PRELIMINARY REPORT OF 060524

last update on Wed May 24 16:40:41 GMT 2006

1 - Introduction

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

2 - Summary

2.1 - Instrument Unavailability

No unavailabilities during the reported period.

2.2 - Auxiliary files

Summary of the auxiliary files used from 2006-05-23 00:00:00 to 2006-05-24 16:40:41

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	43	57	14	0	14
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	43	57	14	0	14
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	43	57	14	0	14
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	43	57	14	0	14

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	44	61	47	21	66
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	44	61	47	21	66
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	44	61	47	21	66
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	44	61	47	21	66

2.3 - Browse Visual Inspection

No anomalies observed on available browse products

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	20060522 180513
H	20060523 173336

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	-3.966964	0.016866	0.012821
7	P1	-3.089154	0.016991	-0.101937
11	P1	-4.106305	0.018200	-0.044738
15	P1	-6.130194	0.012564	-0.074982
19	P1	-3.314546	0.008346	-0.028441
22	P1	-4.524683	0.010859	0.014221
26	P1	-4.001909	0.019980	0.071255
30	P1	-5.743474	0.019267	-0.040292
3	P1	-16.610929	0.295460	0.174265
7	P1	-17.080736	0.165725	-0.336007
11	P1	-16.866476	0.334317	-0.285466
15	P1	-13.178578	0.165985	-0.130800
19	P1	-14.228843	0.047928	-0.173156
22	P1	-16.142317	0.406986	-0.112247
26	P1	-15.313992	0.261941	0.220190
30	P1	-16.942518	0.340311	-0.298670

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.243208	0.082873	0.128065
7	P2	-22.132372	0.099807	0.164738
11	P2	-15.975316	0.111653	0.137230
15	P2	-7.169046	0.093476	-0.007210
19	P2	-9.162574	0.085704	-0.031520
22	P2	-18.100832	0.084135	-0.104259
26	P2	-16.350479	0.088993	-0.101311
30	P2	-19.595951	0.085004	0.044697

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.191029	0.003807	0.000944
7	P3	-8.191029	0.003807	0.000944
11	P3	-8.191029	0.003807	0.000944
15	P3	-8.191029	0.003807	0.000944
19	P3	-8.191029	0.003807	0.000944
22	P3	-8.191029	0.003807	0.000944
26	P3	-8.191047	0.003808	0.001030
30	P3	-8.191047	0.003808	0.001030

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1


P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.765699	0.085613	-0.108542
7	P1	-2.633041	0.118678	0.054171
11	P1	-2.869087	0.039757	-0.010860
15	P1	-3.506189	0.051342	-0.010932
19	P1	-3.391990	0.014531	-0.026126
22	P1	-5.094952	0.021618	0.043231
26	P1	-5.834292	0.020793	-0.034512
30	P1	-5.184034	0.043420	-0.040578
3	P1	-11.601598	0.136850	-0.042006
7	P1	-9.964803	0.167100	0.028182
11	P1	-10.194511	0.111363	0.055948
15	P1	-10.620061	0.154319	0.170362
19	P1	-15.490631	0.086052	-0.093893
22	P1	-20.830963	1.262574	-0.274979

26	P1	-16.467413	0.369816	-0.138933
30	P1	-18.088917	0.479548	0.289410

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.917469	0.071190	0.075558
7	P2	-22.519432	0.175051	-0.007320
11	P2	-11.190747	0.049897	0.001914
15	P2	-4.895636	0.042401	-0.063292
19	P2	-6.873360	0.041439	-0.029005
22	P2	-8.184916	0.052719	-0.050939
26	P2	-24.080200	0.125794	-0.102226
30	P2	-22.057941	0.087905	-0.043146

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.023655	0.003771	0.002899
7	P3	-8.023741	0.003780	0.002797
11	P3	-8.023734	0.003752	0.002789
15	P3	-8.023587	0.003771	0.002952
19	P3	-8.023739	0.003776	0.003330
22	P3	-8.023704	0.003765	0.002728
26	P3	-8.023605	0.003763	0.002516
30	P3	-8.023702	0.003770	0.002935

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	0.000534262
	stdev	1.89464e-07
MEAN Q	mean	0.000514899
	stdev	2.27067e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.134828
	stdev	0.00116305
STDEV Q	mean	0.135171
	stdev	0.00117996

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006052[234]
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_1PNPDE20060524_004516_000001932048_00016_22114_6100.N1	1	0
ASA_WSM_1PNPDE20060523_163146_000001282048_00012_22110_0468.N1	0	47
ASA_WSM_1PNPDE20060523_231127_000001152048_00016_22114_0537.N1	0	35
ASA_WSM_1PNPDE20060523_235742_000003302048_00016_22114_0549.N1	0	34
ASA_WSM_1PNPDE20060524_013517_000000852048_00017_22115_0566.N1	0	39

7 - Doppler Analysis

Preliminary report.The data is not yet controled

7.1 - Unbiased Doppler Error for WVS

Evolution of unbiased Doppler error (Real - Expected)

Acsending

Descending

7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler

Acsending

Descending

7.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX


7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)

