PRELIMINARY REPORT OF 050120

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

last update on Thu Jan 20 11:19:55 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 2005-01-19 00:00:00 to 2005-01-20 11:19:55

PDHS-K					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	30	47	3	3	1
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	30	47	3	3	1
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	30	47	3	3	1
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	30	47	3	3	1

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	44	47	4	12	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	44	47	4	12	4
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	44	47	4	12	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	44	47	4	12	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	20050119 170201
H	20050118 173338

MSM in V/V polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
☒	☒
☒	☒

MSM in H/H polarisation

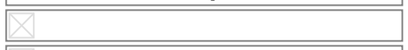
Pre-launch Reference	DDS-B (2003-06-12) reference
	
	
	
	

4 - Internal calibration Results

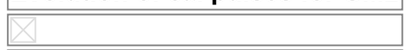
No anomalies observed.

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	-3.422352	0.007330	0.038406
7	P1	-3.083695	0.010069	0.019432
11	P1	-4.647127	0.019716	0.003207
15	P1	-5.647094	0.039097	0.019242
19	P1	-3.663465	0.006208	0.004209
22	P1	-4.570240	0.016514	0.018983
26	P1	-4.941208	0.025372	0.029664
30	P1	-7.130055	0.014526	-0.016132
3	P1	-15.922946	0.105181	0.047398
7	P1	-15.509830	0.095544	0.055114
11	P1	-20.806870	0.306861	-0.045646
15	P1	-11.626759	0.074427	0.038355
19	P1	-14.175566	0.031041	0.006645
22	P1	-16.008701	0.432108	0.159436
26	P1	-17.677912	0.227279	0.130706
30	P1	-17.875252	0.317688	-0.038459

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.302771	0.086351	0.111095
7	P2	-22.491867	0.166797	0.105395
11	P2	-14.760917	0.175308	0.176498
15	P2	-7.137605	0.114386	0.075492
19	P2	-9.724828	0.207703	0.115795
22	P2	-17.105215	0.097981	0.119619
26	P2	-16.519621	0.114275	0.085981

30	P2	-18.939438	0.083547	0.047452

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.200378	0.006979	0.026631
7	P3	-8.200369	0.006978	0.026588
11	P3	-8.200354	0.006976	0.026505
15	P3	-8.200330	0.006976	0.026345
19	P3	-8.200303	0.006977	0.026181
22	P3	-8.200313	0.006976	0.026230
26	P3	-8.200369	0.006978	0.026592
30	P3	-8.200590	0.006984	0.023987

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1
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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	-2.819518	0.011831	0.027471
7	P1	-2.953707	0.023707	0.020894
11	P1	-3.945468	0.025807	-0.019505
15	P1	-3.510550	0.029676	-0.031330
19	P1	-3.607800	0.012645	0.008280
22	P1	-5.644242	0.067646	-0.061542
26	P1	-6.606318	0.076109	-0.431533
30	P1	-6.298532	0.044154	-0.006763
3	P1	-10.772130	0.047711	0.025781
7	P1	-10.141820	0.136175	0.035144
11	P1	-12.509370	0.108275	-0.099147

15	P1	-11.750761	0.054514	-0.016629
19	P1	-15.633557	0.045826	0.052404
22	P1	-24.069105	1.853272	0.088809
26	P1	-14.963423	0.405497	-0.234086
30	P1	-20.044764	0.859741	0.187402

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.989540	0.036219	0.057550
7	P2	-22.545713	0.034689	0.105927
11	P2	-10.570014	0.038662	0.192465
15	P2	-5.040994	0.024751	0.029804
19	P2	-6.934450	0.036633	0.045087
22	P2	-7.256765	0.028474	0.070978
26	P2	-23.942457	0.020061	0.047802
30	P2	-21.983503	0.024977	0.043968

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.034616	0.002943	0.017587
7	P3	-8.034638	0.002945	0.017357
11	P3	-8.034622	0.002941	0.017218
15	P3	-8.034799	0.002940	0.017680
19	P3	-8.034626	0.002954	0.017432
22	P3	-8.034700	0.002930	0.017482
26	P3	-8.034614	0.002942	0.017754
30	P3	-8.034681	0.002935	0.017516

4.3 - cal pulses monitoring (all rows)

4.3.1 - Evolution for WVS

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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	0.000470753
	stdev	2.18220e-07
MEAN Q	mean	0.000546515
	stdev	2.32476e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128669
	stdev	0.000960861
STDEV Q	mean	0.128904
	stdev	0.000971677

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005011[890]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_WSM_1PNPDE20050110_011912_000003922033_00389_14972_8609.N1	0	65

7 - Doppler Analysis

Preliminary report.The data is not yet controled

7.1 - Unbiased Doppler Error for WVS

Evolution of unbiased Doppler error (Real - Expected)

Acsending

Descending

7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler

Acsending

Descending

7.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX


7.4 - Unbiased Doppler Error for GM1

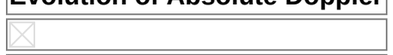
Evolution of unbiased Doppler error (Real - Expected)

Acsending

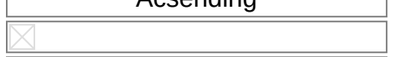
Descending

7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler



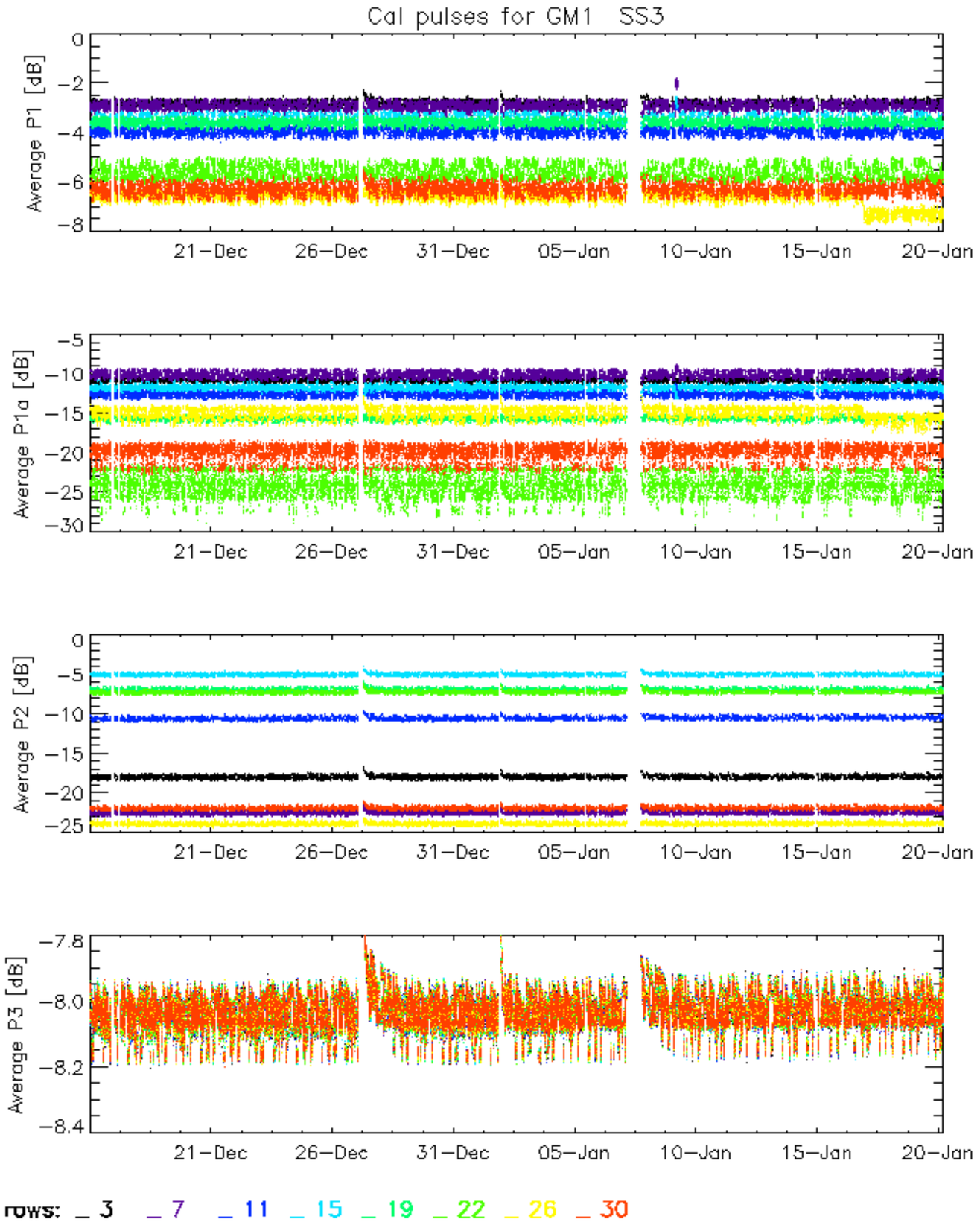
Acsending

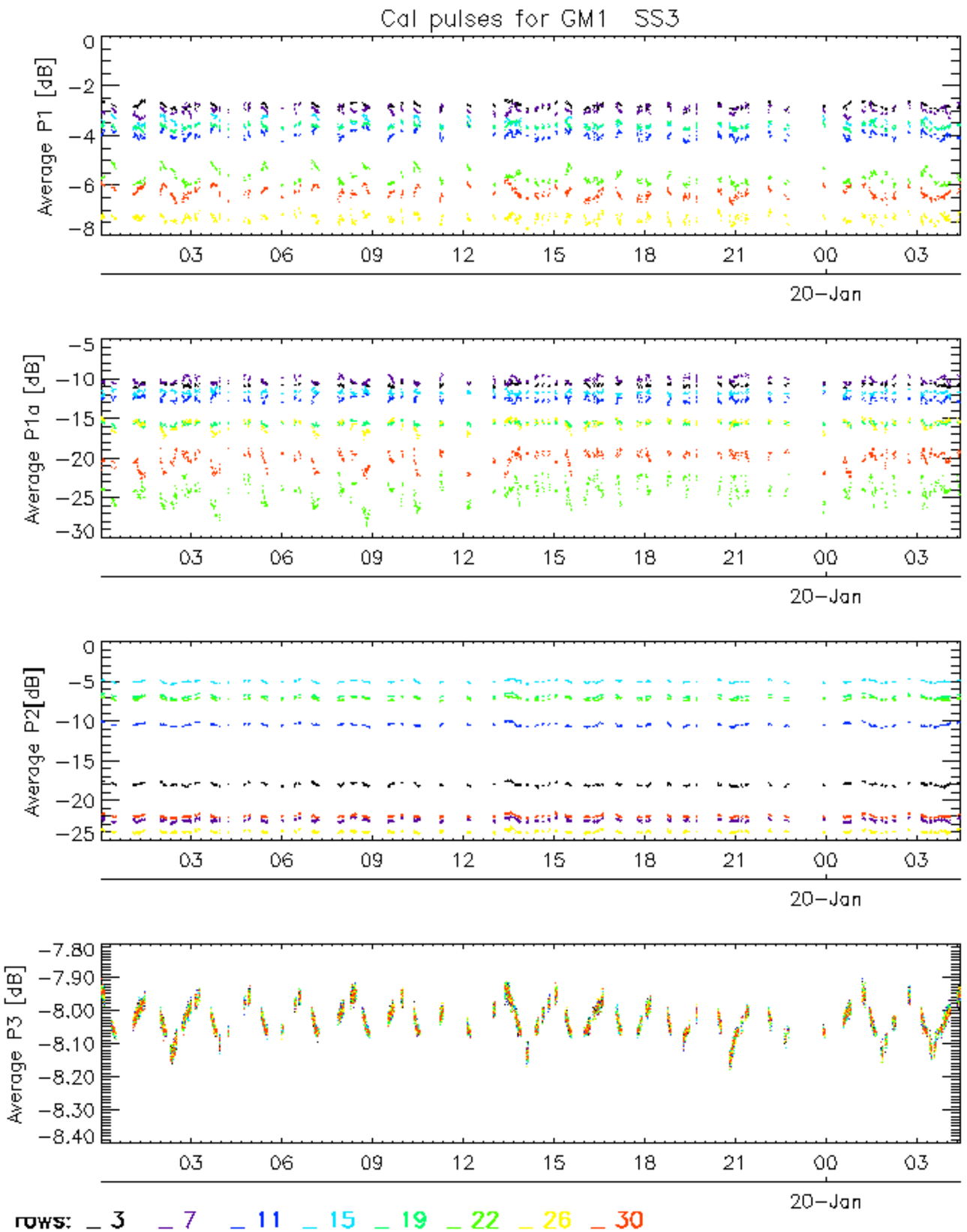


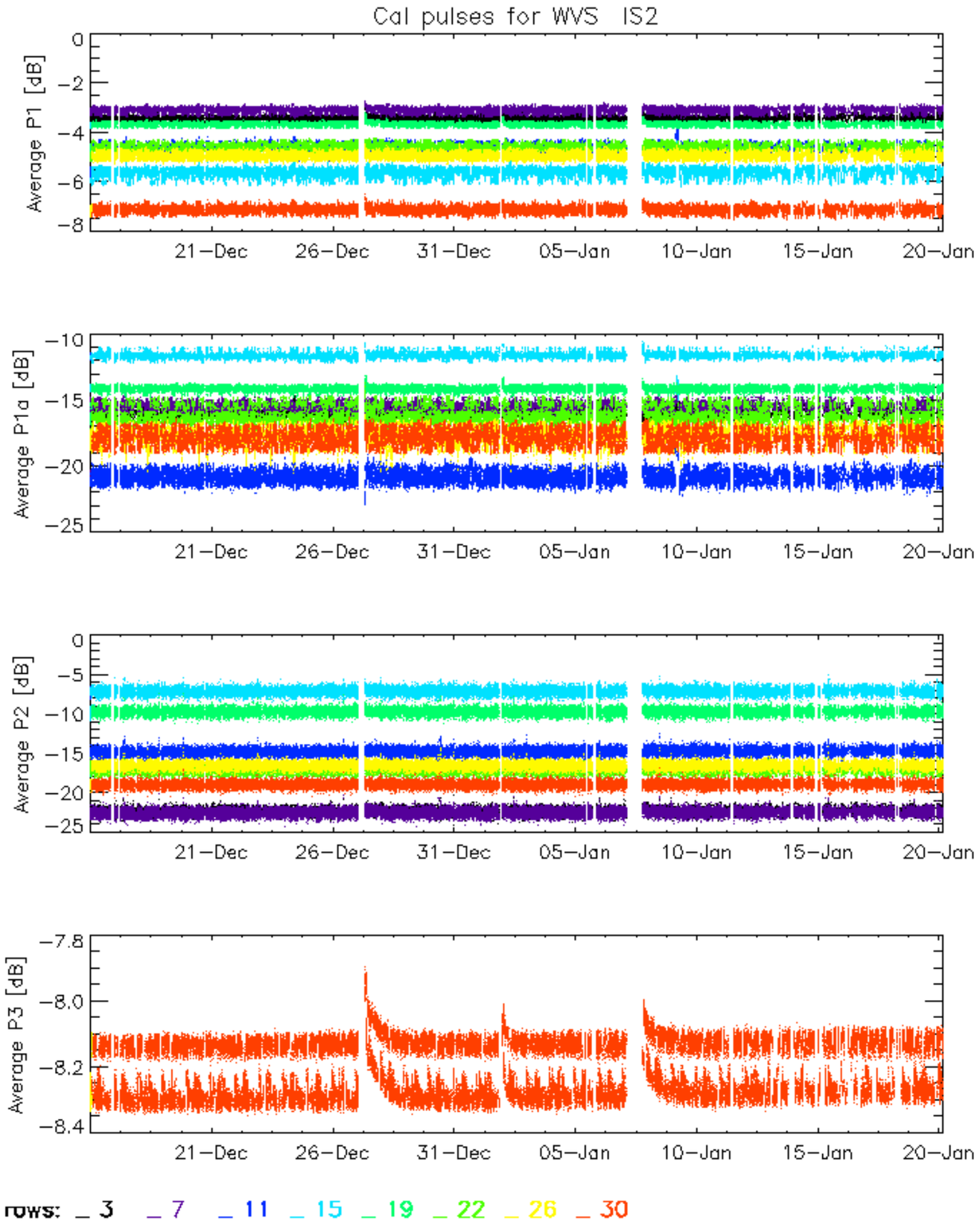
Descending

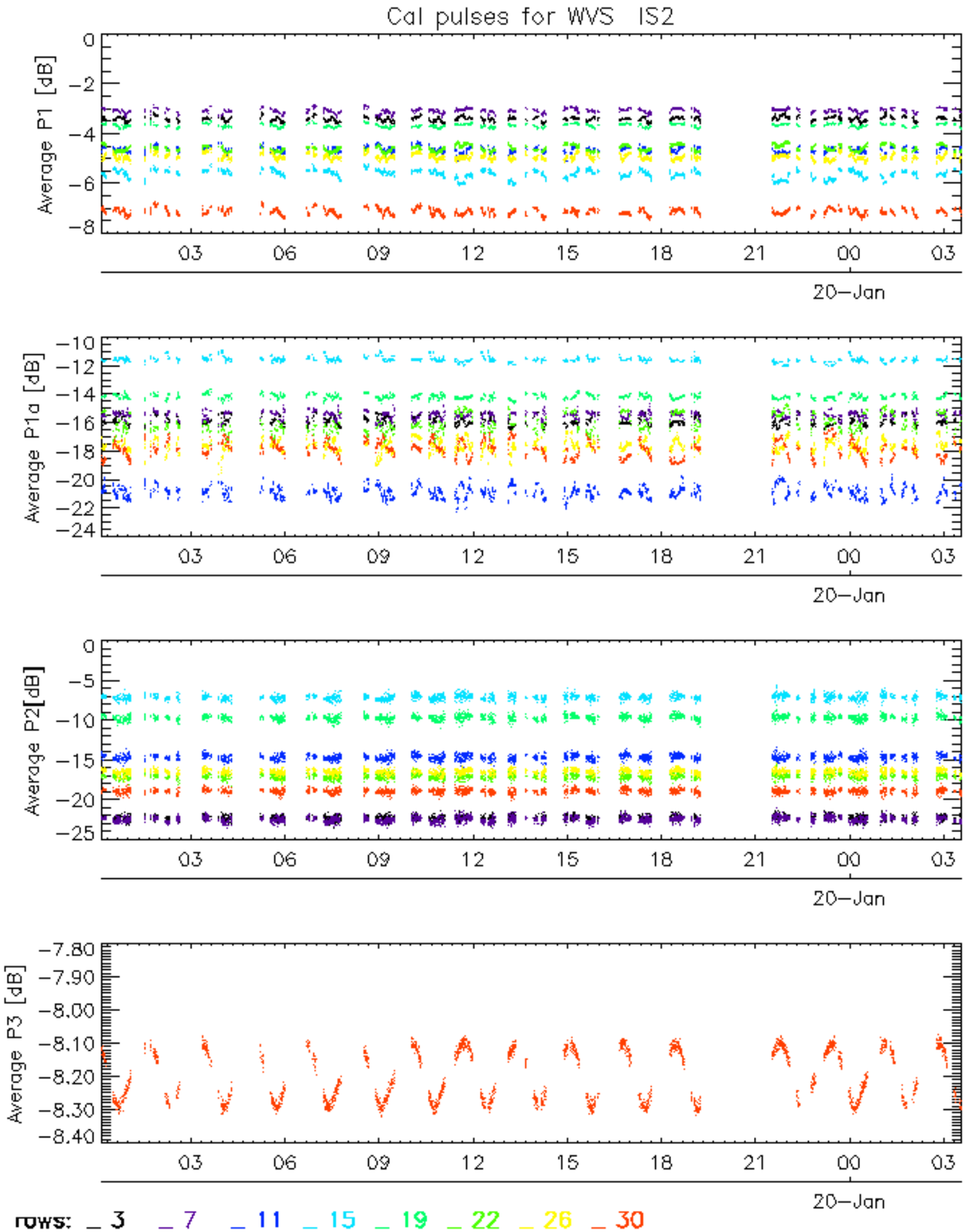
7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

