PRELIMINARY REPORT OF 060129

last update on Sun Jan 29 16:52:23 GMT 2006

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 2006-01-28 00:00:00 to 2006-01-29 16:52:23

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	45	0	18	0	20
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	45	0	18	0	20
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	45	0	18	0	20
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	45	0	18	0	20

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	45	53	46	14	44
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	45	53	46	14	44
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	45	53	46	14	44
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	45	53	46	14	44

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	20060127 063518
H	20060128 060341

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	-4.032769	0.007422	0.055880
7	P1	-3.003133	0.013933	-0.034878
11	P1	-4.100917	0.022527	-0.001819
15	P1	-6.064610	0.017238	-0.004956
19	P1	-3.250619	0.006070	-0.035686
22	P1	-4.485084	0.019900	0.007818
26	P1	-4.208818	0.012836	0.034442
30	P1	-5.773786	0.009821	-0.018845
3	P1	-16.931868	0.267210	0.220163
7	P1	-16.616051	0.125502	-0.123188
11	P1	-16.606476	0.304742	-0.036336
15	P1	-13.233722	0.116181	0.080816
19	P1	-13.887958	0.075727	-0.041433
22	P1	-15.896976	0.568339	0.138744
26	P1	-15.764665	0.256165	0.017509
30	P1	-16.603588	0.335085	-0.027523

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.606106	0.094023	0.111442
7	P2	-22.472233	0.097346	0.092495
11	P2	-16.301331	0.103222	0.086916
15	P2	-7.217216	0.103387	0.032132
19	P2	-9.175056	0.098064	0.018955
22	P2	-17.943392	0.094398	-0.035139
26	P2	-16.222948	0.100454	-0.006674
30	P2	-19.655499	0.084189	0.020828

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.214496	0.007316	0.011979
7	P3	-8.214496	0.007316	0.011979
11	P3	-8.214496	0.007316	0.011979
15	P3	-8.214496	0.007316	0.011979
19	P3	-8.214496	0.007316	0.011979
22	P3	-8.214496	0.007316	0.011979
26	P3	-8.214496	0.007316	0.011979
30	P3	-8.214496	0.007316	0.011979

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	-3.725119	0.010892	-0.015092
7	P1	-2.750461	0.007544	0.037623
11	P1	-2.868707	0.011271	-0.004186
15	P1	-3.465113	0.018770	-0.057114
19	P1	-3.379672	0.012908	-0.007537
22	P1	-5.125254	0.021621	-0.019583
26	P1	-5.855257	0.015528	-0.009996
30	P1	-5.245851	0.029628	0.019872
3	P1	-11.524515	0.039250	-0.042329
7	P1	-9.923345	0.050124	0.026608
11	P1	-10.083157	0.050659	-0.060528
15	P1	-10.628207	0.085195	-0.054173
19	P1	-15.474679	0.060703	0.011949
22	P1	-20.613850	1.203740	0.334108
26	P1	-16.808702	0.337957	0.358465
30	P1	-18.157211	0.318817	-0.058922

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.422600	0.031976	0.189756
7	P2	-22.863667	0.059651	0.182654
11	P2	-11.431172	0.019493	0.114707
15	P2	-4.919813	0.024402	0.060837
19	P2	-6.920898	0.022202	0.040993
22	P2	-8.195318	0.022465	0.001758
26	P2	-23.973942	0.024281	0.038580
30	P2	-22.098591	0.017753	0.025873

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.054346	0.002433	0.028136
7	P3	-8.054302	0.002427	0.028228
11	P3	-8.054408	0.002433	0.028761
15	P3	-8.054358	0.002451	0.028450
19	P3	-8.054425	0.002435	0.028211
22	P3	-8.054345	0.002433	0.027804
26	P3	-8.054329	0.002427	0.027502
30	P3	-8.054409	0.002441	0.028417

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	0.000560318
	stdev	1.68982e-07
MEAN Q	mean	0.000520069
	stdev	2.14626e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.139414
	stdev	0.00119365
STDEV Q	mean	0.139778
	stdev	0.00121329

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006012[789]
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_IMM_1PNPDE20060128_182641_000000352044_00371_20465_1379.N1	0	16
ASA_WSM_1PNPDE20060127_011401_000003542044_00346_20440_2767.N1	0	18
ASA_WSM_1PNPDE20060127_171318_000002322044_00356_20450_2675.N1	0	3

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

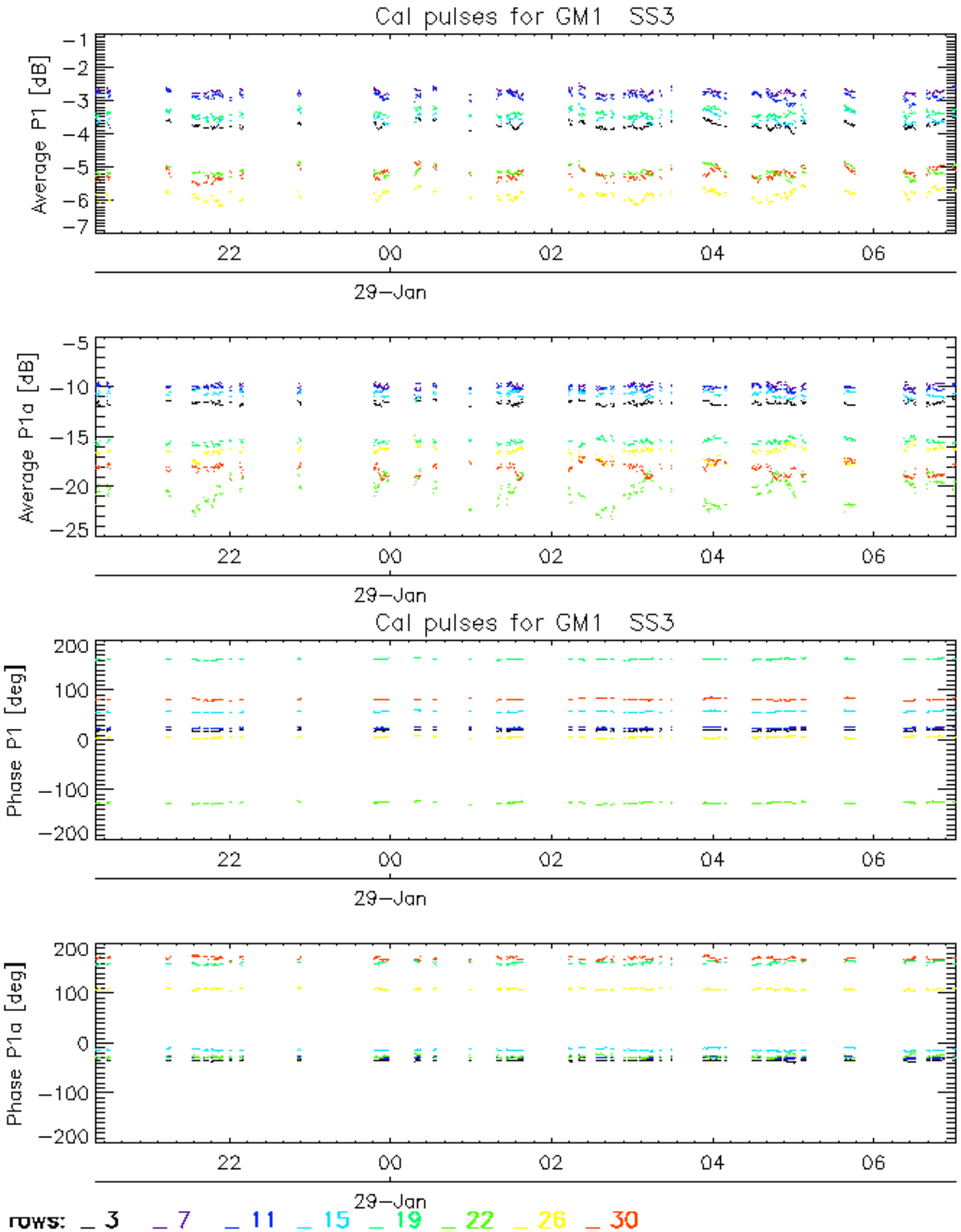

Descending

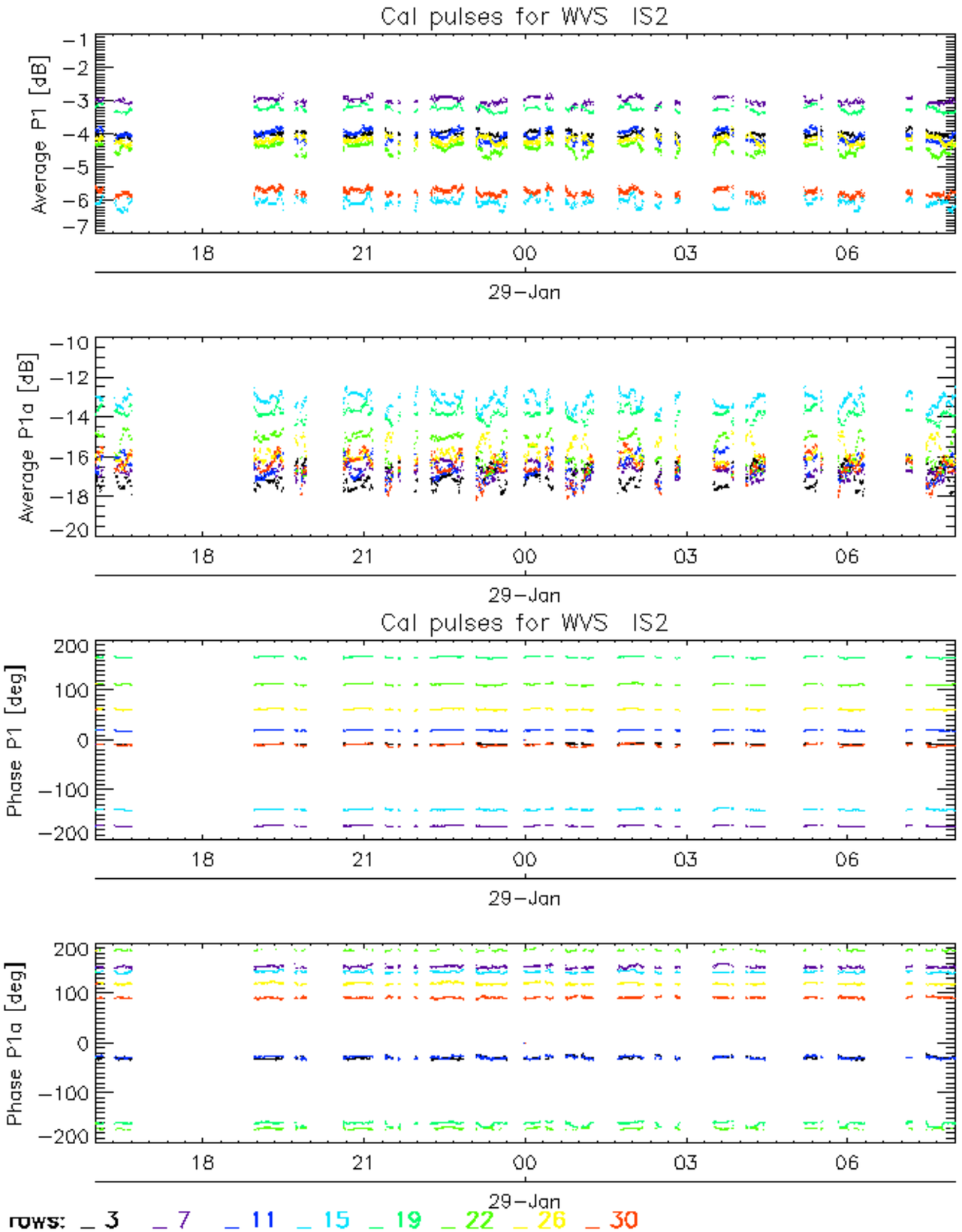
7.5 - Absolute Doppler for GM1

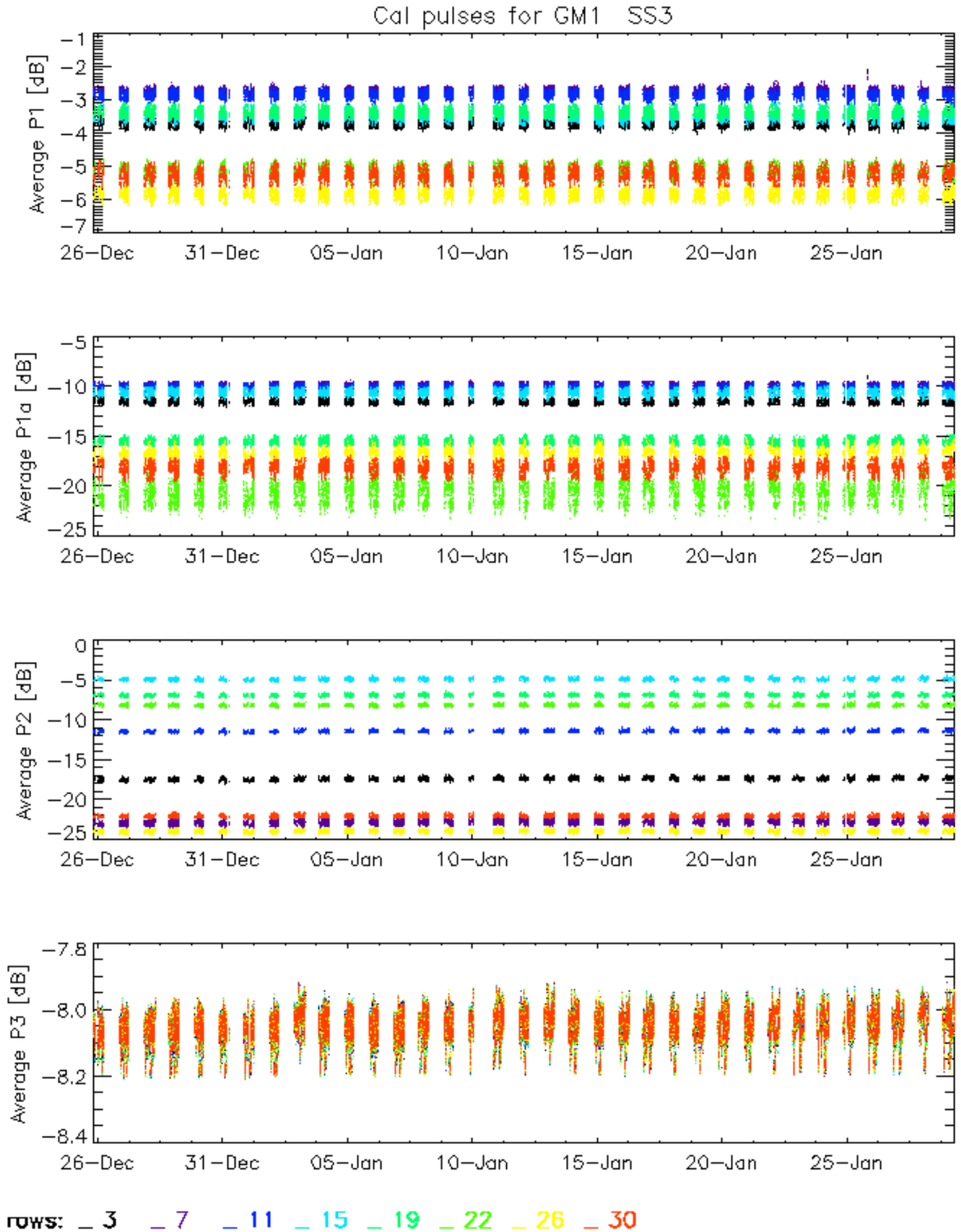
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

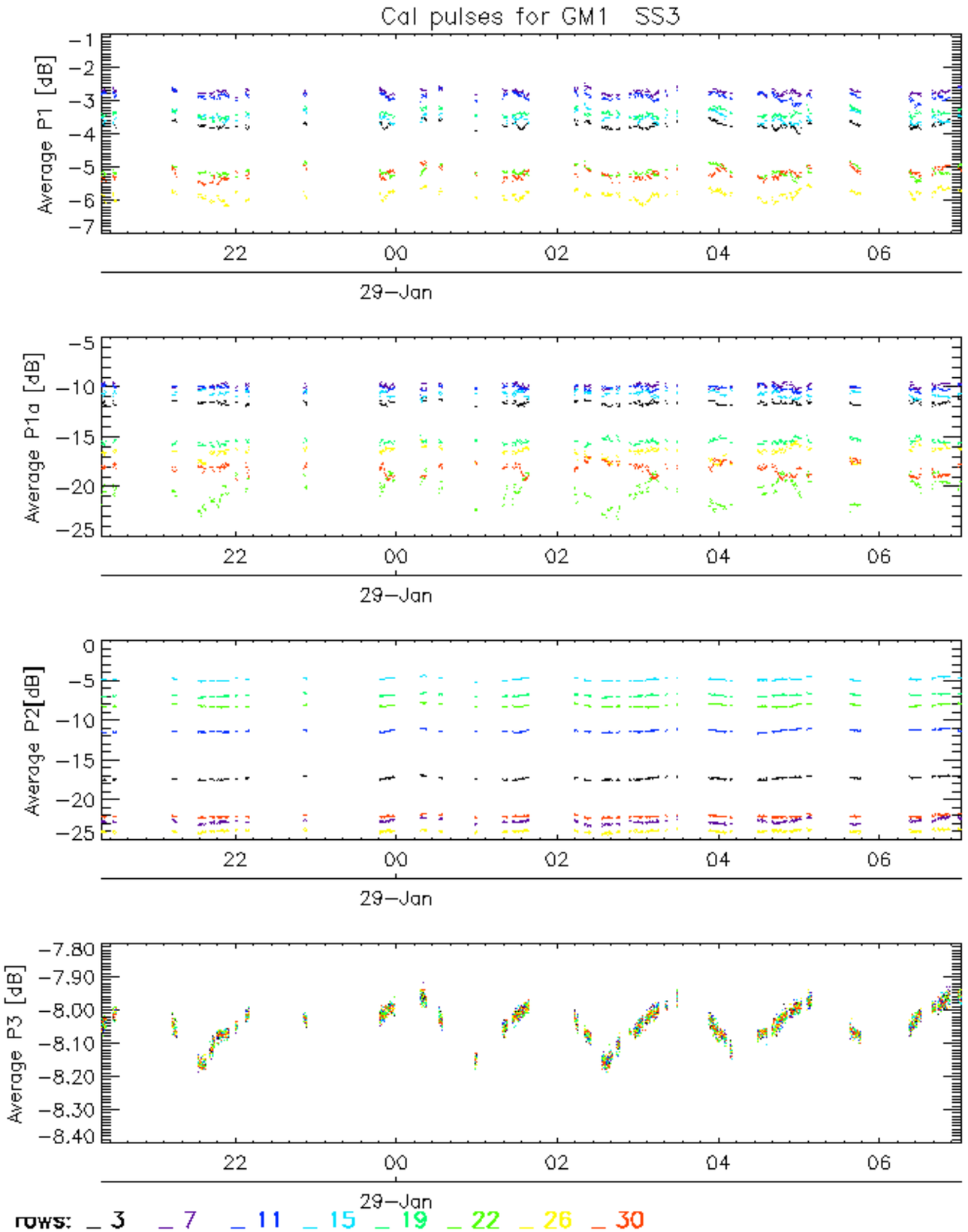
7.6 - Doppler evolution versus ANX for GM1

