PRELIMINARY REPORT OF 050428

last update on Thu Apr 28 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 2005-04-27 00:00:00 to 2005-04-28 10:50:01

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

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	16	32	2	4	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	16	32	2	4	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	16	32	2	4	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	16	32	2	4	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	49	62	4	5	4
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	49	62	4	5	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	49	62	4	5	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	49	62	4	5	4

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	20050426 042905
H	20050427 071840

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
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☒

4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1
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☒

4.2 - Cyclic statistics

4.2.1 - Evolution for WVS

Evolution of cal pulses for WVS
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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	-3.348055	0.006718	0.019288
7	P1	-3.115890	0.011165	0.030614
11	P1	-4.672198	0.026706	0.034186
15	P1	-5.591907	0.043003	0.120758
19	P1	-3.709162	0.004103	-0.024195
22	P1	-4.565065	0.012107	-0.068200
26	P1	-4.899167	0.020179	0.053780
30	P1	-7.166851	0.025977	0.087543
3	P1	-15.795922	0.077896	0.237115
7	P1	-15.531108	0.081145	0.116062
11	P1	-21.191698	0.239779	-0.159508
15	P1	-11.489702	0.030285	0.131313
19	P1	-14.318496	0.030608	-0.020276
22	P1	-15.844172	0.319689	-0.257332
26	P1	-17.629211	0.177701	0.061730
30	P1	-17.889490	0.320768	0.137849

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.045038	0.083200	0.012936
7	P2	-22.220945	0.101106	-0.006680
11	P2	-14.197544	0.109885	0.172676
15	P2	-7.069719	0.093230	-0.043404
19	P2	-9.649807	0.095929	-0.010577
22	P2	-16.881620	0.098129	0.006758
26	P2	-16.463863	0.096943	-0.044186
30	P2	-18.824421	0.086562	0.014601

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.166582	0.004235	0.007117
7	P3	-8.166582	0.004235	0.007117
11	P3	-8.166580	0.004235	0.007118
15	P3	-8.166580	0.004235	0.007118
19	P3	-8.166580	0.004235	0.007118
22	P3	-8.166580	0.004235	0.007118
26	P3	-8.166580	0.004235	0.007118
30	P3	-8.166581	0.004235	0.007118

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	-2.747281	0.011815	-0.044182
7	P1	-3.011708	0.031309	0.034679
11	P1	-3.984055	0.016327	0.041689
15	P1	-3.544264	0.021395	0.075835
19	P1	-3.620900	0.014501	-0.026705
22	P1	-5.688988	0.046714	0.109771
26	P1	-7.307021	0.025189	-0.026548
30	P1	-6.276472	0.062026	0.002795
3	P1	-10.749134	0.044752	-0.020754
7	P1	-10.386910	0.149142	-0.130884
11	P1	-12.559662	0.097080	0.004815
15	P1	-11.687715	0.069382	0.179164
19	P1	-15.606174	0.058865	-0.049564
22	P1	-24.993540	1.698561	-0.885476
26	P1	-15.604008	0.266530	-0.233383
30	P1	-20.170124	1.240782	-0.187604

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.751423	0.038734	-0.013880
7	P2	-22.294634	0.046844	0.051140
11	P2	-10.067288	0.058468	0.083648
15	P2	-5.043135	0.036701	-0.102804
19	P2	-6.874245	0.052000	-0.066033
22	P2	-7.088633	0.038086	-0.038754
26	P2	-23.885494	0.038202	-0.079600
30	P2	-21.913719	0.043043	-0.066375

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.002768	0.003615	0.000124
7	P3	-8.002849	0.003605	0.000016
11	P3	-8.002733	0.003605	0.000585
15	P3	-8.002895	0.003609	-0.000145
19	P3	-8.002872	0.003604	0.000237
22	P3	-8.002887	0.003593	0.000198
26	P3	-8.002871	0.003606	0.000168
30	P3	-8.002736	0.003611	0.000305

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	0.000481122
	stdev	2.14357e-07
MEAN Q	mean	0.000495640
	stdev	2.33084e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129449
	stdev	0.00103581
STDEV Q	mean	0.129708
	stdev	0.00104740

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005042[678]
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_GM1_1PNPDK20050426_093059_000009242036_00408_16494_9443.N1	0	15
ASA_GM1_1PNPDK20050426_171623_000007312036_00413_16499_9431.N1	0	6

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

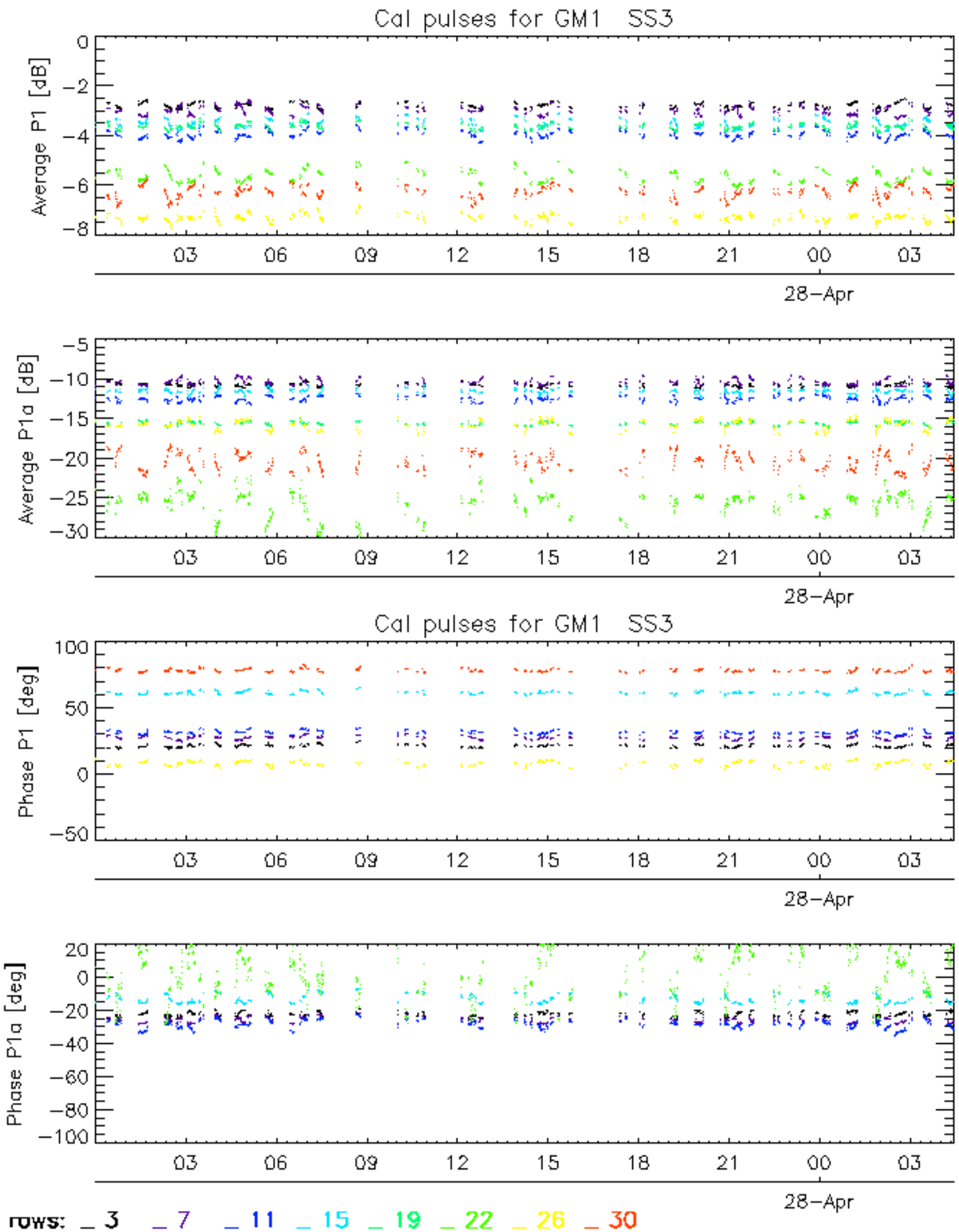
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

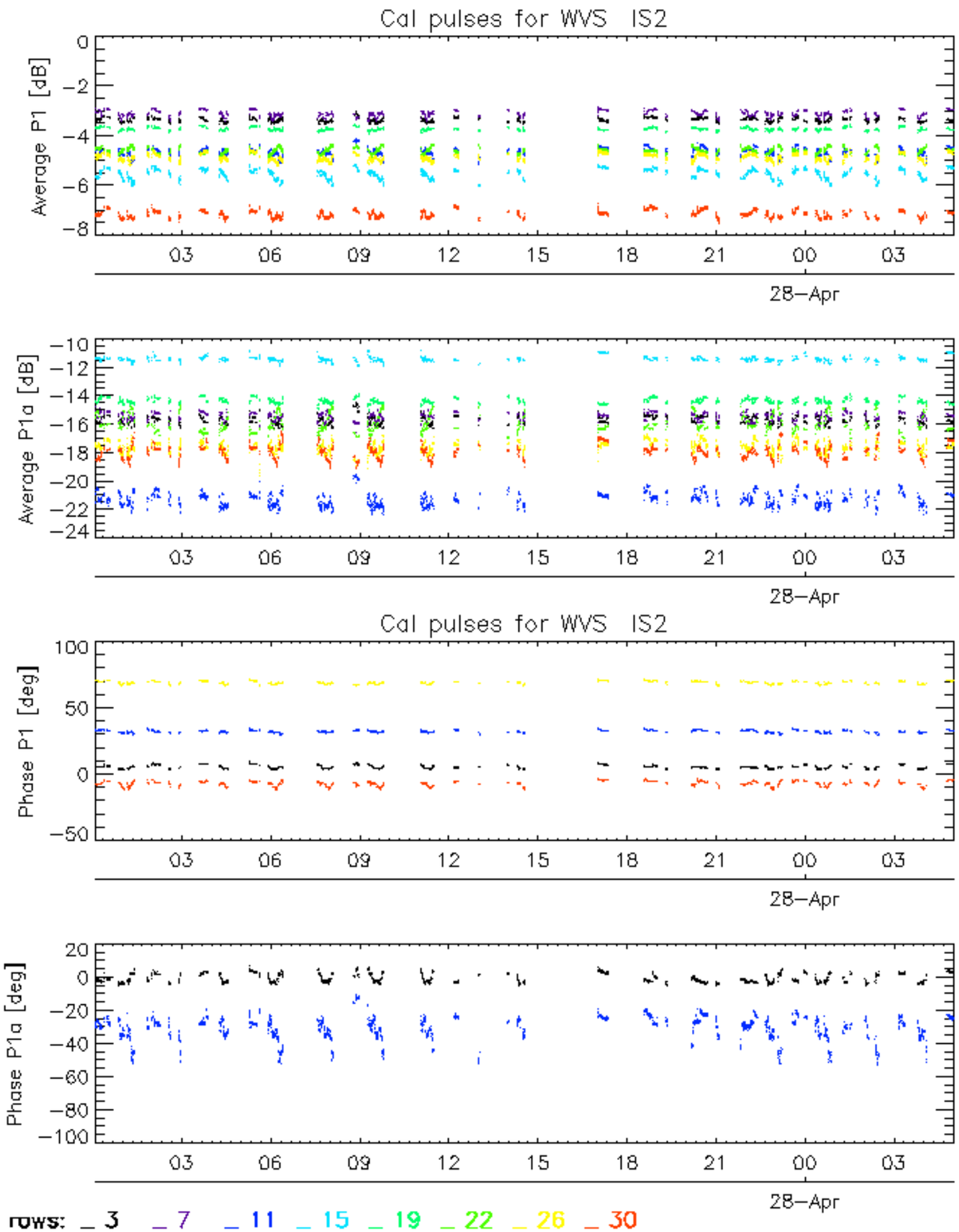
7.5 - Absolute Doppler for GM1

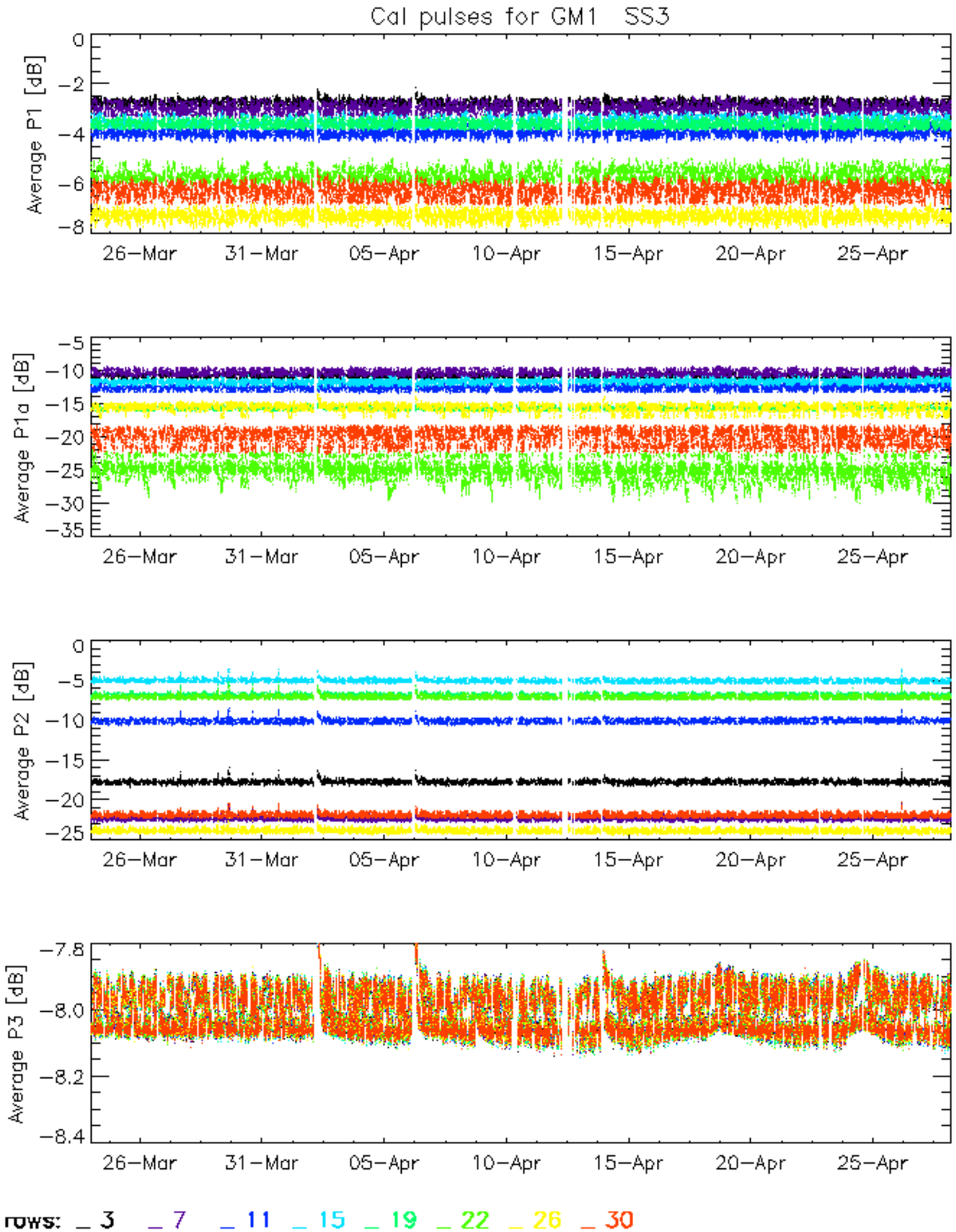
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

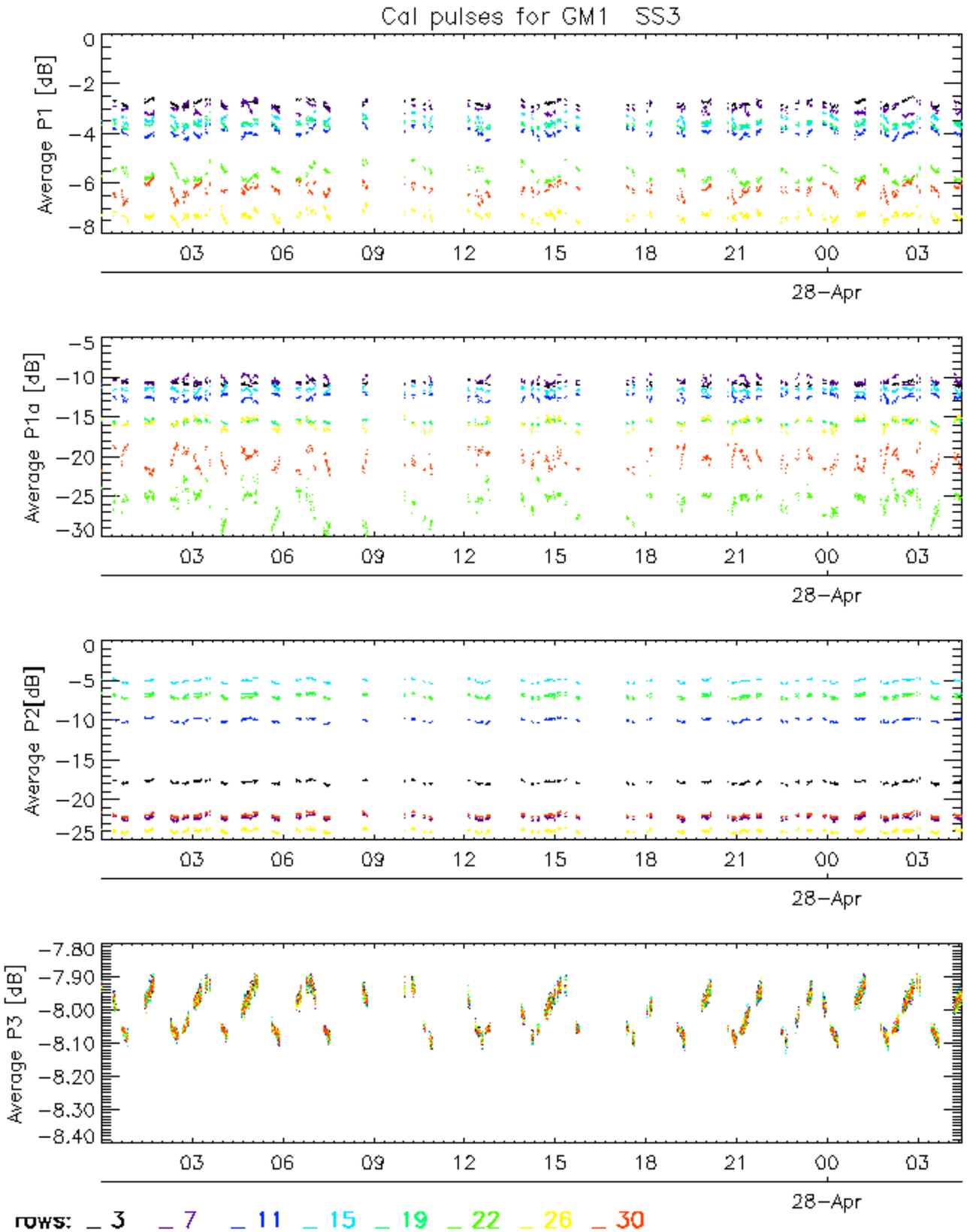
7.6 - Doppler evolution versus ANX for GM1