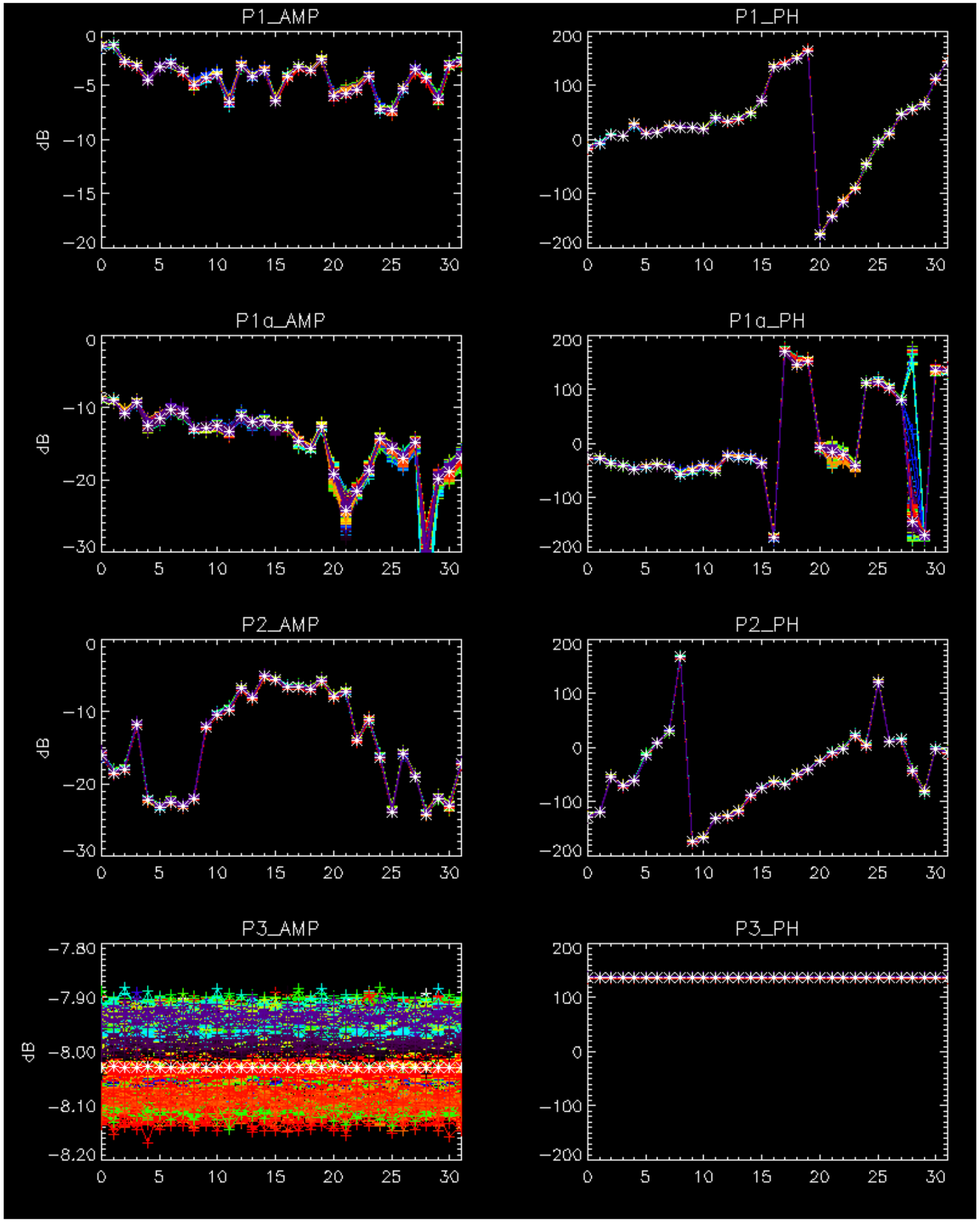

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

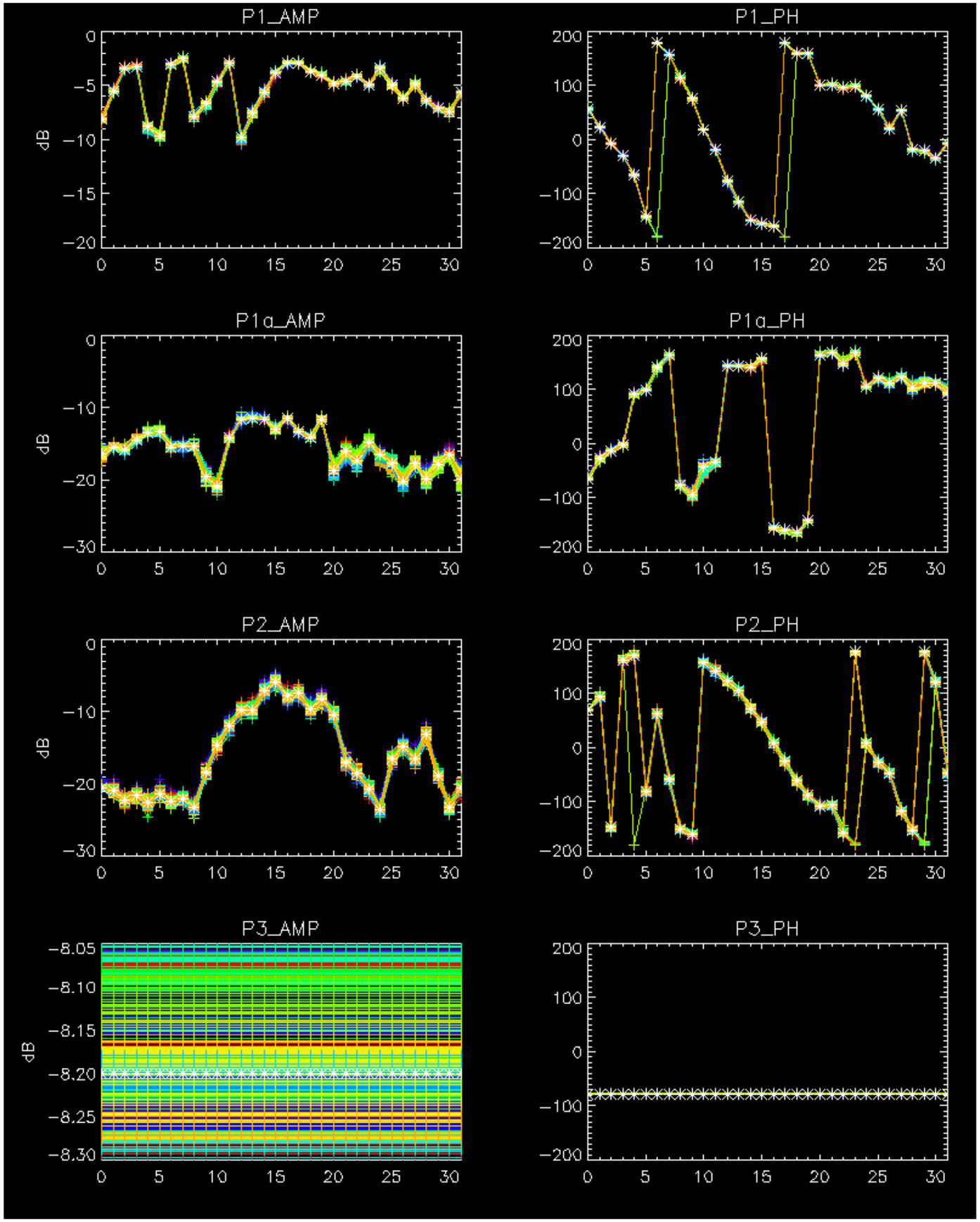

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
20−Jan
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan
Average P1a [dB]
−10
−15
−20
−25
Average P2 [dB]
−5
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
20−Jan
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
Average P2[dB]
−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

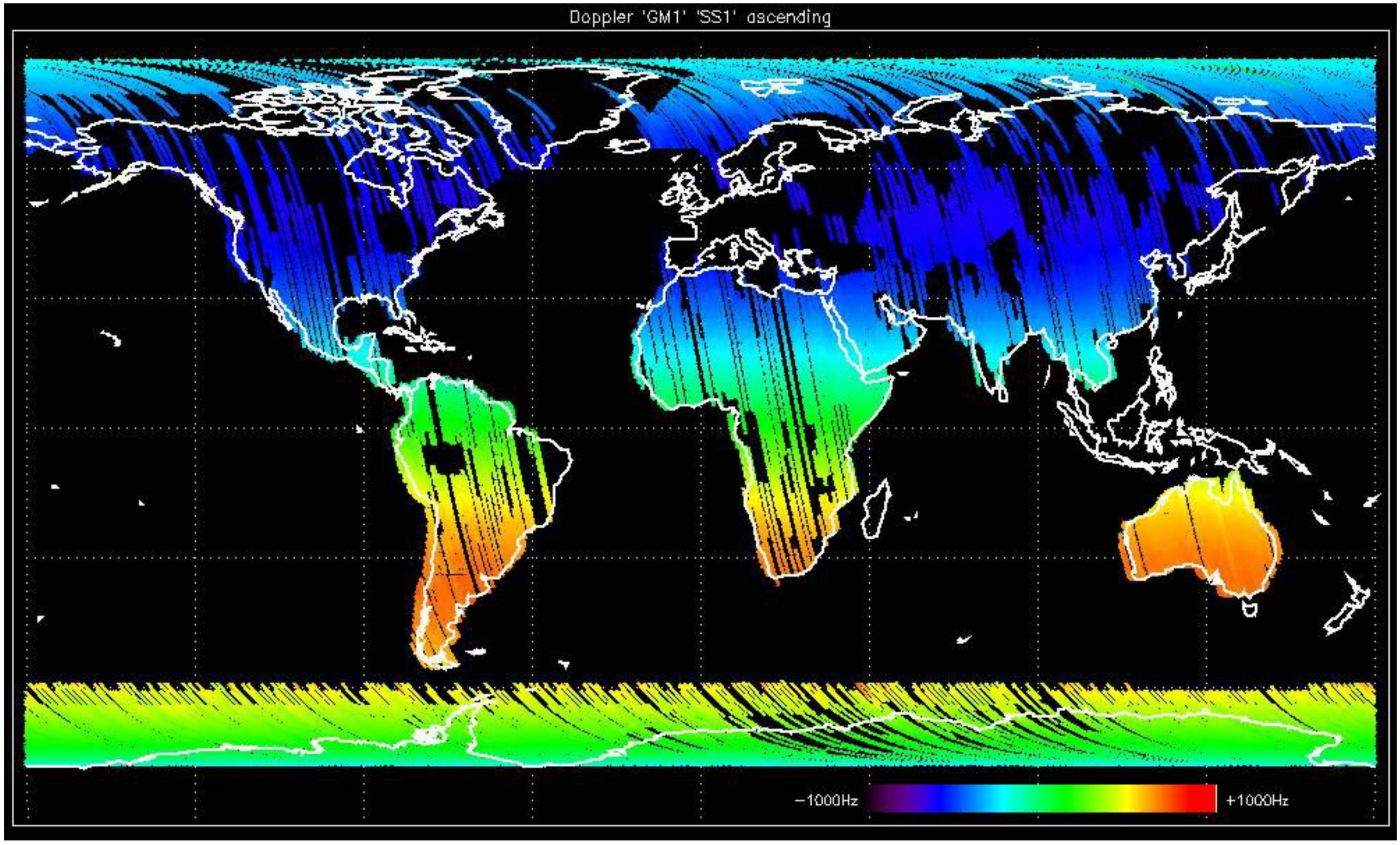
No anomalies observed.

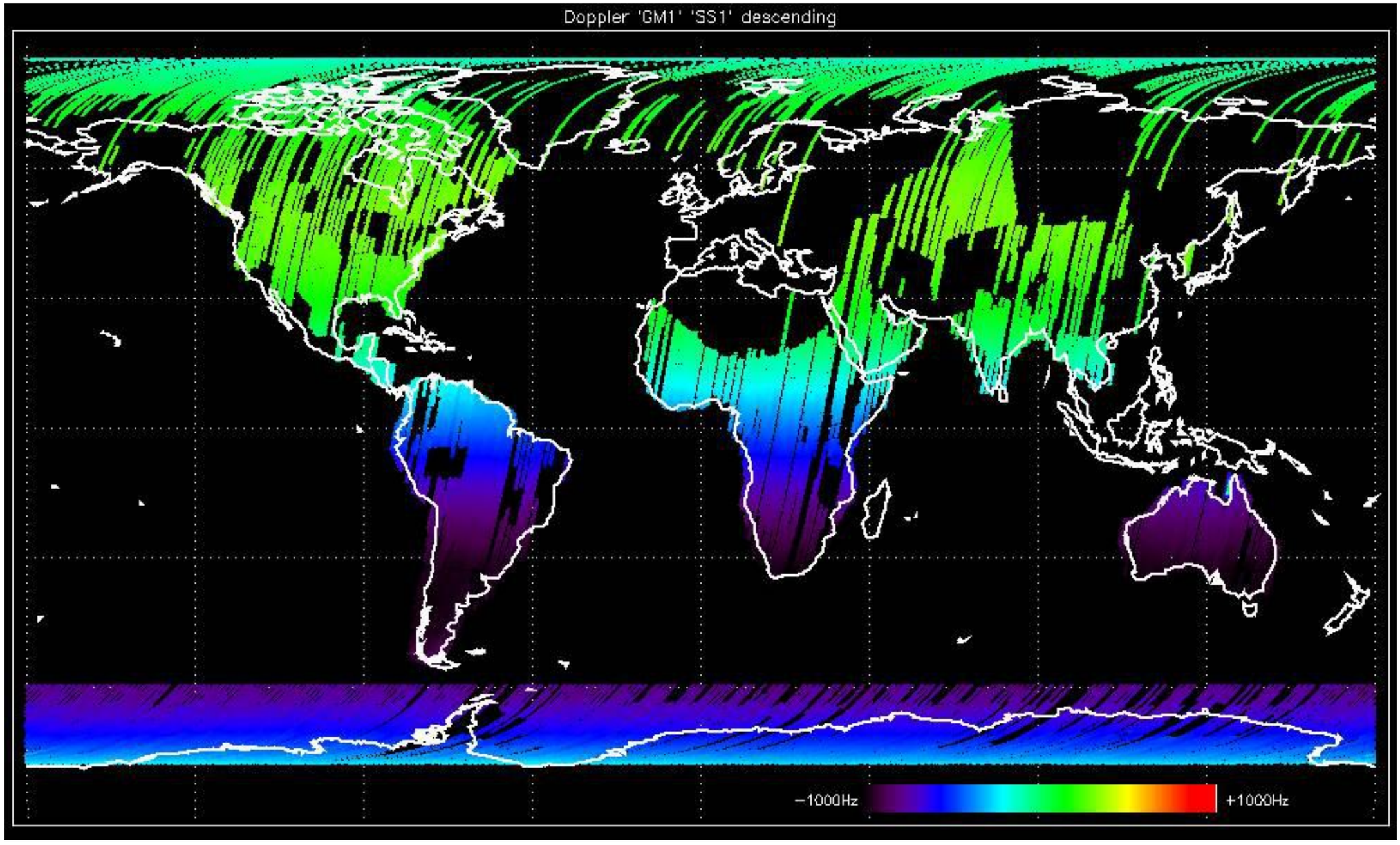

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.80
−7.90
−8.00
−8.10
−8.20
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

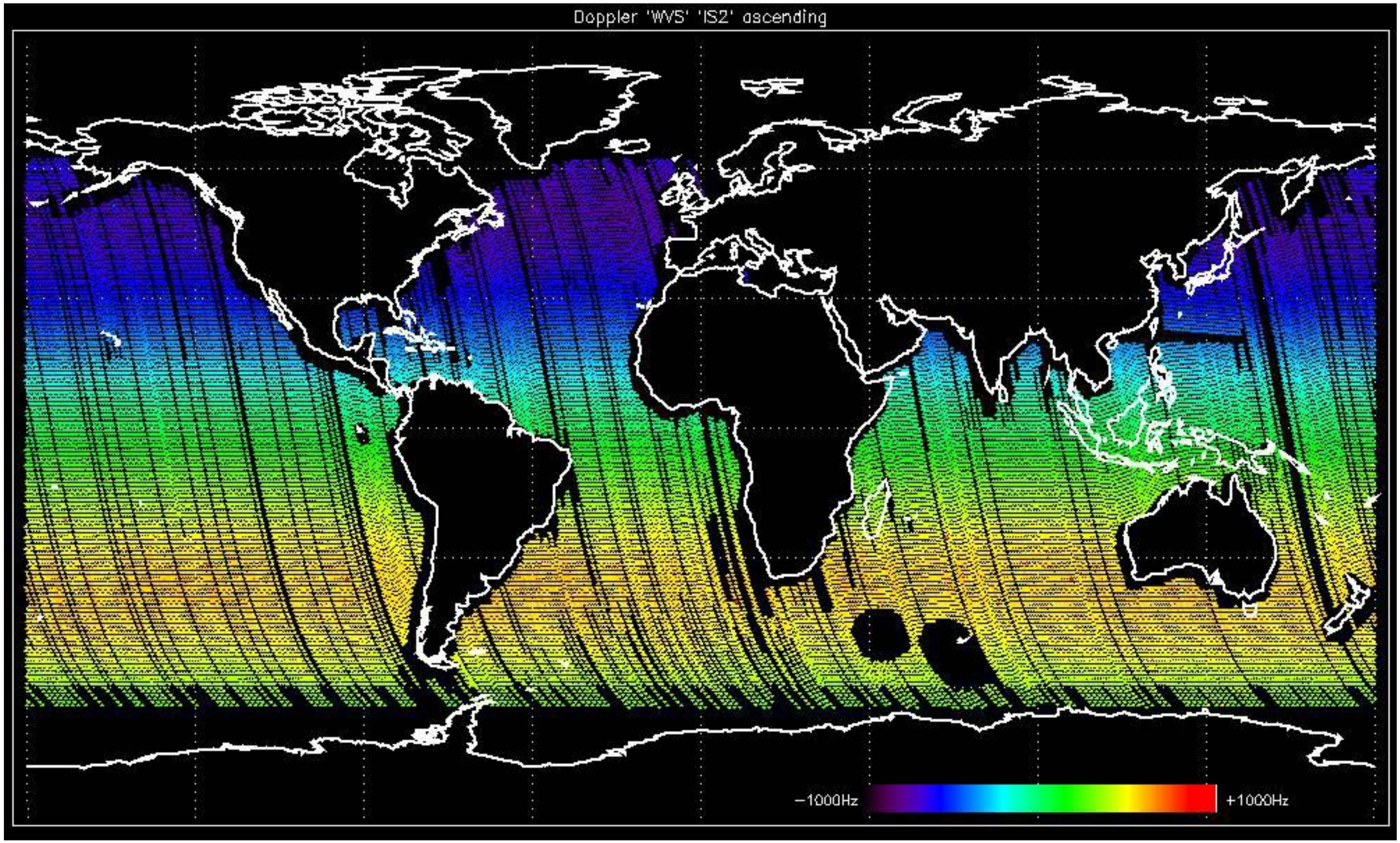

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.05
−8.10
−8.15
−8.20
−8.25
−8.30
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

