PRELIMINARY REPORT OF 050425

last update on Mon Apr 25 10:50:01 GMT 2005

1 - Introduction

This report is based on the analysis of wave mode level-1 cross spectra (ASA_WVS_1P), global monitoring products (ASA_GM1_1P), which are the available few hours after the acquisition, on the browse (BP) products and
on the Module Stepping (MS) product.

2 - Summary

2.1 - Instrument Unavailability

No unavailabilities during the reported period.

2.2 - Auxiliary files

Summary of the auxiliary files used from 2005-04-24 00:00:00 to 2005-04-25 10:50:02

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	10	27	5	2	5
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	10	27	5	2	5
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	10	27	5	2	5
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	10	27	5	2	5

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	51	68	8	3	9
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	51	68	8	3	9
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	51	68	8	3	9
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	51	68	8	3	9

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	20050424 053218
H	20050421 070709

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	-3.340144	0.013723	-0.023471
7	P1	-3.117228	0.010596	0.022223
11	P1	-4.666861	0.032408	-0.010261
15	P1	-5.594497	0.046264	0.078607
19	P1	-3.706802	0.004061	-0.022196
22	P1	-4.558289	0.012035	-0.074722
26	P1	-4.904497	0.020051	0.054246
30	P1	-7.172670	0.025144	0.092957
3	P1	-15.759211	0.343137	-0.050818
7	P1	-15.523009	0.094867	0.016818
11	P1	-21.130503	0.451444	-0.420622
15	P1	-11.517685	0.056414	0.213824
19	P1	-14.317704	0.029606	-0.001009
22	P1	-15.815317	0.317971	-0.276278
26	P1	-17.633358	0.178715	0.060094
30	P1	-17.905809	0.336970	0.182551

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.047026	0.082586	0.021206
7	P2	-22.221703	0.099643	0.017532
11	P2	-14.212807	0.109450	0.165640
15	P2	-7.065283	0.092923	-0.044132
19	P2	-9.647745	0.095518	-0.020997
22	P2	-16.883633	0.097454	0.014908
26	P2	-16.461063	0.095871	-0.045744
30	P2	-18.825193	0.086222	0.009296

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.166842	0.004310	0.008700
7	P3	-8.166842	0.004310	0.008700
11	P3	-8.166842	0.004310	0.008702
15	P3	-8.166842	0.004310	0.008702
19	P3	-8.166842	0.004310	0.008702
22	P3	-8.166842	0.004310	0.008702
26	P3	-8.166842	0.004310	0.008702
30	P3	-8.166842	0.004310	0.008701

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	-2.731027	0.025943	-0.110406
7	P1	-3.004676	0.045281	-0.037326
11	P1	-3.977505	0.026798	-0.026312
15	P1	-3.535722	0.036883	-0.011247
19	P1	-3.619394	0.014254	-0.021983
22	P1	-5.696609	0.044878	0.105176
26	P1	-7.306140	0.025516	-0.020751
30	P1	-6.274313	0.062325	-0.029713
3	P1	-10.712672	0.157186	-0.191775
7	P1	-10.365567	0.177708	-0.223834
11	P1	-12.539727	0.138706	-0.121852
15	P1	-11.681115	0.097876	0.049077
19	P1	-15.602450	0.057100	-0.040968
22	P1	-24.922375	1.609742	-0.798985
26	P1	-15.585382	0.250824	-0.220946
30	P1	-20.165192	1.242146	-0.034592

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.748533	0.038325	0.006203
7	P2	-22.300325	0.045795	0.052347
11	P2	-10.073258	0.058488	0.064641
15	P2	-5.034991	0.035133	-0.094419
19	P2	-6.868315	0.050773	-0.070510
22	P2	-7.085475	0.037537	-0.026850
26	P2	-23.879757	0.037312	-0.079830
30	P2	-21.909090	0.042585	-0.061153

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.002396	0.003572	-0.000726
7	P3	-8.002506	0.003562	-0.000805
11	P3	-8.002378	0.003562	-0.000678
15	P3	-8.002563	0.003573	-0.001337
19	P3	-8.002454	0.003563	-0.001051
22	P3	-8.002510	0.003550	-0.000967
26	P3	-8.002503	0.003565	-0.000838
30	P3	-8.002386	0.003567	-0.000824

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	0.000480171
	stdev	2.15779e-07
MEAN Q	mean	0.000493928
	stdev	2.33498e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129488
	stdev	0.00104300
STDEV Q	mean	0.129750
	stdev	0.00105482

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005042[345]
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_WVS_1PNPDE20050423_055635_000000002036_00363_16449_8523.N1	1	0
ASA_WVS_1PNPDE20050423_055635_000000002036_00363_16449_8559.N1	1	0
ASA_WSM_1PNPDK20050423_103054_000000672036_00366_16452_1268.N1	0	31

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

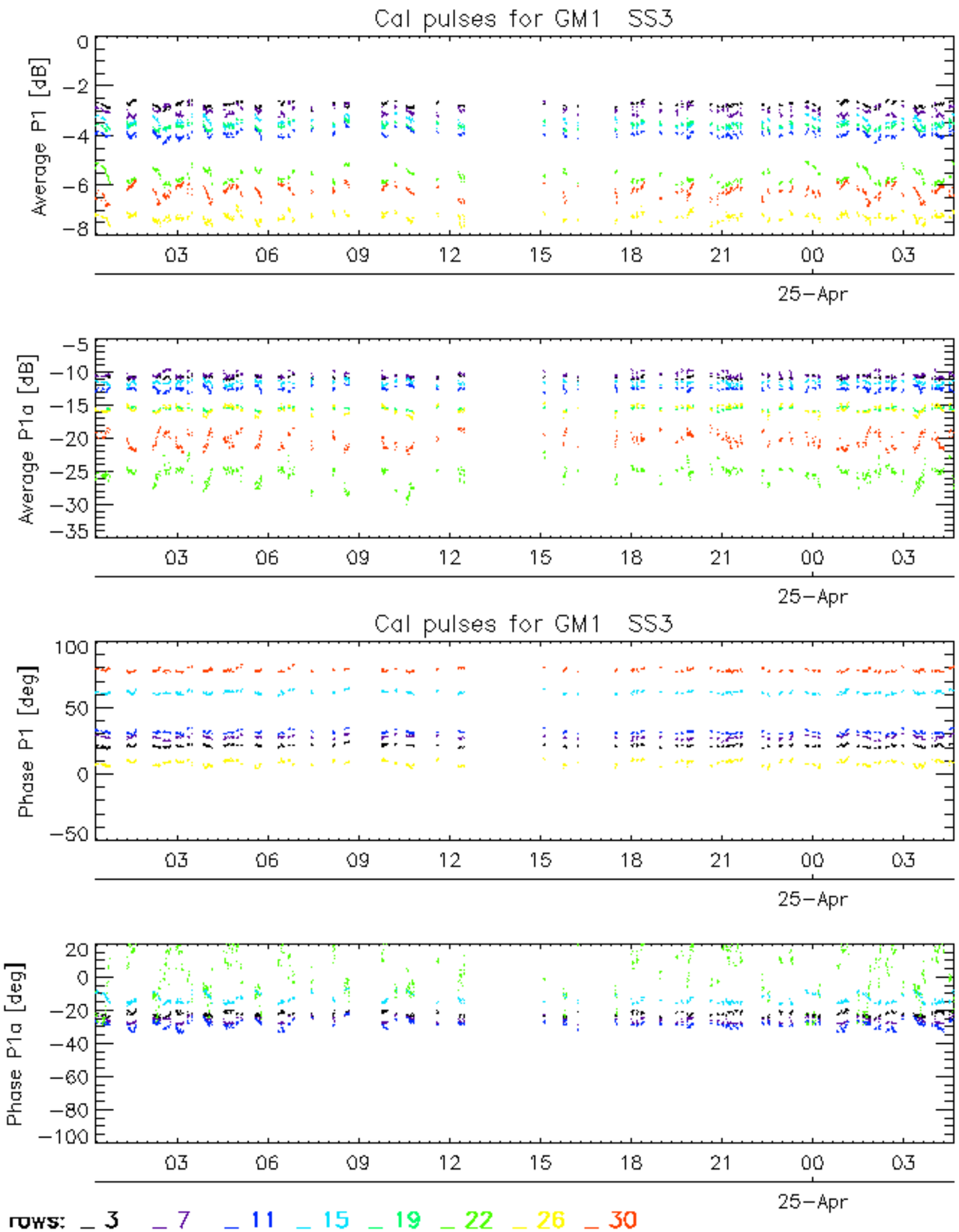

Descending

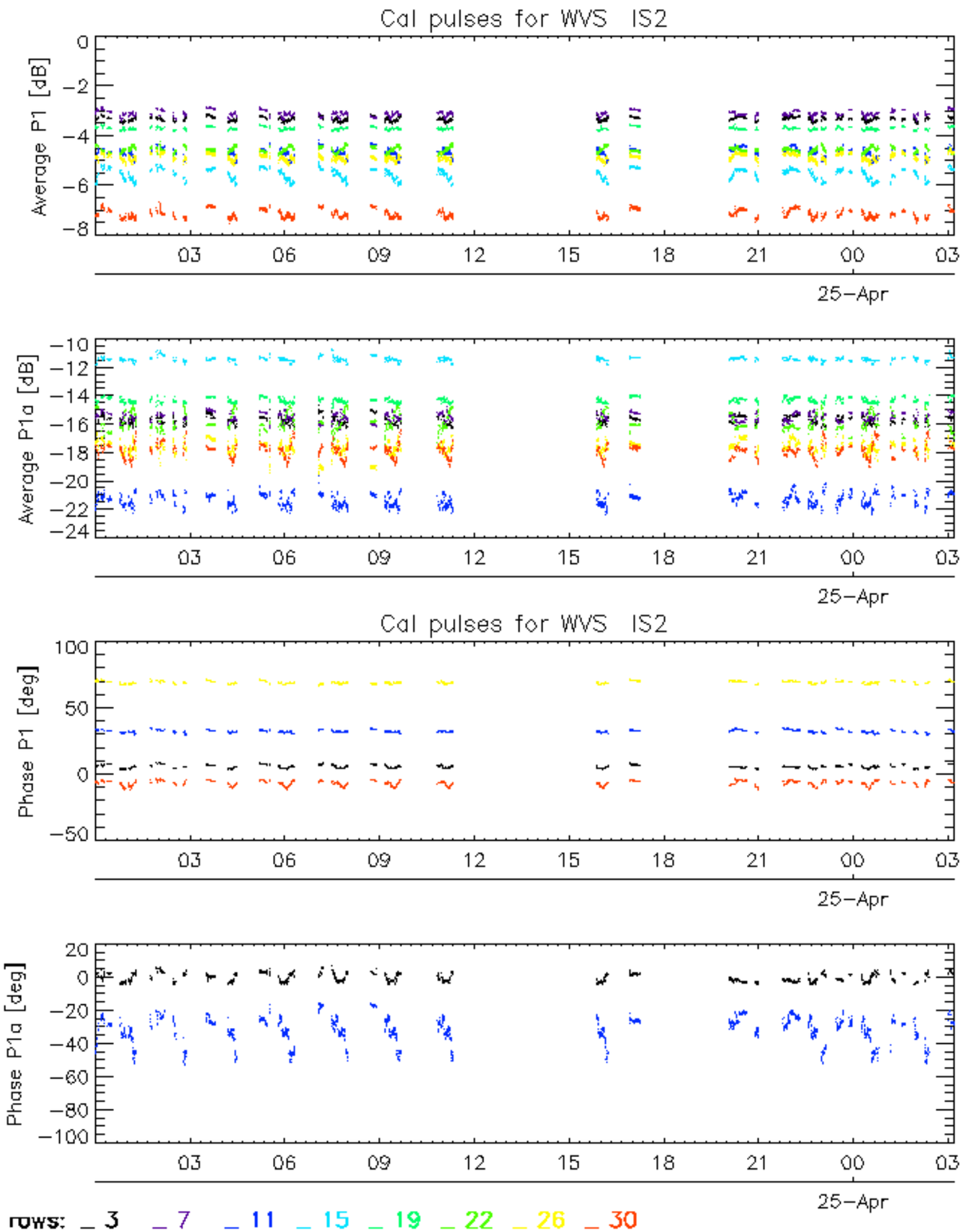
7.5 - Absolute Doppler for GM1

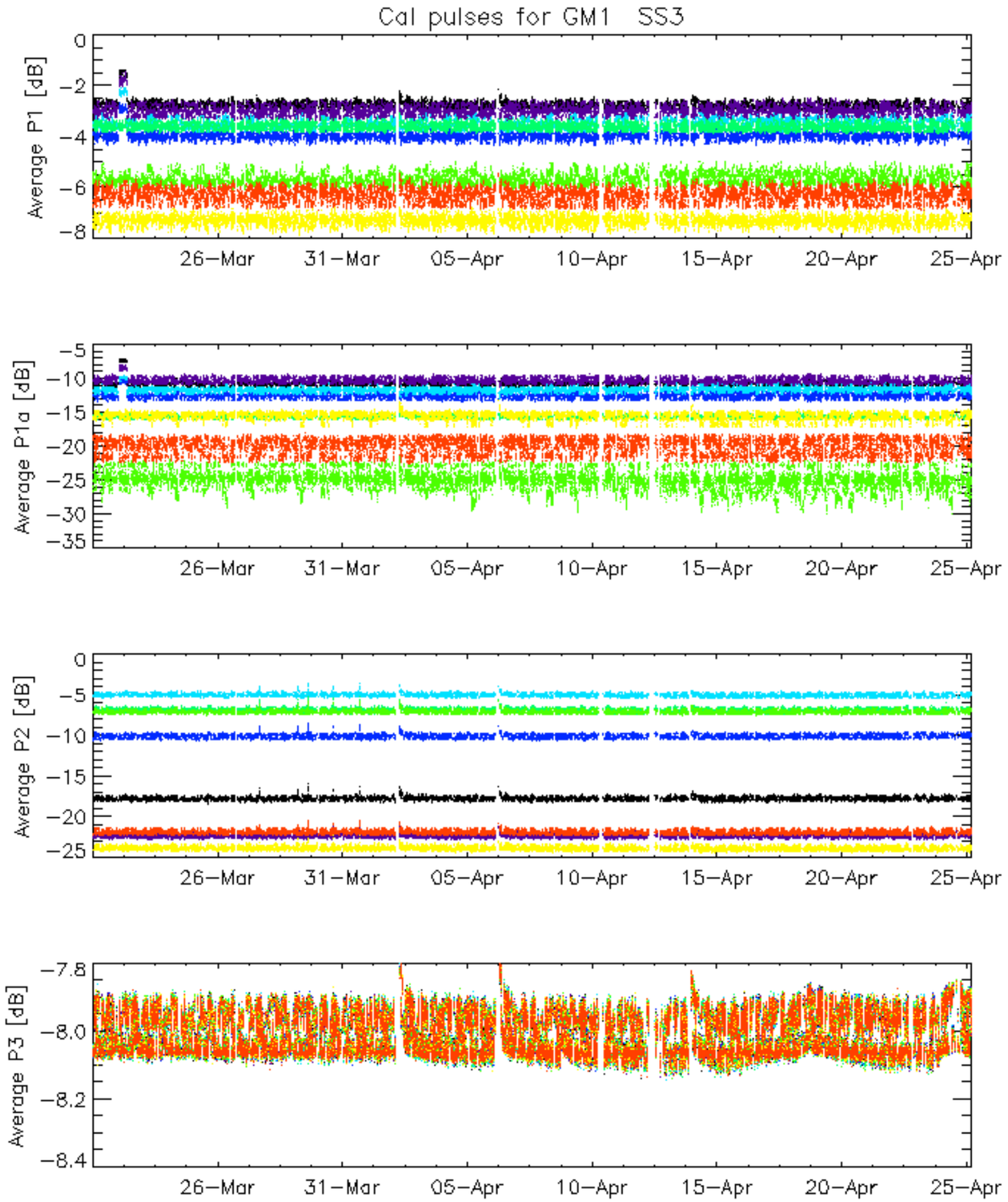
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

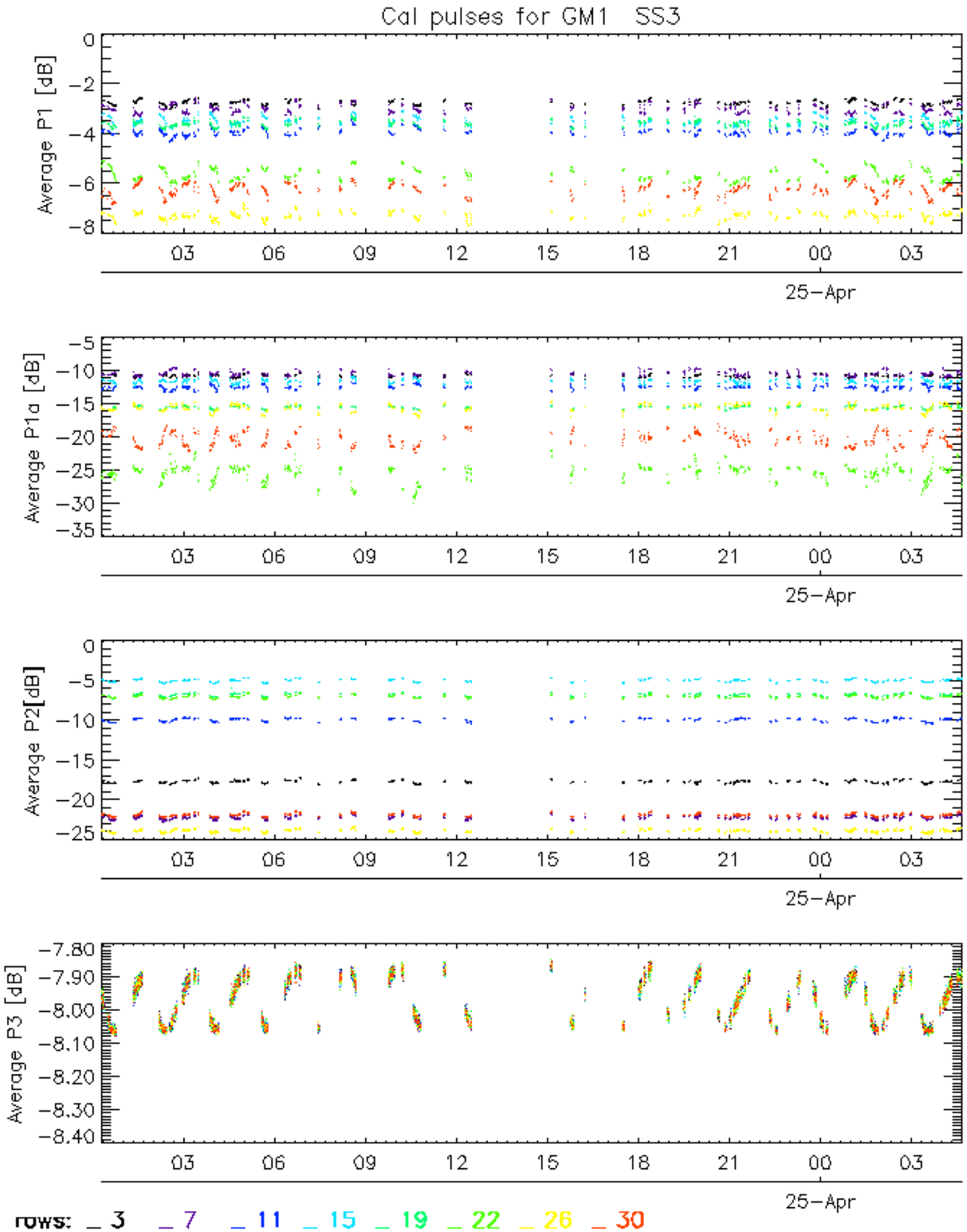
7.6 - Doppler evolution versus ANX for GM1

