PRELIMINARY REPORT OF 070211

last update on Sun Feb 11 16:15:20 GMT 2007

Due to an ASAR test acquisition campaign, the daily analysis on WVS products
will be based on IS4 instead of IS2 during the following periods:

From orbit 25621 (23-Jan-2007) to 25720 (30-Jan-2007) in HH polarization
From orbit 26122 (27-Feb-2007) to 26221 (06-Mar-2007) in HH polarization
From orbit 25721 (30-Jan-2007) to 25820 (06-Feb-2007) in VV polarization
From orbit 26222 (06-Mar-2007) to 26321 (13-Mar-2007) in VV polarization

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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 2007-02-10 00:00:00 to 2007-02-11 16:15:20

PDHS-K					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	41	70	12	5	32
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	41	70	12	5	32
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	41	70	12	5	32
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	41	70	12	5	32

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	40	45	48	22	30
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	40	45	48	22	30
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	40	45	48	22	30
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	40	45	48	22	30

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	20070211 023103
H	20070210 210026

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)
3	P1a	-15.302304	0.438810	3.344033
7	P1a	-17.393250	0.109466	-0.501142
11	P1a	-17.337936	0.373065	-0.134033
15	P1a	-12.828382	0.121465	-0.388089
19	P1a	-15.088813	0.094445	-0.187635
22	P1a	-15.513923	0.450979	-0.669165
26	P1a	-14.973191	0.264177	-0.027289
30	P1a	-17.273756	0.375621	-0.611837

P1\t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.453865	0.390060	-3.621850
7	P1	-3.105250	0.009531	-0.133547
11	P1	-4.131643	0.021021	-0.191947
15	P1	-6.317259	0.017332	-0.100360
19	P1	-3.709040	0.008885	-0.027767
22	P1	-4.676463	0.014110	-0.036473
26	P1	-3.927615	0.014349	0.011527
30	P1	-5.921419	0.011602	-0.095602

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.362282	0.552293	-4.005315
7	P2	-21.626497	0.086660	0.020879
11	P2	-15.493151	0.104163	0.025384
15	P2	-7.021631	0.100813	-0.145105
19	P2	-9.090735	0.089292	-0.139019
22	P2	-18.105433	0.085137	-0.166852

26	P2	-16.517273	0.099205	-0.226339
30	P2	-19.342699	0.080136	-0.100228

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.207998	0.007203	-0.043774
7	P3	-8.207998	0.007203	-0.043774
11	P3	-8.207998	0.007203	-0.043774
15	P3	-8.207998	0.007203	-0.043774
19	P3	-8.207998	0.007203	-0.043774
22	P3	-8.207998	0.007203	-0.043774
26	P3	-8.207998	0.007203	-0.043774
30	P3	-8.207998	0.007203	-0.043774

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1

P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1a	-11.448597	0.151718	1.787645
7	P1a	-10.030740	0.054528	-0.109170
11	P1a	-10.553257	0.062535	-0.420126
15	P1a	-10.843263	0.132553	-0.142191
19	P1a	-15.741944	0.063344	0.038535
22	P1a	-20.914139	1.311728	0.500257
26	P1a	-15.468267	0.255114	0.250359
30	P1a	-18.322035	0.368028	-0.059721

P1\t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-6.009590	4.143884	-11.244063
7	P1	-2.440882	0.005954	-0.003240

11	P1	-2.872920	0.017254	-0.163024
15	P1	-3.787083	0.033470	-0.126929
19	P1	-3.549733	0.013252	-0.012711
22	P1	-5.024495	0.023859	-0.012192
26	P1	-5.996365	0.022360	0.027452
30	P1	-5.290720	0.022875	-0.004481

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.054037	0.839344	-4.818743
7	P2	-22.023636	0.047988	0.091951
11	P2	-10.687224	0.029683	0.079752
15	P2	-4.839215	0.025747	0.026698
19	P2	-6.837174	0.026309	0.045234
22	P2	-8.146465	0.028751	0.038685
26	P2	-24.255356	0.030821	0.002074
30	P2	-21.796833	0.033708	0.029946

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.053897	0.002494	0.017992
7	P3	-8.053900	0.002504	0.016338
11	P3	-8.053877	0.002494	0.017607
15	P3	-8.053917	0.002487	0.017361
19	P3	-8.053865	0.002493	0.017179
22	P3	-8.053935	0.002491	0.017665
26	P3	-8.053803	0.002489	0.017847
30	P3	-8.053865	0.002498	0.017506

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	0.000664326
	stdev	2.69177e-07
MEAN Q	mean	0.000314469
	stdev	2.50665e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.0816446
	stdev	0.00221808
STDEV Q	mean	0.0814224
	stdev	0.00226163

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2007021[901]
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_1PNPDK20070211_095259_000000852055_00280_25885_2209.N1	0	52

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

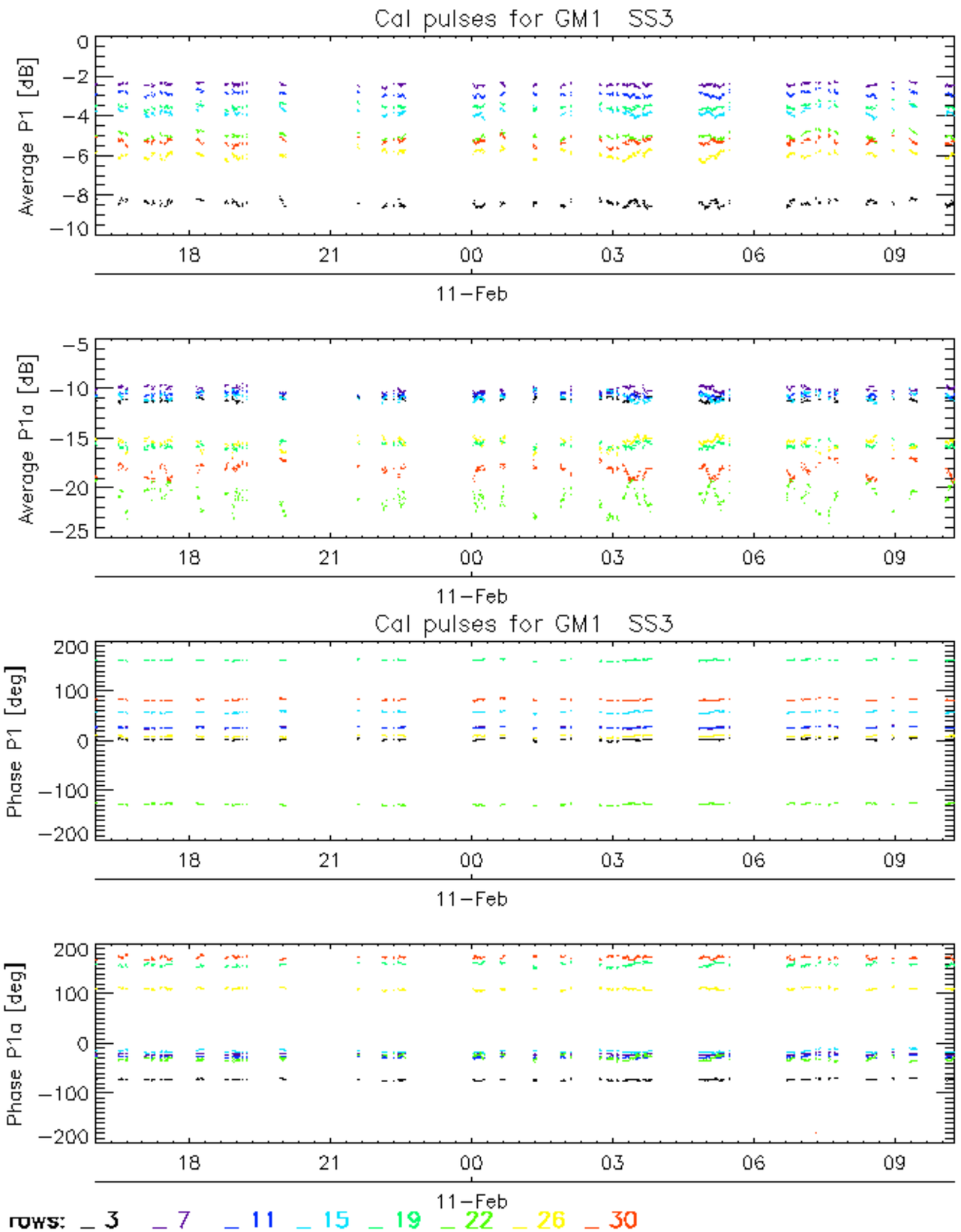
Evolution of unbiased Doppler error (Real - Expected)
Acsending
Descending

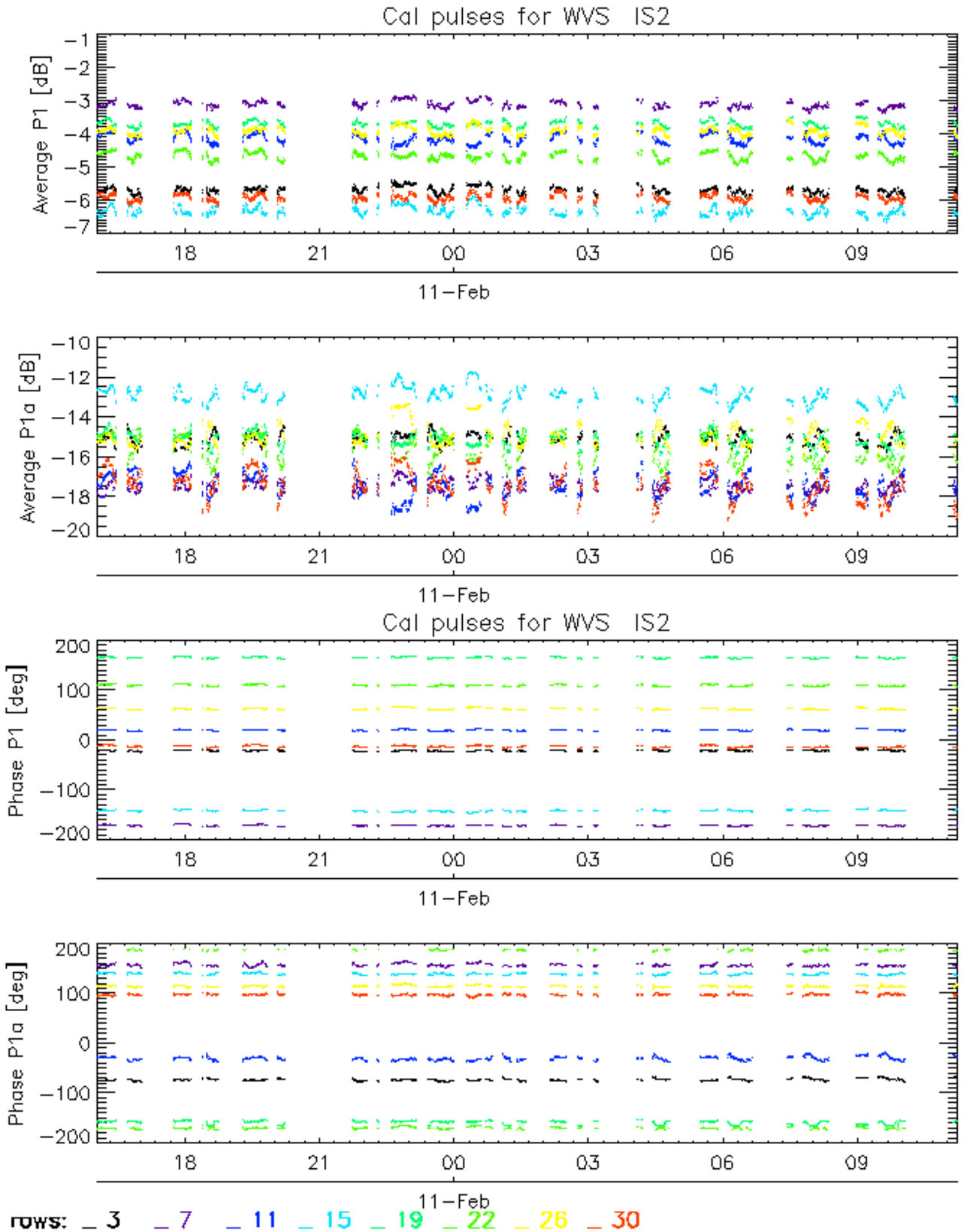
7.5 - Absolute Doppler for GM1

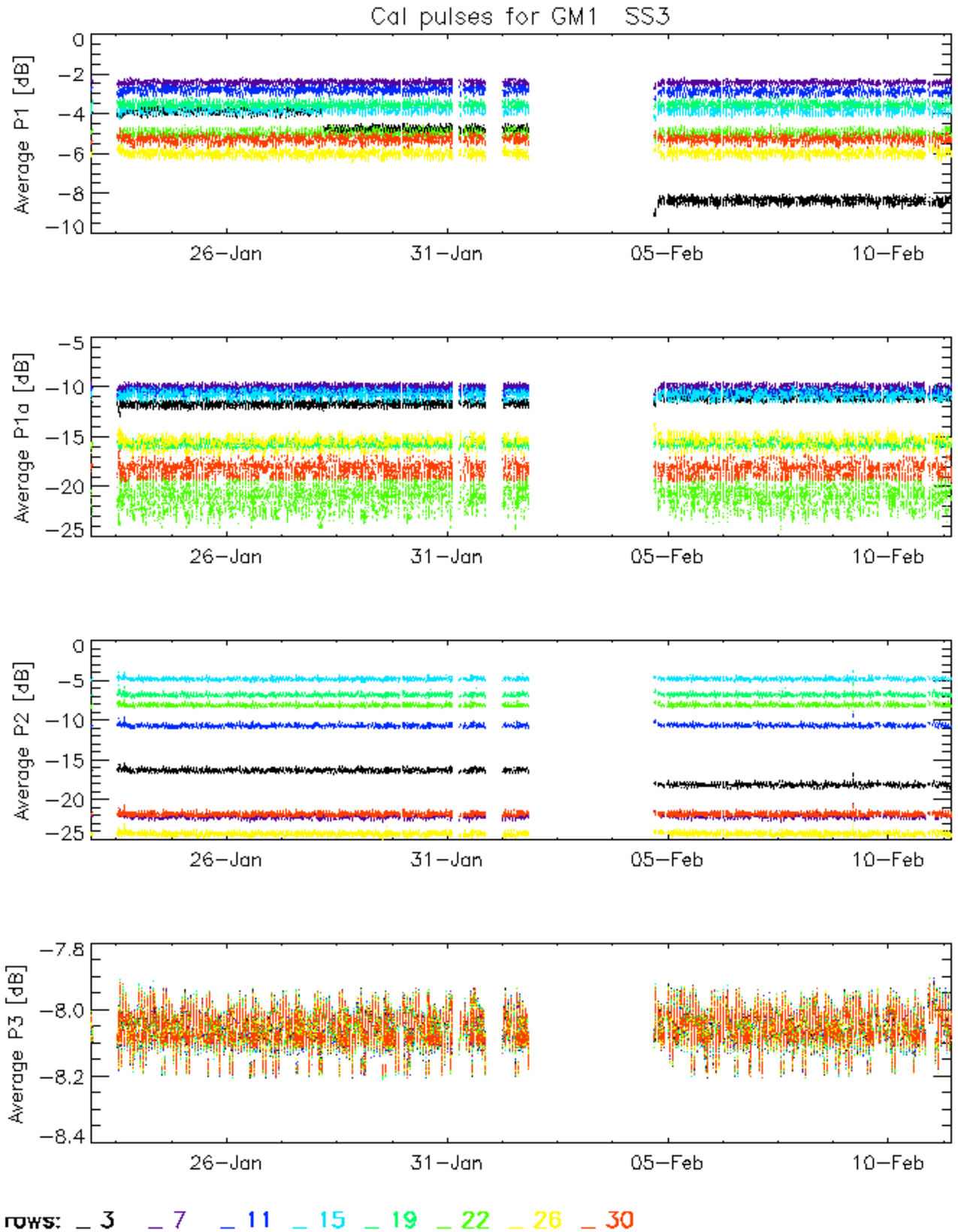
Evolution of Absolute Doppler
Acsending
Descending

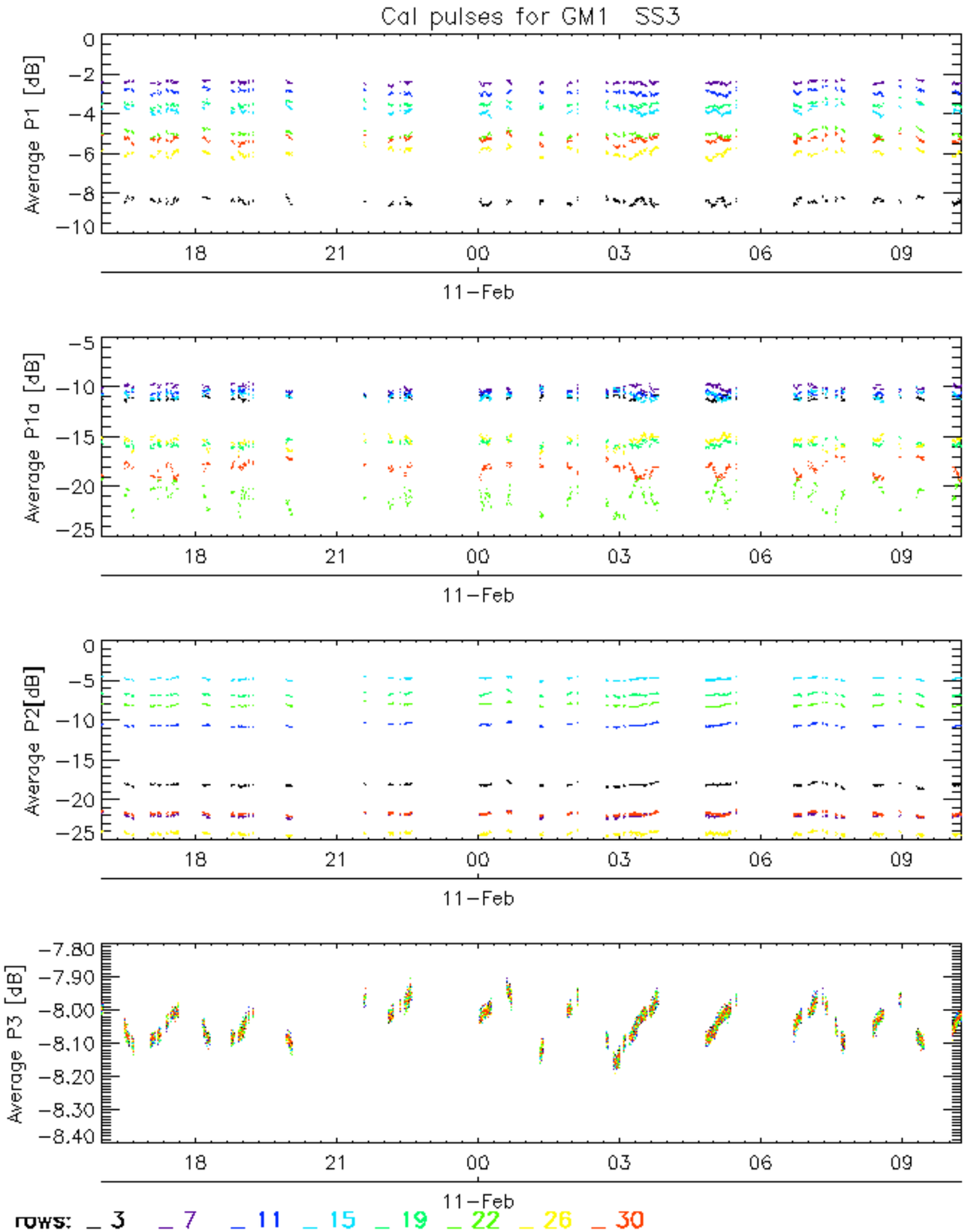
7.6 - Doppler evolution versus ANX for GM1