Acsending

Descending

7.5 - Absolute Doppler for GM1

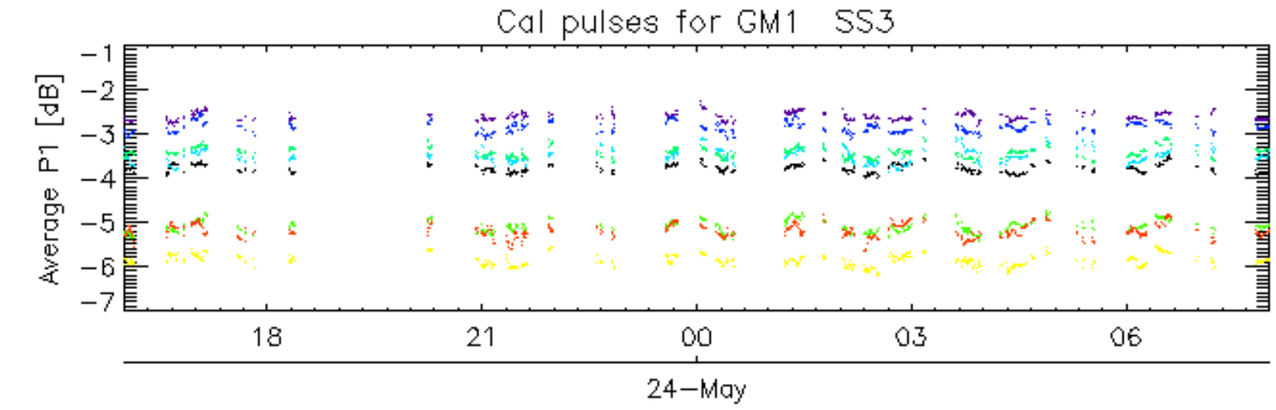
Evolution of Absolute Doppler

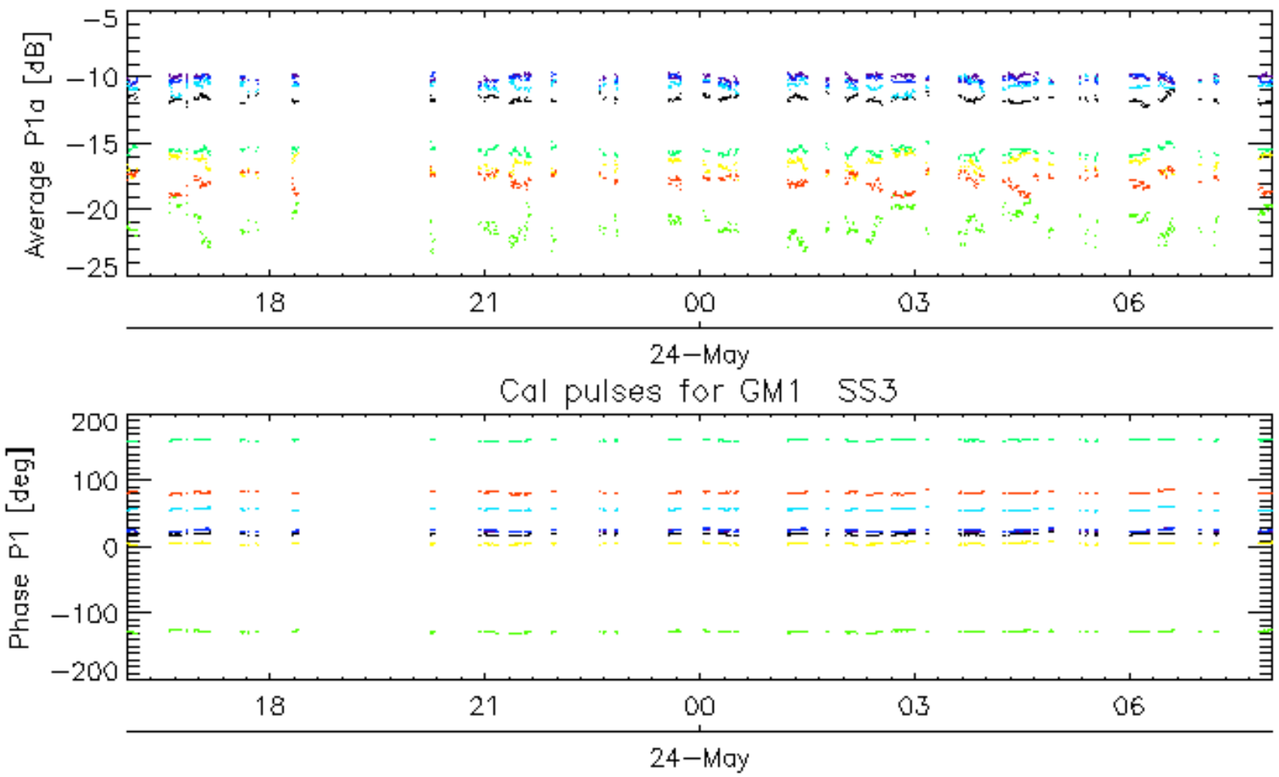
Acsending

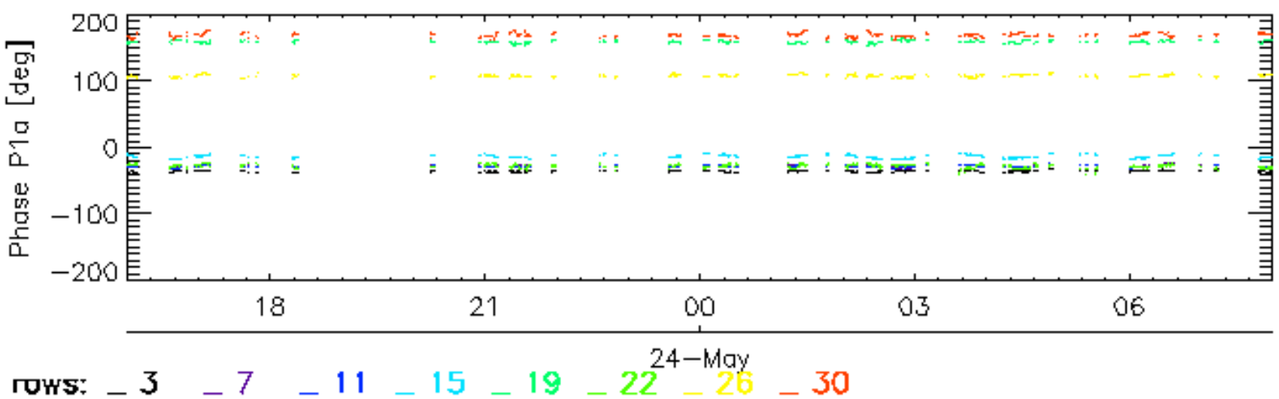
Descending

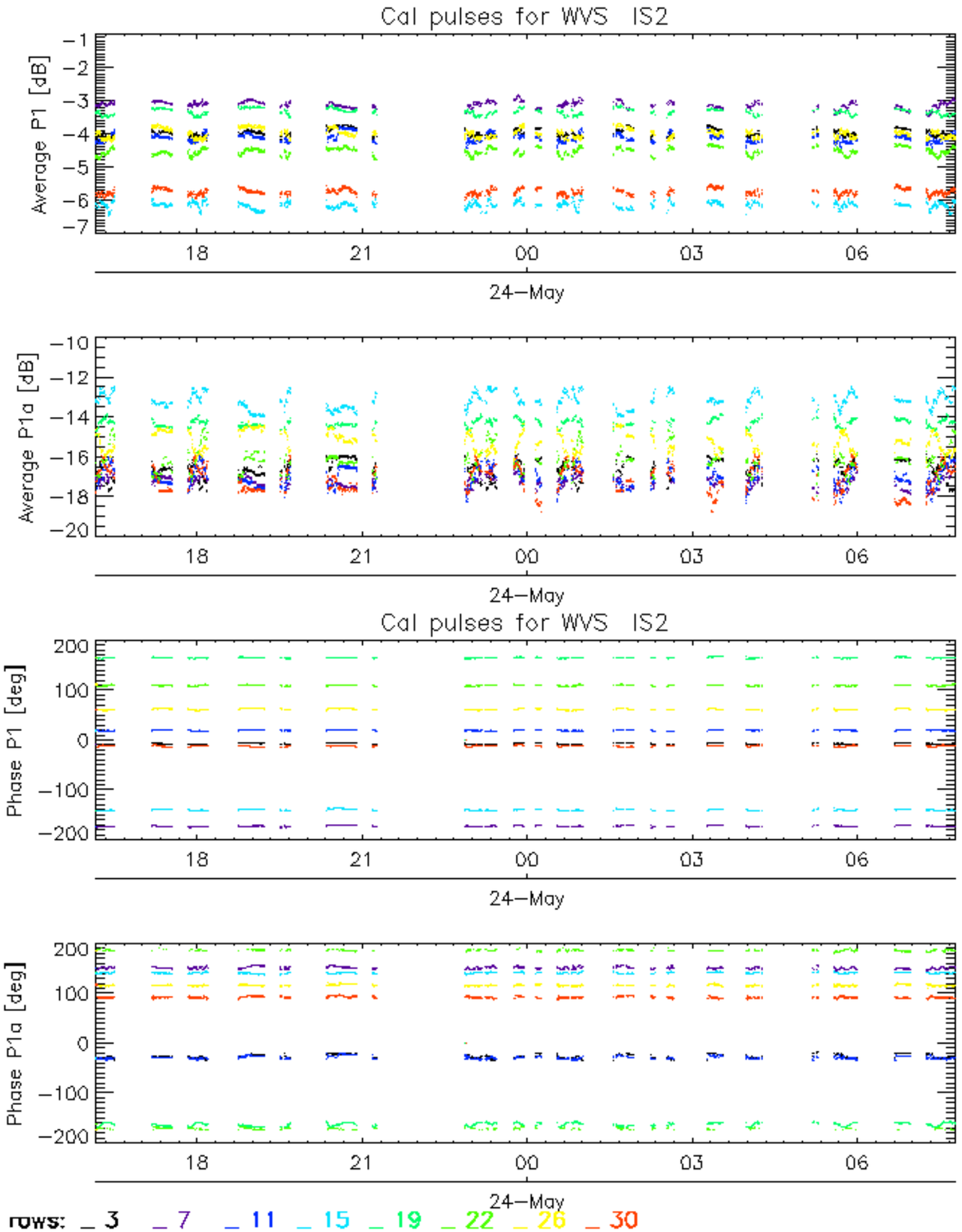
7.6 - Doppler evolution versus ANX for GM1