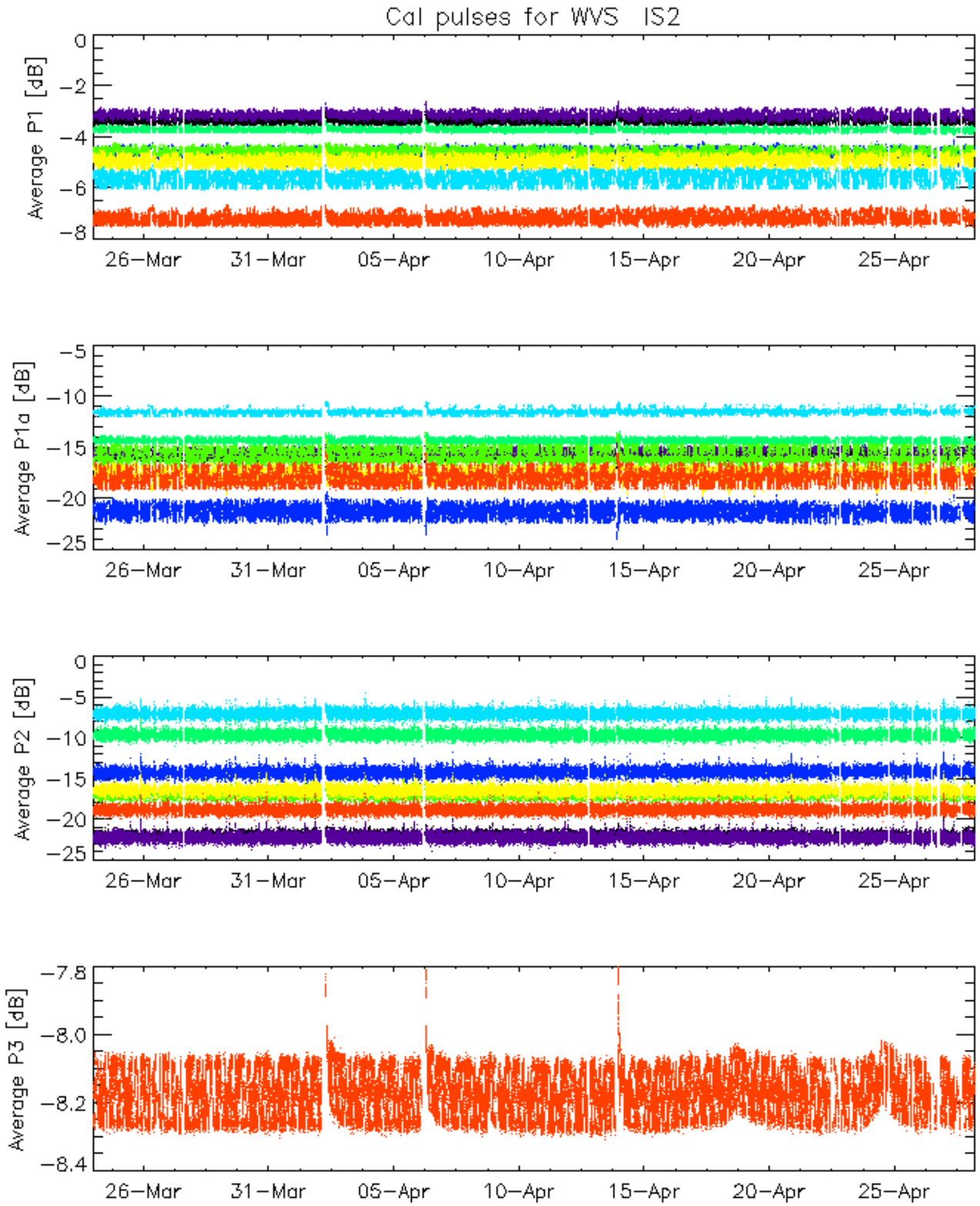
Evolution Doppler error versus ANX
☒

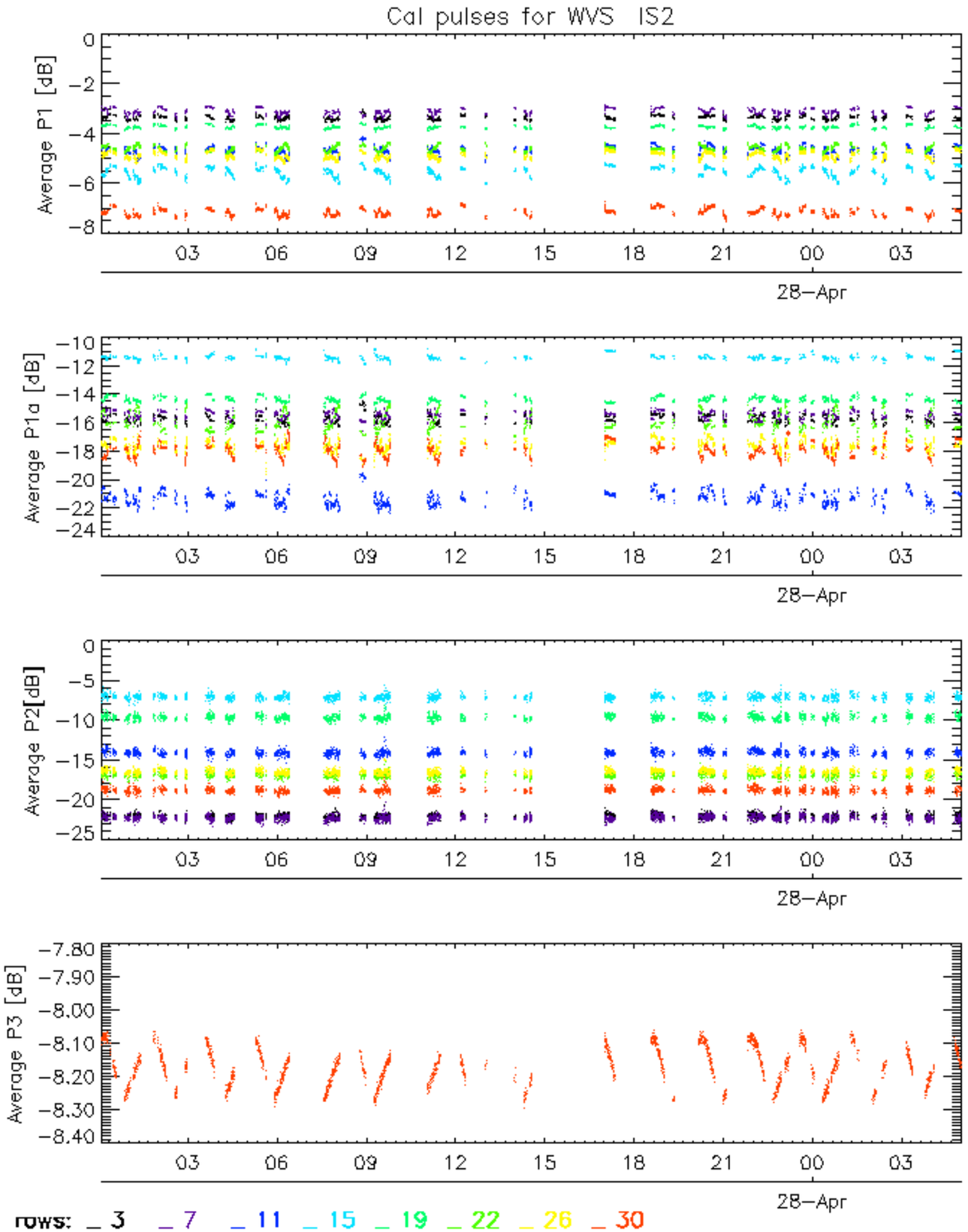

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
28−Apr
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
28−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

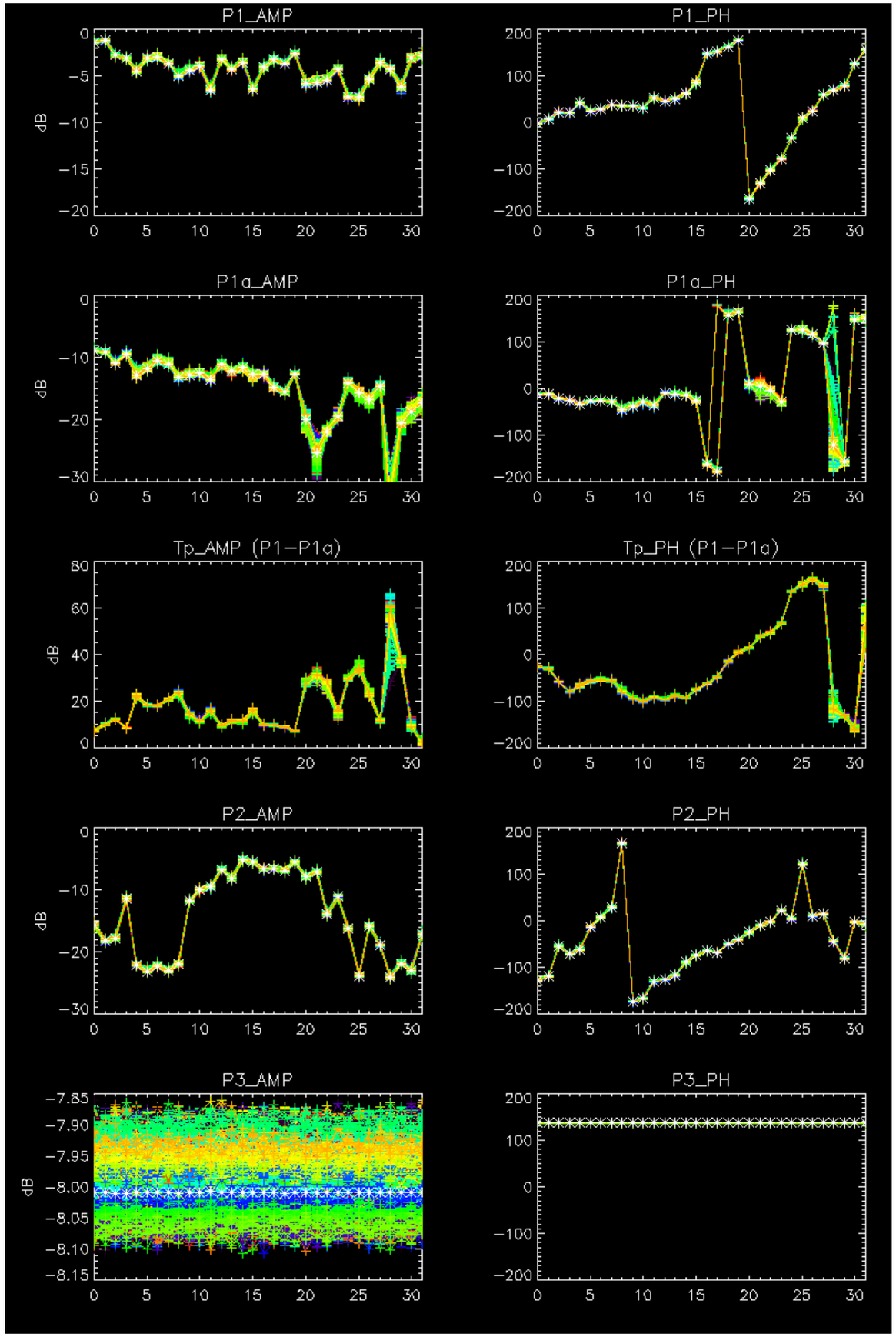

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
26−Mar
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

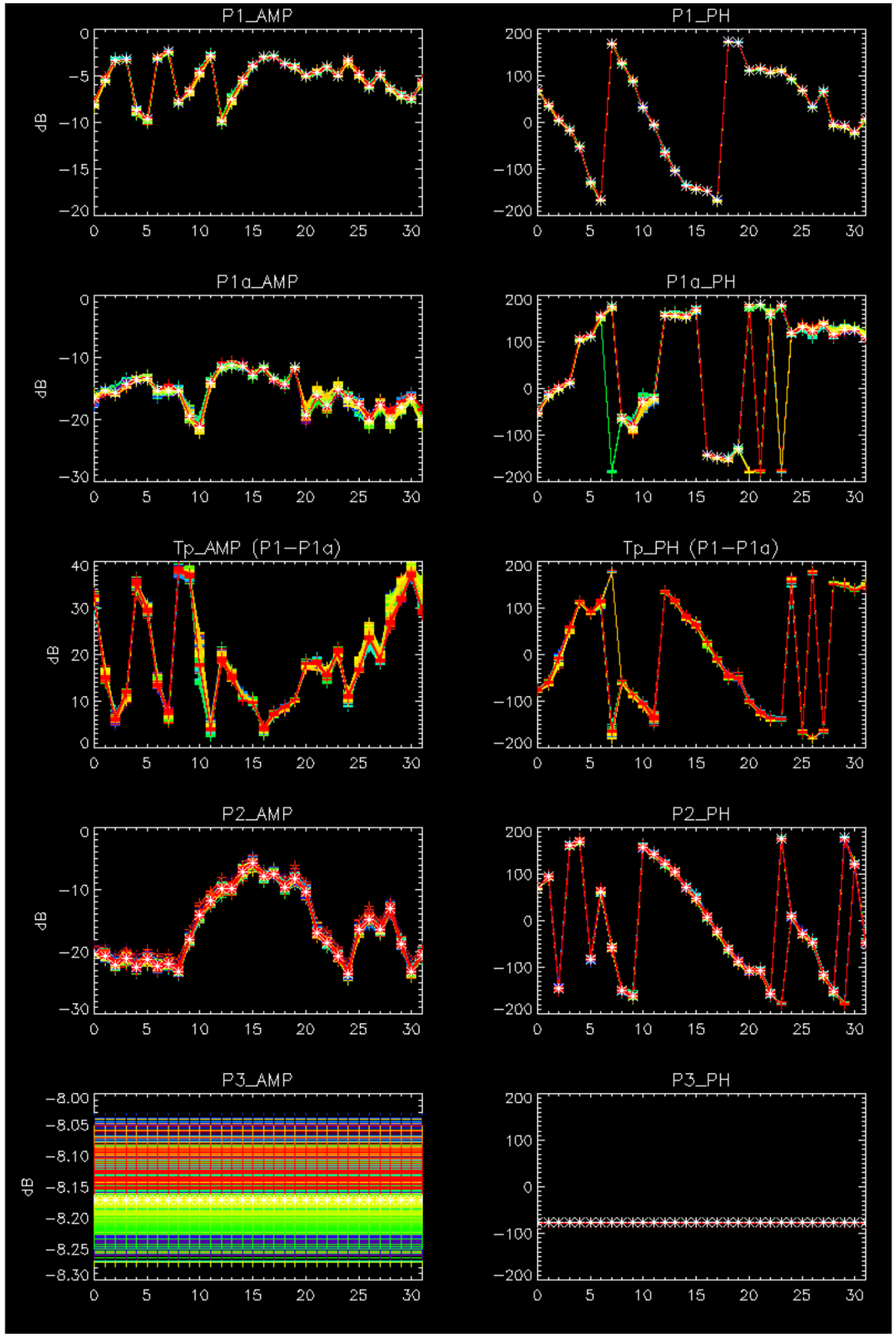

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
28−Apr
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


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
28−Apr
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
Average P2[dB]
−5
−10
−15
−20
−25
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

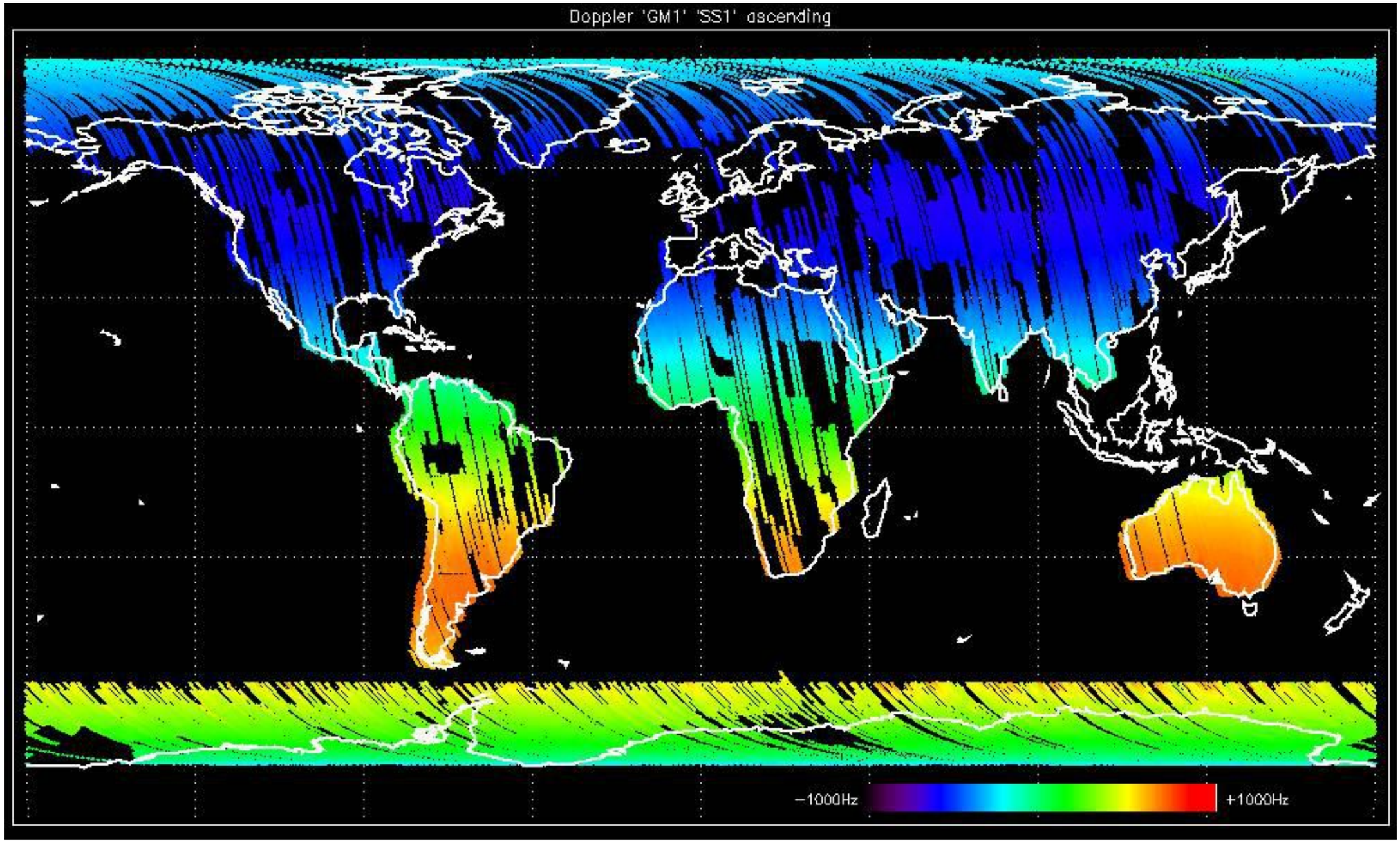
No anomalies observed.

