PRELIMINARY REPORT OF 041227

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

last update on Mon Dec 27 10:59:42 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 - Auxiliary files

Summary of the auxiliary files used from 2004-12-26 00:00:00 to 2004-12-27 10:59:42

PDHS-K					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	28	52	3	0	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	28	52	3	0	4
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	28	52	3	0	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	28	52	3	0	4

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	32	34	6	7	5
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	32	34	6	7	5
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	32	34	6	7	5
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	32	34	6	7	5

2.3 - Browse Visual Inspection

2.4 - 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	20041225 064402
H	20041226 061225

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
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☒

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	-3.458632	0.028921	0.036634
7	P1	-3.099735	0.024700	0.022201
11	P1	-4.644760	0.045929	-0.033875
15	P1	-5.665270	0.039663	-0.034809
19	P1	-3.650852	0.005711	-0.032753
22	P1	-4.576071	0.016952	0.002660
26	P1	-4.937929	0.022989	0.008394
30	P1	-7.112301	0.013582	-0.052239
3	P1	-15.948252	0.112874	0.040271
7	P1	-15.512306	0.164168	0.023985
11	P1	-20.735142	0.543582	-0.269137
15	P1	-11.624084	0.092352	-0.023538
19	P1	-14.154548	0.028767	-0.047907
22	P1	-16.102055	0.465490	0.185634
26	P1	-17.769226	0.260498	0.127173
30	P1	-17.901096	0.304234	0.015747

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.358305	0.085159	0.025082
7	P2	-22.579643	0.166420	0.051997
11	P2	-14.909066	0.182118	0.143377
15	P2	-7.168188	0.113974	0.043555
19	P2	-9.731936	0.196137	0.067669
22	P2	-17.181604	0.099003	0.059487
26	P2	-16.533031	0.113150	0.012088

30	P2	-18.976692	0.082617	0.064605

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.210964	0.006805	-0.015310
7	P3	-8.210964	0.006806	-0.015323
11	P3	-8.210984	0.006802	-0.015222
15	P3	-8.211036	0.006796	-0.014931
19	P3	-8.210991	0.006801	-0.015183
22	P3	-8.210989	0.006801	-0.015220
26	P3	-8.211021	0.006797	-0.015012
30	P3	-8.211365	0.006761	-0.013829

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1
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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	-2.849373	0.110776	0.009721
7	P1	-2.979362	0.064511	0.020389
11	P1	-3.945354	0.048672	-0.021521
15	P1	-3.519398	0.078685	0.003422
19	P1	-3.607363	0.012870	-0.028524
22	P1	-5.616781	0.069557	-0.048774
26	P1	-6.510985	0.023175	-0.053356
30	P1	-6.304587	0.042981	-0.022156
3	P1	-10.696942	0.059012	-0.212619
7	P1	-10.116511	0.157089	-0.067925
11	P1	-12.422861	0.199360	-0.125040

15	P1	-11.725833	0.098709	-0.040515
19	P1	-15.639792	0.048851	-0.035875
22	P1	-24.137947	2.094592	0.065010
26	P1	-15.056300	0.386165	0.200106
30	P1	-20.134176	0.925932	0.122004

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.038015	0.035206	0.054171
7	P2	-22.623068	0.029806	0.080305
11	P2	-10.700891	0.033185	0.179221
15	P2	-5.063689	0.023722	0.002350
19	P2	-6.966548	0.033756	0.011764
22	P2	-7.311459	0.025642	0.052494
26	P2	-23.962265	0.018218	-0.012879
30	P2	-22.032860	0.019797	0.082929

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.043727	0.002593	-0.012241
7	P3	-8.043726	0.002603	-0.011848
11	P3	-8.043670	0.002587	-0.011767
15	P3	-8.043685	0.002597	-0.012634
19	P3	-8.043771	0.002600	-0.011940
22	P3	-8.043743	0.002603	-0.012338
26	P3	-8.043848	0.002591	-0.012175
30	P3	-8.043695	0.002583	-0.012107

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	0.000440465
	stdev	2.39569e-07
MEAN Q	mean	0.000506650
	stdev	2.51072e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.125902
	stdev	0.000979385
STDEV Q	mean	0.126138
	stdev	0.000988359

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

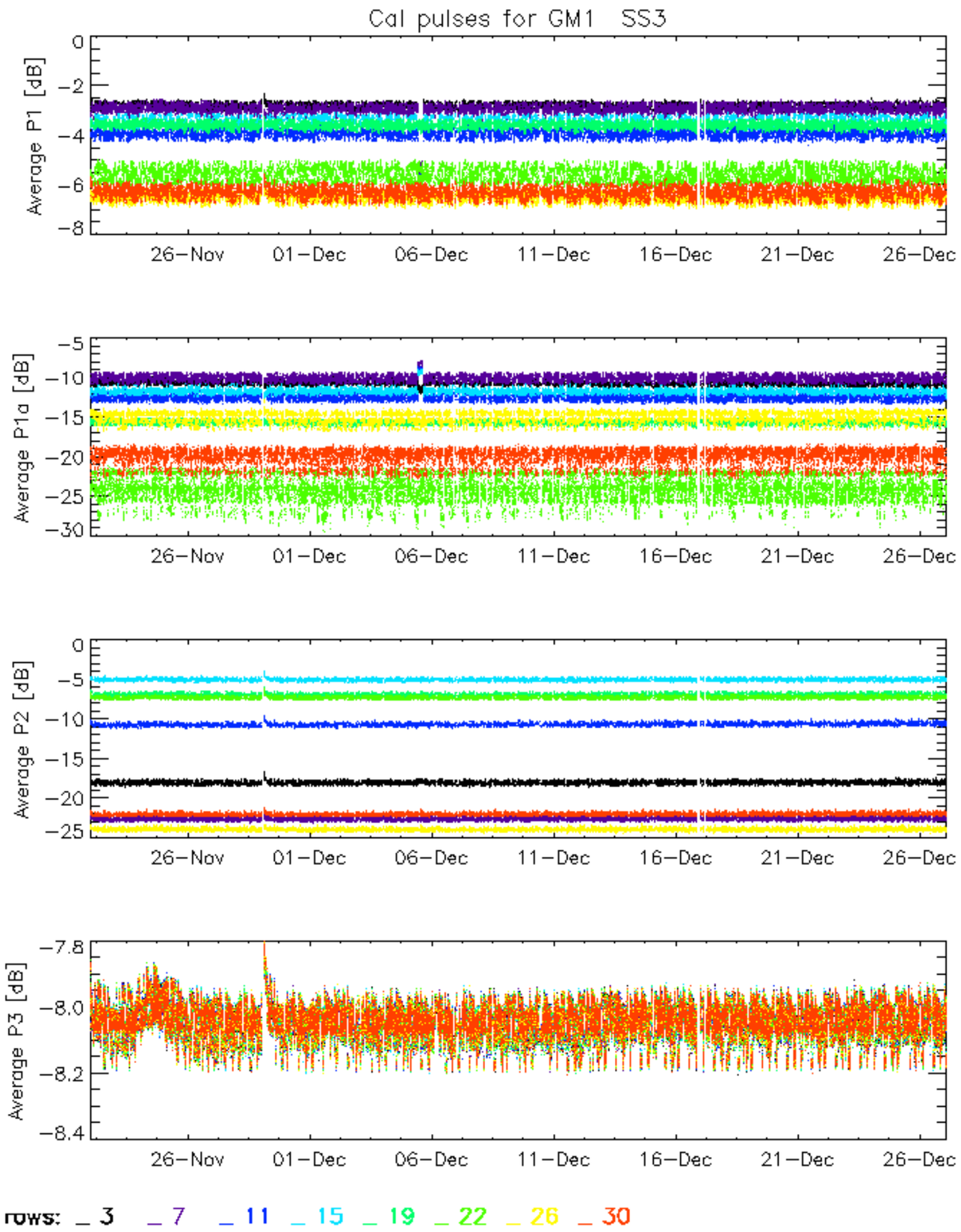
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

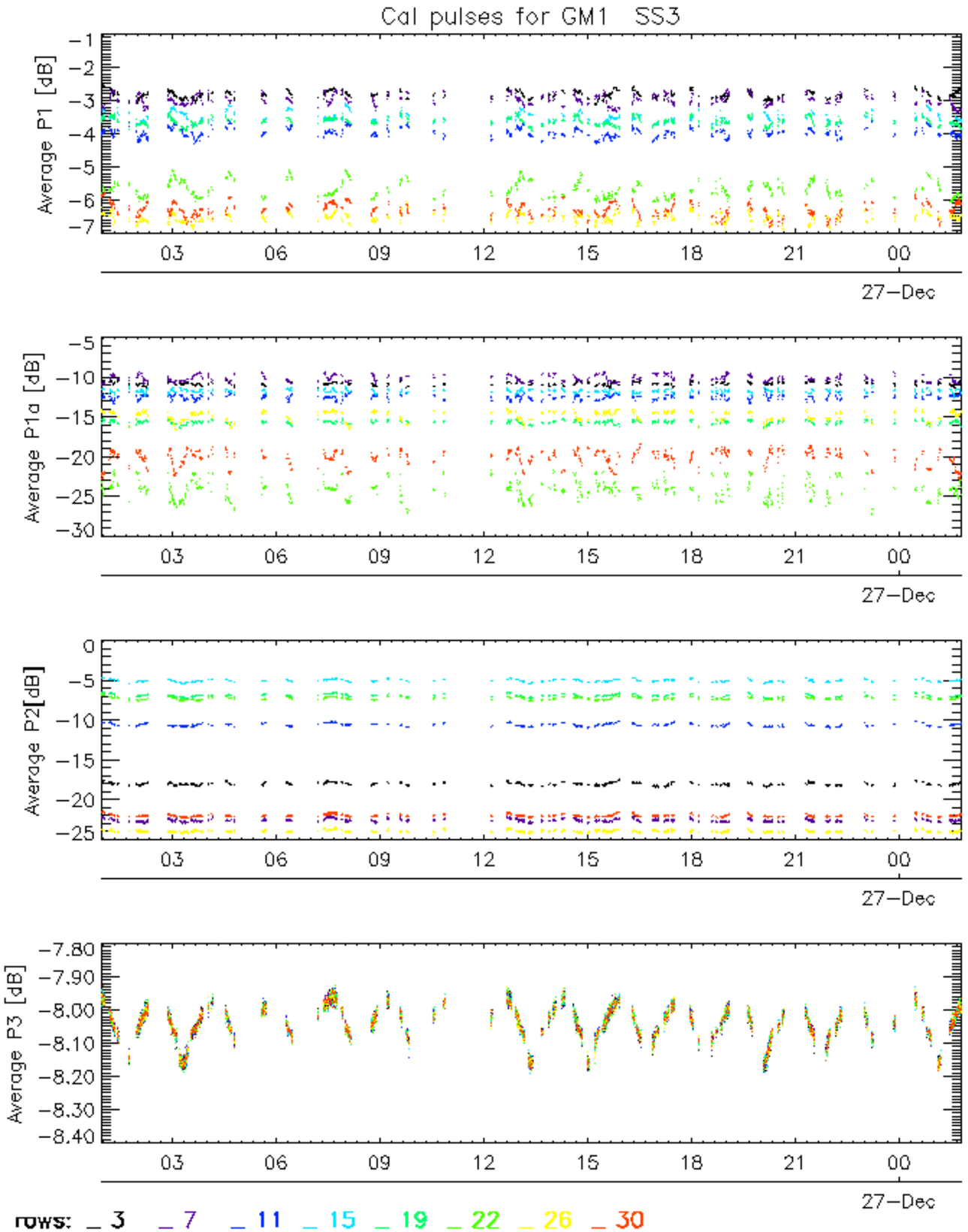
6.5 - Absolute Doppler for GM1

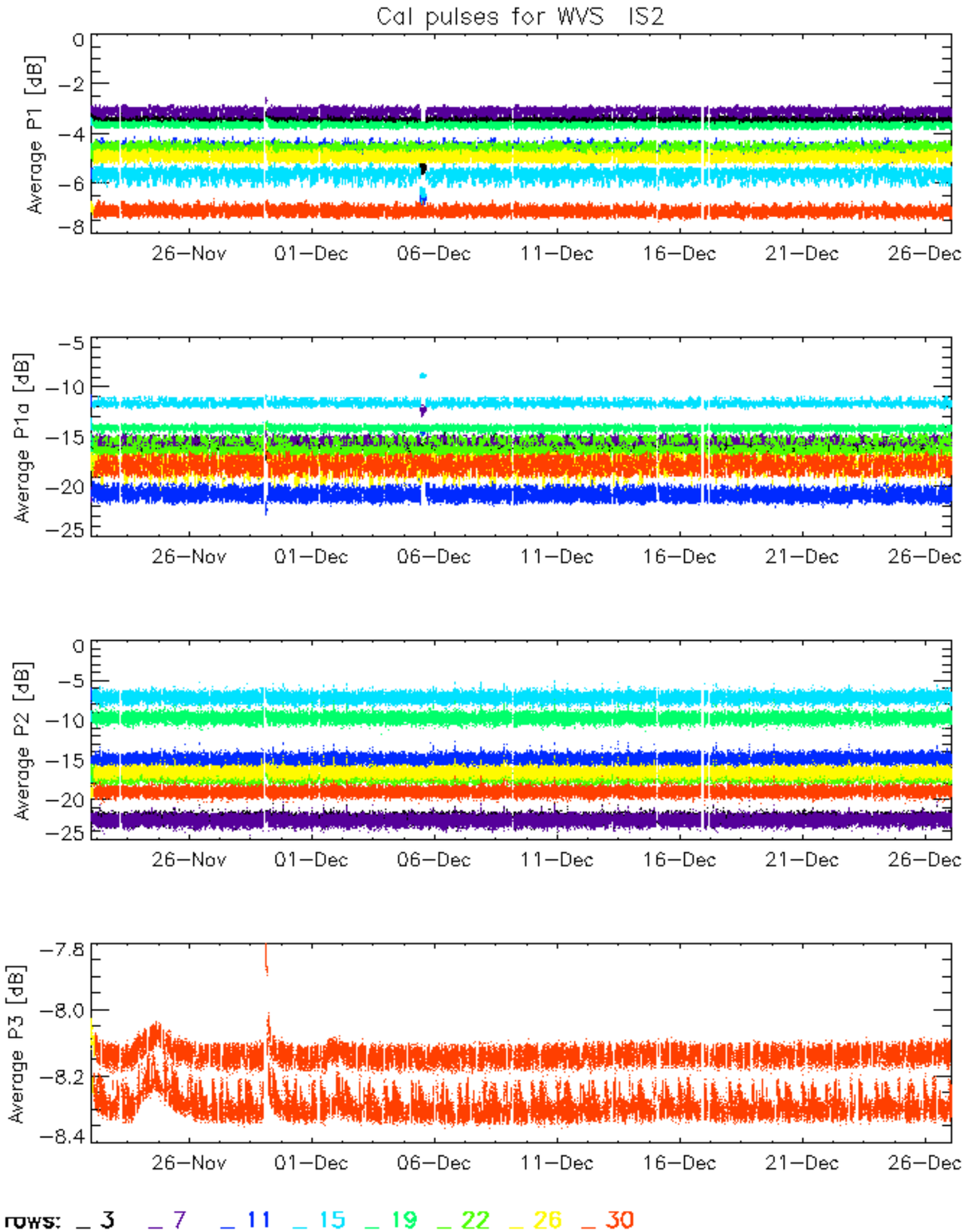
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

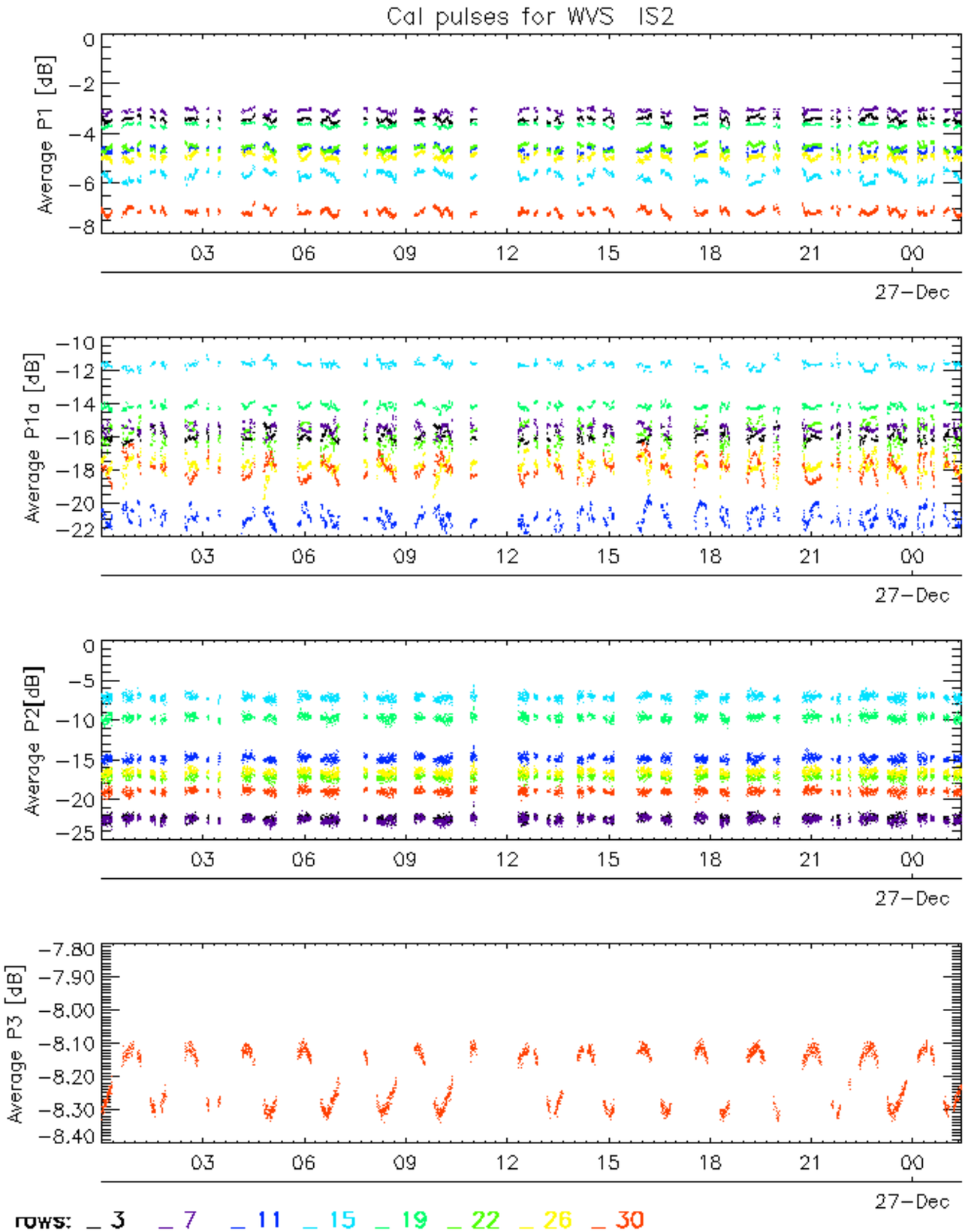
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

