REPORT OF 040616

last update on Wed Jun 16 13:08:20 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__0PNPDK20040615_195302_000000152027_00414_11991_0154.N1

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.

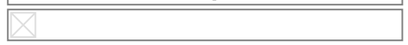
4.1 - Daily statistics

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	-3.522321	0.010907	0.056685
7	P1	-3.322650	0.015470	-0.007960
11	P1	-4.533174	0.037694	0.023503
15	P1	-5.671985	0.073424	-0.070687
19	P1	-3.422383	0.004685	-0.029002
22	P1	-4.560949	0.011016	0.001460
24	P1	-4.918339	0.015191	0.038506
30	P1	-6.839380	0.023481	-0.015286

3	P1	-16.117340	0.220364	0.112842
7	P1	-13.987224	0.103786	0.001322
11	P1	-19.809254	0.294986	-0.211959
15	P1	-11.792994	0.045097	0.066607
19	P1	-13.793614	0.032312	-0.064415
22	P1	-16.592894	0.425289	0.031338
24	P1	-14.706493	0.304519	0.049158
30	P1	-17.648035	0.380270	-0.082791

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.432865	0.081594	0.053809
7	P2	-22.877655	0.117786	0.054184
11	P2	-15.669625	0.128665	0.125225
15	P2	-7.202021	0.094996	0.038801
19	P2	-9.570160	0.135669	0.059114
22	P2	-17.576742	0.100523	0.133787
24	P2	-20.893553	0.086190	0.060800
30	P2	-19.464025	0.080083	0.108942

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.144639	0.002048	0.007183
7	P3	-8.144641	0.002048	0.007183
11	P3	-8.144641	0.002048	0.007187
15	P3	-8.144639	0.002048	0.007188
19	P3	-8.144639	0.002047	0.007206
22	P3	-8.144642	0.002047	0.007216
24	P3	-8.144649	0.002047	0.007264
30	P3	-8.144685	0.002042	0.007705

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	-3.150148	0.136695	-0.019551
7	P1	-2.813326	0.075550	0.061270
11	P1	-3.786543	0.021186	-0.021426
15	P1	-4.255873	1.021767	-0.094605
19	P1	-3.349673	0.048586	-0.012772
22	P1	-5.721798	0.045470	0.010375
24	P1	-4.046441	0.081284	-0.022048
30	P1	-6.092405	0.058937	-0.036457
3	P1	-11.034986	0.436149	-0.032404
7	P1	-9.766621	0.257230	0.074349
11	P1	-11.743381	0.162132	-0.117617
15	P1	-11.833050	0.285175	-0.041522
19	P1	-14.983089	0.821757	-0.000327
22	P1	-21.502136	8.981986	0.135869
24	P1	-17.354420	0.286561	-0.017637
30	P1	-21.721224	4.124594	0.056317

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.171719	0.042551	0.010344
7	P2	-22.961834	0.028738	0.071671
11	P2	-11.074517	0.213513	0.155096
15	P2	-5.006965	0.043066	0.011495
19	P2	-6.932524	0.043690	-0.014505
22	P2	-7.702014	0.023339	0.063952
24	P2	-11.083870	0.070580	0.021427
30	P2	-22.422808	0.094129	0.093185

P3 Cyclic statistics

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

3	P3	-7.984769	0.003299	0.006782
7	P3	-7.984719	0.003290	0.006851
11	P3	-7.984734	0.003293	0.006942
15	P3	-7.984849	0.003283	0.006924
19	P3	-7.984721	0.003298	0.007003
22	P3	-7.984890	0.003280	0.006768
24	P3	-7.984630	0.003309	0.006753
30	P3	-7.984801	0.003289	0.006942

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	0.000473396
	stdev	2.20703e-07
MEAN Q	mean	0.000530116
	stdev	2.42108e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127997
	stdev	0.000998719

STDEV Q	mean	0.128229
	stdev	0.00100964

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

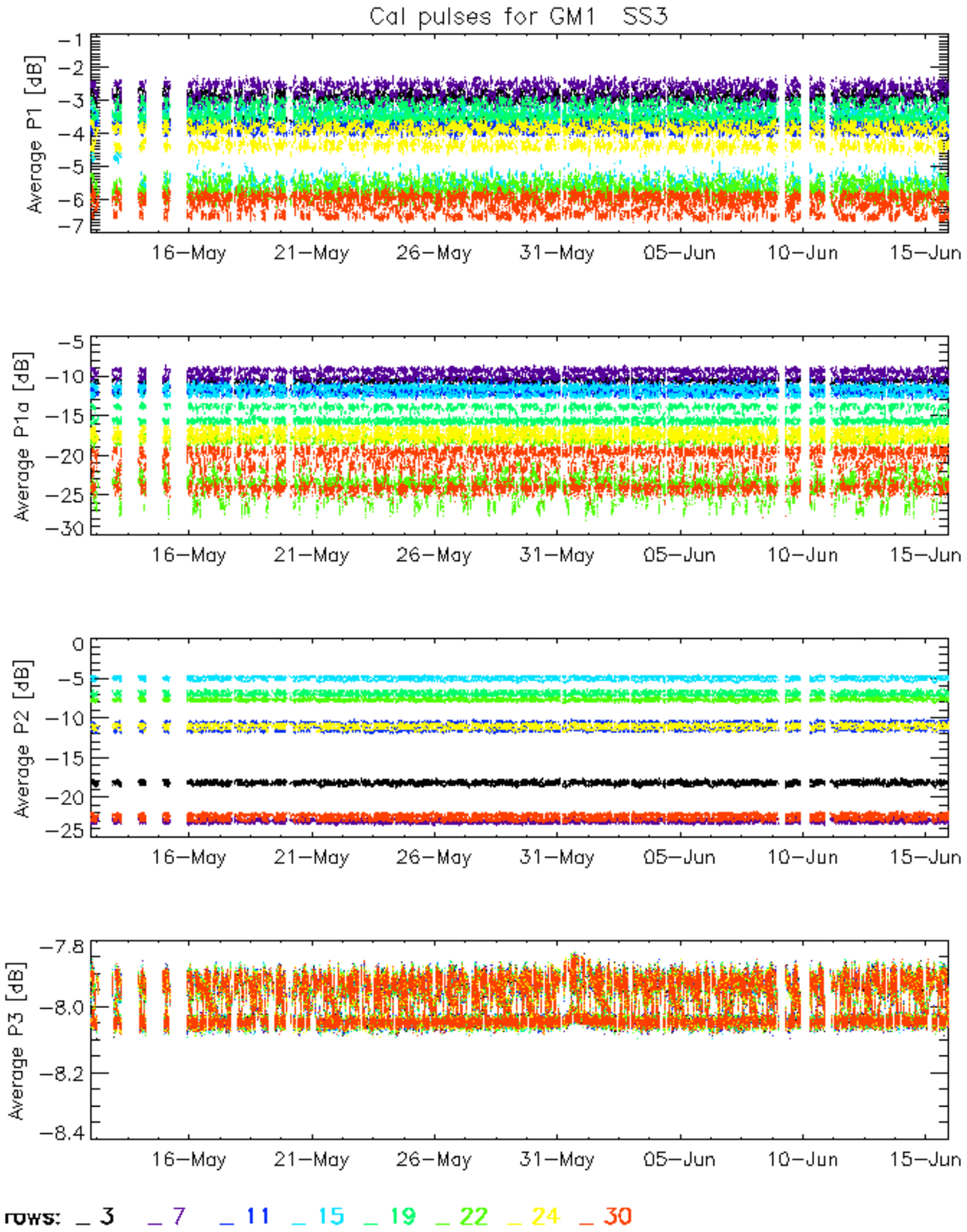
Evolution of Absolute Doppler

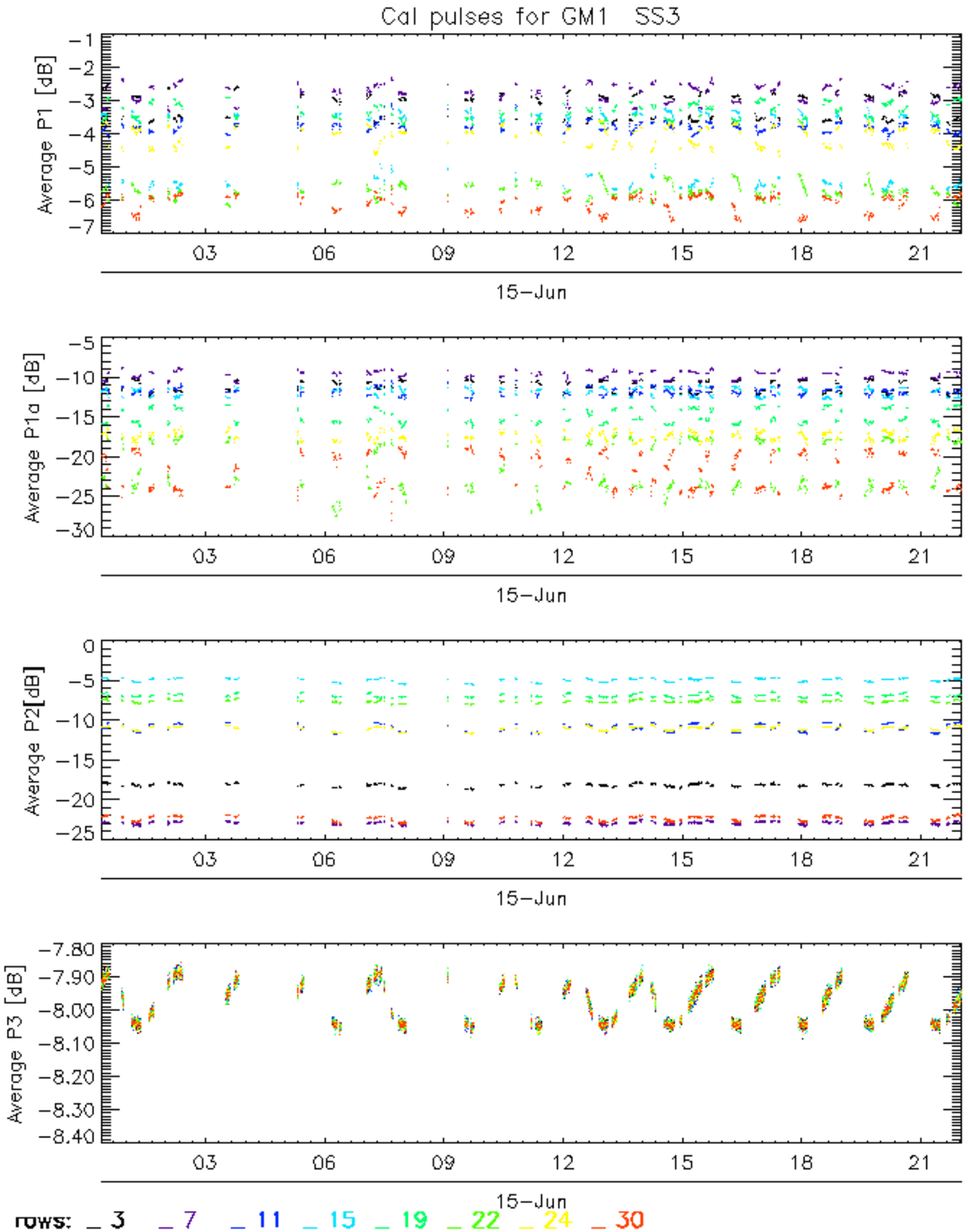
Acsending

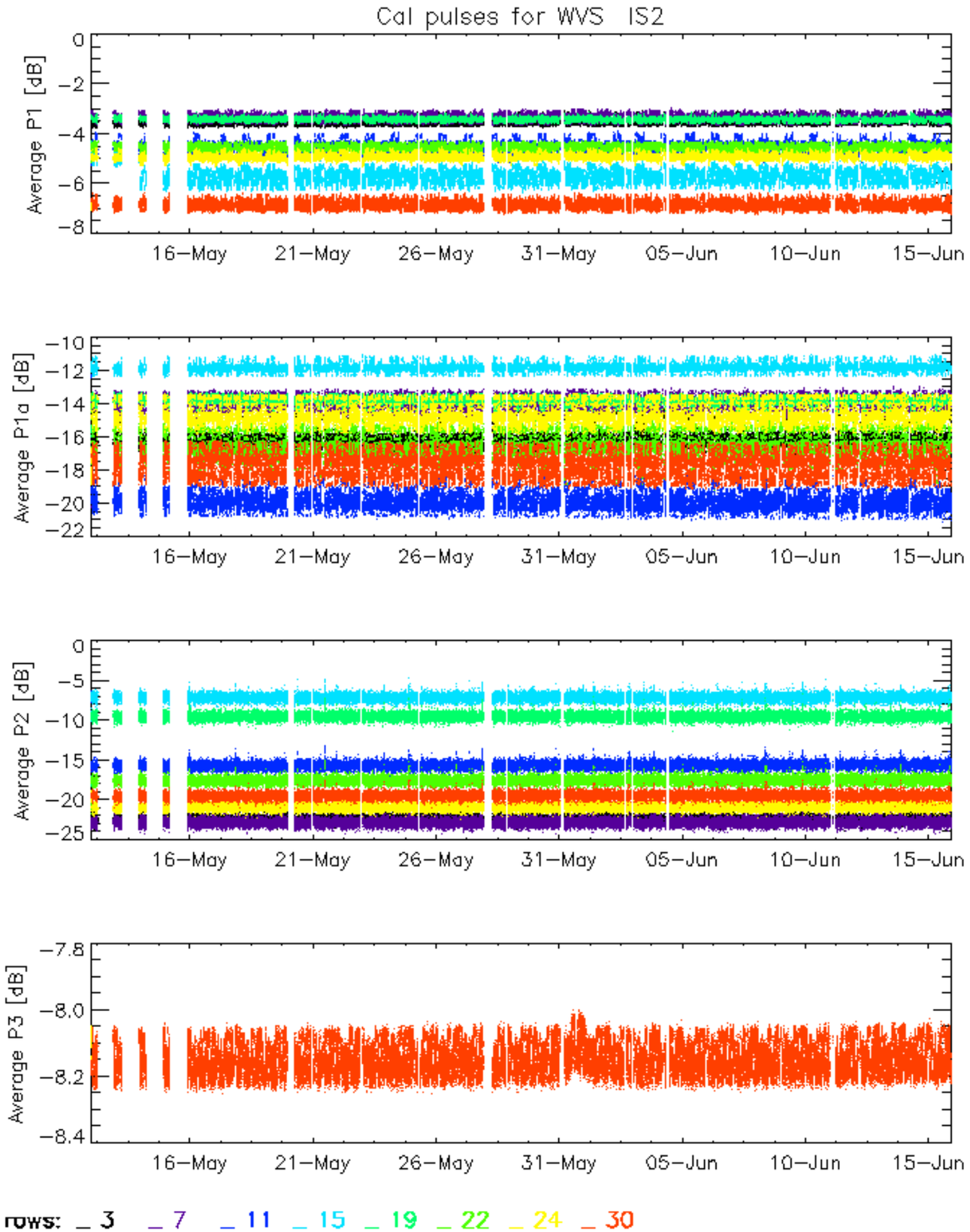
Descending

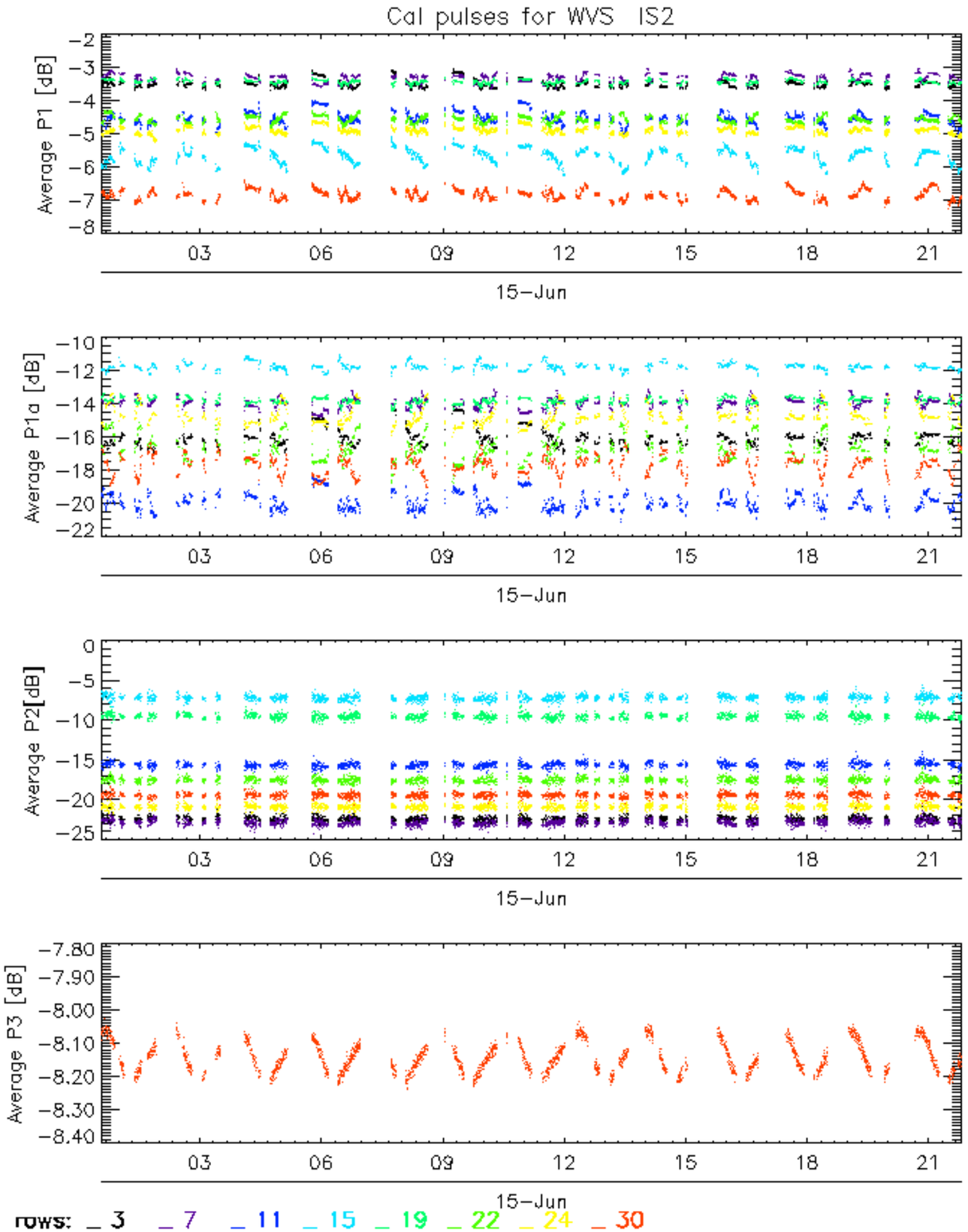
6.6 - Doppler evolution versus ANX for GM1

