REPORT OF 040928

last update on Tue Sep 28 12:20:49 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 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 MS product available on the 27th of Sept due to an instrument unavailability.
The analysis has been performed on the last available MS products.

Polarisation	Start Time
V	20040926 053212
H	20040925 060349

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.

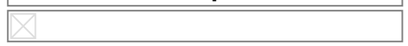
4.1 - Daily statistics

4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS

4.1.2 - Evolution for GM1

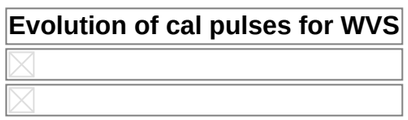
Evolution of cal pulses for GM1



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	-3.465960	0.023292	-0.000970
7	P1	-3.335777	0.022594	0.010954
11	P1	-4.647945	0.039367	-0.028656
15	P1	-5.761723	0.084271	-0.040806
19	P1	-3.512227	0.080096	-0.006397
22	P1	-4.555187	0.109893	0.009338
24	P1	-5.001144	0.123952	-0.026454
30	P1	-7.037402	0.149342	-0.084540
3	P1	-16.223532	0.397794	-0.009649

7	P1	-14.013863	0.063911	-0.003850
11	P1	-20.250380	0.246179	-0.060636
15	P1	-11.769675	0.041976	0.050708
19	P1	-14.035757	1.113226	-0.080520
22	P1	-16.022165	0.362045	0.304767
24	P1	-14.460319	0.296031	0.115309
30	P1	-17.951571	0.626461	-0.088021

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.303694	0.086475	0.039775
7	P2	-22.594049	0.119151	0.066786
11	P2	-15.206169	0.134993	0.130198
15	P2	-7.055402	0.097860	0.047076
19	P2	-9.563076	0.140597	0.063641
22	P2	-17.306250	0.109514	0.098094
24	P2	-20.759287	0.088836	-0.012724
30	P2	-19.164904	0.082597	0.111707

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.151381	0.003646	0.010144
7	P3	-8.151381	0.003646	0.010139
11	P3	-8.151379	0.003646	0.010129
15	P3	-8.151376	0.003646	0.010125
19	P3	-8.151371	0.003646	0.010122
22	P3	-8.151368	0.003646	0.010112
24	P3	-8.151364	0.003647	0.010094
30	P3	-8.151280	0.003651	0.010638

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	-2.829823	0.047985	-0.040047
7	P1	-3.030300	0.083188	-0.035346
11	P1	-3.889664	0.063455	-0.034864
15	P1	-3.533722	0.080031	-0.015896
19	P1	-3.521345	0.099324	-0.040173
22	P1	-5.730555	0.125345	-0.022480
24	P1	-3.961216	0.055789	-0.063824
30	P1	-6.206775	0.098249	0.030180
3	P1	-10.835426	0.164182	-0.316500
7	P1	-10.116037	0.145408	-0.013070
11	P1	-12.167079	0.106797	-0.006322
15	P1	-11.684286	0.074509	-0.061412
19	P1	-15.733880	2.103422	-0.029467
22	P1	-23.339252	1.496392	0.078876
24	P1	-17.979305	0.363307	-0.207964
30	P1	-20.417425	1.281314	0.019777

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.980558	0.047703	0.061399
7	P2	-22.729725	0.039382	0.082182
11	P2	-10.908645	0.060453	0.173845
15	P2	-4.956893	0.029973	0.027103
19	P2	-6.768595	0.044452	0.036330
22	P2	-7.413595	0.037787	0.098258
24	P2	-11.055597	0.042231	0.023770
30	P2	-22.138577	0.027213	0.087679

P3 Cyclic statistics

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

3	P3	-8.002946	0.003390	0.007629
7	P3	-8.003013	0.003390	0.007657
11	P3	-8.003049	0.003387	0.007239
15	P3	-8.003079	0.003379	0.007397
19	P3	-8.003031	0.003390	0.007358
22	P3	-8.003044	0.003385	0.007450
24	P3	-8.003088	0.003412	0.007462
30	P3	-8.002955	0.003392	0.007181

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	0.000469086
	stdev	2.18198e-07
MEAN Q	mean	0.000537894
	stdev	2.35163e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127163
	stdev	0.000956742

STDEV Q	mean	0.127382
	stdev	0.000966117

5.3 - Gain imbalance I/Q

6 - Doppler Analysis

No anomalies observed 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

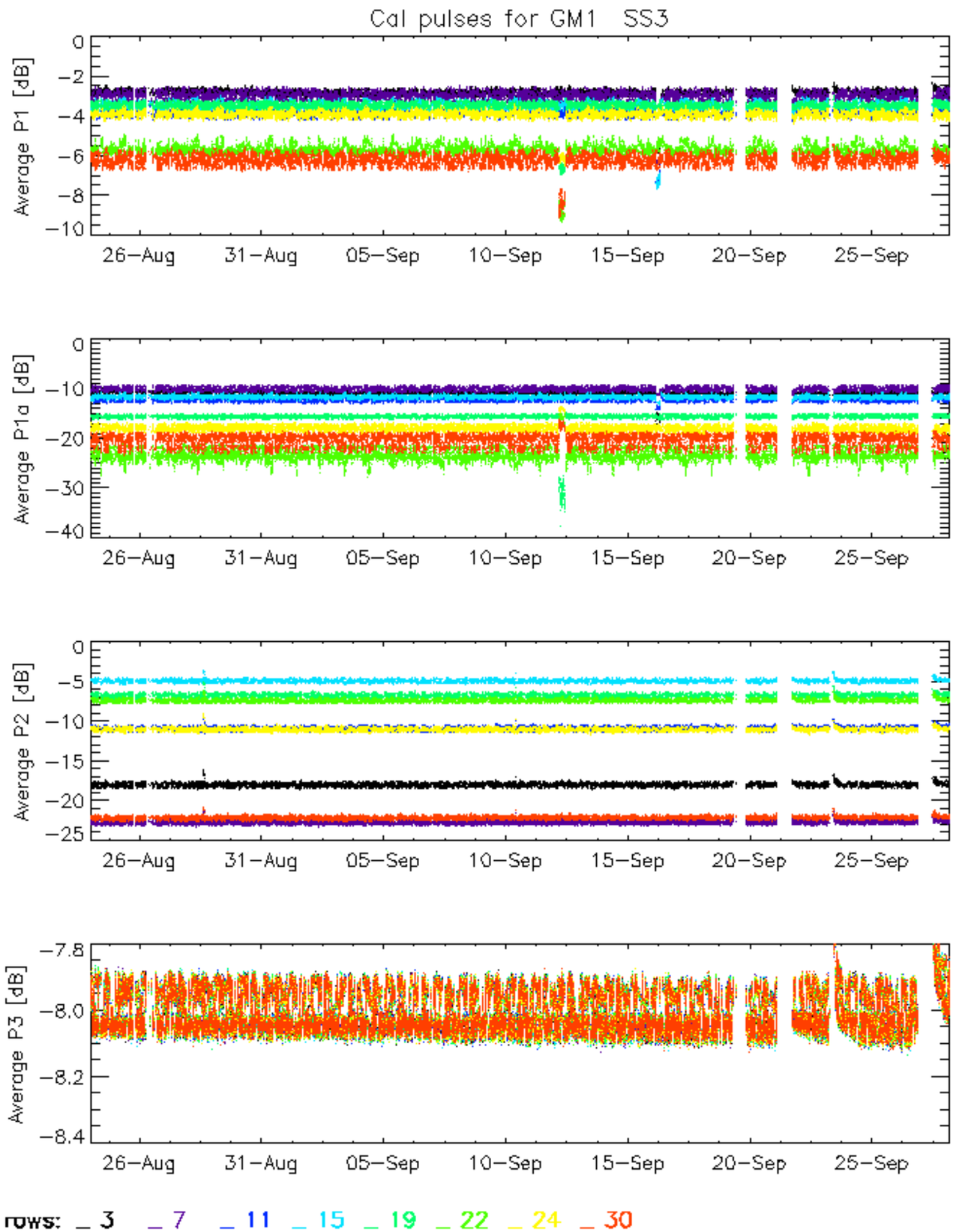
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

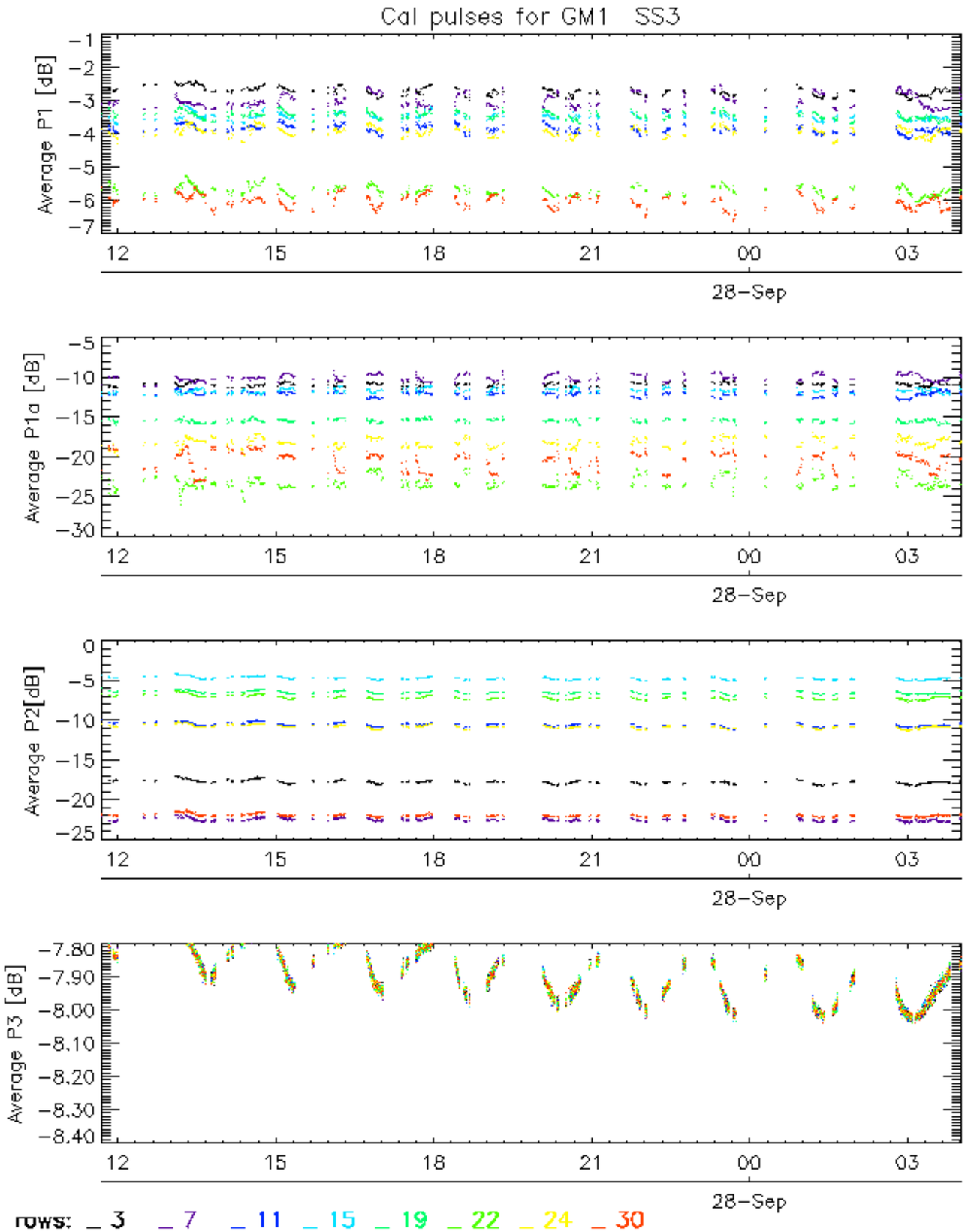
6.5 - Absolute Doppler for GM1

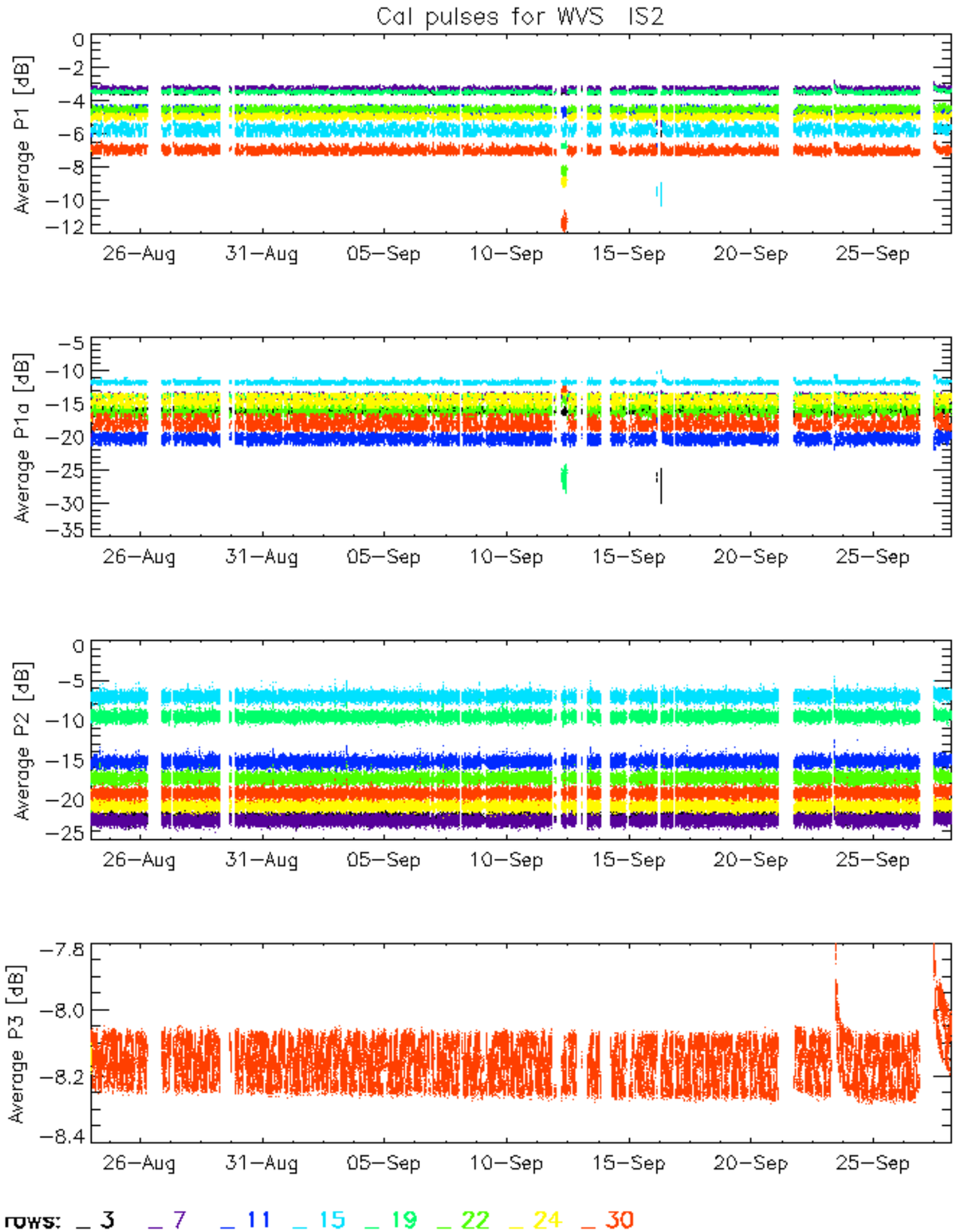
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

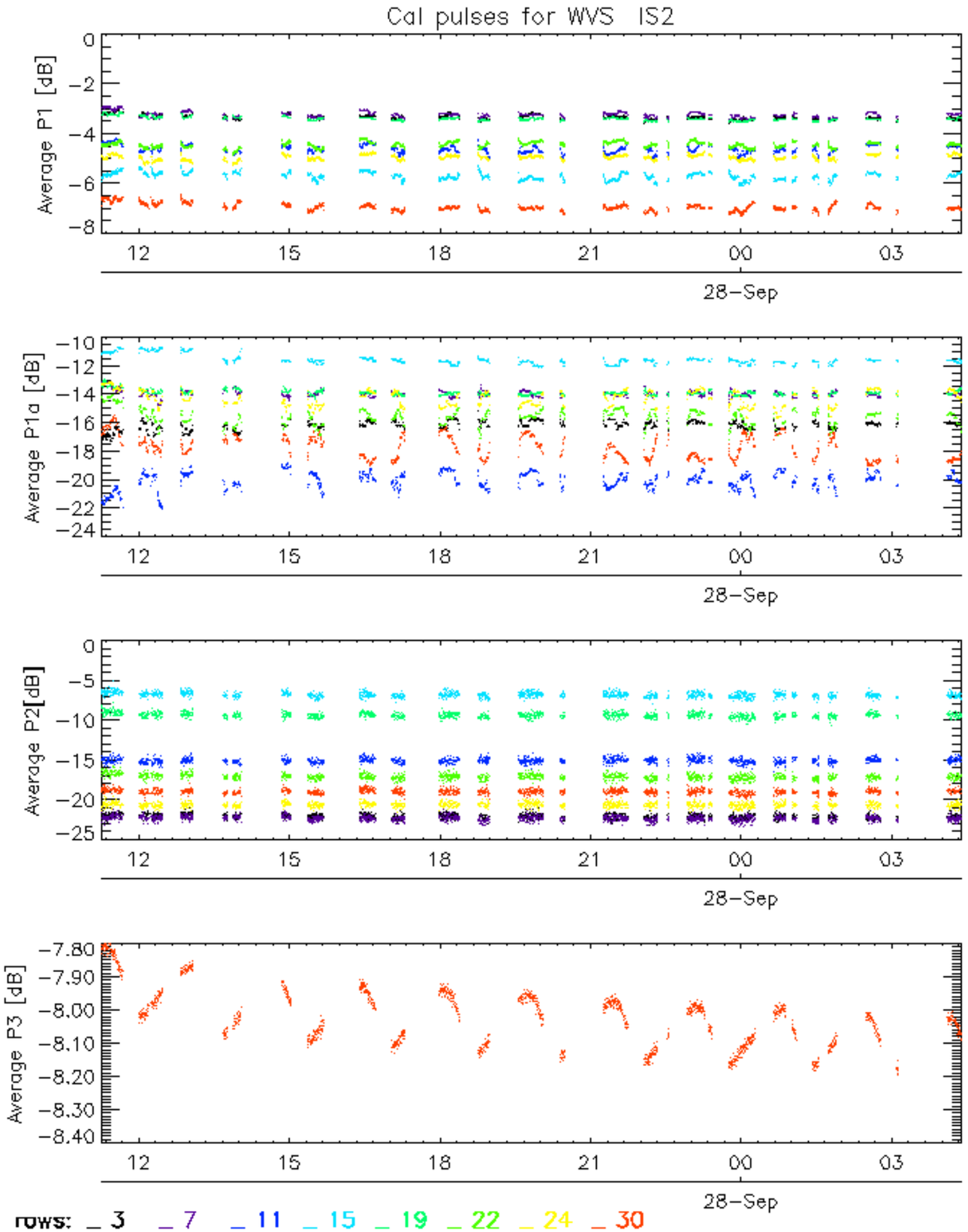
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
☒


Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
−10
26−Aug
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
25−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

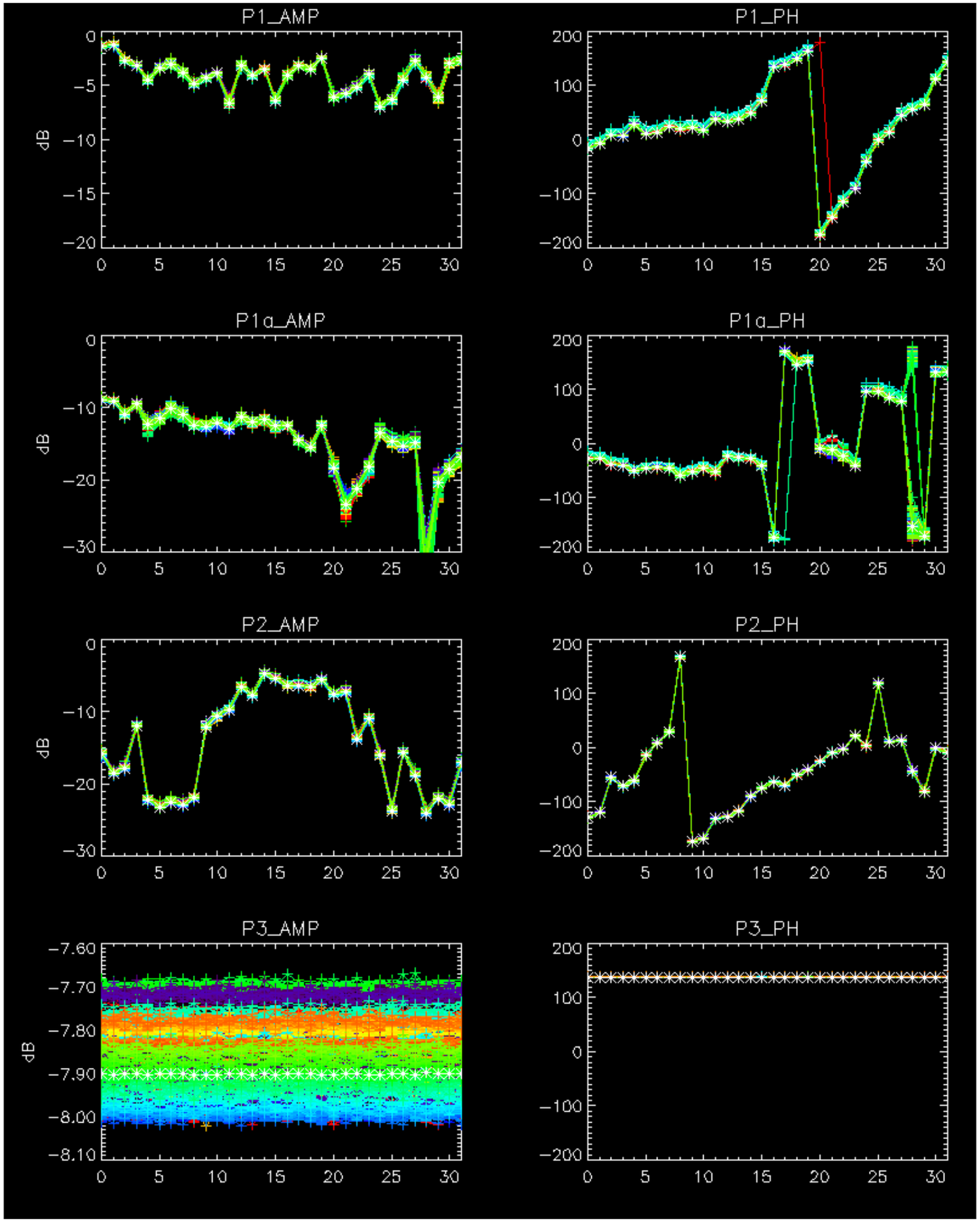

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
12
15
18
21
00
03
28−Sep
Average P1a [dB]
−5
−10
−15
−20
−25
−30
12
15
18
21
00
03
28−Sep
Average P2[dB]
0
−5
−10
−15
−20
−25
12
15
18
21
00
03
28−Sep
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
12
15
18
21
00
03
28−Sep
rows: 3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

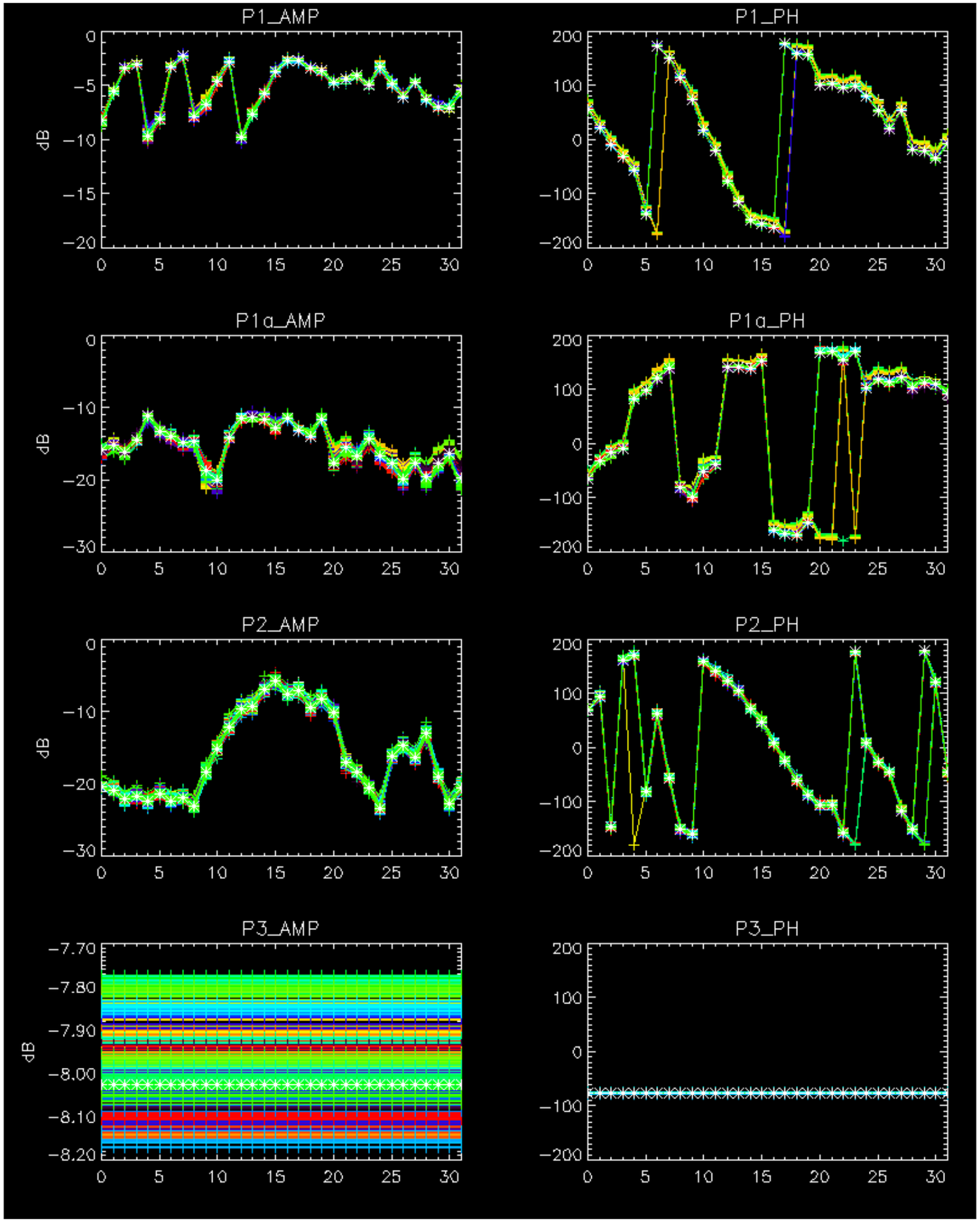

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
26−Aug
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
25−Sep
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
12
15
18
21
00
03
28−Sep
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
28−Sep
Average P2[dB]
0
−5
−10
−15
−20
−25
28−Sep
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
28−Sep
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

No anomalies observed from browse visual inspection.

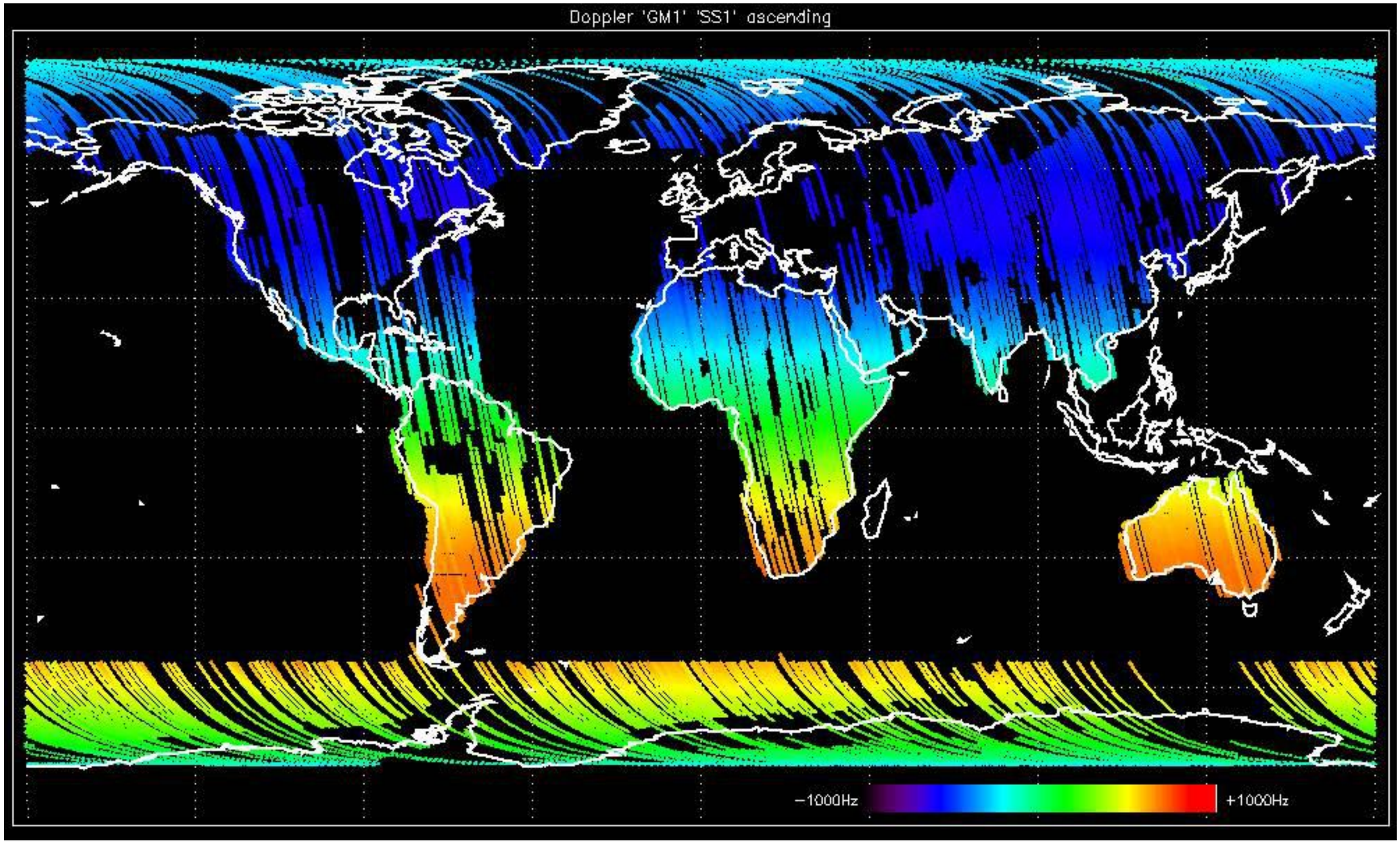
No anomalies observed.

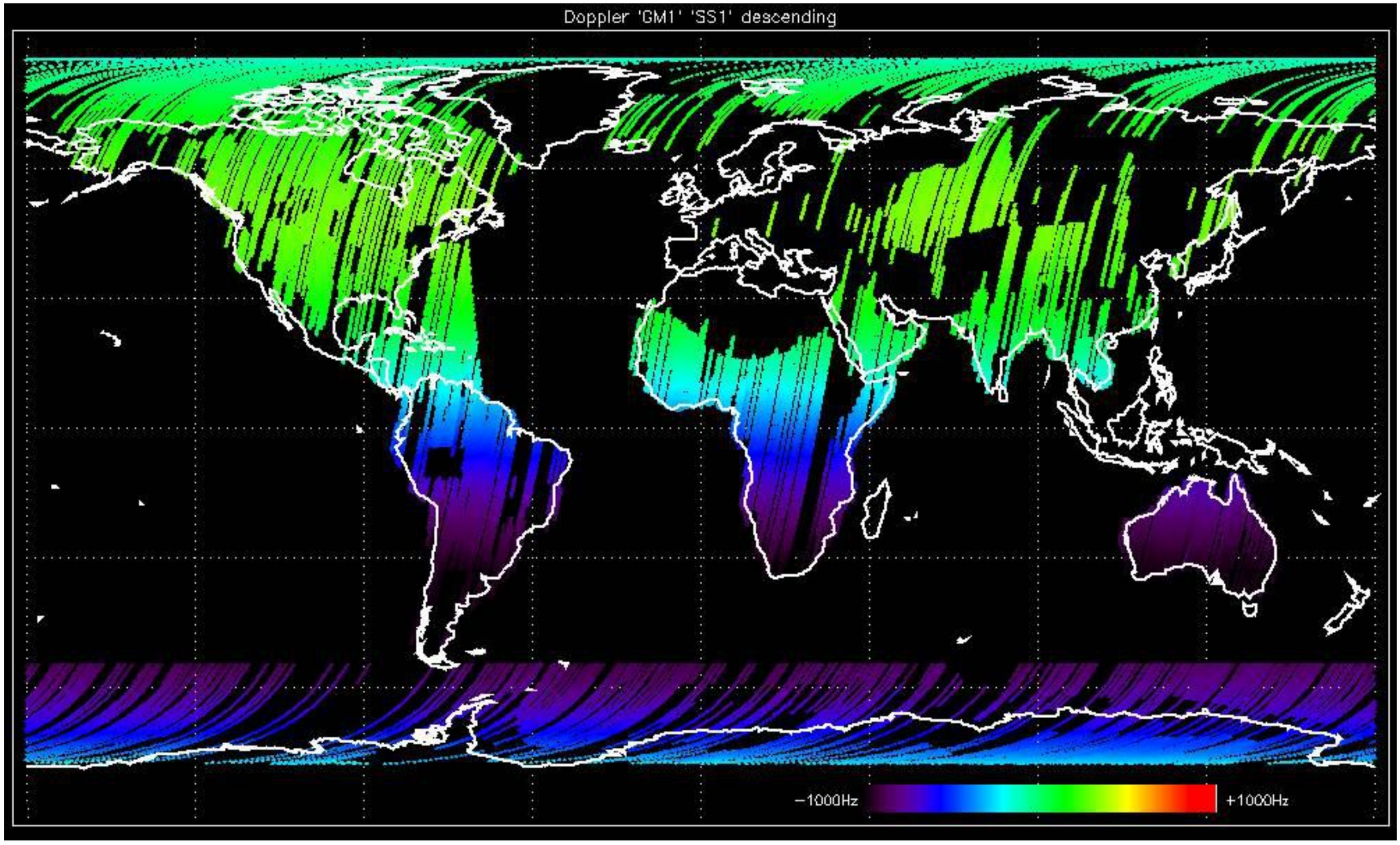

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.60
−7.70
−7.80
−7.90
−8.00
−8.10
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