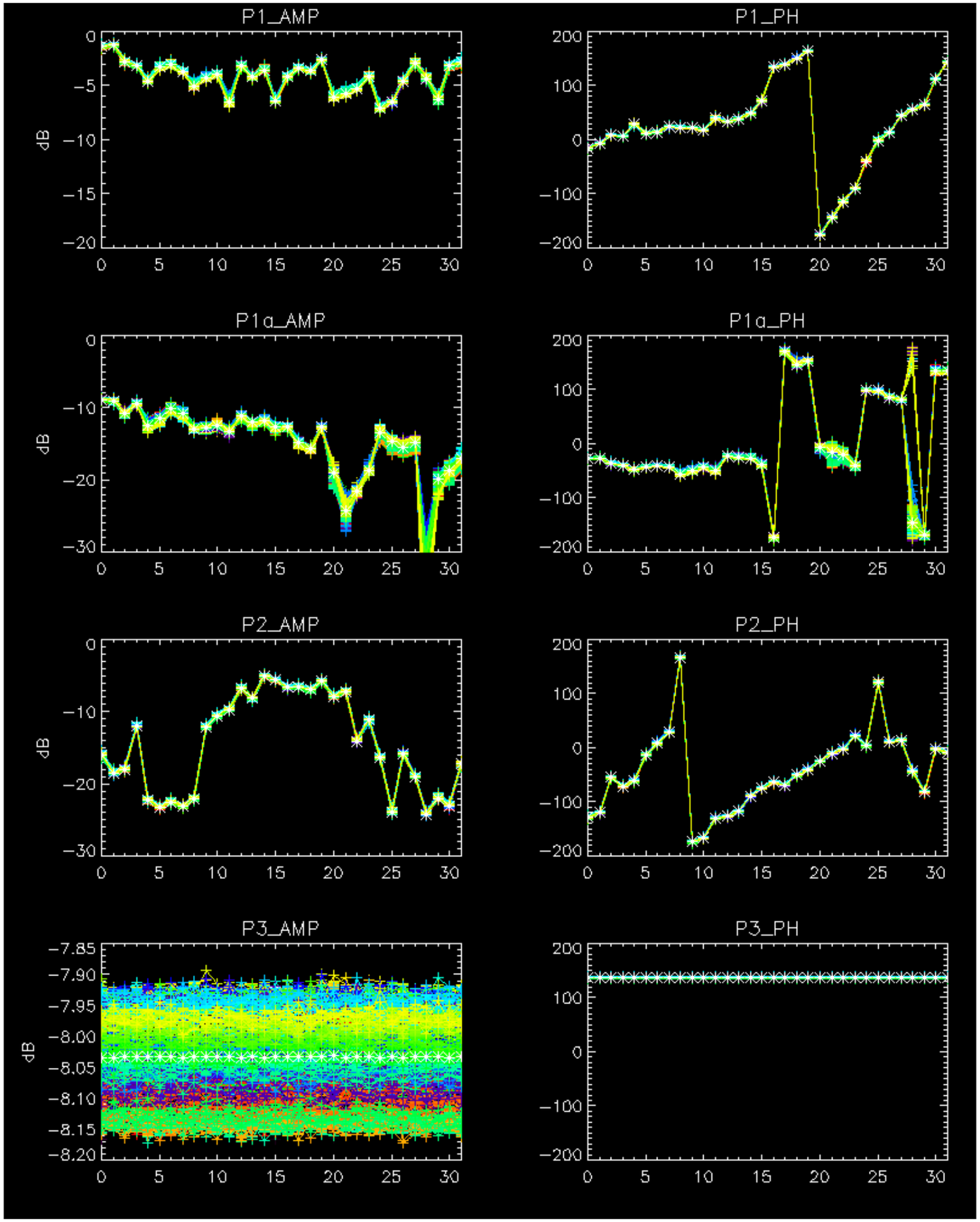

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

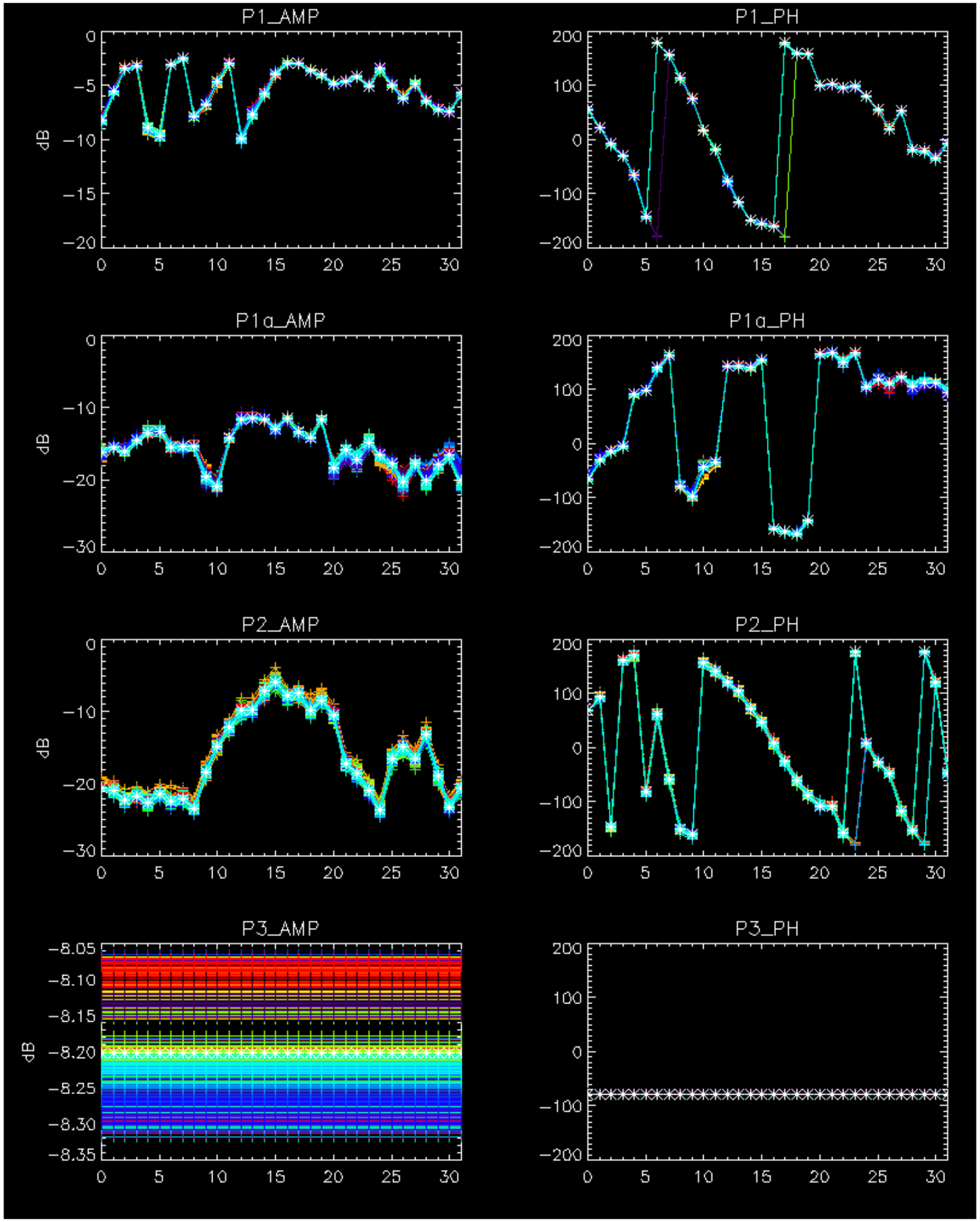

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
27−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
21
00
27−Dec
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
27−Dec
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06
09
12
15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


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


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
27−Dec
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
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 _ 26 _ 30

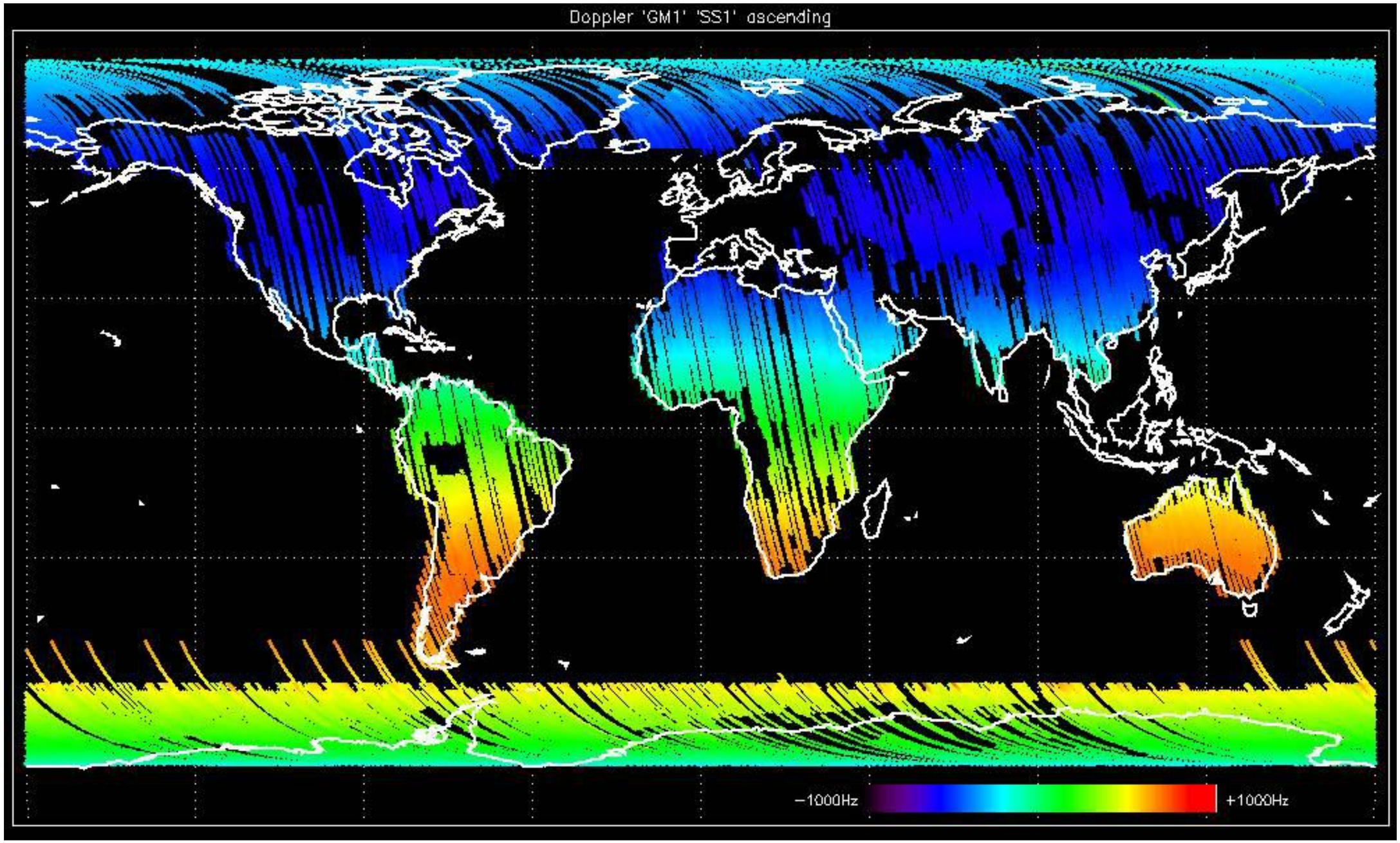
No anomalies observed.

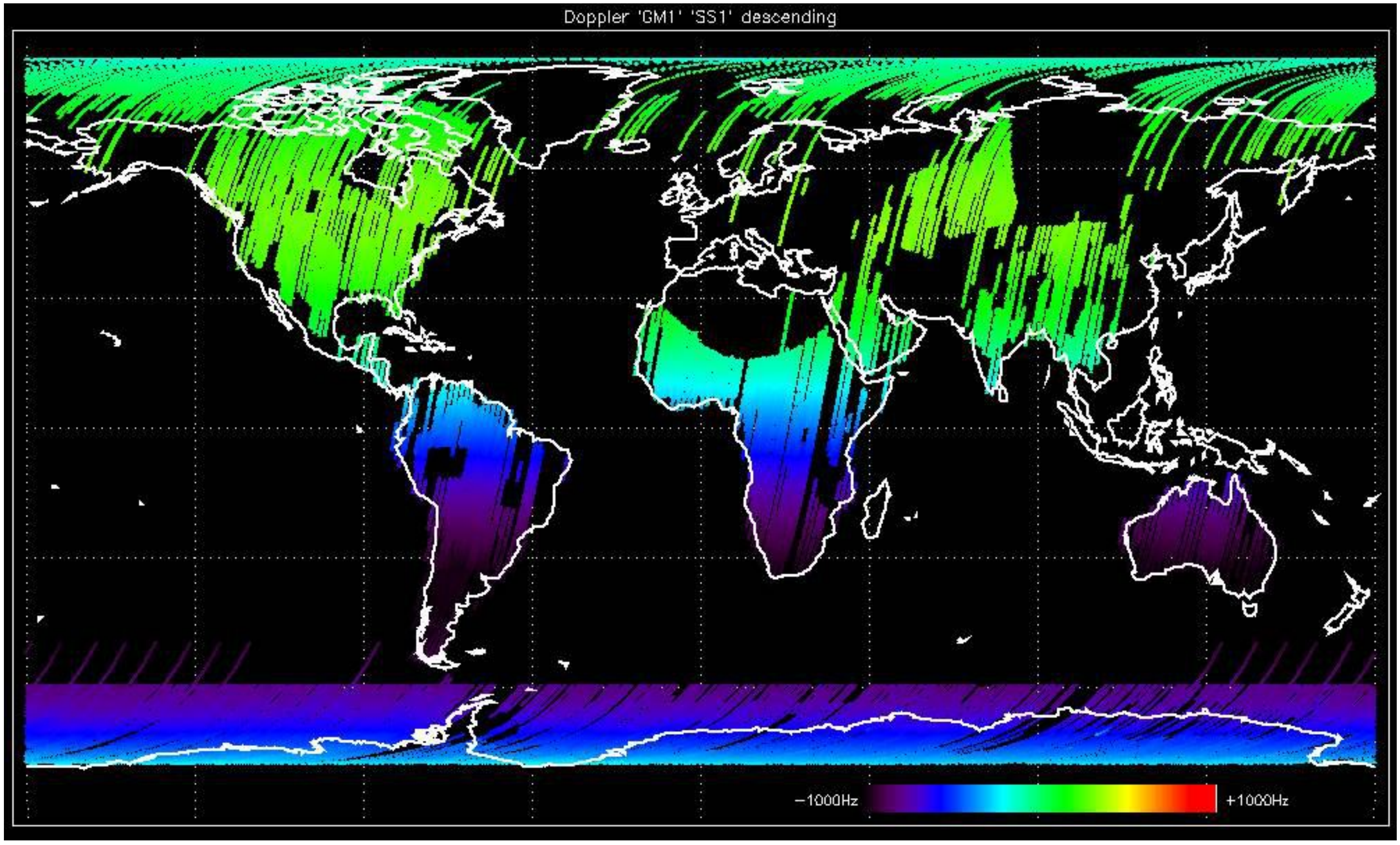

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.85
−7.90
−7.95
−8.00
−8.05
−8.10
−8.15
−8.20
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

