PRELIMINARY REPORT OF 050108

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

last update on Mon Jan 10 10:03:48 GMT 2005

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

ASAR was unavailable on 07-JAN-2005:
- from 03:00:00 to 13:00:00 UTC due to an OCM
- from 13:00:00 to 18:20:58 UTC due to a patch uplink

2.2 - Auxiliary files

Summary of the auxiliary files used from 2005-01-09 00:00:00 to 2005-01-10 10:03:48

PDHS-K					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	28	40	5	1	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	28	40	5	1	4
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	28	40	5	1	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	28	40	5	1	4

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	46	46	1	6	1
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	46	46	1	6	1
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	46	46	1	6	1
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	46	46	1	6	1

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	20050105 073837
H	20050106 070659

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	-3.448036	0.030033	0.112893
7	P1	-3.097858	0.024677	0.069962
11	P1	-4.656708	0.045912	0.061386
15	P1	-5.663818	0.039033	0.028647
19	P1	-3.659069	0.005841	0.001586
22	P1	-4.574638	0.017032	0.023015
26	P1	-4.941505	0.025238	0.047656
30	P1	-7.121418	0.013586	-0.013976
3	P1	-15.941234	0.108494	0.034718
7	P1	-15.504003	0.161414	-0.057384
11	P1	-20.756653	0.544037	-0.318950
15	P1	-11.612800	0.099687	-0.007083
19	P1	-14.168643	0.030001	-0.007954
22	P1	-16.053066	0.456977	0.176720
26	P1	-17.728935	0.249442	0.132751
30	P1	-17.871508	0.312146	0.111872

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.334751	0.087933	0.107796
7	P2	-22.540165	0.173142	0.112236
11	P2	-14.840971	0.183118	0.154544
15	P2	-7.154849	0.117626	0.083532
19	P2	-9.731131	0.211518	0.104233
22	P2	-17.147635	0.100573	0.123004

26	P2	-16.531202	0.116983	0.078222
30	P2	-18.956551	0.083871	0.049805

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.208424	0.007155	0.031614
7	P3	-8.208393	0.007155	0.031438
11	P3	-8.208372	0.007156	0.031320
15	P3	-8.208366	0.007156	0.031321
19	P3	-8.208413	0.007156	0.031587
22	P3	-8.208439	0.007158	0.031726
26	P3	-8.208423	0.007156	0.031640
30	P3	-8.207914	0.007192	0.033755

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	-2.850594	0.108346	0.154311
7	P1	-2.979722	0.063161	0.112661
11	P1	-3.954564	0.047778	0.058029
15	P1	-3.525239	0.077424	0.108443
19	P1	-3.610528	0.012920	0.000470
22	P1	-5.630301	0.068711	-0.020129
26	P1	-6.526486	0.024218	-0.031620
30	P1	-6.299725	0.044874	0.032838
3	P1	-10.752682	0.055870	-0.143208
7	P1	-10.131741	0.158537	-0.106962

11	P1	-12.453155	0.197451	-0.242166
15	P1	-11.729607	0.095457	-0.092318
19	P1	-15.644547	0.047669	0.000118
22	P1	-24.110325	1.966924	0.059335
26	P1	-14.966806	0.378260	0.298358
30	P1	-20.111023	0.912272	0.128528

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.013447	0.036948	0.081584
7	P2	-22.584461	0.033864	0.128909
11	P2	-10.634417	0.036734	0.201030
15	P2	-5.054331	0.025390	0.043986
19	P2	-6.952295	0.036655	0.065034
22	P2	-7.285007	0.028794	0.097185
26	P2	-23.957050	0.019095	0.046234
30	P2	-22.003790	0.023550	0.075124

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.040778	0.002946	0.023496
7	P3	-8.040812	0.002952	0.023222
11	P3	-8.040746	0.002952	0.023289
15	P3	-8.040887	0.002952	0.022932
19	P3	-8.040798	0.002959	0.023478
22	P3	-8.040841	0.002952	0.023293
26	P3	-8.040802	0.002956	0.023705
30	P3	-8.040754	0.002944	0.023187

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	0.000460073
	stdev	2.26685e-07
MEAN Q	mean	0.000531399
	stdev	2.39513e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127751
	stdev	0.000975753
STDEV Q	mean	0.127985
	stdev	0.000985790

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

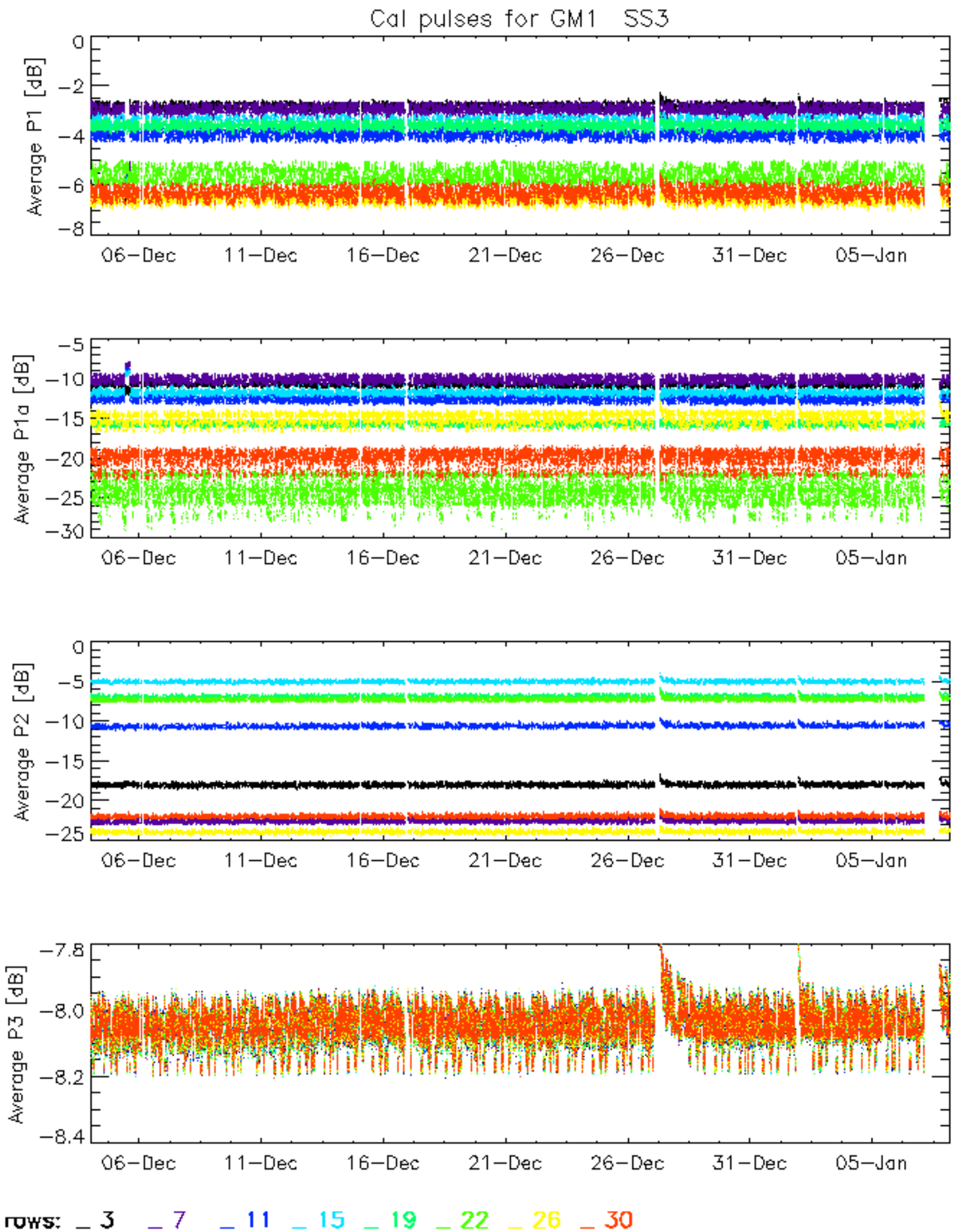
Evolution of Absolute Doppler

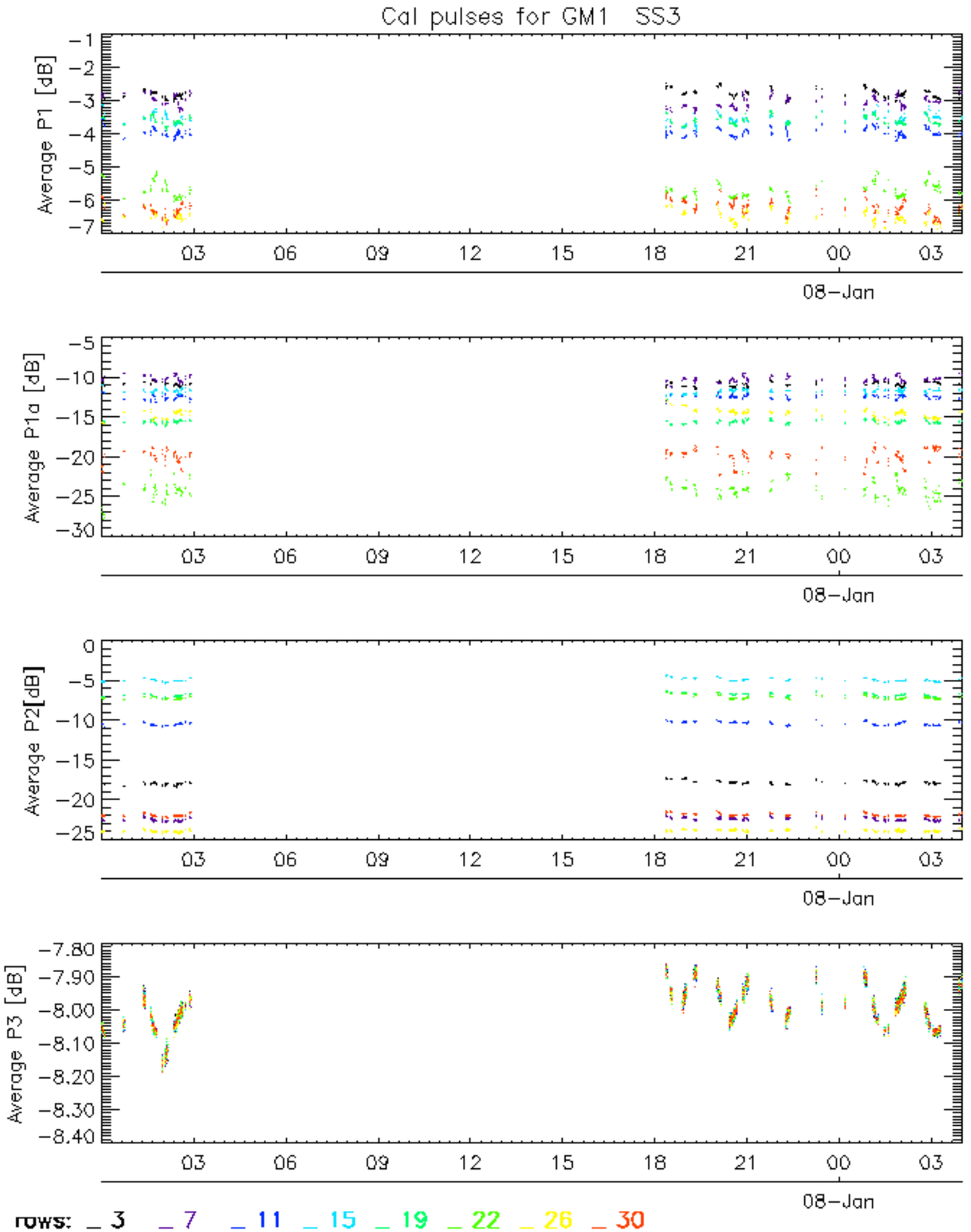
Acsending

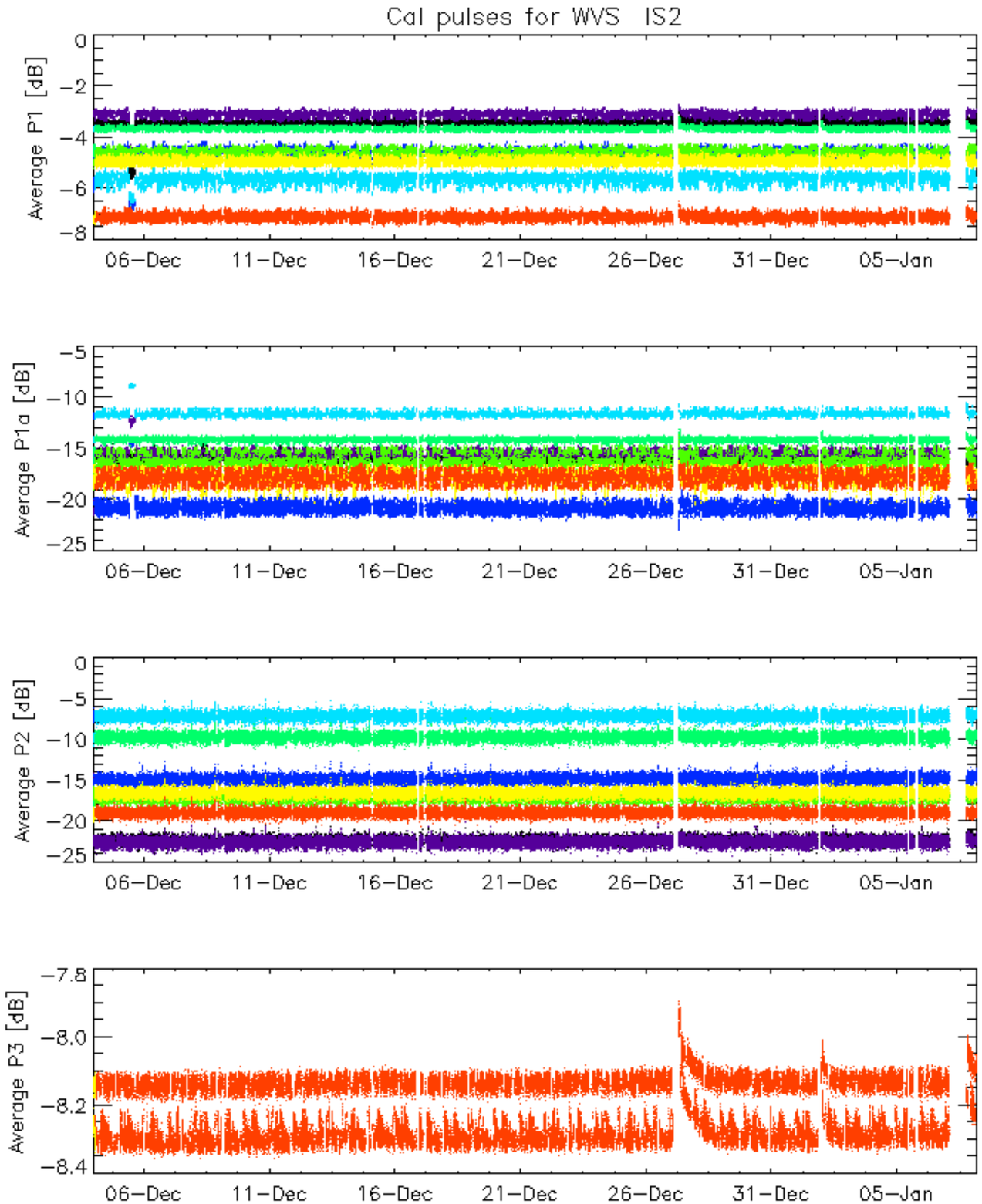

Descending

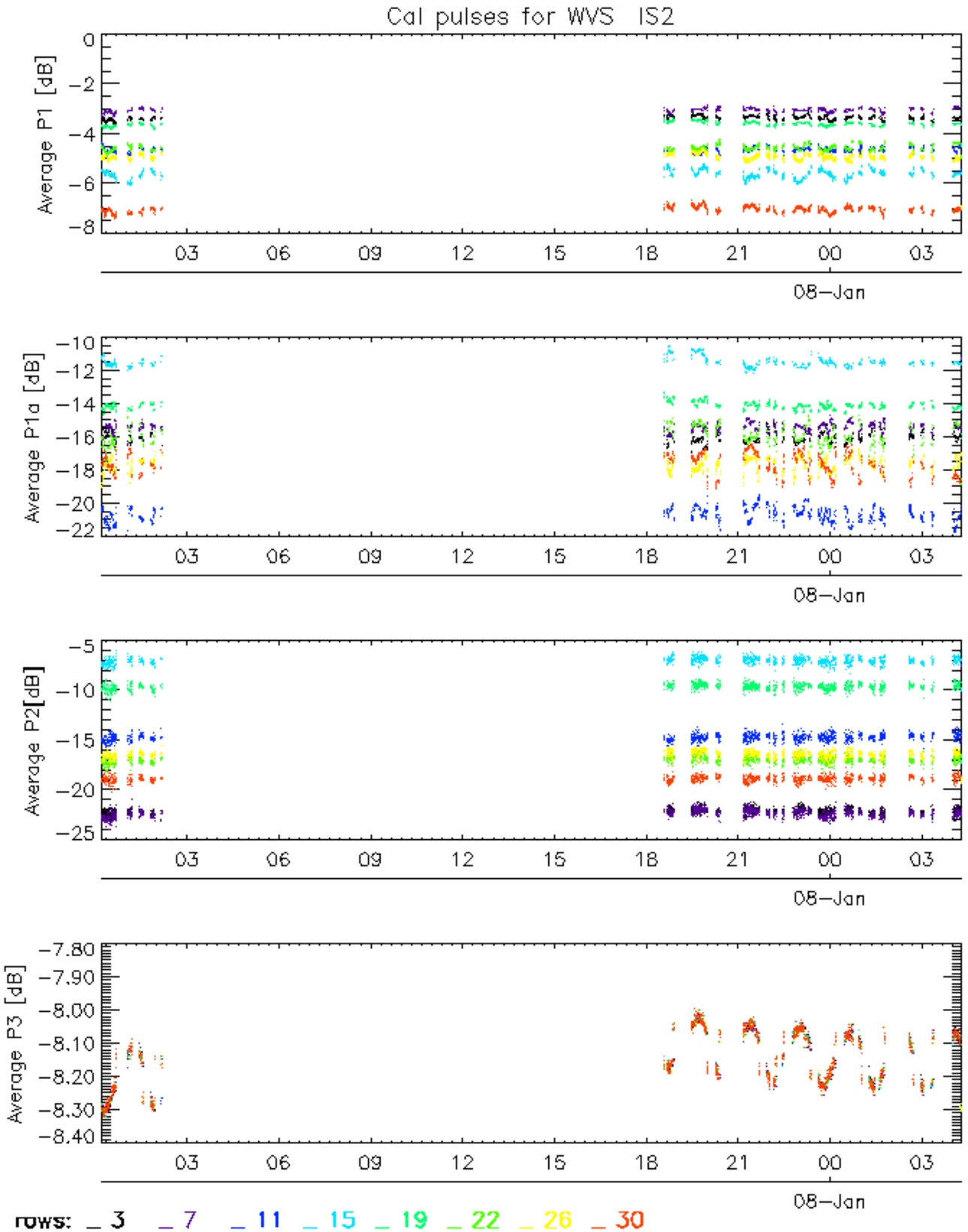
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

