PRELIMINARY REPORT OF 070104

last update on Thu Jan 4 16:22:52 GMT 2007

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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 2007-01-03 00:00:00 to 2007-01-04 16:22:52

PDHS-K					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	46	50	31	10	60
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	46	50	31	10	60
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	46	50	31	10	60
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	46	50	31	10	60

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

No anomalies observed on available MS products:

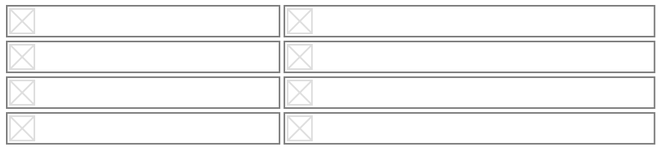
Polarisation	**Start Time**
V	20070103 043733
H	20070104 040556

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**

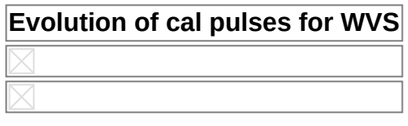


4 - Internal calibration Results

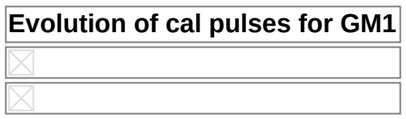
No anomalies observed.

4.1 - Daily statistics

4.1.1 - Evolution for WVS

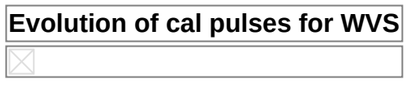


4.1.2 - Evolution for GM1



4.2 - Cyclic statistics

4.2.1 - Evolution 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	-3.961481	0.008084	-0.015837
7	P1	-3.134410	0.024863	0.044148
11	P1	-4.118412	0.026075	0.006634
15	P1	-6.328359	0.016980	-0.019270
19	P1	-3.665872	0.005524	-0.051280
22	P1	-4.664701	0.014369	-0.037945
26	P1	-3.962136	0.008988	-0.001104
30	P1	-5.904331	0.009054	-0.039391
3	P1	-16.540394	0.264398	-0.058542
7	P1	-17.275673	0.195117	0.122866
11	P1	-17.185194	0.487684	-0.091353
15	P1	-13.042601	0.135328	0.049716
19	P1	-15.016416	0.097496	-0.114638
22	P1	-15.831607	0.531189	0.107011
26	P1	-15.084414	0.182942	0.104674
30	P1	-17.522074	0.475216	0.073982

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.796085	0.094837	-0.013510
7	P2	-21.709436	0.093636	0.079760
11	P2	-15.562263	0.102469	0.012819
15	P2	-7.107882	0.109437	0.023445
19	P2	-9.188809	0.105067	0.027690
22	P2	-18.226971	0.098087	0.008318
26	P2	-16.597456	0.111210	-0.013662
30	P2	-19.449799	0.089422	0.001596

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.238786	0.008965	0.001912
7	P3	-8.238786	0.008965	0.001912
11	P3	-8.238786	0.008965	0.001912

15	P3	-8.238786	0.008965	0.001912
19	P3	-8.238786	0.008965	0.001912
22	P3	-8.238786	0.008965	0.001912
26	P3	-8.238820	0.008965	0.001824
30	P3	-8.238820	0.008965	0.001824

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	-3.922278	0.014837	-0.002976
7	P1	-2.470508	0.015294	0.024578
11	P1	-2.850164	0.017252	0.026375
15	P1	-3.690885	0.032116	-0.026147
19	P1	-3.549564	0.020408	-0.009684
22	P1	-5.024240	0.024170	0.033953
26	P1	-6.036936	0.030196	-0.022975
30	P1	-5.350171	0.039149	0.002018
3	P1	-11.740083	0.083803	0.037398
7	P1	-10.071507	0.081432	0.042732
11	P1	-10.354226	0.115222	-0.020458
15	P1	-10.716508	0.126281	-0.058863
19	P1	-15.732454	0.123557	-0.019832
22	P1	-21.593298	1.400250	-0.088766
26	P1	-16.065697	0.345267	0.039270
30	P1	-17.890678	0.374062	0.055538

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.470230	0.113605	0.015454
7	P2	-22.223537	0.283071	0.021010
11	P2	-10.864961	0.110662	0.024310
15	P2	-4.984919	0.188542	0.011313
19	P2	-6.967973	0.264283	0.008140
22	P2	-8.250864	0.109897	0.003209
26	P2	-24.324686	0.167286	-0.091186
30	P2	-21.952190	0.117396	0.040387

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.089272	0.005093	-0.016151
7	P3	-8.089085	0.005075	-0.015752
11	P3	-8.089163	0.005094	-0.016208
15	P3	-8.089021	0.005067	-0.016052
19	P3	-8.089081	0.005100	-0.016227
22	P3	-8.089026	0.005087	-0.015713
26	P3	-8.089154	0.005087	-0.016714
30	P3	-8.089121	0.005065	-0.016290

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	0.000561779
	stdev	1.66114e-07
MEAN Q	mean	0.000498394
	stdev	2.12730e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.140335
	stdev	0.00123616
STDEV Q	mean	0.140736
	stdev	0.00125707

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2007010[234]
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_1PNPDE20070102_012643_000001402054_00203_25307_7173.N1	0	40
ASA_WSM_1PNPDE20070103_005606_000003242054_00217_25321_9226.N1	0	36
ASA_WSM_1PNPDE20070103_072858_000003062054_00221_25325_9975.N1	0	1
ASA_WSM_1PNPDE20070104_002424_000001292054_00231_25335_1792.N1	0	61
ASA_WSM_1PNPDE20070104_002424_000003062054_00231_25335_1618.N1	0	61
ASA_WSM_1PNPDE20070104_002424_000003062054_00231_25335_2038.N1	0	61
ASA_WSM_1PNPDE20070104_030430_000002382054_00233_25337_1981.N1	0	15

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

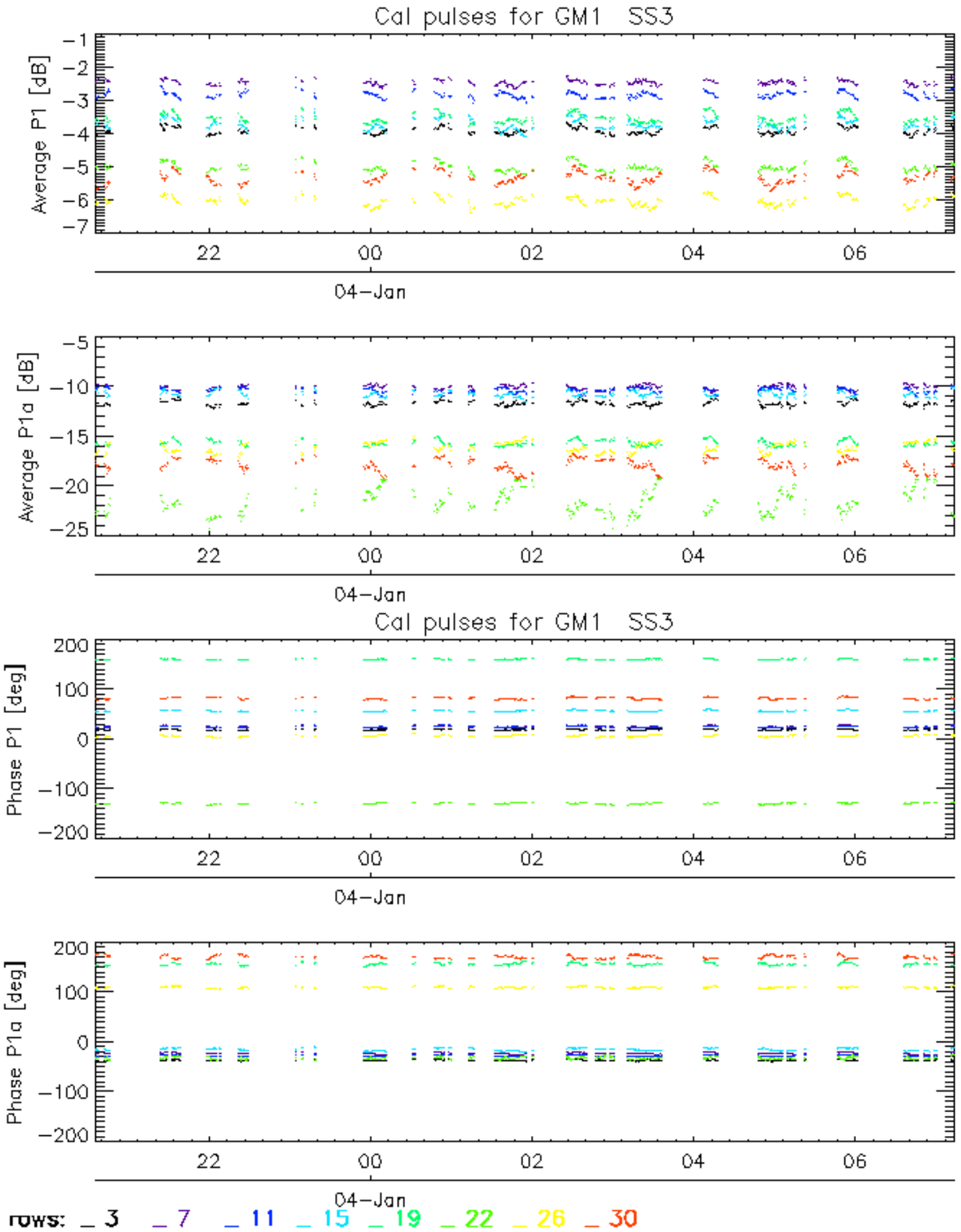
Descending

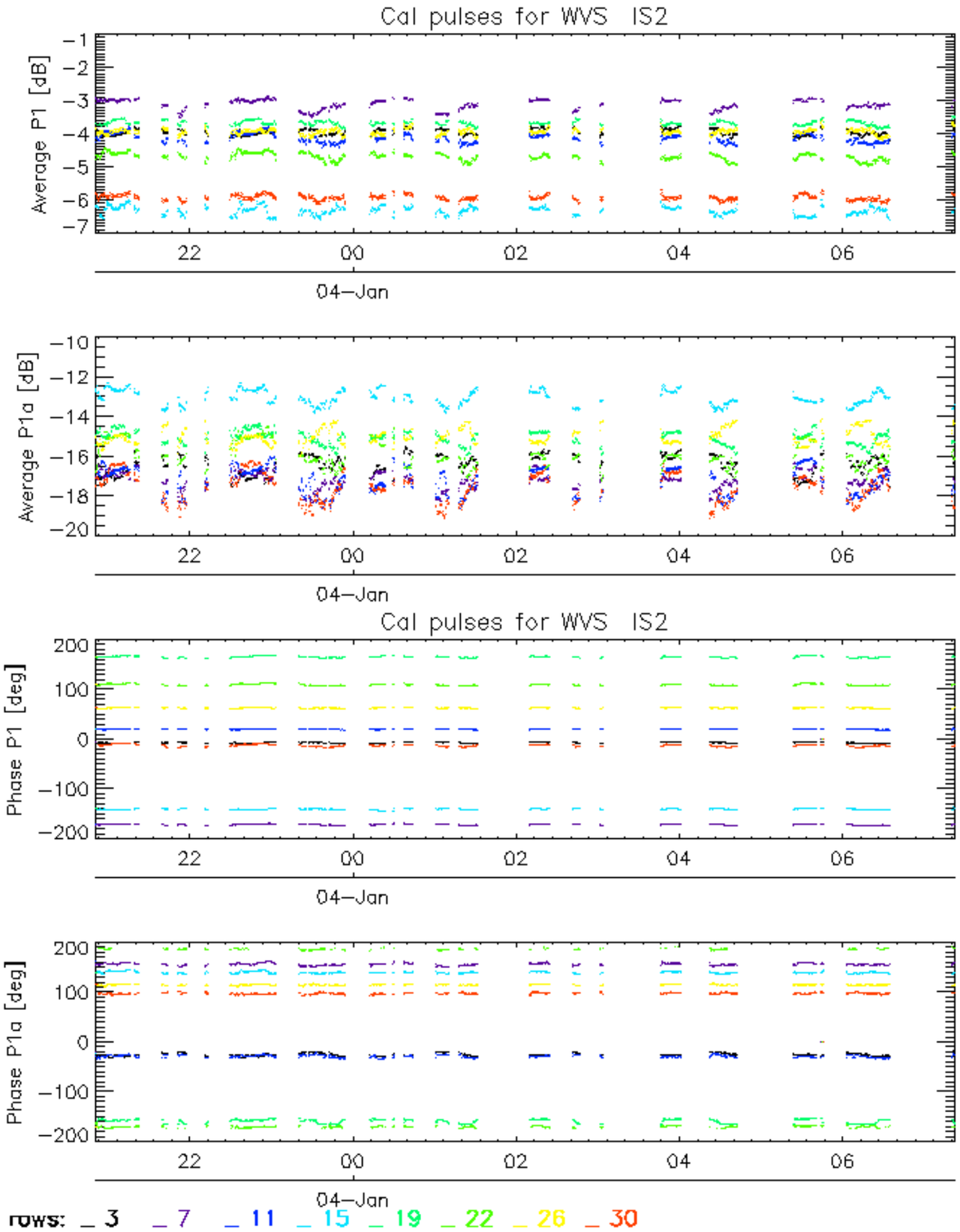
7.5 - Absolute Doppler for GM1

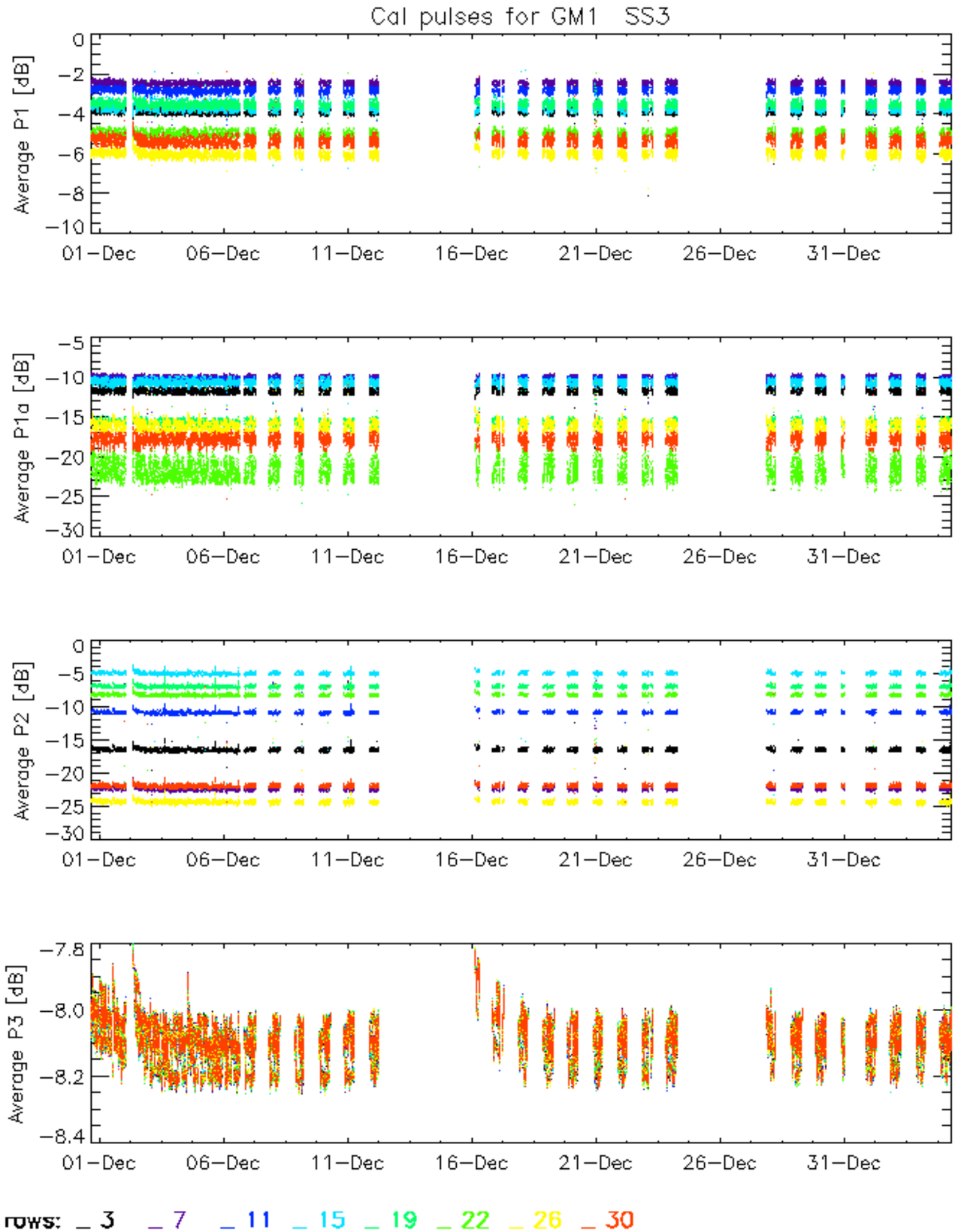
Evolution of Absolute Doppler
Acsending
Descending

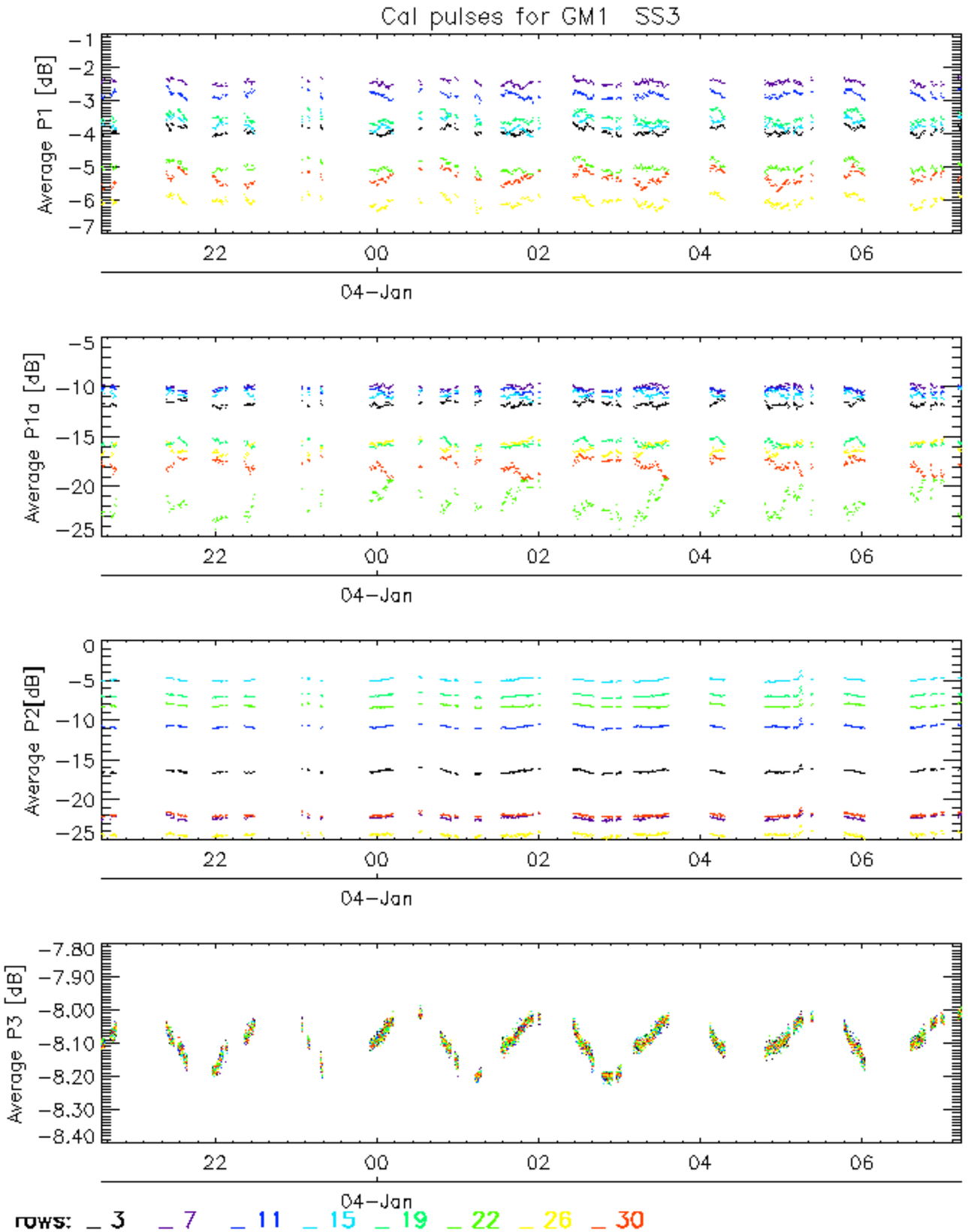
7.6 - Doppler evolution versus ANX for GM1

