PRELIMINARY REPORT OF 050101

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

last update on Sat Jan 1 10:59:58 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 2004-12-31 00:00:00 to 2005-01-01 10:59:58

PDHS-K					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	27	56	4	2	1
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	27	56	4	2	1
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	27	56	4	2	1
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	27	56	4	2	1

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	34	46	6	10	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	34	46	6	10	0
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	34	46	6	10	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	34	46	6	10	0

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	20041230 040556

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	-3.454570	0.029091	0.079525
7	P1	-3.099247	0.024131	0.051549
11	P1	-4.650165	0.045054	-0.005067
15	P1	-5.665853	0.038013	-0.018301
19	P1	-3.654601	0.006002	-0.011094
22	P1	-4.575992	0.016925	0.032152
26	P1	-4.938669	0.023580	0.021285
30	P1	-7.116102	0.013732	-0.032955
3	P1	-15.948484	0.110979	0.022898
7	P1	-15.509313	0.160149	0.001014
11	P1	-20.747379	0.536025	-0.228716
15	P1	-11.618198	0.095900	-0.021978
19	P1	-14.162188	0.033776	-0.029589
22	P1	-16.084608	0.464520	0.265407
26	P1	-17.752413	0.262500	0.153736
30	P1	-17.880199	0.307027	0.076114

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.348288	0.086927	0.087197
7	P2	-22.562891	0.166640	0.116842
11	P2	-14.883171	0.172919	0.167580
15	P2	-7.163150	0.117497	0.091478
19	P2	-9.731162	0.200088	0.098645
22	P2	-17.168516	0.100037	0.109111
26	P2	-16.532011	0.114621	0.046555

30	P2	-18.968060	0.082811	0.052534

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.210200	0.007180	0.021552
7	P3	-8.210201	0.007180	0.021557
11	P3	-8.210194	0.007179	0.021506
15	P3	-8.210177	0.007177	0.021439
19	P3	-8.210158	0.007177	0.021320
22	P3	-8.210134	0.007178	0.021195
26	P3	-8.210172	0.007179	0.021375
30	P3	-8.209841	0.007170	0.021782

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	-2.849702	0.108275	0.083210
7	P1	-2.982611	0.063380	0.075811
11	P1	-3.948241	0.048139	0.011979
15	P1	-3.520277	0.077427	0.043746
19	P1	-3.610179	0.013033	-0.003513
22	P1	-5.620962	0.069549	-0.052636
26	P1	-6.516937	0.023630	-0.043556
30	P1	-6.299229	0.044619	0.026117
3	P1	-10.724729	0.057877	-0.181345
7	P1	-10.132083	0.158105	-0.055691
11	P1	-12.431800	0.198047	-0.188471

15	P1	-11.727839	0.097148	-0.057527
19	P1	-15.644752	0.048721	-0.009848
22	P1	-24.155140	2.070399	0.216645
26	P1	-15.021624	0.393984	0.327769
30	P1	-20.149715	0.940290	0.154017

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.027321	0.037395	0.083747
7	P2	-22.605417	0.032717	0.132010
11	P2	-10.669998	0.036996	0.210143
15	P2	-5.060465	0.025296	0.045639
19	P2	-6.960666	0.036290	0.068584
22	P2	-7.298791	0.028246	0.088346
26	P2	-23.961578	0.018723	0.037611
30	P2	-22.018852	0.022582	0.098948

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.042592	0.002990	0.016243
7	P3	-8.042571	0.002992	0.016263
11	P3	-8.042497	0.002993	0.016593
15	P3	-8.042612	0.002995	0.015834
19	P3	-8.042520	0.002999	0.016424
22	P3	-8.042547	0.002993	0.016055
26	P3	-8.042527	0.002992	0.016307
30	P3	-8.042482	0.002986	0.016366

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	0.000451227
	stdev	2.34401e-07
MEAN Q	mean	0.000517198
	stdev	2.46745e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.126856
	stdev	0.000991879
STDEV Q	mean	0.127094
	stdev	0.00100174

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

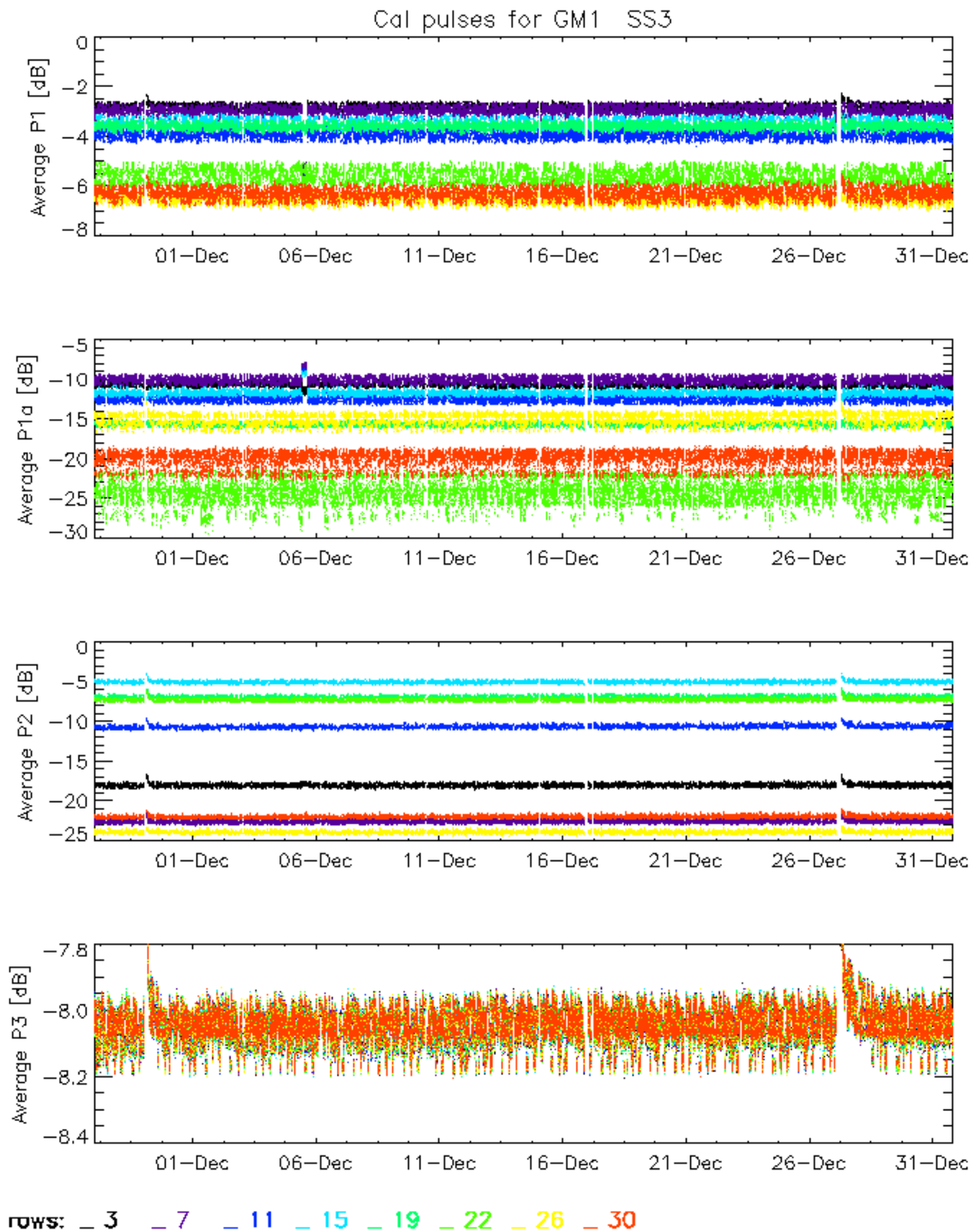
Evolution of Absolute Doppler

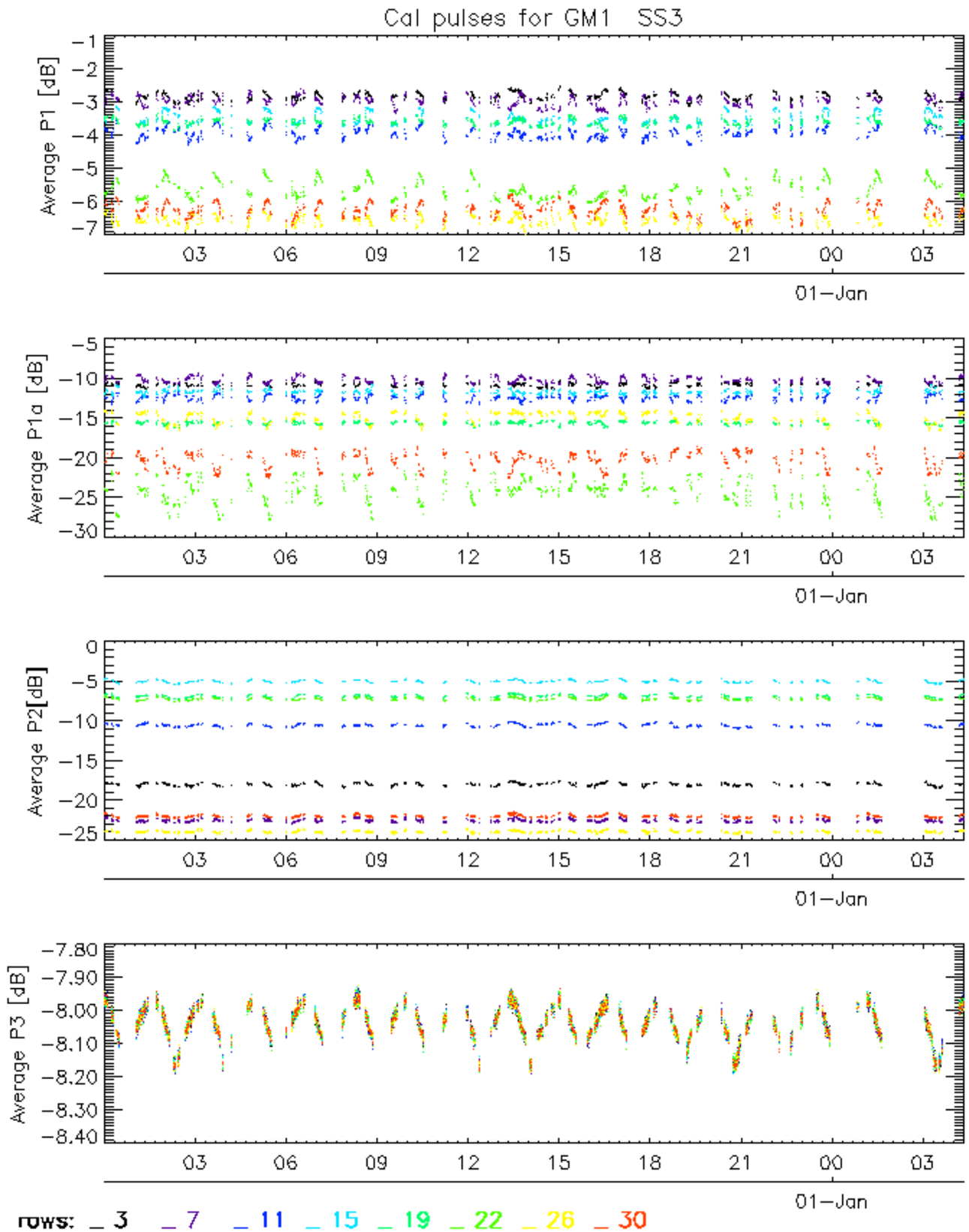
Acsending

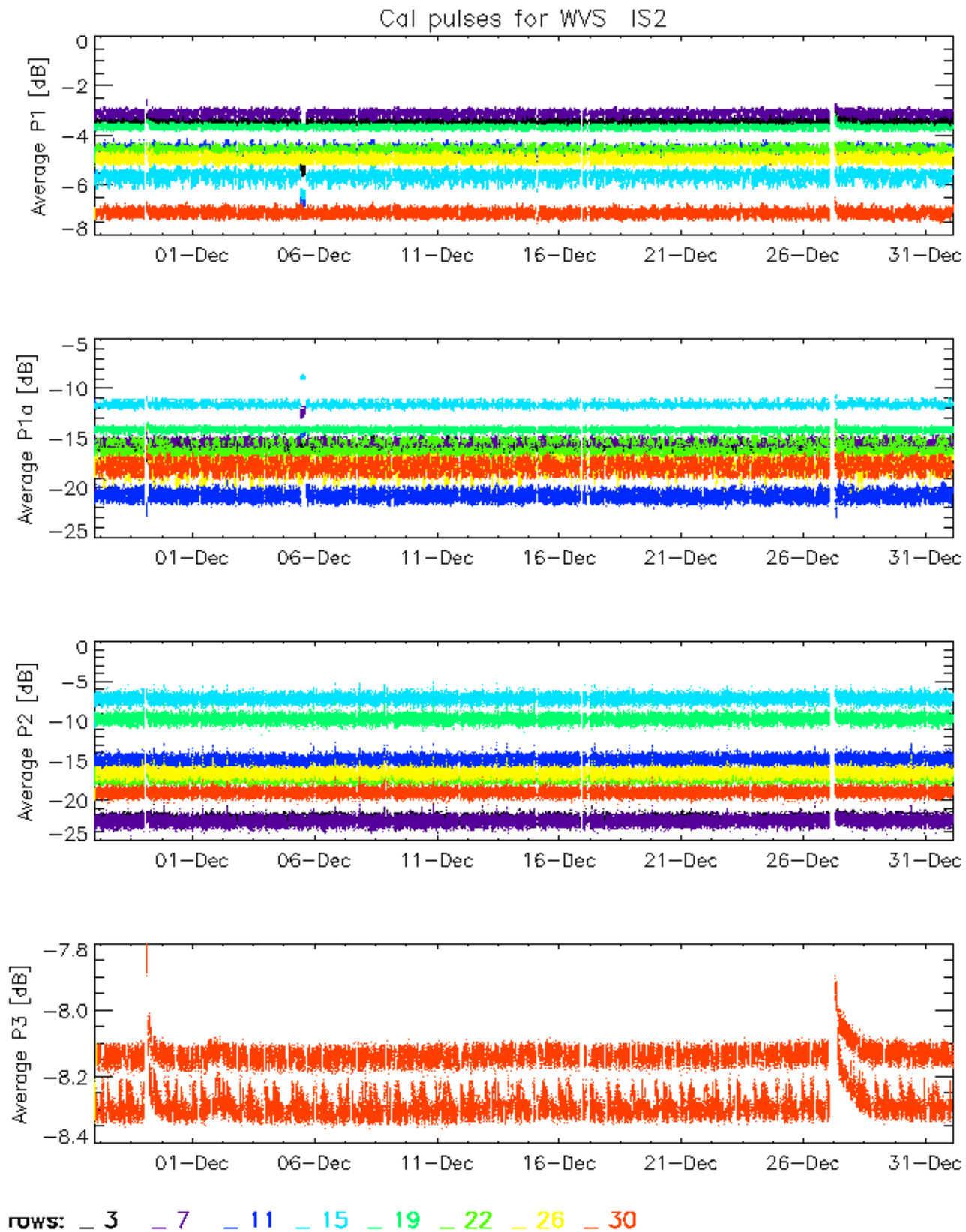
Descending

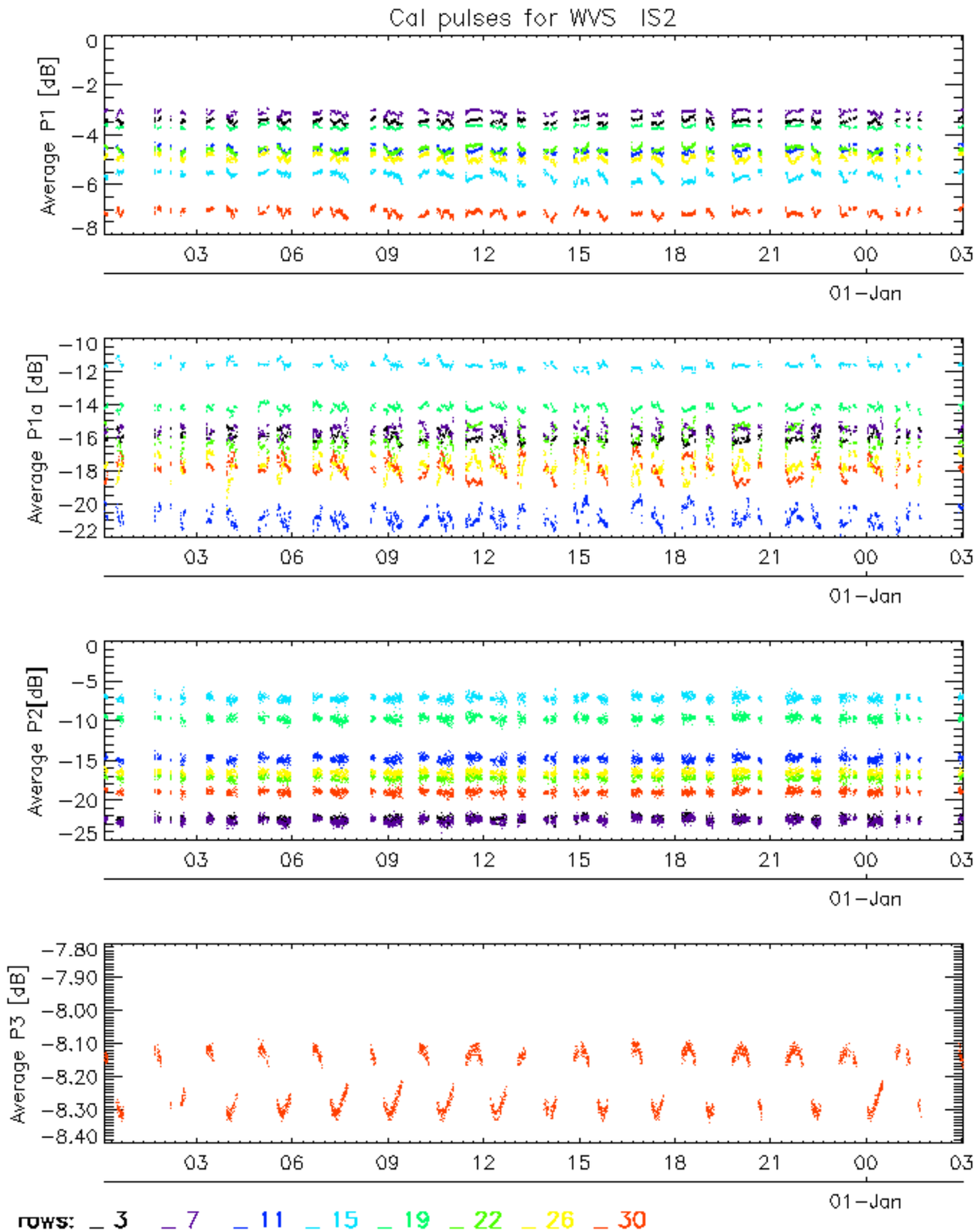
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