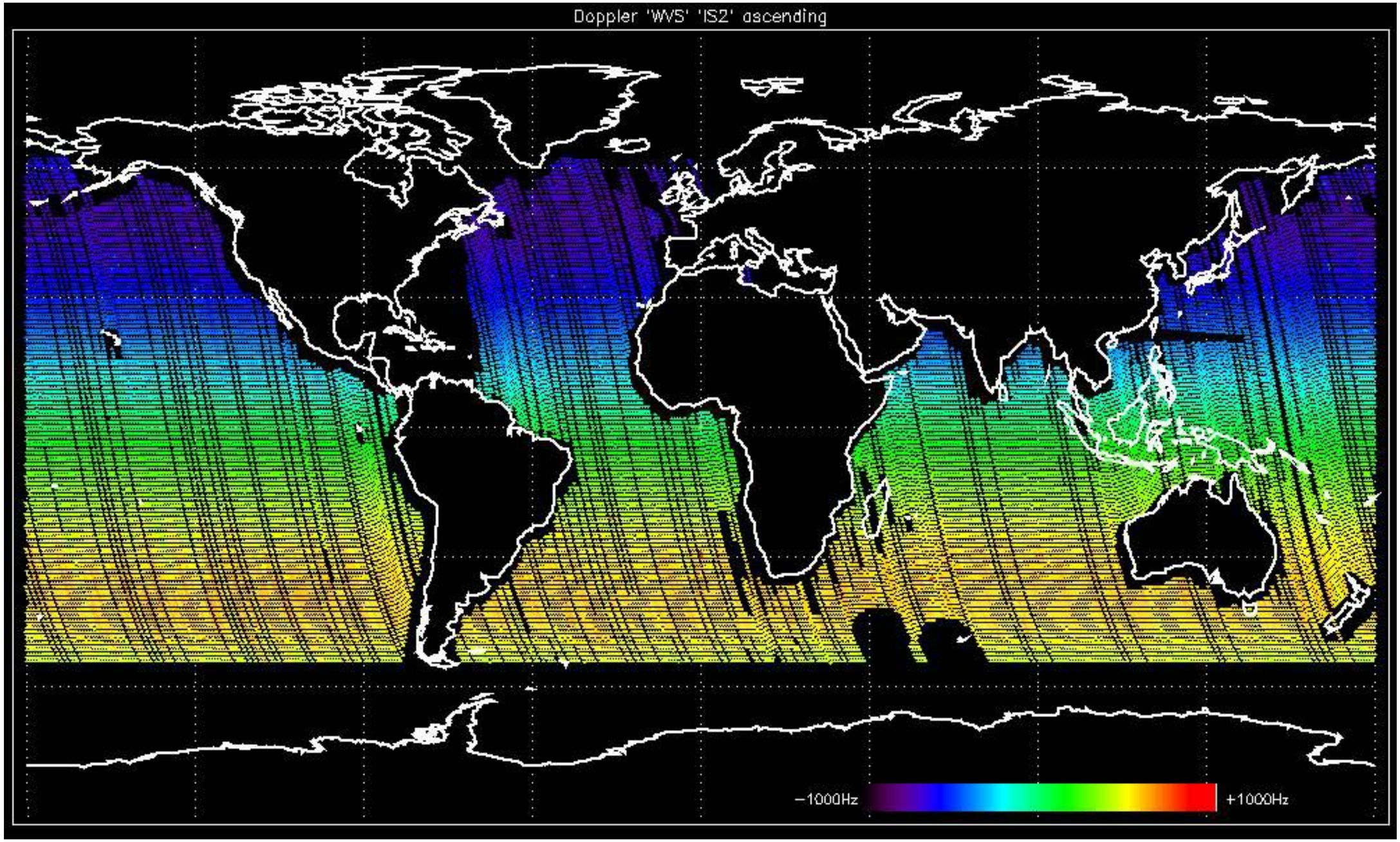

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.70
−7.80
−7.90
−8.00
−8.10
−8.20
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

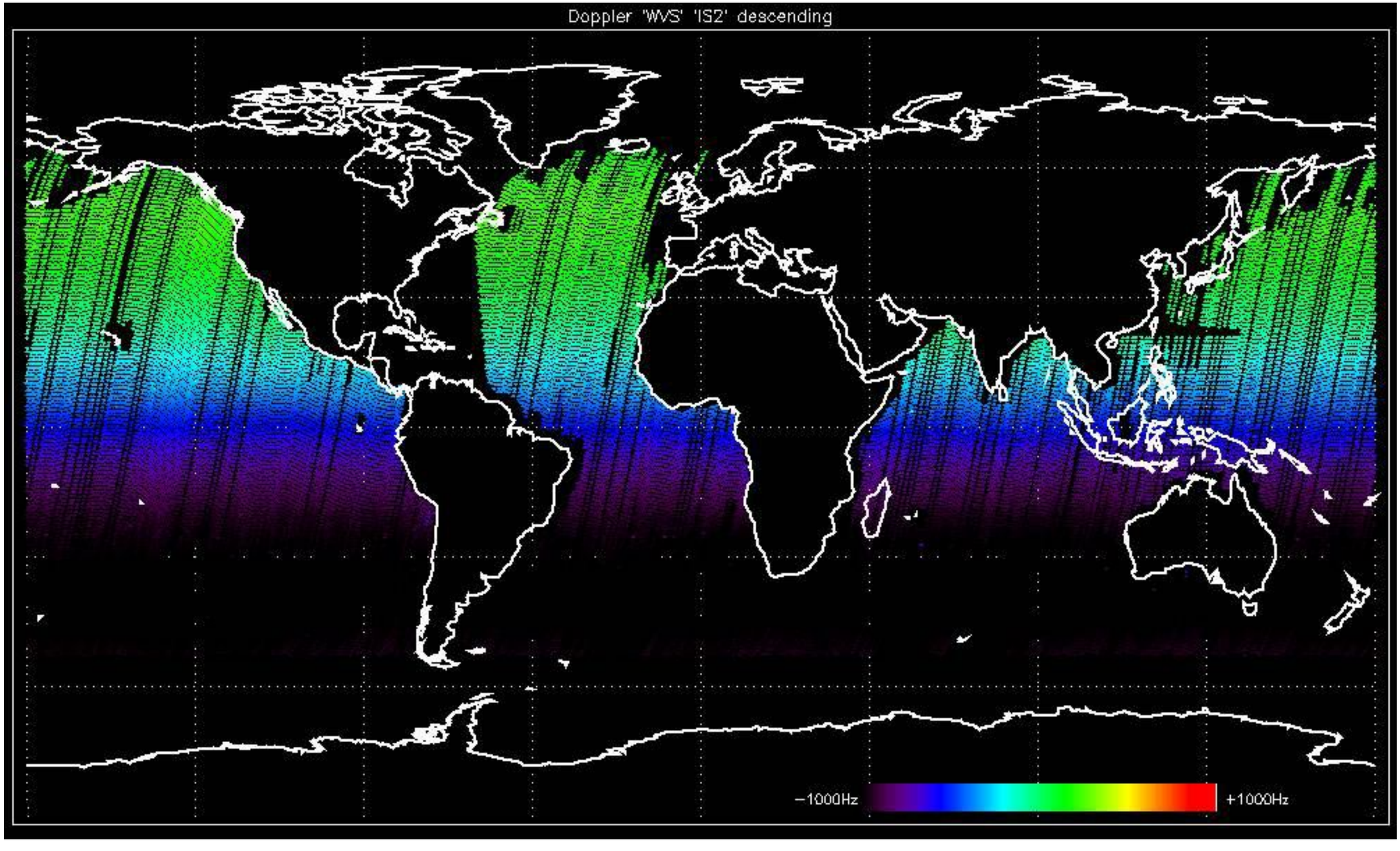
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

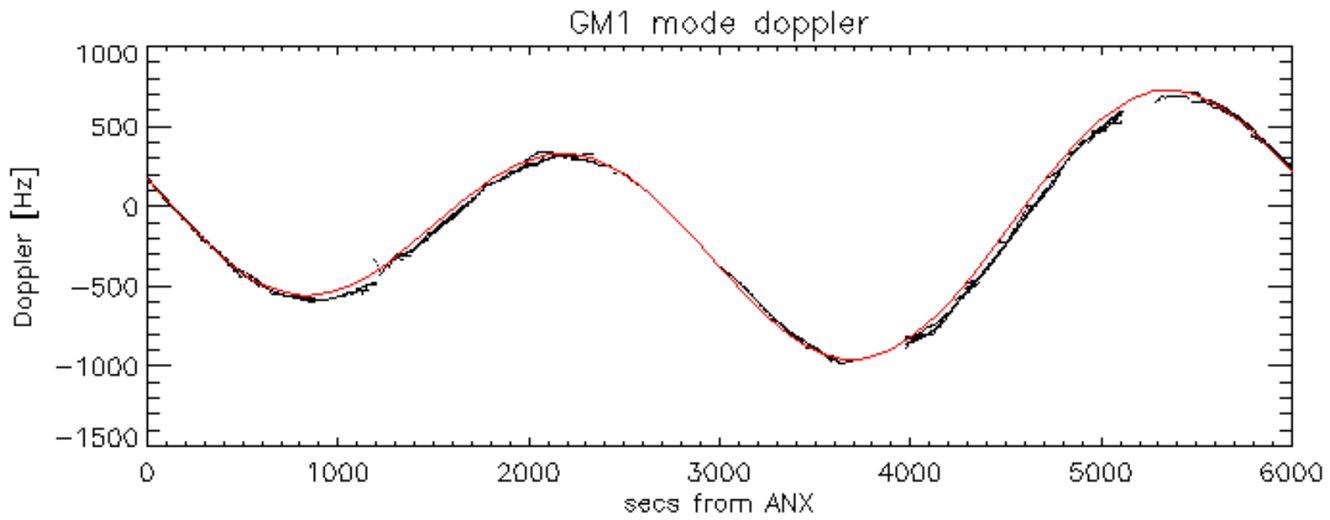
No anomalies observed Doppler evolution.
Doppler analysis performed over the last 35 days

