PRELIMINARY REPORT OF 050526

last update on Thu May 26 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 2005-05-25 00:00:00 to 2005-05-26 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	29	50	10	3	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	29	50	10	3	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	29	50	10	3	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	29	50	10	3	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	43	64	0	3	1
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	43	64	0	3	1
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	43	64	0	3	1
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	43	64	0	3	1

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	20050525 073846
H	20050526 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	-3.346551	0.006945	0.018179
7	P1	-3.113900	0.014824	-0.023405
11	P1	-4.649574	0.028584	0.057464
15	P1	-5.525320	0.045375	0.084179
19	P1	-3.726356	0.004008	-0.010427
22	P1	-4.590748	0.014297	0.014677
26	P1	-4.874179	0.018240	0.029952
30	P1	-7.141721	0.028033	0.010654
3	P1	-15.682997	0.088166	0.149493
7	P1	-15.508496	0.103178	-0.071790
11	P1	-21.299484	0.237548	-0.042997
15	P1	-11.389125	0.039562	0.158848
19	P1	-14.357506	0.034151	-0.065006
22	P1	-15.954086	0.335554	-0.038033
26	P1	-17.662191	0.207526	-0.129375
30	P1	-17.865171	0.236614	0.040968

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.051544	0.077010	0.021611
7	P2	-22.225990	0.100262	0.059425
11	P2	-14.082750	0.099035	0.144270
15	P2	-7.110912	0.084279	-0.028520
19	P2	-9.641801	0.089046	0.036931
22	P2	-16.891035	0.087897	0.006615
26	P2	-16.493841	0.090072	-0.015903
30	P2	-18.815899	0.077882	0.023856

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.168083	0.003114	0.011924
7	P3	-8.168083	0.003114	0.011924
11	P3	-8.168083	0.003114	0.011924
15	P3	-8.168083	0.003114	0.011924
19	P3	-8.168083	0.003114	0.011924
22	P3	-8.168083	0.003114	0.011924
26	P3	-8.168083	0.003114	0.011924
30	P3	-8.168083	0.003114	0.011924

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	-2.778145	0.012382	-0.032461
7	P1	-2.978337	0.030962	0.058035
11	P1	-3.960454	0.018122	0.010973
15	P1	-3.524247	0.023905	-0.003414
19	P1	-3.630733	0.015375	-0.005234
22	P1	-5.650496	0.049666	0.019086
26	P1	-7.314659	0.023589	0.019838
30	P1	-6.276377	0.054960	-0.019563
3	P1	-10.800935	0.044370	-0.063920
7	P1	-10.411949	0.159846	0.047051
11	P1	-12.546799	0.105787	0.010351
15	P1	-11.624046	0.074905	0.040671
19	P1	-15.622578	0.065190	-0.001509
22	P1	-25.597277	2.562404	-0.707141
26	P1	-15.666107	0.342707	0.035707
30	P1	-20.248753	1.180627	-0.004565

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.777172	0.038408	-0.002398
7	P2	-22.232929	0.046565	0.142257
11	P2	-10.003489	0.054679	0.108570
15	P2	-5.096221	0.040708	-0.038934
19	P2	-6.905273	0.054640	-0.011196
22	P2	-7.107471	0.036002	0.002690
26	P2	-23.931198	0.037320	-0.063800
30	P2	-21.945807	0.039722	-0.008250

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.002264	0.003645	0.011484
7	P3	-8.002142	0.003649	0.011784
11	P3	-8.002103	0.003655	0.011597
15	P3	-8.002209	0.003640	0.011675
19	P3	-8.002152	0.003663	0.011502
22	P3	-8.002255	0.003639	0.011432
26	P3	-8.002079	0.003655	0.011645
30	P3	-8.002174	0.003677	0.011468

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	0.000436728
	stdev	2.33156e-07
MEAN Q	mean	0.000462872
	stdev	2.45060e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.125252
	stdev	0.00106196
STDEV Q	mean	0.125493
	stdev	0.00107216

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005052[456]
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_1PNPDK20050524_085741_000000542037_00308_16895_5045.N1	0	1

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

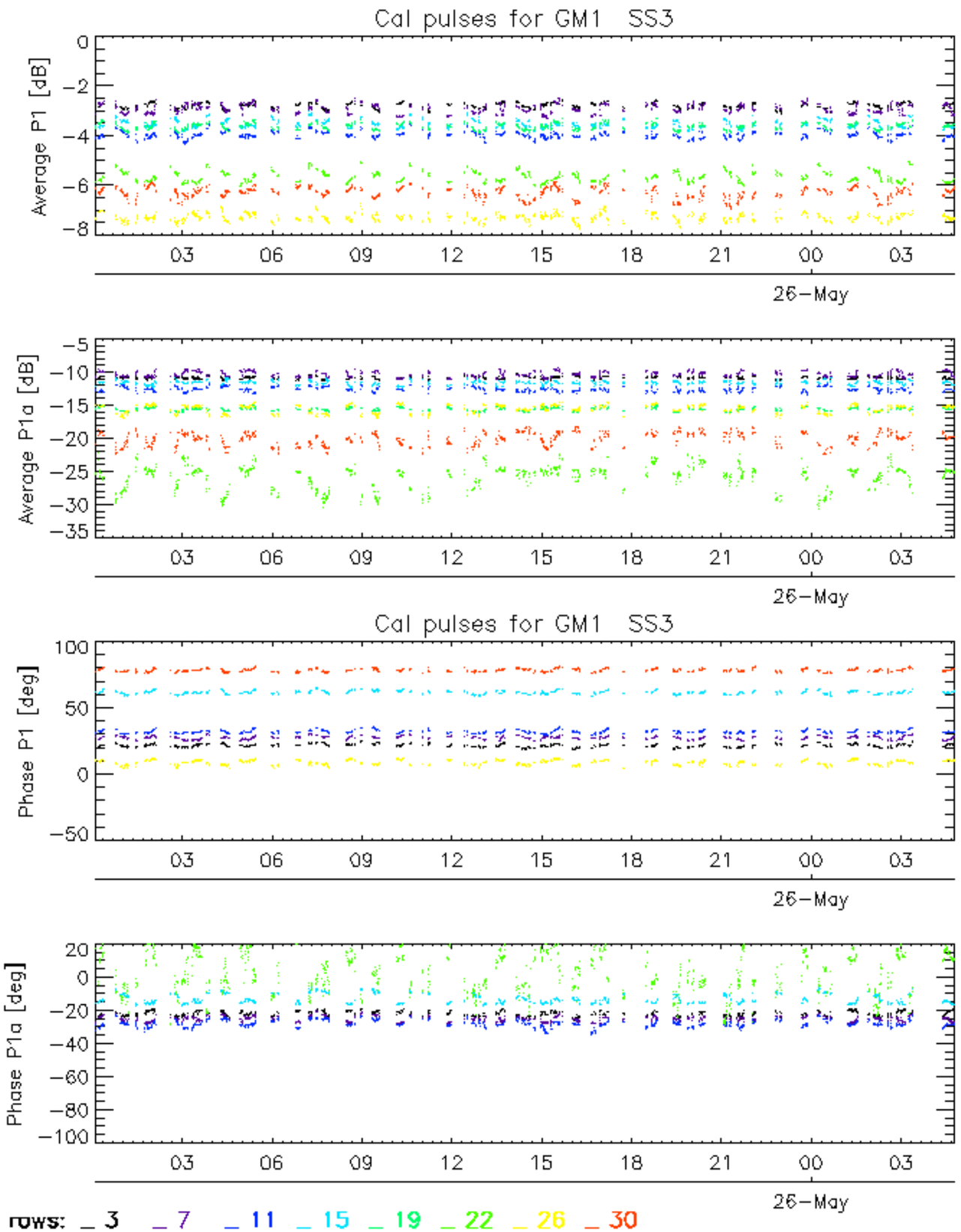
Descending

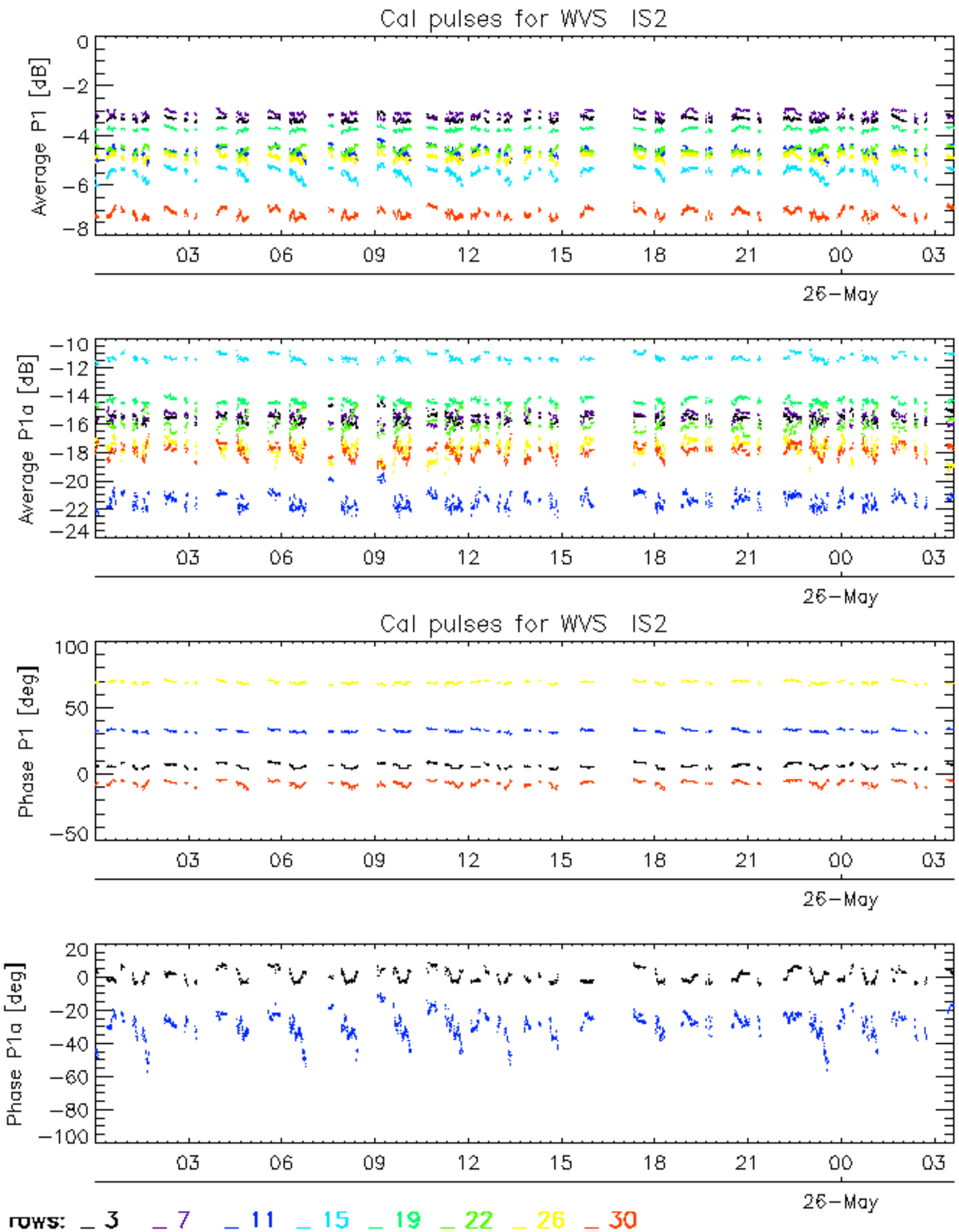
7.5 - Absolute Doppler for GM1

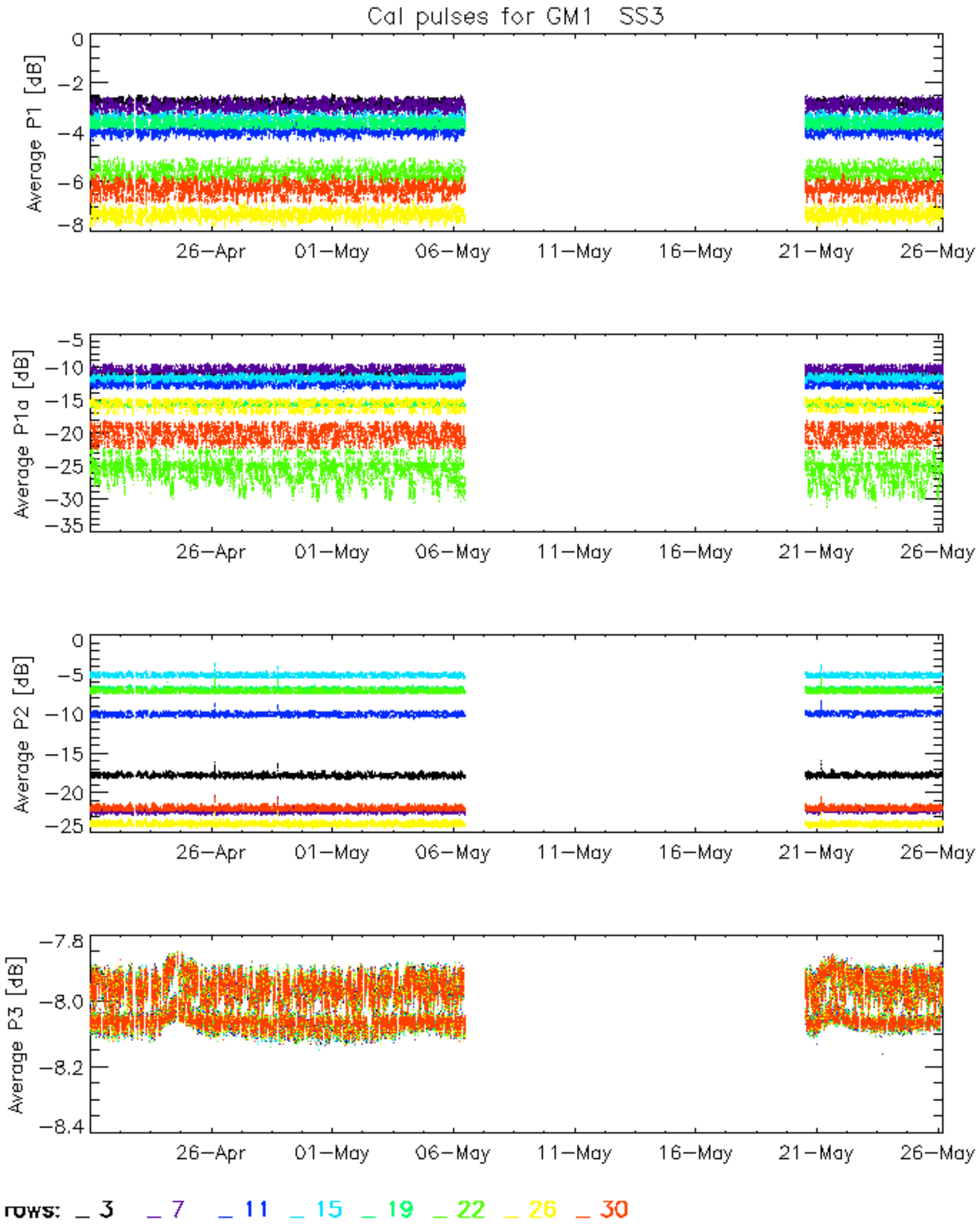
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

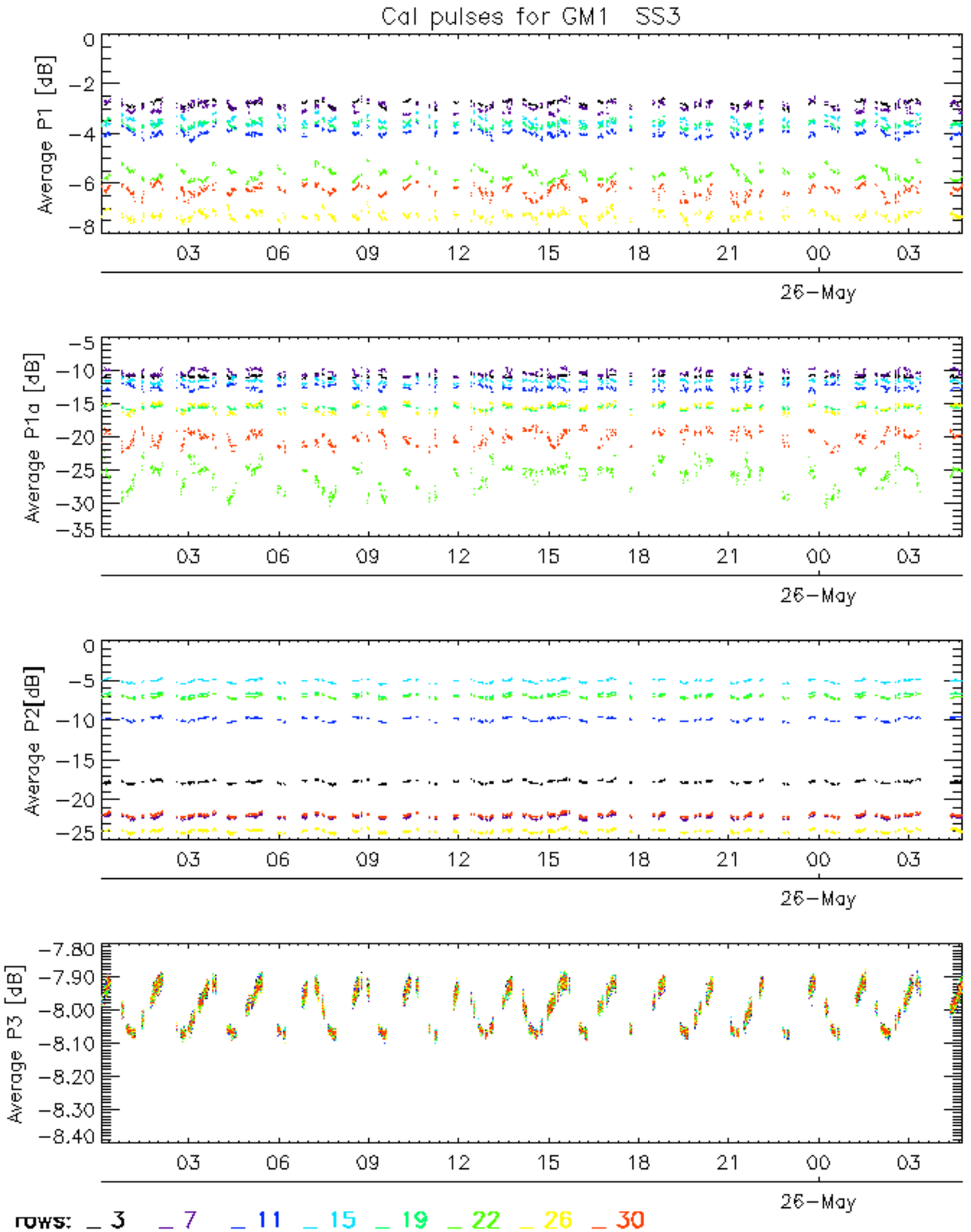
7.6 - Doppler evolution versus ANX for GM1