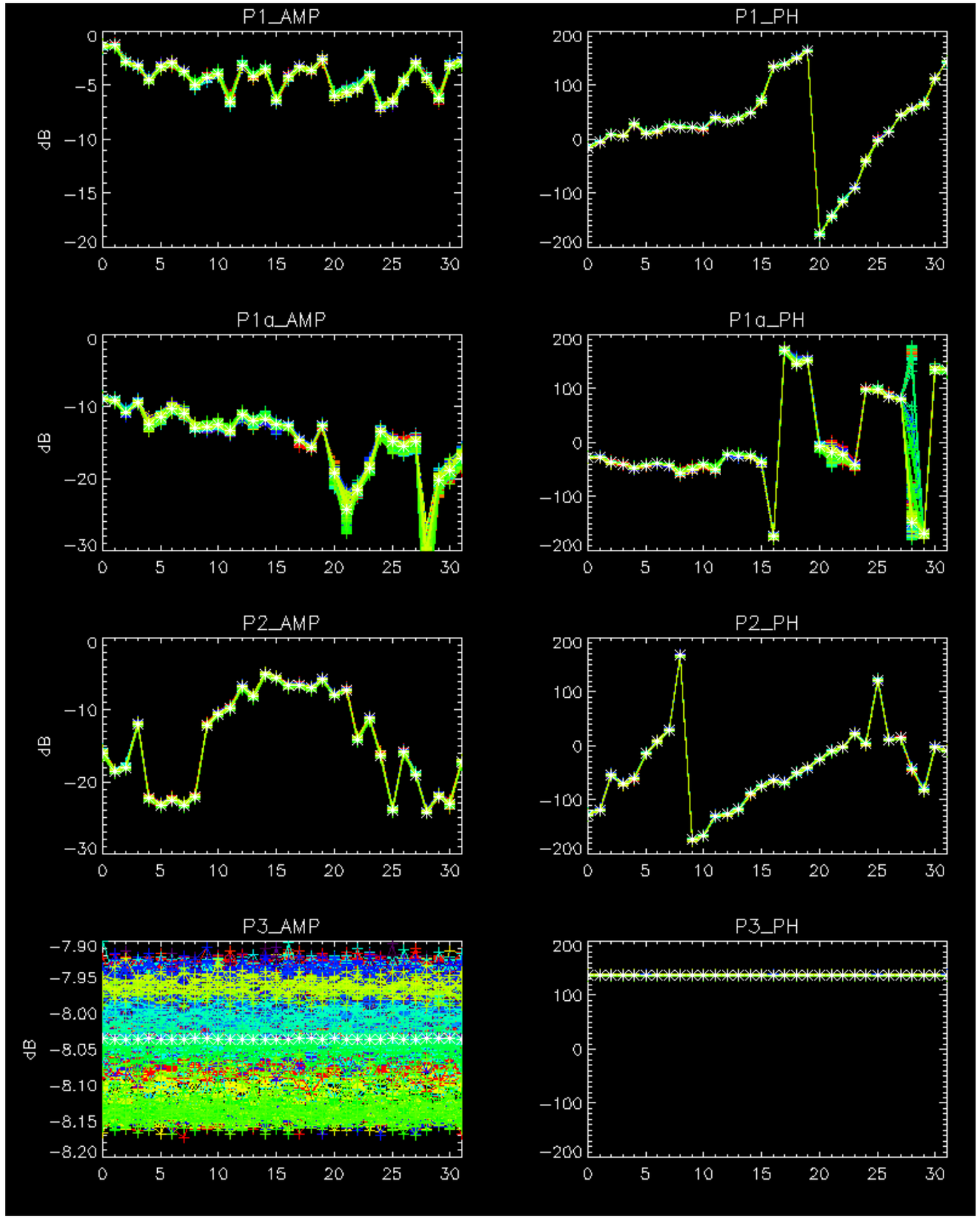

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: 3 7 11 15 19 22 26 30

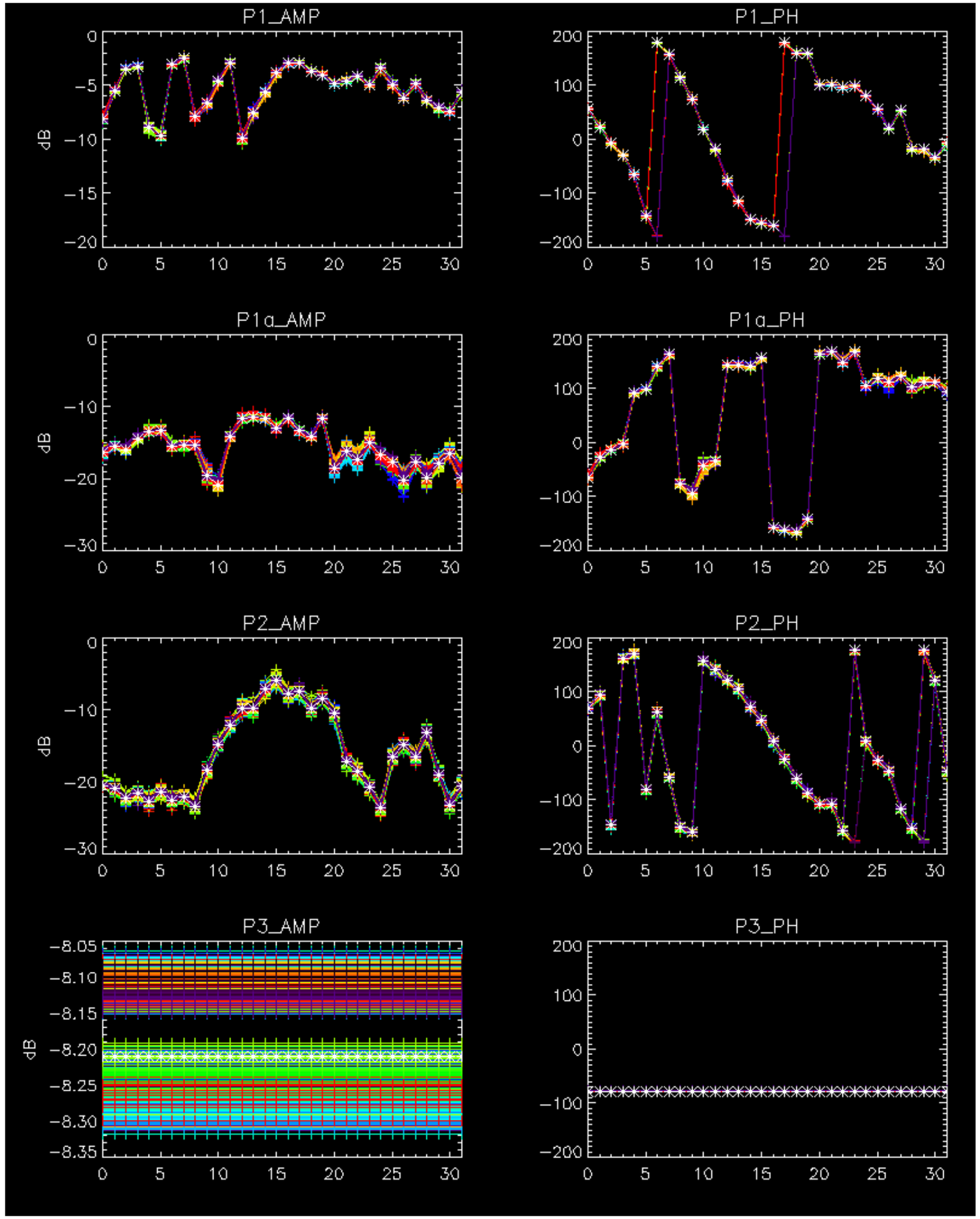

Cal pulses for GM1 SS3
Average P1 [dB]
Average P1a [dB]
Average P2[dB]
Average P3 [dB]
03
06
09
12
15
18
21
00
01−Jan
rows: 3 7 11 15 19 22 26 30


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

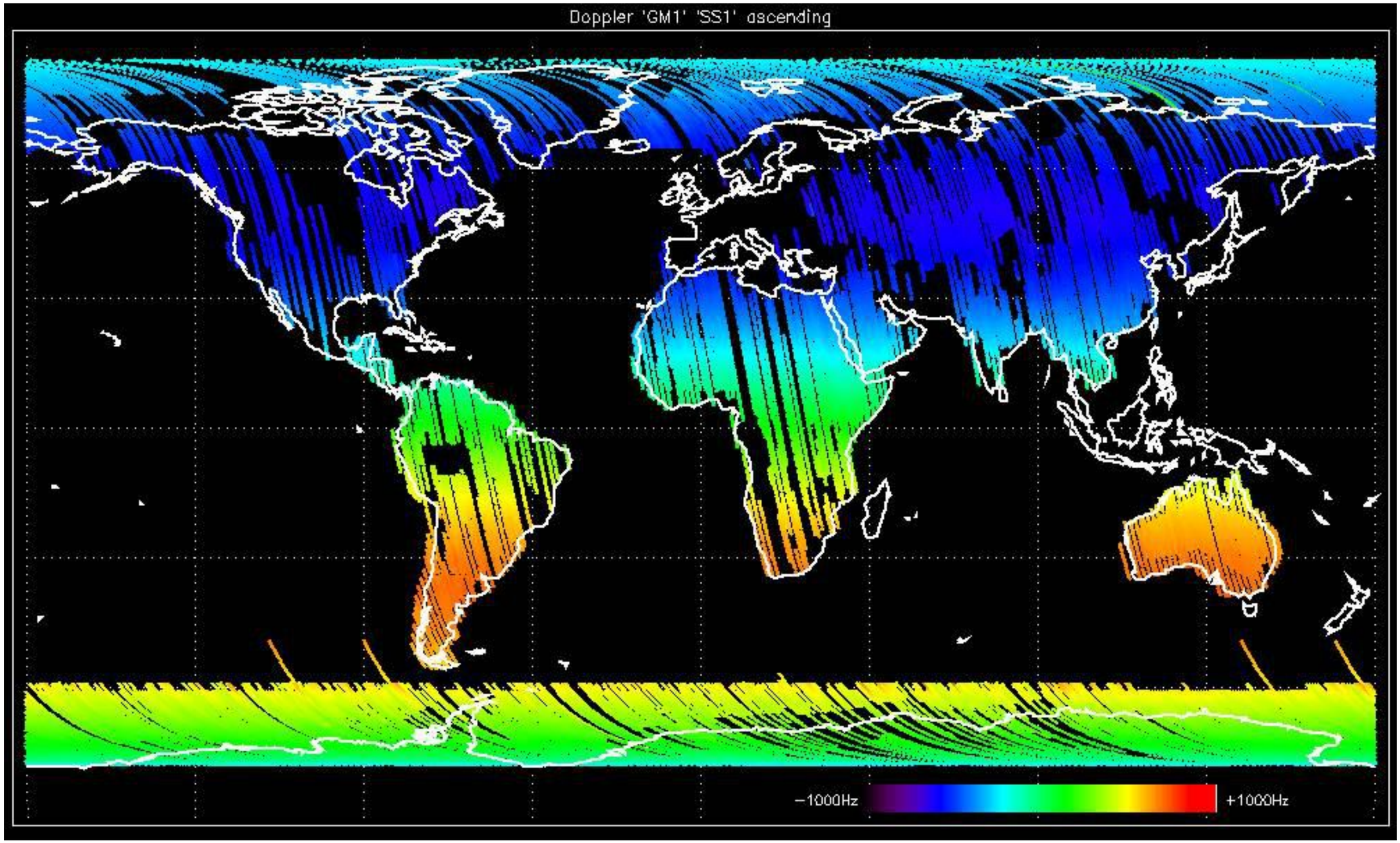

Cal pulses for WVS IS2
Average P1 [dB]
Average P1a [dB]
Average P2[dB]
Average P3 [dB]
03
06
09
12
15
18
21
00
03
01−Jan
rows: 3 7 11 15 19 22 26 30

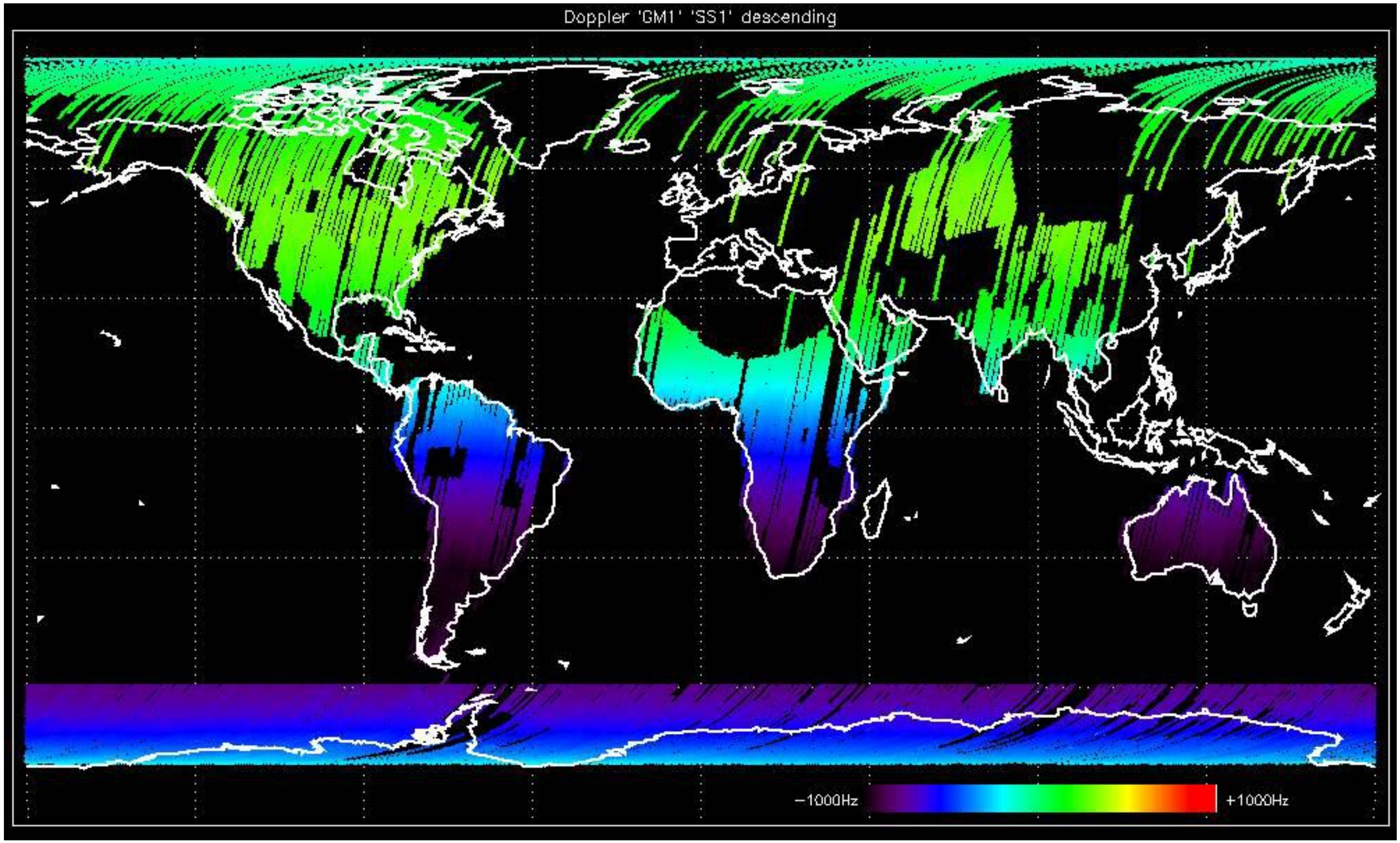
No anomalies observed.

