PRELIMINARY REPORT OF 050104

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

last update on Tue Jan 4 11:01:58 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 2005-01-03 00:00:00 to 2005-01-04 11:01:58

PDHS-K					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	23	44	6	2	1
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	23	44	6	2	1
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	23	44	6	2	1
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	23	44	6	2	1

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	50	55	3	6	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	50	55	3	6	4
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	50	55	3	6	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	50	55	3	6	4

2.3 - Browse Visual Inspection

No anomalies observed from 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	20050103 084151
H	20050103 015927

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	-3.452164	0.029433	0.093873
7	P1	-3.099594	0.024037	0.061403
11	P1	-4.651506	0.045063	0.011033
15	P1	-5.662236	0.037864	-0.009940
19	P1	-3.657226	0.005966	-0.007078
22	P1	-4.576674	0.016880	0.032973
26	P1	-4.938808	0.023282	0.025477
30	P1	-7.119342	0.013603	-0.034371
3	P1	-15.940030	0.110458	0.006694
7	P1	-15.508768	0.159670	-0.015927
11	P1	-20.753260	0.537214	-0.270129
15	P1	-11.614617	0.096021	-0.026007
19	P1	-14.164159	0.033389	-0.024261
22	P1	-16.082788	0.459089	0.282073
26	P1	-17.743443	0.261087	0.183421
30	P1	-17.878223	0.302051	0.086905

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.344463	0.086750	0.099815
7	P2	-22.555815	0.166836	0.124006
11	P2	-14.865668	0.173844	0.168550
15	P2	-7.161849	0.117731	0.098685
19	P2	-9.731956	0.201648	0.104969
22	P2	-17.160620	0.099913	0.119427

26	P2	-16.532700	0.114797	0.064249
30	P2	-18.963499	0.082962	0.038659

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.210370	0.007089	0.027676
7	P3	-8.210374	0.007090	0.027702
11	P3	-8.210367	0.007089	0.027648
15	P3	-8.210348	0.007087	0.027585
19	P3	-8.210340	0.007087	0.027497
22	P3	-8.210309	0.007088	0.027347
26	P3	-8.210303	0.007089	0.027319
30	P3	-8.210027	0.007093	0.028542

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	-2.849986	0.106728	0.113172
7	P1	-2.980760	0.062569	0.089710
11	P1	-3.949287	0.047715	0.021915
15	P1	-3.520183	0.077066	0.062653
19	P1	-3.610962	0.012897	0.002999
22	P1	-5.621004	0.070028	-0.049970
26	P1	-6.521495	0.023878	-0.037818
30	P1	-6.300092	0.044869	0.035360
3	P1	-10.734785	0.057203	-0.172293
7	P1	-10.135247	0.157425	-0.066761

11	P1	-12.439892	0.197342	-0.221317
15	P1	-11.727688	0.095442	-0.074414
19	P1	-15.647500	0.048457	-0.002536
22	P1	-24.151495	2.059331	0.249245
26	P1	-15.009089	0.390222	0.371878
30	P1	-20.141510	0.933353	0.161541

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.022291	0.036574	0.089243
7	P2	-22.597368	0.032986	0.139569
11	P2	-10.657421	0.036681	0.214898
15	P2	-5.059628	0.025036	0.058640
19	P2	-6.959239	0.035943	0.079527
22	P2	-7.293118	0.028100	0.100426
26	P2	-23.961653	0.018536	0.049708
30	P2	-22.013752	0.022848	0.097342

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.042173	0.002864	0.020938
7	P3	-8.042216	0.002864	0.020868
11	P3	-8.042137	0.002863	0.021169
15	P3	-8.042284	0.002865	0.020508
19	P3	-8.042171	0.002873	0.021079
22	P3	-8.042245	0.002862	0.020703
26	P3	-8.042185	0.002864	0.021102
30	P3	-8.042112	0.002856	0.020685

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	0.000455325
	stdev	2.30045e-07
MEAN Q	mean	0.000524434
	stdev	2.42480e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127224
	stdev	0.000980229
STDEV Q	mean	0.127458
	stdev	0.000990137

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

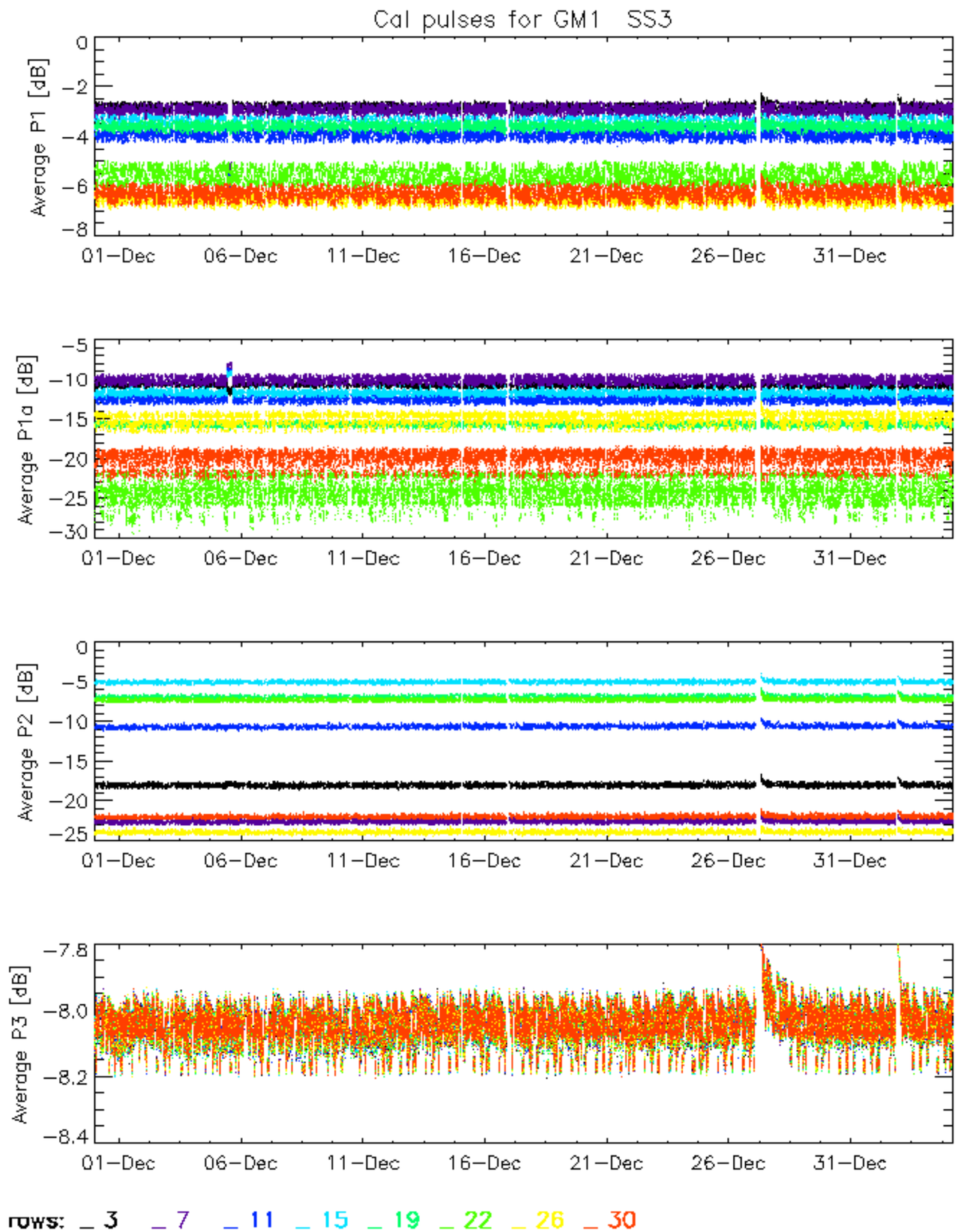
Evolution of Absolute Doppler

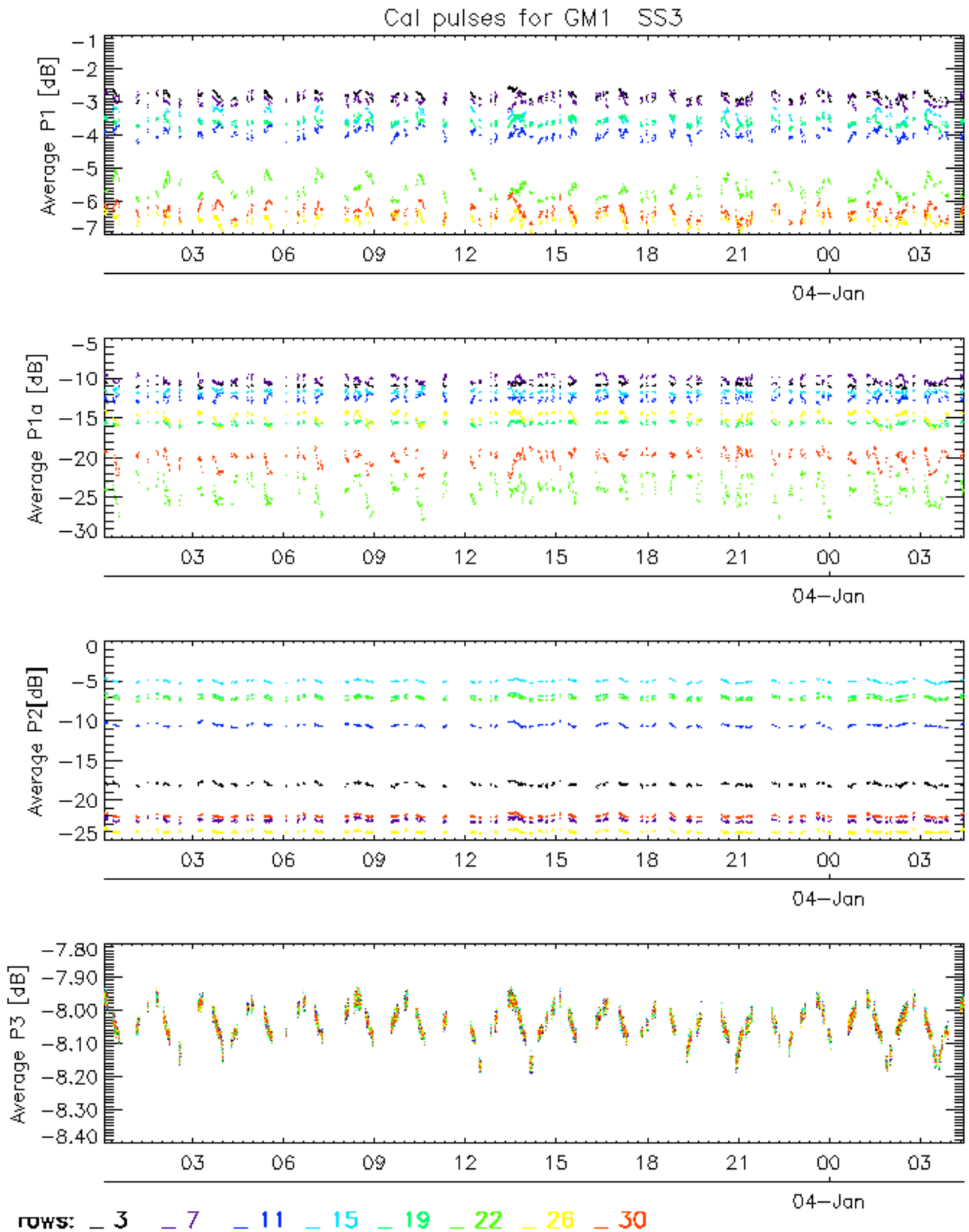
Acsending

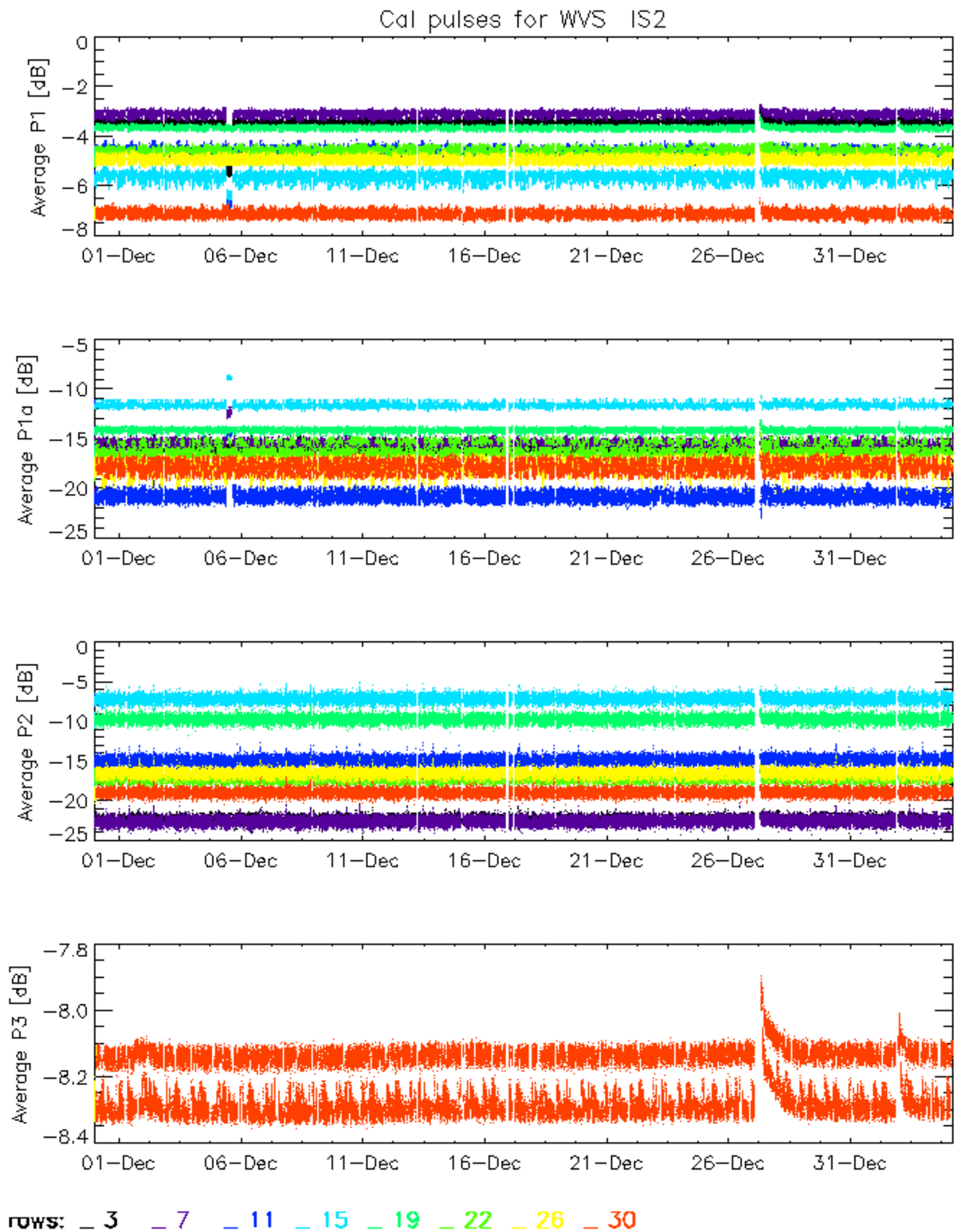
Descending

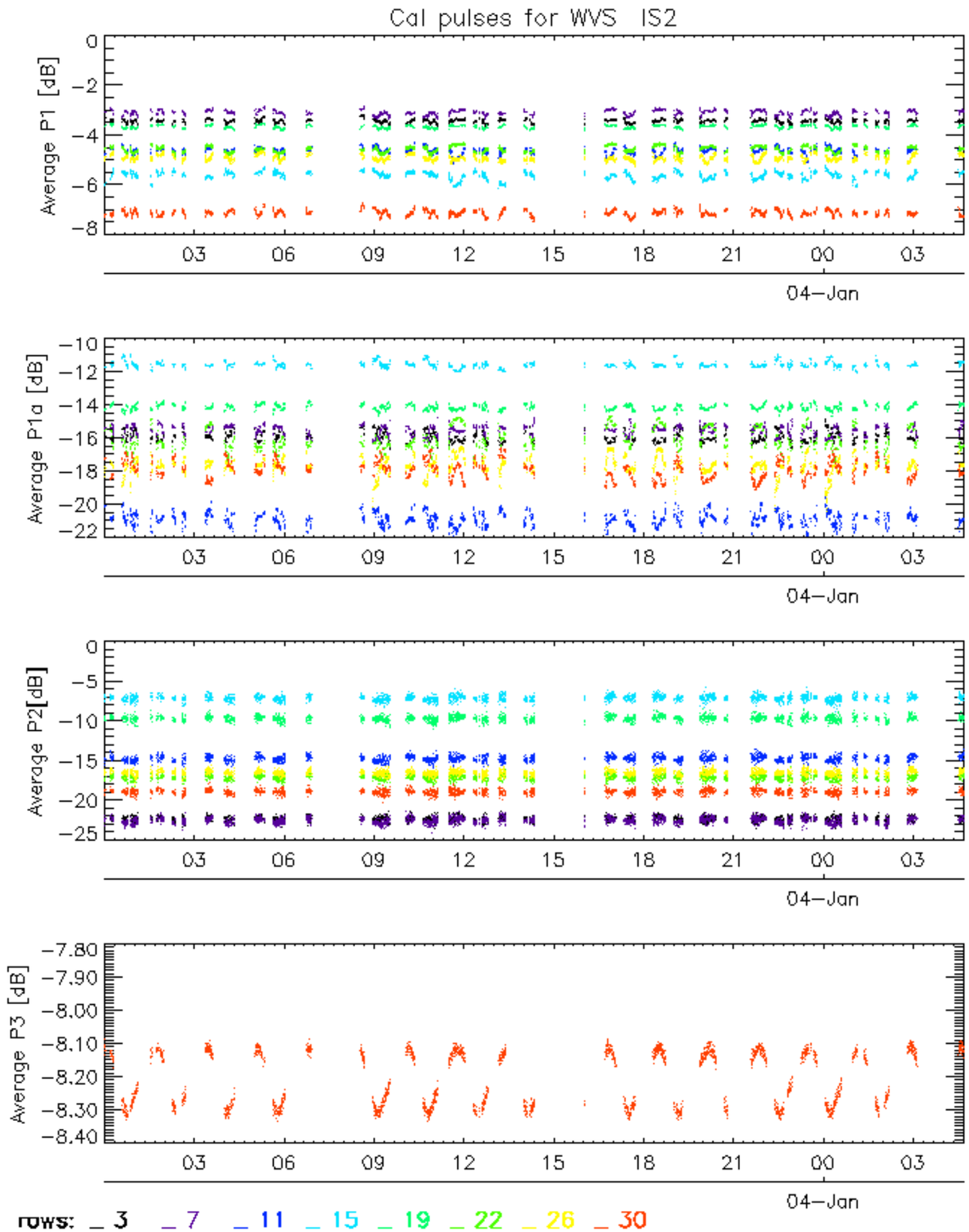
6.6 - Doppler evolution versus ANX for GM1

