PRELIMINARY REPORT OF 050103

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

last update on Mon Jan 3 11:00:07 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

No unavailabilities during the reported period.

2.2 - Auxiliary files

Summary of the auxiliary files used from 2005-01-02 00:00:00 to 2005-01-03 11:00:07

PDHS-K					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	18	45	4	1	5
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	18	45	4	1	5
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	18	45	4	1	5
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	18	45	4	1	5

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	46	49	5	8	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	46	49	5	8	4
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	46	49	5	8	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	46	49	5	8	4

2.3 - Browse Visual Inspection

No anomalies observed on available browse products

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	20050102 023104
H	20050101 030242

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	-3.452056	0.029576	0.087096
7	P1	-3.099400	0.024482	0.057671
11	P1	-4.651088	0.045596	0.008211
15	P1	-5.663237	0.038607	-0.013554
19	P1	-3.655809	0.005514	-0.013163
22	P1	-4.576363	0.016633	0.026682
26	P1	-4.938463	0.022079	0.021644
30	P1	-7.118155	0.013533	-0.031077
3	P1	-15.942608	0.111723	0.021799
7	P1	-15.508401	0.161158	-0.008064
11	P1	-20.748293	0.538494	-0.249178
15	P1	-11.614653	0.096336	-0.027447
19	P1	-14.160769	0.027677	-0.042118
22	P1	-16.081865	0.454602	0.257777
26	P1	-17.746700	0.263484	0.178410
30	P1	-17.875841	0.306294	0.078881

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.343952	0.086991	0.088992
7	P2	-22.556368	0.170520	0.111151
11	P2	-14.871882	0.176345	0.161073
15	P2	-7.160839	0.115832	0.090519
19	P2	-9.731104	0.193458	0.096716
22	P2	-17.161522	0.101490	0.108417

26	P2	-16.531588	0.112741	0.053425
30	P2	-18.963217	0.083673	0.052358

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.209585	0.007210	0.020842
7	P3	-8.209589	0.007209	0.020896
11	P3	-8.209647	0.007210	0.021193
15	P3	-8.209533	0.007250	0.020505
19	P3	-8.209484	0.007261	0.020227
22	P3	-8.209513	0.007244	0.020385
26	P3	-8.209587	0.007211	0.020818
30	P3	-8.209767	0.007096	0.025019

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	-2.849102	0.108372	0.104261
7	P1	-2.982141	0.063217	0.086115
11	P1	-3.948031	0.048088	0.022309
15	P1	-3.519467	0.077739	0.062993
19	P1	-3.610156	0.012985	-0.001215
22	P1	-5.619821	0.069824	-0.046986
26	P1	-6.519946	0.023911	-0.040329
30	P1	-6.298432	0.045066	0.035640
3	P1	-10.730826	0.057570	-0.173809
7	P1	-10.136270	0.157622	-0.071395

11	P1	-12.434855	0.197957	-0.208128
15	P1	-11.727570	0.097133	-0.061262
19	P1	-15.646470	0.048675	-0.009931
22	P1	-24.156548	2.062791	0.202419
26	P1	-15.012931	0.392974	0.340994
30	P1	-20.145594	0.938395	0.130783

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.021423	0.037588	0.082183
7	P2	-22.599173	0.033020	0.132084
11	P2	-10.659657	0.037334	0.208016
15	P2	-5.058944	0.025647	0.049041
19	P2	-6.957919	0.036685	0.070532
22	P2	-7.293318	0.028902	0.091406
26	P2	-23.960571	0.018811	0.041539
30	P2	-22.014679	0.023027	0.092199

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.041551	0.003026	0.016771
7	P3	-8.041572	0.003029	0.016778
11	P3	-8.041498	0.003025	0.017146
15	P3	-8.041651	0.003031	0.016438
19	P3	-8.041542	0.003035	0.017069
22	P3	-8.041587	0.003026	0.016769
26	P3	-8.041557	0.003028	0.016911
30	P3	-8.041455	0.003019	0.016788

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	0.000454728
	stdev	2.31559e-07
MEAN Q	mean	0.000523166
	stdev	2.43468e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127160
	stdev	0.000982236
STDEV Q	mean	0.127396
	stdev	0.000992092

