PRELIMINARY REPORT OF 050531

last update on Tue May 31 10:50:03 GMT 2005

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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 2005-05-30 00:00:00 to 2005-05-31 10:50:03

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	25	52	10	4	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	25	52	10	4	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	25	52	10	4	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	25	52	10	4	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	40	54	0	0	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	40	54	0	0	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	40	54	0	0	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	40	54	0	0	0

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	20050529 053218
H	20050530 050041

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	-3.345818	0.007008	0.028462
7	P1	-3.121755	0.015055	-0.025047
11	P1	-4.642244	0.029673	0.031459
15	P1	-5.513168	0.043922	0.057154
19	P1	-3.731431	0.004007	-0.008943
22	P1	-4.591250	0.015160	0.017771
26	P1	-4.868257	0.017466	0.028742
30	P1	-7.141933	0.027270	0.005181
3	P1	-15.656999	0.092679	0.142223
7	P1	-15.530676	0.107106	-0.086378
11	P1	-21.327303	0.249388	-0.092003
15	P1	-11.357656	0.044348	0.135277
19	P1	-14.374704	0.034066	-0.057302
22	P1	-15.958147	0.338249	0.021914
26	P1	-17.684366	0.231288	-0.077613
30	P1	-17.860998	0.226598	0.062523

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.046438	0.077419	0.053777
7	P2	-22.219610	0.100873	0.073417
11	P2	-14.046583	0.099963	0.177946
15	P2	-7.120779	0.084881	-0.011651
19	P2	-9.634335	0.088193	0.039712
22	P2	-16.890774	0.087290	0.017000
26	P2	-16.500694	0.089871	-0.007304
30	P2	-18.811680	0.077095	0.033471

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.167648	0.002930	0.017077
7	P3	-8.167648	0.002930	0.017077
11	P3	-8.167648	0.002930	0.017077
15	P3	-8.167648	0.002930	0.017077
19	P3	-8.167648	0.002930	0.017077
22	P3	-8.167648	0.002930	0.017077
26	P3	-8.167648	0.002930	0.017077
30	P3	-8.167648	0.002930	0.017077

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	-2.784046	0.012916	-0.002948
7	P1	-2.962964	0.032010	0.049479
11	P1	-3.959304	0.018365	-0.001486
15	P1	-3.530728	0.023599	-0.006627
19	P1	-3.628183	0.015471	0.010189
22	P1	-5.652304	0.047759	0.010579
26	P1	-7.308213	0.023837	0.025216
30	P1	-6.274331	0.050398	0.001707
3	P1	-10.826066	0.043166	-0.037517
7	P1	-10.393264	0.165767	0.041339
11	P1	-12.546341	0.109715	-0.008165
15	P1	-11.630836	0.079647	0.019740
19	P1	-15.612829	0.062297	0.037893
22	P1	-25.733879	2.929738	-0.359433
26	P1	-15.635236	0.375277	0.131562
30	P1	-20.241936	1.132016	0.046531

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.771902	0.040210	0.059753
7	P2	-22.200653	0.046156	0.143927
11	P2	-9.972296	0.057110	0.156046
15	P2	-5.099453	0.041550	-0.004518
19	P2	-6.902468	0.055853	0.025191
22	P2	-7.102637	0.035890	0.033454
26	P2	-23.937513	0.036503	-0.028395
30	P2	-21.942846	0.040098	0.027152

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.999490	0.003663	0.021144
7	P3	-7.999367	0.003670	0.021131
11	P3	-7.999475	0.003674	0.021092
15	P3	-7.999422	0.003655	0.021045
19	P3	-7.999323	0.003683	0.021486
22	P3	-7.999502	0.003658	0.020915
26	P3	-7.999343	0.003664	0.020988
30	P3	-7.999449	0.003689	0.021191

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	0.000441166
	stdev	2.29319e-07
MEAN Q	mean	0.000471453
	stdev	2.39309e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.126245
	stdev	0.00104344
STDEV Q	mean	0.126489
	stdev	0.00105405

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005053[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

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

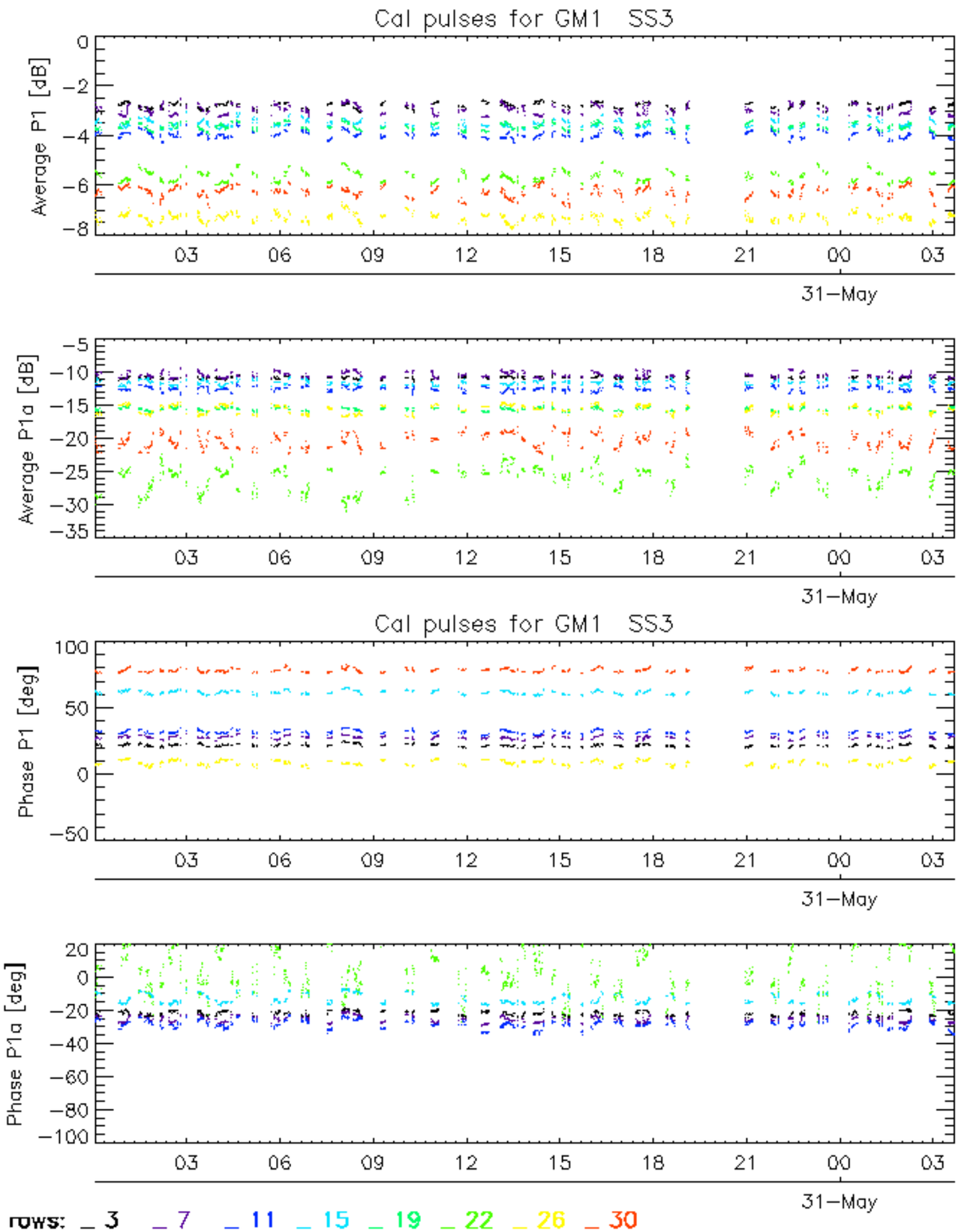
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

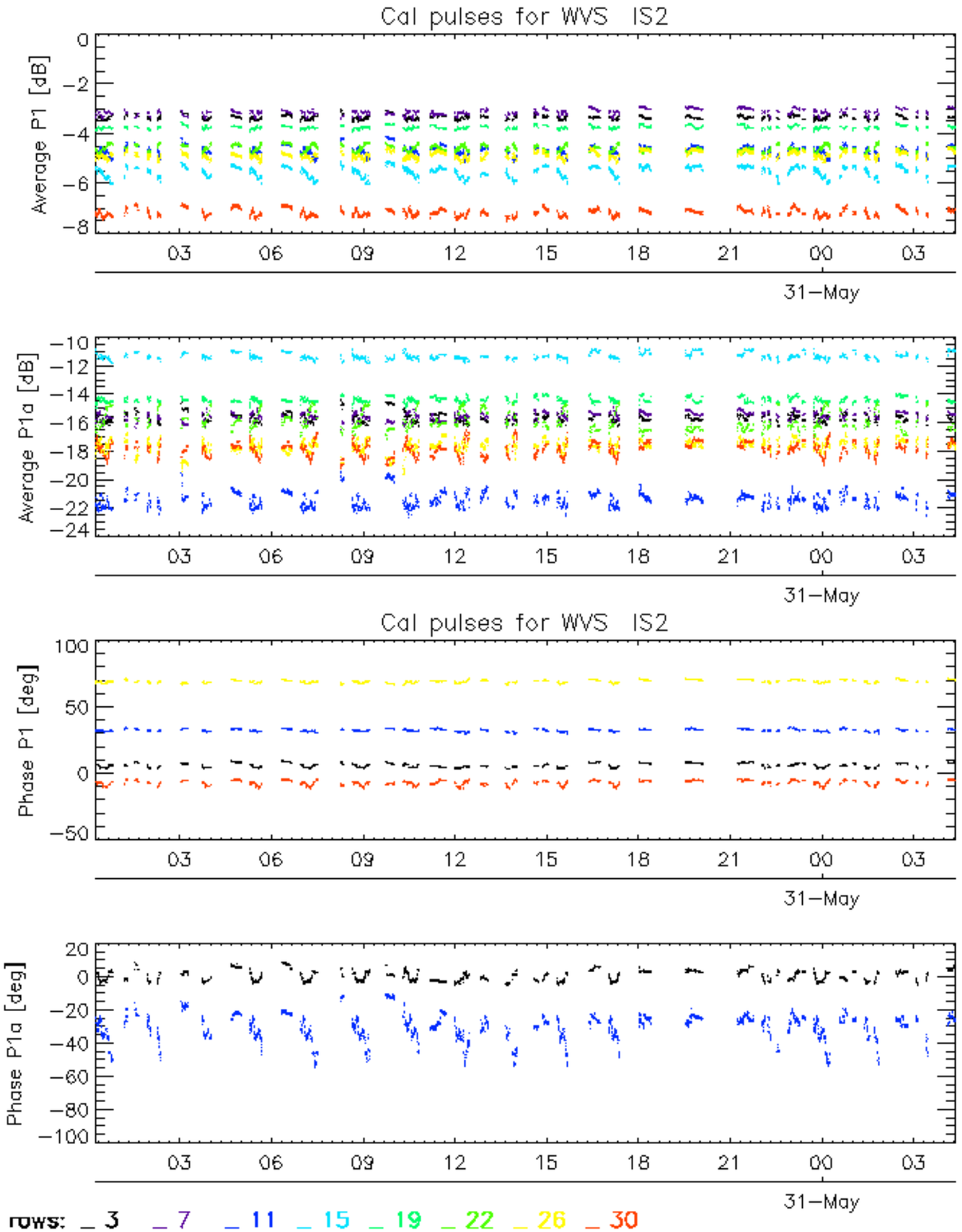
7.5 - Absolute Doppler for GM1

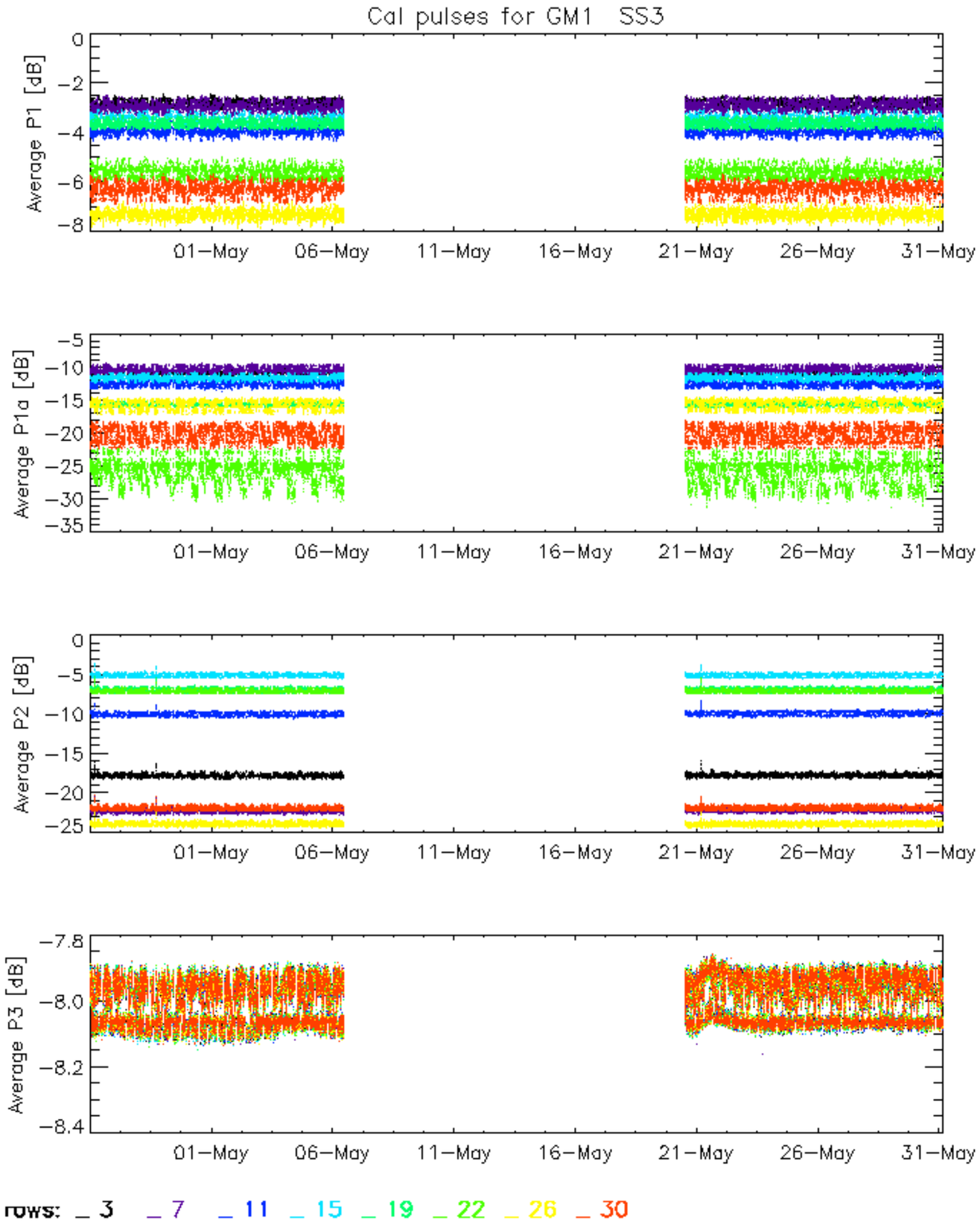
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

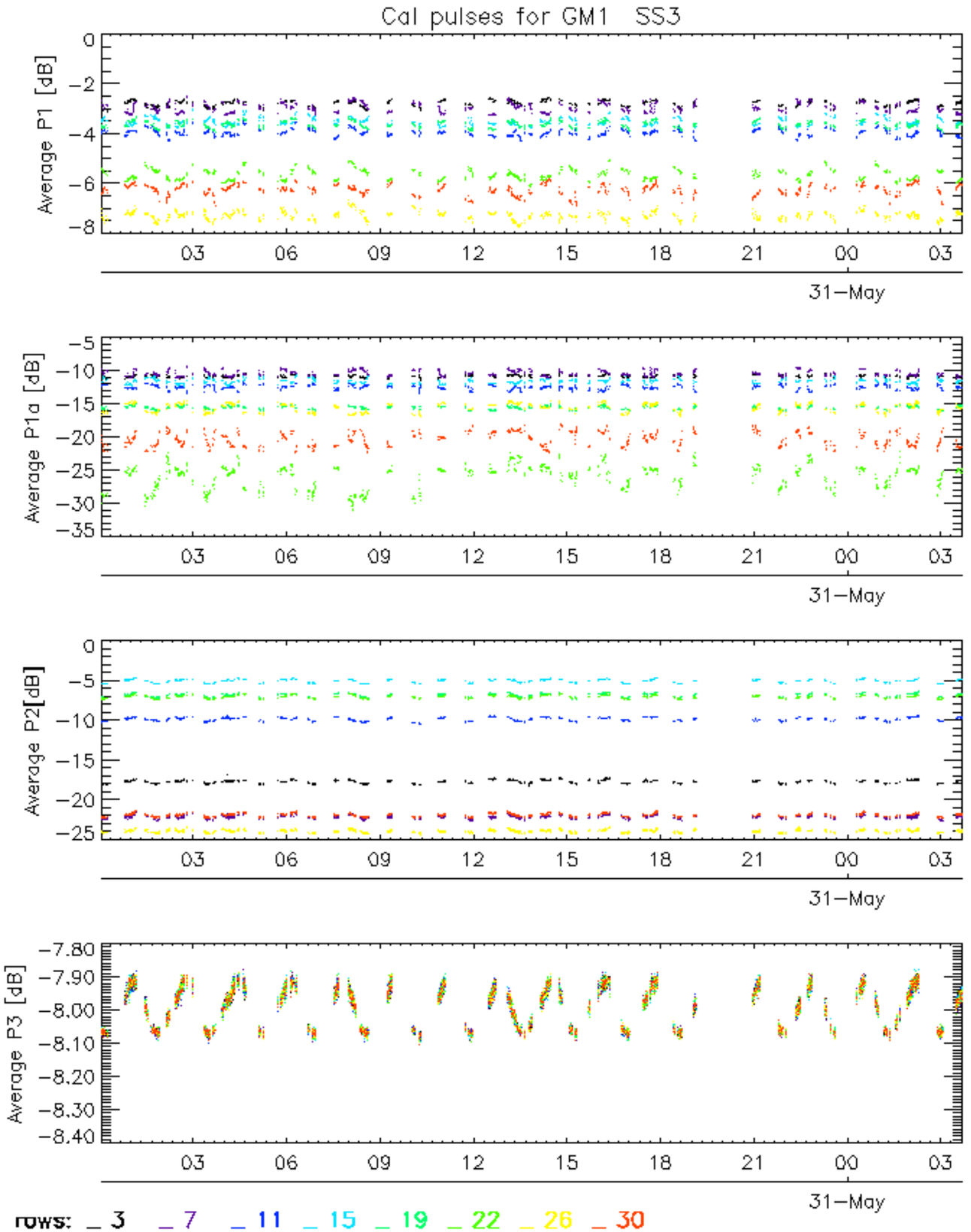
7.6 - Doppler evolution versus ANX for GM1