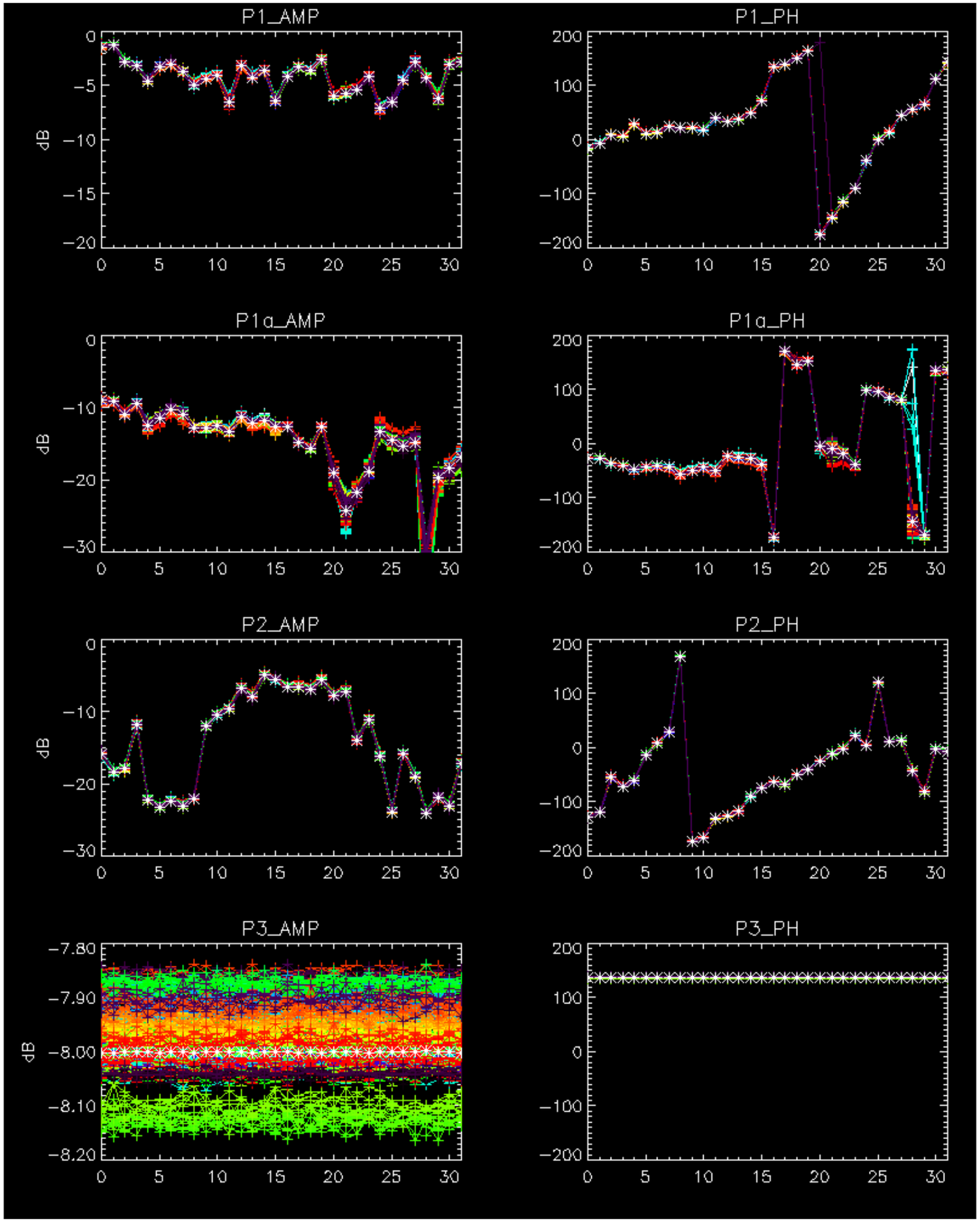

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

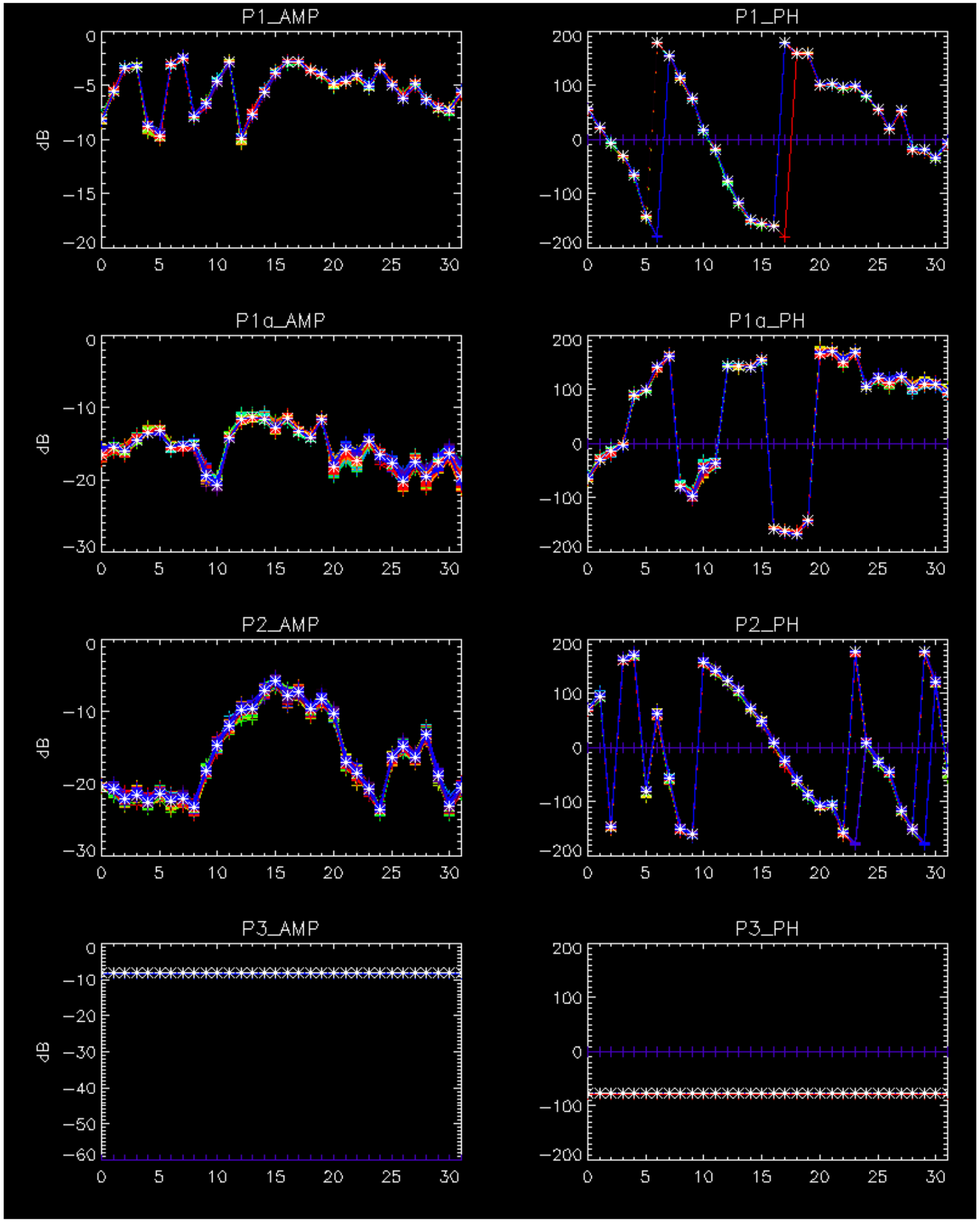

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
08−Jan
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
21
00
03
08−Jan
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
03
08−Jan
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06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


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan
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
08−Jan
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

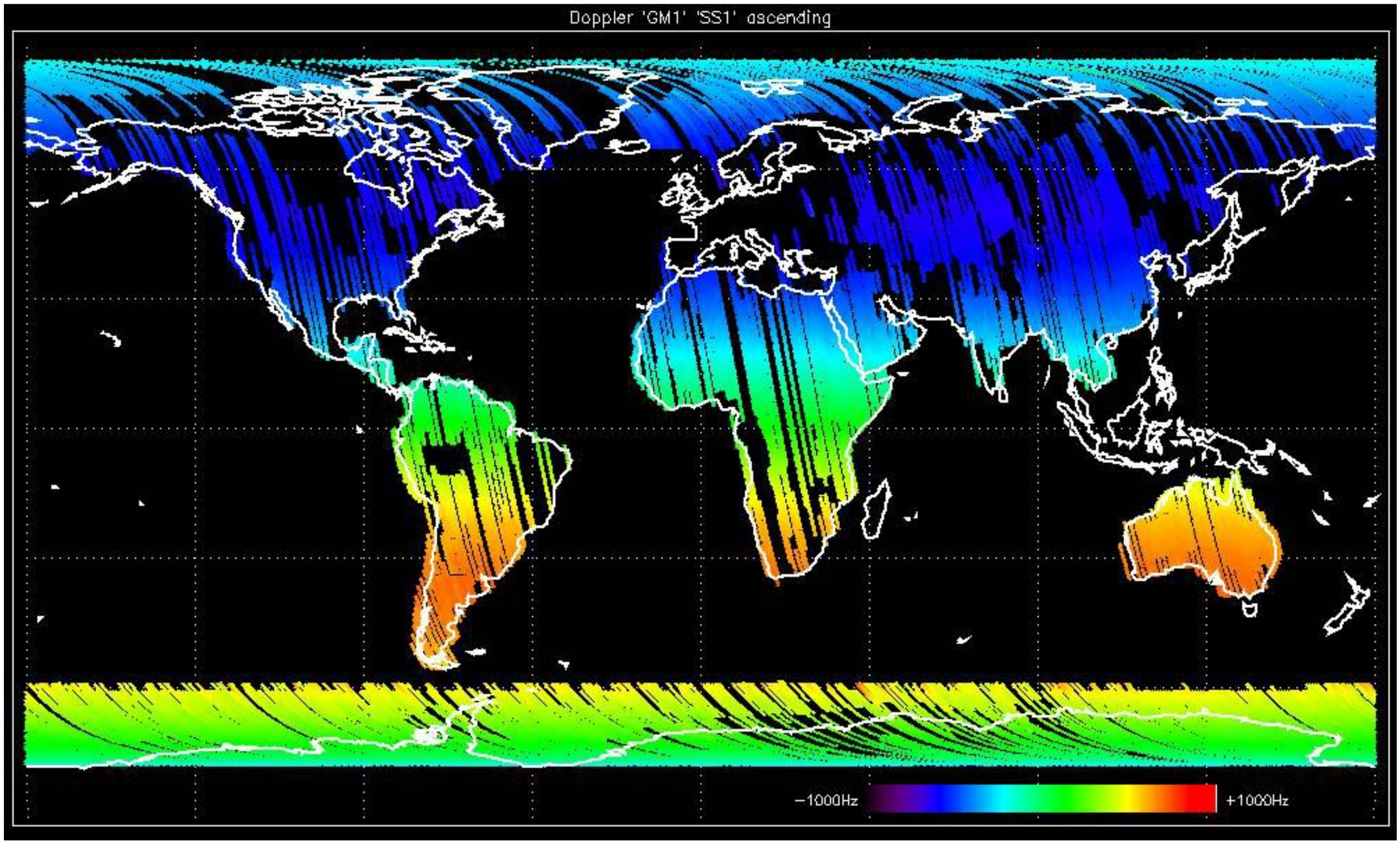
No anomalies observed.

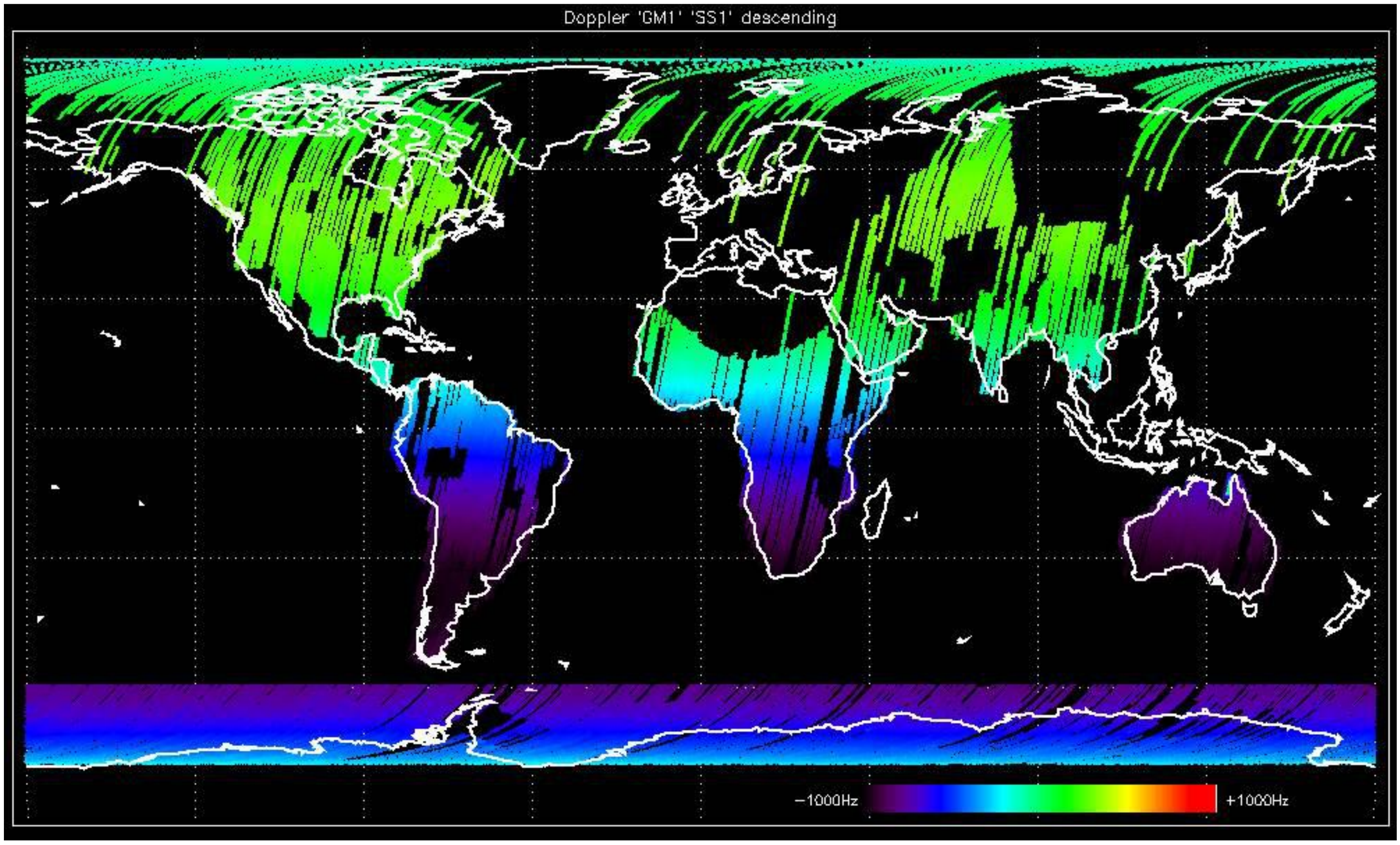

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.80
−7.90
−8.00
−8.10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

