PRELIMINARY REPORT OF 050106

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

last update on Thu Jan 6 11:01:57 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 2005-01-05 00:00:00 to 2005-01-06 11:01:57

PDHS-K					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	19	24	5	3	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	19	24	5	3	4
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	19	24	5	3	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	19	24	5	3	4

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	51	47	4	7	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	51	47	4	7	4
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	51	47	4	7	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	51	47	4	7	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	20050105 073837
H	20050104 081014

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	-3.450464	0.029653	0.100111
7	P1	-3.099016	0.024379	0.061552
11	P1	-4.654183	0.045523	0.038289
15	P1	-5.663527	0.038895	0.009689
19	P1	-3.659071	0.005864	-0.004481
22	P1	-4.575843	0.016897	0.026446
26	P1	-4.940337	0.024596	0.039251
30	P1	-7.121336	0.013485	-0.026435
3	P1	-15.939173	0.109019	0.028142
7	P1	-15.506370	0.160600	-0.045093
11	P1	-20.756973	0.539682	-0.301230
15	P1	-11.614969	0.096347	-0.018482
19	P1	-14.167086	0.031354	-0.017423
22	P1	-16.068287	0.457385	0.214777
26	P1	-17.736723	0.255065	0.152876
30	P1	-17.874950	0.303878	0.102831

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.340750	0.086898	0.096237
7	P2	-22.548836	0.174210	0.110259
11	P2	-14.852870	0.181348	0.160303
15	P2	-7.158929	0.116431	0.082051
19	P2	-9.732554	0.207277	0.101379
22	P2	-17.154442	0.100256	0.115345
26	P2	-16.533047	0.115077	0.070009

30	P2	-18.960531	0.083295	0.042032

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.209963	0.007077	0.026007
7	P3	-8.209962	0.007076	0.026033
11	P3	-8.210005	0.007075	0.026299
15	P3	-8.210029	0.007077	0.026414
19	P3	-8.210017	0.007075	0.026356
22	P3	-8.210008	0.007074	0.026268
26	P3	-8.209977	0.007075	0.026109
30	P3	-8.210115	0.007069	0.025265

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	-2.849950	0.107198	0.130634
7	P1	-2.979477	0.062716	0.102628
11	P1	-3.951521	0.047617	0.037403
15	P1	-3.521600	0.077200	0.086346
19	P1	-3.610821	0.012926	0.000043
22	P1	-5.623915	0.069601	-0.031891
26	P1	-6.523983	0.024041	-0.033024
30	P1	-6.300044	0.044708	0.026433
3	P1	-10.742157	0.056331	-0.158078
7	P1	-10.133405	0.158505	-0.080819
11	P1	-12.447770	0.197926	-0.237167

15	P1	-11.728221	0.094950	-0.085311
19	P1	-15.647389	0.048348	-0.002491
22	P1	-24.131172	2.006194	0.135090
26	P1	-14.991711	0.384729	0.326773
30	P1	-20.125881	0.925291	0.157316

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.018032	0.036630	0.078881
7	P2	-22.591175	0.033238	0.124541
11	P2	-10.646006	0.036357	0.200947
15	P2	-5.057216	0.025142	0.046053
19	P2	-6.955930	0.036289	0.064743
22	P2	-7.288742	0.028171	0.091963
26	P2	-23.959677	0.018836	0.043276
30	P2	-22.008558	0.023164	0.080224

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.041639	0.002887	0.020060
7	P3	-8.041707	0.002893	0.020031
11	P3	-8.041646	0.002889	0.020051
15	P3	-8.041817	0.002893	0.019643
19	P3	-8.041721	0.002902	0.020252
22	P3	-8.041755	0.002892	0.019921
26	P3	-8.041680	0.002894	0.020318
30	P3	-8.041619	0.002882	0.019971

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	0.000457545
	stdev	2.28618e-07
MEAN Q	mean	0.000527042
	stdev	2.41456e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127496
	stdev	0.000980681
STDEV Q	mean	0.127731
	stdev	0.000990679

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

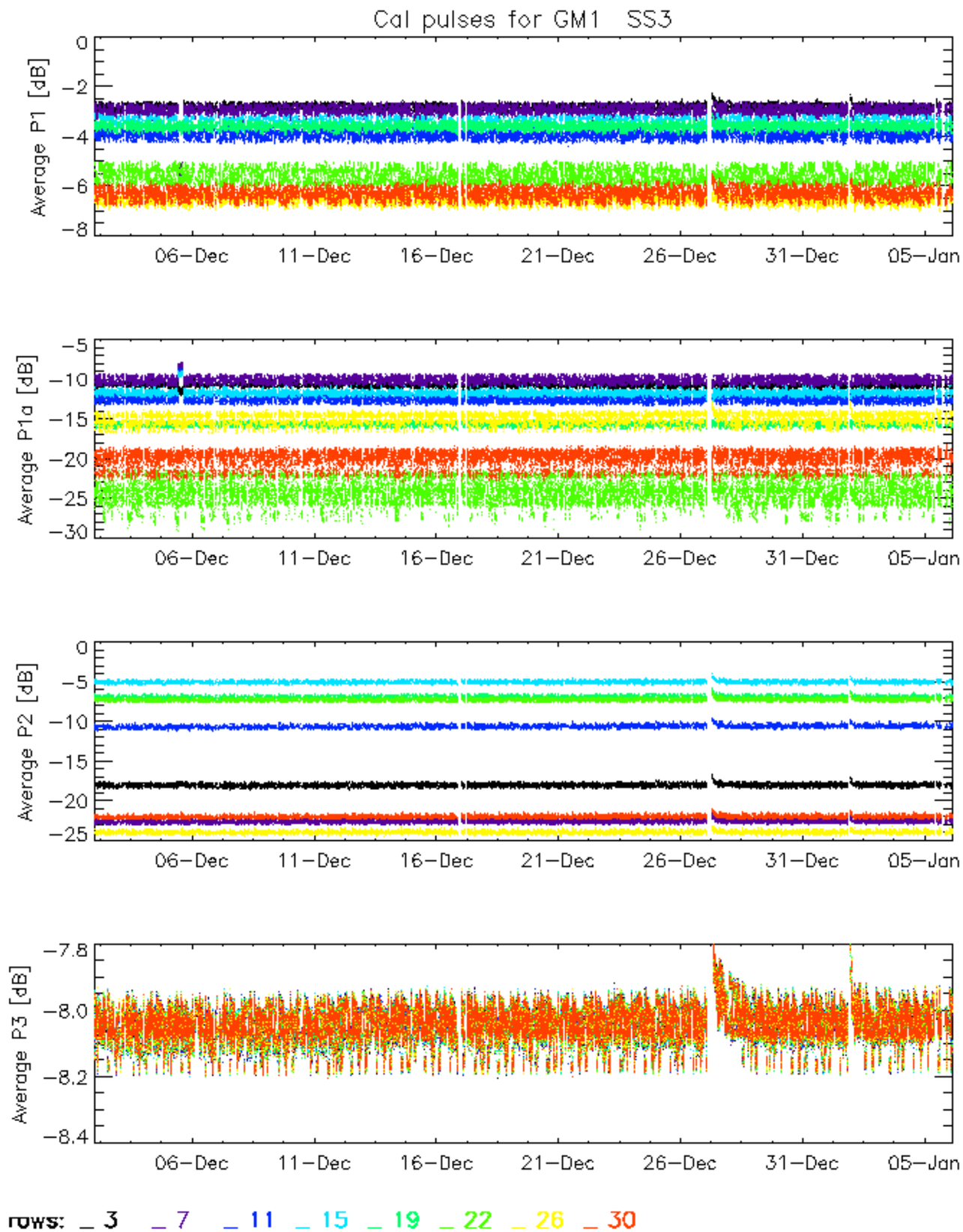
Evolution of Absolute Doppler

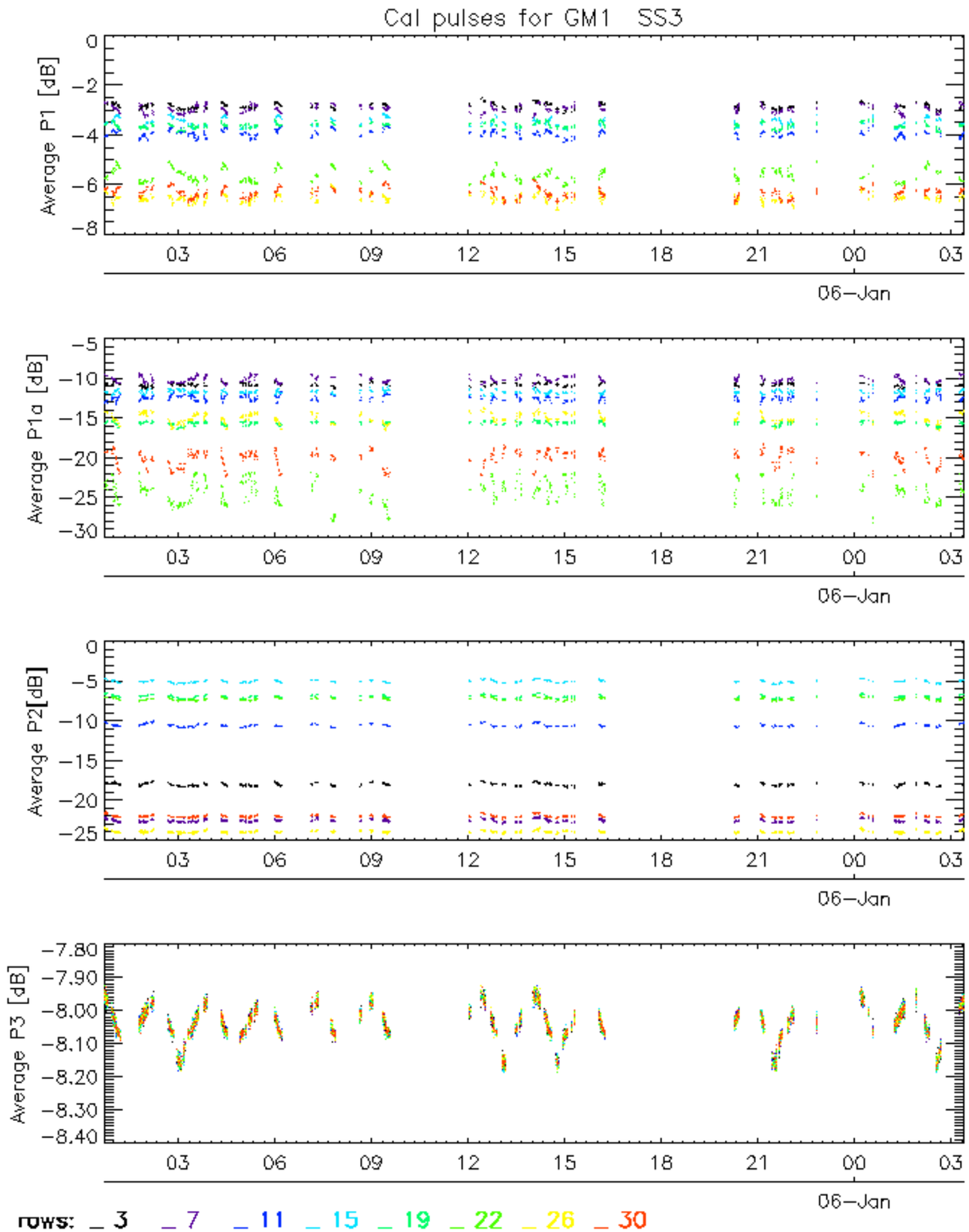
Acsending

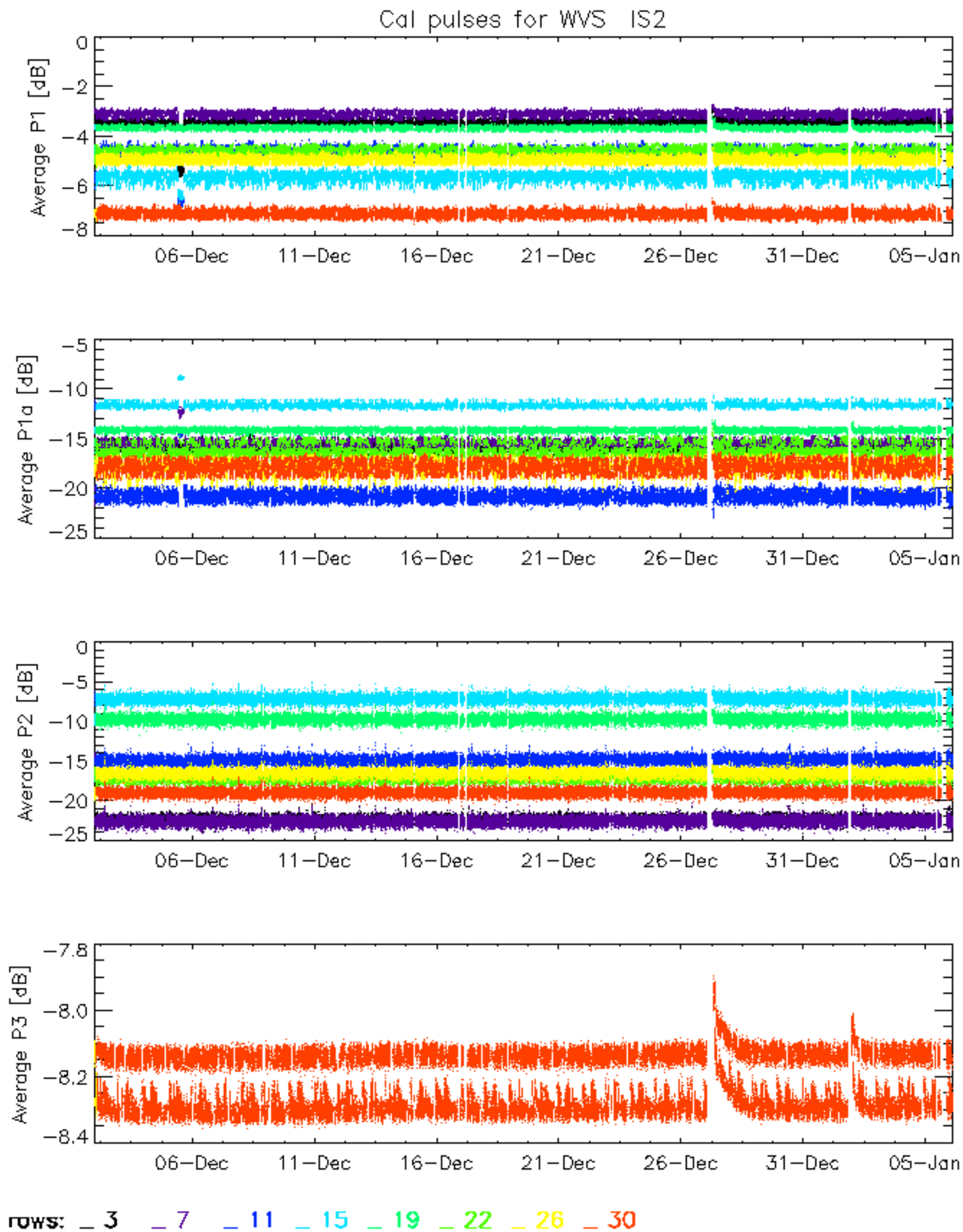
Descending

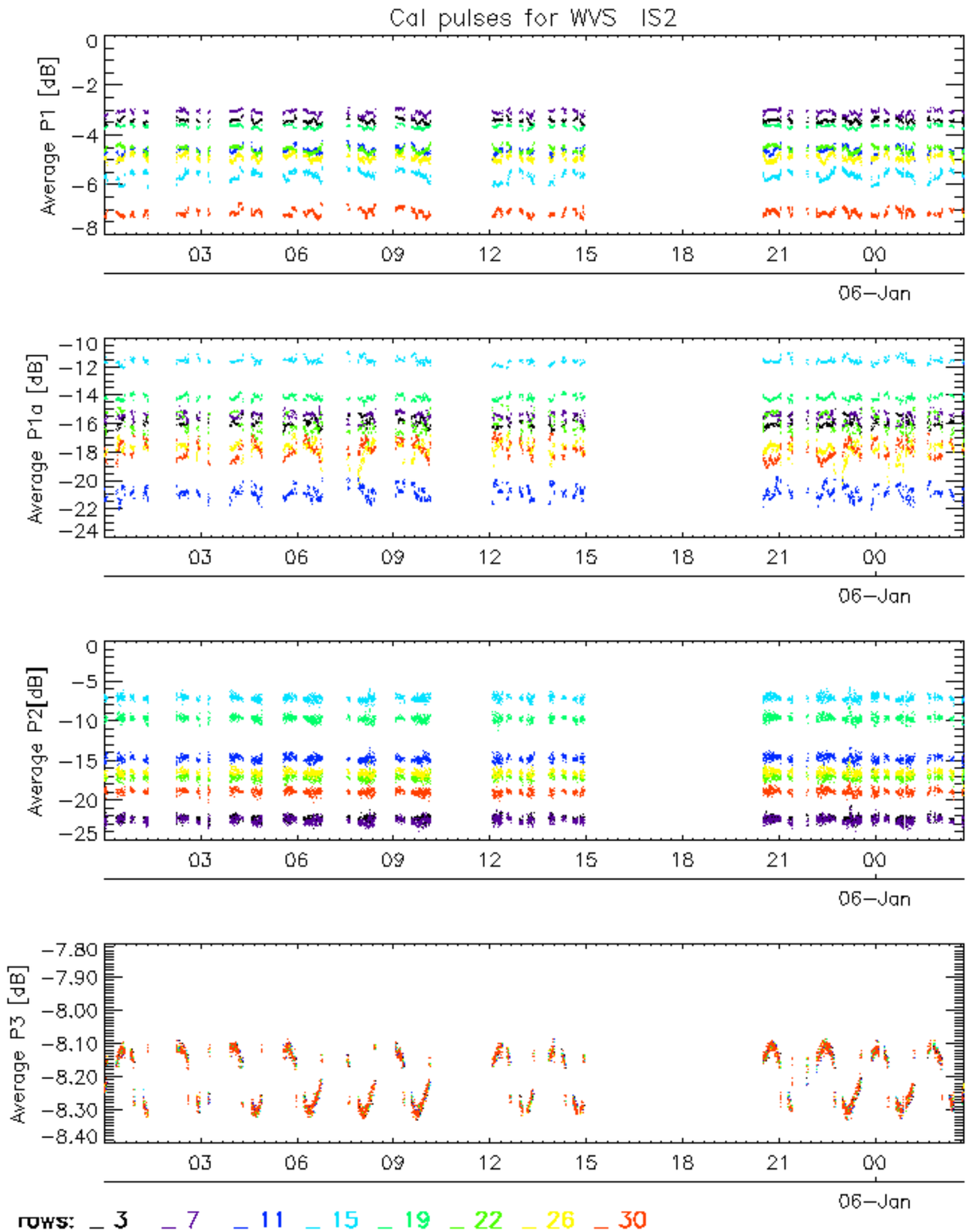
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