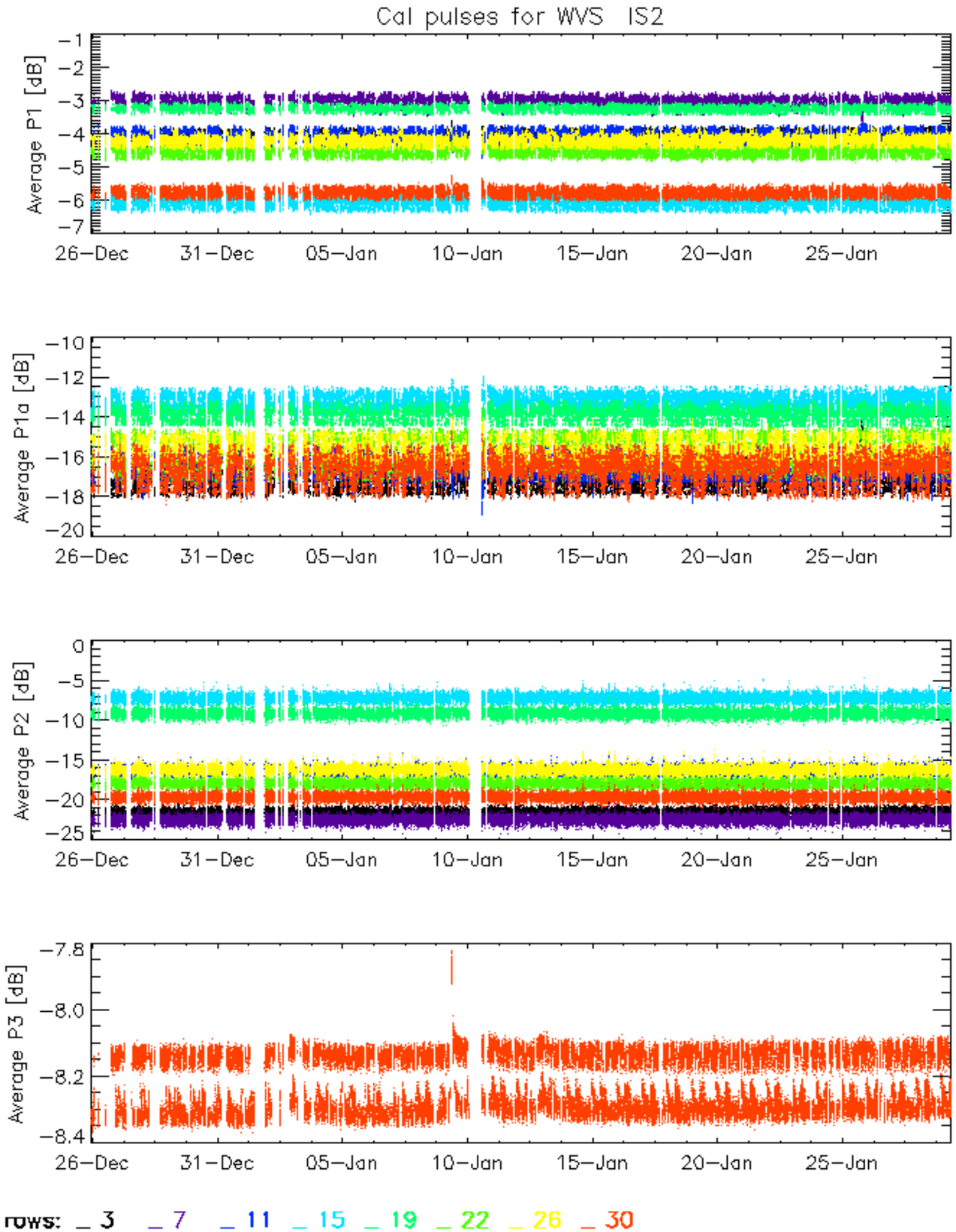
Evolution Doppler error versus ANX
☒

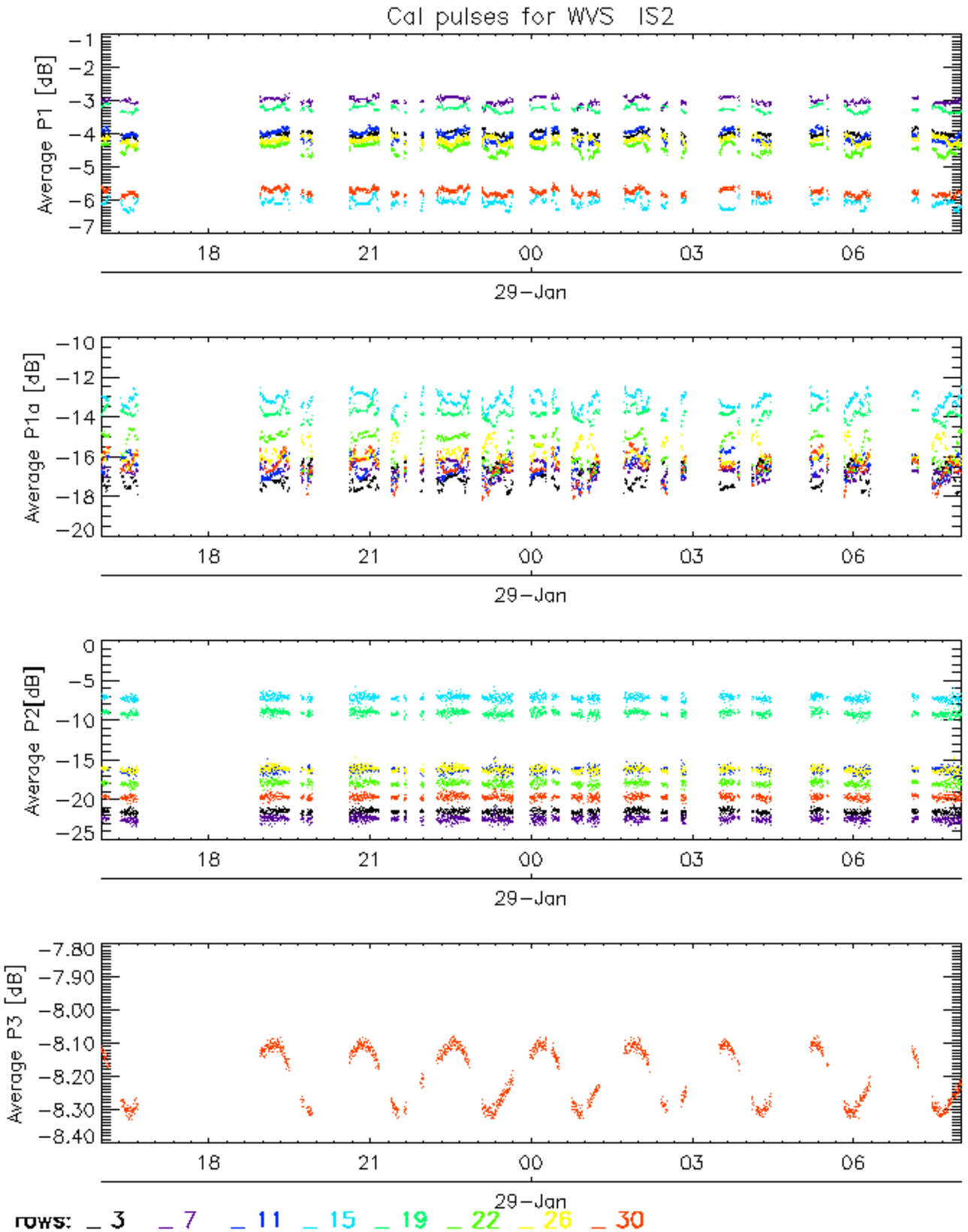

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
22
00
02
04
06
29−Jan
Average P1a [dB]
−5
−10
−15
−20
−25
22
00
02
04
06
29−Jan
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
22
00
02
04
06
29−Jan
Phase P1a [deg]
200
100
0
−100
−200
22
00
02
04
06
29−Jan
rows: _ 3 _ 7 _ 11 _ 15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


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
29−Jan
Average P1a [dB]
−10
−12
−14
−16
−18
−20
18
21
00
03
06
29−Jan
Cal pulses for WVS IS2
Phase P1 [deg]
200
100
0
−100
−200
18
21
00
03
06
29−Jan
Phase P1a [deg]
200
100
0
−100
−200
18
21
00
03
06
29−Jan
rows: 3 7 11 15 19 22 26 30

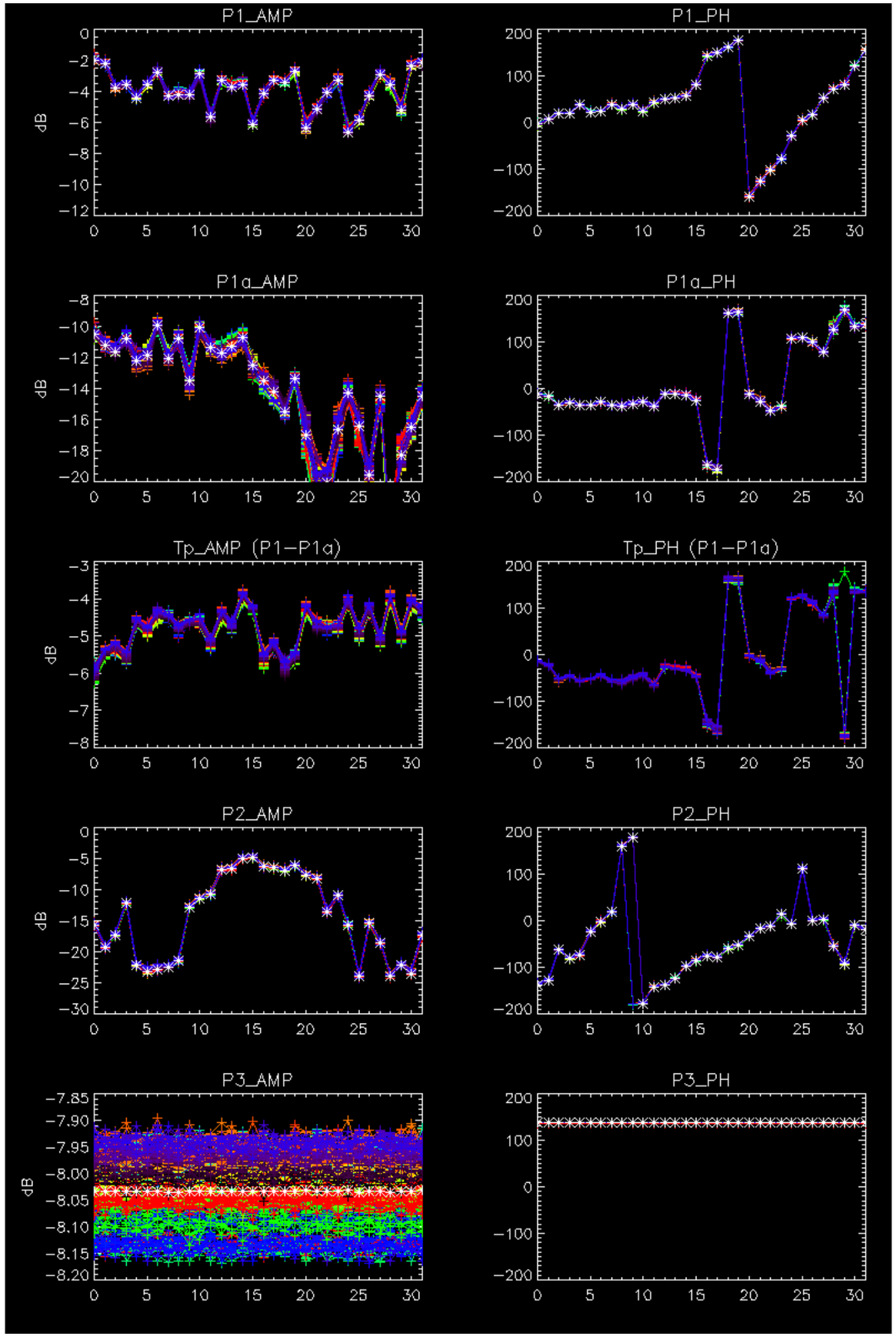

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan
25−Jan
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

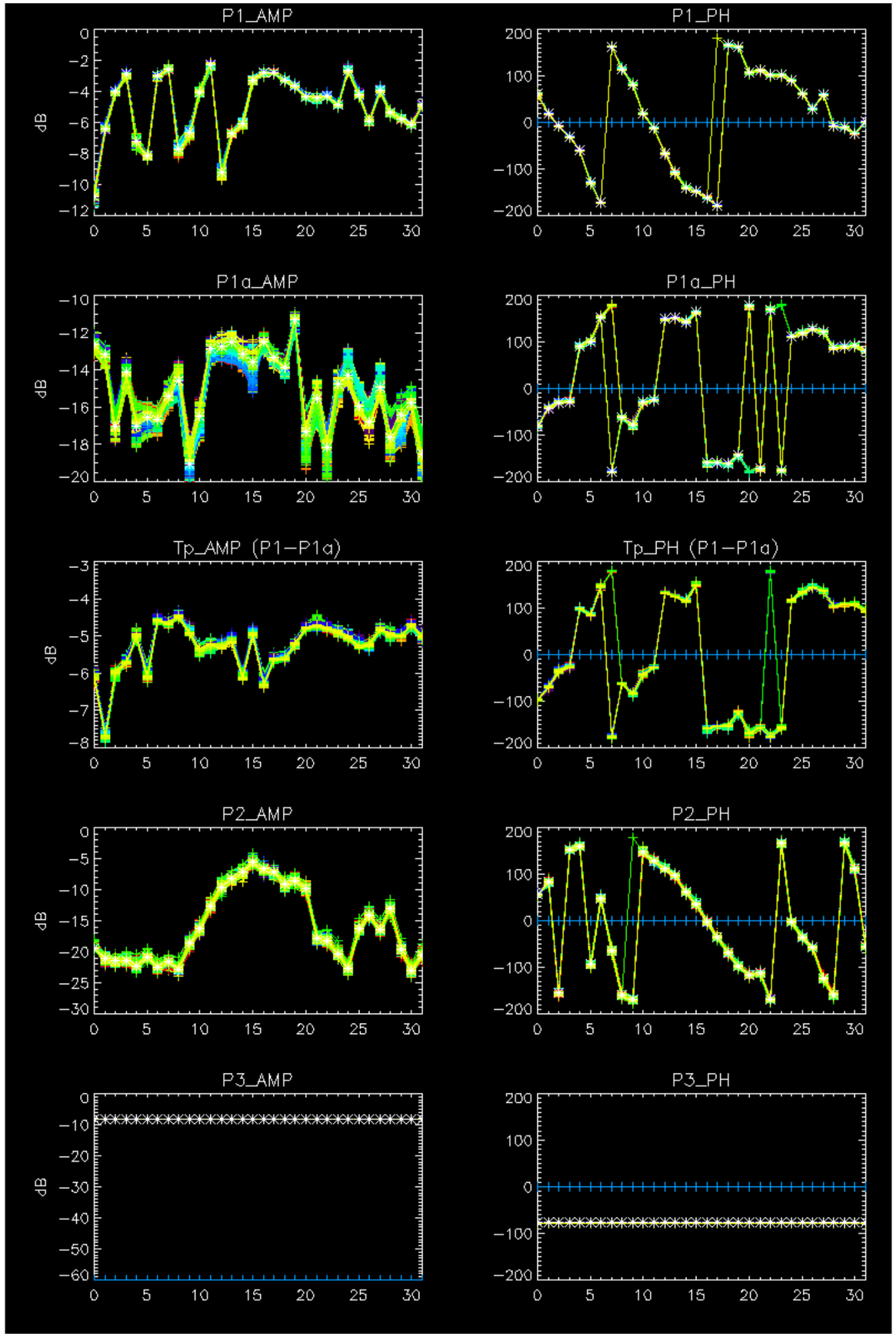

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
22
00
02
04
06
29−Jan
Average P1a [dB]
−5
−10
−15
−20
−25
22
00
02
04
06
29−Jan
Average P2[dB]
0
−5
−10
−15
−20
−25
22
00
02
04
06
29−Jan
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
22
00
02
04
06
29−Jan
rows: _ 3 _ 7 _ 11 _ 15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


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan
25−Jan
Average P1a [dB]
−10
−12
−14
−16
−18
−20
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
18
21
00
03
06
29−Jan
Average P1a [dB]
−10
−12
−14
−16
−18
−20
18
21
00
03
06
29−Jan
Average P2[dB]
0
−5
−10
−15
−20
−25
18
21
00
03
06
29−Jan
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
18
21
00
03
06
29−Jan
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

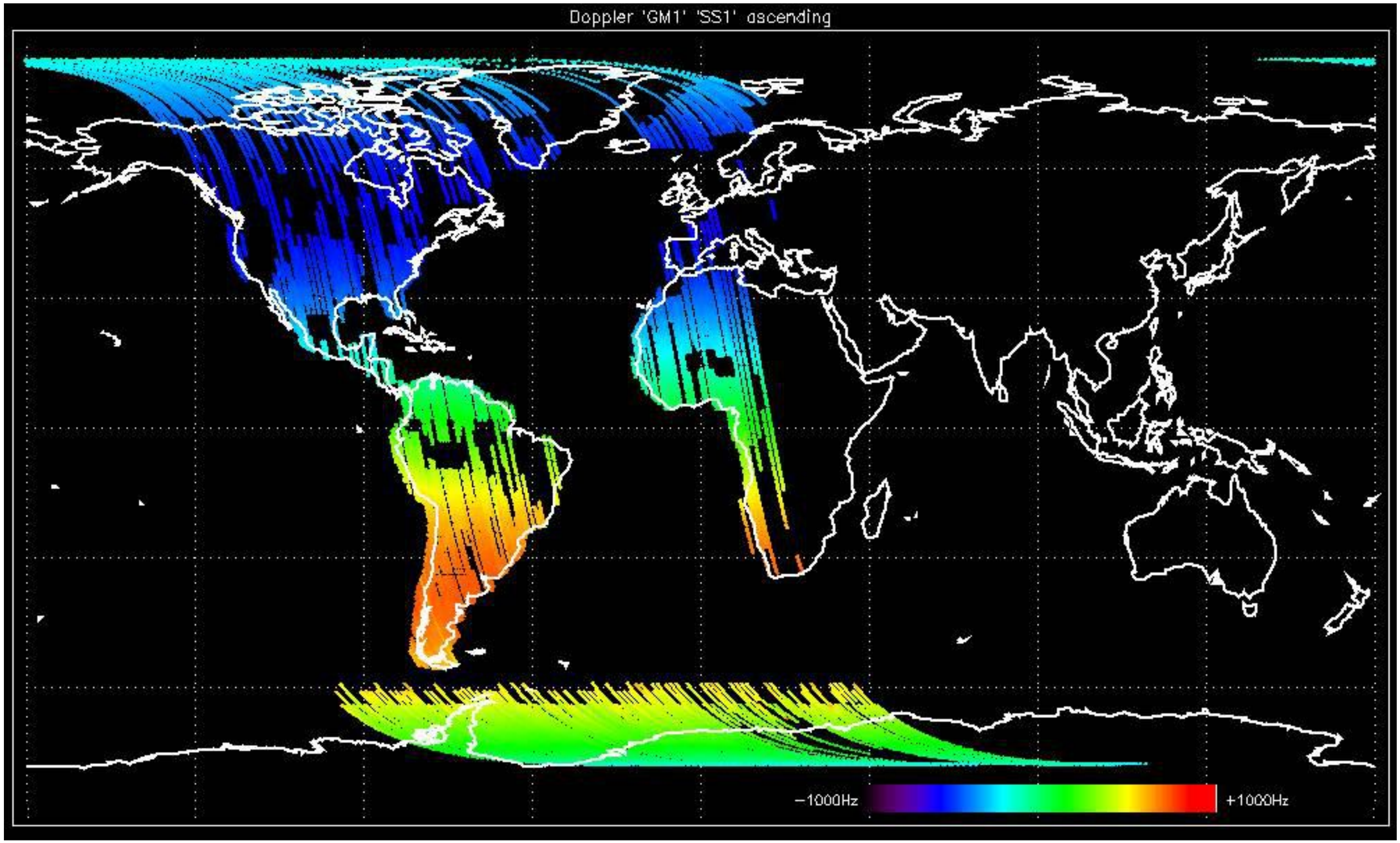
No anomalies observed.