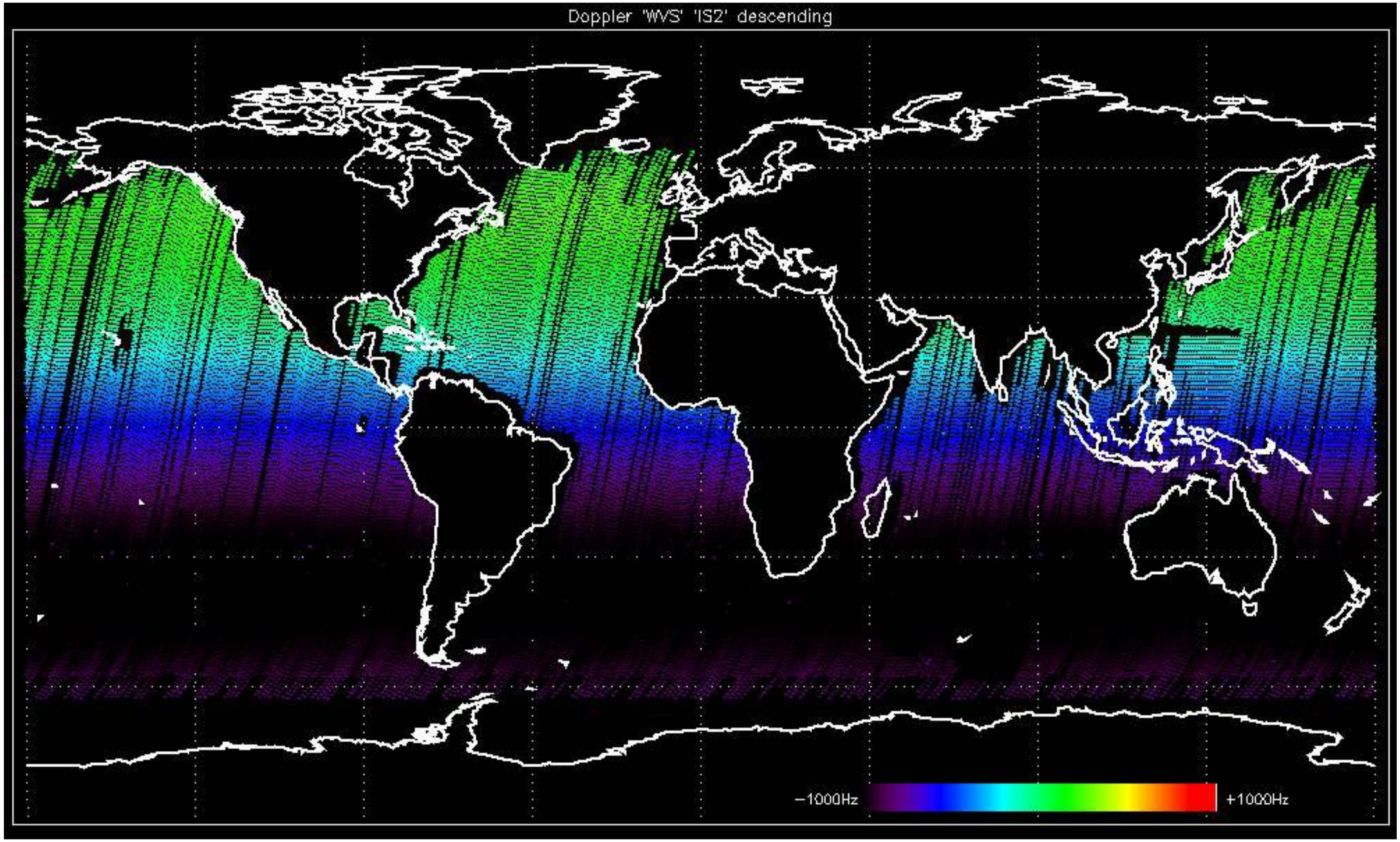
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

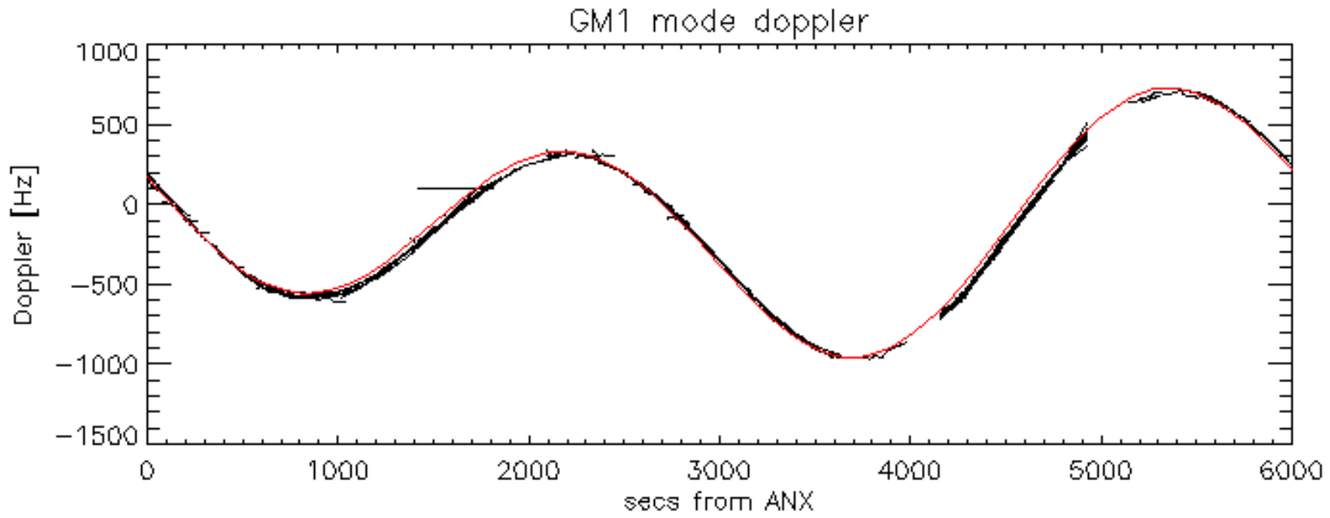
Preliminary report.The data is not yet controled

