REPORT OF 041006

last update on Wed Oct 6 13:29:17 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 unavailability for the reported period.

2.2 - Browse Visual Inspection

No anomaliY observed from 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 any malfunctionning modules and
to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

- ASA_MS__0PNPDK20041005_173341_000000152031_00012_13593_0082.N1

Polarisation	Start Time
V	20041004 180518
H	20041005 173341

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.

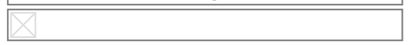
4.1 - Daily statistics

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	-3.470363	0.023585	-0.005374
7	P1	-3.337340	0.022388	0.002243
11	P1	-4.650383	0.037611	0.010271
15	P1	-5.761611	0.081371	0.037527
19	P1	-3.520462	0.079017	0.021072
22	P1	-4.556582	0.109351	0.041244
24	P1	-5.003040	0.121904	0.050459
30	P1	-7.055873	0.146775	0.000011

3	P1	-16.207907	0.397373	0.123296
7	P1	-14.021051	0.061098	-0.032577
11	P1	-20.280703	0.237499	-0.137371
15	P1	-11.761234	0.040859	0.063889
19	P1	-14.052509	1.100901	0.109358
22	P1	-16.000704	0.377094	0.051056
24	P1	-14.454207	0.296271	-0.008482
30	P1	-17.995129	0.608925	-0.180302

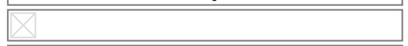
P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.310310	0.087002	-0.008881
7	P2	-22.593817	0.116782	0.035758
11	P2	-15.178970	0.124464	0.121726
15	P2	-7.060071	0.098872	0.000266
19	P2	-9.568117	0.128250	0.014153
22	P2	-17.300047	0.106335	0.064967
24	P2	-20.767960	0.089038	-0.037151
30	P2	-19.145048	0.082231	0.081623

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.157255	0.004127	-0.011450
7	P3	-8.157255	0.004127	-0.011451
11	P3	-8.157256	0.004127	-0.011441
15	P3	-8.157264	0.004127	-0.011402
19	P3	-8.157266	0.004127	-0.011410
22	P3	-8.157266	0.004127	-0.011410
24	P3	-8.157269	0.004127	-0.011410
30	P3	-8.157297	0.004132	-0.012072

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	-2.841190	0.051582	0.015698
7	P1	-3.028233	0.106874	0.007050
11	P1	-3.893164	0.068434	-0.015759
15	P1	-3.529047	0.084125	0.039150
19	P1	-3.527820	0.103405	0.017052
22	P1	-5.724957	0.132877	0.056117
24	P1	-3.970340	0.059728	-0.026517
30	P1	-6.211538	0.099541	0.061912
3	P1	-10.892466	0.178514	-0.074672
7	P1	-10.113415	0.175654	0.020694
11	P1	-12.179304	0.124479	-0.066998
15	P1	-11.695213	0.083873	-0.043014
19	P1	-15.730782	2.204555	0.326891
22	P1	-23.361403	1.565481	-0.279824
24	P1	-18.010519	0.370918	-0.324408
30	P1	-20.395498	1.273250	-0.065405

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.980942	0.049183	0.022028
7	P2	-22.718815	0.070164	0.079218
11	P2	-10.889132	0.059628	0.135157
15	P2	-4.963298	0.029224	-0.004754
19	P2	-6.774192	0.042364	0.009752
22	P2	-7.406049	0.045810	0.063428
24	P2	-11.066079	0.056618	-0.014698
30	P2	-22.125635	0.042975	0.060128

P3 Cyclic statistics

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

3	P3	-8.006396	0.003461	-0.000028
7	P3	-8.006450	0.003460	-0.000275
11	P3	-8.006533	0.003453	-0.000386
15	P3	-8.006543	0.003453	0.000013
19	P3	-8.006442	0.003460	-0.000171
22	P3	-8.006507	0.003456	-0.000148
24	P3	-8.006551	0.003477	0.000036
30	P3	-8.006405	0.003467	-0.000343

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	0.000474708
	stdev	2.17603e-07
MEAN Q	mean	0.000540078
	stdev	2.37688e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127215
	stdev	0.000960749

STDEV Q	mean	0.127439
	stdev	0.000969993

5.3 - Gain imbalance I/Q

6 - Doppler Analysis

No anomaly observed in doppler evolution.
Doppler 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

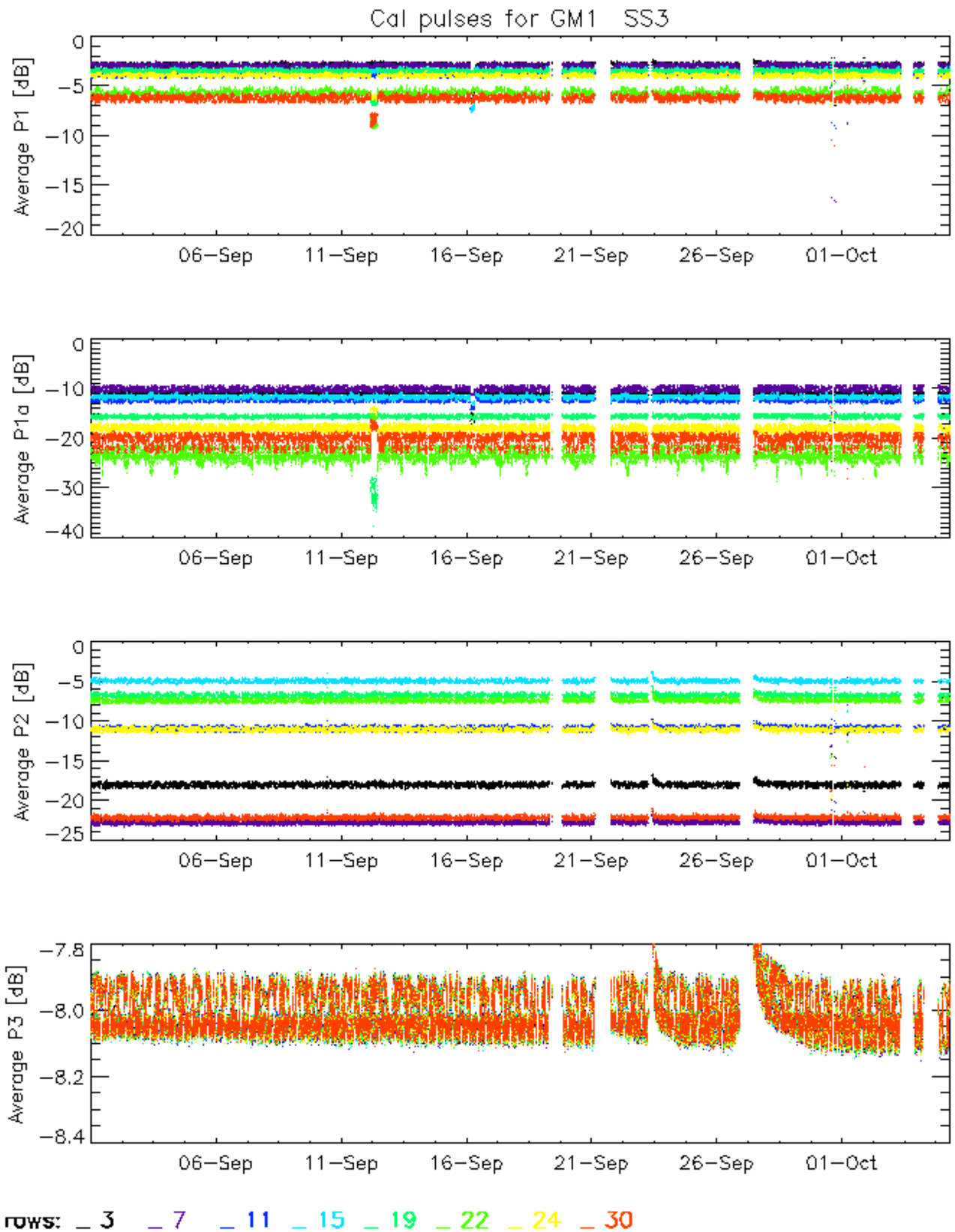
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

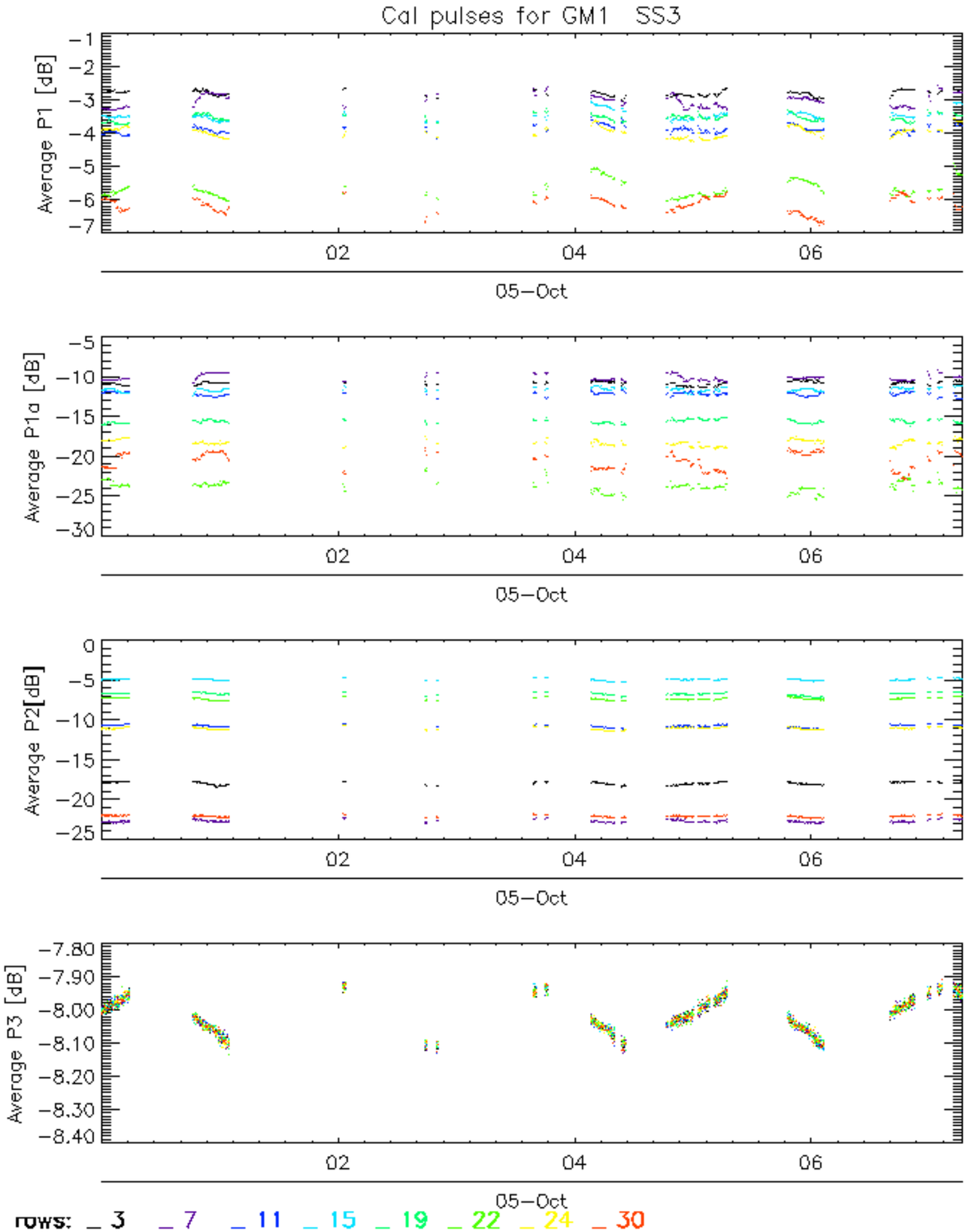
6.5 - Absolute Doppler for GM1

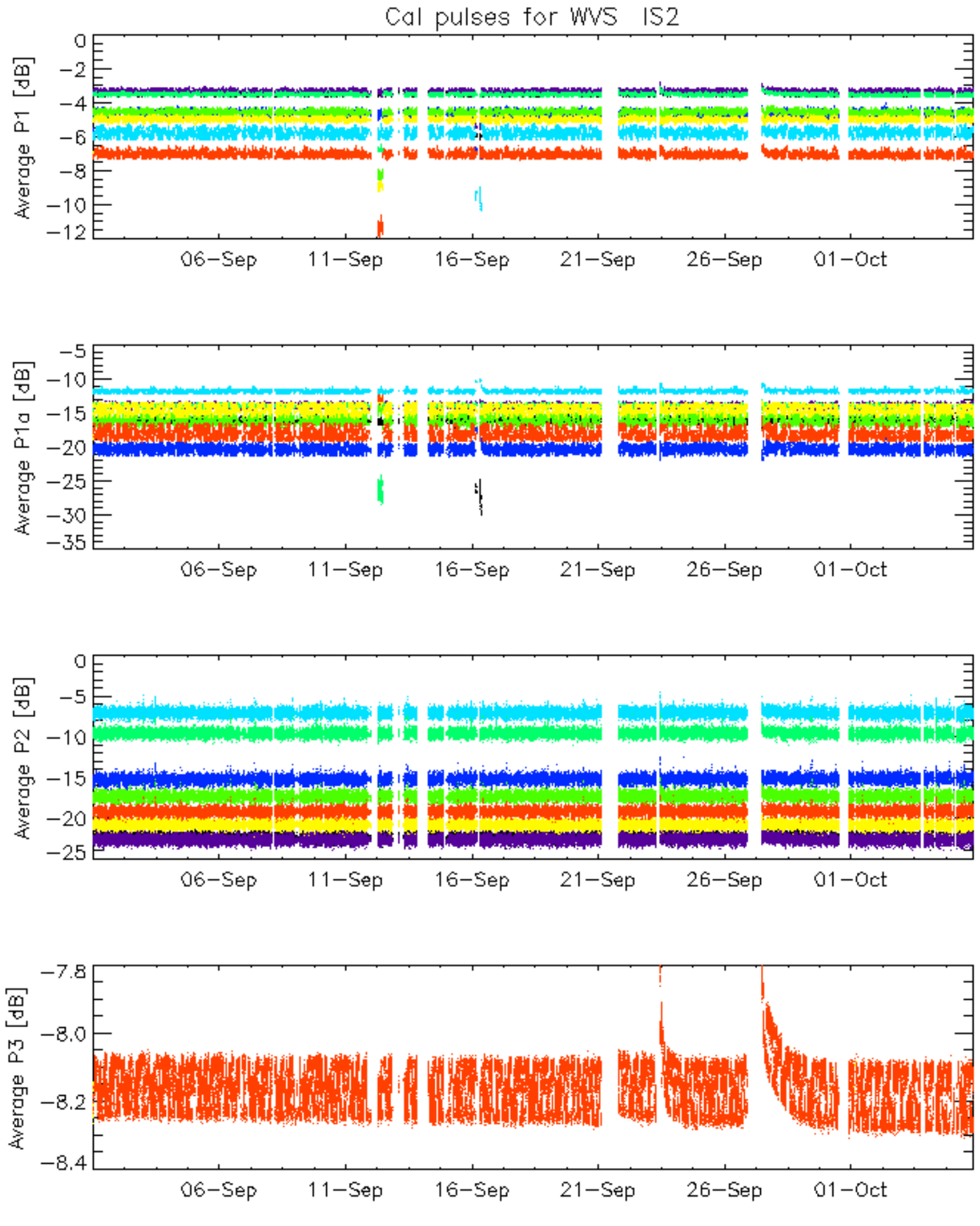
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

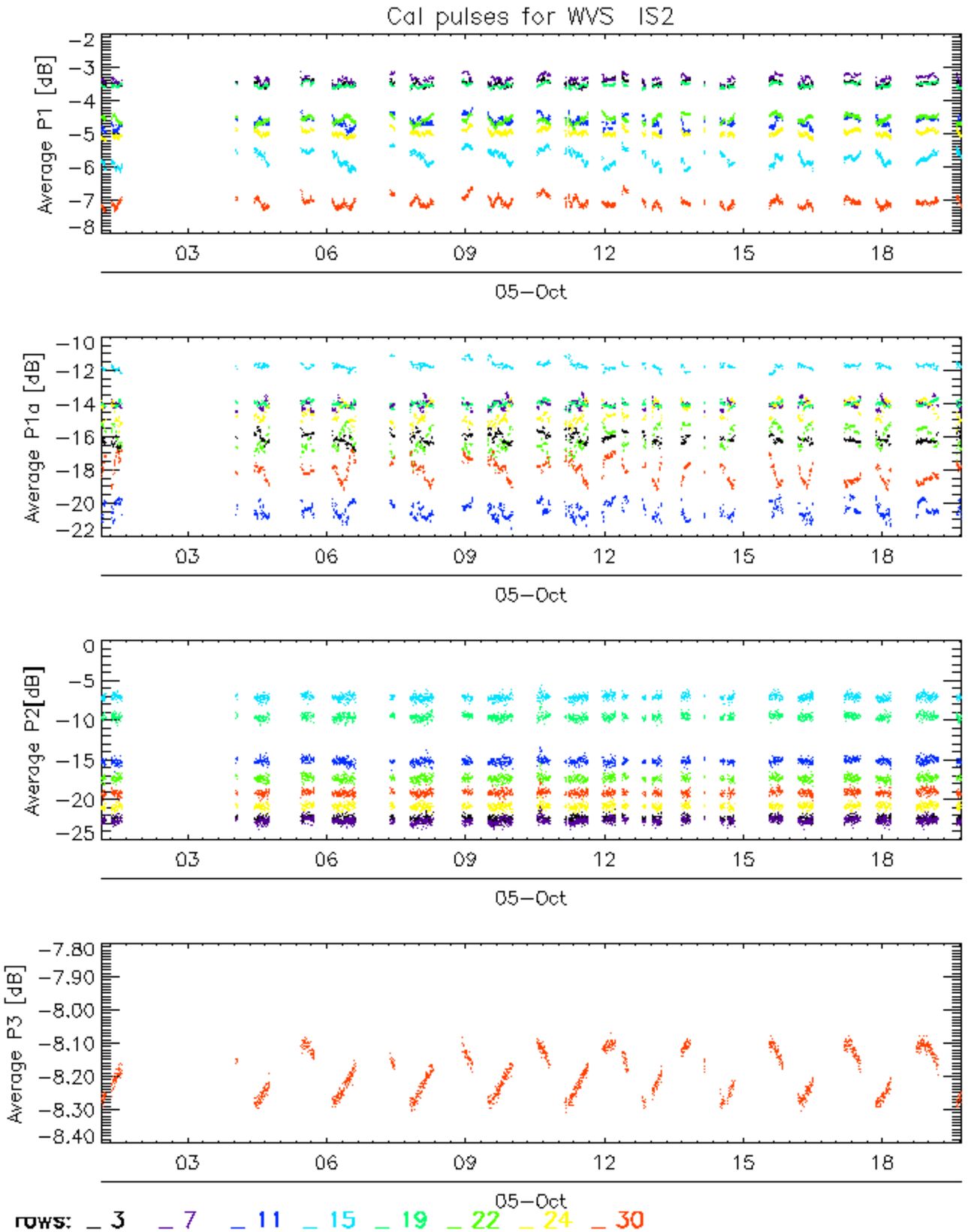
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
☒


Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
−20
06−Sep
11−Sep
16−Sep
21−Sep
26−Sep
01−Oct
Average P1a [dB]
0
−10
−20
−30
−40
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

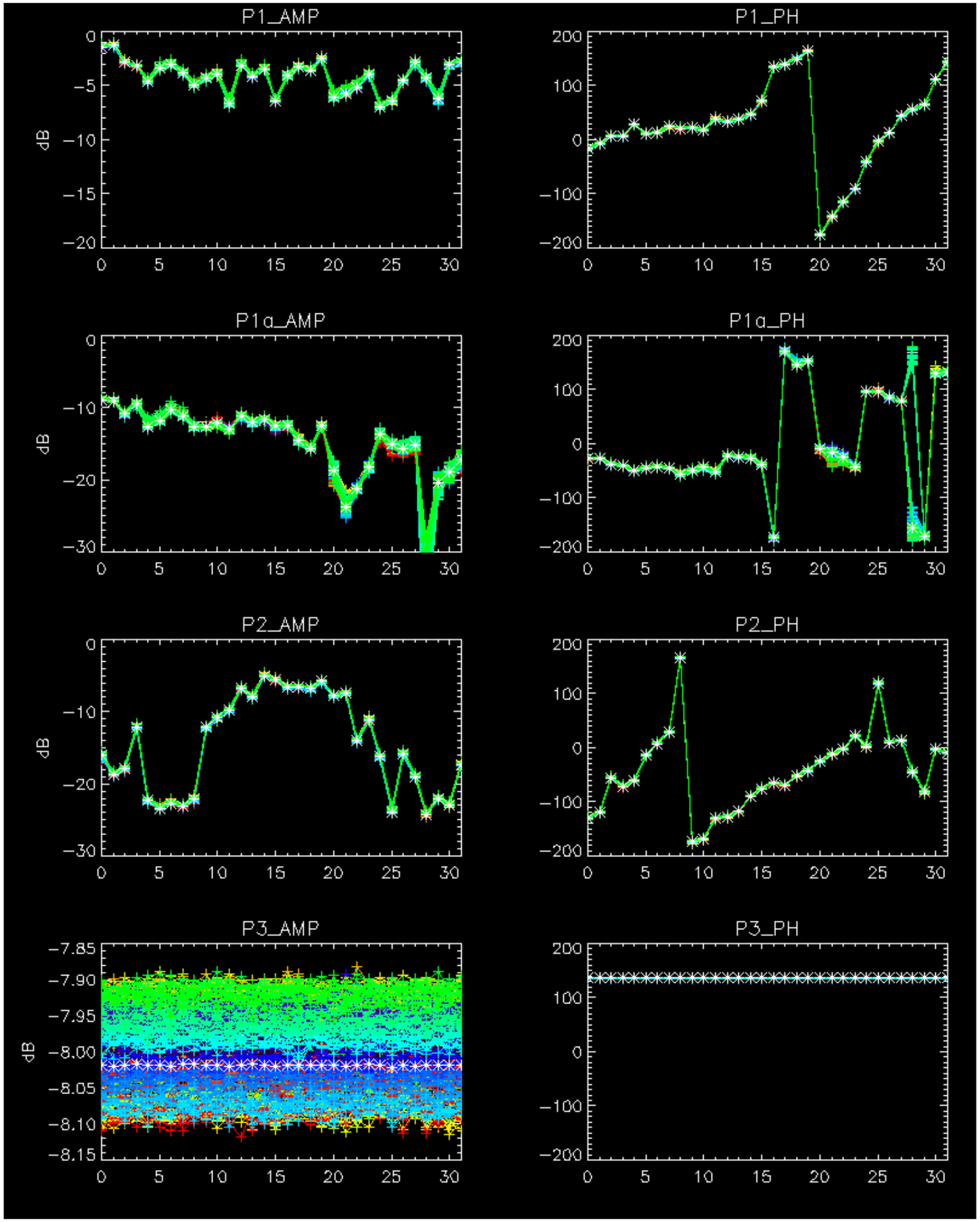

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
02
04
06
05−Oct
Average P1a [dB]
−5
−10
−15
−20
−25
−30
02
04
06
05−Oct
Average P2[dB]
0
−5
−10
−15
−20
−25
02
04
06
05−Oct
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
02
04
06
05−Oct
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

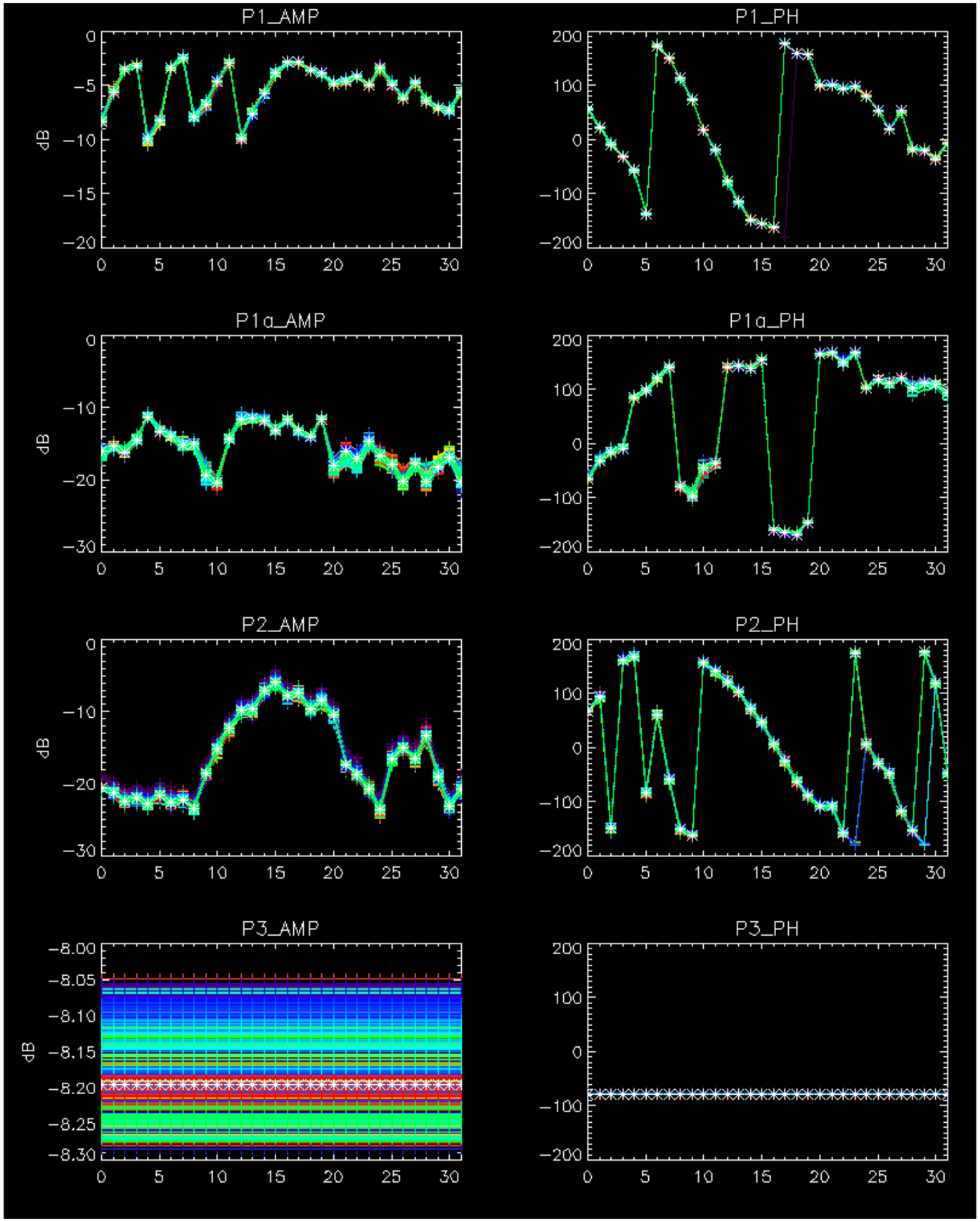

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
06−Sep
11−Sep
16−Sep
21−Sep
26−Sep
01−Oct
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30


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

No anomaliY observed from browse visual inspection.

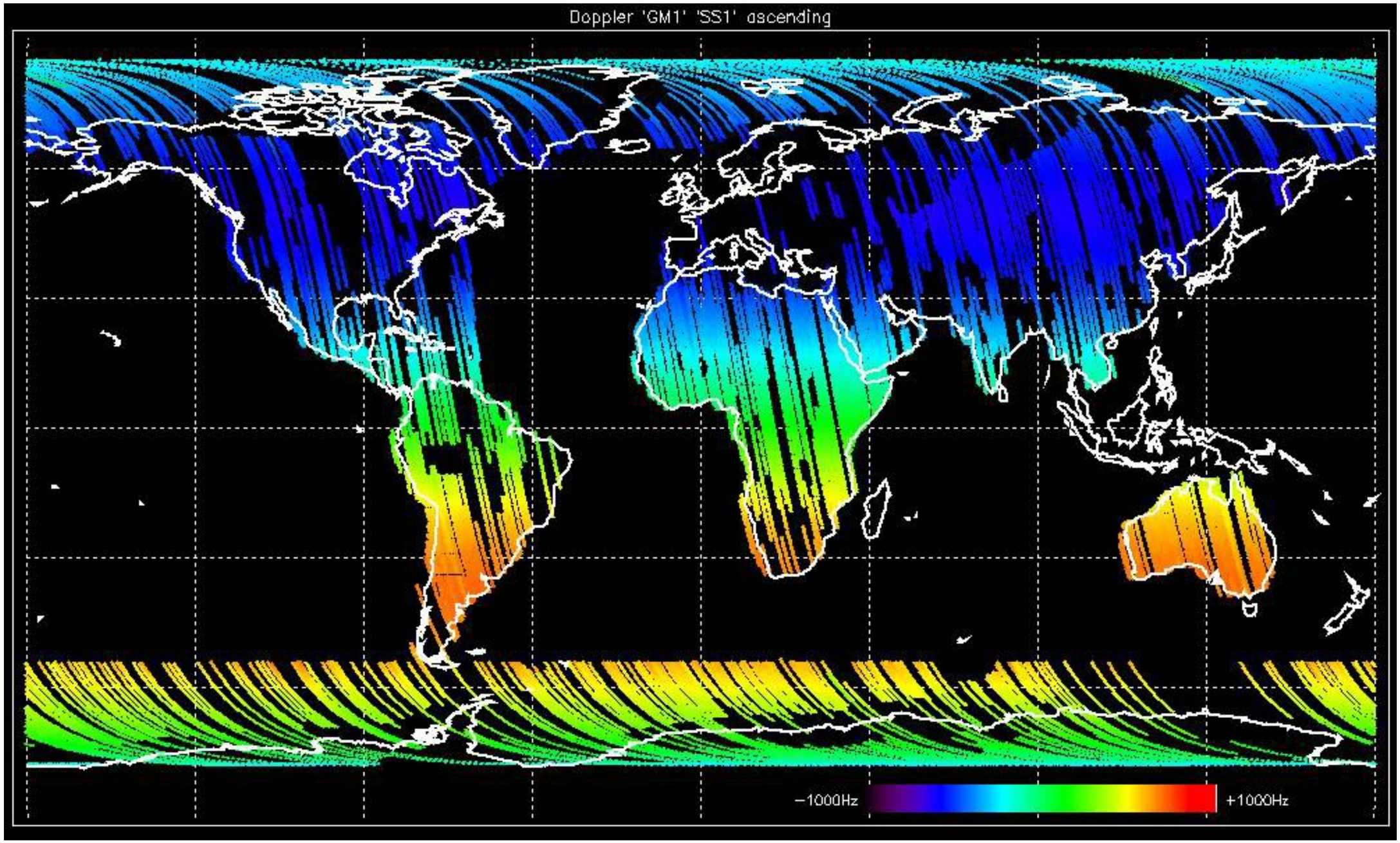
No anomalies observed.

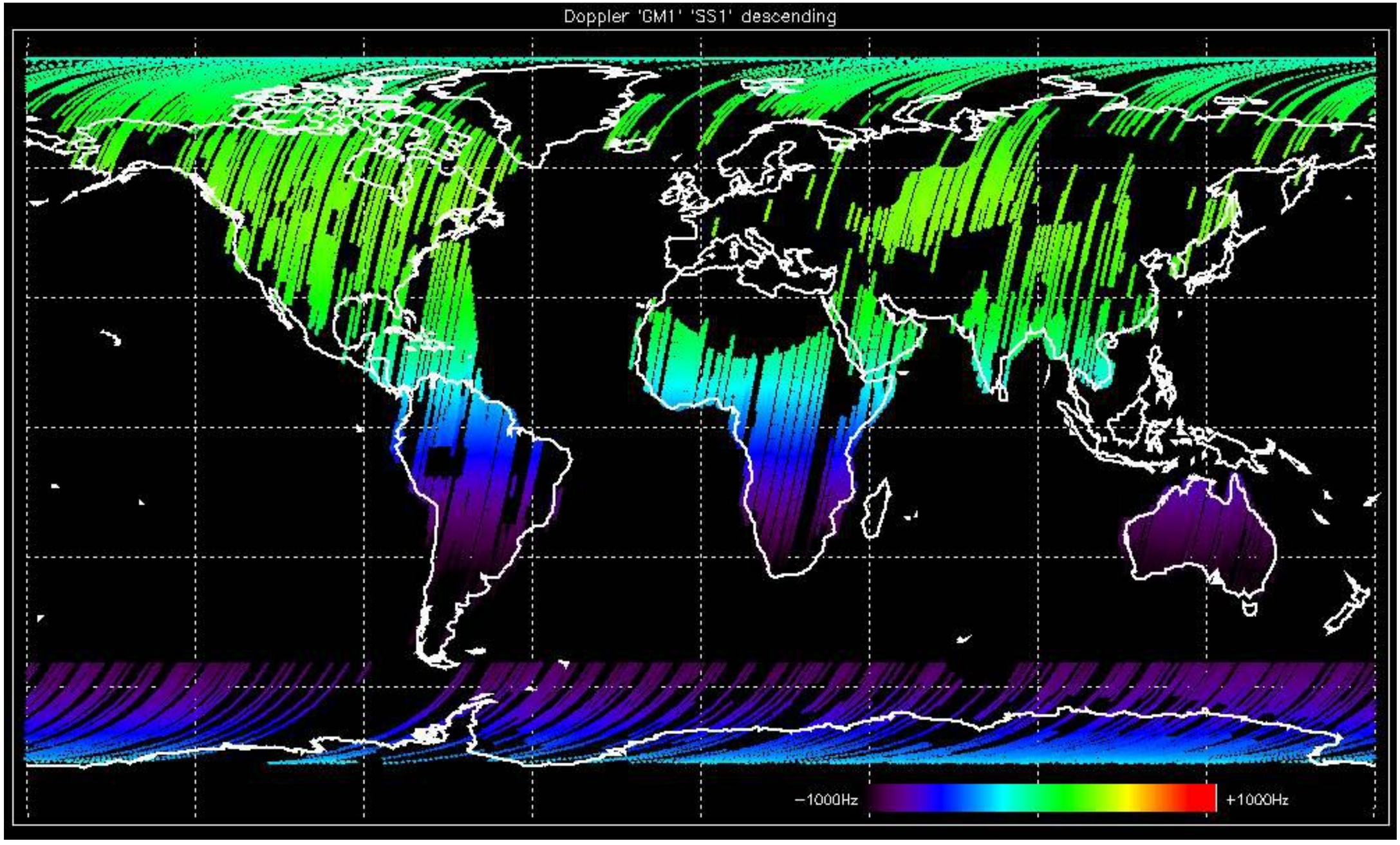

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.85
−7.90
−7.95
−8.00
−8.05
−8.10
−8.15
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