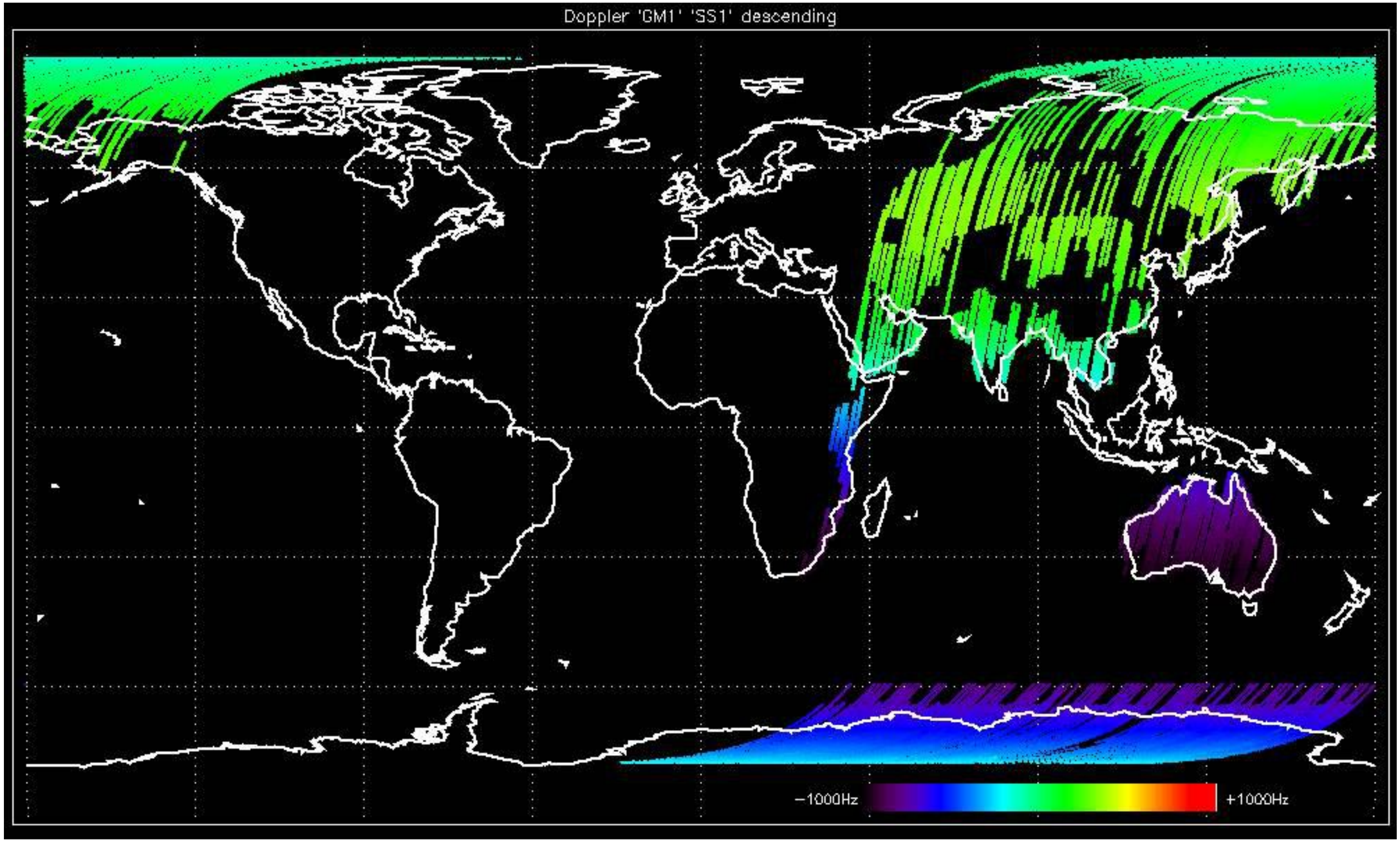

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

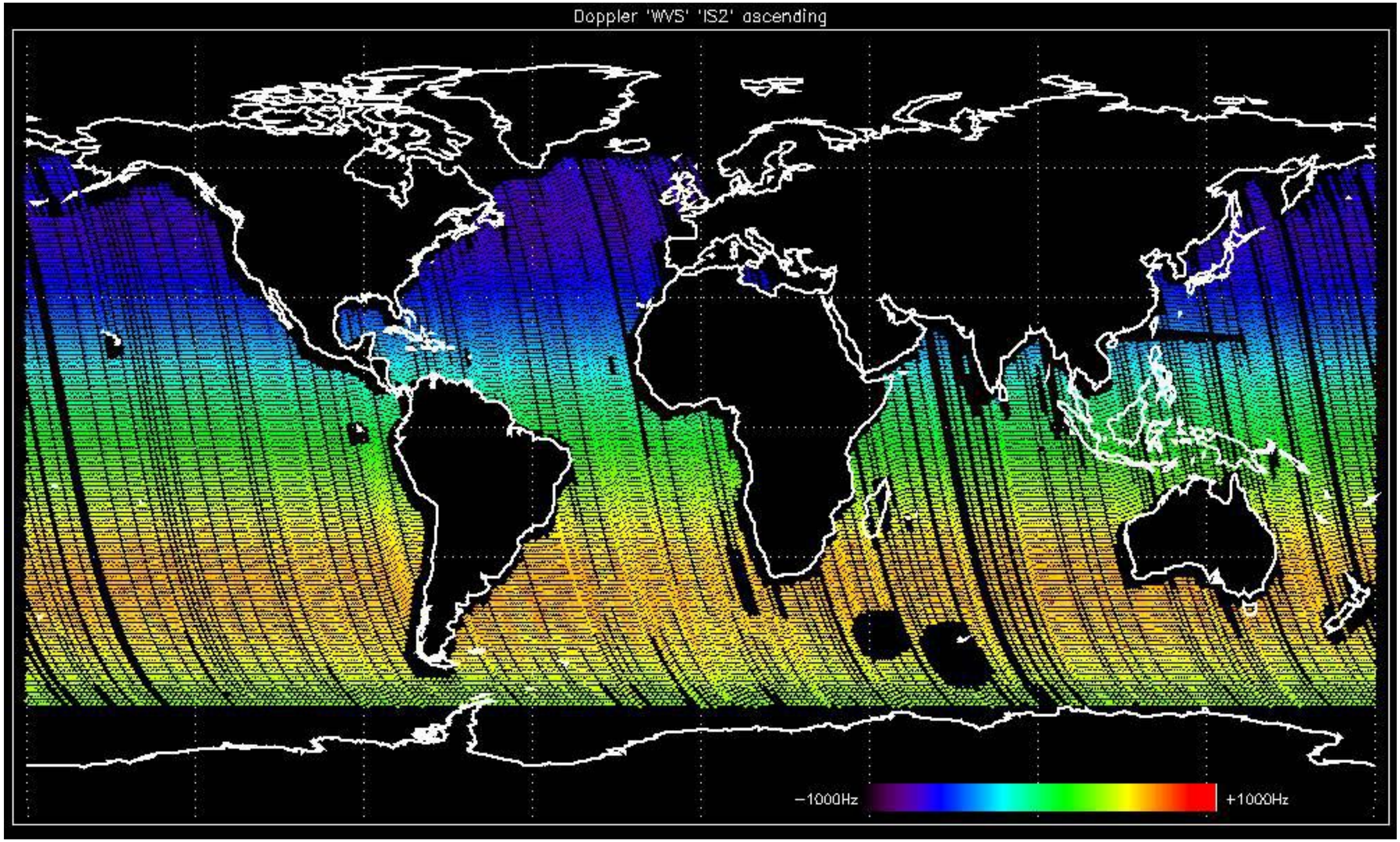

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

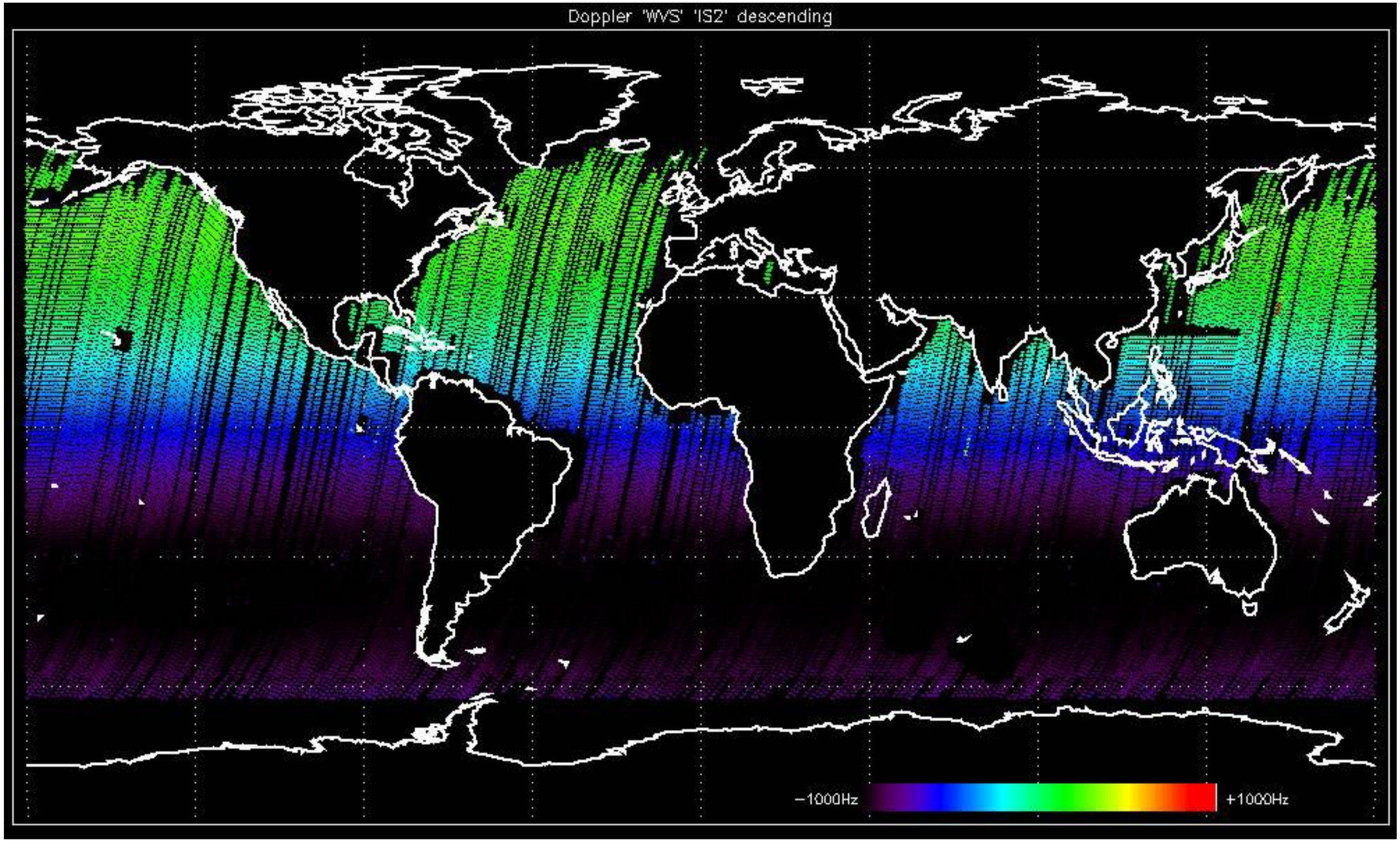
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

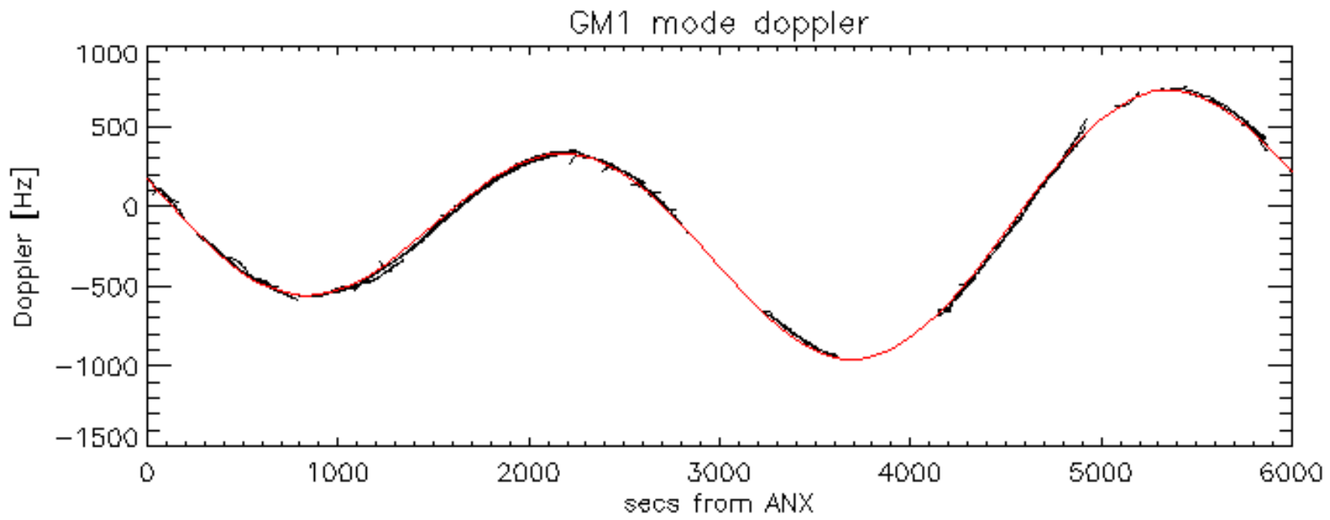
Preliminary report.The data is not yet controled

