PRELIMINARY REPORT OF 060331

last update on Fri Mar 31 17:49:37 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 2006-03-30 00:00:00 to 2006-03-31 17:49:38

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

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

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	20060329 043724
H	20060330 040547

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

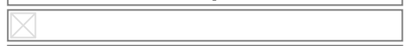
No anomalies observed.

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	-3.999772	0.009095	0.021416
7	P1	-3.015544	0.008474	-0.016038
11	P1	-4.059963	0.017636	-0.013877
15	P1	-6.100888	0.019271	-0.038015
19	P1	-3.306383	0.006403	-0.043471
22	P1	-4.466341	0.014101	-0.018262
26	P1	-4.136486	0.020935	0.065295
30	P1	-5.782771	0.175533	0.214442
3	P1	-16.955044	0.261593	0.104714
7	P1	-16.759989	0.104116	-0.094023
11	P1	-16.473097	0.307484	-0.006346
15	P1	-13.055670	0.094595	0.013496
19	P1	-13.970735	0.049801	-0.088322
22	P1	-15.607327	0.462071	-0.061063
26	P1	-15.769113	0.297687	0.121470
30	P1	-16.523327	0.319333	-0.150588

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.369711	0.086541	0.080592
7	P2	-22.332399	0.095499	0.133535
11	P2	-16.209349	0.100350	0.047618
15	P2	-7.167173	0.096277	-0.004022
19	P2	-9.137450	0.088162	-0.018802
22	P2	-17.963799	0.086855	-0.061475
26	P2	-16.229599	0.092276	-0.062385
30	P2	-19.652105	0.083733	0.012154

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.194908	0.005451	0.002708
7	P3	-8.194908	0.005451	0.002708
11	P3	-8.194908	0.005451	0.002708
15	P3	-8.194908	0.005451	0.002708
19	P3	-8.194908	0.005451	0.002708
22	P3	-8.194908	0.005451	0.002708

26	P3	-8.194908	0.005451	0.002708
30	P3	-8.194908	0.005451	0.002712

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	-3.760954	0.010050	-0.014580
7	P1	-2.729808	0.008432	0.020136
11	P1	-2.929956	0.018427	-0.016031
15	P1	-3.566927	0.020959	-0.012026
19	P1	-3.381859	0.009578	0.025507
22	P1	-5.184503	0.023052	-0.001635
26	P1	-5.785129	0.036636	0.059404
30	P1	-5.185441	0.079998	0.137350
3	P1	-11.588281	0.040207	-0.080933
7	P1	-9.974855	0.048229	-0.042468
11	P1	-10.279749	0.058800	-0.020886
15	P1	-10.820648	0.108884	-0.028018
19	P1	-15.405902	0.074936	0.090349
22	P1	-20.310442	1.048849	-0.196219
26	P1	-16.265984	0.390267	0.143409
30	P1	-18.282558	0.578628	0.095438

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.057119	0.040425	0.142552
7	P2	-22.539202	0.087414	0.210583

11	P2	-11.216981	0.031815	0.074591
15	P2	-4.831324	0.030034	0.020543
19	P2	-6.841975	0.028828	0.037292
22	P2	-8.145456	0.027699	0.042491
26	P2	-23.967676	0.035424	-0.043398
30	P2	-22.073576	0.026731	0.032736

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.020860	0.002420	0.008522
7	P3	-8.020726	0.002411	0.008748
11	P3	-8.020788	0.002431	0.008640
15	P3	-8.020902	0.002420	0.008823
19	P3	-8.020792	0.002419	0.008787
22	P3	-8.020911	0.002412	0.008324
26	P3	-8.020876	0.002413	0.008613
30	P3	-8.020746	0.002423	0.008529

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	0.000570458
	stdev	1.67728e-07
MEAN Q	mean	0.000524302

stdev	2.16897e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.139622
	stdev	0.00118186
STDEV Q	mean	0.140000
	stdev	0.00120120

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006033[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_IMM_1PNPDE20060331_004226_000000622046_00245_21341_1773.N1	1	0
ASA_WSM_1PNPDE20060330_002520_000001282046_00231_21327_3227.N1	0	34

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

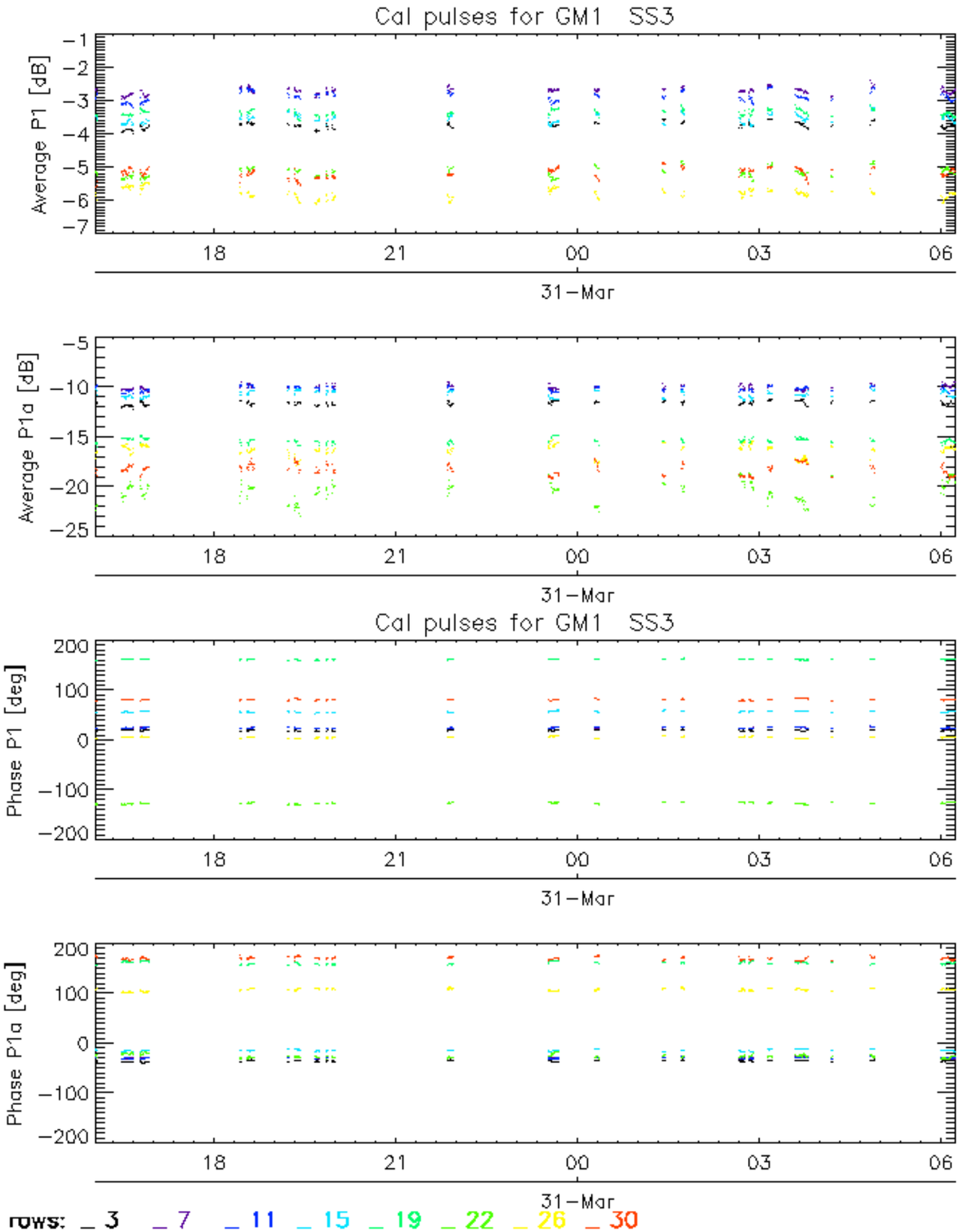
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

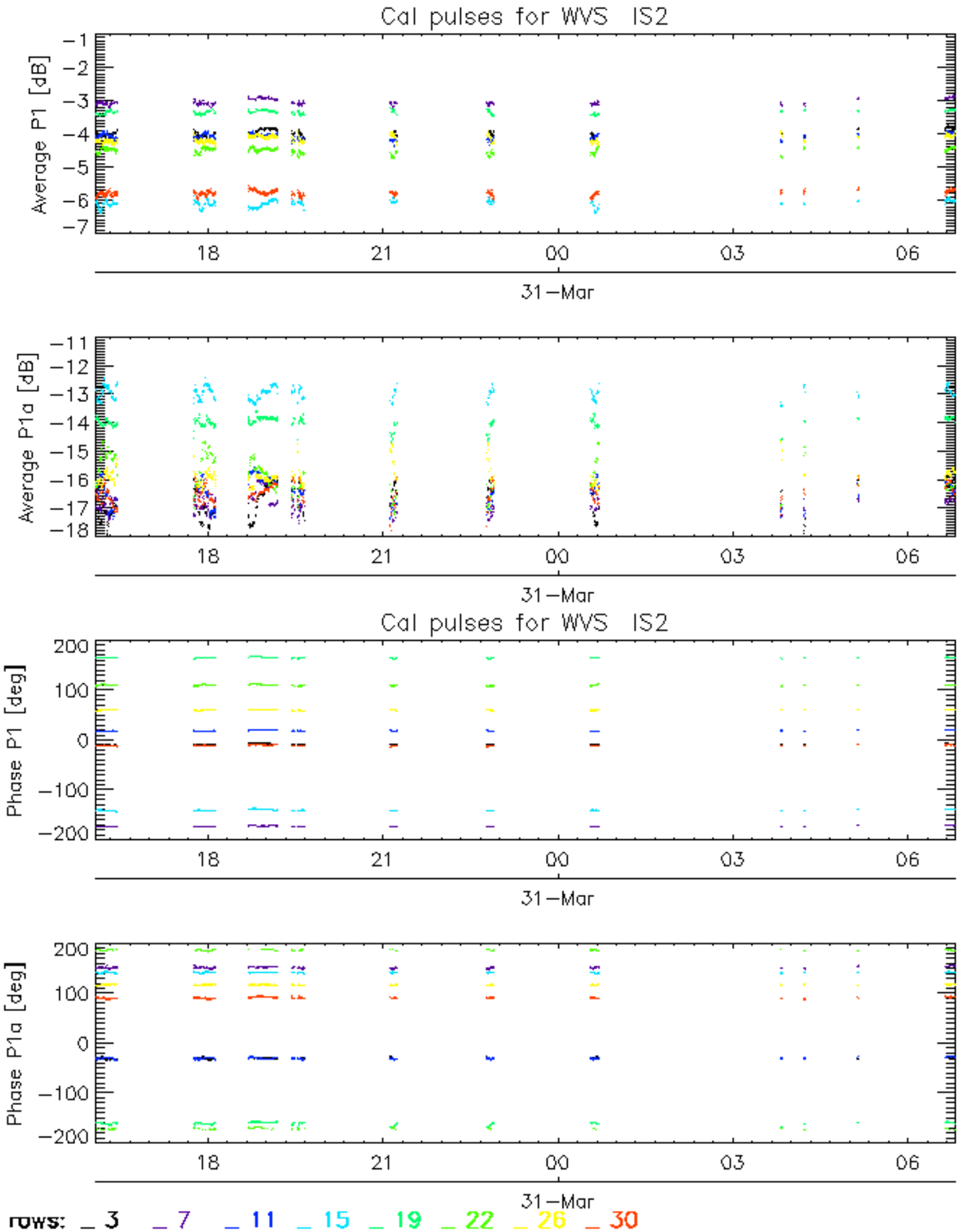
7.5 - Absolute Doppler for GM1

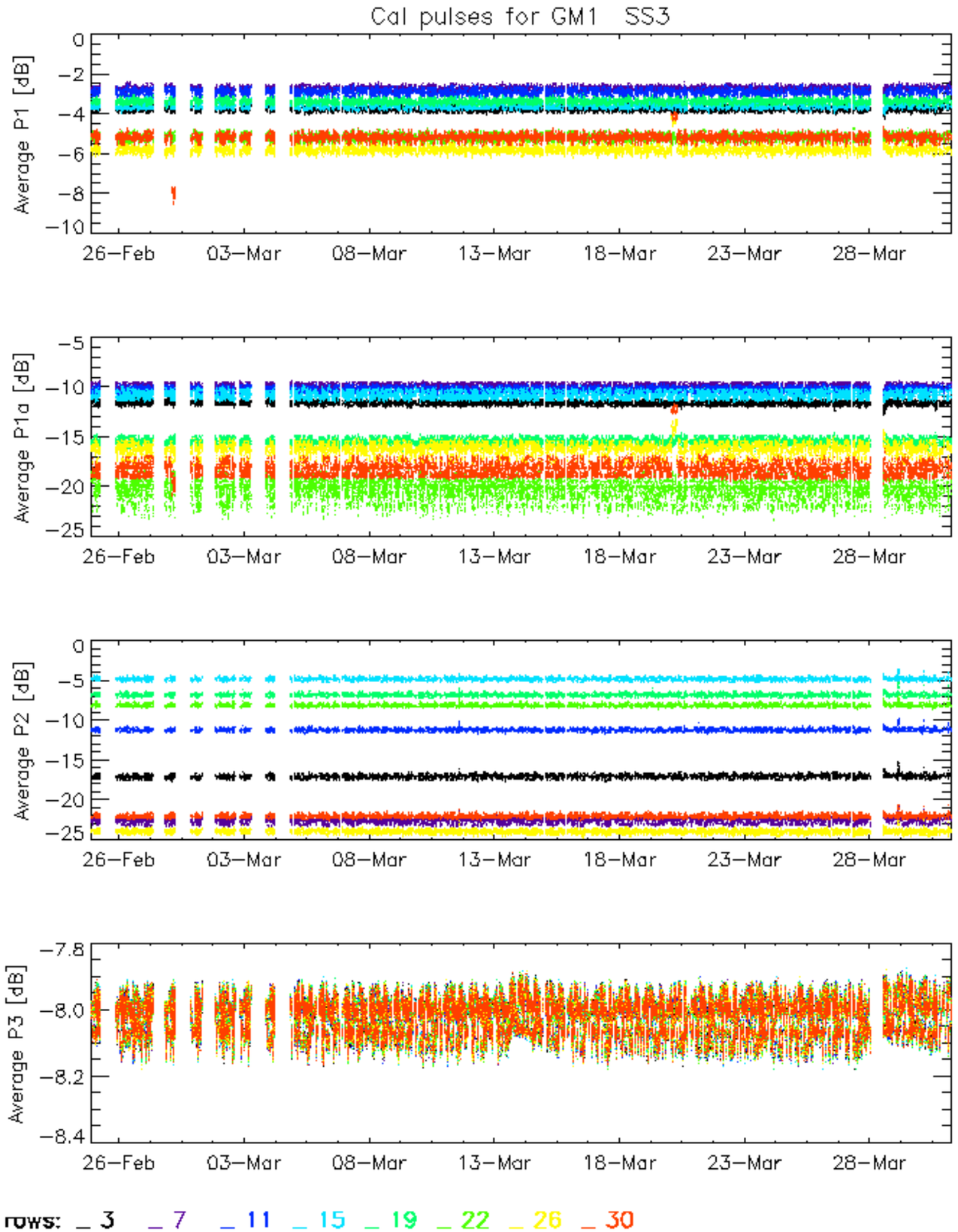
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

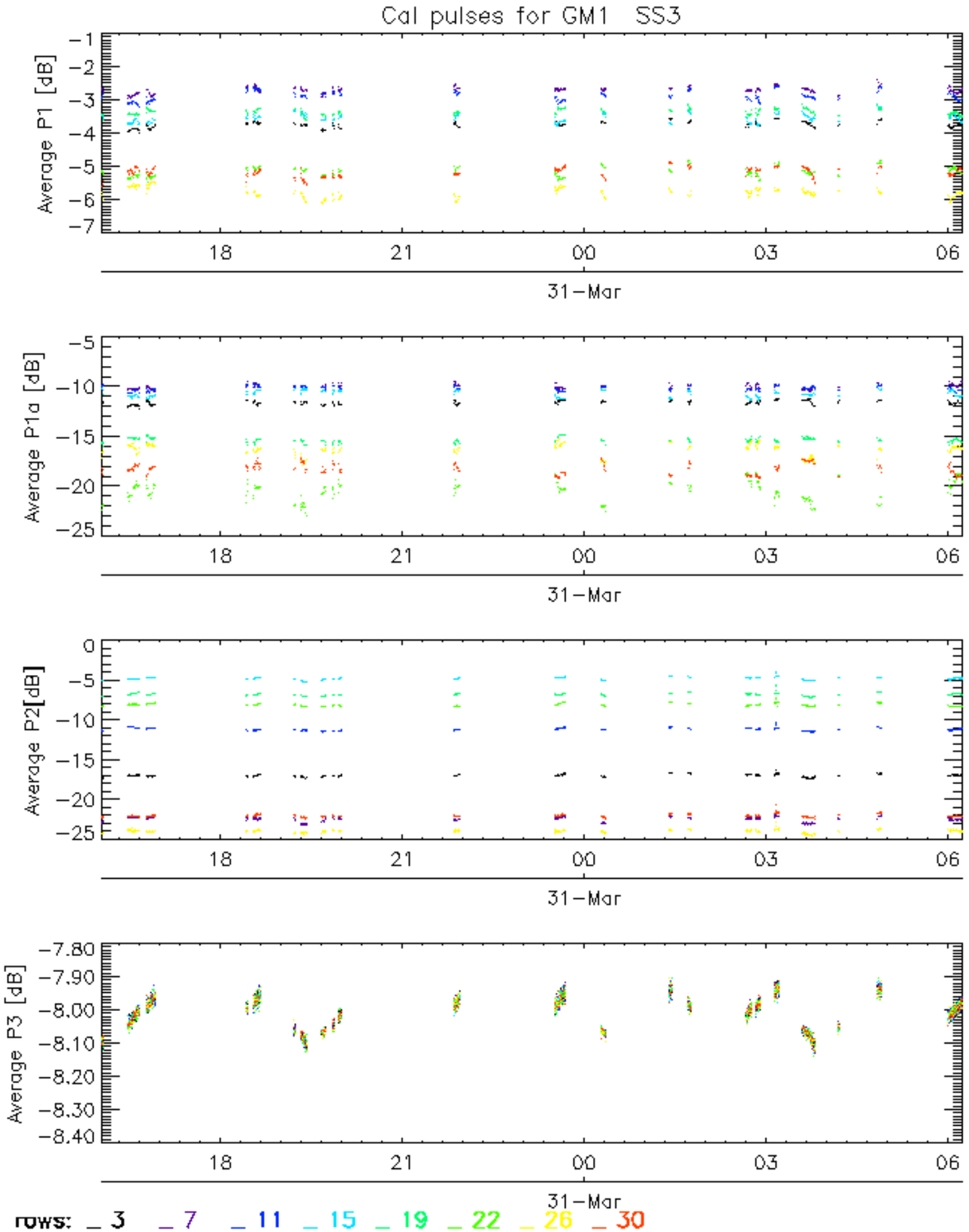
7.6 - Doppler evolution versus ANX for GM1