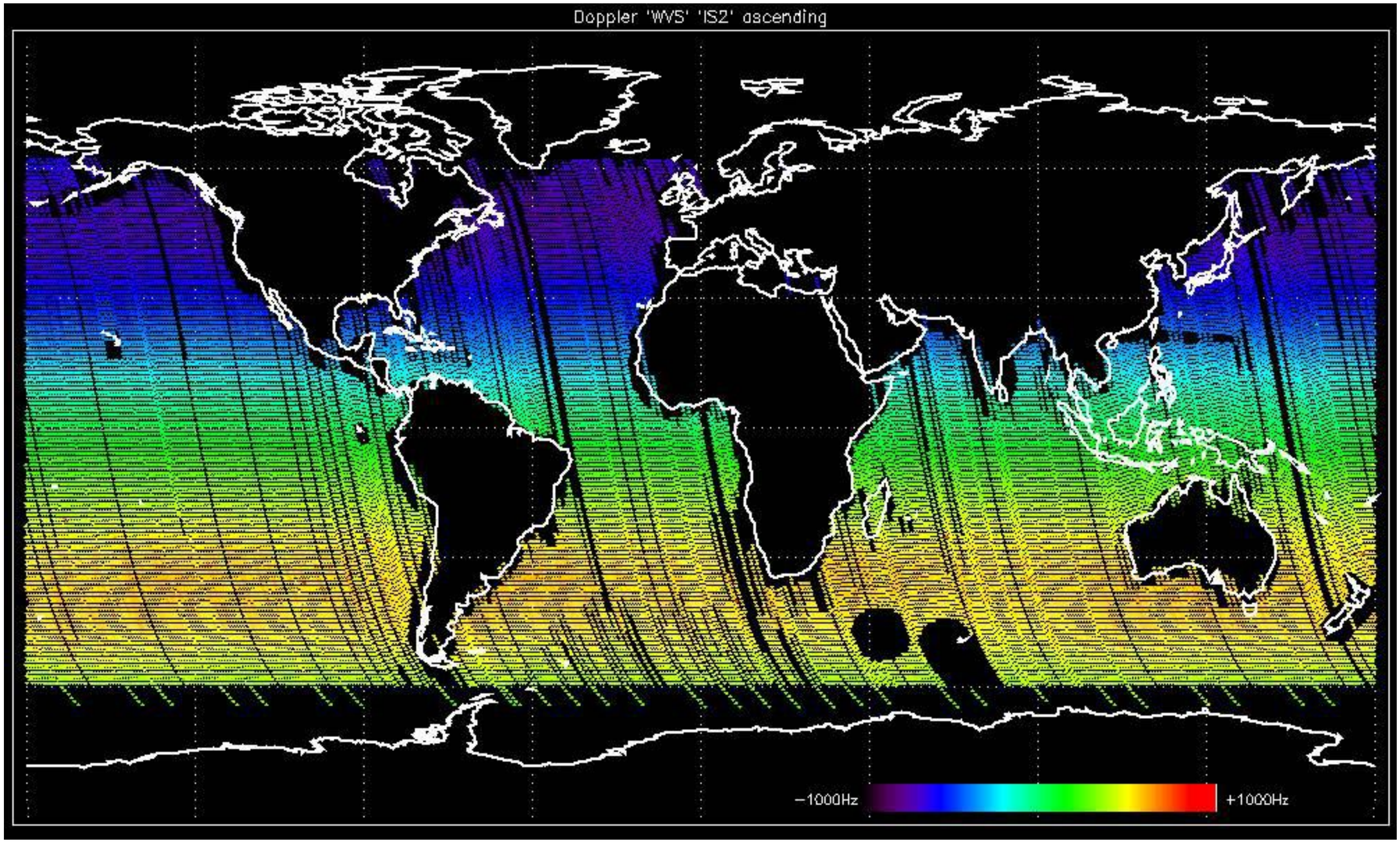

P1_AMP
P1_PH
P1a_AMP
P1a_PH
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

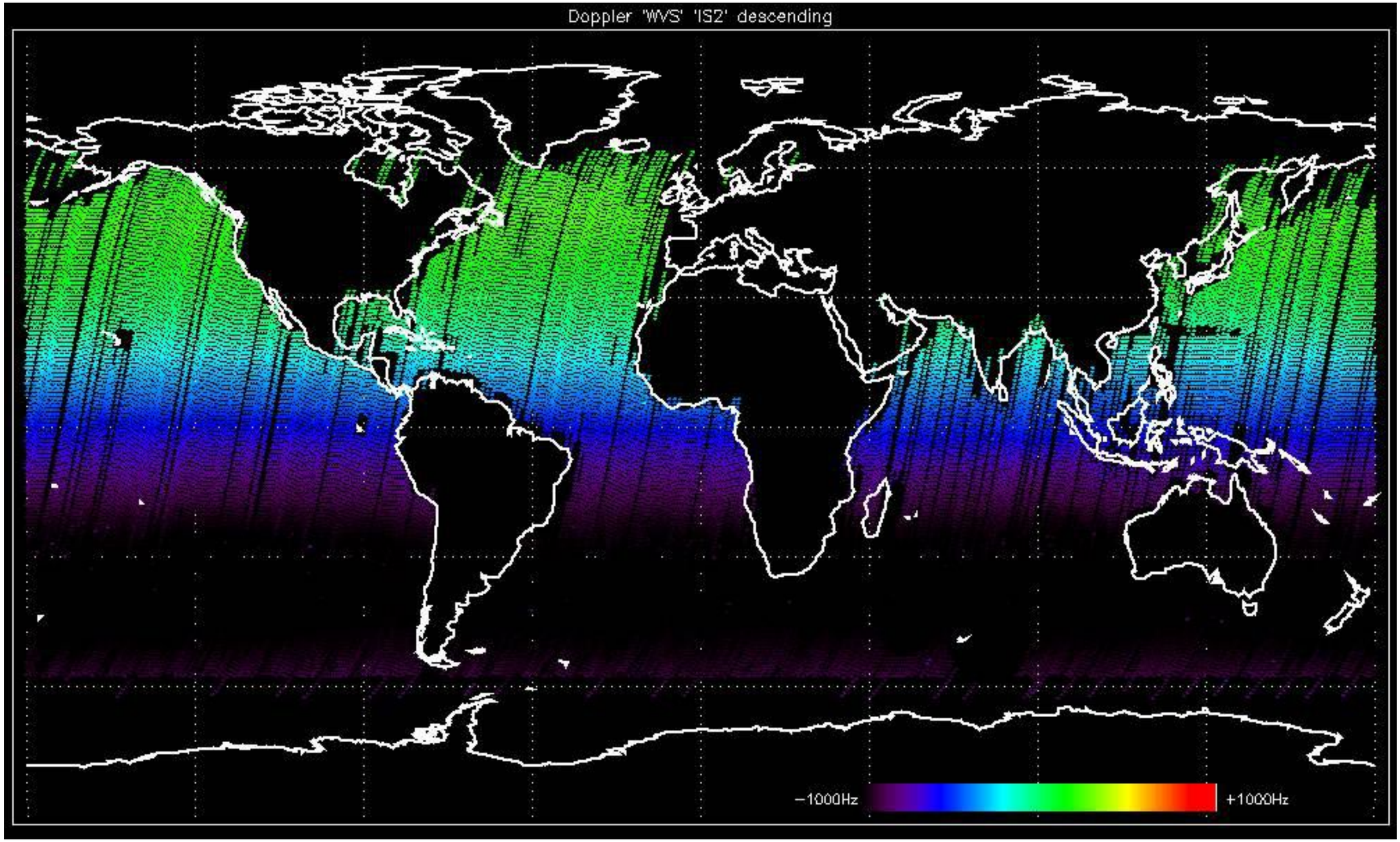
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

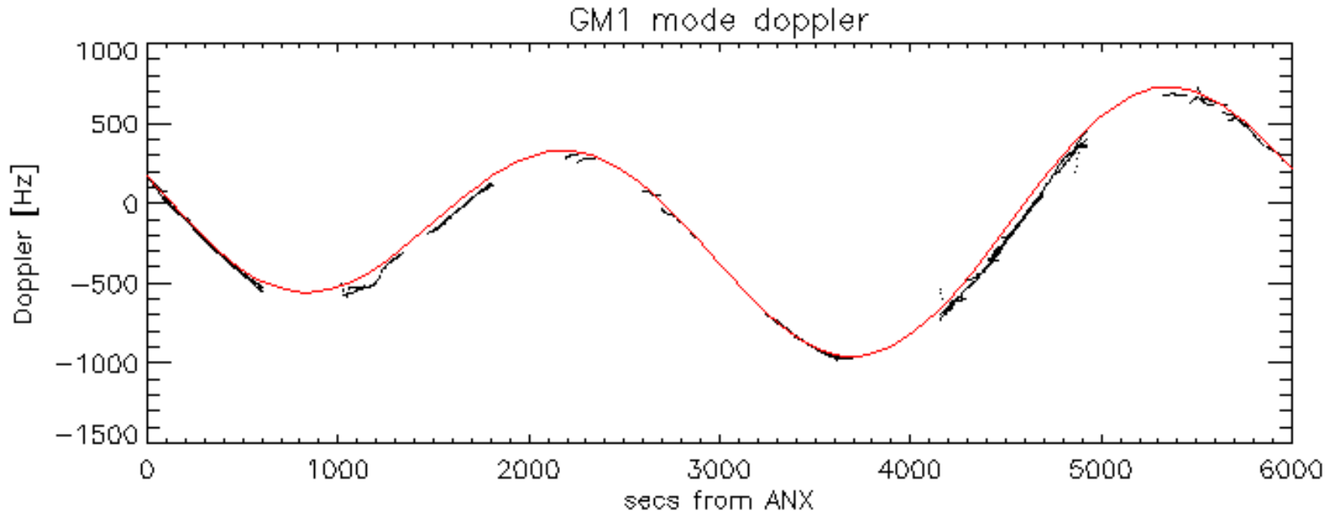
Preliminary report.The data is not yet controled

