PRELIMINARY REPORT OF 041221

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

last update on Tue Dec 21 11:00:03 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 2004-12-20 00:00:00 to 2004-12-21 11:00:03

PDHS-K					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	32	49	4	2	5
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	32	49	4	2	5
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	32	49	4	2	5
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	32	49	4	2	5

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	43	46	5	9	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	43	46	5	9	4
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	43	46	5	9	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	43	46	5	9	4

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	20041219 095344
H	20041220 092207

MSM in V/V polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
☒	☒
☒	☒

MSM in H/H polarisation

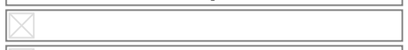
Pre-launch Reference	DDS-B (2003-06-12) reference
	
	
	
	

4 - Internal calibration Results

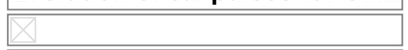
No anomalies observed.

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	-3.463127	0.029092	0.008322
7	P1	-3.111850	0.028004	0.067393
11	P1	-4.638624	0.045935	-0.047539
15	P1	-5.664577	0.036930	-0.029921
19	P1	-3.644307	0.005309	-0.038505
22	P1	-4.578285	0.016847	0.001747
26	P1	-4.933088	0.020117	-0.013429
30	P1	-7.105659	0.013865	-0.044383
3	P1	-15.956861	0.116110	0.053214
7	P1	-15.445317	0.251009	-0.362452
11	P1	-20.716980	0.513418	-0.147104
15	P1	-11.624862	0.091947	0.027404
19	P1	-14.141545	0.028875	-0.064493
22	P1	-16.119225	0.462636	0.104906
26	P1	-17.779787	0.260402	0.041338
30	P1	-17.904970	0.304595	0.064461

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.365345	0.085286	0.017371
7	P2	-22.594906	0.155883	0.032269
11	P2	-14.943485	0.159560	0.145121
15	P2	-7.169933	0.112177	0.013862
19	P2	-9.728822	0.172482	0.047212
22	P2	-17.193855	0.098866	0.054013
26	P2	-16.528622	0.110171	-0.004780

30	P2	-18.991877	0.082525	0.082556

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.211058	0.006934	-0.015648
7	P3	-8.211006	0.006935	-0.015995
11	P3	-8.211010	0.006935	-0.015987
15	P3	-8.211024	0.006934	-0.015917
19	P3	-8.211061	0.006933	-0.015693
22	P3	-8.211061	0.006933	-0.015690
26	P3	-8.211052	0.006933	-0.015720
30	P3	-8.211116	0.006919	-0.016302

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	-2.843935	0.112298	-0.061197
7	P1	-2.978153	0.064914	-0.015802
11	P1	-3.940403	0.049362	-0.044616
15	P1	-3.518011	0.079112	-0.036484
19	P1	-3.601700	0.012849	-0.032981
22	P1	-5.612711	0.068686	-0.033456
26	P1	-6.503587	0.023402	-0.049458
30	P1	-6.299006	0.042122	-0.048977
3	P1	-10.663453	0.059757	-0.213758
7	P1	-10.106906	0.155677	-0.029599
11	P1	-12.411548	0.200832	-0.051826

15	P1	-11.726532	0.101105	0.007714
19	P1	-15.633128	0.049205	-0.036635
22	P1	-24.100626	2.148026	-0.144958
26	P1	-15.078988	0.389516	0.103505
30	P1	-20.146194	0.927405	0.095034

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.045845	0.035035	0.024607
7	P2	-22.638767	0.028924	0.080336
11	P2	-10.734080	0.033076	0.175373
15	P2	-5.063084	0.023637	-0.016743
19	P2	-6.967536	0.032862	-0.010589
22	P2	-7.321673	0.025667	0.039404
26	P2	-23.960289	0.018418	-0.022362
30	P2	-22.046673	0.018651	0.076573

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.044348	0.002620	-0.008698
7	P3	-8.044401	0.002627	-0.008483
11	P3	-8.044403	0.002616	-0.008318
15	P3	-8.044320	0.002624	-0.008775
19	P3	-8.044451	0.002626	-0.008521
22	P3	-8.044361	0.002629	-0.008682
26	P3	-8.044476	0.002629	-0.008654
30	P3	-8.044333	0.002610	-0.008652

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	0.000441259
	stdev	2.41864e-07
MEAN Q	mean	0.000501510
	stdev	2.54661e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.125667
	stdev	0.00100344
STDEV Q	mean	0.125905
	stdev	0.00101259

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

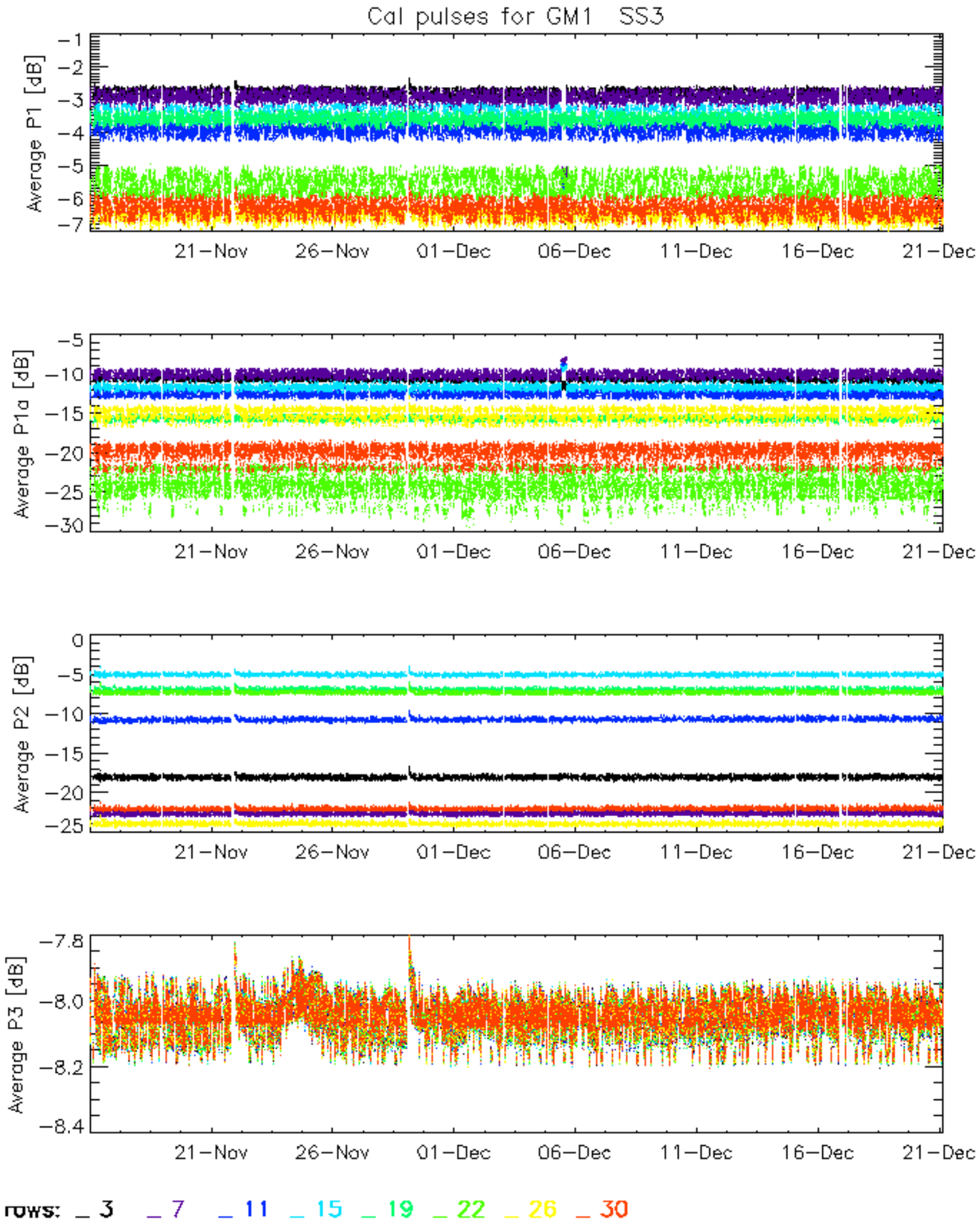
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

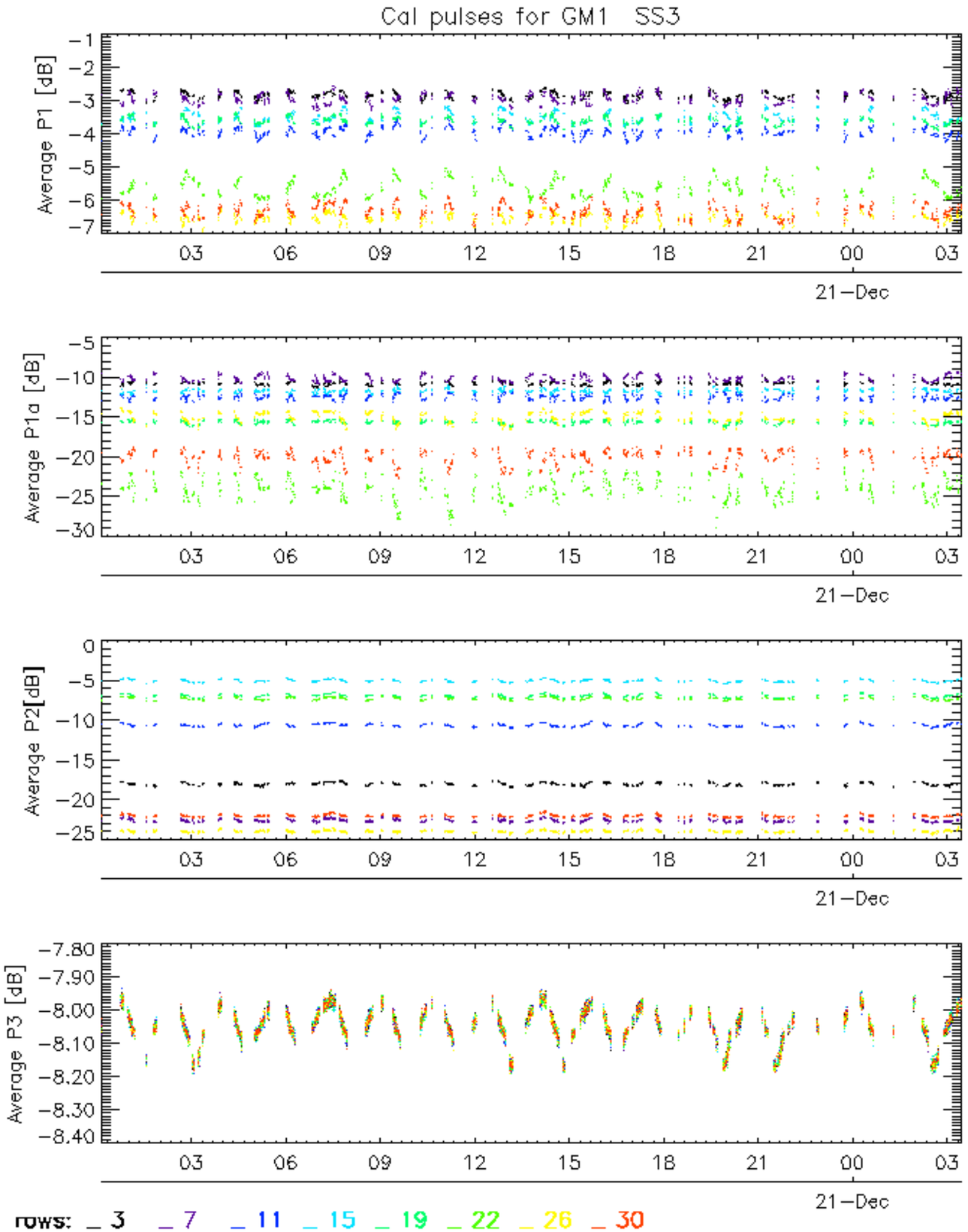
6.5 - Absolute Doppler for GM1

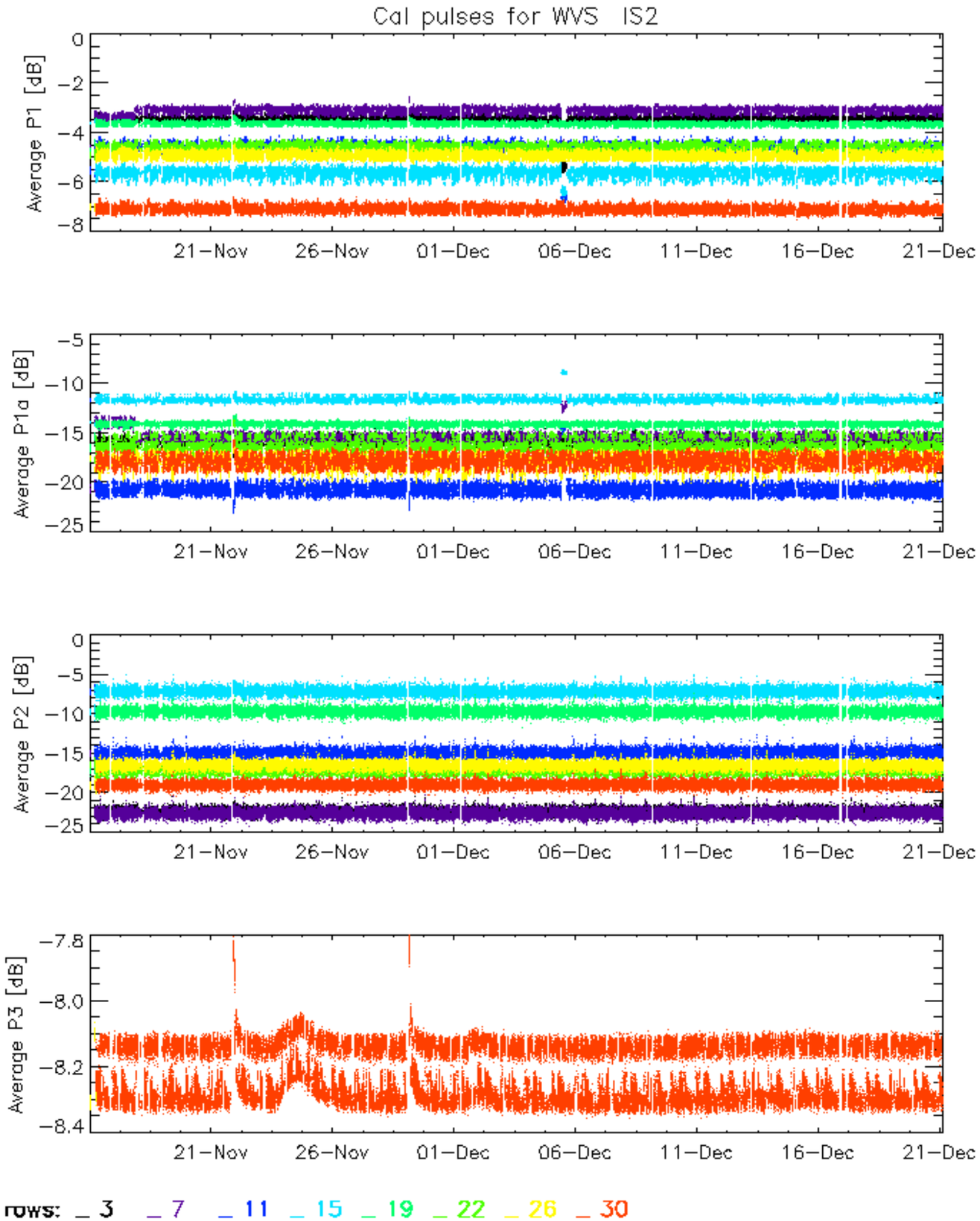
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

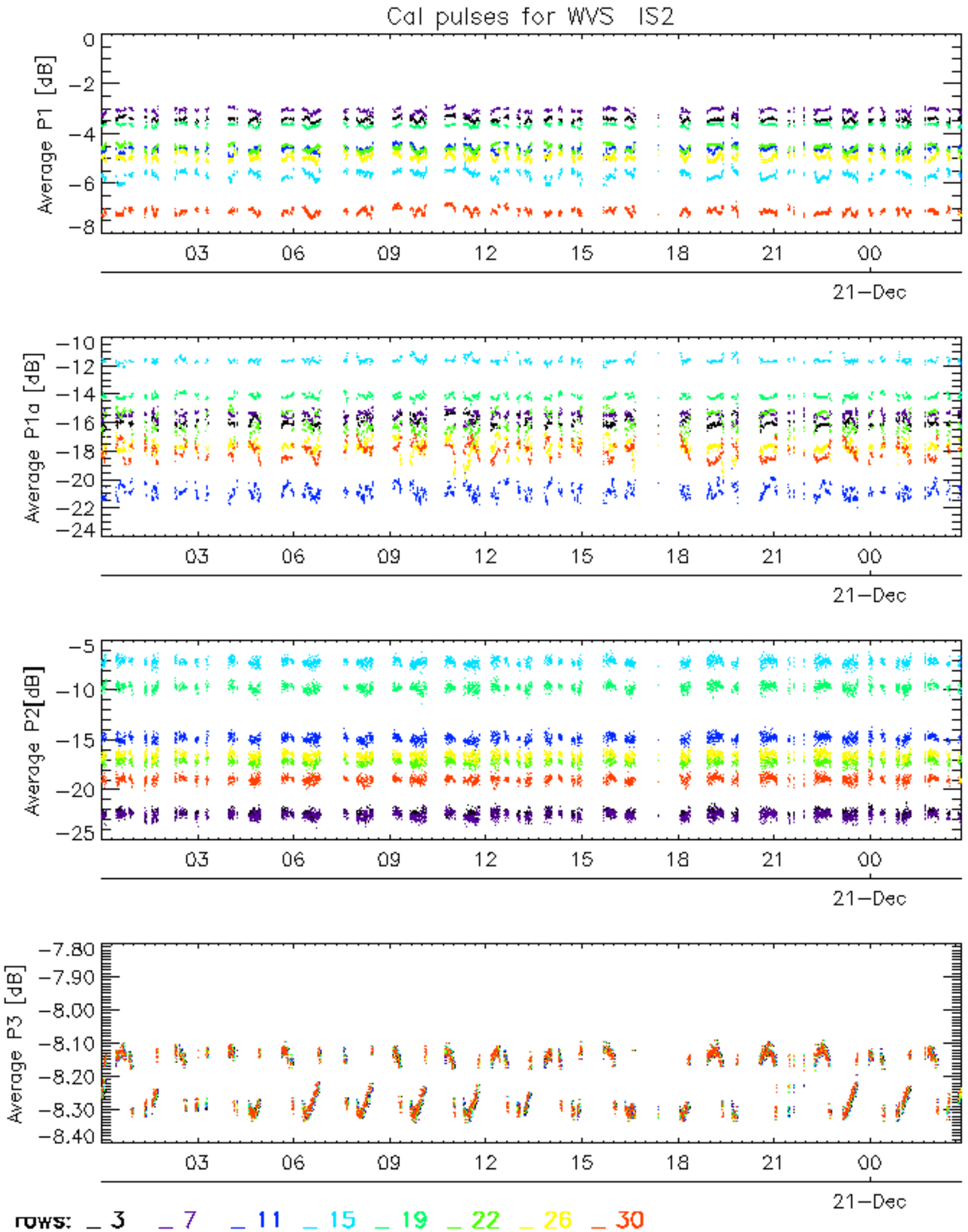
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