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

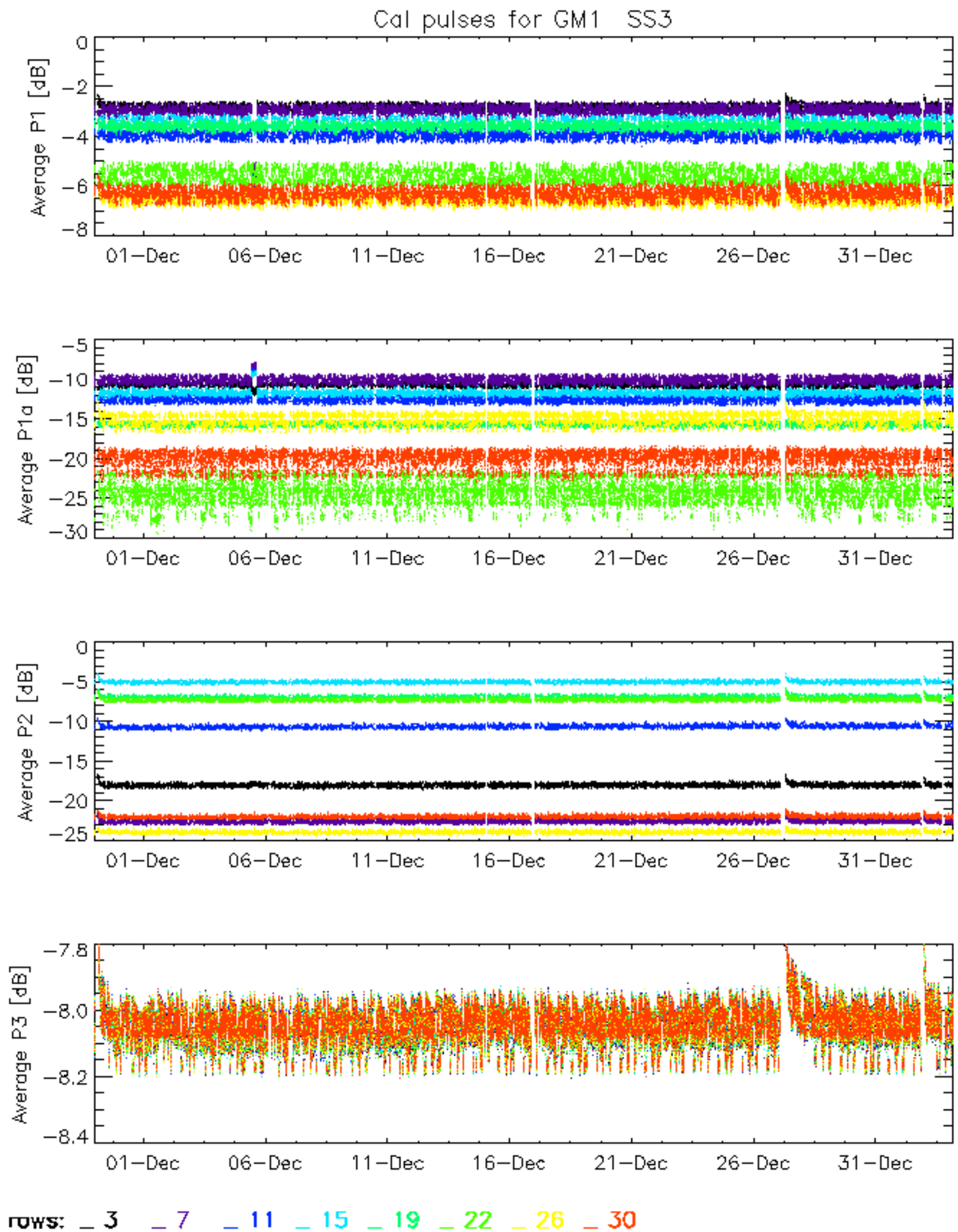
Evolution of Absolute Doppler

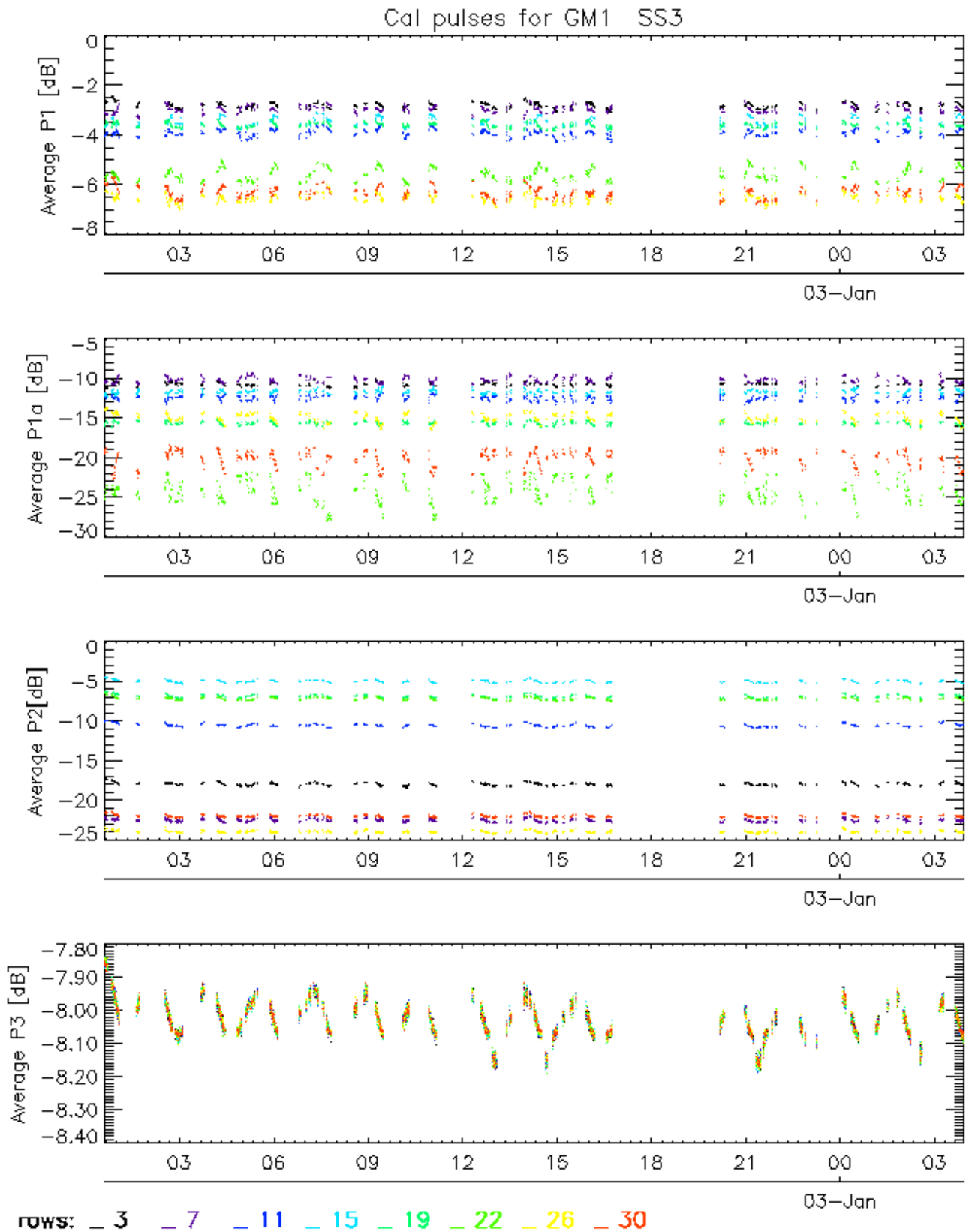
Acsending

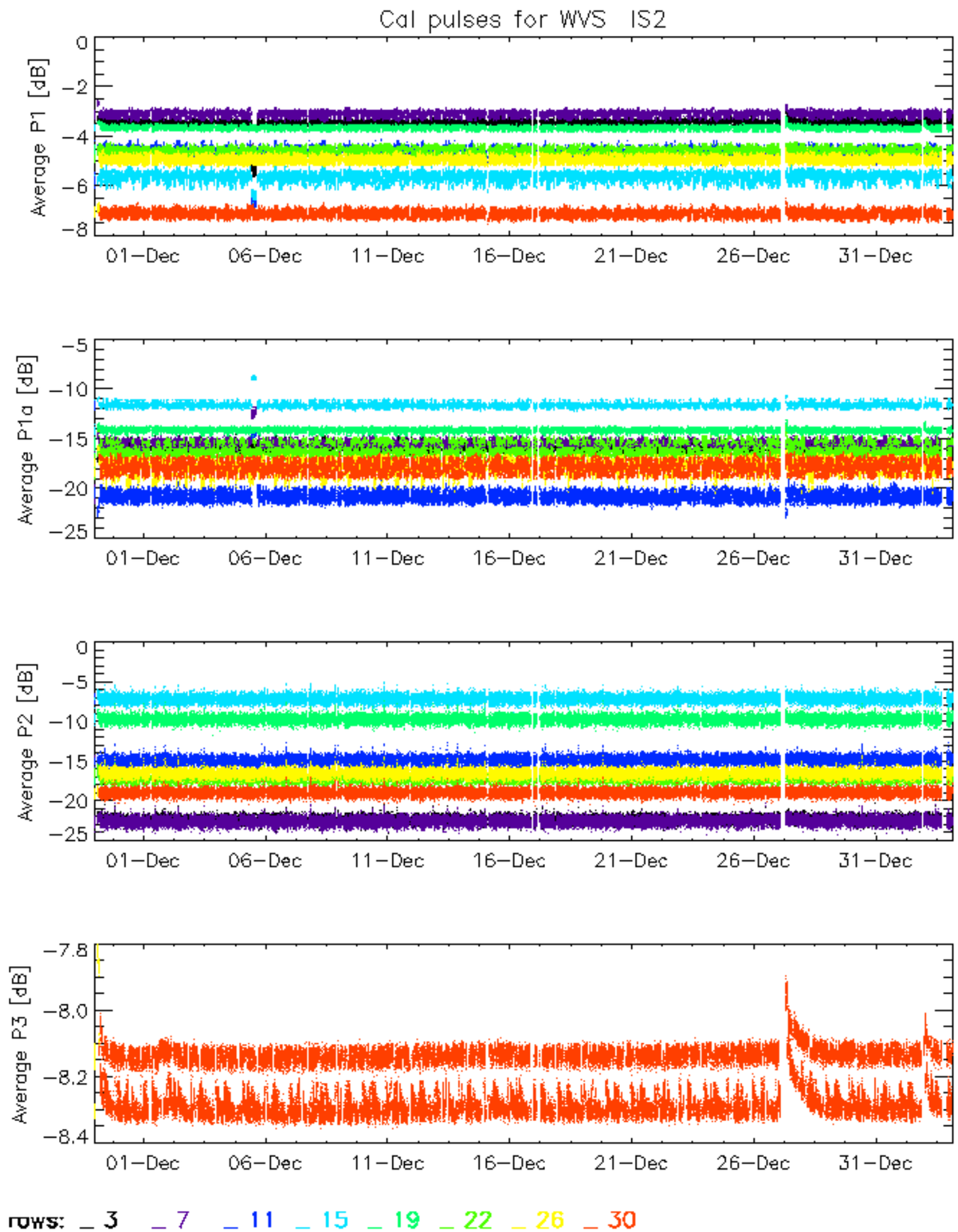
Descending

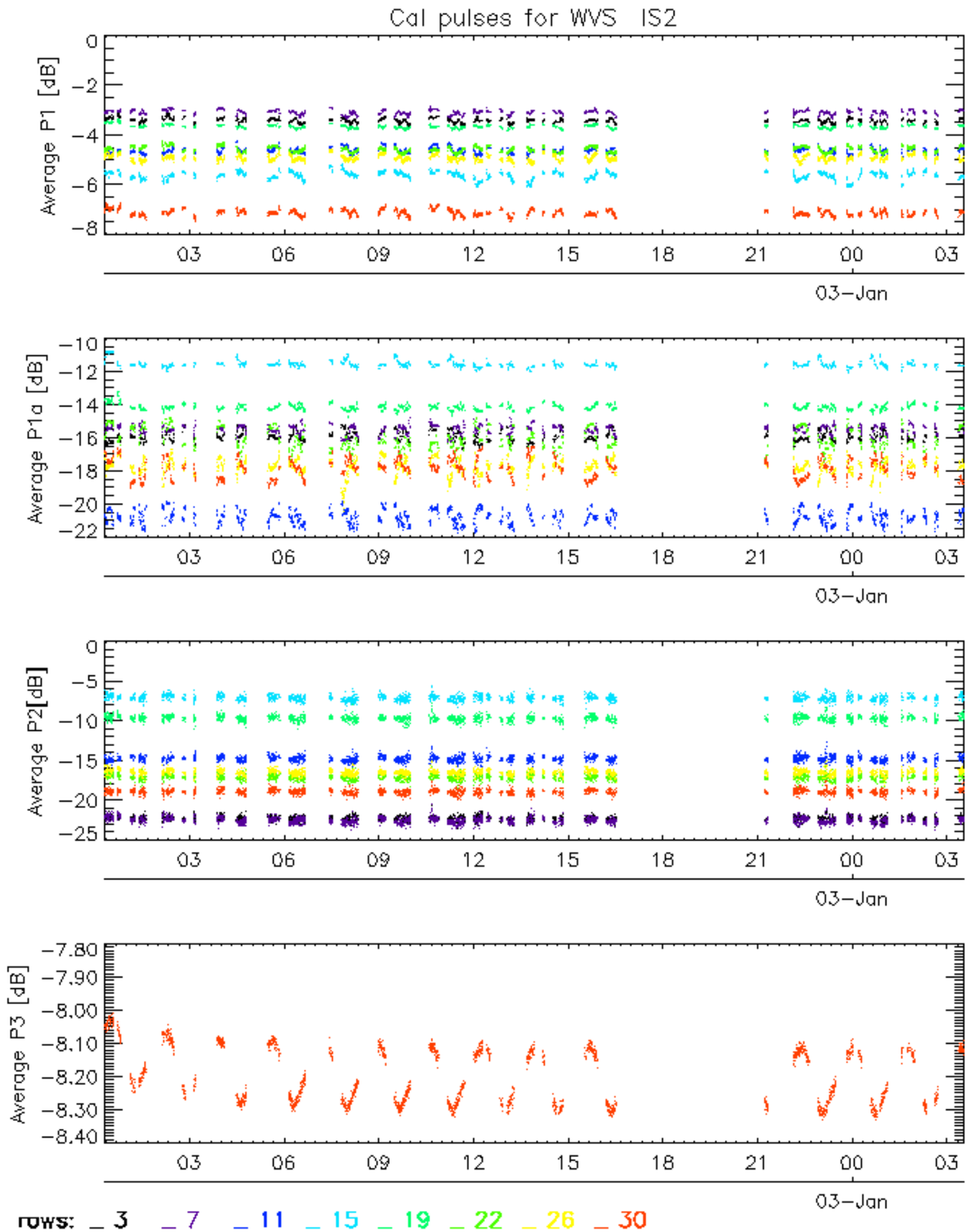
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX


Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
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
rows: 3 7 11 15 19 22 26 30

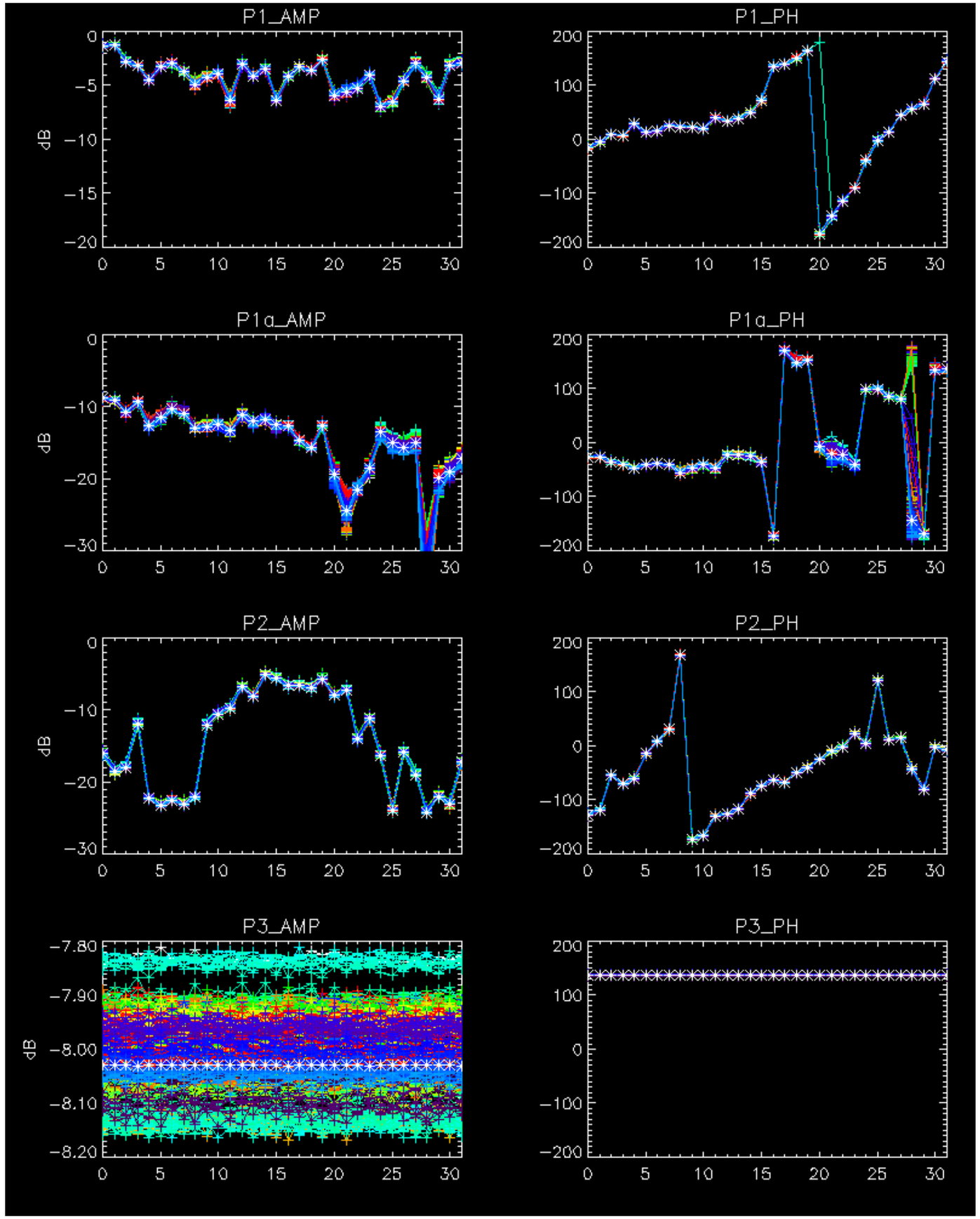

Cal pulses for GM1 SS3
Average P1 [dB]
Average P1a [dB]
Average P2[dB]
Average P3 [dB]
03
06
09
12
15
18
21
00
03
03–Jan
rows: 3 7 11 15 19 22 26 30

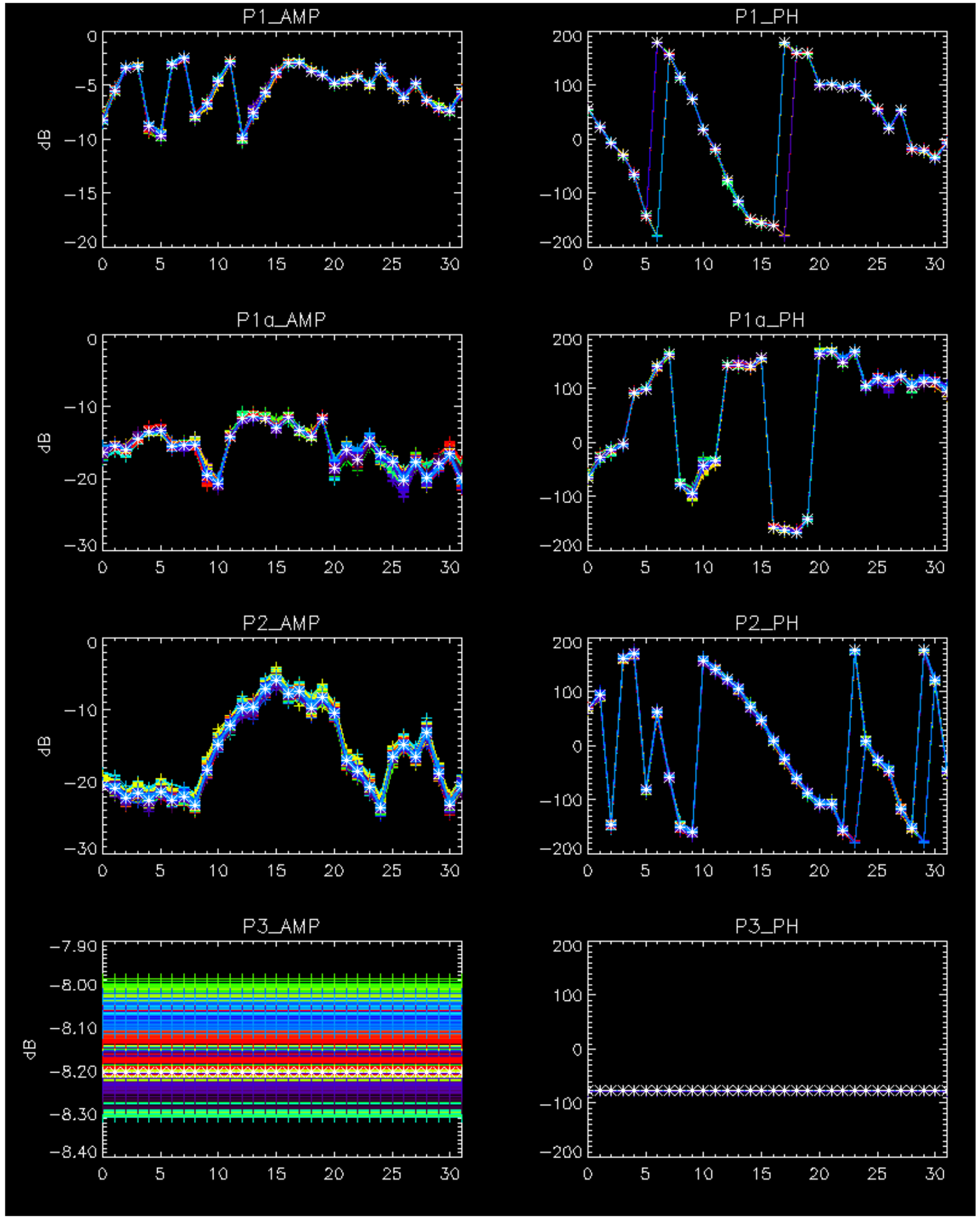

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
Average P1a [dB]
Average P2[dB]
Average P3 [dB]
03
06
09
12
15
18
21
00
03
03−Jan
rows: 3 7 11 15 19 22 26 30

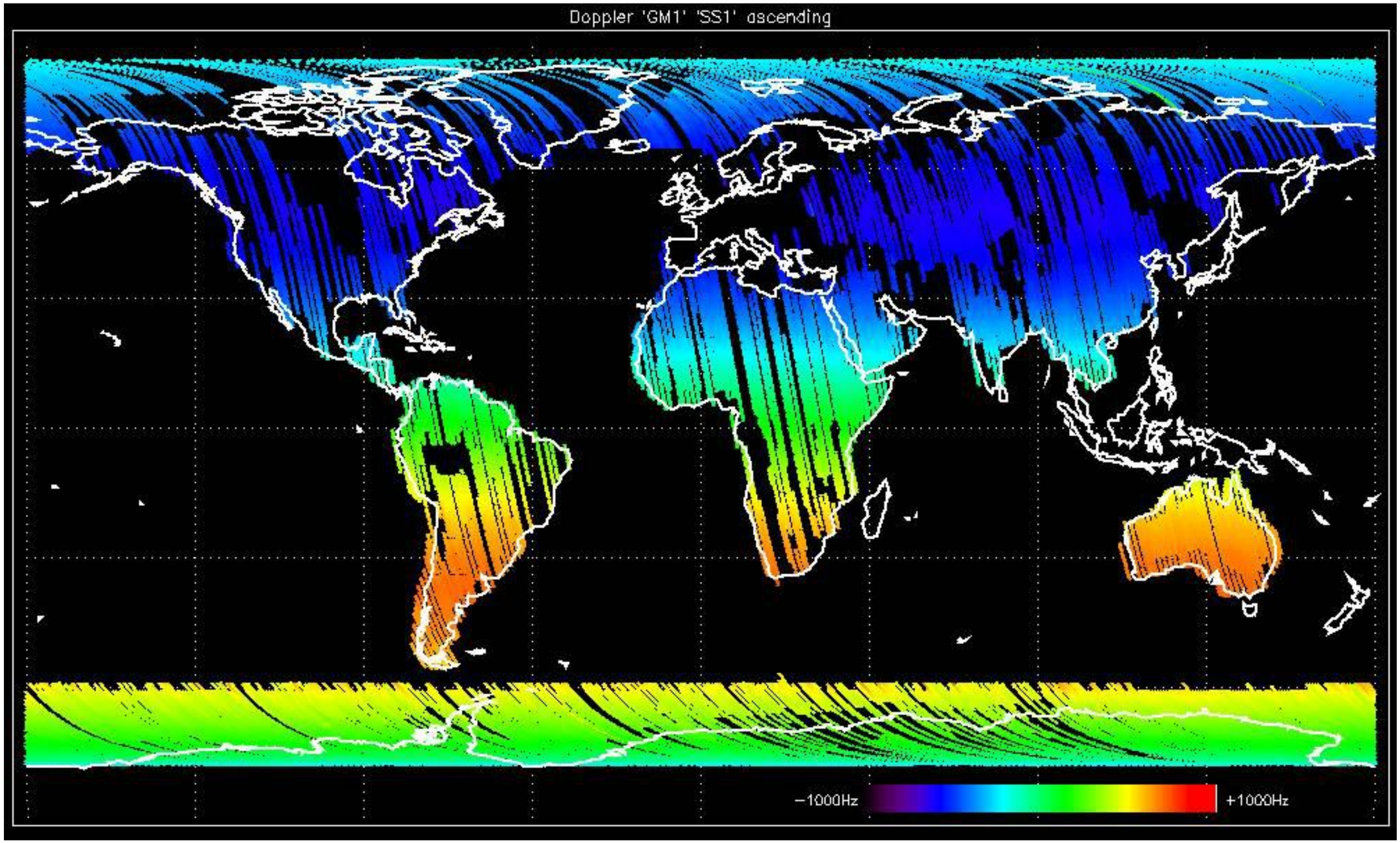
No anomalies observed on available browse products

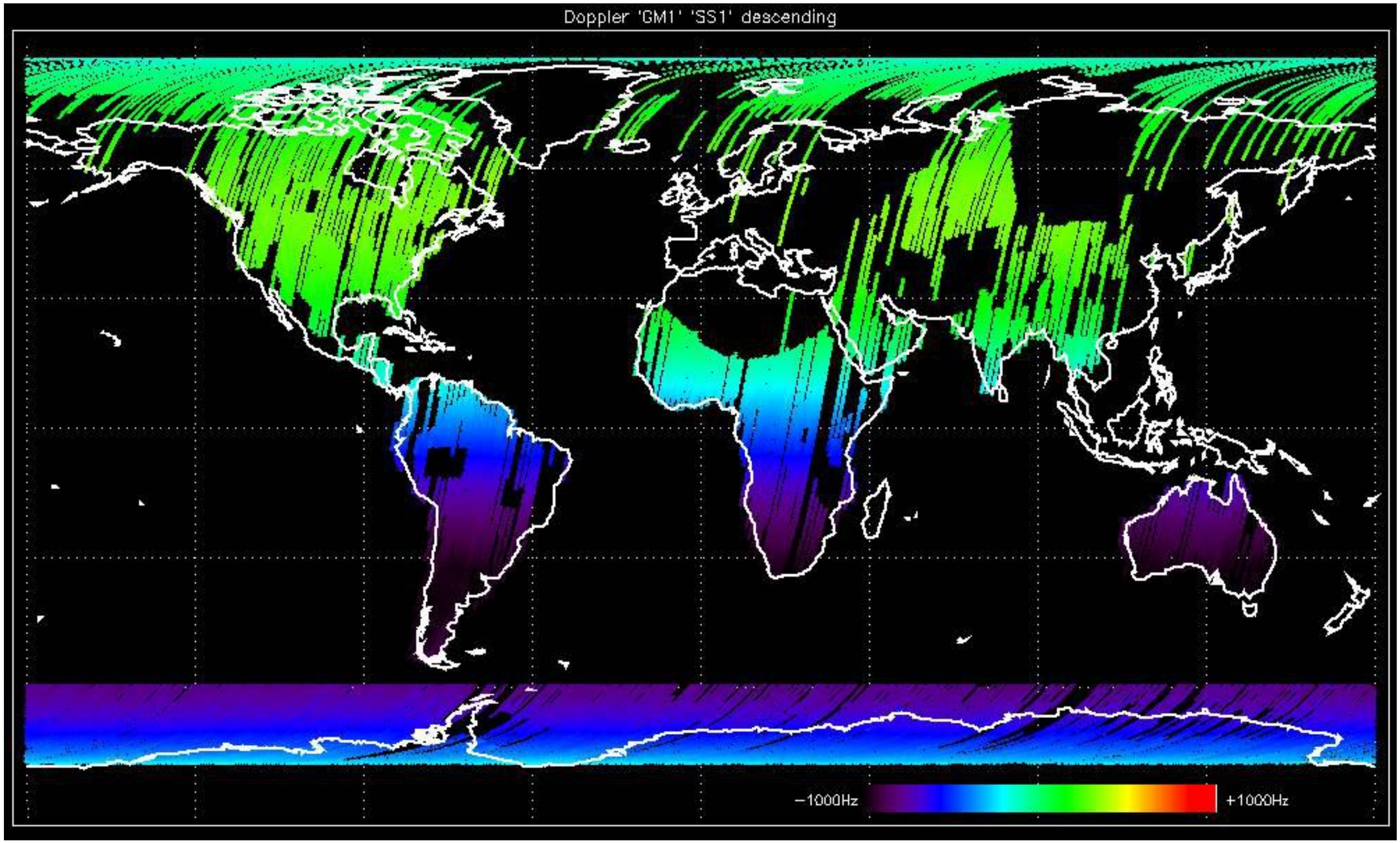
No anomalies observed.

