PRELIMINARY REPORT OF 041014

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

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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	20041012 085036
H	20041013 081859

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.

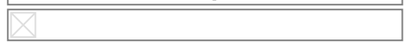
4.1 - Daily statistics

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	-3.475682	0.024008	0.000617
7	P1	-3.343599	0.022941	-0.010472
11	P1	-4.641922	0.035935	0.073571
15	P1	-5.743570	0.079824	0.131168
19	P1	-3.535620	0.078963	0.034528
22	P1	-4.569457	0.109343	0.064100
24	P1	-5.001563	0.121001	0.163234
30	P1	-7.065861	0.144994	0.118315

3	P1	-16.171152	0.404912	0.286529
7	P1	-14.030123	0.063436	-0.046752
11	P1	-20.338259	0.239739	-0.288380
15	P1	-11.744227	0.041267	0.075407
19	P1	-14.068884	1.093888	0.347457
22	P1	-16.051100	0.404231	-0.392515
24	P1	-14.493701	0.288985	-0.242510
30	P1	-18.011131	0.561630	-0.198571

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.323019	0.088832	-0.068366
7	P2	-22.597080	0.121197	-0.038398
11	P2	-15.151994	0.124487	0.078051
15	P2	-7.076247	0.103074	-0.068725
19	P2	-9.590475	0.133093	-0.092947
22	P2	-17.290632	0.107482	0.040876
24	P2	-20.777407	0.091301	-0.050137
30	P2	-19.120493	0.083408	0.093684

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.166002	0.004842	-0.040291
7	P3	-8.165999	0.004842	-0.040290
11	P3	-8.166001	0.004842	-0.040280
15	P3	-8.166008	0.004843	-0.040232
19	P3	-8.166009	0.004843	-0.040238
22	P3	-8.166013	0.004843	-0.040240
24	P3	-8.166007	0.004843	-0.040280
30	P3	-8.165950	0.004842	-0.040278

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	-2.842205	0.049015	0.020501
7	P1	-3.015854	0.101955	0.113376
11	P1	-3.895705	0.065590	0.030740
15	P1	-3.518831	0.081512	0.102052
19	P1	-3.542212	0.097131	0.056872
22	P1	-5.709361	0.134489	0.205584
24	P1	-3.979474	0.058373	0.060503
30	P1	-6.216063	0.092997	0.030352
3	P1	-10.881766	0.178657	0.148450
7	P1	-10.102698	0.174625	0.064015
11	P1	-12.205512	0.128505	-0.149136
15	P1	-11.692244	0.082973	0.055426
19	P1	-15.720333	2.078178	0.618452
22	P1	-23.453615	1.705363	-0.691241
24	P1	-18.060814	0.364592	-0.274363
30	P1	-20.389463	1.236212	-0.063288

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.995253	0.048352	-0.096291
7	P2	-22.709656	0.066076	0.024675
11	P2	-10.875816	0.054246	-0.004434
15	P2	-4.979070	0.029266	-0.095371
19	P2	-6.795950	0.043484	-0.136421
22	P2	-7.398357	0.041933	-0.010623
24	P2	-11.085485	0.054757	-0.116415
30	P2	-22.115559	0.039461	0.010981

P3 Cyclic statistics

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

3	P3	-8.013259	0.003569	-0.032664
7	P3	-8.013222	0.003563	-0.032425
11	P3	-8.013301	0.003553	-0.032670
15	P3	-8.013264	0.003557	-0.032460
19	P3	-8.013265	0.003561	-0.032524
22	P3	-8.013263	0.003564	-0.032465
24	P3	-8.013356	0.003584	-0.032701
30	P3	-8.013217	0.003572	-0.032637

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	0.000484019
	stdev	2.12936e-07
MEAN Q	mean	0.000550238
	stdev	2.32492e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128136
	stdev	0.000943825

STDEV Q	mean	0.128362
	stdev	0.000953585

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

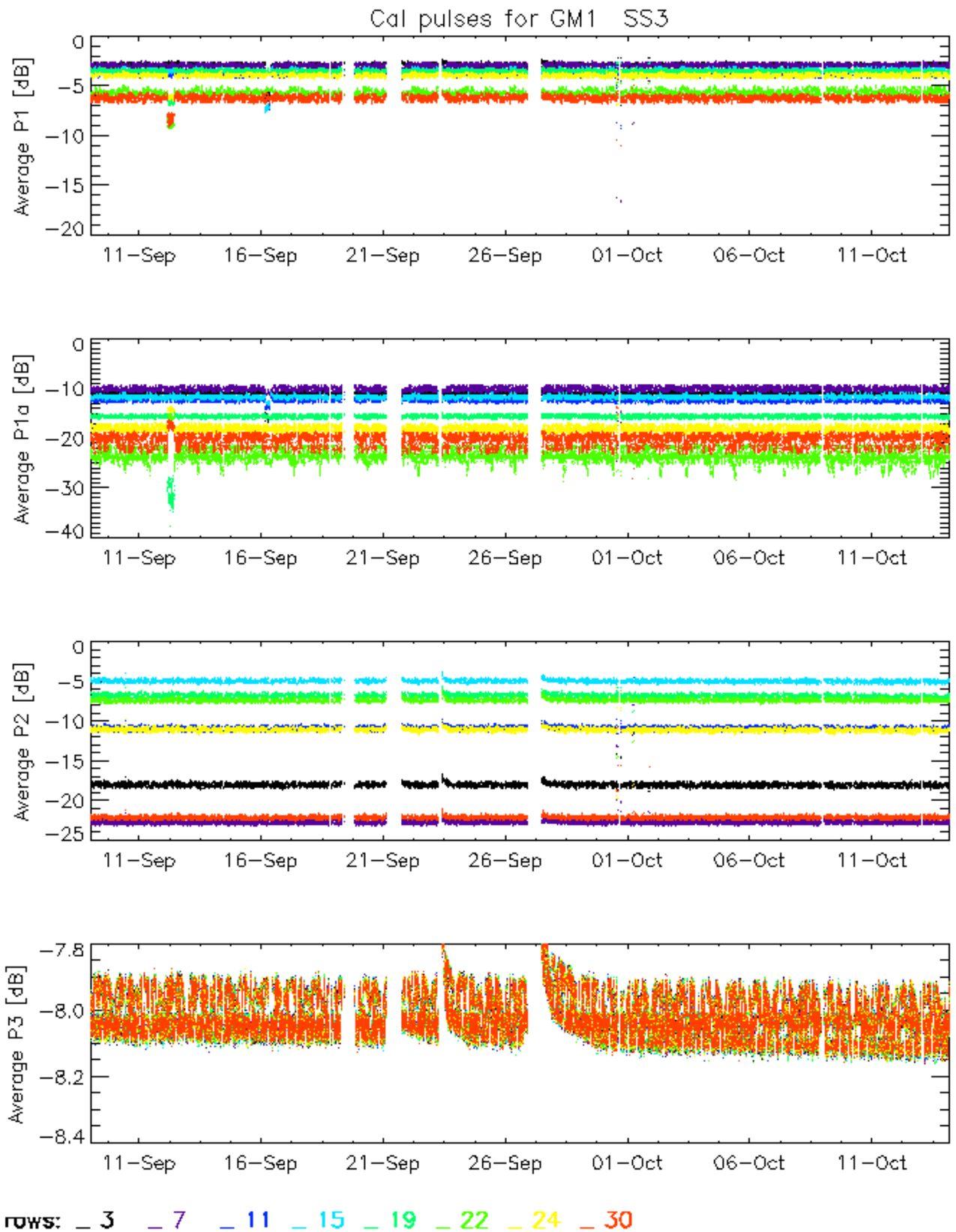
Evolution of unbiased Doppler error (Real - Expected)
Acsending
Descending

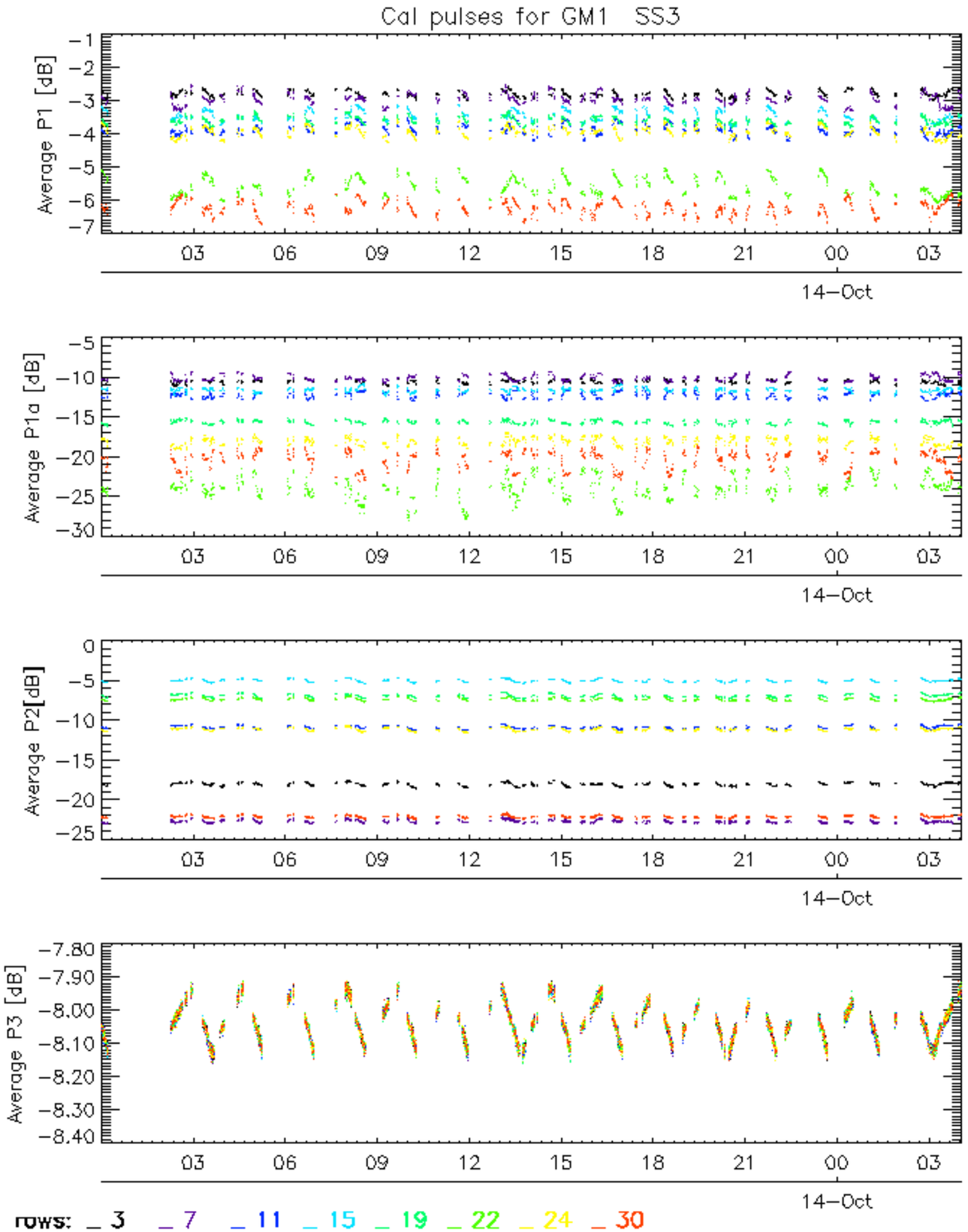
6.5 - Absolute Doppler for GM1

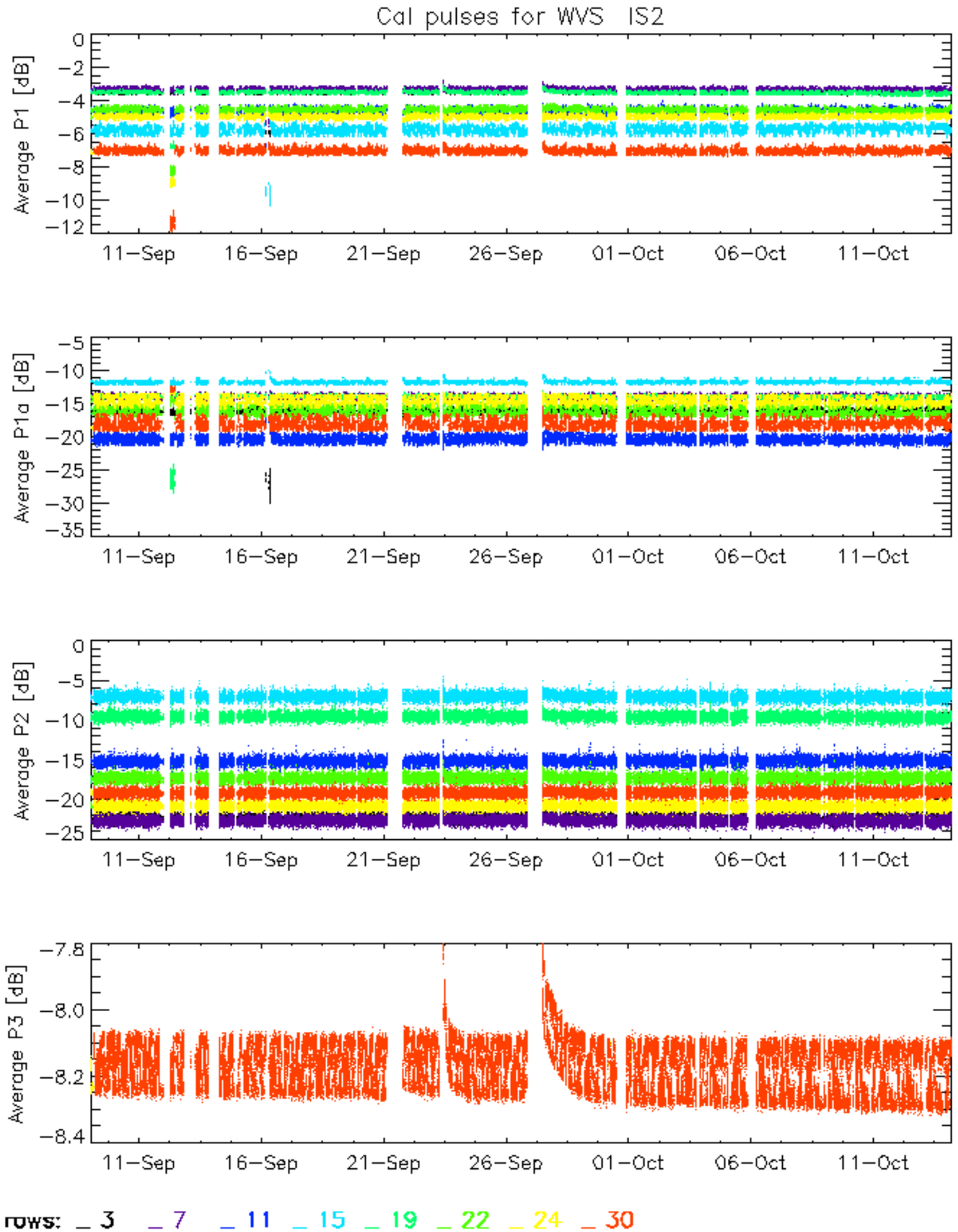
Evolution of Absolute Doppler
Acsending
Descending

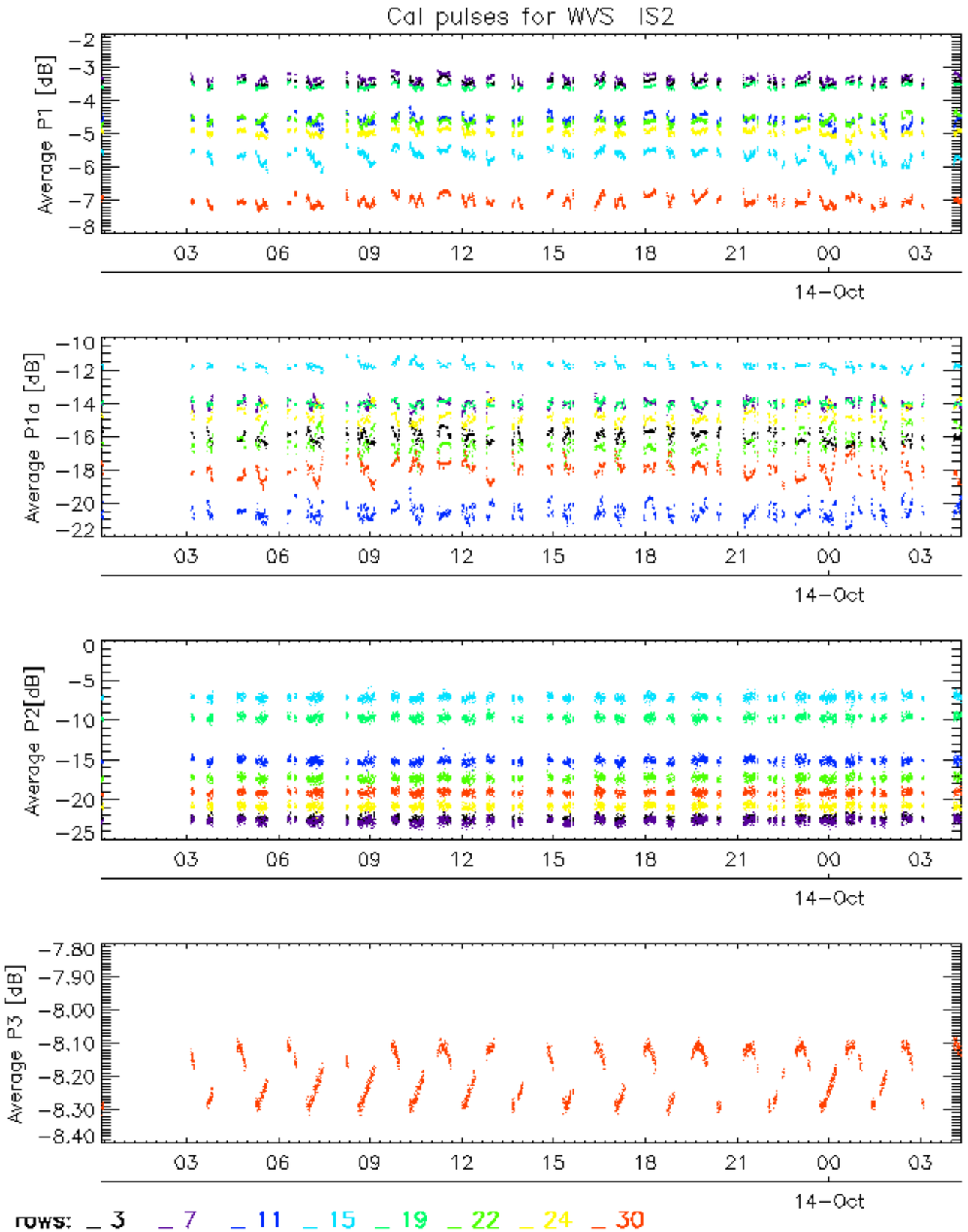
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