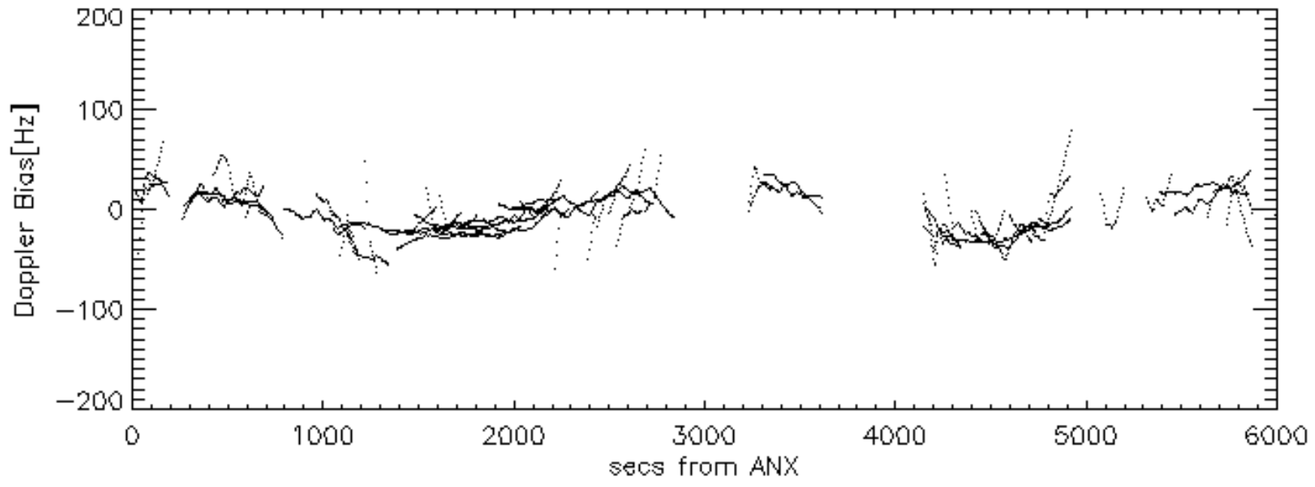

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

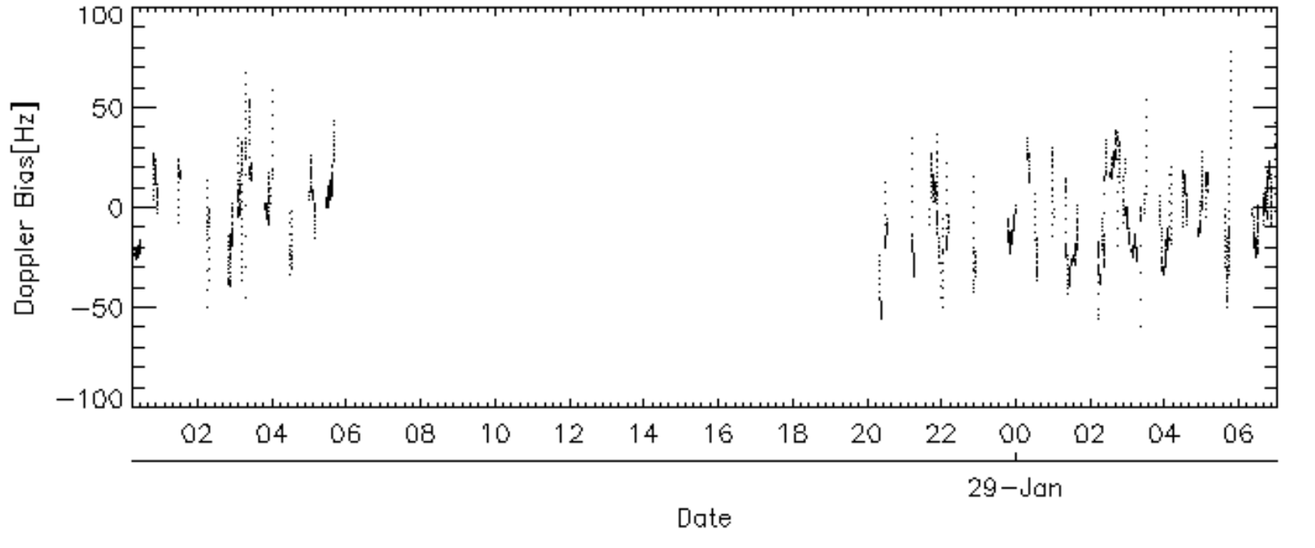

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

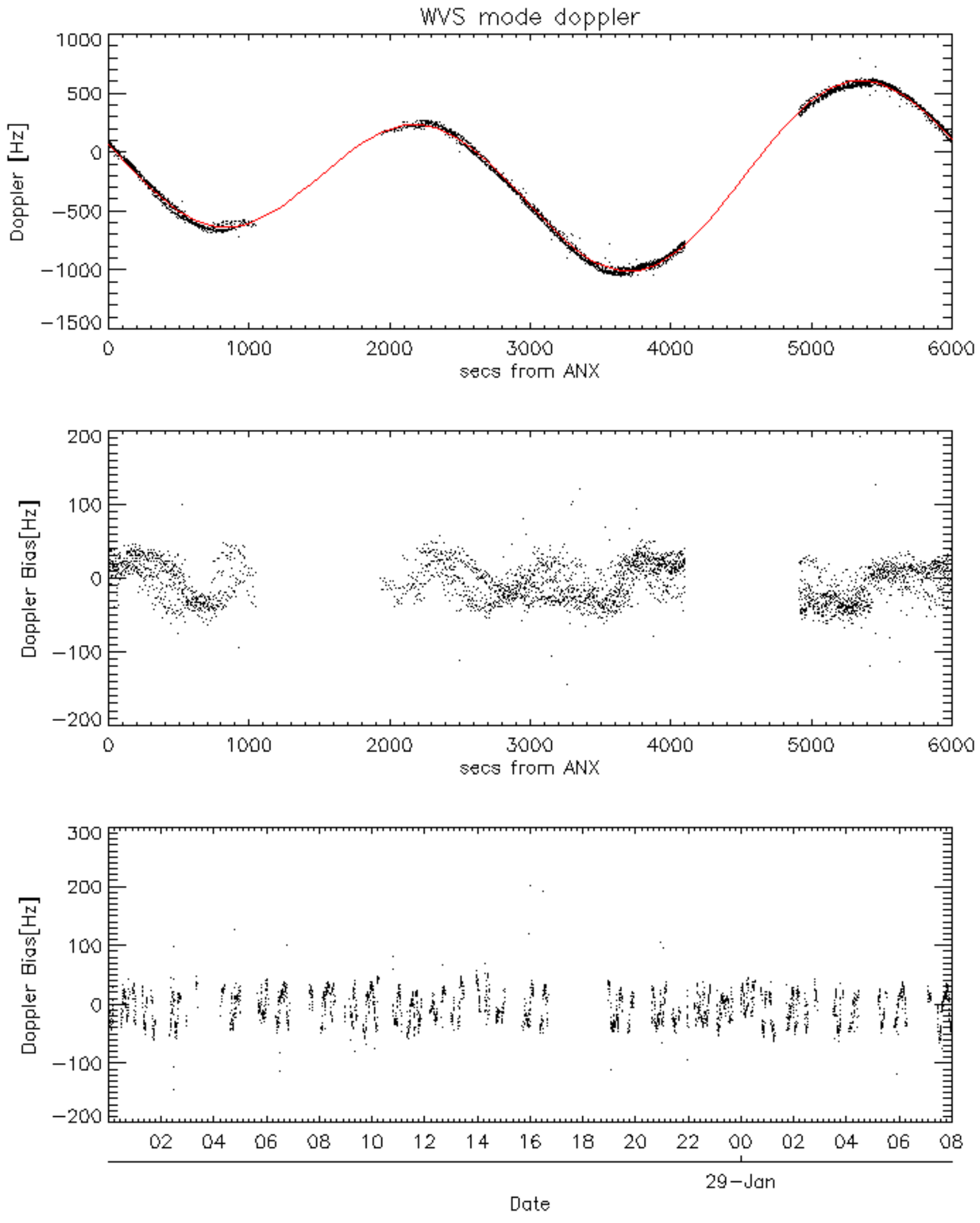

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

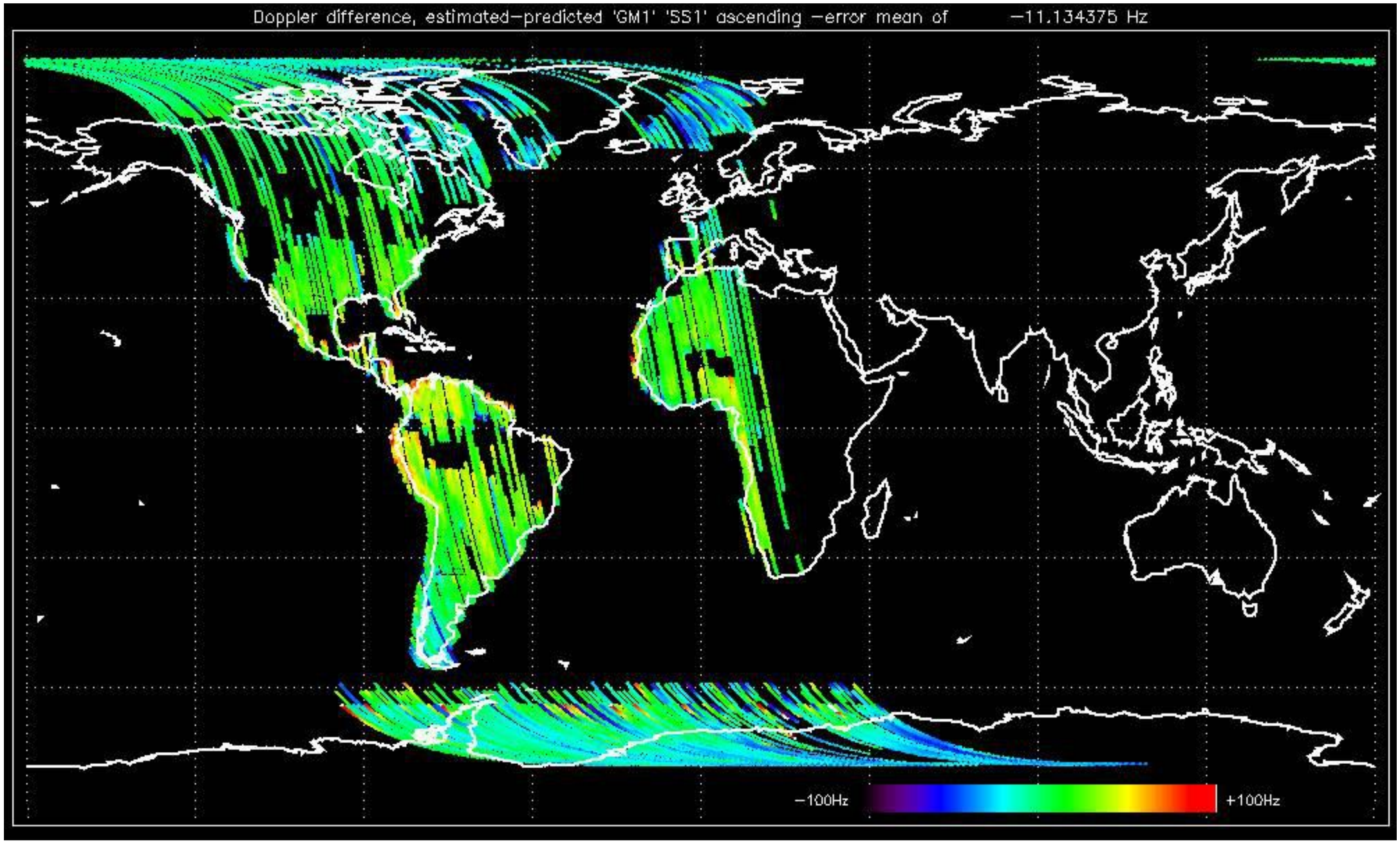

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

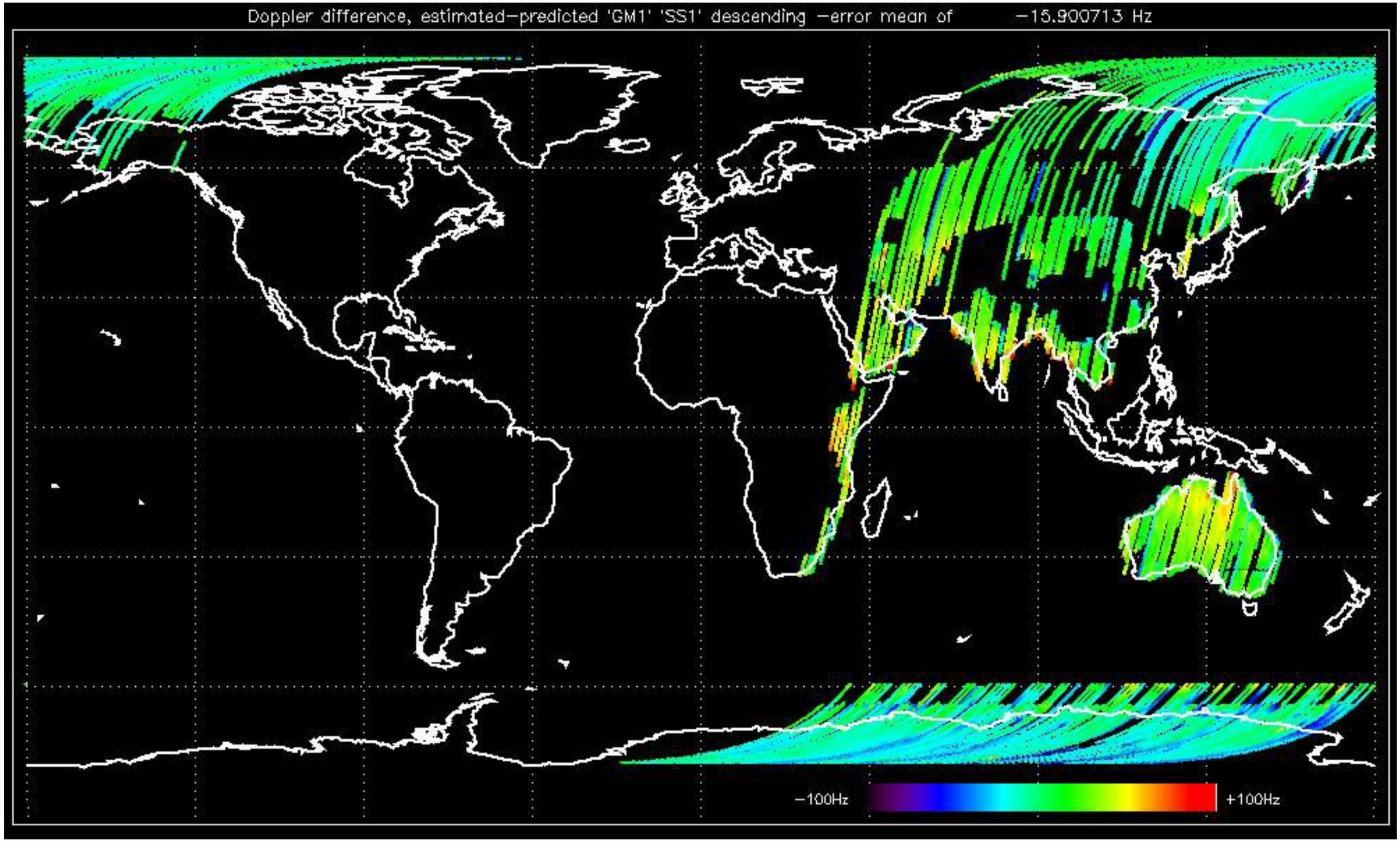

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

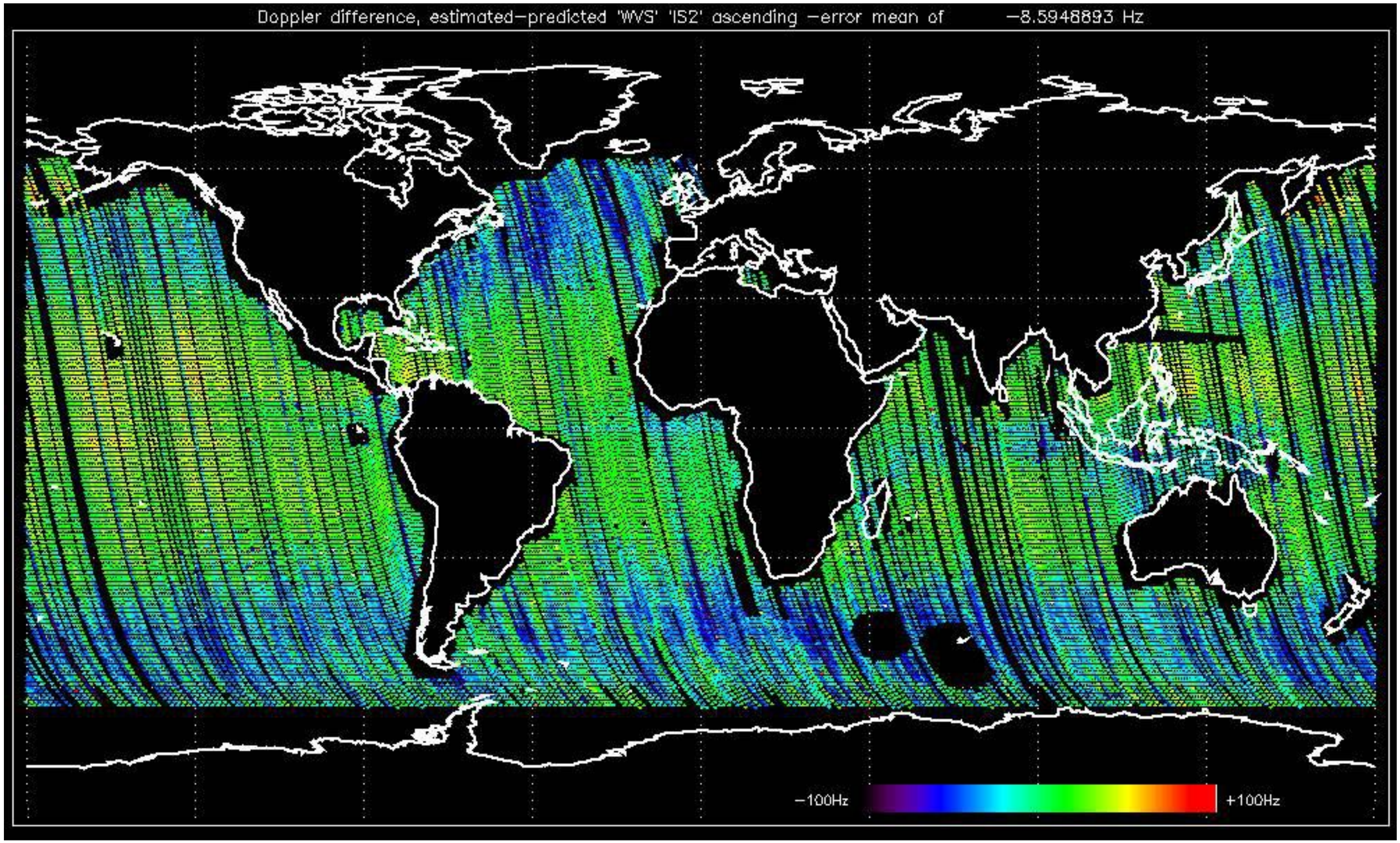

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

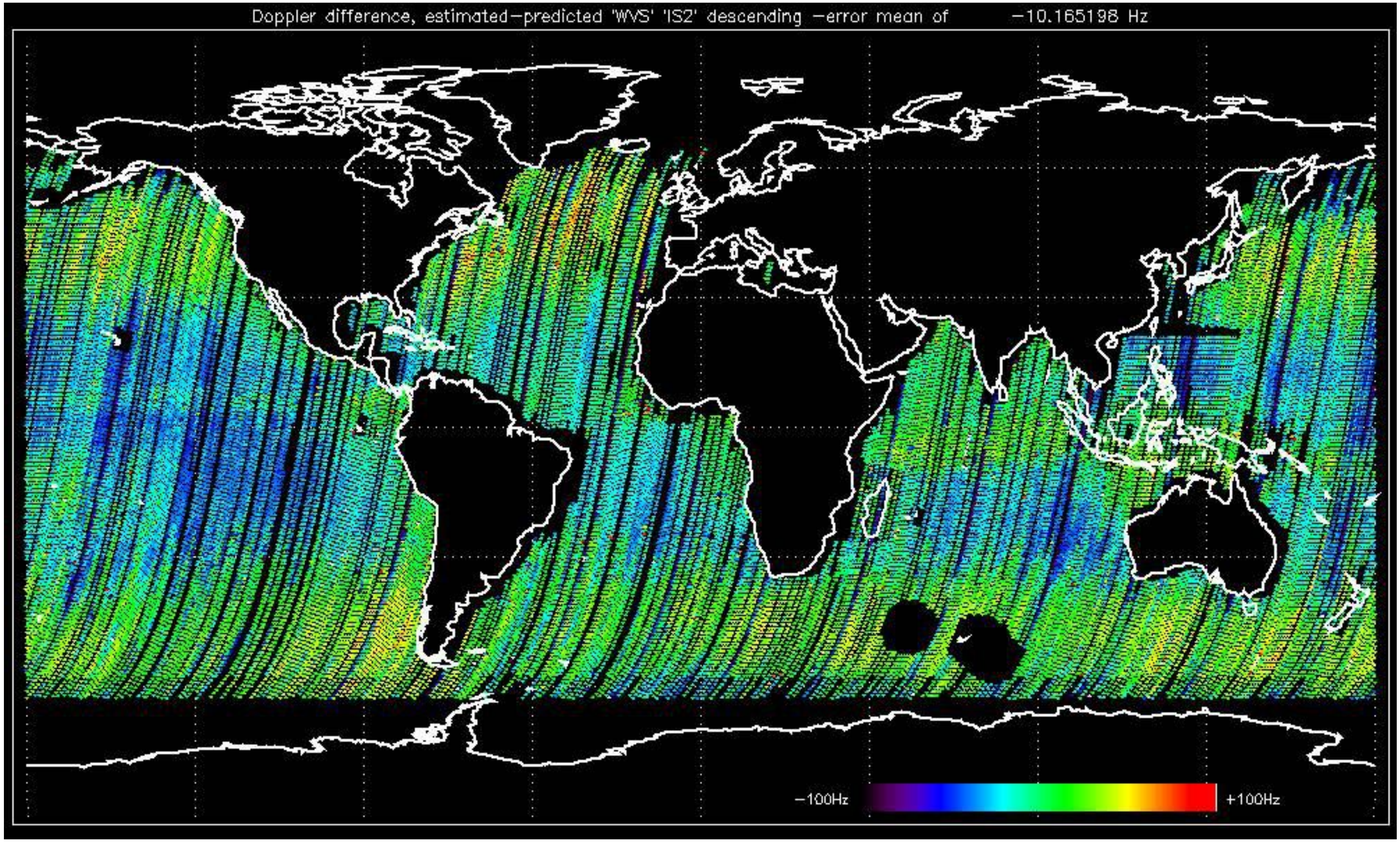

Doppler Bias[Hz]
100
50
0
−50
−100
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
29−Jan
Date


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
08
29−Jan
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −11.134375 Hz
−100Hz
+100Hz