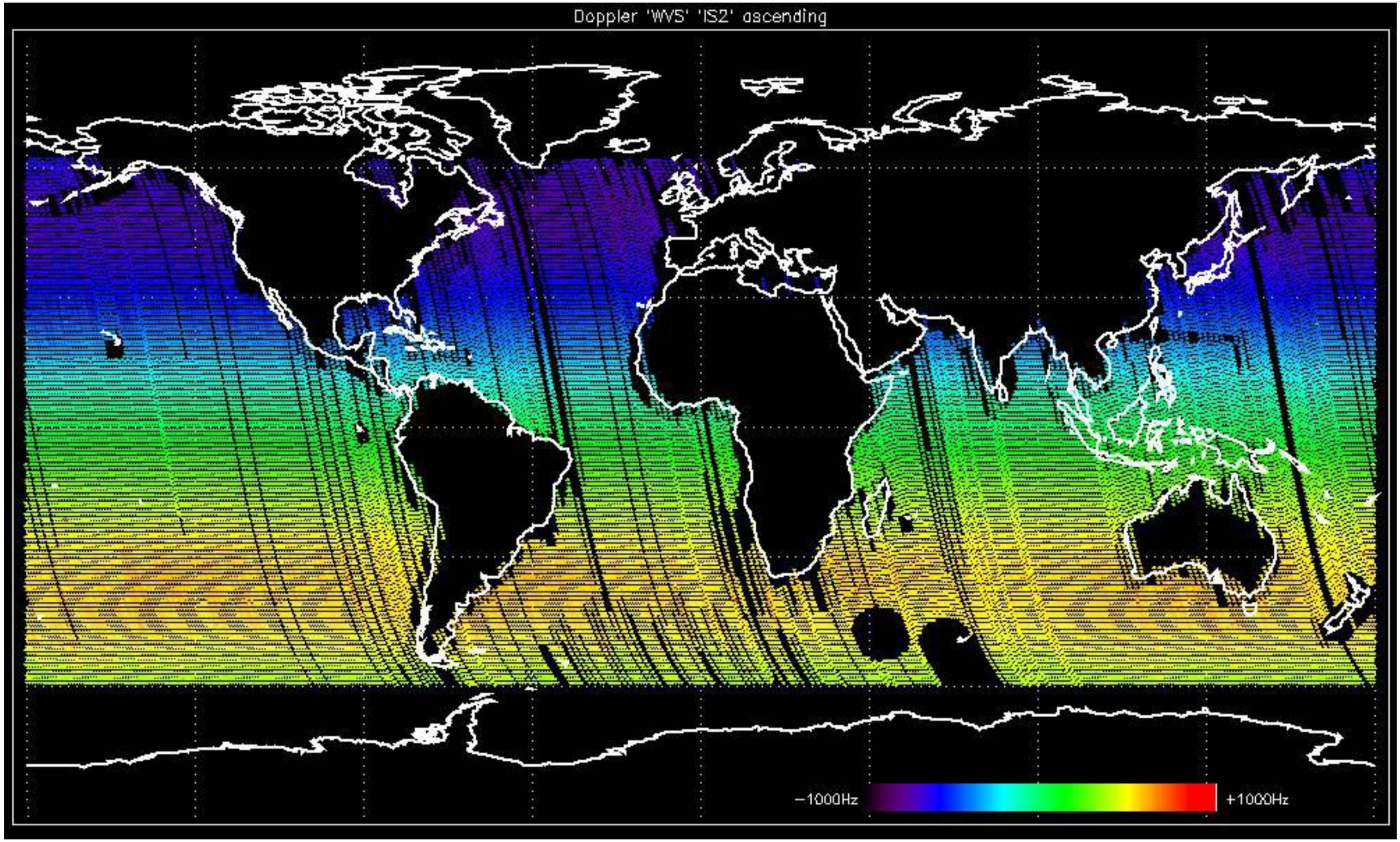

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

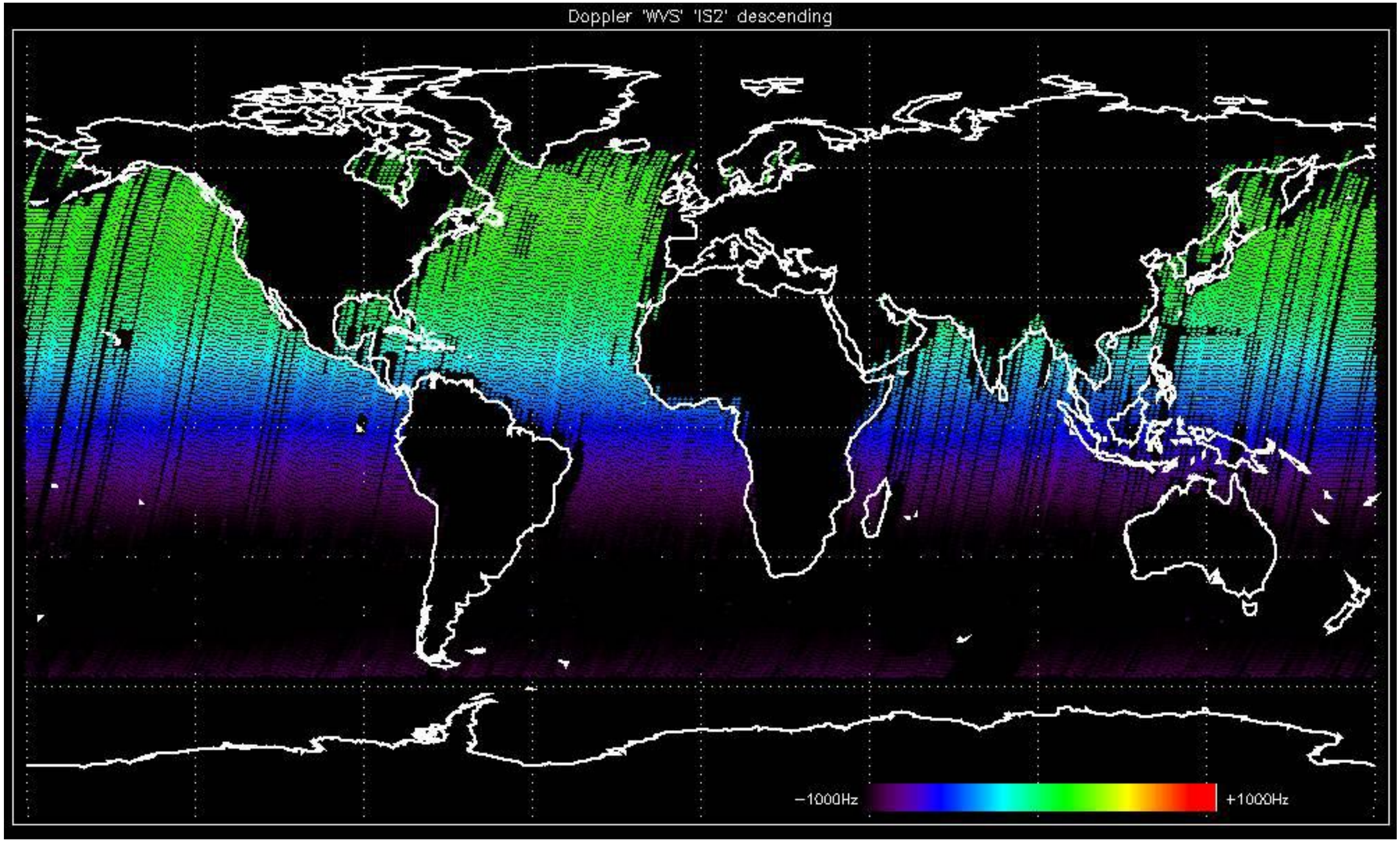

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

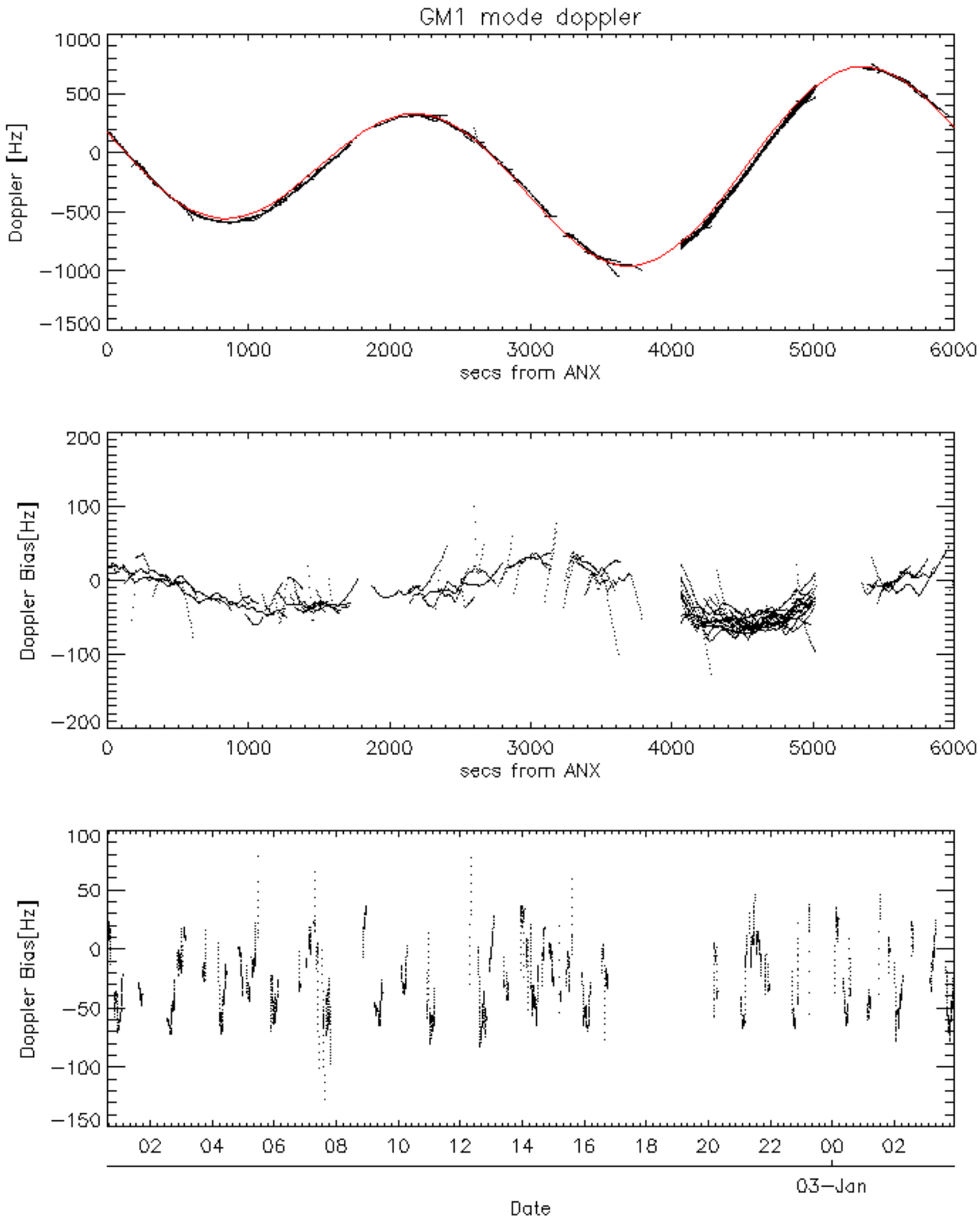
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