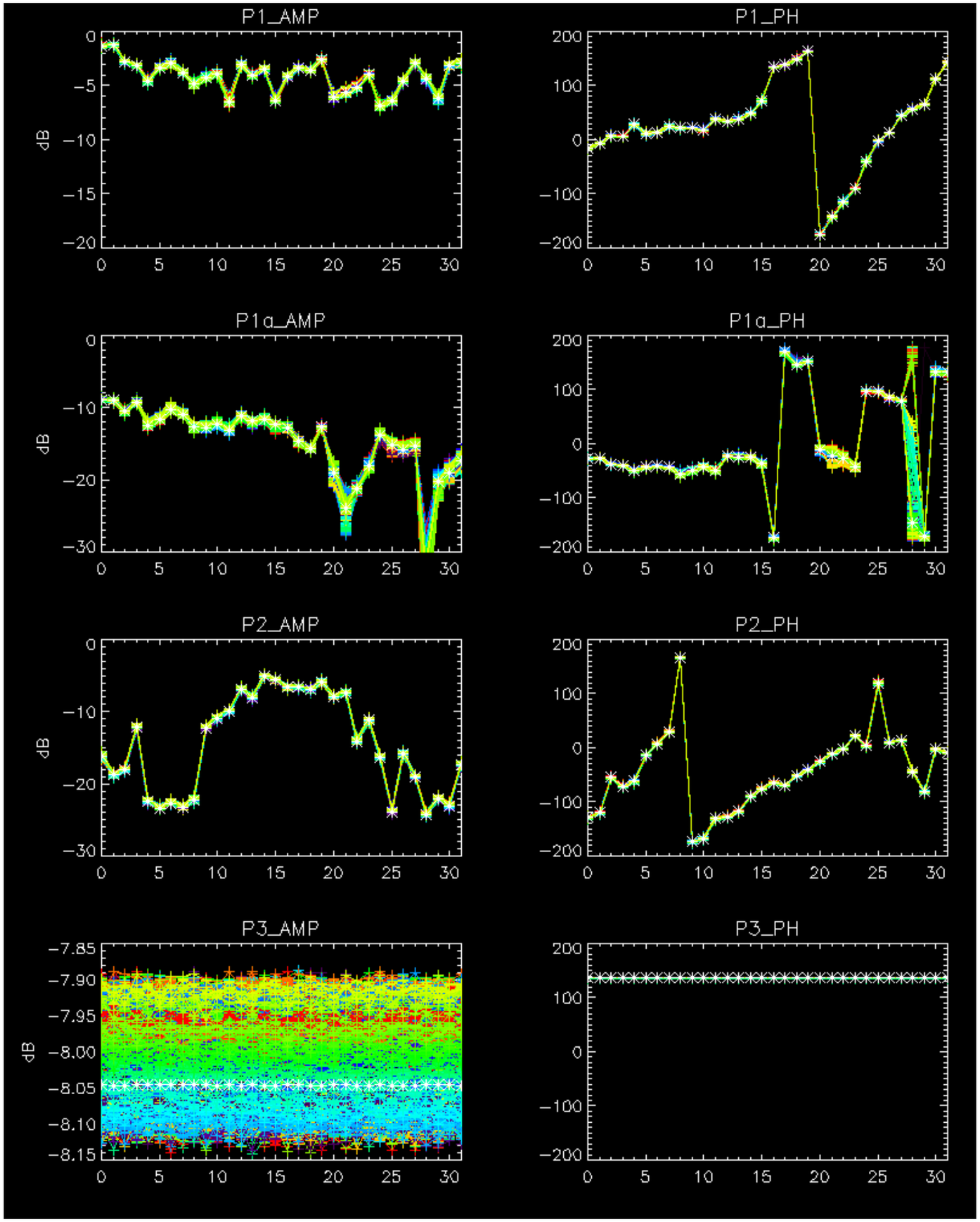

Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
−20
11−Sep
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct
11−Oct
Average P1a [dB]
0
−10
−20
−30
−40
Average P2 [dB]
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

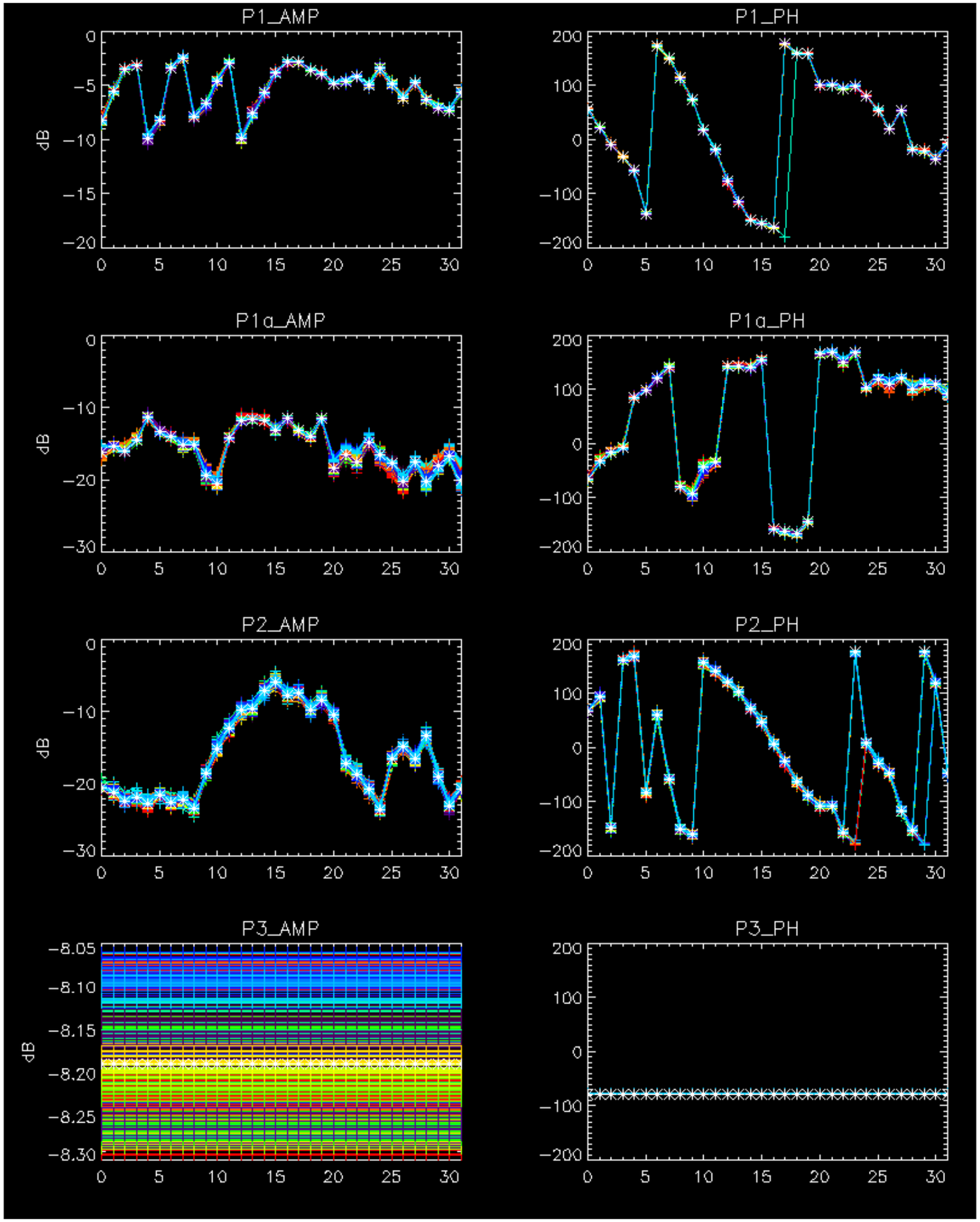

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
14−Oct
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
21
00
03
14−Oct
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
03
14−Oct
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06
09
12
15
18
21
00
03
14−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
11−Sep
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct
11−Oct
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
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
00
03
14−Oct
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
Average P2[dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

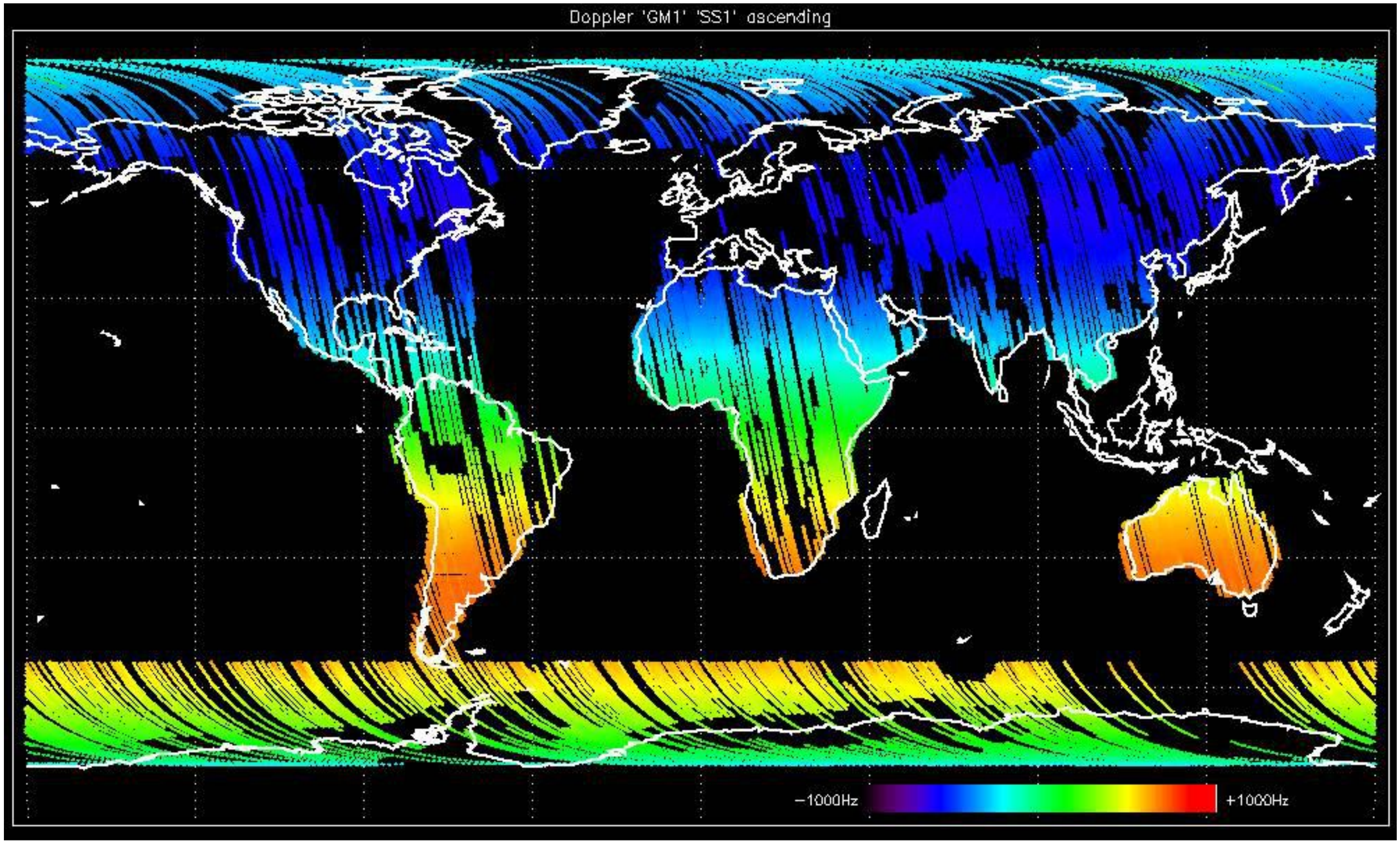
No anomalies observed.

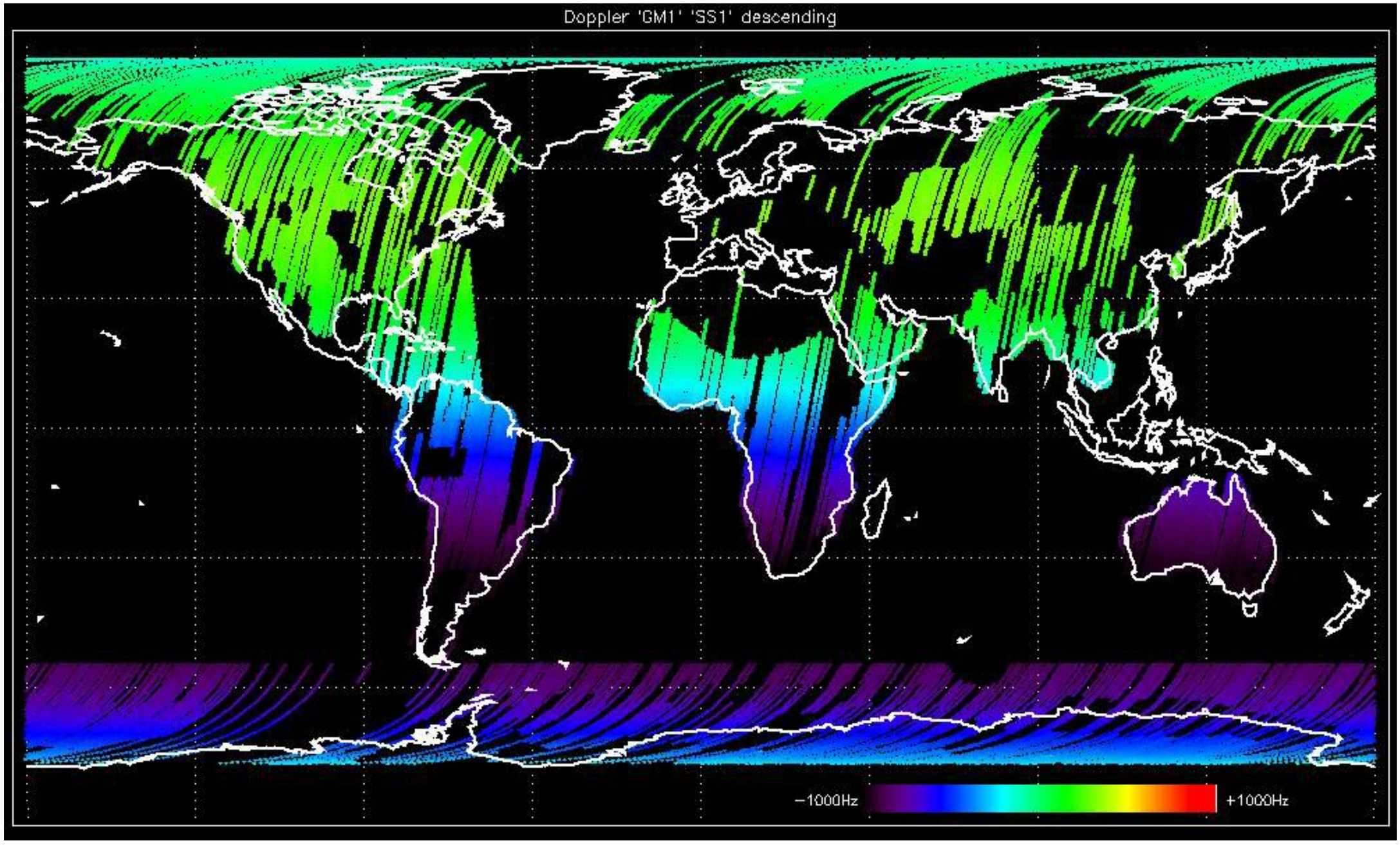

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.85
−7.90
−7.95
−8.00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