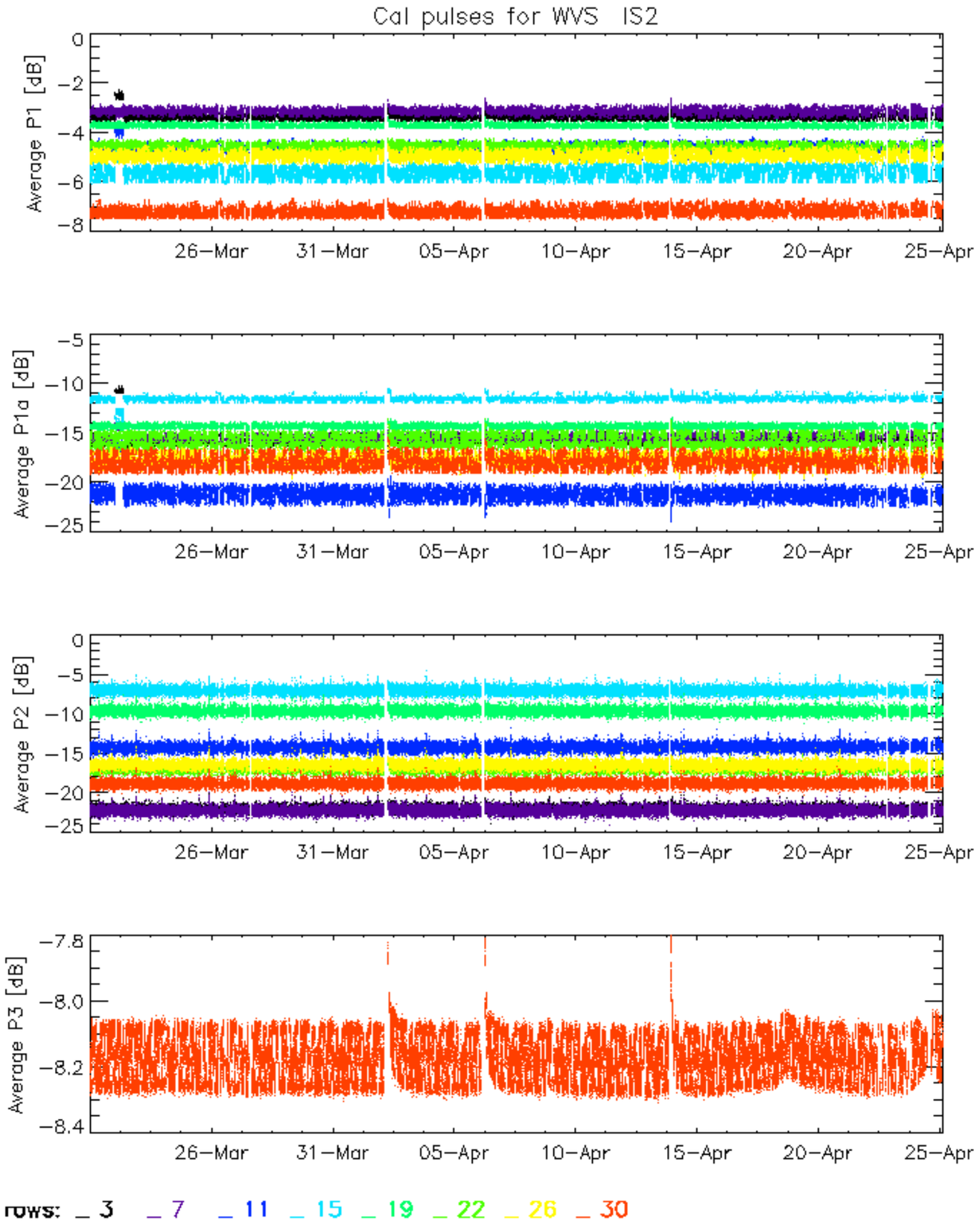
Evolution Doppler error versus ANX
☒

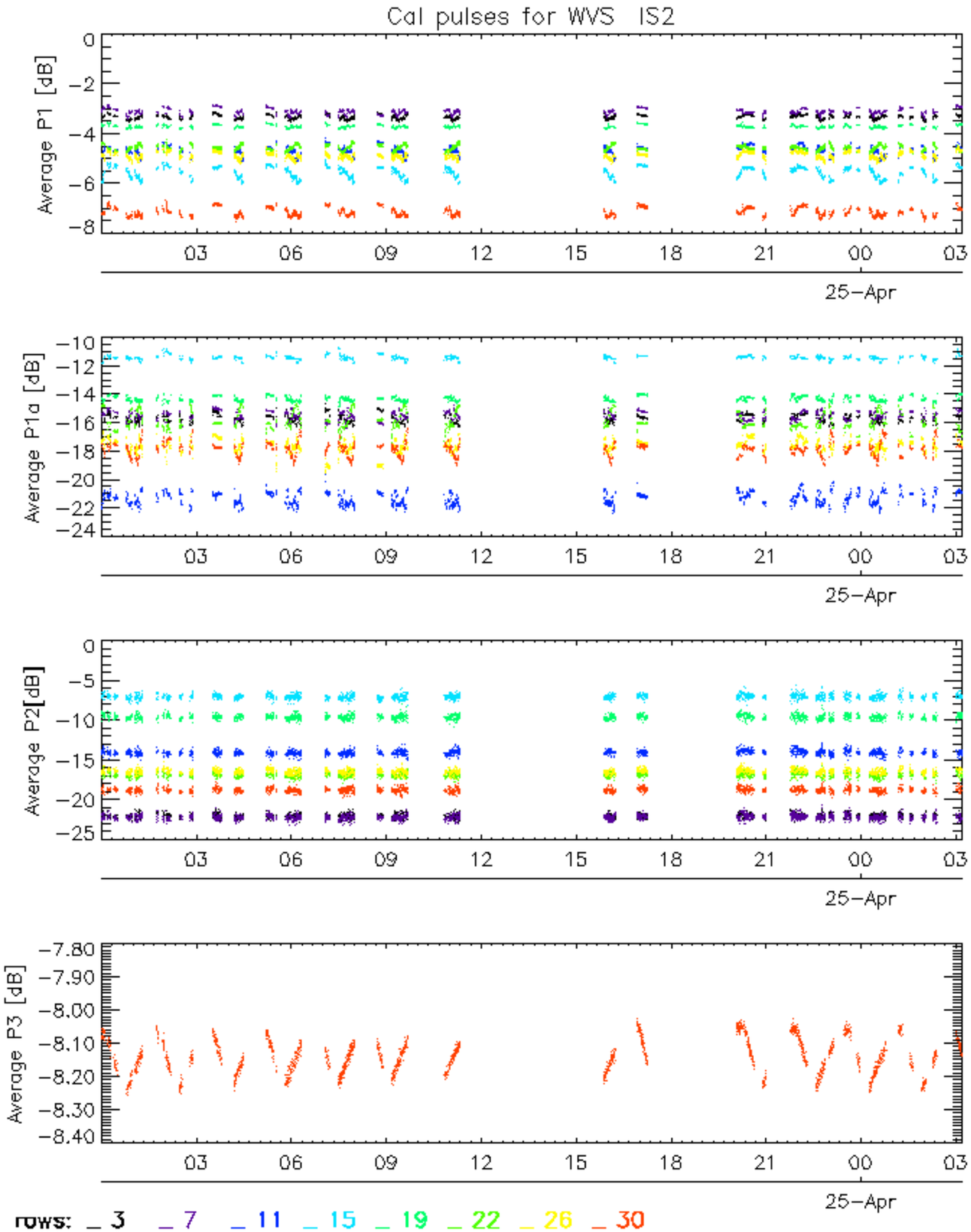

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
25−Apr
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
25−Apr
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
Cal pulses for WVS IS2
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30

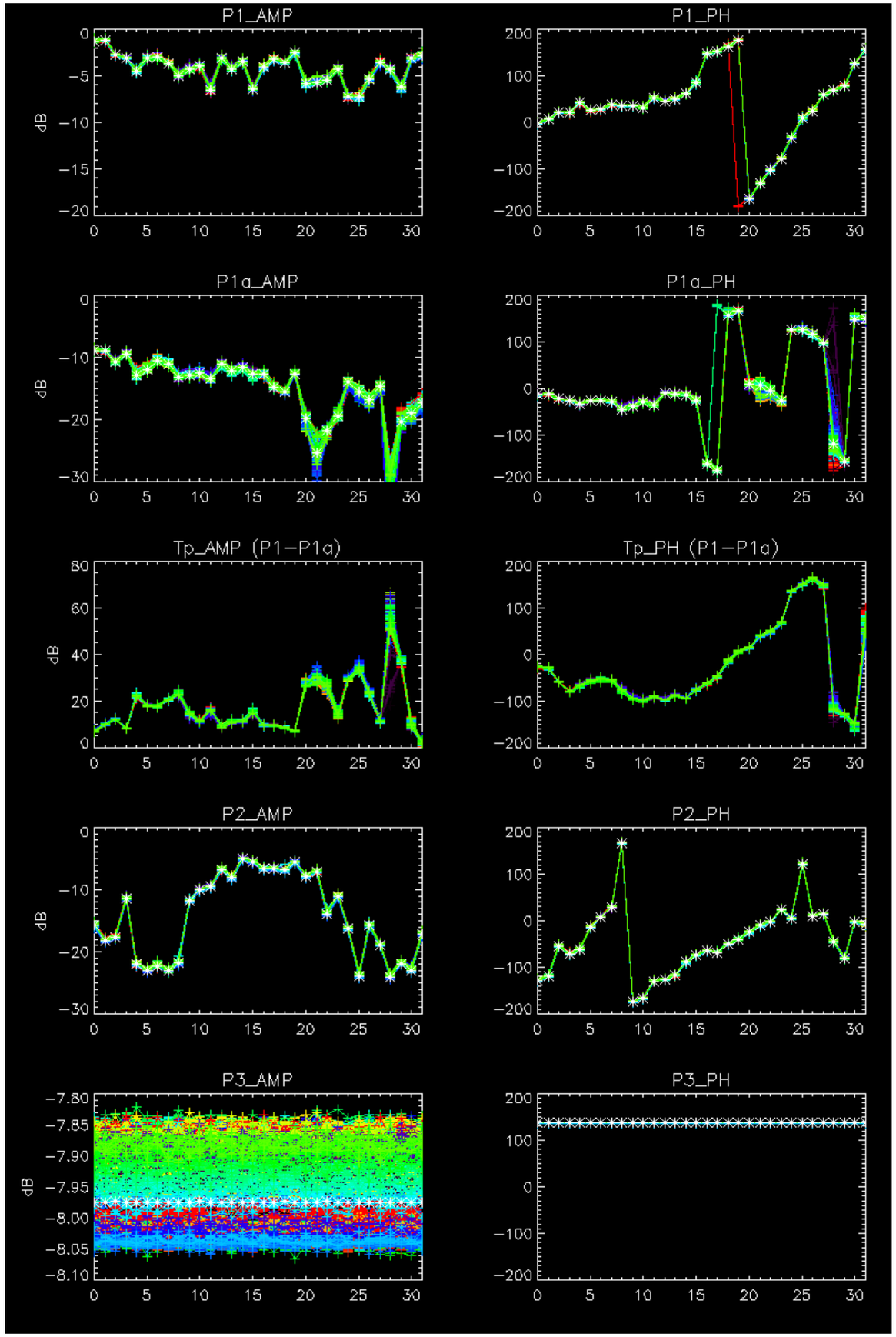

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
26−Mar
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

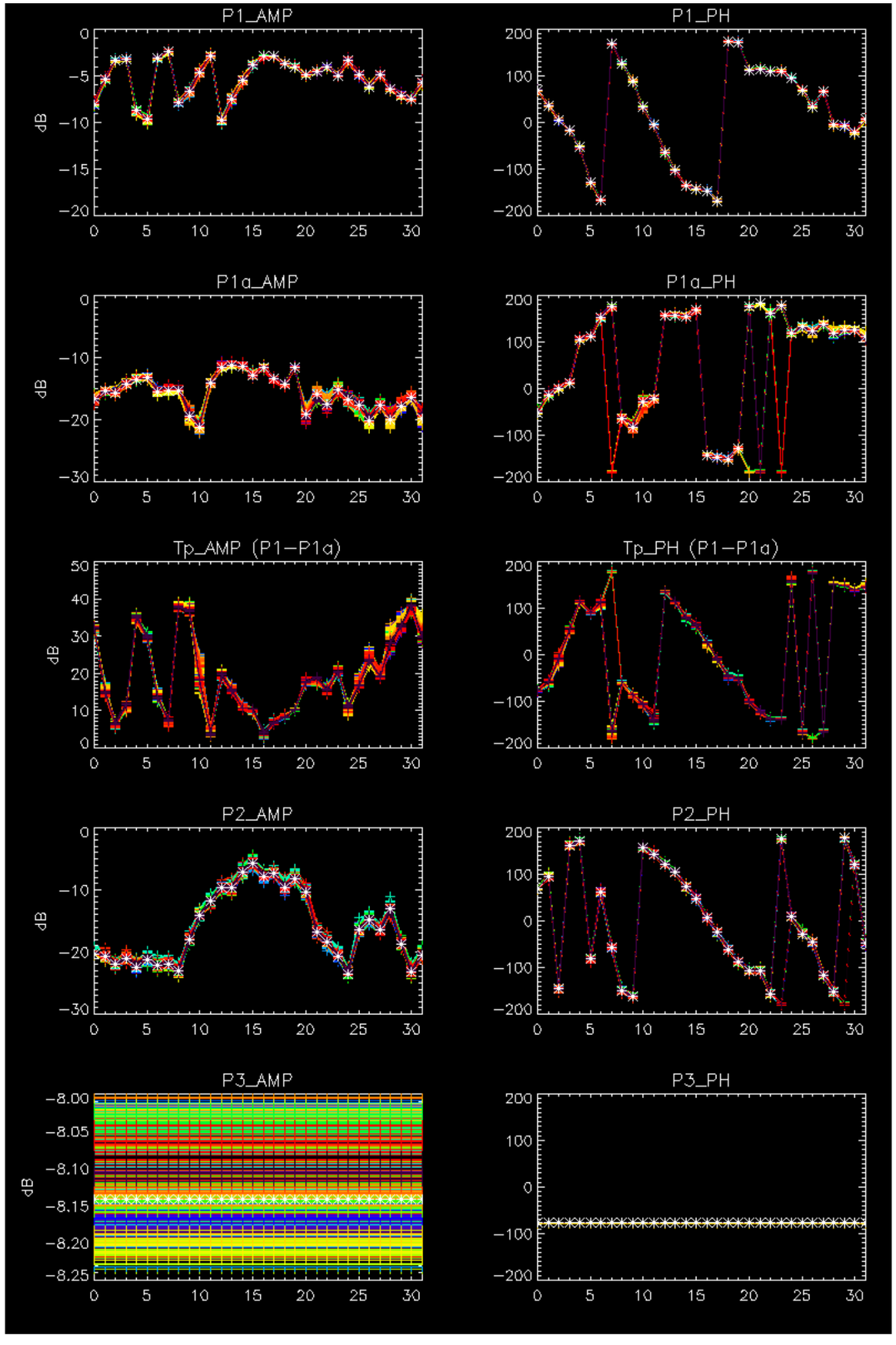

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
25−Apr
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
26−Mar
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr
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 WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
25−Apr
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
25−Apr
Average P2[dB]
0
−5
−10
−15
−20
−25
25−Apr
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
25−Apr
rows: 3 7 11 15 19 22 26 30

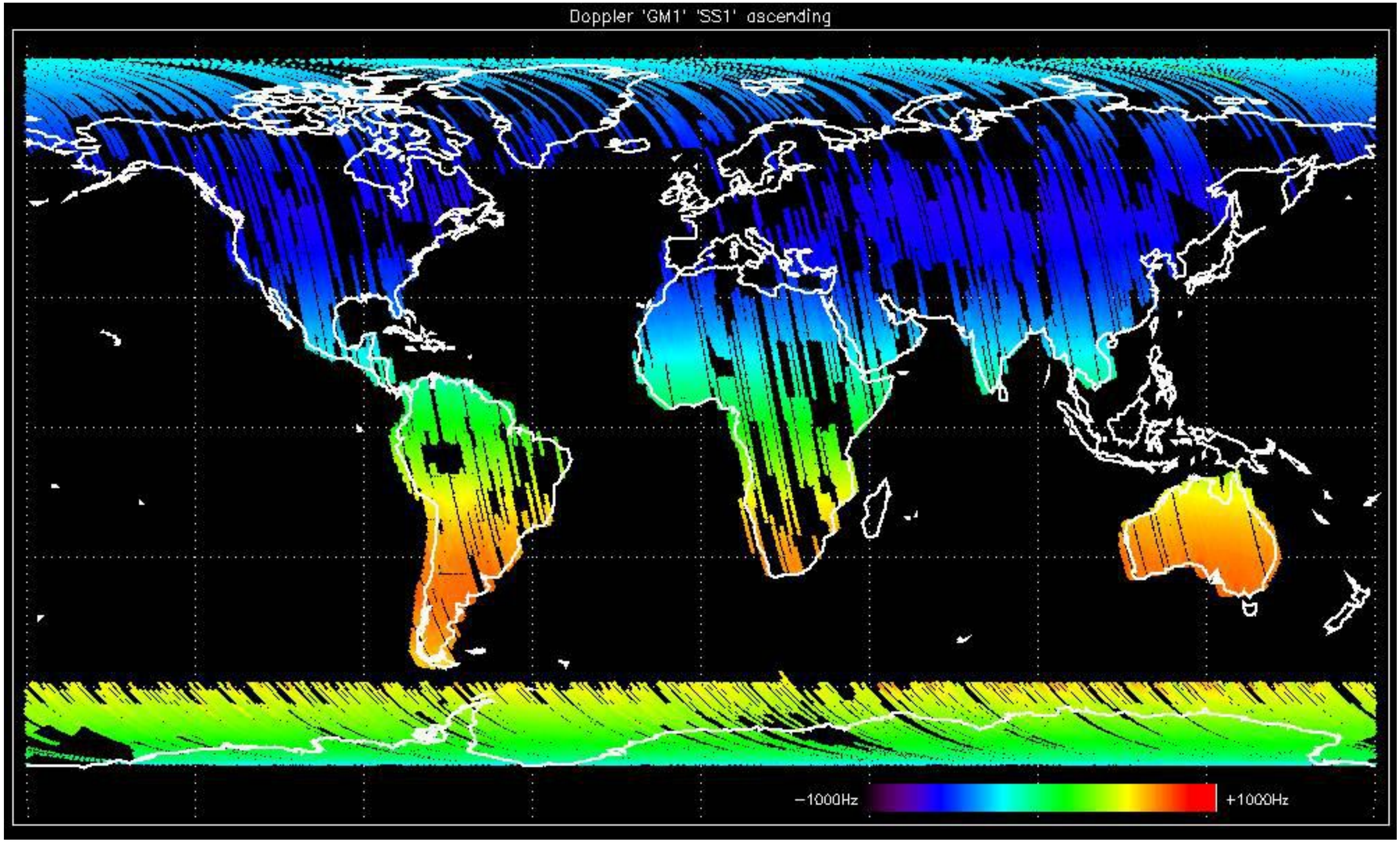
No anomalies observed.