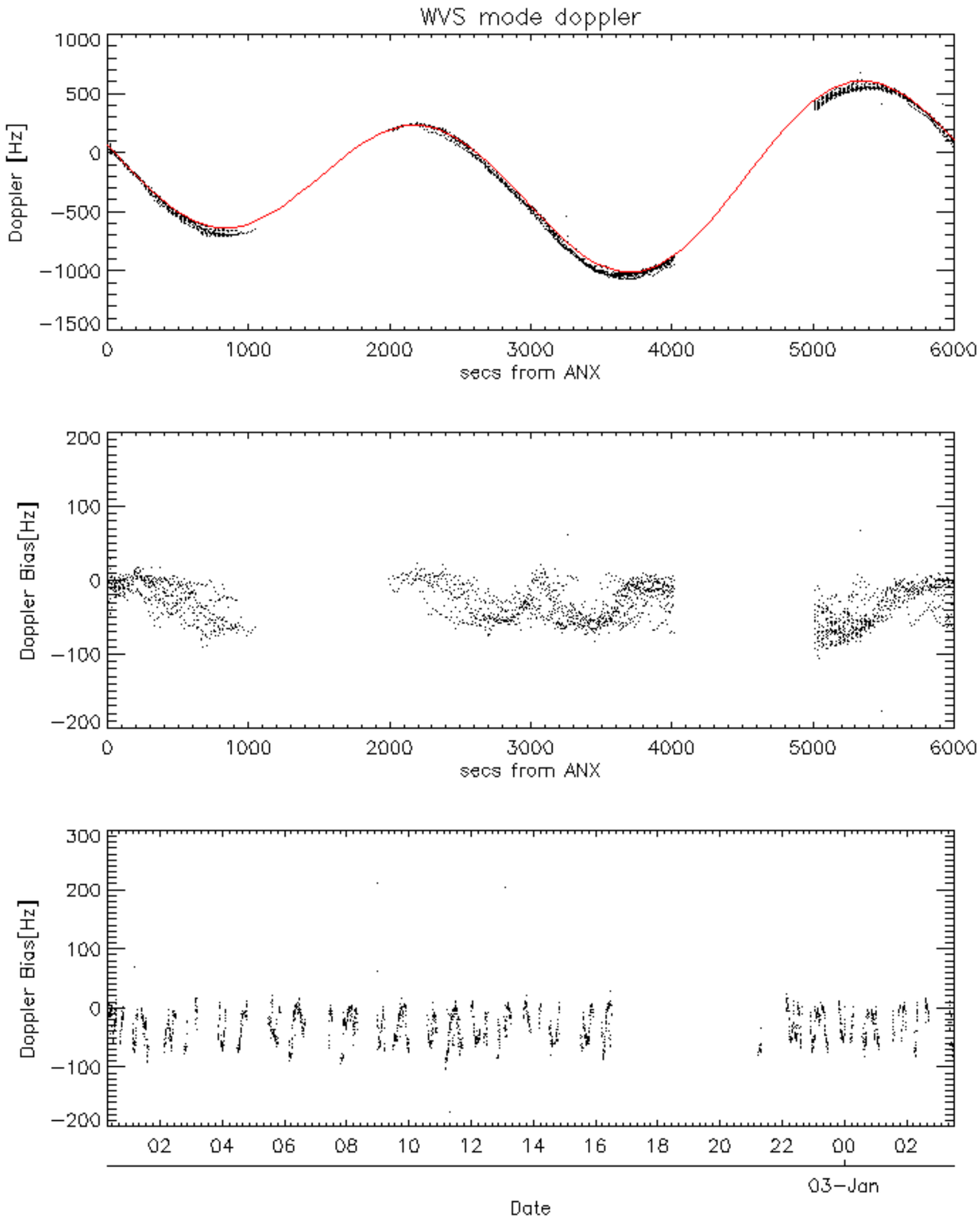

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

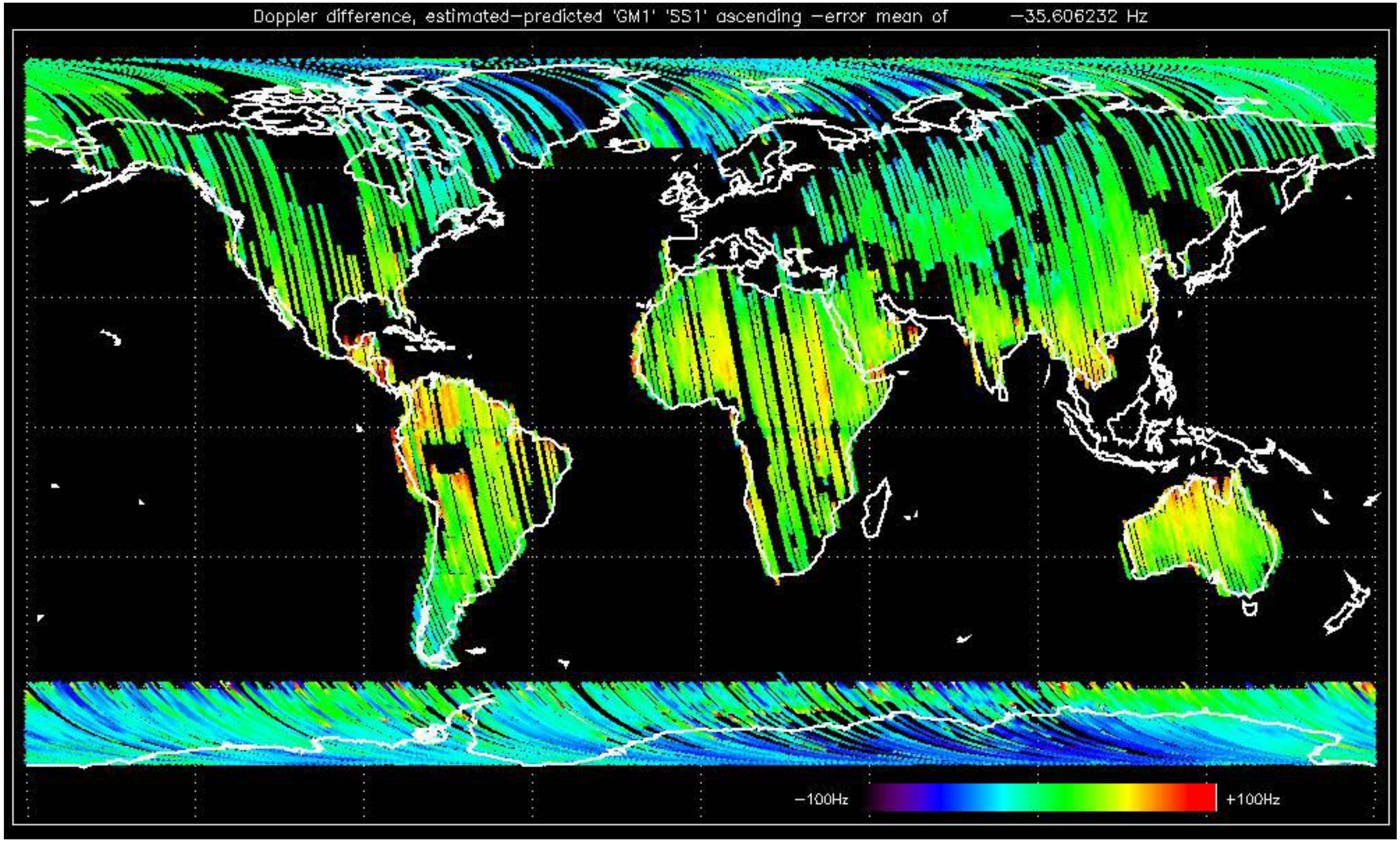

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

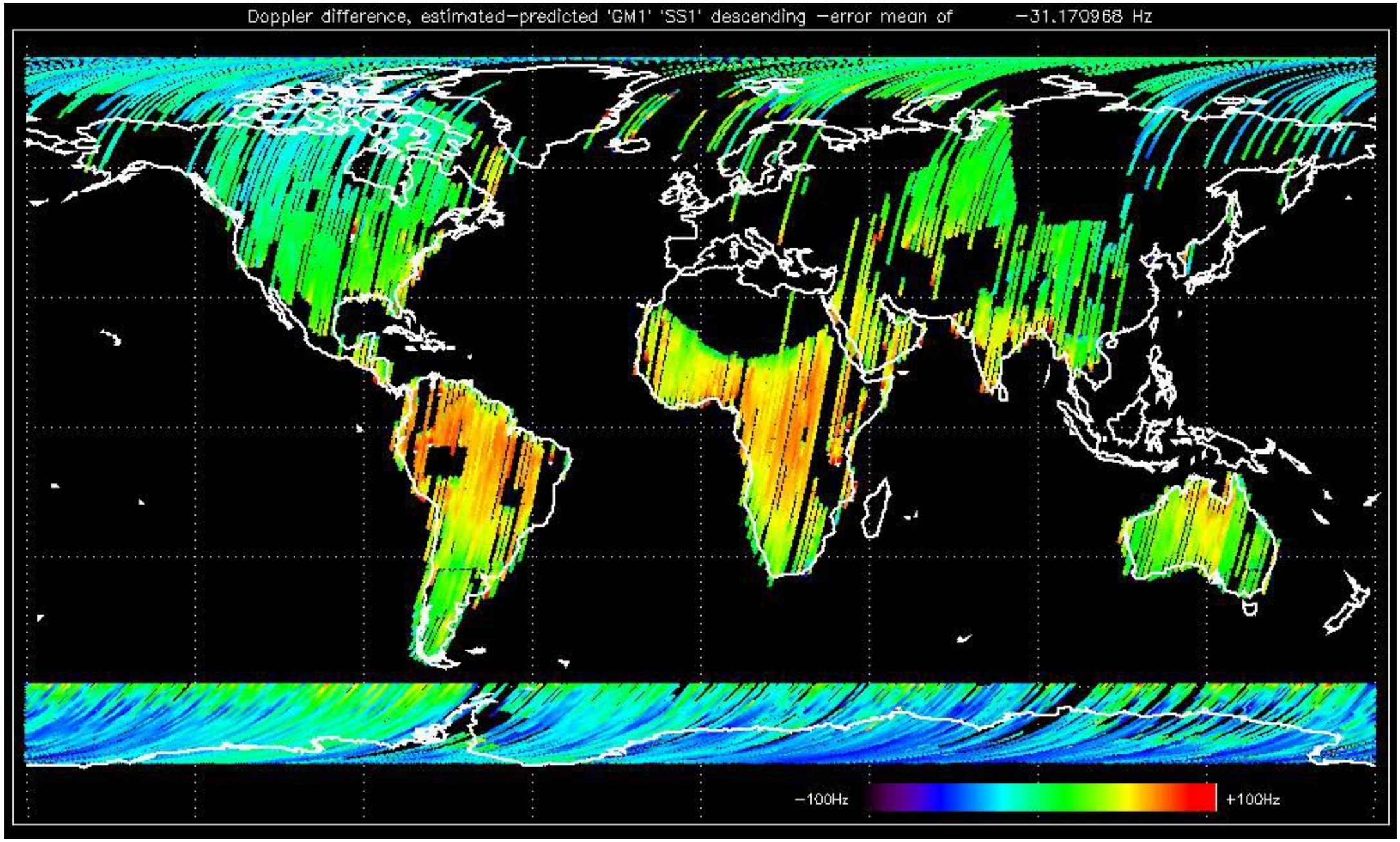

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

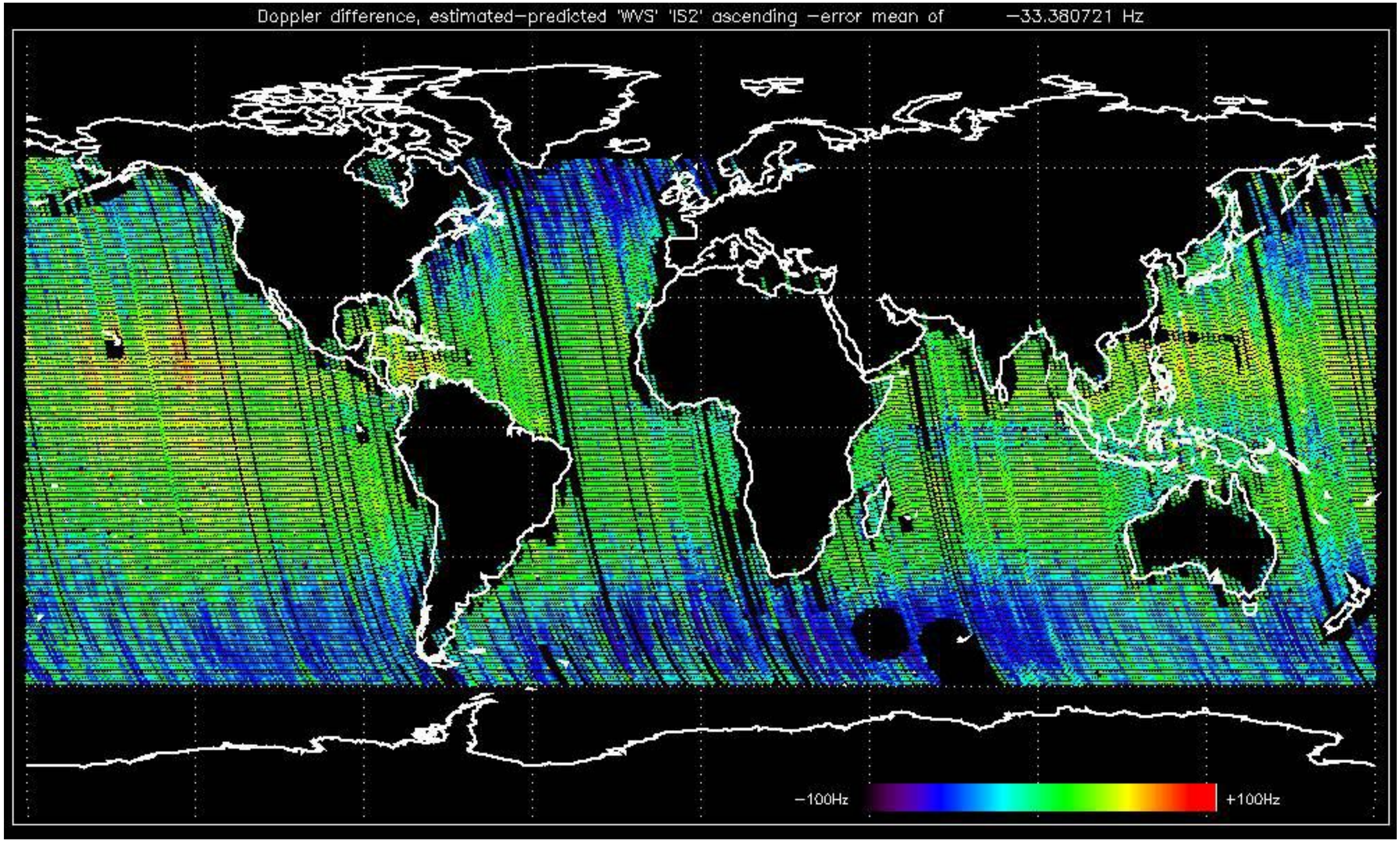

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

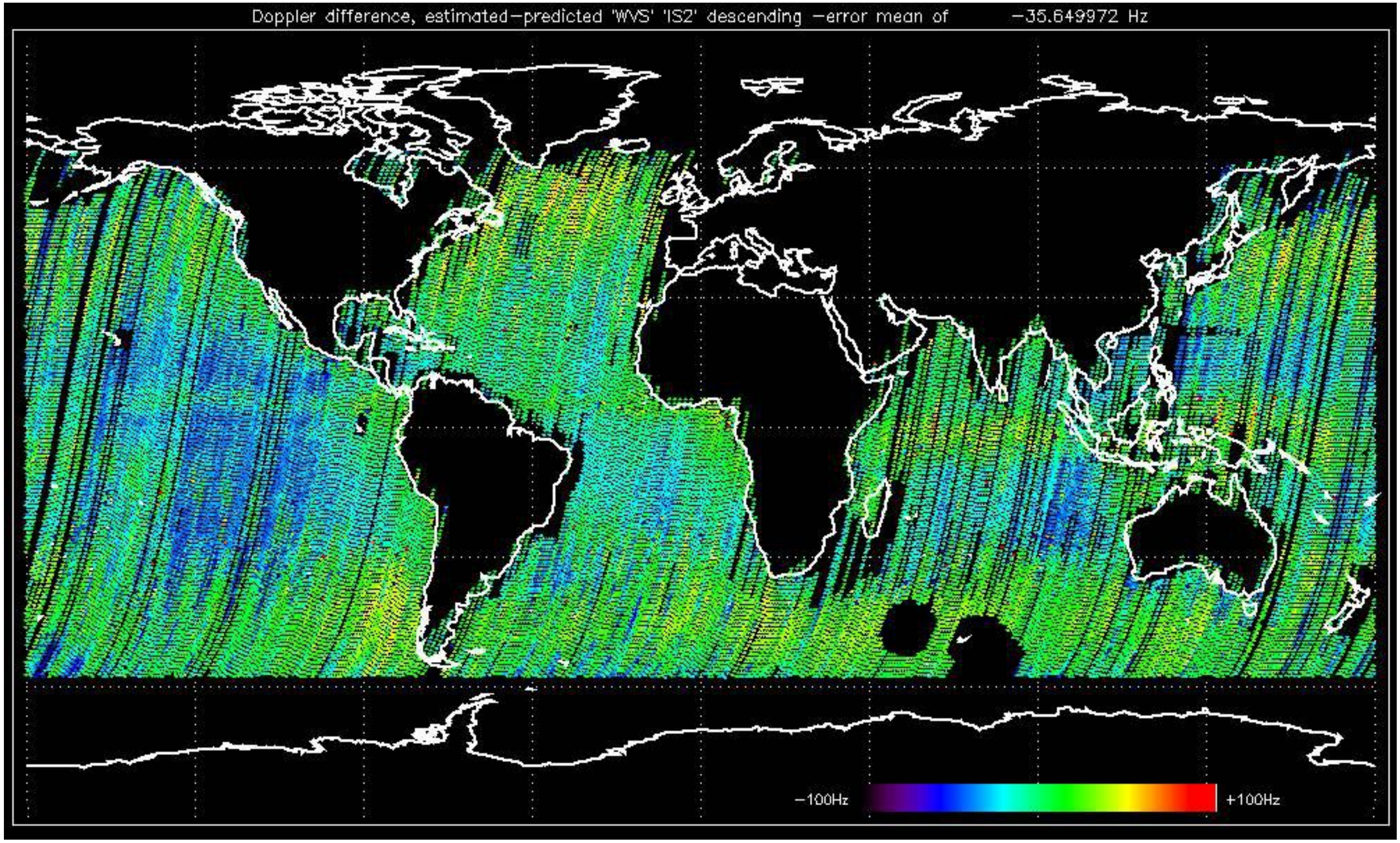

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
03−Jan
Date


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
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
03−Jan
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −35.606232 Hz
−100Hz
+100Hz

