PRELIMINARY REPORT OF 050107

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

last update on Fri Jan 7 11:01:45 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 2005-01-06 00:00:00 to 2005-01-07 11:01:45

PDHS-K					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	24	48	3	5	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	24	48	3	5	4
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	24	48	3	5	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	24	48	3	5	4

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	37	33	4	6	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	37	33	4	6	4
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	37	33	4	6	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	37	33	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	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	-3.449668	0.029601	0.102241
7	P1	-3.099052	0.024109	0.065818
11	P1	-4.655067	0.045142	0.048269
15	P1	-5.663623	0.038436	0.017297
19	P1	-3.659780	0.005914	-0.004367
22	P1	-4.575244	0.016895	0.023528
26	P1	-4.941044	0.024736	0.042196
30	P1	-7.121893	0.013531	-0.021648
3	P1	-15.939310	0.108502	0.032925
7	P1	-15.506783	0.159183	-0.050459
11	P1	-20.758617	0.539437	-0.315294
15	P1	-11.614061	0.096980	-0.018401
19	P1	-14.169297	0.032652	-0.013731
22	P1	-16.062809	0.456399	0.195087
26	P1	-17.734875	0.253046	0.144175
30	P1	-17.872696	0.306207	0.107307

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.339039	0.087088	0.096341
7	P2	-22.545717	0.169255	0.103905
11	P2	-14.846263	0.179669	0.156920
15	P2	-7.157764	0.116876	0.077507
19	P2	-9.732334	0.206902	0.096604
22	P2	-17.151878	0.099973	0.111816
26	P2	-16.532913	0.114774	0.069085

30	P2	-18.959332	0.083399	0.040123

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.209900	0.007083	0.026244
7	P3	-8.209889	0.007084	0.026176
11	P3	-8.209830	0.007082	0.025867
15	P3	-8.209859	0.007082	0.026022
19	P3	-8.209860	0.007081	0.026071
22	P3	-8.209825	0.007083	0.025850
26	P3	-8.209825	0.007082	0.025867
30	P3	-8.210004	0.007077	0.024952

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	-2.850824	0.107588	0.143171
7	P1	-2.978575	0.062715	0.110833
11	P1	-3.952220	0.047867	0.049892
15	P1	-3.522599	0.077359	0.100614
19	P1	-3.610536	0.012923	0.001552
22	P1	-5.625350	0.069186	-0.021057
26	P1	-6.525649	0.024098	-0.036321
30	P1	-6.300232	0.044709	0.028867
3	P1	-10.747335	0.055782	-0.143403
7	P1	-10.132121	0.158216	-0.093785
11	P1	-12.450221	0.198249	-0.241973

15	P1	-11.727881	0.095318	-0.086752
19	P1	-15.646313	0.047972	0.000657
22	P1	-24.125486	2.009996	0.107132
26	P1	-14.983708	0.381792	0.299253
30	P1	-20.119181	0.919747	0.140845

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.016541	0.036478	0.077037
7	P2	-22.588192	0.033506	0.125279
11	P2	-10.641041	0.036219	0.198441
15	P2	-5.056759	0.025156	0.042329
19	P2	-6.954999	0.036301	0.063391
22	P2	-7.287532	0.028250	0.092117
26	P2	-23.958906	0.018885	0.043476
30	P2	-22.006714	0.023238	0.075743

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.041569	0.002899	0.021043
7	P3	-8.041623	0.002906	0.020947
11	P3	-8.041575	0.002901	0.020930
15	P3	-8.041707	0.002903	0.020636
19	P3	-8.041619	0.002912	0.021078
22	P3	-8.041650	0.002904	0.020961
26	P3	-8.041587	0.002906	0.021311
30	P3	-8.041564	0.002894	0.020884

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	0.000458565
	stdev	2.27799e-07
MEAN Q	mean	0.000529555
	stdev	2.40157e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127625
	stdev	0.000975458
STDEV Q	mean	0.127860
	stdev	0.000985425

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

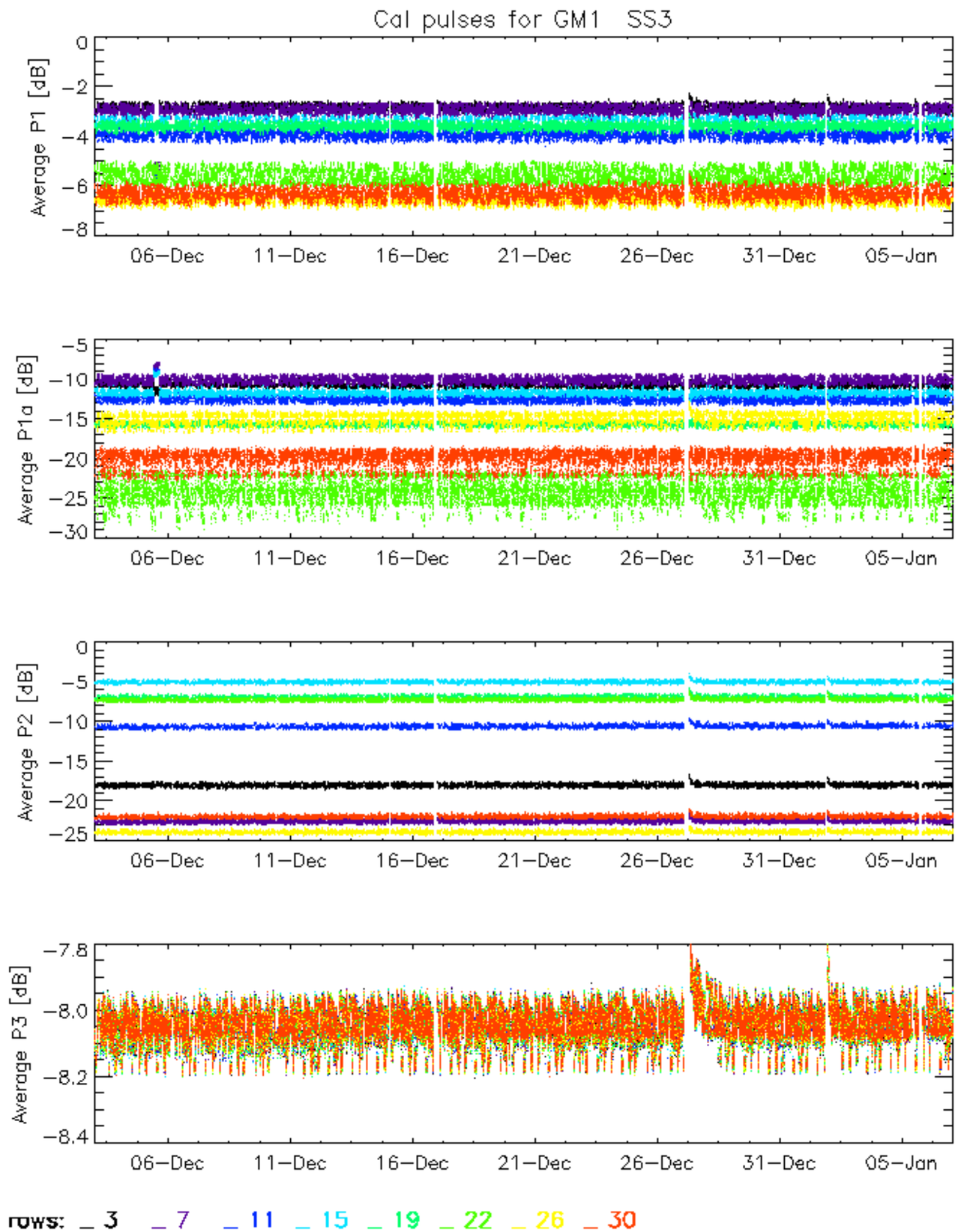
Evolution of Absolute Doppler

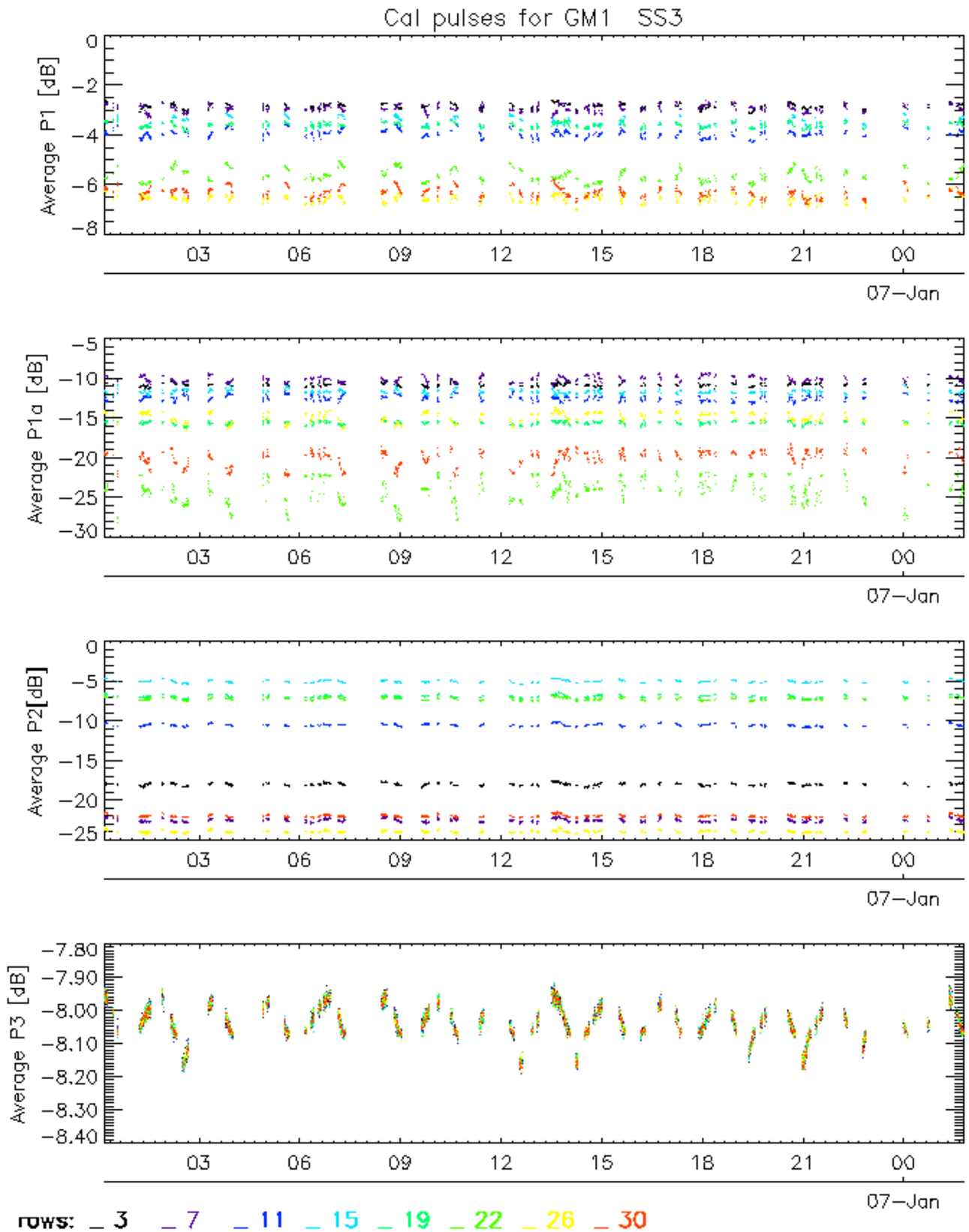
Acsending

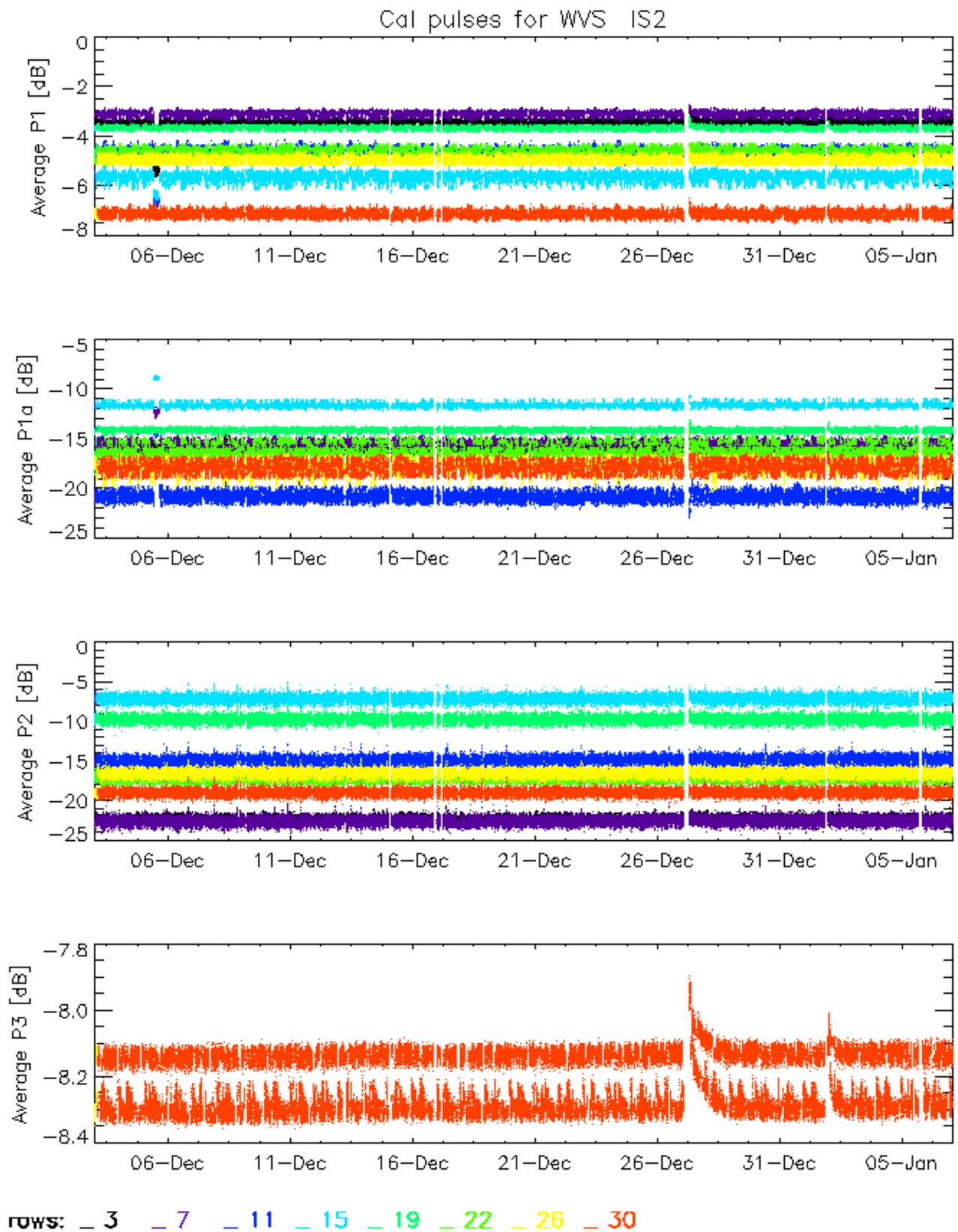
Descending

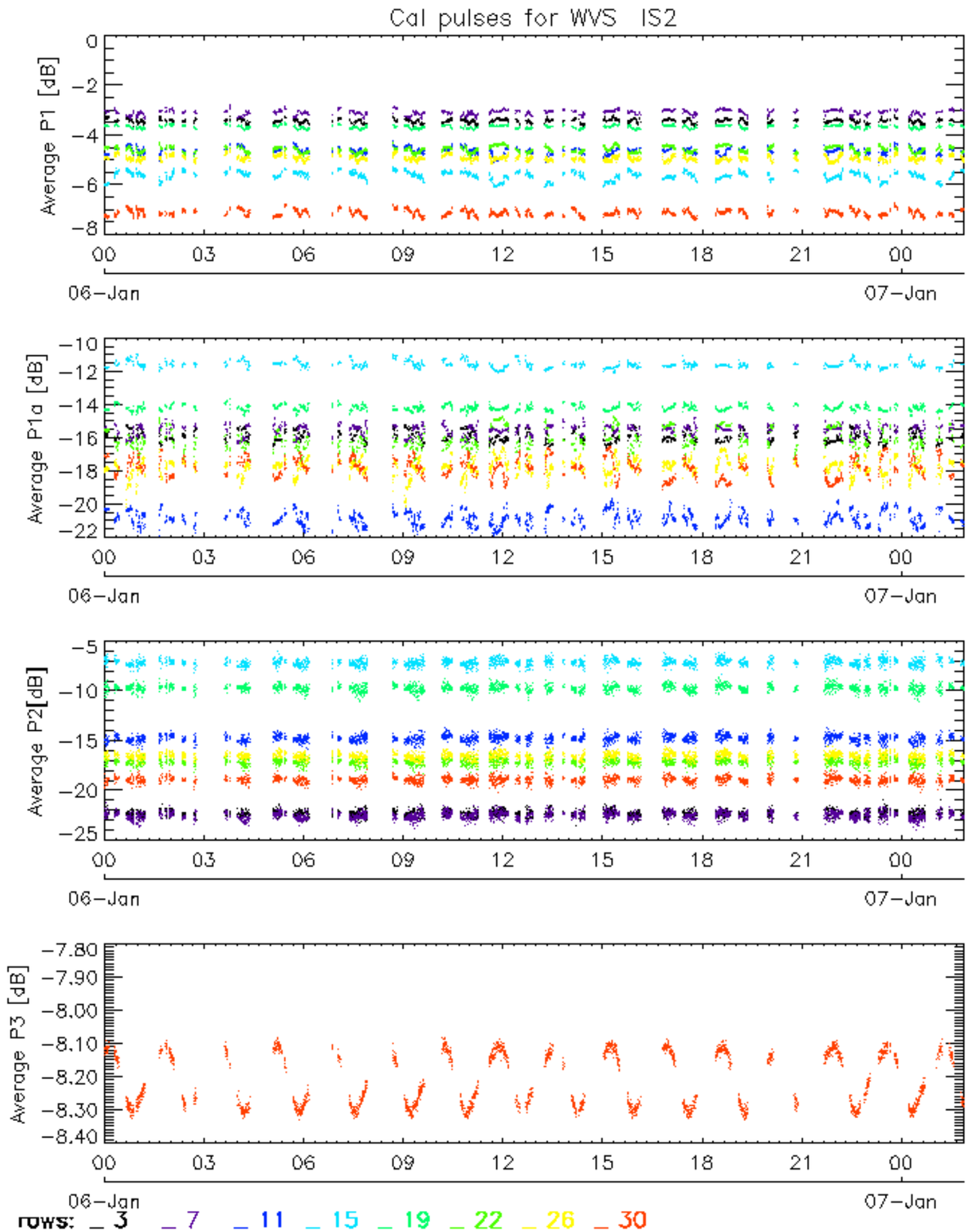
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