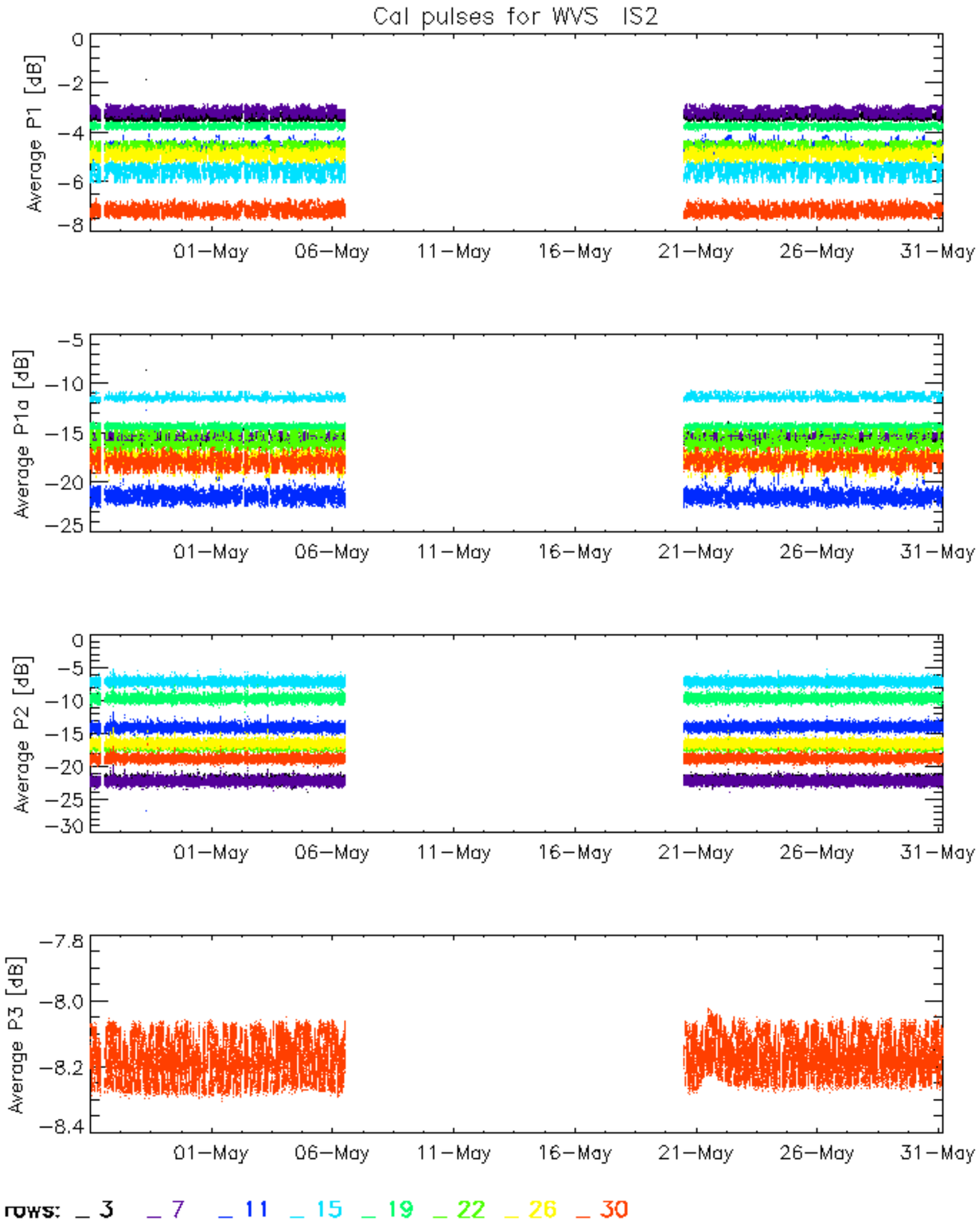
Evolution Doppler error versus ANX
☒

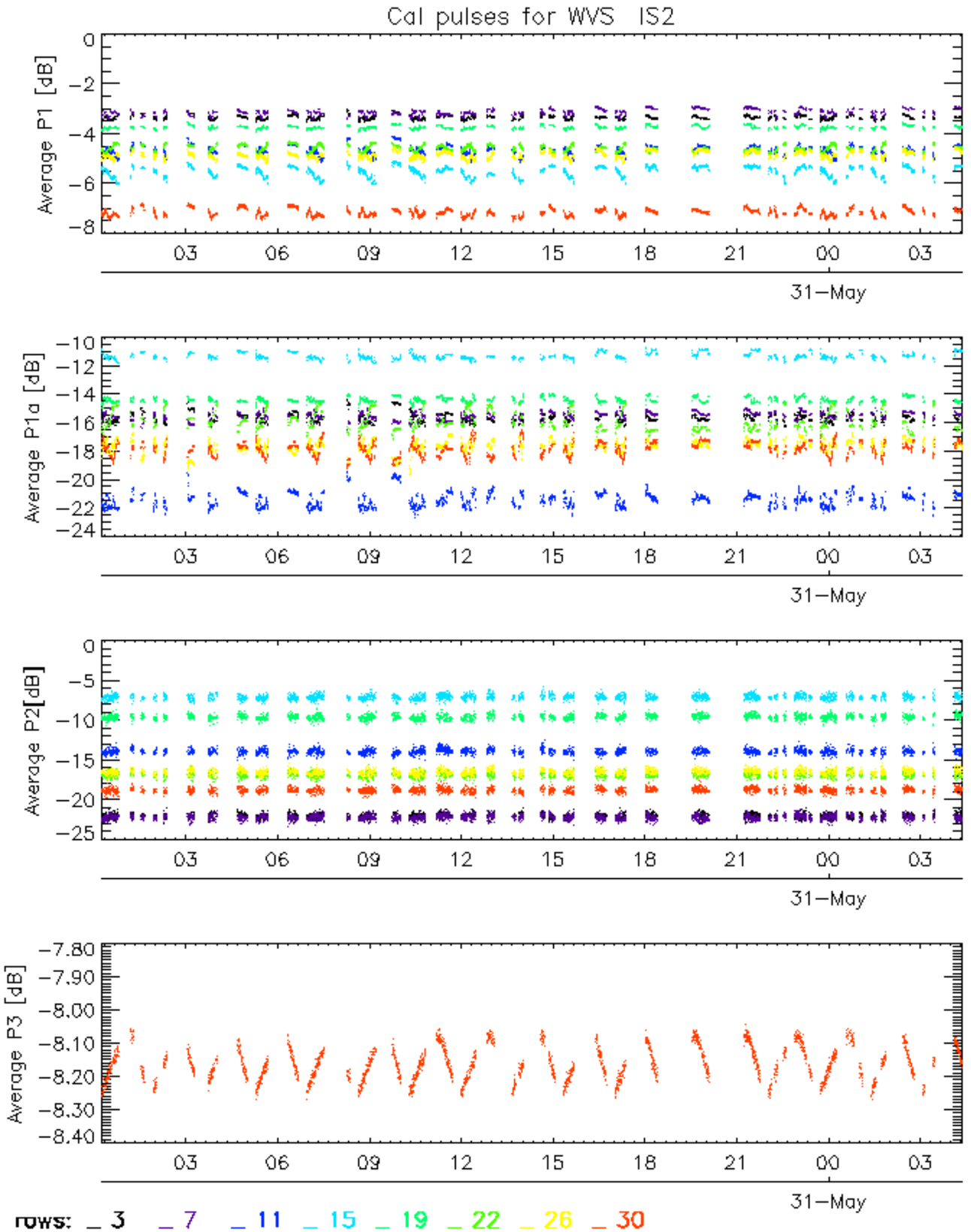

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
31−May
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30


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

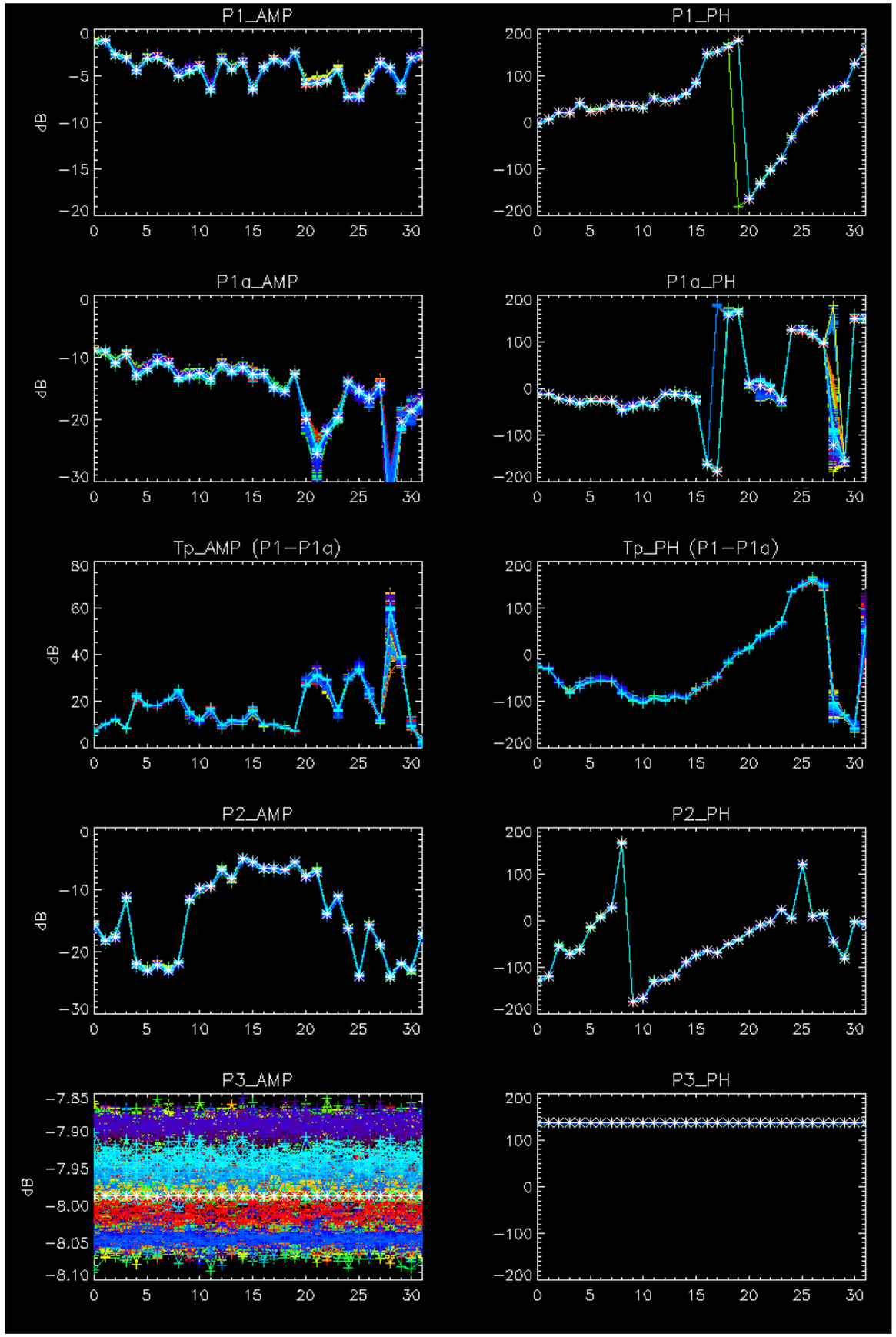

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
01−May
06−May
11−May
16−May
21−May
26−May
31−May
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

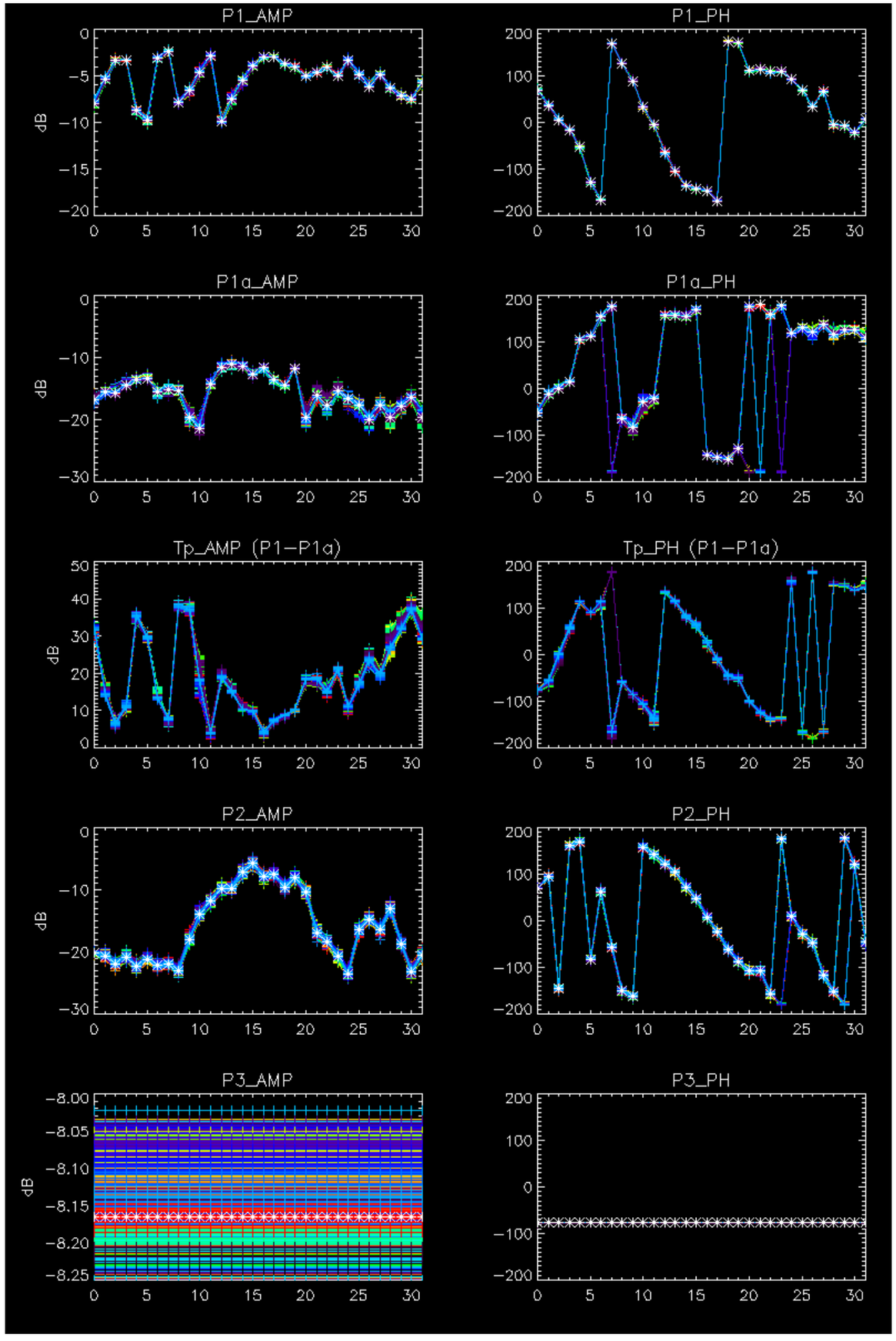

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
31−May
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
01−May
06−May
11−May
16−May
21−May
26−May
31−May
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
−30
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
31−May
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

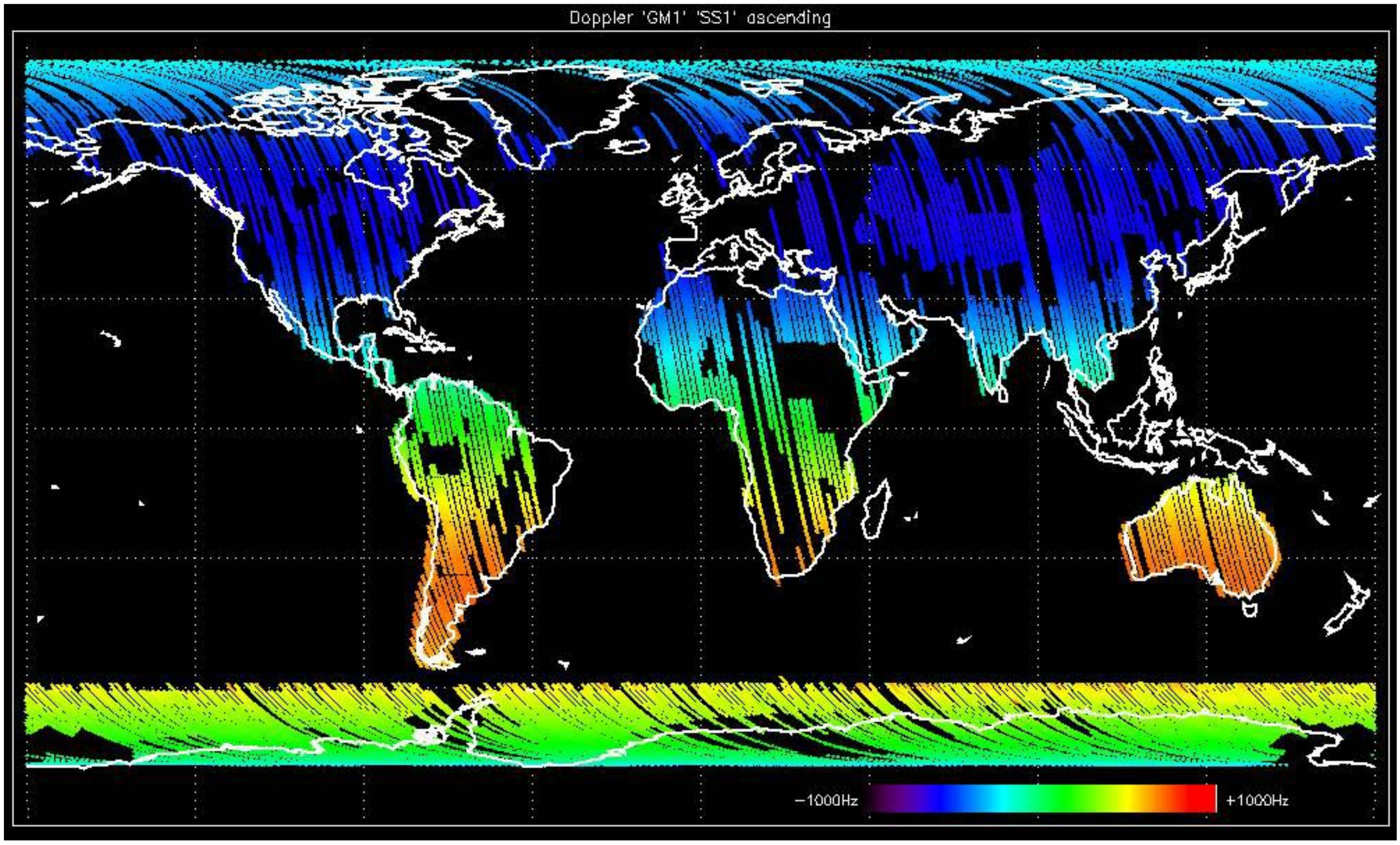
No anomalies observed.