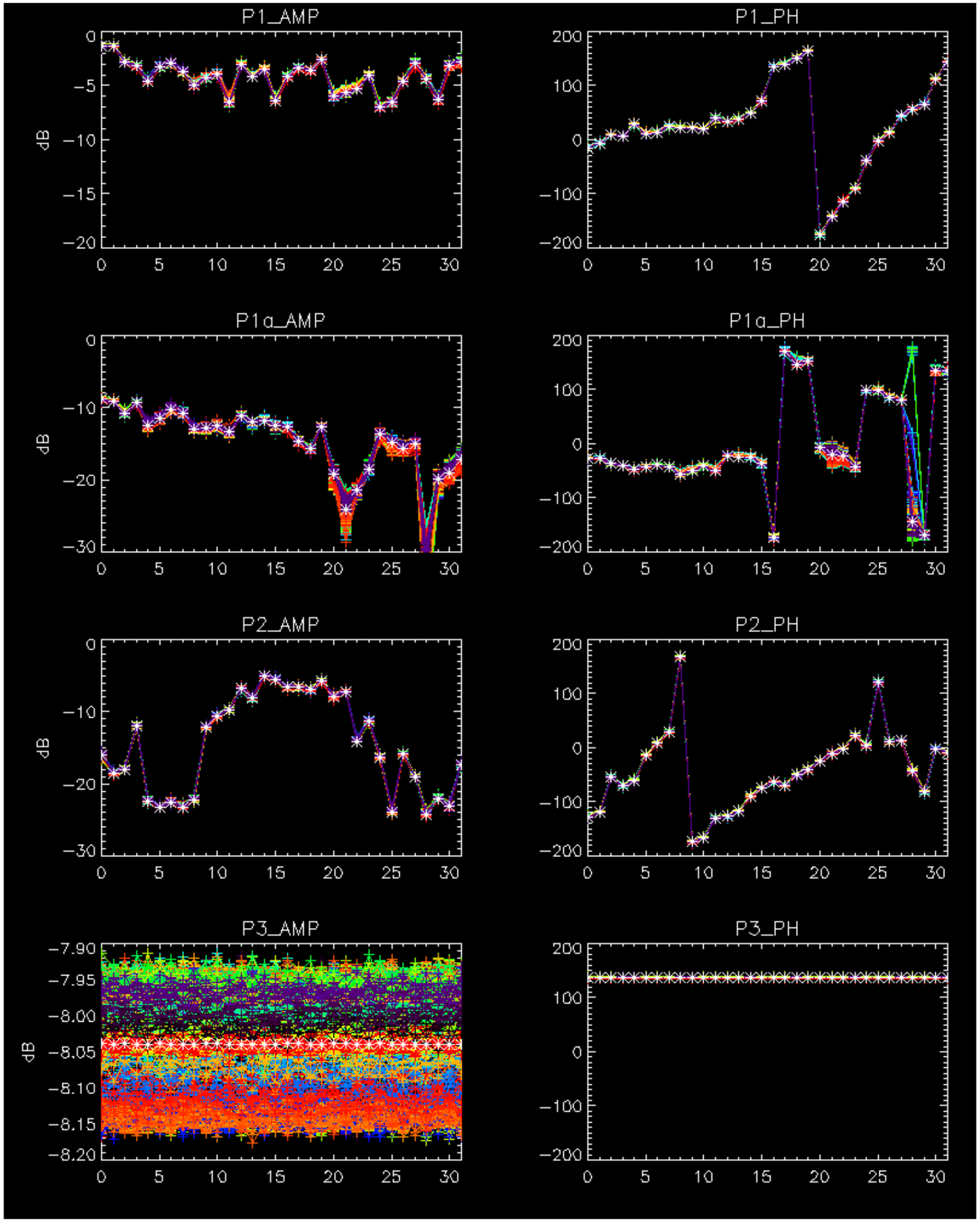

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
−30
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
Average P2 [dB]
0
−5
−10
−15
−20
−25
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

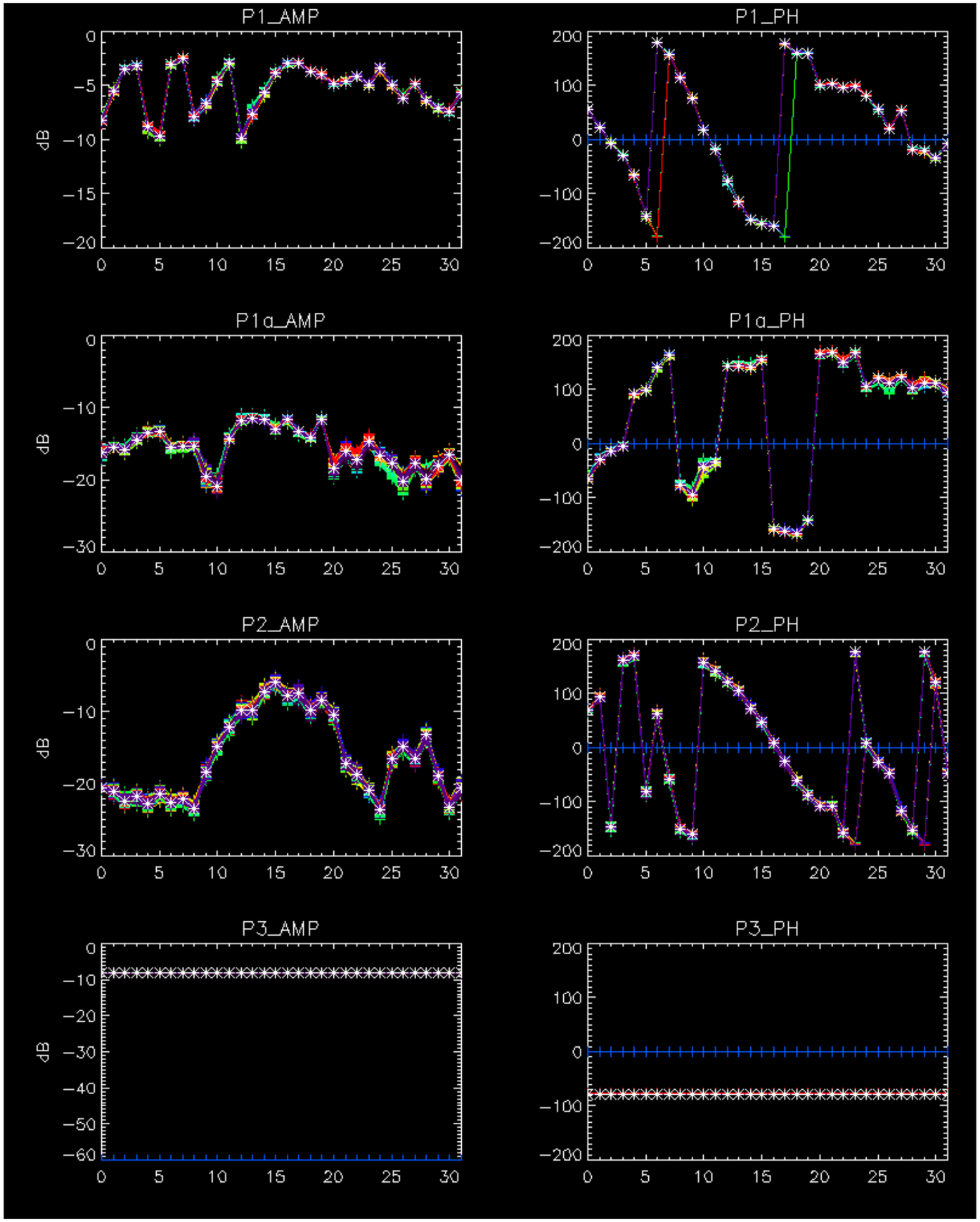

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
21−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2[dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−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
21−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

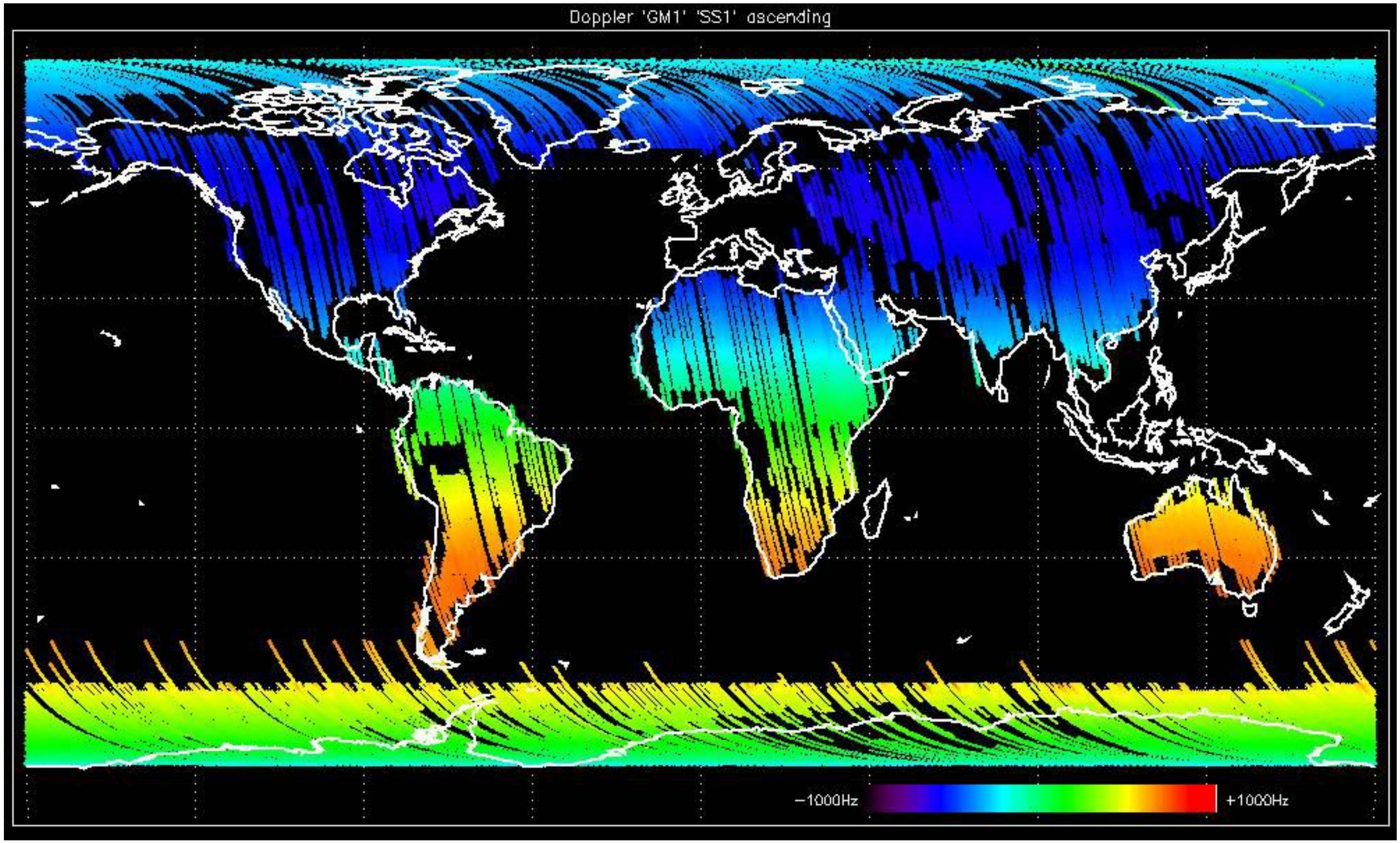
No anomalies observed.

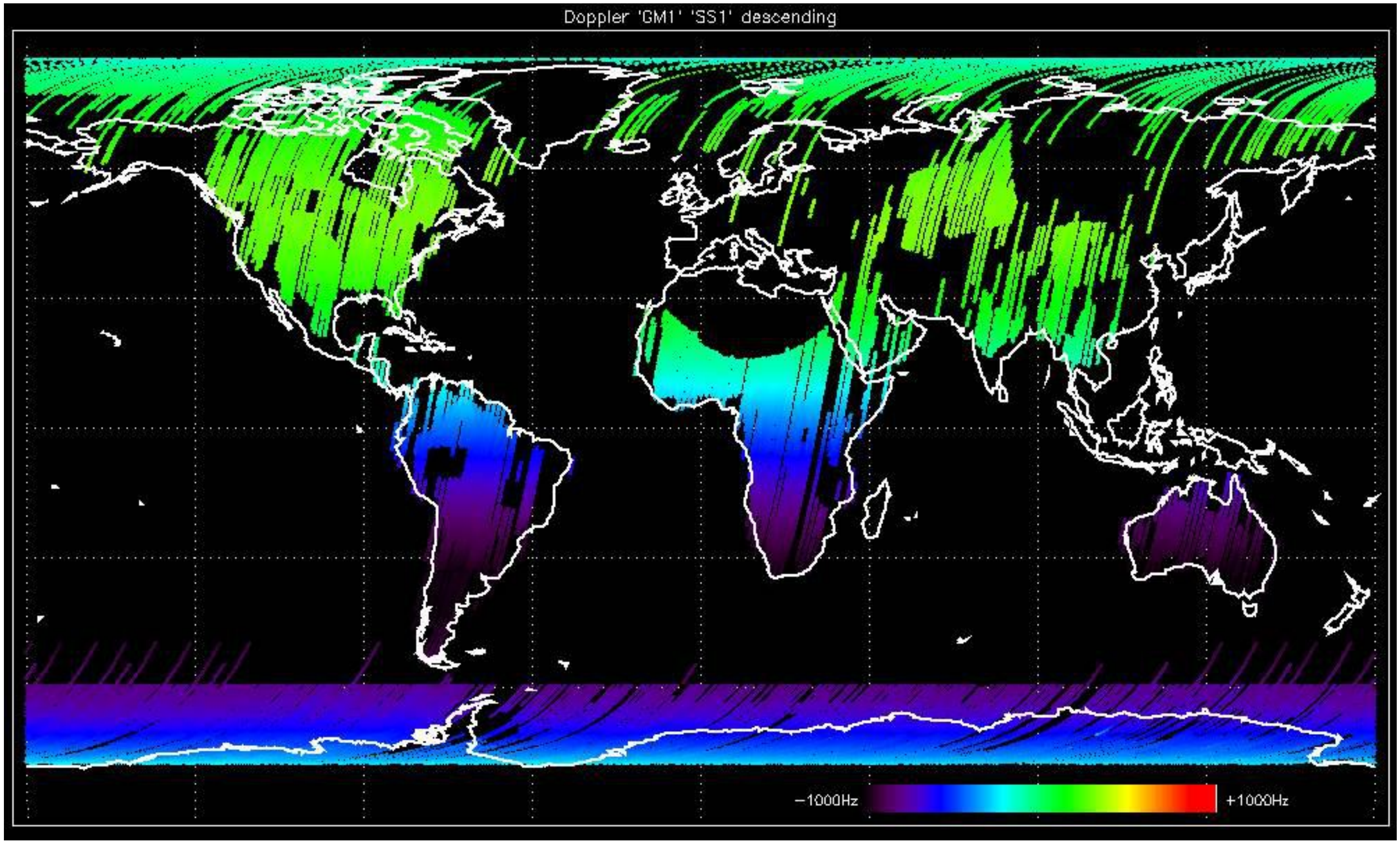

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.90
−7.95
−8.00
−8.05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