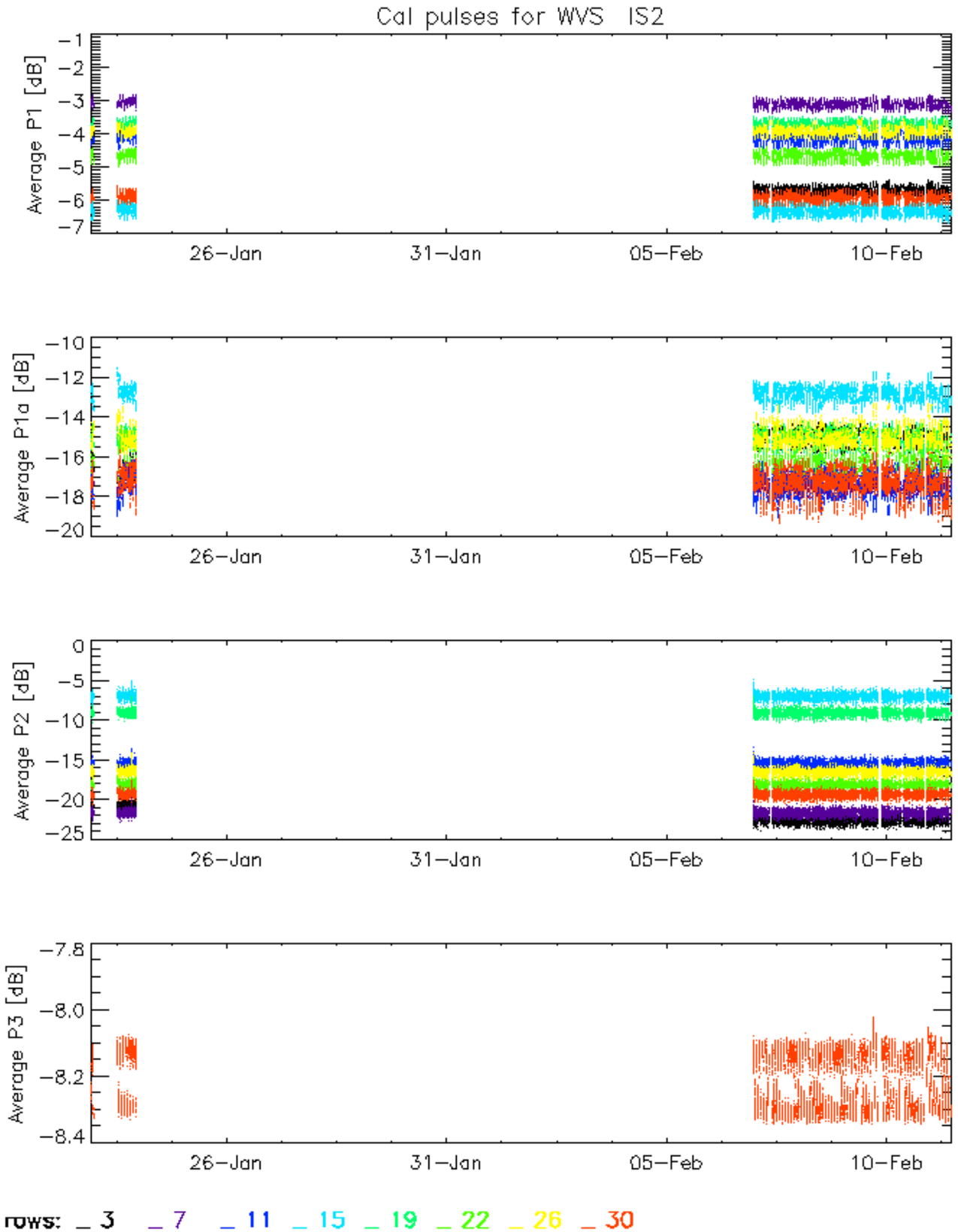
Evolution Doppler error versus ANX

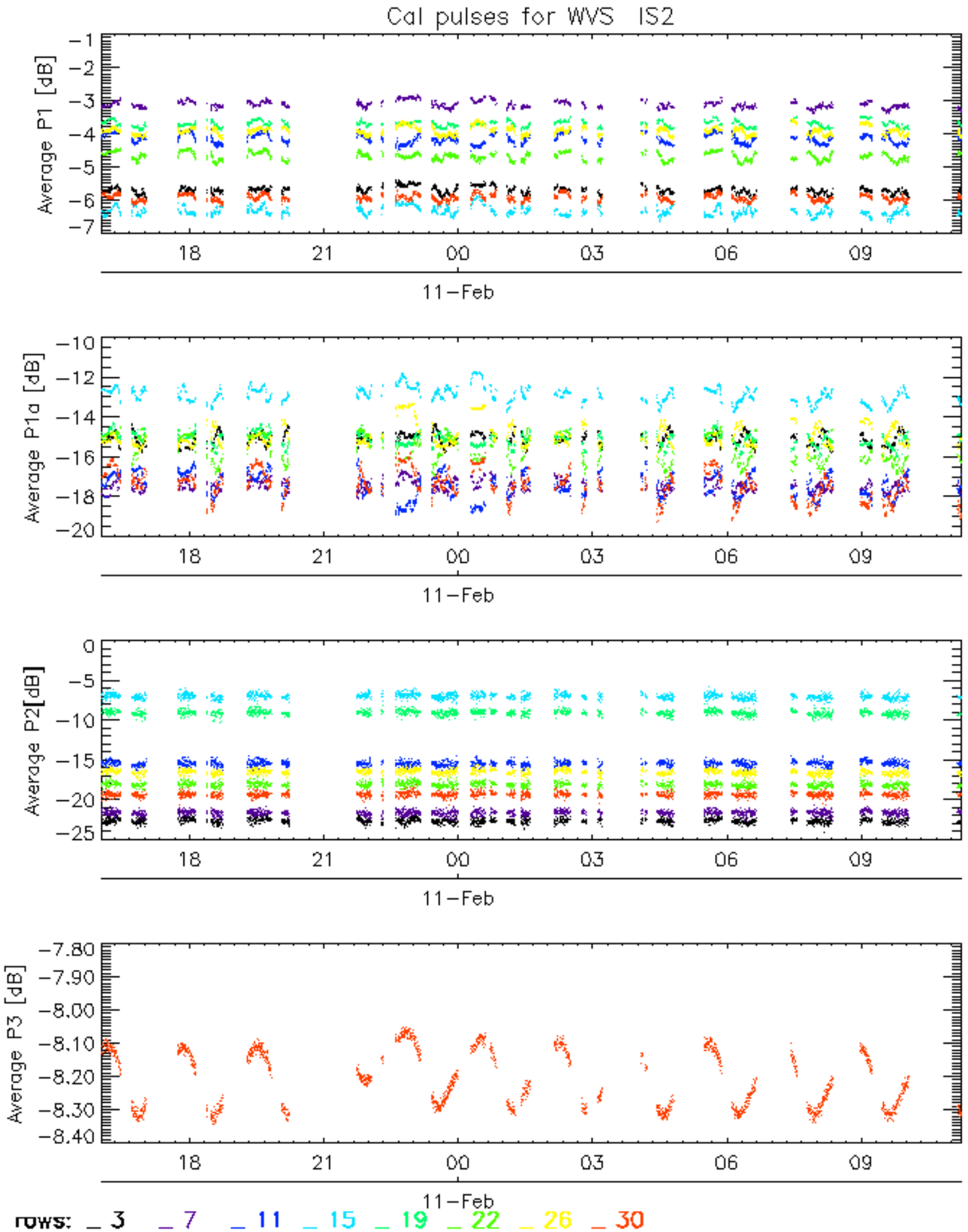

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
−10
18
21
00
03
06
09
11−Feb
Average P1a [dB]
−5
−10
−15
−20
−25
18
21
00
03
06
09
11−Feb
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
18
21
00
03
06
09
11−Feb
Phase P1a [deg]
200
100
0
−100
−200
18
21
00
03
06
09
11−Feb
rows: _ 3 _ 7 _ 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
09
11−Feb
Average P1a [dB]
−10
−12
−14
−16
−18
−20
18
21
00
03
06
09
11−Feb
Cal pulses for WVS IS2
Phase P1 [deg]
200
100
0
−100
−200
18
21
00
03
06
09
11−Feb
Phase P1a [deg]
200
100
0
−100
−200
18
21
00
03
06
09
11−Feb
rows: 3 7 11 15 19 22 26 30

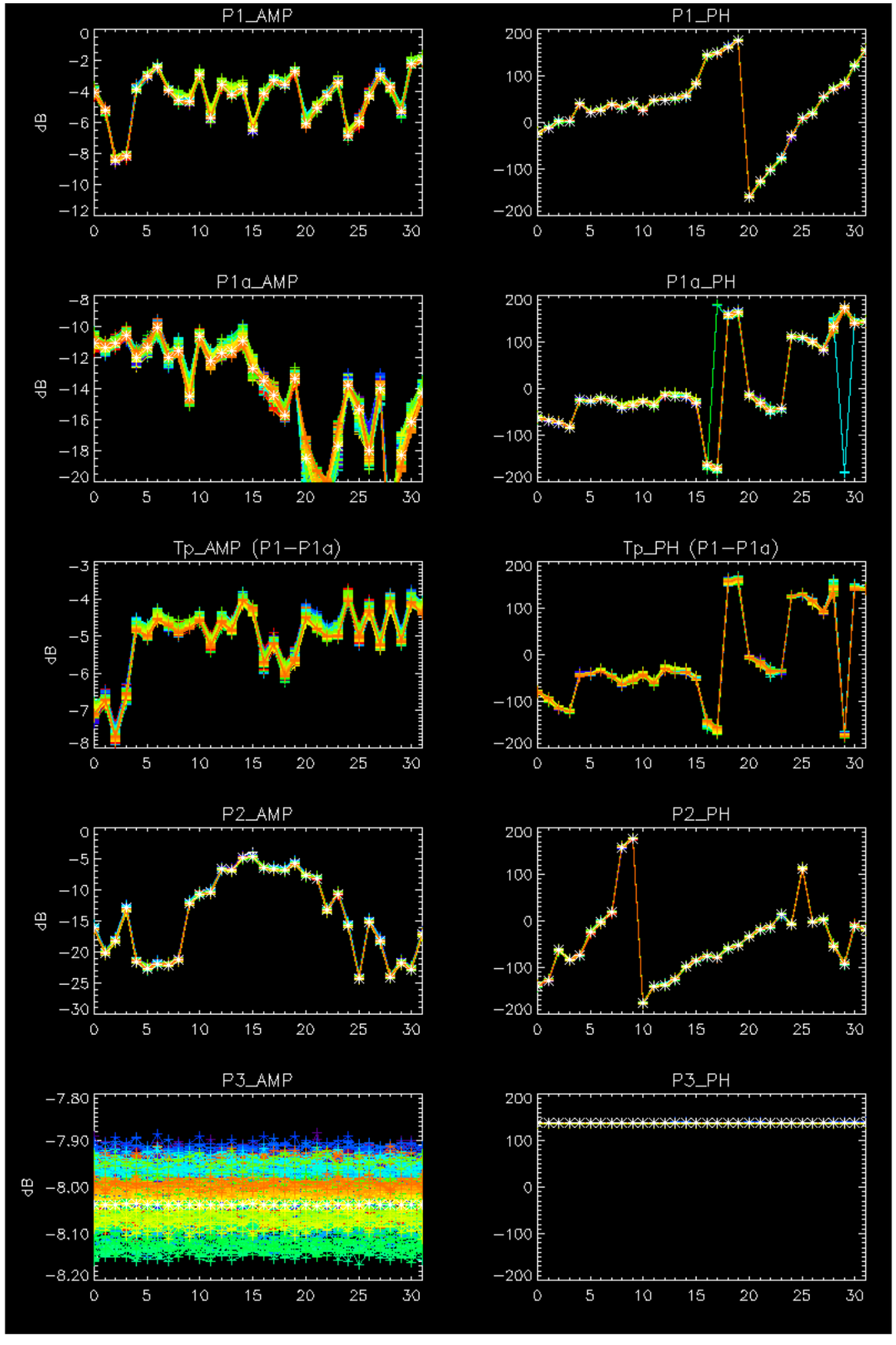

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
−10
26−Jan
31−Jan
05−Feb
10−Feb
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

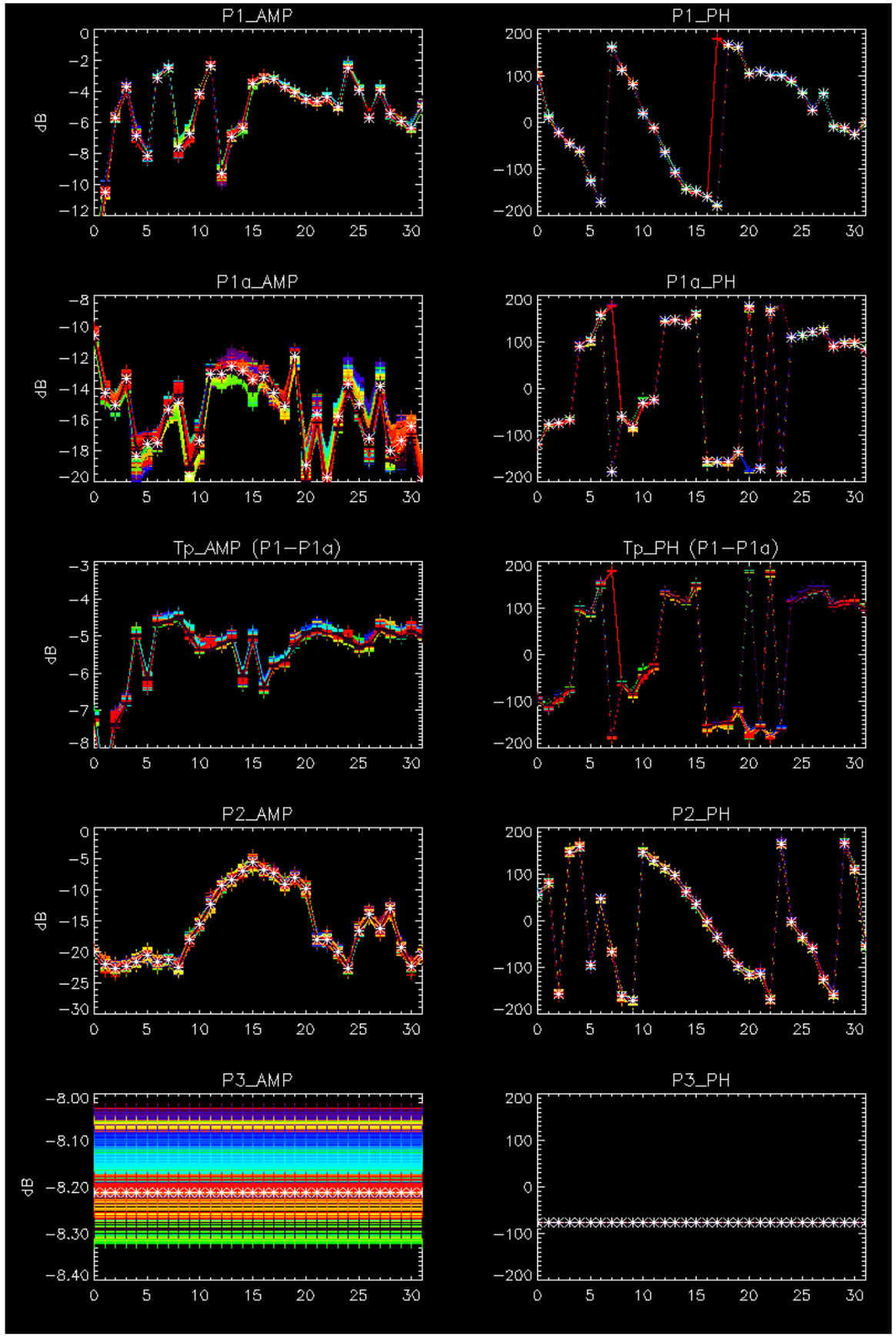

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
−10
18
21
00
03
06
09
11−Feb
Average P1a [dB]
−5
−10
−15
−20
−25
18
21
00
03
06
09
11−Feb
Average P2[dB]
0
−5
−10
−15
−20
−25
18
21
00
03
06
09
11−Feb
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
18
21
00
03
06
09
11−Feb
rows: _ 3 _ 7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


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
26−Jan
31−Jan
05−Feb
10−Feb
Average P1a [dB]
−10
−12
−14
−16
−18
−20
26−Jan
31−Jan
05−Feb
10−Feb
Average P2 [dB]
0
−5
−10
−15
−20
−25
26−Jan
31−Jan
05−Feb
10−Feb
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
26−Jan
31−Jan
05−Feb
10−Feb
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
09
11−Feb
Average P1a [dB]
−10
−12
−14
−16
−18
−20
18
21
00
03
06
09
11−Feb
Average P2[dB]
0
−5
−10
−15
−20
−25
18
21
00
03
06
09
11−Feb
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
18
21
00
03
06
09
11−Feb
rows: 3 7 11 15 19 22 26 30

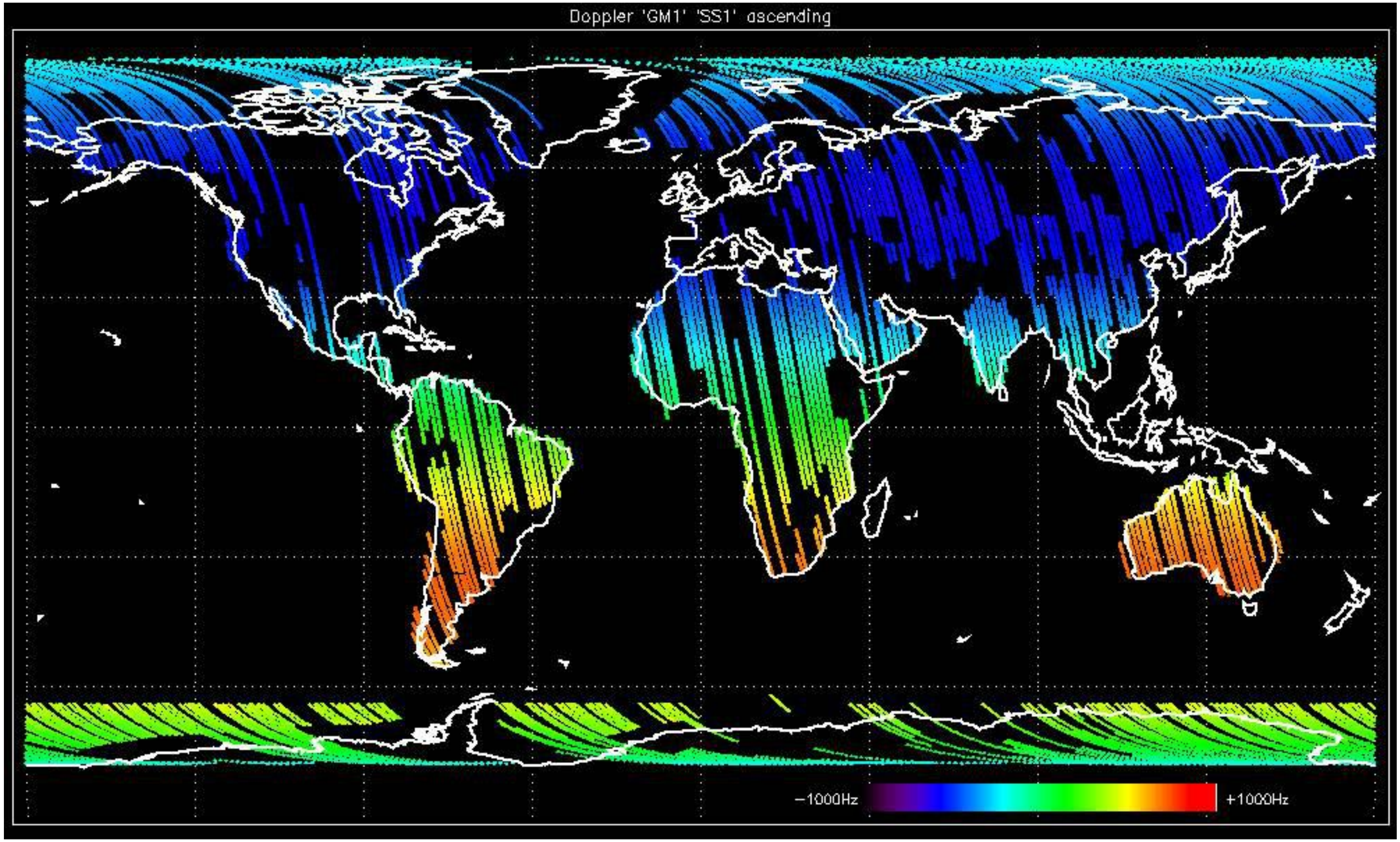
No anomalies observed.