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

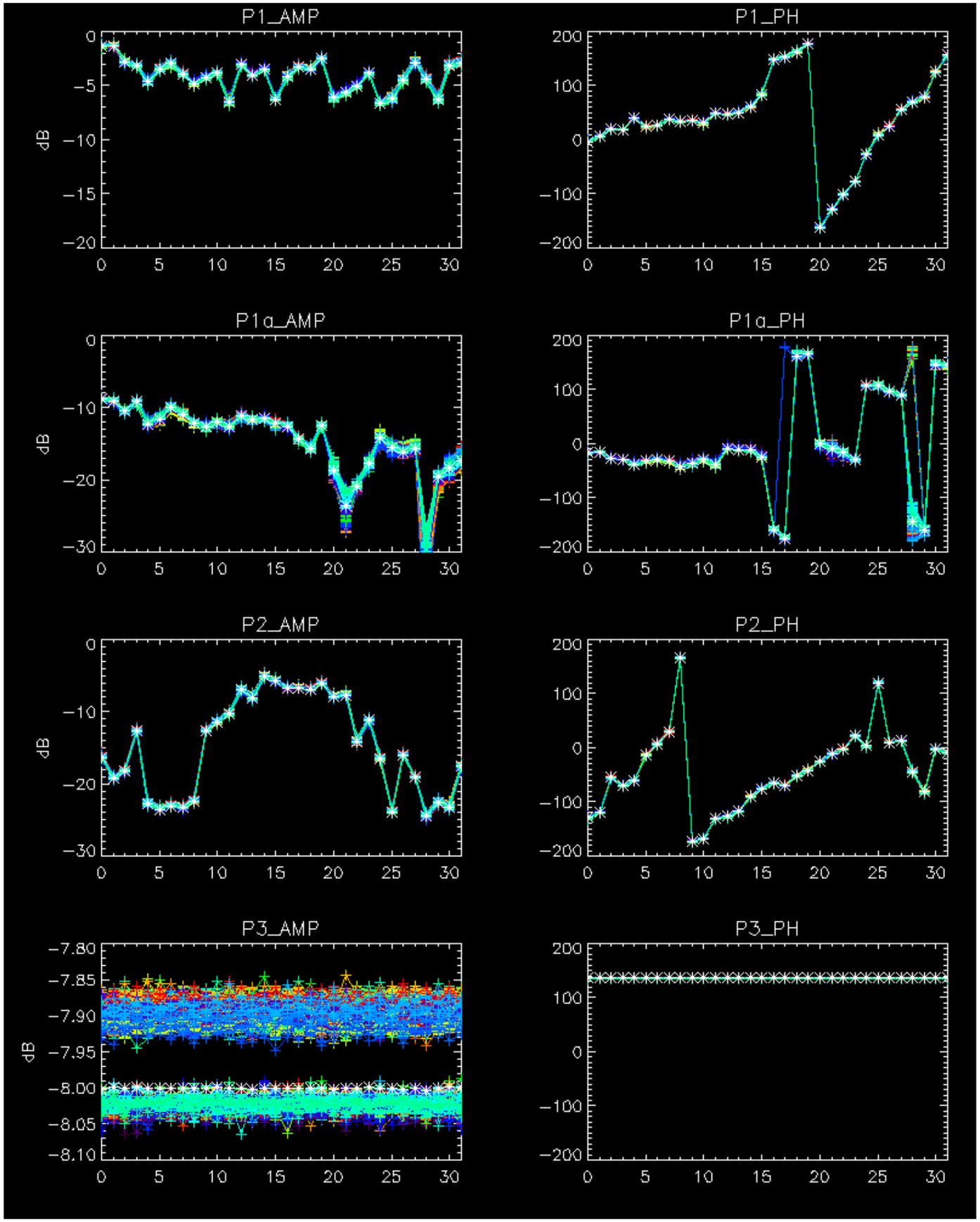

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
15−Jun
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
21
15−Jun
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
15−Jun
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06
09
12
15
18
21
15−Jun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

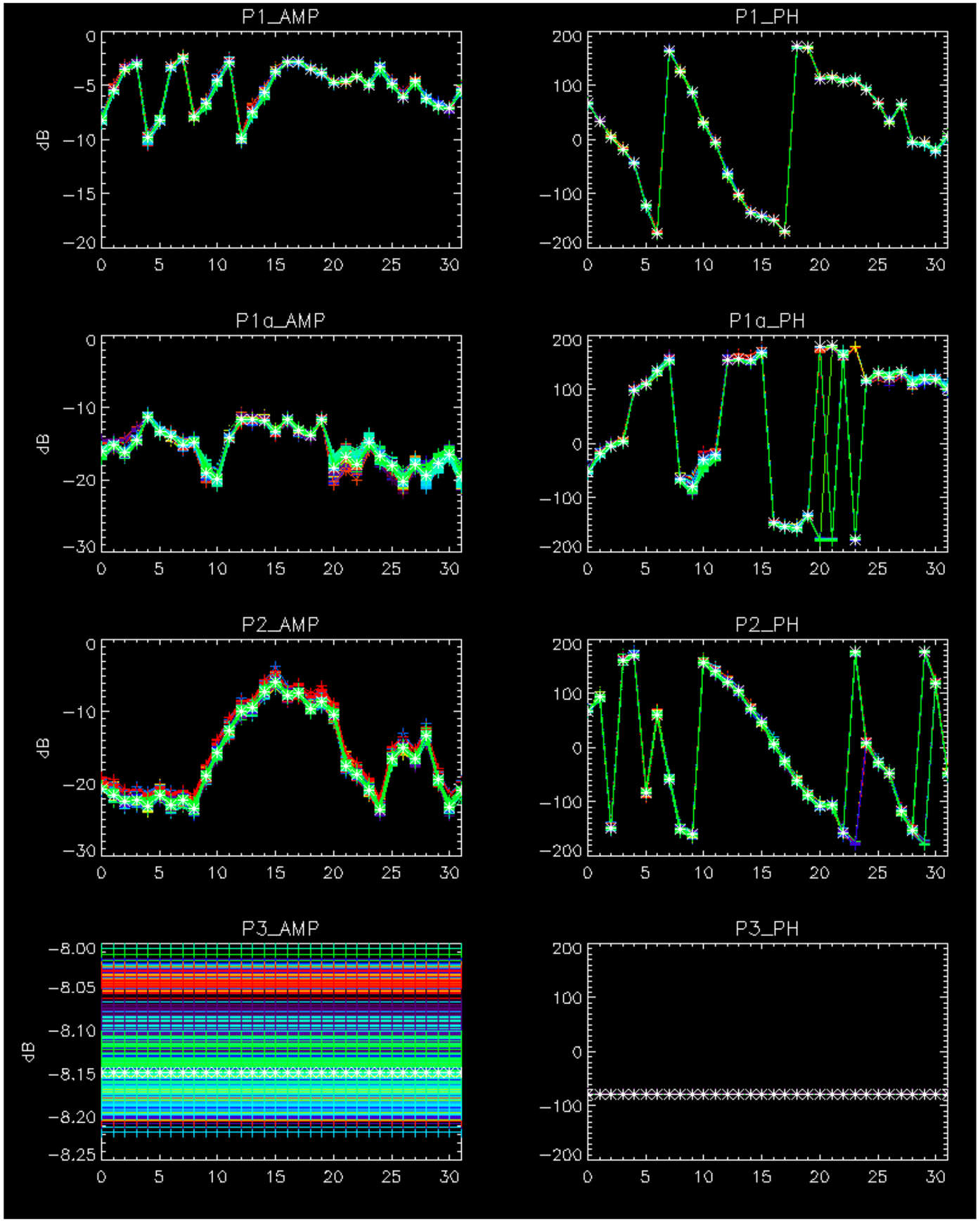

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
16−May
21−May
26−May
31−May
05−Jun
10−Jun
15−Jun
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
Average P2 [dB]
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−2
−3
−4
−5
−6
−7
−8
03
06
09
12
15
18
21
15−Jun
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
03
06
09
12
15
18
21
15−Jun
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
15−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
15−Jun
rows: 3 7 11 15 19 22 24 30

No anomalies observed on available browse products

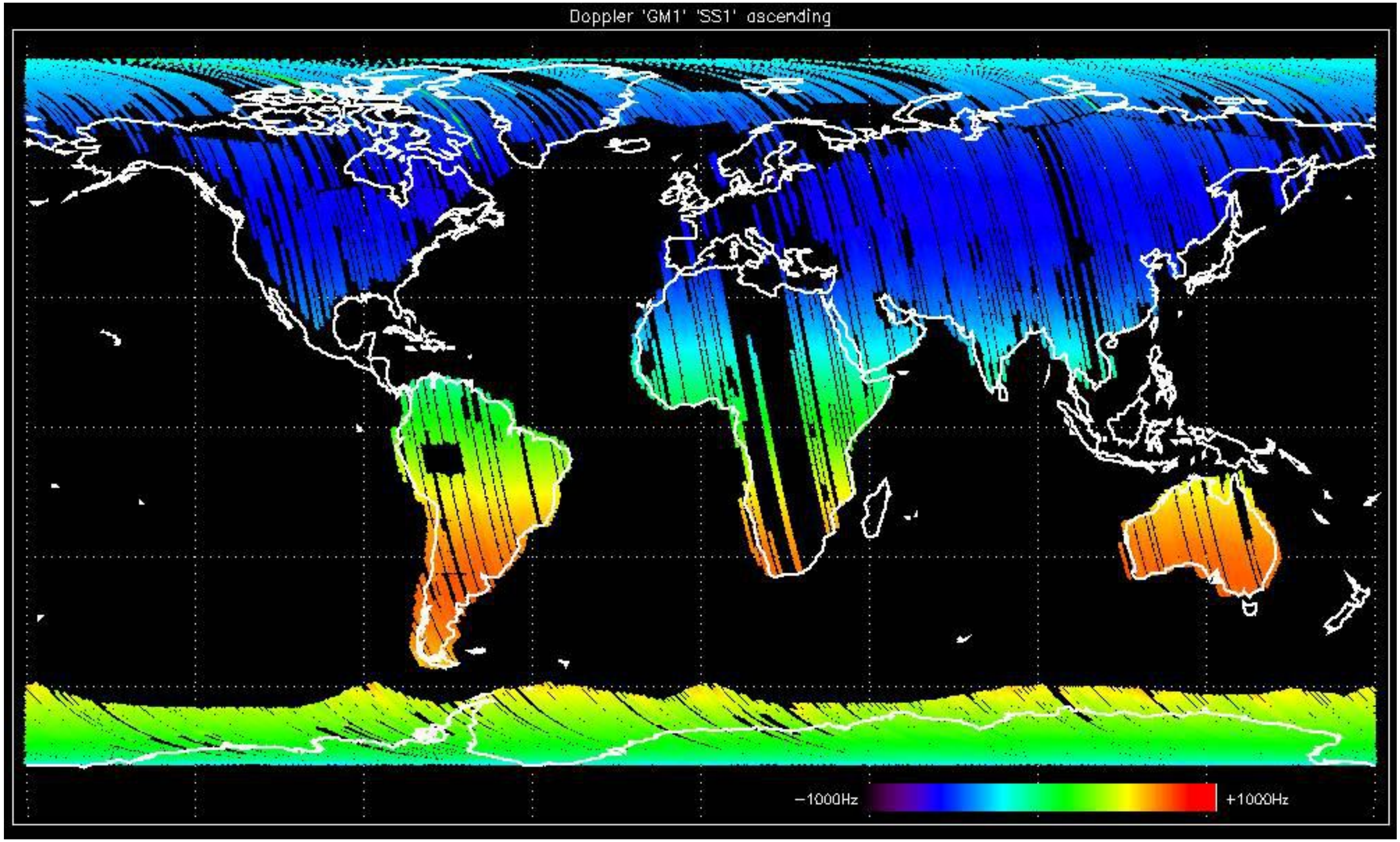
No anomalies observed.