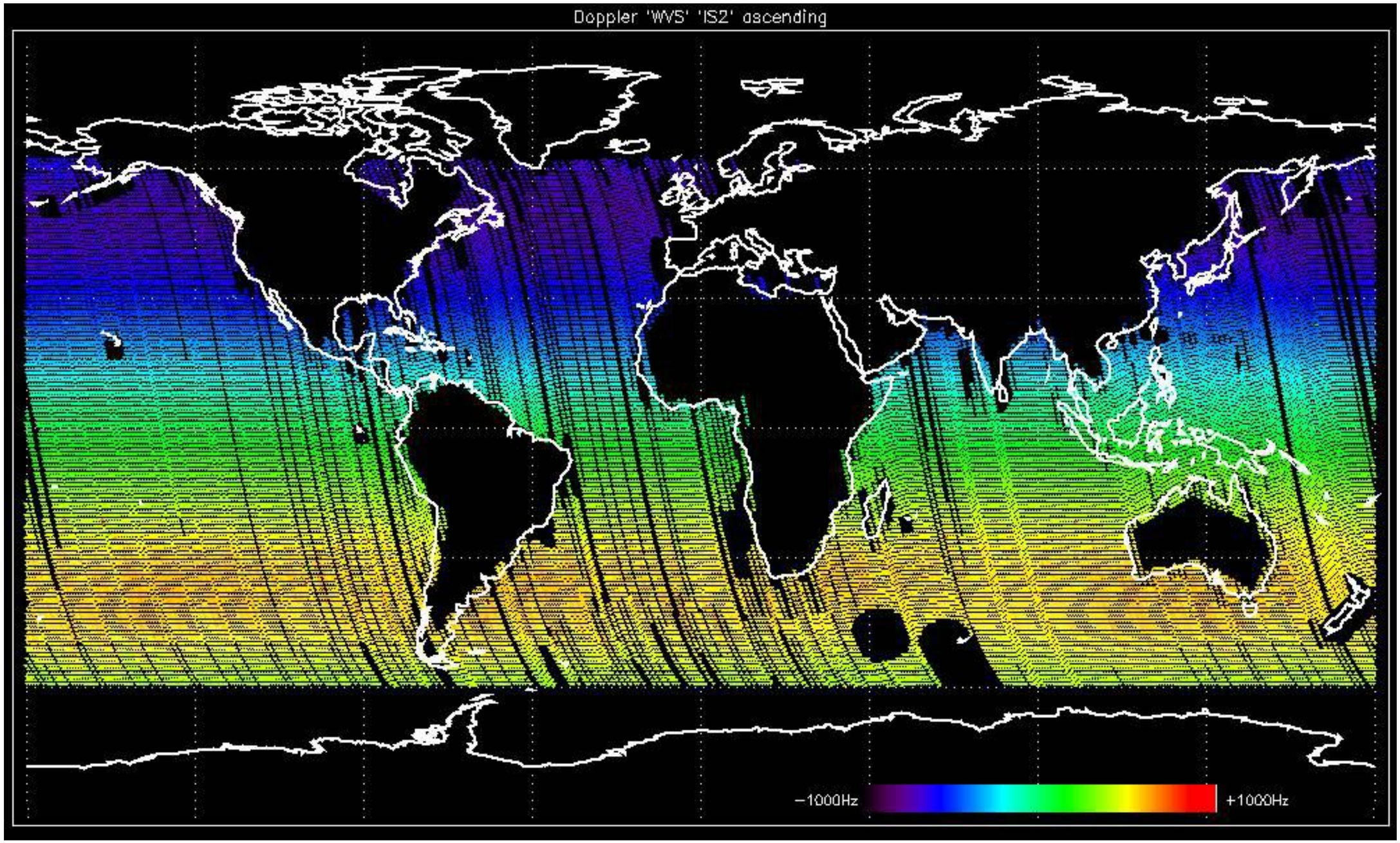

P1_AMP
P1_PH
P1a_AMP
P1a_PH
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

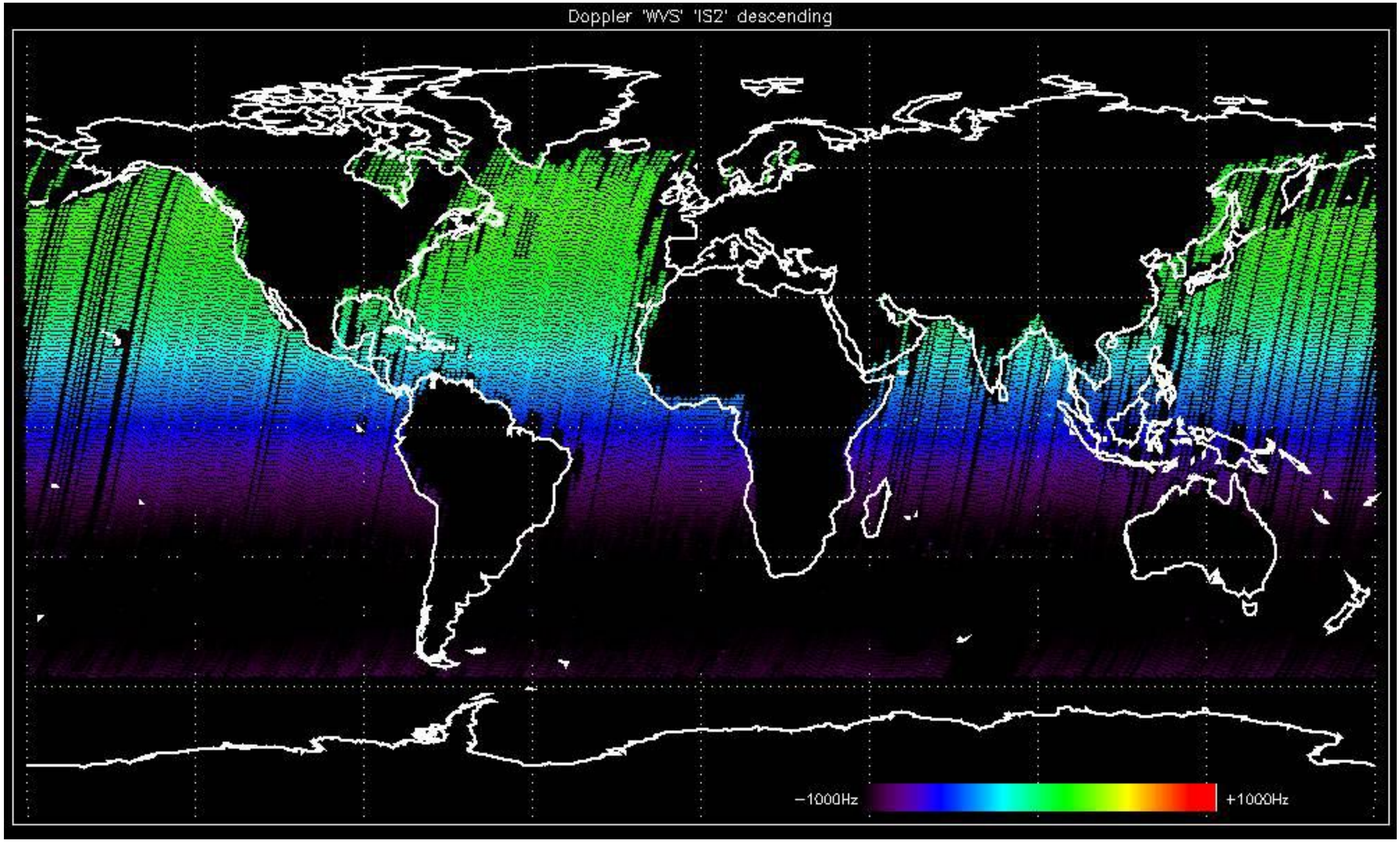
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

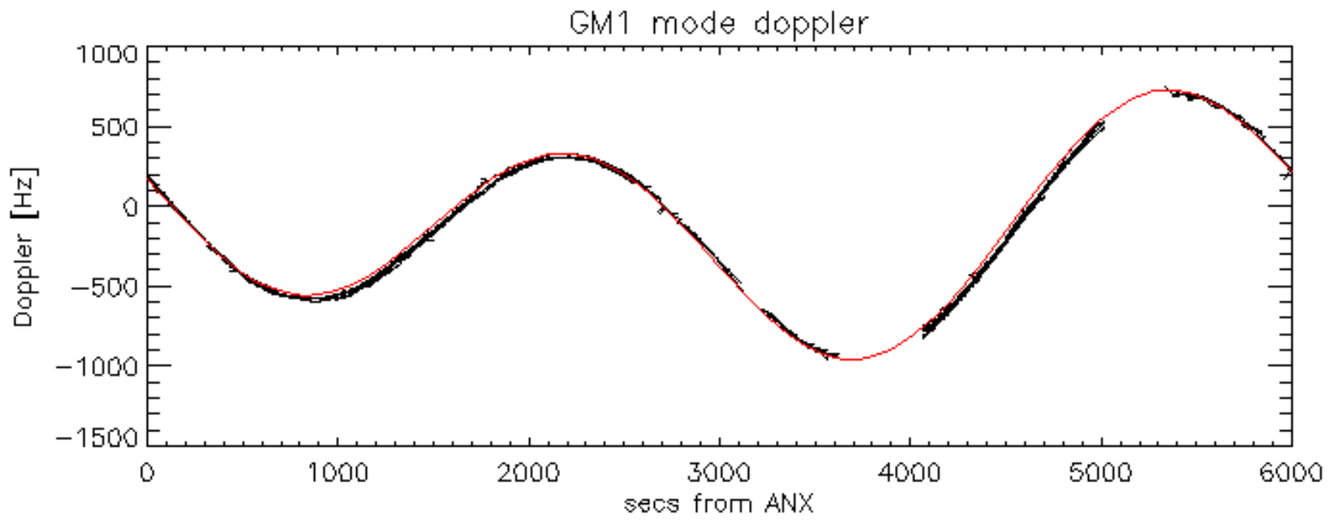
Preliminary report.The data is not yet controled