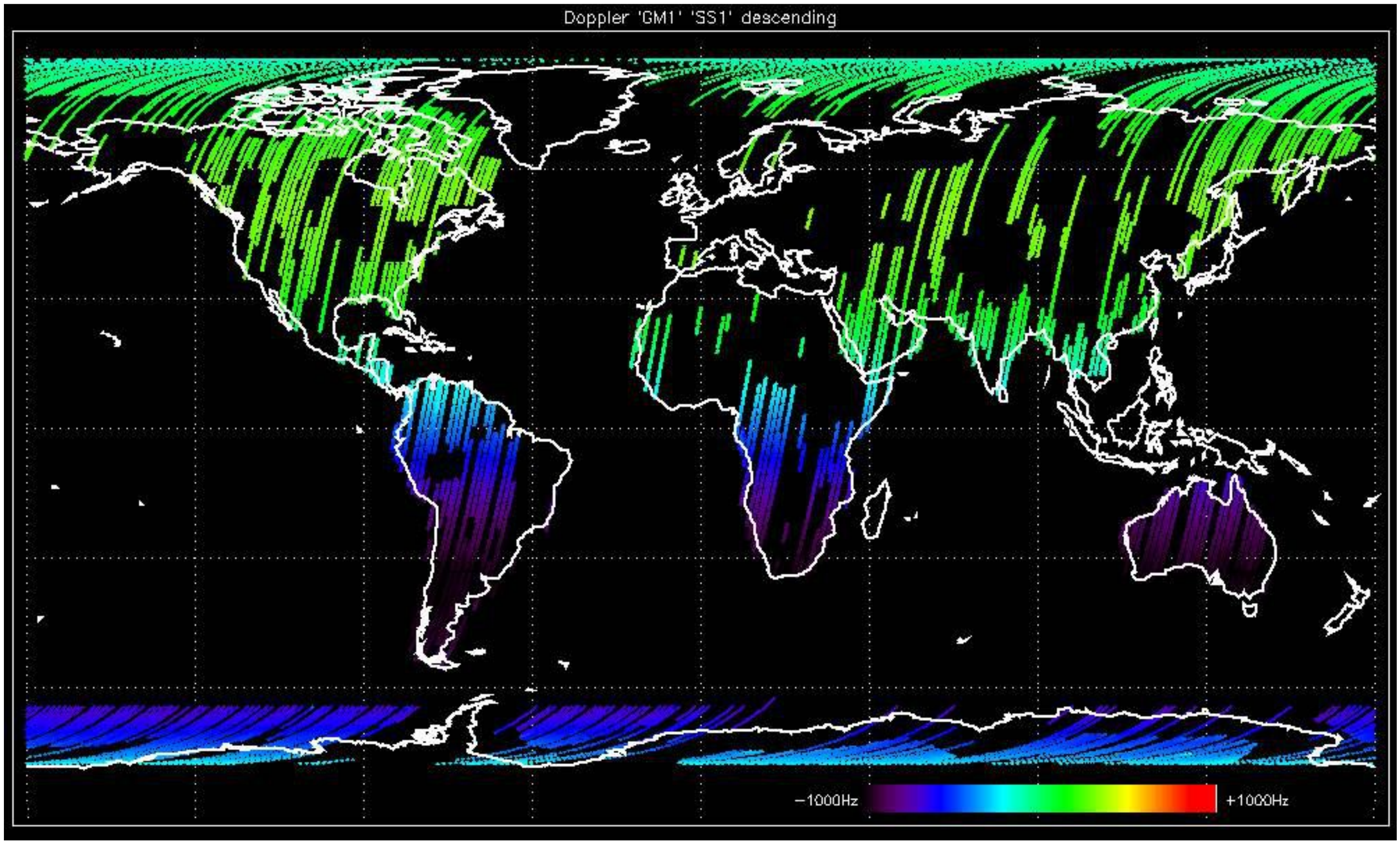

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

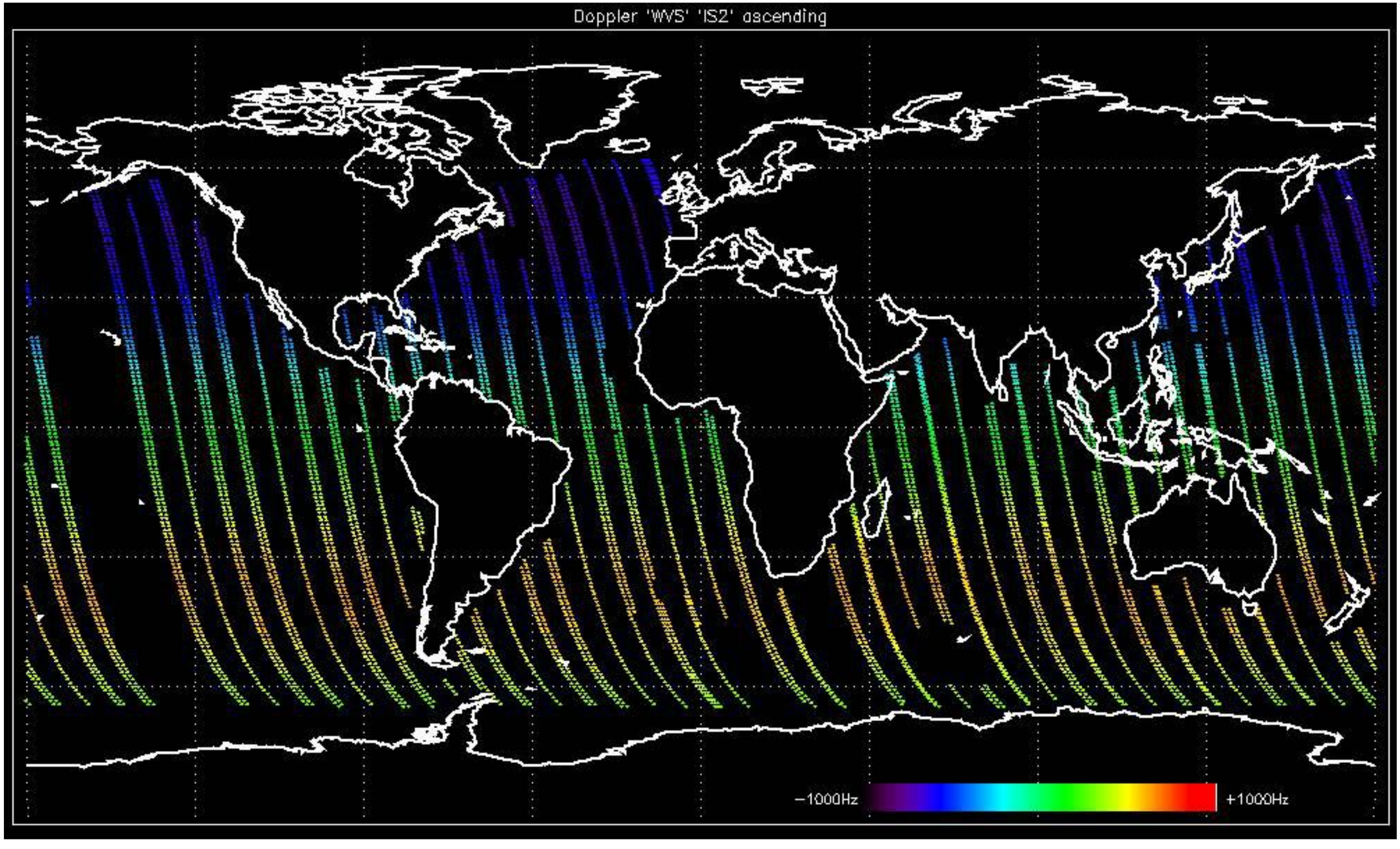

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

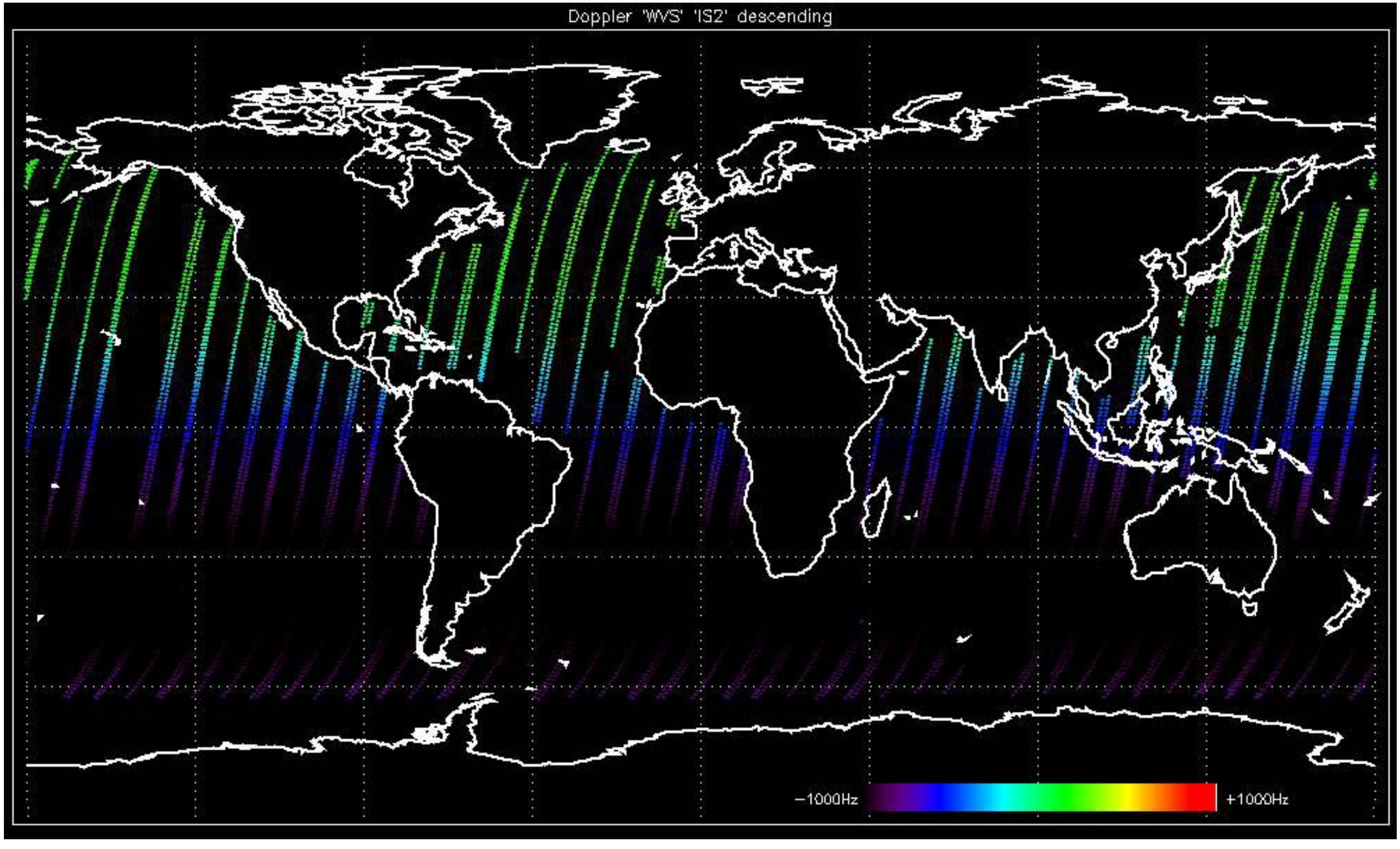
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

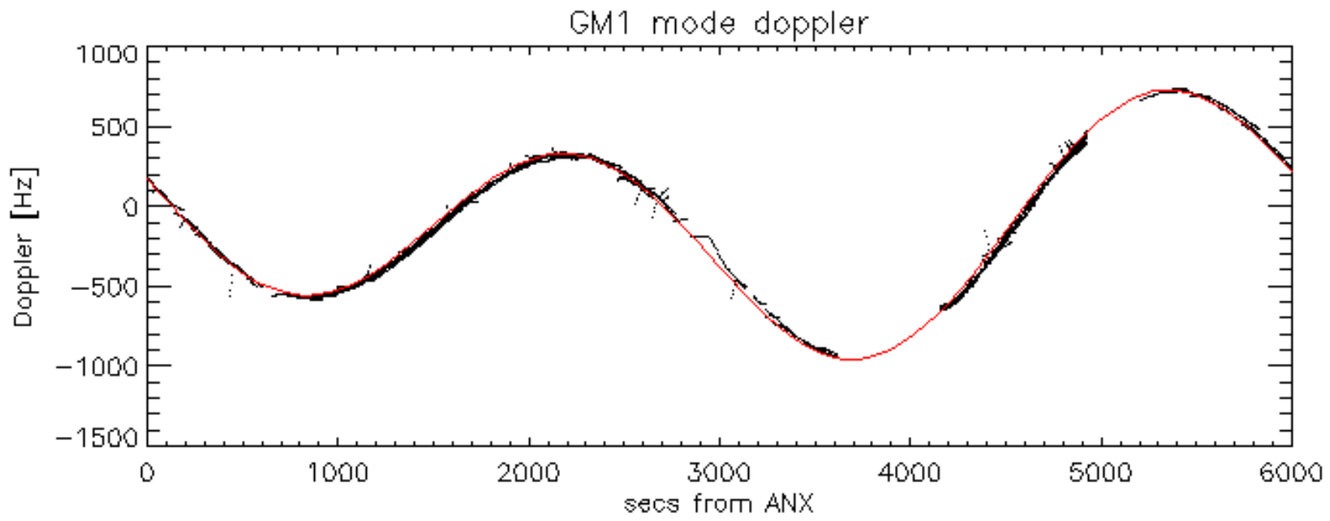
Preliminary report.The data is not yet controled