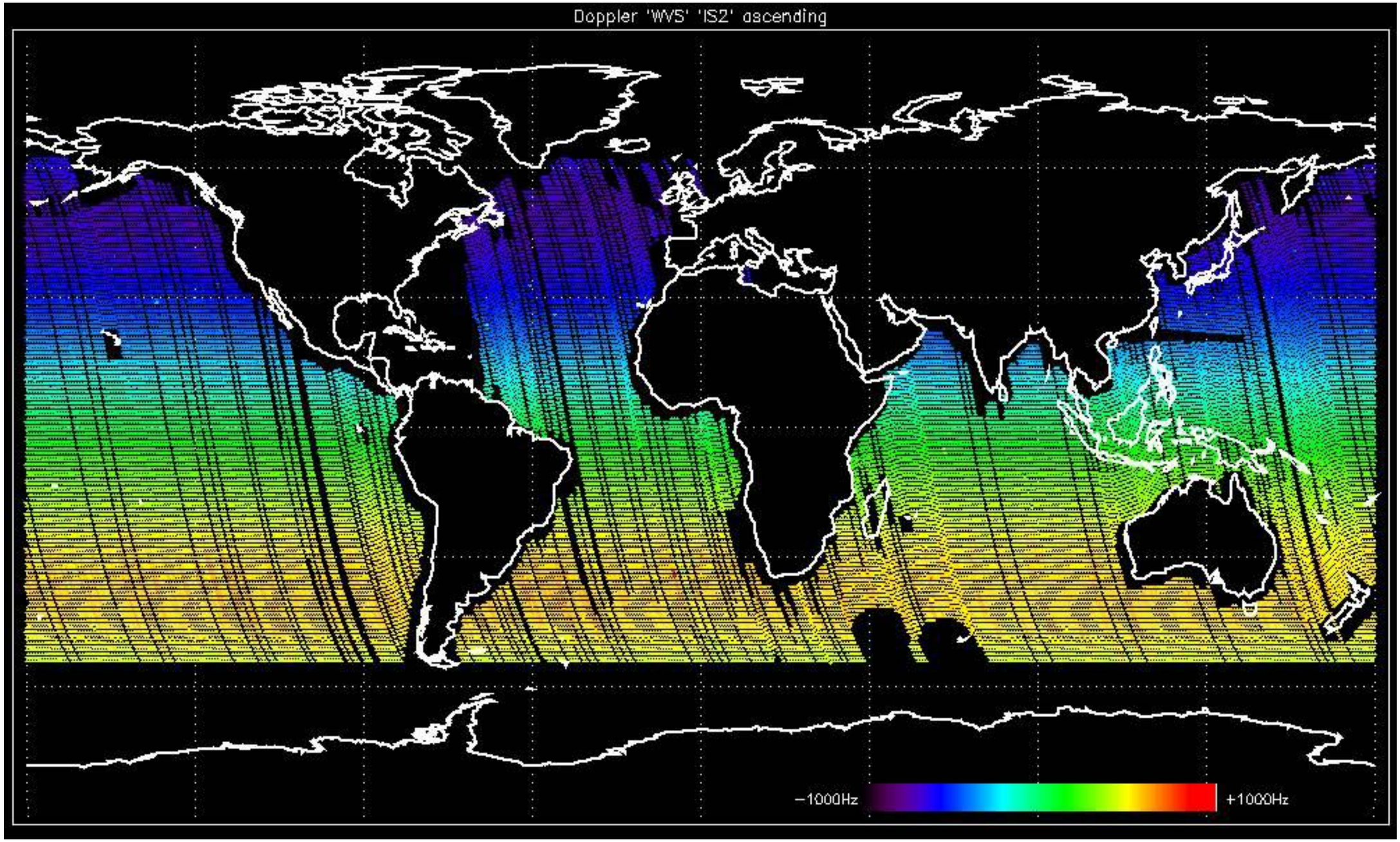

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.05
−8.10
−8.15
−8.20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

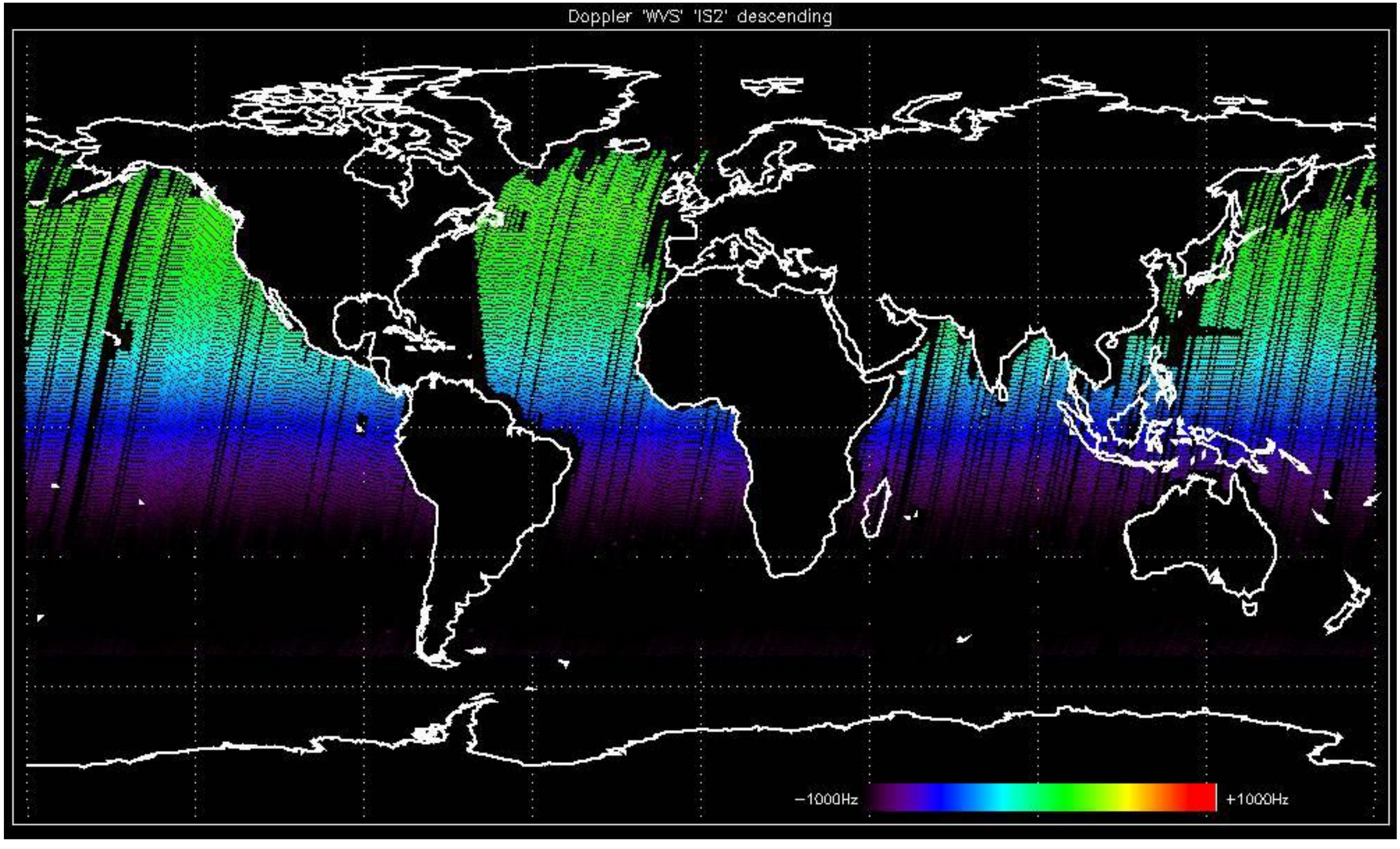
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

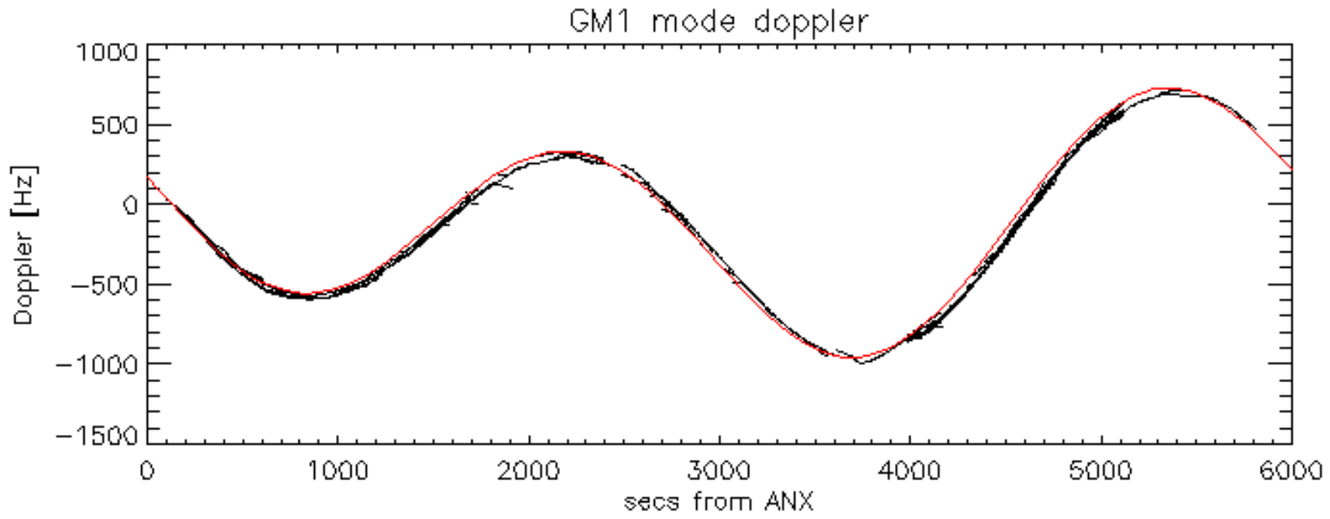
Preliminary report.The data is not yet controled