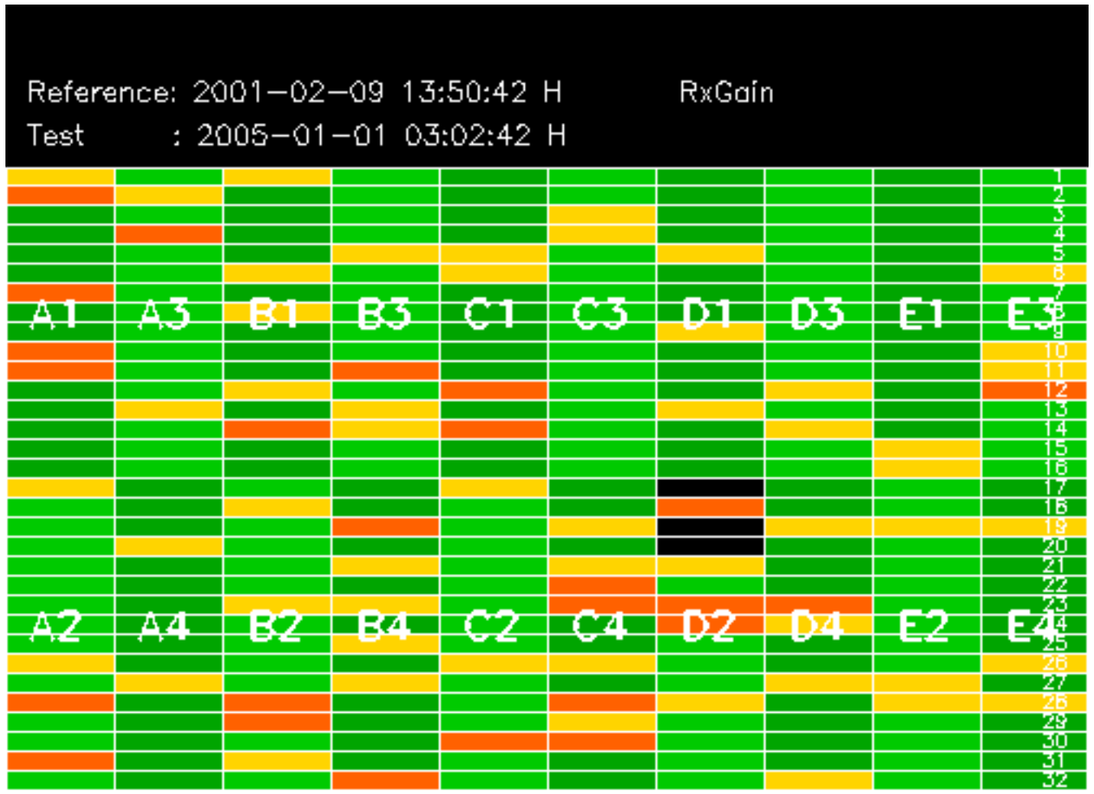

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -31.170968 Hz
-100Hz
+100Hz

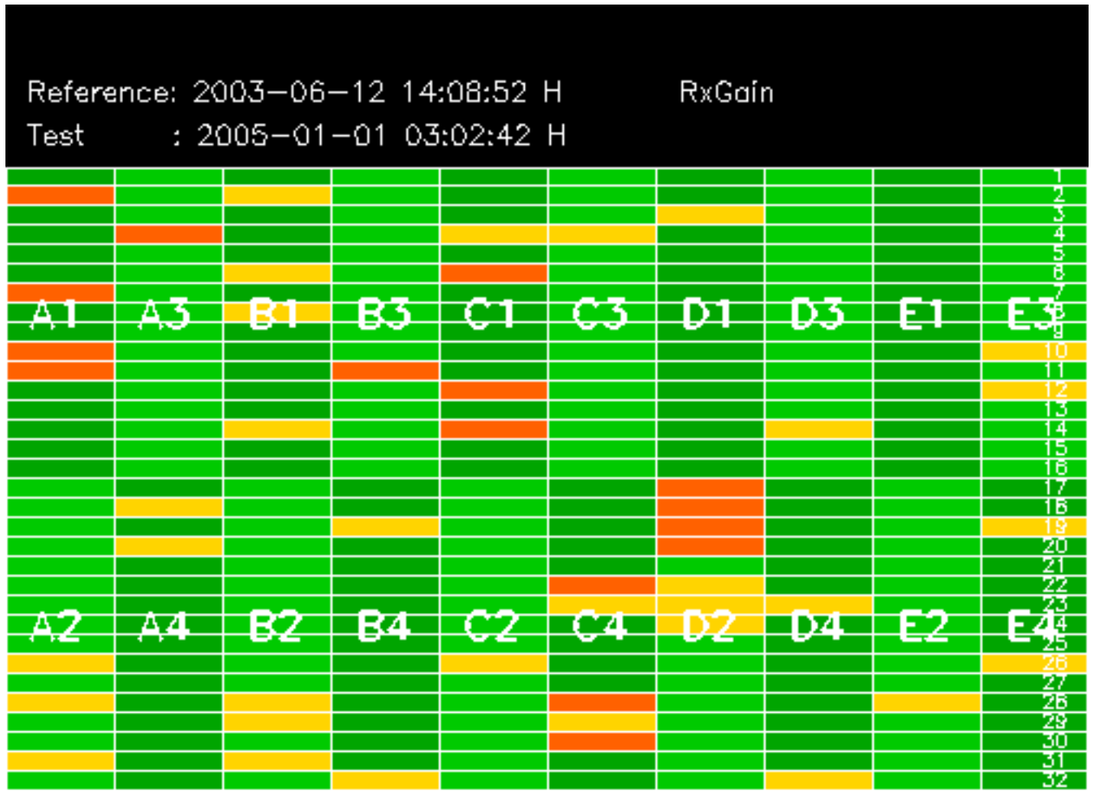

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −33.380721 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −35.649972 Hz
−100Hz
+100Hz

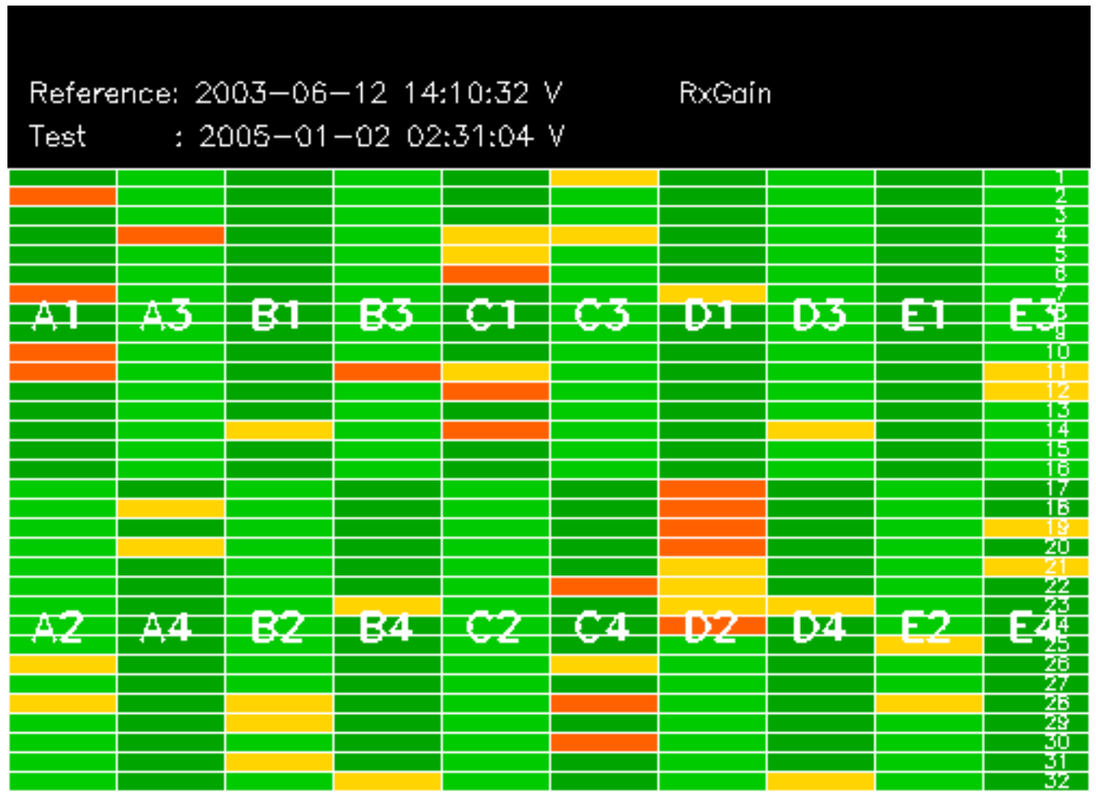
The MS mode provides an internal health check on an individual module basis.
The purpose of this mode is to identify to identify any malfunctionning modules and to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

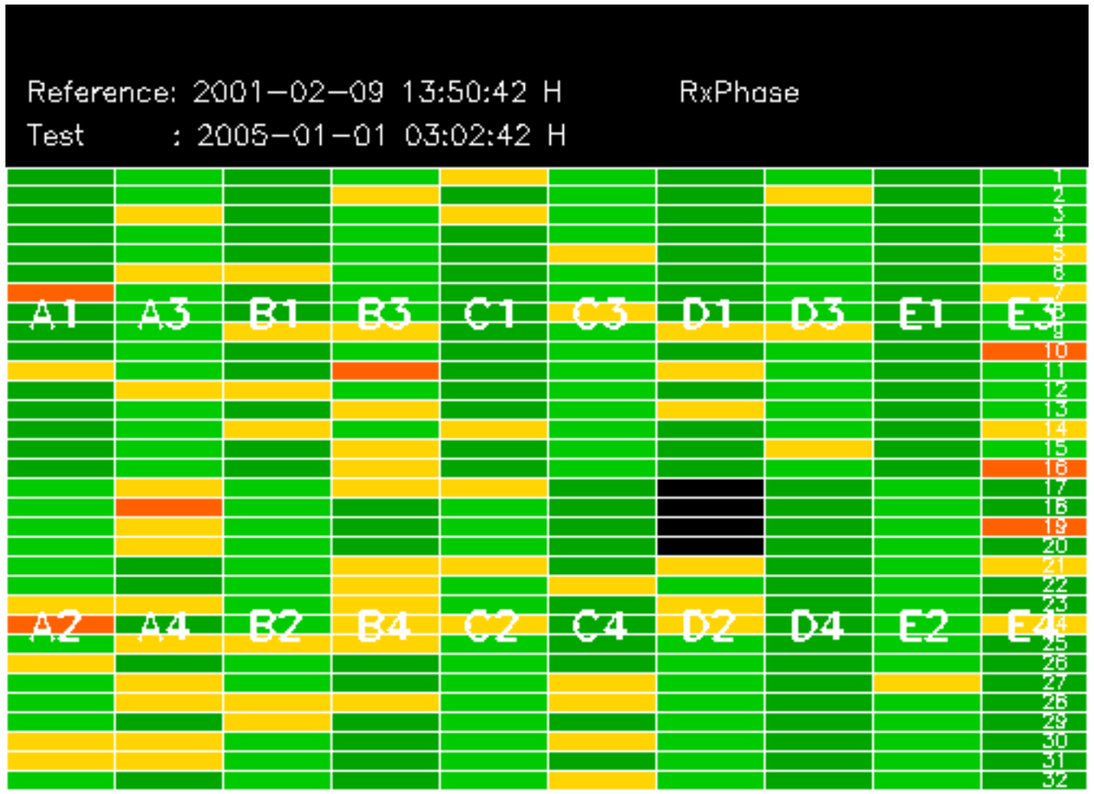
No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2005-01-01 03:02:42 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

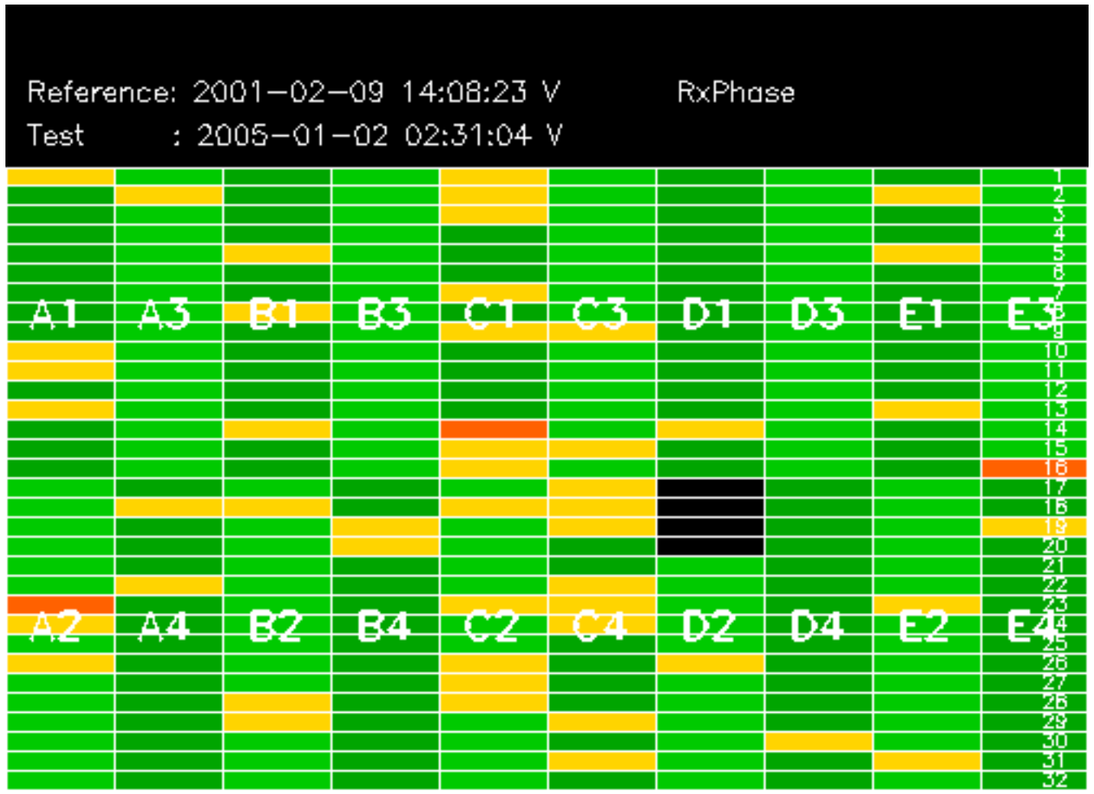

Reference: 2003-06-12 14:08:52 H
RxGain
Test : 2005-01-01 03:02:42 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

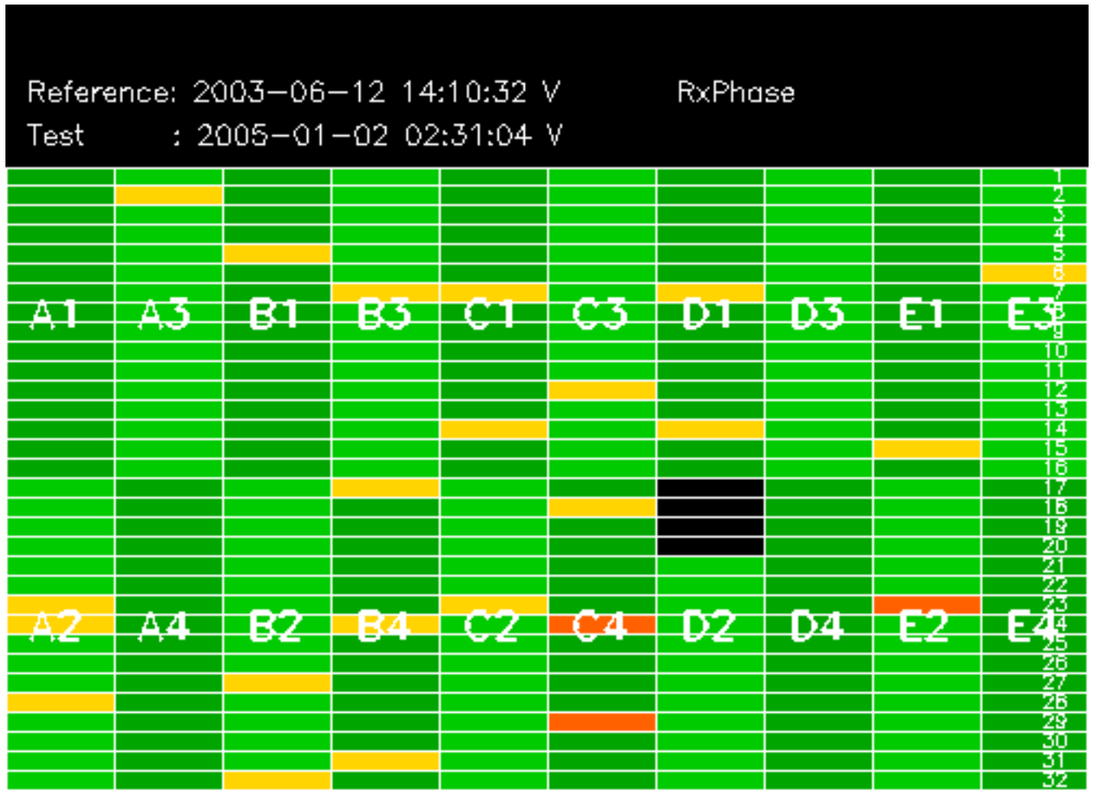

Reference: 2001-02-09 14:08:23 V
RxGain
Test : 2005-01-02 02:31:04 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