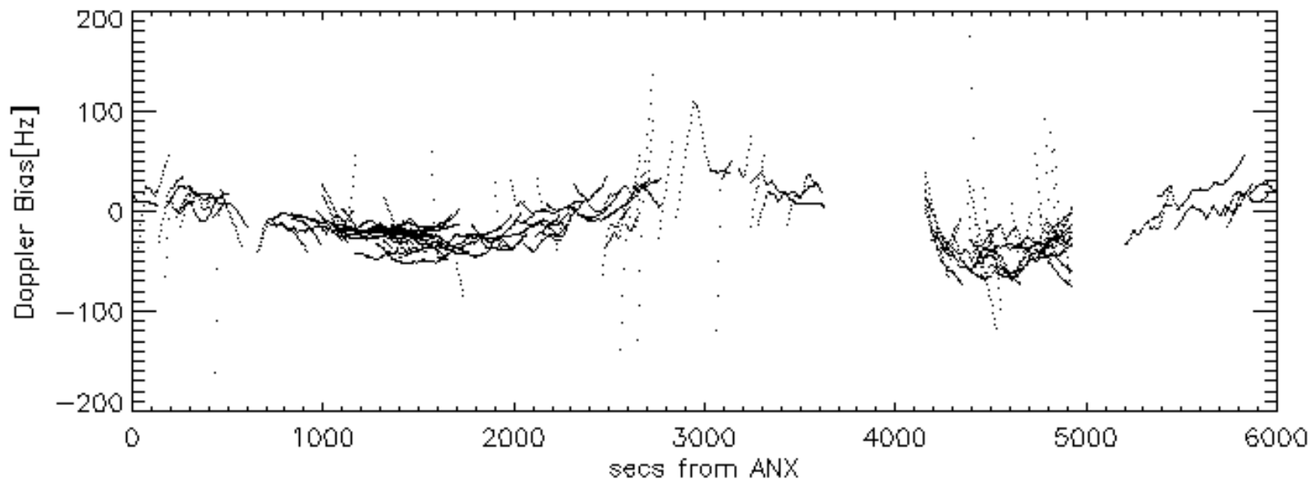

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

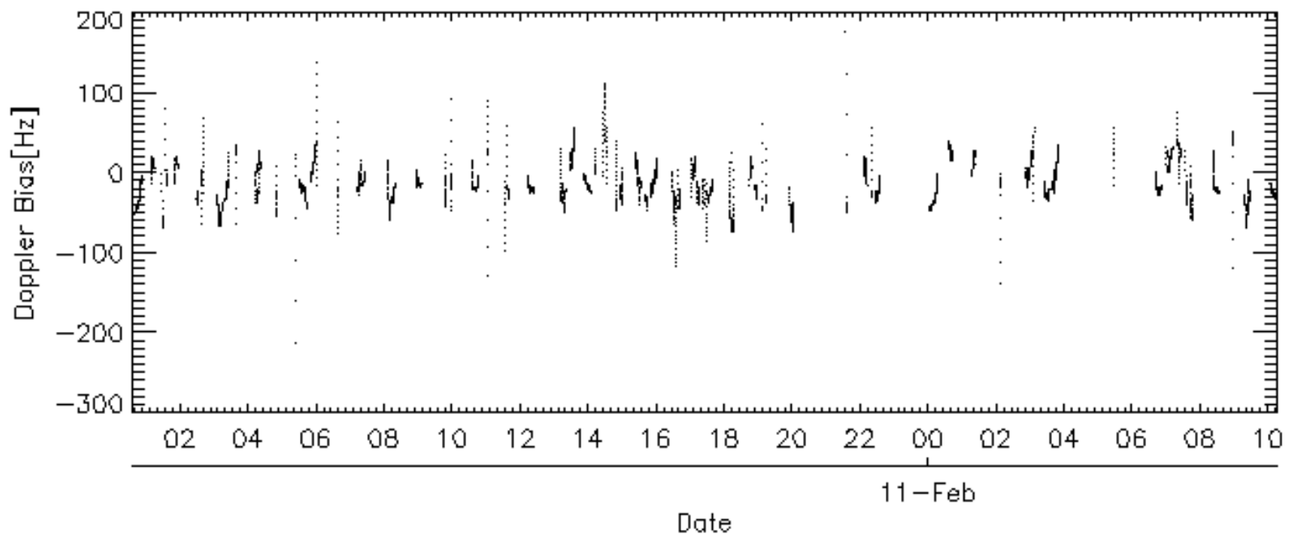

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

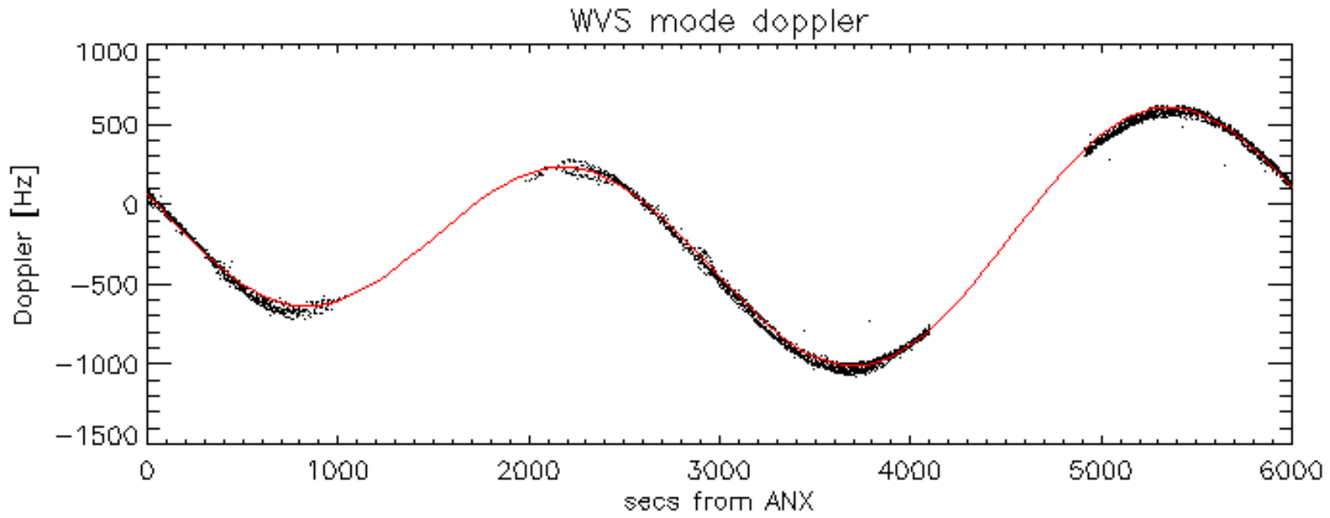

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

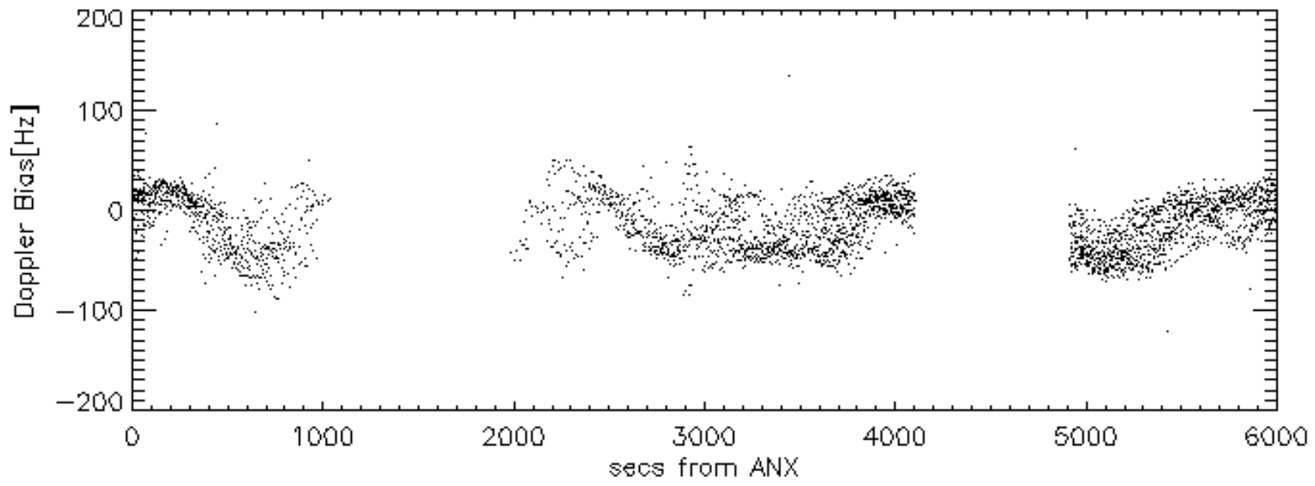

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

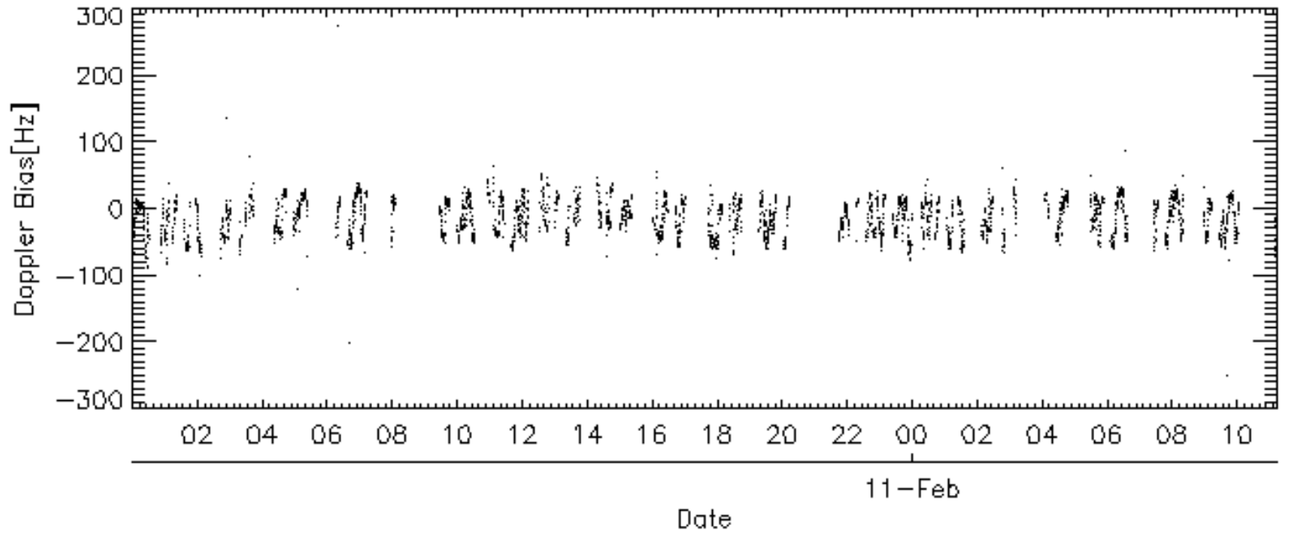

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

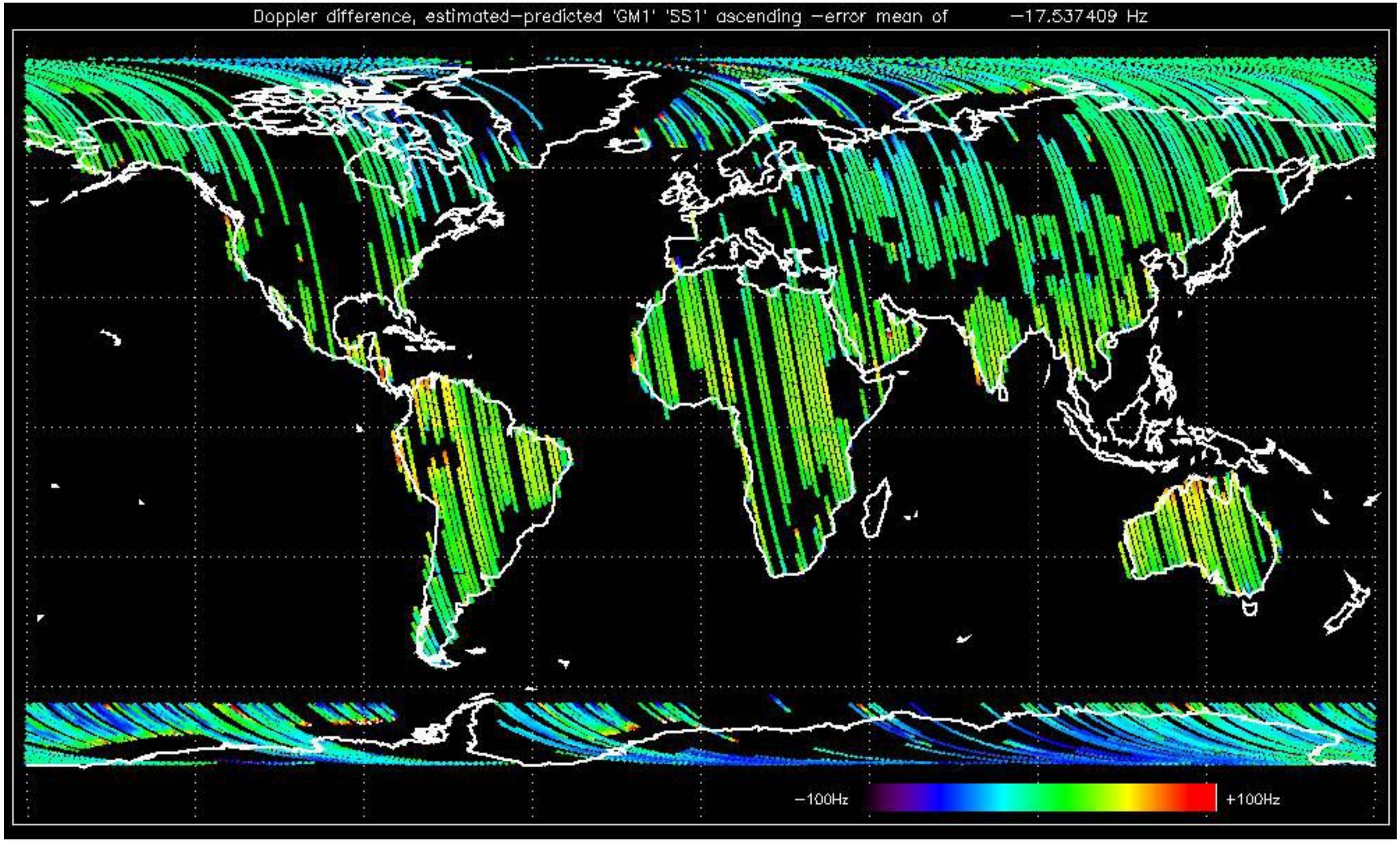

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

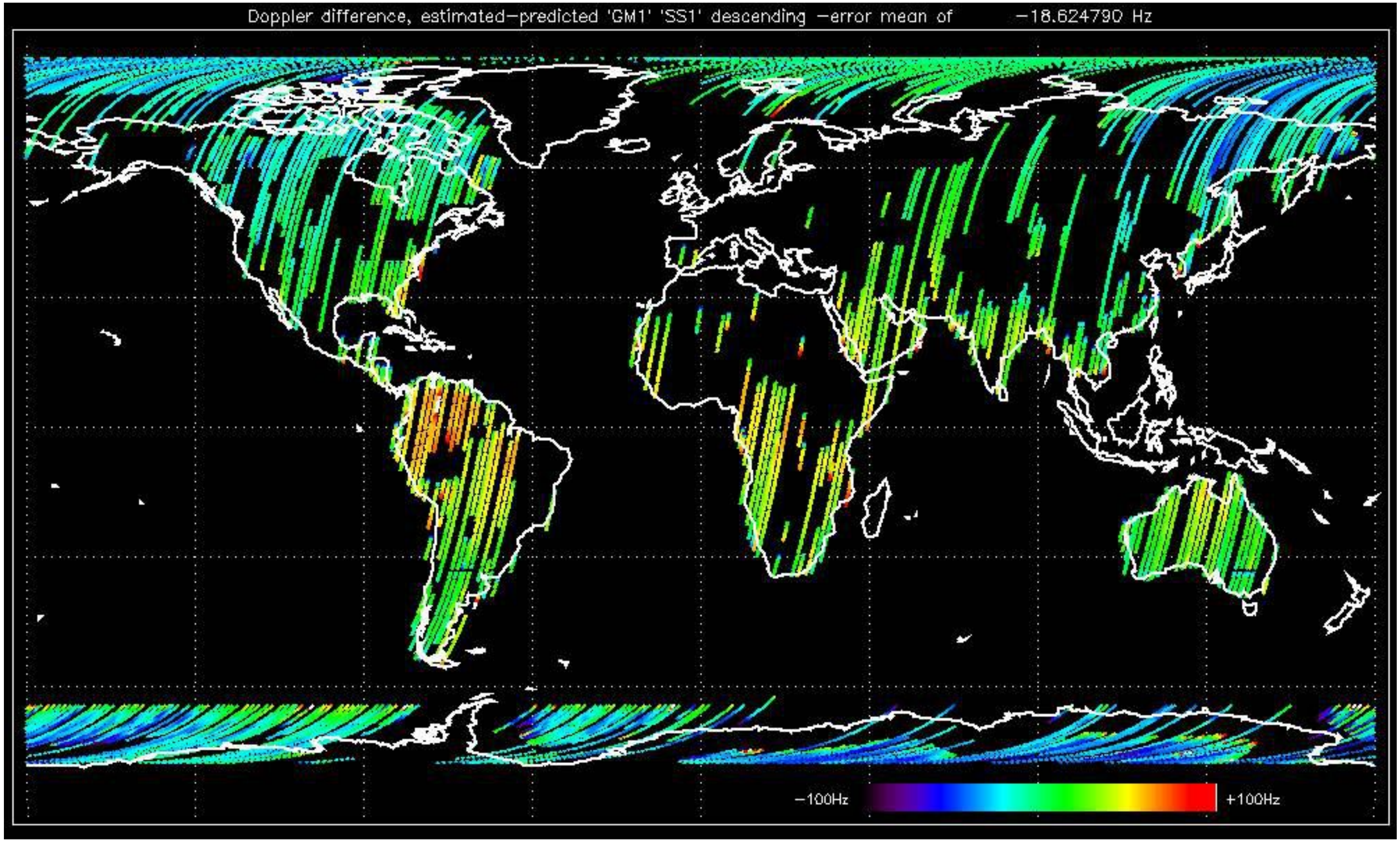

Doppler Bias[Hz]
200
100
0
−100
−200
−300
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
08
10
11−Feb
Date

