PRELIMINARY REPORT OF 050102

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

last update on Sun Jan 2 11:00:52 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 2005-01-01 00:00:00 to 2005-01-02 11:00:52

PDHS-K					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	26	52	4	0	6
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	26	52	4	0	6
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	26	52	4	0	6
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	26	52	4	0	6

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	39	37	4	6	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	39	37	4	6	4
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	39	37	4	6	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	39	37	4	6	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	20041231 033419
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	-3.452986	0.029314	0.084351
7	P1	-3.099431	0.024438	0.056244
11	P1	-4.651392	0.045929	0.000740
15	P1	-5.664623	0.038579	-0.018117
19	P1	-3.655415	0.005977	-0.009970
22	P1	-4.576138	0.016956	0.030710
26	P1	-4.938530	0.023144	0.021047
30	P1	-7.116816	0.013555	-0.032705
3	P1	-15.945534	0.111601	0.018968
7	P1	-15.509844	0.159641	-0.000088
11	P1	-20.749918	0.529980	-0.232565
15	P1	-11.616350	0.096433	-0.026600
19	P1	-14.162290	0.032122	-0.028215
22	P1	-16.080042	0.461311	0.268009
26	P1	-17.746809	0.264608	0.176226
30	P1	-17.876560	0.307757	0.068619

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.345907	0.086924	0.088089
7	P2	-22.559134	0.167482	0.121191
11	P2	-14.877691	0.175955	0.165790
15	P2	-7.161839	0.116691	0.093760
19	P2	-9.731125	0.198719	0.098503
22	P2	-17.164705	0.100608	0.112679
26	P2	-16.531918	0.114943	0.051281

30	P2	-18.965523	0.083023	0.051166

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.209719	0.007215	0.022084
7	P3	-8.209718	0.007216	0.022051
11	P3	-8.209715	0.007216	0.022030
15	P3	-8.209738	0.007215	0.022169
19	P3	-8.209778	0.007217	0.022400
22	P3	-8.209773	0.007216	0.022367
26	P3	-8.209761	0.007214	0.022286
30	P3	-8.209517	0.007233	0.024007

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	-2.849388	0.107997	0.093750
7	P1	-2.982572	0.063214	0.079026
11	P1	-3.948440	0.048101	0.011590
15	P1	-3.520606	0.077263	0.047984
19	P1	-3.610297	0.013001	-0.003206
22	P1	-5.622148	0.069510	-0.057354
26	P1	-6.518422	0.023762	-0.045517
30	P1	-6.298159	0.044944	0.031449
3	P1	-10.728570	0.057966	-0.181518
7	P1	-10.133645	0.158318	-0.061110
11	P1	-12.432749	0.197667	-0.202944

15	P1	-11.728136	0.097143	-0.061767
19	P1	-15.645110	0.048708	-0.008704
22	P1	-24.157003	2.058798	0.248225
26	P1	-15.014525	0.395815	0.353683
30	P1	-20.149702	0.943859	0.146744

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.024504	0.037759	0.086464
7	P2	-22.602451	0.032814	0.131580
11	P2	-10.663508	0.037442	0.212416
15	P2	-5.059502	0.025598	0.047951
19	P2	-6.958586	0.036615	0.072811
22	P2	-7.296420	0.028787	0.089992
26	P2	-23.960724	0.018862	0.039337
30	P2	-22.016455	0.022922	0.096492

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.041890	0.003017	0.017077
7	P3	-8.041902	0.003023	0.017080
11	P3	-8.041862	0.003018	0.017401
15	P3	-8.041970	0.003023	0.016690
19	P3	-8.041864	0.003027	0.017278
22	P3	-8.041891	0.003019	0.017003
26	P3	-8.041897	0.003020	0.017163
30	P3	-8.041816	0.003012	0.017010

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	0.000452978
	stdev	2.33314e-07
MEAN Q	mean	0.000519988
	stdev	2.45528e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.126997
	stdev	0.000989084
STDEV Q	mean	0.127234
	stdev	0.000998989

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

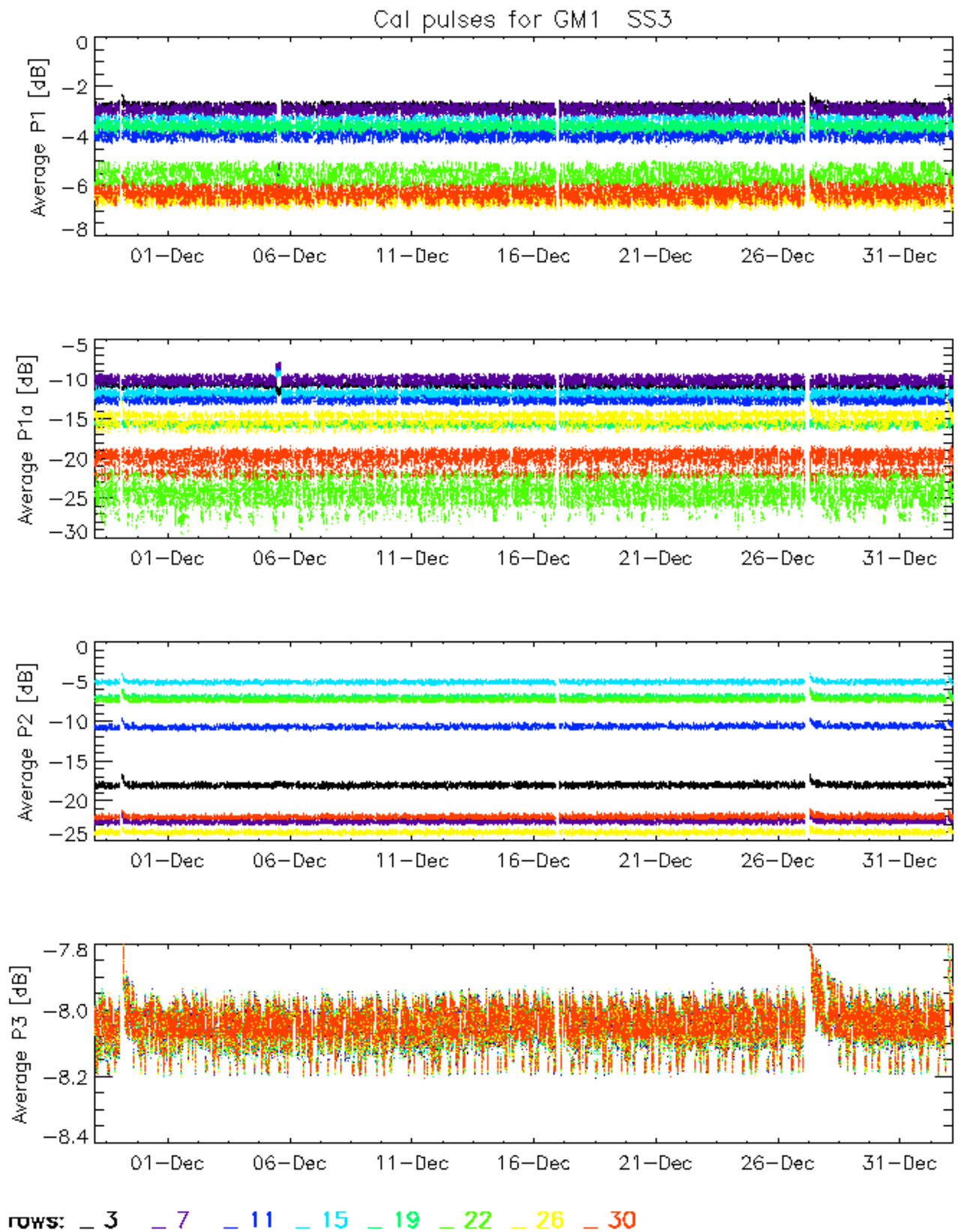
Evolution of Absolute Doppler

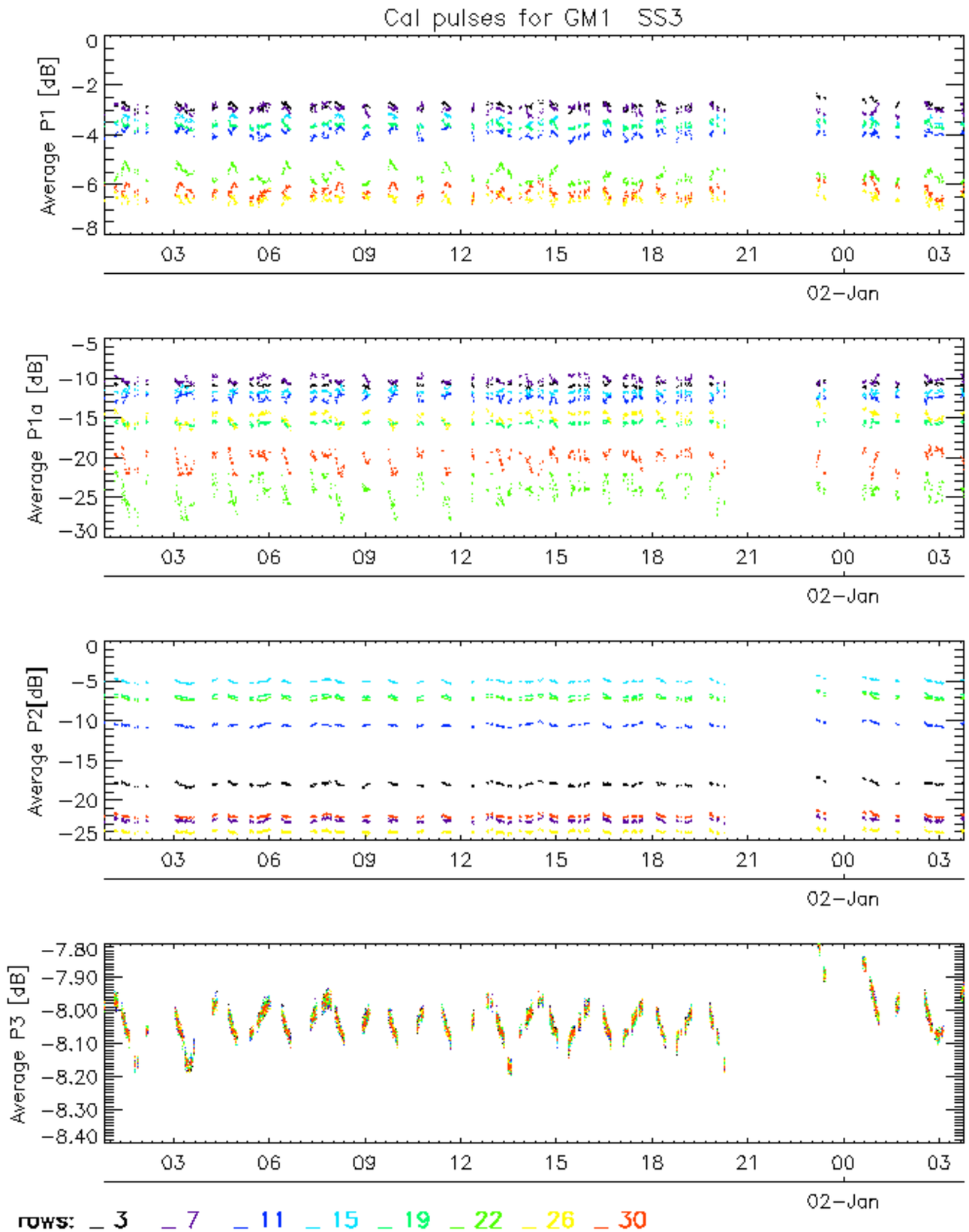
Acsending

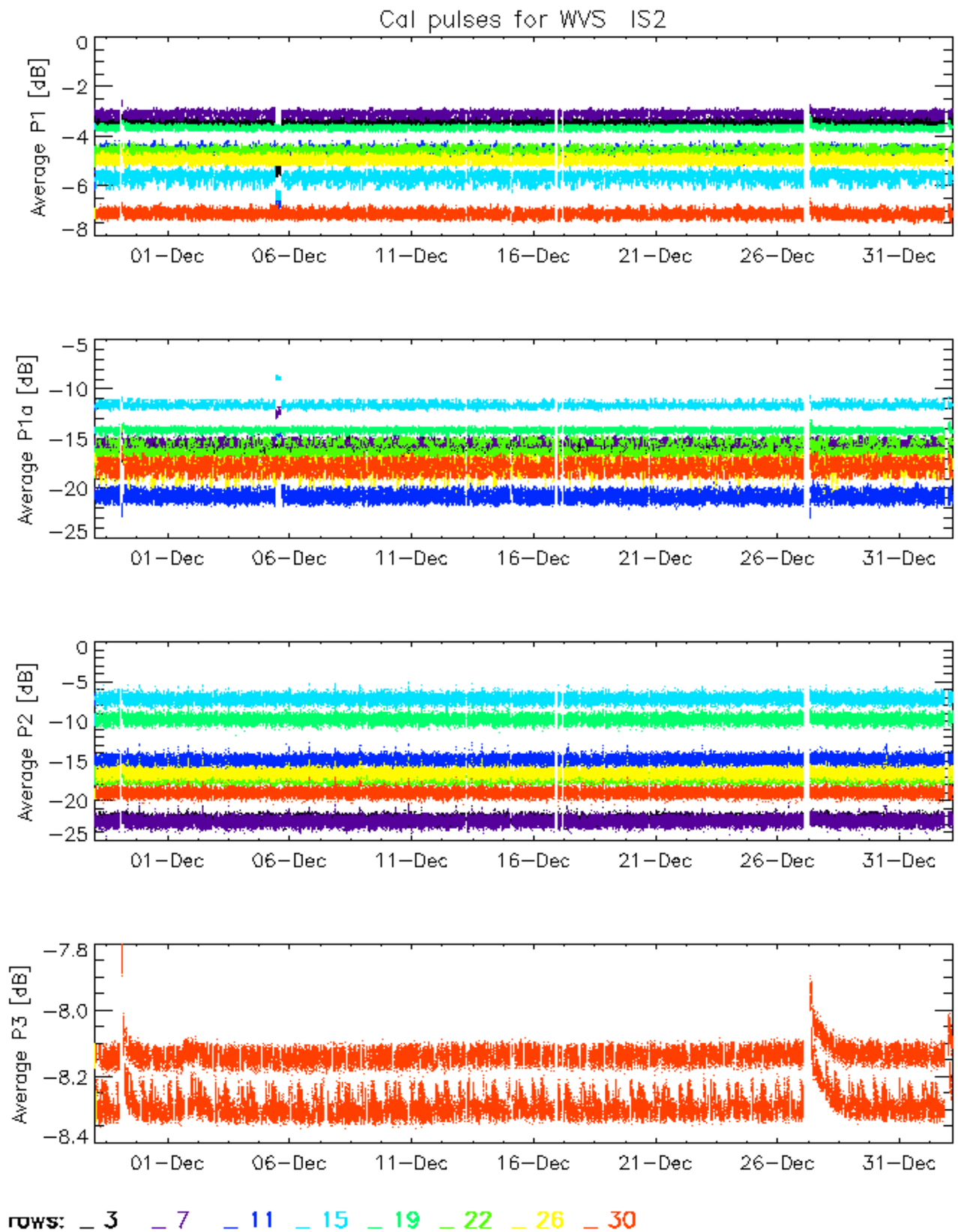
Descending

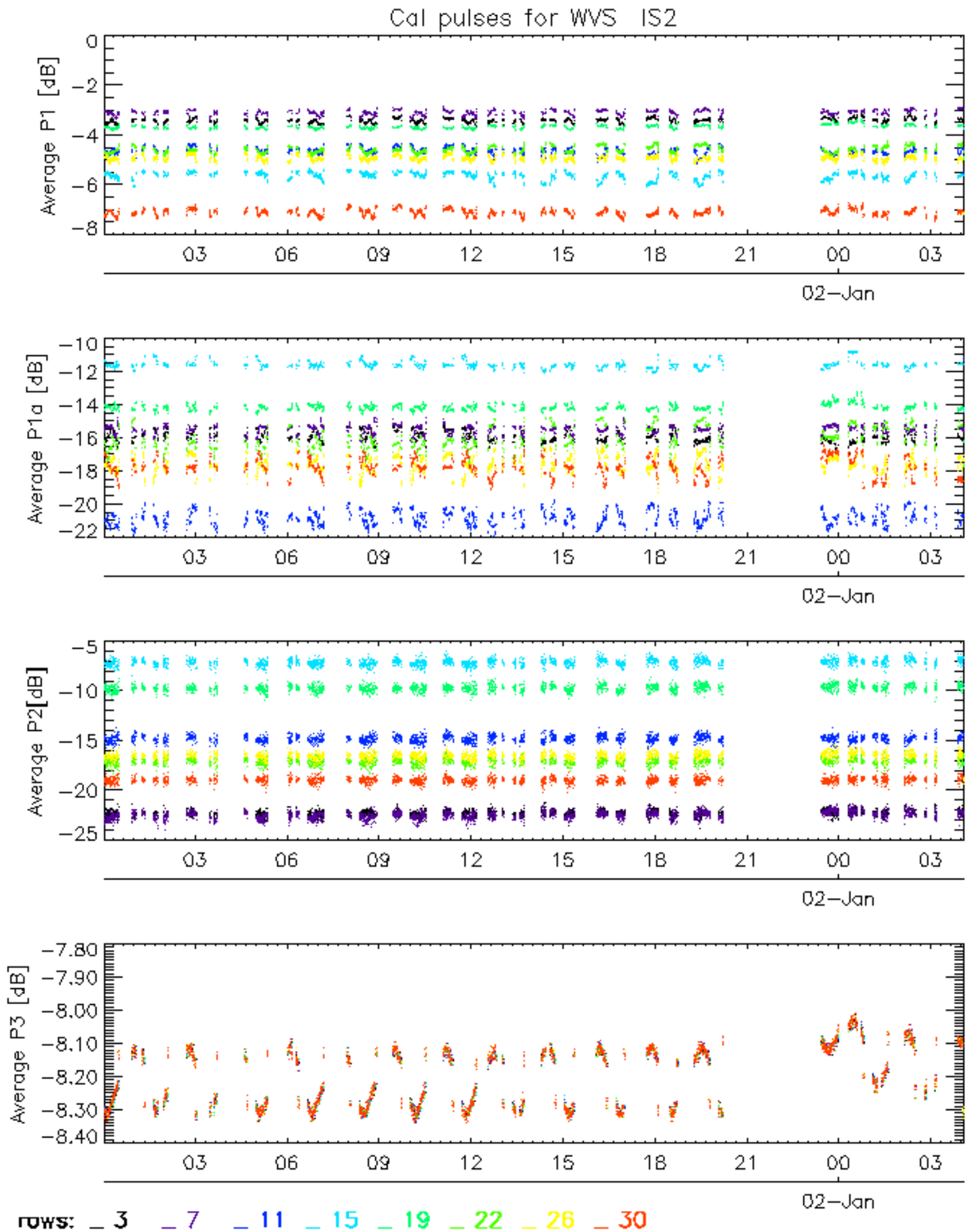
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