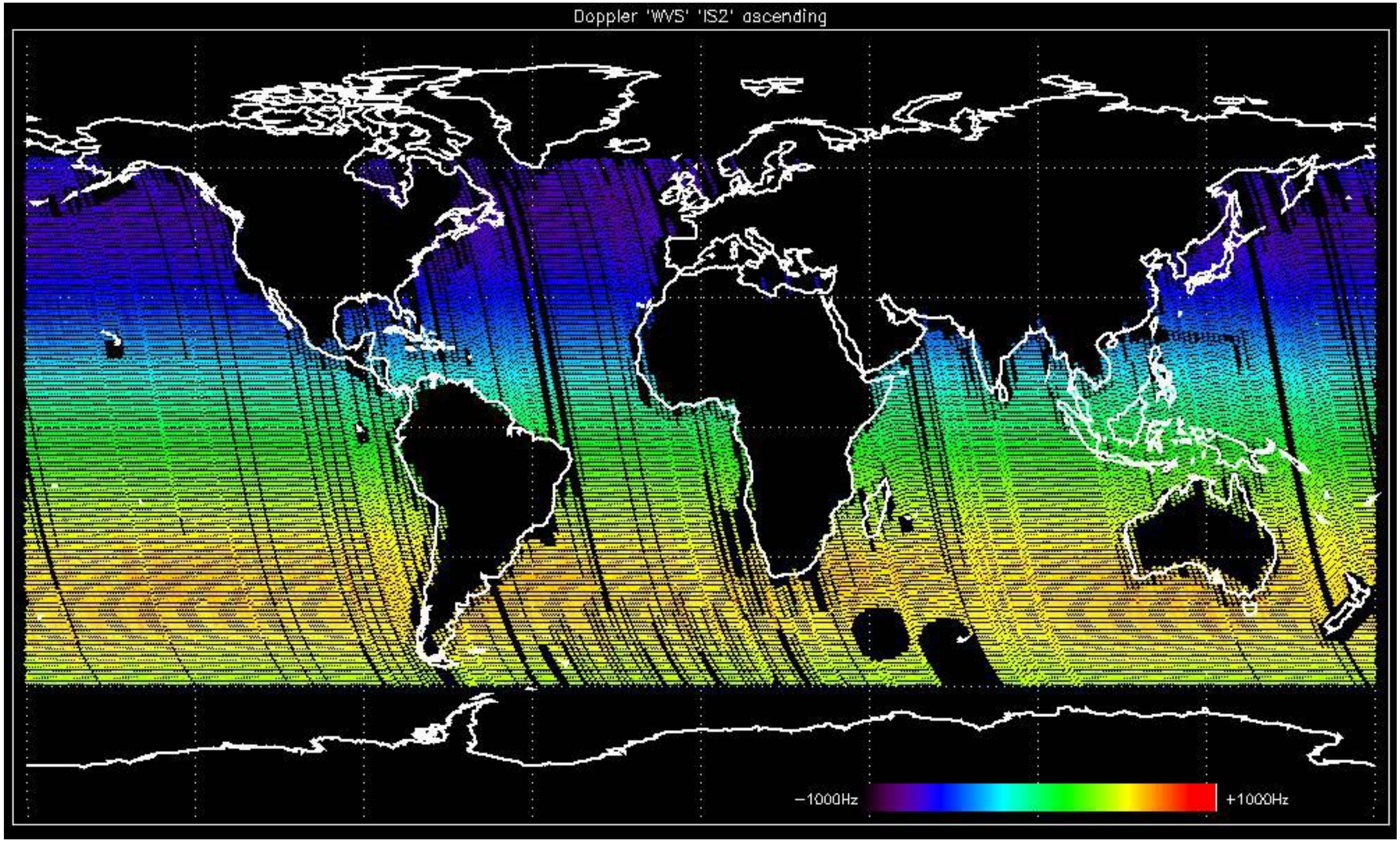

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

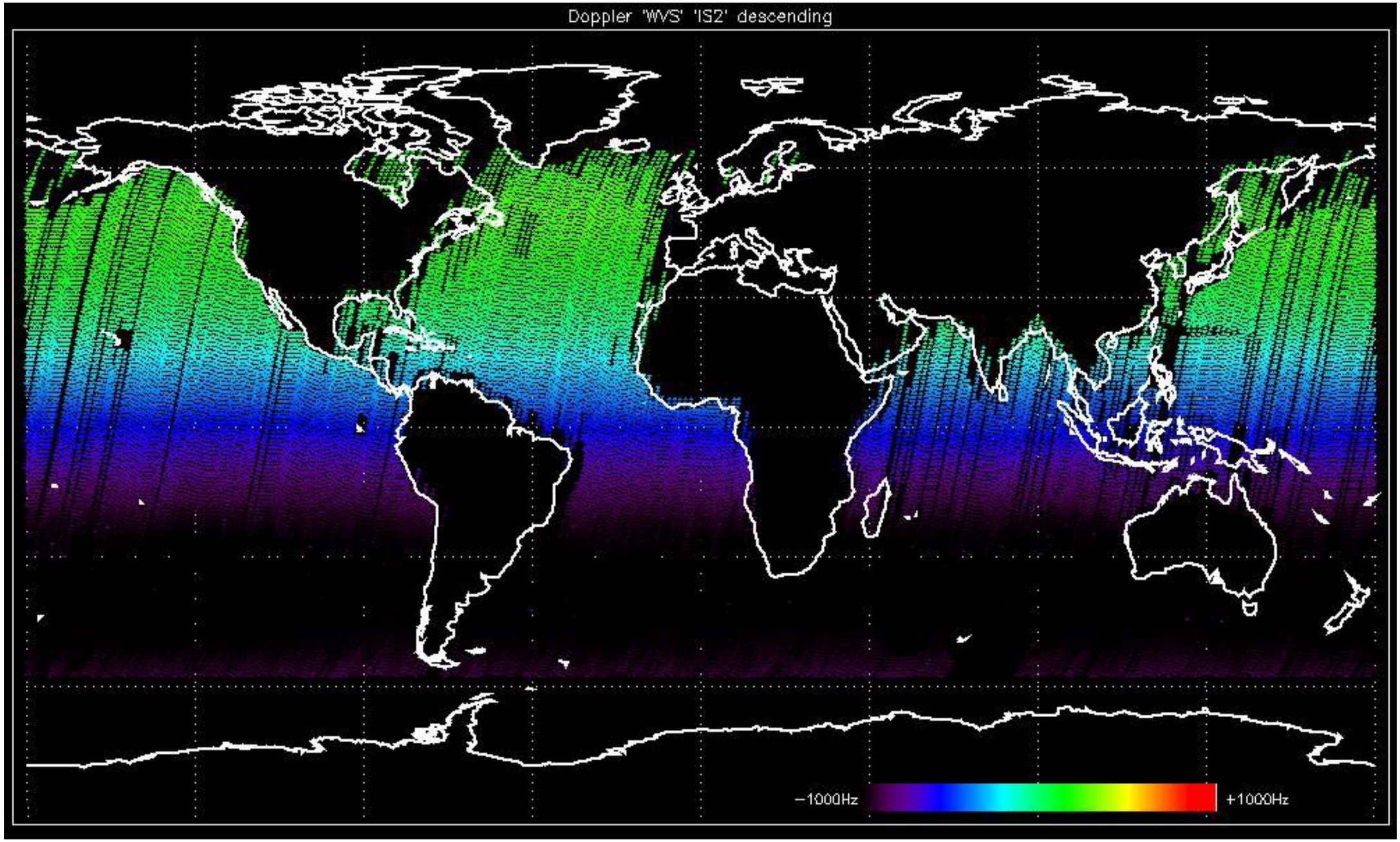

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

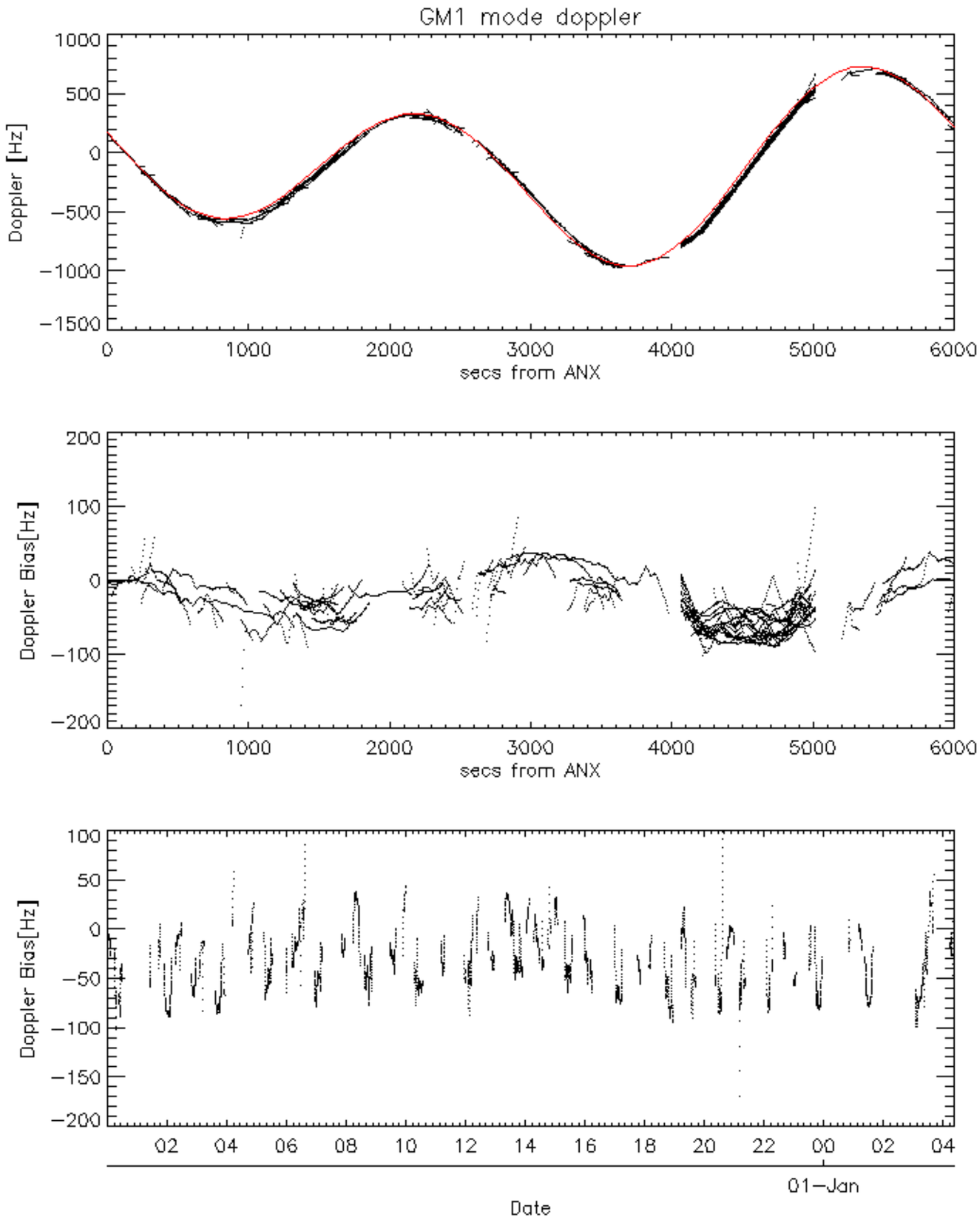
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

