PRELIMINARY REPORT OF 041230

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

last update on Thu Dec 30 10:59:50 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 2004-12-29 00:00:00 to 2004-12-30 10:59:50

PDHS-K					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	30	63	0	2	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	30	63	0	2	4
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	30	63	0	2	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	30	63	0	2	4

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	41	47	5	10	2
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	41	47	5	10	2
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	41	47	5	10	2
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	41	47	5	10	2

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	20041229 043733
H	20041228 050910

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	-3.455539	0.029223	0.070347
7	P1	-3.099505	0.024314	0.050478
11	P1	-4.648089	0.045503	-0.012349
15	P1	-5.665945	0.038802	-0.017382
19	P1	-3.652262	0.005719	-0.011932
22	P1	-4.575910	0.016909	0.026790
26	P1	-4.938164	0.023198	0.019456
30	P1	-7.114482	0.013543	-0.037517
3	P1	-15.947847	0.112927	0.022743
7	P1	-15.511856	0.162157	0.023924
11	P1	-20.743301	0.537780	-0.241179
15	P1	-11.618909	0.095779	-0.010545
19	P1	-14.158806	0.032179	-0.025028
22	P1	-16.092489	0.466335	0.261502
26	P1	-17.761866	0.269451	0.176800
30	P1	-17.882666	0.305842	0.028786

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.351528	0.086601	0.076200
7	P2	-22.569675	0.169414	0.109394
11	P2	-14.894688	0.175681	0.170113
15	P2	-7.165213	0.116792	0.088817
19	P2	-9.730654	0.198077	0.097772
22	P2	-17.172913	0.100301	0.105182
26	P2	-16.532305	0.113264	0.046255

30	P2	-18.971621	0.083238	0.072116

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.209766	0.007156	0.018052
7	P3	-8.209807	0.007154	0.018305
11	P3	-8.209805	0.007154	0.018246
15	P3	-8.209793	0.007154	0.018184
19	P3	-8.209776	0.007156	0.018063
22	P3	-8.209761	0.007159	0.017968
26	P3	-8.209767	0.007157	0.018012
30	P3	-8.209681	0.007157	0.020249

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	-2.849432	0.110274	0.062869
7	P1	-2.981255	0.064260	0.052545
11	P1	-3.947295	0.048399	0.000649
15	P1	-3.520033	0.078073	0.023589
19	P1	-3.609460	0.013073	-0.003249
22	P1	-5.619031	0.069138	-0.057753
26	P1	-6.513573	0.023489	-0.038540
30	P1	-6.301340	0.044252	0.011490
3	P1	-10.713003	0.058306	-0.192755
7	P1	-10.124707	0.158231	-0.056834
11	P1	-12.427735	0.198729	-0.157441

15	P1	-11.727221	0.098748	-0.061360
19	P1	-15.643281	0.048976	-0.006546
22	P1	-24.150518	2.063306	0.226408
26	P1	-15.036213	0.395234	0.324412
30	P1	-20.140217	0.932269	0.184723

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.030666	0.037670	0.091949
7	P2	-22.612204	0.032331	0.130285
11	P2	-10.681520	0.036607	0.208996
15	P2	-5.061448	0.025511	0.051594
19	P2	-6.962154	0.036159	0.062826
22	P2	-7.303615	0.028352	0.096172
26	P2	-23.960627	0.018949	0.028658
30	P2	-22.023918	0.022353	0.110047

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.042116	0.003025	0.015165
7	P3	-8.042077	0.003028	0.015260
11	P3	-8.042016	0.003025	0.015584
15	P3	-8.042107	0.003031	0.014696
19	P3	-8.042067	0.003032	0.015376
22	P3	-8.042057	0.003029	0.015138
26	P3	-8.042109	0.003032	0.015253
30	P3	-8.042052	0.003019	0.015261

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	0.000445999
	stdev	2.37374e-07
MEAN Q	mean	0.000512378
	stdev	2.48755e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.126414
	stdev	0.000984806
STDEV Q	mean	0.126651
	stdev	0.000994248

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

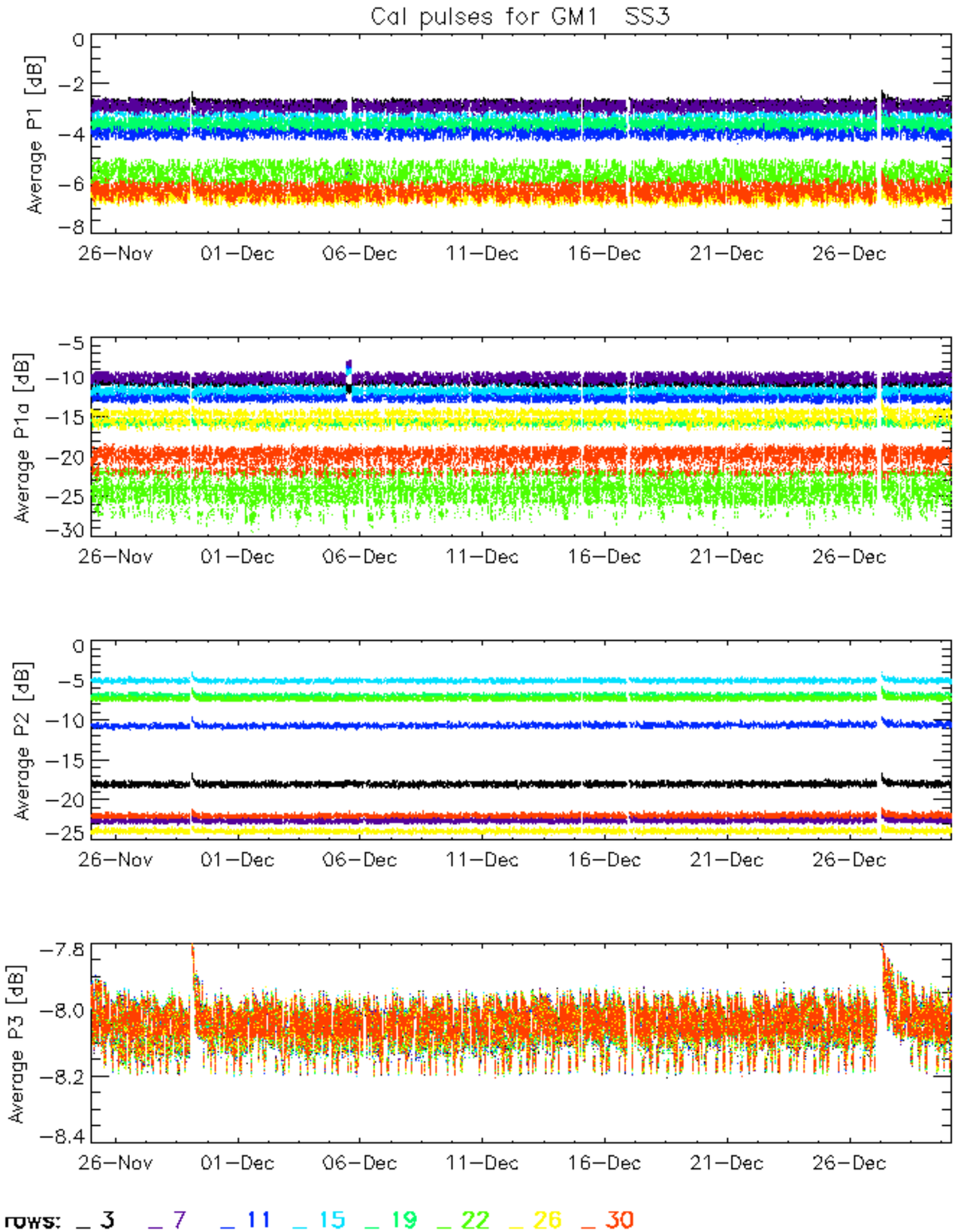
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

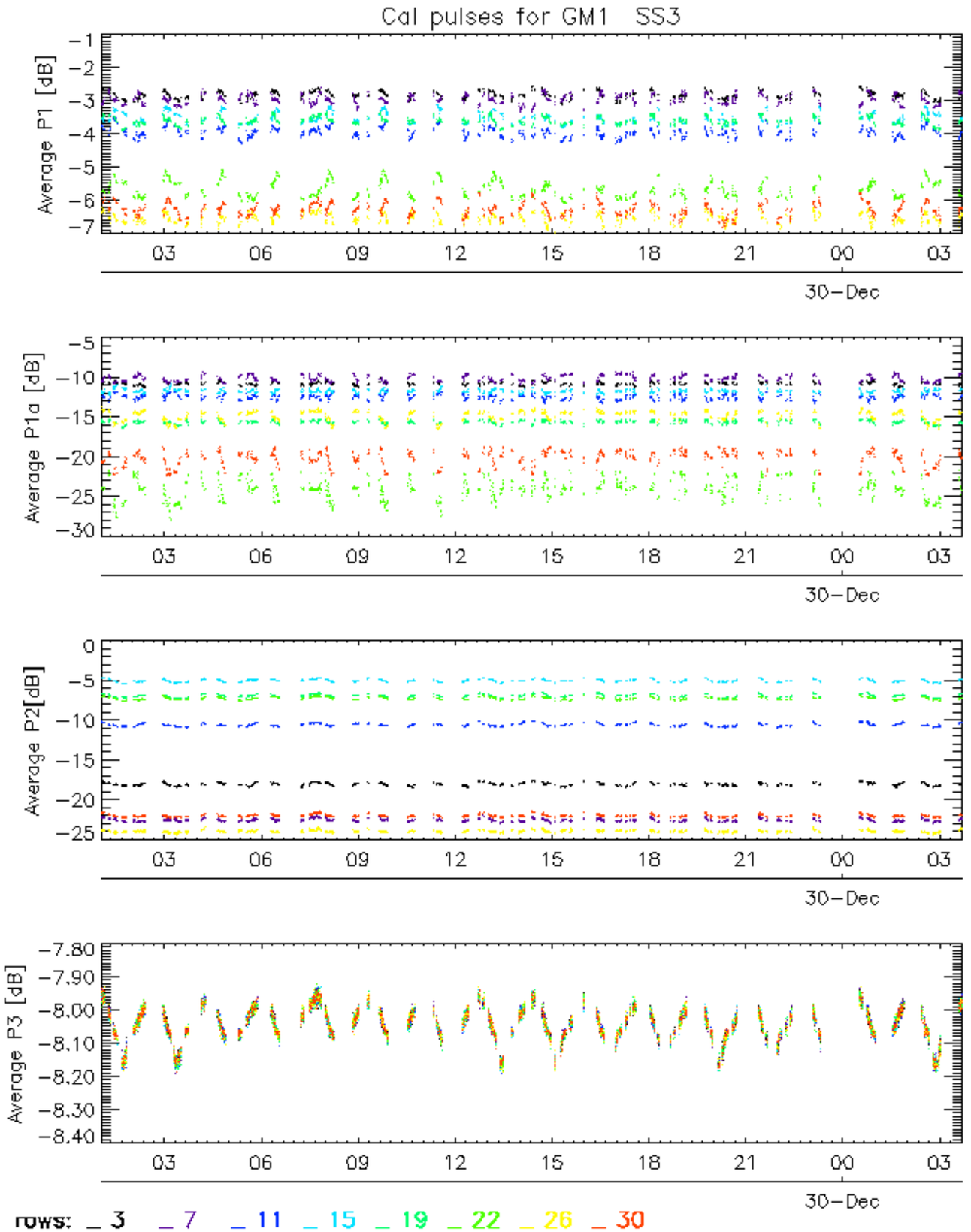
6.5 - Absolute Doppler for GM1

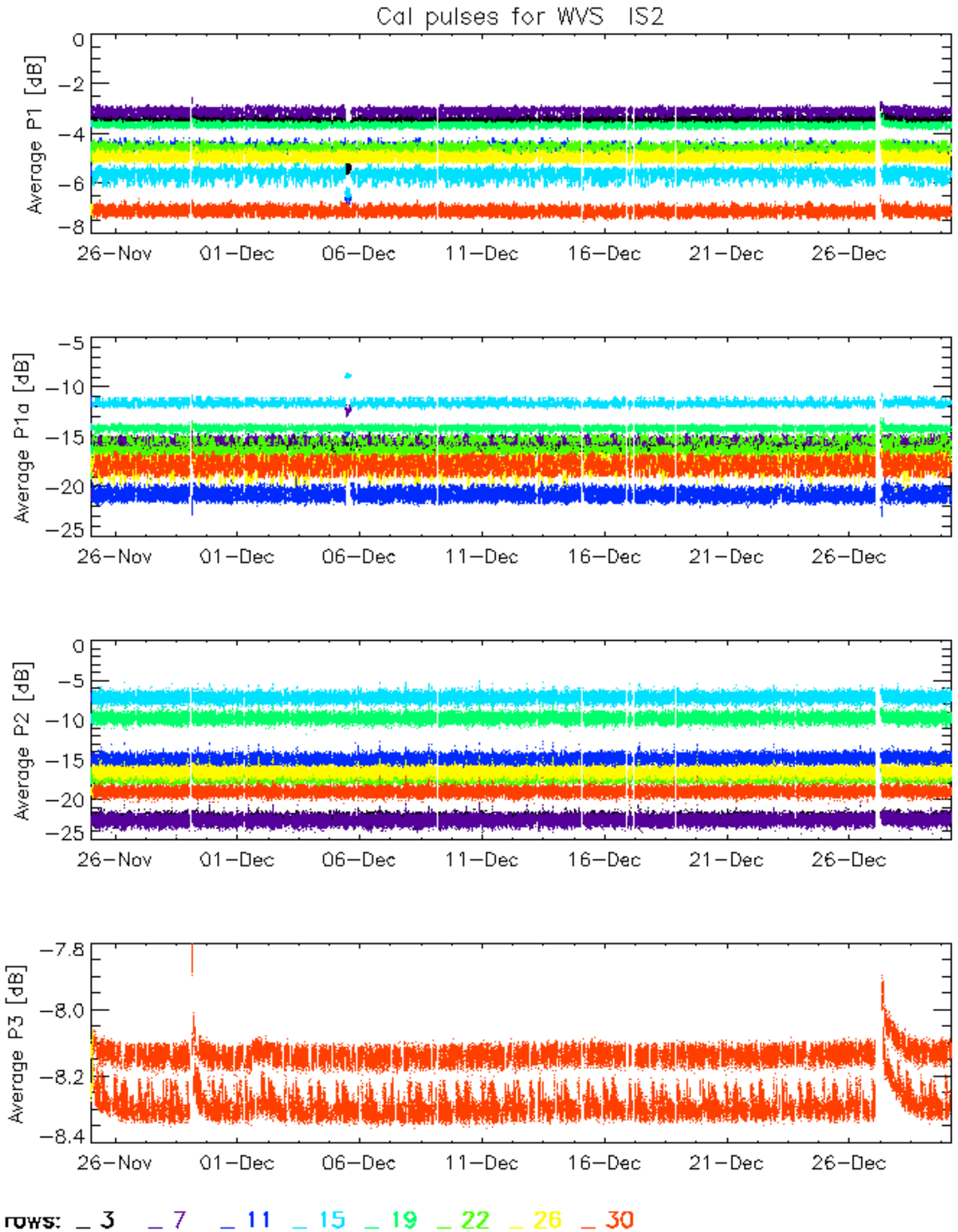
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

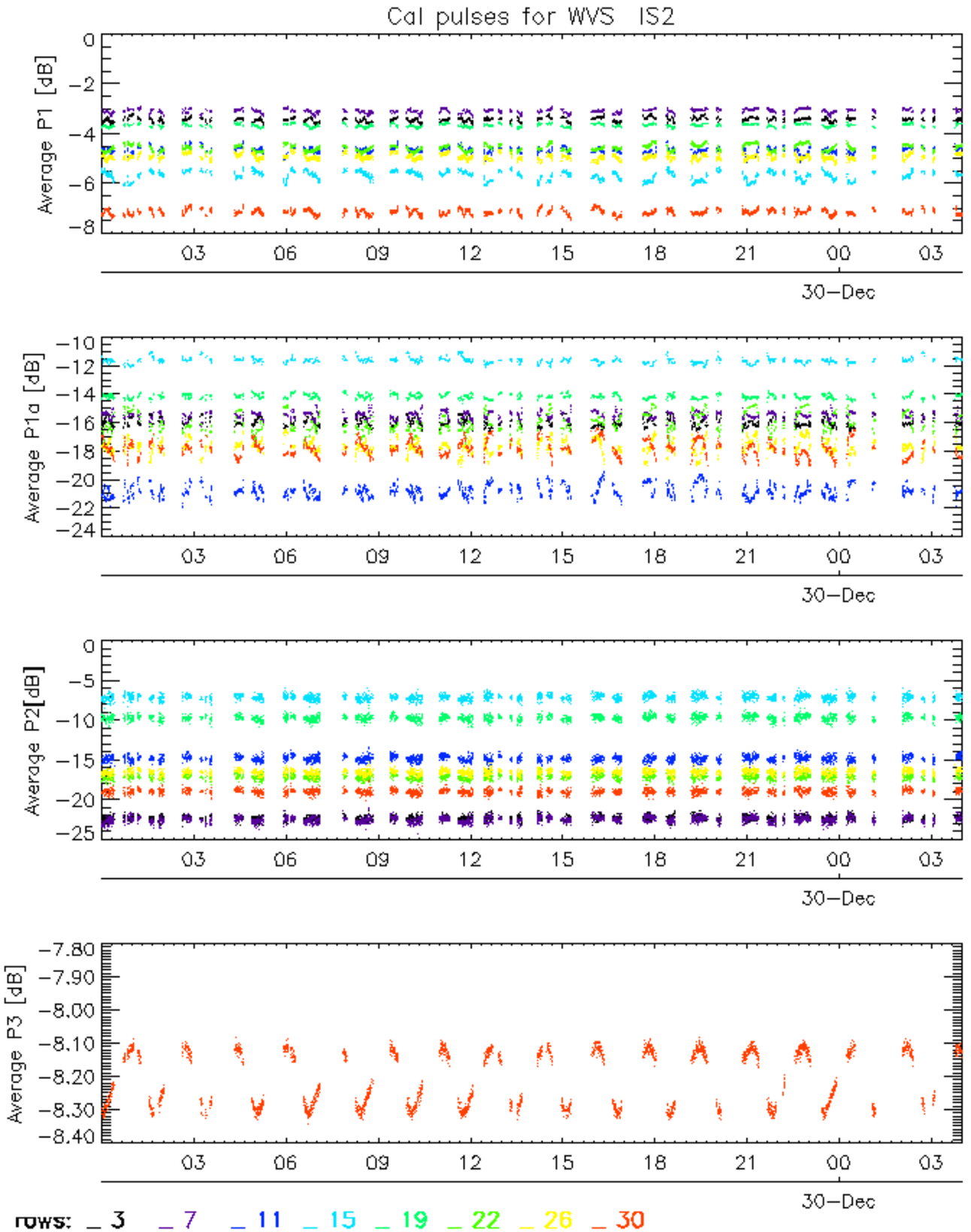
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