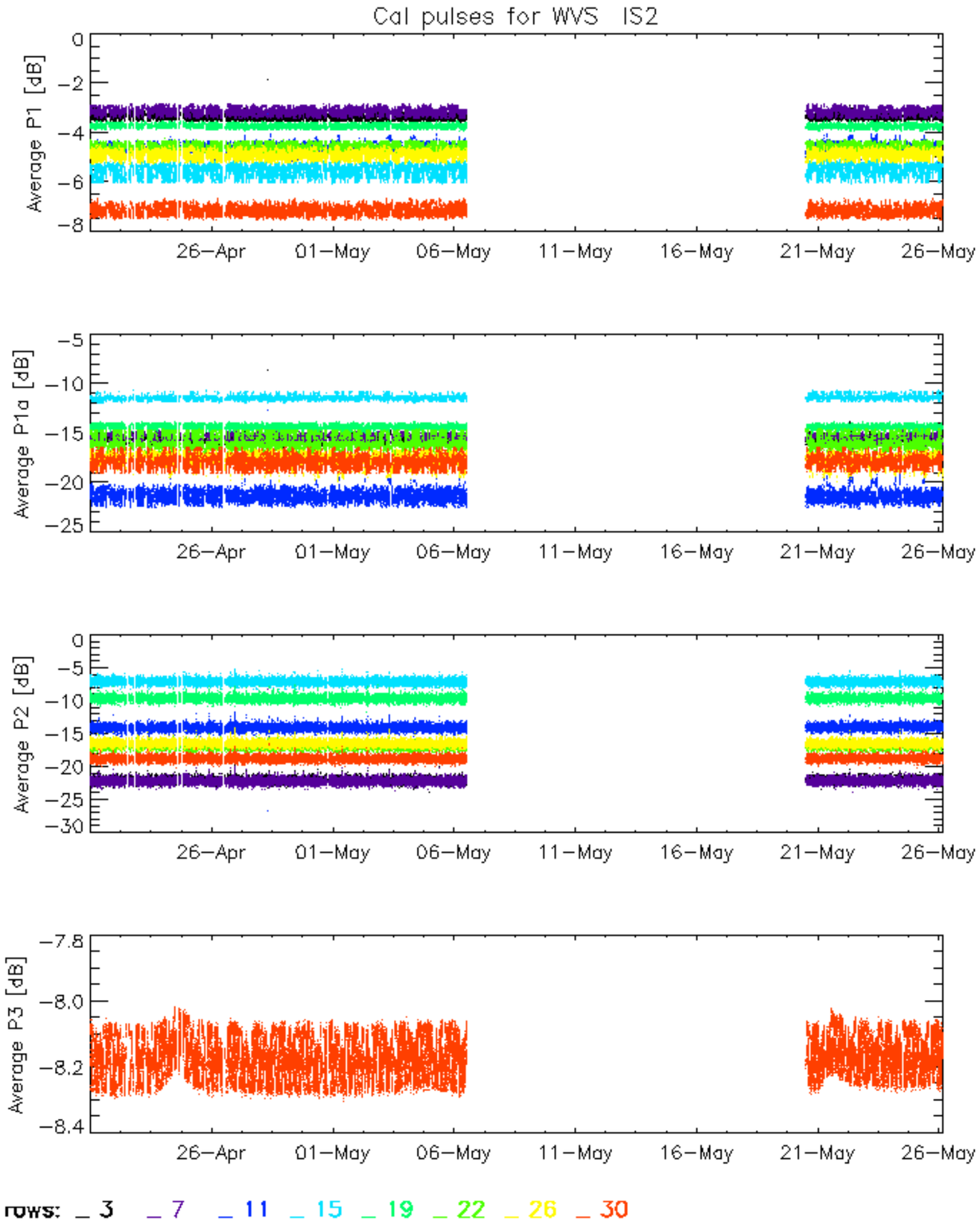
Evolution Doppler error versus ANX
☒

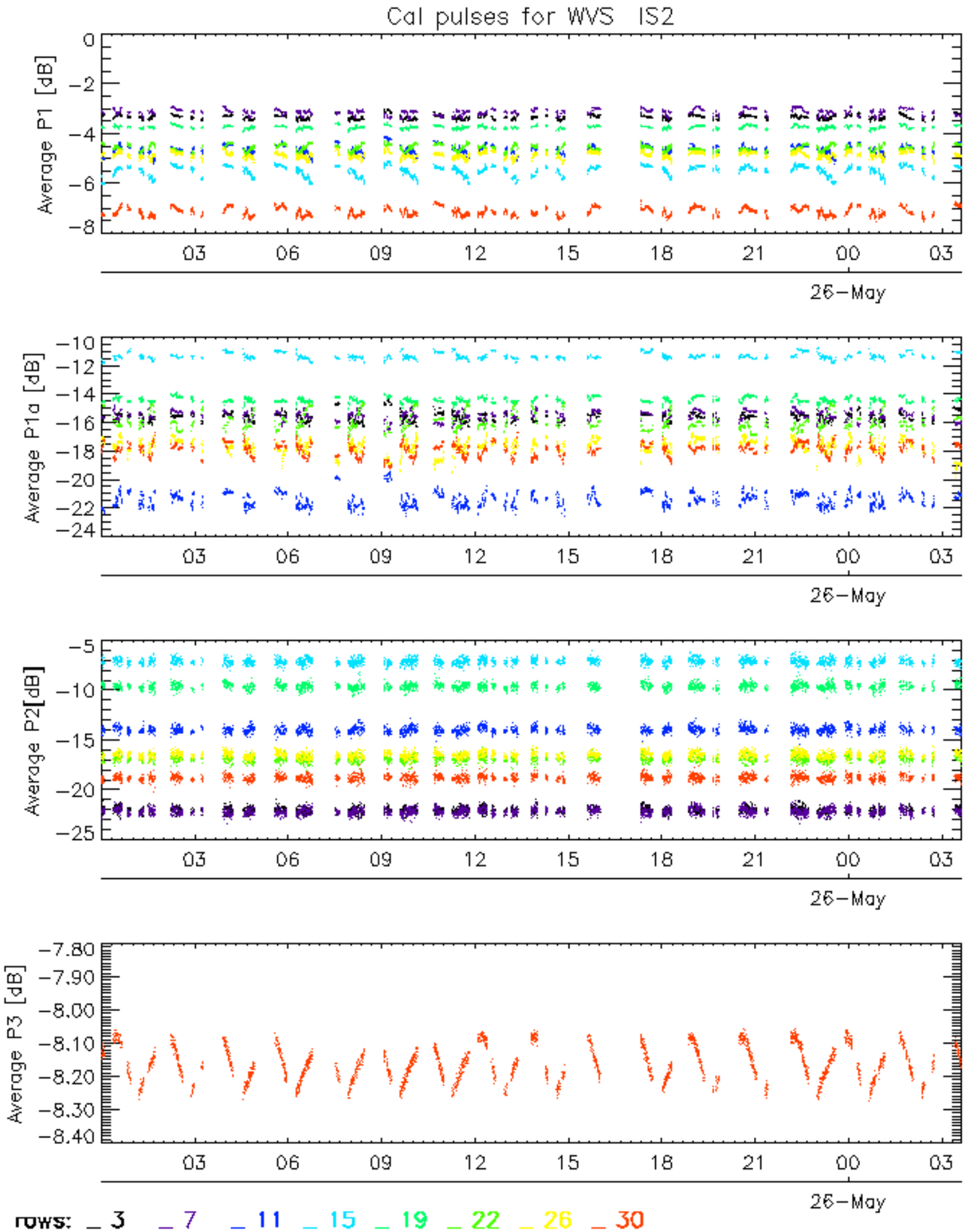

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
26−May
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
26−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

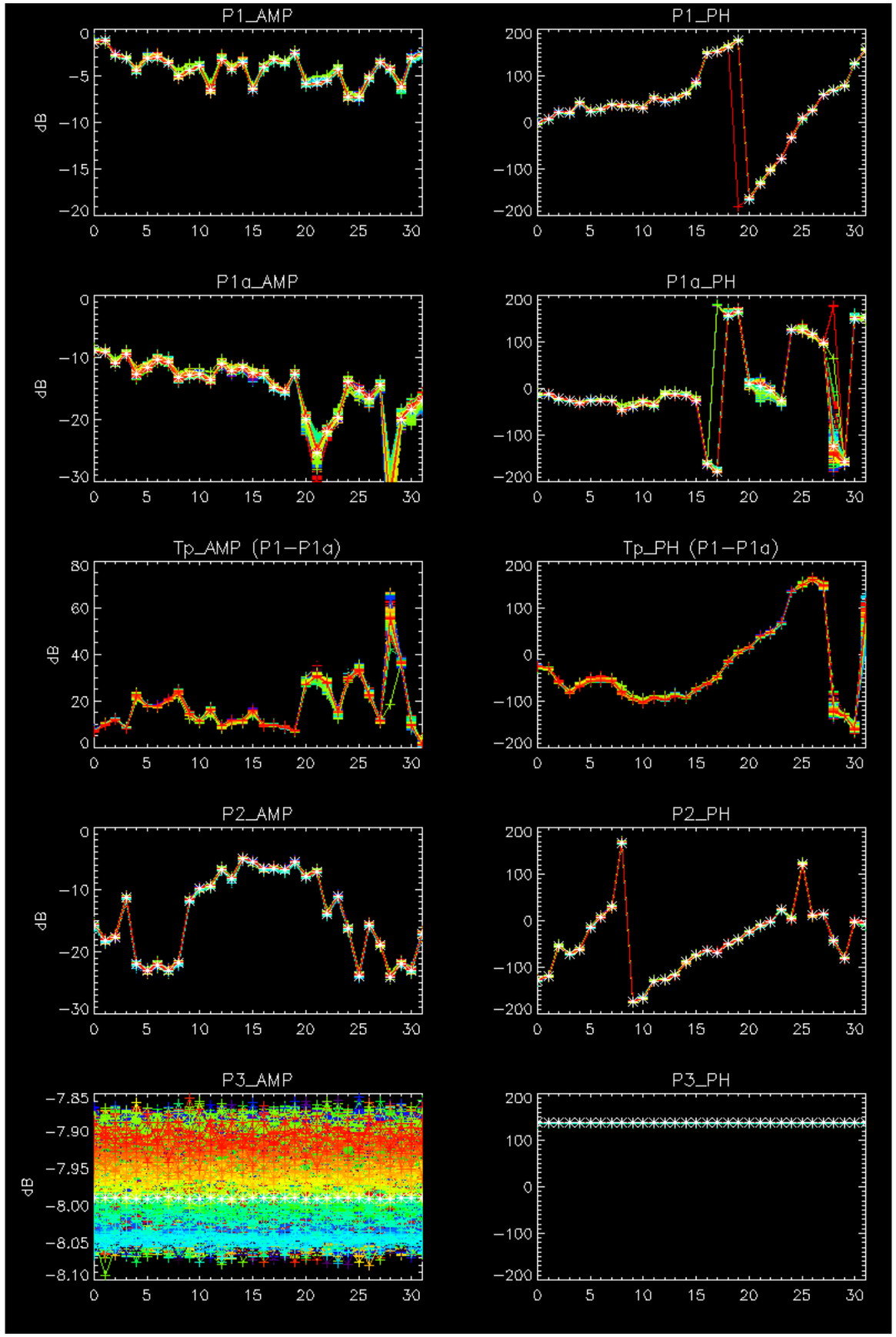

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
26−Apr
01−May
06−May
11−May
16−May
21−May
26−May
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

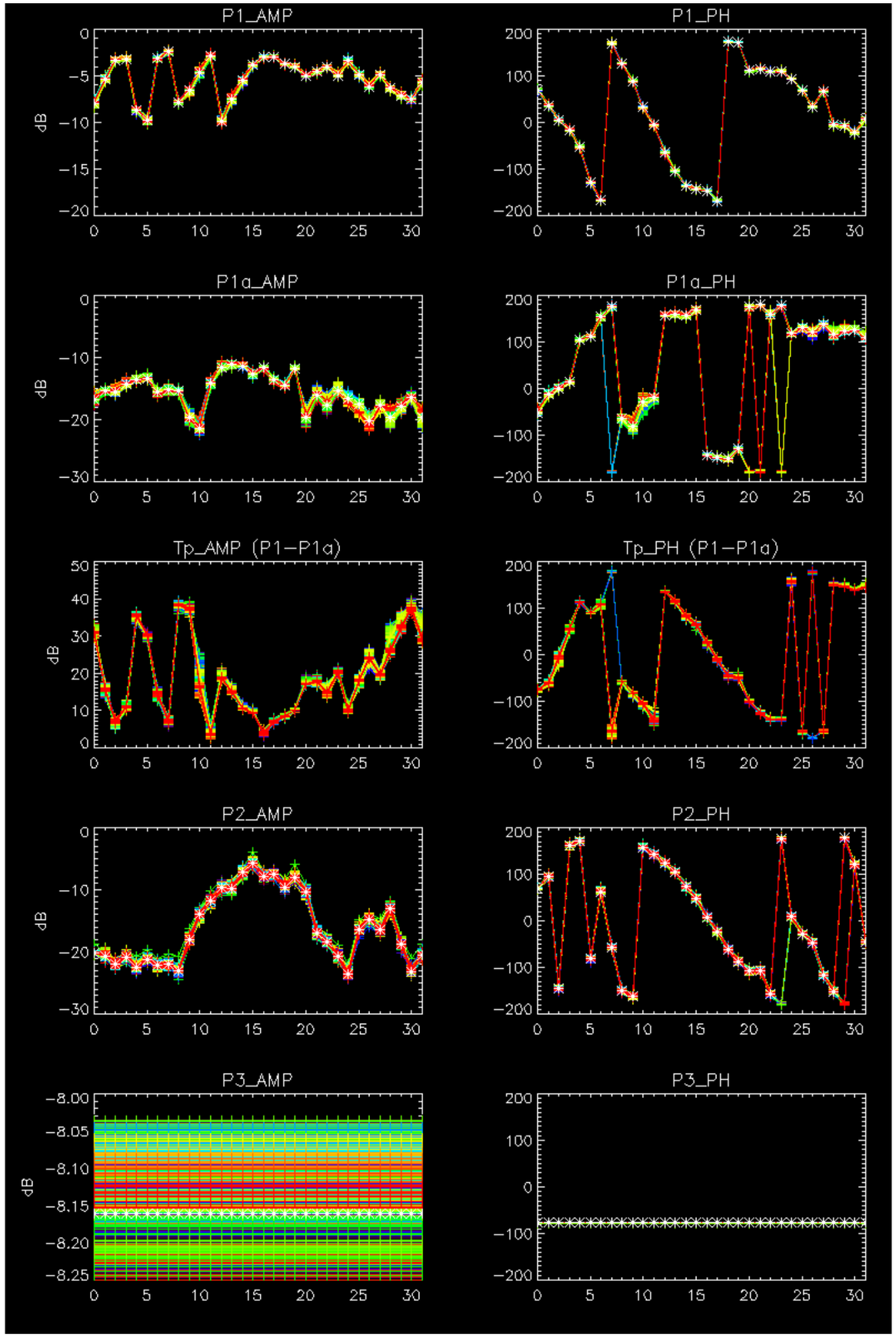

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
26−May
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
0
−5
−10
−15
−20
−25
−30
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
26−Apr
01−May
06−May
11−May
16−May
21−May
26−May
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
26−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

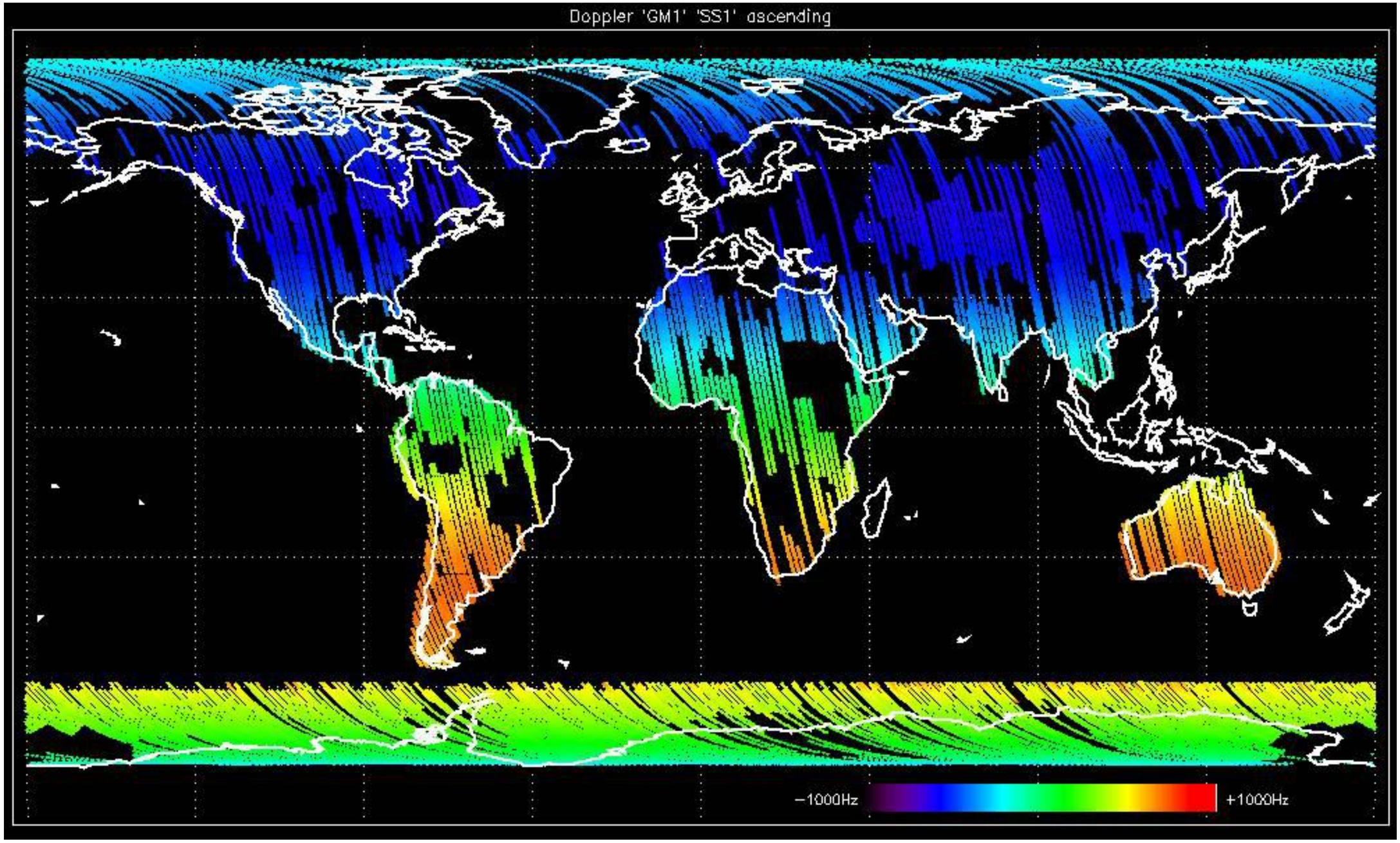
No anomalies observed.

