PRELIMINARY REPORT OF 040924

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

last update on Fri Sep 24 10:50:01 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

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	20040922 073840
H	20040918 030245

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.

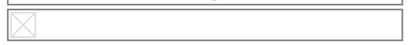
4.1 - Daily statistics

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	-3.466672	0.022834	-0.034106
7	P1	-3.337664	0.022620	-0.020385
11	P1	-4.646259	0.040245	-0.035136
15	P1	-5.760778	0.086569	-0.064583
19	P1	-3.509765	0.080076	-0.060875
22	P1	-4.558796	0.108889	-0.043187
24	P1	-5.001627	0.126900	-0.051211
30	P1	-7.029065	0.150032	-0.145407

3	P1	-16.232452	0.398649	-0.050519
7	P1	-14.010704	0.072622	-0.015141
11	P1	-20.245867	0.265882	-0.114818
15	P1	-11.771556	0.044178	0.027585
19	P1	-14.027584	1.112324	-0.216588
22	P1	-16.053041	0.350328	0.210476
24	P1	-14.473336	0.308243	0.122825
30	P1	-17.929190	0.633824	-0.135991

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.305466	0.085891	0.000317
7	P2	-22.600607	0.125663	0.015291
11	P2	-15.222582	0.149729	0.123670
15	P2	-7.060226	0.098908	0.009939
19	P2	-9.566824	0.162784	0.039749
22	P2	-17.314959	0.114694	0.075503
24	P2	-20.757727	0.090139	-0.036760
30	P2	-19.179577	0.082706	0.109858

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.151238	0.003163	-0.014593
7	P3	-8.151236	0.003162	-0.014614
11	P3	-8.151236	0.003162	-0.014616
15	P3	-8.151236	0.003162	-0.014644
19	P3	-8.151231	0.003162	-0.014660
22	P3	-8.151224	0.003162	-0.014677
24	P3	-8.151221	0.003162	-0.014694
30	P3	-8.151131	0.003159	-0.014964

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	-2.827914	0.047828	-0.088456
7	P1	-3.030726	0.082427	-0.051932
11	P1	-3.889892	0.063447	-0.051184
15	P1	-3.537093	0.079618	-0.042506
19	P1	-3.520206	0.098713	-0.084748
22	P1	-5.730318	0.123743	-0.041833
24	P1	-3.956623	0.054626	-0.074172
30	P1	-6.211607	0.098161	-0.051342
3	P1	-10.807034	0.164414	-0.384452
7	P1	-10.115281	0.144082	-0.018933
11	P1	-12.164596	0.108032	0.001653
15	P1	-11.684023	0.074422	-0.061508
19	P1	-15.741987	2.077209	-0.238381
22	P1	-23.339228	1.532700	0.100783
24	P1	-17.958811	0.355333	-0.088691
30	P1	-20.400391	1.265112	0.117607

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.985031	0.049184	0.025870
7	P2	-22.738520	0.039178	0.036420
11	P2	-10.925479	0.060627	0.120517
15	P2	-4.958474	0.030322	-0.006601
19	P2	-6.771127	0.045475	-0.014774
22	P2	-7.421602	0.038314	0.059006
24	P2	-11.057538	0.043220	-0.014663
30	P2	-22.149338	0.028115	0.080635

P3 Cyclic statistics

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

3	P3	-8.003212	0.003223	-0.015949
7	P3	-8.003268	0.003220	-0.015953
11	P3	-8.003307	0.003218	-0.016207
15	P3	-8.003326	0.003212	-0.016092
19	P3	-8.003255	0.003225	-0.016037
22	P3	-8.003318	0.003218	-0.016057
24	P3	-8.003356	0.003243	-0.016092
30	P3	-8.003203	0.003222	-0.016047

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	0.000470005
	stdev	2.18034e-07
MEAN Q	mean	0.000537861
	stdev	2.35156e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127508
	stdev	0.000958553

STDEV Q	mean	0.127731
	stdev	0.000968048

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

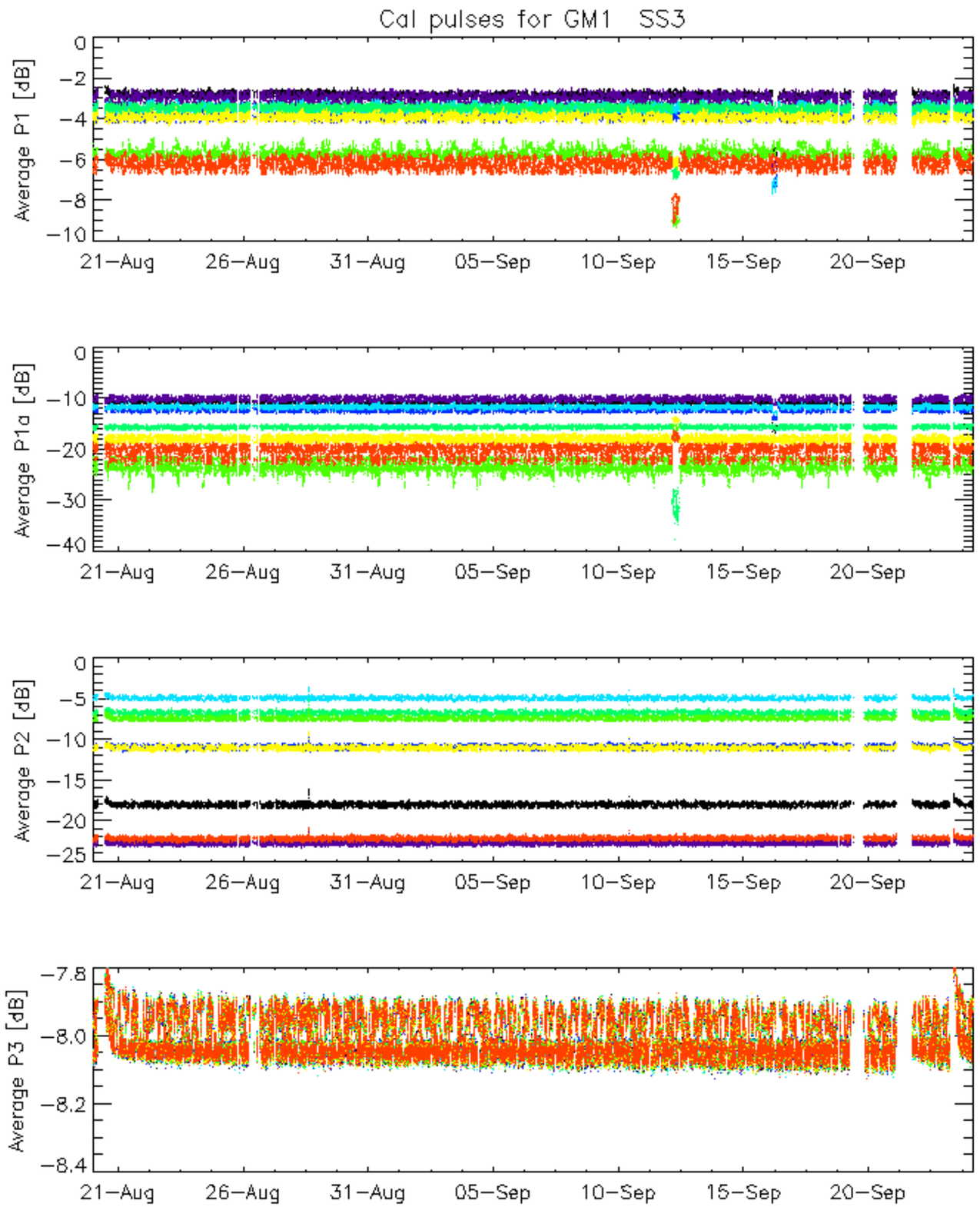
Evolution of Absolute Doppler

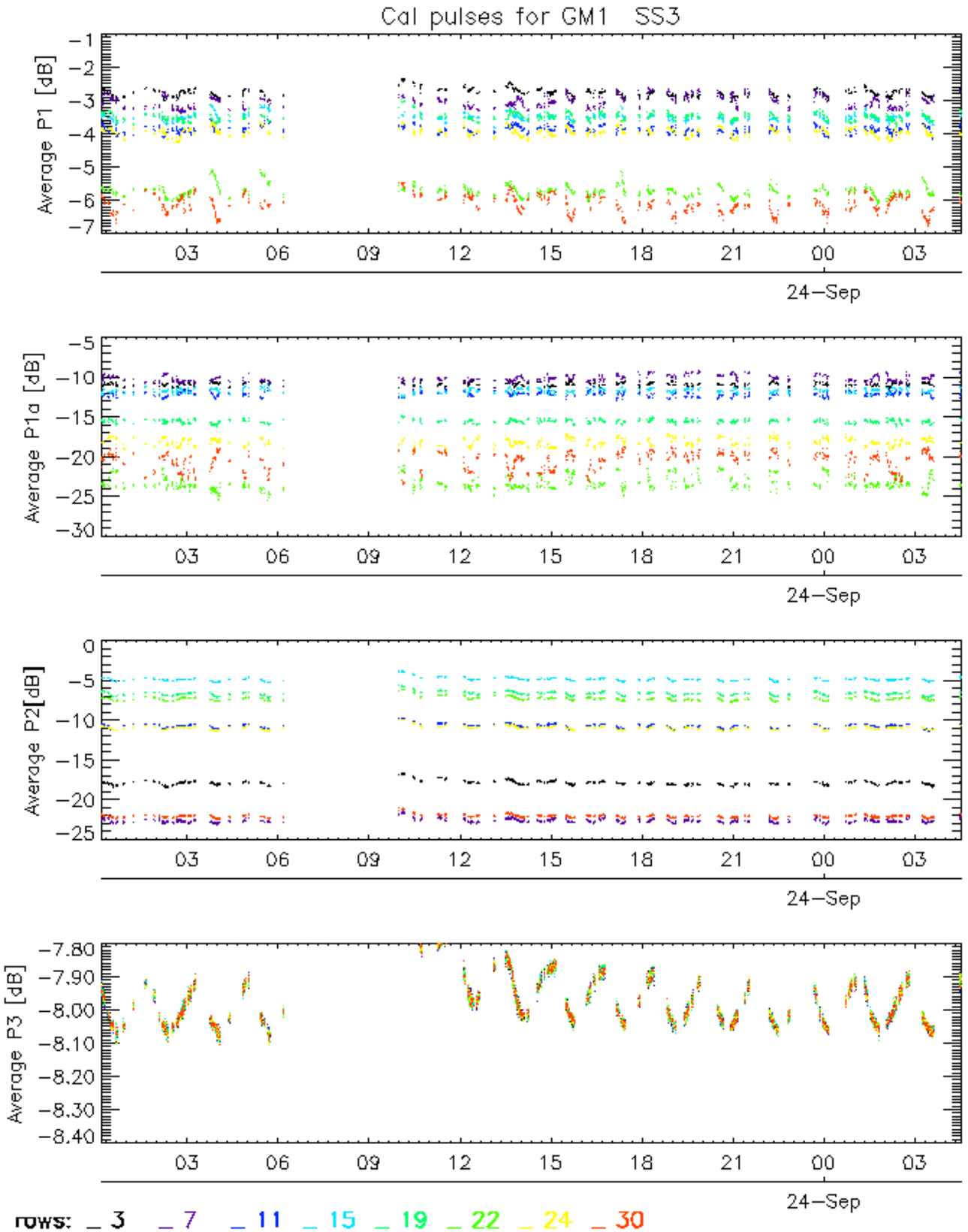
Acsending

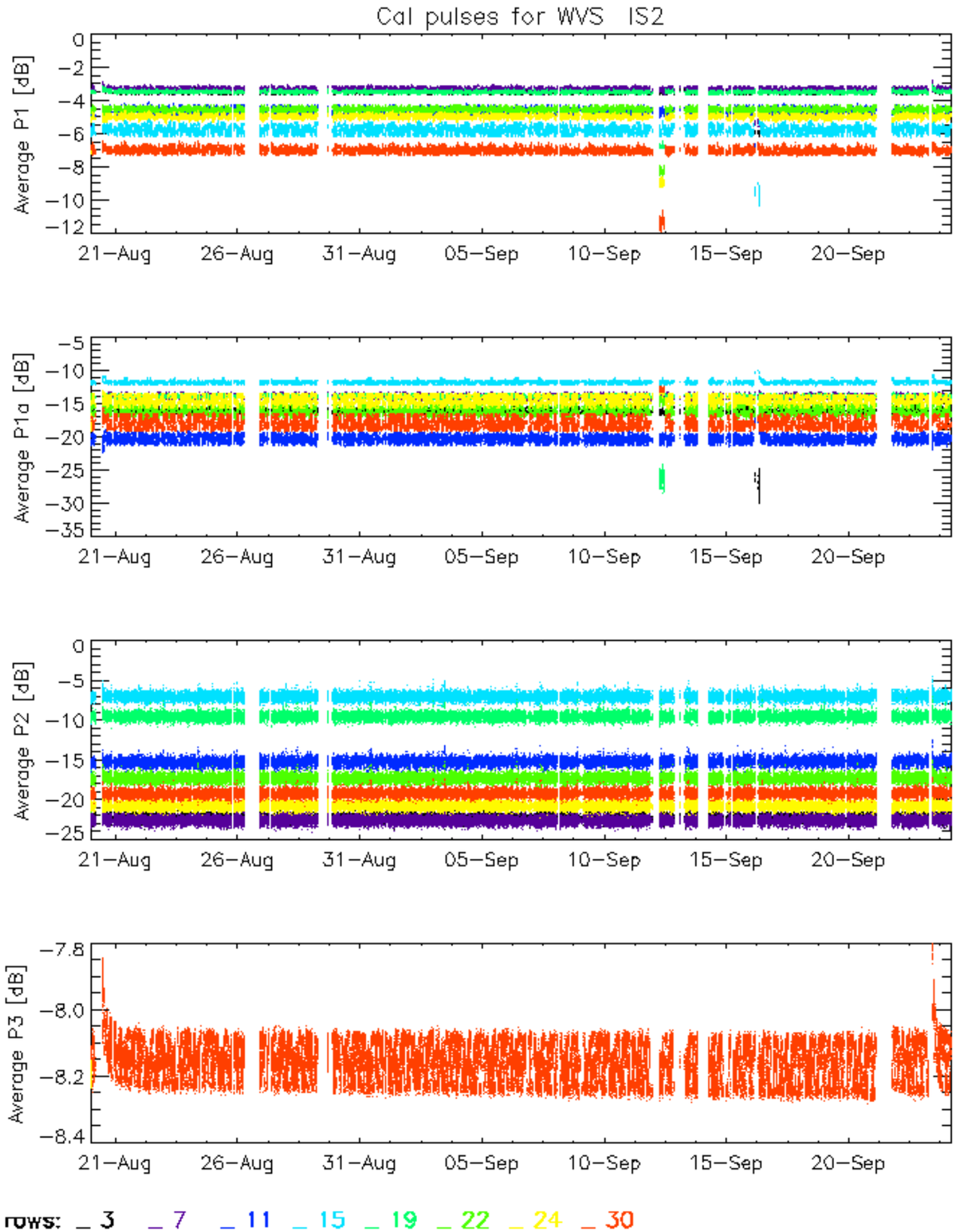
Descending

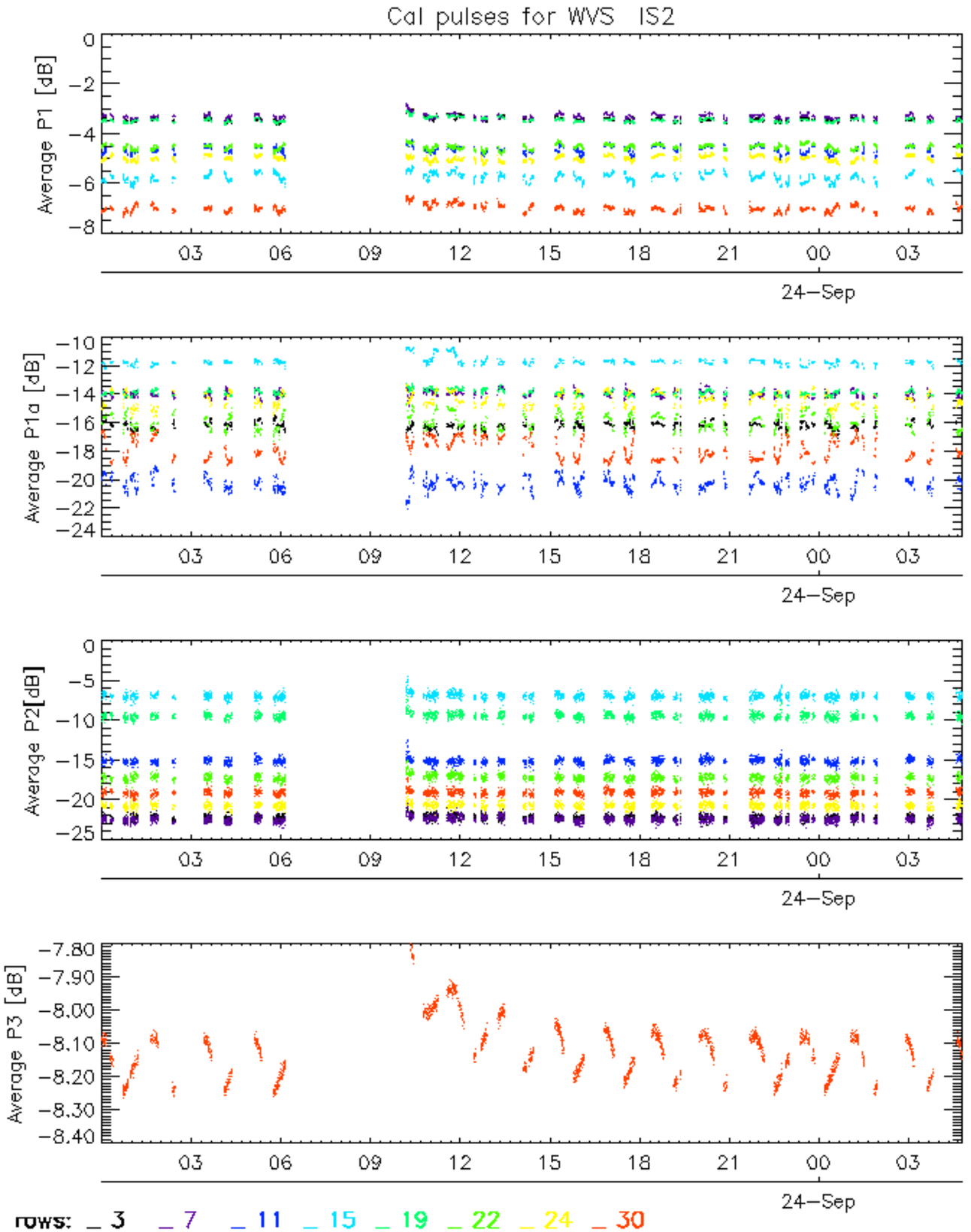
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