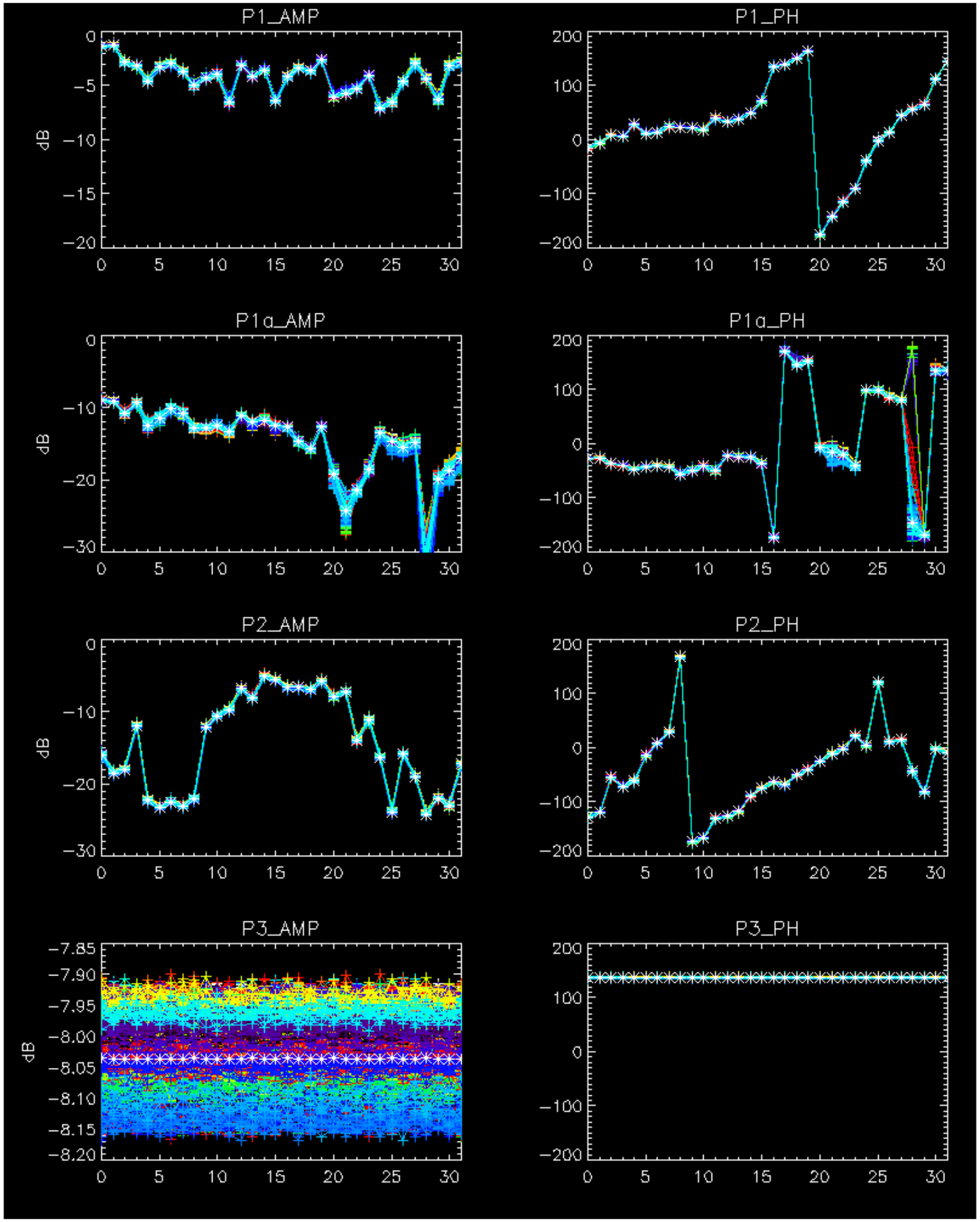

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

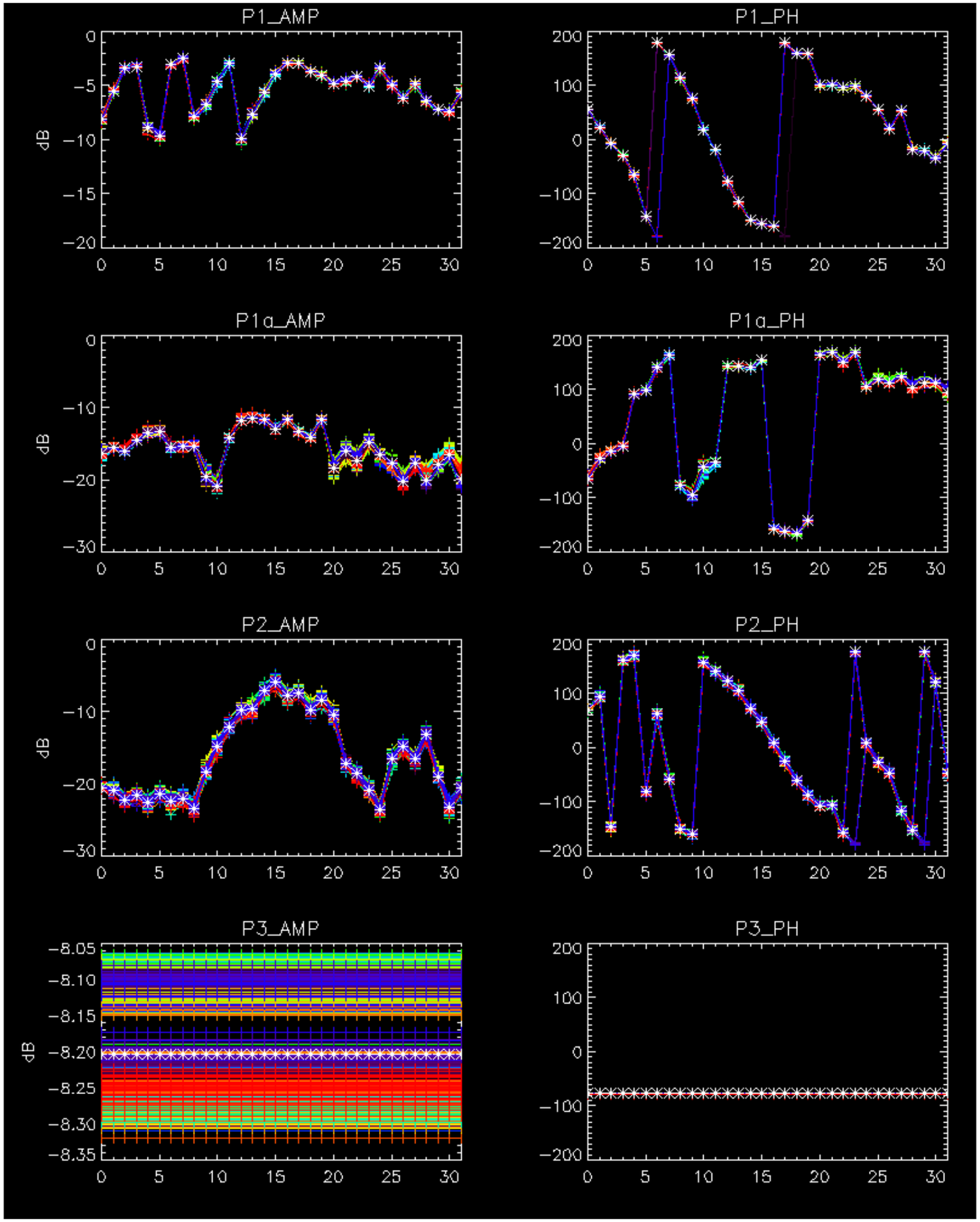

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
30−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
21
00
03
30−Dec
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
03
30−Dec
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06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

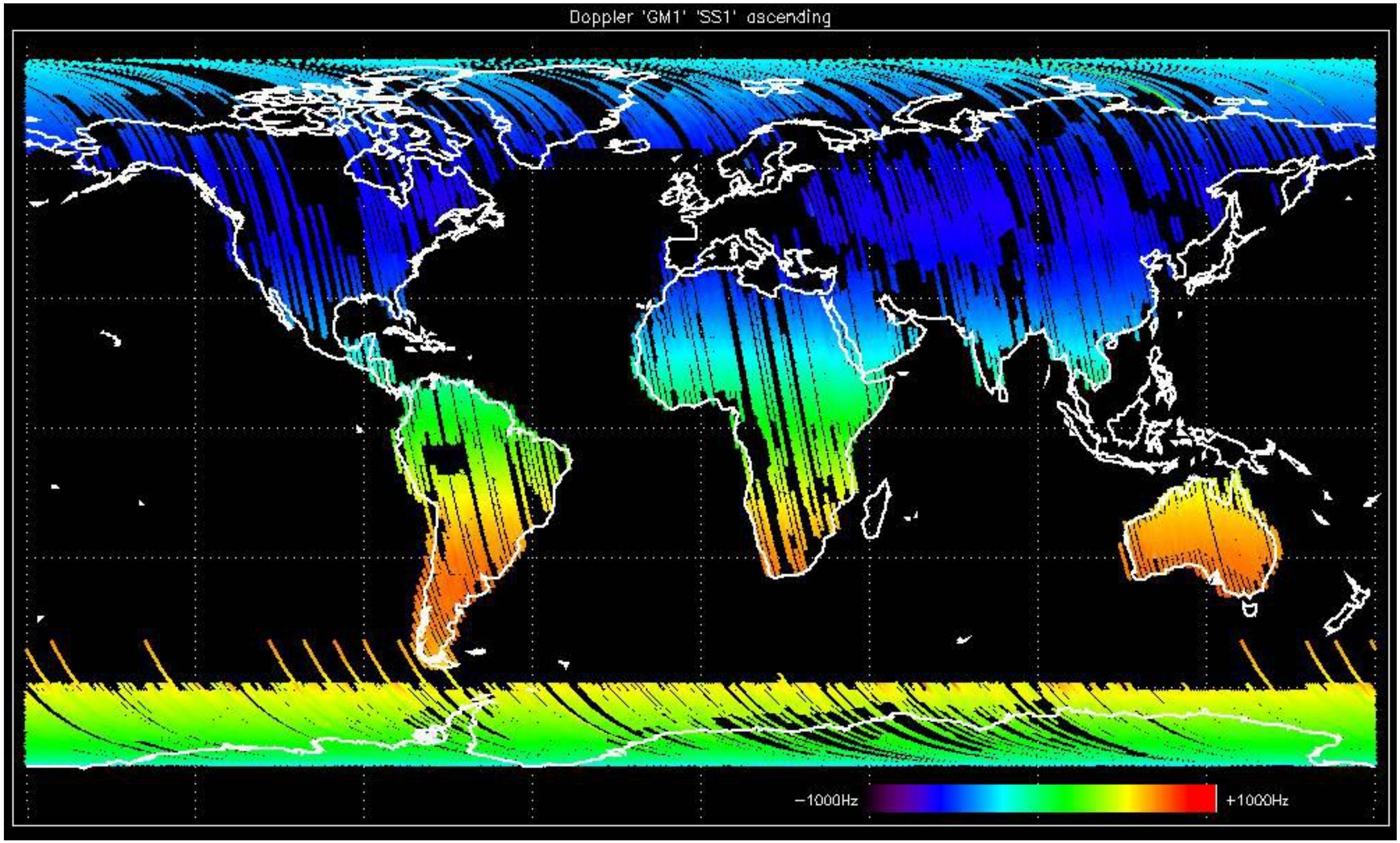
No anomalies observed.

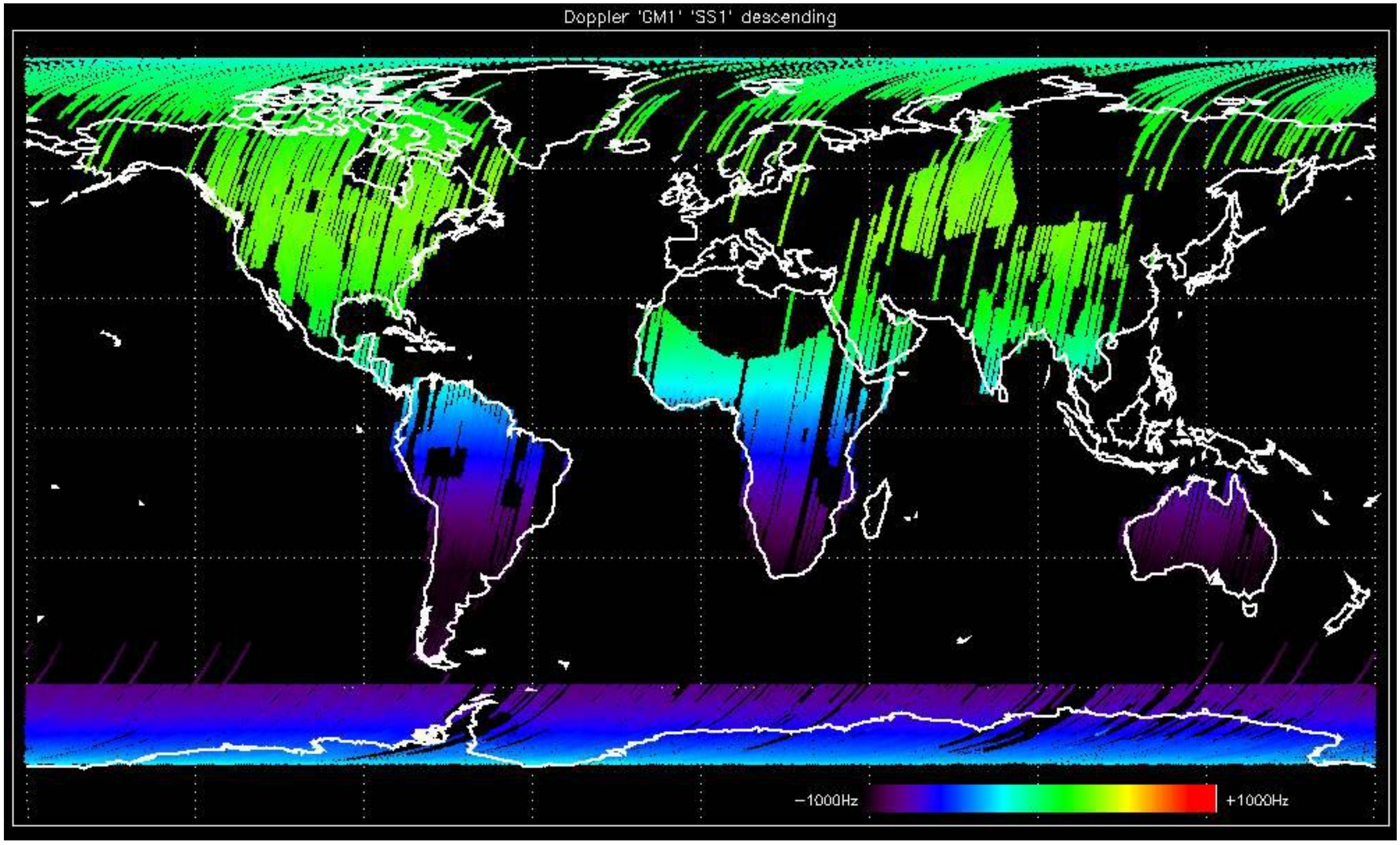

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.85
−7.90
−7.95
−8.00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