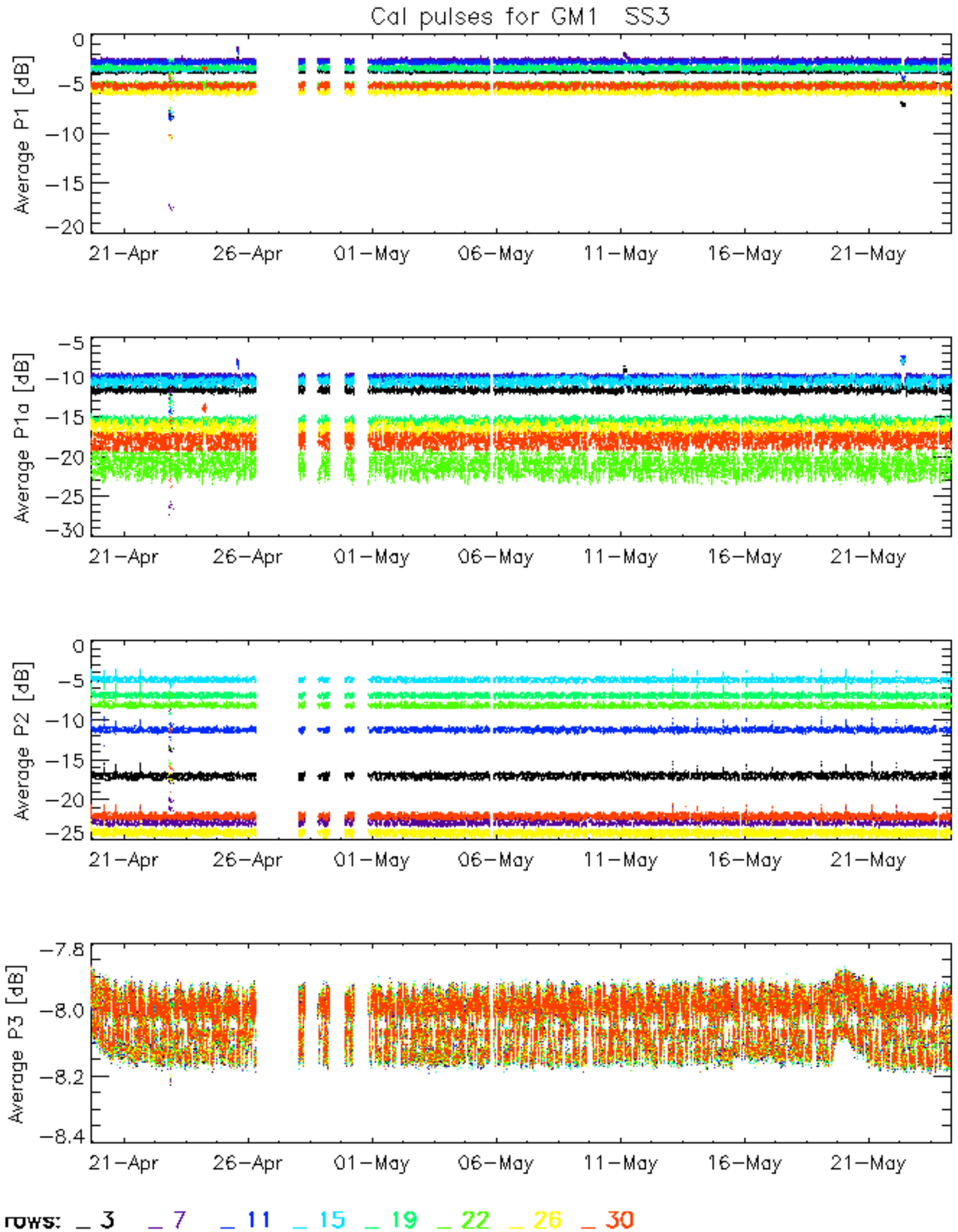
Evolution Doppler error versus ANX

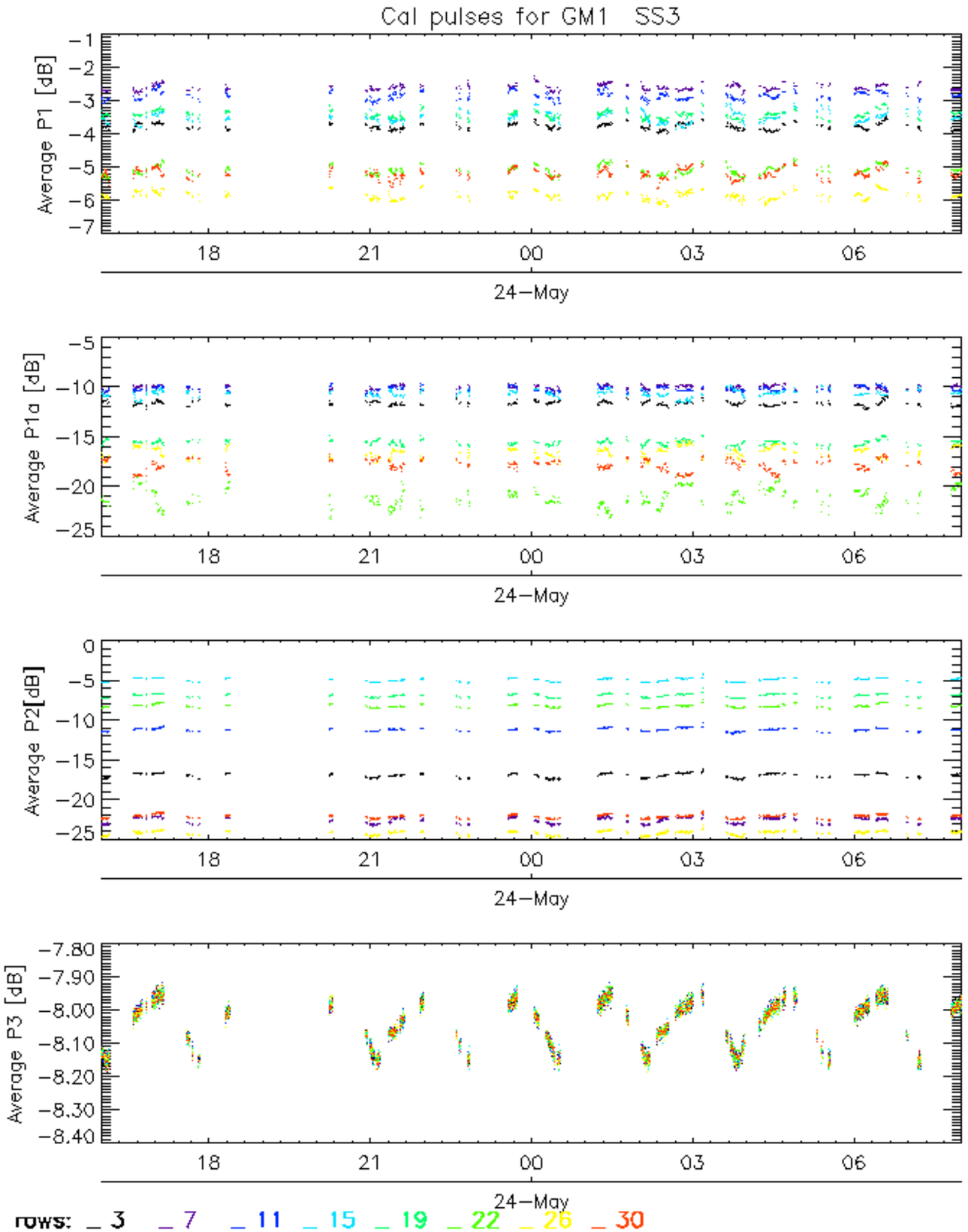


Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
24−May

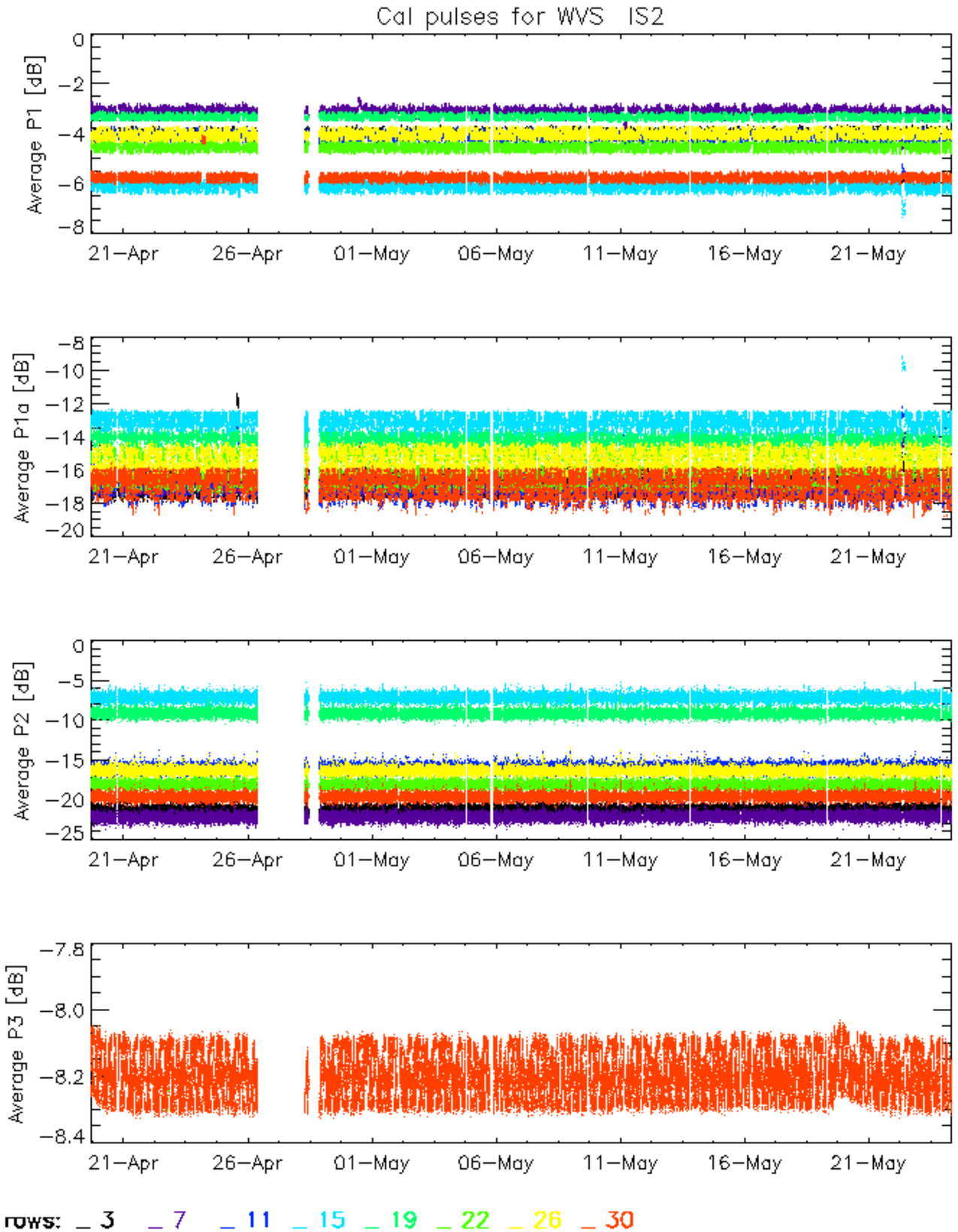

Average P1a [dB]
−5
−10
−15
−20
−25
18
21
00
03
06
24−May
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
18
21
00
03
06
24−May