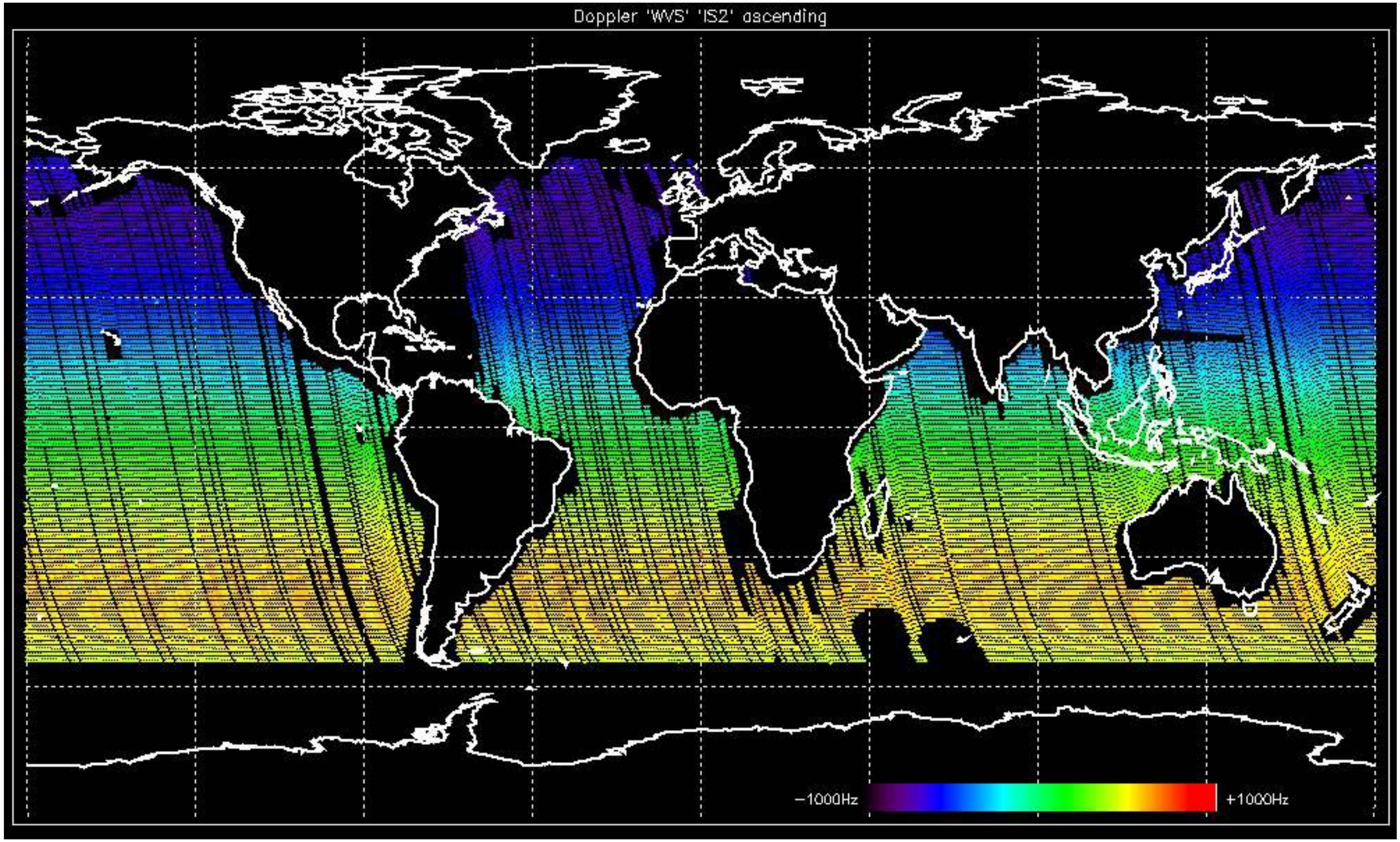

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15
−8.20
−8.25
−8.30
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

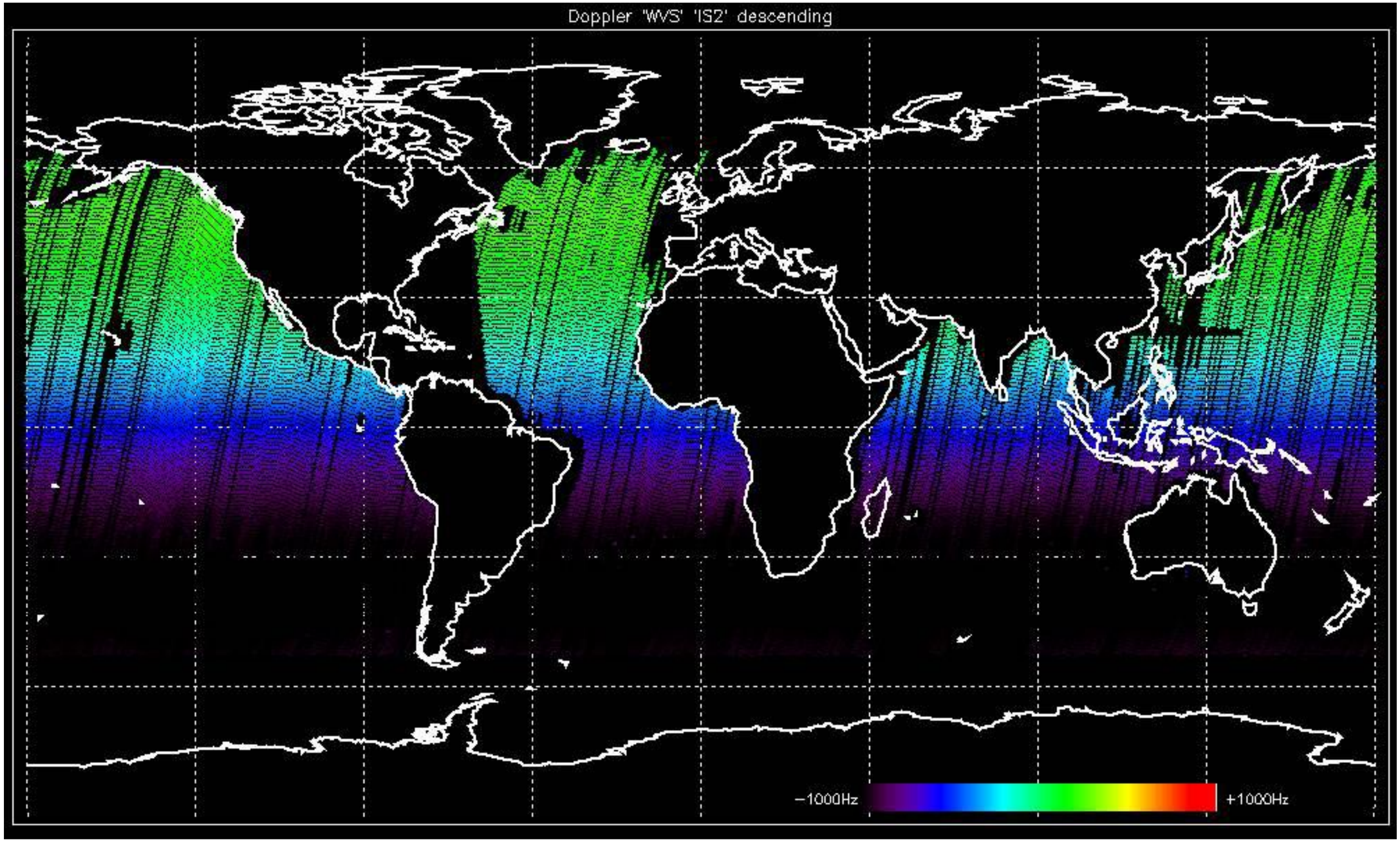
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

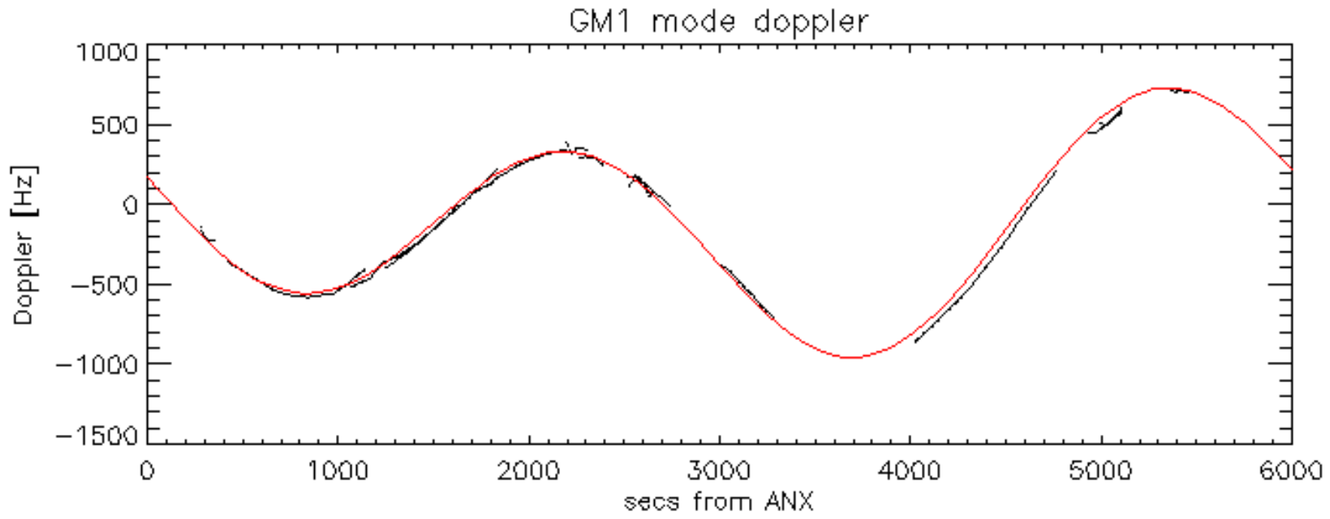
No anomaly observed in doppler evolution.
Doppler analysis performed over the last 35 days.

