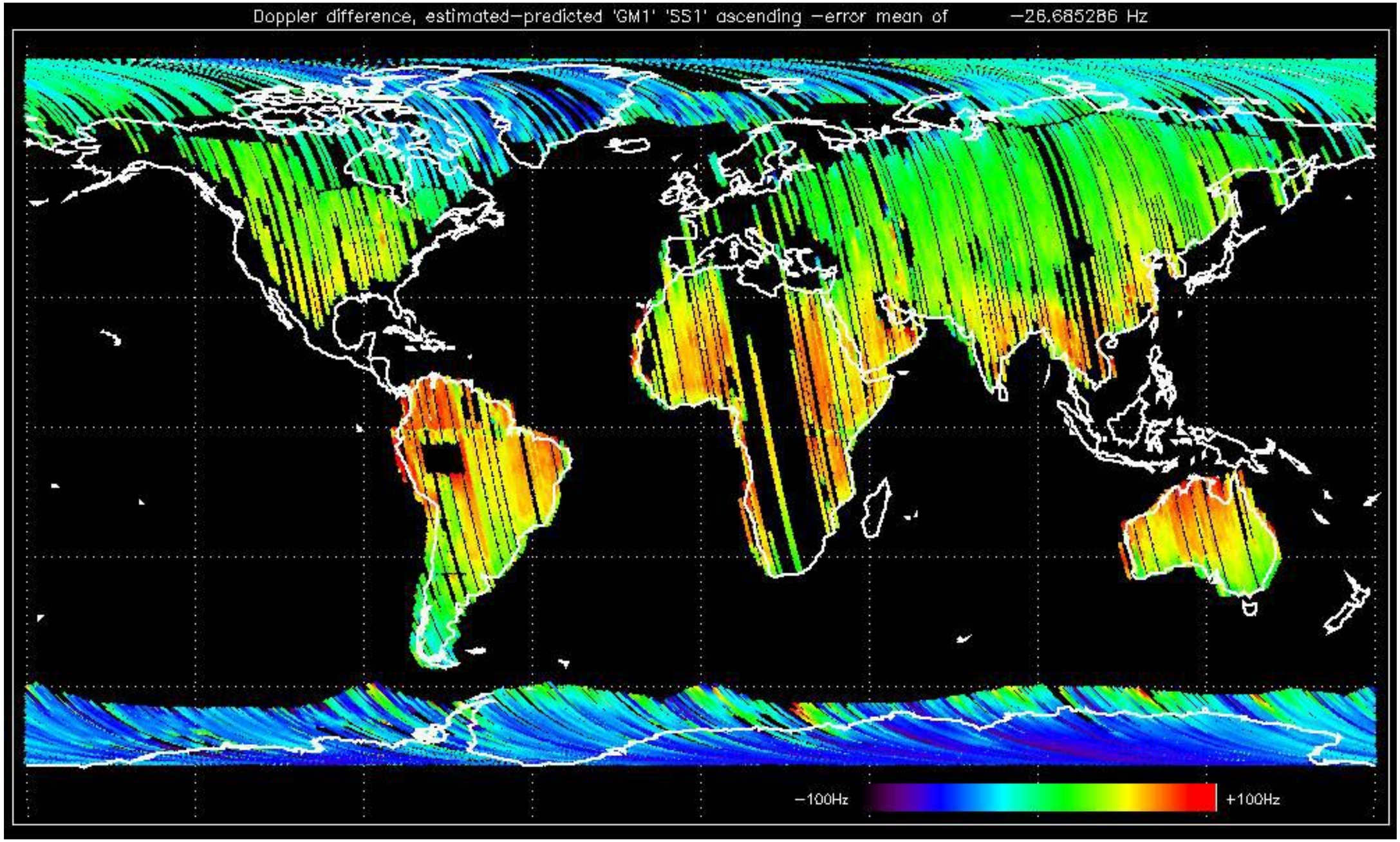

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

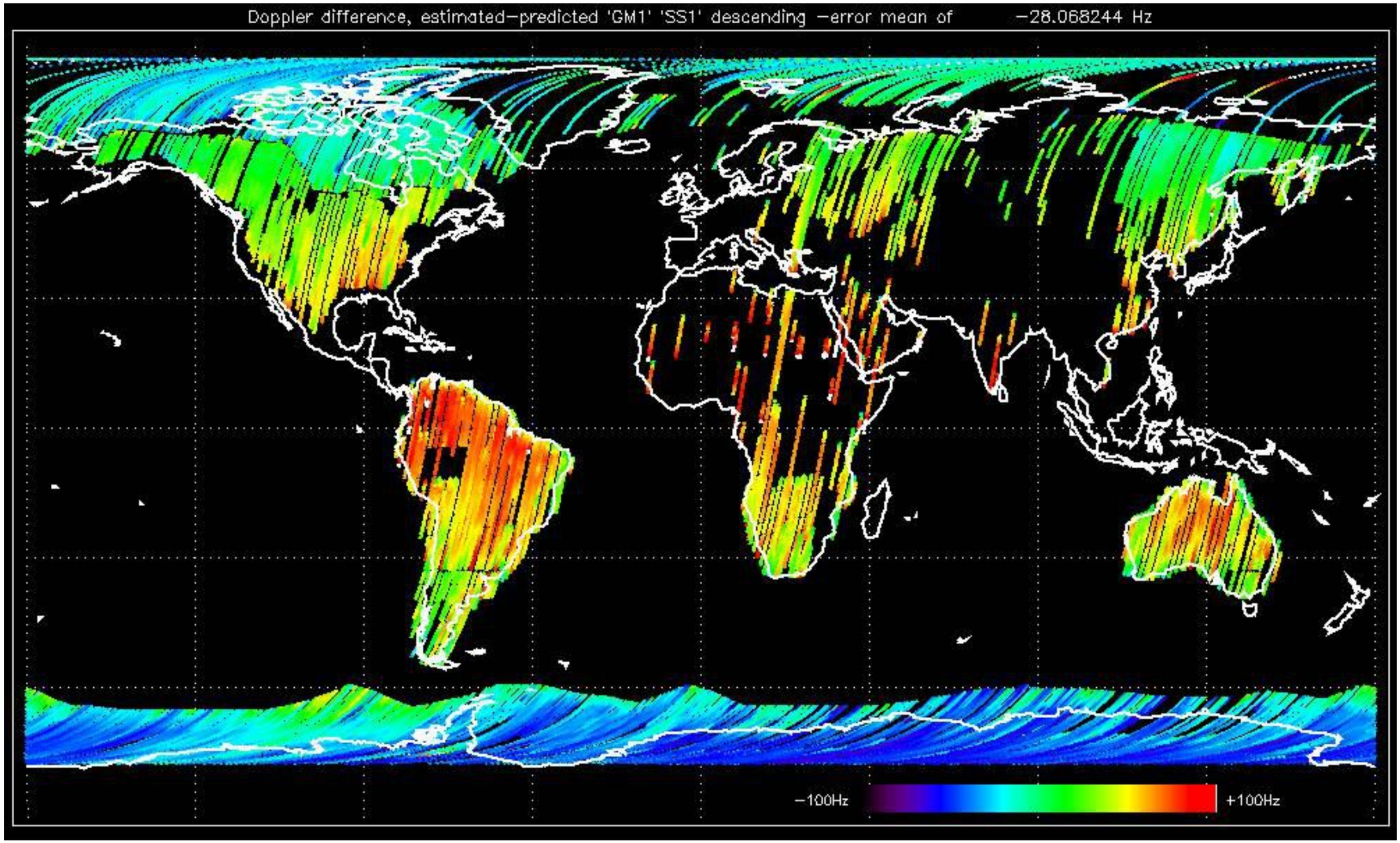

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

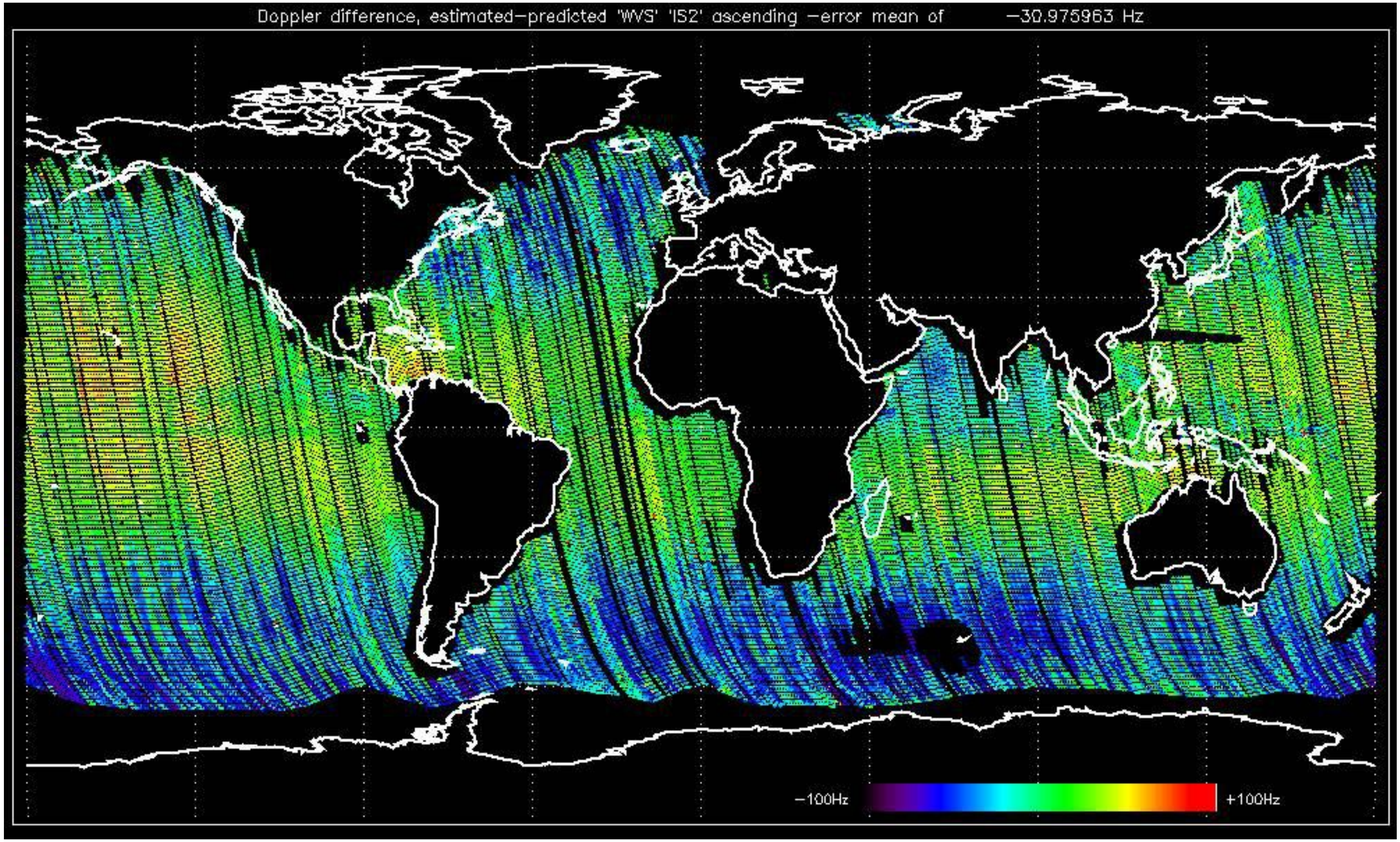

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

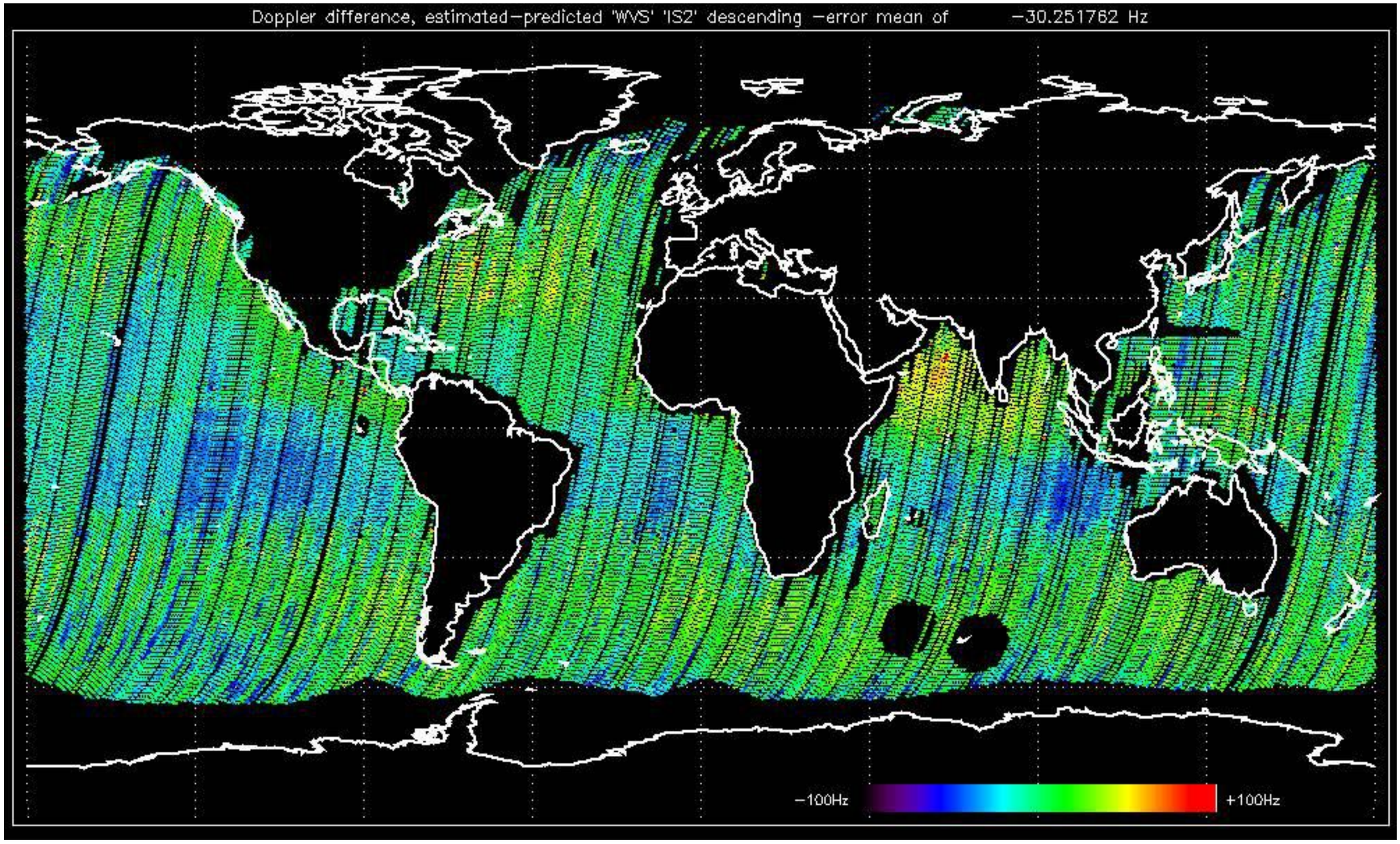

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
ANX time
doppler error (real−ref)
Doppler error [Hz]
100
50
0
−50
−100
−150
5
10
15
time of day