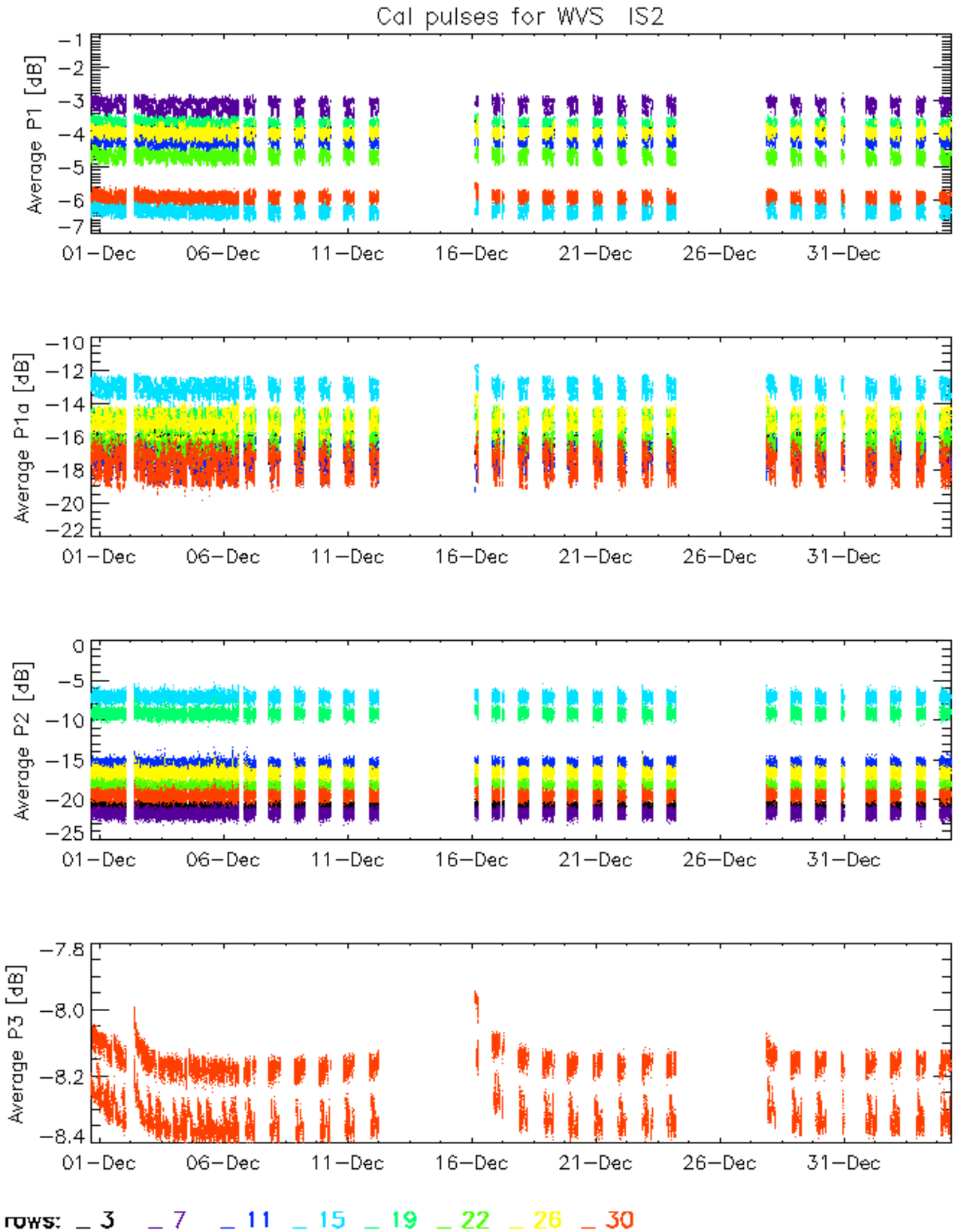
Evolution Doppler error versus ANX

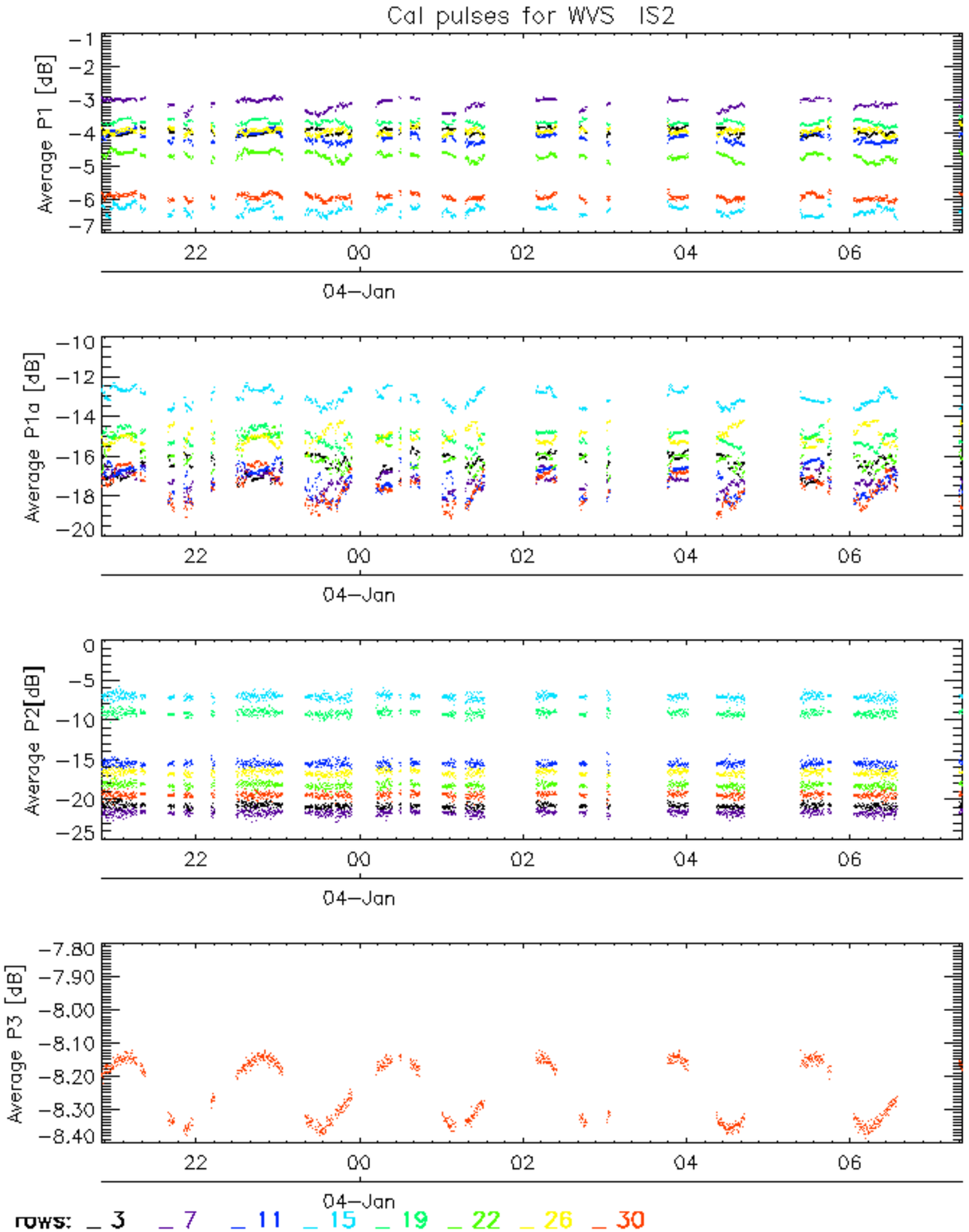

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
22
00
02
04
06
04−Jan
Average P1a [dB]
−5
−10
−15
−20
−25
22
00
02
04
06
04−Jan
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
22
00
02
04
06
04−Jan
Phase P1a [deg]
200
100
0
−100
−200
22
00
02
04
06
04−Jan
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
22
00
02
04
06
04–Jan
Average P1a [dB]
−10
−12
−14
−16
−18
−20
22
00
02
04
06
04–Jan
Cal pulses for WVS IS2
Phase P1 [deg]
200
100
0
−100
−200
22
00
02
04
06
04–Jan
Phase P1a [deg]
200
100
0
−100
−200
22
00
02
04
06
04–Jan
rows: 3 7 11 15 19 22 26 30

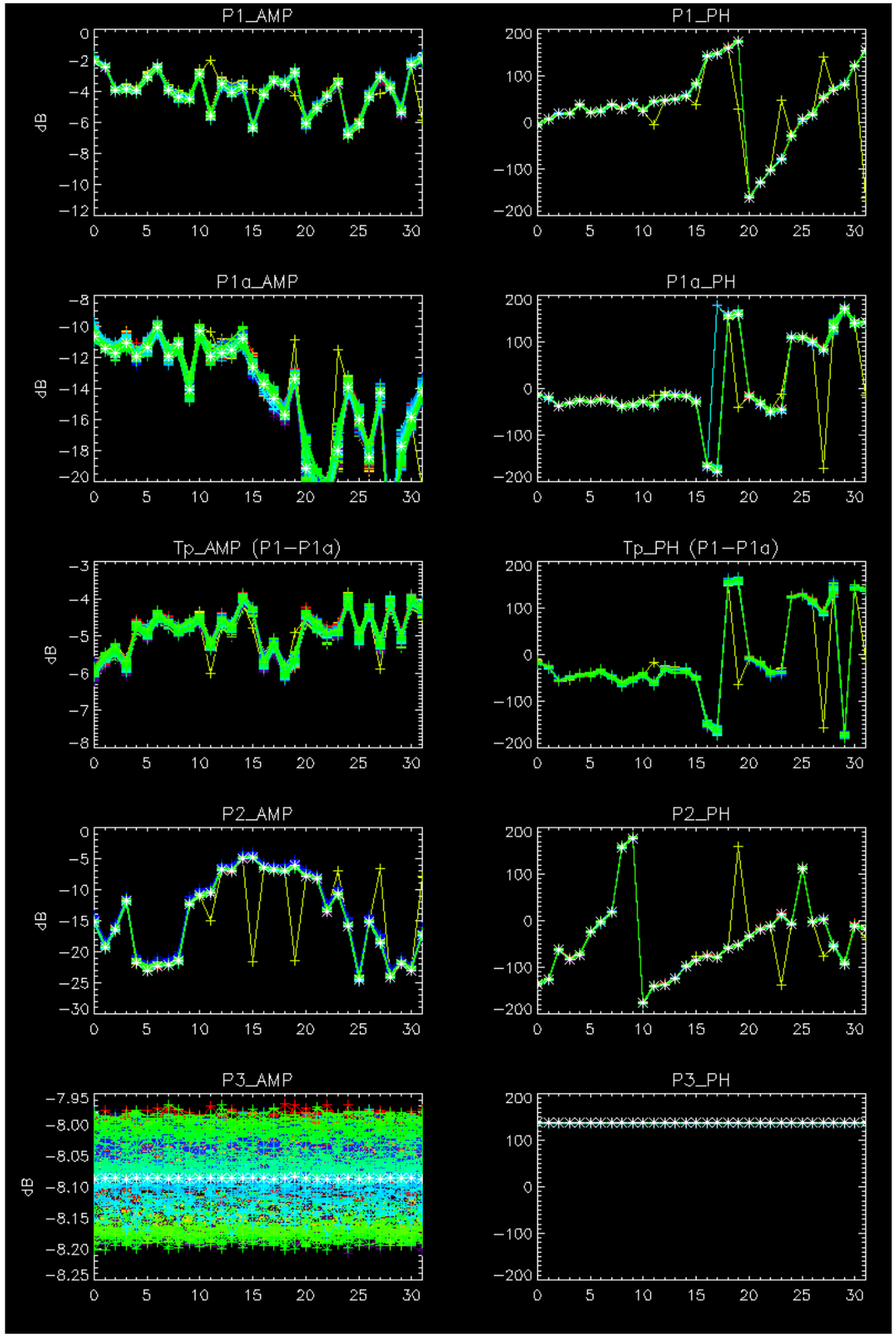

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
−10
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
−30
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

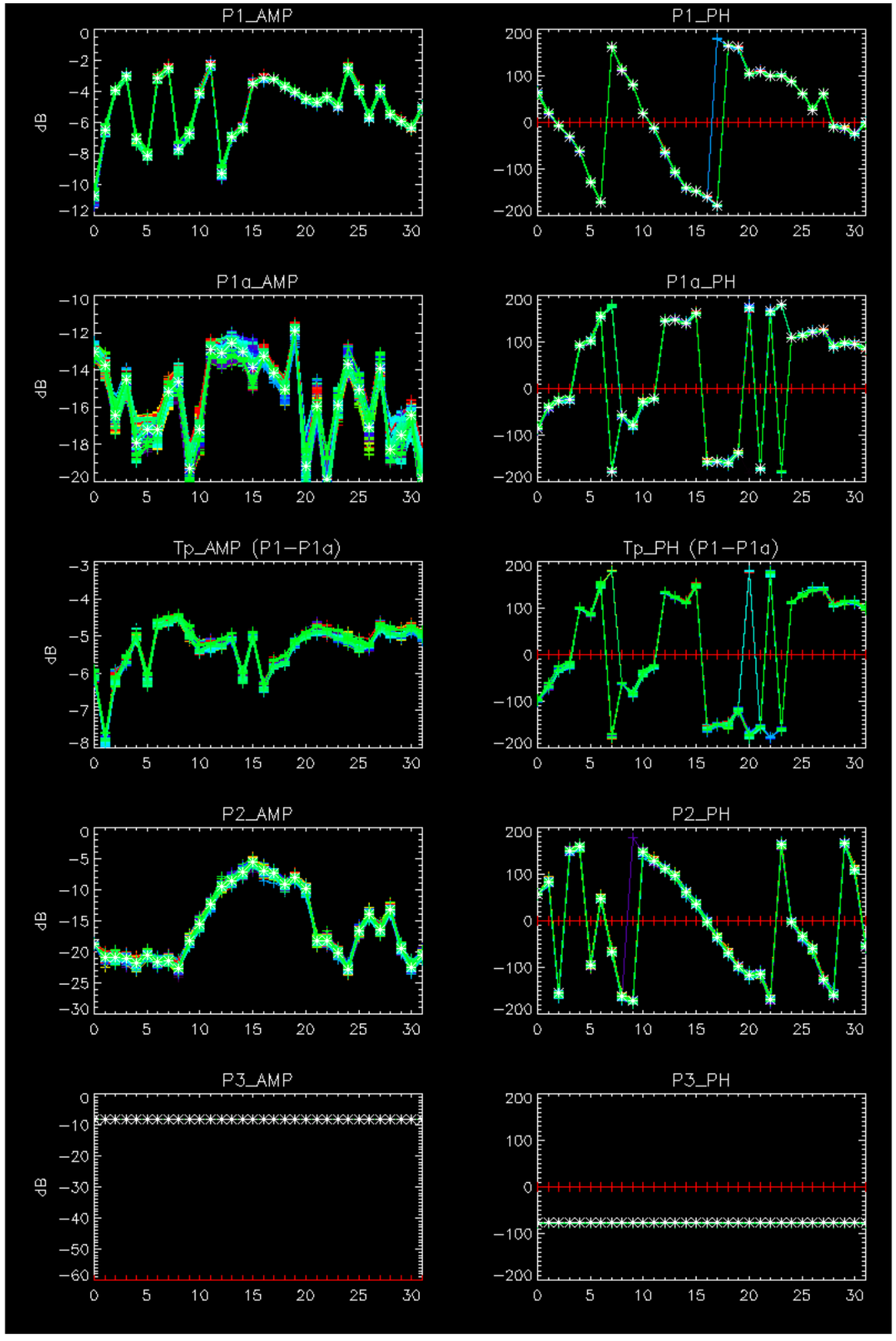

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
22
00
02
04
06
04−Jan
Average P1a [dB]
−5
−10
−15
−20
−25
22
00
02
04
06
04−Jan
Average P2[dB]
0
−5
−10
−15
−20
−25
22
00
02
04
06
04−Jan
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
22
00
02
04
06
04−Jan
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
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 WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
22
00
02
04
06
04–Jan
Average P1a [dB]
−10
−12
−14
−16
−18
−20
22
00
02
04
06
04–Jan
Average P2[dB]
0
−5
−10
−15
−20
−25
22
00
02
04
06
04–Jan
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
22
00
02
04
06
04–Jan
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

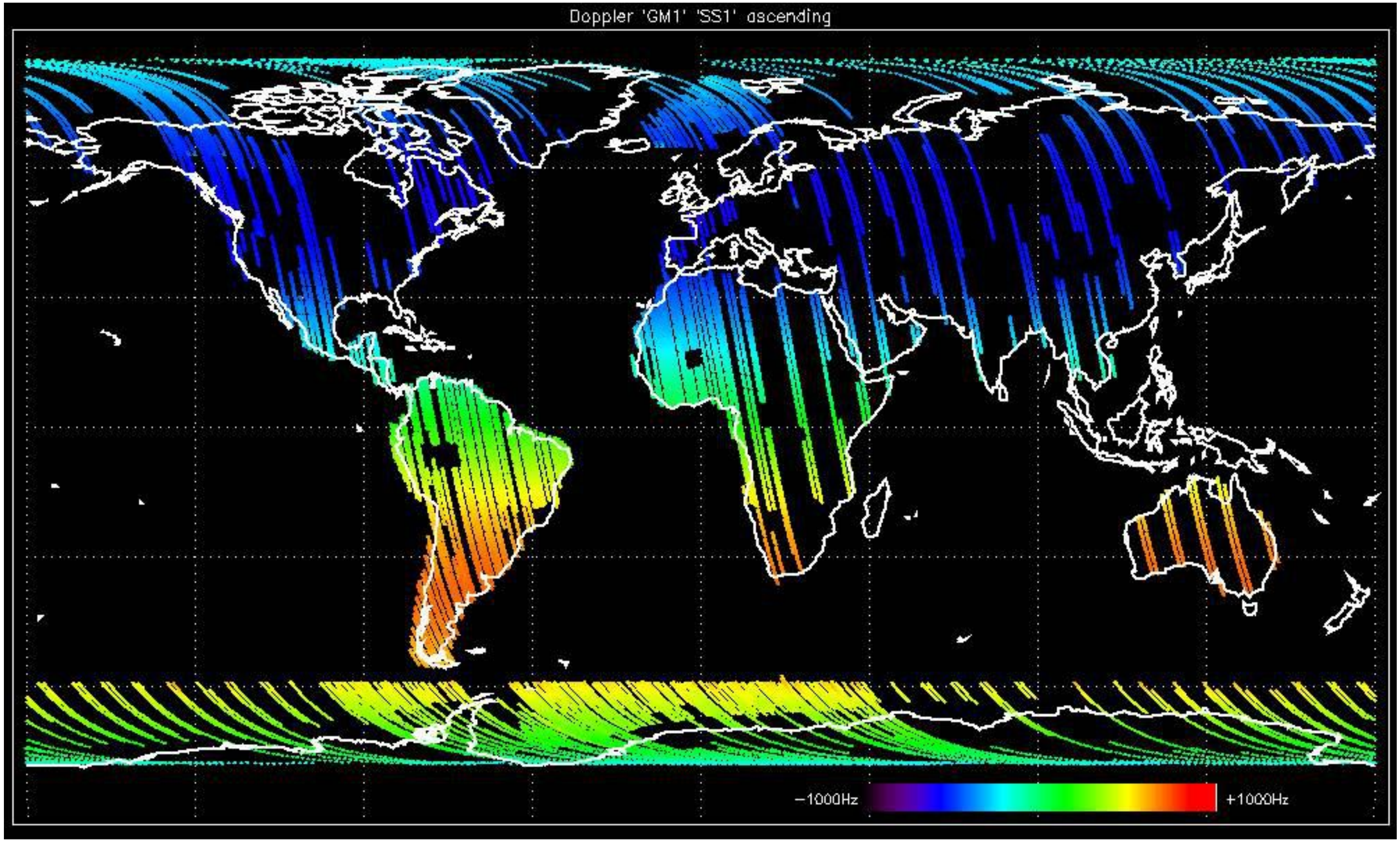
No anomalies observed.