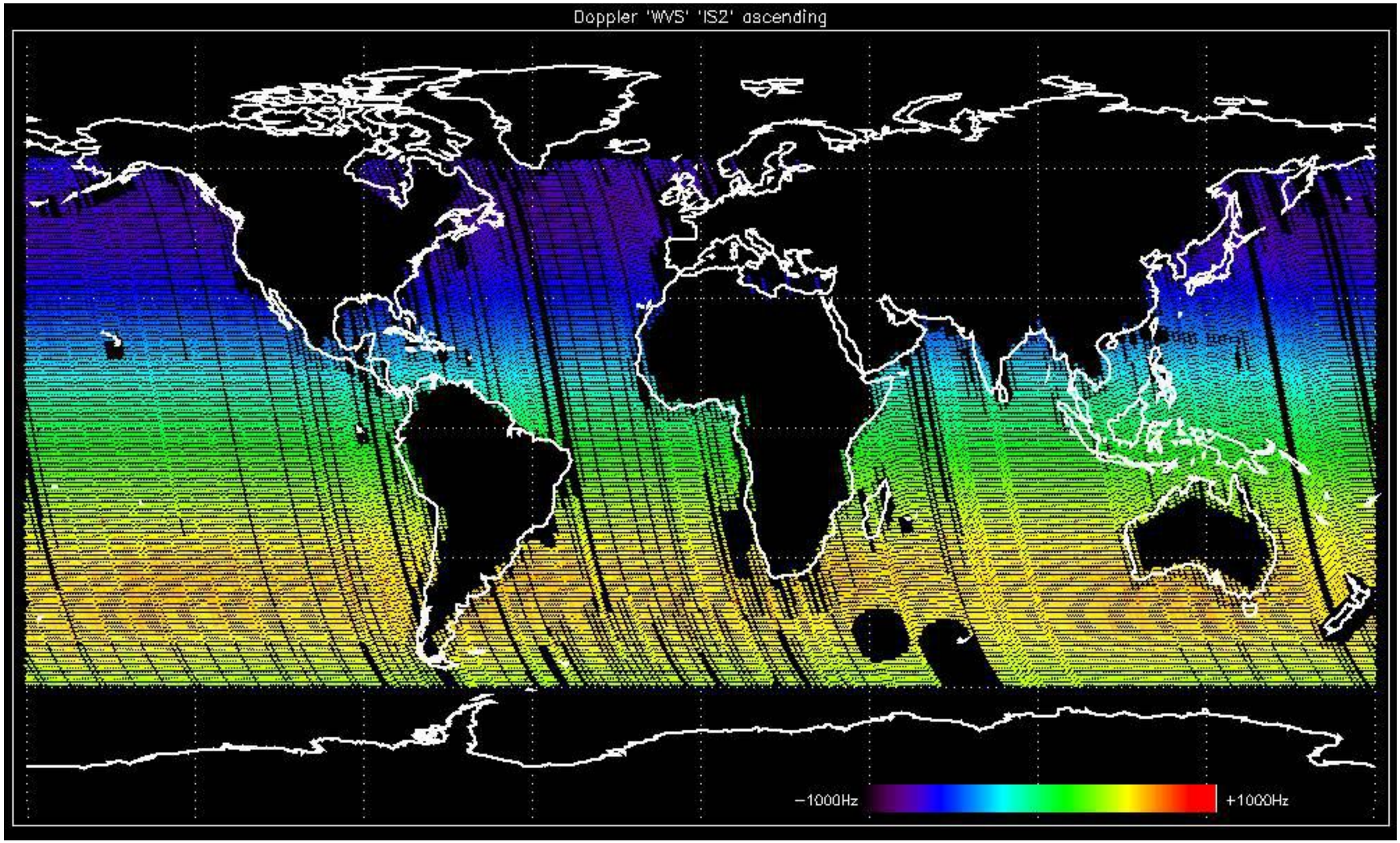

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.05
−8.10
−8.15
−8.20
−8.25
−8.30
−8.35
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

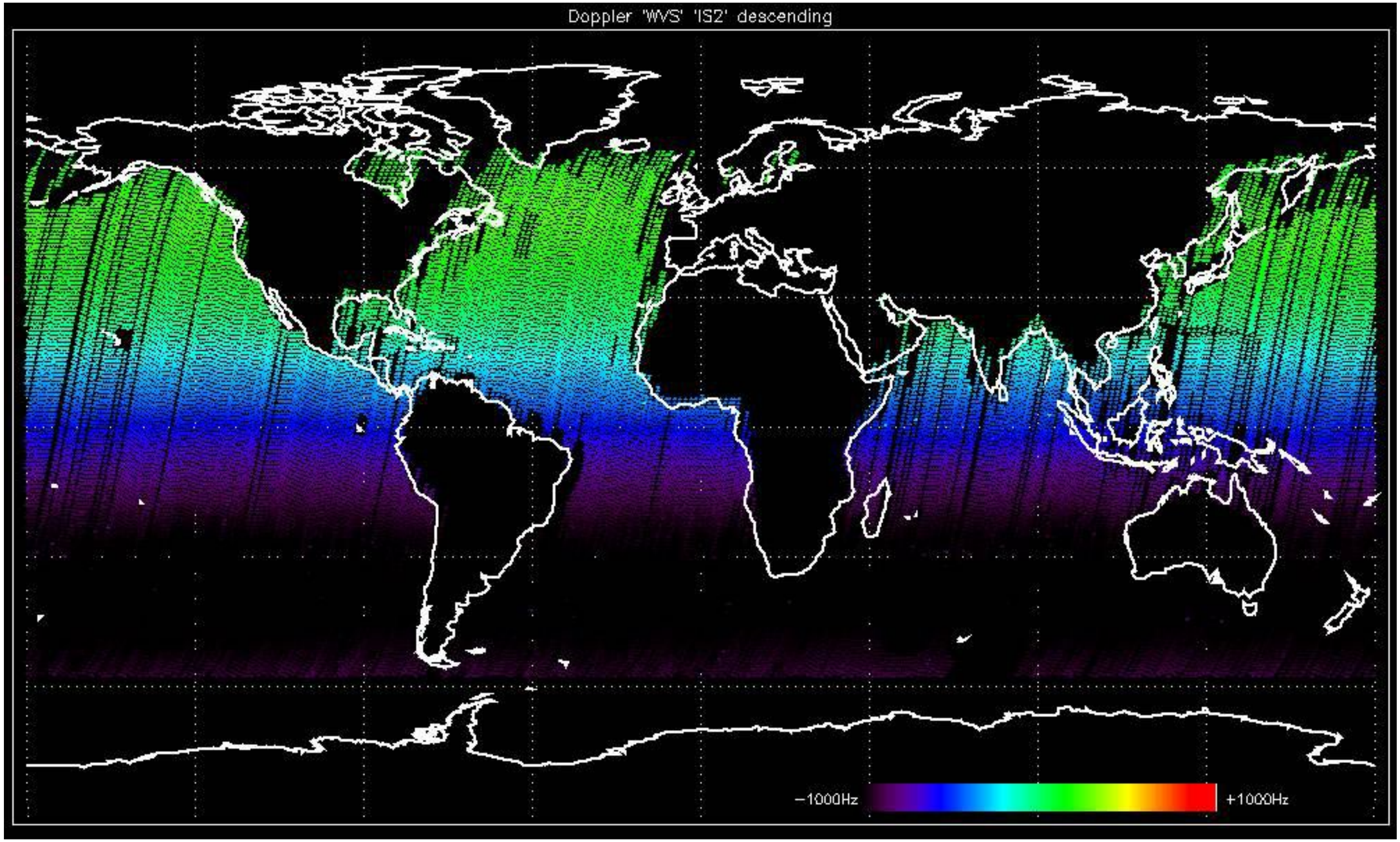
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

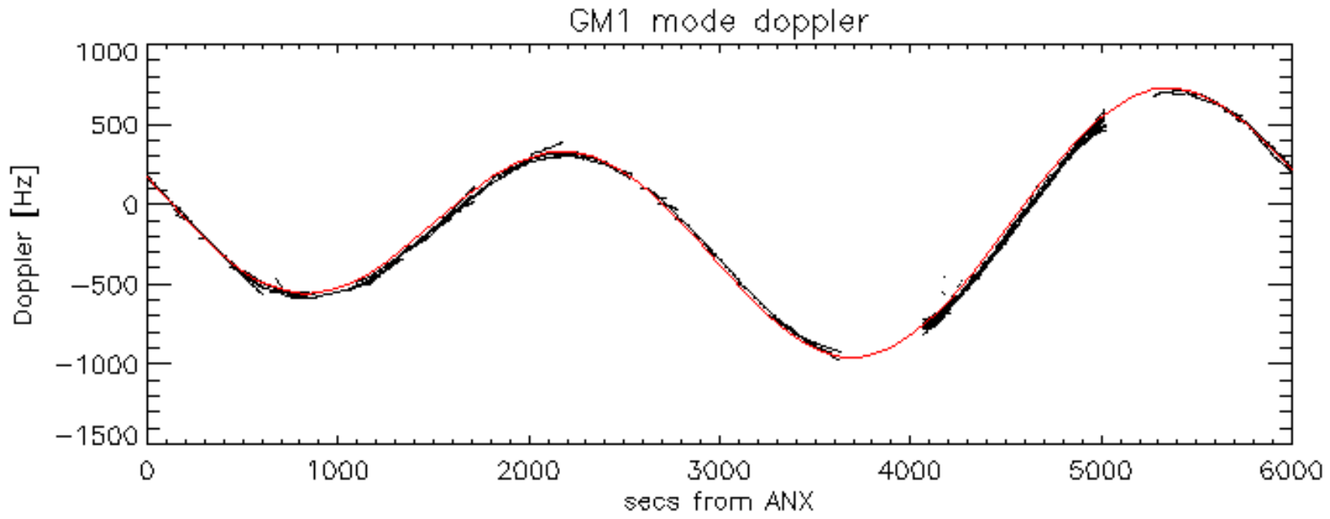
Preliminary report.The data is not yet controled