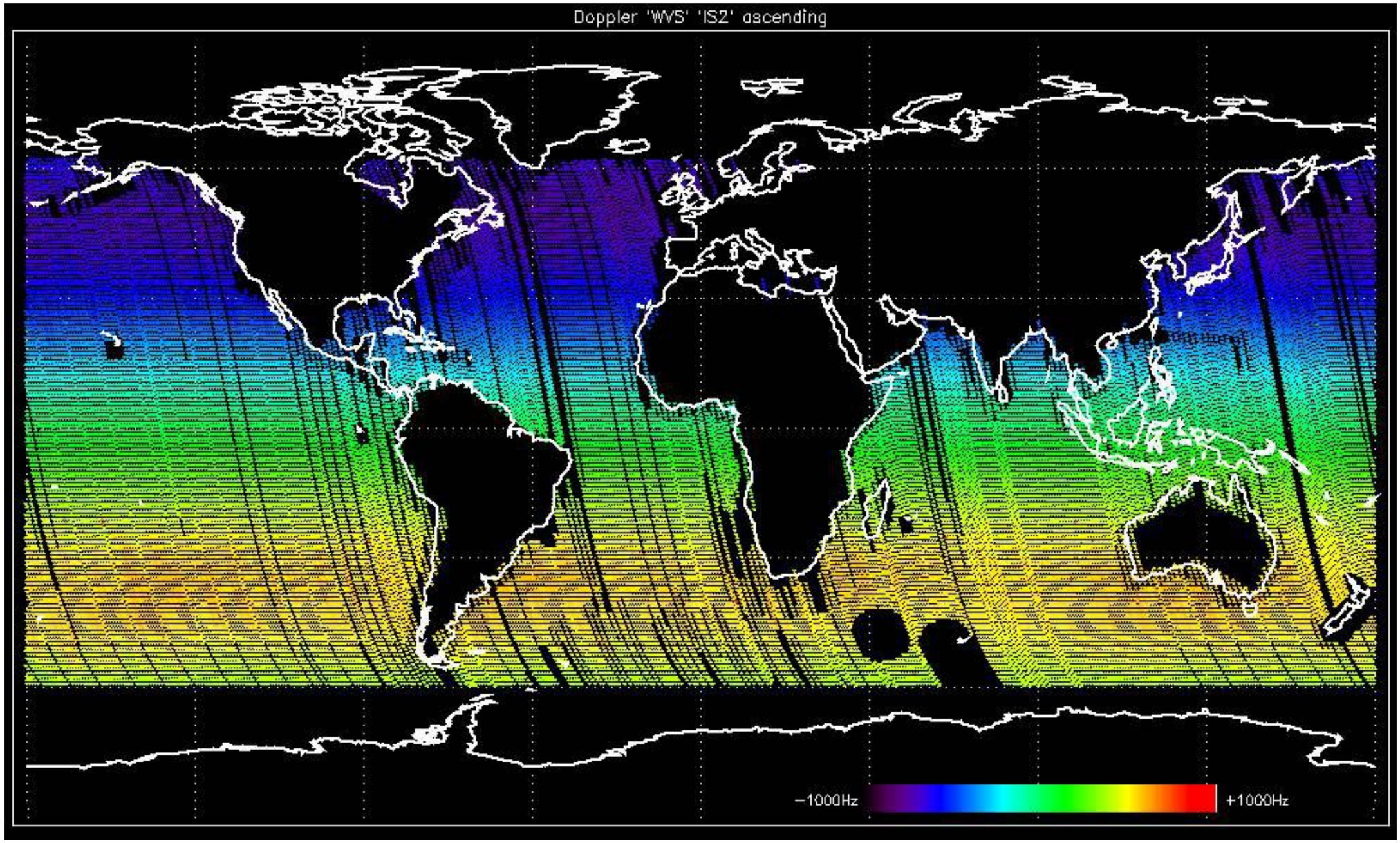

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.05
−8.10
−8.15
−8.20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

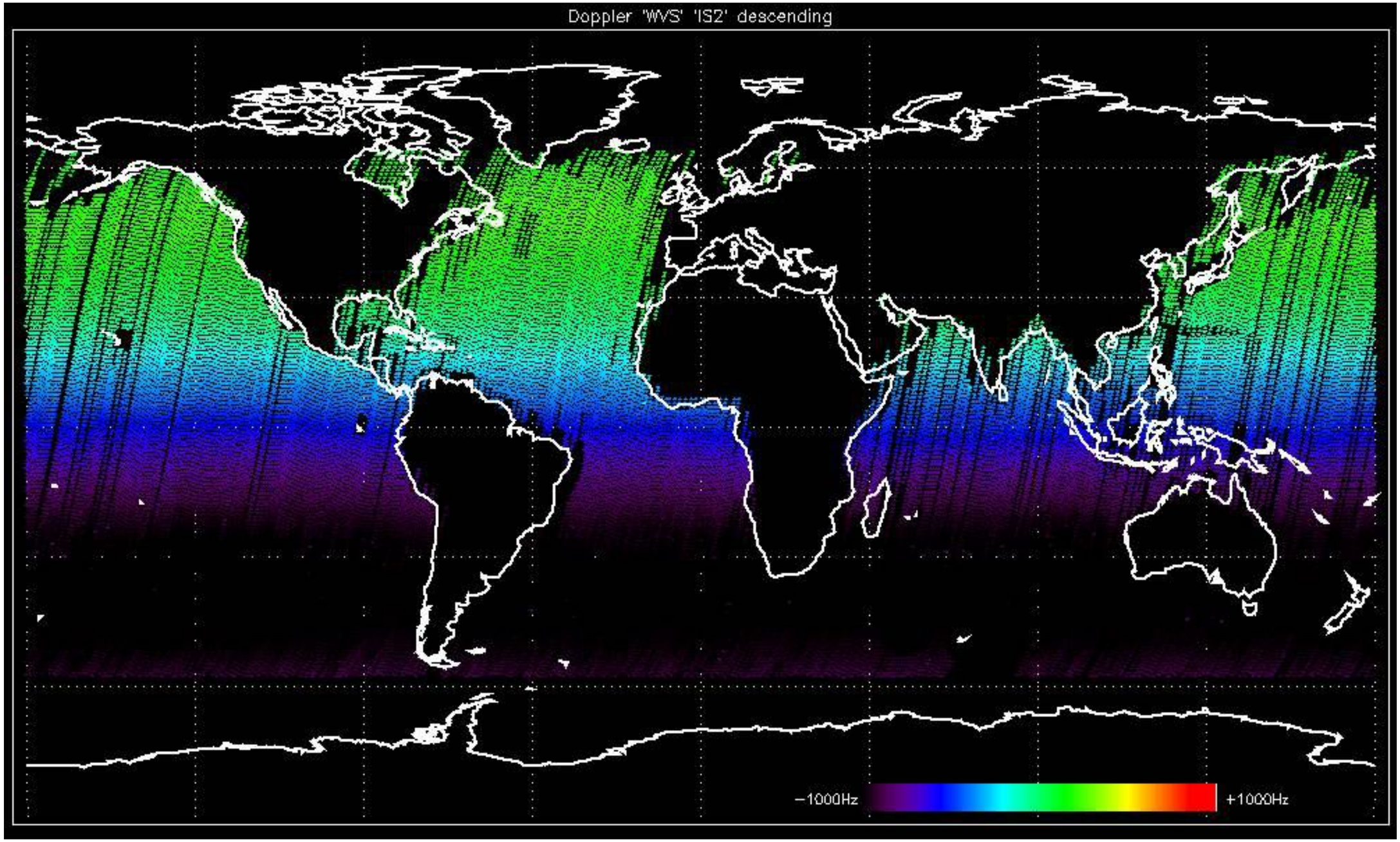
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

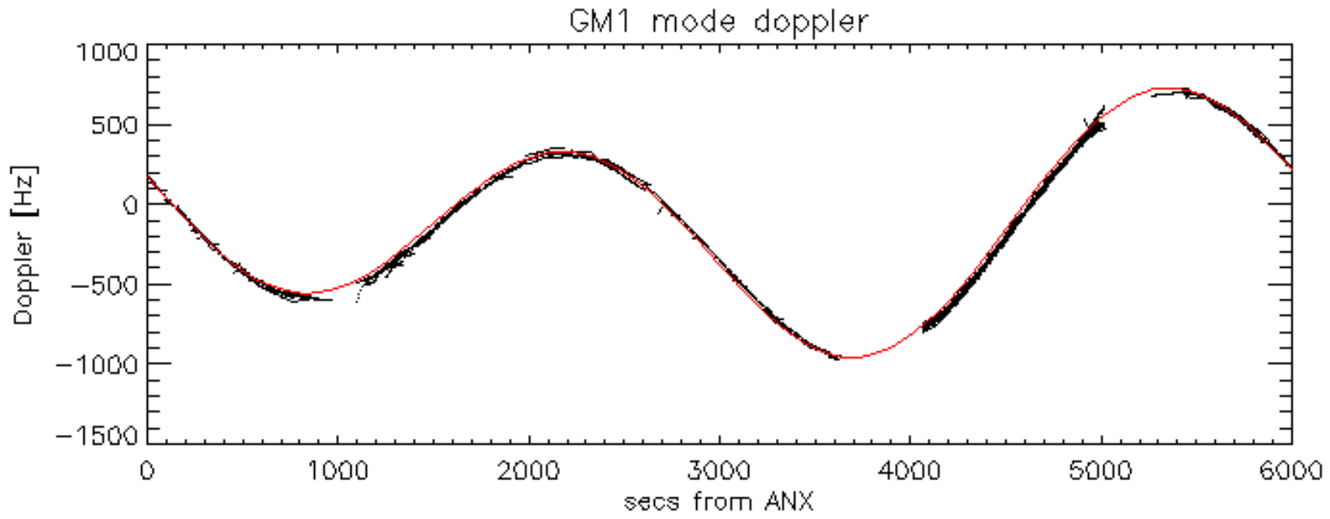
Preliminary report.The data is not yet controled