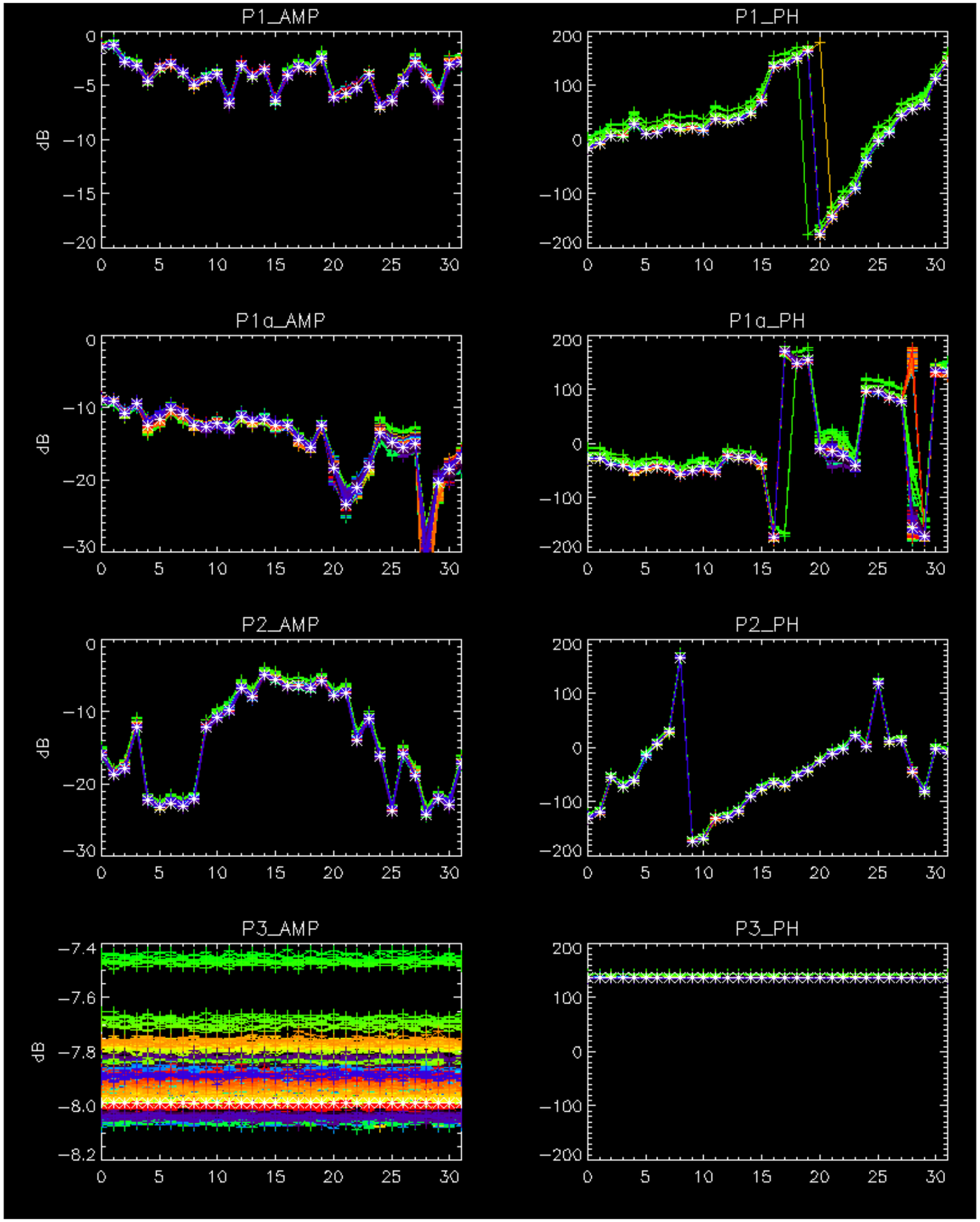


Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
−10
21−Aug
26−Aug
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
Average P1a [dB]
0
−10
−20
−30
−40
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

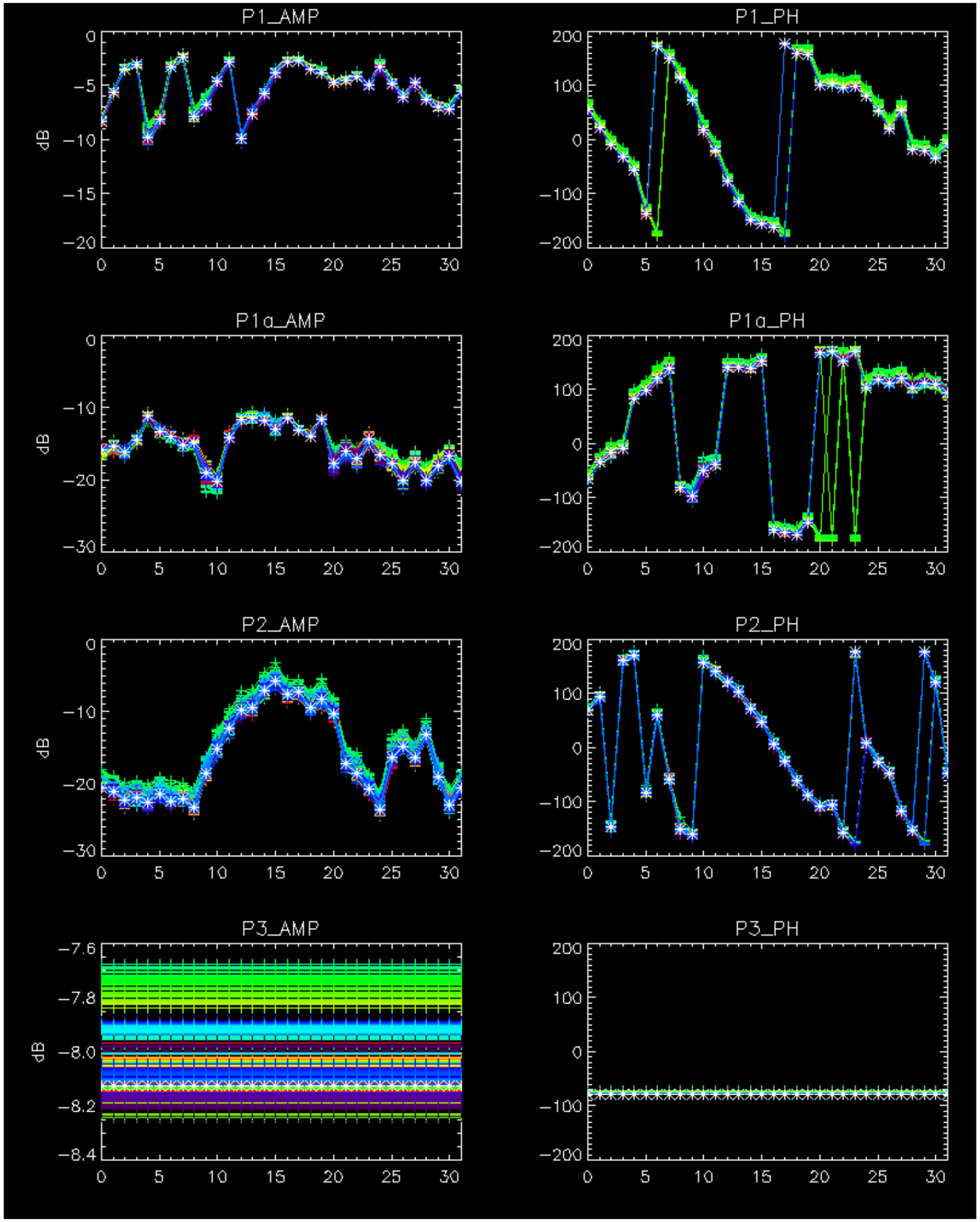

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
24−Sep
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
21
00
03
24−Sep
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
03
24−Sep
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06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


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
21−Aug
26−Aug
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
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]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
24−Sep
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
Average P2[dB]
−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

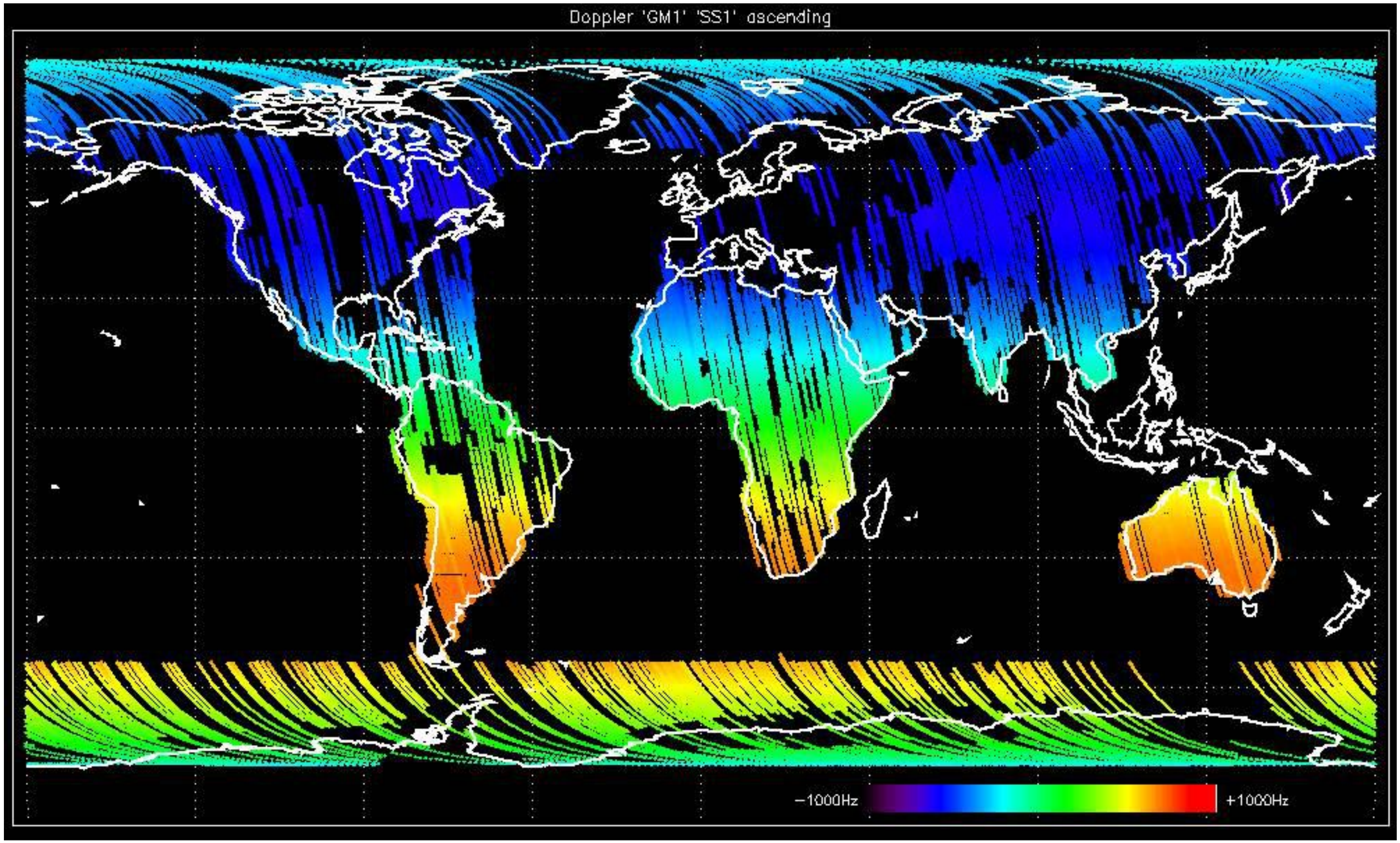
No anomalies observed.

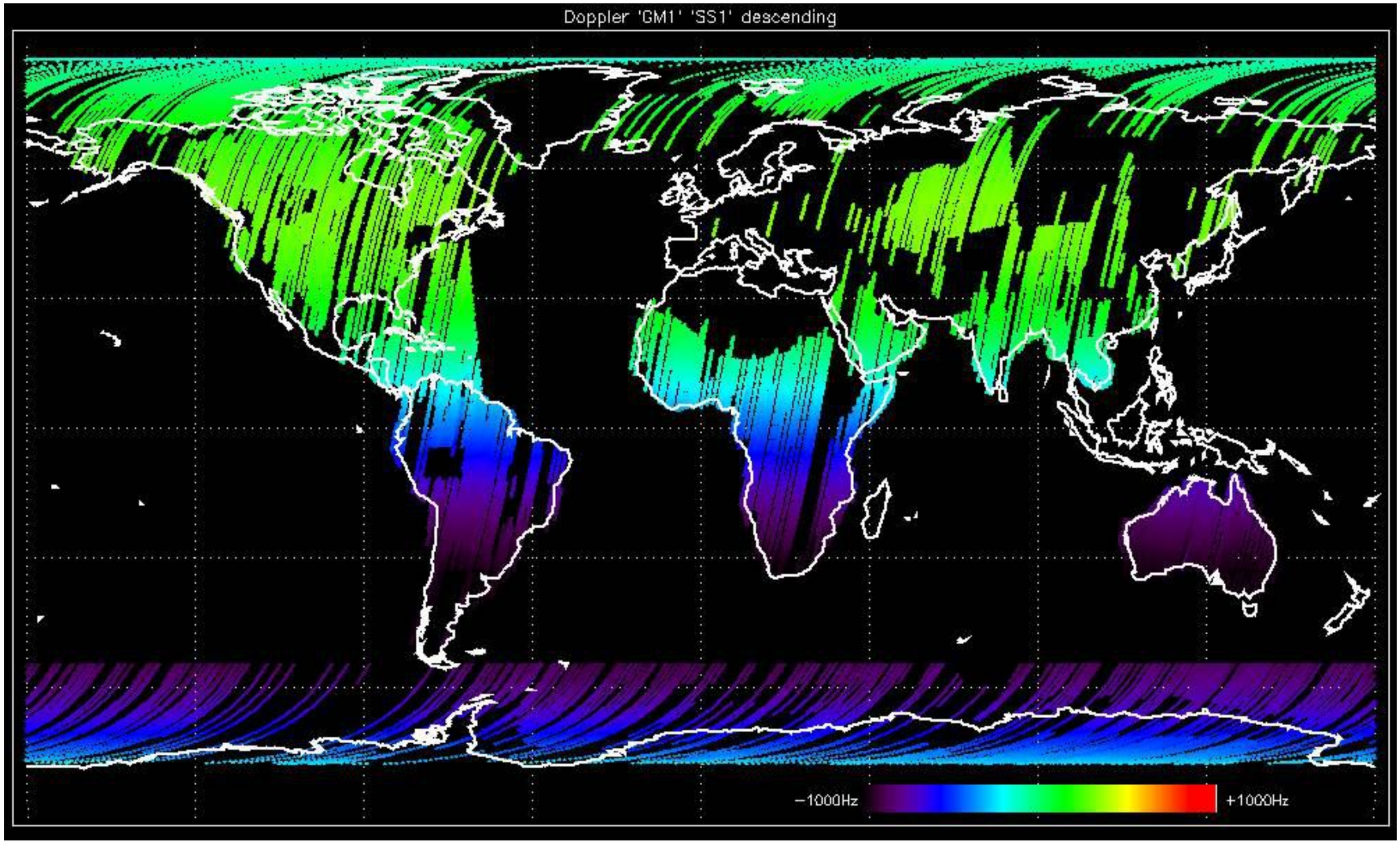

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.4
−7.6
−7.8
−8.0
−8.2
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