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
−300
5
10
15
time of day


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −26.685286 Hz
−100Hz
+100Hz

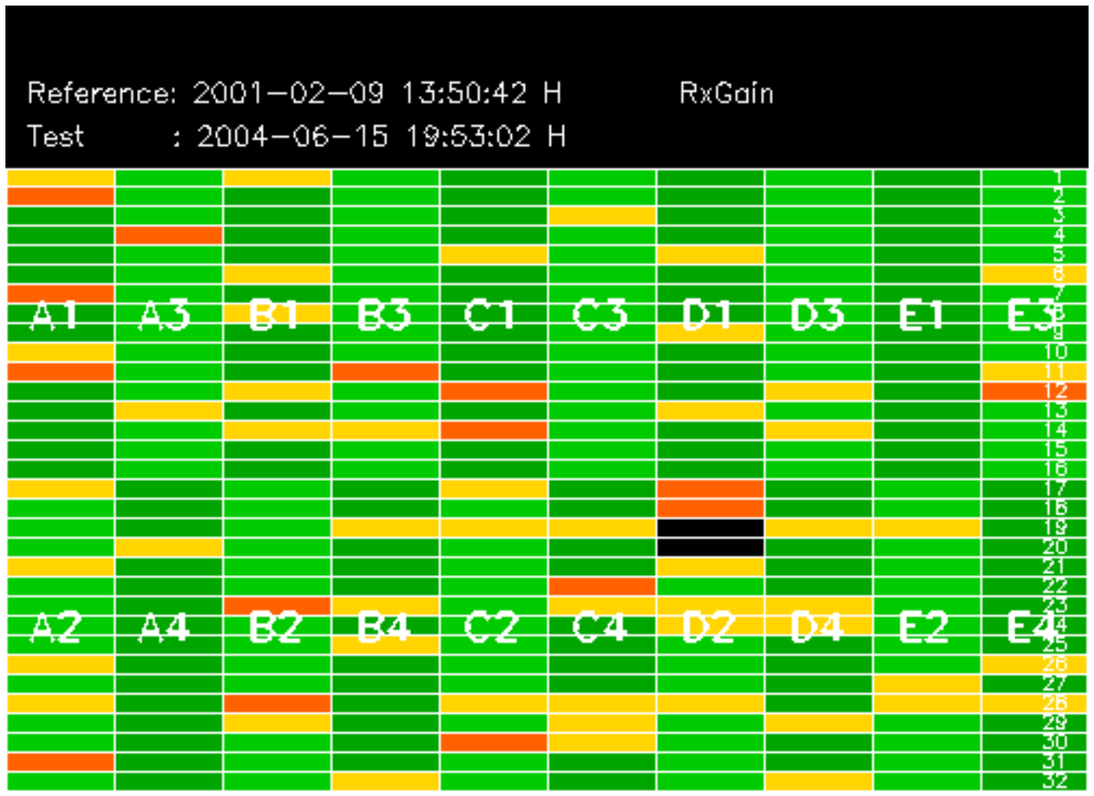

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −28.068244 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −30.975963 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −30.251762 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 : 2004-06-15 19:53:02 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
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20
21
22
23
24
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26
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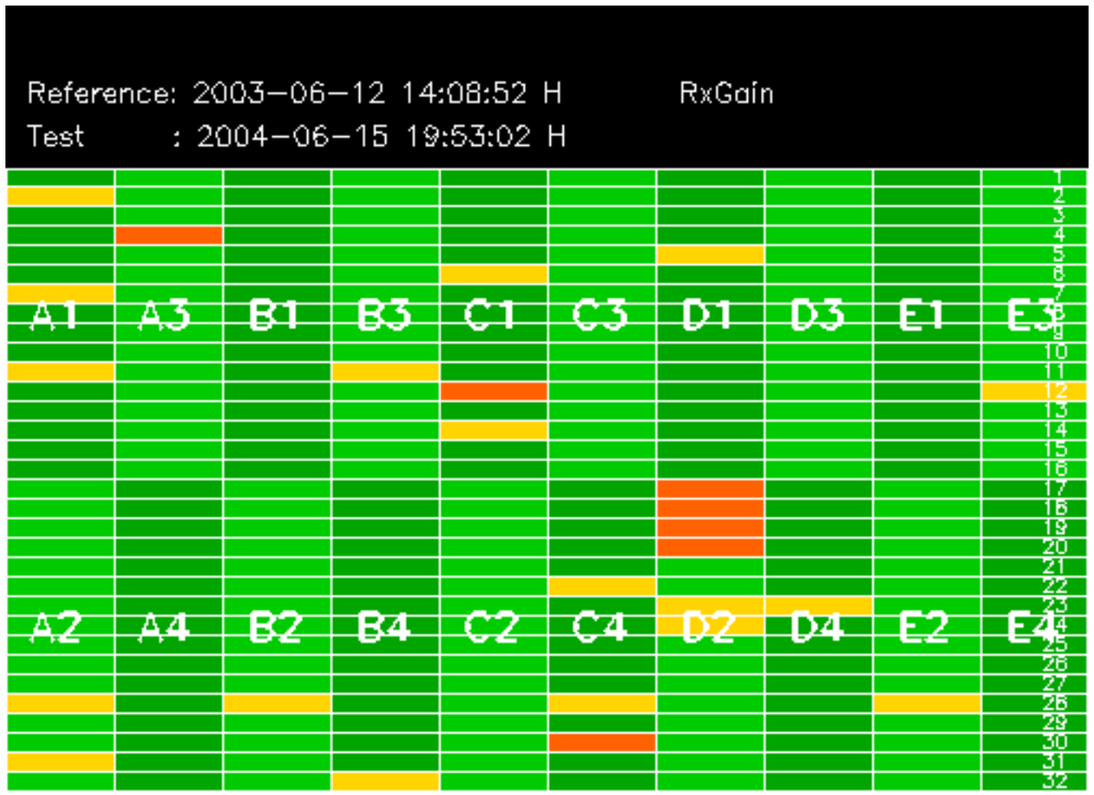