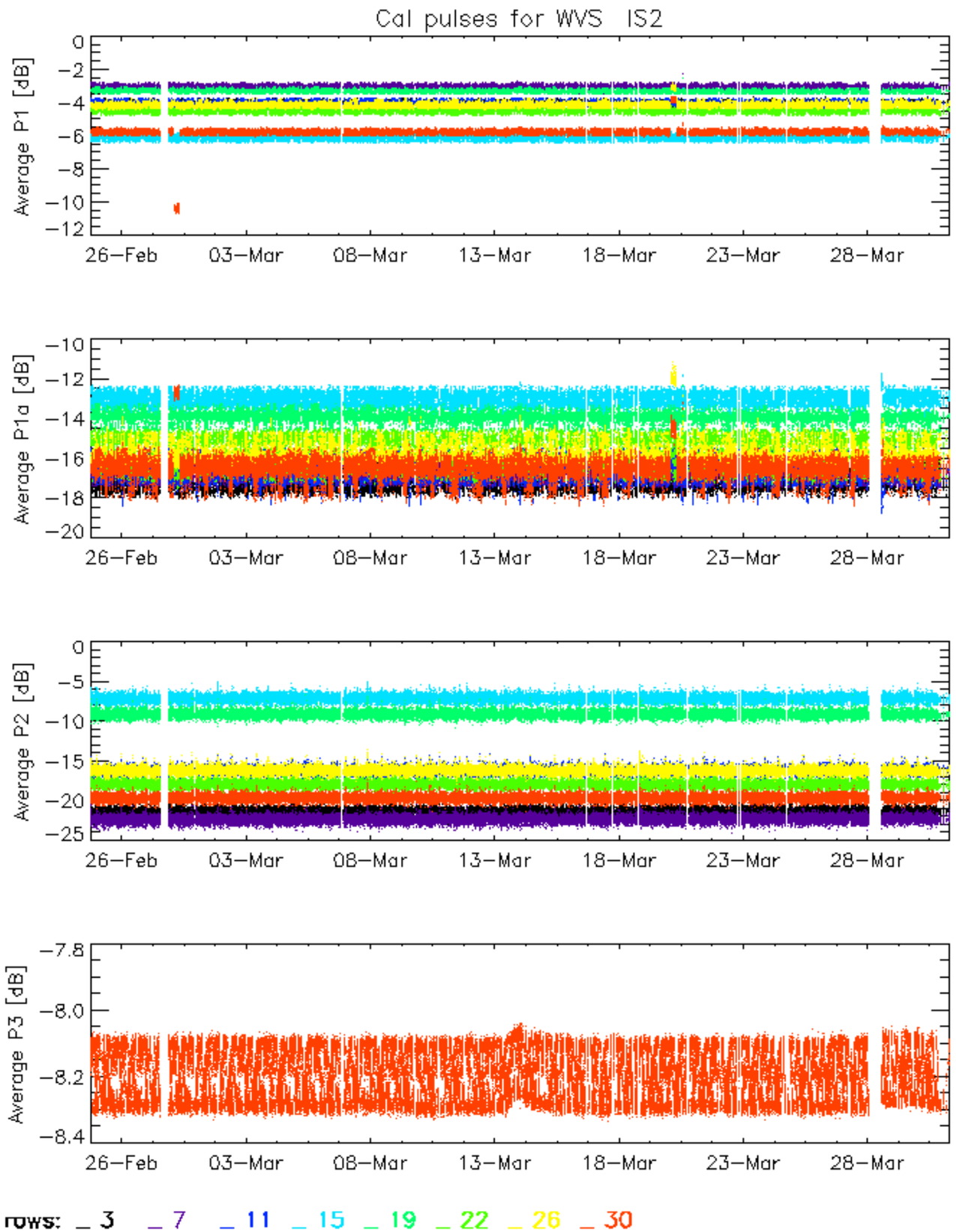
Evolution Doppler error versus ANX
☒

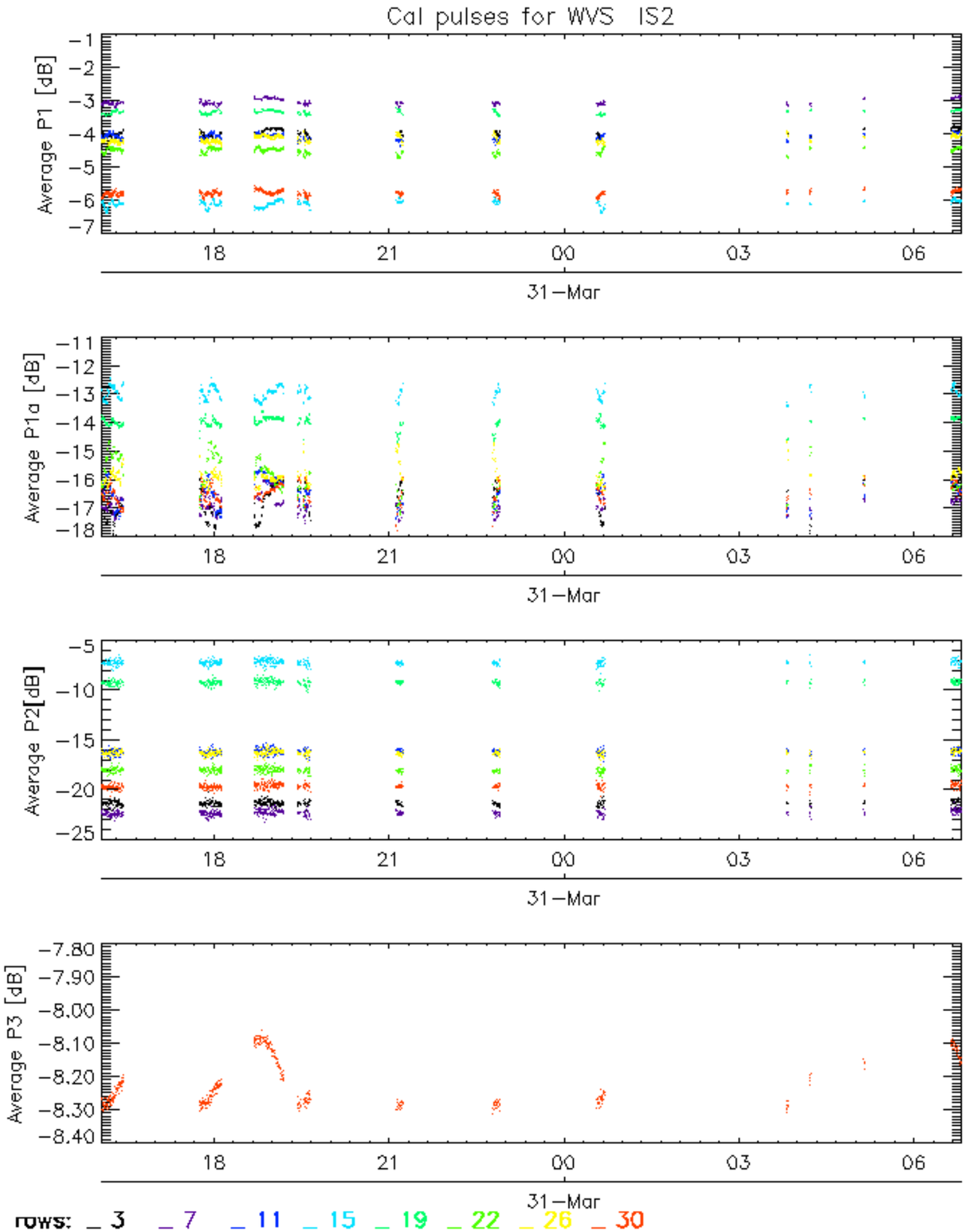

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
31−Mar
Average P1a [dB]
−5
−10
−15
−20
−25
18
21
00
03
06
31−Mar
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
18
21
00
03
06
31−Mar
Phase P1a [deg]
200
100
0
−100
−200
18
21
00
03
06
31−Mar
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
31−Mar
Average P1a [dB]
−11
−12
−13
−14
−15
−16
−17
−18
18
21
00
03
06
31−Mar
Cal pulses for WVS IS2
Phase P1 [deg]
200
100
0
−100
−200
18
21
00
03
06
31−Mar
Phase P1a [deg]
200
100
0
−100
−200
18
21
00
03
06
31−Mar
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

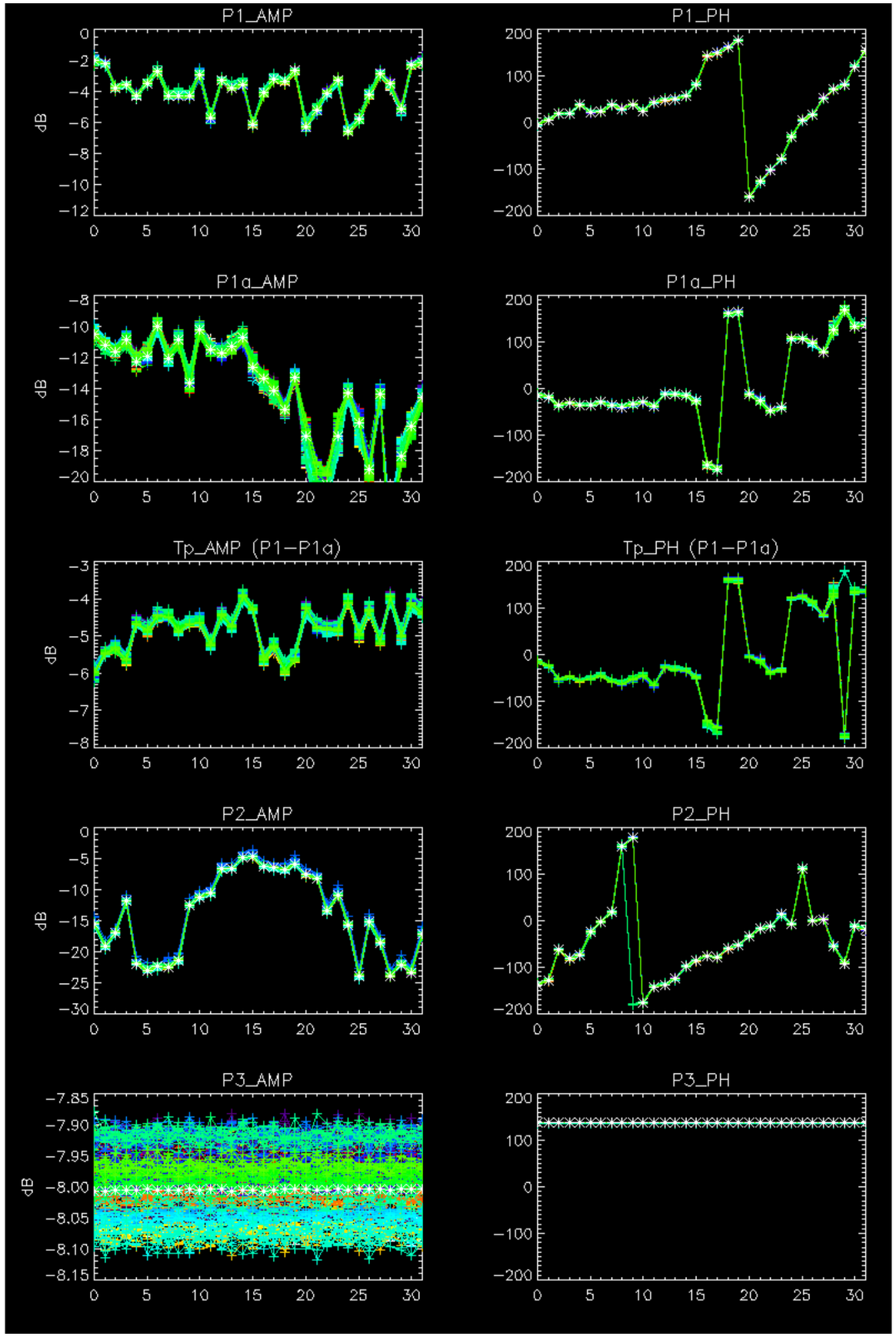

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
−10
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
26−Feb
03−Mar
08−Mar
13−Mar
18−Mar
23−Mar
28−Mar
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

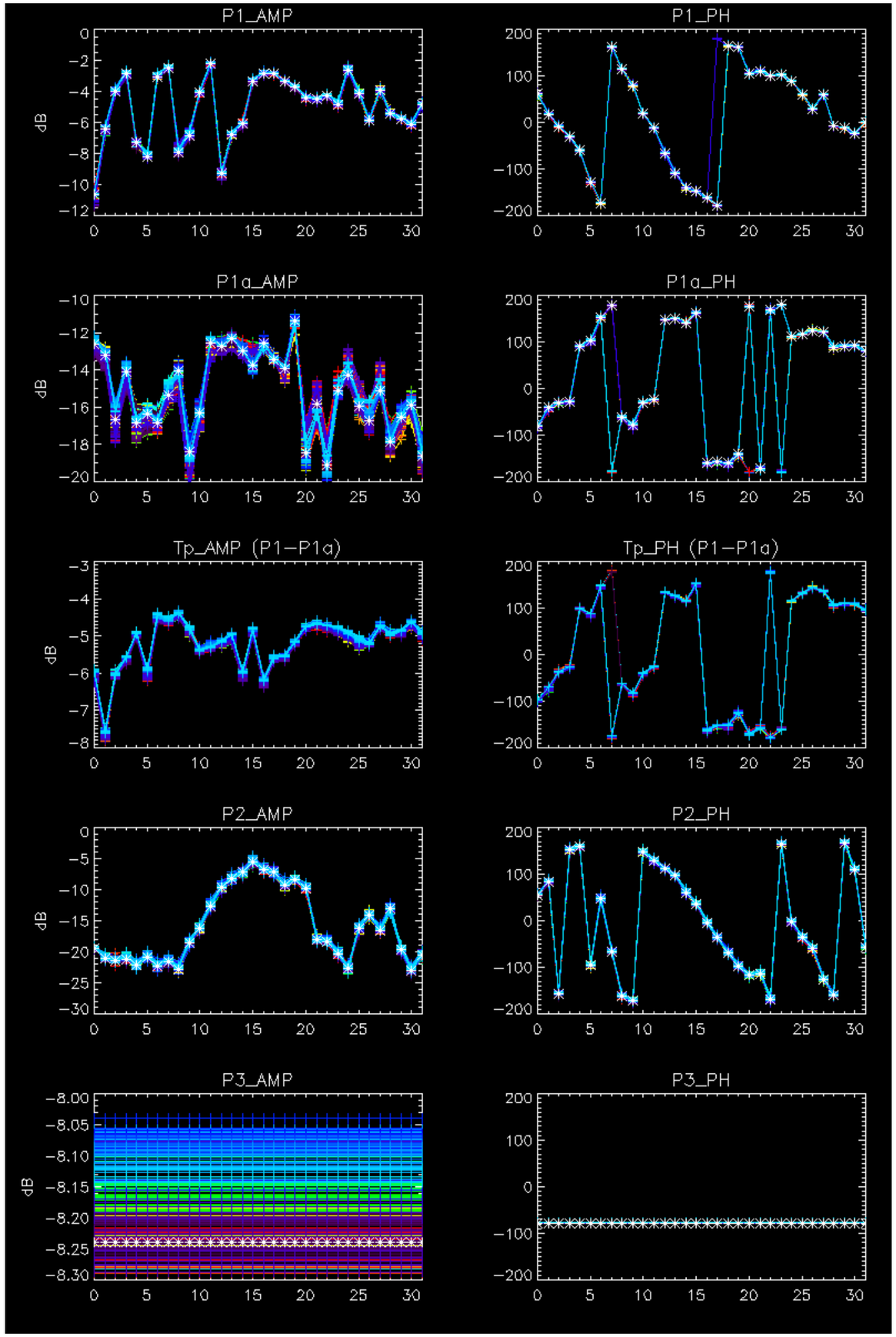

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
31−Mar
Average P1a [dB]
−5
−10
−15
−20
−25
18
21
00
03
06
31−Mar
Average P2[dB]
0
−5
−10
−15
−20
−25
18
21
00
03
06
31−Mar
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
18
21
00
03
06
31−Mar
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
26−Feb
03−Mar
08−Mar
13−Mar
18−Mar
23−Mar
28−Mar
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
31−Mar
Average P1a [dB]
−11
−12
−13
−14
−15
−16
−17
−18
18
21
00
03
06
31−Mar
Average P2[dB]
−5
−10
−15
−20
−25
18
21
00
03
06
31−Mar
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
18
21
00
03
06
31−Mar
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

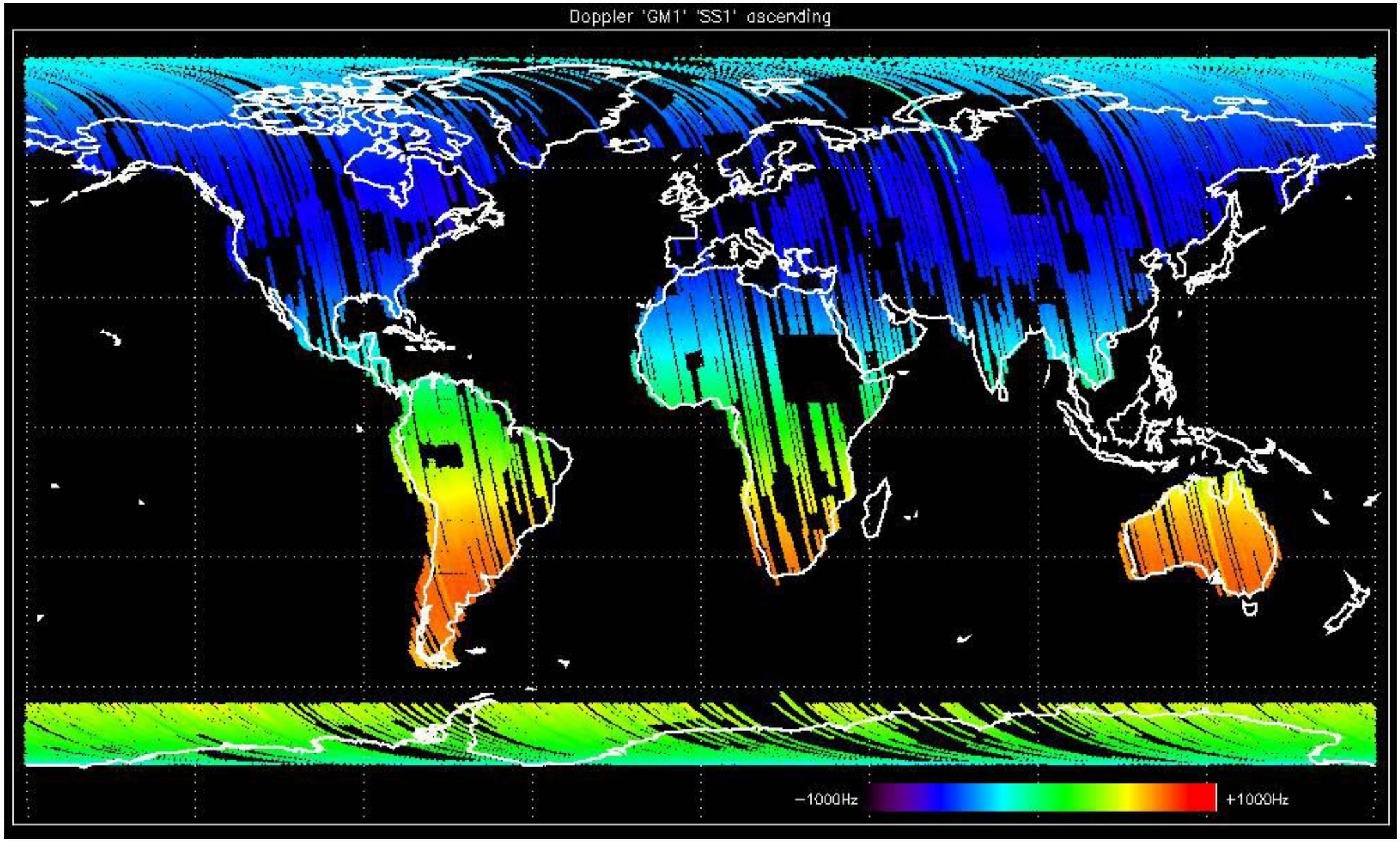
No anomalies observed.