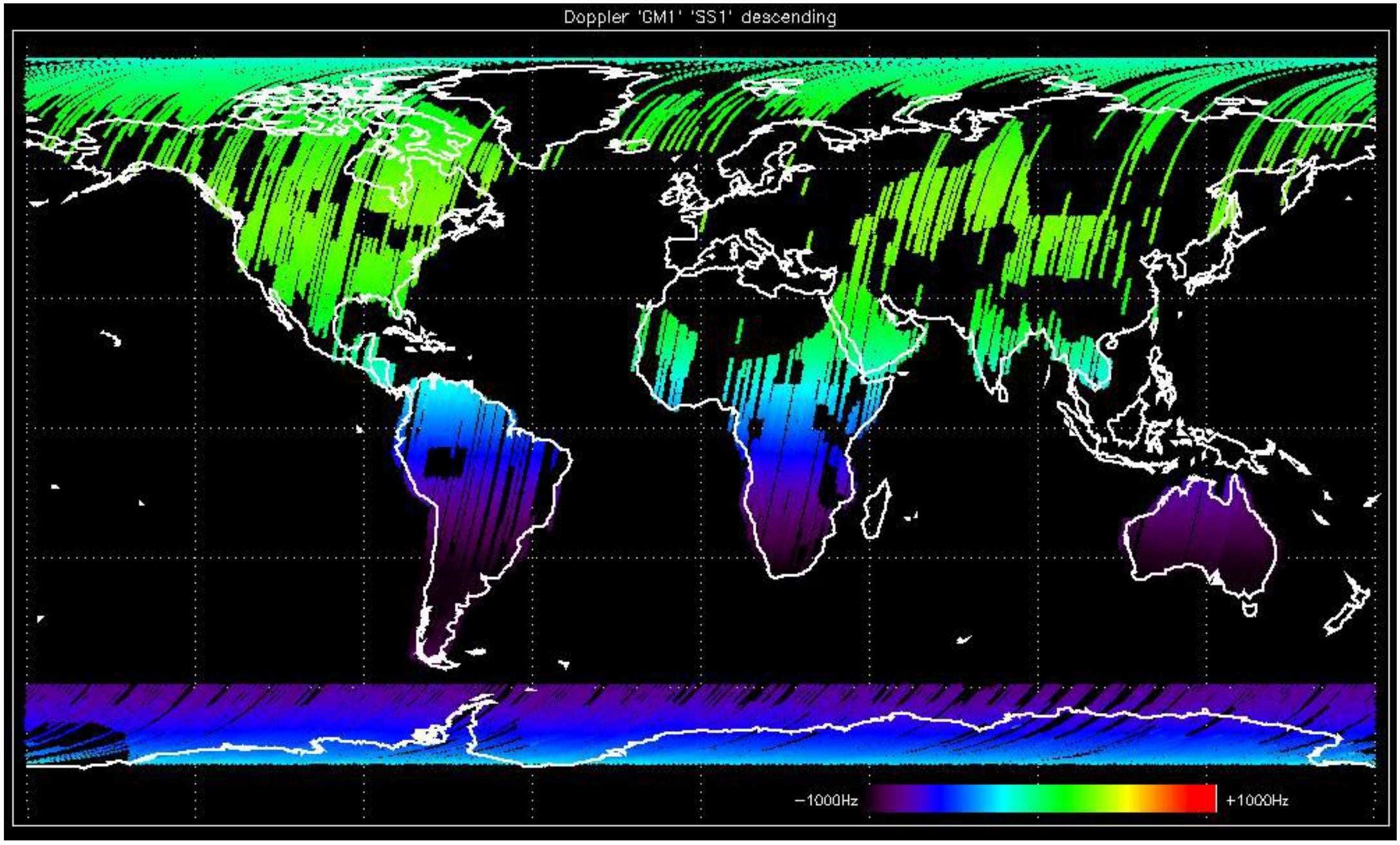

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

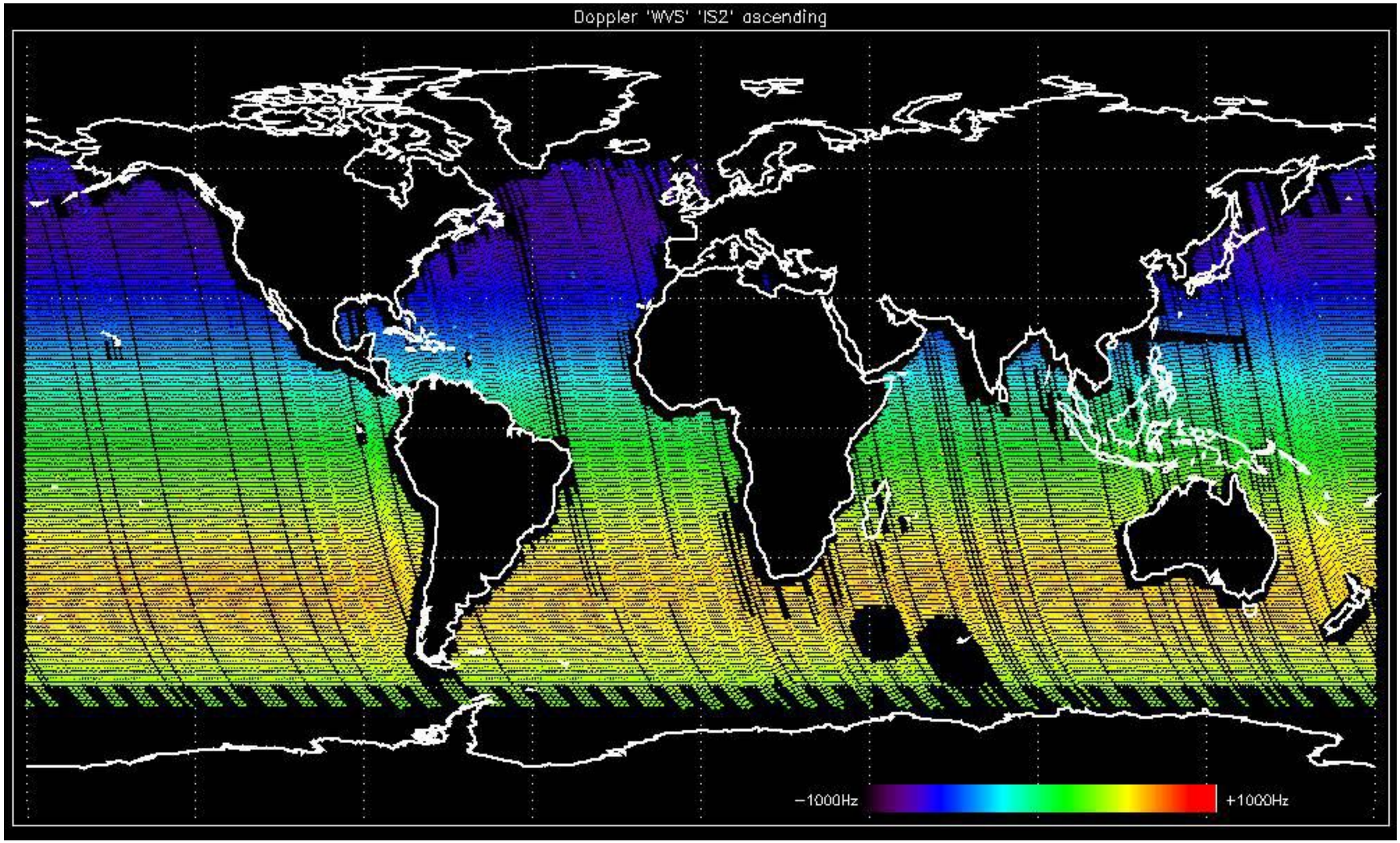

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

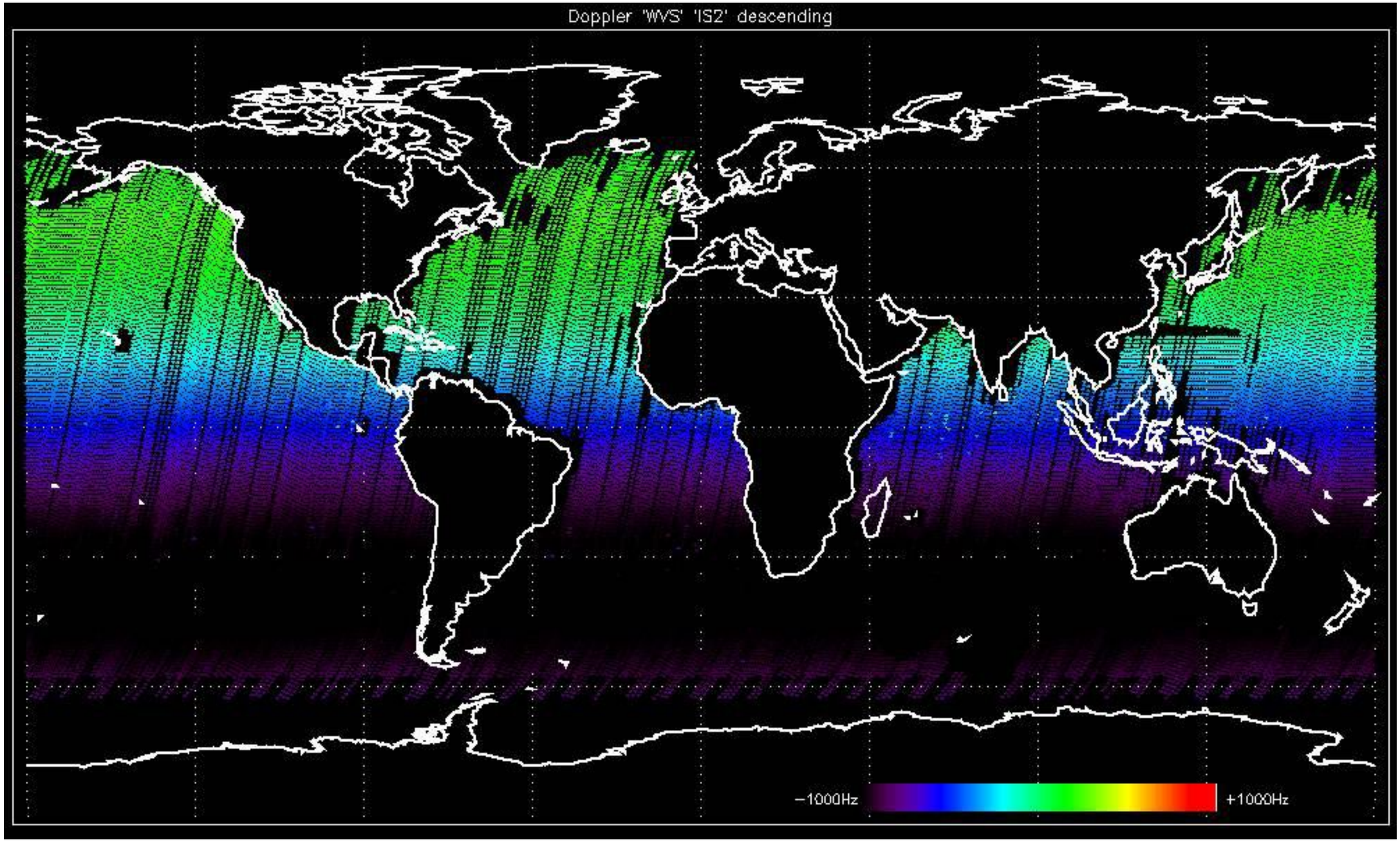
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

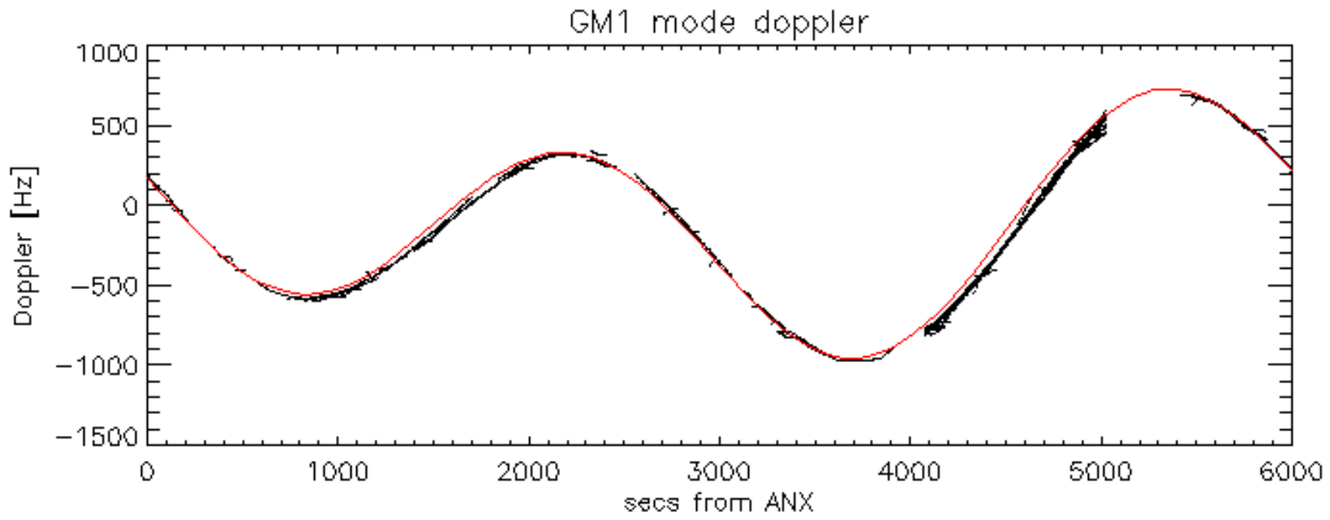
Preliminary report.The data is not yet controled