28
29
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2004-06-15 19:53:02 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
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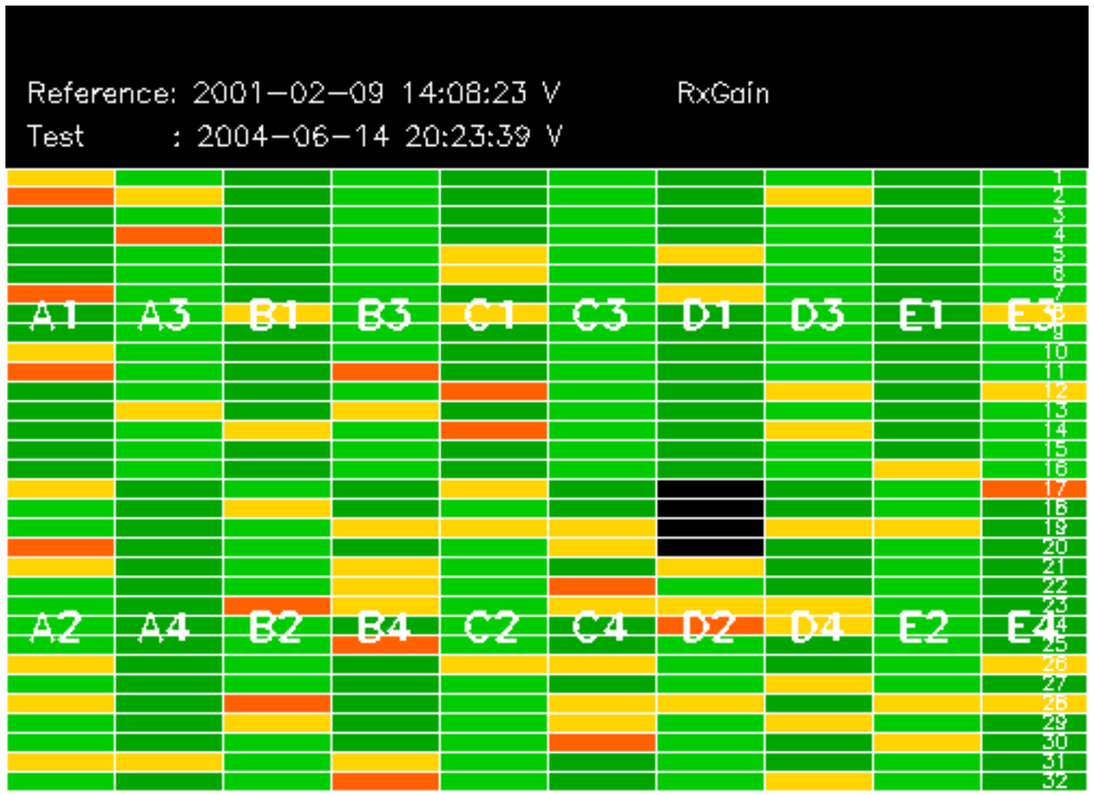
Reference: 2001-02-09 14:08:23 V
Test : 2004-06-14 20:23:39 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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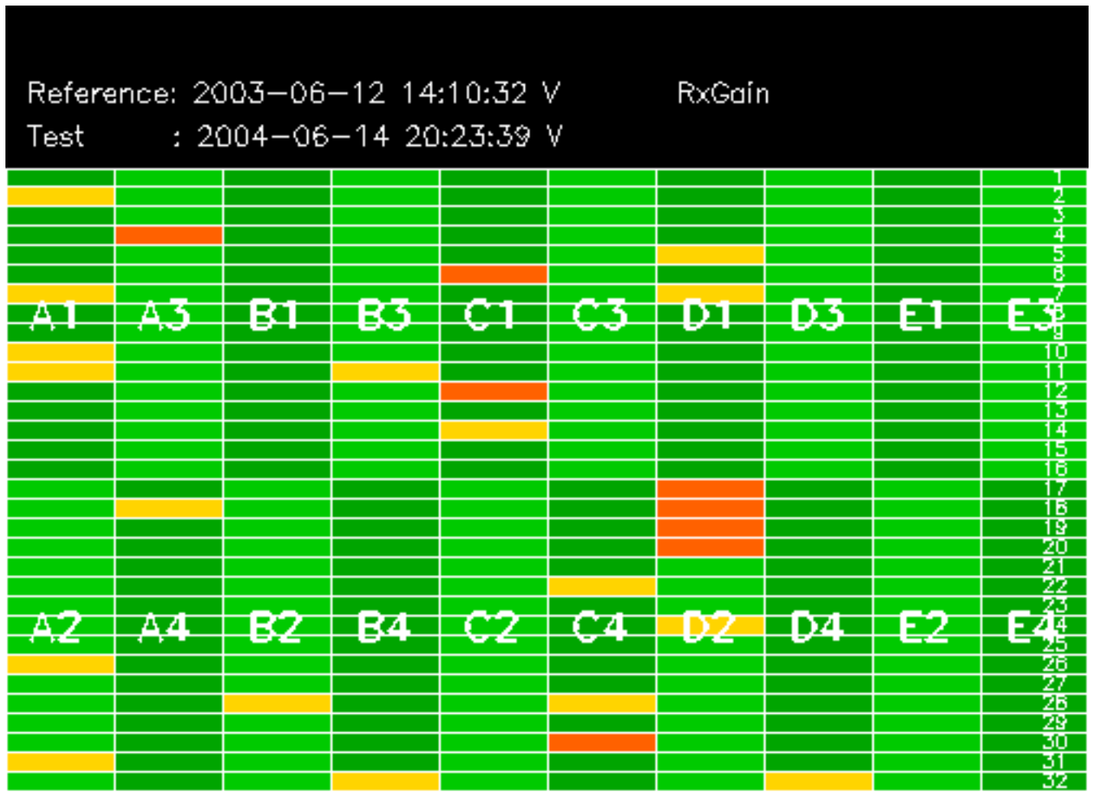
Reference: 2003-06-12 14:10:32 V
Test : 2004-06-14 20:23:39 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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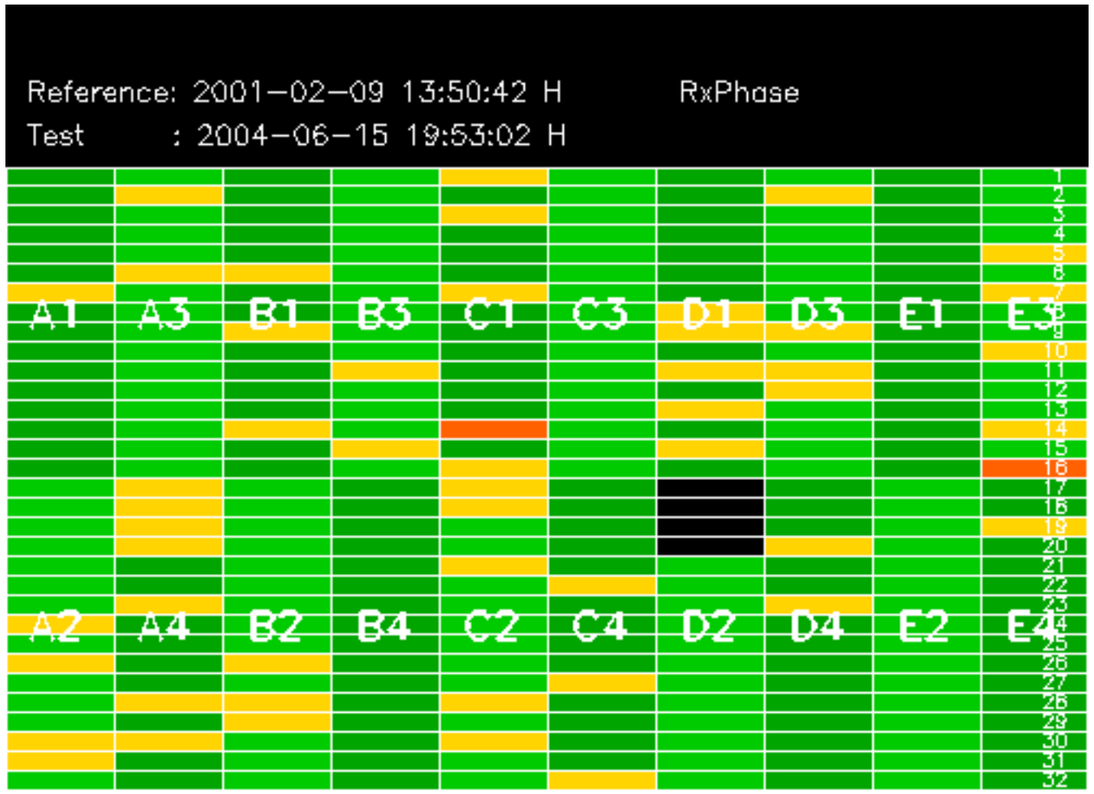
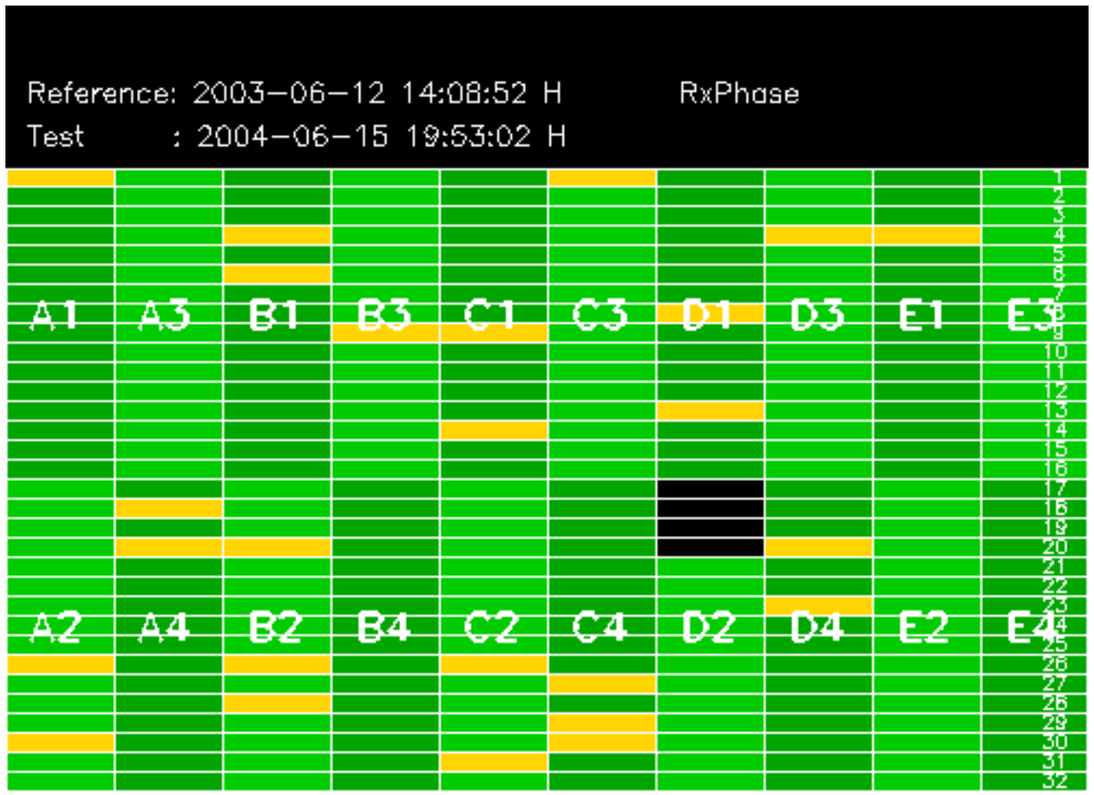