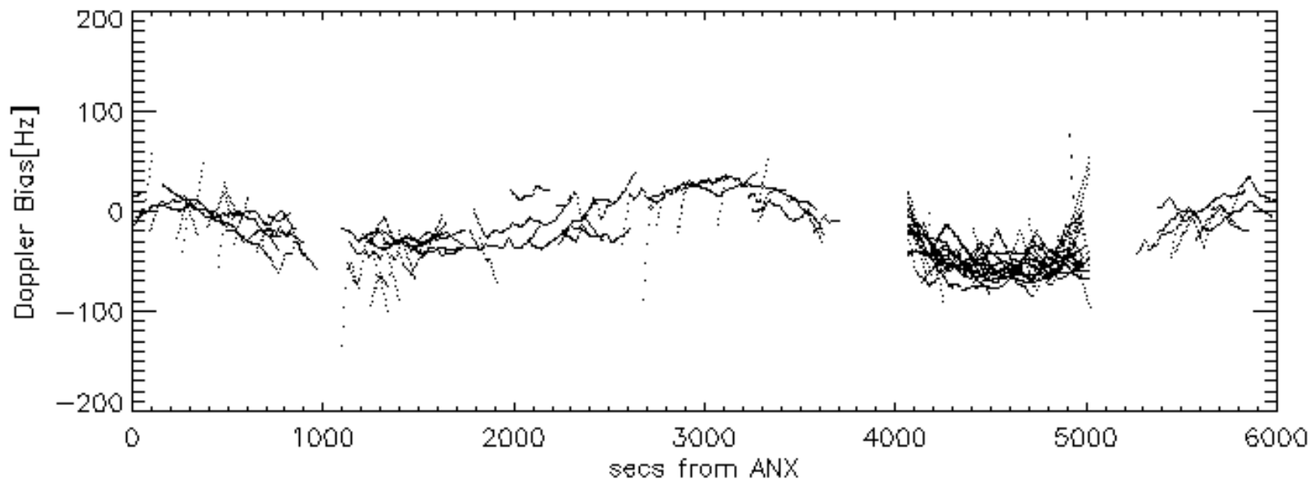

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

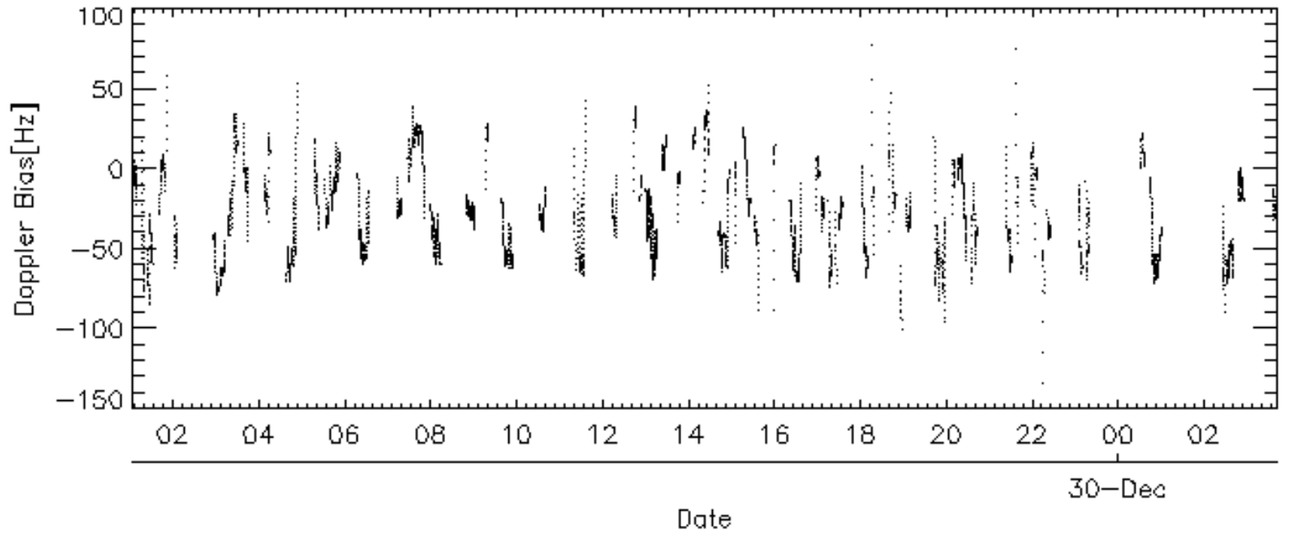

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

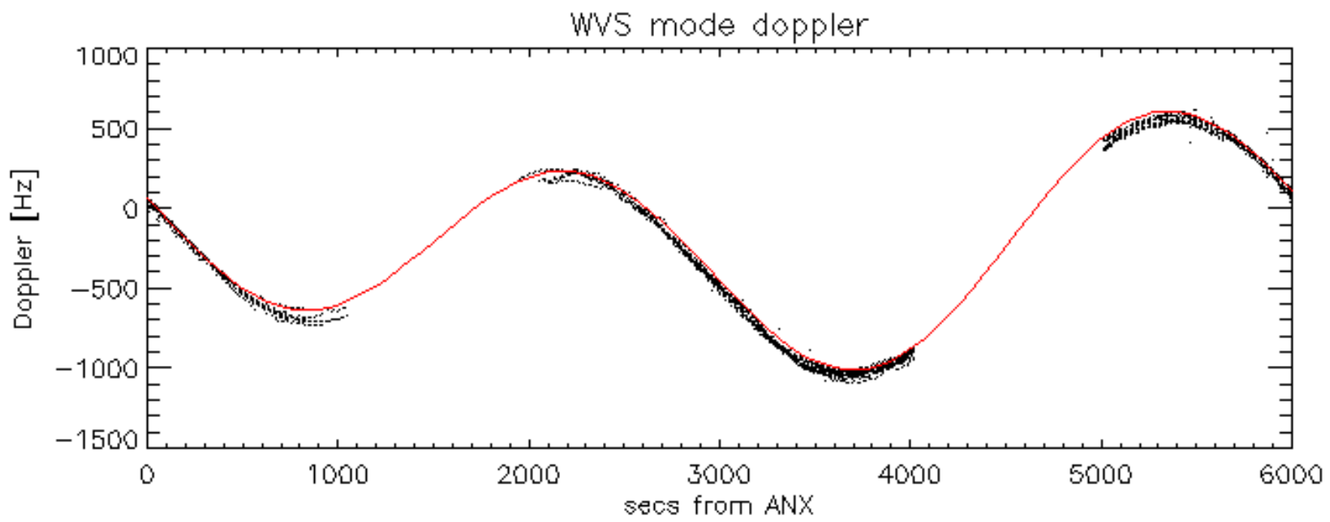

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

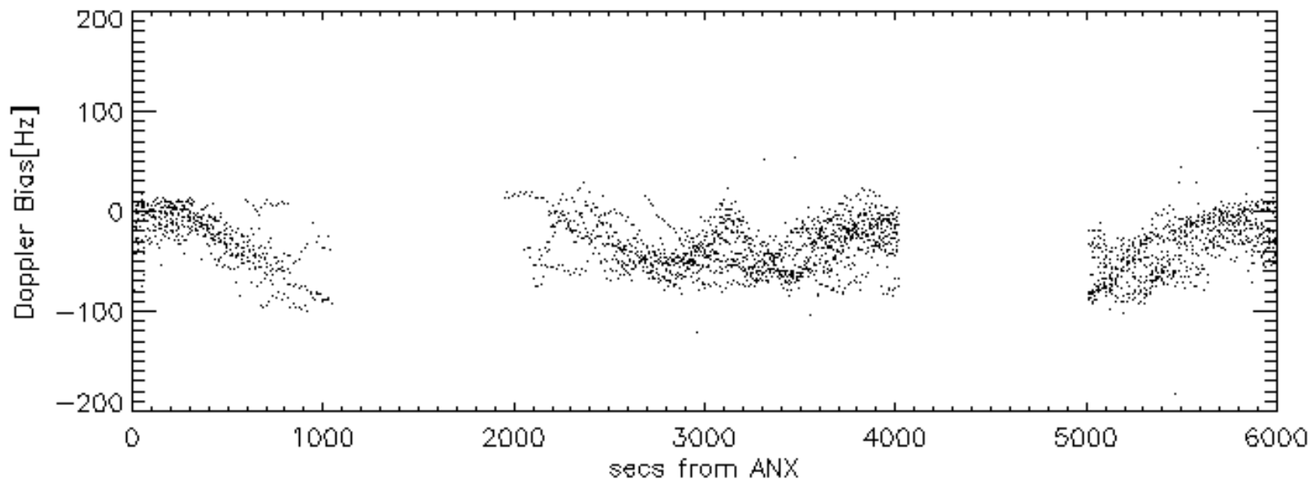

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

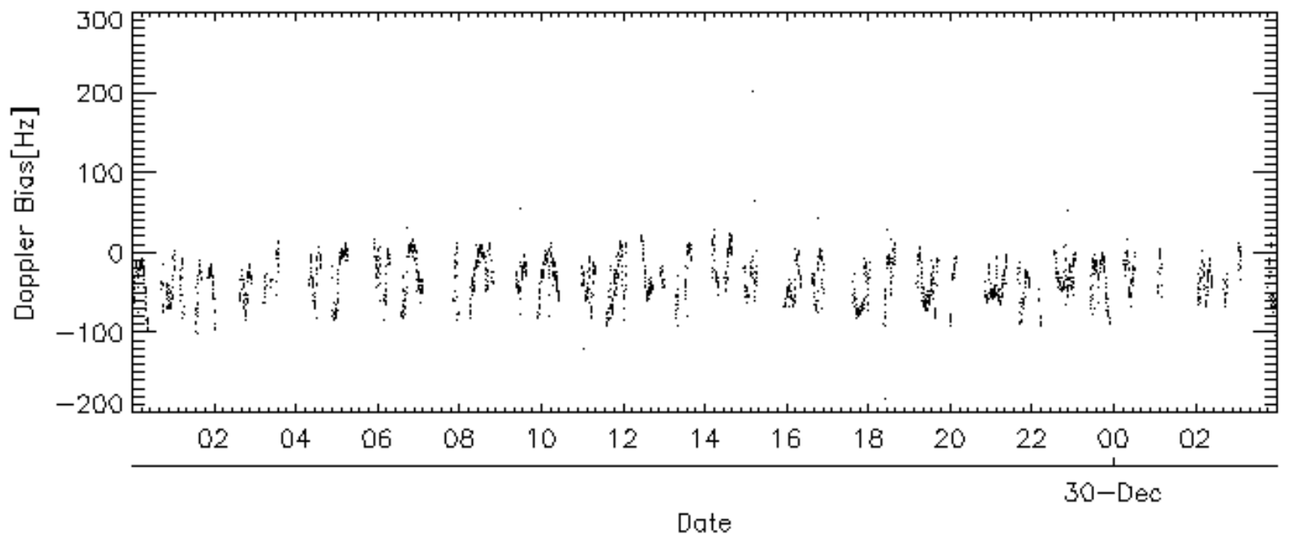

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

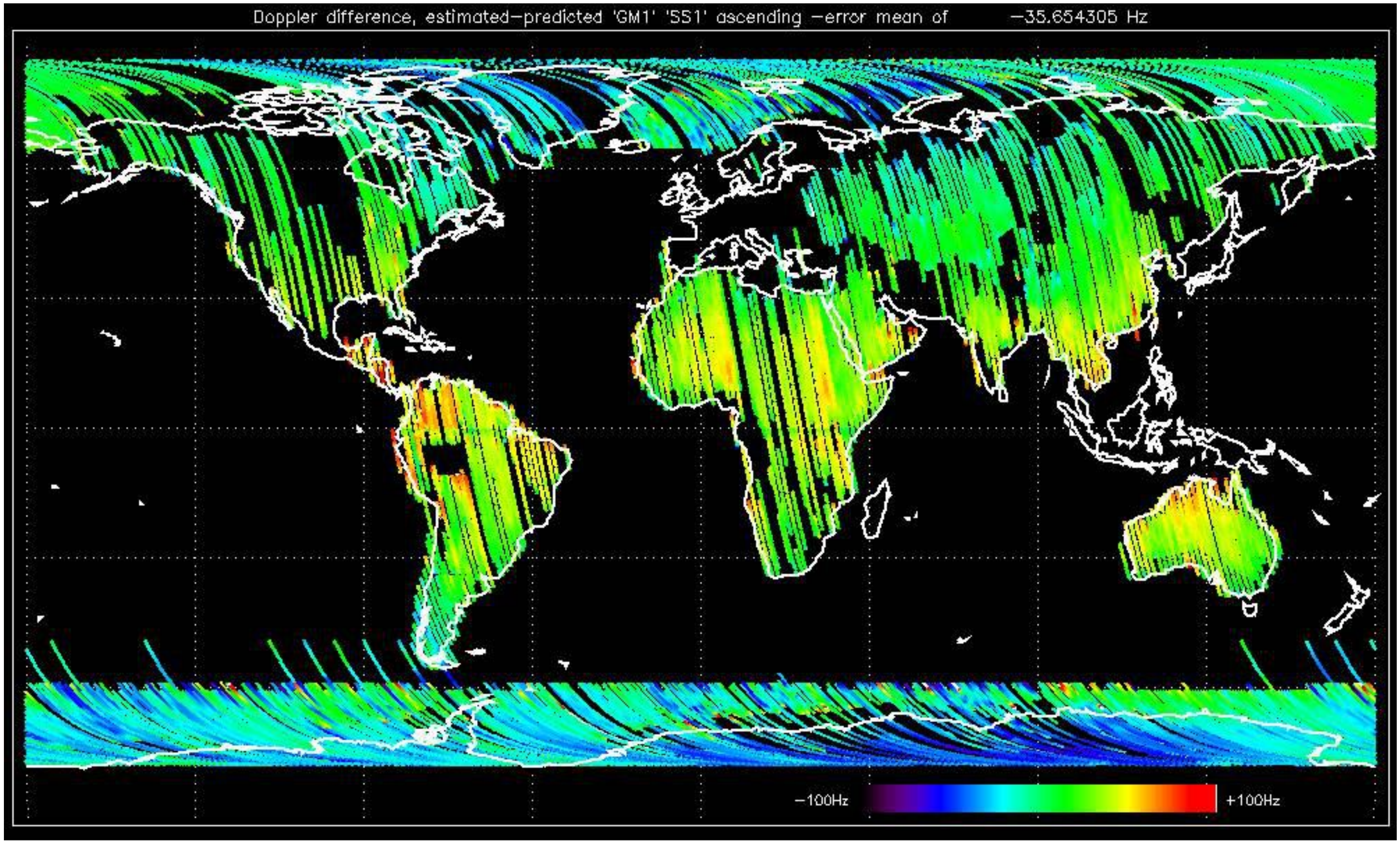

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

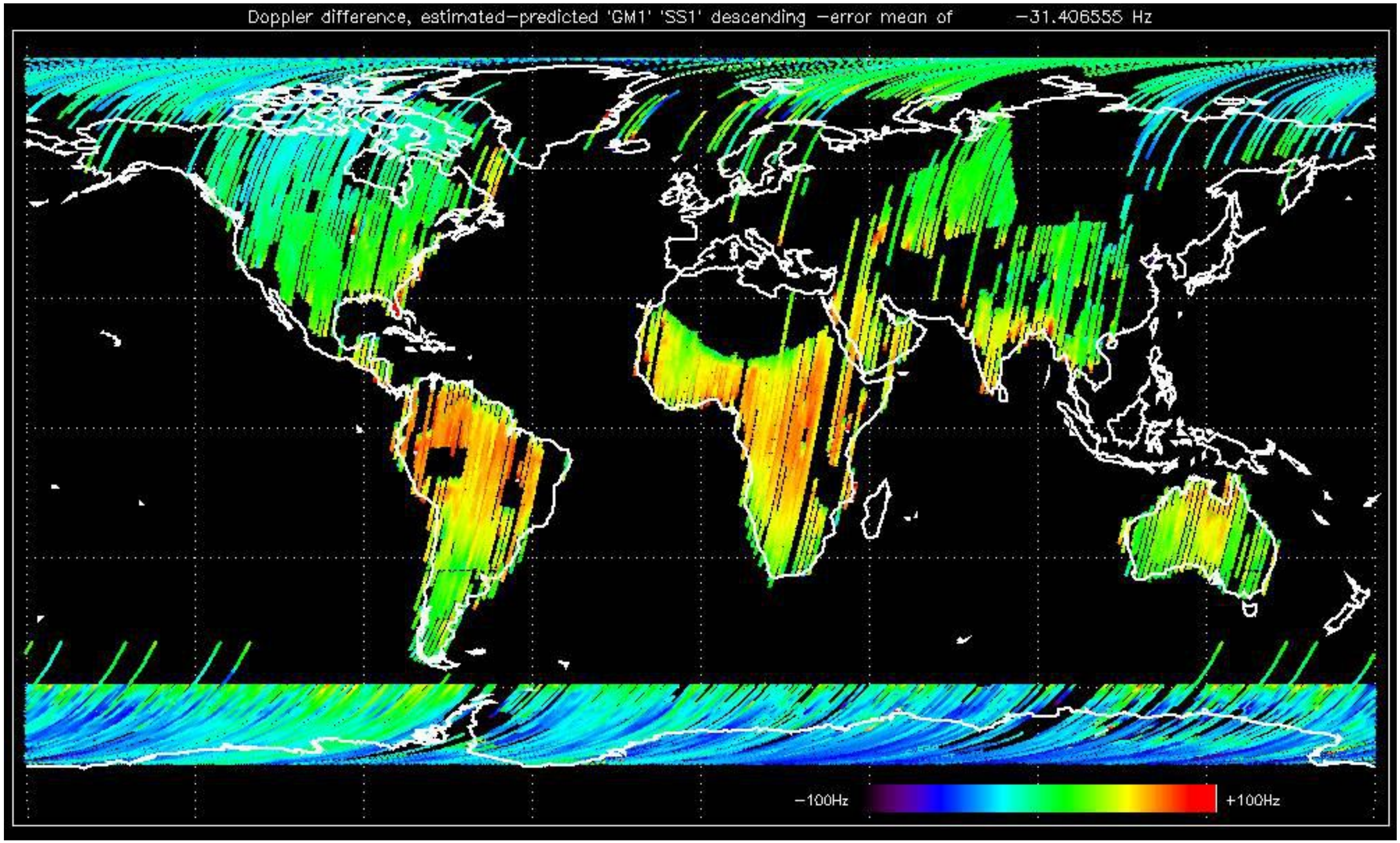

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
30−Dec
Date

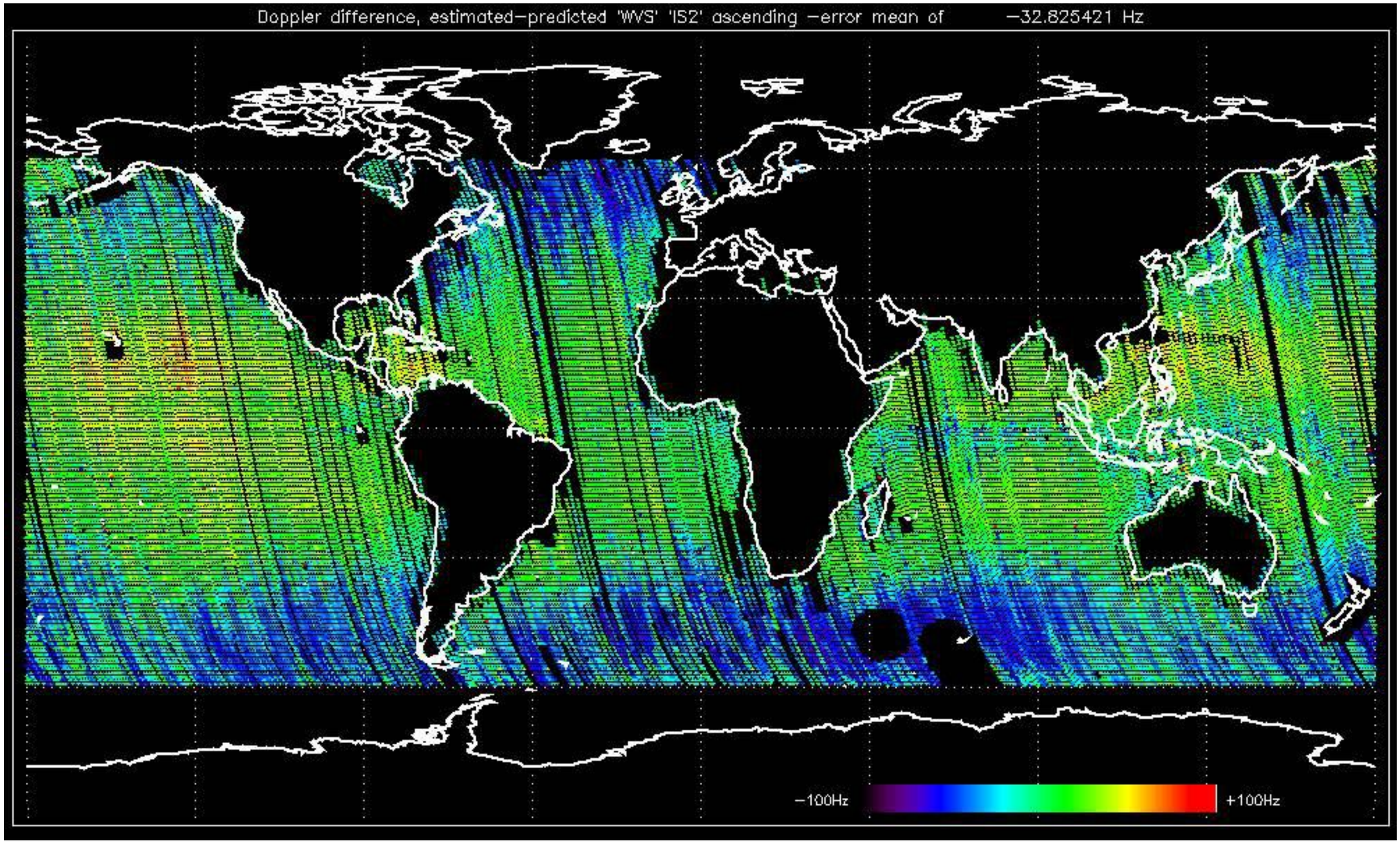

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

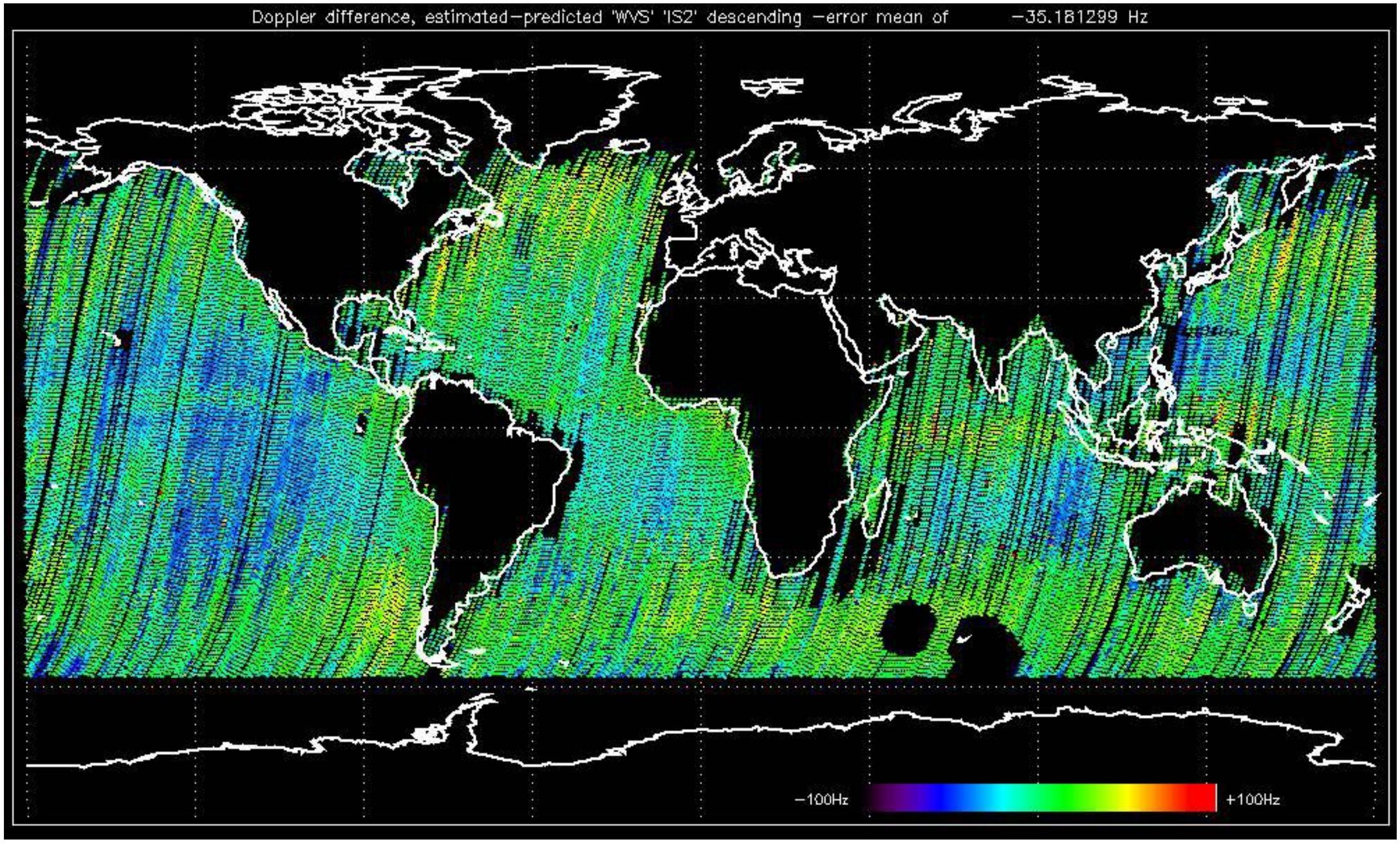

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −35.654305 Hz
−100Hz
+100Hz

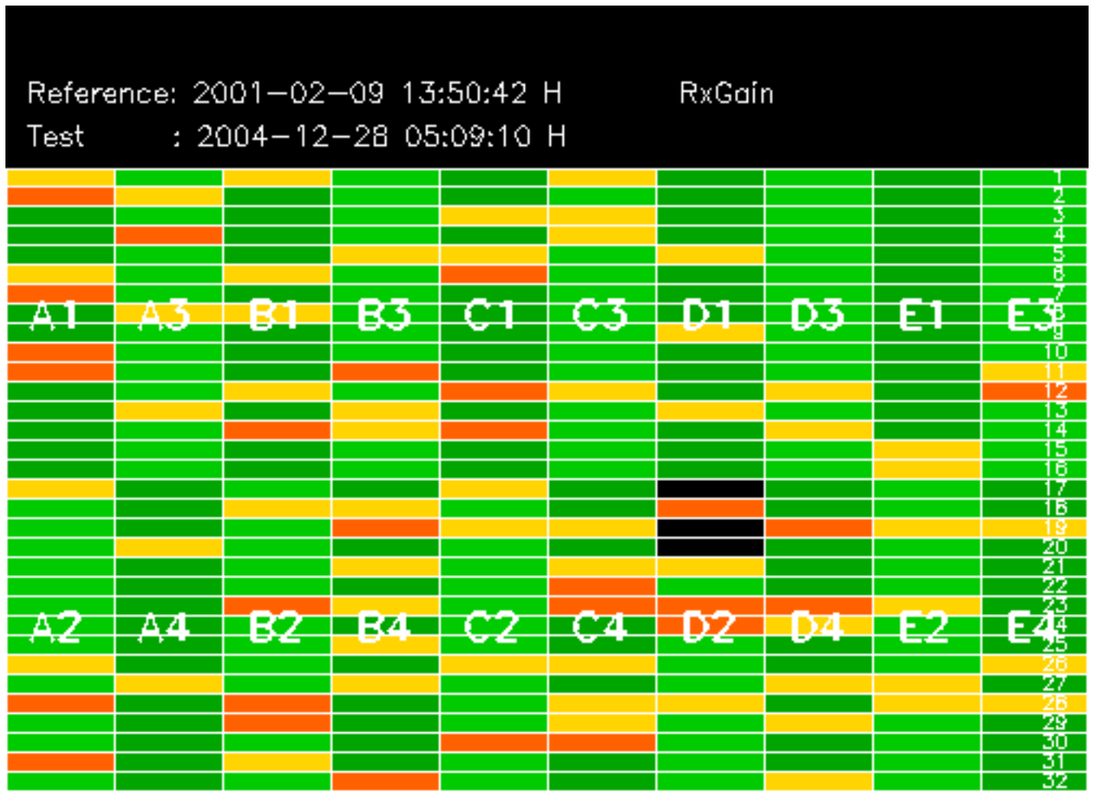