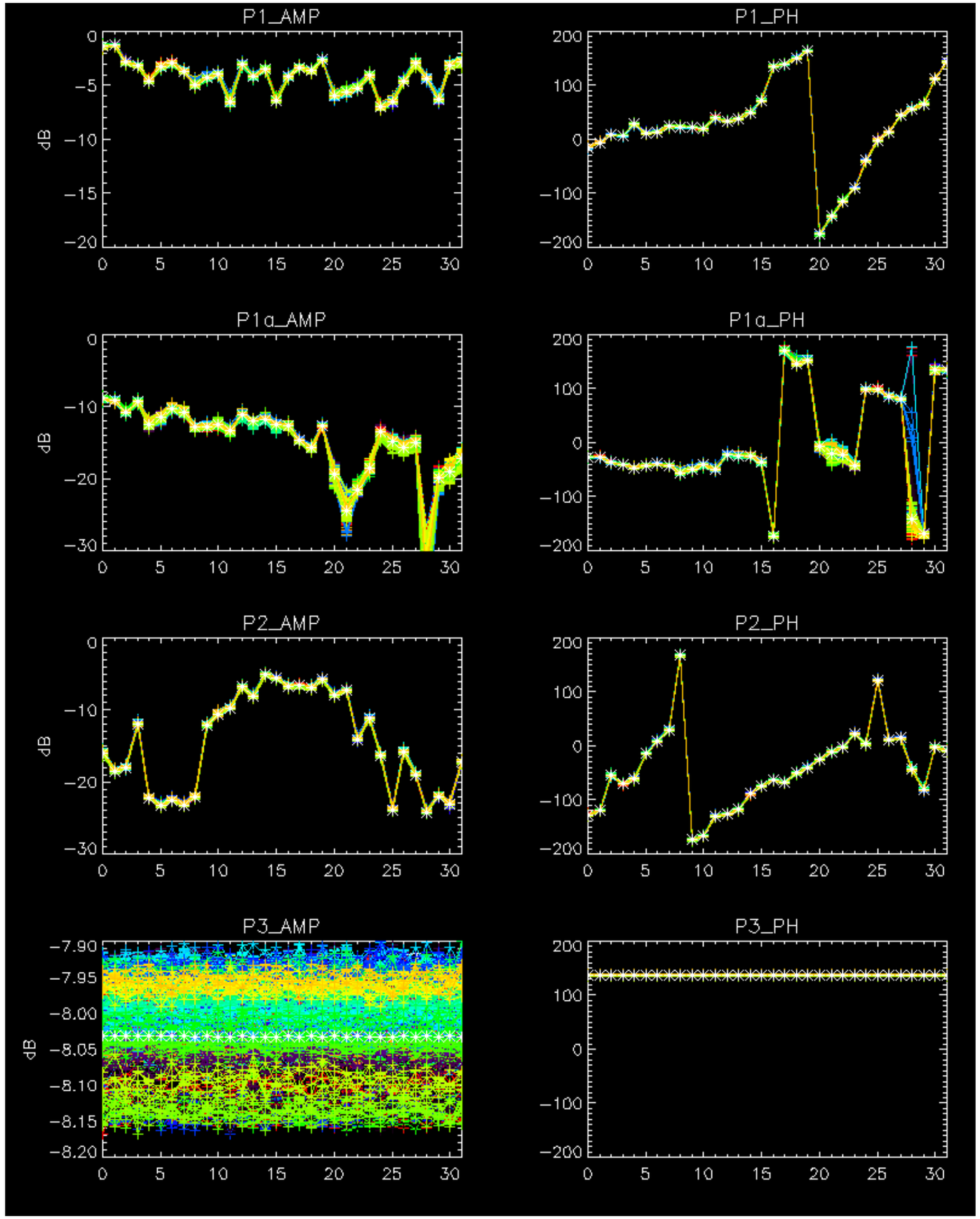

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: 3 7 11 15 19 22 26 30

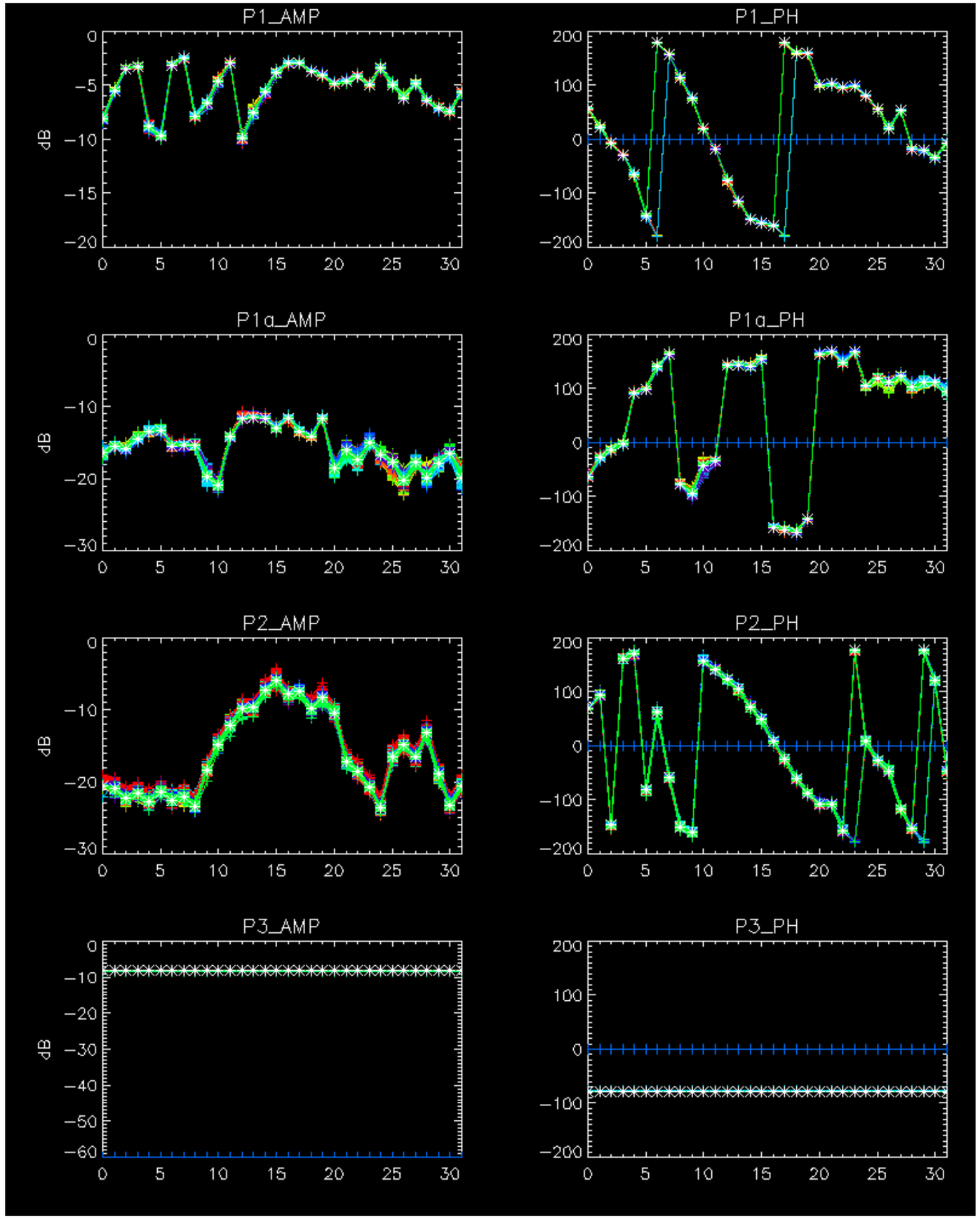

Cal pulses for GM1 SS3
Average P1 [dB]
Average P1a [dB]
Average P2[dB]
Average P3 [dB]
03
06
09
12
15
18
21
00
03
06–Jan
rows: 3 7 11 15 19 22 26 30


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

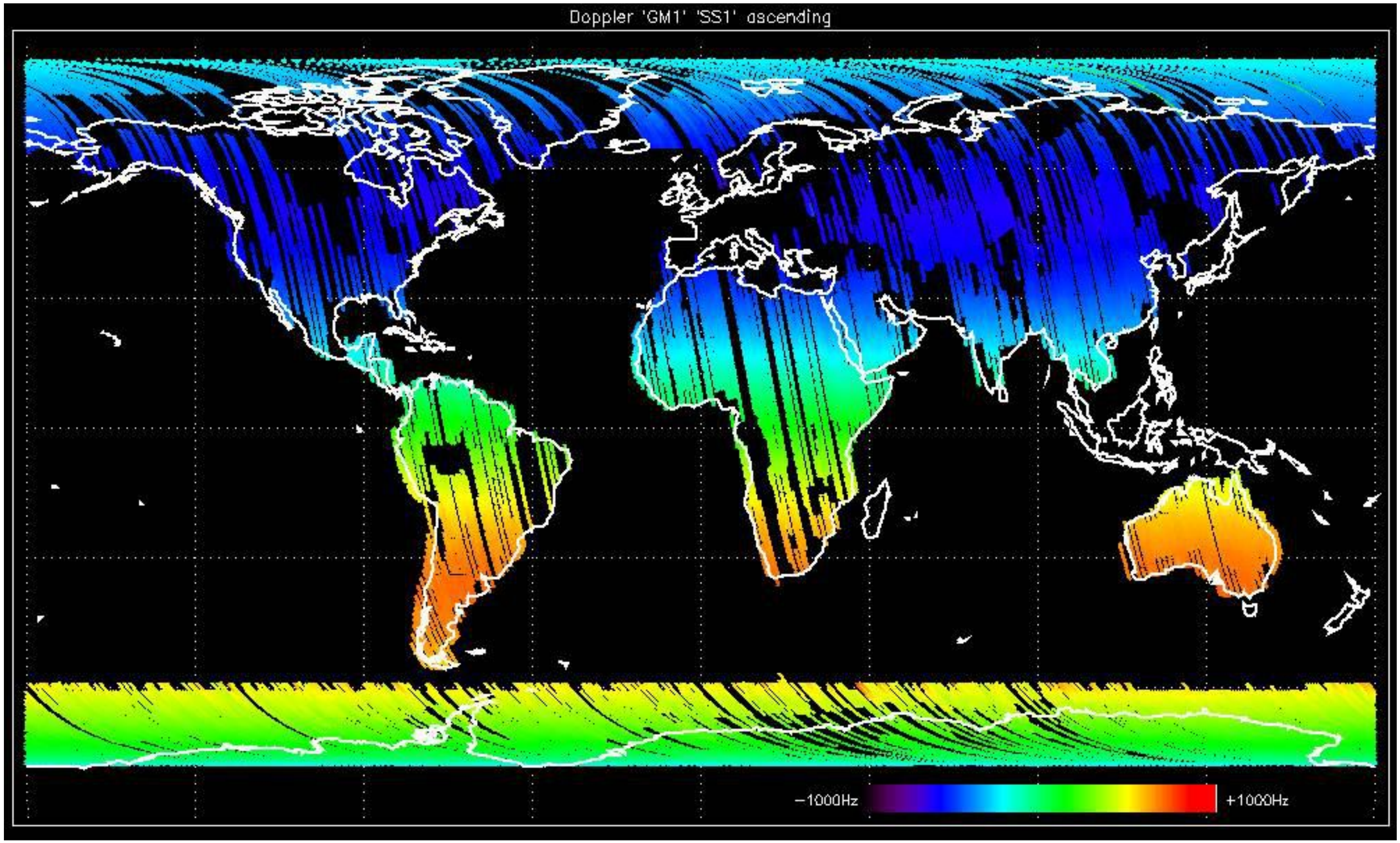

Cal pulses for WVS IS2
Average P1 [dB]
Average P1a [dB]
Average P2[dB]
Average P3 [dB]
03
06
09
12
15
18
21
00
06–Jan
rows: 3 7 11 15 19 22 26 30

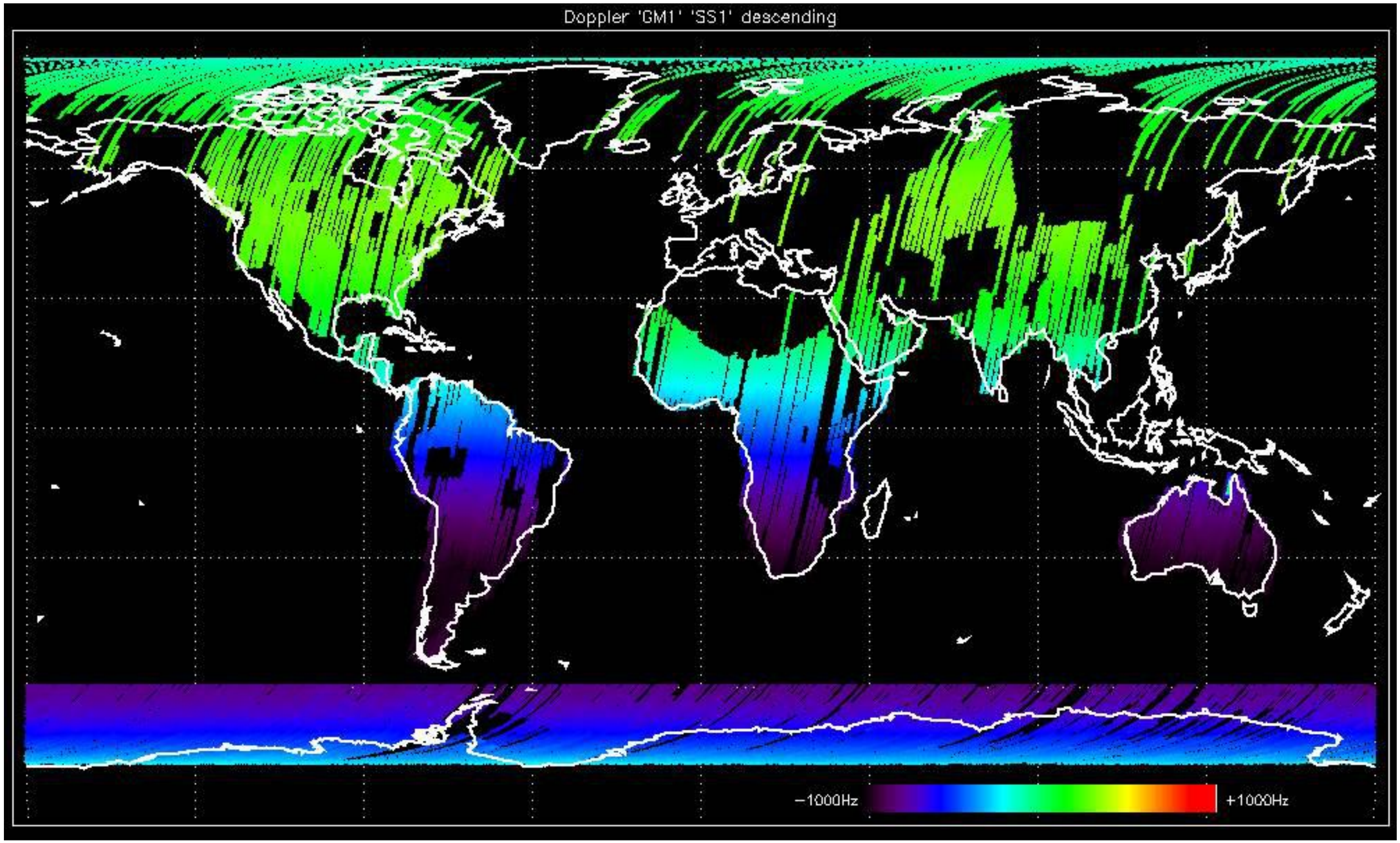
No anomalies observed.