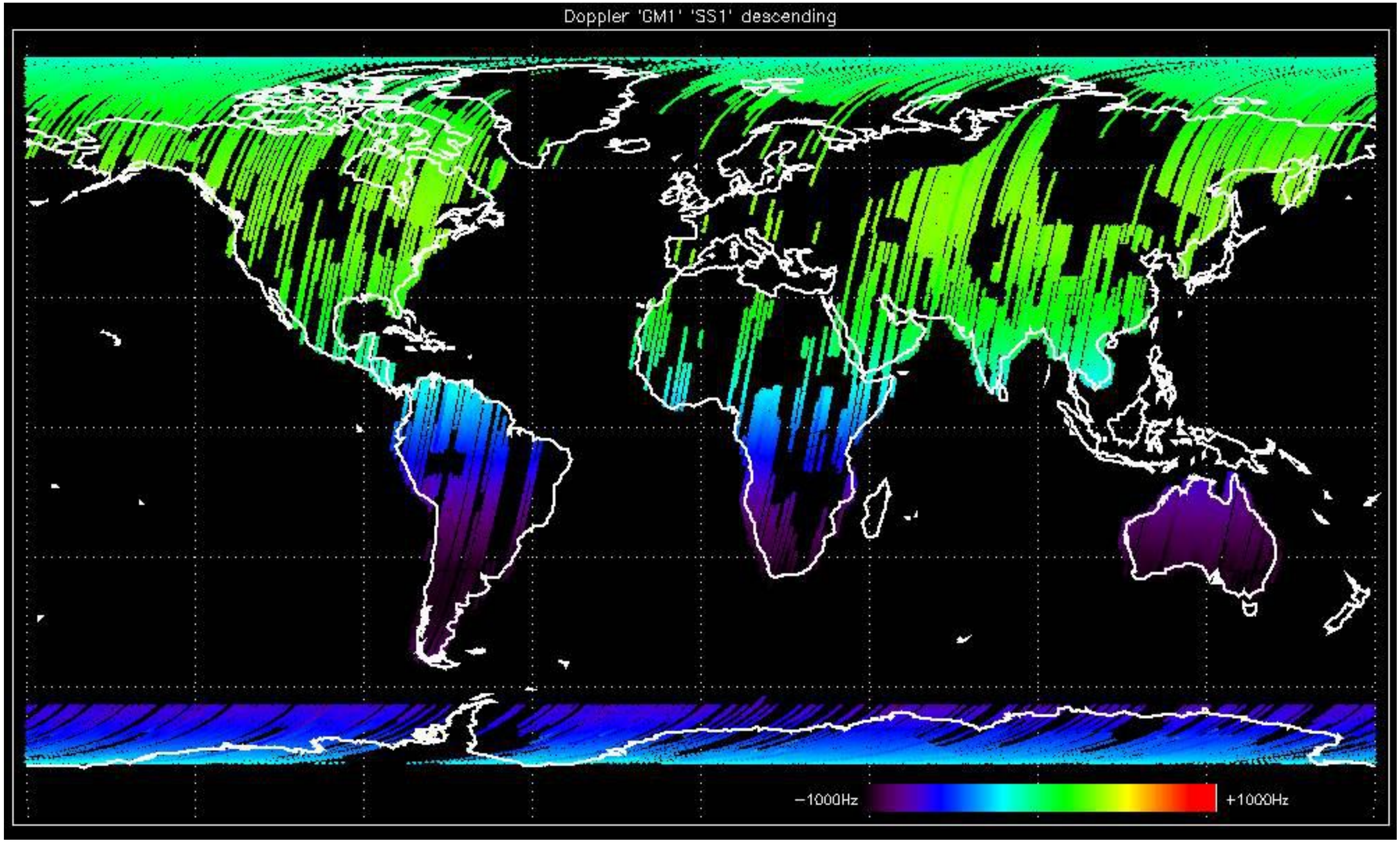

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

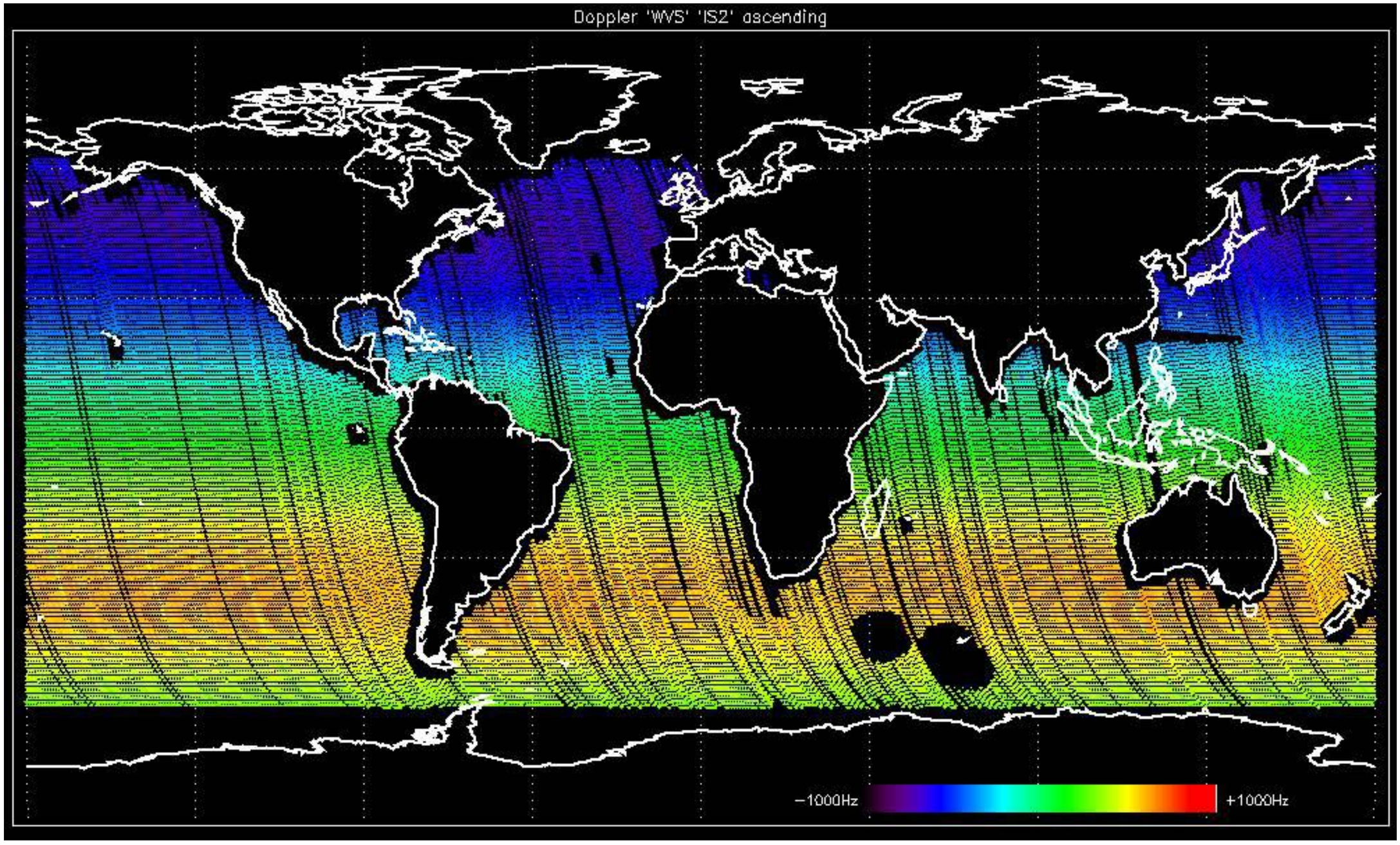

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

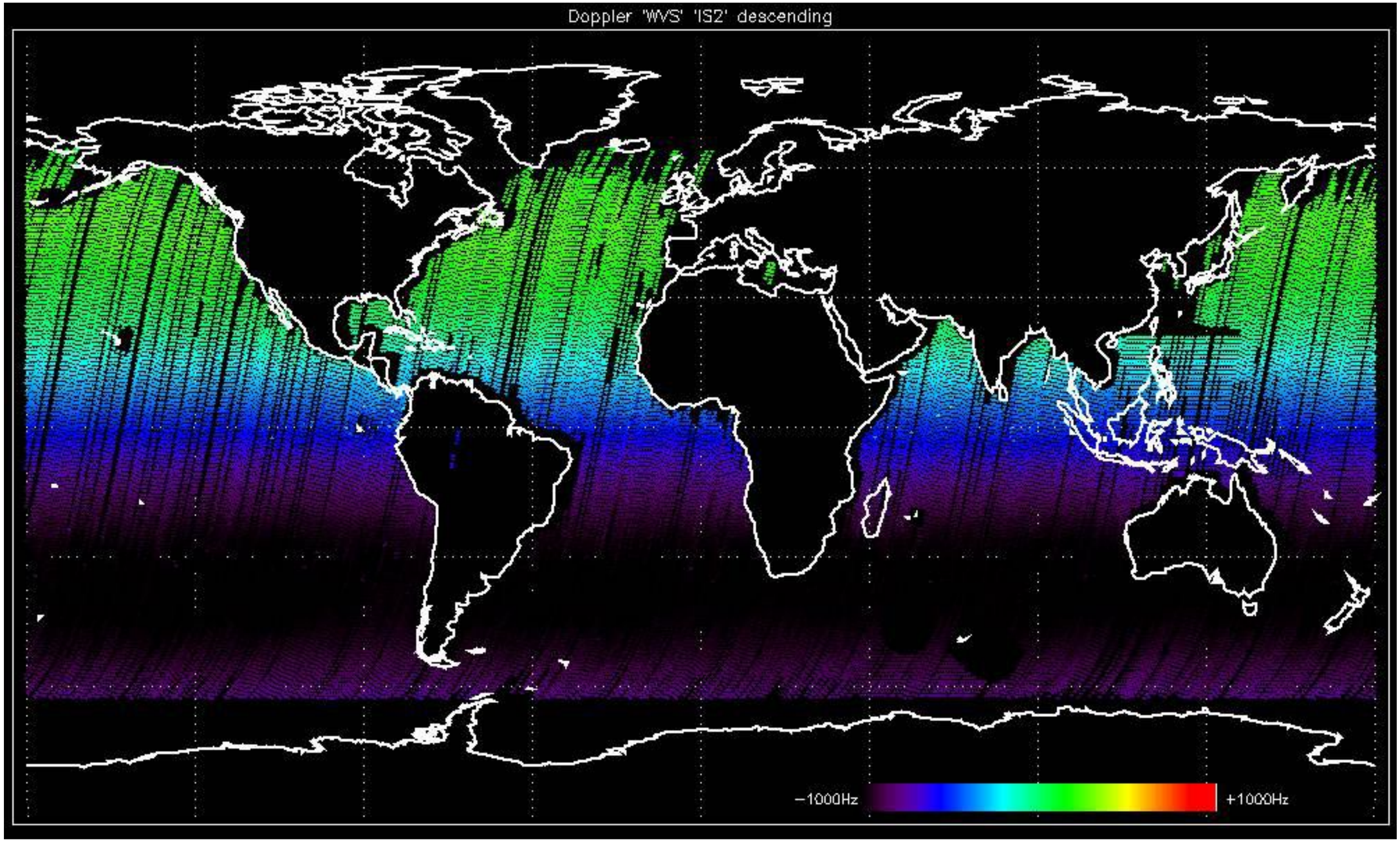
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

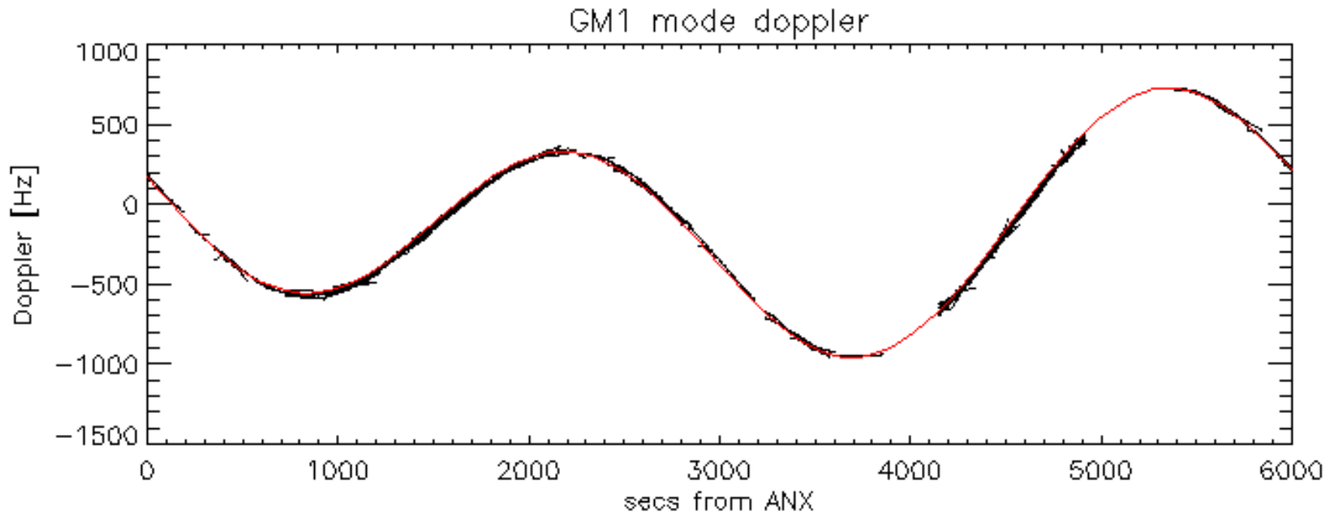
Preliminary report.The data is not yet controled