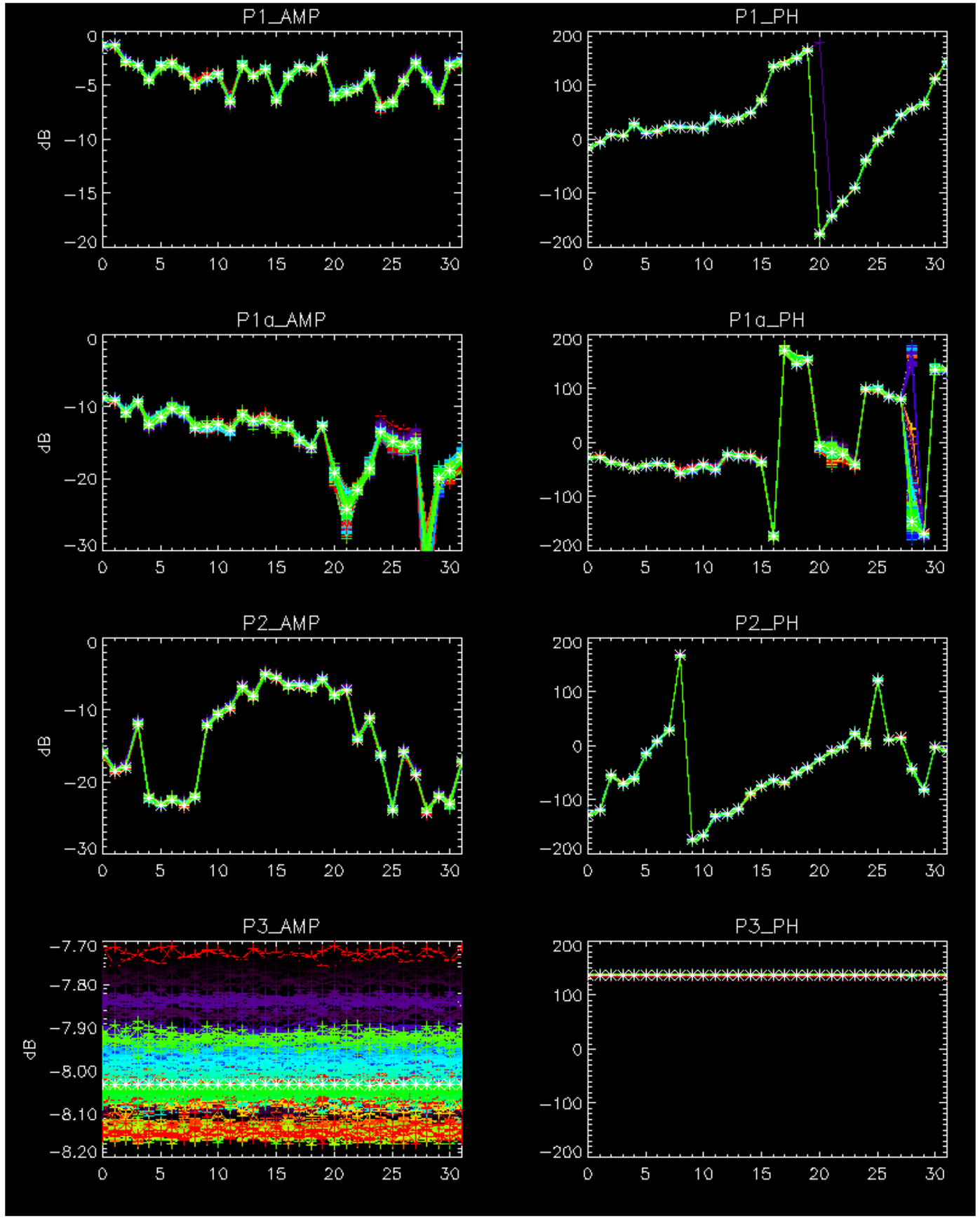

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: 3 7 11 15 19 22 26 30

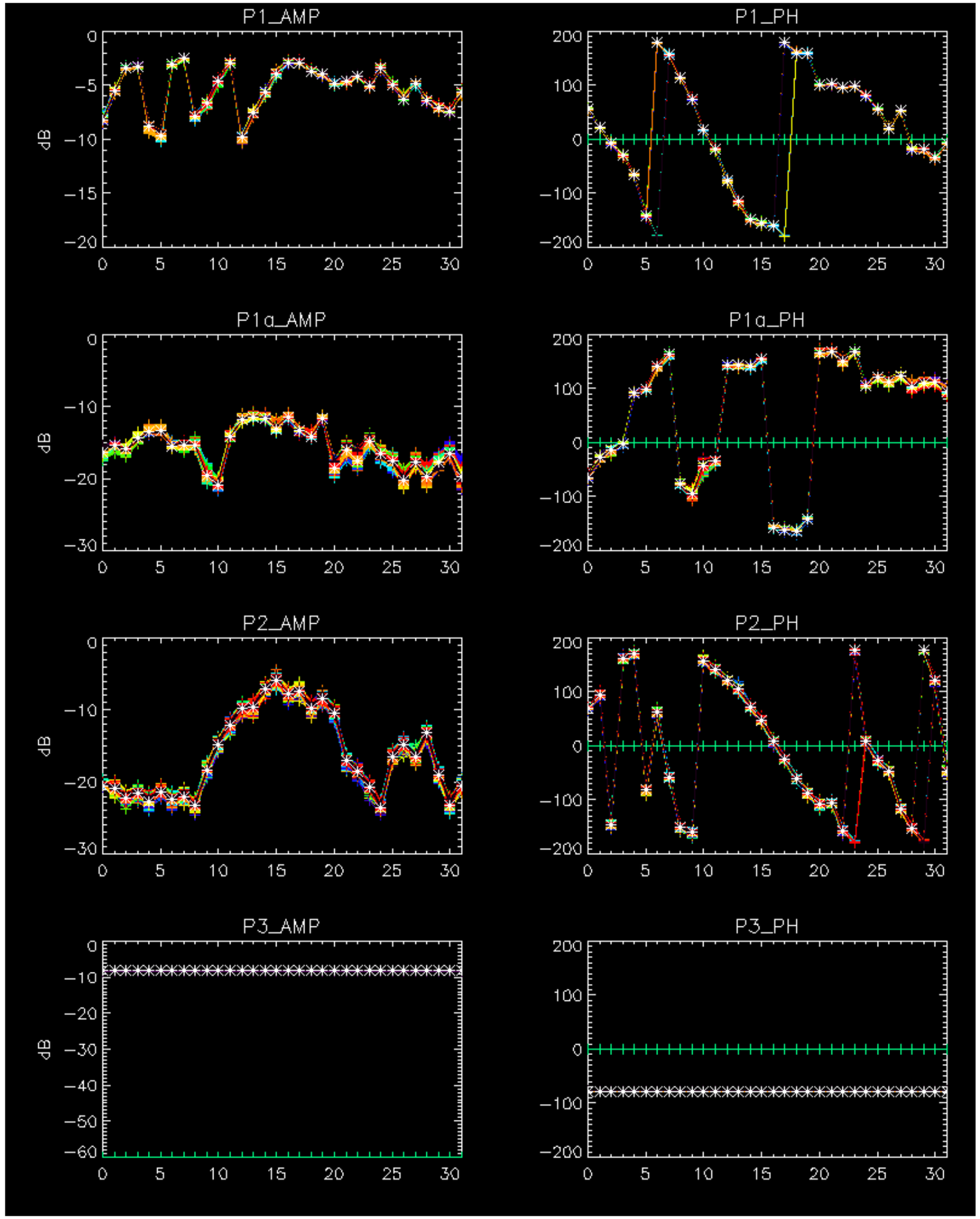

Cal pulses for GM1 SS3
Average P1 [dB]
Average P1a [dB]
Average P2[dB]
Average P3 [dB]
03
06
09
12
15
18
21
00
03
02−Jan
rows: 3 7 11 15 19 22 26 30


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

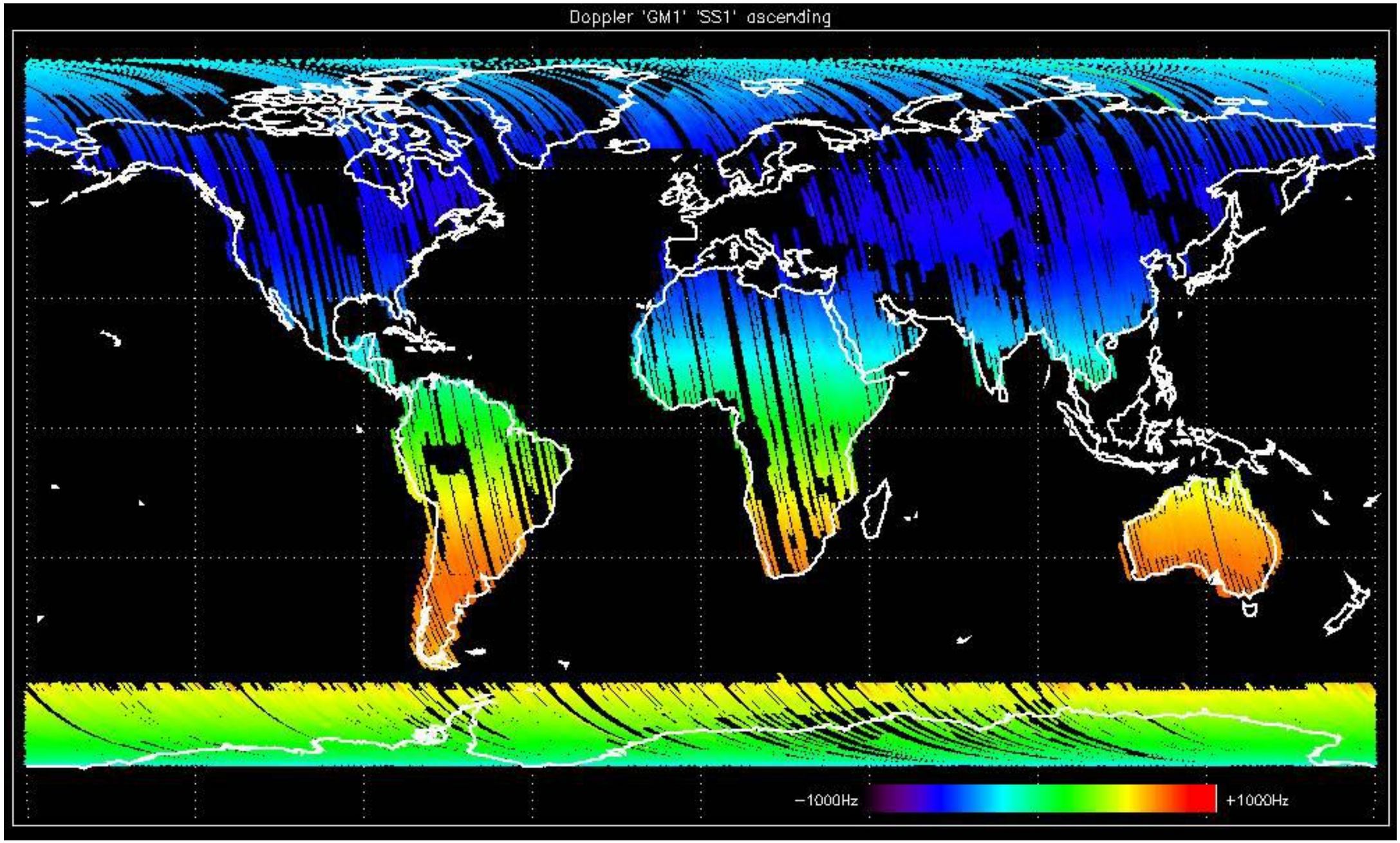

Cal pulses for WVS IS2
Average P1 [dB]
Average P1a [dB]
Average P2[dB]
Average P3 [dB]
03
06
09
12
15
18
21
00
03
02–Jan
rows: 3 7 11 15 19 22 26 30

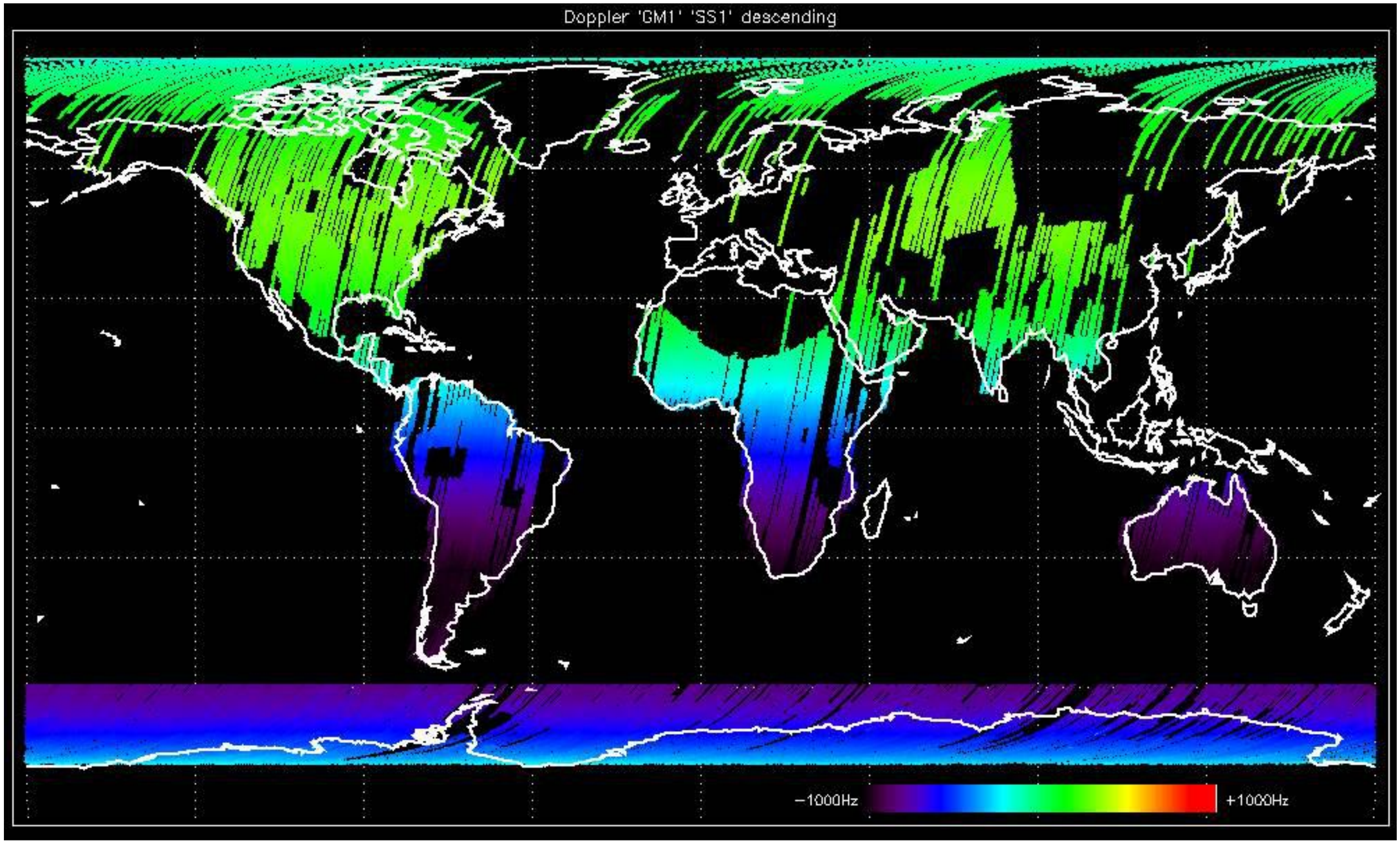
No anomalies observed.