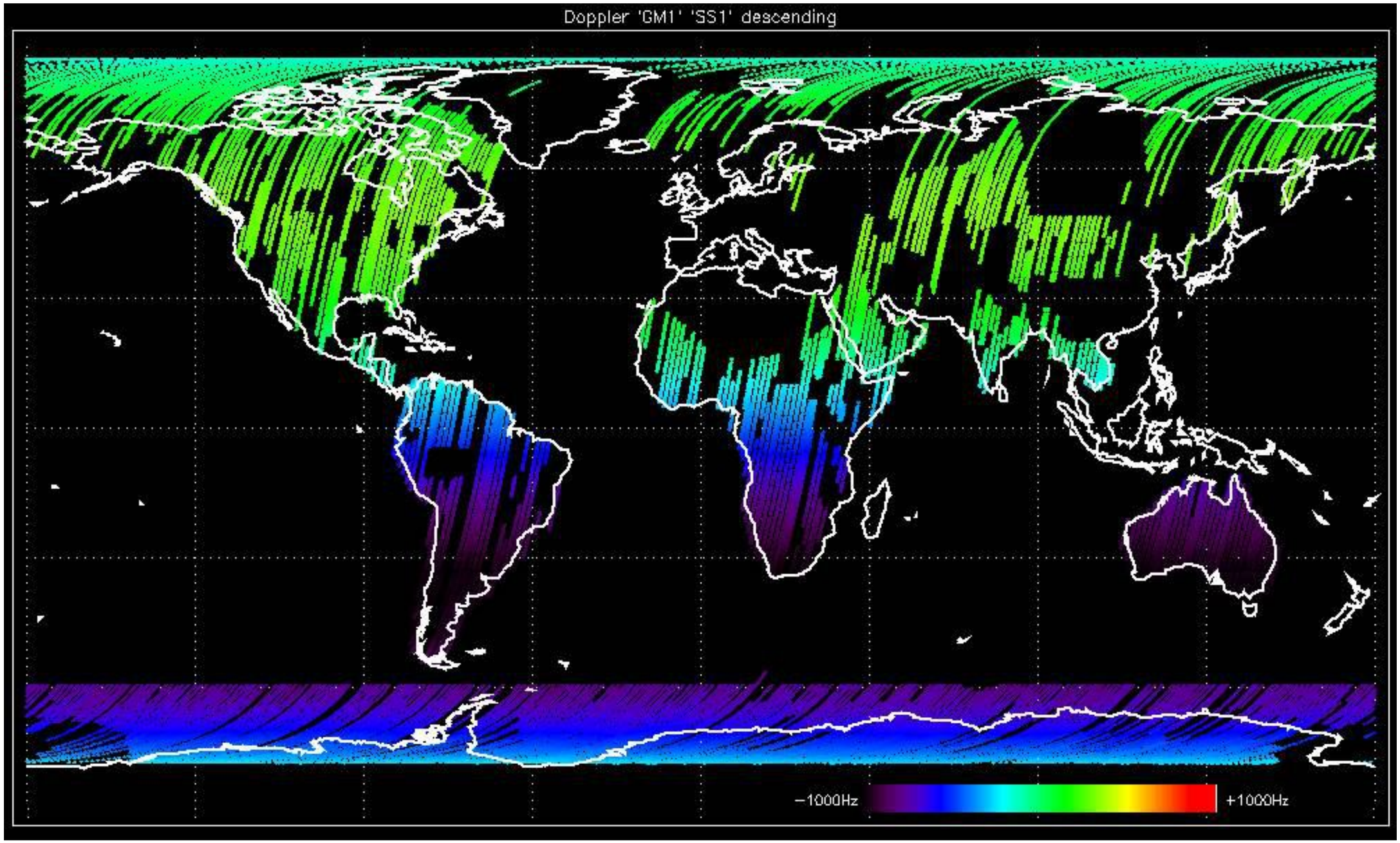

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

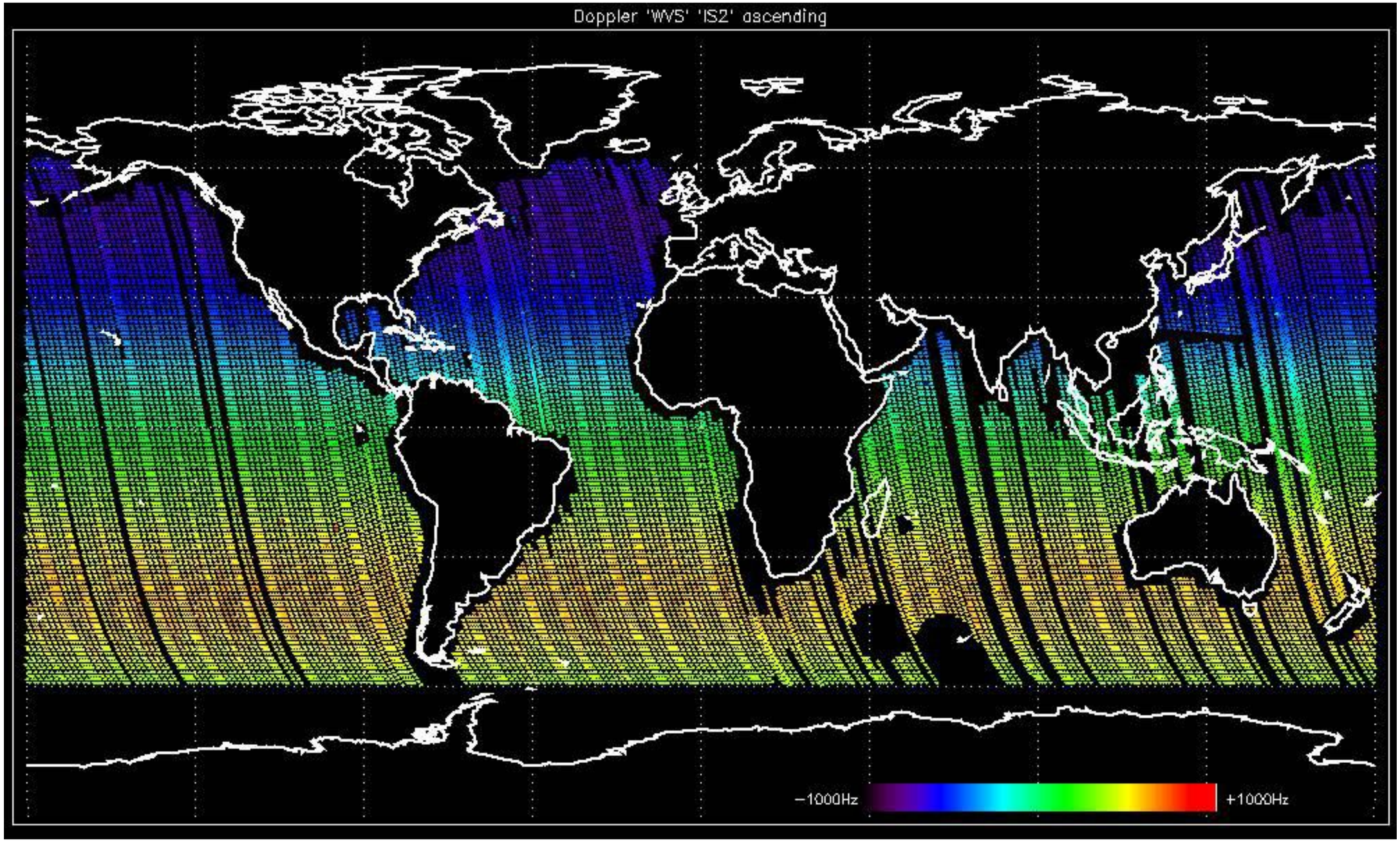

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

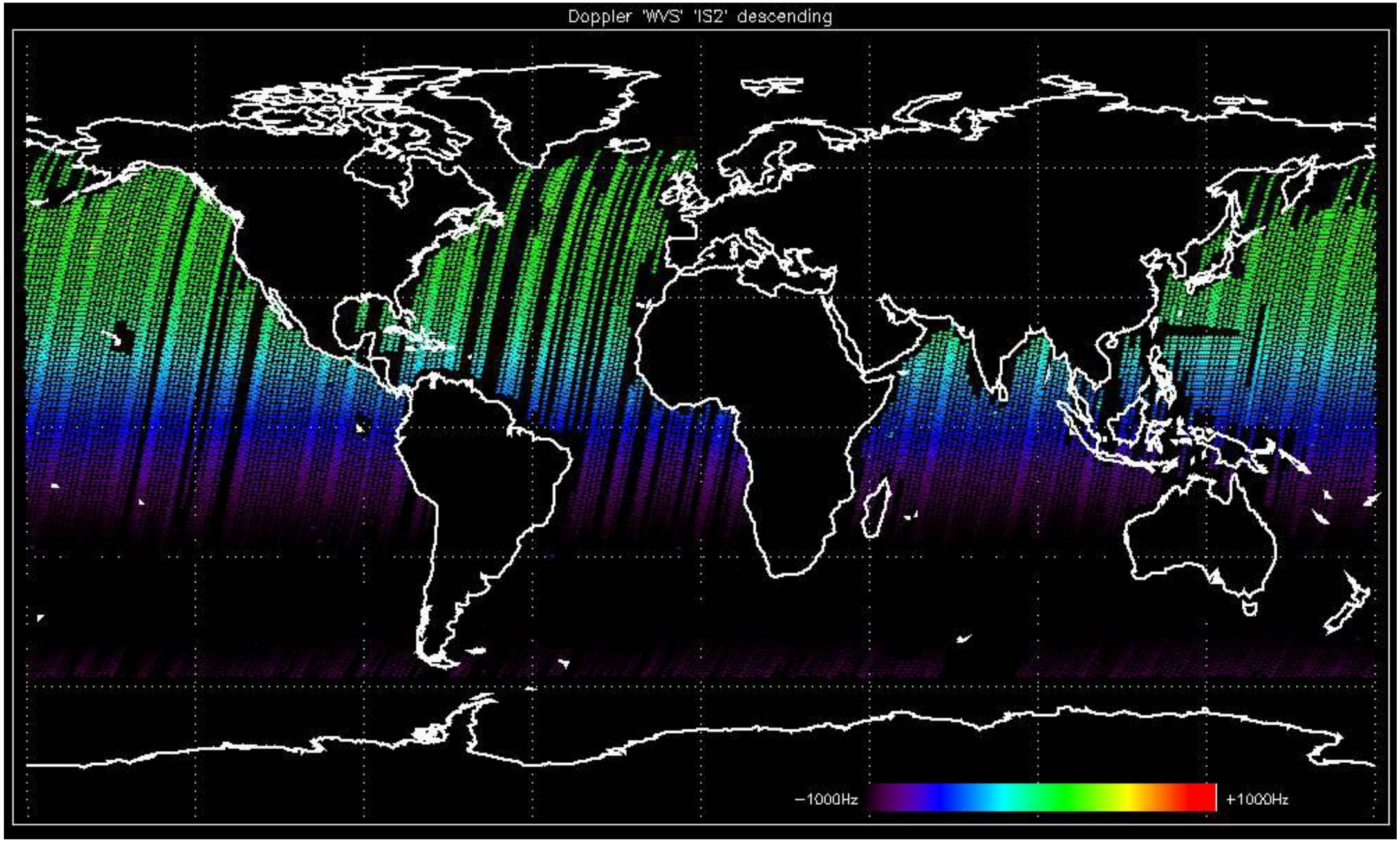
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

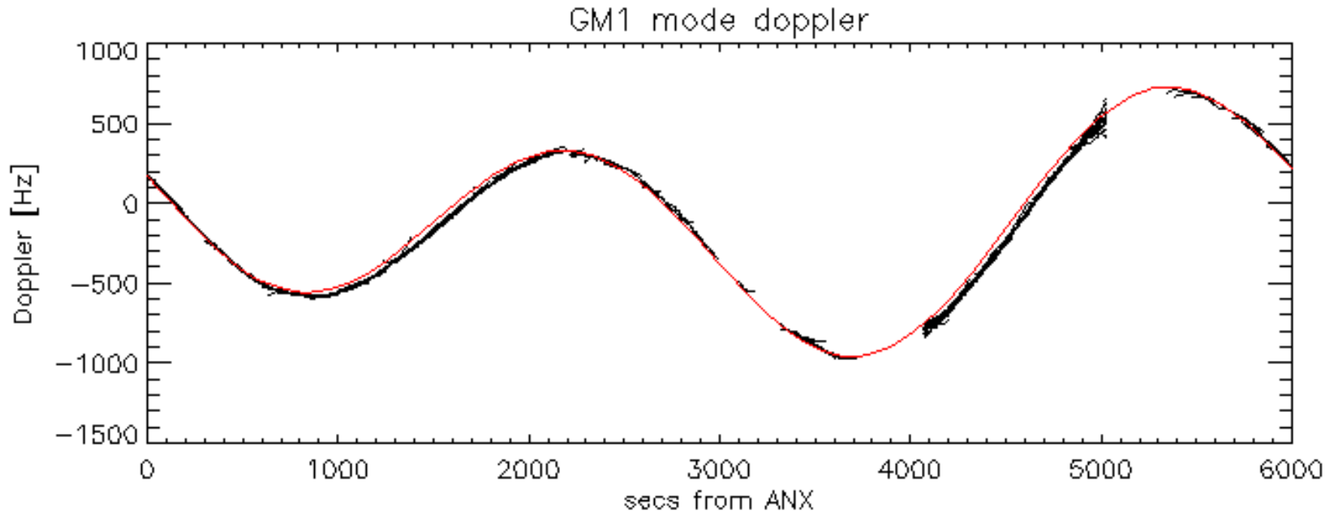
Preliminary report.The data is not yet controled