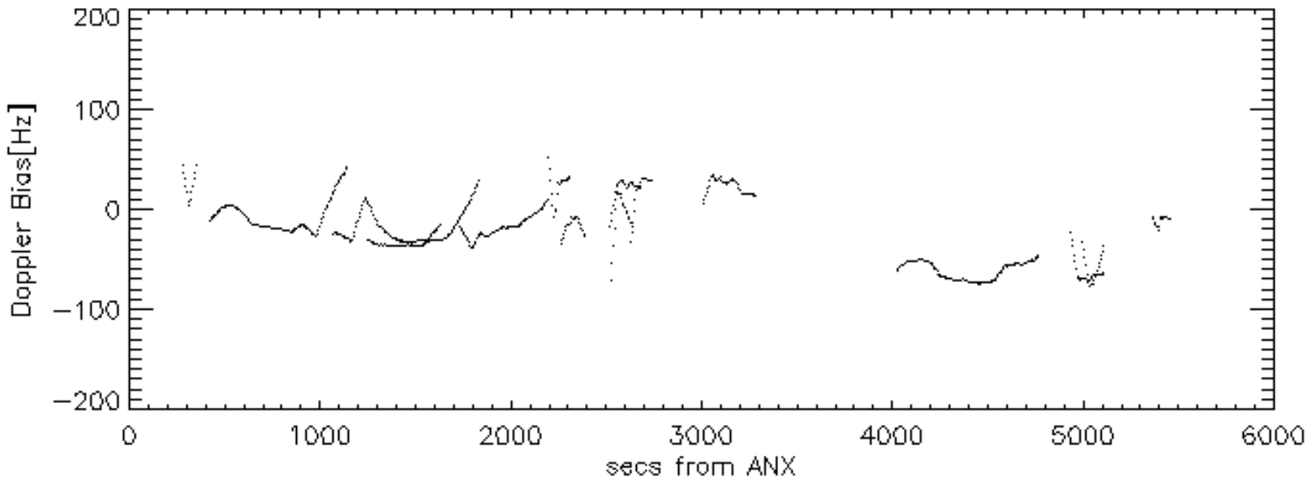

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

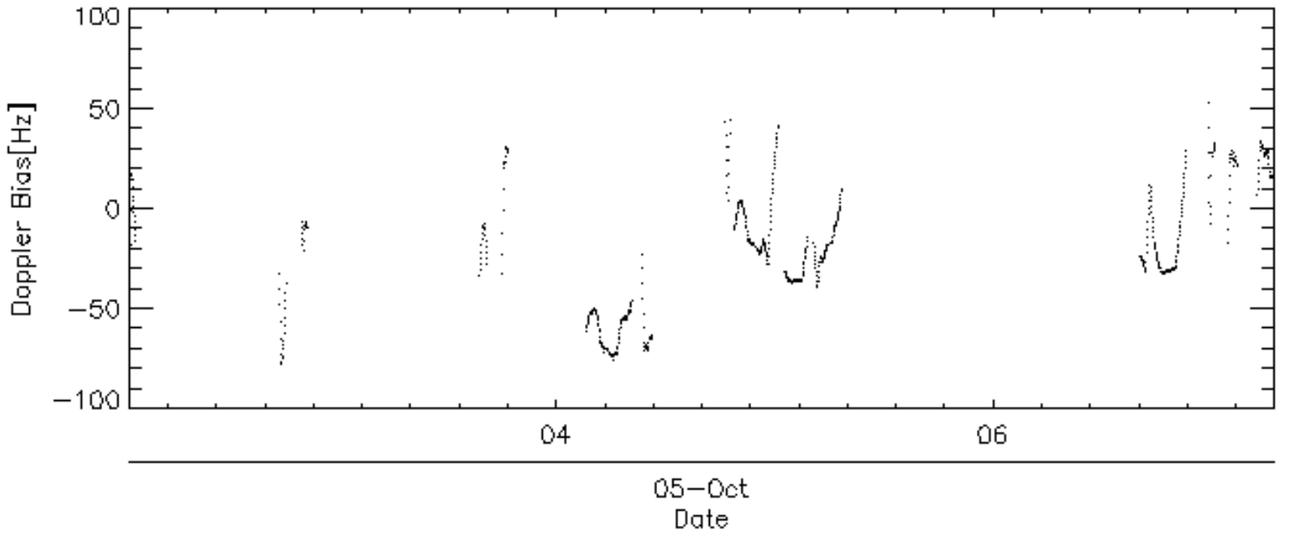

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

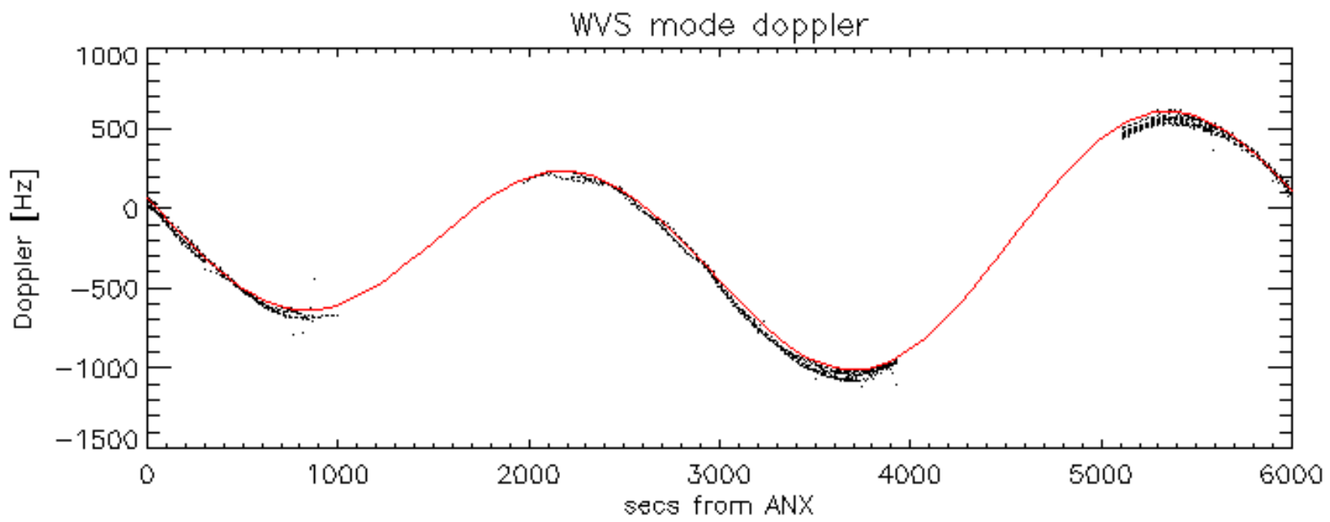

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

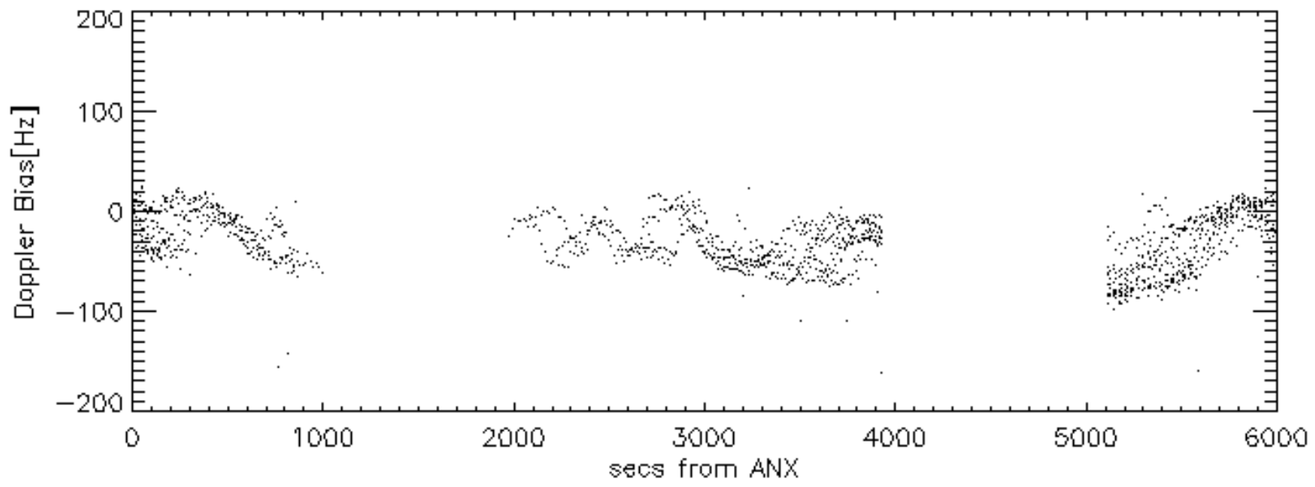

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

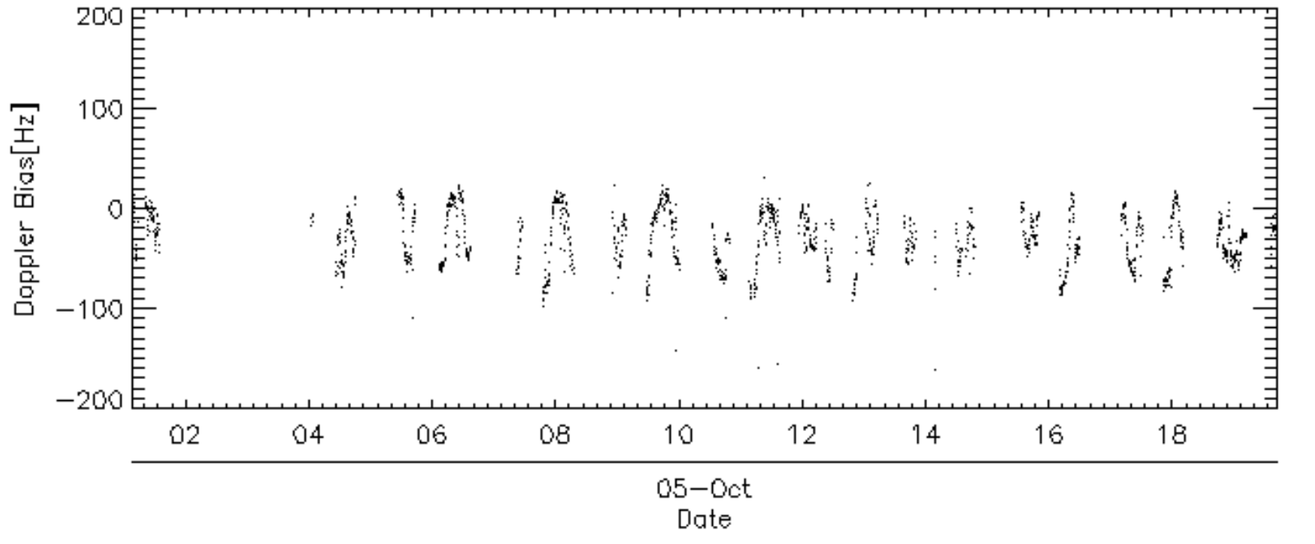

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

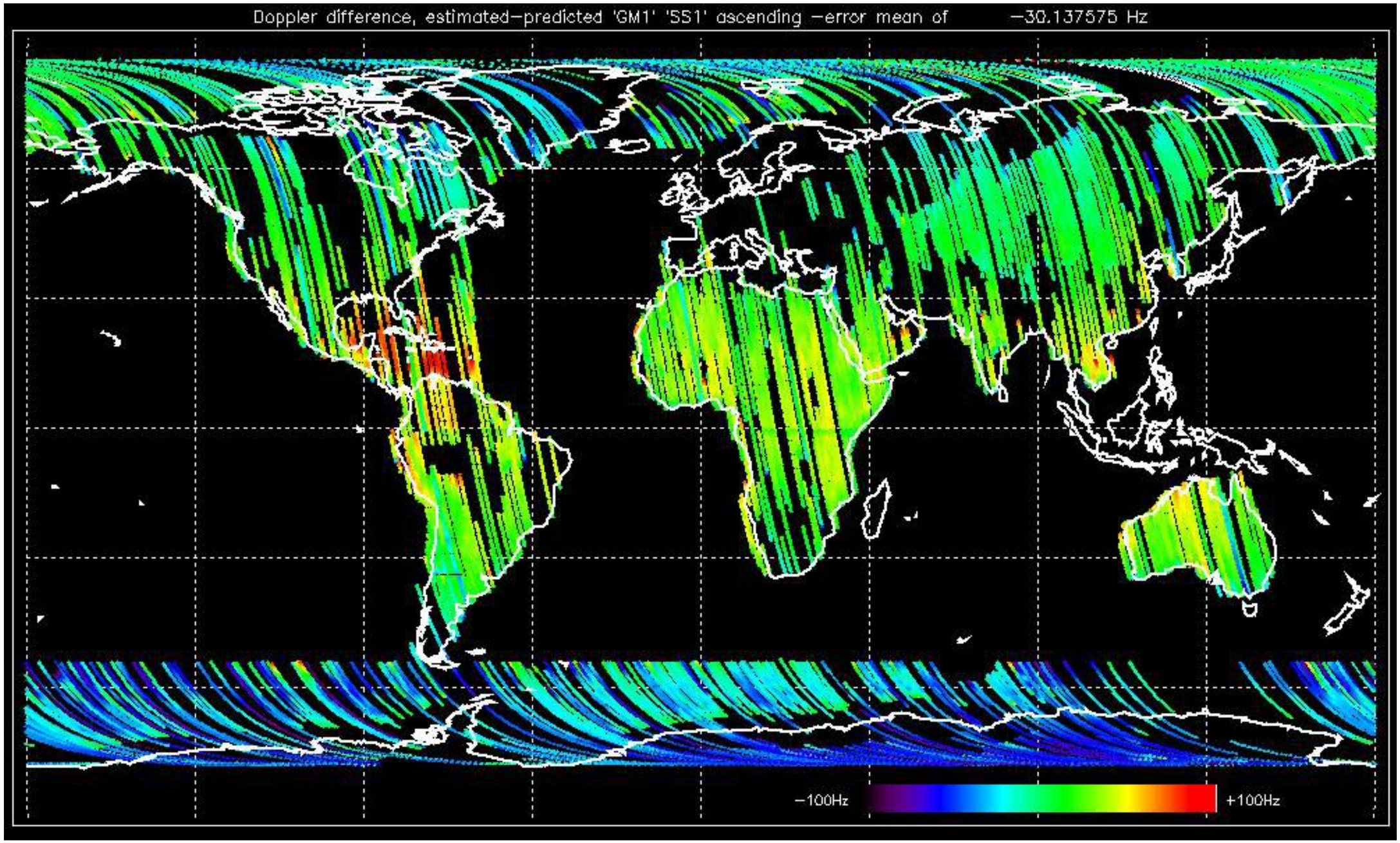

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

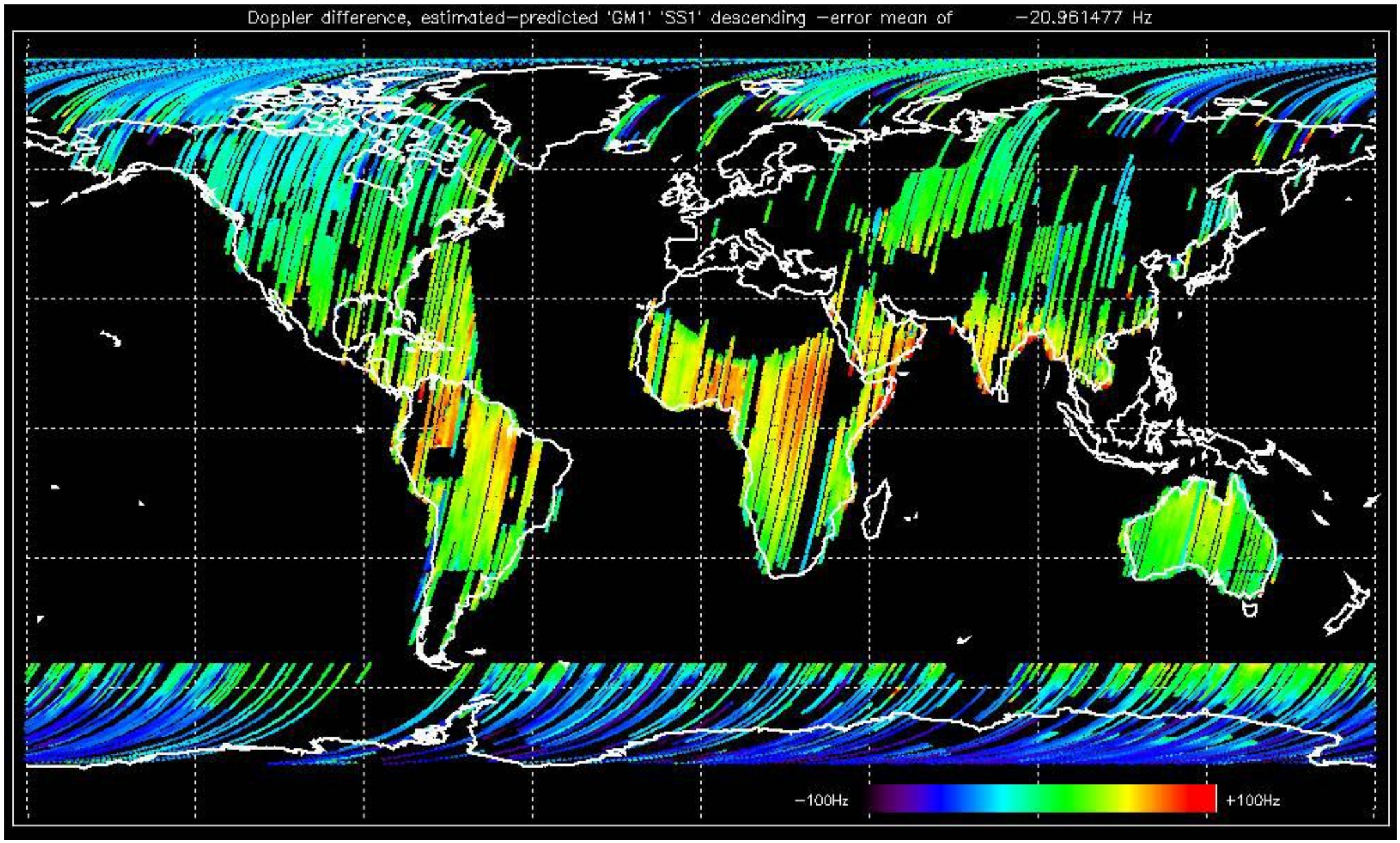

Doppler Bias[Hz]
100
50
0
−50
−100
04
06
05−Oct
Date

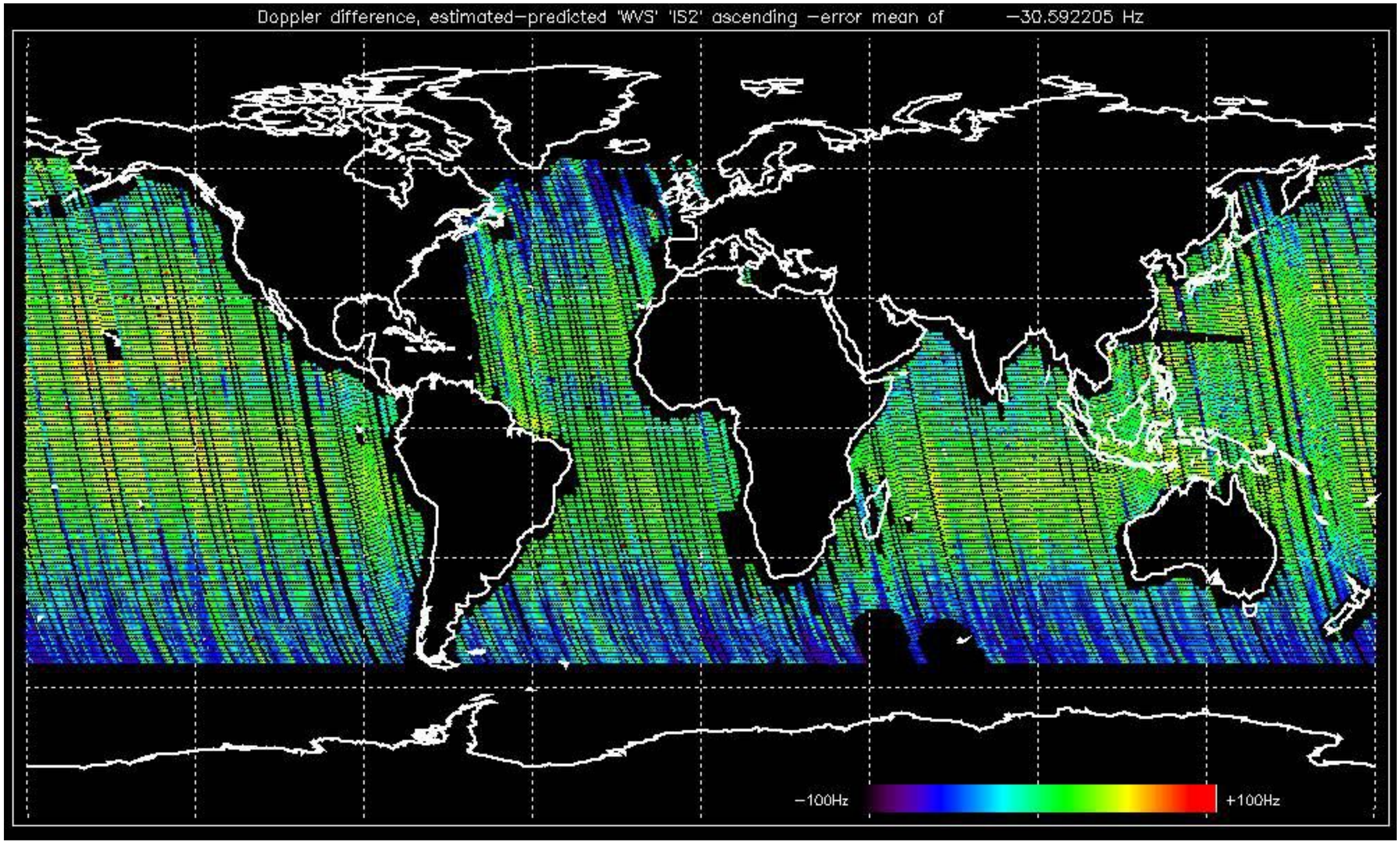

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

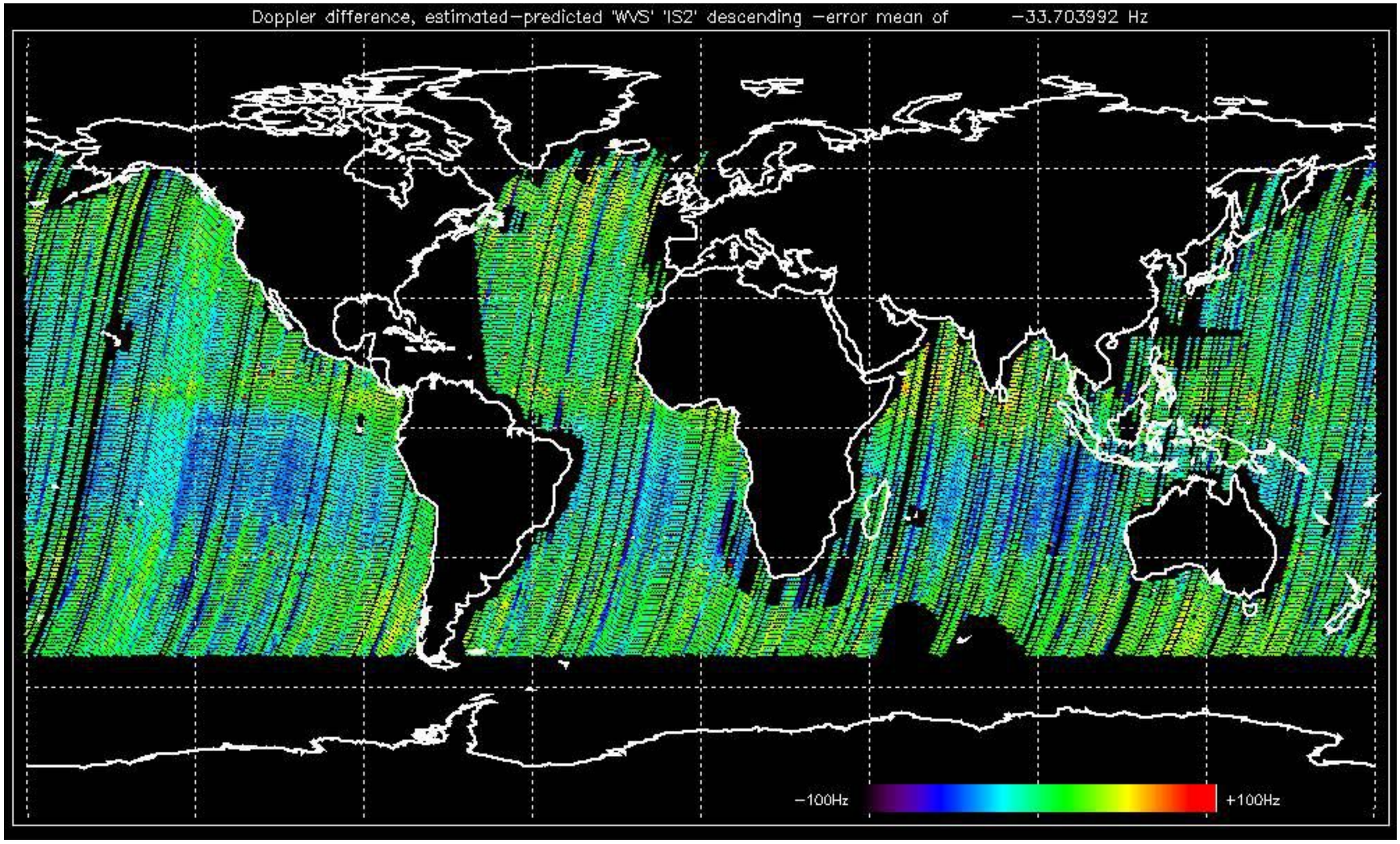

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


Doppler Bias[Hz]
200
100
0
−100
−200
02
04
06
08
10
12
14
16
18
05−Oct
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −30.137575 Hz
−100Hz
+100Hz