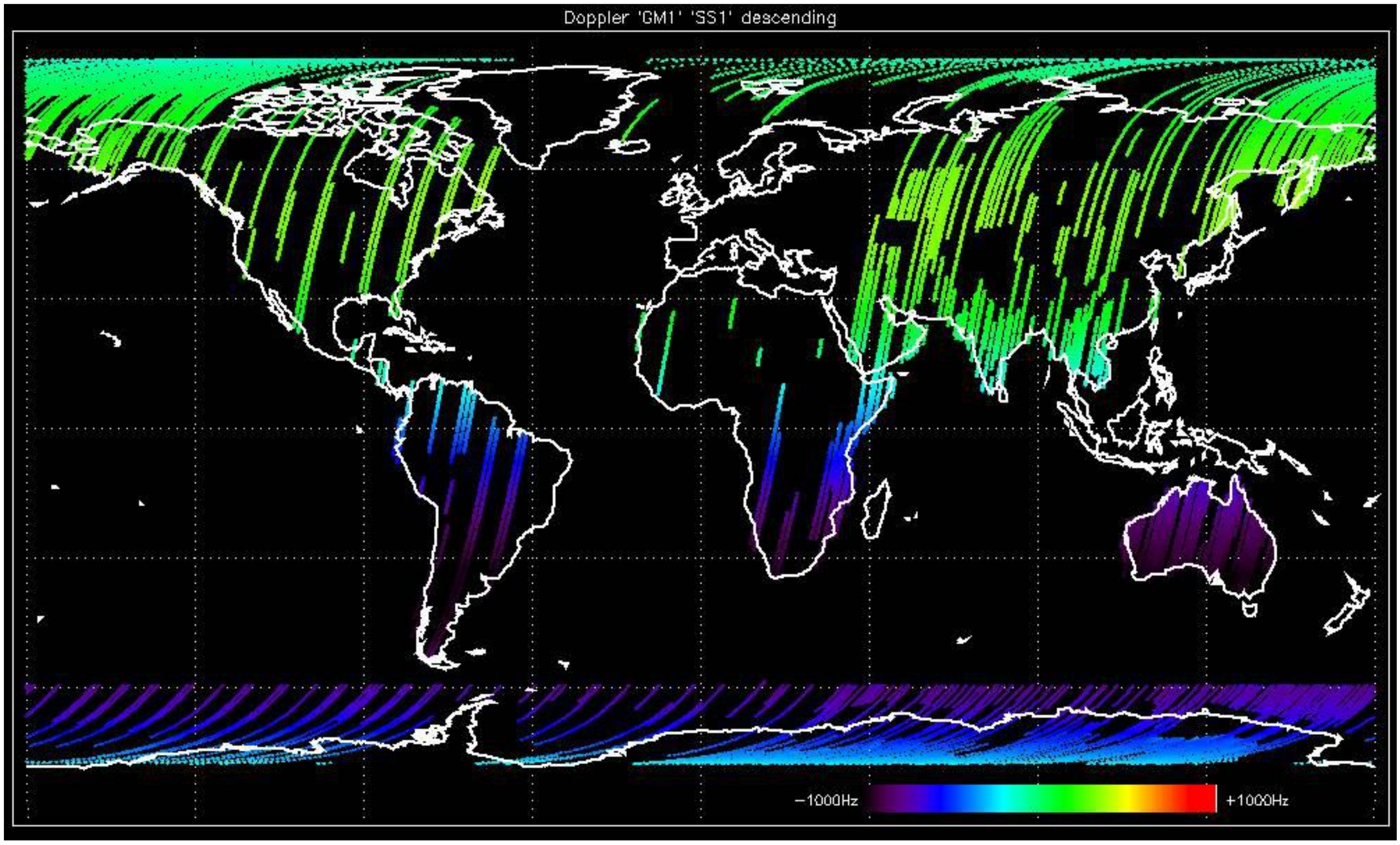

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

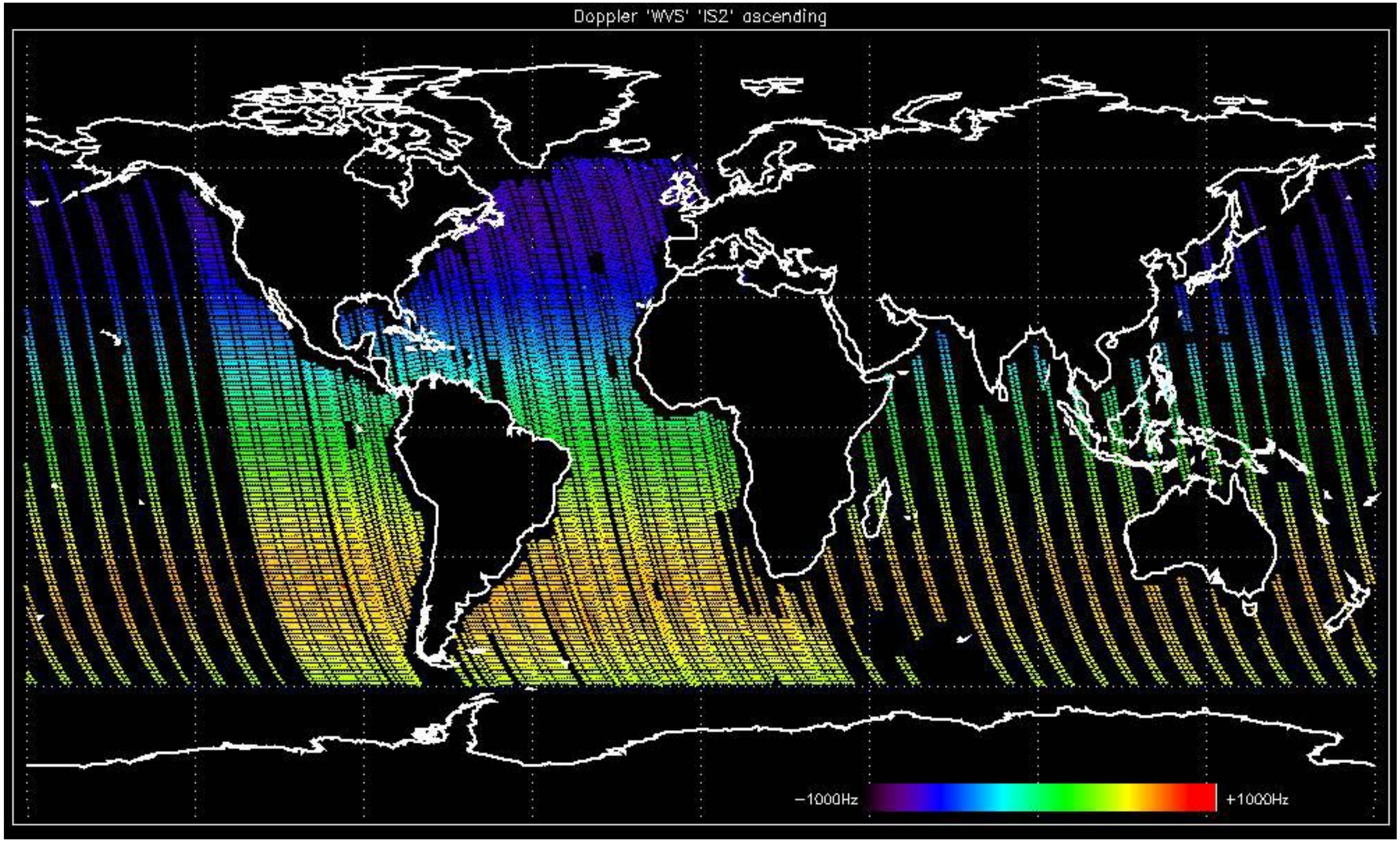

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

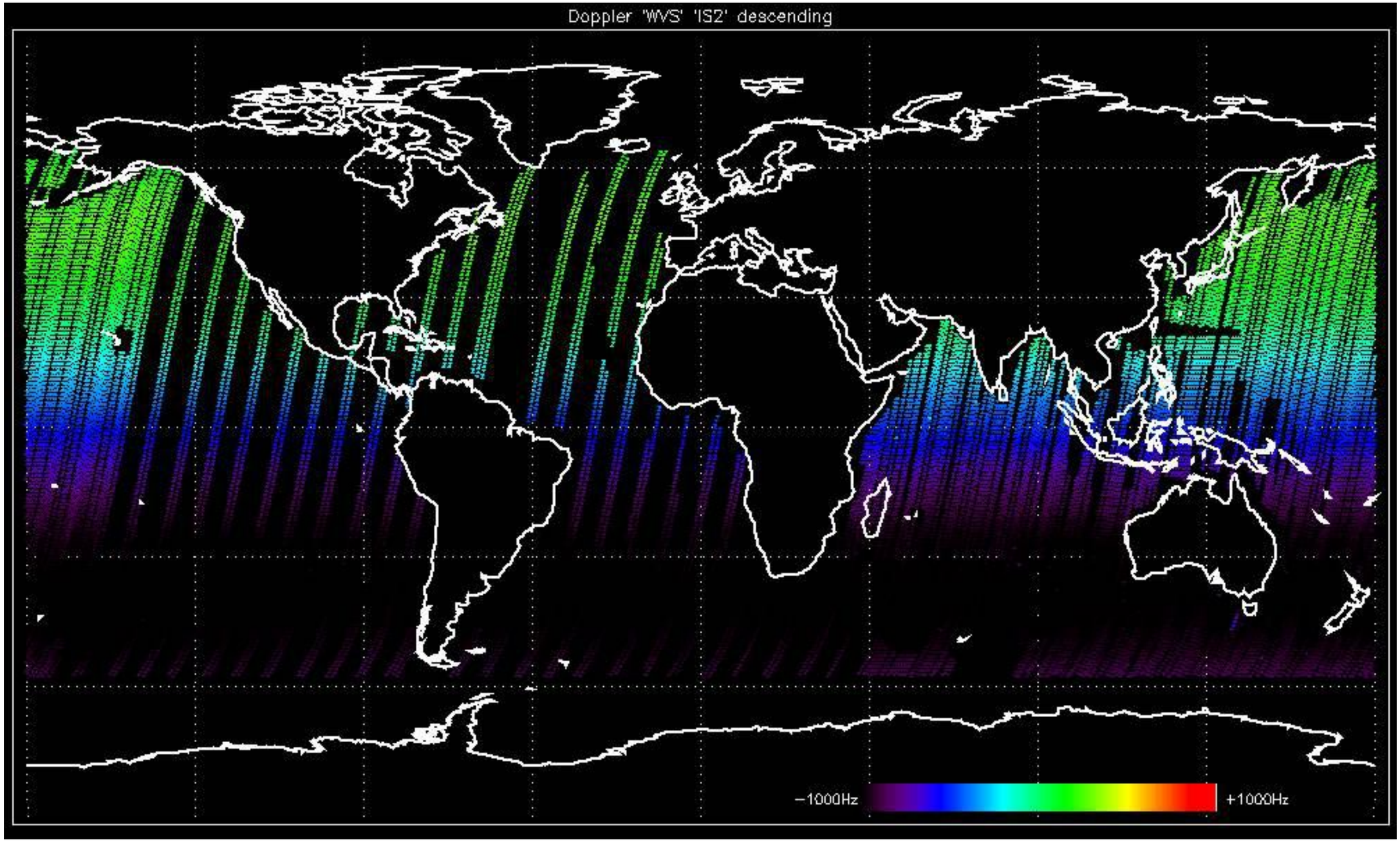
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

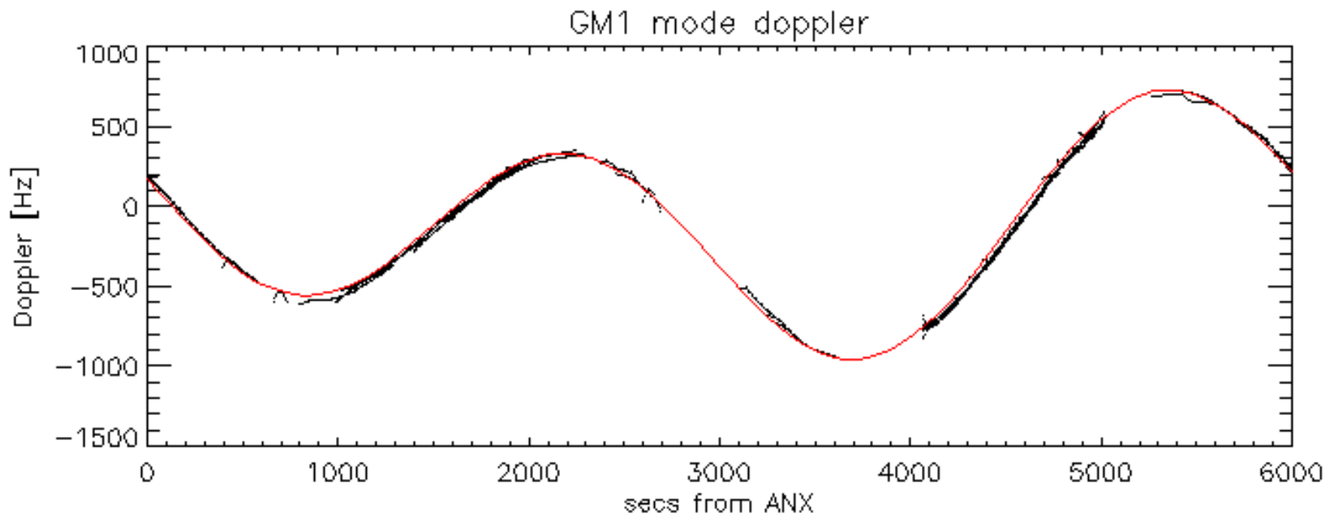
Preliminary report.The data is not yet controled