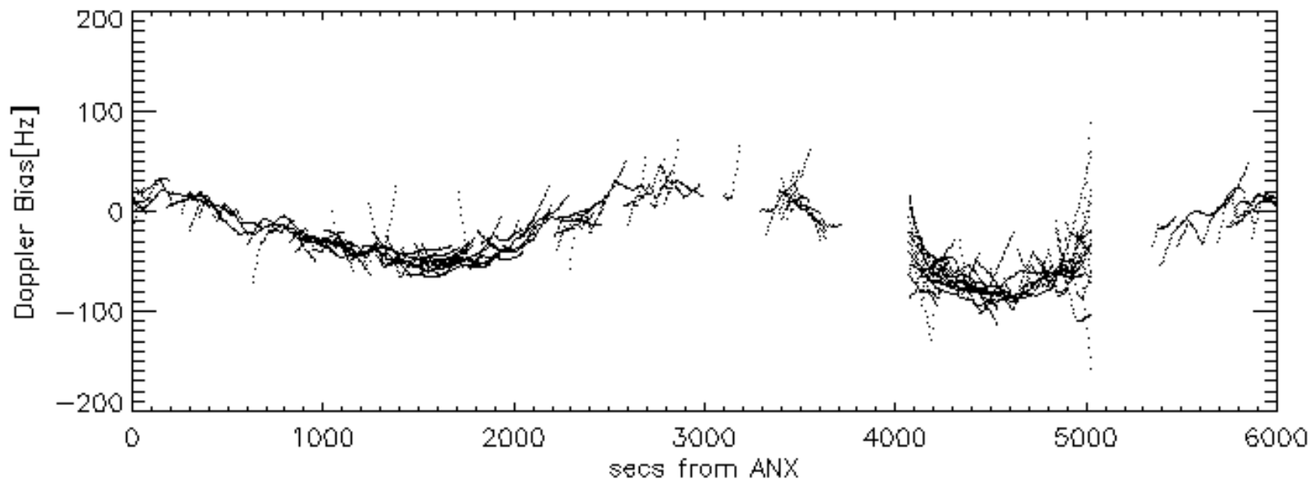

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

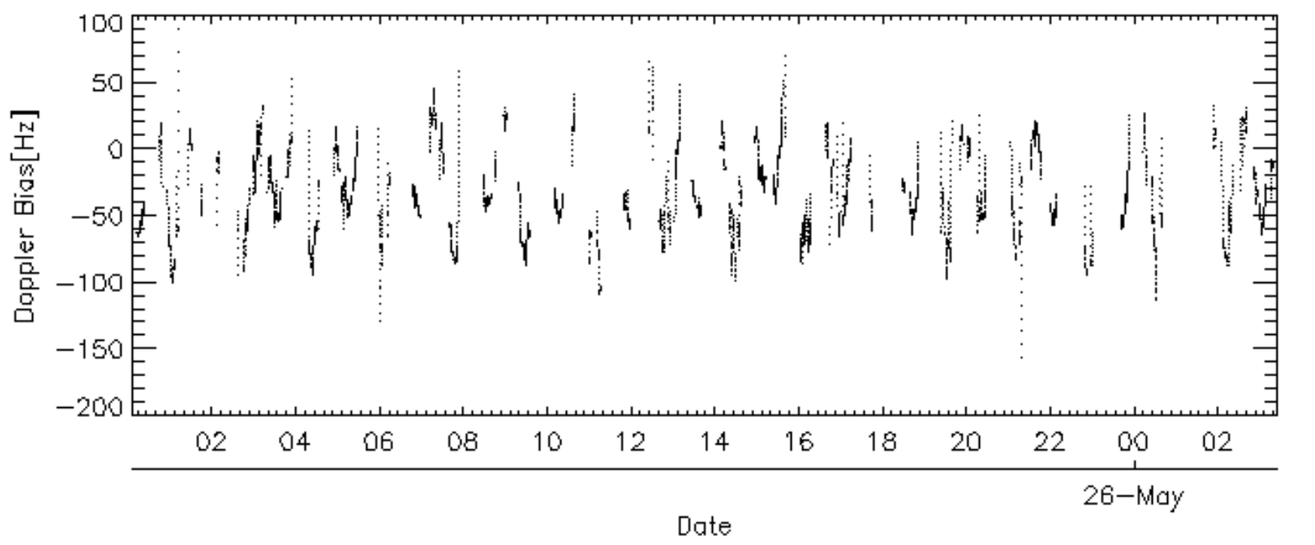

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

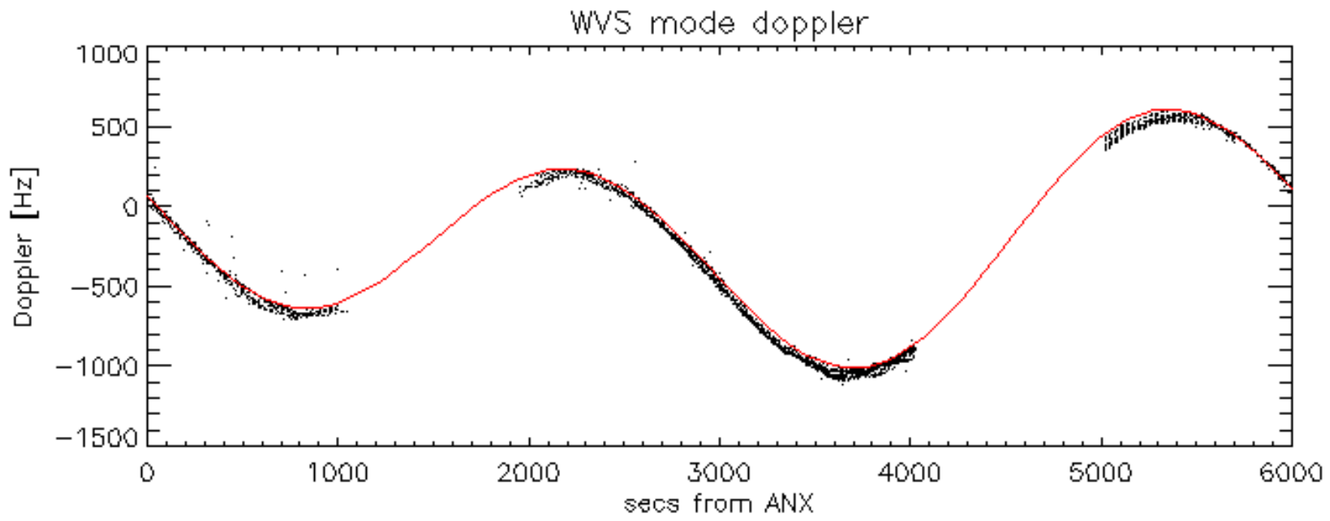

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

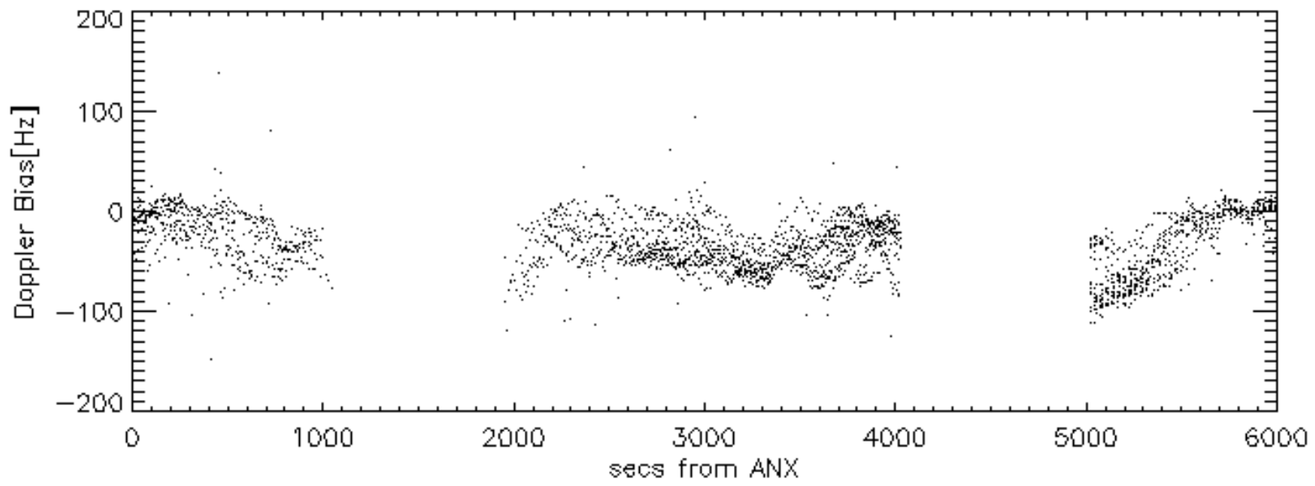

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

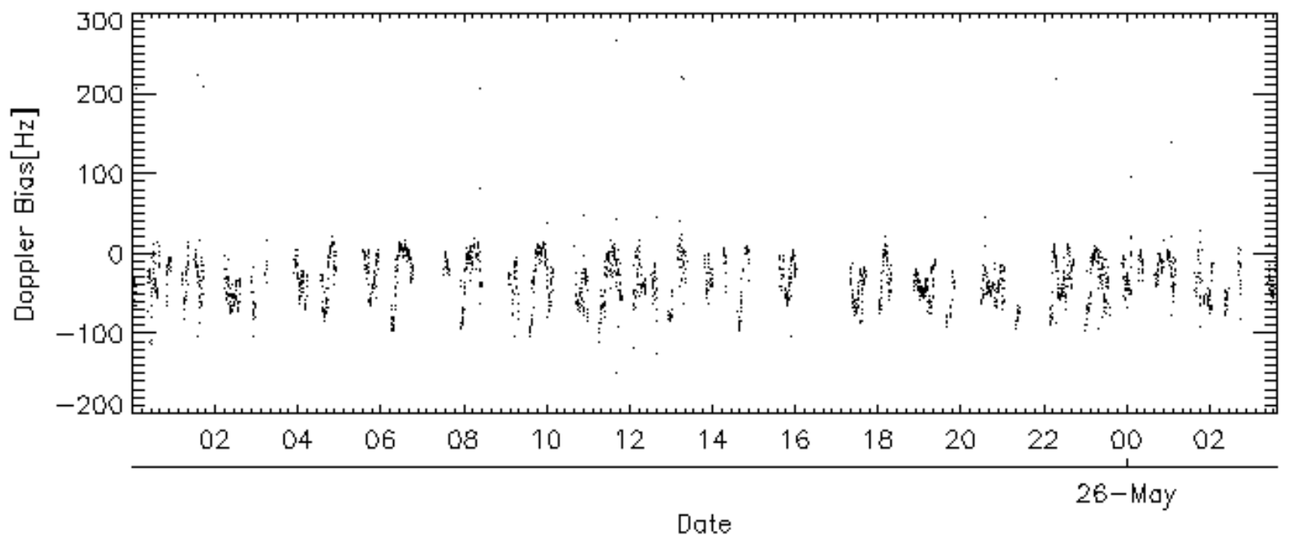

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

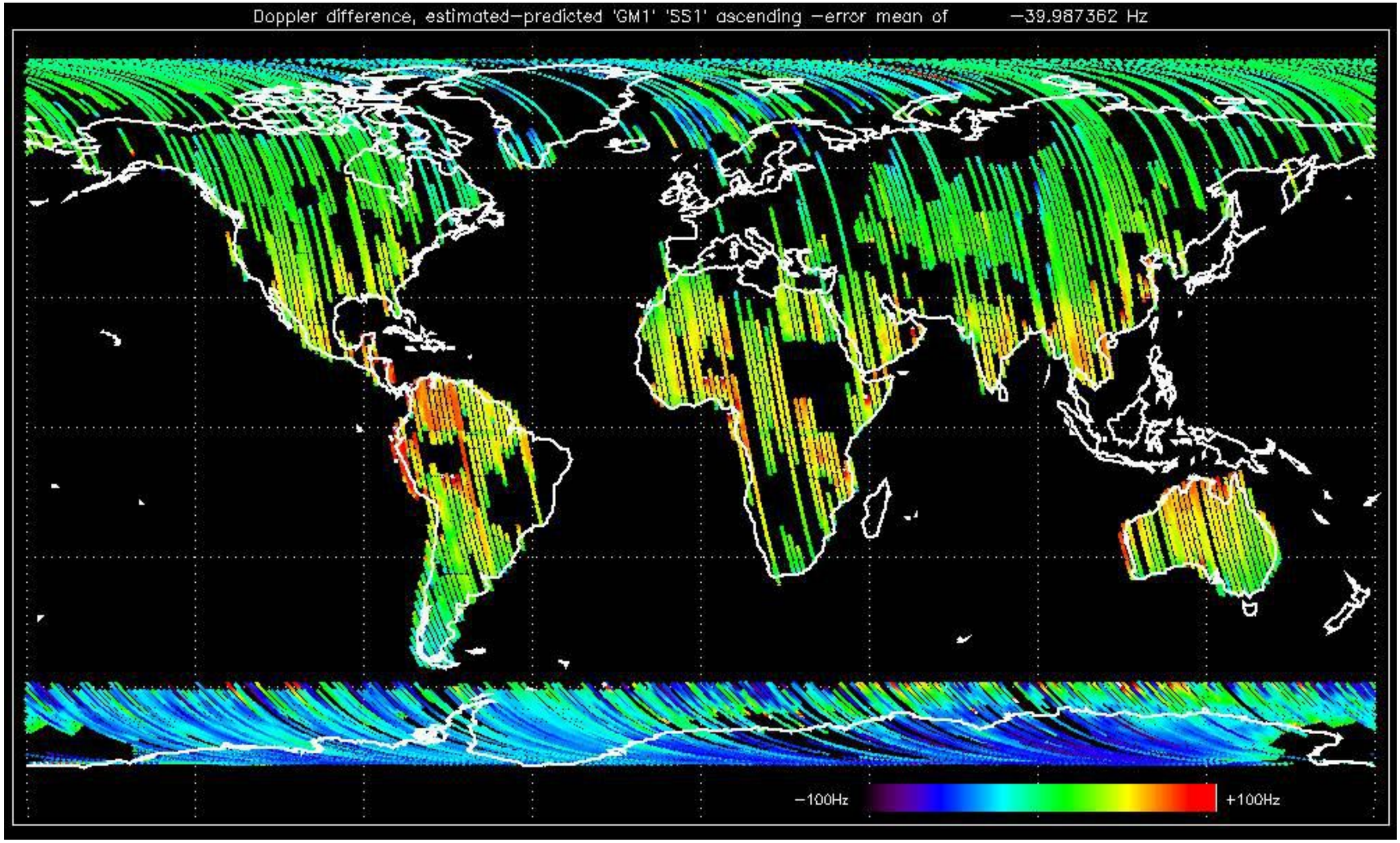

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

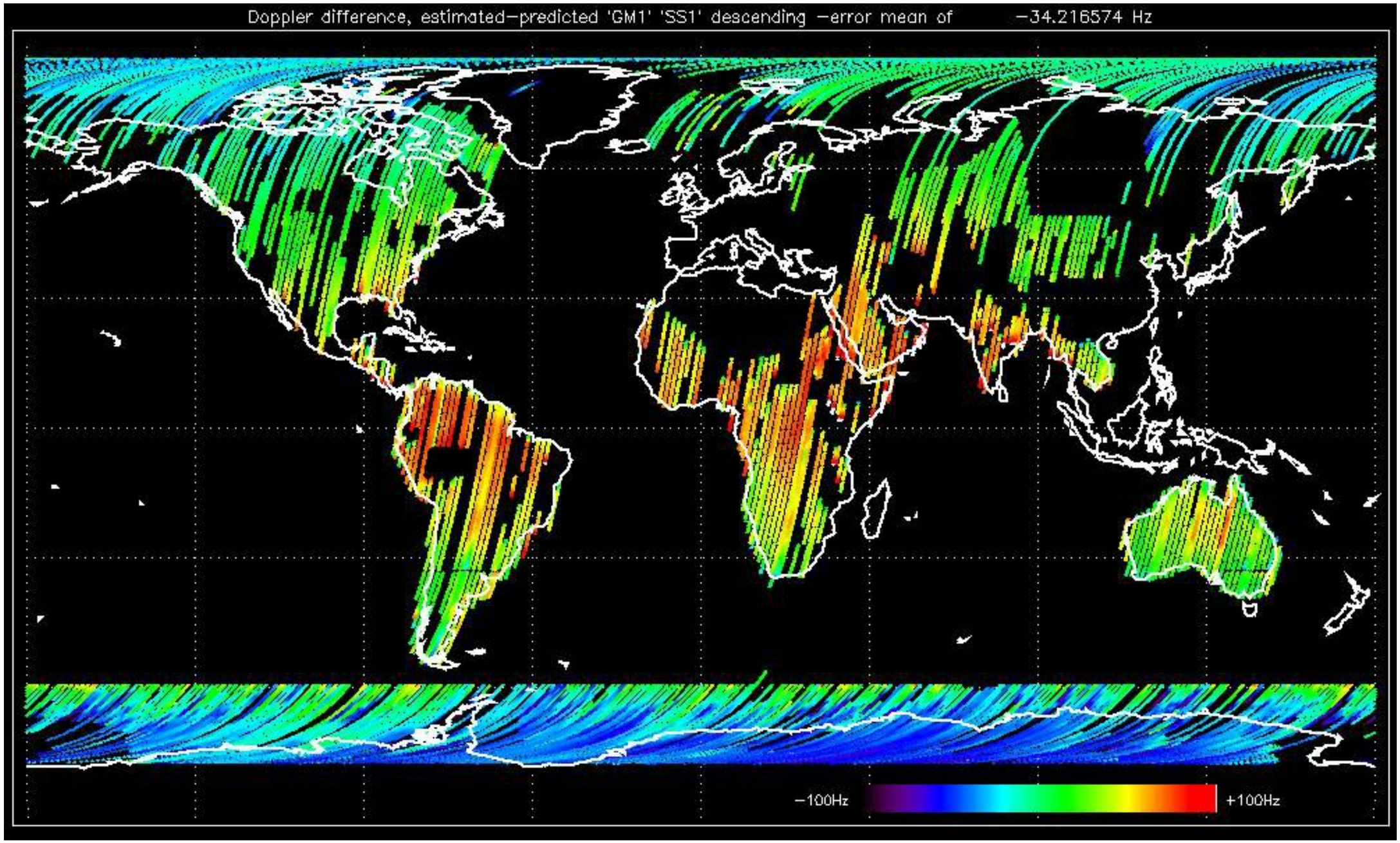

Doppler Bias[Hz]
100
50
0
−50
−100
−150
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
26−May
Date