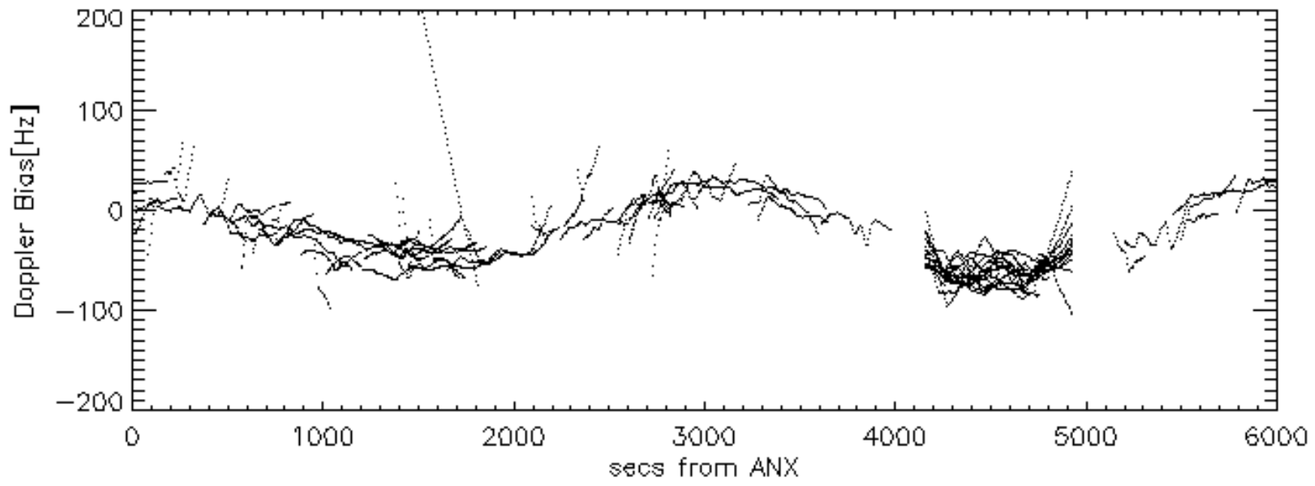

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

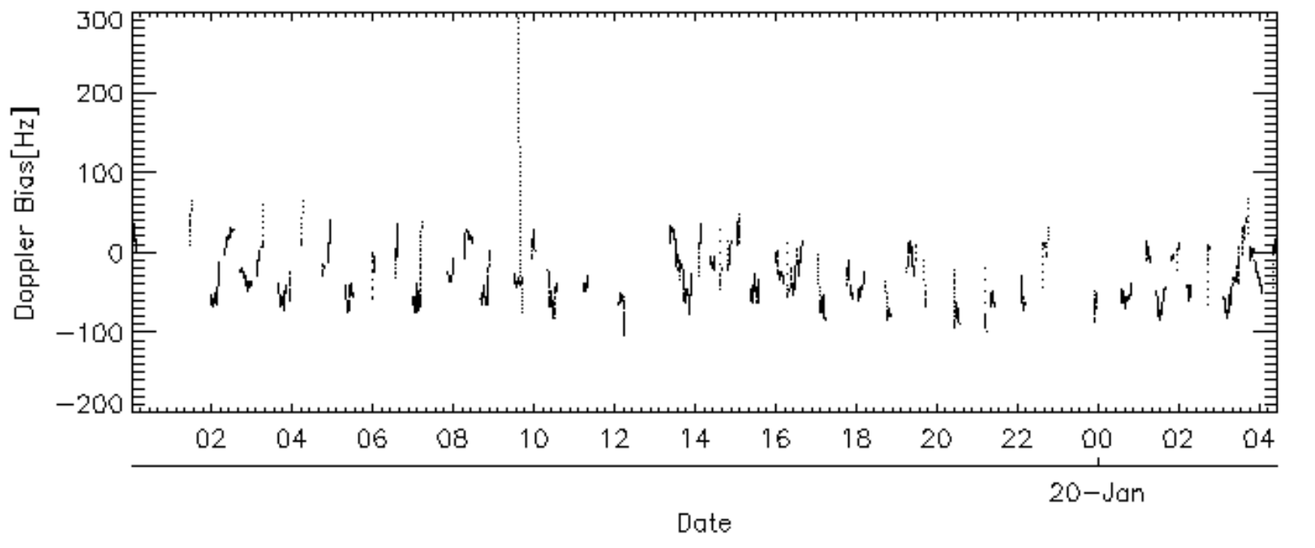

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

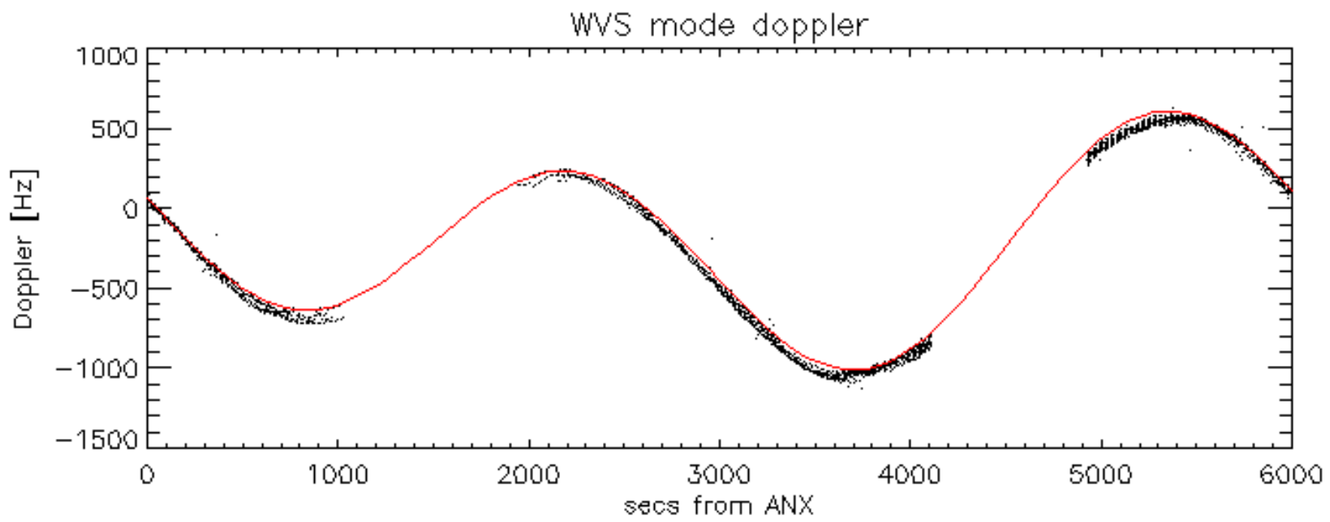

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

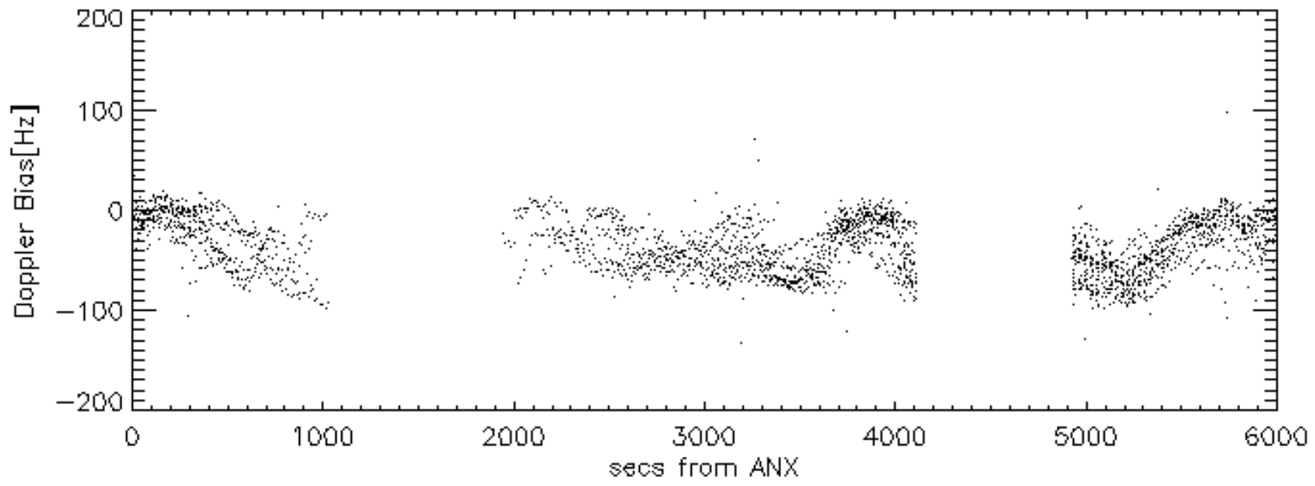

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

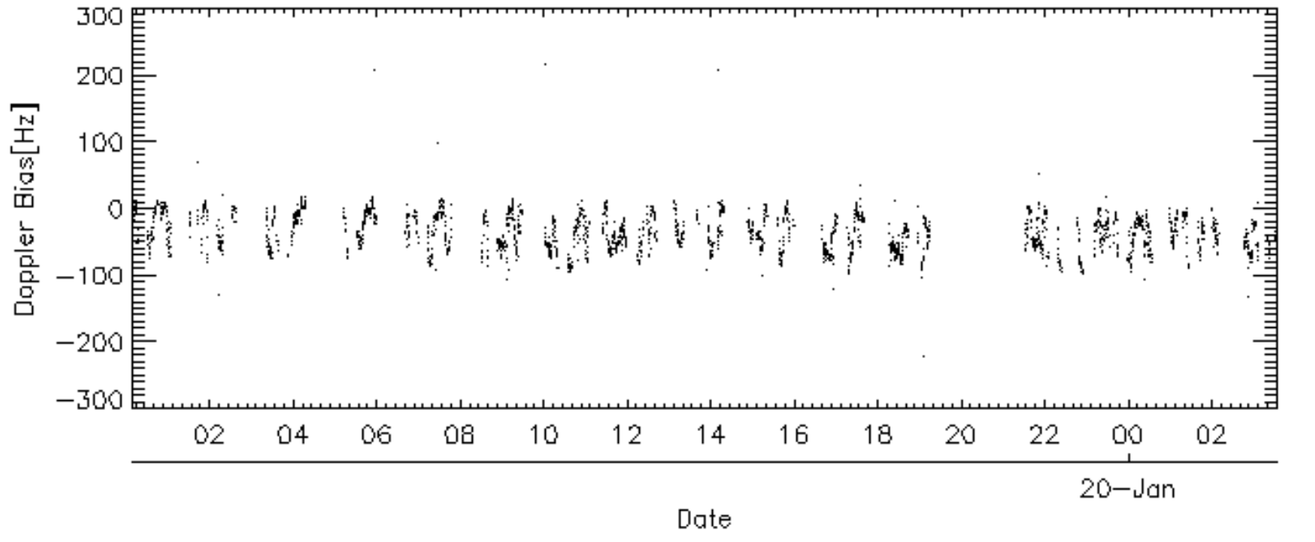

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

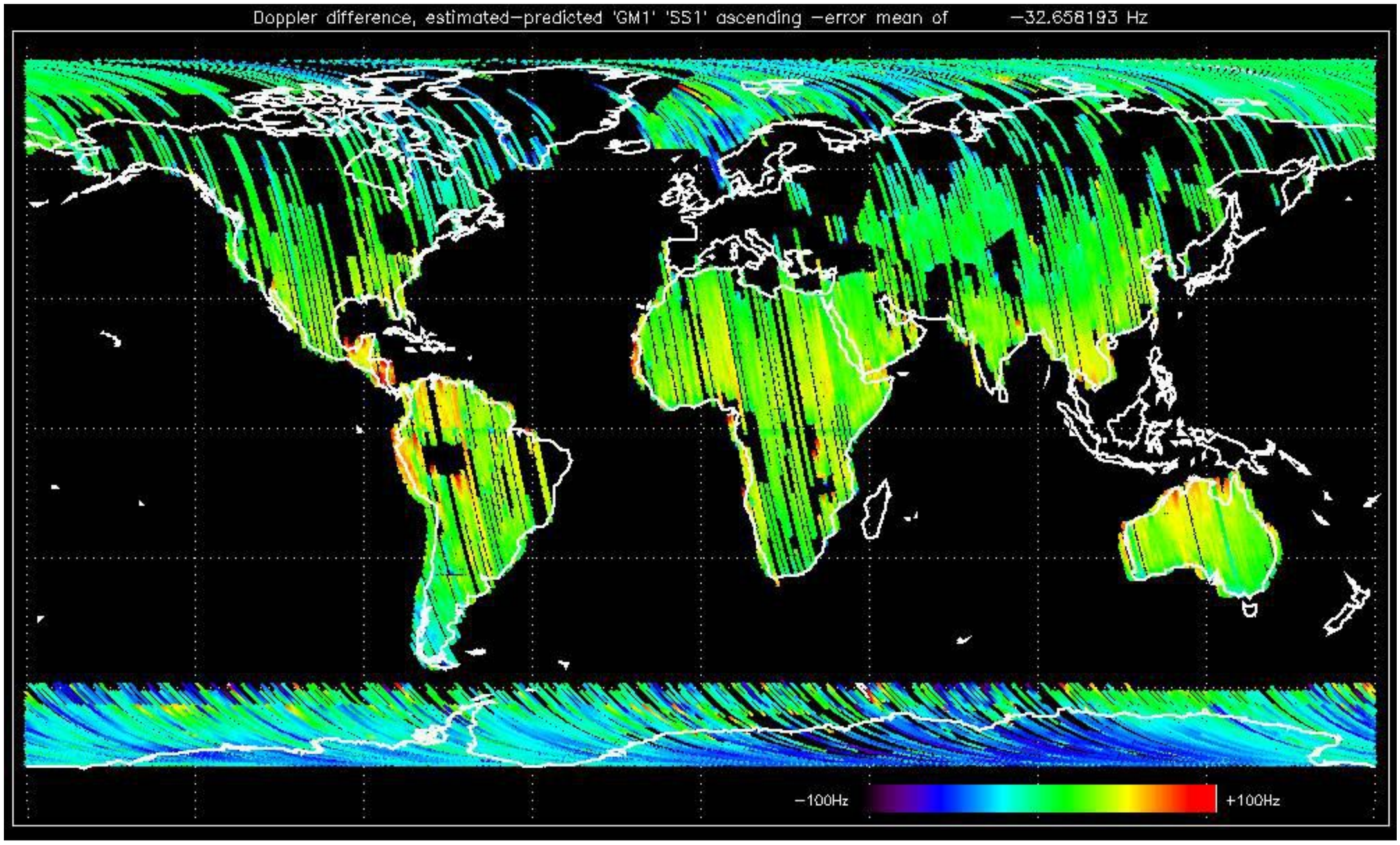

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

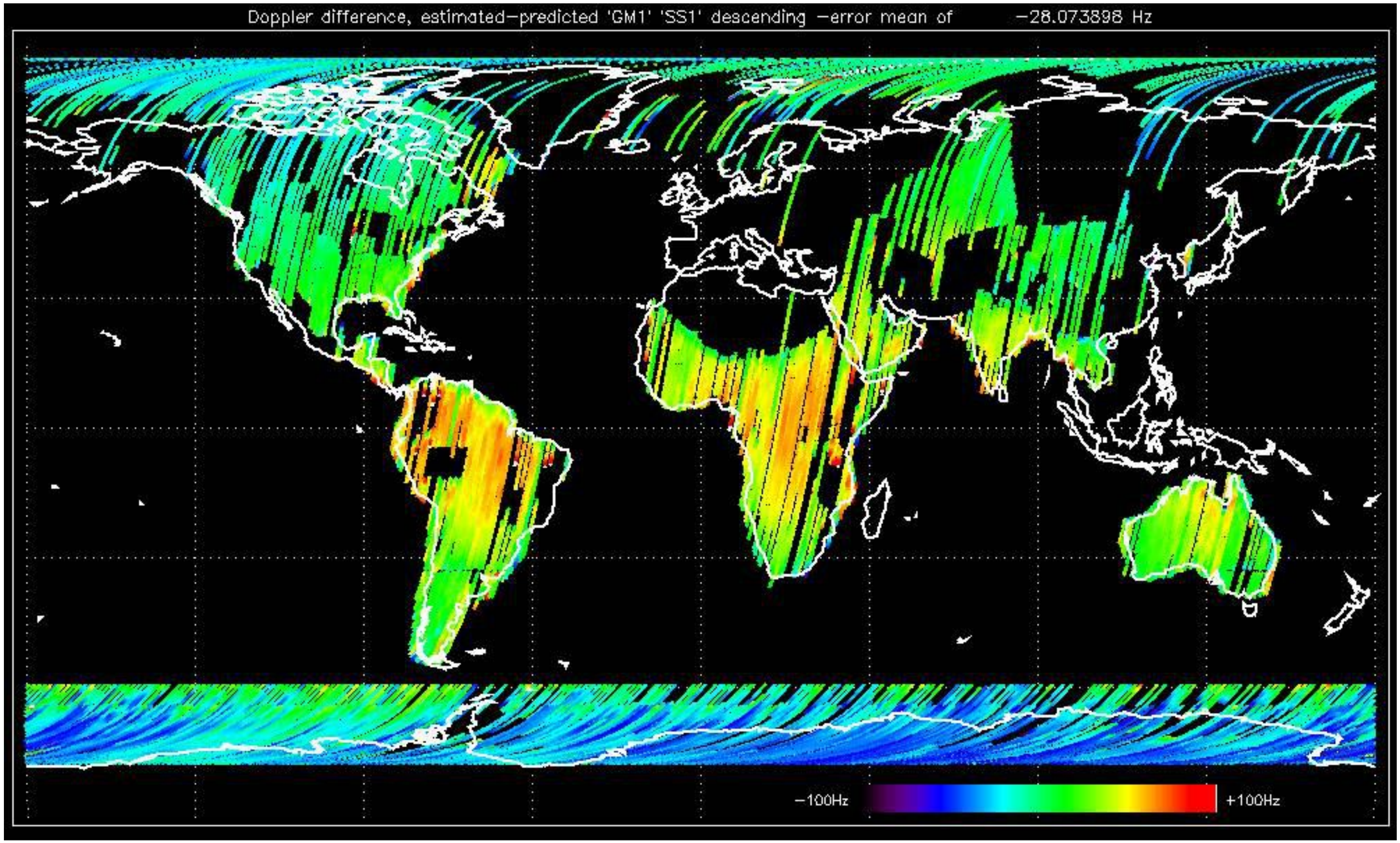

Doppler Bias[Hz]
300
200
100
0
−100
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
04
20−Jan
Date