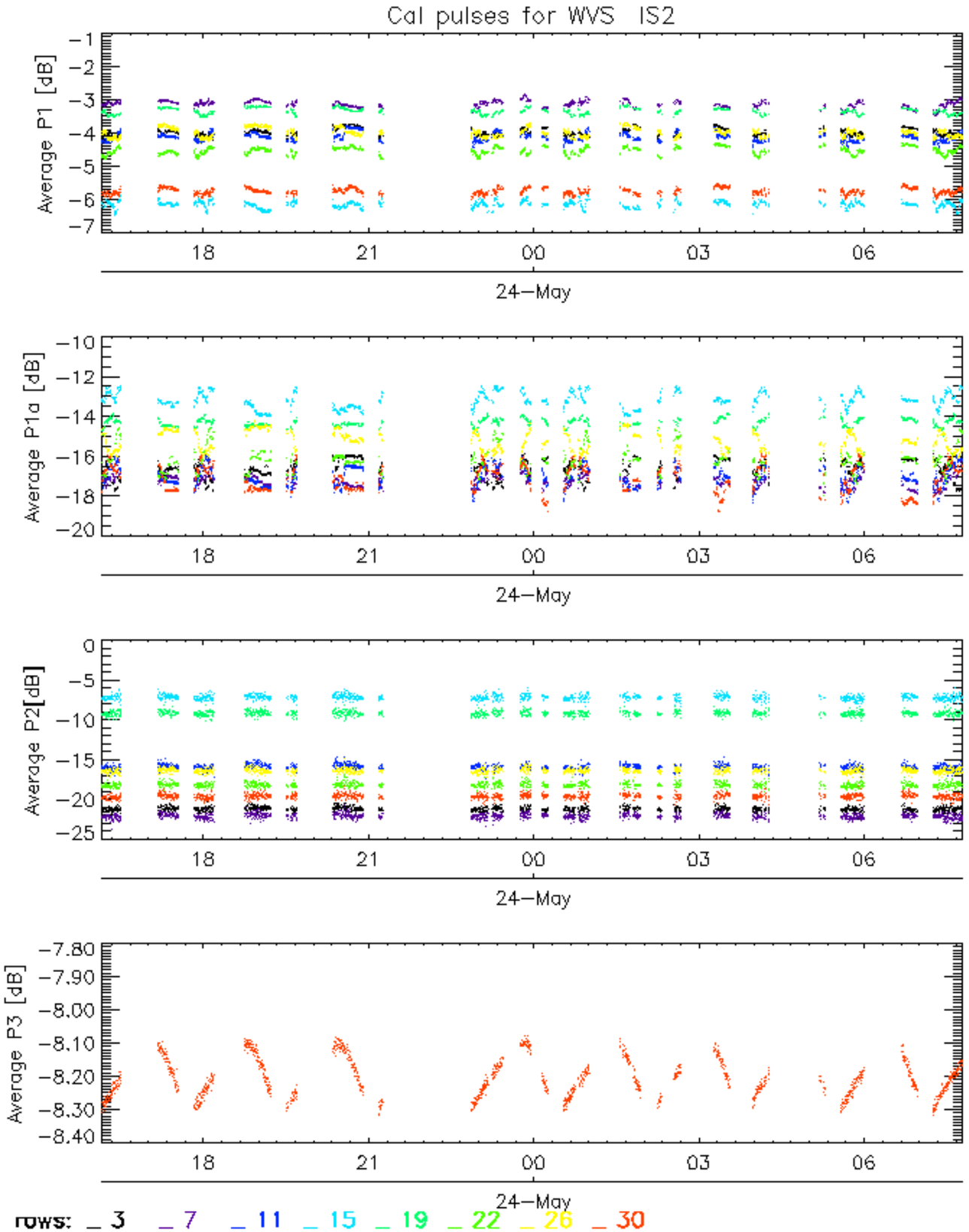

Phase P1a [deg]
200
100
0
−100
−200
18
21
00
03
06
24−May
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
24−May
Average P1a [dB]
−10
−12
−14
−16
−18
−20
18
21
00
03
06
24−May
Cal pulses for WVS IS2
Phase P1 [deg]
200
100
0
−100
−200
18
21
00
03
06
24−May
Phase P1a [deg]
200
100
0
−100
−200
18
21
00
03
06
24−May
rows: 3 7 11 15 19 22 26 30