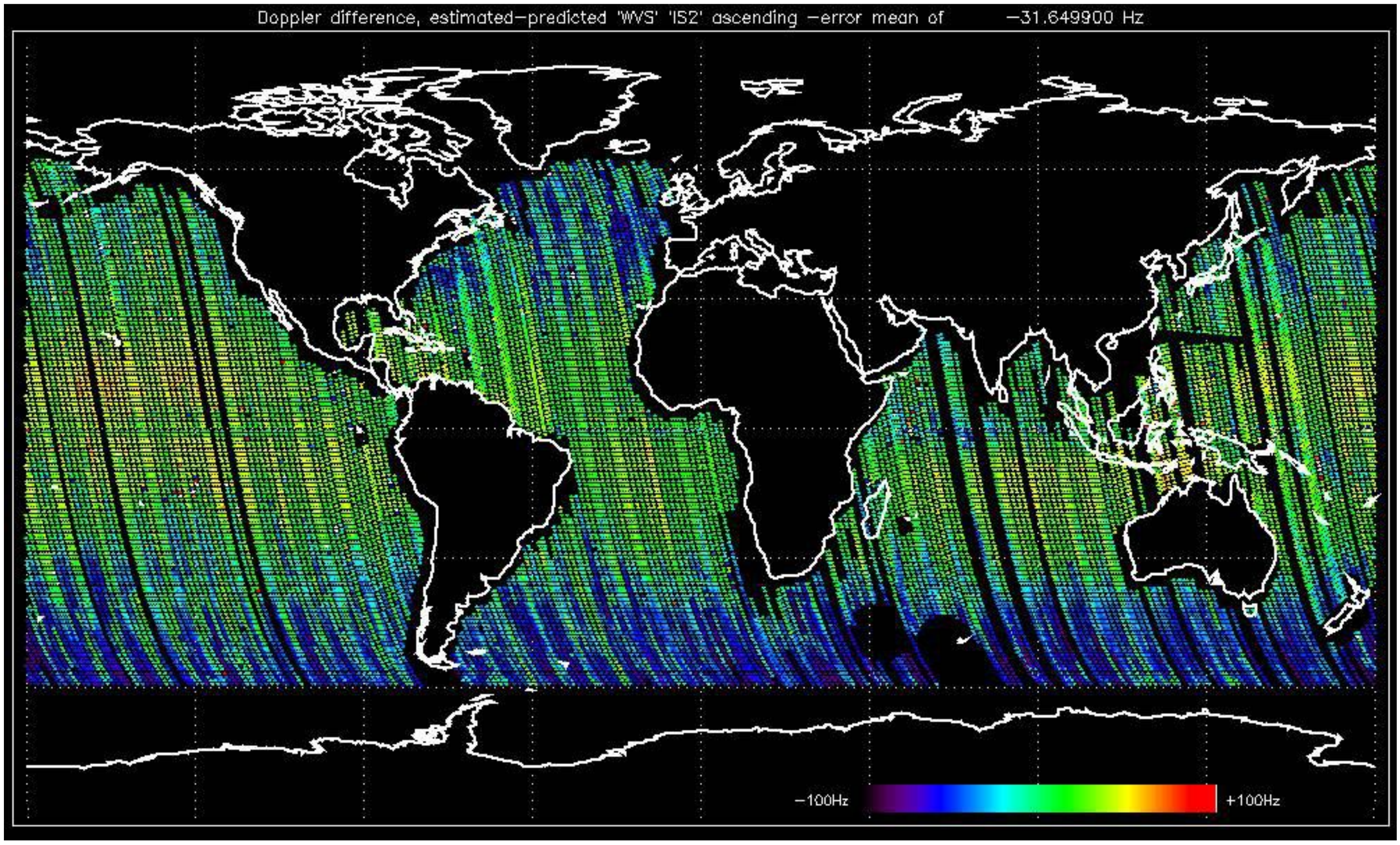

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

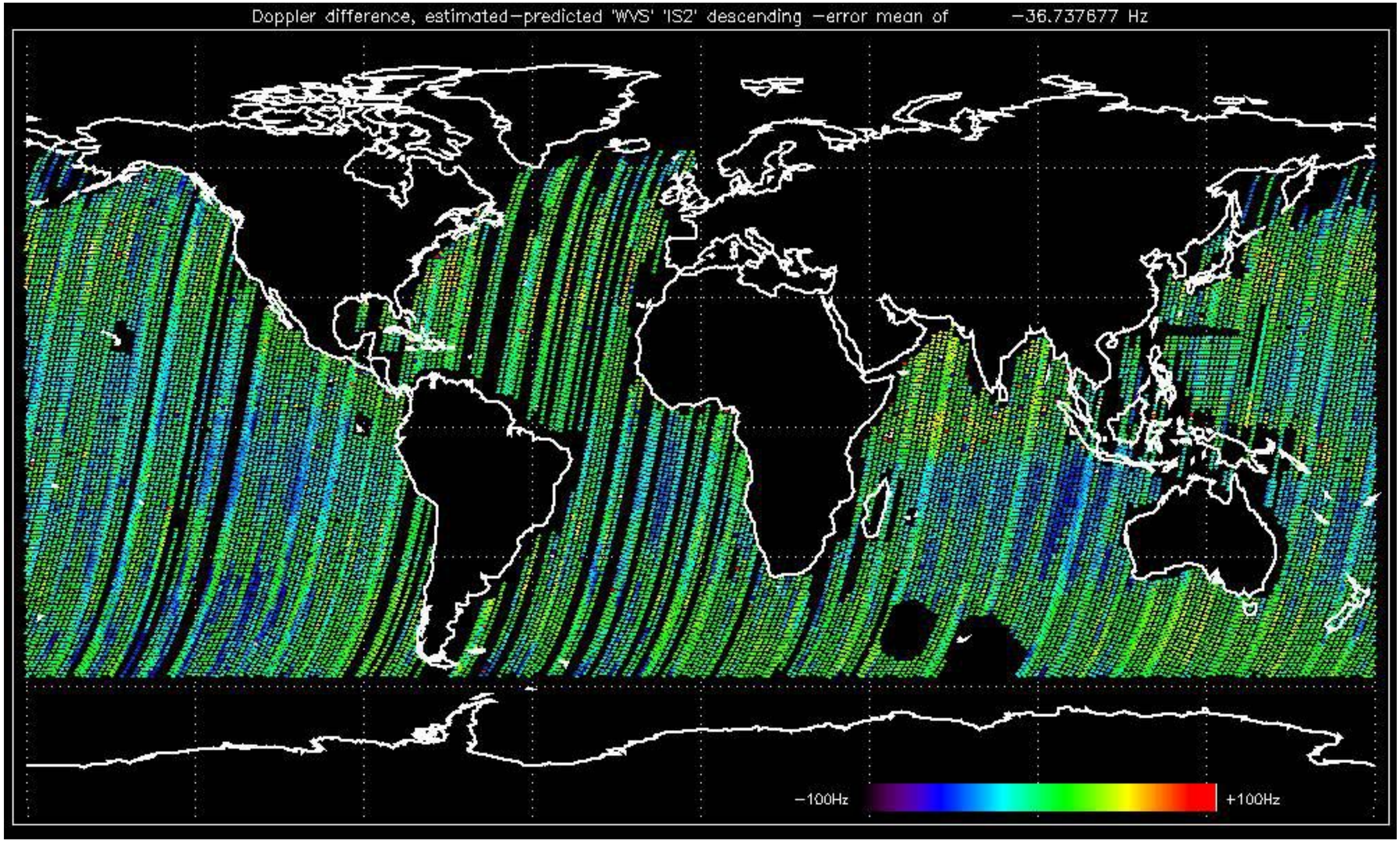

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −39.987362 Hz
−100Hz
+100Hz


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -34.216574 Hz
-100Hz
+100Hz

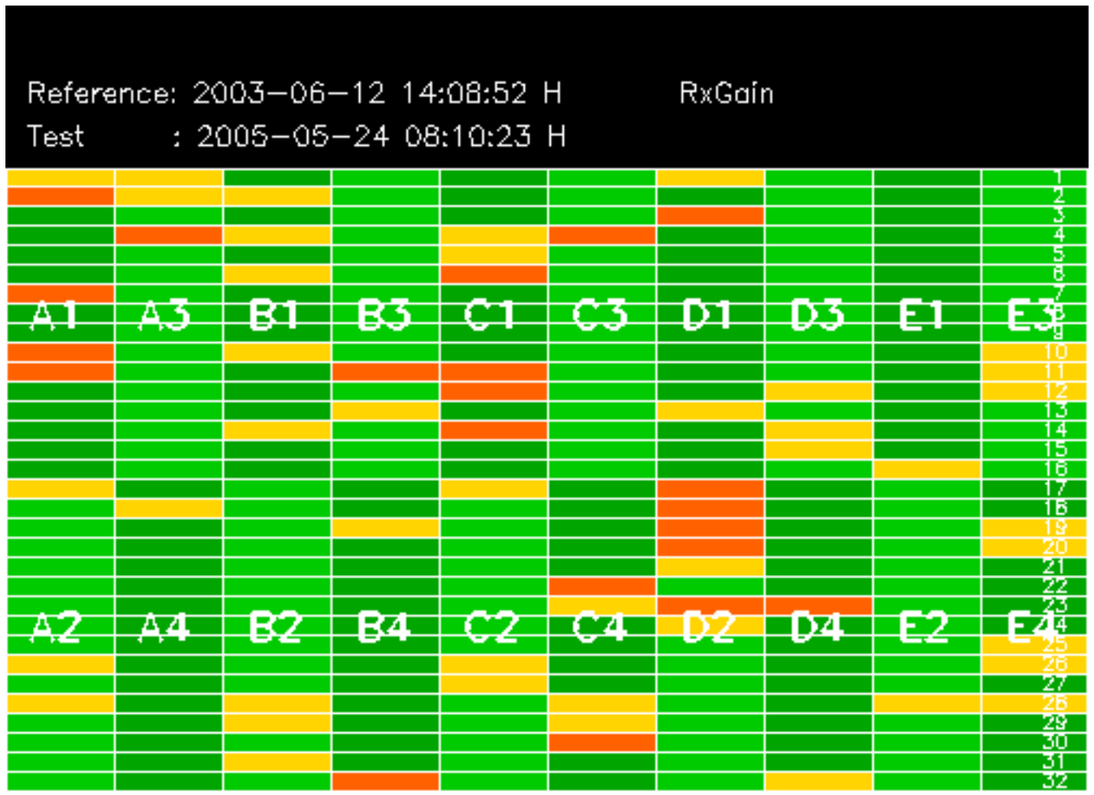

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −31.649900 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −36.737677 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2005-05-24 08:10:23 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 : 2005-05-24 08:10:23 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 13:50:42 H
Test : 2005-05-26 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
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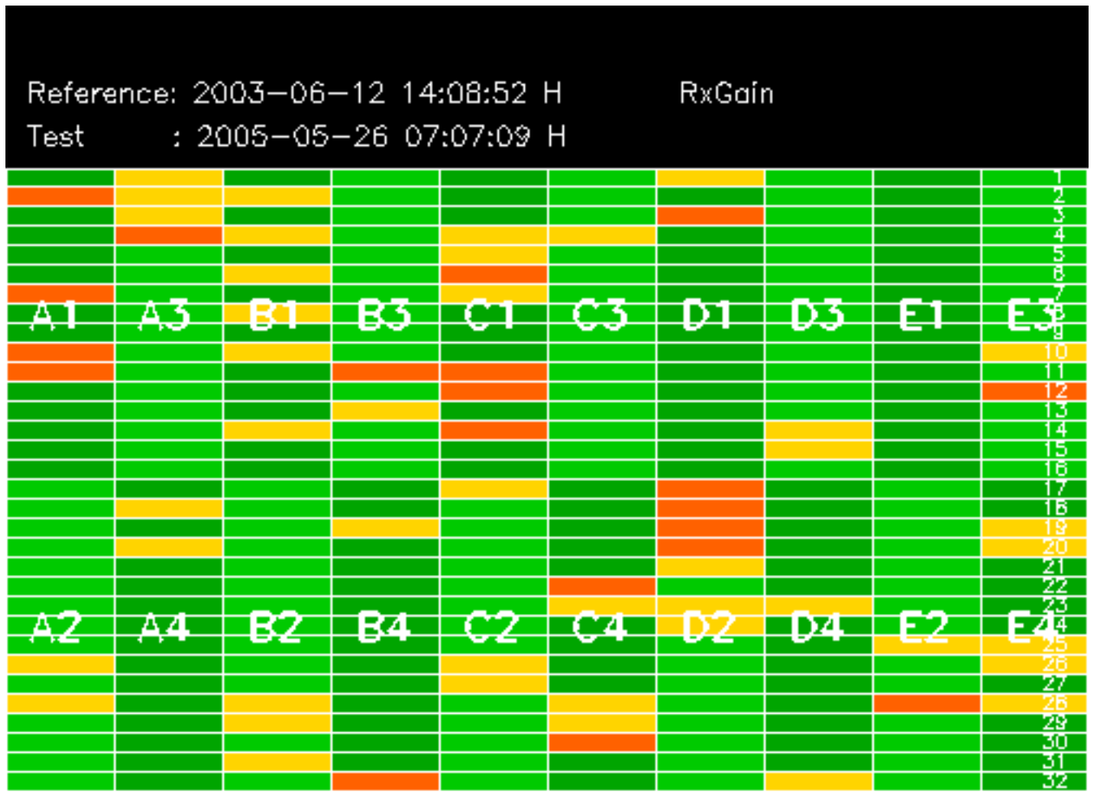
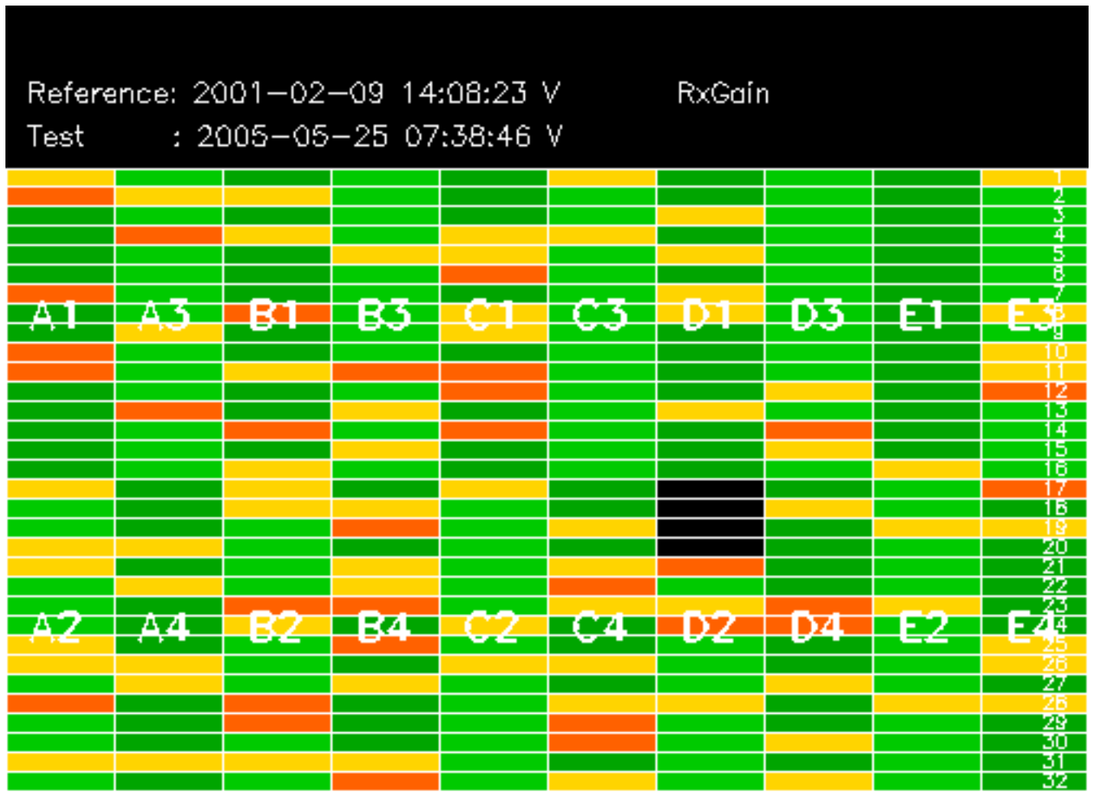
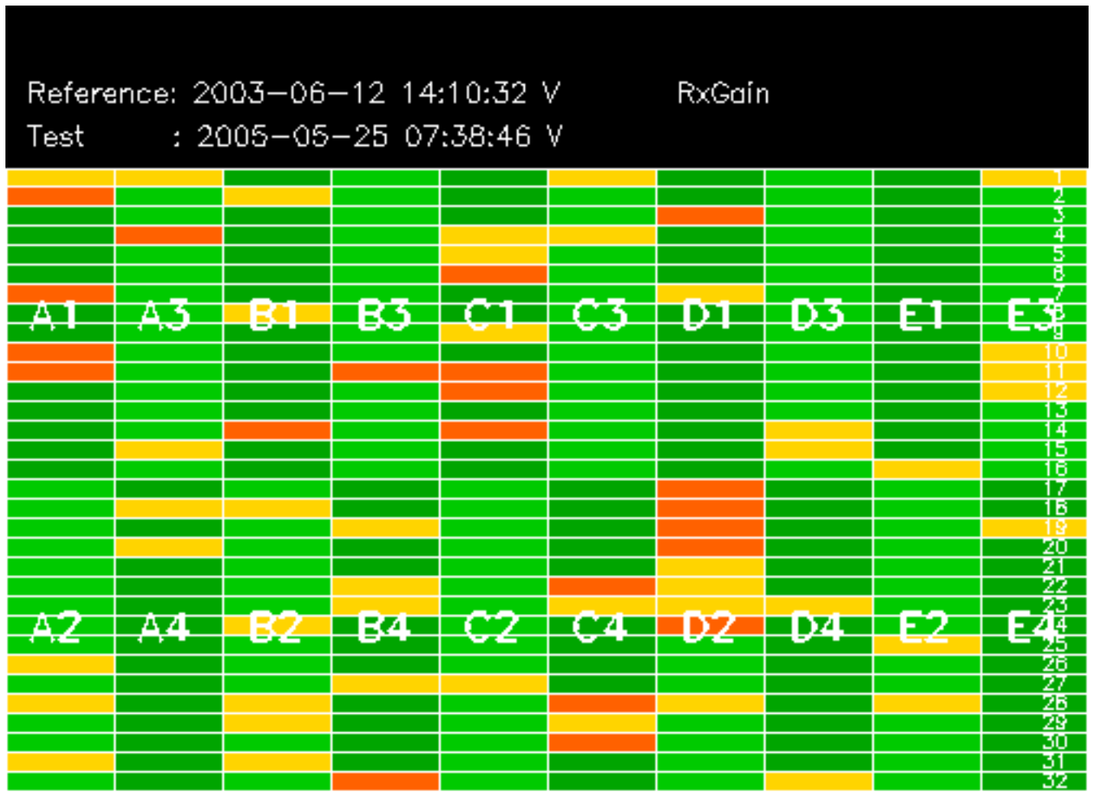
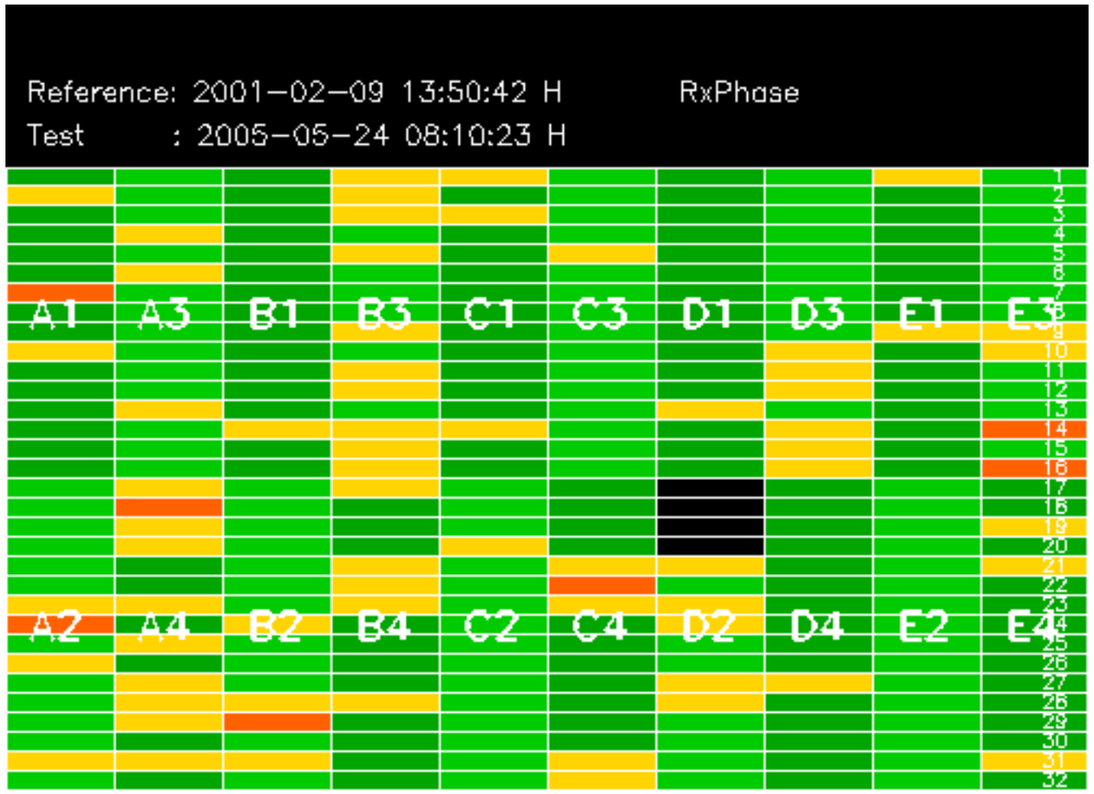

Reference: 2003-06-12 14:08:52 H
RxGain
Test : 2005-05-26 07:07:09 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2005-05-25 07:38:46 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 : 2005-05-25 07:38:46 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
Test : 2005-05-24 08:10:23 H
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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31
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-05-24 08:10:23 H
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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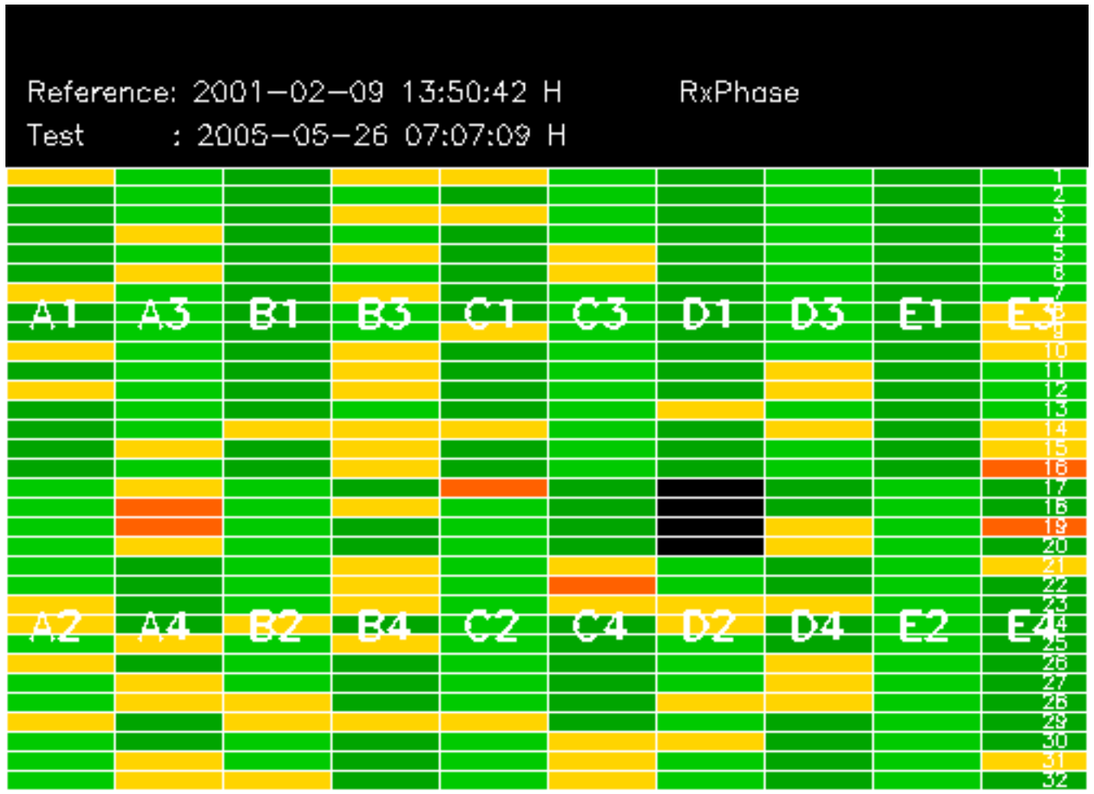
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-05-26 07:07:09 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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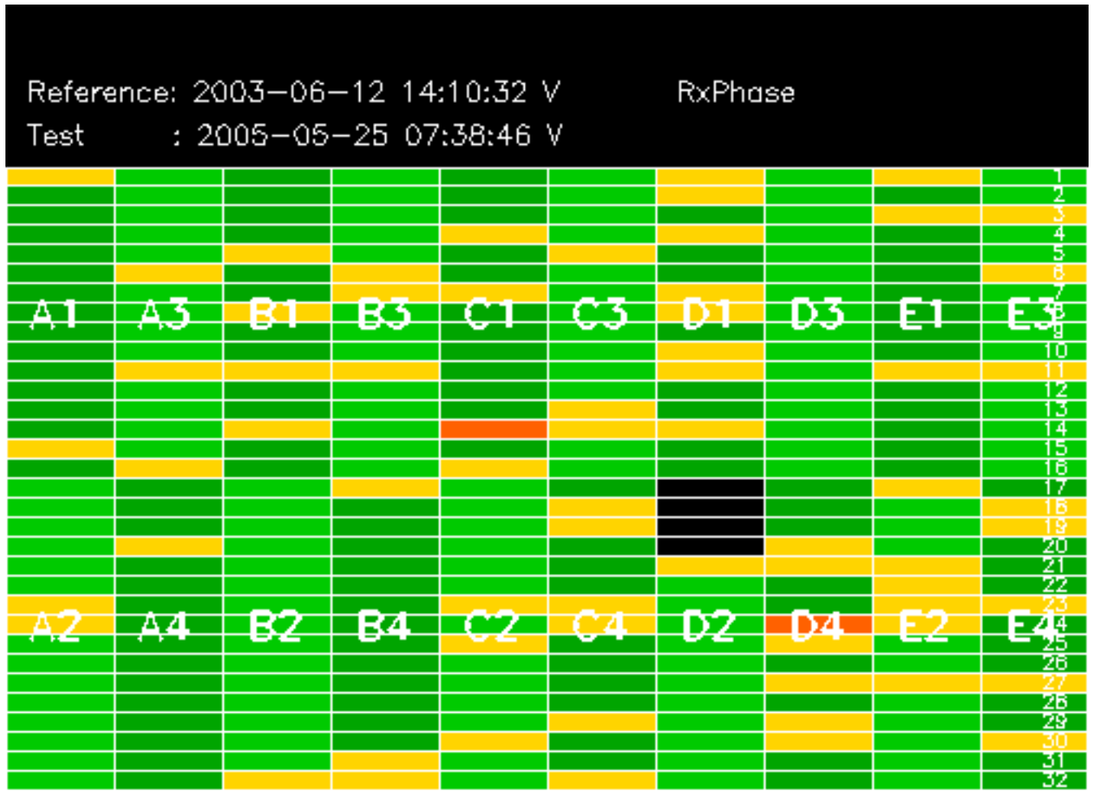
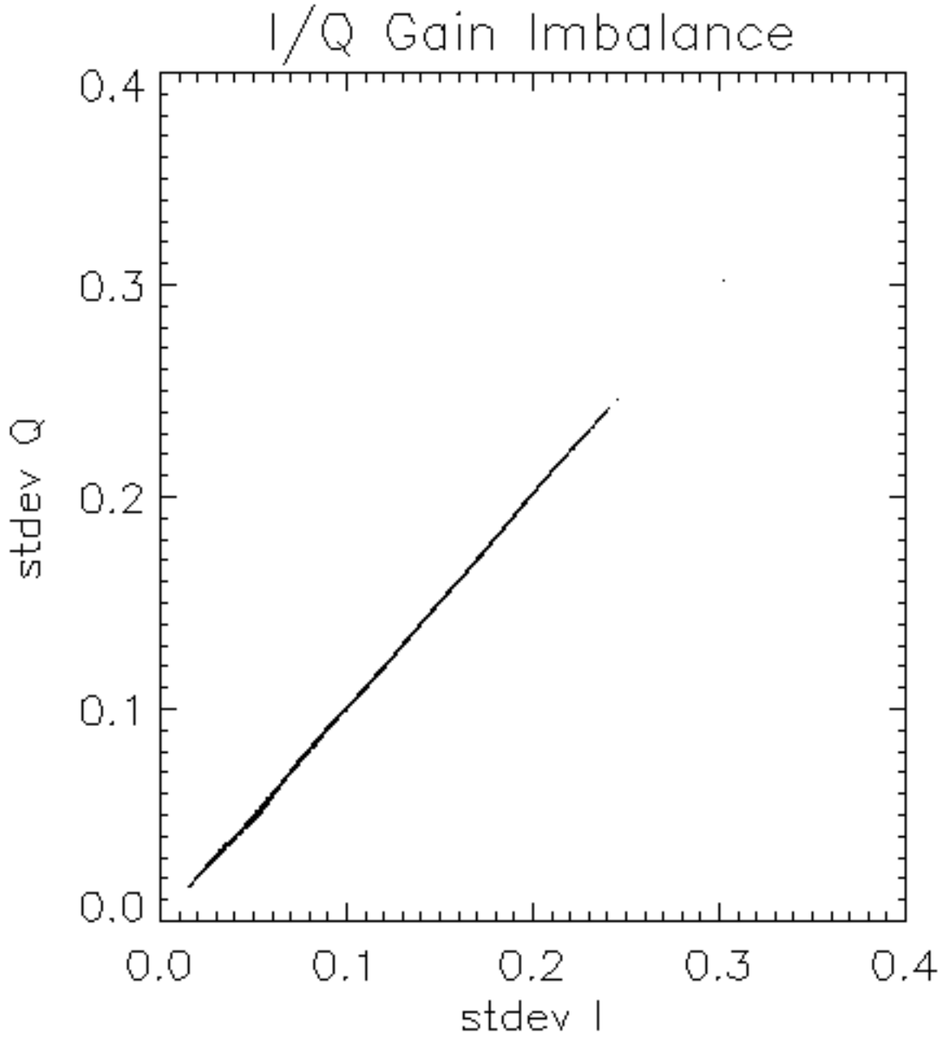
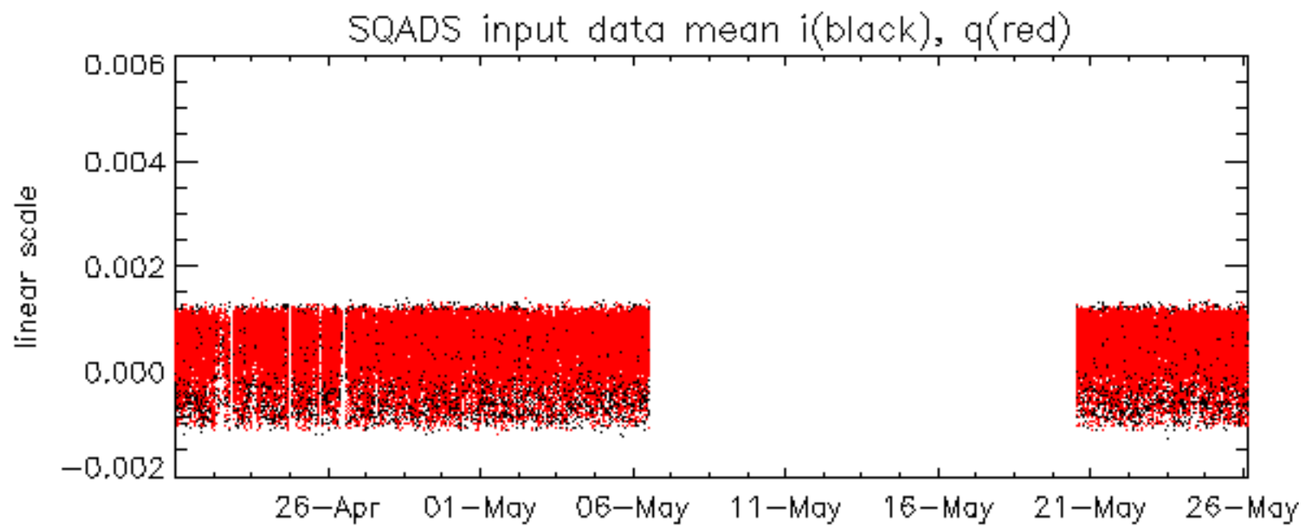
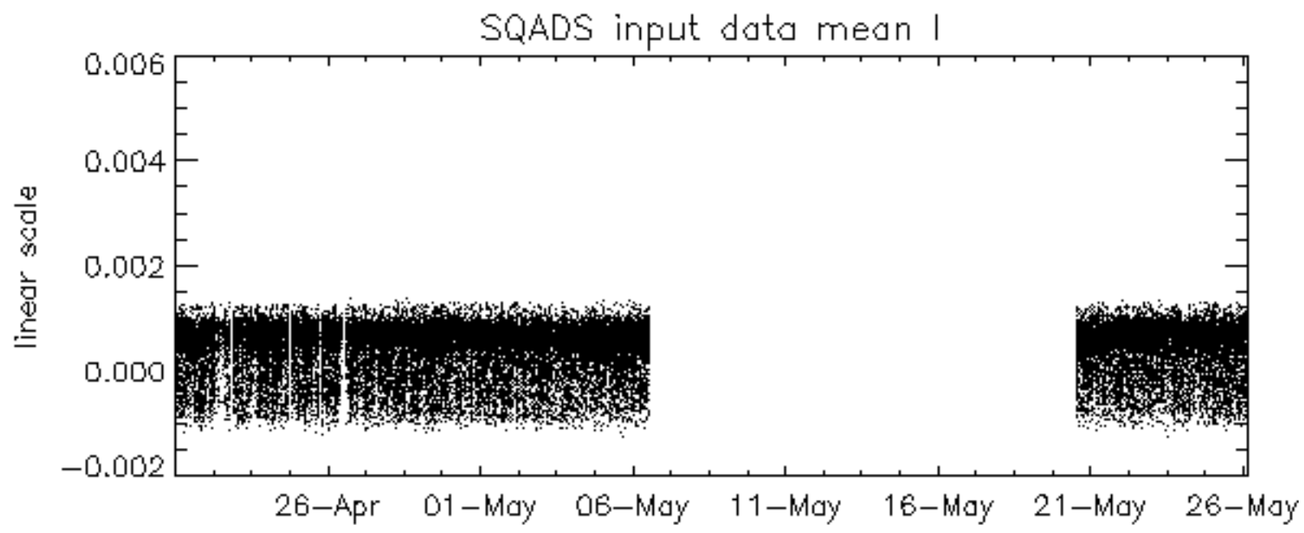
Reference: 2003-06-12 14:08:52 H
Test : 2005-05-26 07:07:09 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