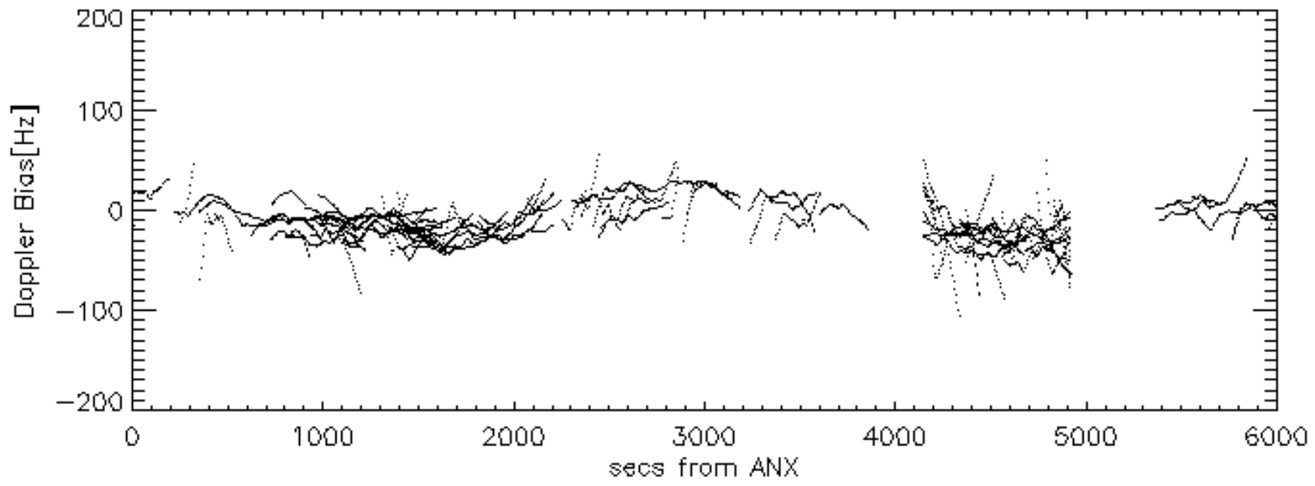

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

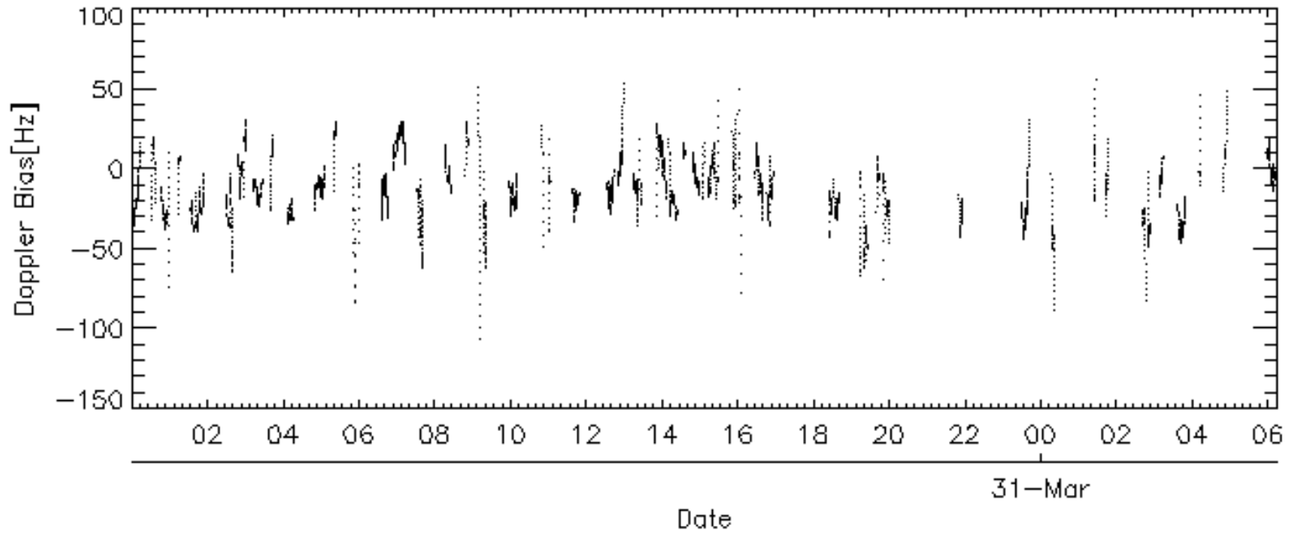

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

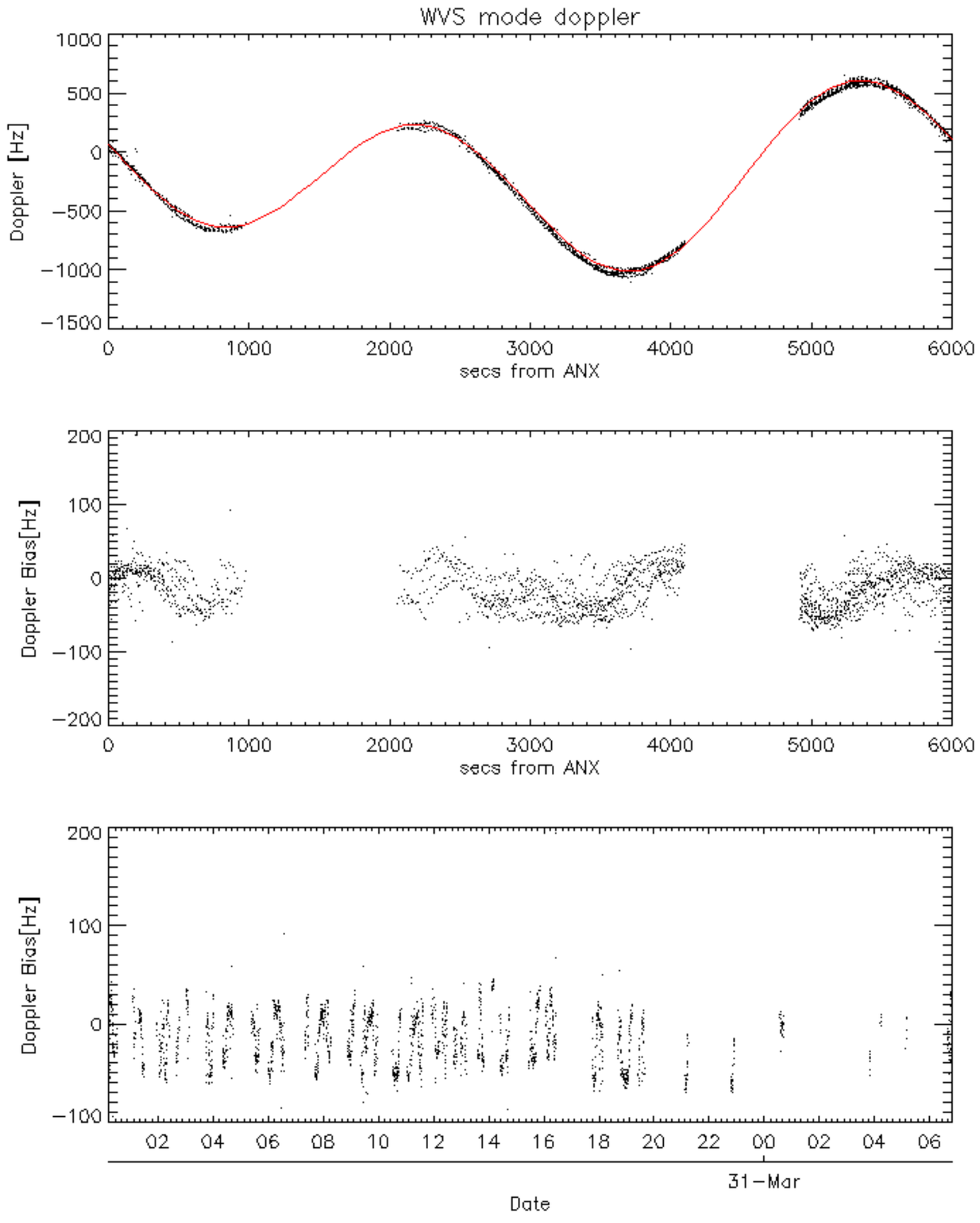

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

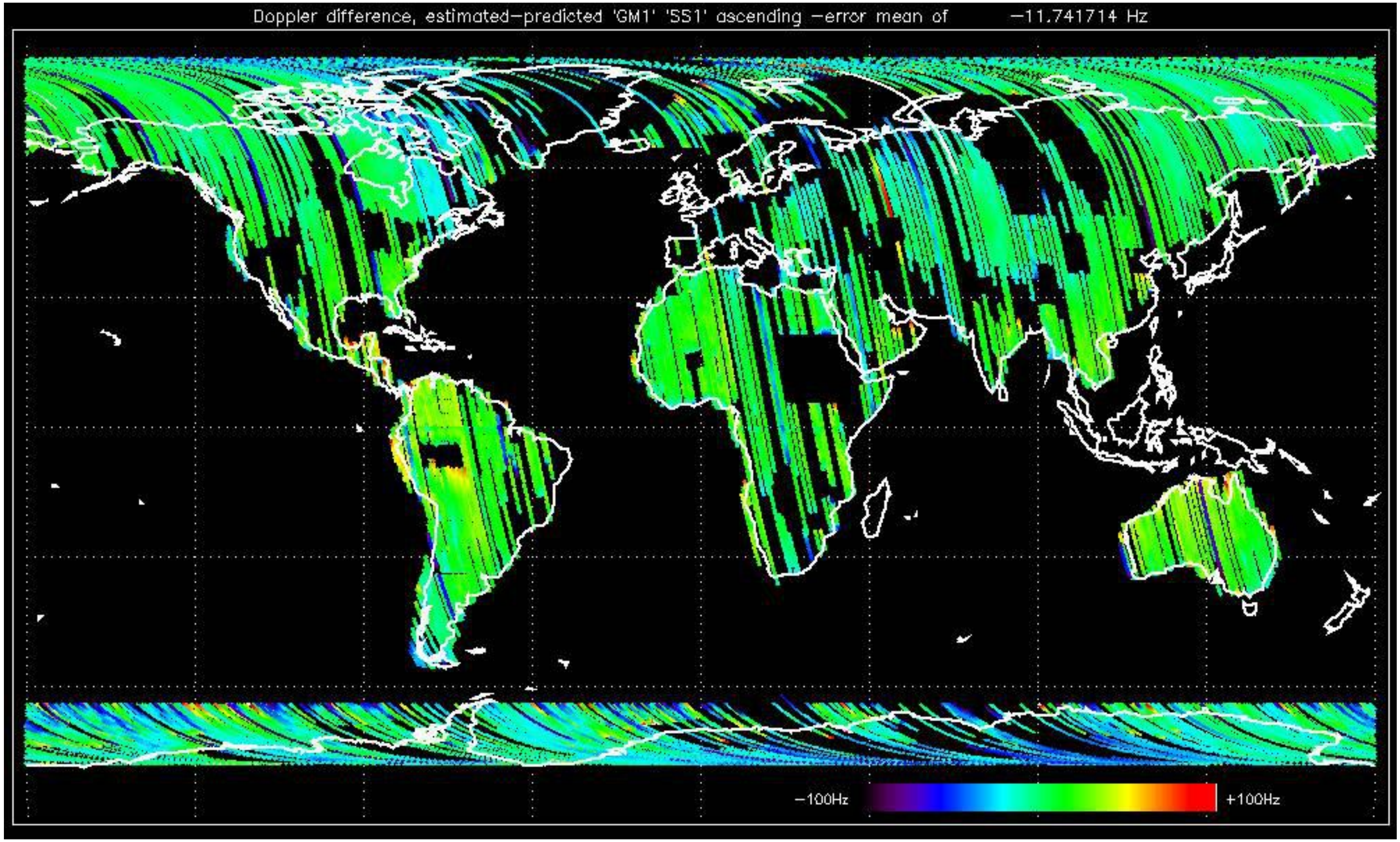

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

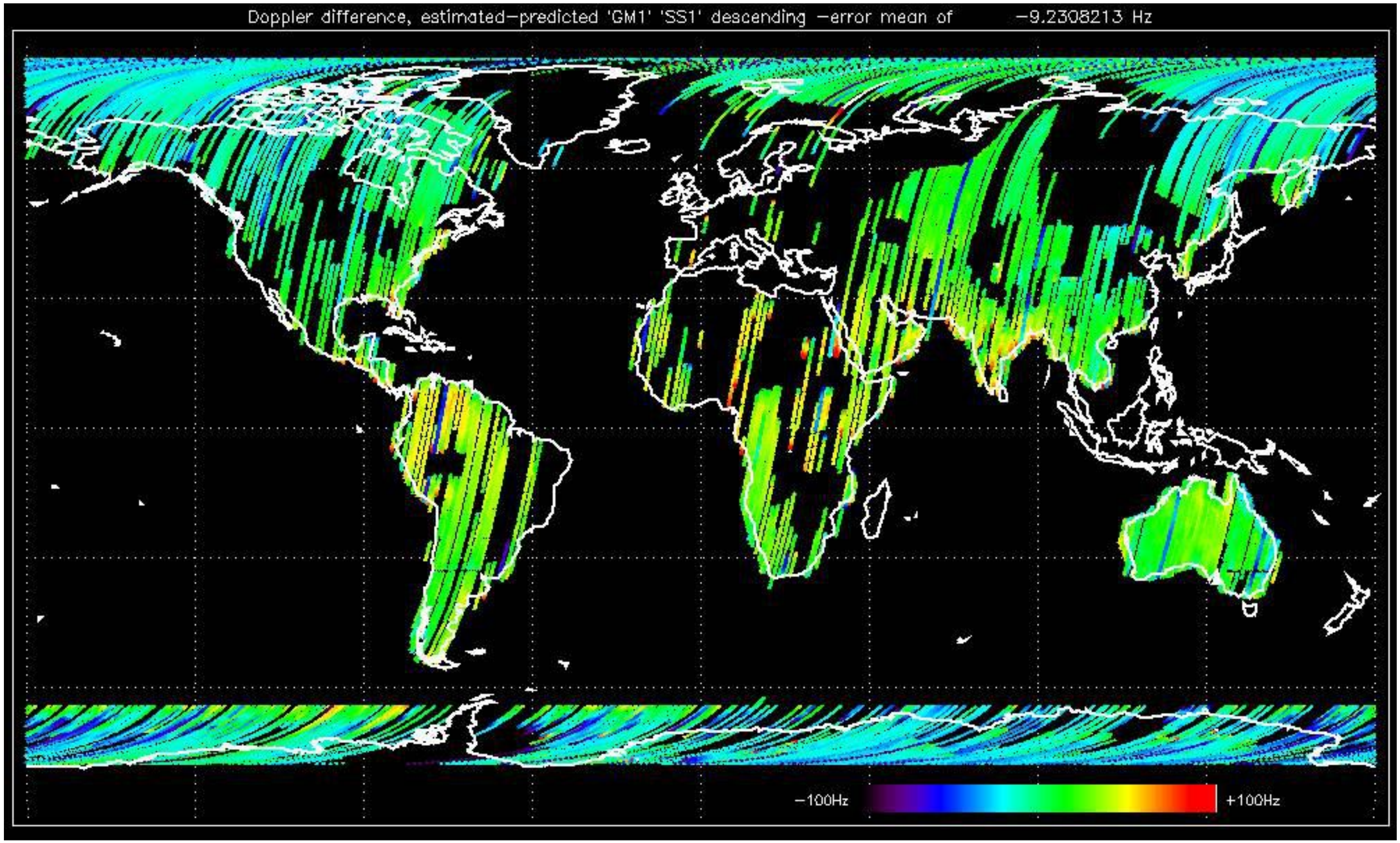

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

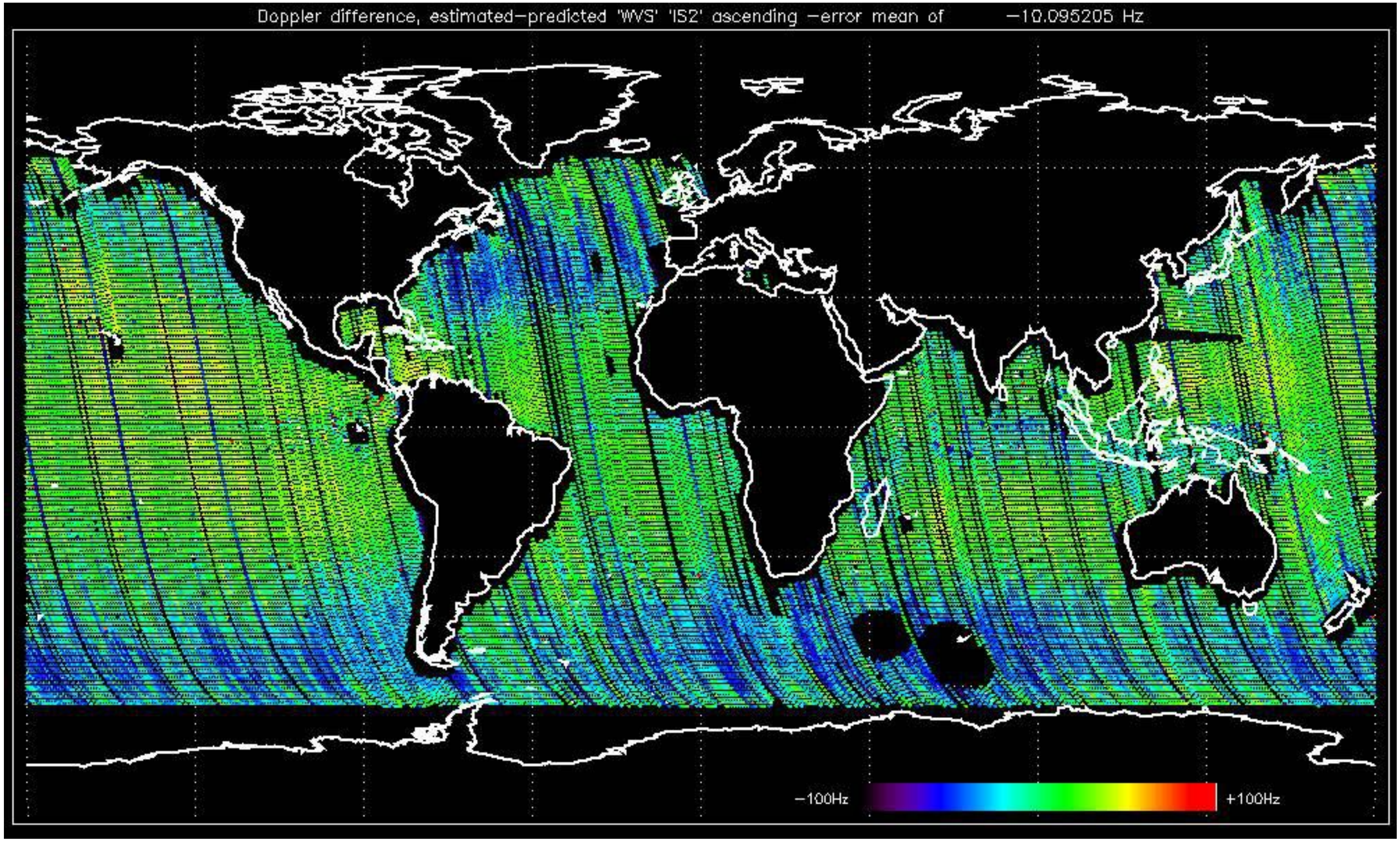

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

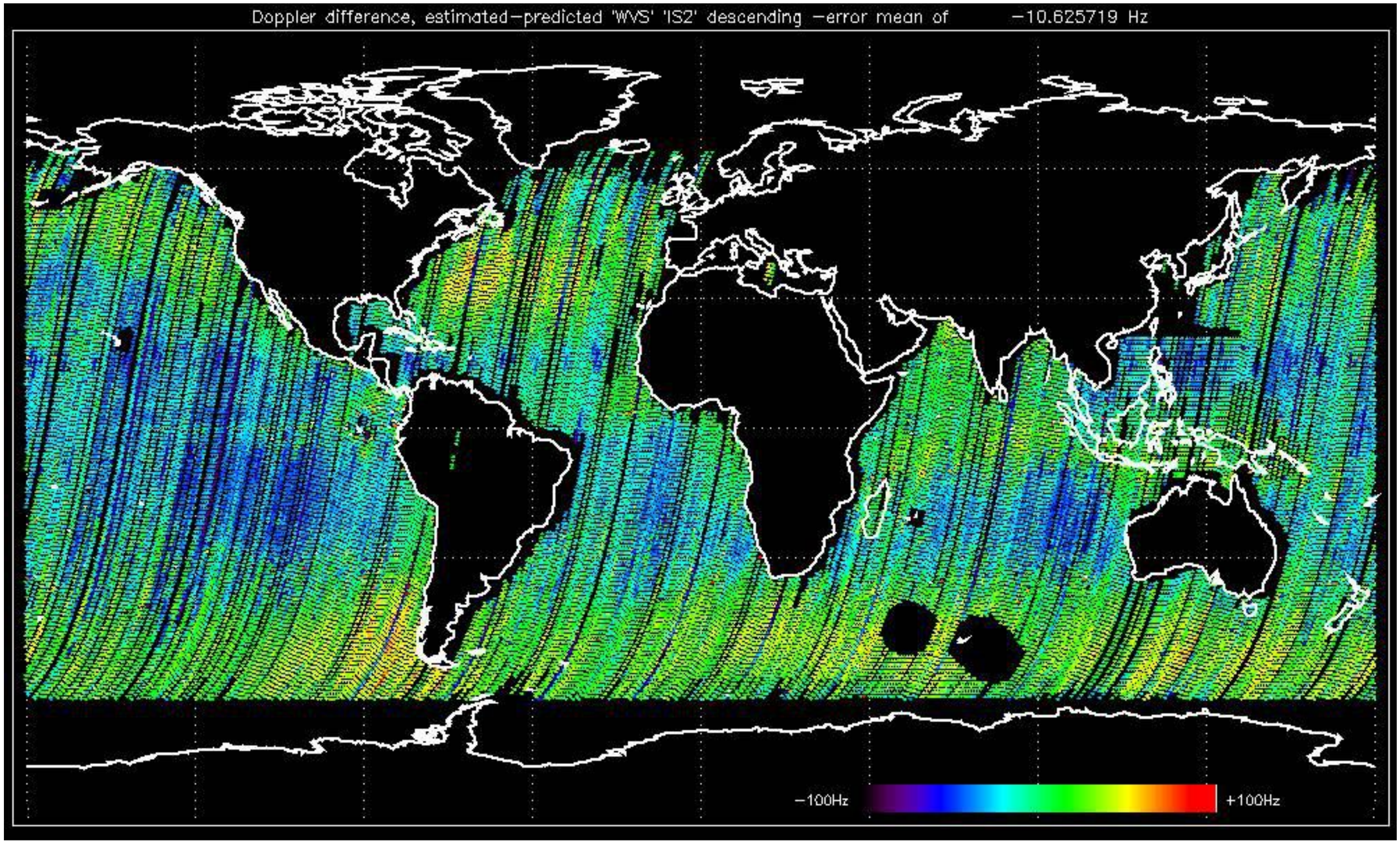

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
31−Mar
Date


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]
200
100
0
−100
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
31−Mar
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −11.741714 Hz
−100Hz
+100Hz