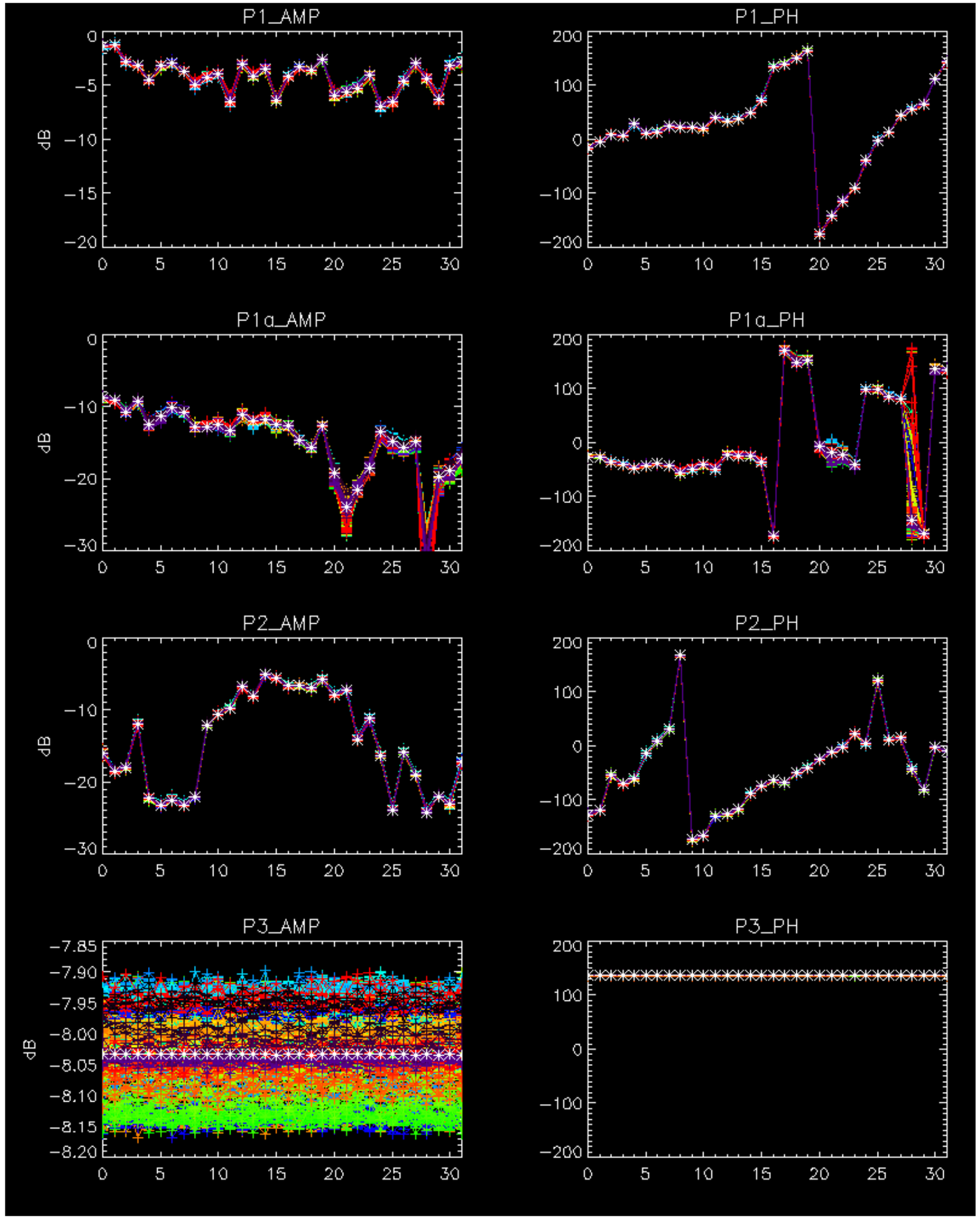

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: 3 7 11 15 19 22 26 30

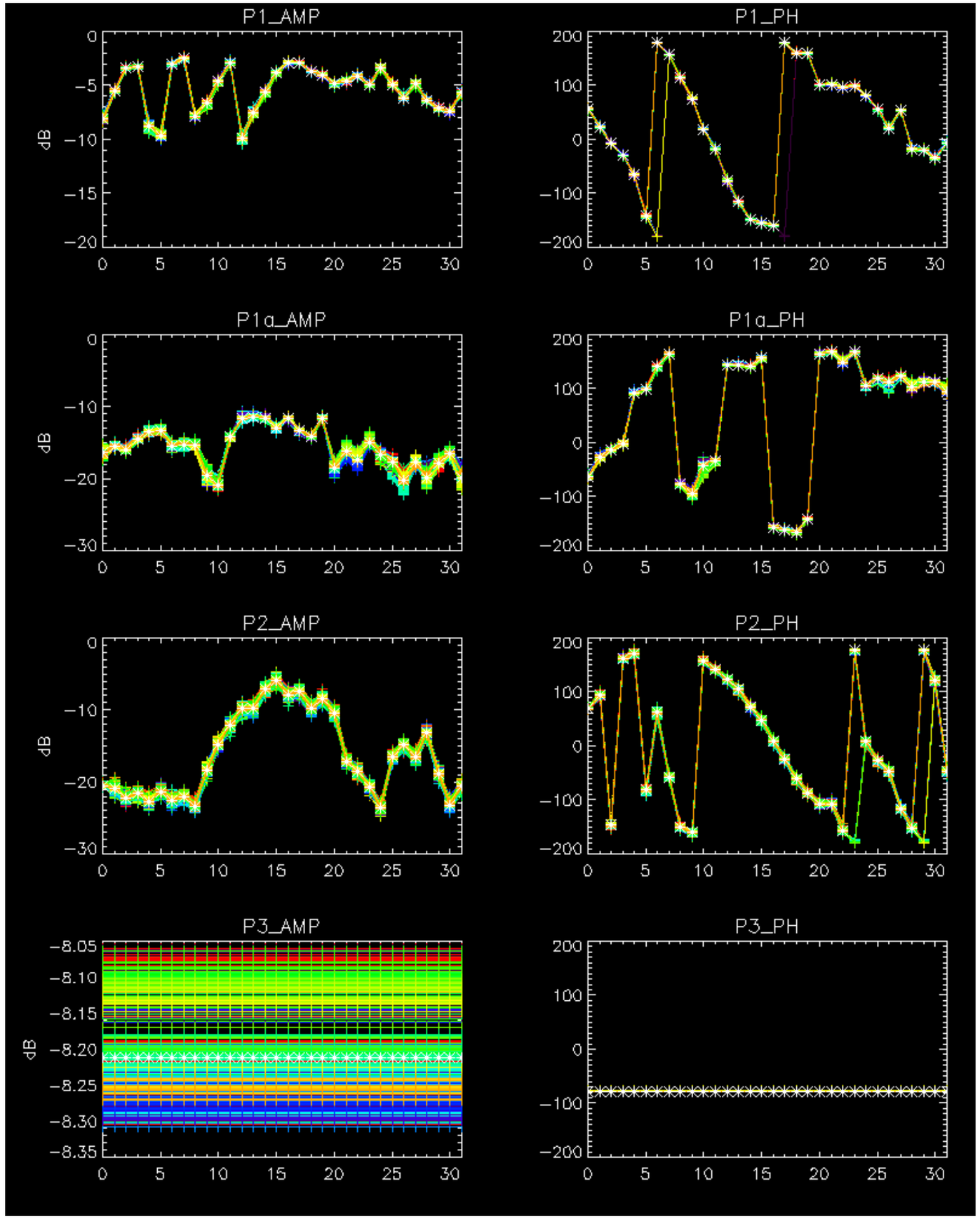

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
07−Jan
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: 3 7 11 15 19 22 26 30


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

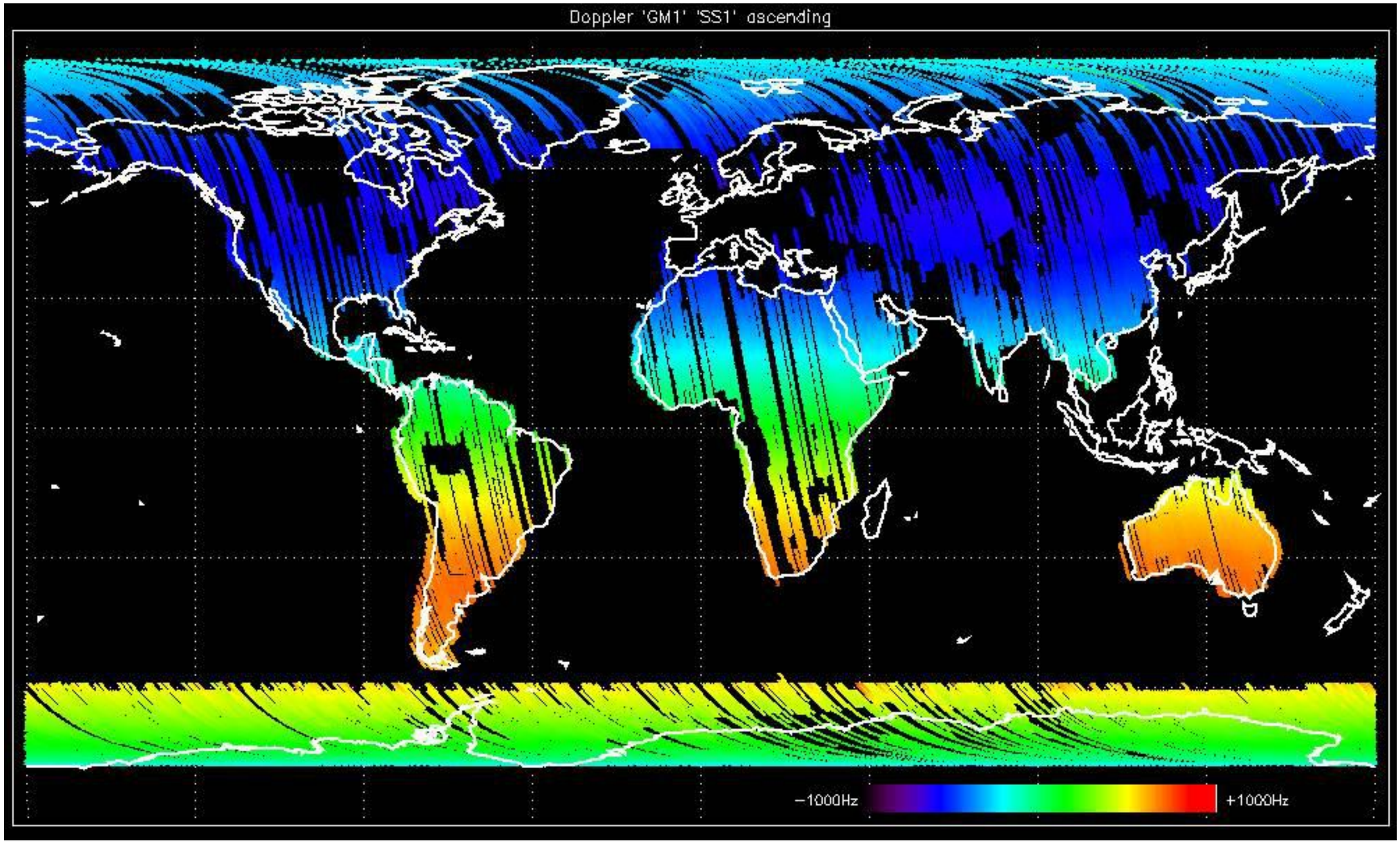

Cal pulses for WVS IS2
Average P1 [dB]
Average P1a [dB]
Average P2[dB]
Average P3 [dB]
00
03
06
09
12
15
18
21
06-Jan
07-Jan
rows: 3 7 11 15 19 22 26 30

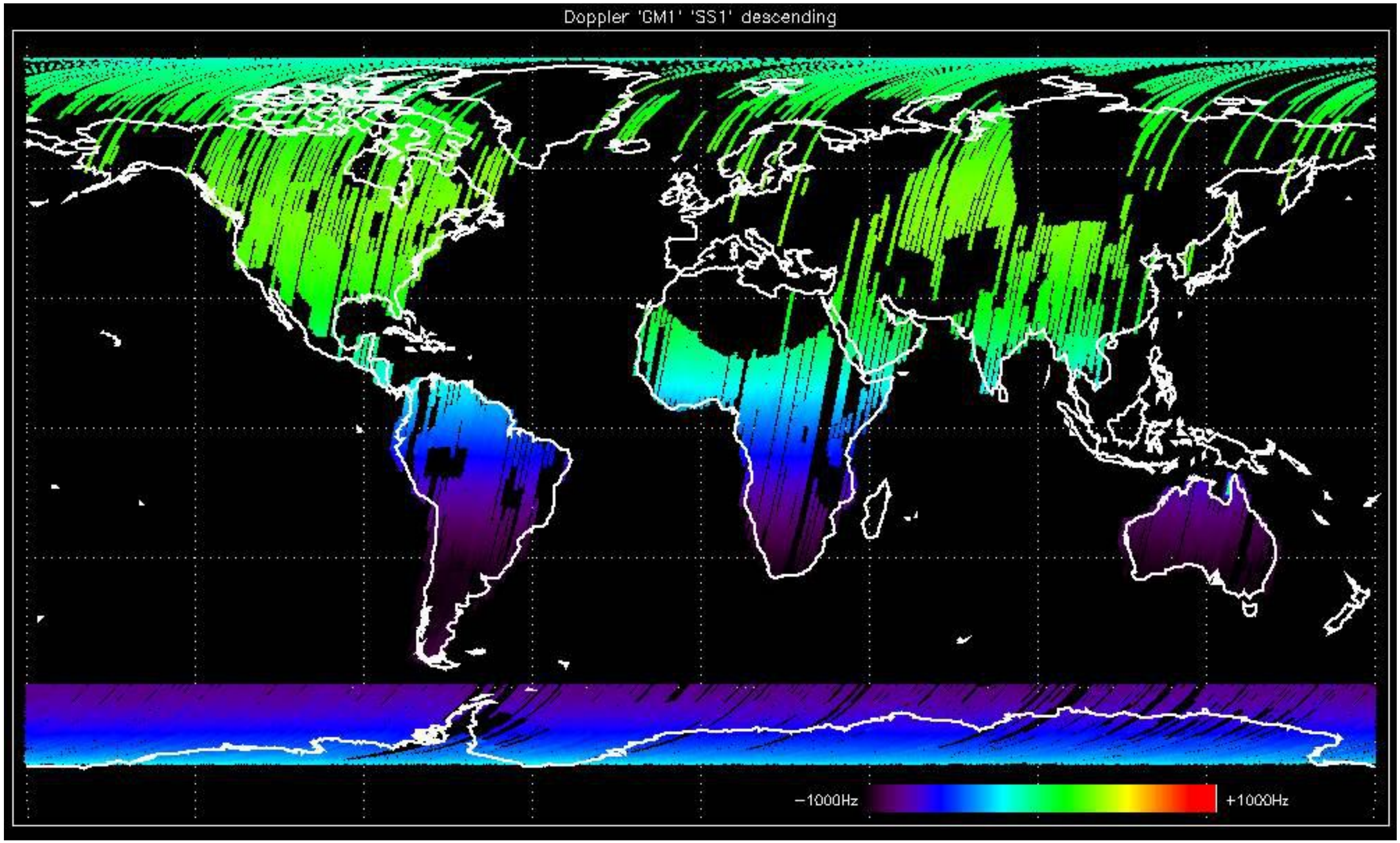
No anomalies observed.