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

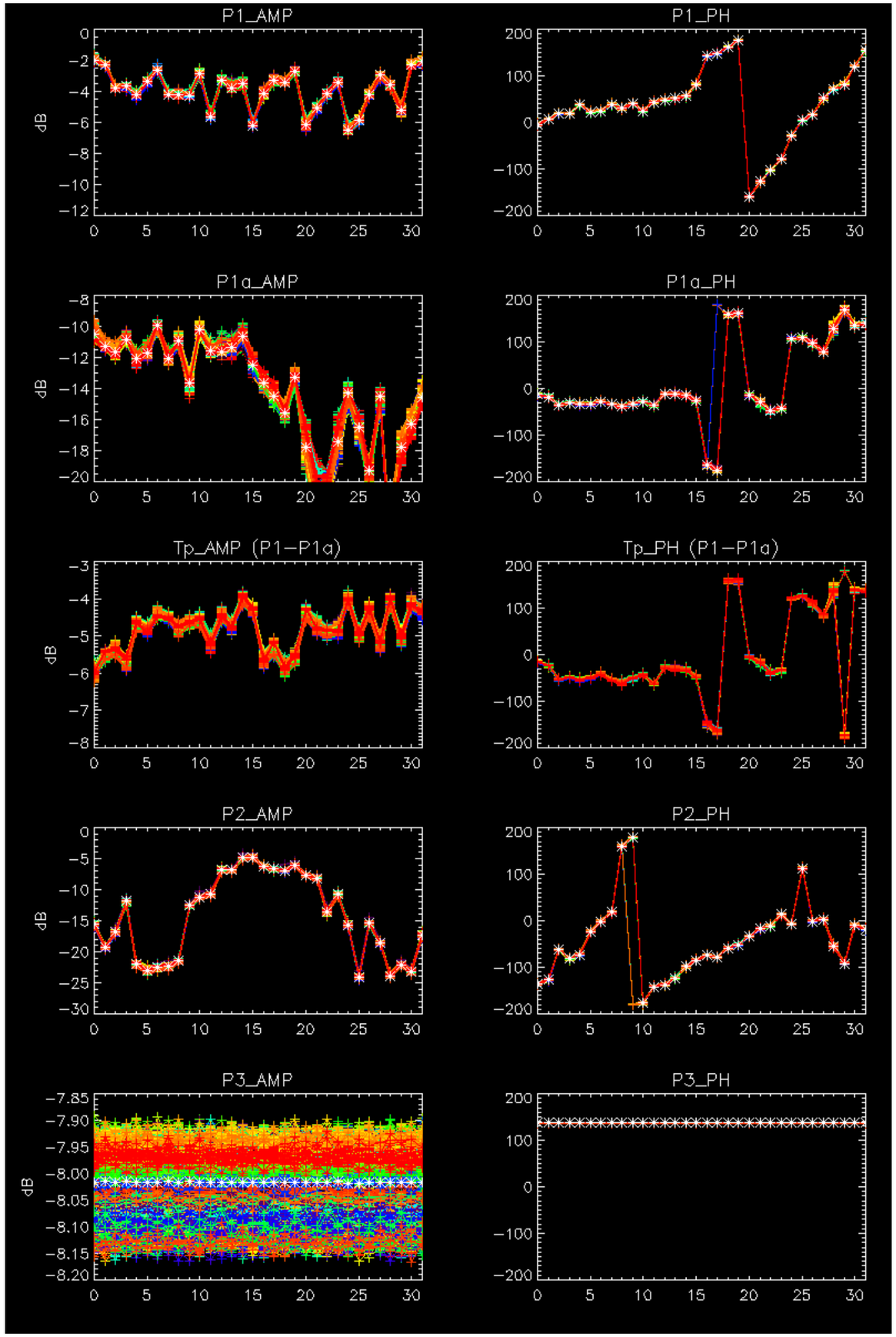

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
24−May
Average P1a [dB]
−5
−10
−15
−20
−25
18
21
00
03
06
24−May
Average P2[dB]
0
−5
−10
−15
−20
−25
18
21
00
03
06
24−May
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
18
21
00
03
06
24−May
rows: _ 3 _ 7 _ 11 _ 15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

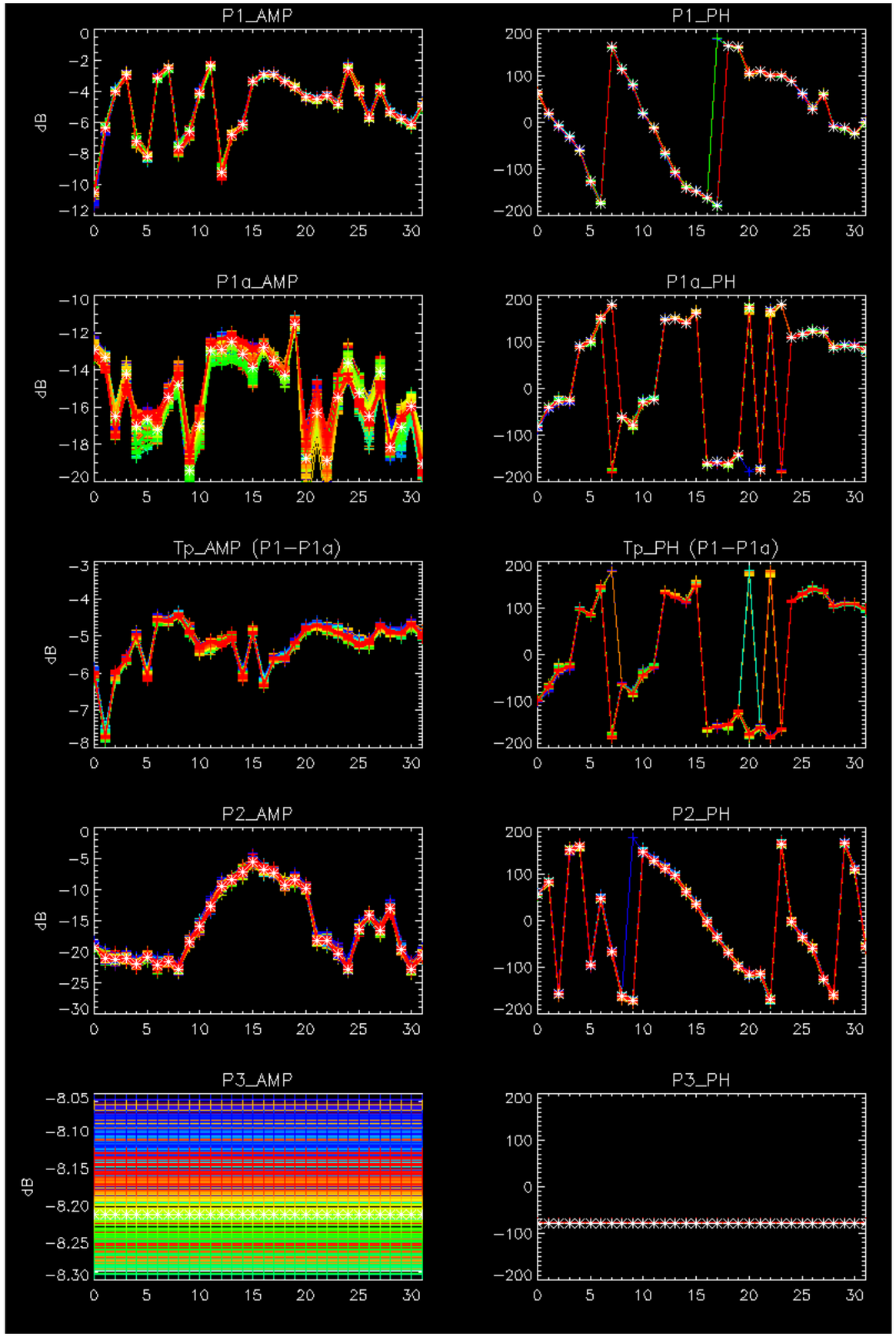

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
21−Apr
26−Apr
01−May
06−May
11−May
16−May
21−May
Average P1a [dB]
−8
−10
−12
−14
−16
−18
−20
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
24−May
Average P1a [dB]
−10
−12
−14
−16
−18
−20
18
21
00
03
06
24−May
Average P2[dB]
0
−5
−10
−15
−20
−25
18
21
00
03
06
24−May
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
18
21
00
03
06
24−May
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

No anomalies observed on available browse products

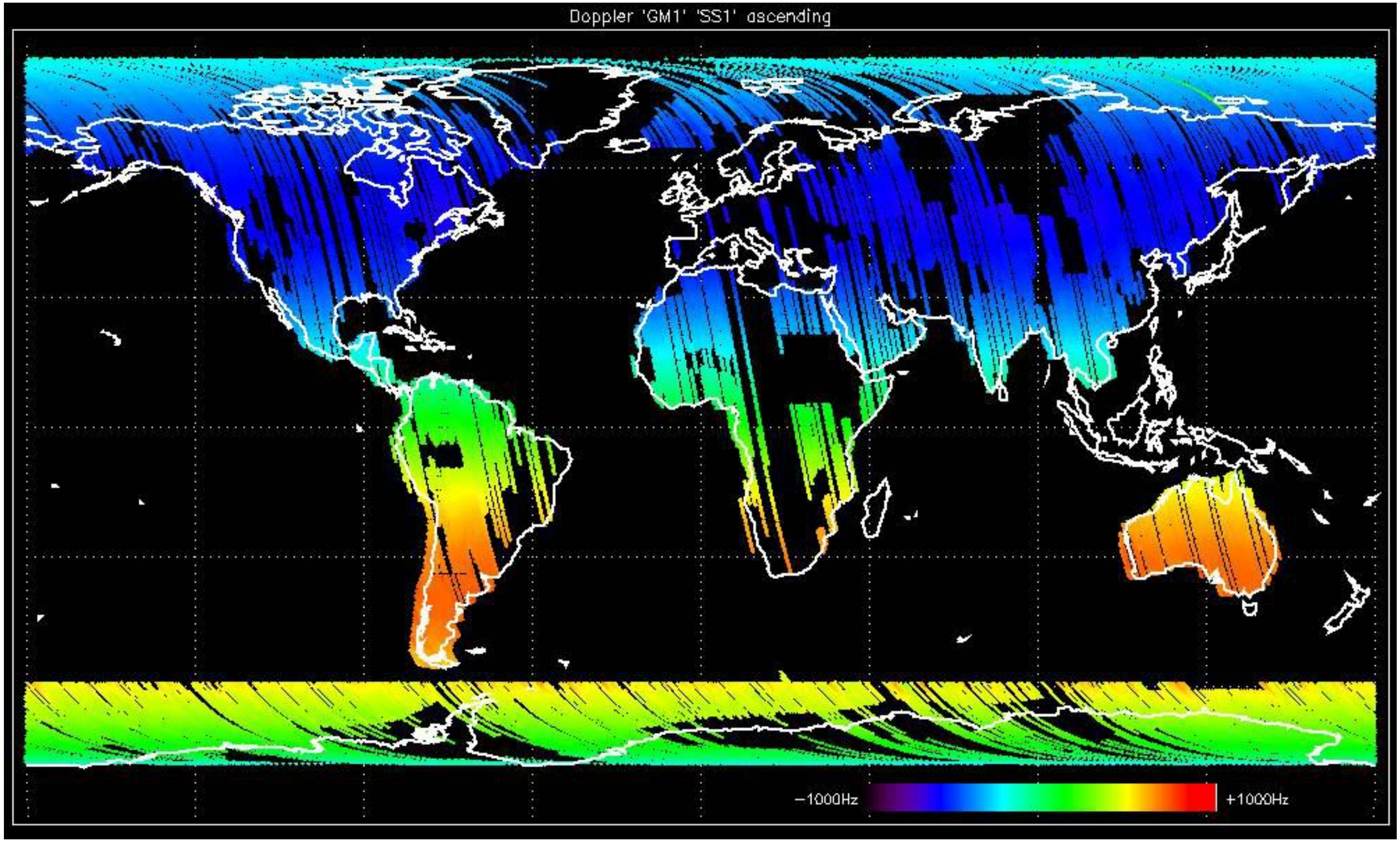
No anomalies observed.