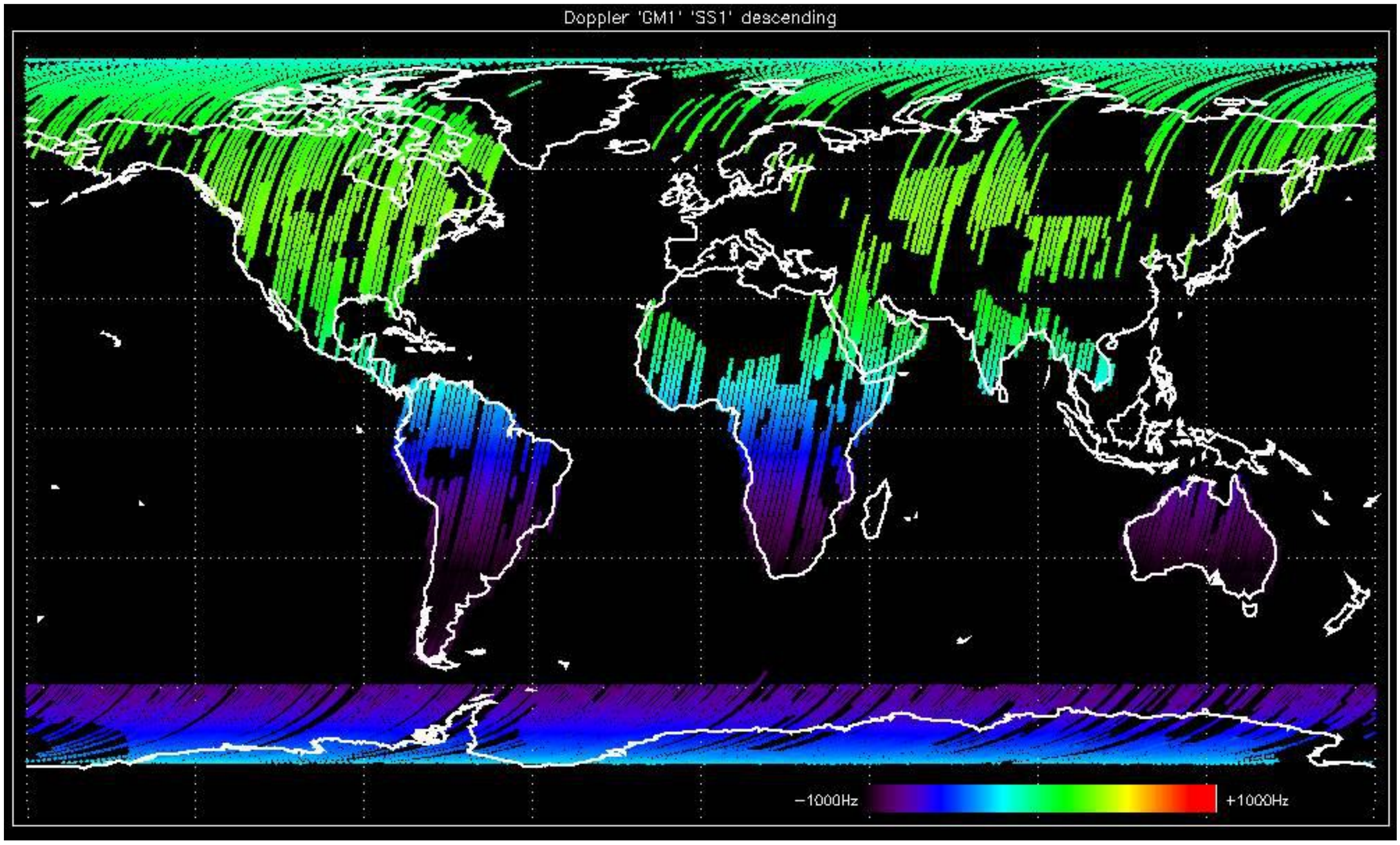

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

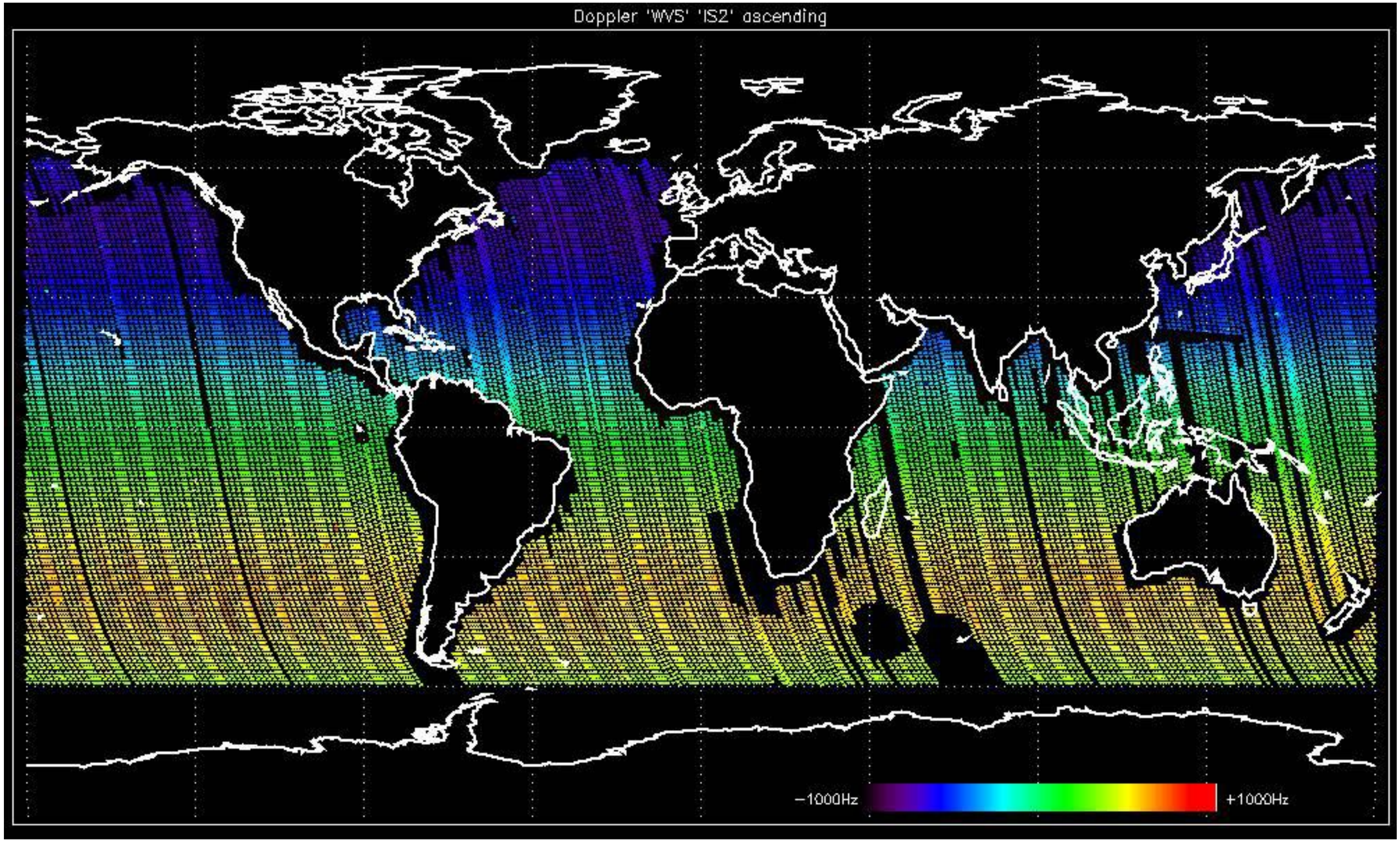

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

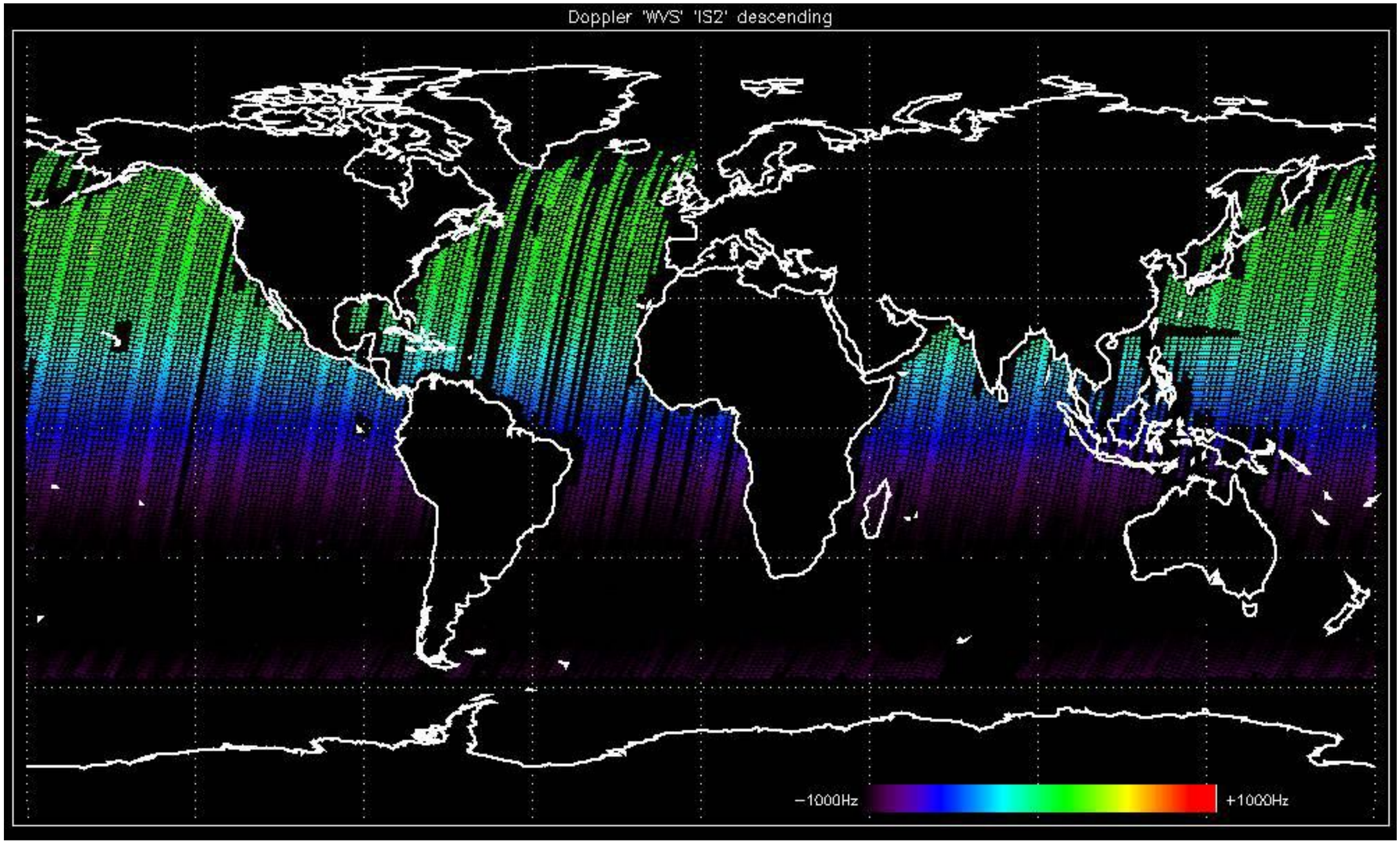
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

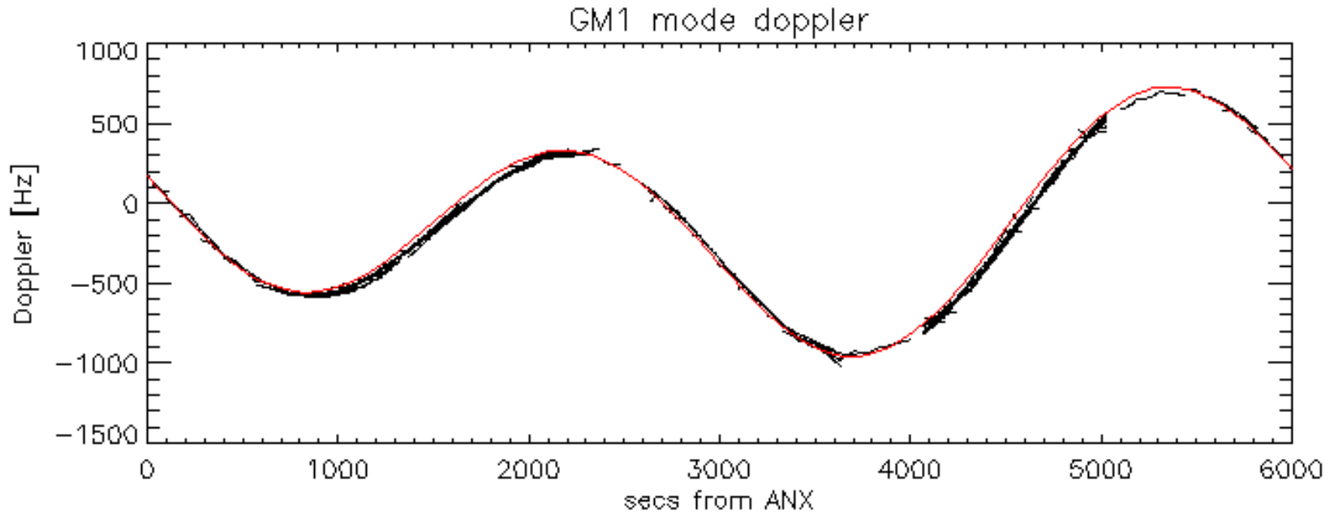
Preliminary report.The data is not yet controled