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

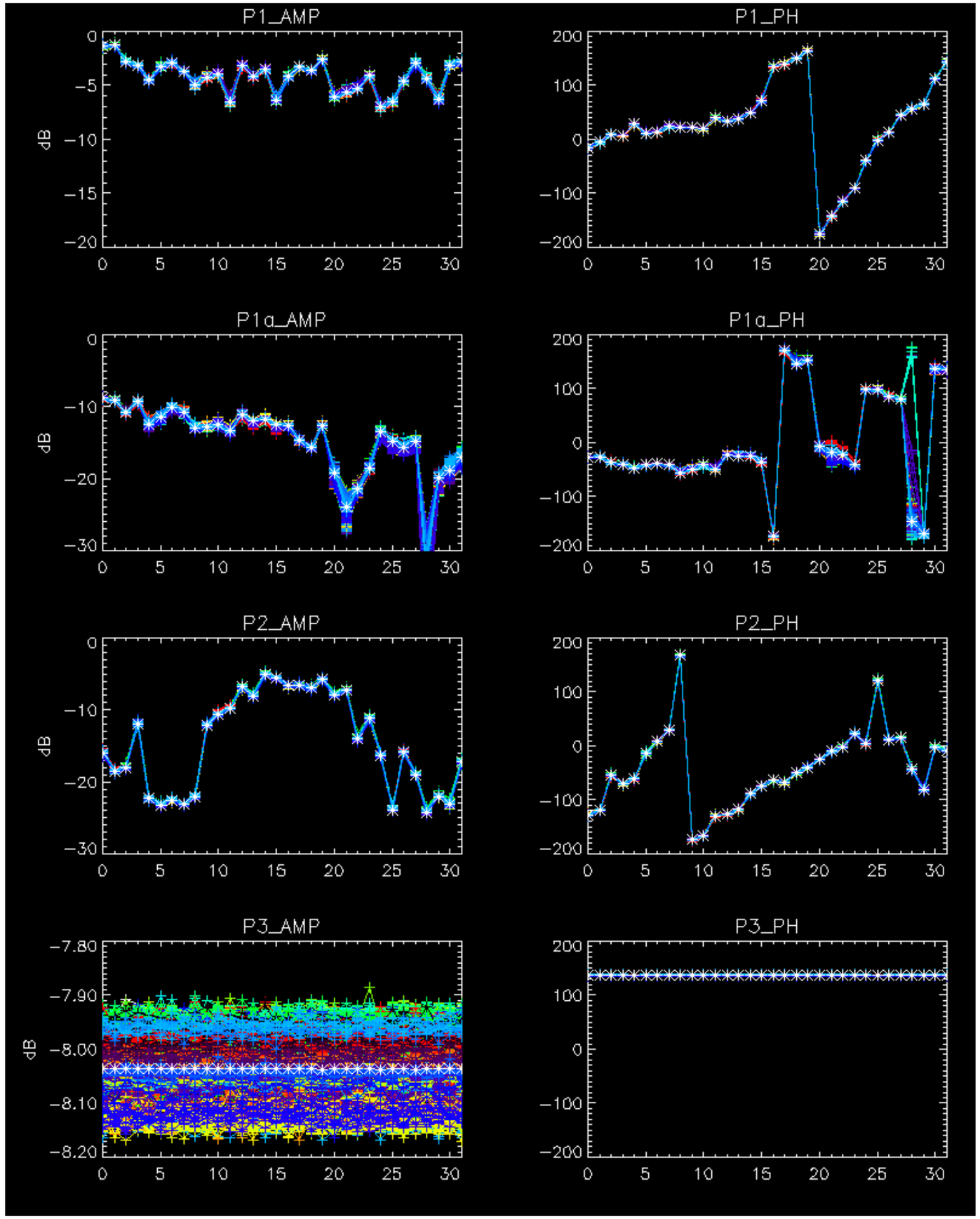

Cal pulses for GM1 SS3
Average P1 [dB]
Average P1a [dB]
Average P2[dB]
Average P3 [dB]
03
06
09
12
15
18
21
00
03
04–Jan
rows: 3 7 11 15 19 22 26 30

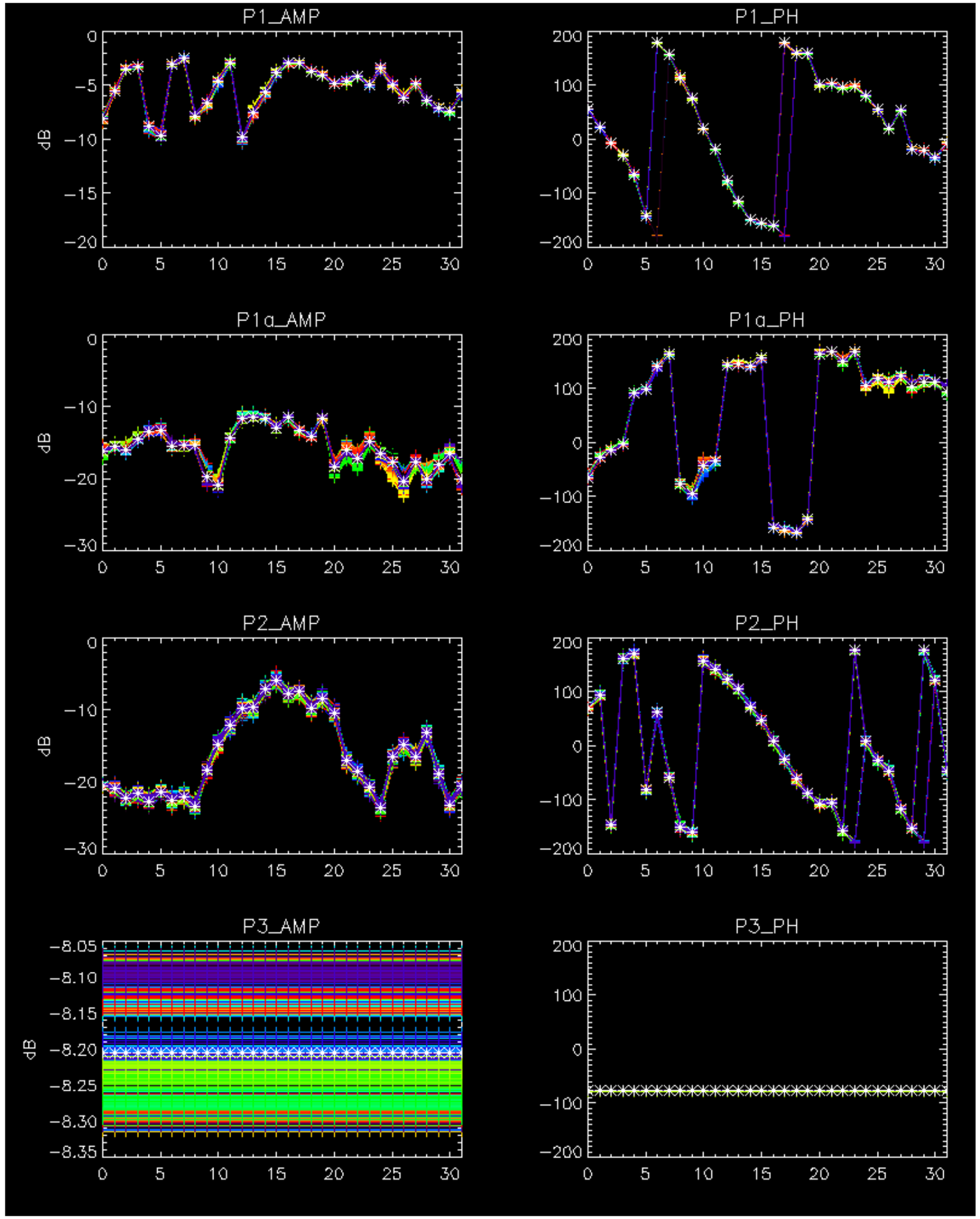

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: 3 7 11 15 19 22 26 30


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

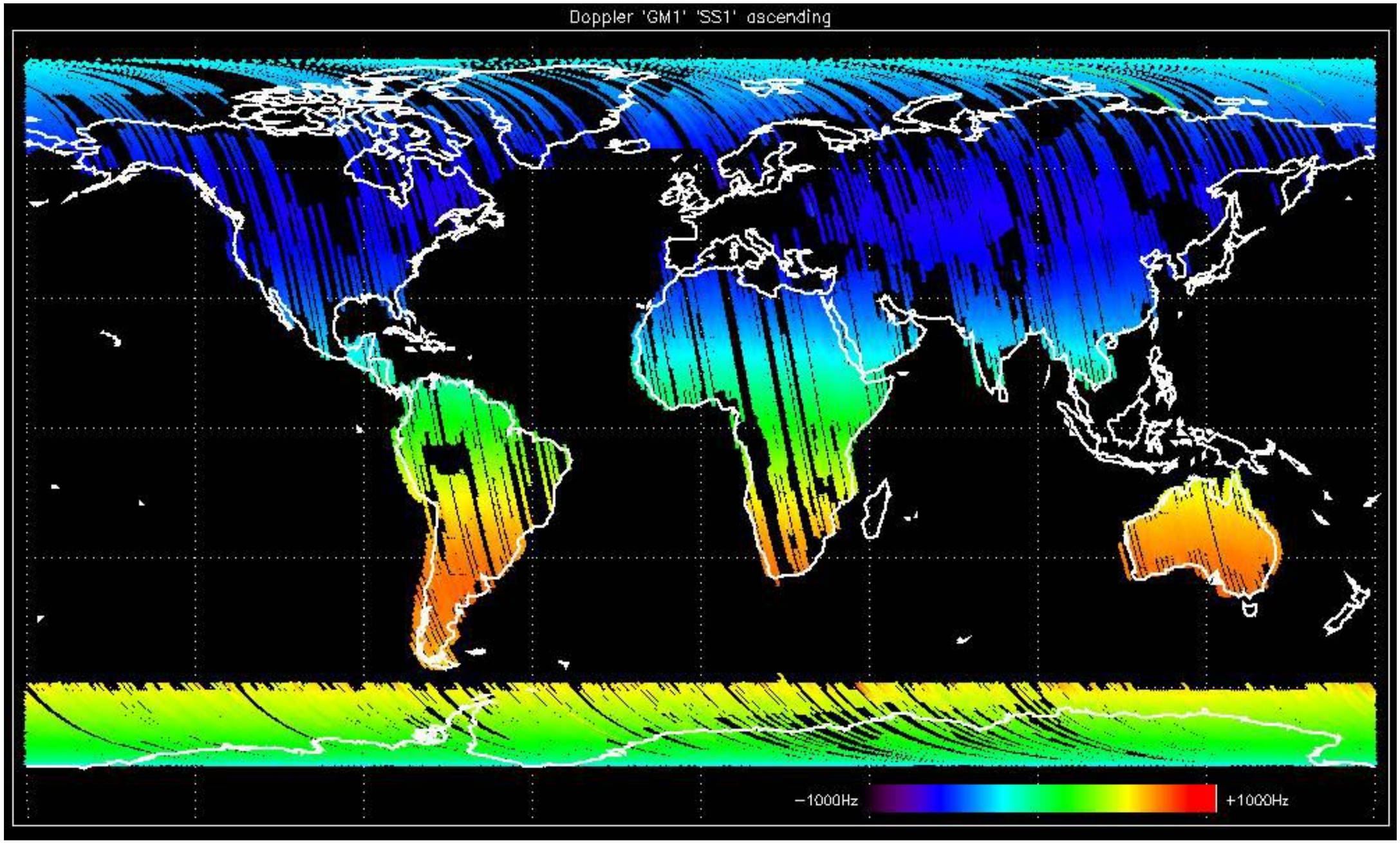
No anomalies observed from browse visual inspection.

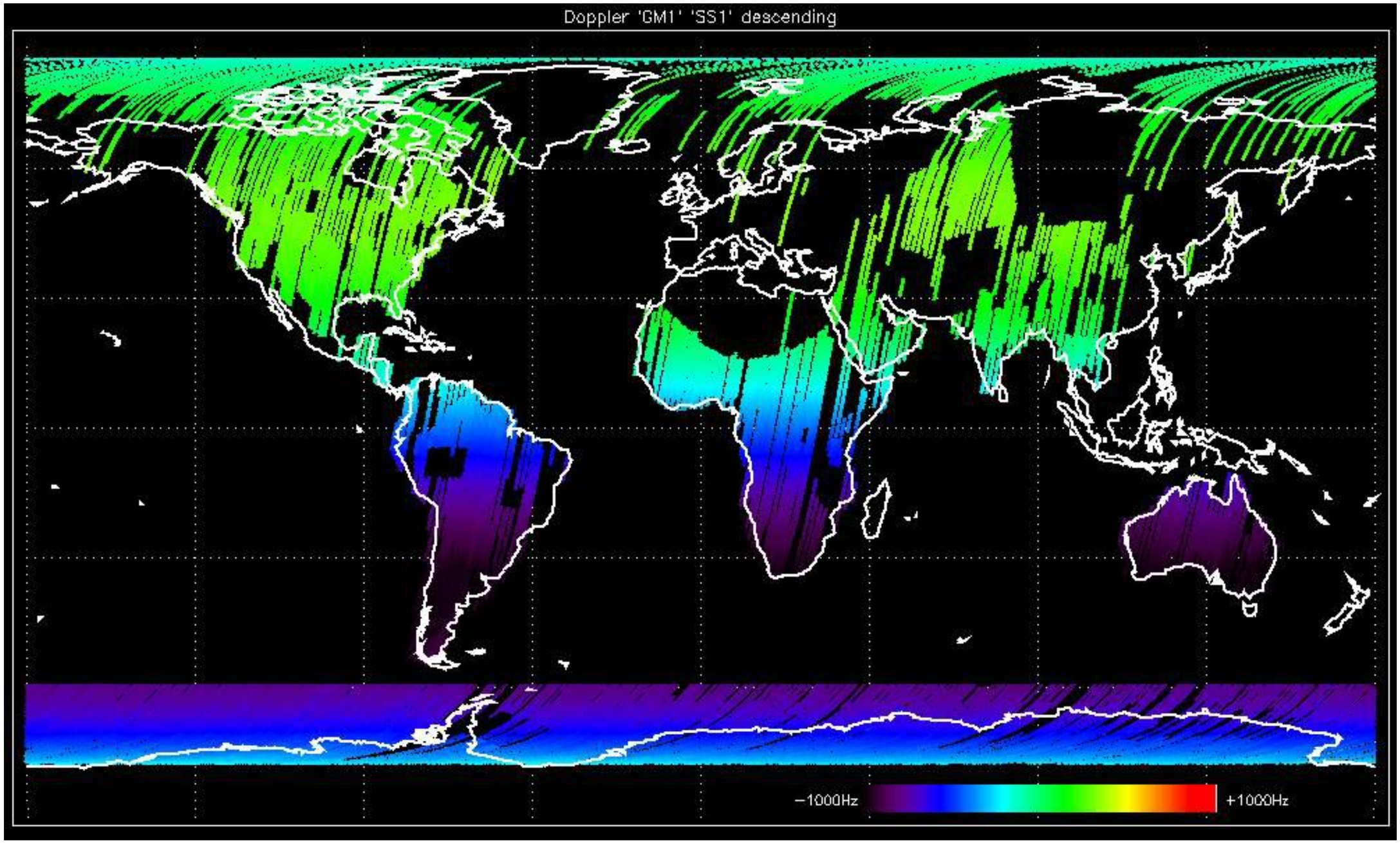
No anomalies observed.