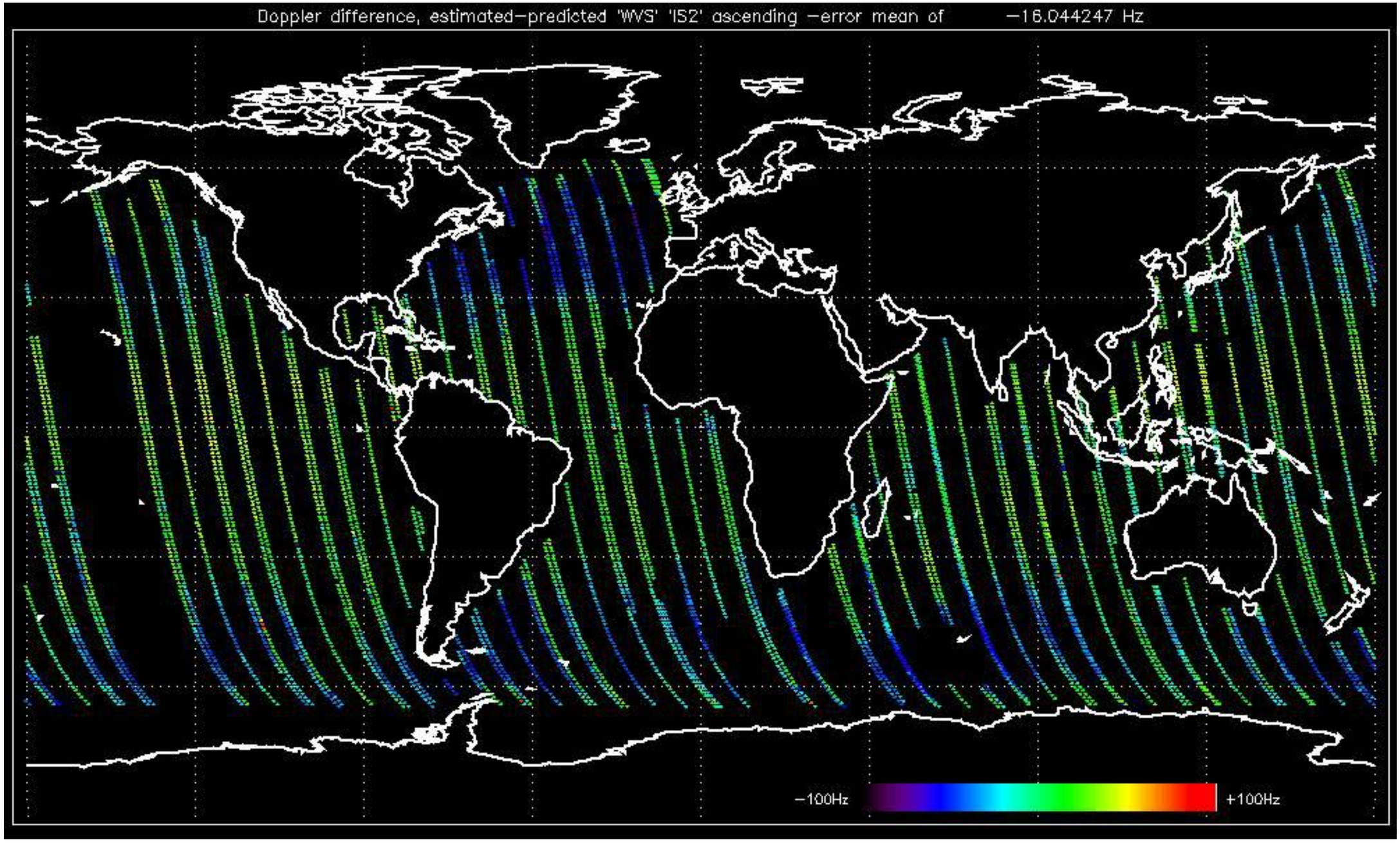

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

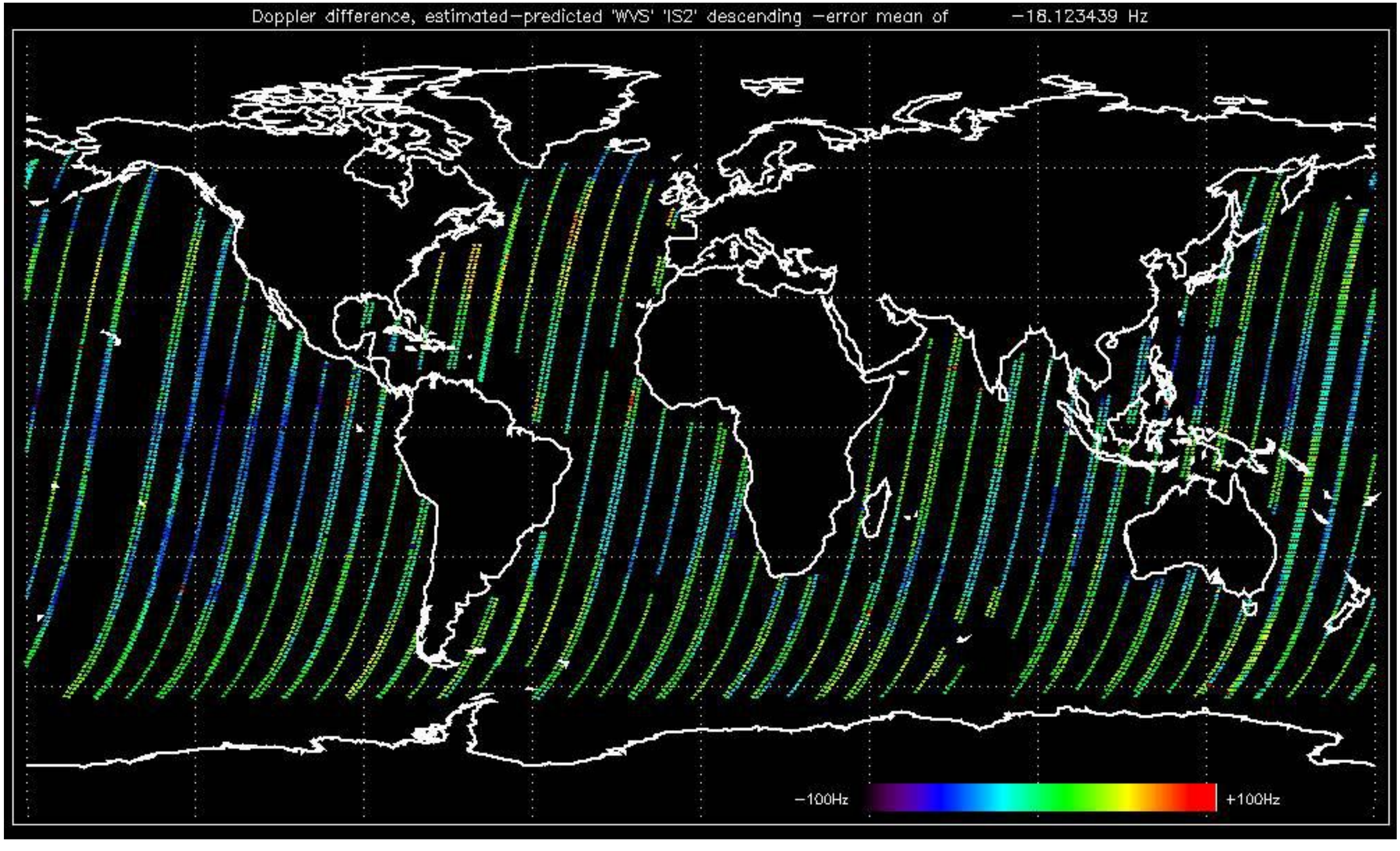

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −17.537409 Hz
−100Hz
+100Hz

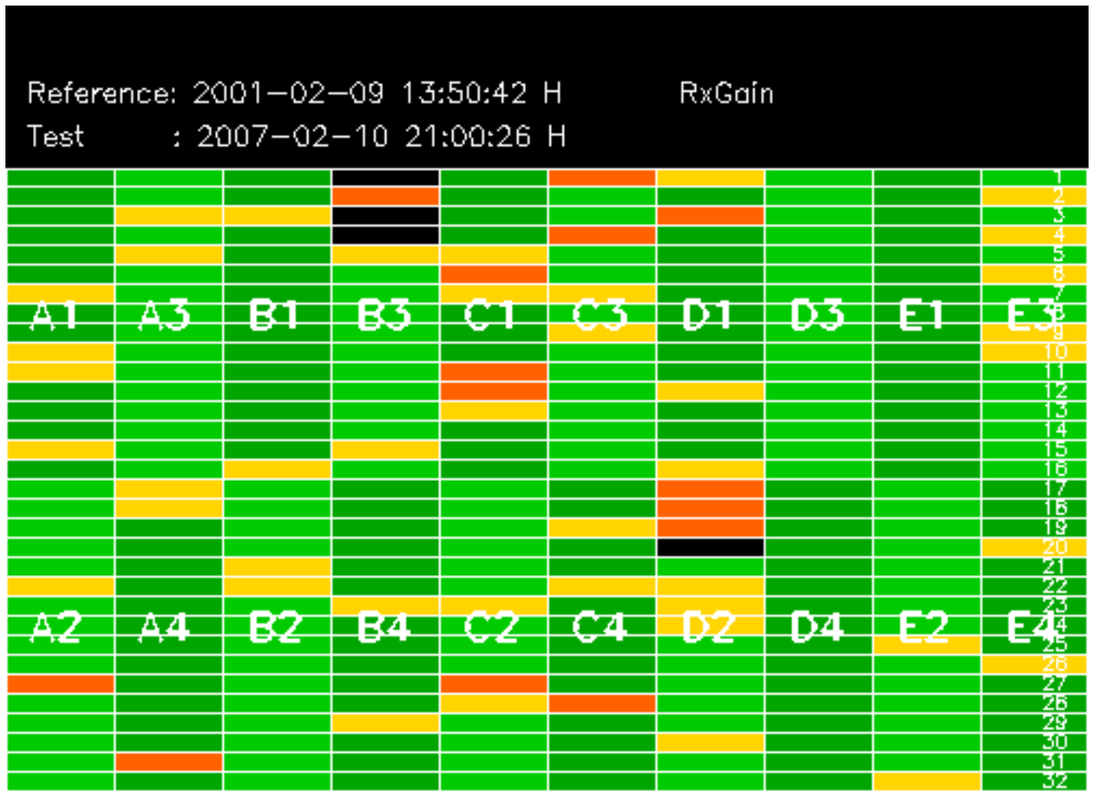

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −18.624790 Hz
−100Hz
+100Hz

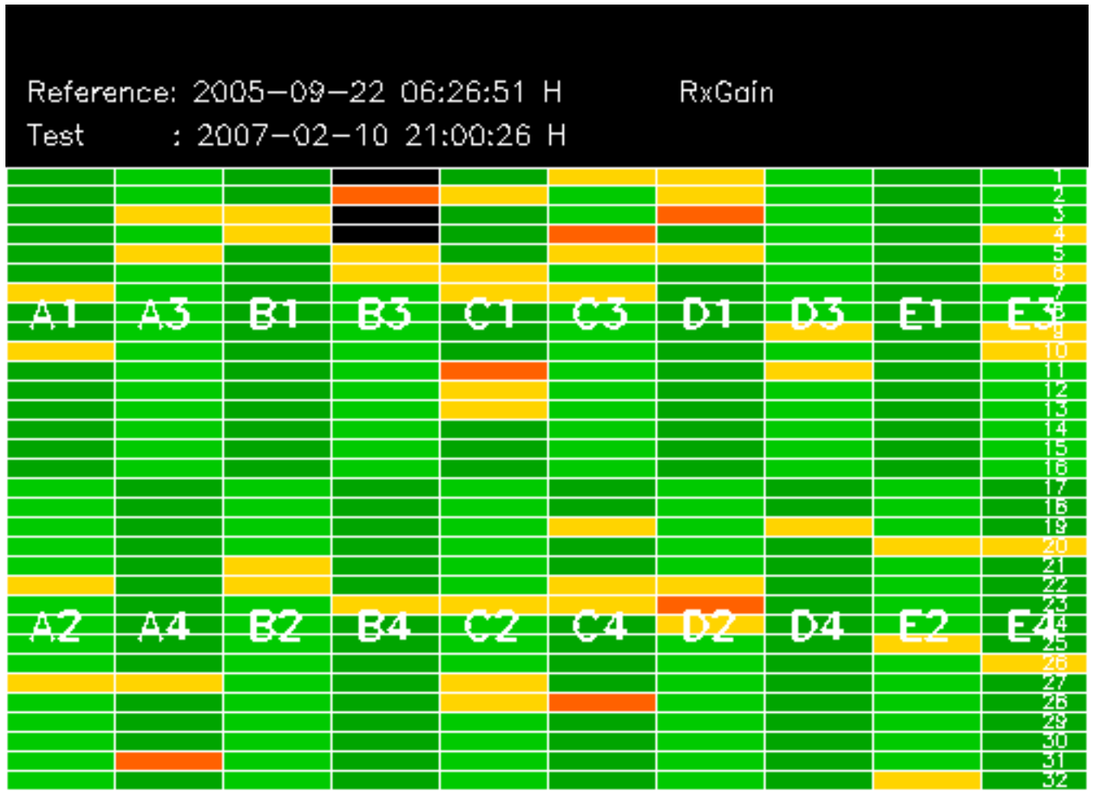

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −16.044247 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −18.123439 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2007-02-10 21:00:26 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
RxGain
Test : 2007-02-10 21:00:26 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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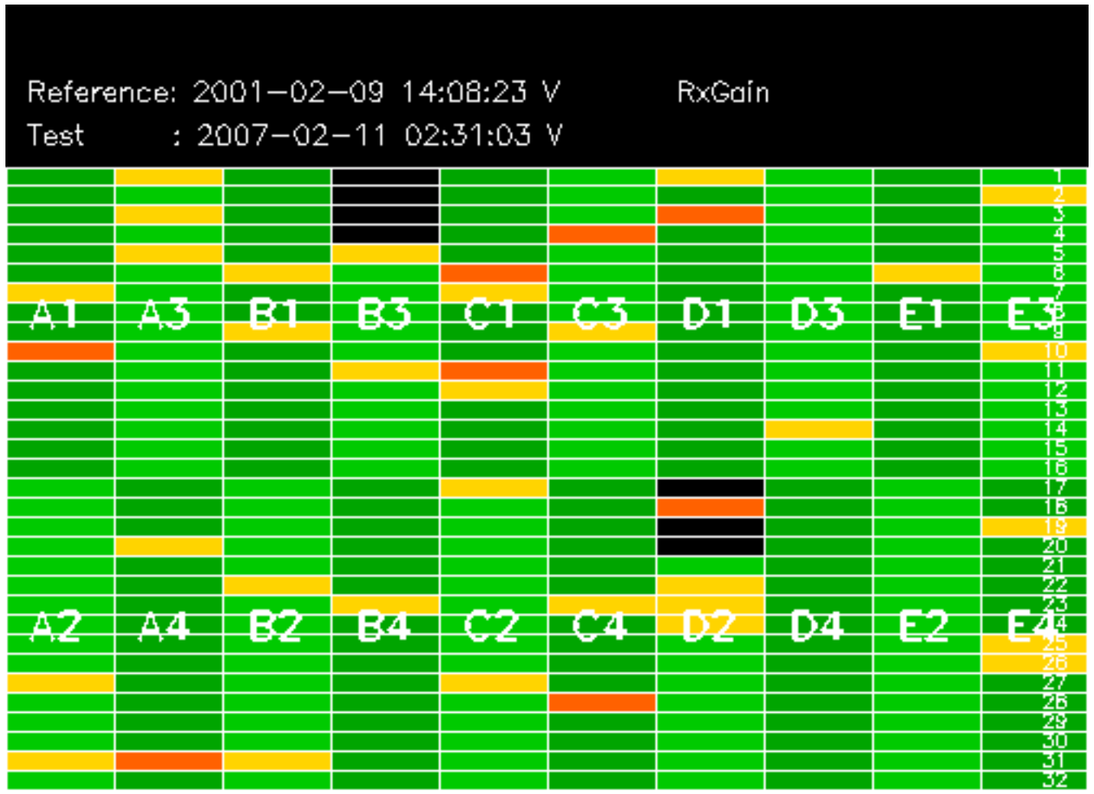
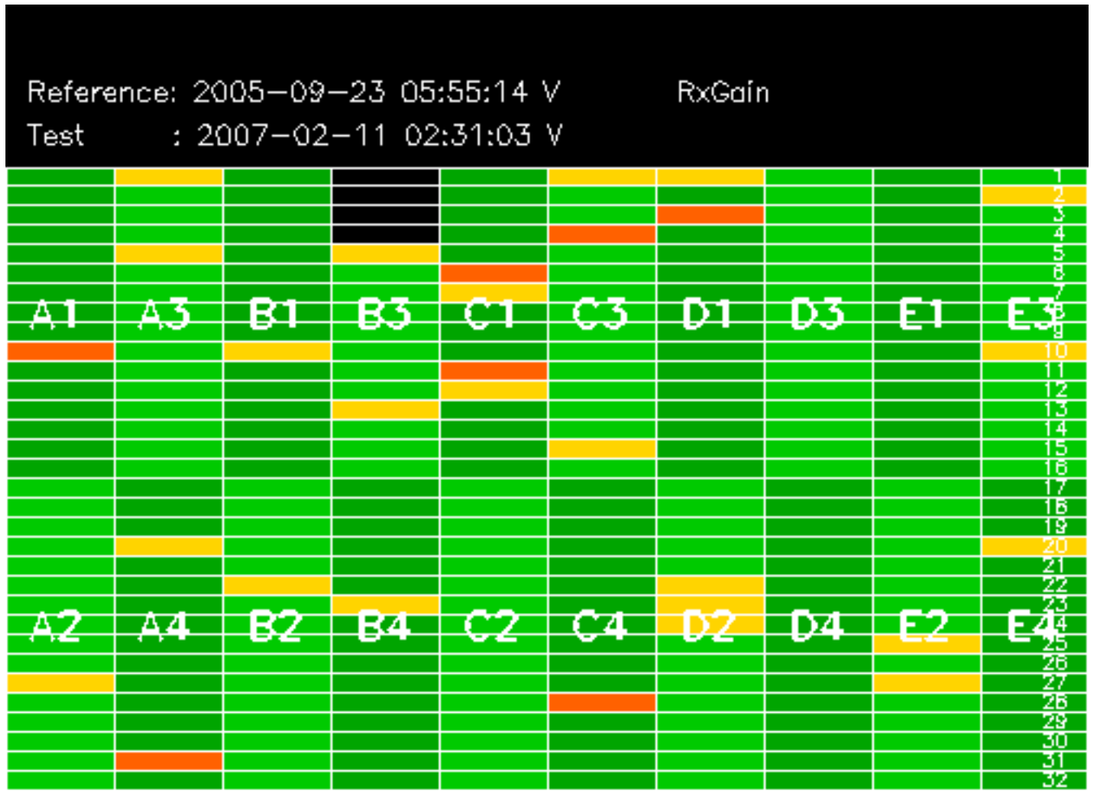

Reference: 2001-02-09 14:08:23 V
Test : 2007-02-11 02:31:03 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-23 05:55:14 V
Test : 2007-02-11 02:31:03 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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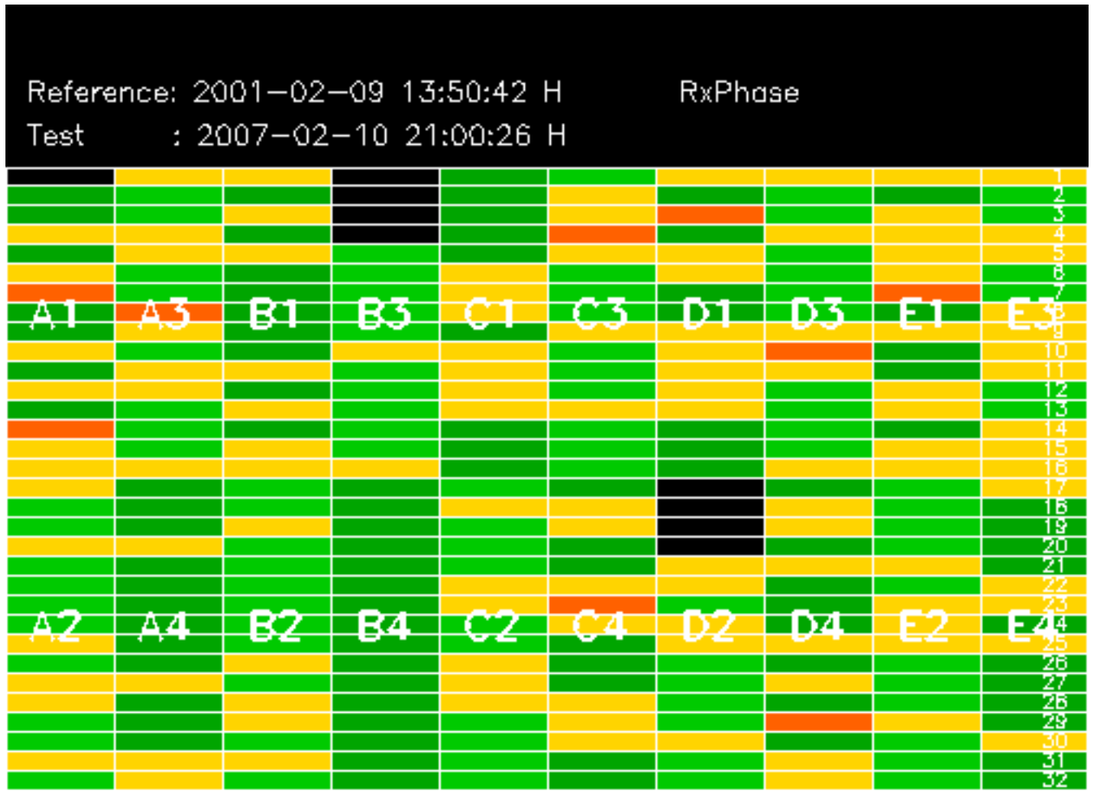
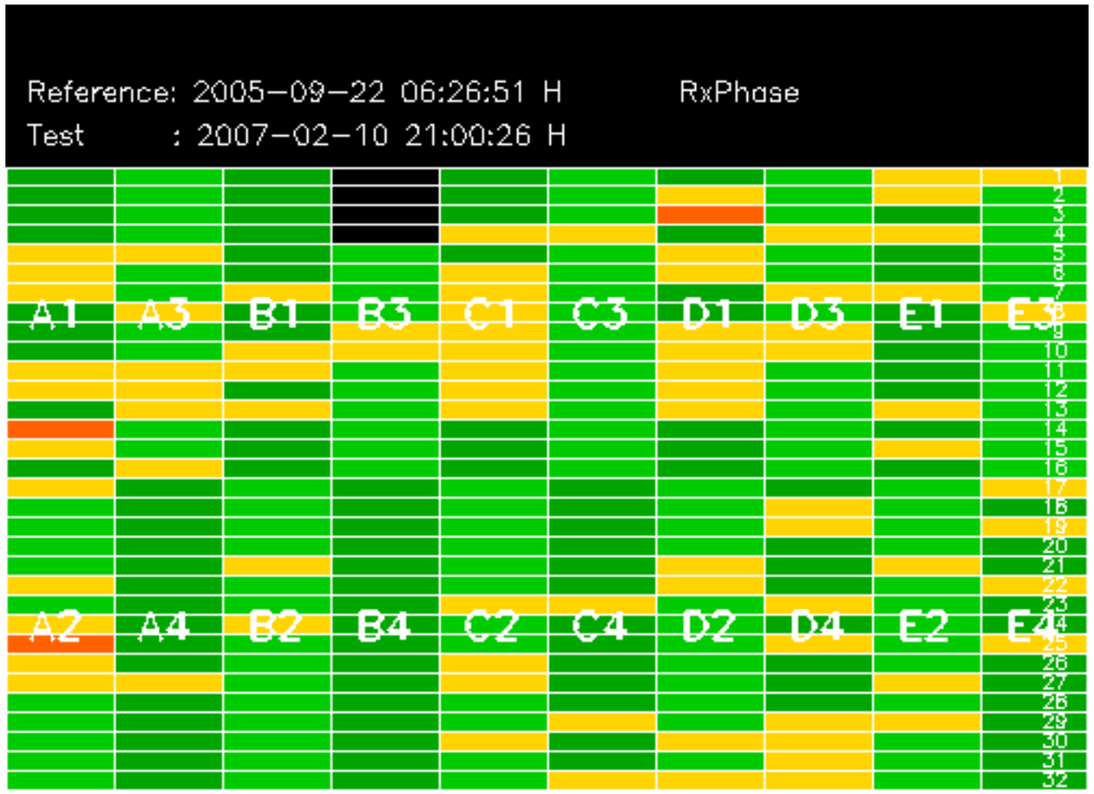

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2007-02-10 21:00:26 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-22 06:26:51 H
RxPhase
Test : 2007-02-10 21:00:26 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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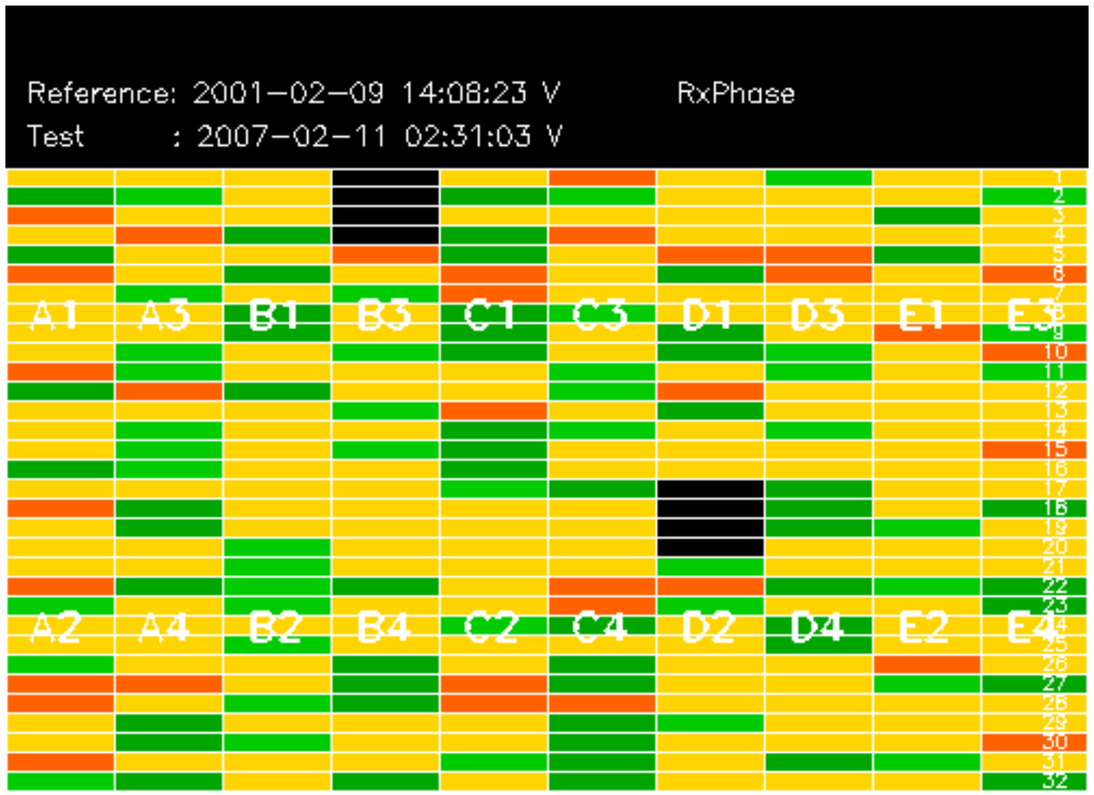
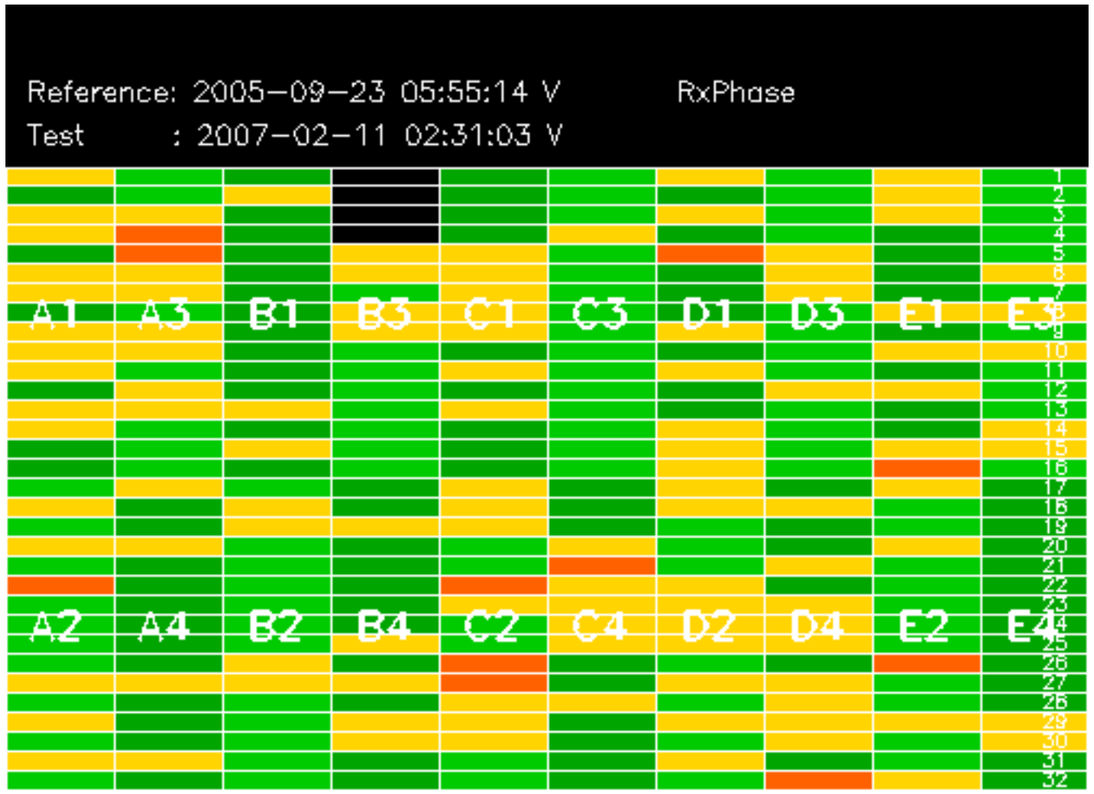