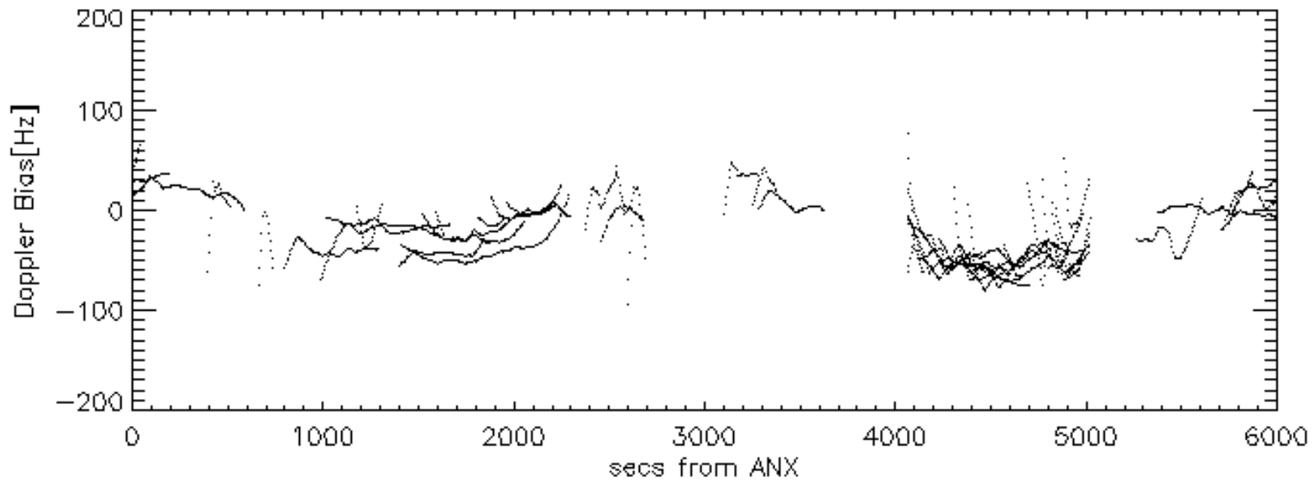

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

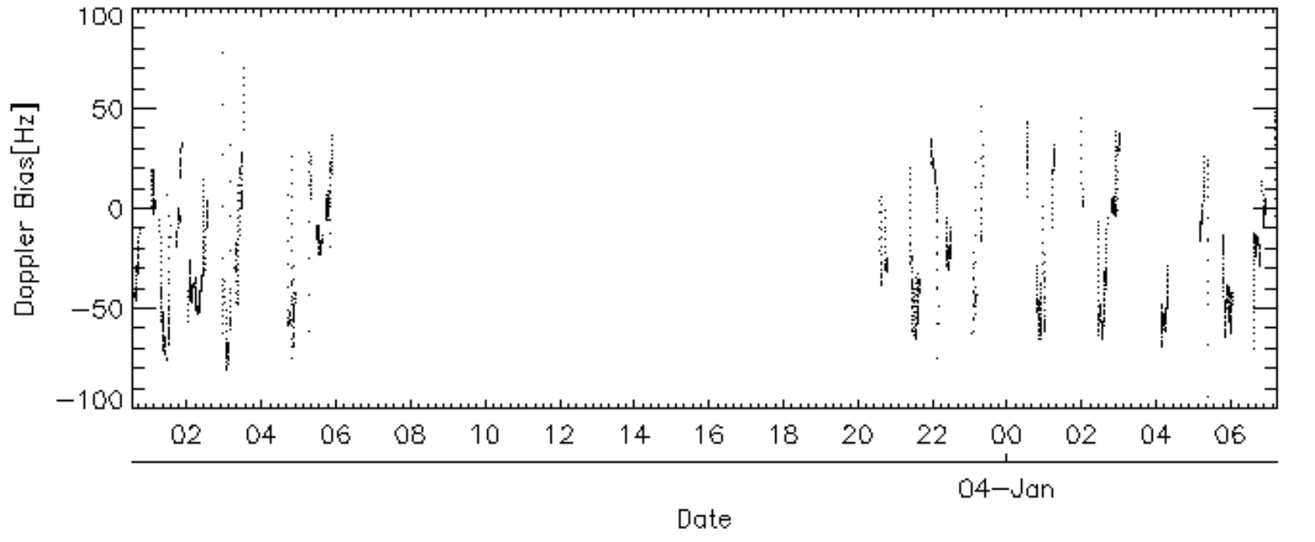

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

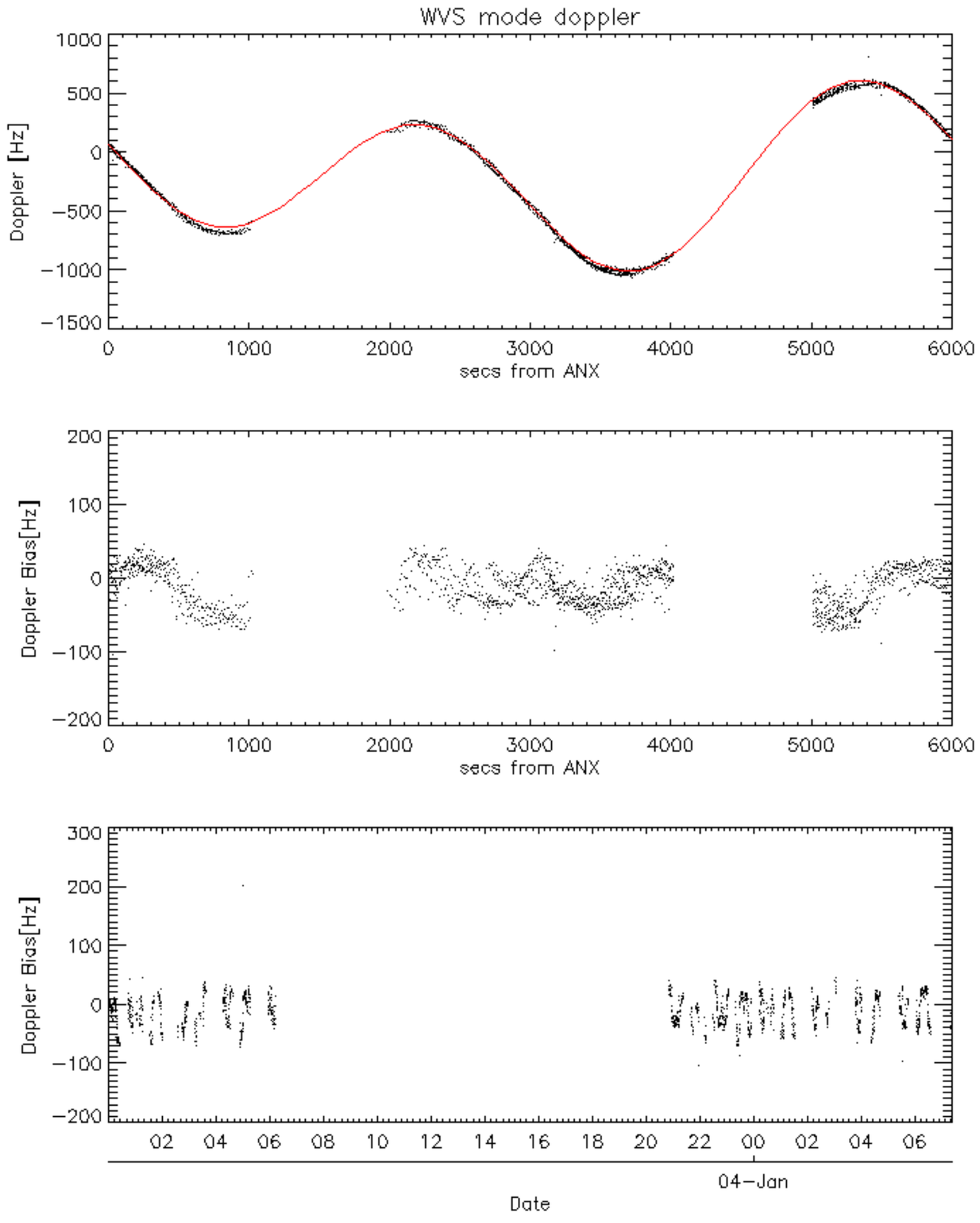

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

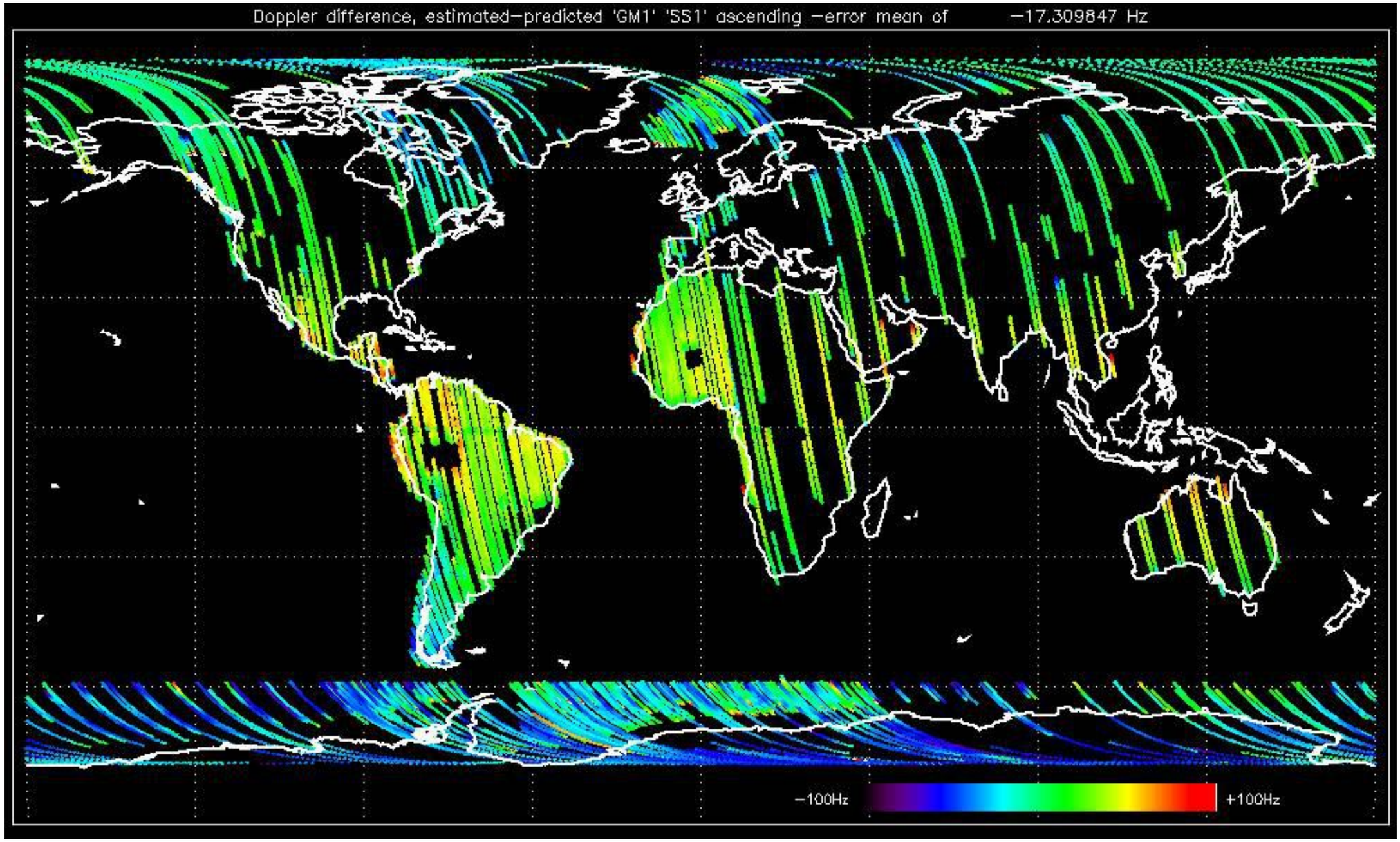

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

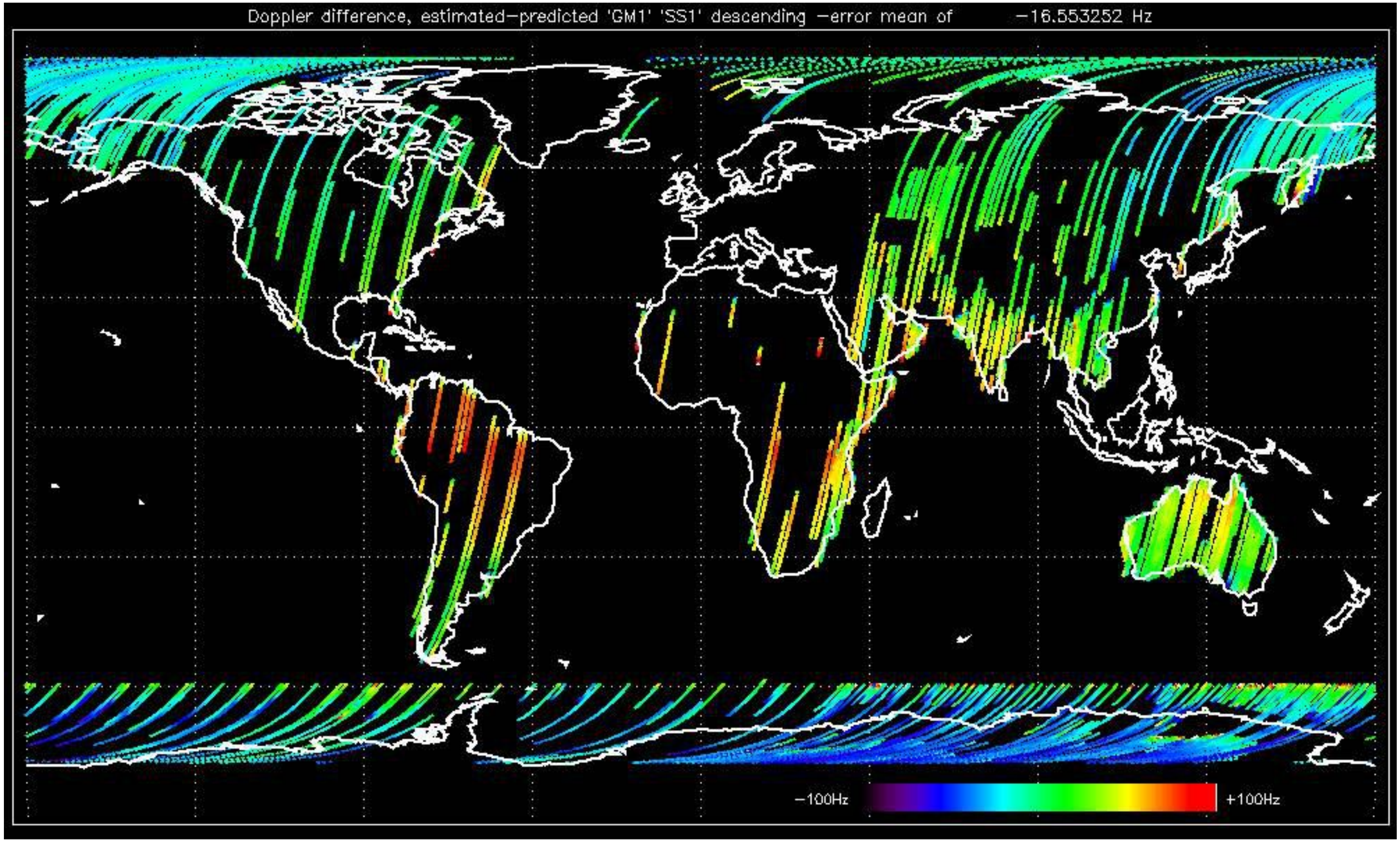

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

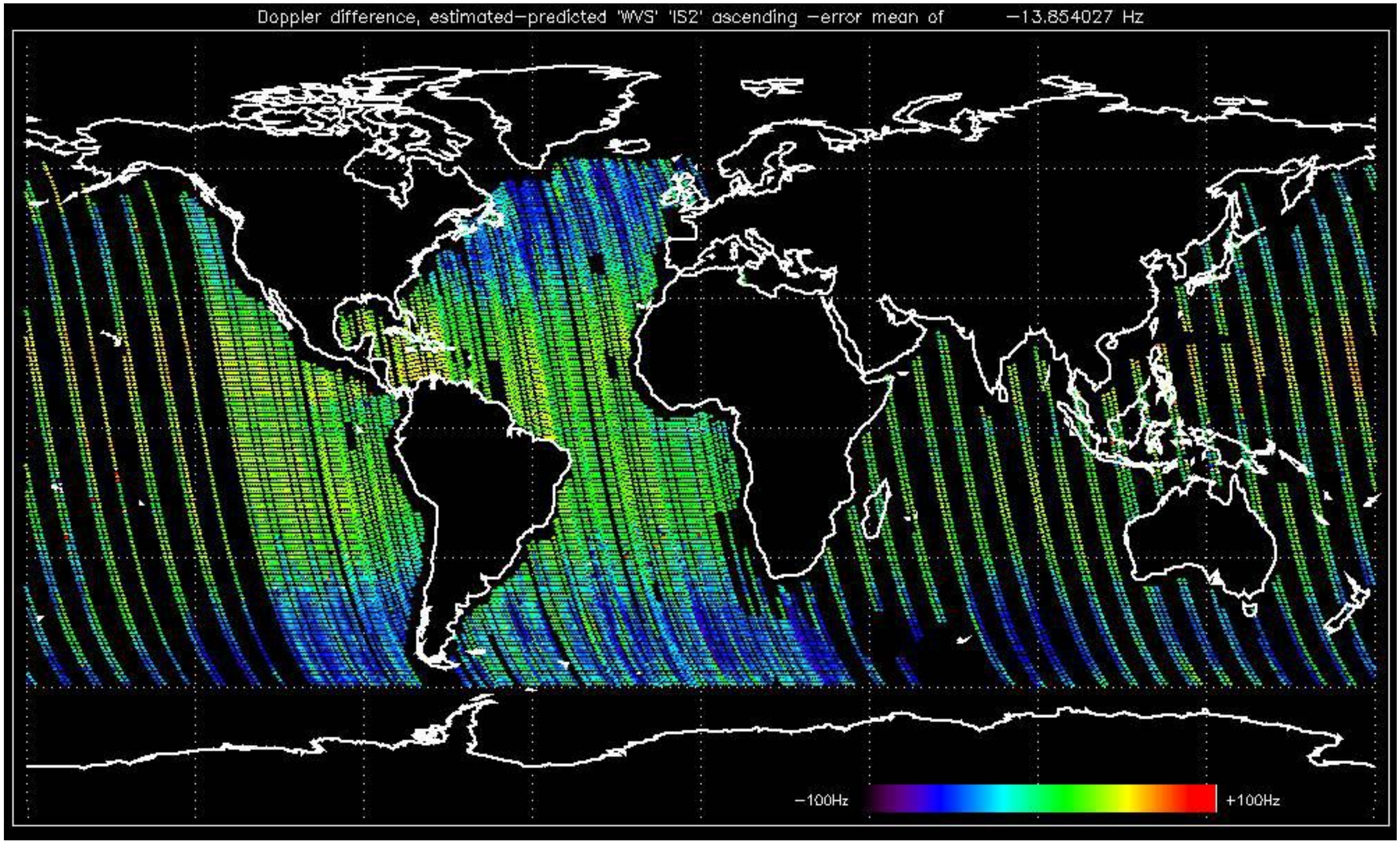

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

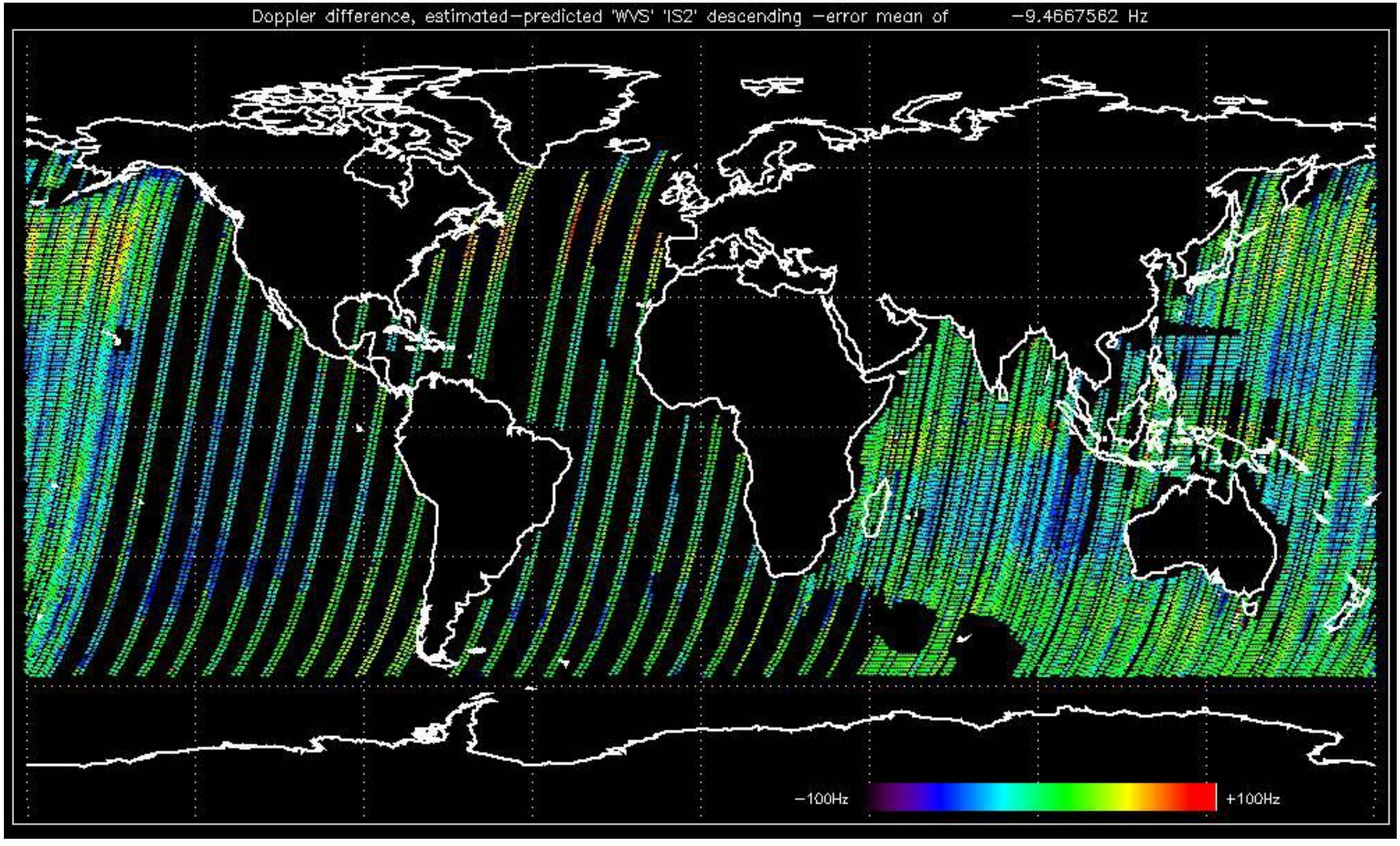

Doppler Bias[Hz]
100
50
0
−50
−100
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
04−Jan
Date


WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
300
200
100
0
−100
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
04−Jan
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −17.309847 Hz
−100Hz
+100Hz