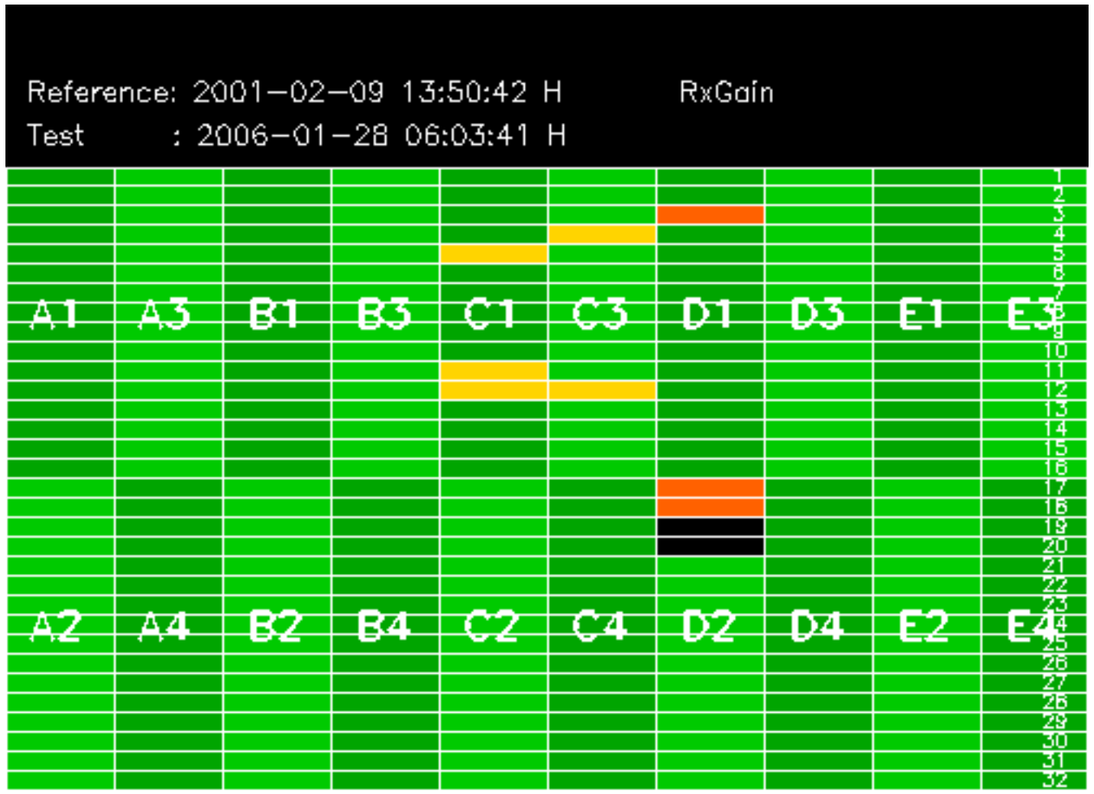

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -15.900713 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −8.5948893 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −10.165198 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2006-01-28 06:03:41 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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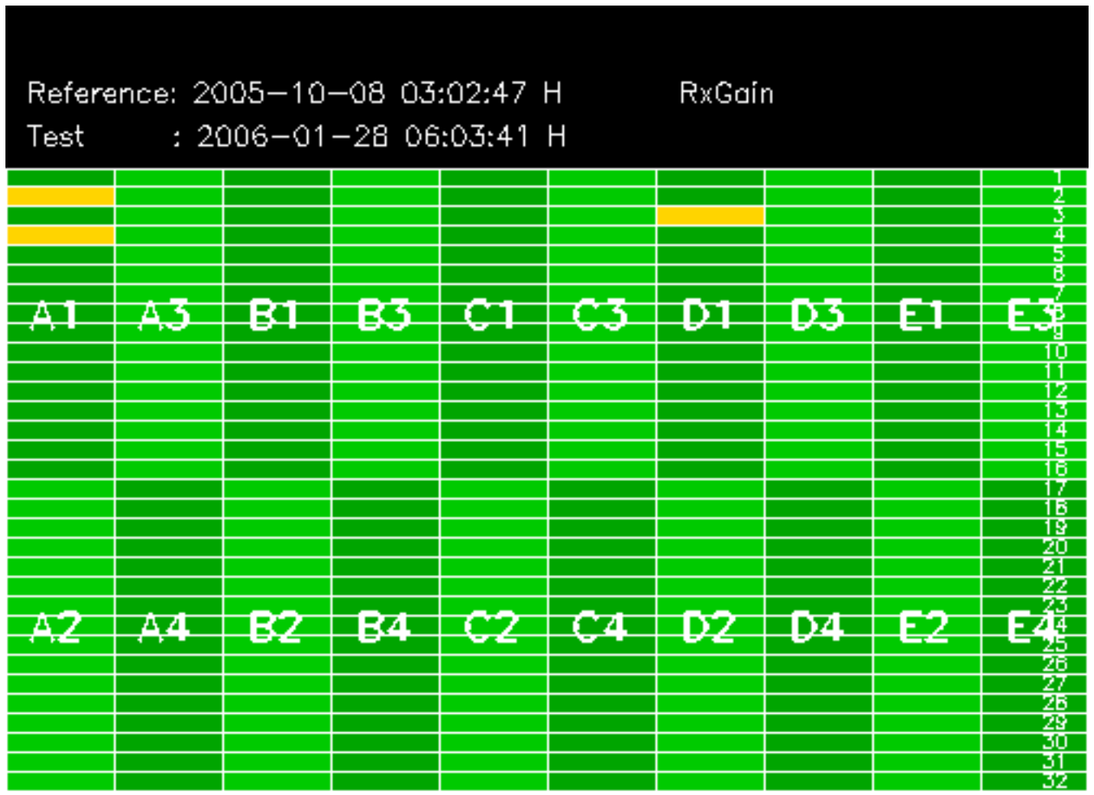
Reference: 2005-10-08 03:02:47 H
Test : 2006-01-28 06:03:41 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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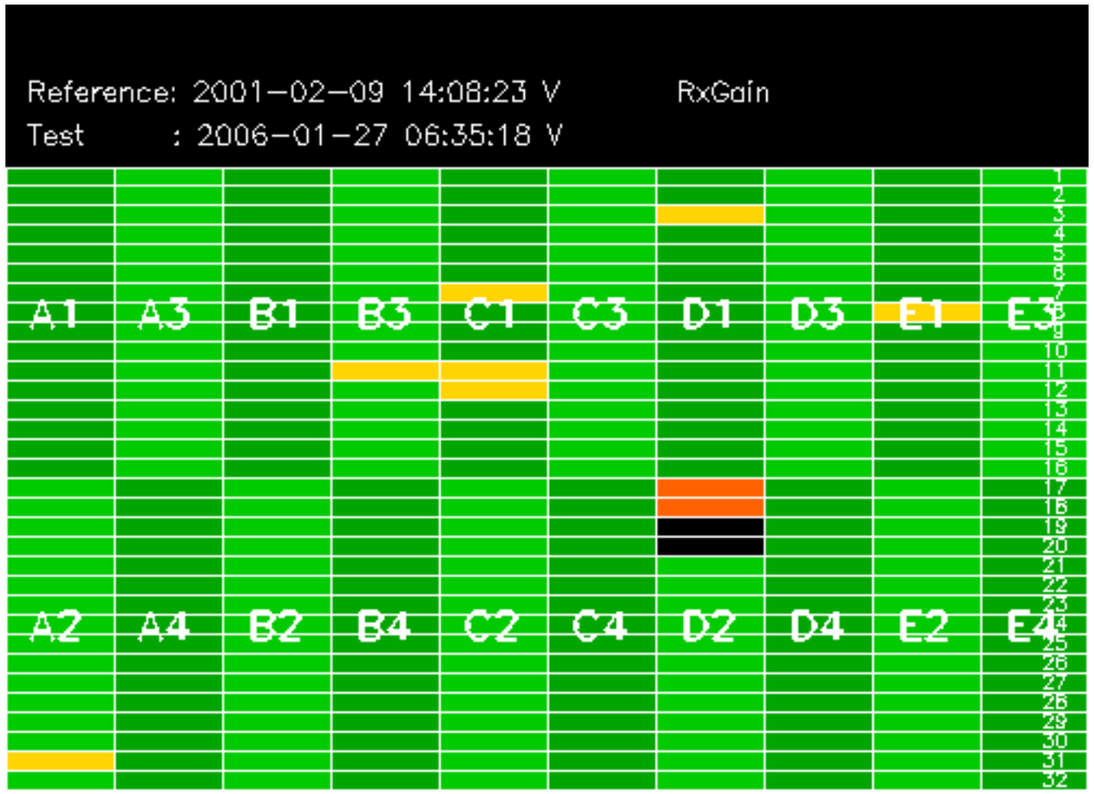
Reference: 2001-02-09 14:08:23 V
Test : 2006-01-27 06:35:18 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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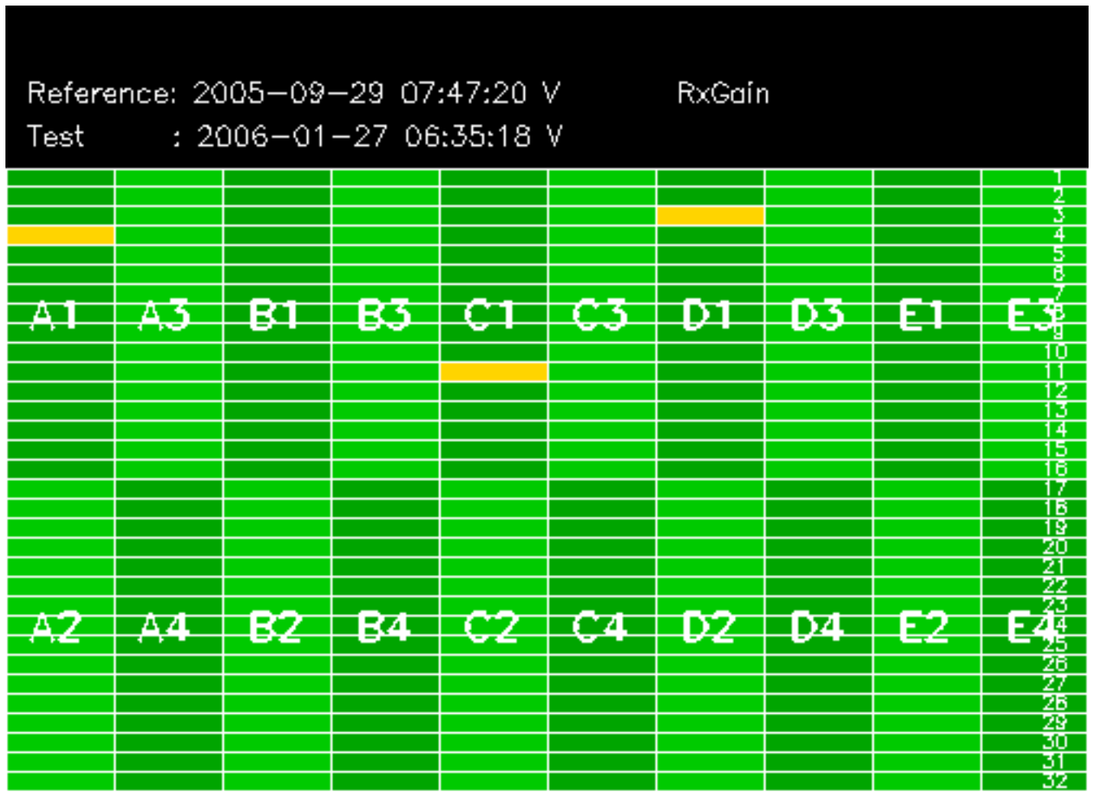
Reference: 2005-09-29 07:47:20 V
Test : 2006-01-27 06:35:18 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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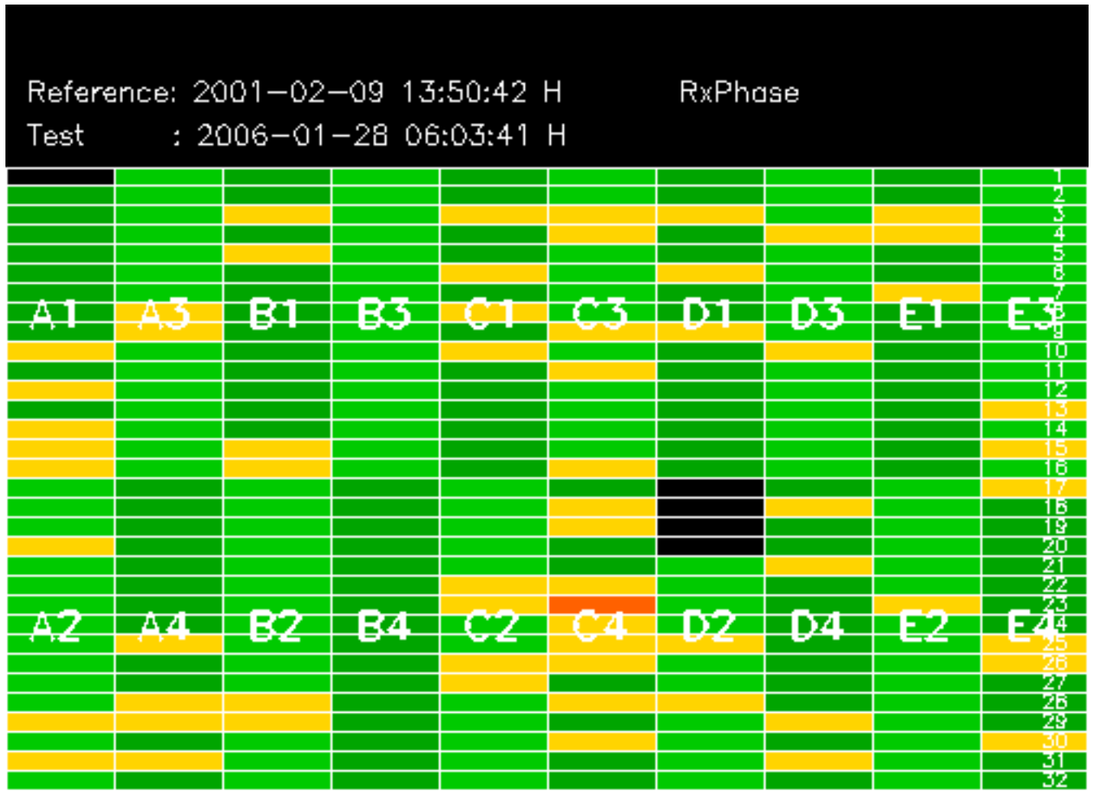
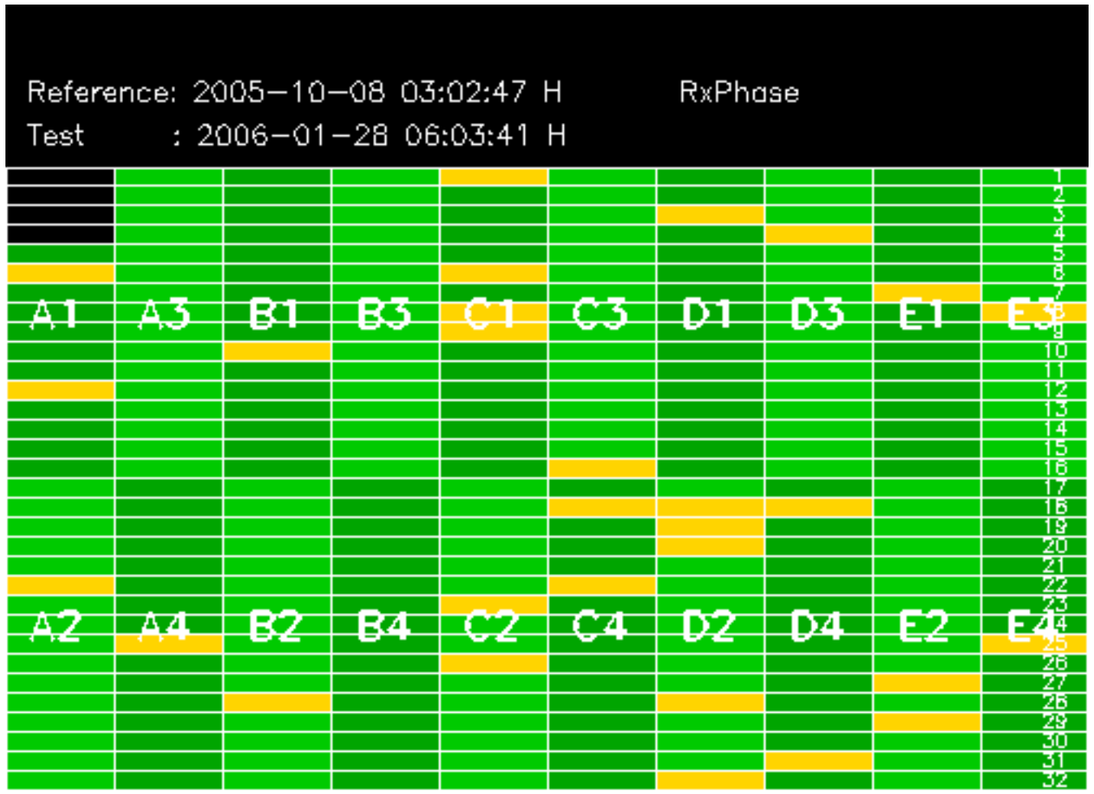