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -31.406555 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −32.825421 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −35.181299 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 : 2004-12-28 05:09:10 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
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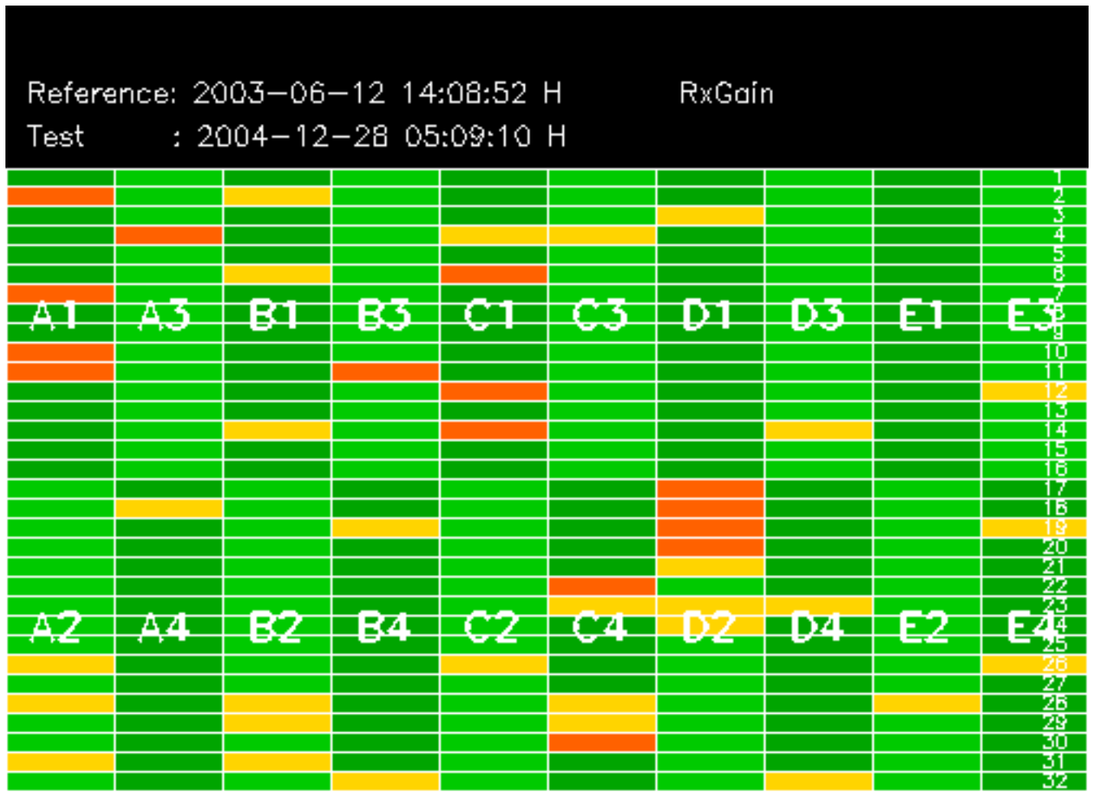
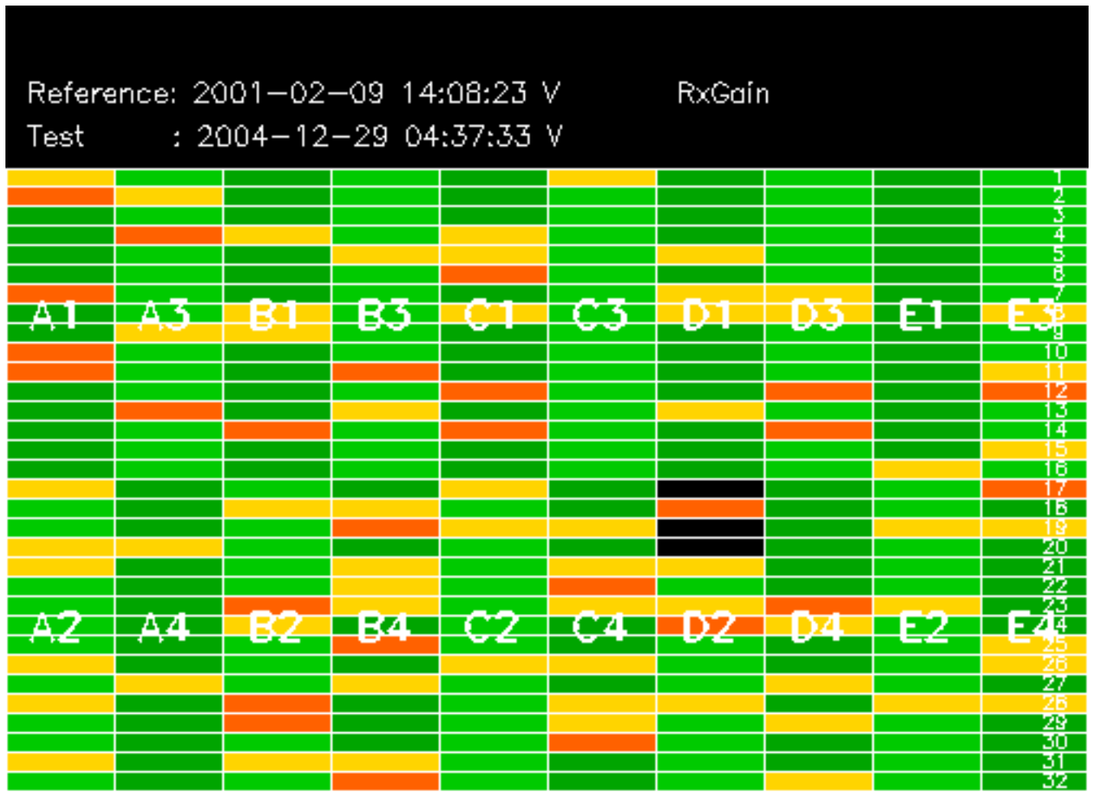

Reference: 2003-06-12 14:08:52 H
Test : 2004-12-28 05:09:10 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-12-29 04:37:33 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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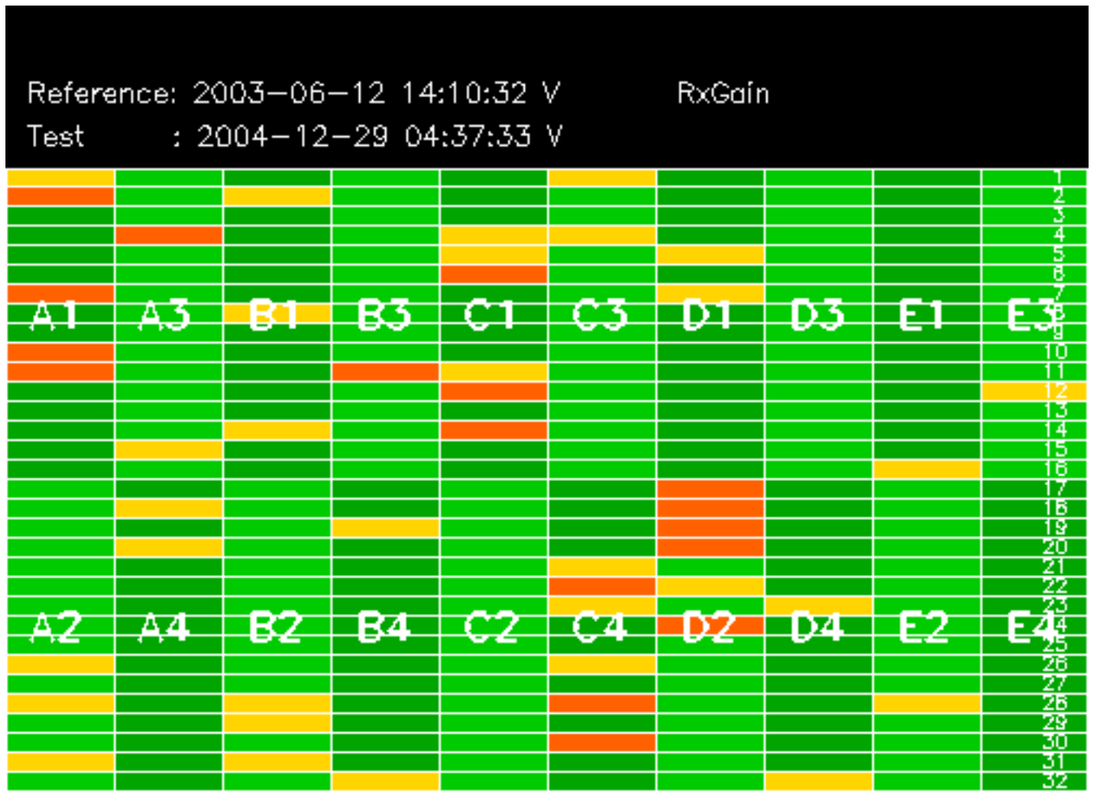
Reference: 2003-06-12 14:10:32 V
Test : 2004-12-29 04:37:33 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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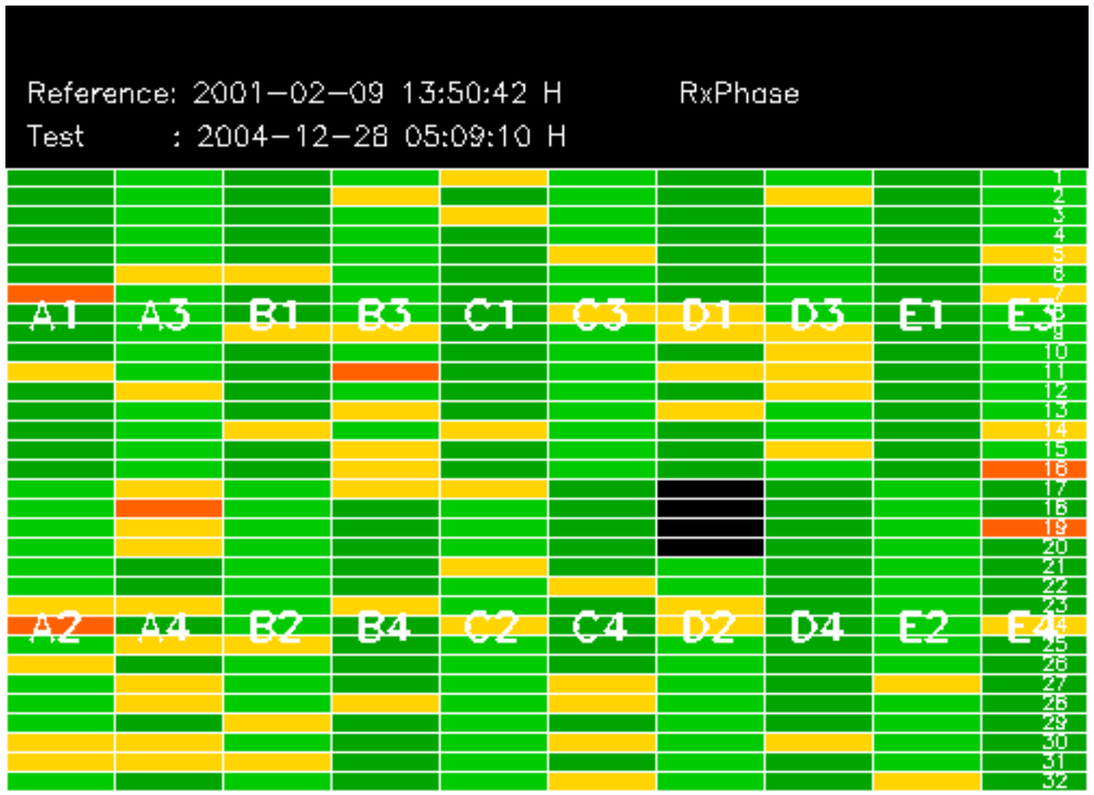
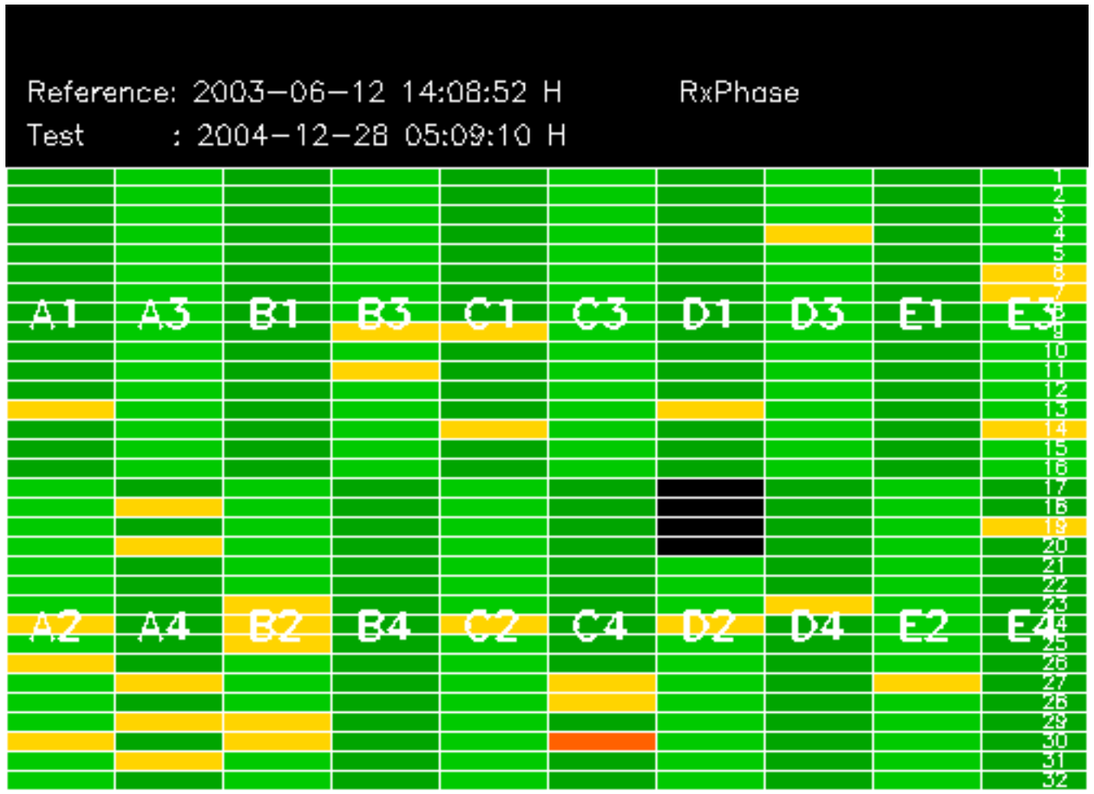