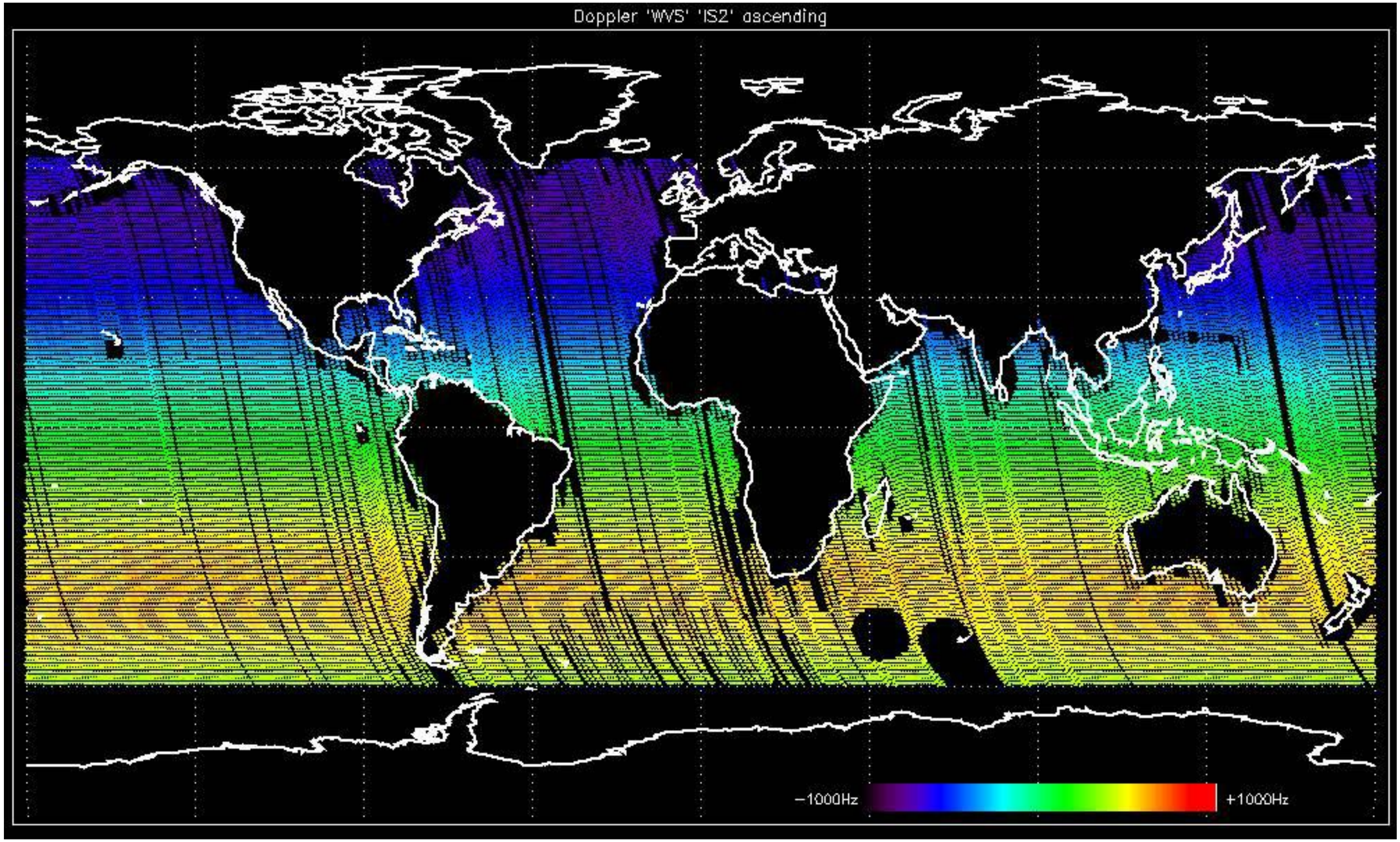

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

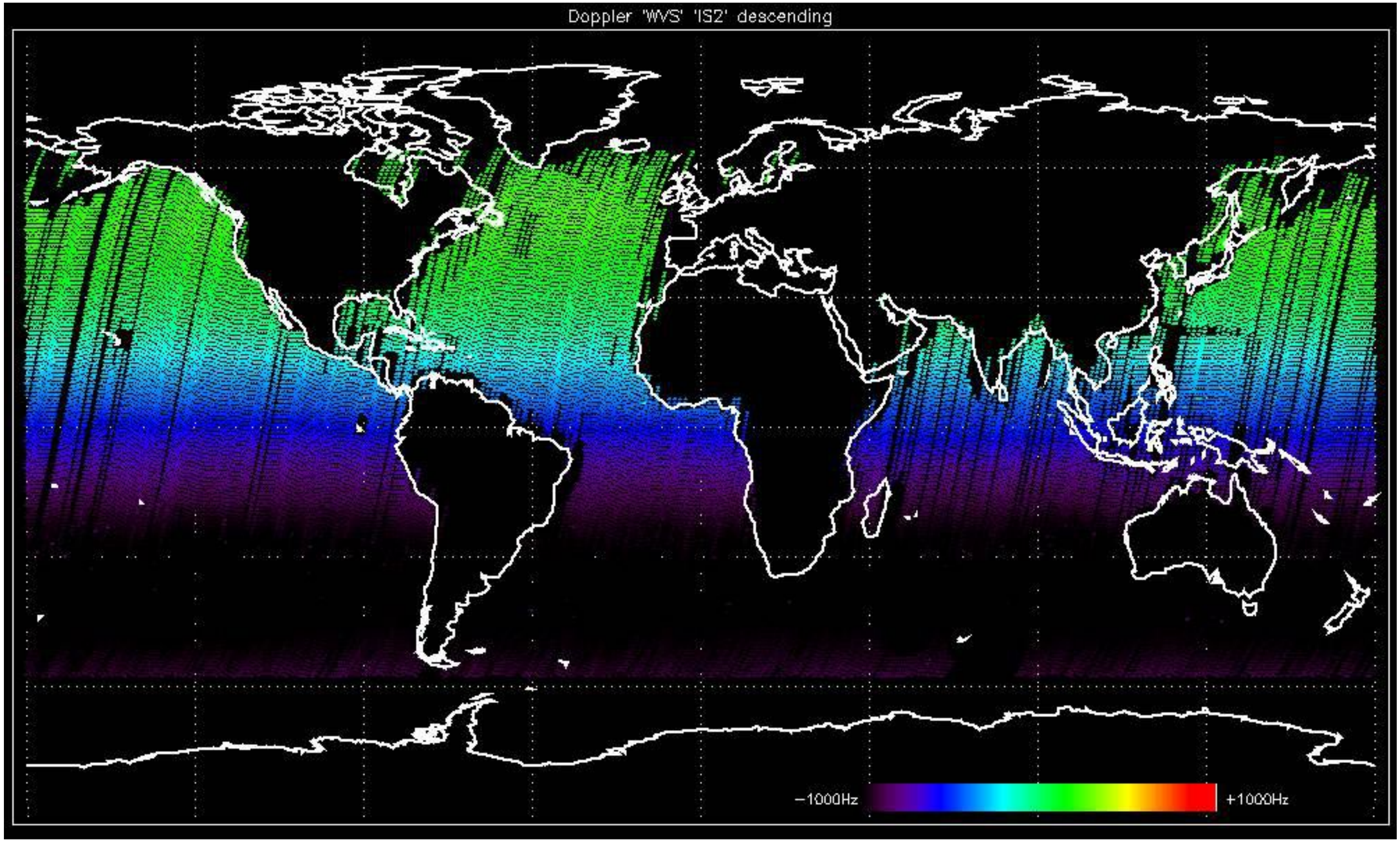

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

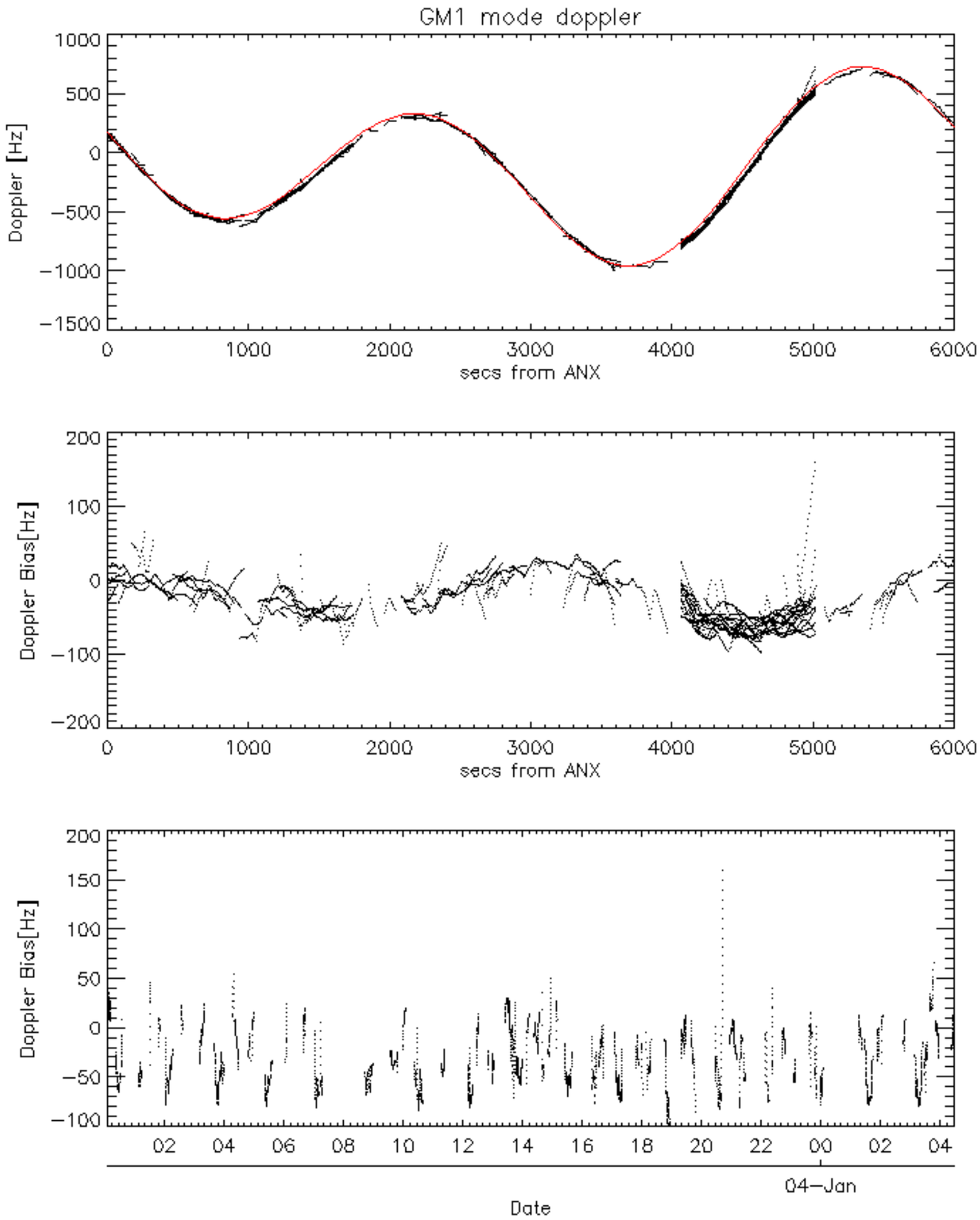
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