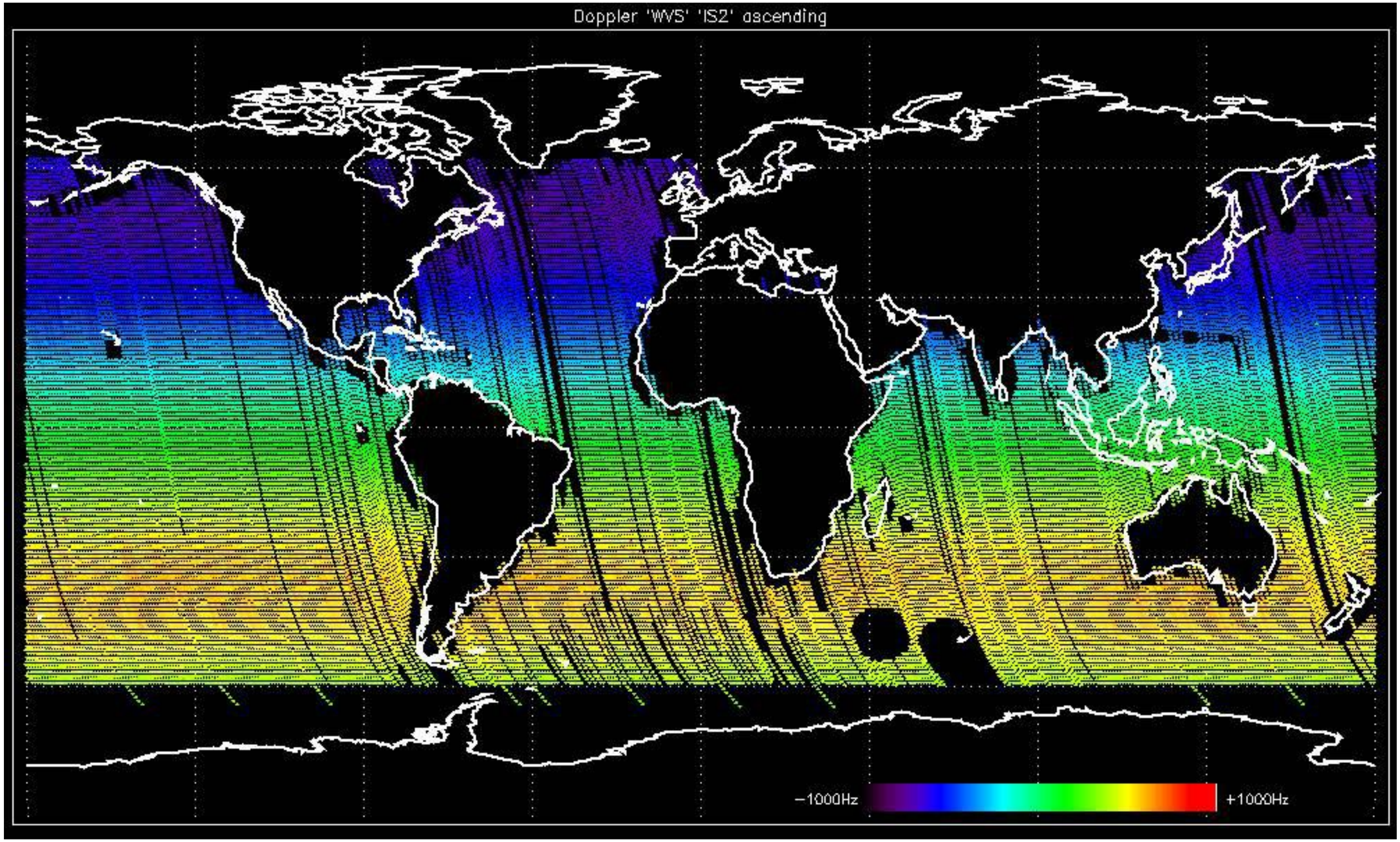

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

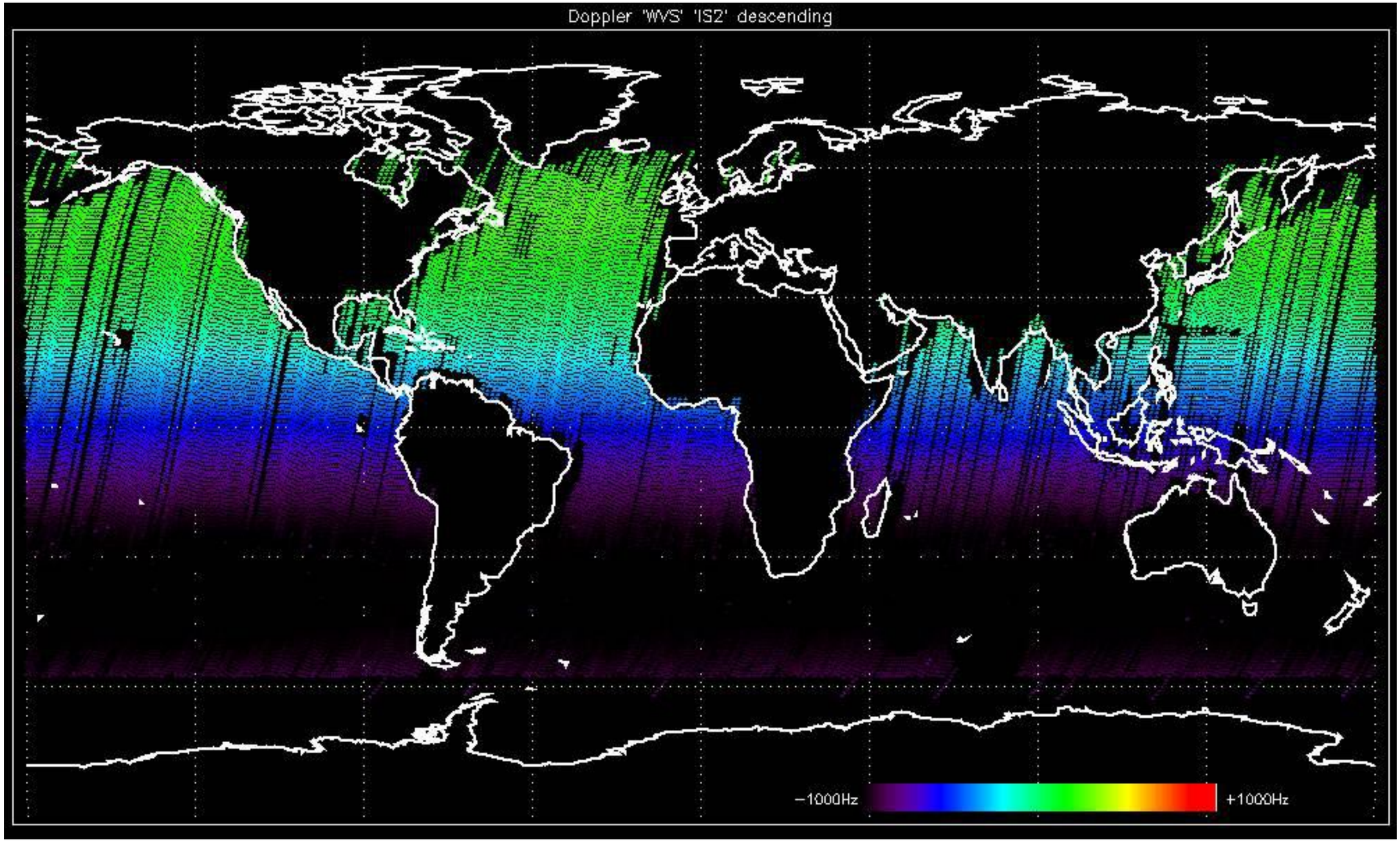

P1_AMP
P1_PH
P1a_AMP
P1a_PH
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

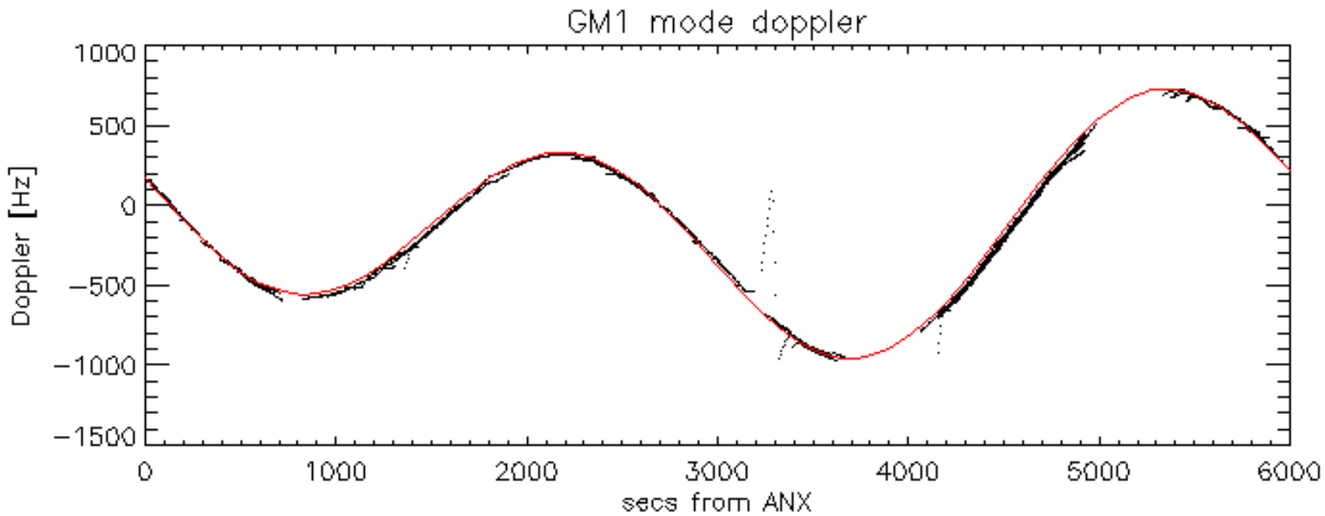
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