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -20.961477 Hz
-100Hz
+100Hz

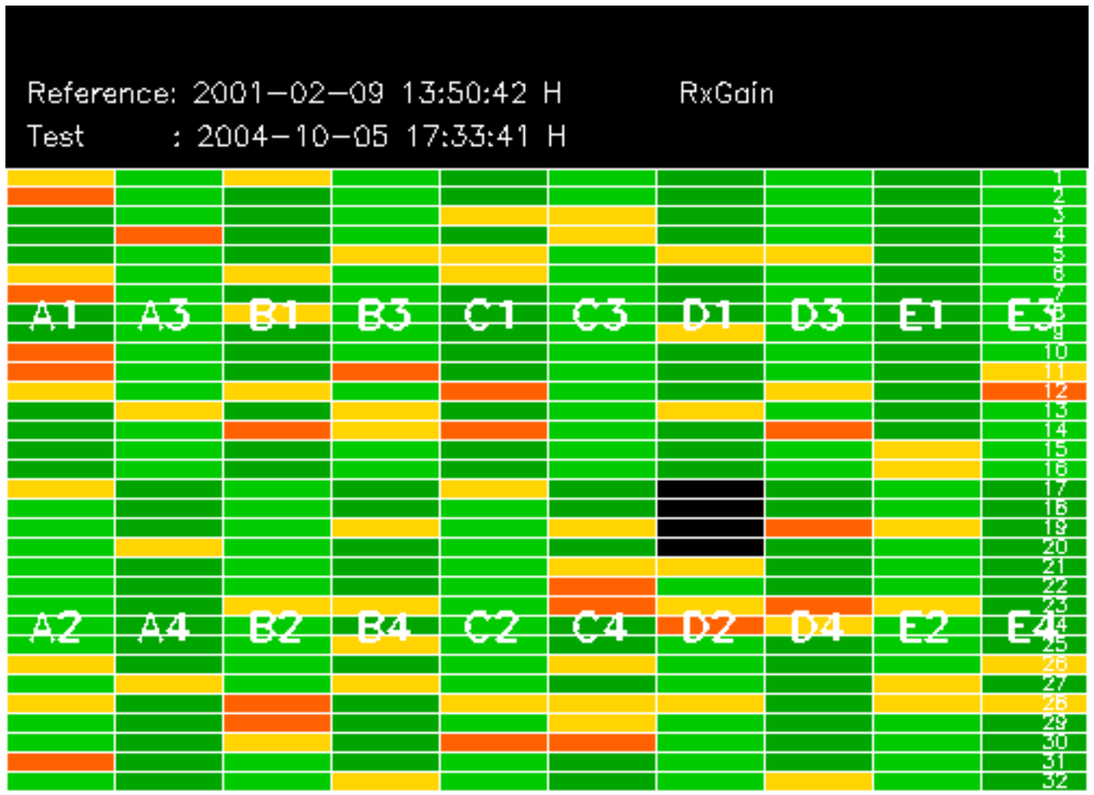

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −30.592205 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −33.703992 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__0PNPDK20041005_173341_000000152031_00012_13593_0082.N1

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2004-10-05 17:33:41 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
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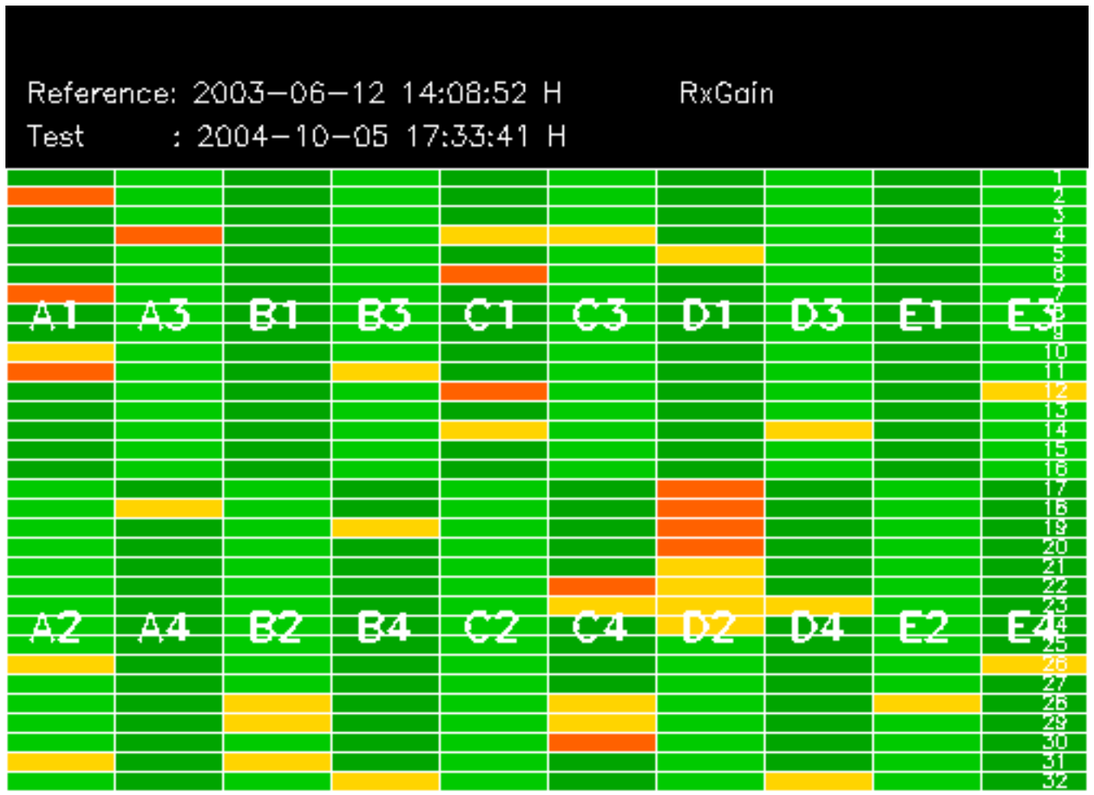
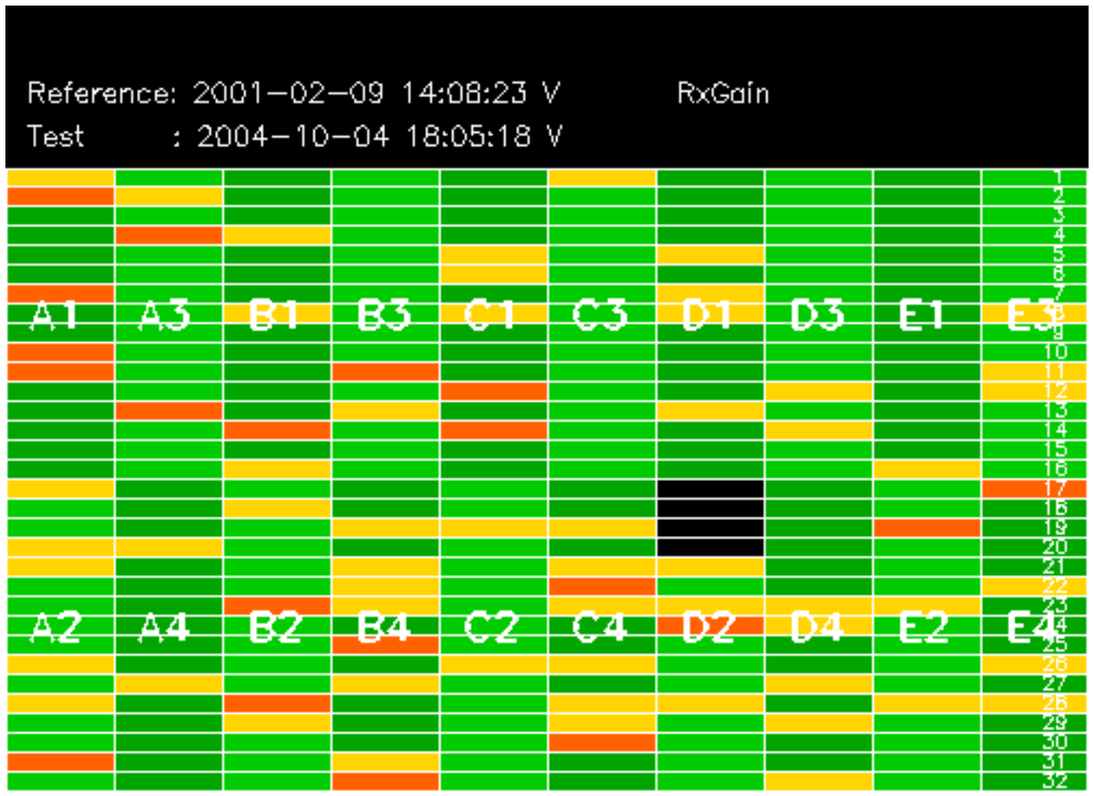