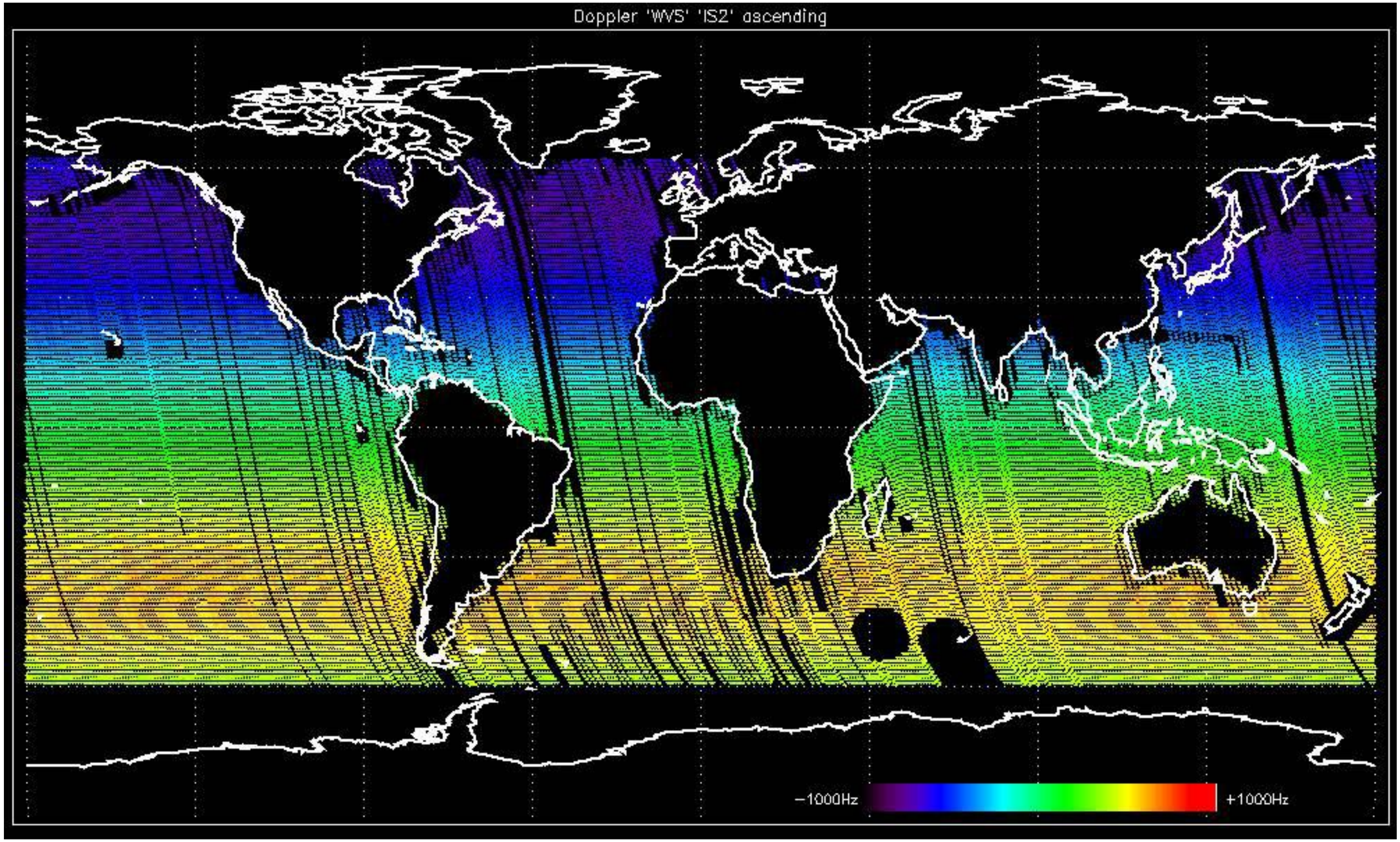

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

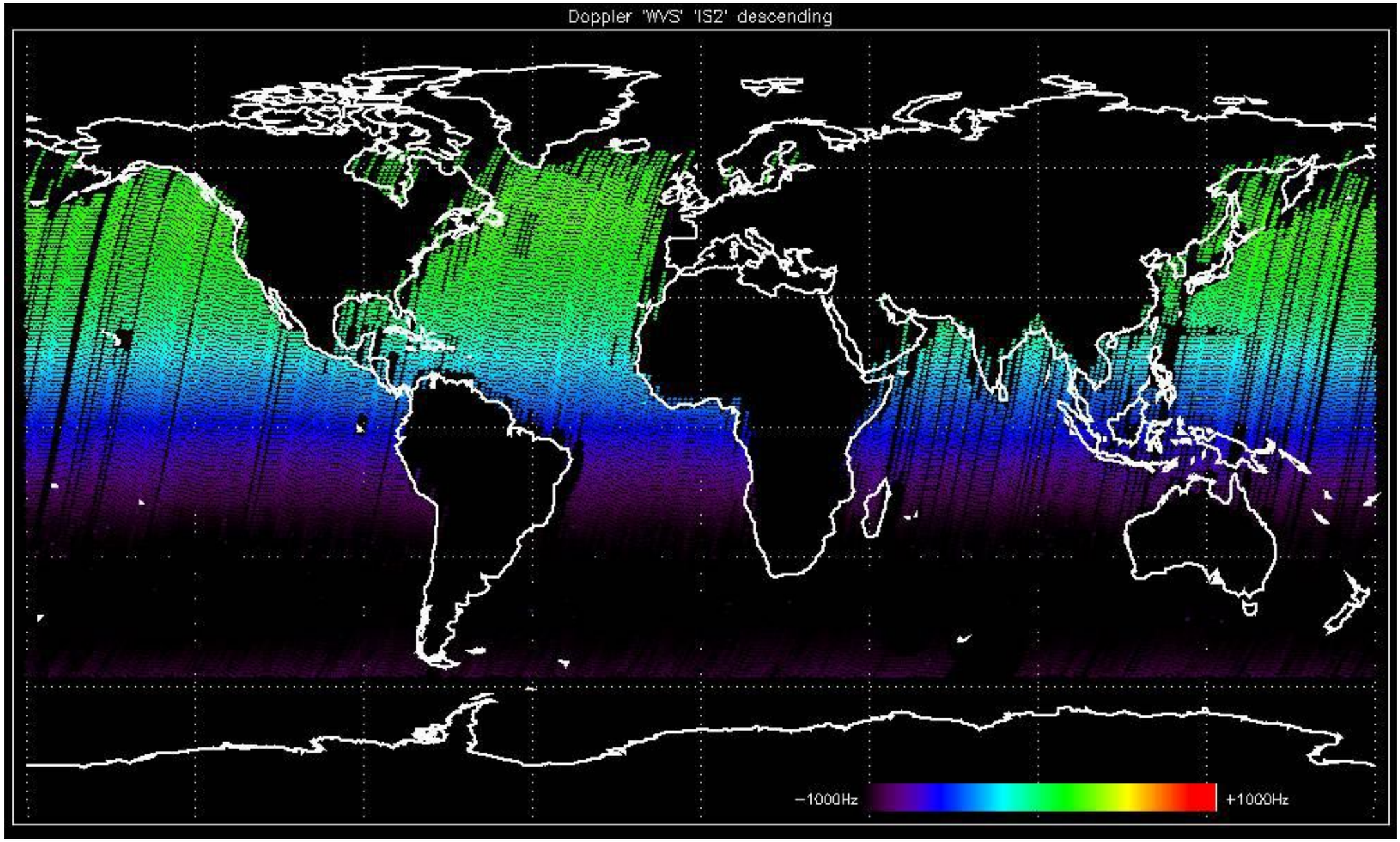

P1_AMP
P1_PH
P1a_AMP
P1a_PH
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

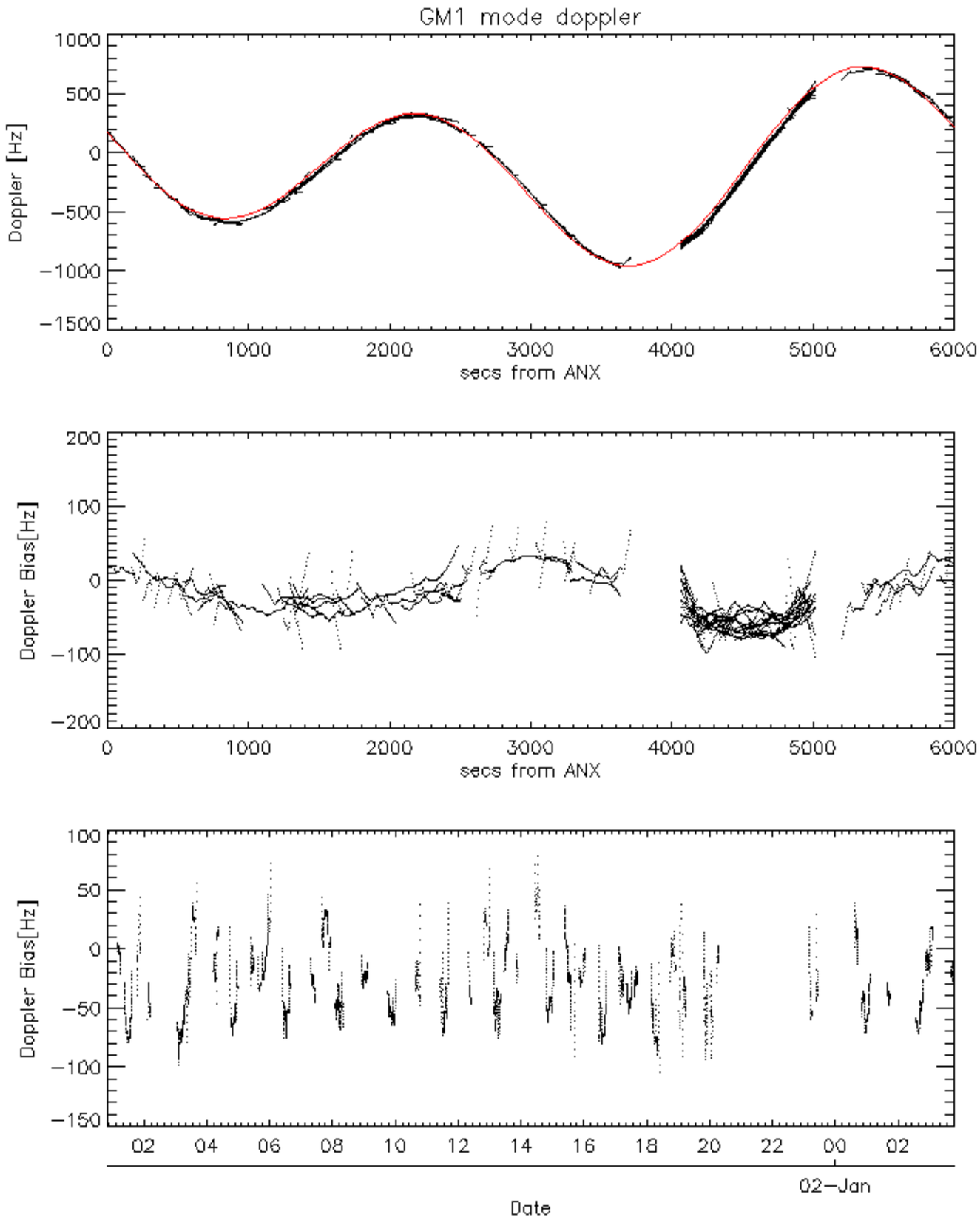
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