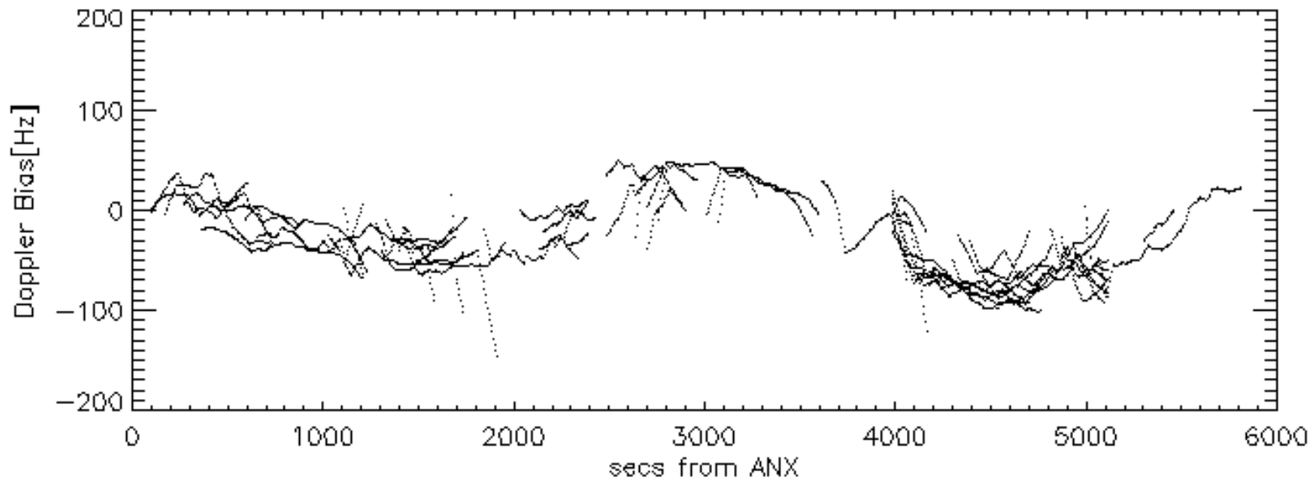

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

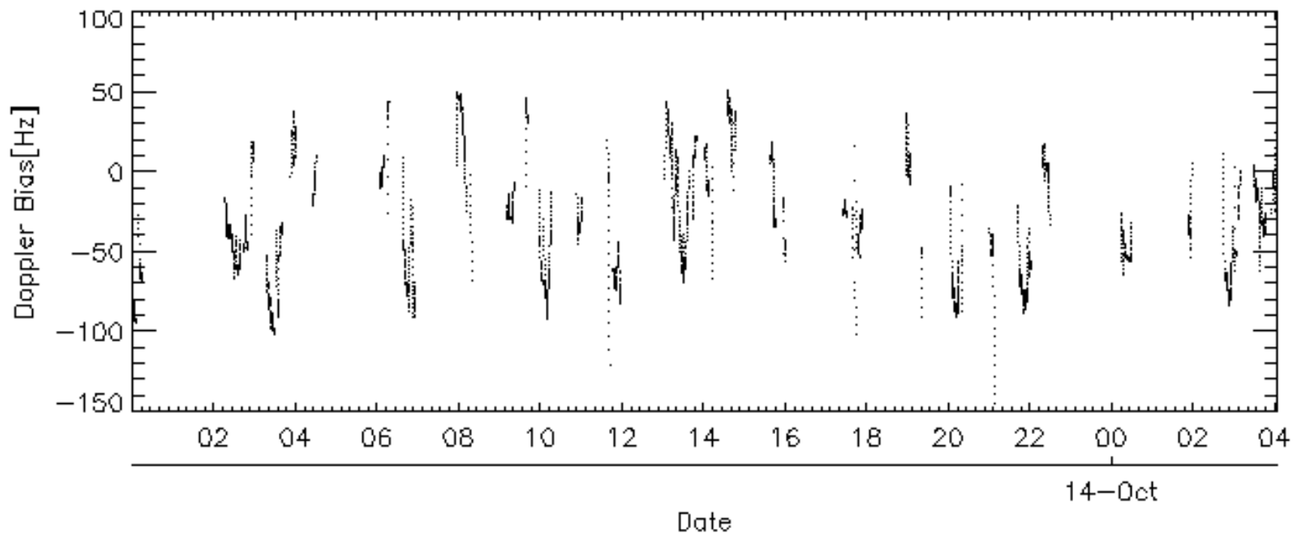

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

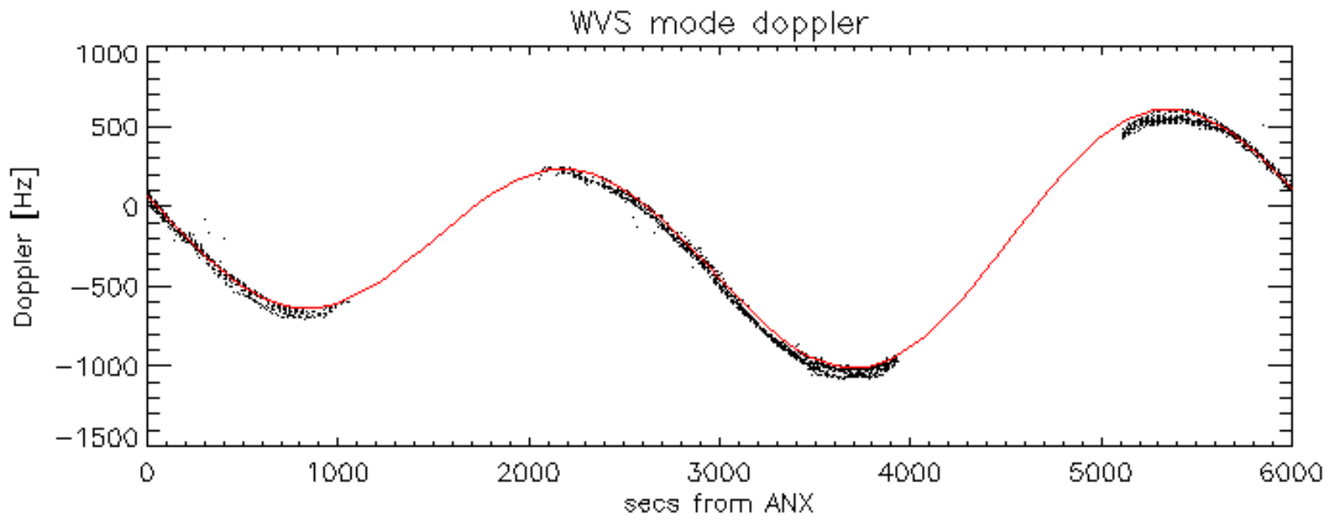

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

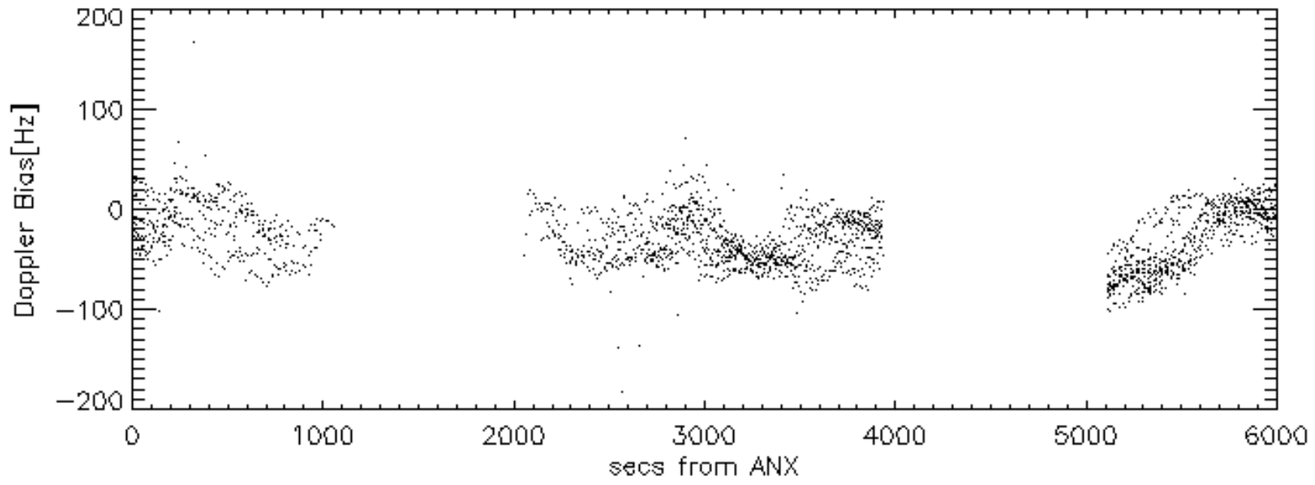

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

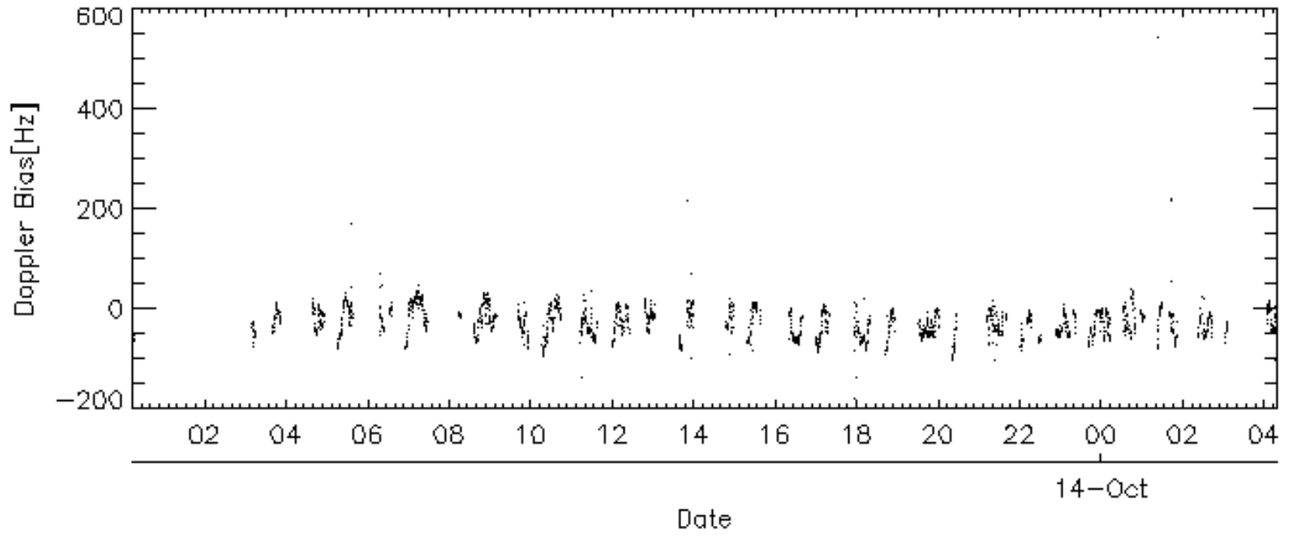

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

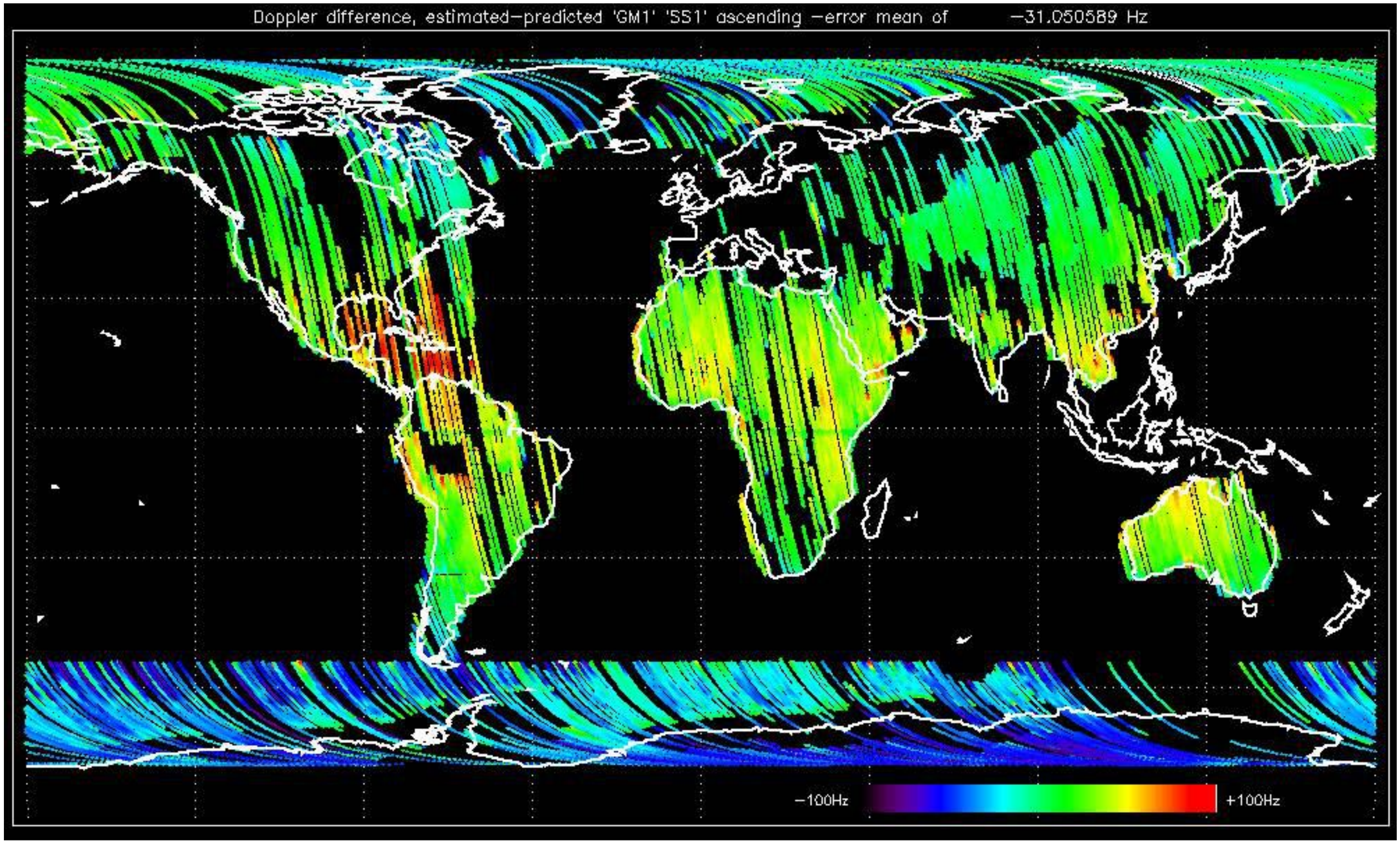

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

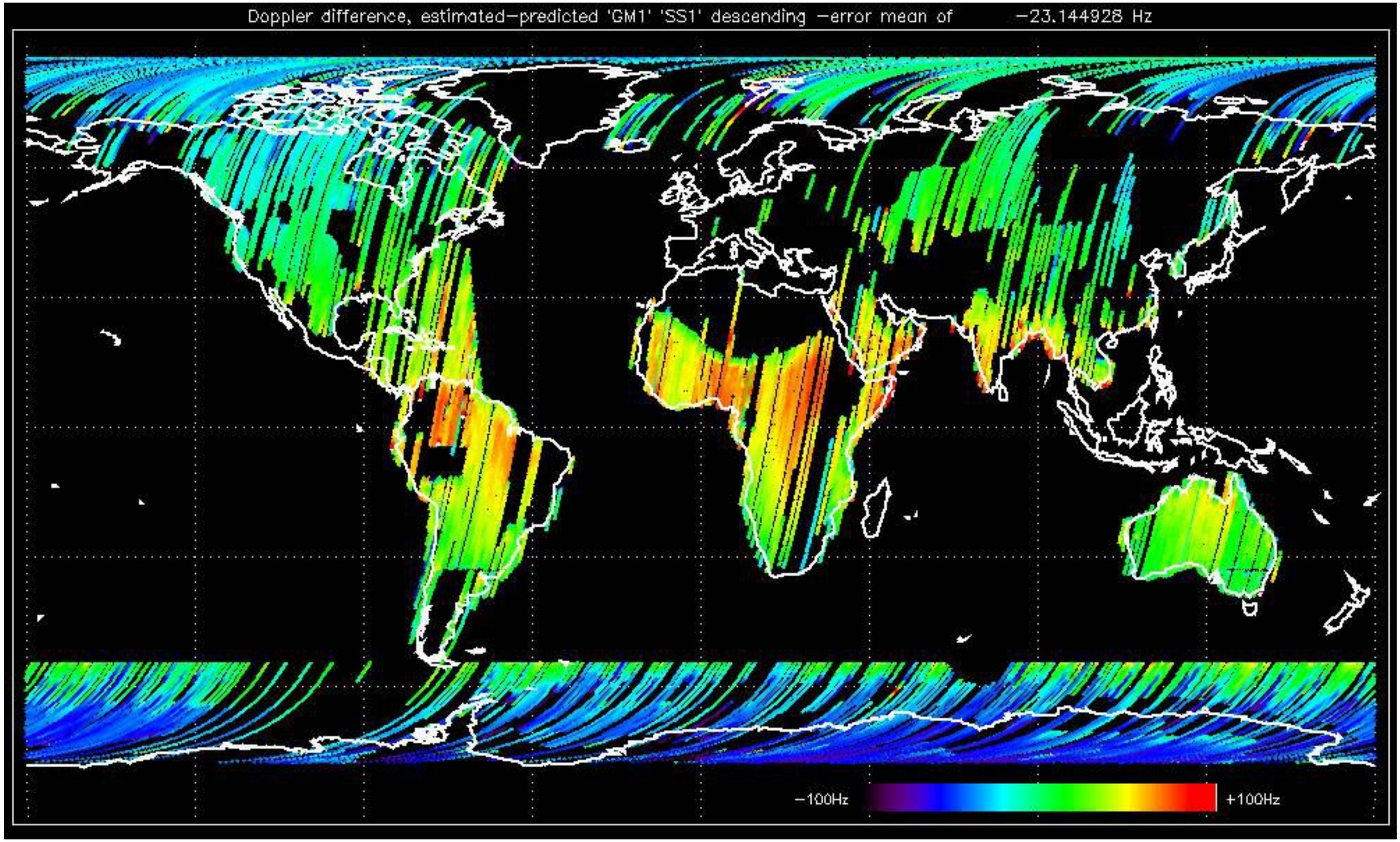

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
04
14−Oct
Date

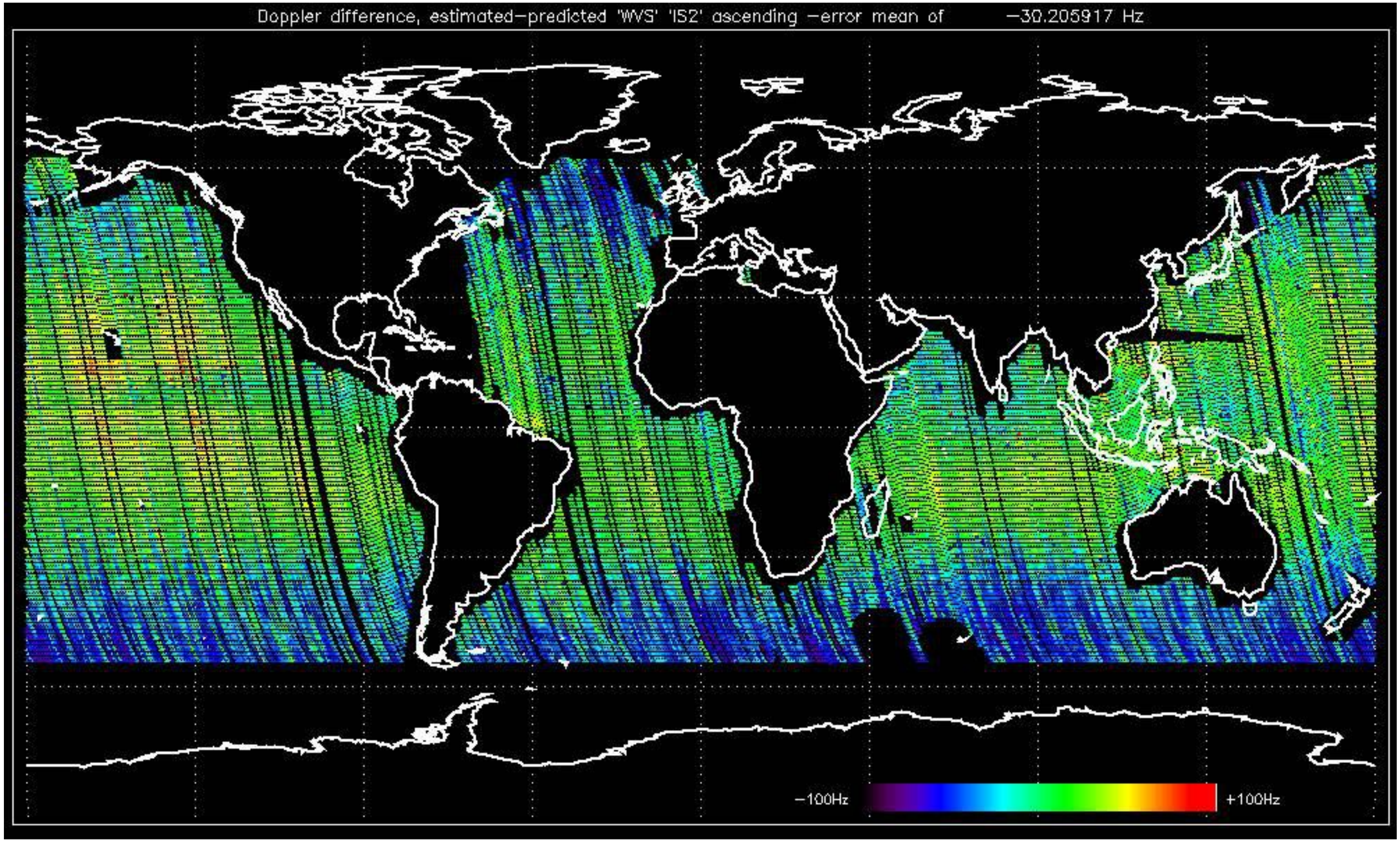

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

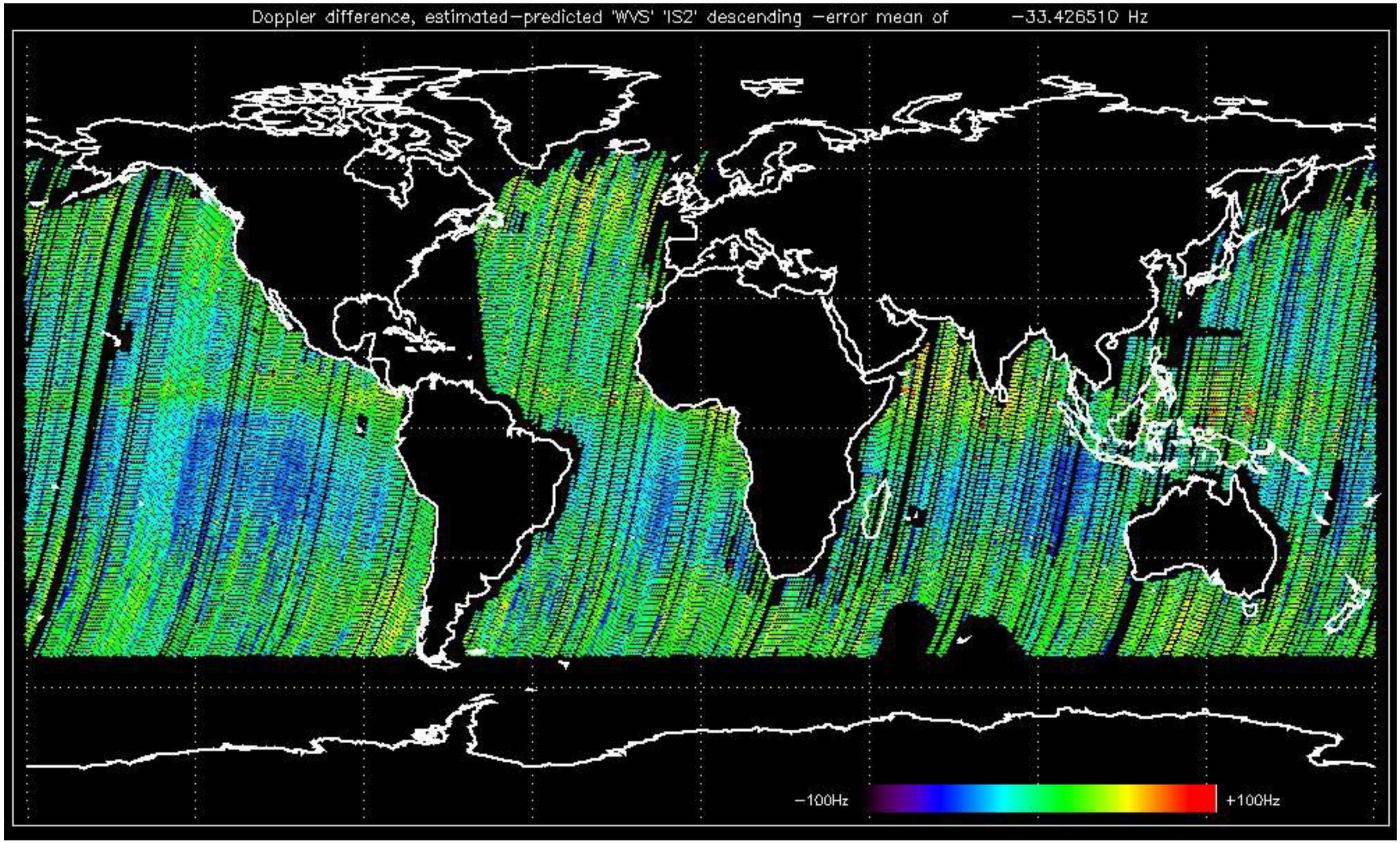

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


Doppler Bias[Hz]
600
400
200
0
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
04
14−Oct
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −31.050589 Hz
−100Hz
+100Hz