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-06-15 19:53:02 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-06-15 19:53:02 H
RxPhase
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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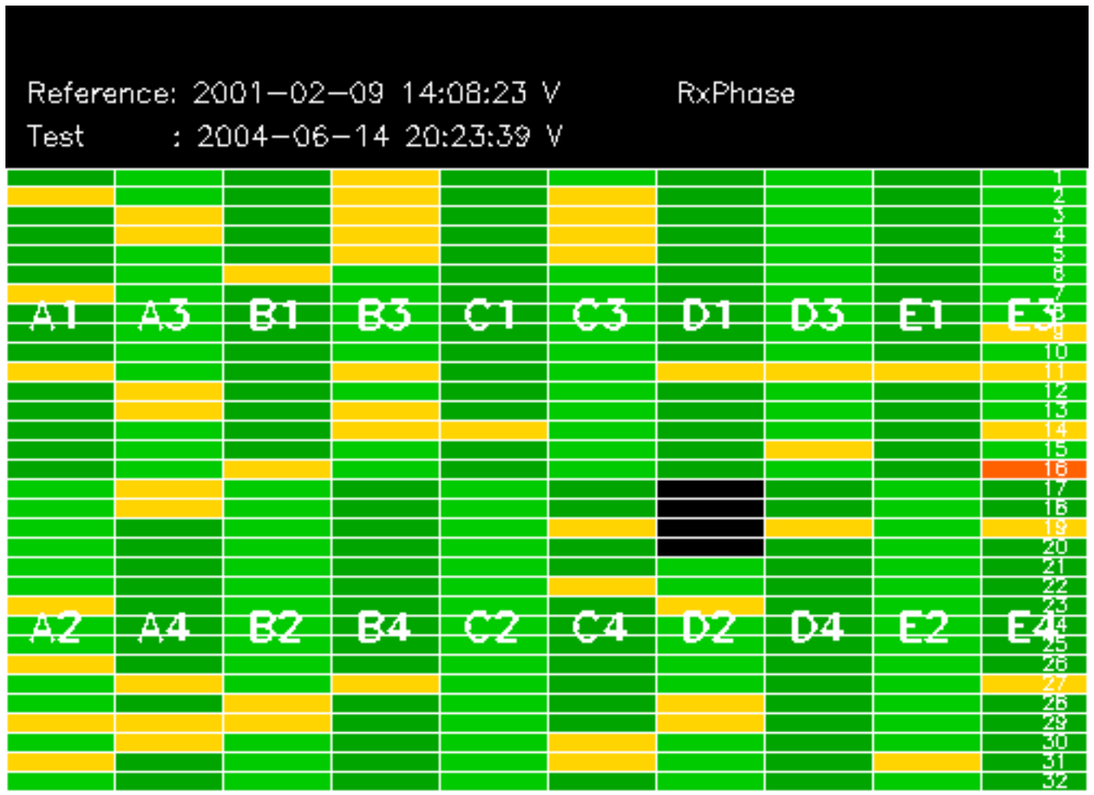
Reference: 2001-02-09 14:08:23 V
Test : 2004-06-14 20:23:39 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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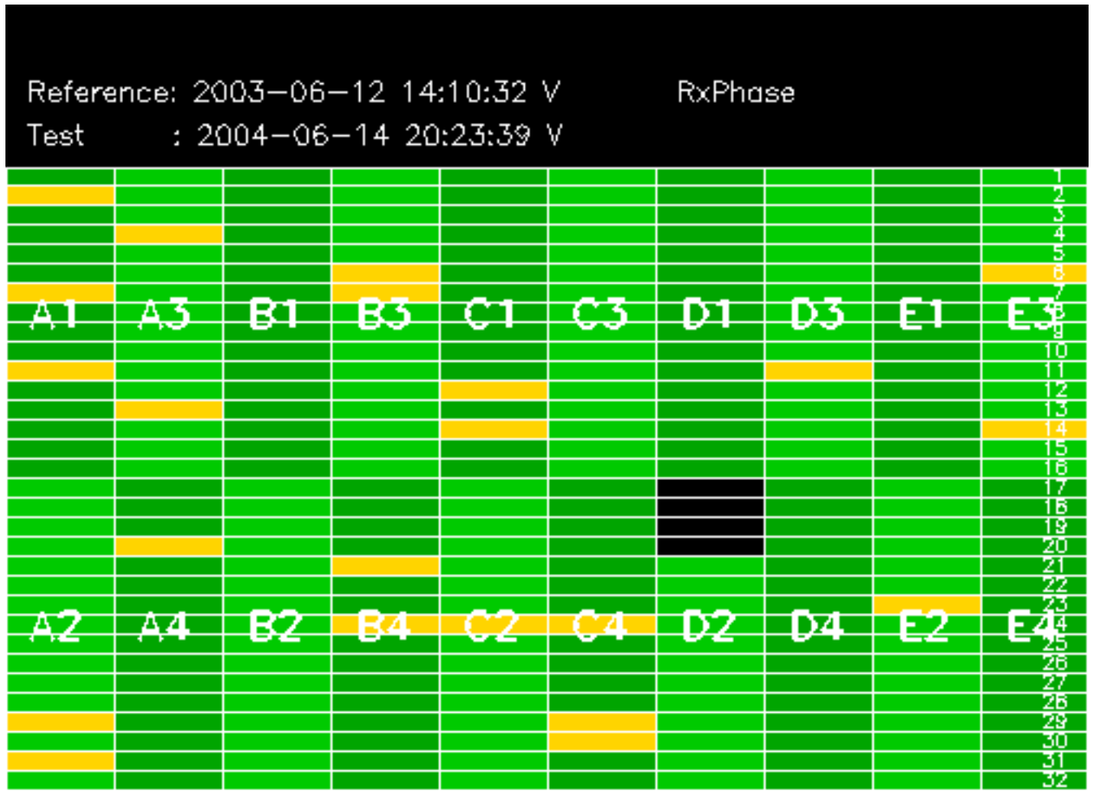