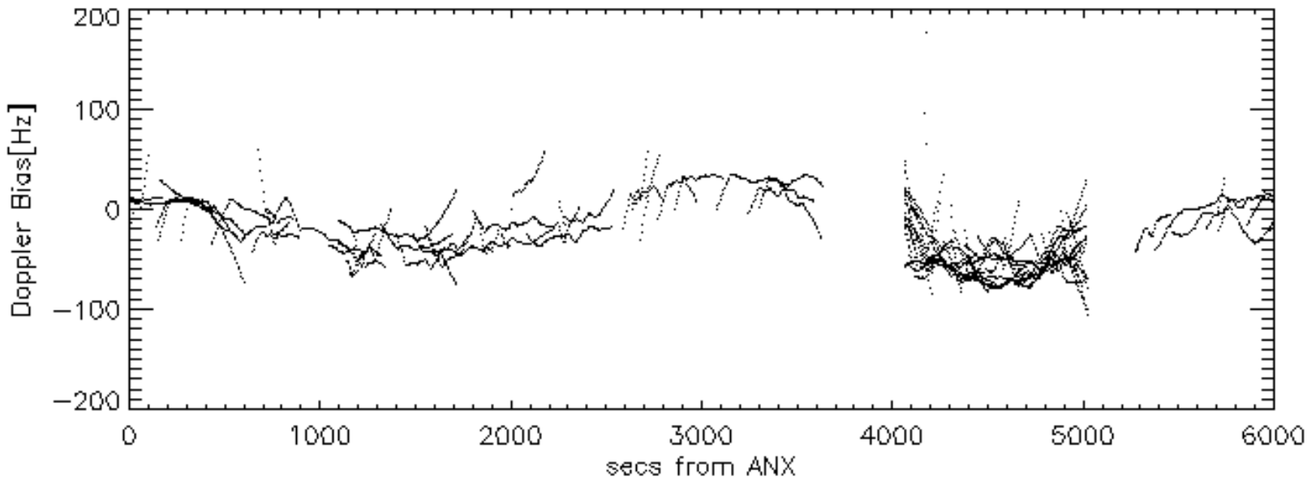

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

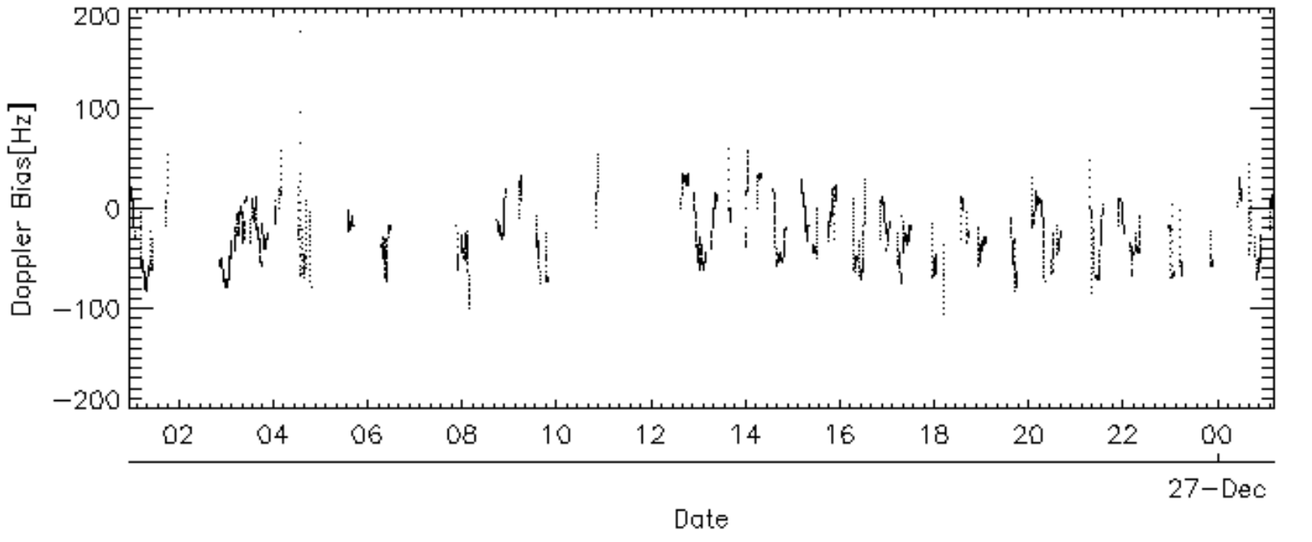

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

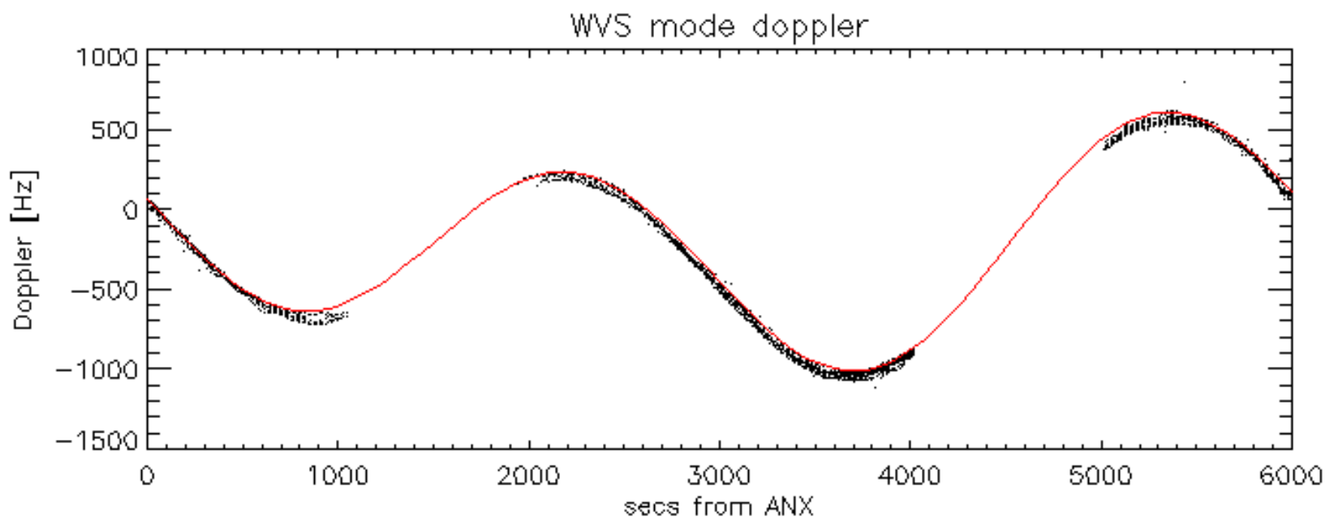

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

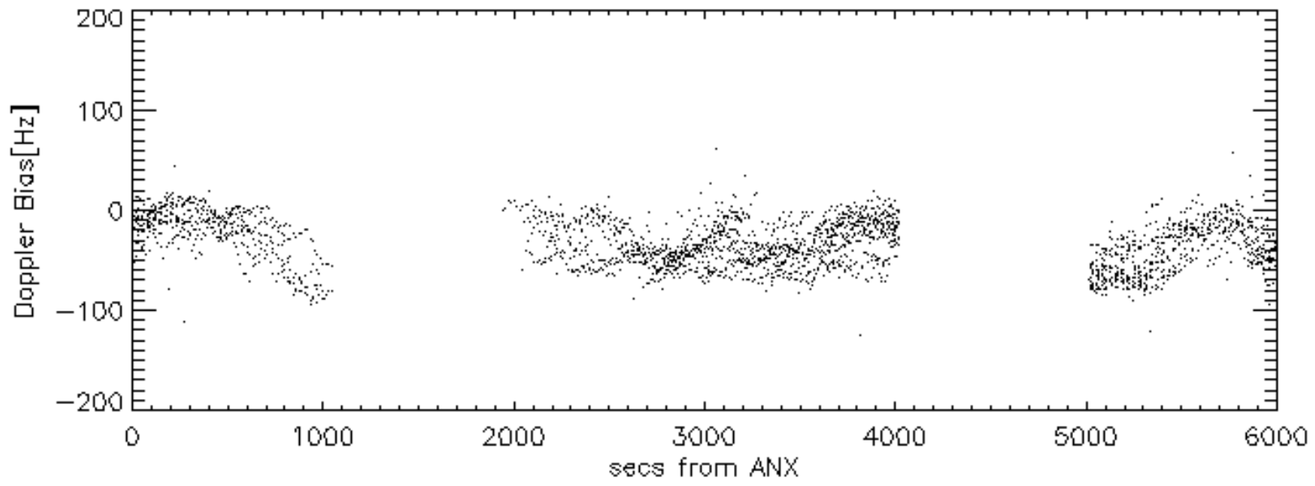

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

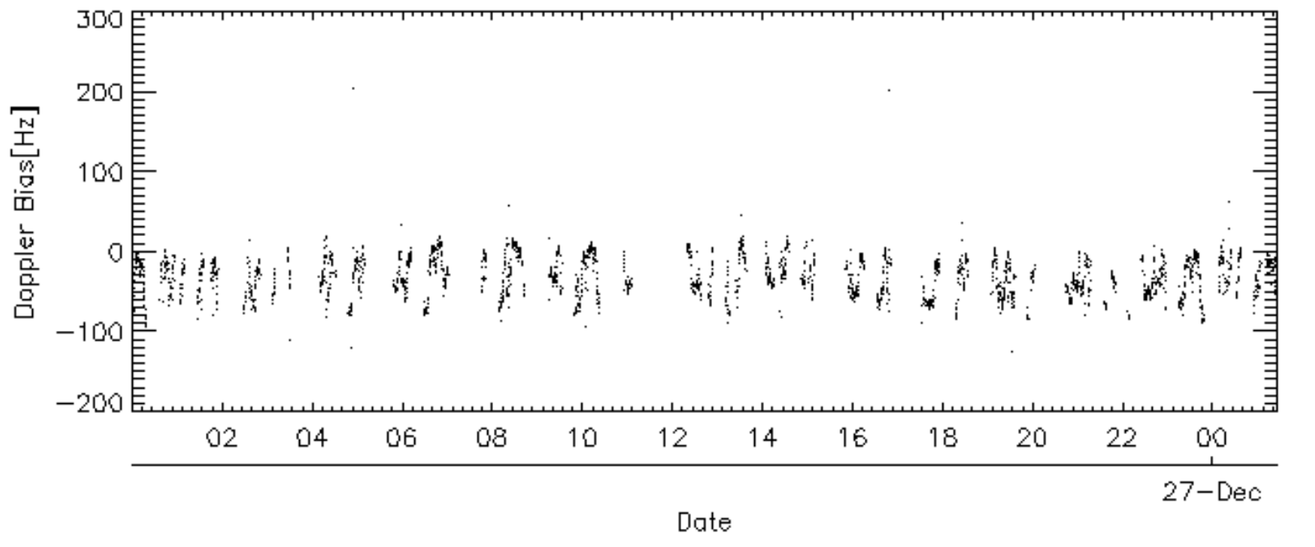

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

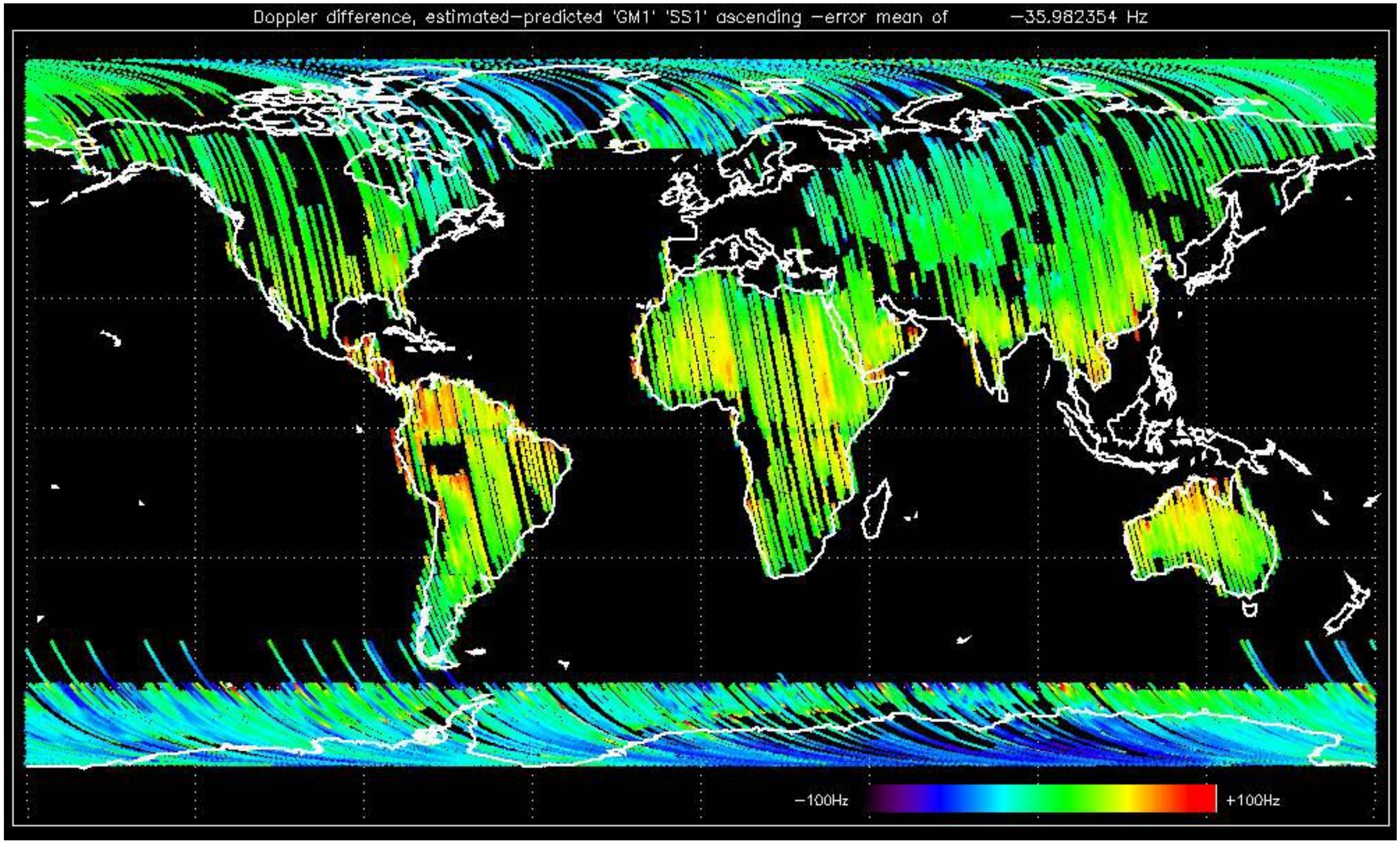

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

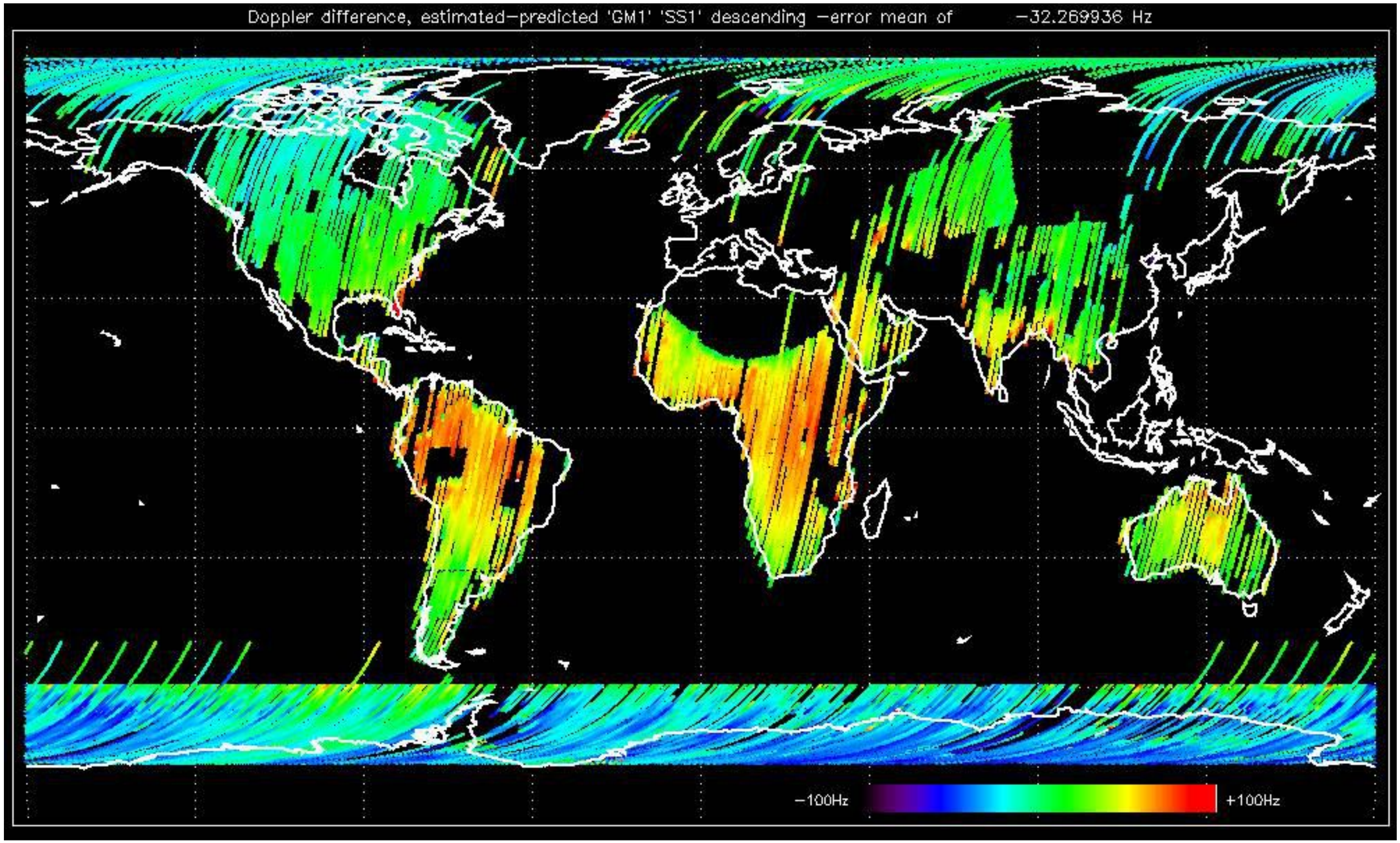

Doppler Bias[Hz]
200
100
0
−100
−200
02
04
06
08
10
12
14
16
18
20
22
00
27−Dec
Date

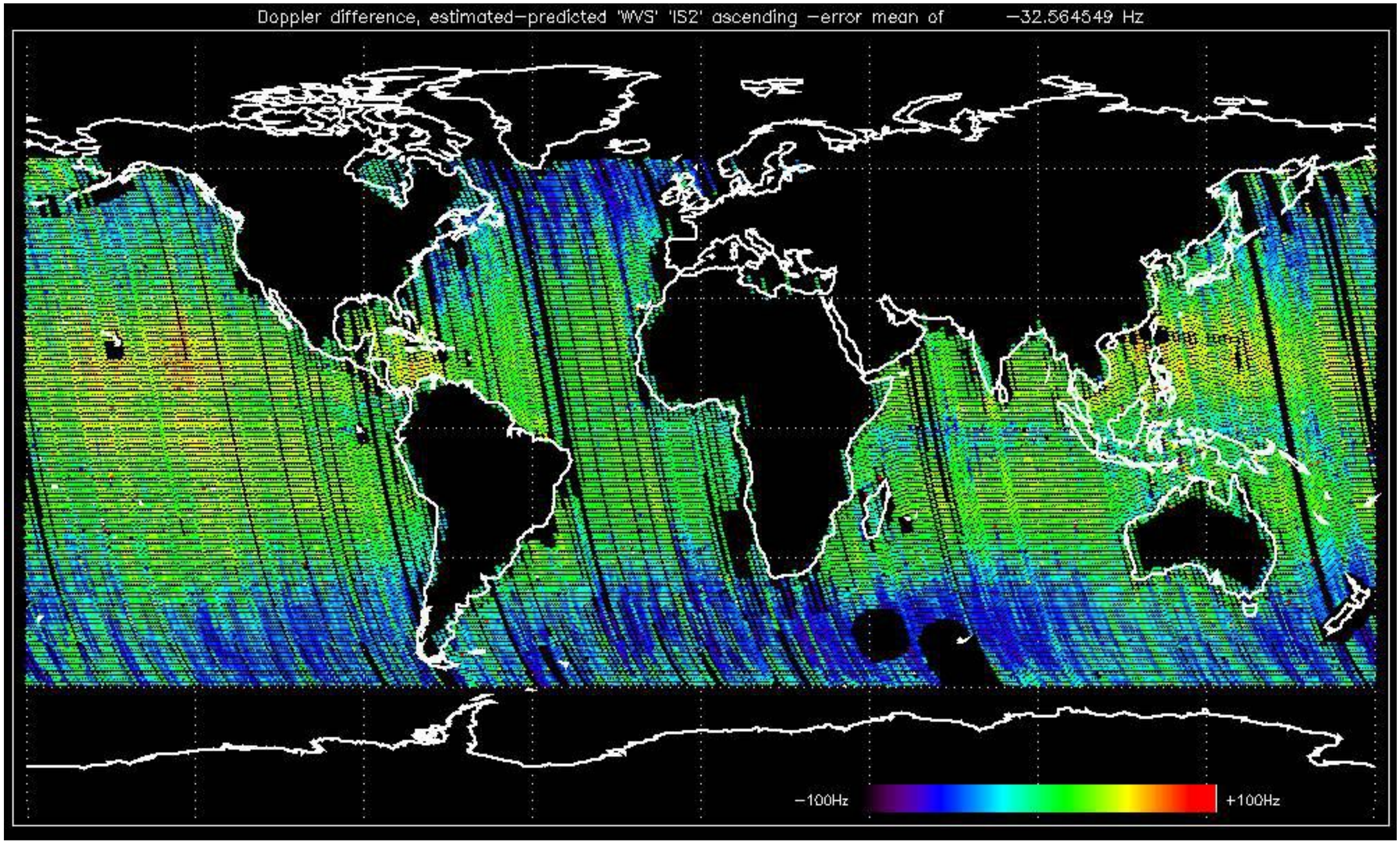

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

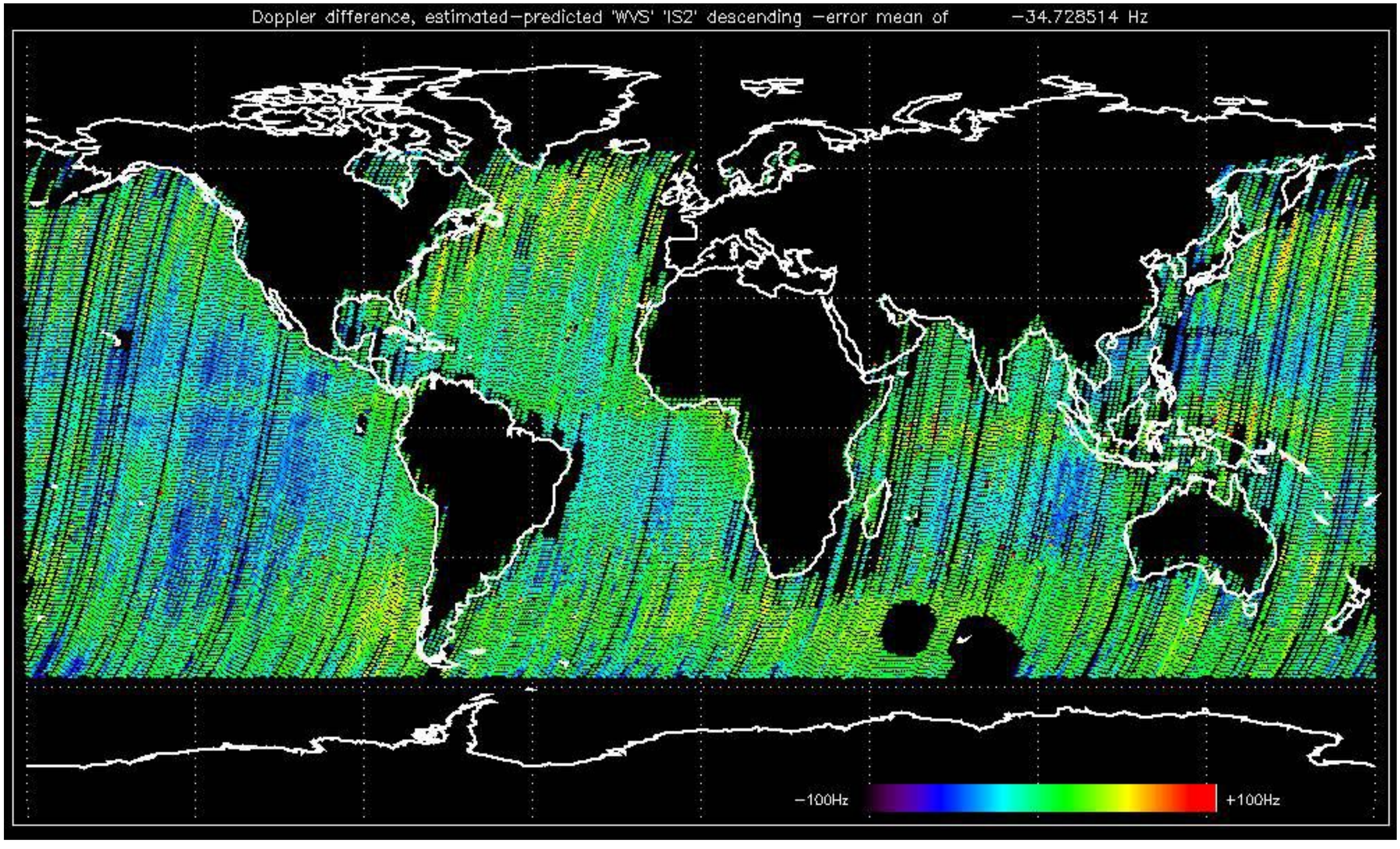

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


Doppler Bias[Hz]
300
200
100
0
−100
−200
02
04
06
08
10
12
14
16
18
20
22
00
27−Dec
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −35.982354 Hz
−100Hz
+100Hz