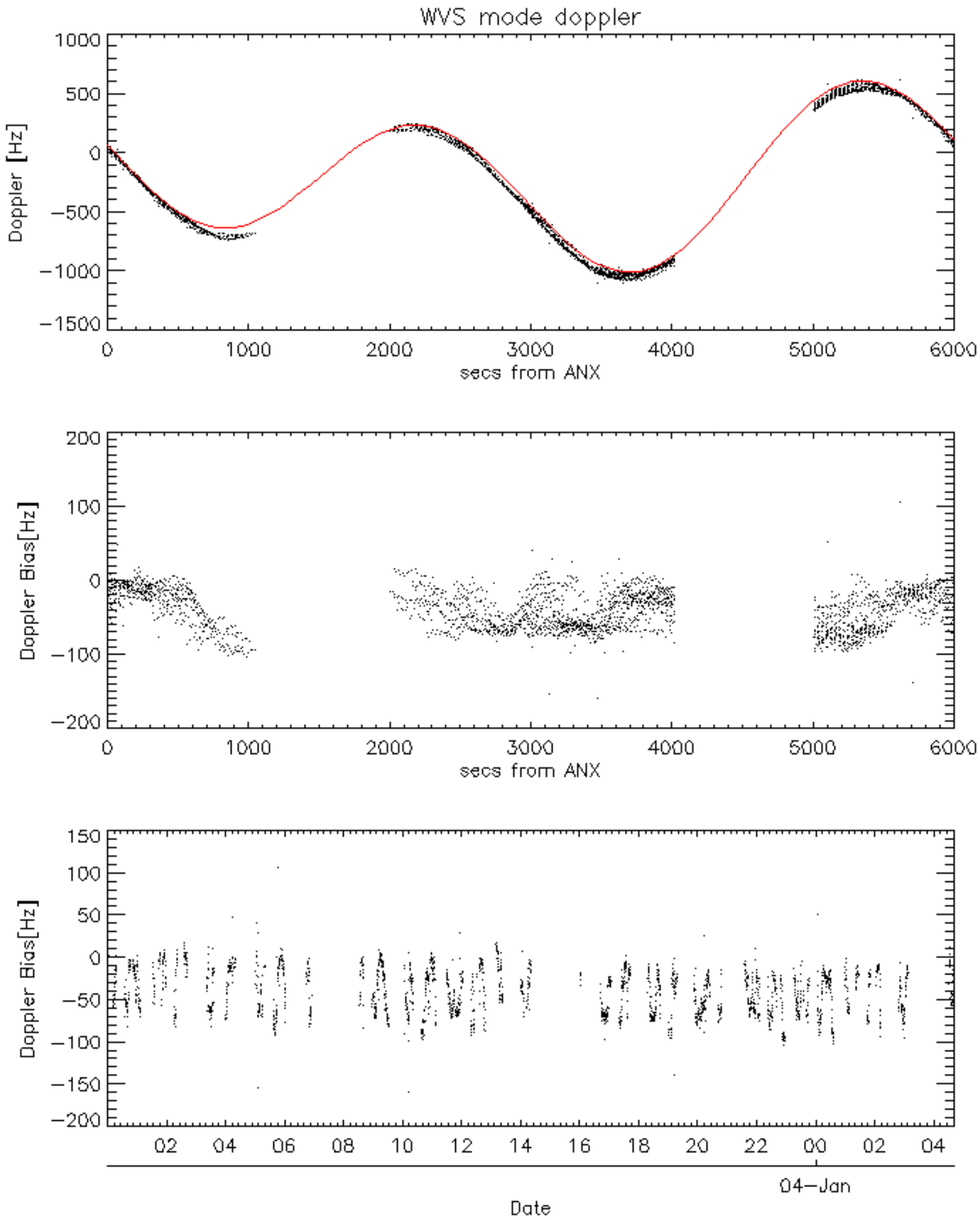

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

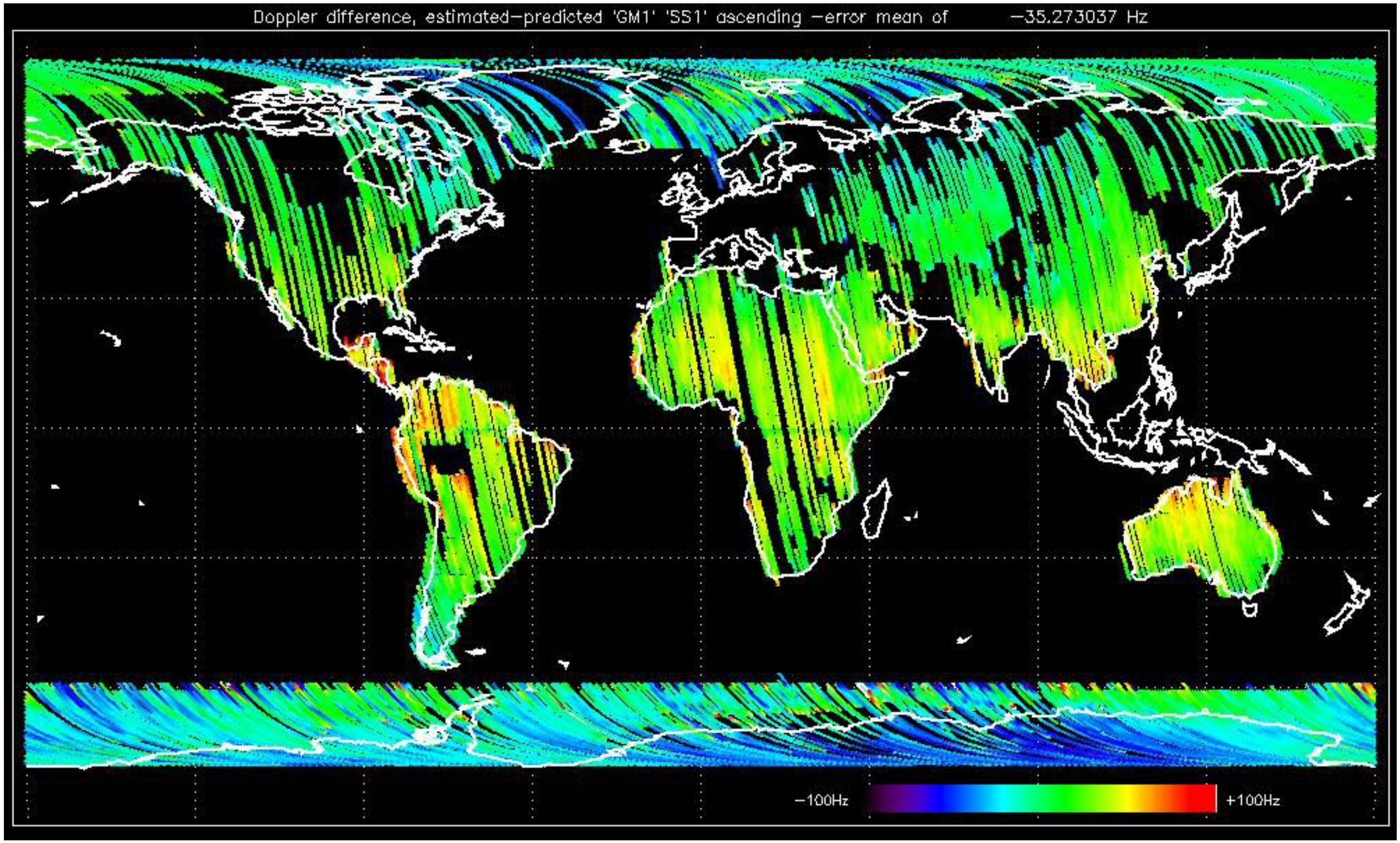

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

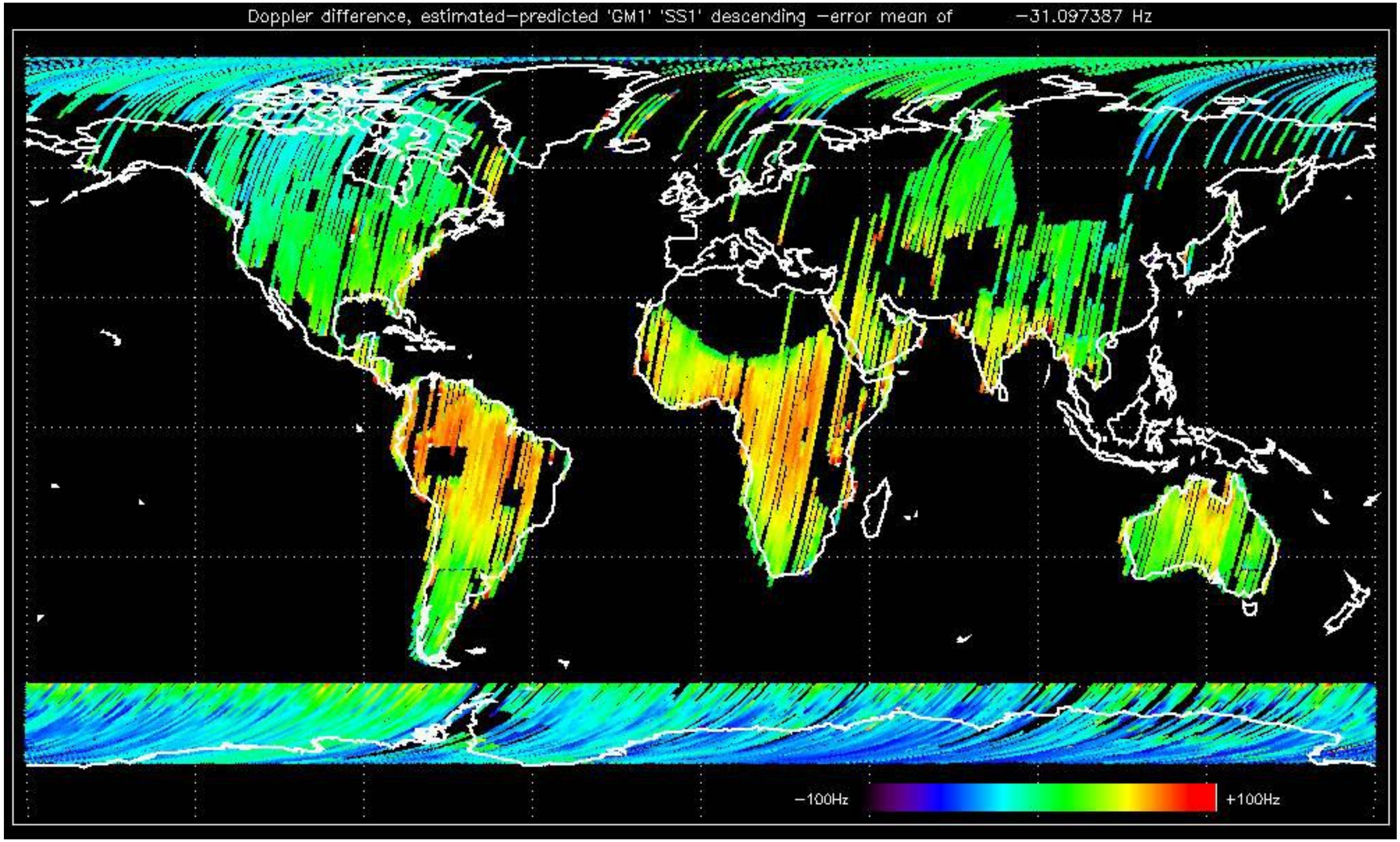

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

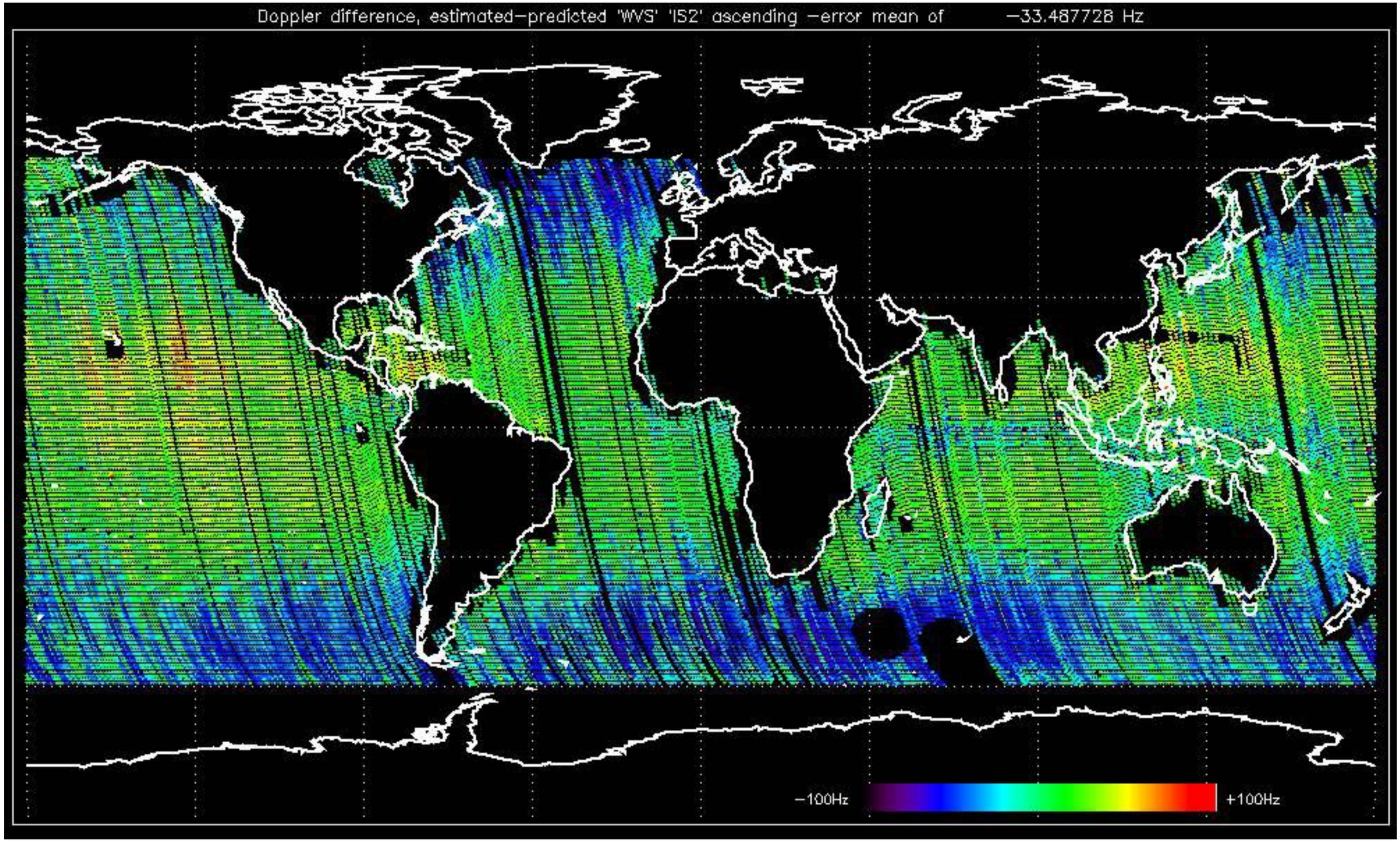

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

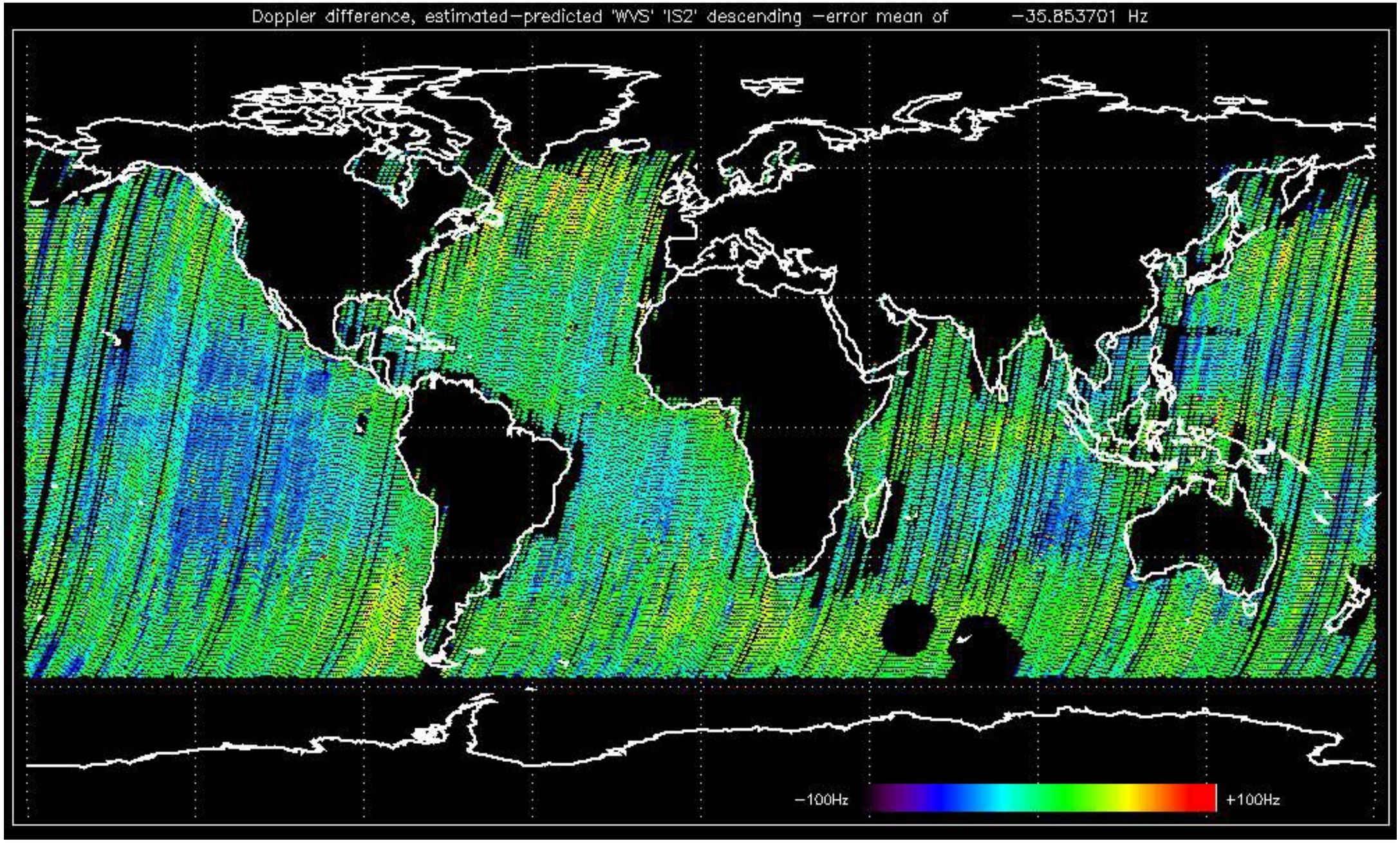

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
200
150
100
50
0
−50
−100
02
04
06
08
10
12
14
16
18
20
22
00
02
04
04−Jan
Date


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]
150
100
50
0
−50
−100
−150
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
04
04−Jan
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −35.273037 Hz
−100Hz
+100Hz