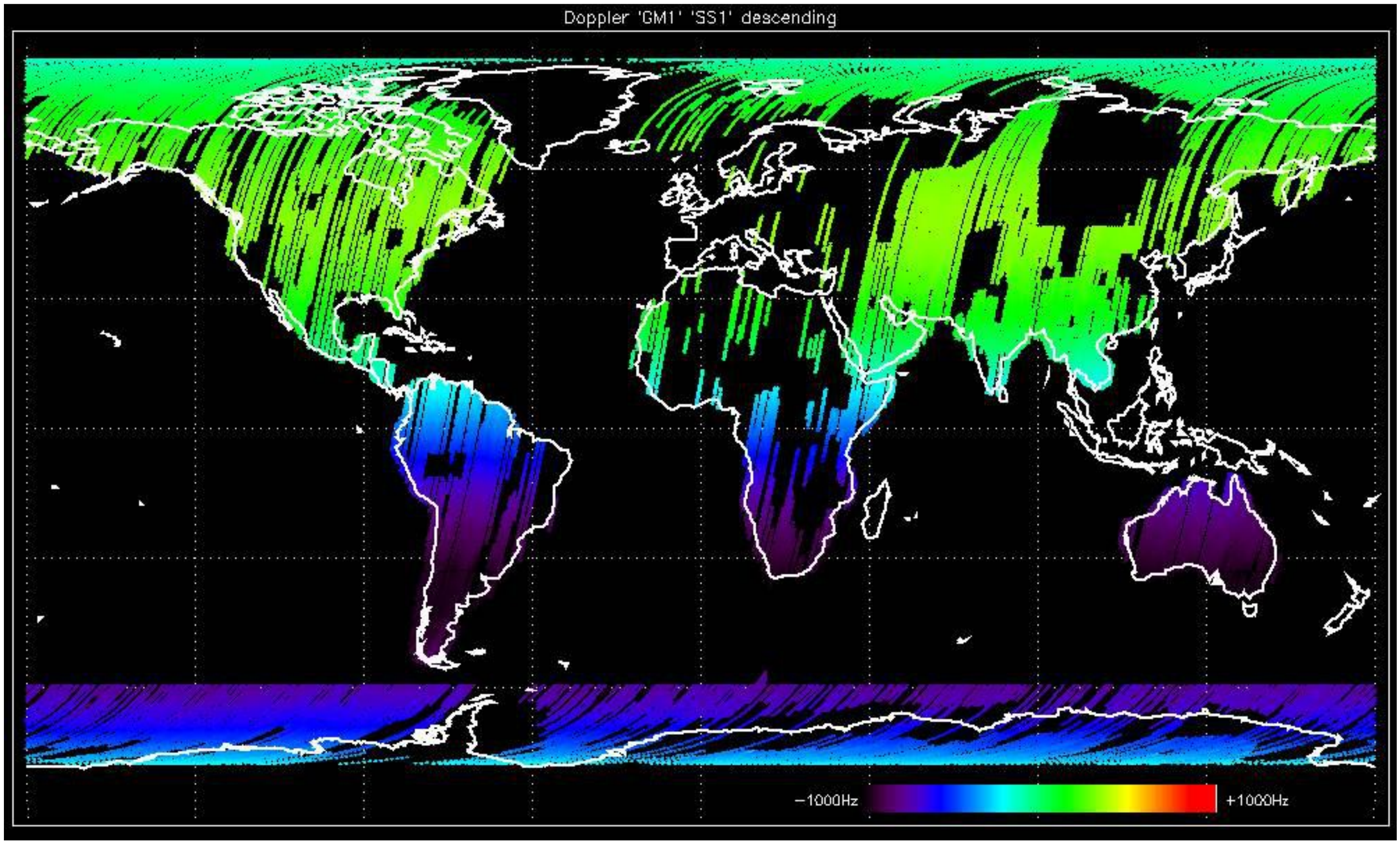

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

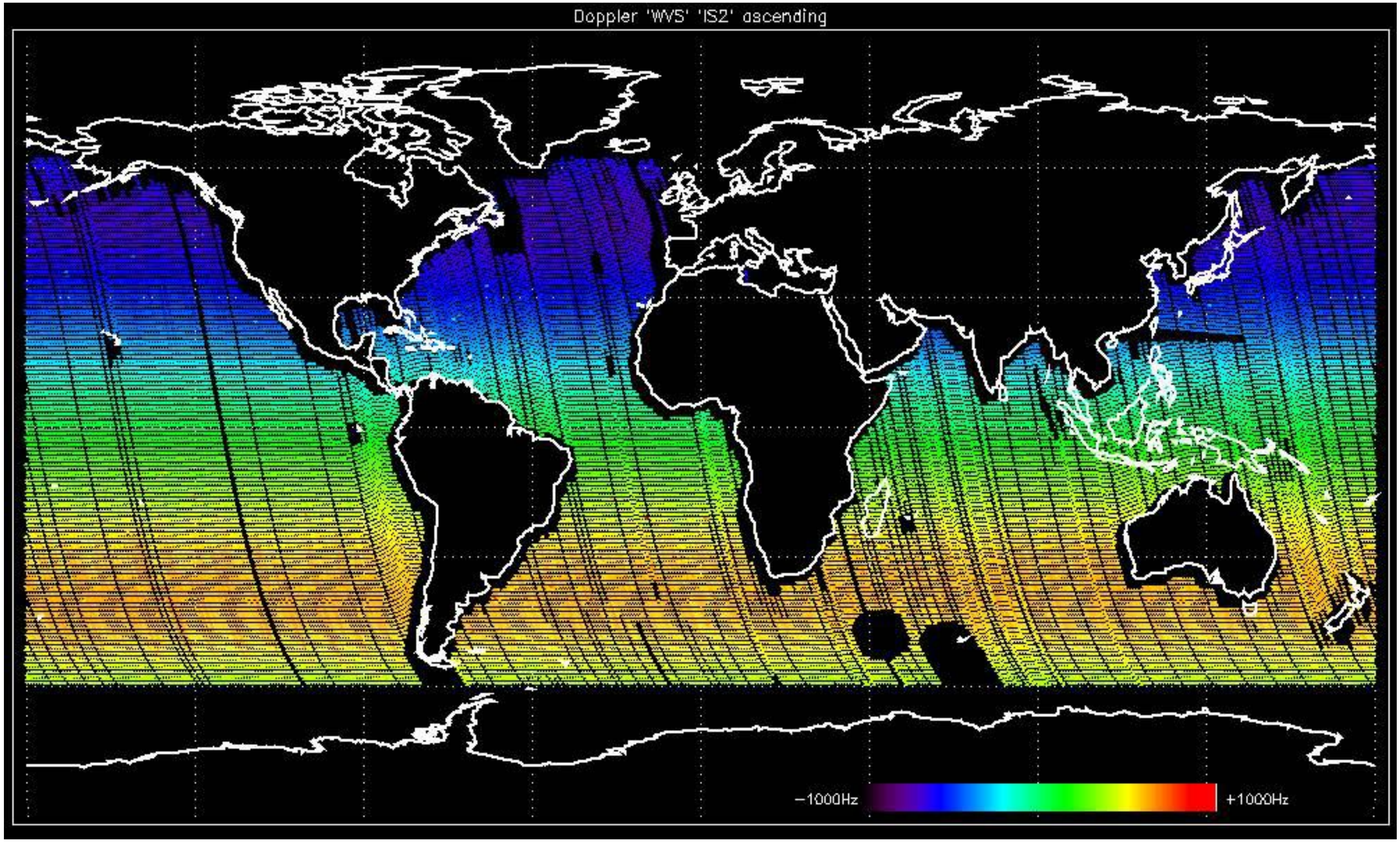

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