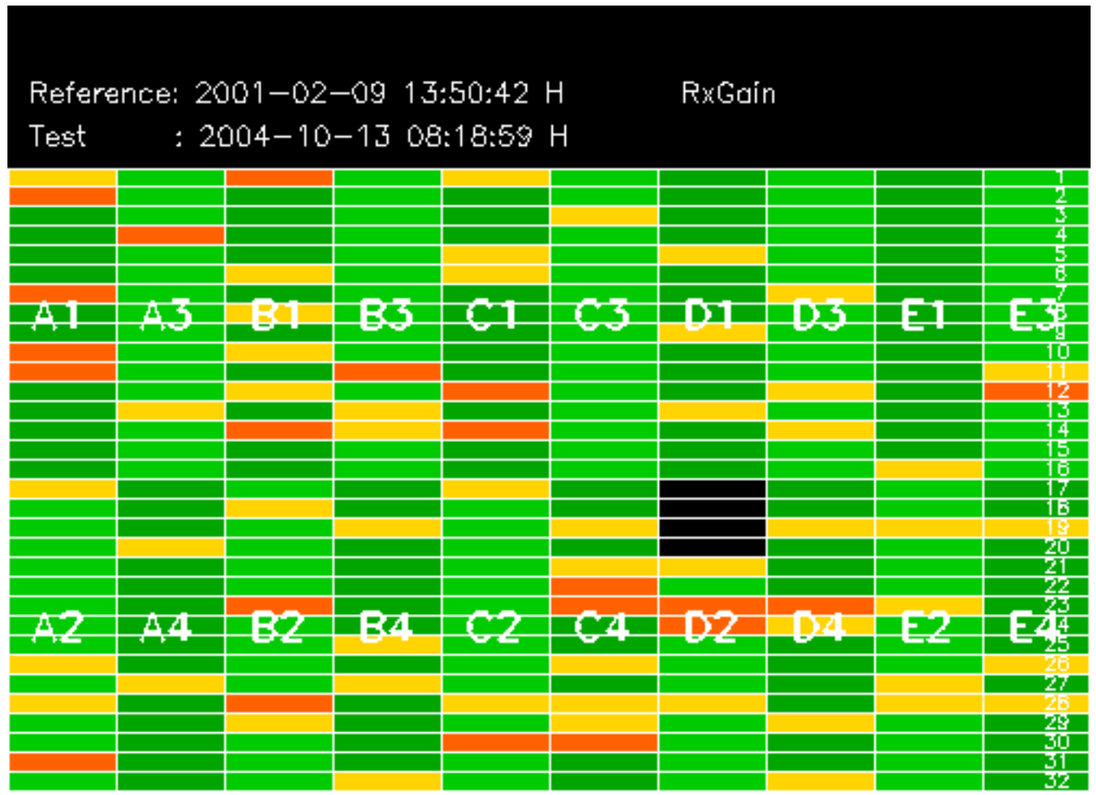

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −23.144928 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −30.205917 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −33.426510 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 : 2004-10-13 08:18:59 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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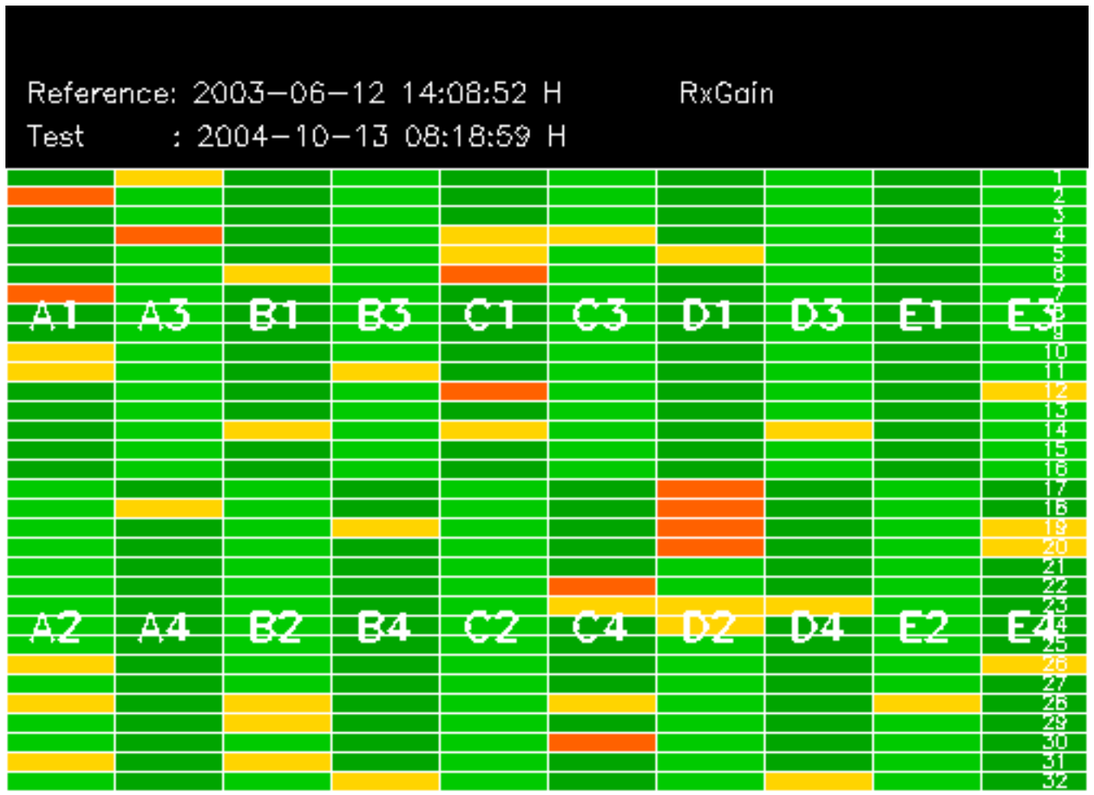
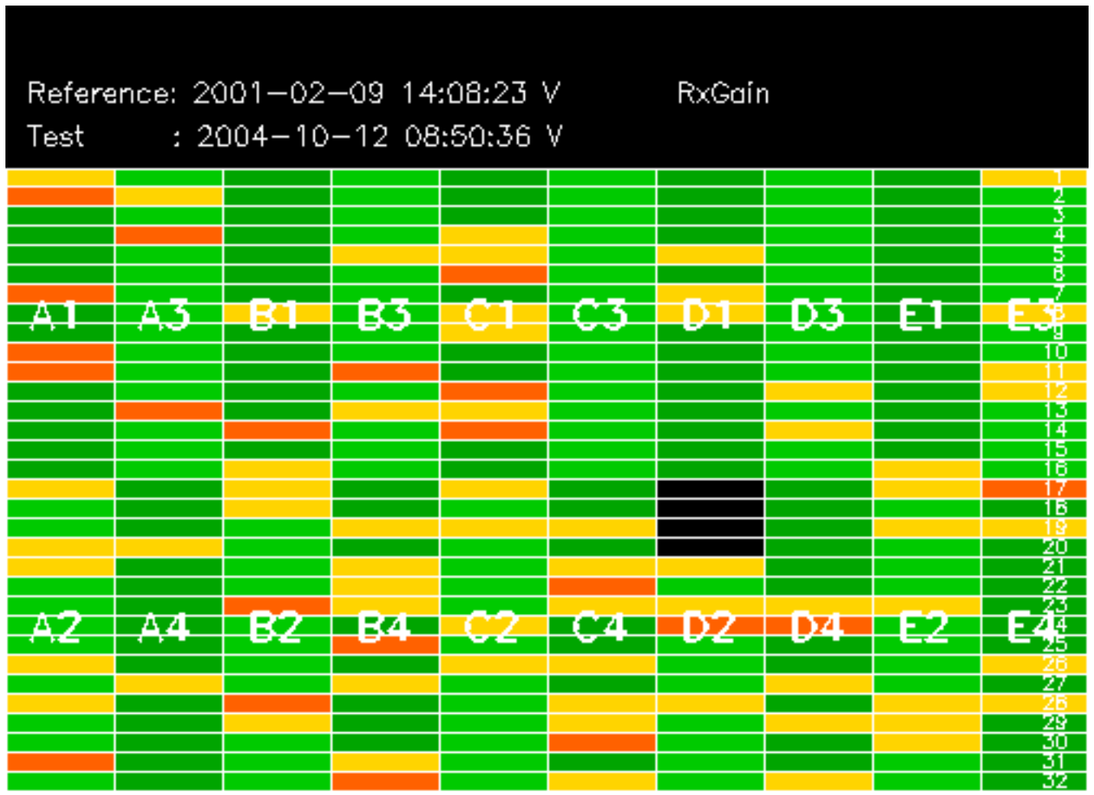

Reference: 2003-06-12 14:08:52 H
Test : 2004-10-13 08:18:59 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-10-12 08:50:36 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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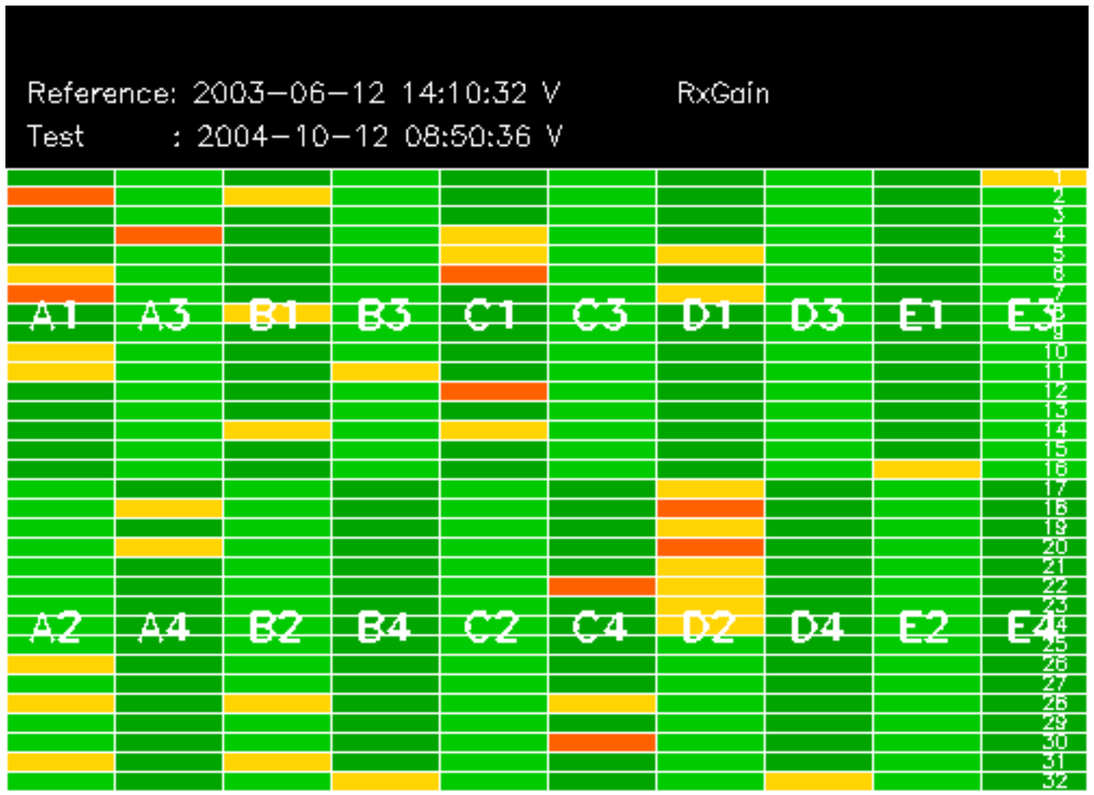
Reference: 2003-06-12 14:10:32 V
Test : 2004-10-12 08:50:36 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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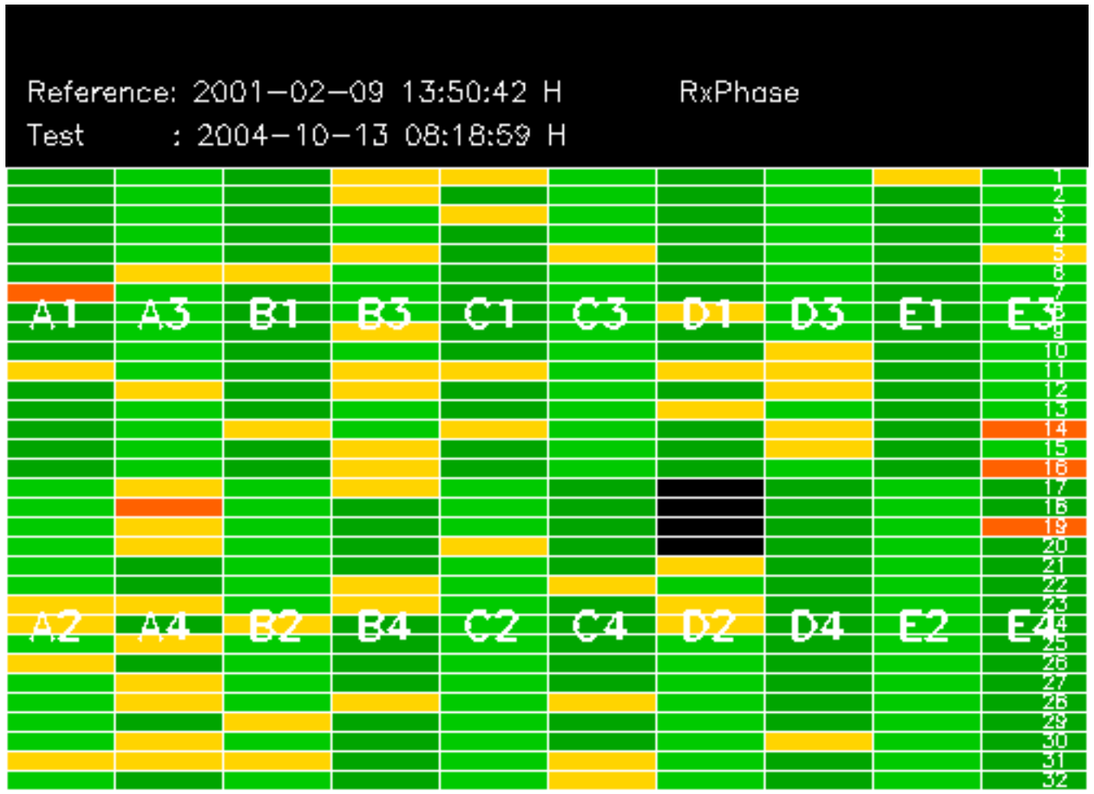
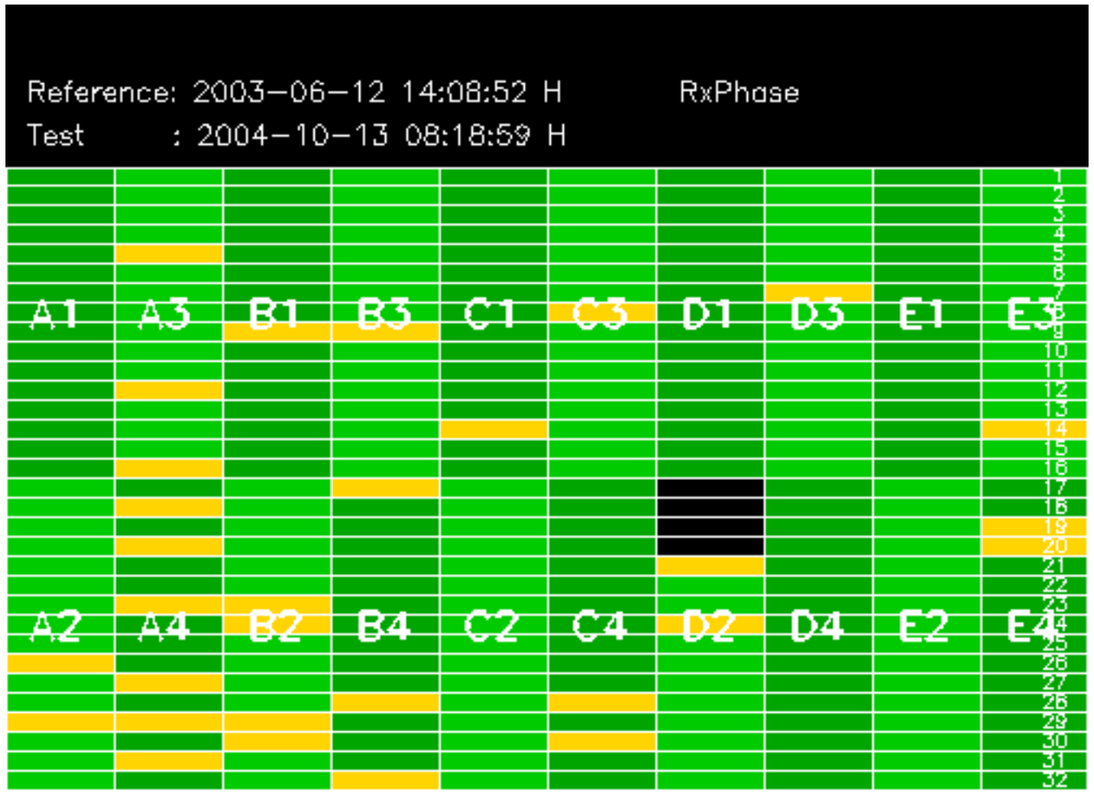
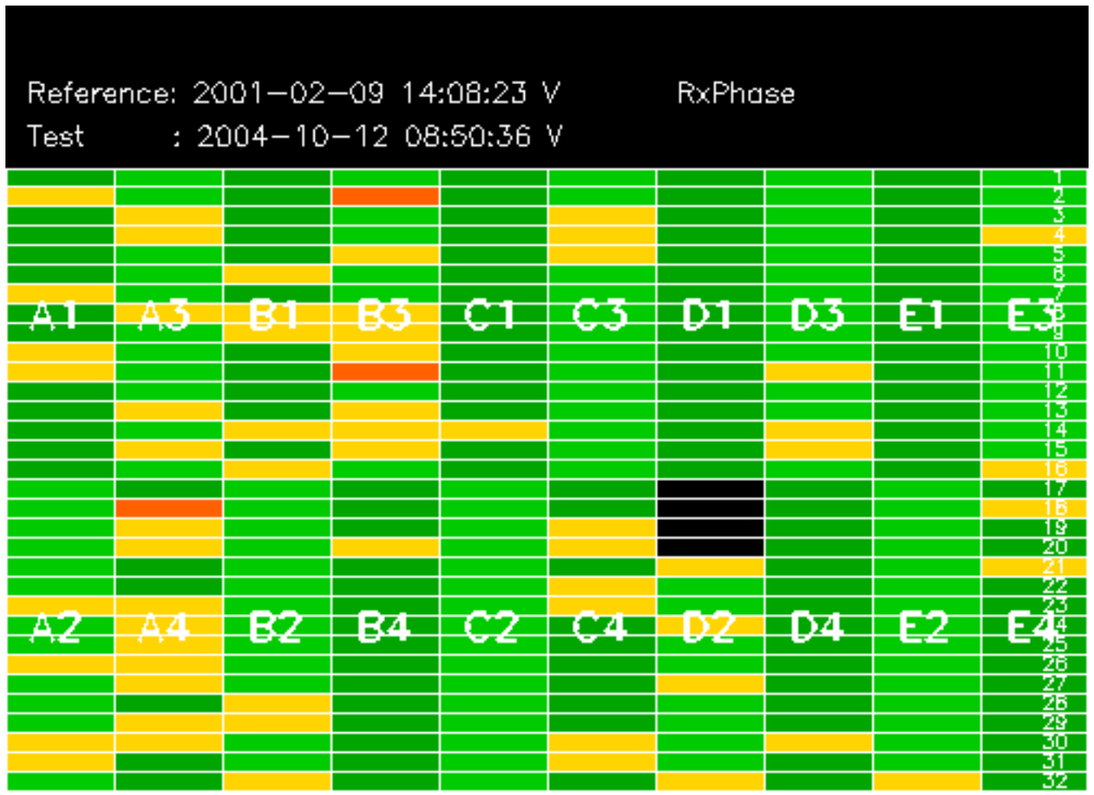
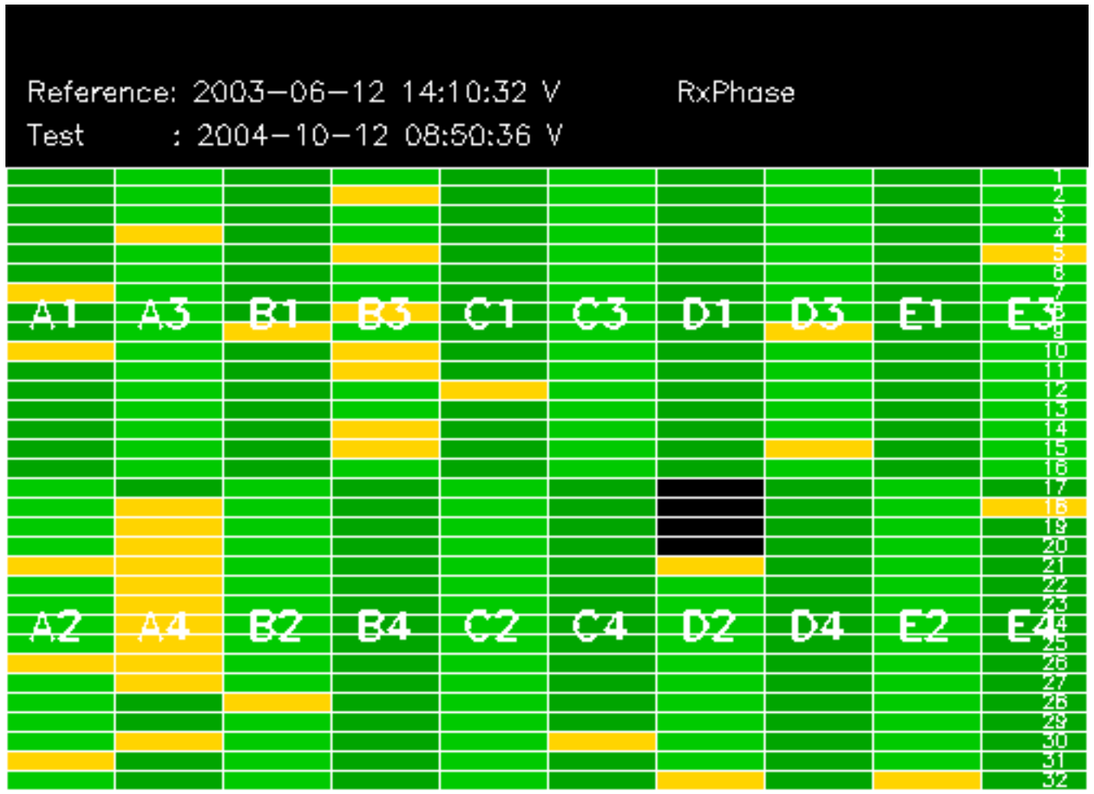
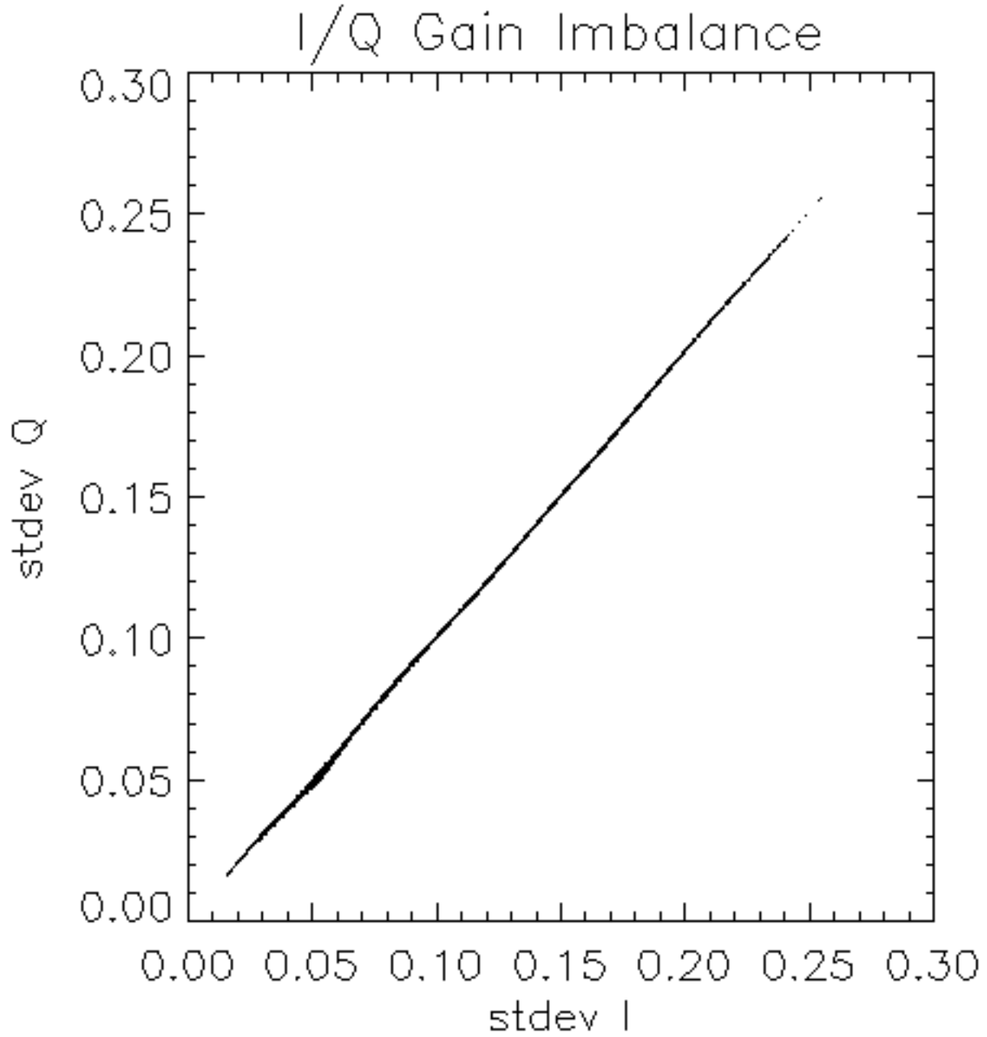
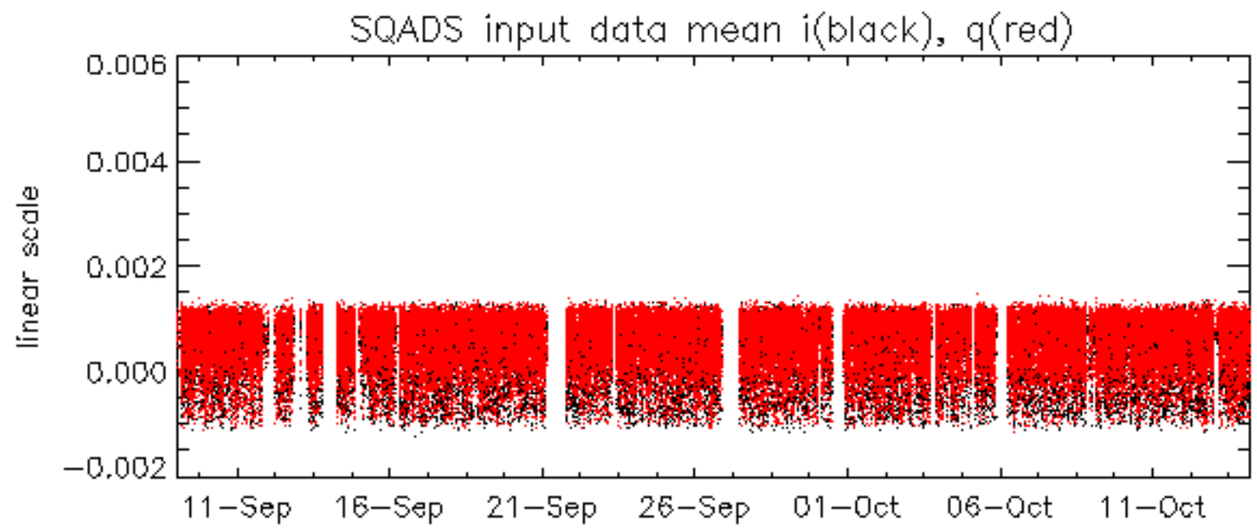