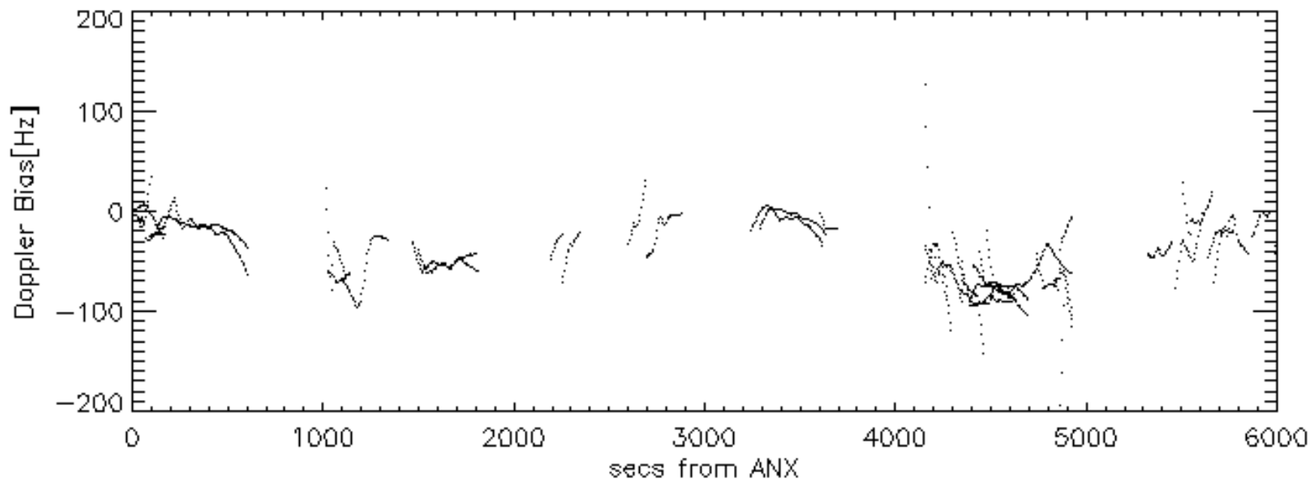

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

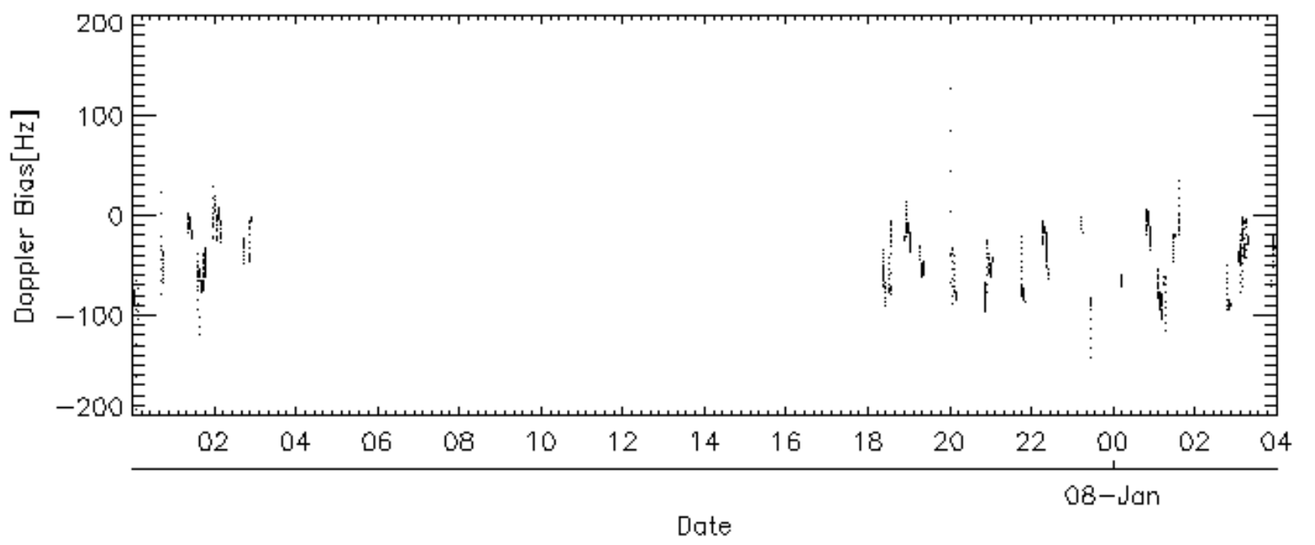

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

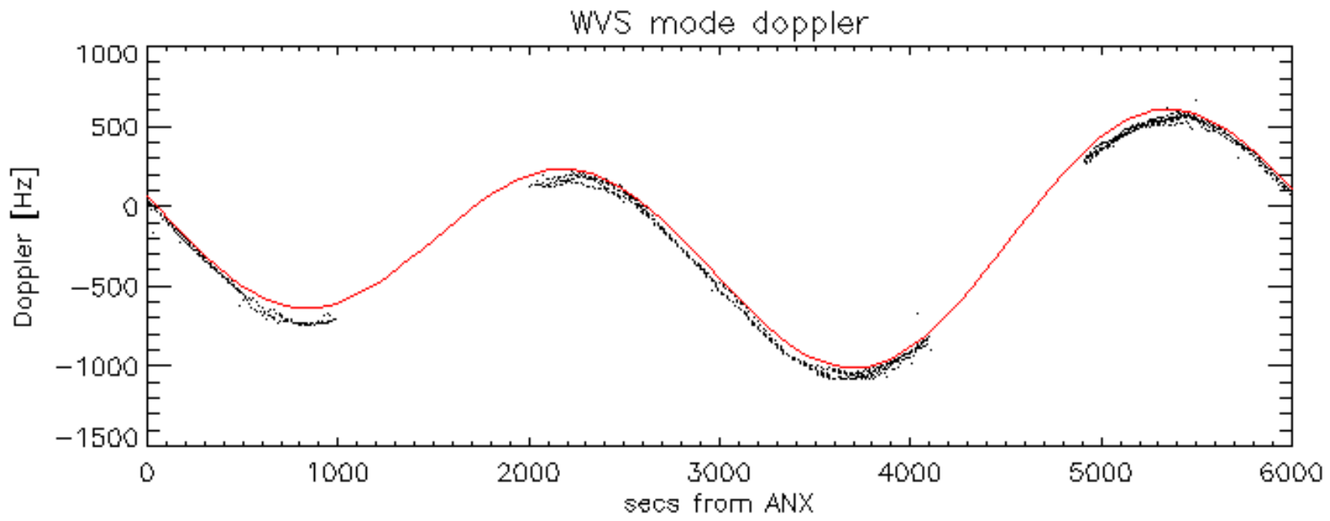

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

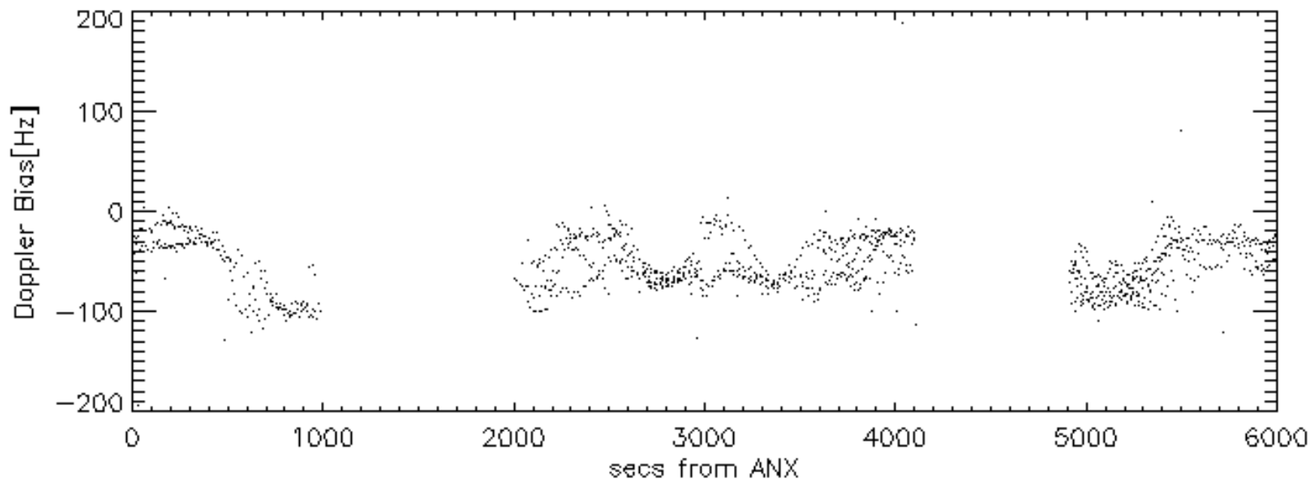

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

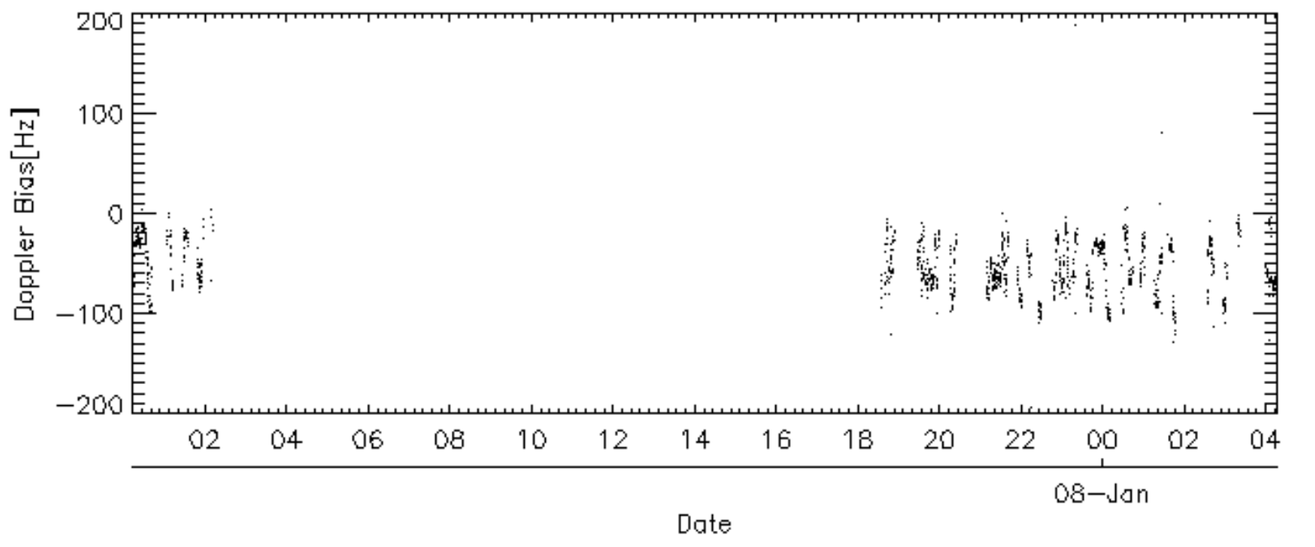

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

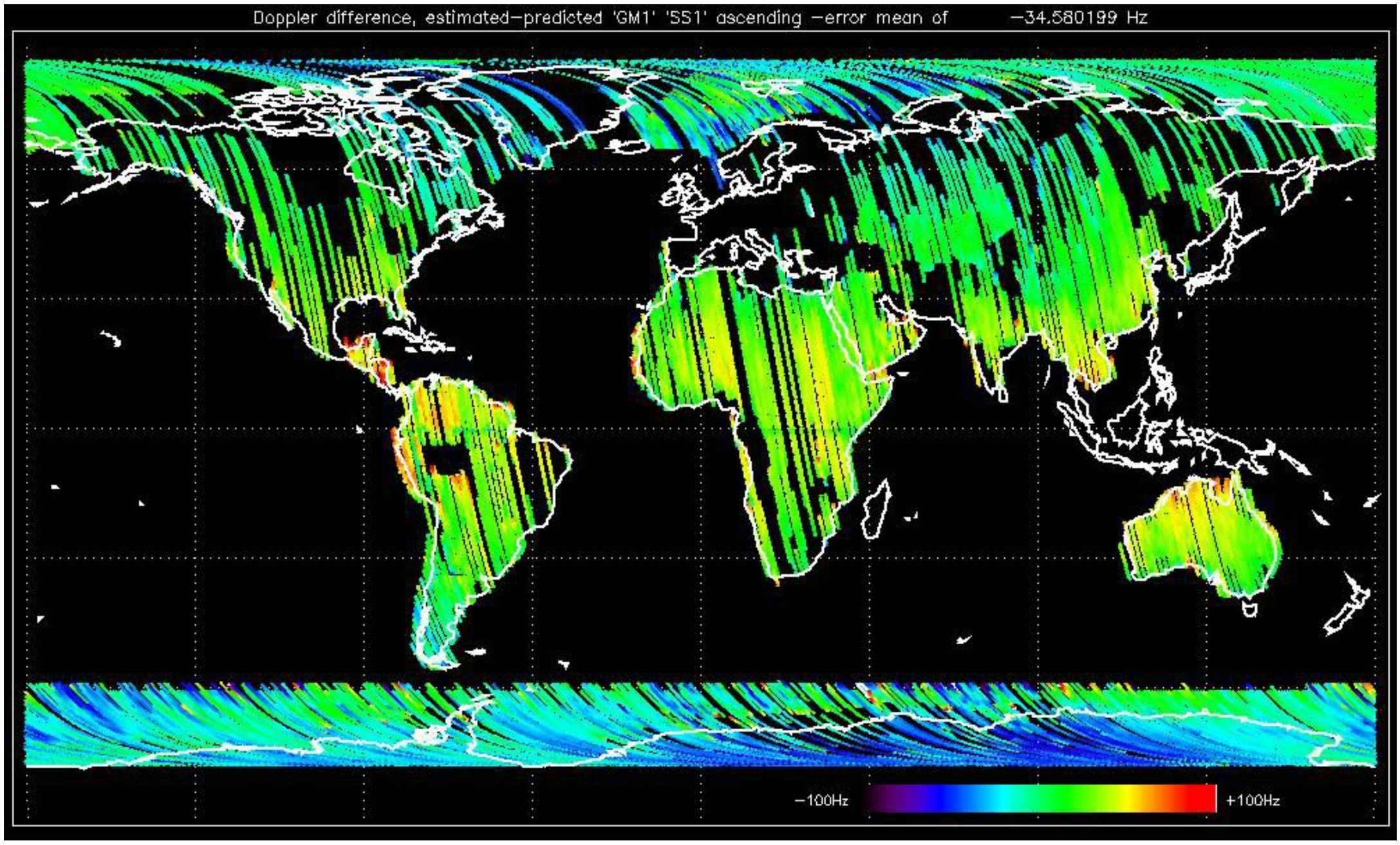

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

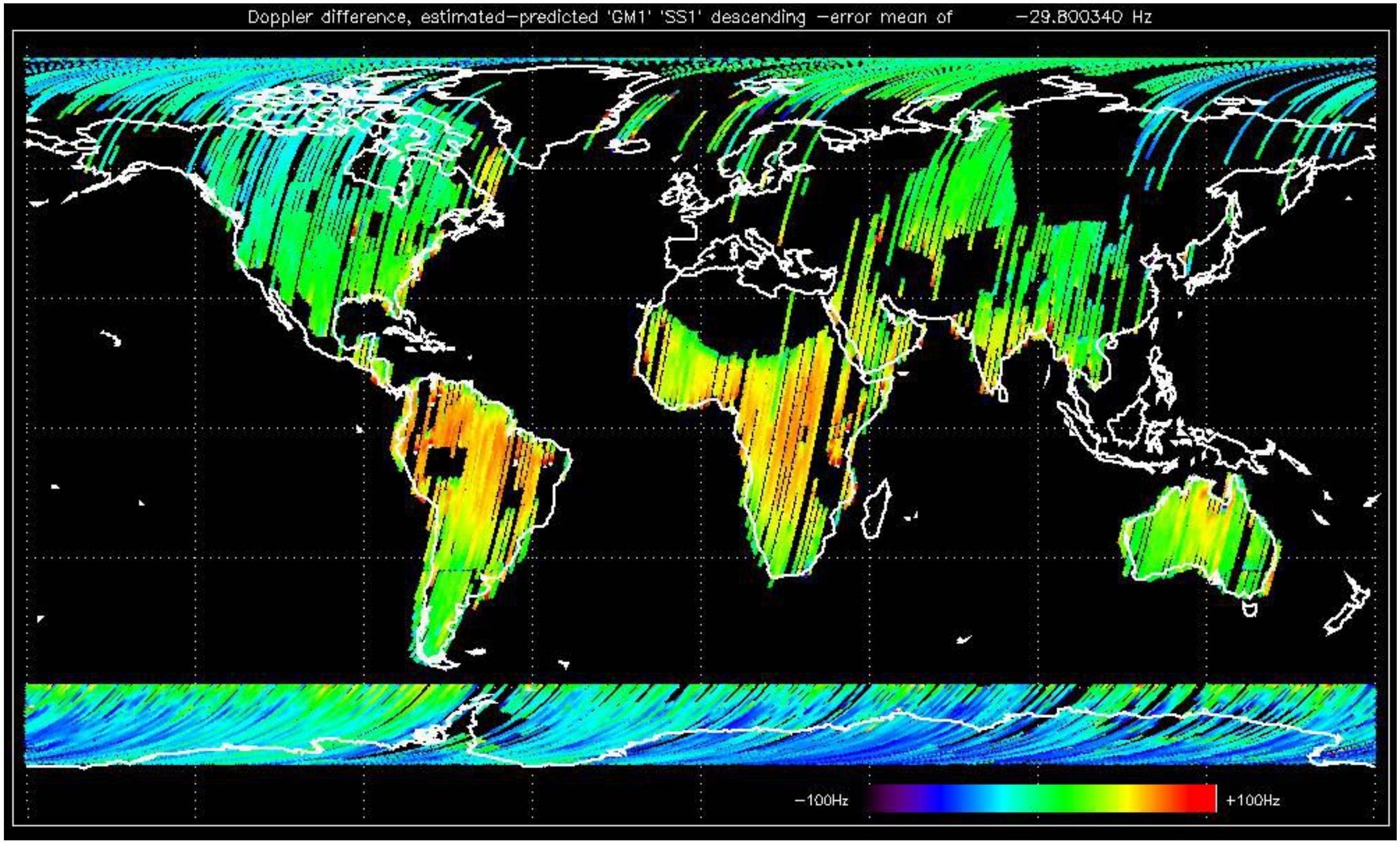

Doppler Bias[Hz]
200
100
0
−100
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
04
08−Jan
Date