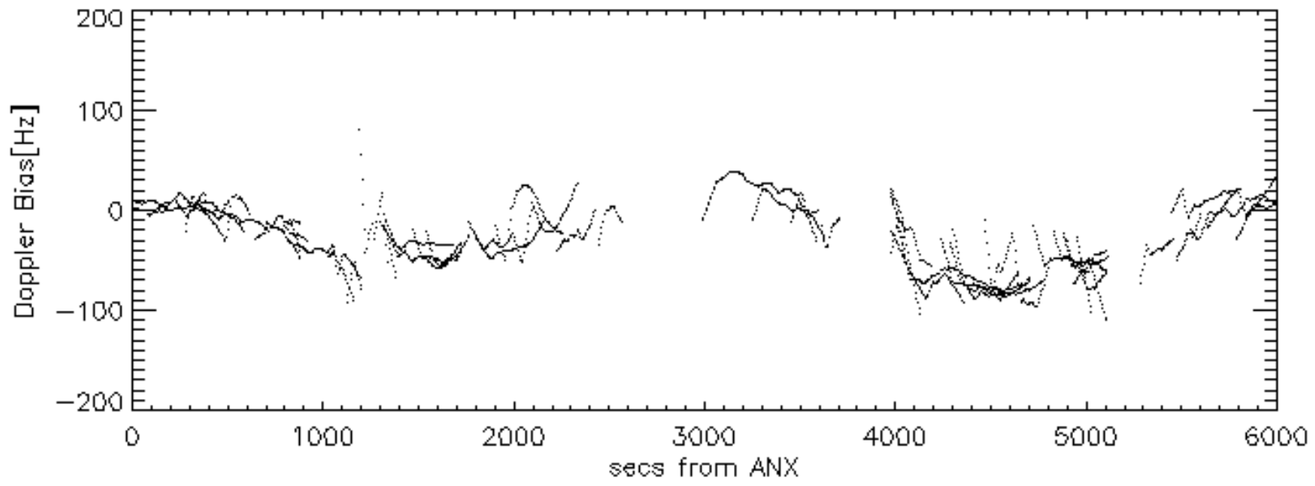

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

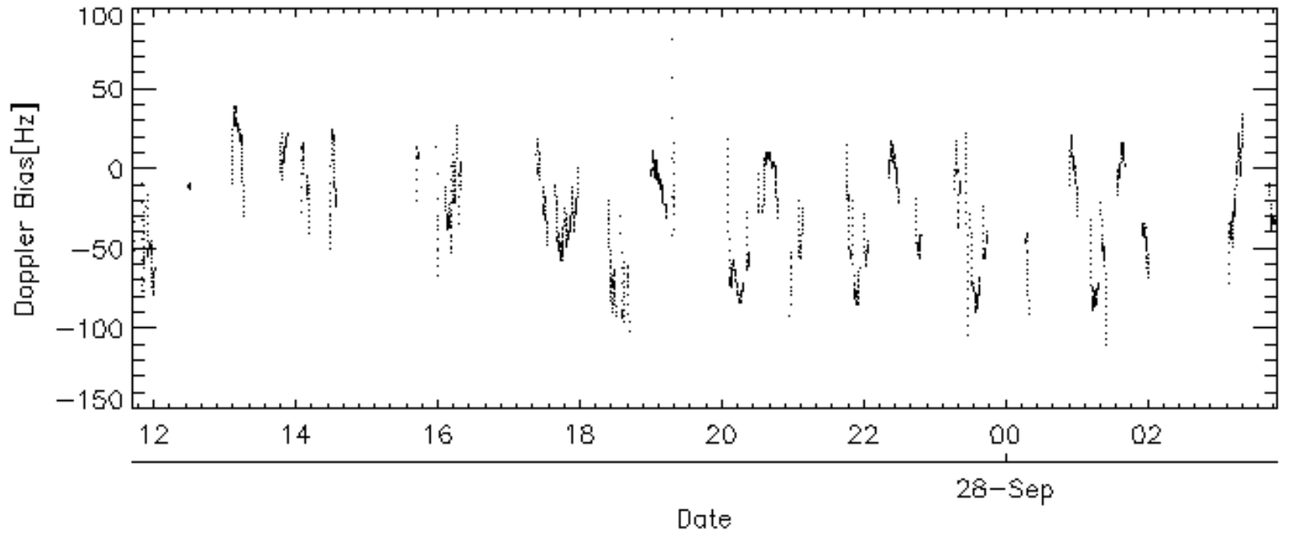

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

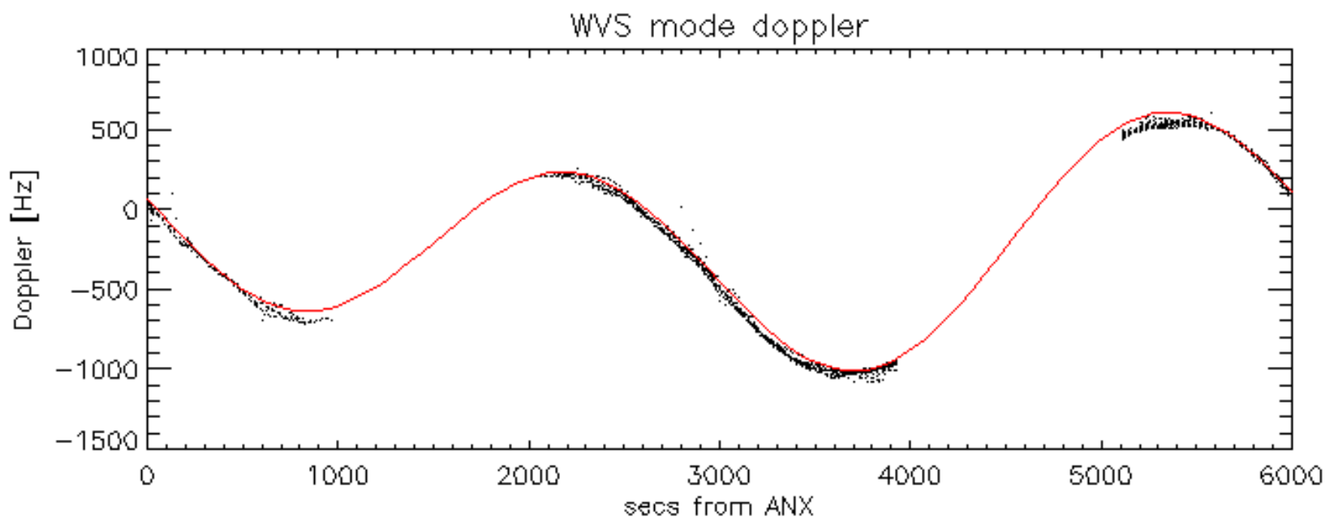

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

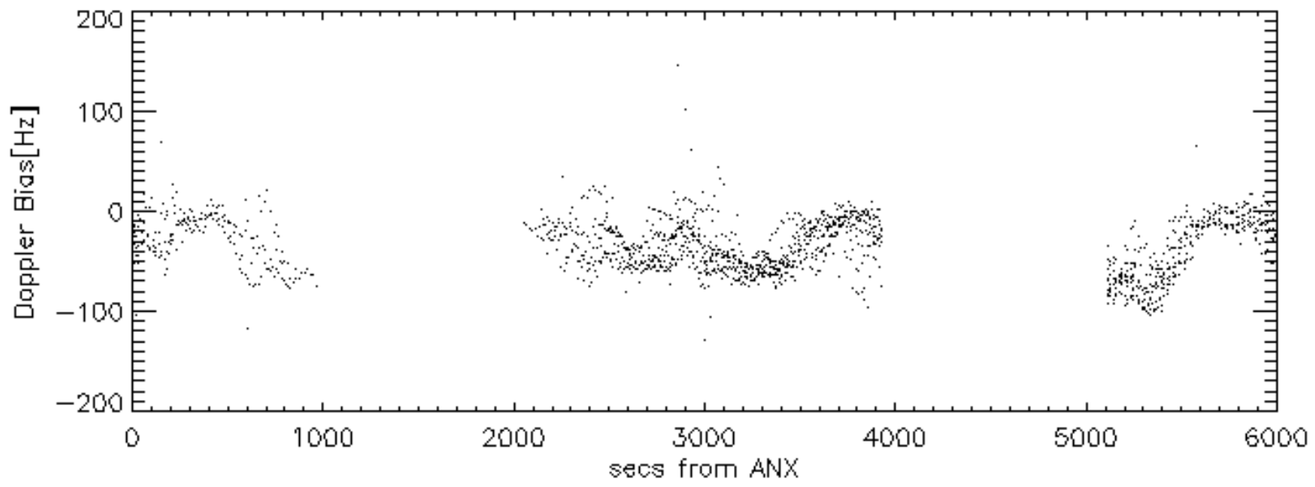

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

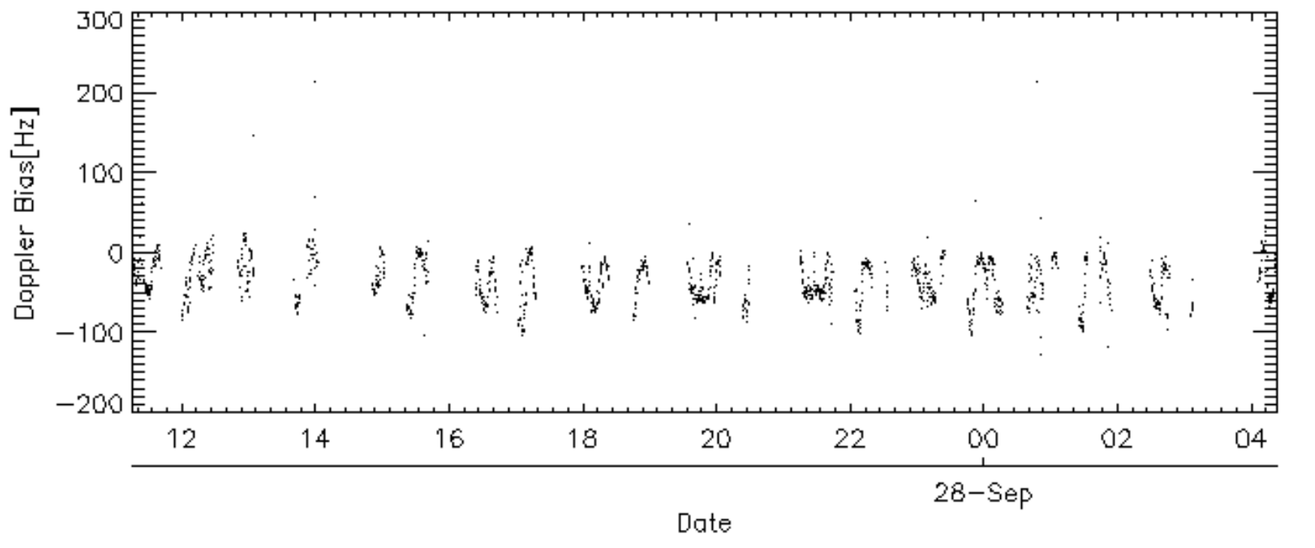

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

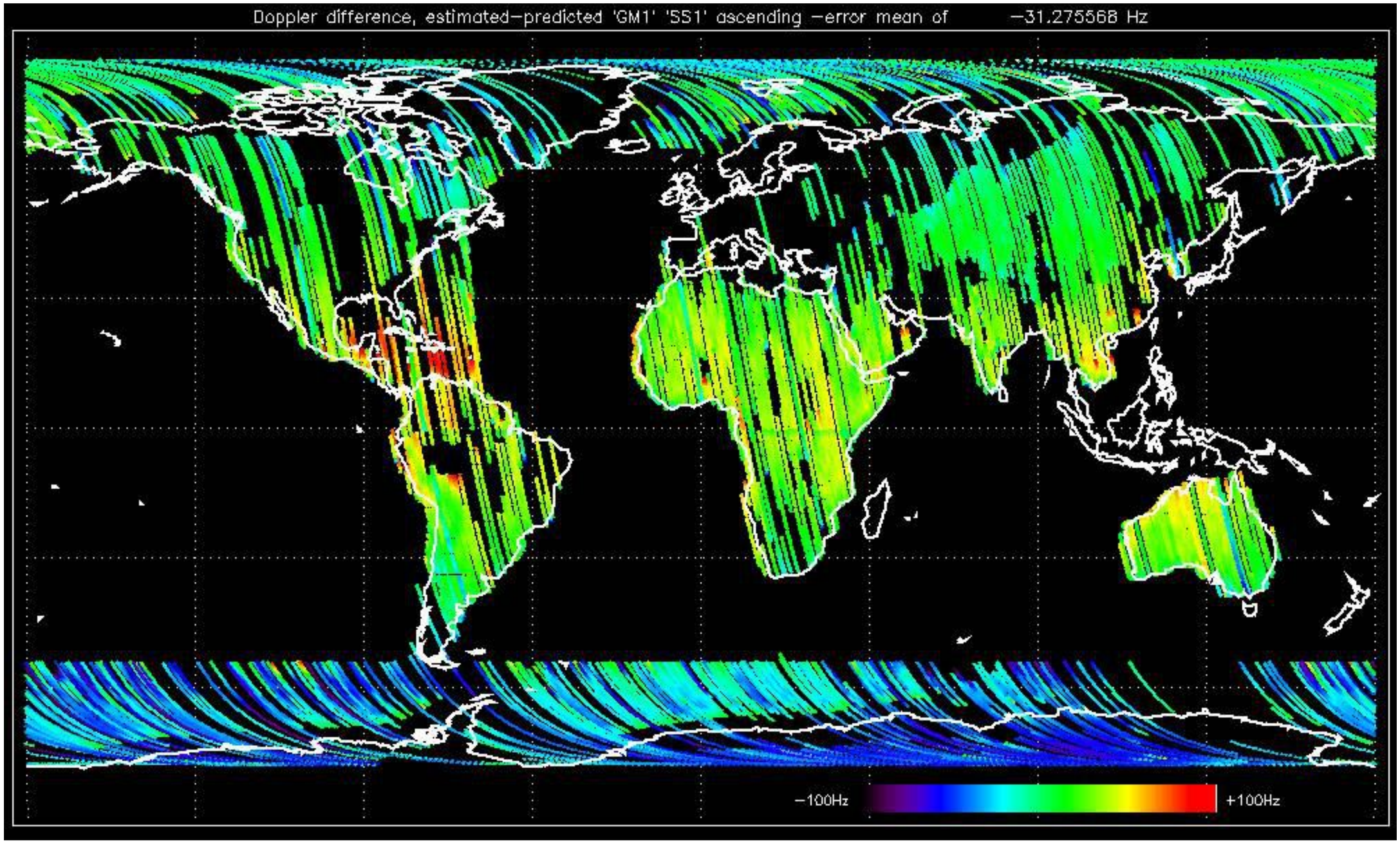

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

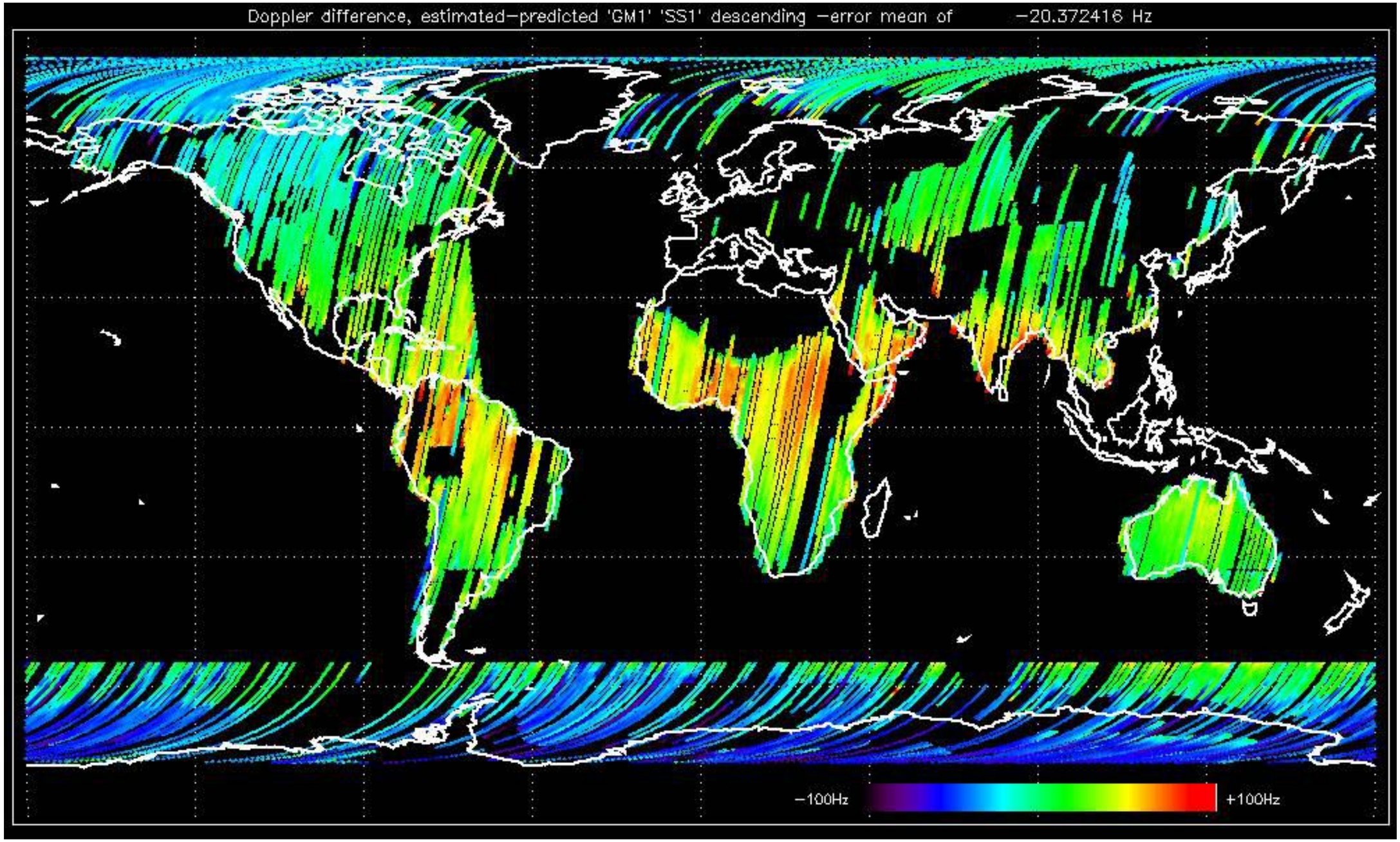

Doppler Bias[Hz]
100
50
0
−50
−100
−150
12
14
16
18
20
22
00
02
28−Sep
Date

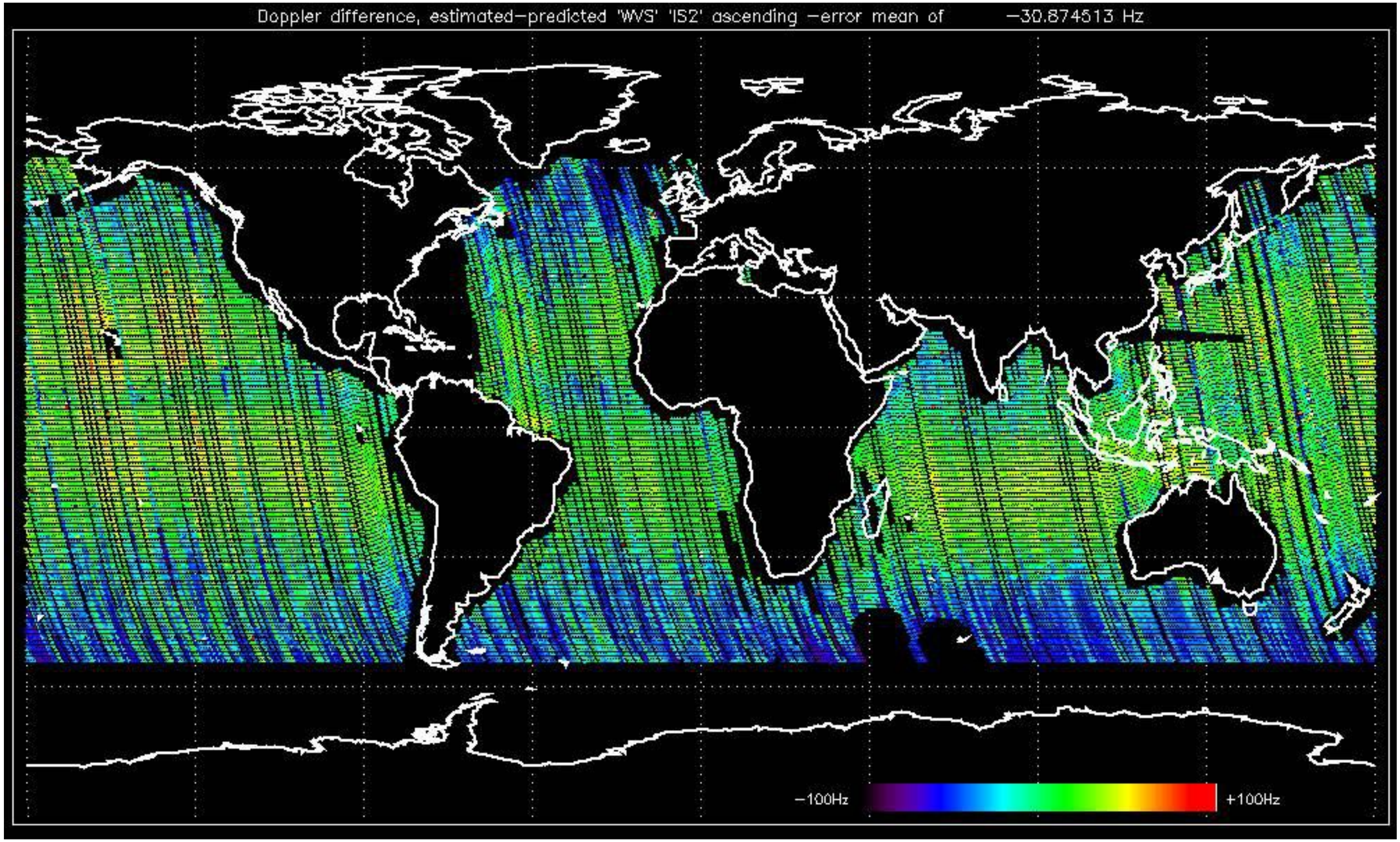

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

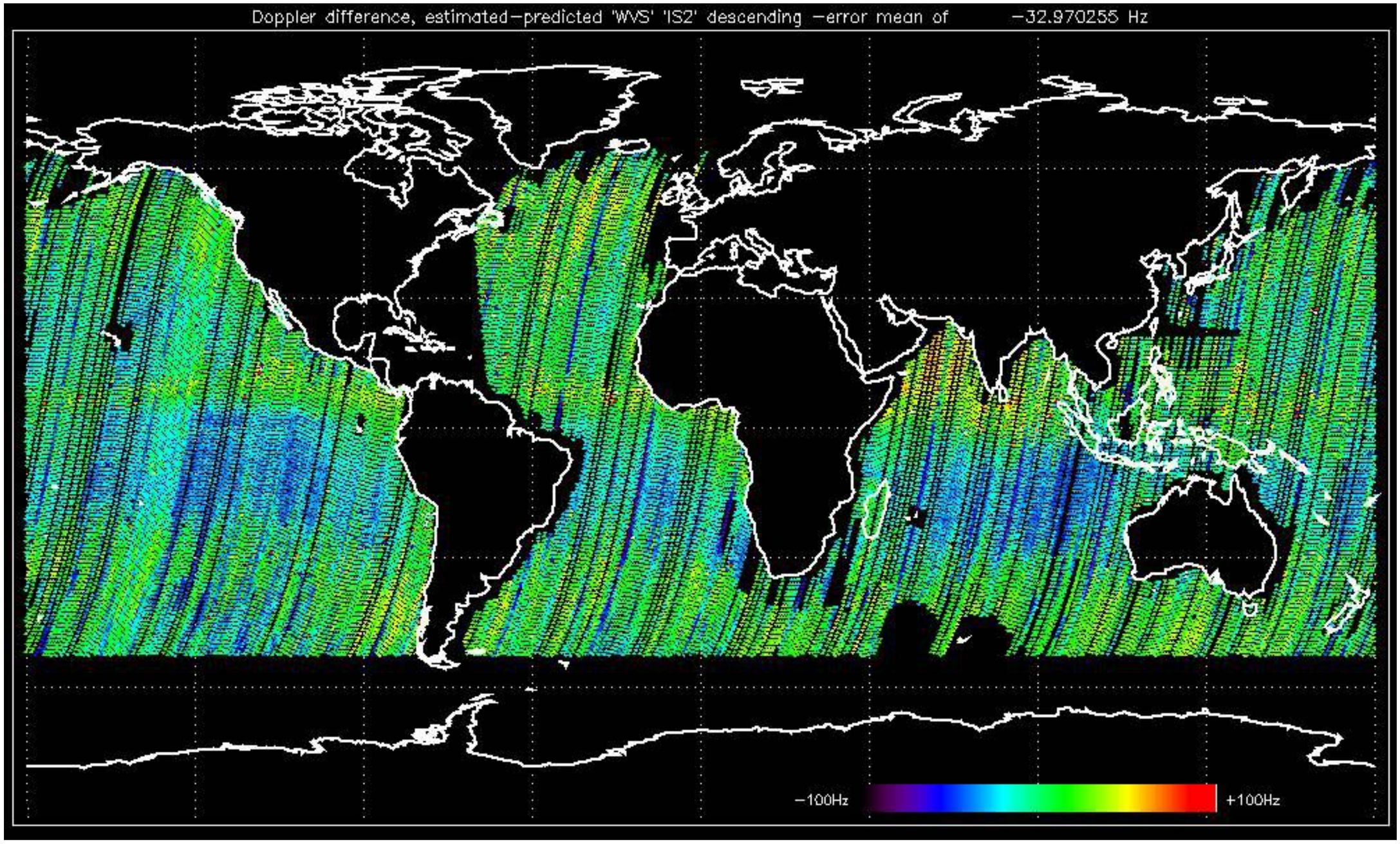

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


Doppler Bias[Hz]
300
200
100
0
−100
−200
12
14
16
18
20
22
00
02
04
28−Sep
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −31.275568 Hz
−100Hz
+100Hz