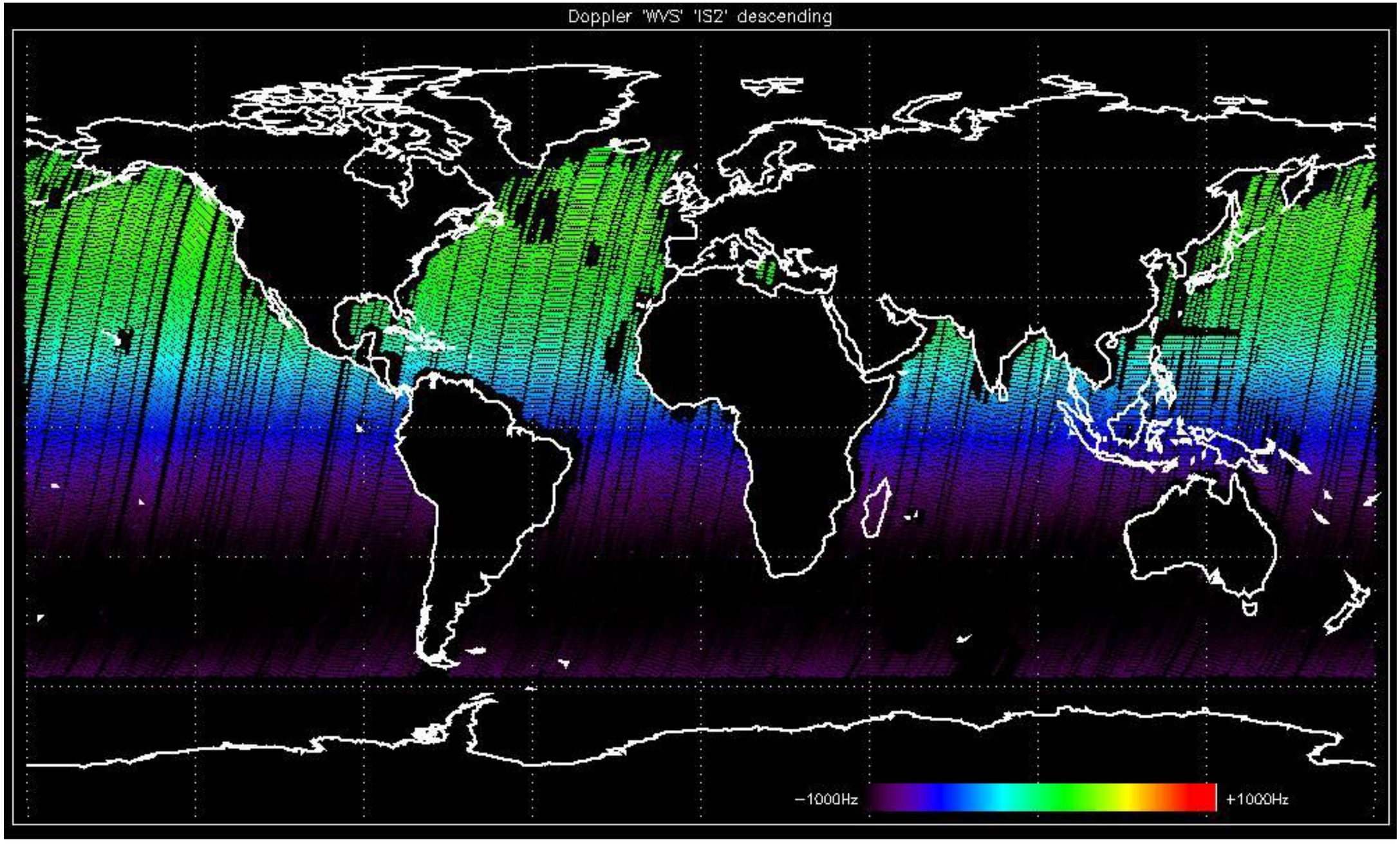
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

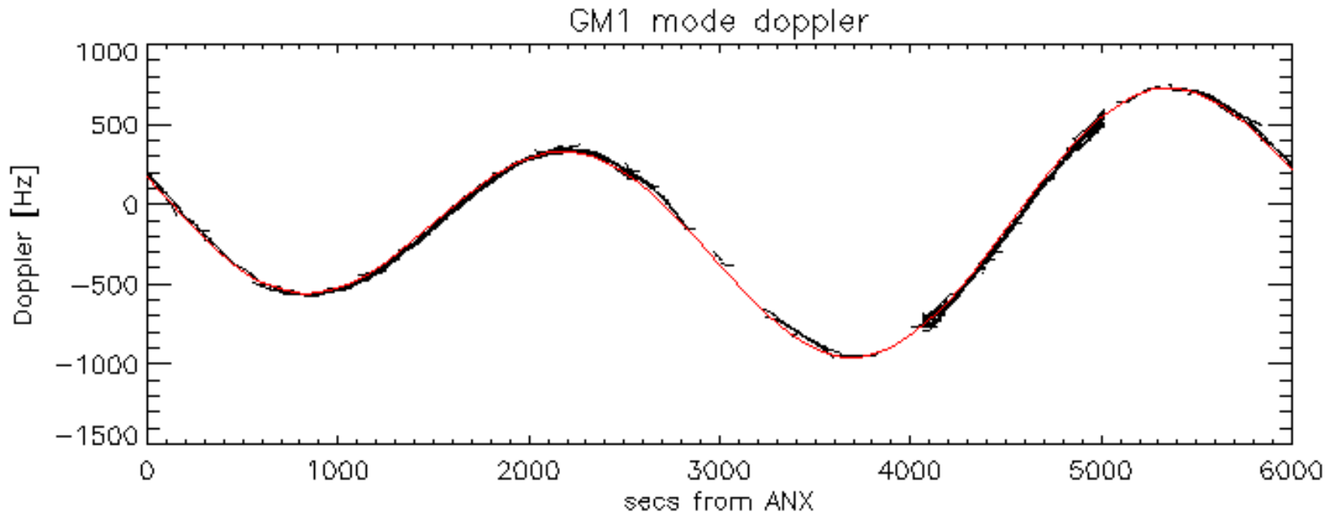
Preliminary report.The data is not yet controled