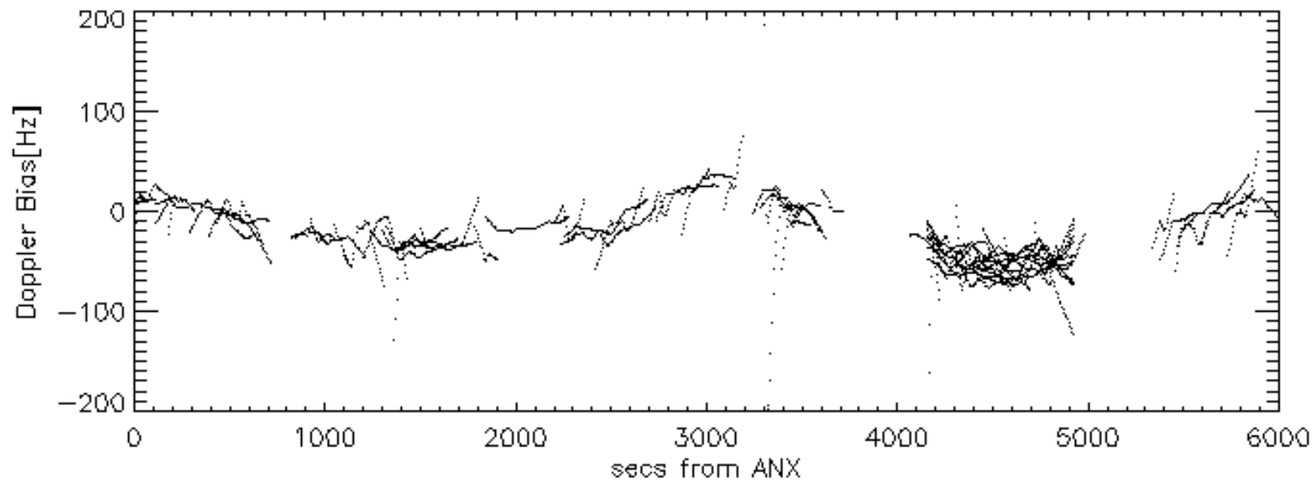

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

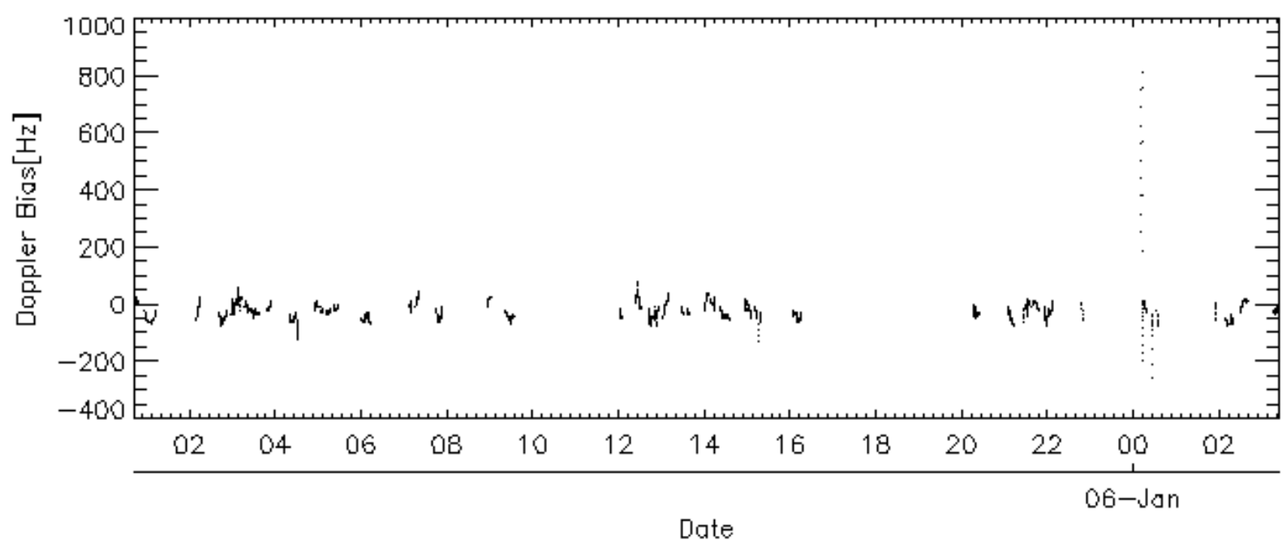

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

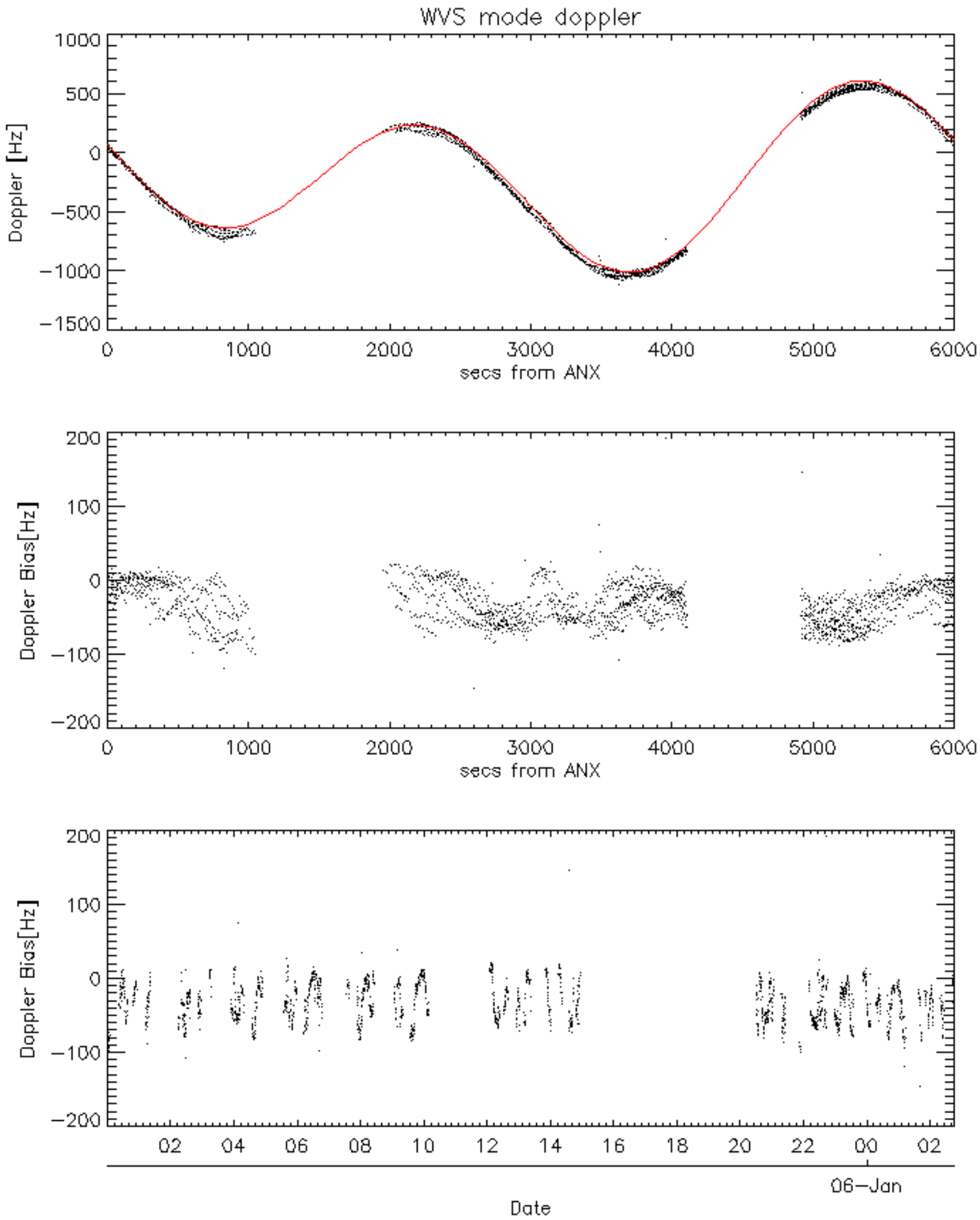

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

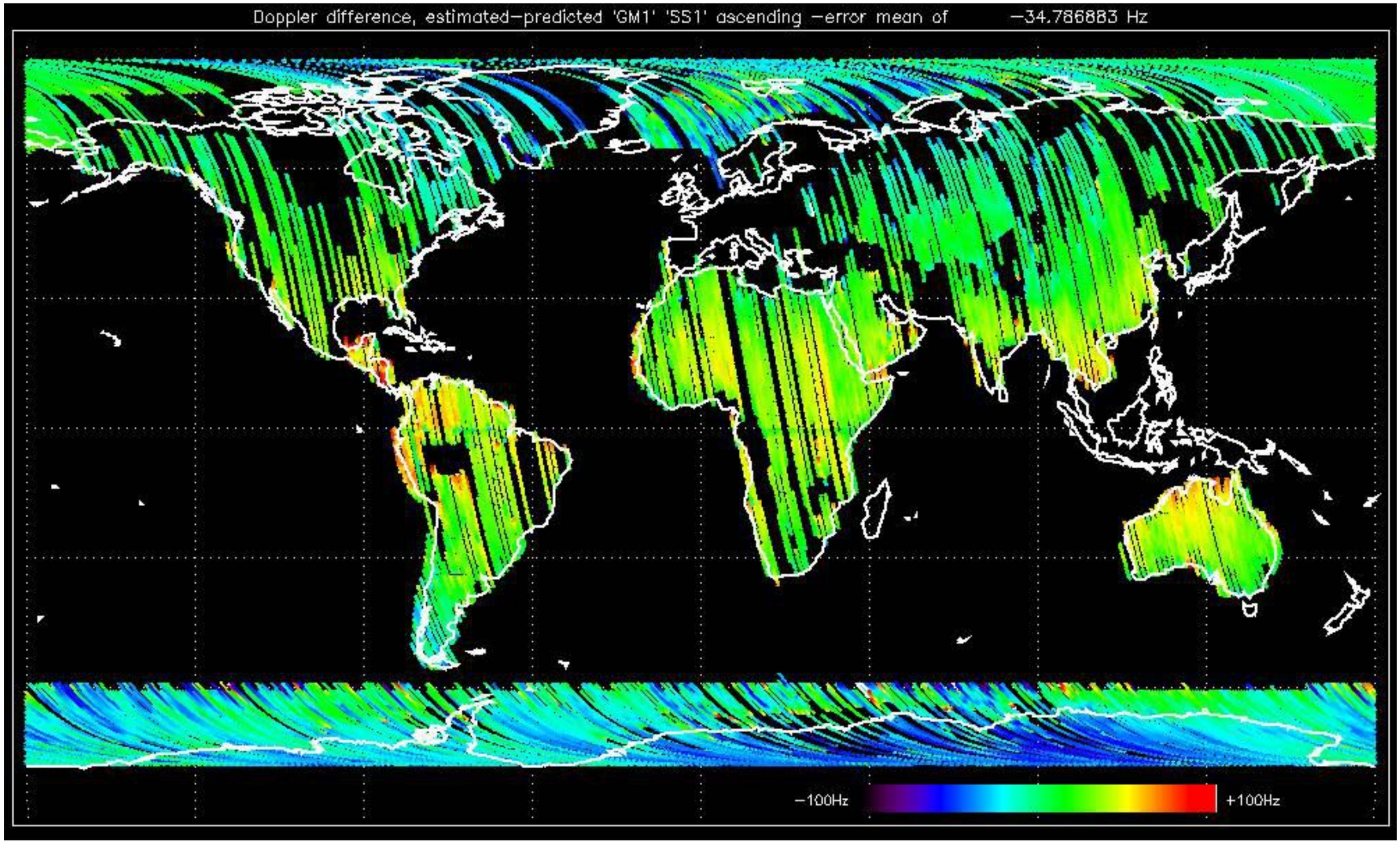

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

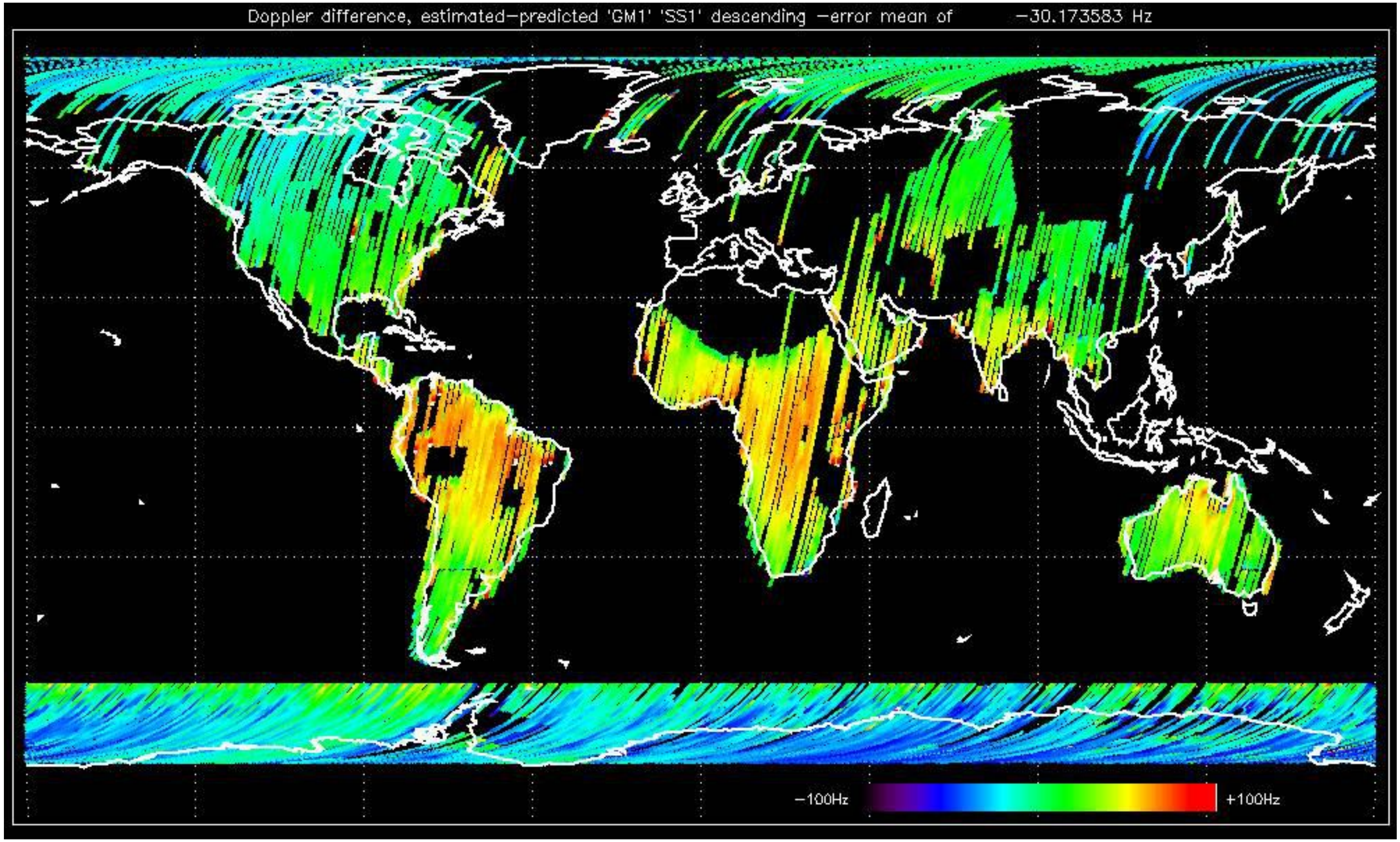

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

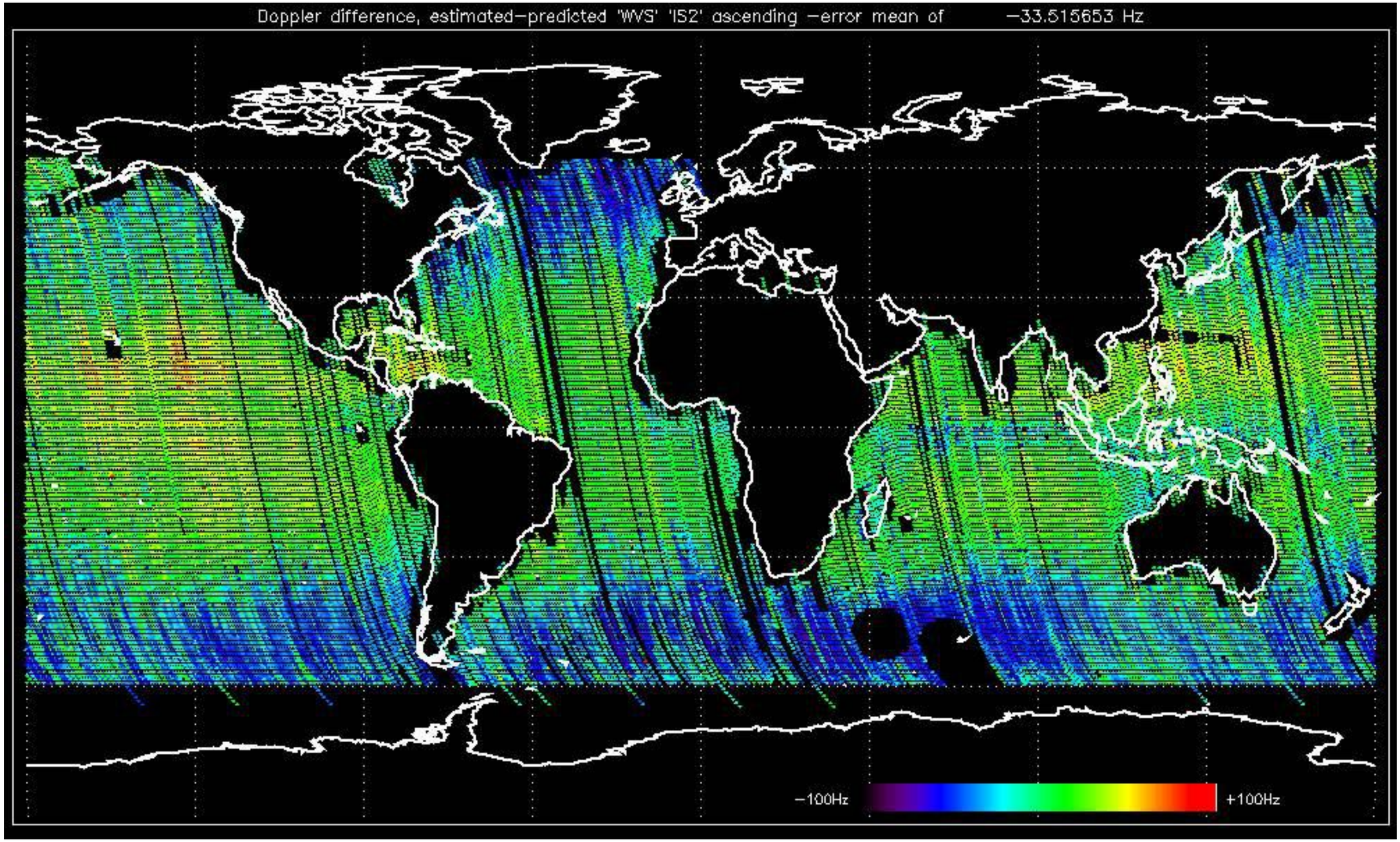

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

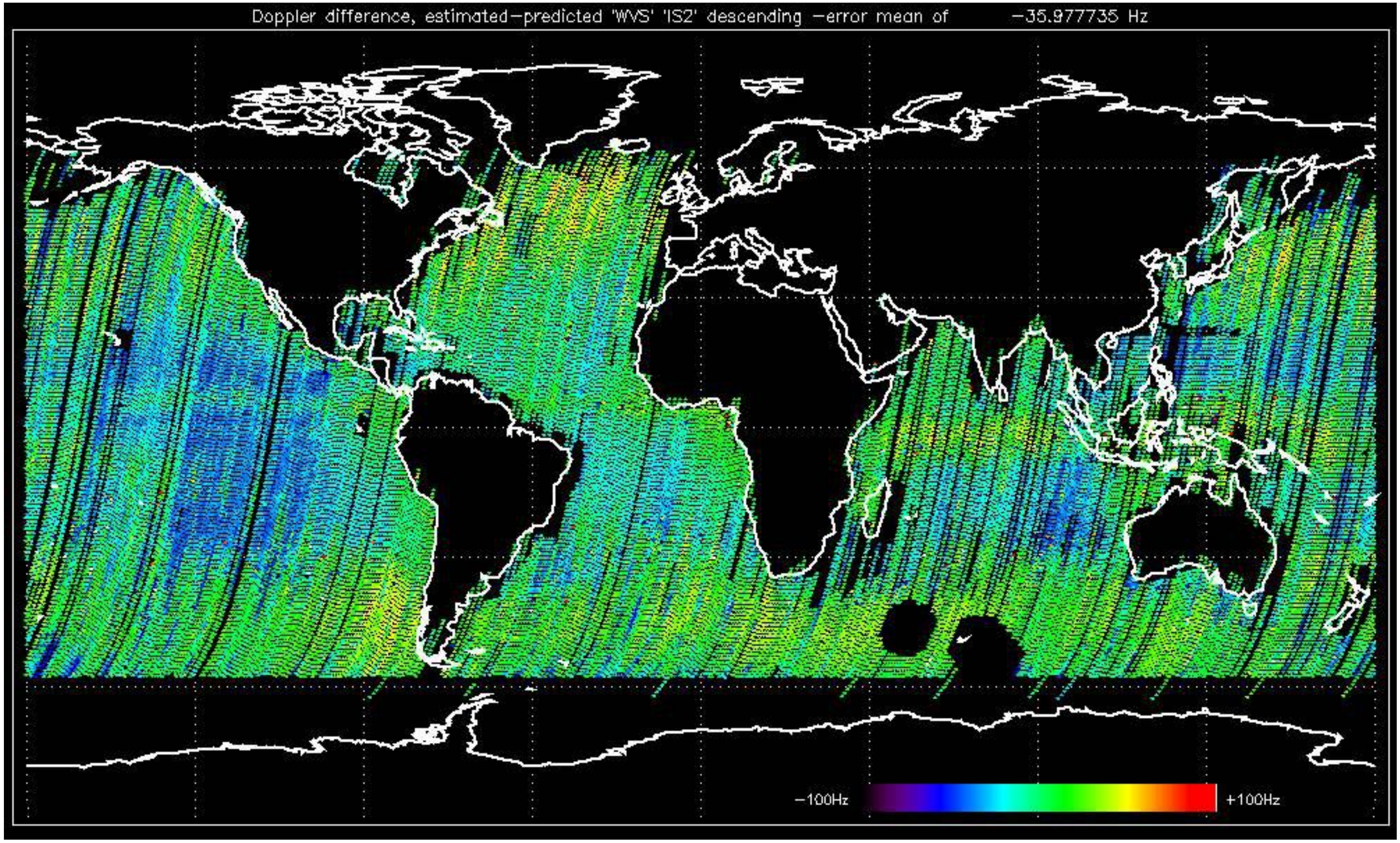

Doppler Bias[Hz]
1000
800
600
400
200
0
−200
−400
02
04
06
08
10
12
14
16
18
20
22
00
02
06−Jan
Date


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
06−Jan
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −34.786883 Hz
−100Hz
+100Hz