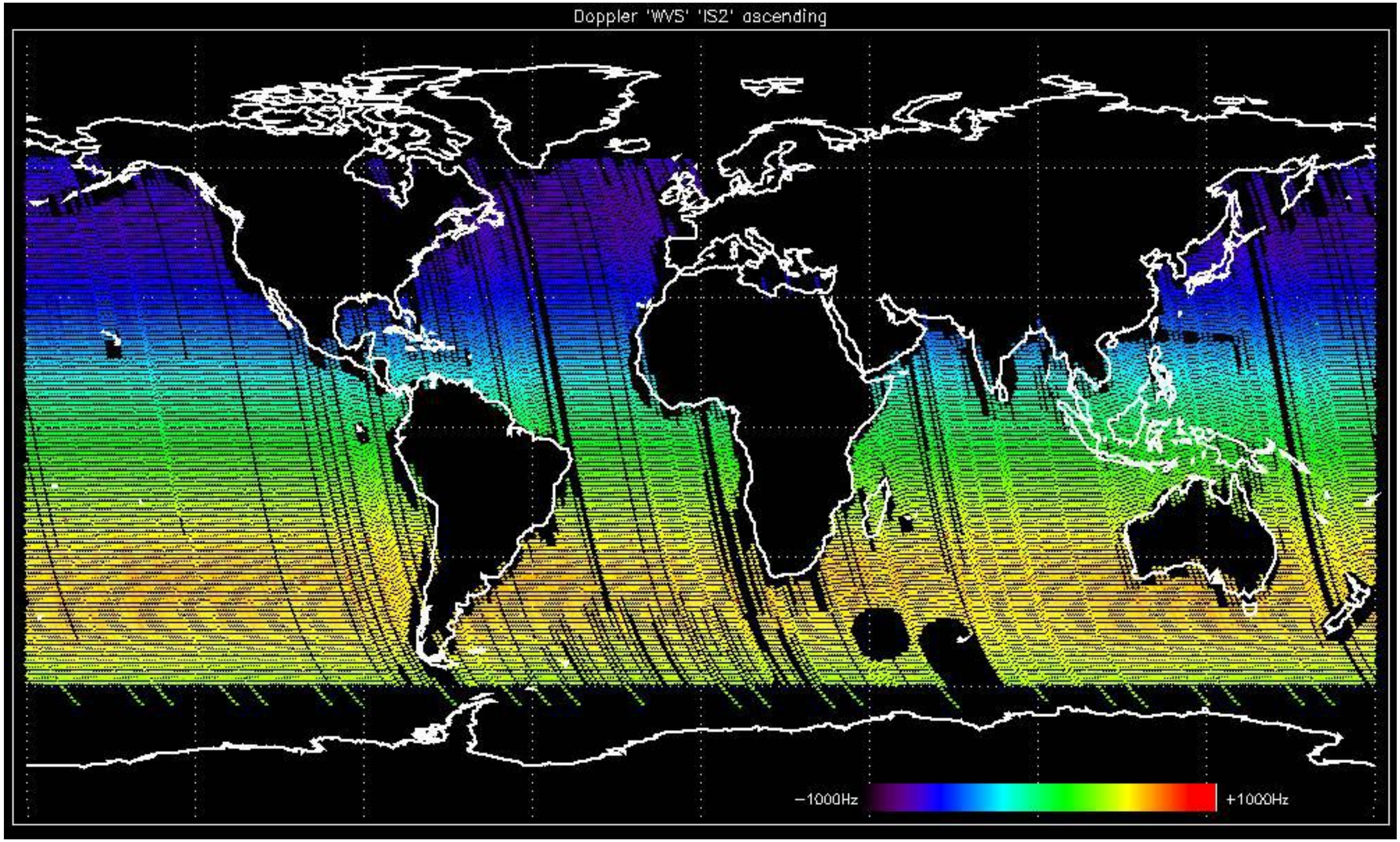

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

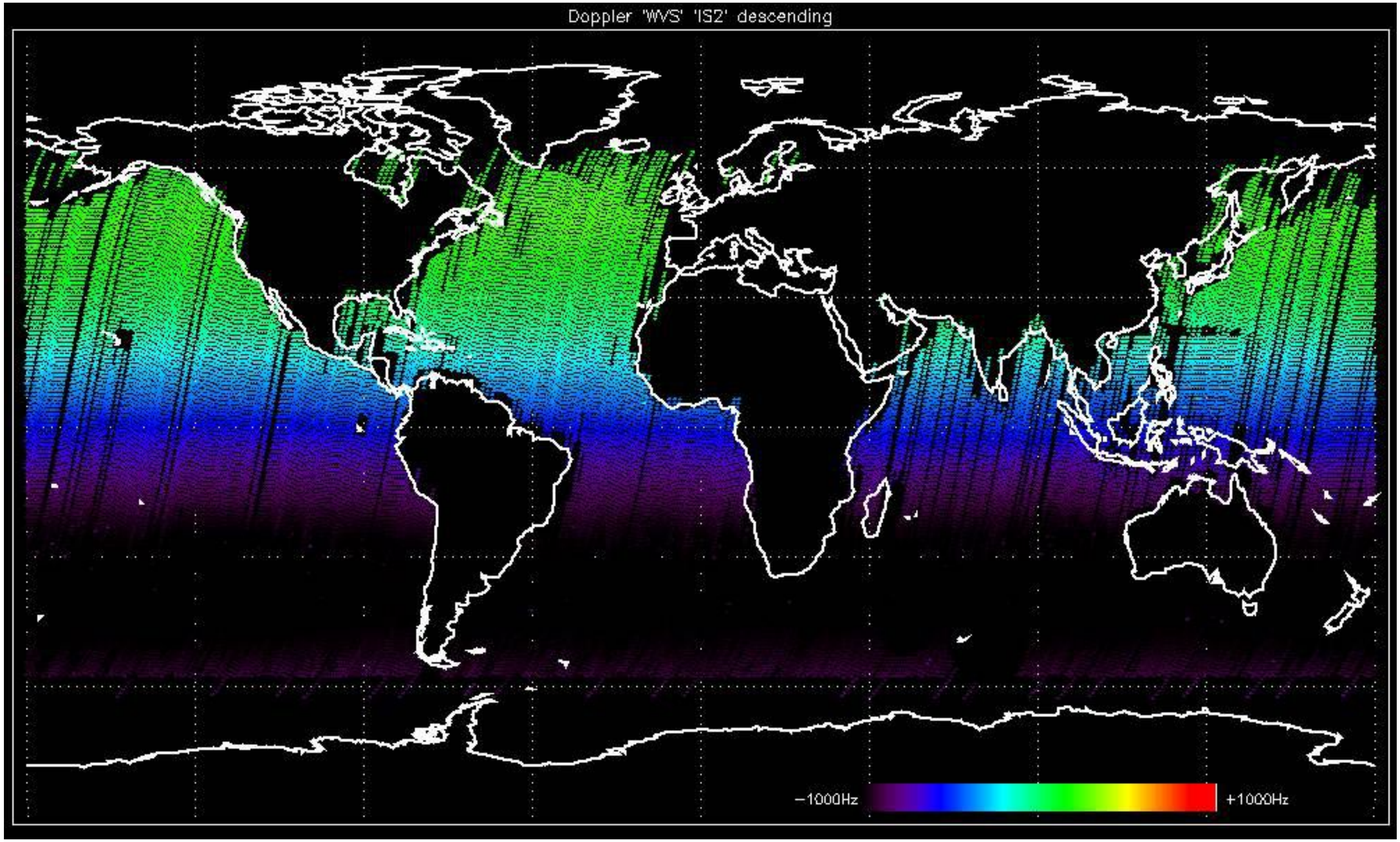

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

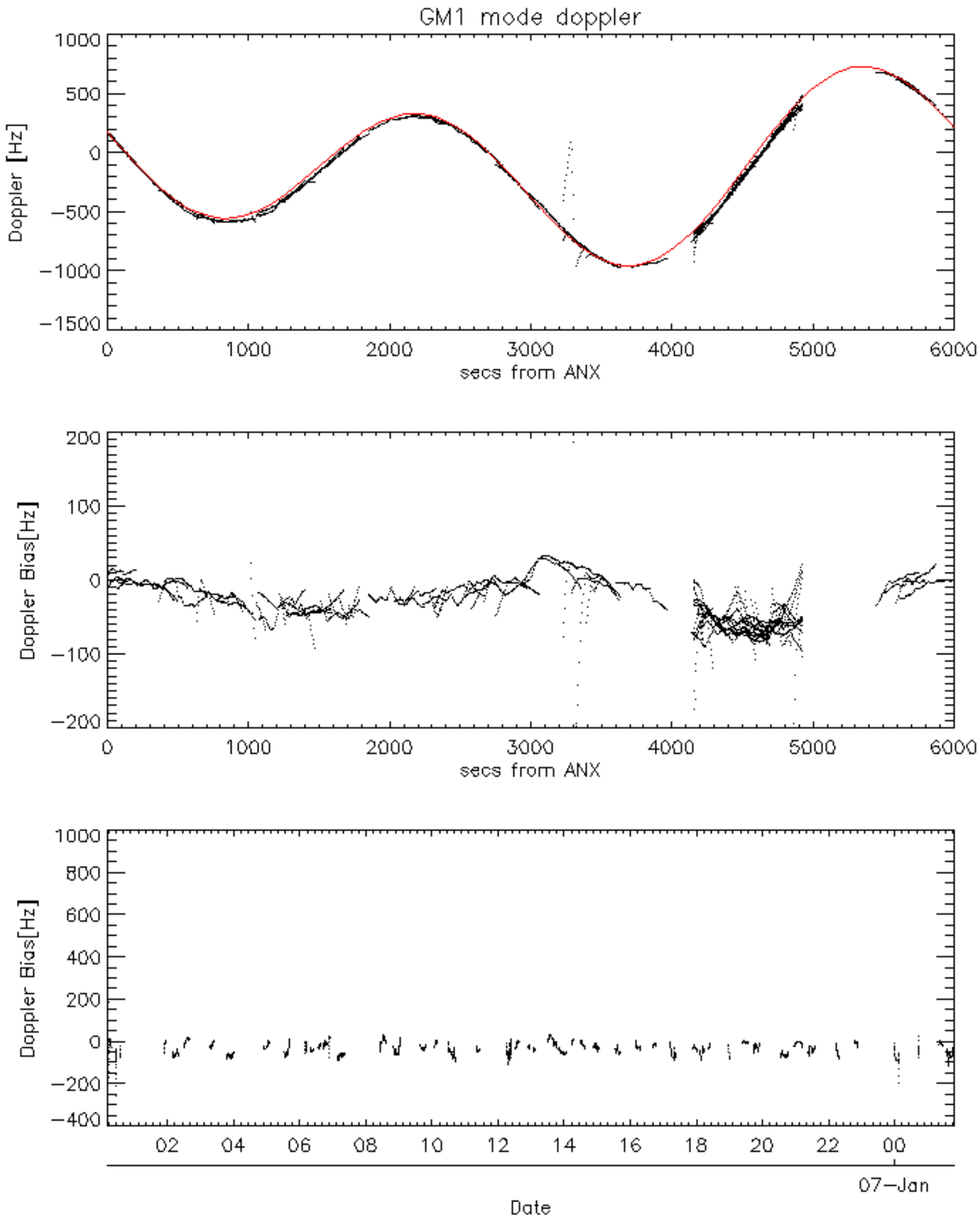
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