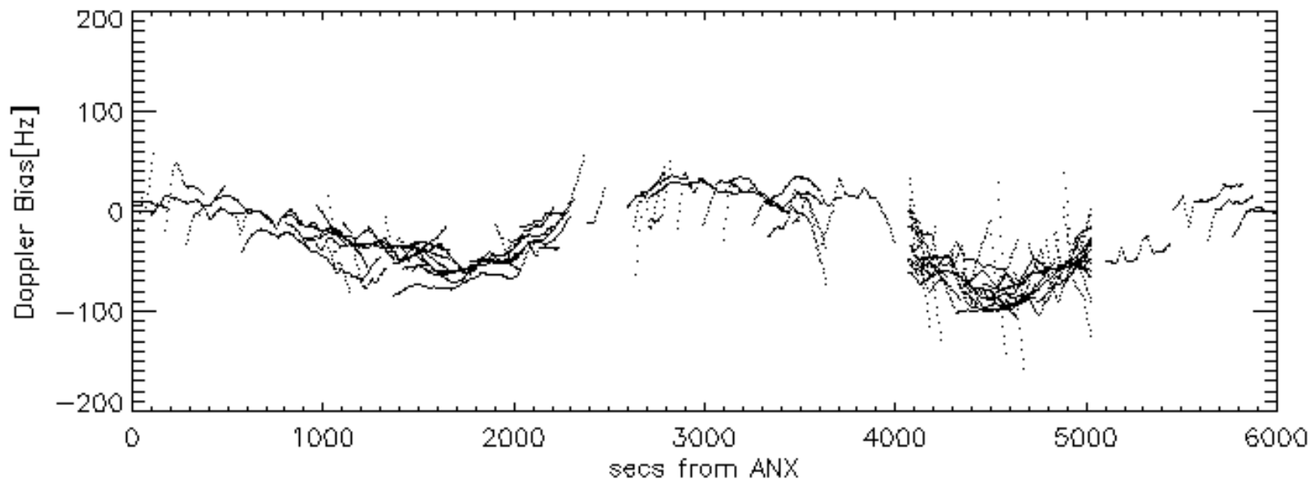

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

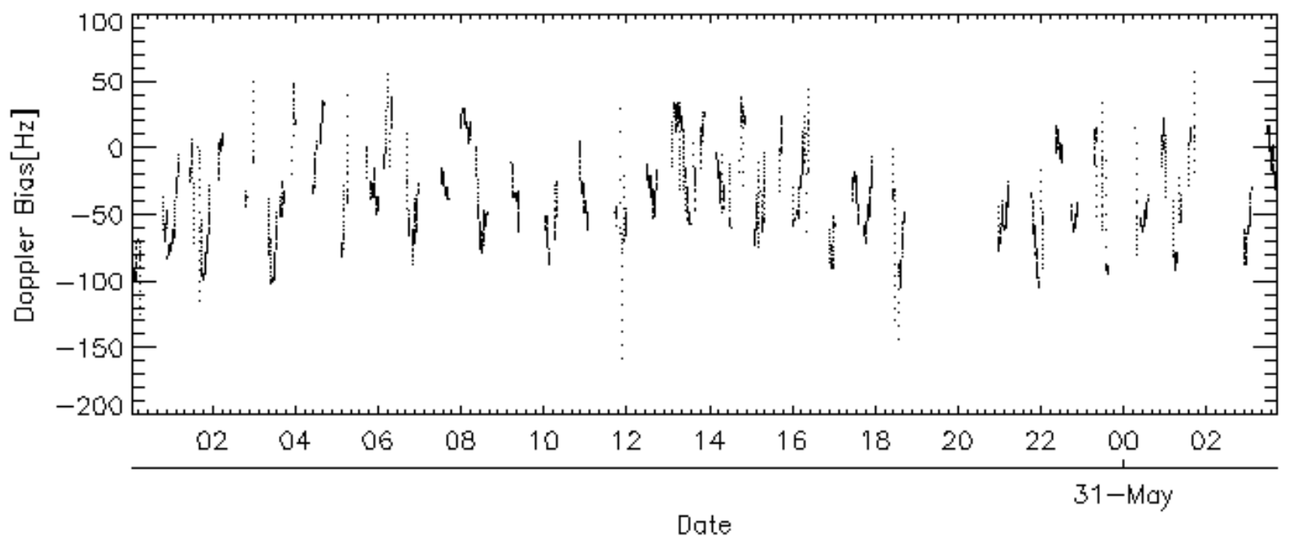

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

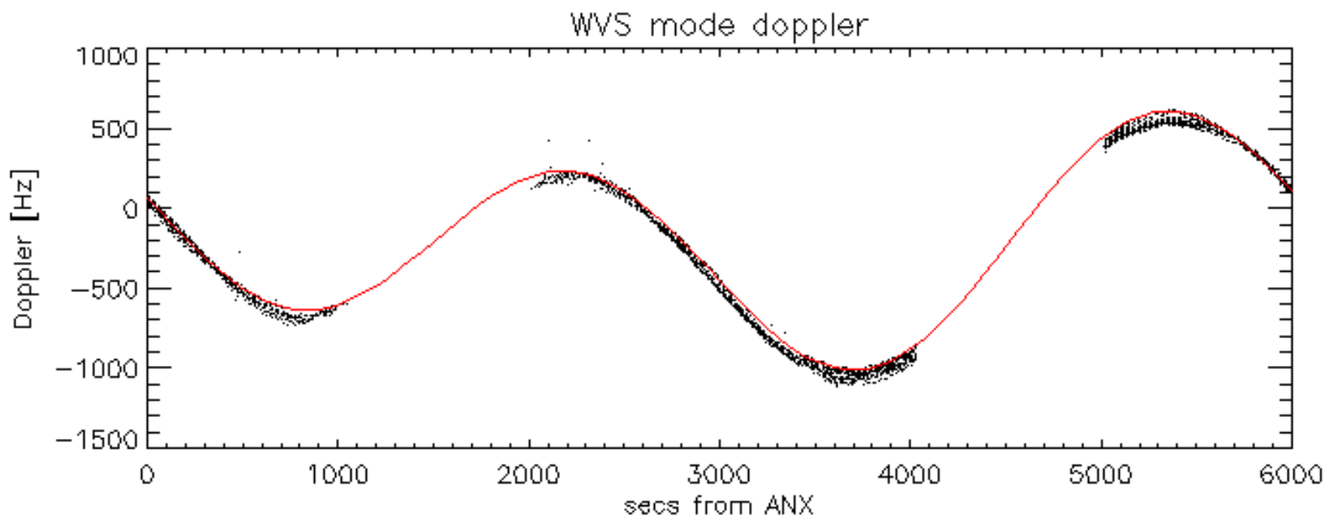

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

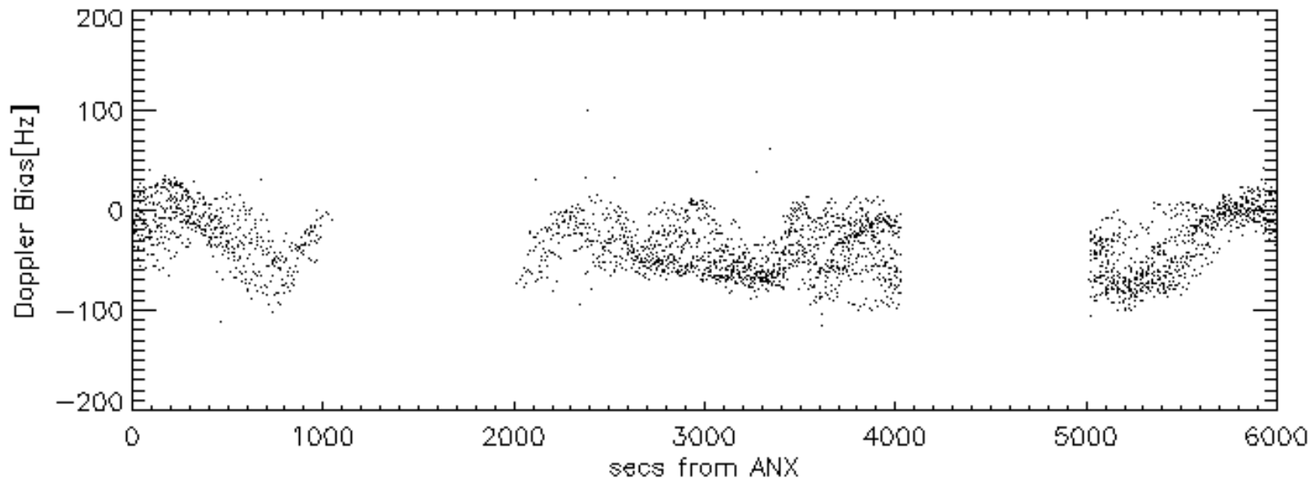

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

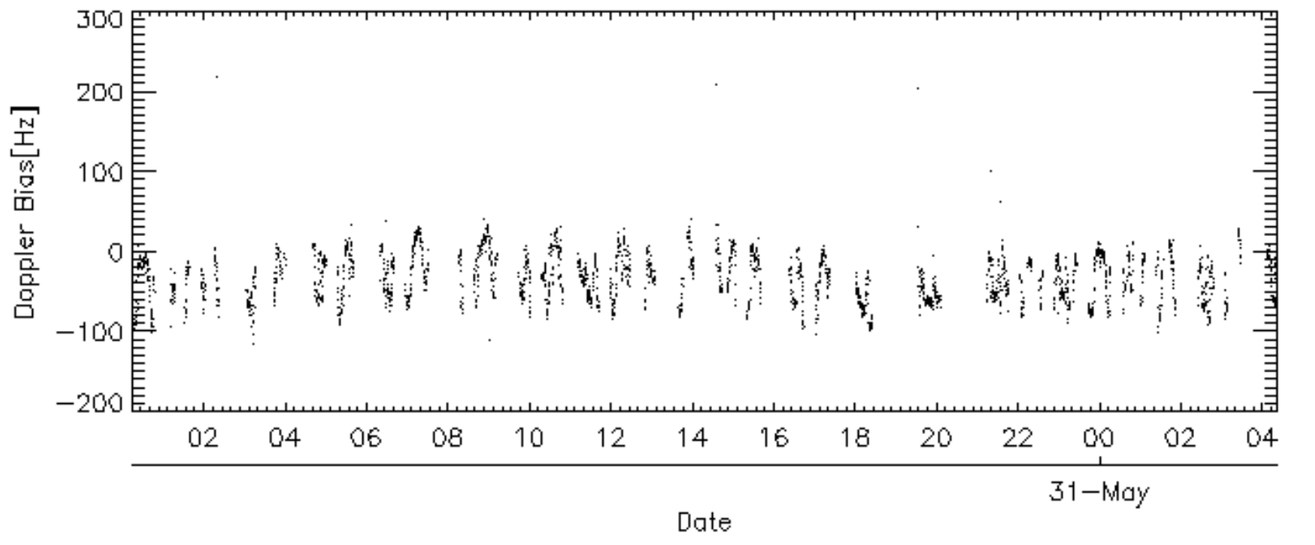

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

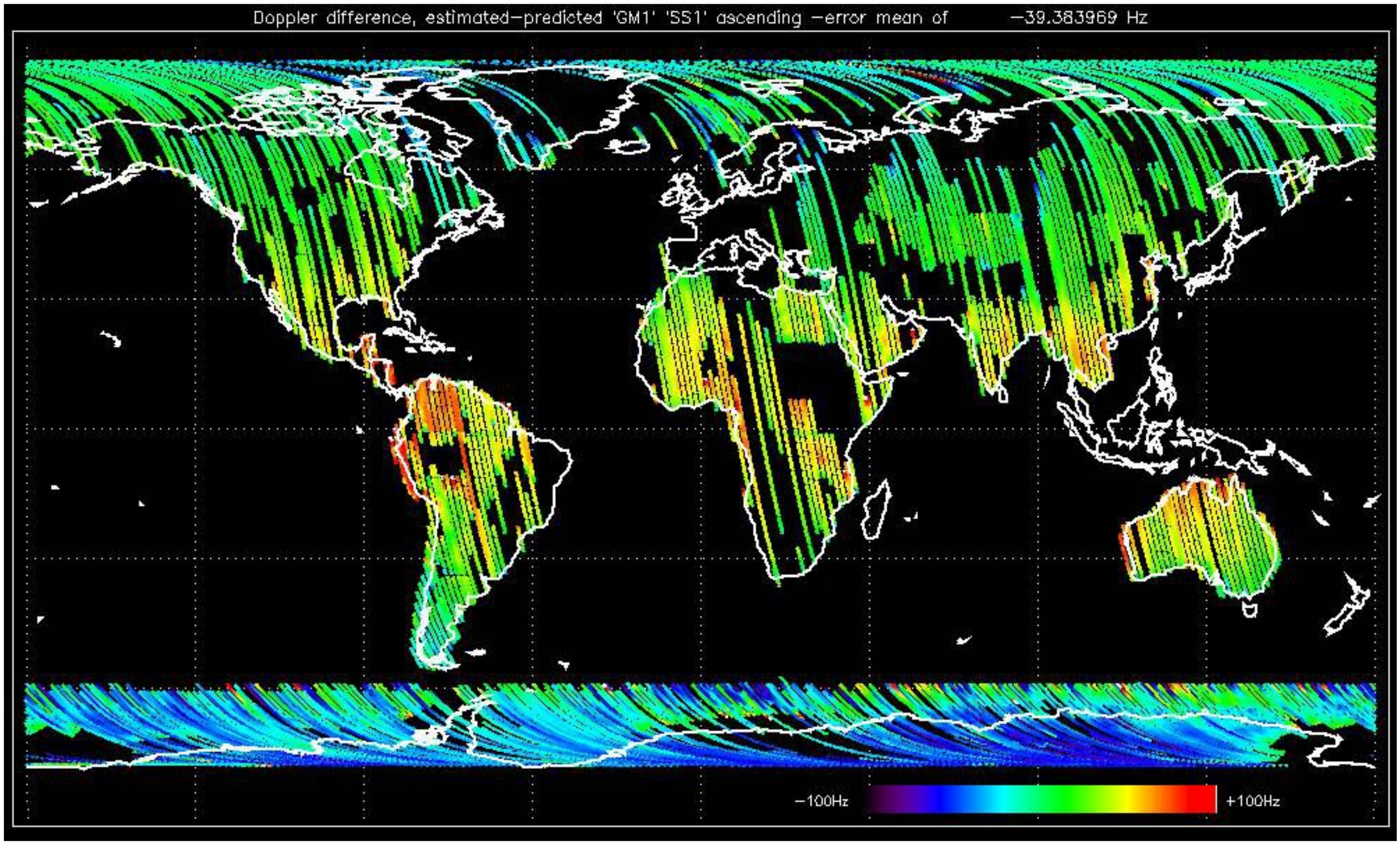

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

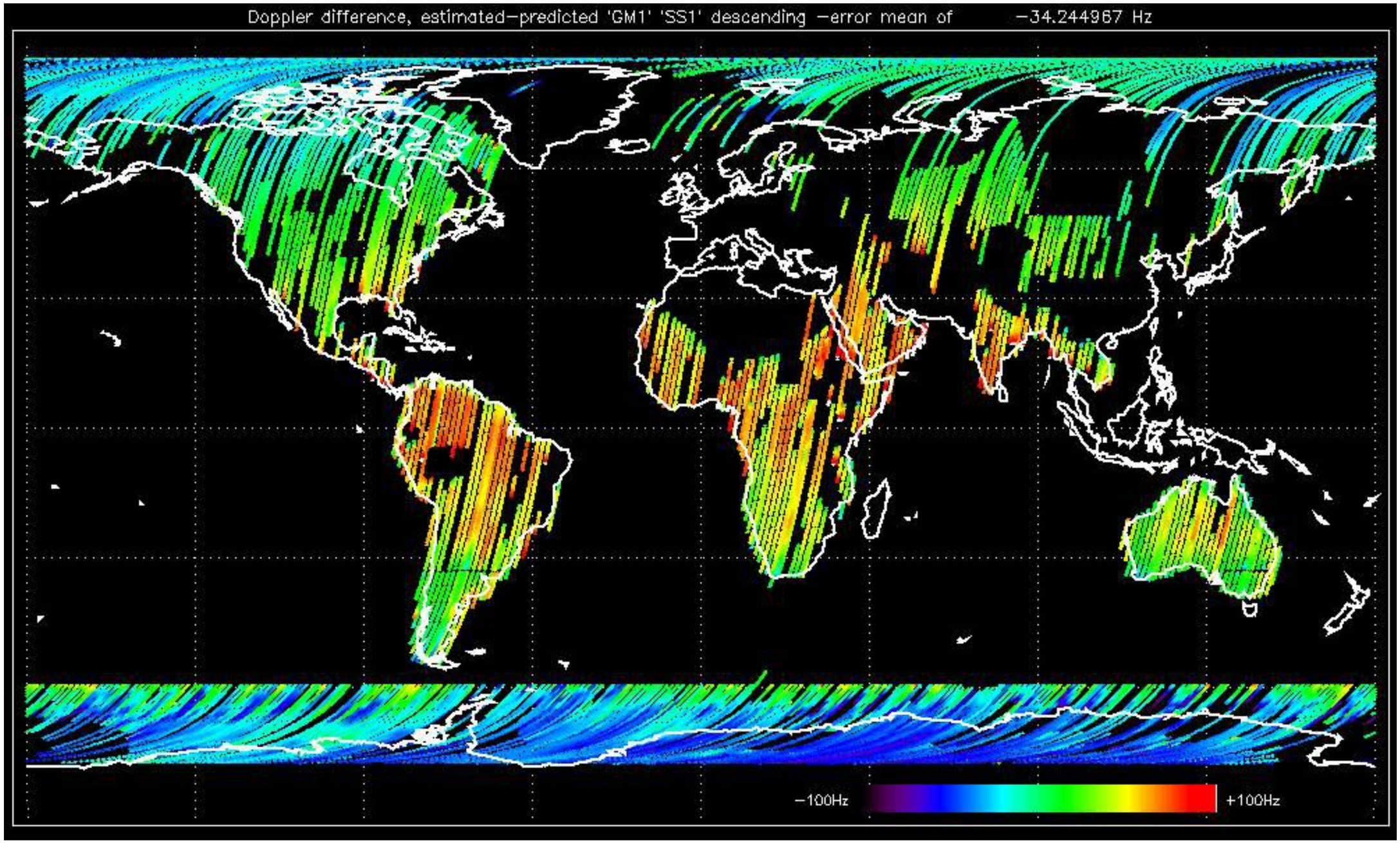

Doppler Bias[Hz]
100
50
0
−50
−100
−150
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
31−May
Date