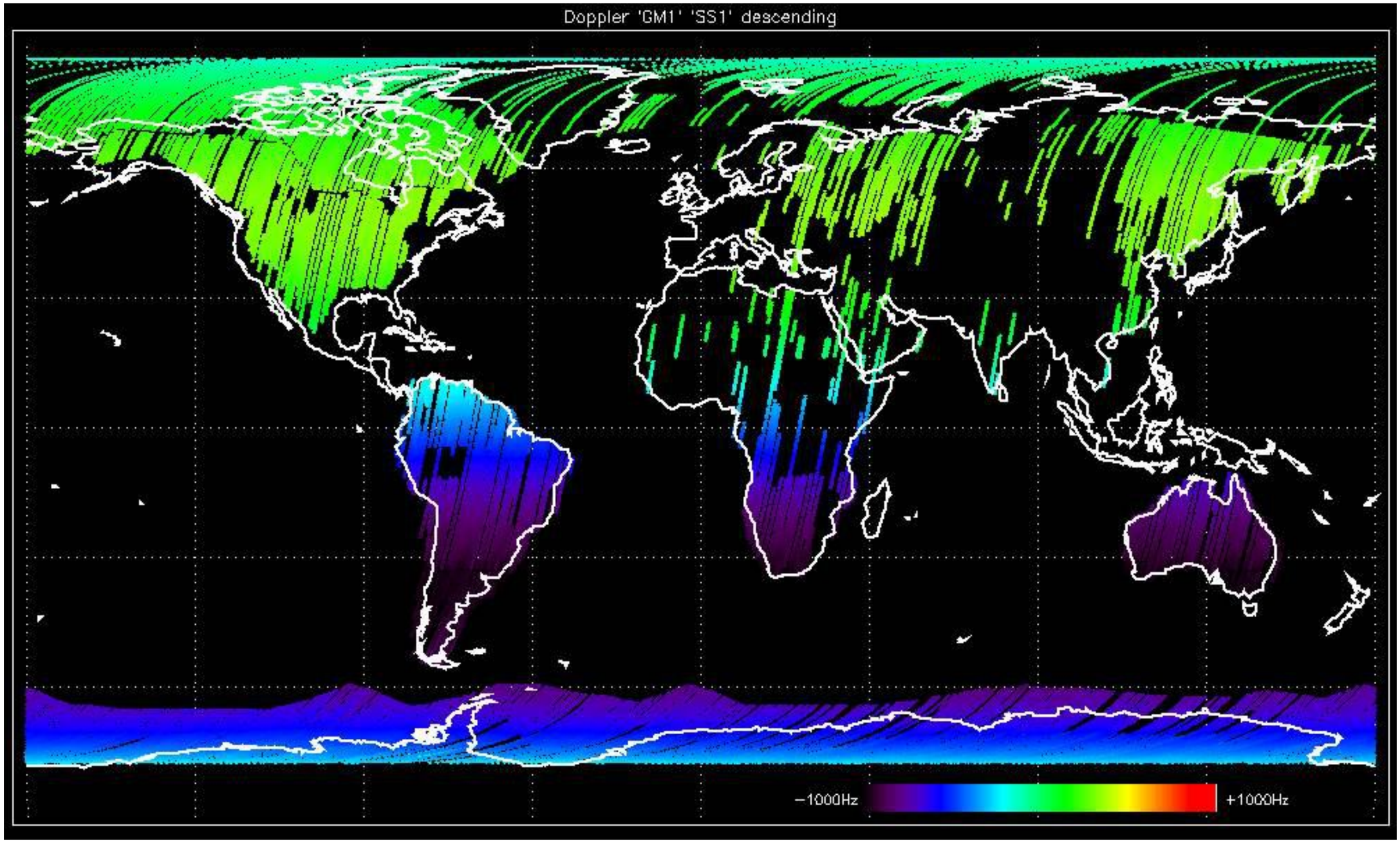

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.80
−7.85
−7.90
−7.95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

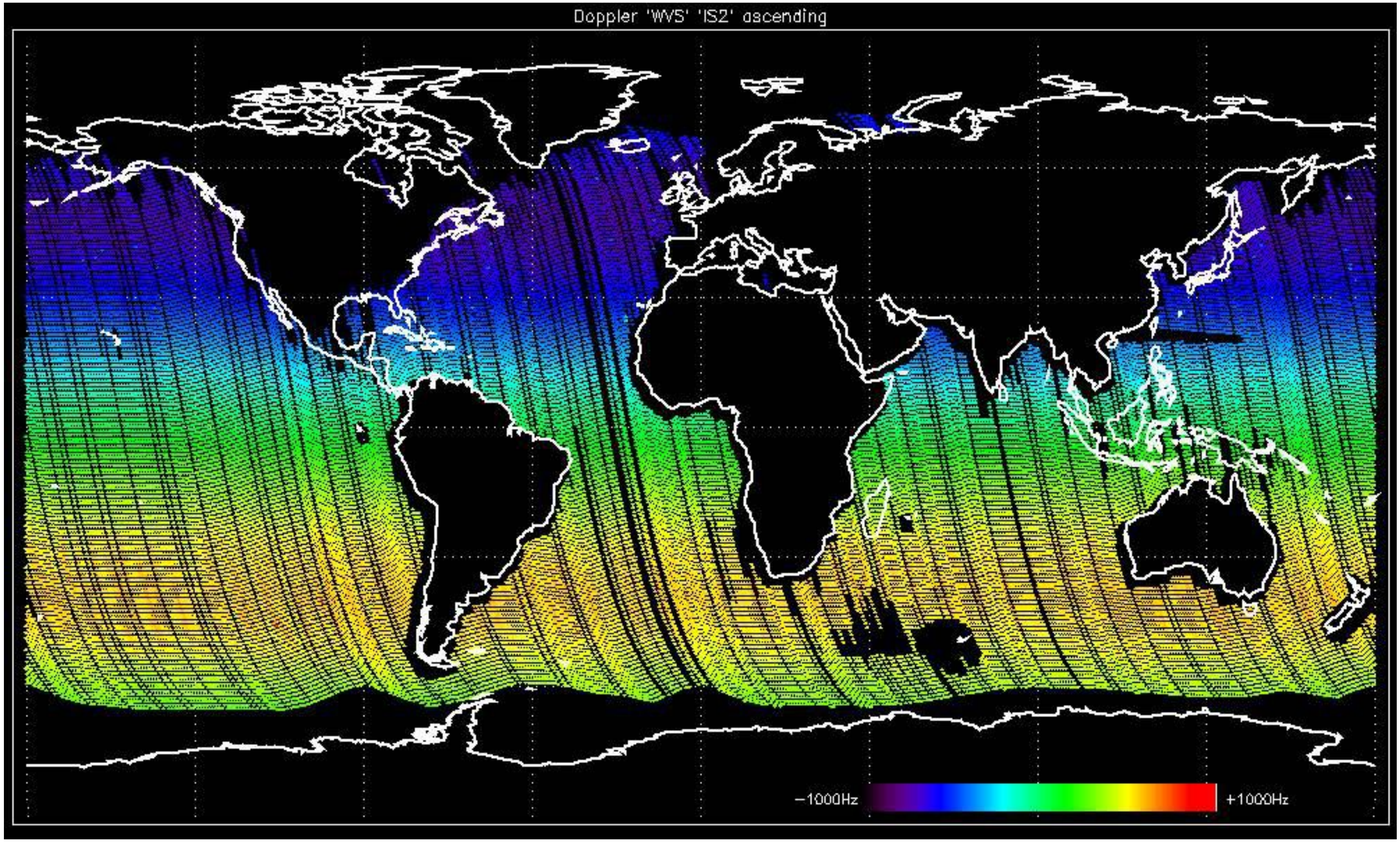

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15
−8.20
−8.25
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

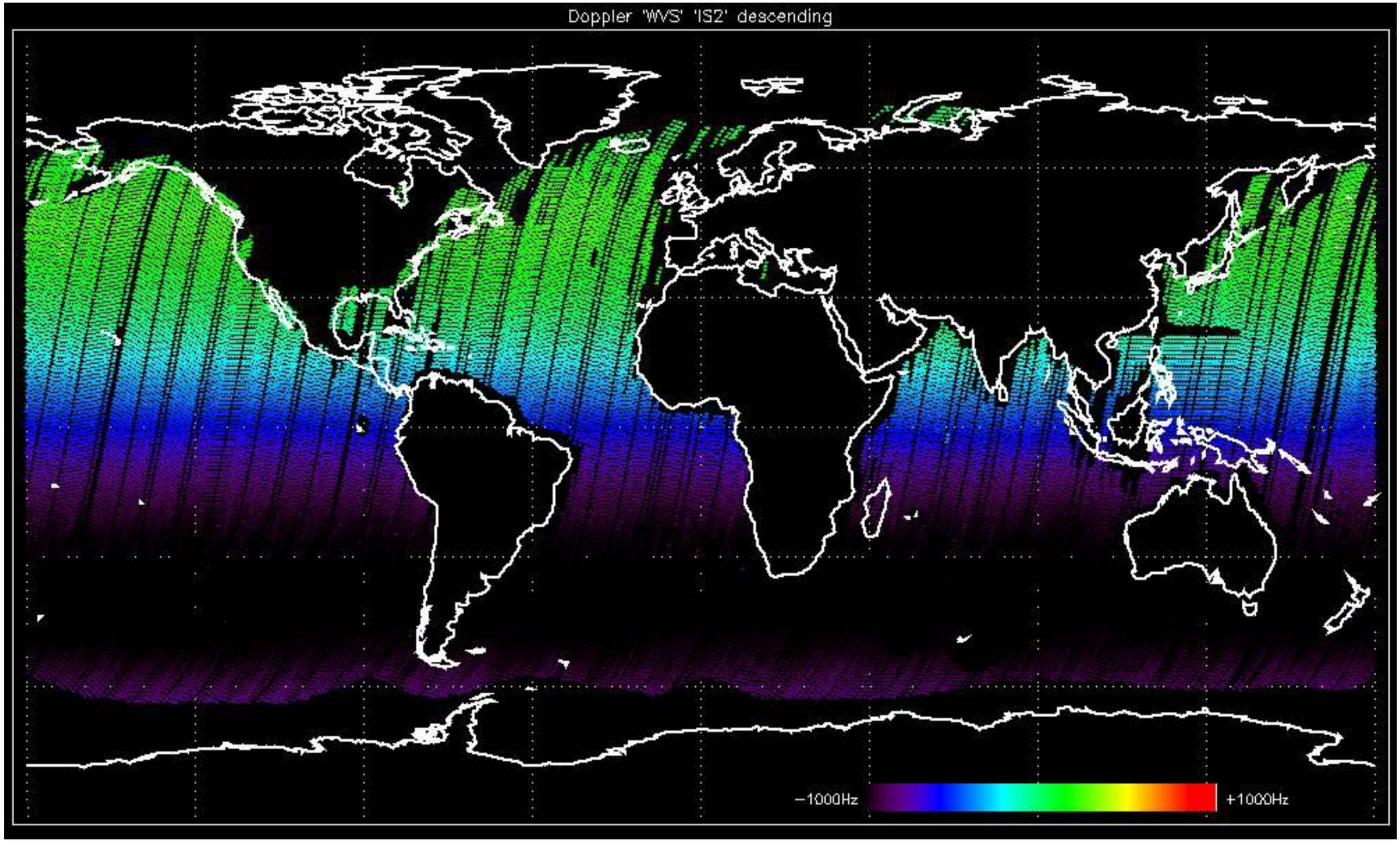
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

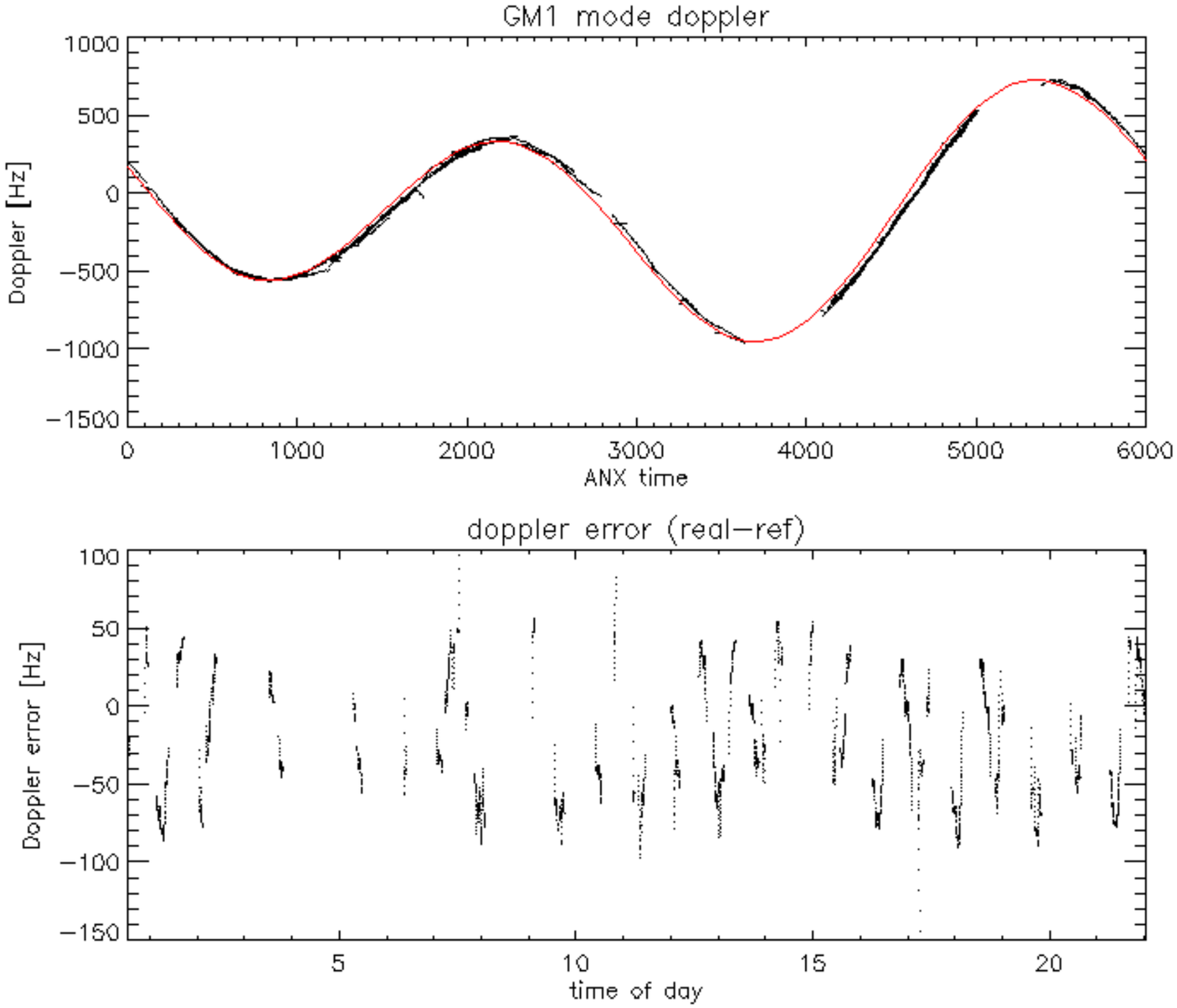
Preliminary report.The data is not yet controled