Reference: 2003-06-12 14:08:52 H
Test : 2004-10-05 17:33:41 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-10-04 18:05:18 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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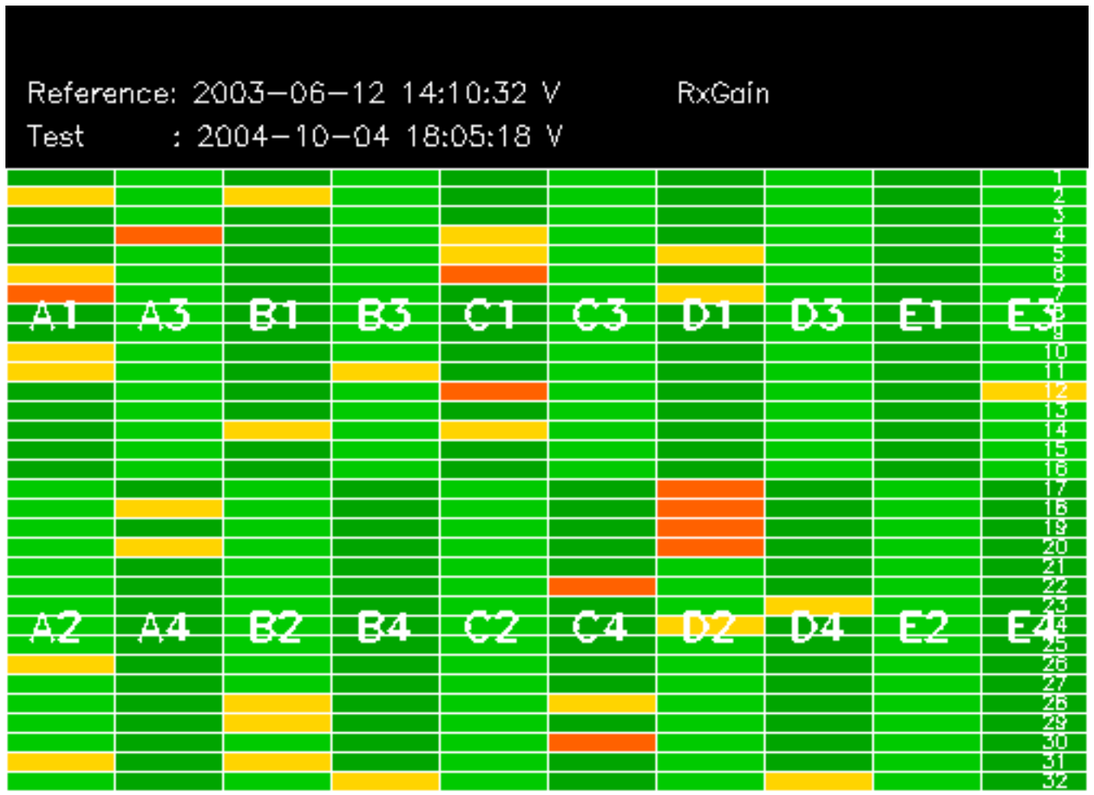
Reference: 2003-06-12 14:10:32 V
Test : 2004-10-04 18:05:18 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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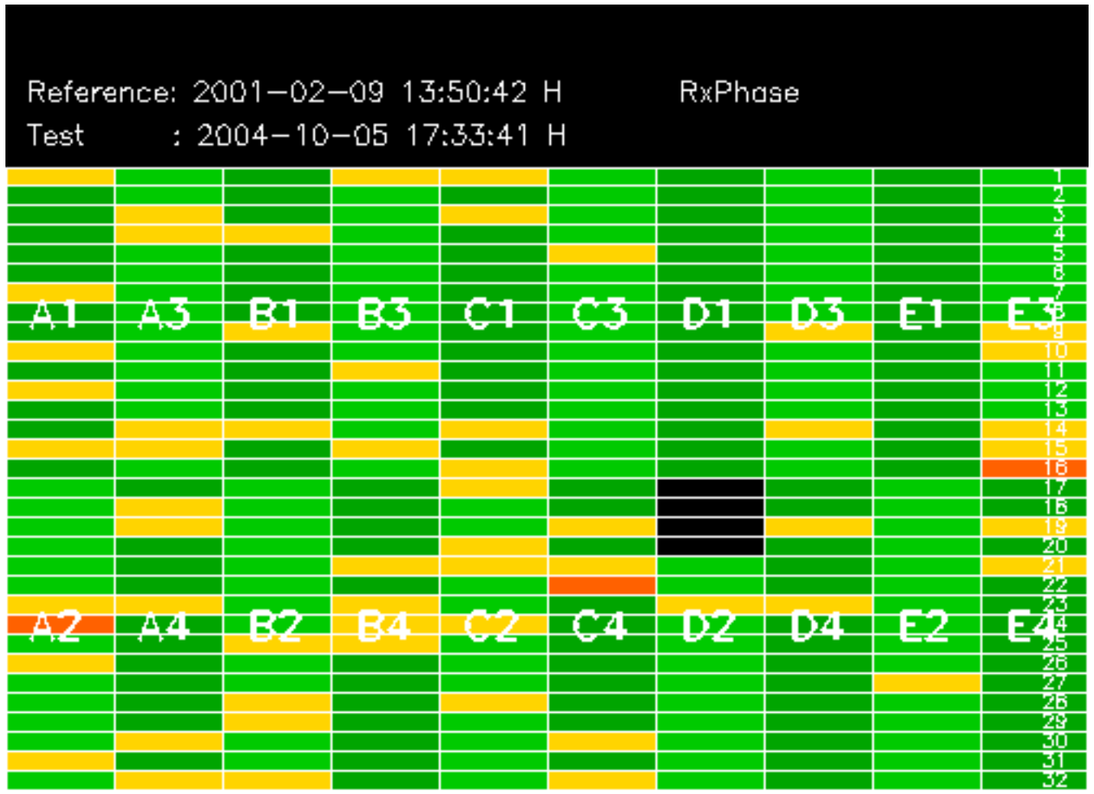
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-10-05 17:33:41 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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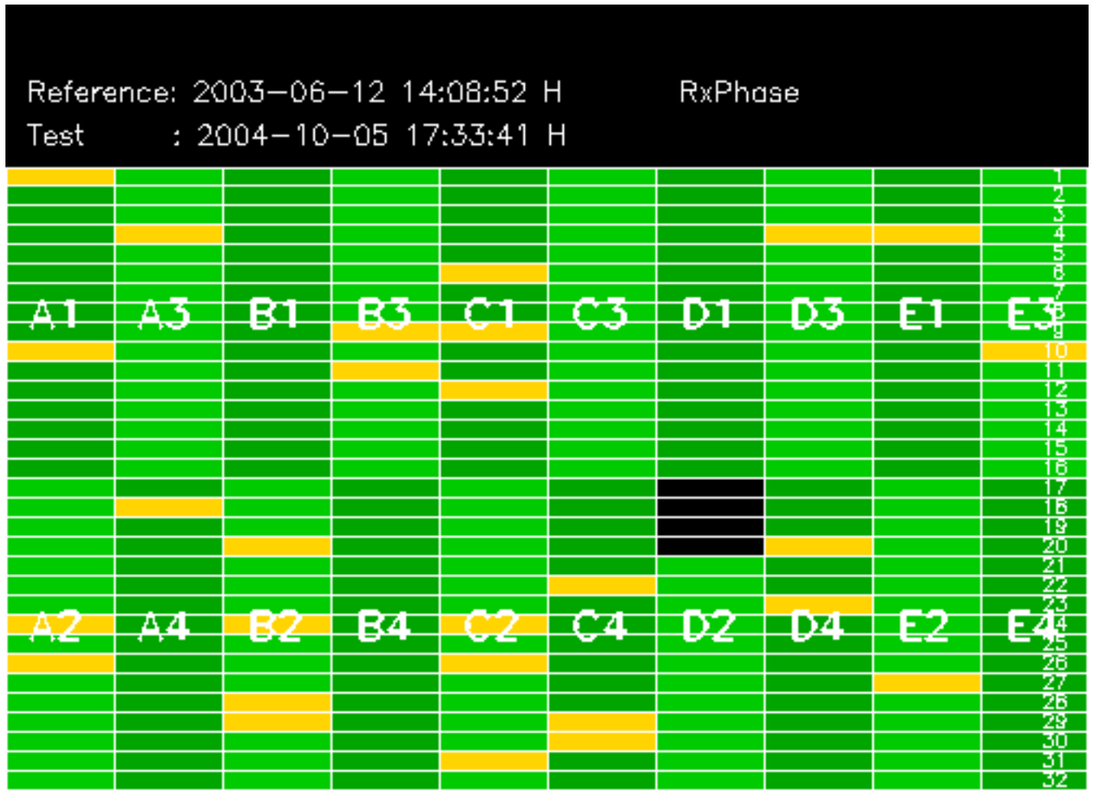
Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2004-10-05 17:33:41 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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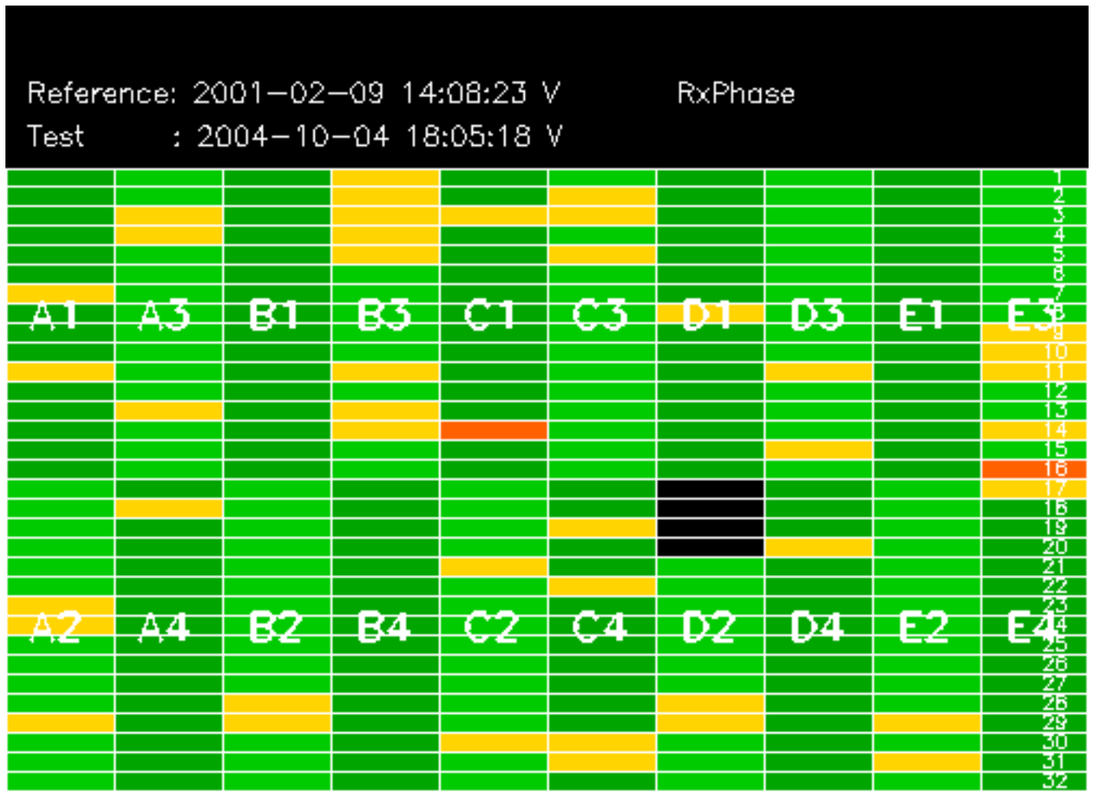
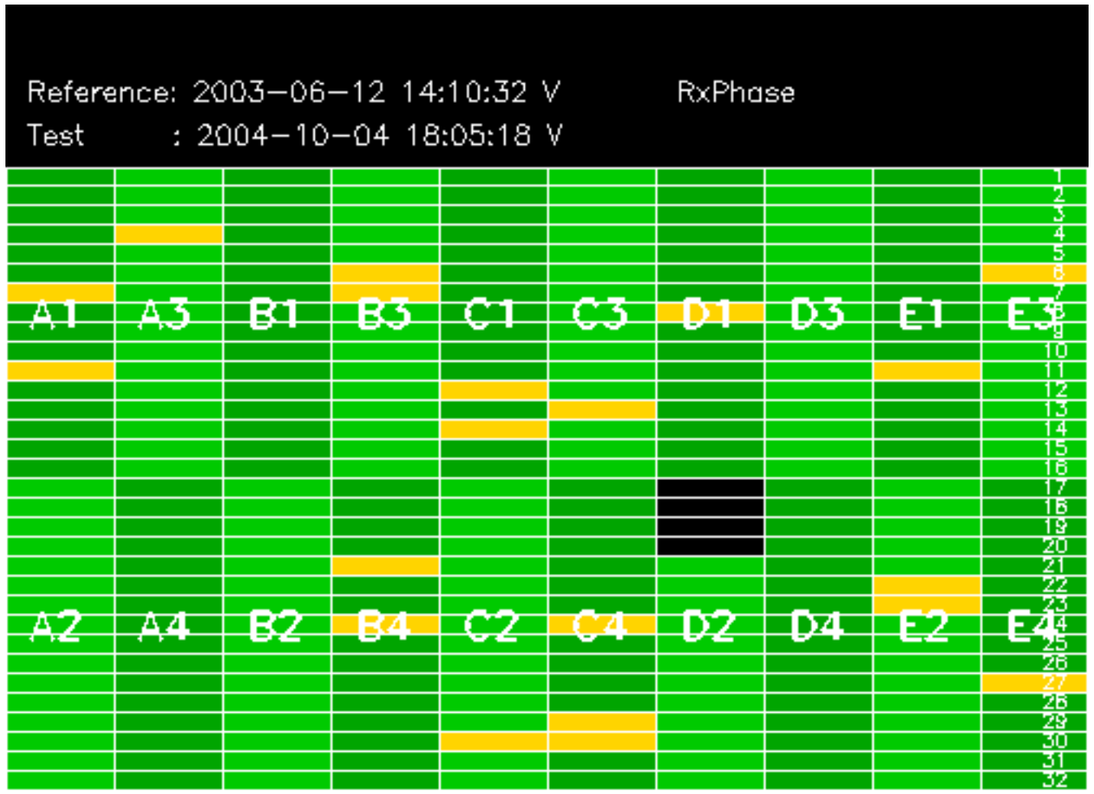
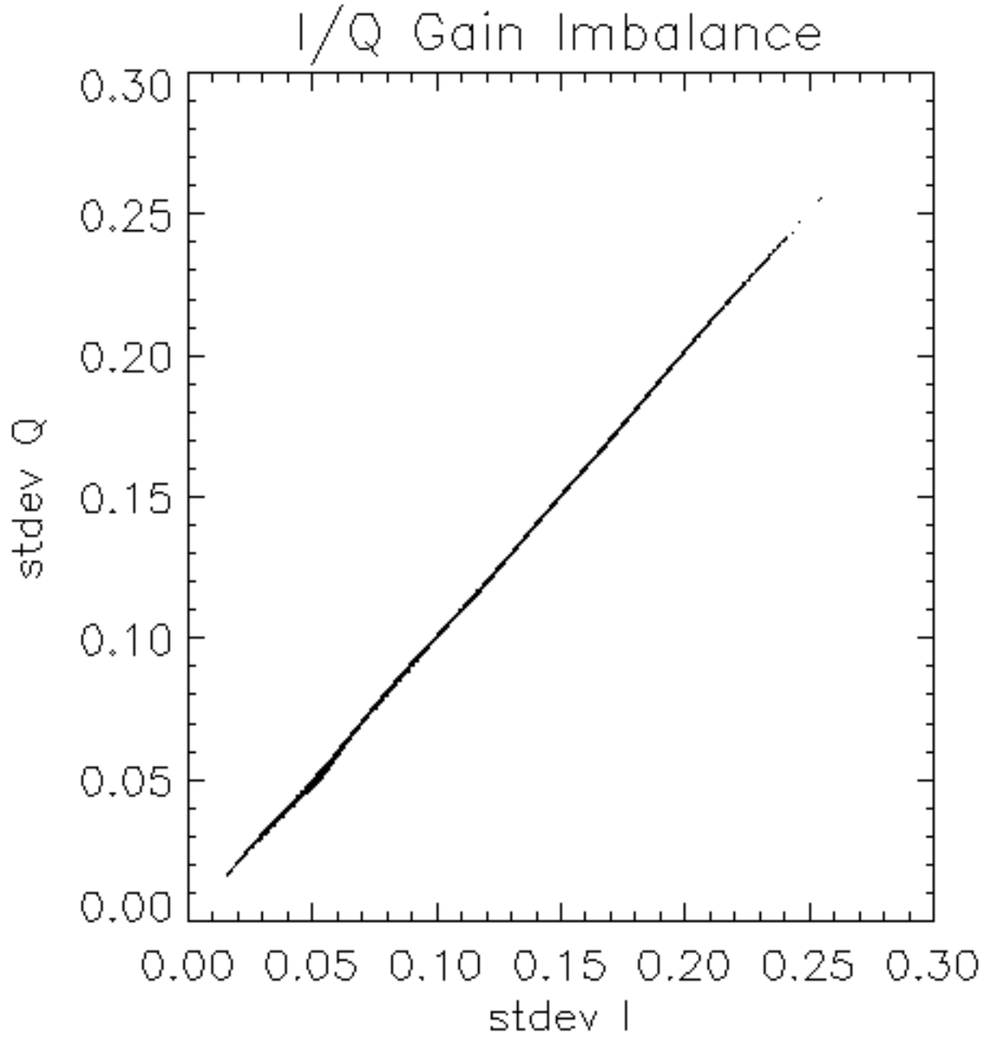
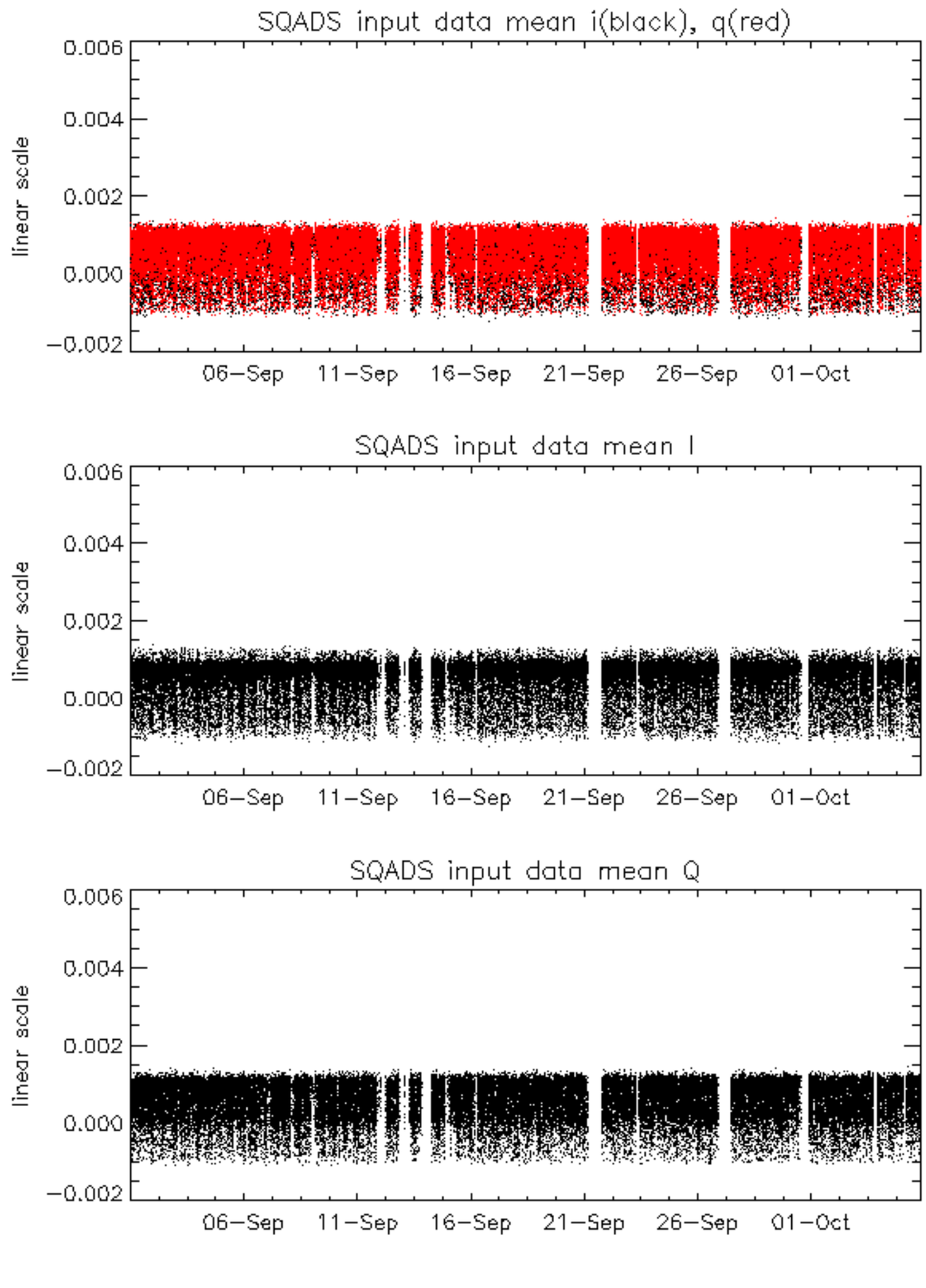
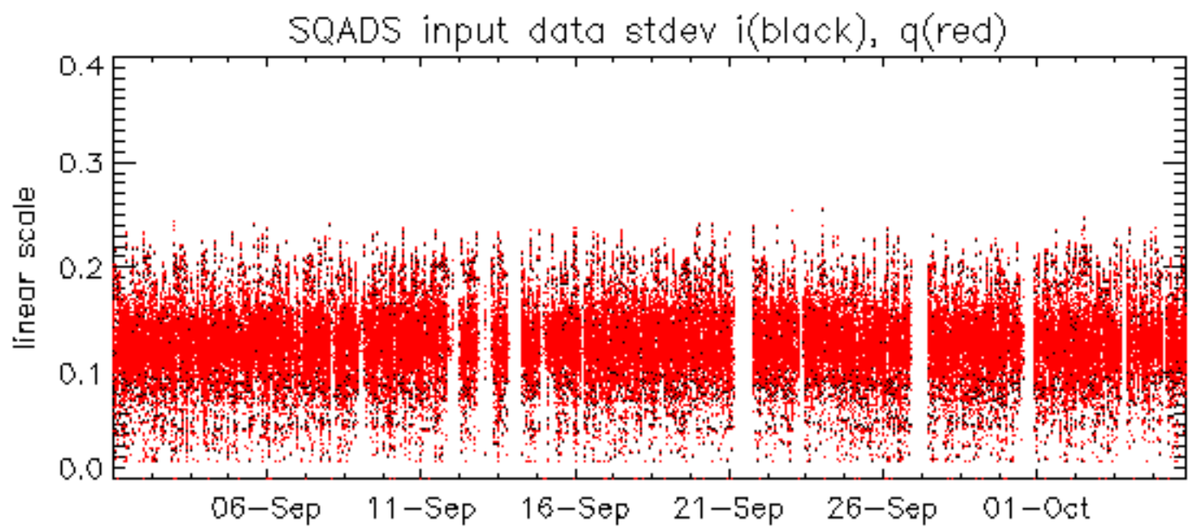
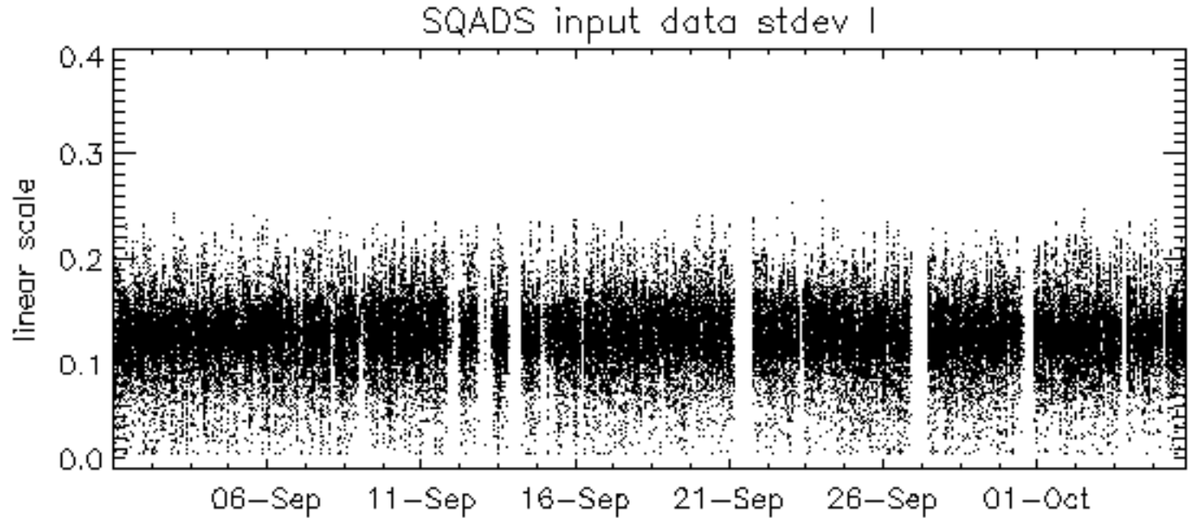

Reference: 2001-02-09 14:08:23 V
Test : 2004-10-04 18:05:18 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

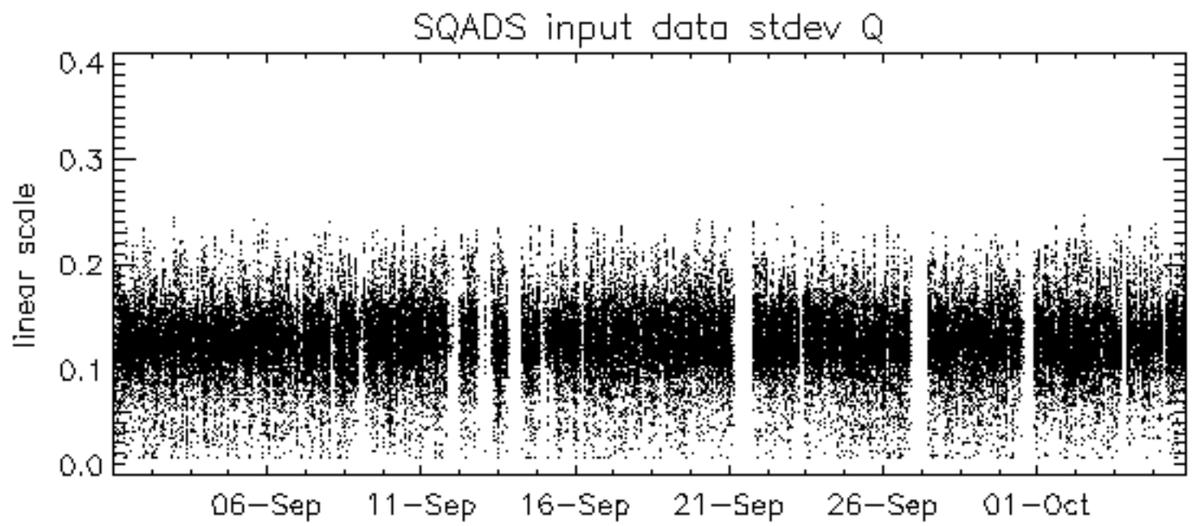

Reference: 2003-06-12 14:10:32 V
Test : 2004-10-04 18:05:18 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