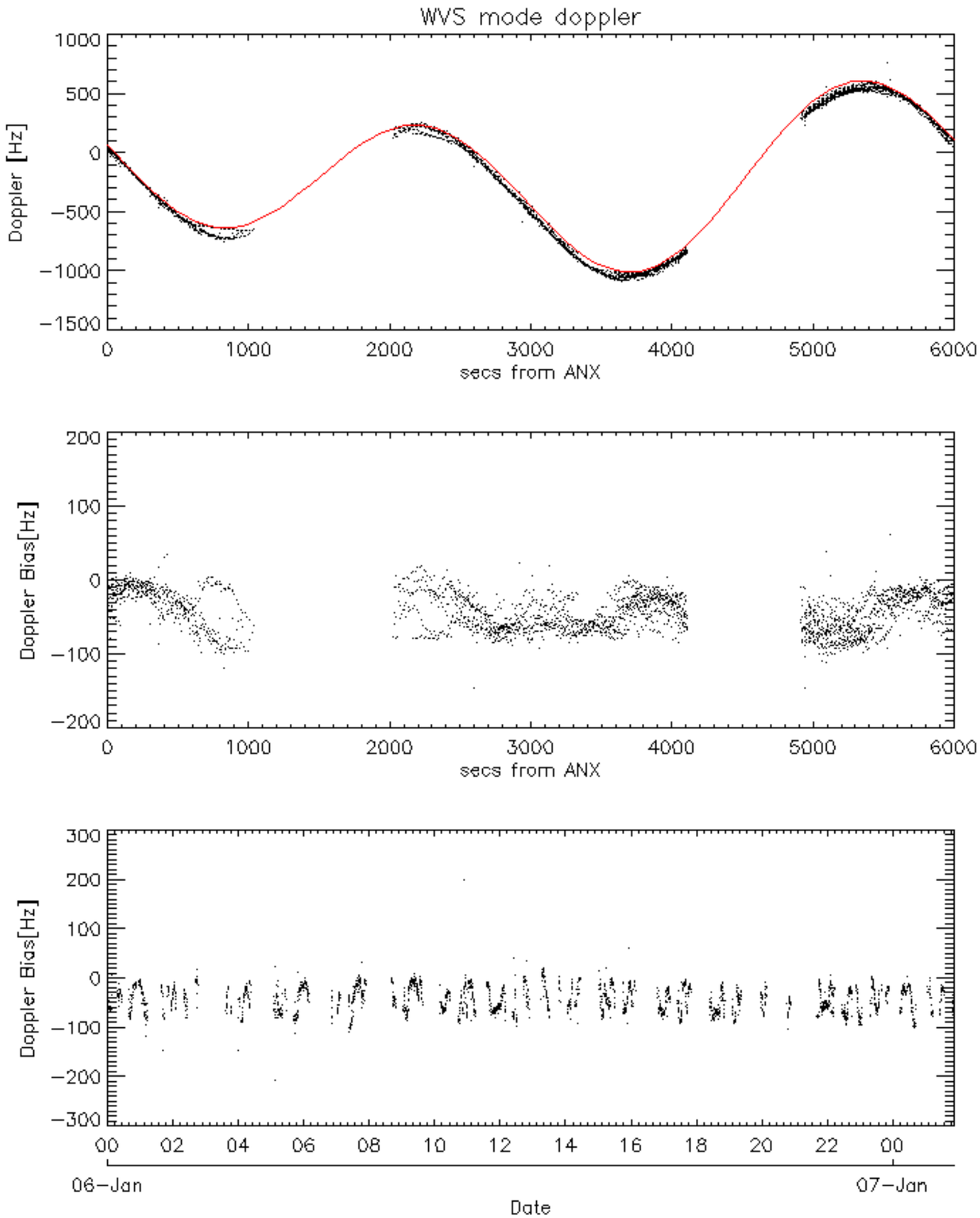

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

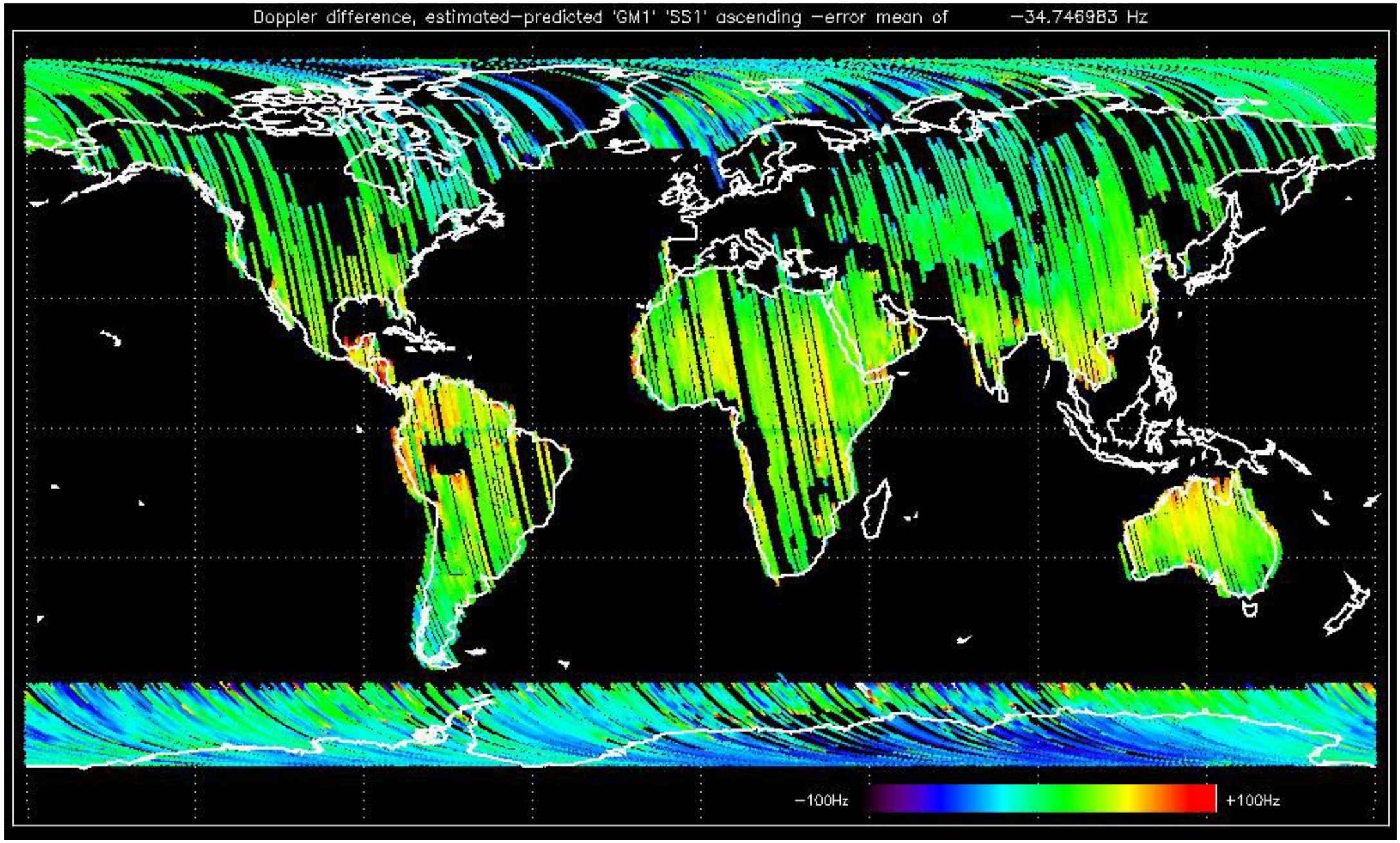

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

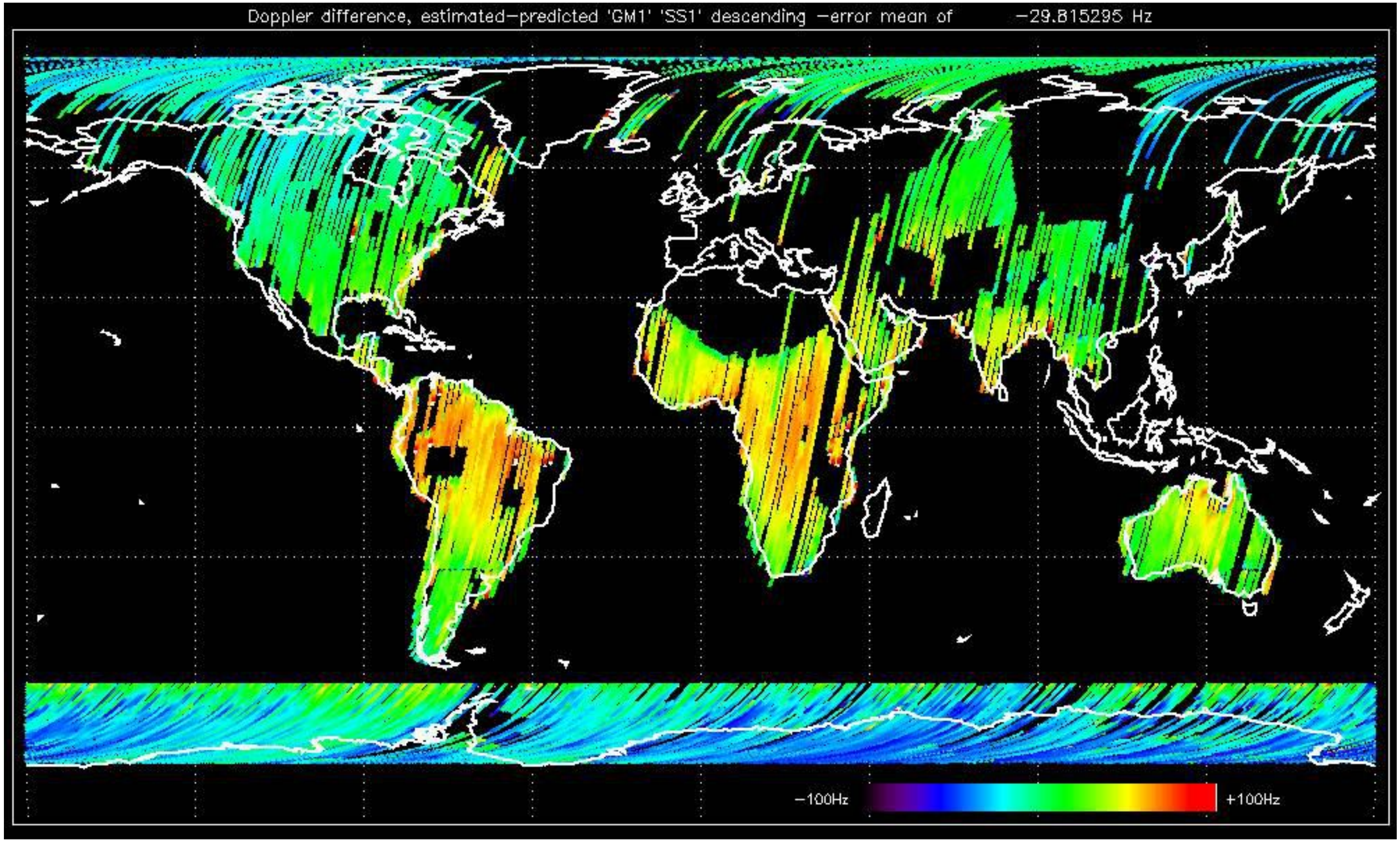

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

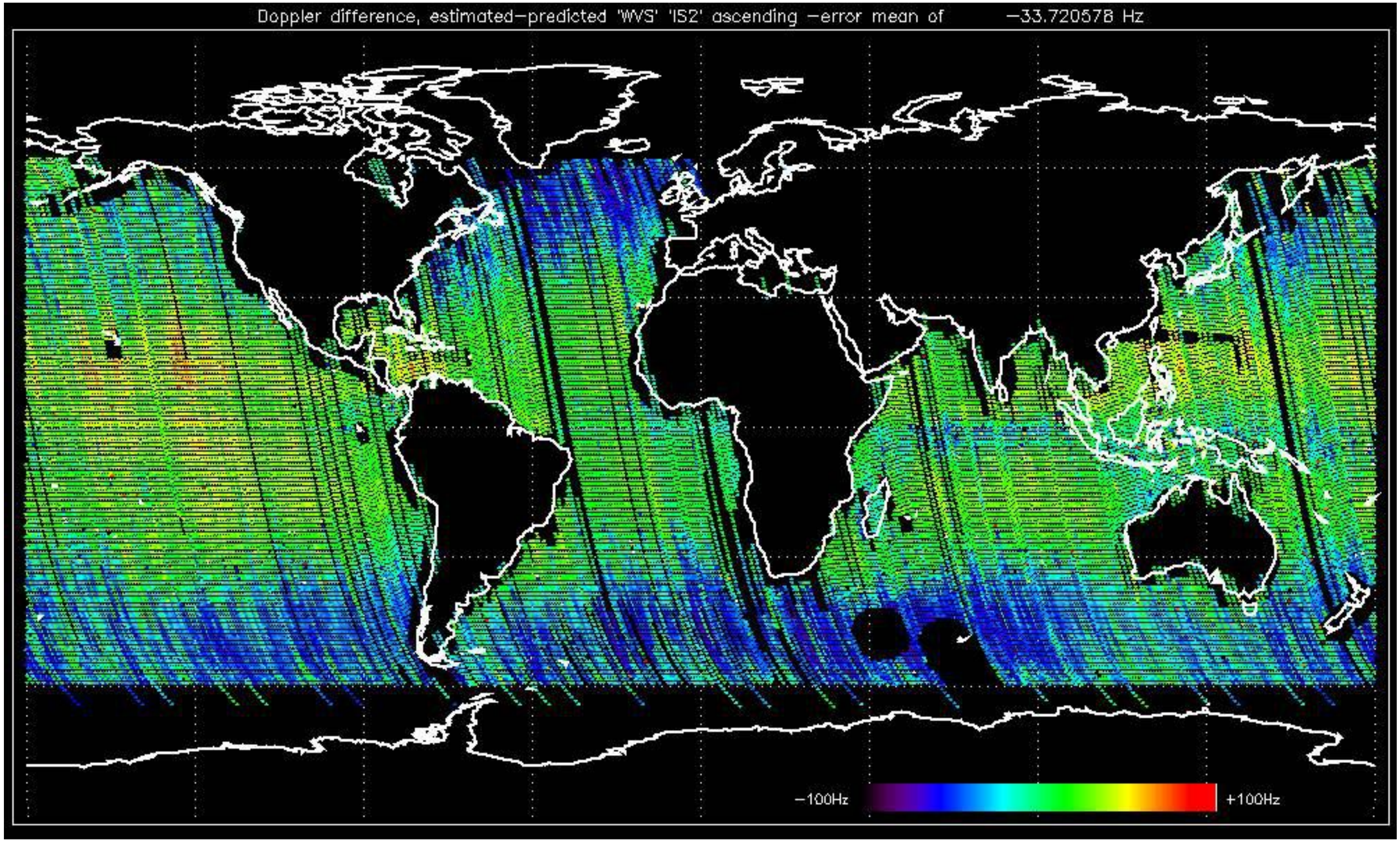

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

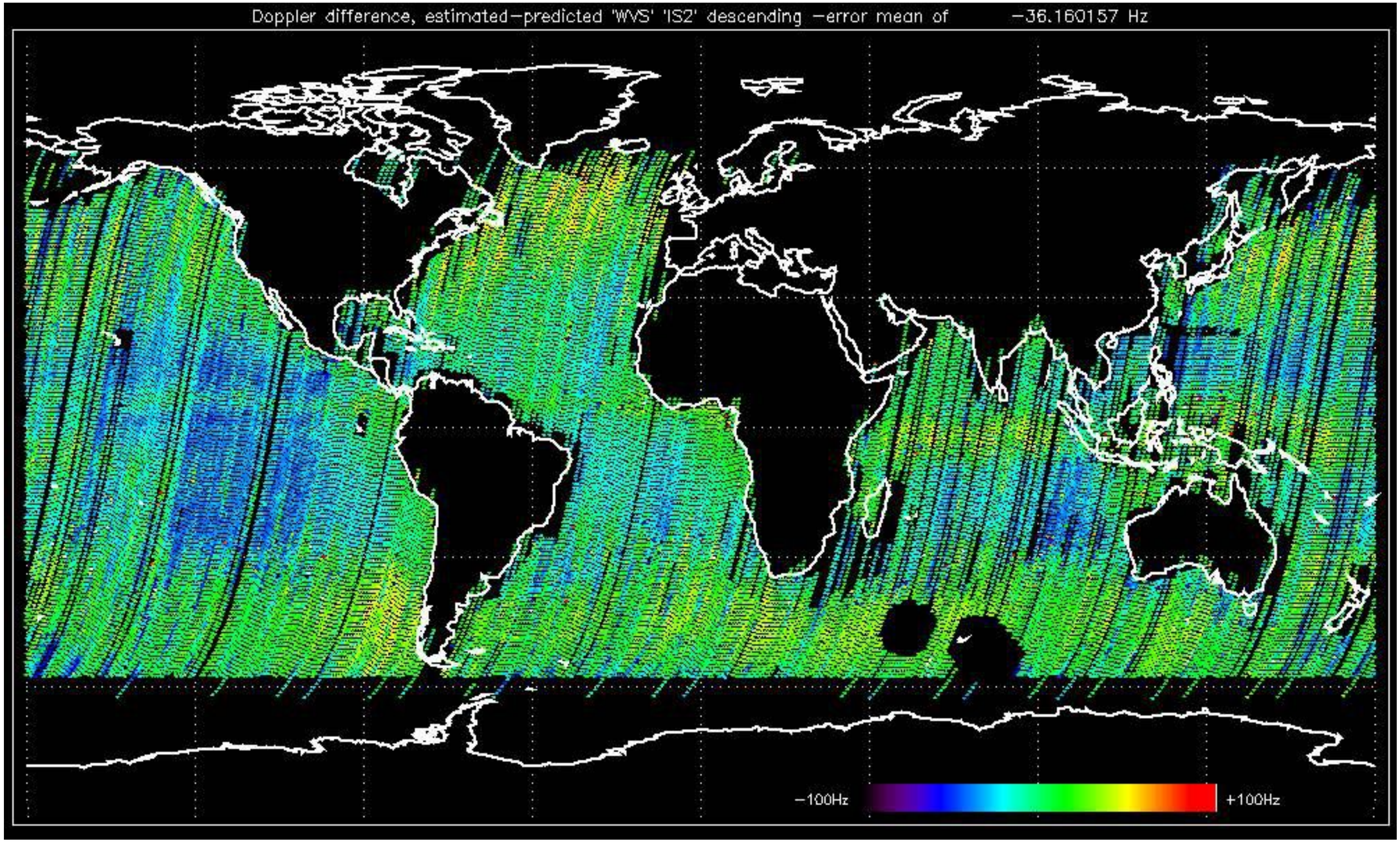

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
1000
800
600
400
200
0
−200
−400
02
04
06
08
10
12
14
16
18
20
22
00
07−Jan
Date


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
−300
00
02
04
06
08
10
12
14
16
18
20
22
00
06−Jan
07−Jan
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −34.746983 Hz
−100Hz
+100Hz