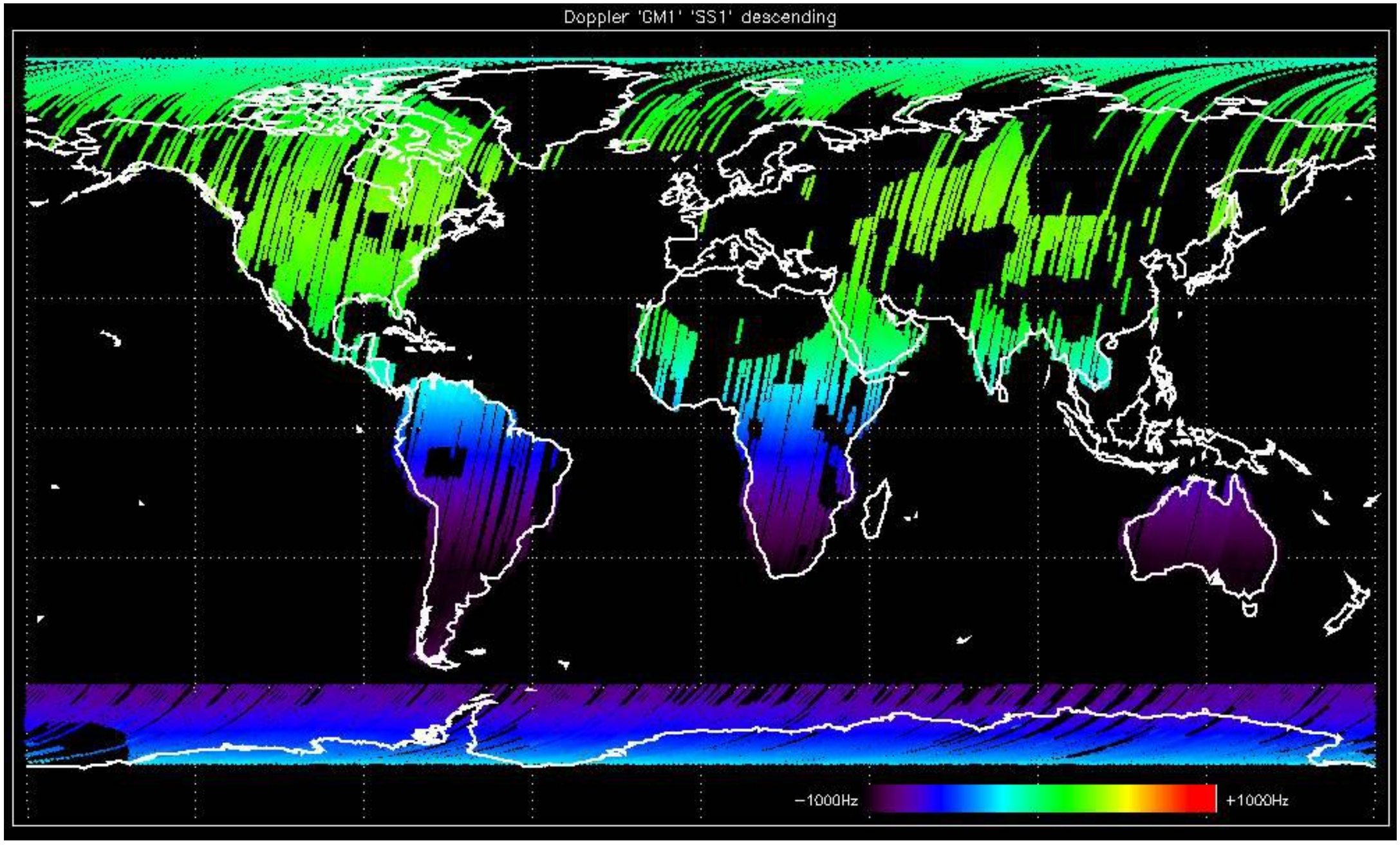

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

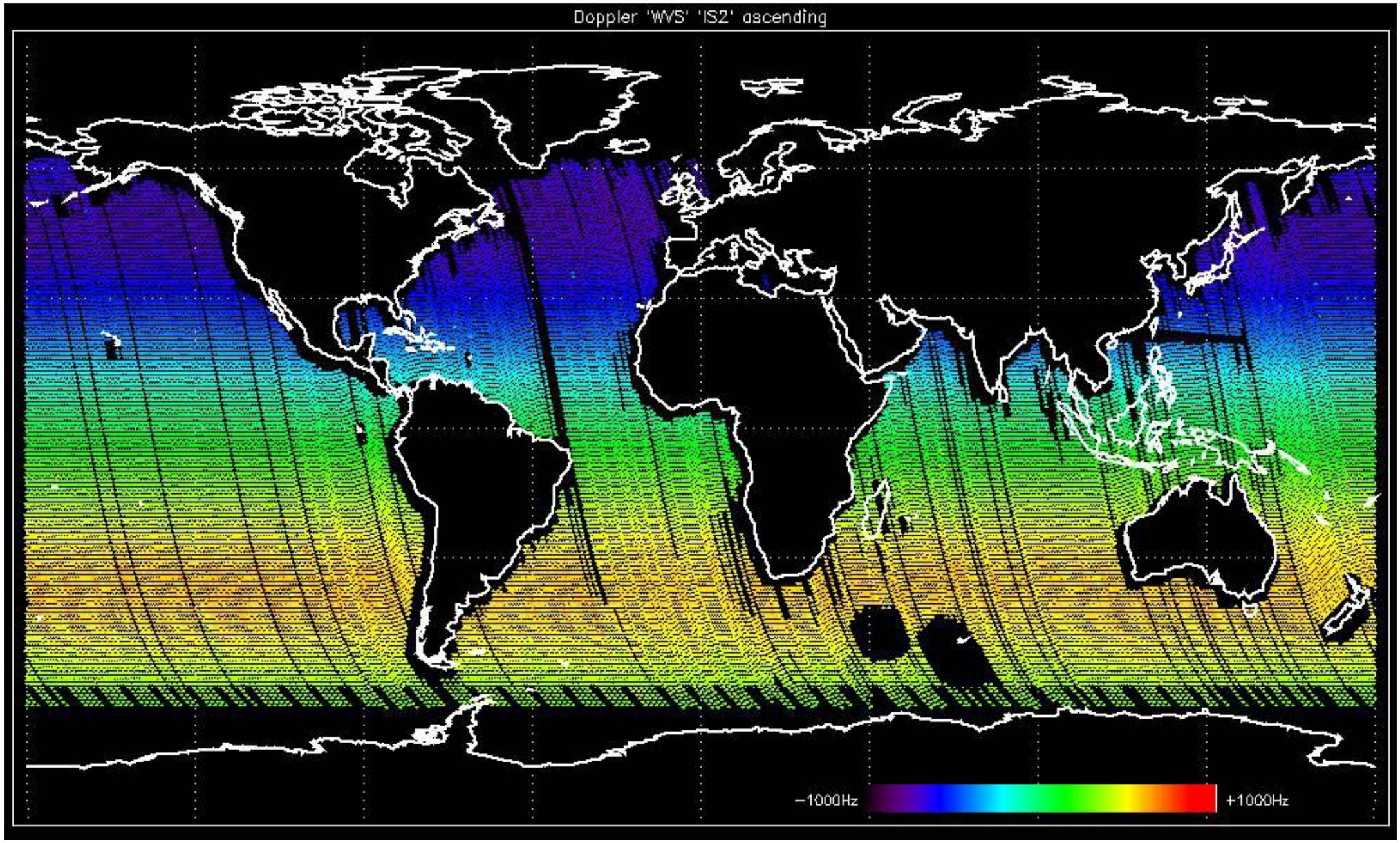

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

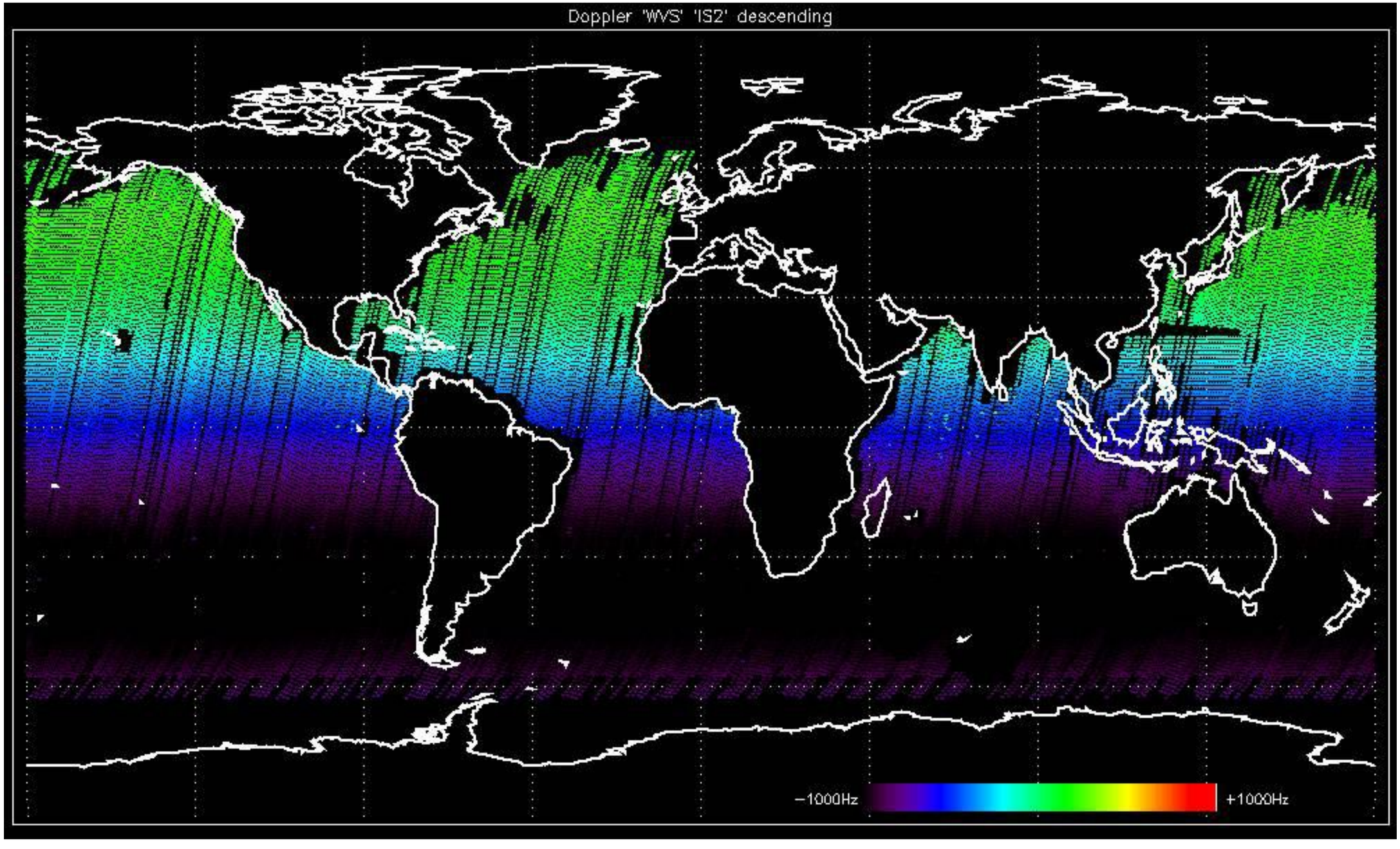
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

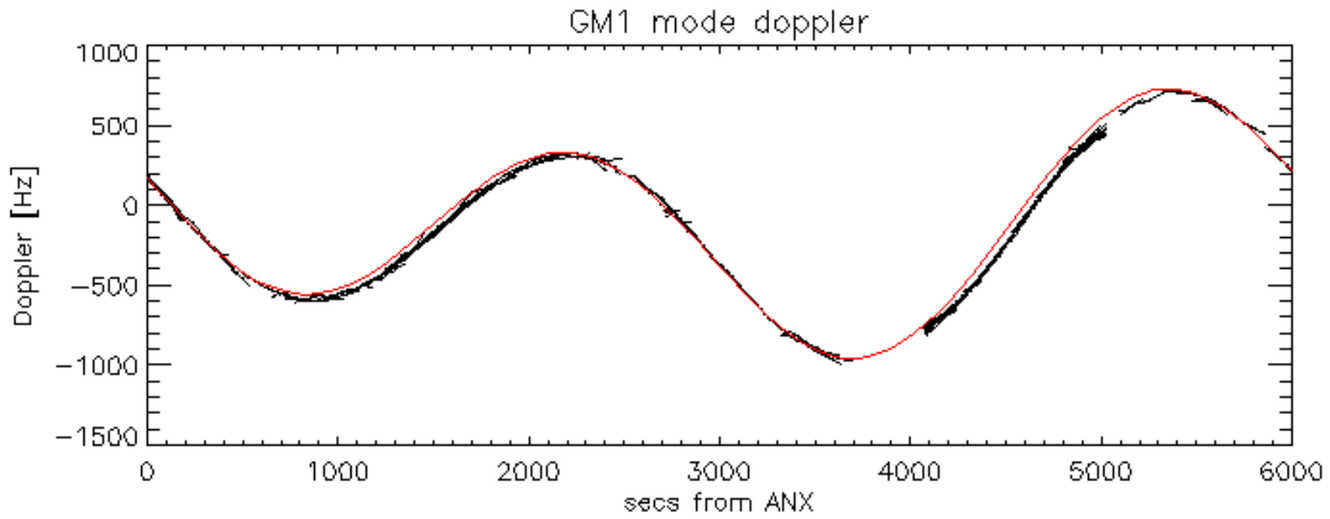
Preliminary report.The data is not yet controled