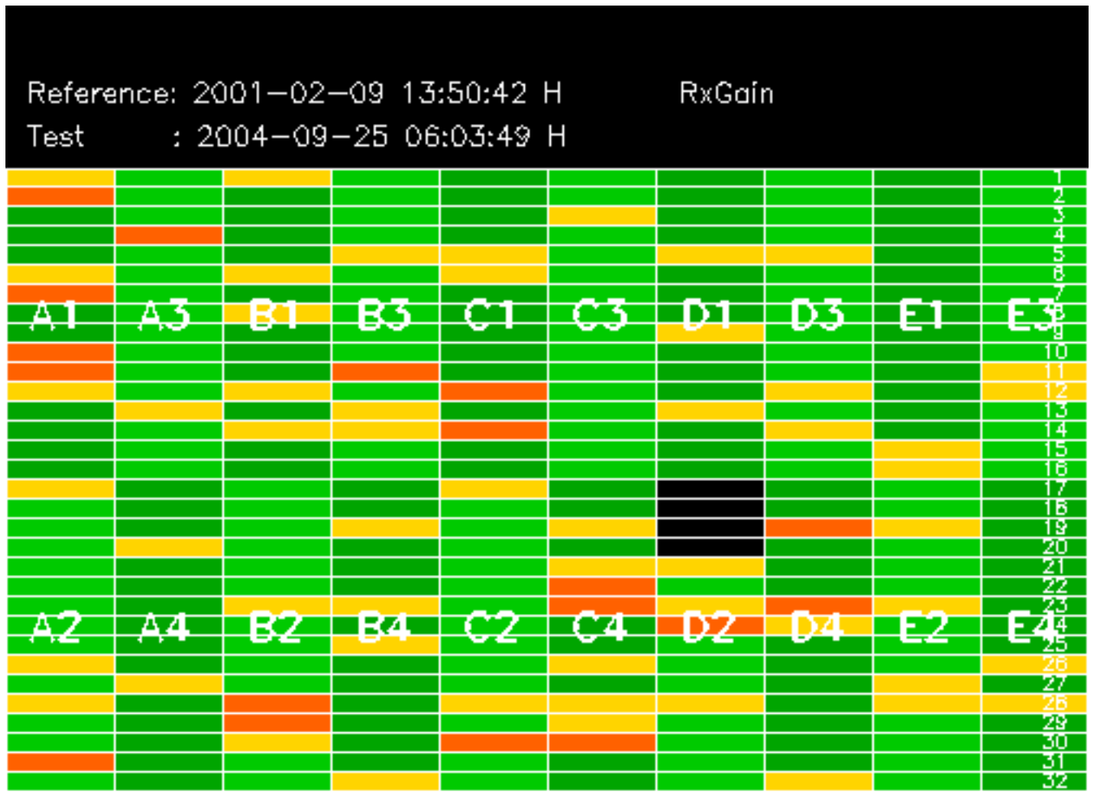

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −20.372416 Hz
−100Hz
+100Hz

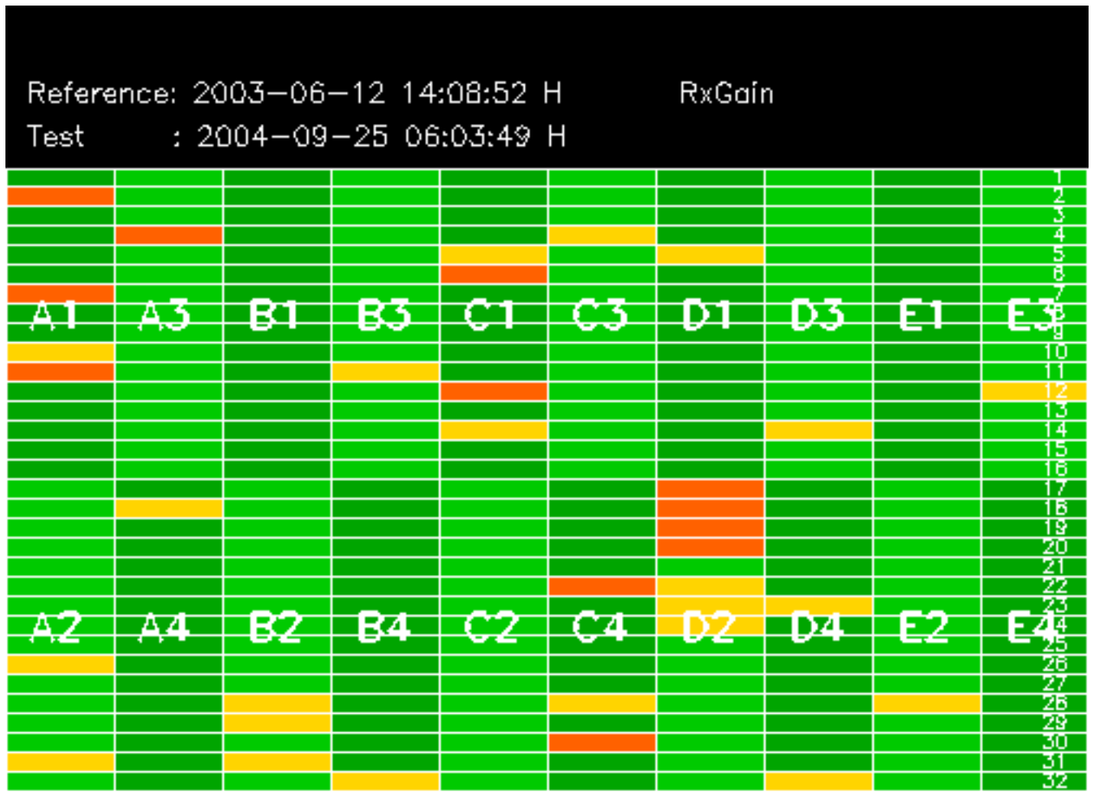

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −30.874513 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −32.970255 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 MS product available on the 27th of Sept due to an instrument unavailability.
The analysis has been performed on the last available MS products.

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2004-09-25 06:03:49 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
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2004-09-25 06:03:49 H
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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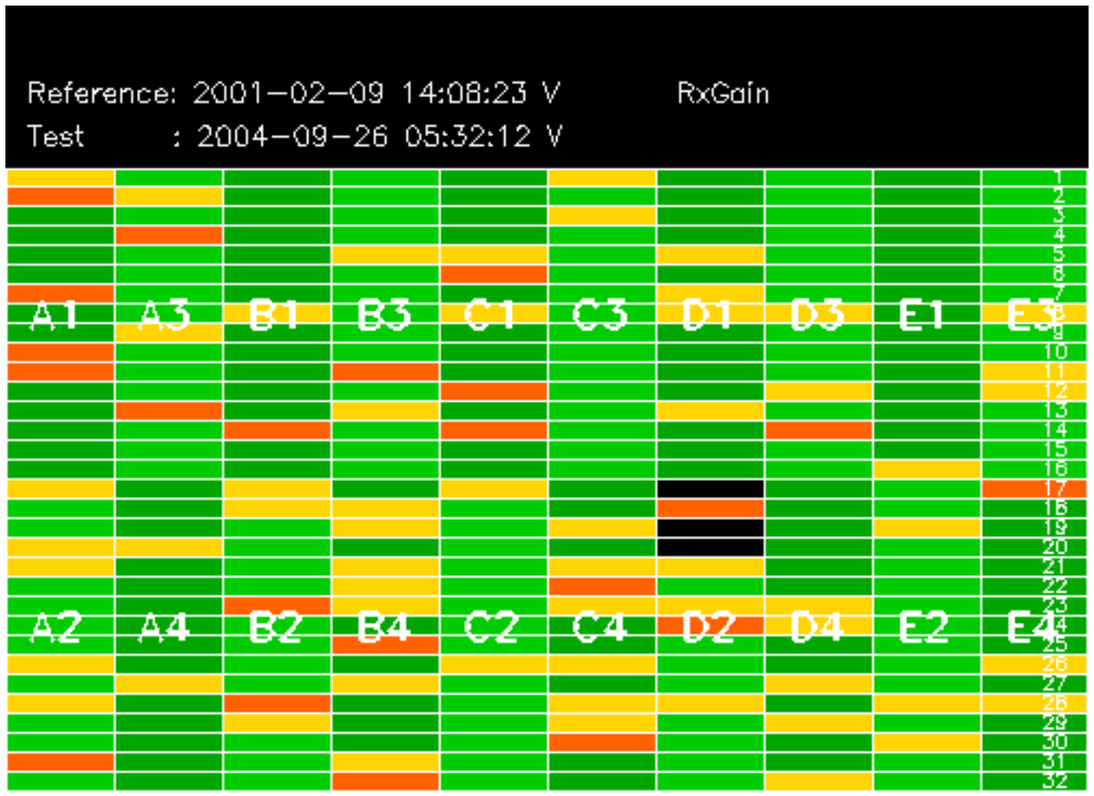
Reference: 2001-02-09 14:08:23 V
Test : 2004-09-26 05:32:12 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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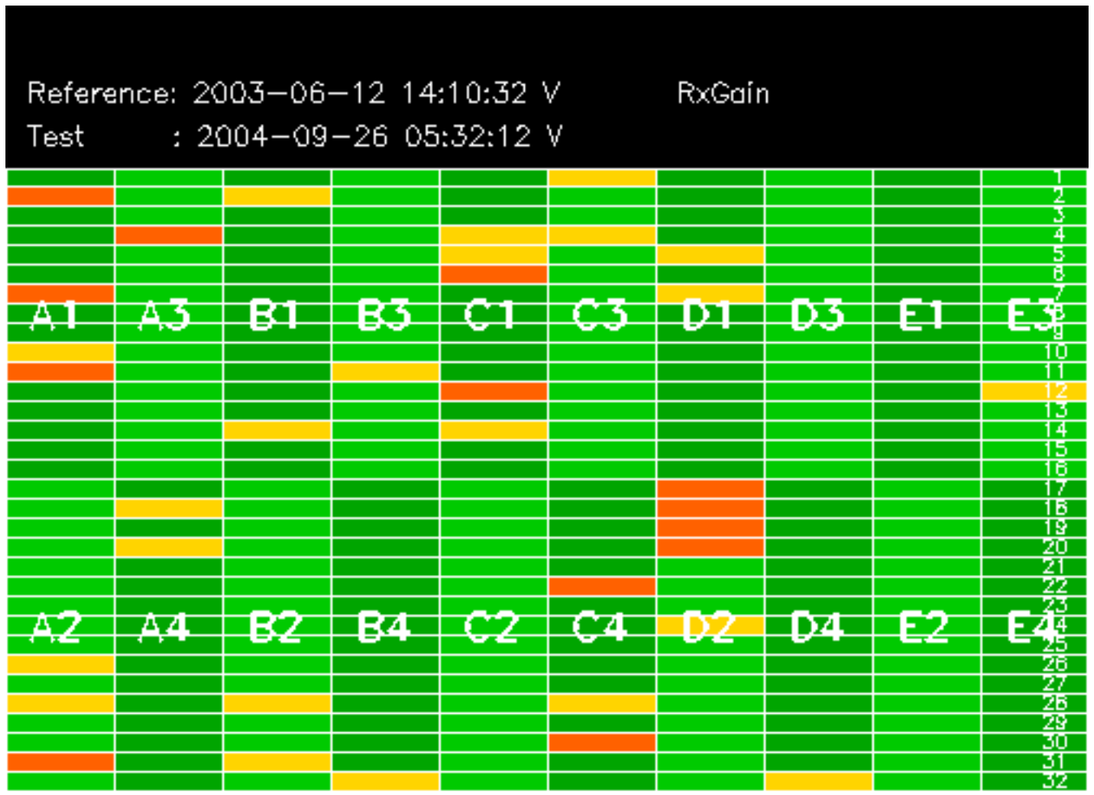
Reference: 2003-06-12 14:10:32 V
Test : 2004-09-26 05:32:12 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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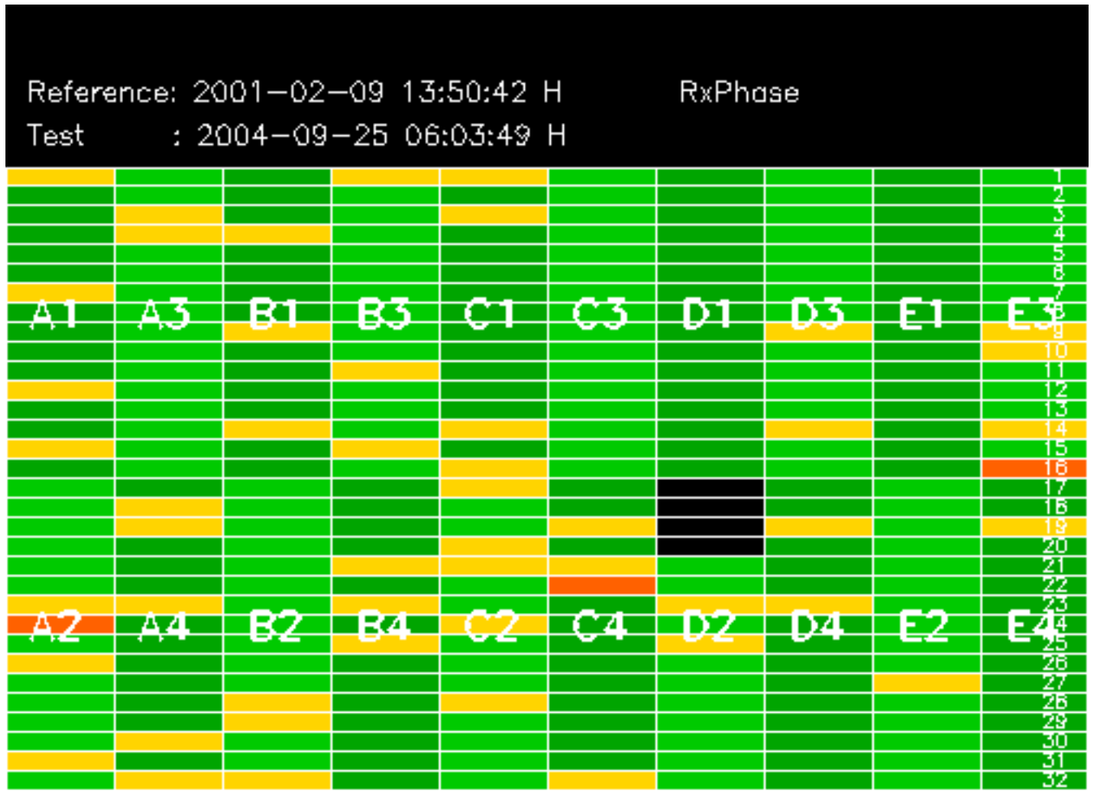
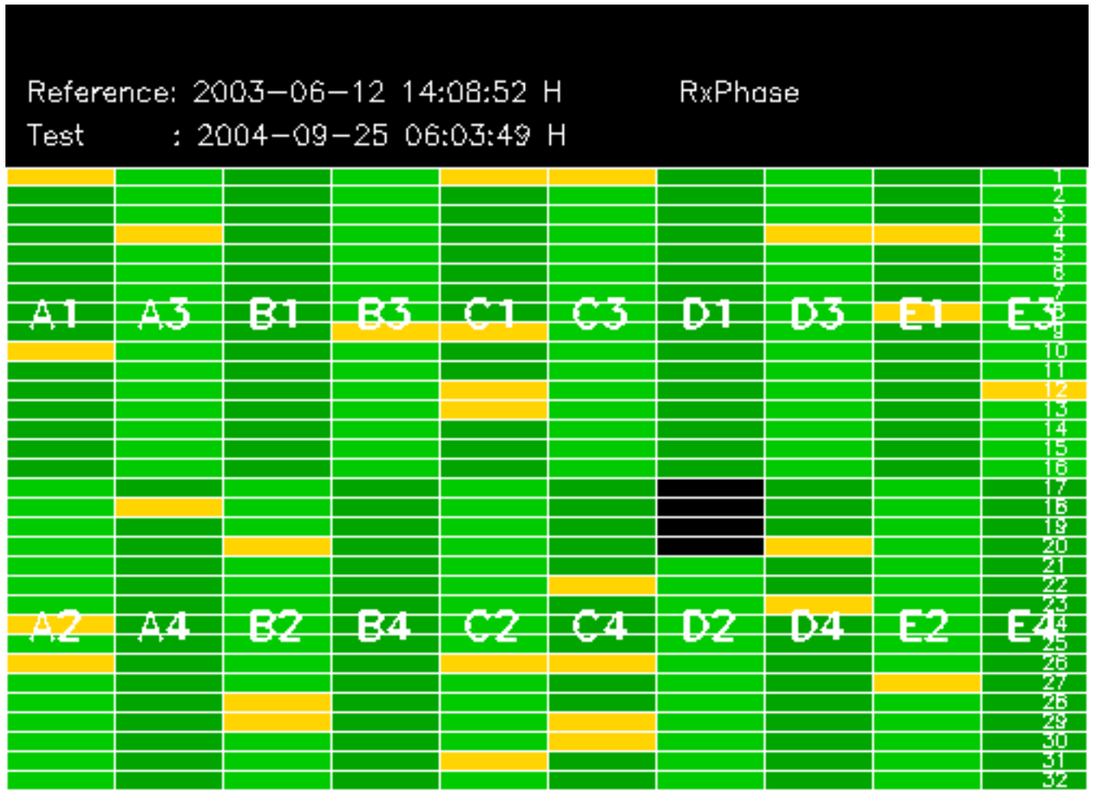