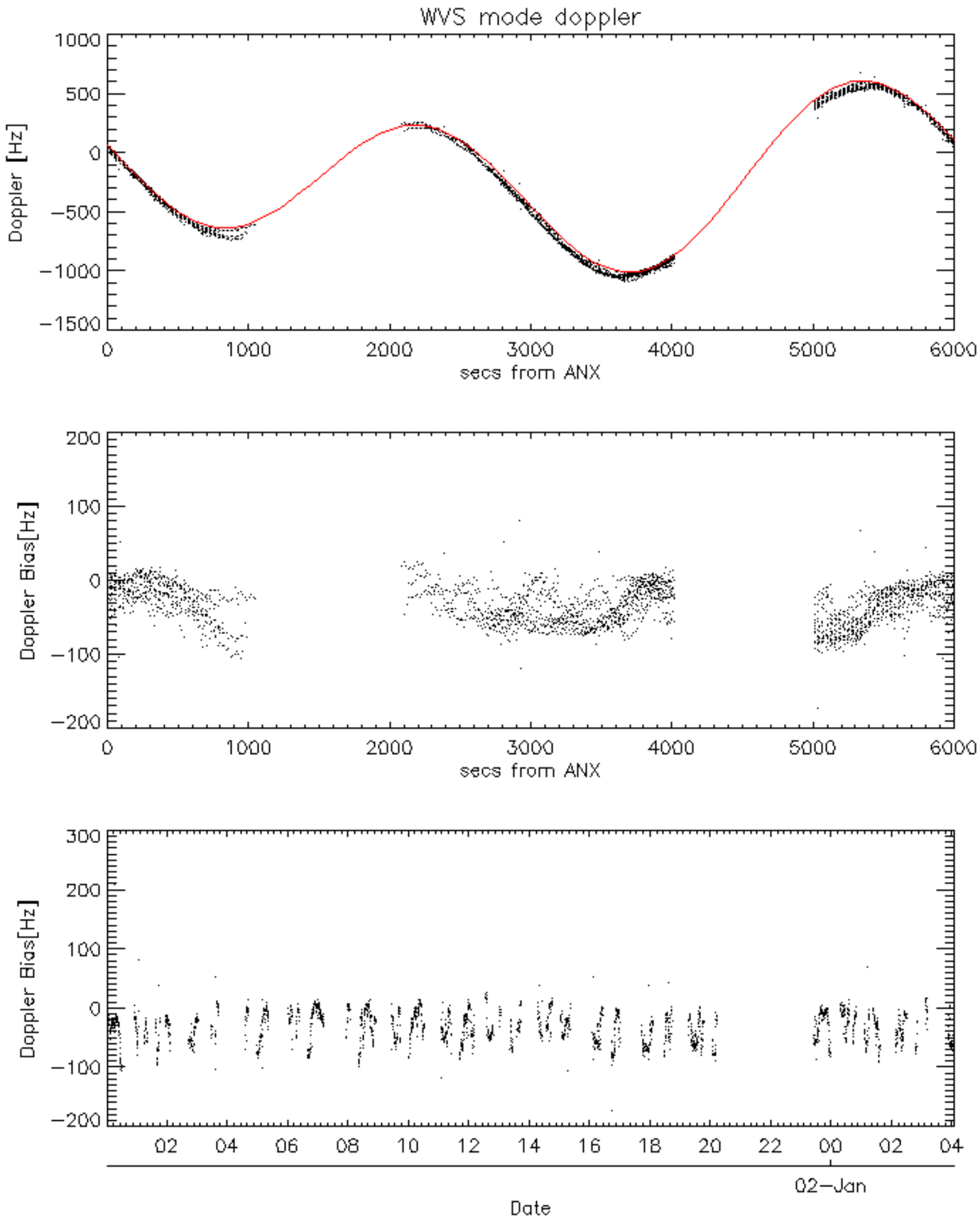

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

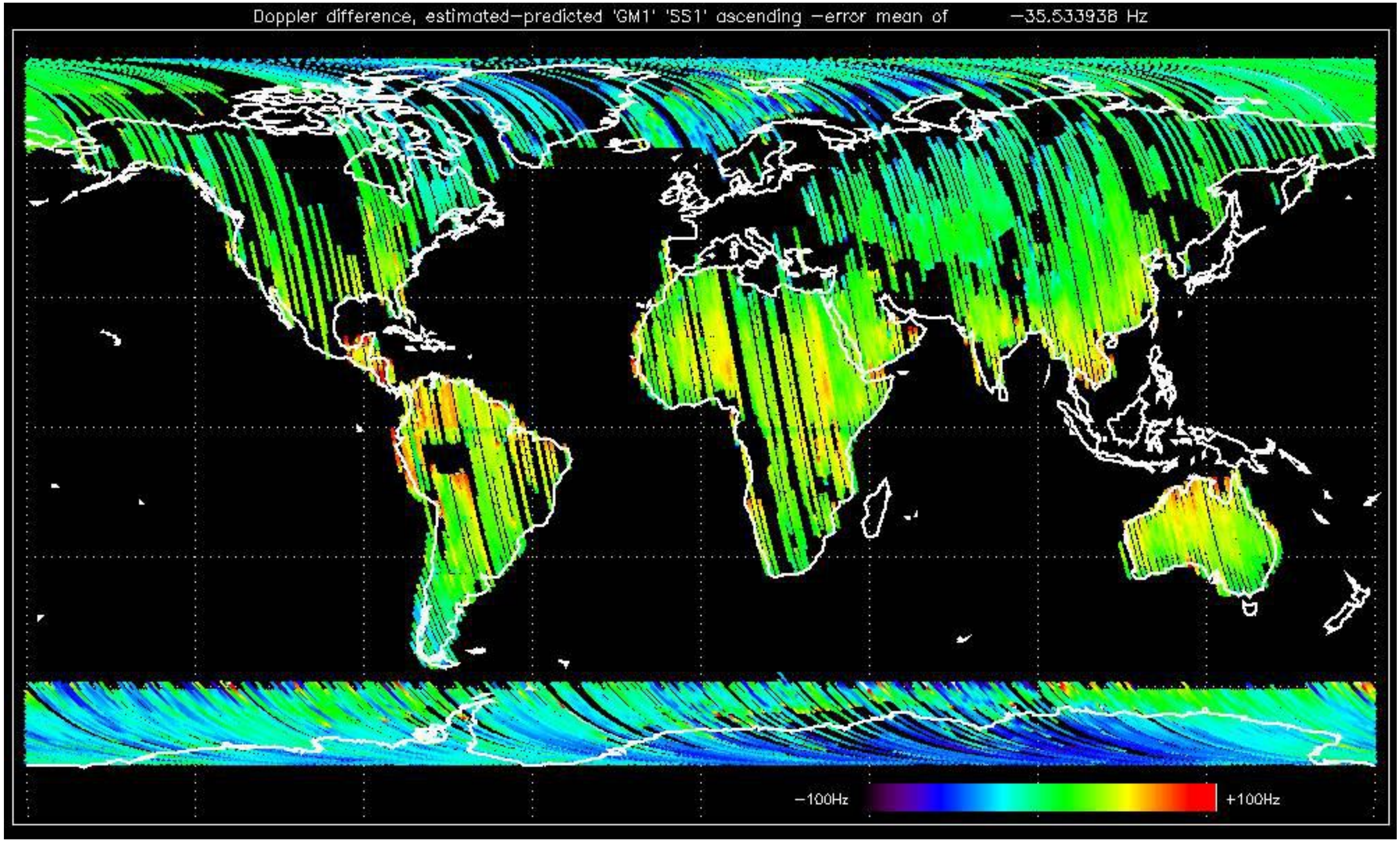

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

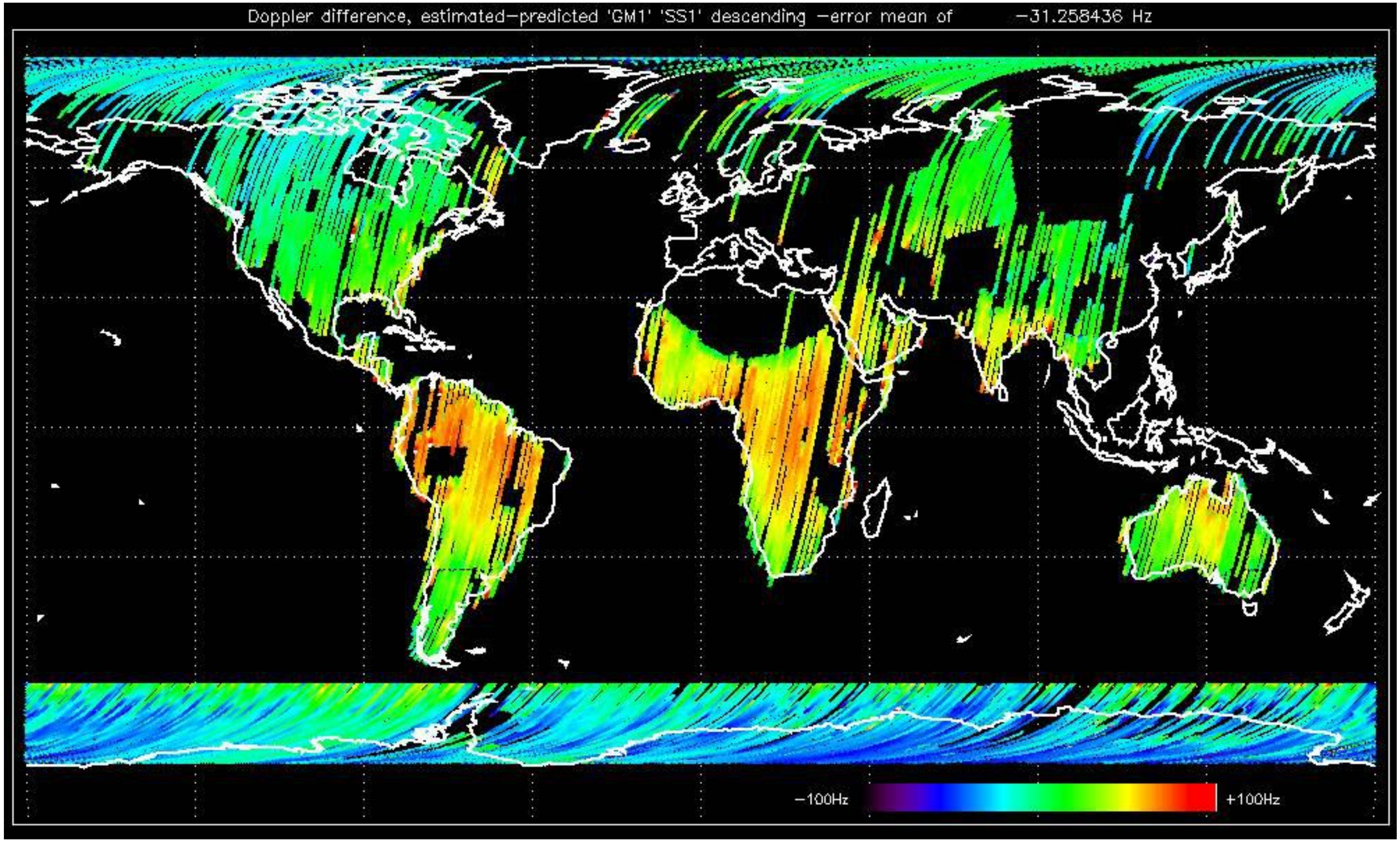

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

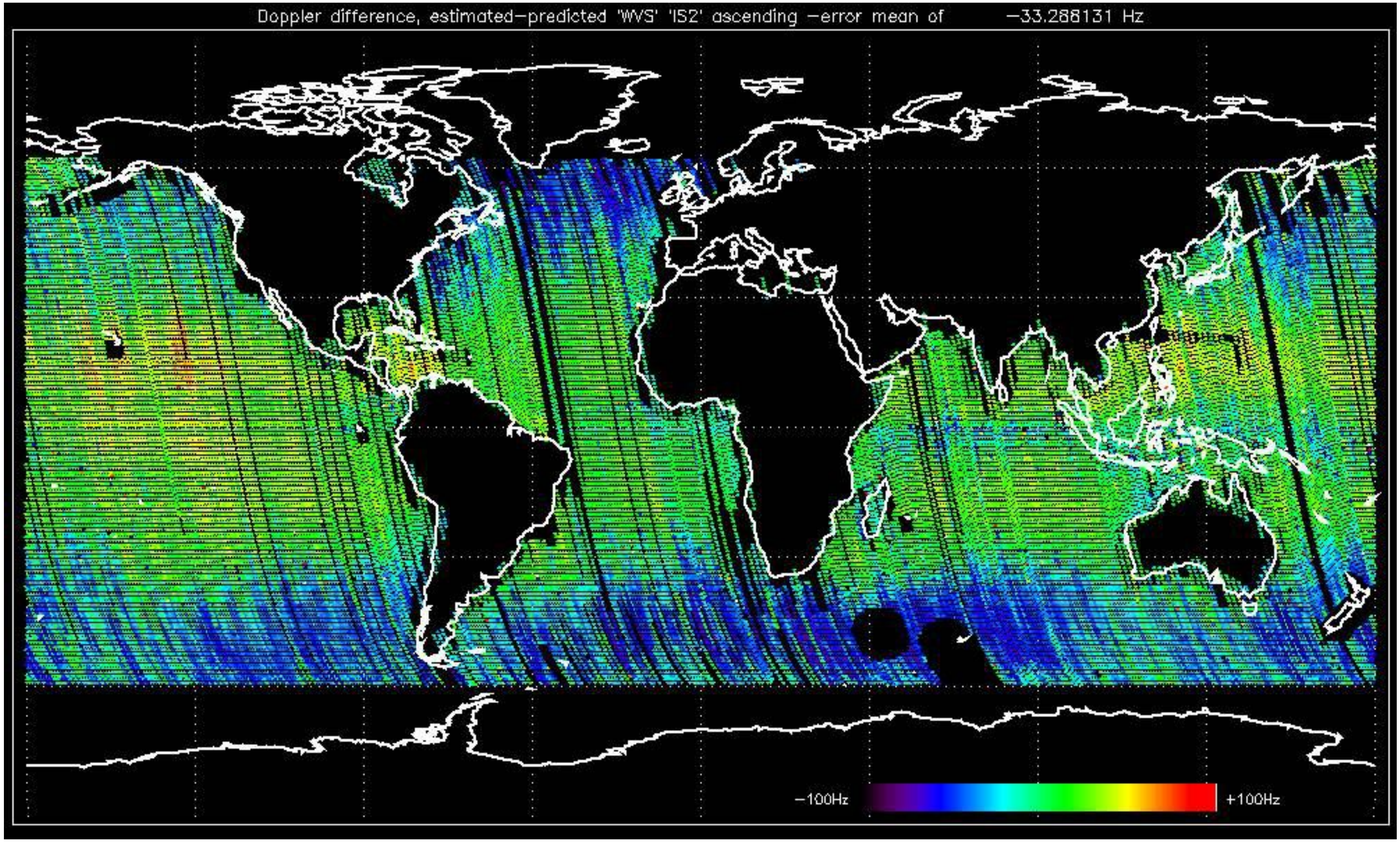

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

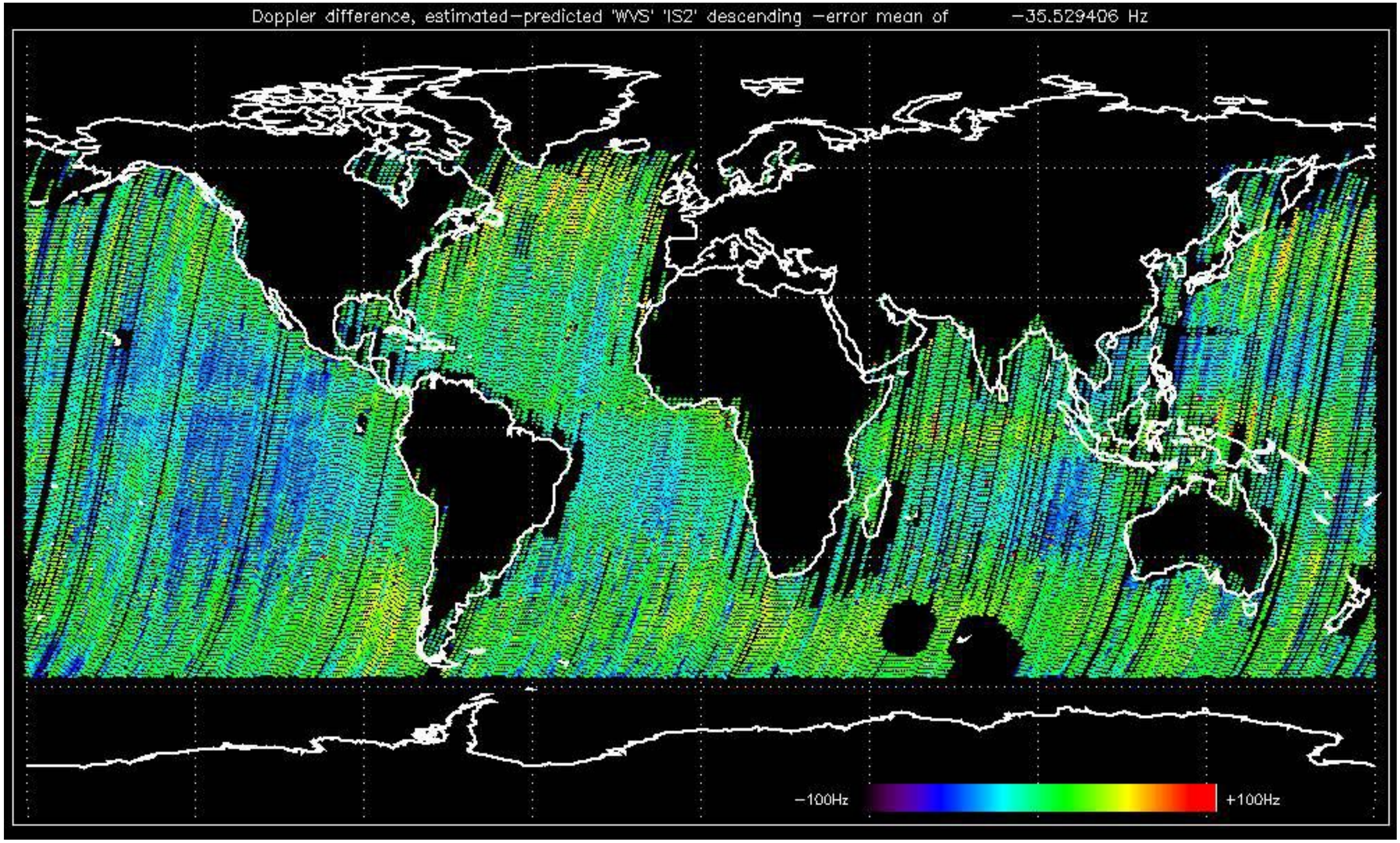

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
02−Jan
Date


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]
300
200
100
0
−100
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
04
02−Jan
Date