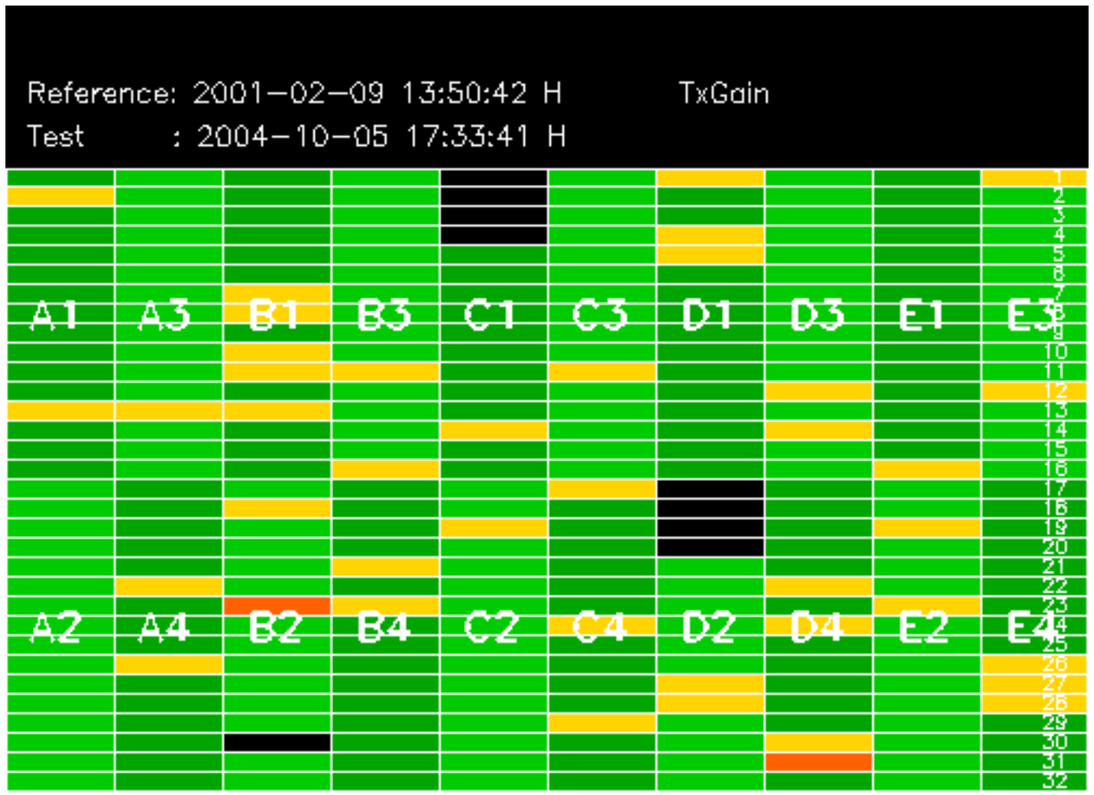

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2004-10-05 17:33:41 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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D4
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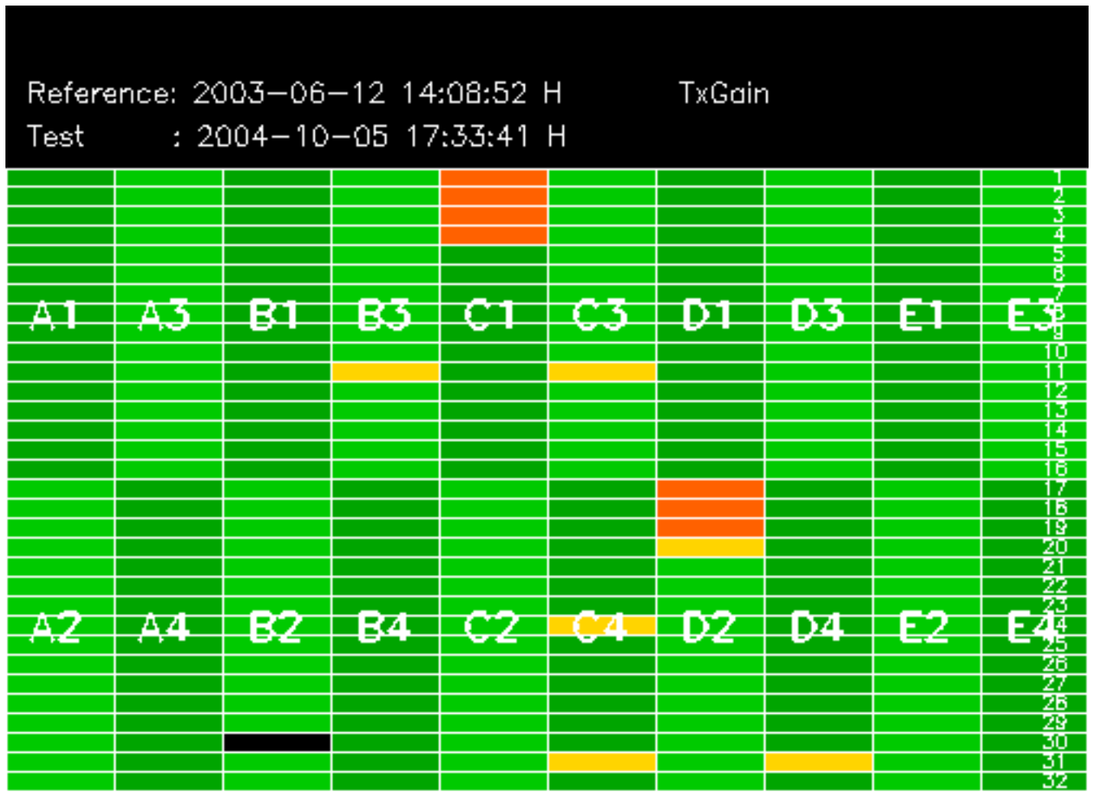
Reference: 2003-06-12 14:08:52 H
Test : 2004-10-05 17:33:41 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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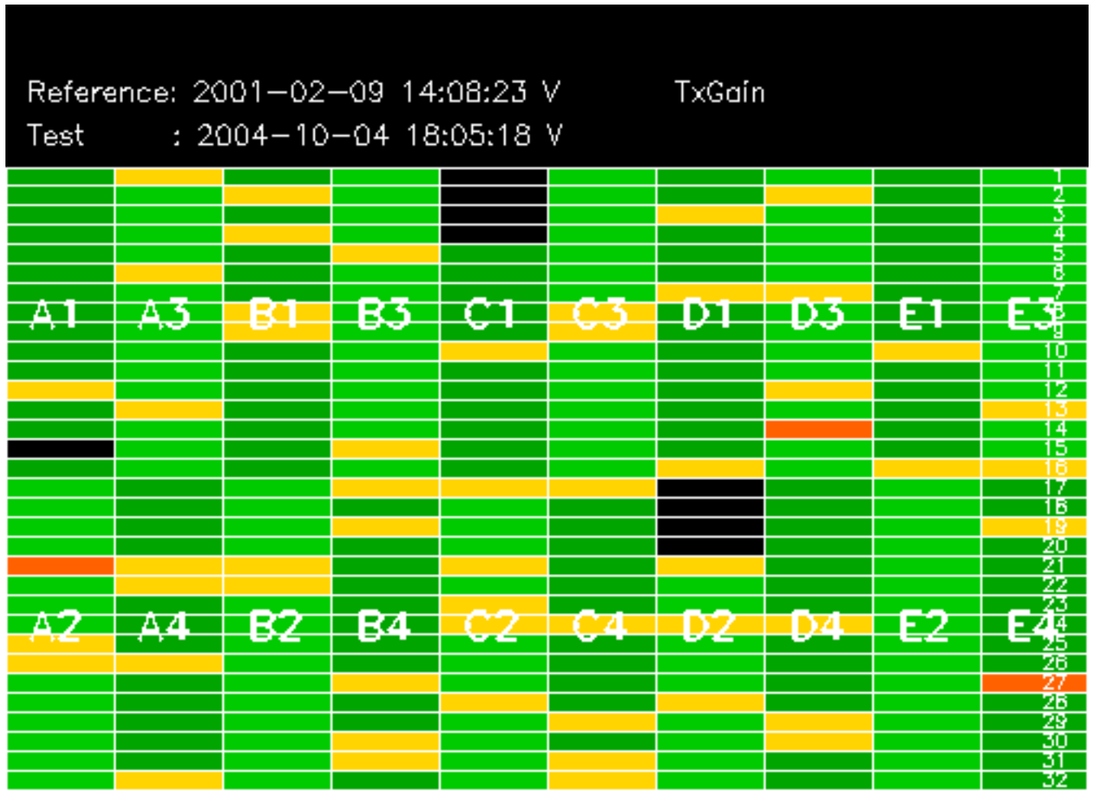
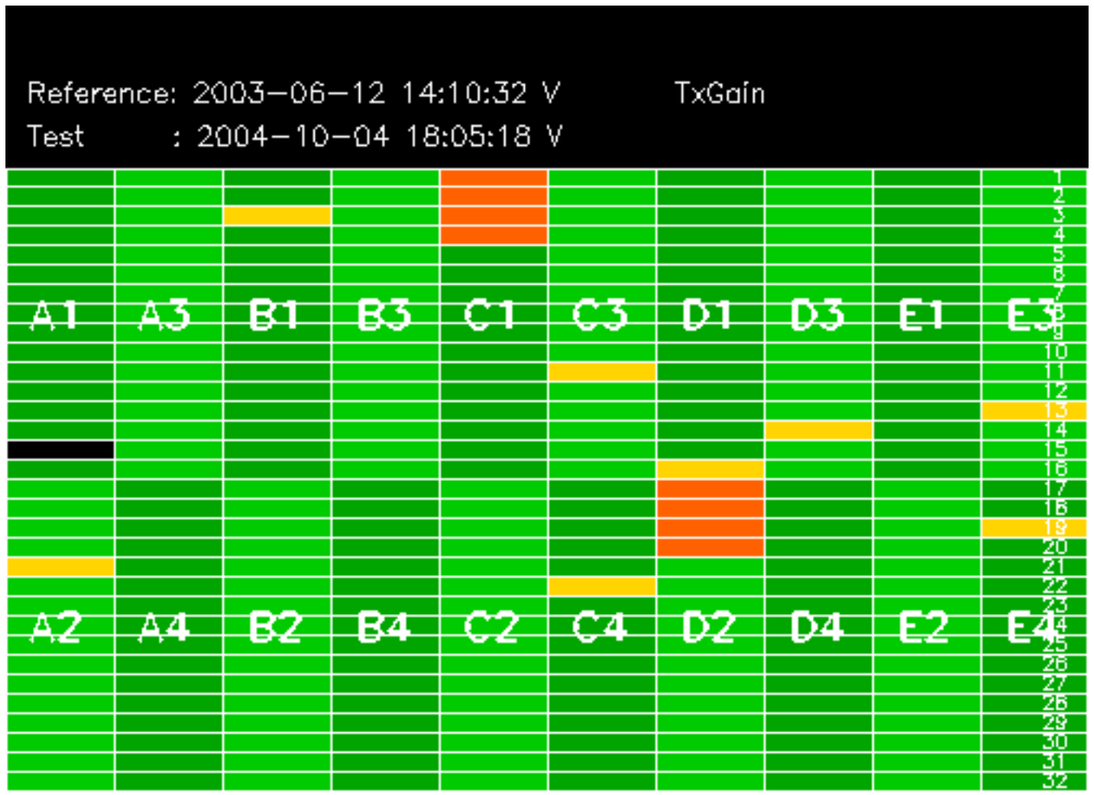

Reference: 2001-02-09 14:08:23 V
Test : 2004-10-04 18:05:18 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-10-04 18:05:18 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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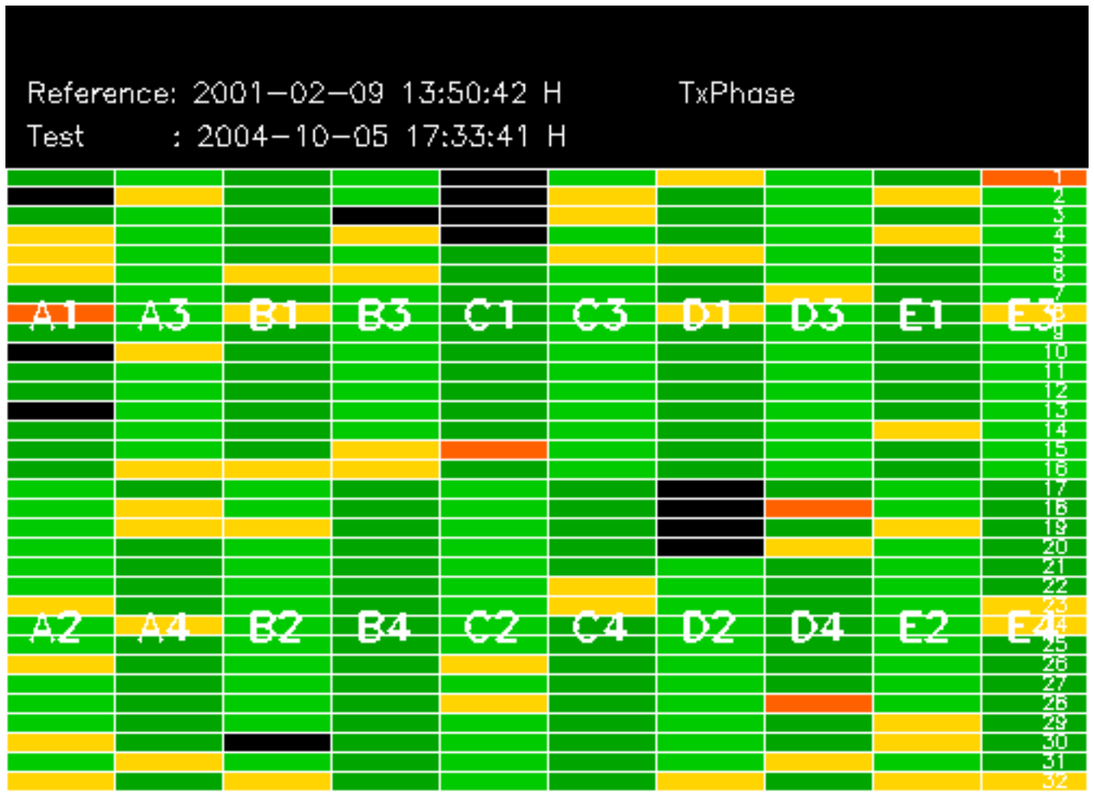
Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-10-05 17:33:41 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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D4
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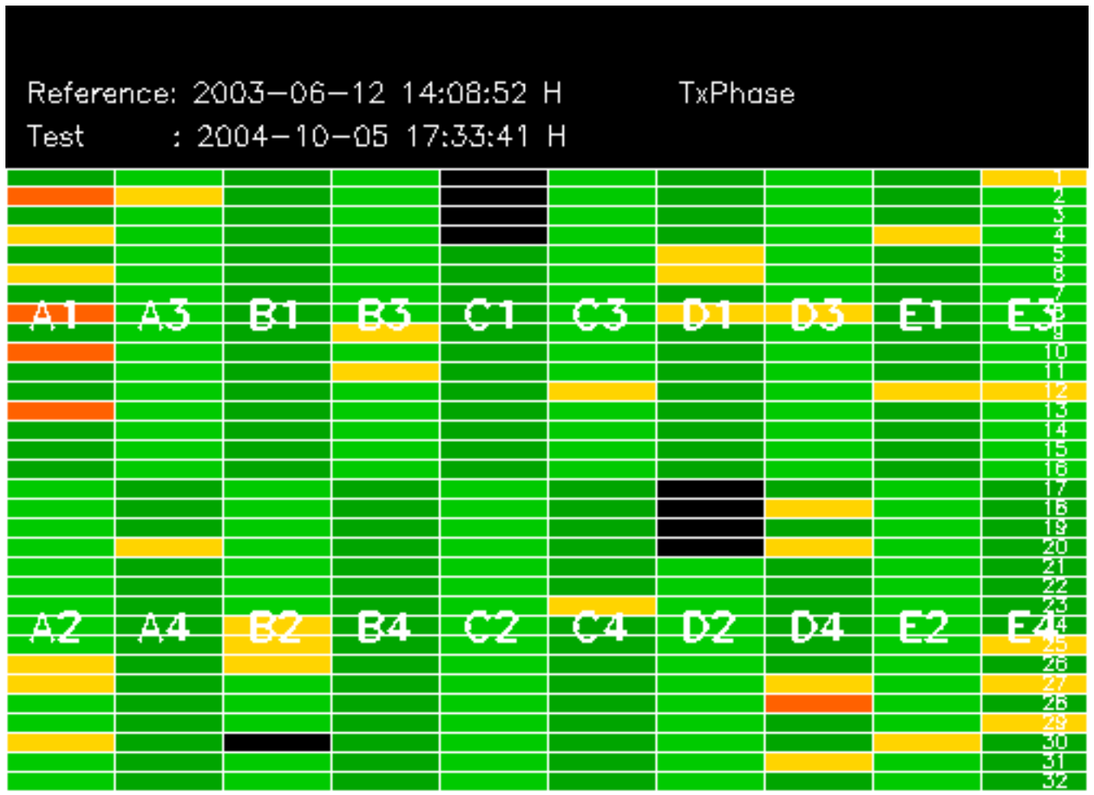
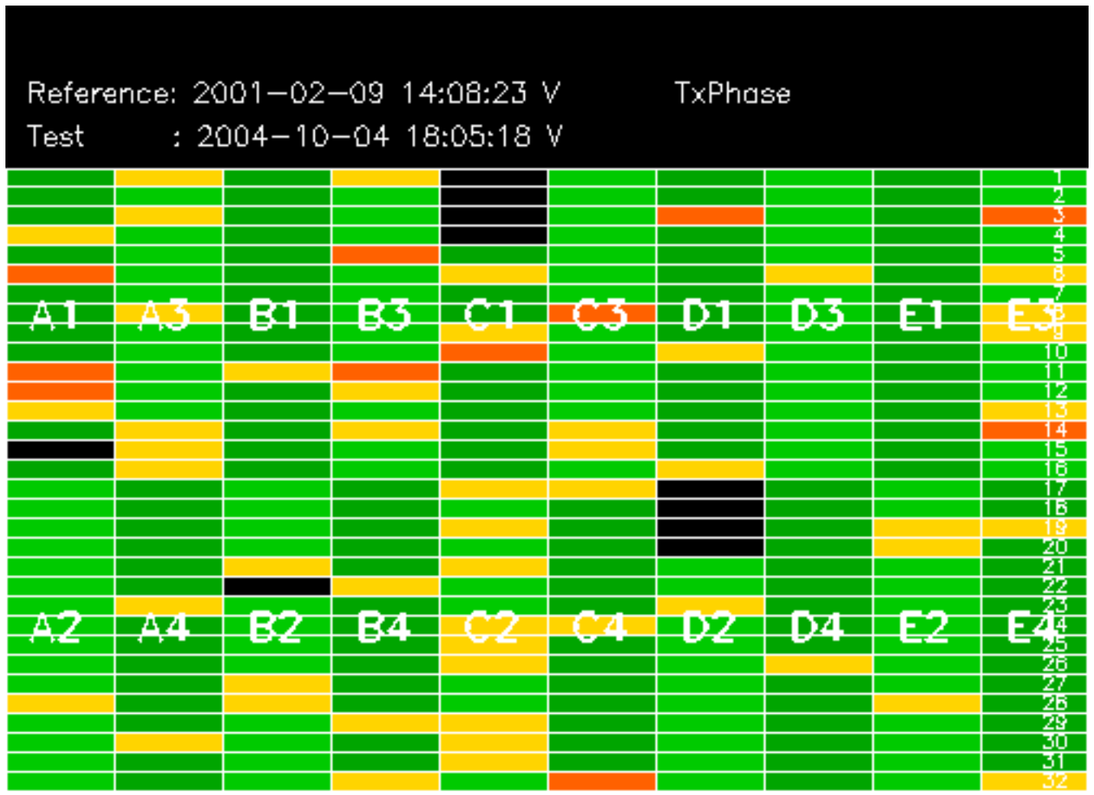
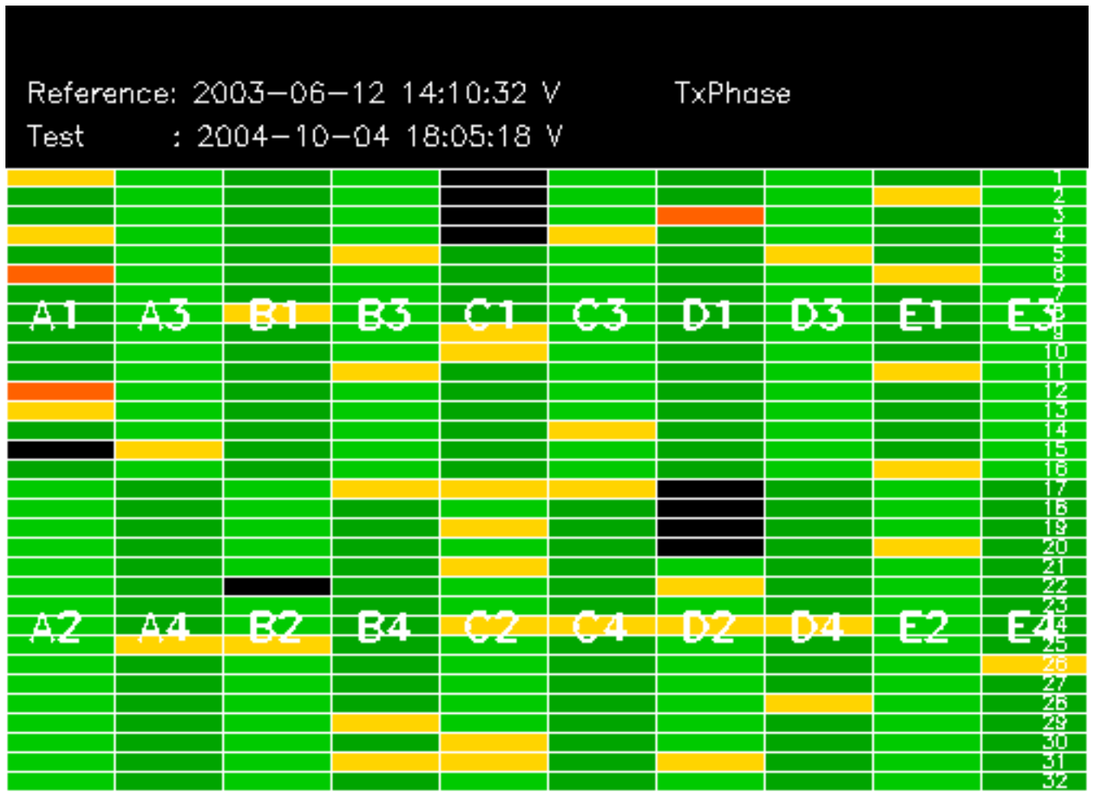