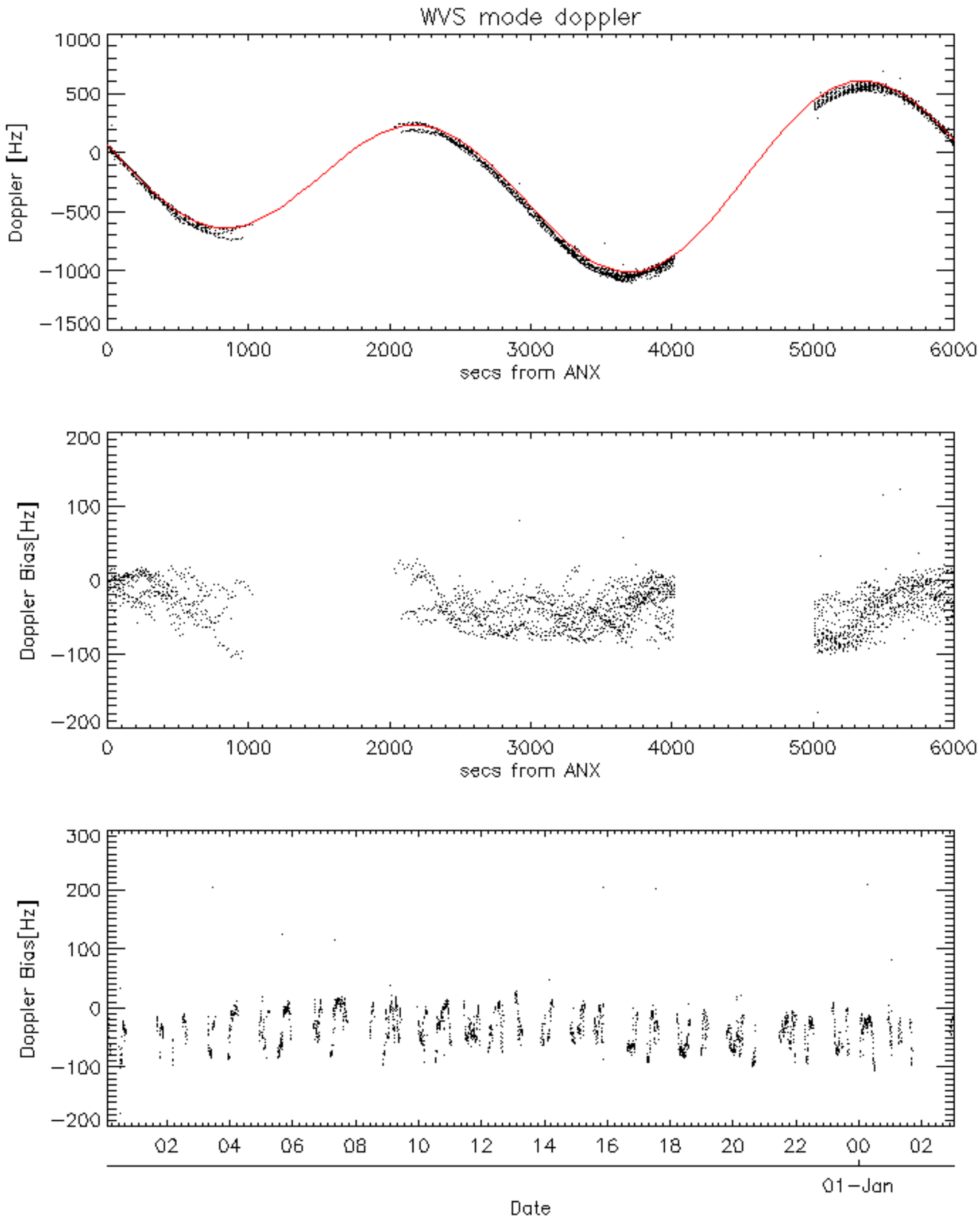

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

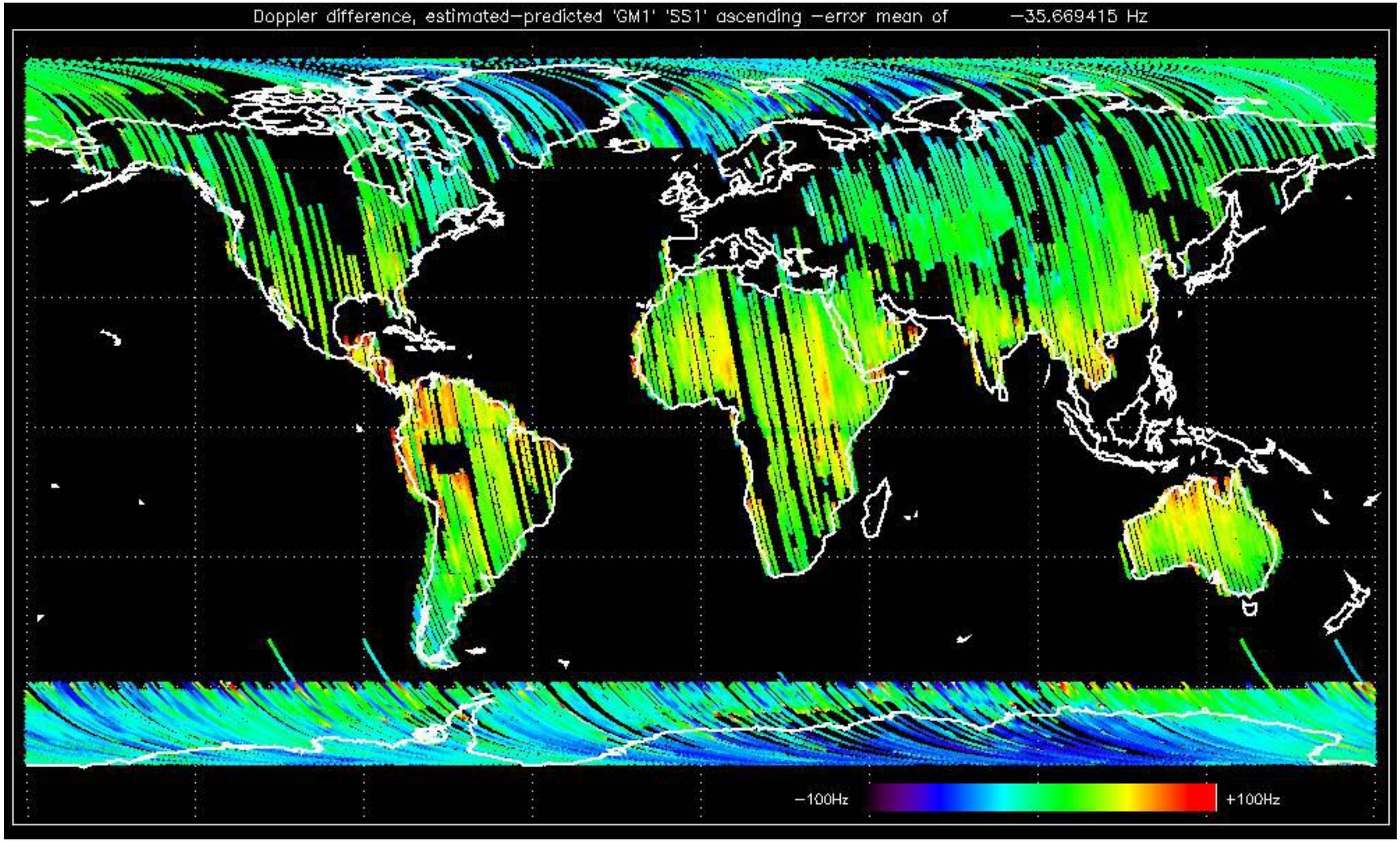

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

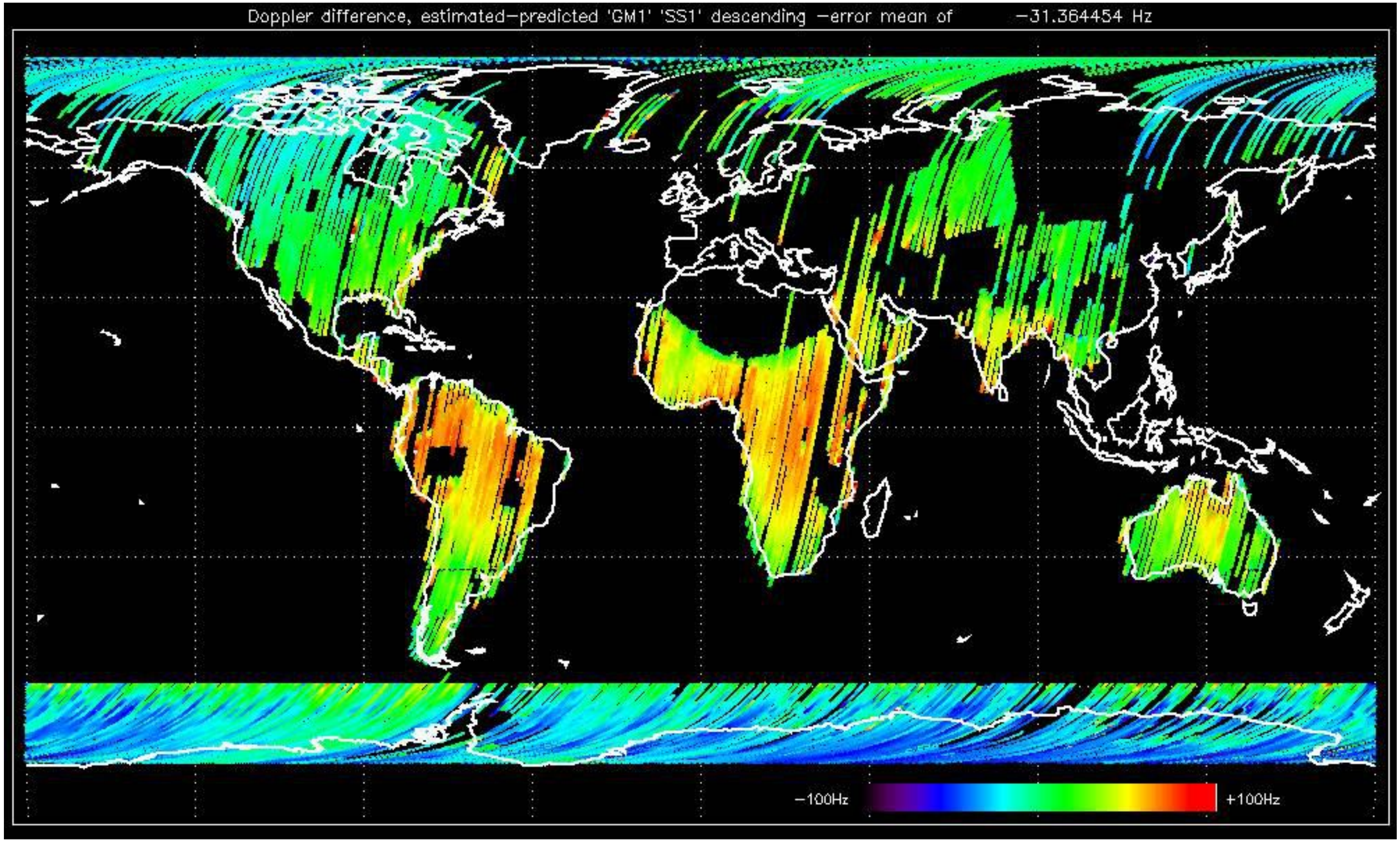

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

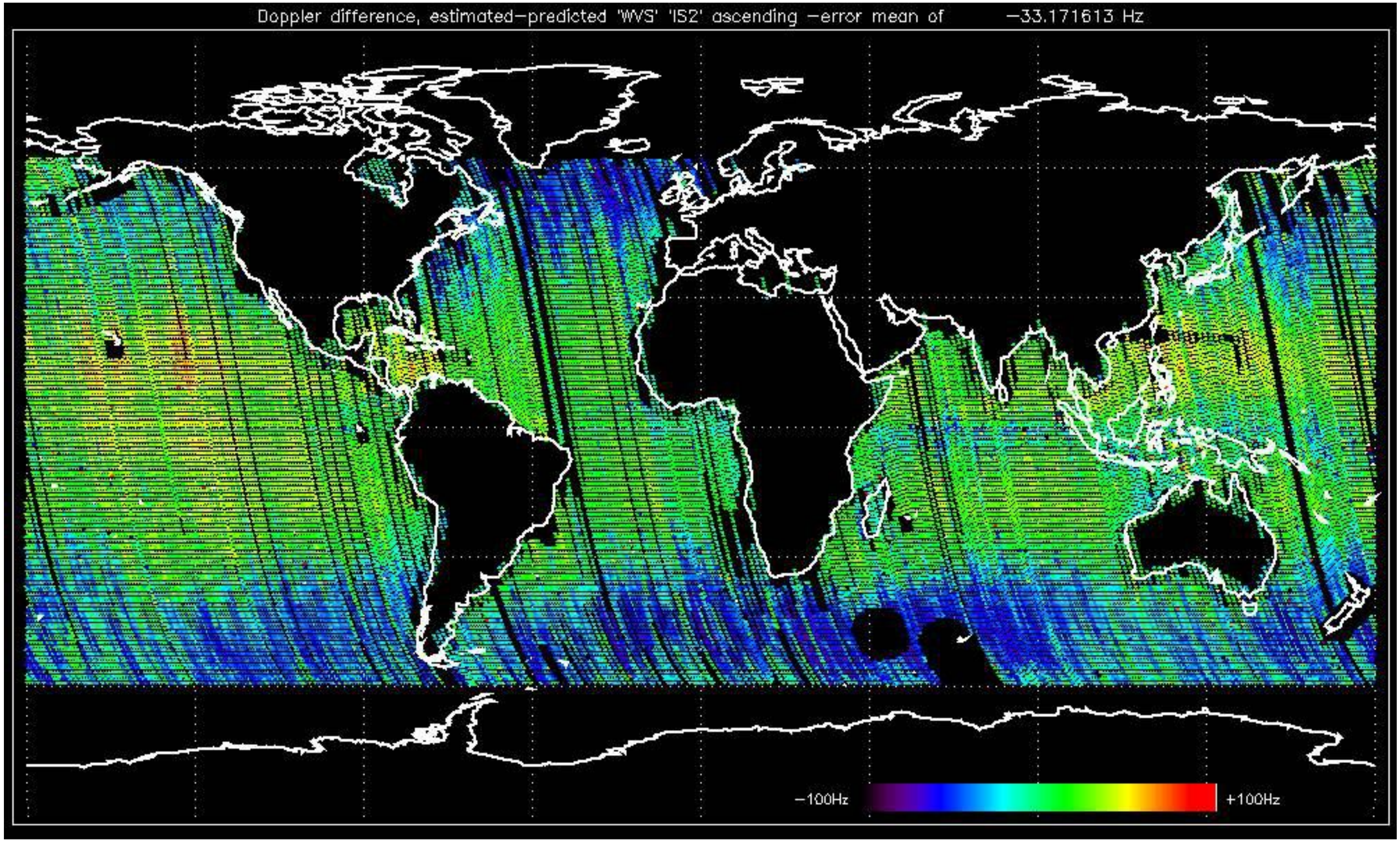

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

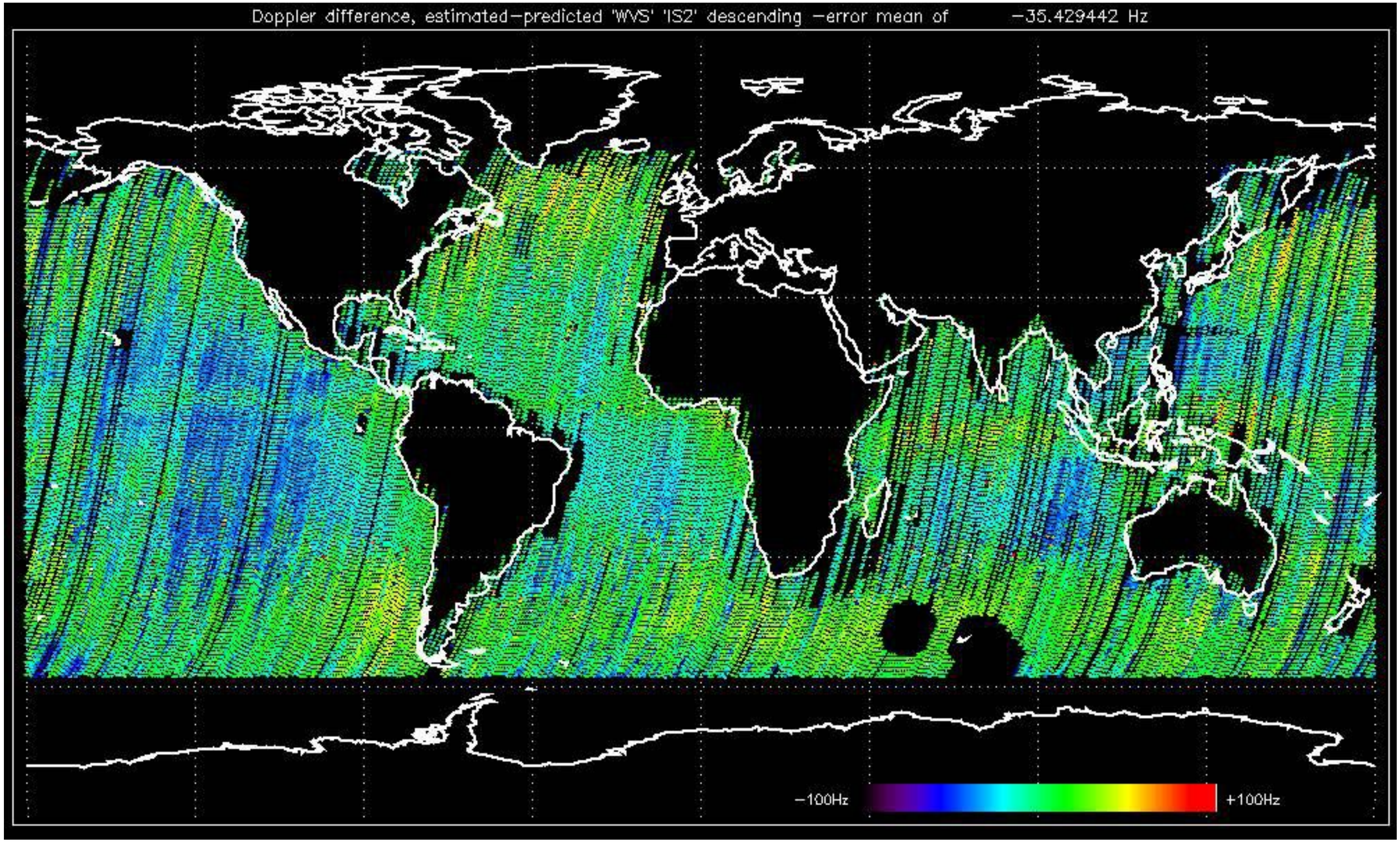

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
100
50
0
−50
−100
−150
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
04
01−Jan
Date


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
01−Jan
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −35.669415 Hz
−100Hz
+100Hz