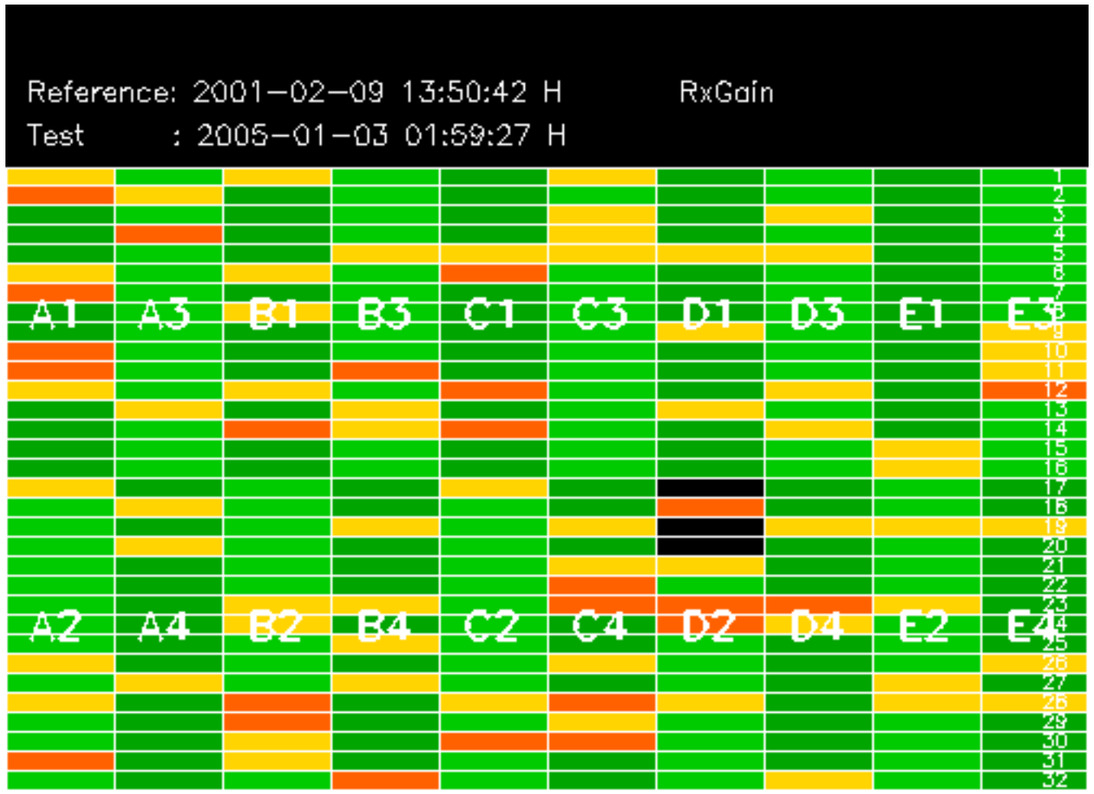

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -31.097387 Hz
-100Hz
+100Hz

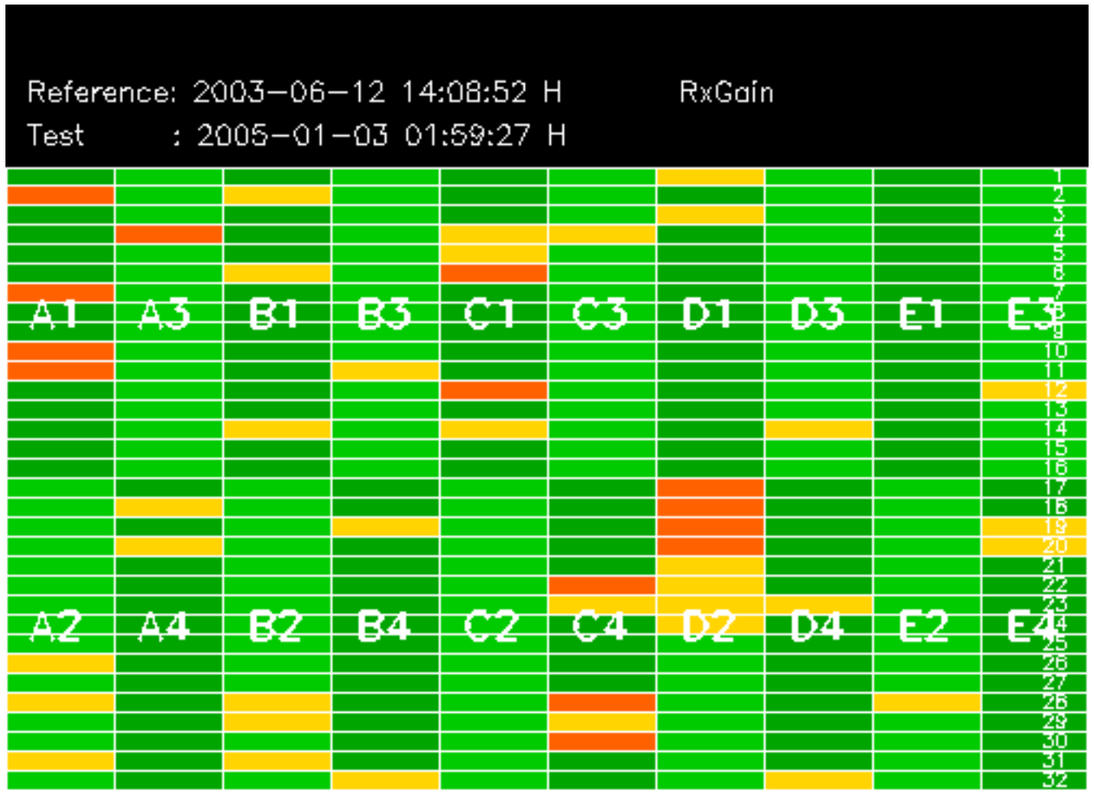

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −33.487728 Hz
−100Hz
+100Hz

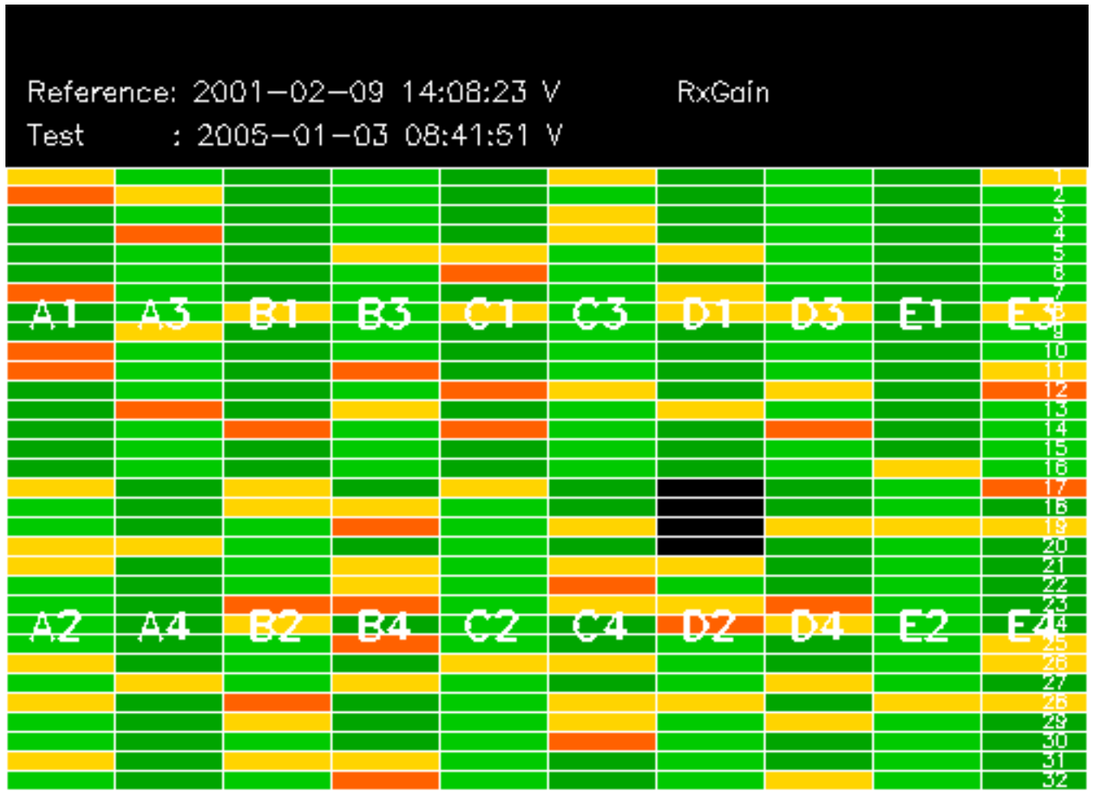

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −35.853701 Hz
−100Hz
+100Hz

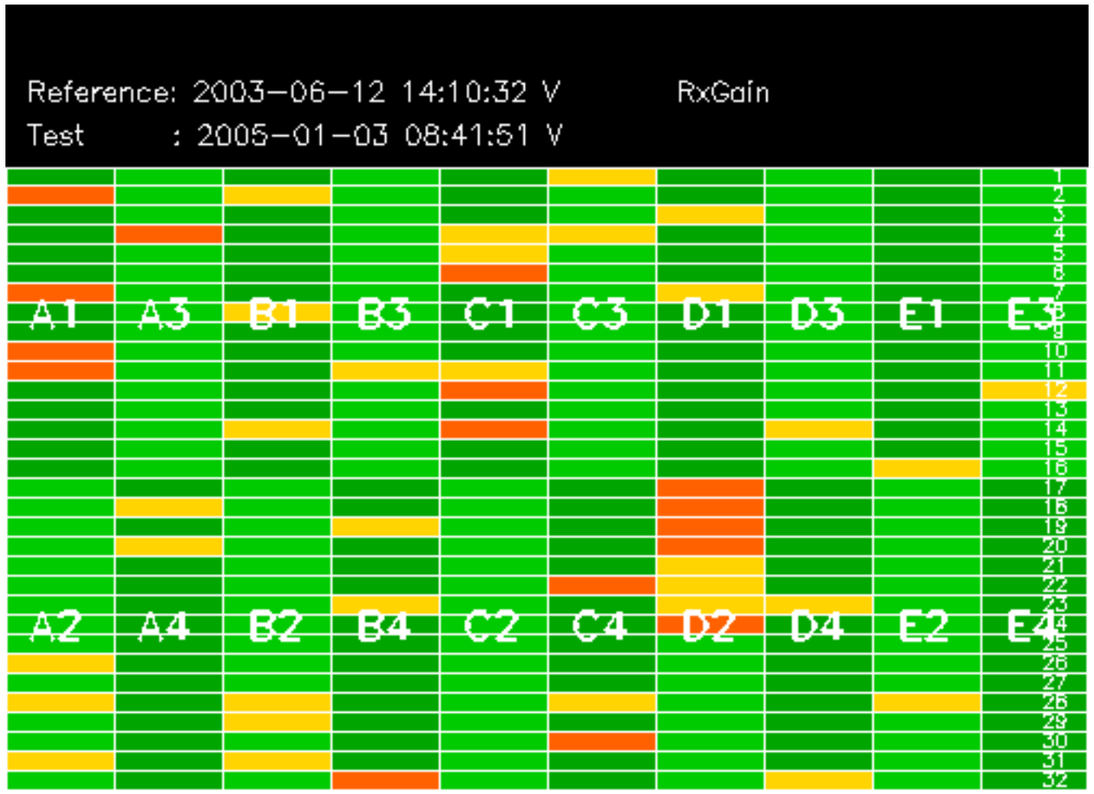
The MS mode provides an internal health check on an individual module basis.
The purpose of this mode is to identify to identify any malfunctionning modules and to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

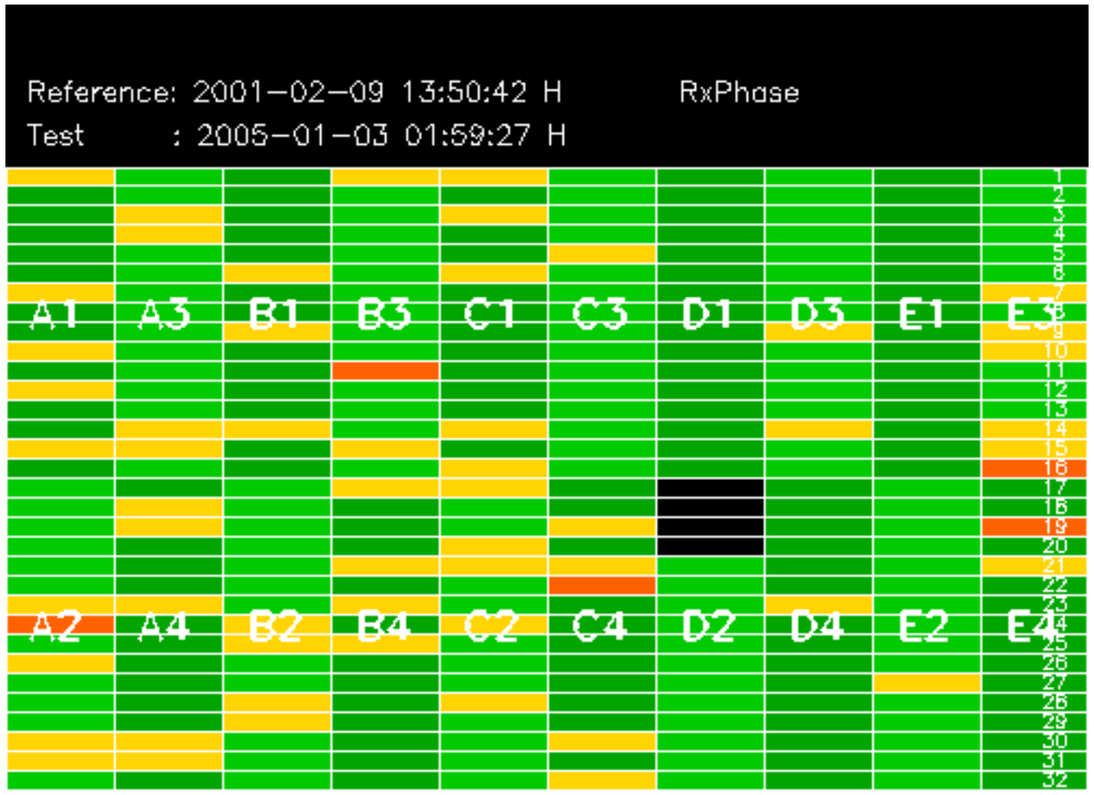
No anomalies observed.

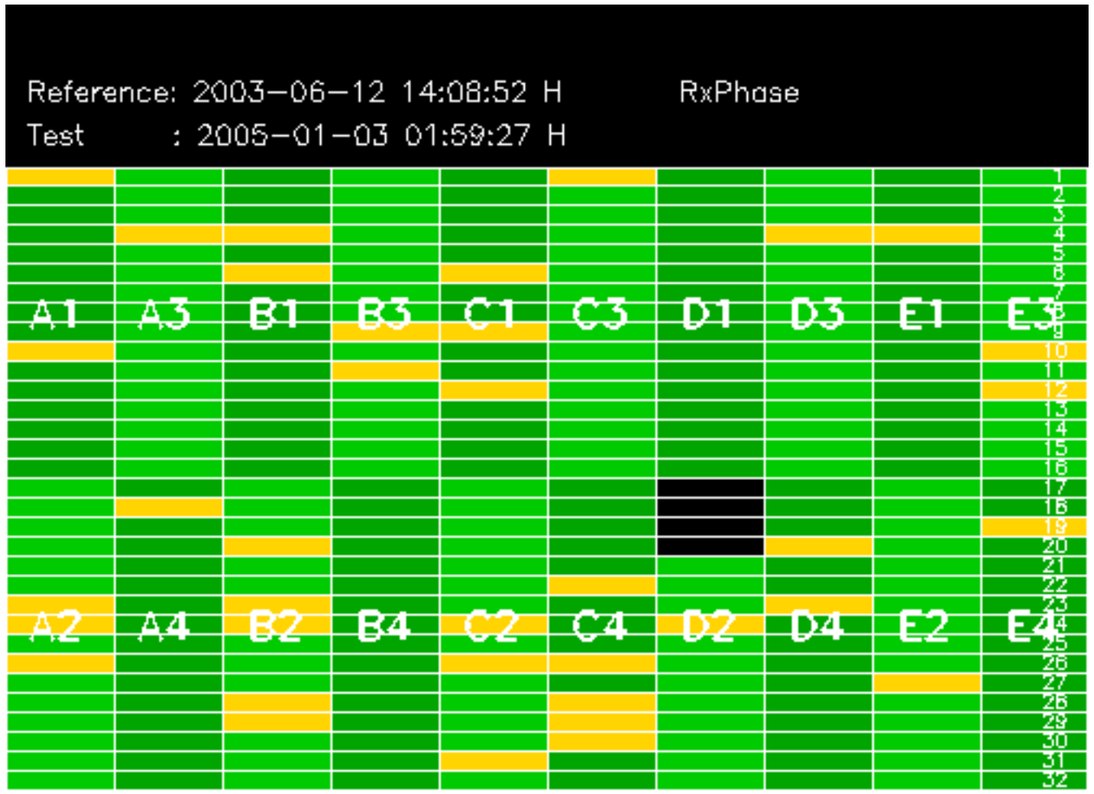

Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2005-01-03 01:59:27 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

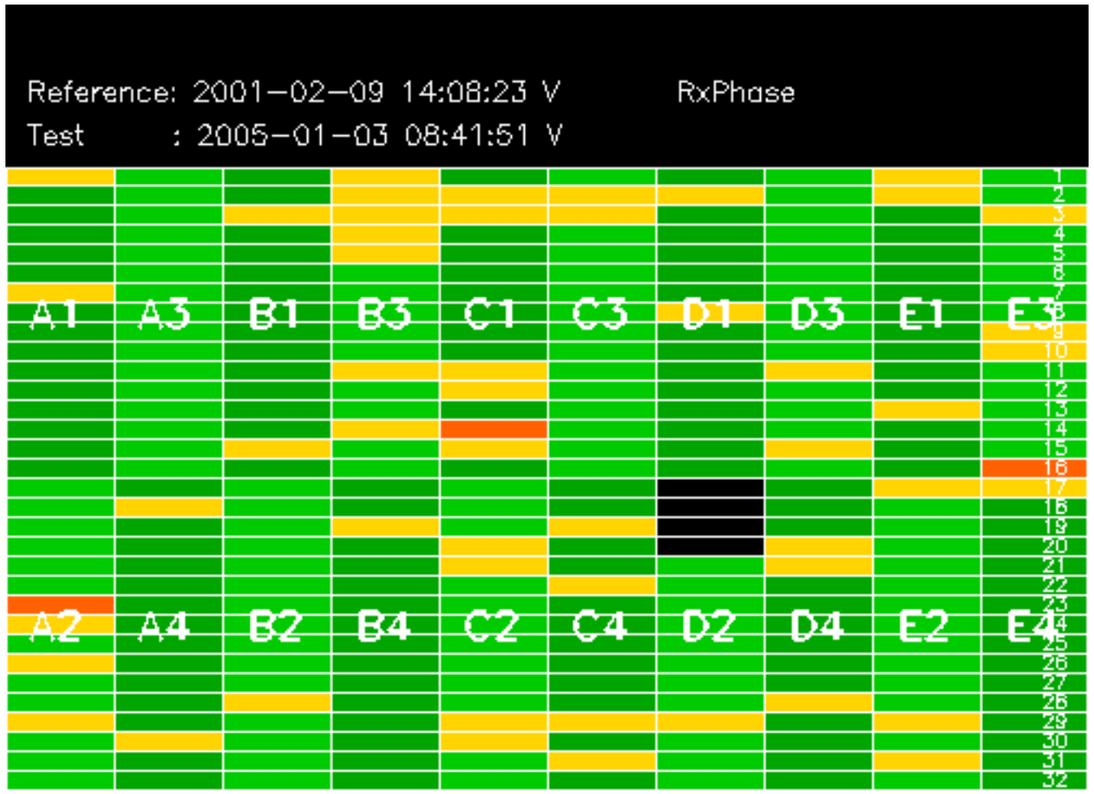

Reference: 2003-06-12 14:08:52 H
RxGain
Test : 2005-01-03 01:59:27 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

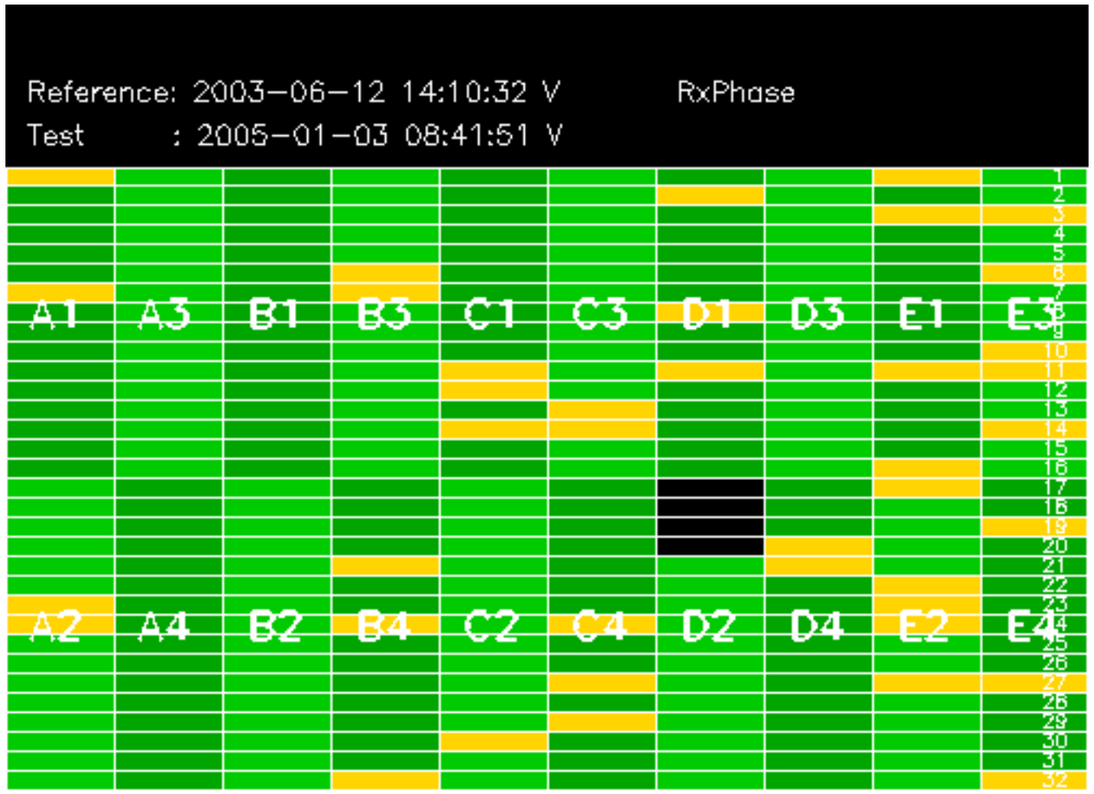

Reference: 2001-02-09 14:08:23 V
RxGain
Test : 2005-01-03 08:41:51 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