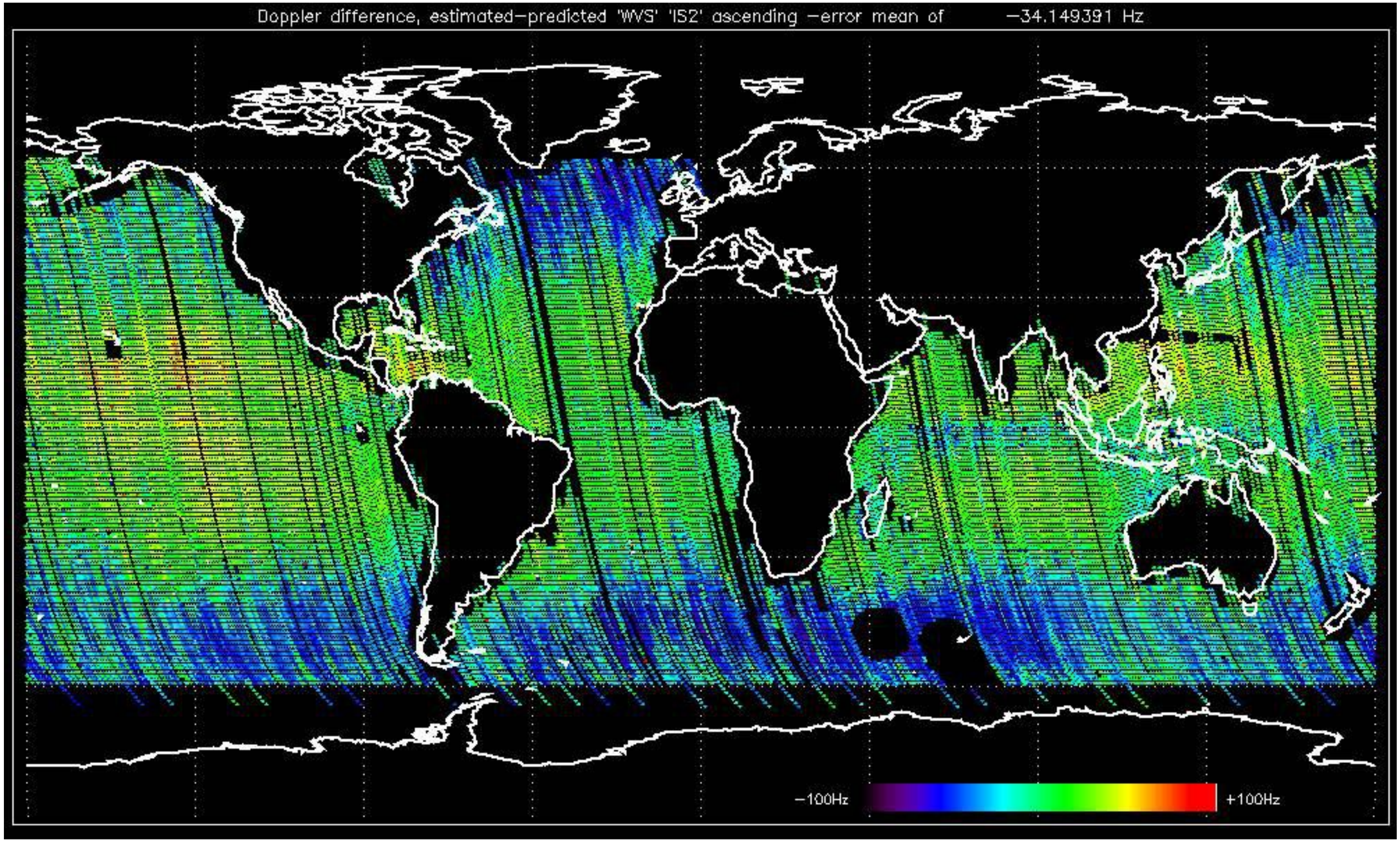

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

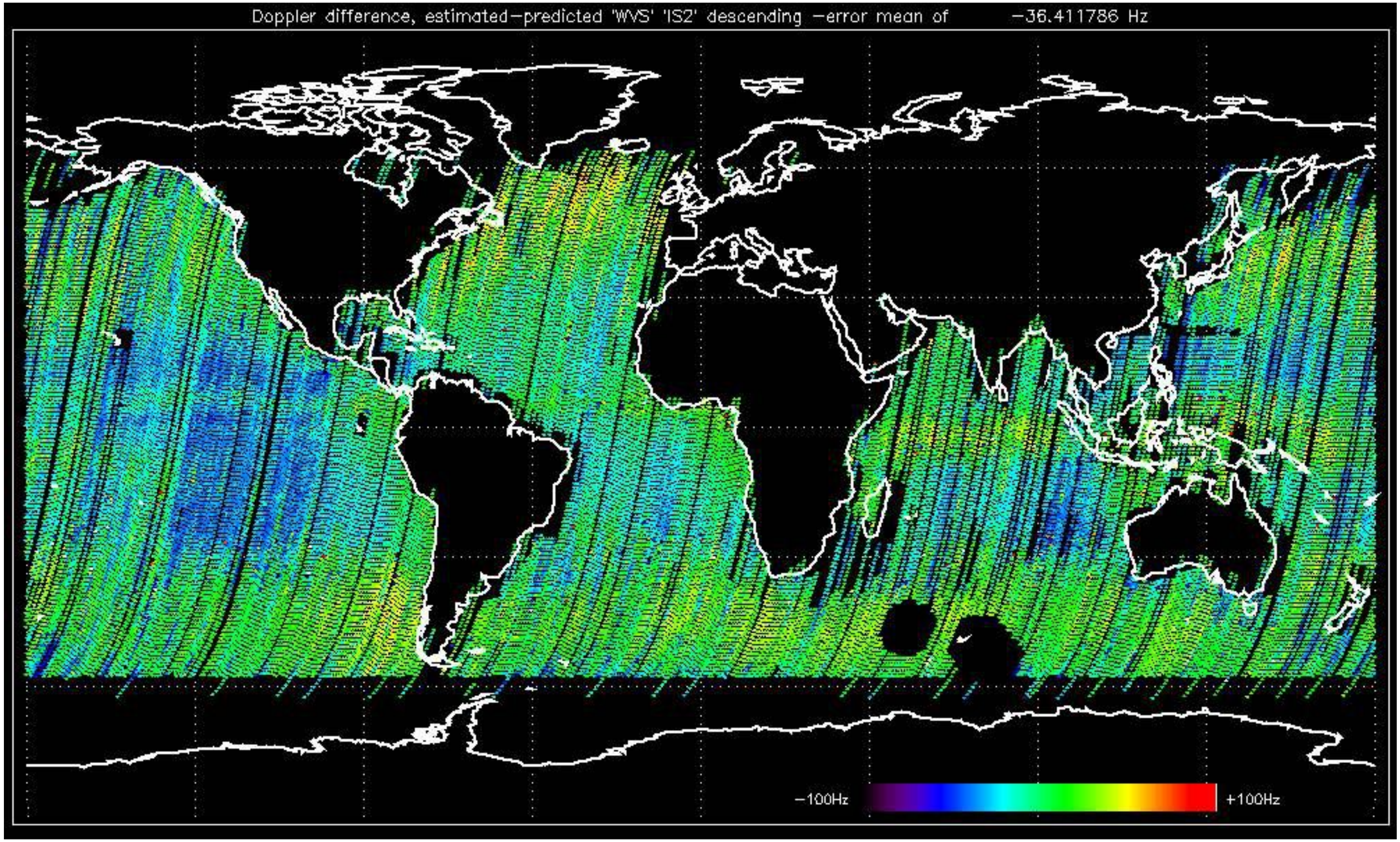

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −34.580199 Hz
−100Hz
+100Hz

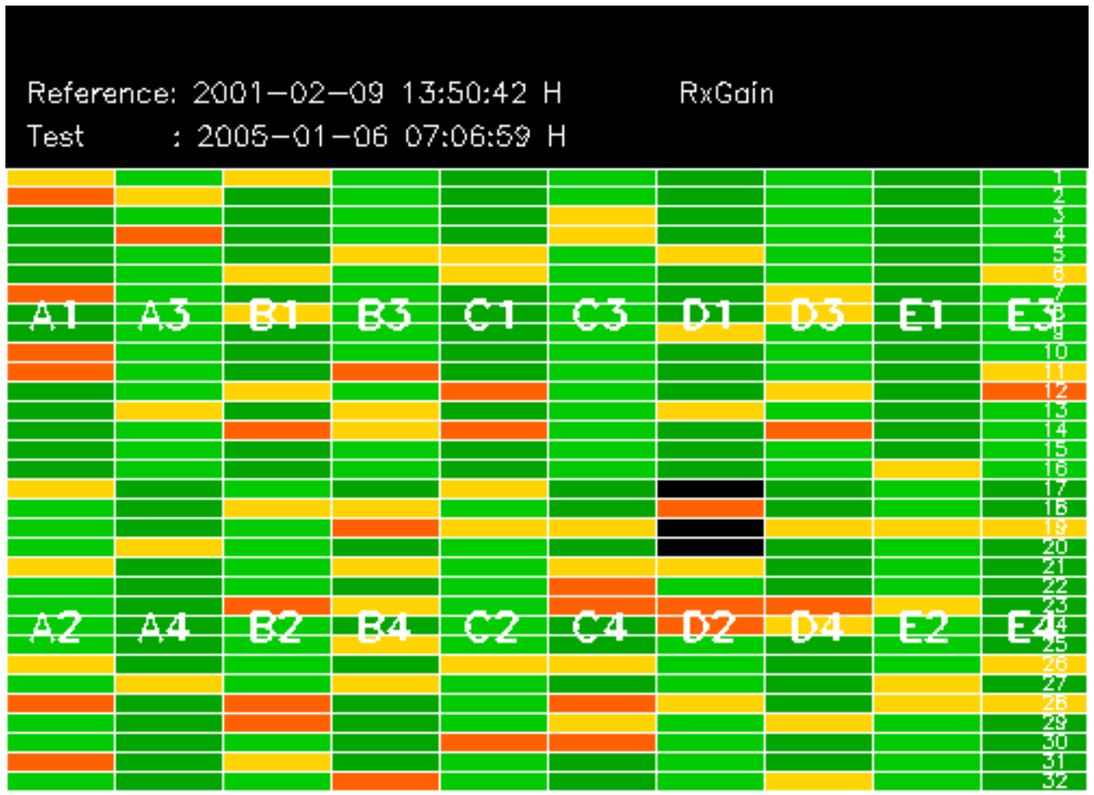

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -29.800340 Hz
-100Hz
+100Hz

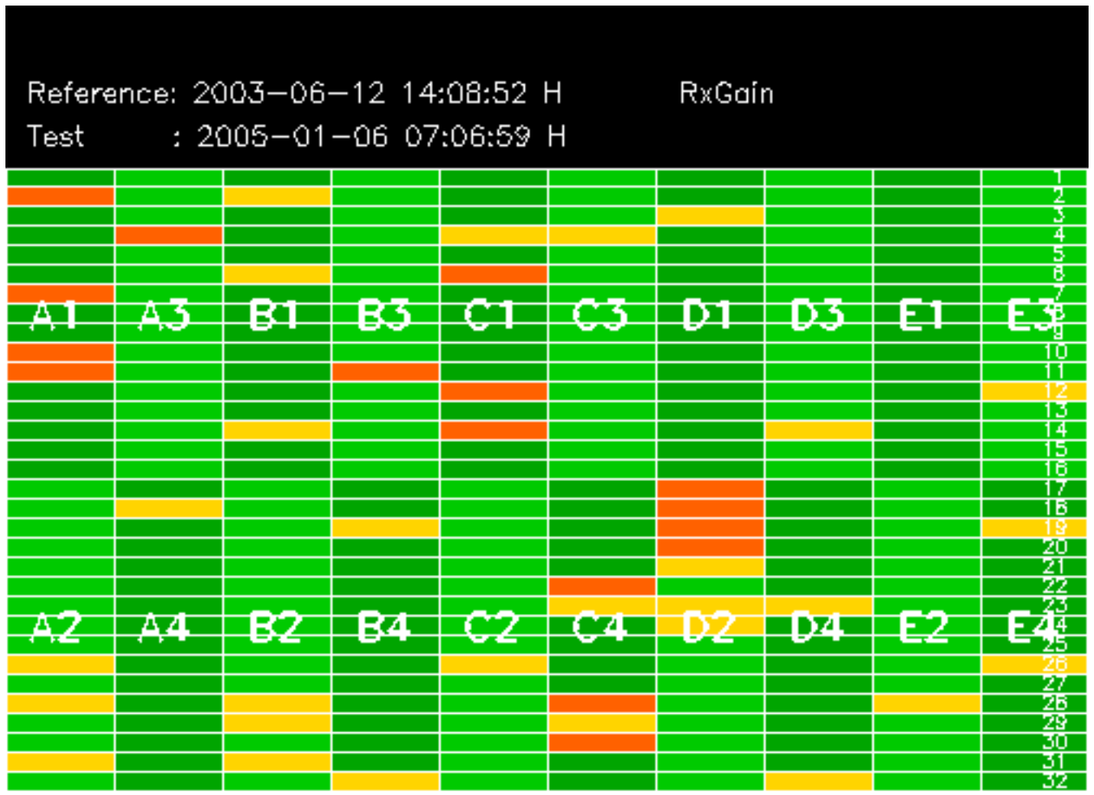

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −34.149391 Hz
−100Hz
+100Hz

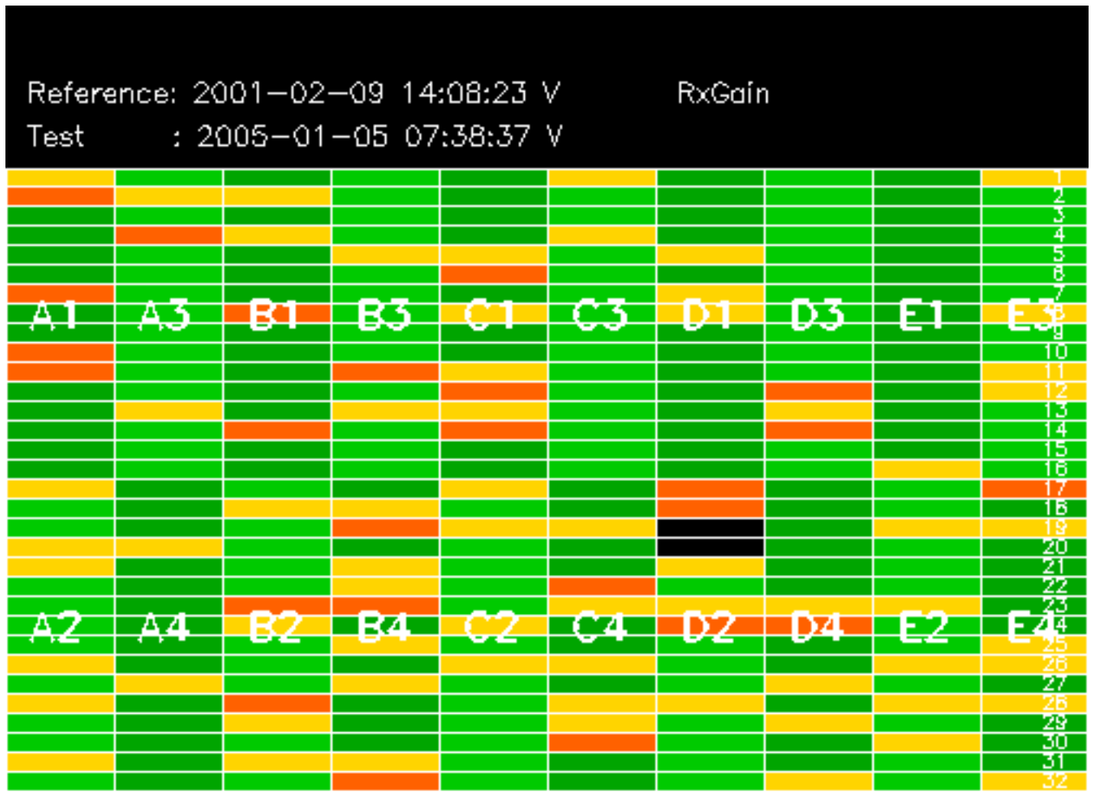

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −36.411786 Hz
−100Hz
+100Hz

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 : 2005-01-06 07:06:59 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 : 2005-01-06 07:06:59 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 : 2005-01-05 07:38:37 V
RxGain
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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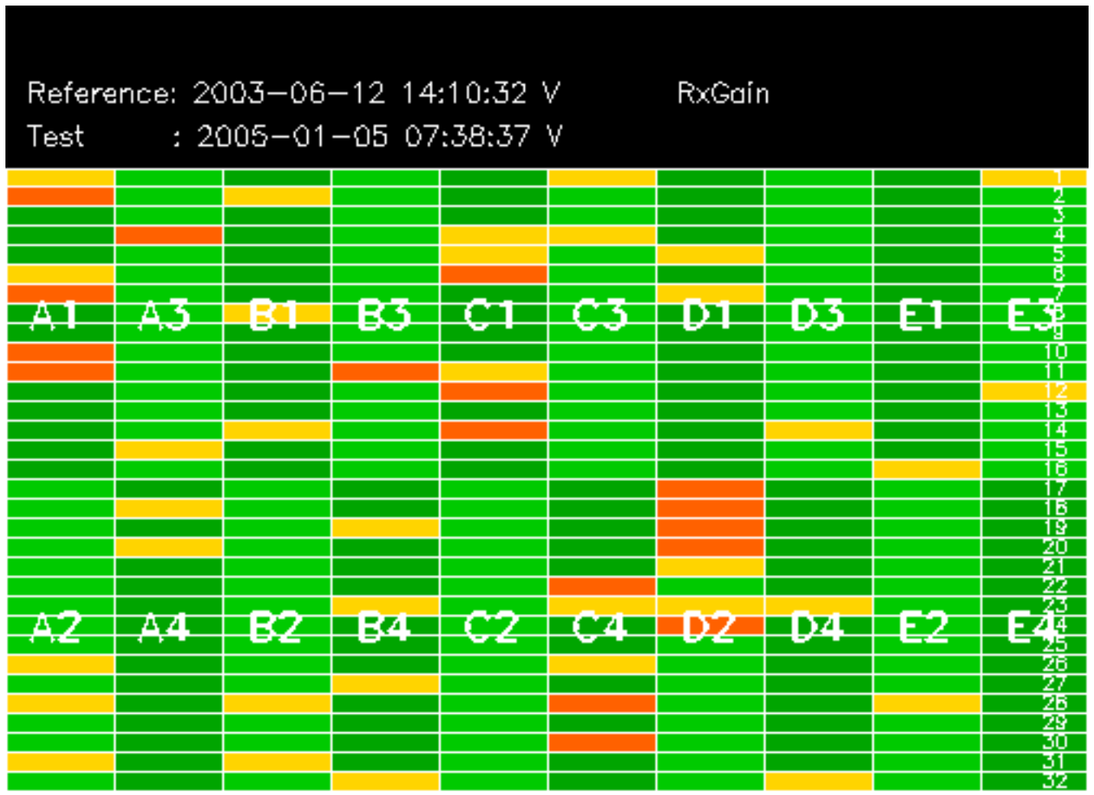
Reference: 2003-06-12 14:10:32 V
Test : 2005-01-05 07:38:37 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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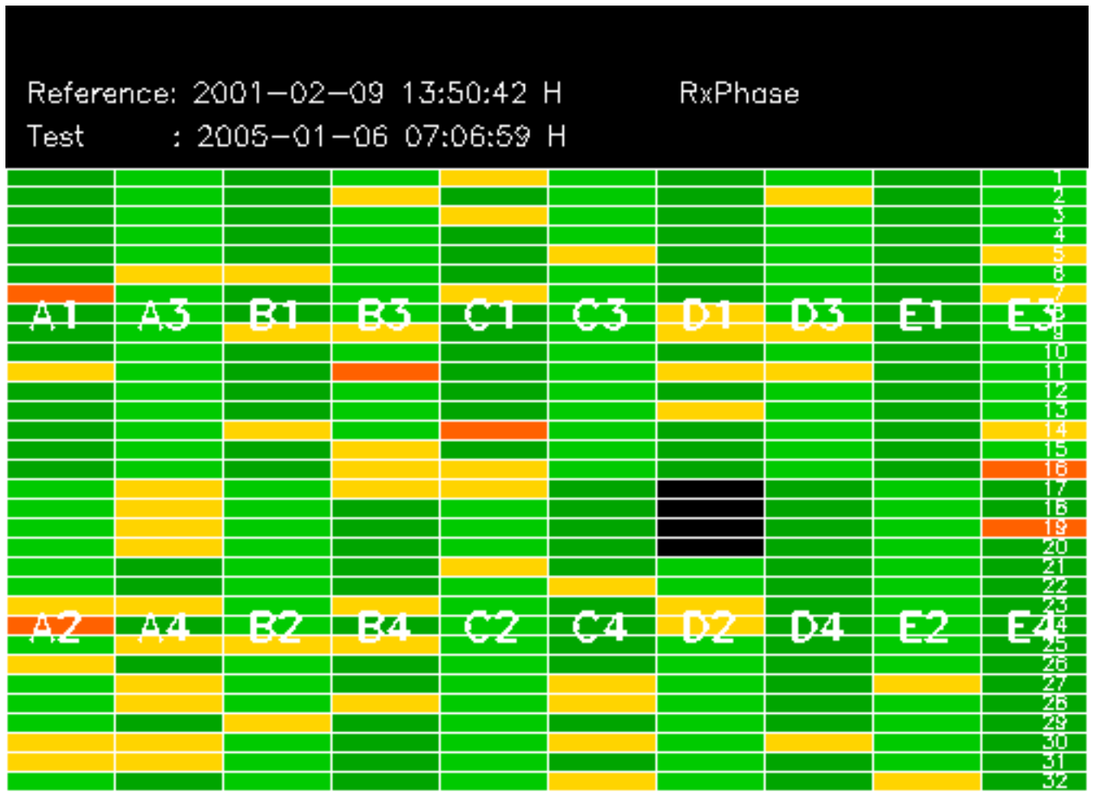
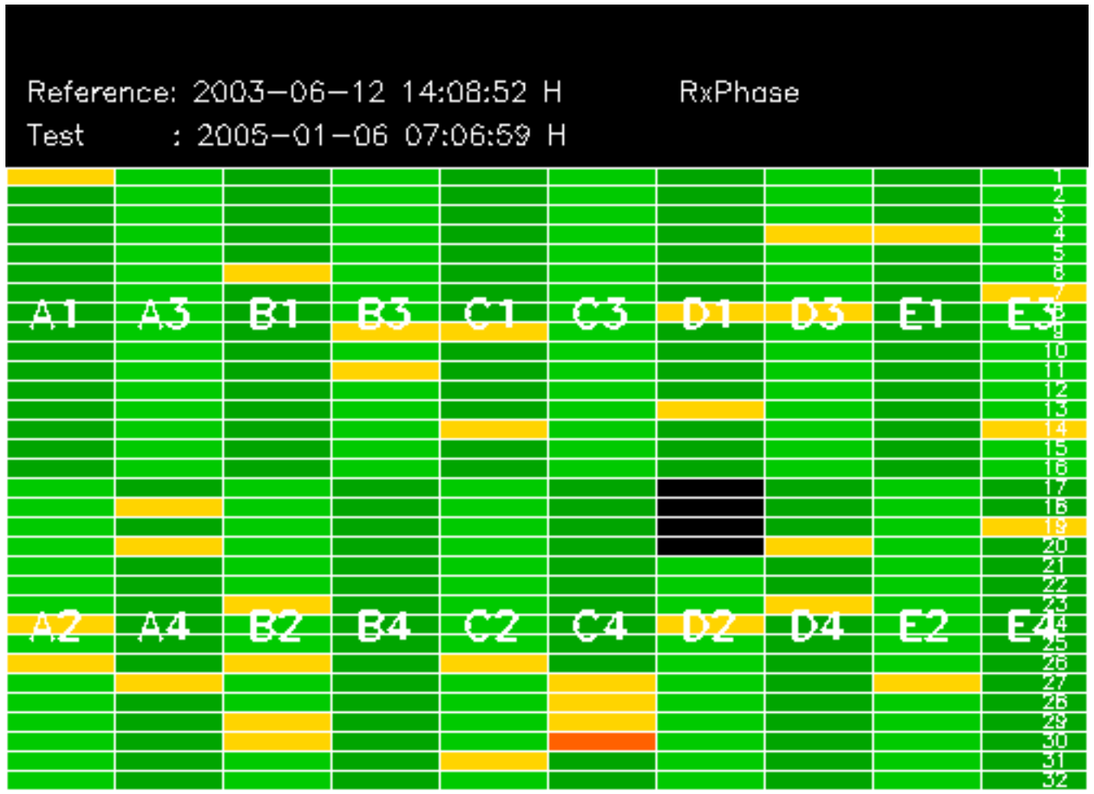