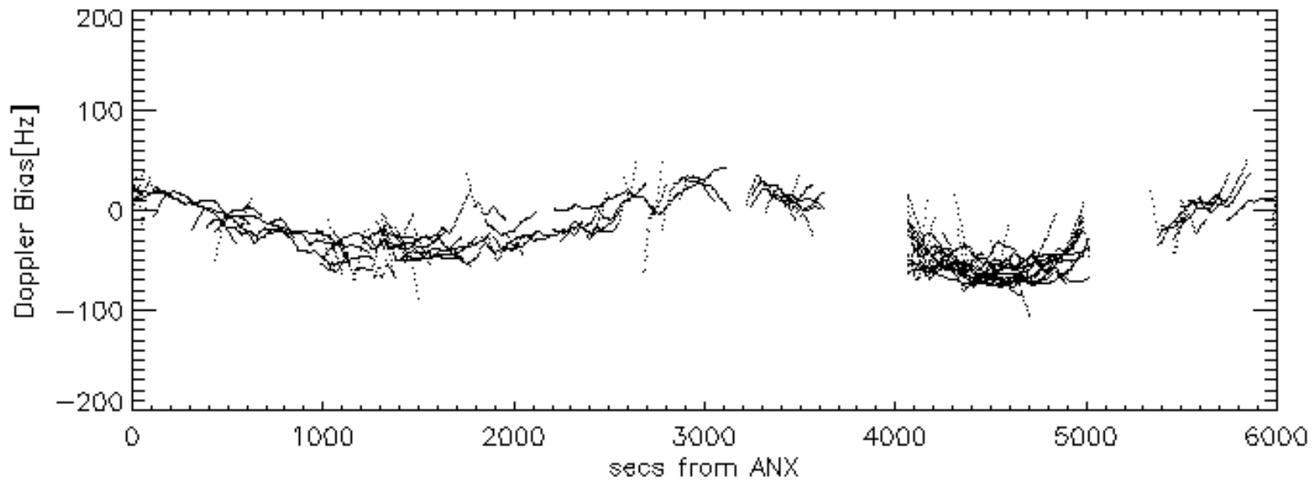

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

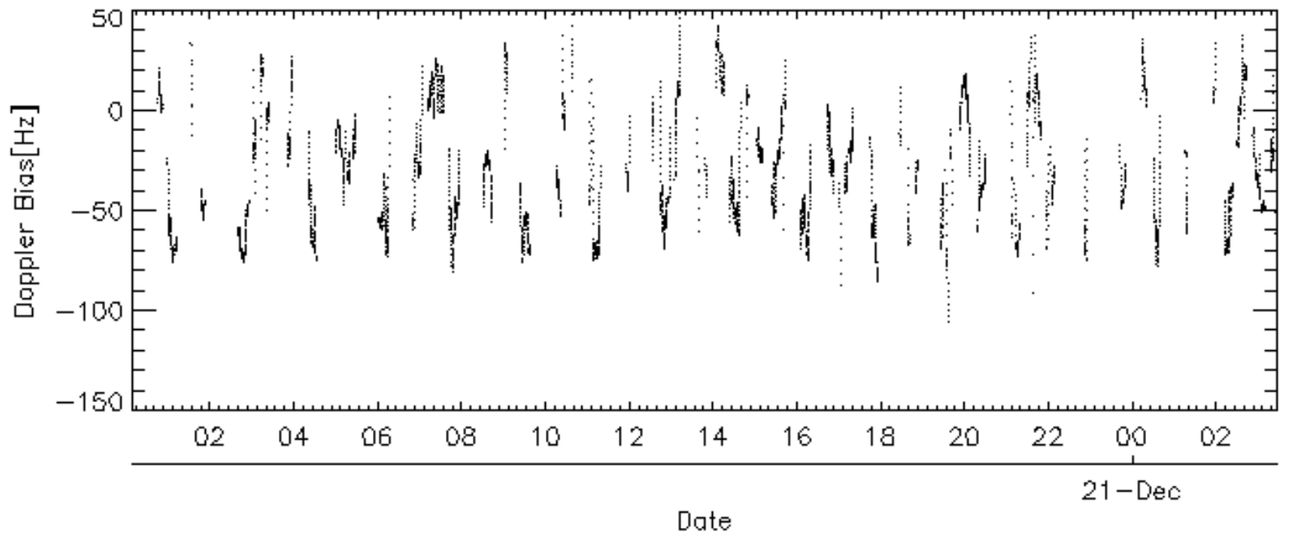

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

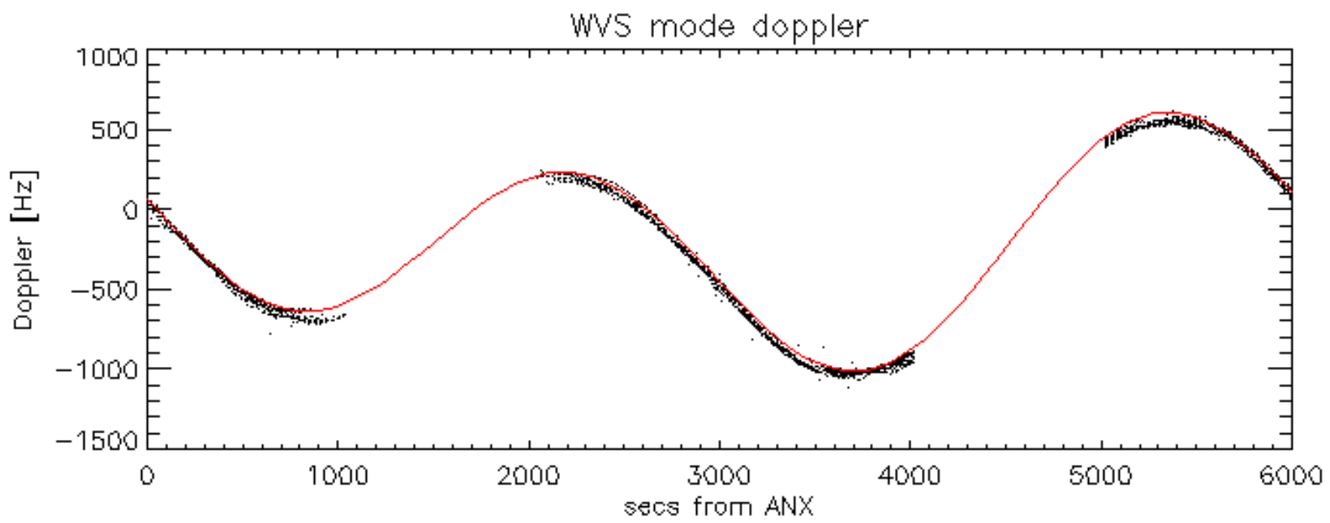

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

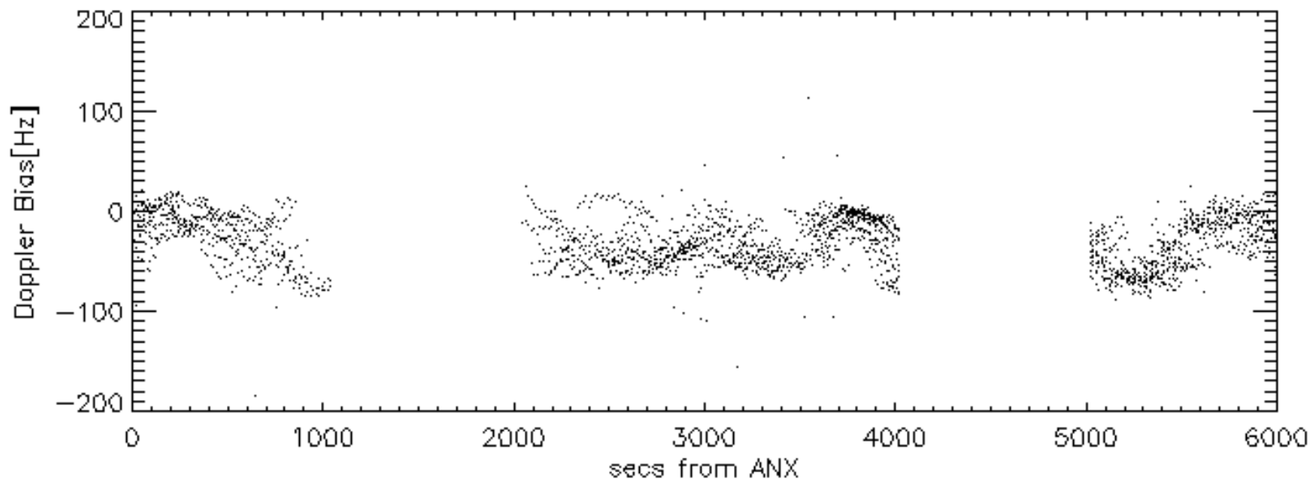

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

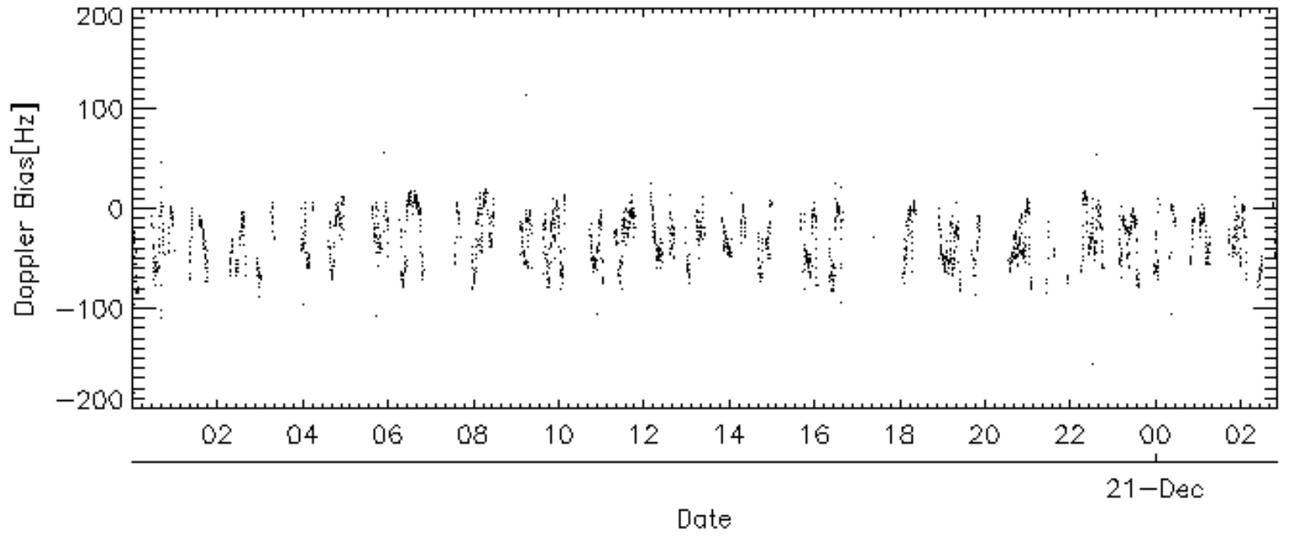

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

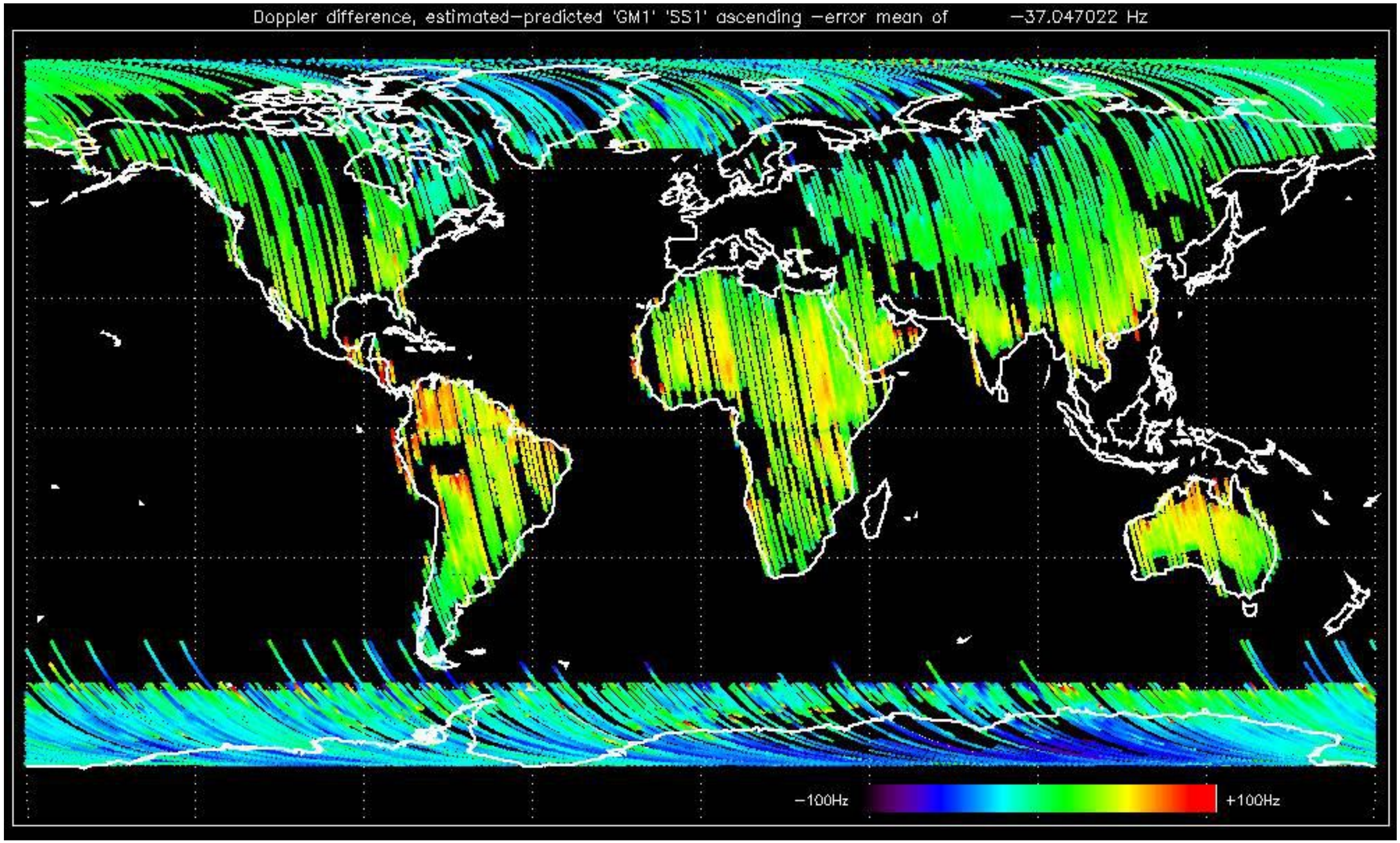

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

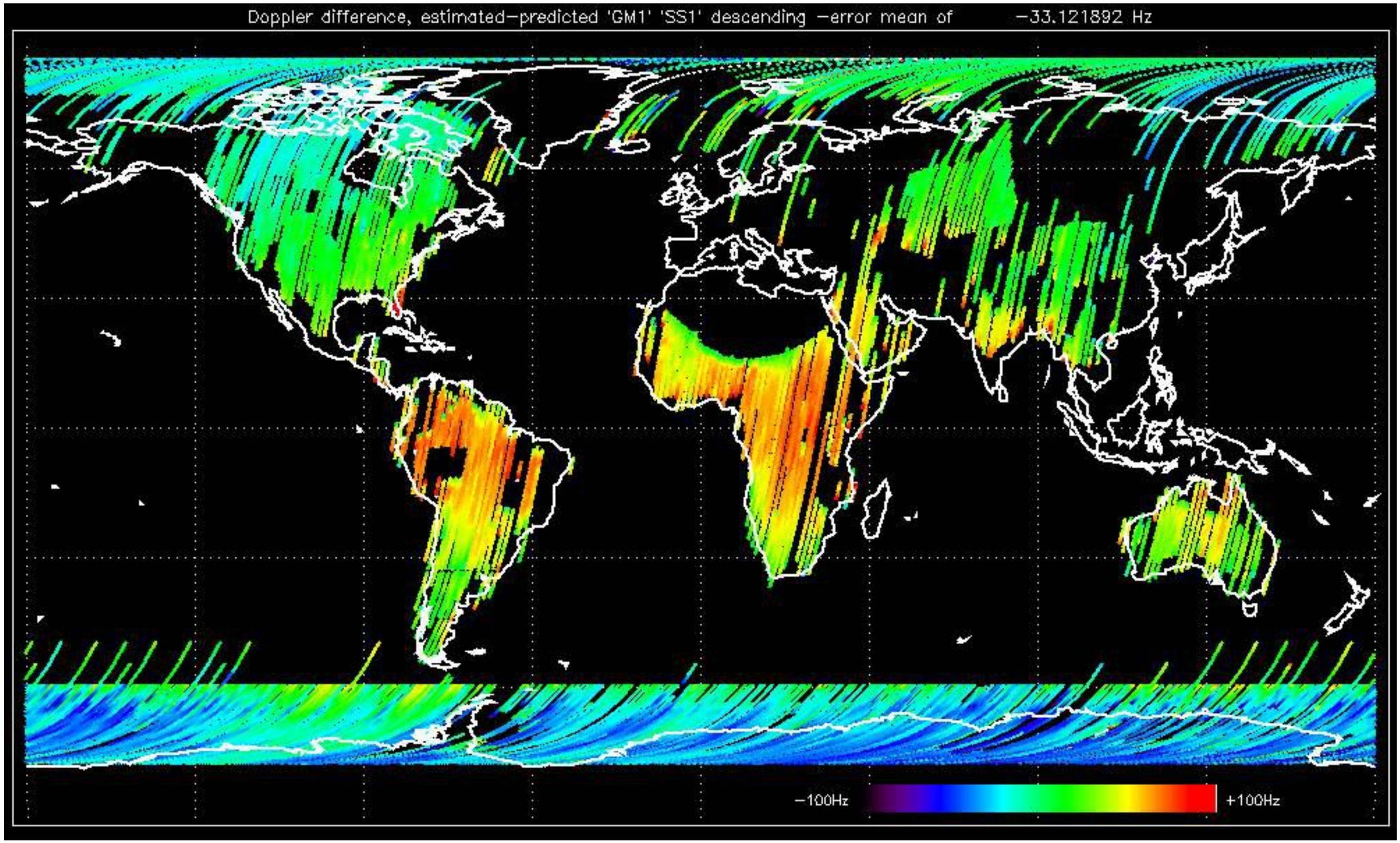

Doppler Bias[Hz]
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
21−Dec
Date