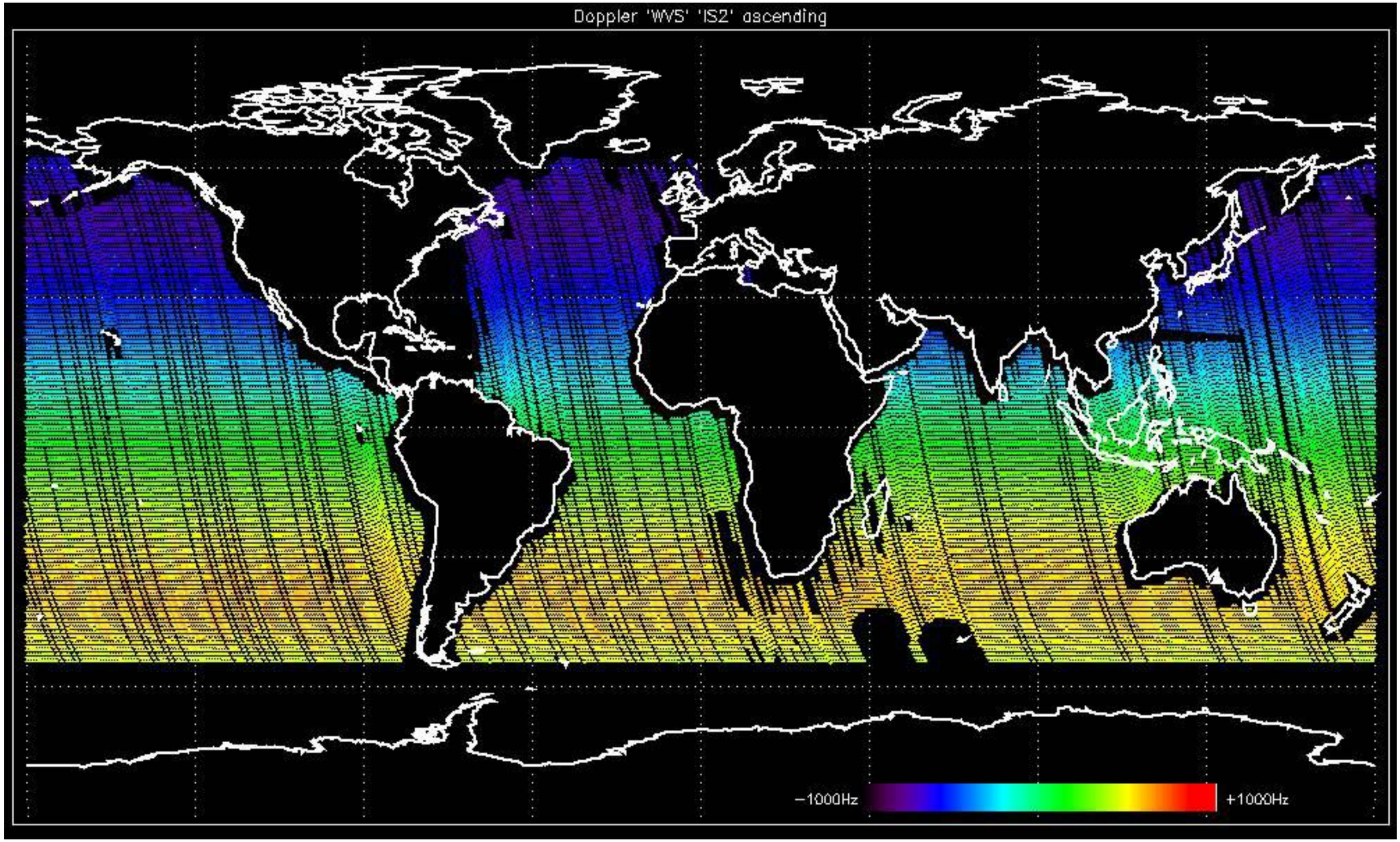

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.6
−7.8
−8.0
−8.2
−8.4
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

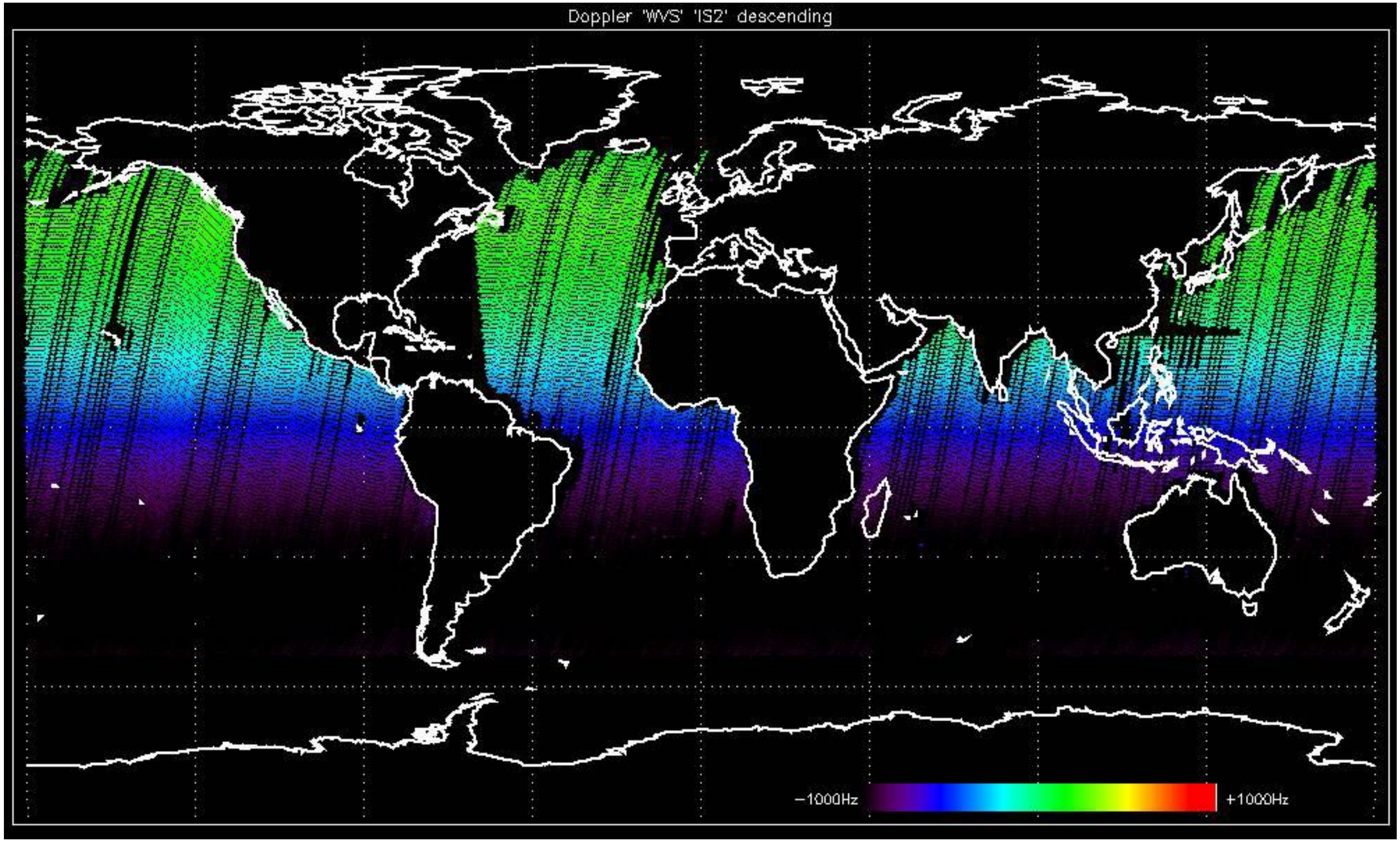
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

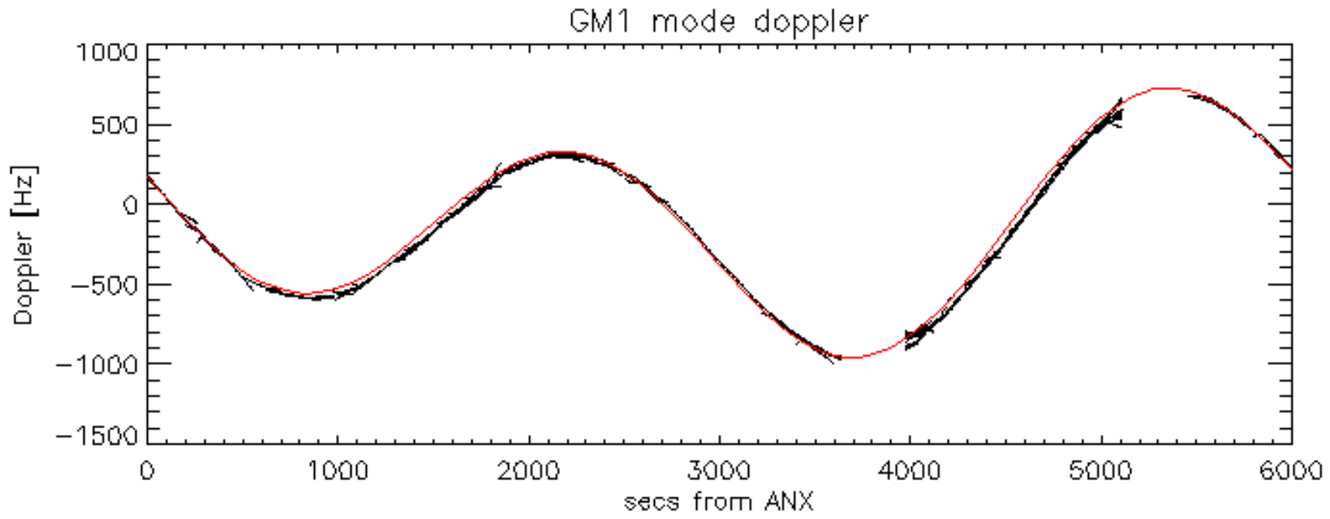
Preliminary report.The data is not yet controled