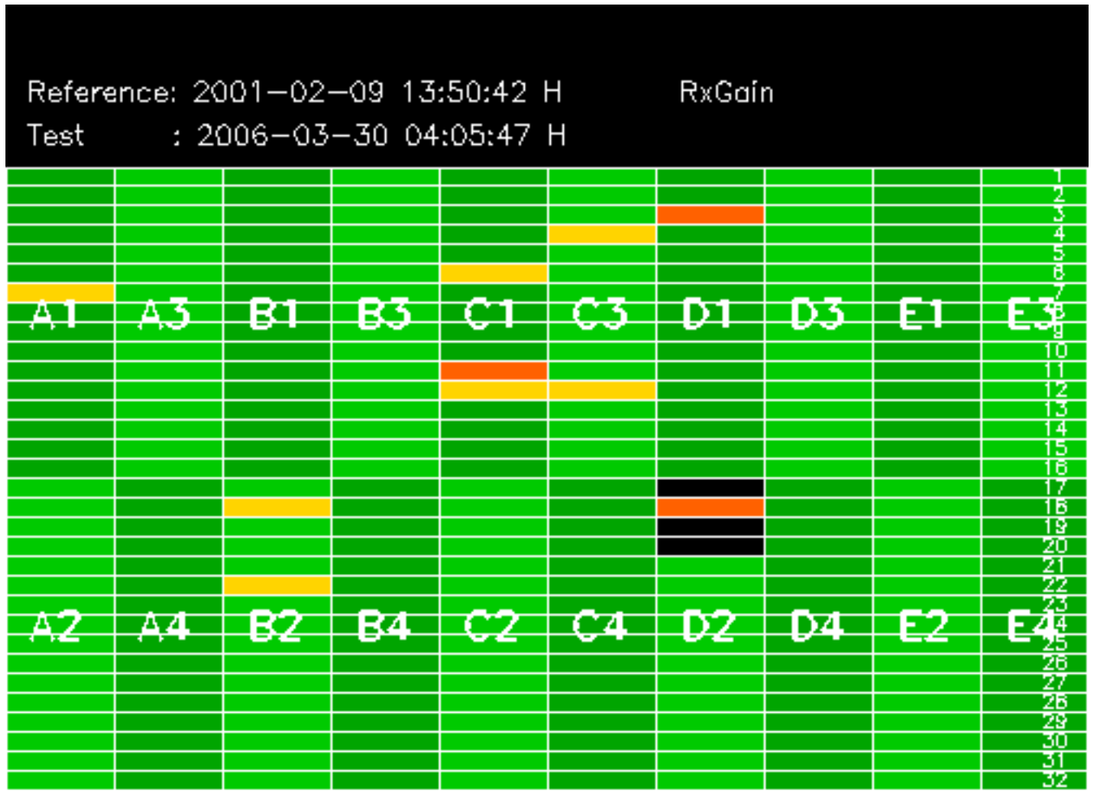

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −9.2308213 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −10.095205 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −10.625719 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2006-03-30 04:05:47 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
5
6
7
8
9
10
11
12
13
14
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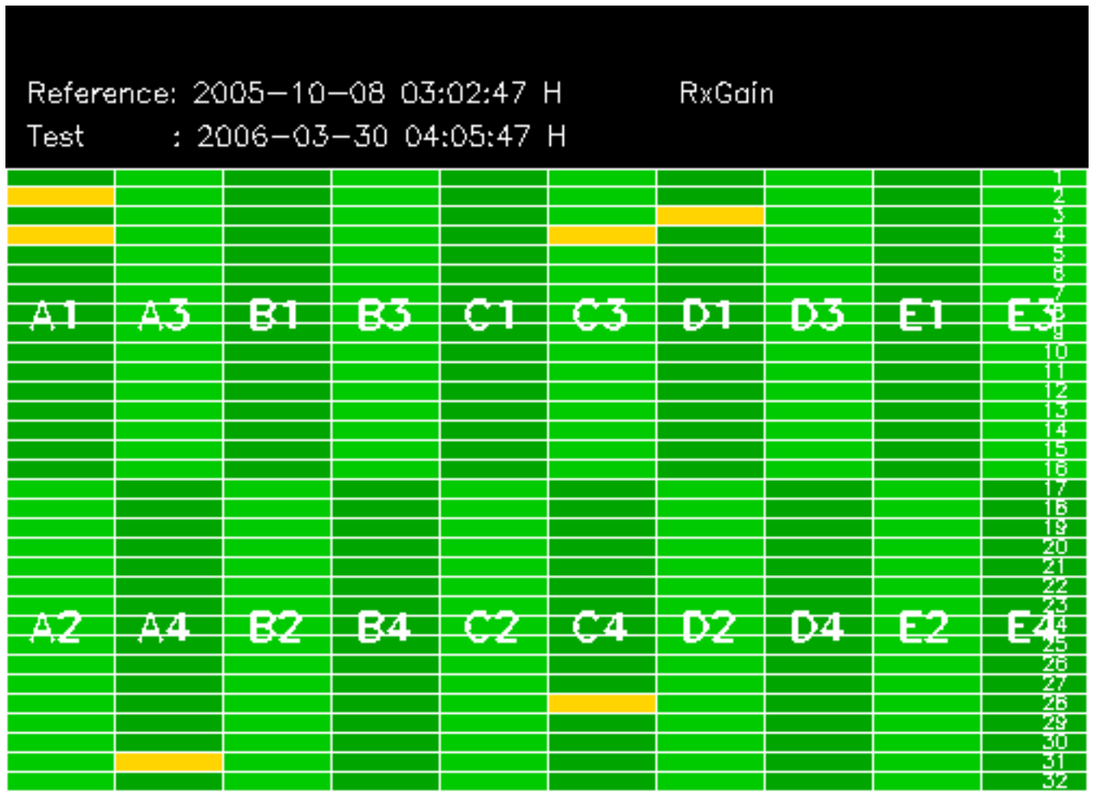
Reference: 2005-10-08 03:02:47 H
Test : 2006-03-30 04:05:47 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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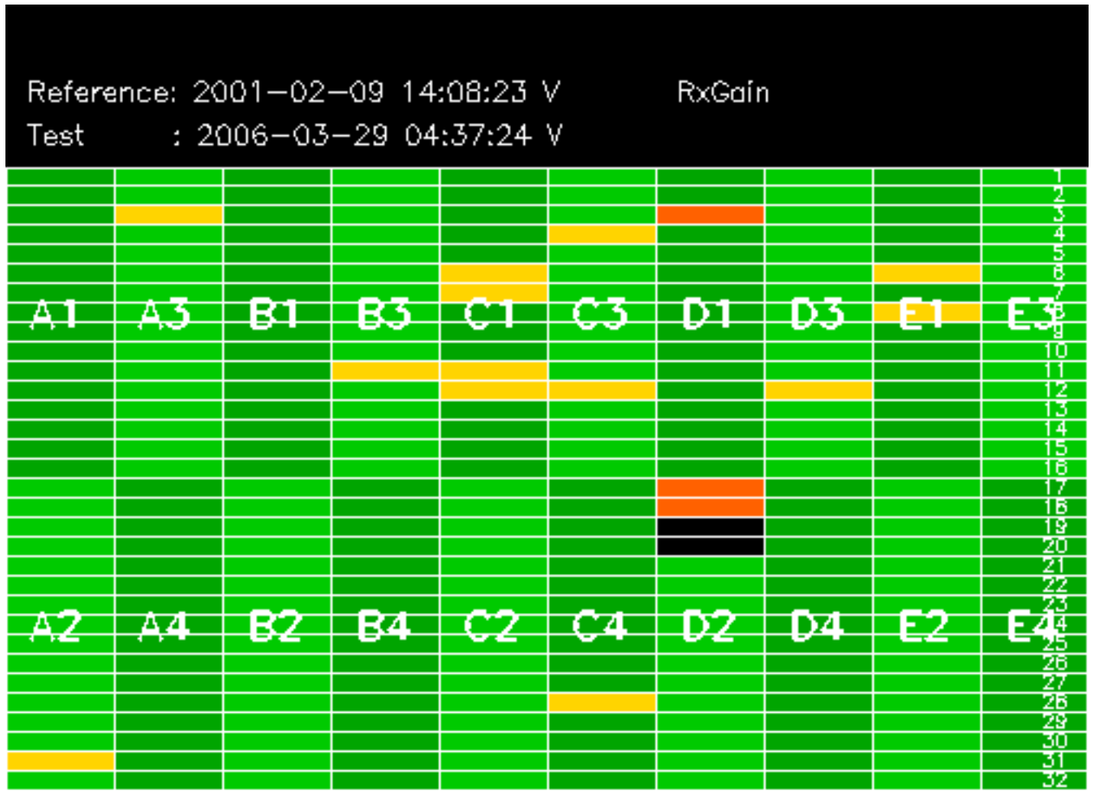
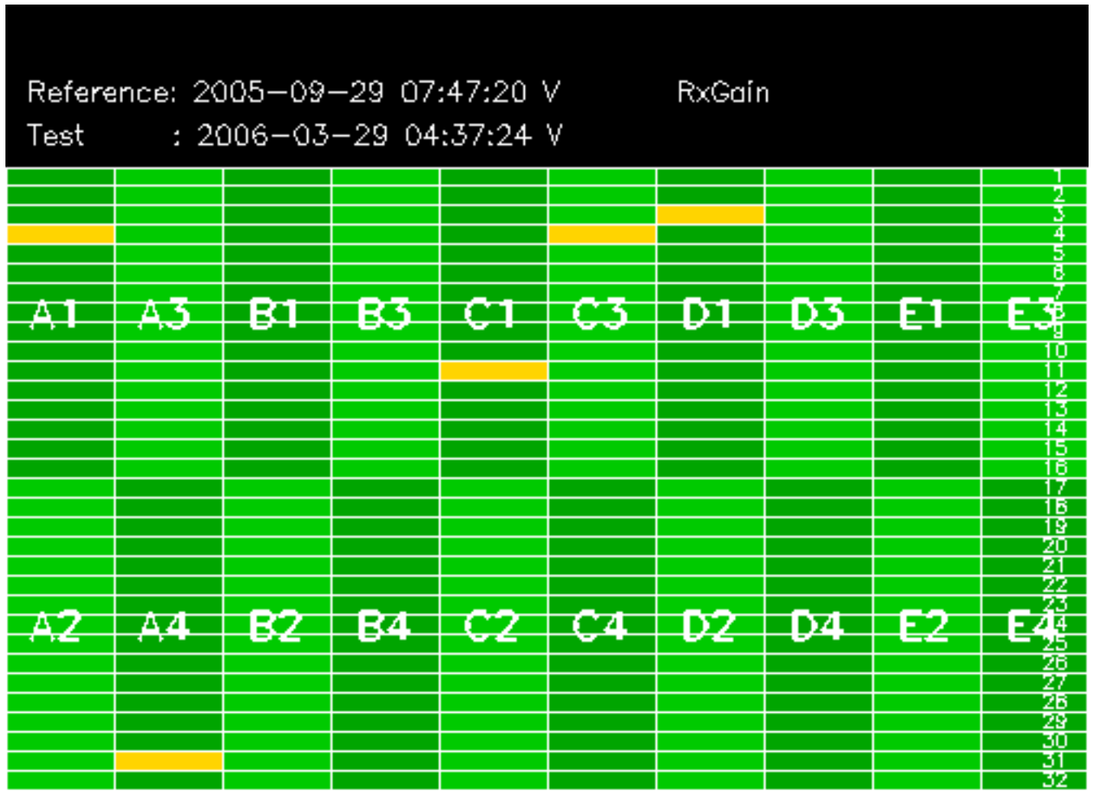

Reference: 2001-02-09 14:08:23 V
Test : 2006-03-29 04:37:24 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-03-29 04:37:24 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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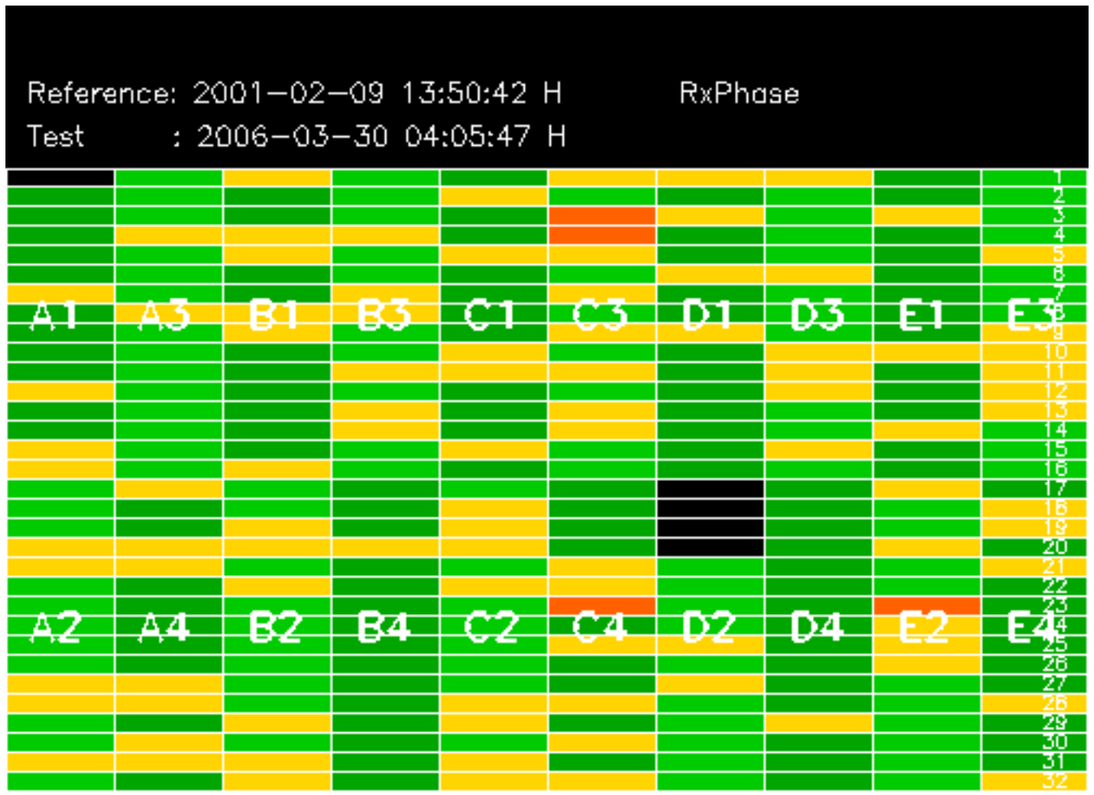
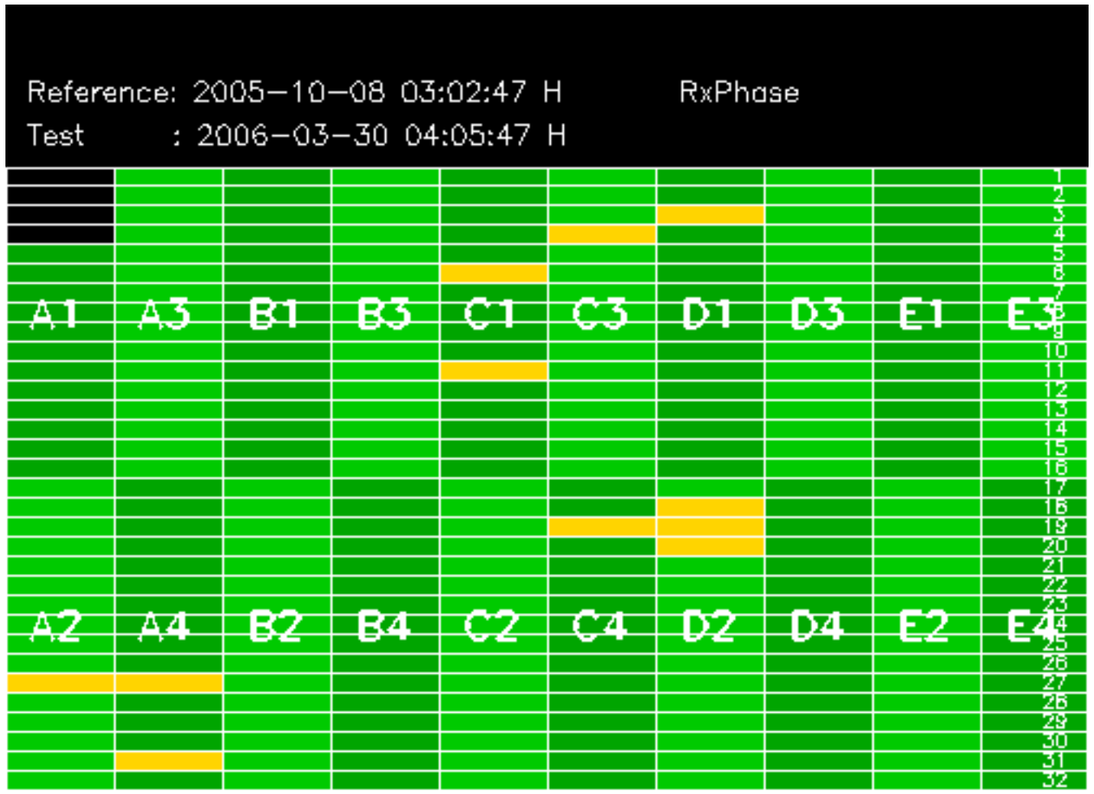