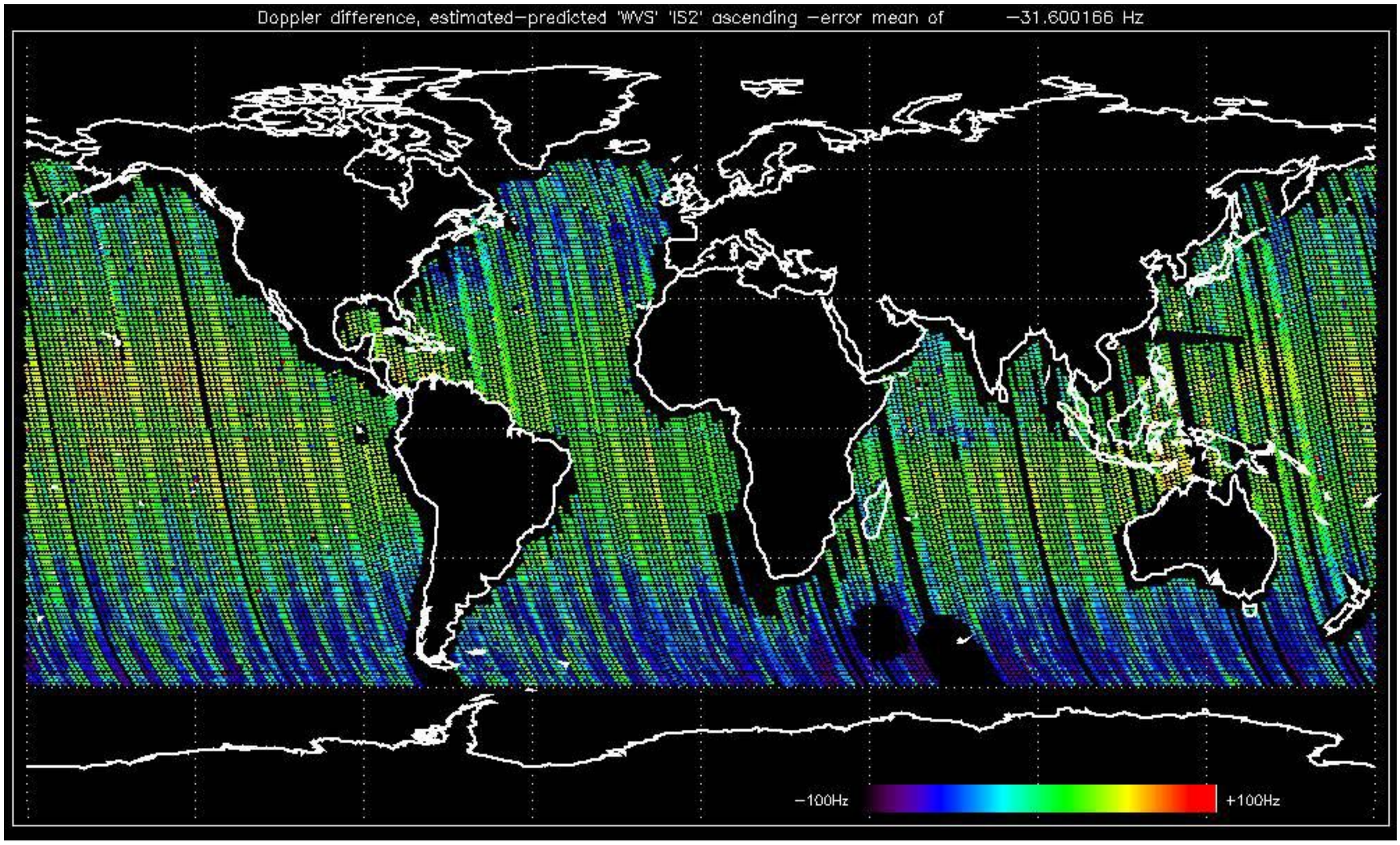

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

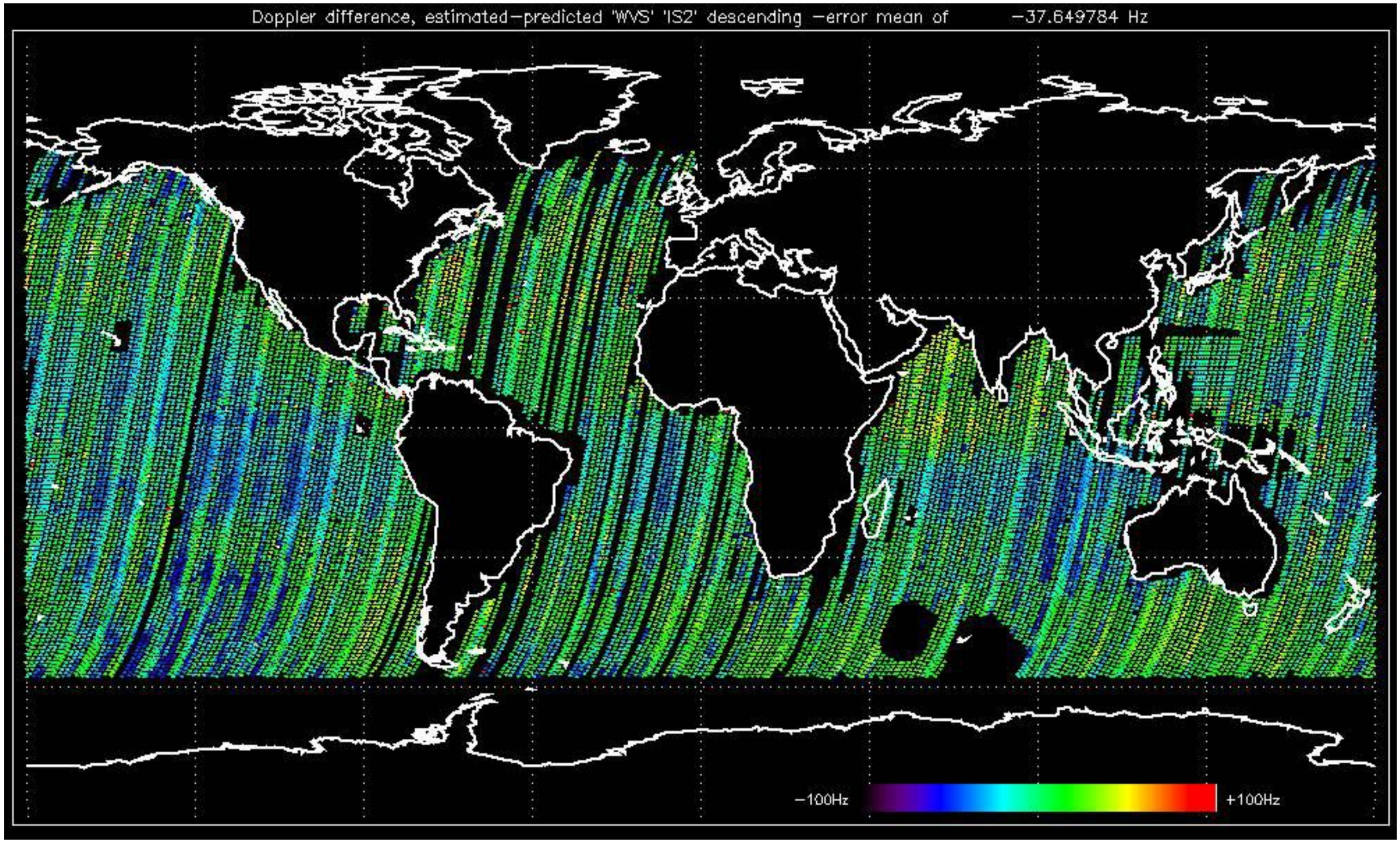

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −39.383969 Hz
−100Hz
+100Hz


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -34.244967 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −31.600166 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −37.649784 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2005-05-30 05:00:41 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
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14
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16
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18
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26
27
28
29
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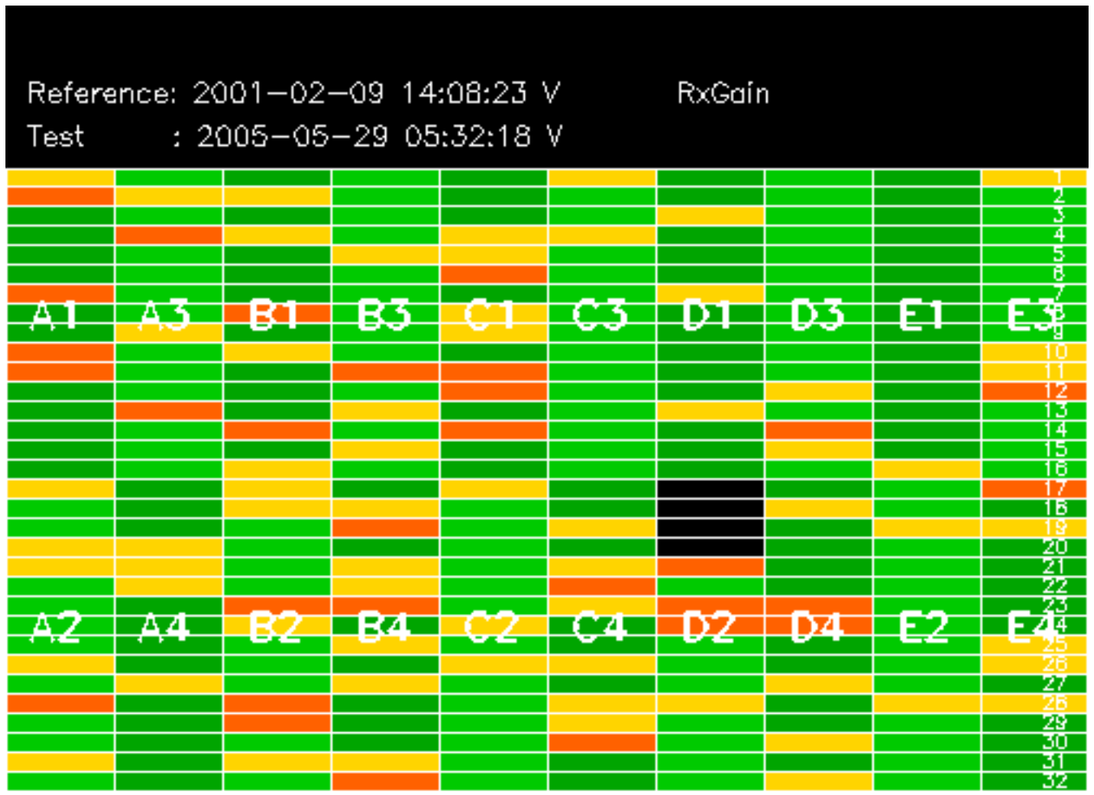
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-05-30 05:00:41 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 : 2005-05-29 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
1
2
3
4
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9
10
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31
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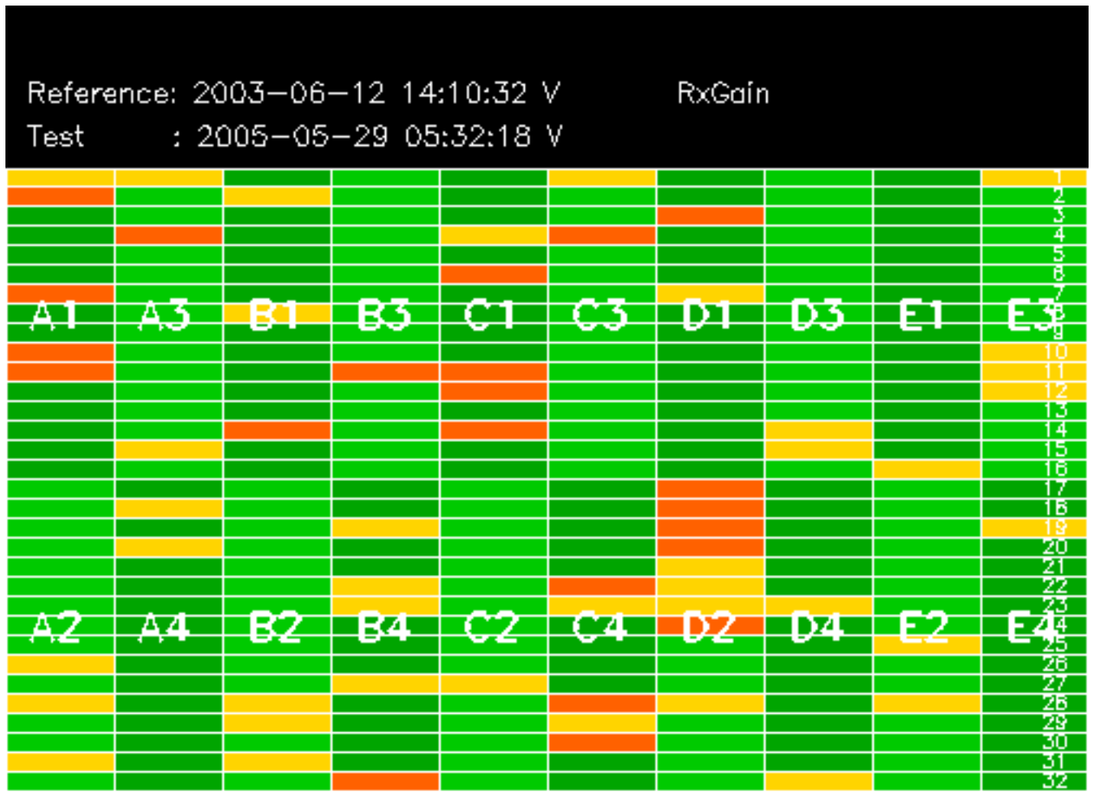
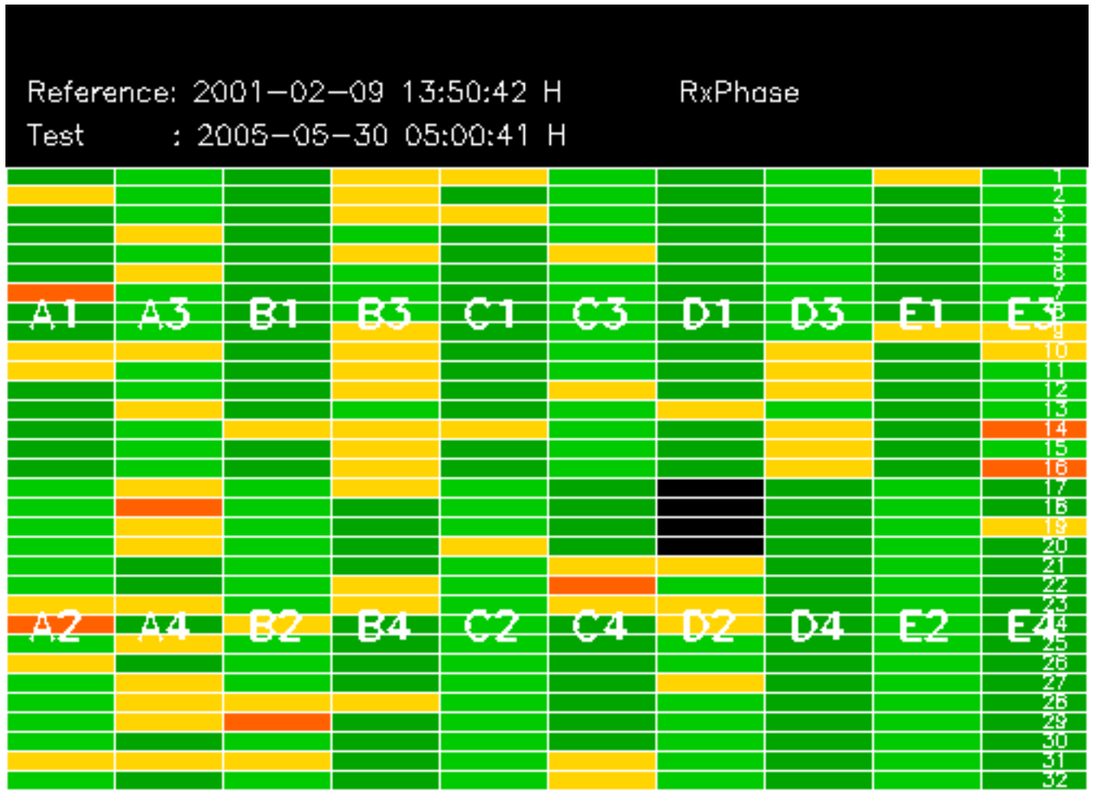

Reference: 2003-06-12 14:10:32 V
Test : 2005-05-29 05:32:18 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-05-30 05:00:41 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
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8
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16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2005-05-30 05:00:41 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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23
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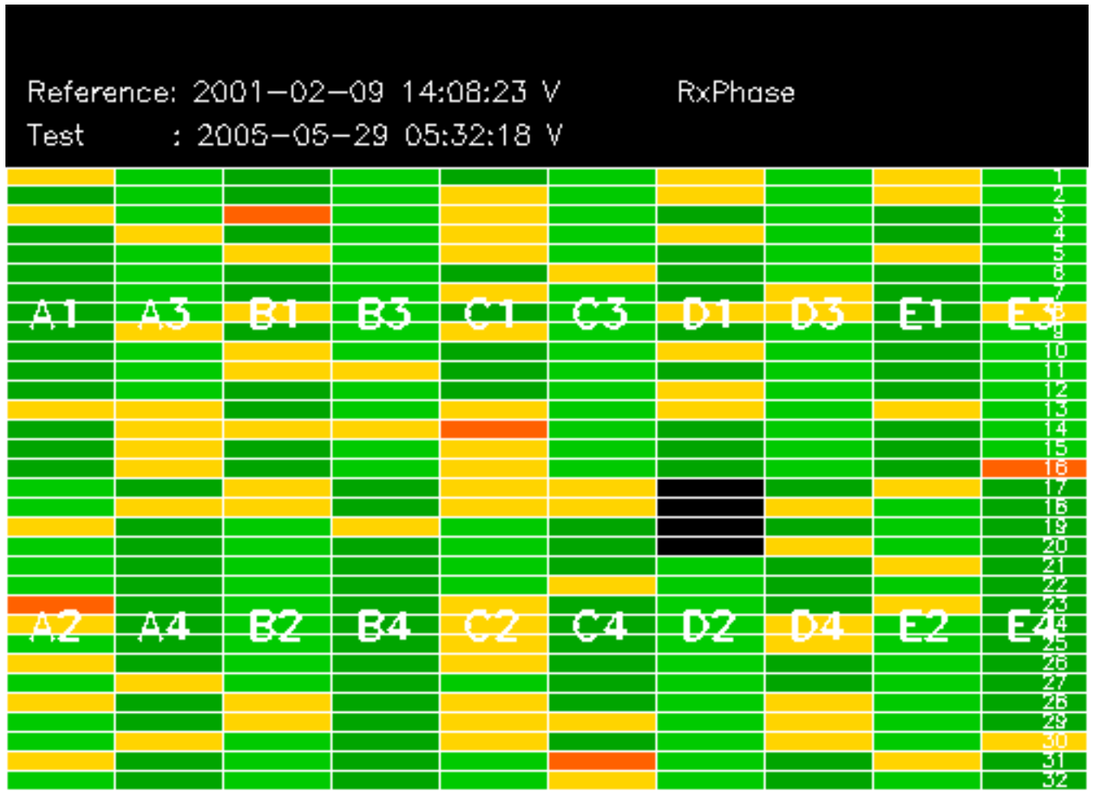
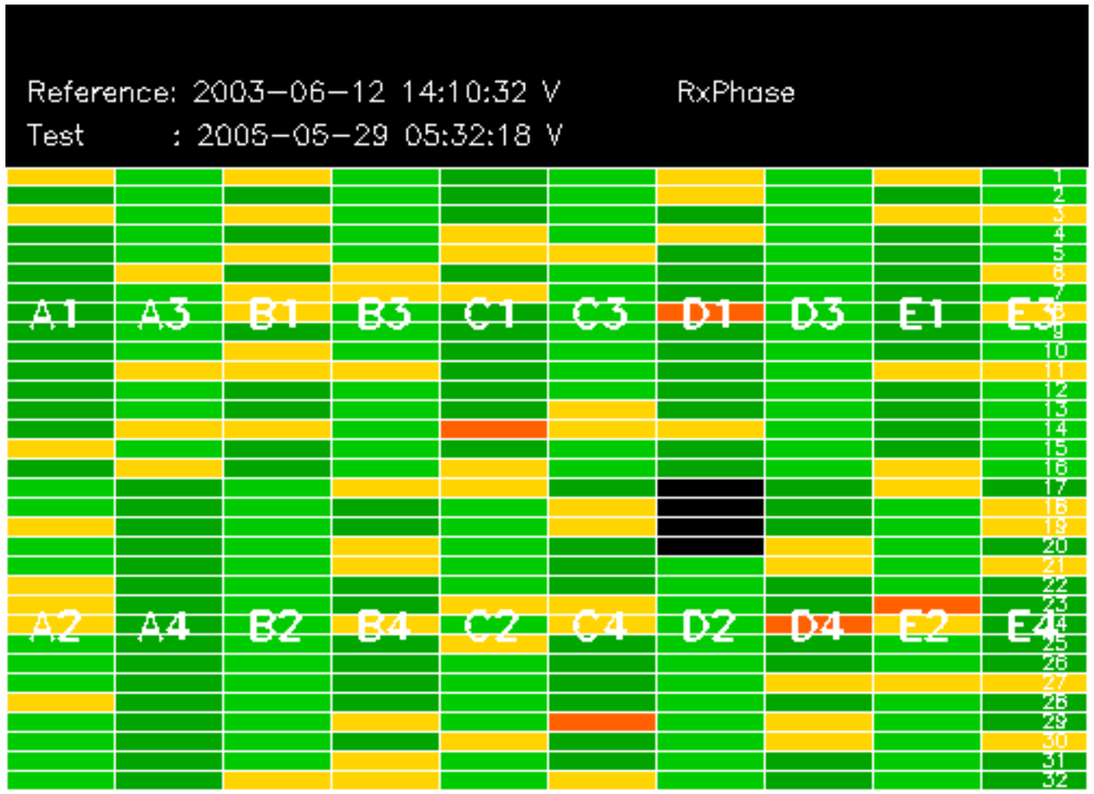
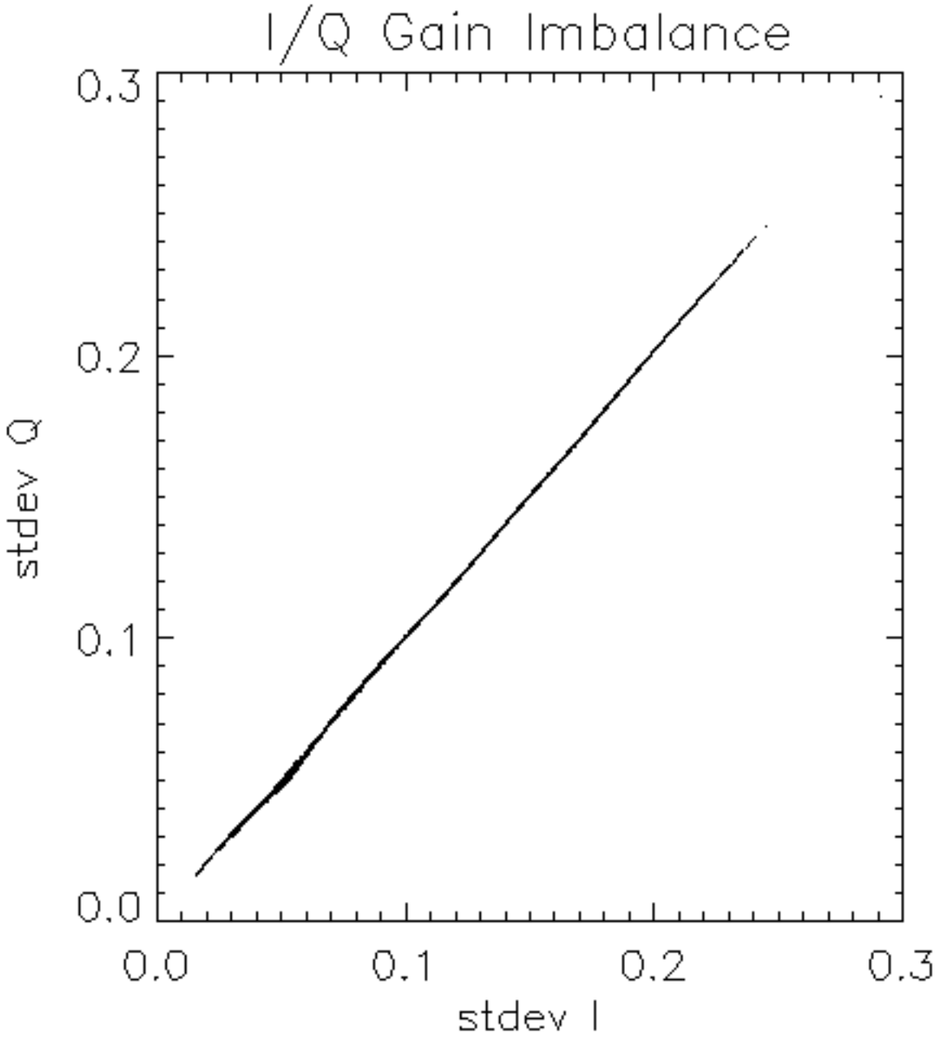
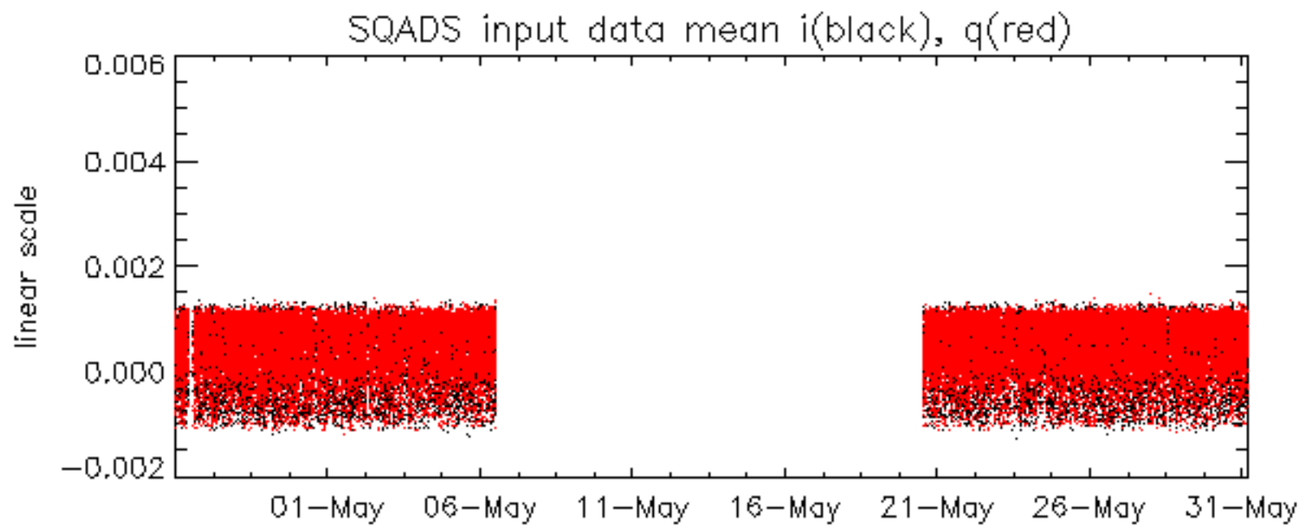
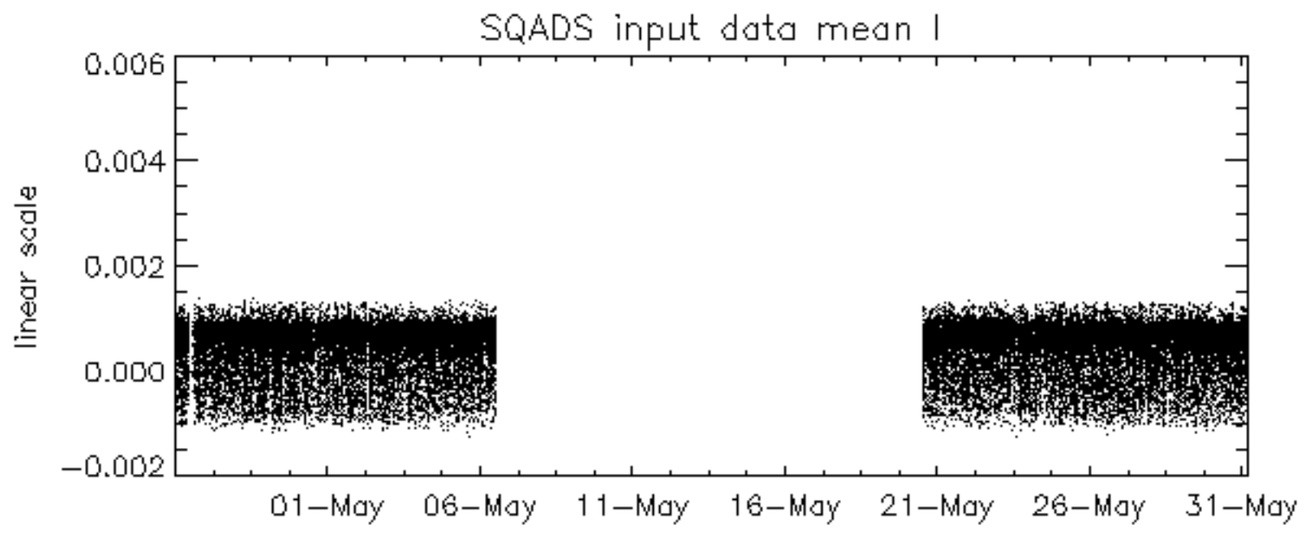
26
27
28
29
30
31
32