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-09-25 06:03:49 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-09-25 06:03:49 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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9
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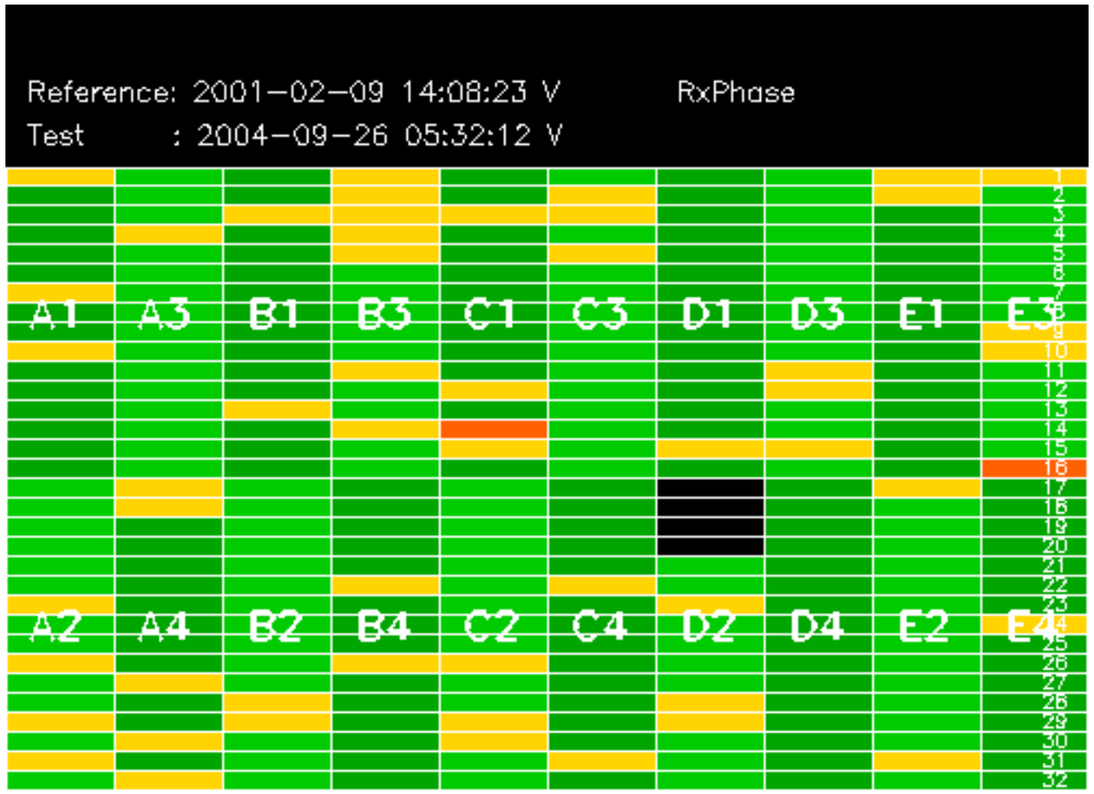
Reference: 2001-02-09 14:08:23 V
Test : 2004-09-26 05:32:12 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
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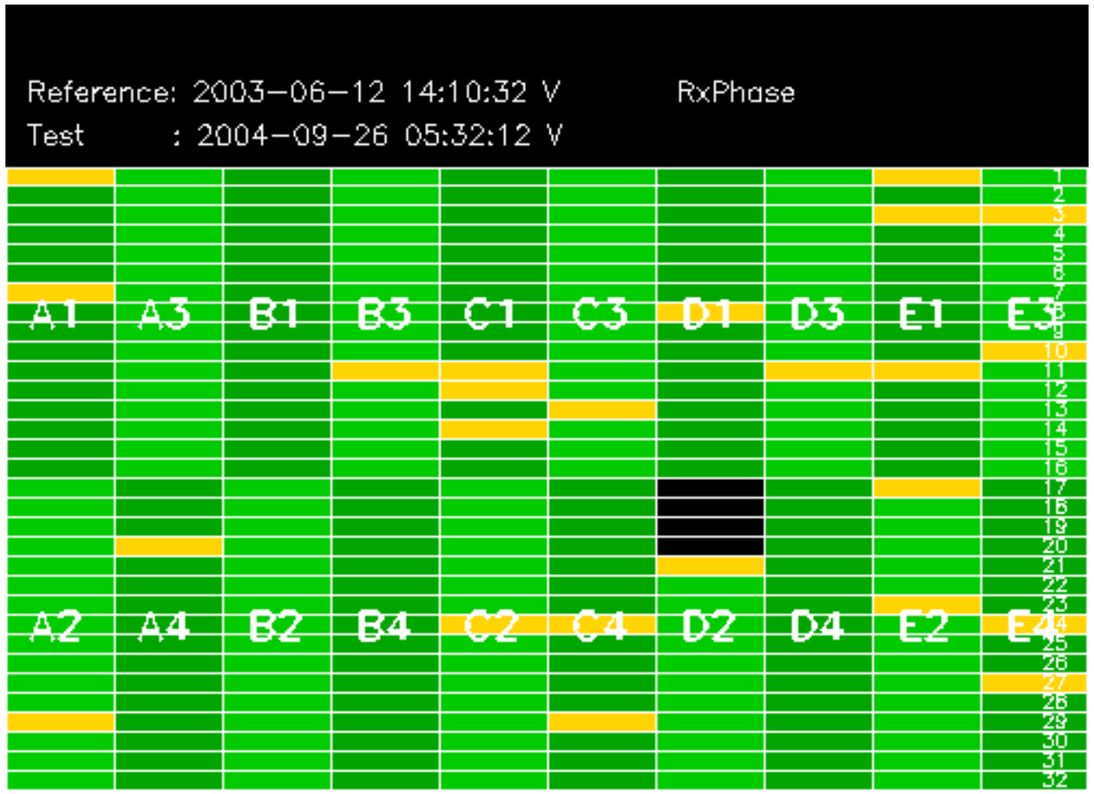
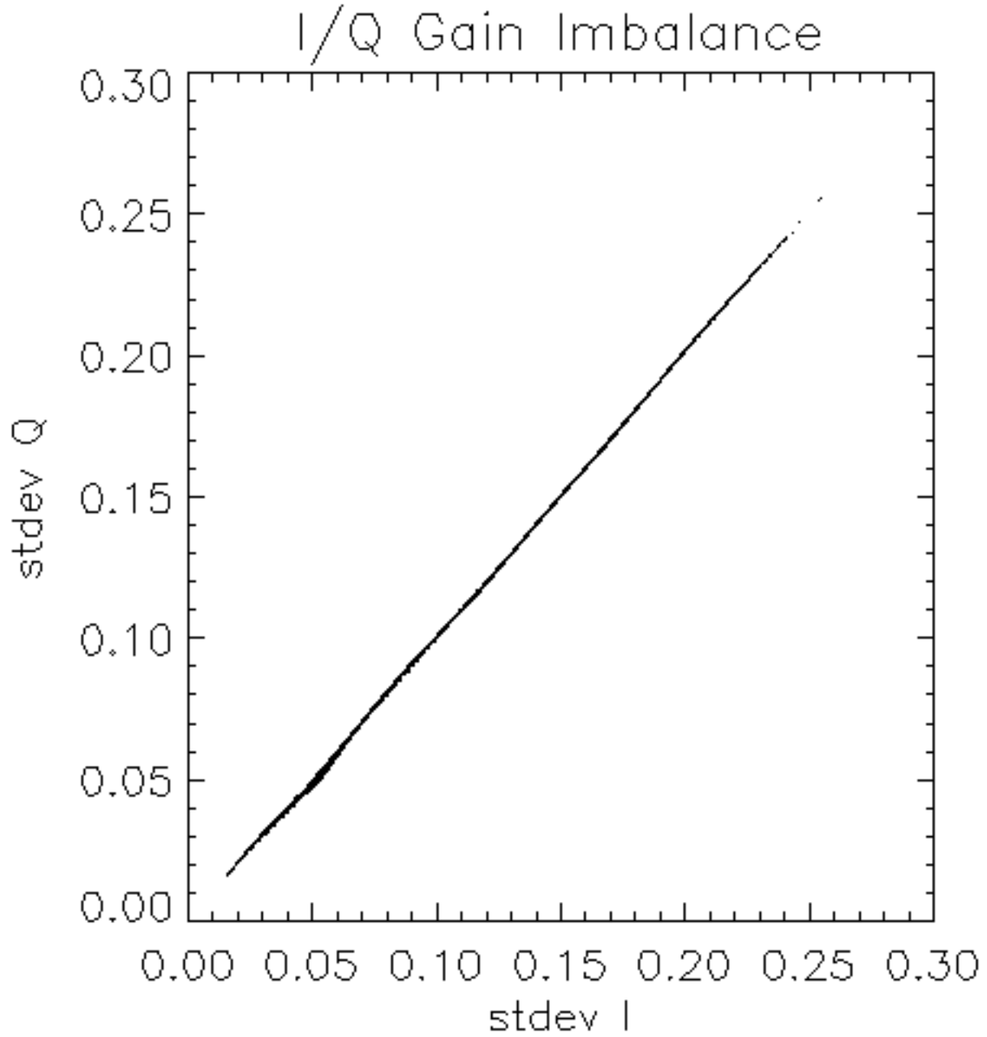
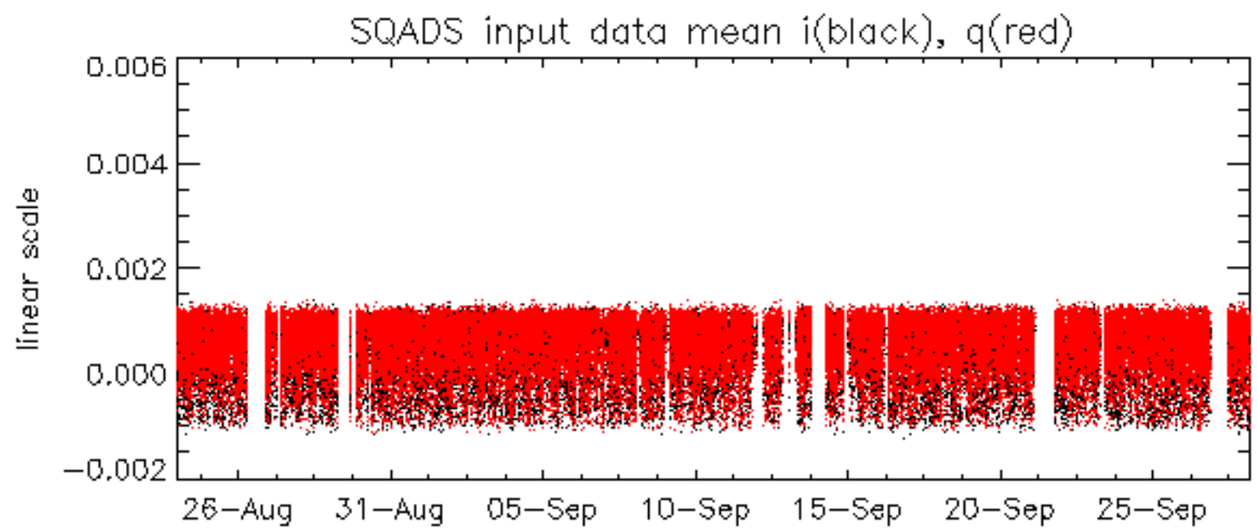
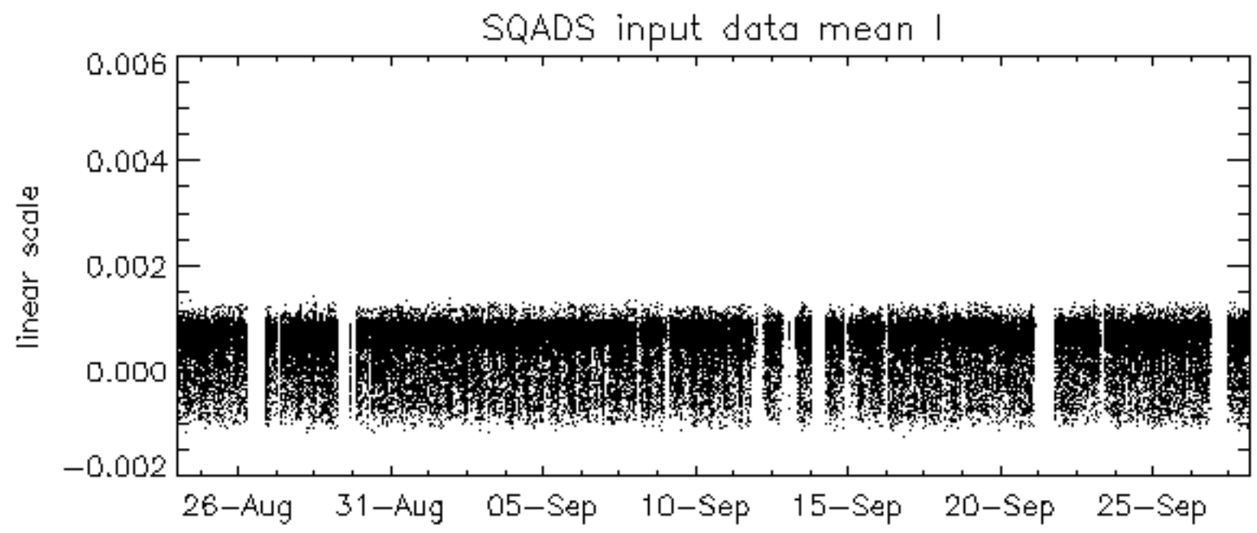
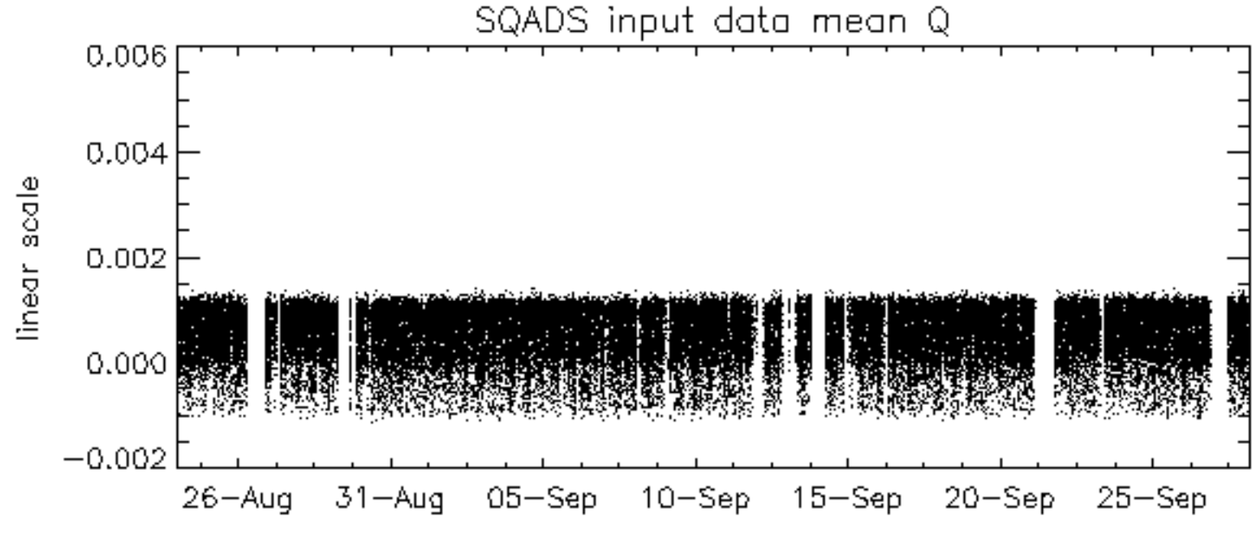
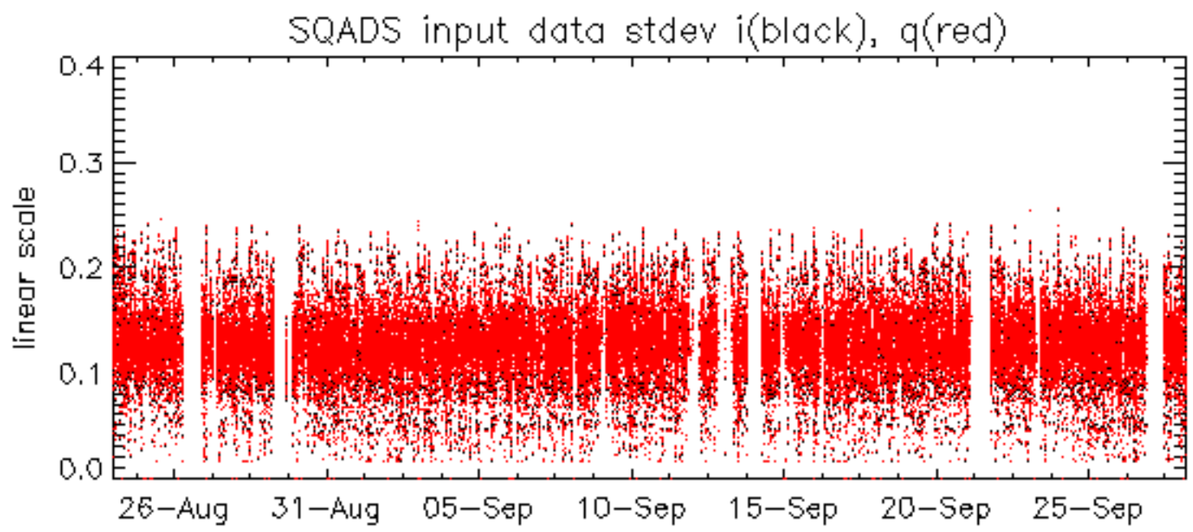