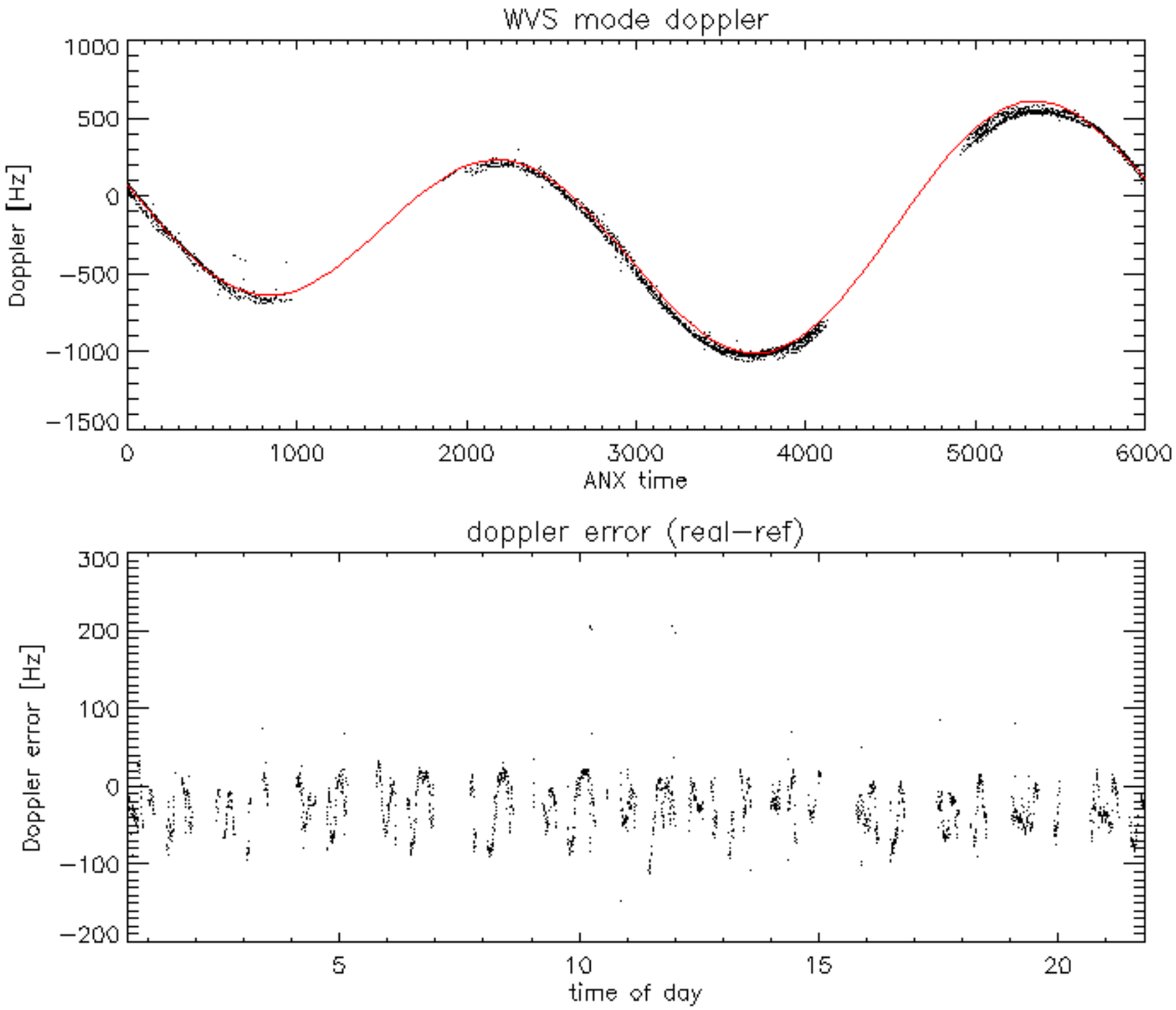

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

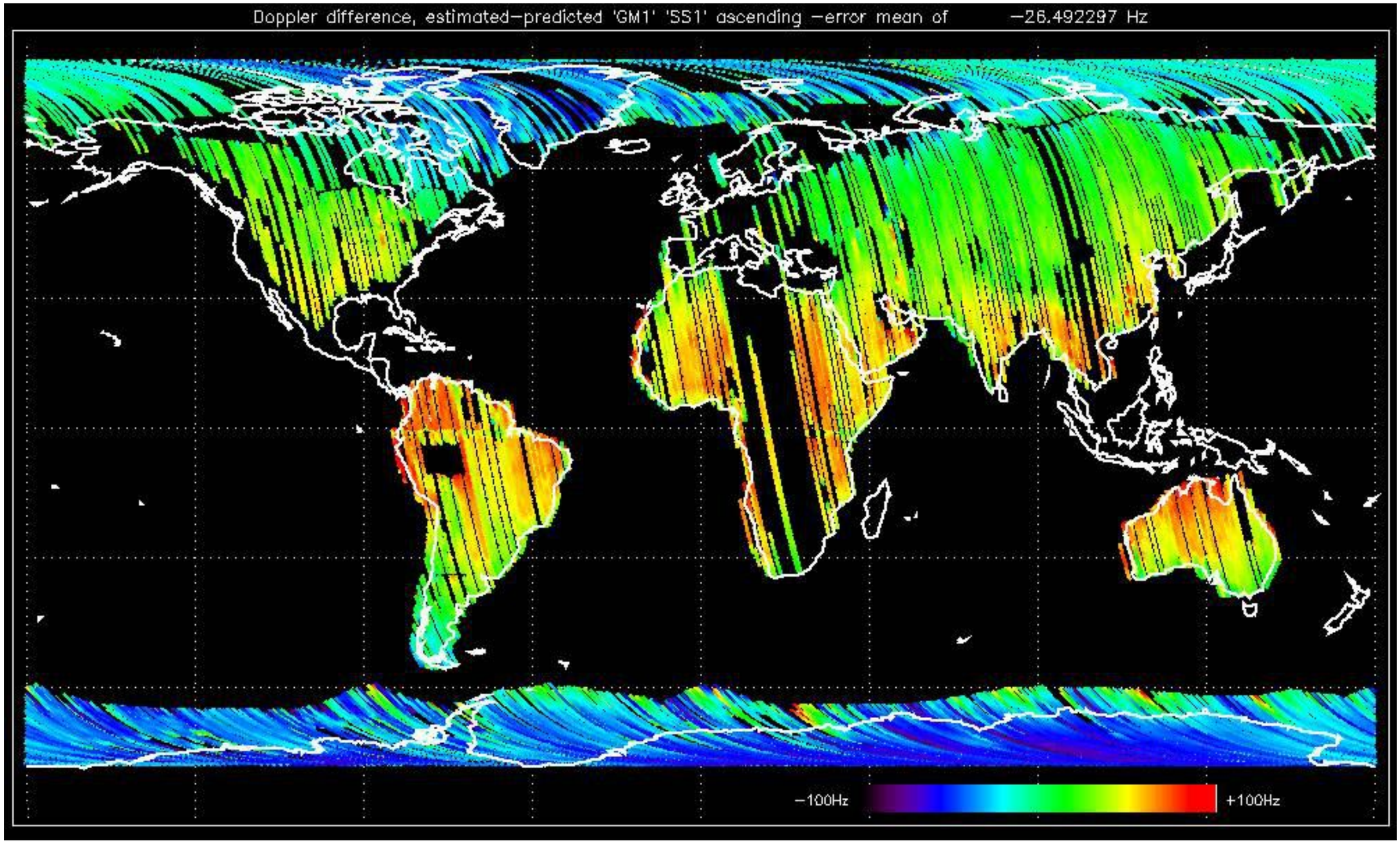

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

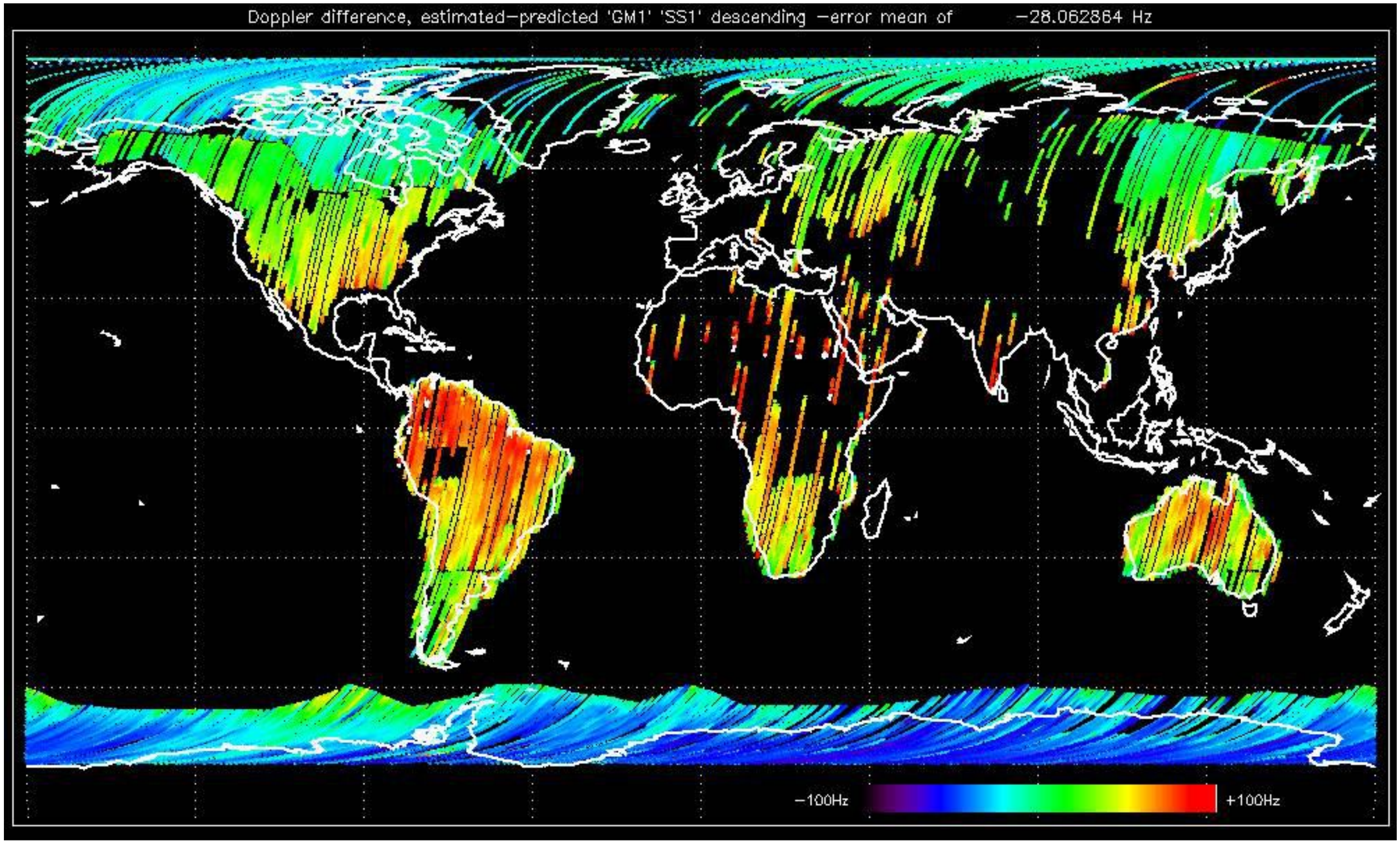

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

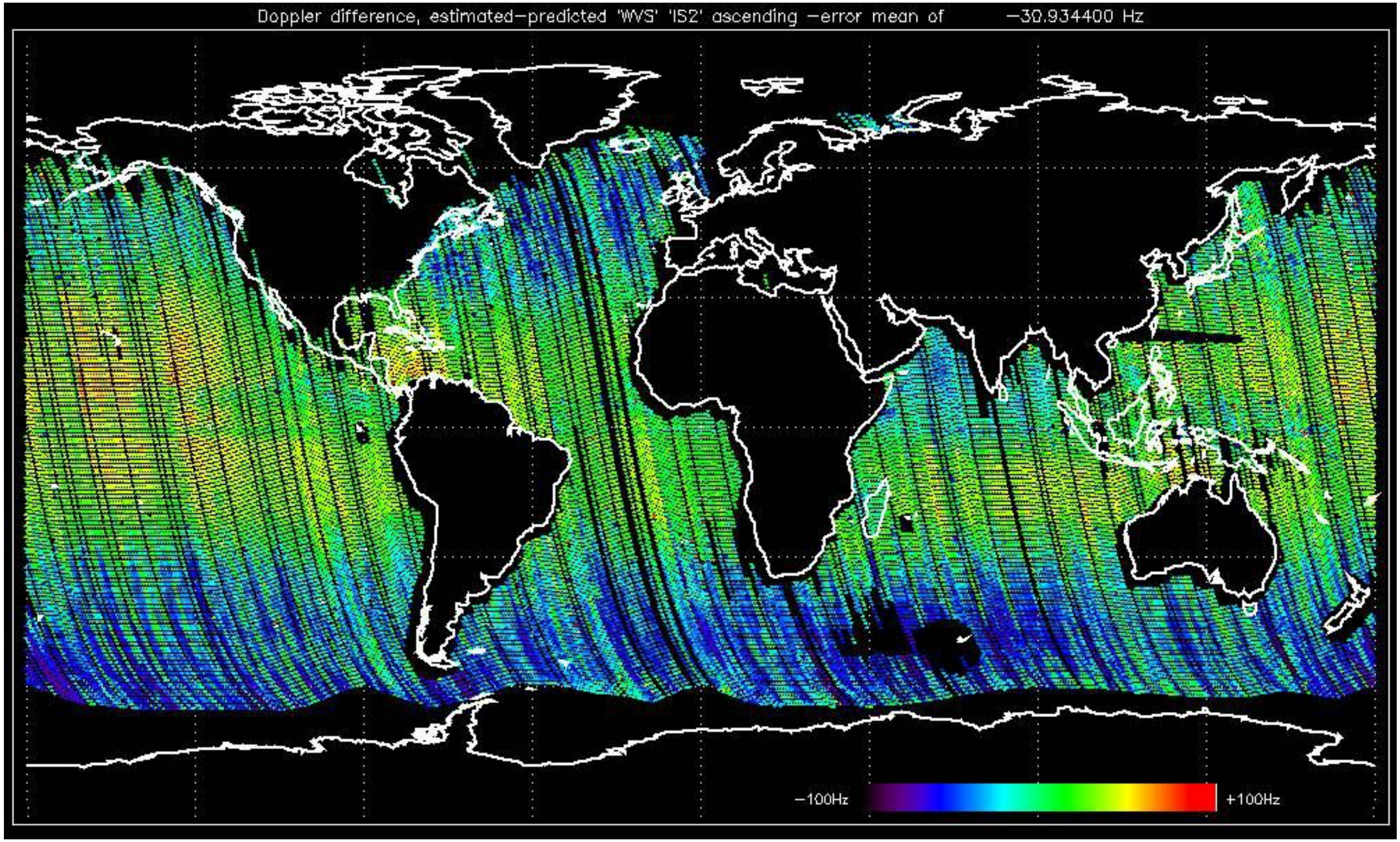

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

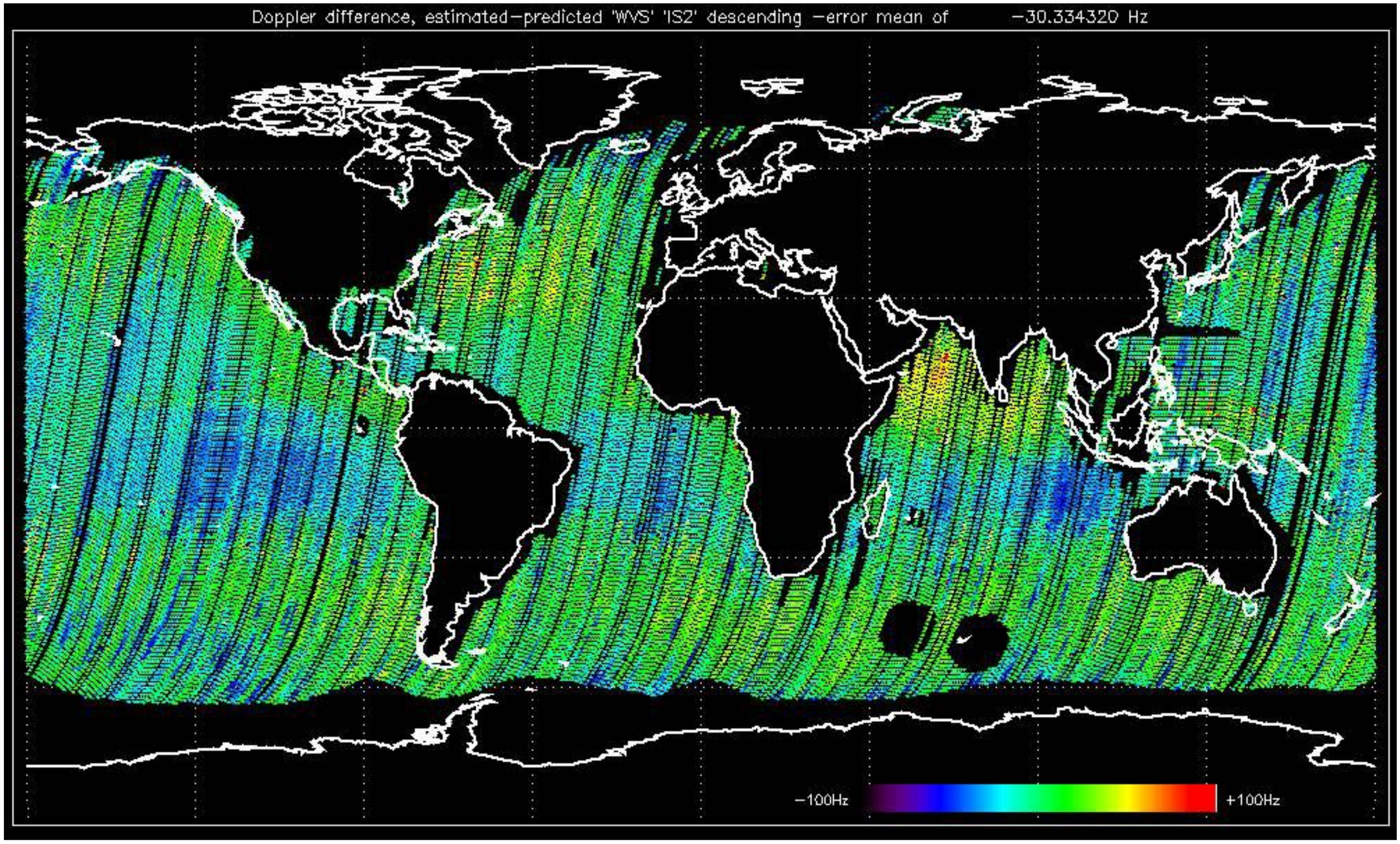

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
ANX time
doppler error (real−ref)
Doppler error [Hz]
100
50
0
−50
−100
−150
5
10
15
20
time of day


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
5
10
15
20
time of day


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −26.492297 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −28.062864 Hz
−100Hz
+100Hz