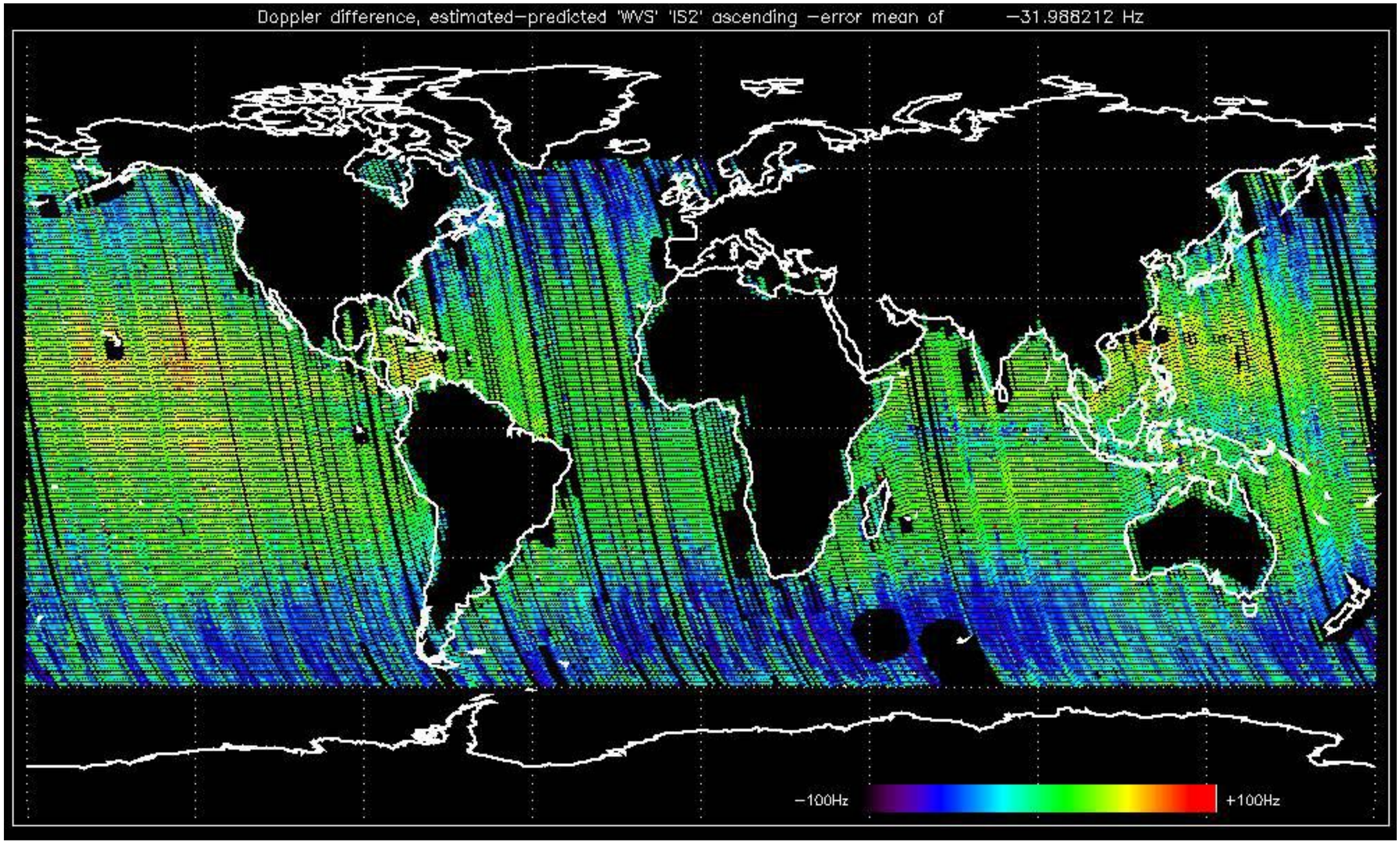

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

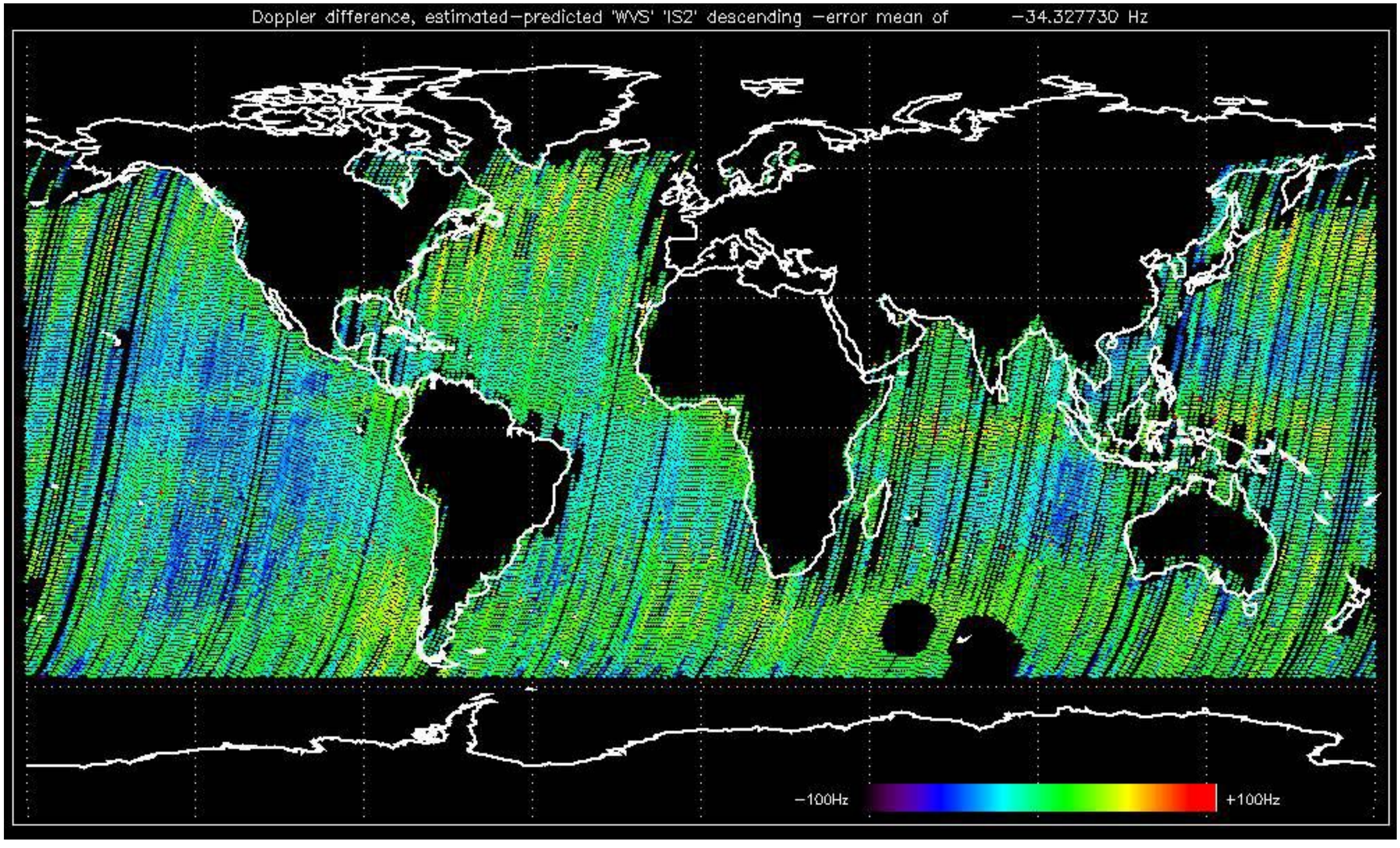

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −37.047022 Hz
−100Hz
+100Hz

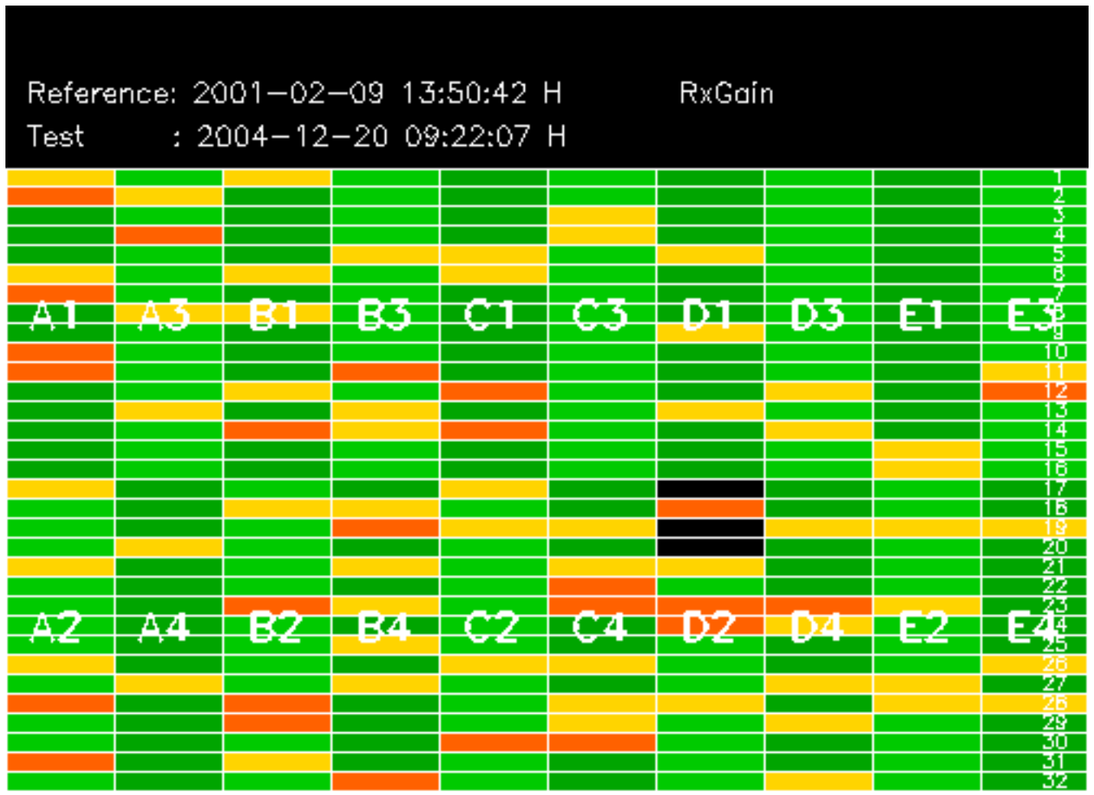

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -33.121892 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −31.988212 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −34.327730 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 : 2004-12-20 09:22:07 H
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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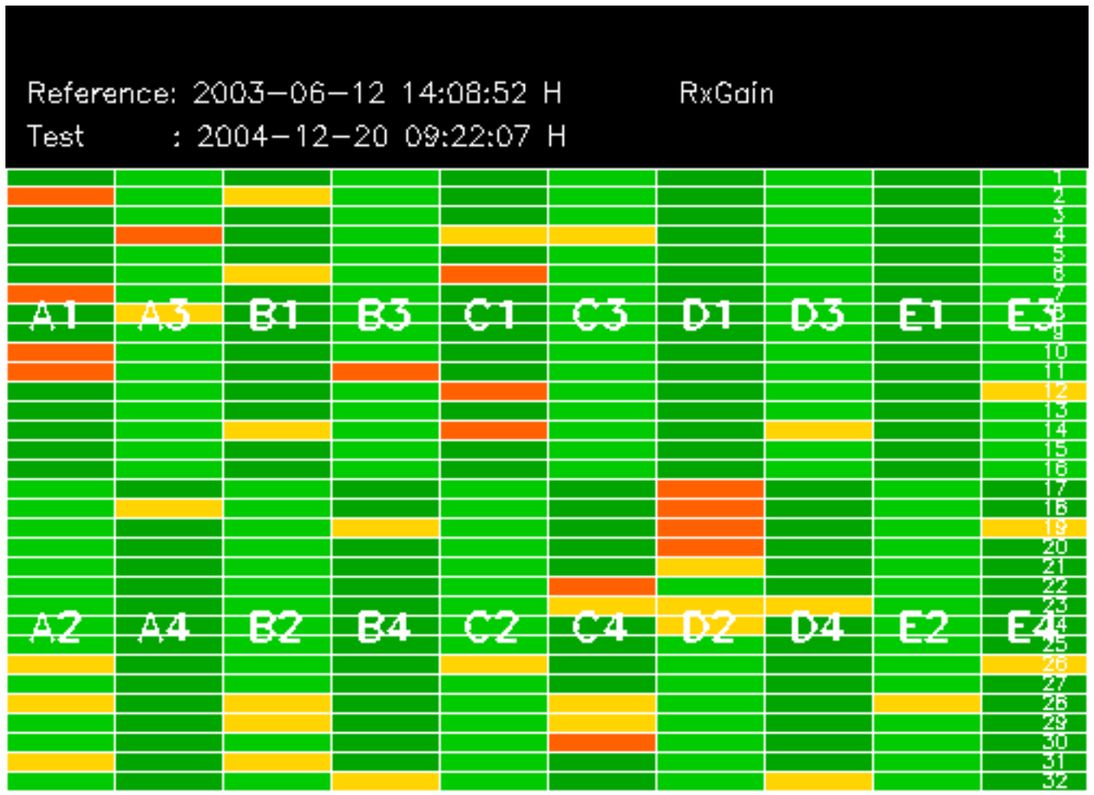
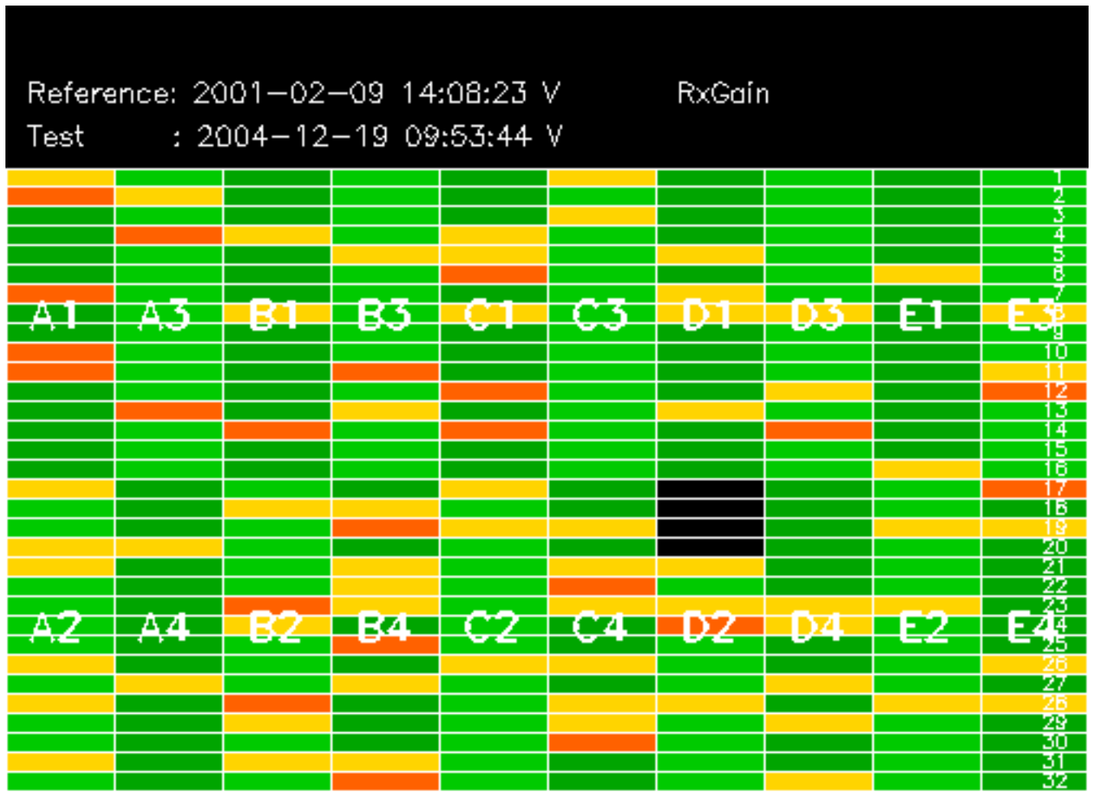

Reference: 2003-06-12 14:08:52 H
Test : 2004-12-20 09:22:07 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-12-19 09:53:44 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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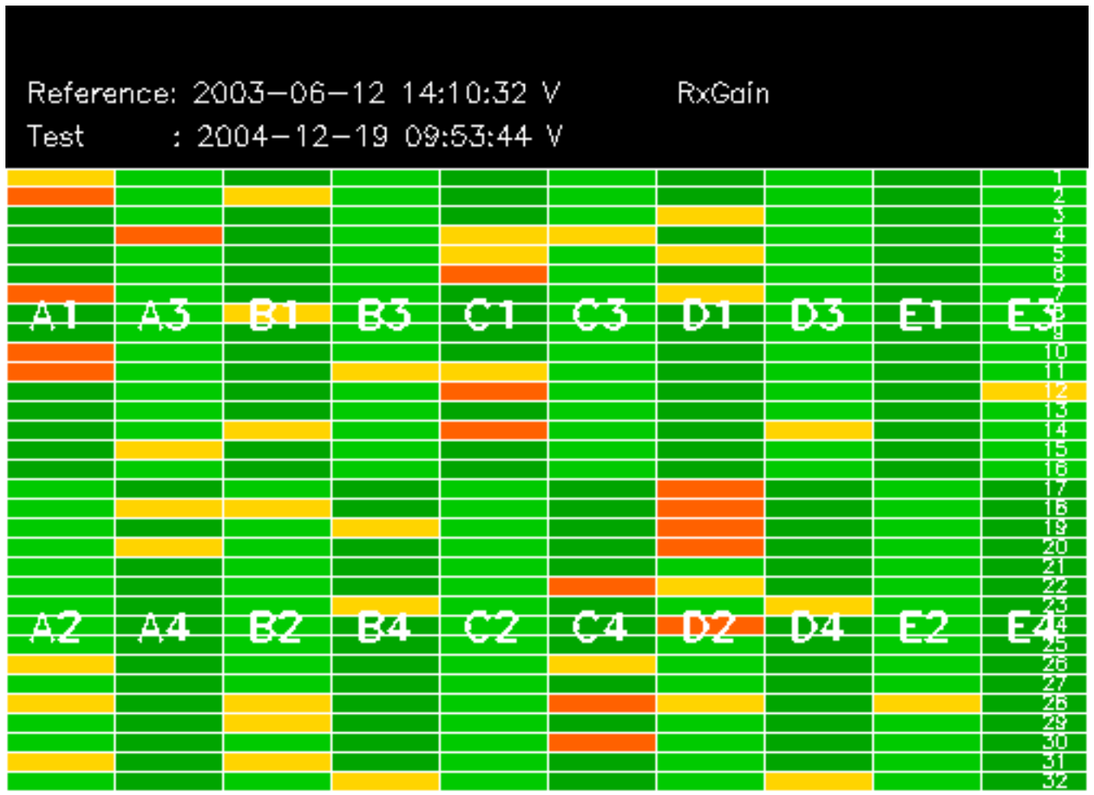
Reference: 2003-06-12 14:10:32 V
Test : 2004-12-19 09:53:44 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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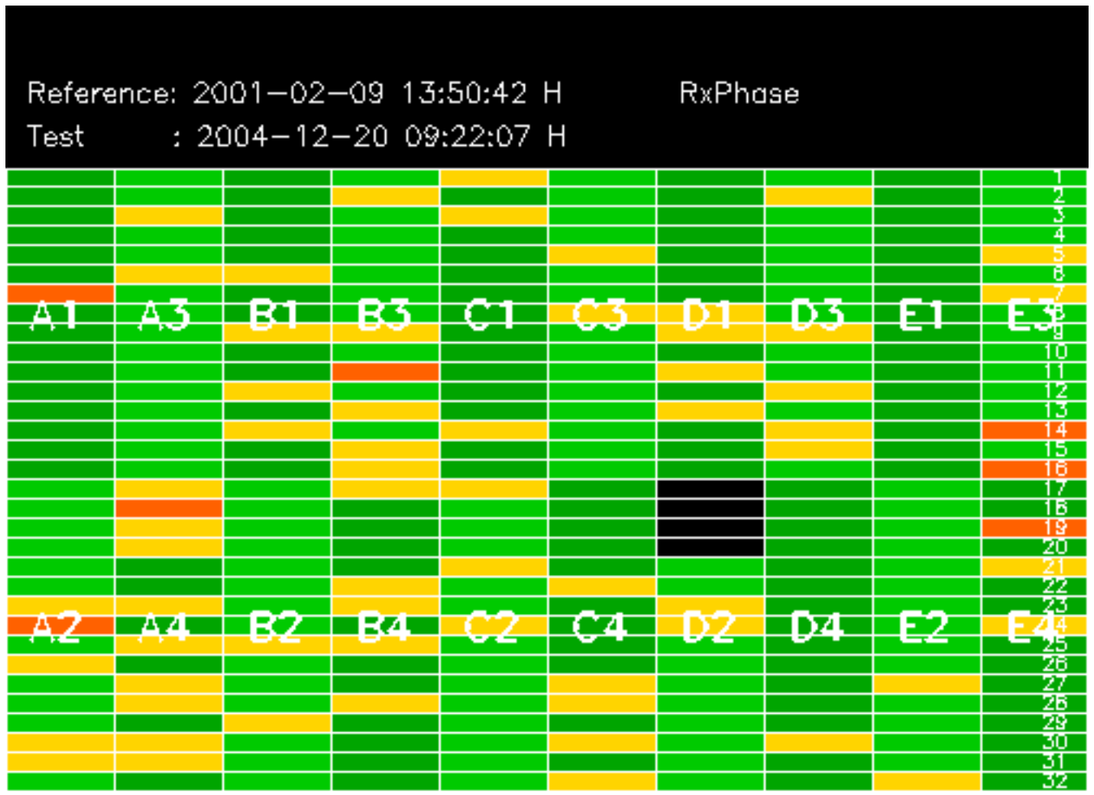
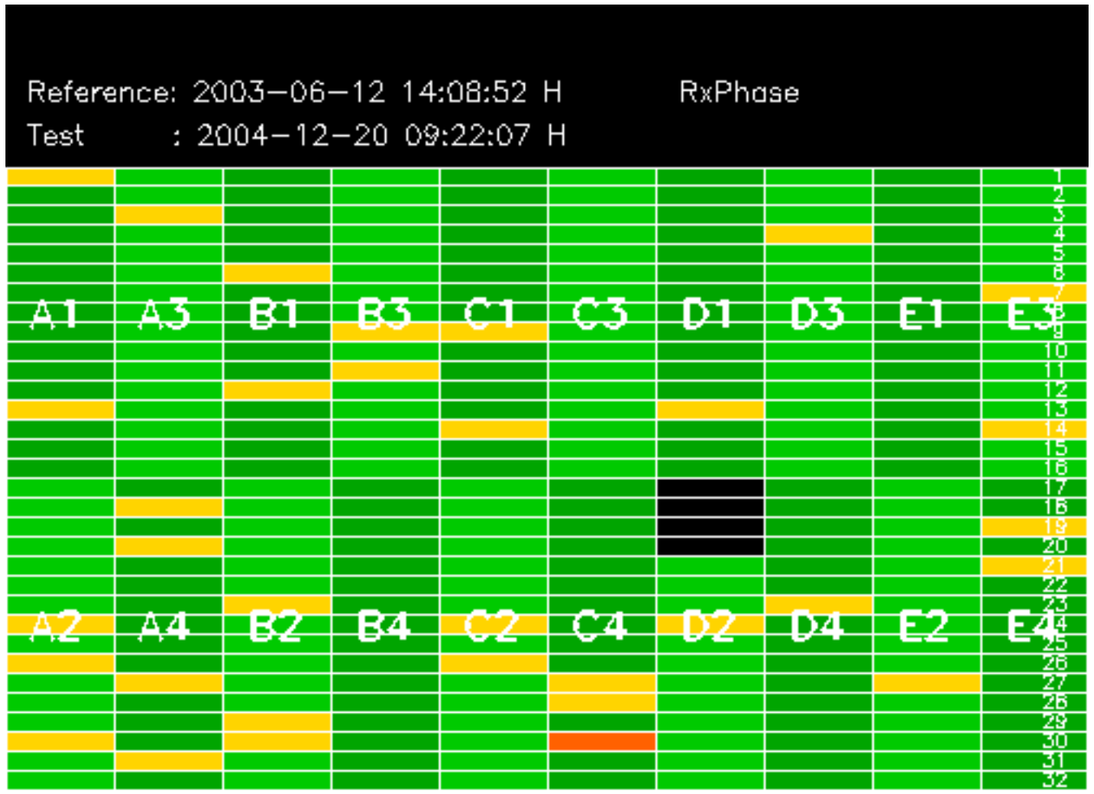
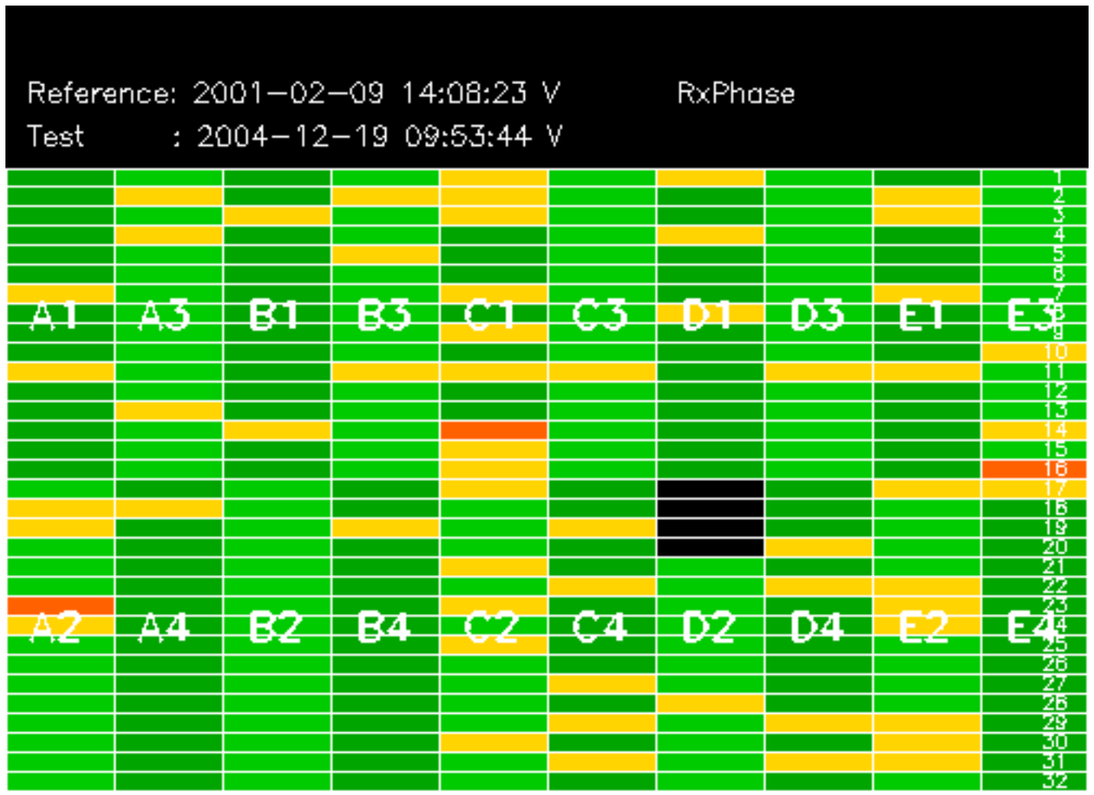