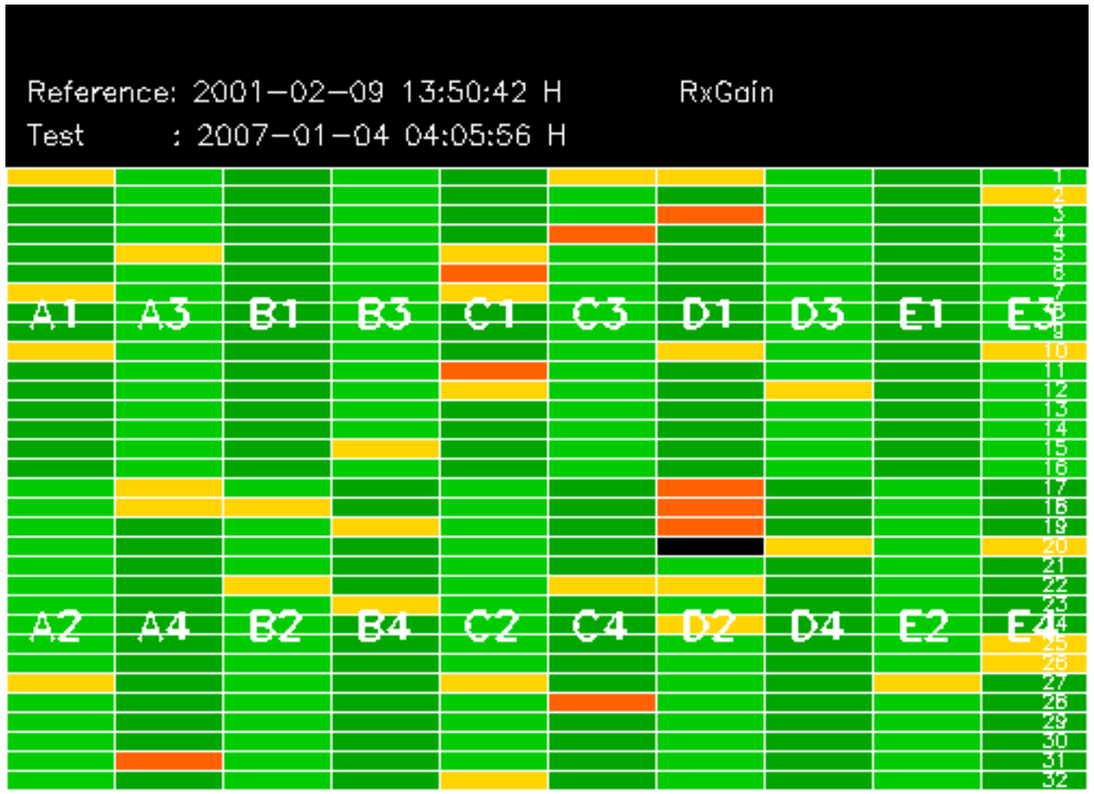

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −16.553252 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −13.854027 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −9.4667562 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2007-01-04 04:05:56 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
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9
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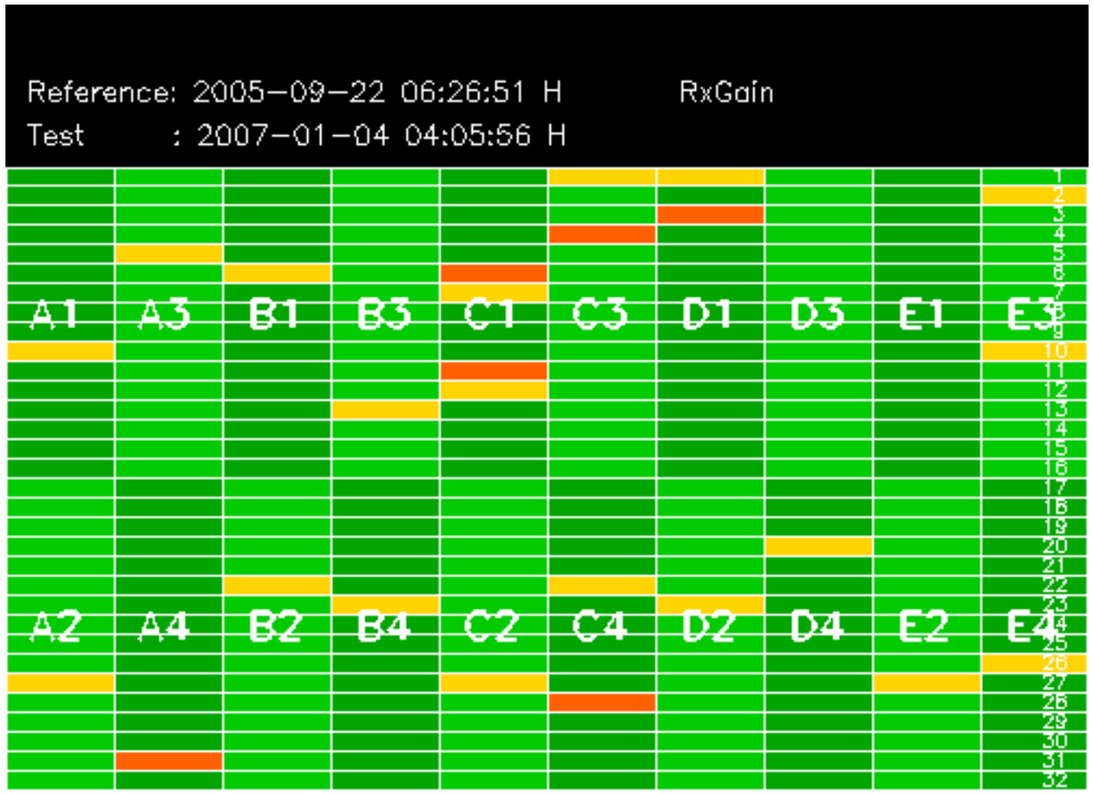
Reference: 2005-09-22 06:26:51 H
Test : 2007-01-04 04:05:56 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
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8
9
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17
18
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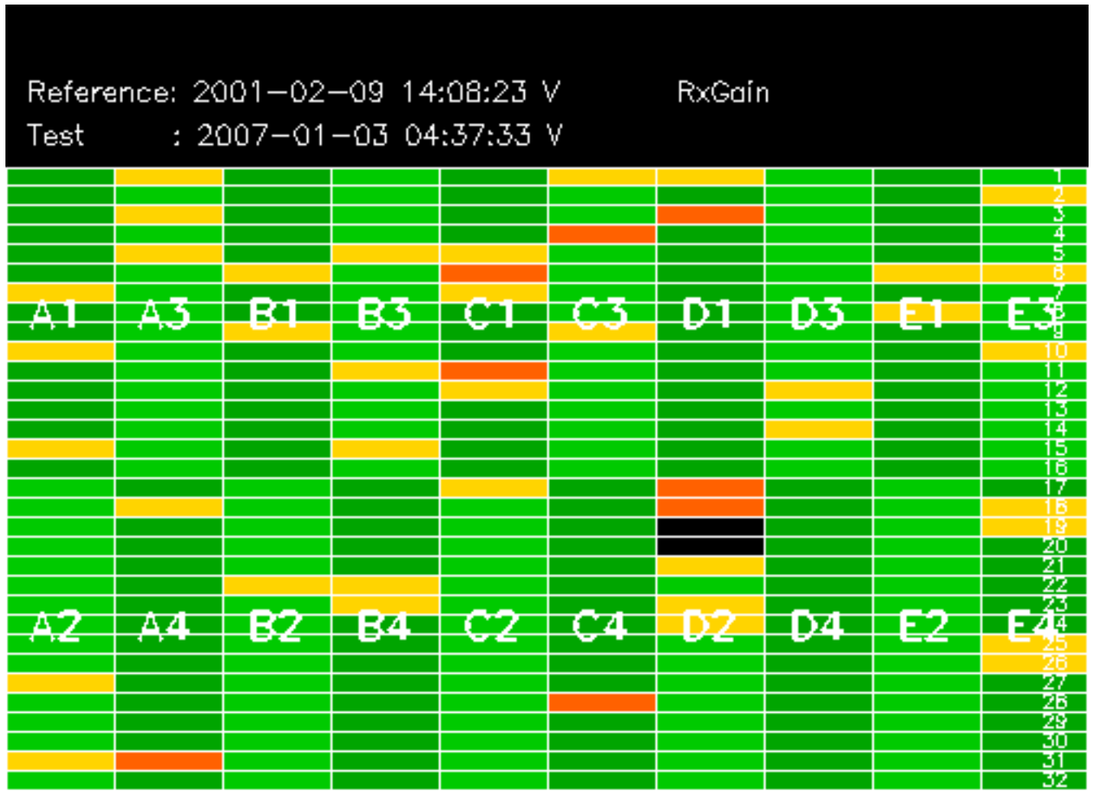
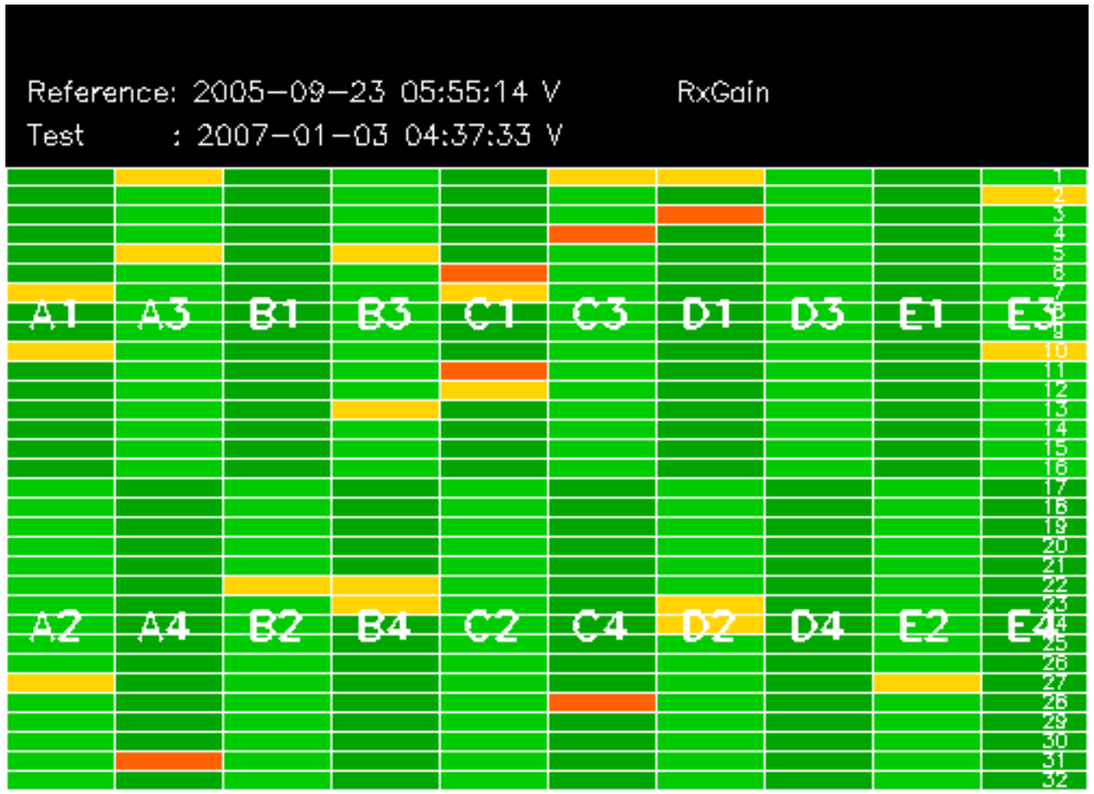
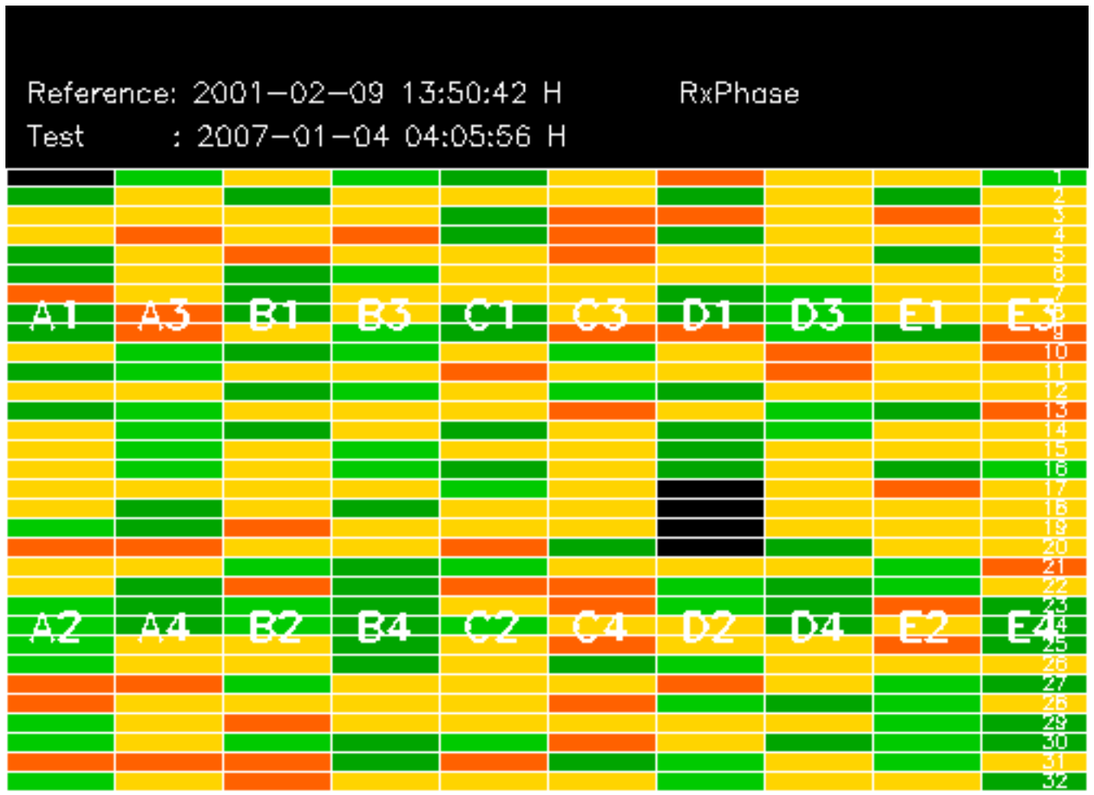
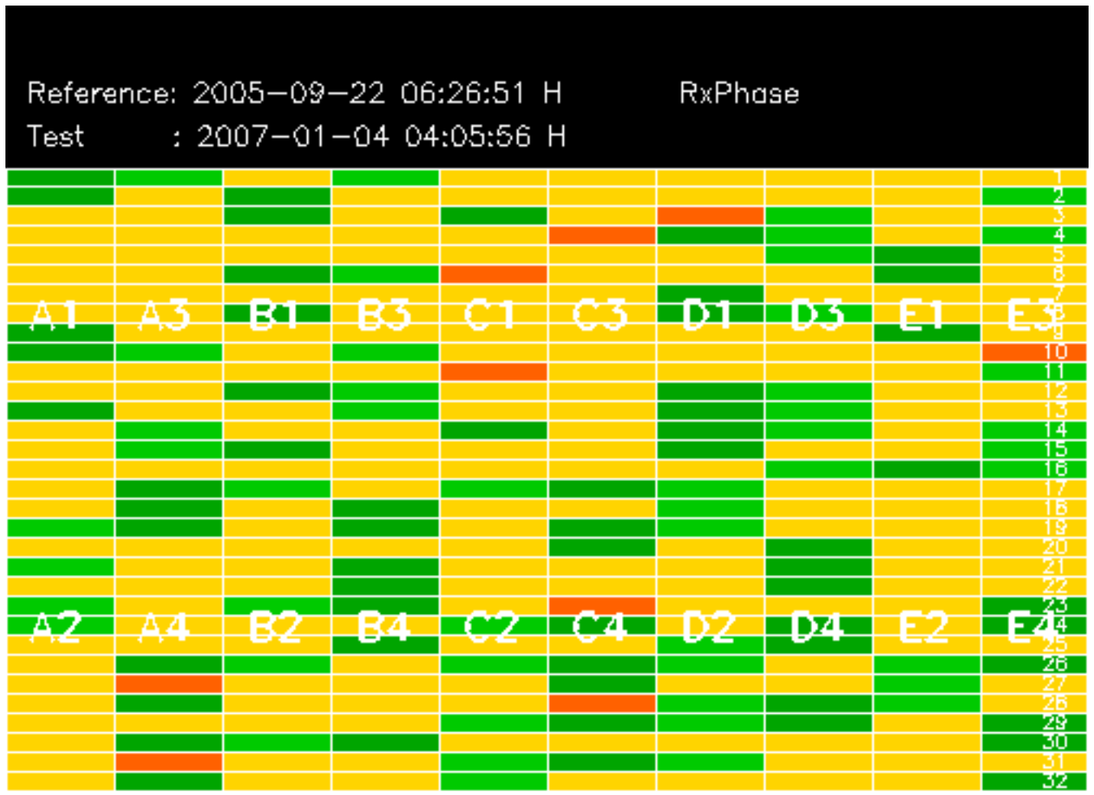
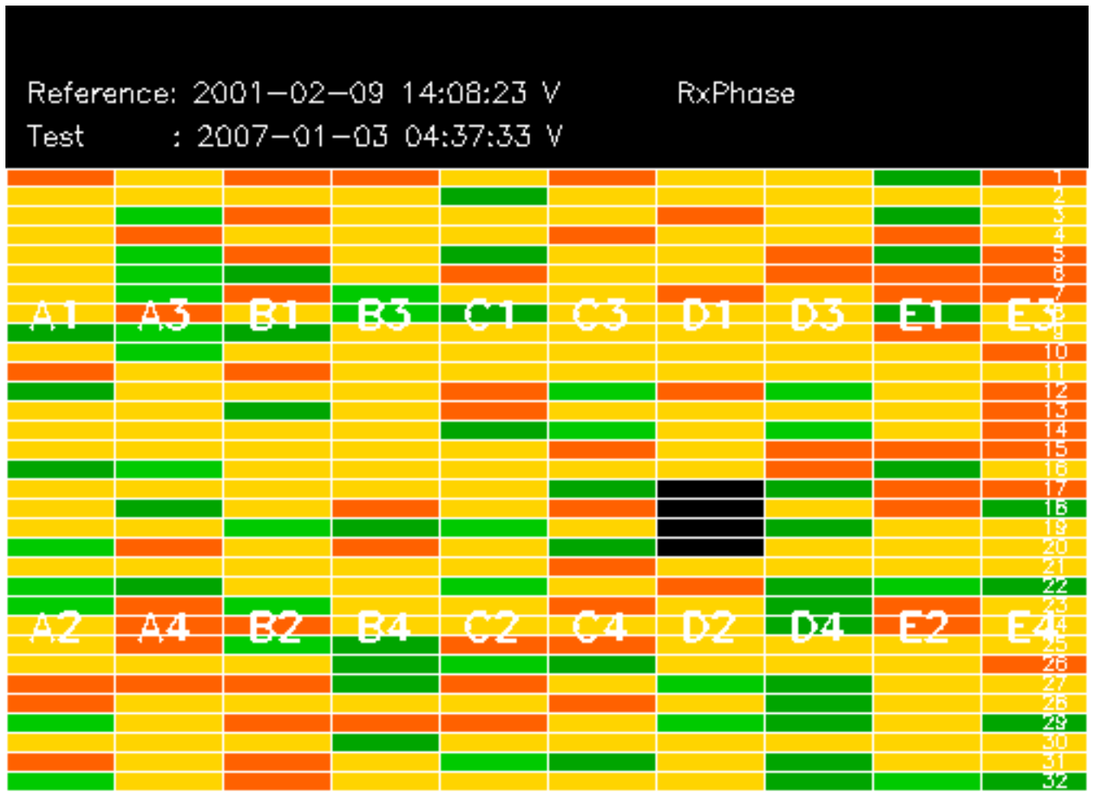