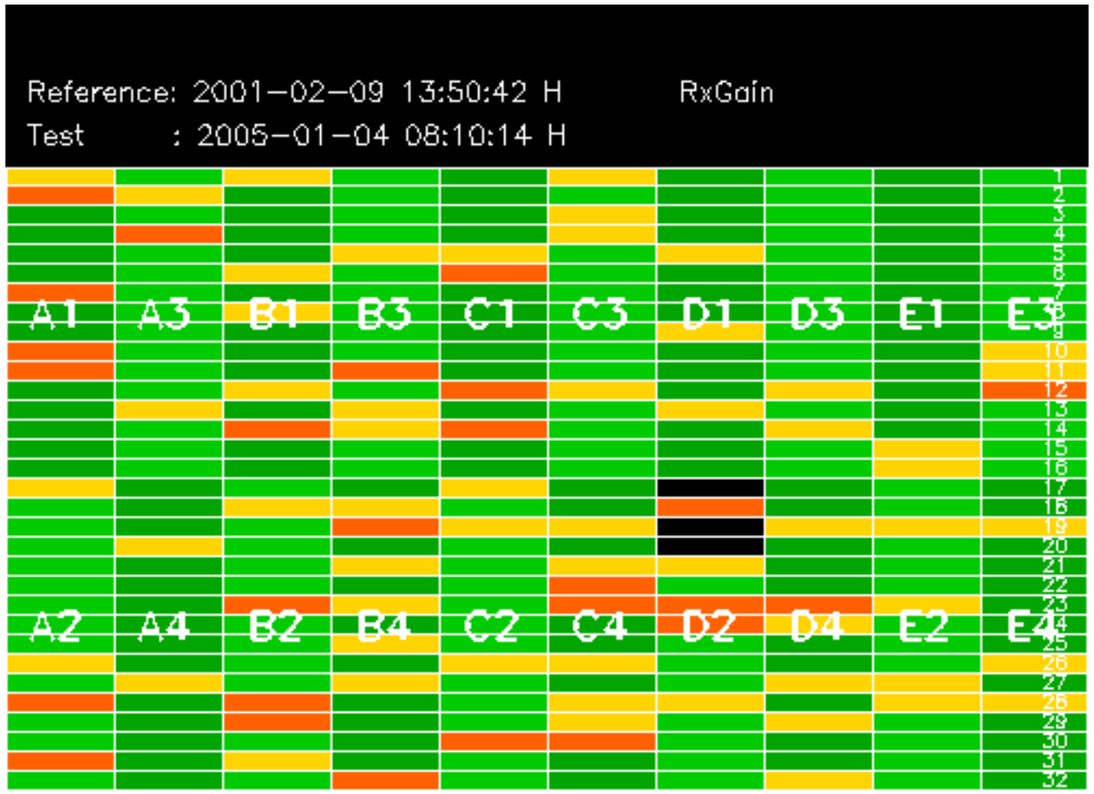

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -30.173583 Hz
-100Hz
+100Hz

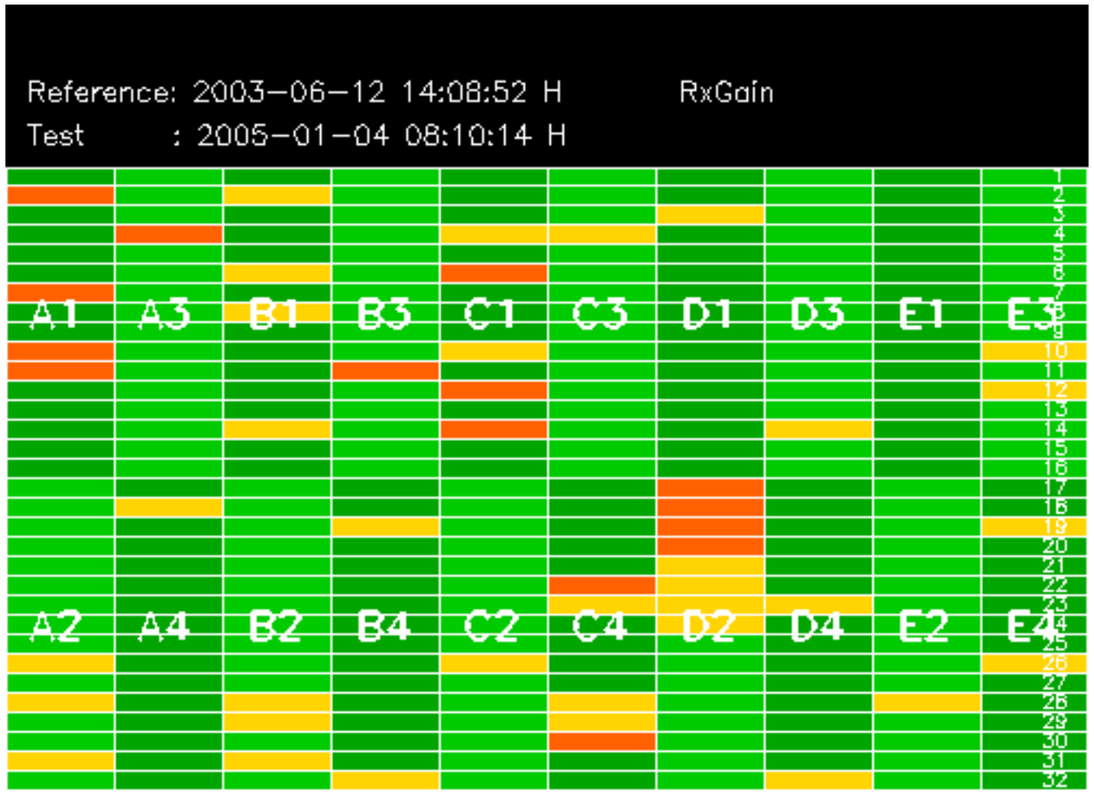

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −33.515653 Hz
−100Hz
+100Hz

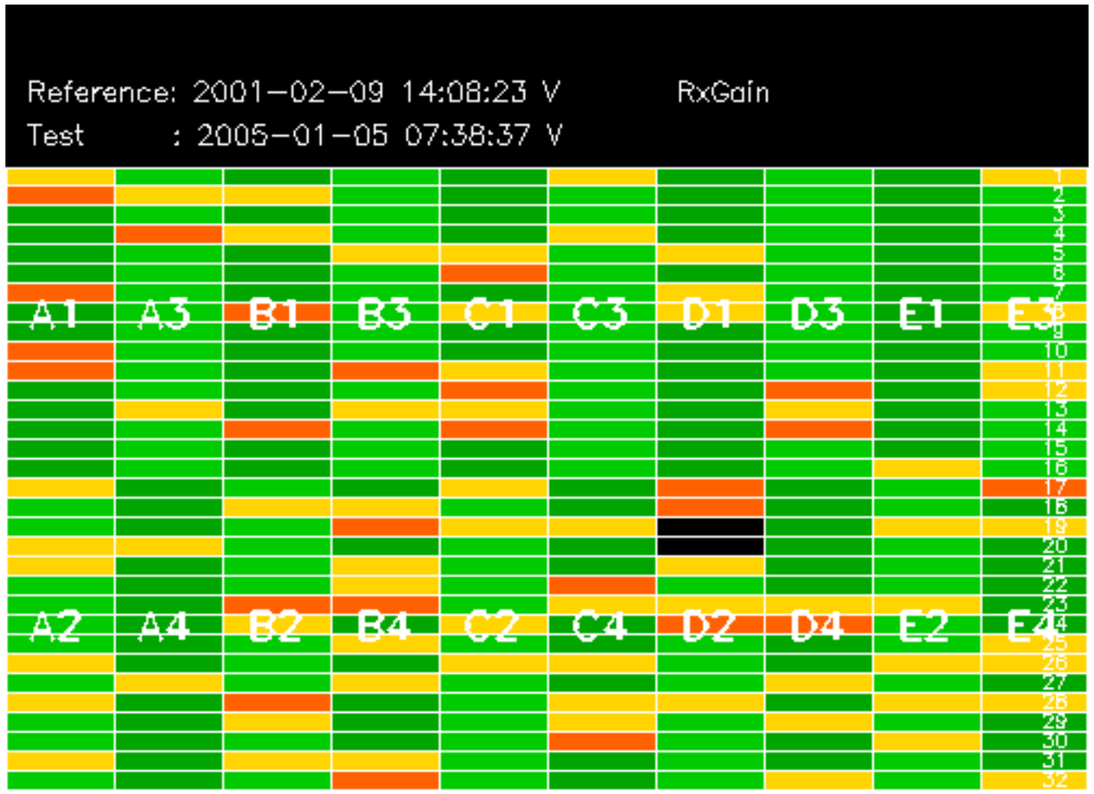

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −35.977735 Hz
−100Hz
+100Hz

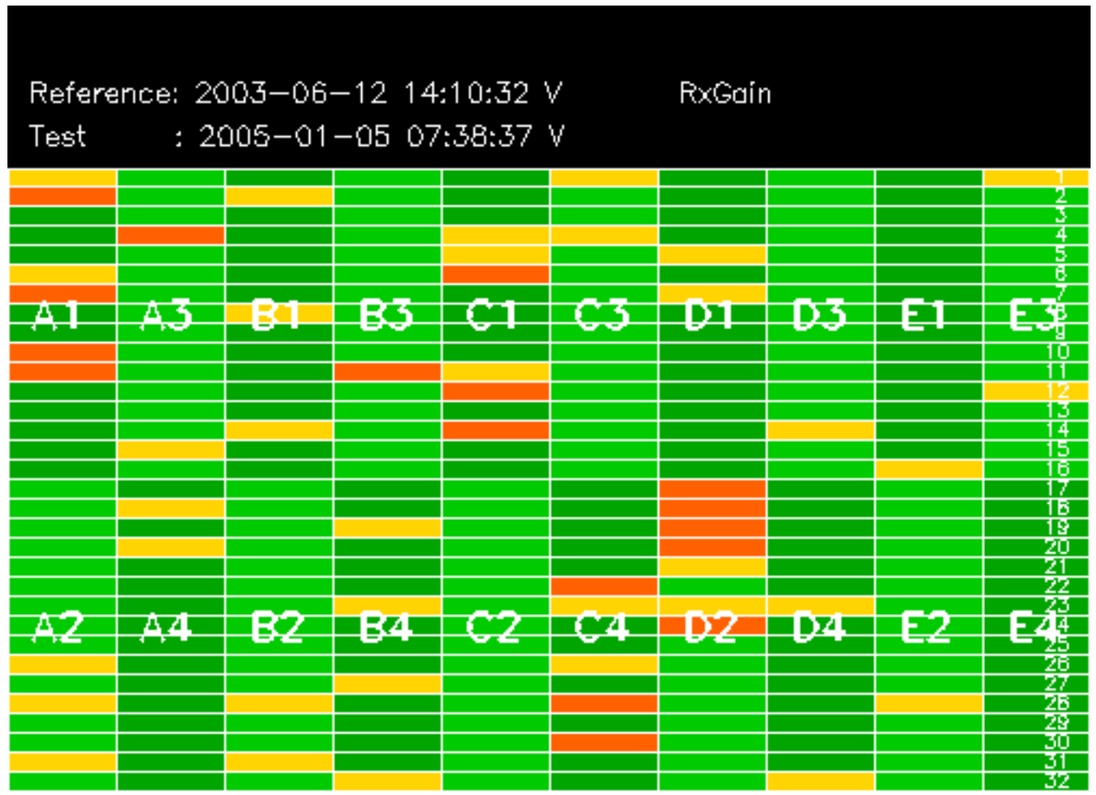
The MS mode provides an internal health check on an individual module basis.
The purpose of this mode is to identify to identify any malfunctionning modules and to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

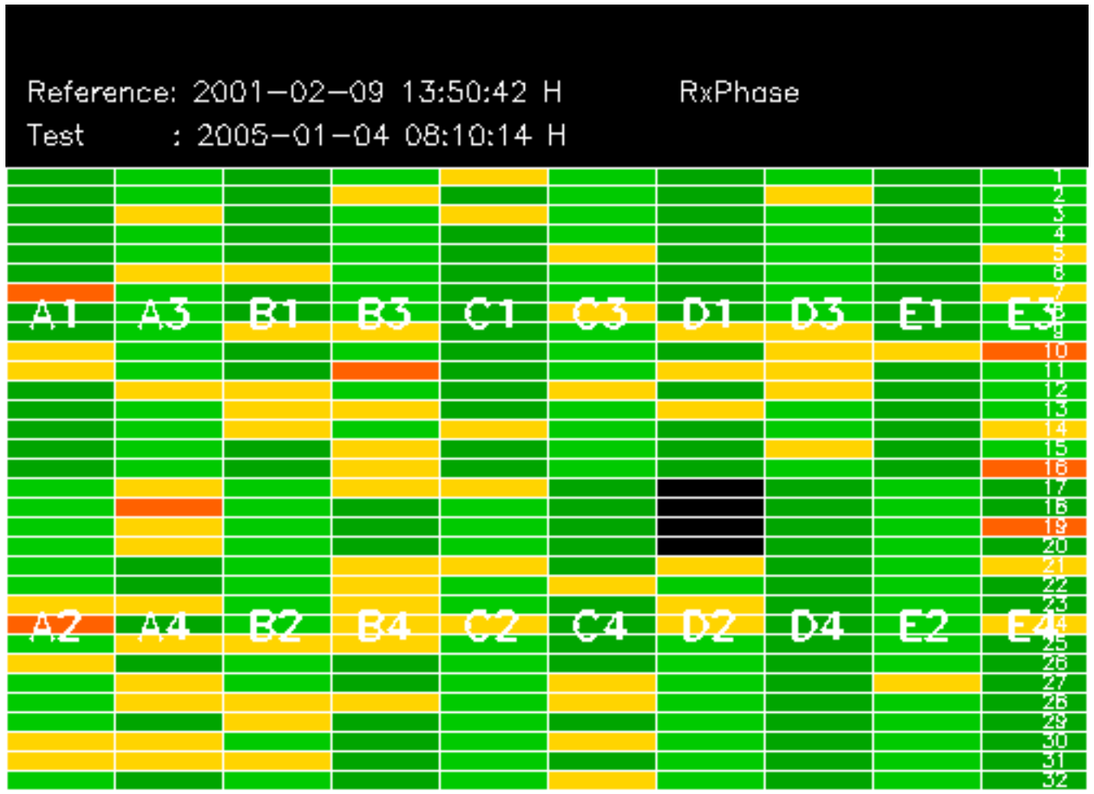
No anomalies observed.

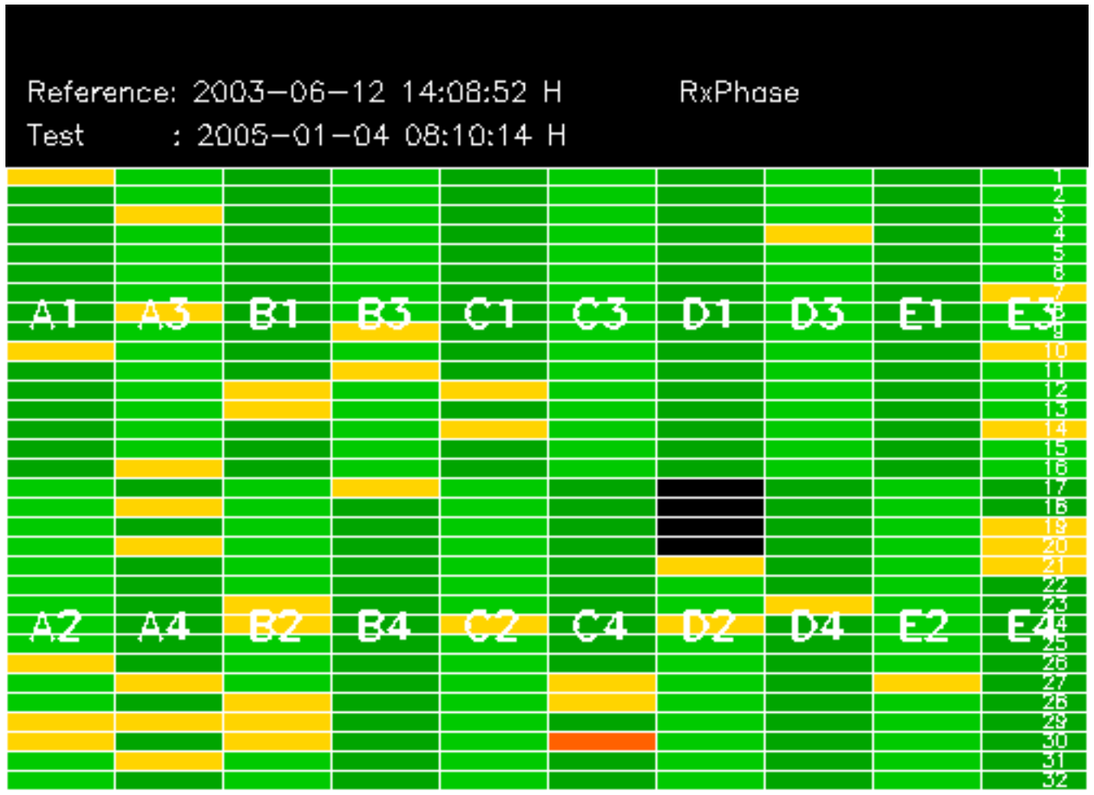

Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2005-01-04 08:10:14 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

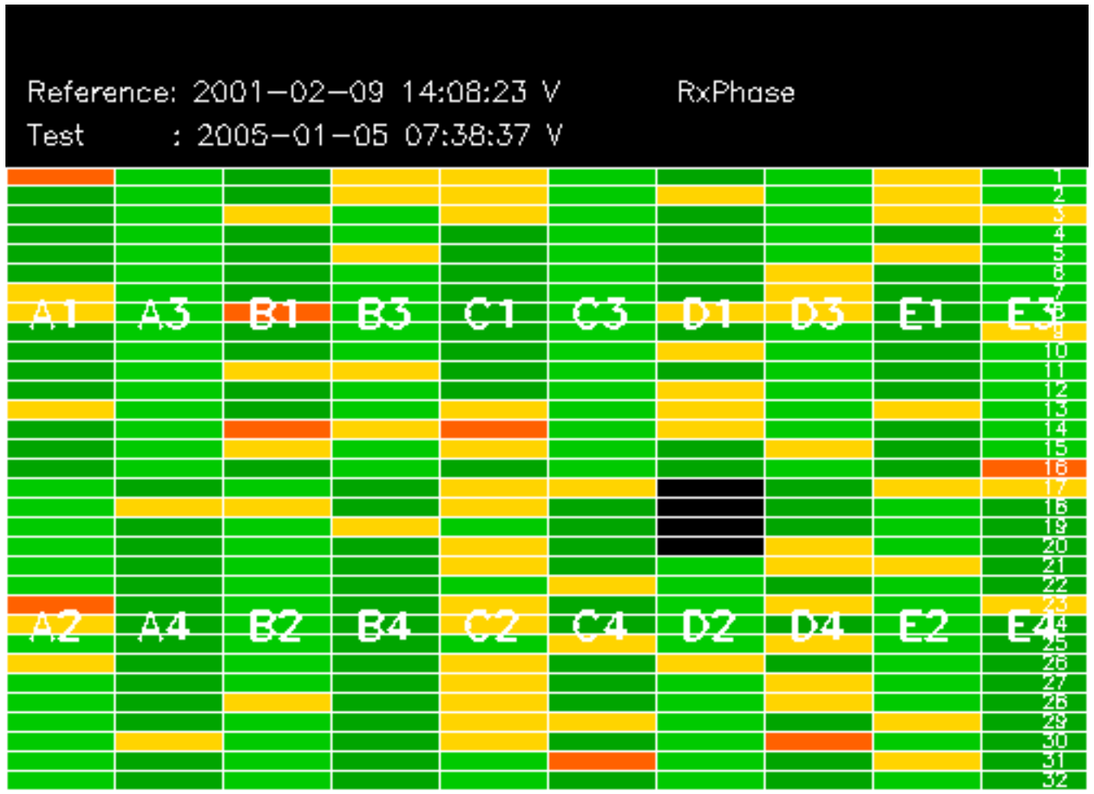

Reference: 2003-06-12 14:08:52 H
RxGain
Test : 2005-01-04 08:10:14 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