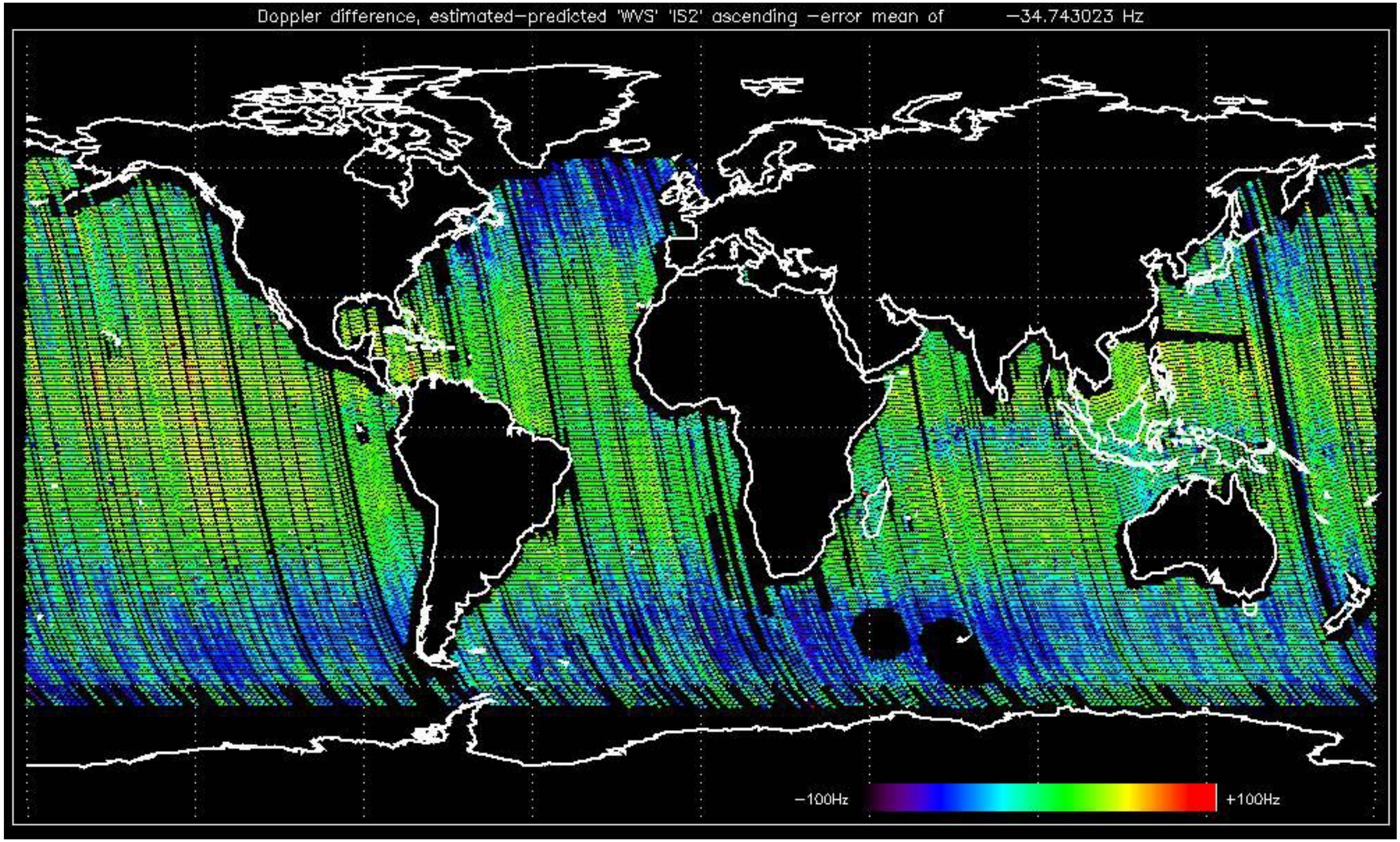

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

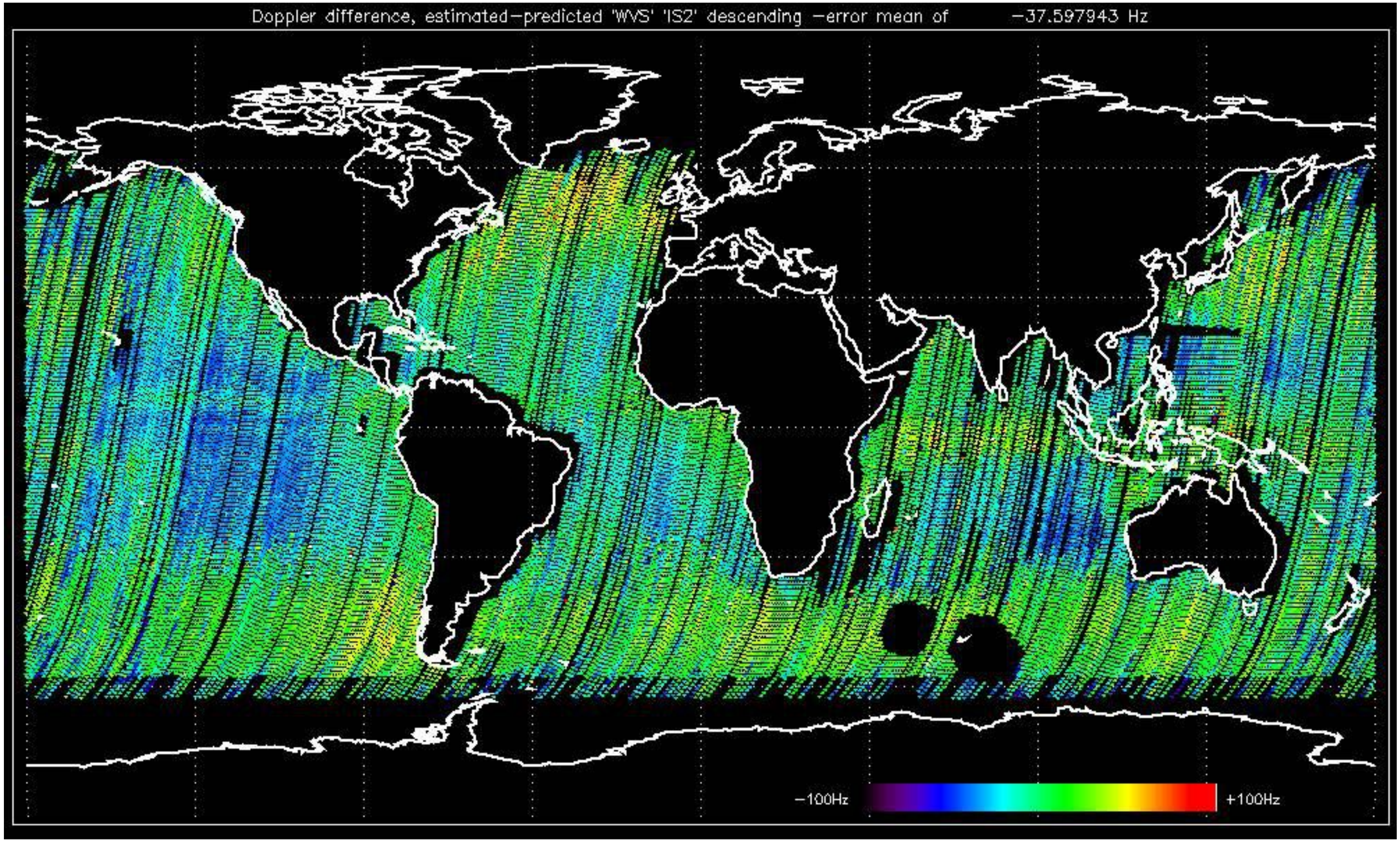

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −32.658193 Hz
−100Hz
+100Hz

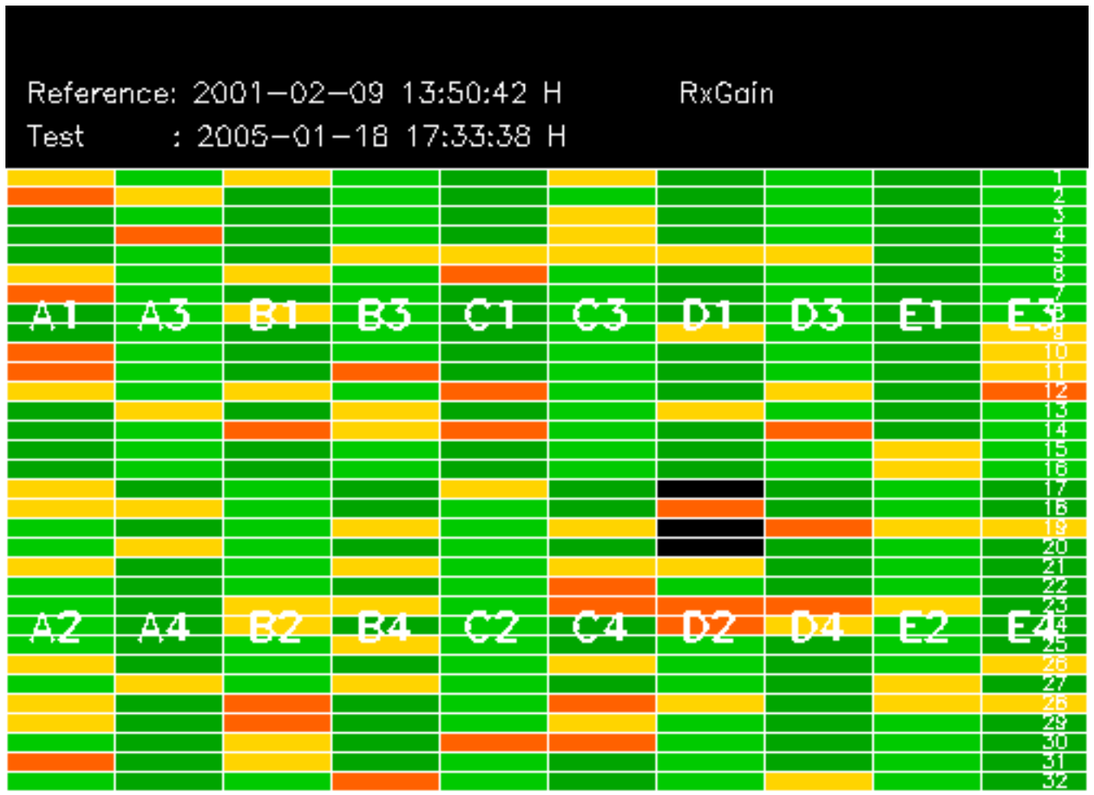

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −28.073898 Hz
−100Hz
+100Hz

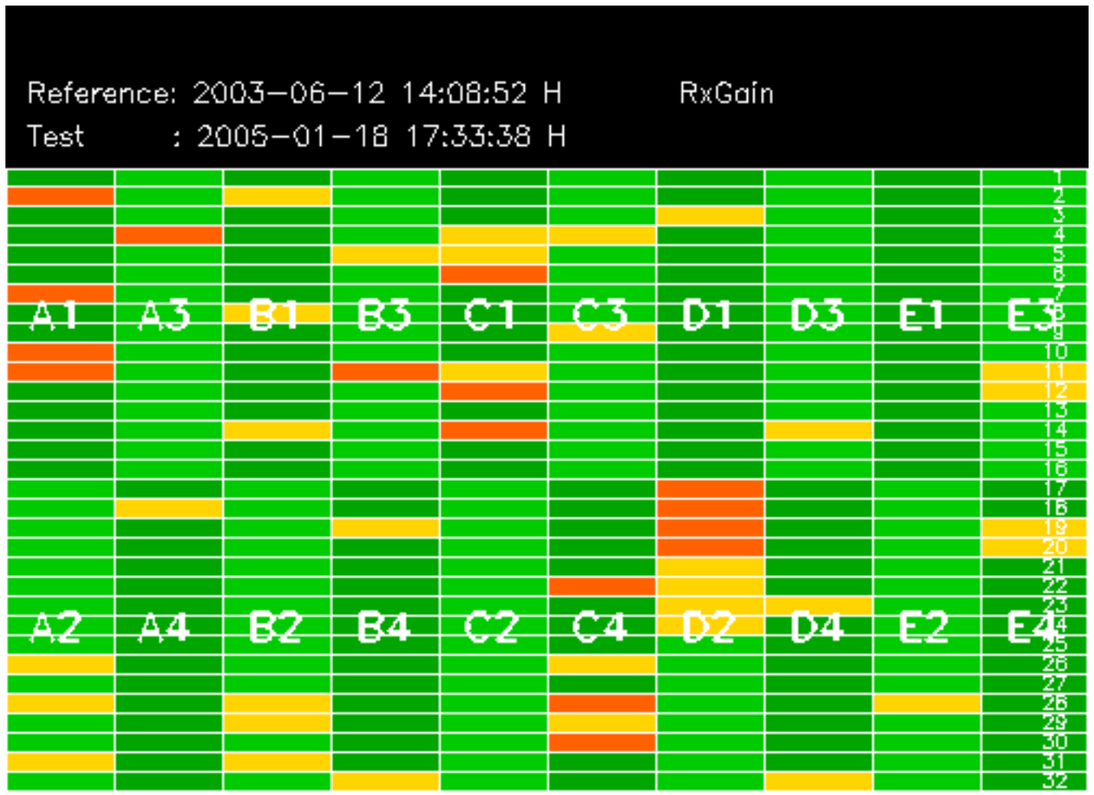

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −34.743023 Hz
−100Hz
+100Hz

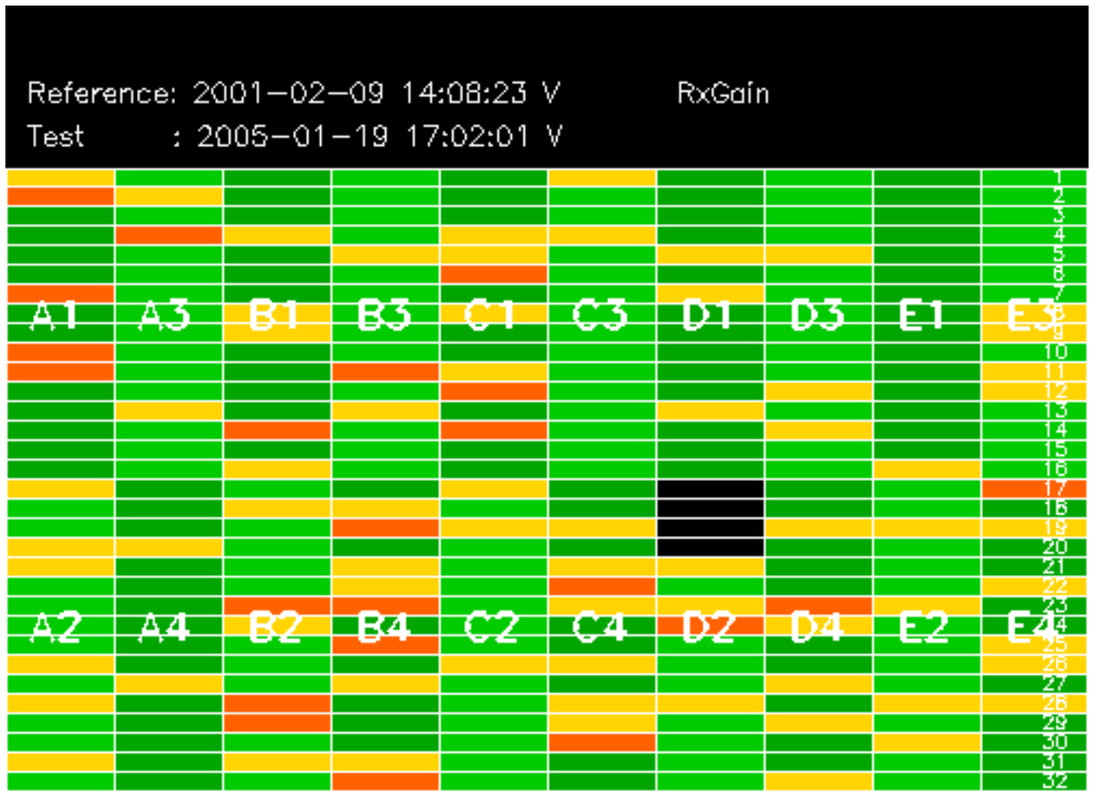

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −37.597943 Hz
−100Hz
+100Hz

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
Test : 2005-01-18 17:33:38 H
RxGain
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 : 2005-01-18 17:33:38 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
Test : 2005-01-19 17:02:01 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
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17
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21
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27
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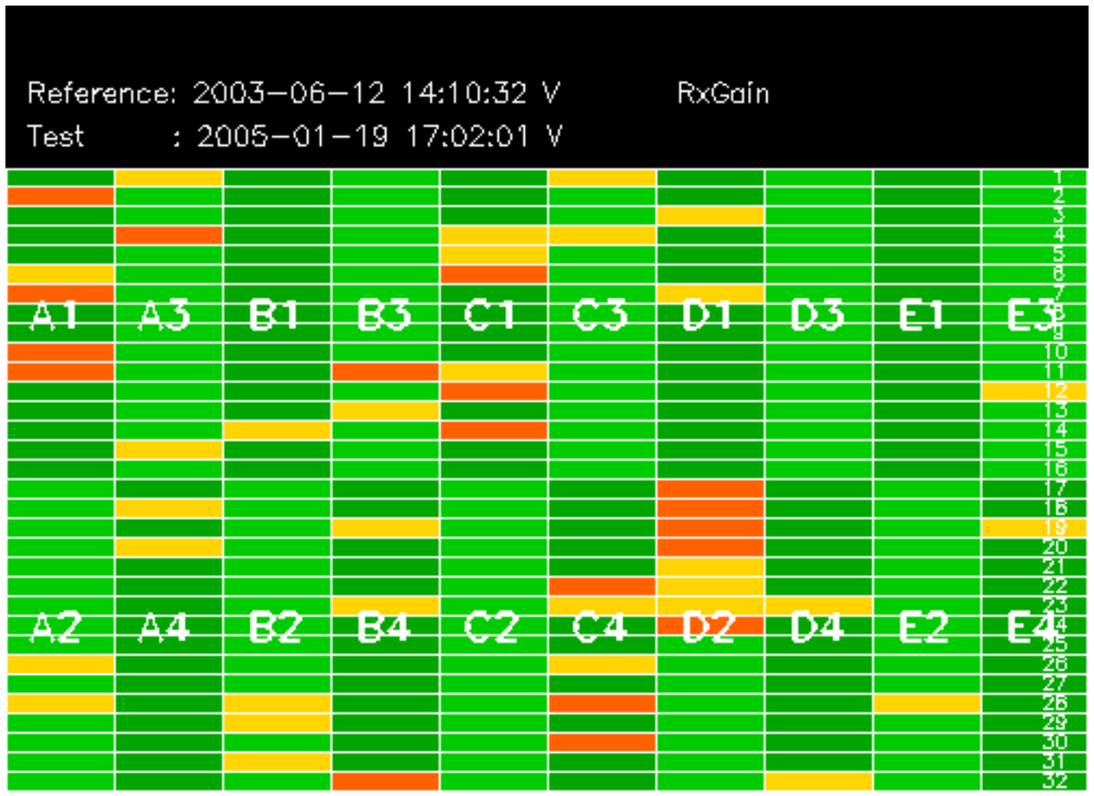
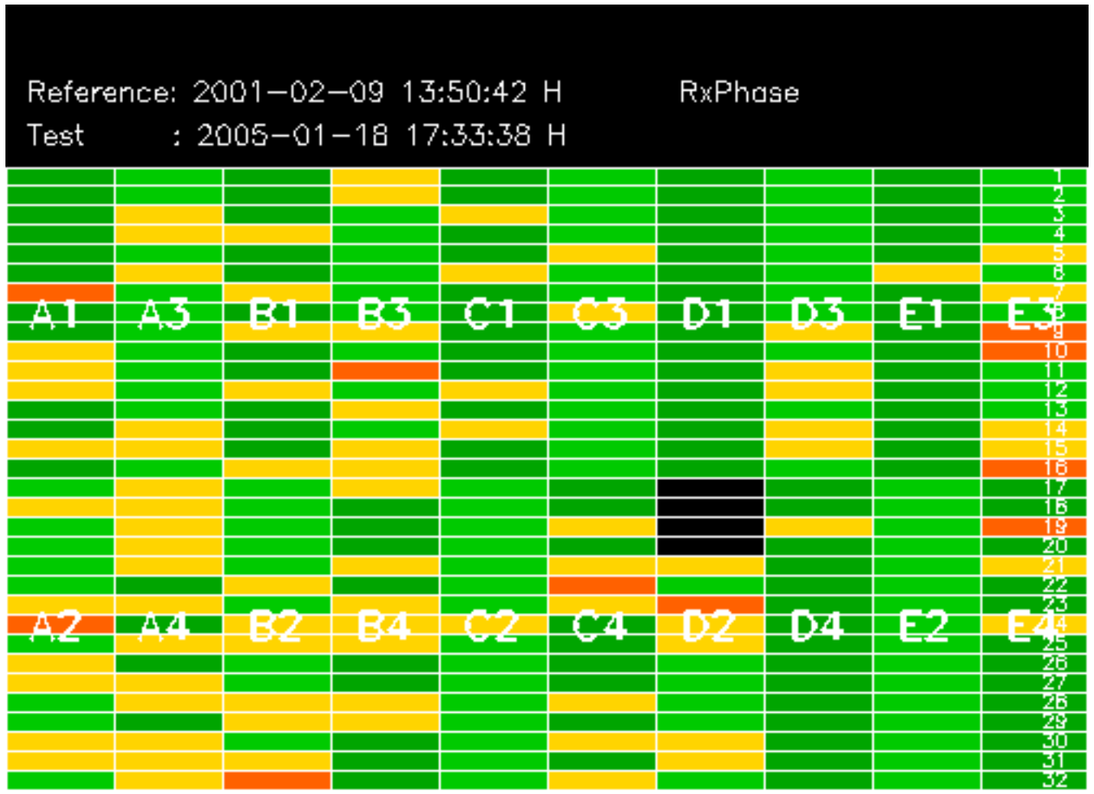
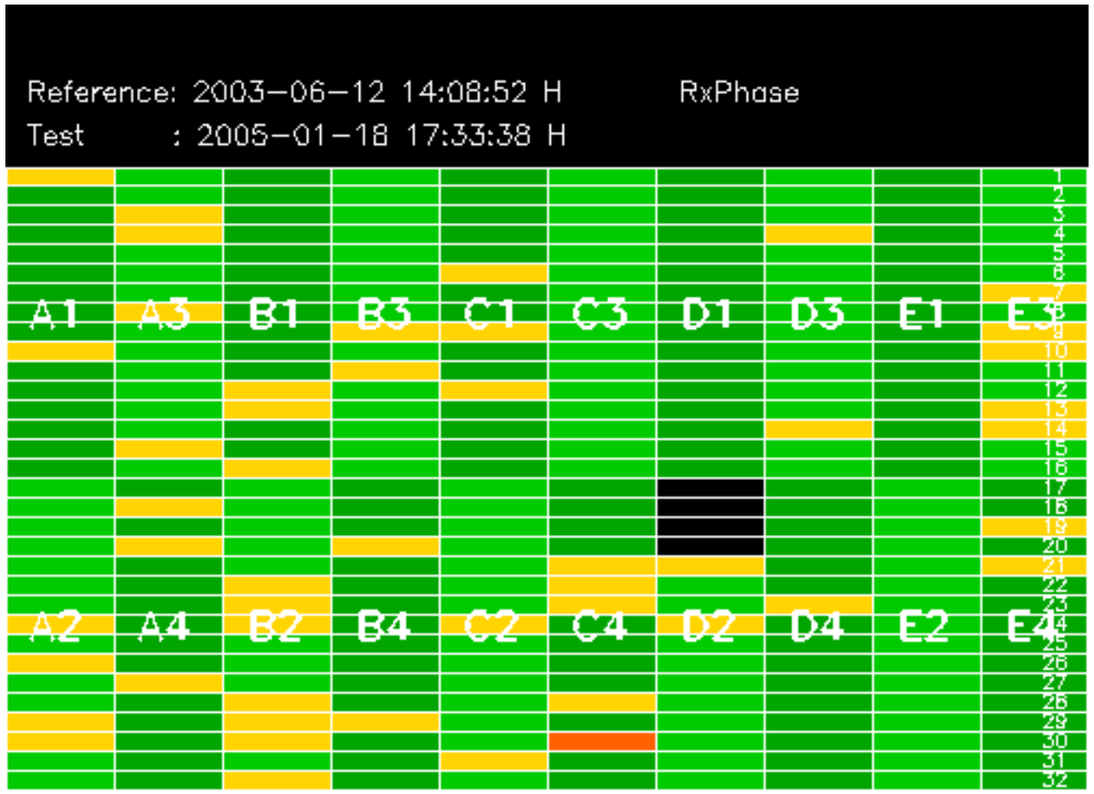
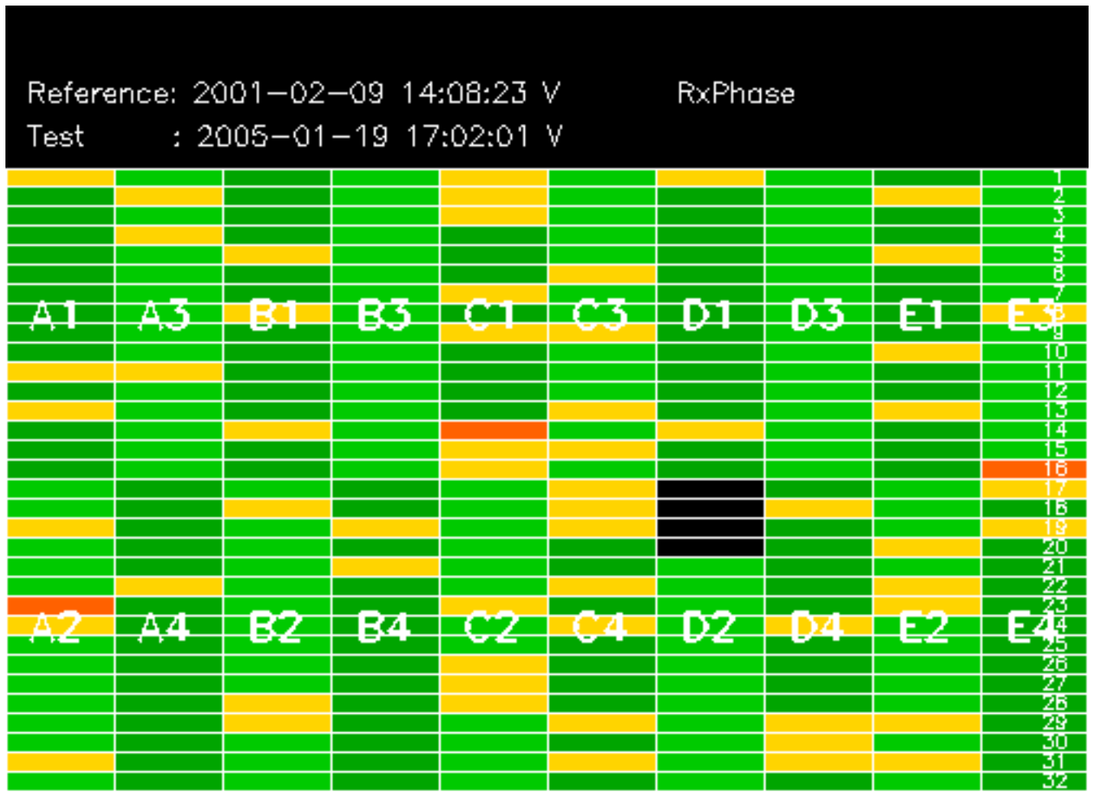
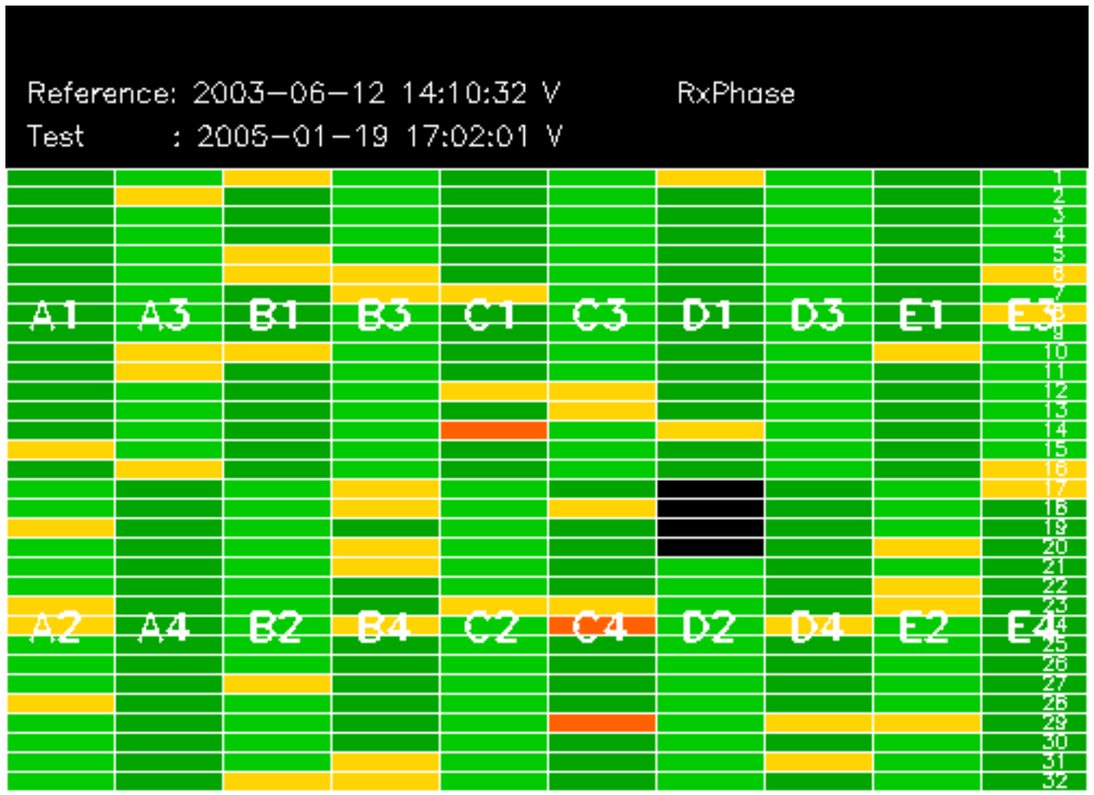
29
30
31
32