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-12-20 09:22:07 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-12-20 09:22:07 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-12-19 09:53:44 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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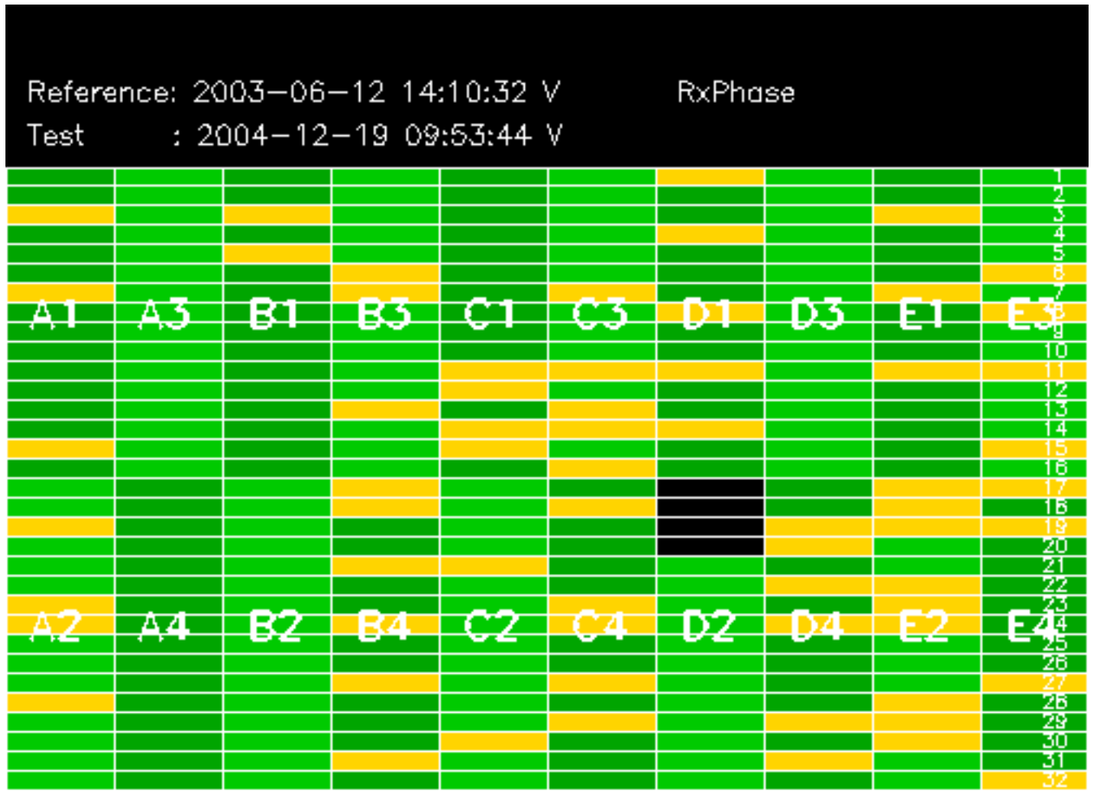
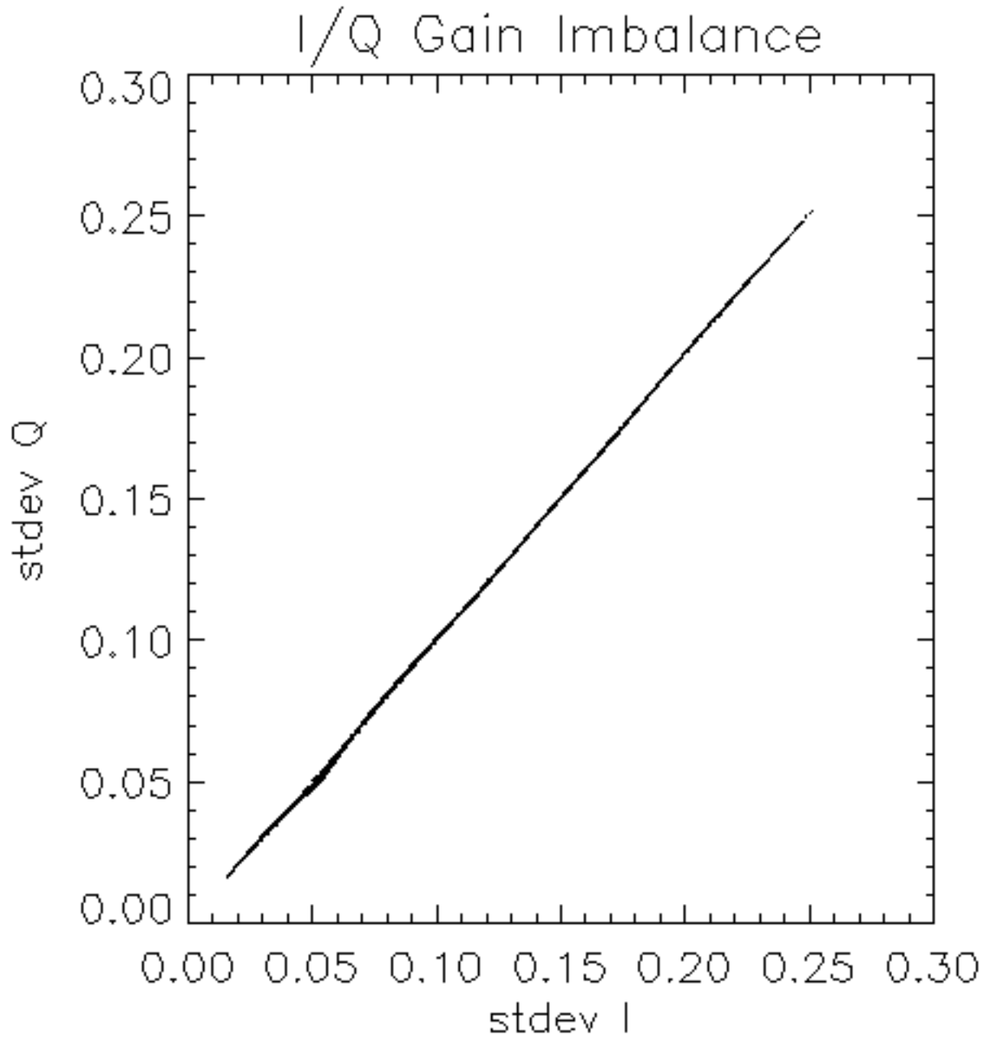
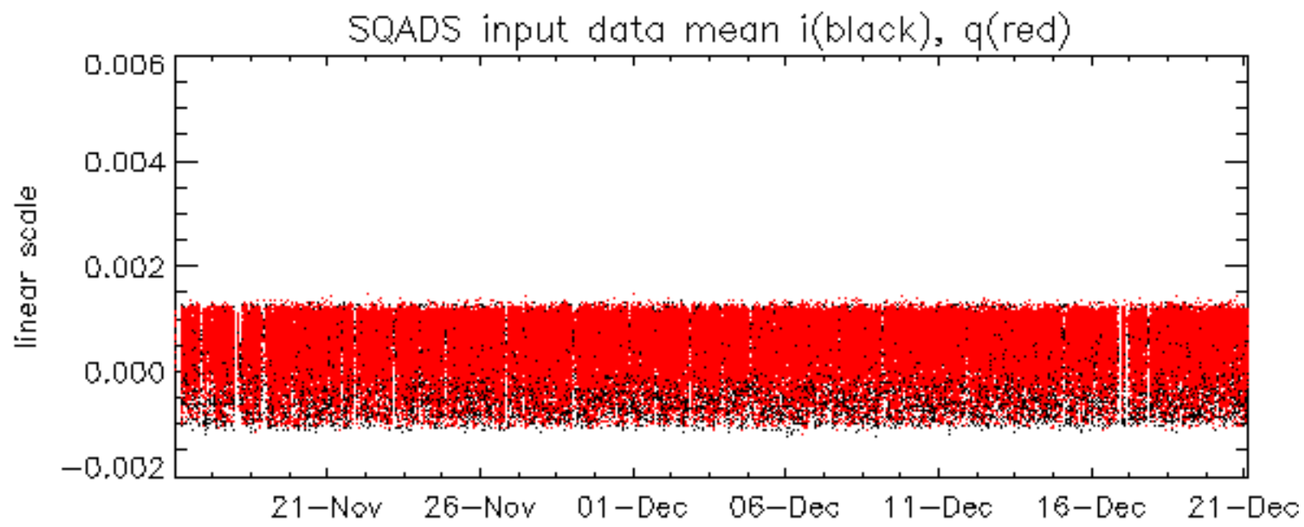
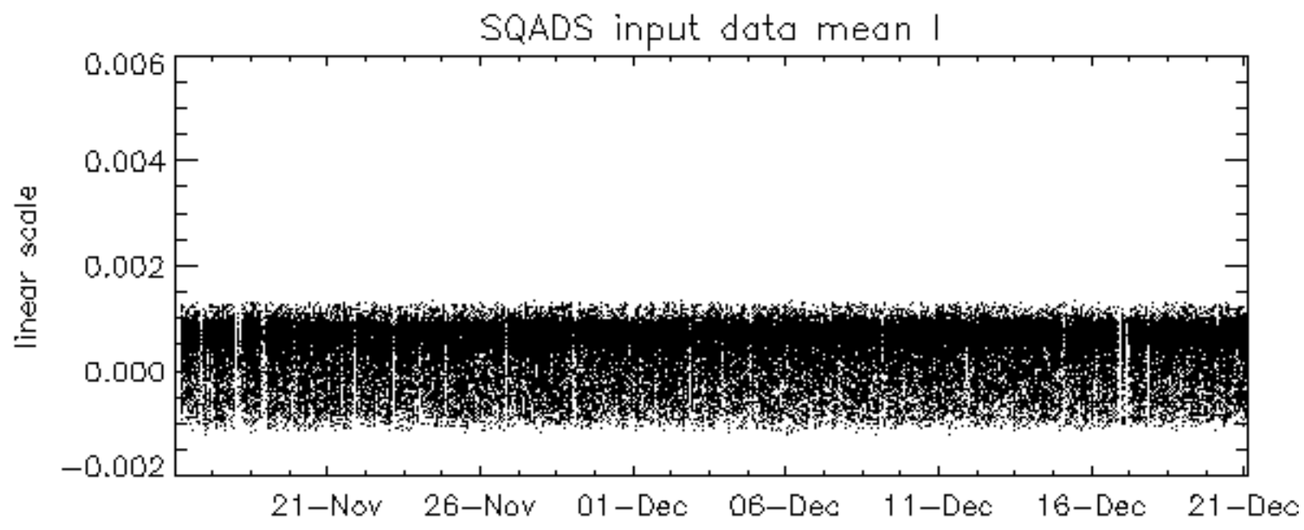
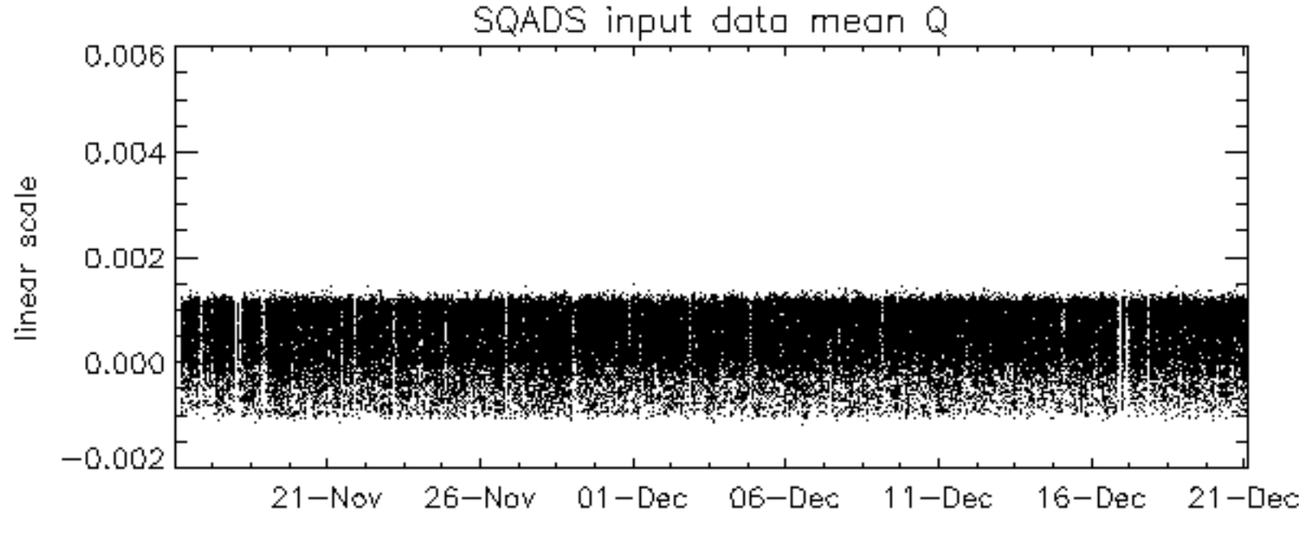
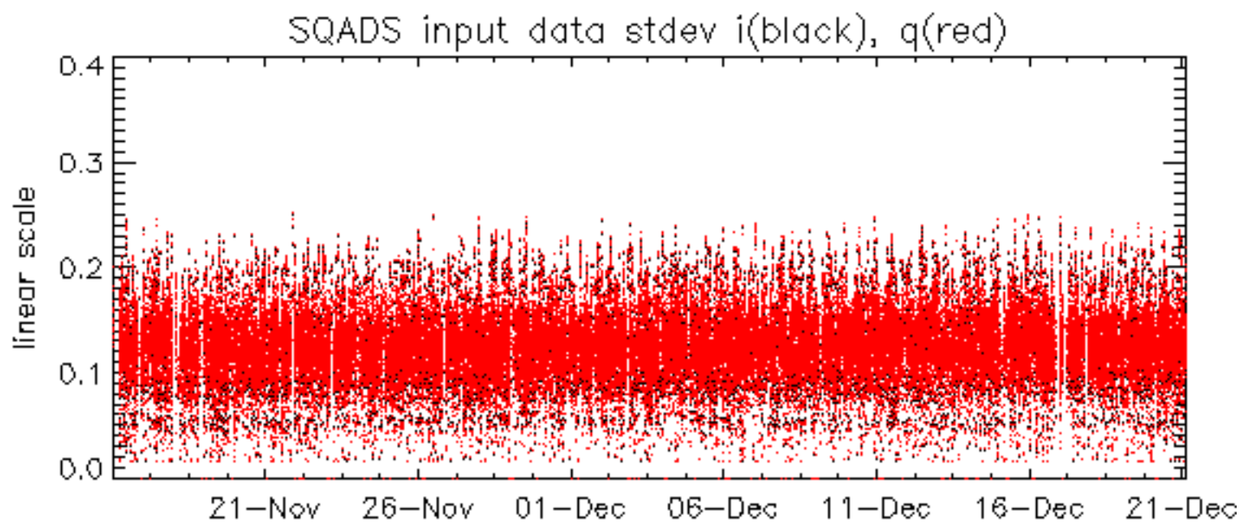

Reference: 2003-06-12 14:10:32 V
Test : 2004-12-19 09:53:44 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