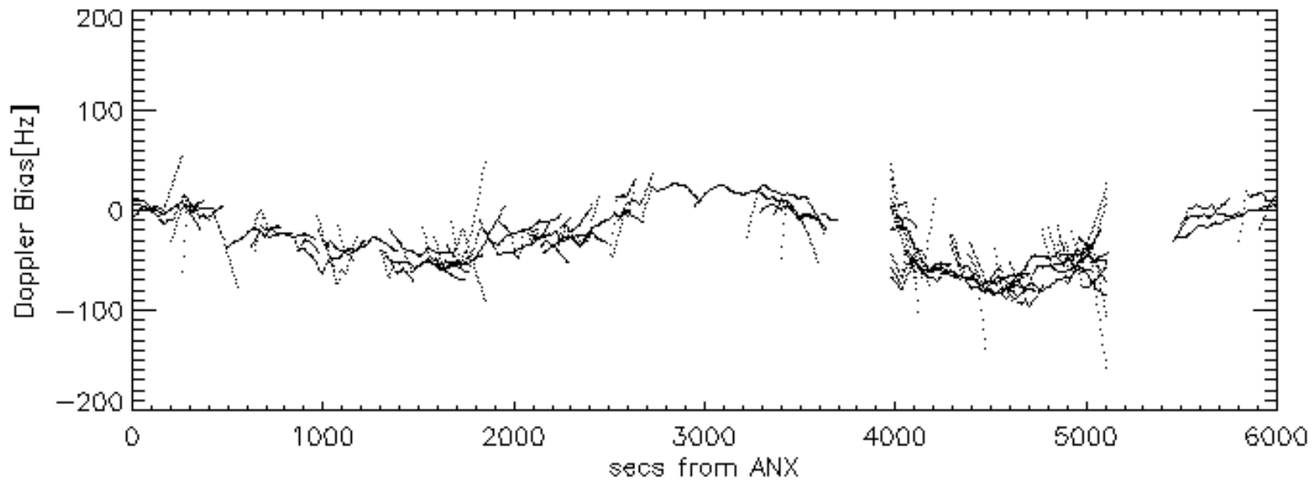

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

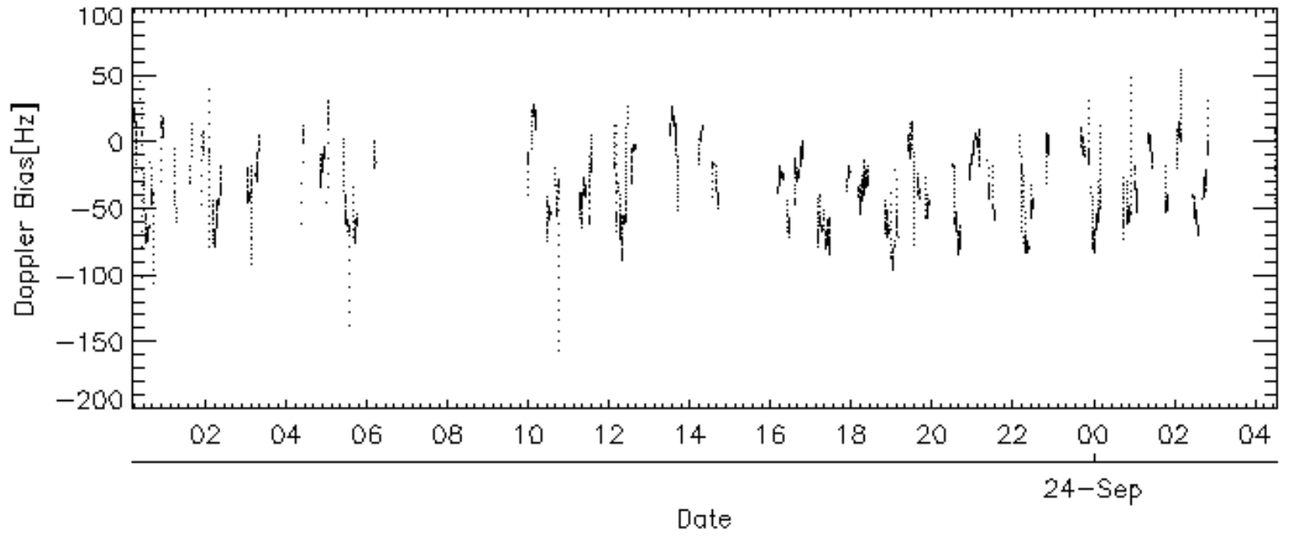

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

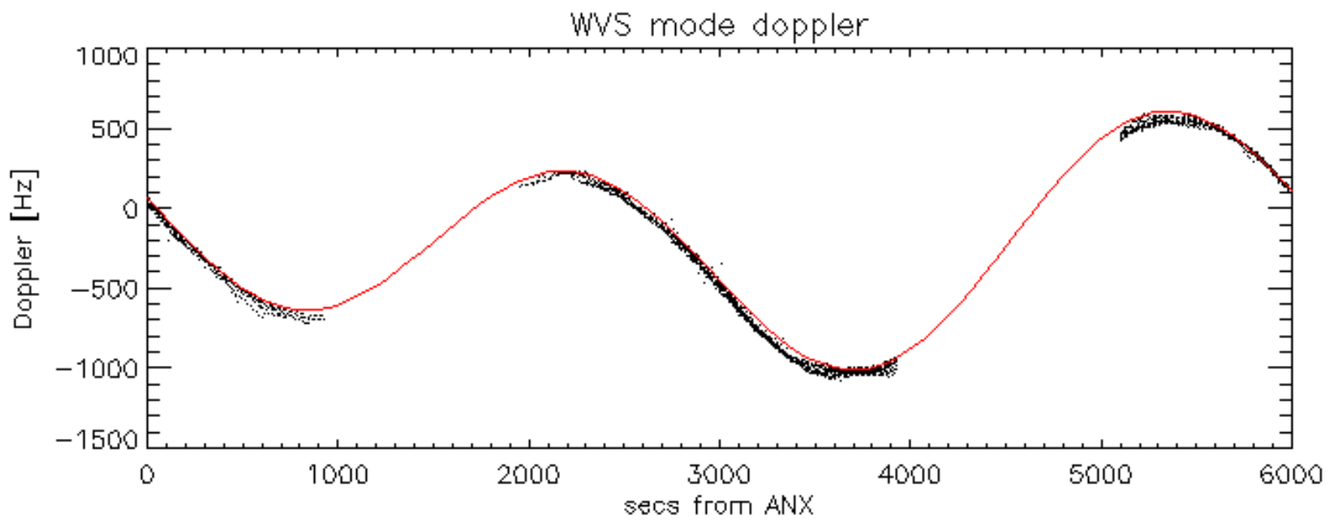

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

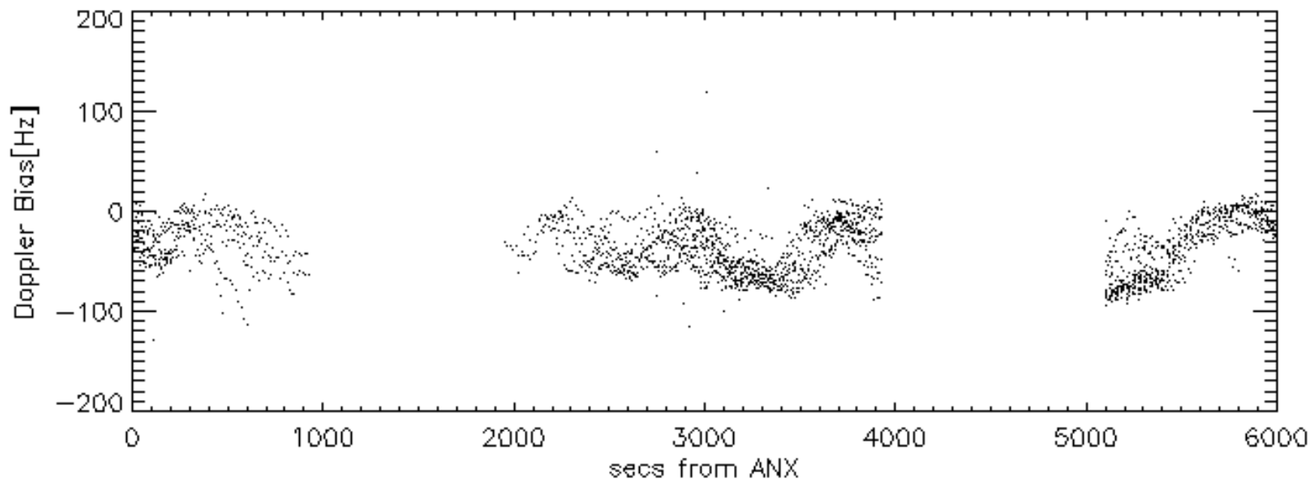

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

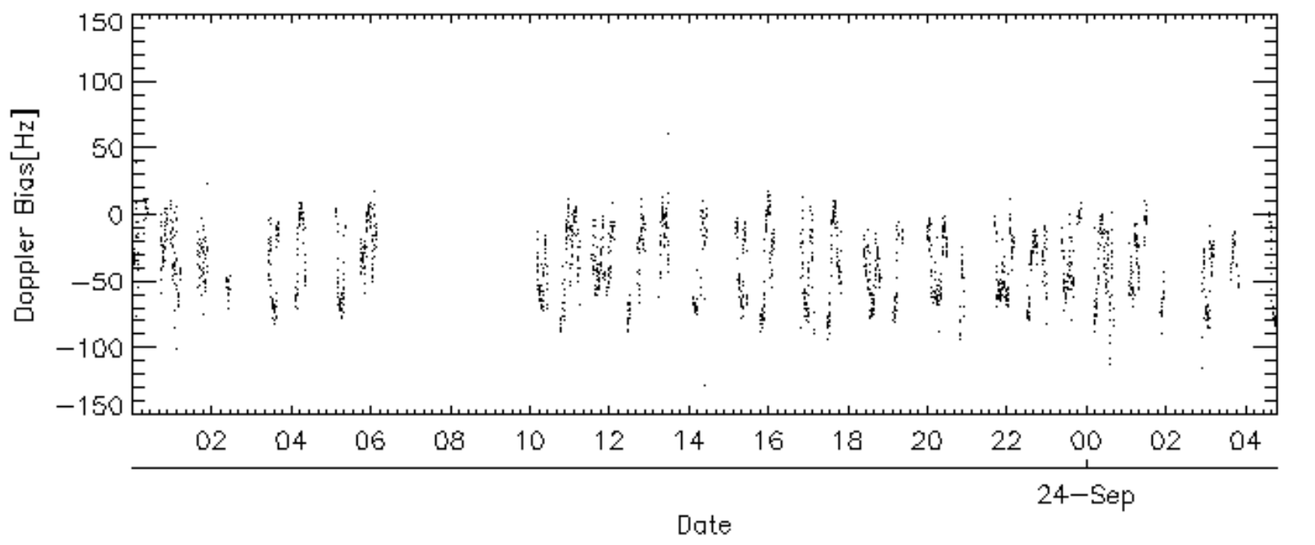

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

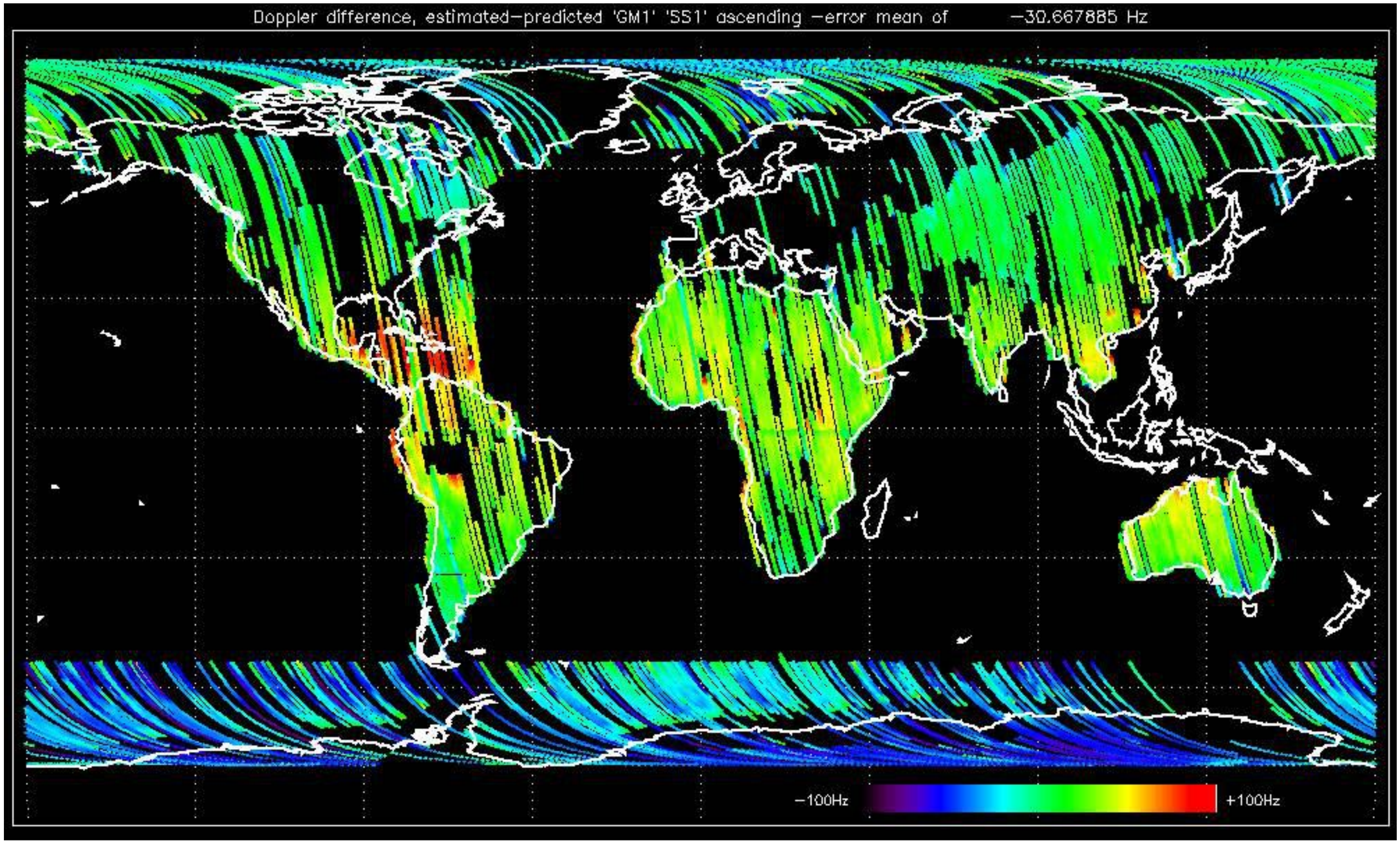

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

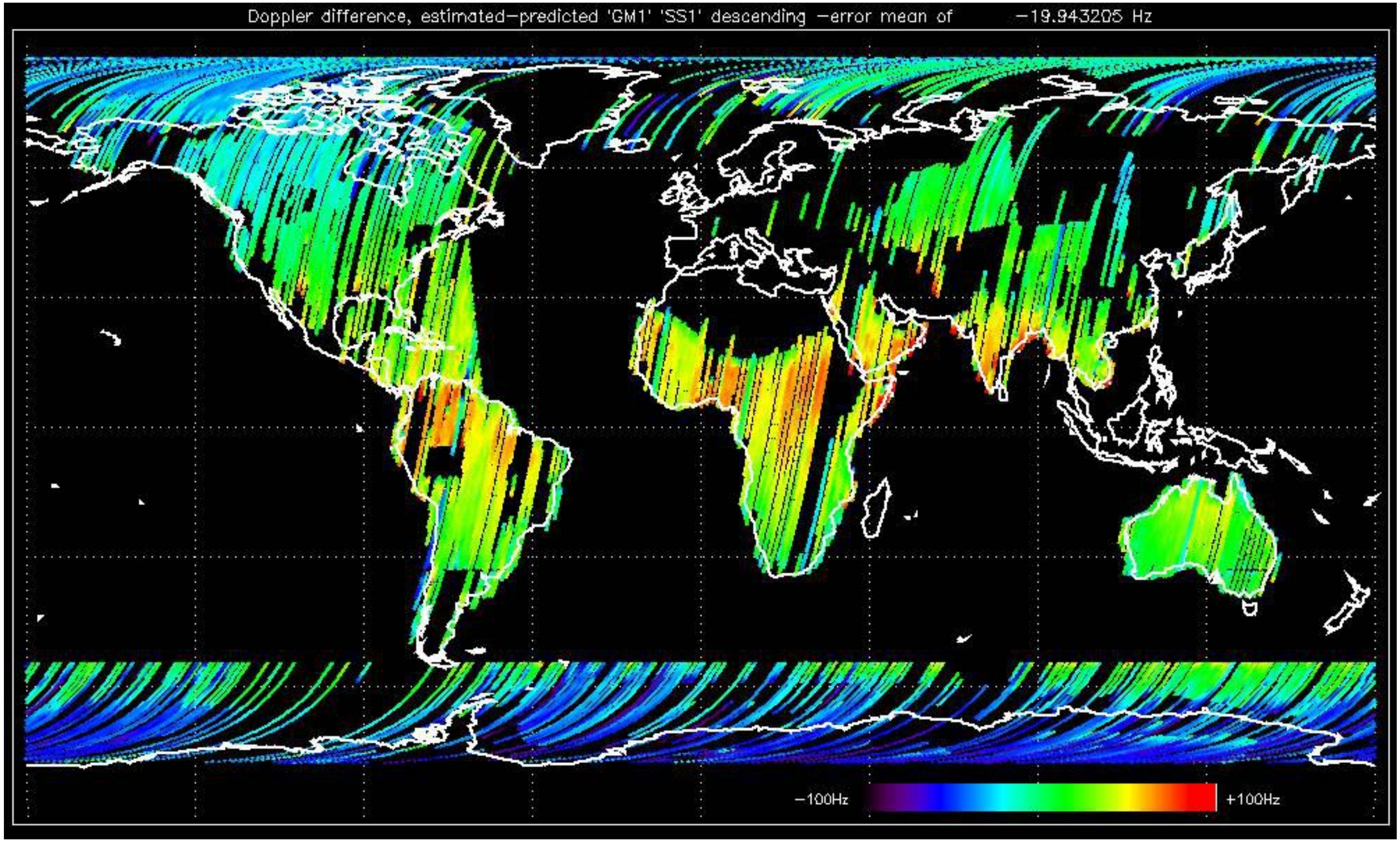

Doppler Bias[Hz]
100
50
0
−50
−100
−150
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
04
24−Sep
Date