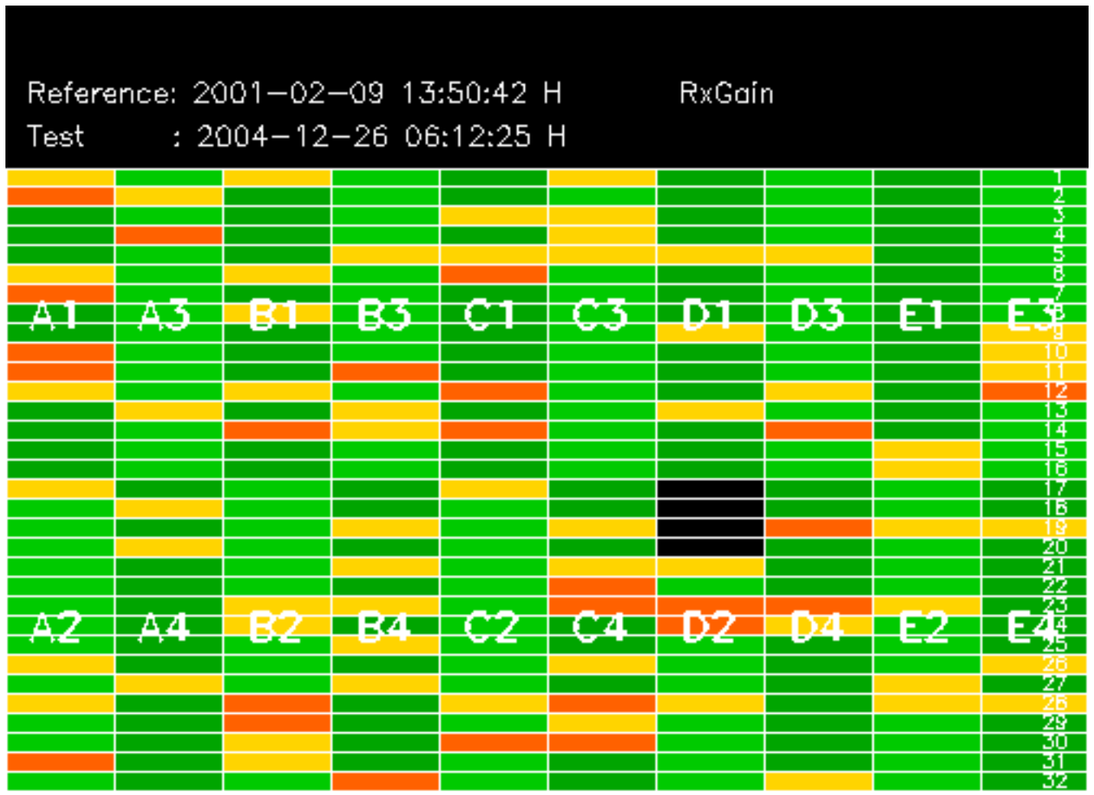

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −32.269936 Hz
−100Hz
+100Hz

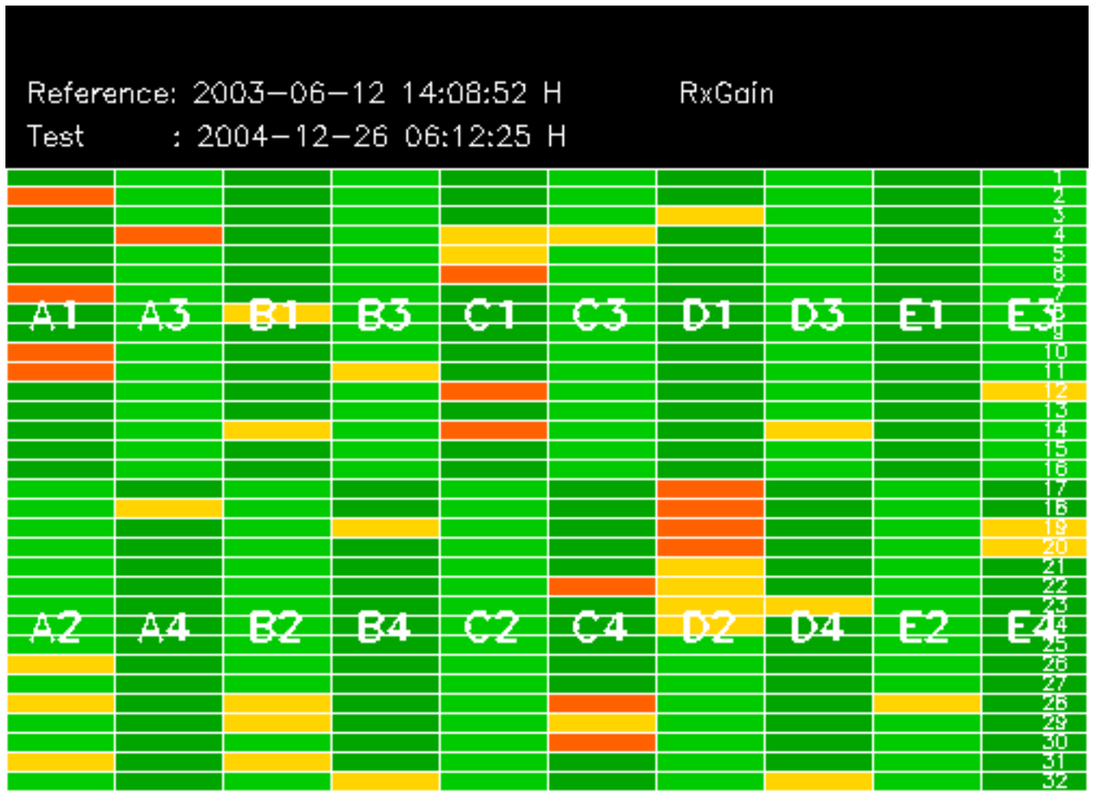

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −32.564549 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −34.728514 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 : 2004-12-26 06:12:25 H
RxGain
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 : 2004-12-26 06:12:25 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
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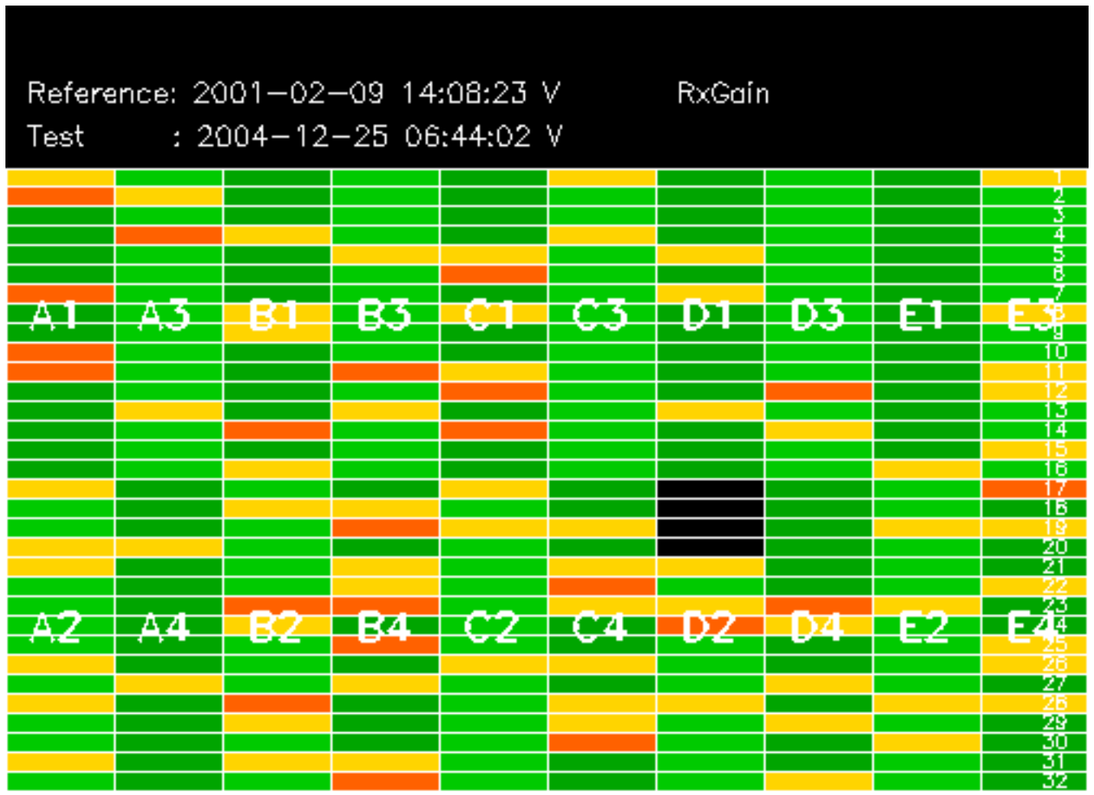
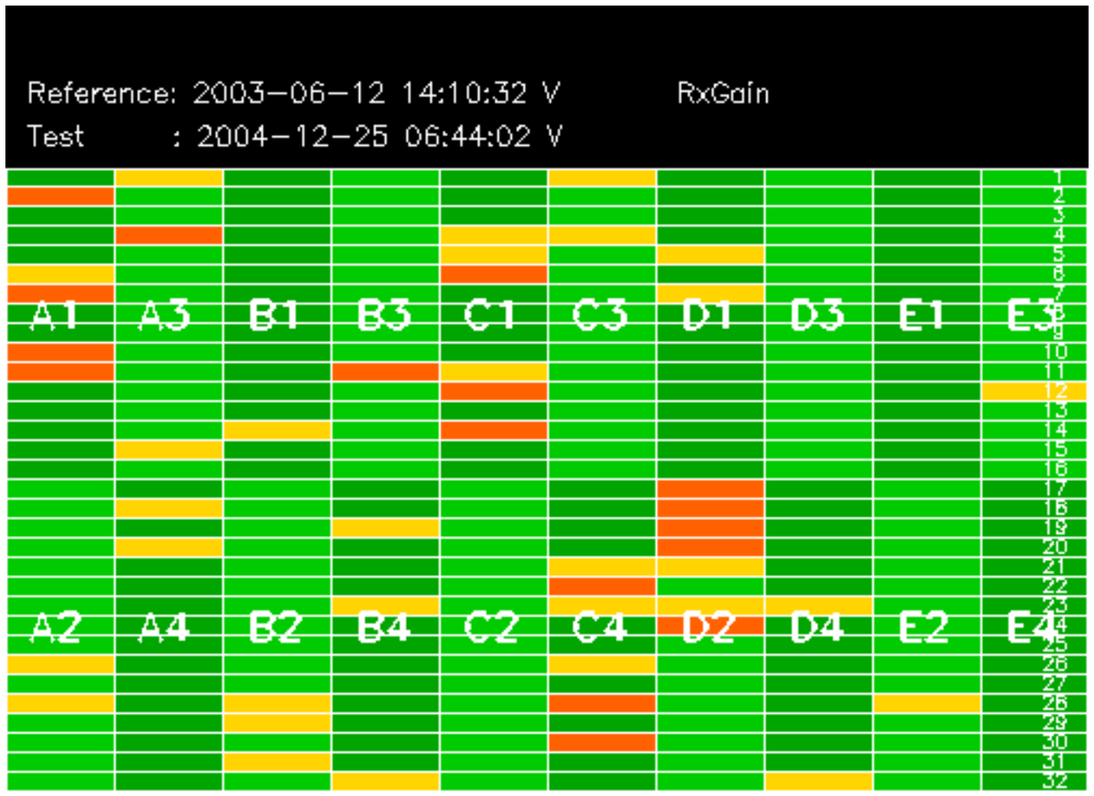
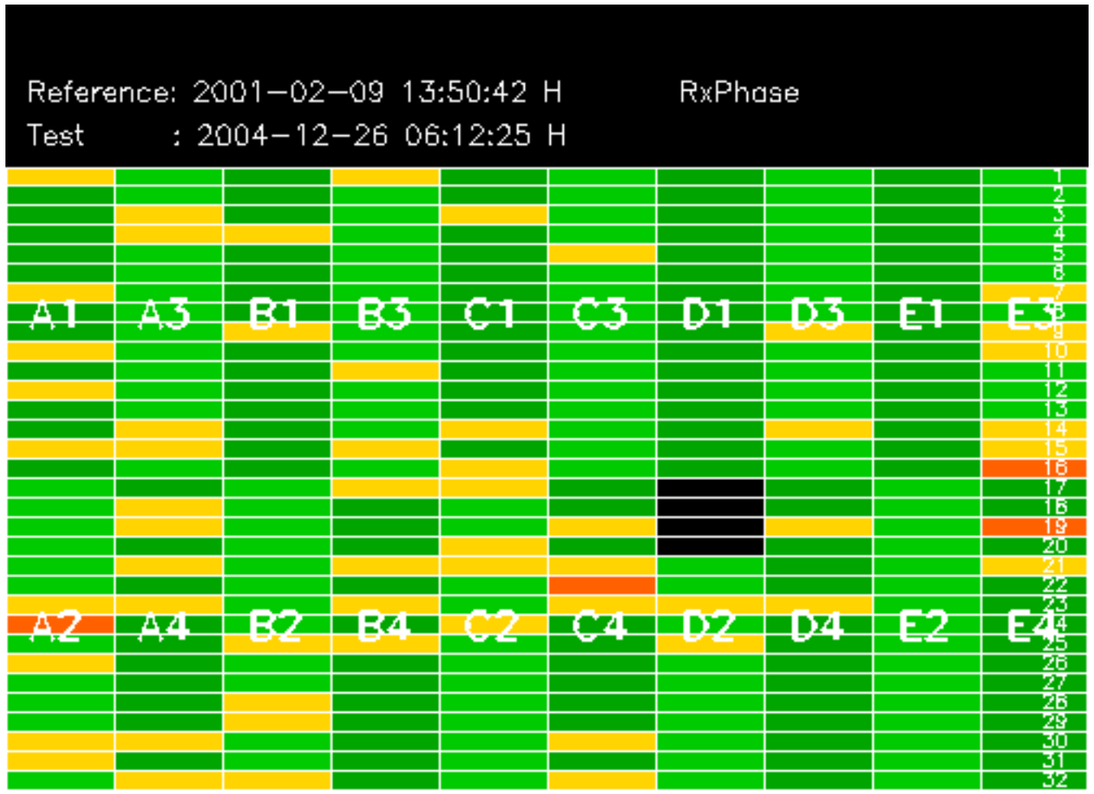
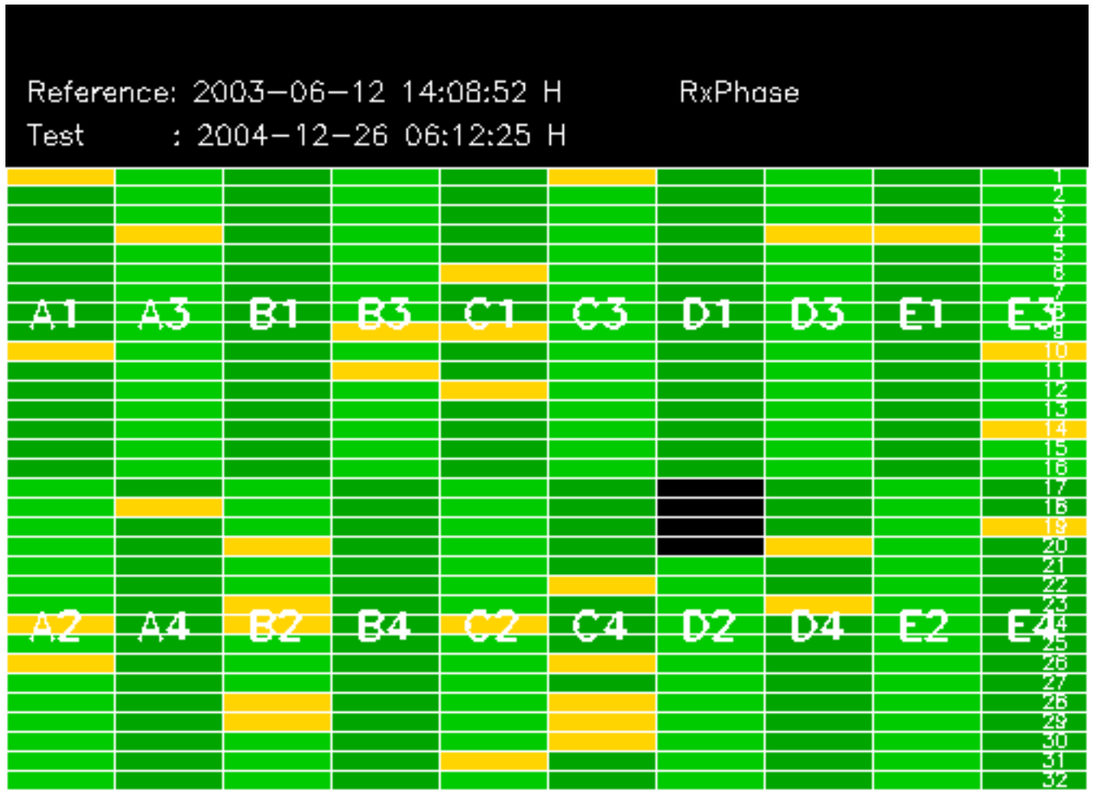
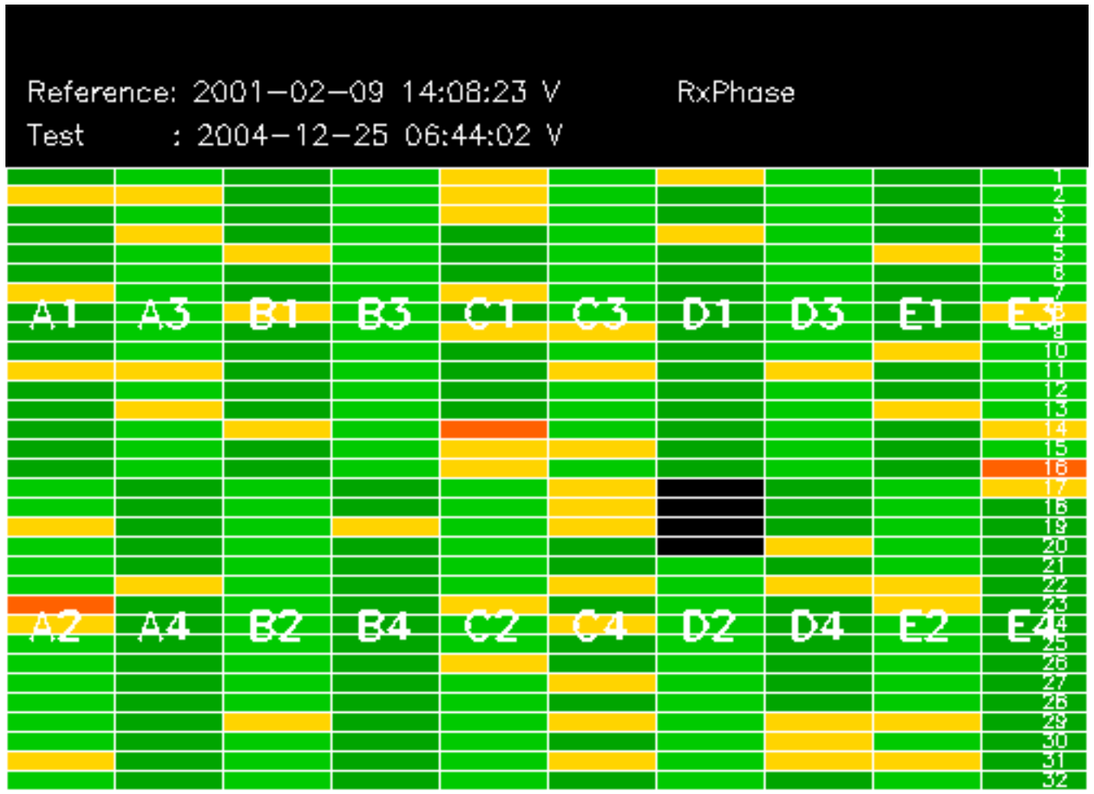
26
27
28
29
30
31
32