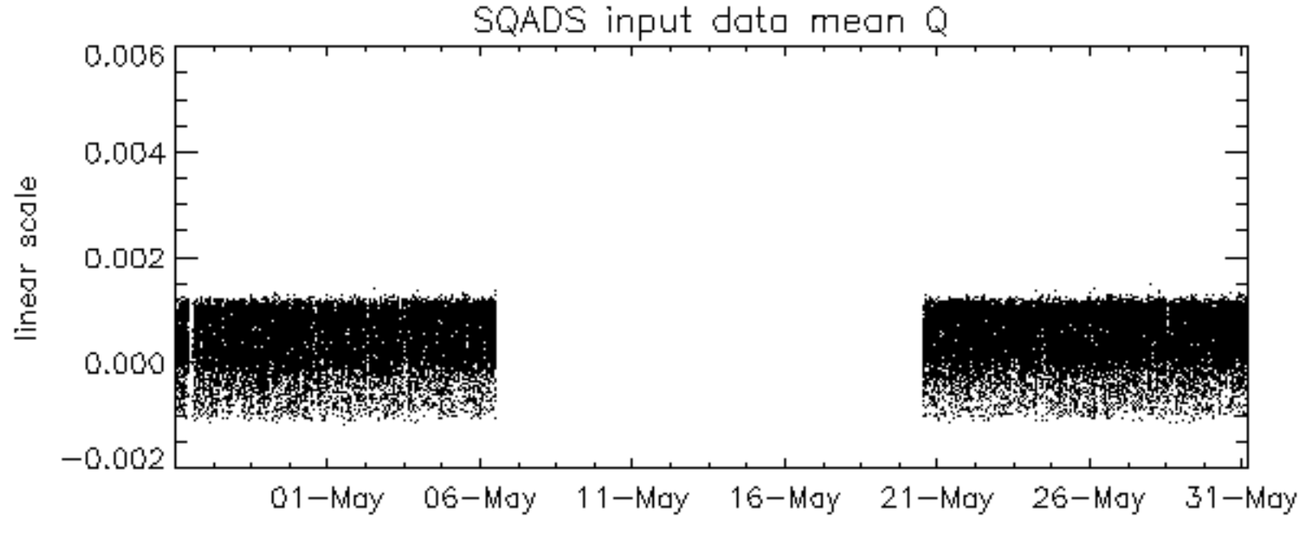

Reference: 2001-02-09 14:08:23 V
Test : 2005-05-29 05:32:18 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

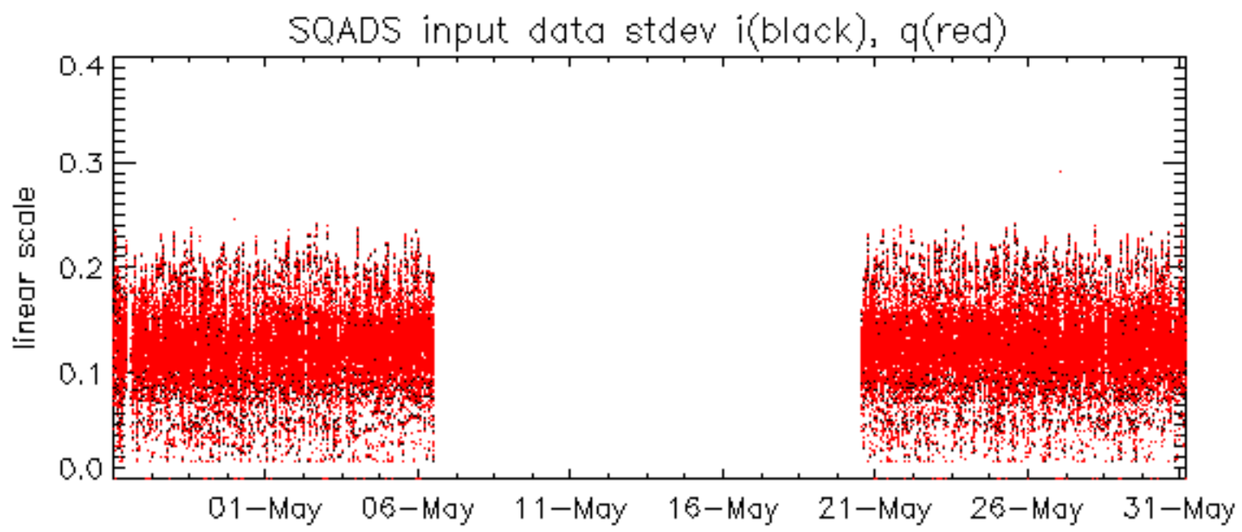

Reference: 2003-06-12 14:10:32 V
Test : 2005-05-29 05:32:18 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

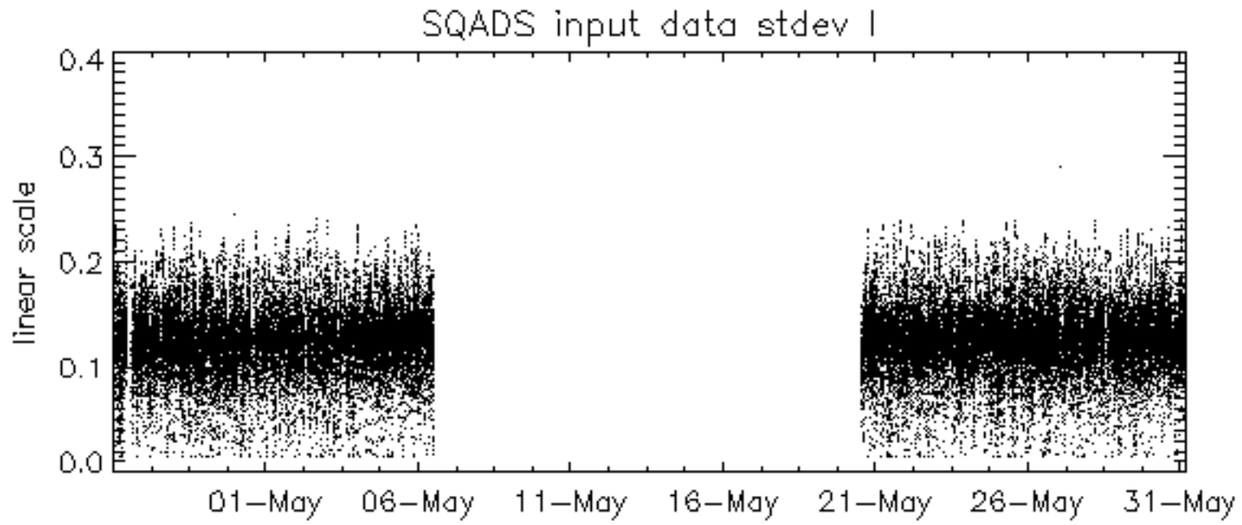

I/Q Gain Imbalance
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
stdev I

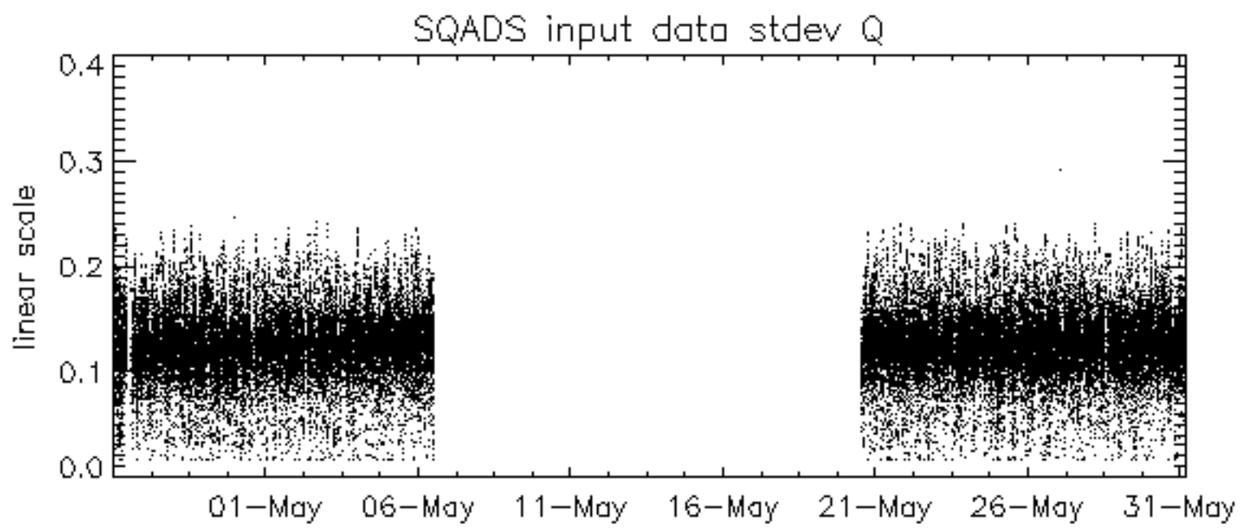

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
01−May
06−May
11−May
16−May
21−May
26−May
31−May

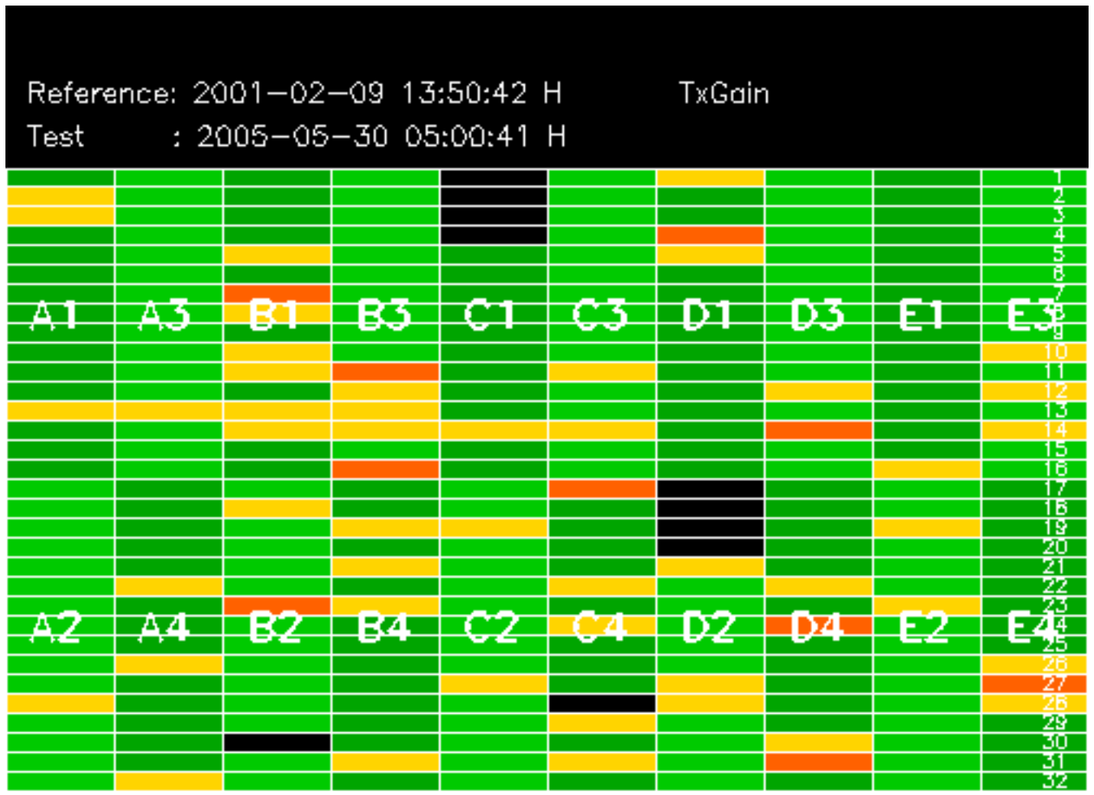

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
01−May
06−May
11−May
16−May
21−May
26−May
31−May


SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
01−May
06−May
11−May
16−May
21−May
26−May
31−May


SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
01−May
06−May
11−May
16−May
21−May
26−May
31−May


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
01−May
06−May
11−May
16−May
21−May
26−May
31−May


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
01−May
06−May
11−May
16−May
21−May
26−May
31−May