Reference: 2001-02-09 14:08:23 V
Test : 2007-01-03 04:37:33 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-23 05:55:14 V
Test : 2007-01-03 04:37:33 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 : 2007-01-04 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: 2005-09-22 06:26:51 H
Test : 2007-01-04 04:05:56 H
RxPhase
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 : 2007-01-03 04:37:33 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
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9
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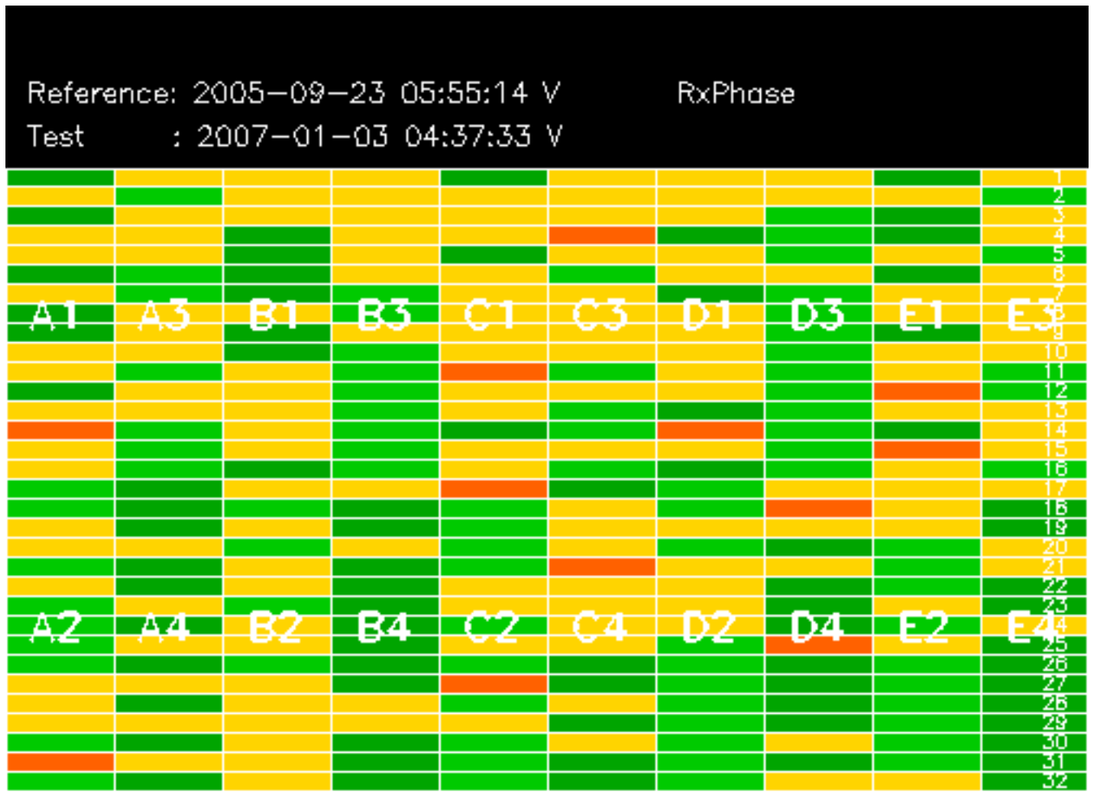
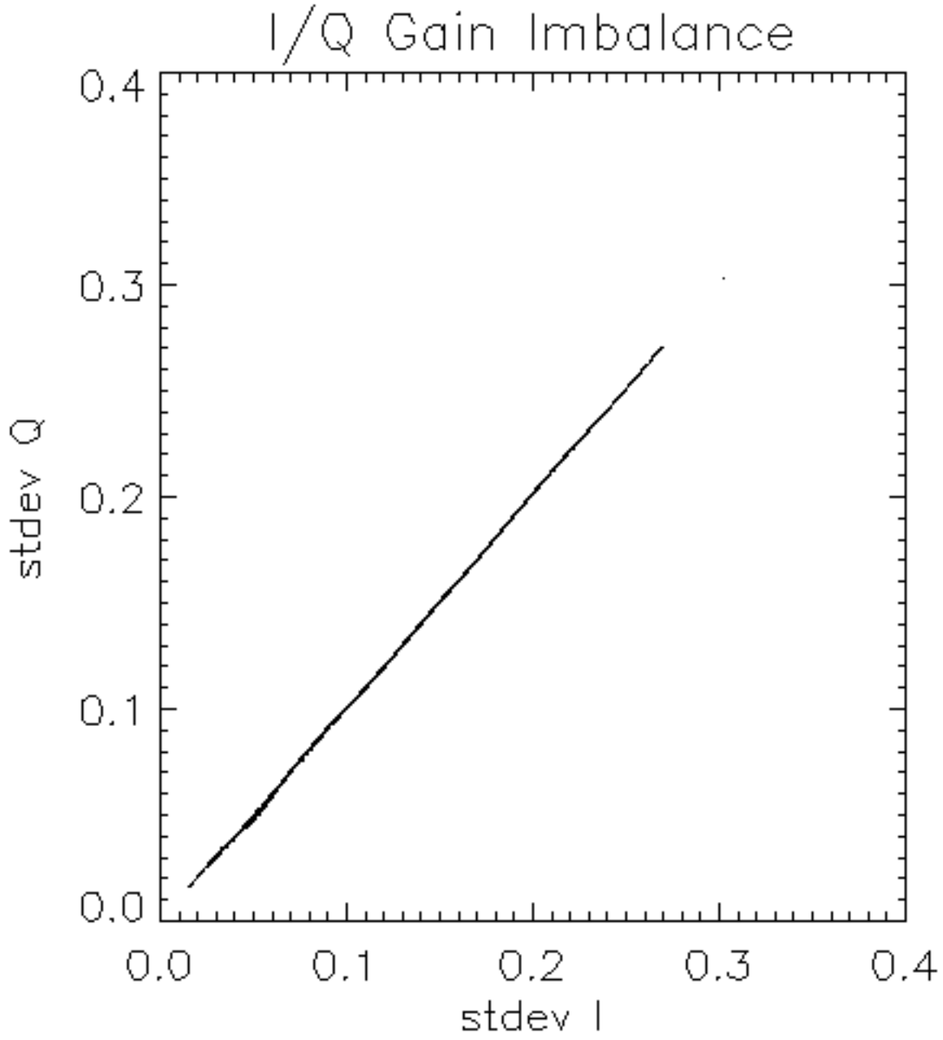
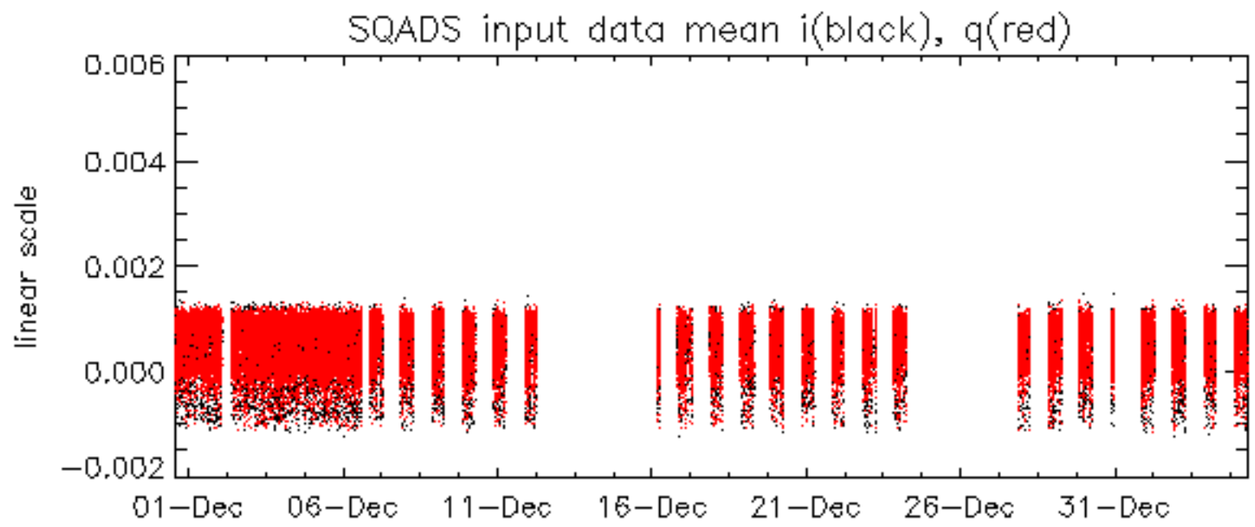
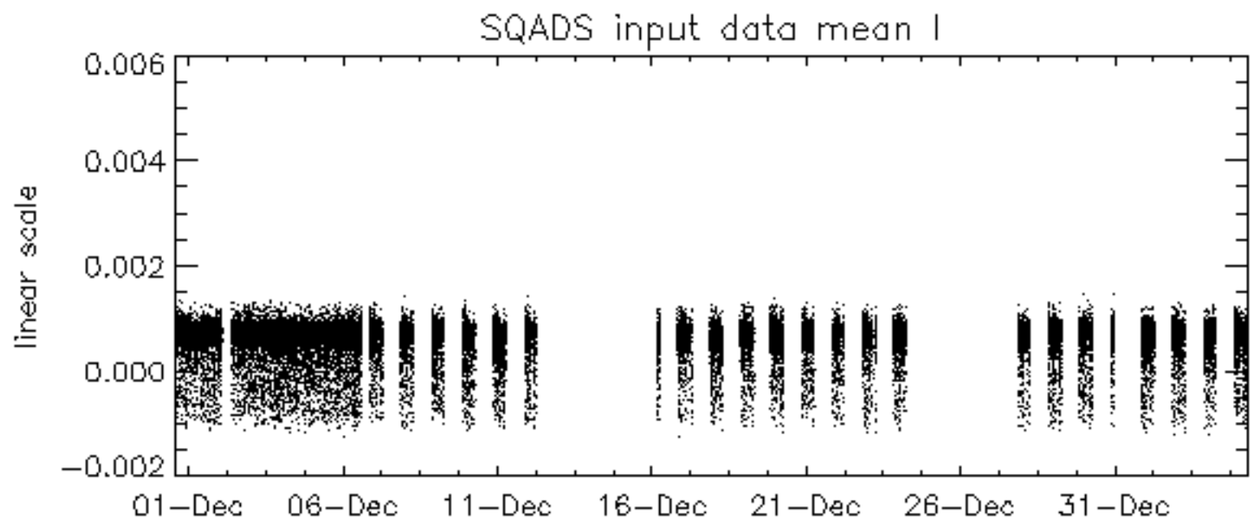
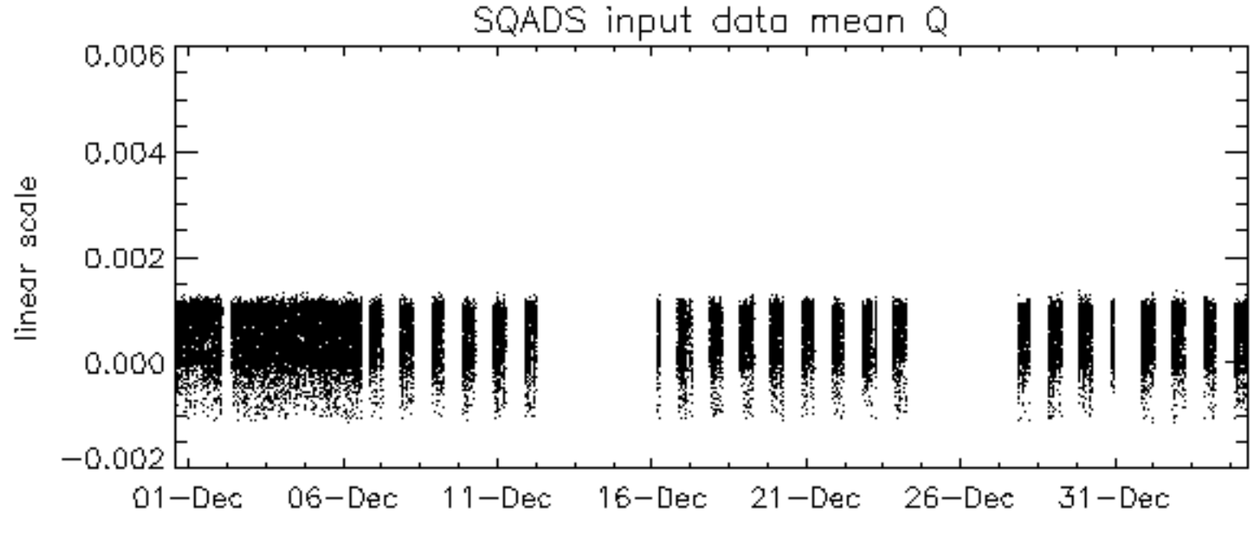
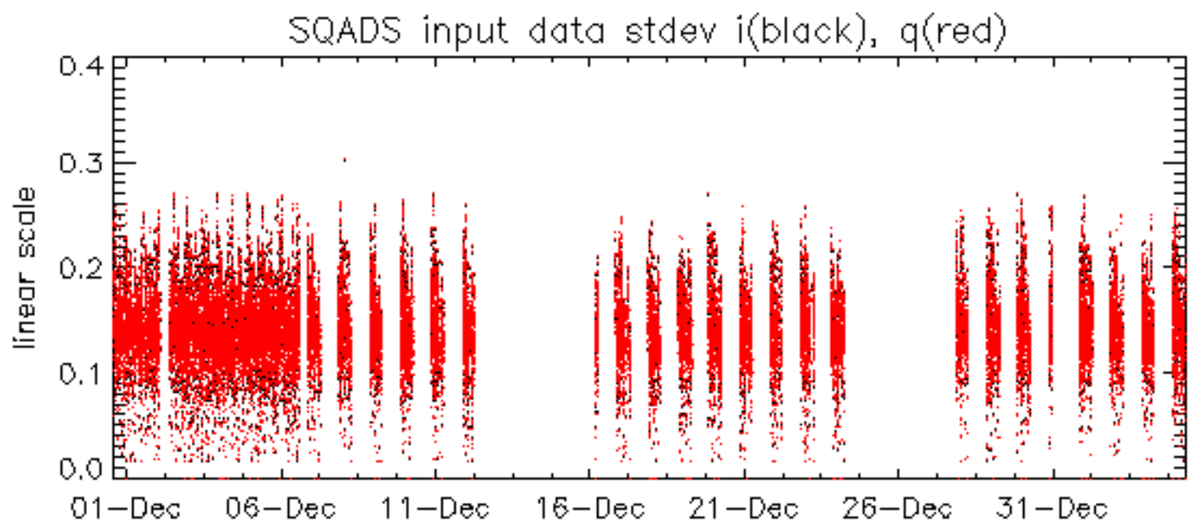

Reference: 2005-09-23 05:55:14 V
Test : 2007-01-03 04:37:33 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