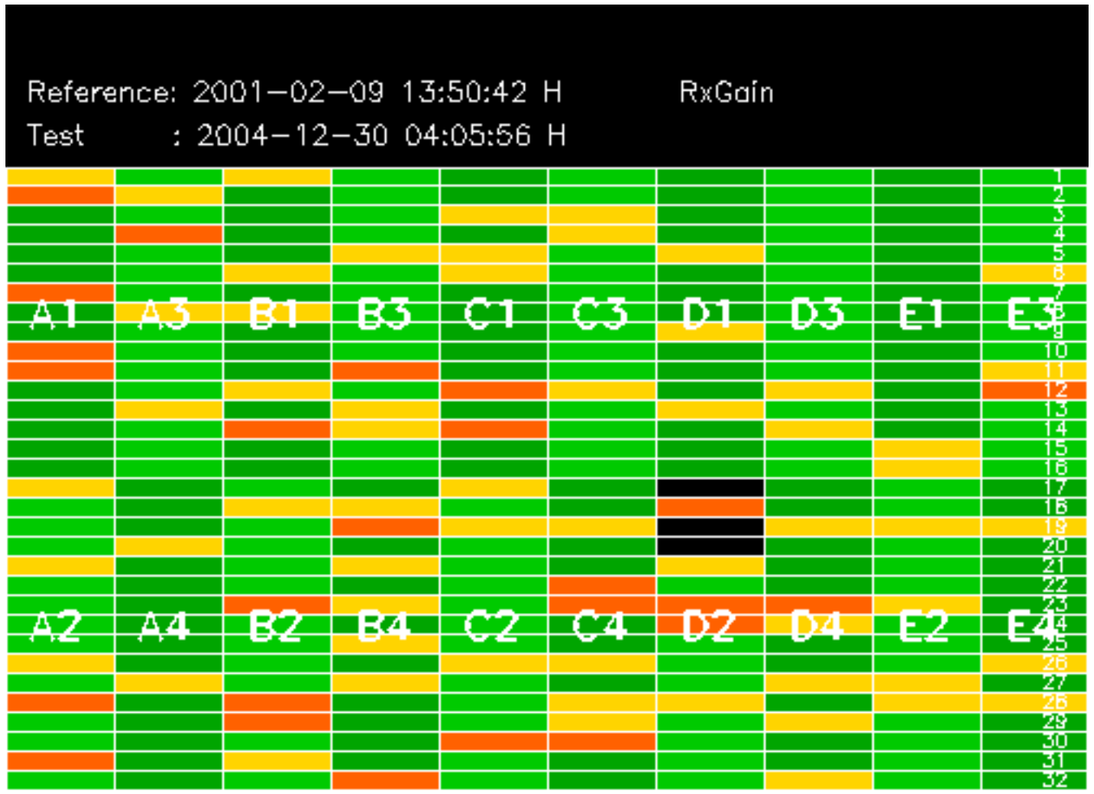

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -31.364454 Hz
-100Hz
+100Hz

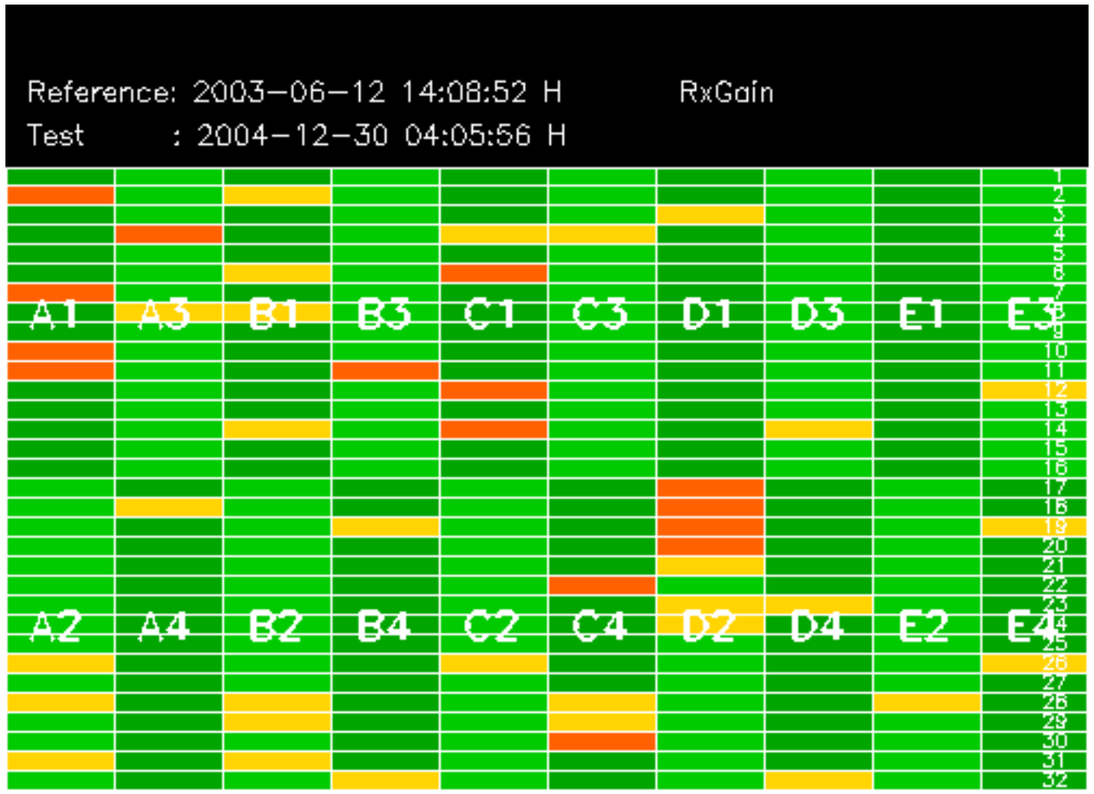

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −33.171613 Hz
−100Hz
+100Hz

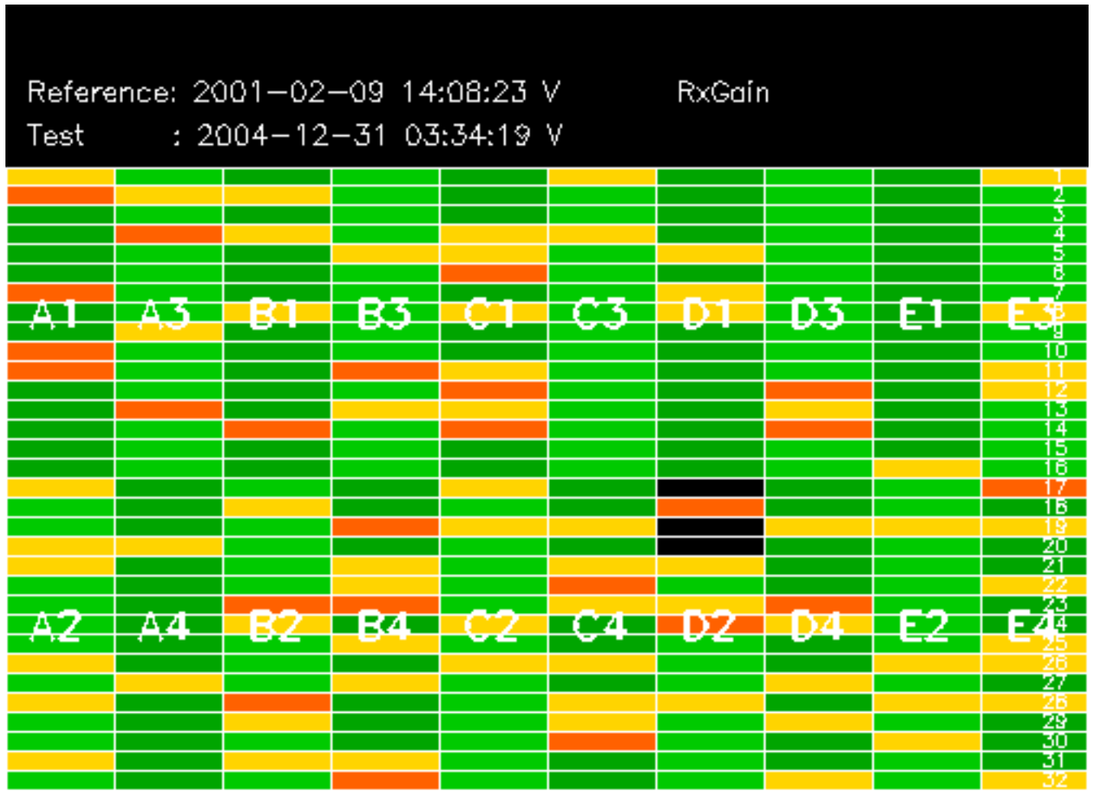

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −35.429442 Hz
−100Hz
+100Hz

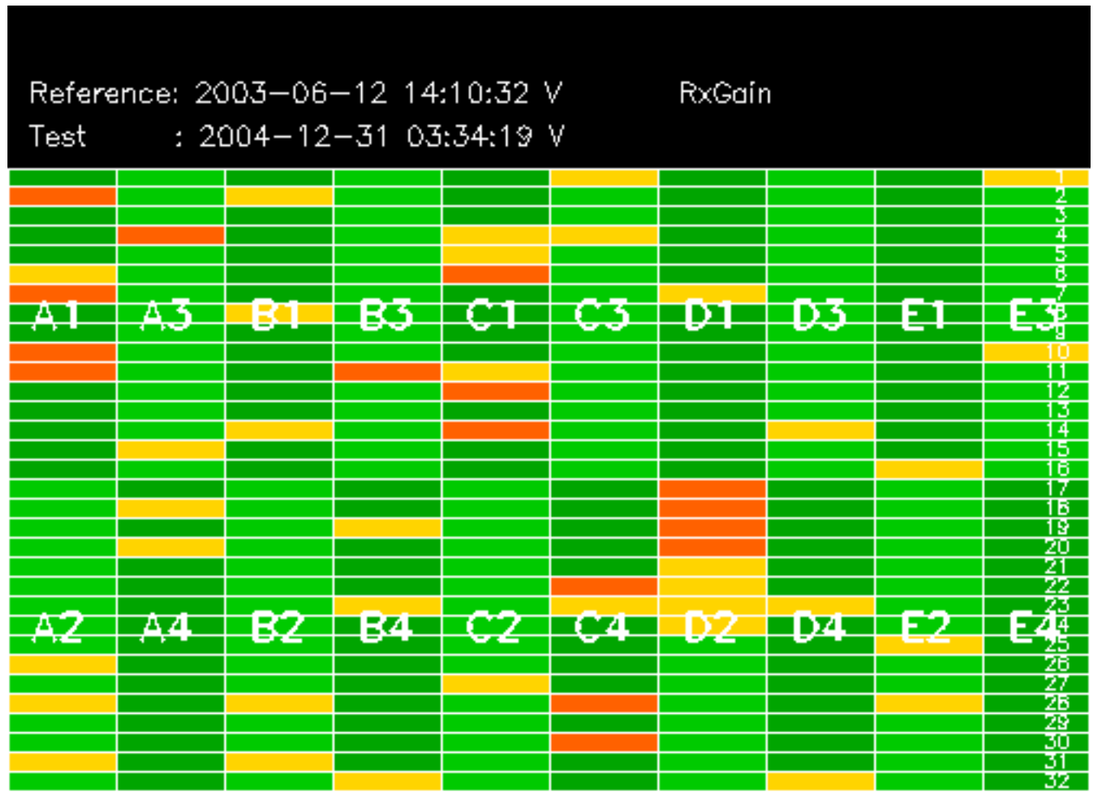
The MS mode provides an internal health check on an individual module basis.
The purpose of this mode is to identify to identify any malfunctionning modules and to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

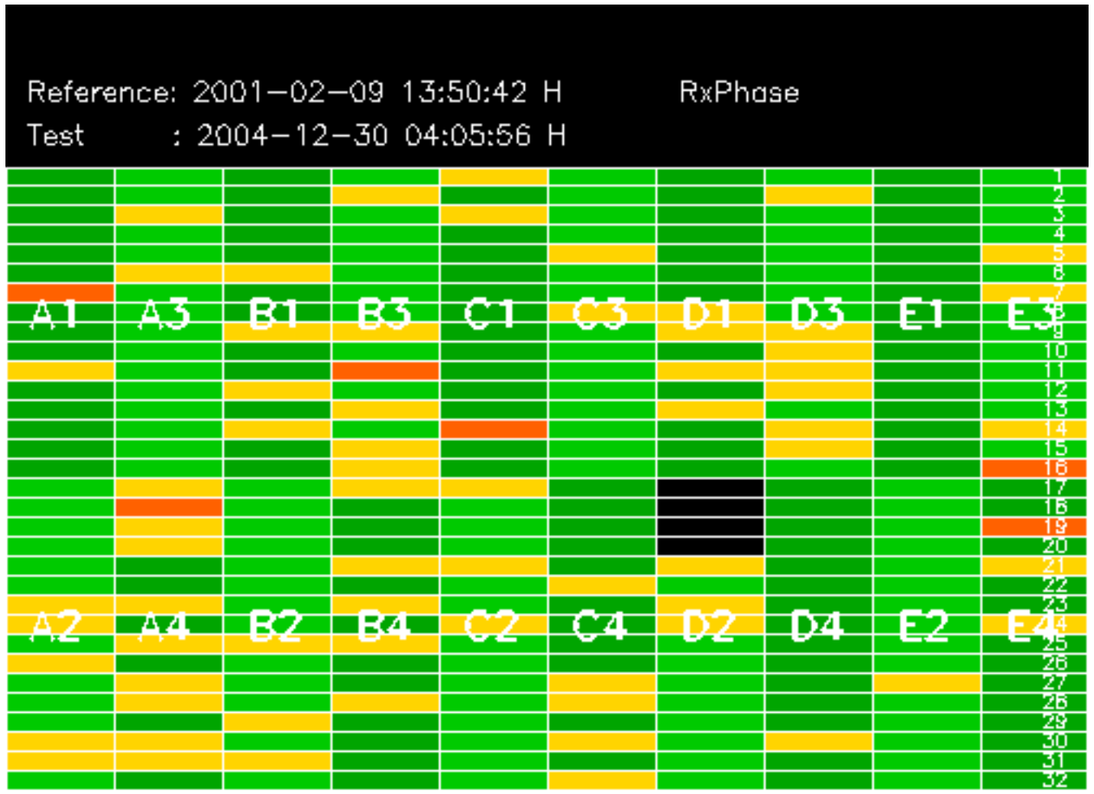
No anomalies observed.

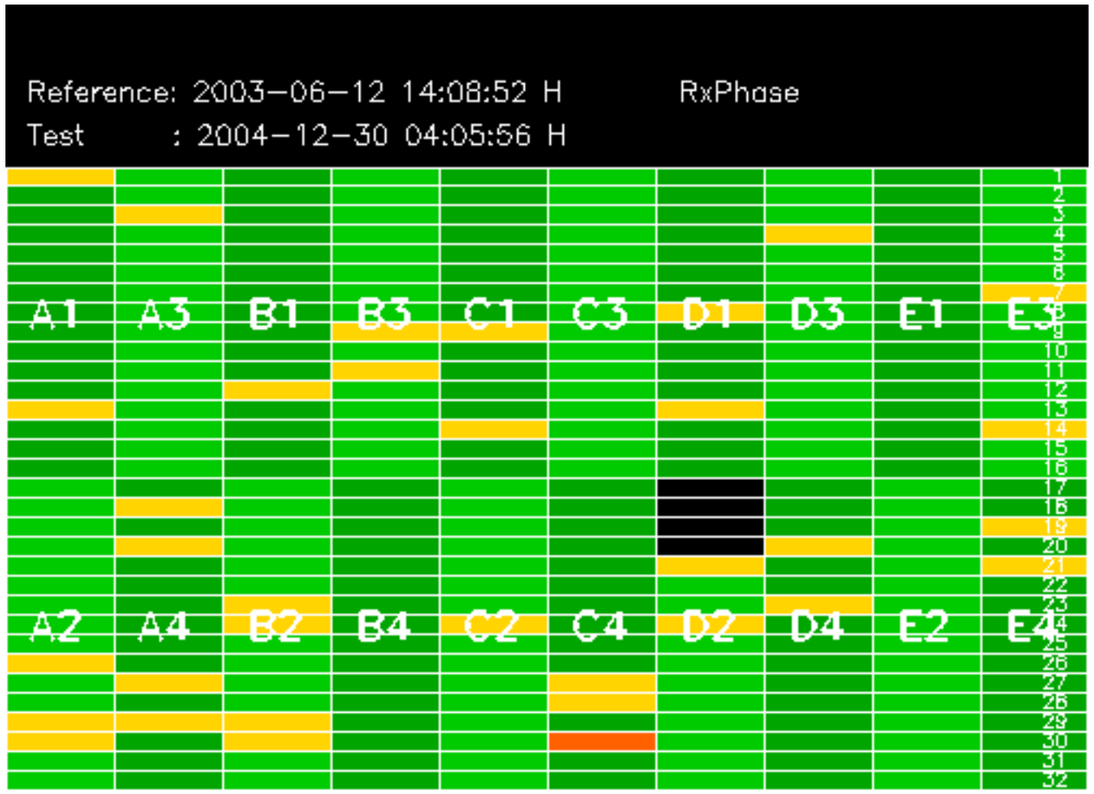

Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2004-12-30 04:05:56 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

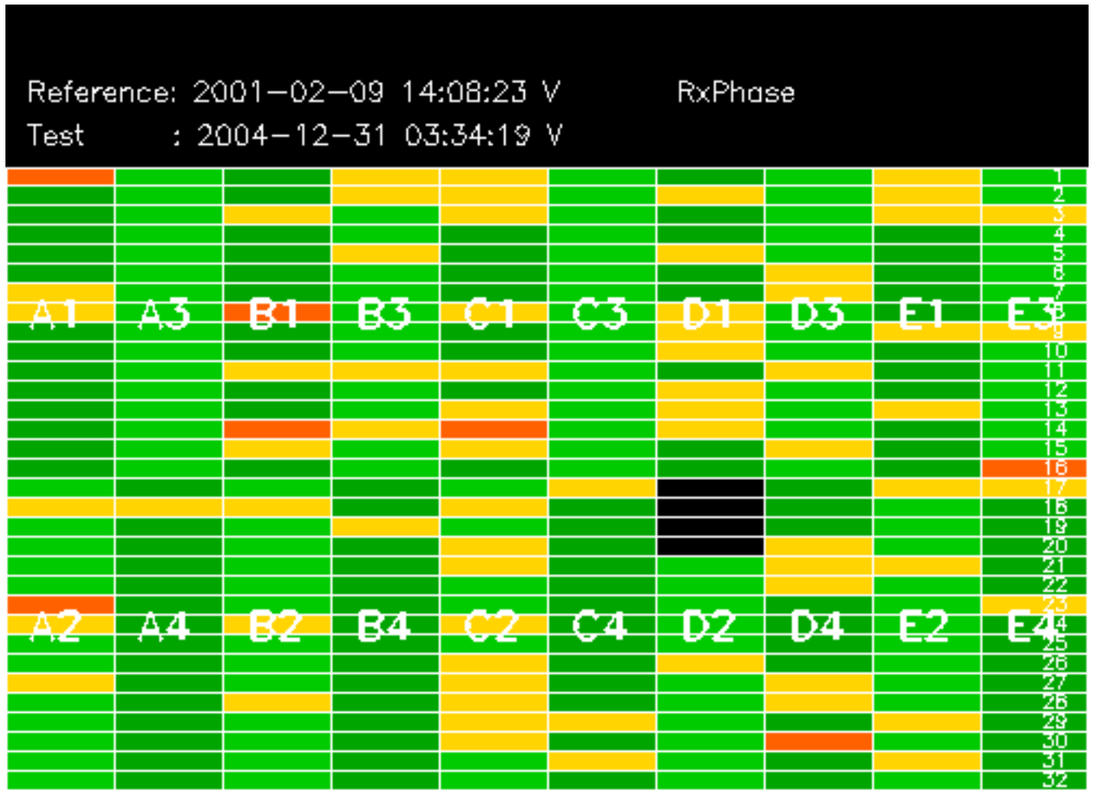

Reference: 2003-06-12 14:08:52 H
RxGain
Test : 2004-12-30 04:05:56 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

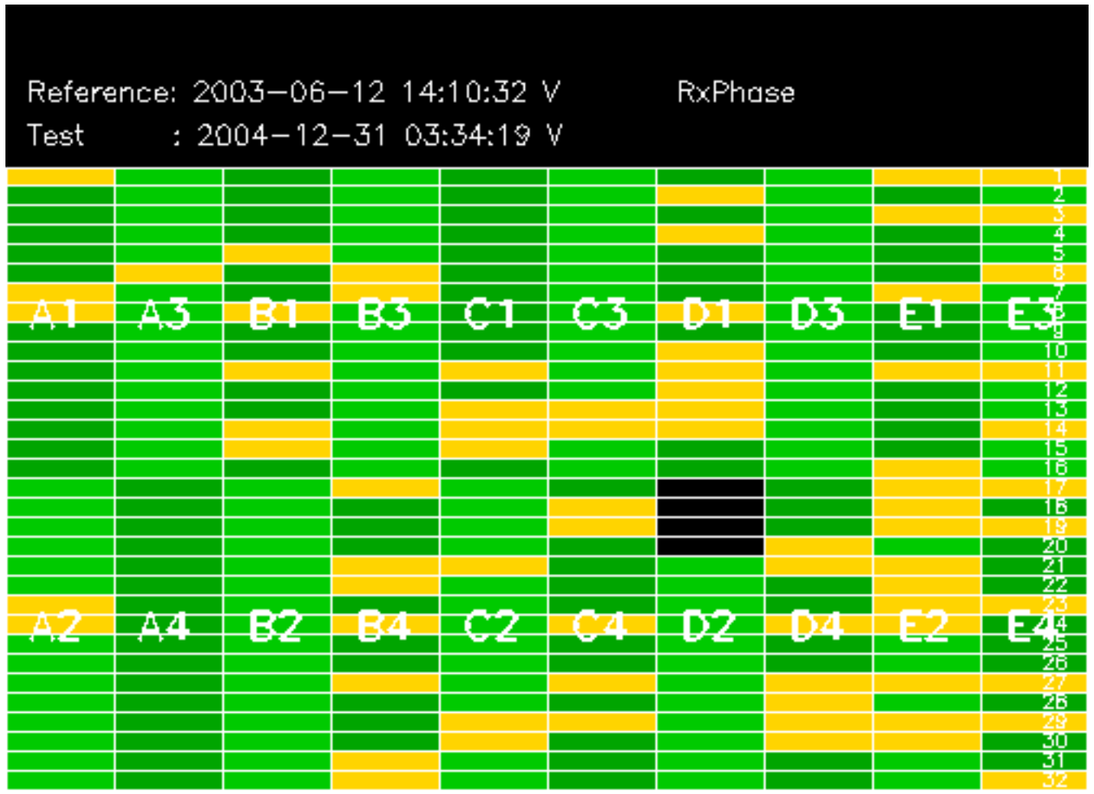

Reference: 2001-02-09 14:08:23 V
RxGain
Test : 2004-12-31 03:34:19 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