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-01-28 06:03:41 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-10-08 03:02:47 H
Test : 2006-01-28 06:03:41 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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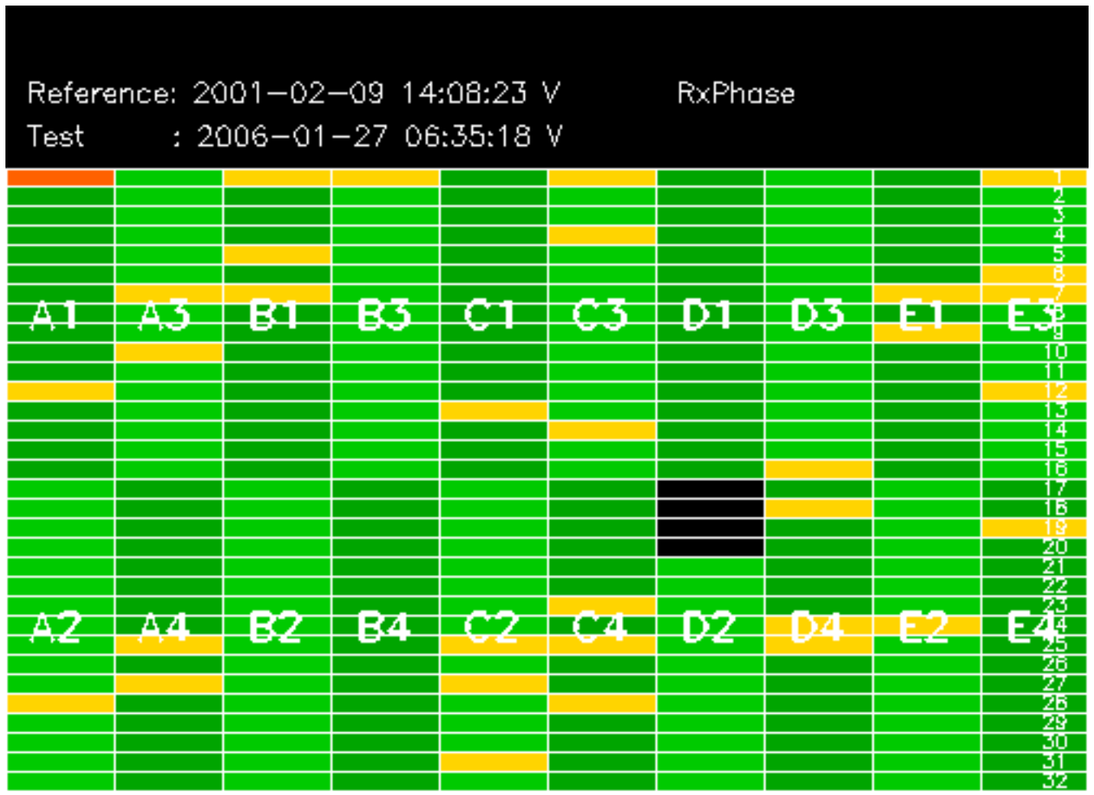
Reference: 2001-02-09 14:08:23 V
RxPhase
Test : 2006-01-27 06:35:18 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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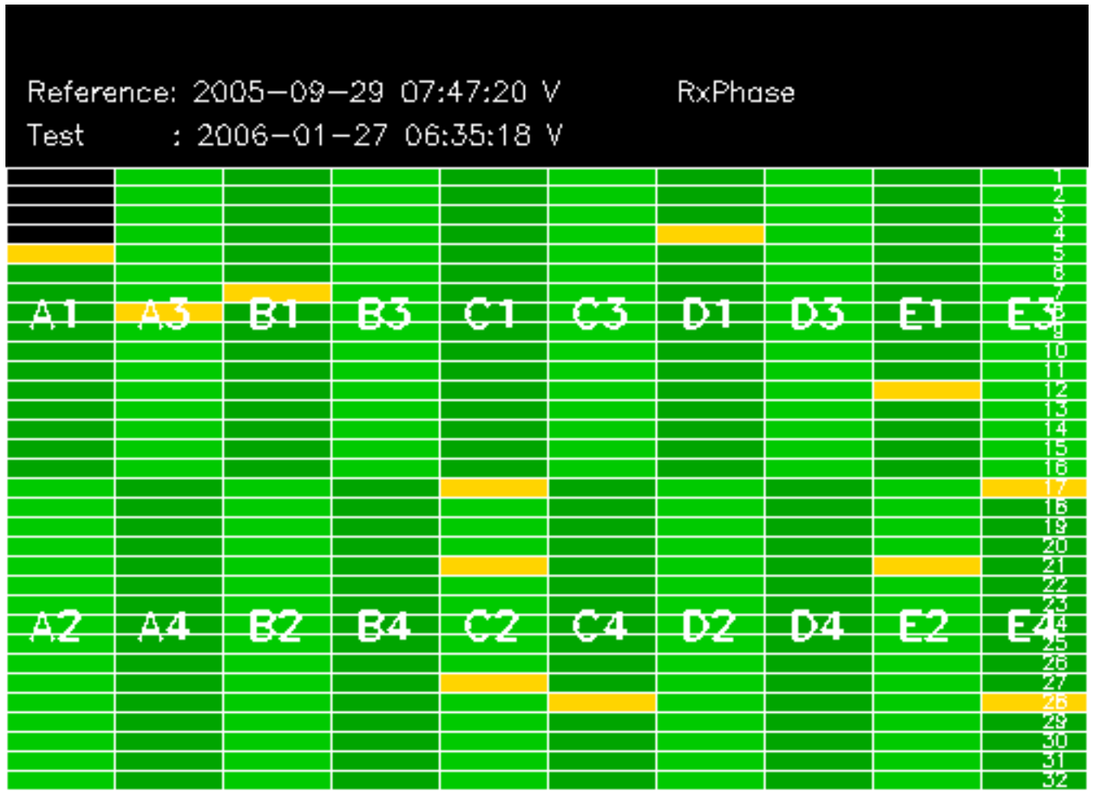
Reference: 2005-09-29 07:47:20 V
Test : 2006-01-27 06:35:18 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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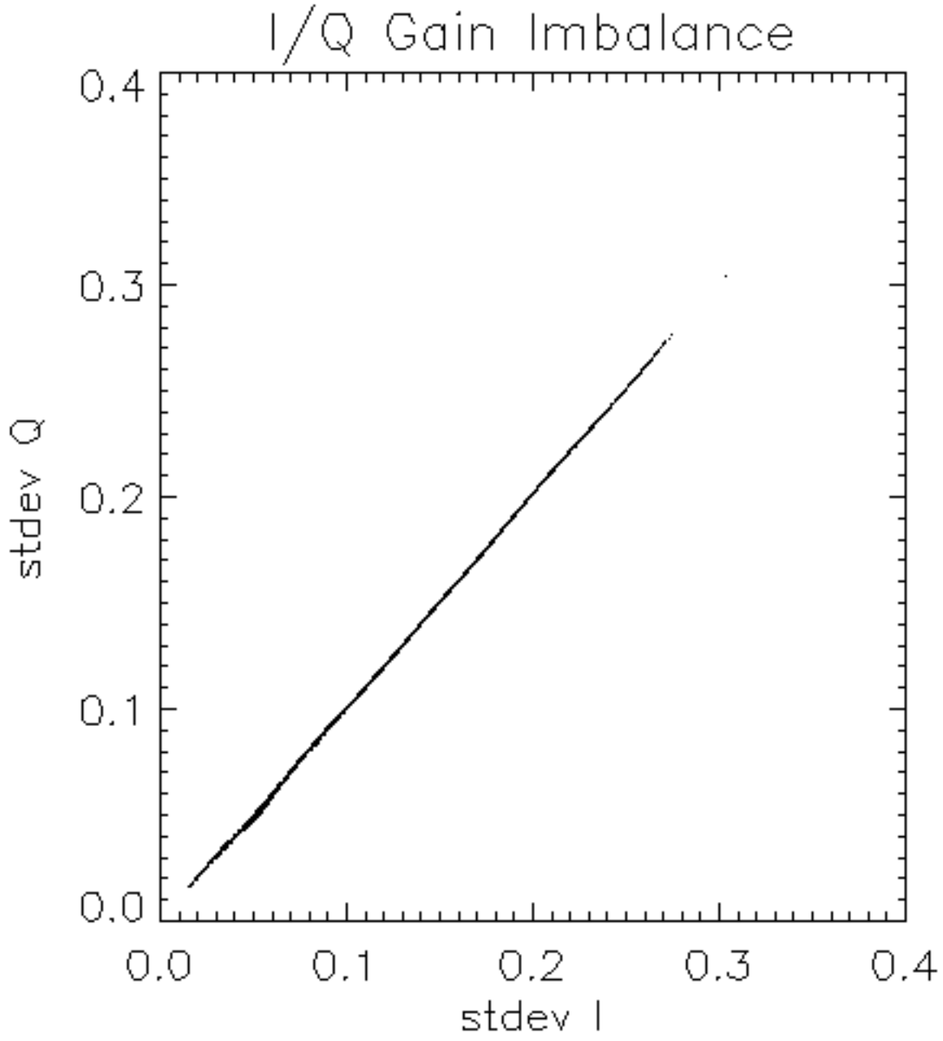
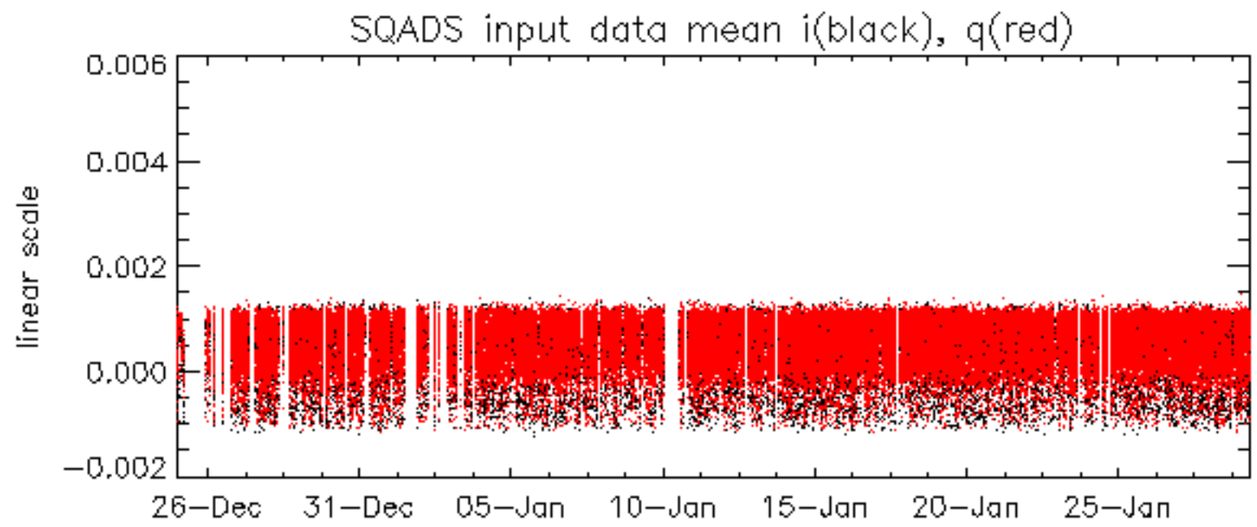
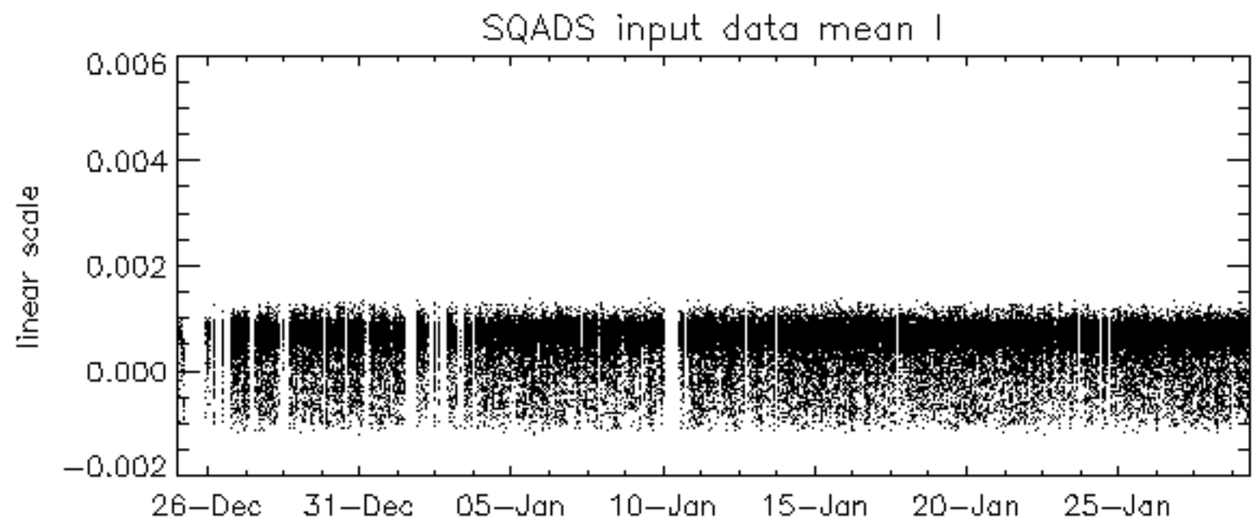
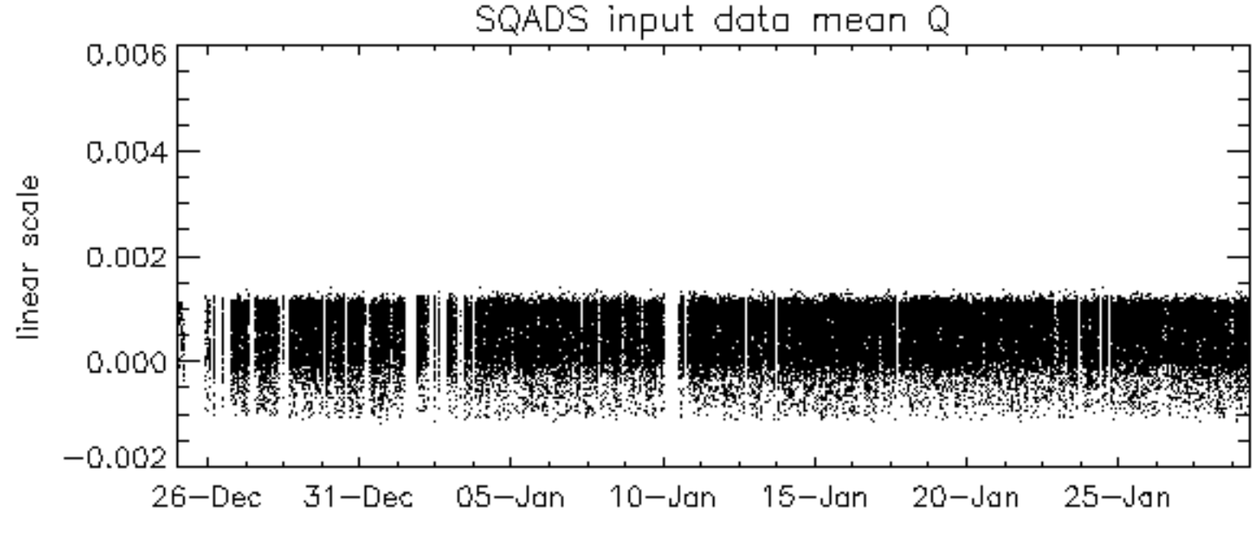
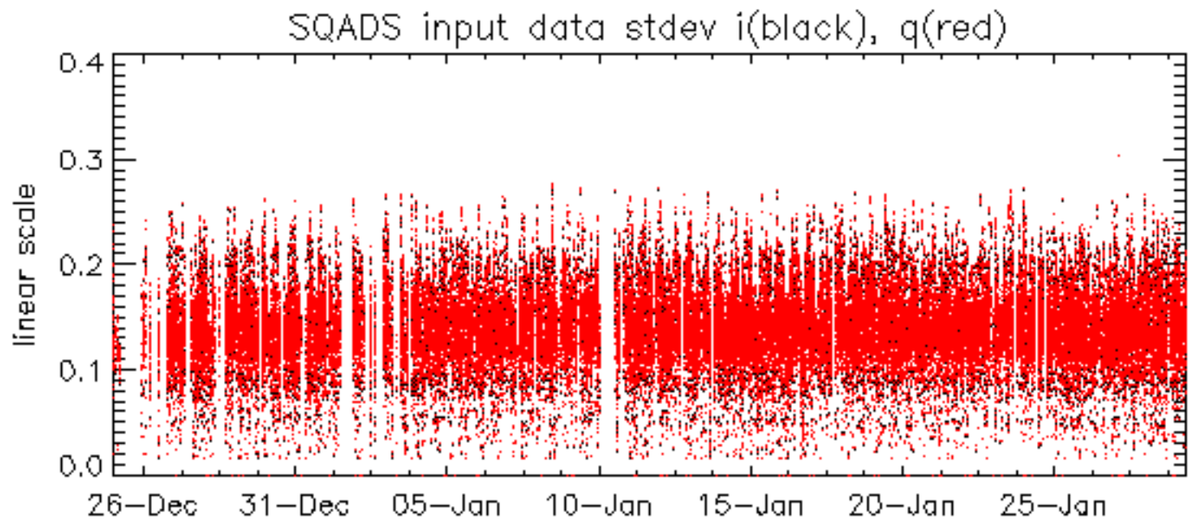
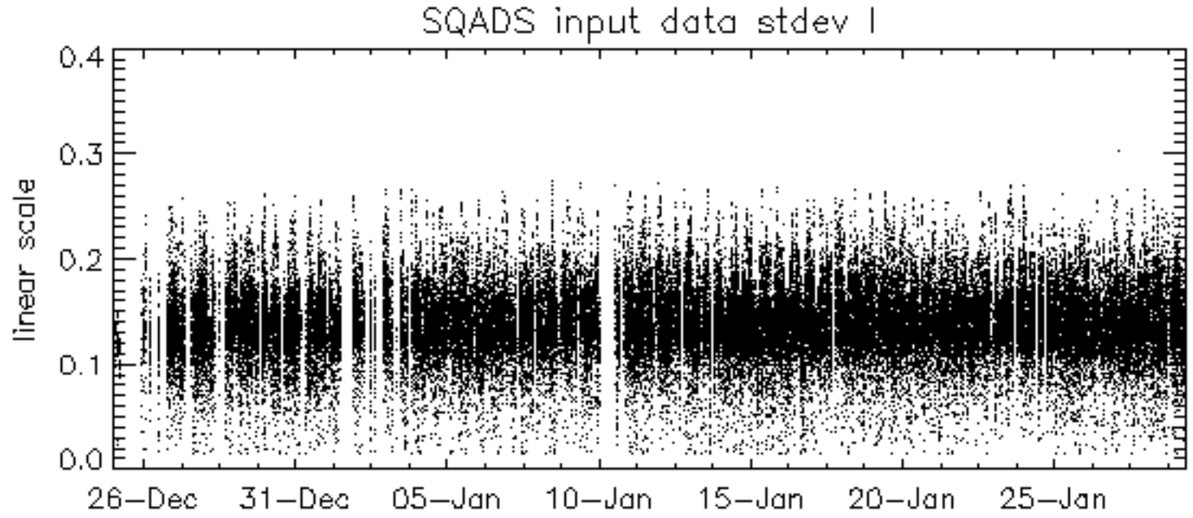