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-03-30 04:05:47 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-10-08 03:02:47 H
RxPhase
Test : 2006-03-30 04:05:47 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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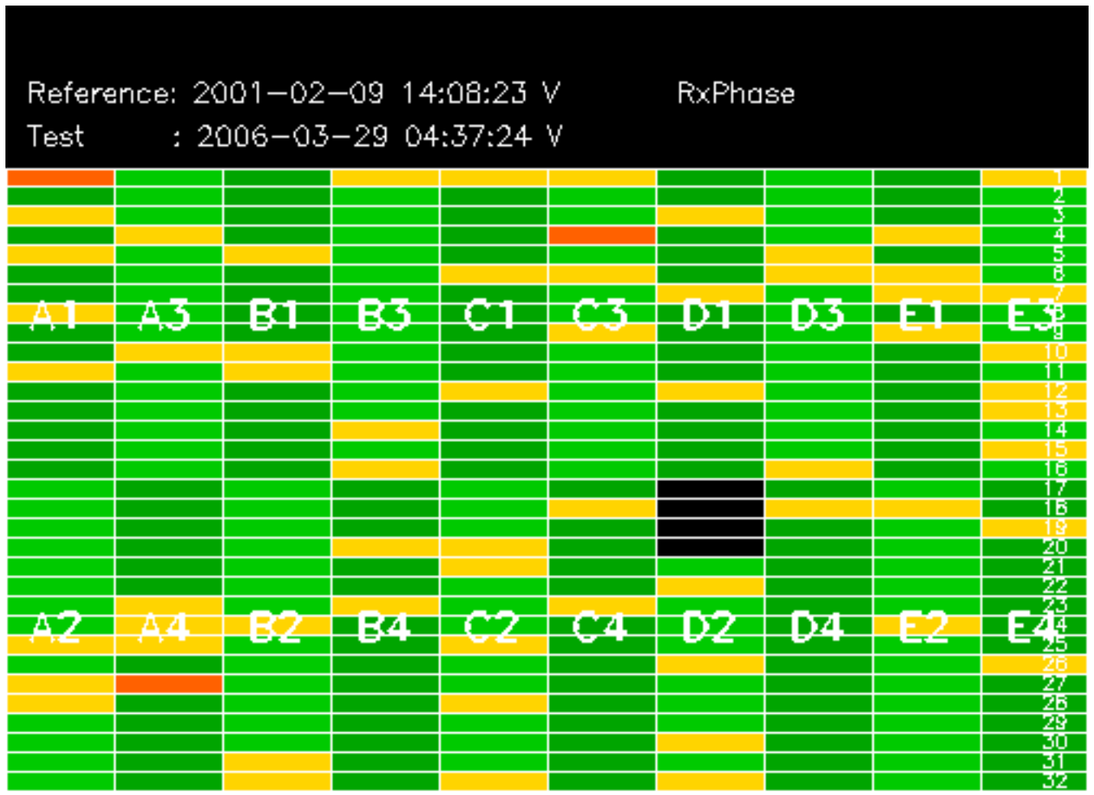
Reference: 2001-02-09 14:08:23 V
Test : 2006-03-29 04:37:24 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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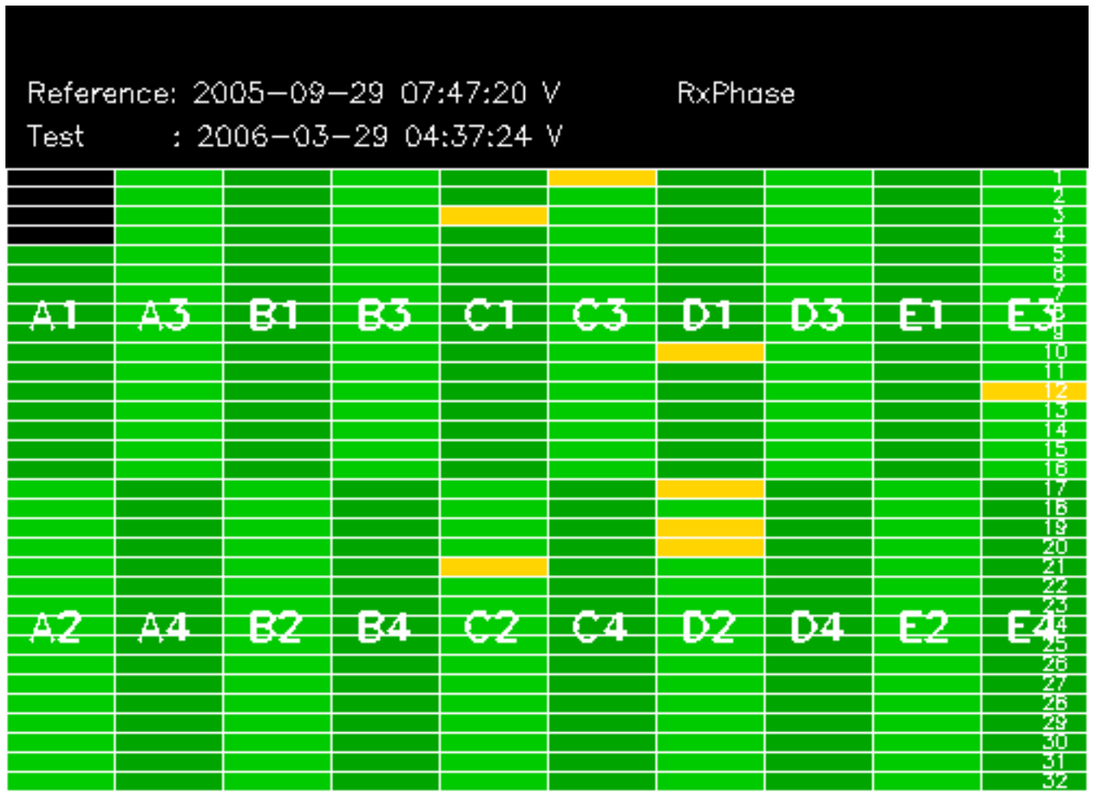
Reference: 2005-09-29 07:47:20 V
Test : 2006-03-29 04:37:24 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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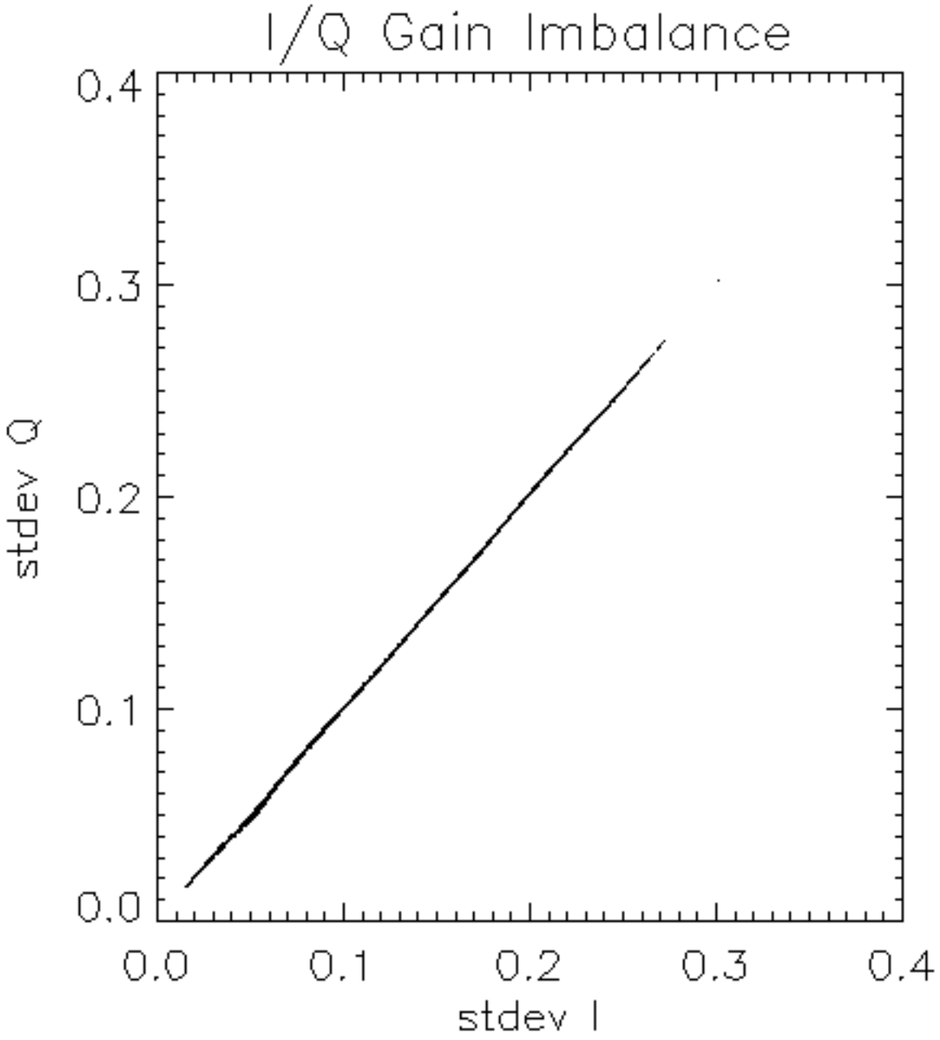
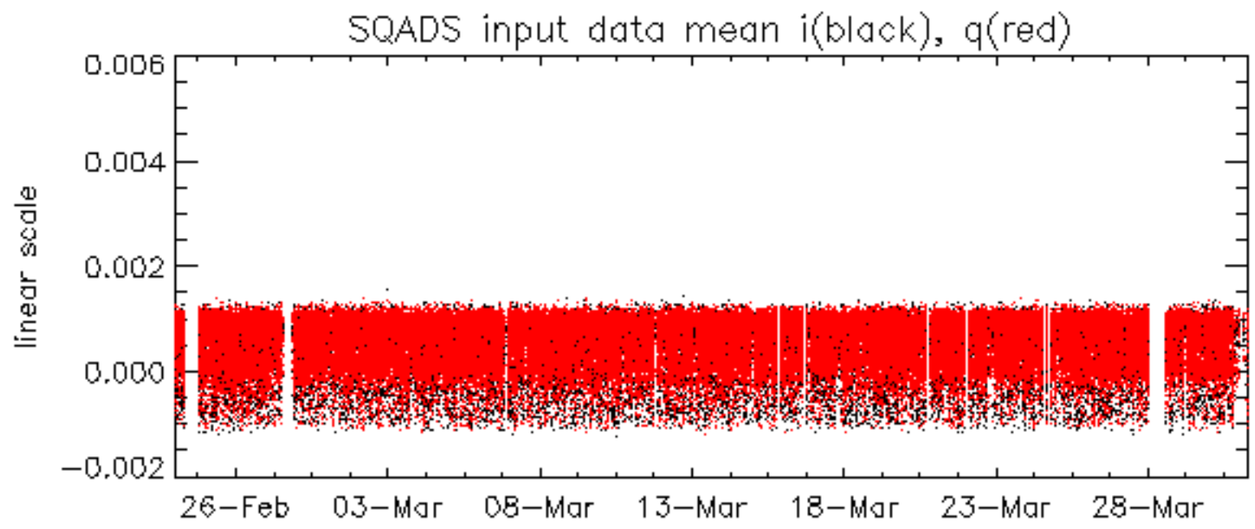
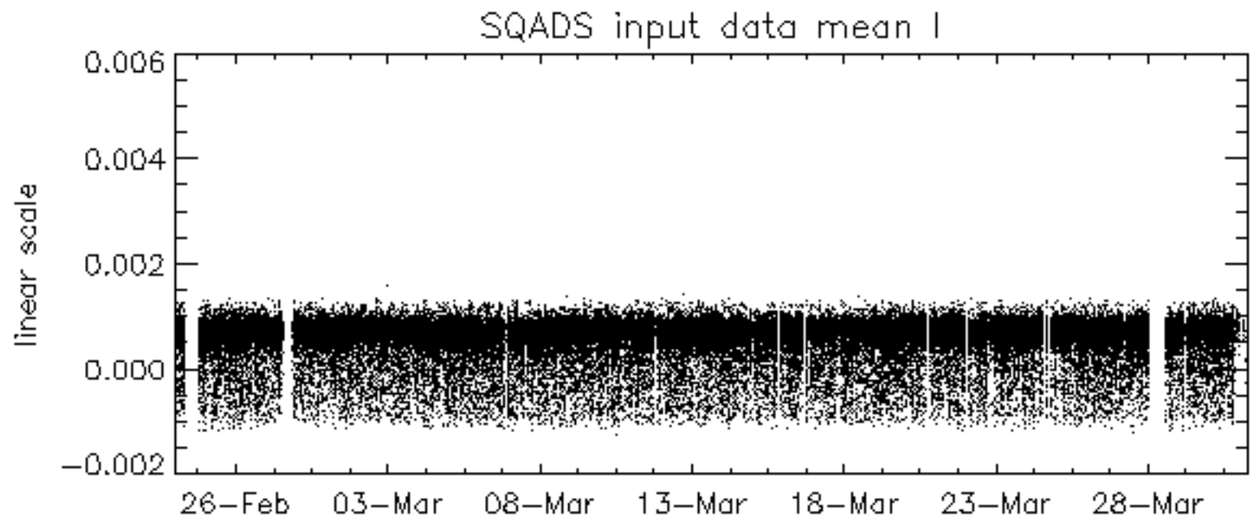
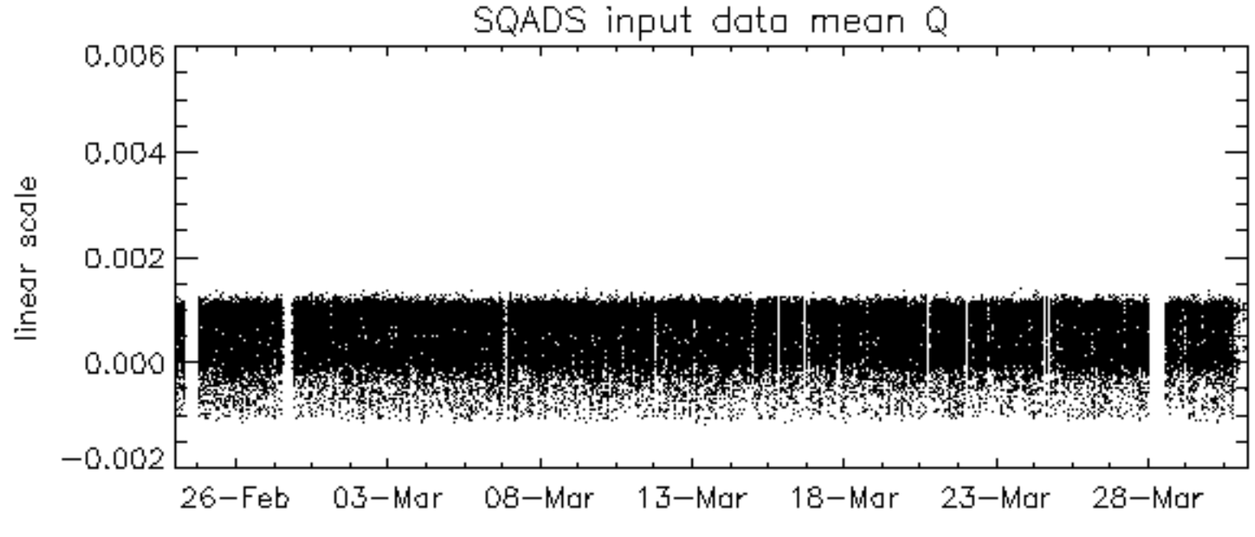
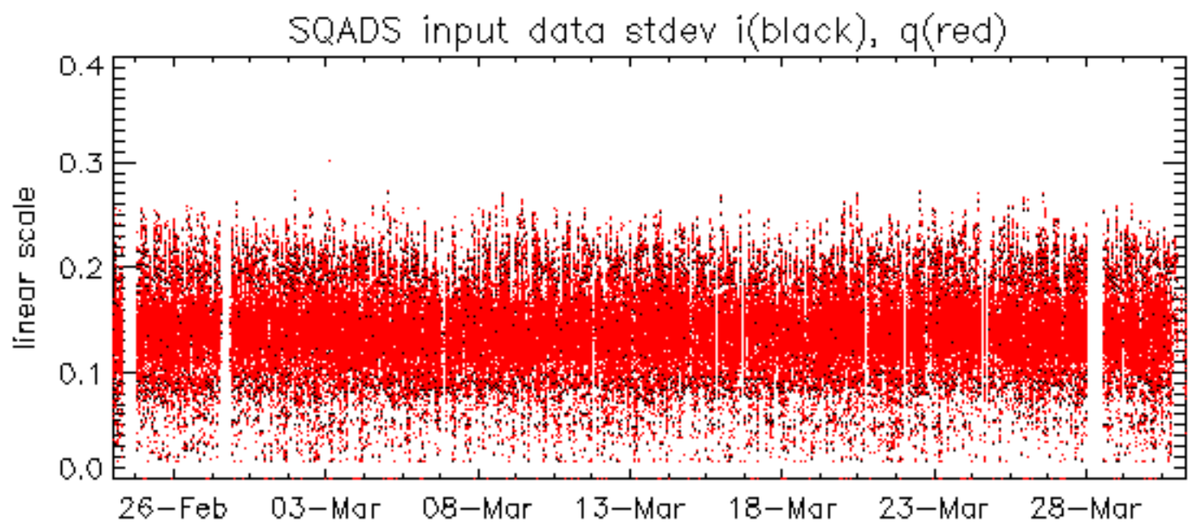
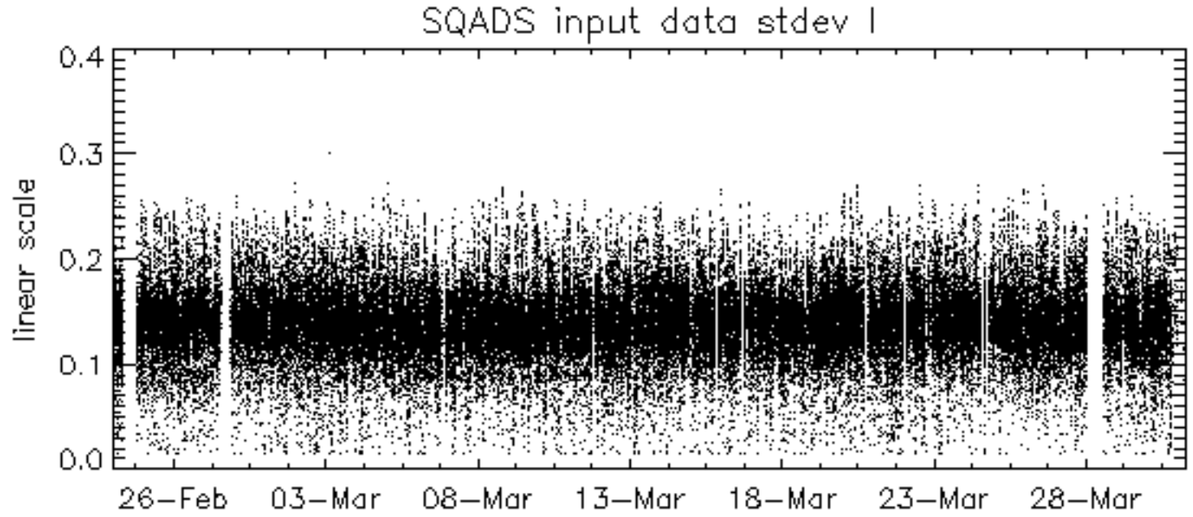

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

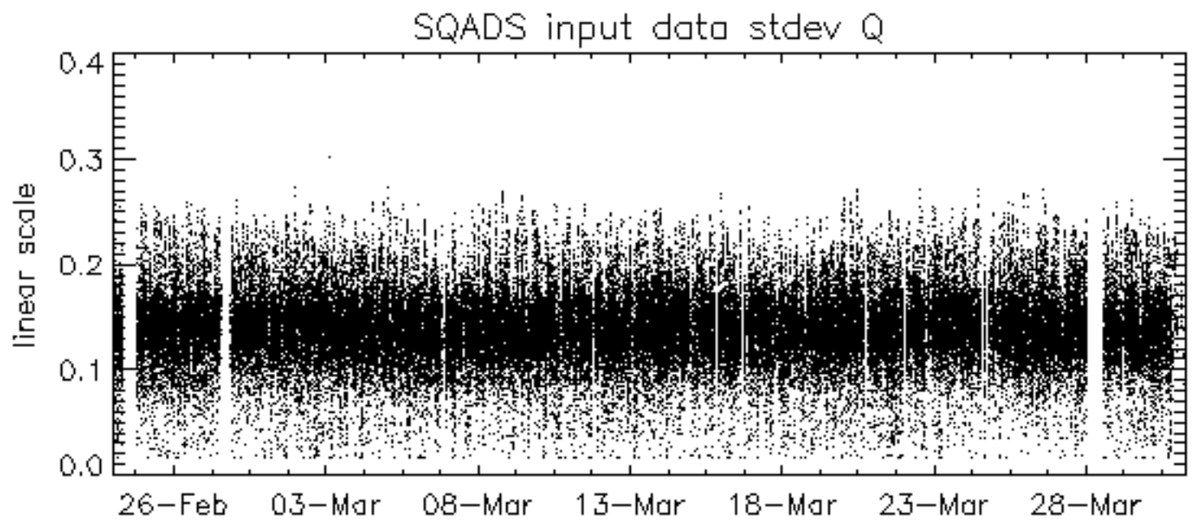

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Feb
03−Mar
08−Mar
13−Mar
18−Mar
23−Mar
28−Mar

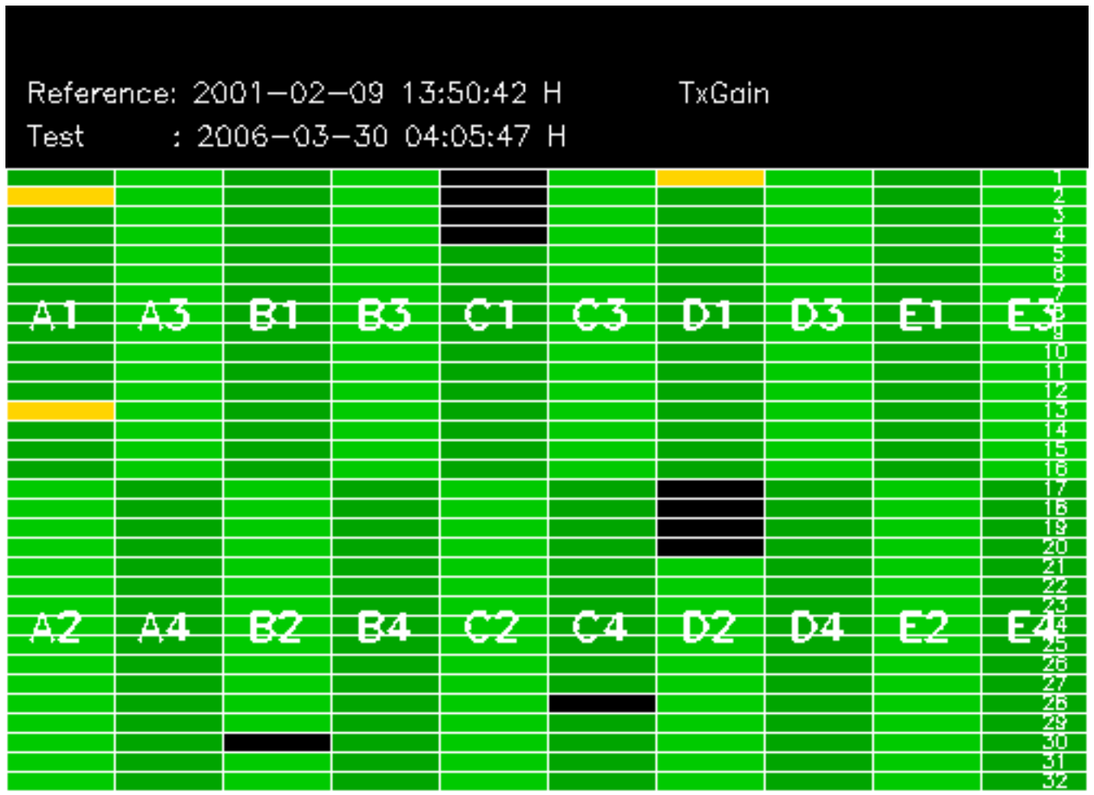

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Feb
03−Mar
08−Mar
13−Mar
18−Mar
23−Mar
28−Mar


SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Feb
03−Mar
08−Mar
13−Mar
18−Mar
23−Mar
28−Mar


SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
26−Feb
03−Mar
08−Mar
13−Mar
18−Mar
23−Mar
28−Mar


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
26−Feb
03−Mar
08−Mar
13−Mar
18−Mar
23−Mar
28−Mar


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
26−Feb
03−Mar
08−Mar
13−Mar
18−Mar
23−Mar
28−Mar