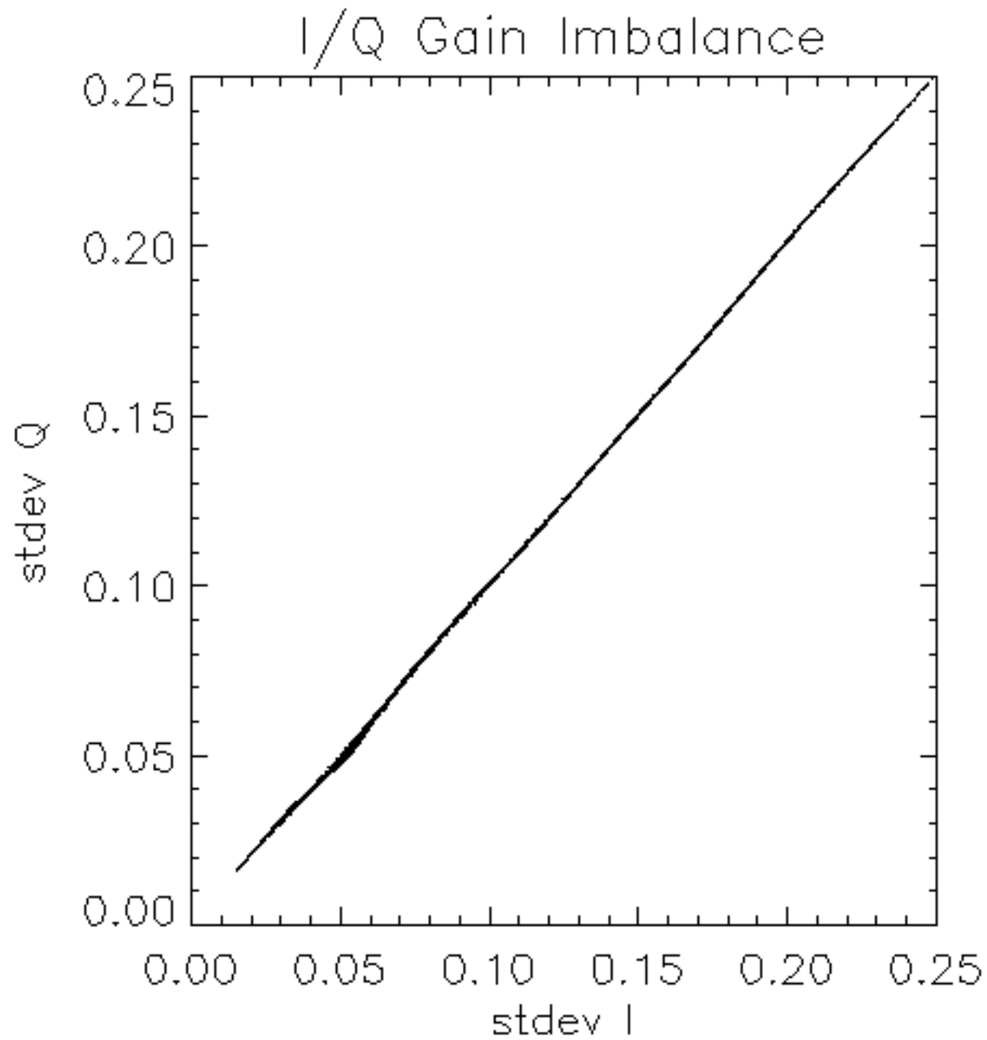

Reference: 2003-06-12 14:10:32 V
RxGain
Test : 2005-01-02 02:31:04 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

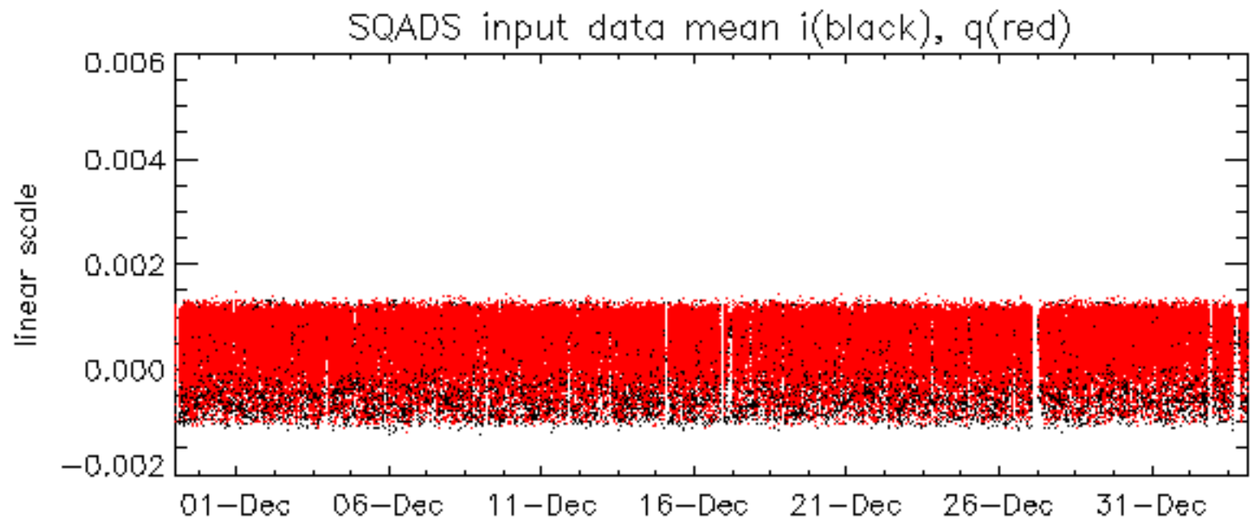

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-01-01 03:02:42 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

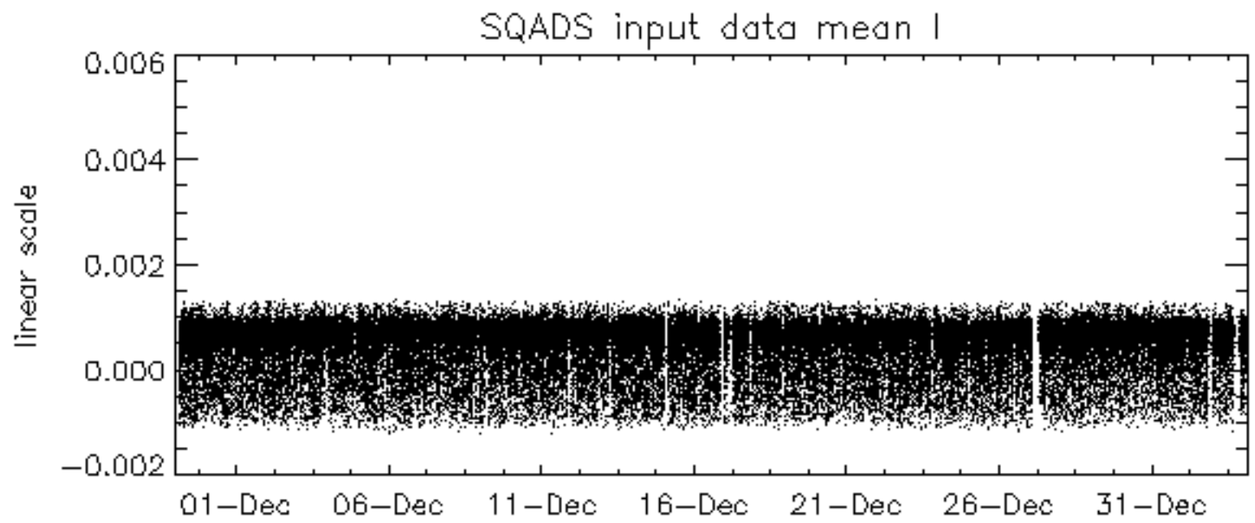

Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2005-01-01 03:02:42 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

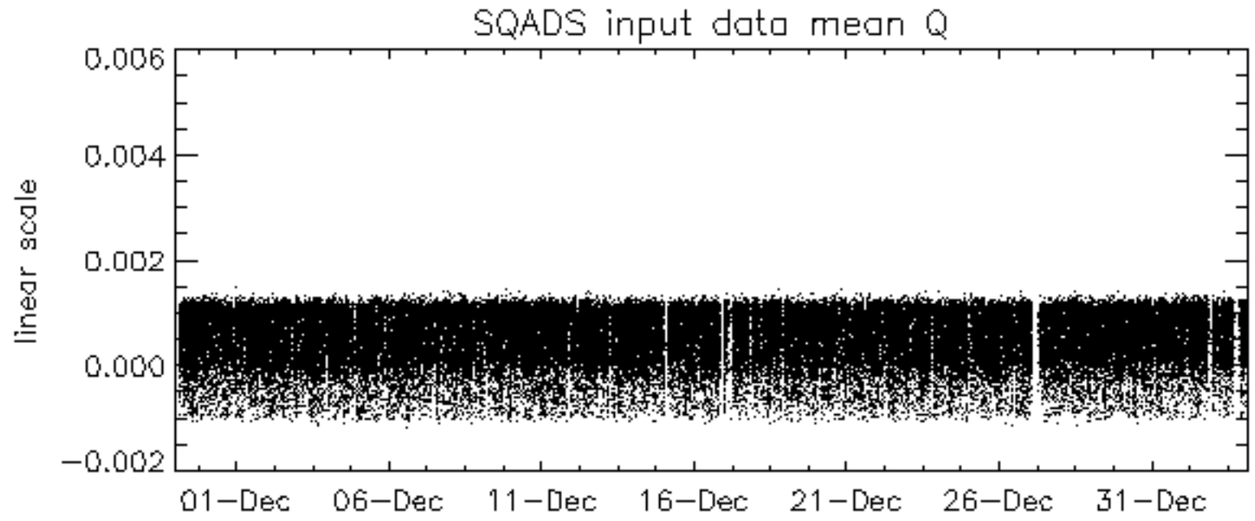

Reference: 2001-02-09 14:08:23 V
RxPhase
Test : 2005-01-02 02:31:04 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

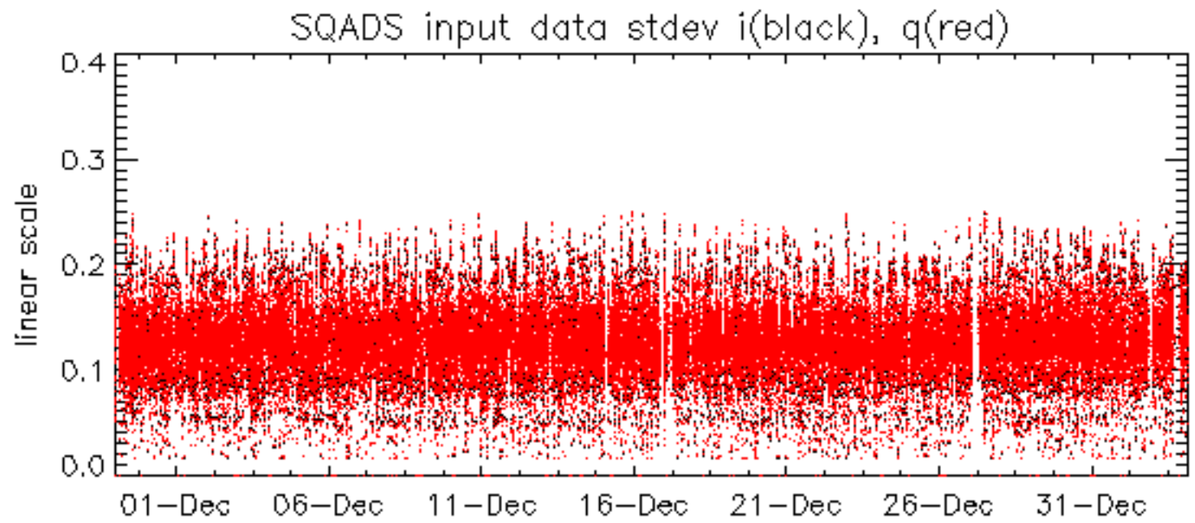

Reference: 2003-06-12 14:10:32 V
RxPhase
Test : 2005-01-02 02:31:04 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