Reference: 2001-02-09 13:50:42 H
Test : 2005-05-30 05:00:41 H
TxGain
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
11
12
13
14
15
16
17
18
19
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21
22
23
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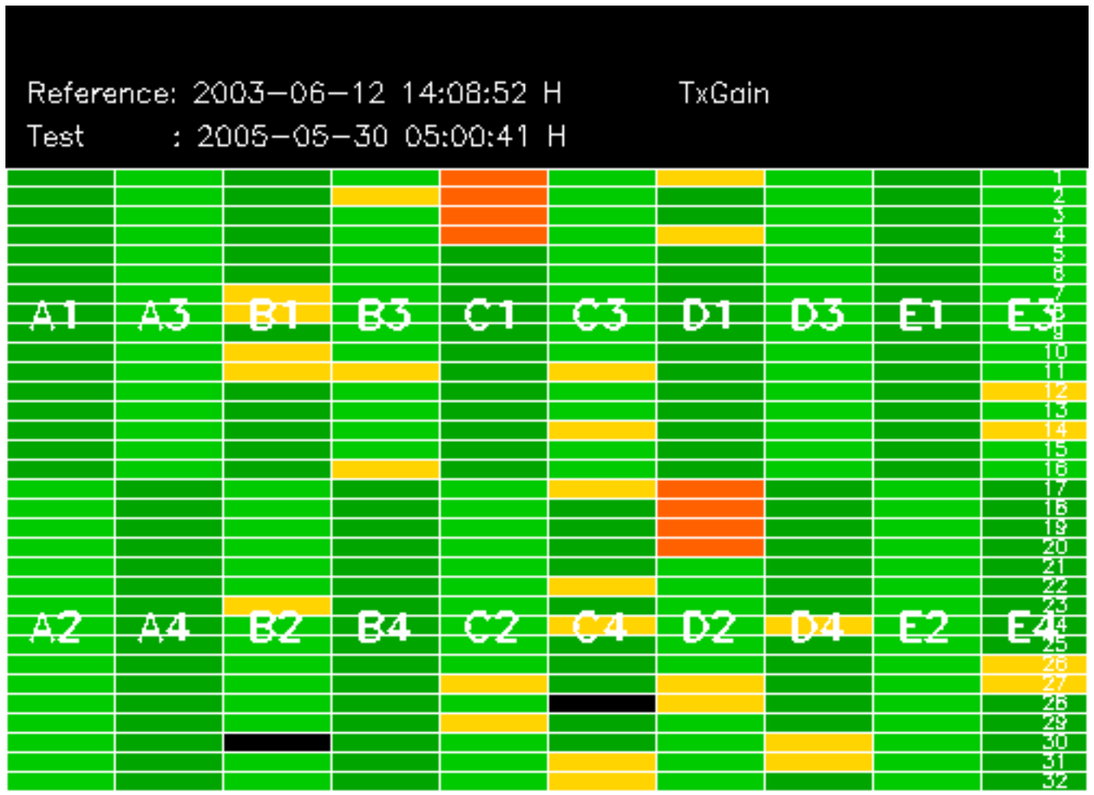
26
27
28
29
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-05-30 05:00:41 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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9
10
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14
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16
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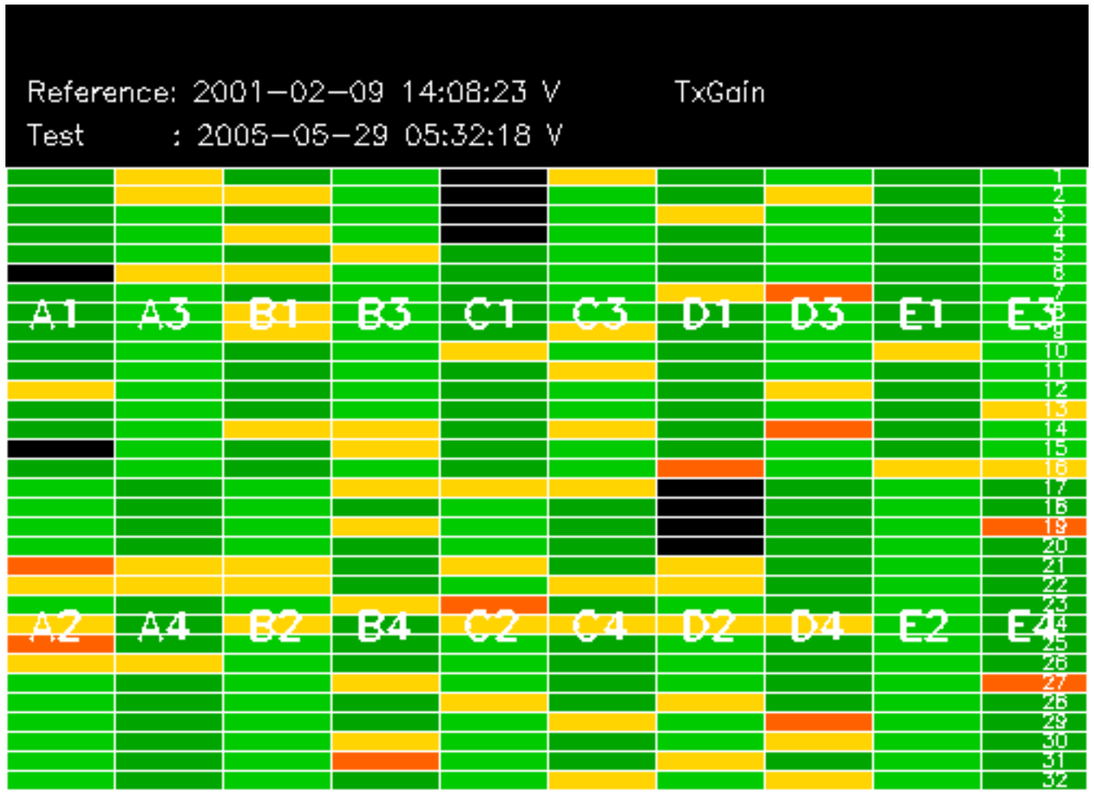
26
27
28
29
30
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2005-05-29 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 : 2005-05-29 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
1
2
3
4
5
6
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8
9
10
11
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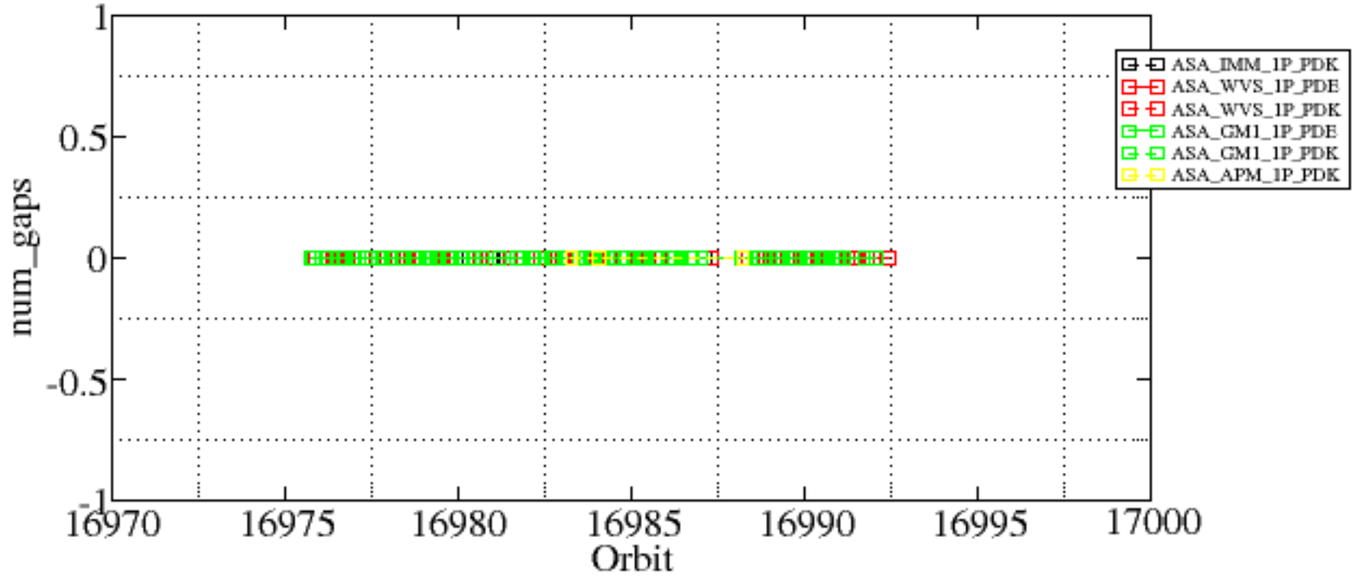
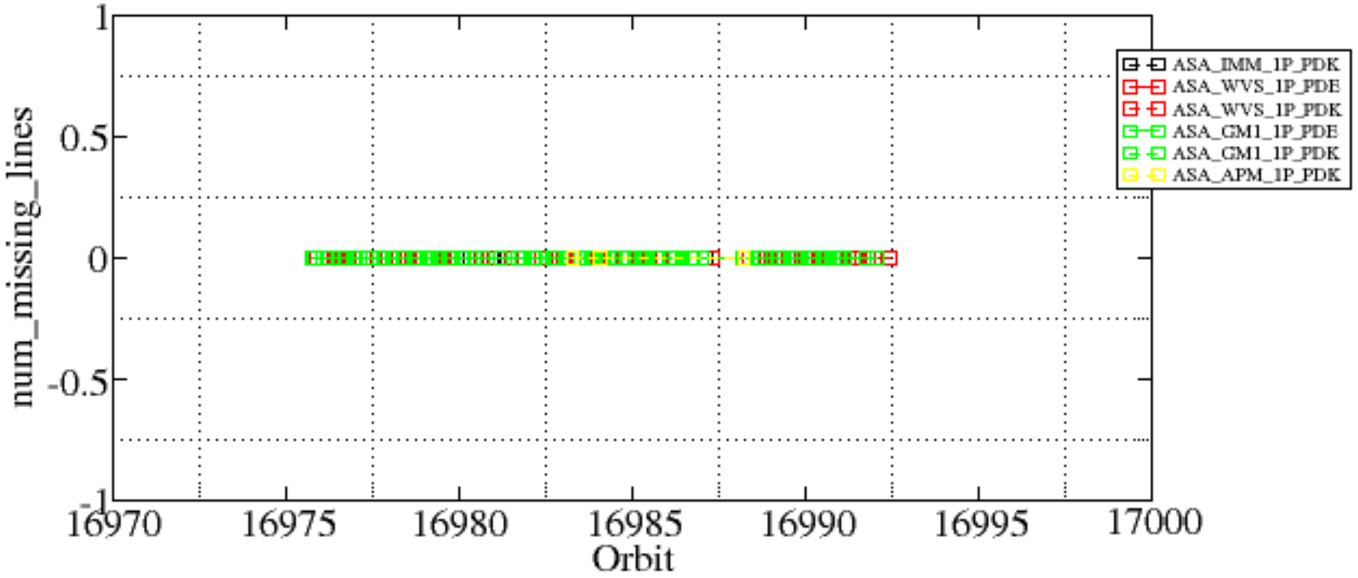
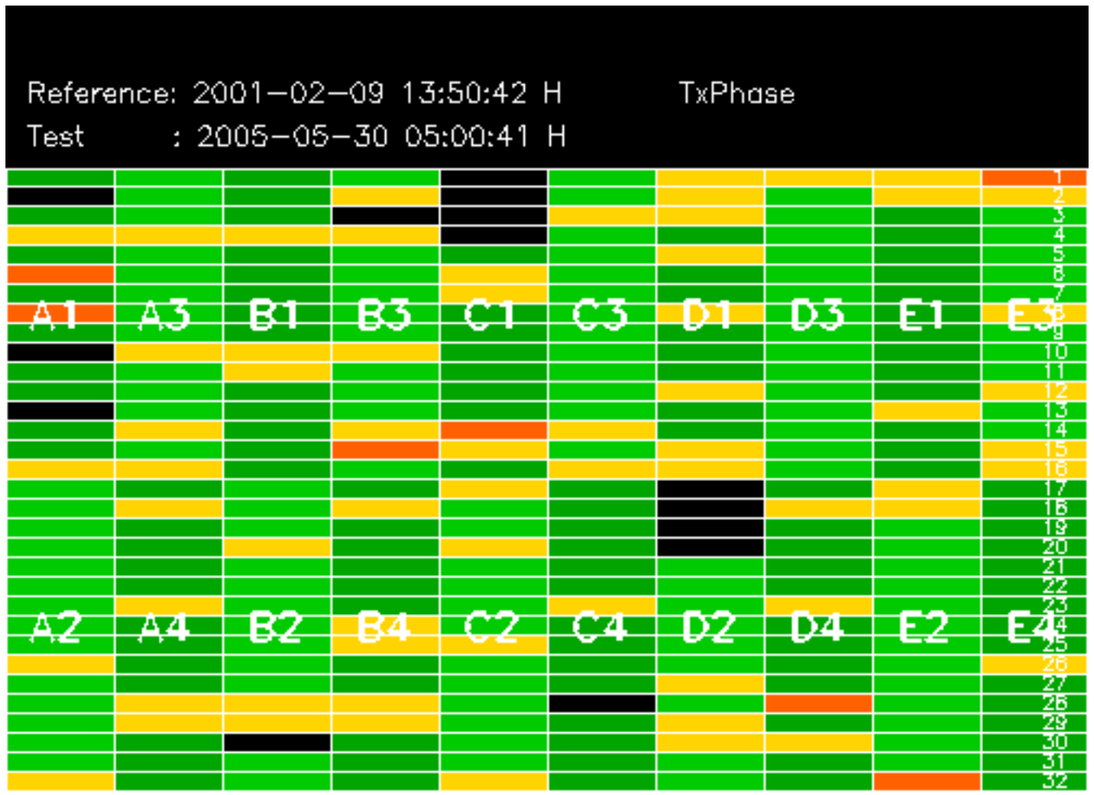
31
32

Summary of analysis for the last 3 days 2005053[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>
</table>


num_gaps
1
0.5
0
-0.5
-1
16970
16975
16980
16985
16990
16995
17000
Orbit
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_APM_1P_PDK