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -35.533938 Hz
-100Hz
+100Hz

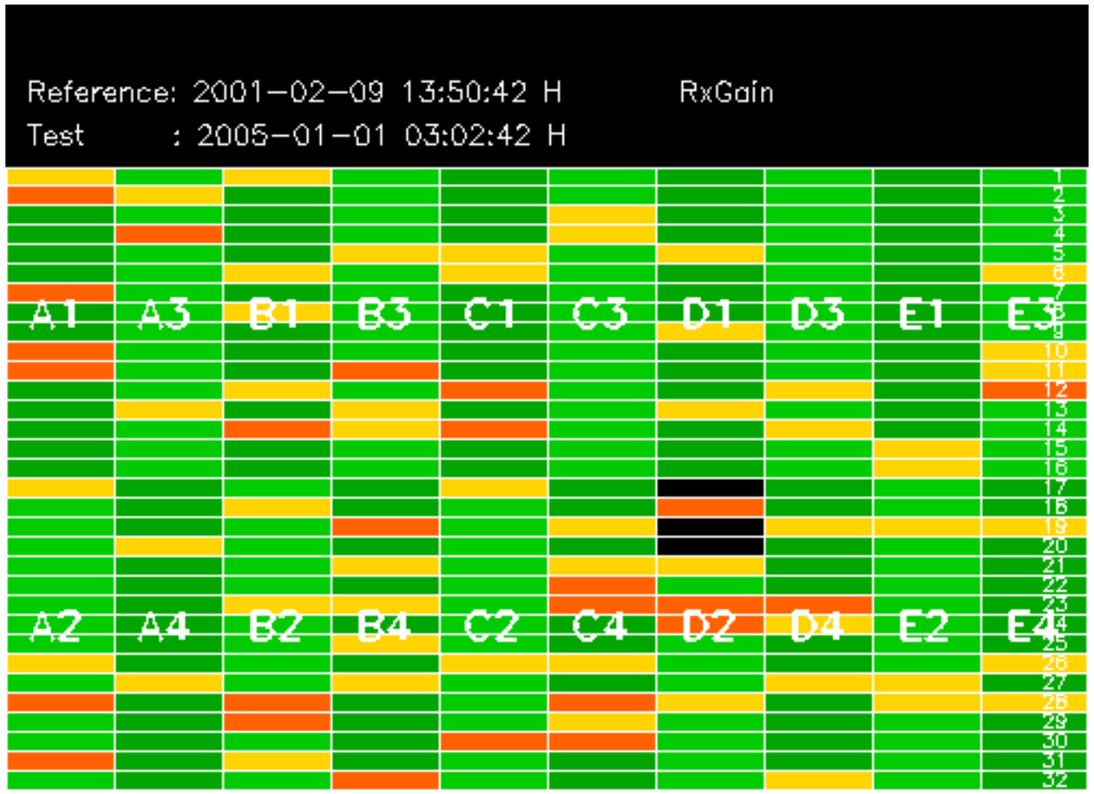

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -31.258436 Hz
-100Hz
+100Hz

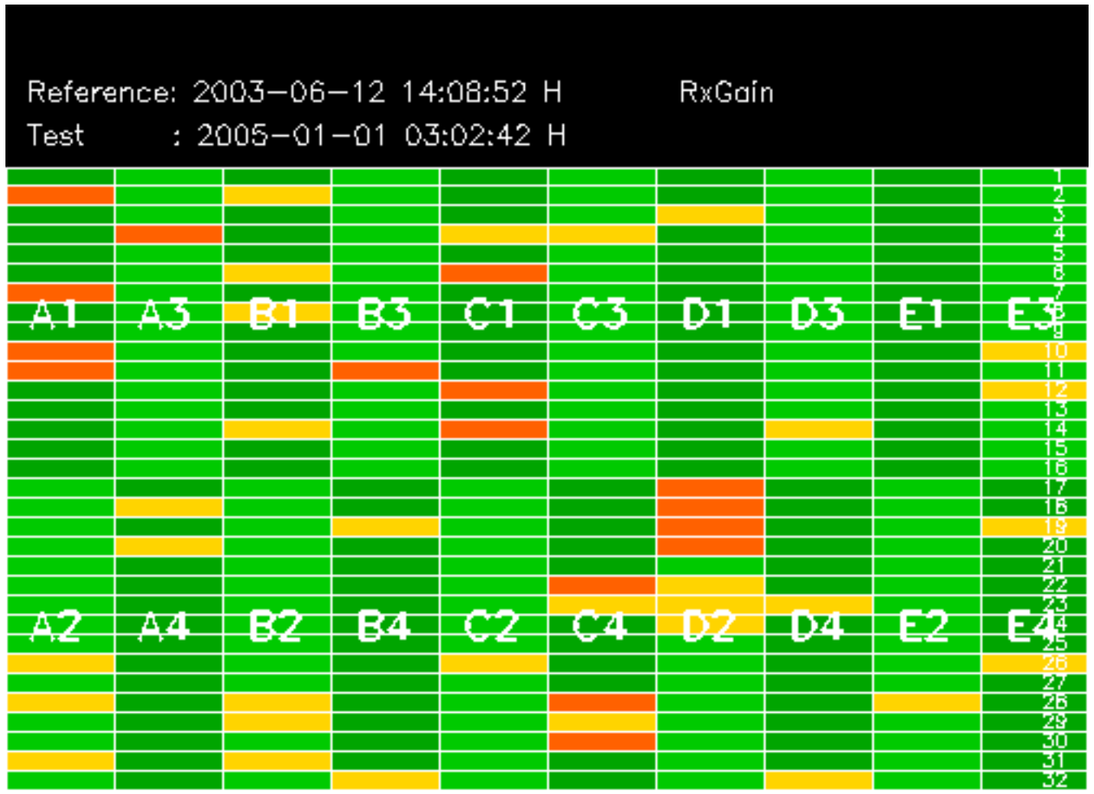

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −33.288131 Hz
−100Hz
+100Hz

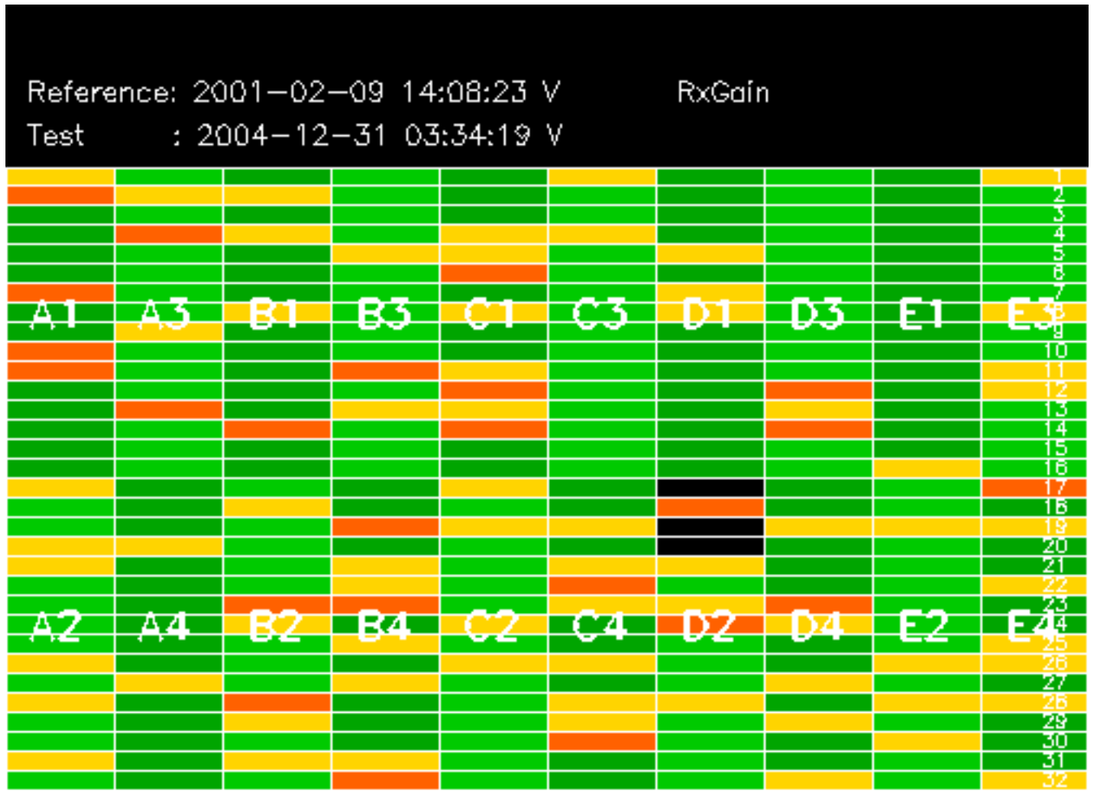

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −35.529406 Hz
−100Hz
+100Hz

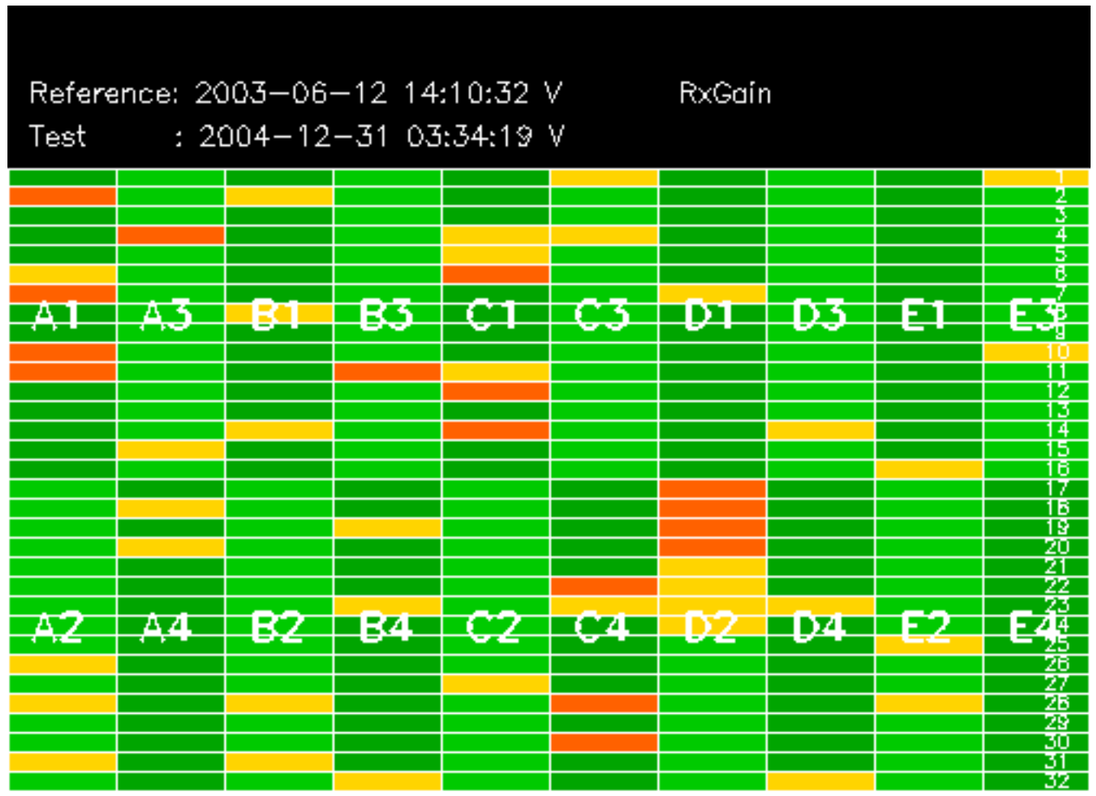
The MS mode provides an internal health check on an individual module basis.
The purpose of this mode is to identify to identify any malfunctionning modules and to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

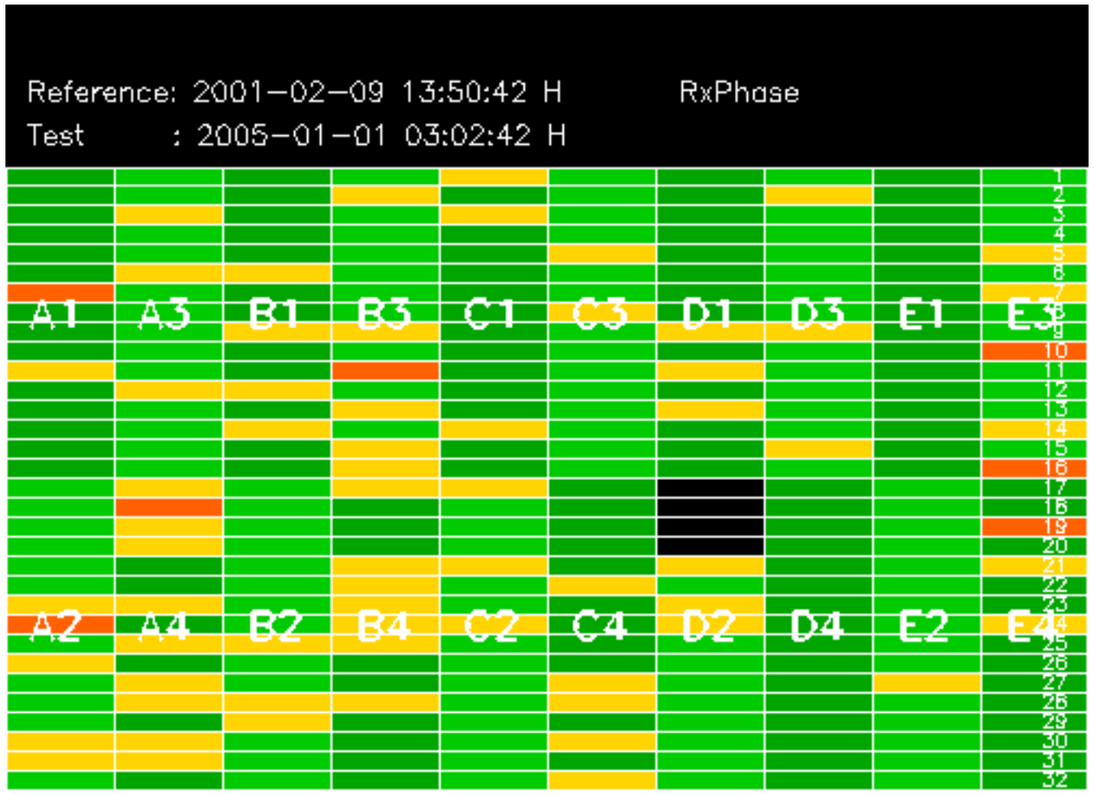
No anomalies observed.


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

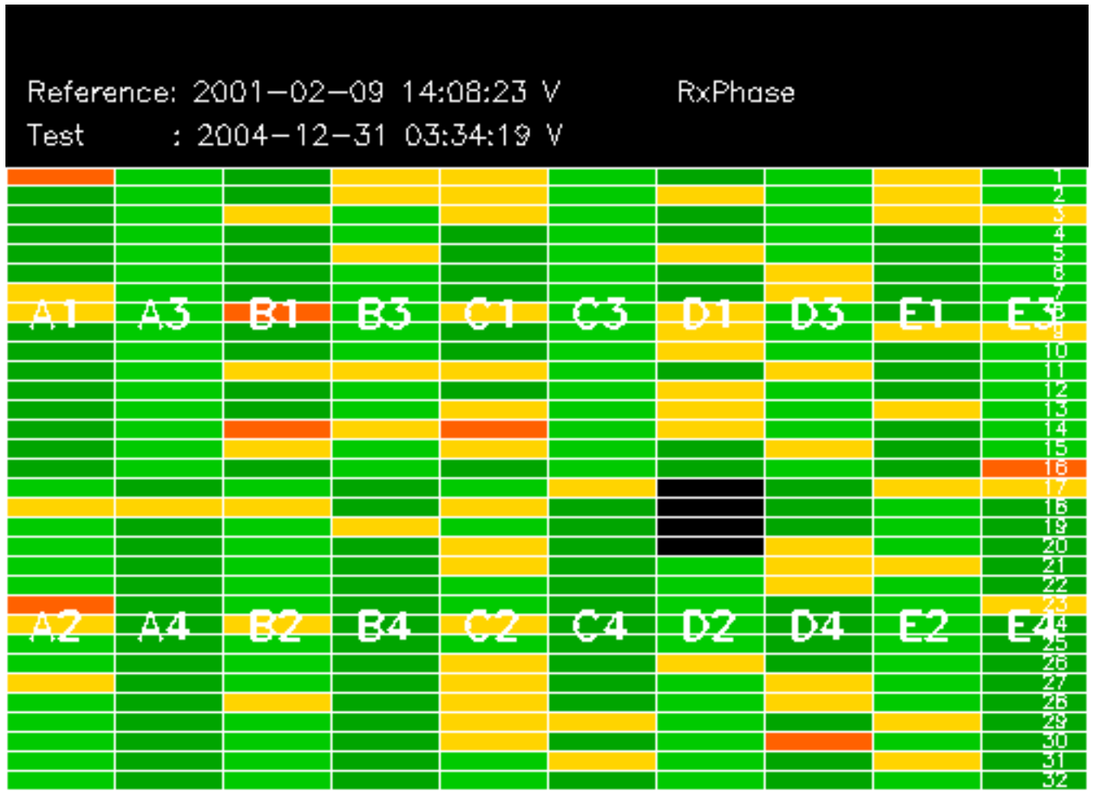

Reference: 2003-06-12 14:08:52 H
RxGain
Test : 2005-01-01 03:02:42 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

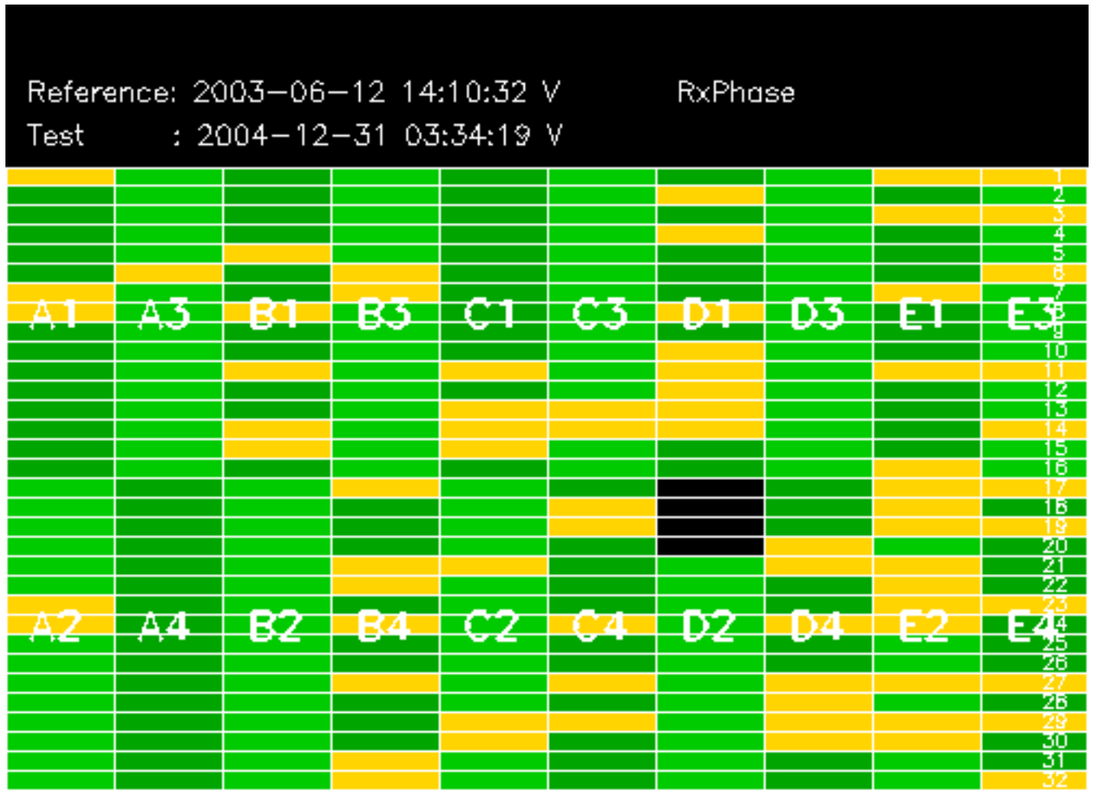

Reference: 2001-02-09 14:08:23 V
RxGain
Test : 2004-12-31 03:34:19 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