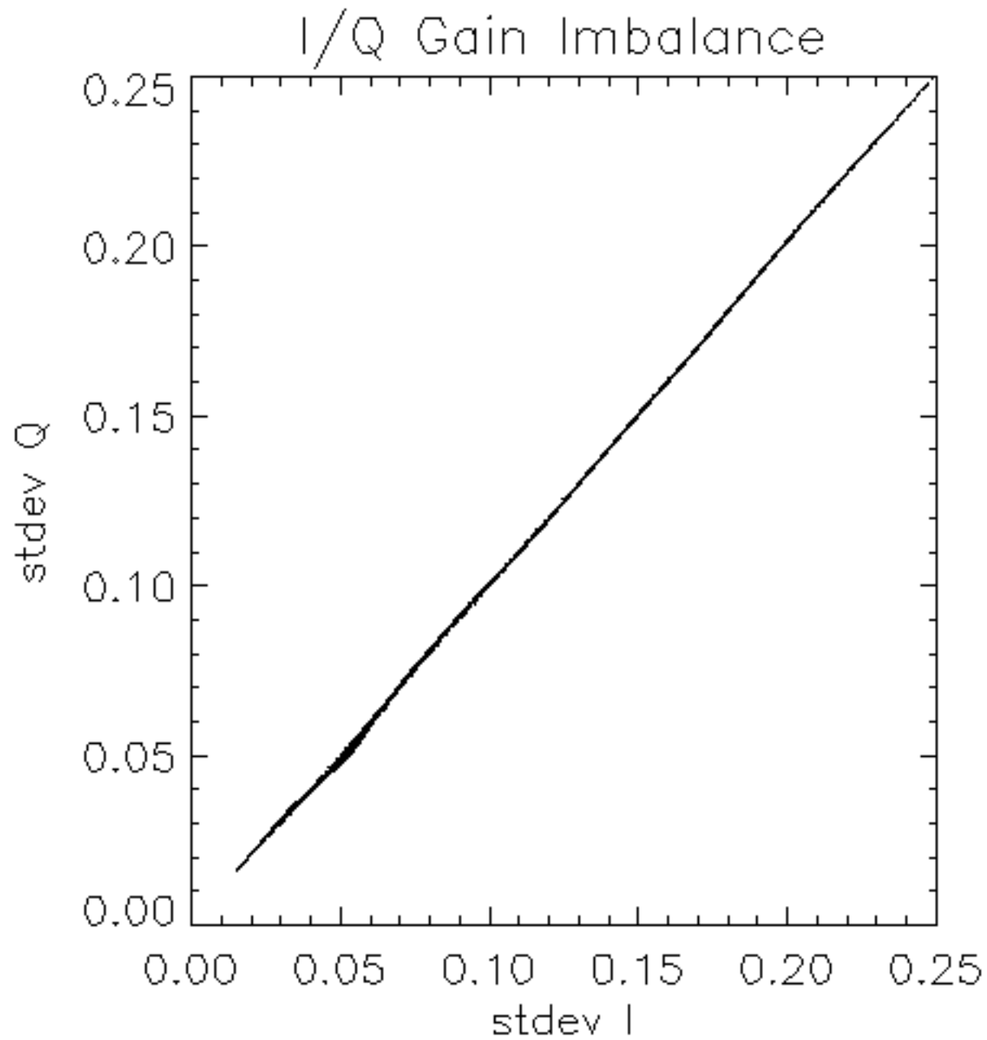

Reference: 2003-06-12 14:10:32 V
RxGain
Test : 2004-12-31 03:34:19 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

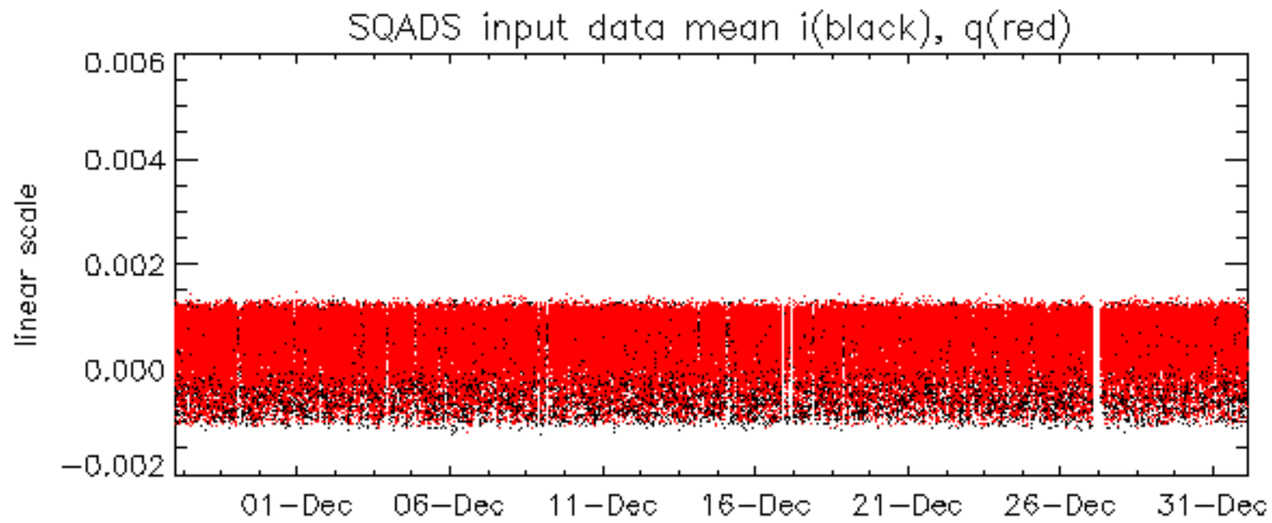

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-12-30 04:05:56 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

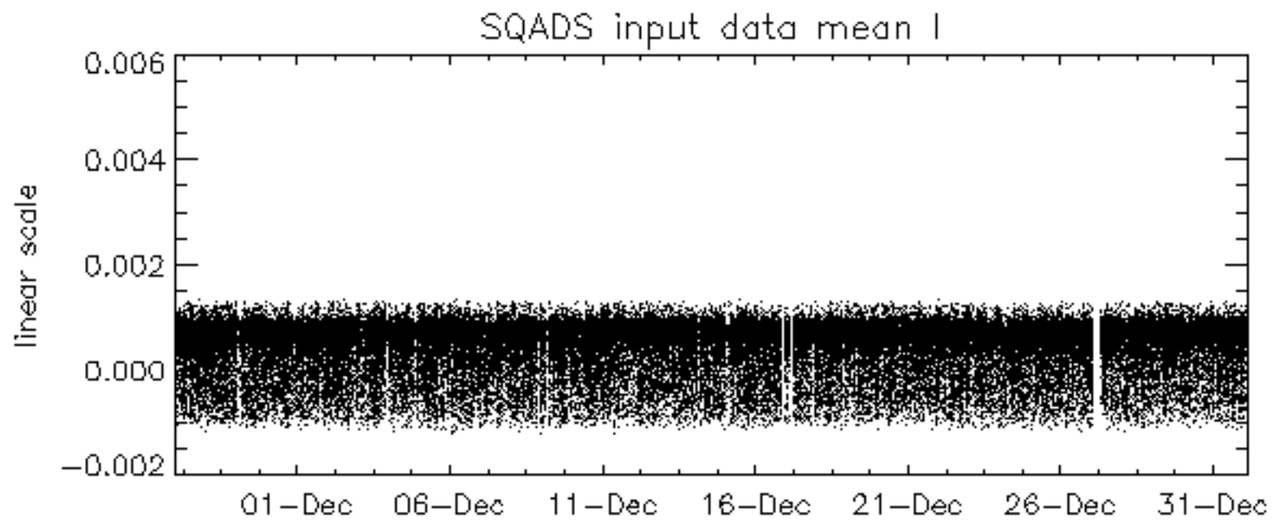

Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2004-12-30 04:05:56 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

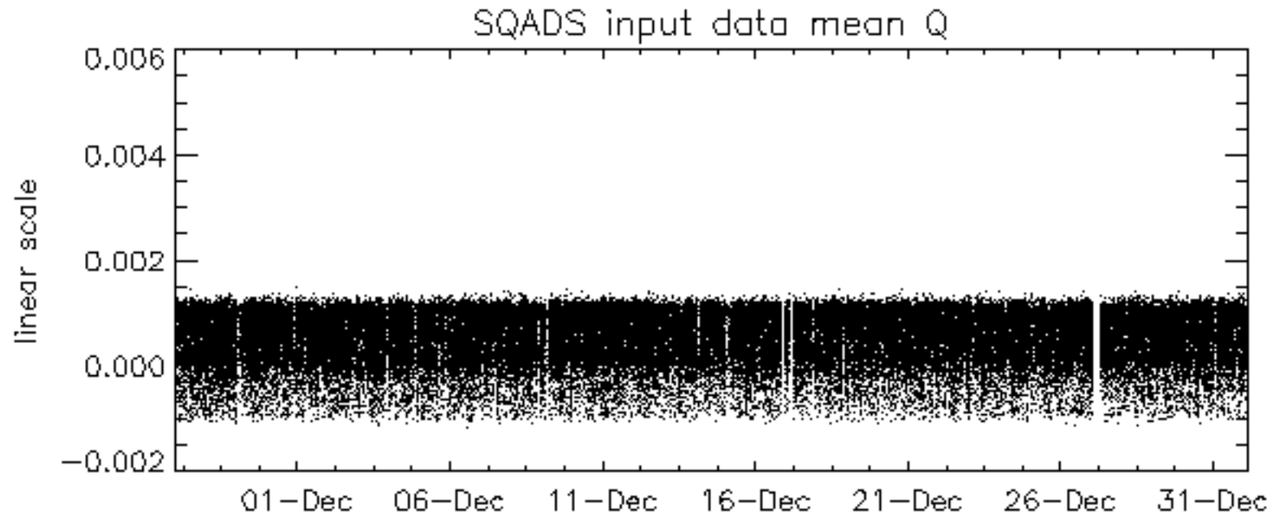

Reference: 2001-02-09 14:08:23 V
RxPhase
Test : 2004-12-31 03:34:19 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

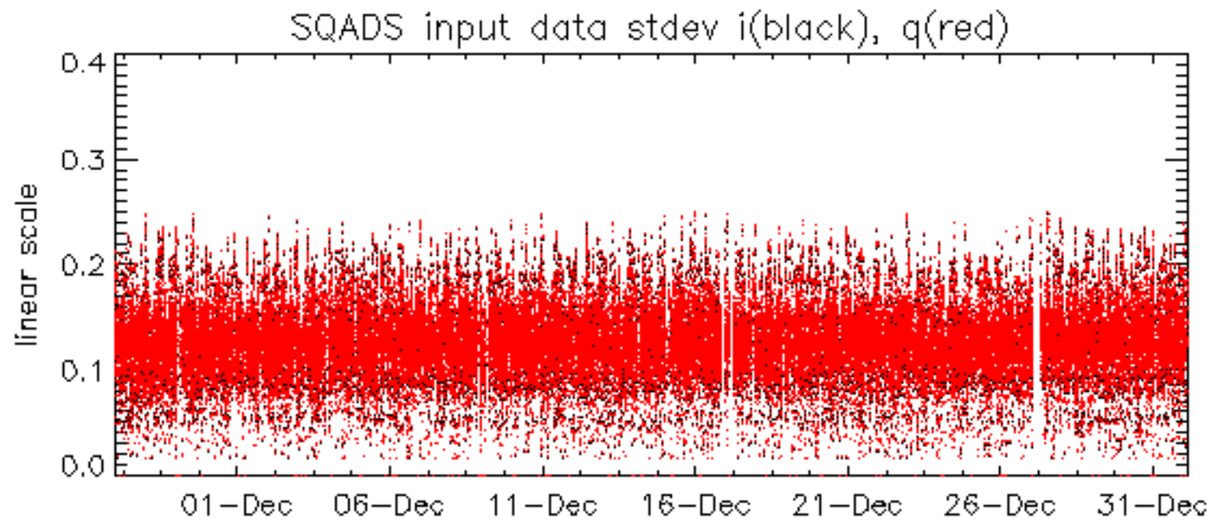

Reference: 2003-06-12 14:10:32 V
RxPhase
Test : 2004-12-31 03:34:19 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