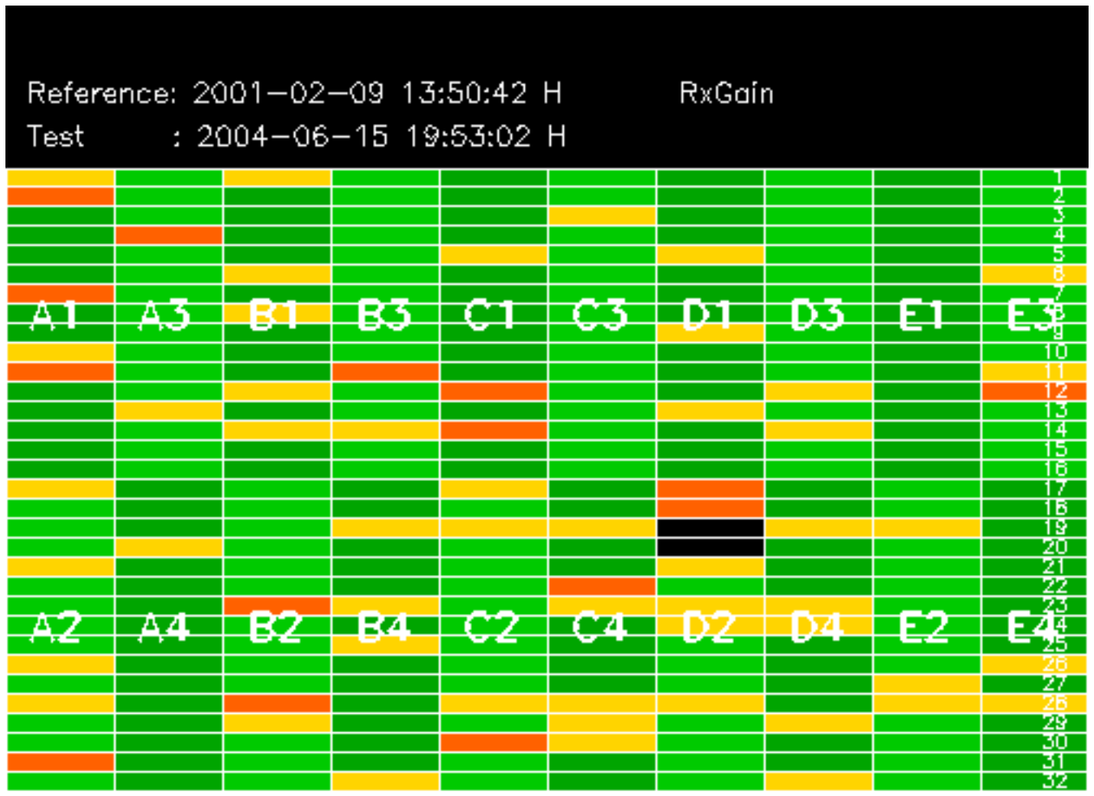

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −30.934400 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −30.334320 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__0PNPDK20040615_195302_000000152027_00414_11991_0154.N1

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
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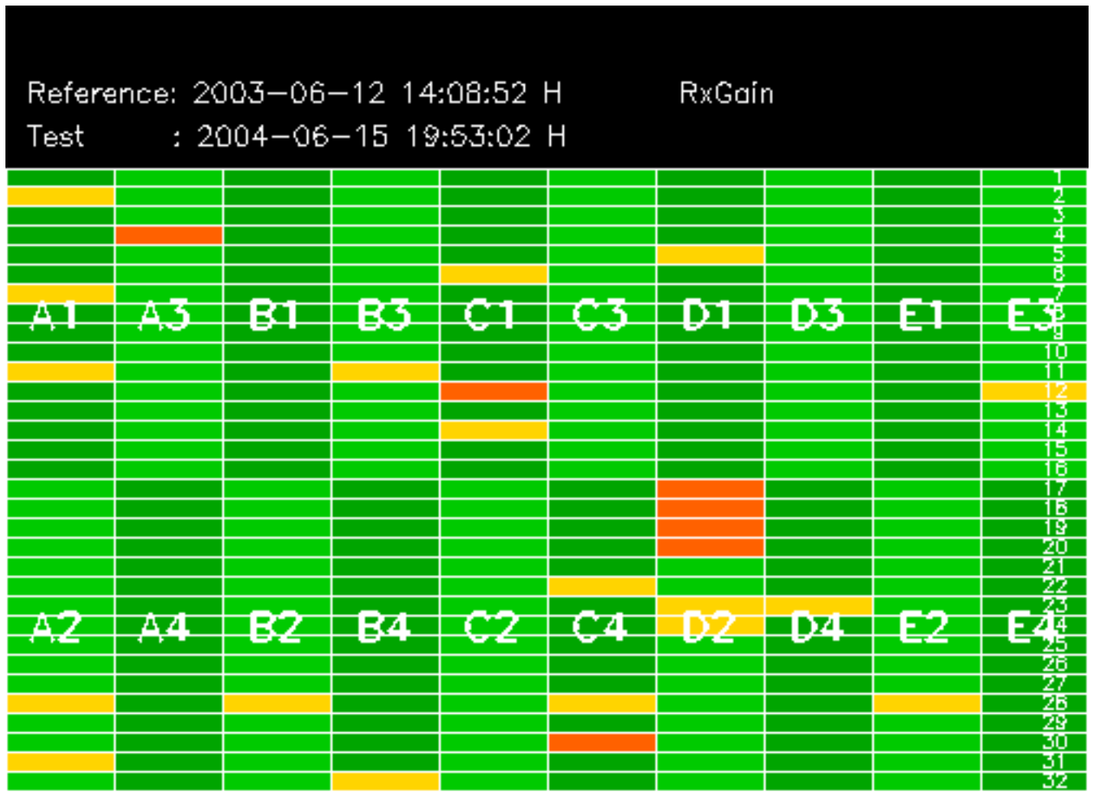
Reference: 2003-06-12 14:08:52 H
Test : 2004-06-15 19:53:02 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
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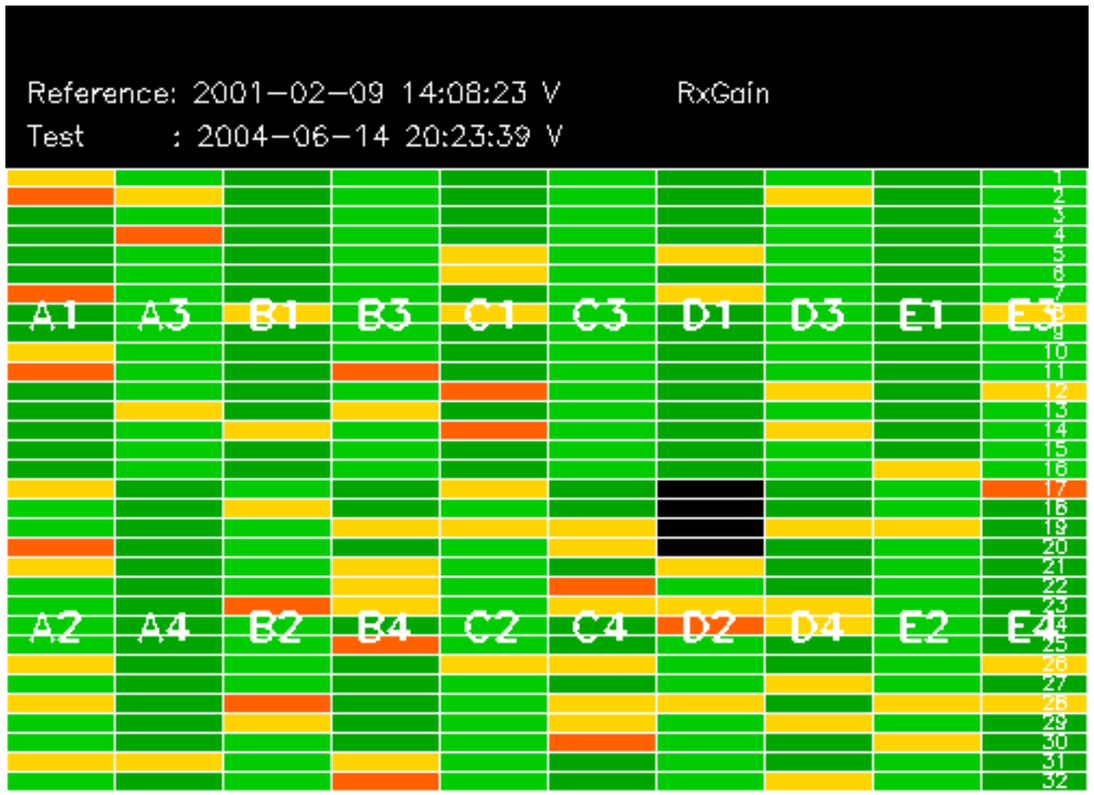
Reference: 2001-02-09 14:08:23 V
Test : 2004-06-14 20:23:39 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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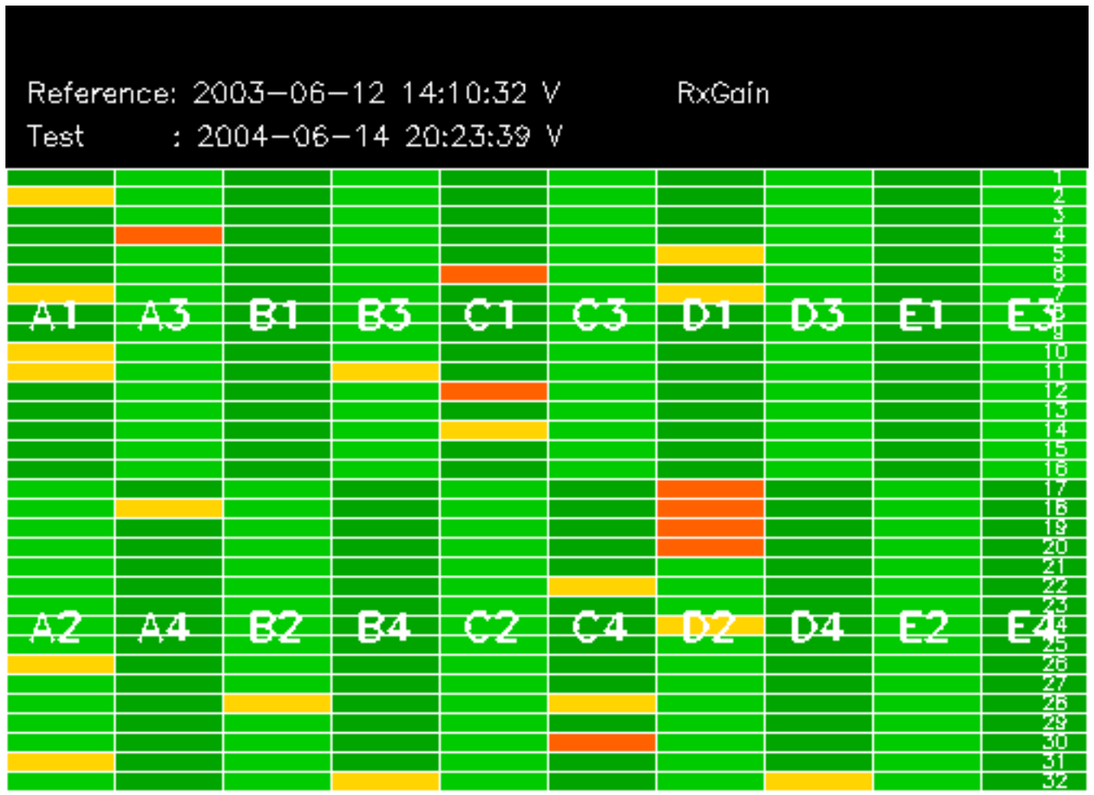
Reference: 2003-06-12 14:10:32 V
Test : 2004-06-14 20:23:39 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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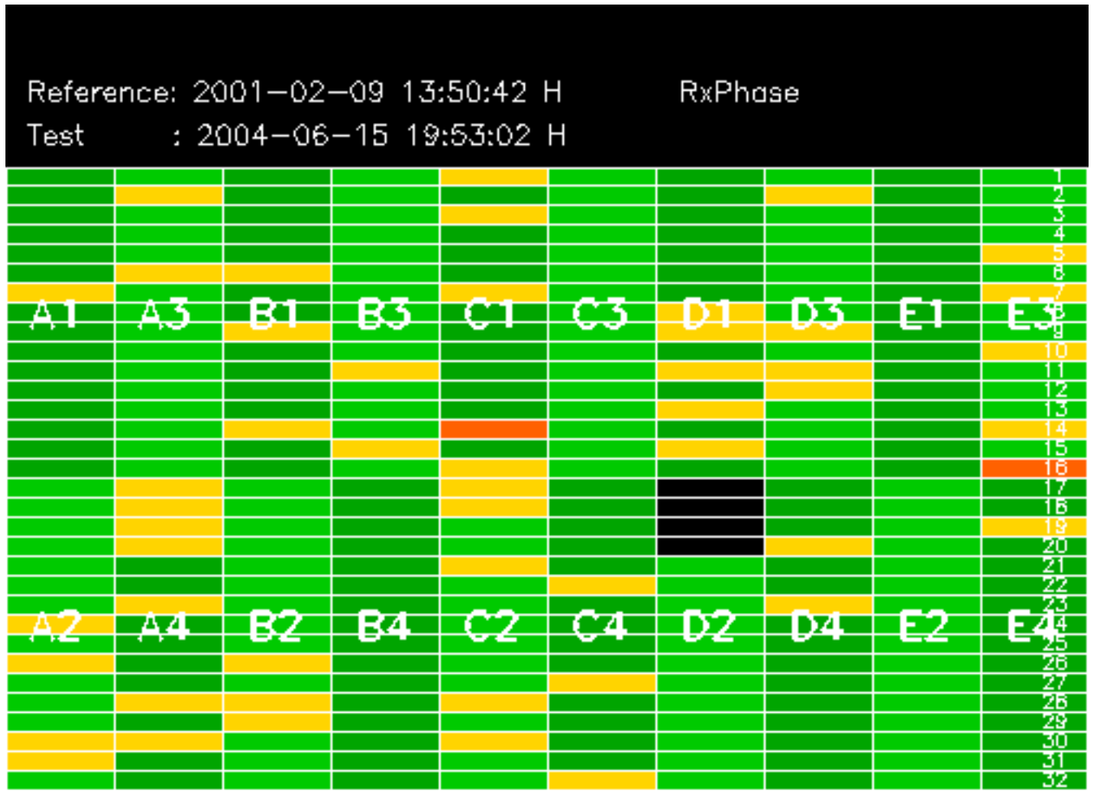
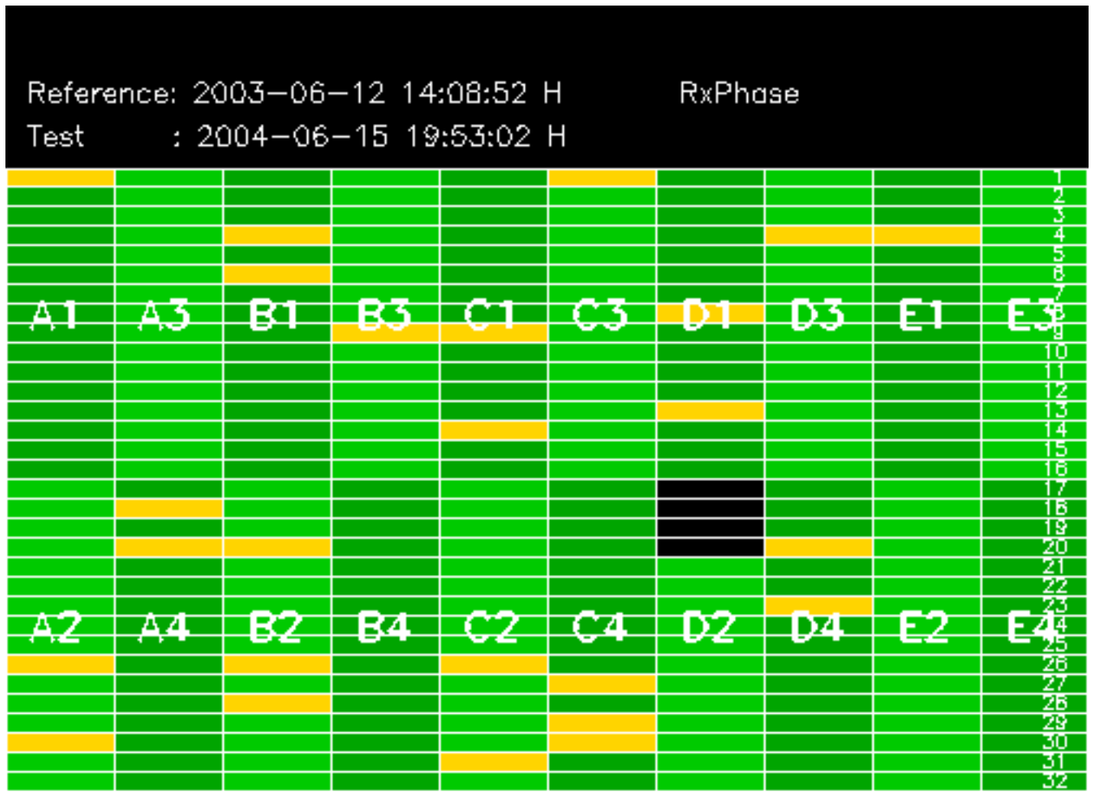