num_missing_lines
1
0.5
0
-0.5
-1
16970
16975
16980
16985
16990
16995
17000
Orbit
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
Test : 2005-05-30 05:00:41 H
TxPhase
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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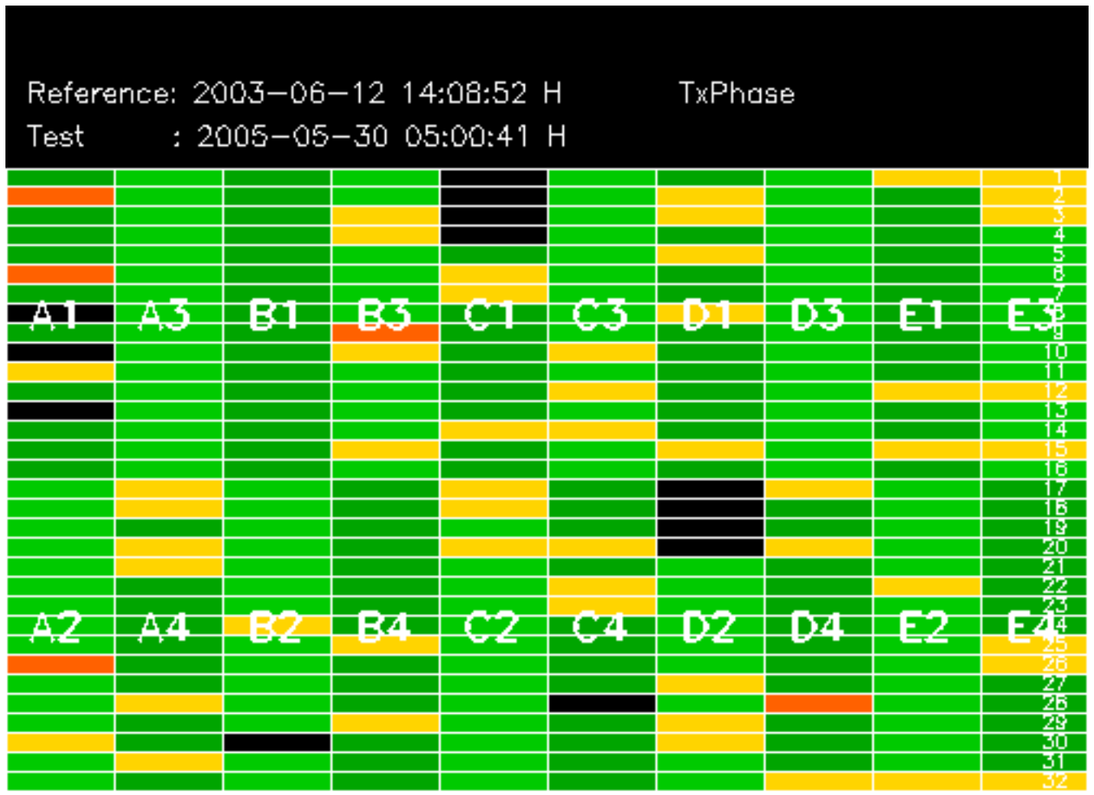
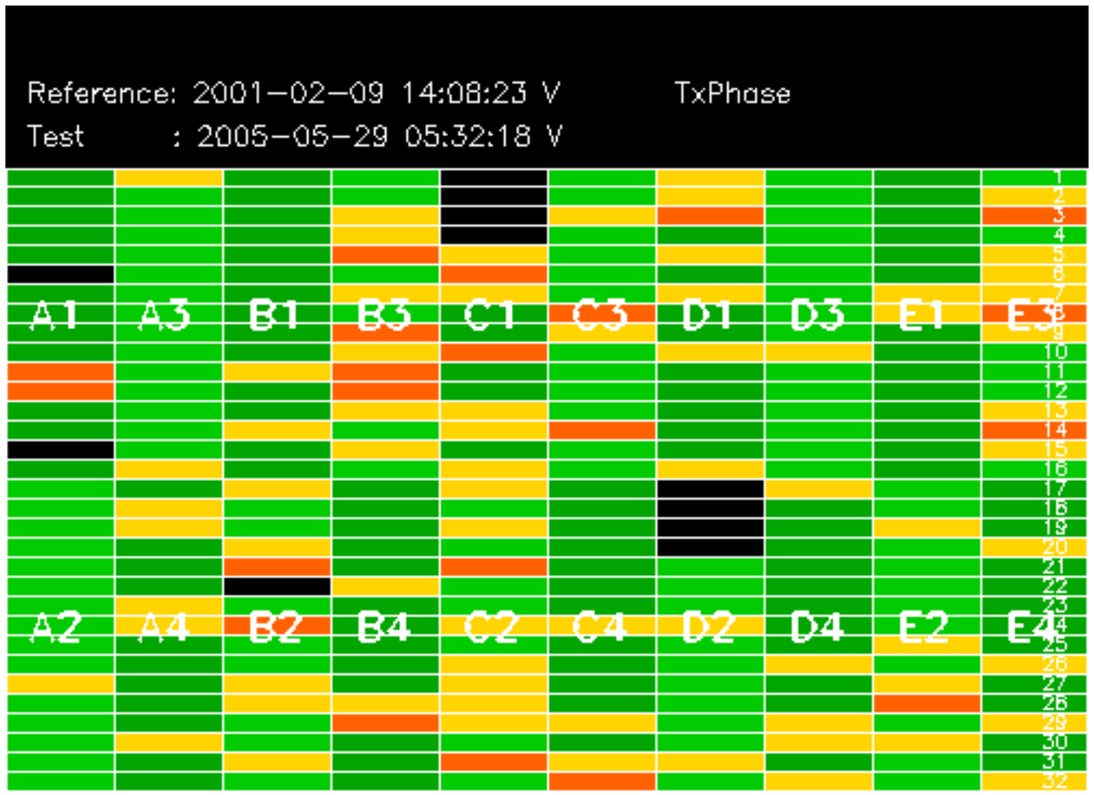
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-05-30 05:00:41 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 : 2005-05-29 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
1
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9
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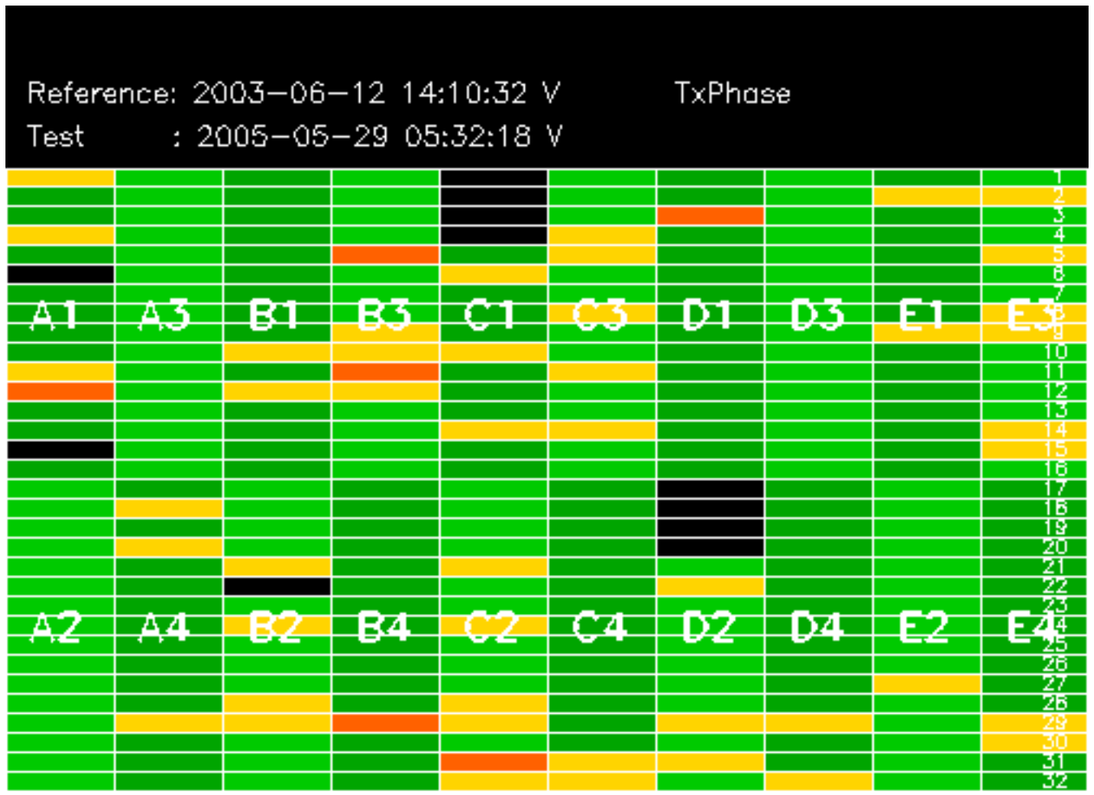
Reference: 2003-06-12 14:10:32 V
Test : 2005-05-29 05:32:18 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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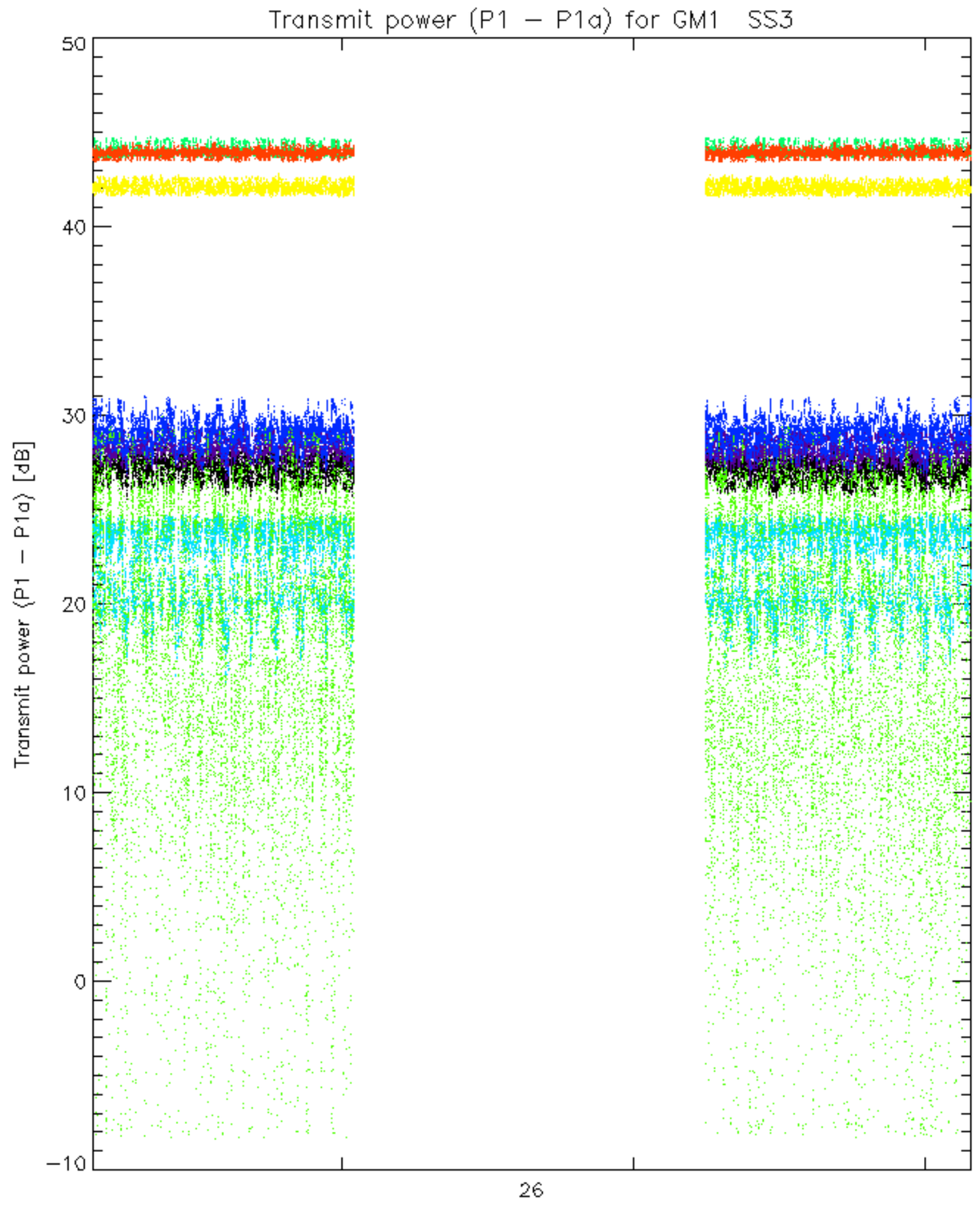
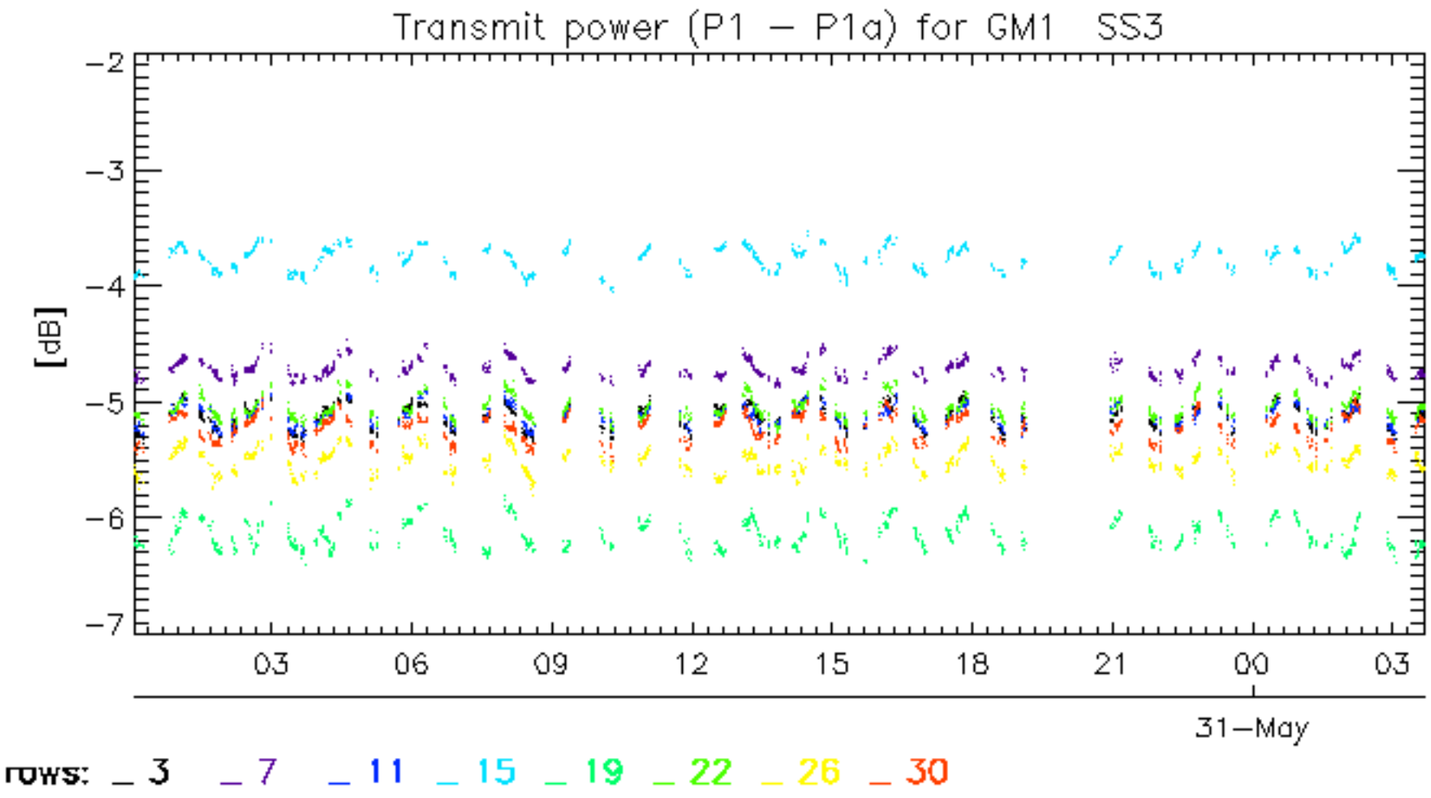
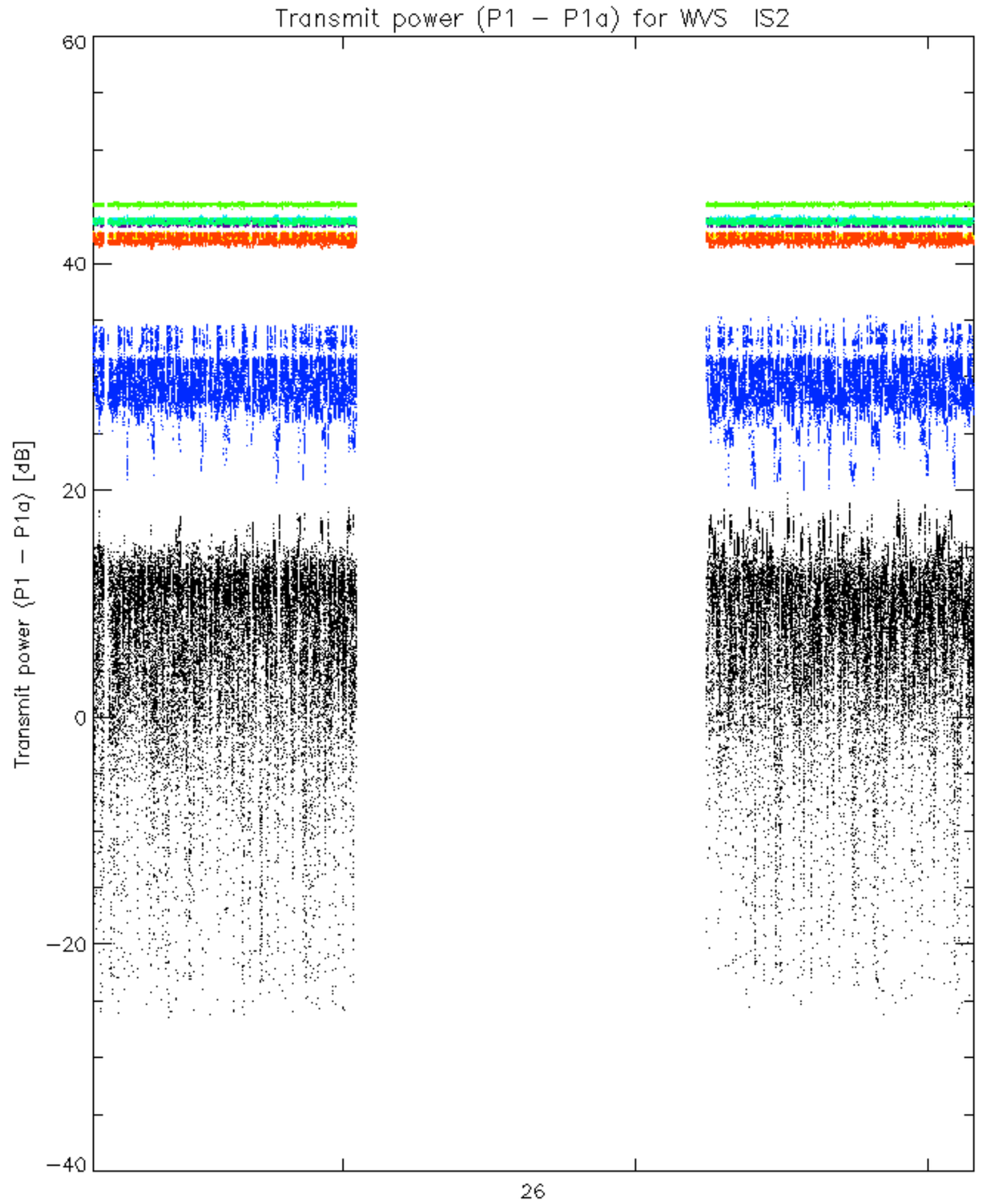
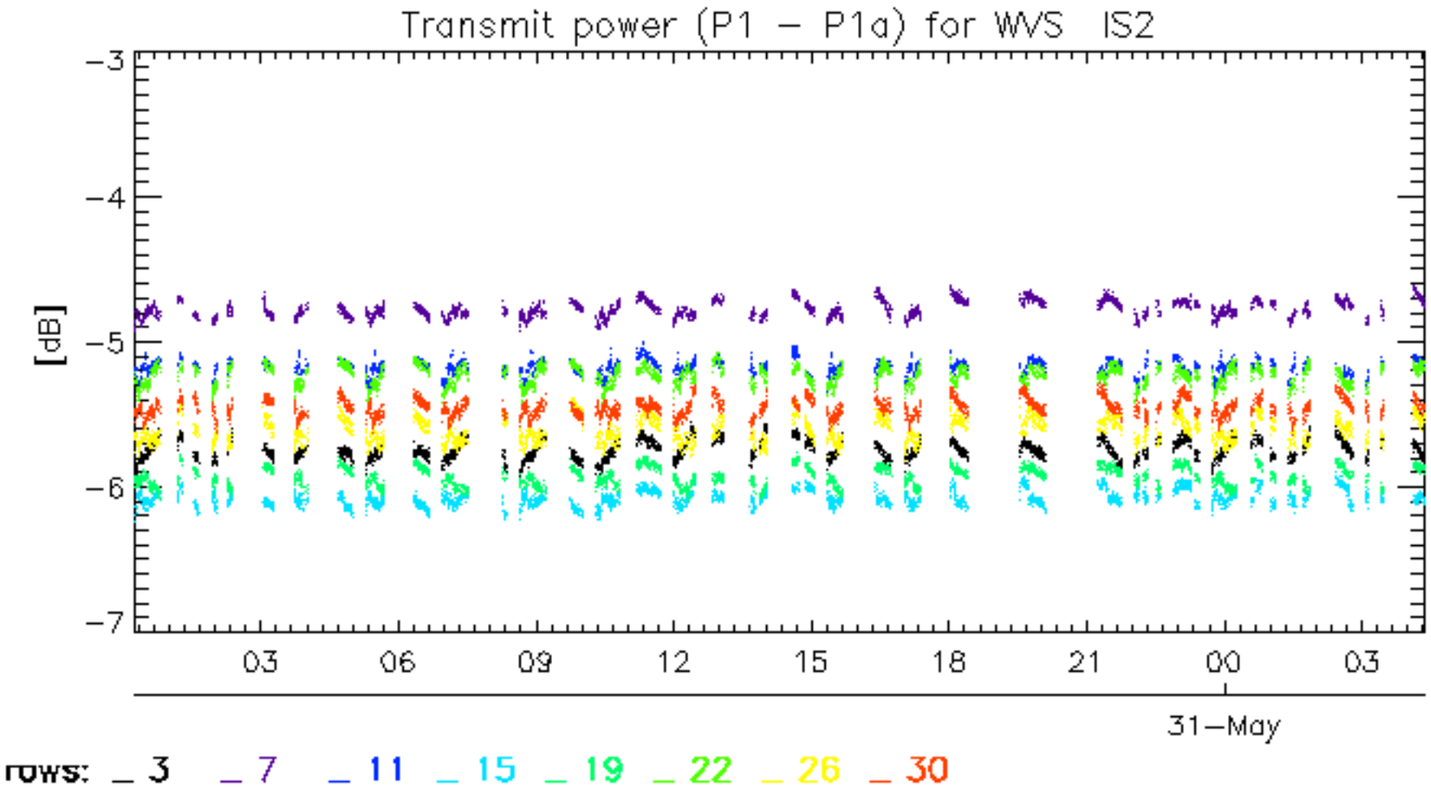

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
26
rows: 3 7 11 15 19 22 26 30


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

No unavailabilities during the reported period.