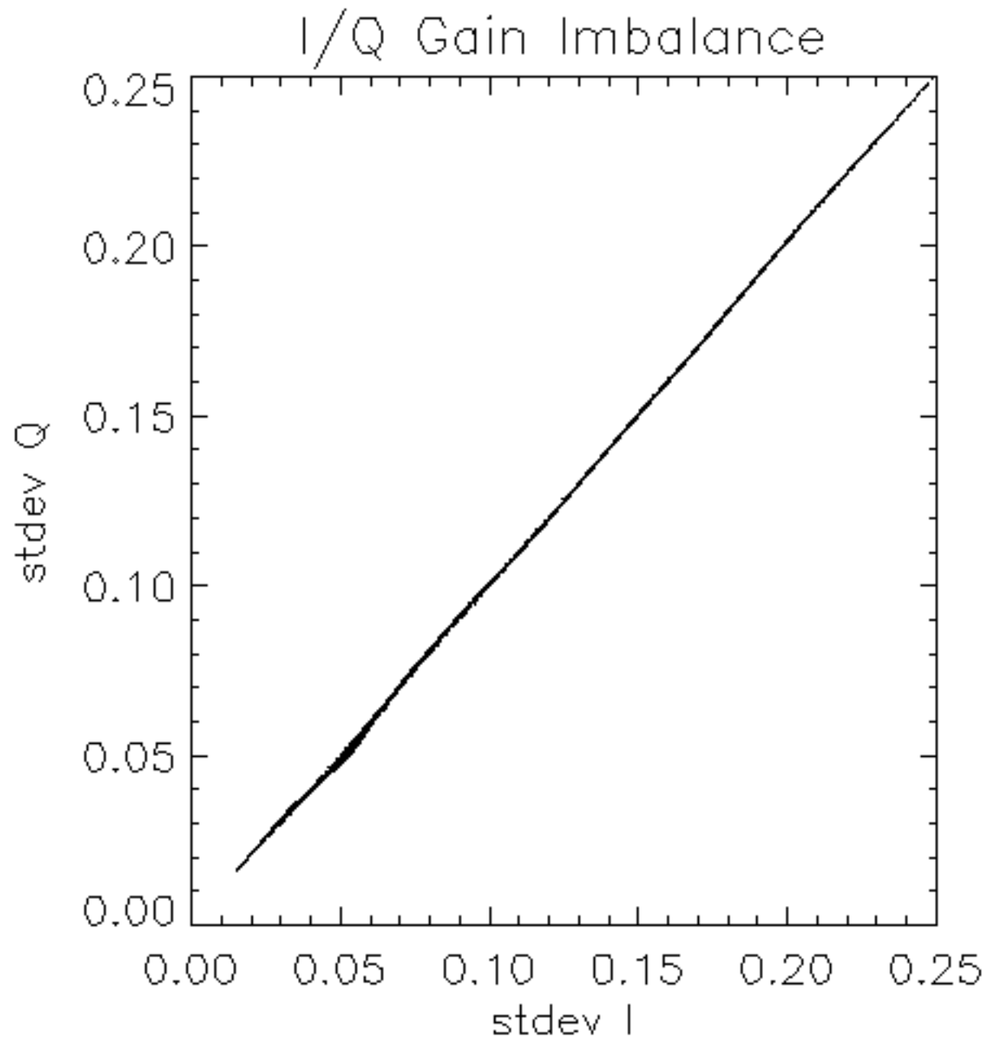

Reference: 2003-06-12 14:10:32 V
RxGain
Test : 2004-12-31 03:34:19 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

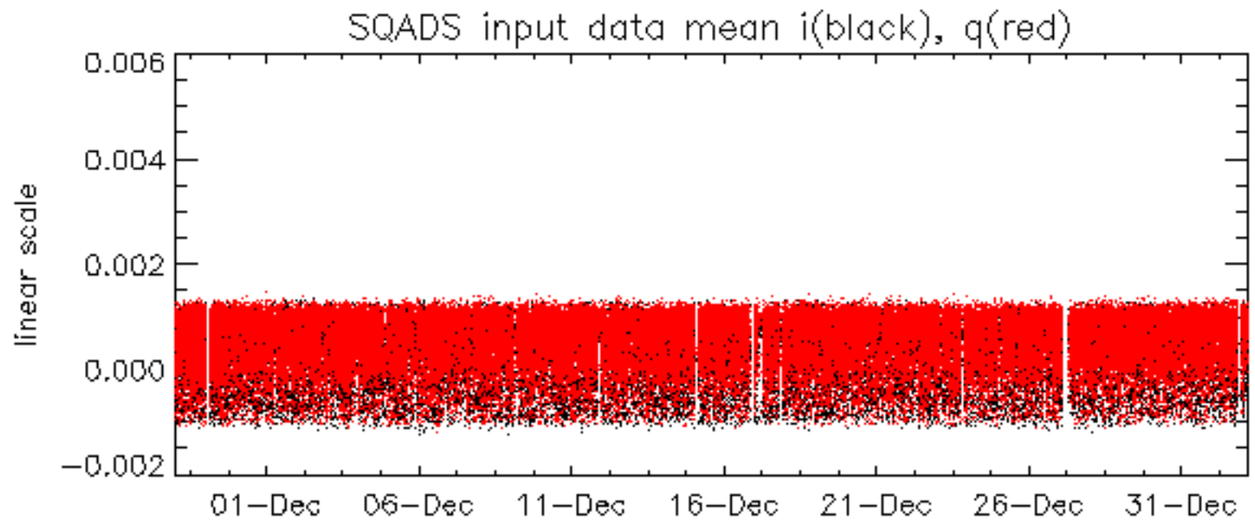

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-01-01 03:02:42 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

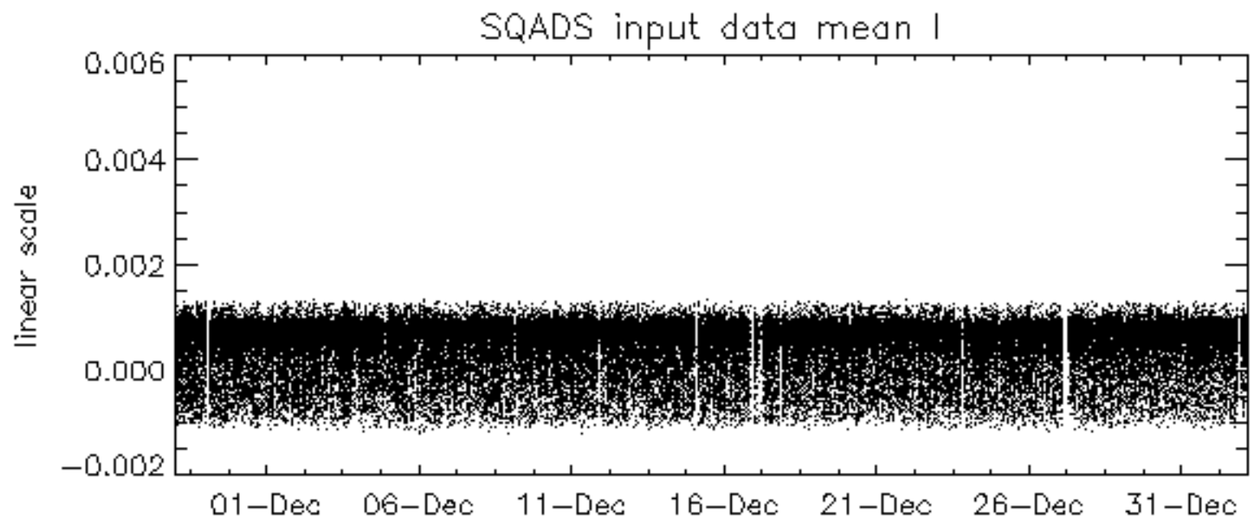

Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2005-01-01 03:02:42 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

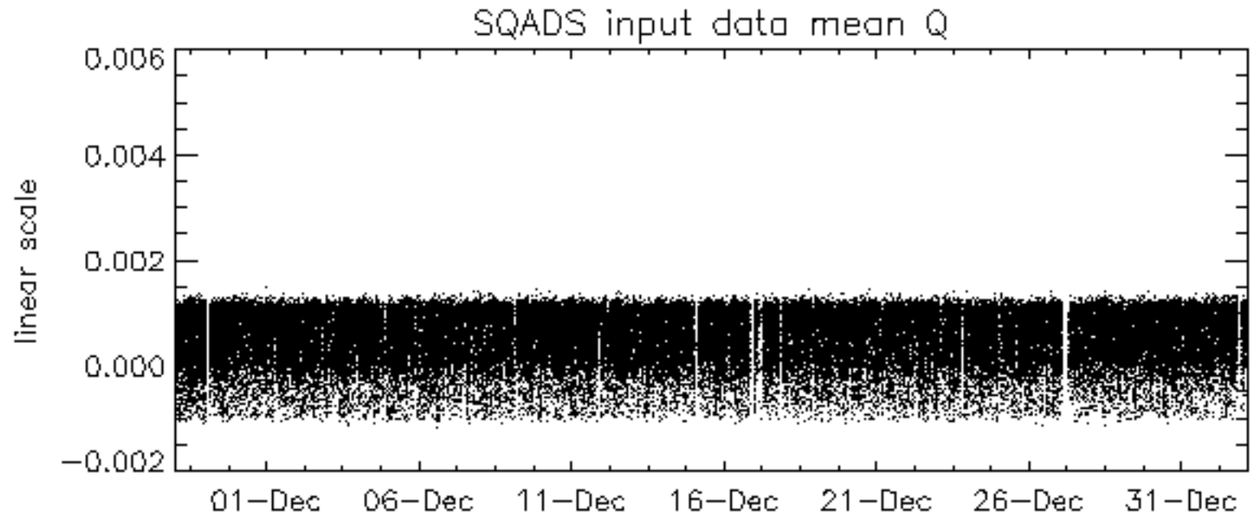

Reference: 2001-02-09 14:08:23 V
RxPhase
Test : 2004-12-31 03:34:19 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

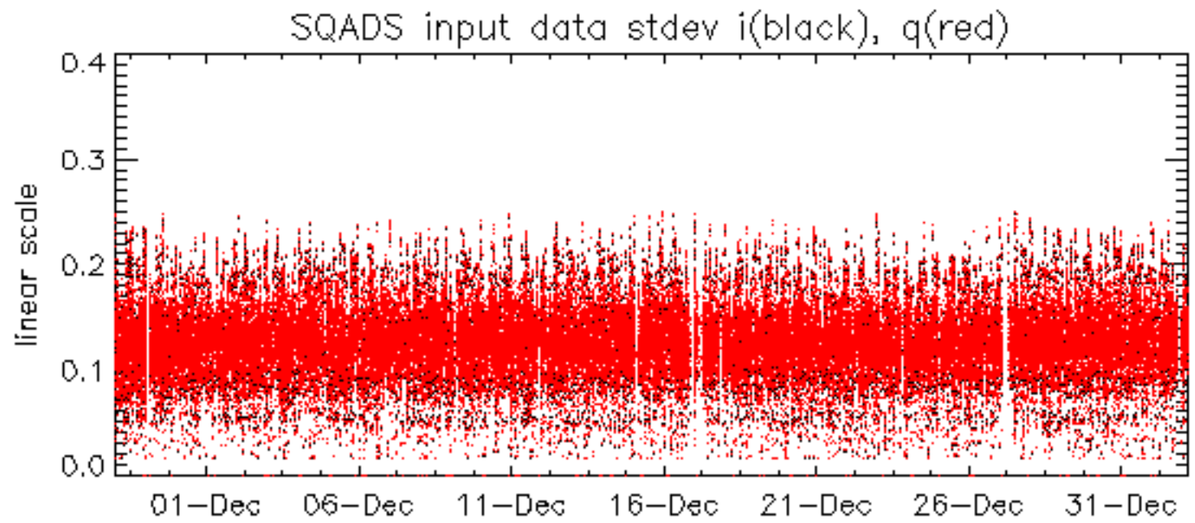

Reference: 2003-06-12 14:10:32 V
RxPhase
Test : 2004-12-31 03:34:19 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