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-06-15 19:53:02 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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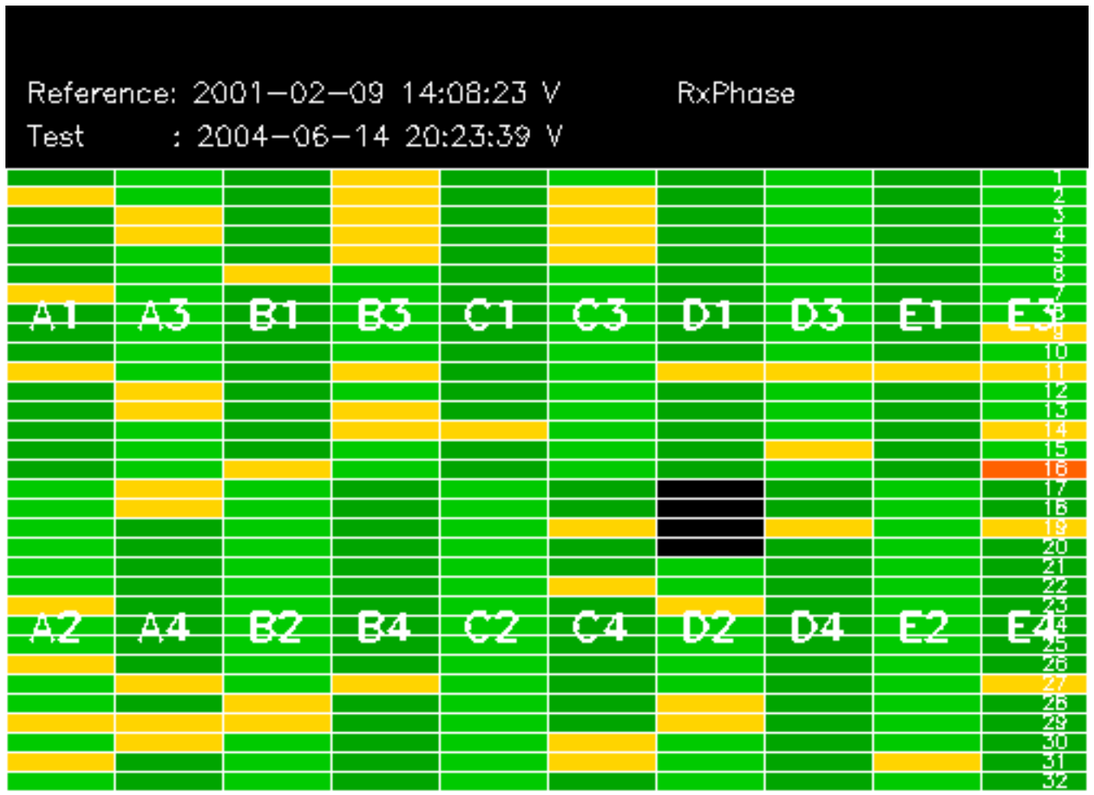
Reference: 2001-02-09 14:08:23 V
Test : 2004-06-14 20:23:39 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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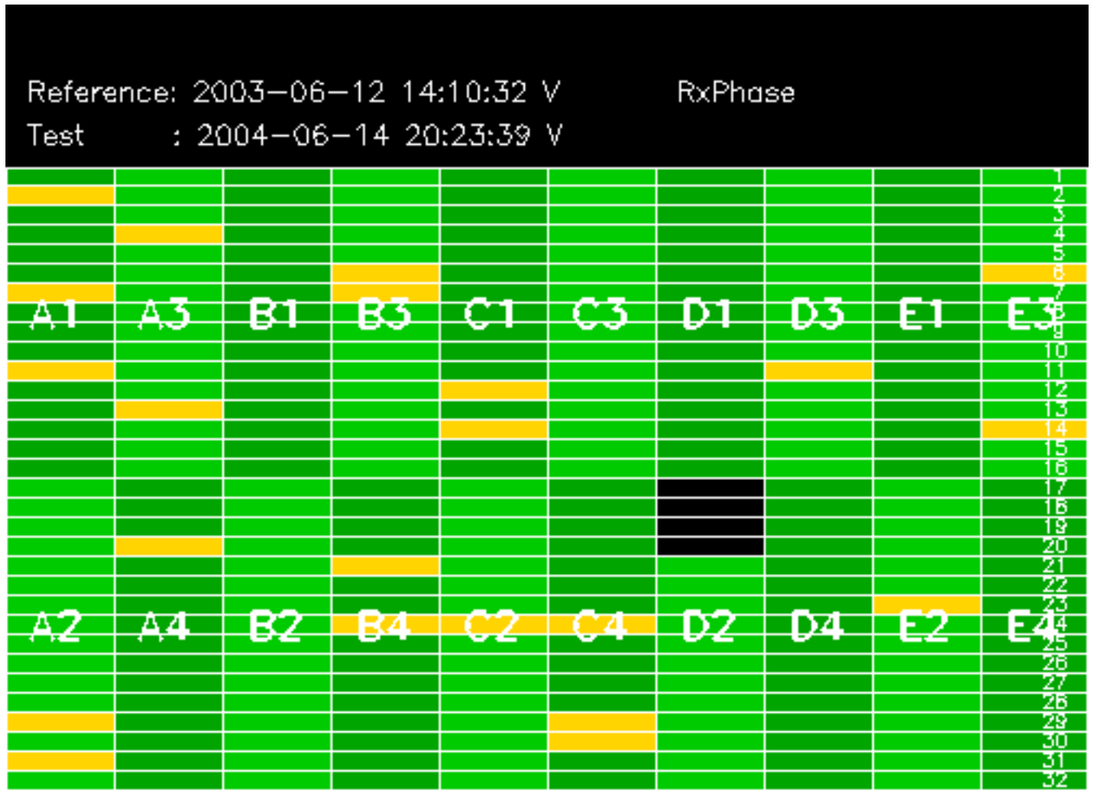
Reference: 2003-06-12 14:10:32 V
Test : 2004-06-14 20:23:39 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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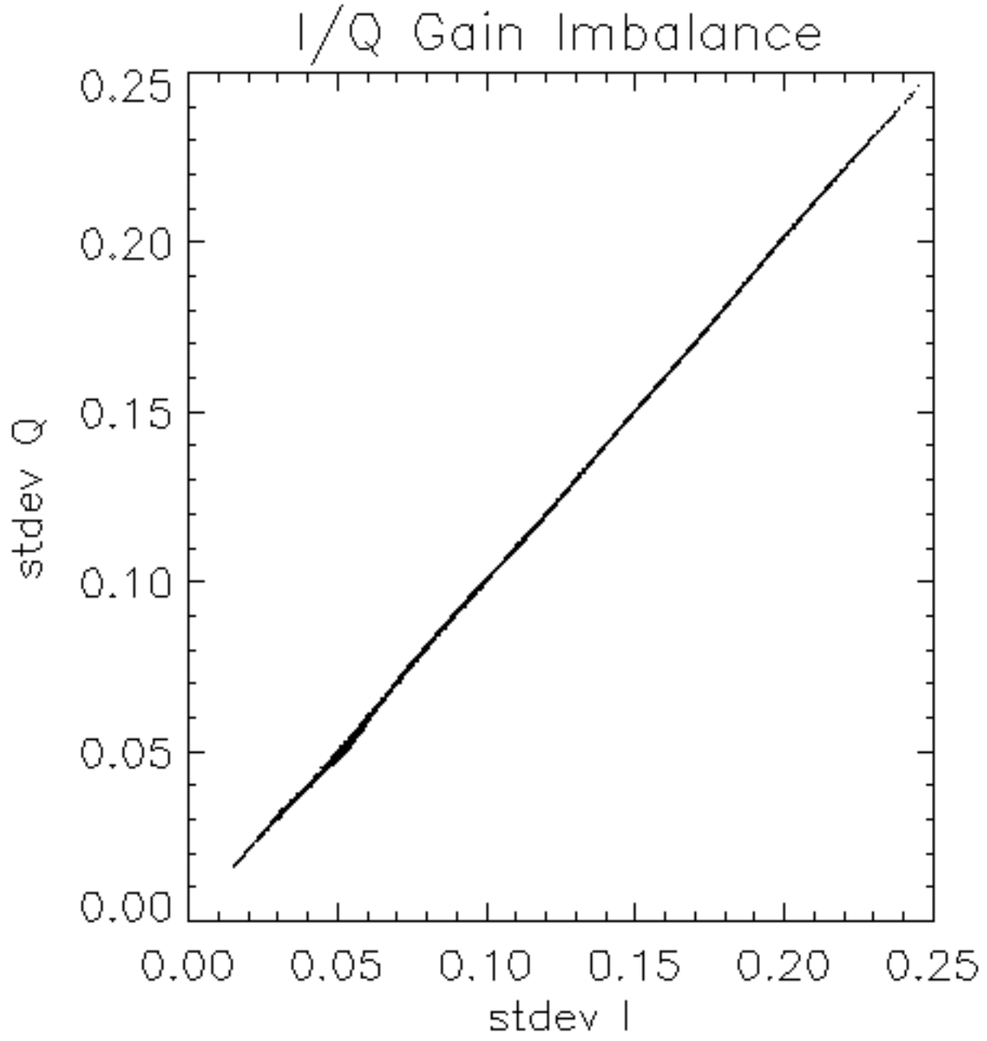
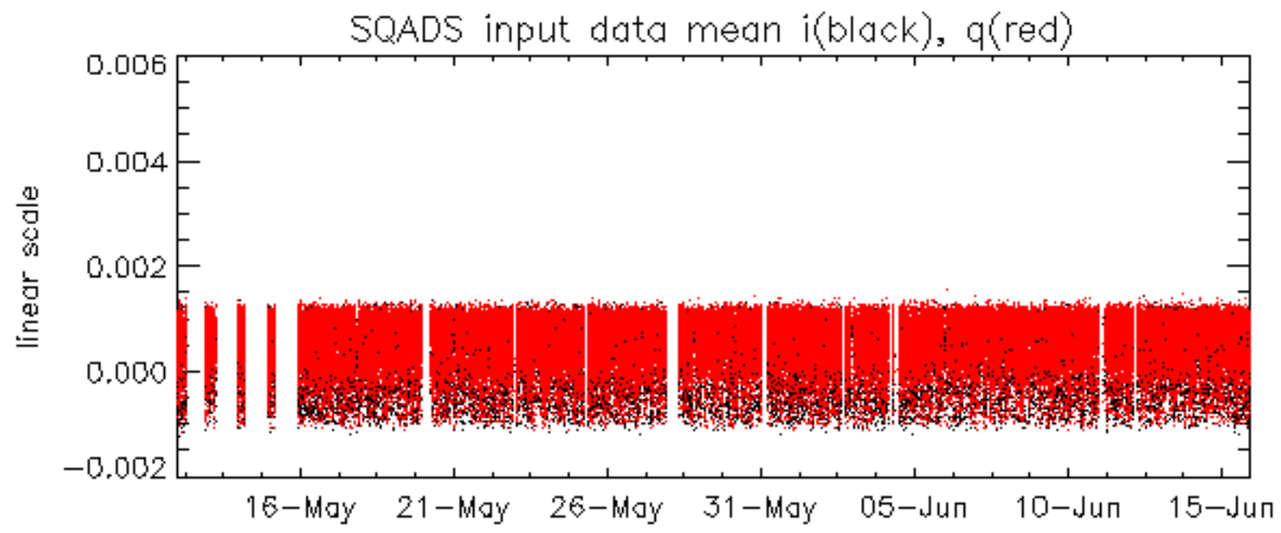
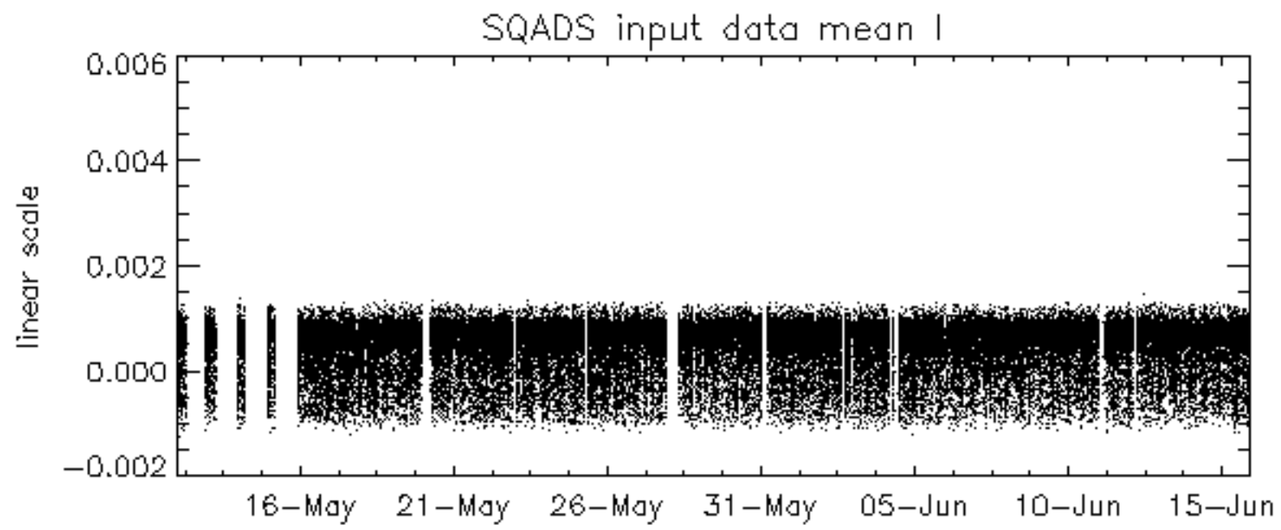
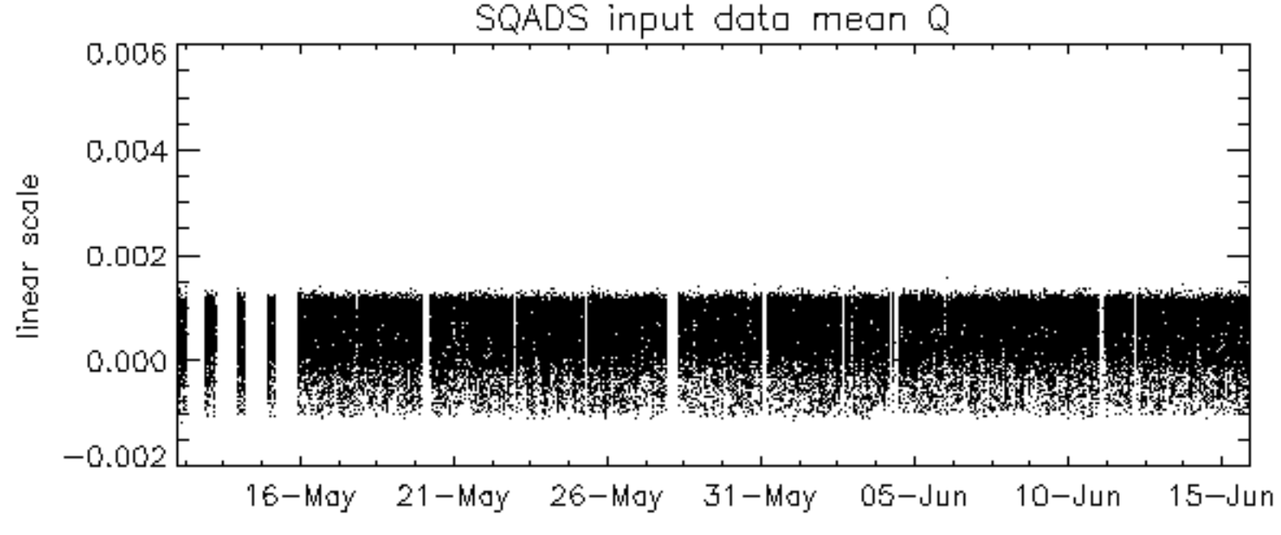
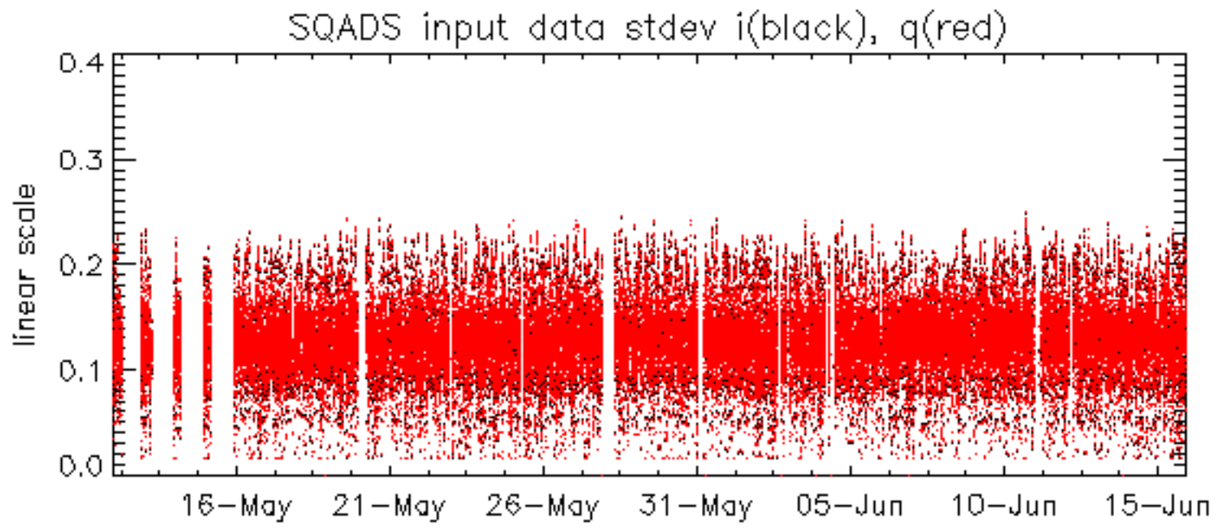
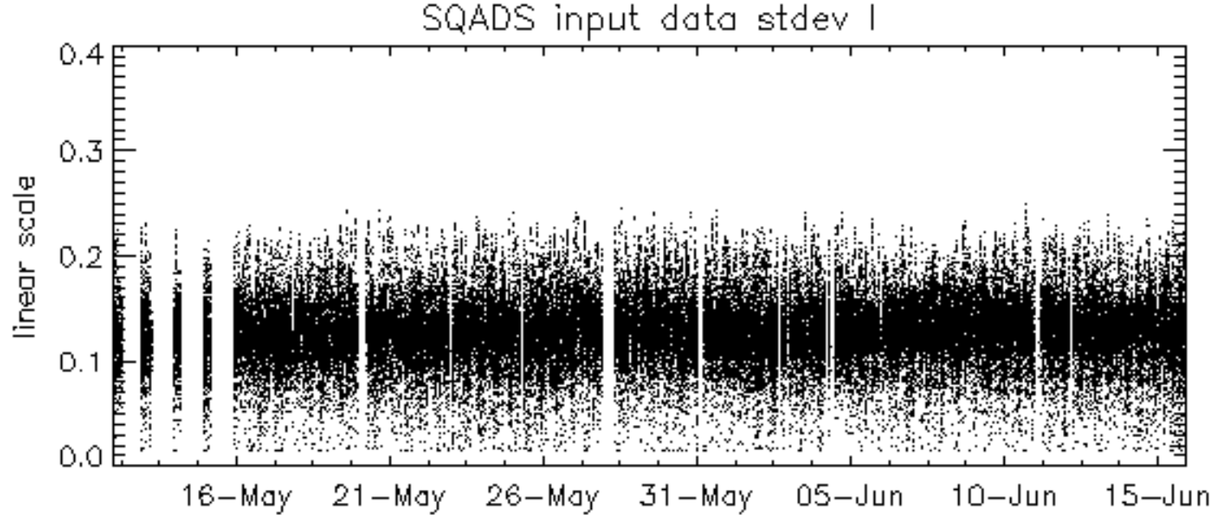