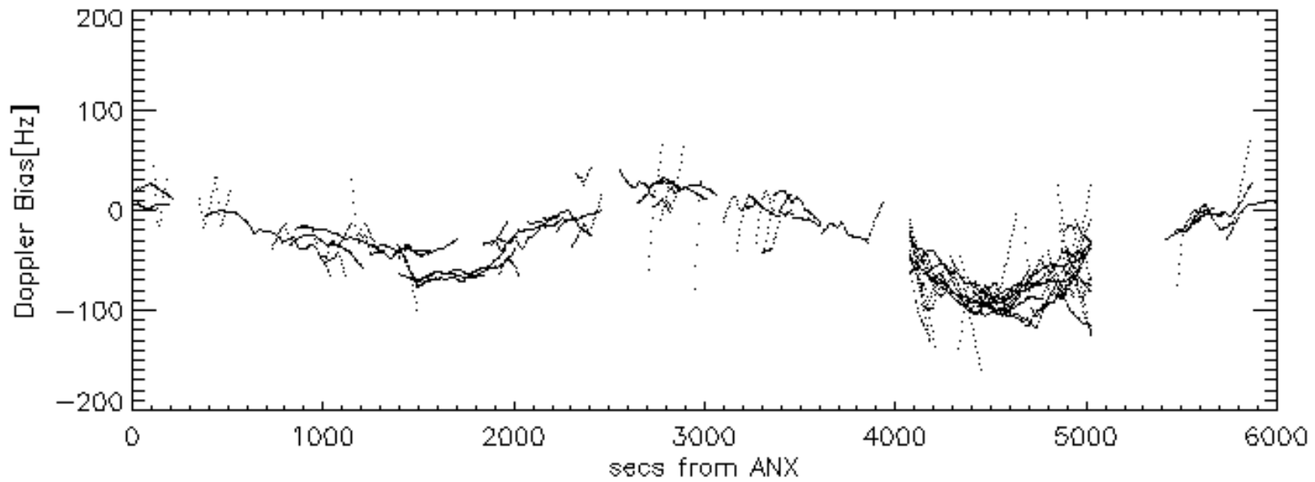

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

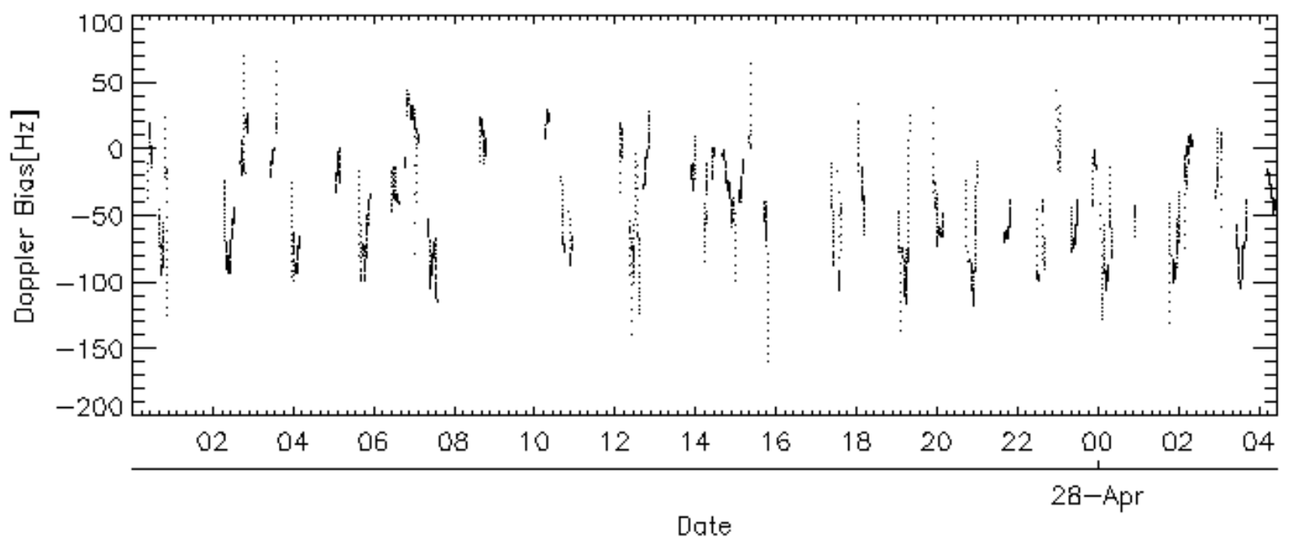

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

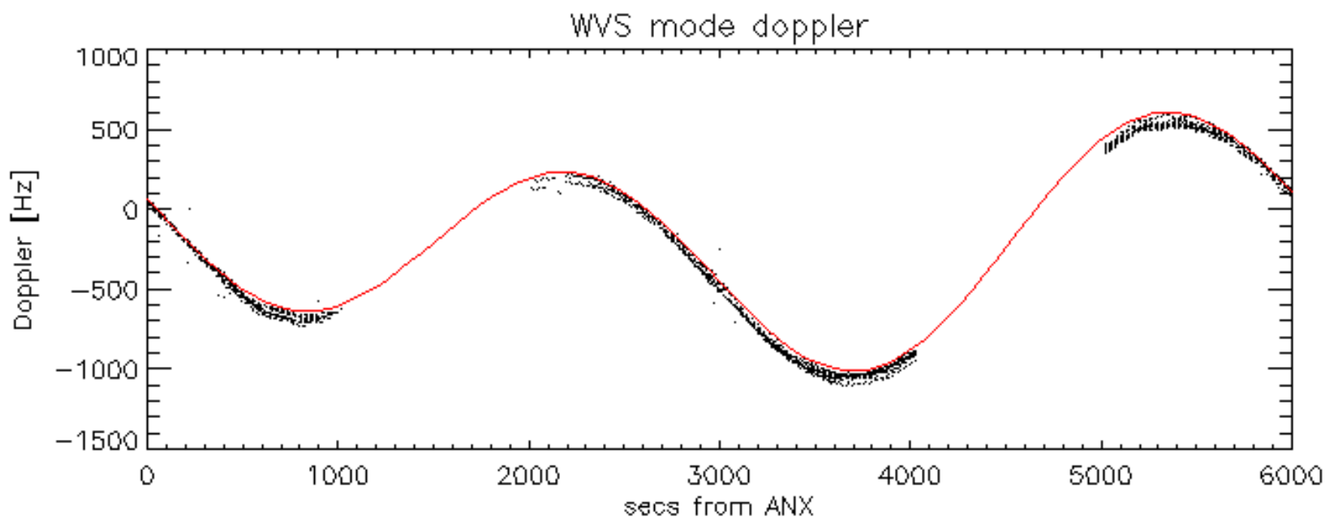

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

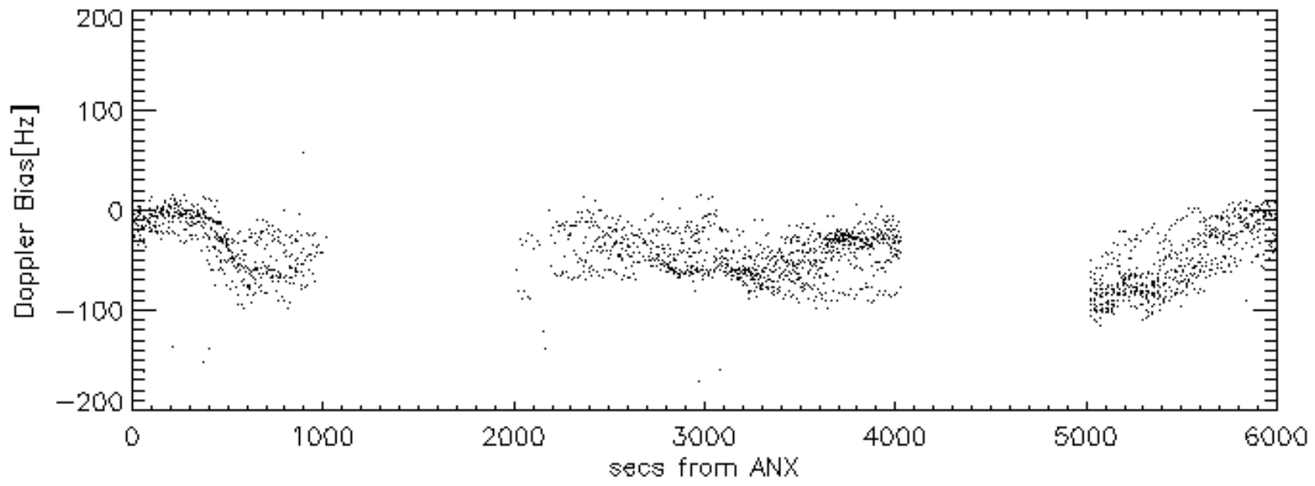

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

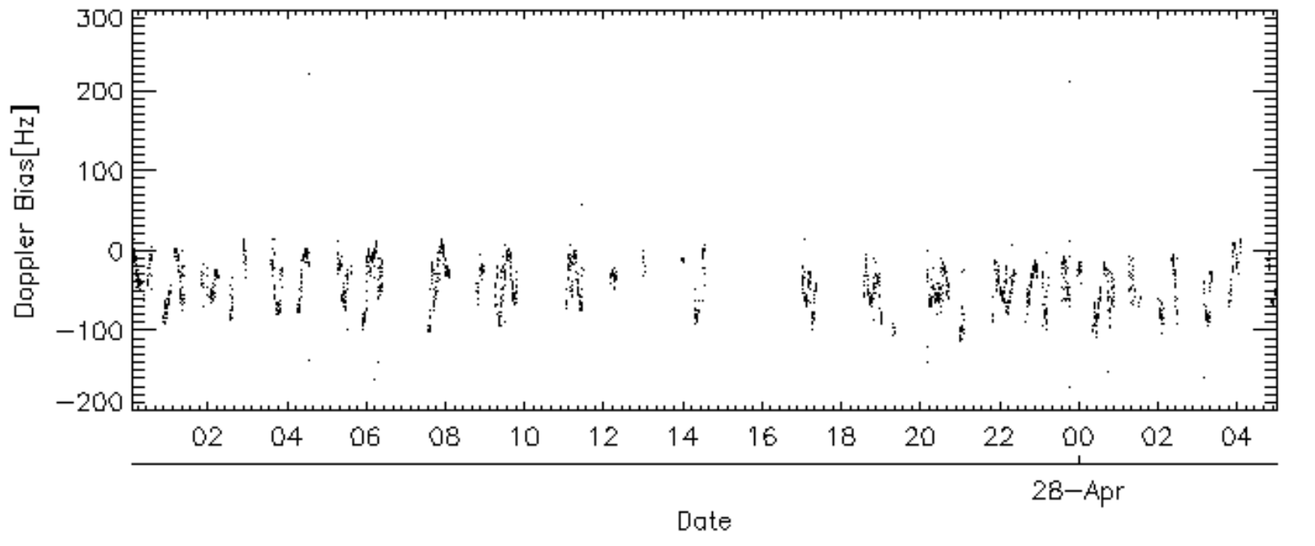

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

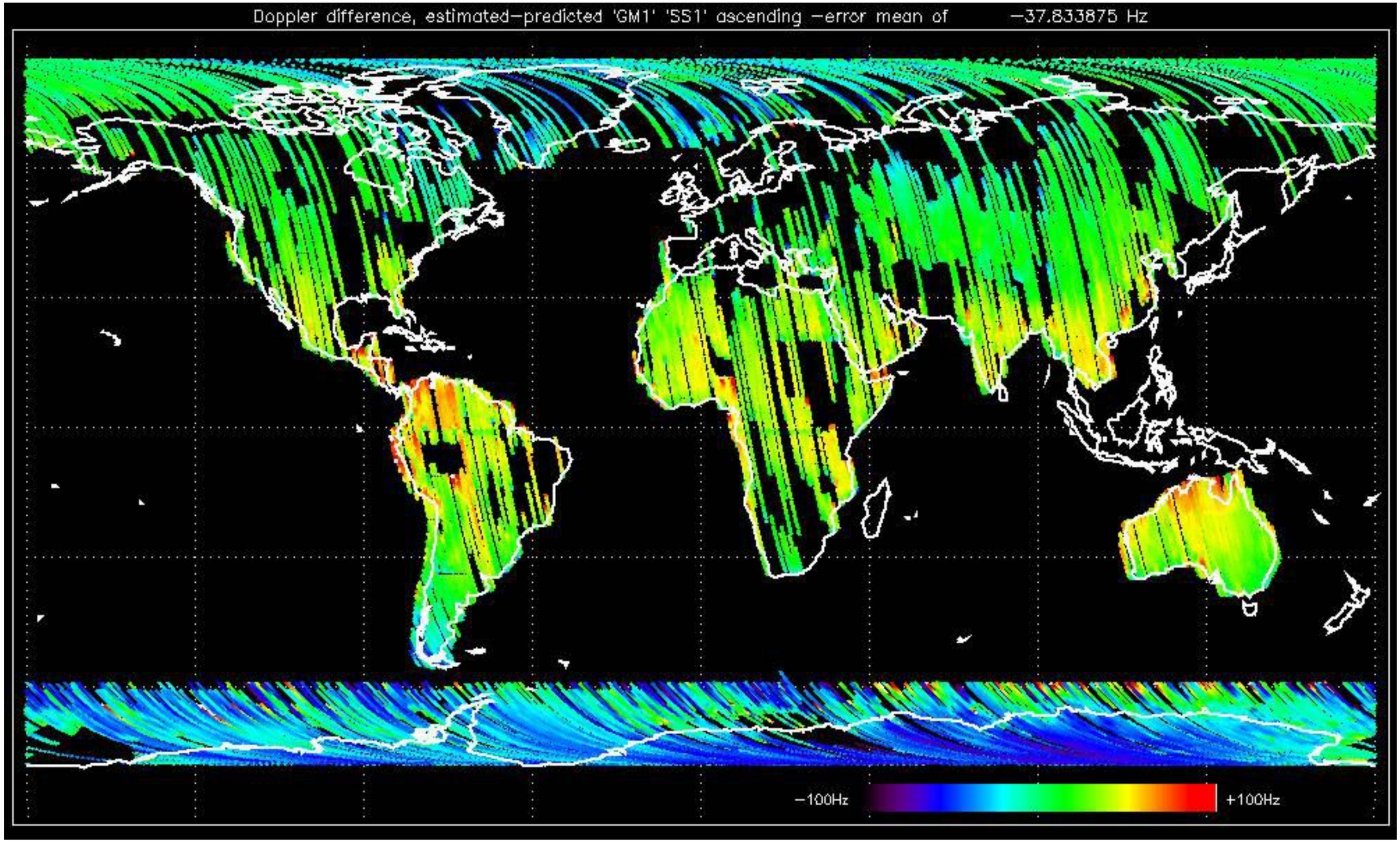

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

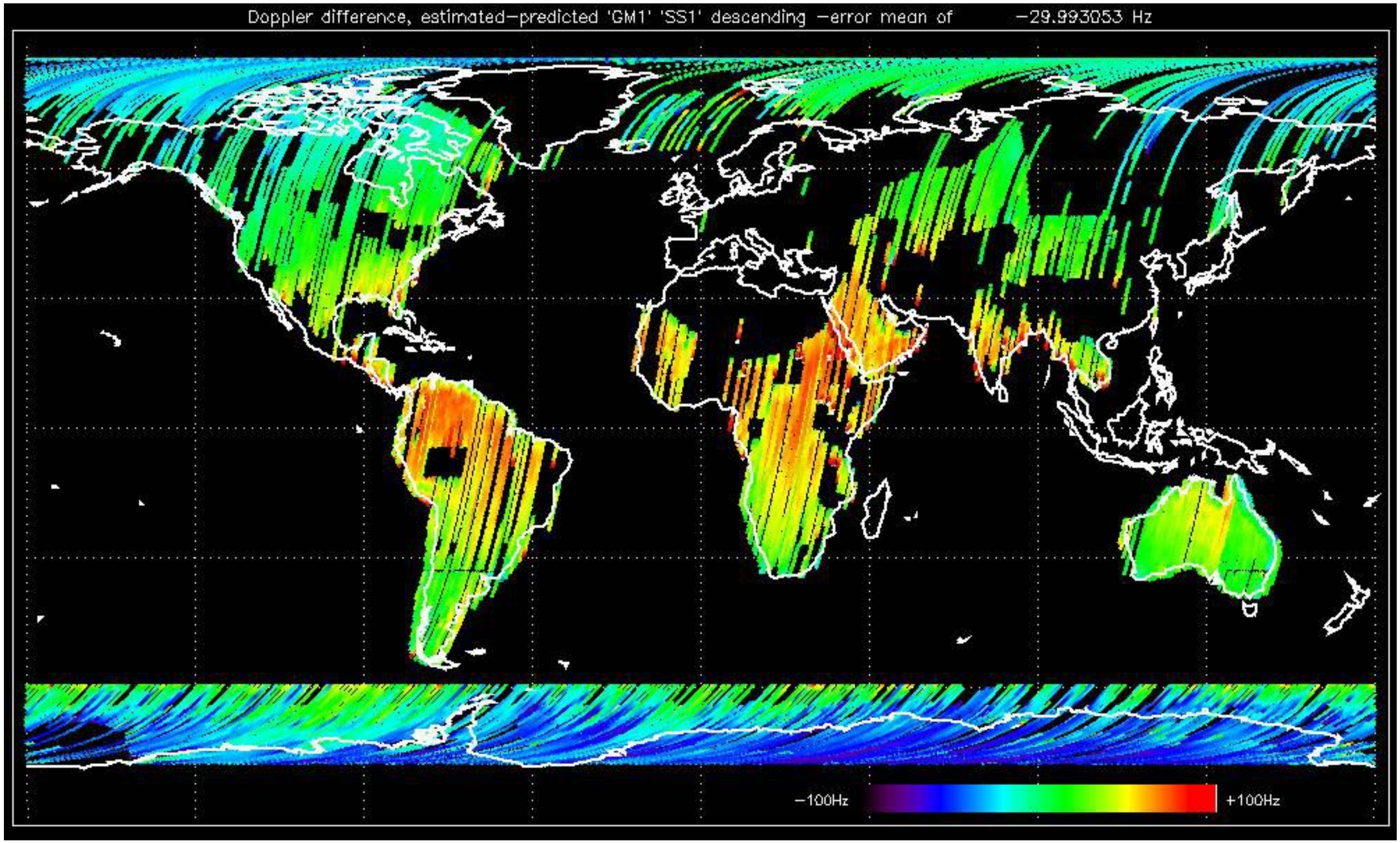

Doppler Bias[Hz]
100
50
0
−50
−100
−150
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
04
28−Apr
Date