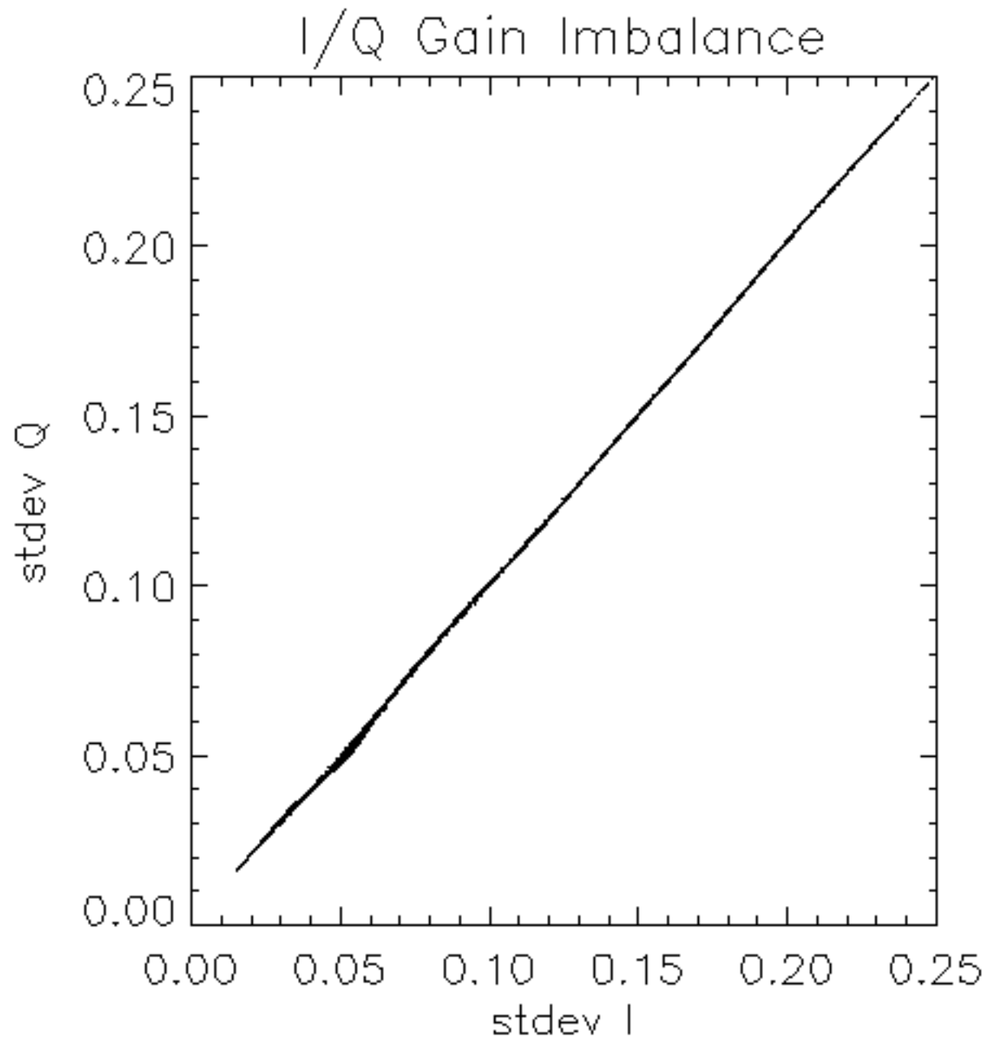

Reference: 2003-06-12 14:10:32 V
RxGain
Test : 2005-01-03 08:41:51 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

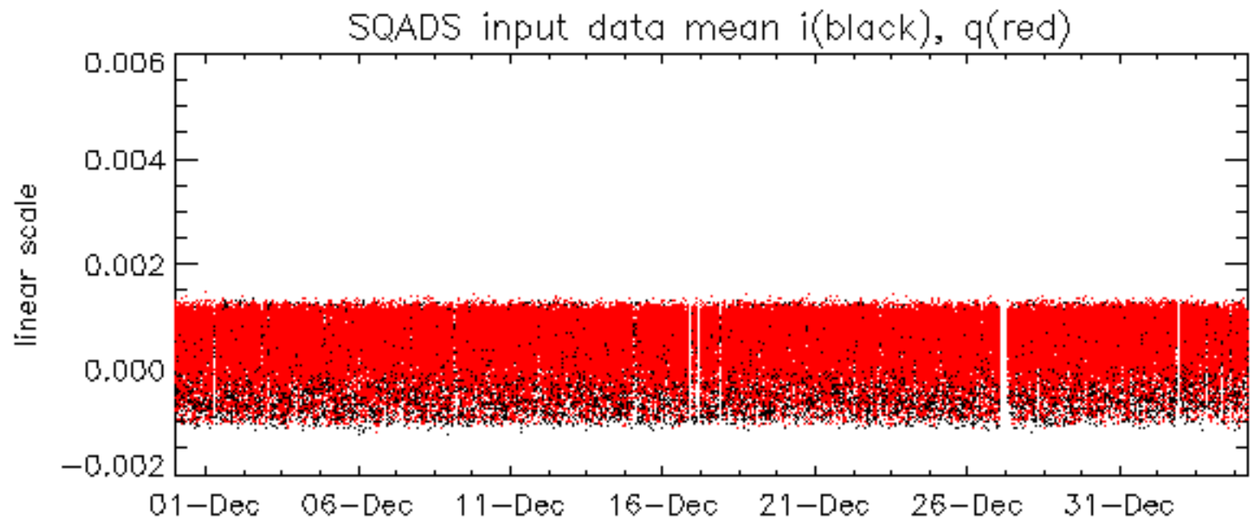

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-01-03 01:59:27 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

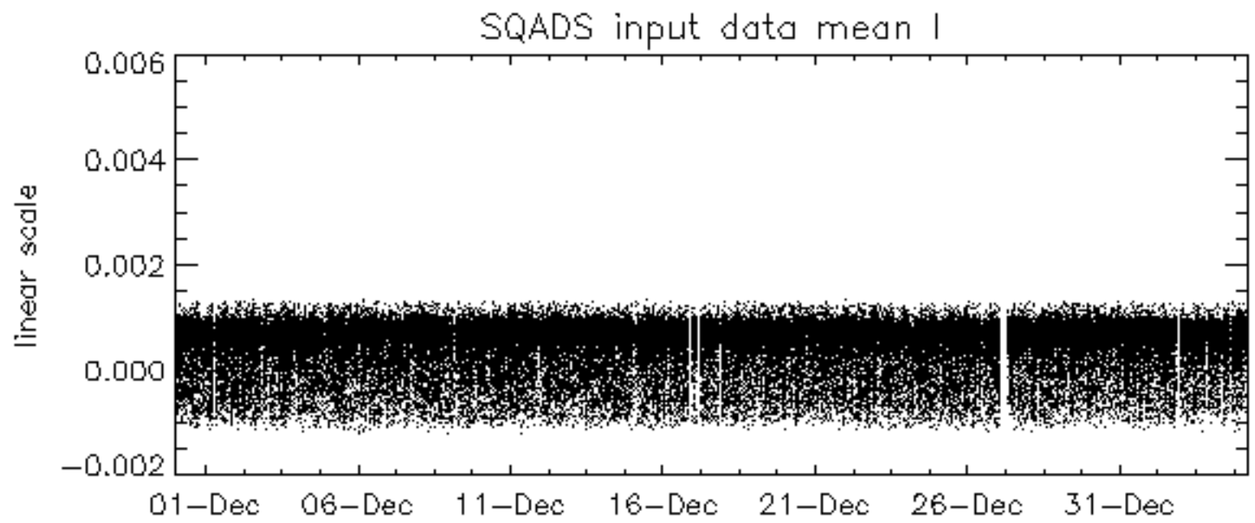

Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2005-01-03 01:59:27 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

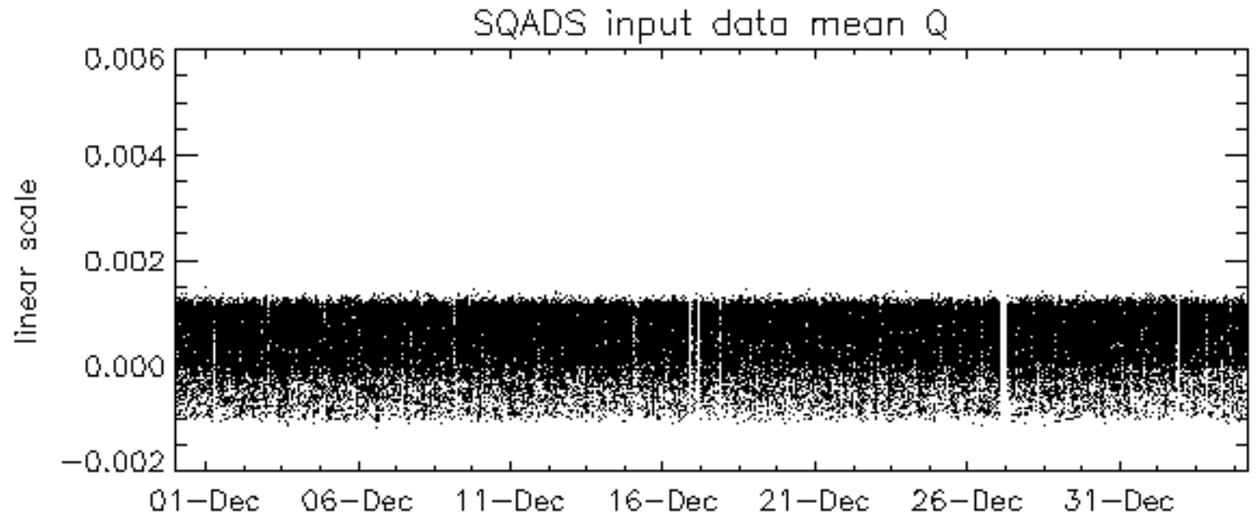

Reference: 2001-02-09 14:08:23 V
RxPhase
Test : 2005-01-03 08:41:51 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

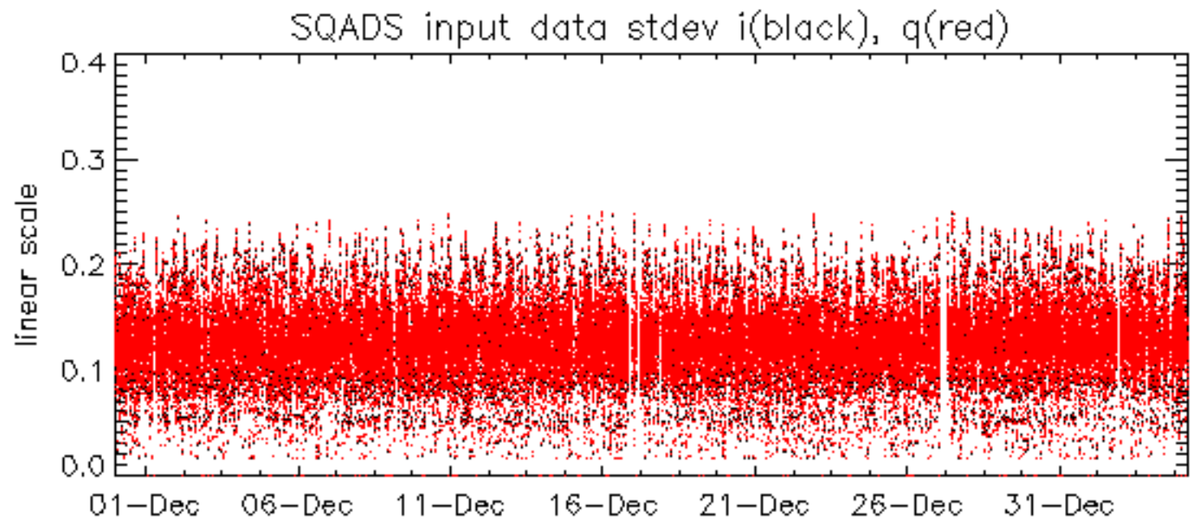

Reference: 2003-06-12 14:10:32 V
RxPhase
Test : 2005-01-03 08:41:51 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