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

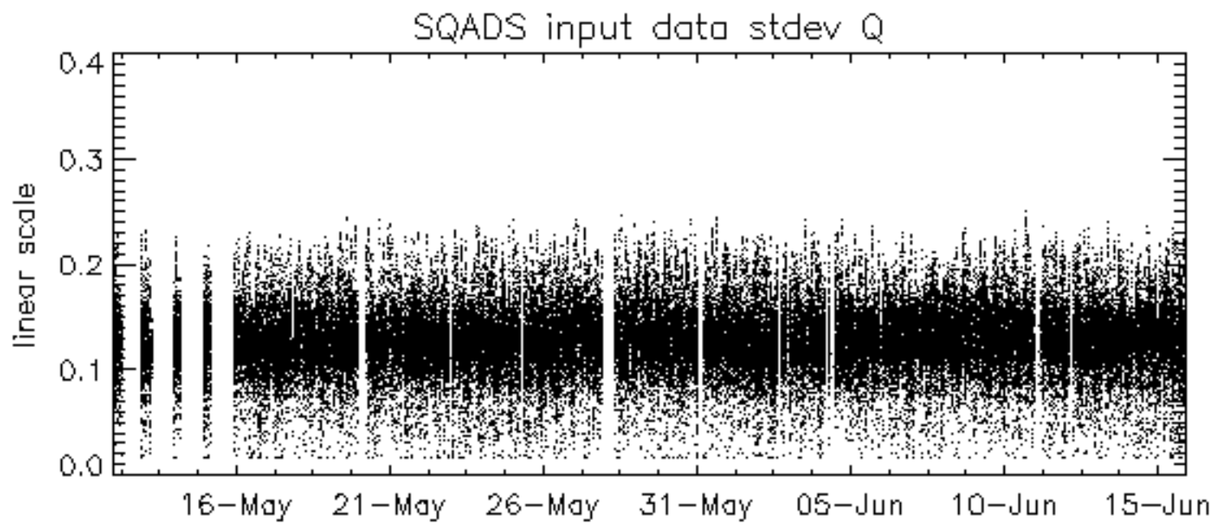

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
16−May
21−May
26−May
31−May
05−Jun
10−Jun
15−Jun

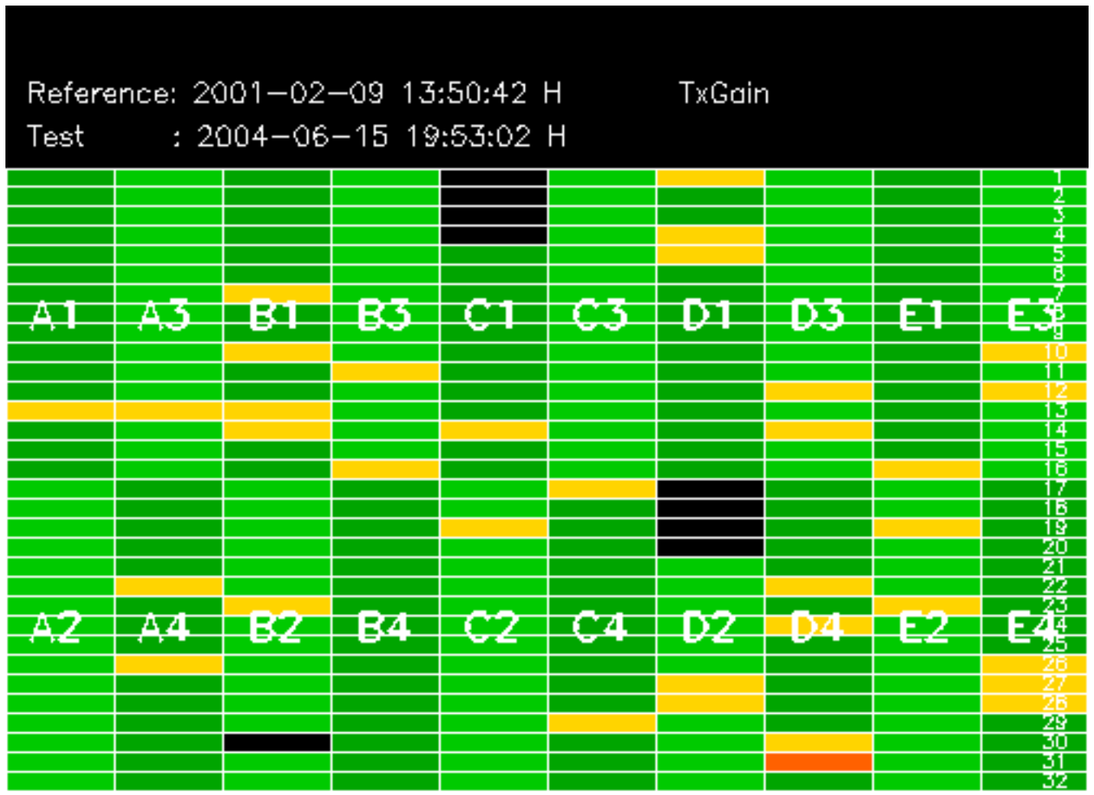

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
16−May
21−May
26−May
31−May
05−Jun
10−Jun
15−Jun

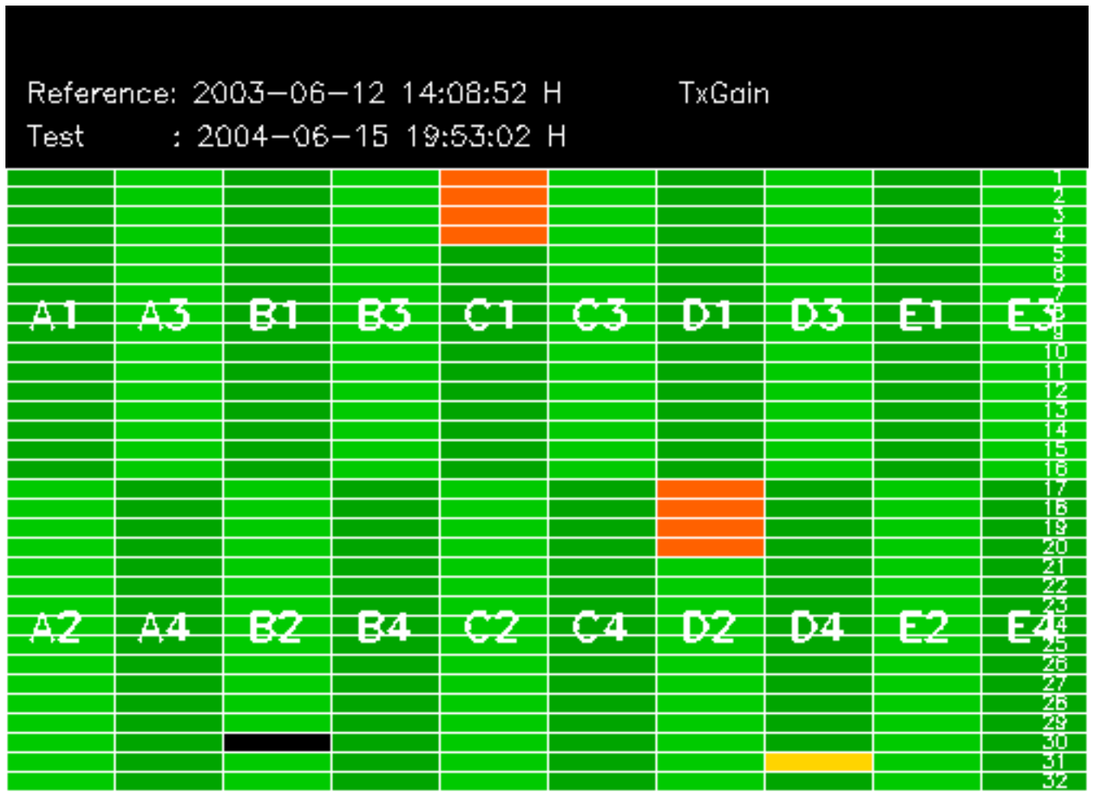

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
16−May
21−May
26−May
31−May
05−Jun
10−Jun
15−Jun


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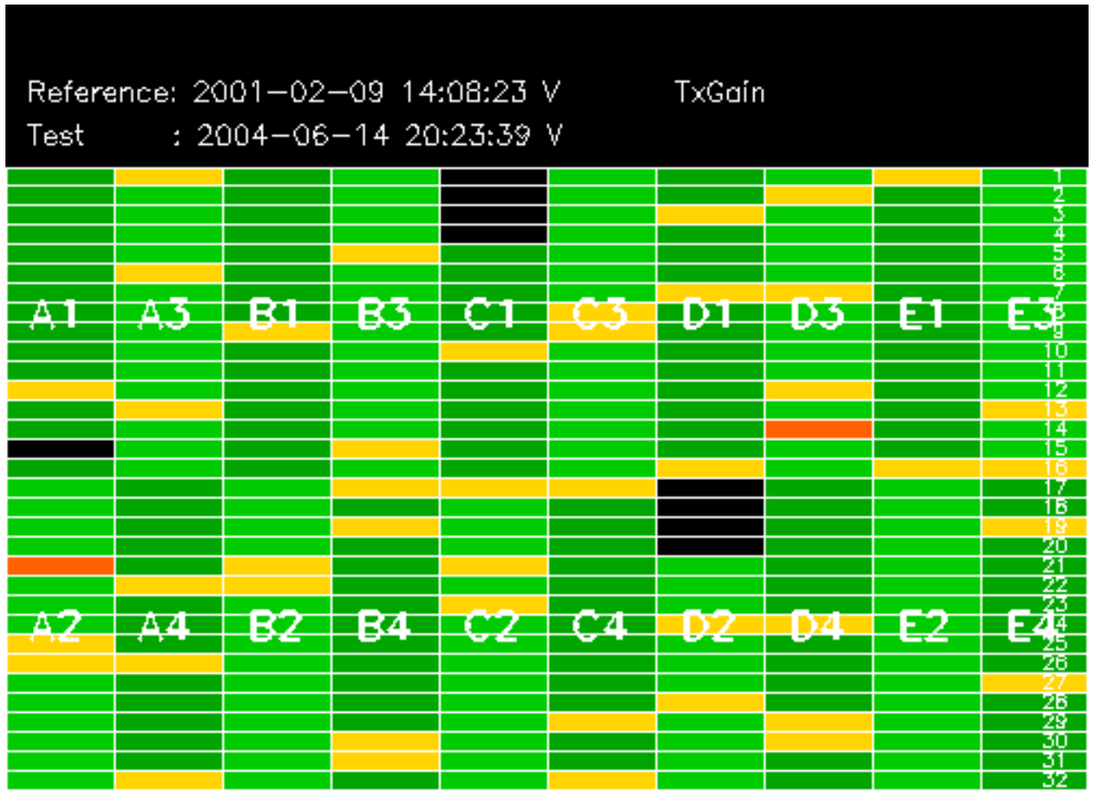
Reference: 2001-02-09 14:08:23 V
Test : 2004-06-14 20:23:39 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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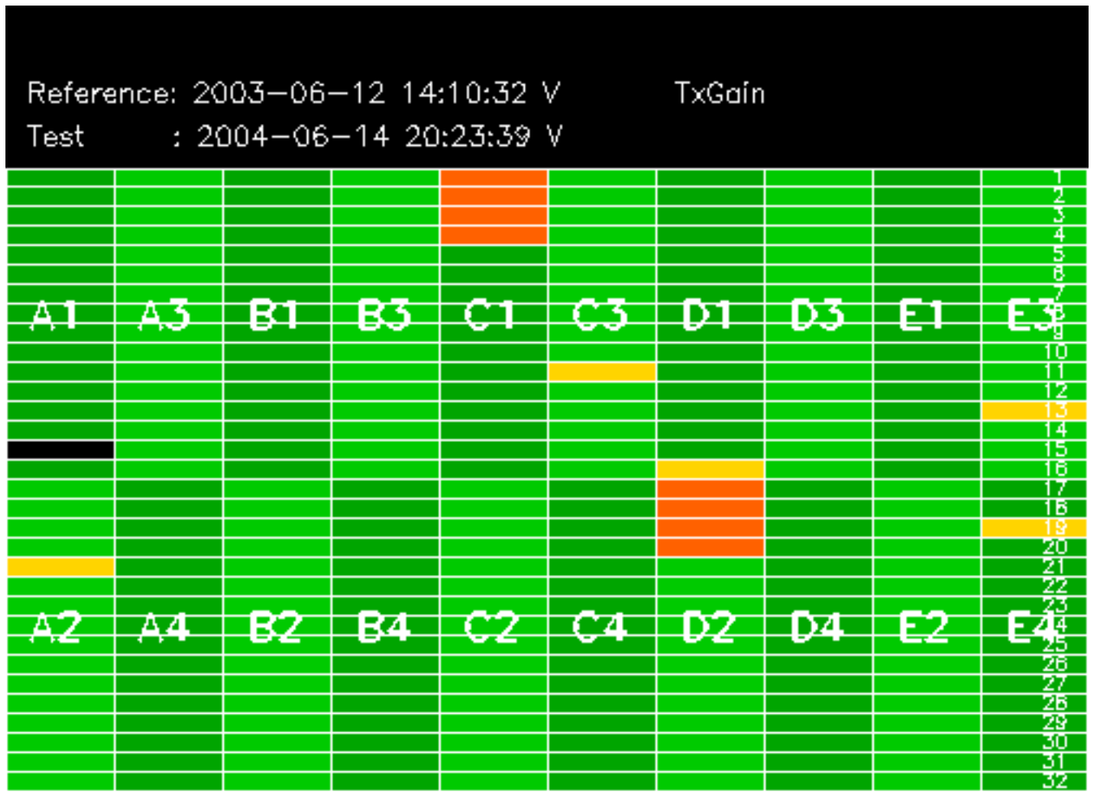
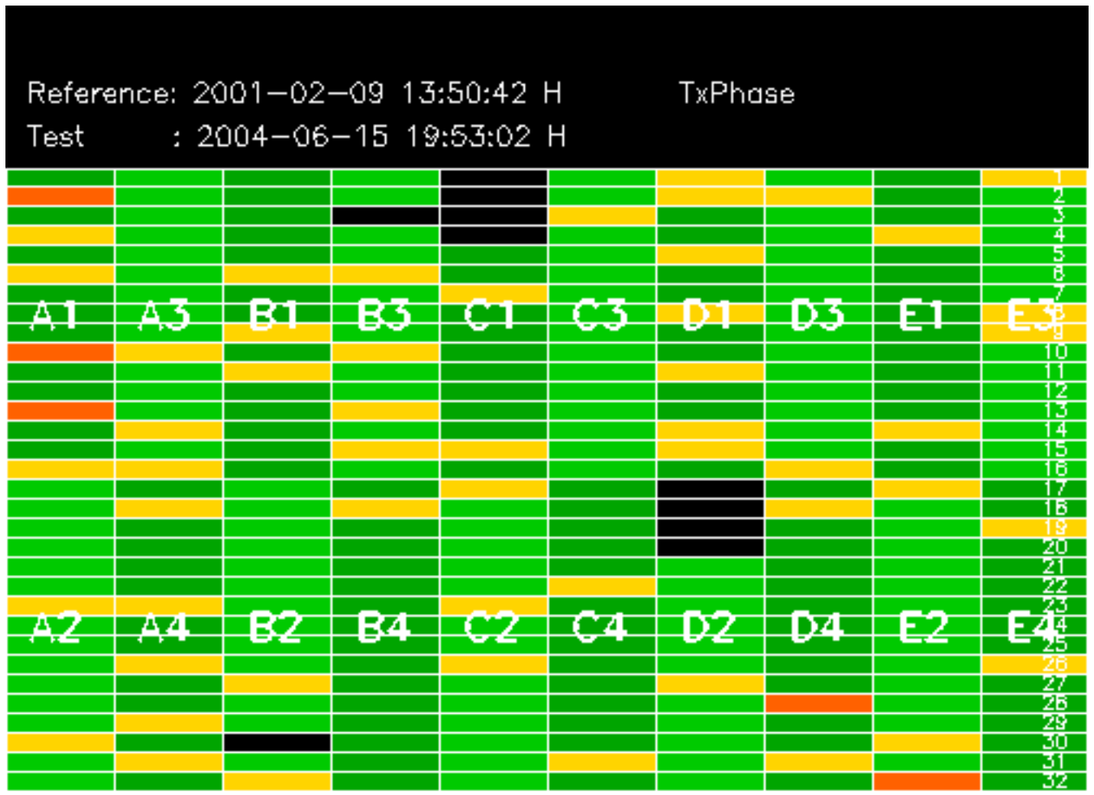