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-12-28 05:09:10 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-12-28 05:09:10 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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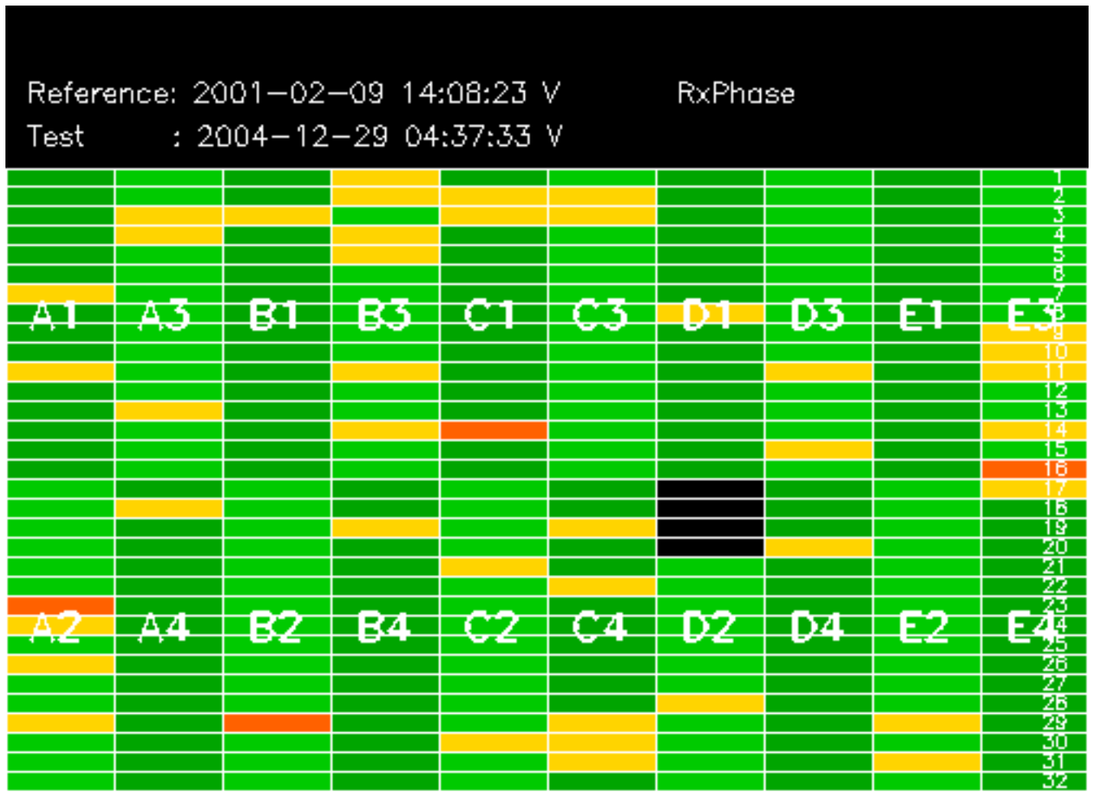
Reference: 2001-02-09 14:08:23 V
Test : 2004-12-29 04:37:33 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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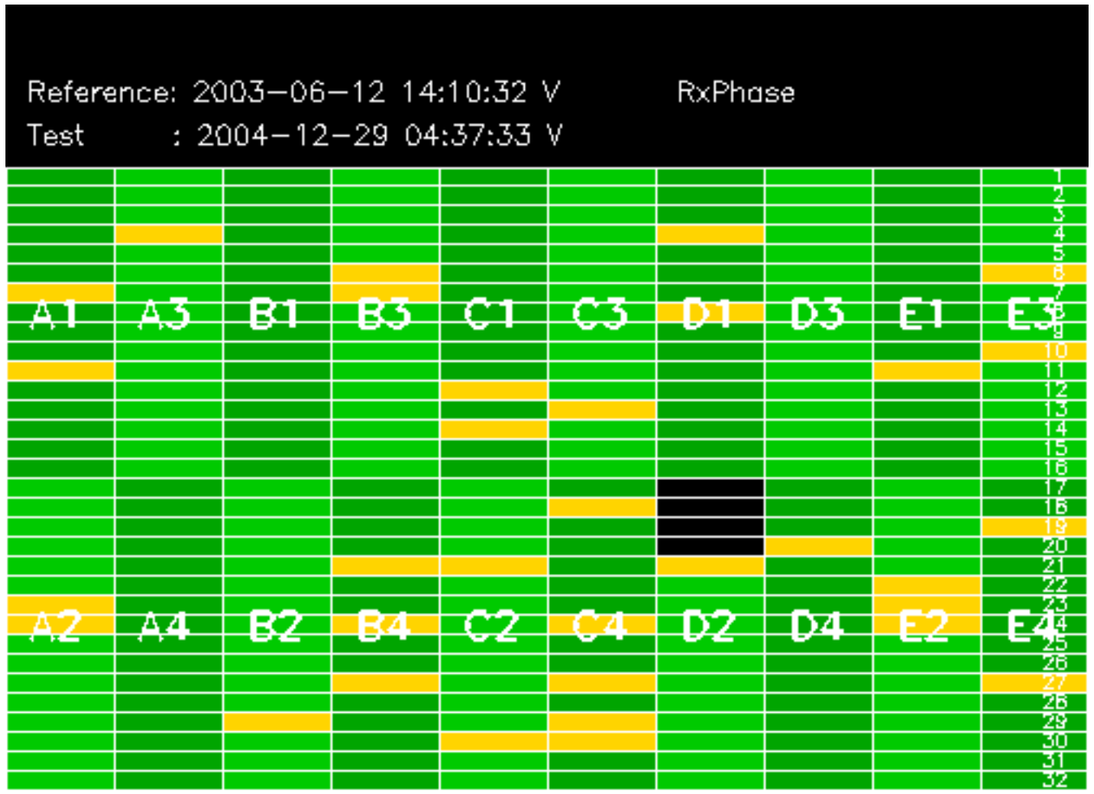
Reference: 2003-06-12 14:10:32 V
Test : 2004-12-29 04:37:33 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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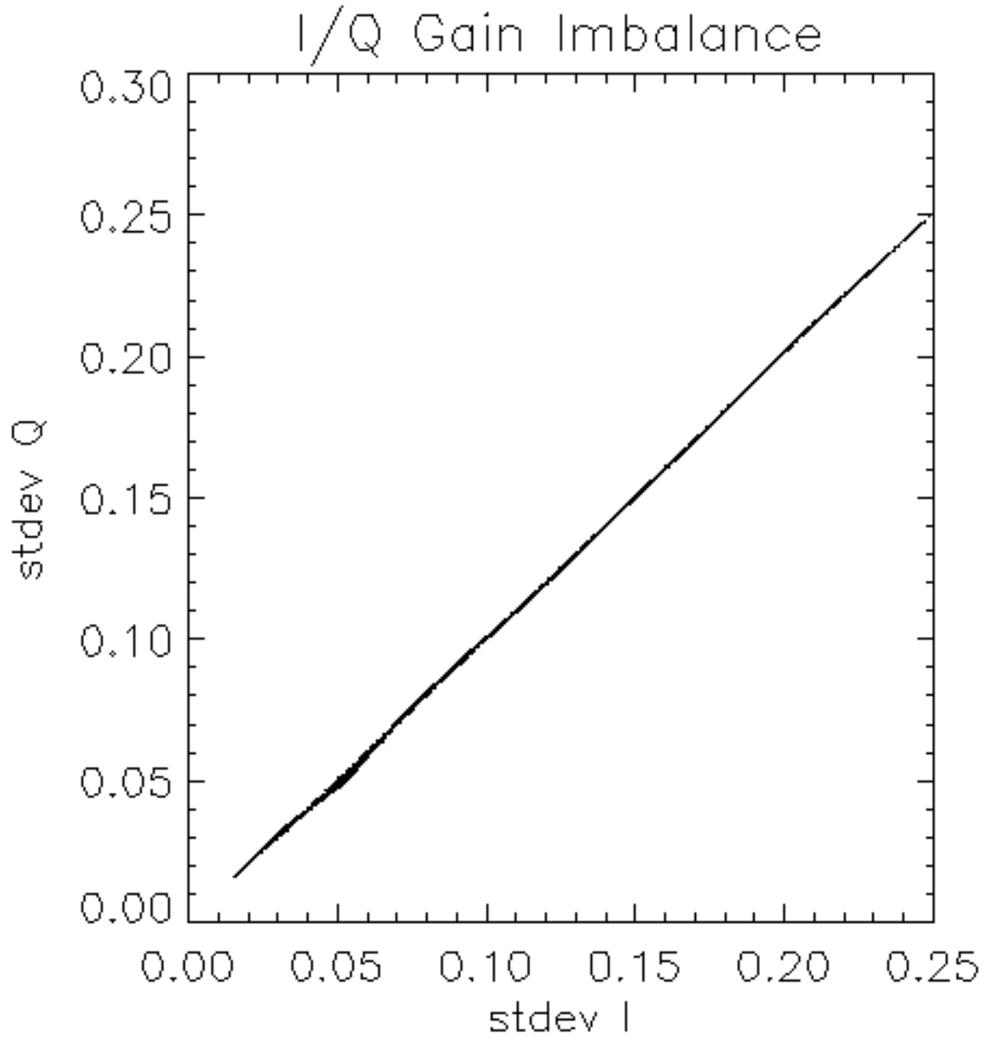
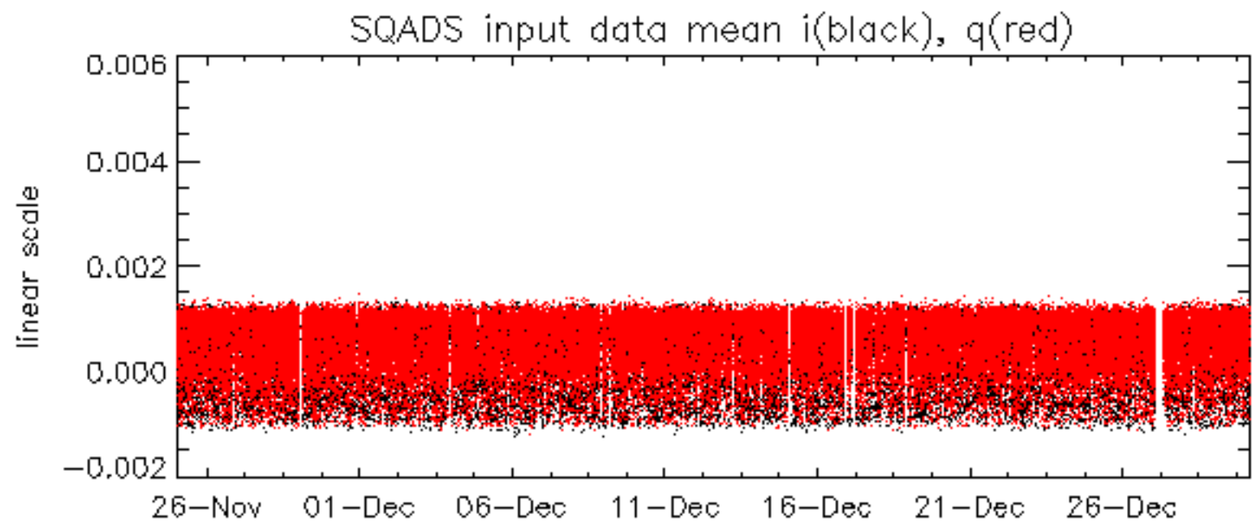
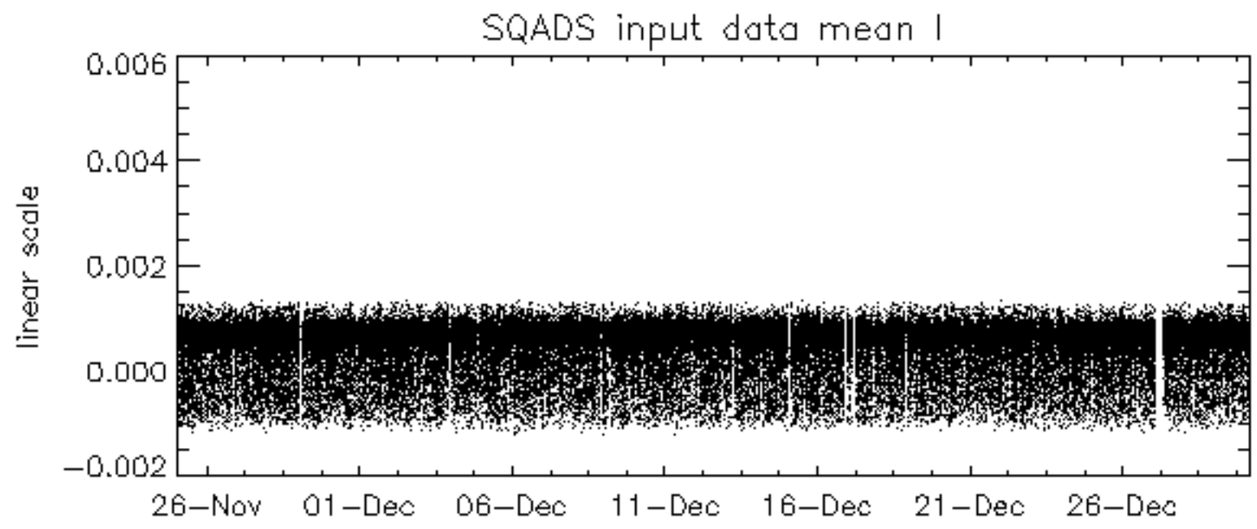
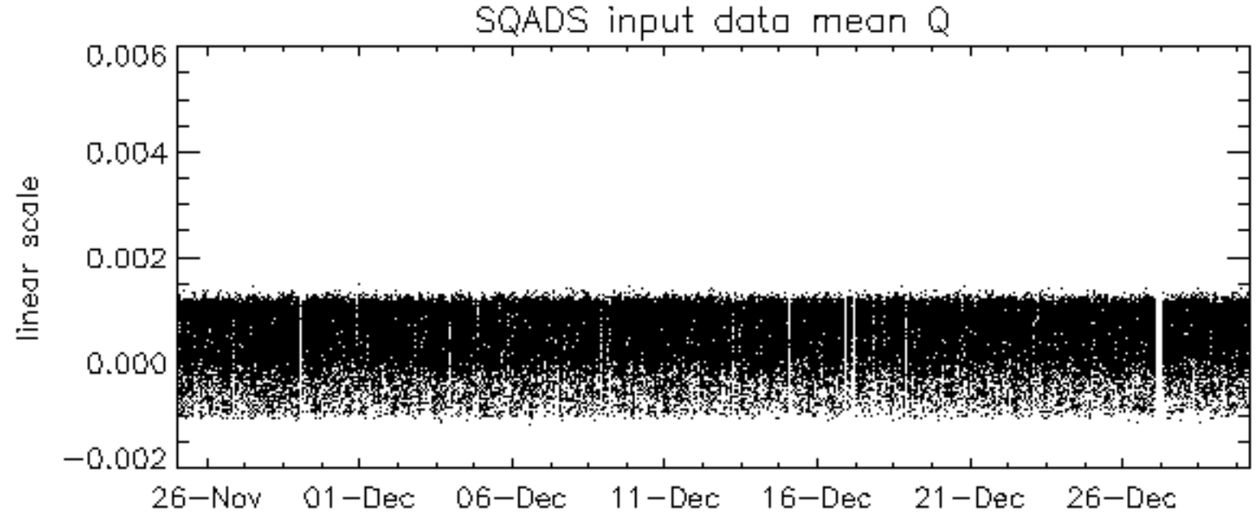
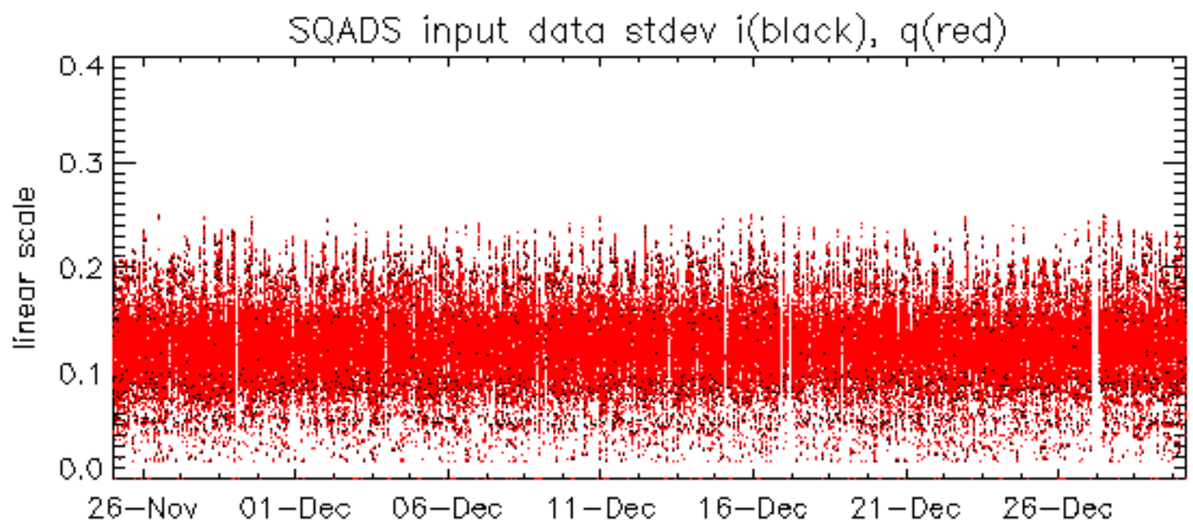
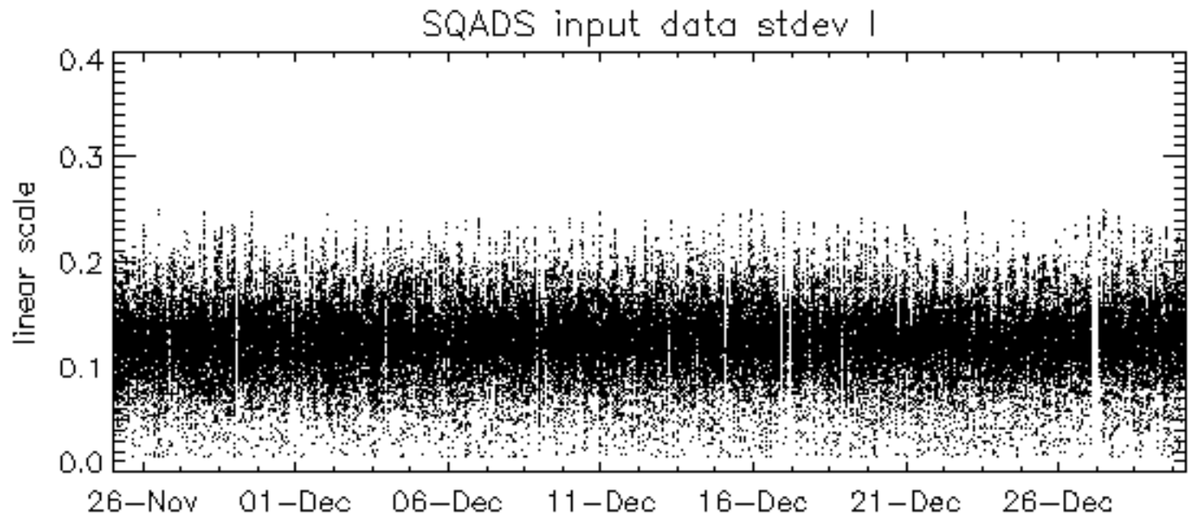