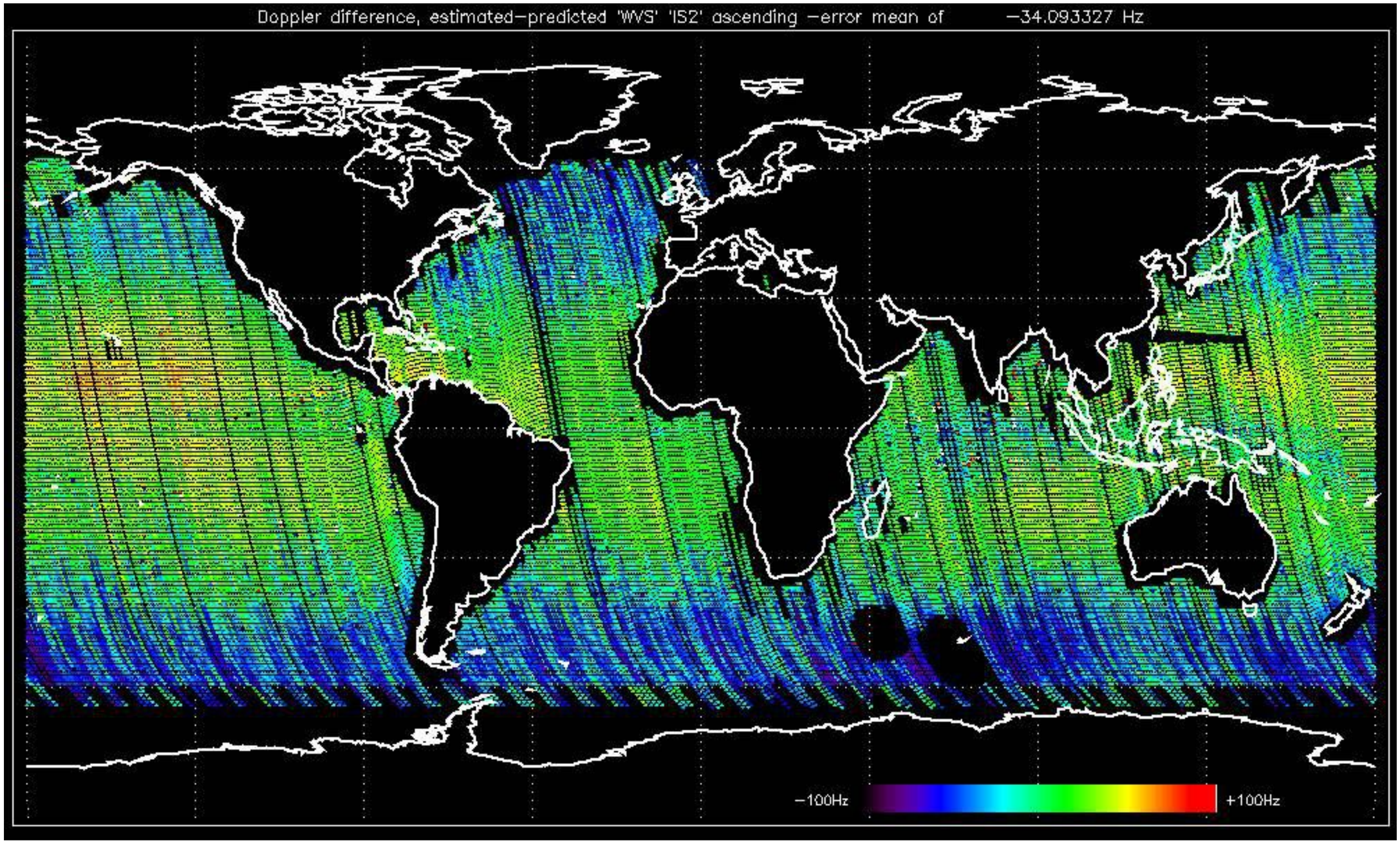

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

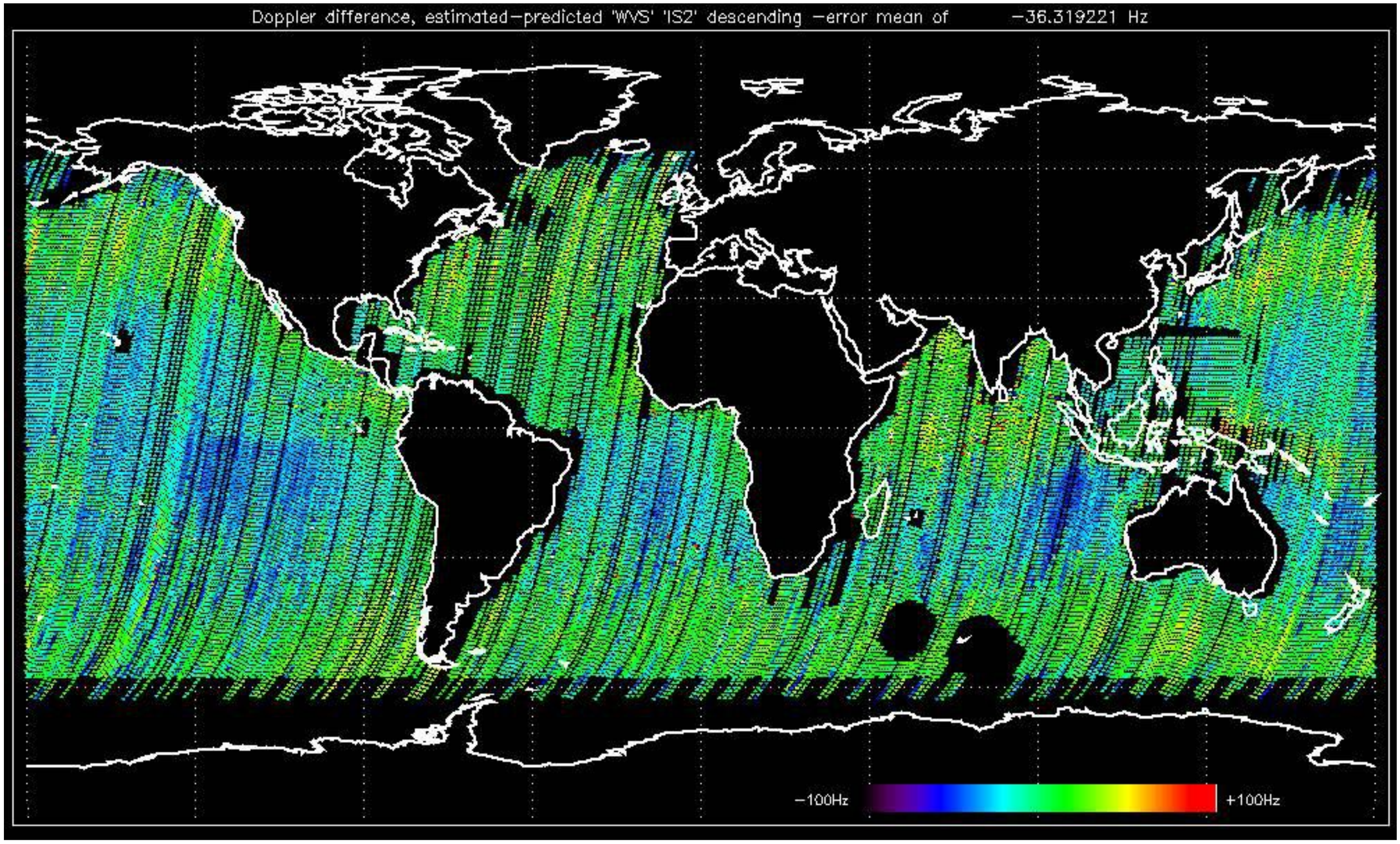

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −37.833875 Hz
−100Hz
+100Hz

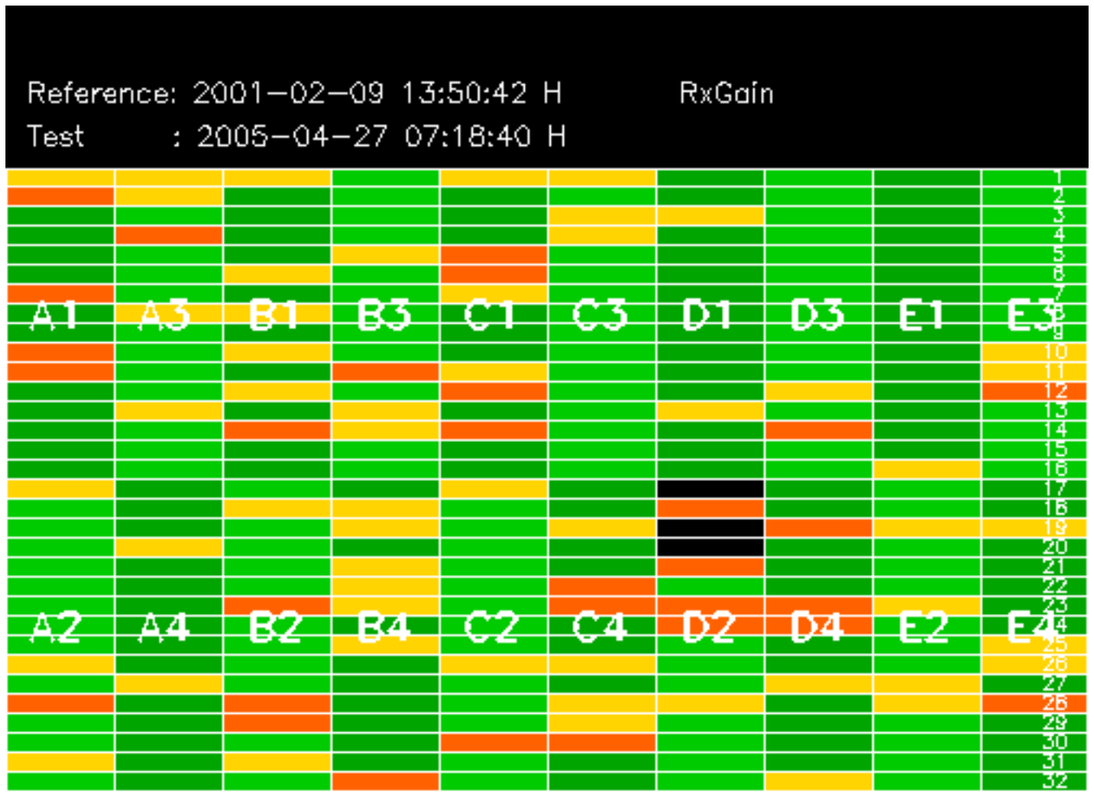

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -29.993053 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −34.093327 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −36.319221 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2005-04-27 07:18:40 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
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31
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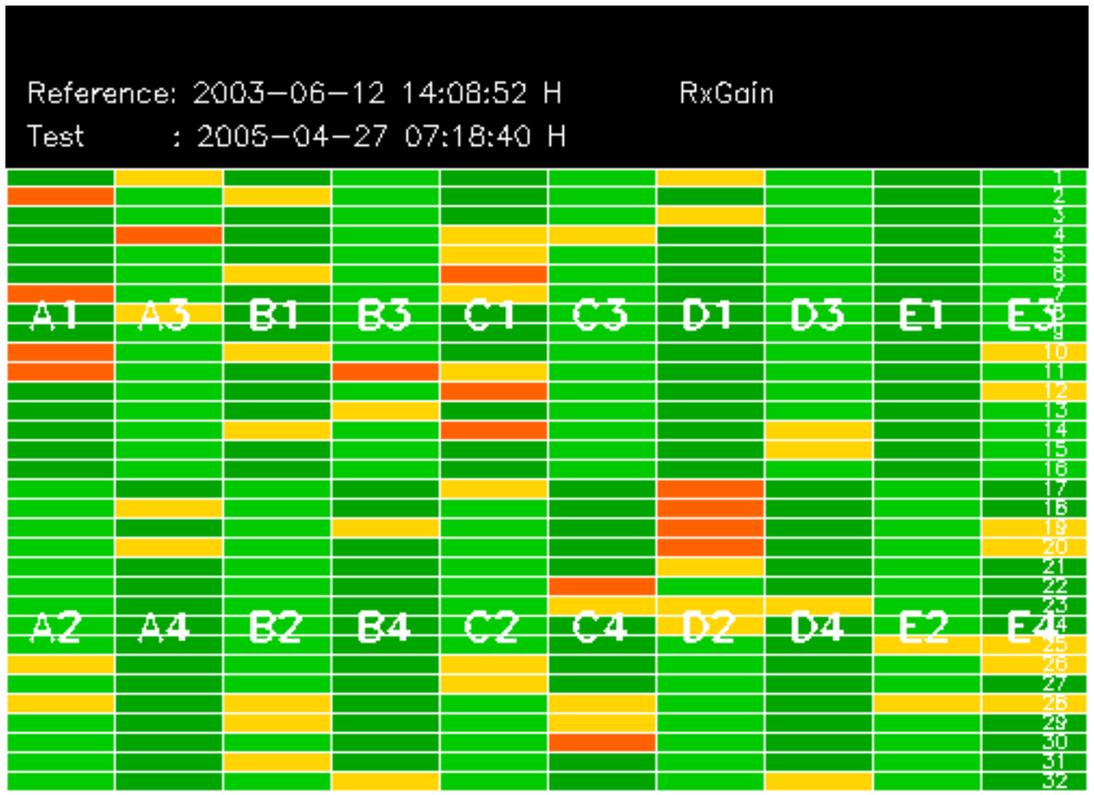
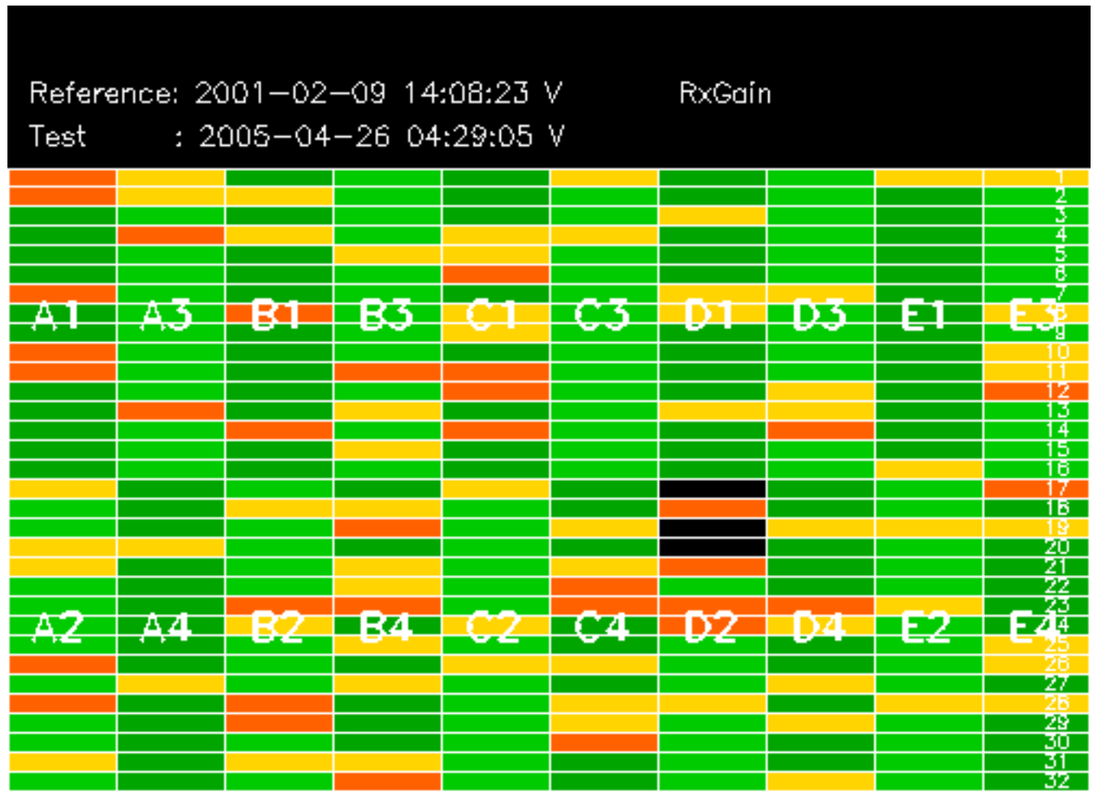
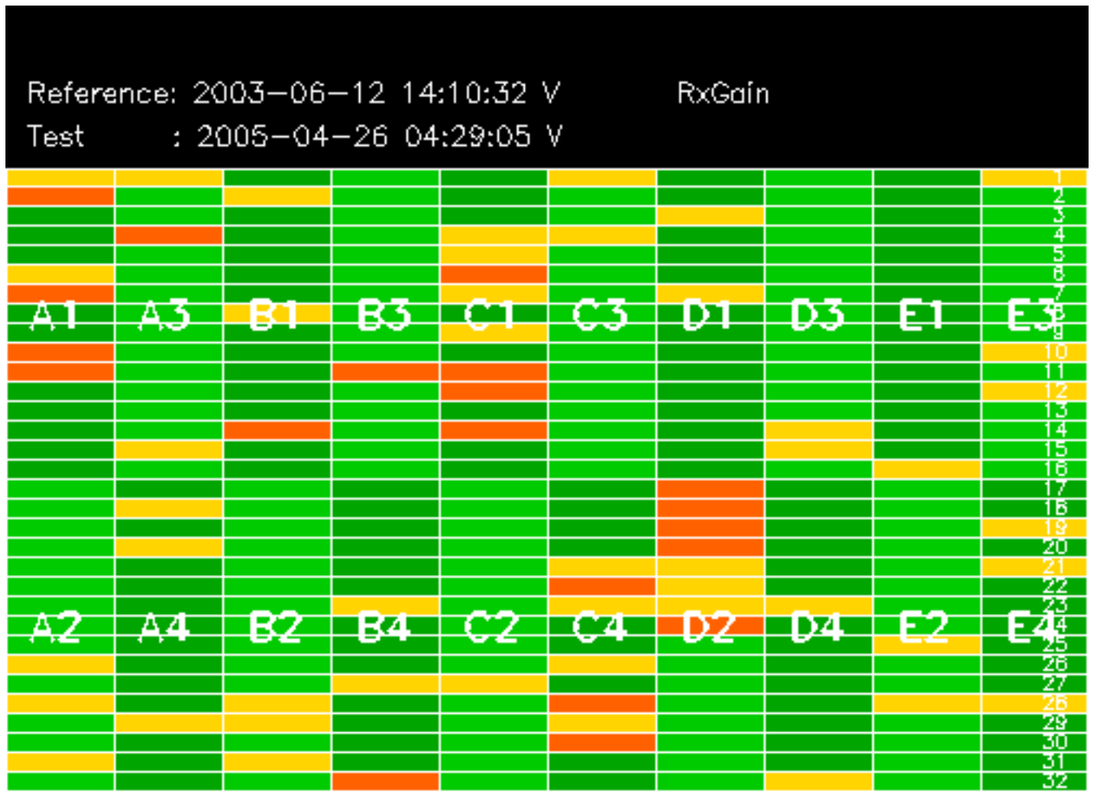

Reference: 2003-06-12 14:08:52 H
Test : 2005-04-27 07:18:40 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2005-04-26 04:29:05 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 : 2005-04-26 04:29:05 V
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
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8
9
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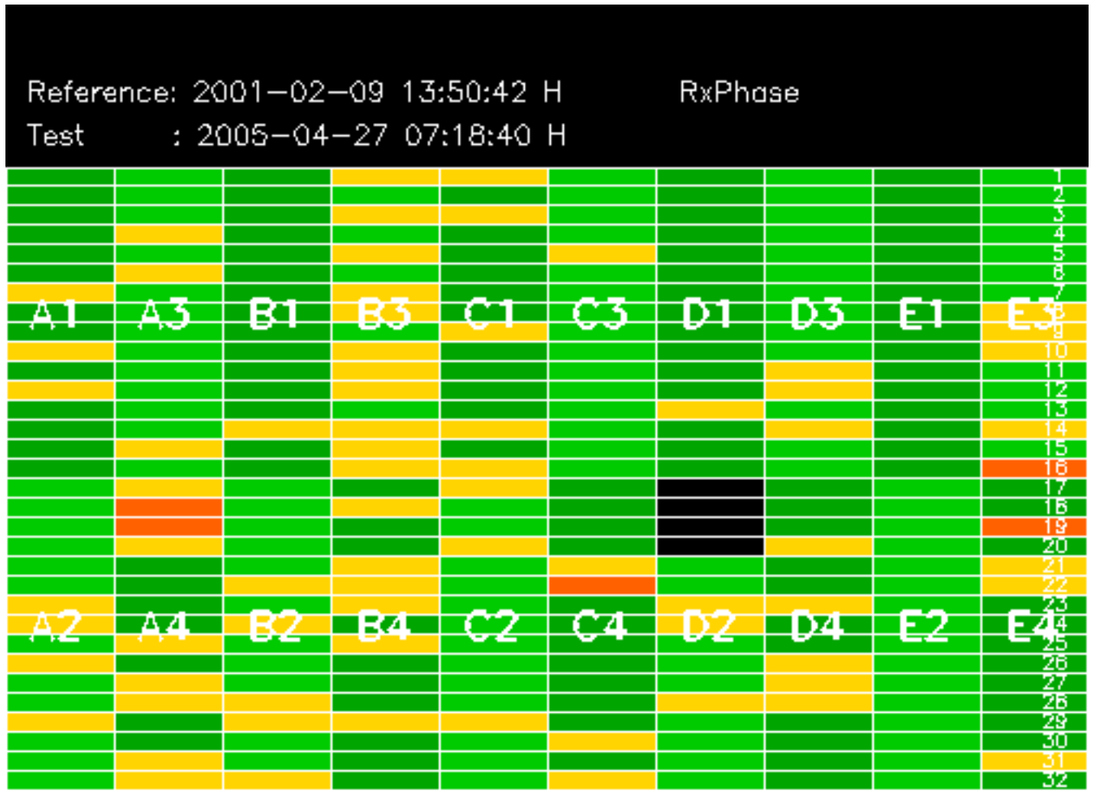
30
31
32


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-04-27 07:18:40 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
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8
9
10
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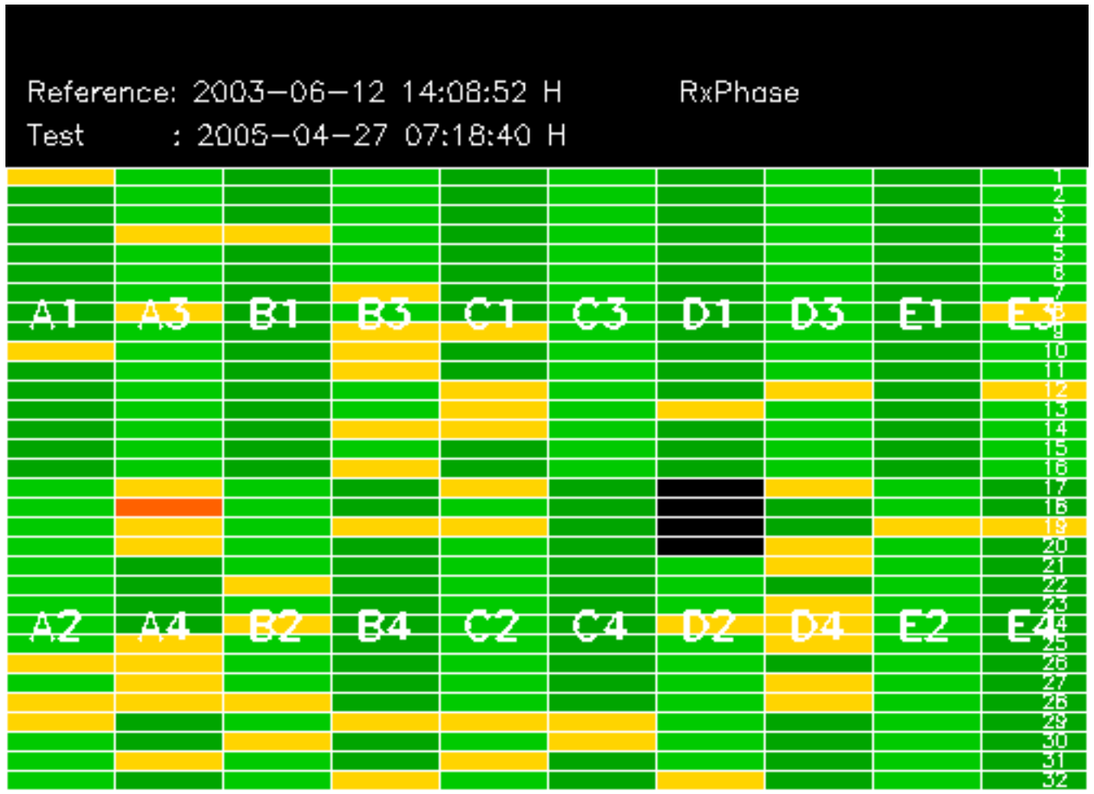
31
32


Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2005-04-27 07:18:40 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
7
8
9
10
11
12
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17
18
19
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21
22
23
24
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26
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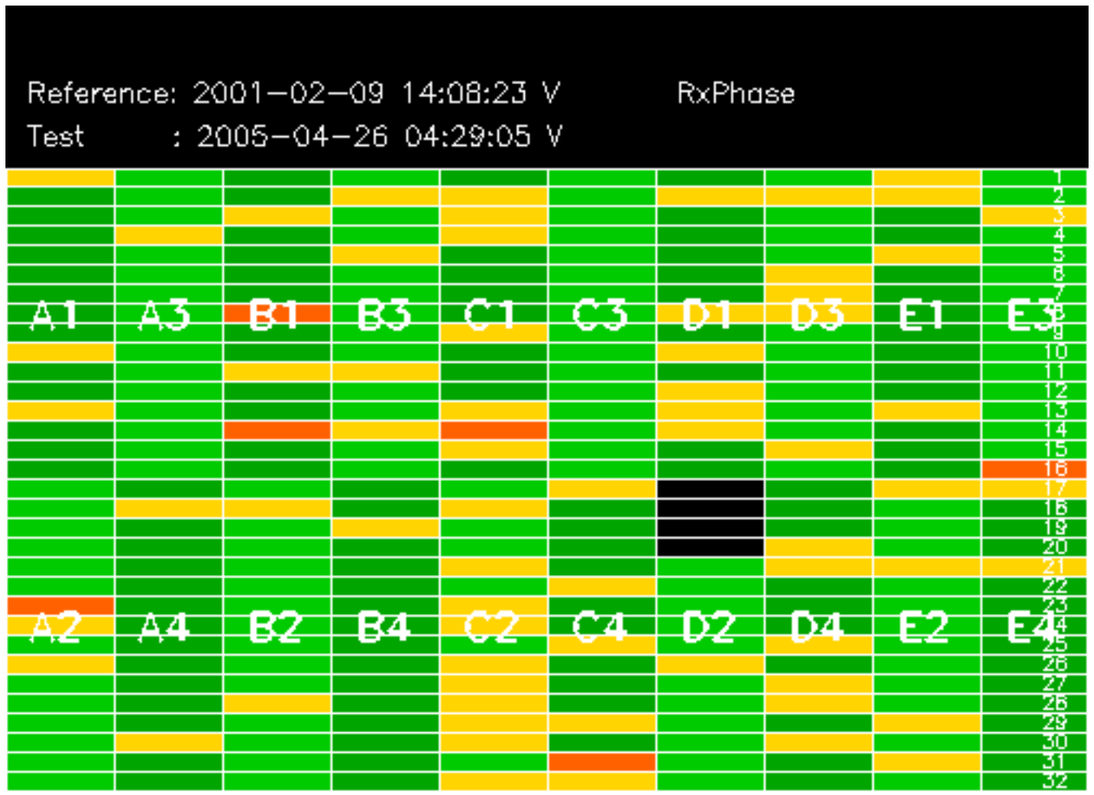
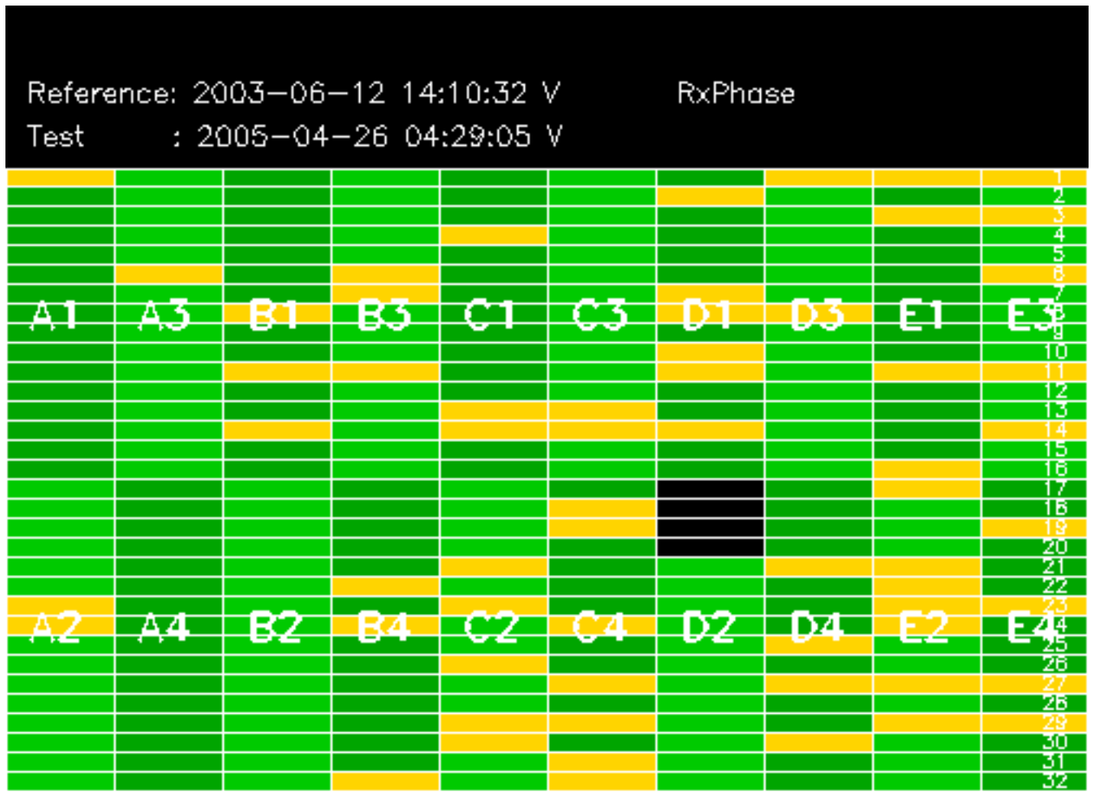
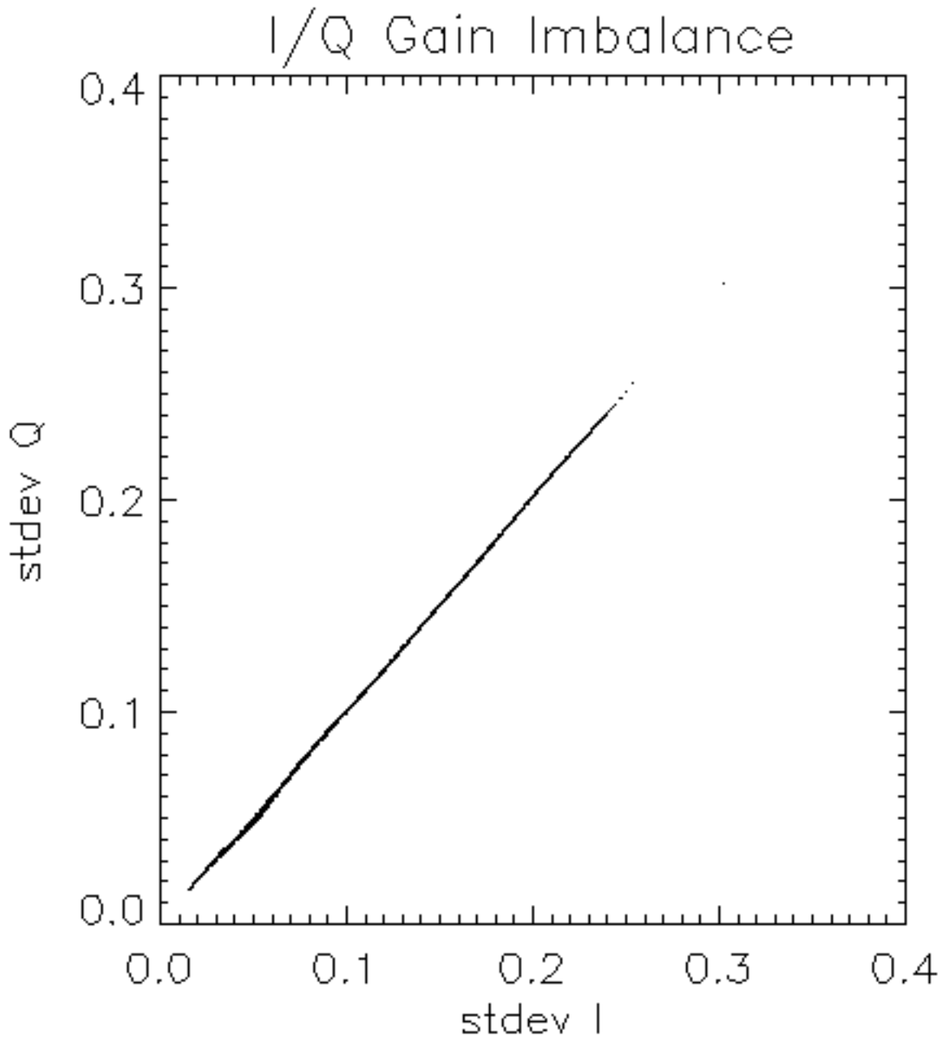
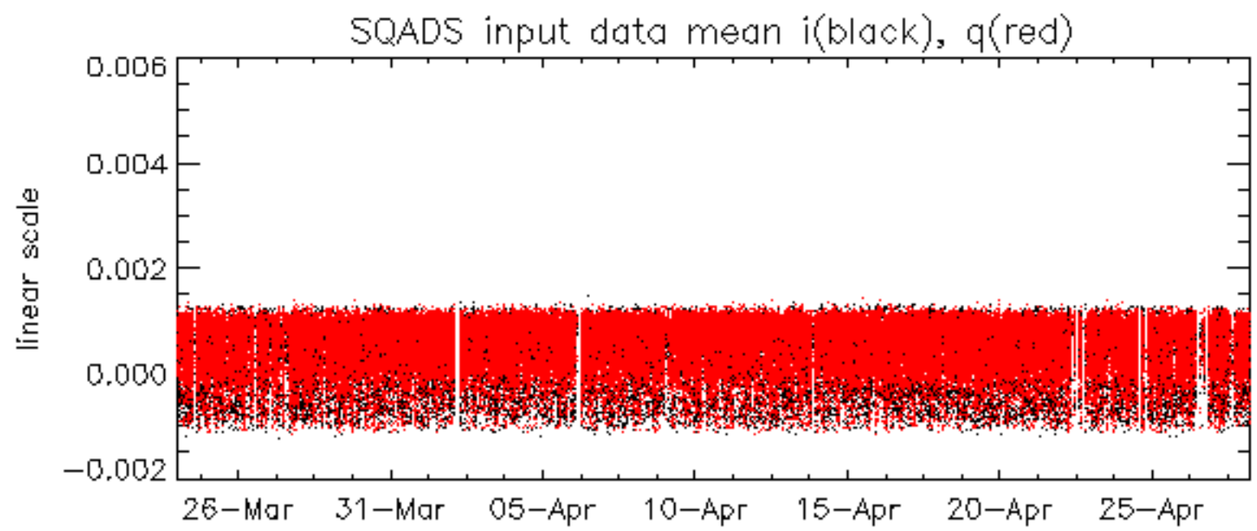
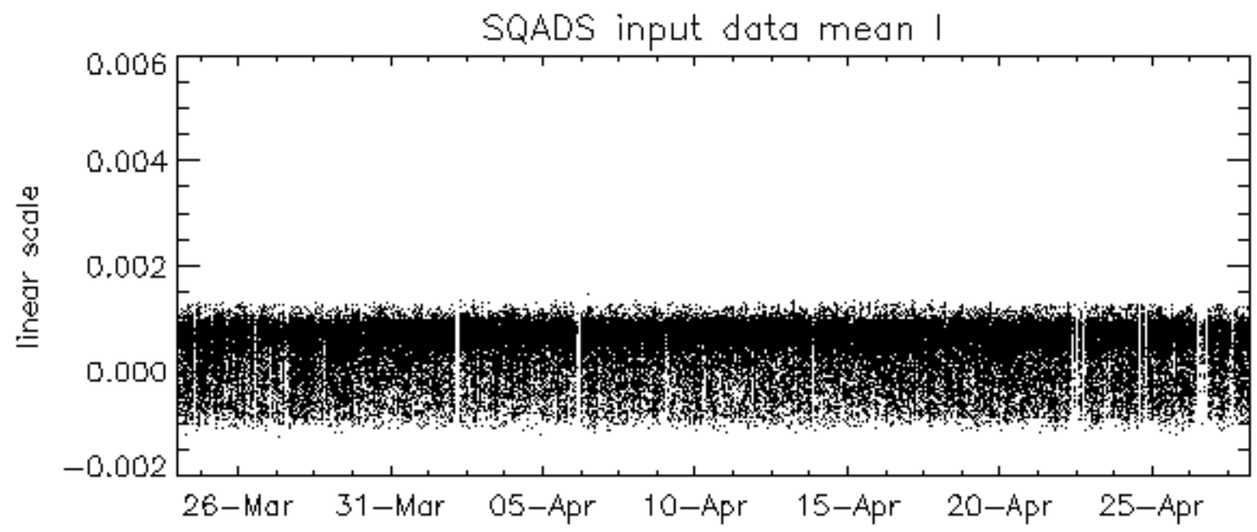
29
30
31
32

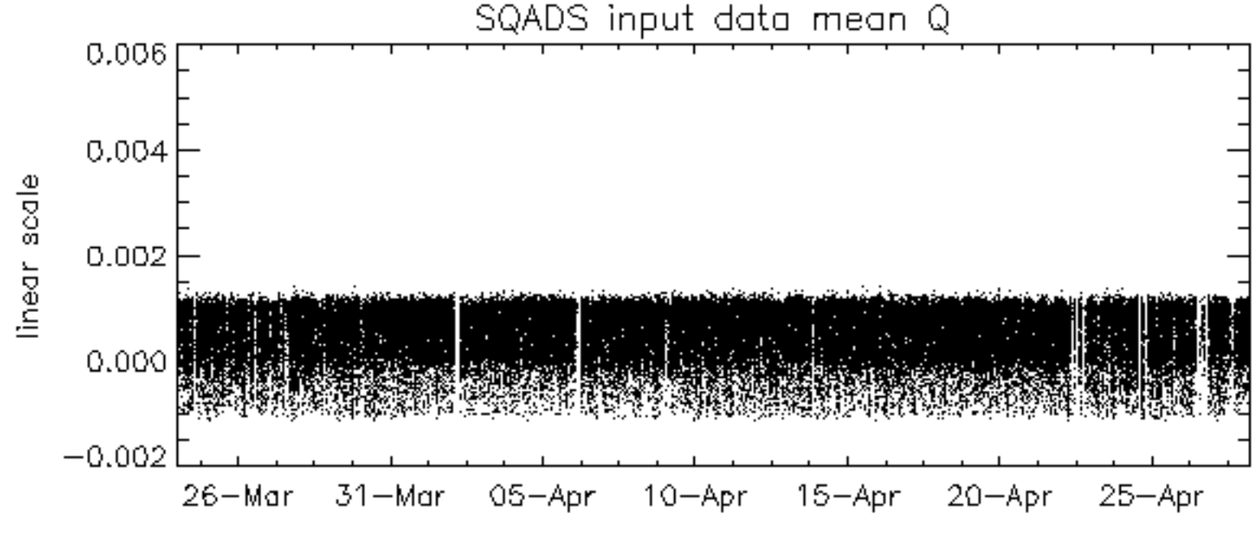

Reference: 2001-02-09 14:08:23 V
Test : 2005-04-26 04:29:05 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

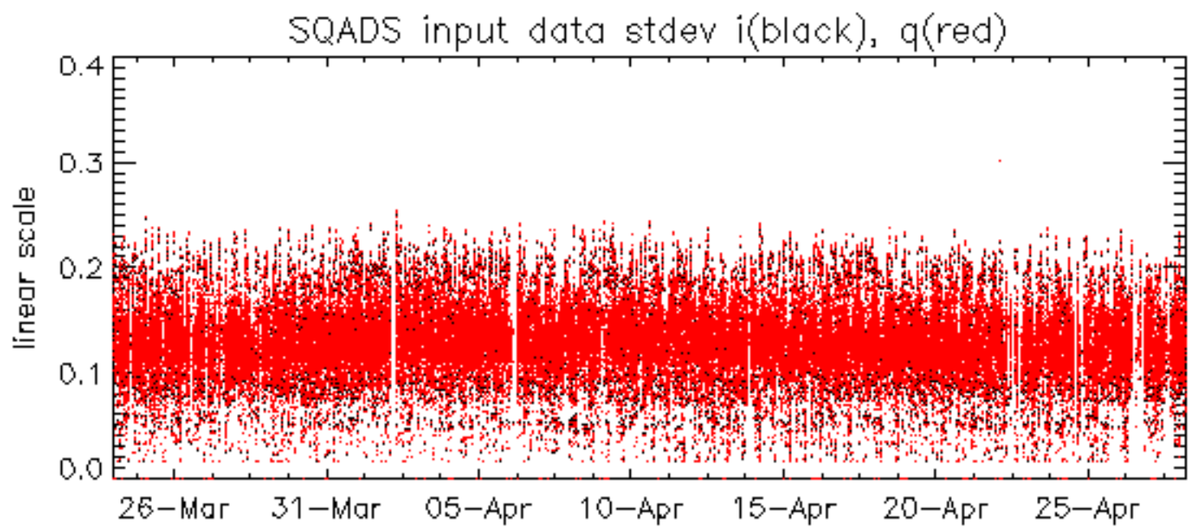

Reference: 2003-06-12 14:10:32 V
Test : 2005-04-26 04:29:05 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

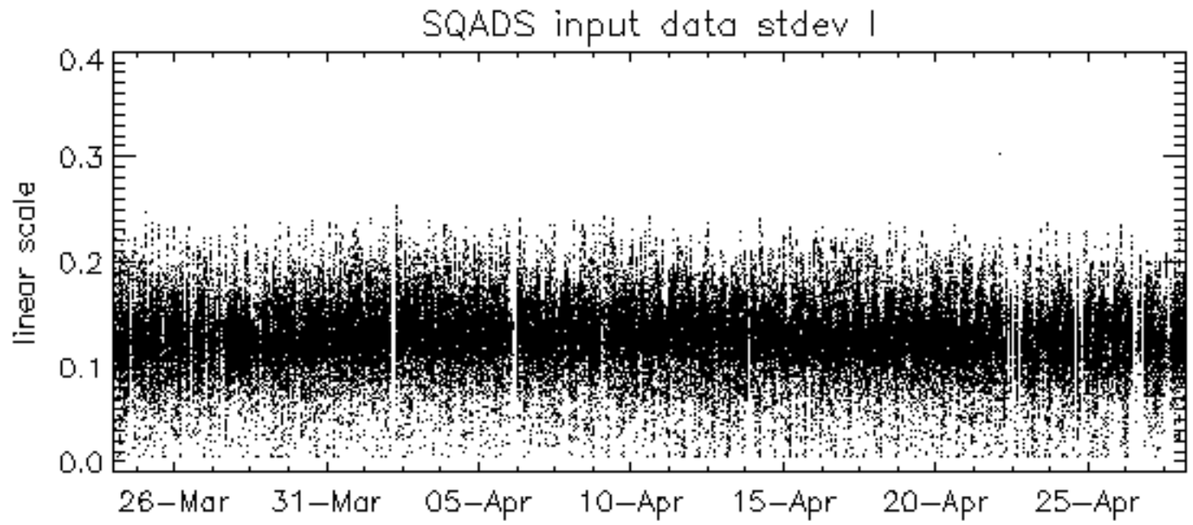

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

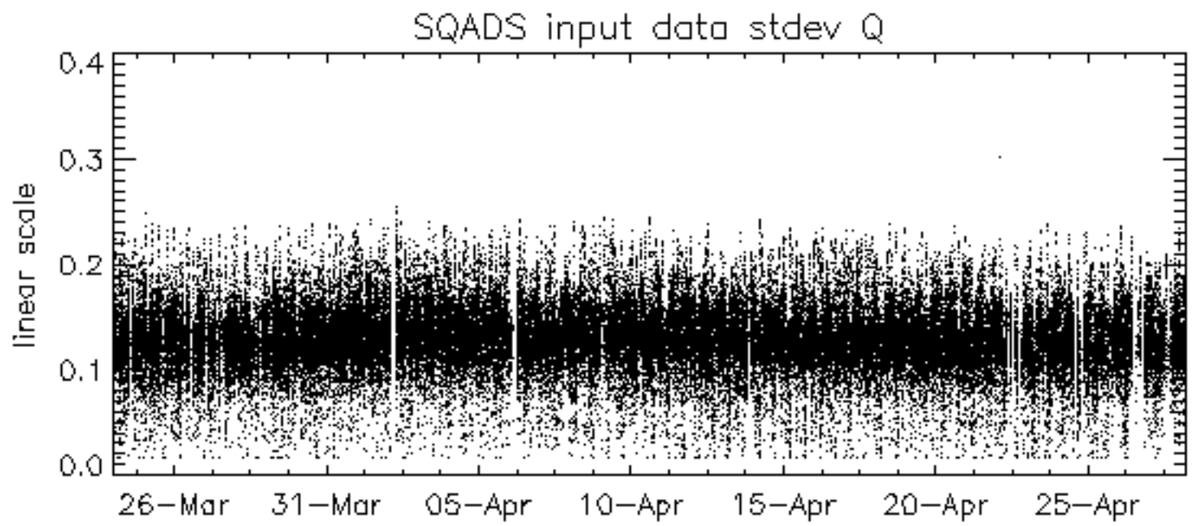

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Mar
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr

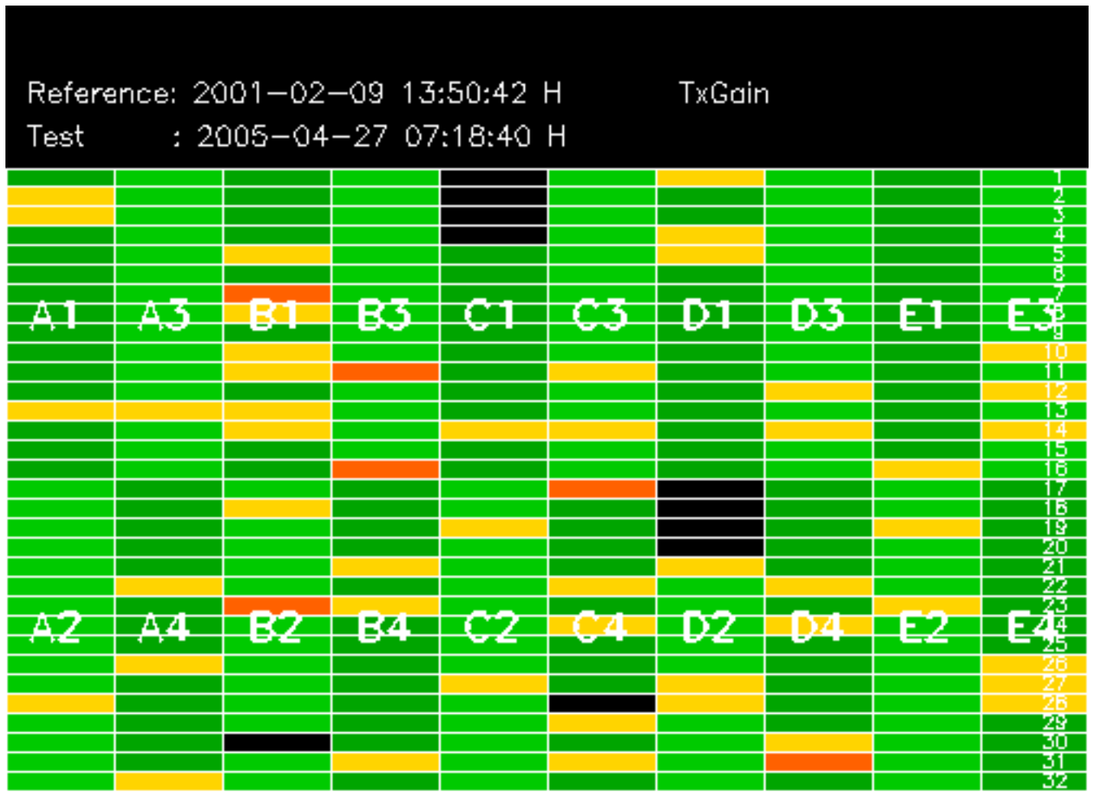

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Mar
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr

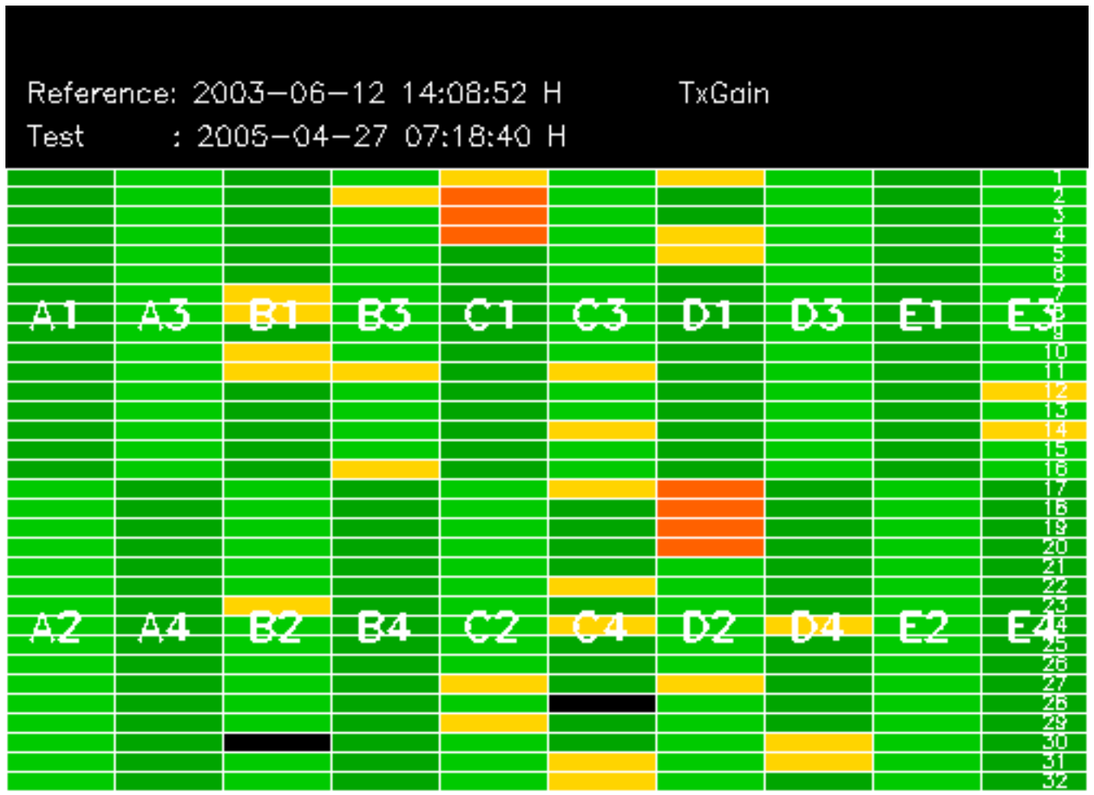

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Mar
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
25−Apr


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 : 2005-04-27 07:18:40 H
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 14:08:52 H
Test : 2005-04-27 07:18:40 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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16
17
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21
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23
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27
28
29
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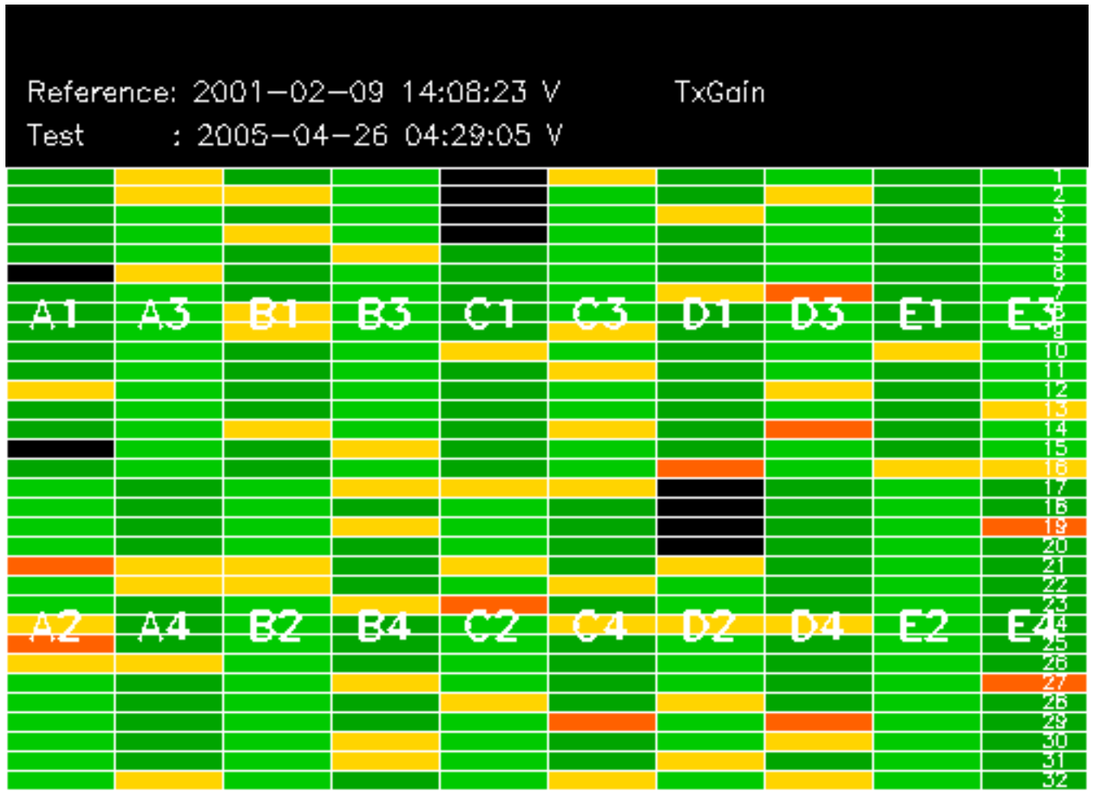
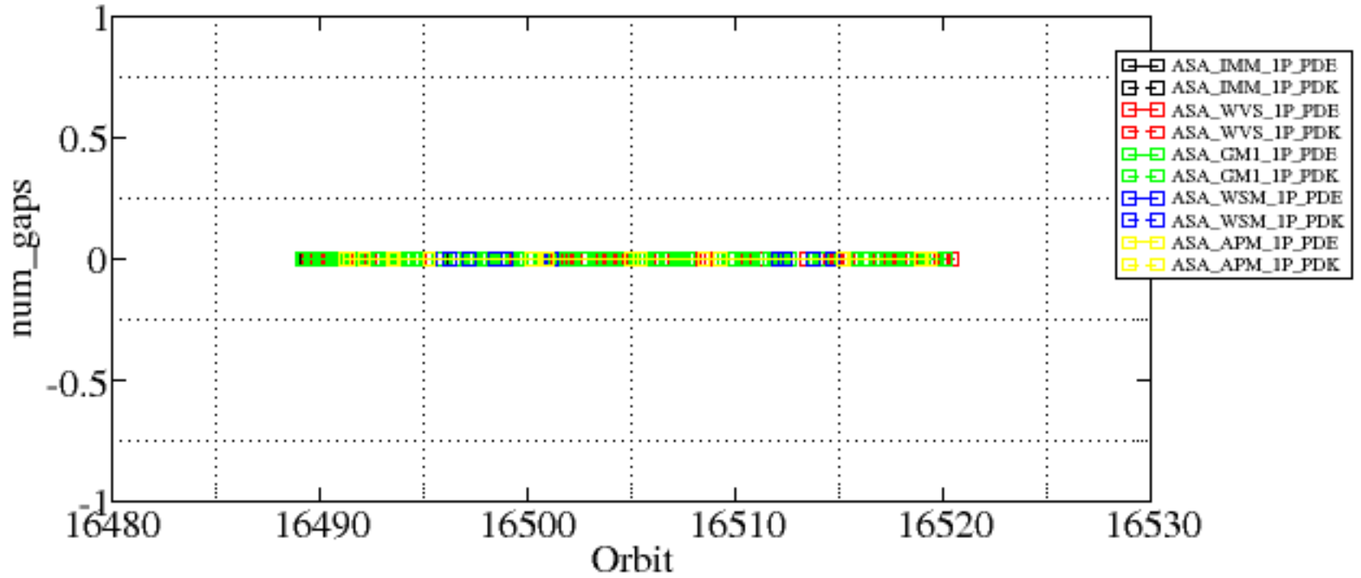
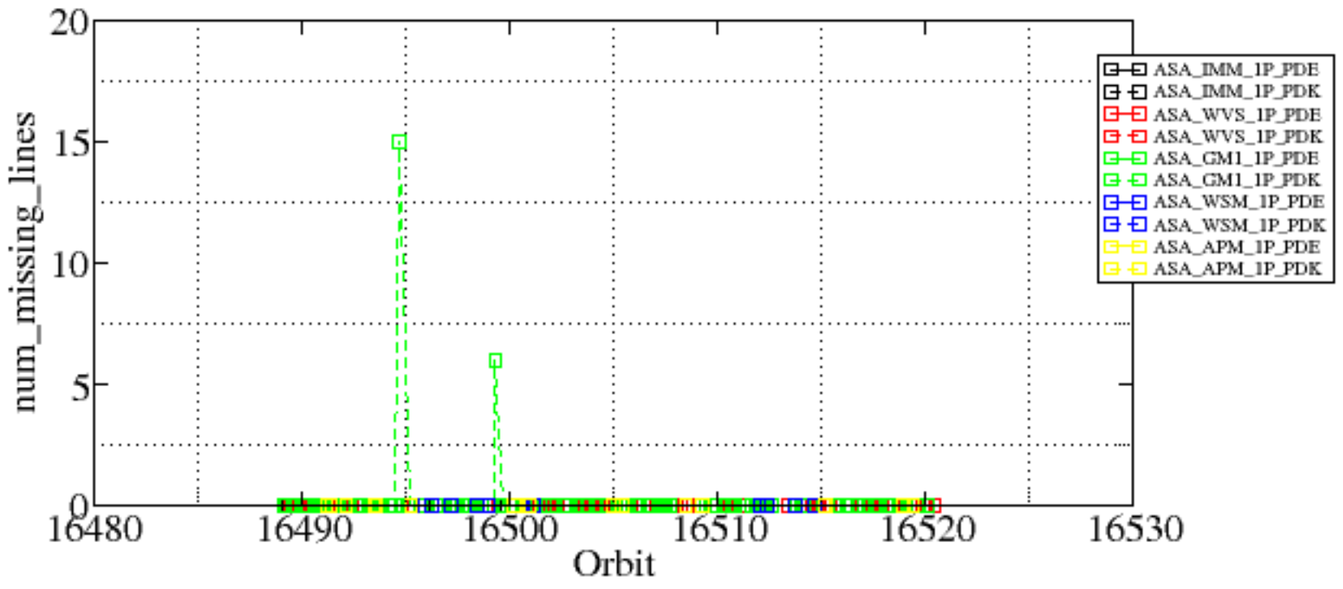
31
32

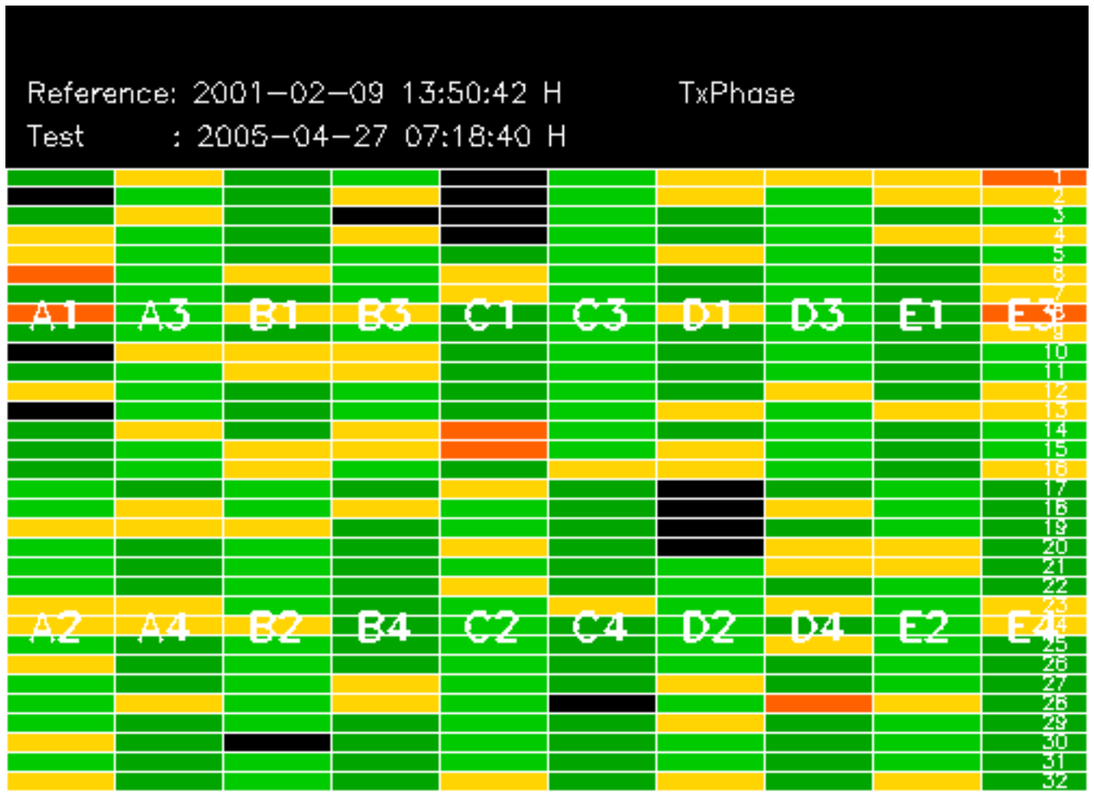

Reference: 2001-02-09 14:08:23 V
Test : 2005-04-26 04:29:05 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

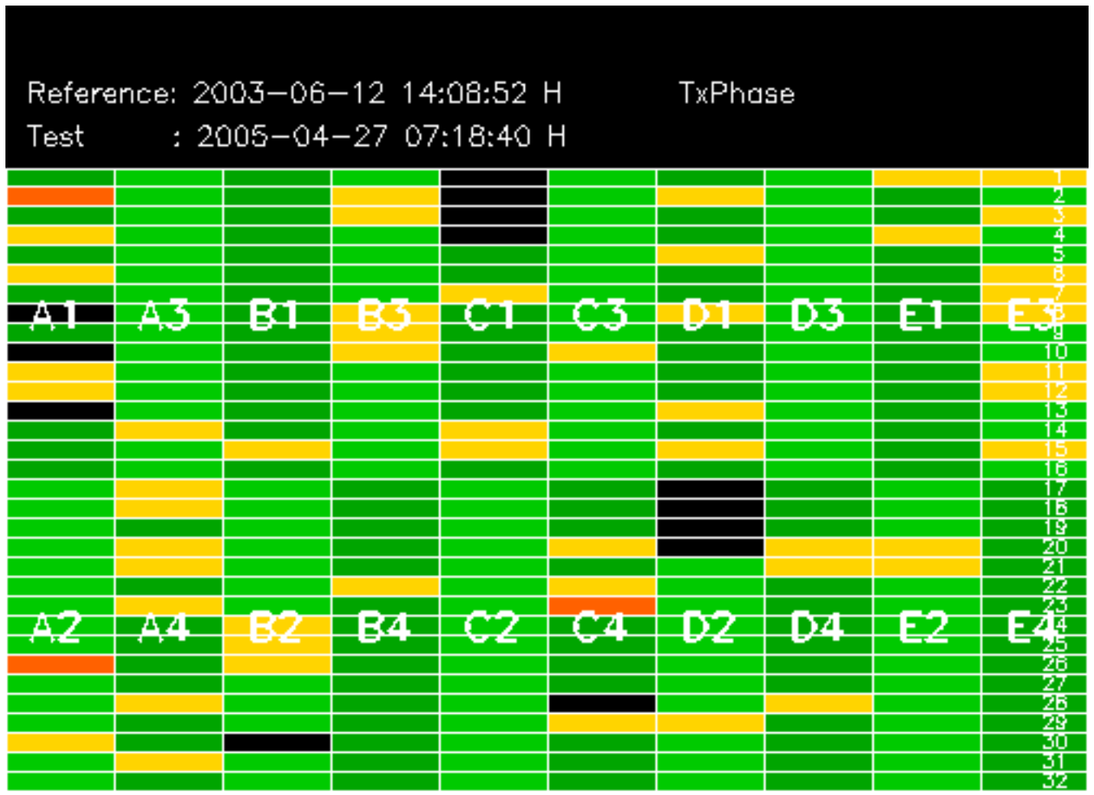

Reference: 2003-06-12 14:10:32 V
Test : 2005-04-26 04:29:05 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