Reference: 2001-02-09 14:08:23 V
RxPhase
Test : 2007-02-11 02:31:03 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-23 05:55:14 V
Test : 2007-02-11 02:31:03 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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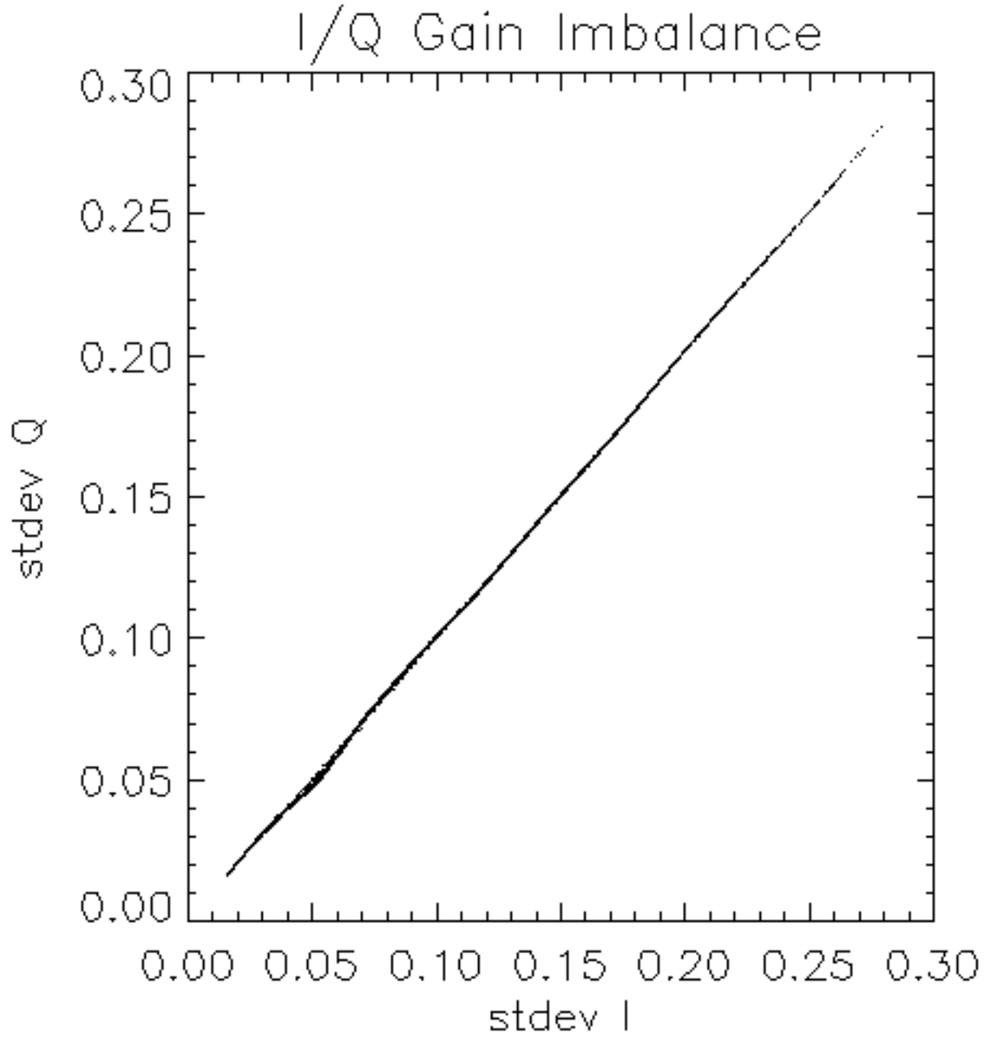
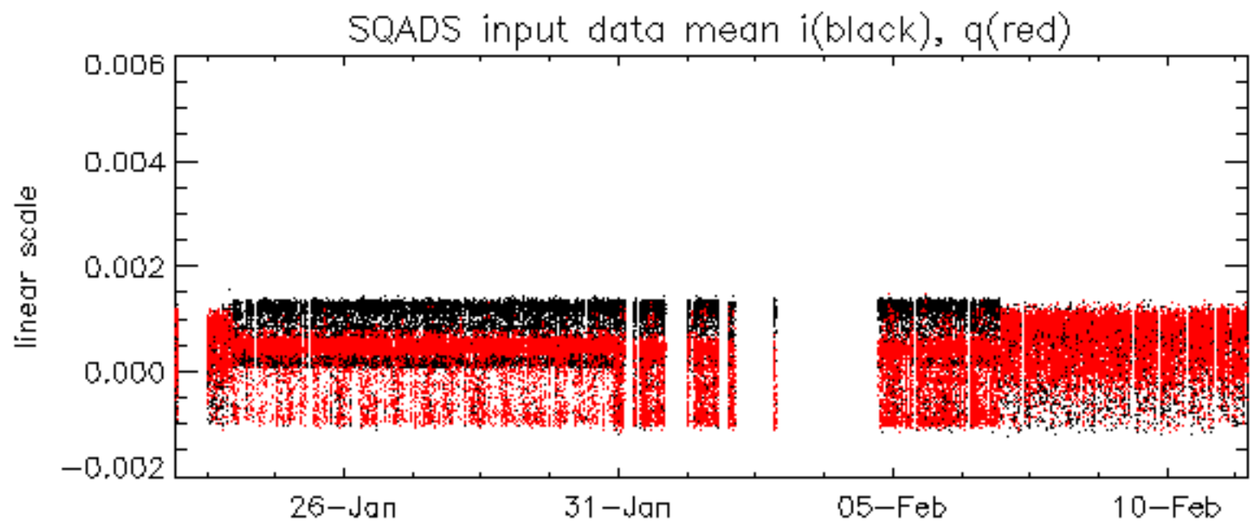
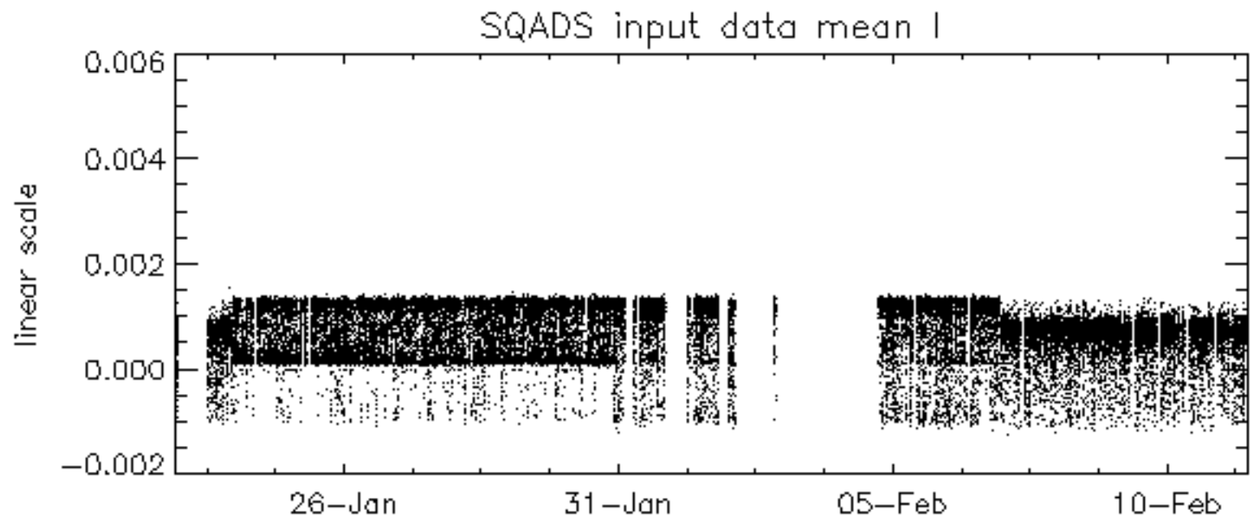
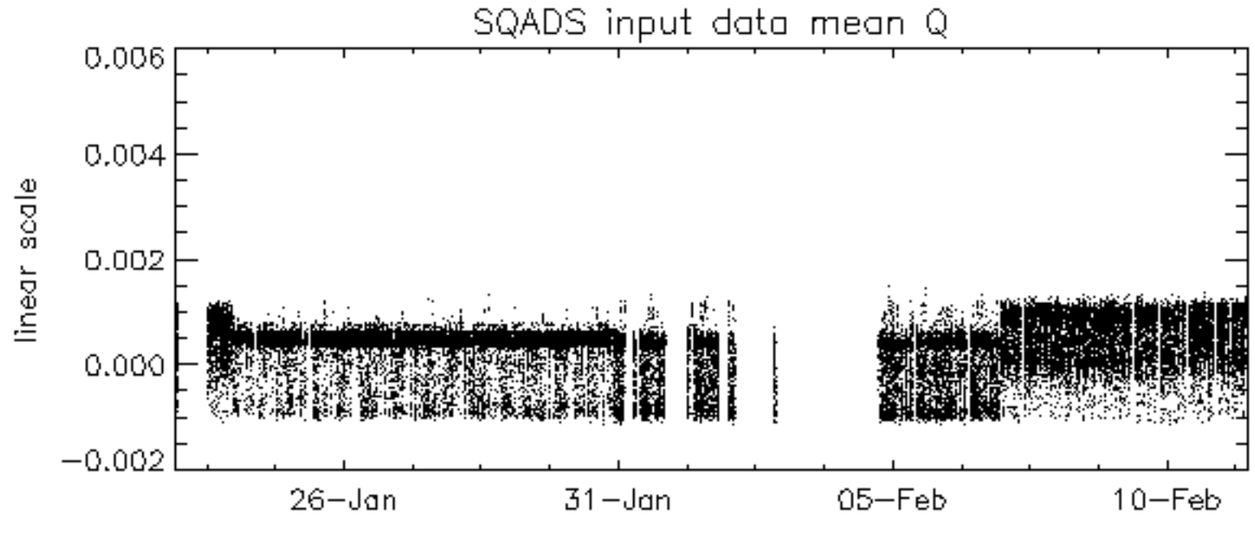
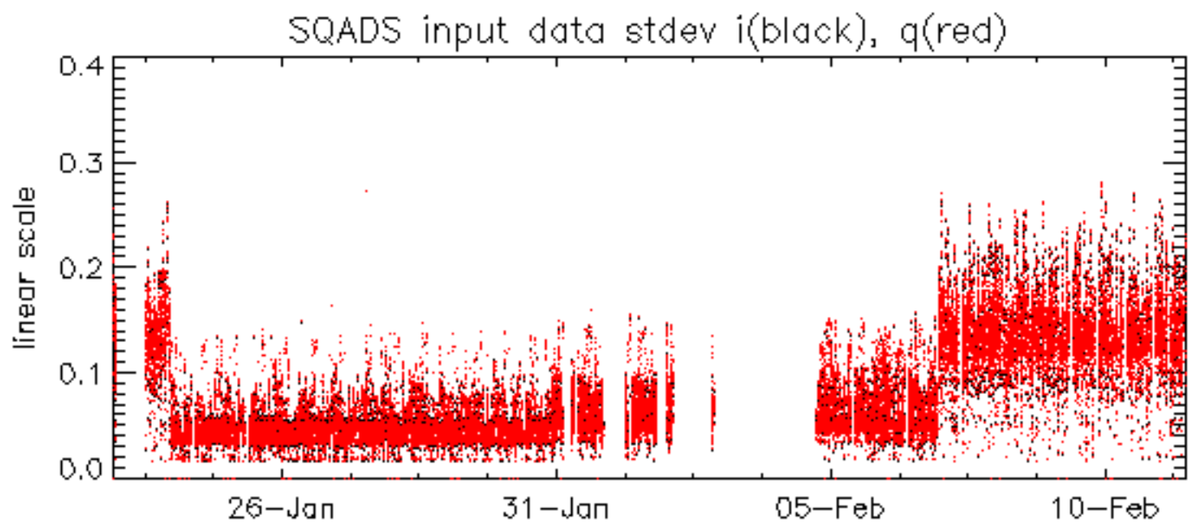
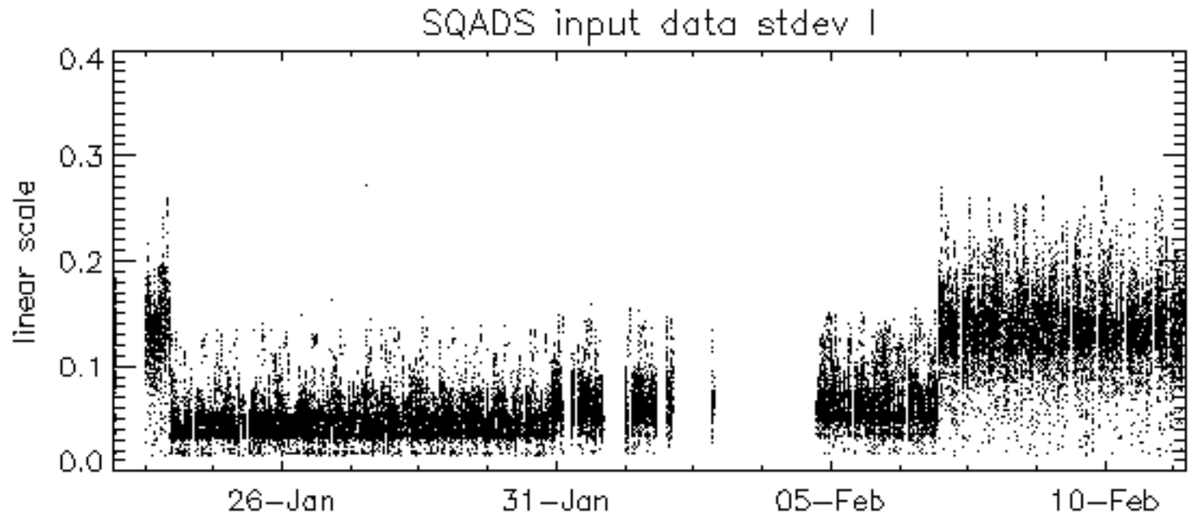

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

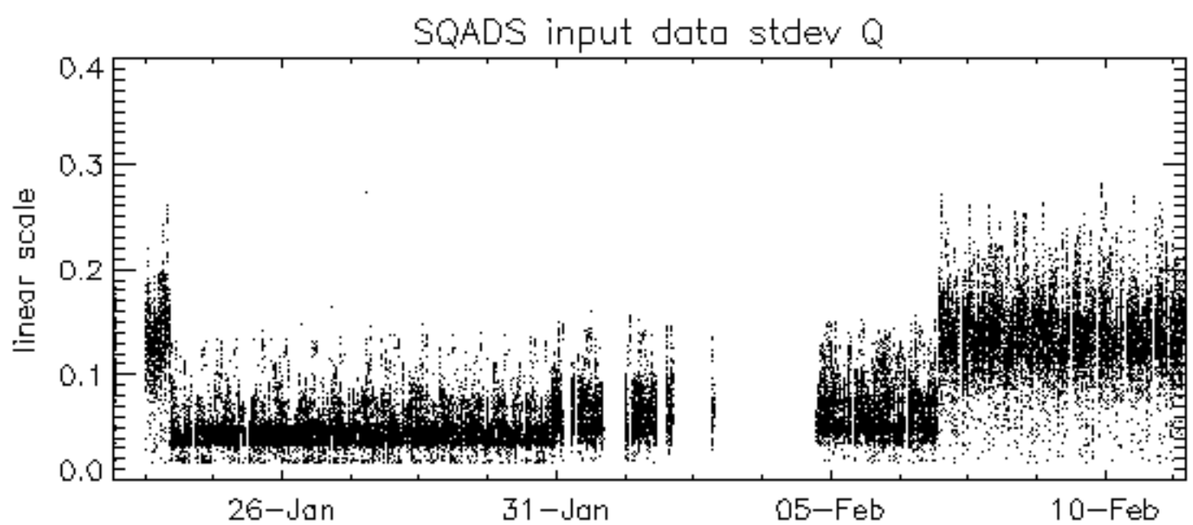

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Jan
31−Jan
05−Feb
10−Feb

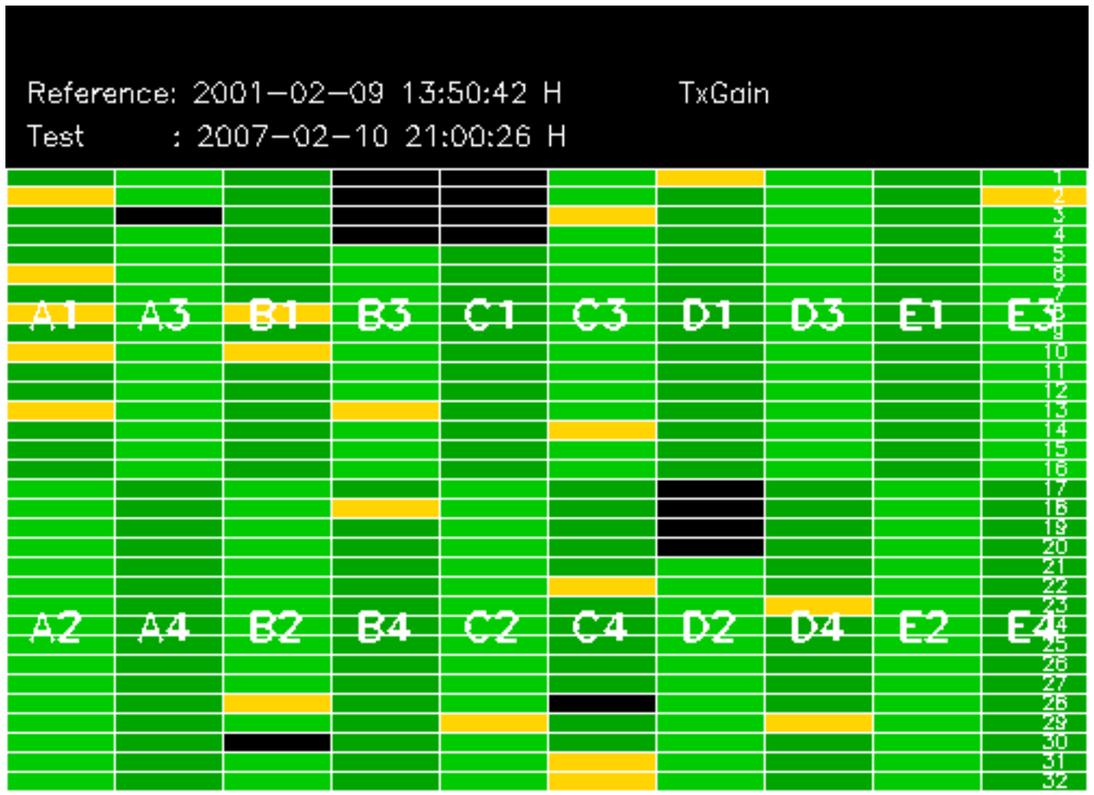

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Jan
31−Jan
05−Feb
10−Feb

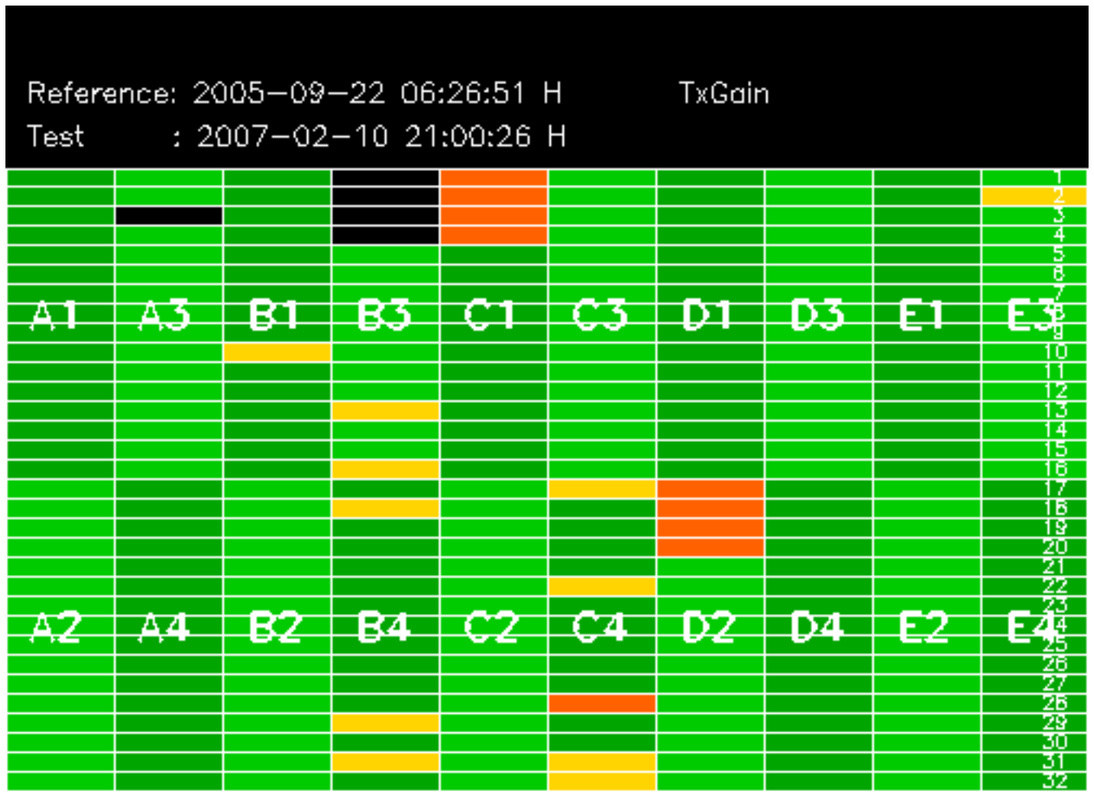

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Jan
31−Jan
05−Feb
10−Feb


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


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
26–Jan
31–Jan
05–Feb
10–Feb