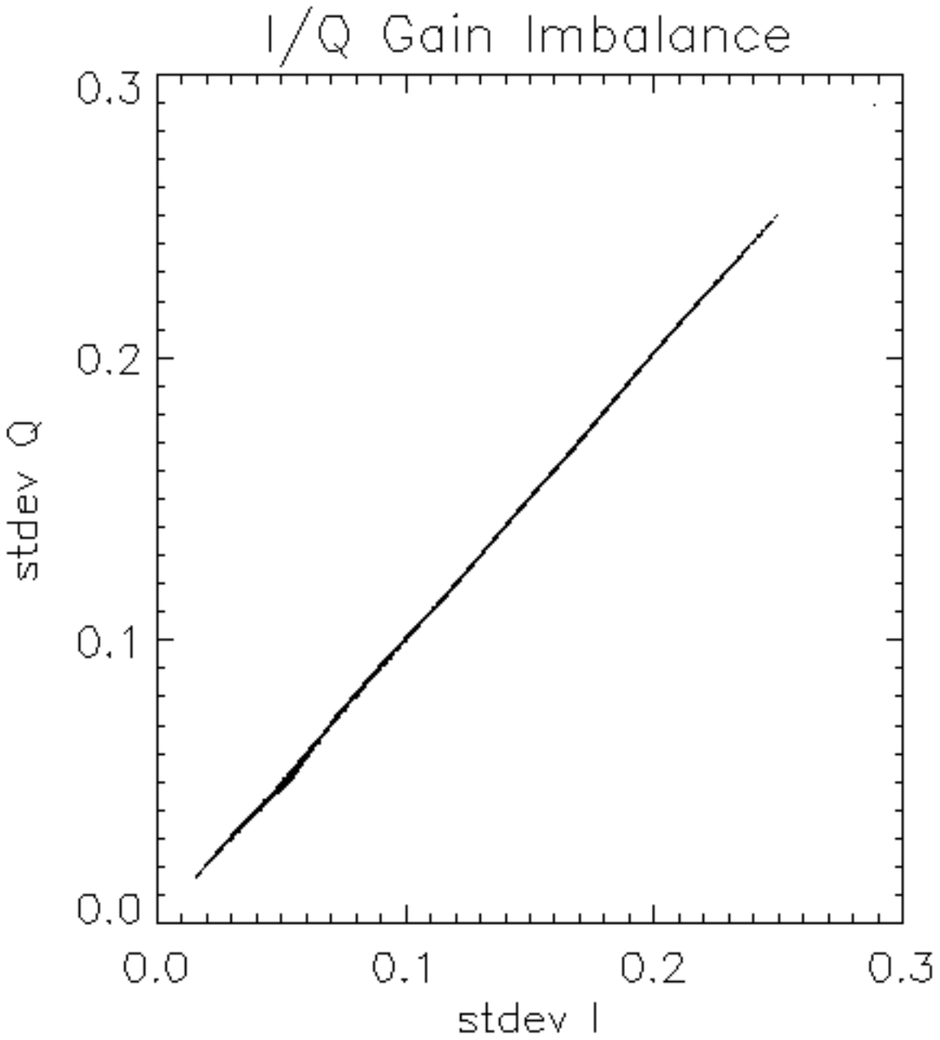

Reference: 2003-06-12 14:10:32 V
Test : 2005-01-19 17:02:01 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

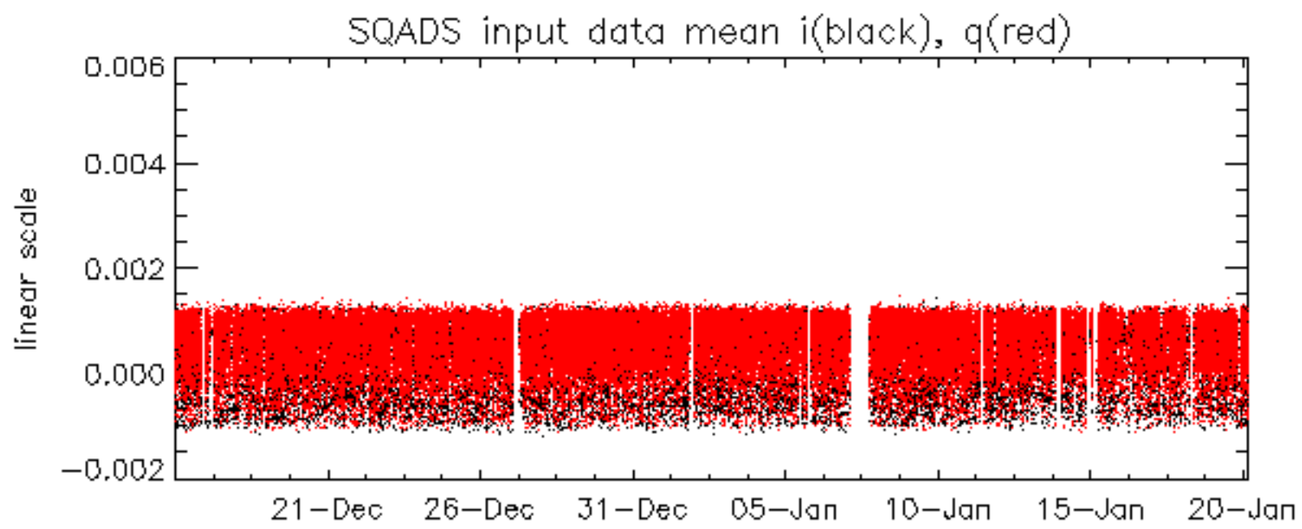

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-01-18 17:33:38 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

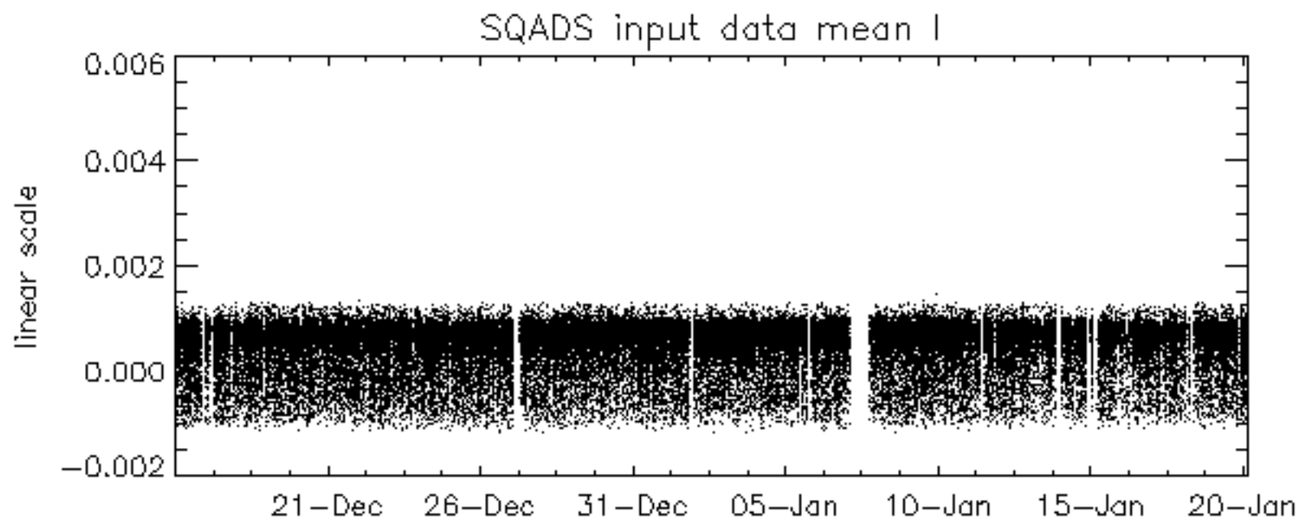

Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2005-01-18 17:33:38 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

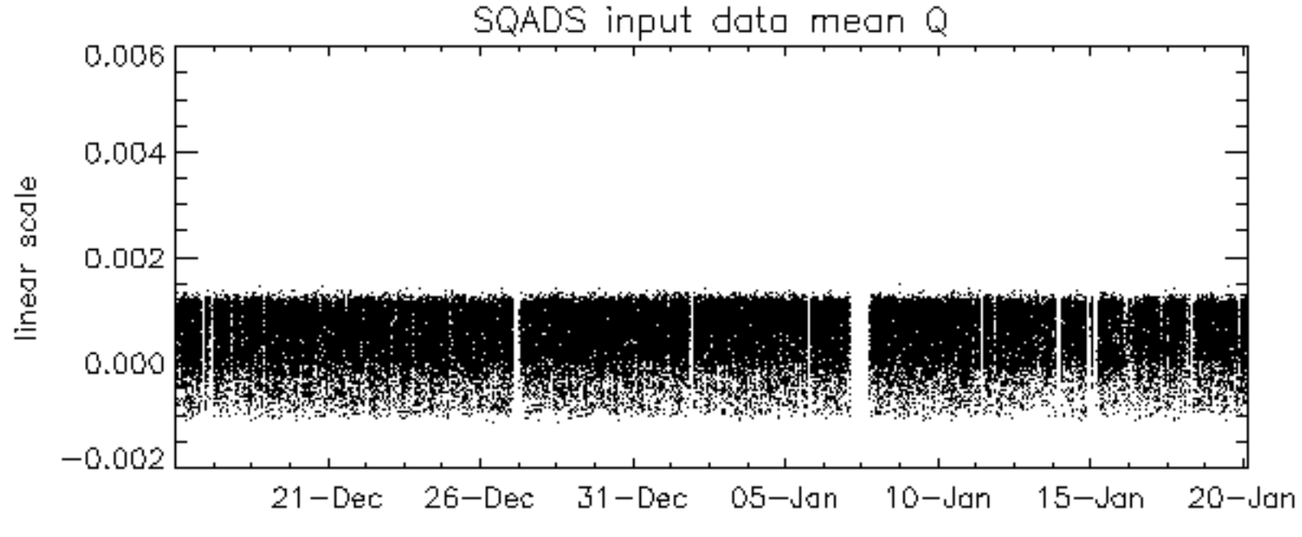

Reference: 2001-02-09 14:08:23 V
Test : 2005-01-19 17:02:01 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

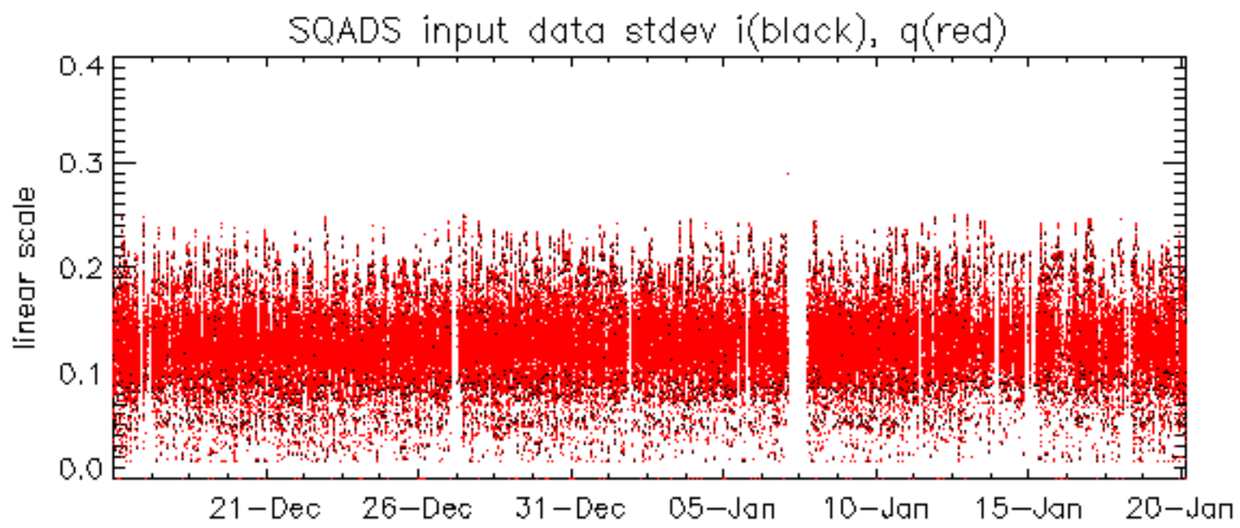

Reference: 2003-06-12 14:10:32 V
Test : 2005-01-19 17:02:01 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