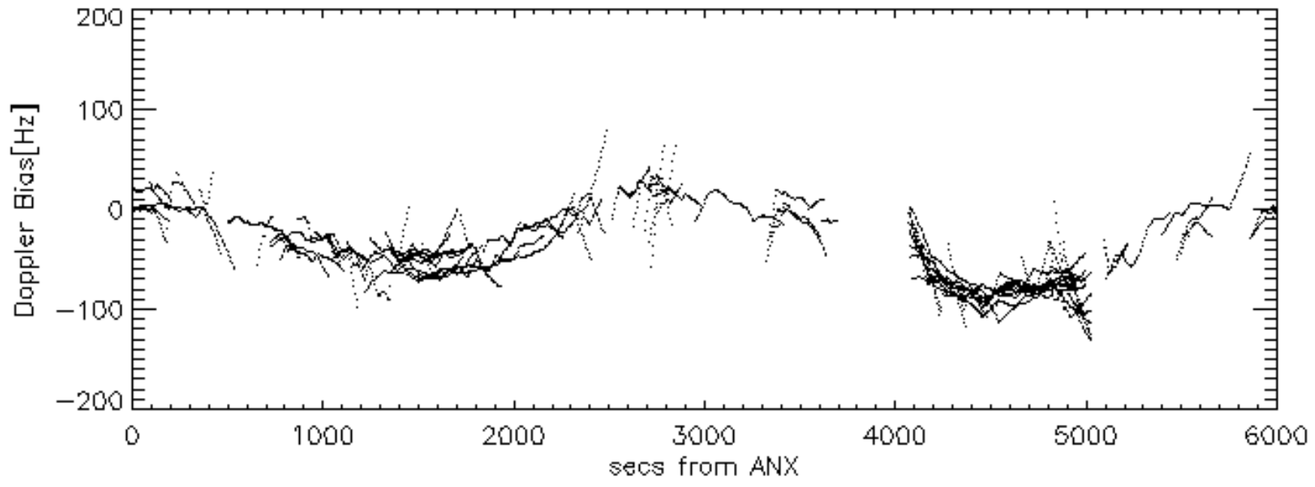

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

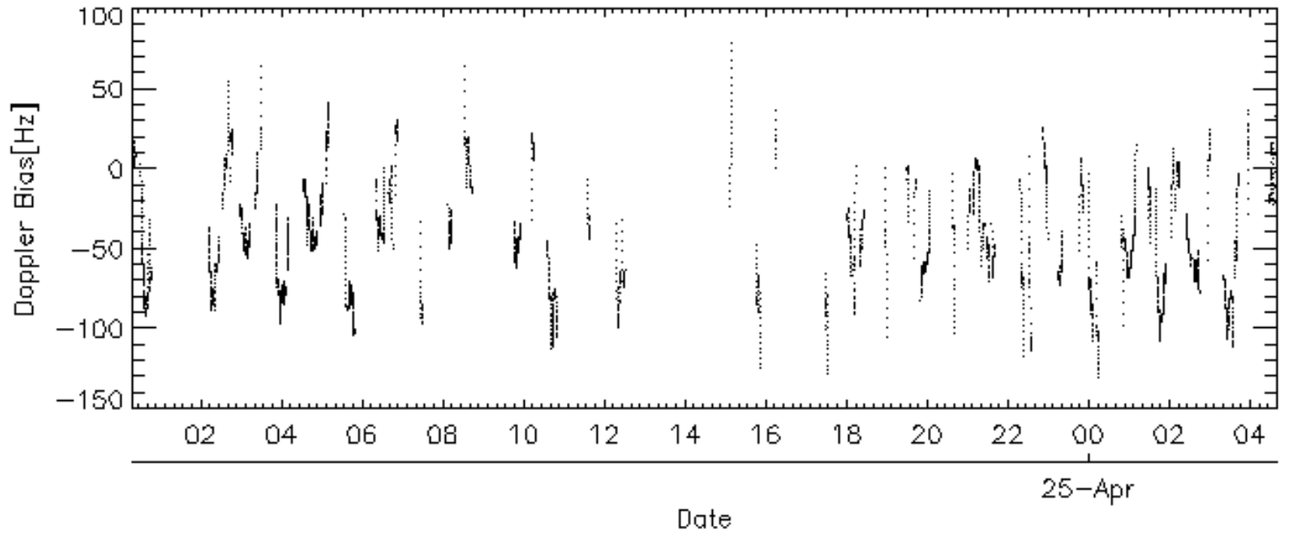

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

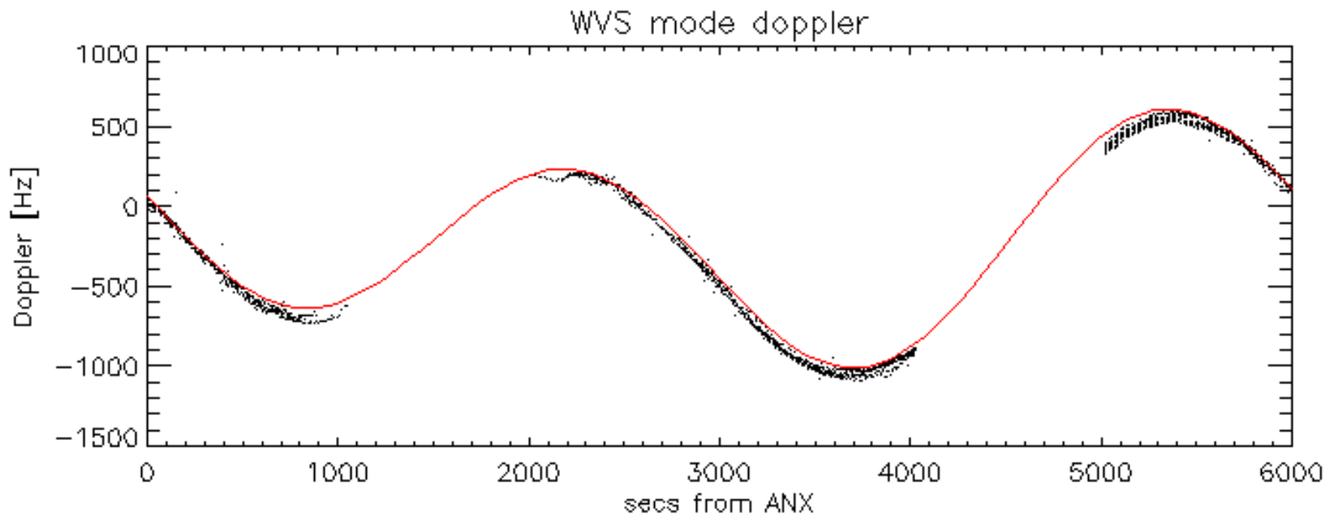

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

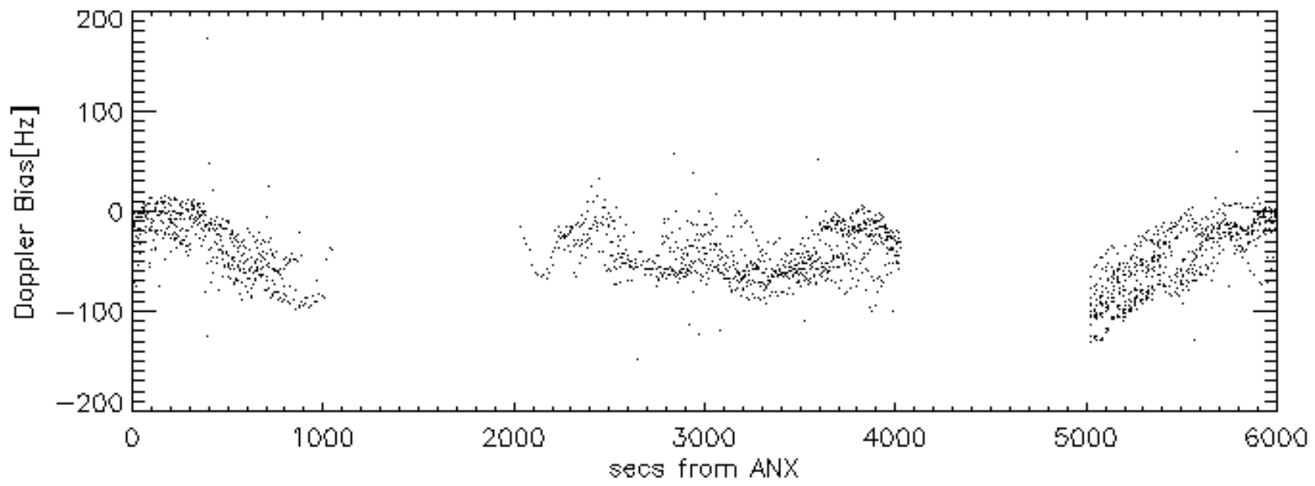

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

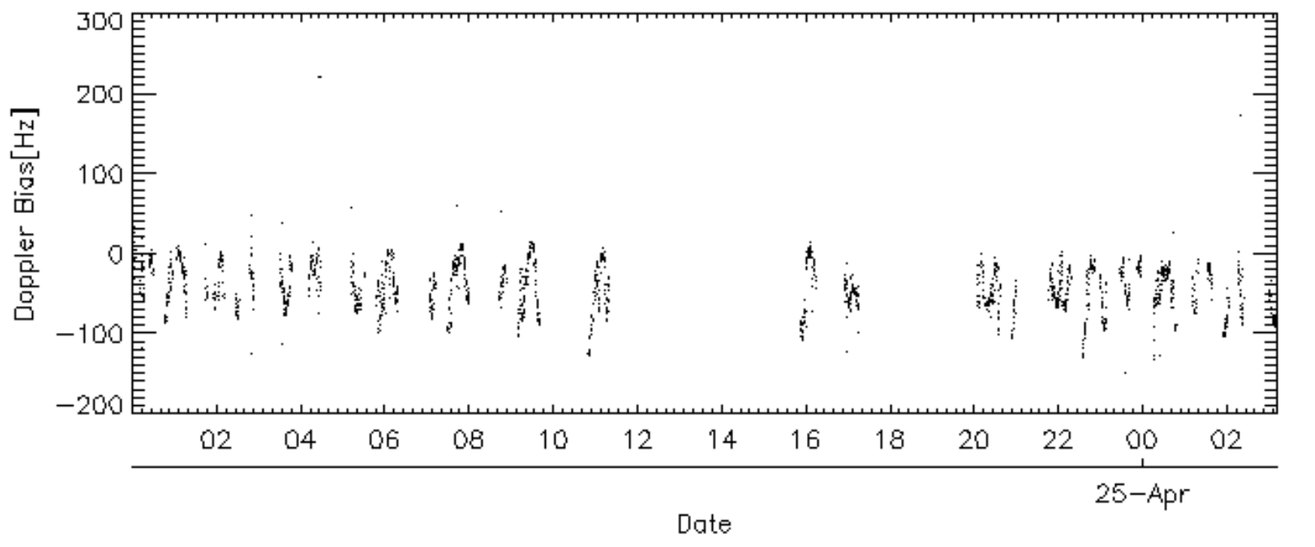

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

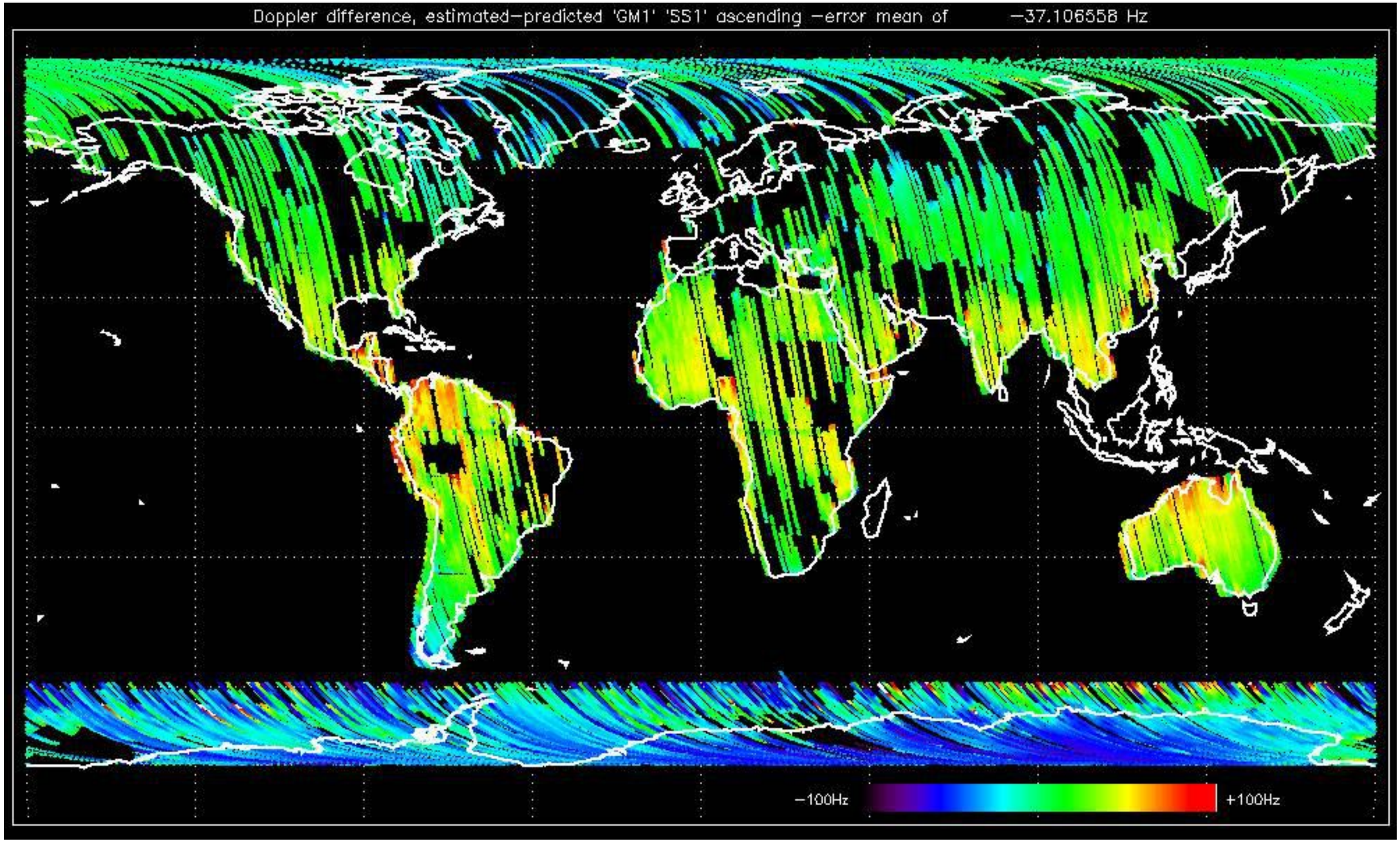

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

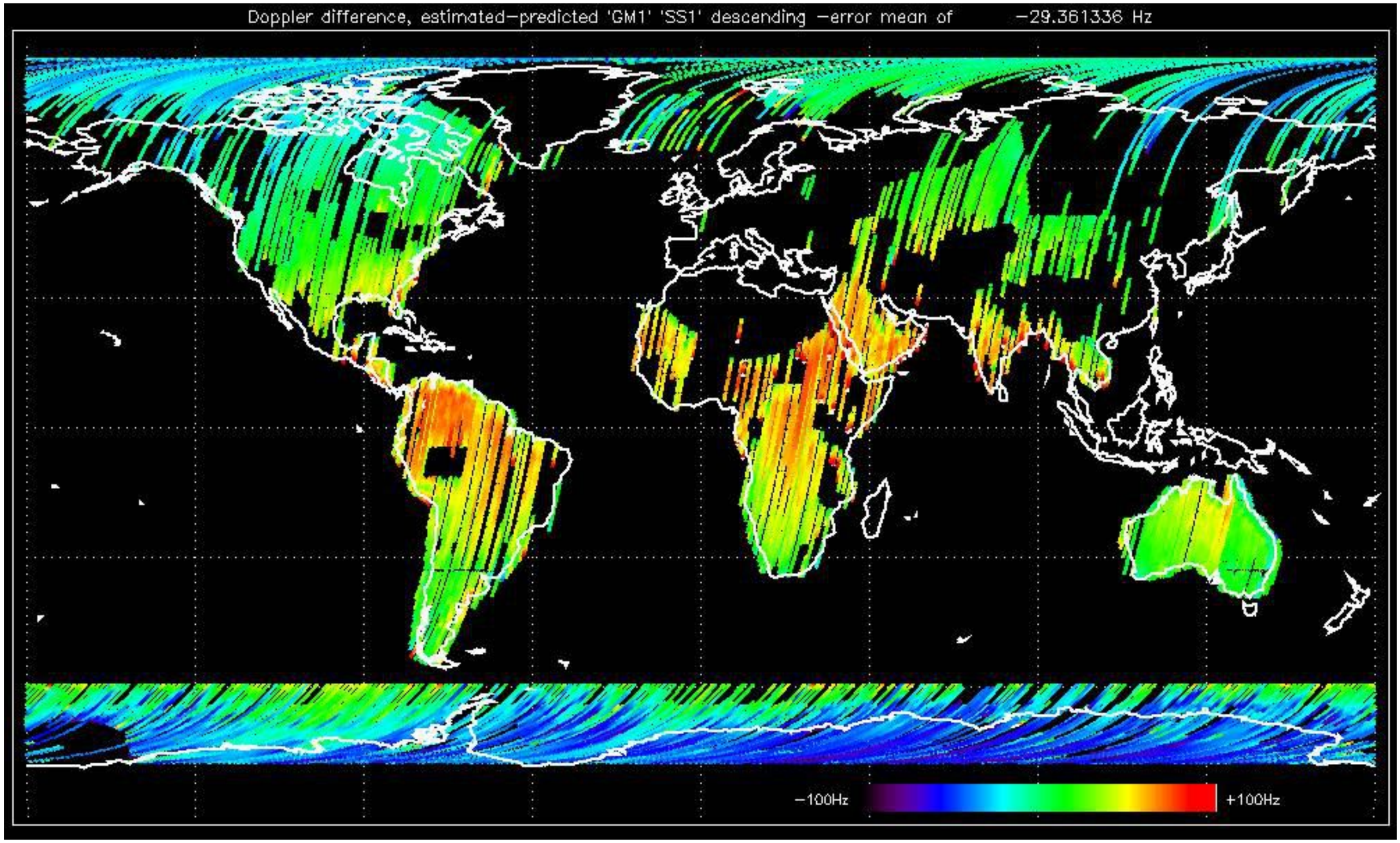

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
04
25−Apr
Date

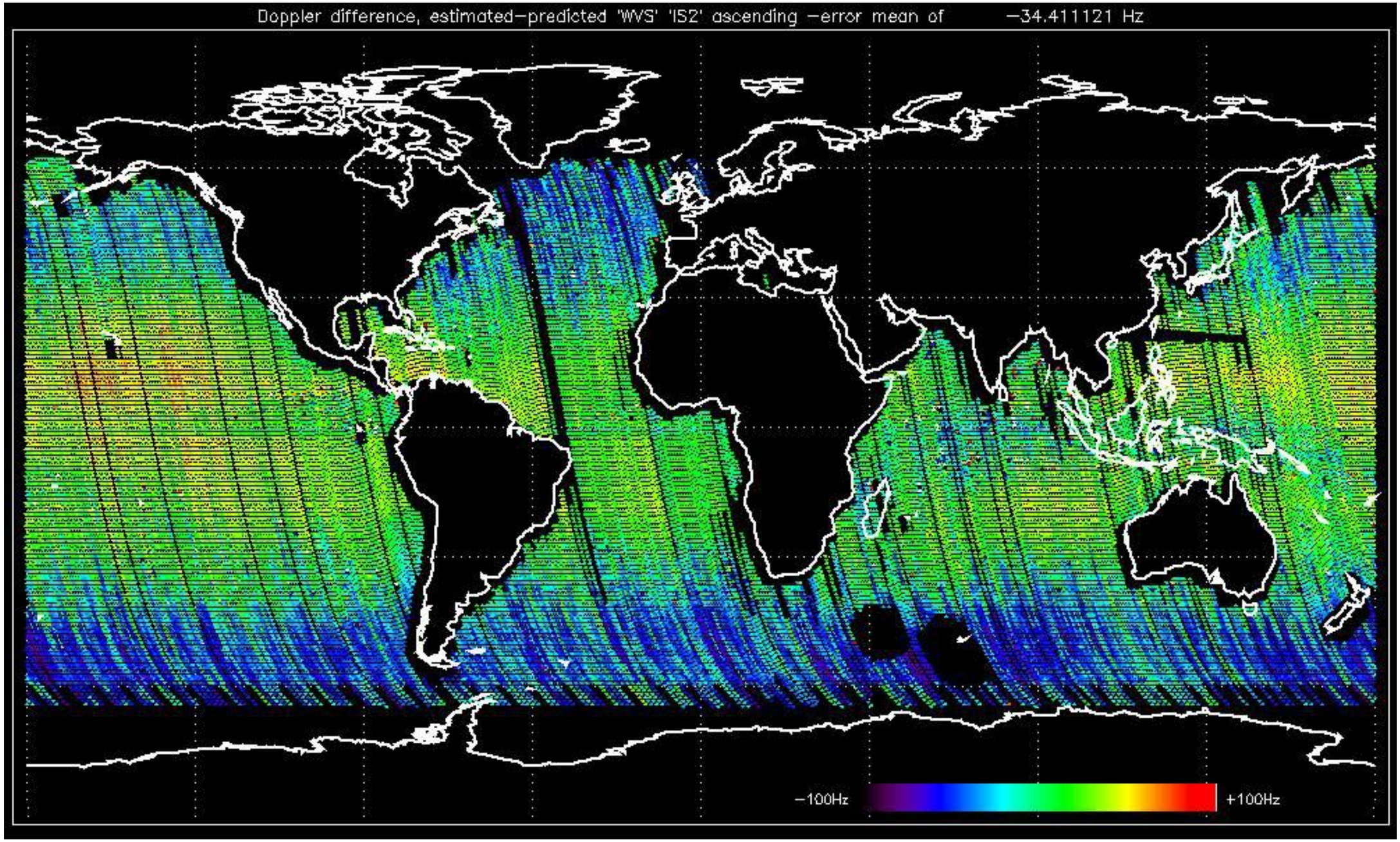

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

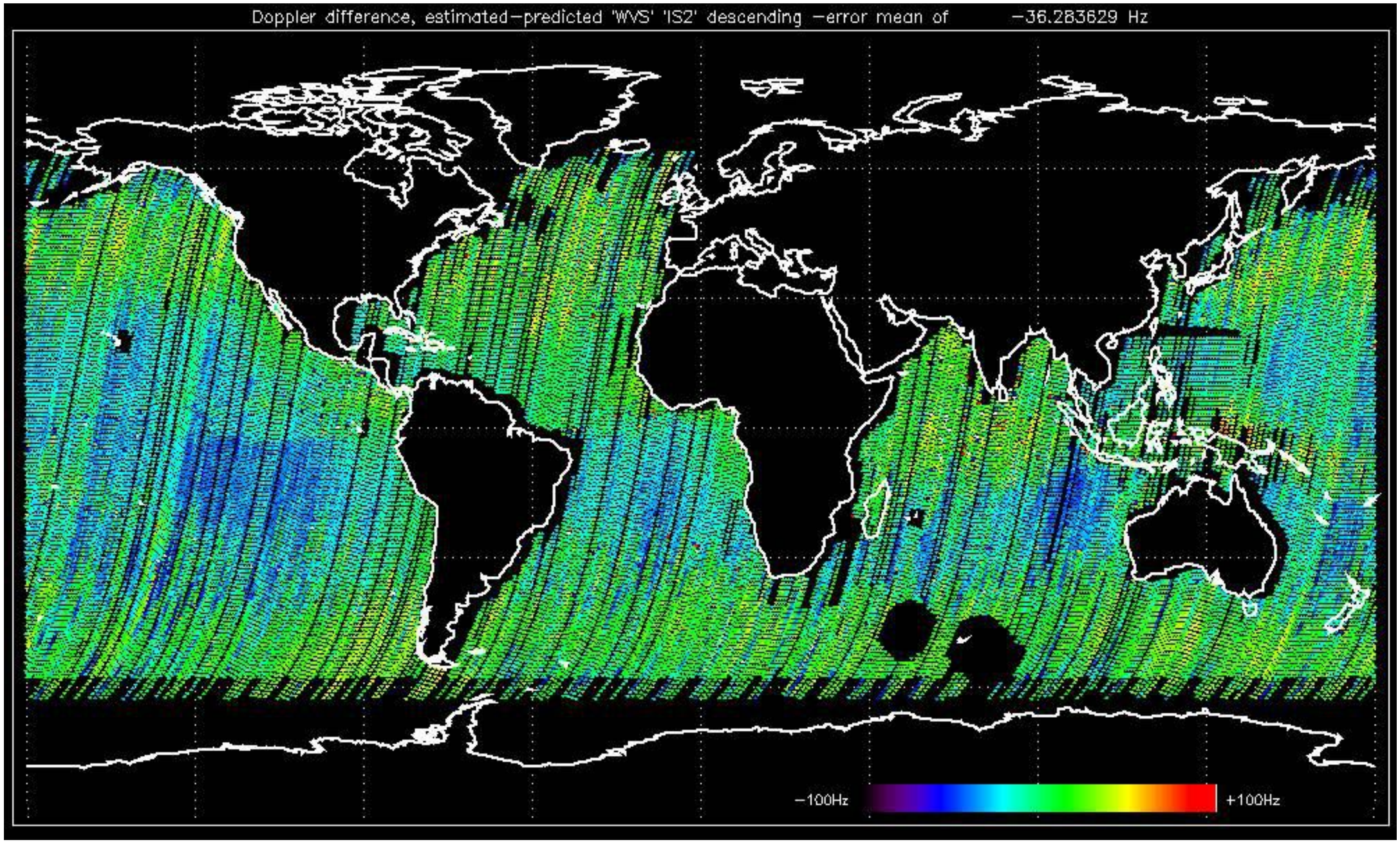

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −37.106558 Hz
−100Hz
+100Hz

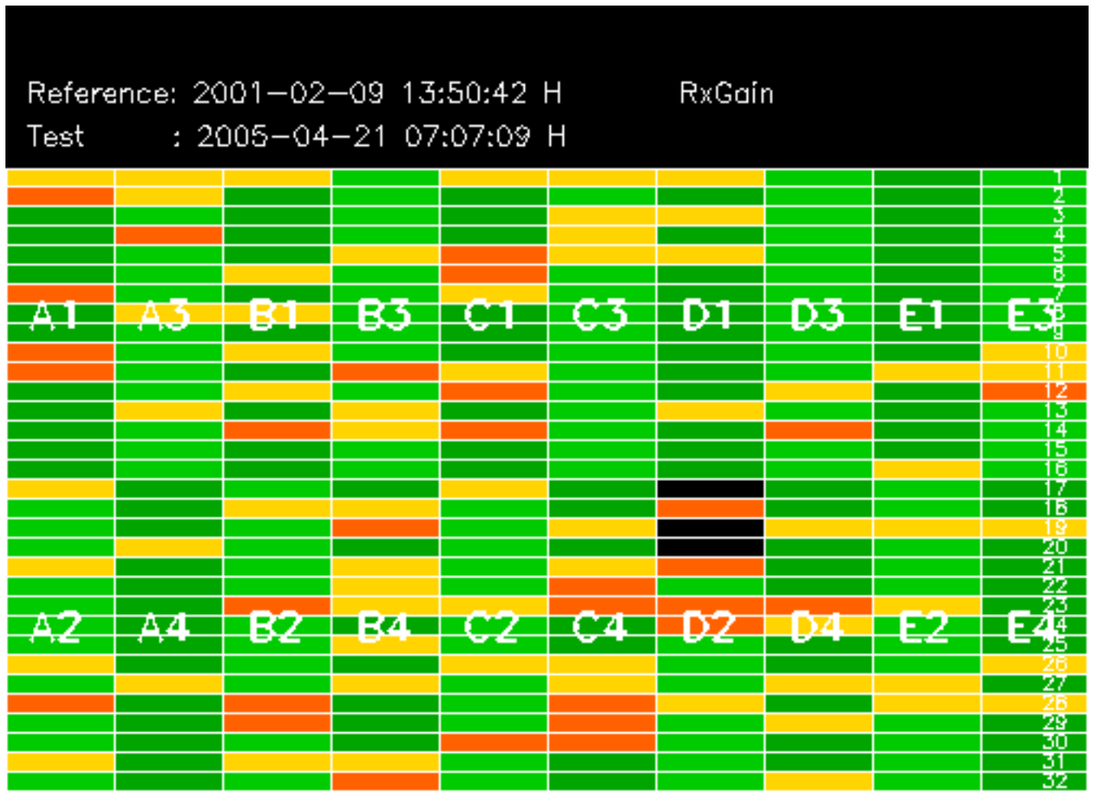