Reference: 2001-02-09 13:50:42 H
Test : 2006-03-30 04:05:47 H
TxGain
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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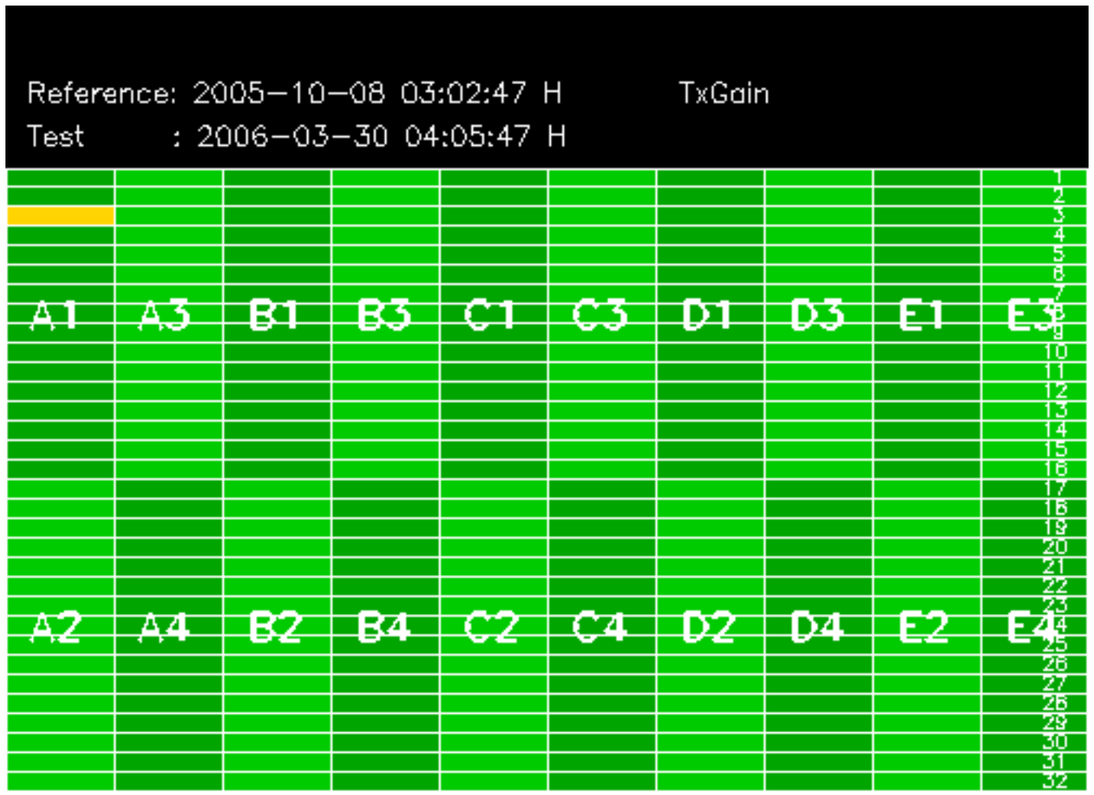
Reference: 2005-10-08 03:02:47 H
Test : 2006-03-30 04:05:47 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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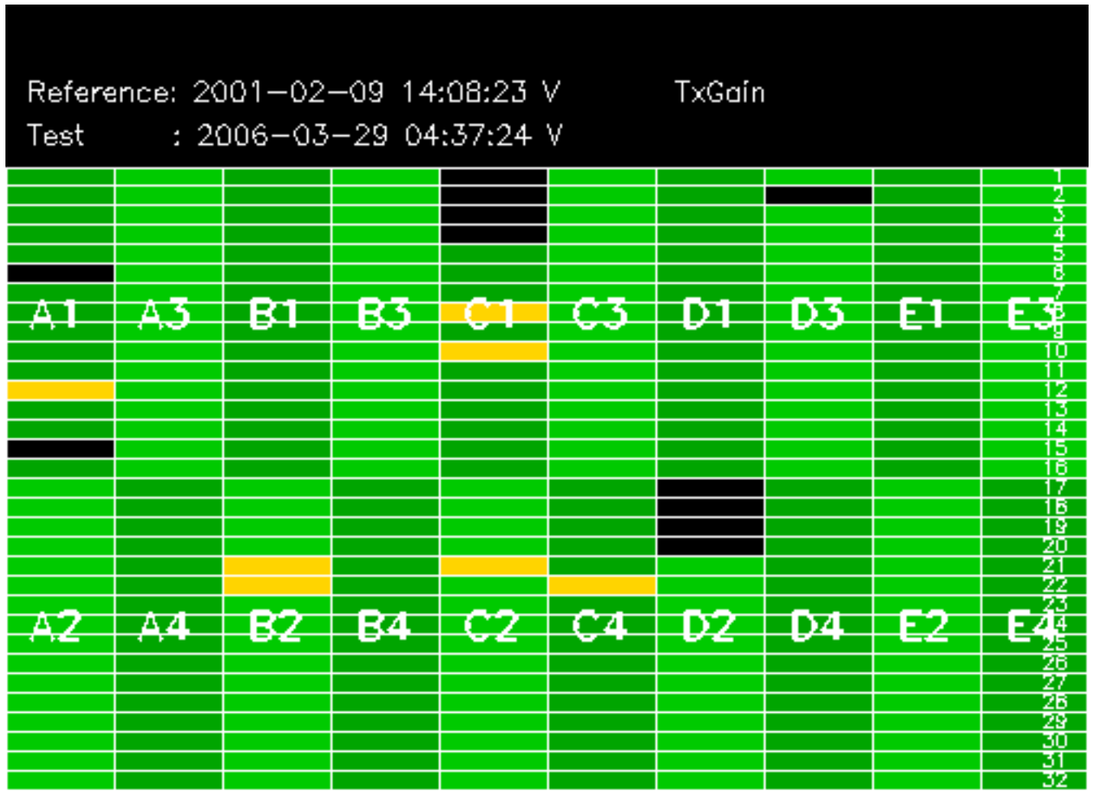
Reference: 2001-02-09 14:08:23 V
Test : 2006-03-29 04:37:24 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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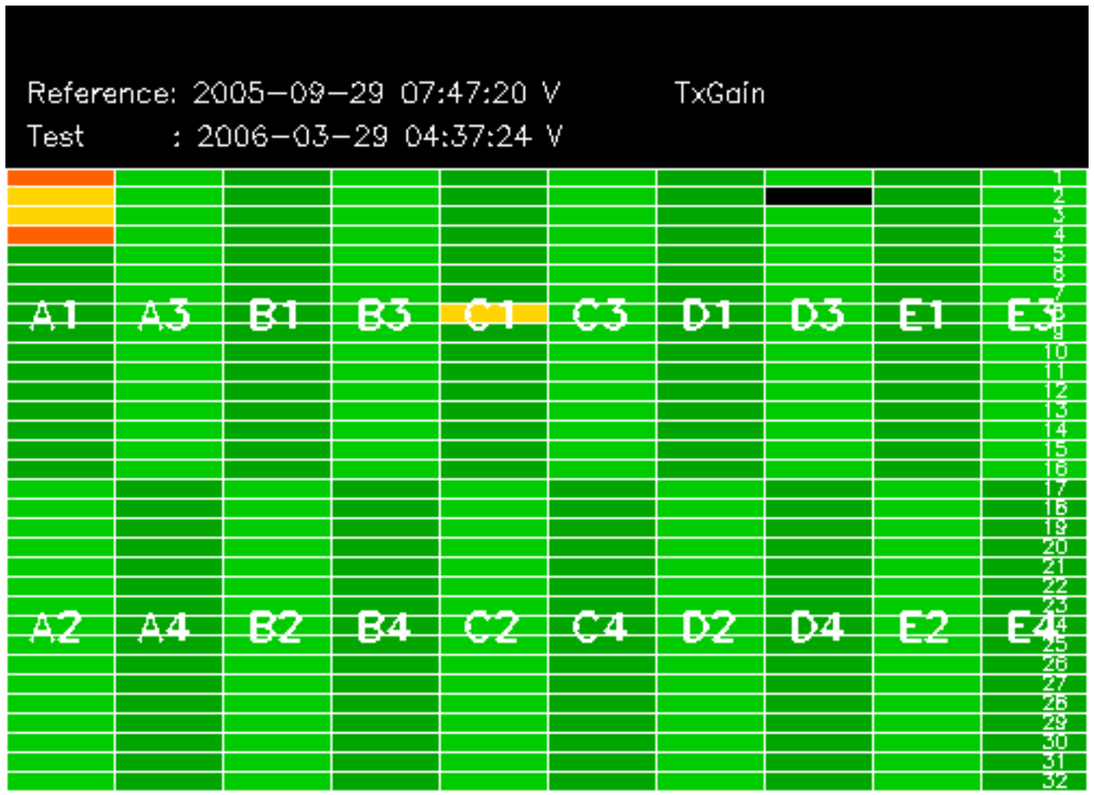
Reference: 2005-09-29 07:47:20 V
Test : 2006-03-29 04:37:24 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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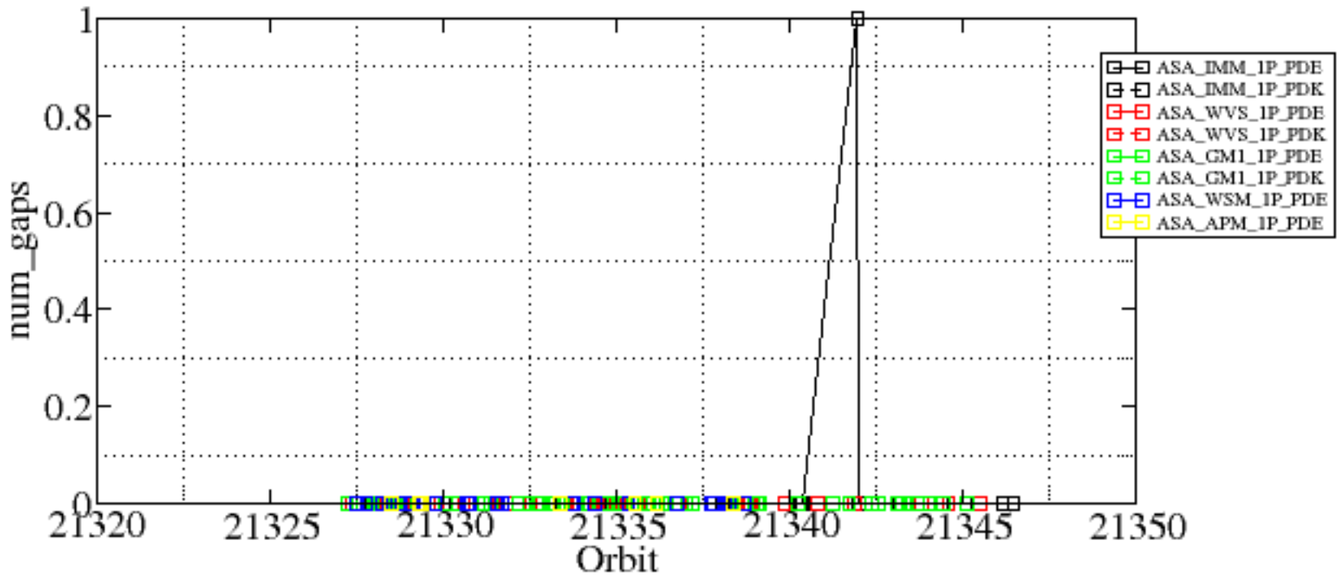
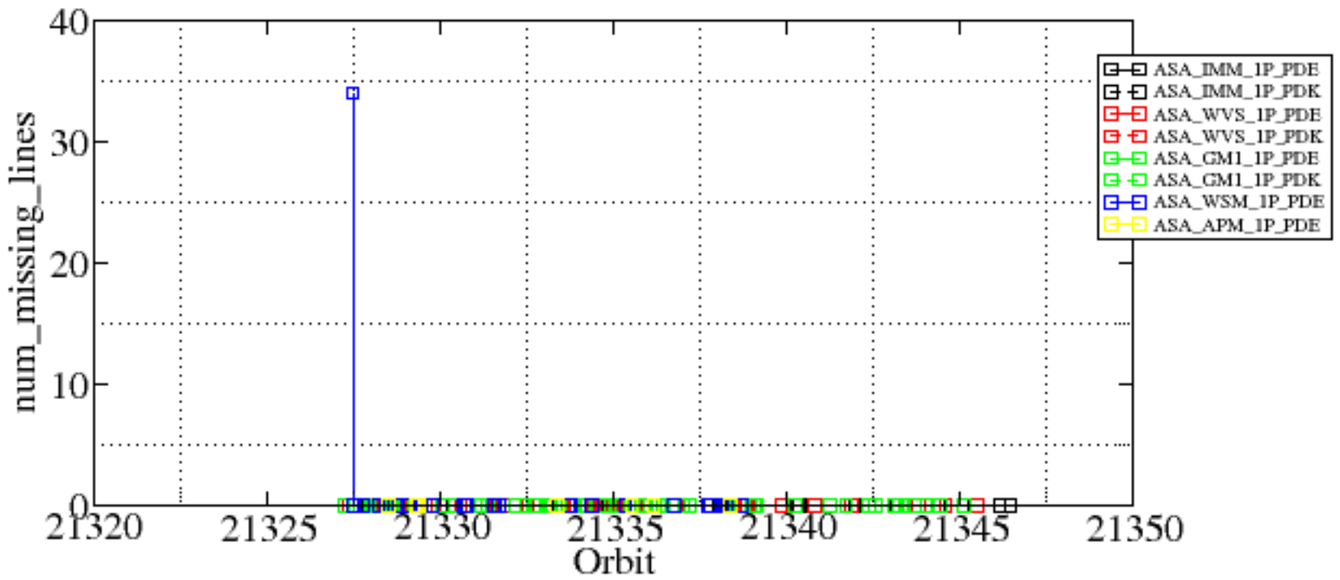
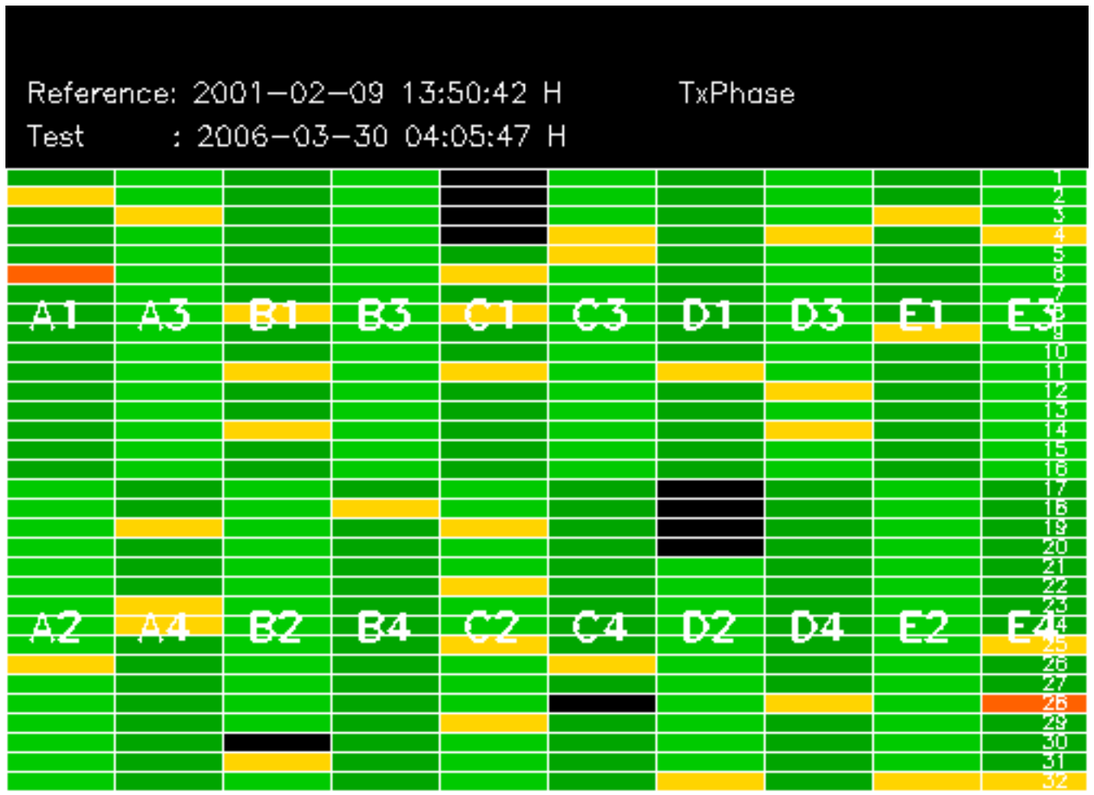
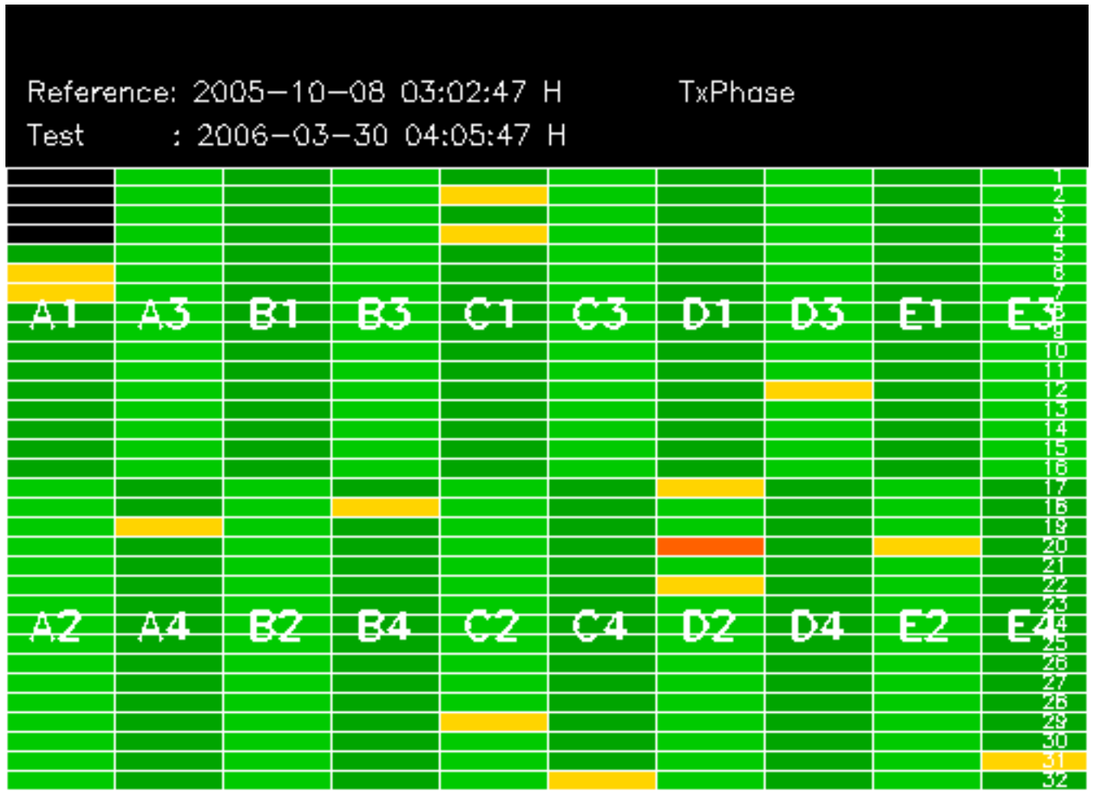
Summary of analysis for the last 3 days 2006033[901]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_IMM_1PNPDE20060331_004226_000000622046_00245_21341_1773.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20060330_002520_000001282046_00231_21327_3227.N1 </td> <td>0 </td> <td>34 </td></tr>
</table>


num_gaps
1
0.8
0.6
0.4
0.2
0
21320
21325
21330
21335
21340
21345
21350
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_APM_1P_PDE


num_missing_lines
40
30
20
10
0
21320
21325
21330
21335
21340
21345
21350
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_APM_1P_PDE