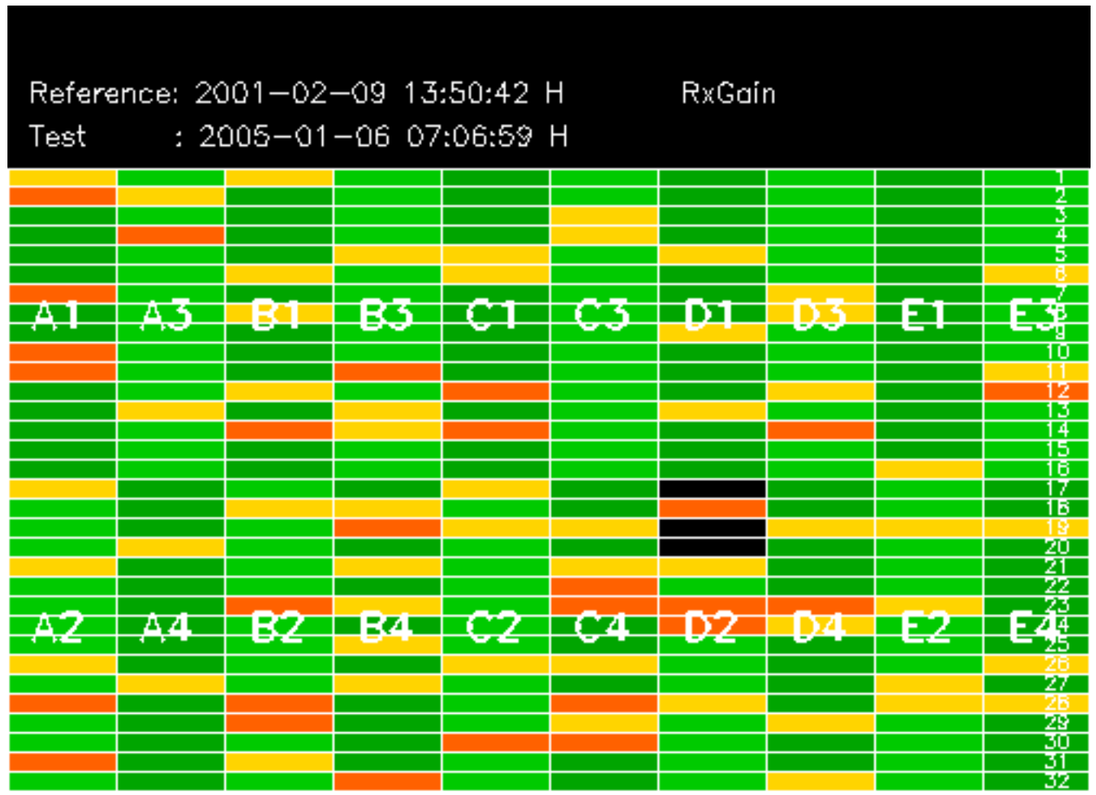

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -29.815295 Hz
-100Hz
+100Hz

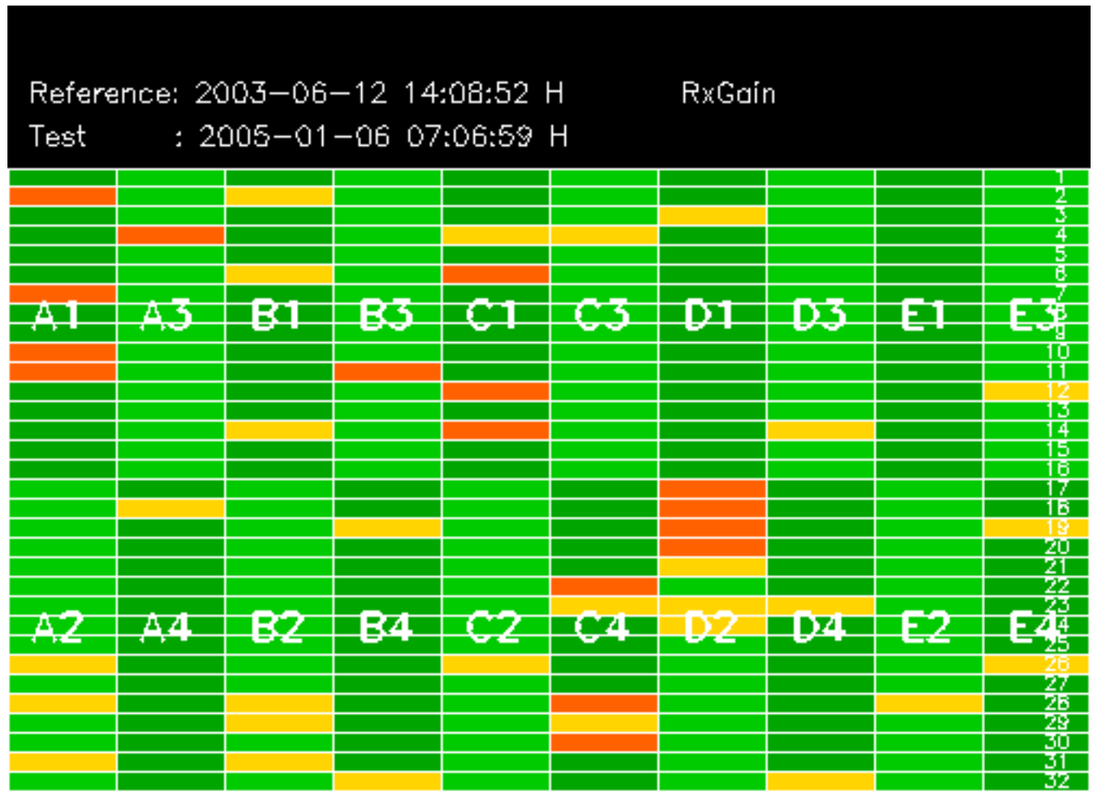

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −33.720578 Hz
−100Hz
+100Hz

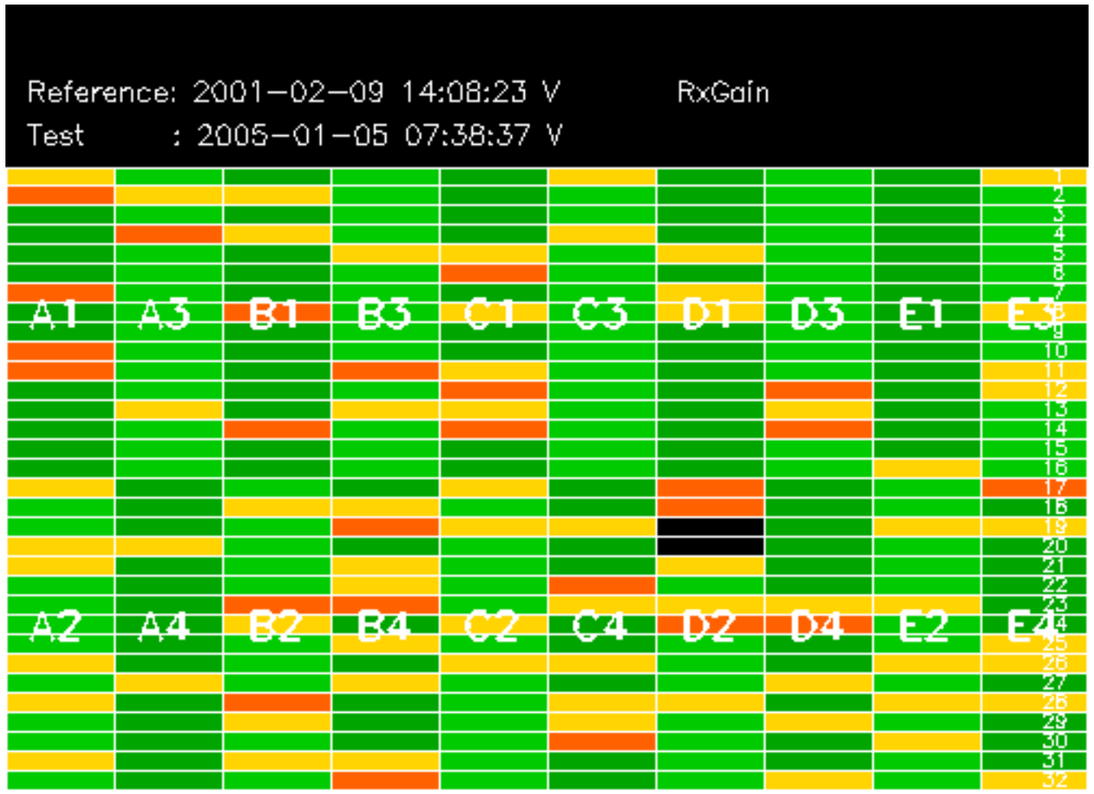

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −36.160157 Hz
−100Hz
+100Hz

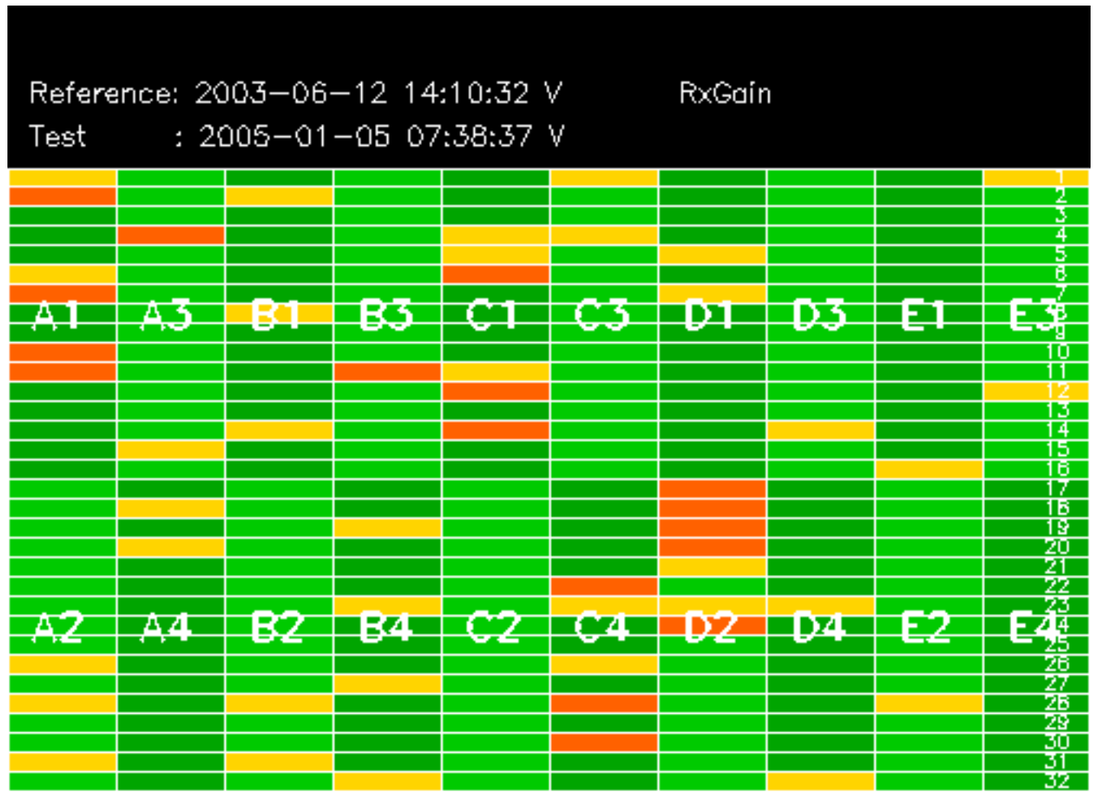
The MS mode provides an internal health check on an individual module basis.
The purpose of this mode is to identify to identify any malfunctionning modules and to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

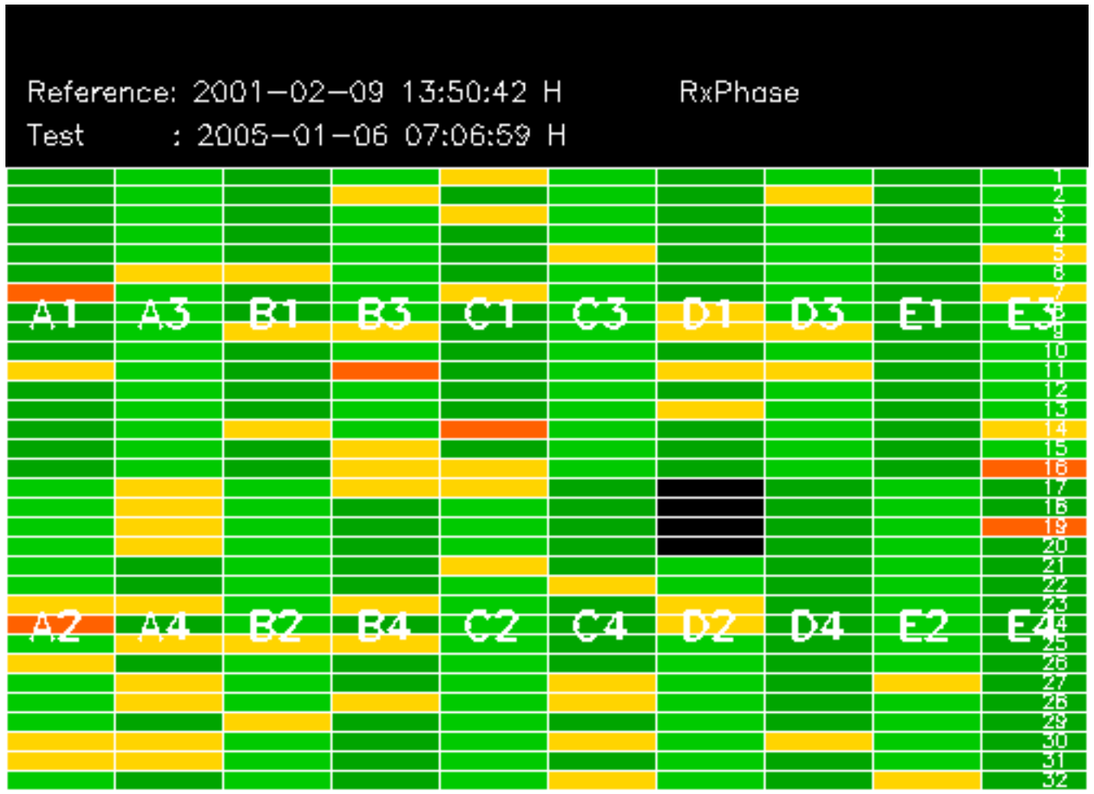
No anomalies observed.

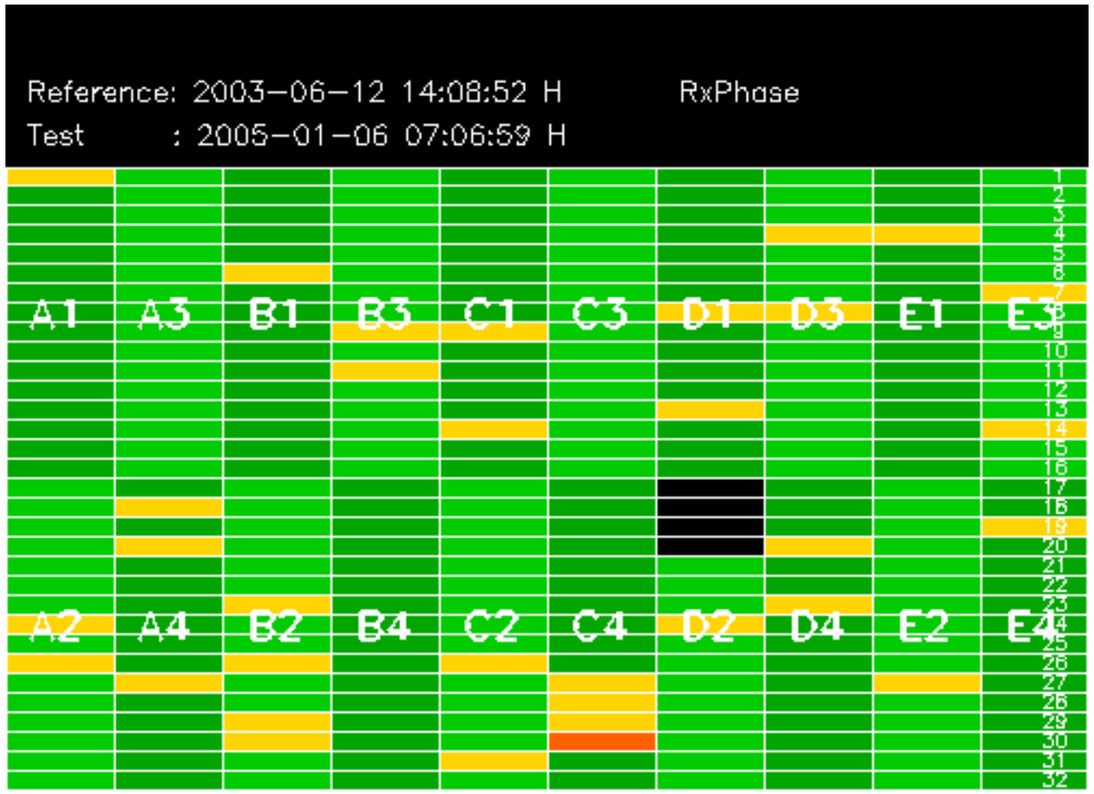

Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2005-01-06 07:06:59 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

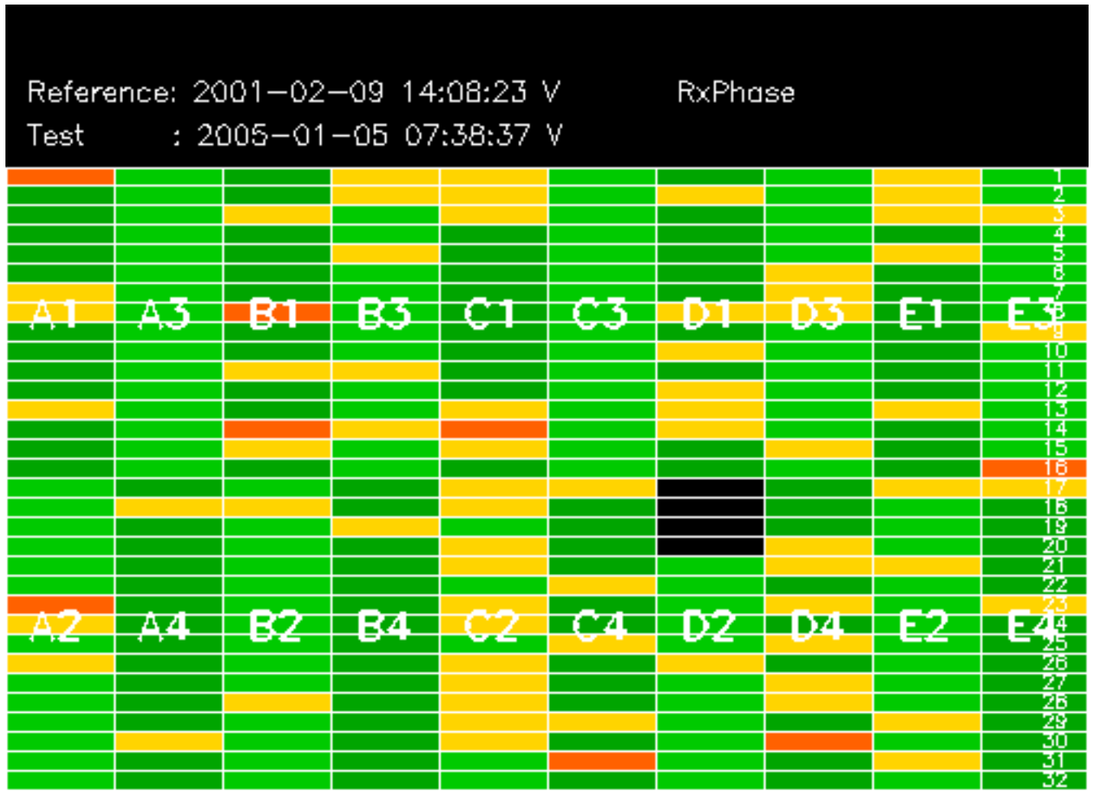

Reference: 2003-06-12 14:08:52 H
RxGain
Test : 2005-01-06 07:06:59 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