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -29.361336 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −34.411121 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −36.283629 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2005-04-21 07:07:09 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
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8
9
10
11
12
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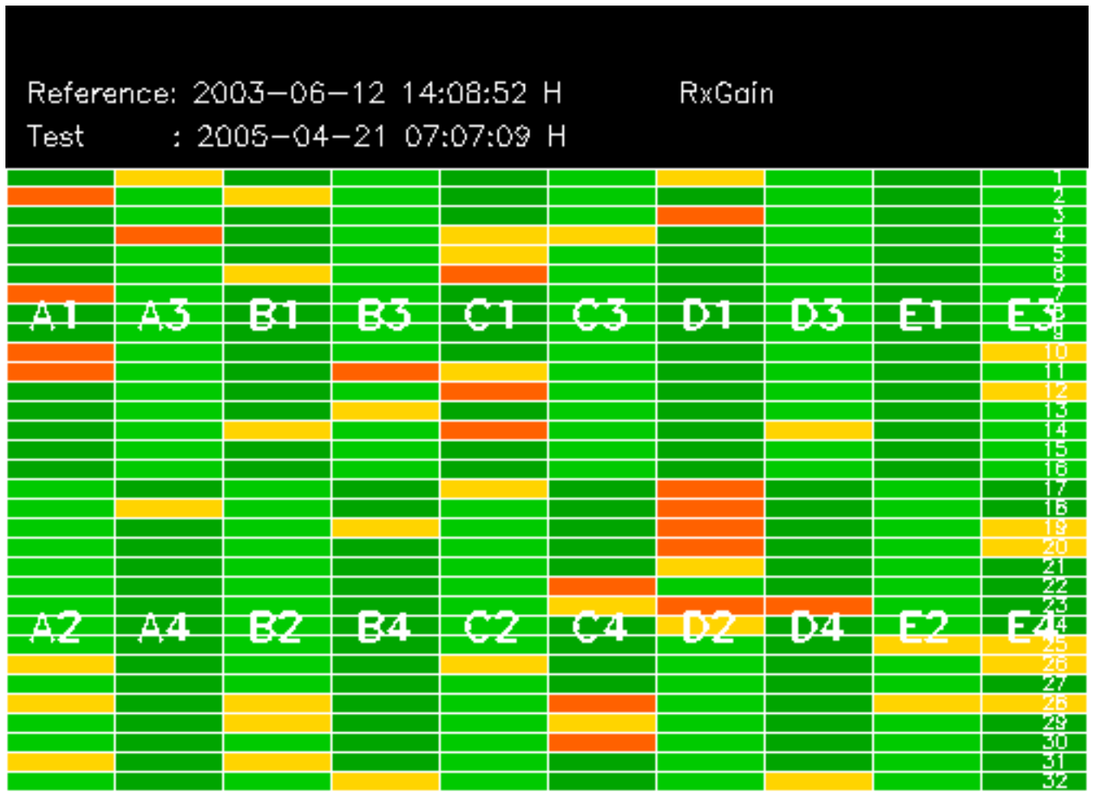
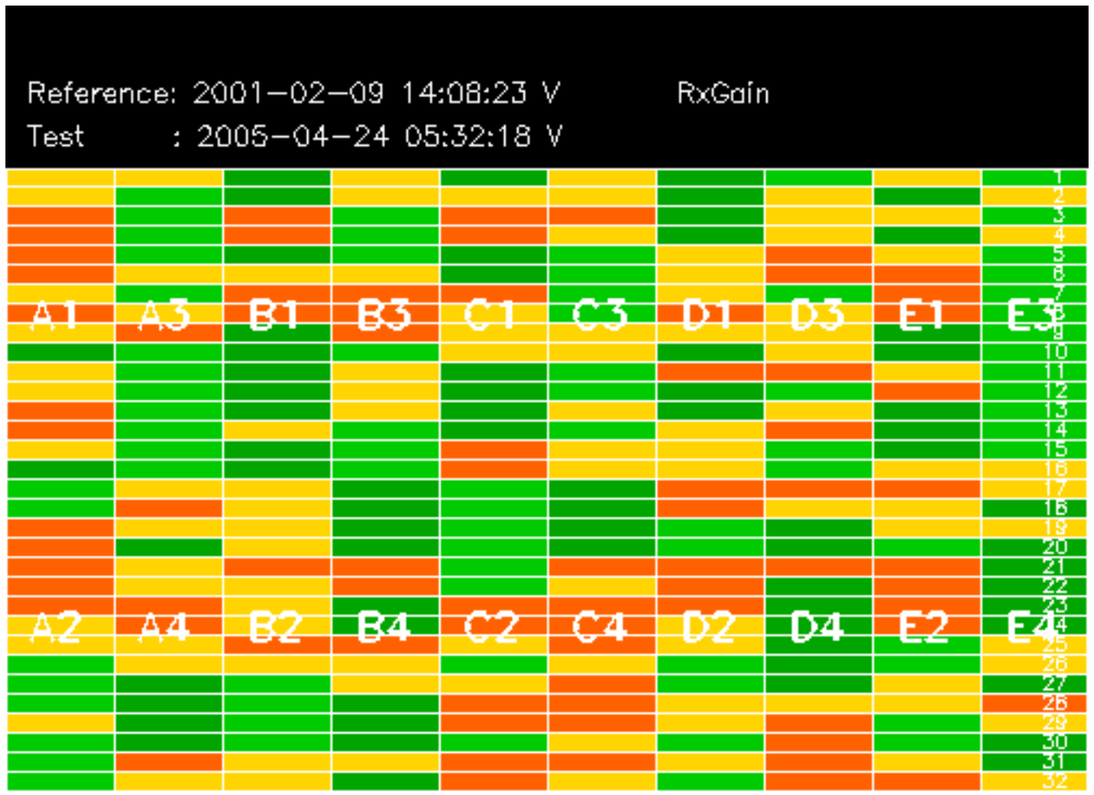
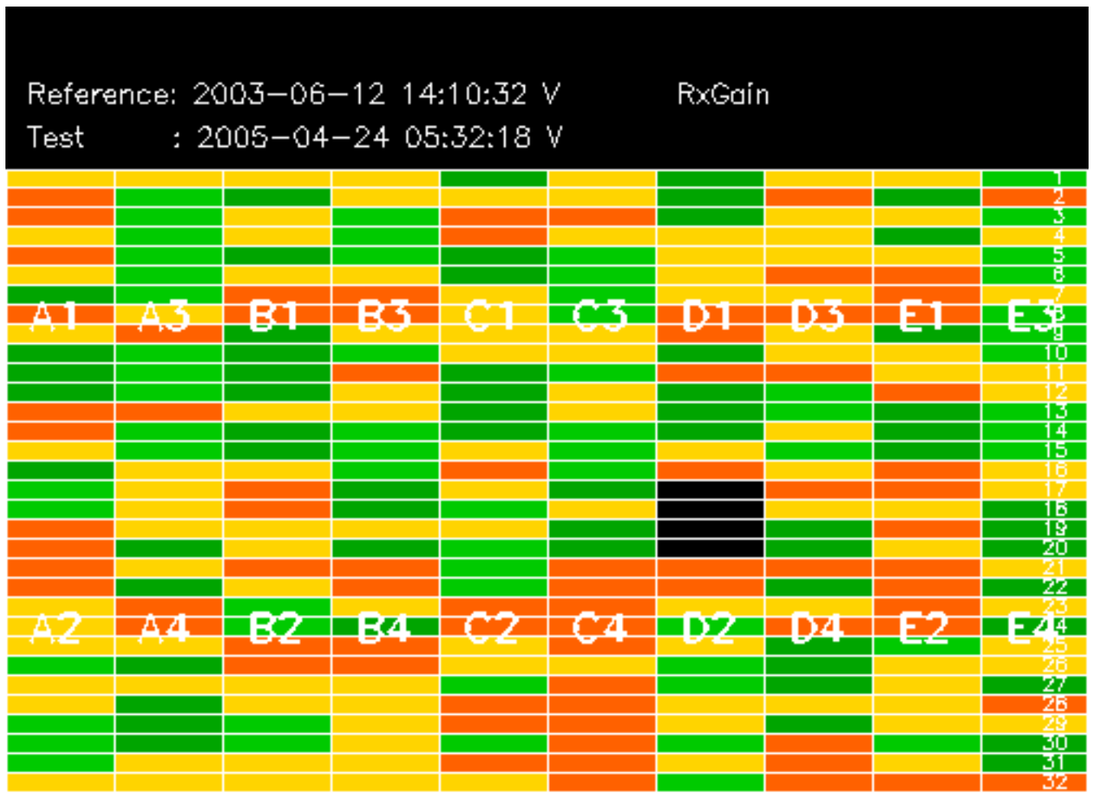
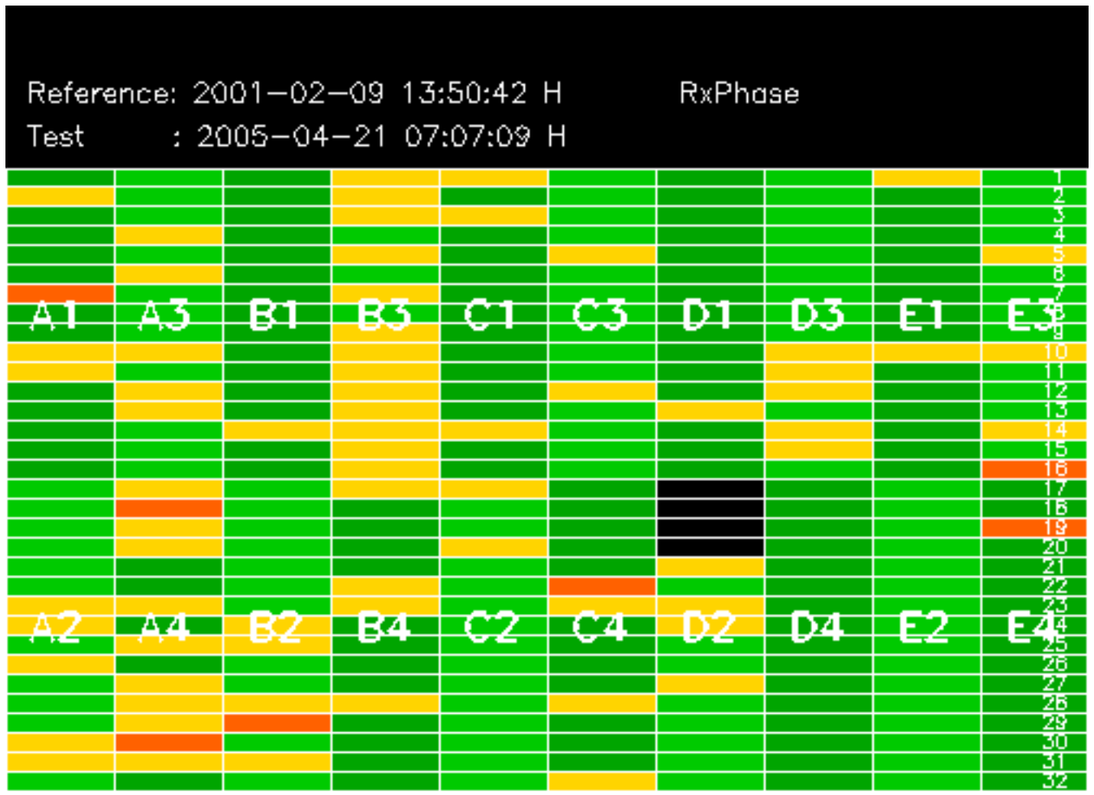
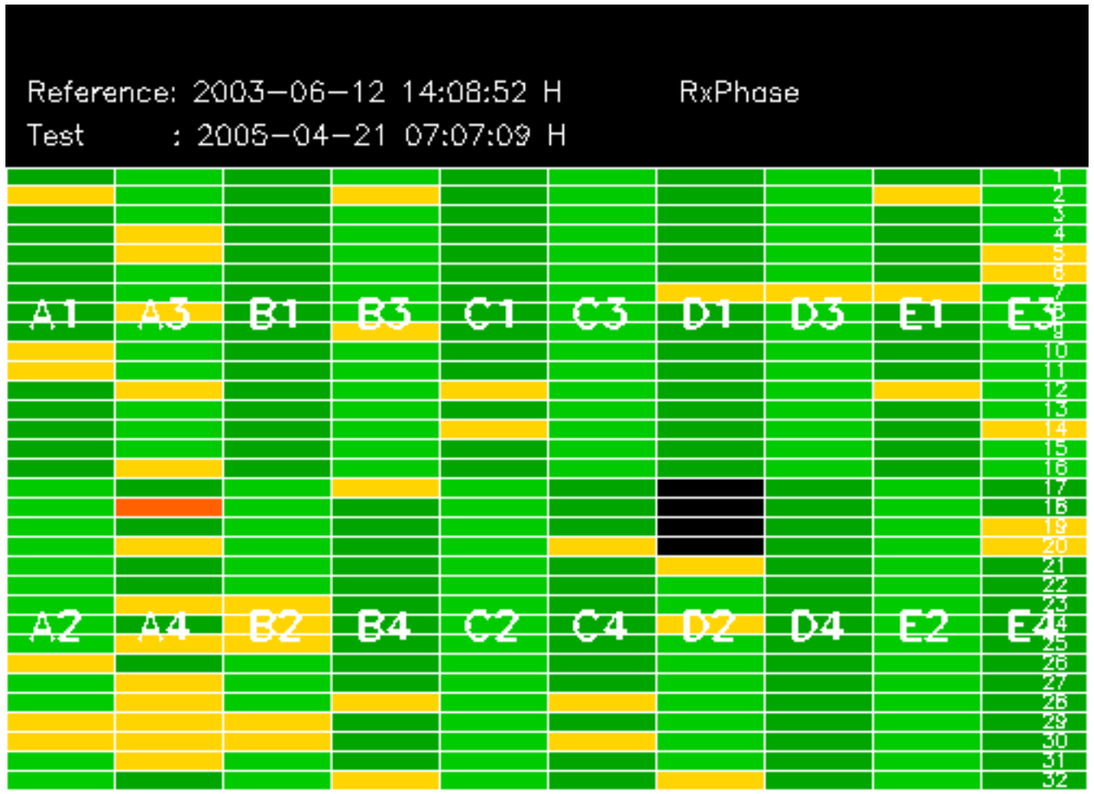
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-04-21 07:07:09 H
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 14:08:23 V
Test : 2005-04-24 05:32:18 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-04-24 05:32:18 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-04-21 07:07:09 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2005-04-21 07:07:09 H
RxPhase
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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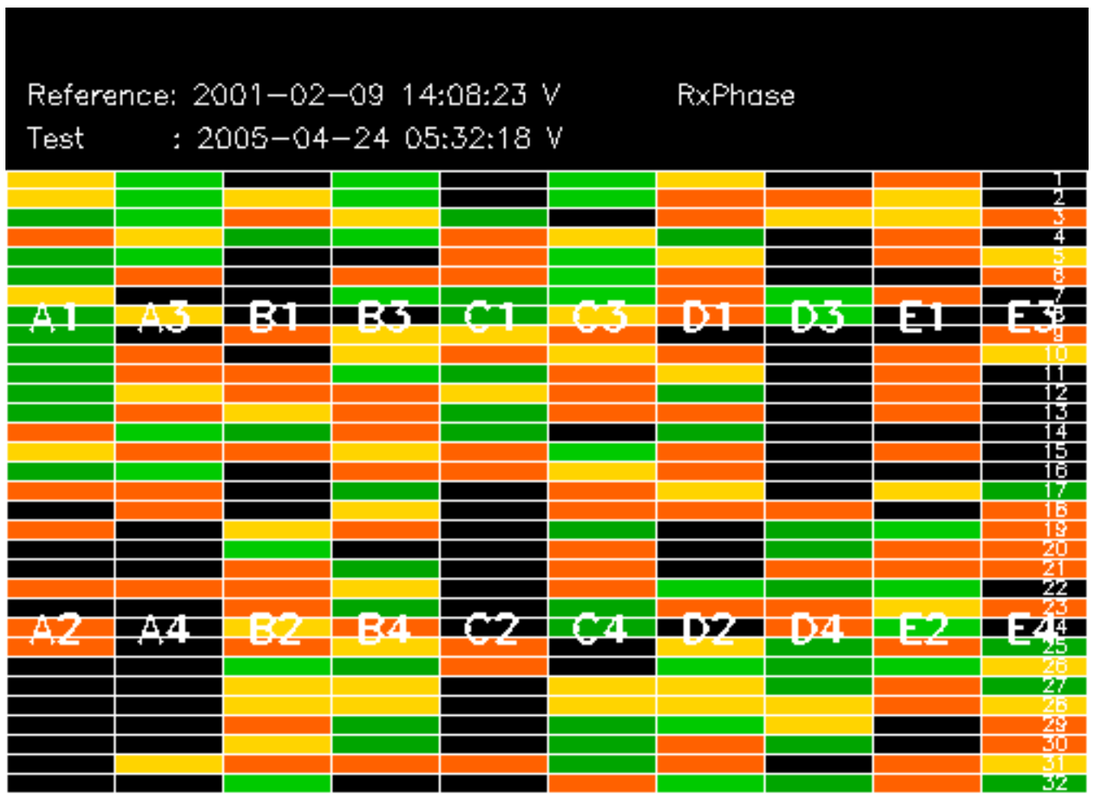
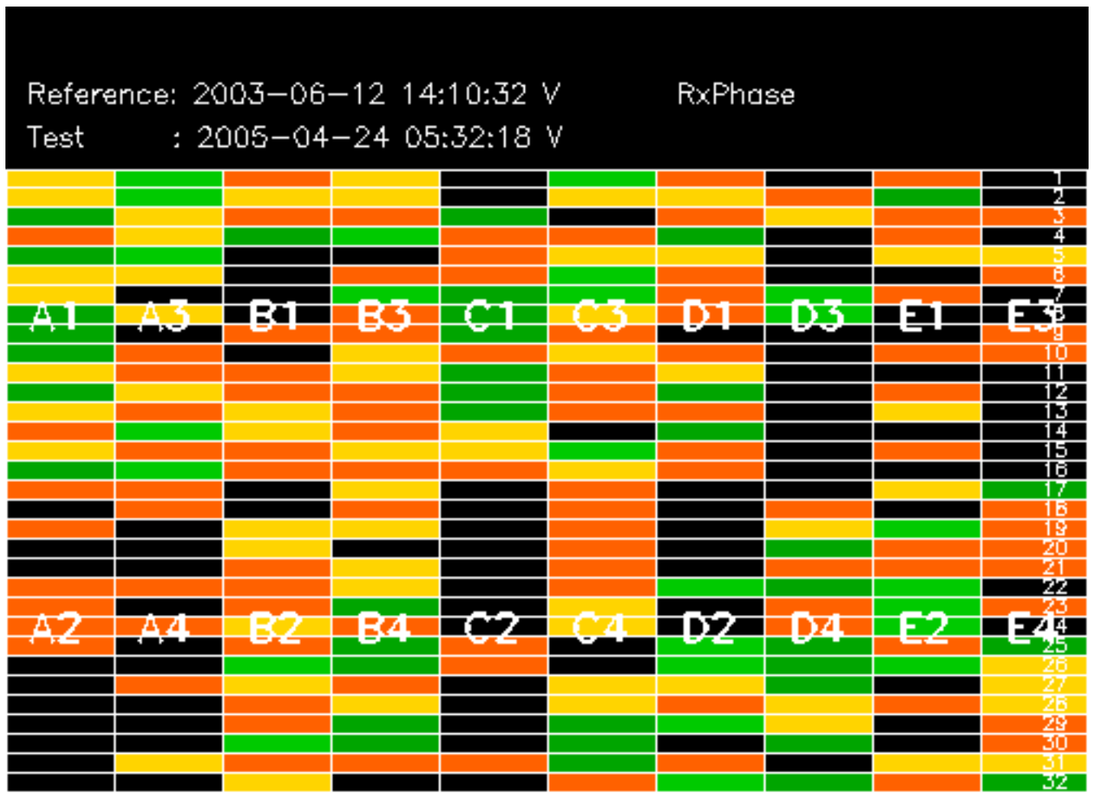
32