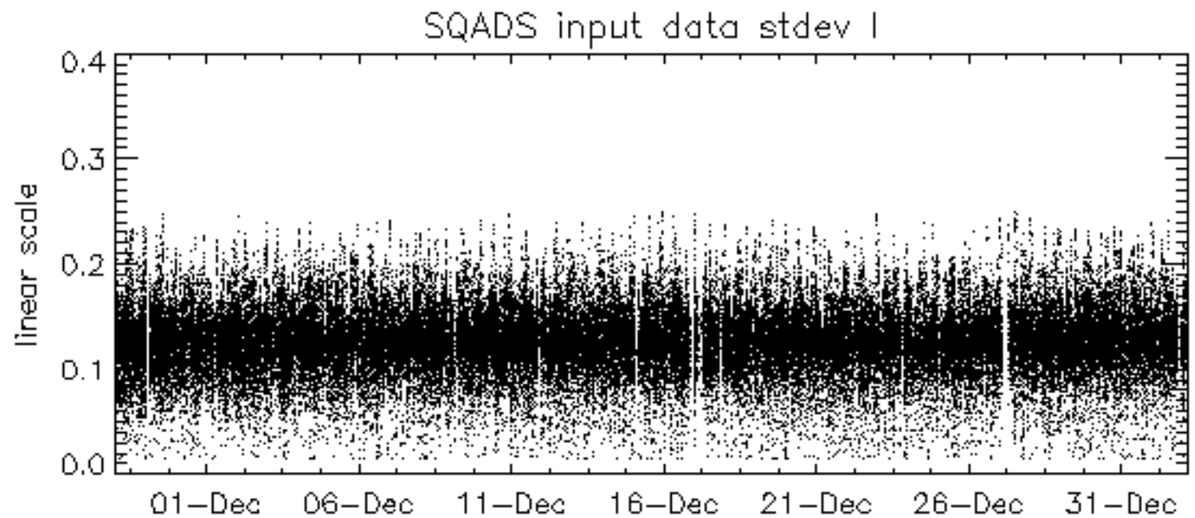

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

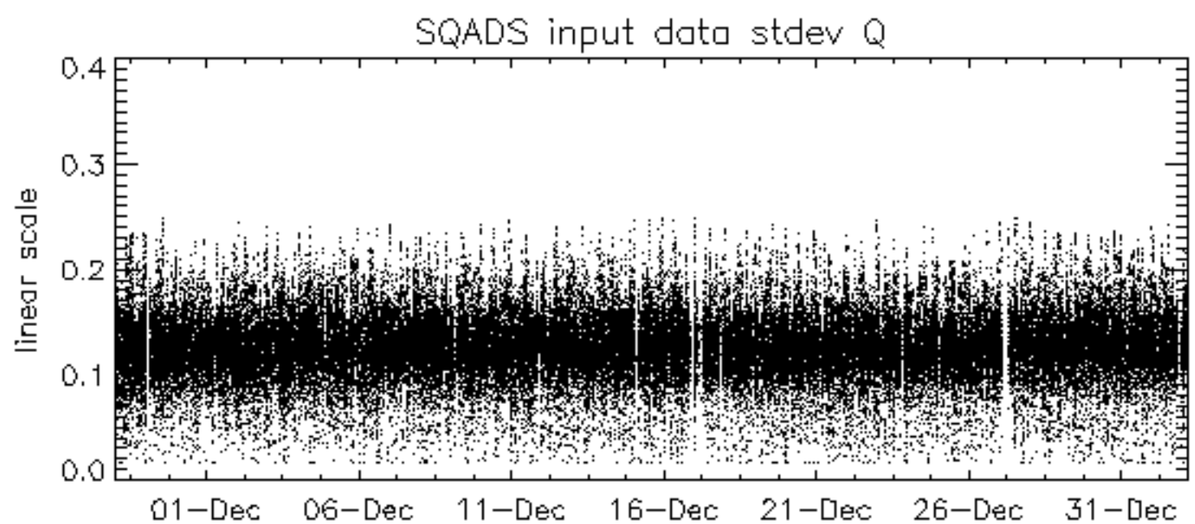

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec

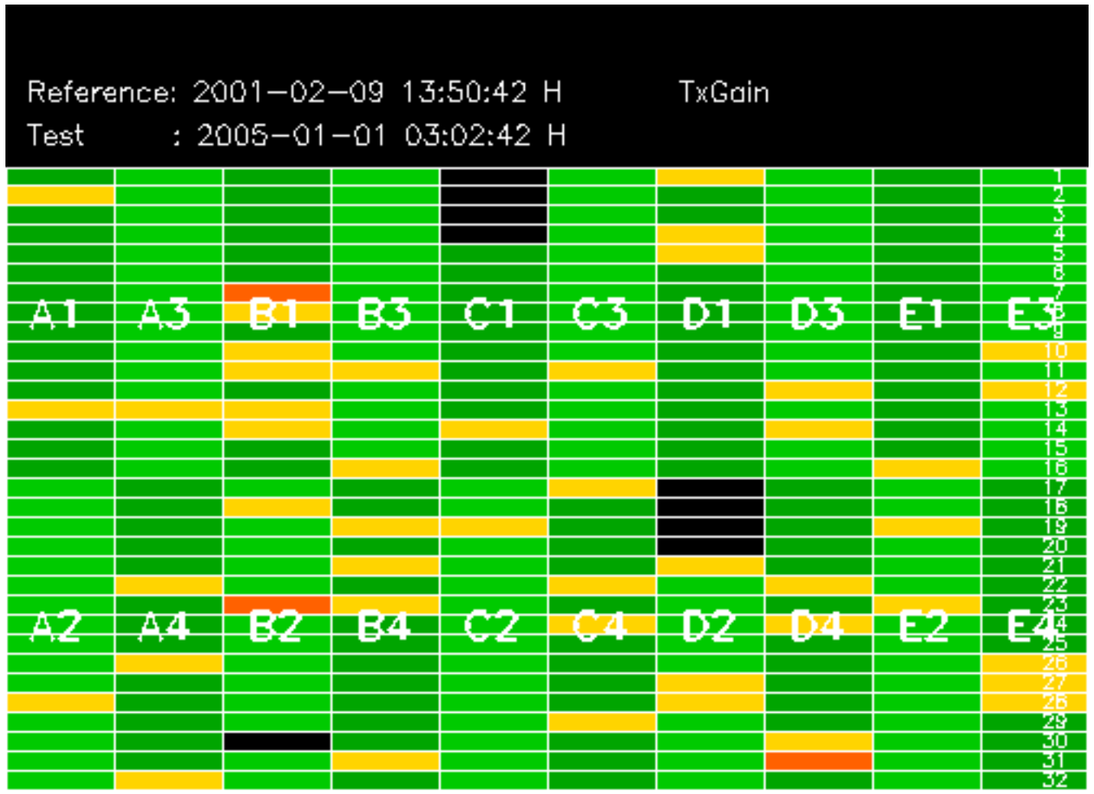

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec

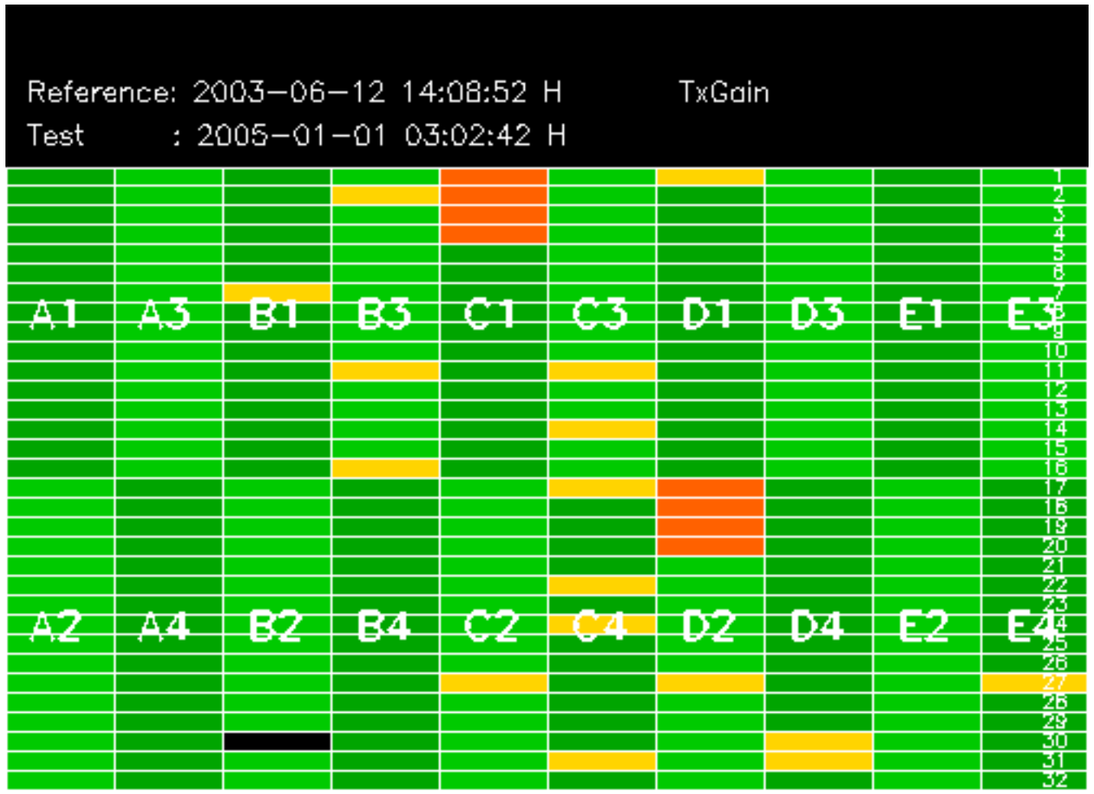

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec

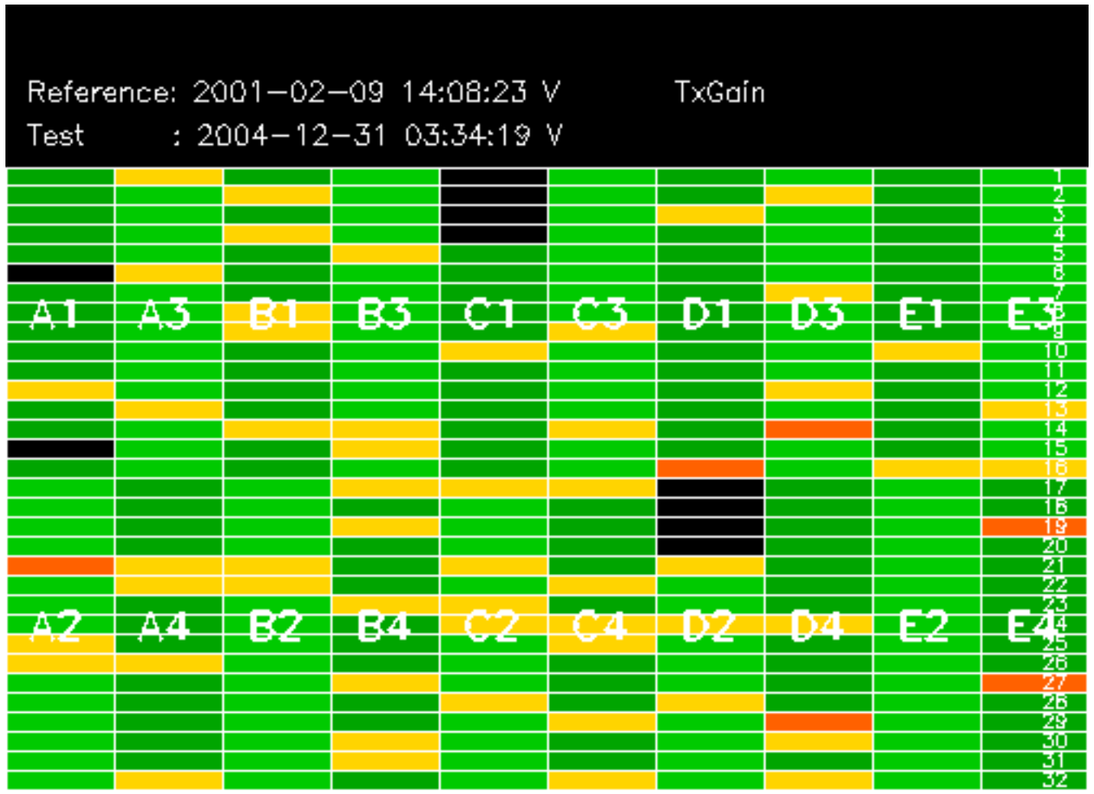

SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
01-Dec
06-Dec
11-Dec
16-Dec
21-Dec
26-Dec
31-Dec

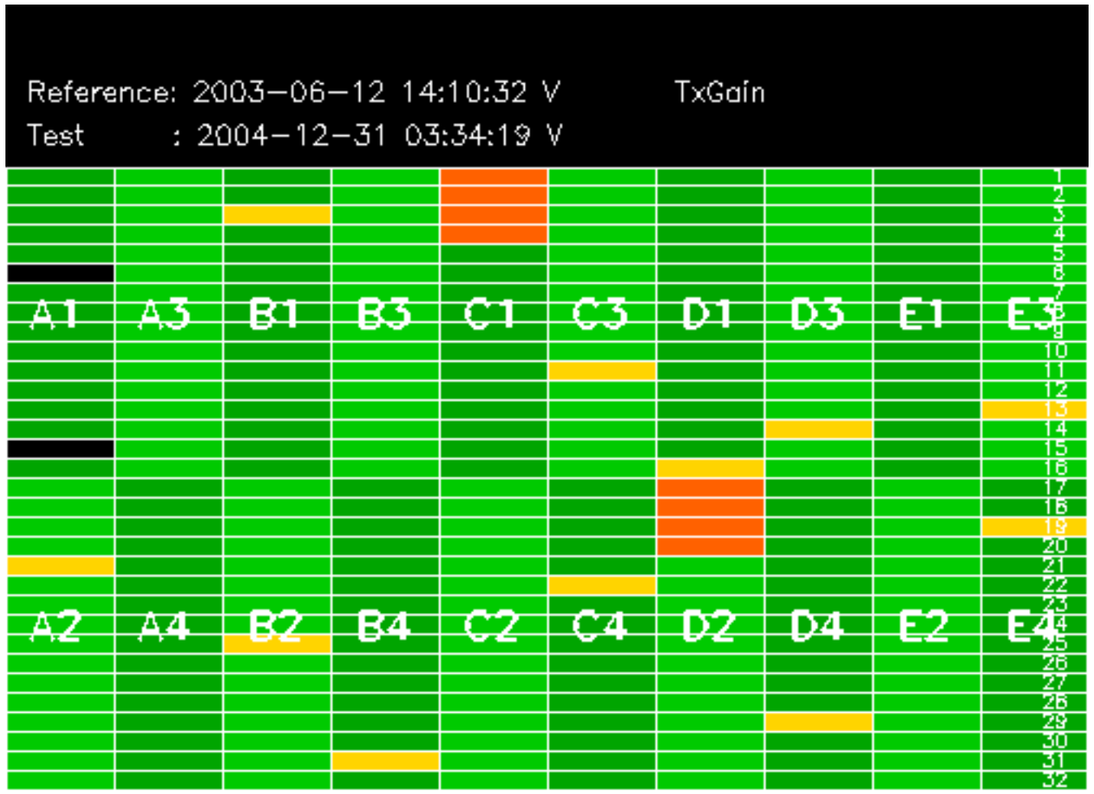

SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
01-Dec
06-Dec
11-Dec
16-Dec
21-Dec
26-Dec
31-Dec

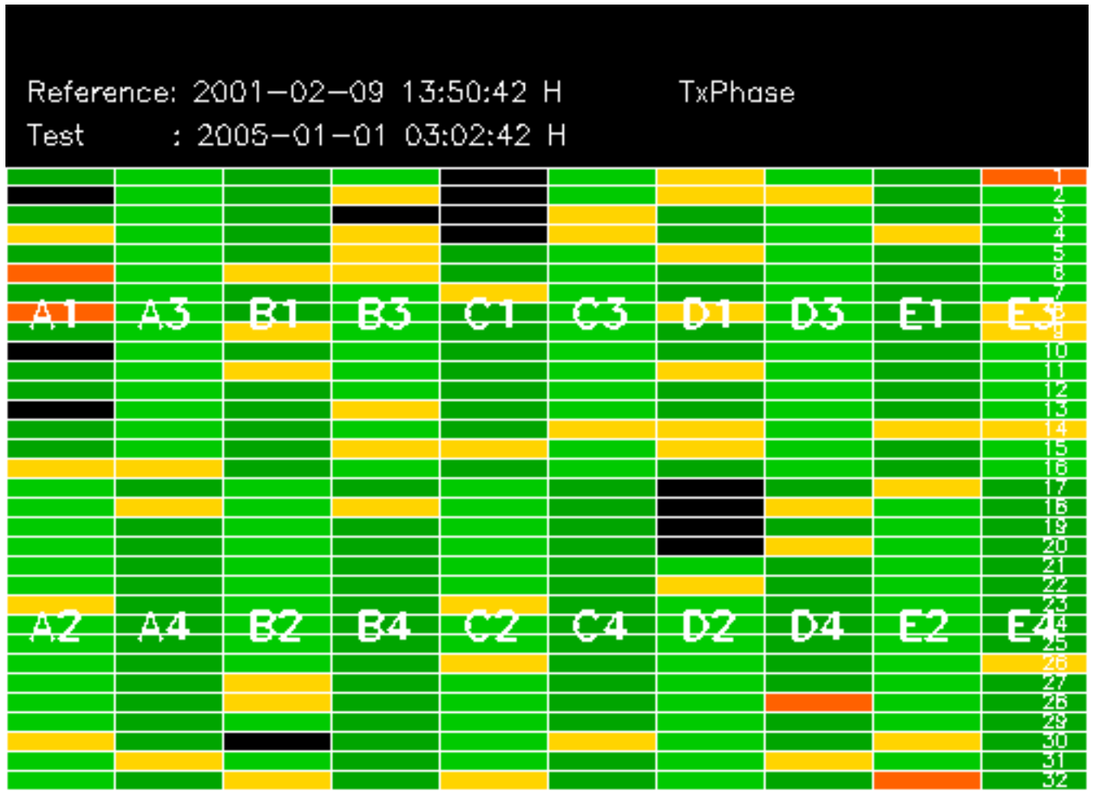

SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
01-Dec
06-Dec
11-Dec
16-Dec
21-Dec
26-Dec
31-Dec

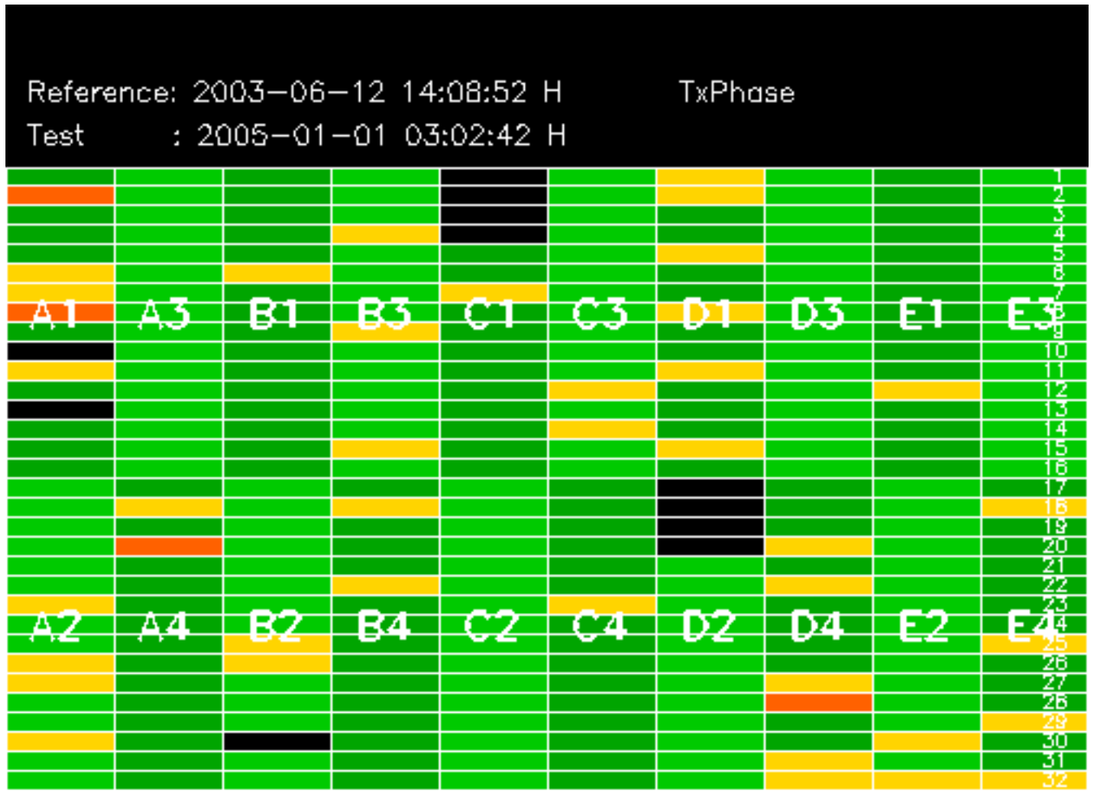

Reference: 2001-02-09 13:50:42 H
TxGain
Test : 2005-01-01 03:02:42 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