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

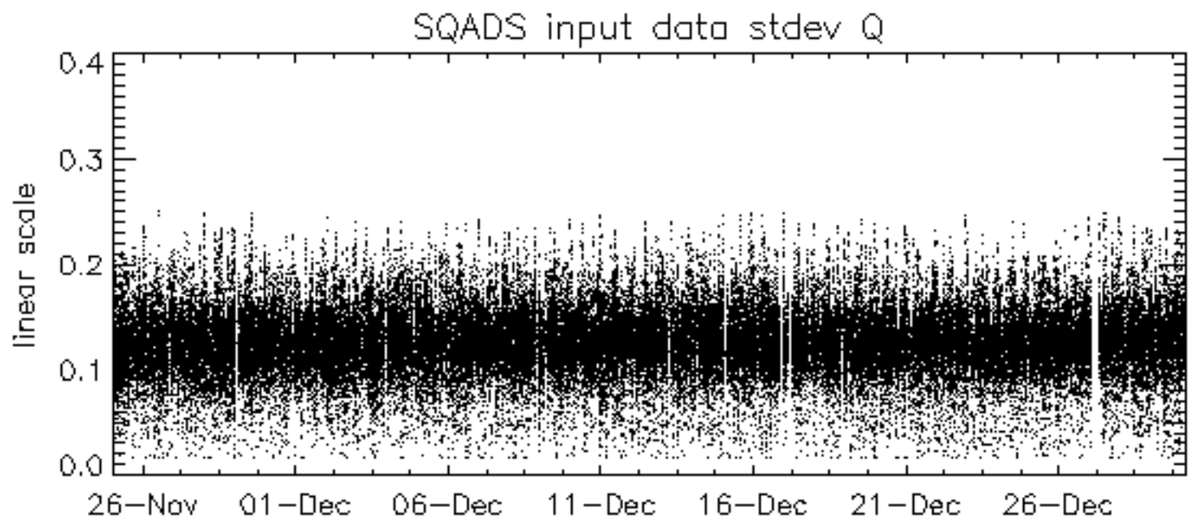

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec

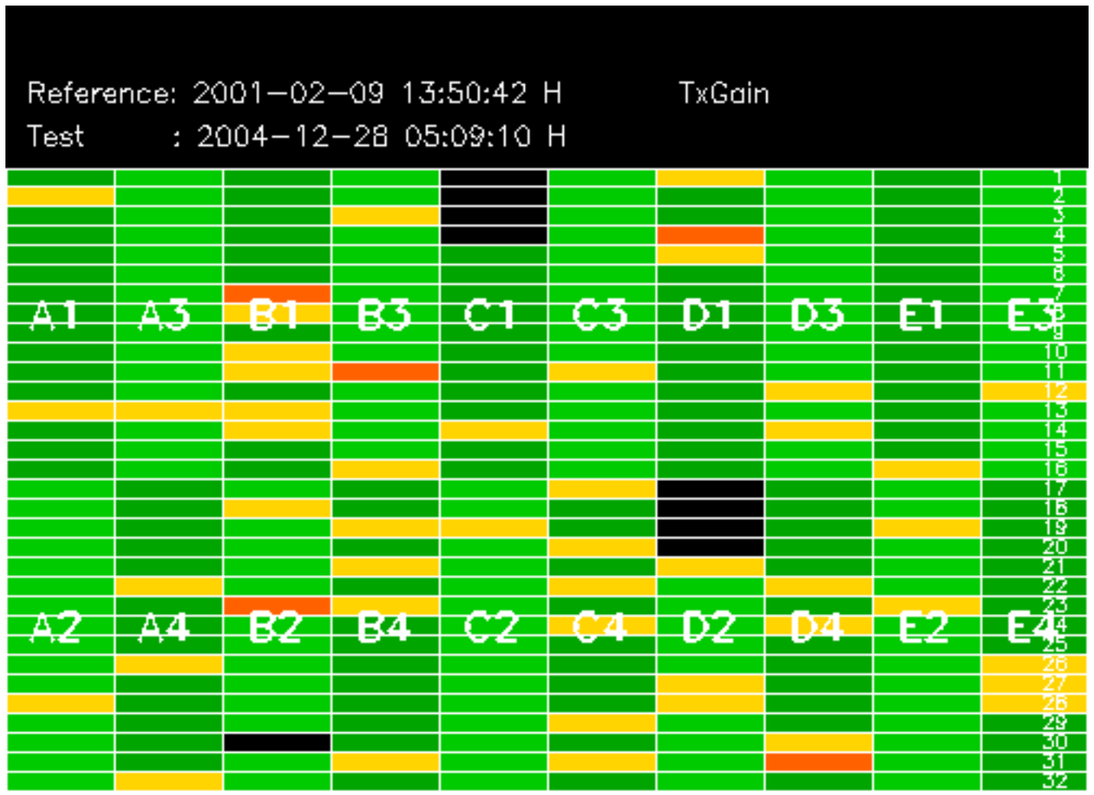

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec

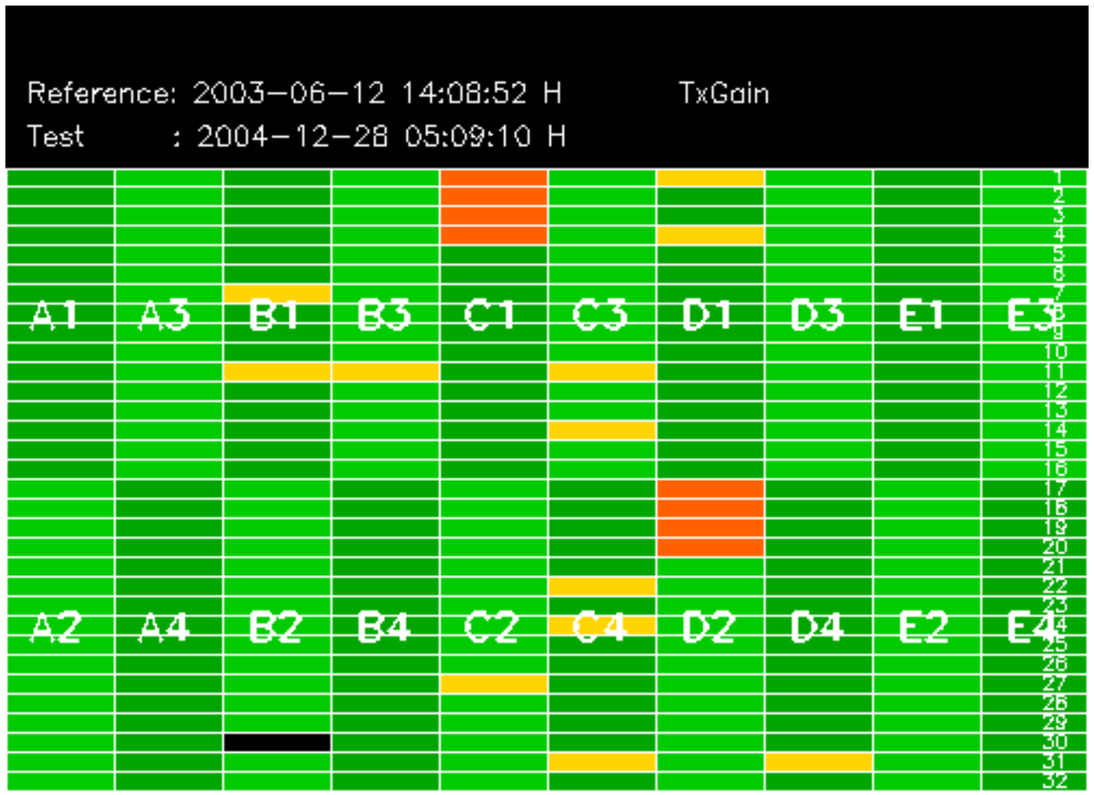

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec


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 : 2004-12-28 05:09:10 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 : 2004-12-28 05:09:10 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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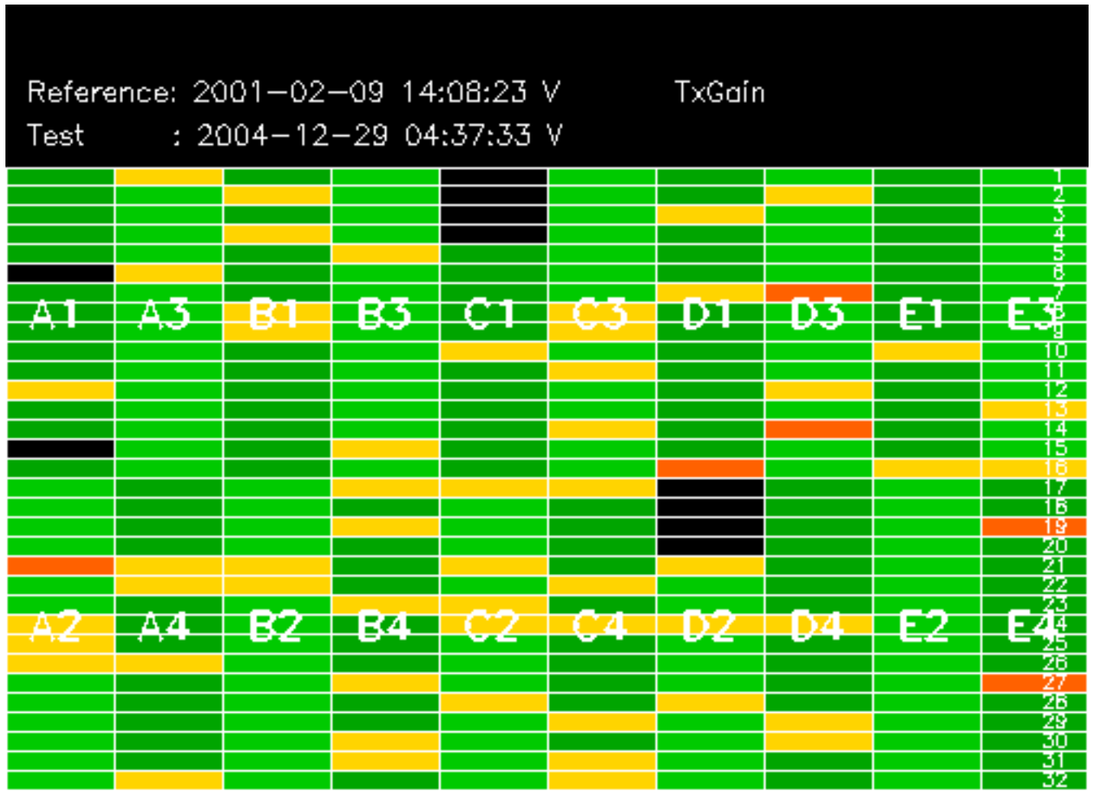
Reference: 2001-02-09 14:08:23 V
Test : 2004-12-29 04:37:33 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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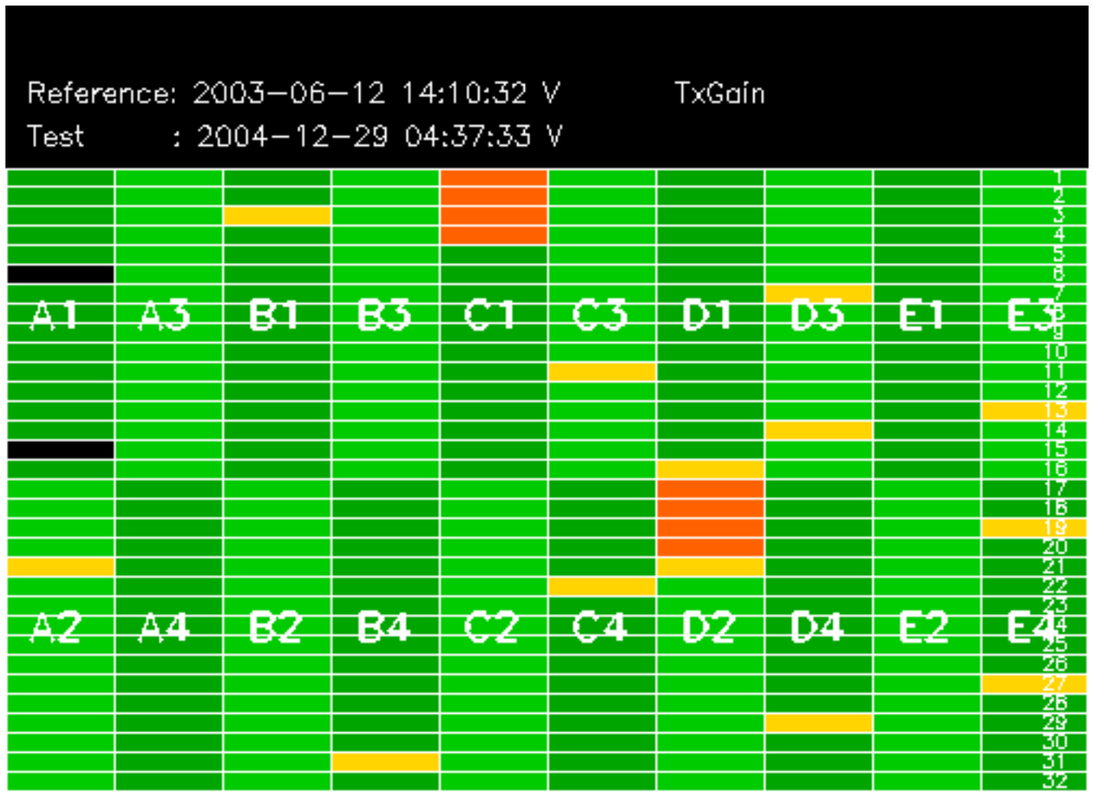
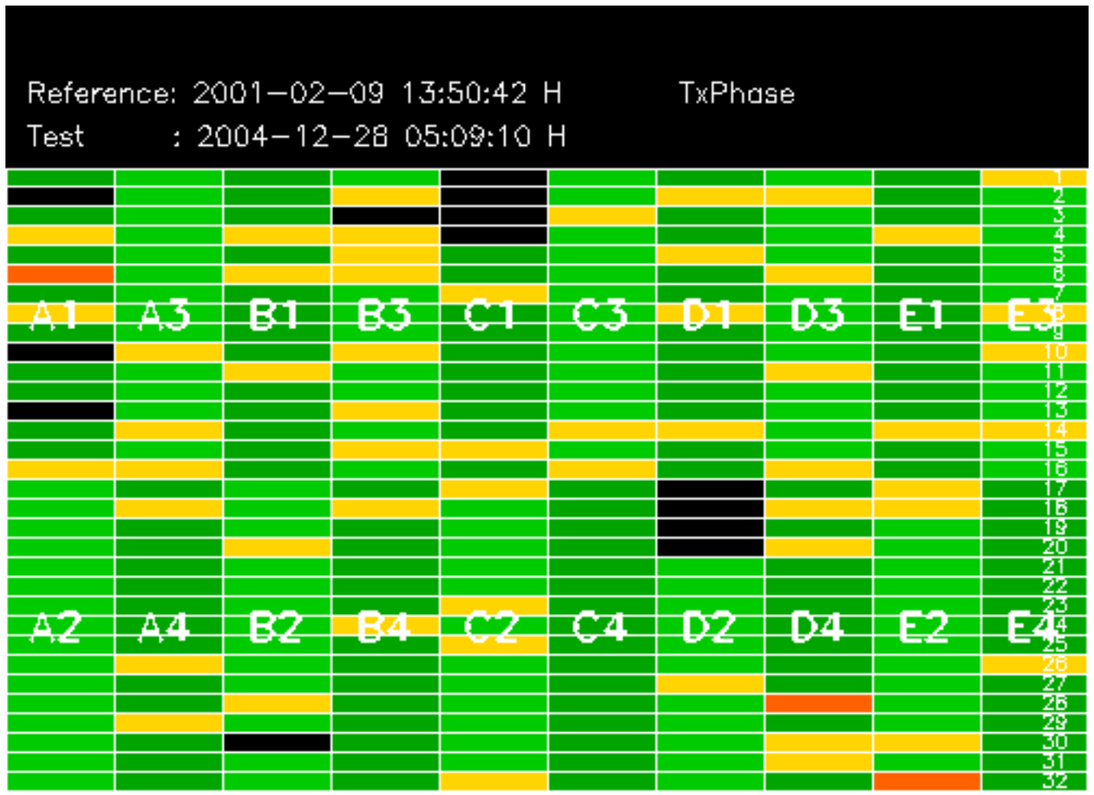