Reference: 2003-06-12 14:10:32 V
Test : 2004-06-14 20:23:39 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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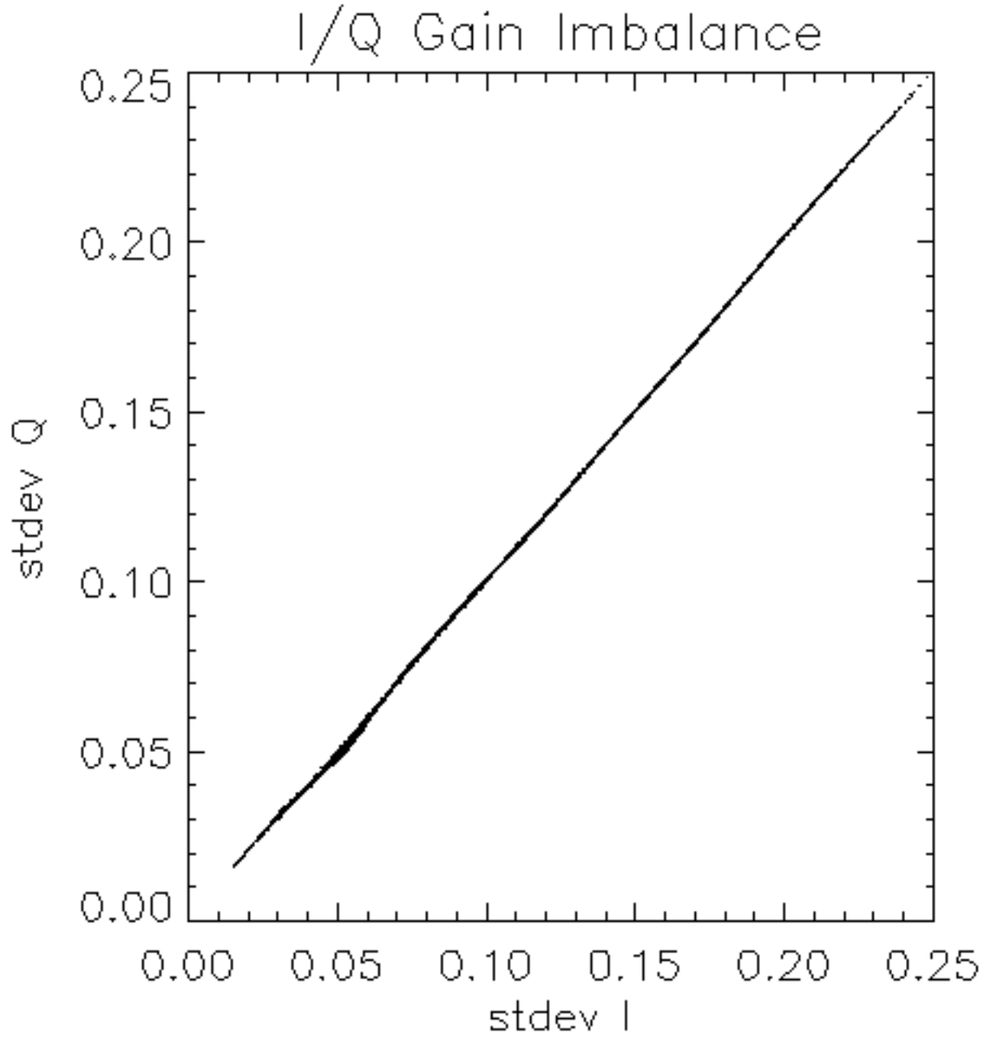
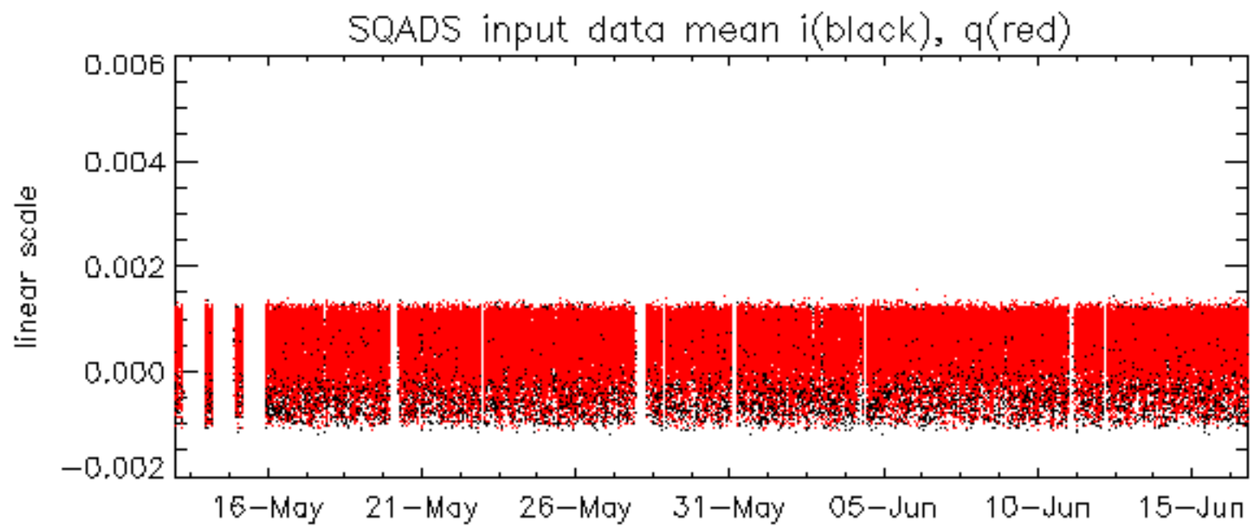
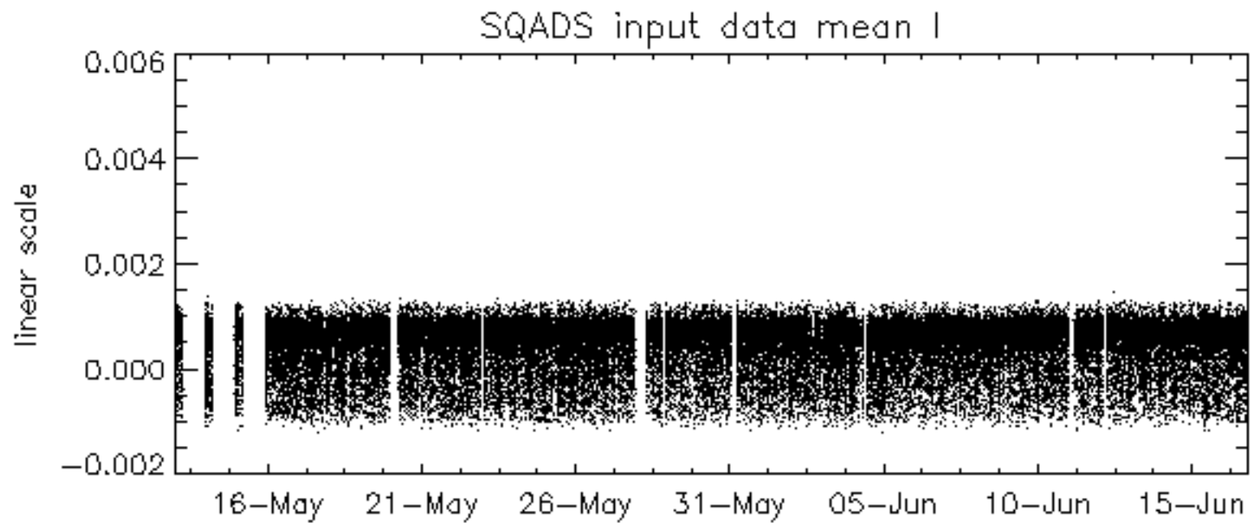
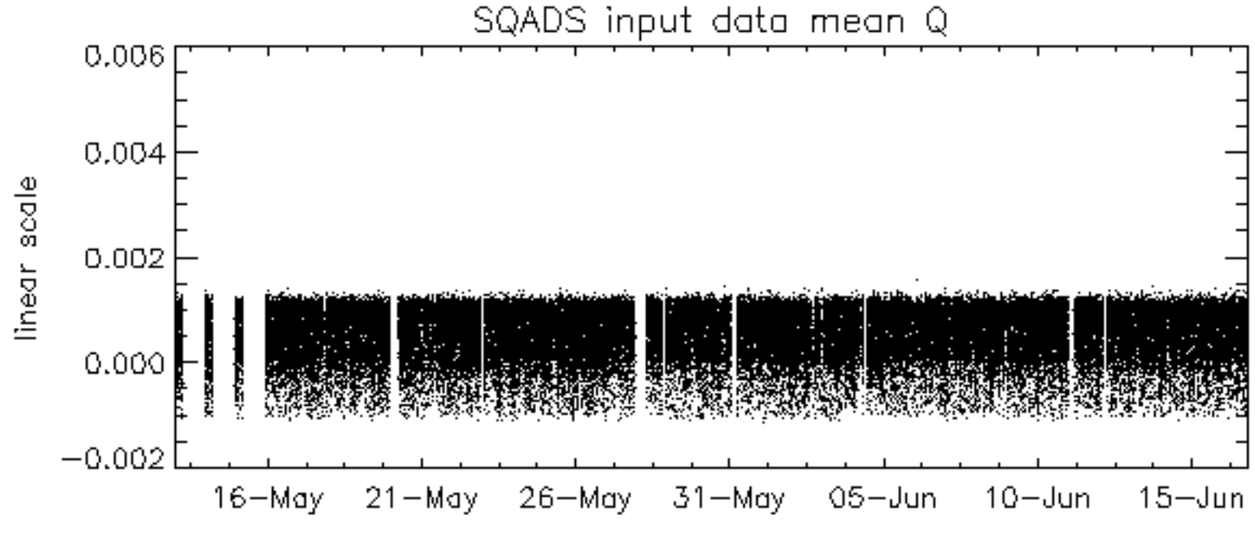
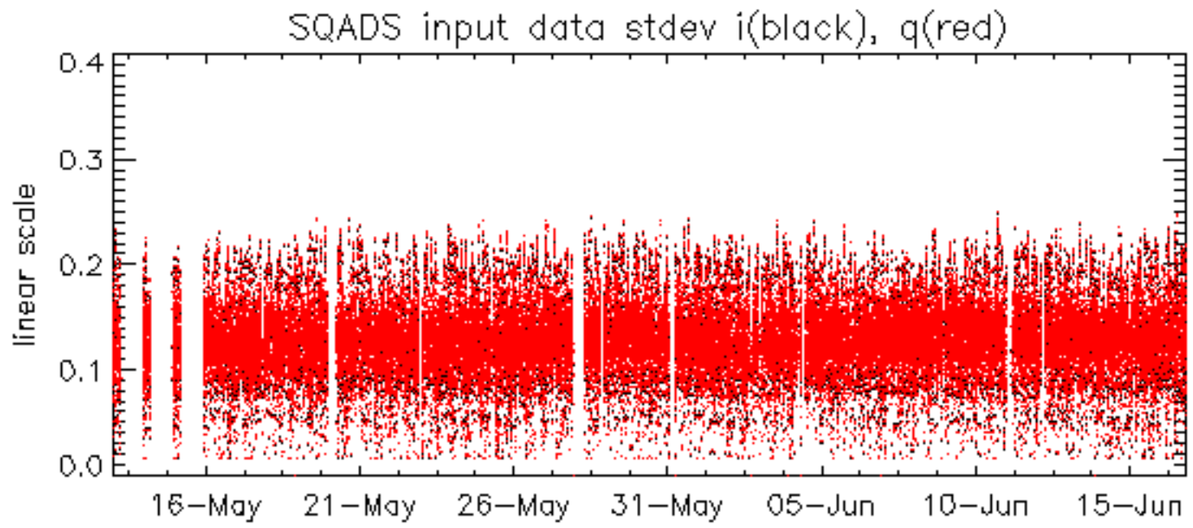
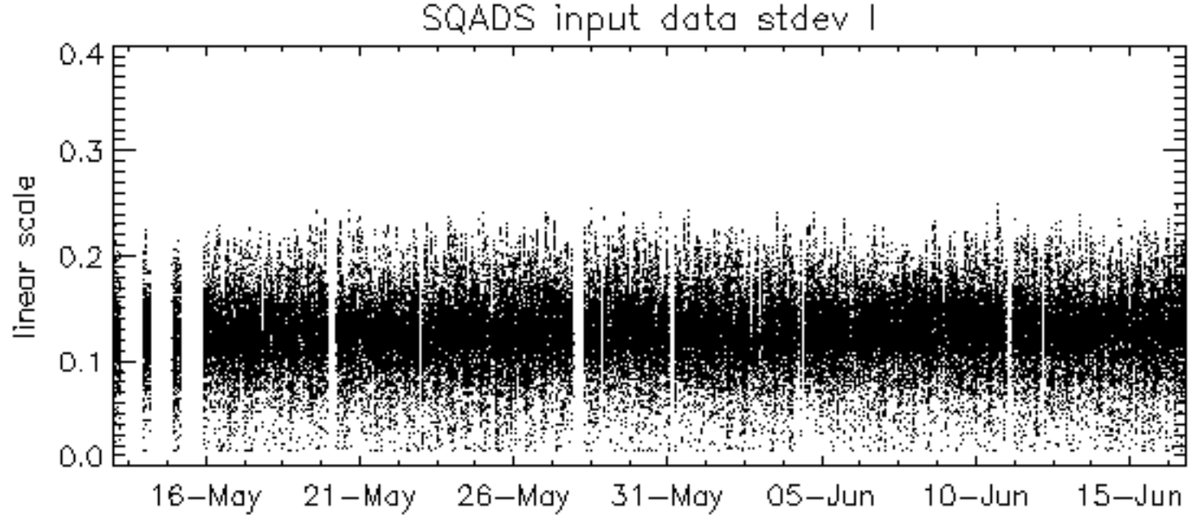