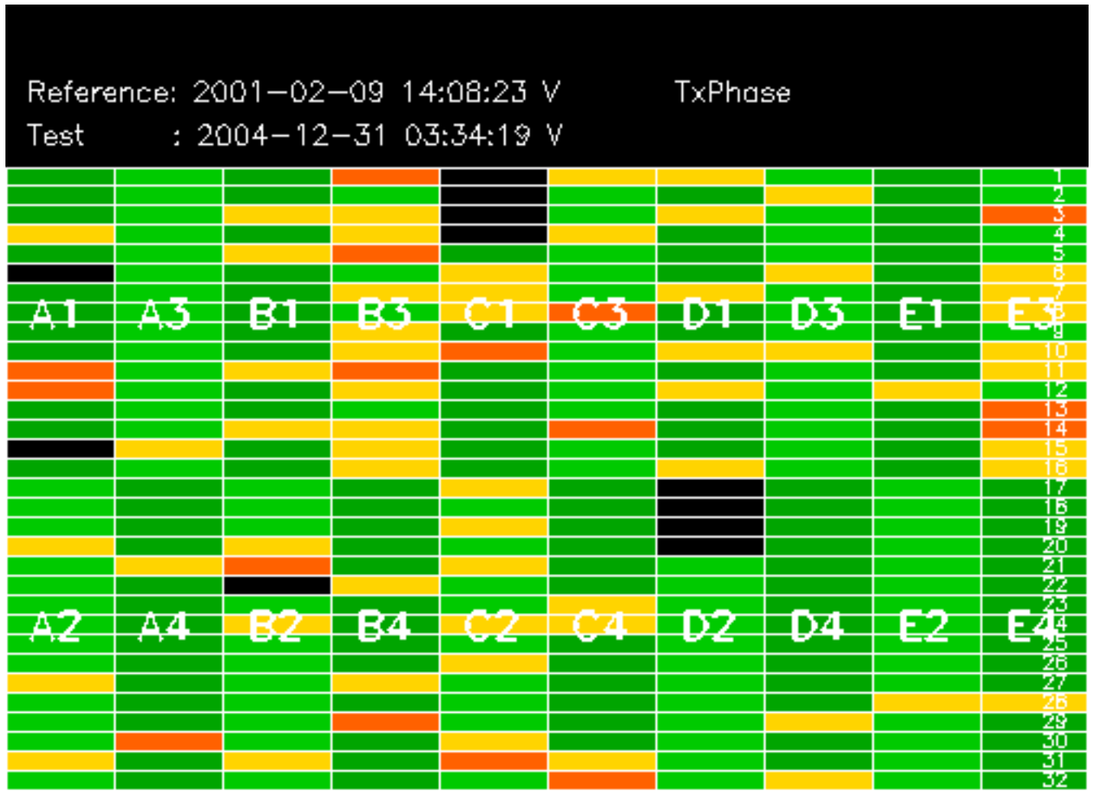

Reference: 2003-06-12 14:08:52 H
TxGain
Test : 2005-01-01 03:02:42 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

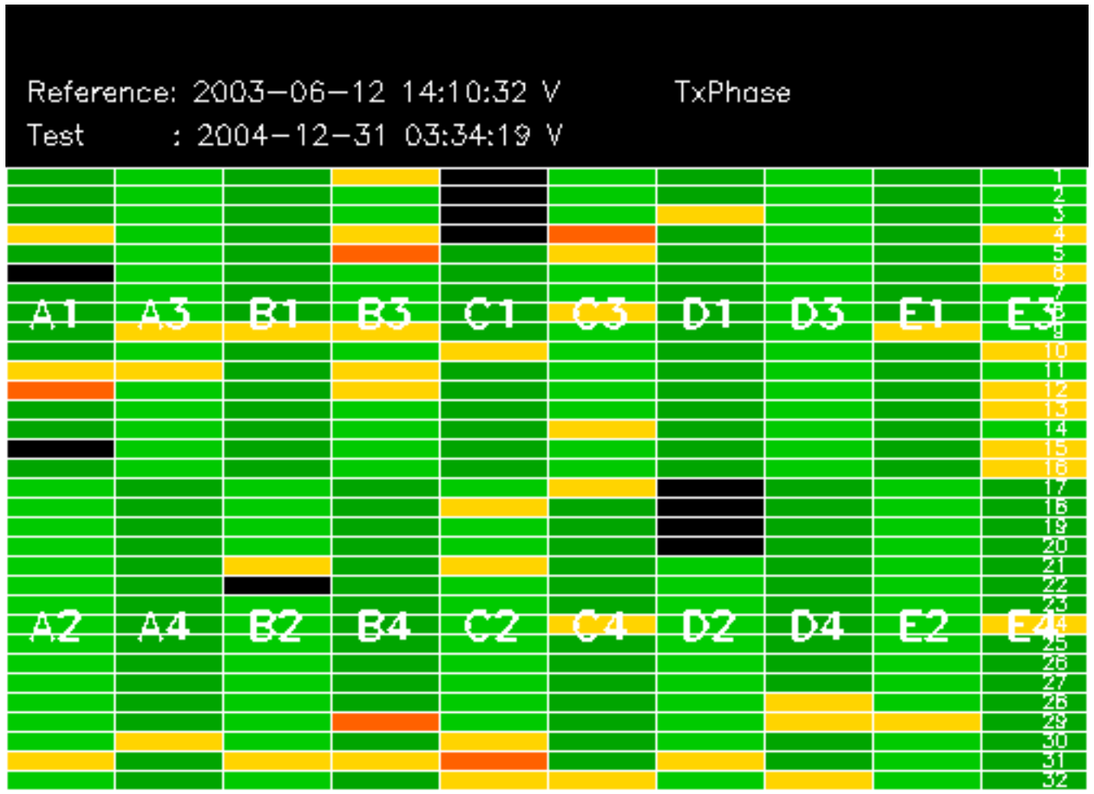

Reference: 2001-02-09 14:08:23 V
TxGain
Test : 2004-12-31 03:34:19 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

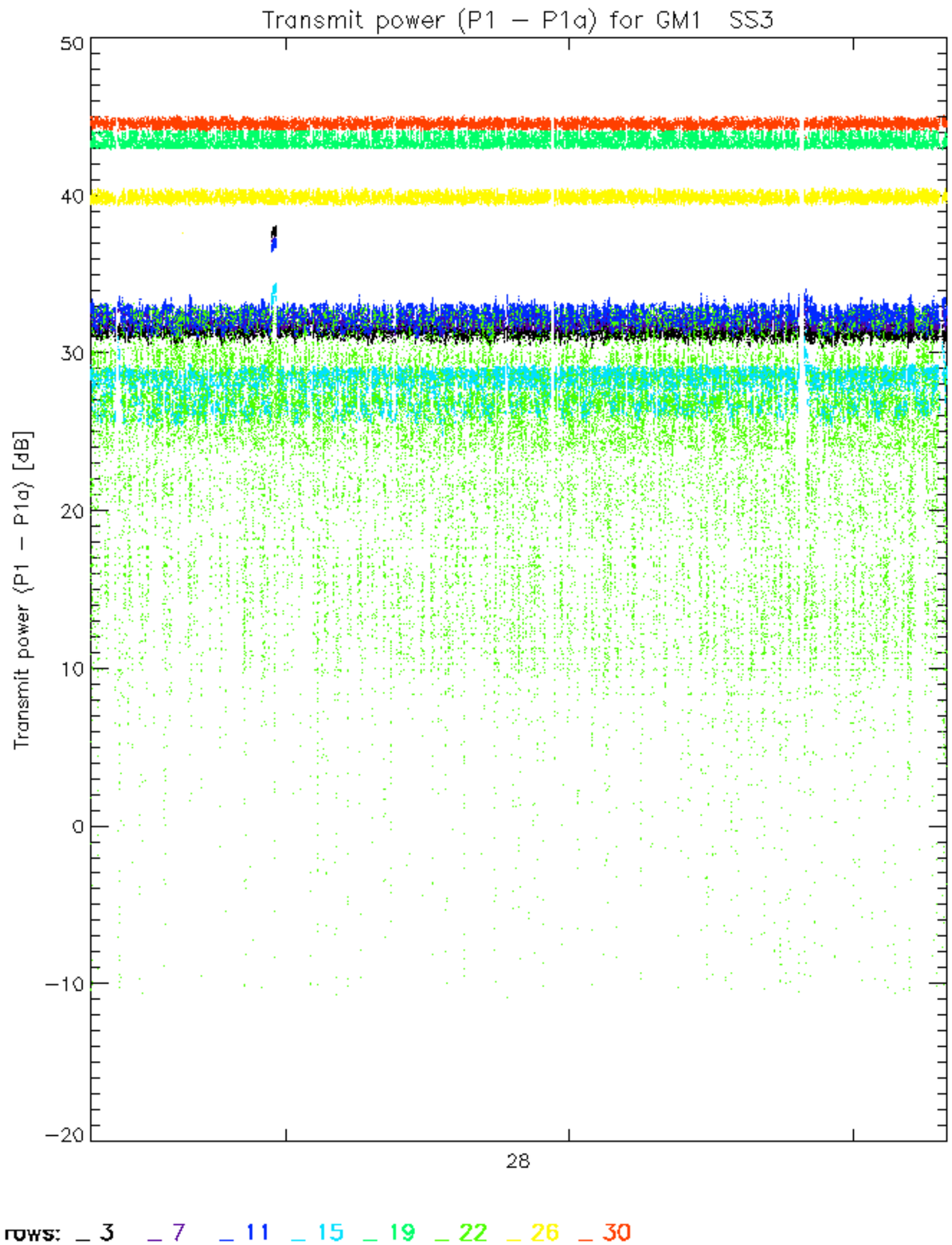

Reference: 2003-06-12 14:10:32 V
TxGain
Test : 2004-12-31 03:34:19 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

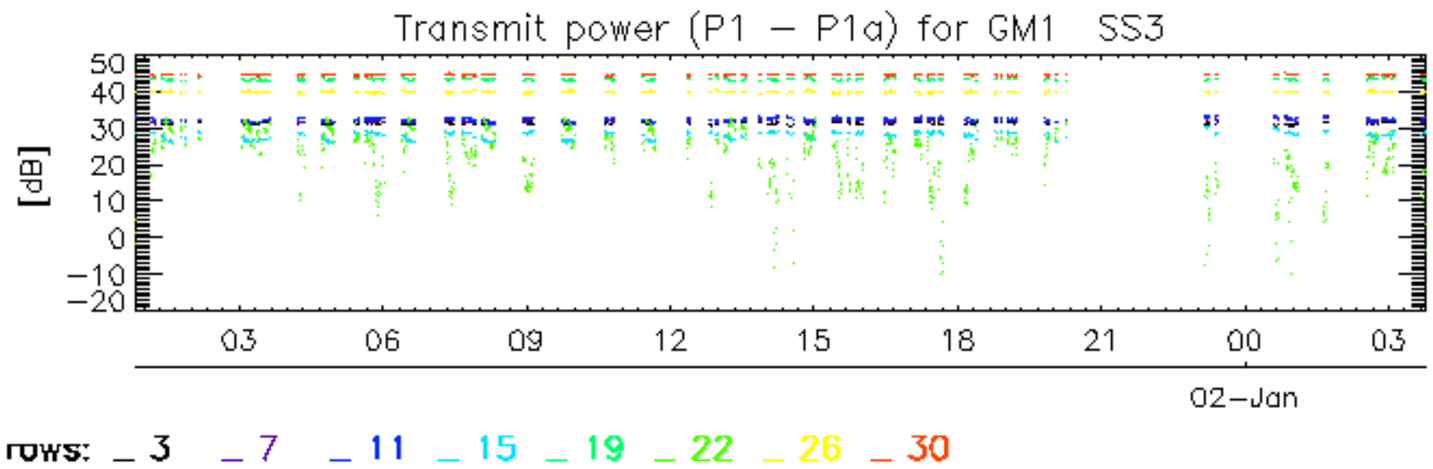

Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2005-01-01 03:02:42 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

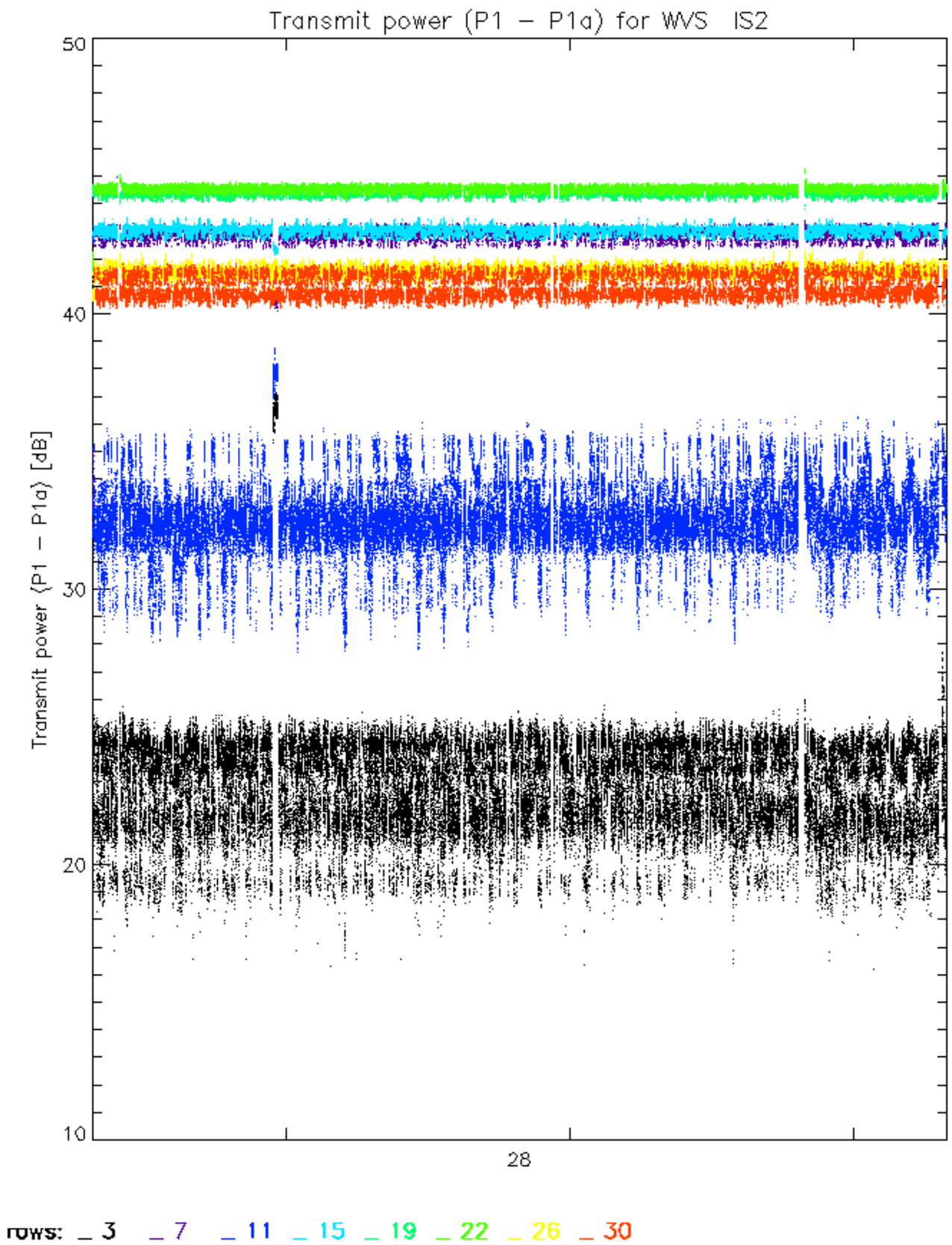

Reference: 2003-06-12 14:08:52 H
TxPhase
Test : 2005-01-01 03:02:42 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

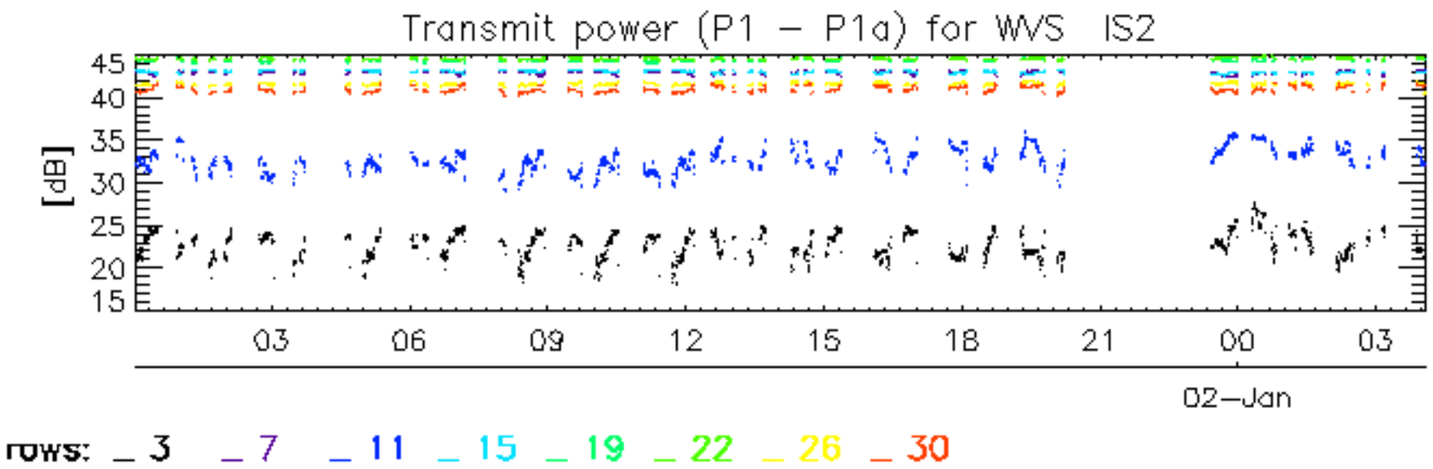

Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2004-12-31 03:34:19 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
TxPhase
Test : 2004-12-31 03:34:19 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
28
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
02−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
28
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
02–Jan
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.