Reference: 2001-02-09 14:08:23 V
RxPhase
Test : 2005-04-24 05:32:18 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-04-24 05:32:18 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
5
6
7
8
9
10
11
12
13
14
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16
17
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24
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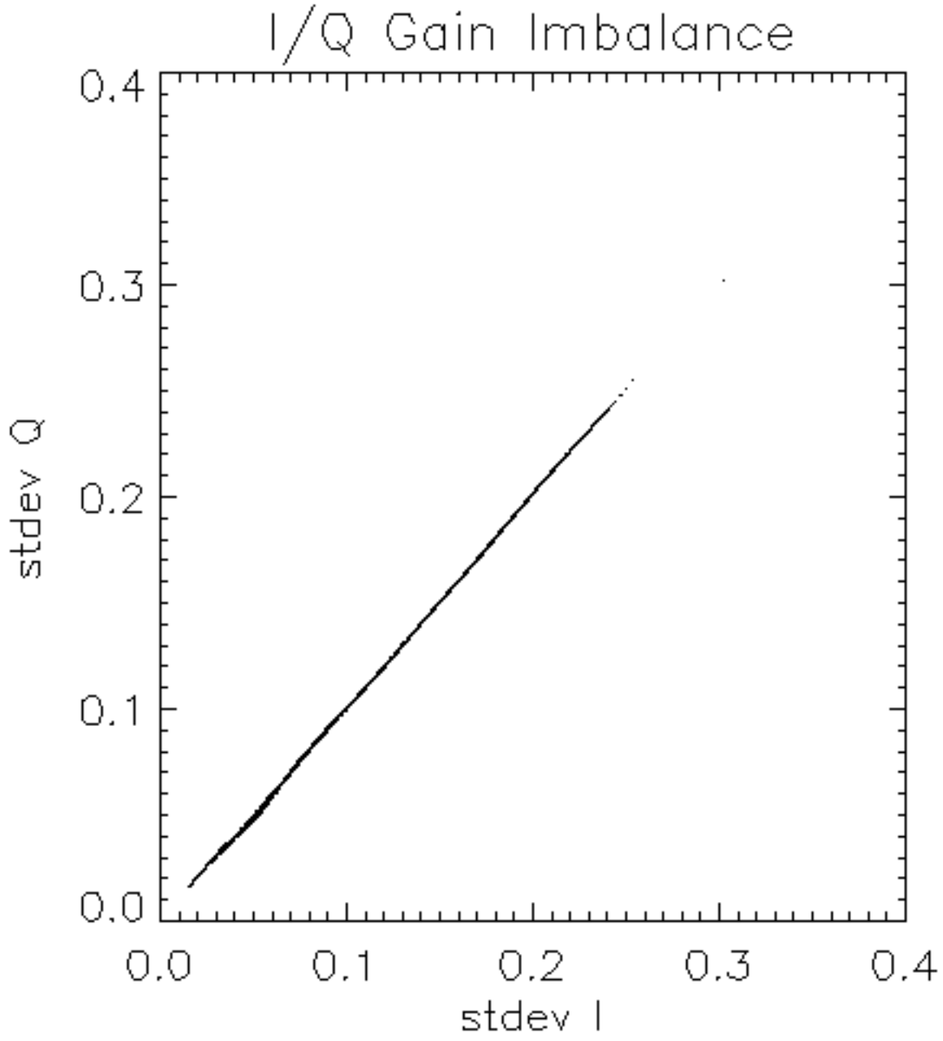
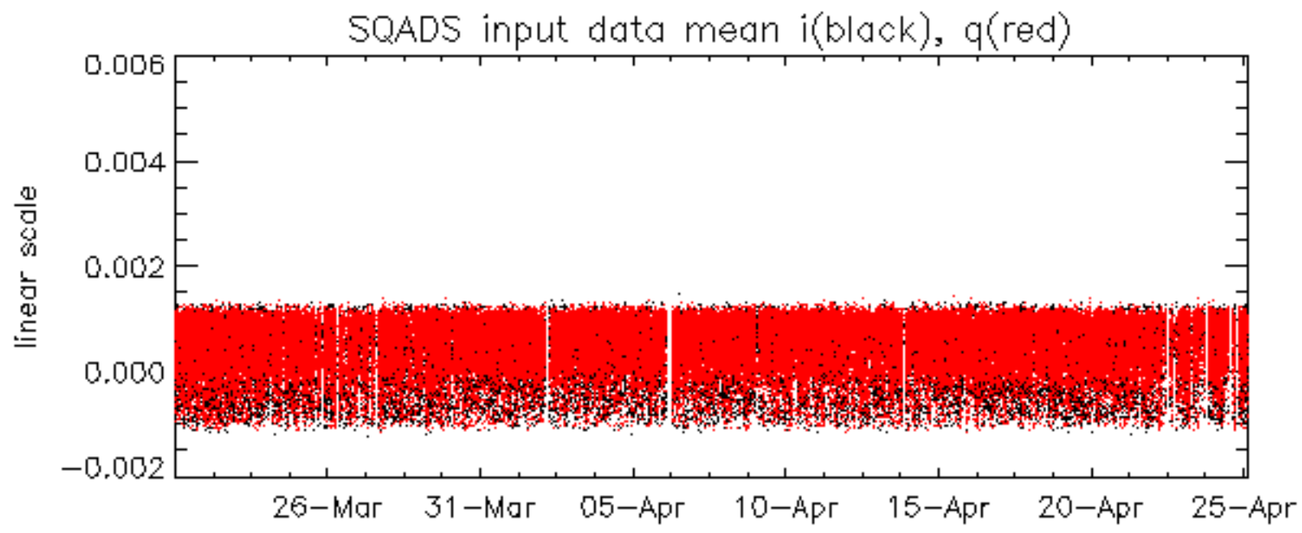
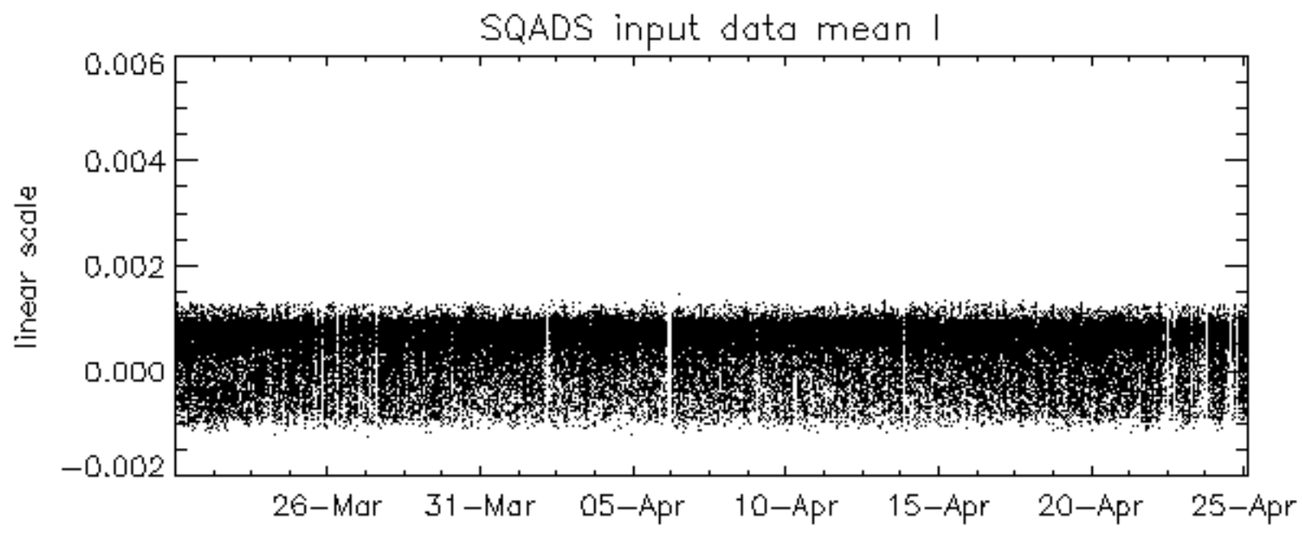
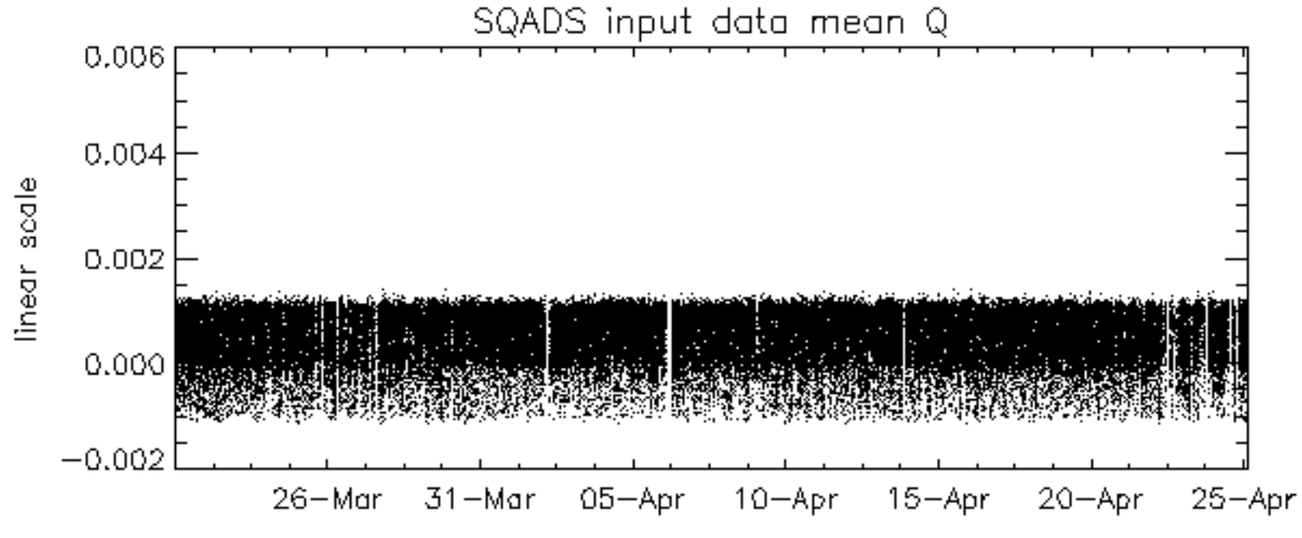
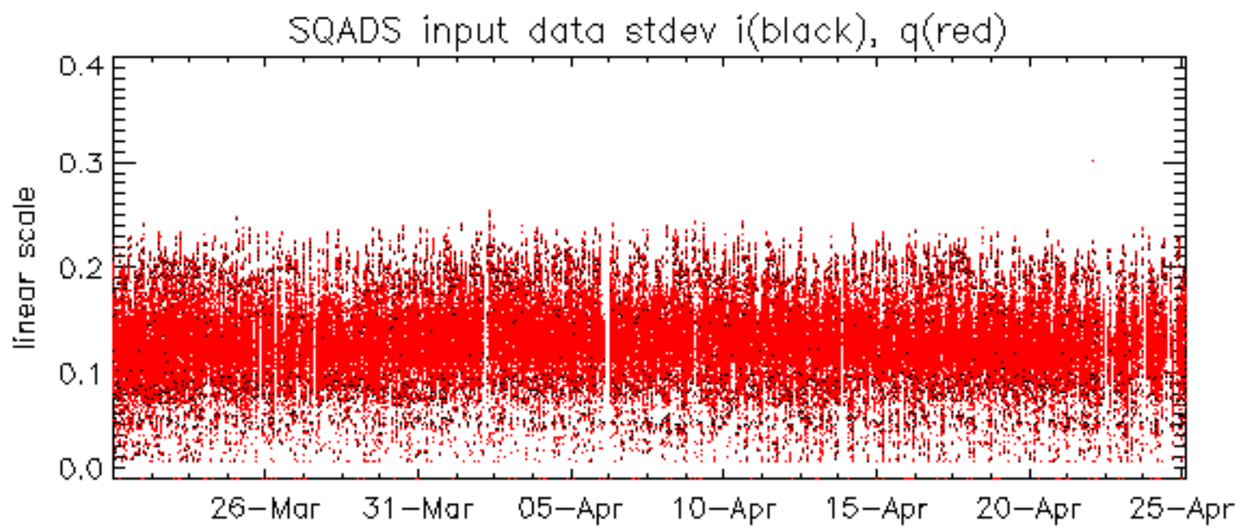
26
27
28
29
30
31
32

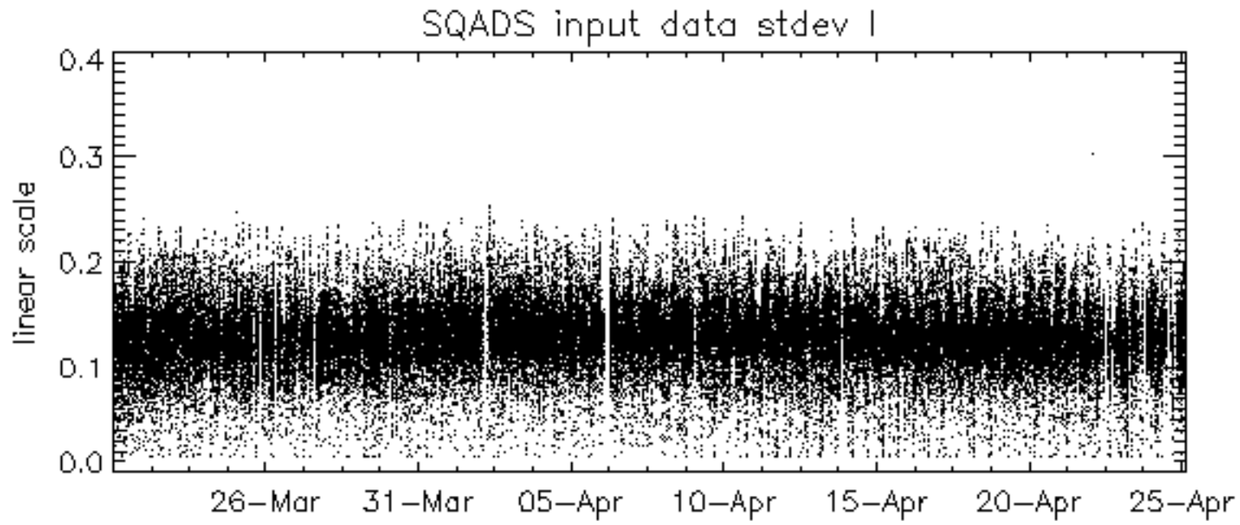

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

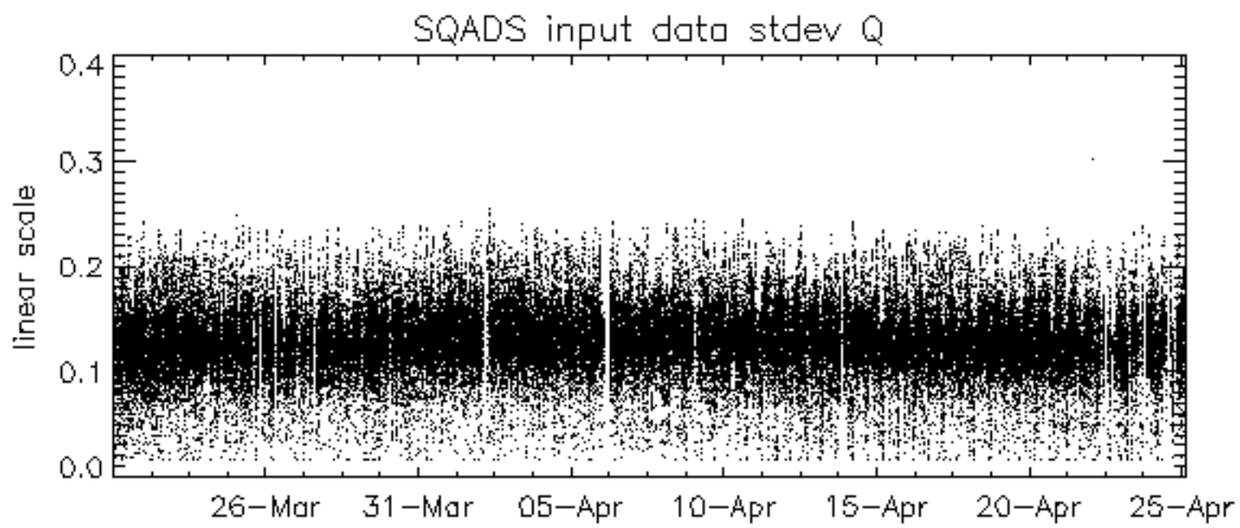

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Mar
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr

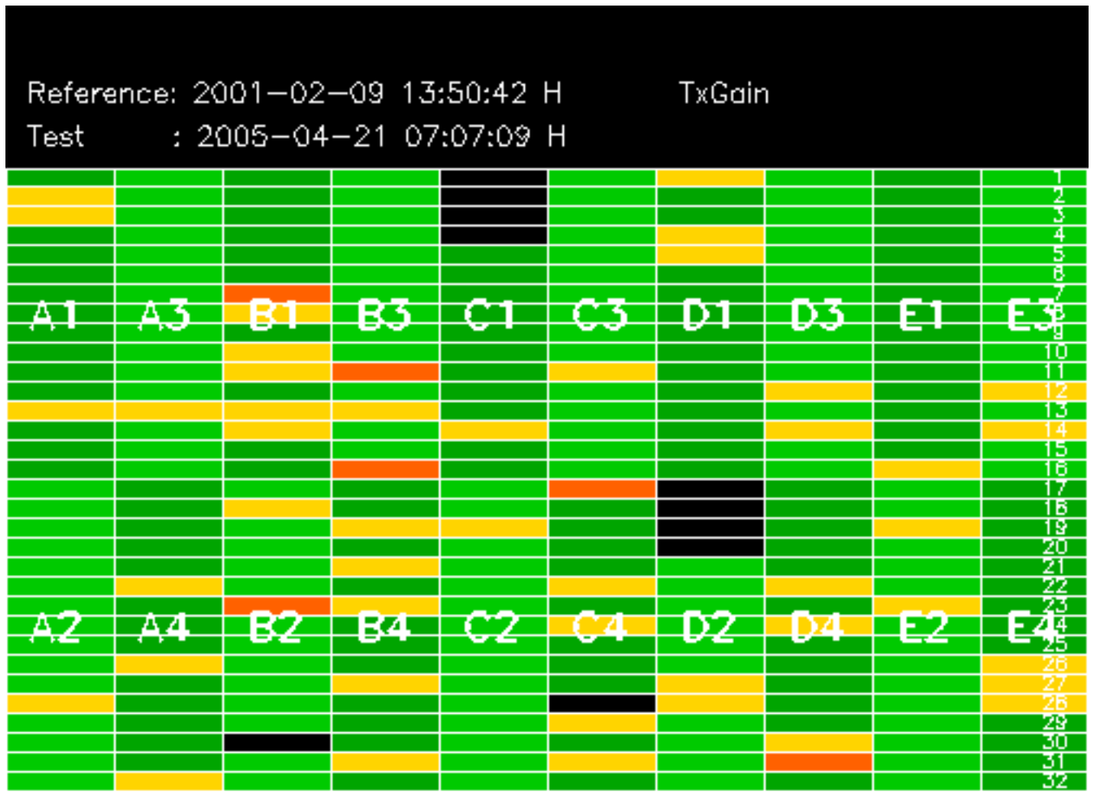

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Mar
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr


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


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


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
26−Mar
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
26−Mar
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr


Reference: 2001-02-09 13:50:42 H
Test : 2005-04-21 07:07:09 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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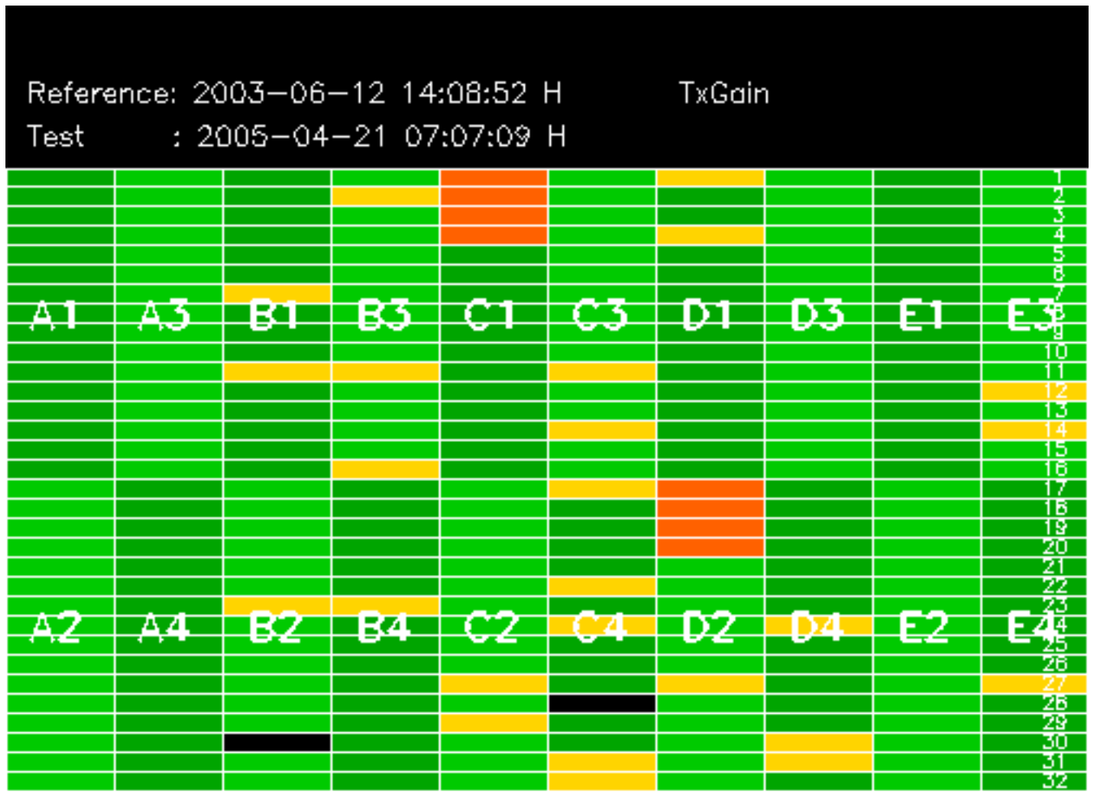
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-04-21 07:07:09 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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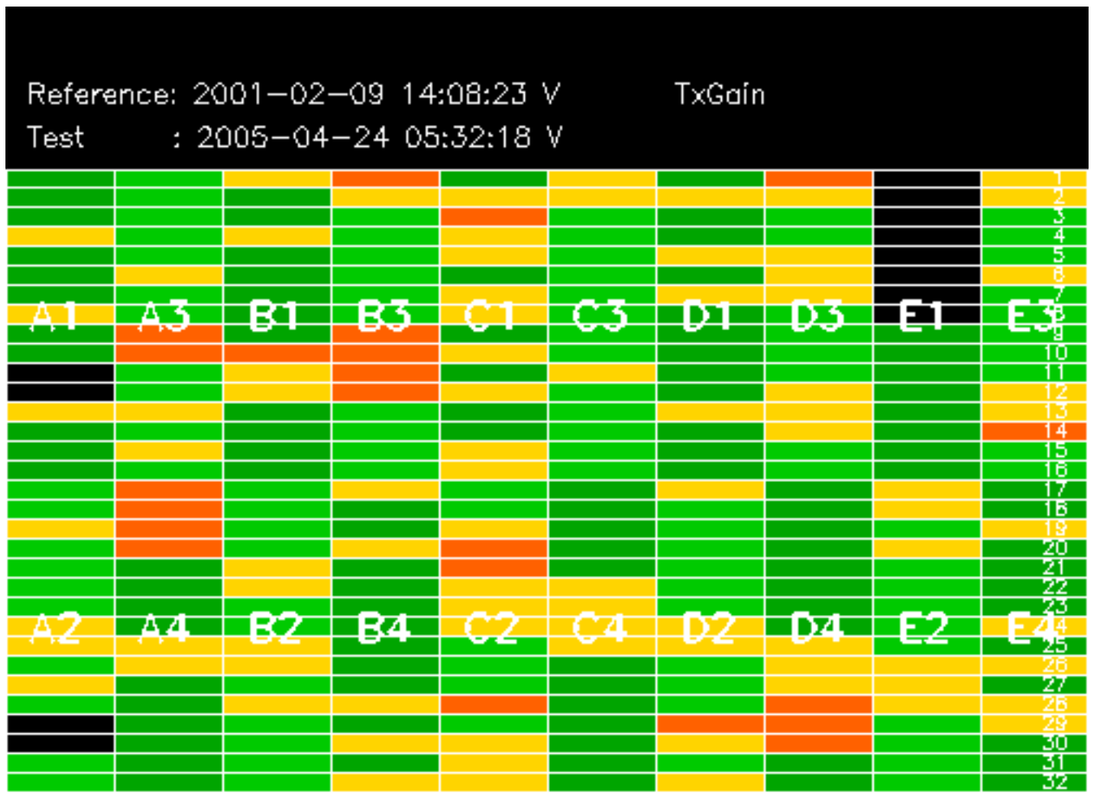
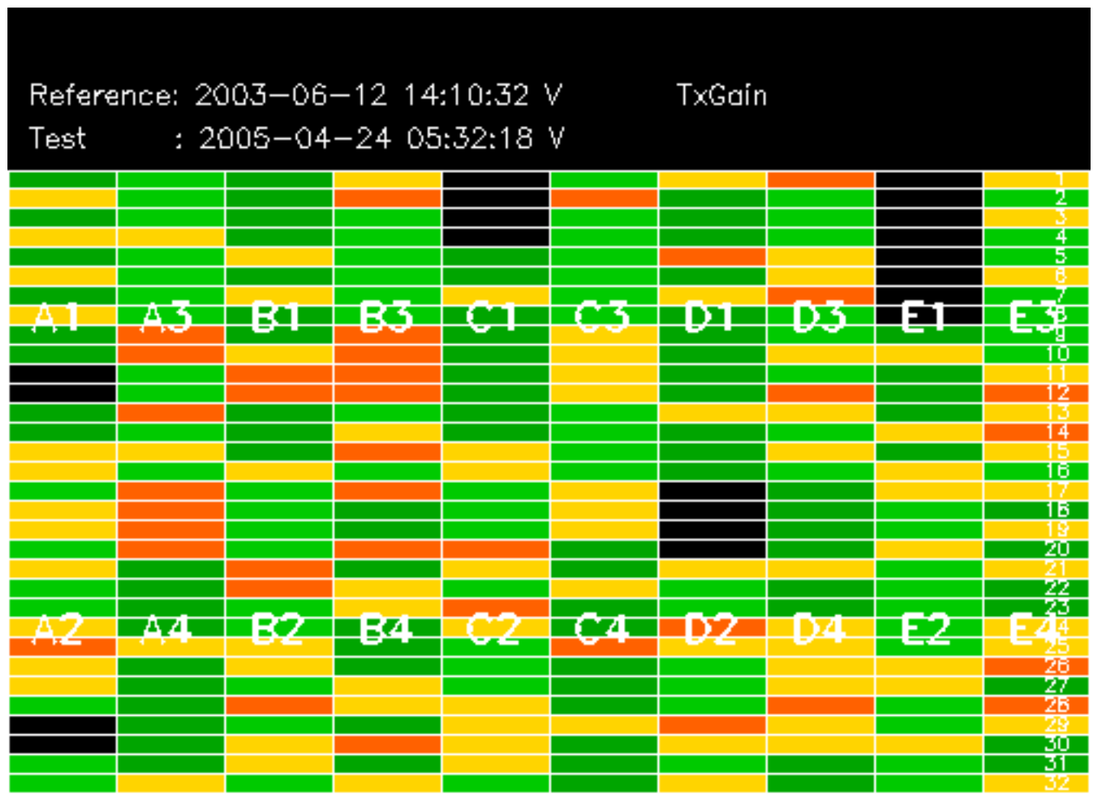
32


Reference: 2001-02-09 14:08:23 V
Test : 2005-04-24 05:32:18 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-04-24 05:32:18 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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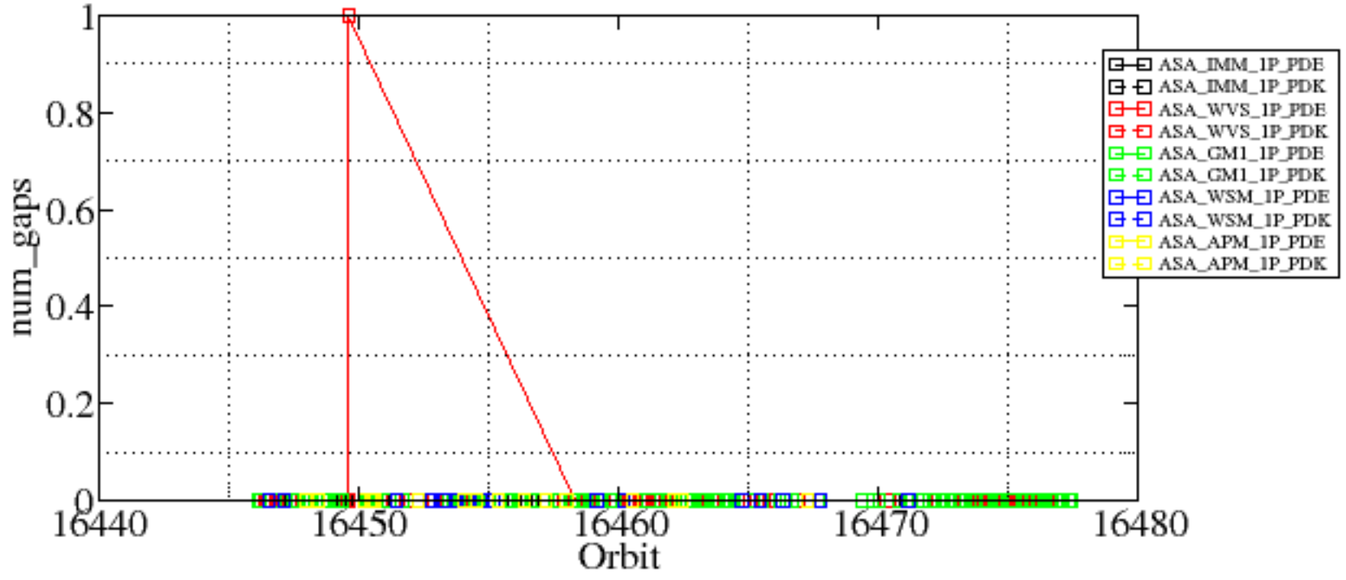
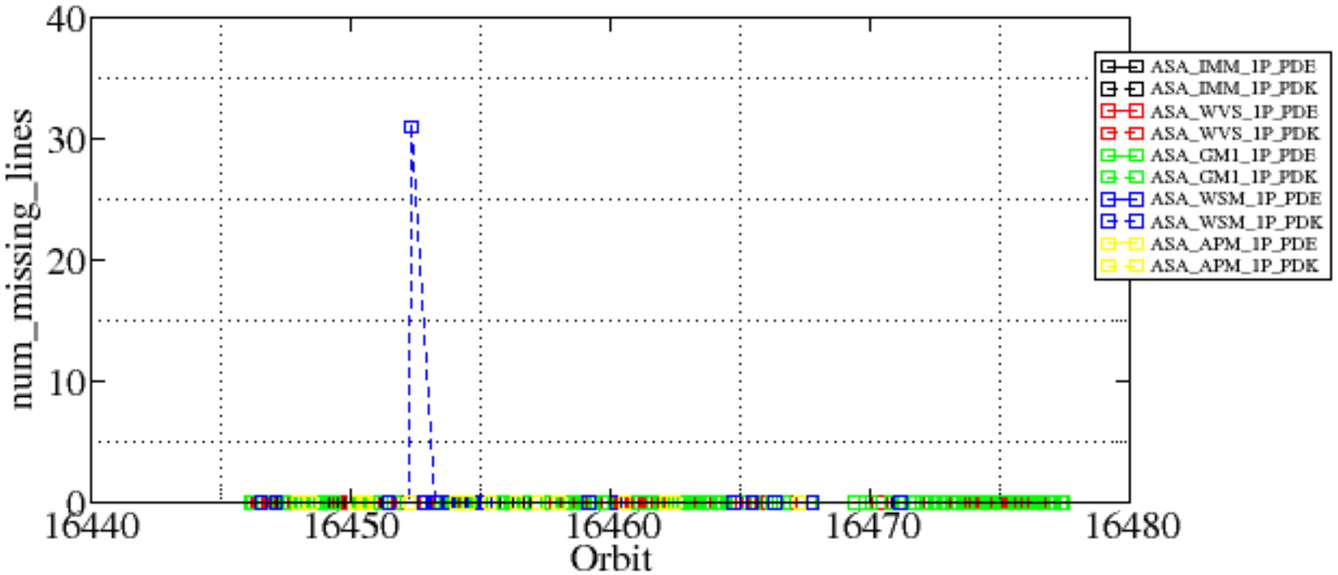
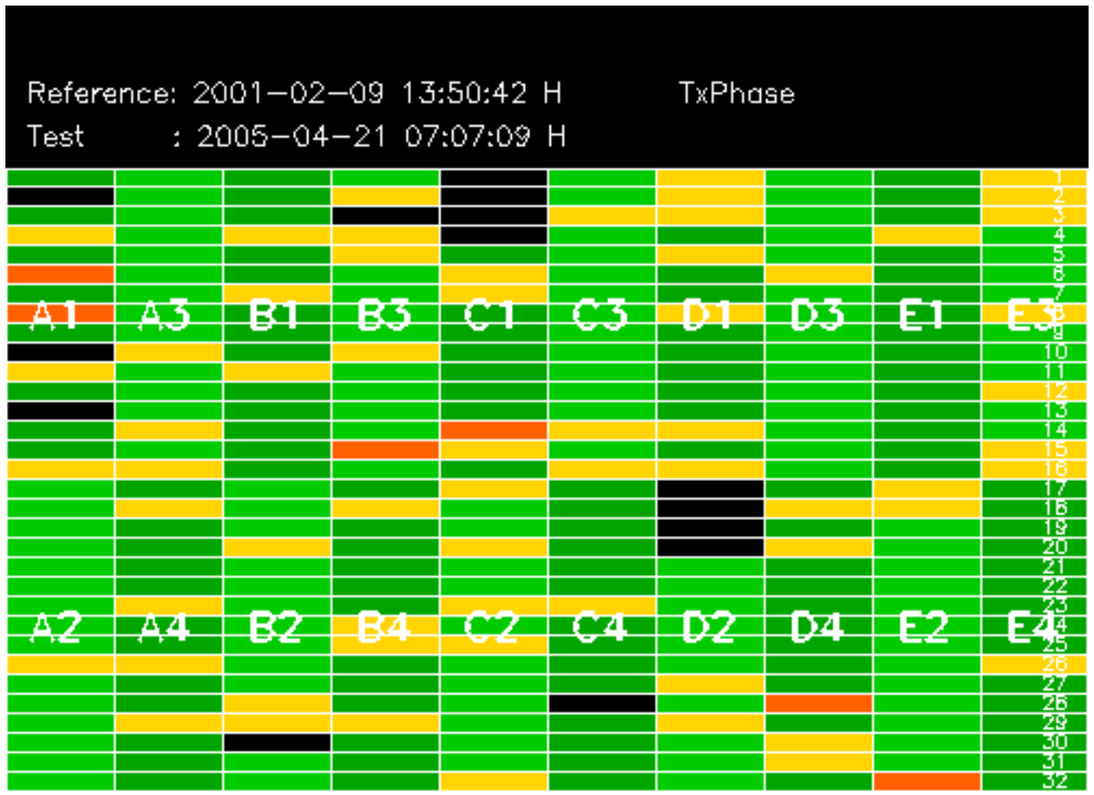
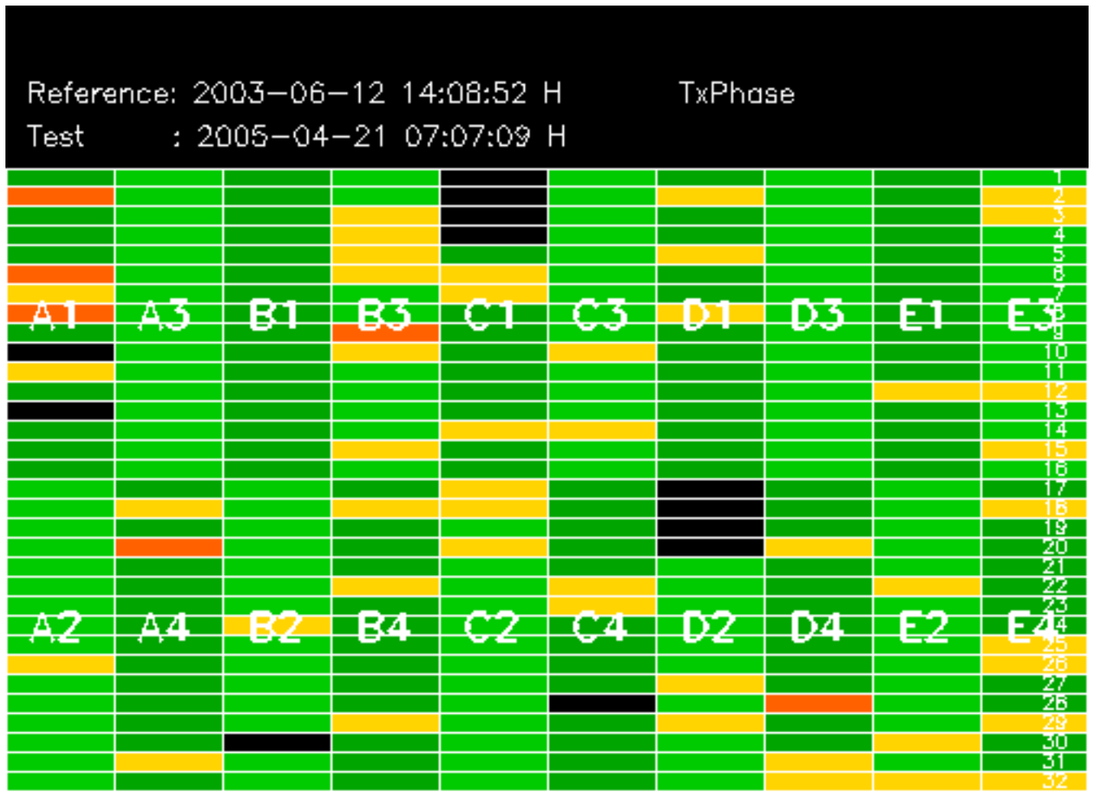
31
32