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

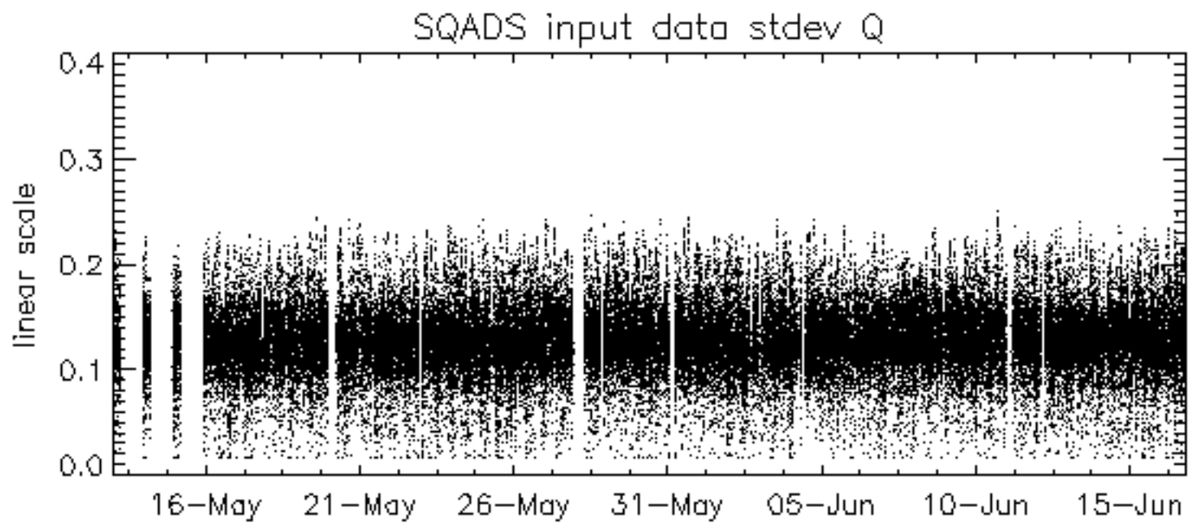

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
16−May
21−May
26−May
31−May
05−Jun
10−Jun
15−Jun

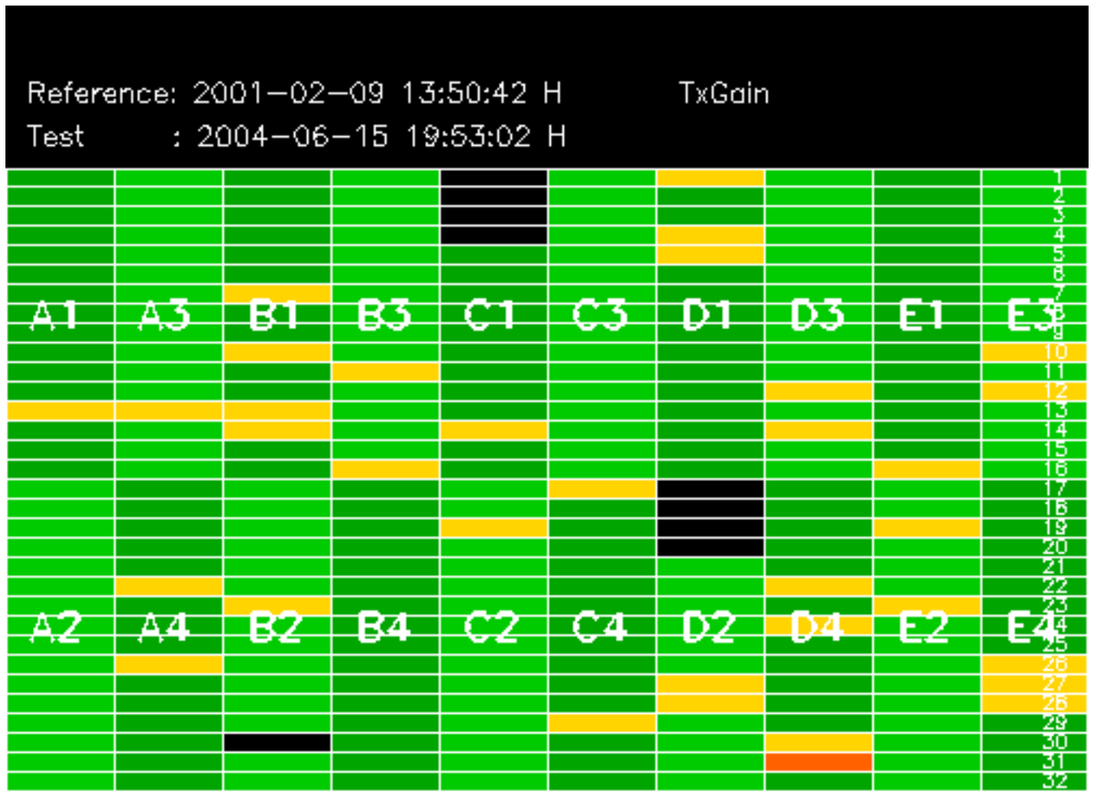

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
16−May
21−May
26−May
31−May
05−Jun
10−Jun
15−Jun

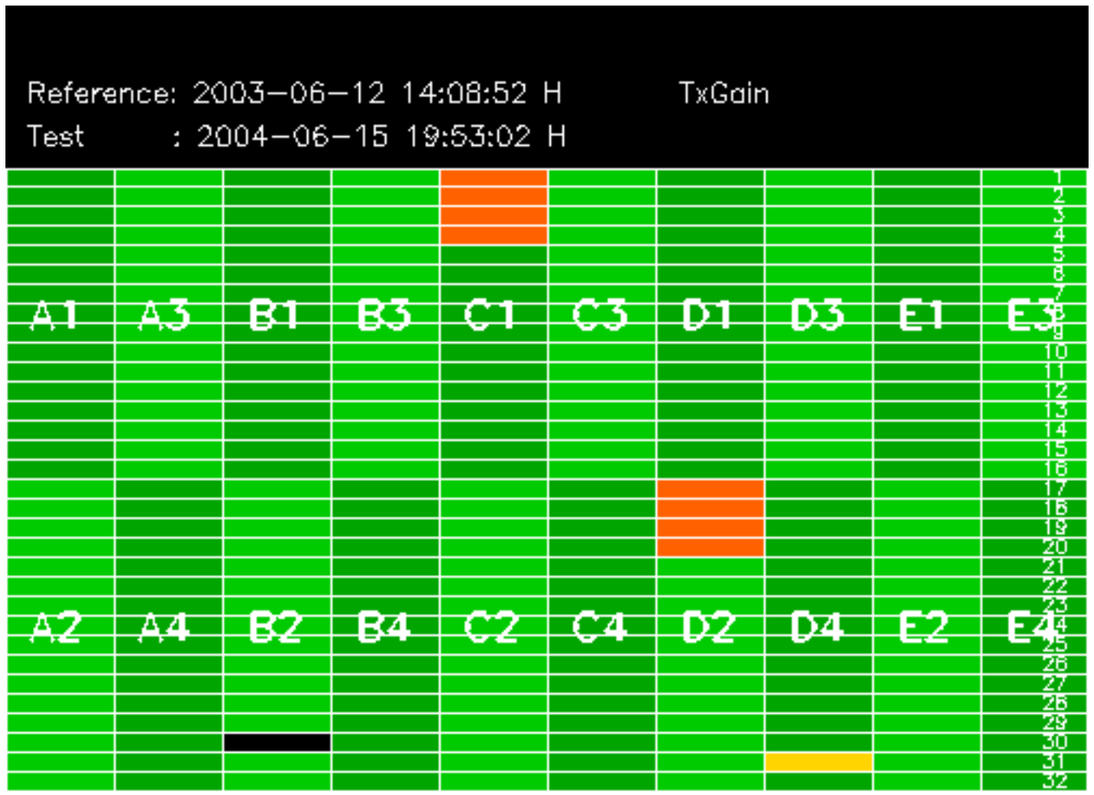

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
16−May
21−May
26−May
31−May
05−Jun
10−Jun
15−Jun