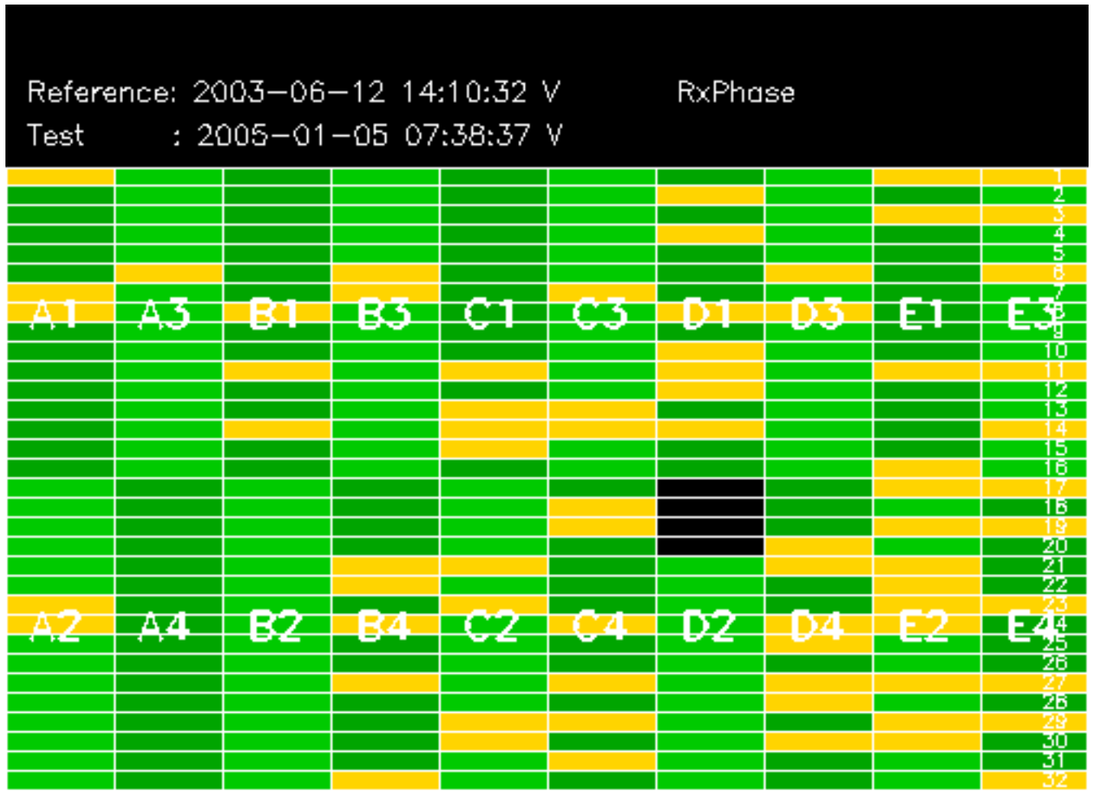

Reference: 2001-02-09 14:08:23 V
RxGain
Test : 2005-01-05 07:38:37 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

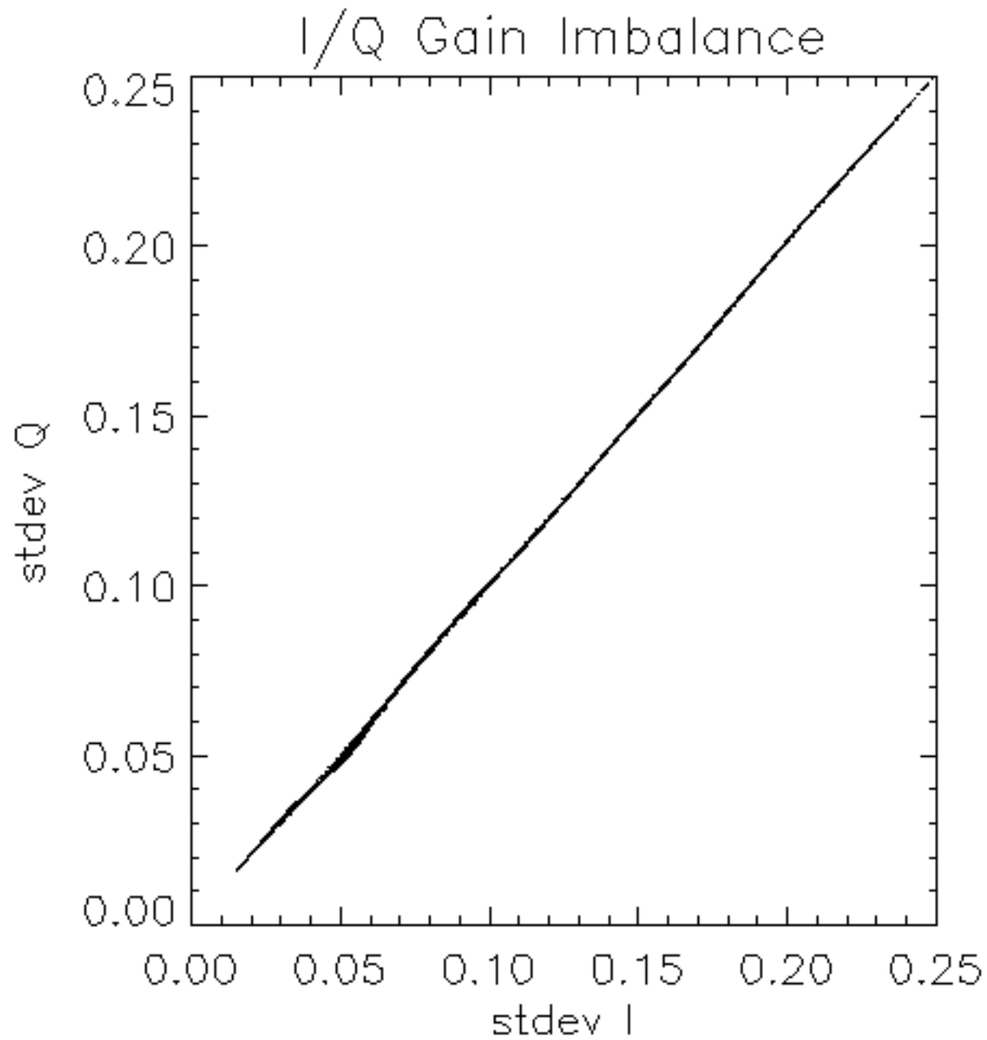

Reference: 2003-06-12 14:10:32 V
RxGain
Test : 2005-01-05 07:38:37 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

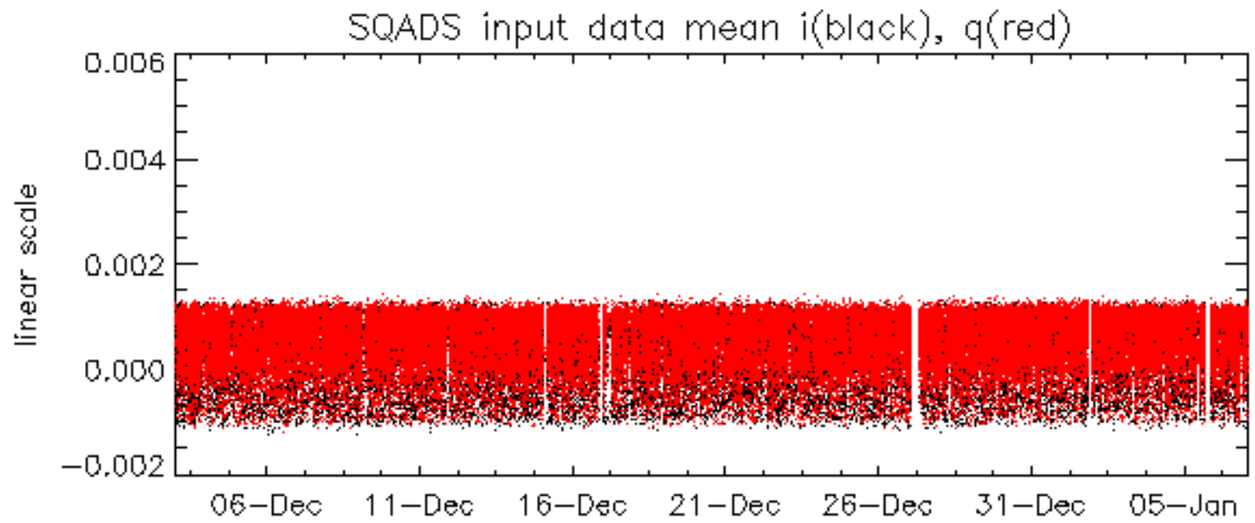

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-01-06 07:06:59 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

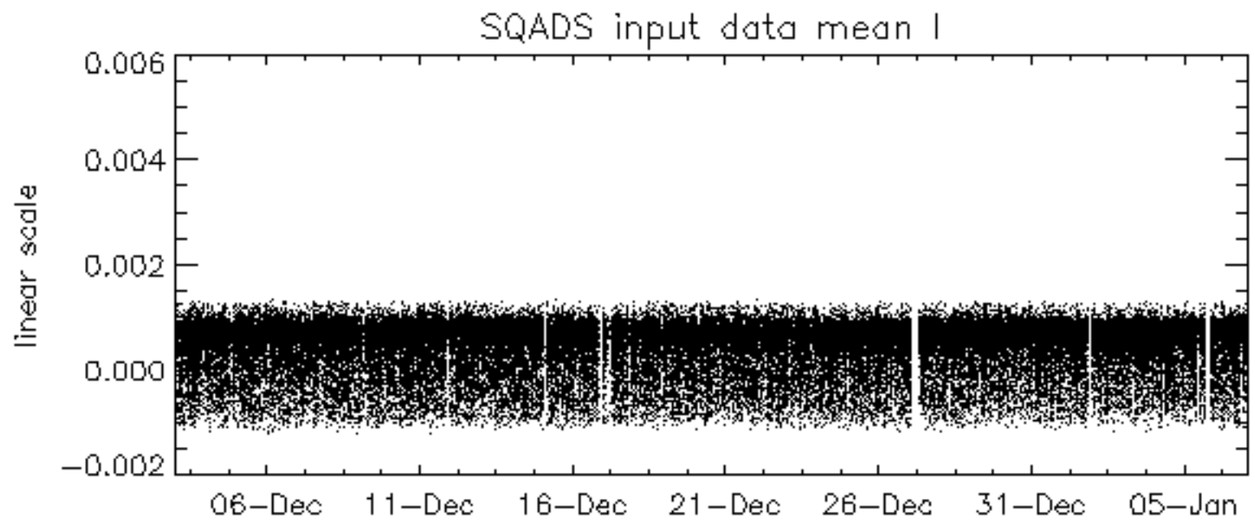

Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2005-01-06 07:06:59 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

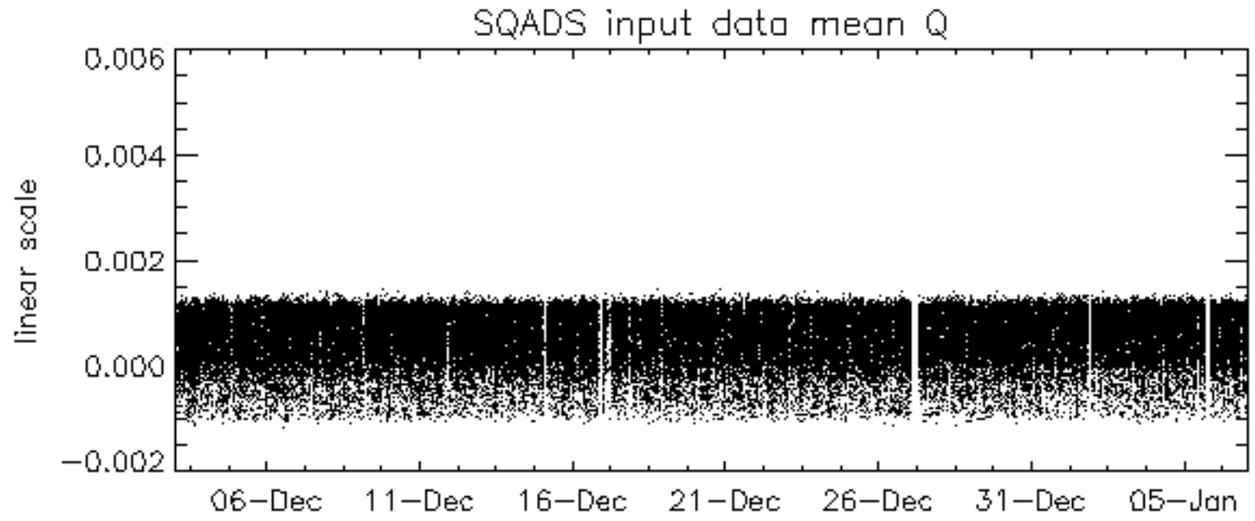

Reference: 2001-02-09 14:08:23 V
RxPhase
Test : 2005-01-05 07:38:37 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

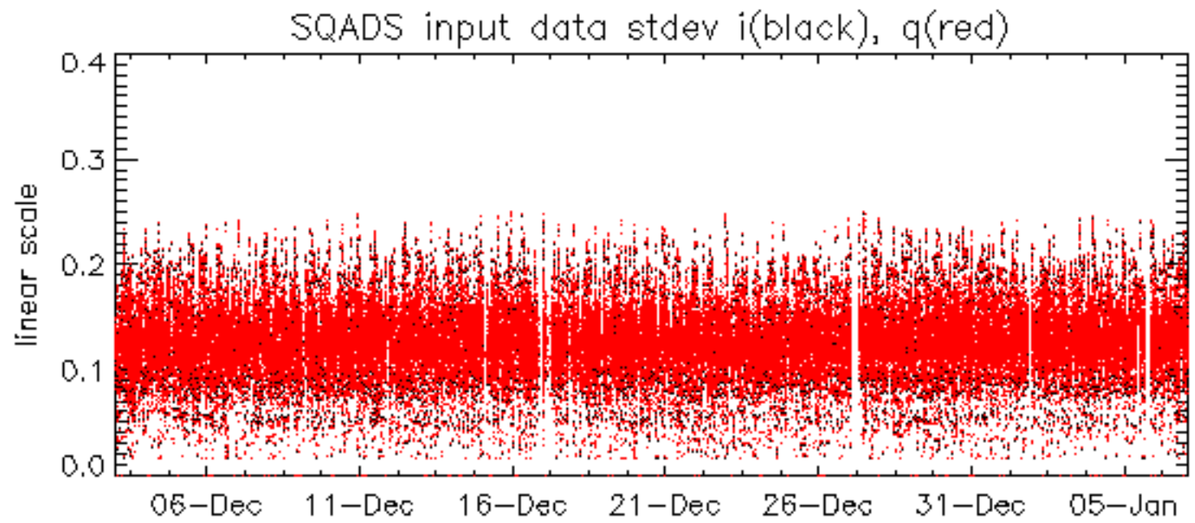

Reference: 2003-06-12 14:10:32 V
RxPhase
Test : 2005-01-05 07:38:37 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