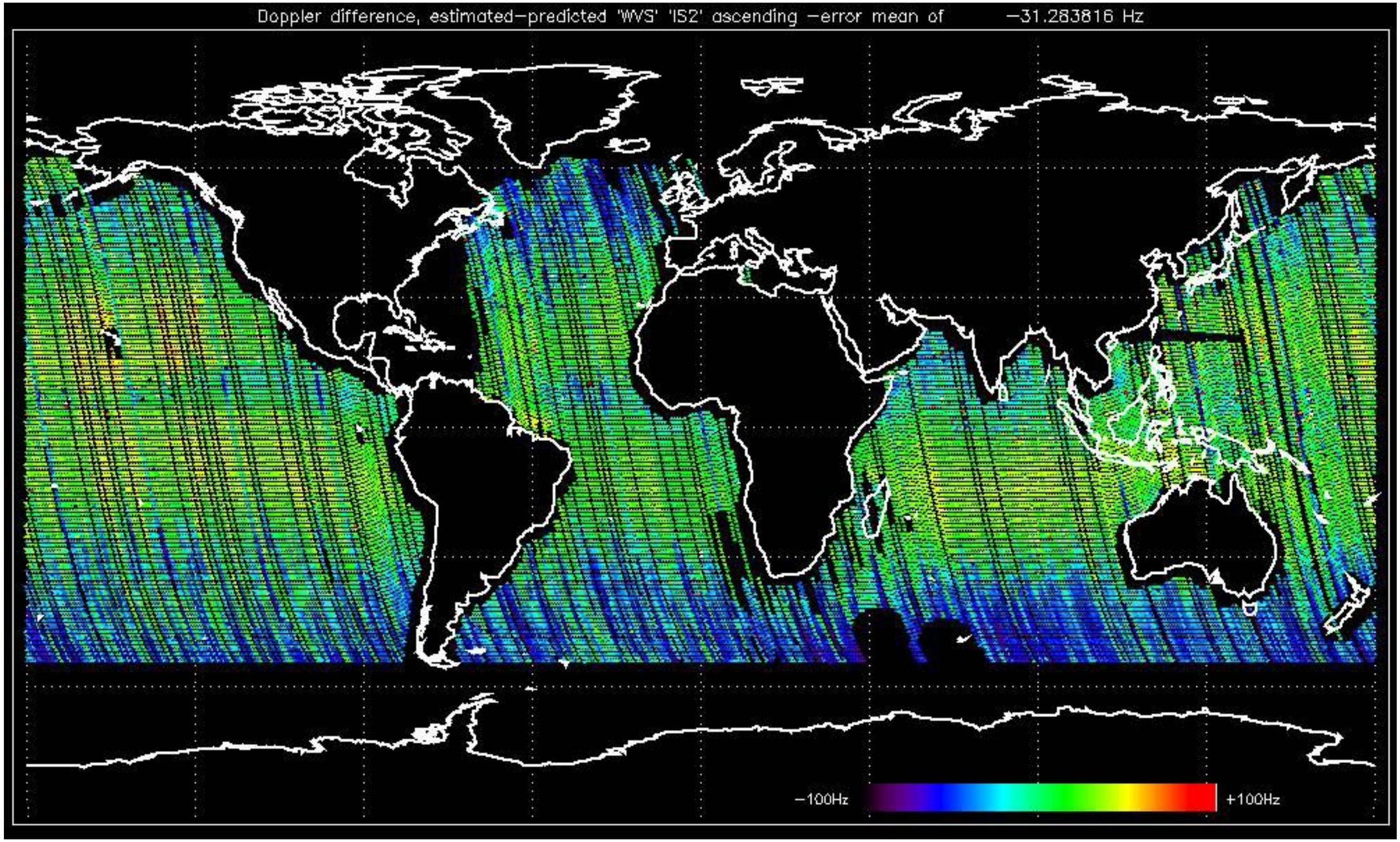

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

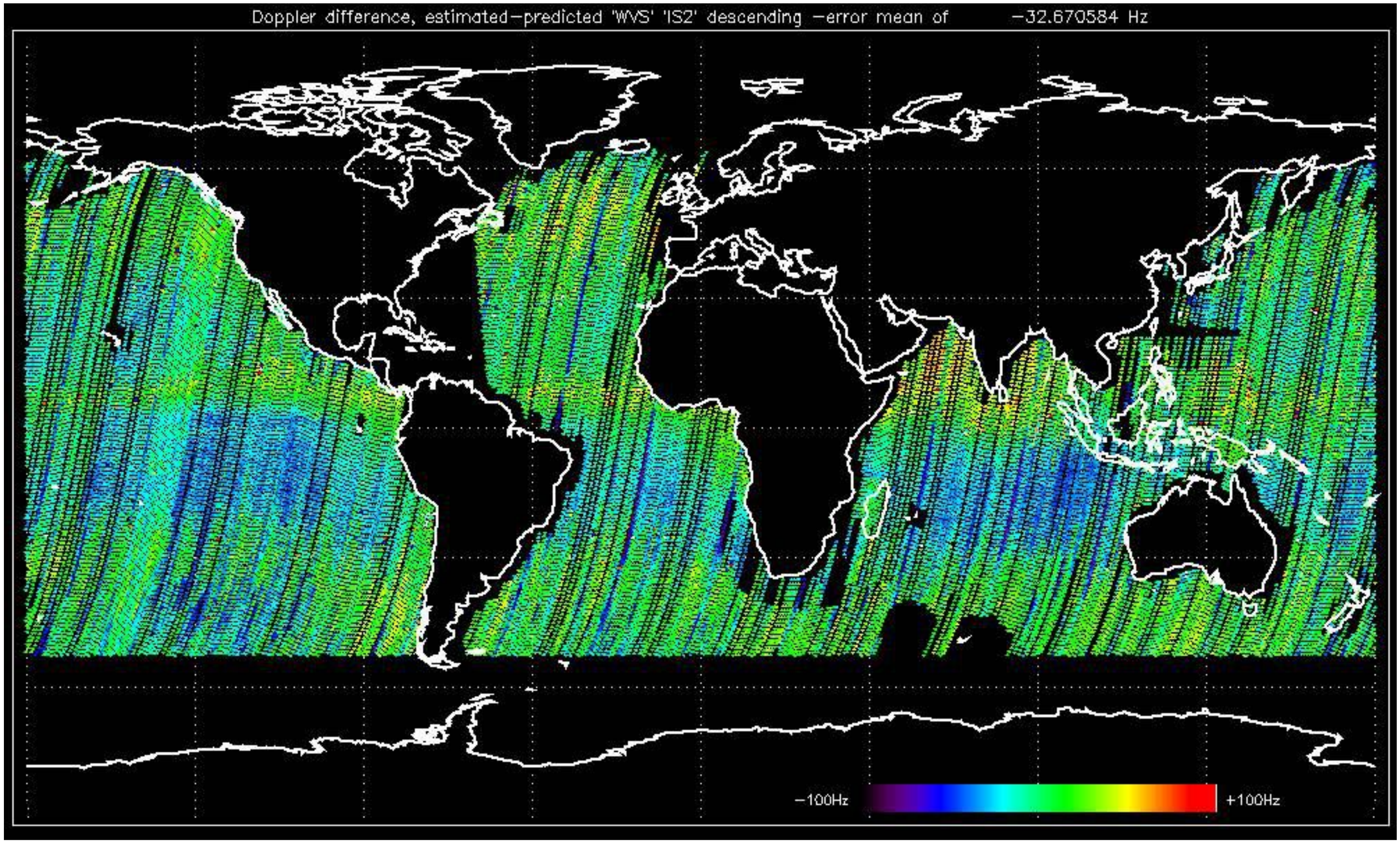

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −30.667885 Hz
−100Hz
+100Hz

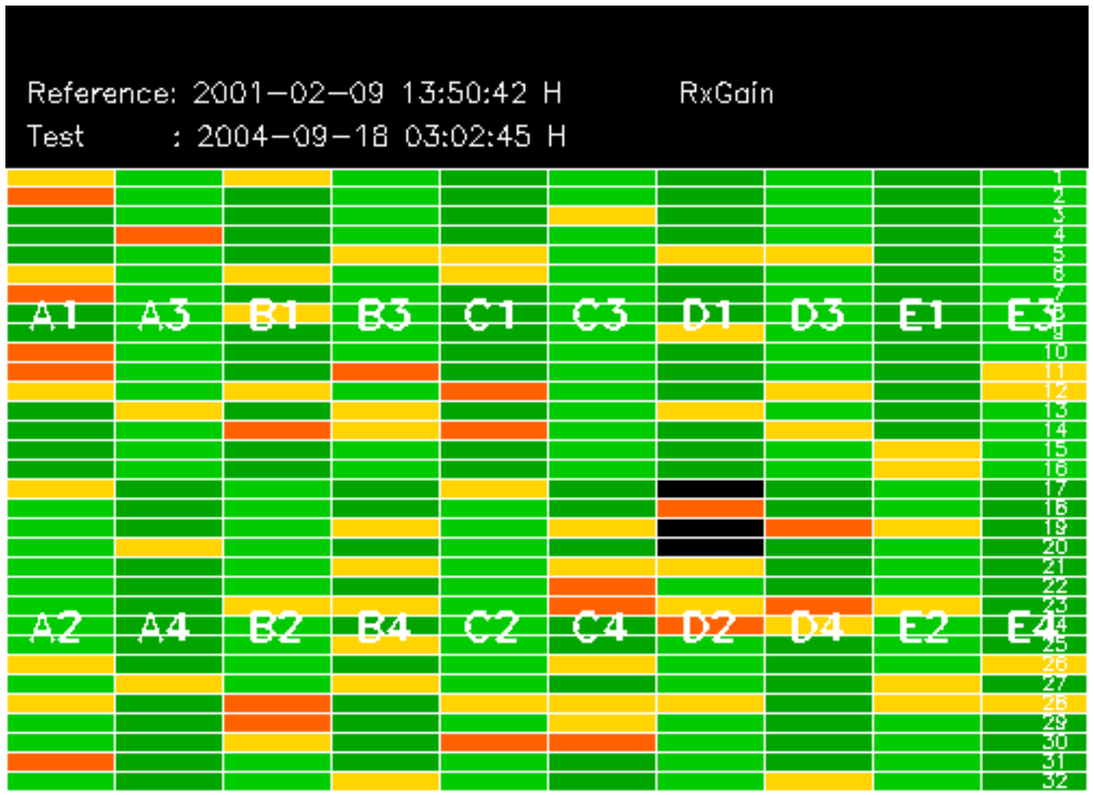

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -19.943205 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −31.283816 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −32.670584 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
Test : 2004-09-18 03:02:45 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
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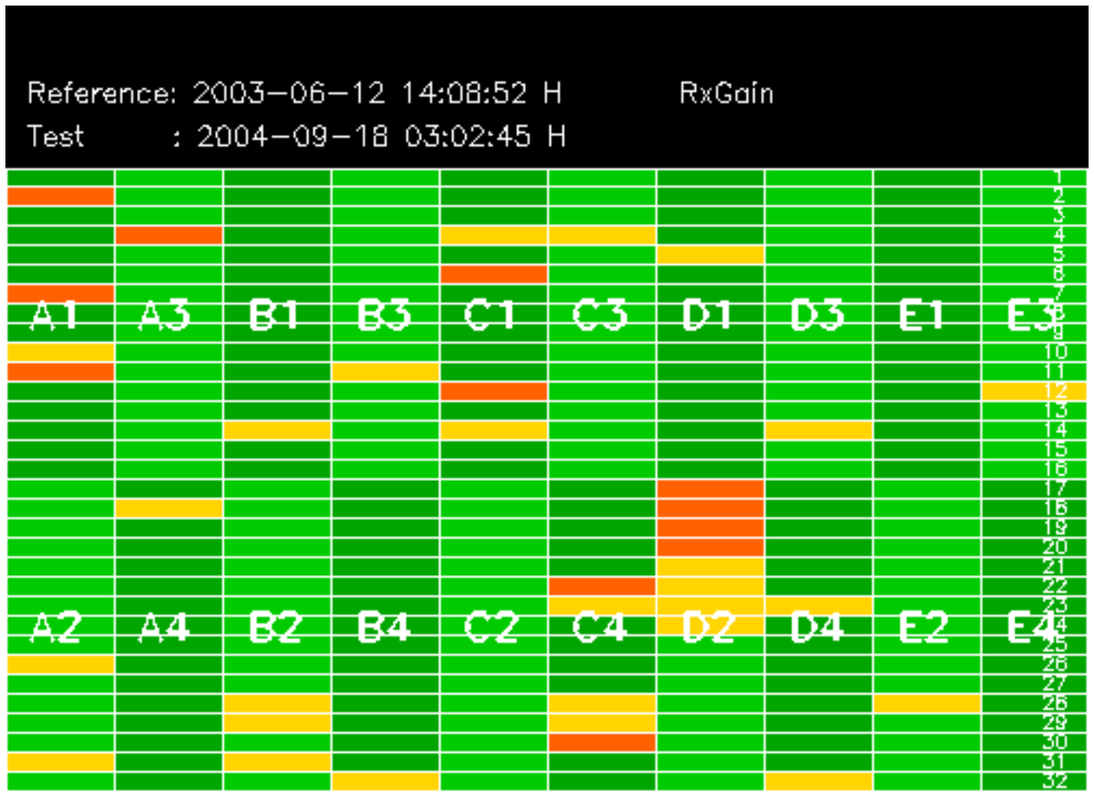
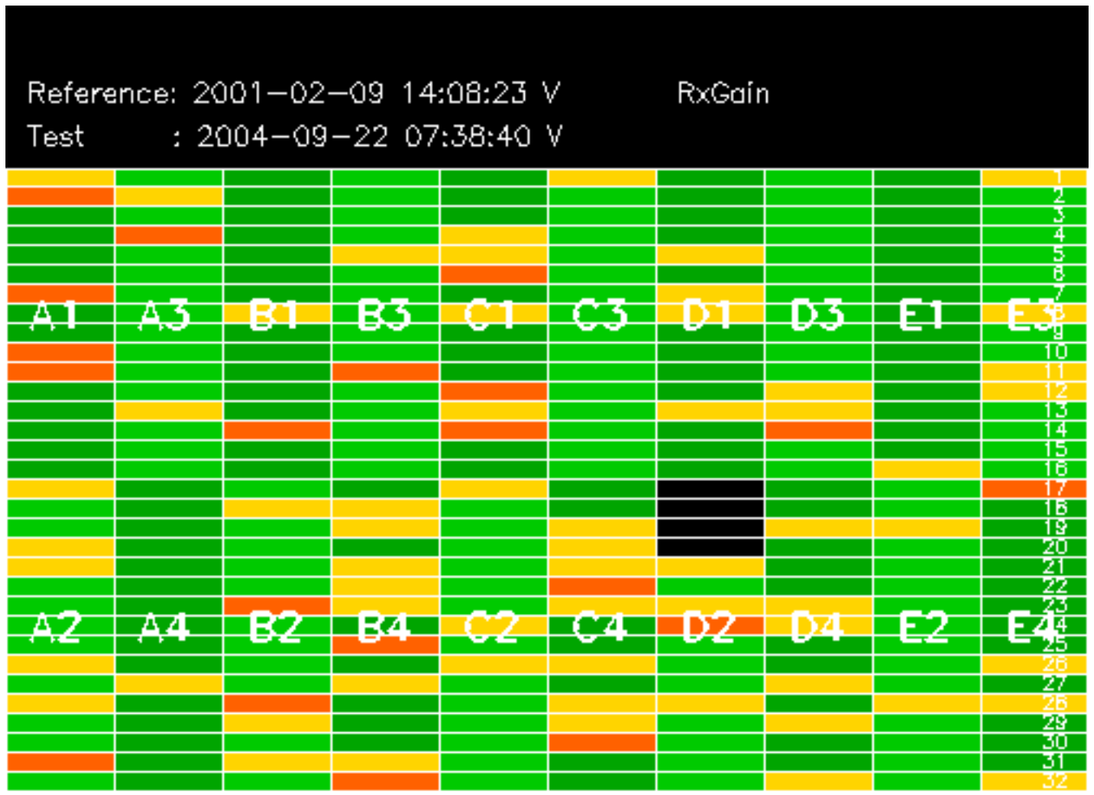
27
28
29
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2004-09-18 03:02:45 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 : 2004-09-22 07:38:40 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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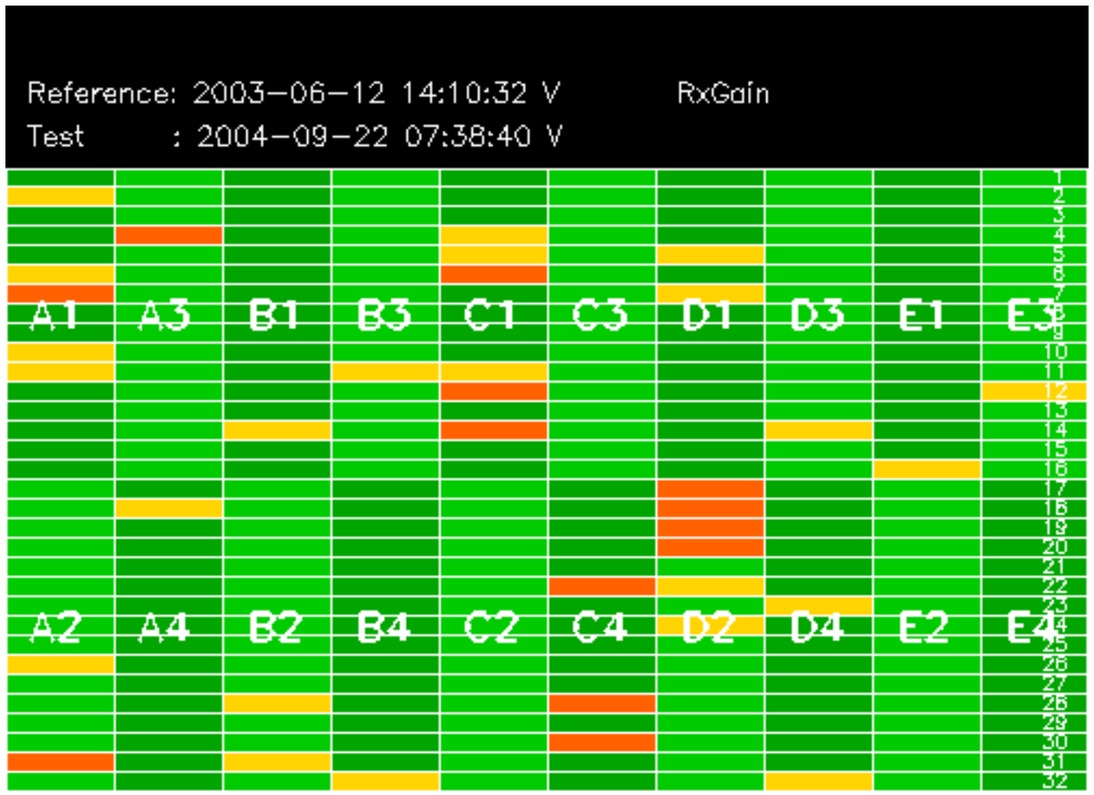
Reference: 2003-06-12 14:10:32 V
Test : 2004-09-22 07:38:40 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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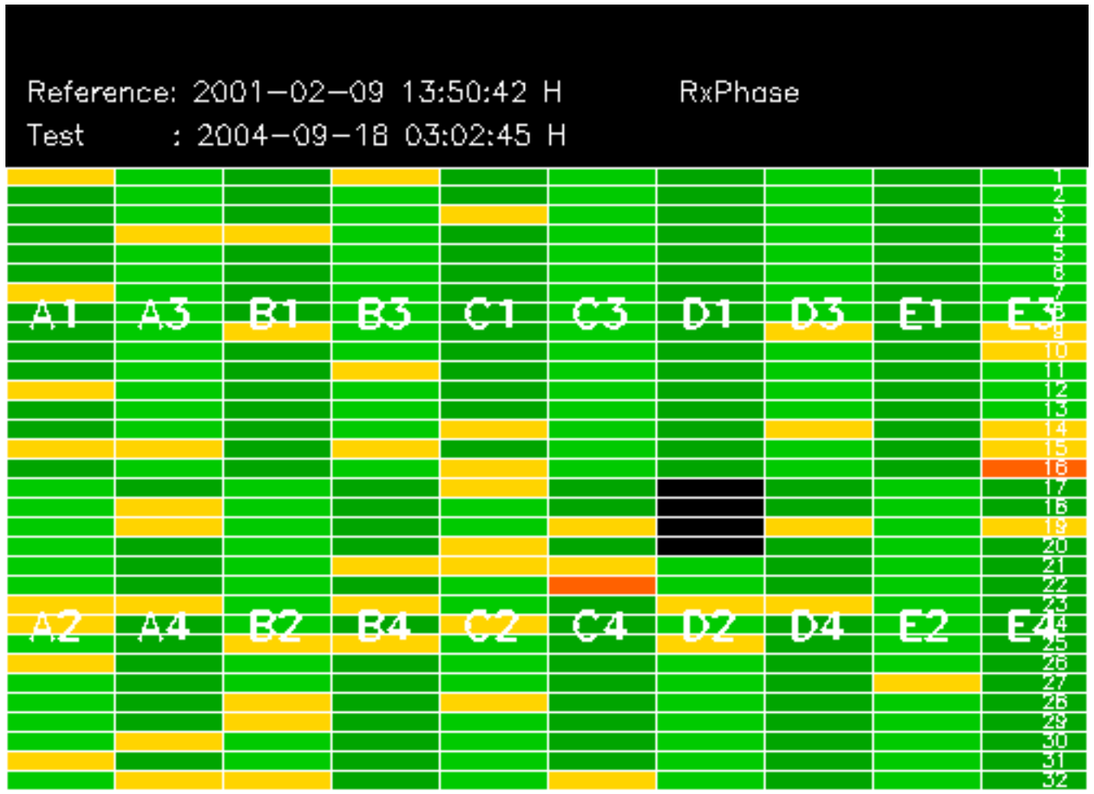
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-09-18 03:02:45 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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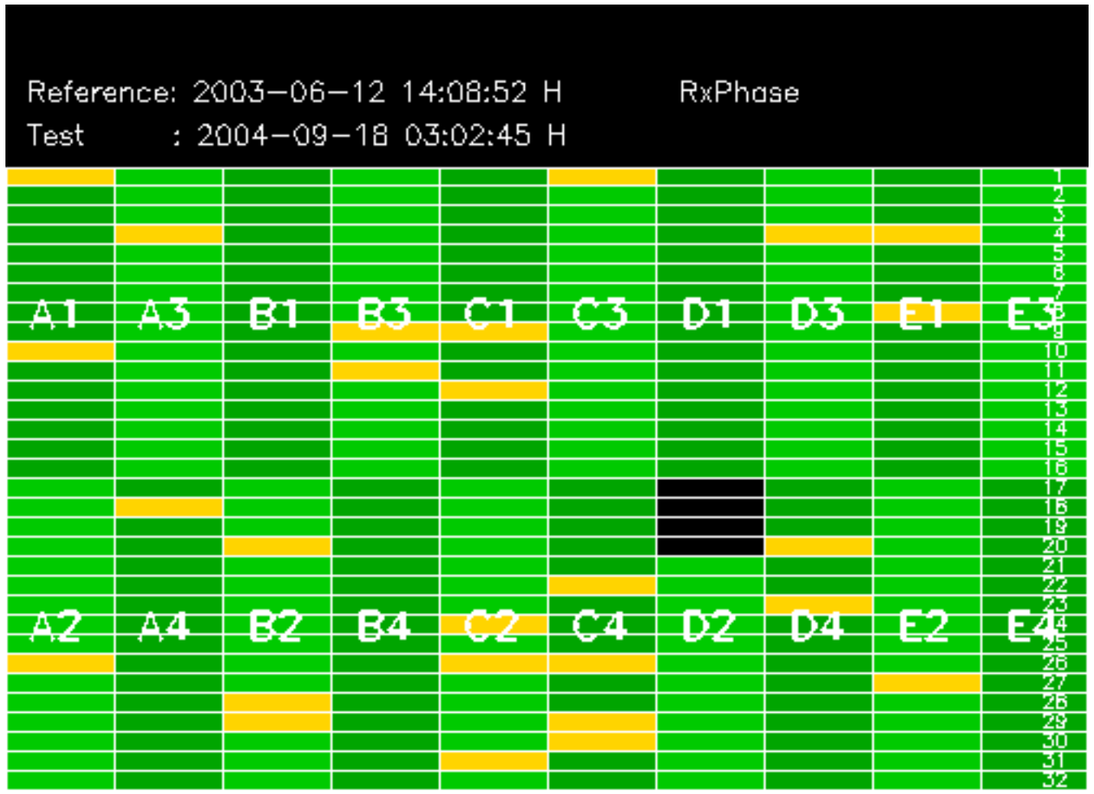
Reference: 2003-06-12 14:08:52 H
Test : 2004-09-18 03:02:45 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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32