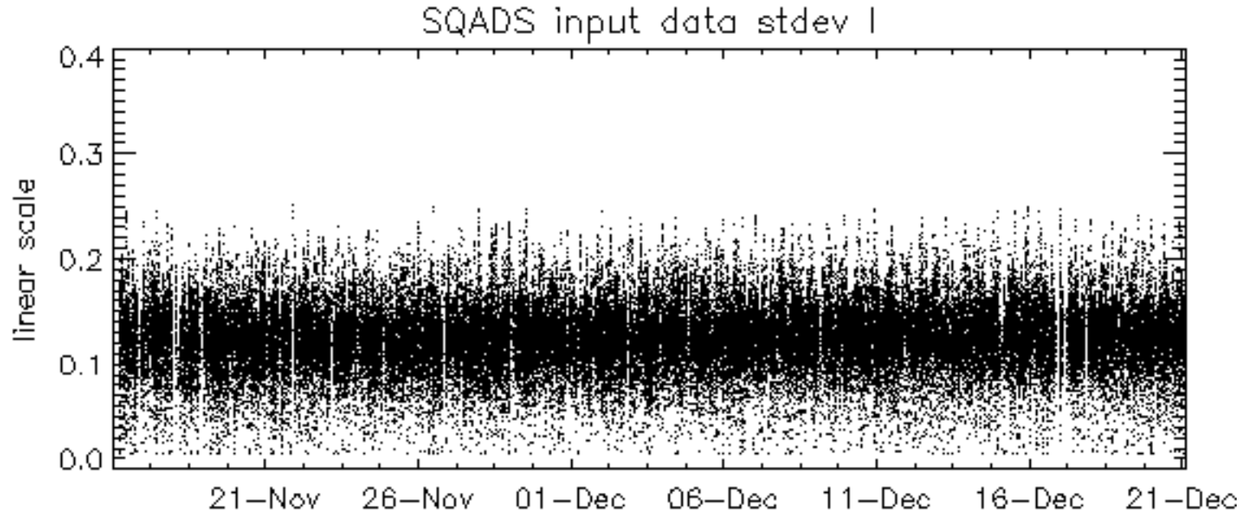

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

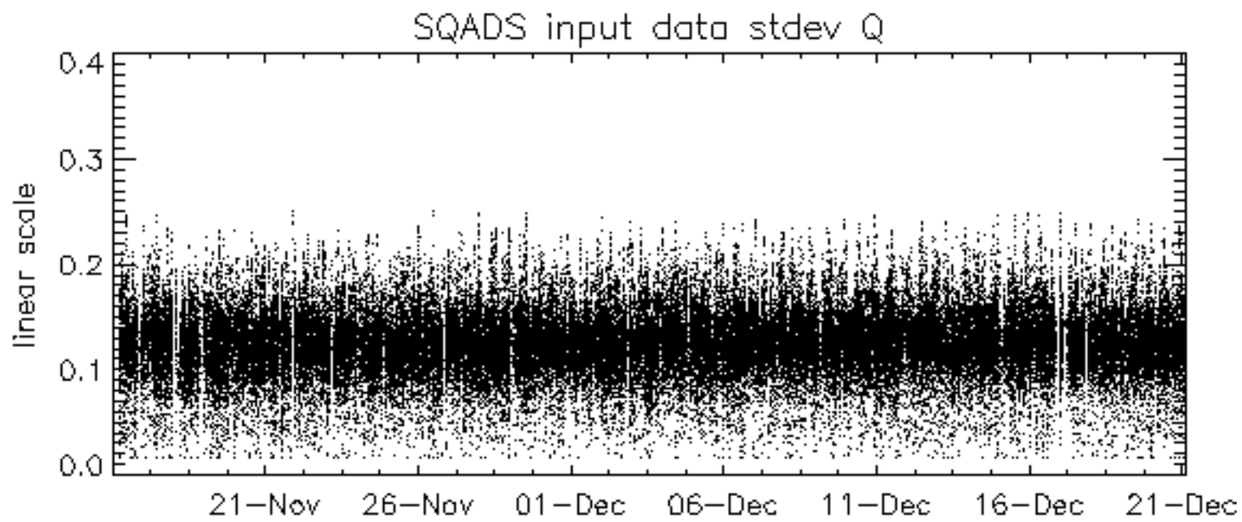

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec

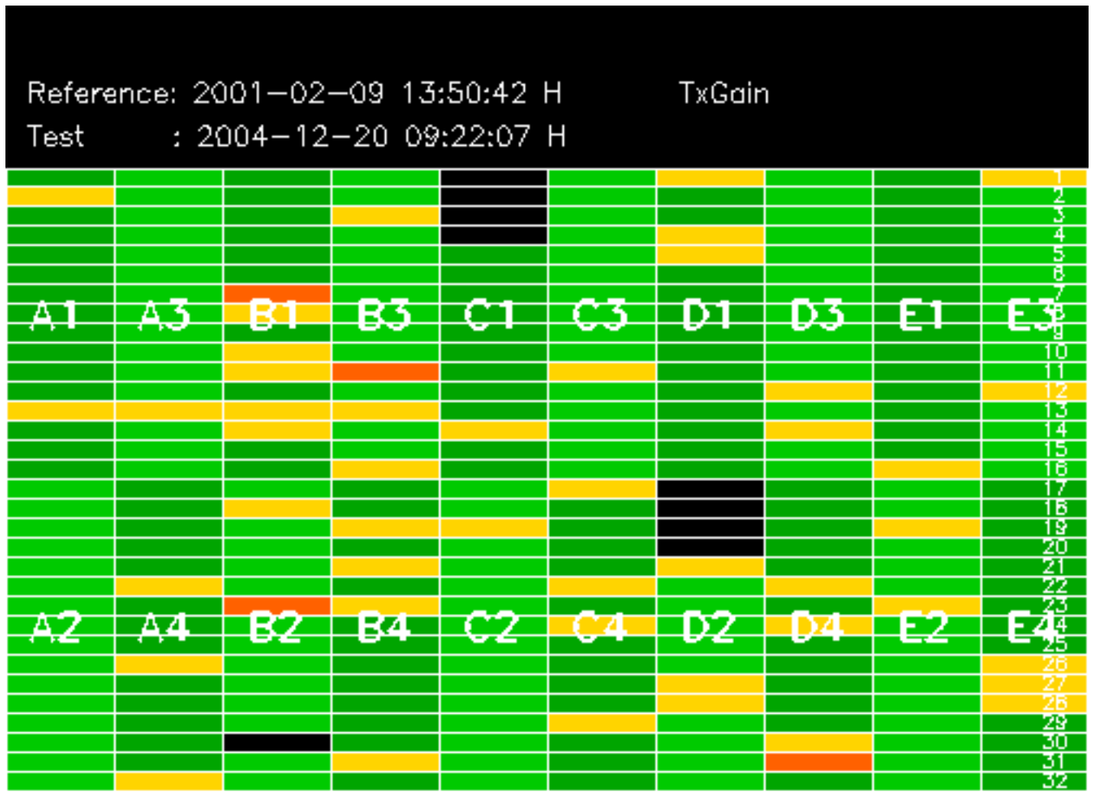

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec

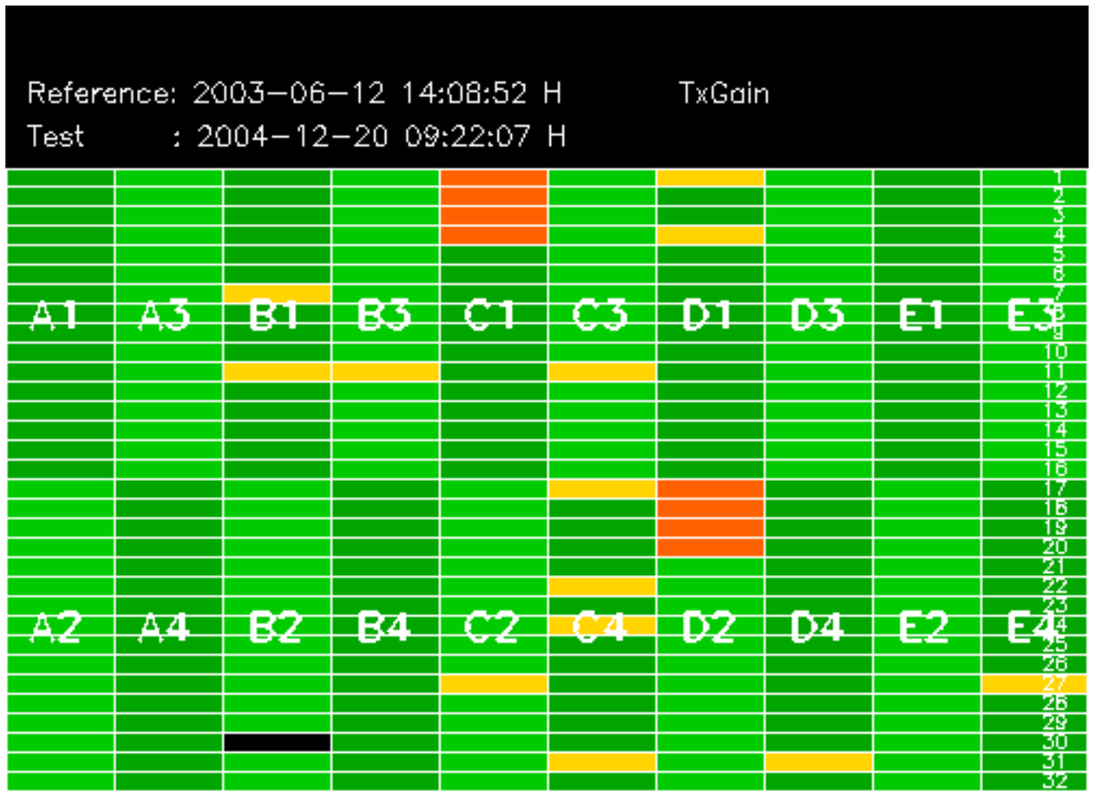

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2004-12-20 09:22:07 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 : 2004-12-20 09:22:07 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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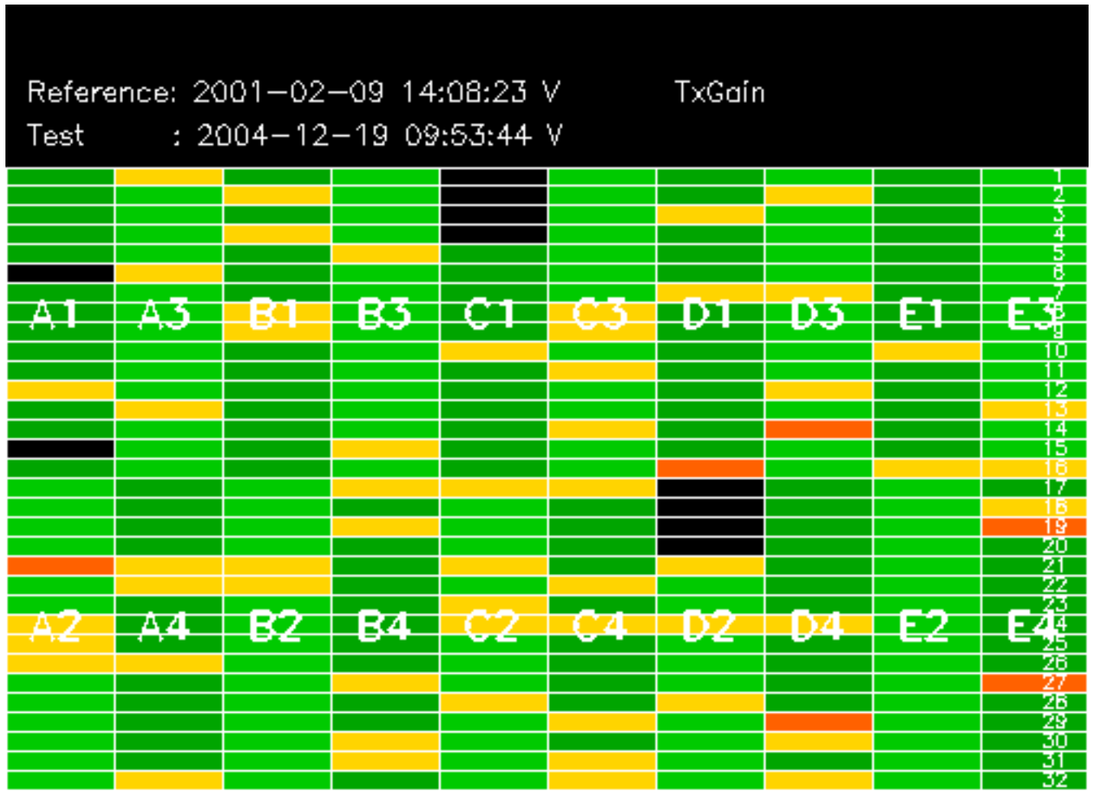
Reference: 2001-02-09 14:08:23 V
Test : 2004-12-19 09:53:44 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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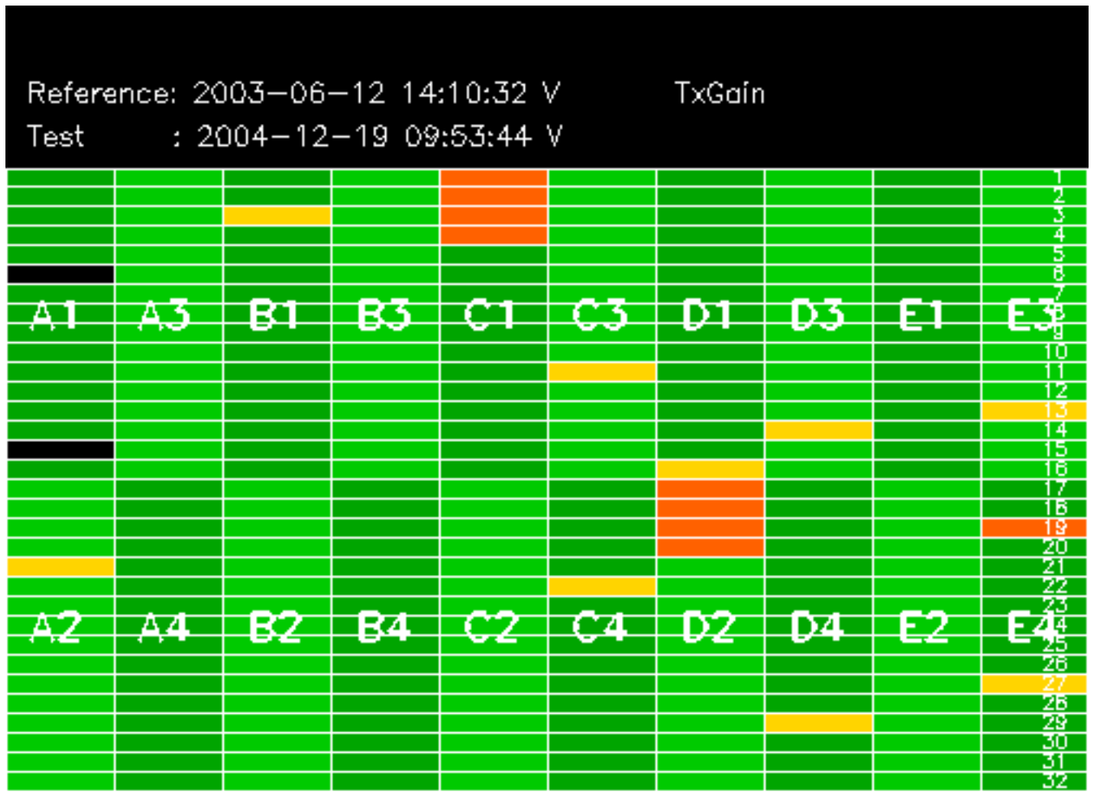
Reference: 2003-06-12 14:10:32 V
Test : 2004-12-19 09:53:44 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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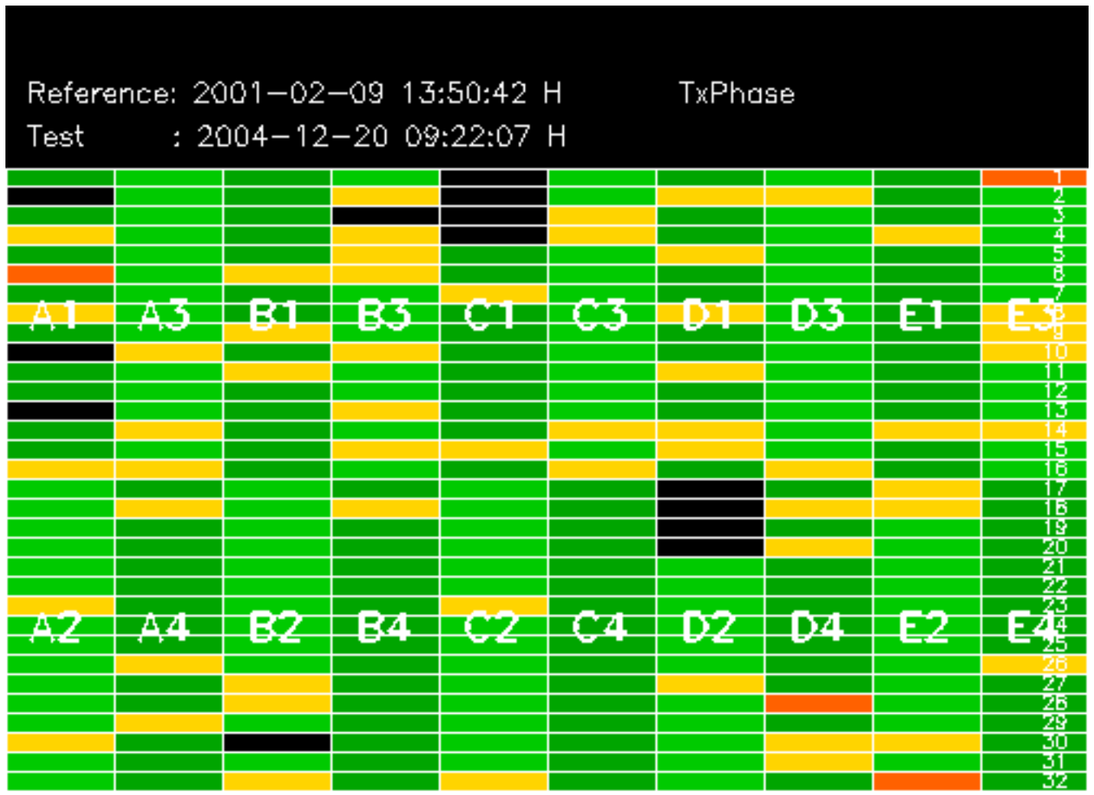
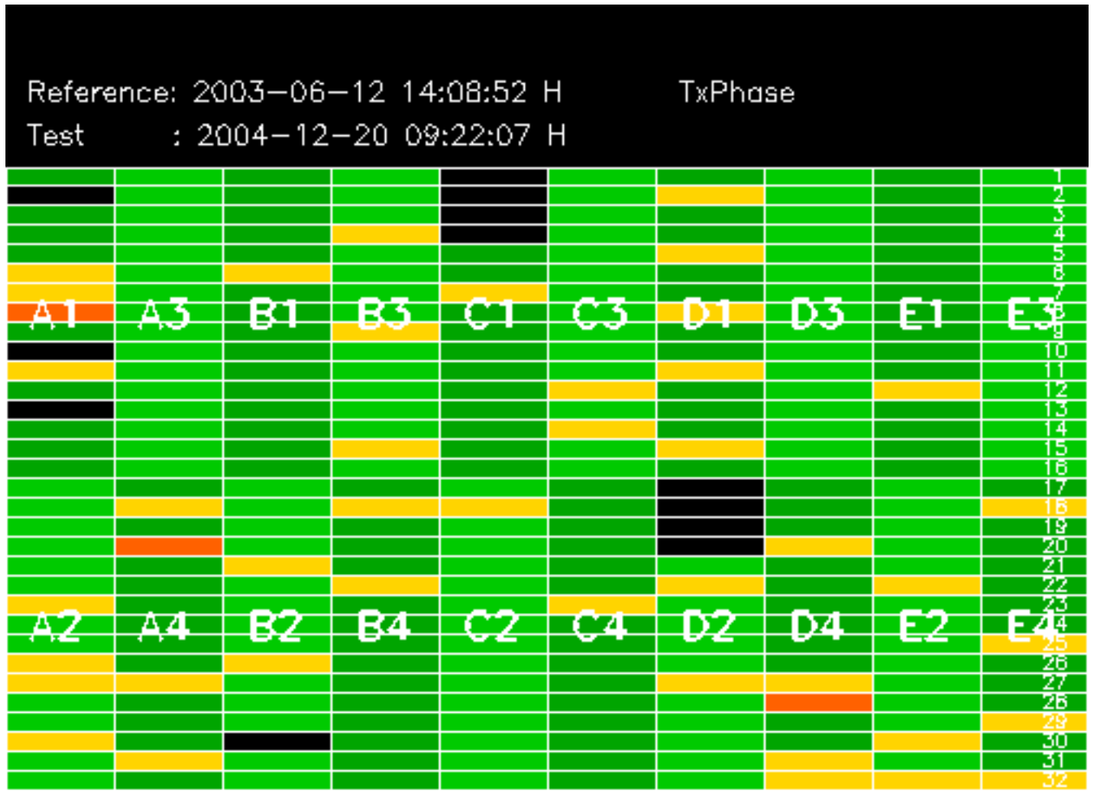
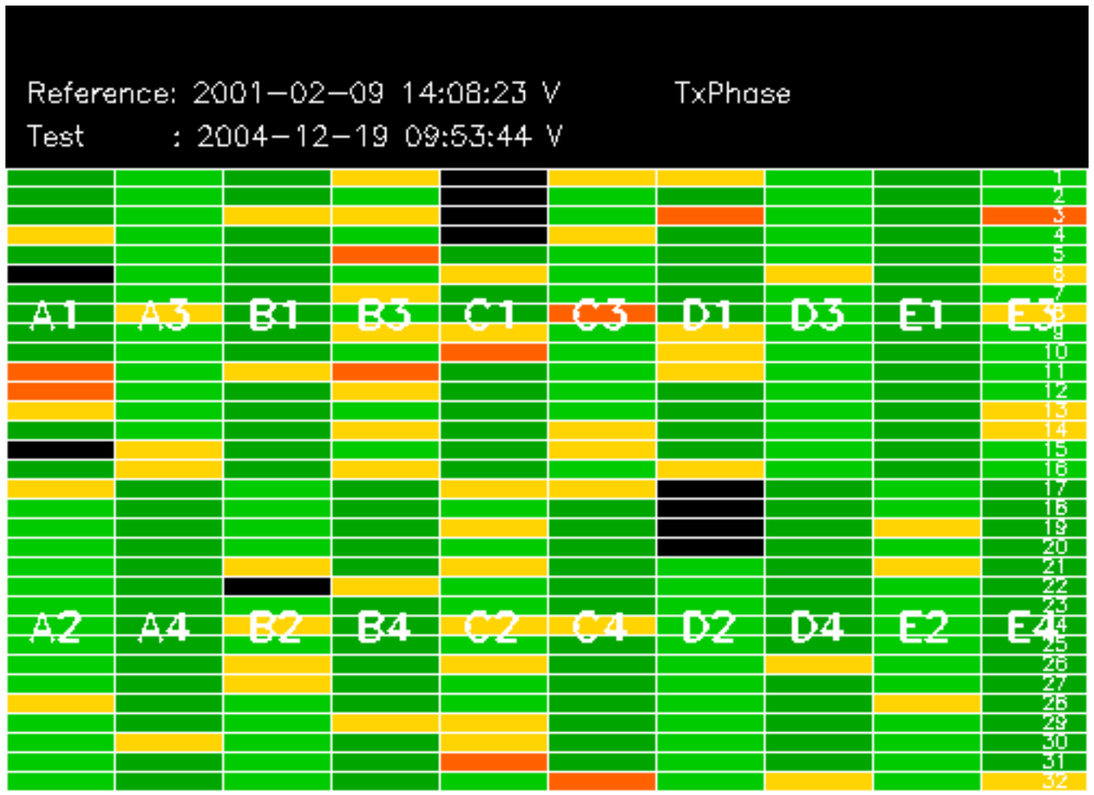
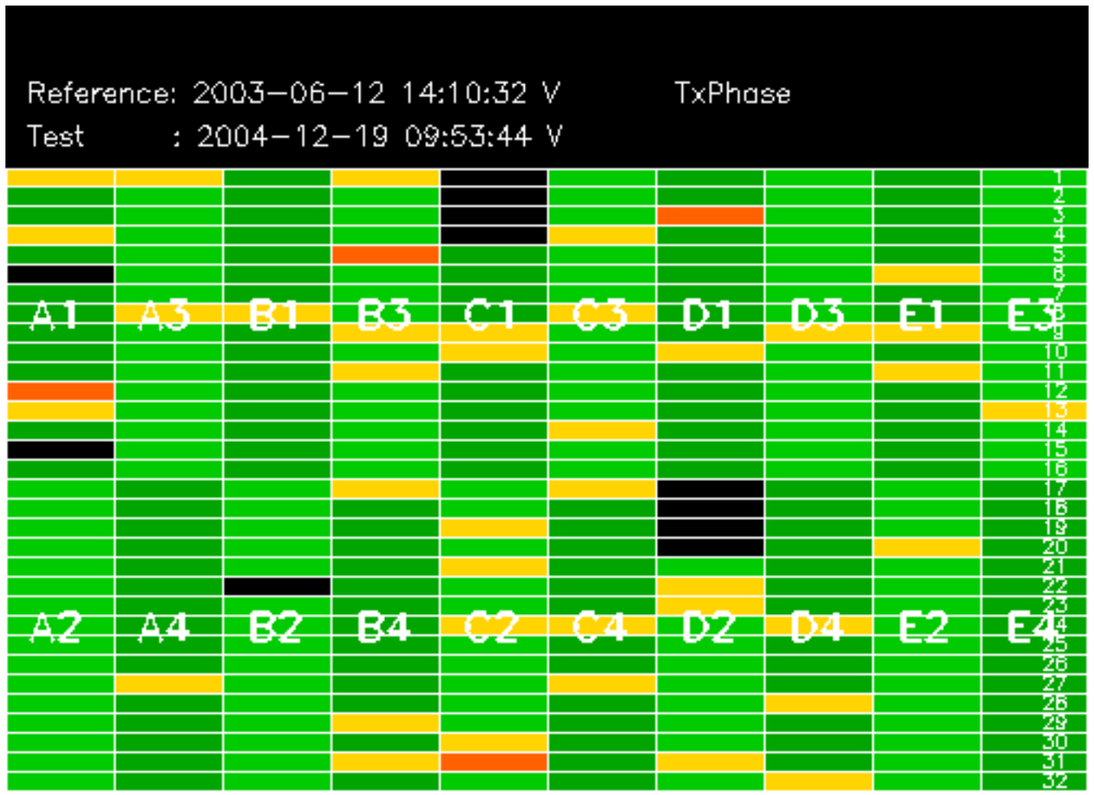

Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-12-20 09:22:07 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-12-20 09:22:07 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 : 2004-12-19 09:53:44 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 : 2004-12-19 09:53:44 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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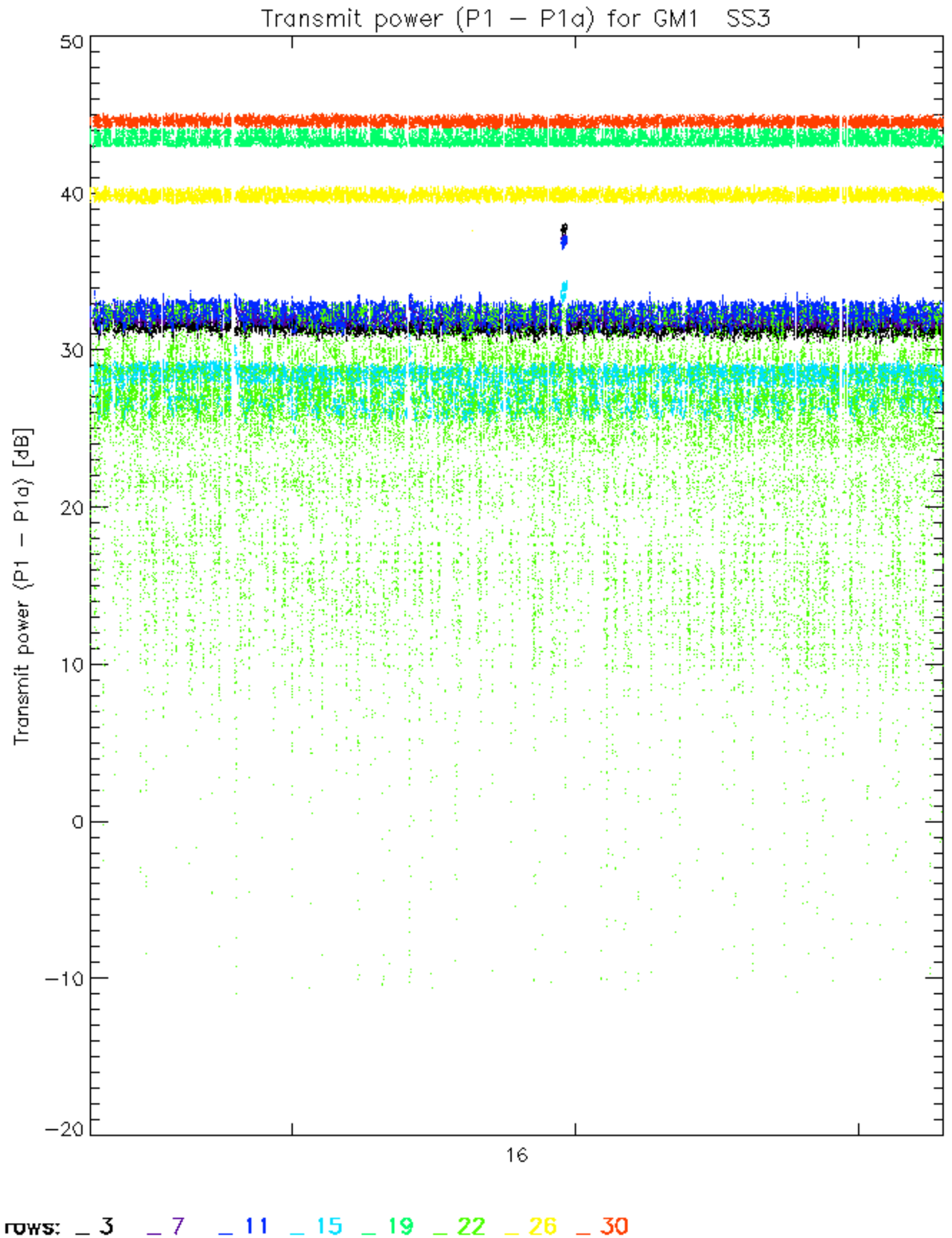
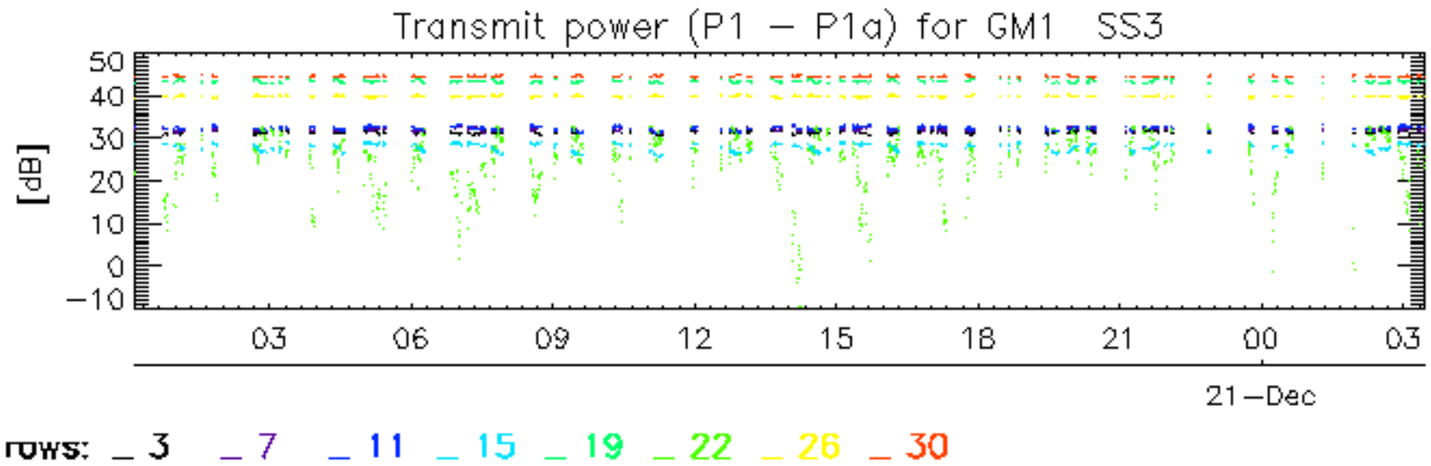
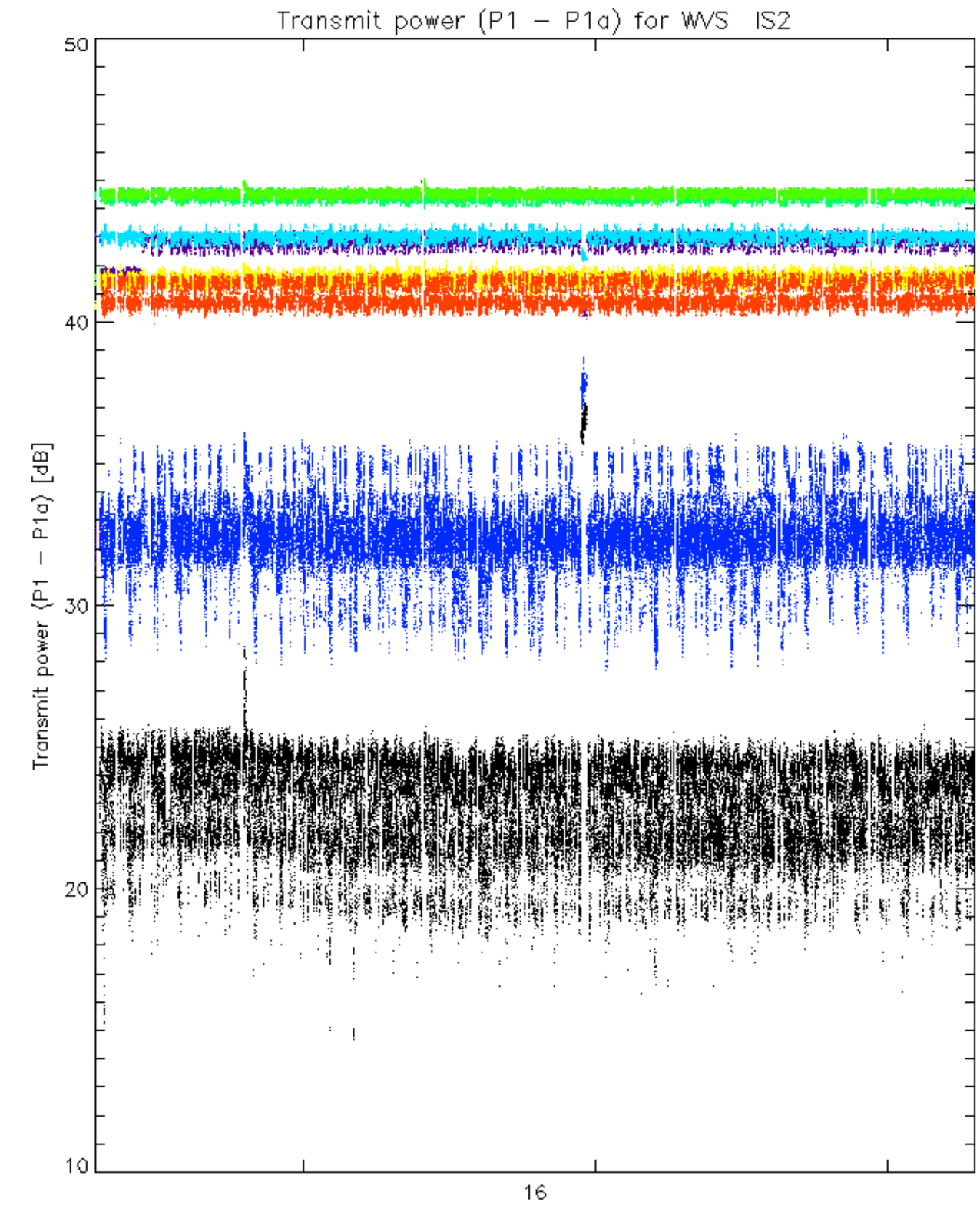
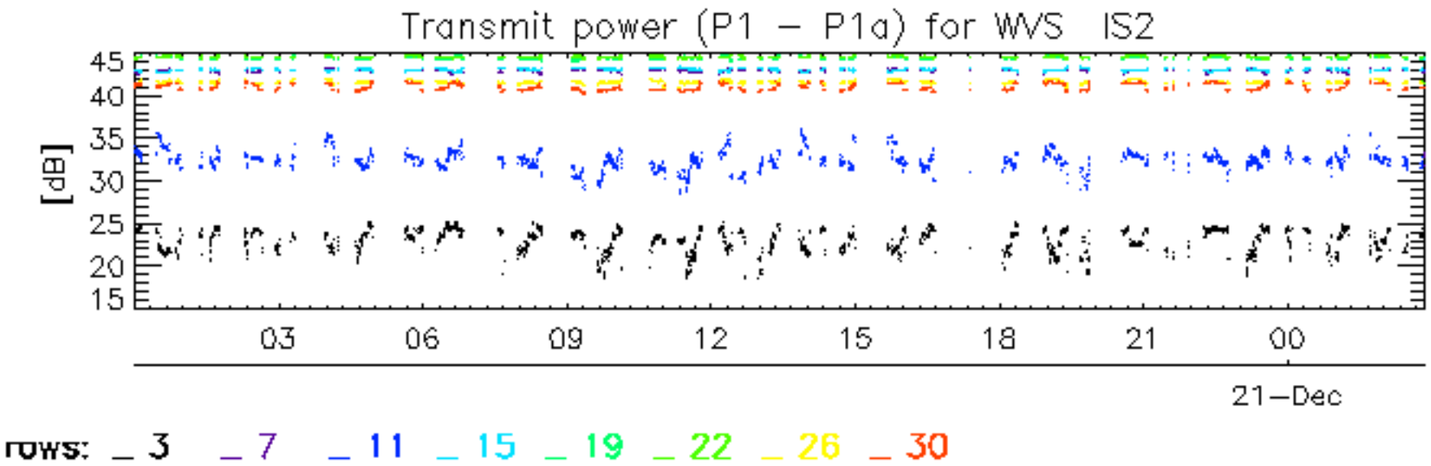

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
−20
16
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
50
40
30
20
10
0
−10
03
06
09
12
15
18
21
00
03
21—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
16
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
21–Dec
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.