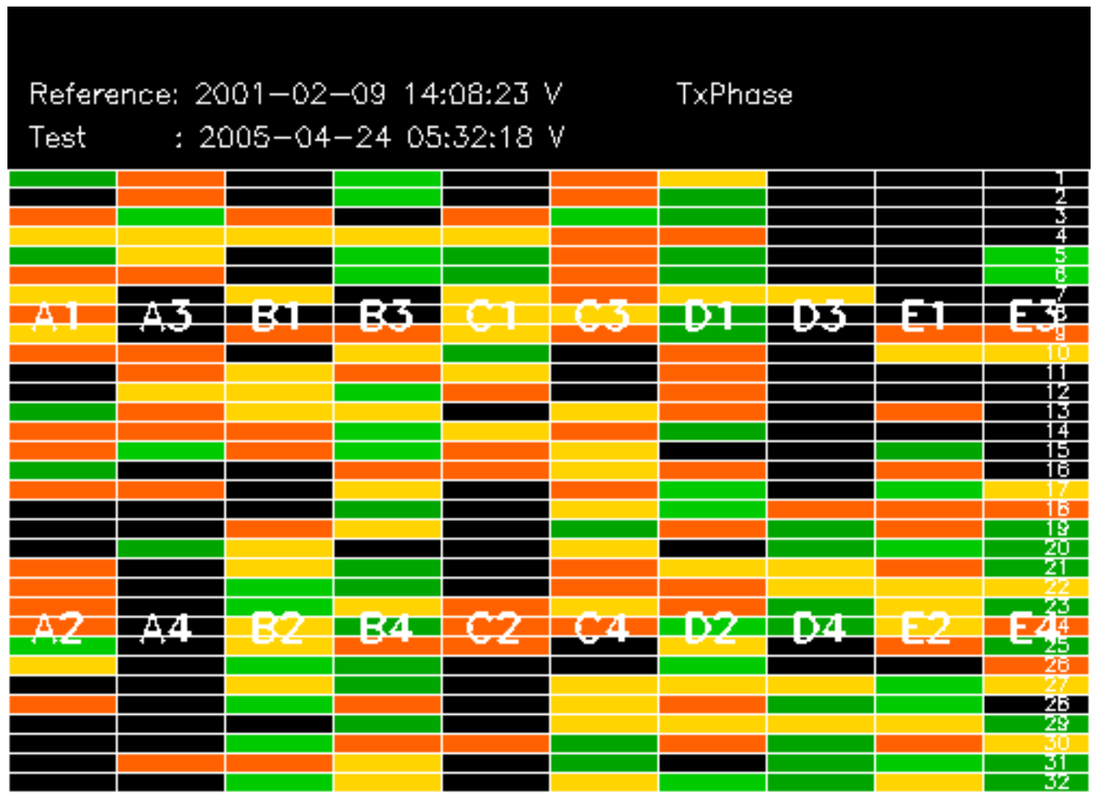
Summary of analysis for the last 3 days 2005042[345]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_WVS_1PNPDE20050423_055635_000000002036_00363_16449_8523.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_WVS_1PNPDE20050423_055635_000000002036_00363_16449_8559.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_WSM_1PNPDK20050423_103054_000000672036_00366_16452_1268.N1 </td> <td>0 </td> <td>31 </td></tr>
</table>

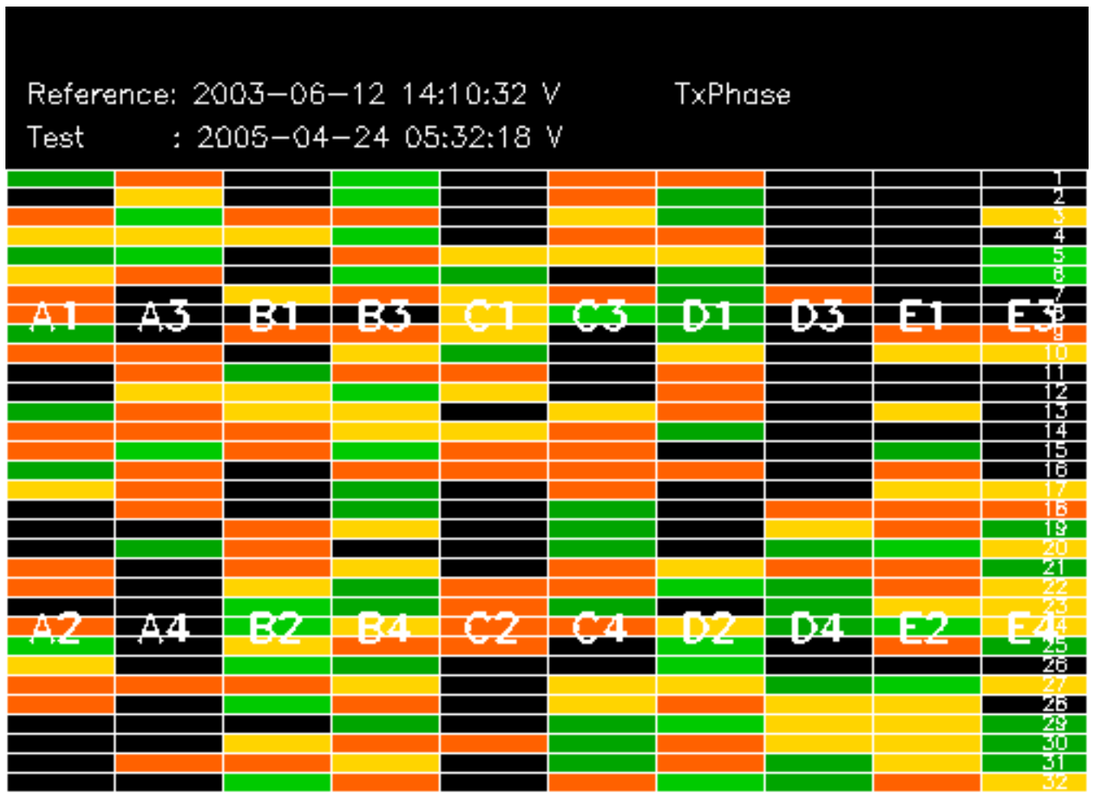

num_gaps
1
0.8
0.6
0.4
0.2
0
16440
16450
16460
16470
16480
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK


num_missing_lines
40
30
20
10
0
16440
16450
16460
16470
16480
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2005-04-21 07:07:09 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2005-04-21 07:07:09 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2005-04-24 05:32:18 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-04-24 05:32:18 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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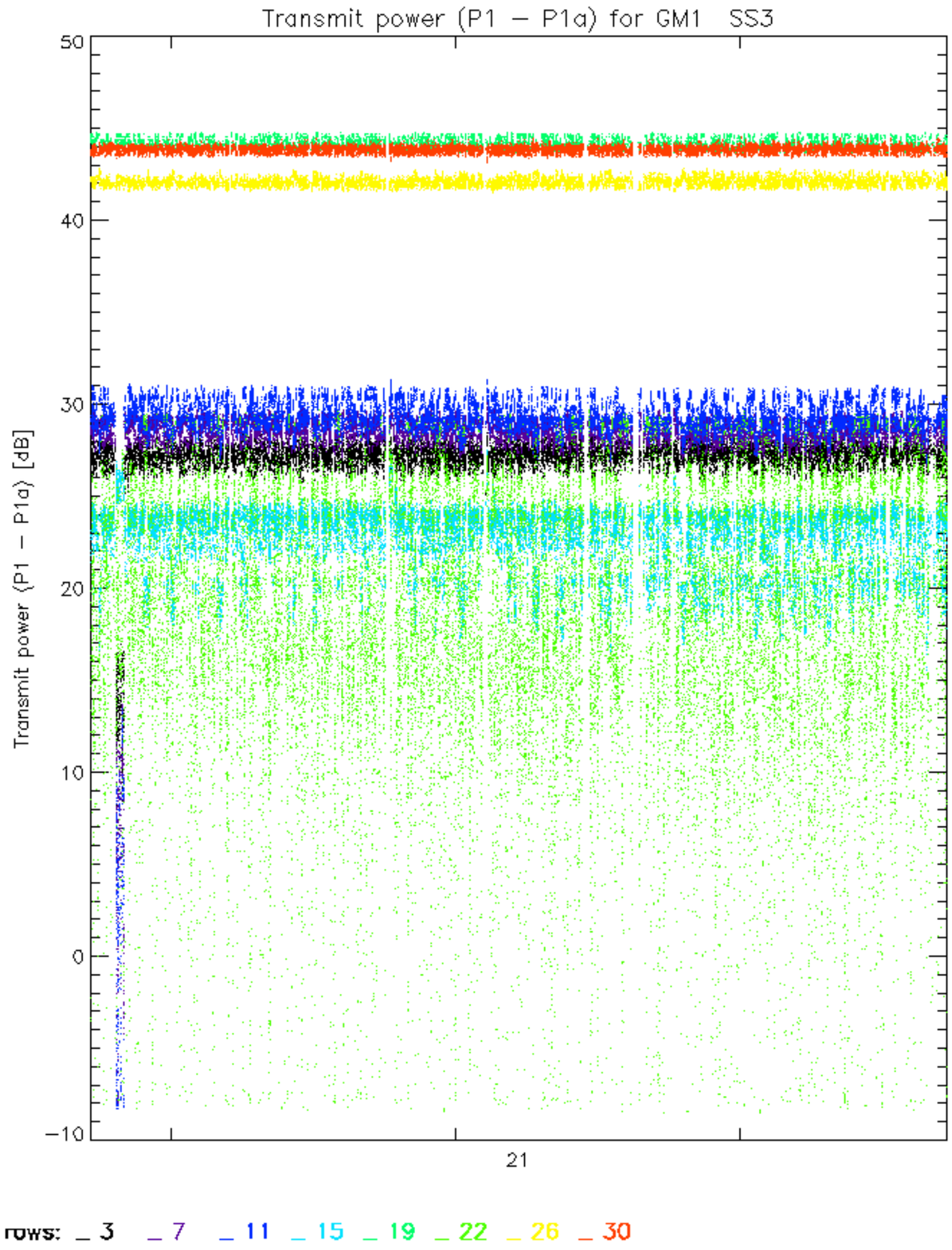
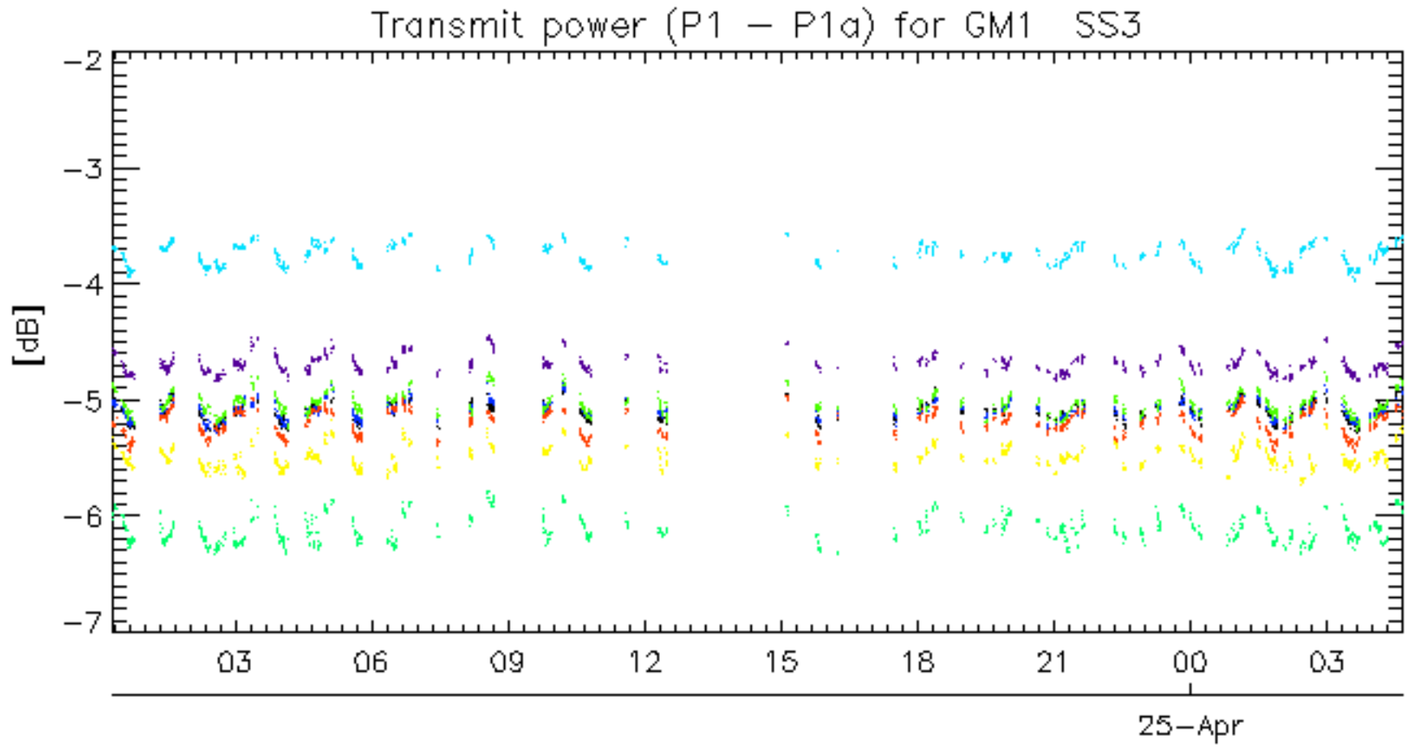
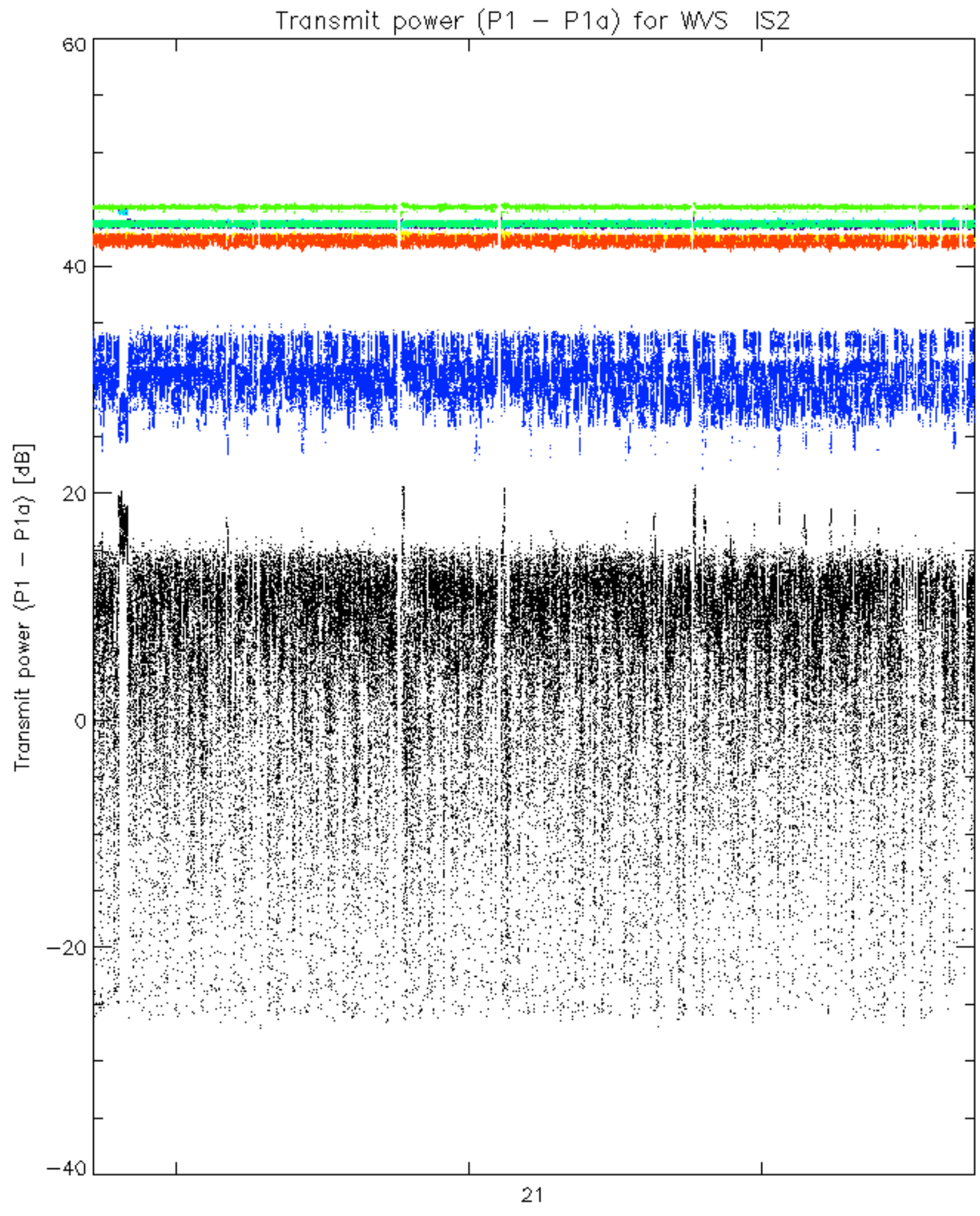
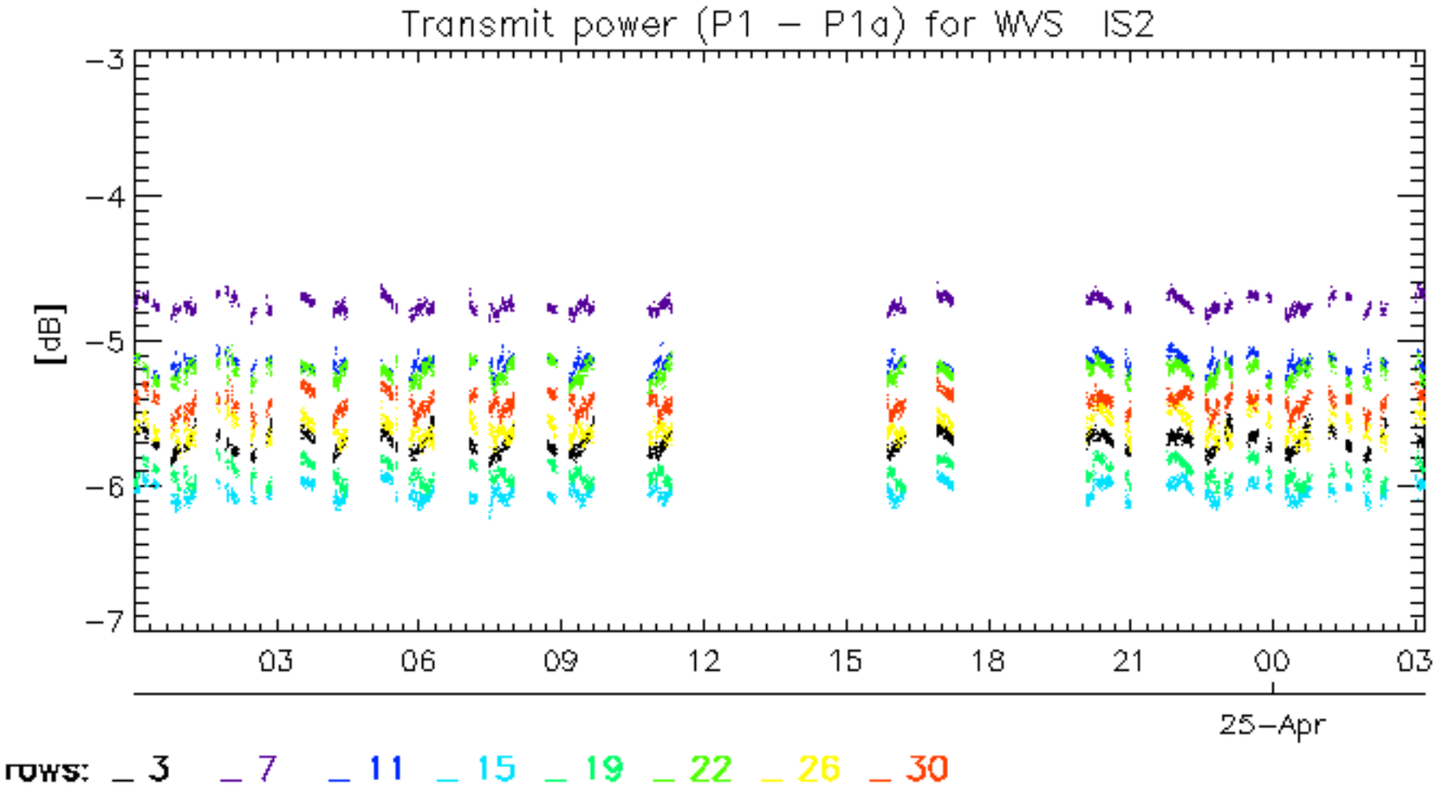
32


Transmit power (P1 – P1a) for GM1 SS3
Transmit power ⟨P1 – P1a⟩ [dB]
50
40
30
20
10
0
−10
21
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
25–Apr
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Transmit power (P1 − P1a) for WVS IS2
60
40
20
0
−20
−40
Transmit power ⟨P1 − P1a⟩ [dB]
21
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
[dB]
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
25–Apr
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

No unavailabilities during the reported period.