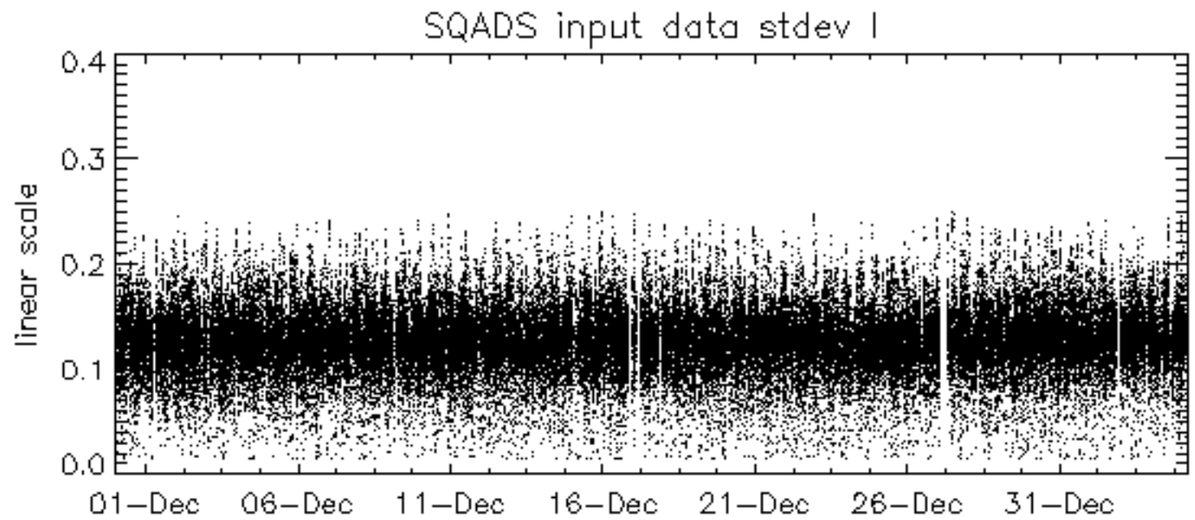

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

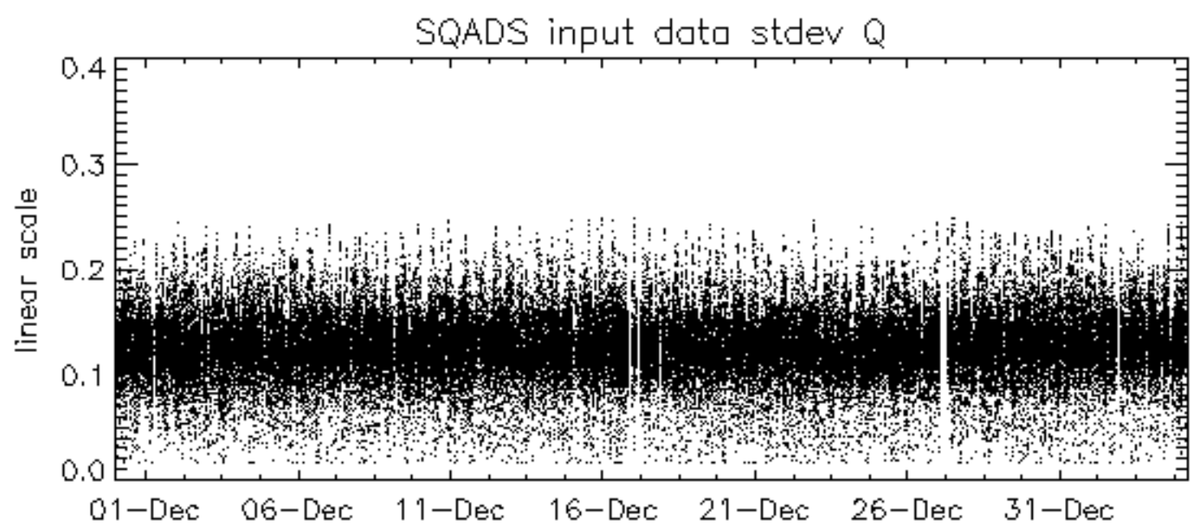

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec

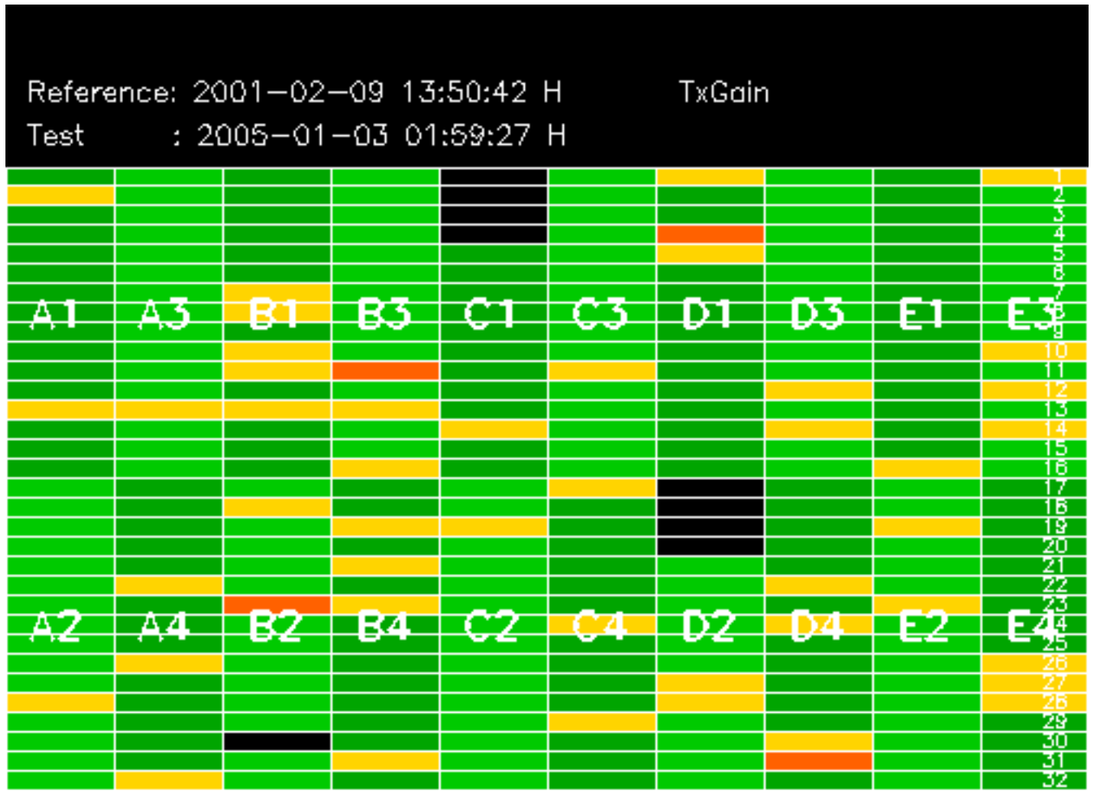

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec

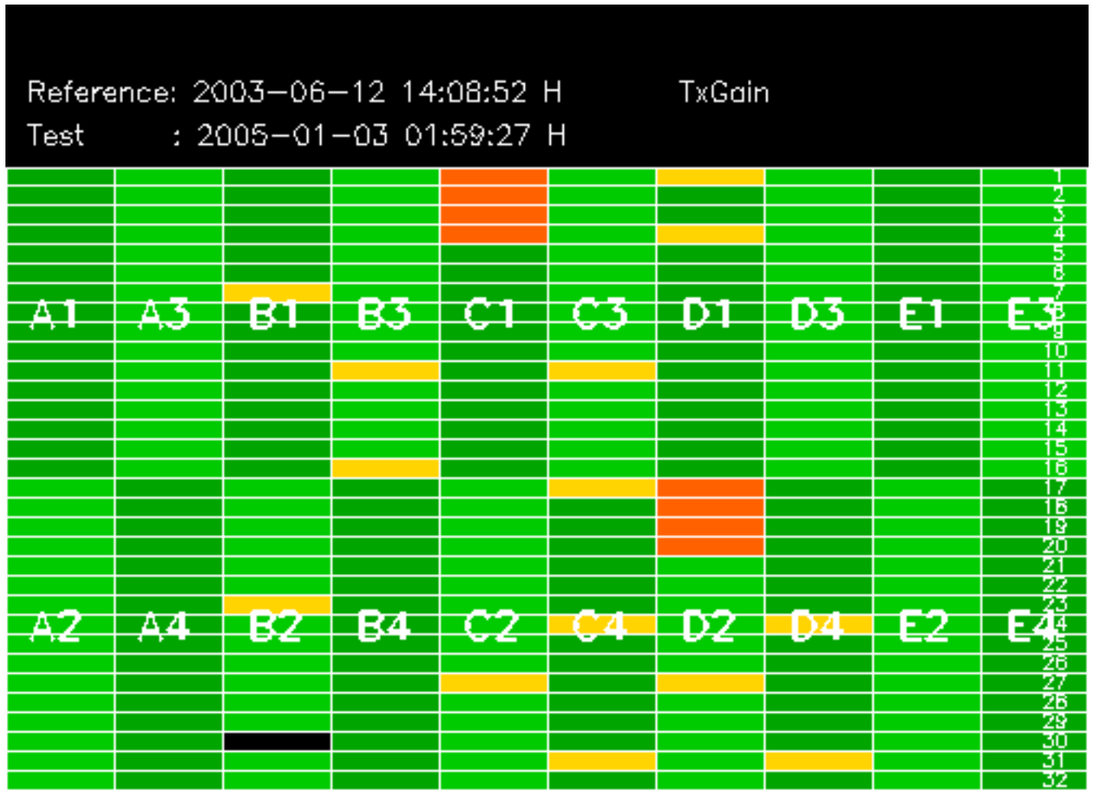

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec

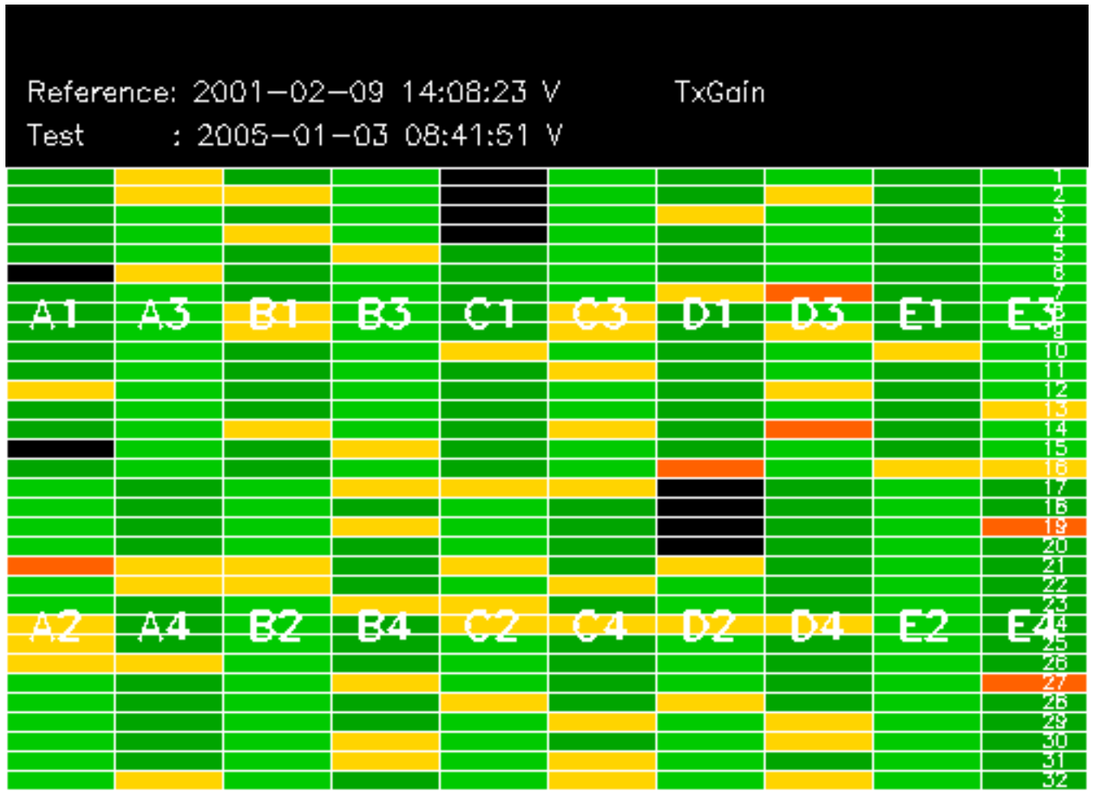

SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
01-Dec
06-Dec
11-Dec
16-Dec
21-Dec
26-Dec
31-Dec

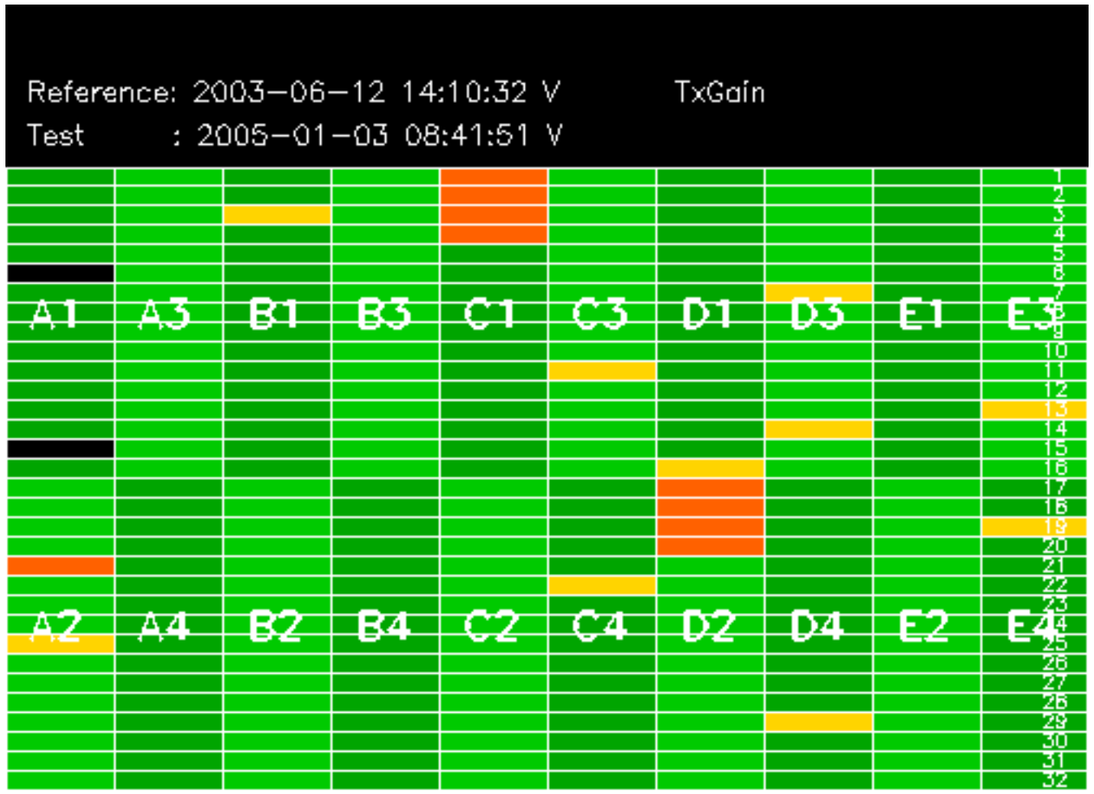

SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
01-Dec
06-Dec
11-Dec
16-Dec
21-Dec
26-Dec
31-Dec

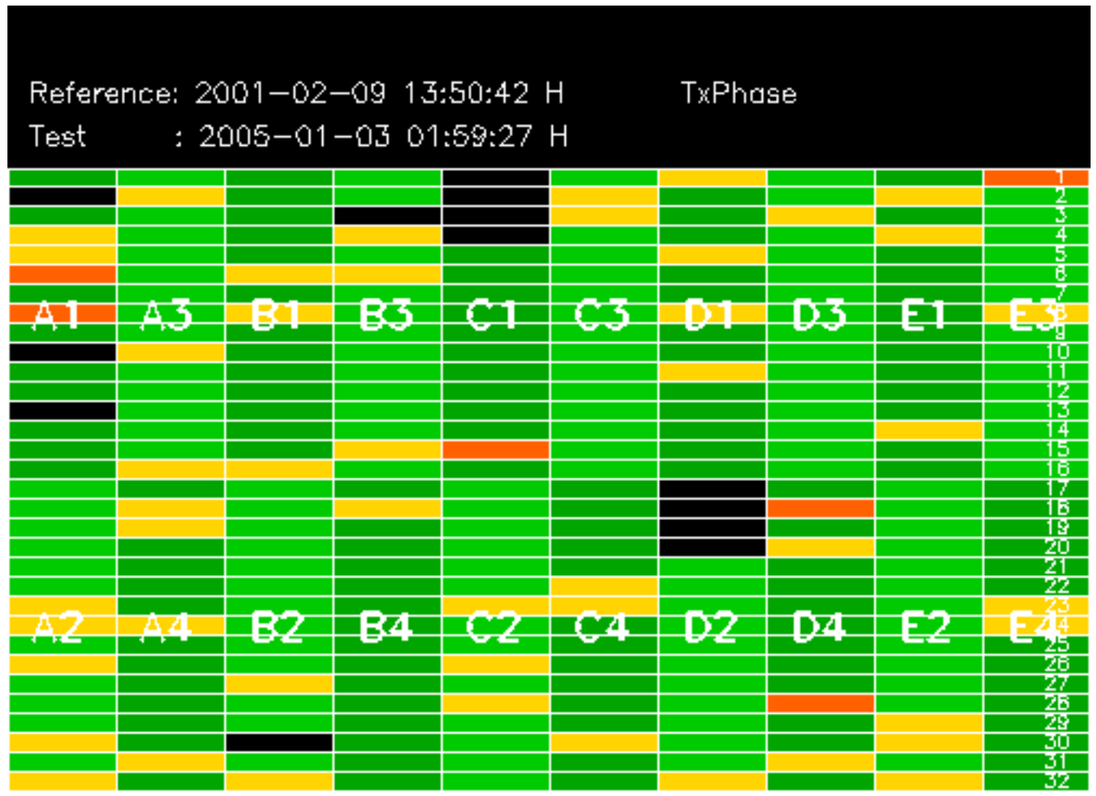

SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
01-Dec
06-Dec
11-Dec
16-Dec
21-Dec
26-Dec
31-Dec

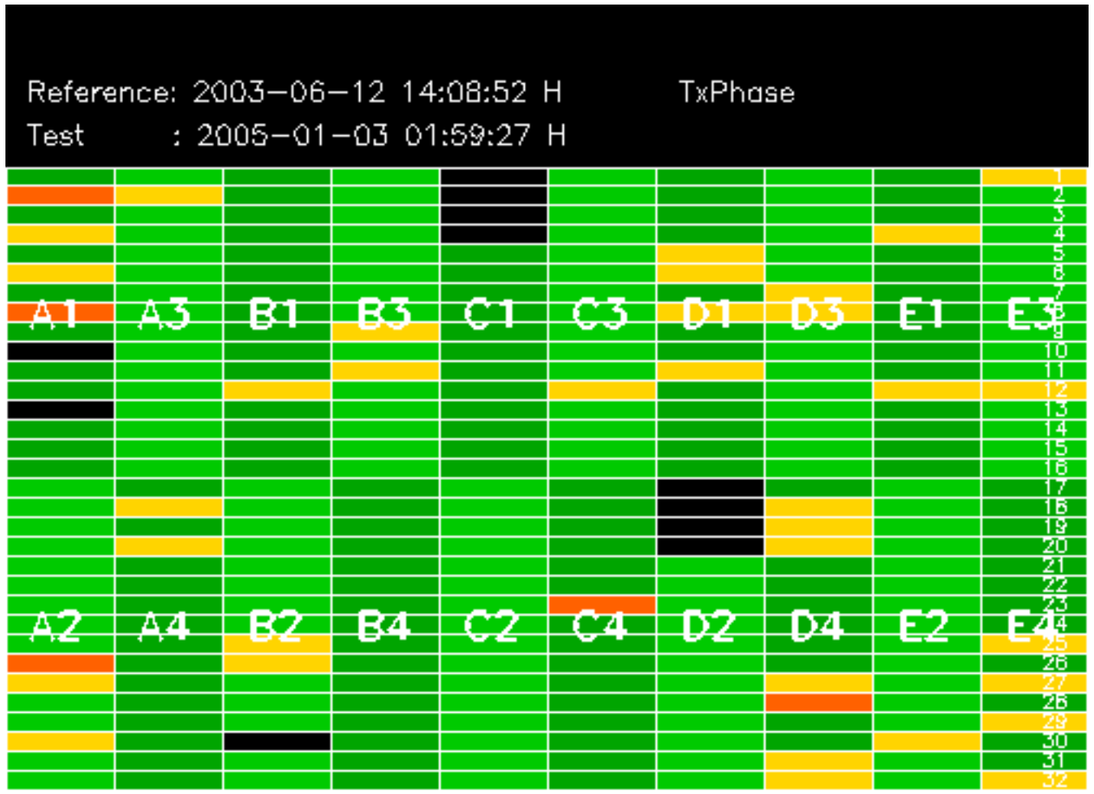

Reference: 2001-02-09 13:50:42 H
TxGain
Test : 2005-01-03 01:59:27 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