Reference: 2003-06-12 14:10:32 V
Test : 2004-09-26 05:32:12 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

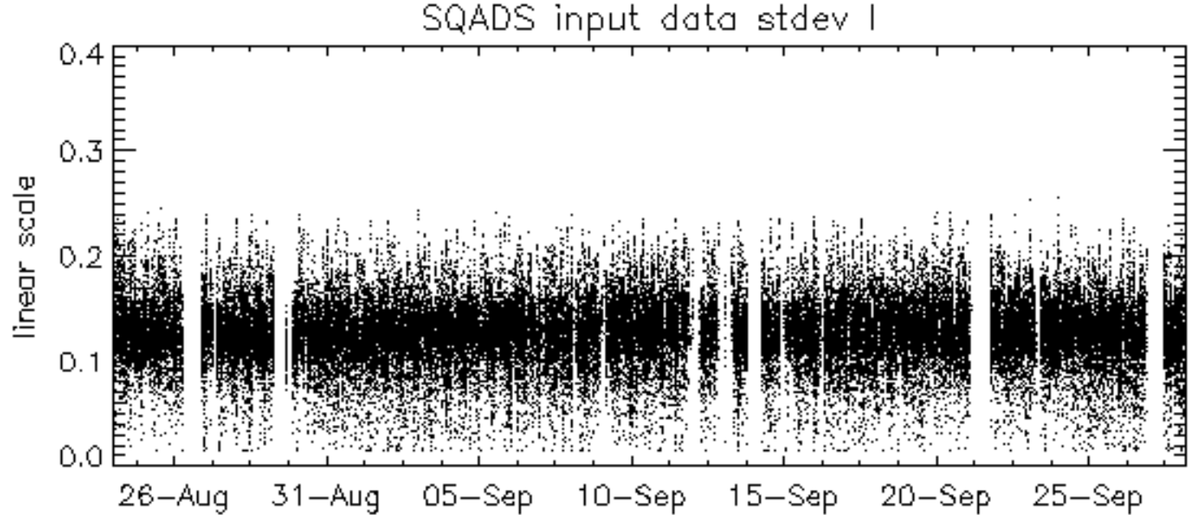

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

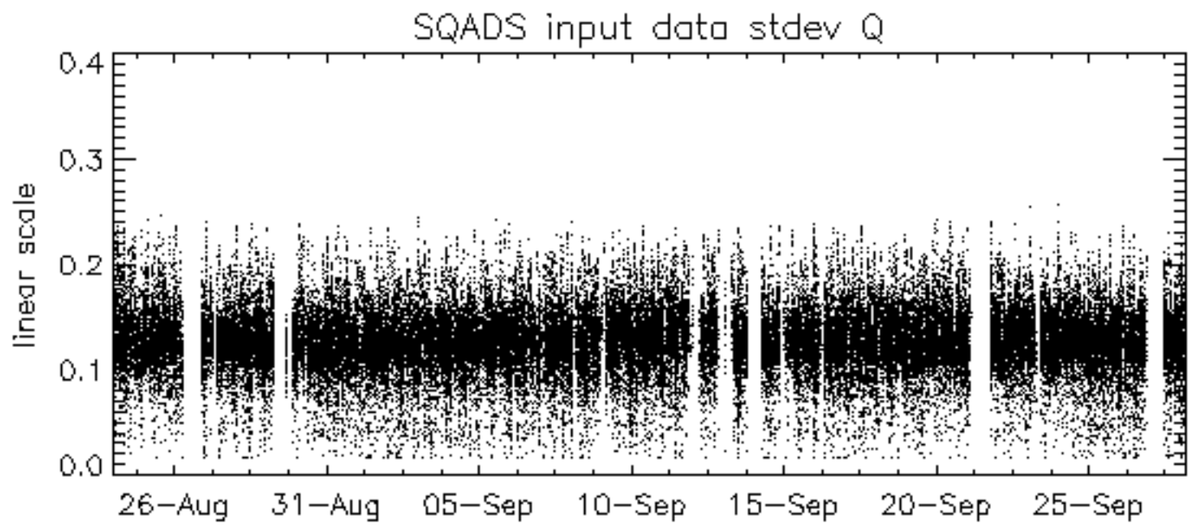

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Aug
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
25−Sep

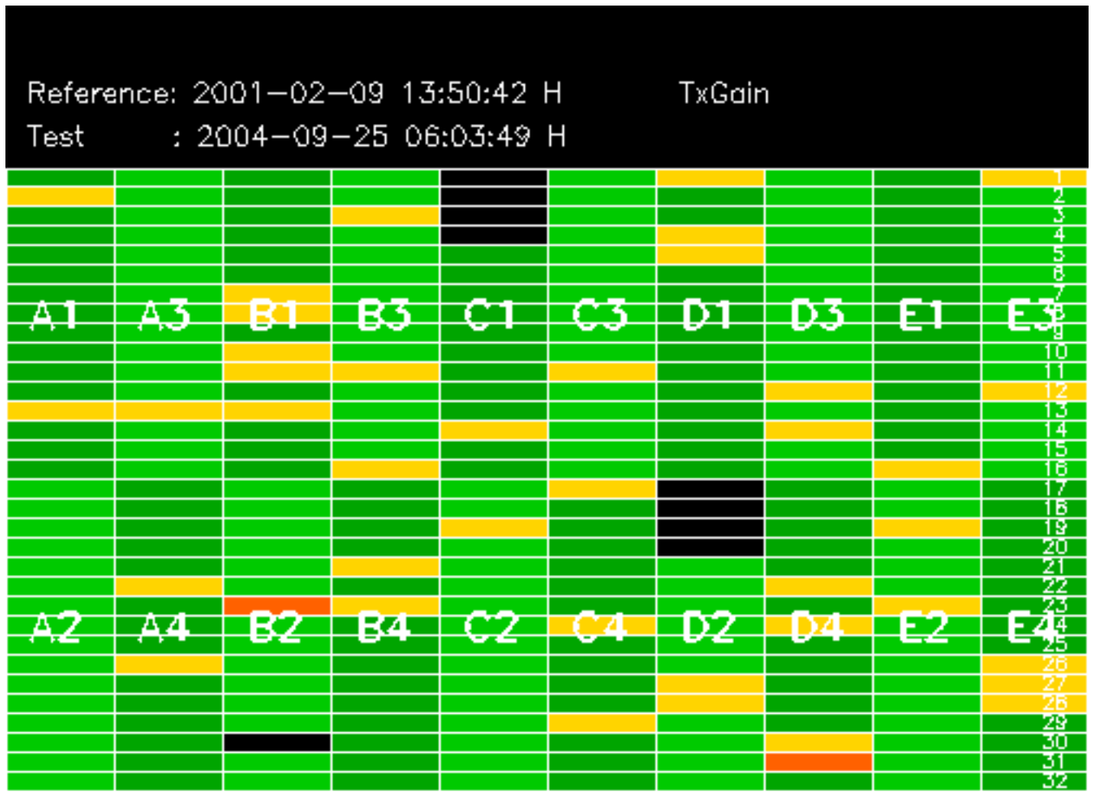

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Aug
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
25−Sep


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2004-09-25 06:03:49 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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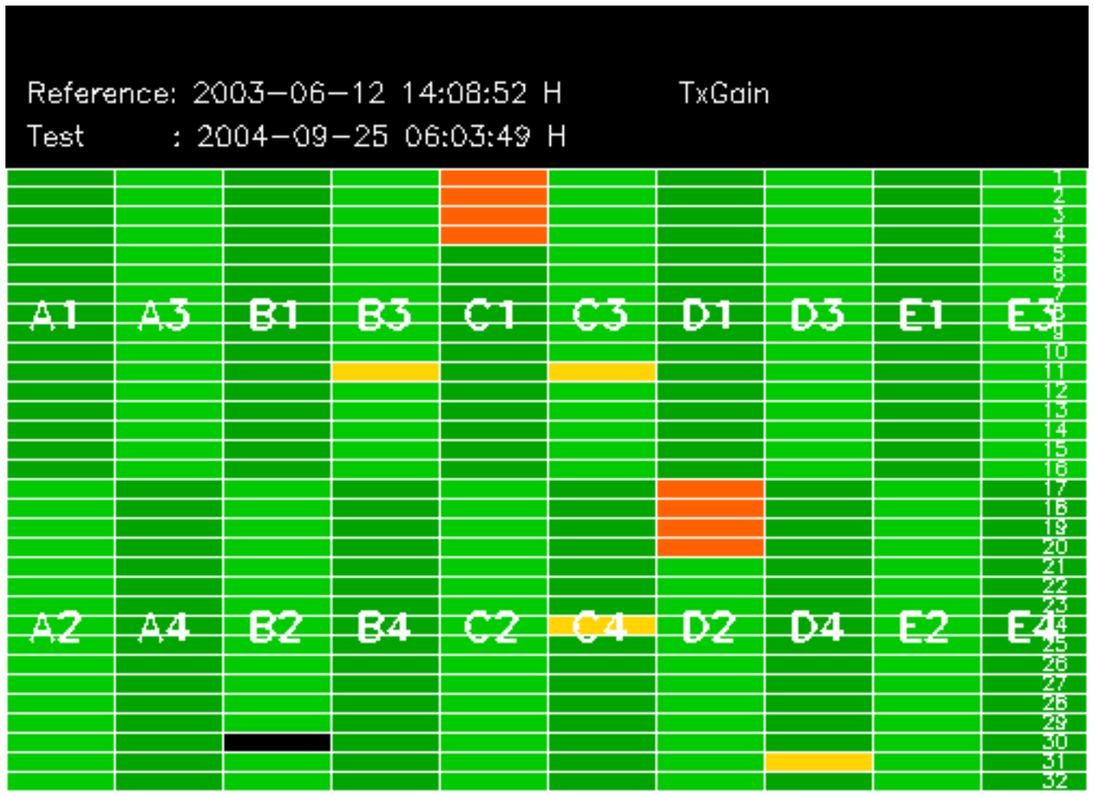
Reference: 2003-06-12 14:08:52 H
Test : 2004-09-25 06:03:49 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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Reference: 2001-02-09 14:08:23 V
Test : 2004-09-26 05:32:12 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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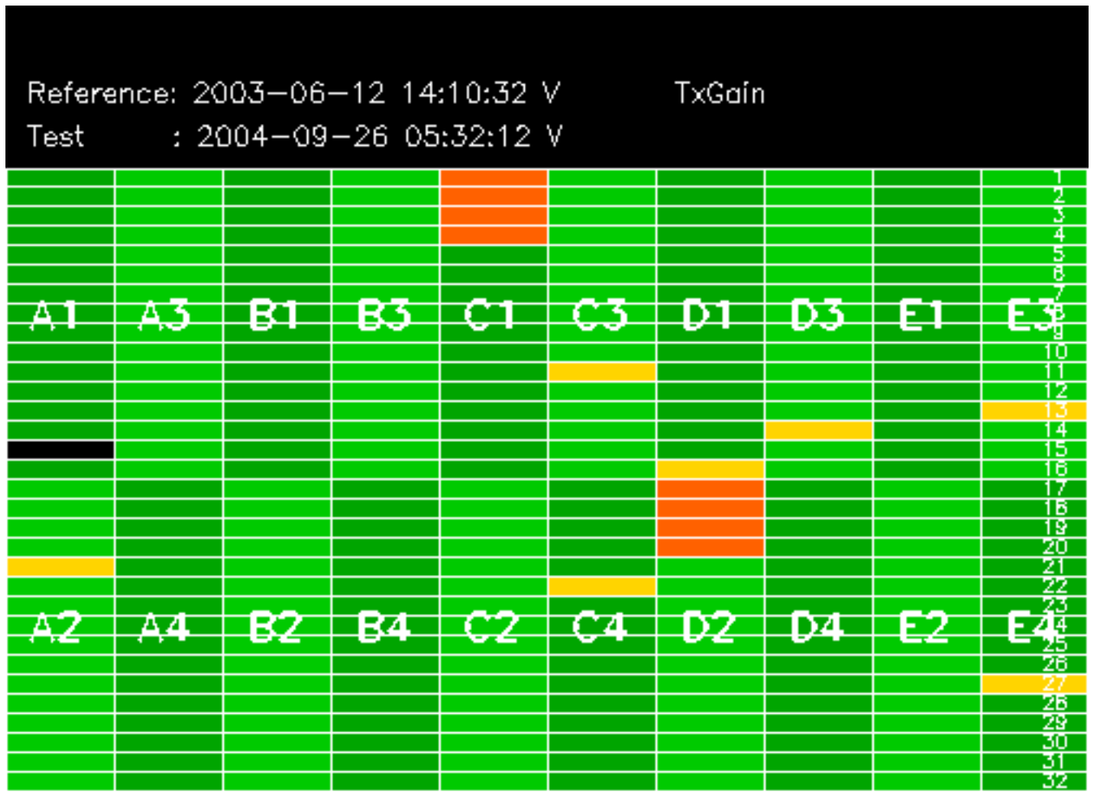
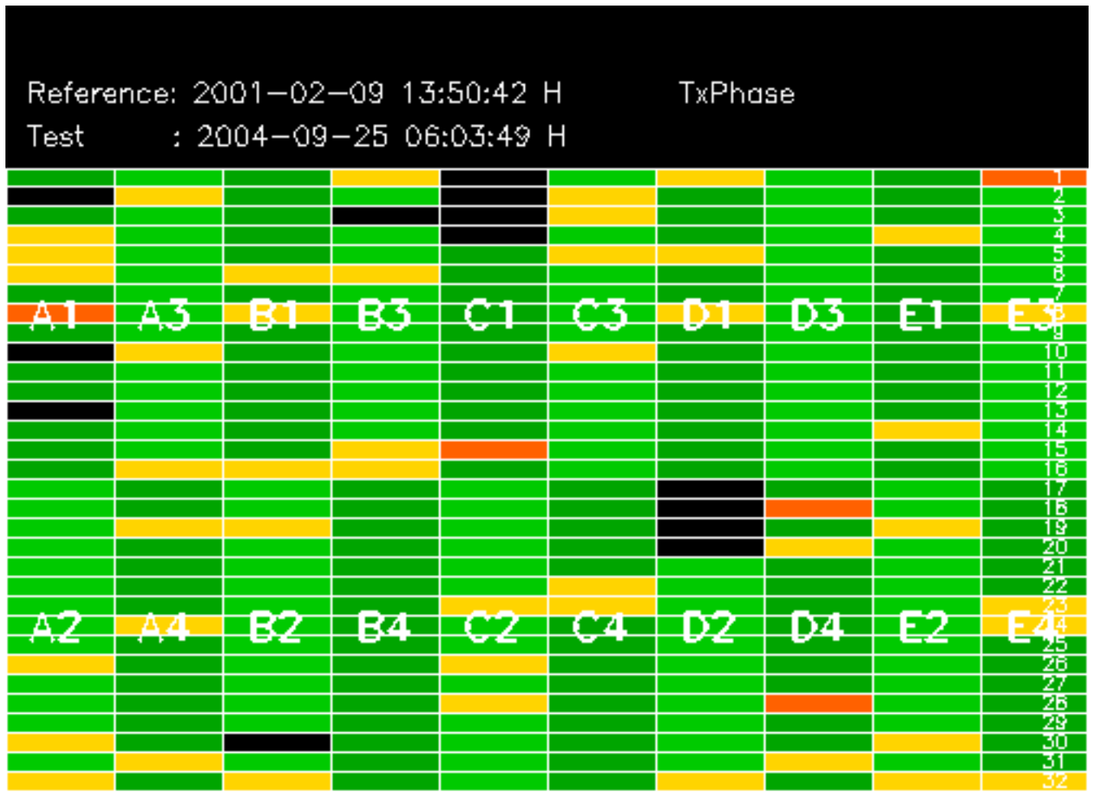
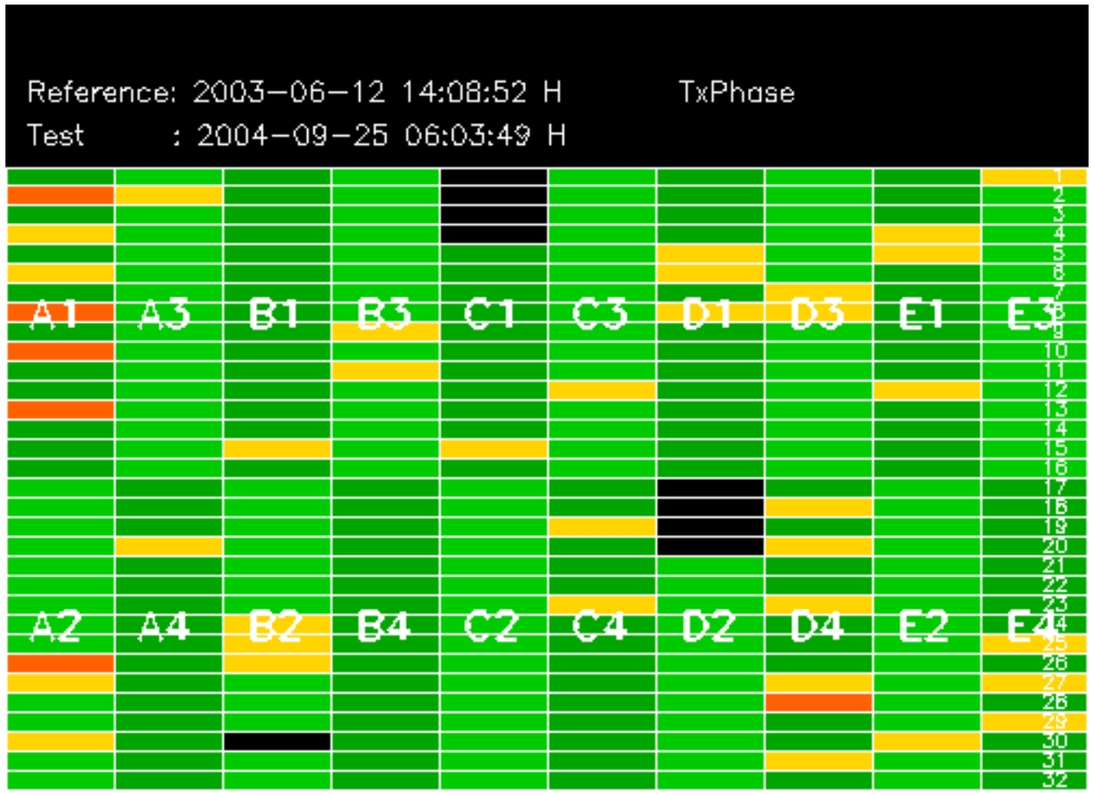
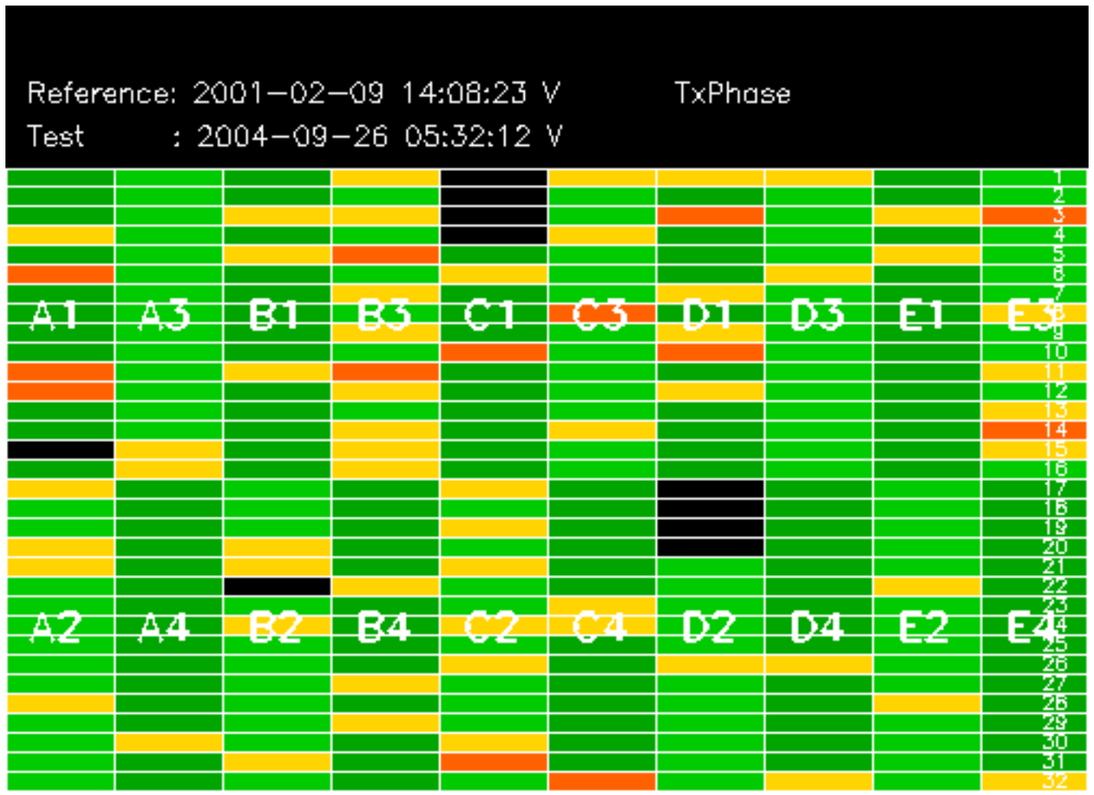