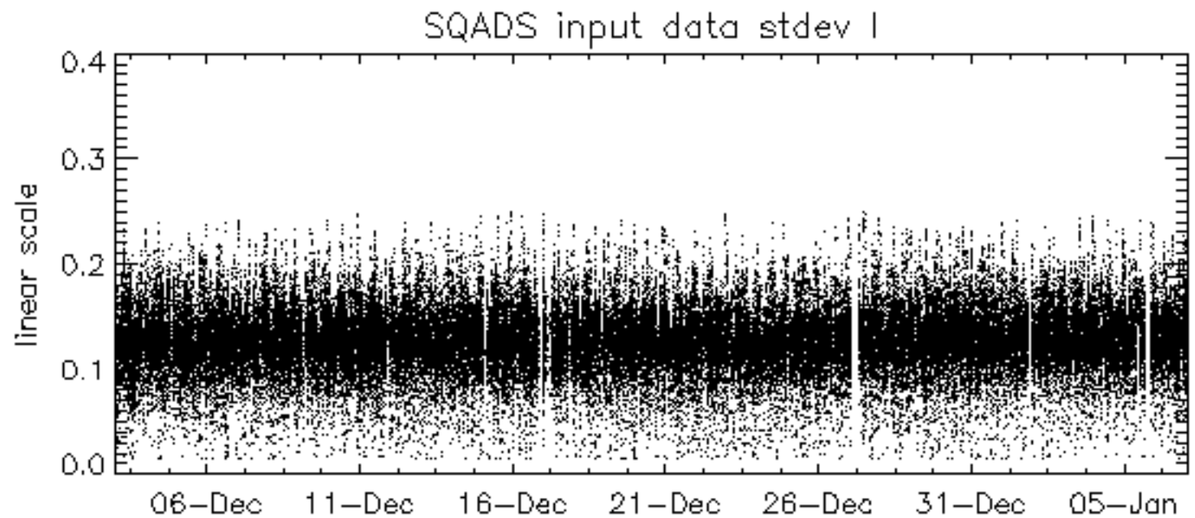

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

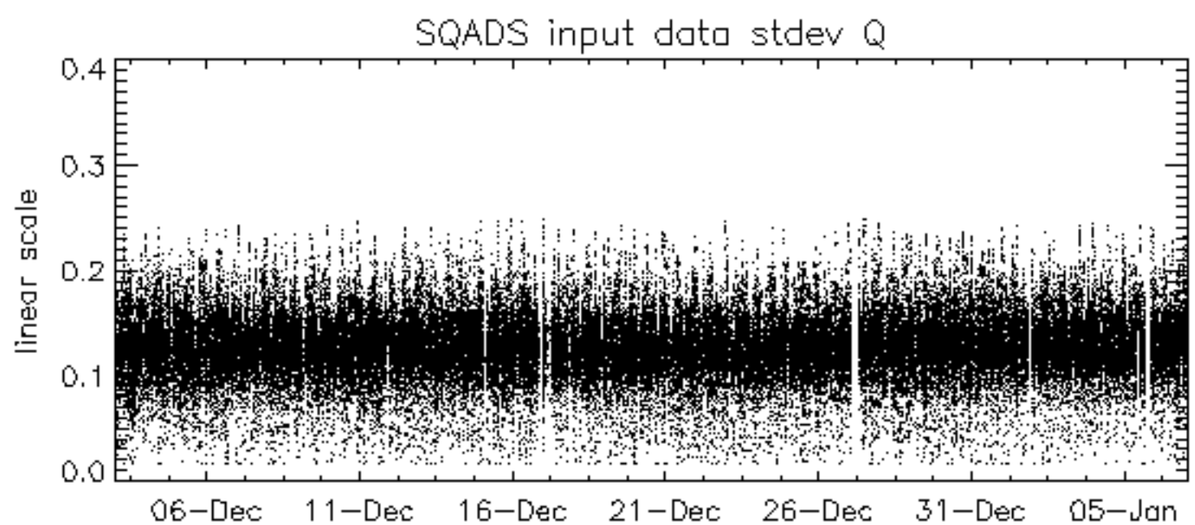

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan

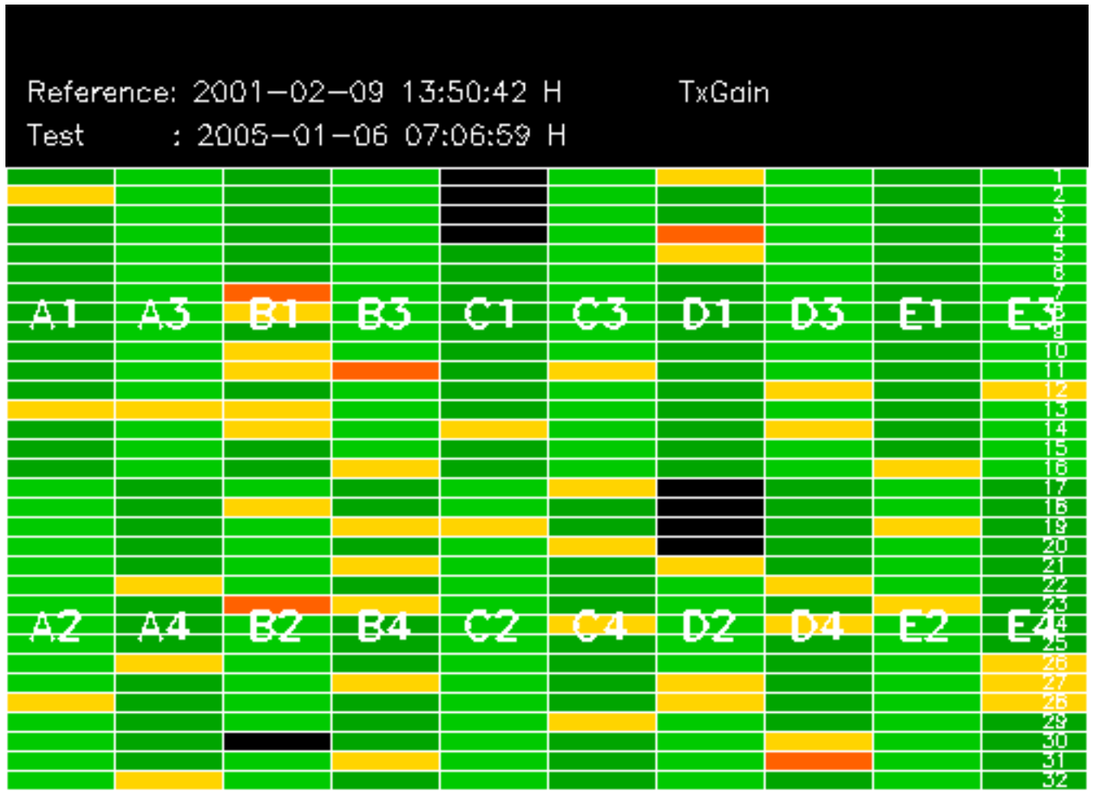

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan

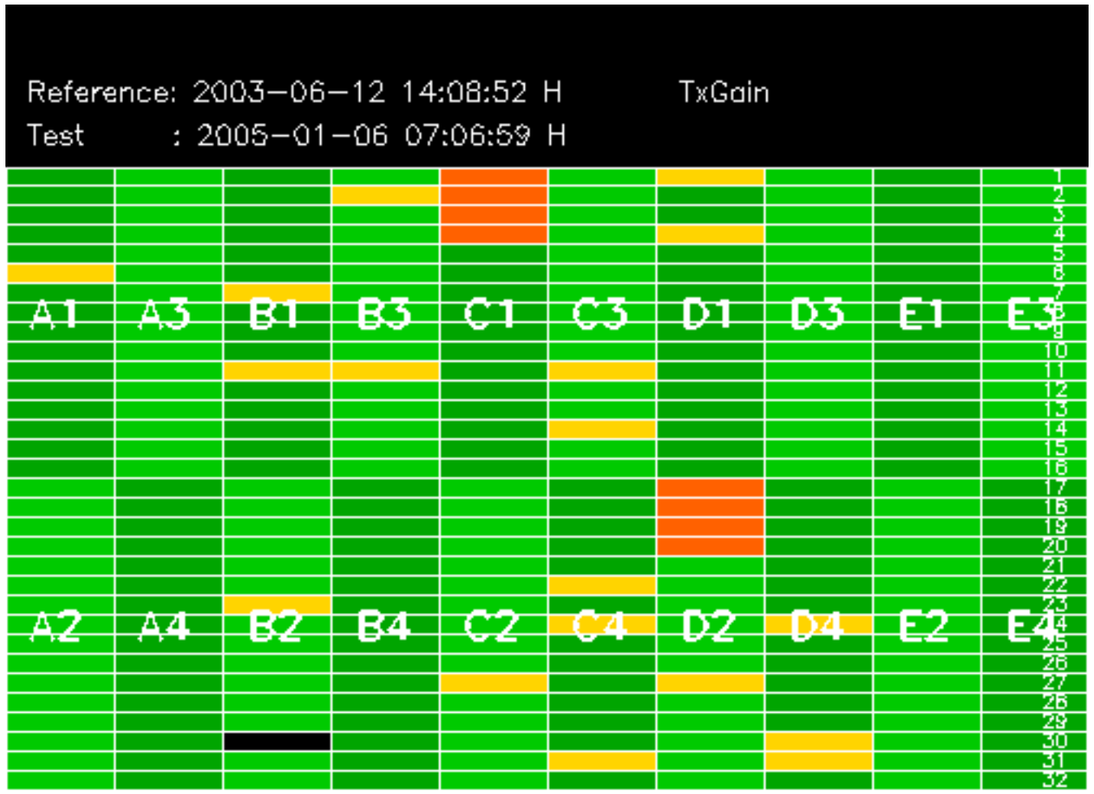

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan


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

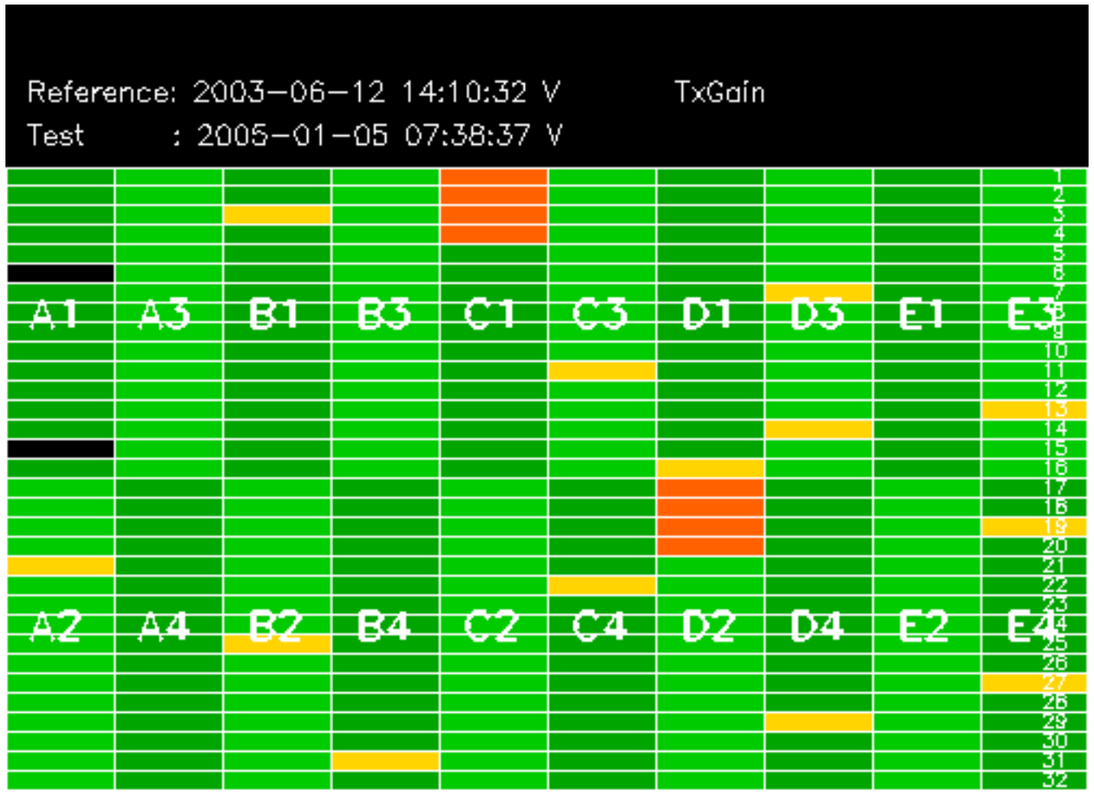

SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
06-Dec
11-Dec
16-Dec
21-Dec
26-Dec
31-Dec
05-Jan

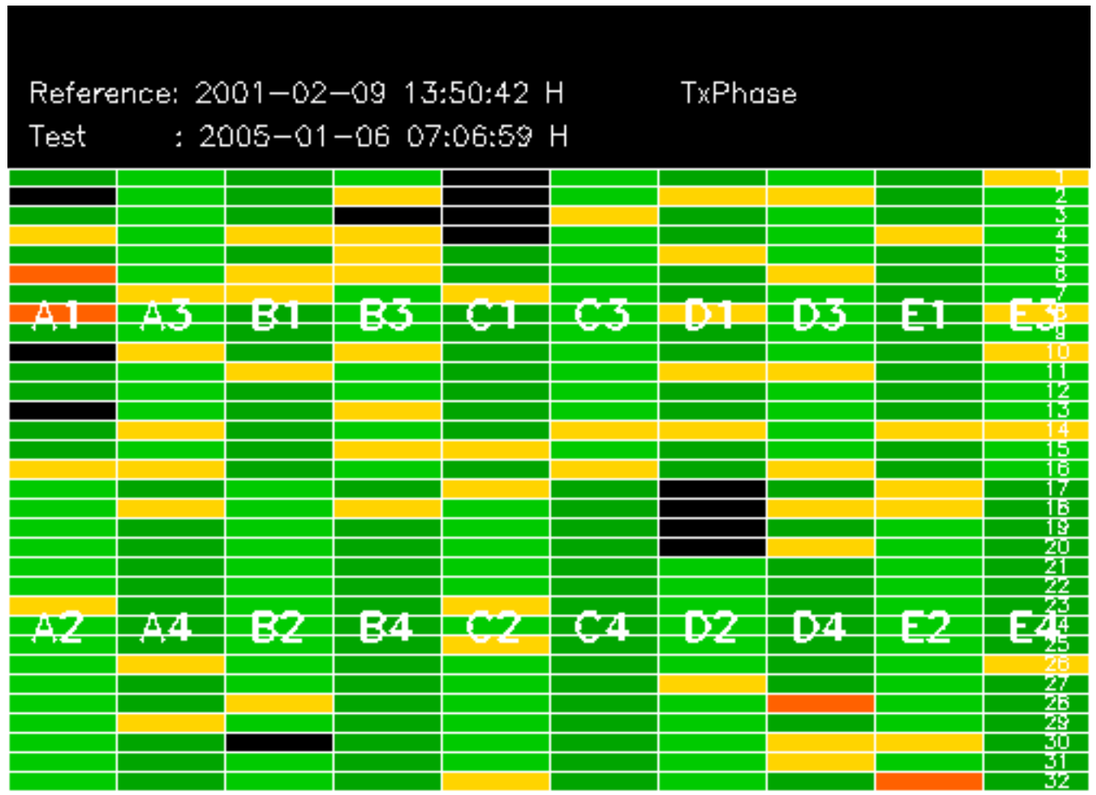

SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
06-Dec
11-Dec
16-Dec
21-Dec
26-Dec
31-Dec
05-Jan

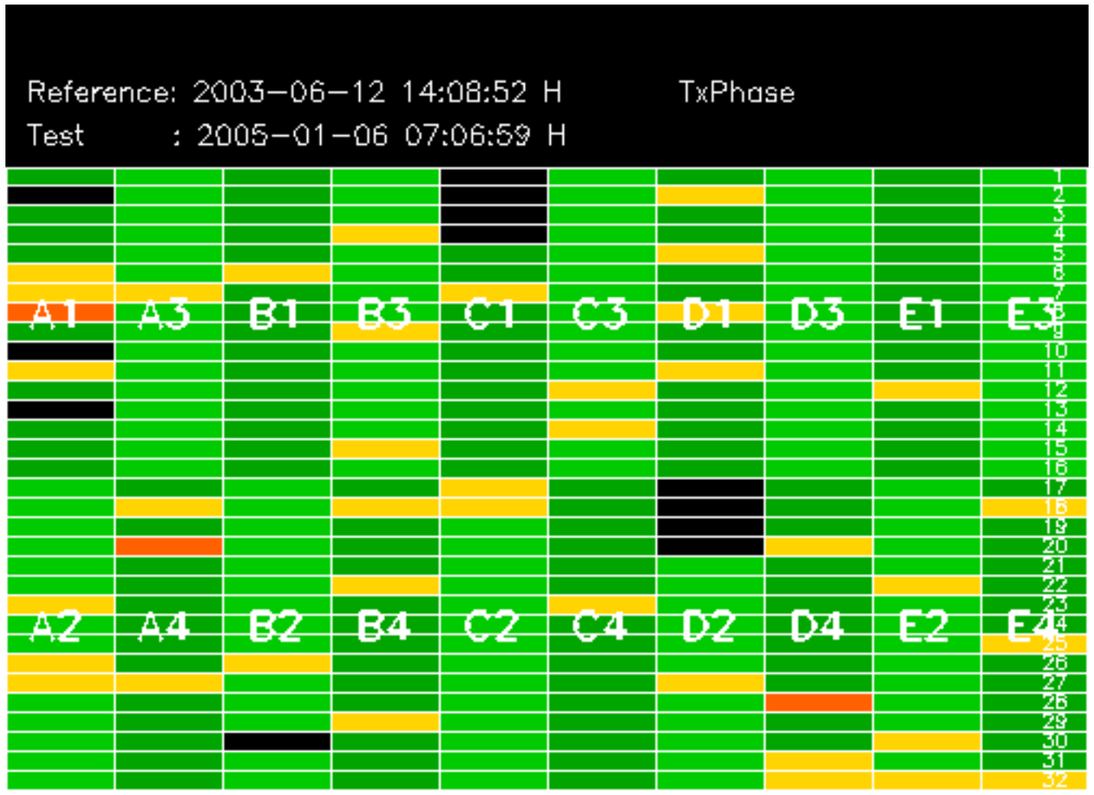

Reference: 2001-02-09 13:50:42 H
TxGain
Test : 2005-01-06 07:06:59 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