Reference: 2003-06-12 14:10:32 V
Test : 2004-12-29 04:37:33 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-12-28 05:09:10 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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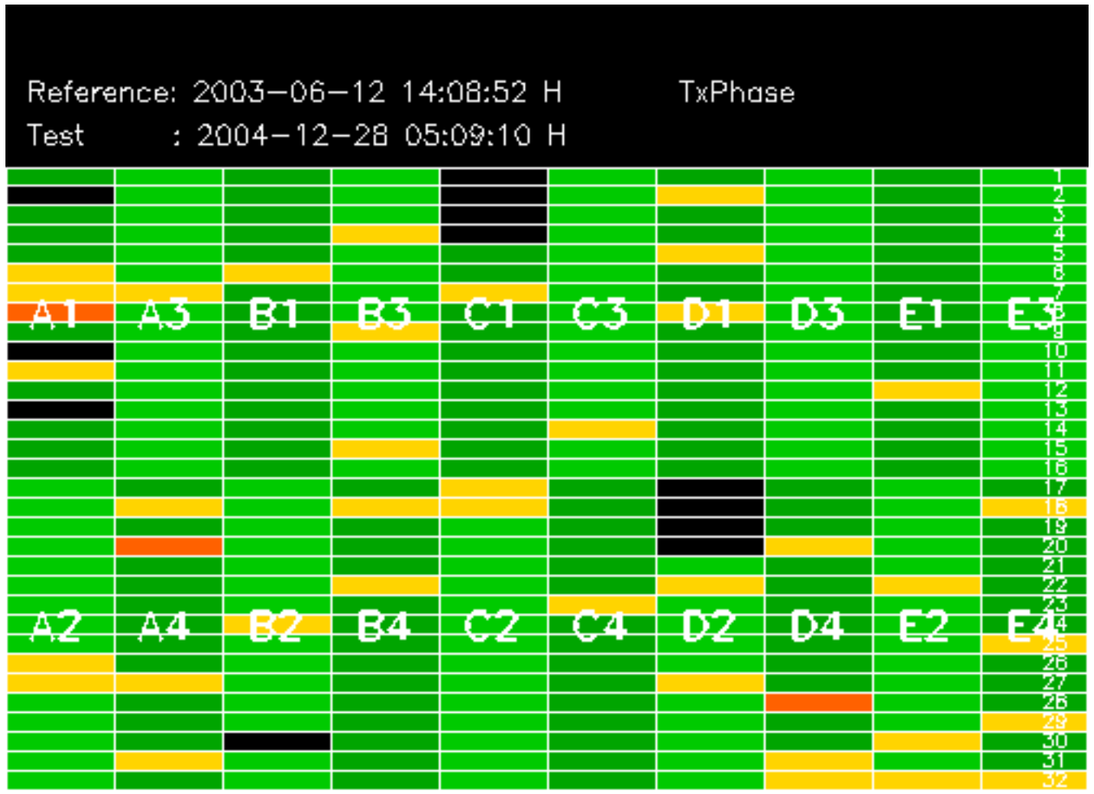
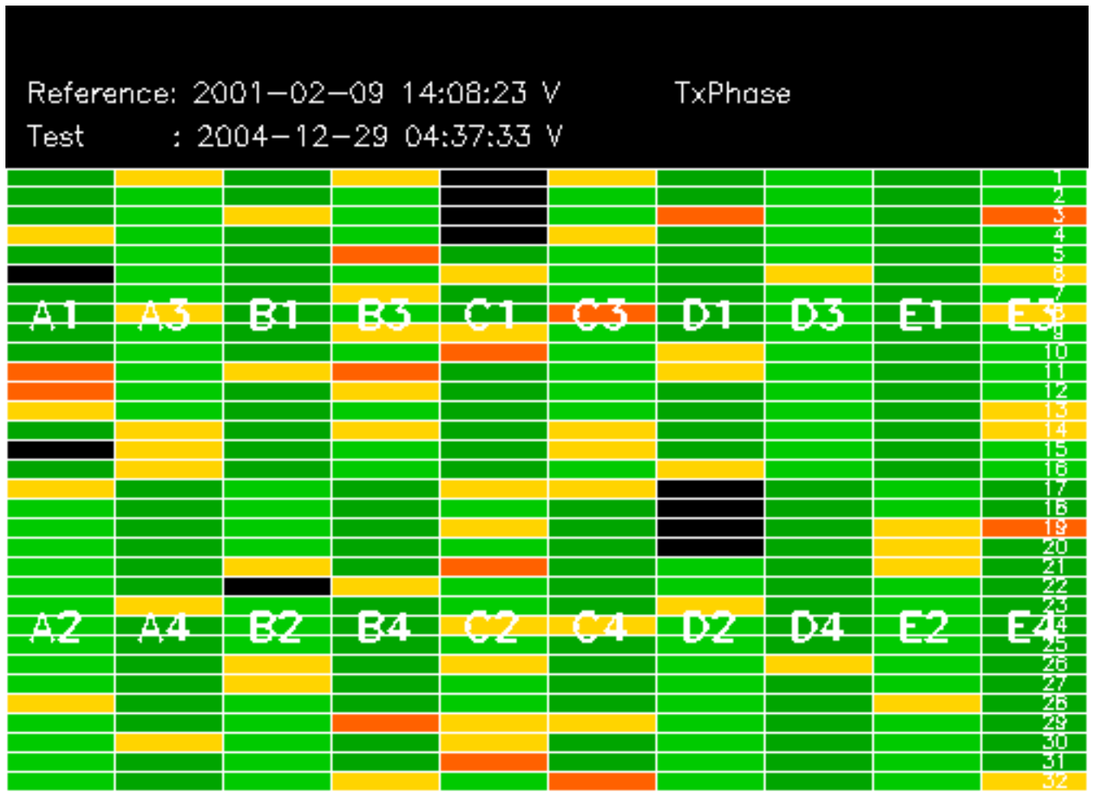
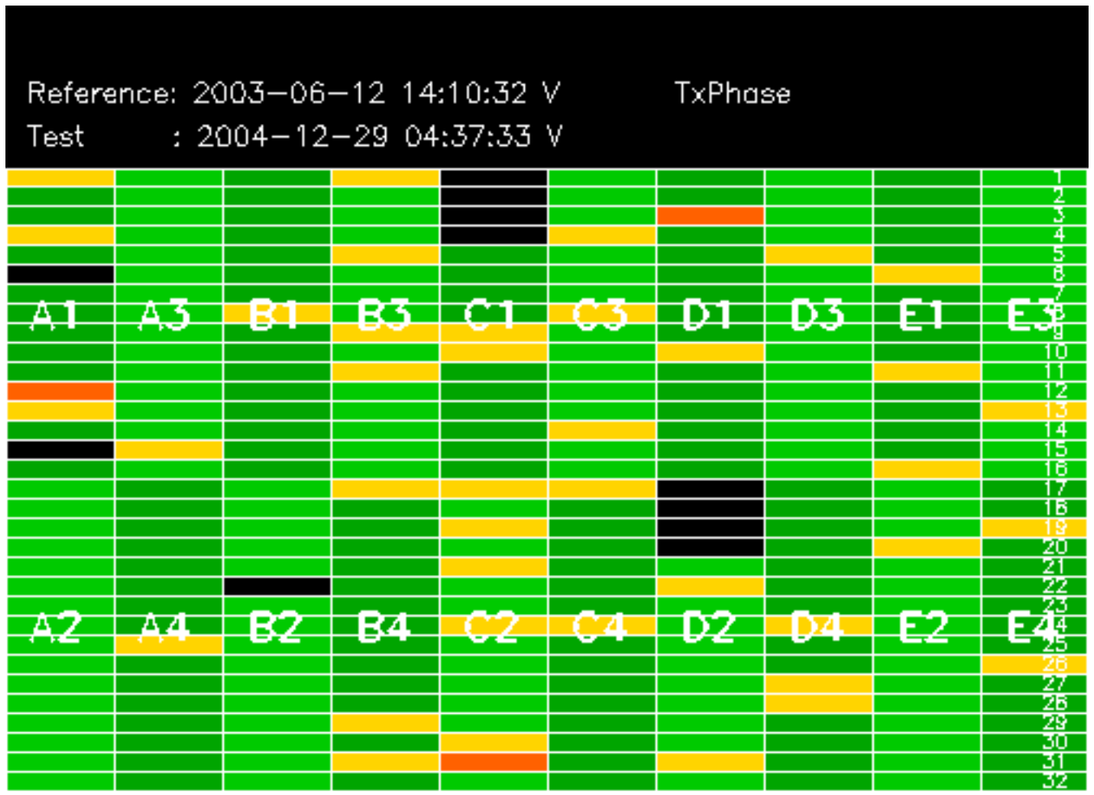

Reference: 2003-06-12 14:08:52 H
Test : 2004-12-28 05:09:10 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-12-29 04:37:33 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-12-29 04:37:33 V
TxPhase
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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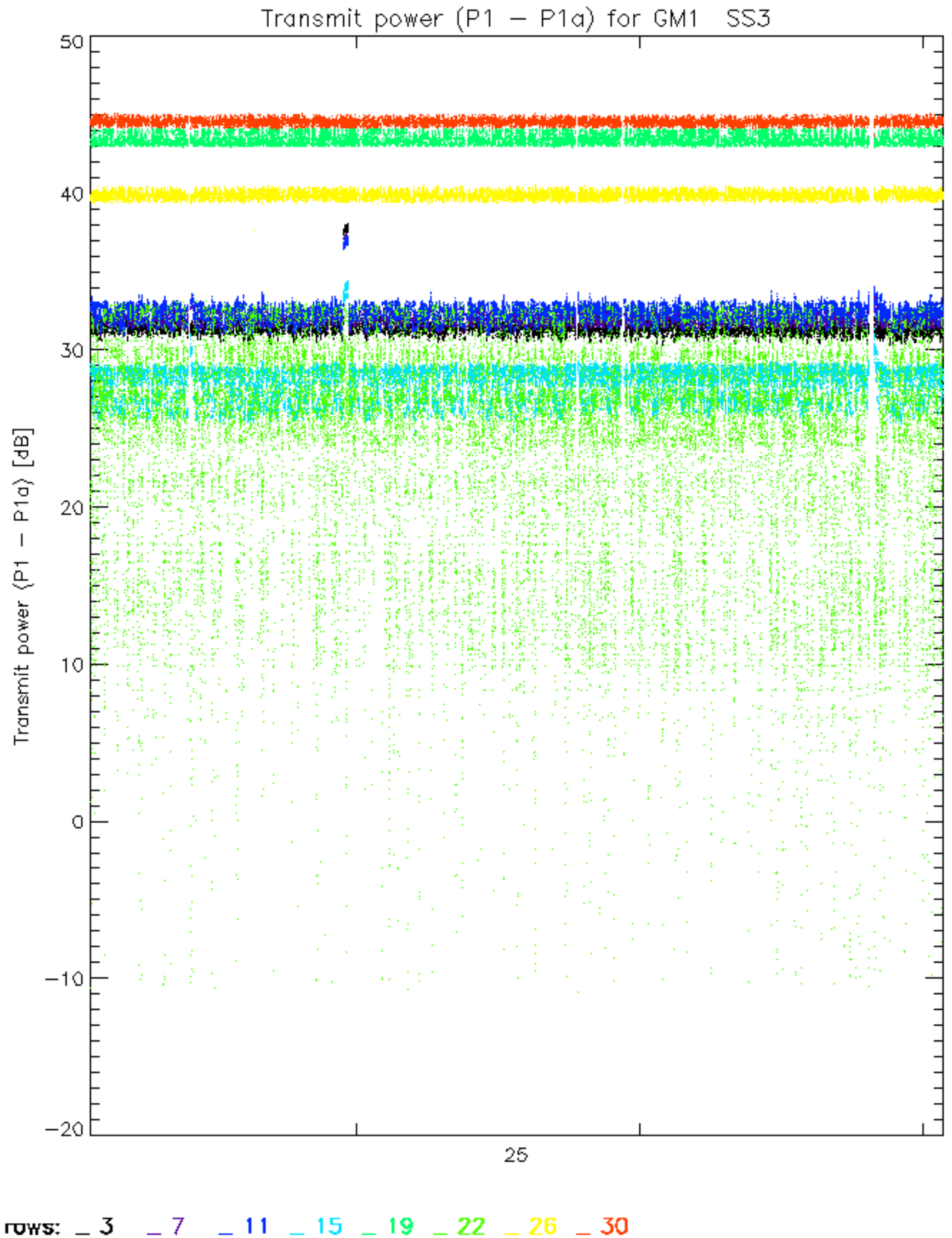
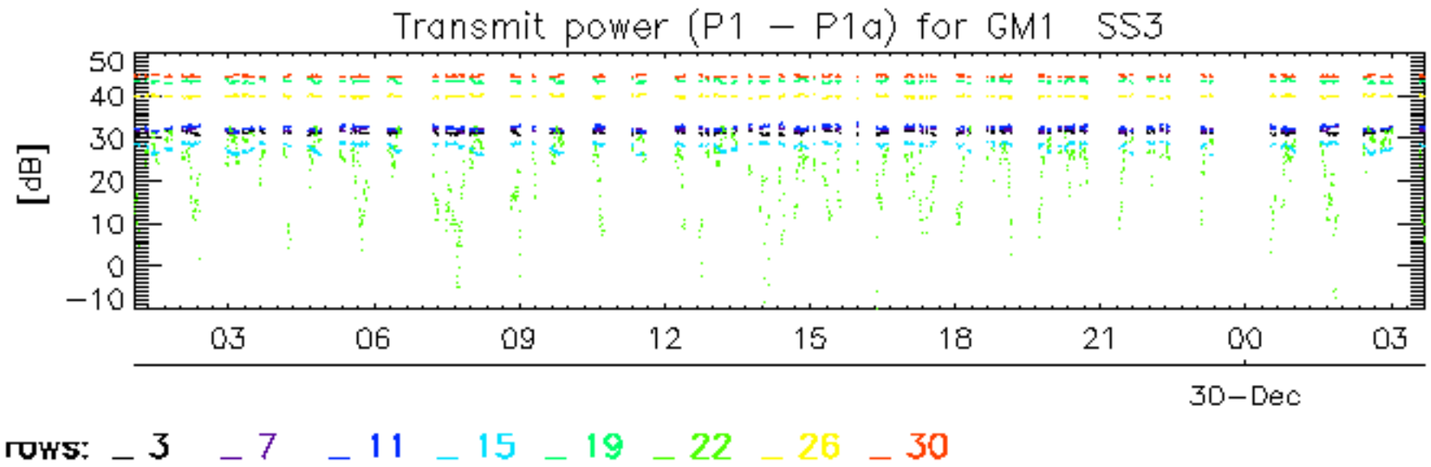
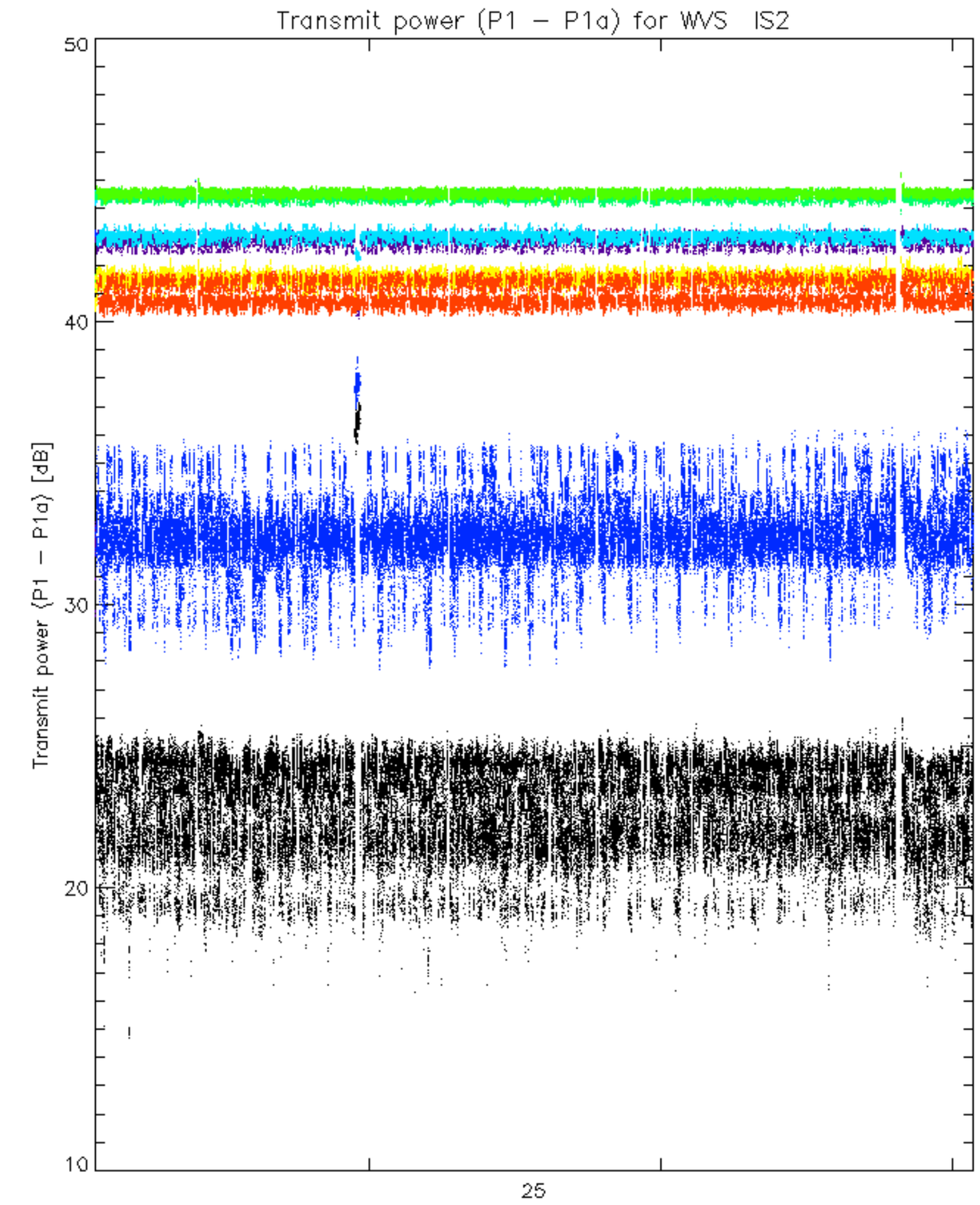
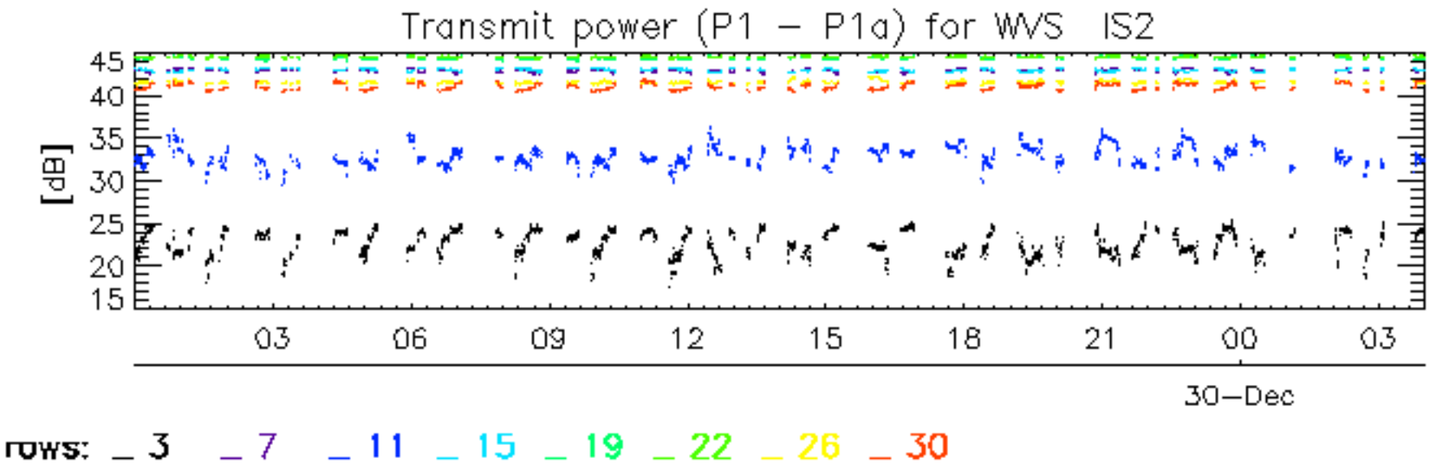

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
−20
25
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
50
40
30
20
10
0
−10
03
06
09
12
15
18
21
00
03
30−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
25
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
03
30–Dec
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.