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

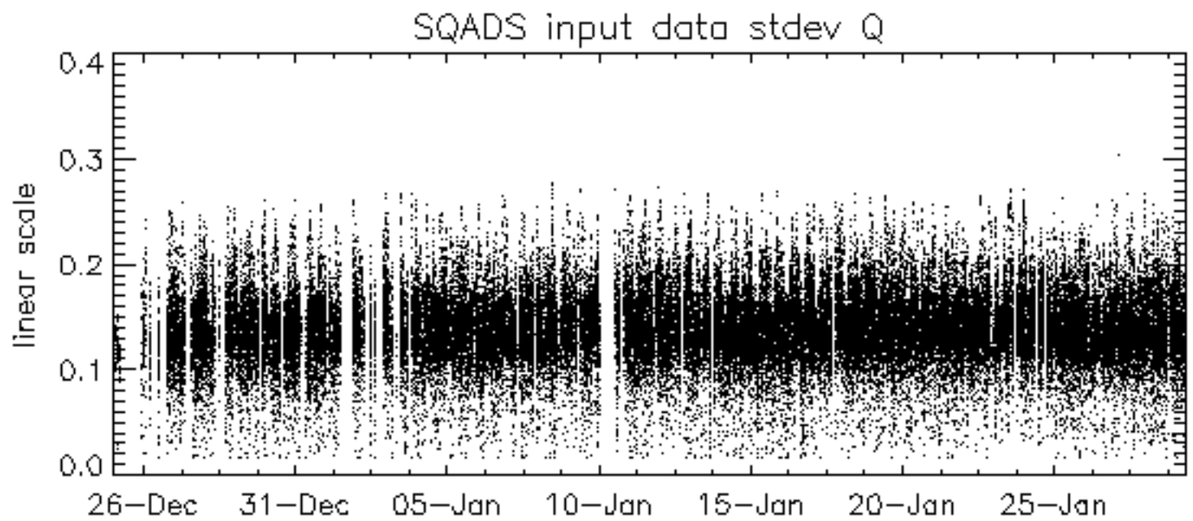

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan
25−Jan

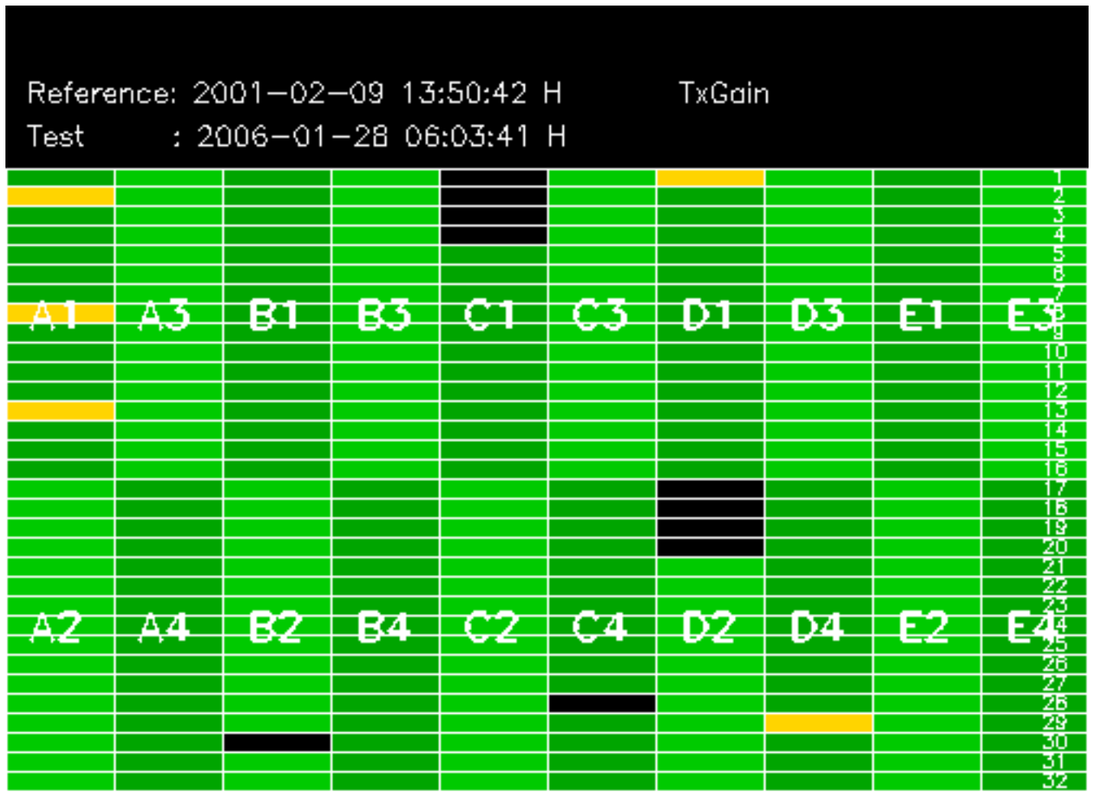

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan
25−Jan


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2006-01-28 06:03:41 H
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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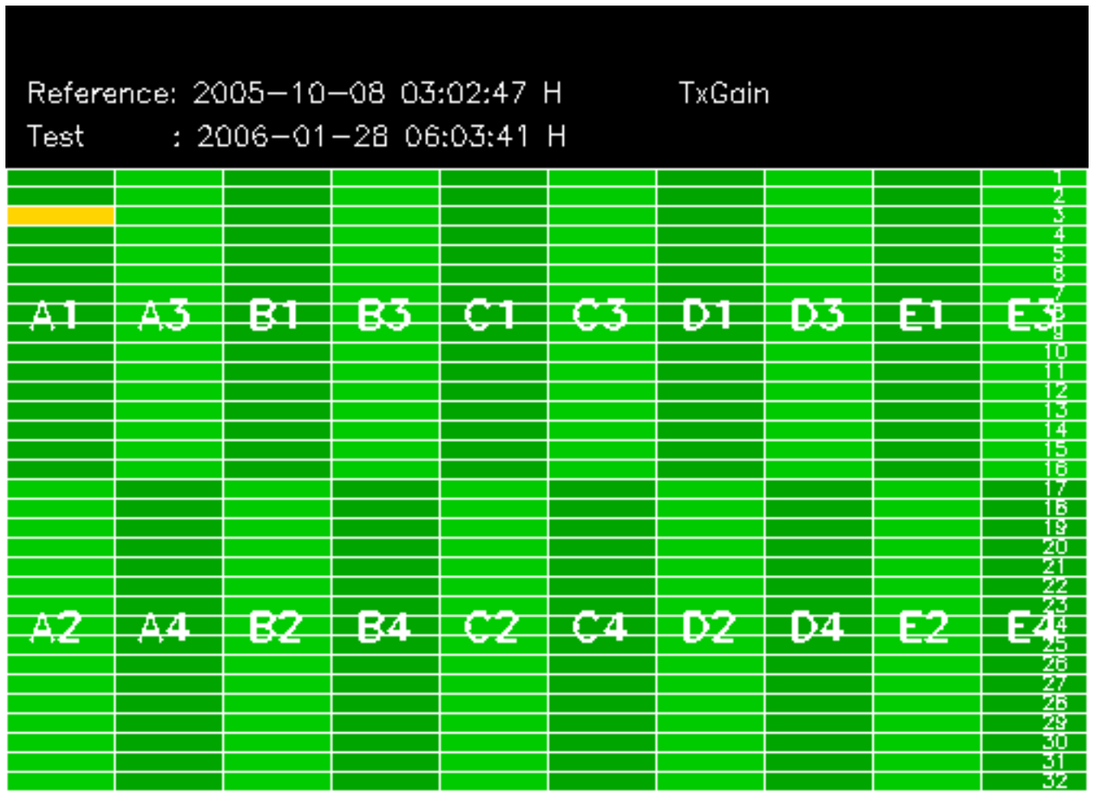
Reference: 2005-10-08 03:02:47 H
Test : 2006-01-28 06:03:41 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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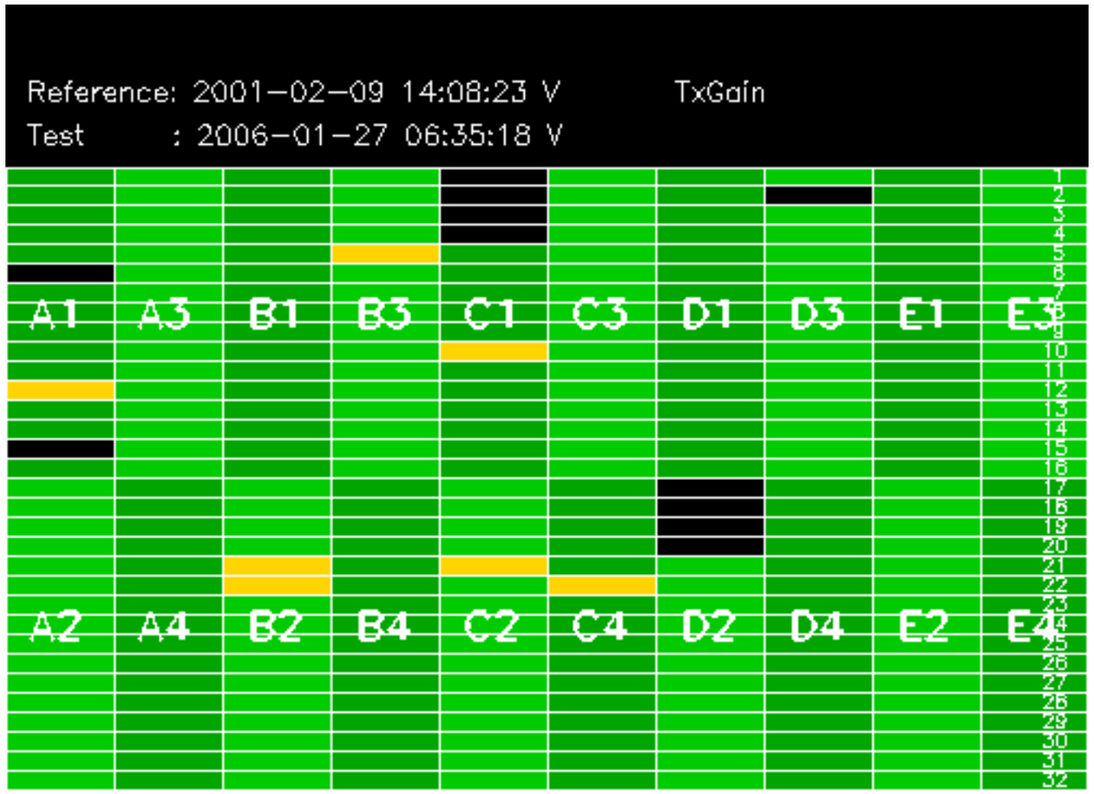
Reference: 2001-02-09 14:08:23 V
Test : 2006-01-27 06:35:18 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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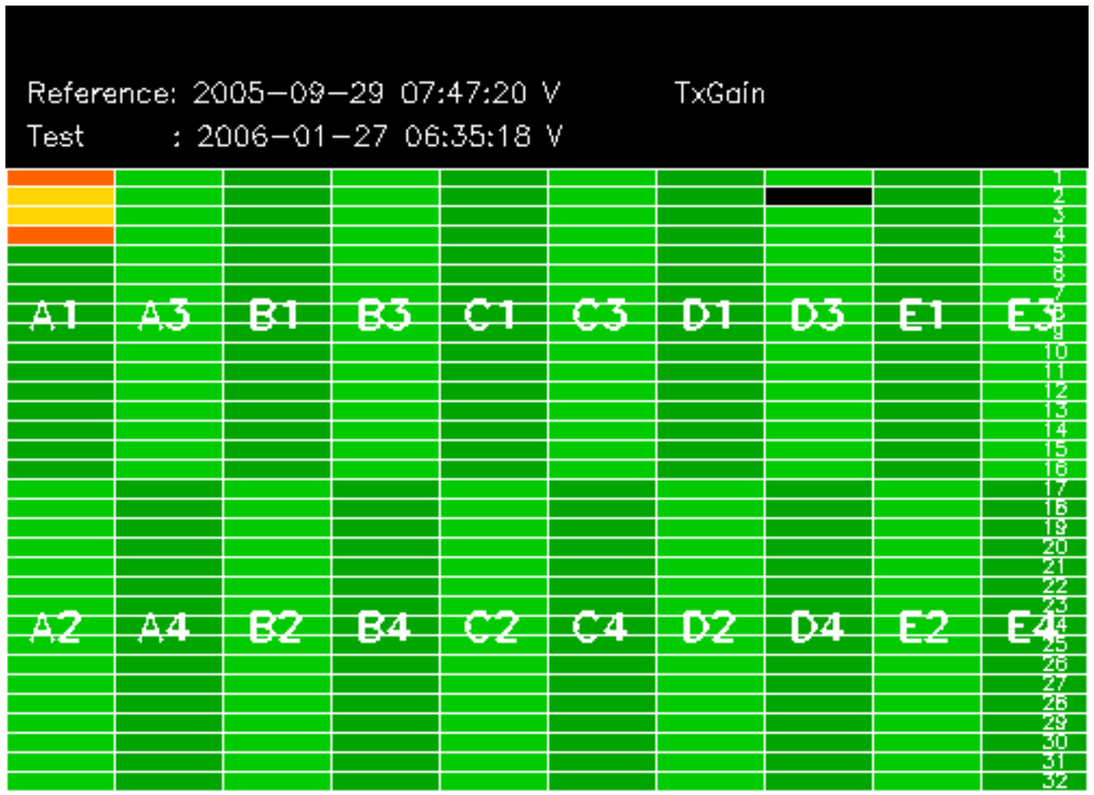
Reference: 2005-09-29 07:47:20 V
Test : 2006-01-27 06:35:18 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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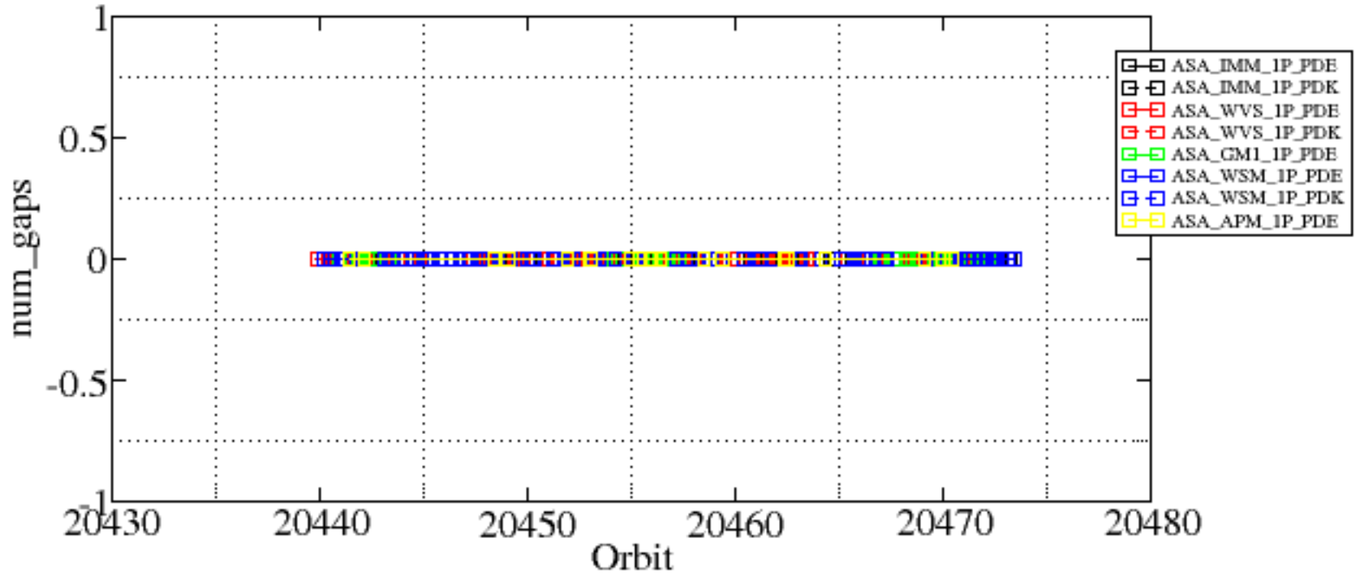
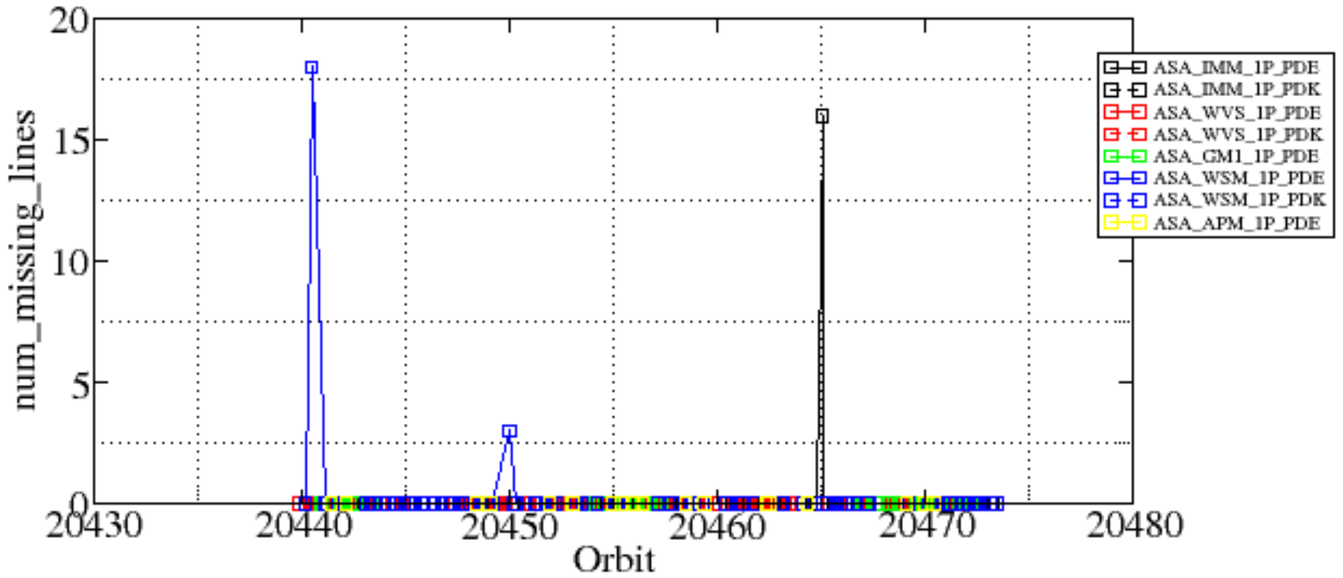
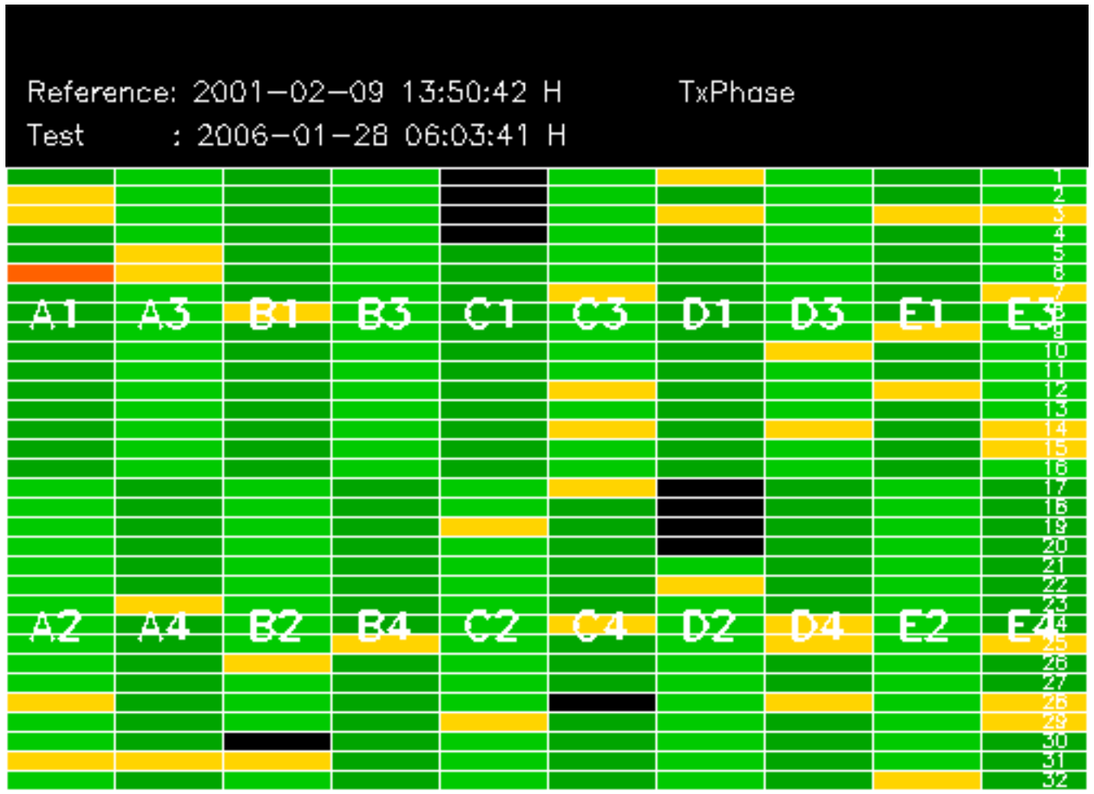
Summary of analysis for the last 3 days 2006012[789]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_IMM_1PNPDE20060128_182641_000000352044_00371_20465_1379.N1 </td> <td>0 </td> <td>16 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20060127_011401_000003542044_00346_20440_2767.N1 </td> <td>0 </td> <td>18 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20060127_171318_000002322044_00356_20450_2675.N1 </td> <td>0 </td> <td>3 </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
20430
20440
20450
20460
20470
20480
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_WSM_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE


num_missing_lines
Orbit
20
15
10
5
0
20430
20440
20450
20460
20470
20480
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_WSM_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE