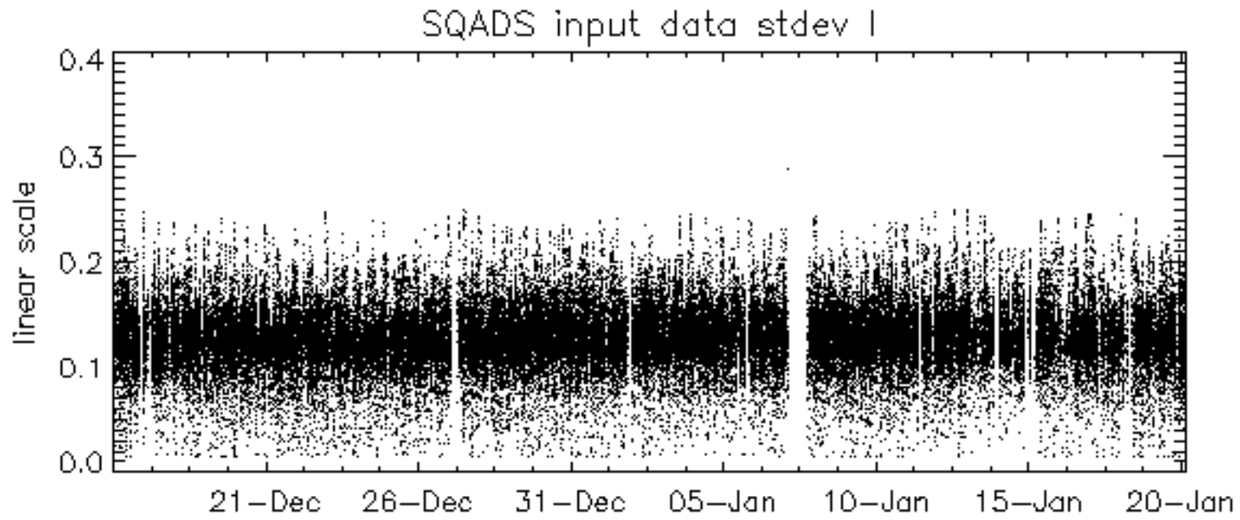

I/Q Gain Imbalance
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
stdev I

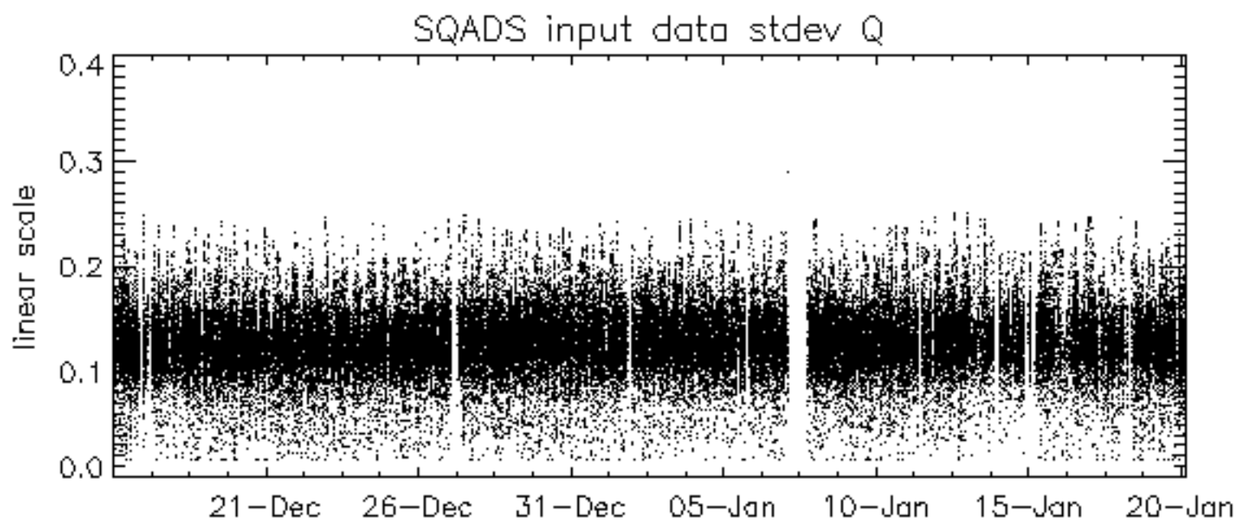

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan

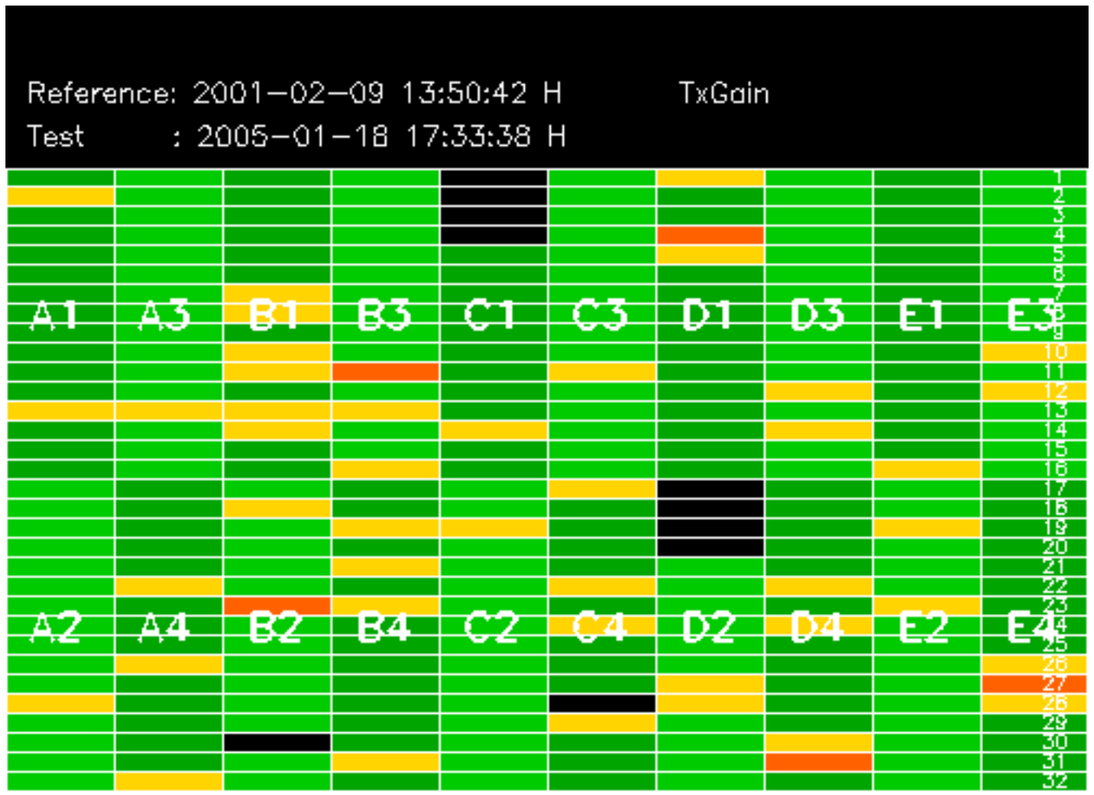

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan

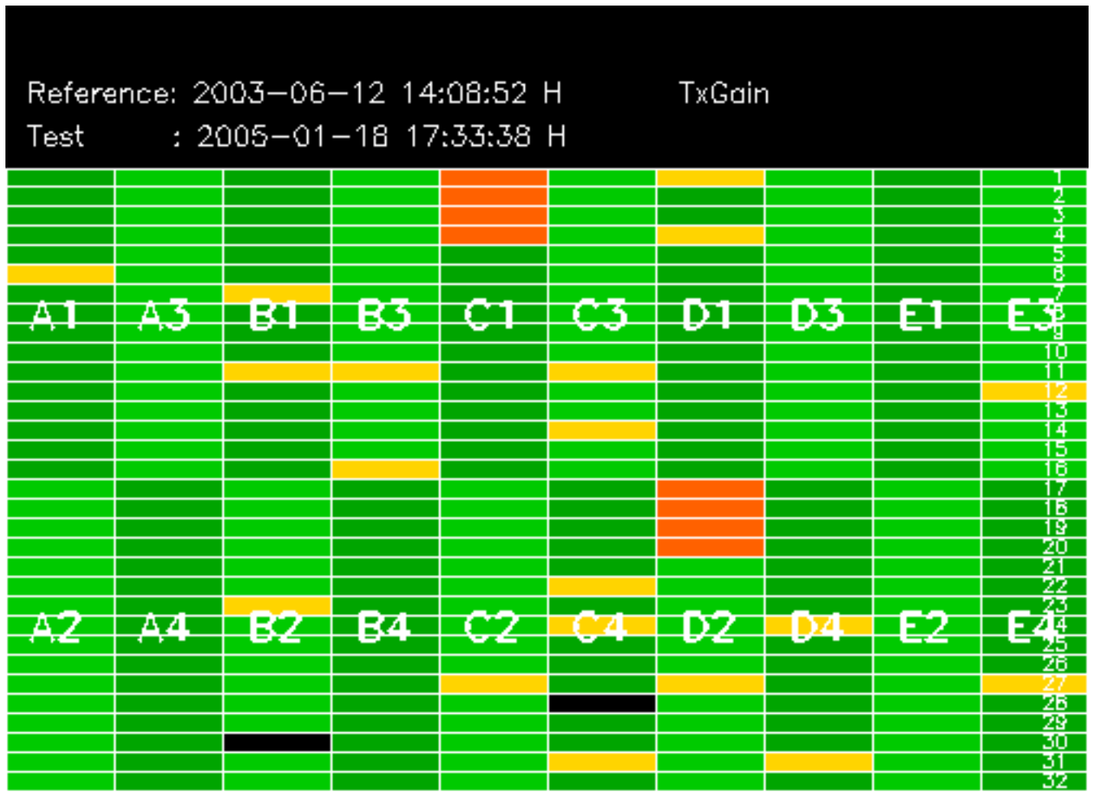

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan

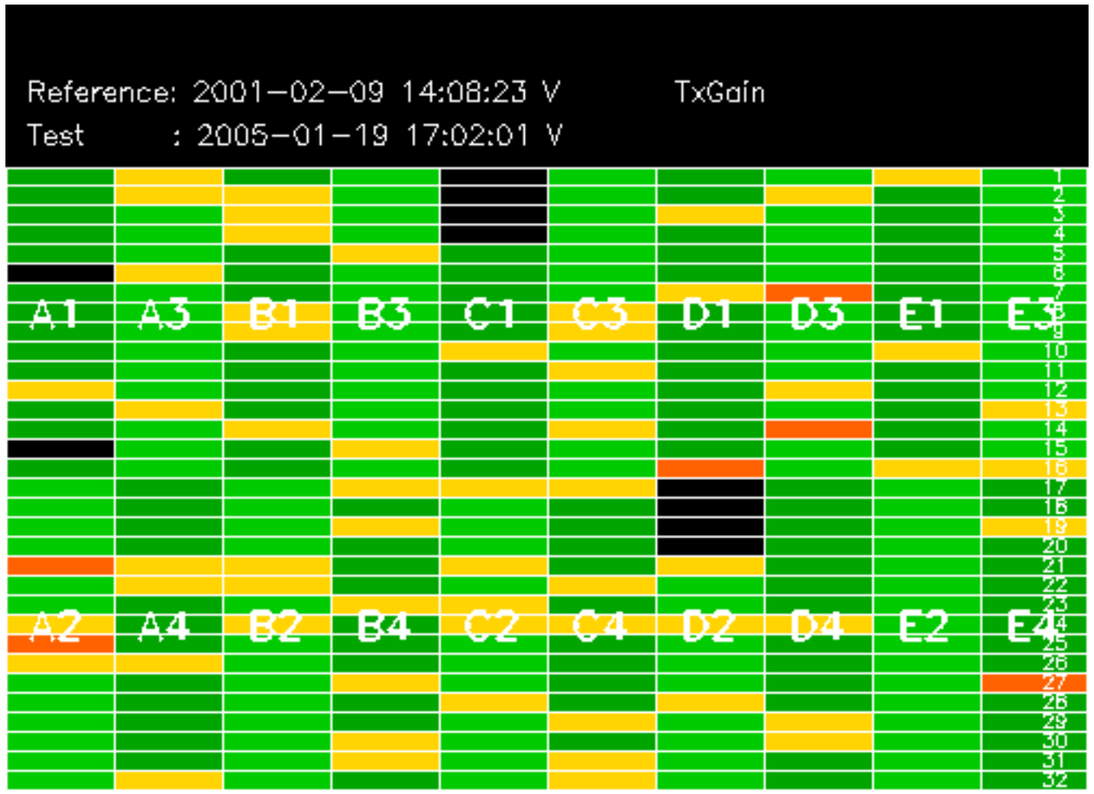

SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan

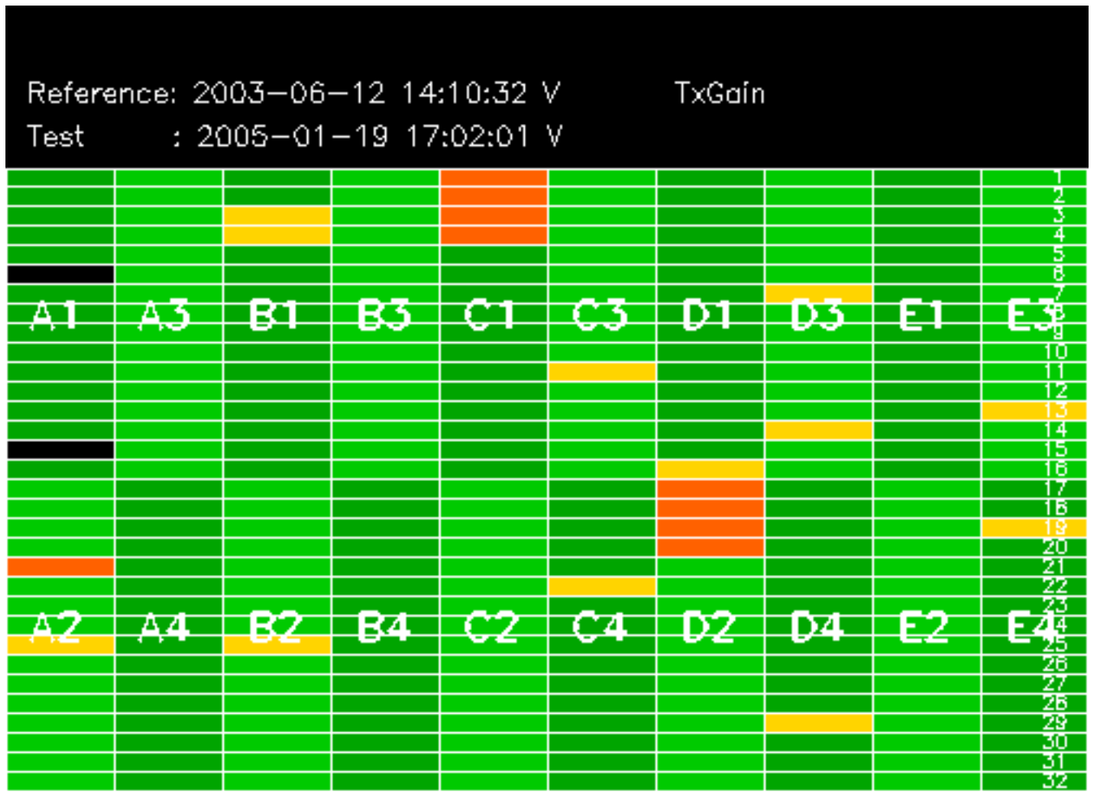

SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan


Reference: 2001-02-09 13:50:42 H
Test : 2005-01-18 17:33:38 H
TxGain
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
Test : 2005-01-18 17:33:38 H
TxGain
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
Test : 2005-01-19 17:02:01 V
TxGain
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
Test : 2005-01-19 17:02:01 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
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8
9
10
11
12
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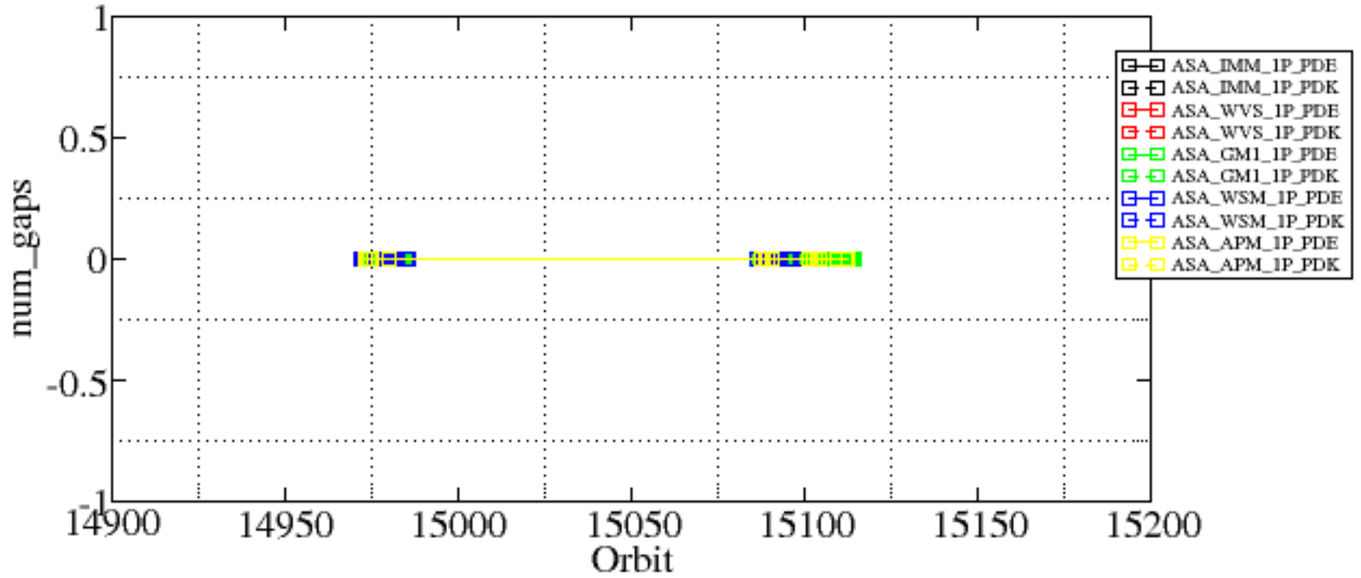
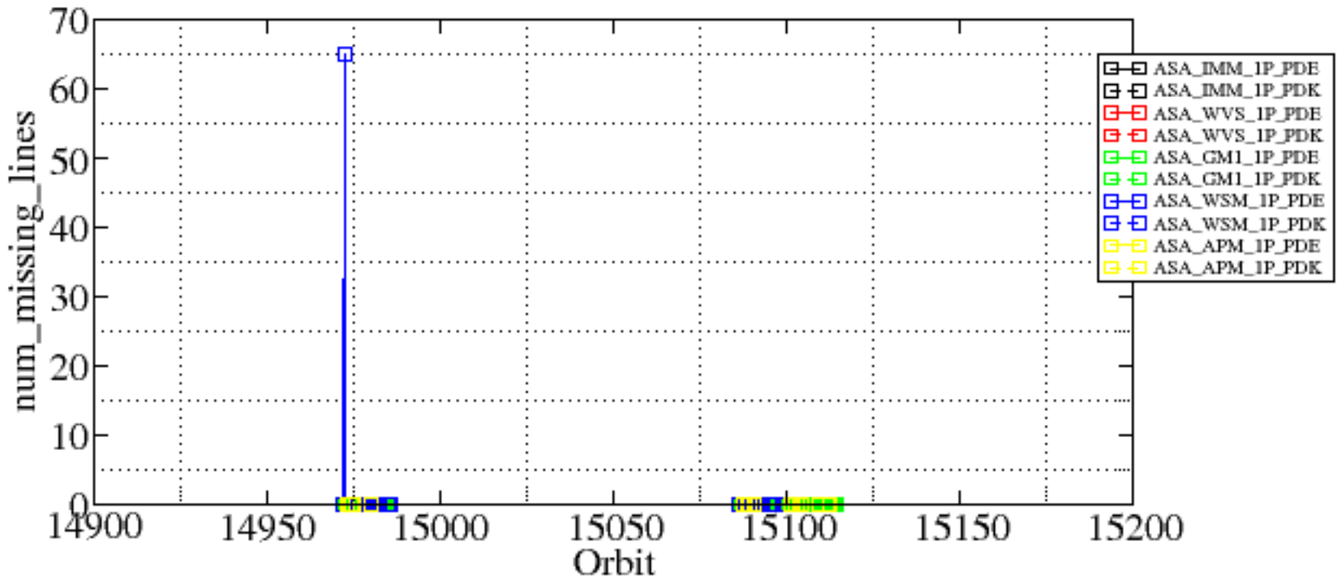
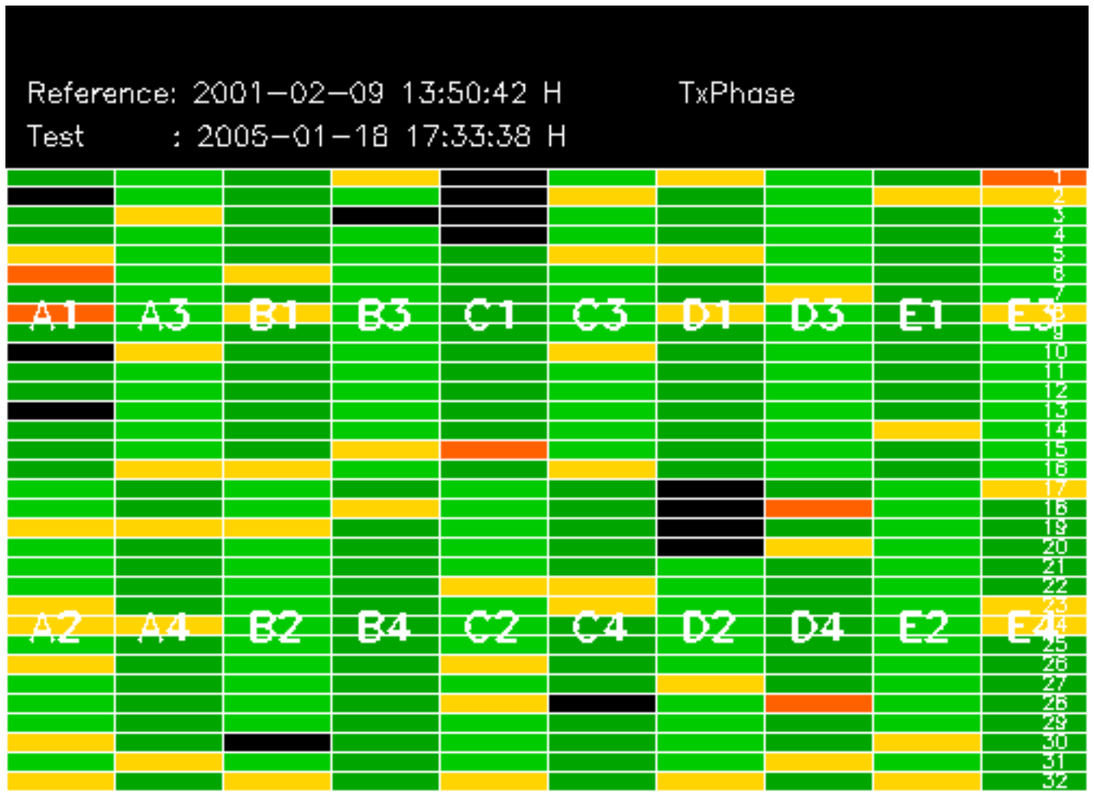
31
32