Reference: 2001-02-09 14:08:23 V
Test : 2004-09-22 07:38:40 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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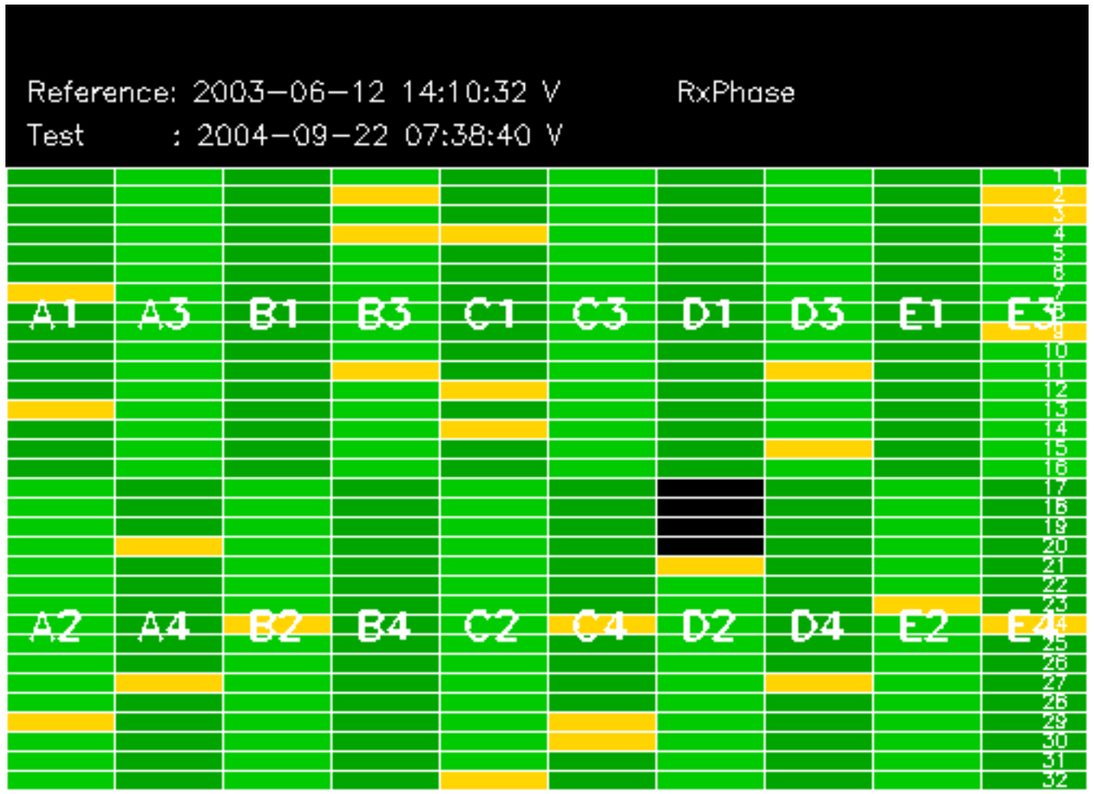
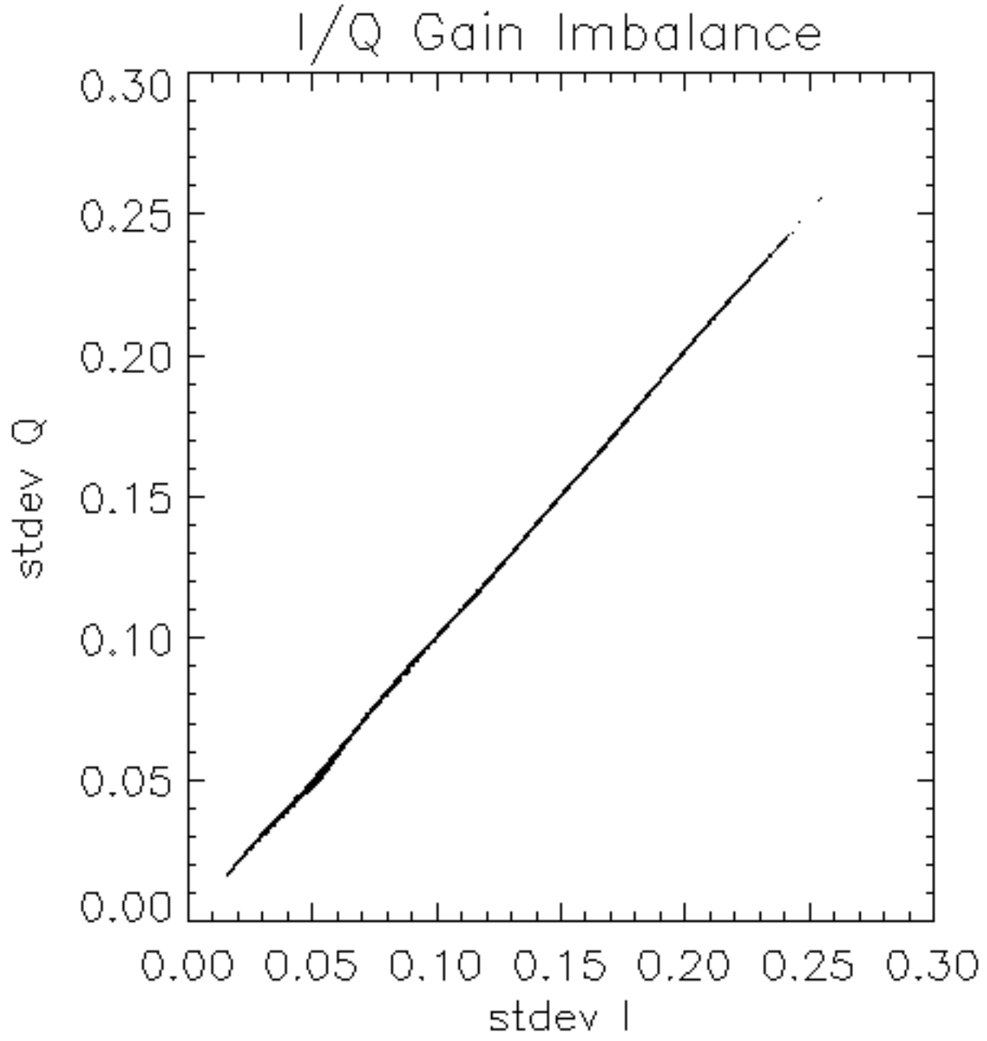
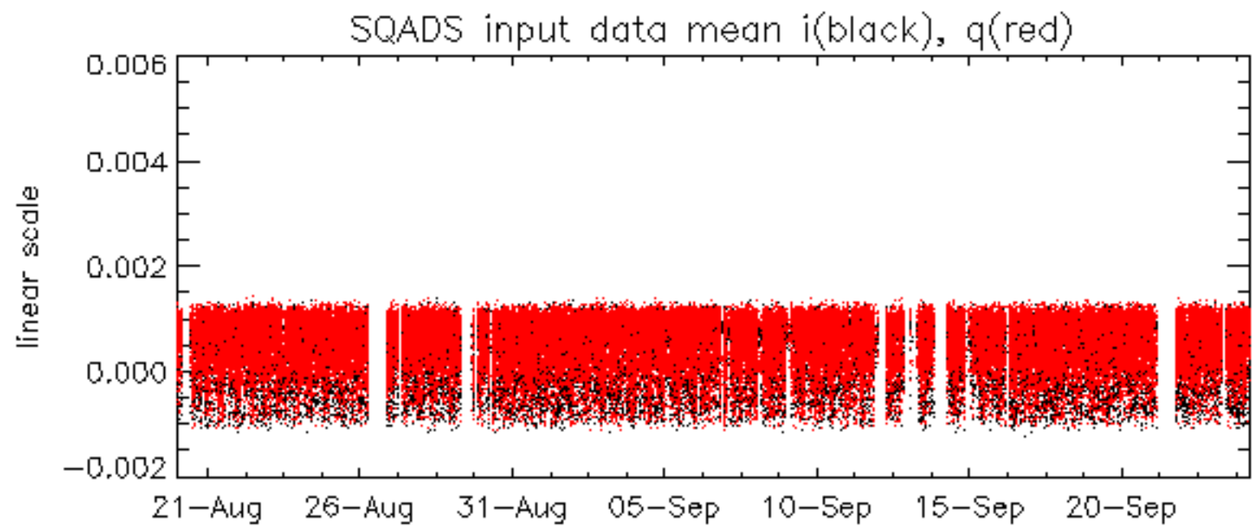
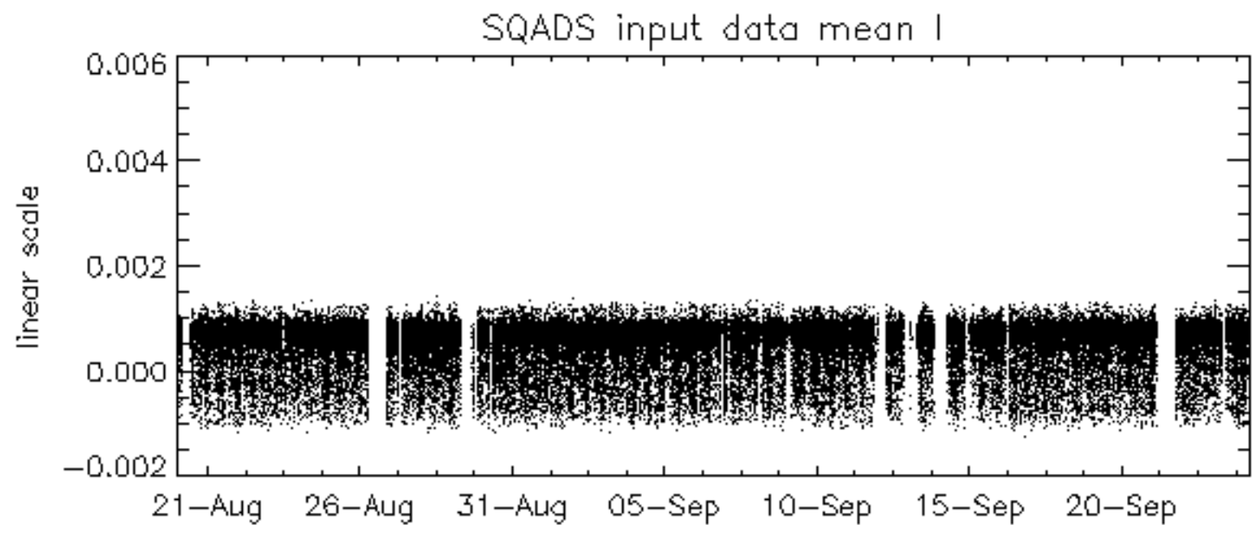
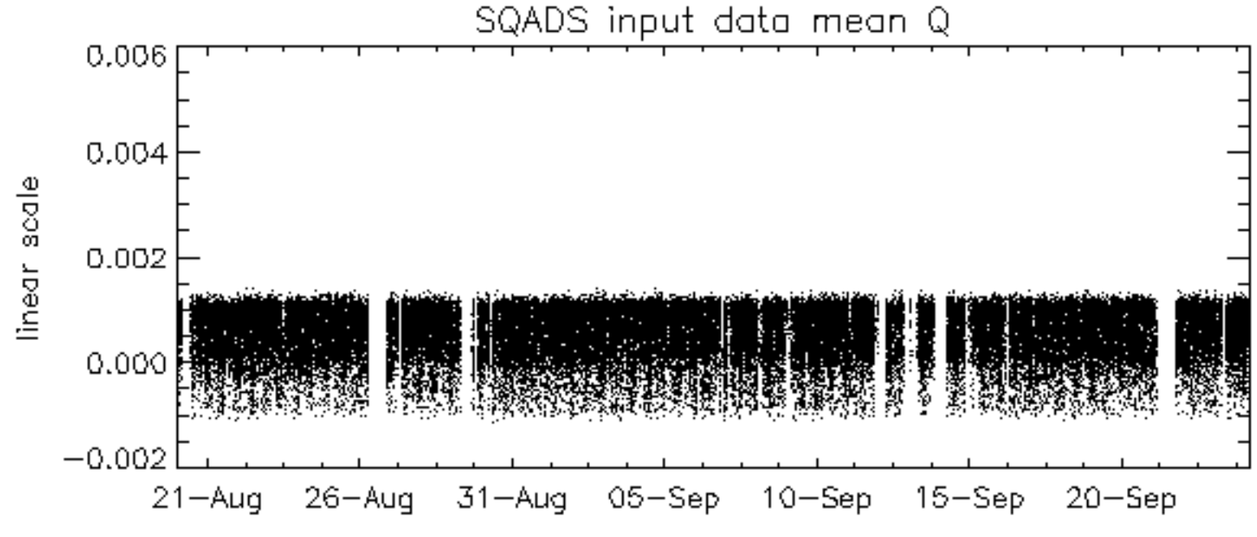
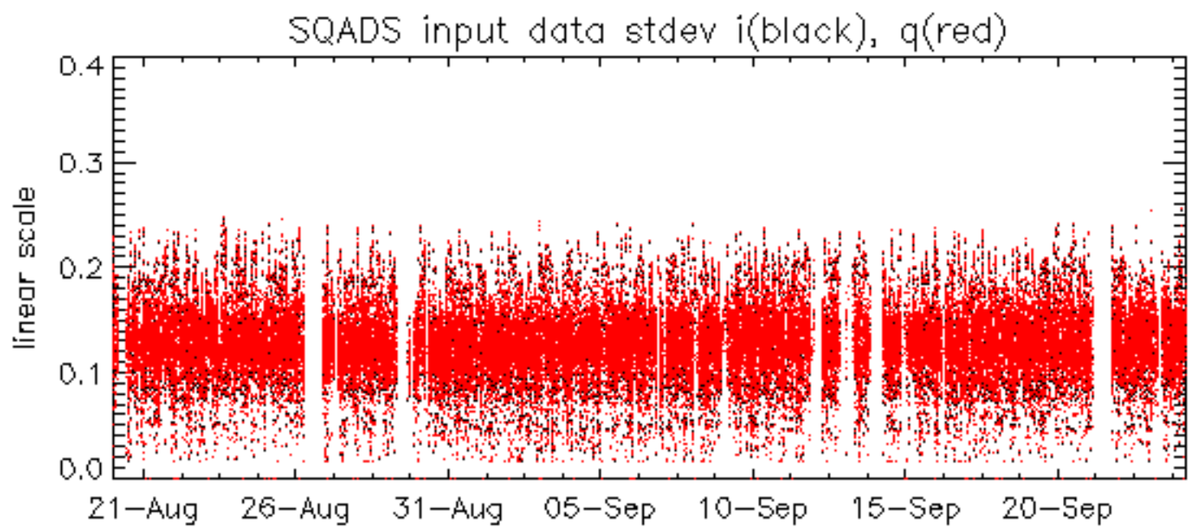

Reference: 2003-06-12 14:10:32 V
Test : 2004-09-22 07:38:40 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