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-10-13 08:18:59 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

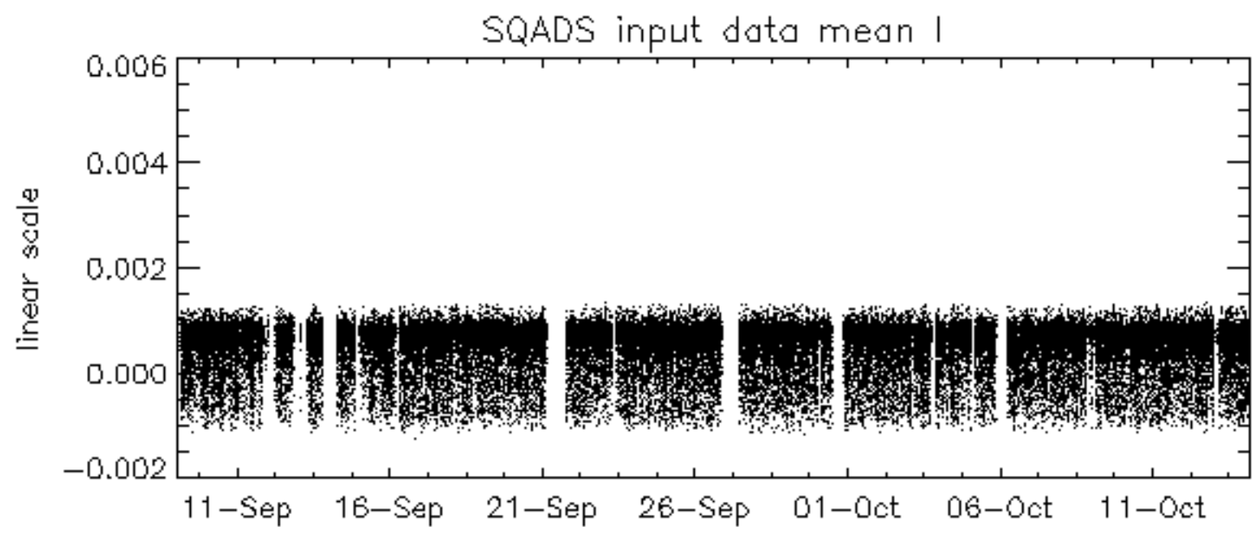

Reference: 2003-06-12 14:08:52 H
Test : 2004-10-13 08:18:59 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

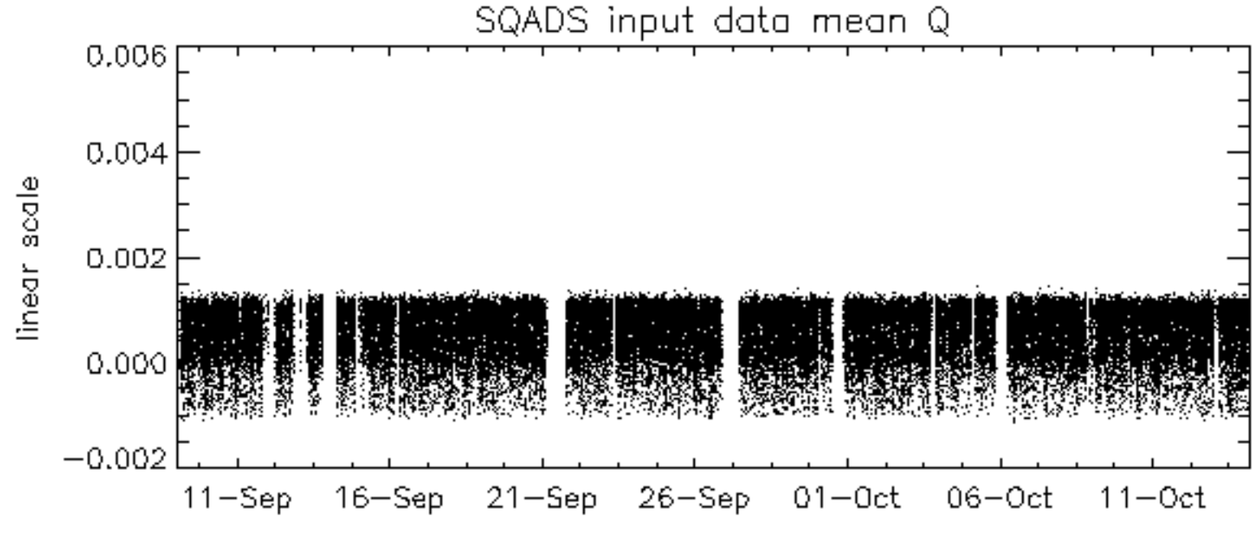

Reference: 2001-02-09 14:08:23 V
Test : 2004-10-12 08:50:36 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

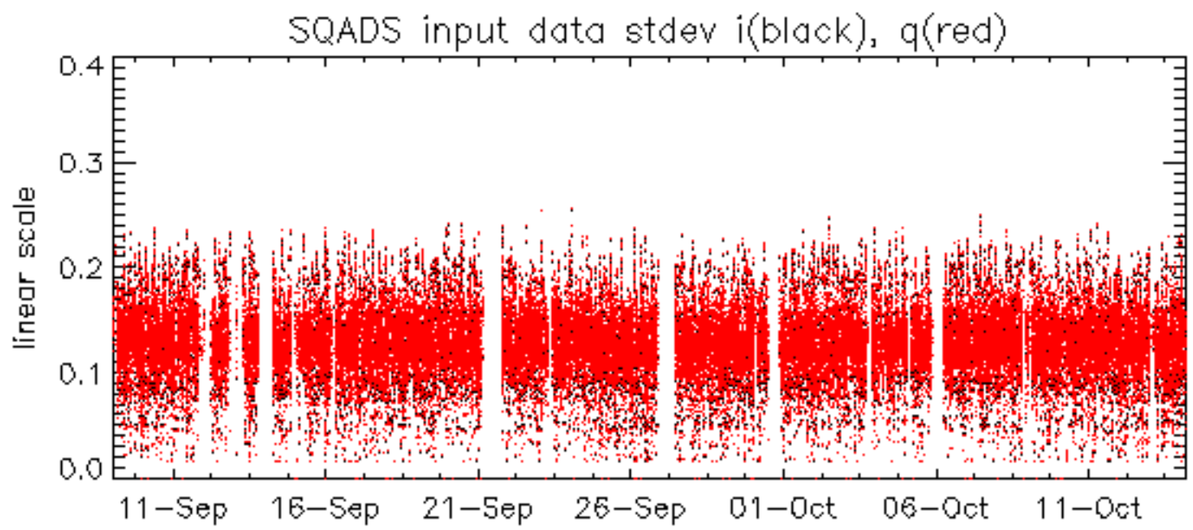

Reference: 2003-06-12 14:10:32 V
Test : 2004-10-12 08:50:36 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

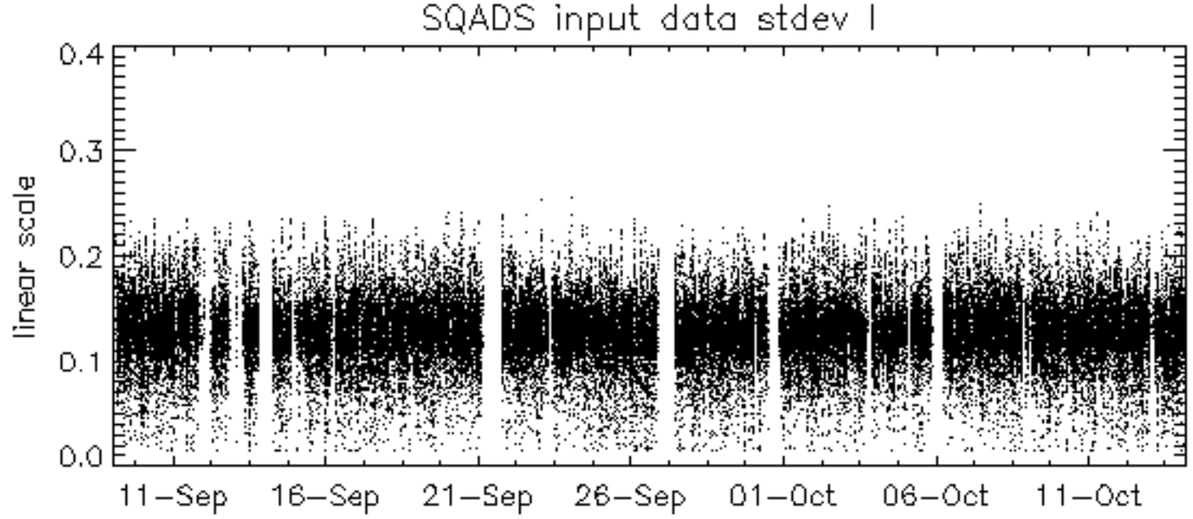

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

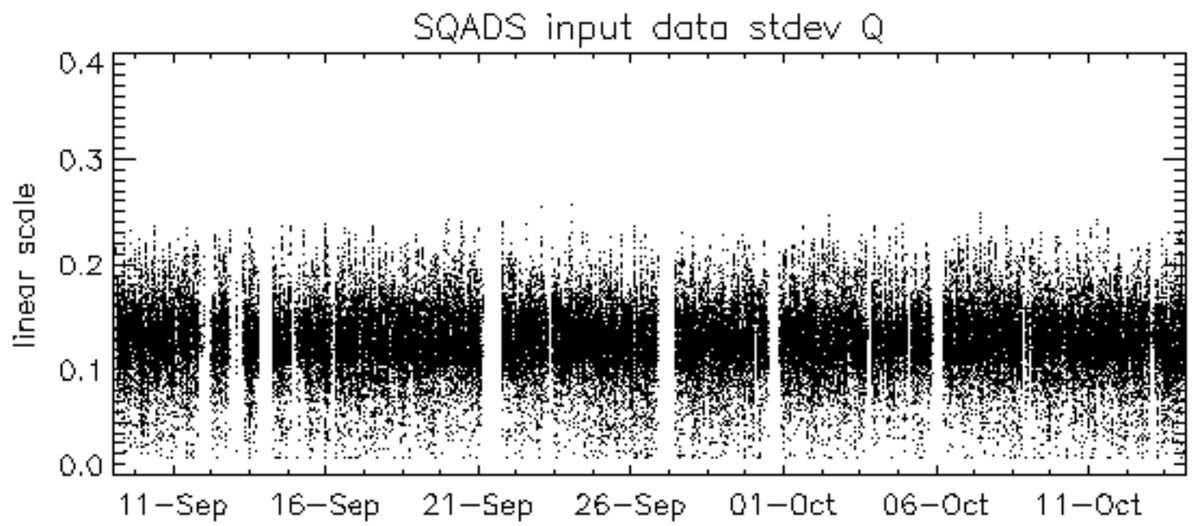

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Sep
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct
11−Oct