Reference: 2003-06-12 14:10:32 V
Test : 2004-09-26 05:32:12 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-09-25 06:03:49 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 : 2004-09-25 06:03:49 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 : 2004-09-26 05:32:12 V
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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31
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Reference: 2003-06-12 14:10:32 V
Test : 2004-09-26 05:32:12 V
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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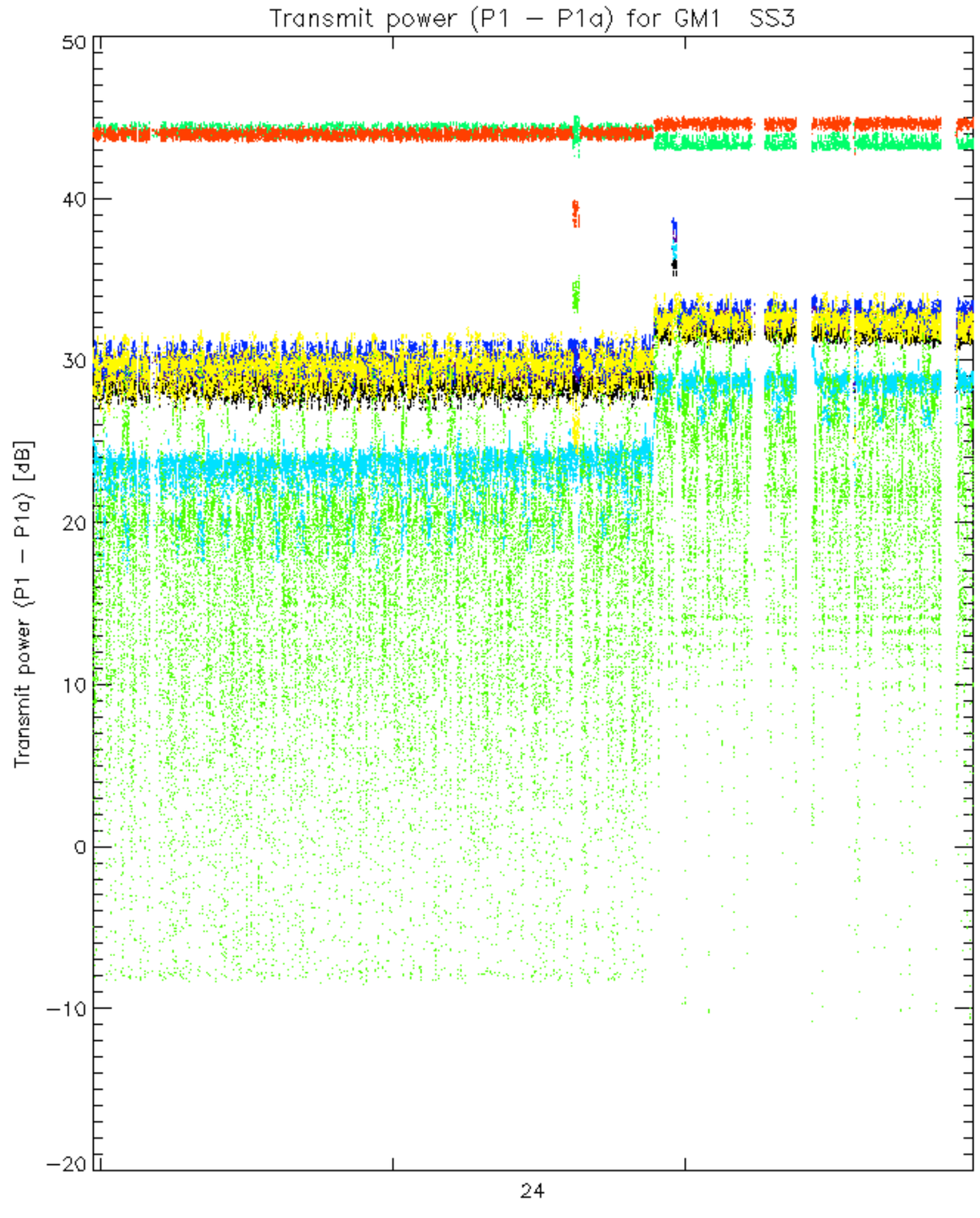
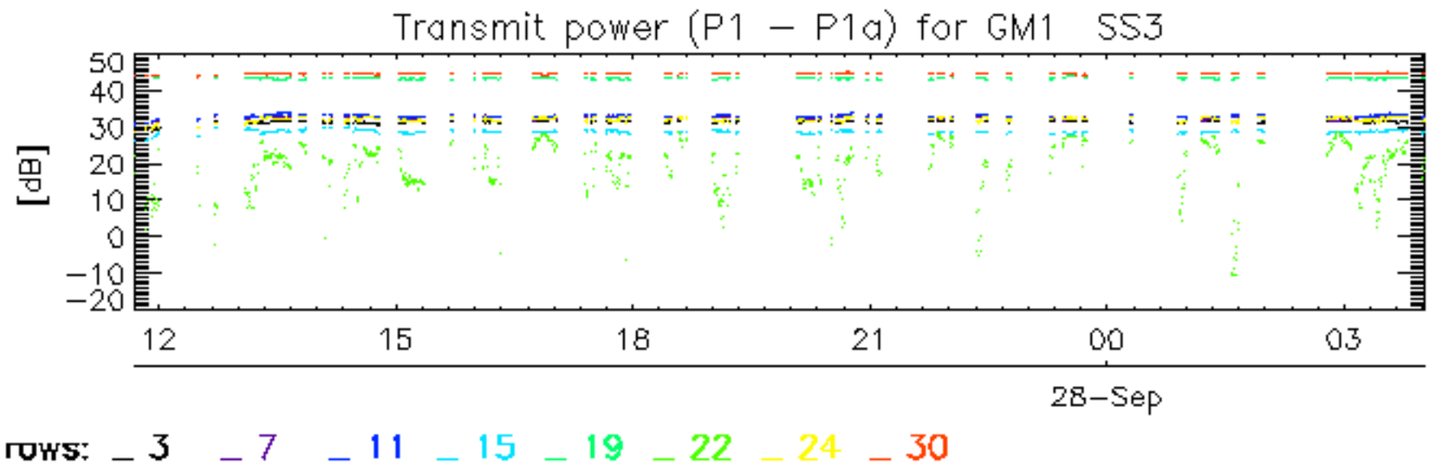
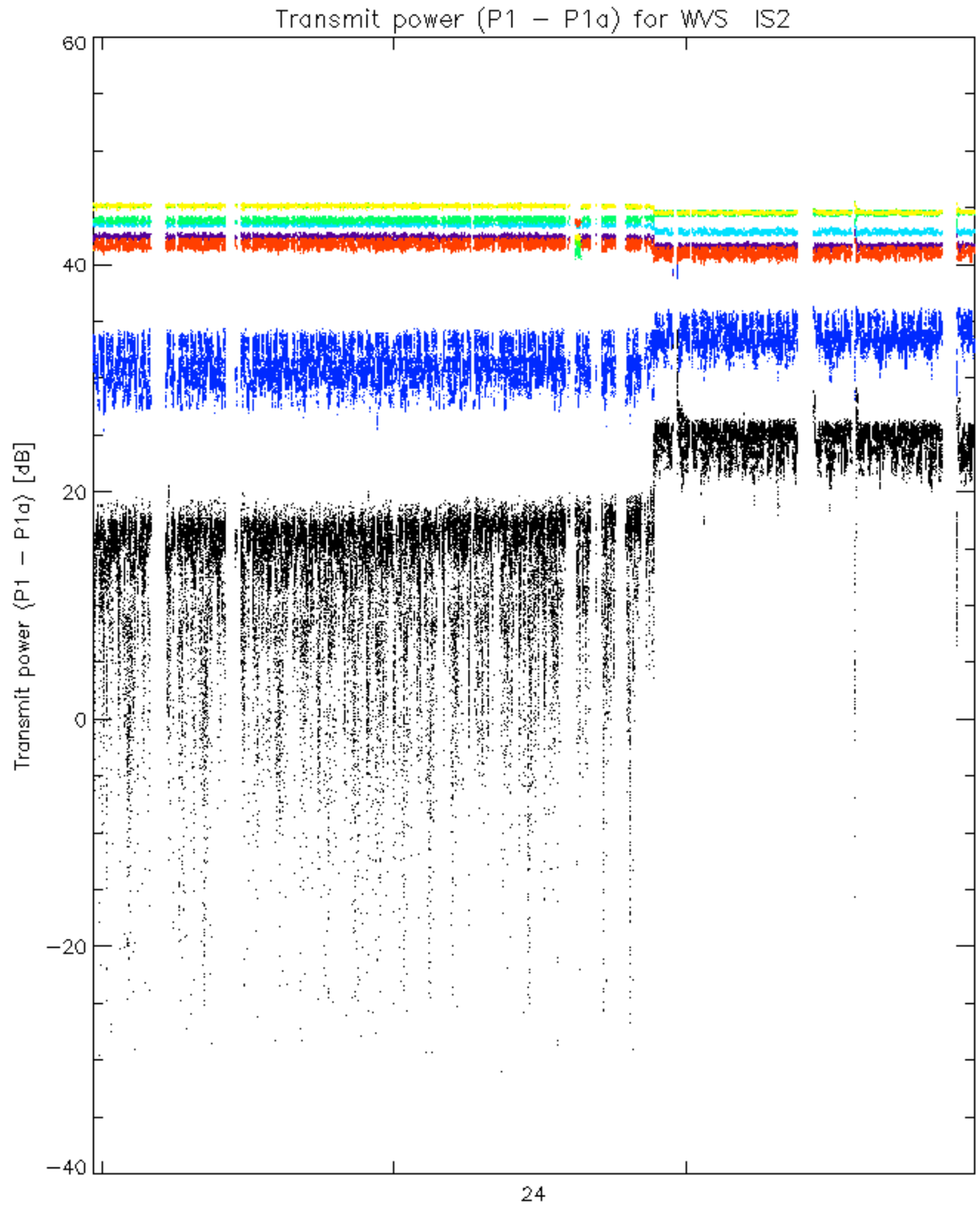
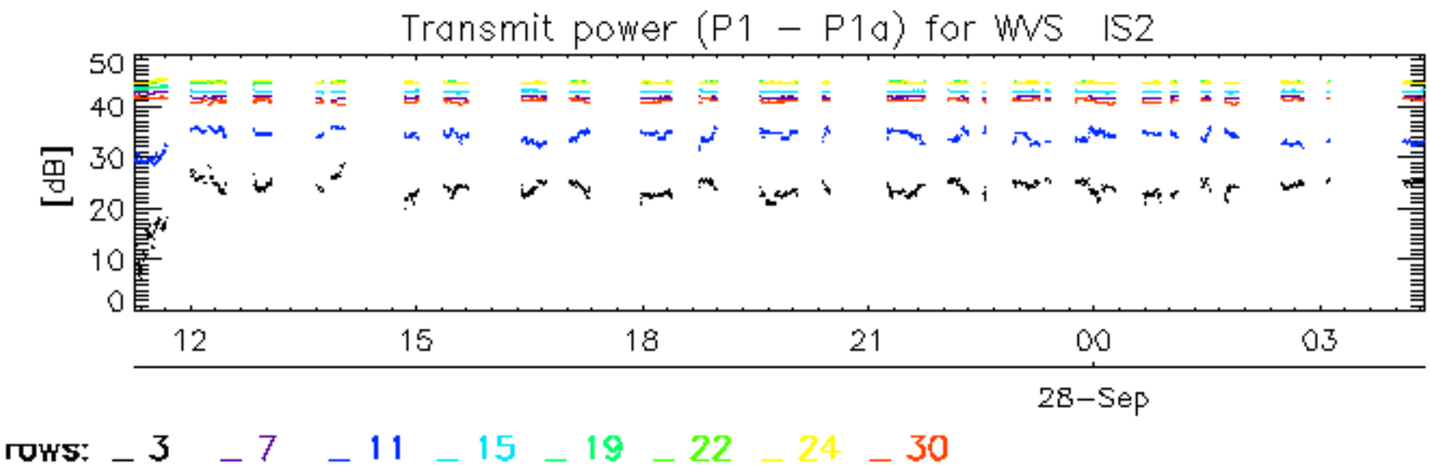

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
−20
24
rows: 3 7 11 15 19 22 24 30


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


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


Transmit power (P1 – P1a) for WVS IS2
[dB]
50
40
30
20
10
0
12
15
18
21
00
03
28–Sep
rows: 3 7 11 15 19 22 24 30

No unavailabilities during the reported period.