Reference: 2003-06-12 14:10:32 V
Test : 2004-06-14 20:23:39 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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
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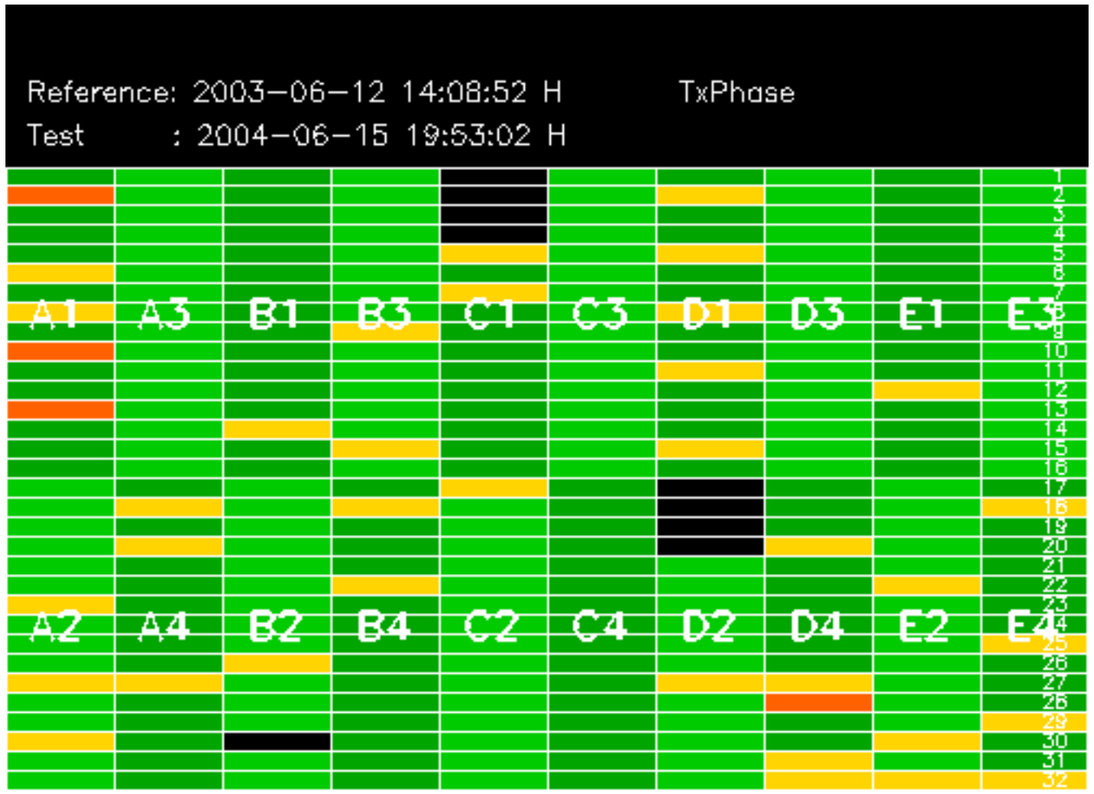
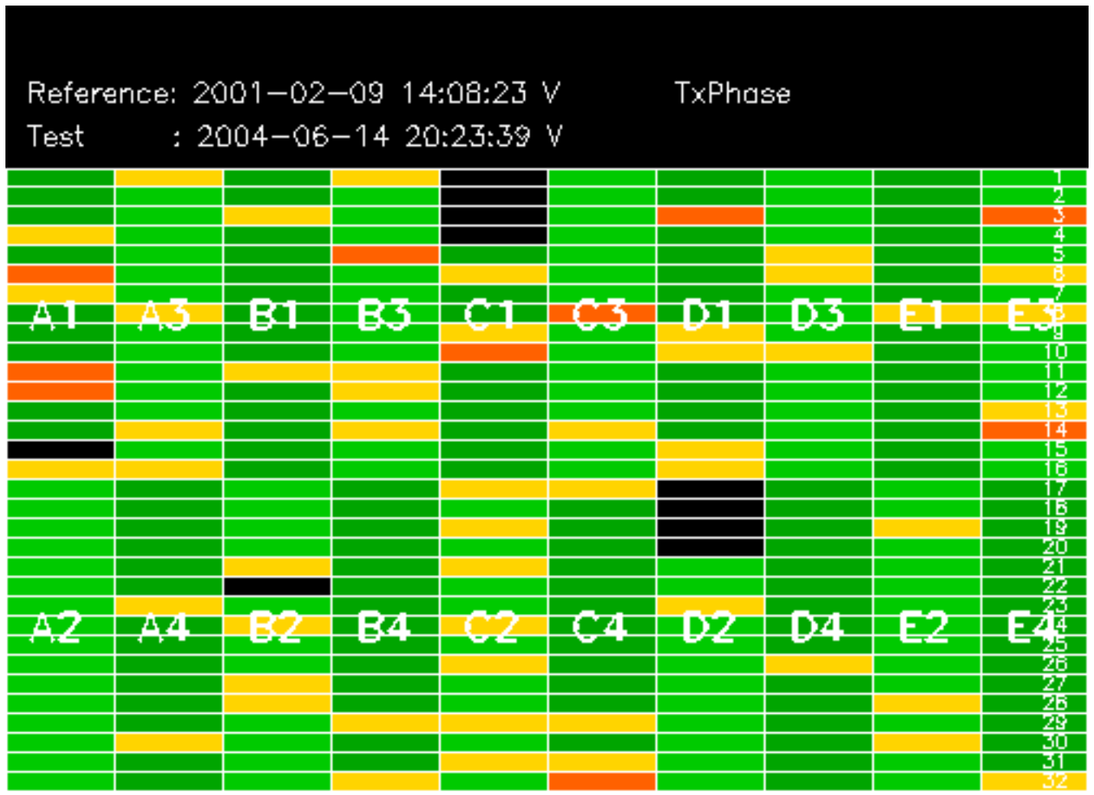

Reference: 2003-06-12 14:08:52 H
Test : 2004-06-15 19:53:02 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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
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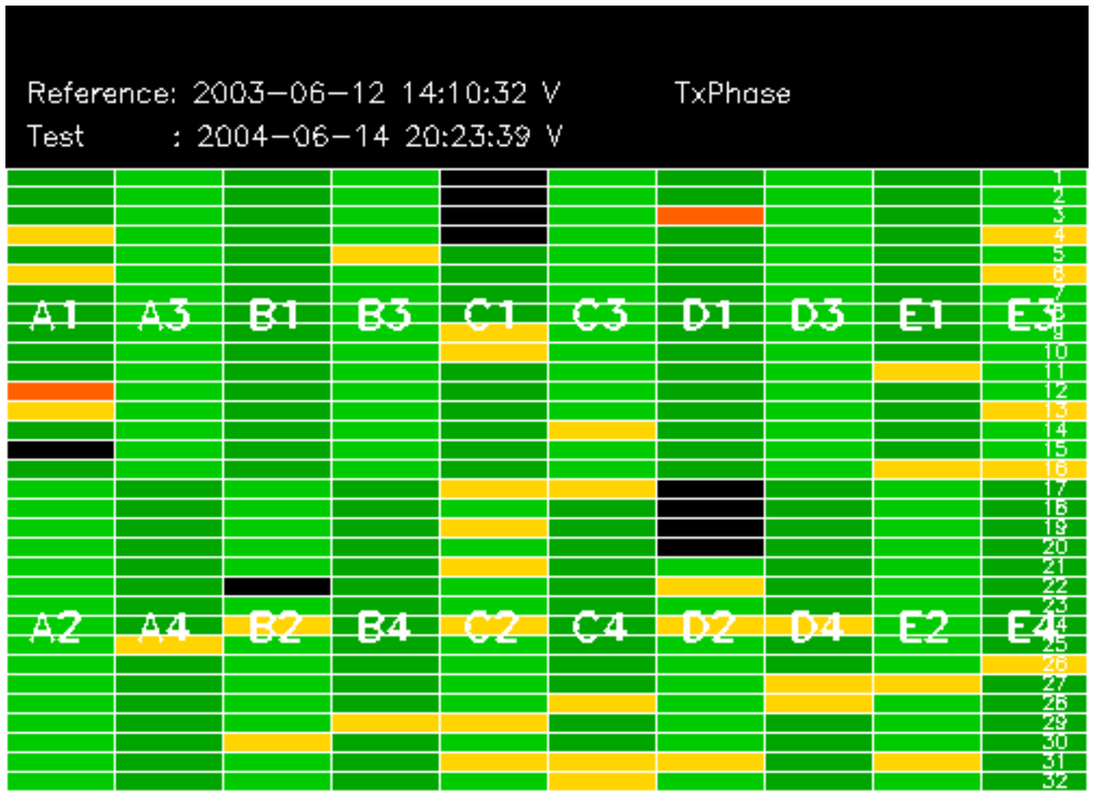
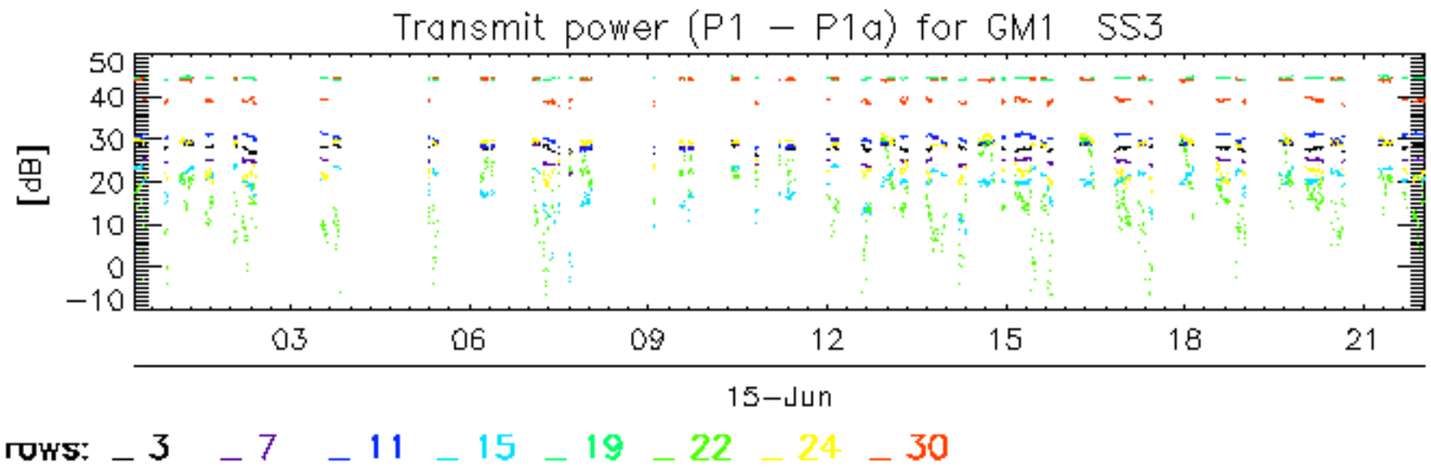
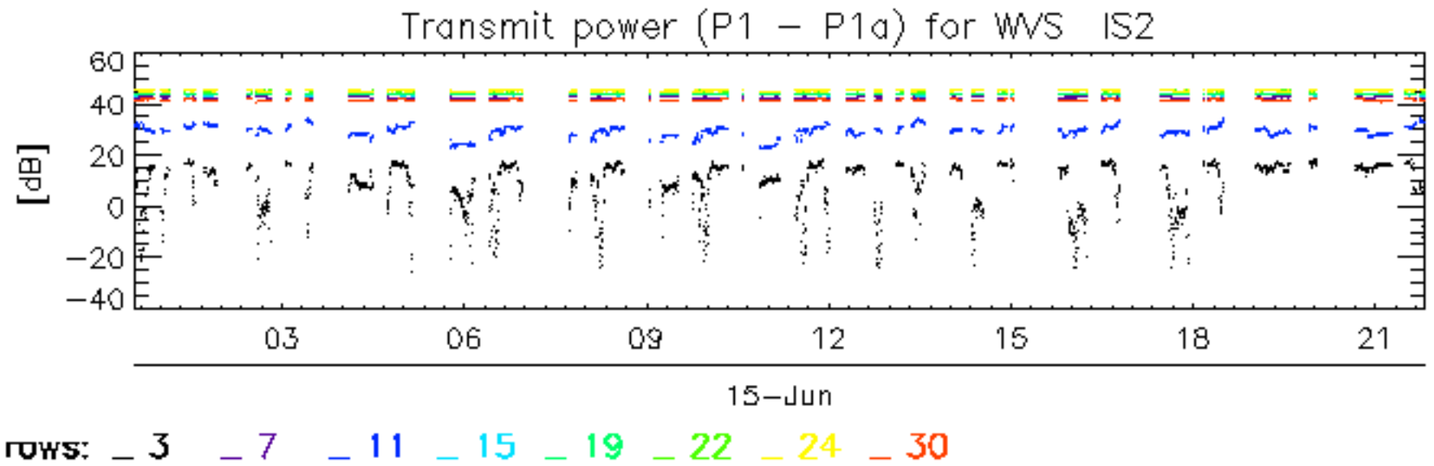

Reference: 2003-06-12 14:10:32 V
Test : 2004-06-14 20:23:39 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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

No unavailabilities during the reported period.