Summary of analysis for the last 3 days 2005042[678]
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_GM1_1PNPDK20050426_093059_000009242036_00408_16494_9443.N1 </td> <td>0 </td> <td>15 </td></tr>
<tr> <td>ASA_GM1_1PNPDK20050426_171623_000007312036_00413_16499_9431.N1 </td> <td>0 </td> <td>6 </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
16480
16490
16500
16510
16520
16530
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
20
15
10
5
0
16480
16490
16500
16510
16520
16530
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 : 2005-04-27 07:18:40 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 : 2005-04-27 07:18:40 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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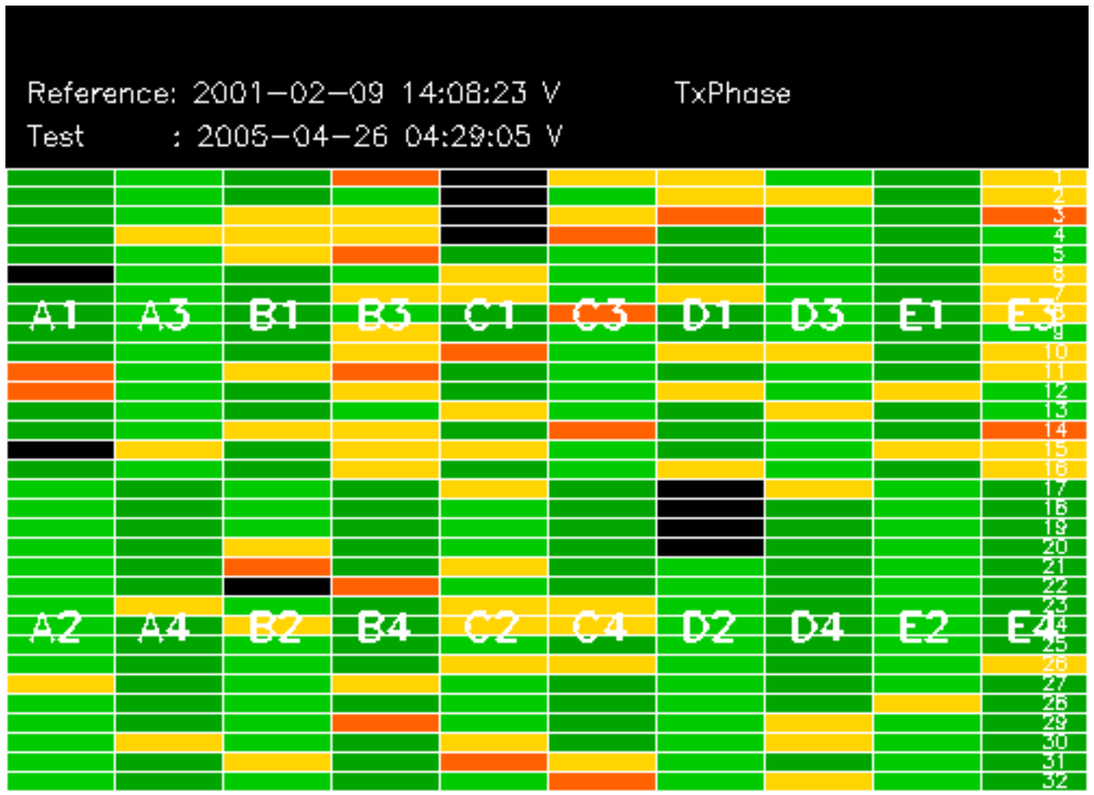
32


Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2005-04-26 04:29:05 V
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
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30
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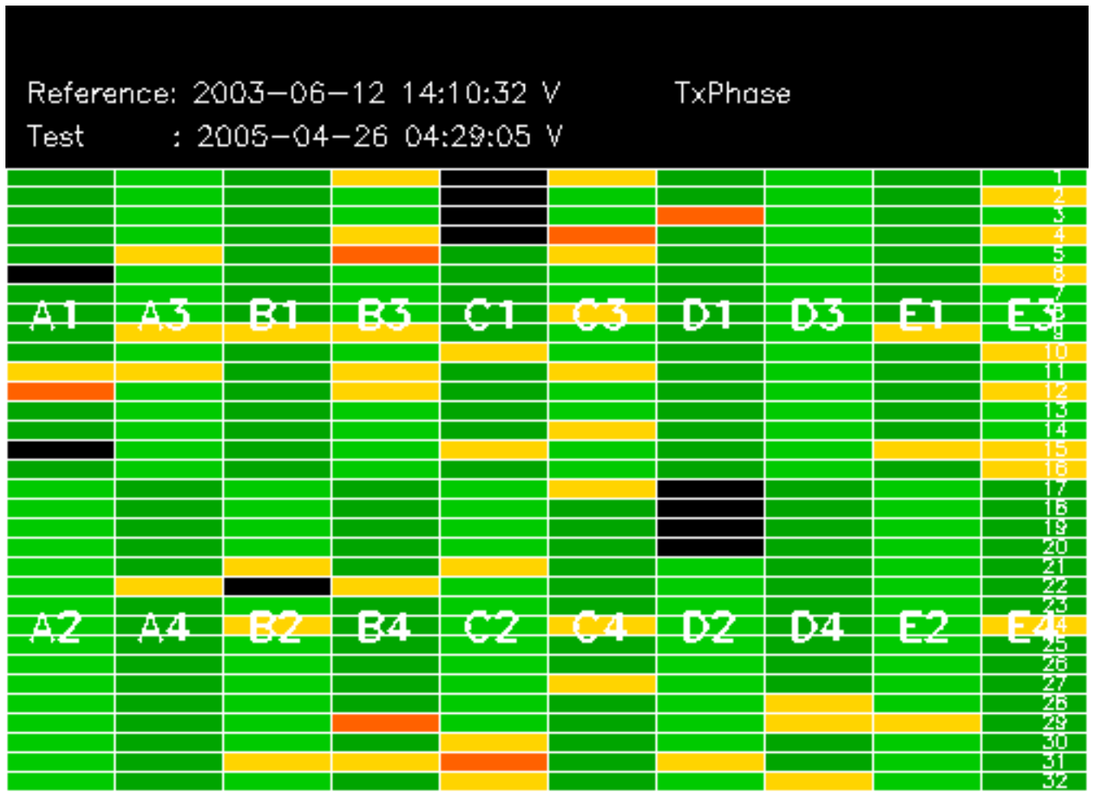
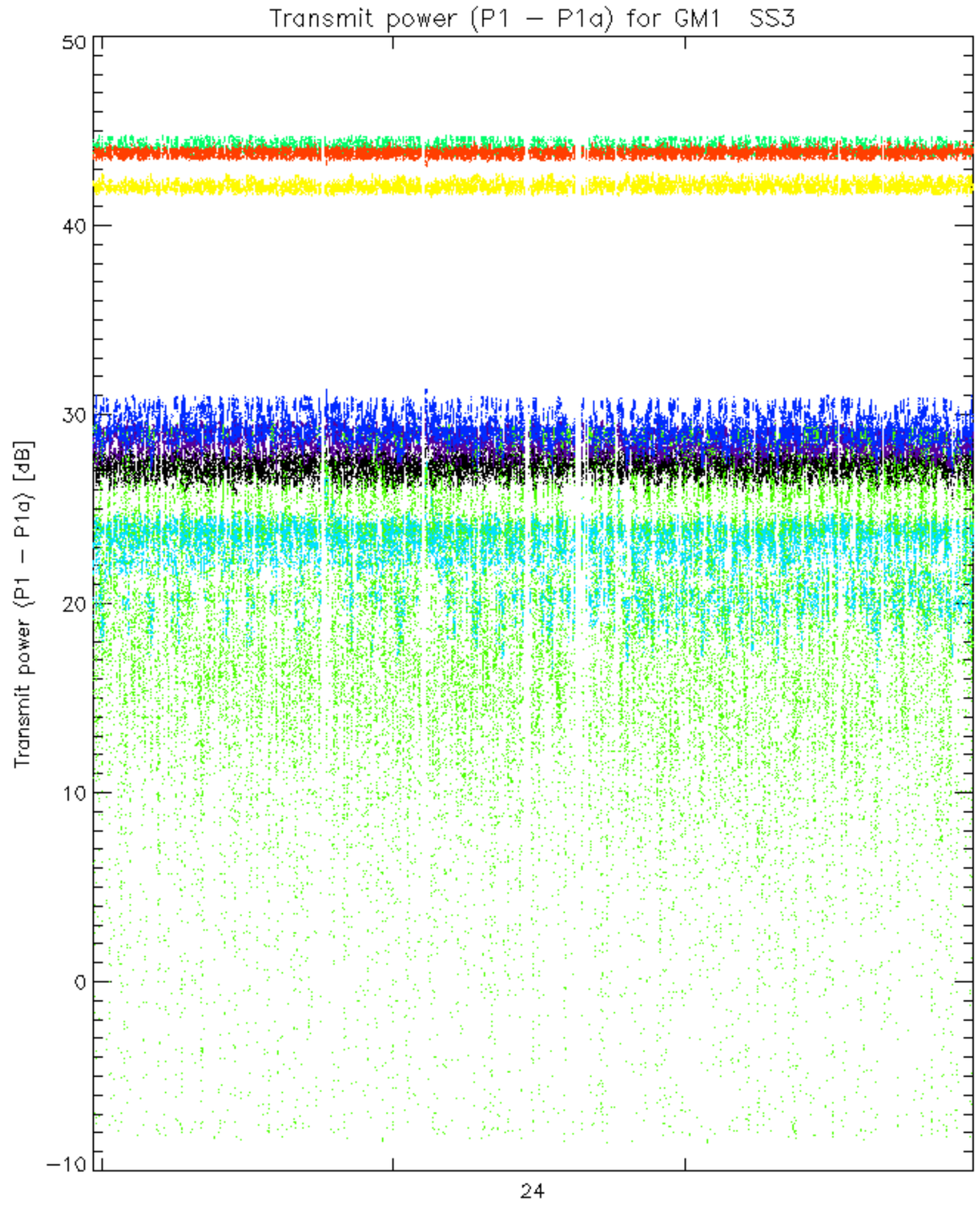
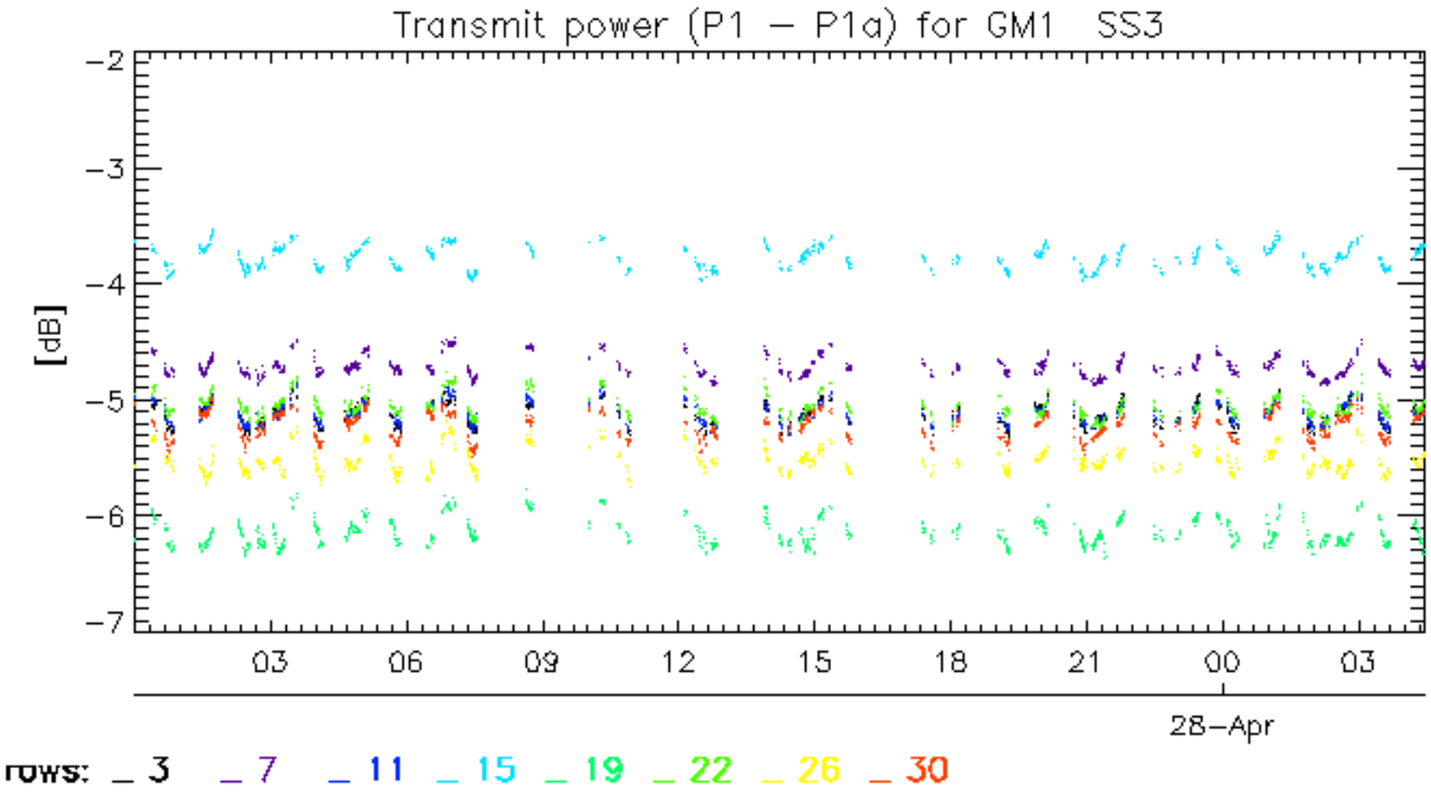
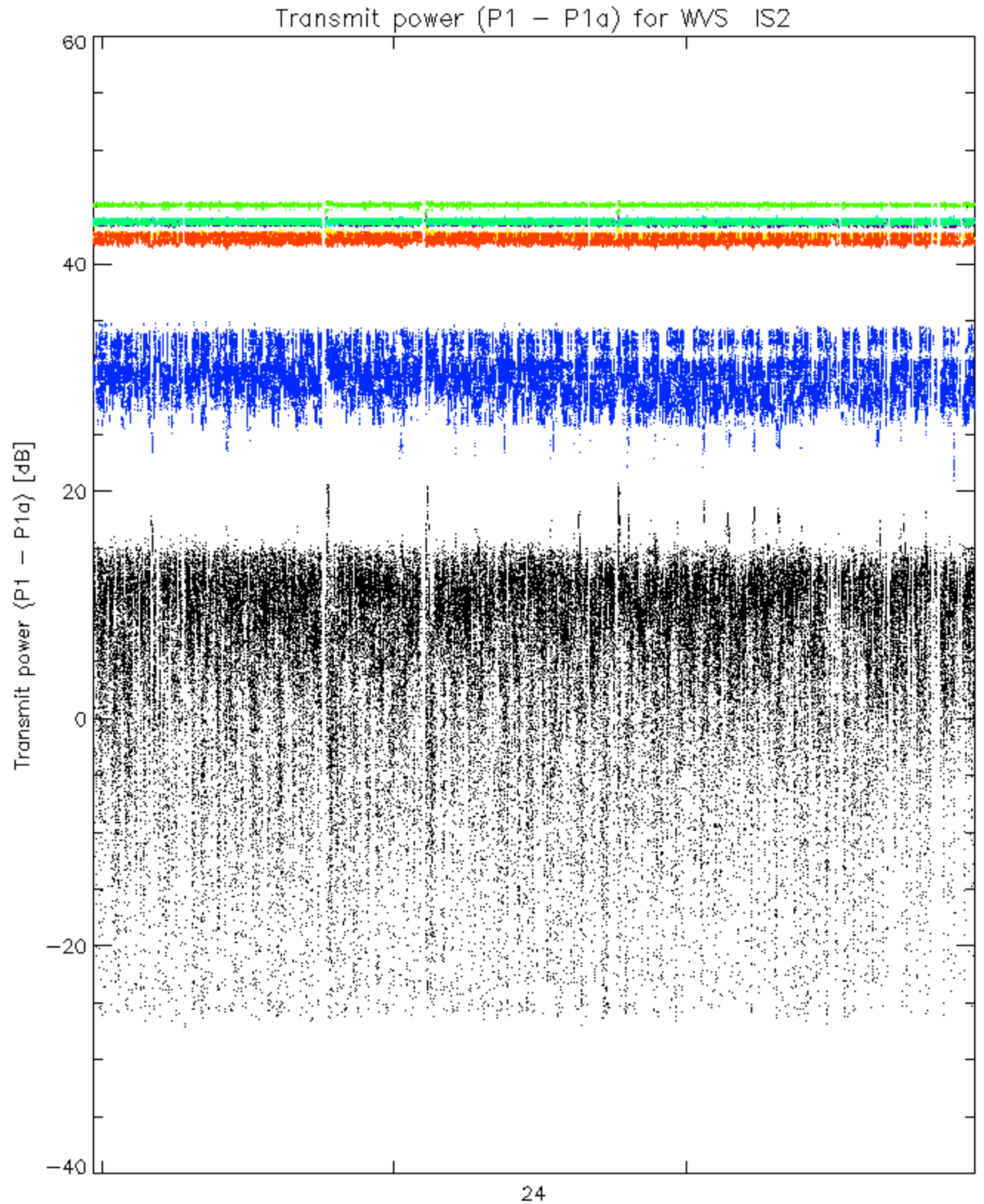
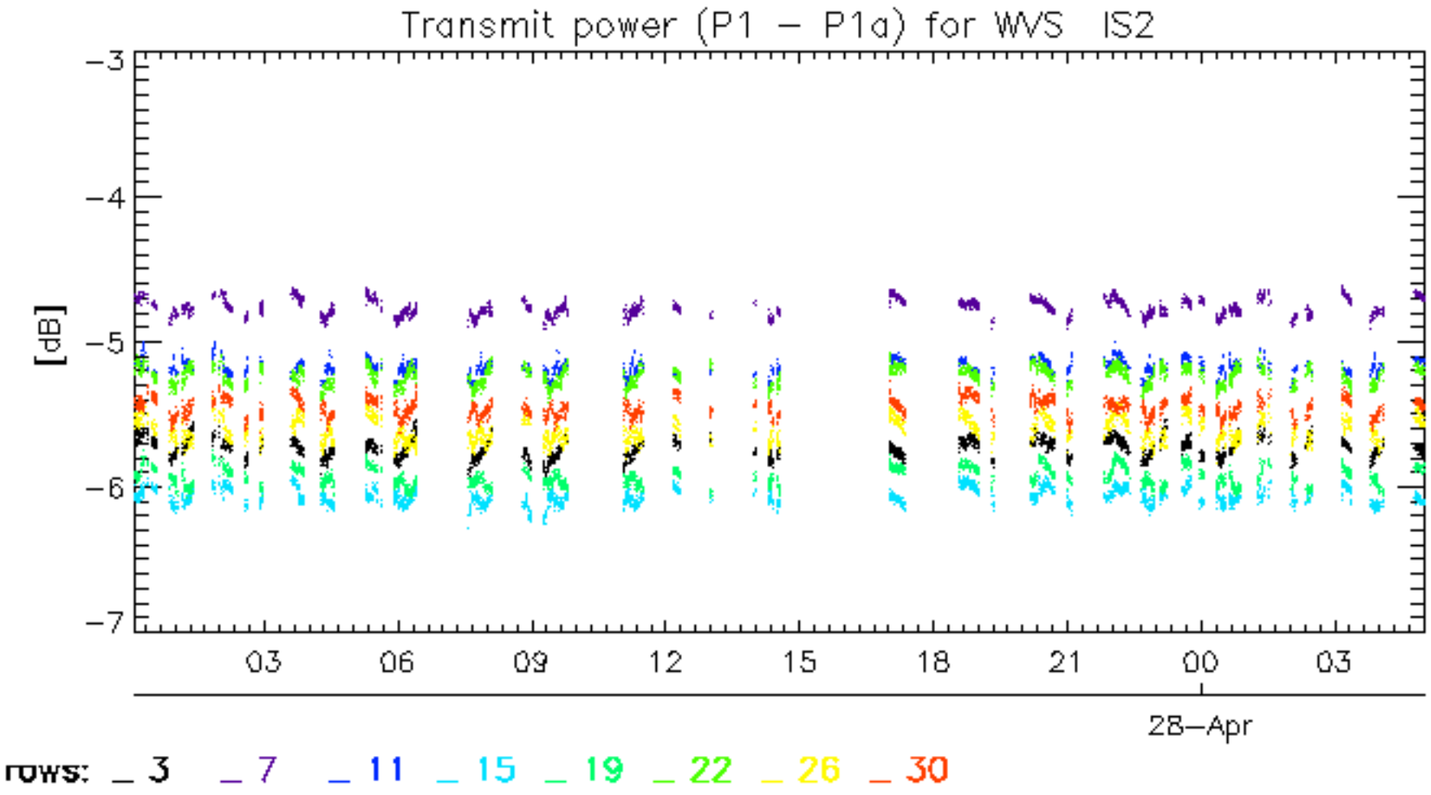
32


Reference: 2003-06-12 14:10:32 V
Test : 2005-04-26 04:29:05 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
0
−10
24
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
28–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]
24
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
28–Apr
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.