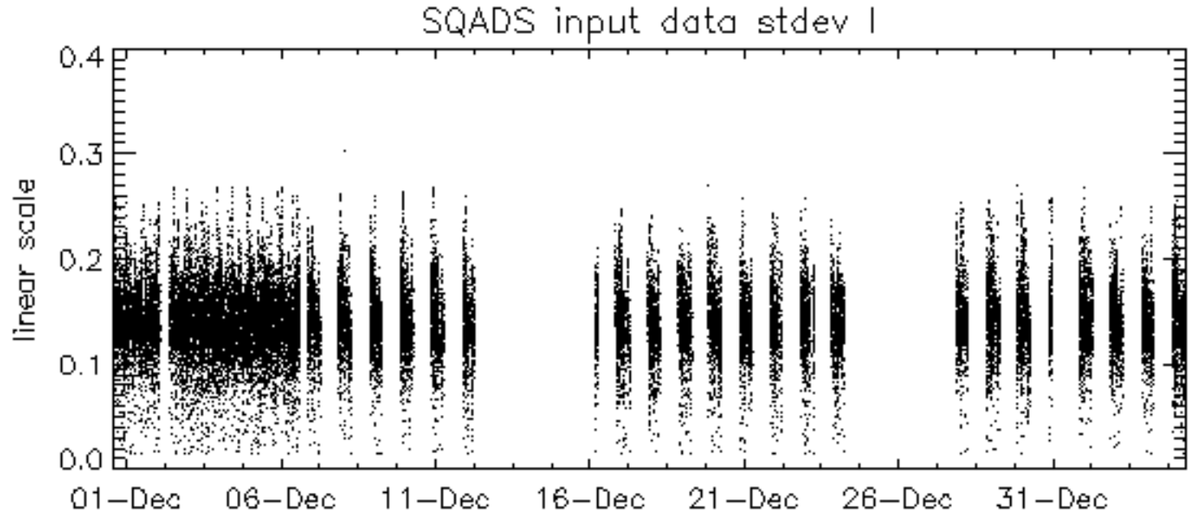

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

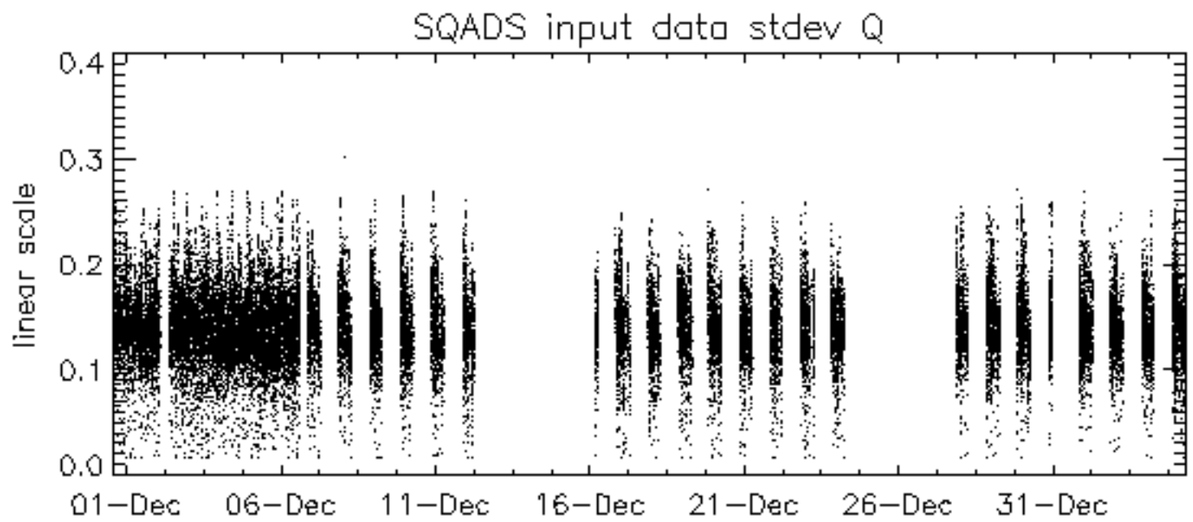

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec

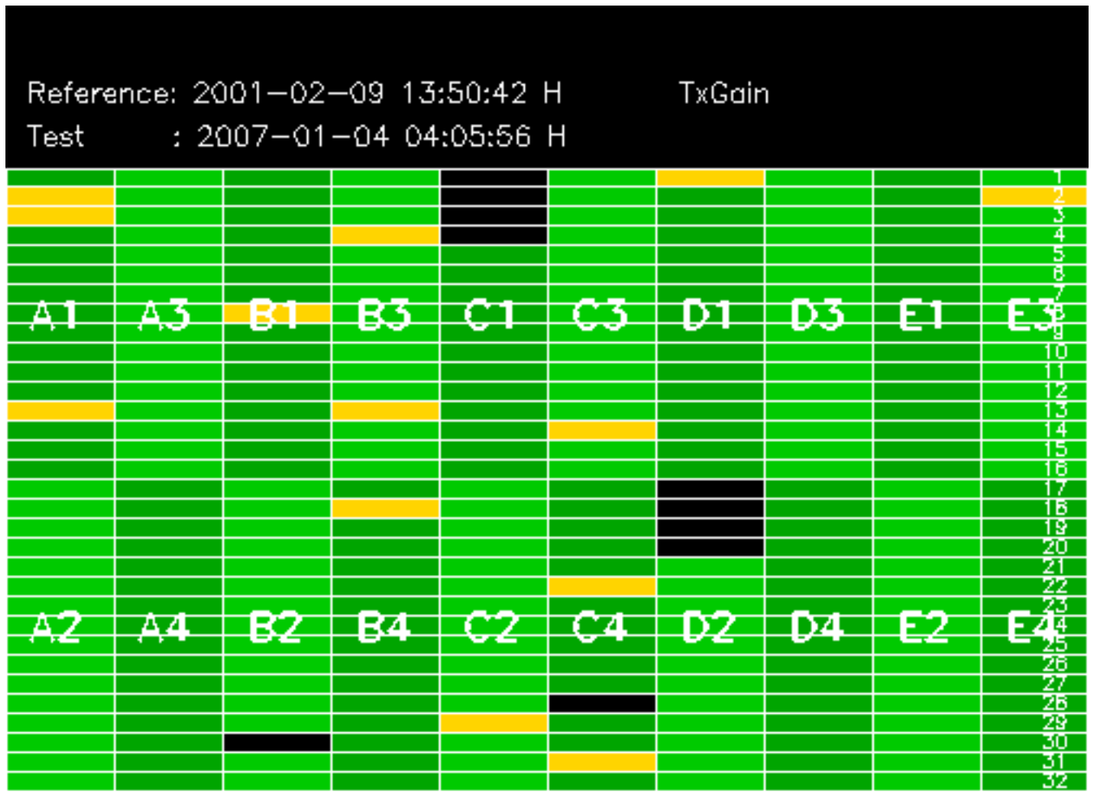

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec

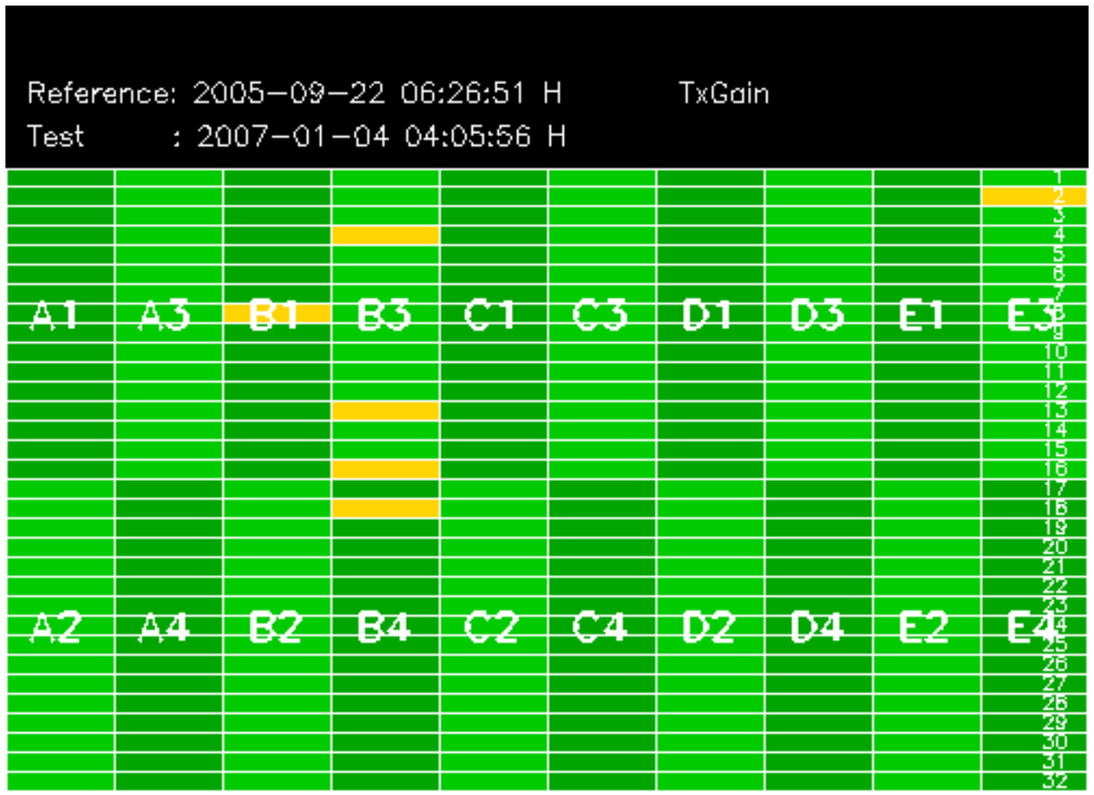

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec


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
Test : 2007-01-04 04:05:56 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-22 06:26:51 H
Test : 2007-01-04 04:05:56 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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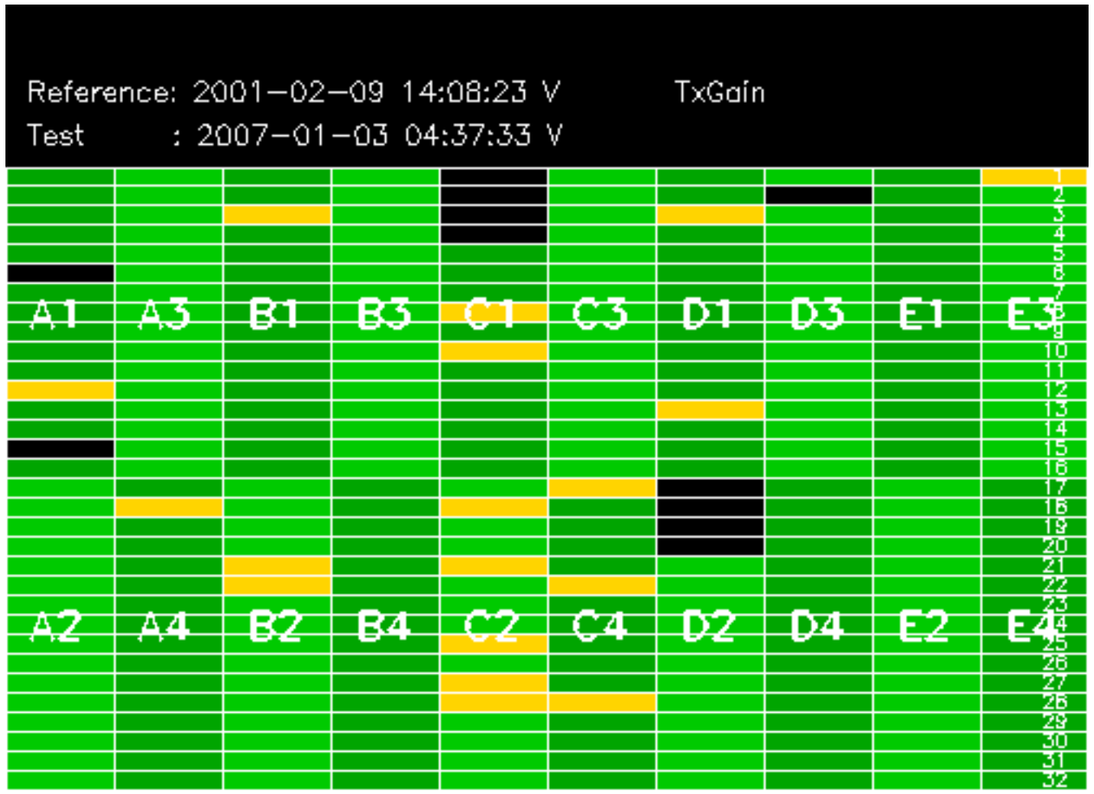
Reference: 2001-02-09 14:08:23 V
Test : 2007-01-03 04:37:33 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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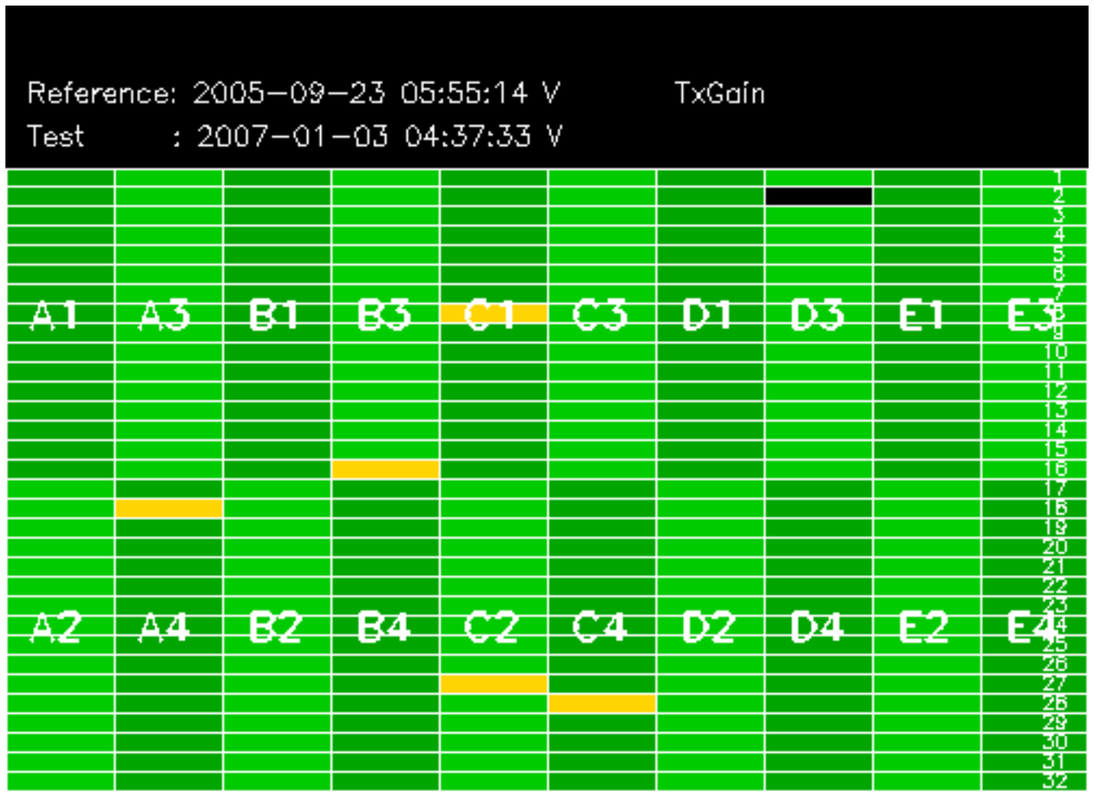
Reference: 2005-09-23 05:55:14 V
Test : 2007-01-03 04:37:33 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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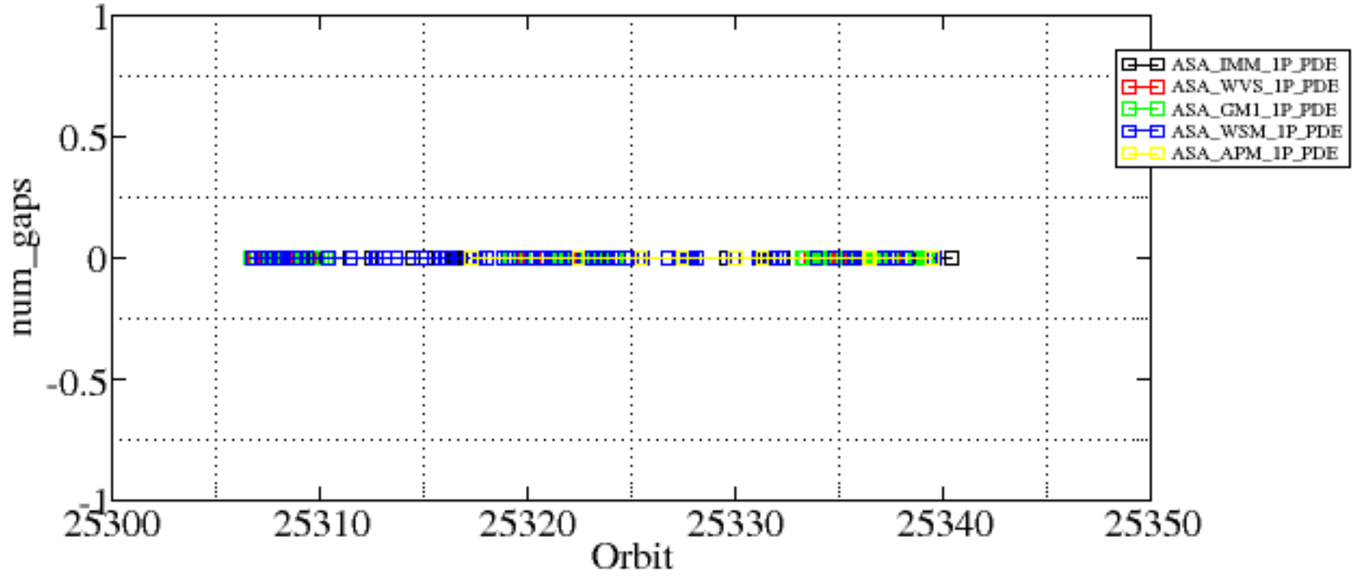
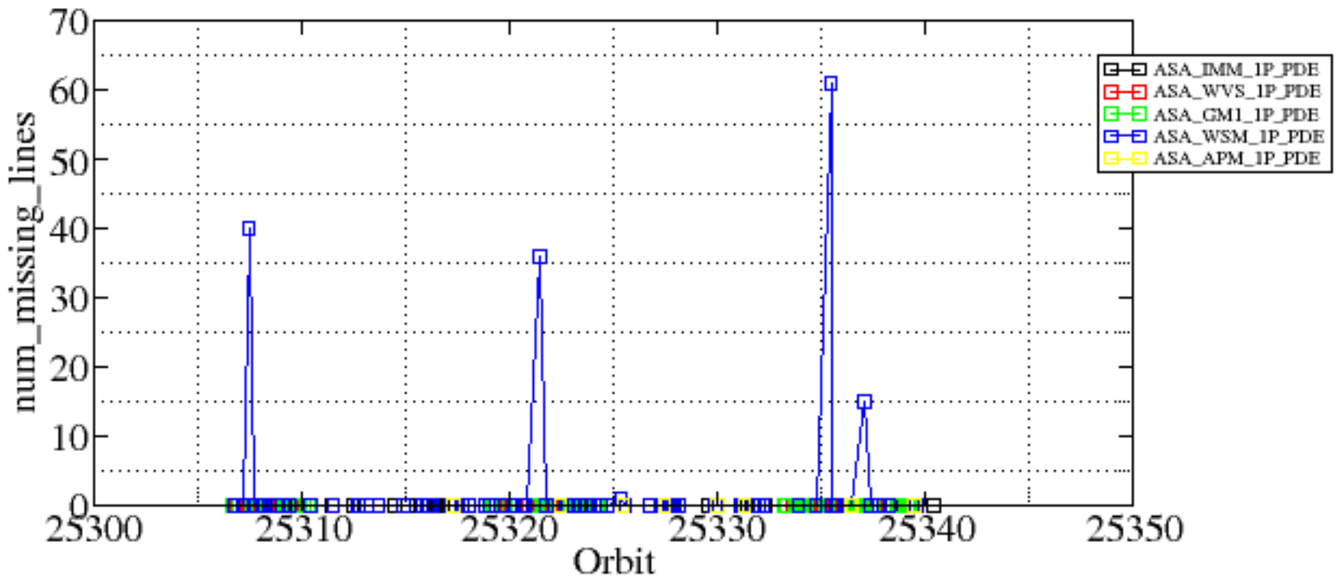
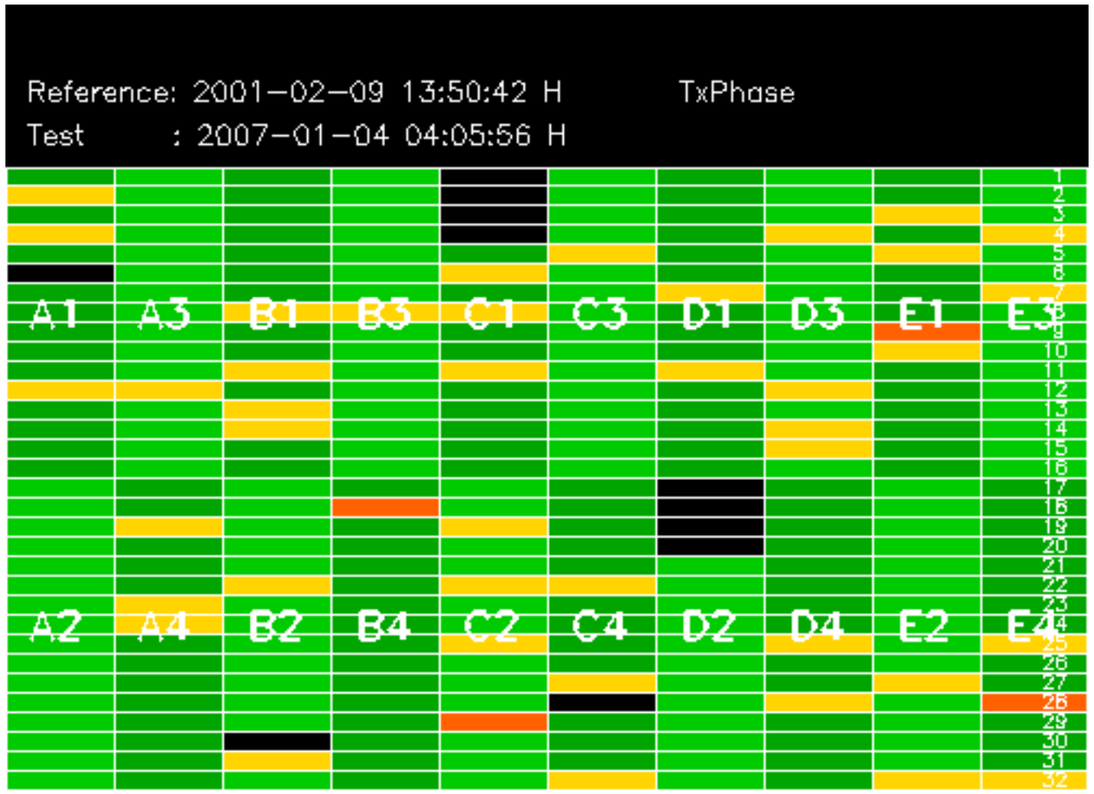
Summary of analysis for the last 3 days 2007010[234]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_WSM_1PNPDE20070102_012643_000001402054_00203_25307_7173.N1 </td> <td>0 </td> <td>40 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20070103_005606_000003242054_00217_25321_9226.N1 </td> <td>0 </td> <td>36 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20070103_072858_000003062054_00221_25325_9975.N1 </td> <td>0 </td> <td>1 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20070104_002424_000001292054_00231_25335_1792.N1 </td> <td>0 </td> <td>61 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20070104_002424_000003062054_00231_25335_1618.N1 </td> <td>0 </td> <td>61 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20070104_002424_000003062054_00231_25335_2038.N1 </td> <td>0 </td> <td>61 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20070104_030430_000002382054_00233_25337_1981.N1 </td> <td>0 </td> <td>15 </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
25300
25310
25320
25330
25340
25350
Orbit
ASA_IMM_1P_PDE
ASA_WVS_1P_PDE
ASA_GM1_1P_PDE
ASA_WSM_1P_PDE
ASA_APM_1P_PDE


num_missing_lines
70
60
50
40
30
20
10
0
25300
25310
25320
25330
25340
25350
Orbit
ASA_IMM_1P_PDE
ASA_WVS_1P_PDE
ASA_GM1_1P_PDE
ASA_WSM_1P_PDE
ASA_APM_1P_PDE