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-01-06 07:06:59 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2005-01-06 07:06:59 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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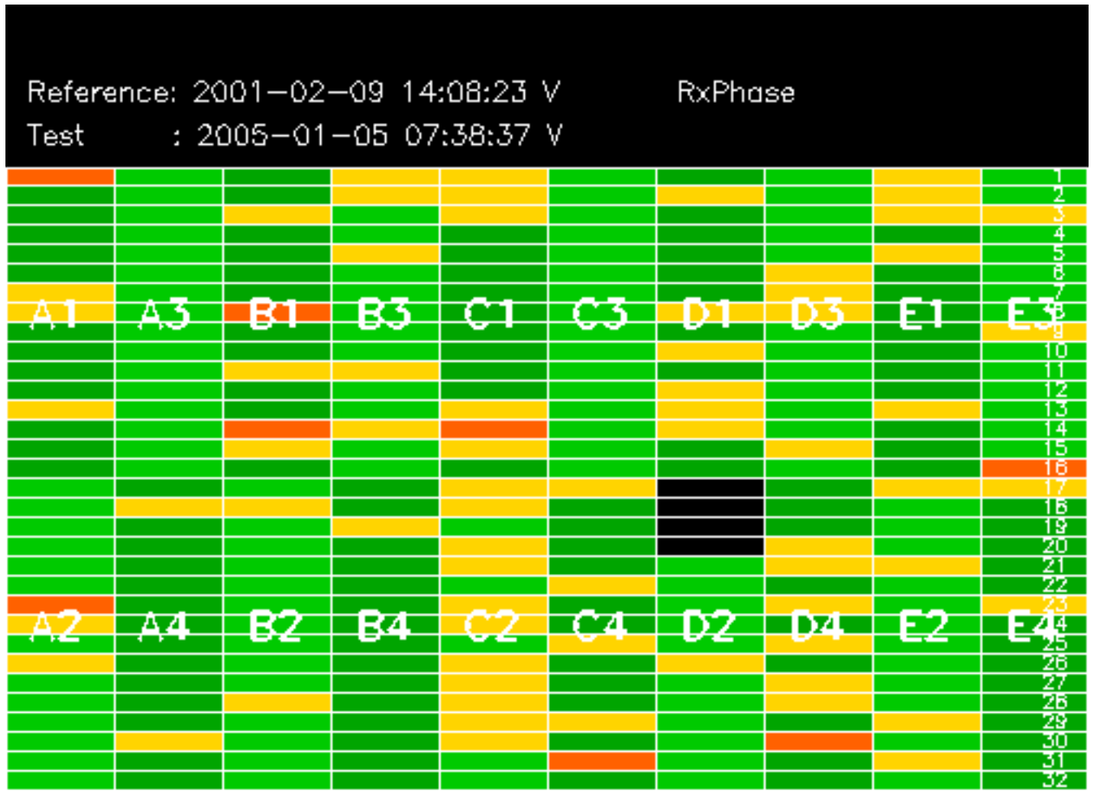
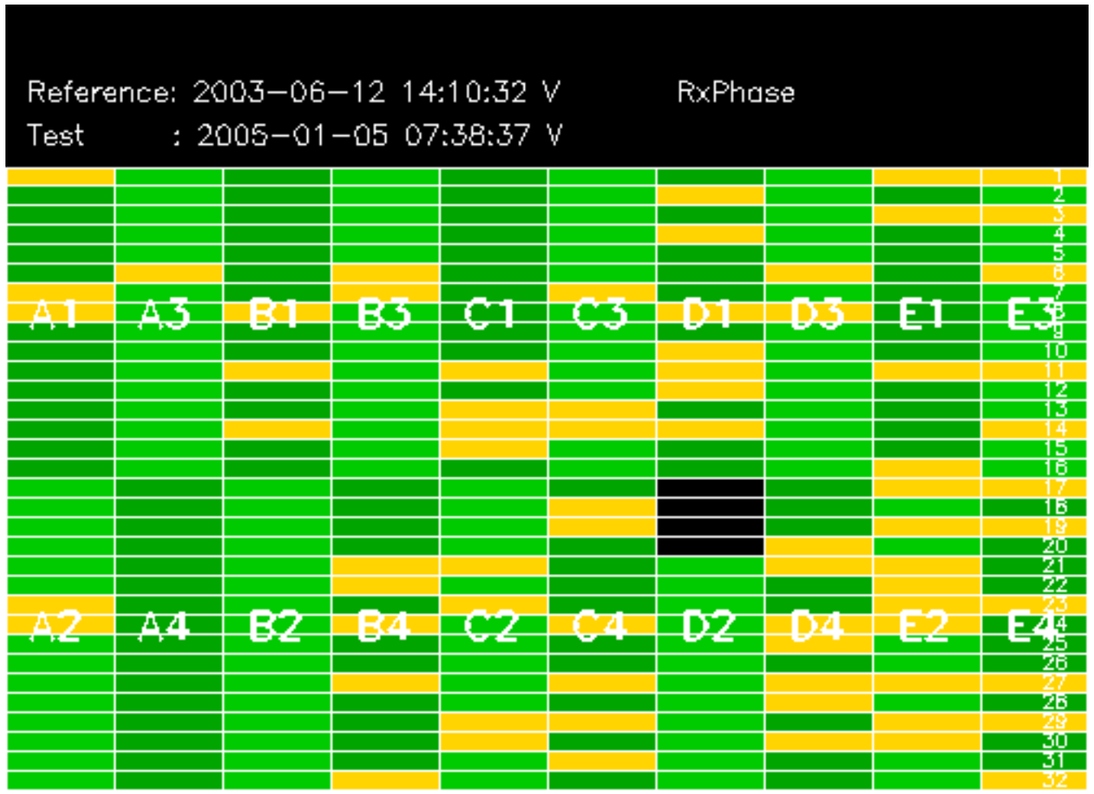
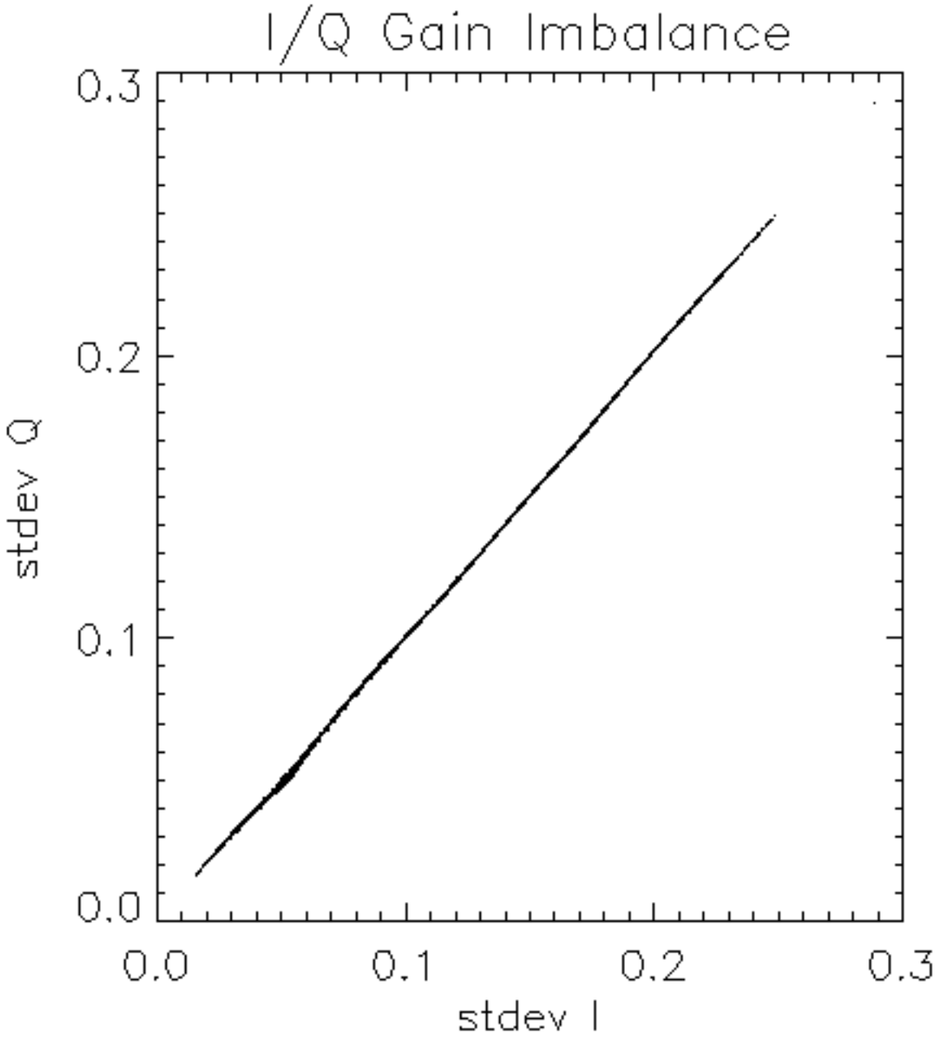
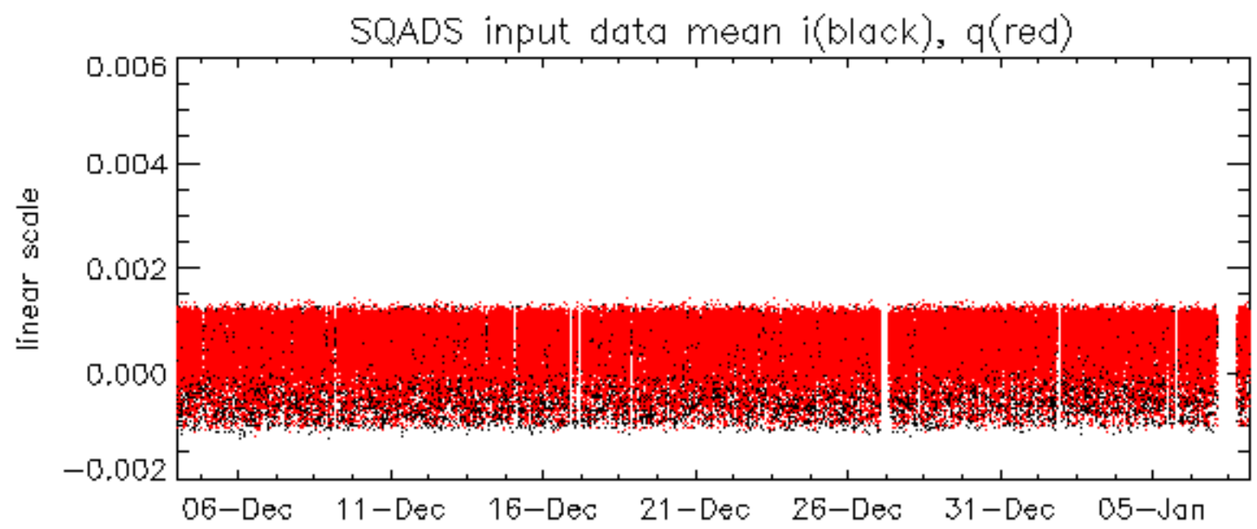
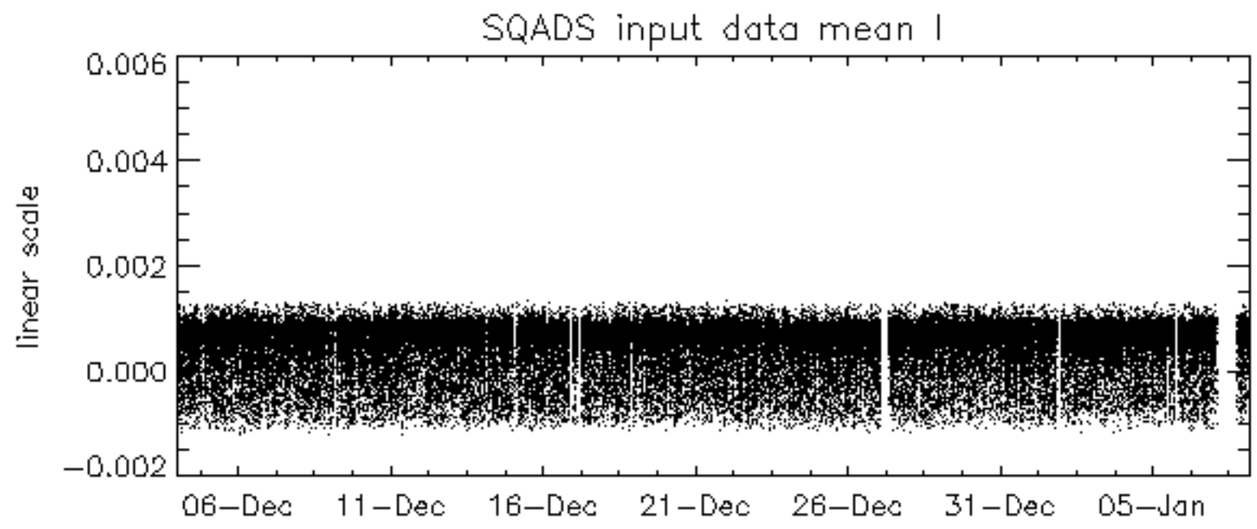
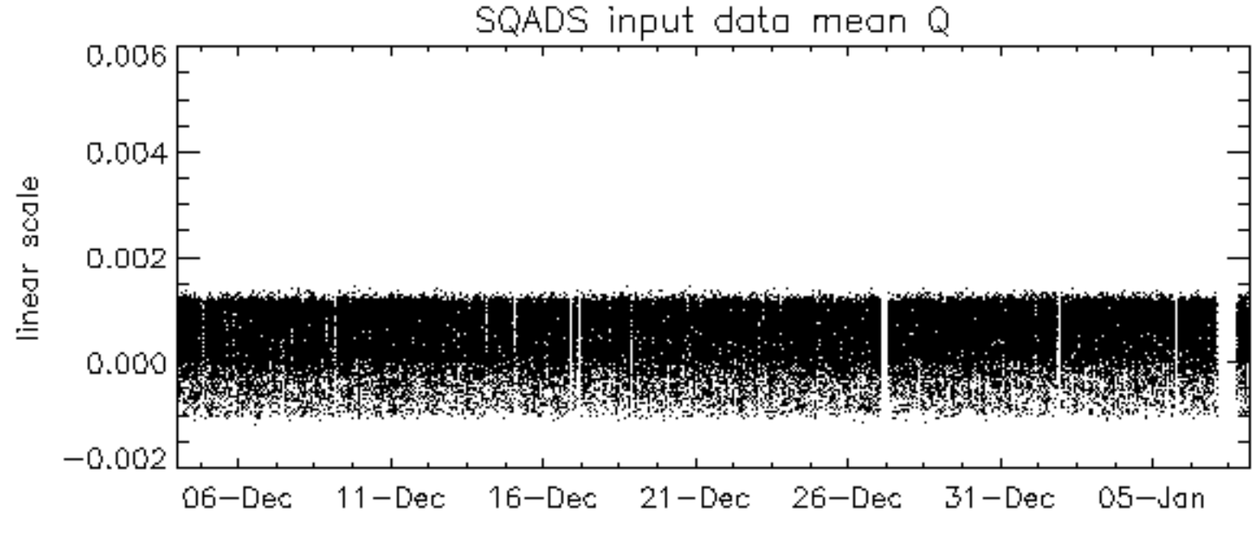

Reference: 2001-02-09 14:08:23 V
Test : 2005-01-05 07:38:37 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

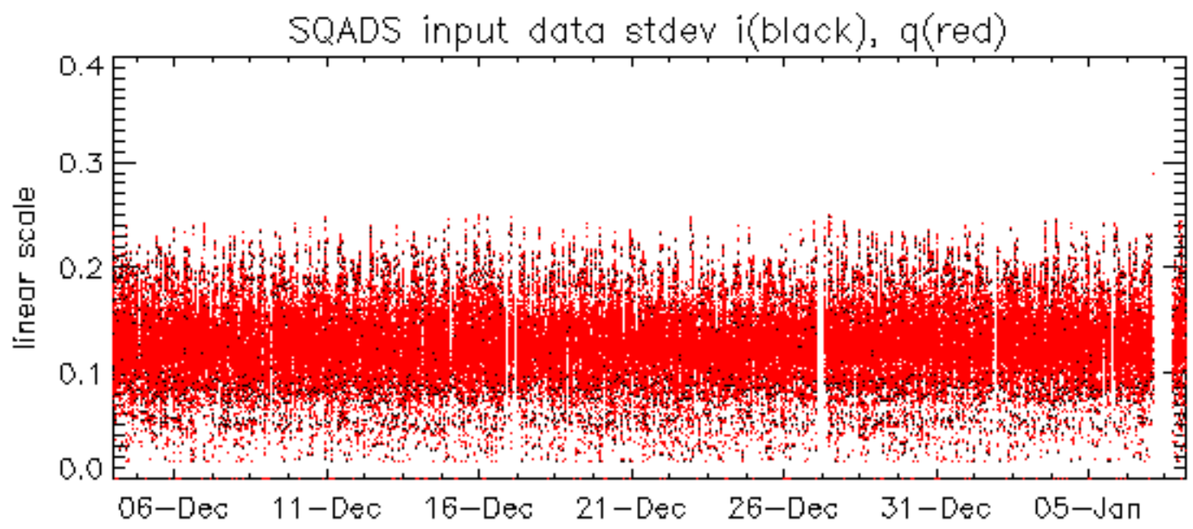

Reference: 2003-06-12 14:10:32 V
Test : 2005-01-05 07:38:37 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