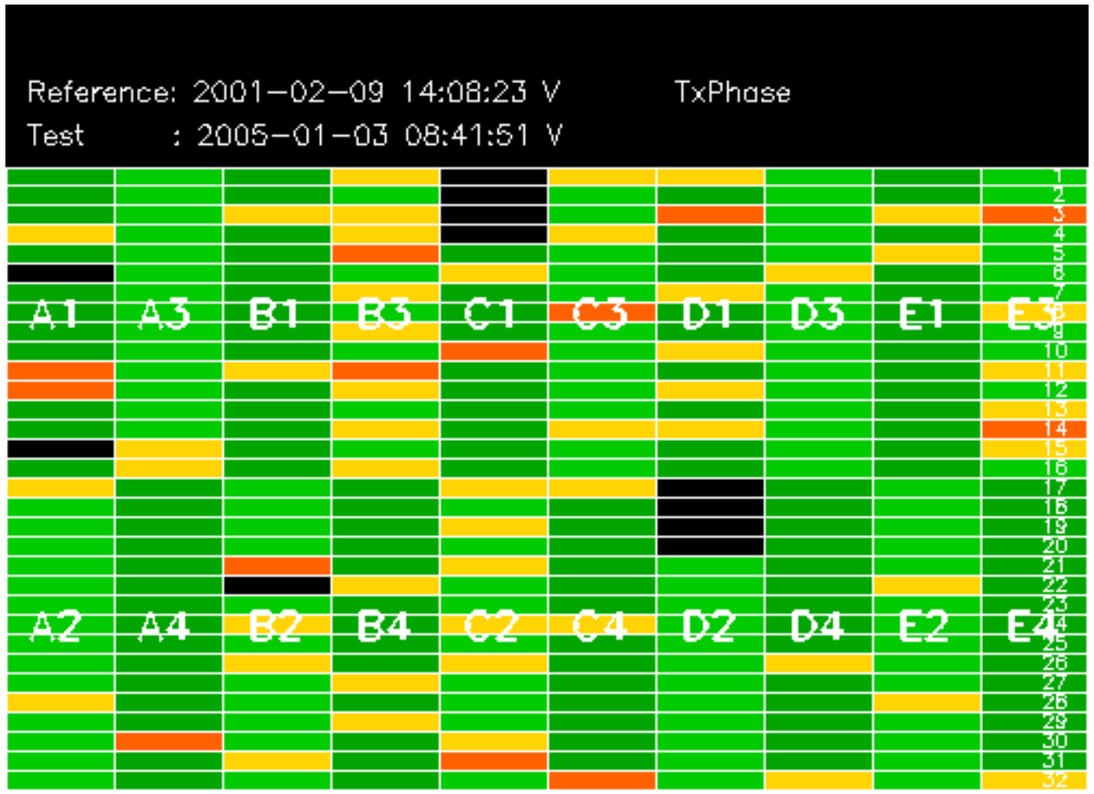

Reference: 2003-06-12 14:08:52 H
TxGain
Test : 2005-01-03 01:59:27 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

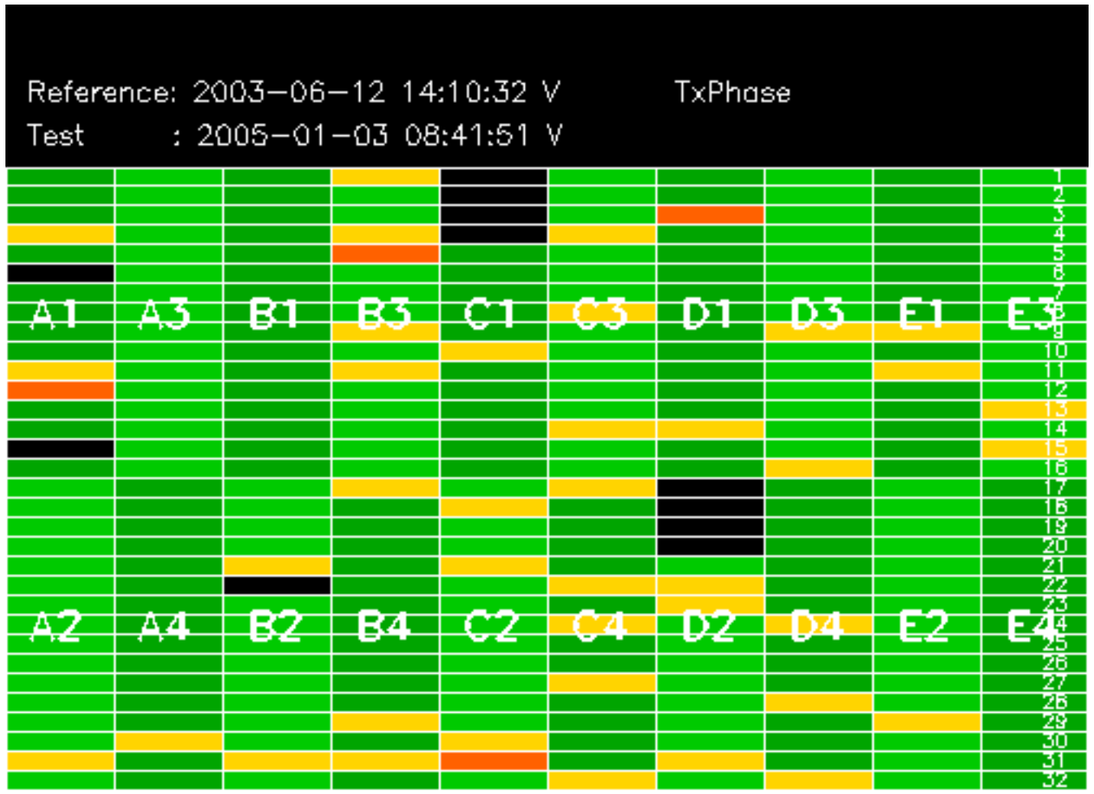

Reference: 2001-02-09 14:08:23 V
TxGain
Test : 2005-01-03 08:41:51 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

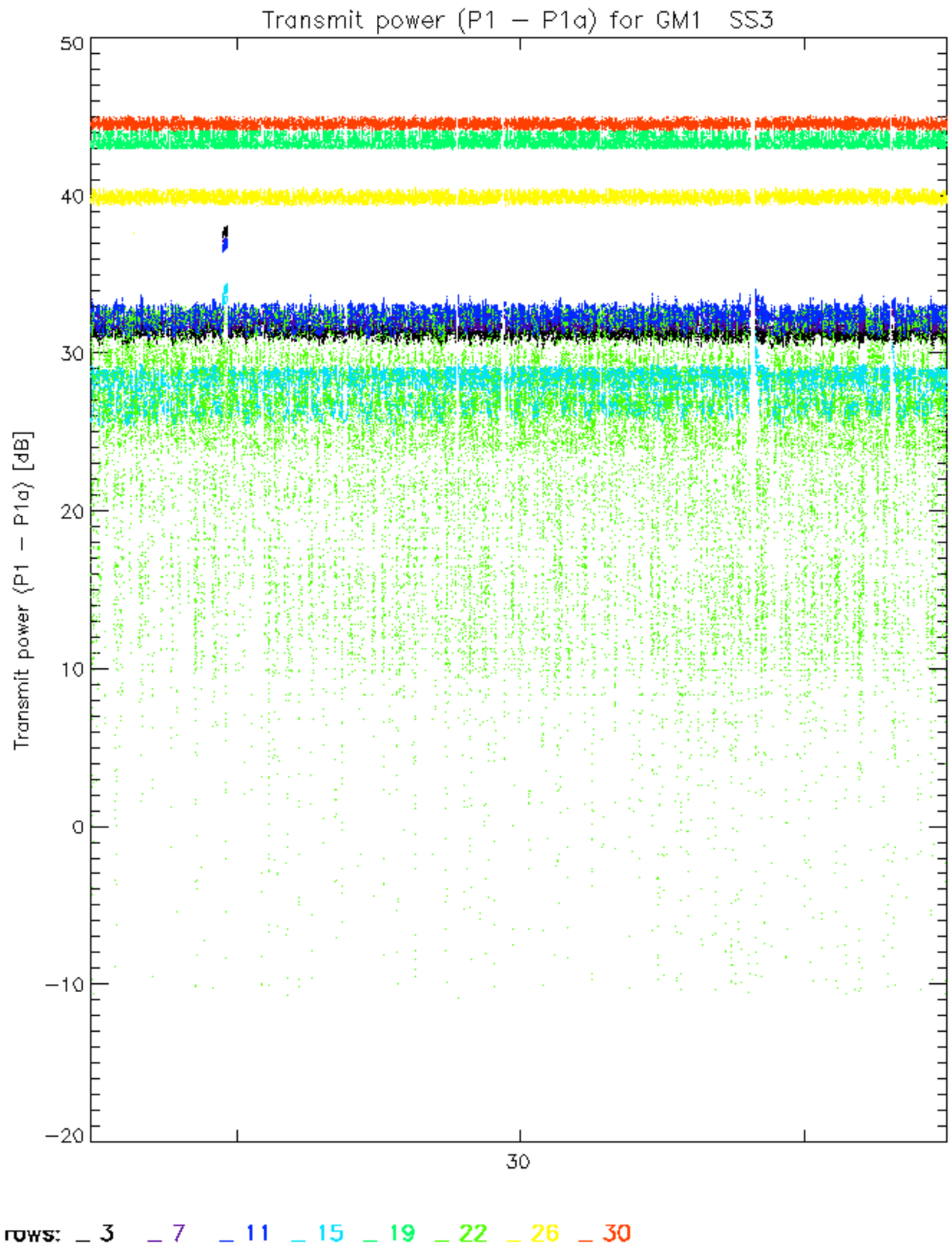

Reference: 2003-06-12 14:10:32 V
TxGain
Test : 2005-01-03 08:41:51 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

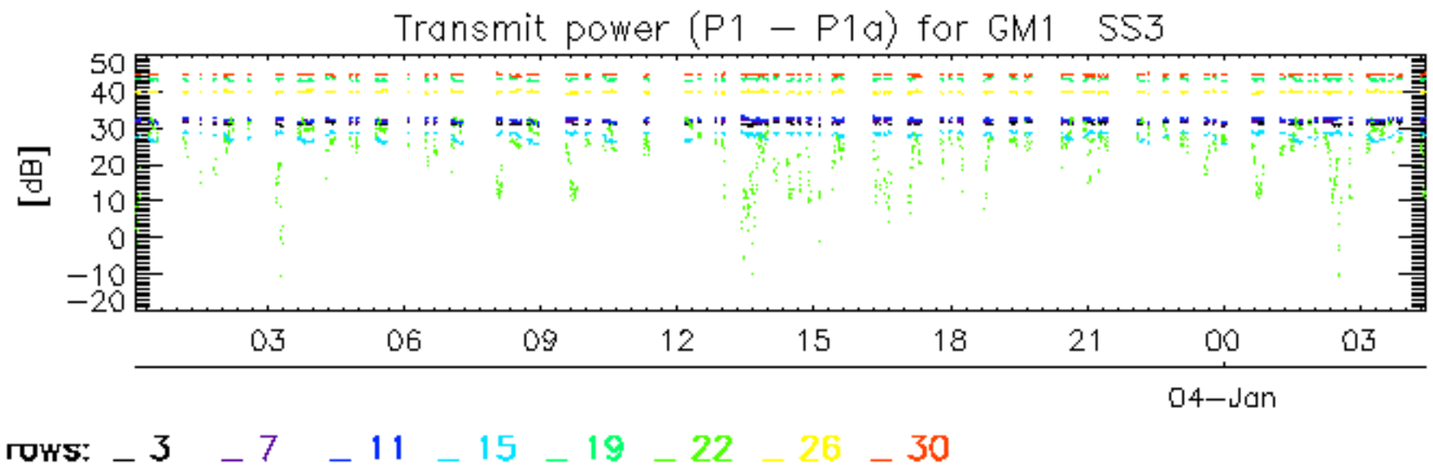

Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2005-01-03 01:59:27 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

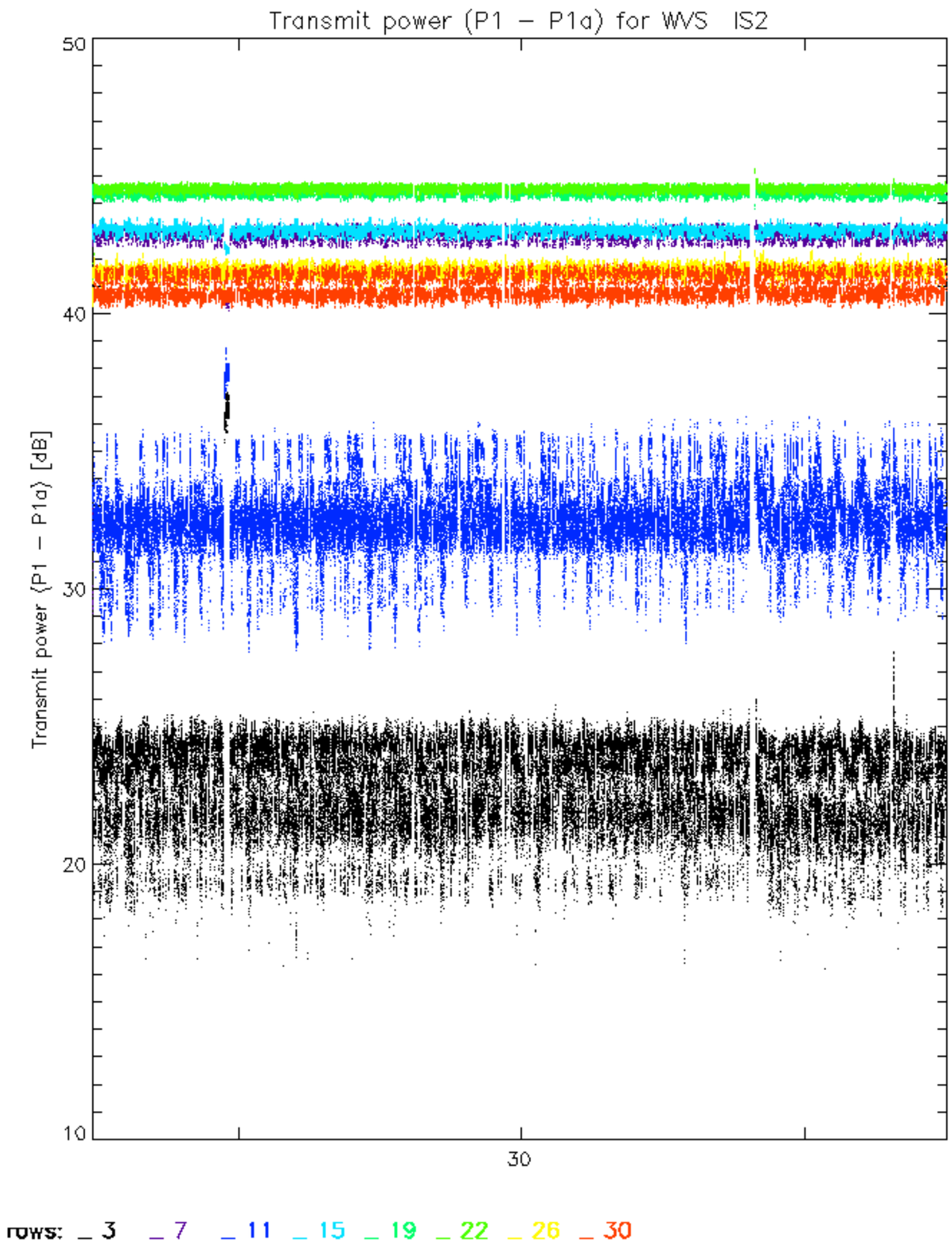

Reference: 2003-06-12 14:08:52 H
TxPhase
Test : 2005-01-03 01:59:27 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

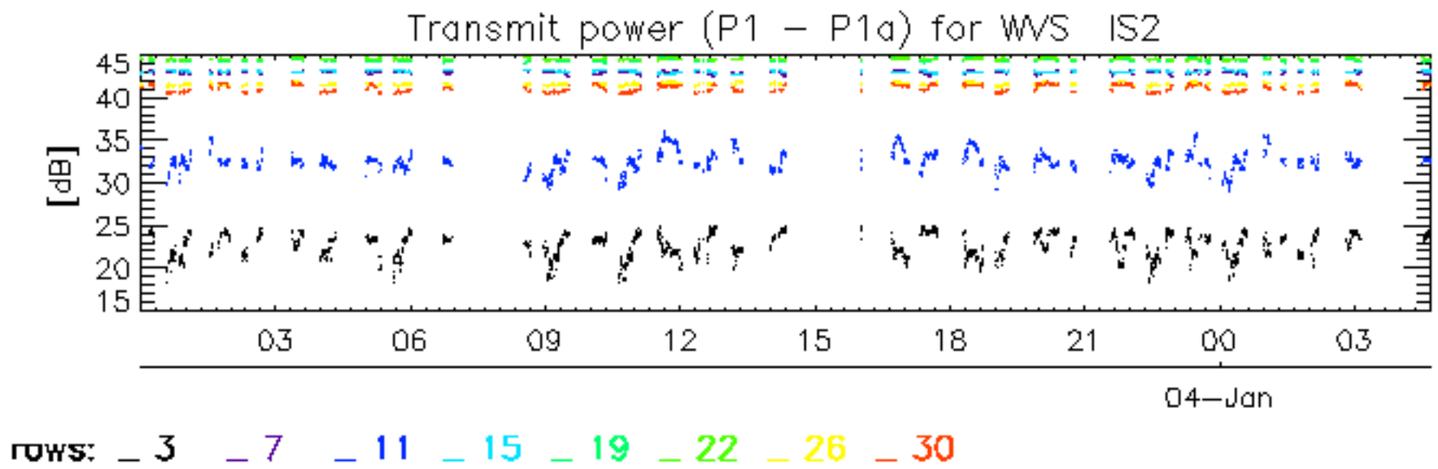

Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2005-01-03 08:41:51 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
TxPhase
Test : 2005-01-03 08:41:51 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
30
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
04–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
30
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
04–Jan
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.