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
26–Jan
31–Jan
05–Feb
10–Feb


Reference: 2001-02-09 13:50:42 H
Test : 2007-02-10 21:00:26 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 : 2007-02-10 21:00:26 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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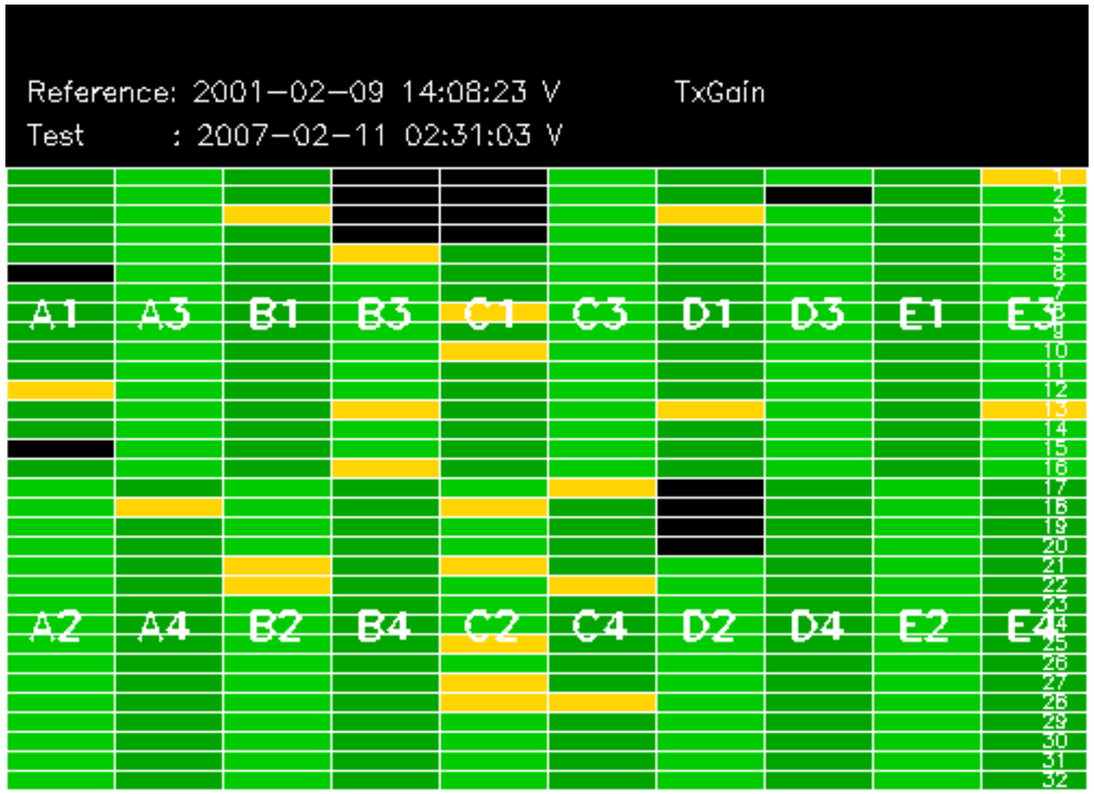
Reference: 2001-02-09 14:08:23 V
Test : 2007-02-11 02:31:03 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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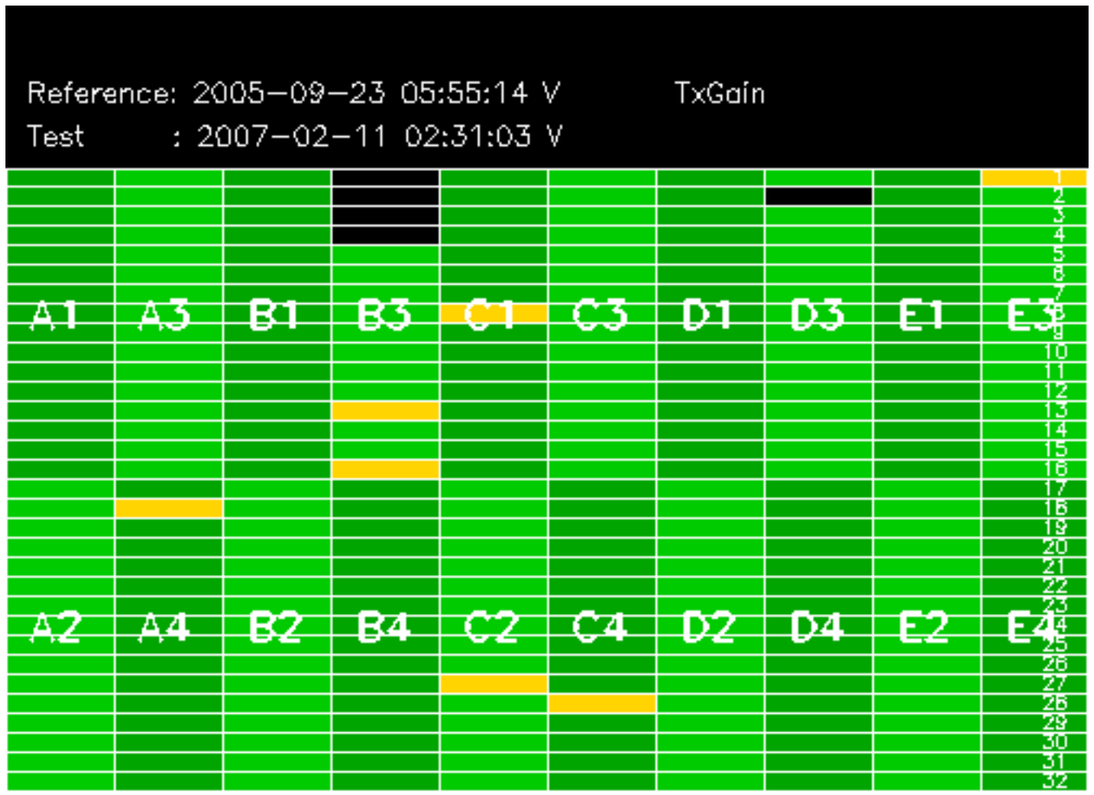
Reference: 2005-09-23 05:55:14 V
Test : 2007-02-11 02:31:03 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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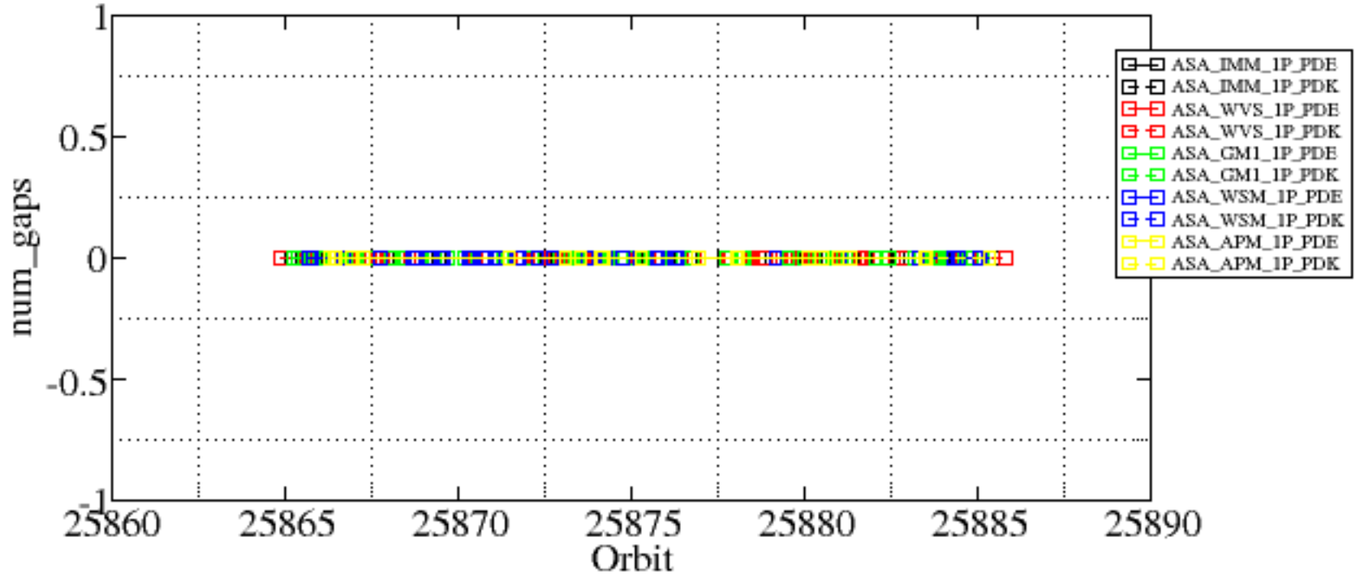
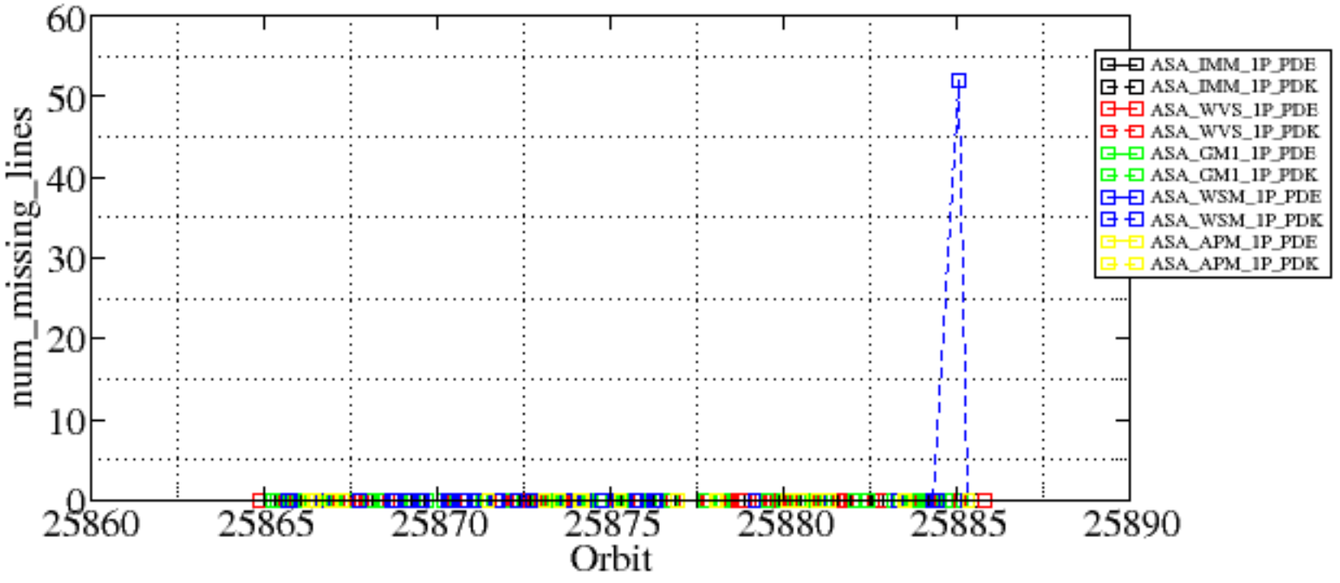
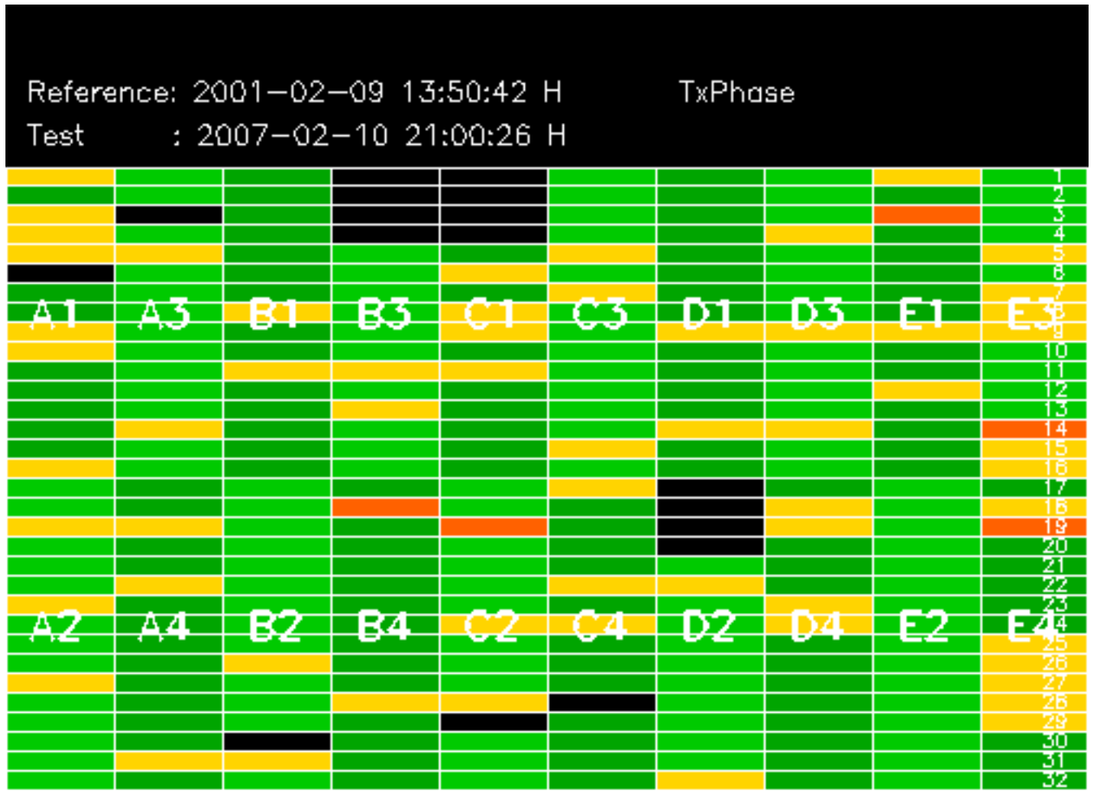
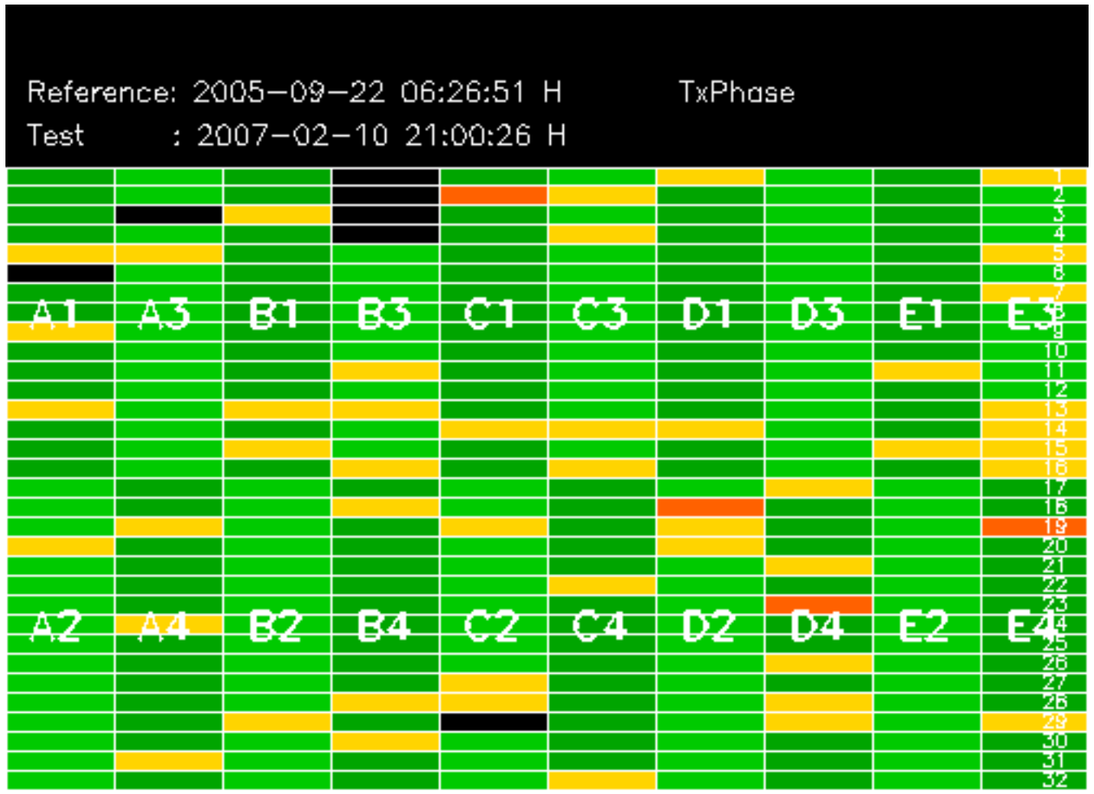
Summary of analysis for the last 3 days 2007021[901]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_WSM_1PNPDK20070211_095259_000000852055_00280_25885_2209.N1 </td> <td>0 </td> <td>52 </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
25860
25865
25870
25875
25880
25885
25890
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
60
50
40
30
20
10
0
25860
25865
25870
25875
25880
25885
25890