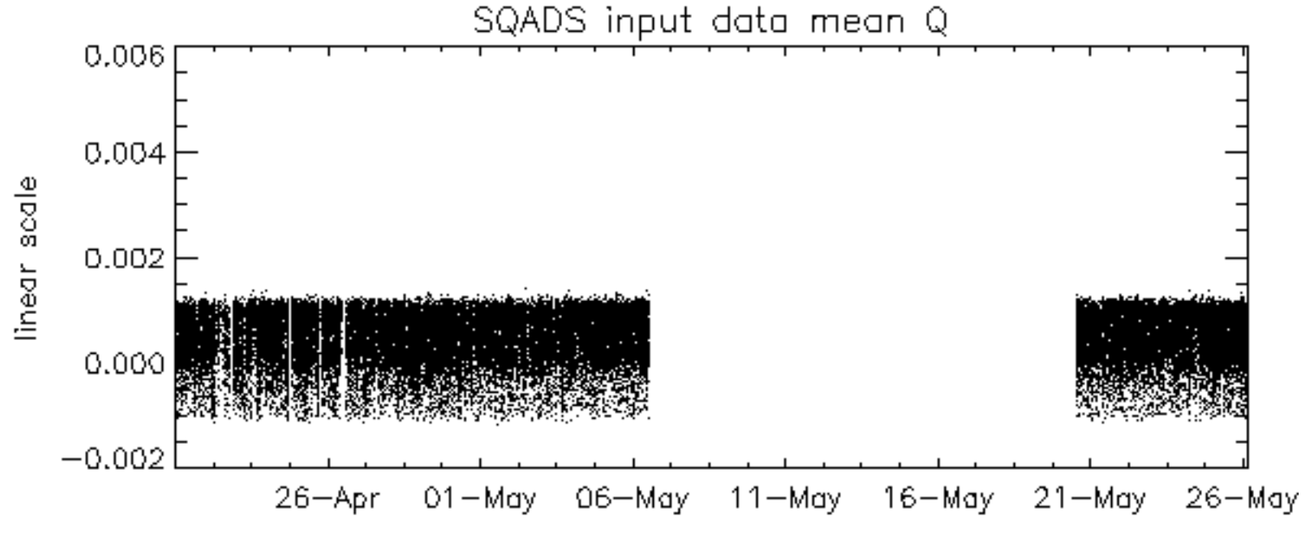

Reference: 2001-02-09 14:08:23 V
Test : 2005-05-25 07:38:46 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

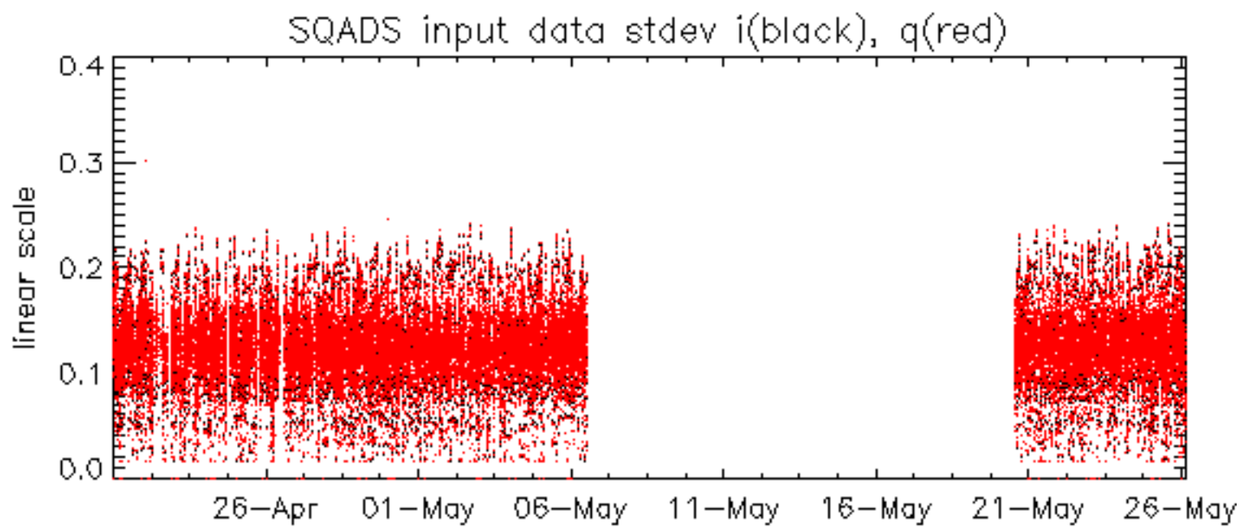

Reference: 2003-06-12 14:10:32 V
Test : 2005-05-25 07:38:46 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

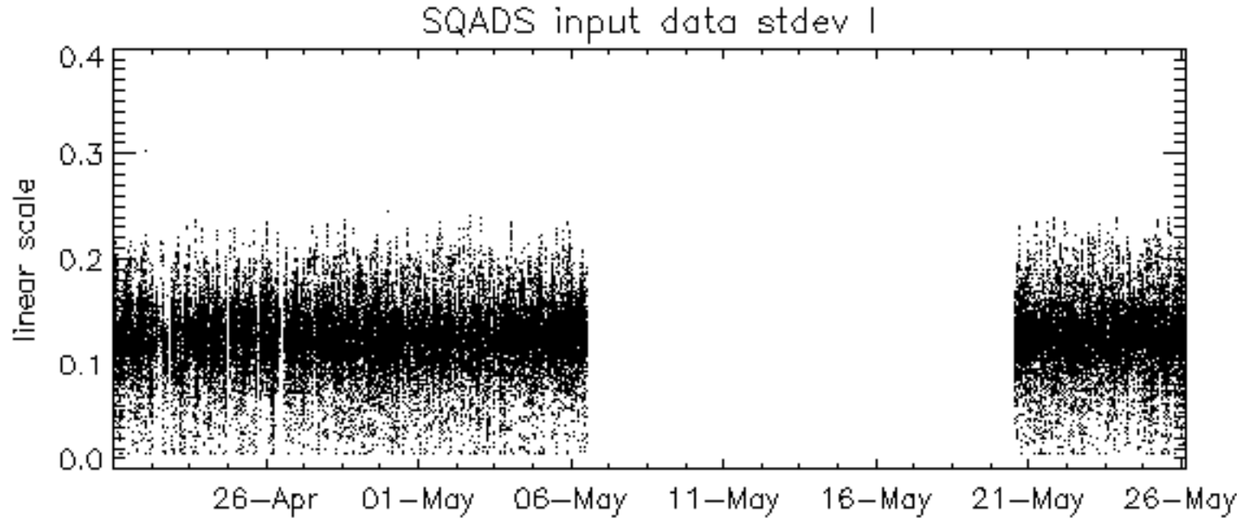

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

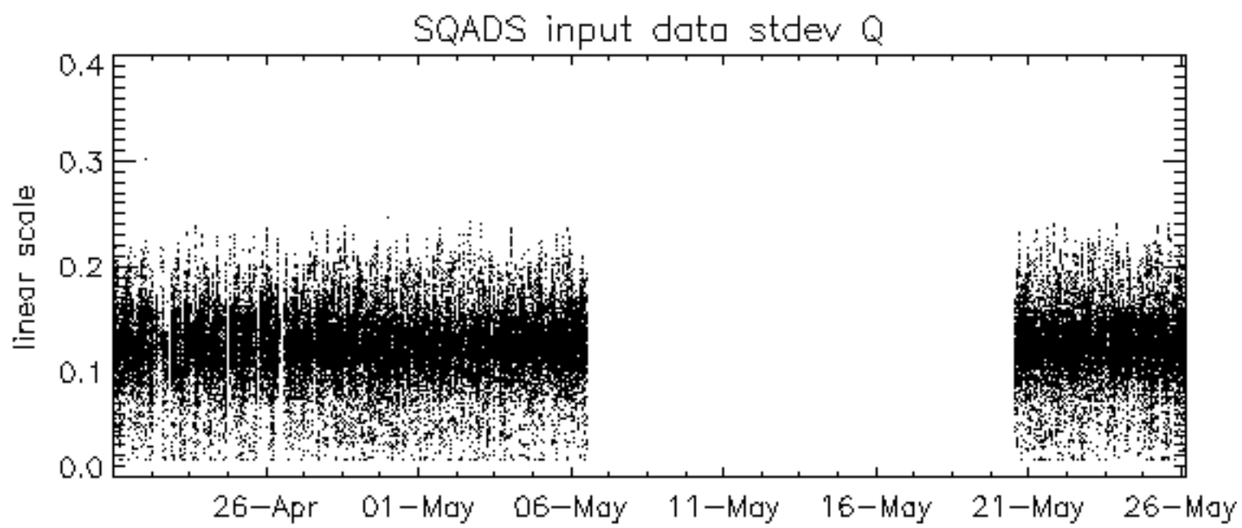

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Apr
01−May
06−May
11−May
16−May
21−May
26−May

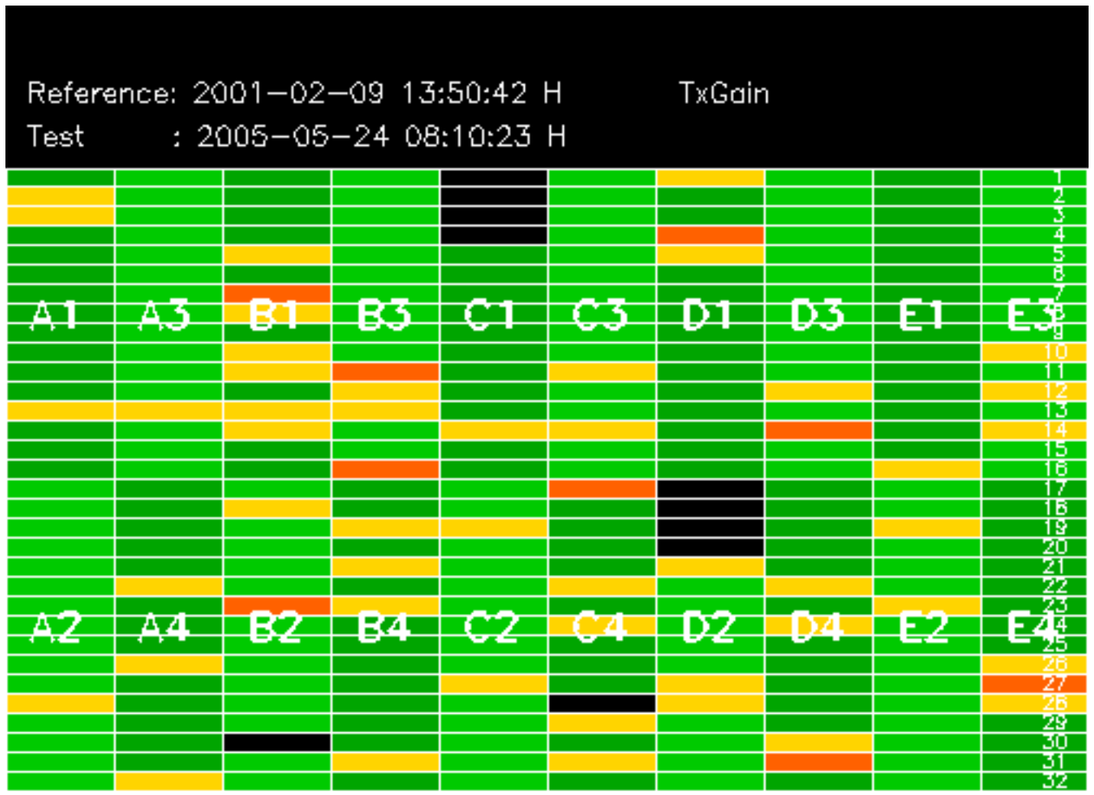

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Apr
01−May
06−May
11−May
16−May
21−May
26−May


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2005-05-24 08:10:23 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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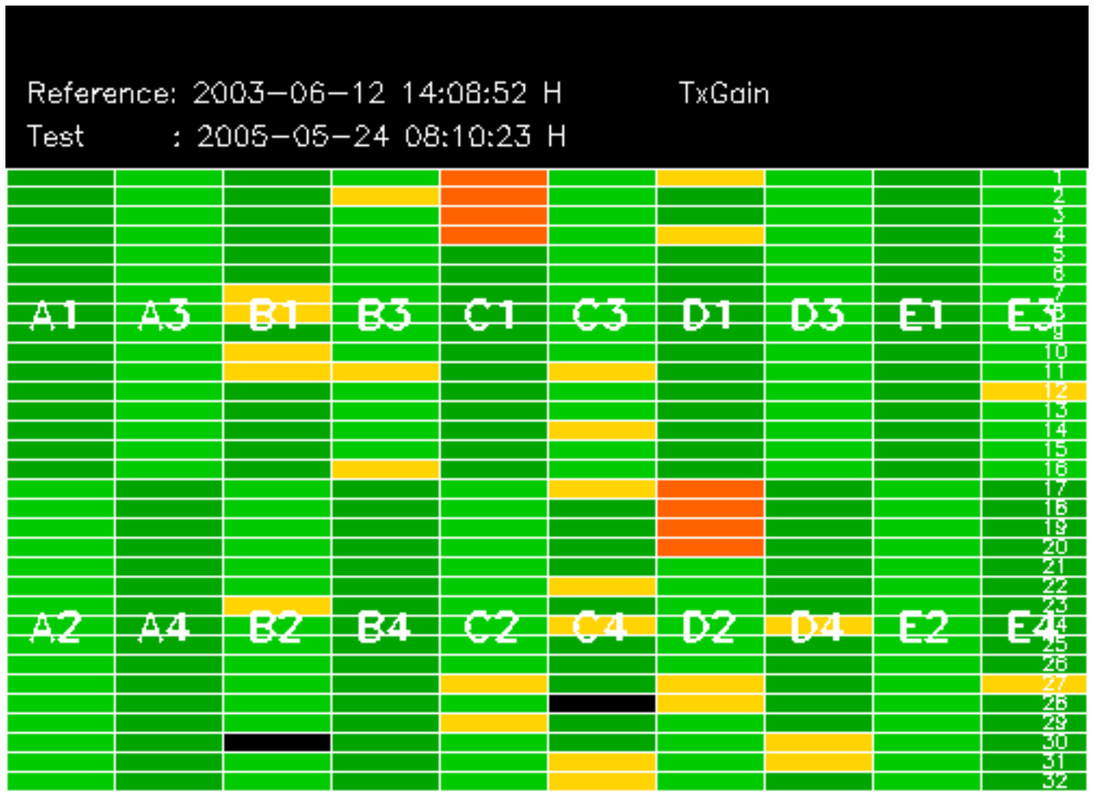
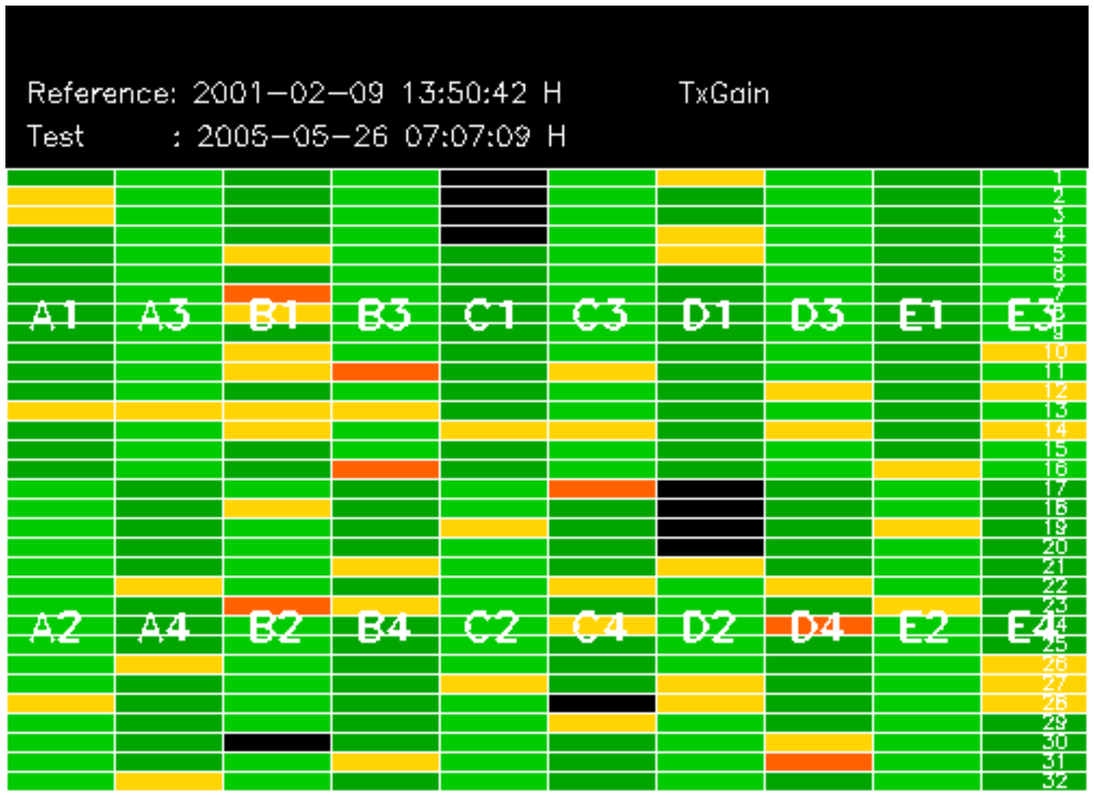