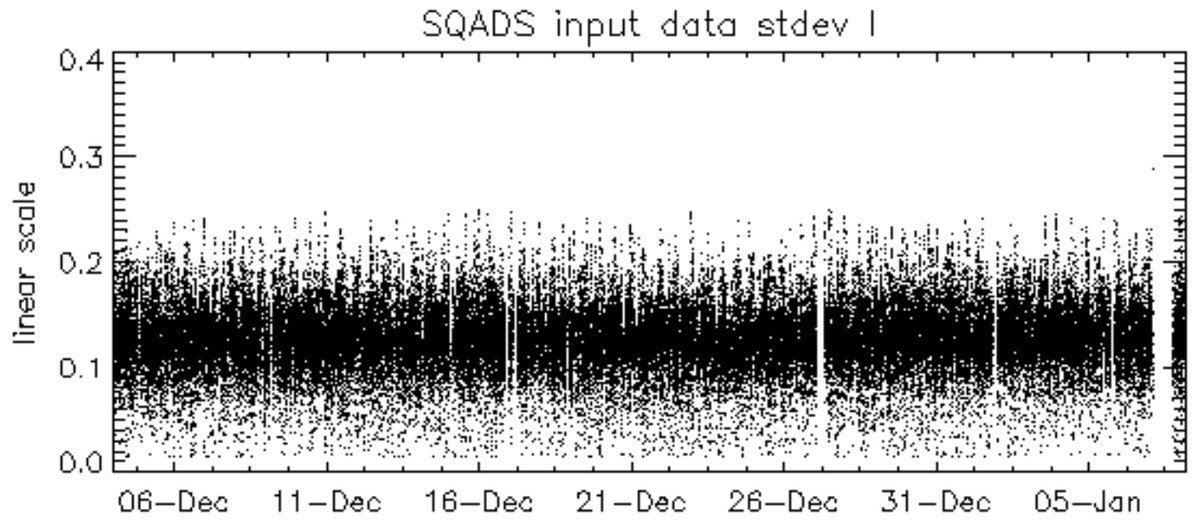

I/Q Gain Imbalance
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
stdev I

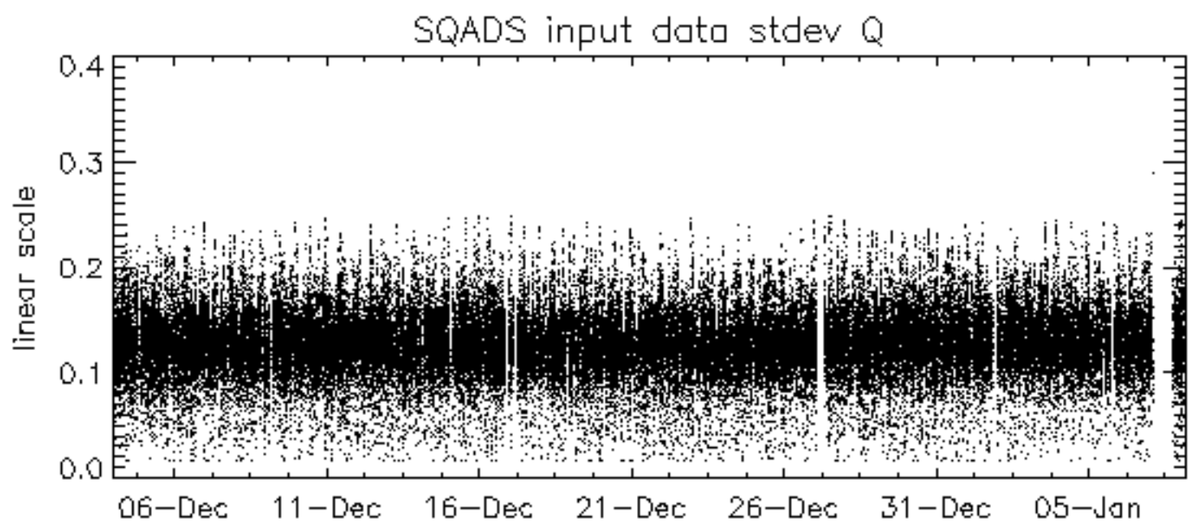

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan

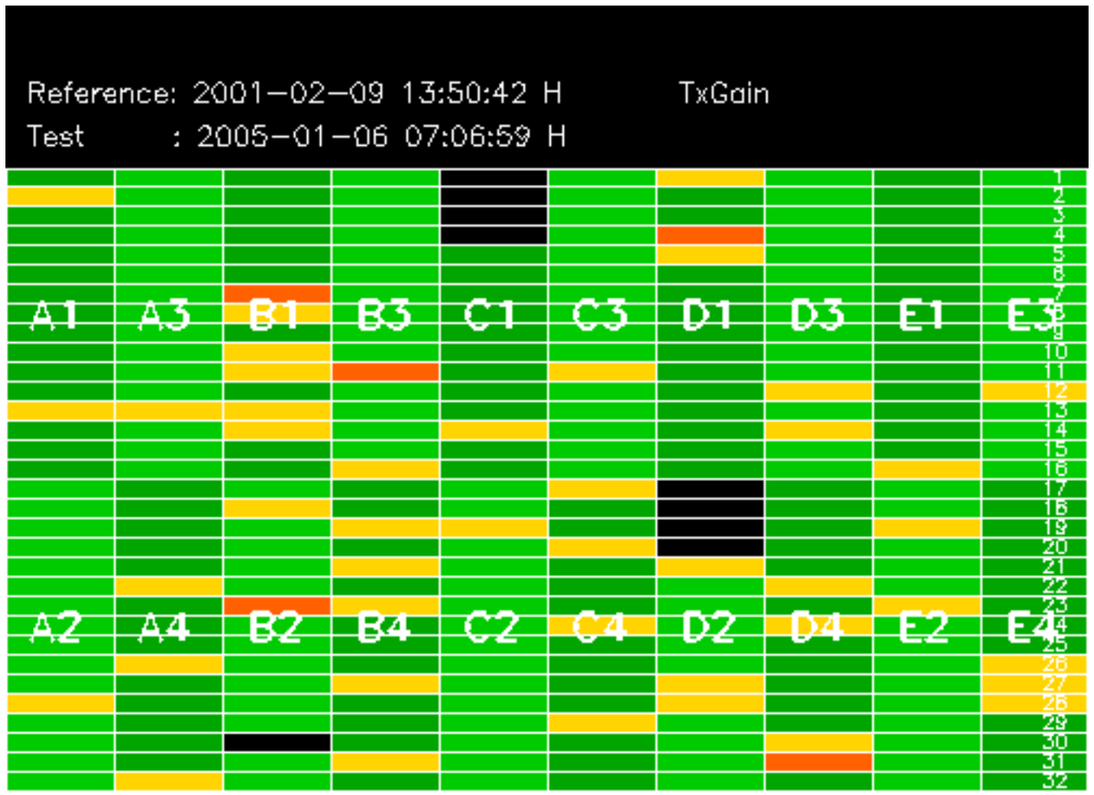

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan

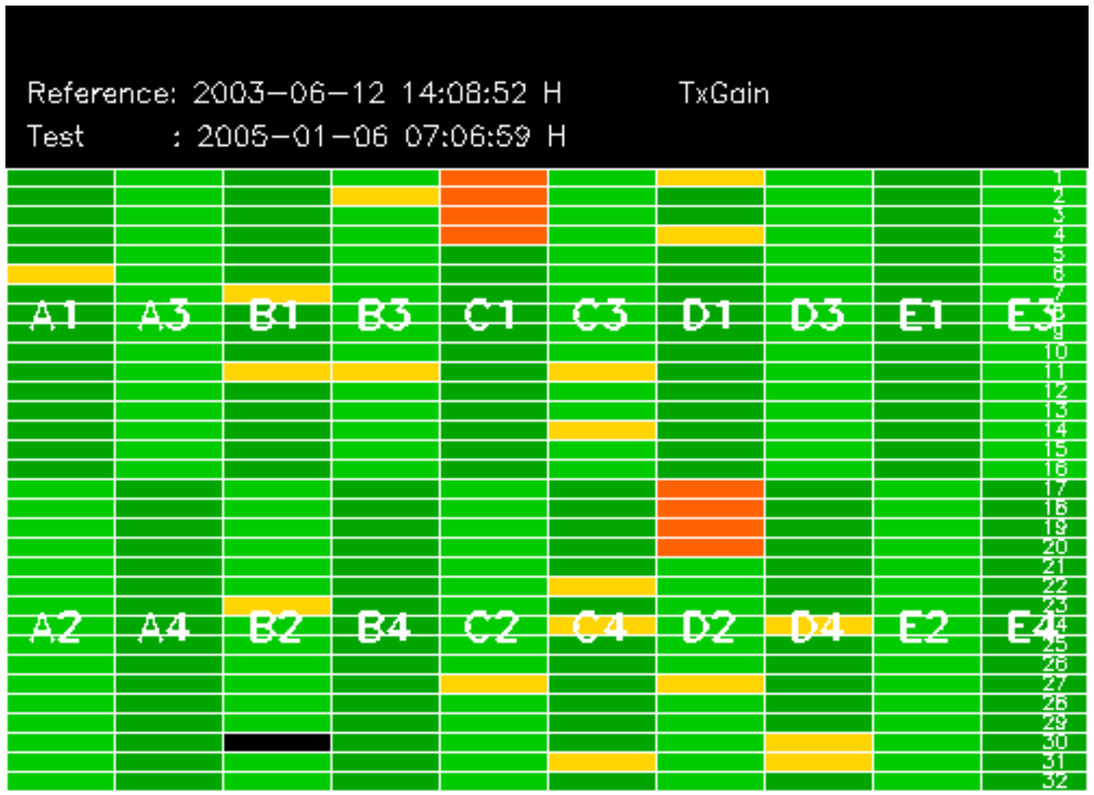

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan


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


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan


Reference: 2001-02-09 13:50:42 H
Test : 2005-01-06 07:06:59 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 : 2005-01-06 07:06:59 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 : 2005-01-05 07:38:37 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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27
28
29
30
31
32


Reference: 2003-06-12 14:10:32 V
Test : 2005-01-05 07:38:37 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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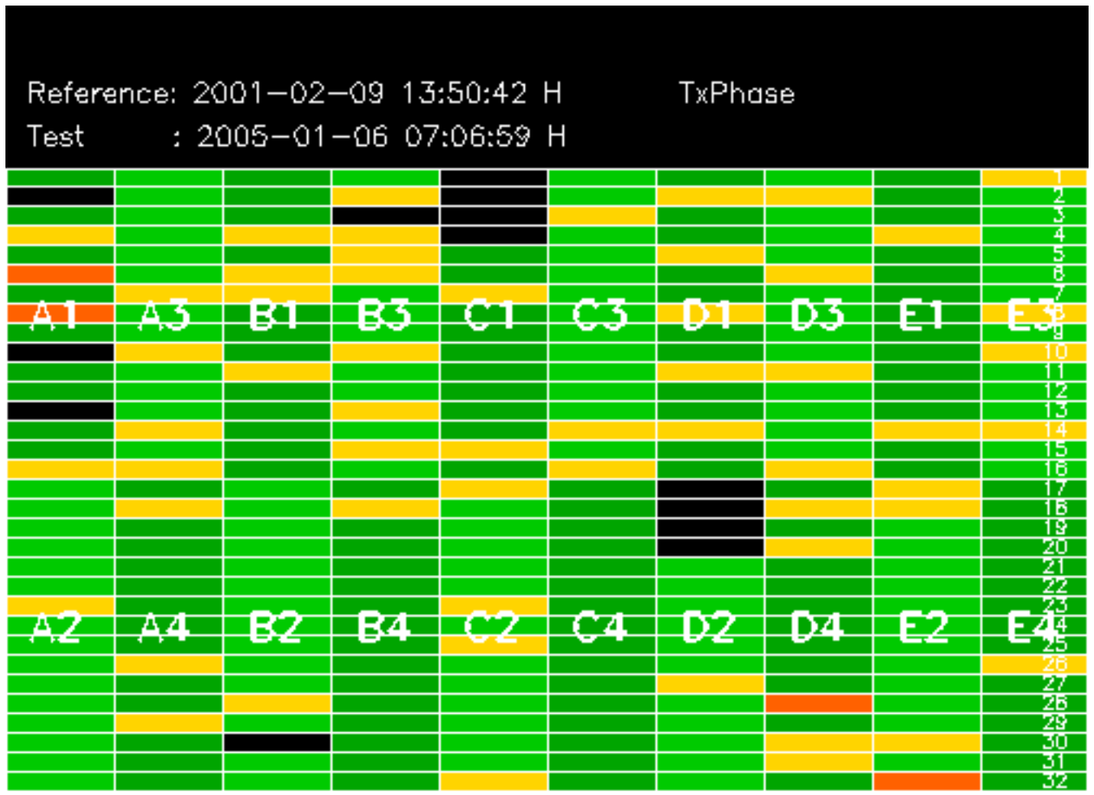
Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2005-01-06 07:06:59 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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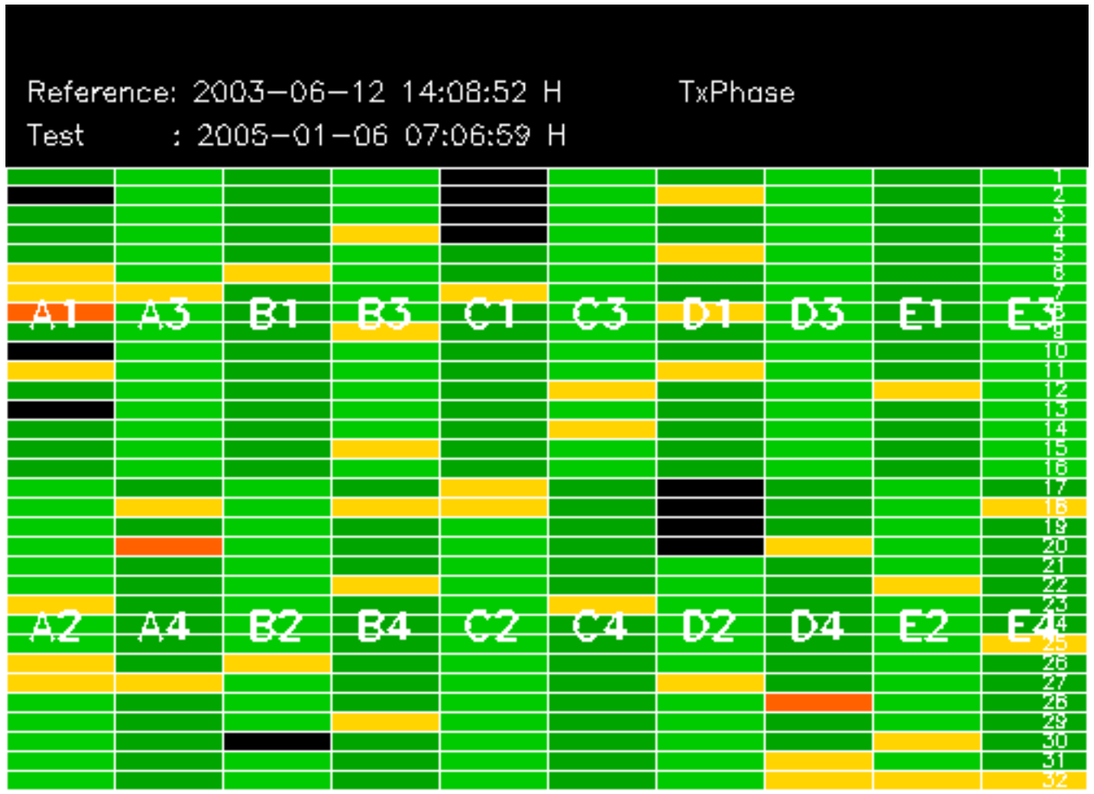
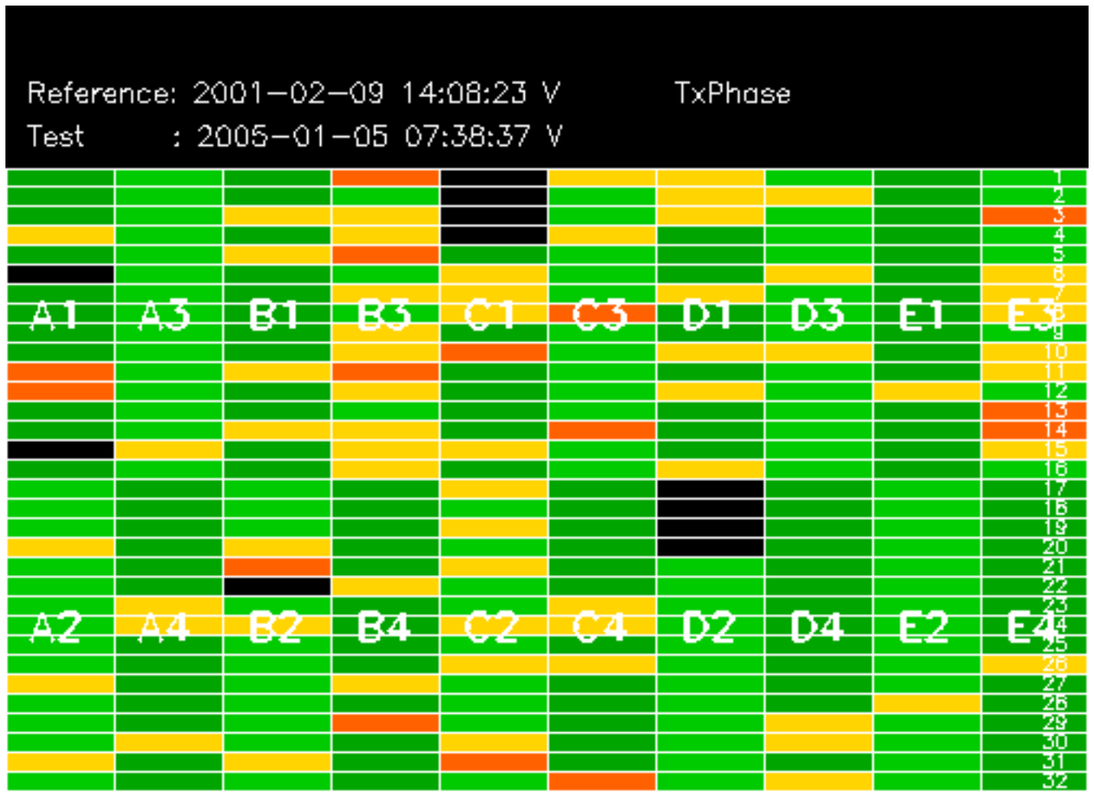