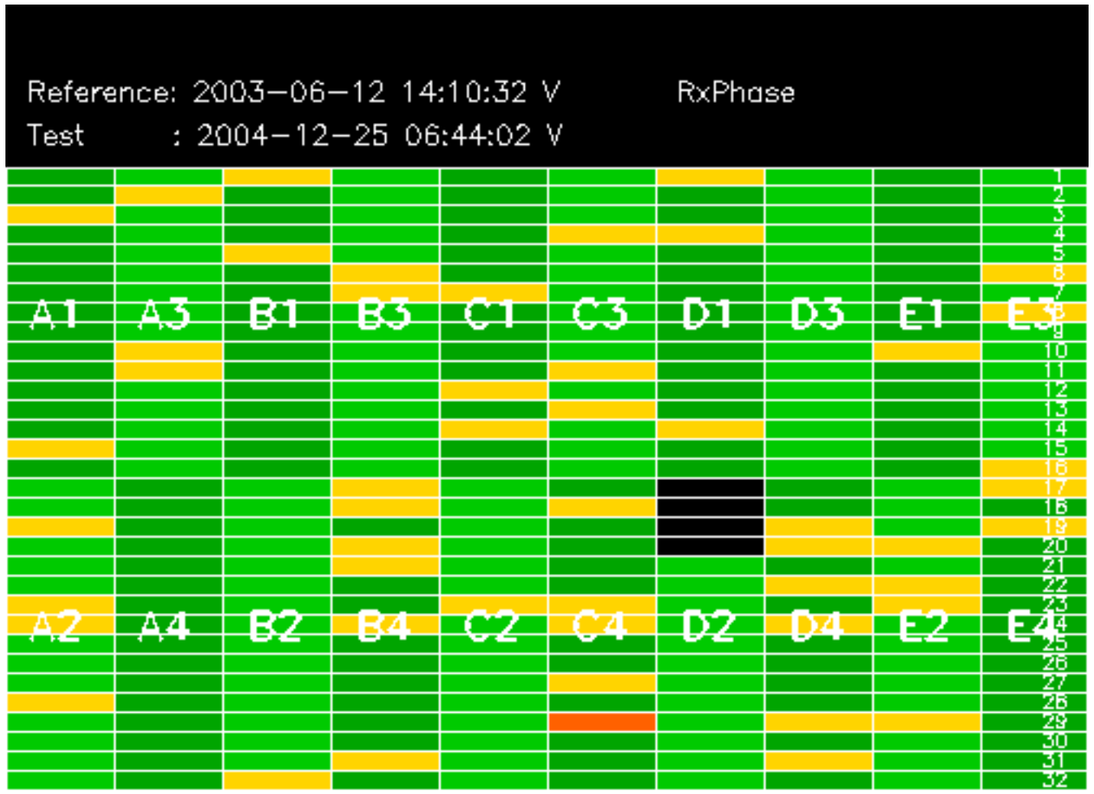

Reference: 2001-02-09 14:08:23 V
Test : 2004-12-25 06:44:02 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

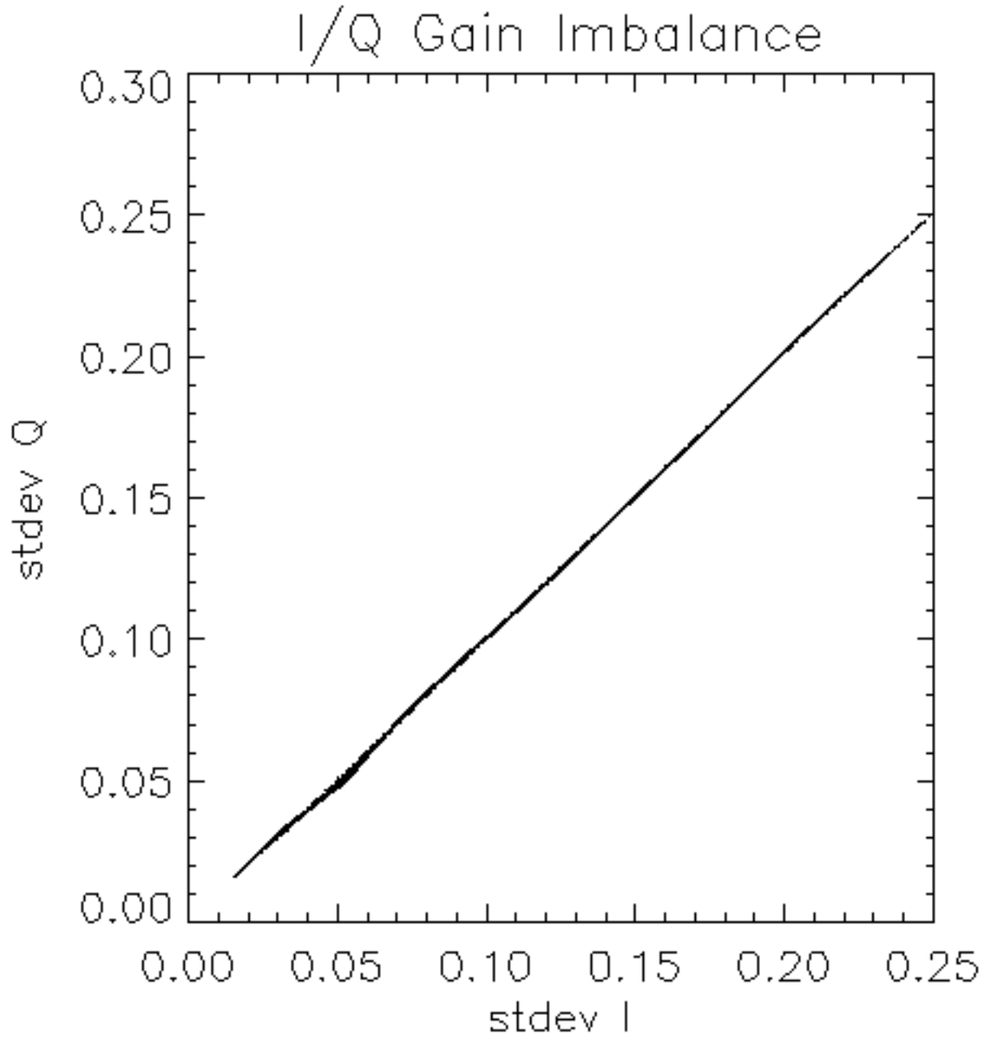

Reference: 2003-06-12 14:10:32 V
Test : 2004-12-25 06:44:02 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

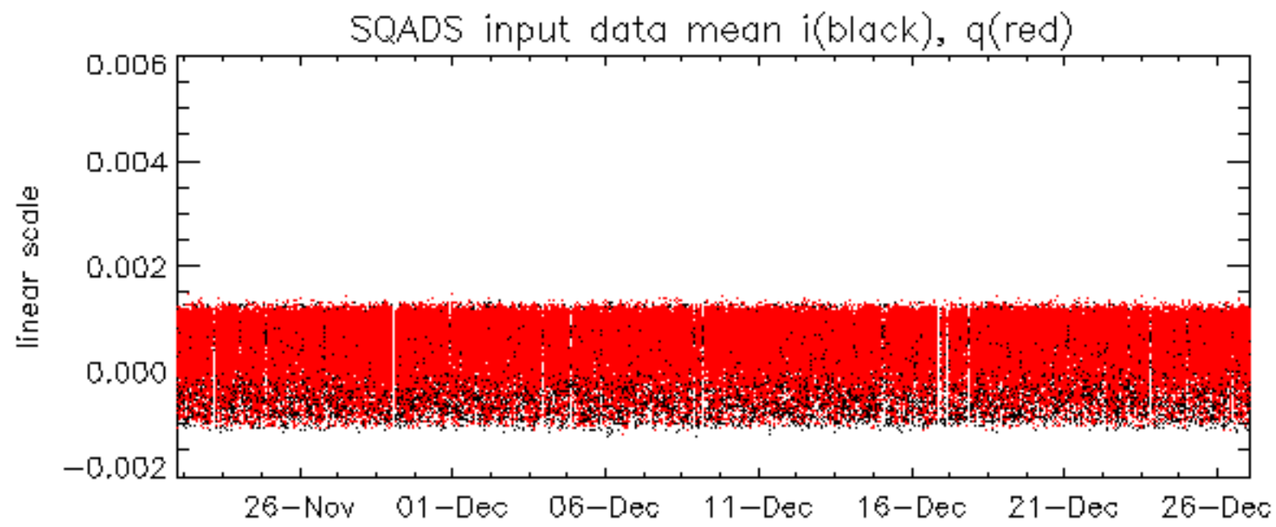

Reference: 2001-02-09 13:50:42 H
Test : 2004-12-26 06:12:25 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

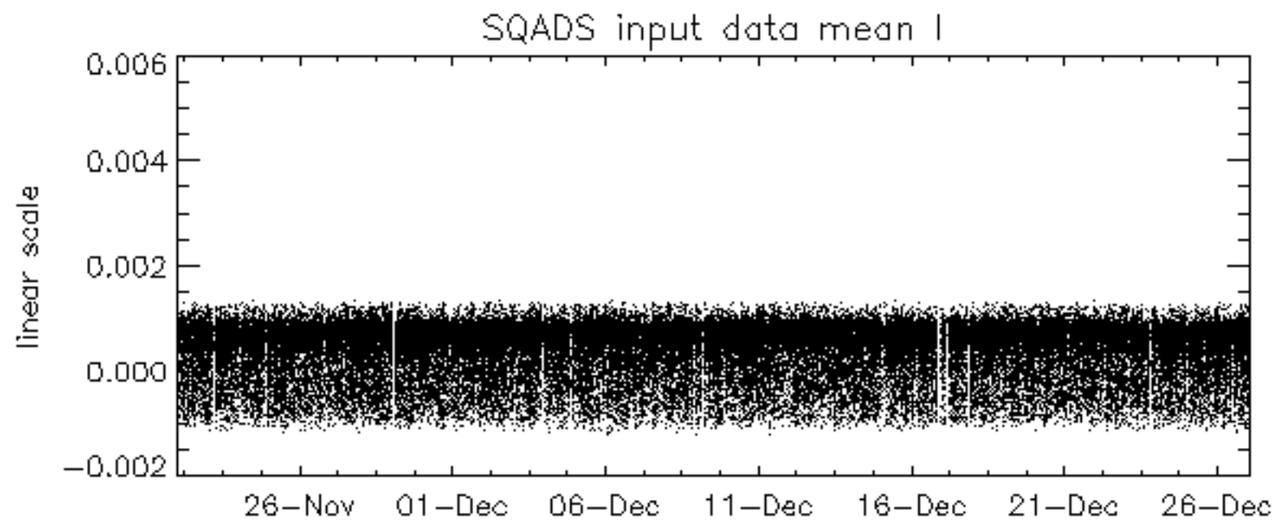

Reference: 2003-06-12 14:08:52 H
Test : 2004-12-26 06:12:25 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

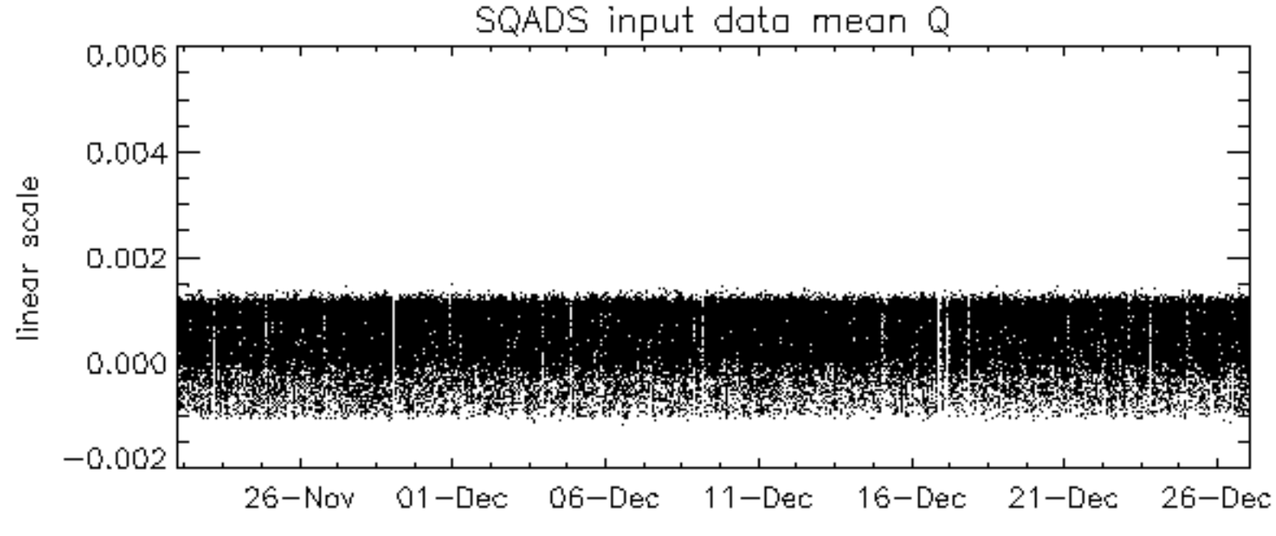

Reference: 2001-02-09 14:08:23 V
RxPhase
Test : 2004-12-25 06:44:02 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

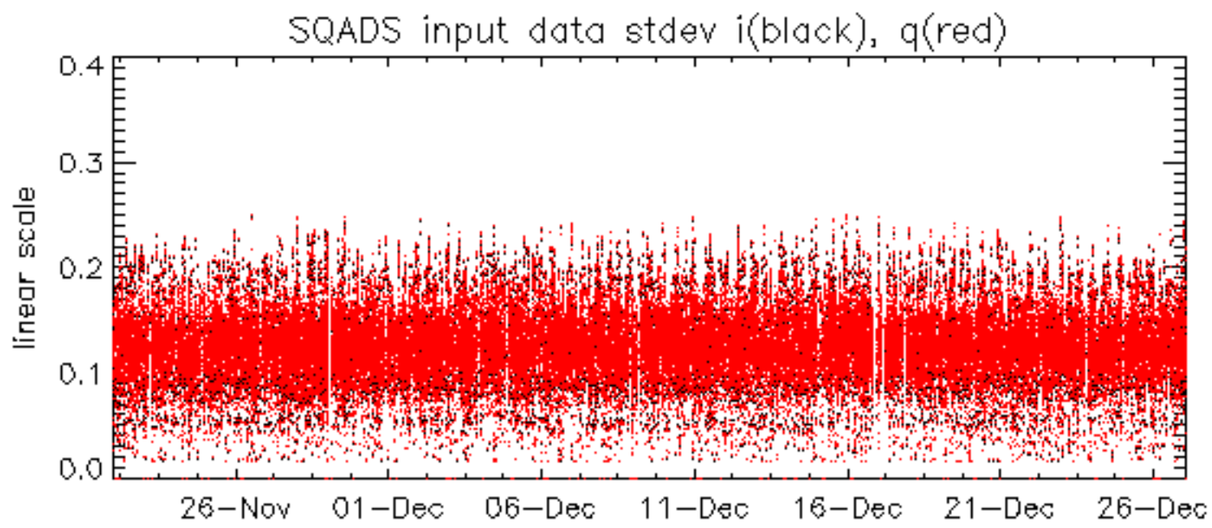

Reference: 2003-06-12 14:10:32 V
Test : 2004-12-25 06:44:02 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