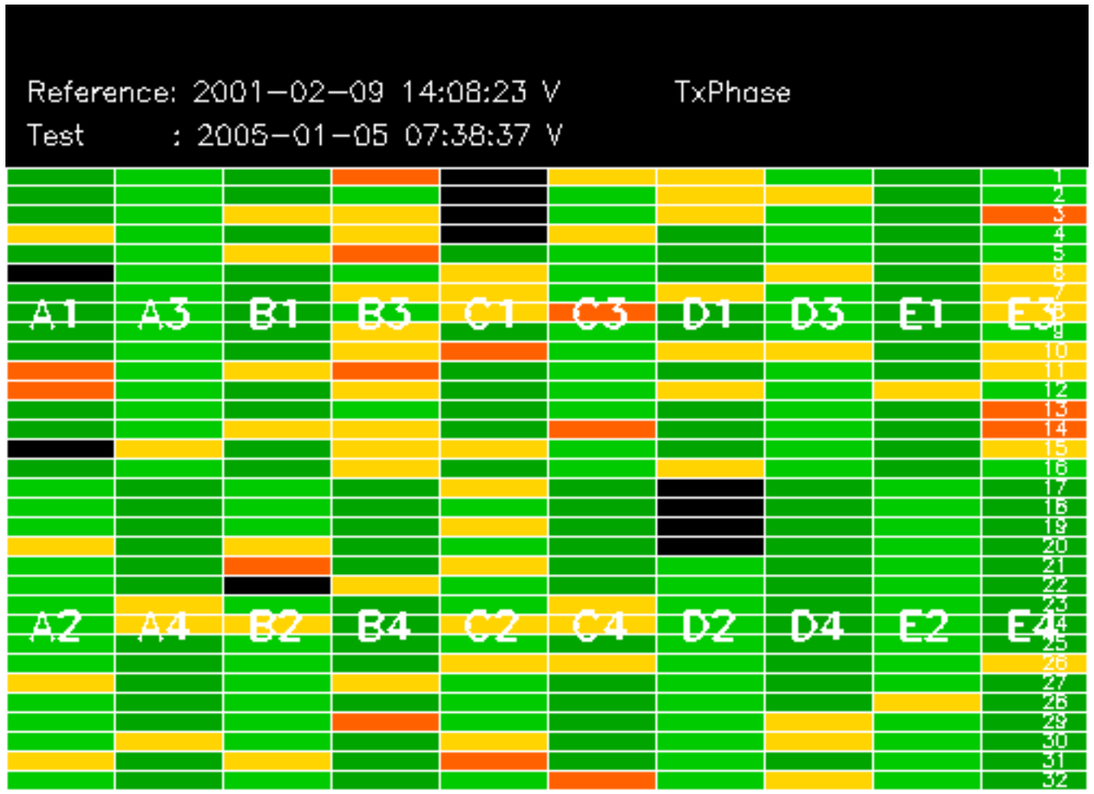

Reference: 2003-06-12 14:08:52 H
TxGain
Test : 2005-01-06 07:06:59 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

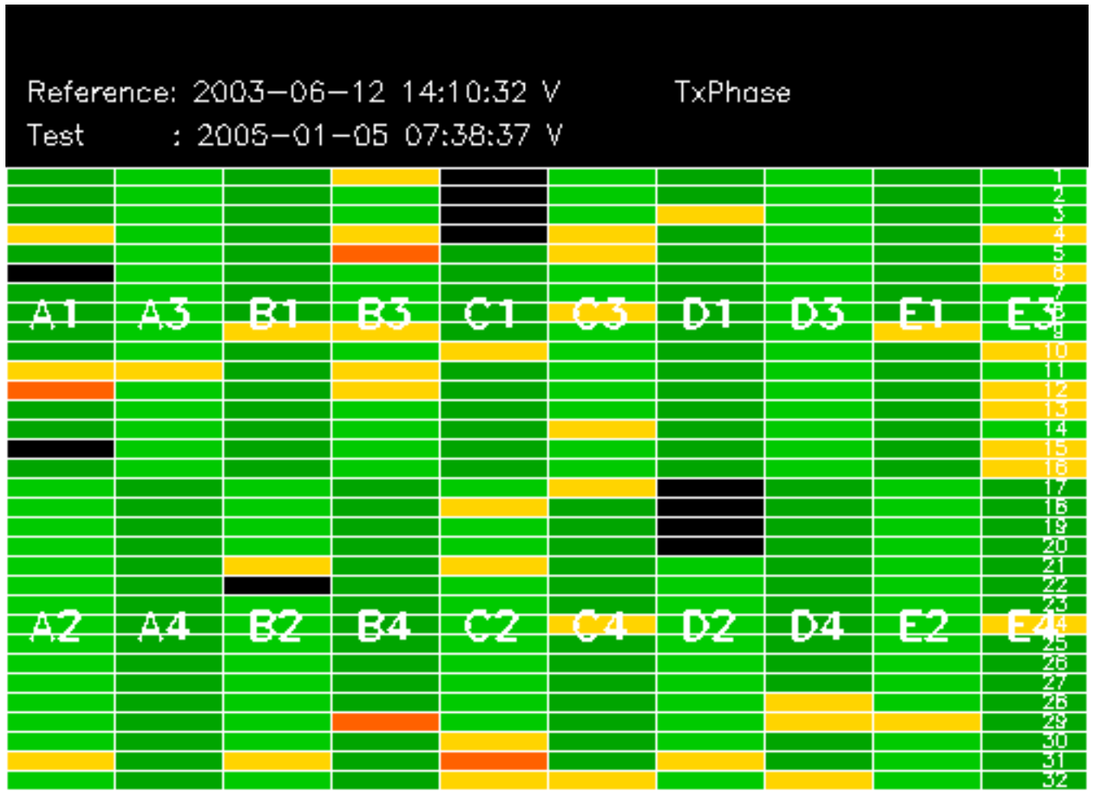

Reference: 2001-02-09 14:08:23 V
TxGain
Test : 2005-01-05 07:38:37 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

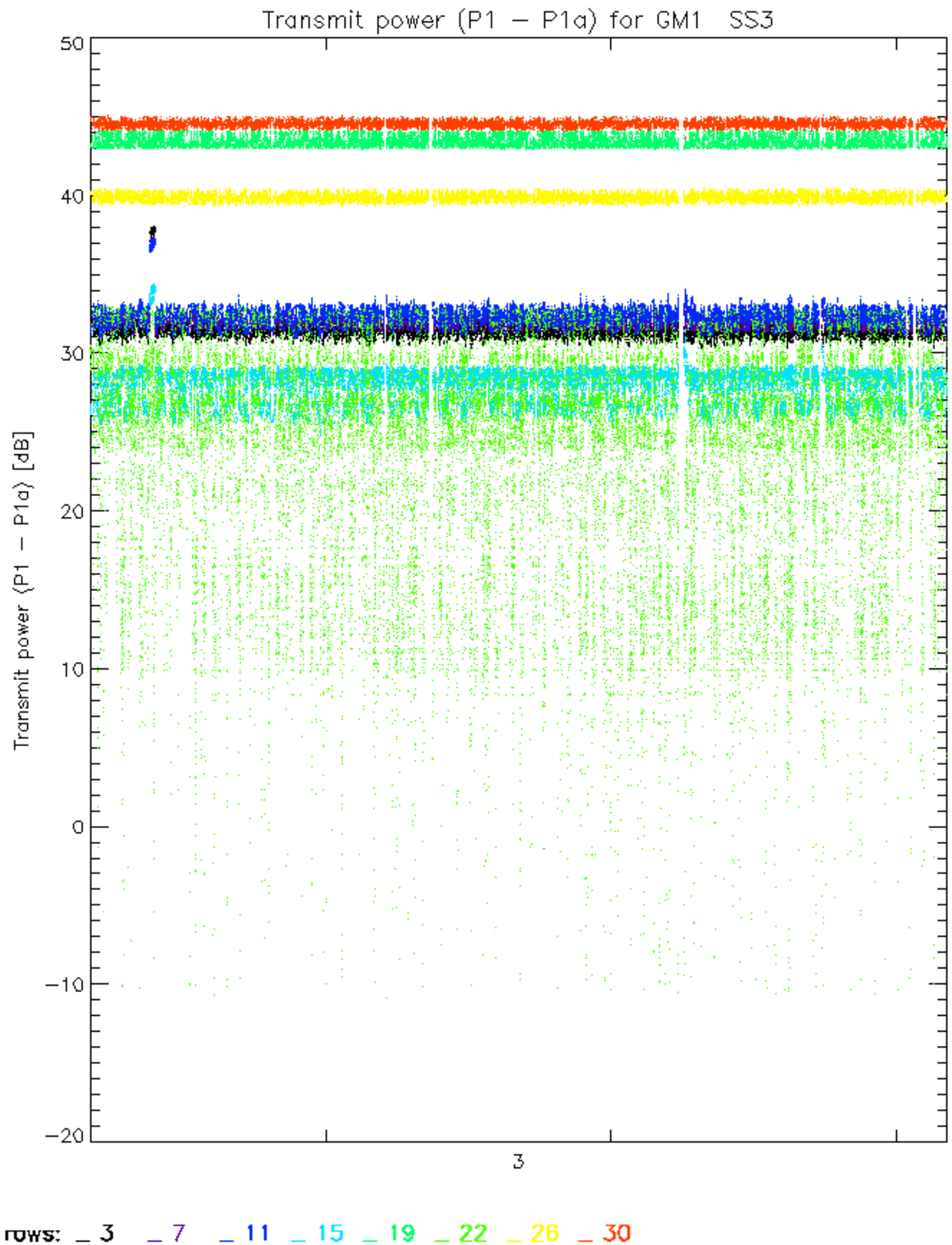

Reference: 2003-06-12 14:10:32 V
TxGain
Test : 2005-01-05 07:38:37 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

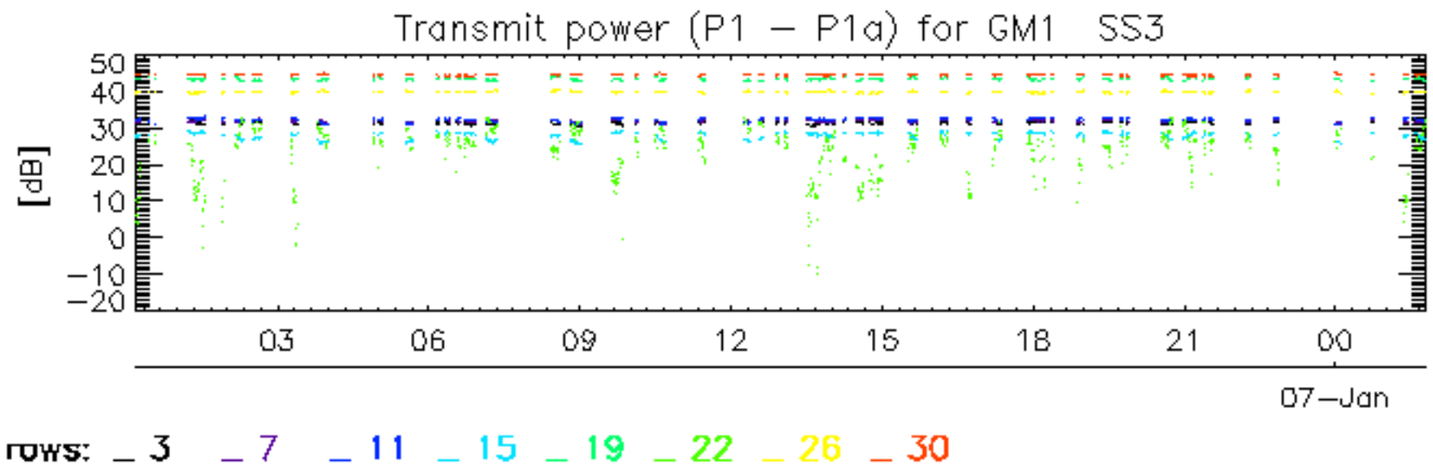

Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2005-01-06 07:06:59 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

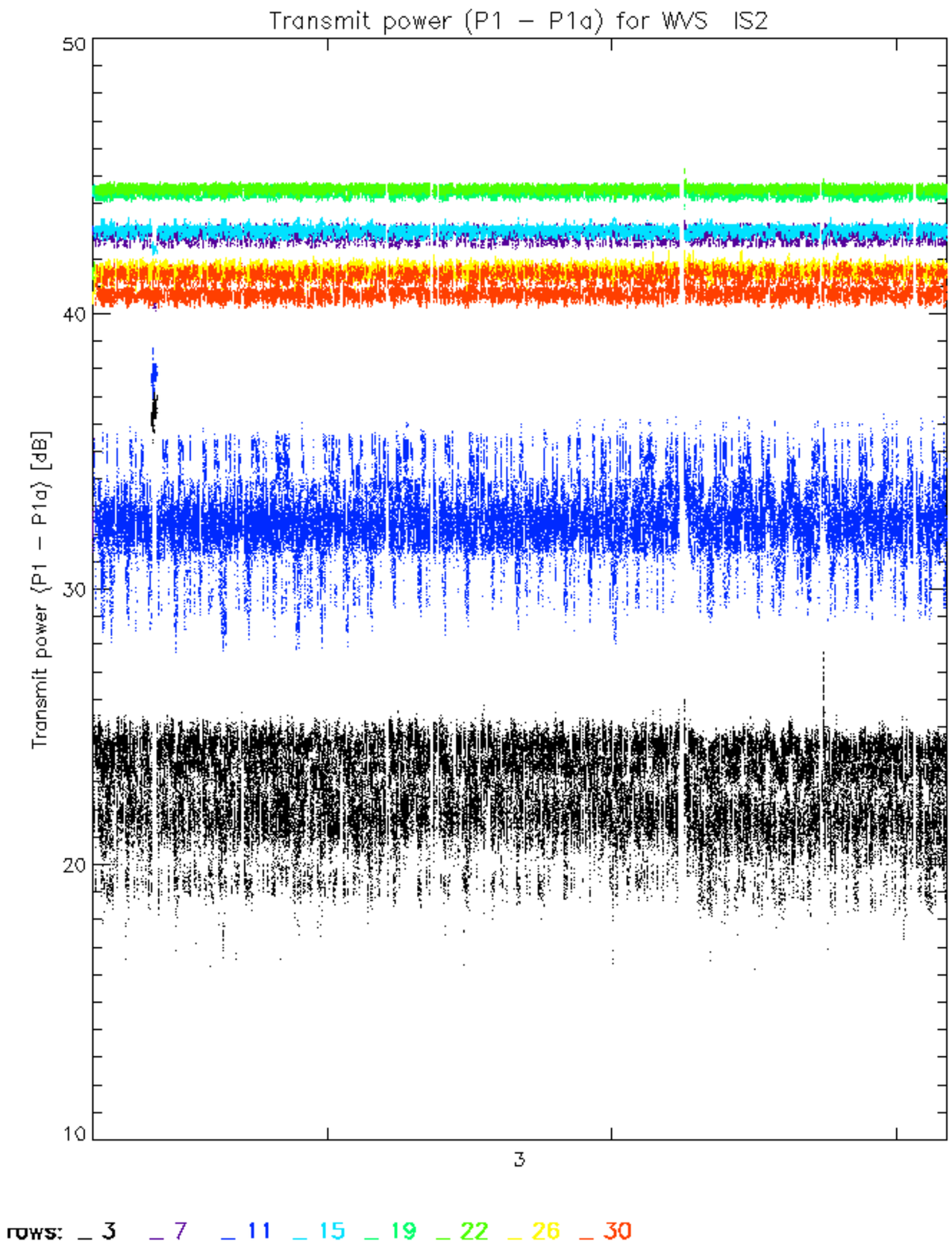

Reference: 2003-06-12 14:08:52 H
TxPhase
Test : 2005-01-06 07:06:59 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

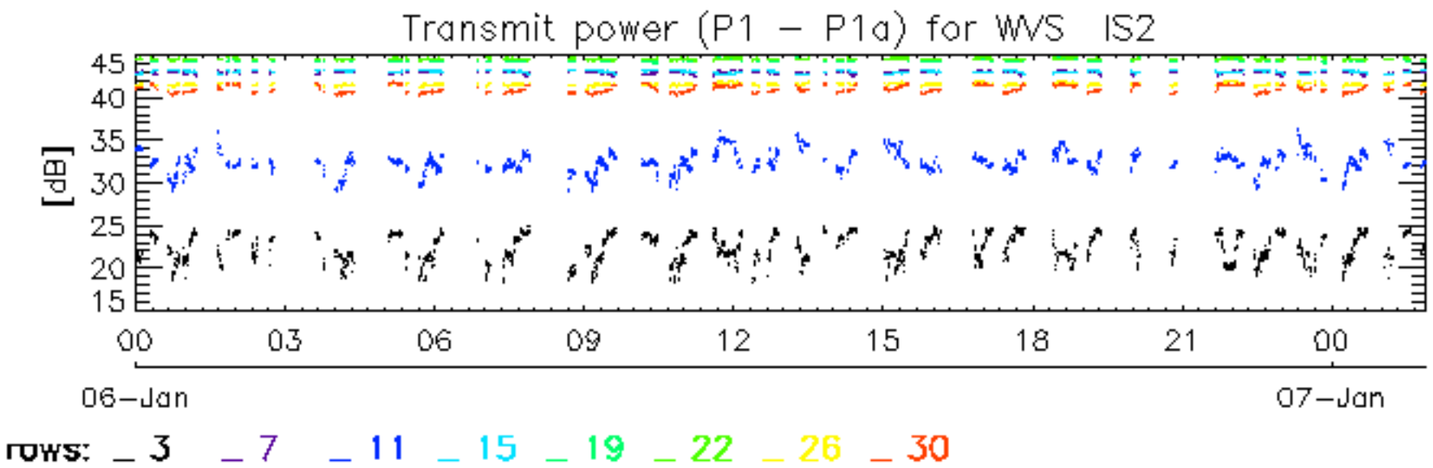

Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2005-01-05 07:38:37 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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
3
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
07–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
3
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
[dB]
45
40
35
30
25
20
15
00
03
06
09
12
15
18
21
00
06–Jan
07–Jan
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.