Reference: 2001-02-09 13:50:42 H
Test : 2007-01-04 04:05:56 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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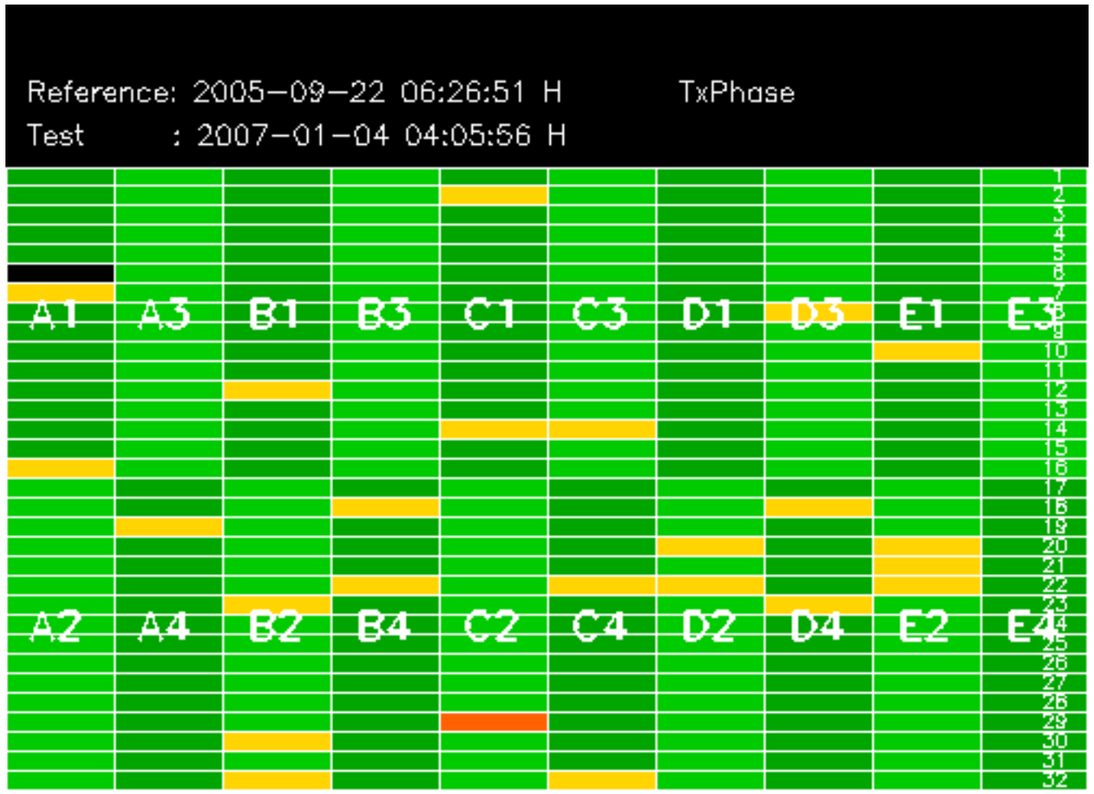
Reference: 2005-09-22 06:26:51 H
Test : 2007-01-04 04:05:56 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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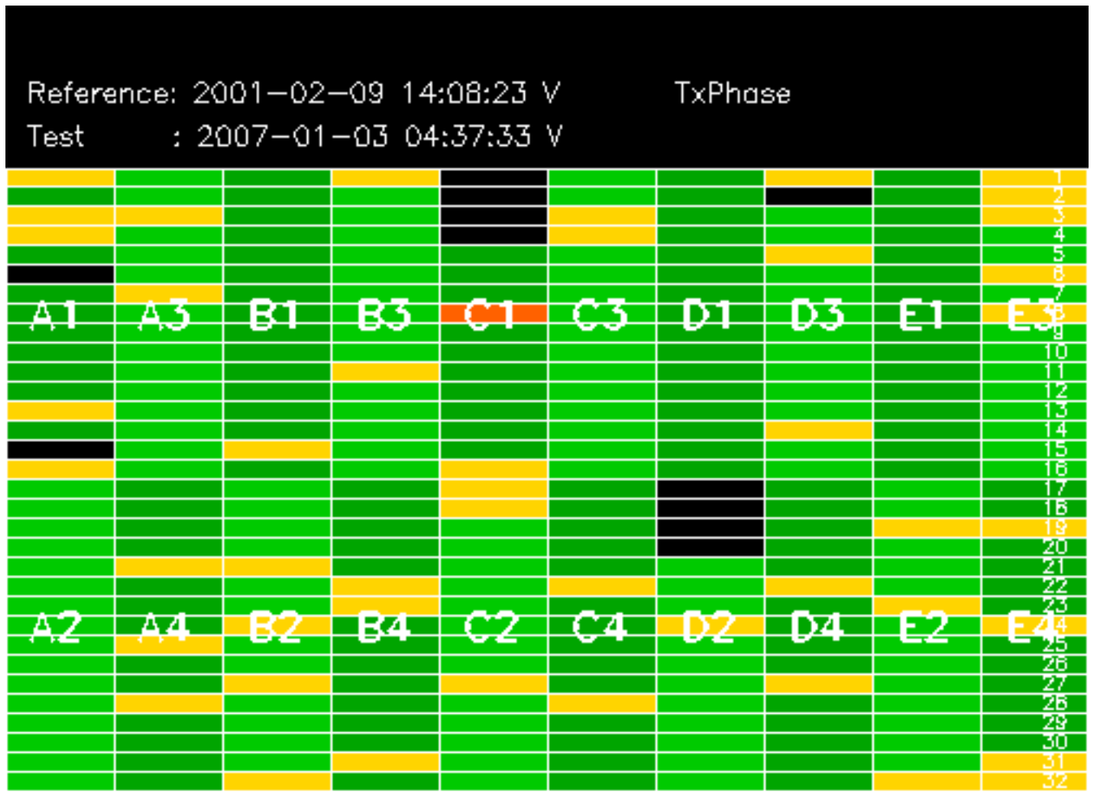
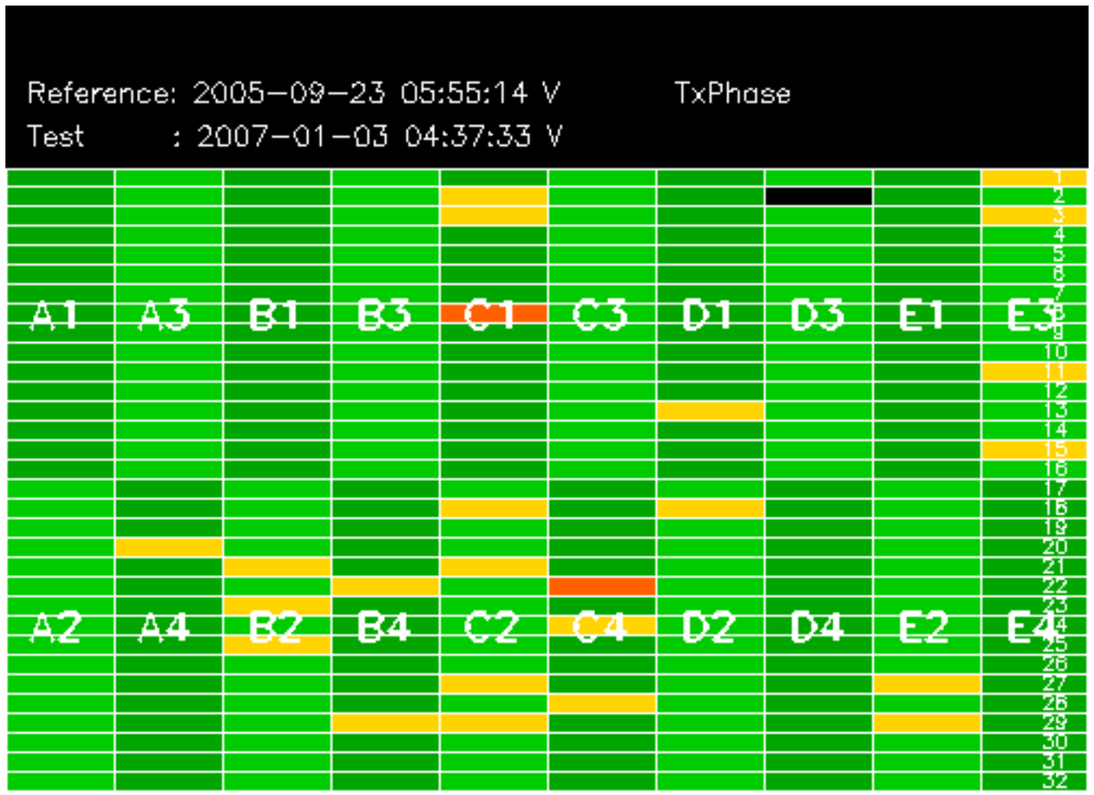

Reference: 2001-02-09 14:08:23 V
Test : 2007-01-03 04:37:33 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-23 05:55:14 V
Test : 2007-01-03 04:37:33 V
TxPhase
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
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14
15
16
17
18
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23
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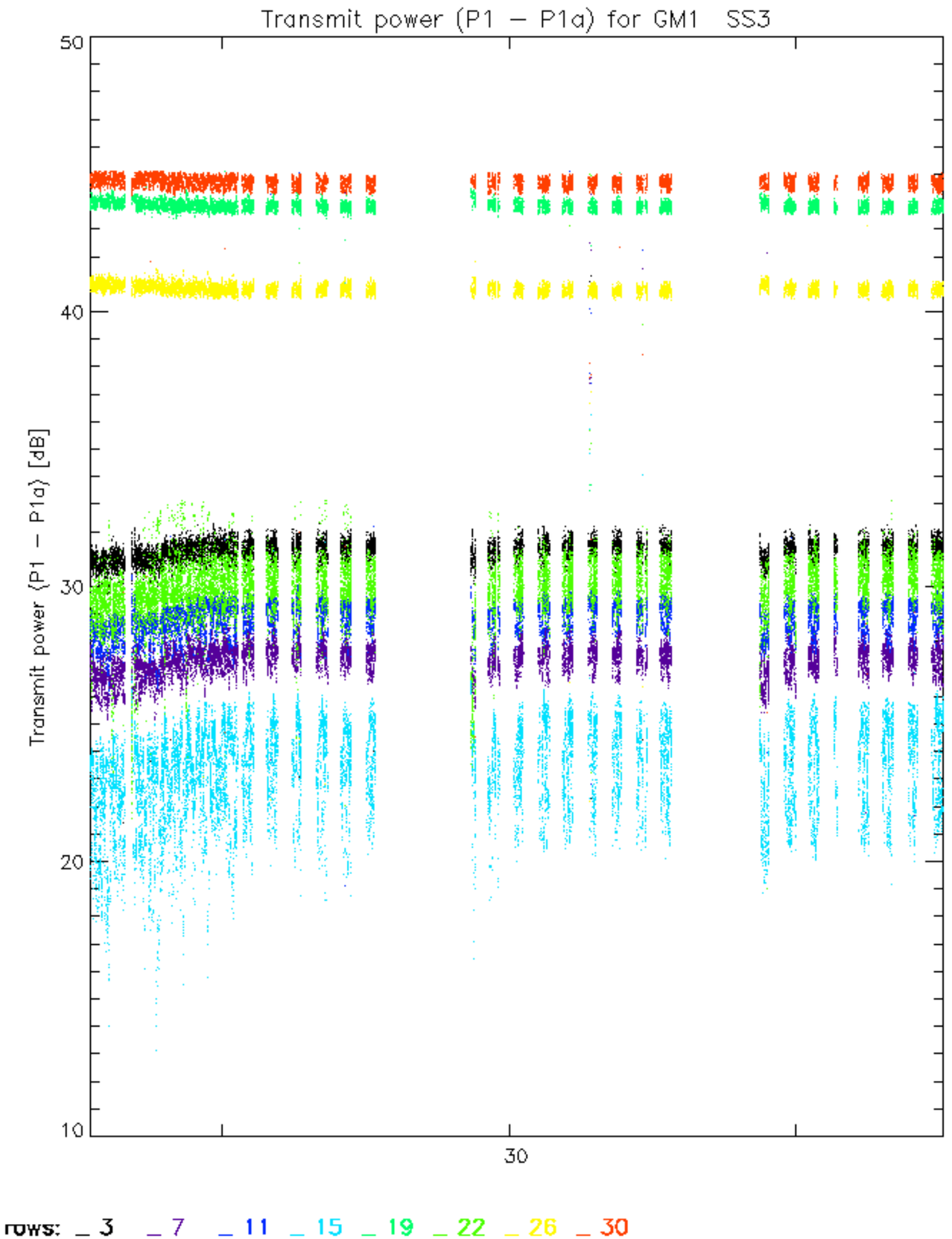
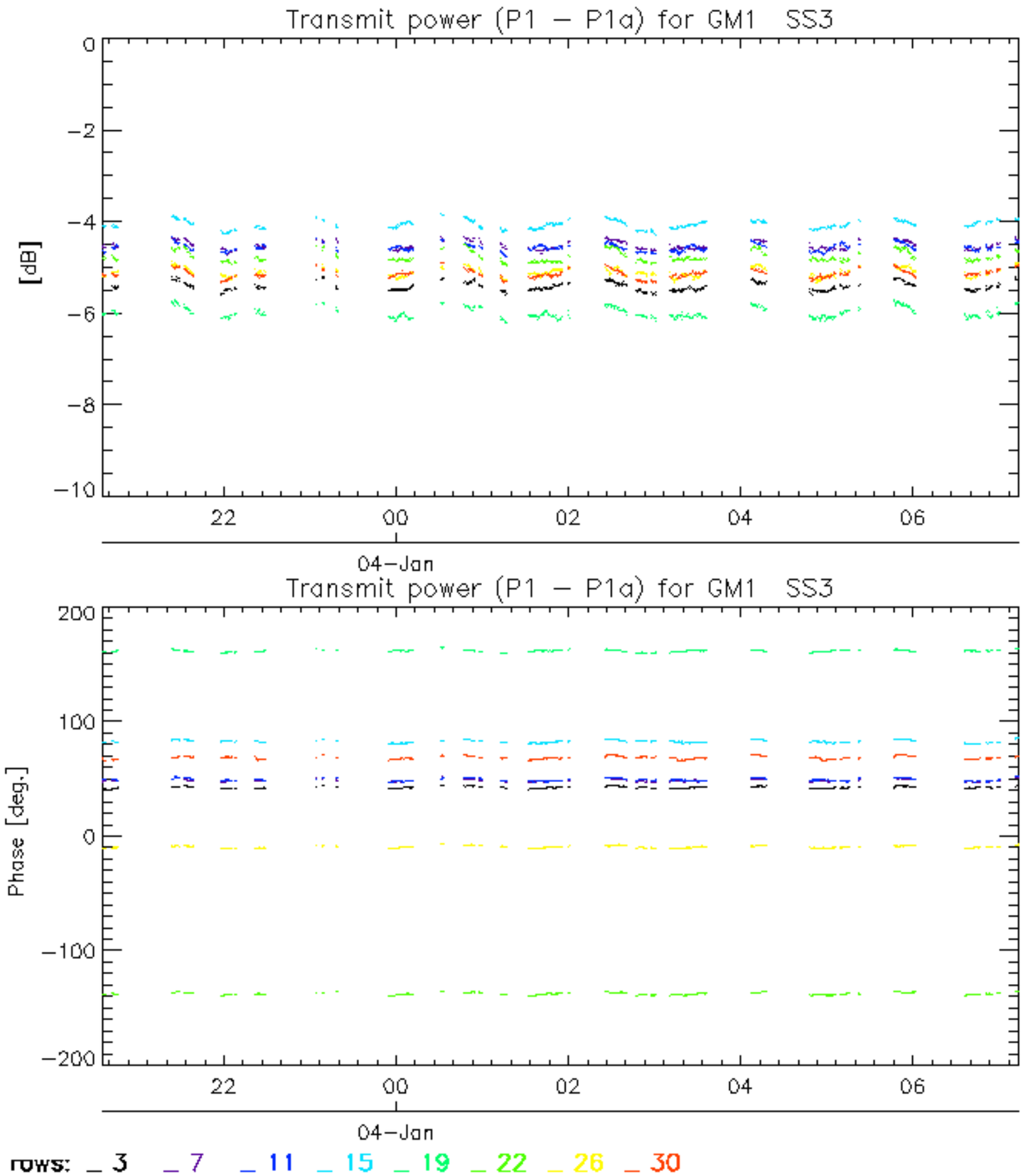
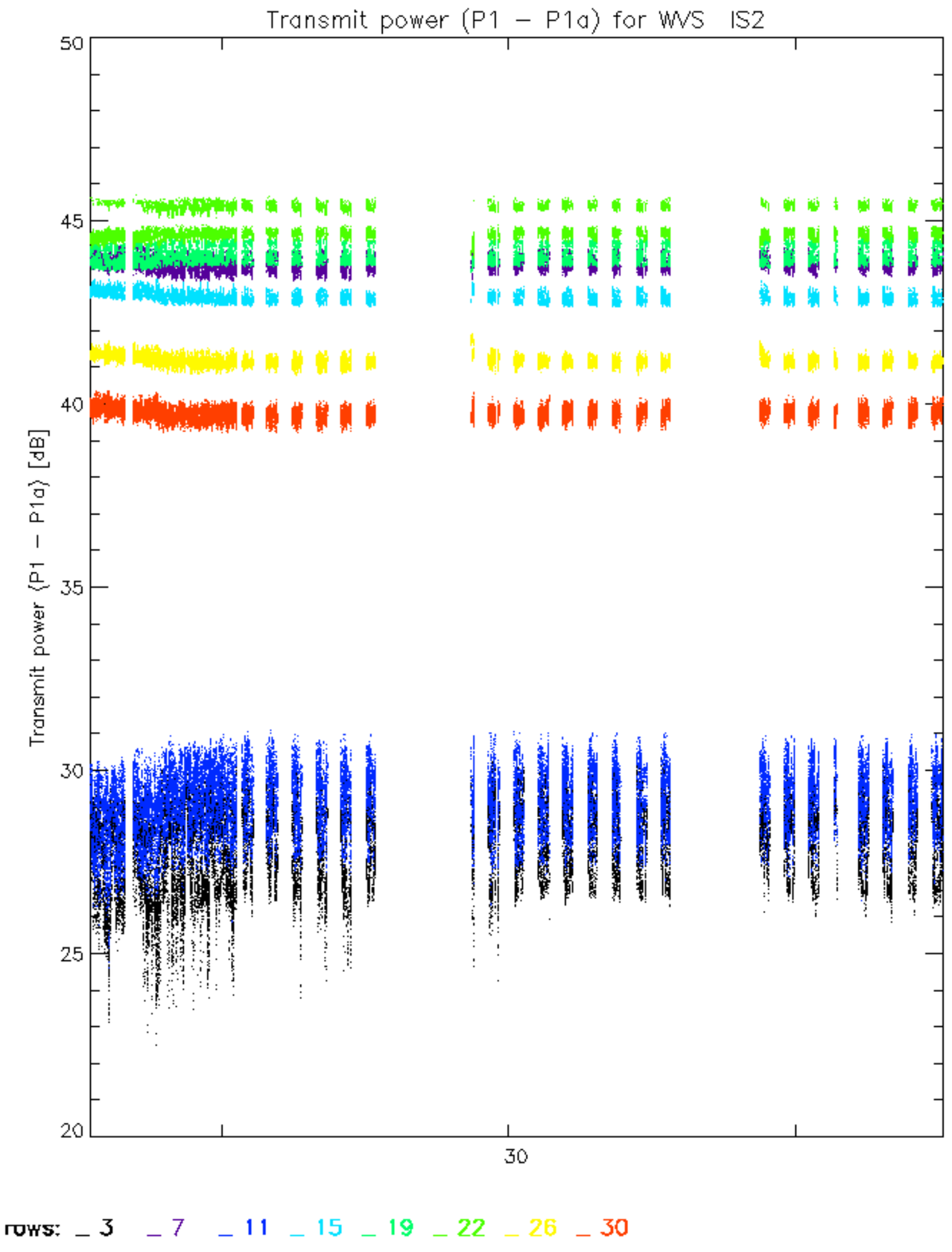
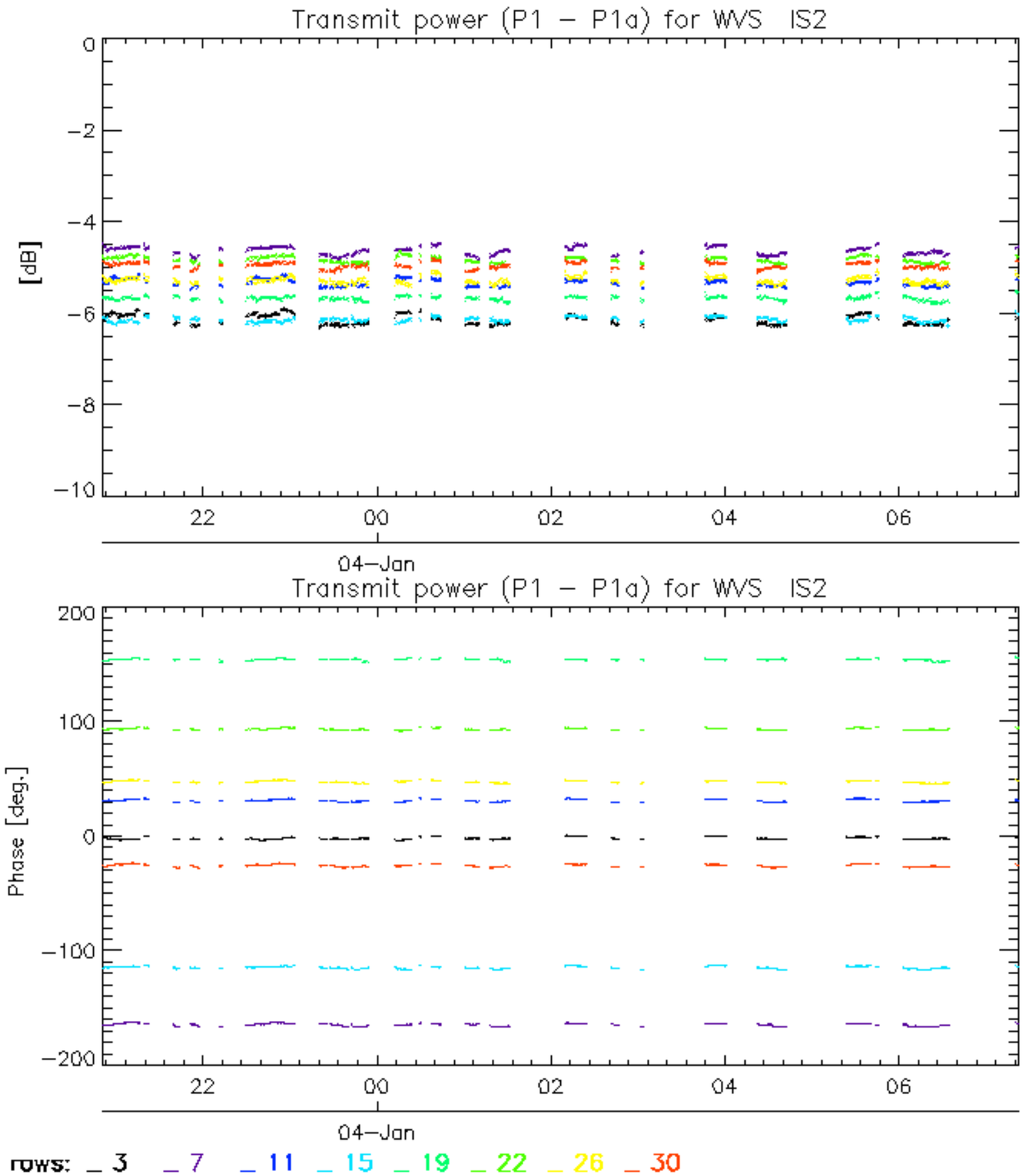
27
28
29
30
31
32


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


Transmit power (P1 – P1a) for GM1 SS3
0
−2
−4
−6
−8
−10
[dB]
22
00
02
04
06
04–Jan
Transmit power (P1 – P1a) for GM1 SS3
200
100
0
−100
−200
Phase [deg.]
22
00
02
04
06
04–Jan
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
Transmit power (P1 – P1a) [dB]
50
45
40
35
30
25
20
30
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
0
−2
−4
−6
−8
−10
[dB]
22
00
02
04
06
04–Jan
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
22
00
02
04
06
04–Jan
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.