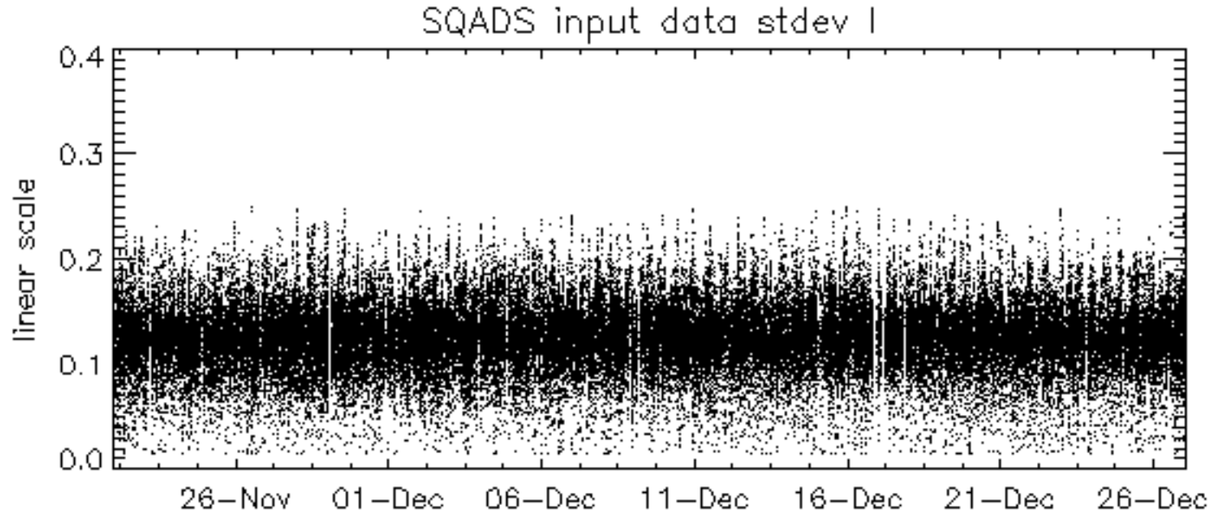

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

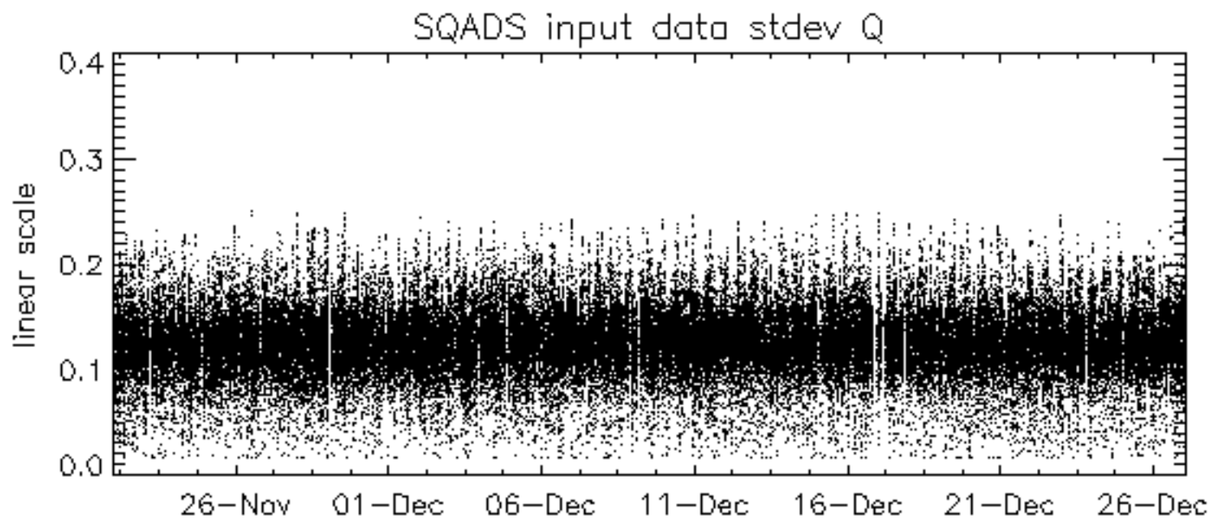

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec

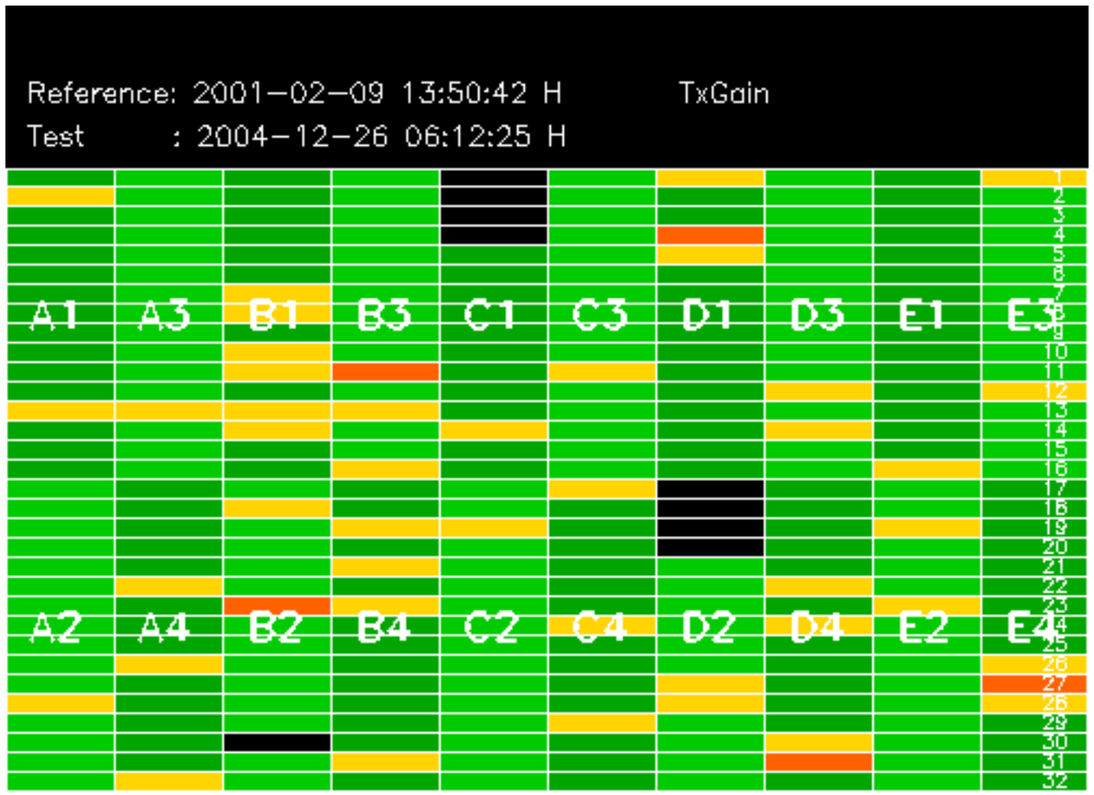

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec

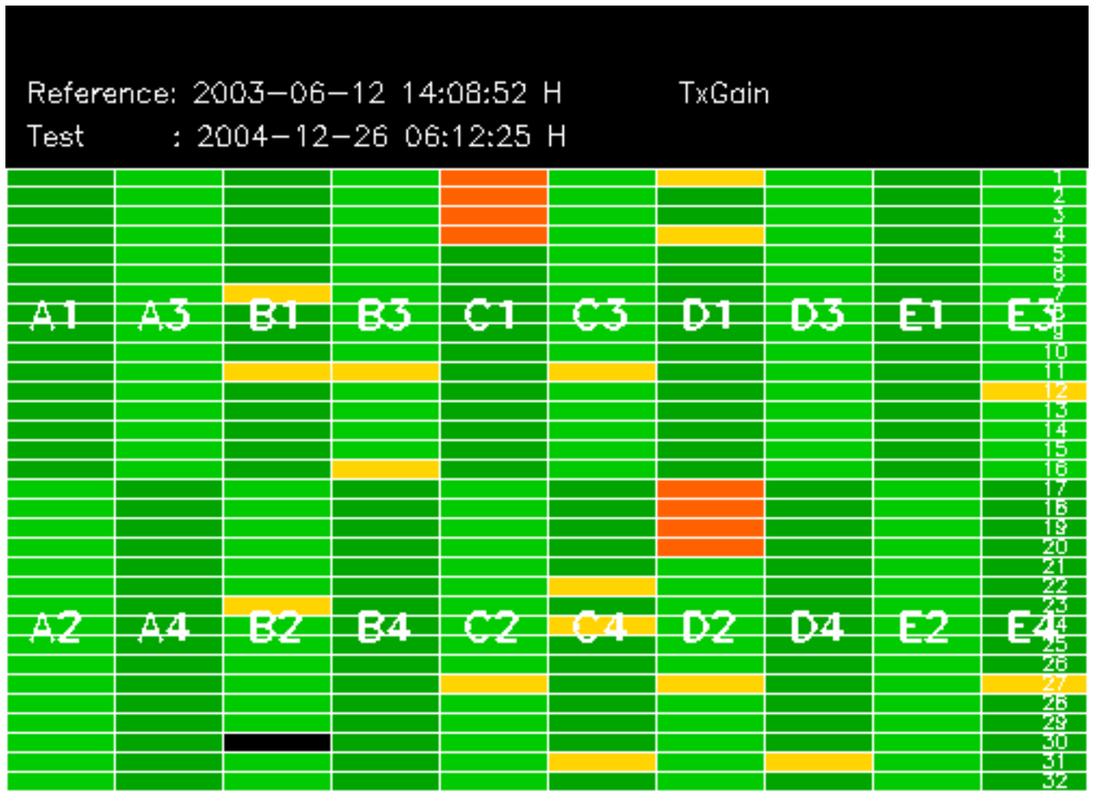

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec

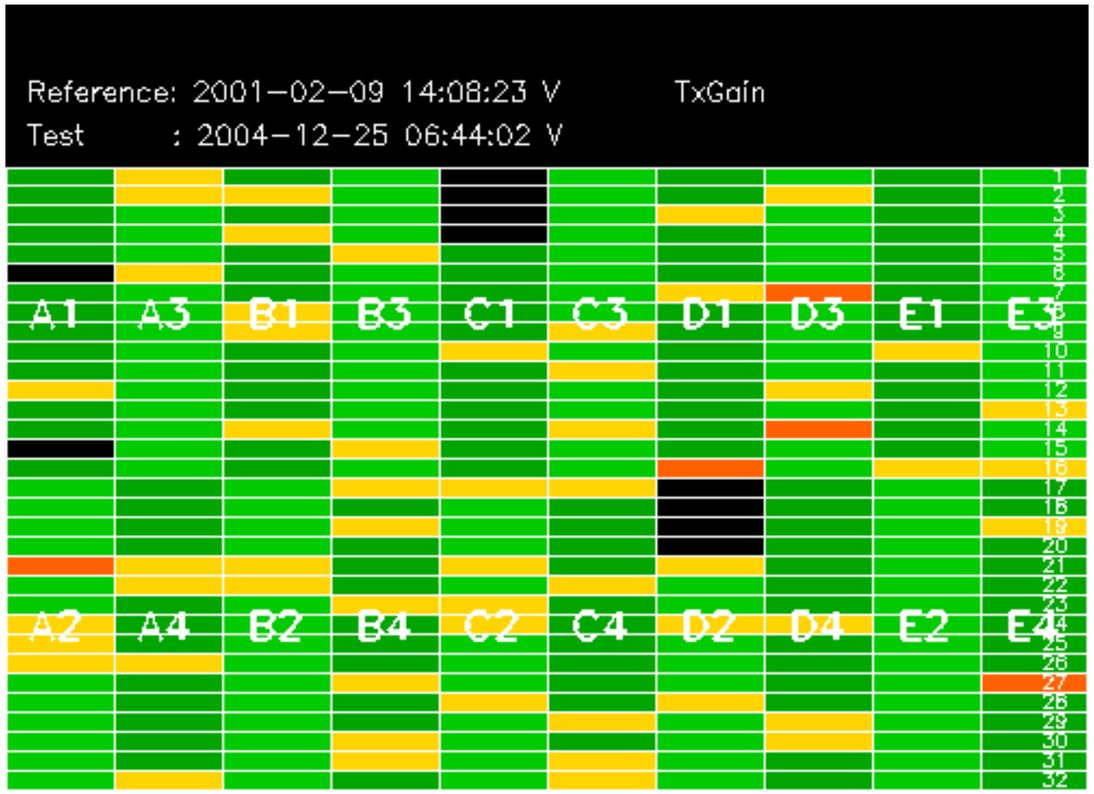

SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec

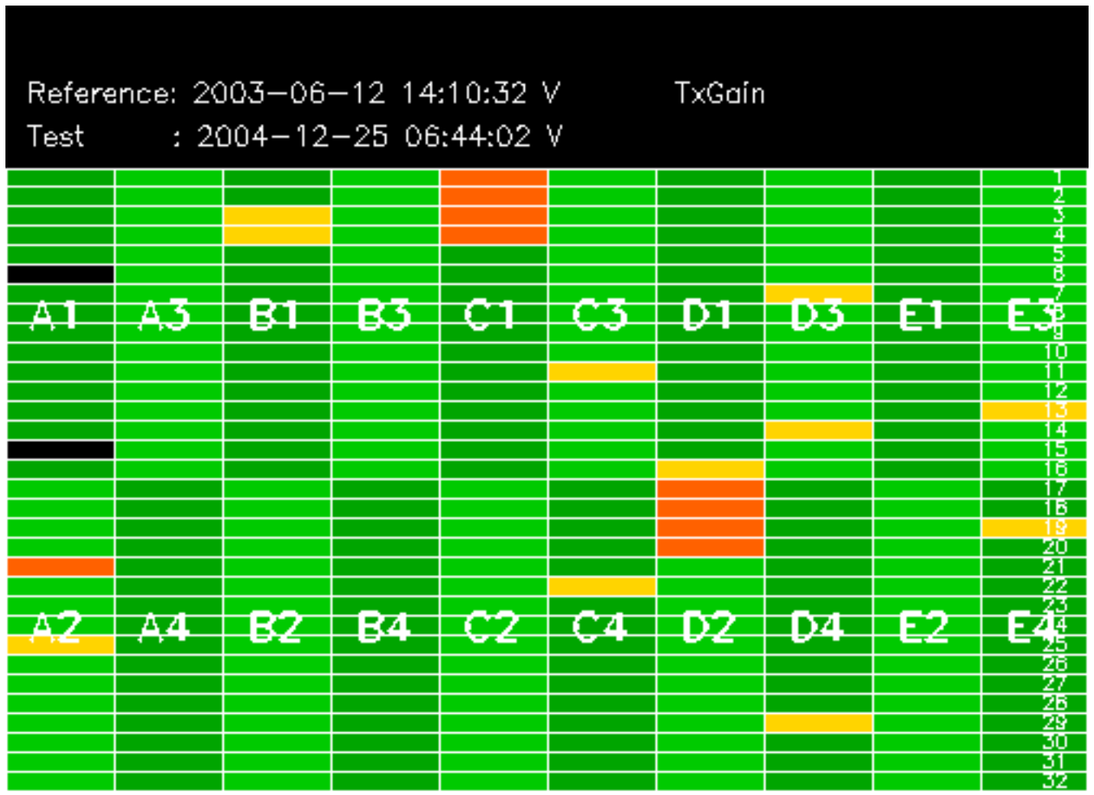

SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec


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


Reference: 2001-02-09 13:50:42 H
Test : 2004-12-26 06:12:25 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 : 2004-12-26 06:12:25 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 : 2004-12-25 06:44:02 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 : 2004-12-25 06:44:02 V
TxGain
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
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8
9
10
11
12
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14
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17
18
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21
22
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24