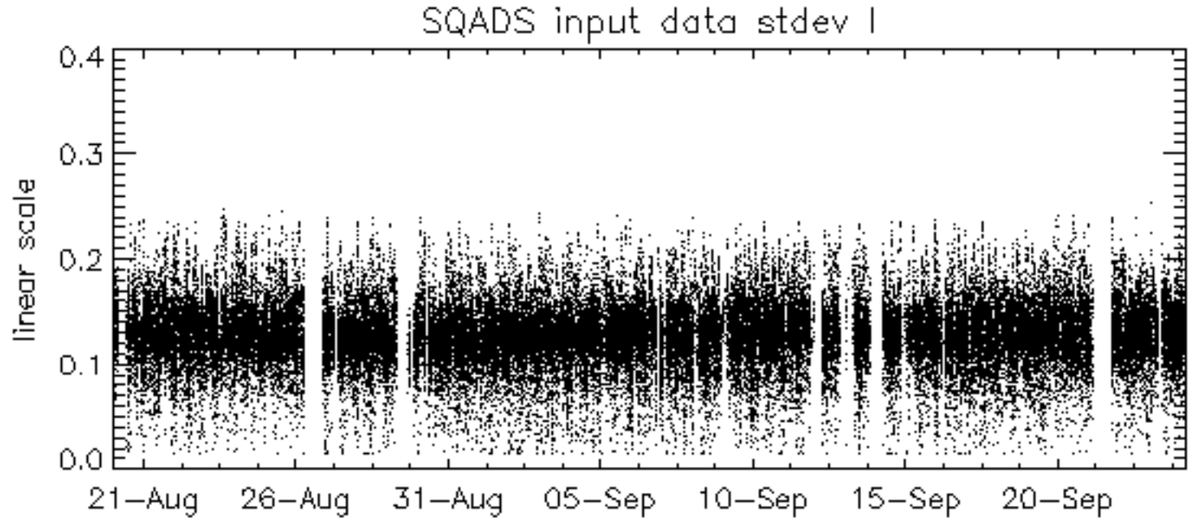

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

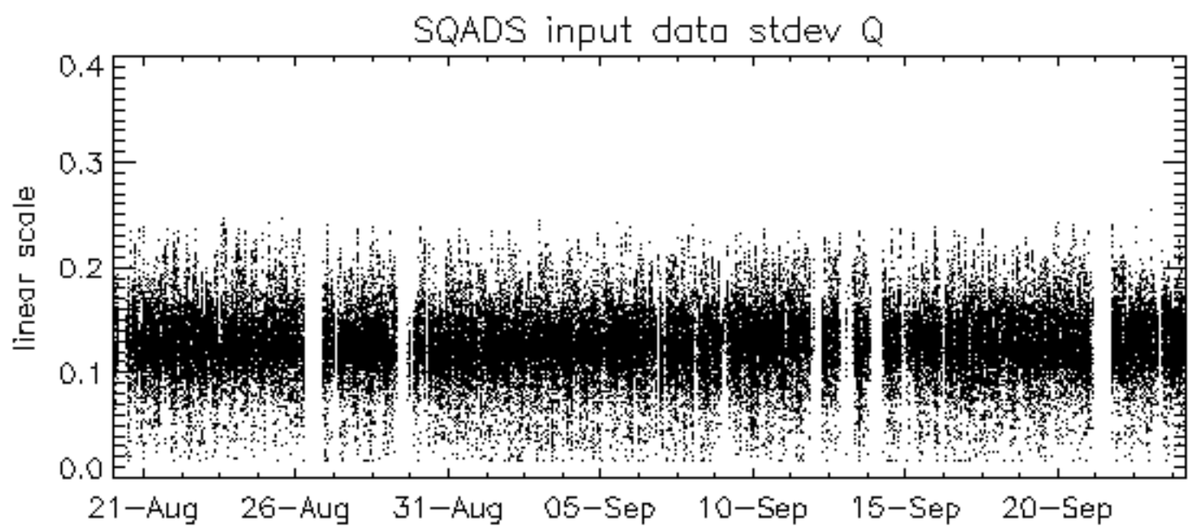

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Aug
26−Aug
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep

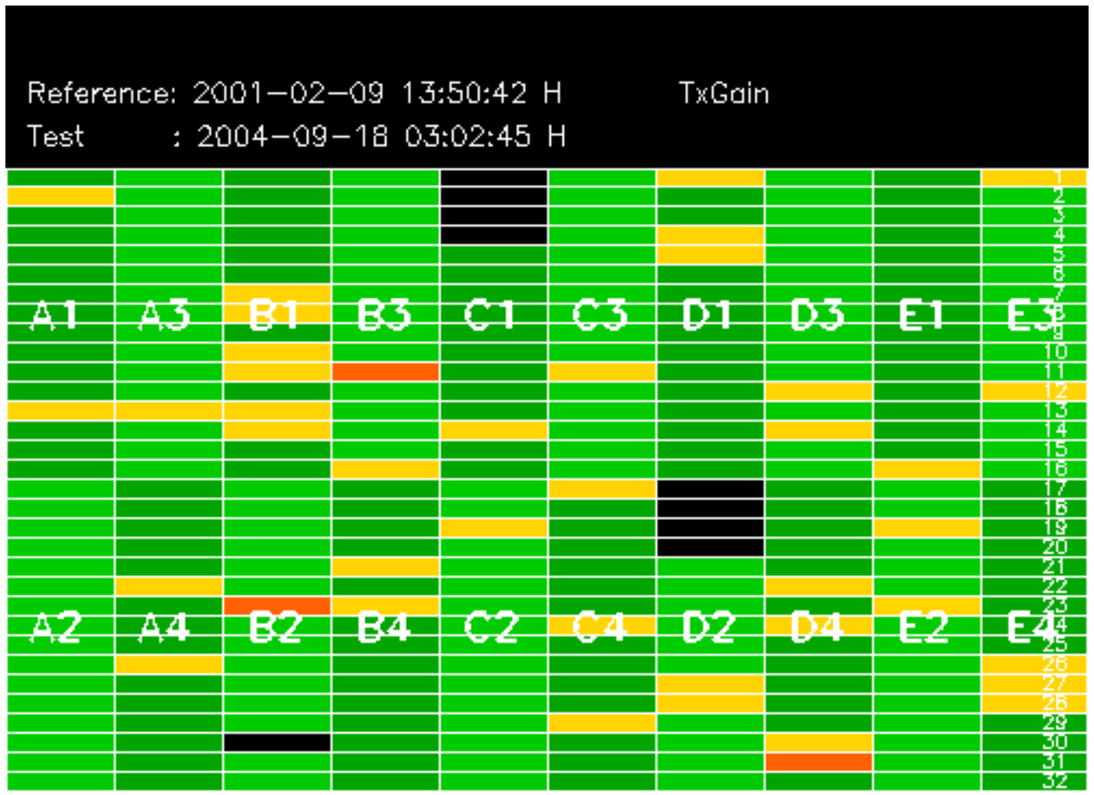

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Aug
26−Aug
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep

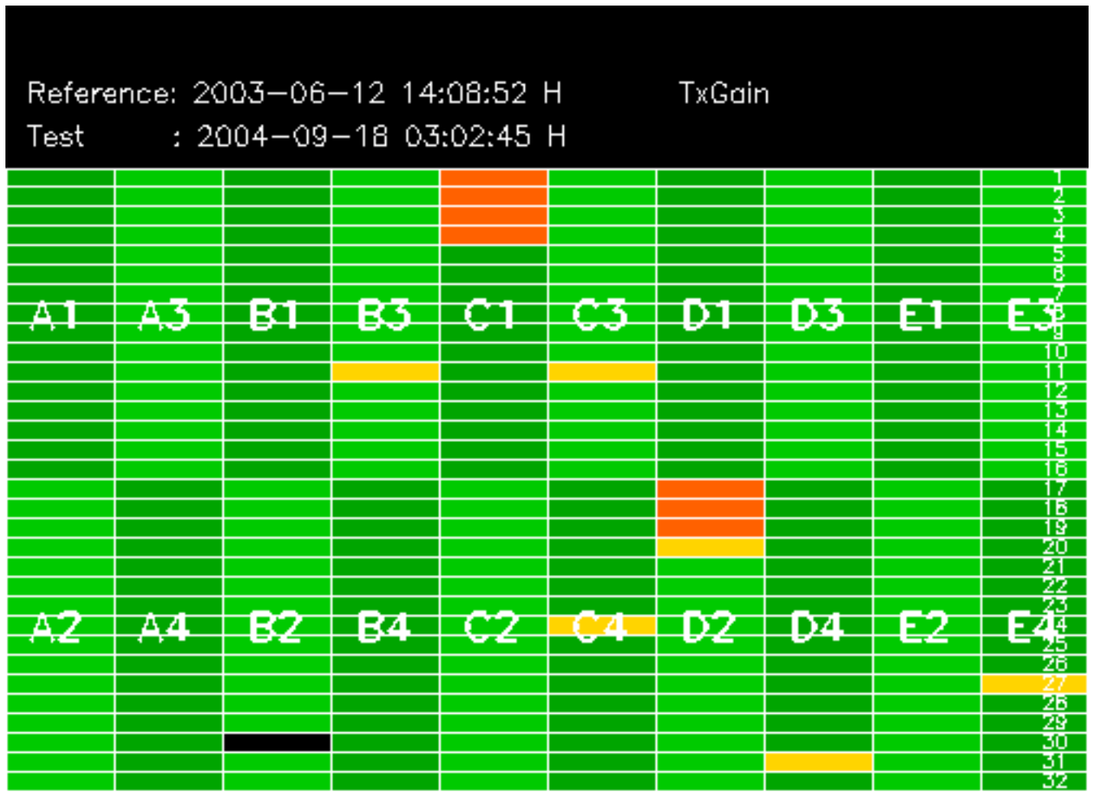

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Aug
26−Aug
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep


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


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
21−Aug
26−Aug
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
21−Aug
26−Aug
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep


Reference: 2001-02-09 13:50:42 H
Test : 2004-09-18 03:02:45 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 : 2004-09-18 03:02:45 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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E4
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Reference: 2001-02-09 14:08:23 V
Test : 2004-09-22 07:38:40 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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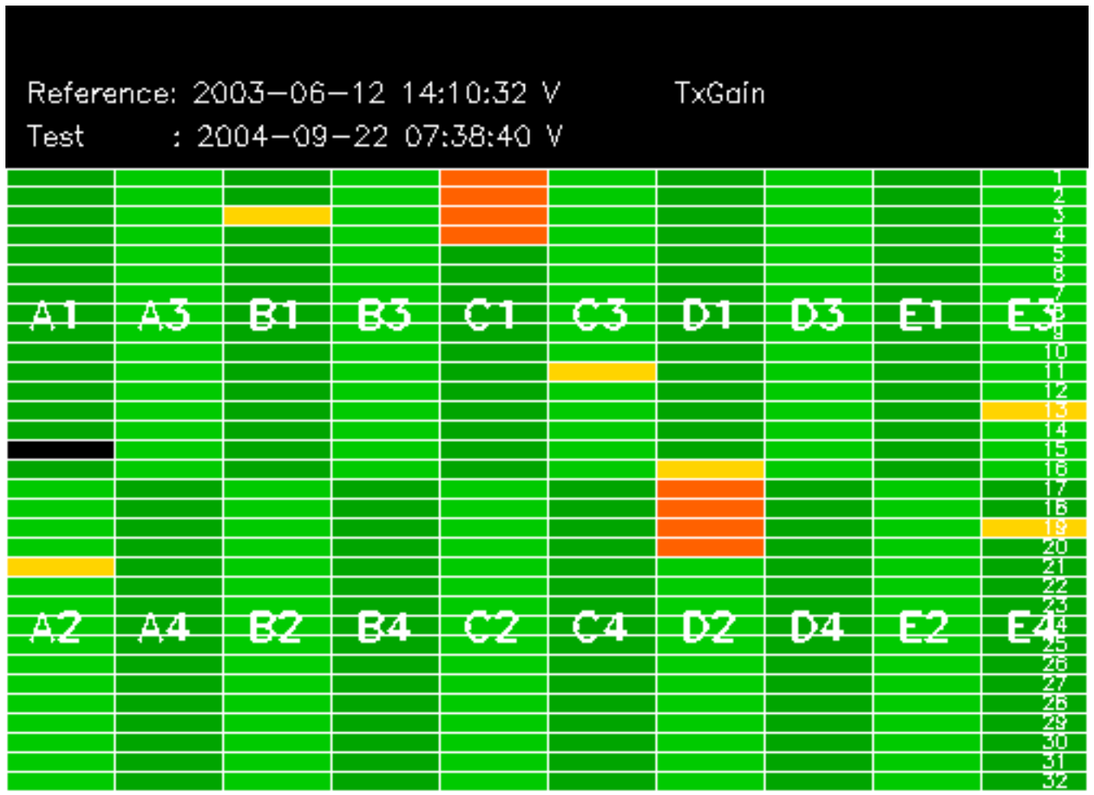
30
31
32


Reference: 2003-06-12 14:10:32 V
Test : 2004-09-22 07:38:40 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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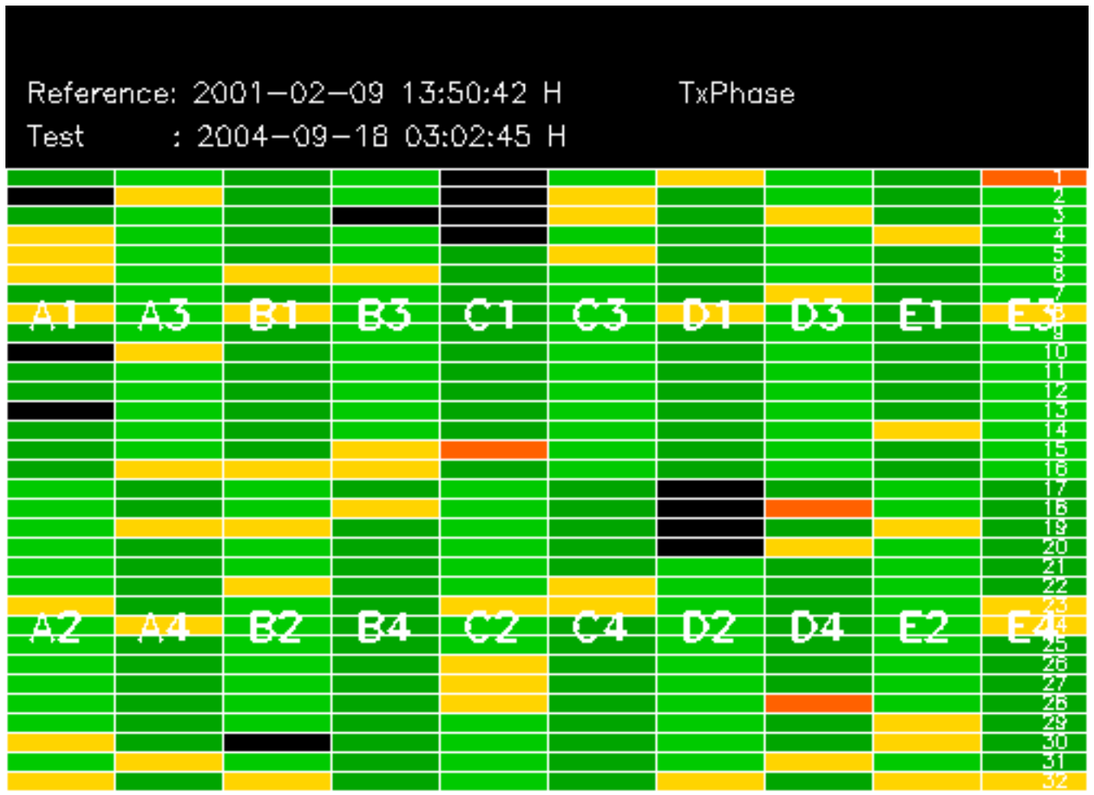
Reference: 2001-02-09 13:50:42 H
Test : 2004-09-18 03:02:45 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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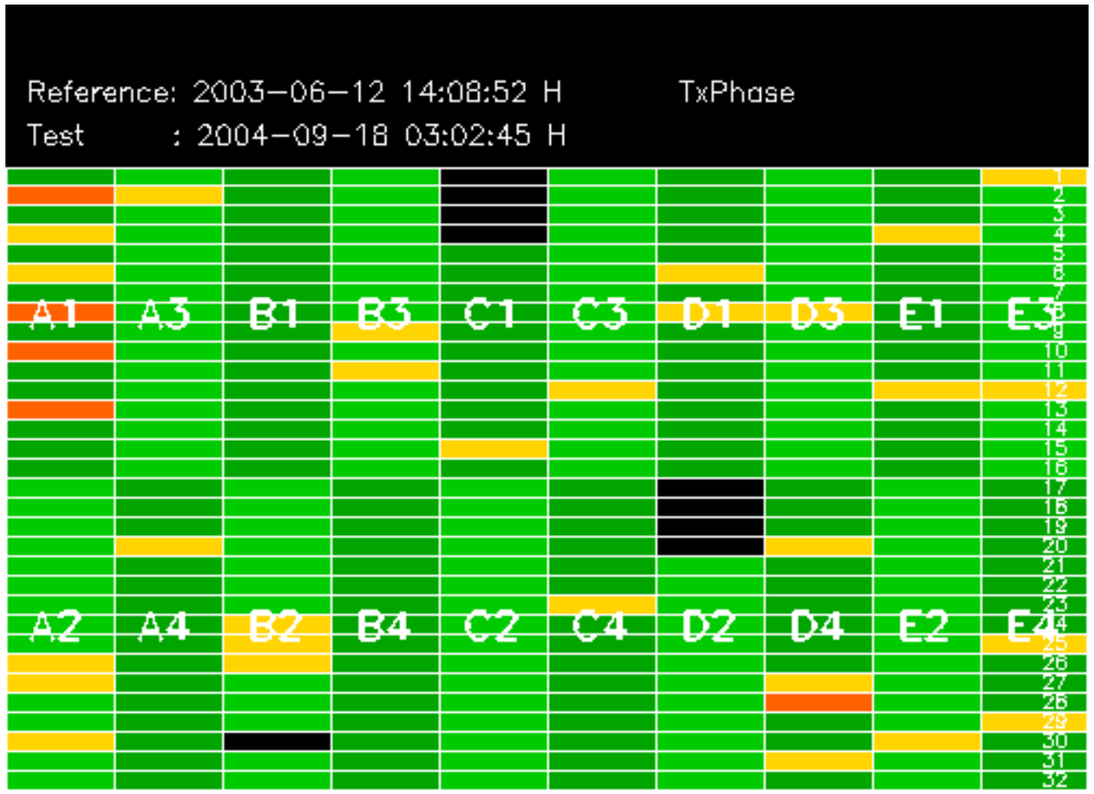
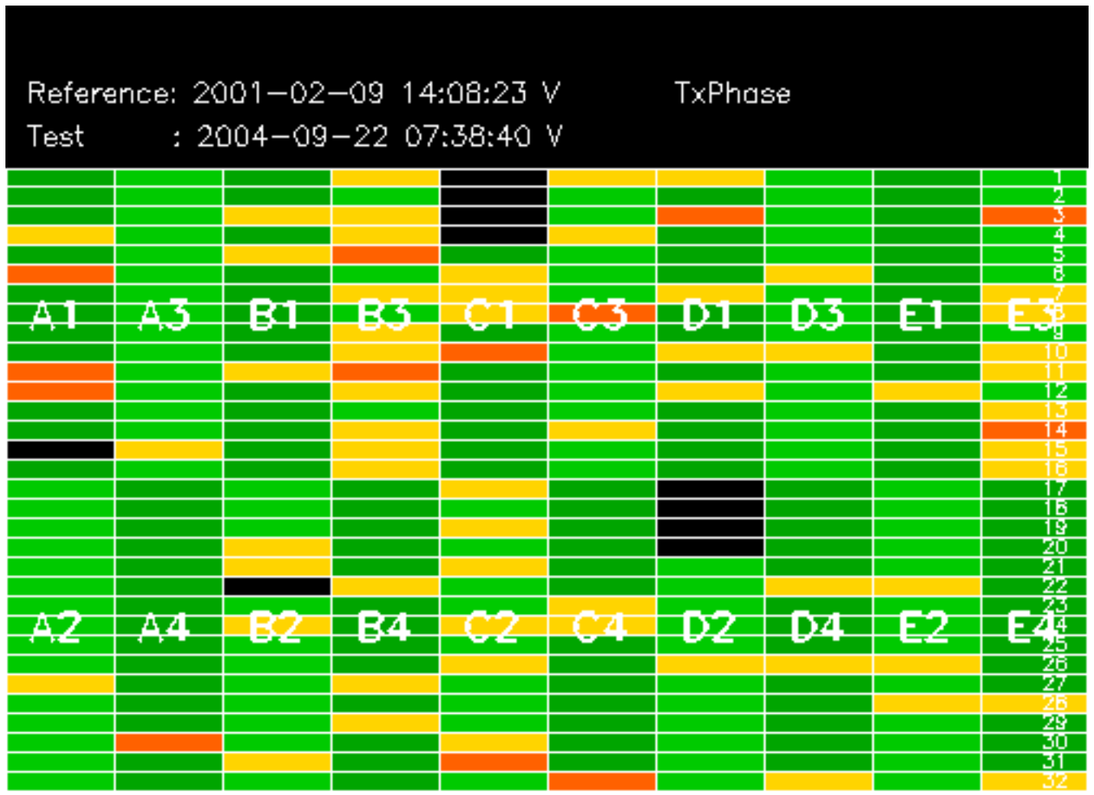
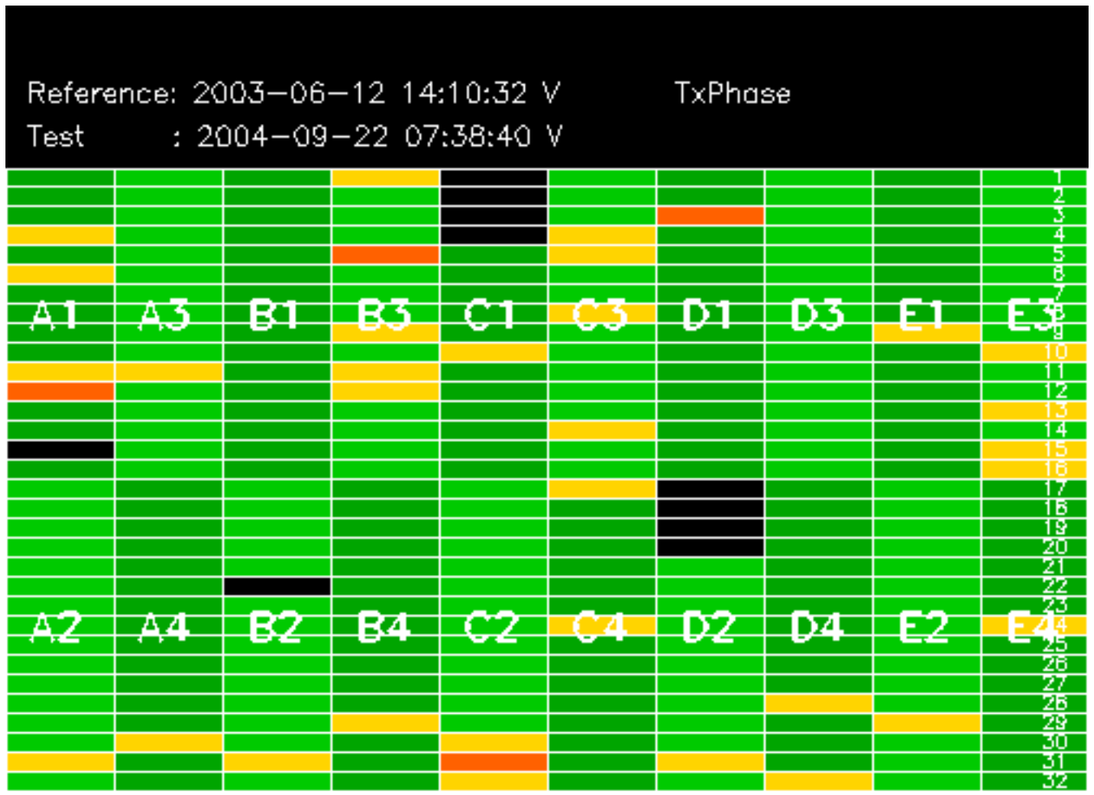