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2004-06-15 19:53:02 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 : 2004-06-15 19:53:02 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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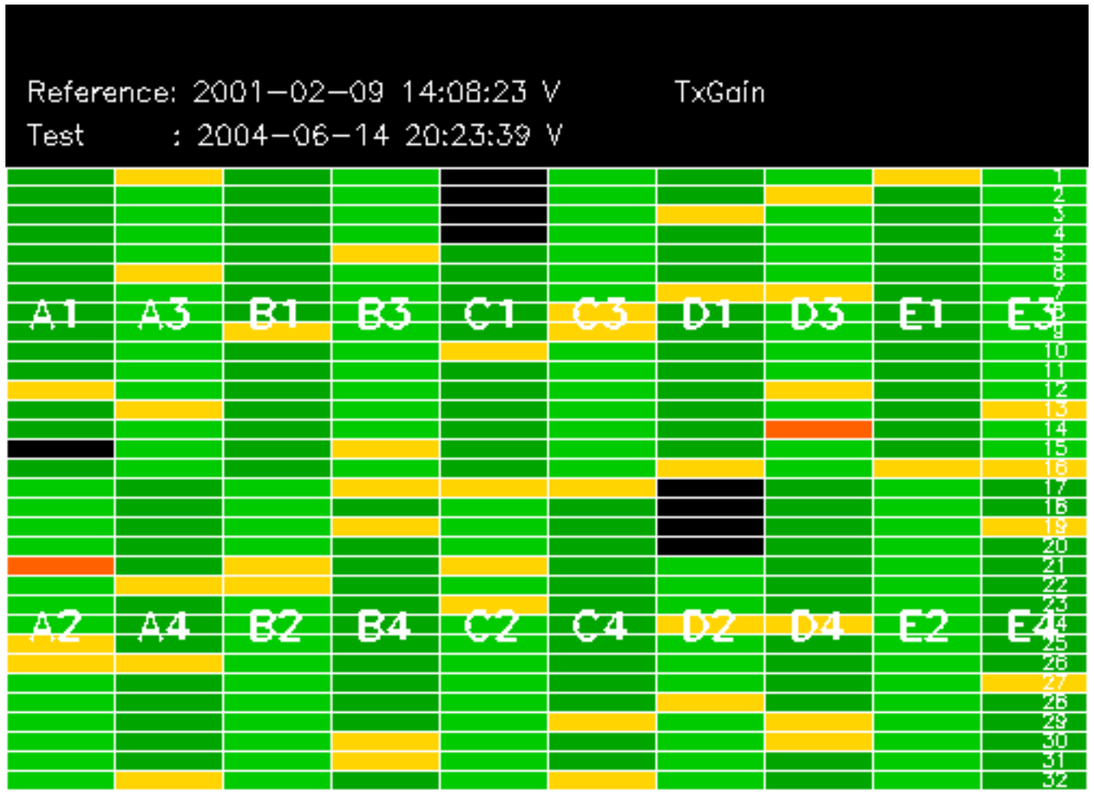
Reference: 2001-02-09 14:08:23 V
Test : 2004-06-14 20:23:39 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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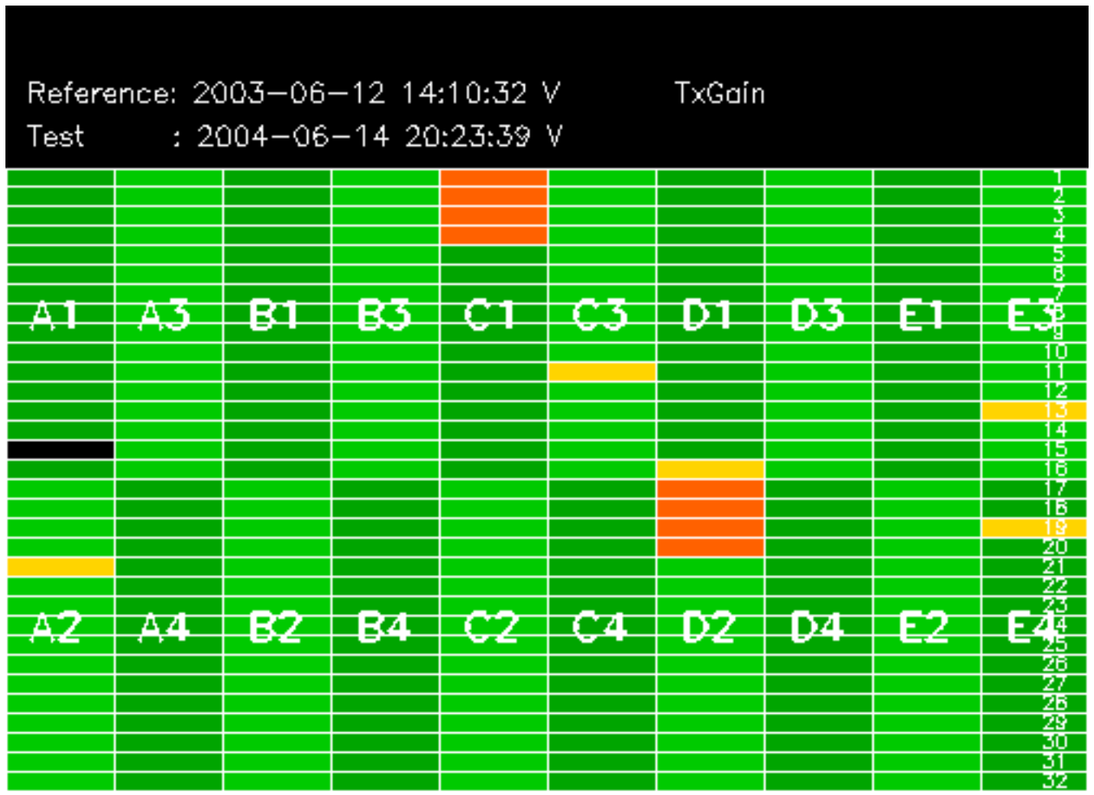
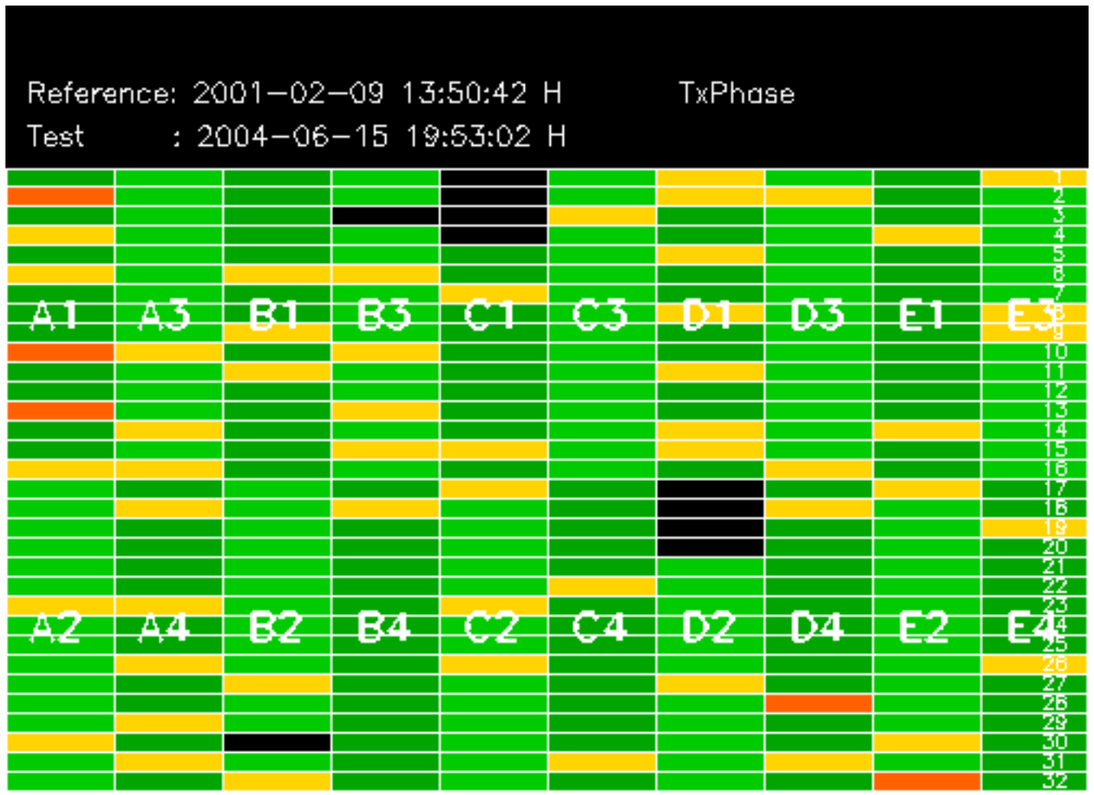

Reference: 2003-06-12 14:10:32 V
Test : 2004-06-14 20:23:39 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
Test : 2004-06-15 19:53:02 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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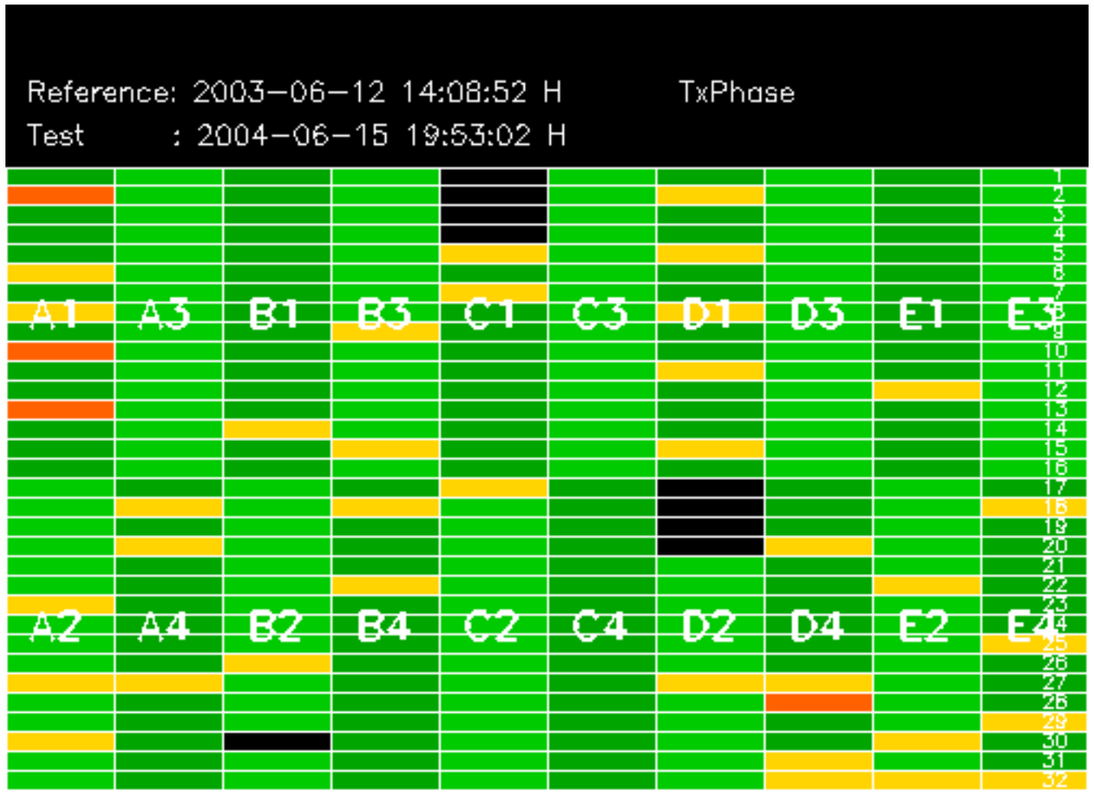
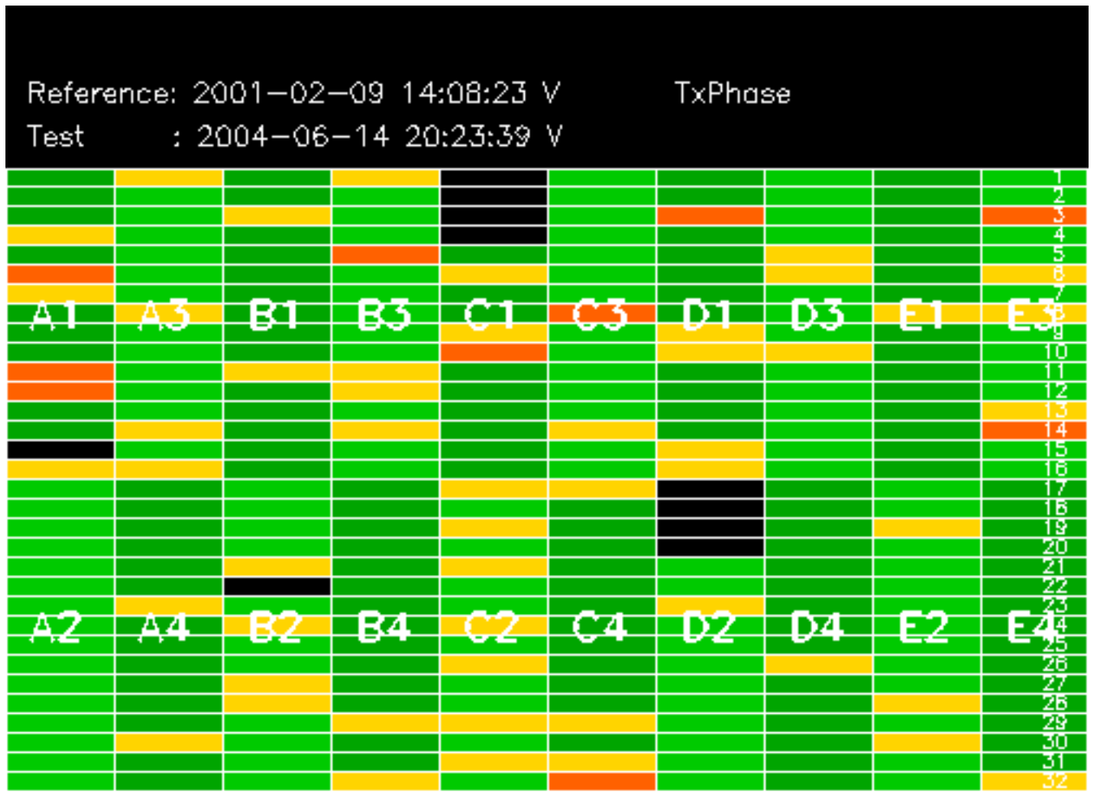