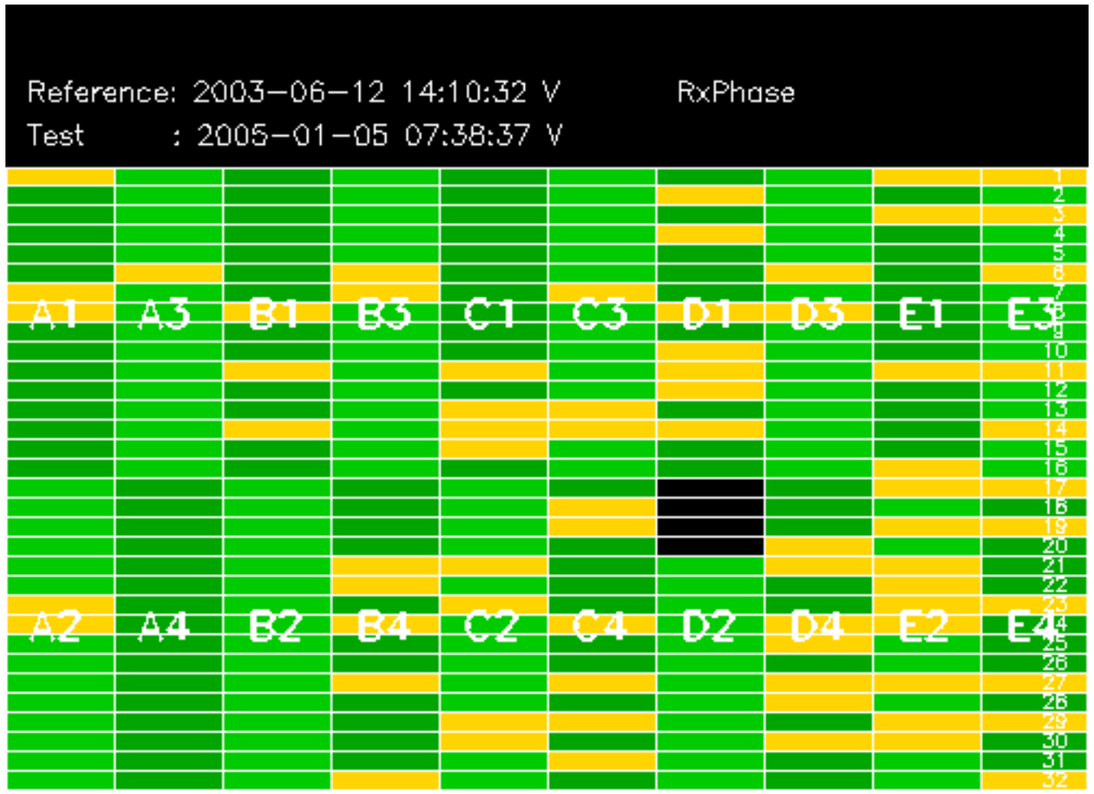

Reference: 2001-02-09 14:08:23 V
RxGain
Test : 2005-01-05 07:38:37 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

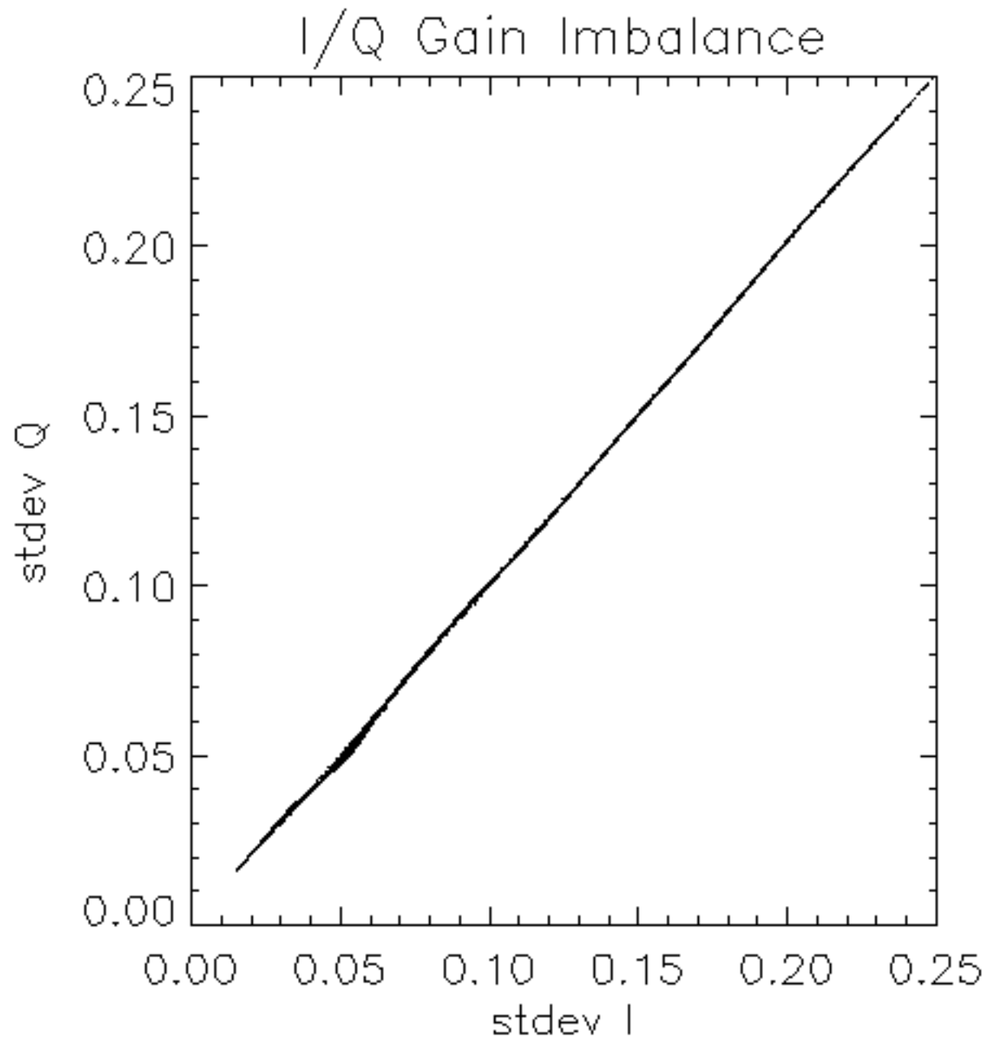

Reference: 2003-06-12 14:10:32 V
RxGain
Test : 2005-01-05 07:38:37 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

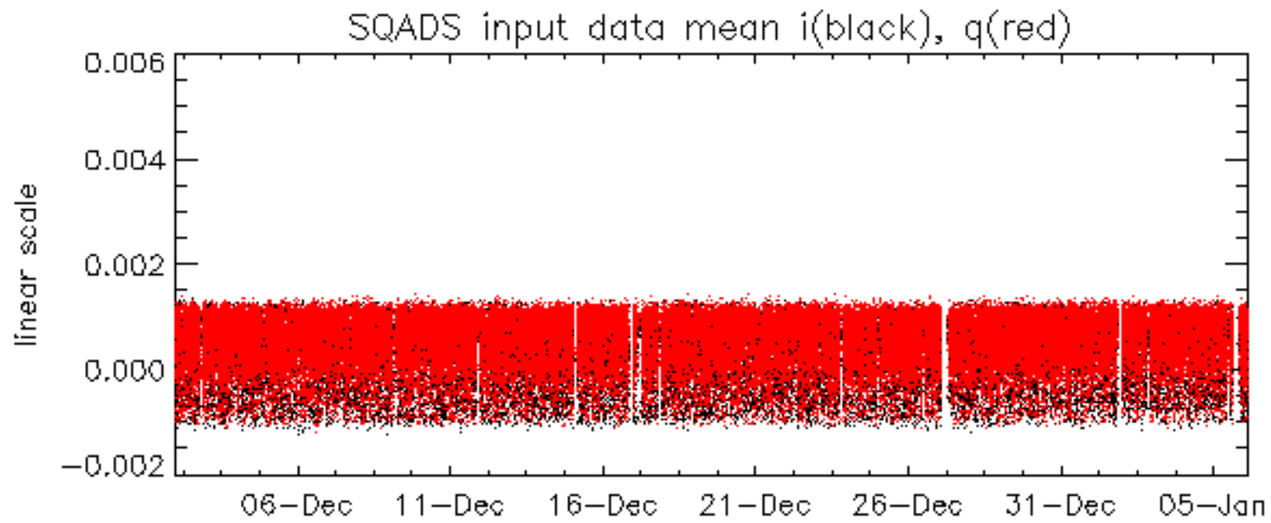

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-01-04 08:10:14 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

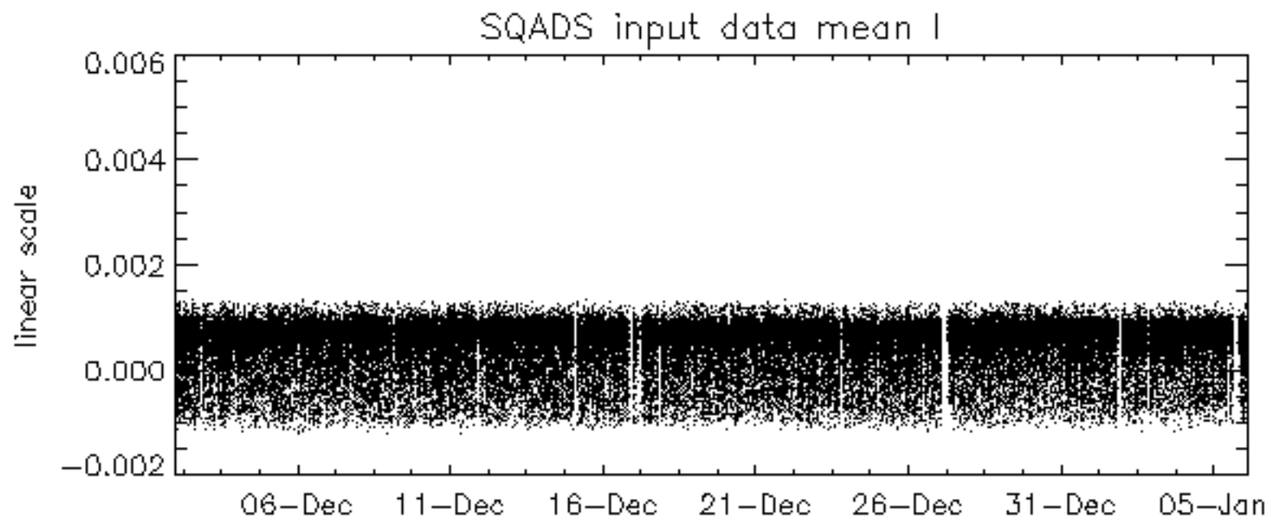

Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2005-01-04 08:10:14 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

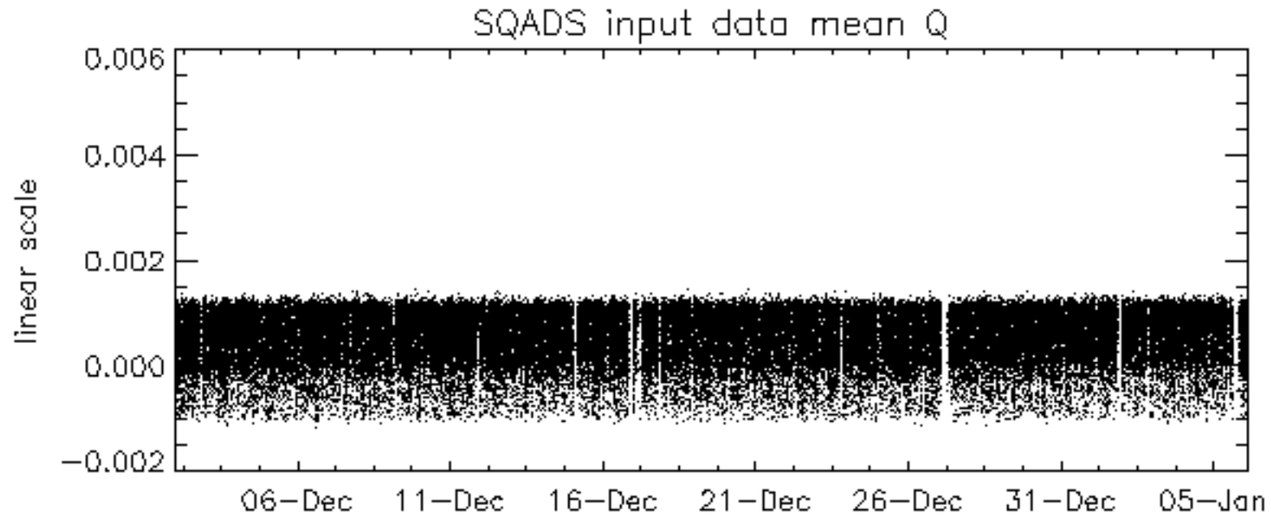

Reference: 2001-02-09 14:08:23 V
RxPhase
Test : 2005-01-05 07:38:37 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

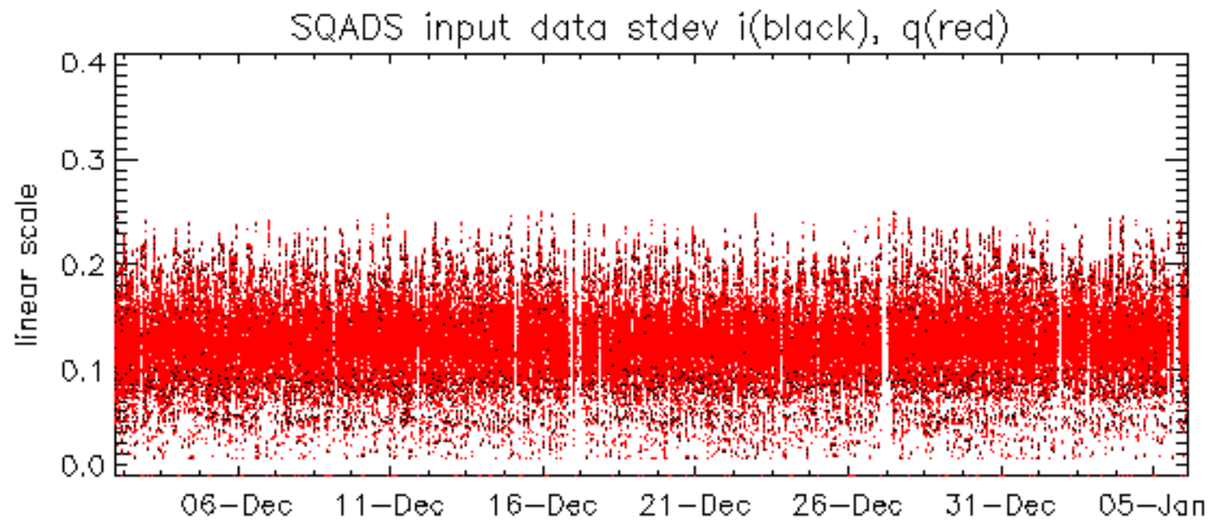

Reference: 2003-06-12 14:10:32 V
RxPhase
Test : 2005-01-05 07:38:37 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