Reference: 2003-06-12 14:08:52 H
Test : 2004-09-18 03:02:45 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2004-09-22 07:38:40 V
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 : 2004-09-22 07:38:40 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
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C4
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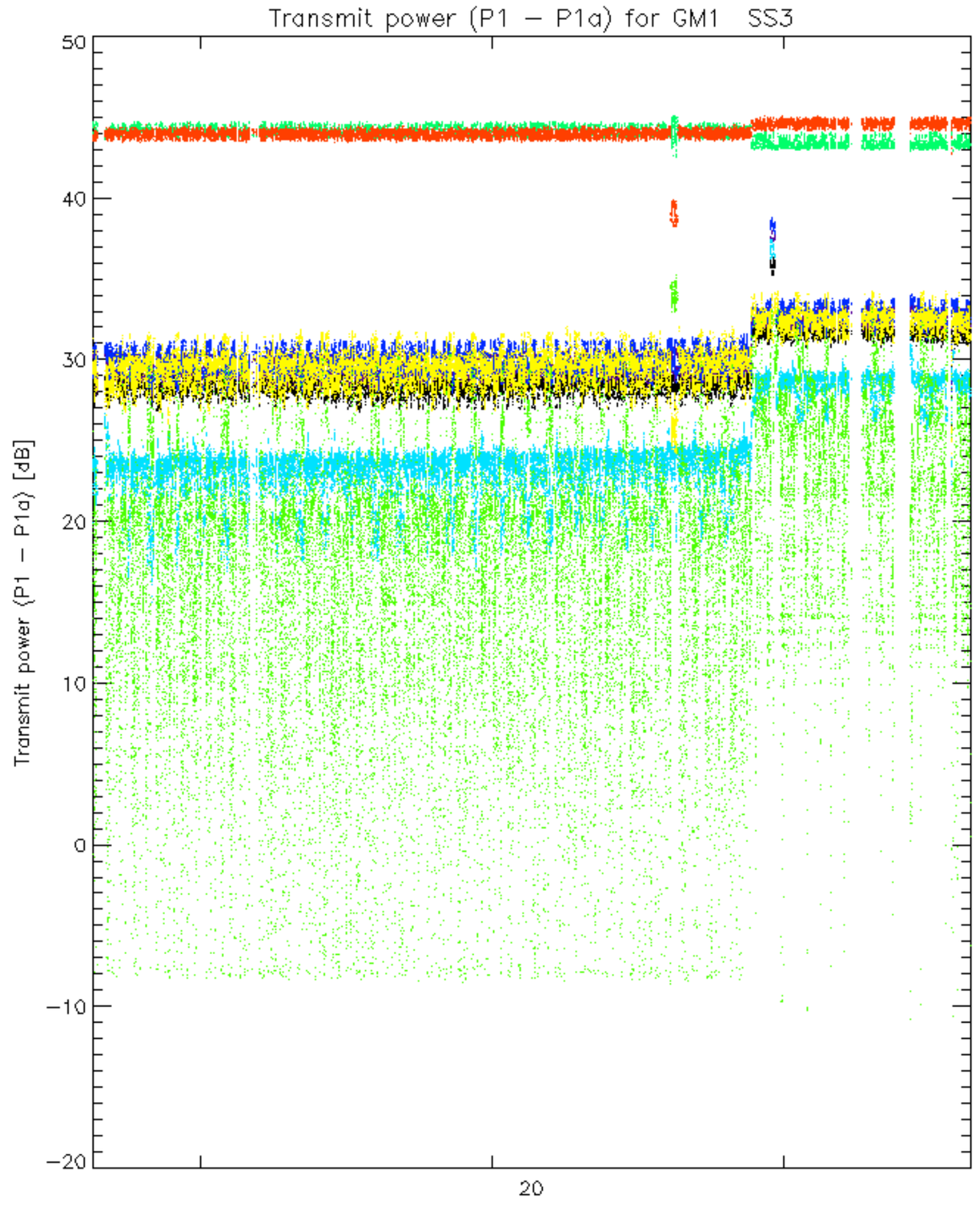
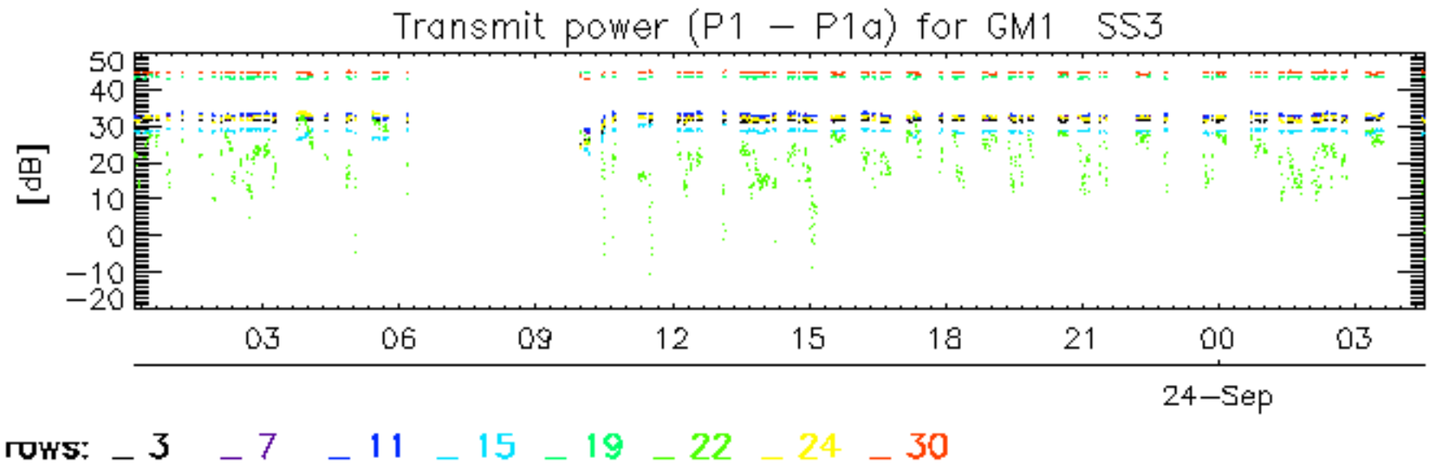
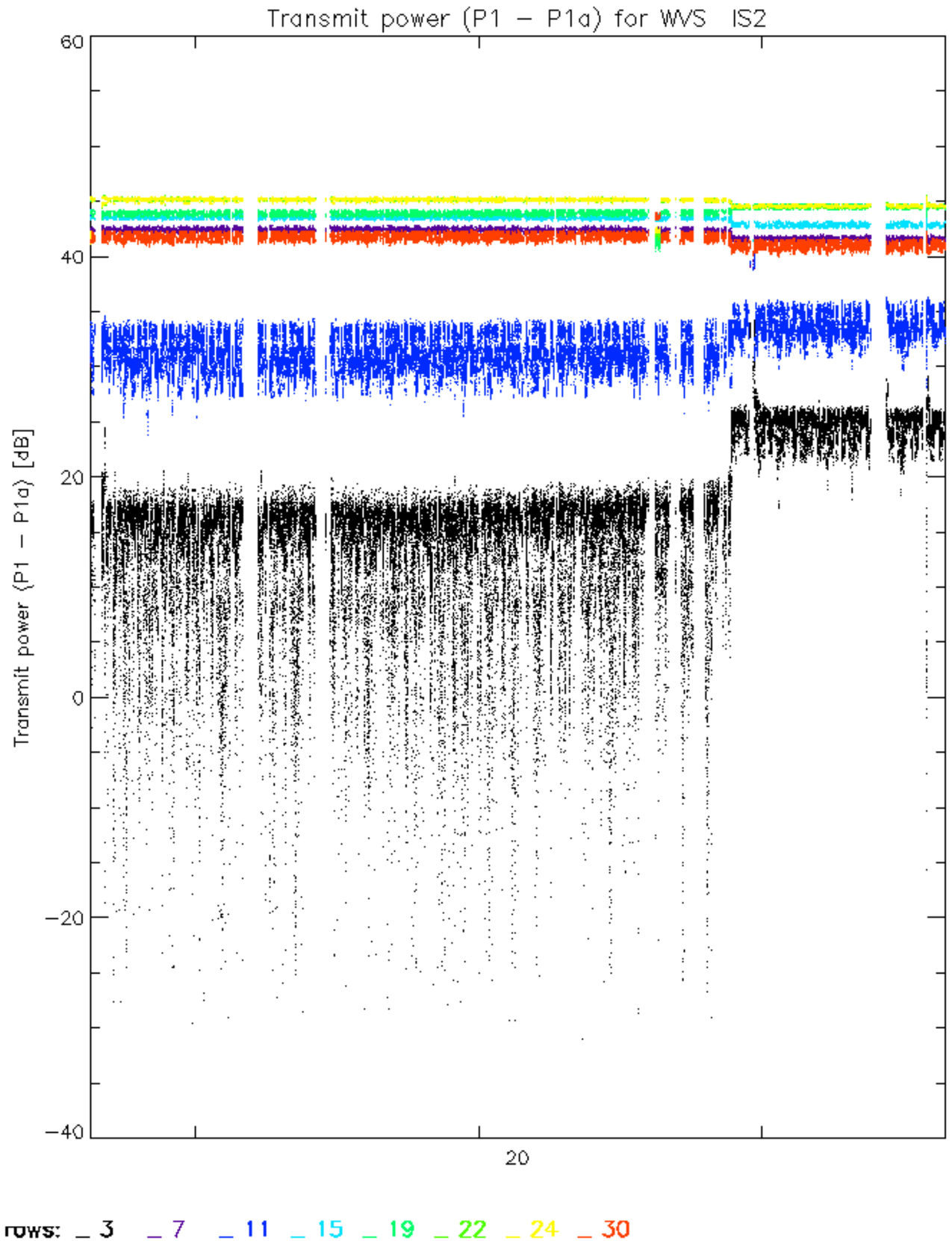
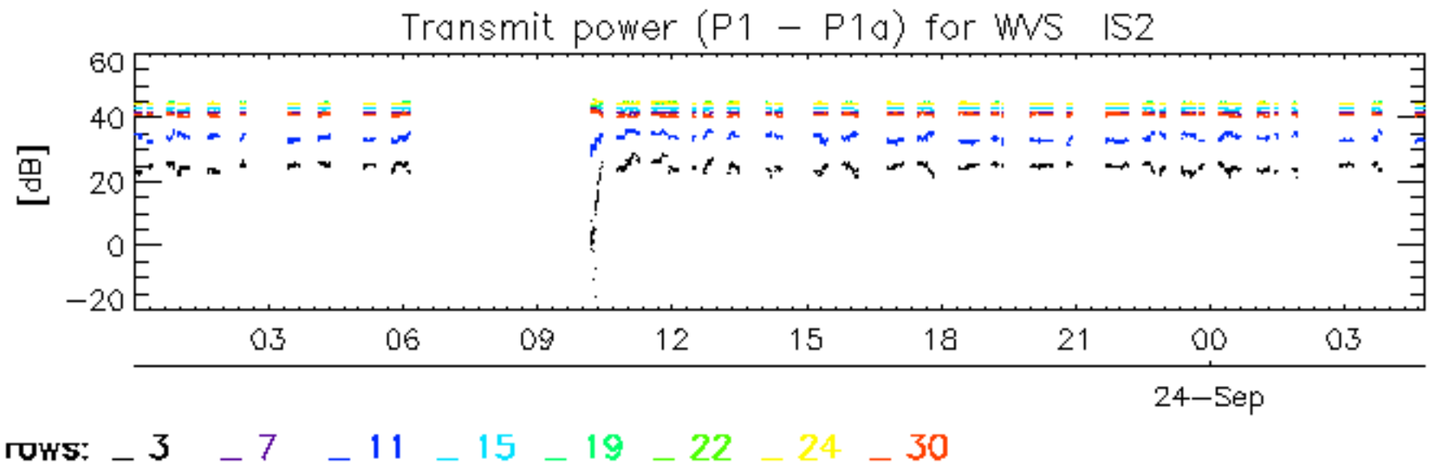

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
−20
20
rows: 3 7 11 15 19 22 24 30


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


Transmit power (P1 – P1a) for WVS IS2
[dB]
60
40
20
0
−20
03
06
09
12
15
18
21
00
03
24–Sep
rows: 3
7
11
15
19
22
24
30

No unavailabilities during the reported period.