Reference: 2001-02-09 13:50:42 H
Test : 2006-03-30 04:05:47 H
TxPhase
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 : 2006-03-30 04:05:47 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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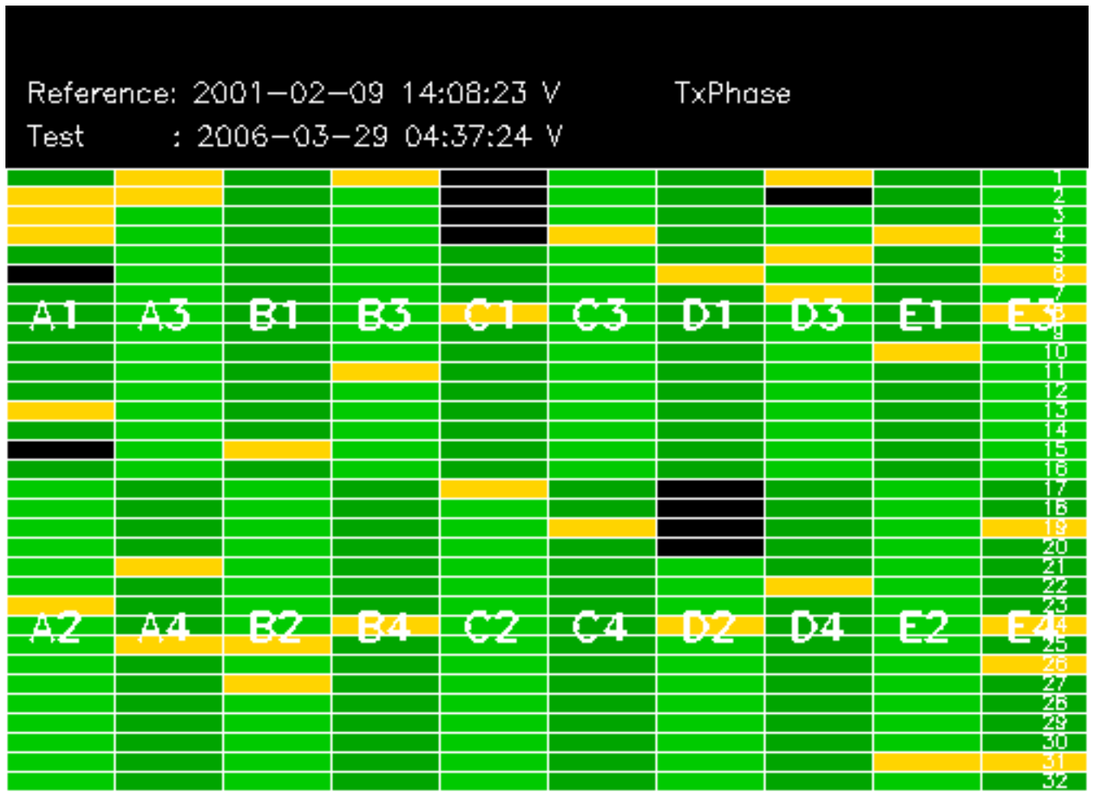
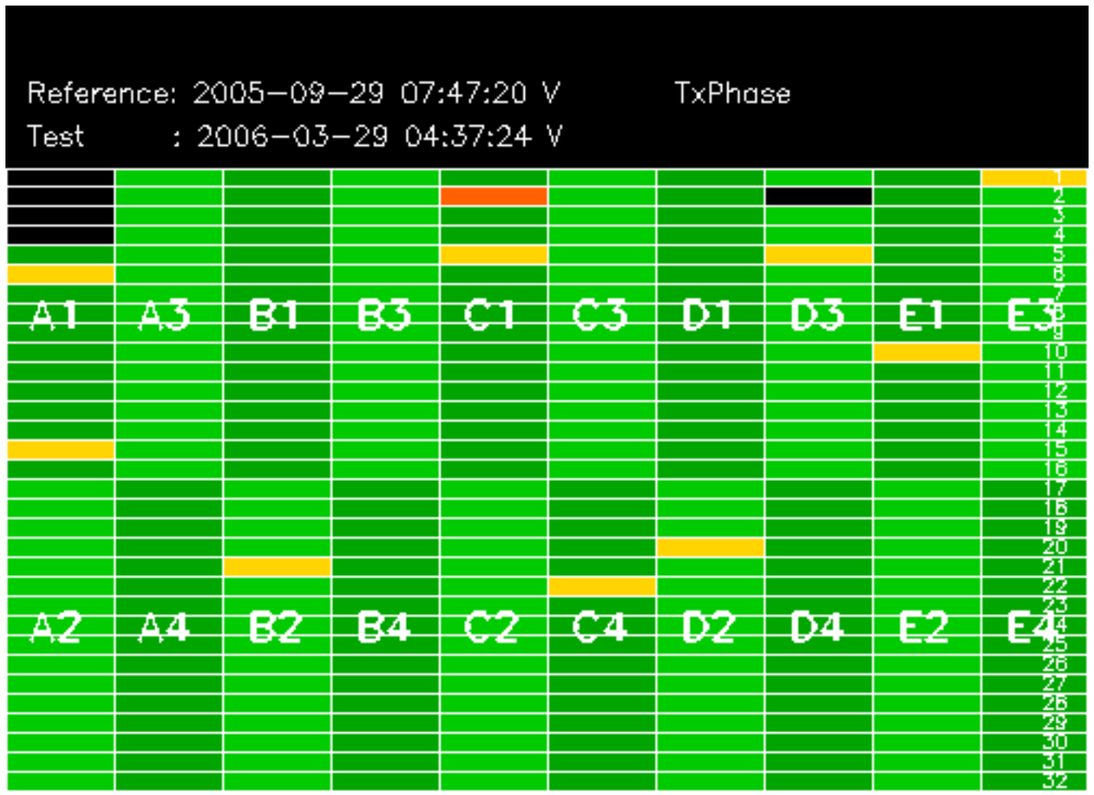

Reference: 2001-02-09 14:08:23 V
Test : 2006-03-29 04:37:24 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-03-29 04:37:24 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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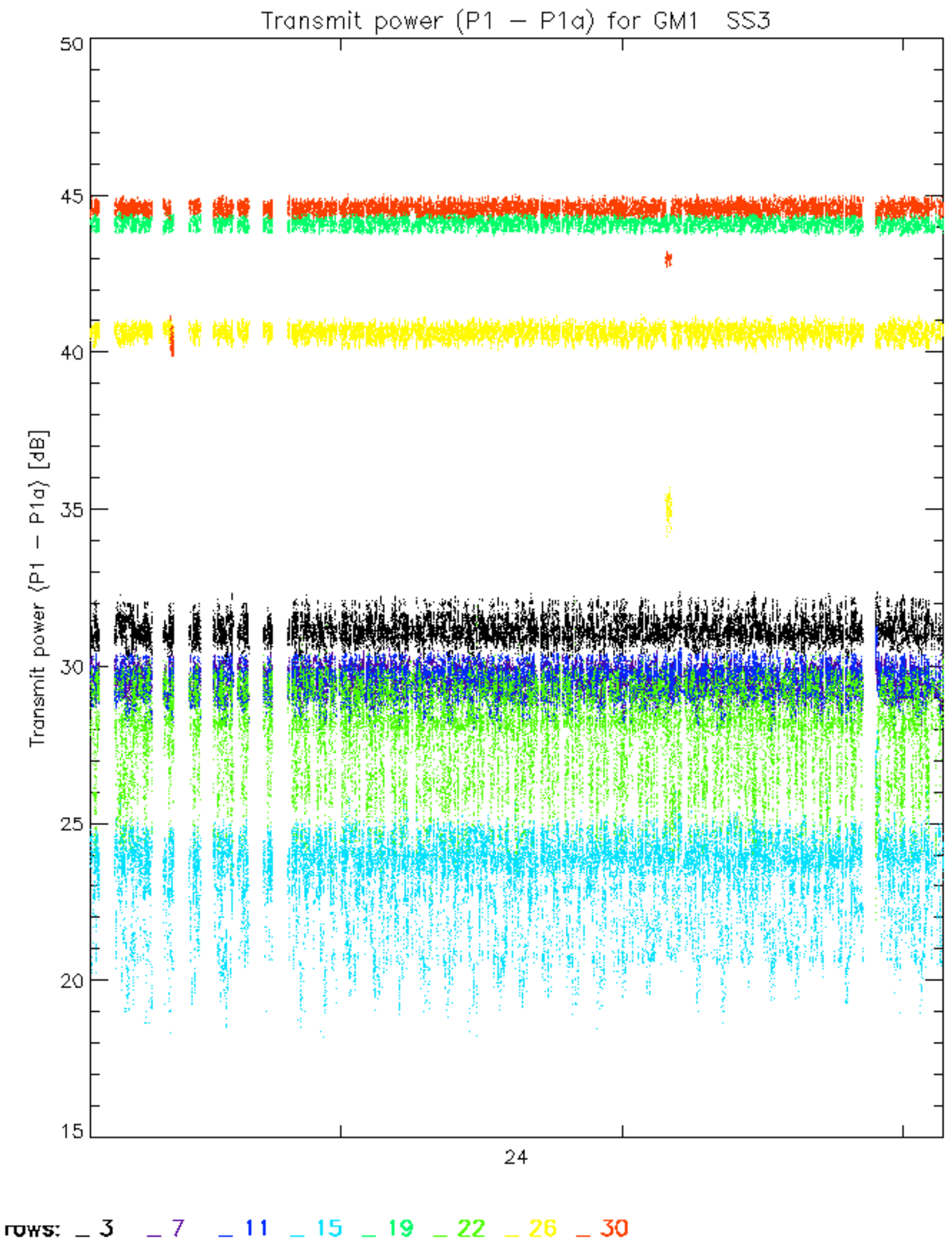
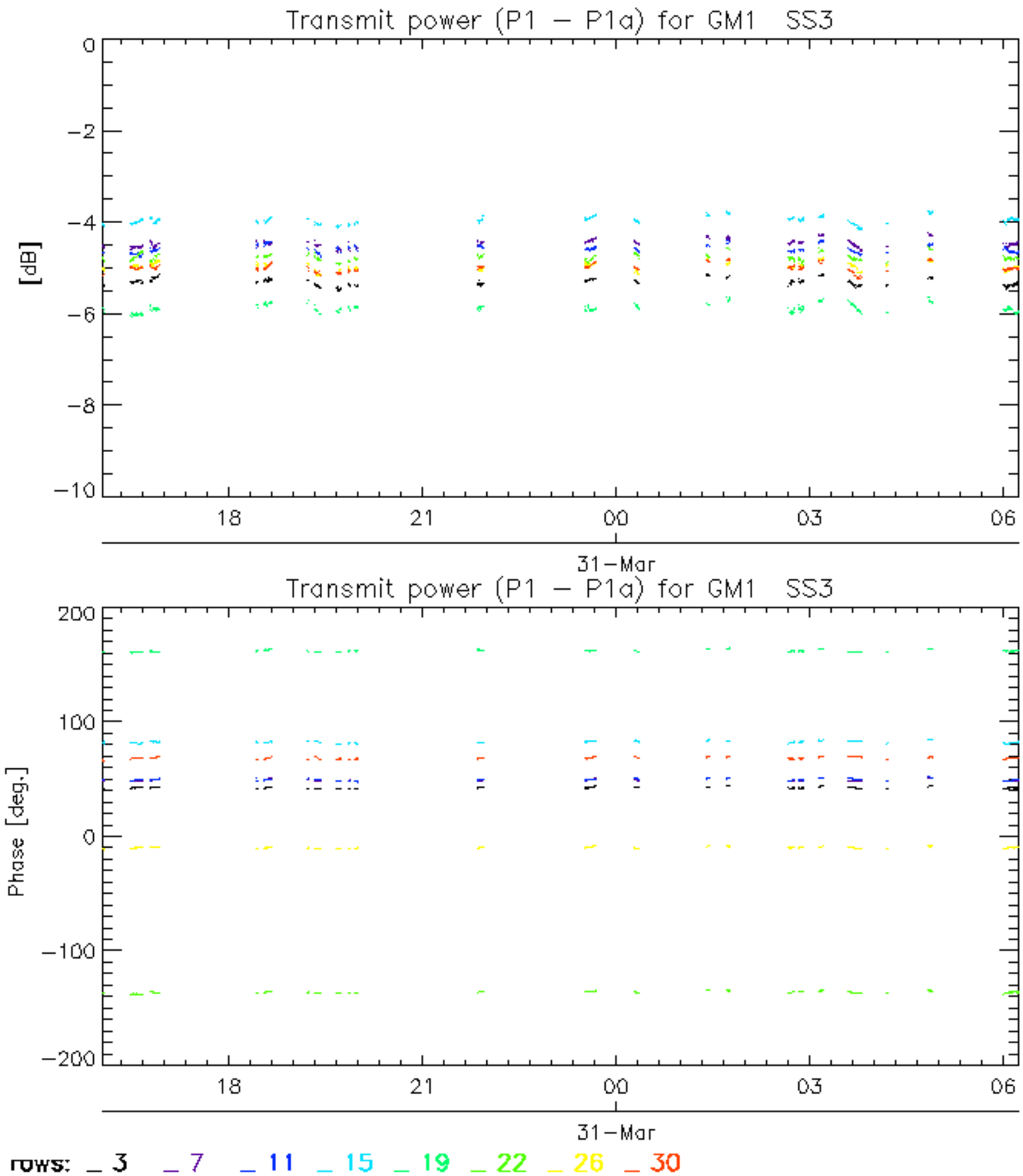
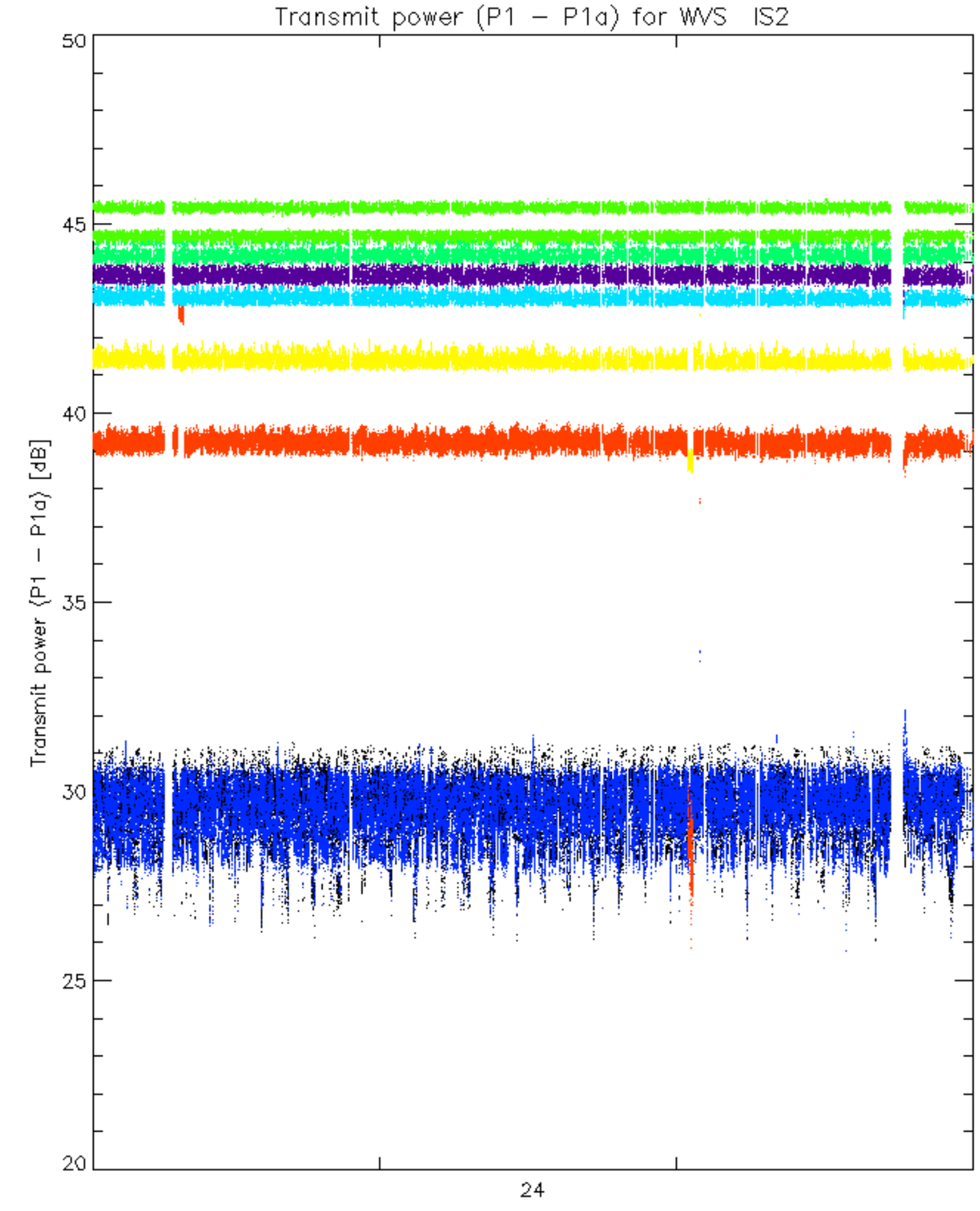
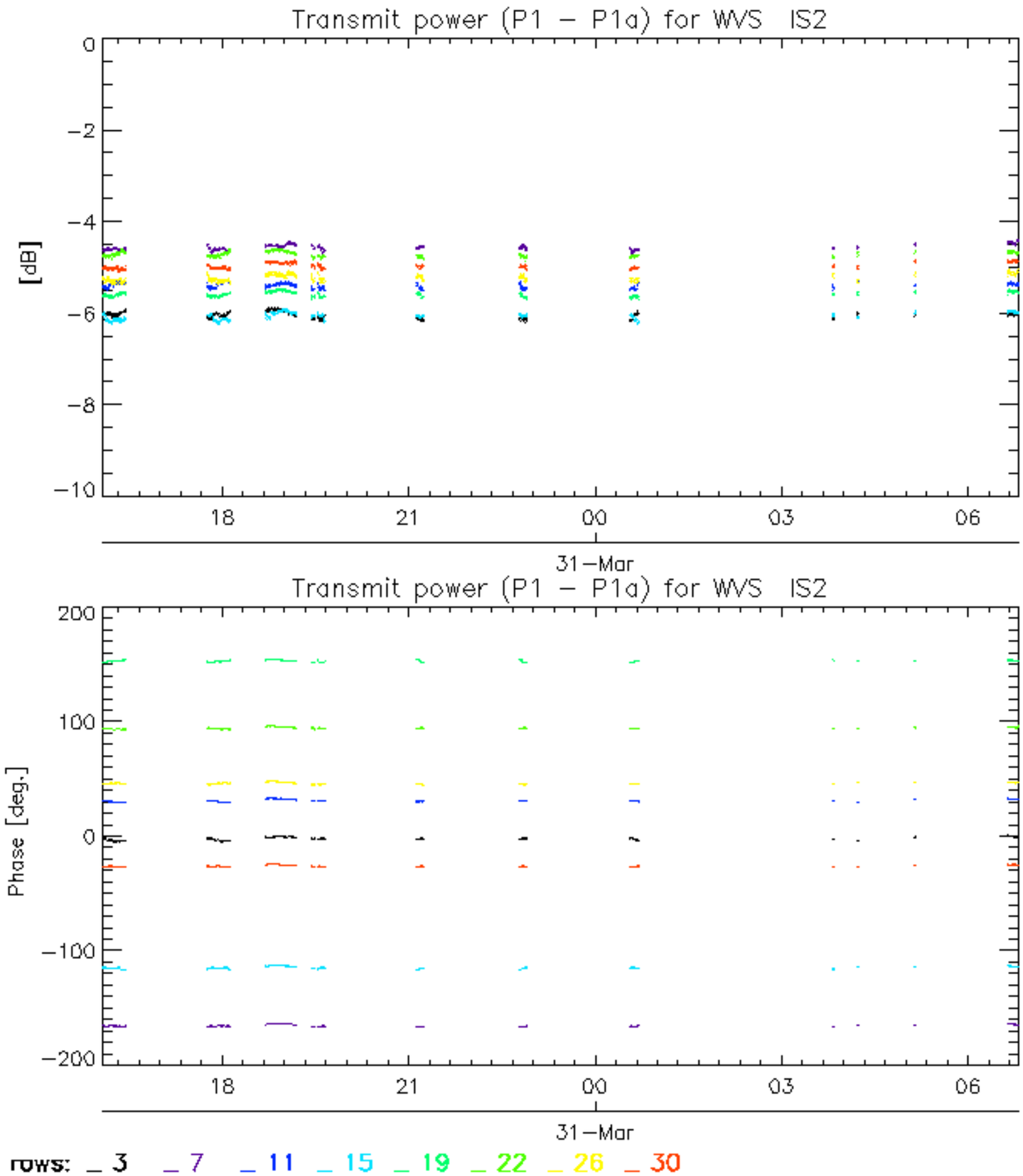

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
45
40
35
30
25
20
15
24
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
0
−2
−4
−6
−8
−10
[dB]
18
21
00
03
06
31−Mar
Transmit power (P1 – P1a) for GM1 SS3
200
100
0
−100
−200
Phase [deg.]
18
21
00
03
06
31−Mar
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
24
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
31–Mar
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
18
21
00
03
06
31–Mar
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.