Reference: 2003-06-12 14:08:52 H
Test : 2005-05-24 08:10:23 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
Test : 2005-05-26 07:07:09 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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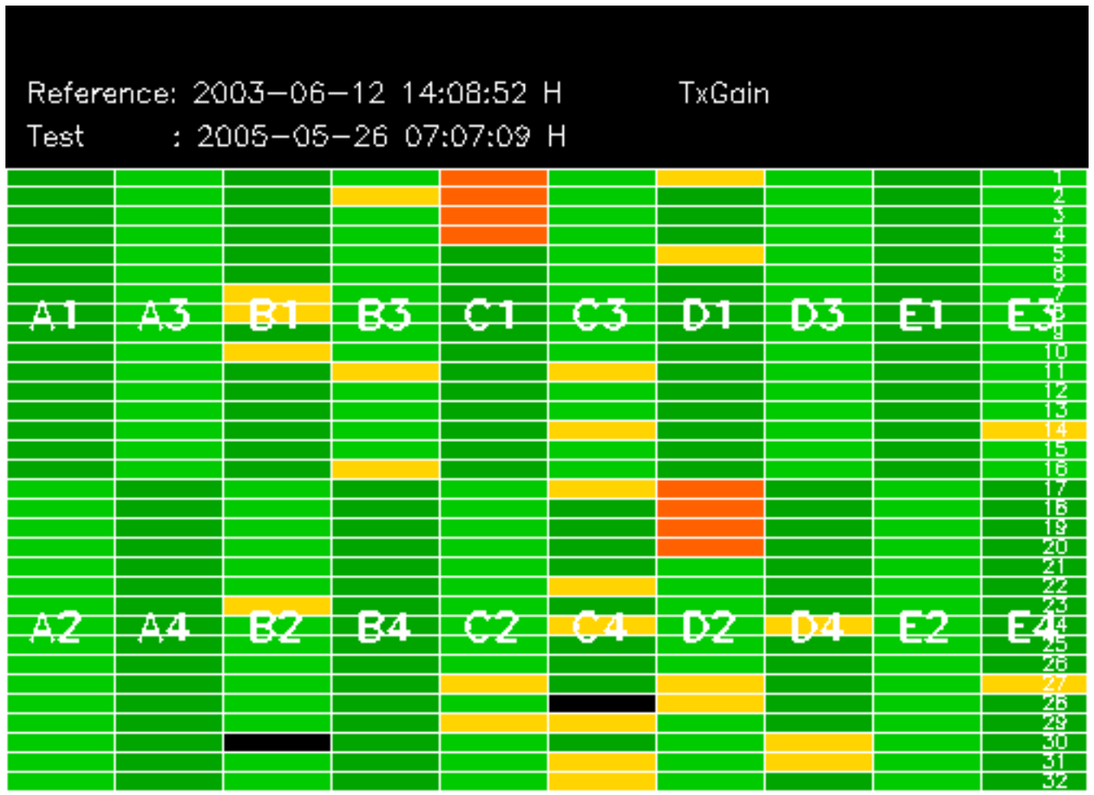
Reference: 2003-06-12 14:08:52 H
Test : 2005-05-26 07:07:09 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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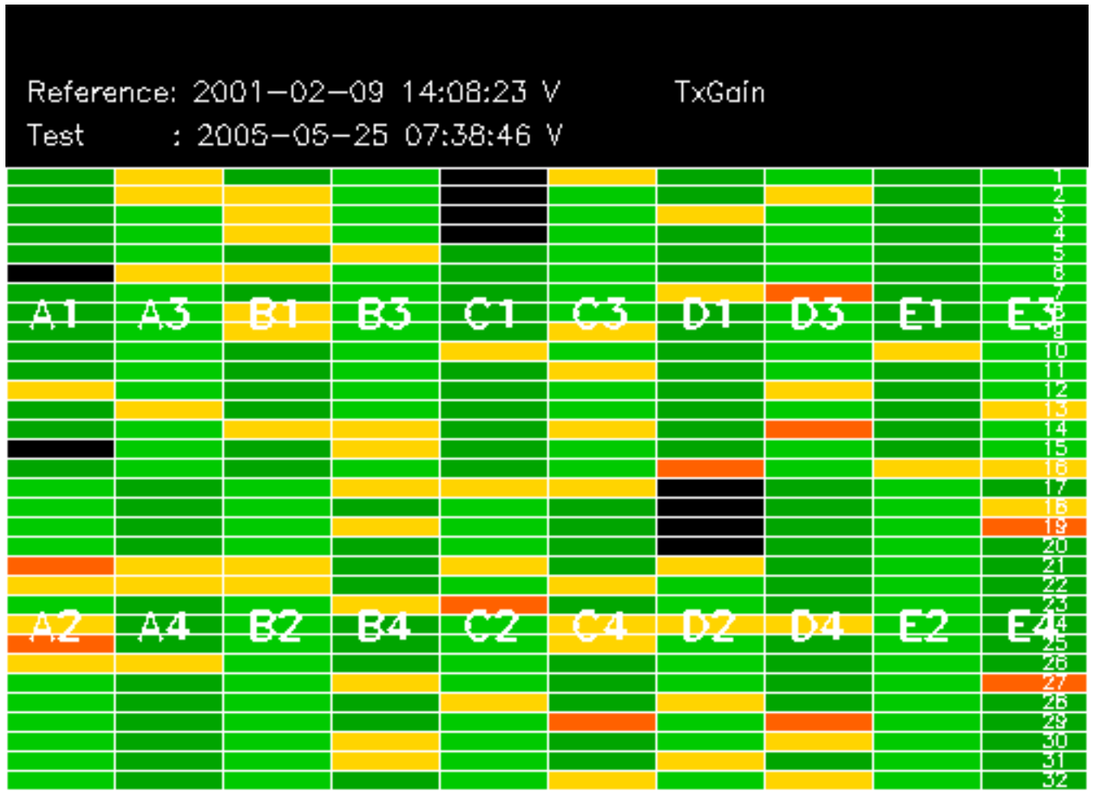
Reference: 2001-02-09 14:08:23 V
Test : 2005-05-25 07:38:46 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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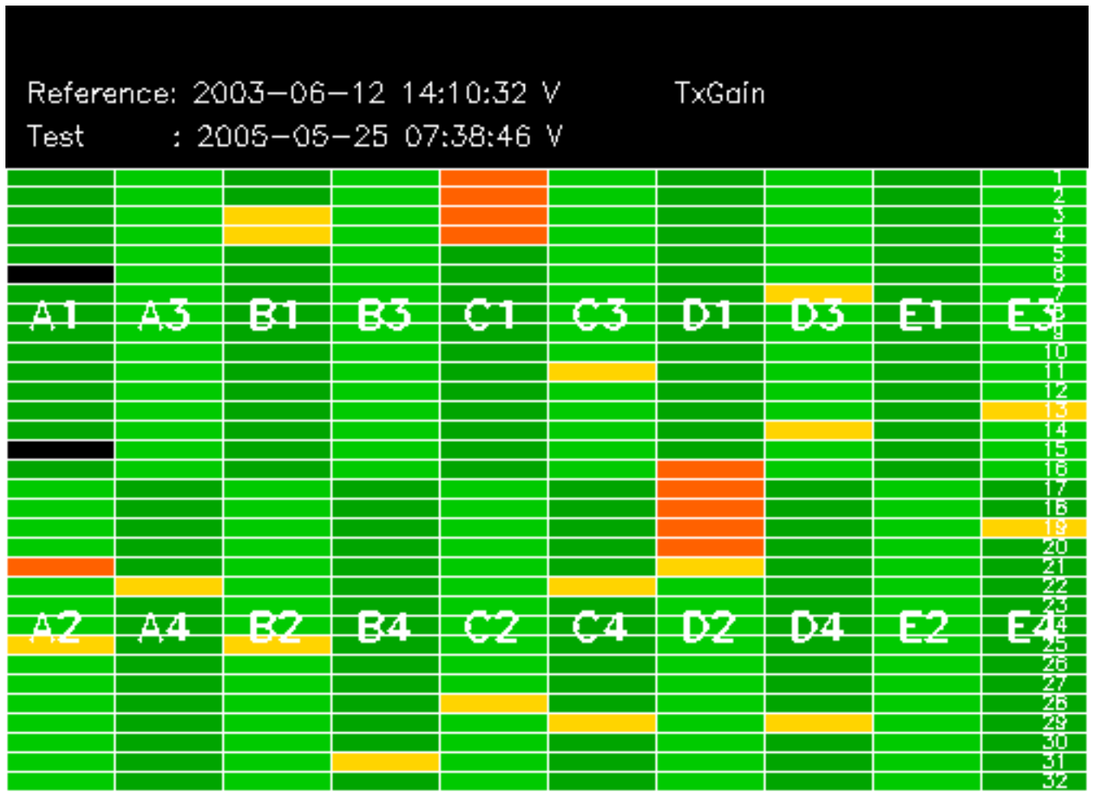
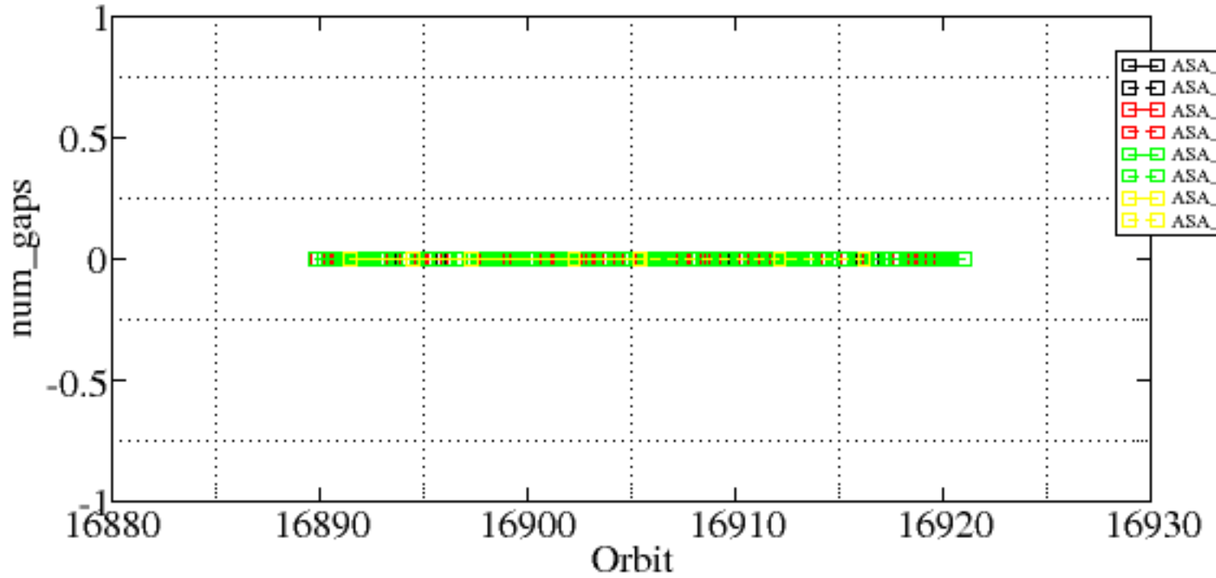
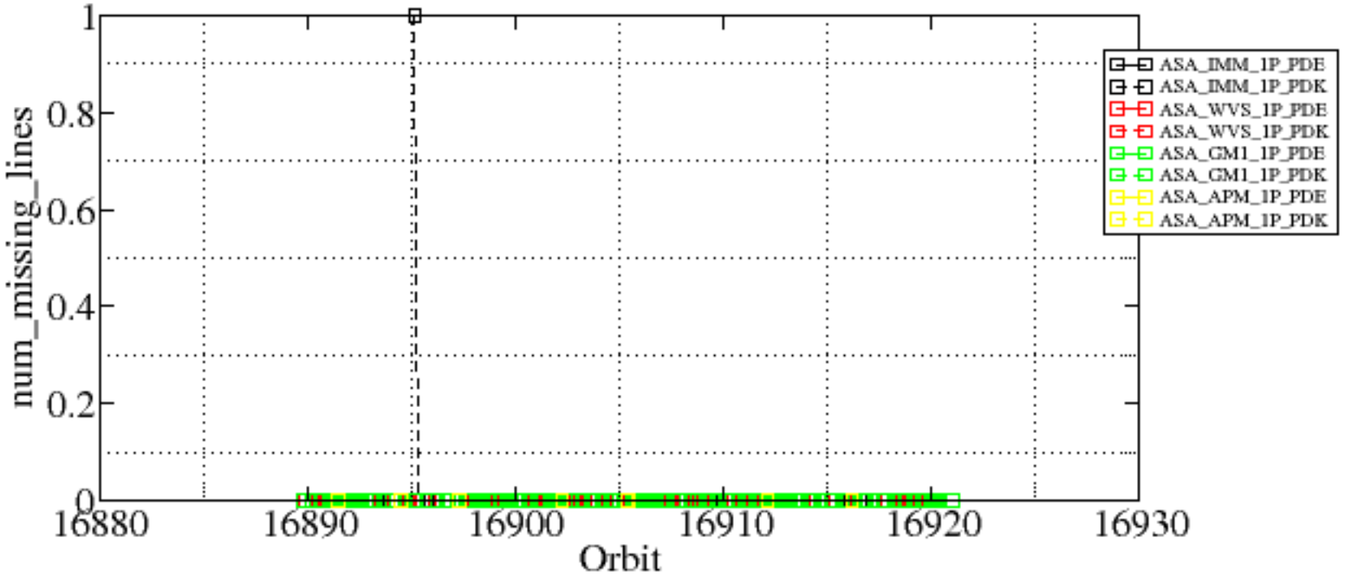
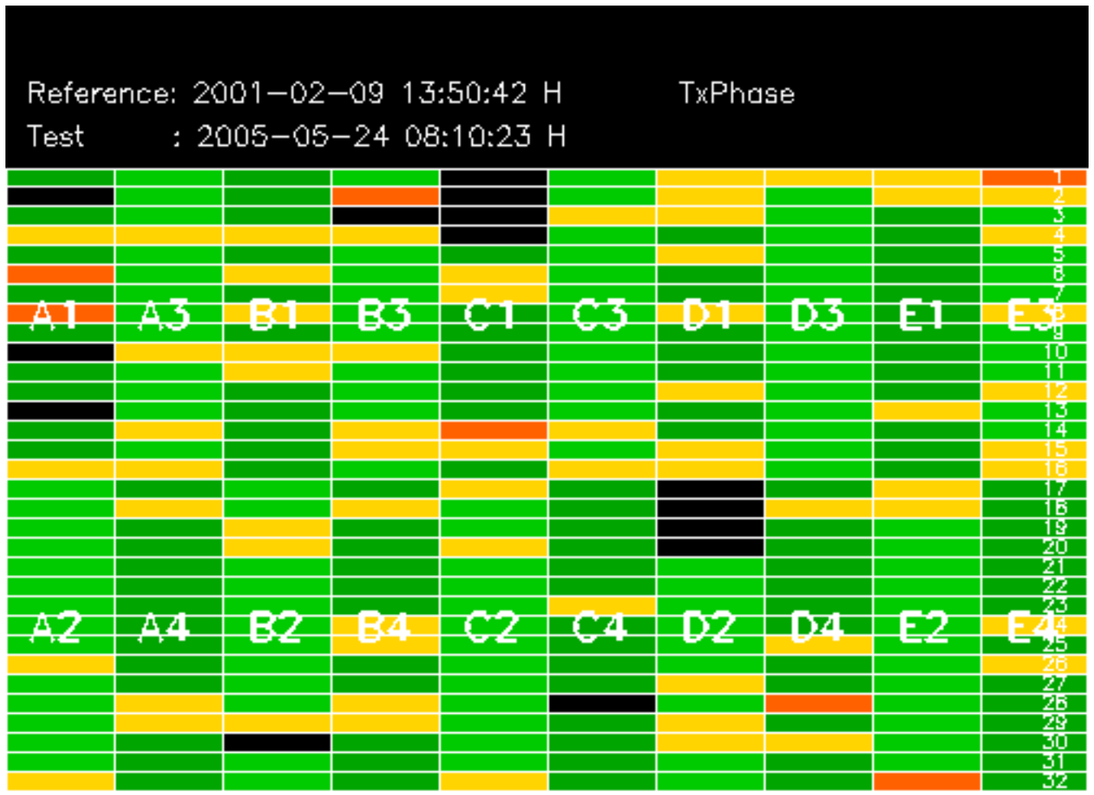

Reference: 2003-06-12 14:10:32 V
Test : 2005-05-25 07:38:46 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

Summary of analysis for the last 3 days 2005052[456]
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_1PNPDK20050524_085741_000000542037_00308_16895_5045.N1 </td> <td>0 </td> <td>1 </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
16880
16890
16900
16910
16920
16930
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_APM_1P_PDE
ASA_APM_1P_PDK


num_missing_lines
1
0.8
0.6
0.4
0.2
0
16880
16890
16900
16910
16920
16930
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_APM_1P_PDE
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2005-05-24 08:10:23 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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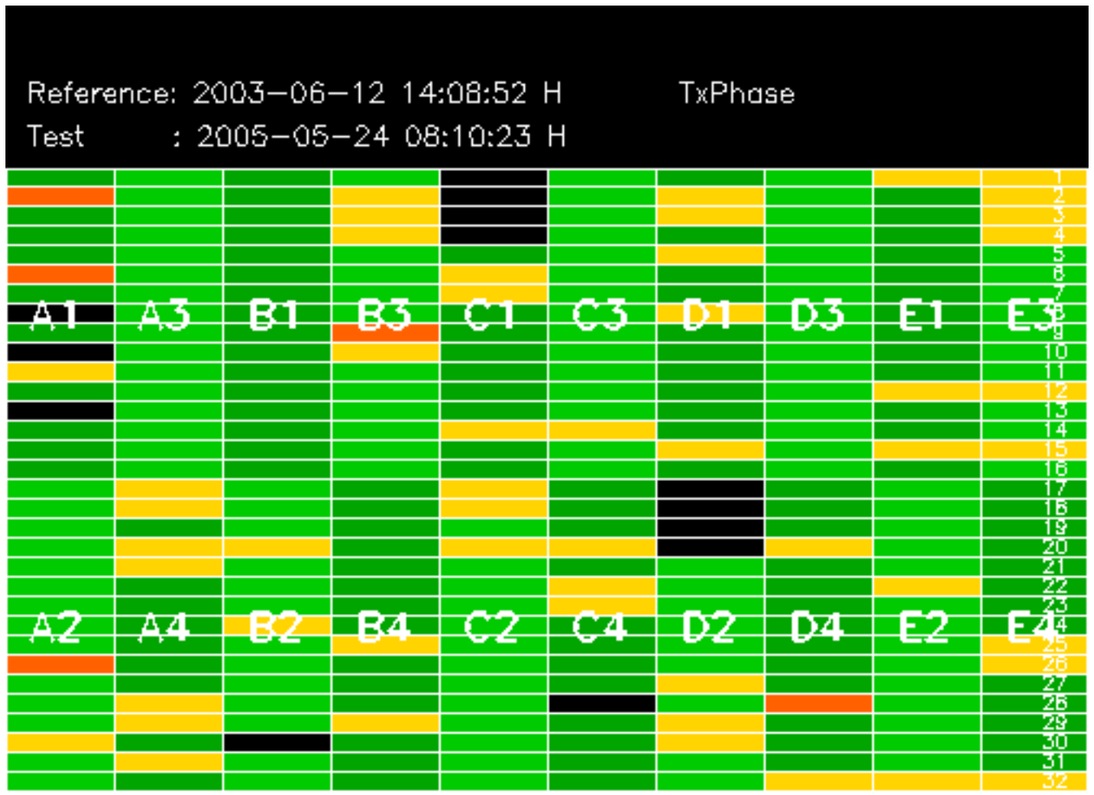
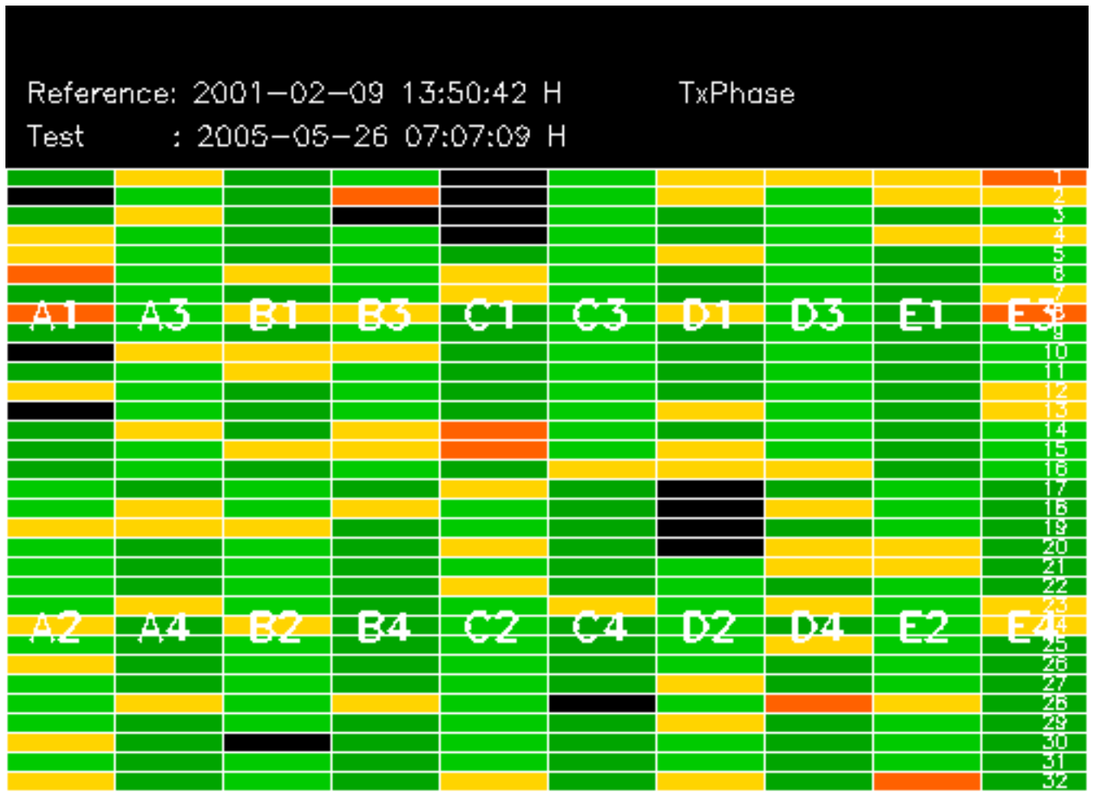
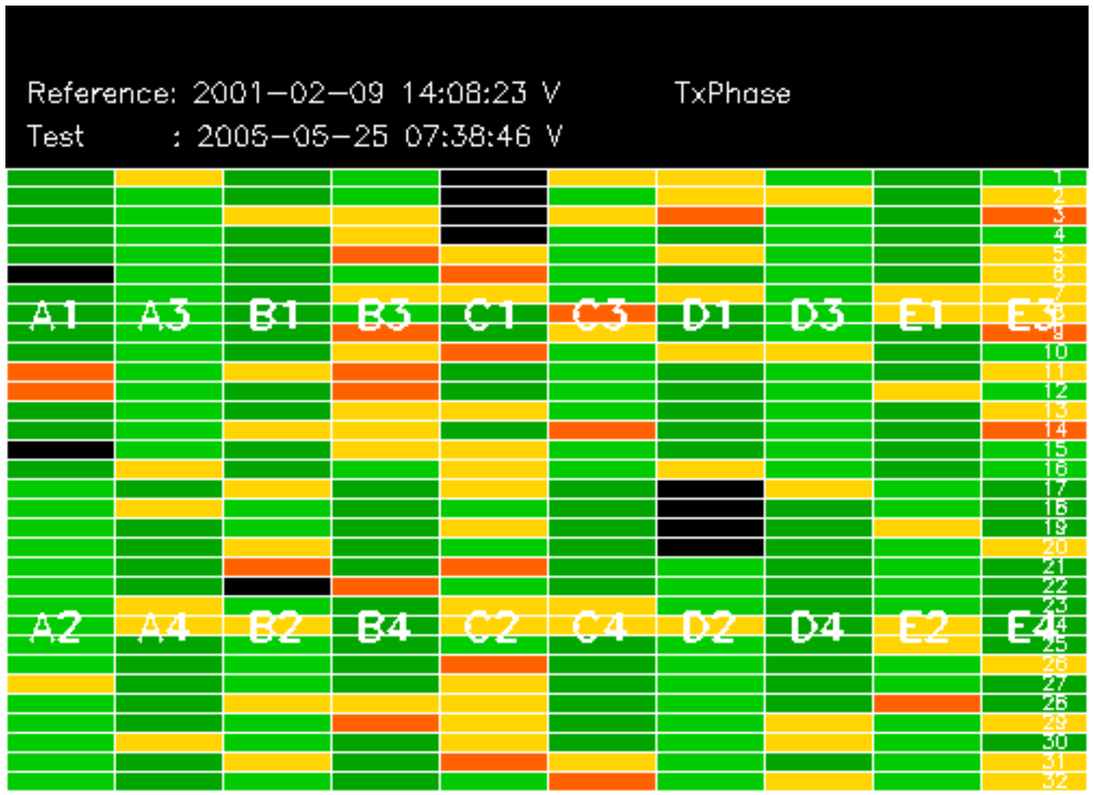