Reference: 2003-06-12 14:08:52 H
Test : 2004-10-05 17:33:41 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-10-04 18:05:18 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 : 2004-10-04 18:05:18 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
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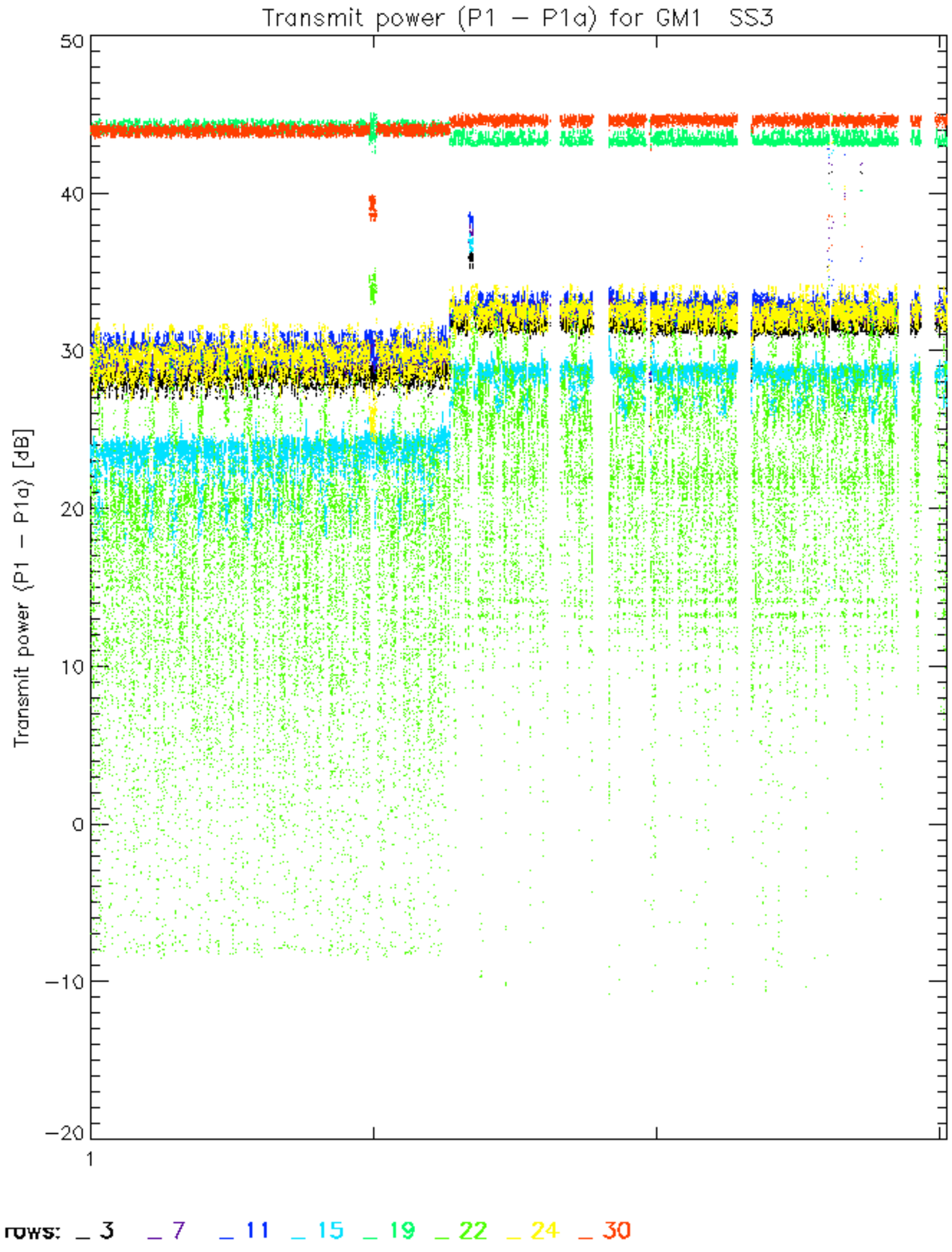
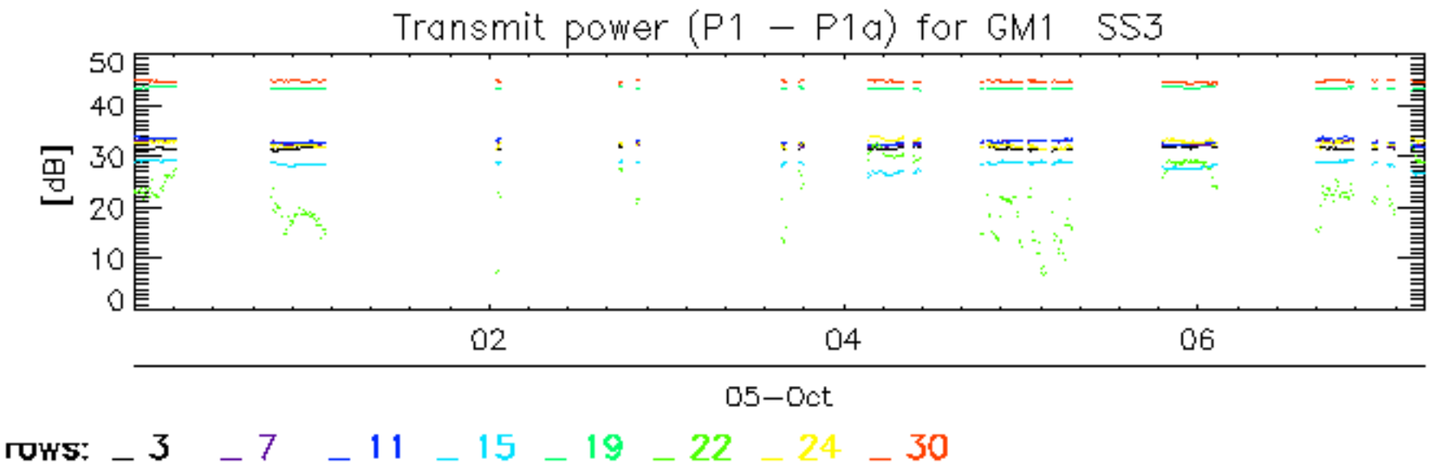
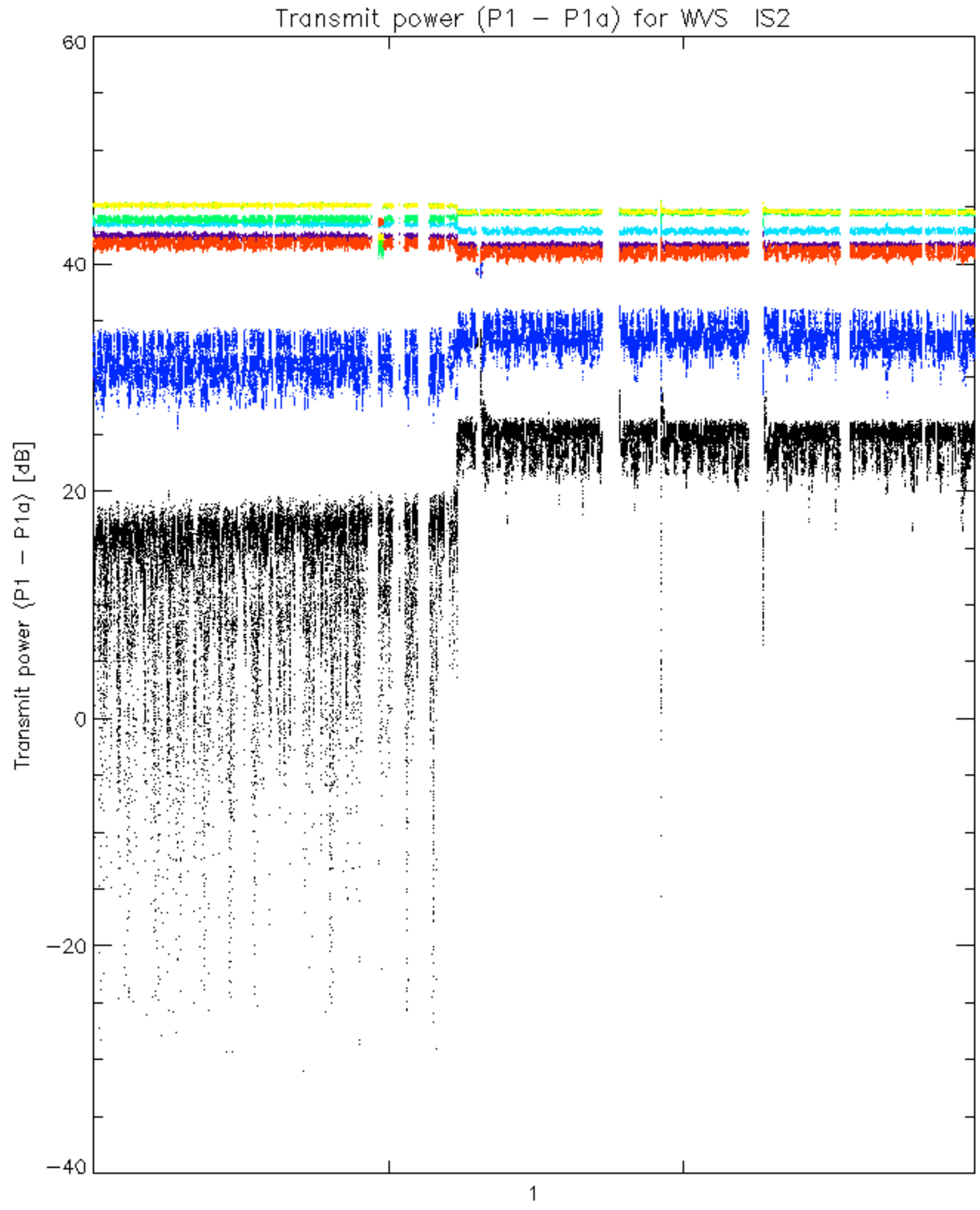
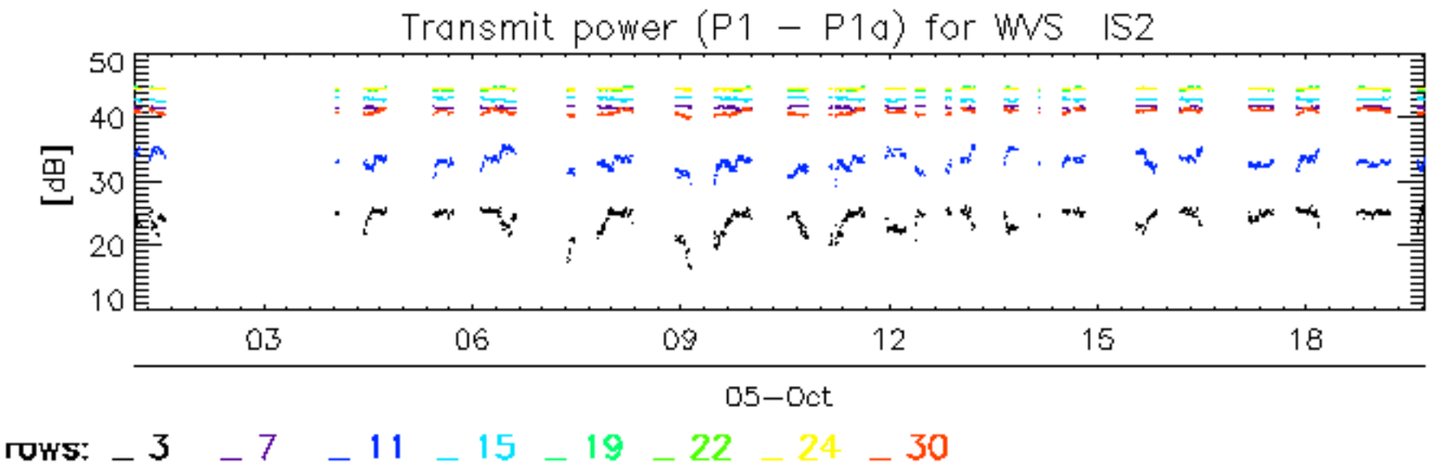

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
−20
1
rows: 3 7 11 15 19 22 24 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
50
40
30
20
10
0
02
04
06
05–Oct
rows: 3 7 11 15 19 22 24 30


Transmit power (P1 – P1a) for WVS IS2
60
40
20
0
−20
−40
1
Transmit power (P1 – P1a) [dB]
rows: 3 7 11 15 19 22 24 30


Transmit power (P1 – P1a) for WVS IS2
[dB]
50
40
30
20
10
03
06
09
12
15
18
05–Oct
rows: 3 7 11 15 19 22 24 30

No unavailability for the reported period.