25
26
27
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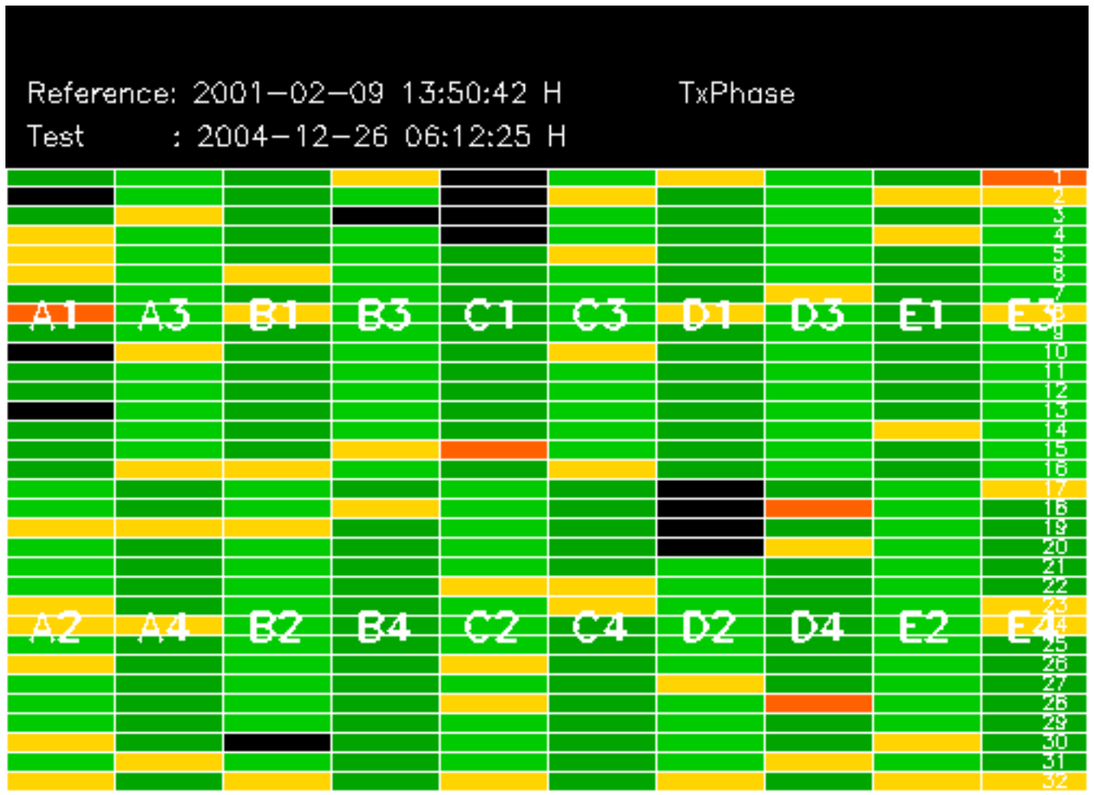
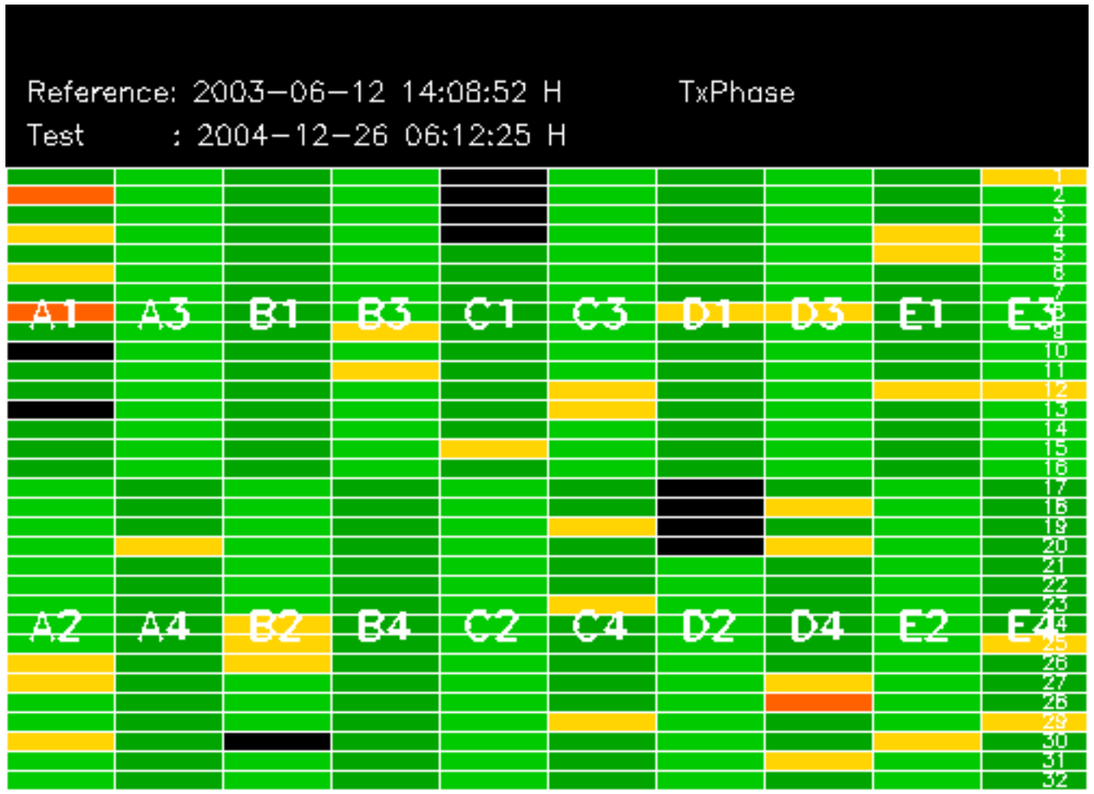
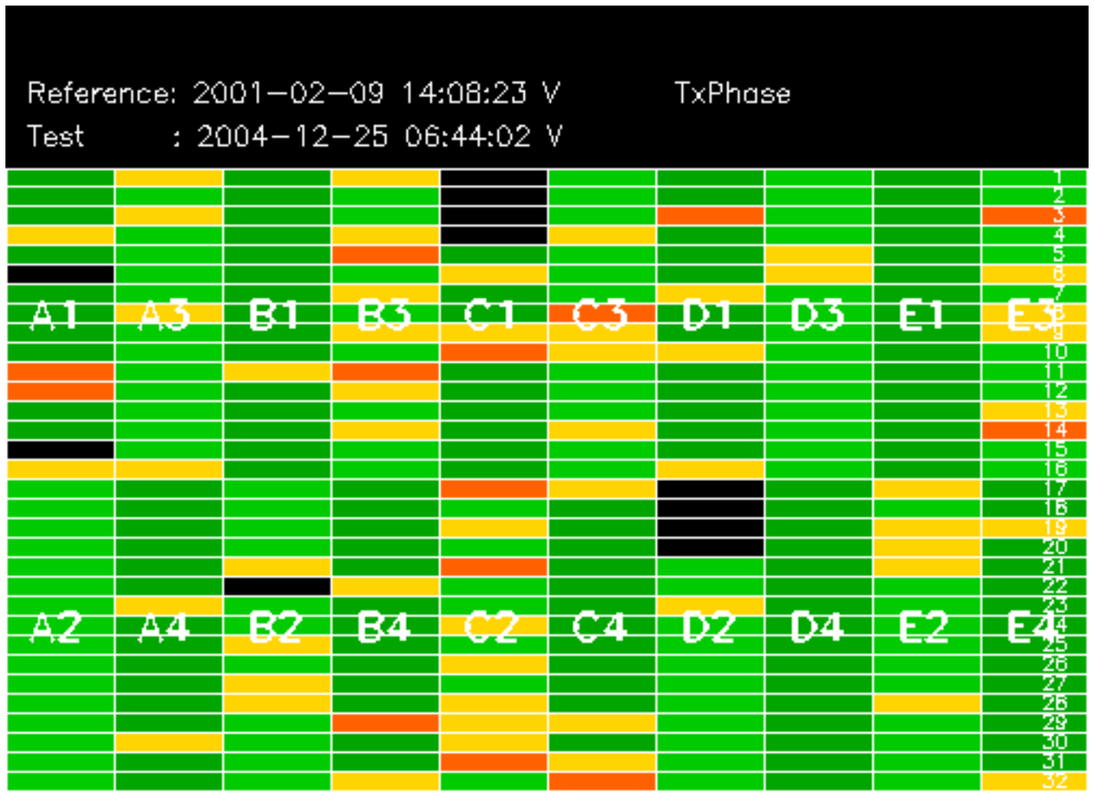
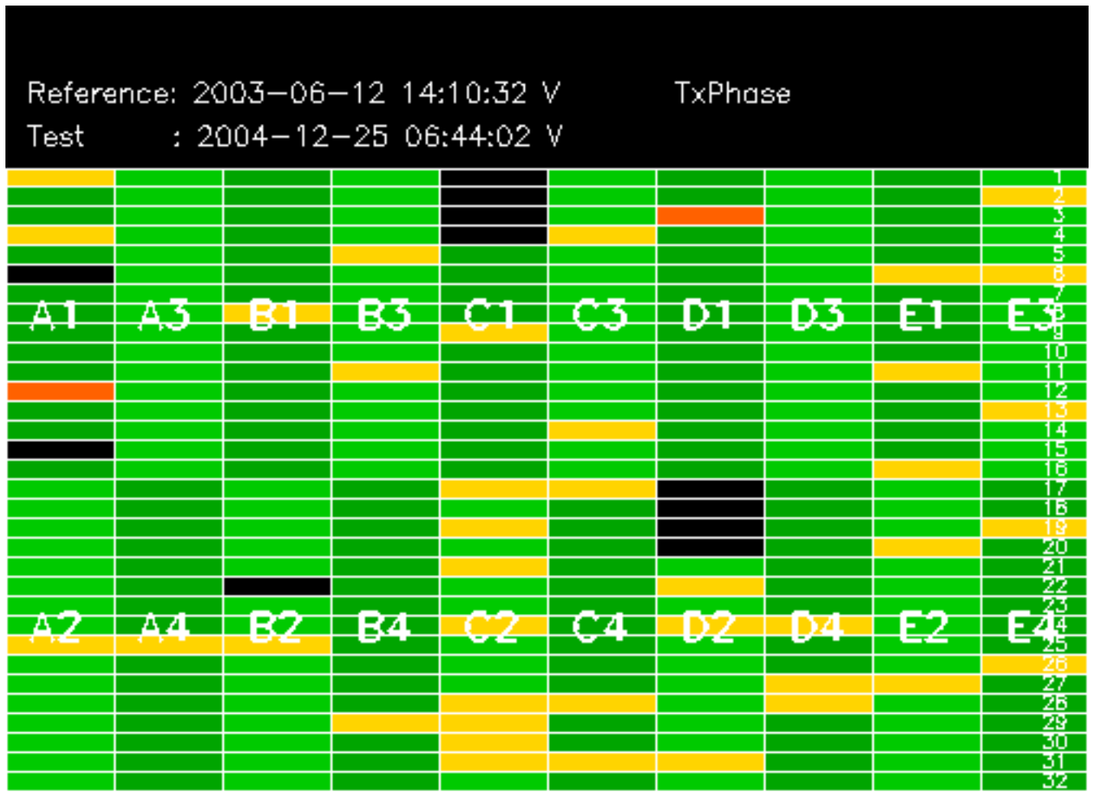
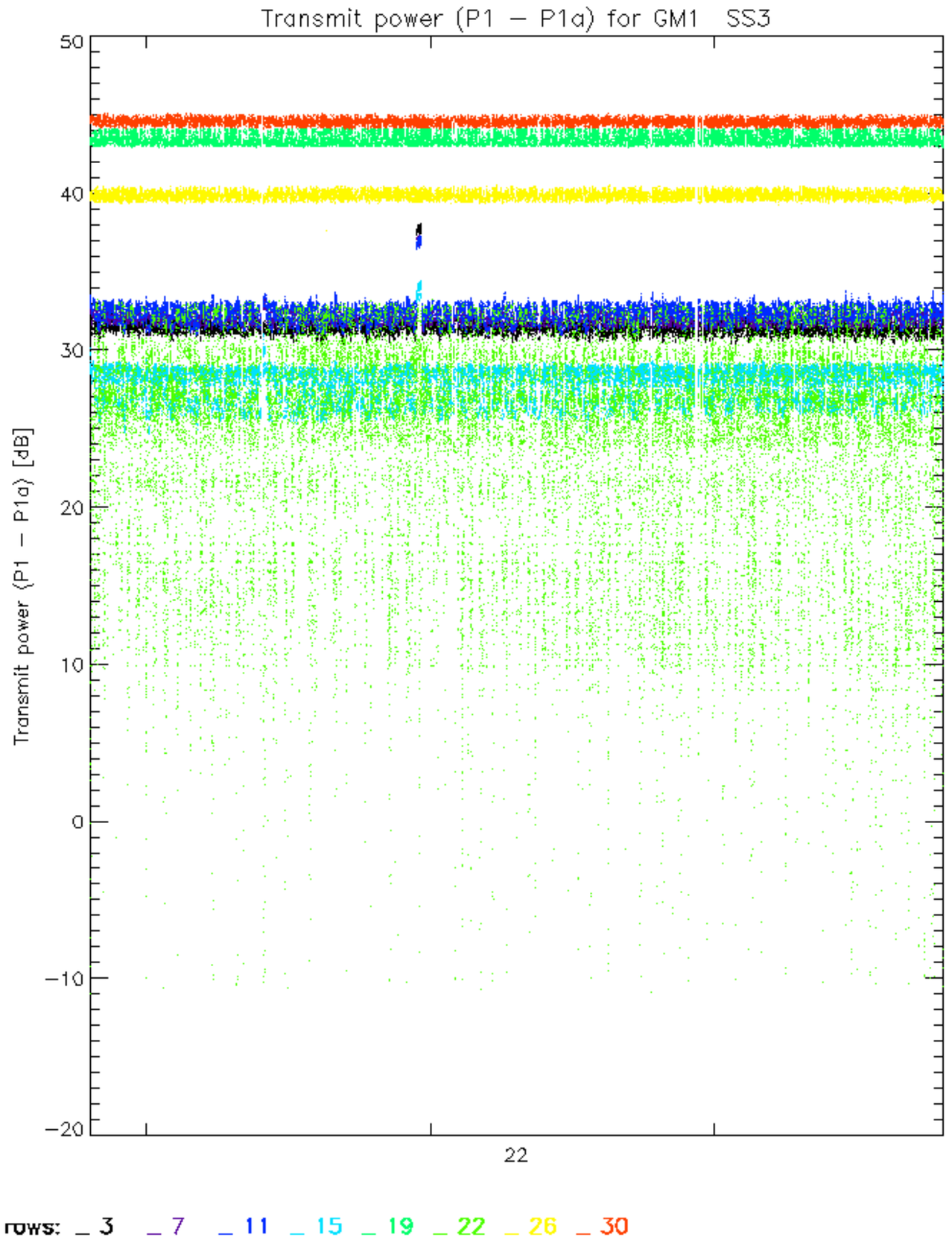
29
30
31
32

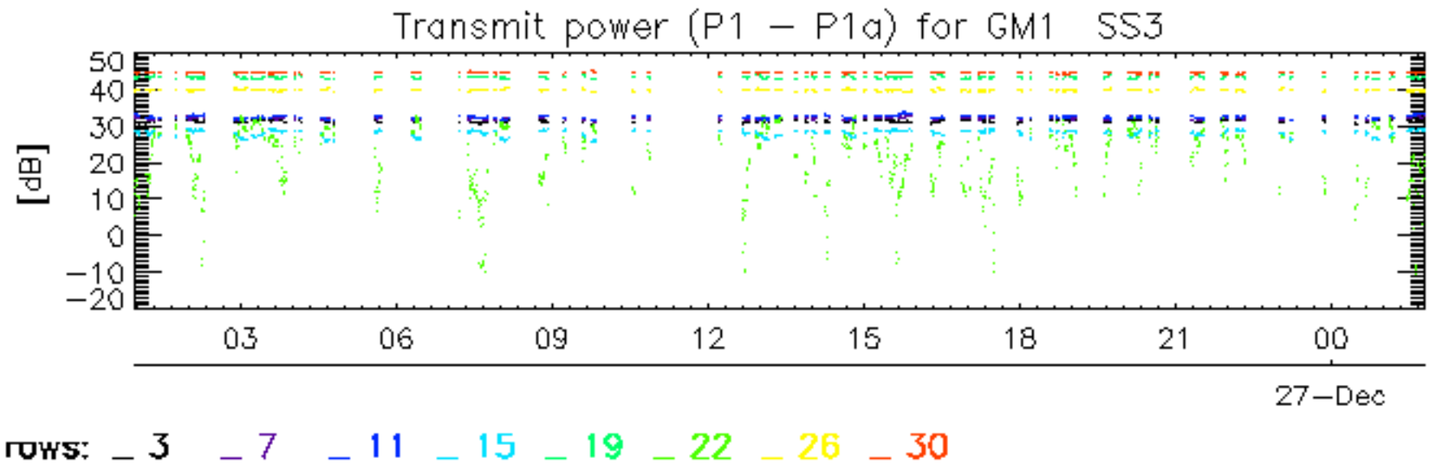

Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-12-26 06:12:25 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

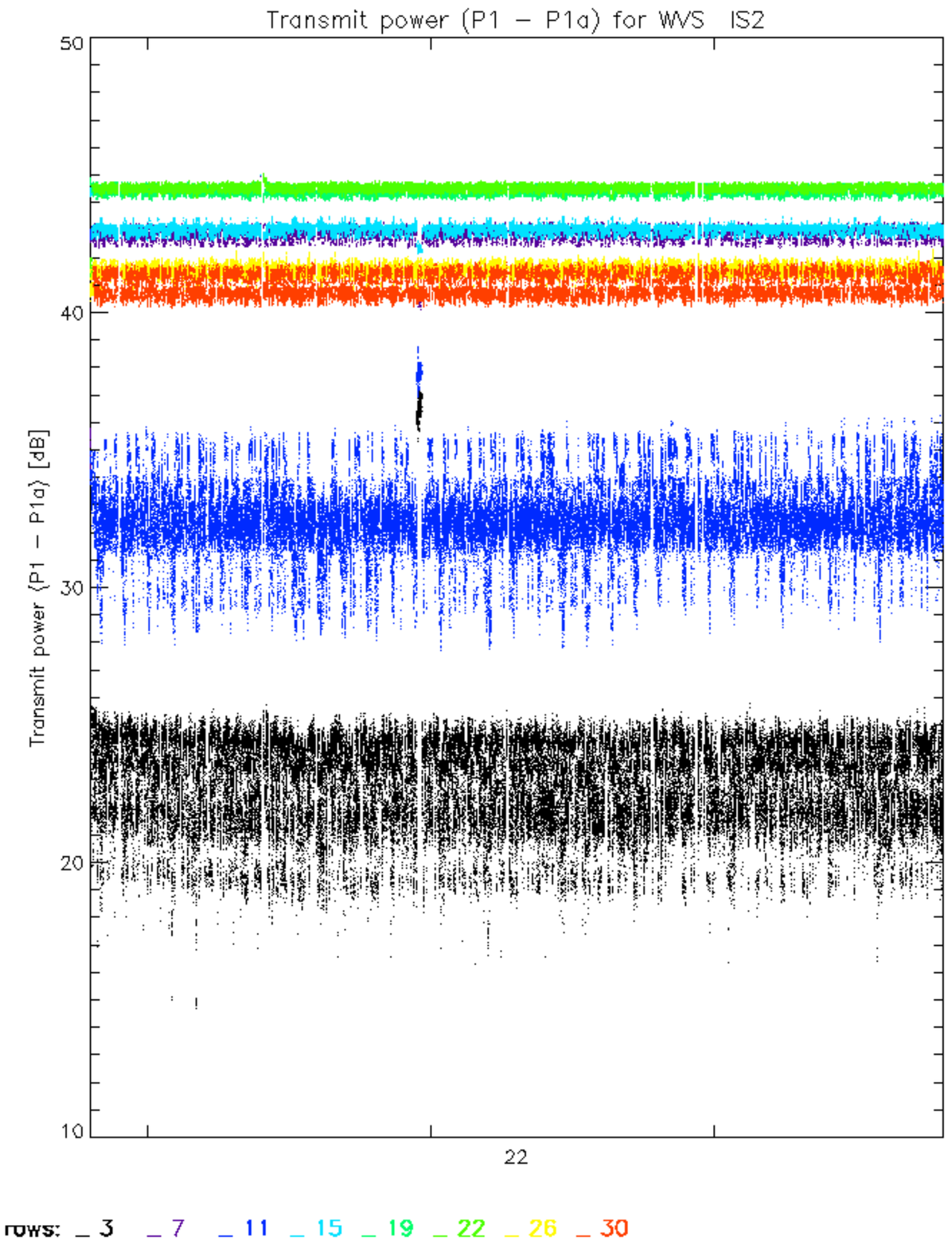

Reference: 2003-06-12 14:08:52 H
Test : 2004-12-26 06:12:25 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

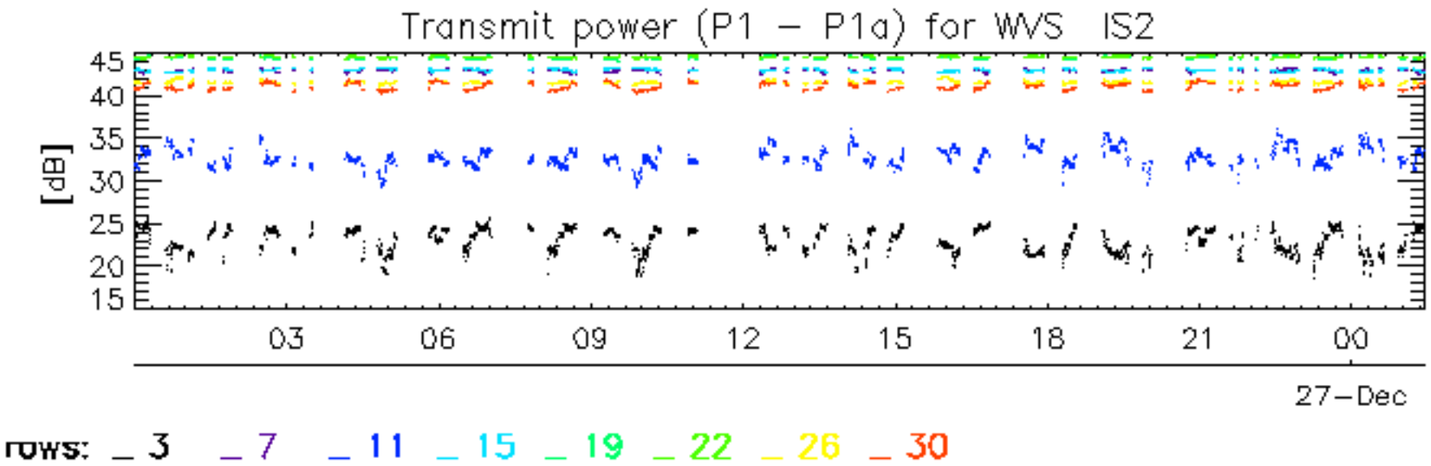

Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2004-12-25 06:44:02 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-12-25 06:44:02 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
−20
22
rows: 3 7 11 15 19 22 26 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
27–Dec
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Transmit power (P1 – P1a) for WVS IS2
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
22
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
[dB]
45
40
35
30
25
20
15
03
06
09
12
15
18
21
00
27–Dec
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

No unavailabilities during the reported period.