Reference: 2001-02-09 13:50:42 H
Test : 2006-01-28 06:03:41 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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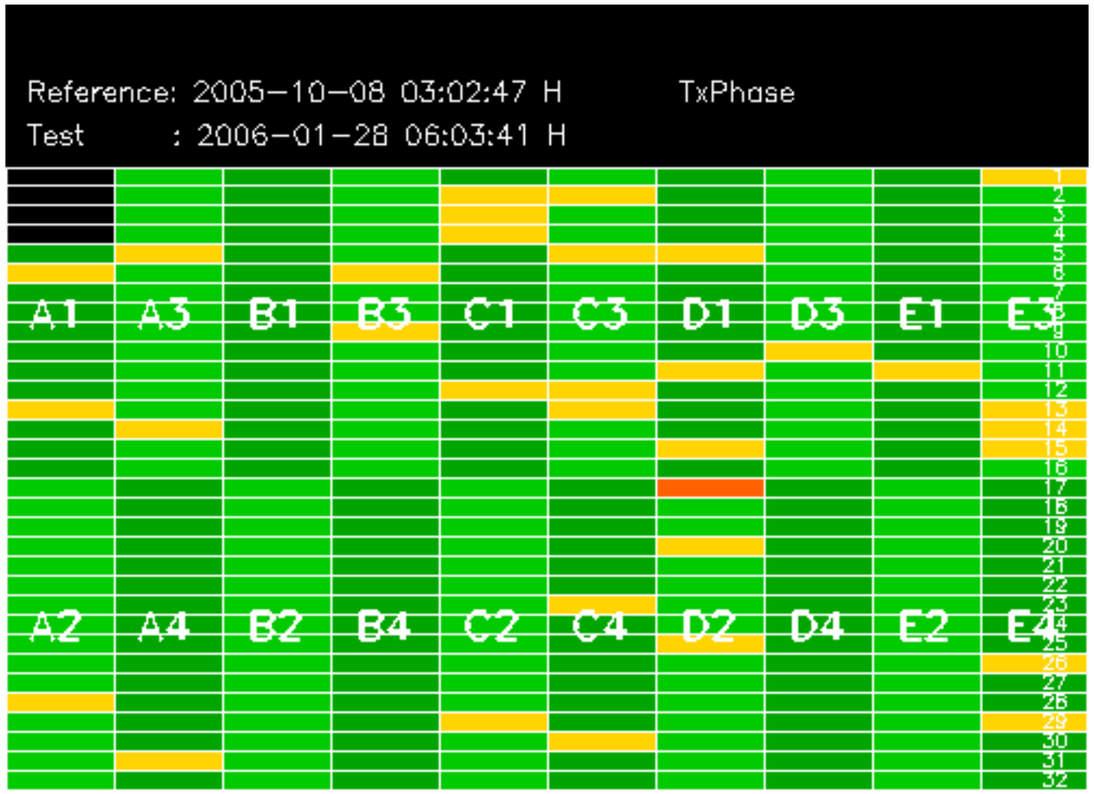
Reference: 2005-10-08 03:02:47 H
Test : 2006-01-28 06:03:41 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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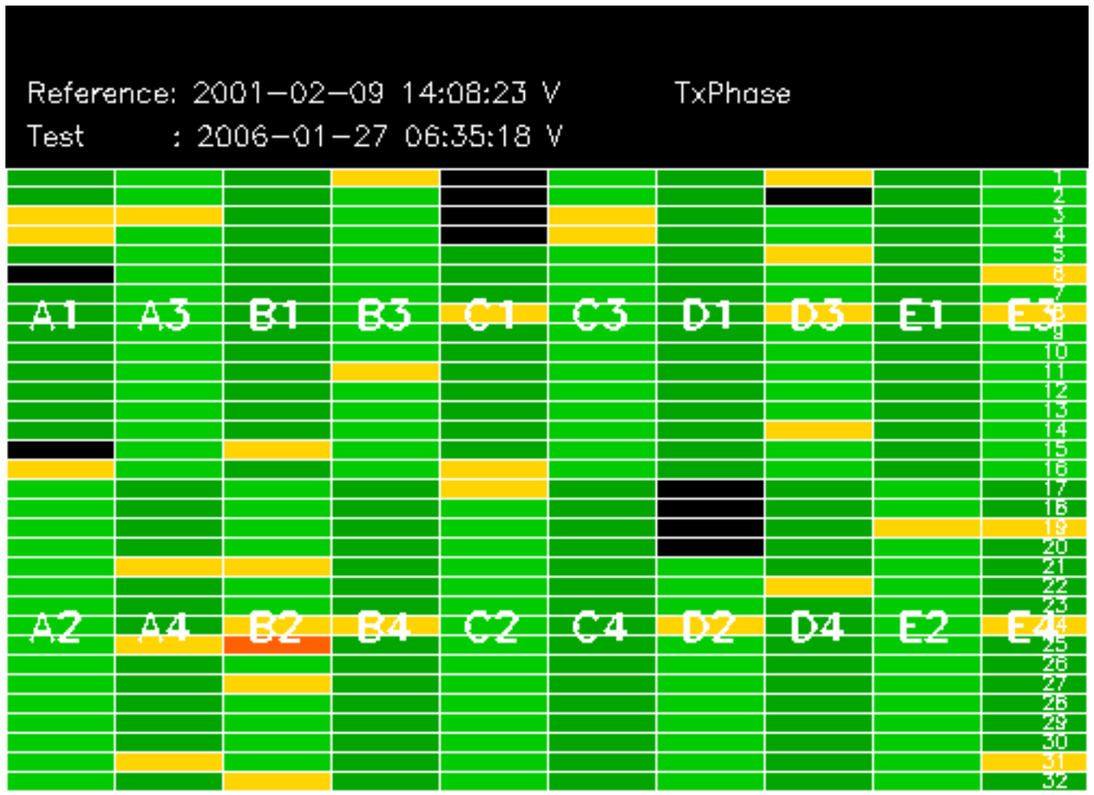
Reference: 2001-02-09 14:08:23 V
Test : 2006-01-27 06:35:18 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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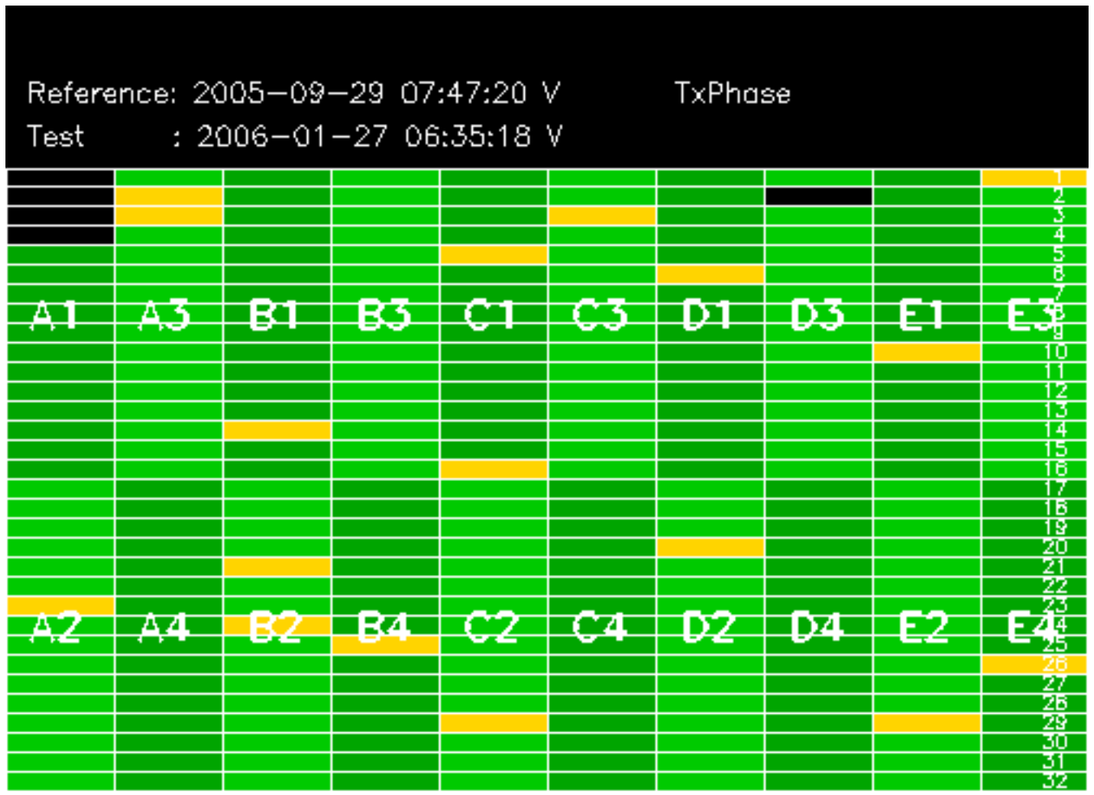
Reference: 2005-09-29 07:47:20 V
Test : 2006-01-27 06:35:18 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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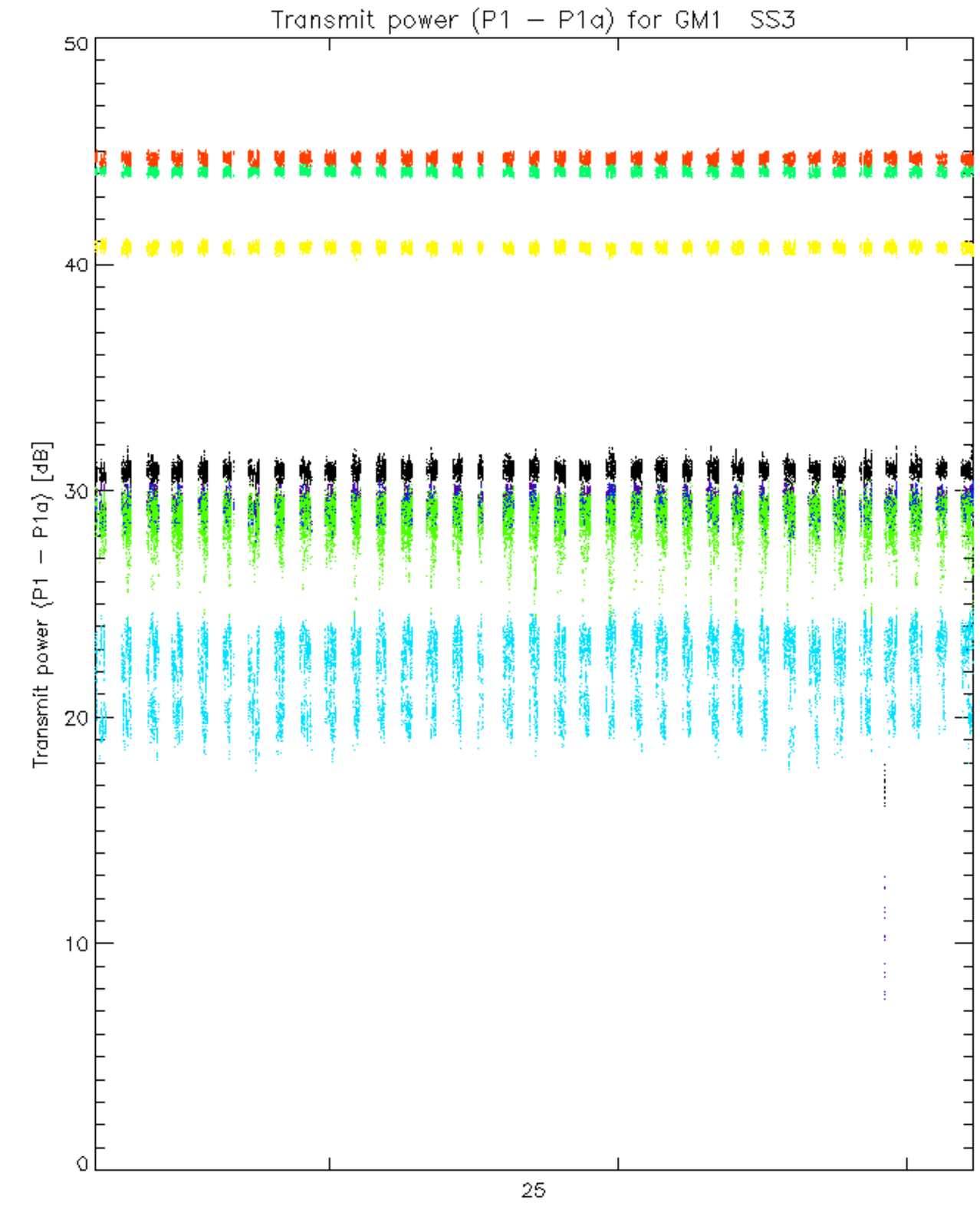
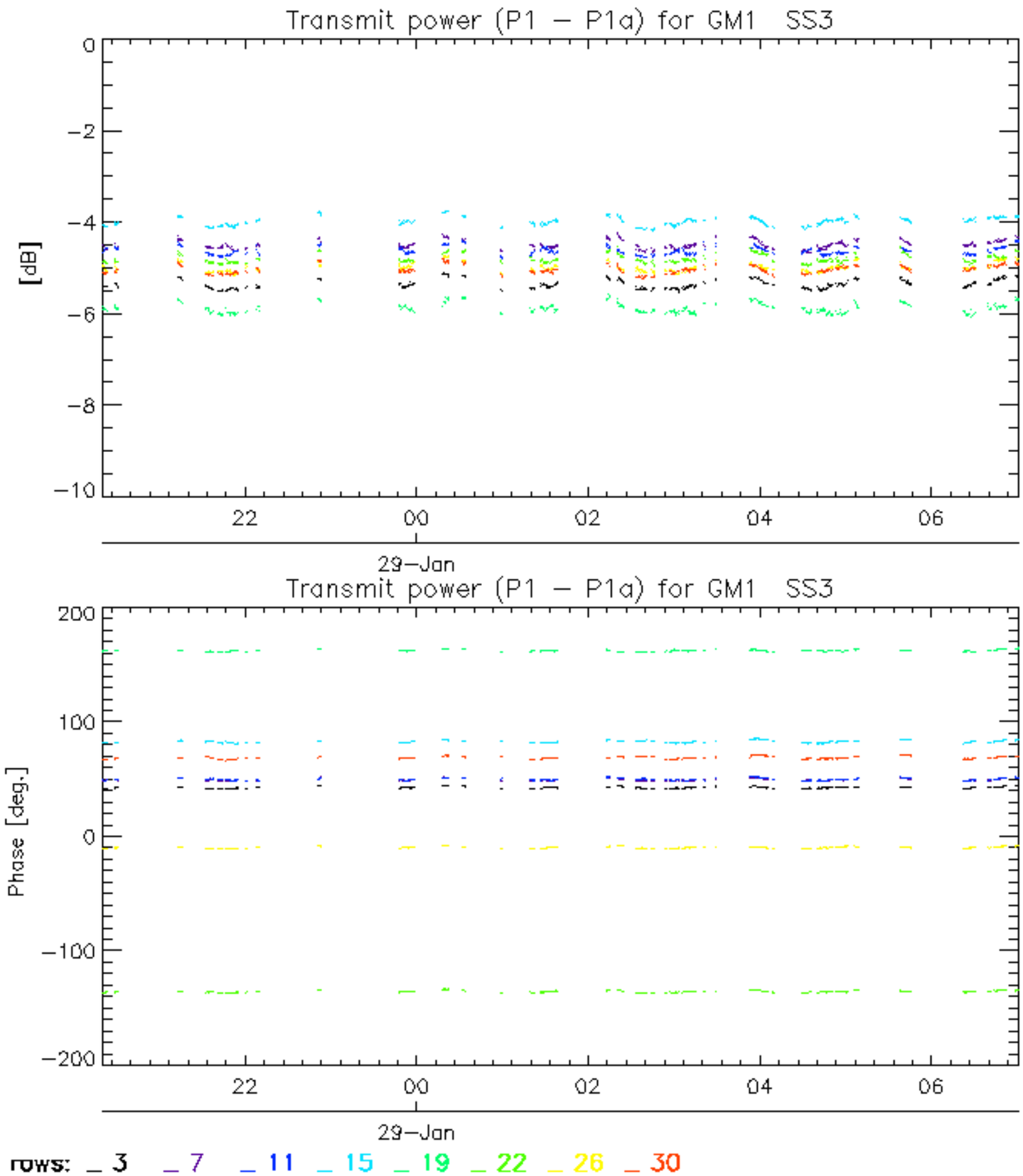
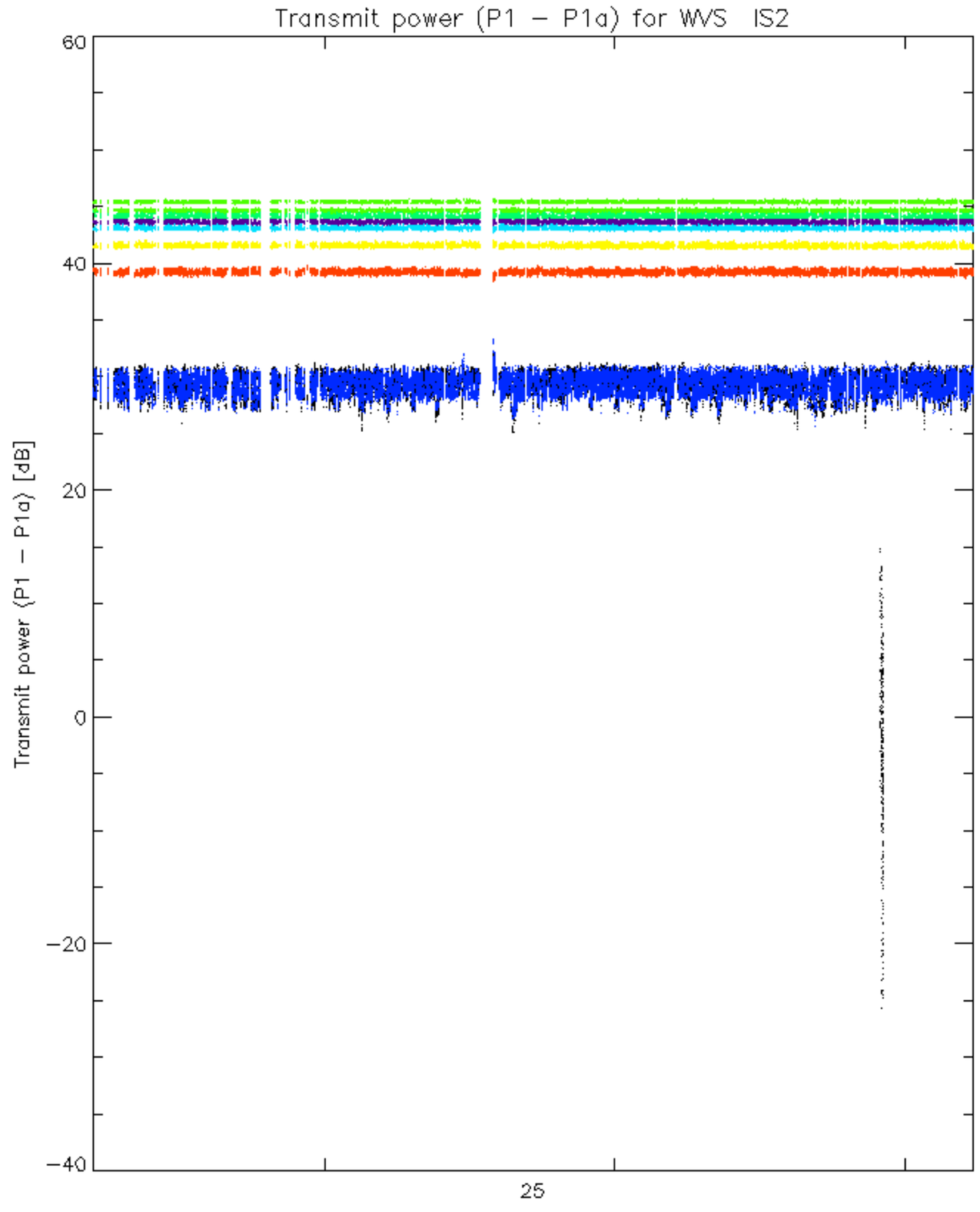
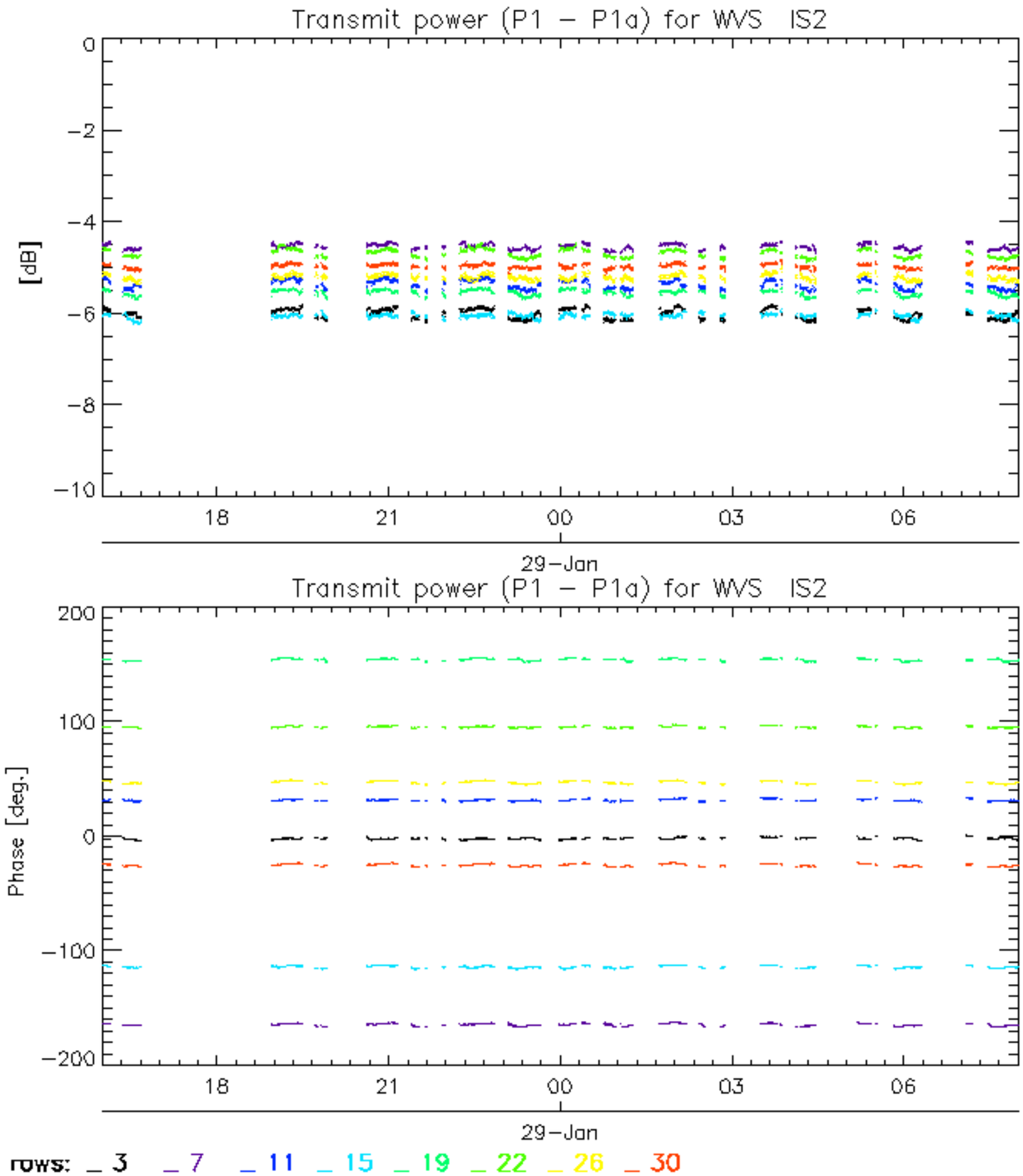

Transmit power (P1 – P1a) for GM1 SS3
Transmit power ⟨P1 – P1a⟩ [dB]
50
40
30
20
10
0
25
rows: 3 7 11 15 19 22 26 30


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


Transmit power (P1 – P1a) for WVS IS2
Transmit power (P1 – P1a) [dB]
60
40
20
0
−20
−40
25
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
0
−2
−4
−6
−8
−10
[dB]
18
21
00
03
06
29–Jan
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
18
21
00
03
06
29–Jan
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.