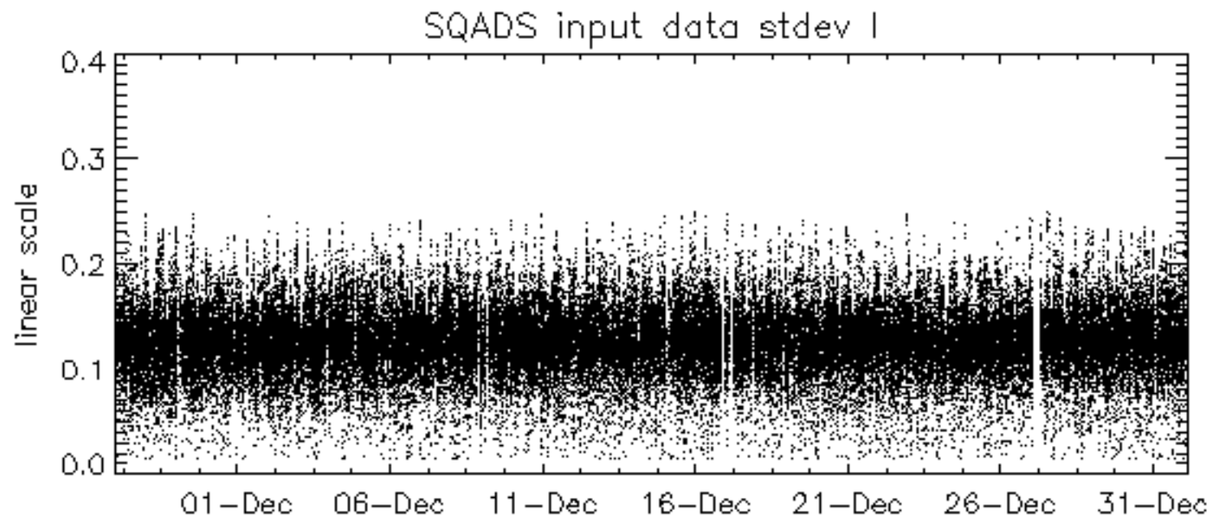

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

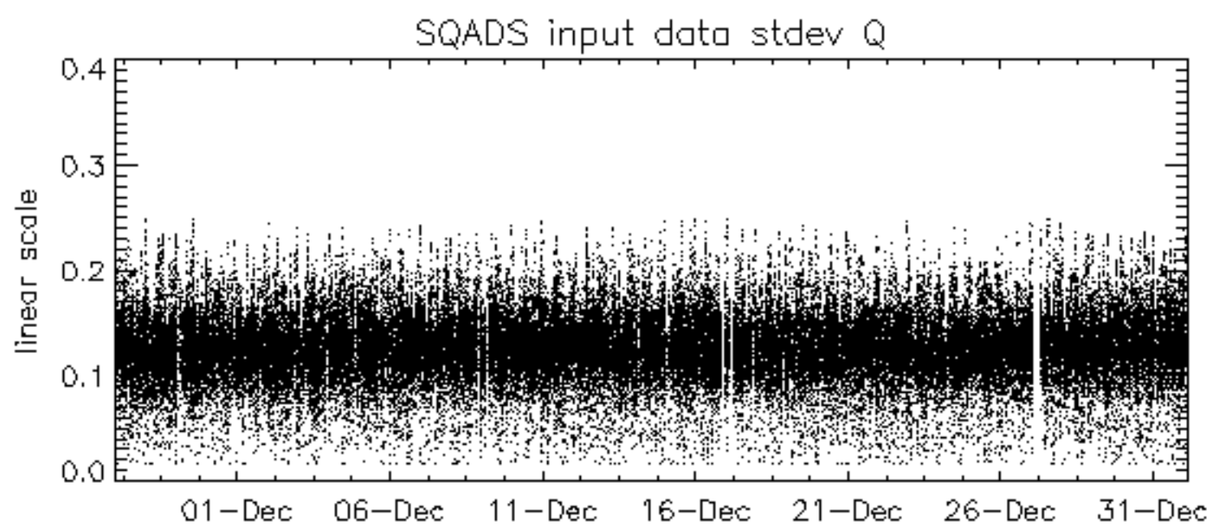

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec

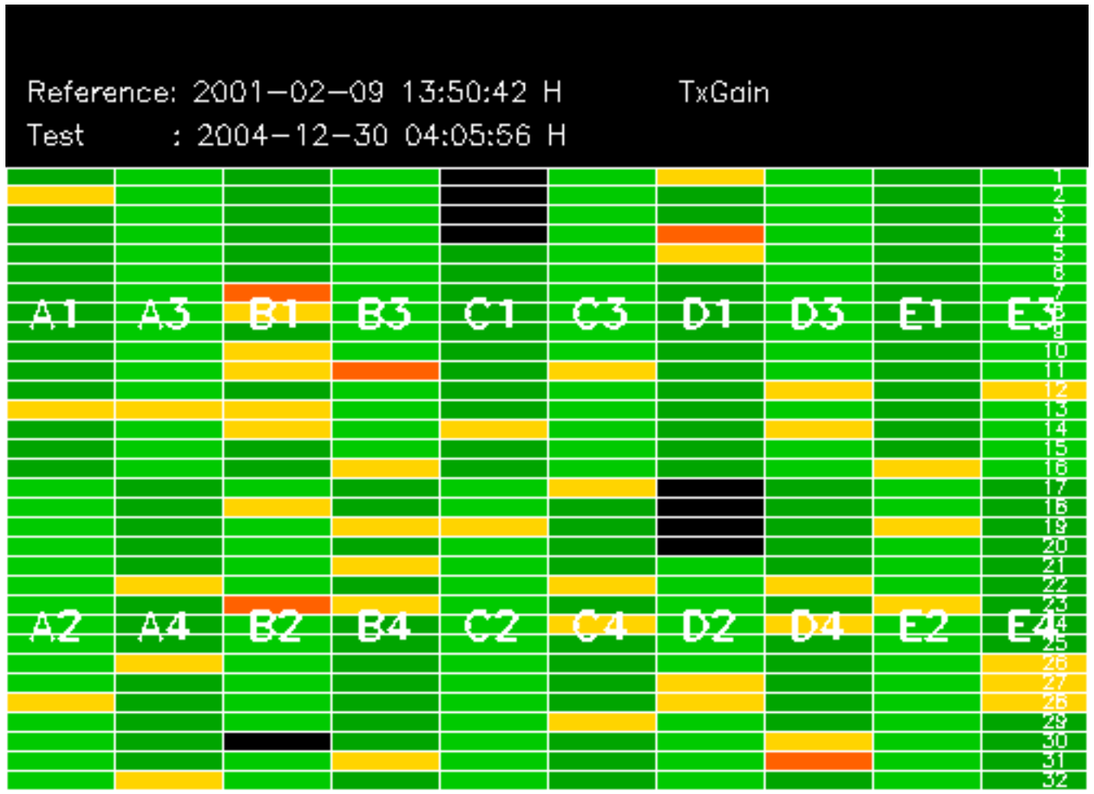

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec

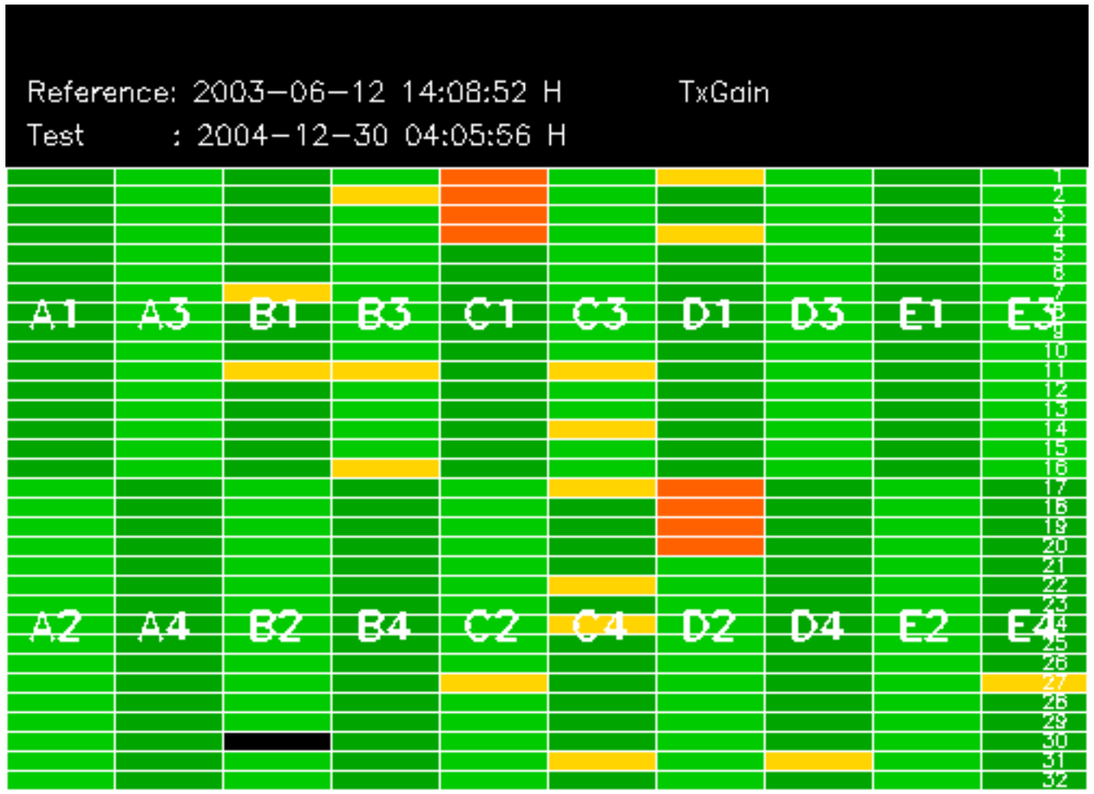

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec

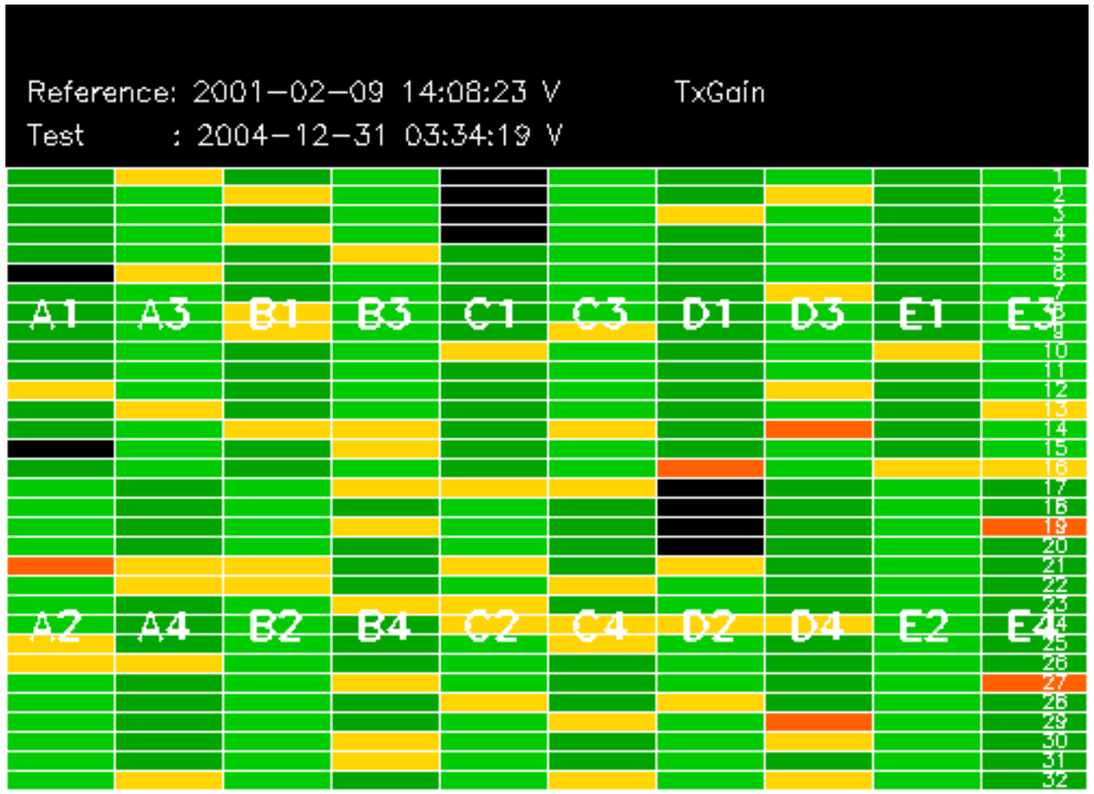

SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
01-Dec
06-Dec
11-Dec
16-Dec
21-Dec
26-Dec
31-Dec

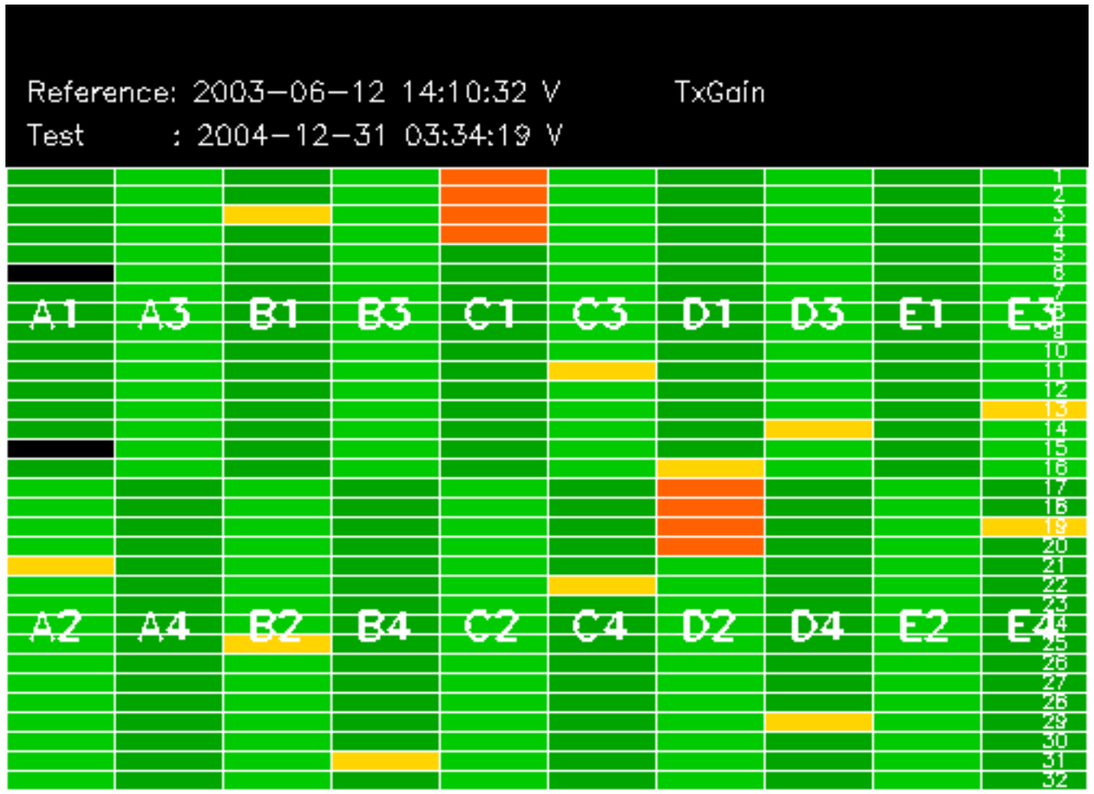

SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
01-Dec
06-Dec
11-Dec
16-Dec
21-Dec
26-Dec
31-Dec

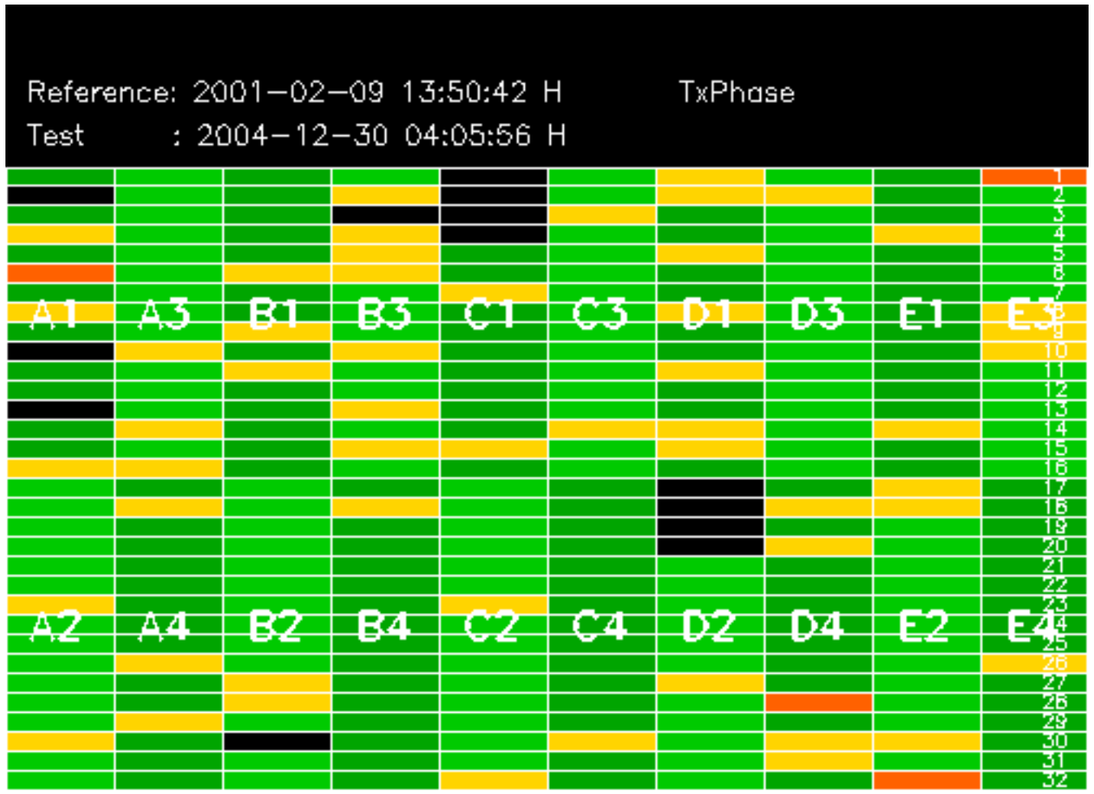

SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
01-Dec
06-Dec
11-Dec
16-Dec
21-Dec
26-Dec
31-Dec

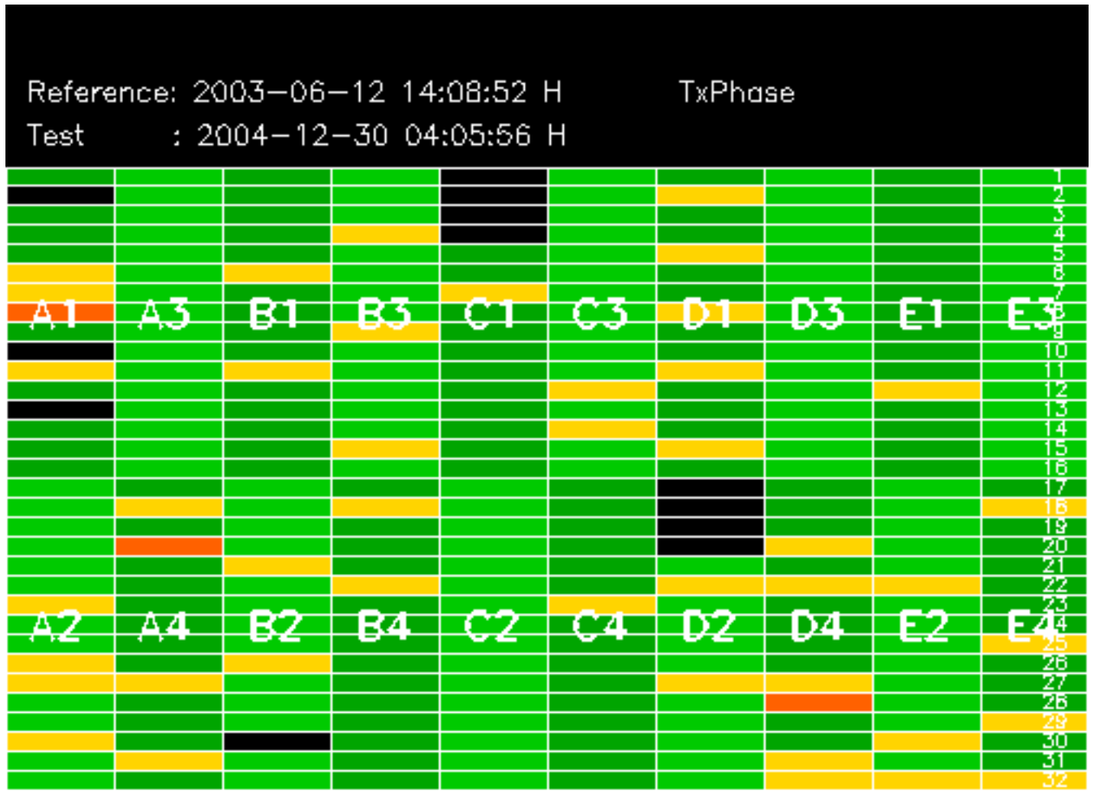

Reference: 2001-02-09 13:50:42 H
TxGain
Test : 2004-12-30 04:05:56 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