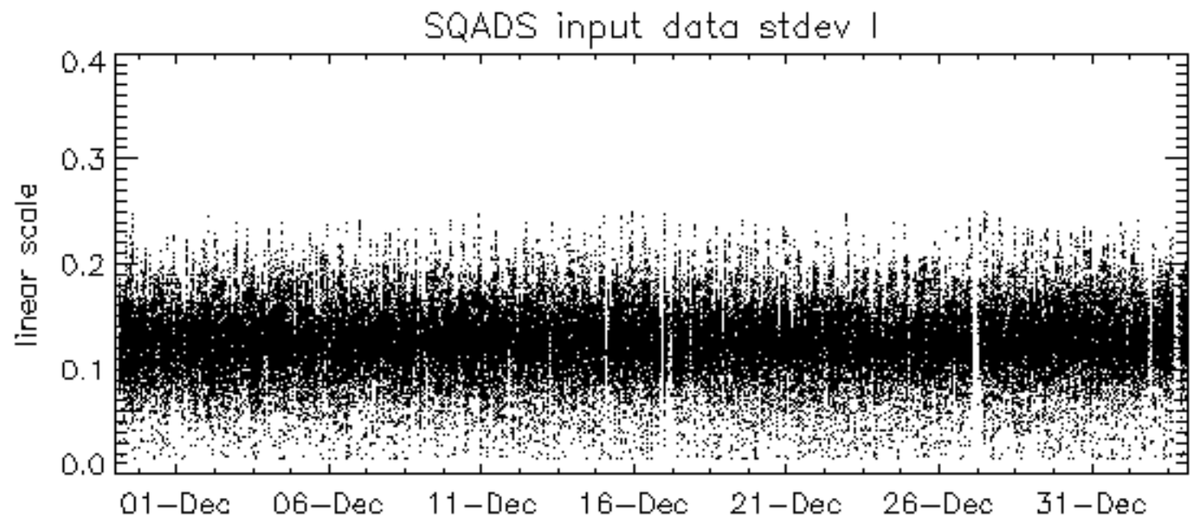

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

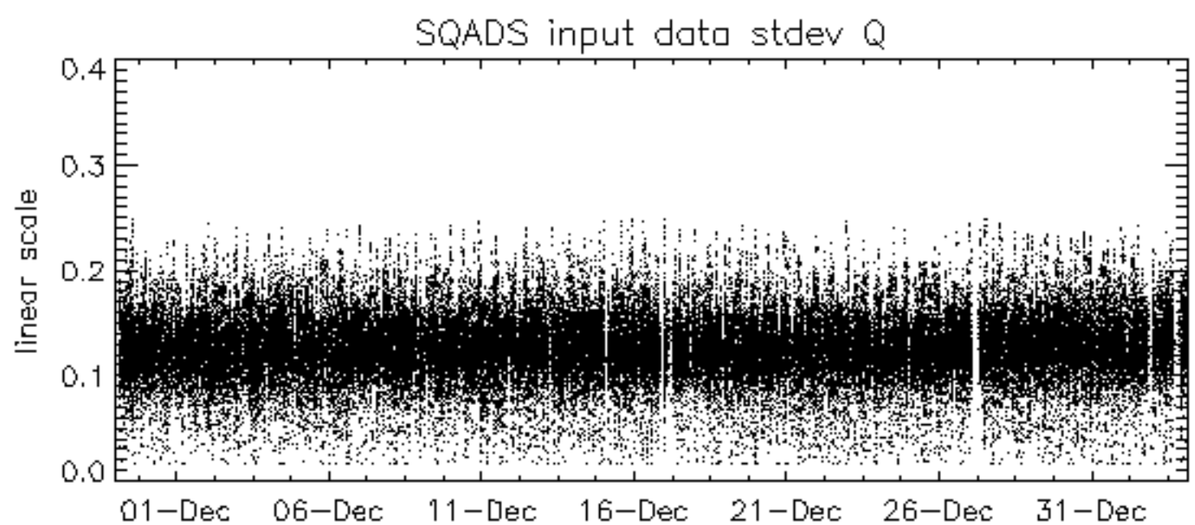

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec

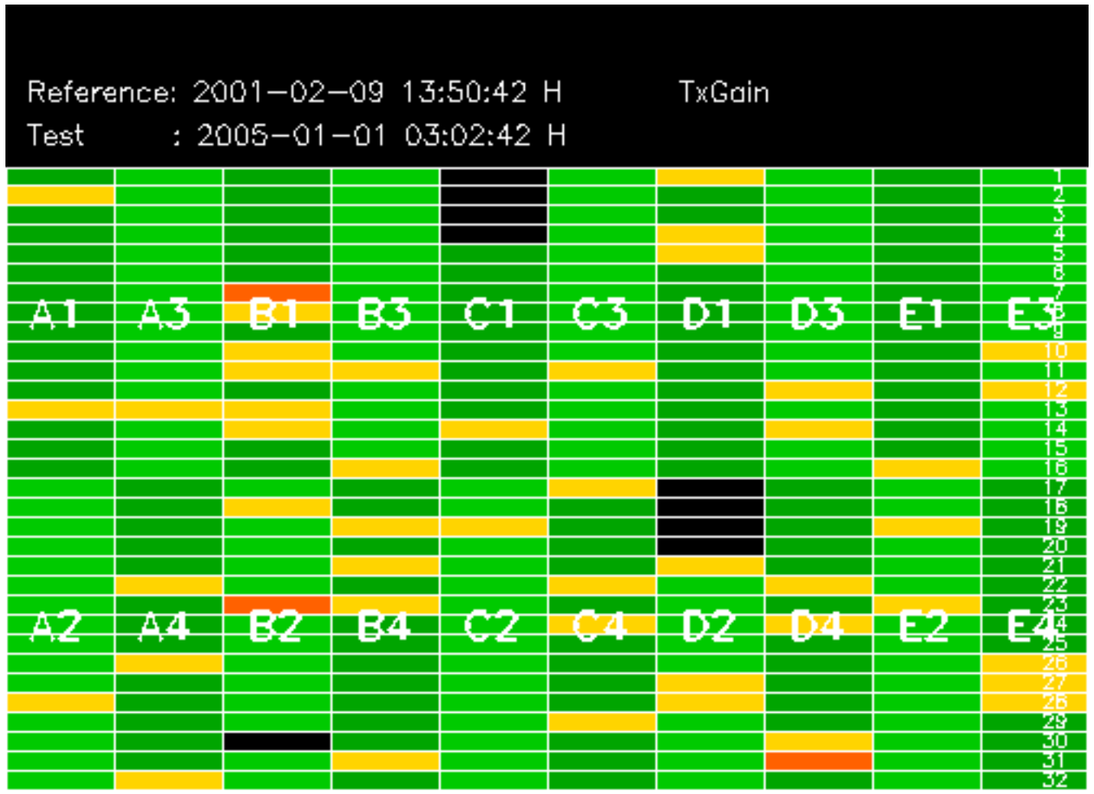

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec

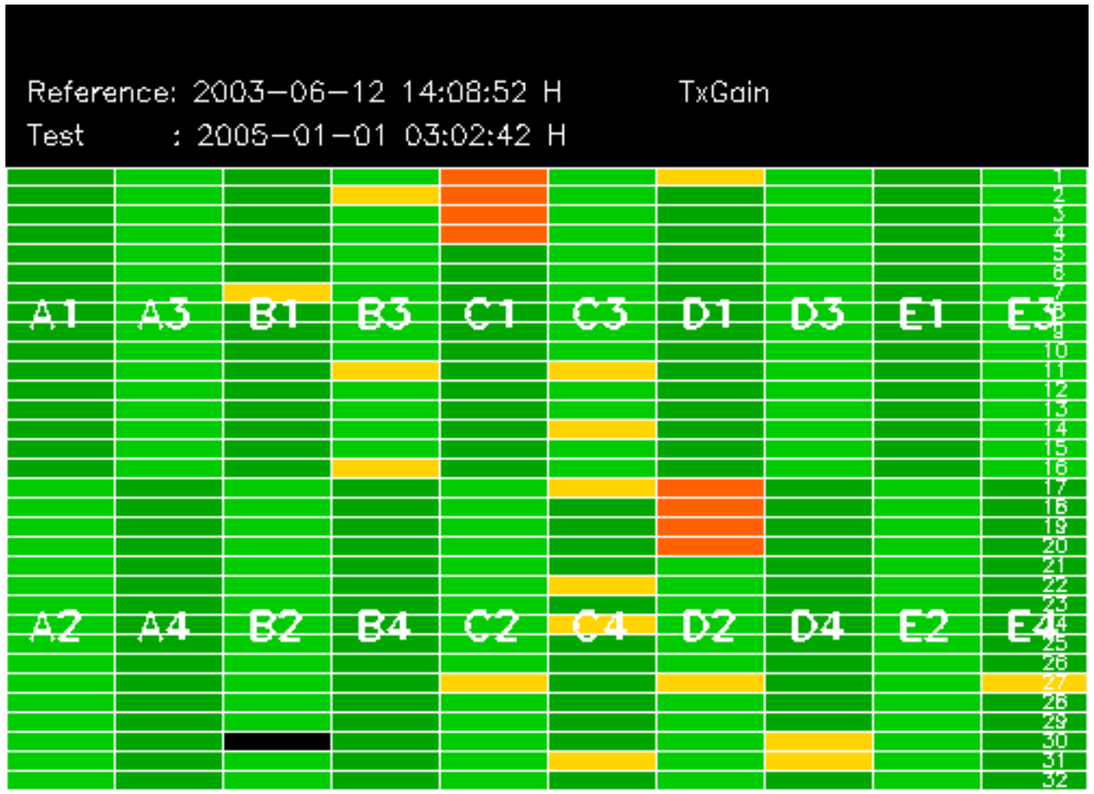

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec


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

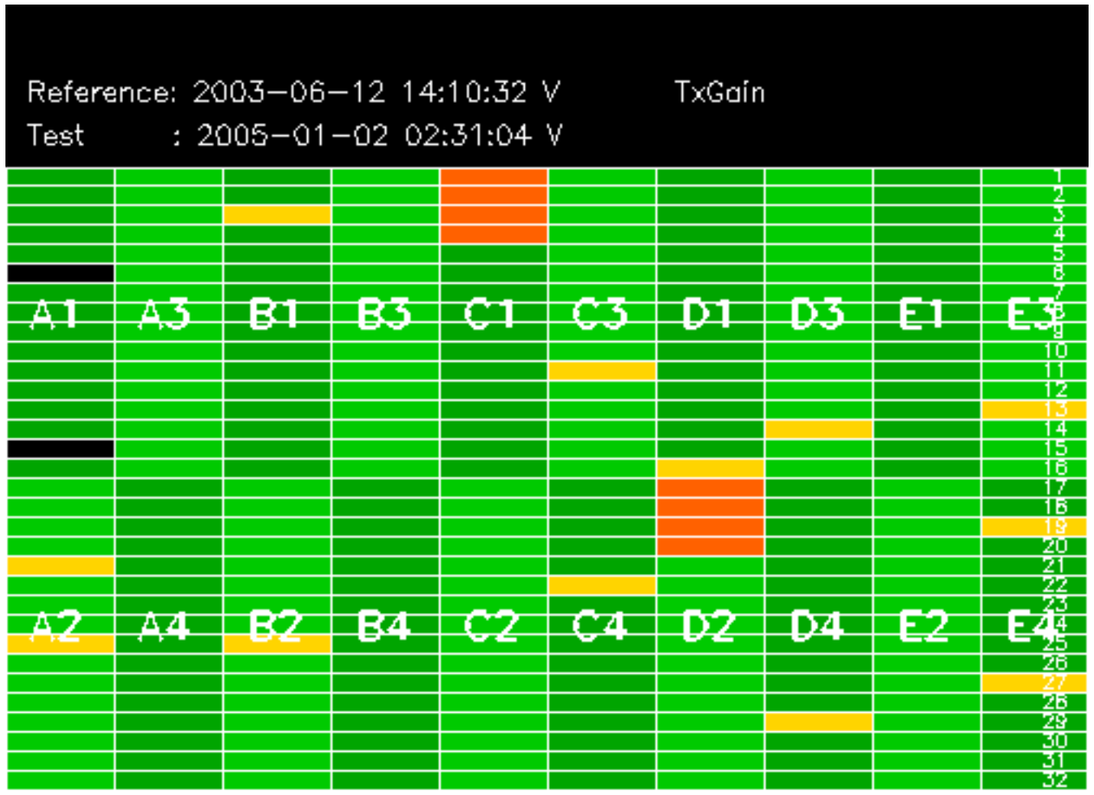

SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
01-Dec
06-Dec
11-Dec
16-Dec
21-Dec
26-Dec
31-Dec

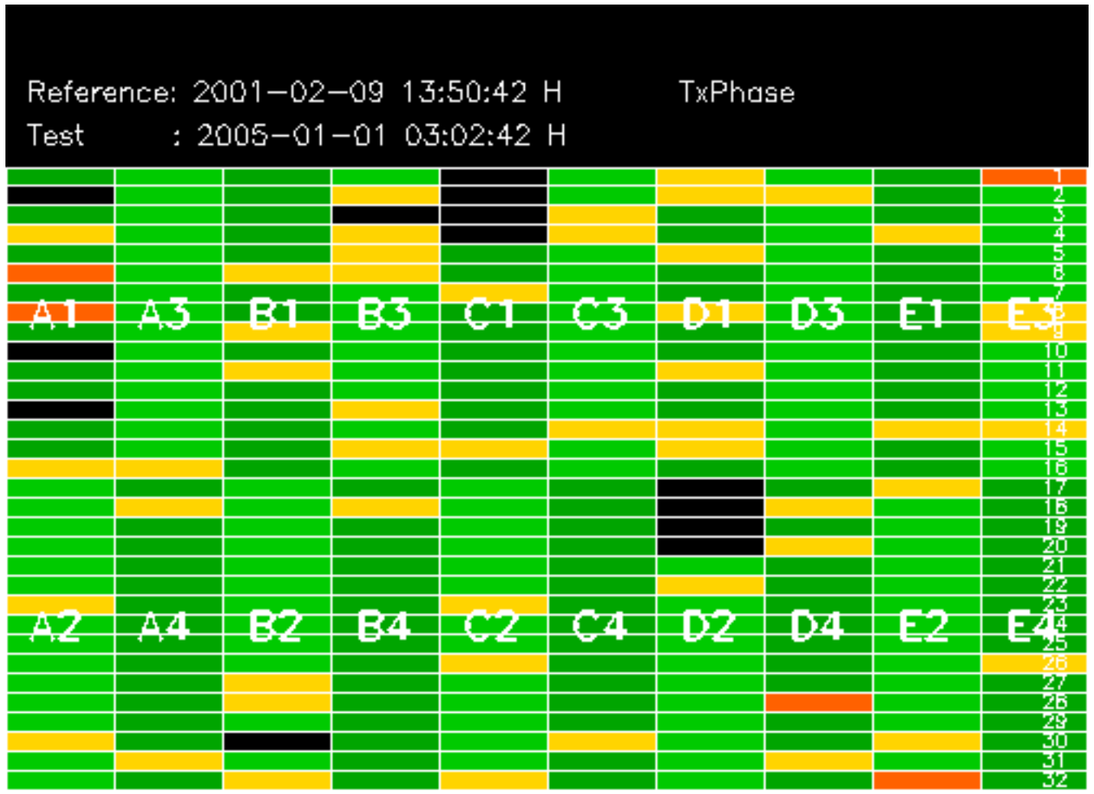

SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
01-Dec
06-Dec
11-Dec
16-Dec
21-Dec
26-Dec
31-Dec

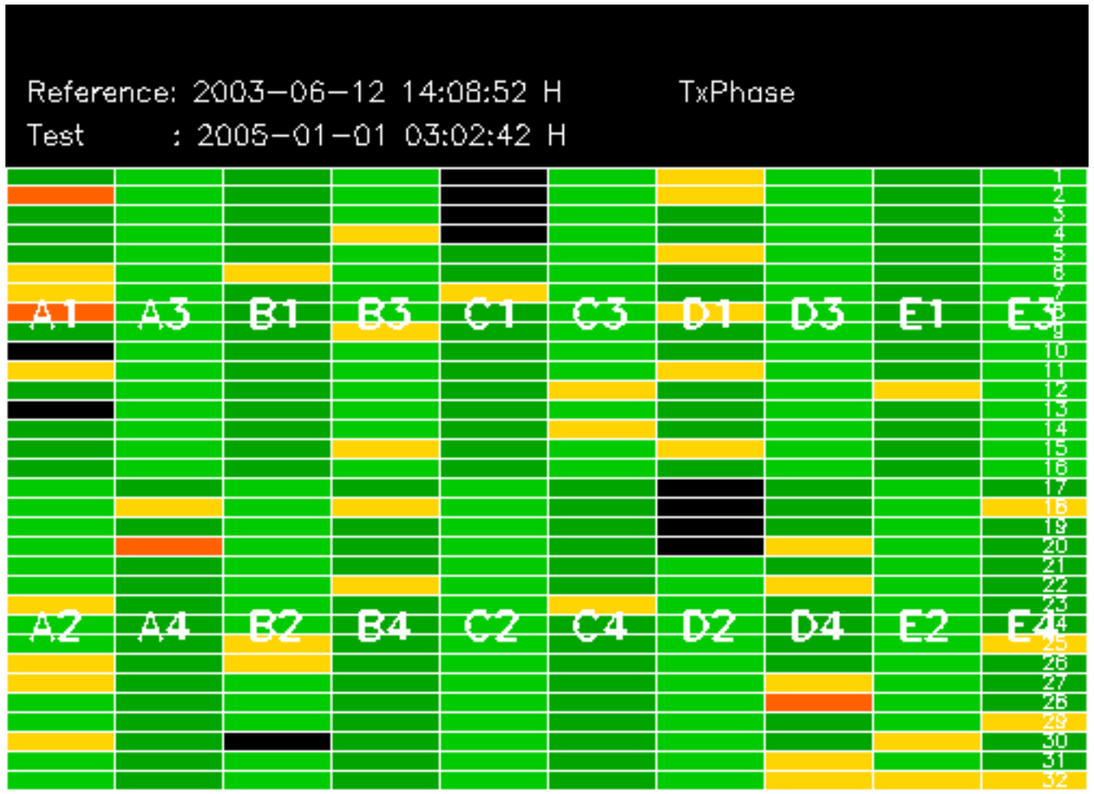

Reference: 2001-02-09 13:50:42 H
TxGain
Test : 2005-01-01 03:02:42 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

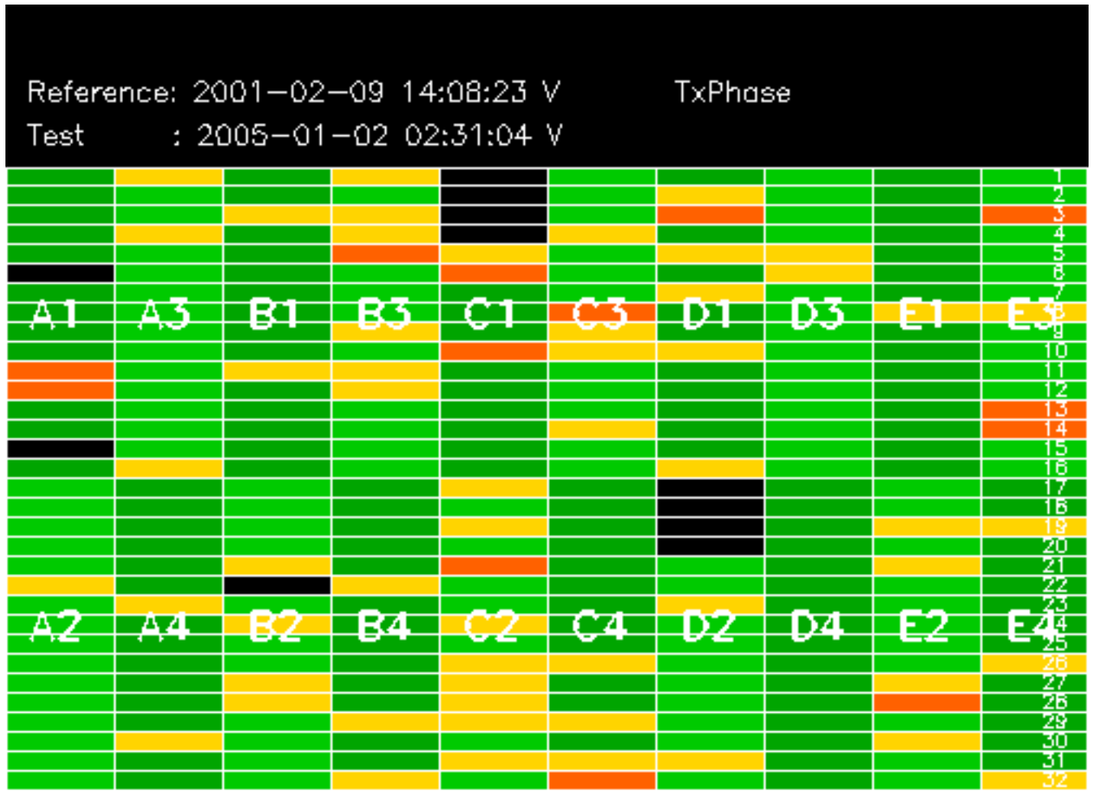

Reference: 2003-06-12 14:08:52 H
TxGain
Test : 2005-01-01 03:02:42 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