Reference: 2003-06-12 14:08:52 H
Test : 2005-01-06 07:06:59 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2005-01-05 07:38:37 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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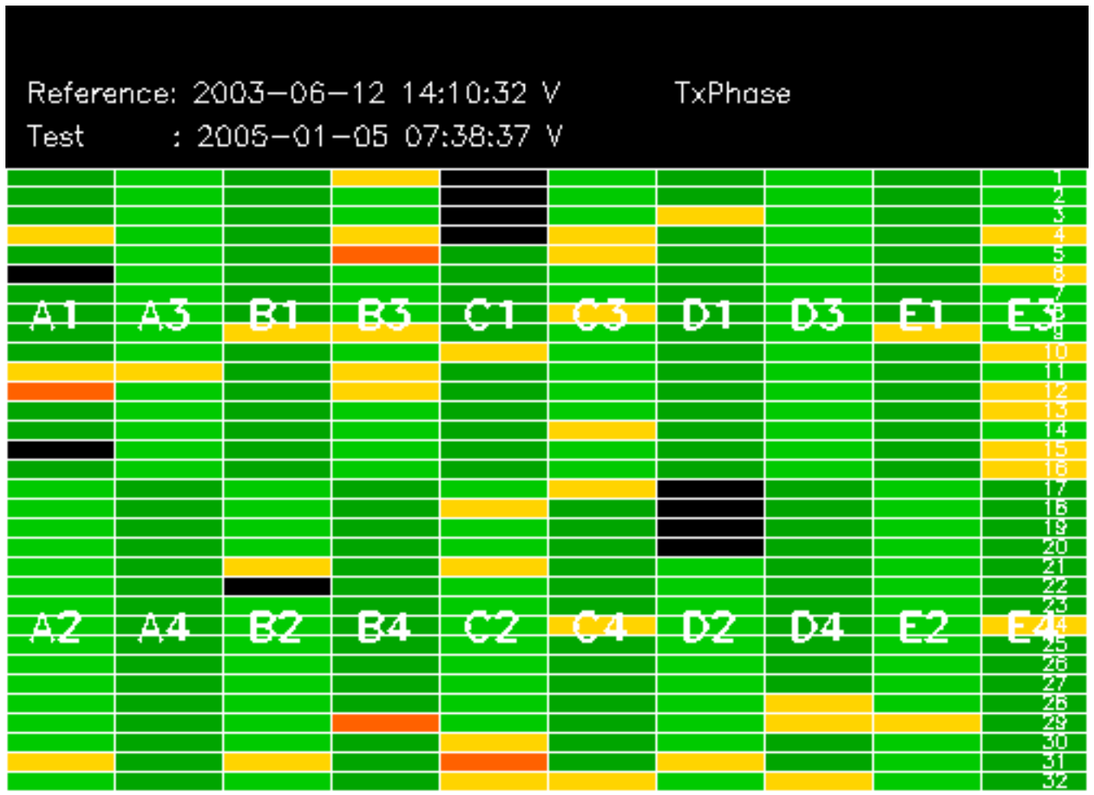
Reference: 2003-06-12 14:10:32 V
Test : 2005-01-05 07:38:37 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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D4
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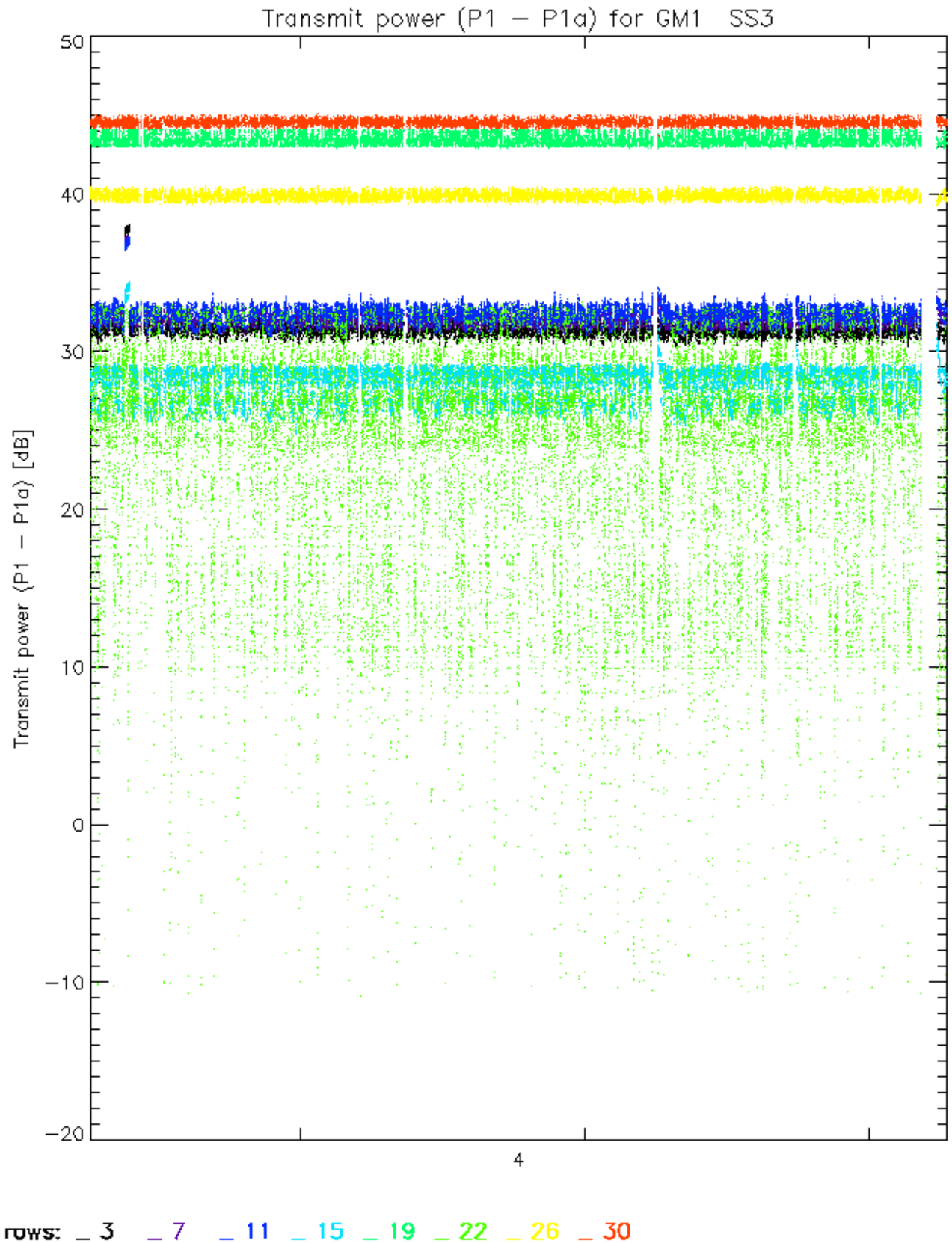
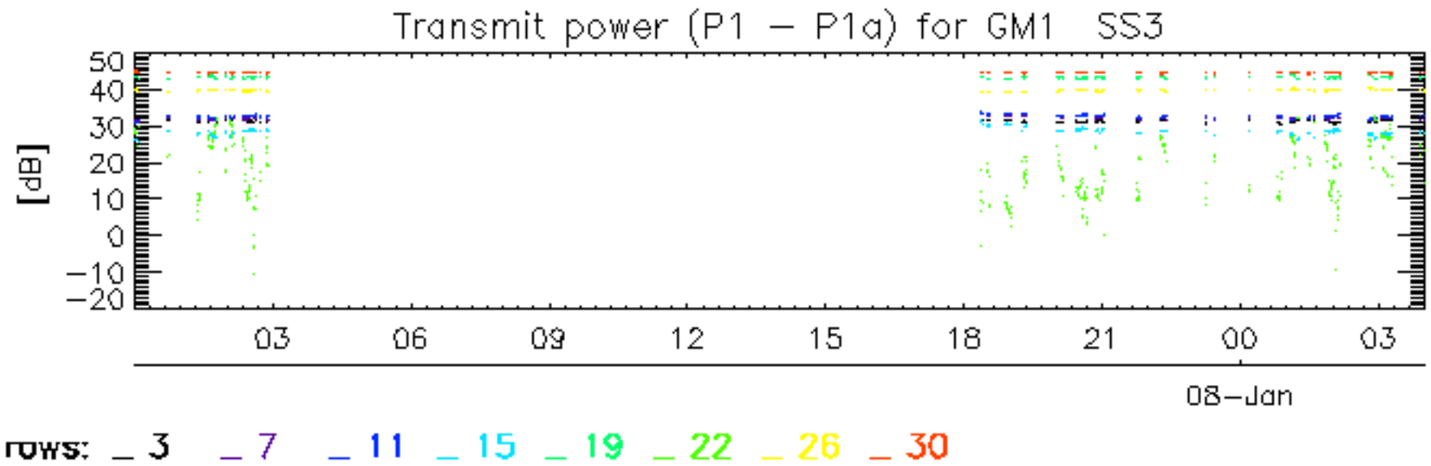
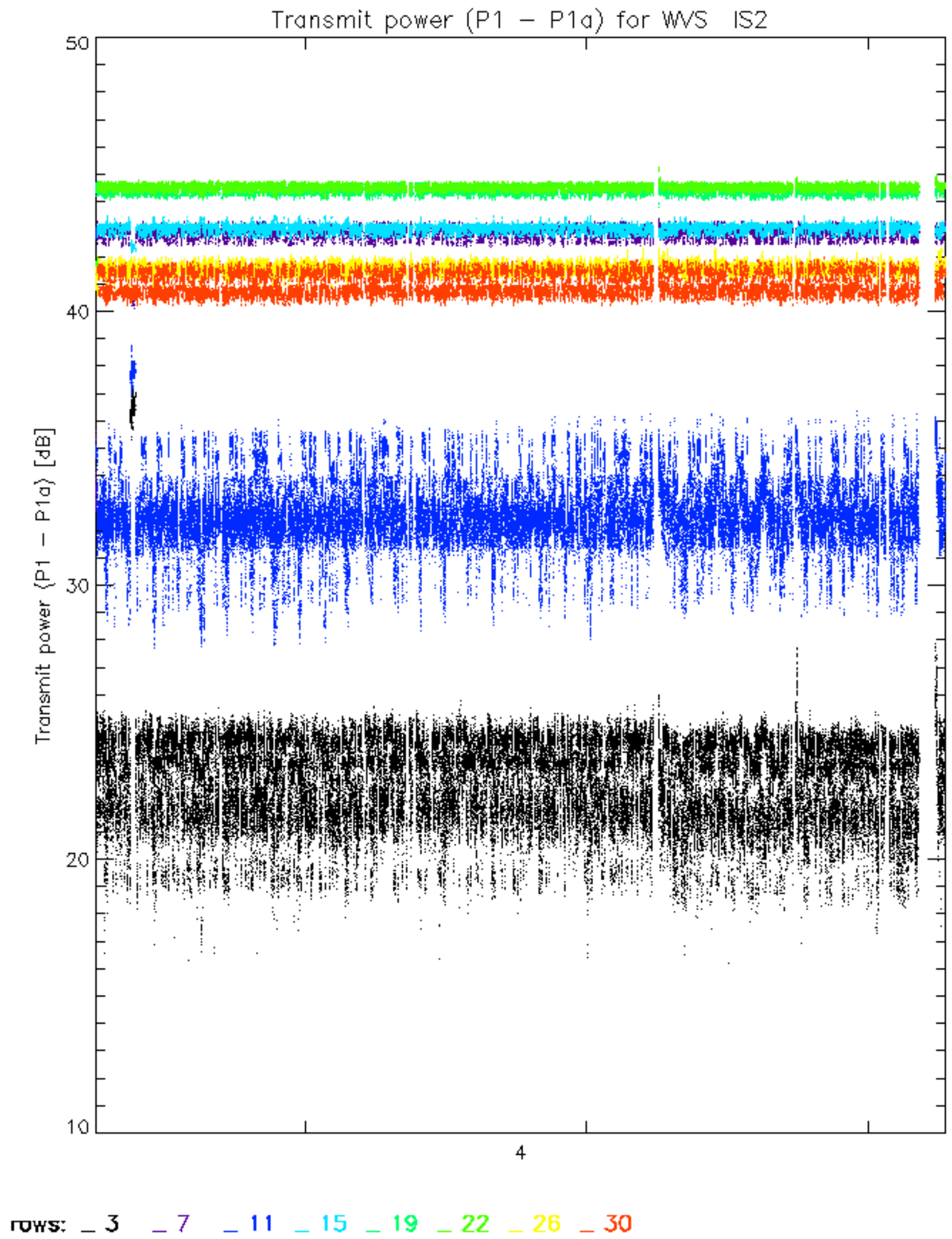
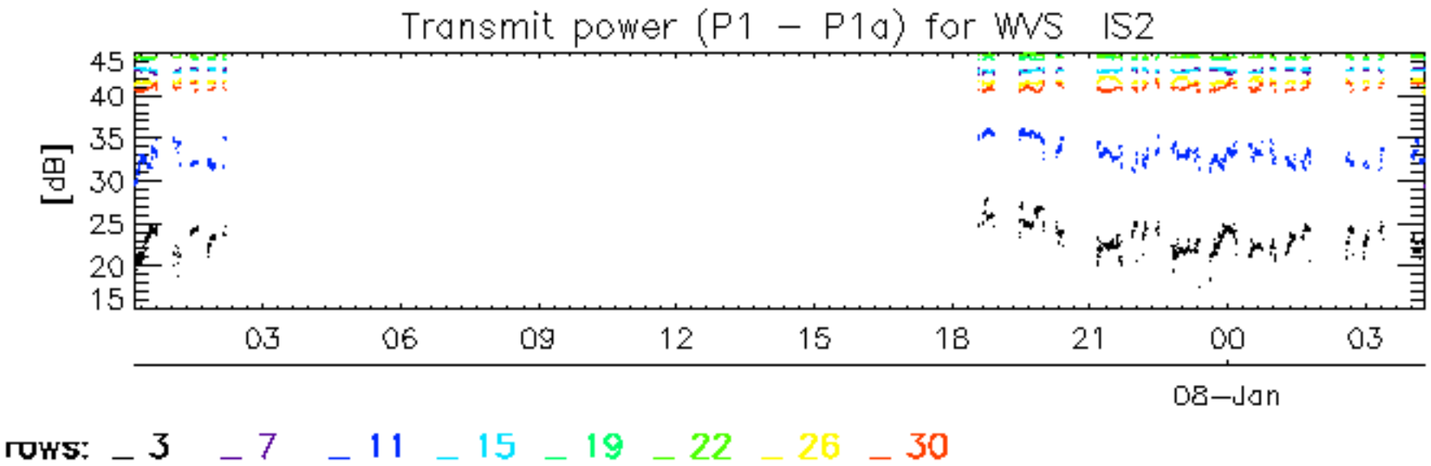

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
−20
4
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
50
40
30
20
10
0
−10
−20
03
06
09
12
15
18
21
00
03
08–Jan
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
4
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
08–Jan
rows: 3 7 11 15 19 22 26 30

ASAR was unavailable on 07-JAN-2005:
 - from 03:00:00 to 13:00:00 UTC due to an OCM
 - from 13:00:00 to 18:20:58 UTC due to a patch uplink