Reference: 2003-06-12 14:08:52 H
Test : 2004-06-15 19:53:02 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2004-06-14 20:23:39 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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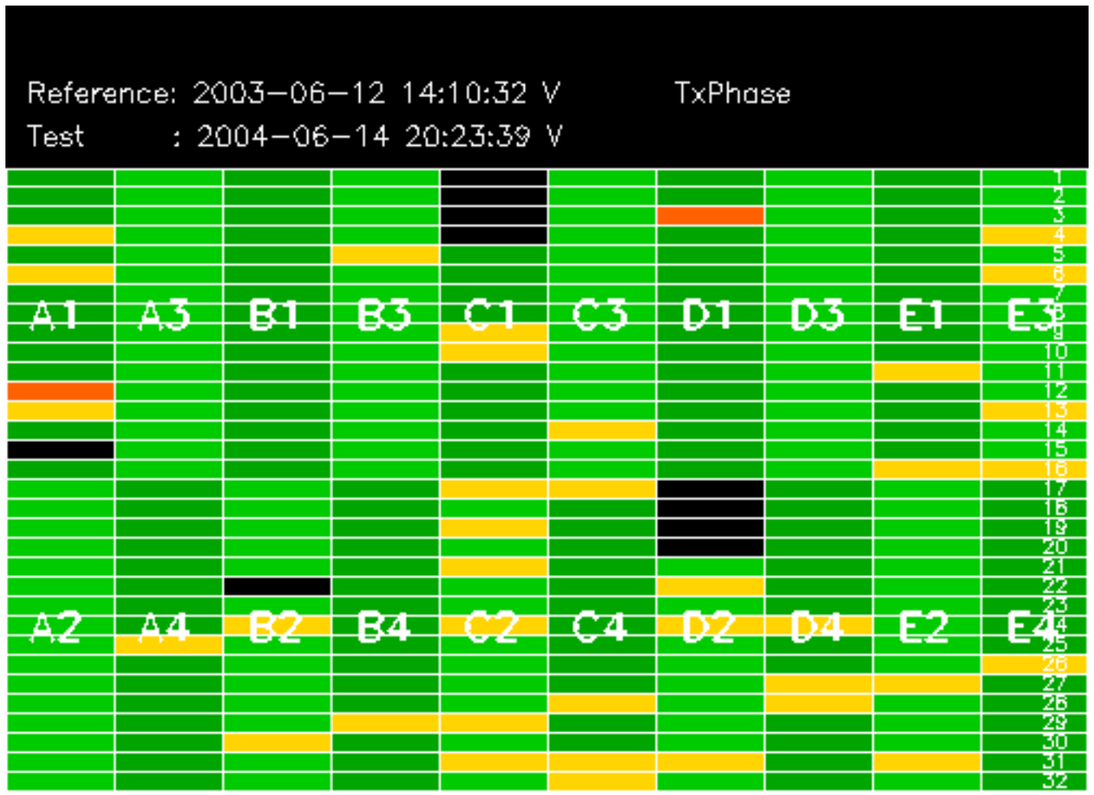
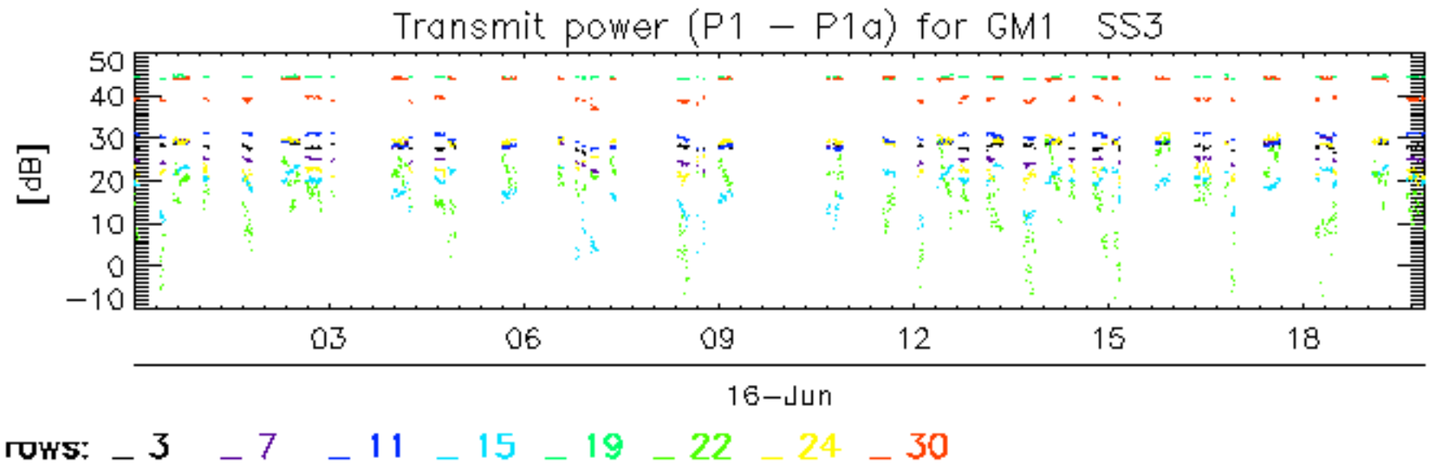
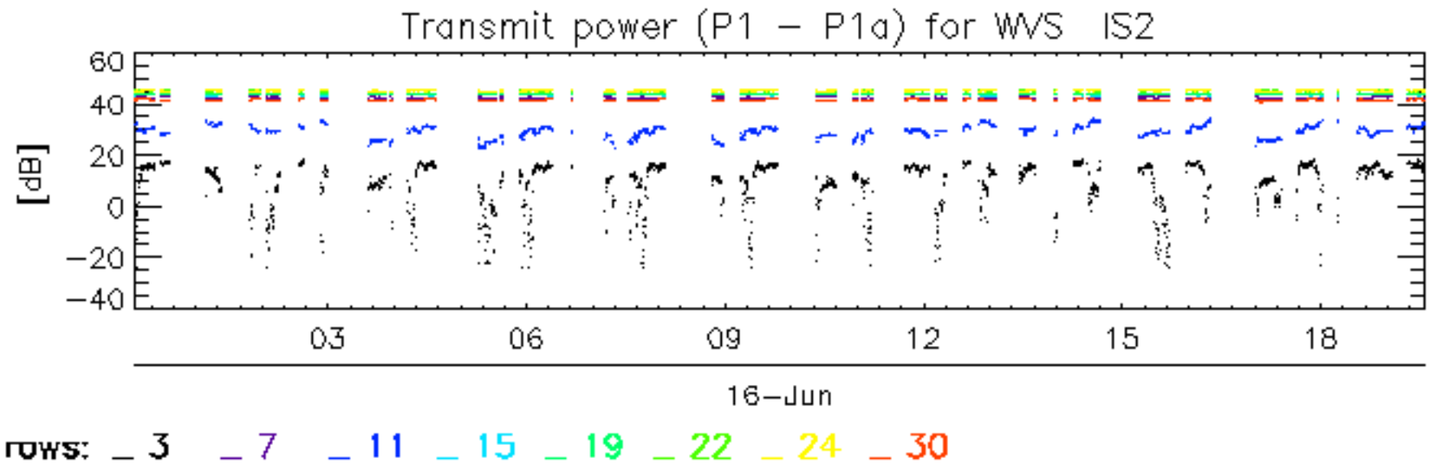

Reference: 2003-06-12 14:10:32 V
Test : 2004-06-14 20:23:39 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Transmit power (P1 – P1a) for GM1 SS3
[dB]
50
40
30
20
10
0
−10
03
06
09
12
15
18
16–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
16−Jun
rows: 3 7 11 15 19 22 24 30

No unavailabilities during the reported period.