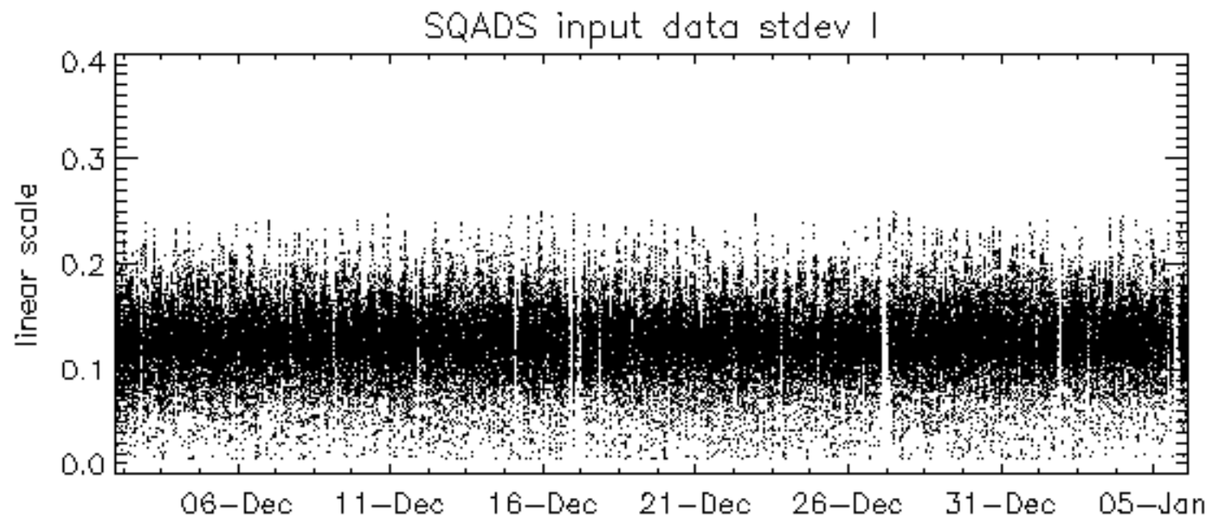

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

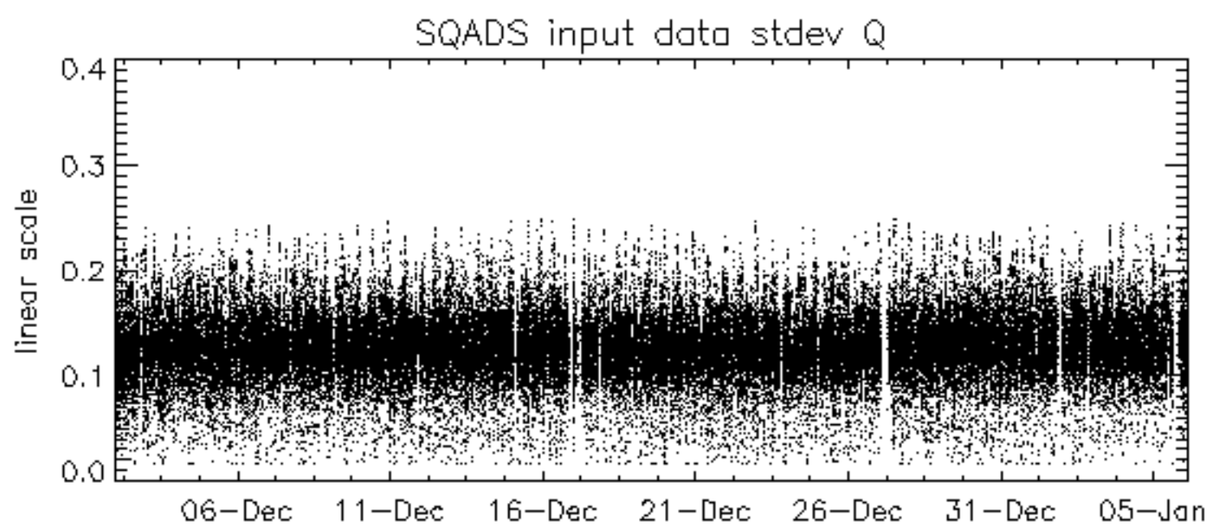

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan

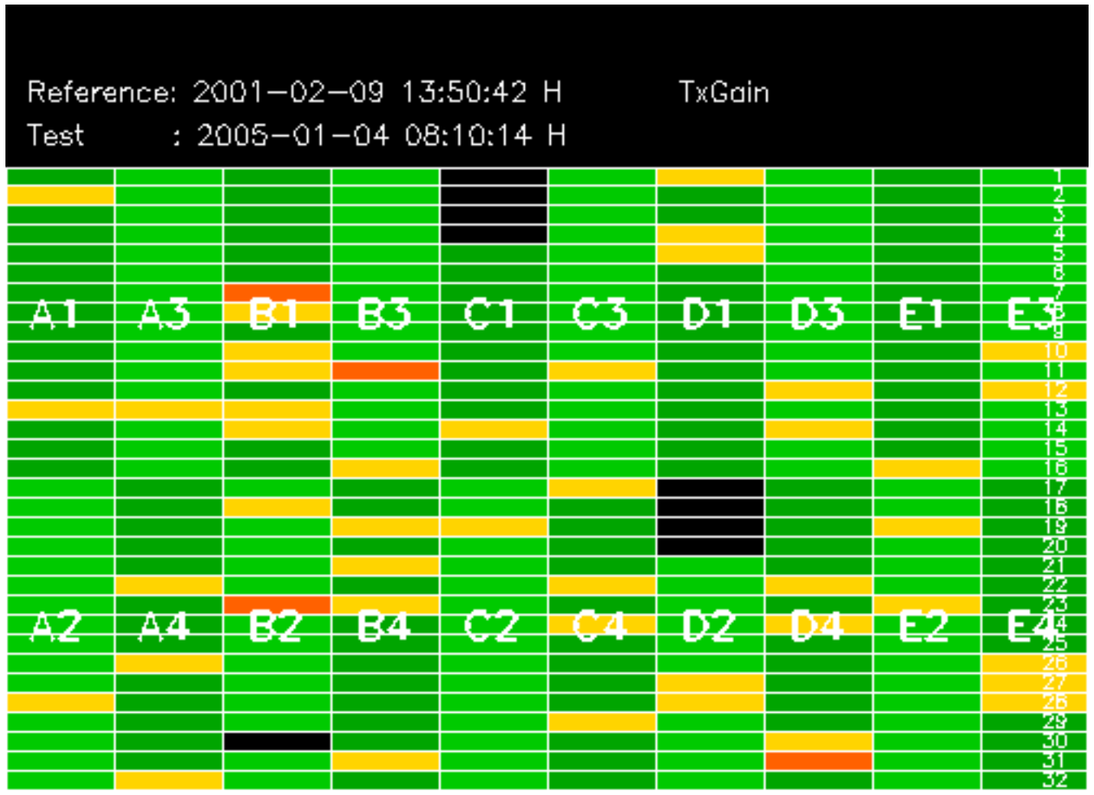

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan

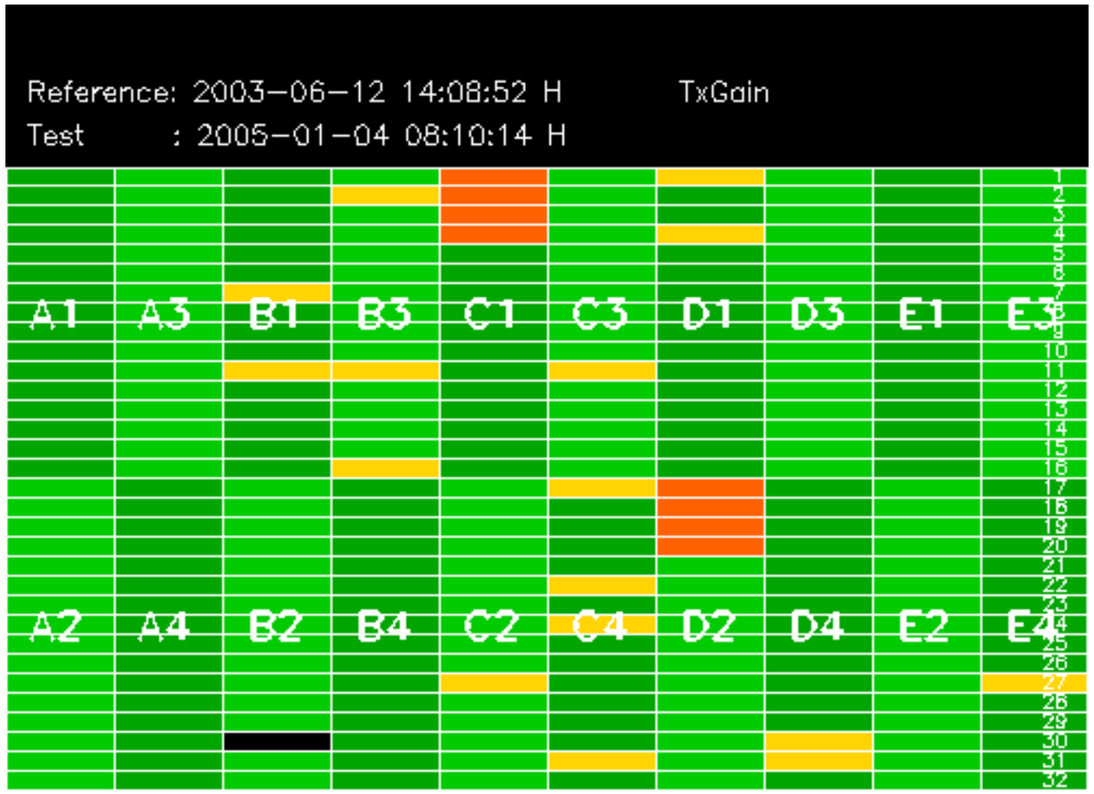

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan


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

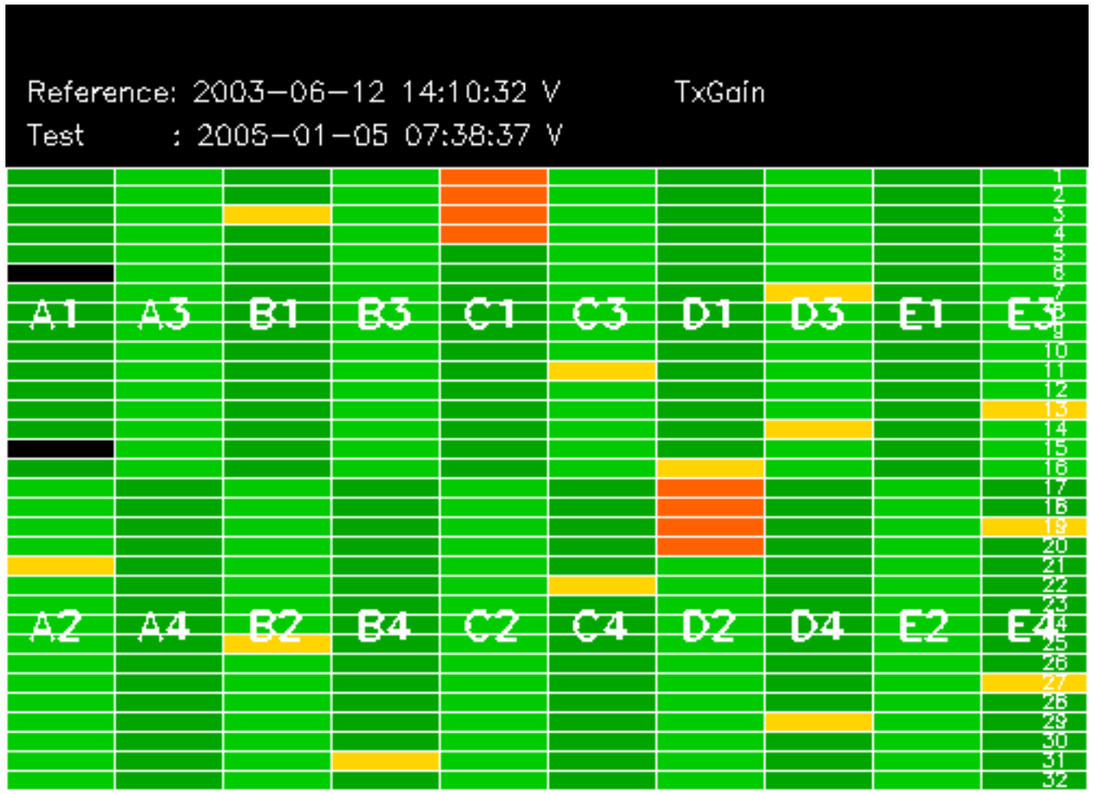

SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
06-Dec
11-Dec
16-Dec
21-Dec
26-Dec
31-Dec
05-Jan

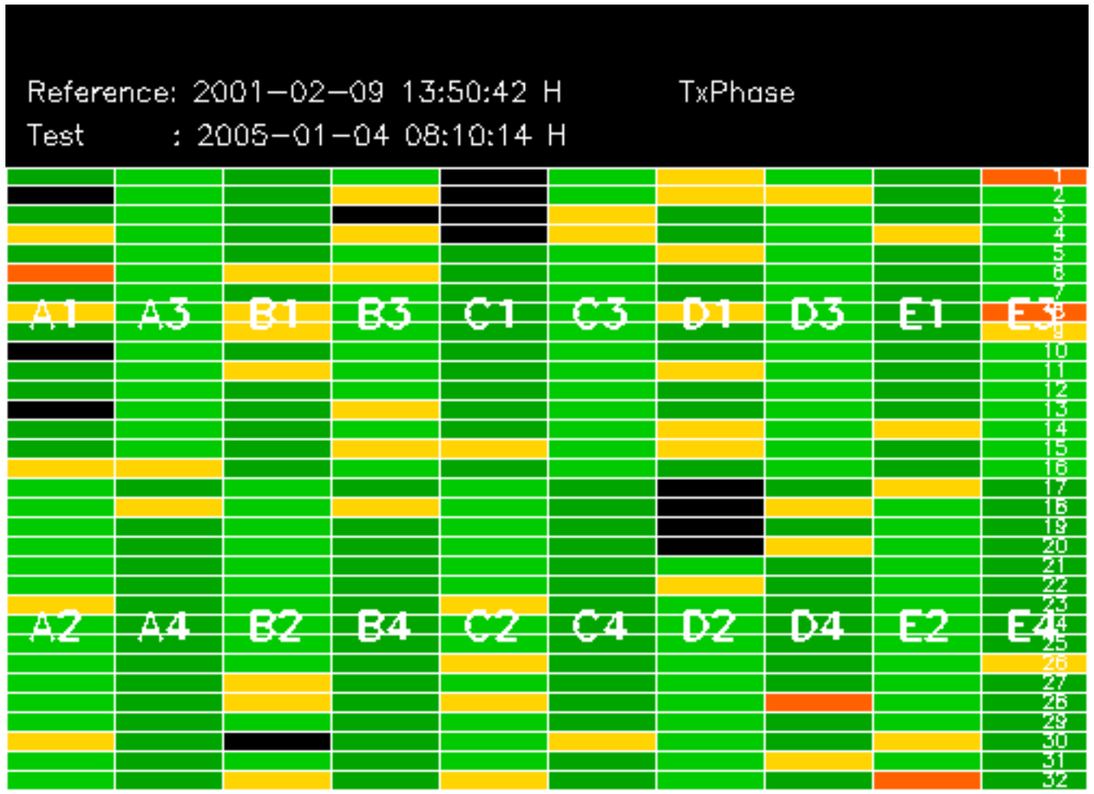

SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
06-Dec
11-Dec
16-Dec
21-Dec
26-Dec
31-Dec
05-Jan

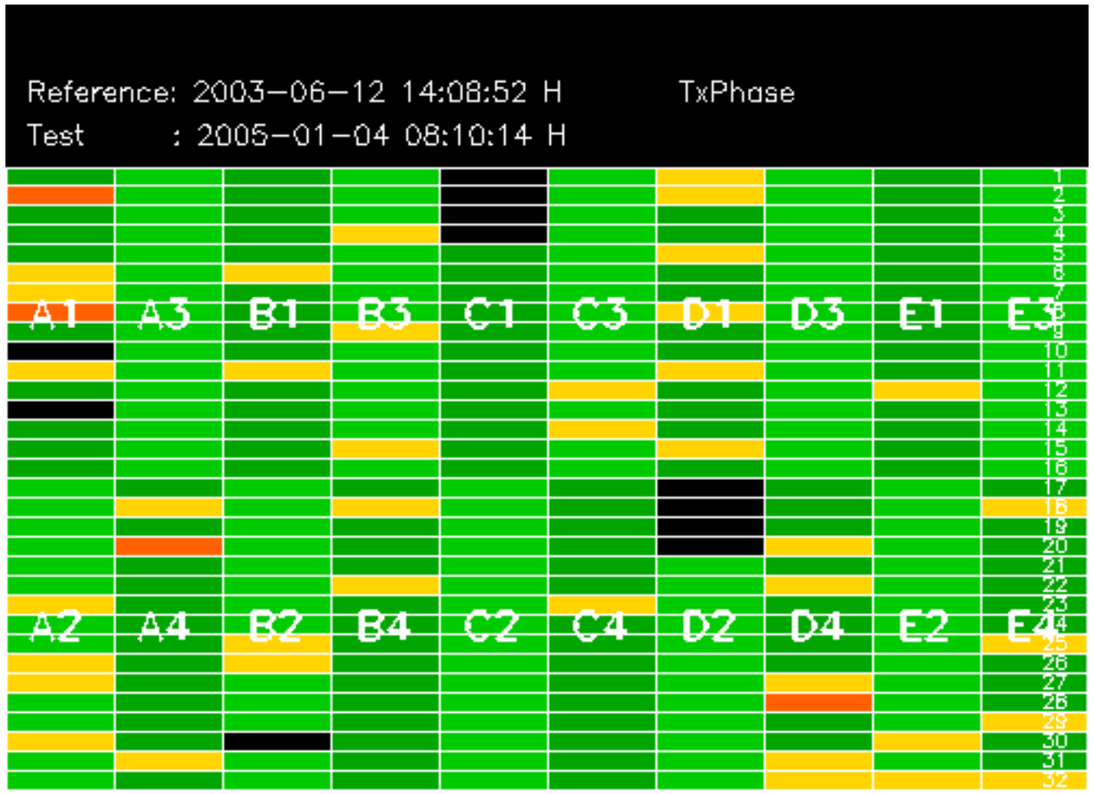

Reference: 2001-02-09 13:50:42 H
TxGain
Test : 2005-01-04 08:10:14 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