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
Test : 2007-02-10 21:00:26 H
TxPhase
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 : 2007-02-10 21:00:26 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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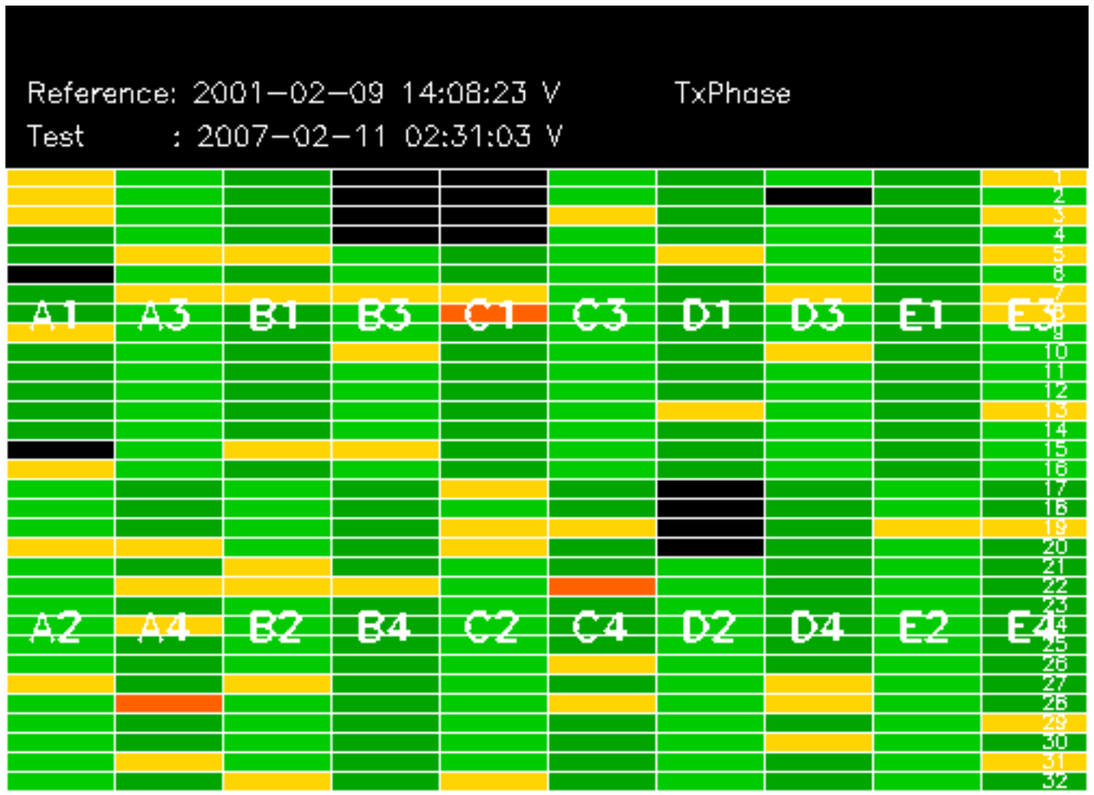
Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2007-02-11 02:31:03 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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D4
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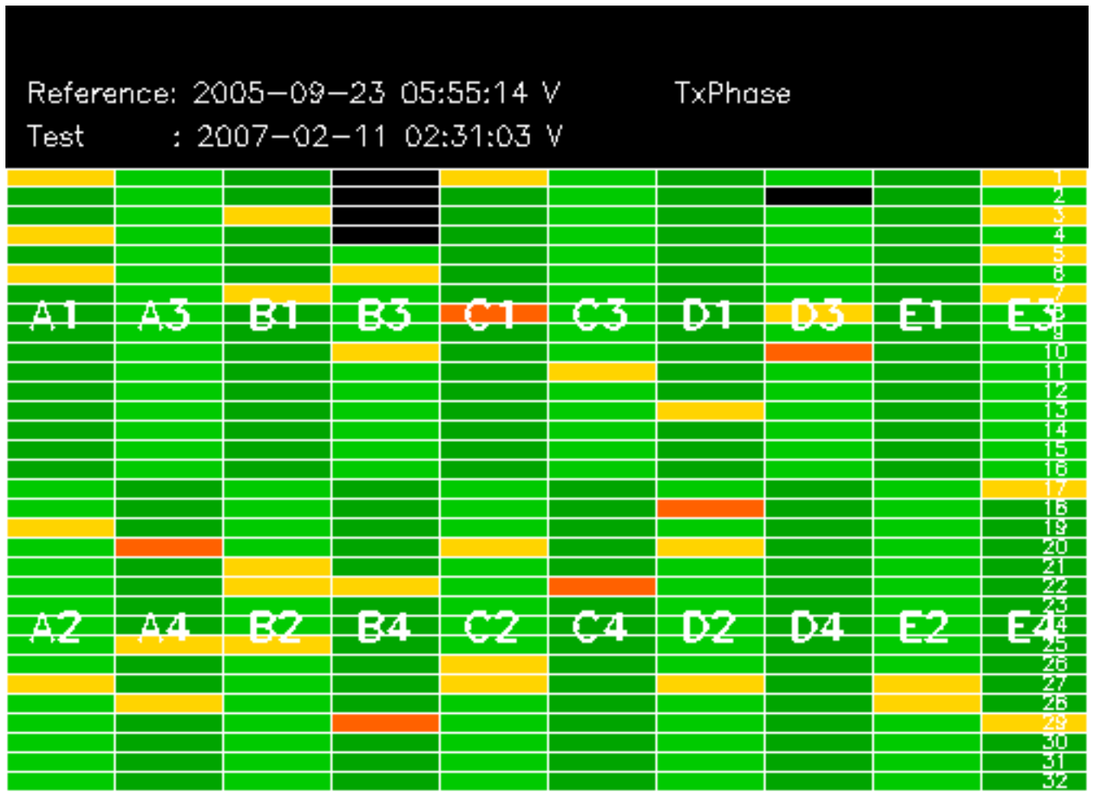
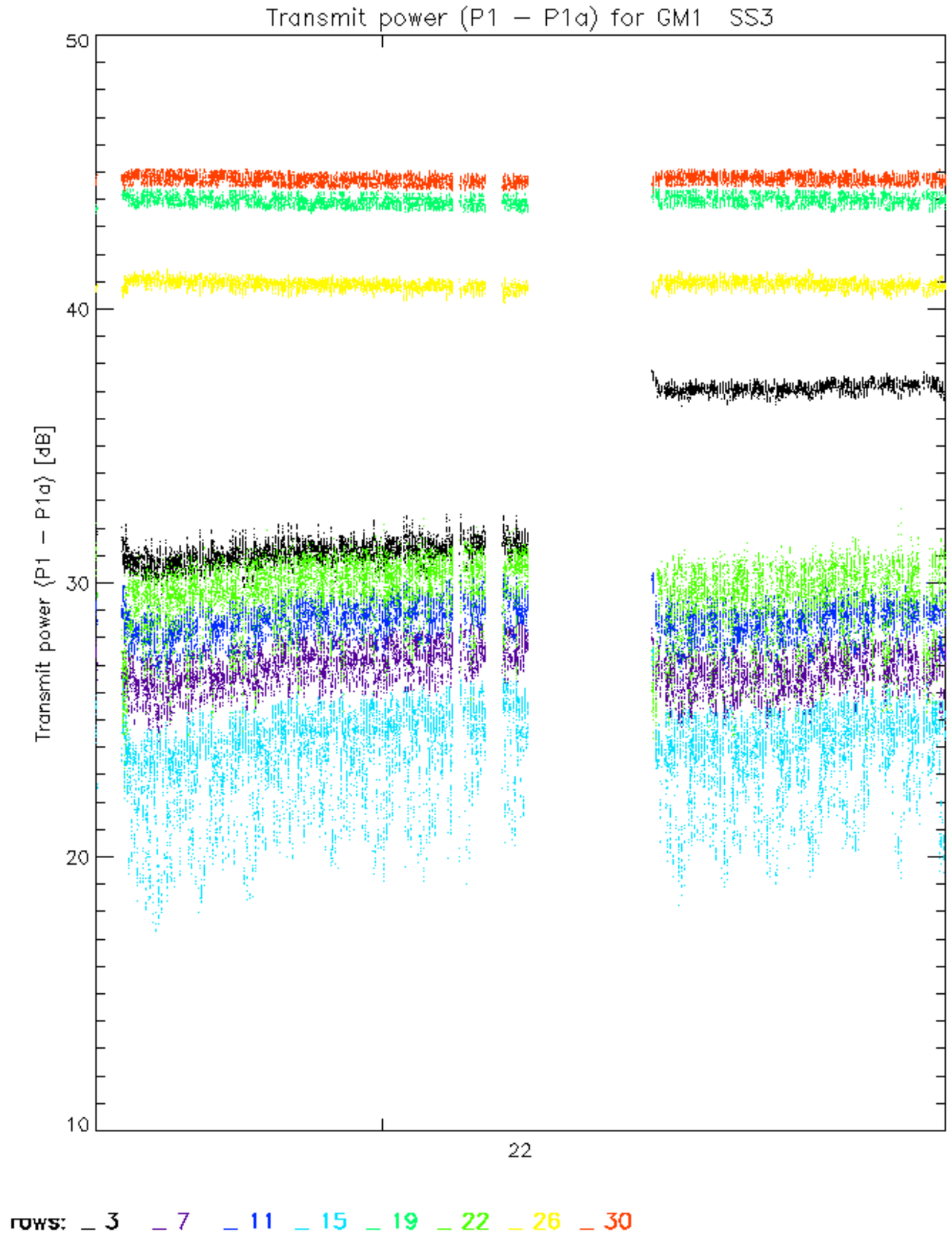
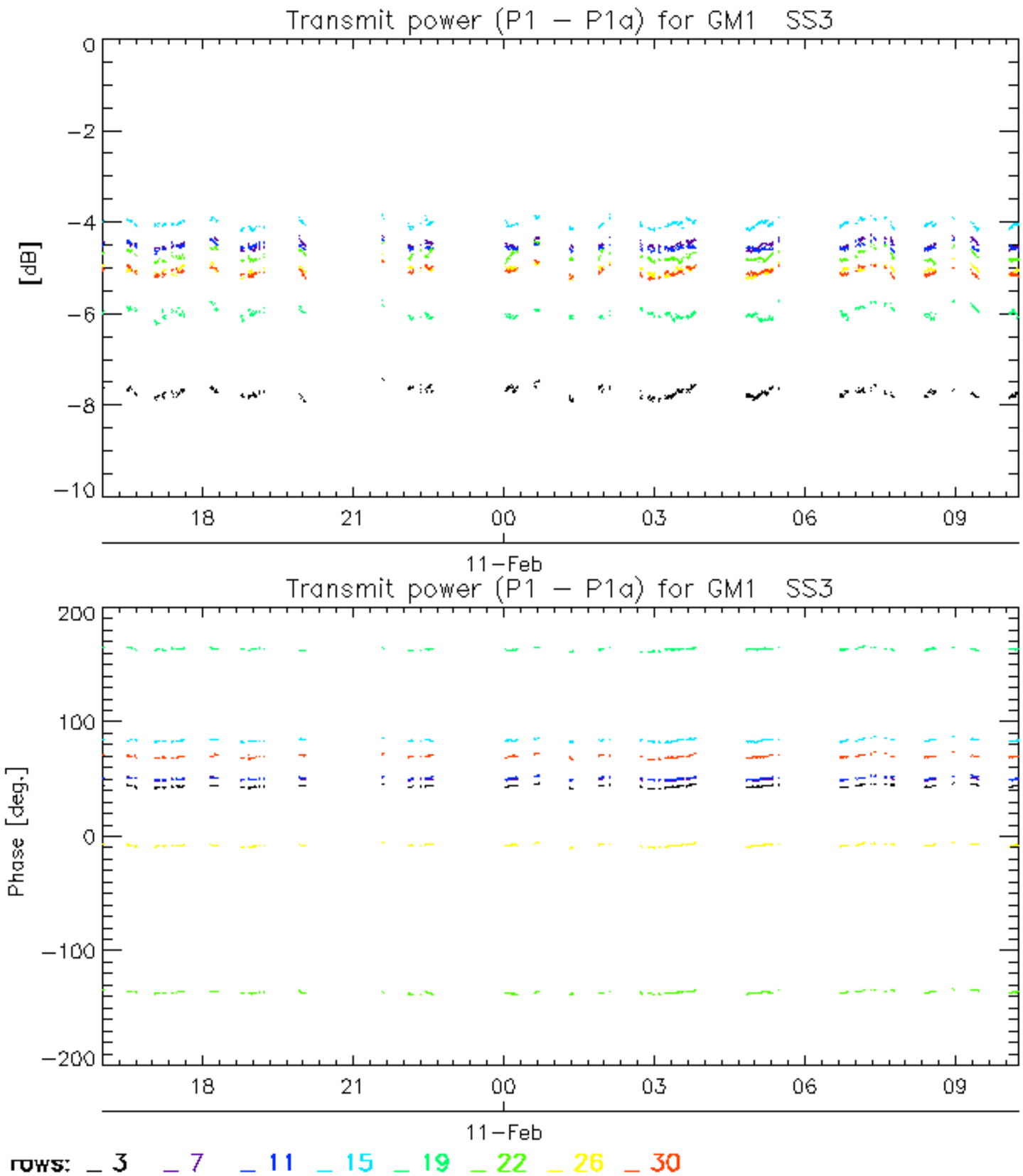
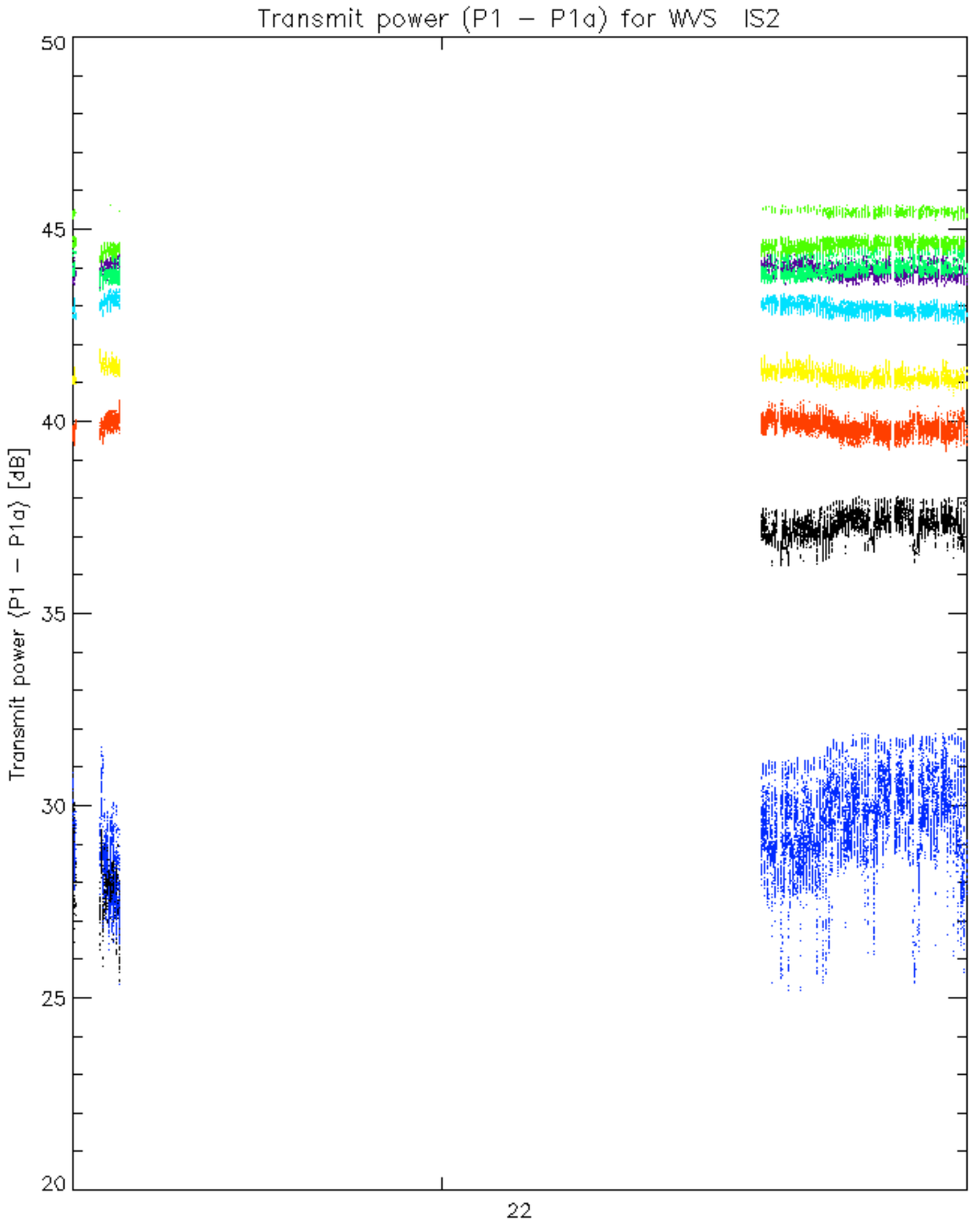
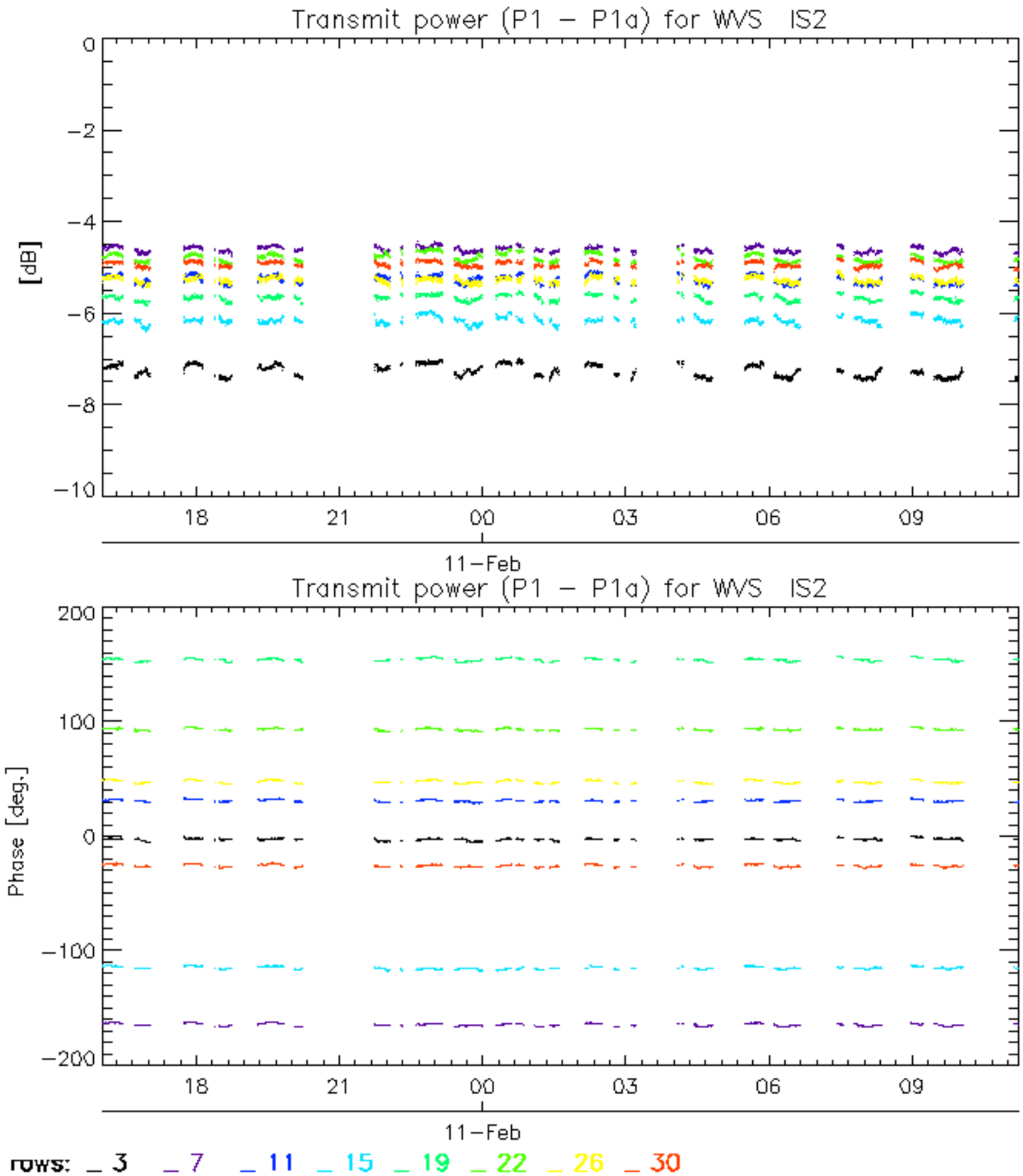

Reference: 2005-09-23 05:55:14 V
Test : 2007-02-11 02:31:03 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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


Transmit power (P1 – P1a) for GM1 SS3
0
−2
−4
−6
−8
−10
[dB]
18
21
00
03
06
09
11−Feb
Transmit power (P1 – P1a) for GM1 SS3
200
100
0
−100
−200
Phase [deg.]
18
21
00
03
06
09
11−Feb
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
22
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
09
11−Feb
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
18
21
00
03
06
09
11−Feb
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.