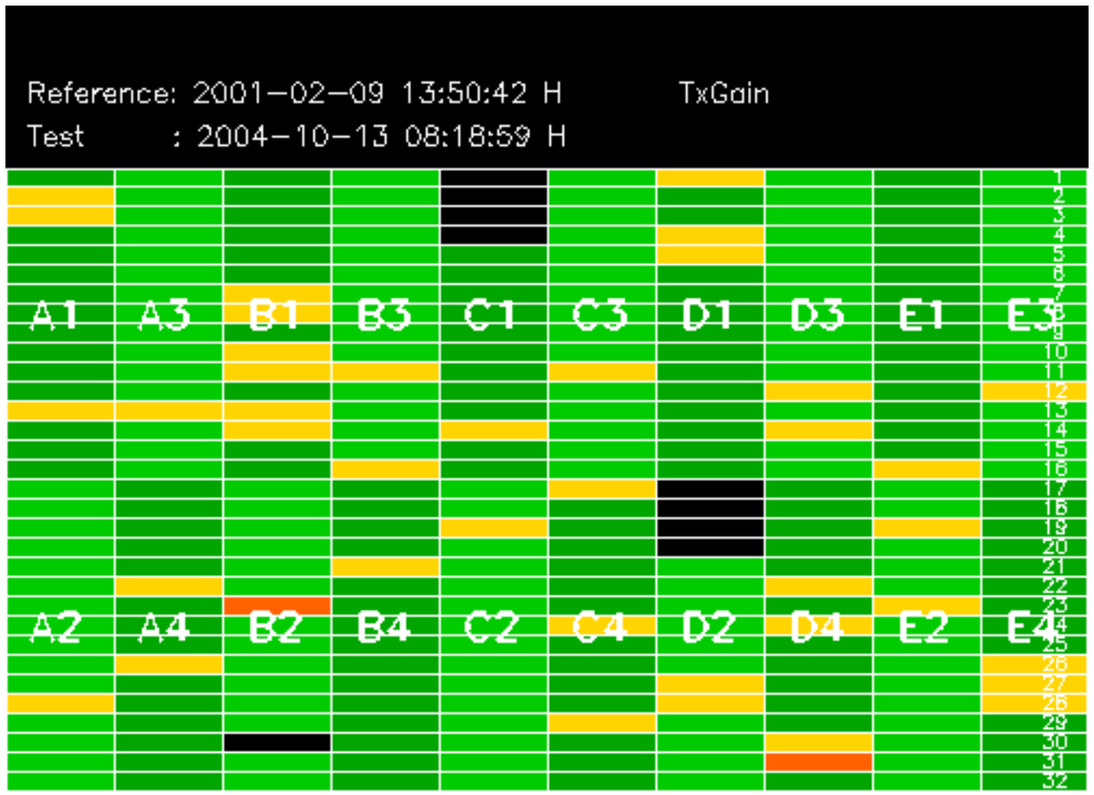

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Sep
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct
11−Oct


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2004-10-13 08:18:59 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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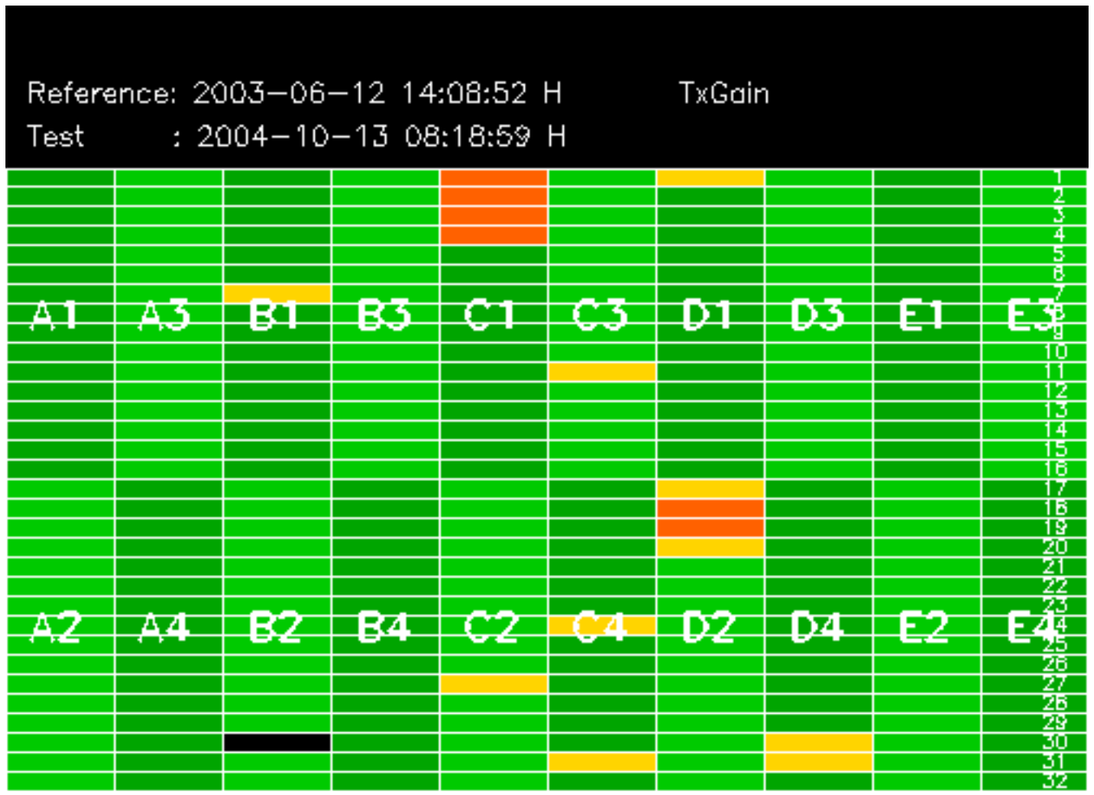
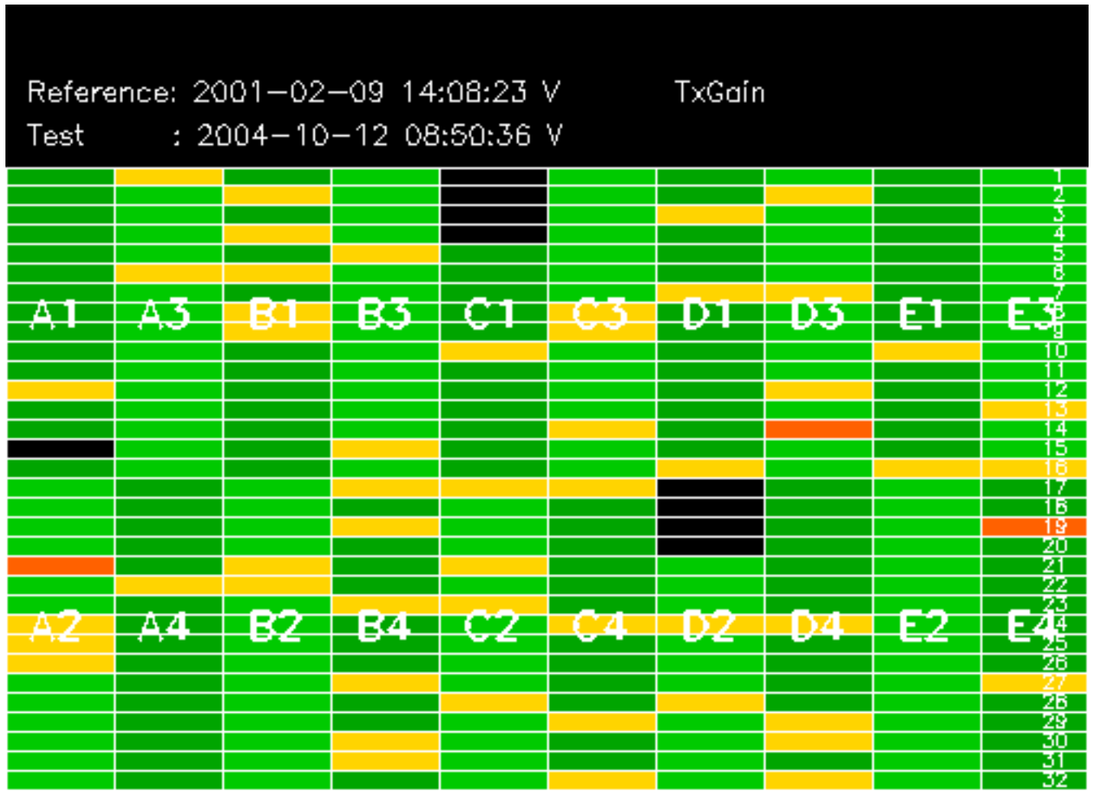