Summary of analysis for the last 3 days 2005011[890]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_WSM_1PNPDE20050110_011912_000003922033_00389_14972_8609.N1 </td> <td>0 </td> <td>65 </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
14900
14950
15000
15050
15100
15150
15200
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK


num_missing_lines
70
60
50
40
30
20
10
0
14900
14950
15000
15050
15100
15150
15200
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2005-01-18 17:33:38 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
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8
9
10
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14
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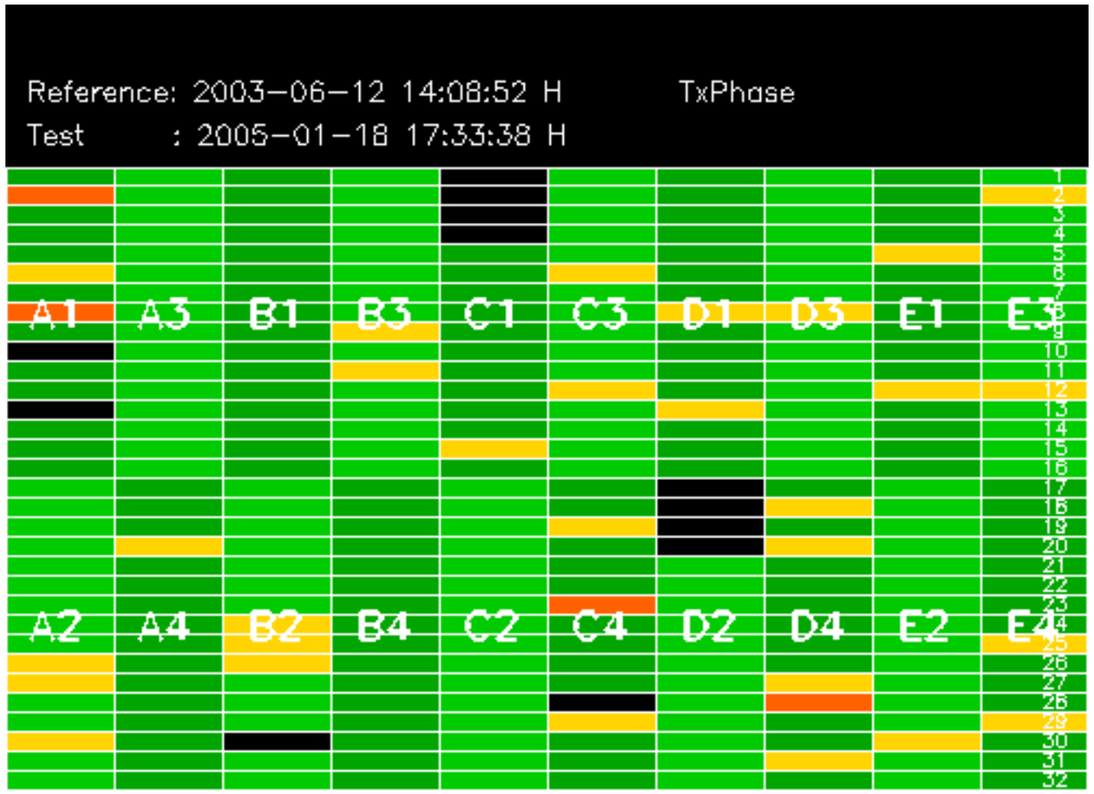
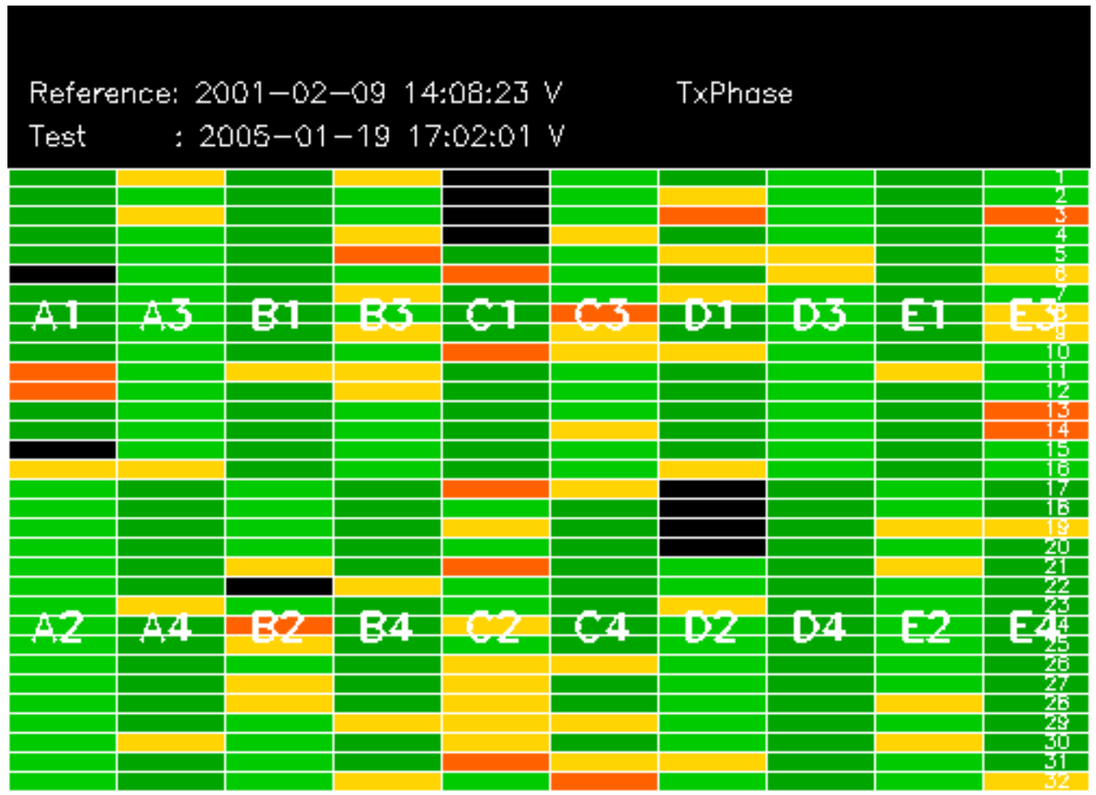
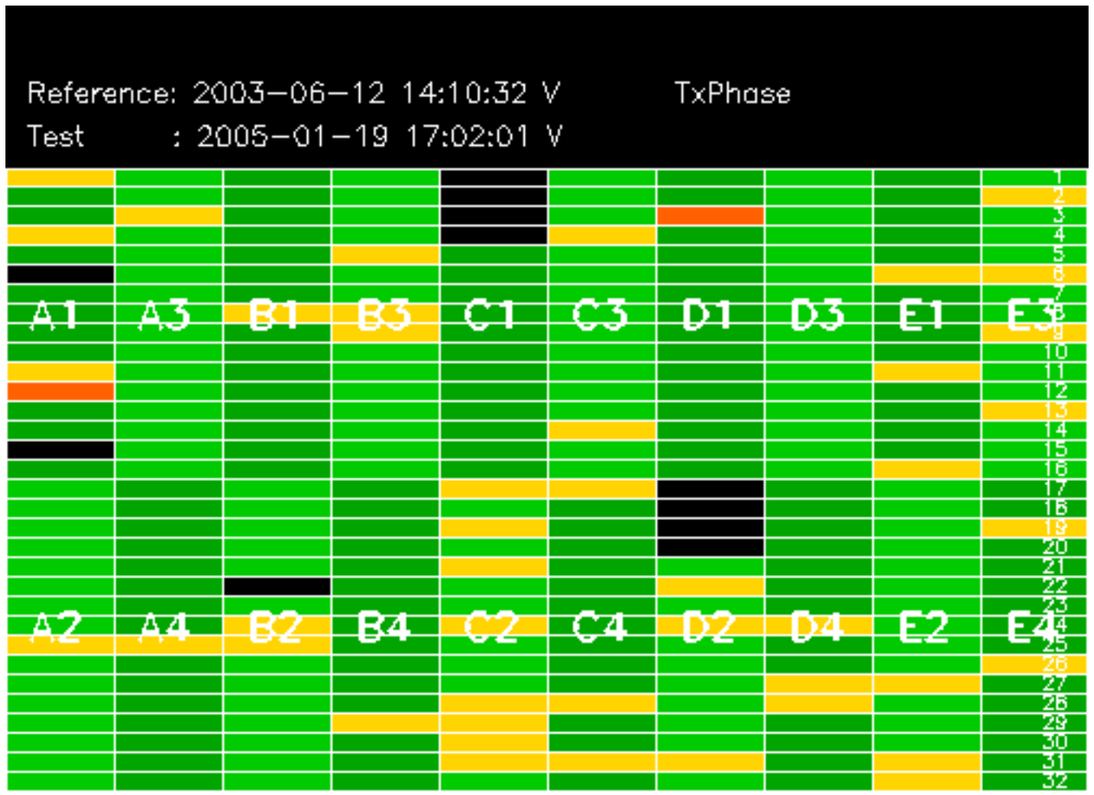
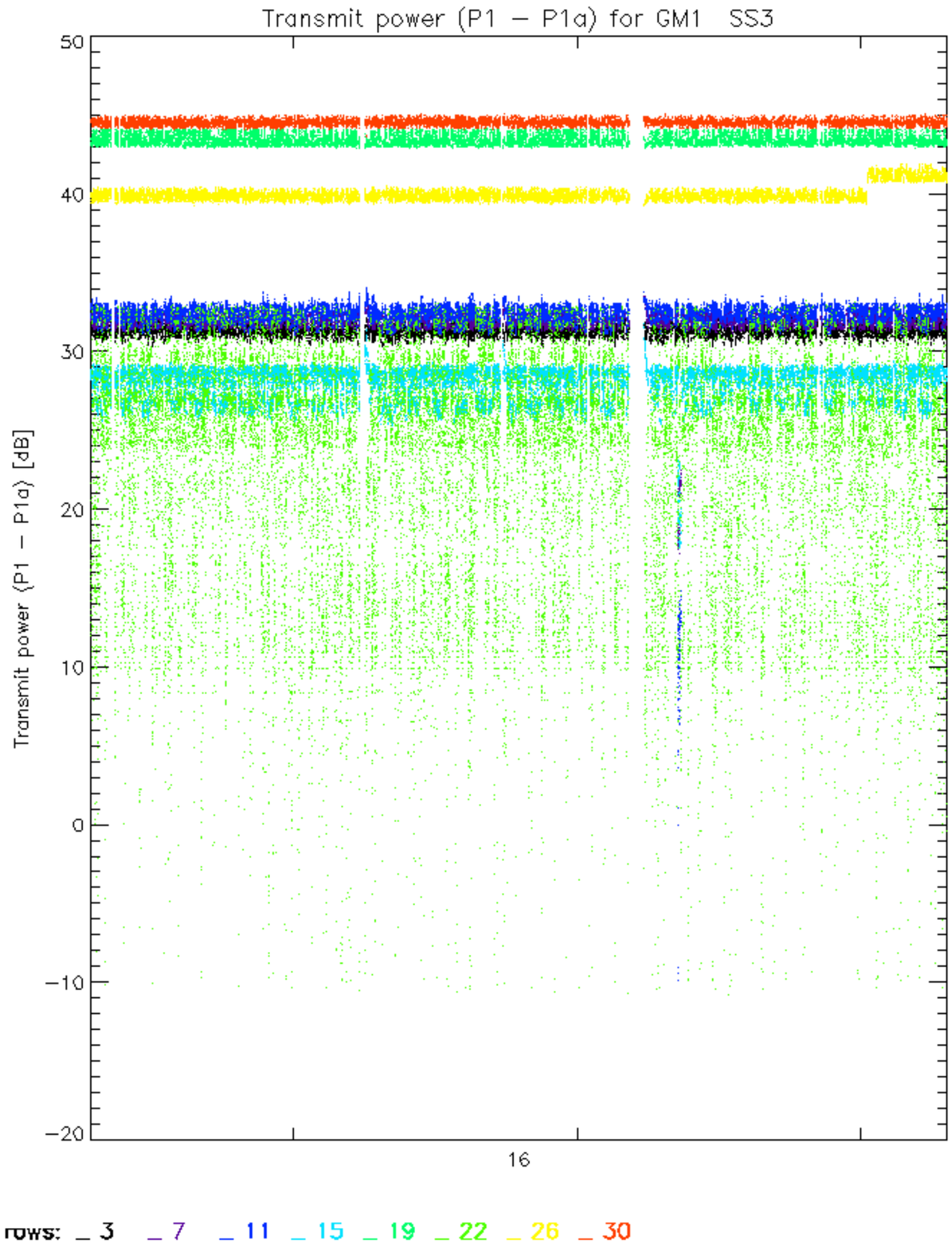
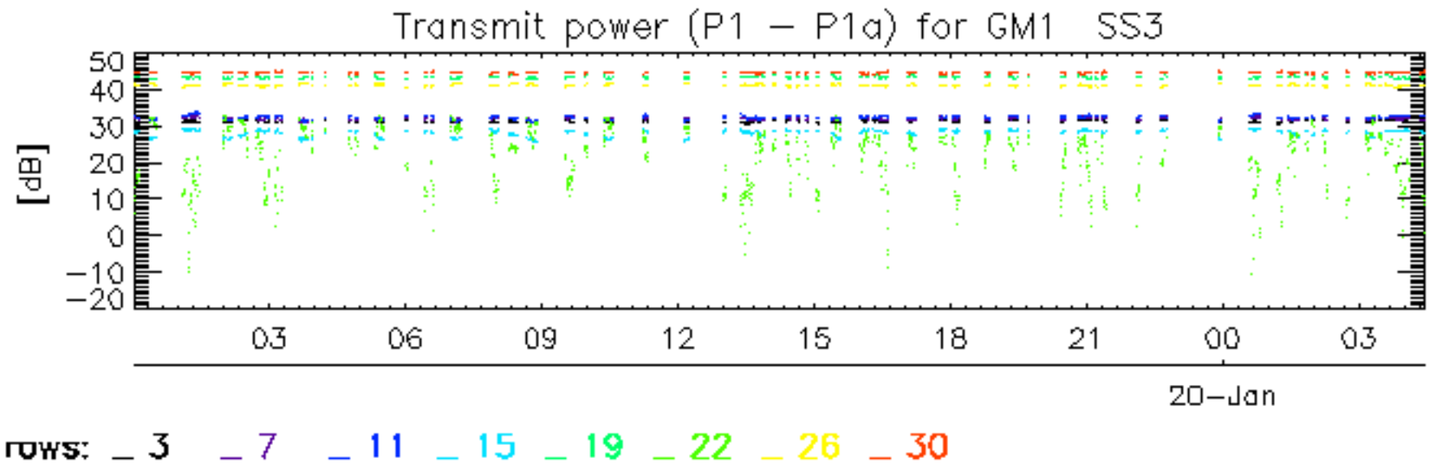
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

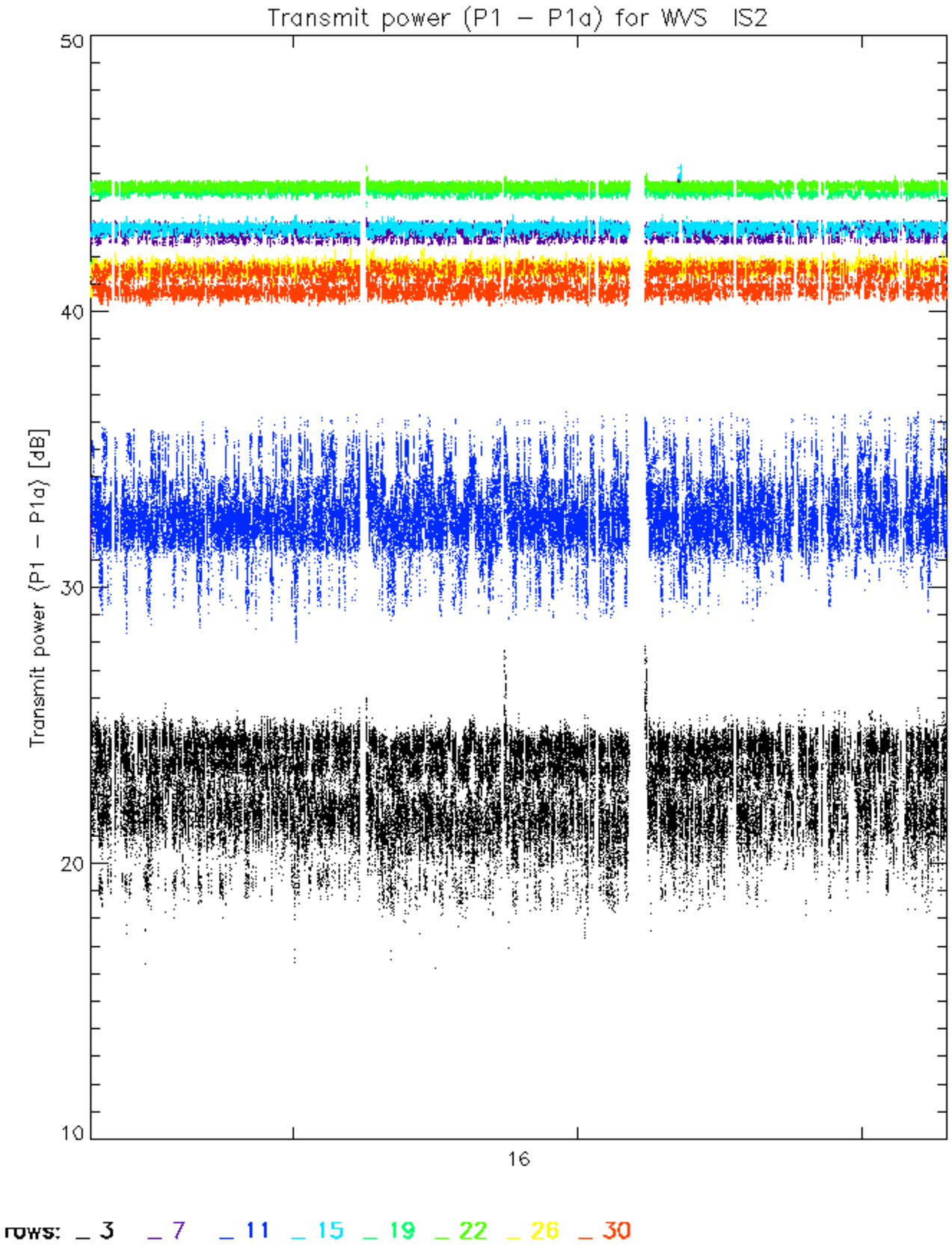

Reference: 2003-06-12 14:08:52 H
Test : 2005-01-18 17:33:38 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

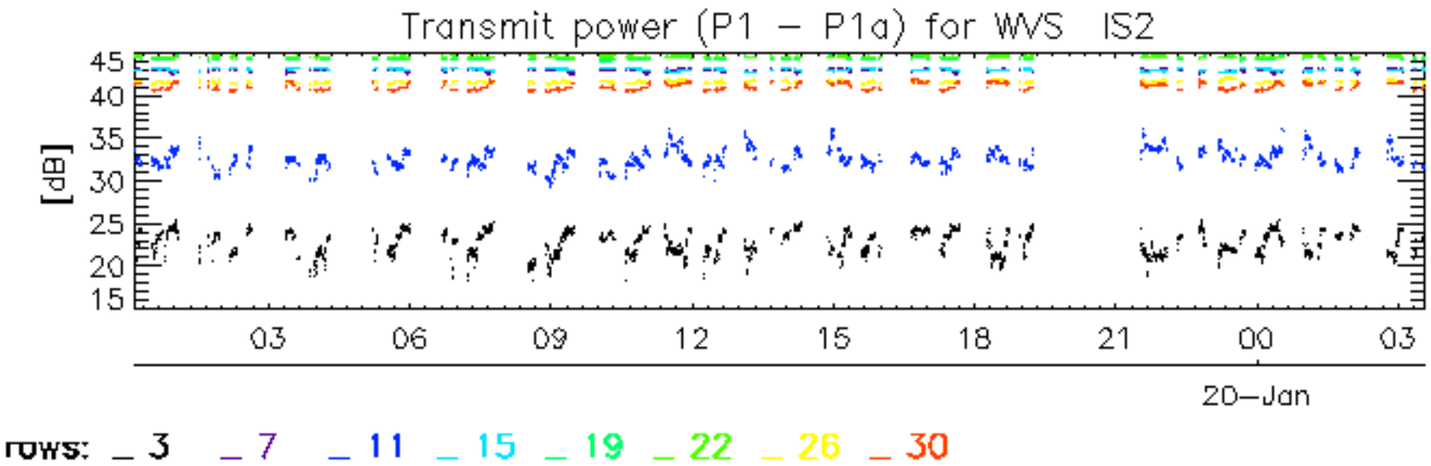

Reference: 2001-02-09 14:08:23 V
Test : 2005-01-19 17:02:01 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-01-19 17:02:01 V
TxPhase
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
16
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
20–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
16
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
20–Jan
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.