Reference: 2003-06-12 14:08:52 H
Test : 2005-05-24 08:10:23 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
Test : 2005-05-26 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: 2003-06-12 14:08:52 H
Test : 2005-05-26 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 : 2005-05-25 07:38:46 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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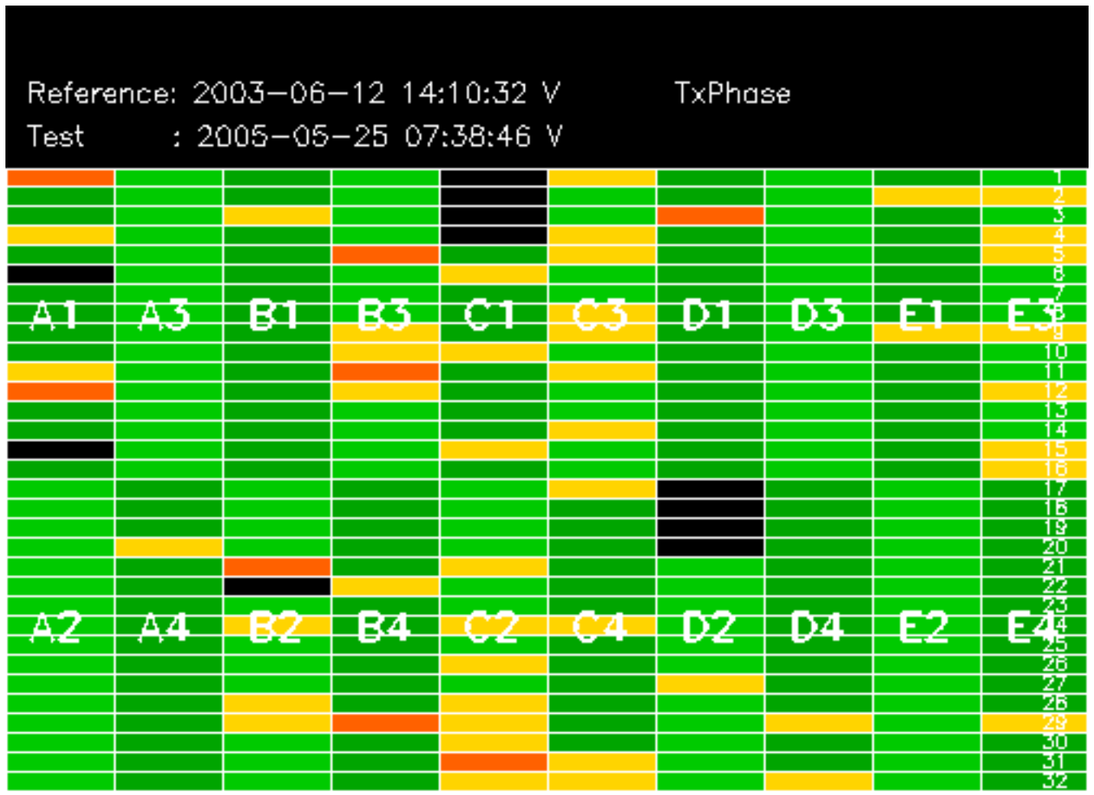
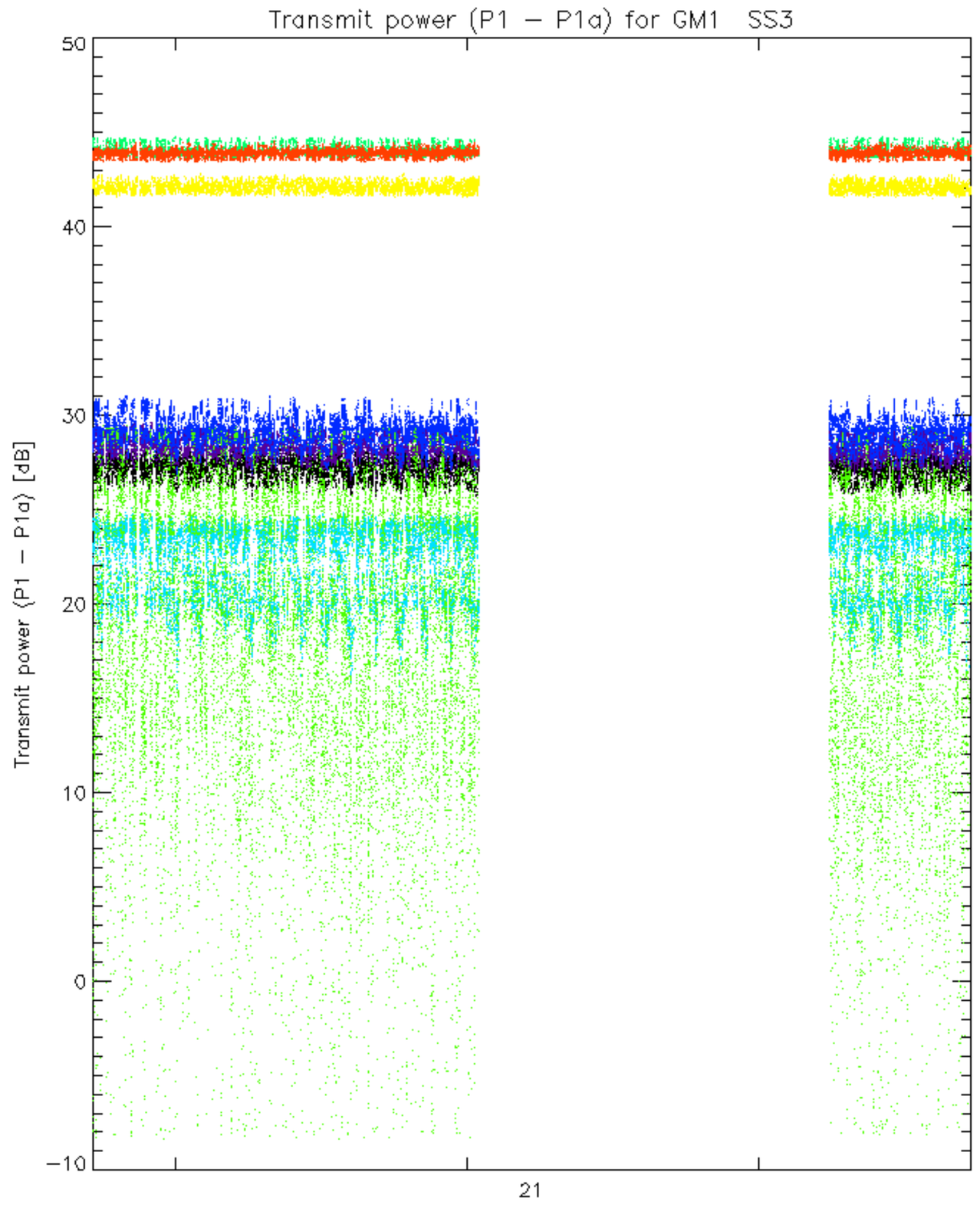
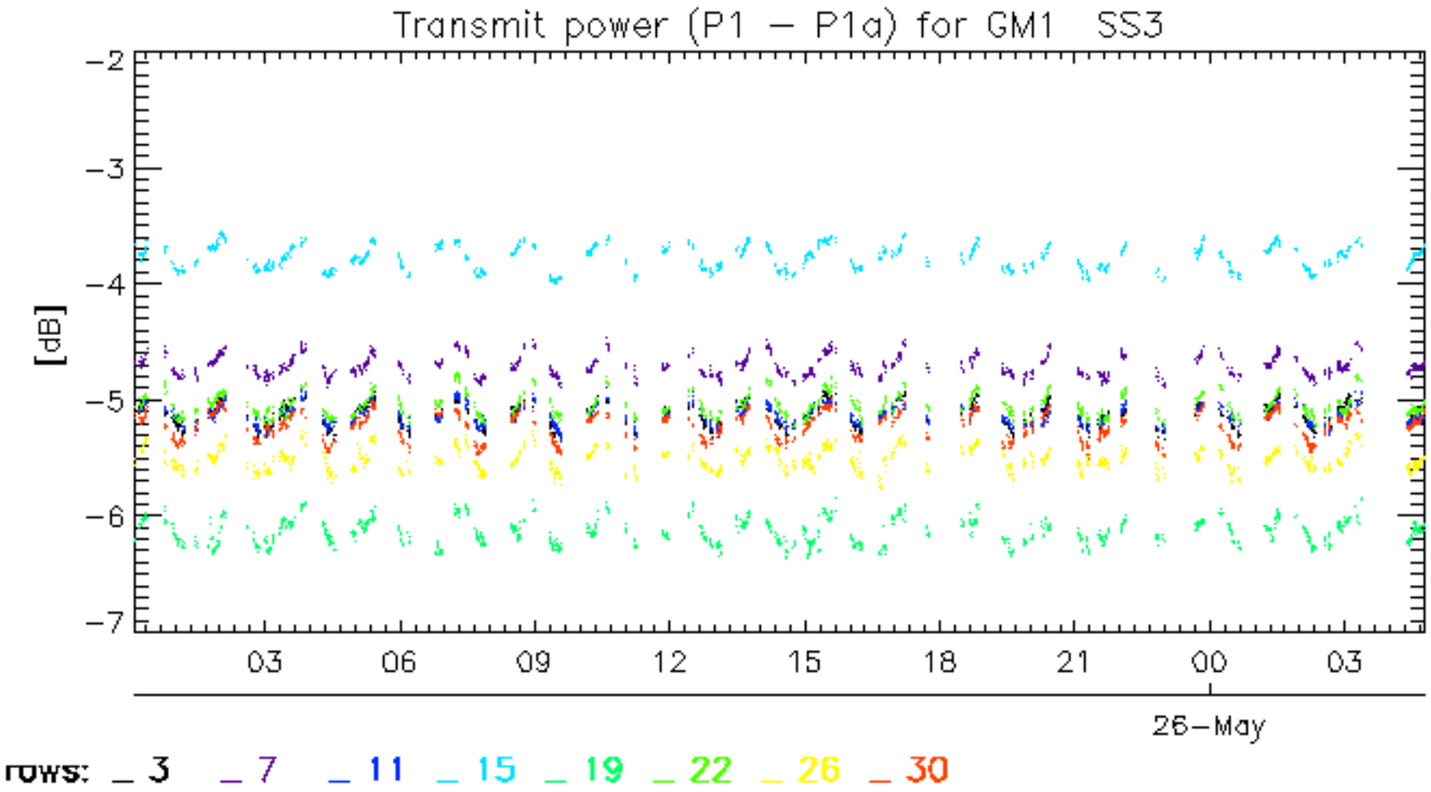
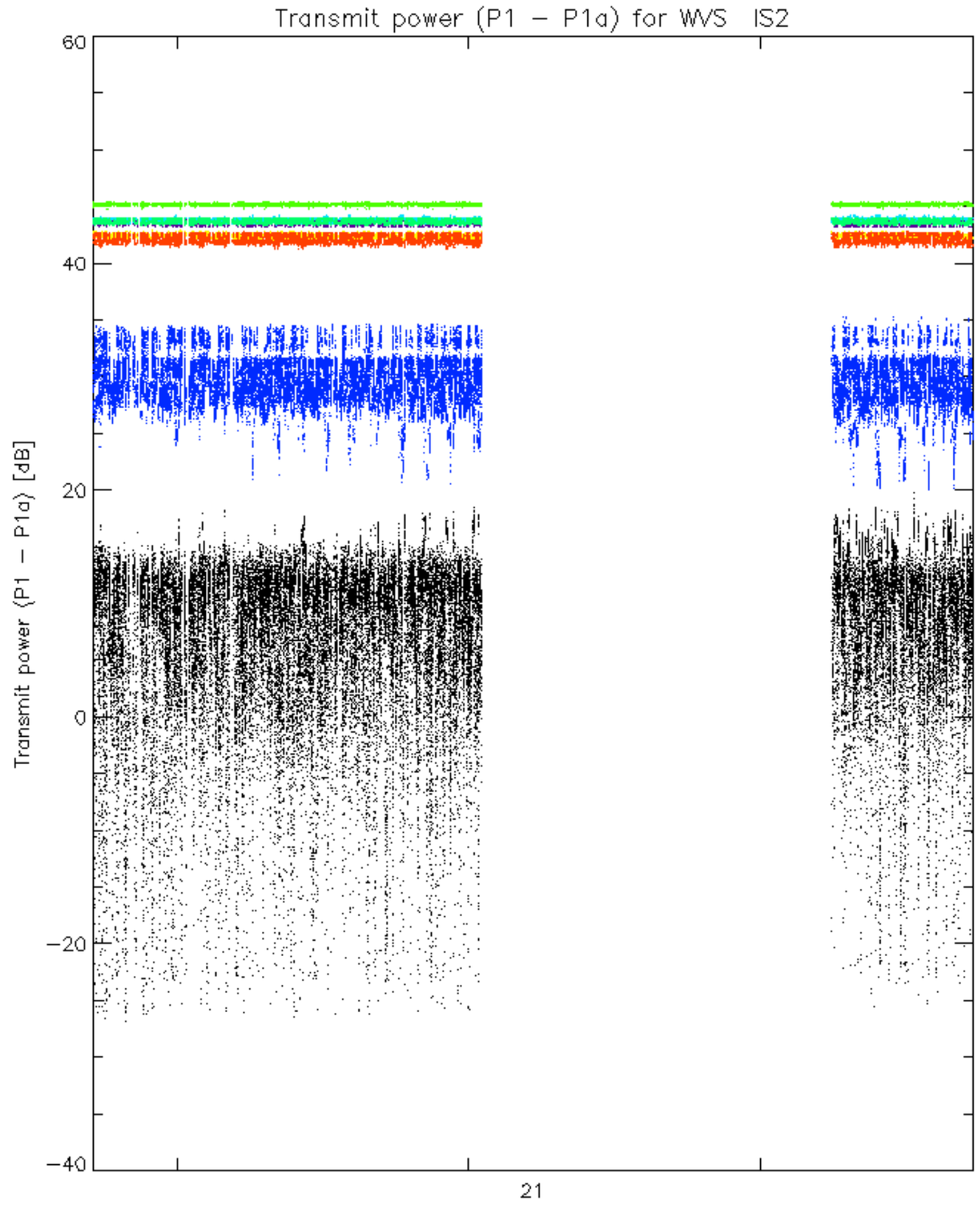
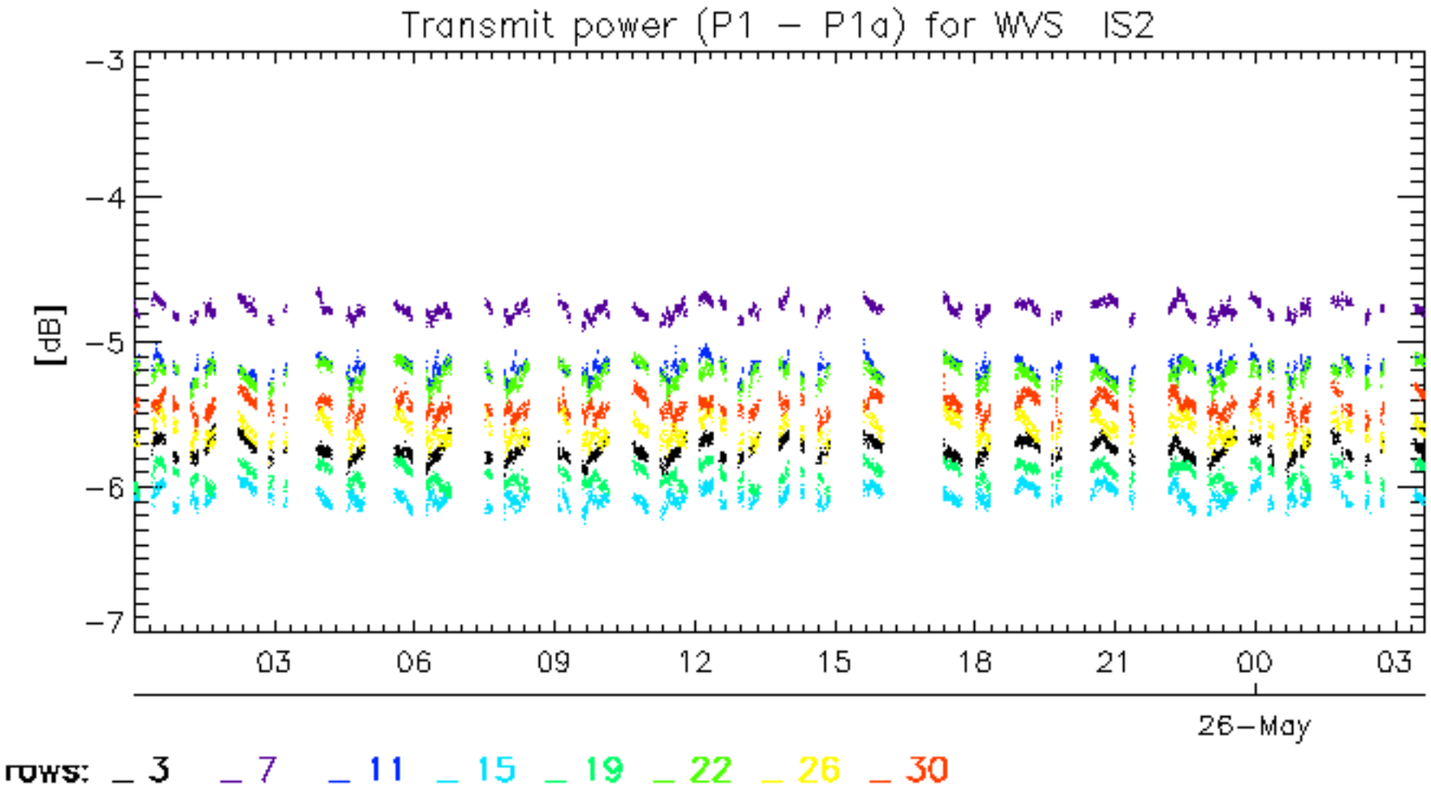

Reference: 2003-06-12 14:10:32 V
Test : 2005-05-25 07:38:46 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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

No unavailabilities during the reported period.