Reference: 2003-06-12 14:08:52 H
Test : 2004-10-13 08:18:59 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-10-12 08:50:36 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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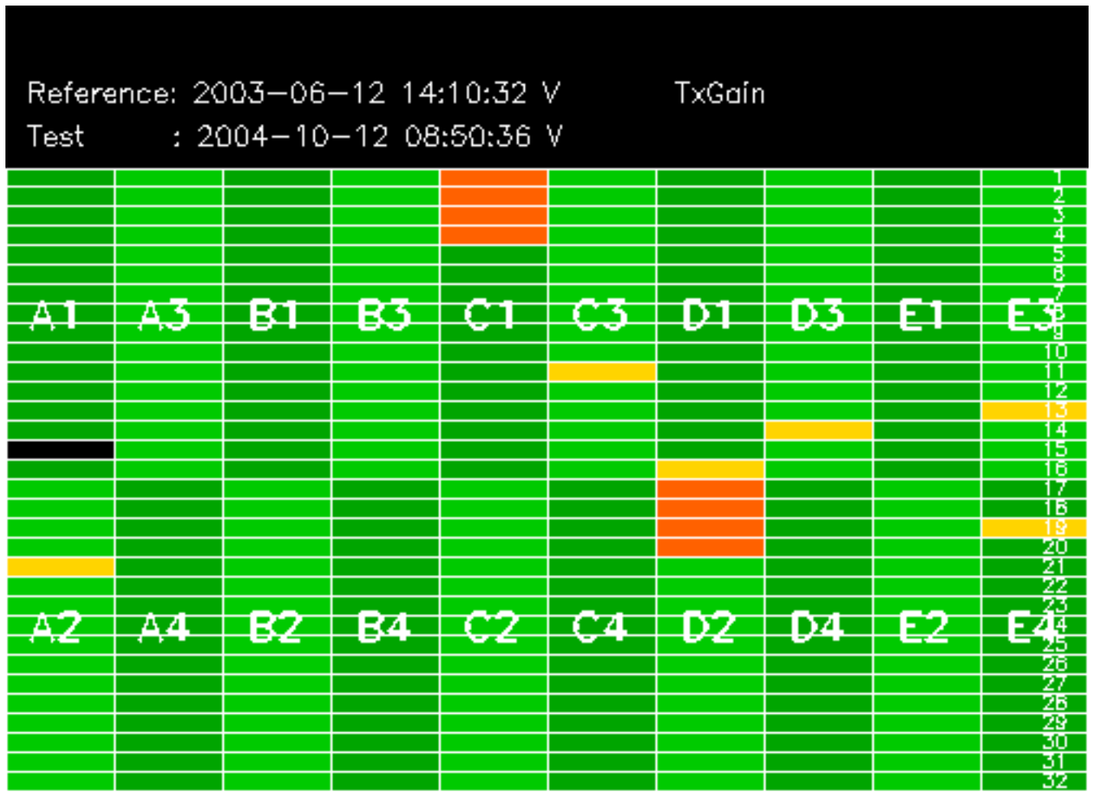
Reference: 2003-06-12 14:10:32 V
Test : 2004-10-12 08:50:36 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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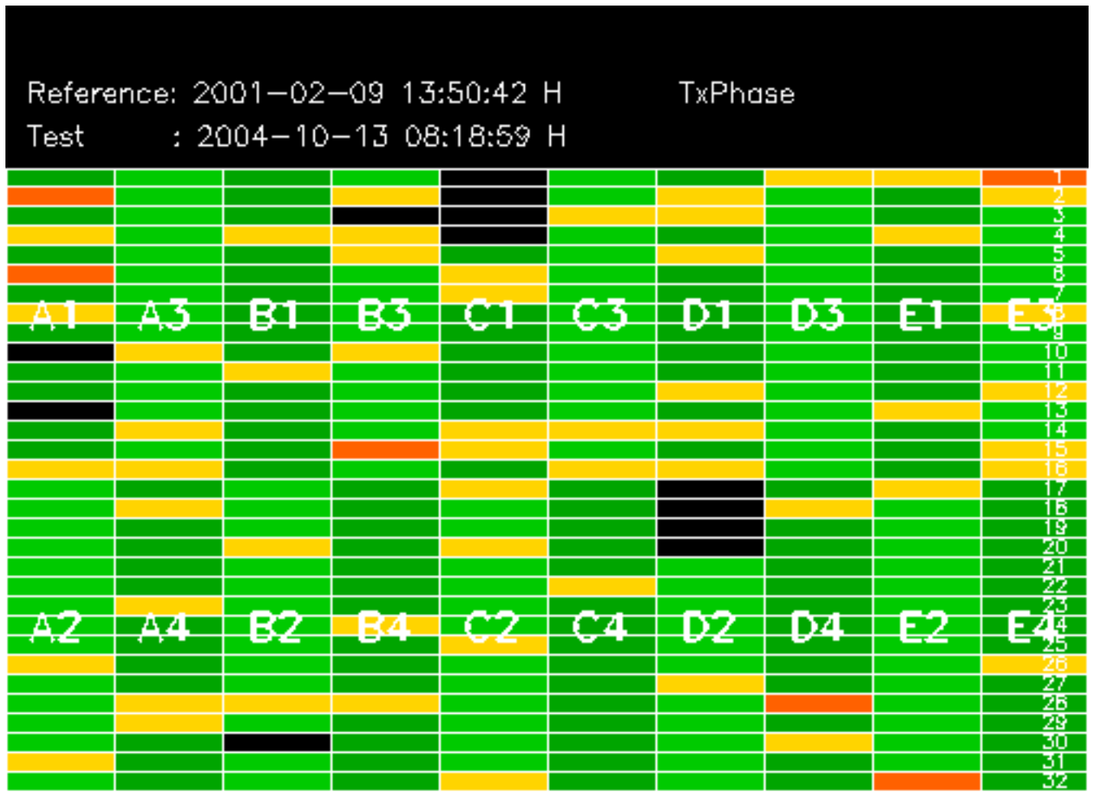
Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-10-13 08:18:59 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
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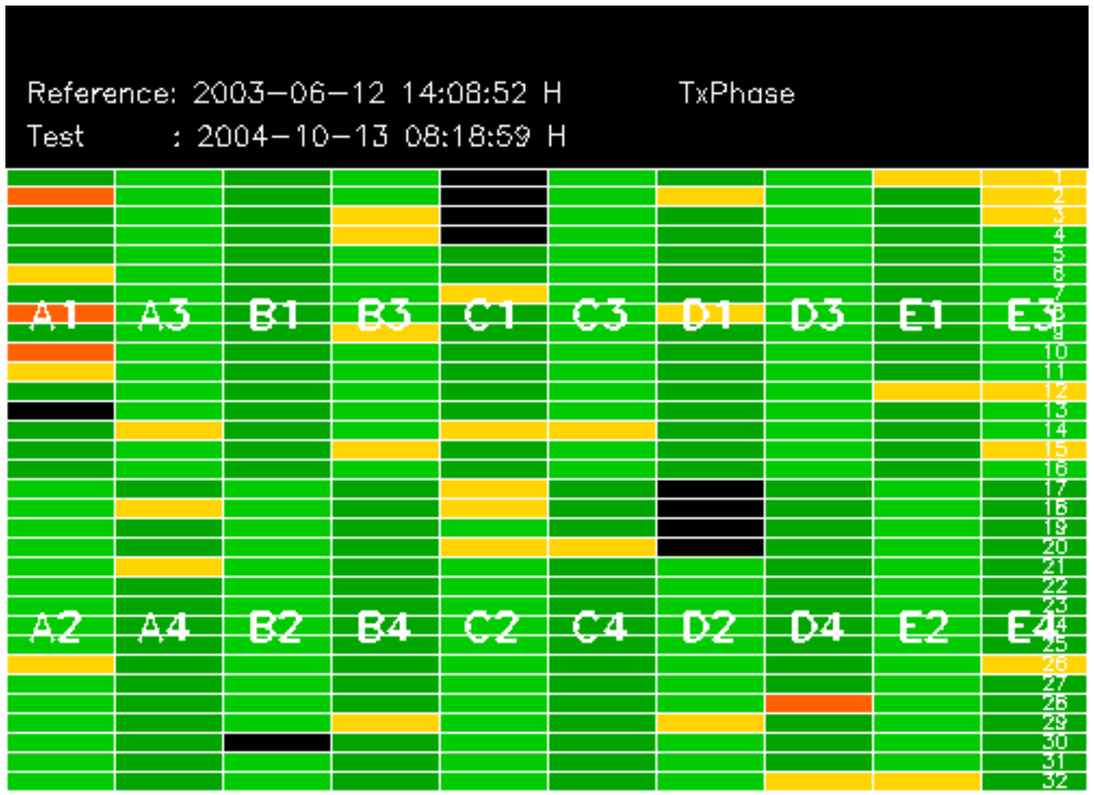
Reference: 2003-06-12 14:08:52 H
Test : 2004-10-13 08:18:59 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
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C2
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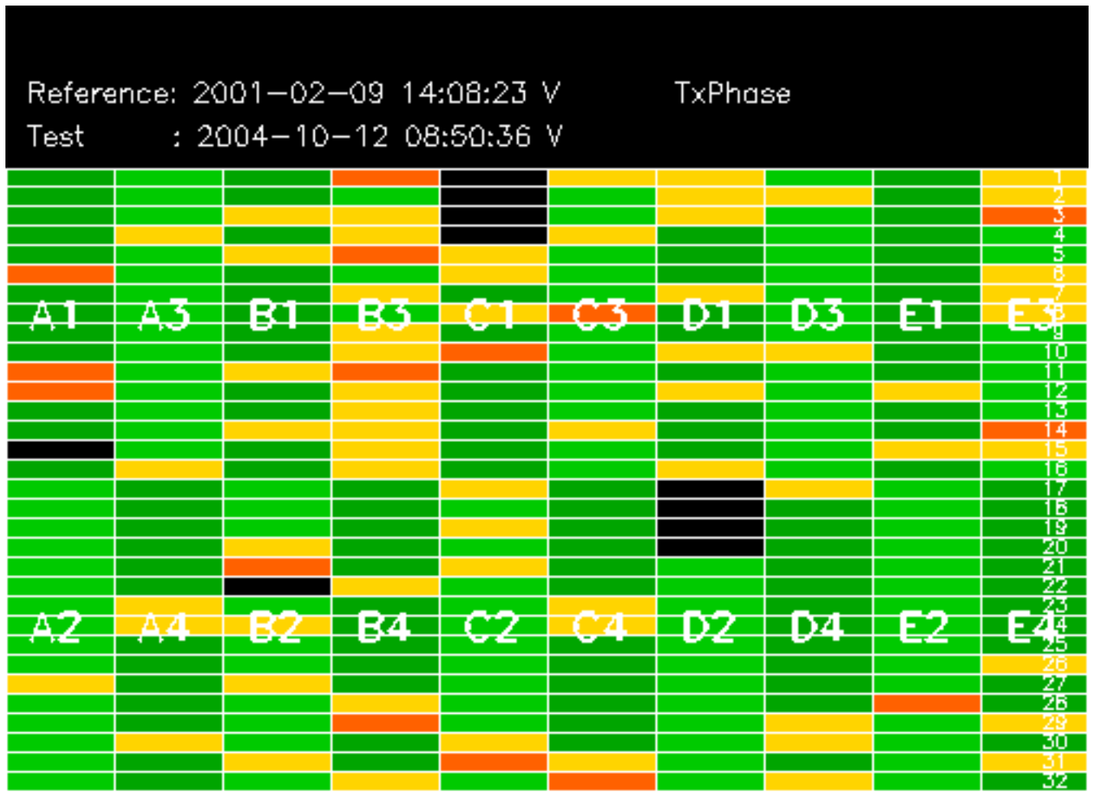
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-10-12 08:50:36 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
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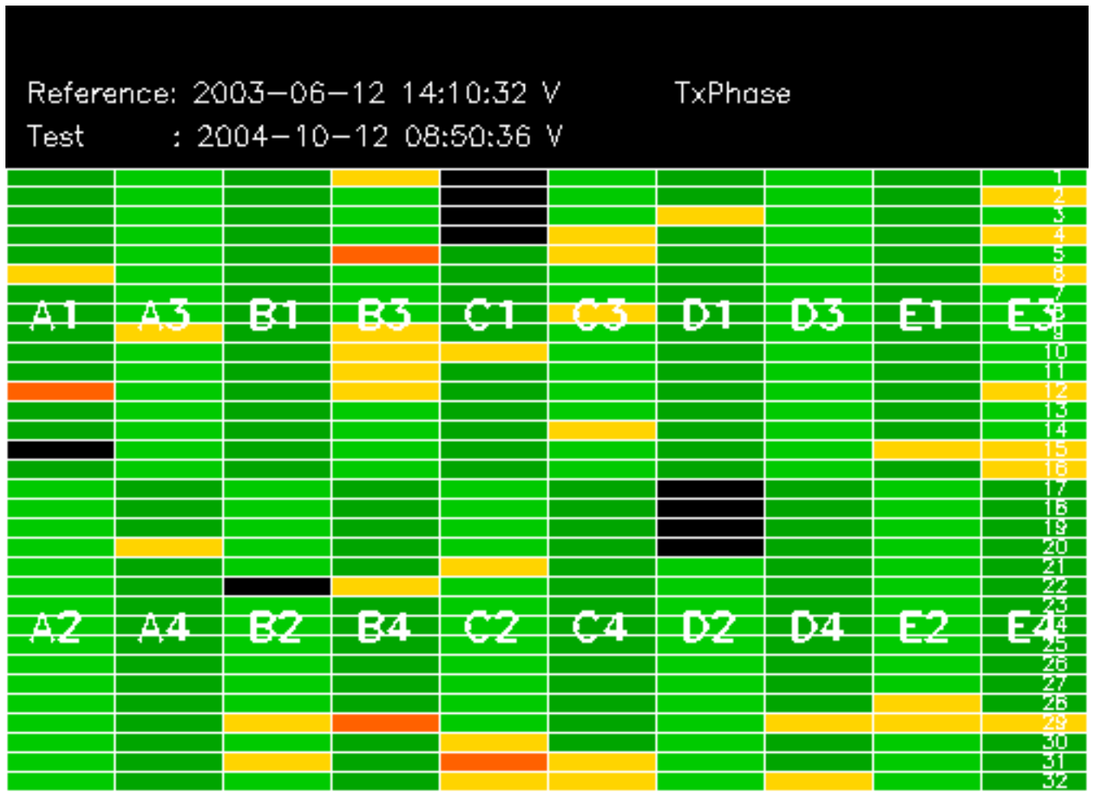
Reference: 2003-06-12 14:10:32 V
Test : 2004-10-12 08:50:36 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
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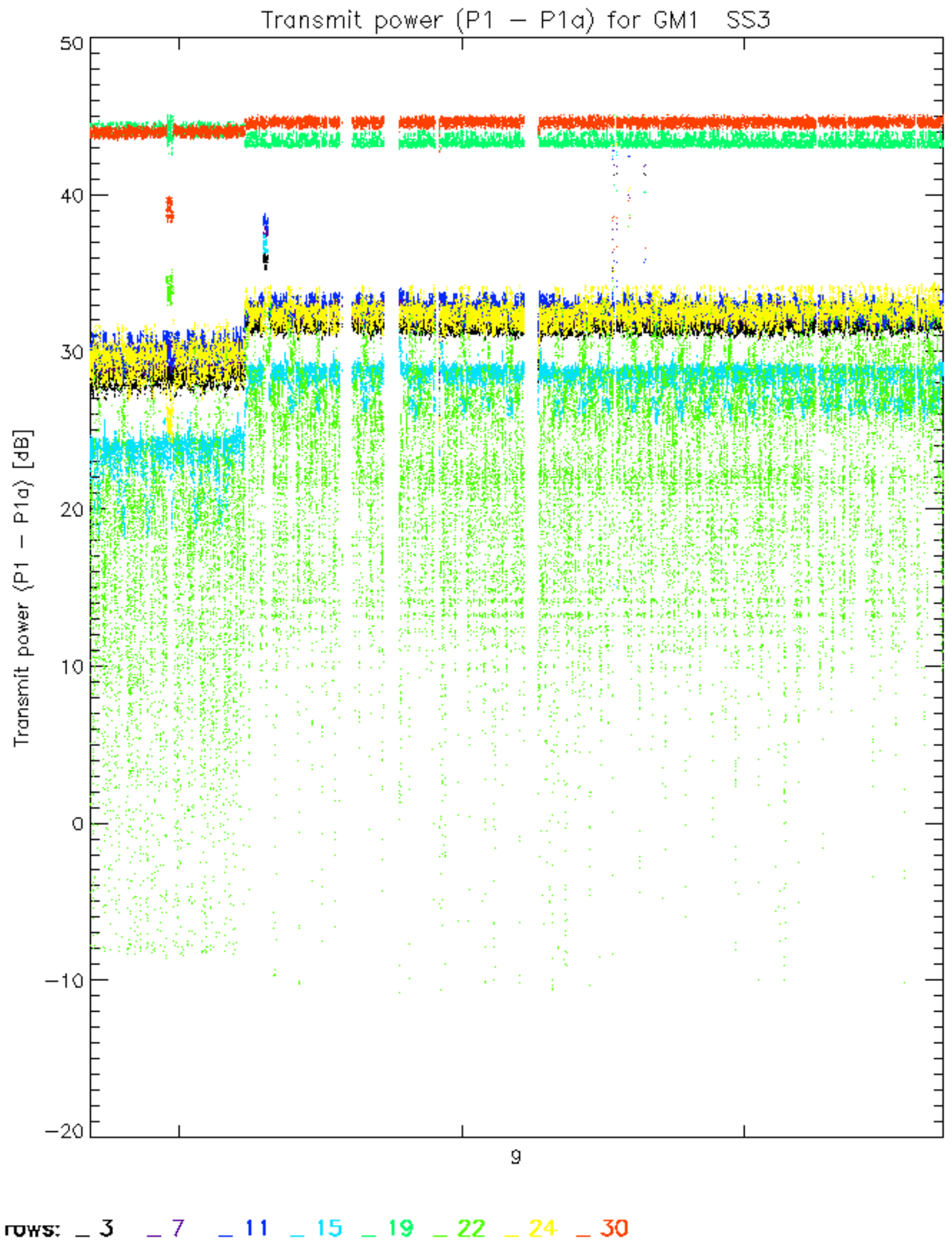
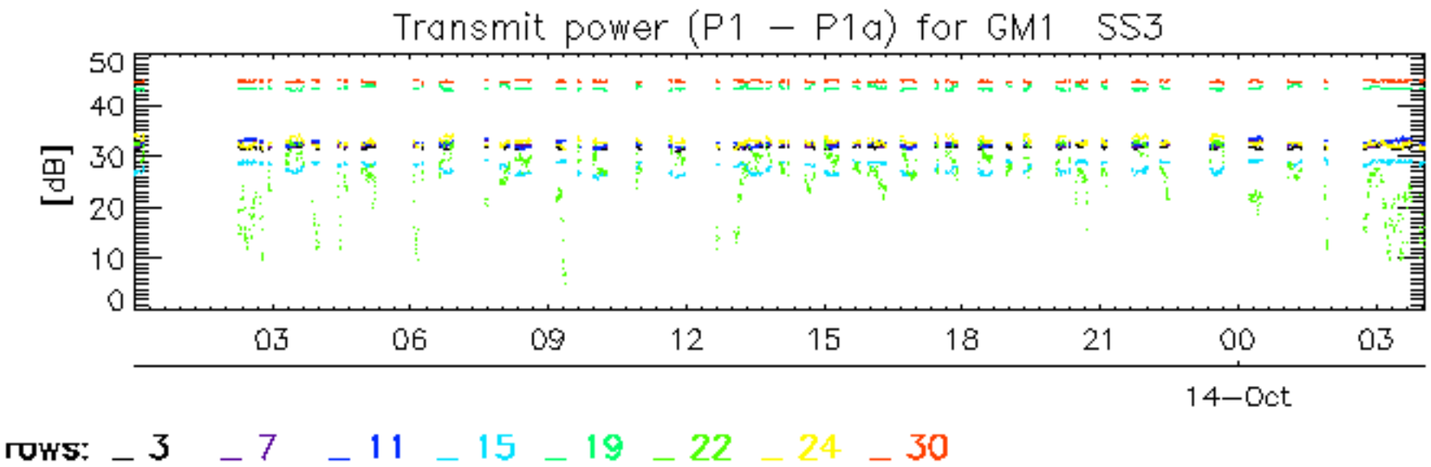
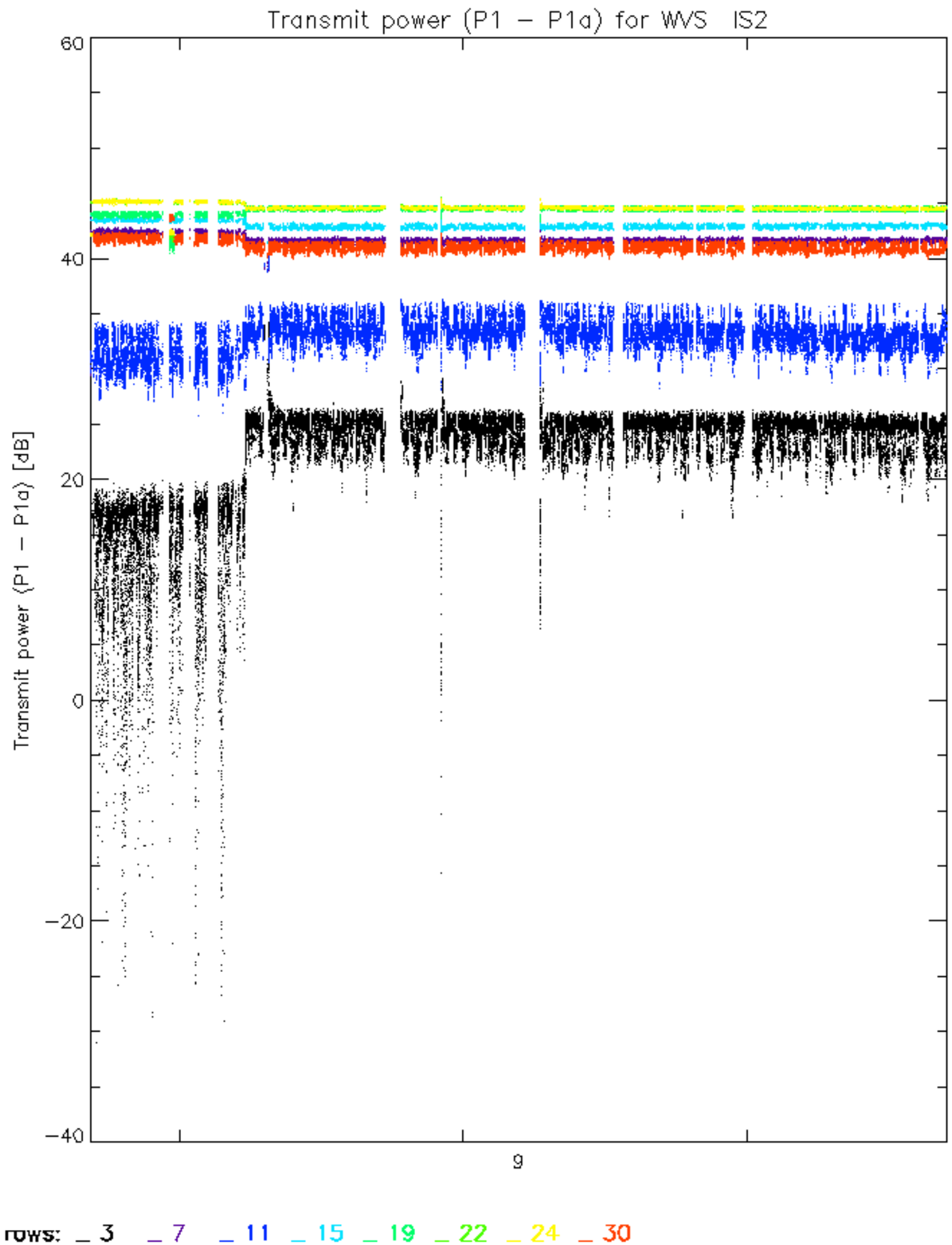
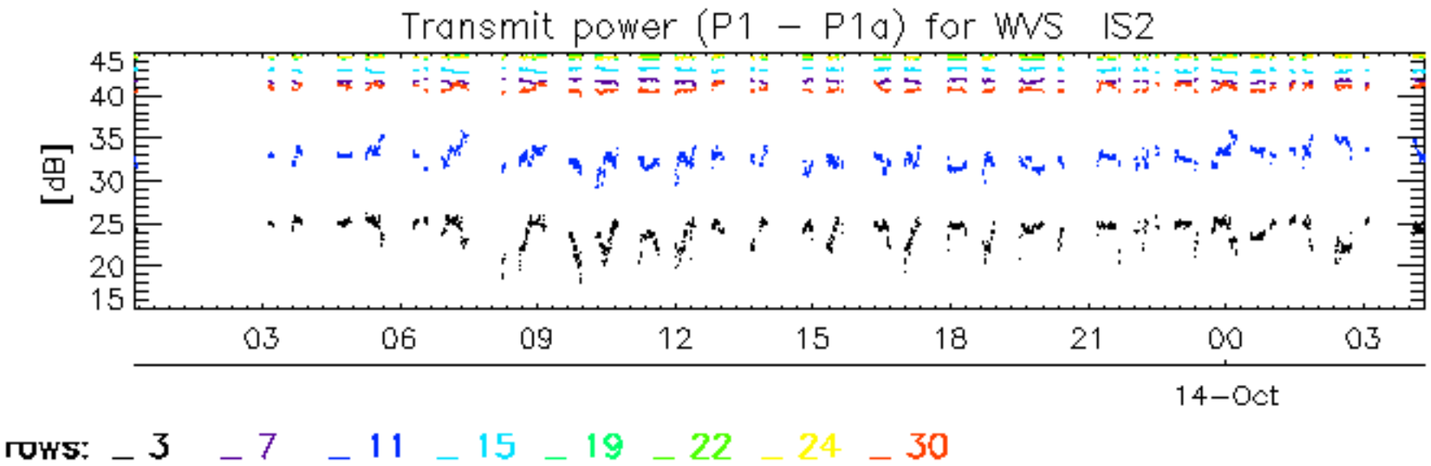

Transmit power (P1 – P1a) for GM1 SS3
Transmit power ⟨P1 – P1a⟩ [dB]
50
40
30
20
10
0
−10
−20
9
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30


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


Transmit power (P1 − P1a) for WVS IS2
Transmit power (P1 − P1a) [dB]
60
40
20
0
−20
−40
9
rows: 3 7 11 15 19 22 24 30


Transmit power (P1 – P1a) for WVS IS2
[dB]
45
40
35
30
25
20
15
03
06
09
12
15
18
21
00
03
14–Oct
rows: 3 7 11 15 19 22 24 30

No unavailabilities during the reported period.