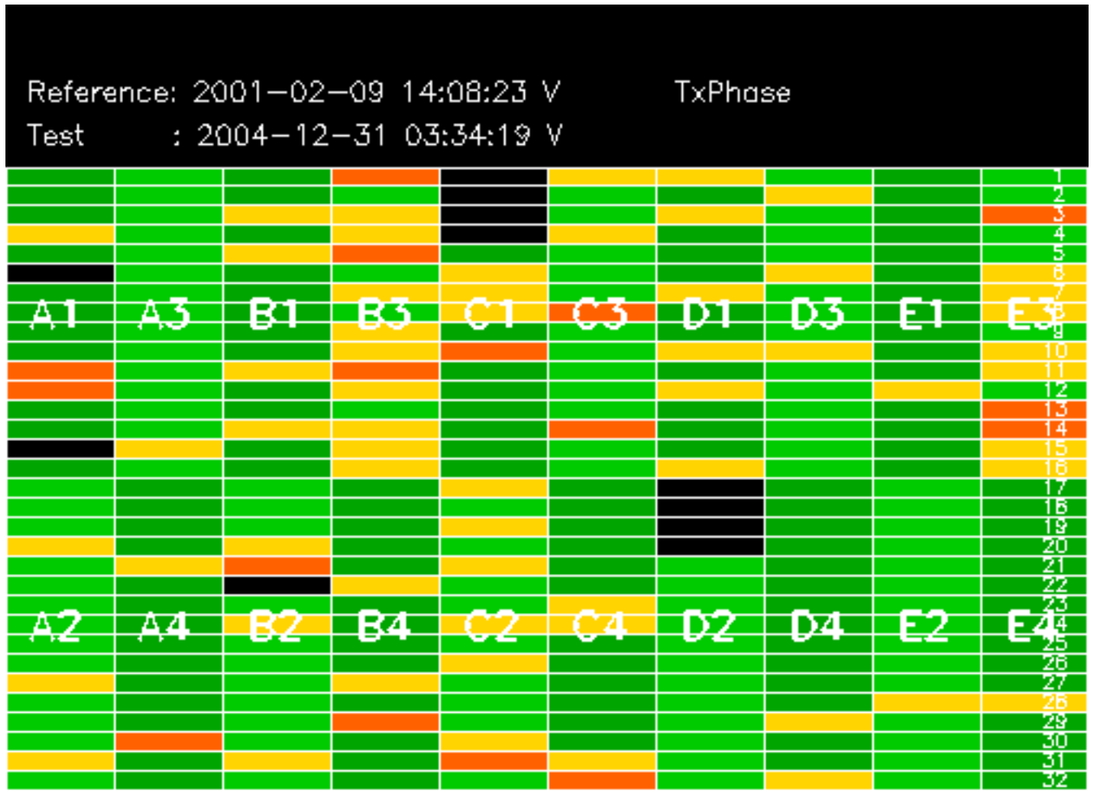

Reference: 2003-06-12 14:08:52 H
TxGain
Test : 2004-12-30 04:05:56 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

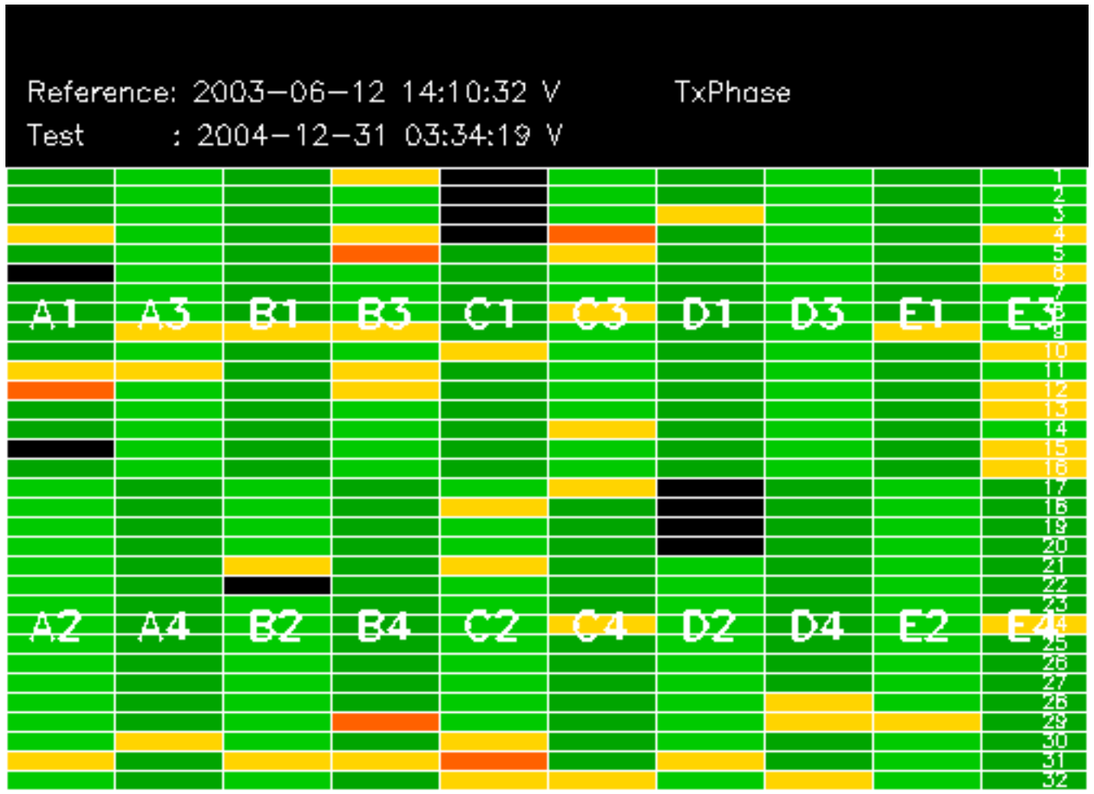

Reference: 2001-02-09 14:08:23 V
TxGain
Test : 2004-12-31 03:34:19 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

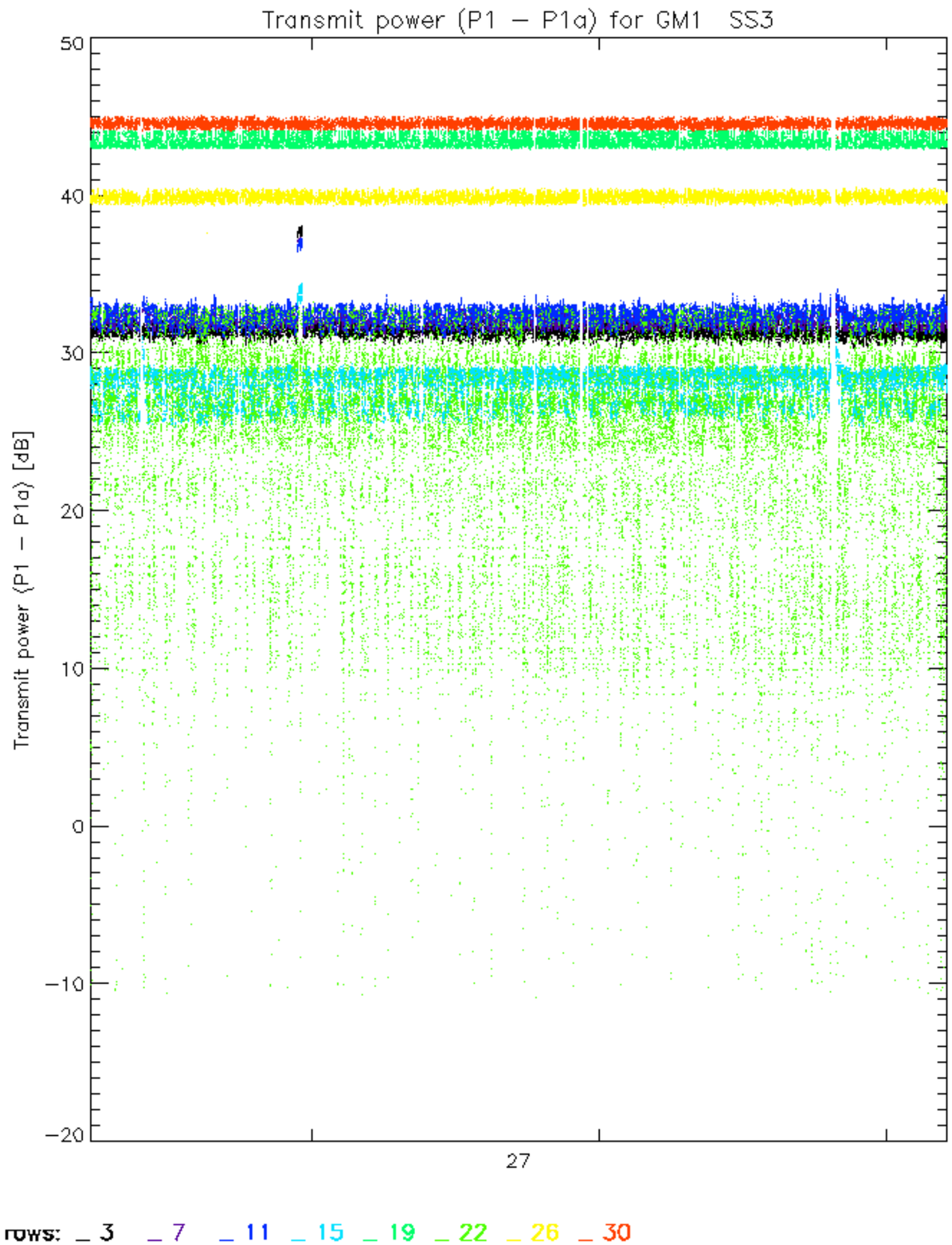

Reference: 2003-06-12 14:10:32 V
TxGain
Test : 2004-12-31 03:34:19 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

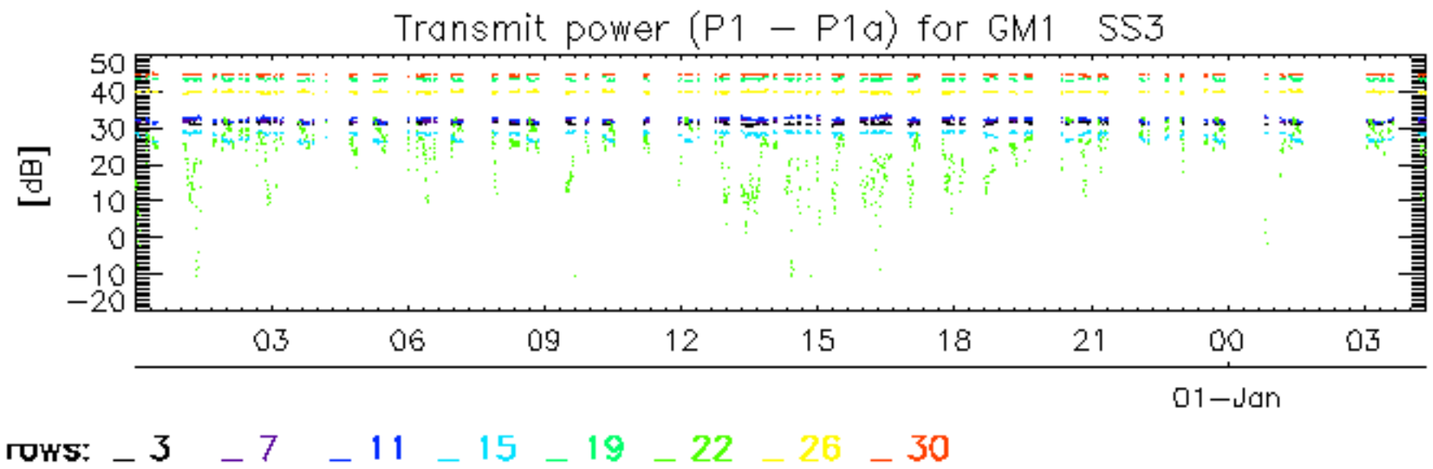

Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-12-30 04:05:56 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

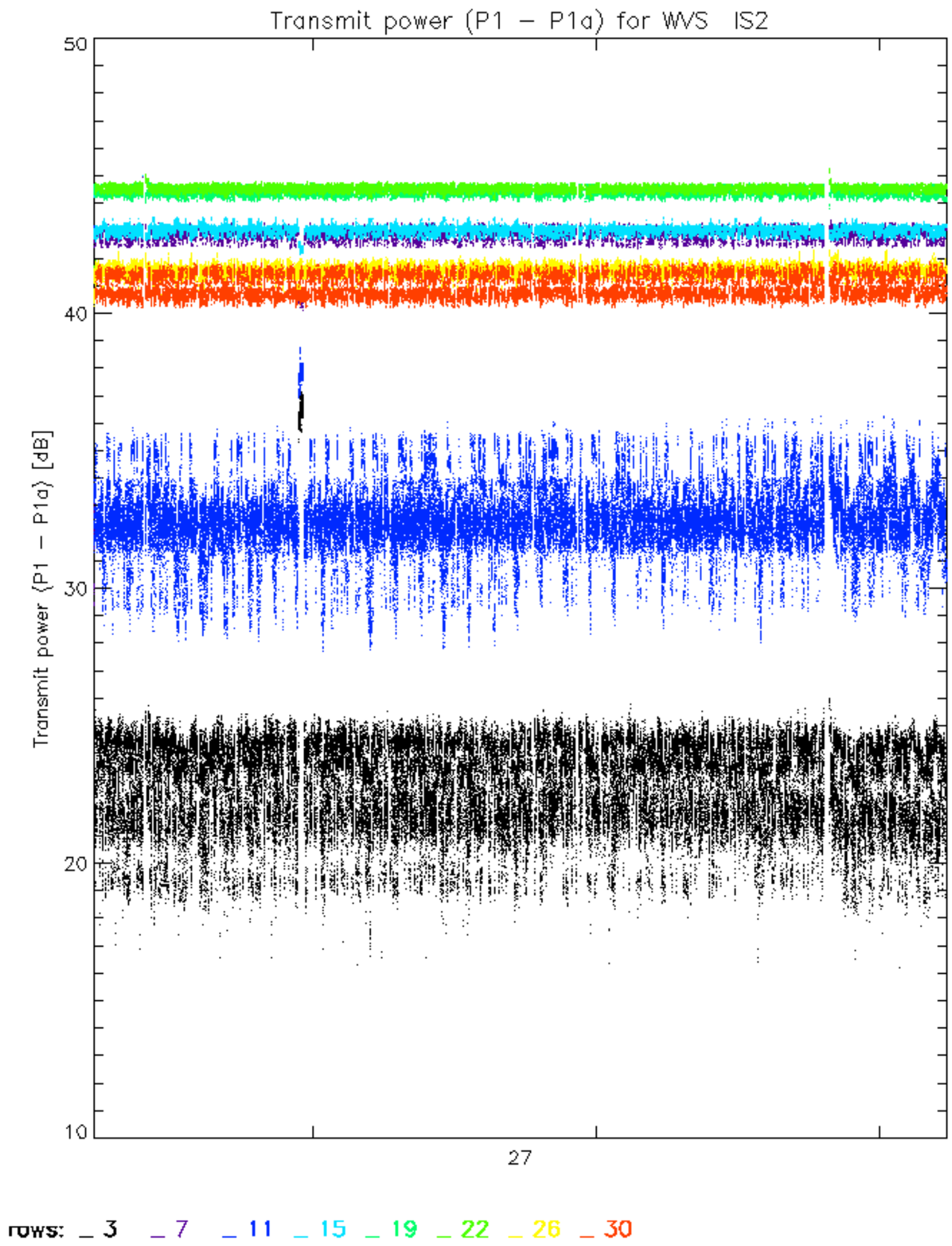

Reference: 2003-06-12 14:08:52 H
TxPhase
Test : 2004-12-30 04:05:56 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

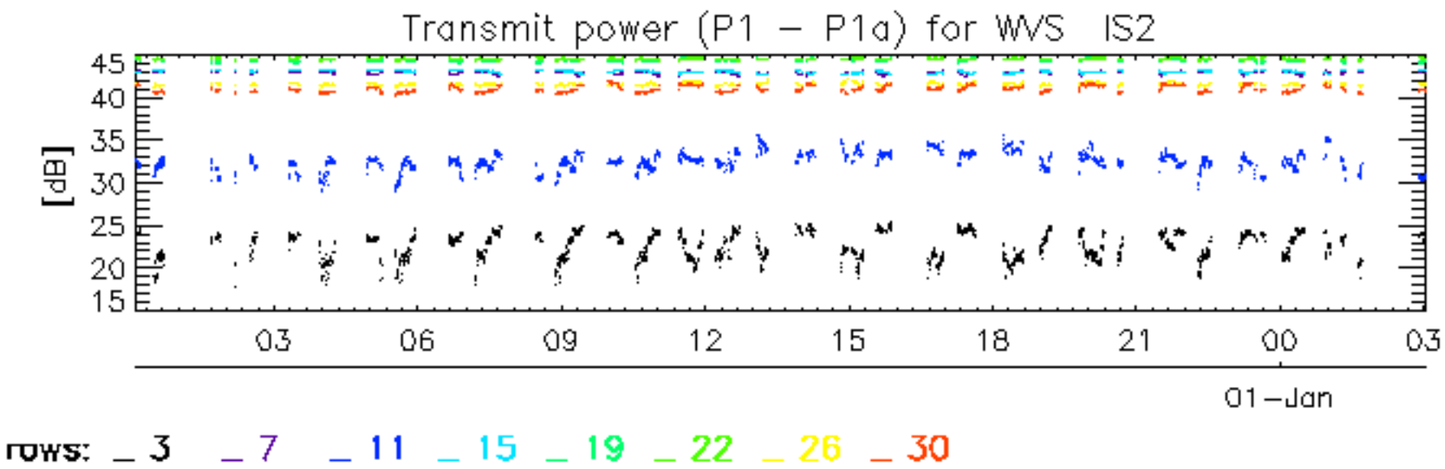

Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2004-12-31 03:34:19 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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
27
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
01–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
27
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
01–Jan
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.