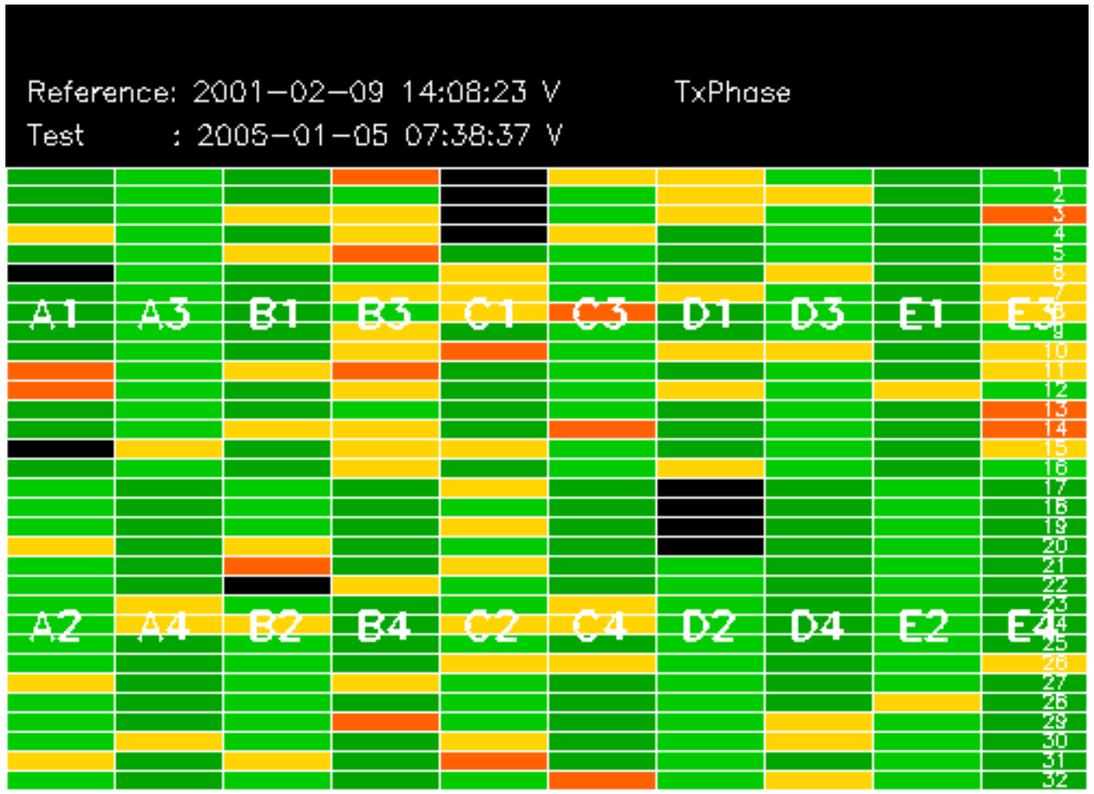

Reference: 2003-06-12 14:08:52 H
TxGain
Test : 2005-01-04 08:10:14 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

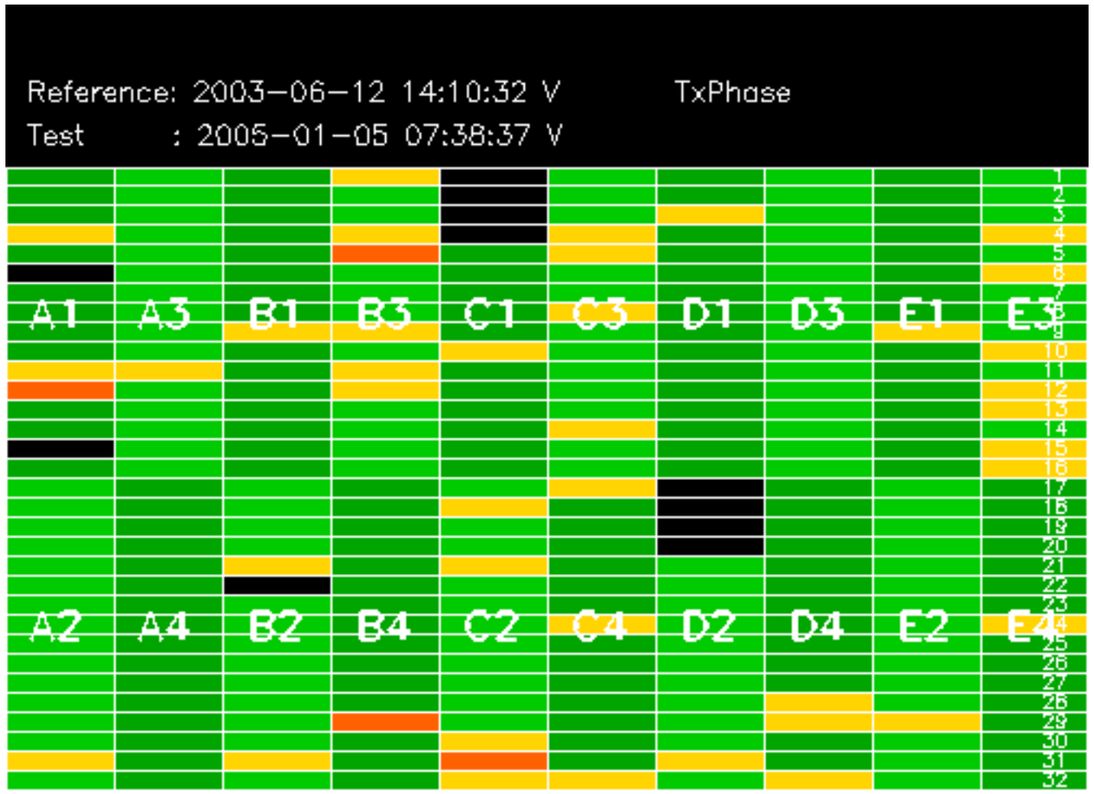

Reference: 2001-02-09 14:08:23 V
TxGain
Test : 2005-01-05 07:38:37 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

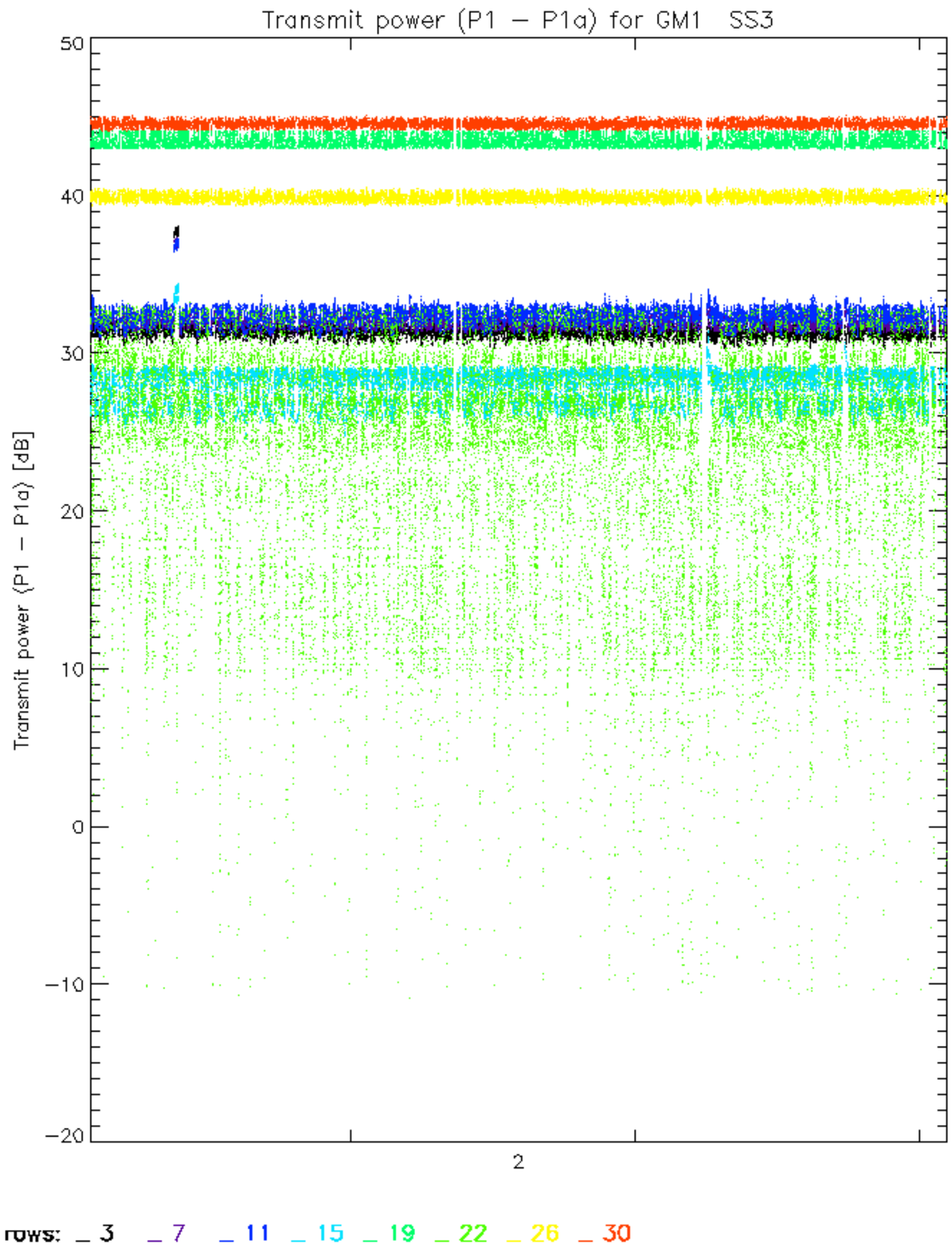

Reference: 2003-06-12 14:10:32 V
TxGain
Test : 2005-01-05 07:38:37 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

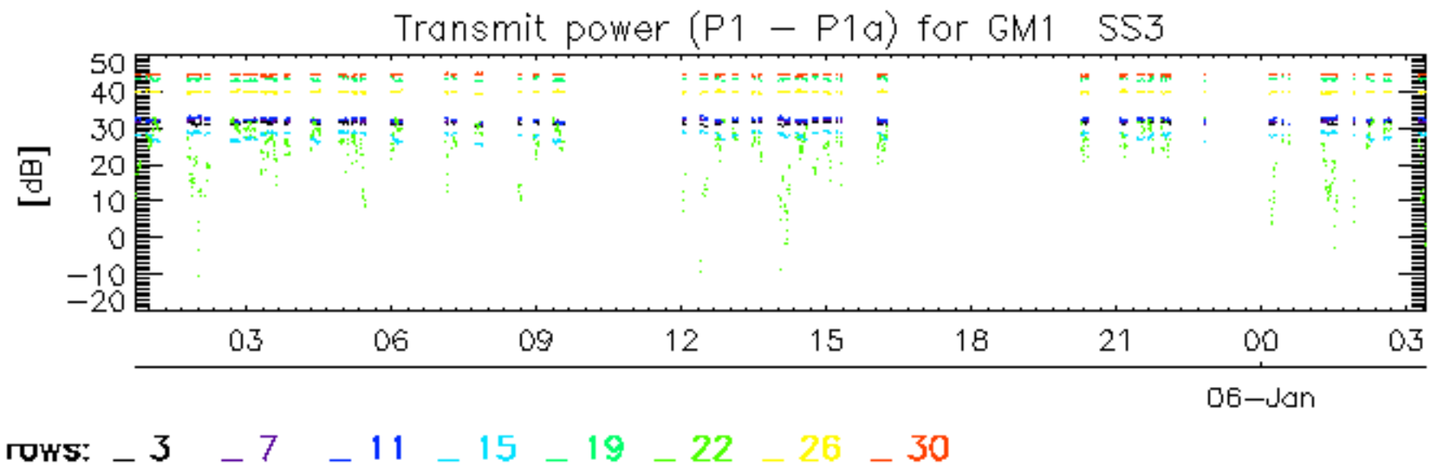

Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2005-01-04 08:10:14 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

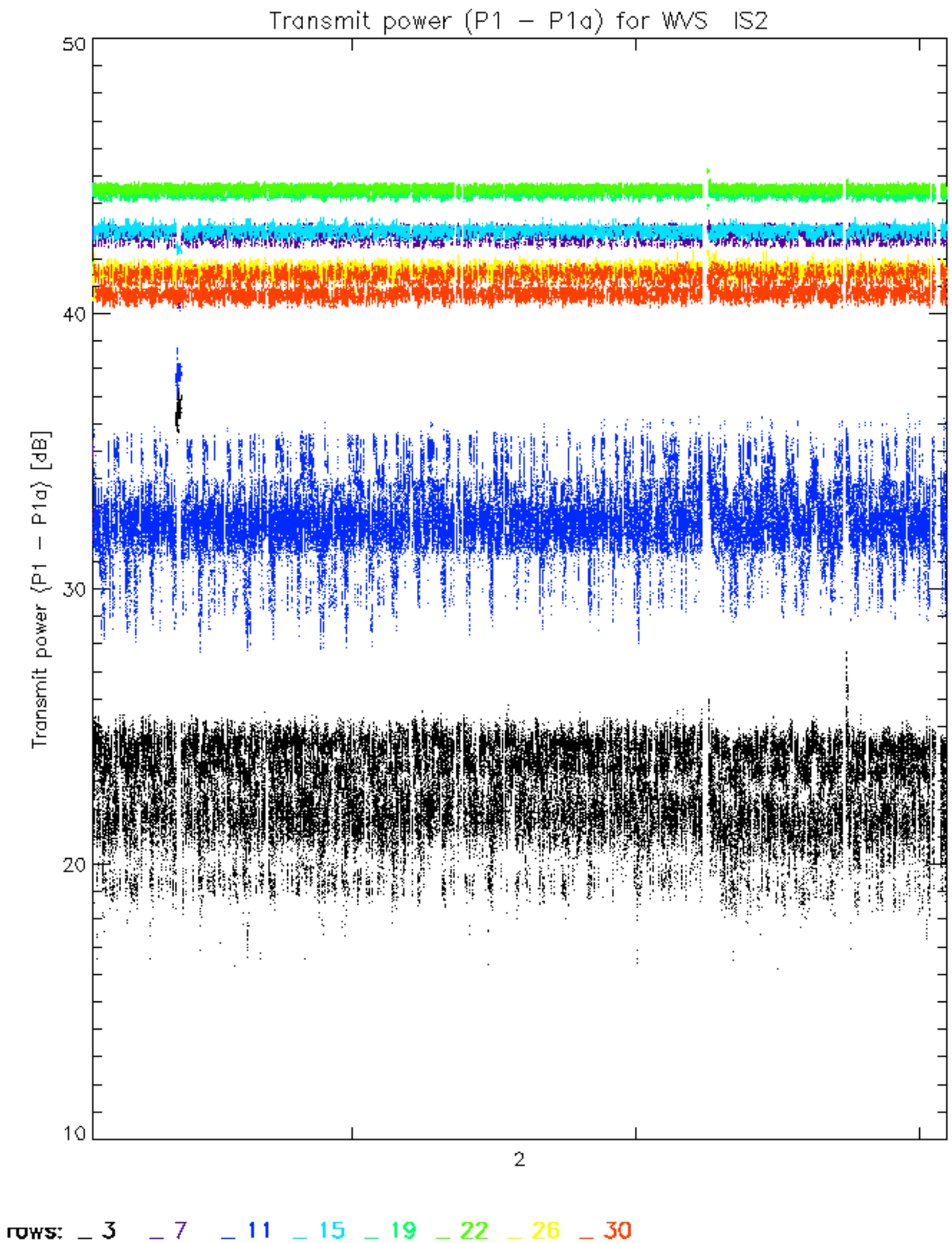

Reference: 2003-06-12 14:08:52 H
TxPhase
Test : 2005-01-04 08:10:14 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

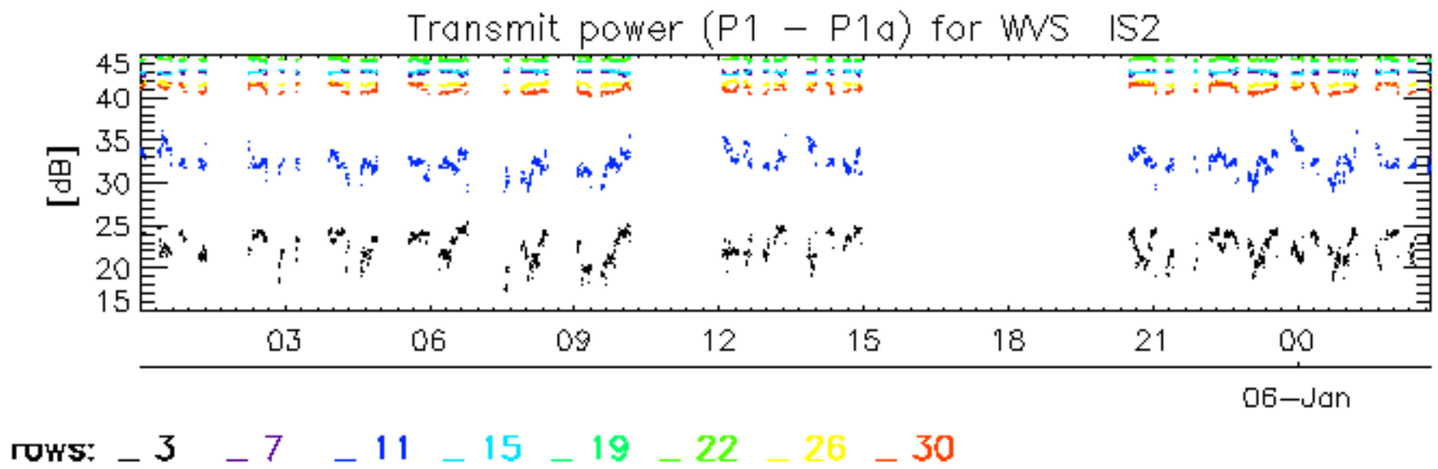

Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2005-01-05 07:38:37 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 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


Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
−20
2
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
06–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
2
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
06–Jan
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.