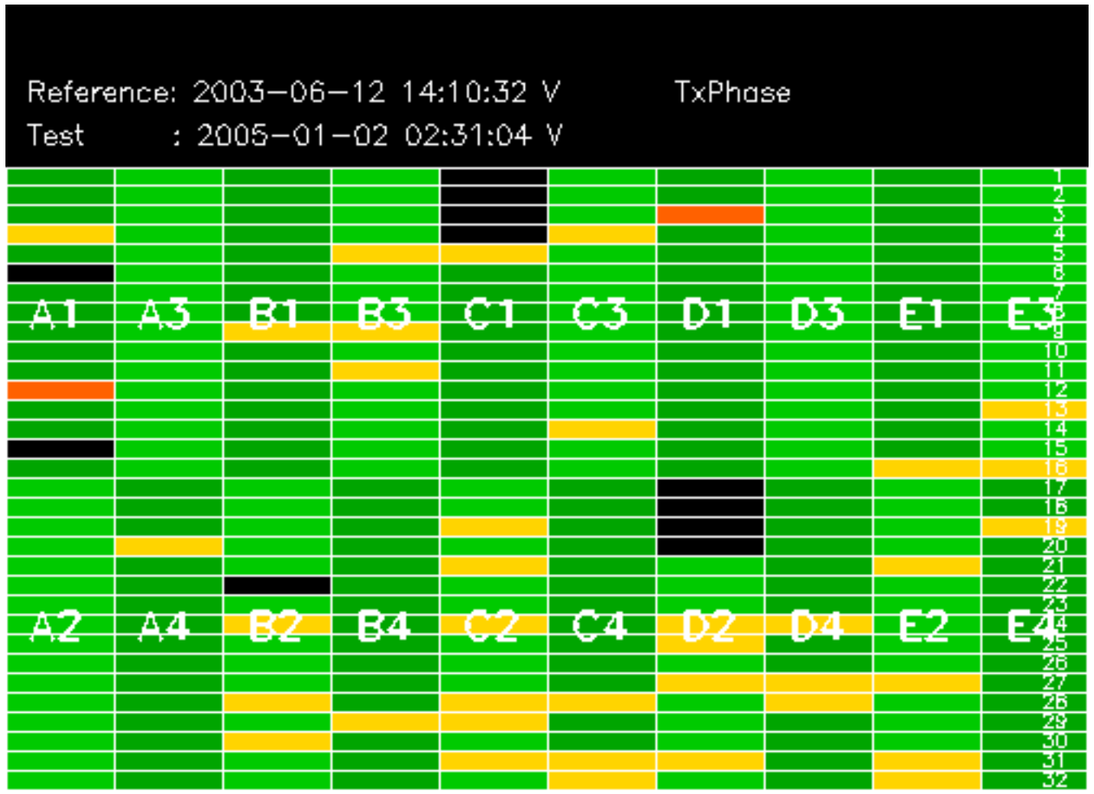

Reference: 2001-02-09 14:08:23 V
TxGain
Test : 2005-01-02 02:31:04 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

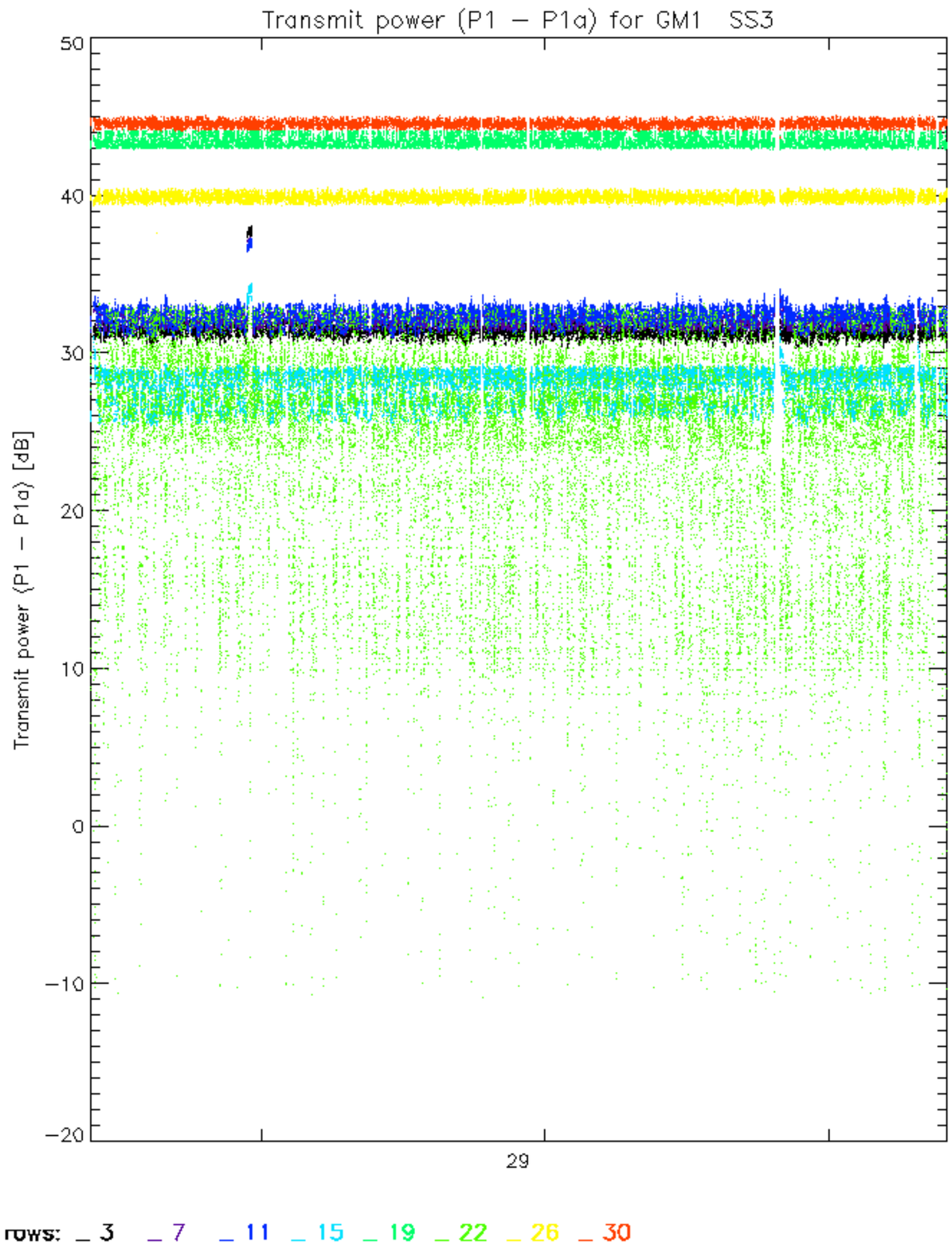

Reference: 2003-06-12 14:10:32 V
TxGain
Test : 2005-01-02 02:31:04 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

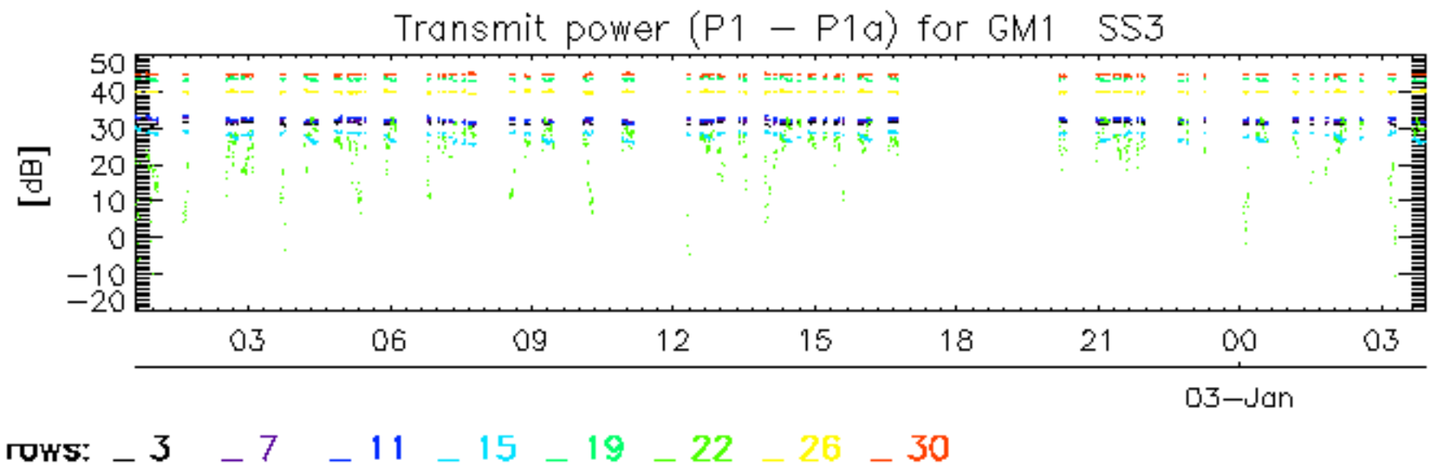

Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2005-01-01 03:02:42 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

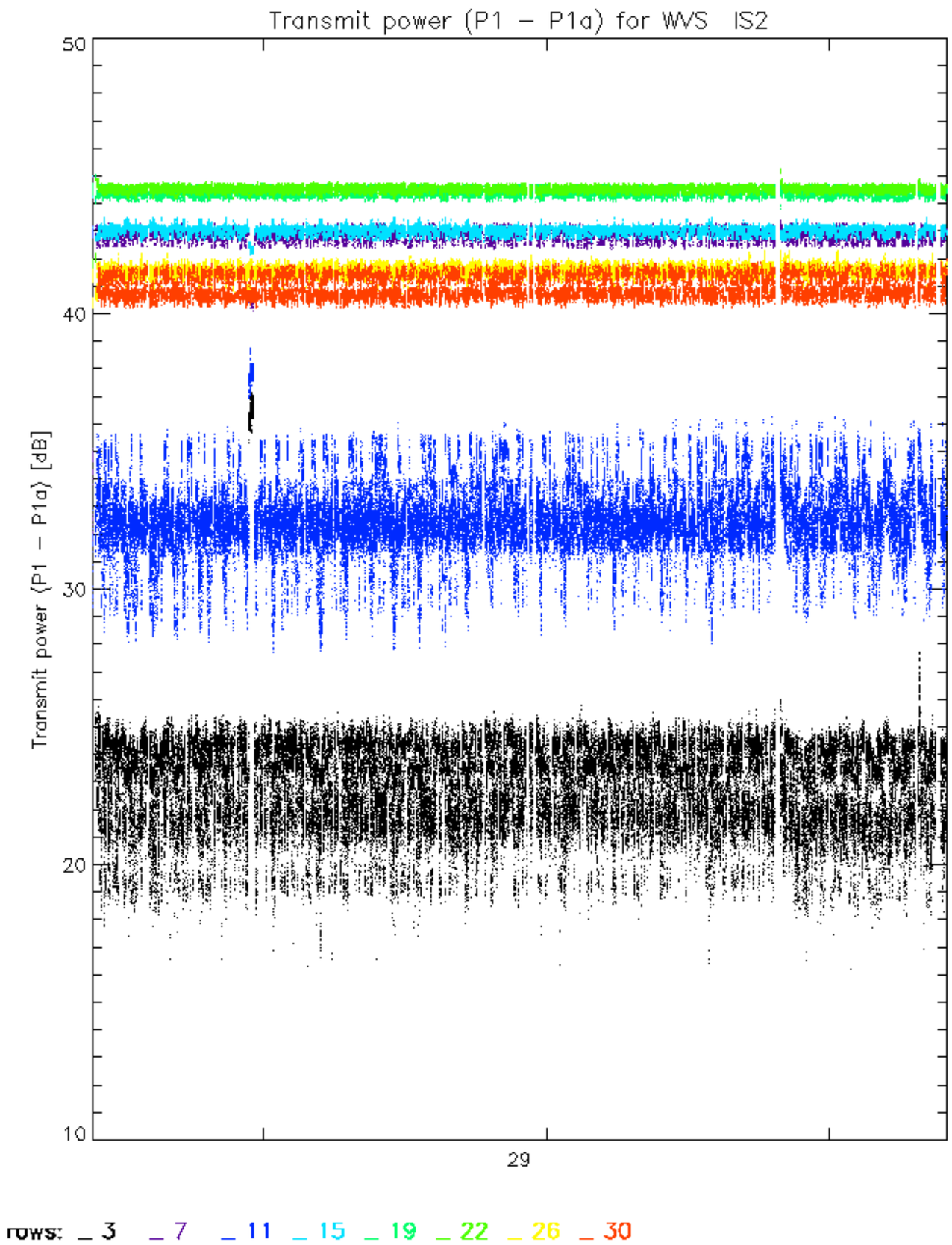

Reference: 2003-06-12 14:08:52 H
TxPhase
Test : 2005-01-01 03:02:42 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

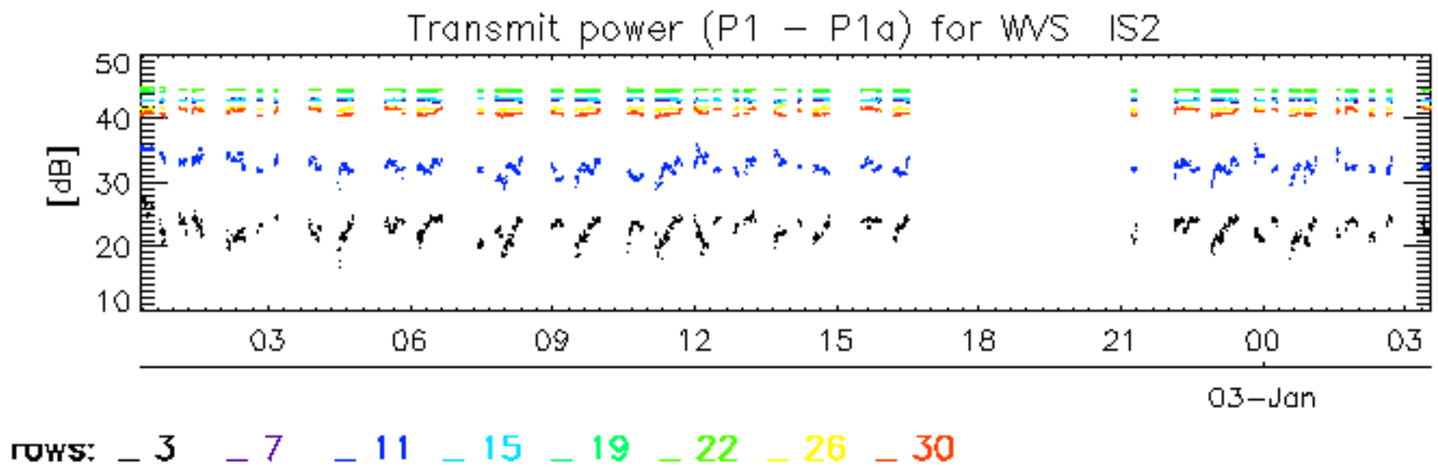

Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2005-01-02 02:31:04 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
TxPhase
Test : 2005-01-02 02:31:04 V
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
29
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
03–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
29
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
[dB]
50
40
30
20
10
03
06
09
12
15
18
21
00
03
03–Jan
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.