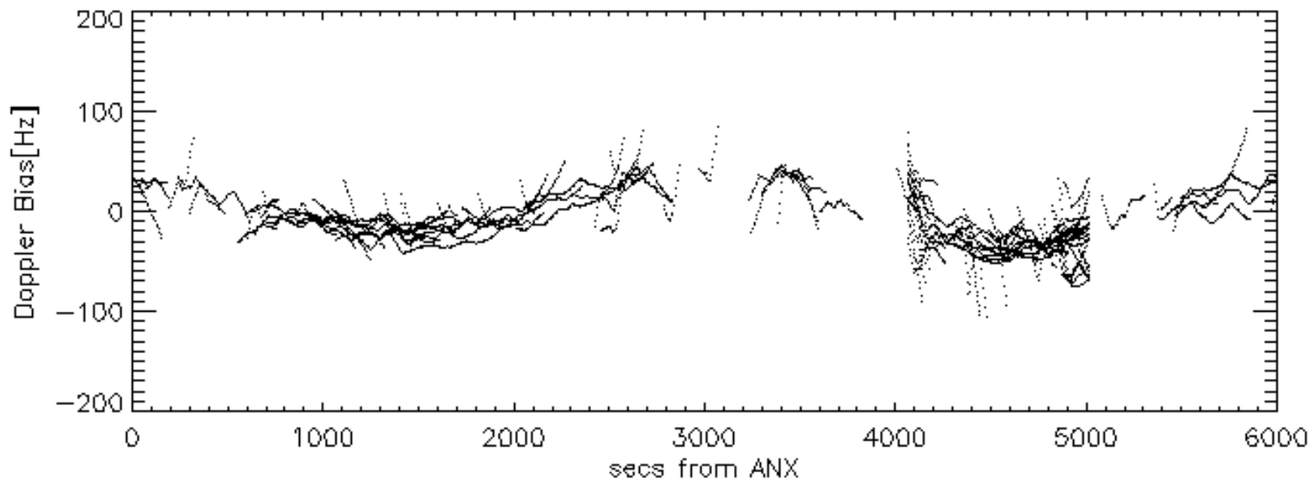

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

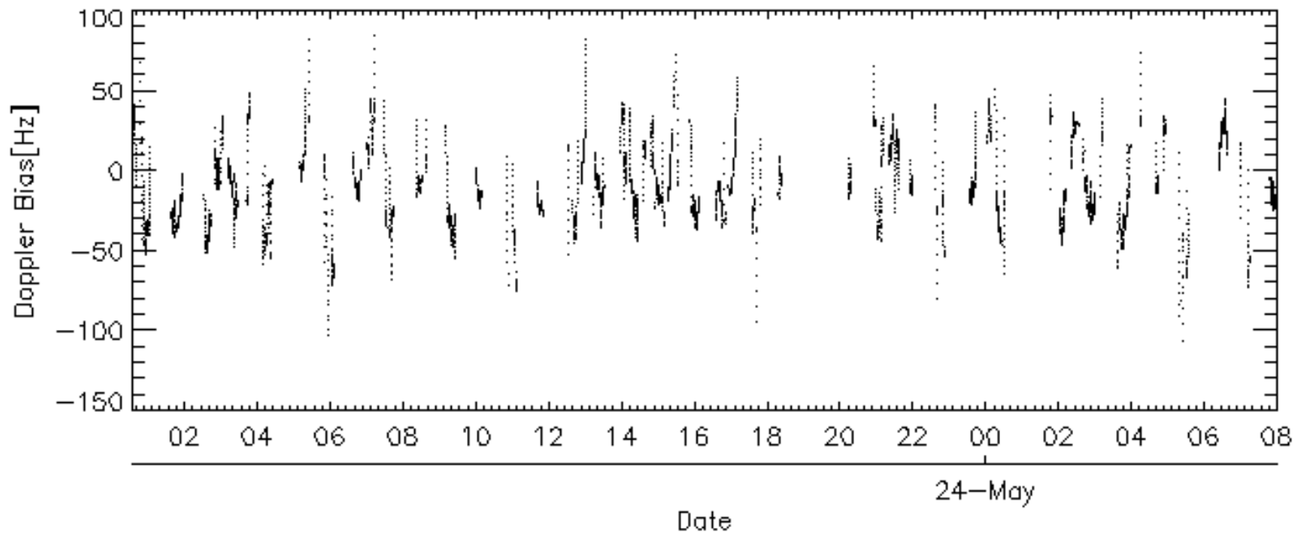

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

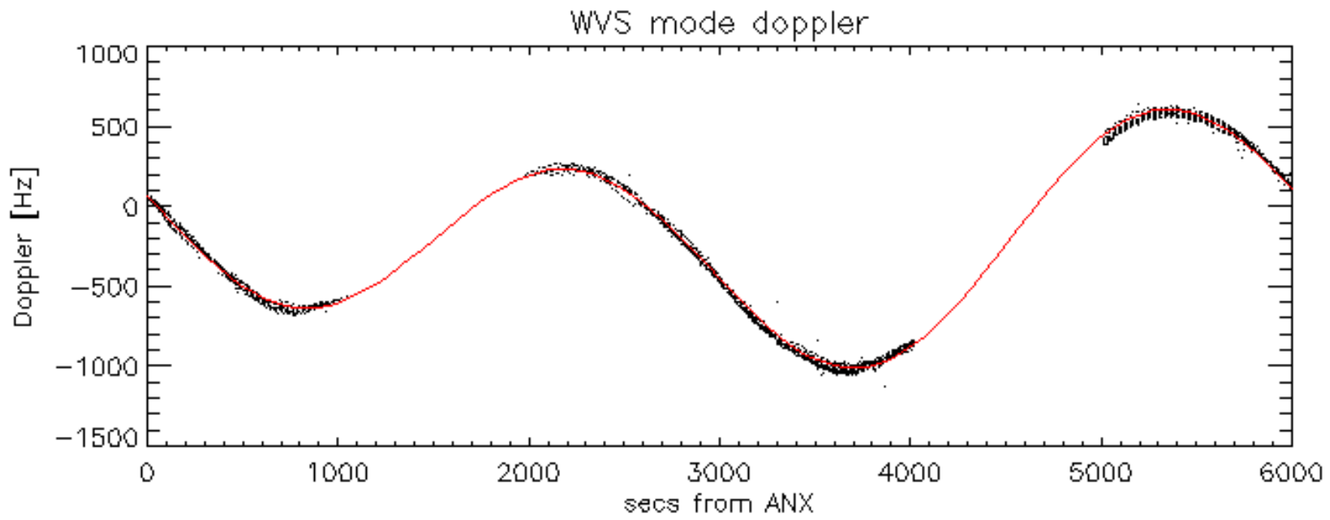

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

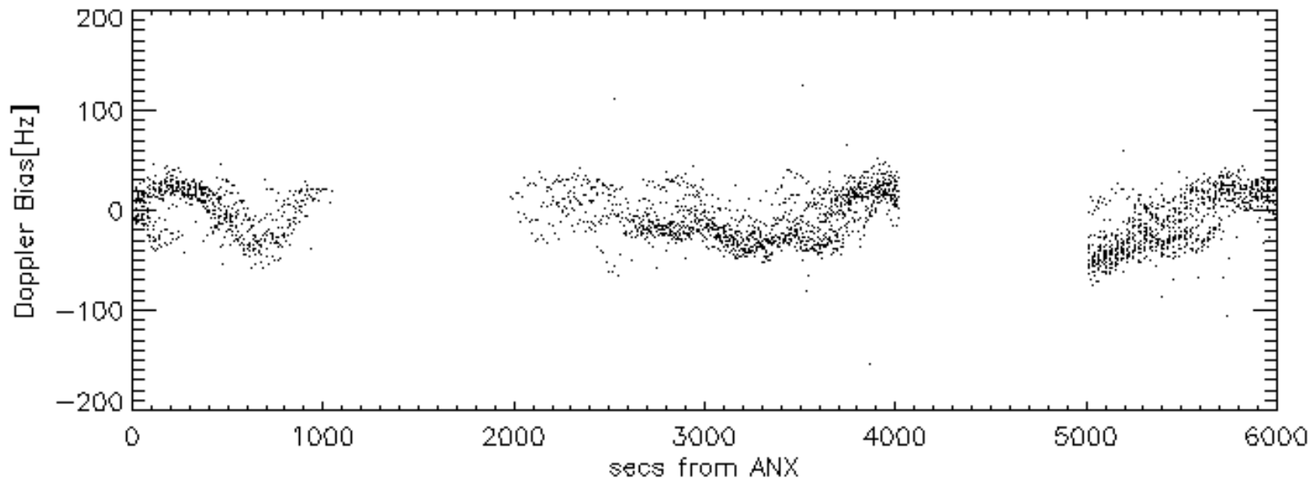

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

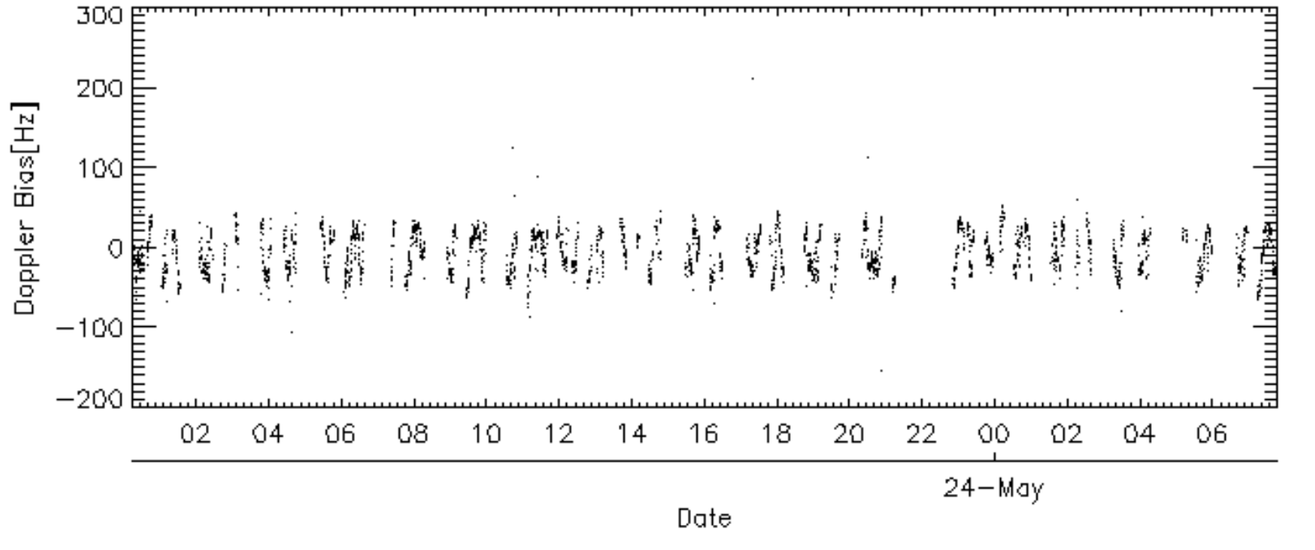

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

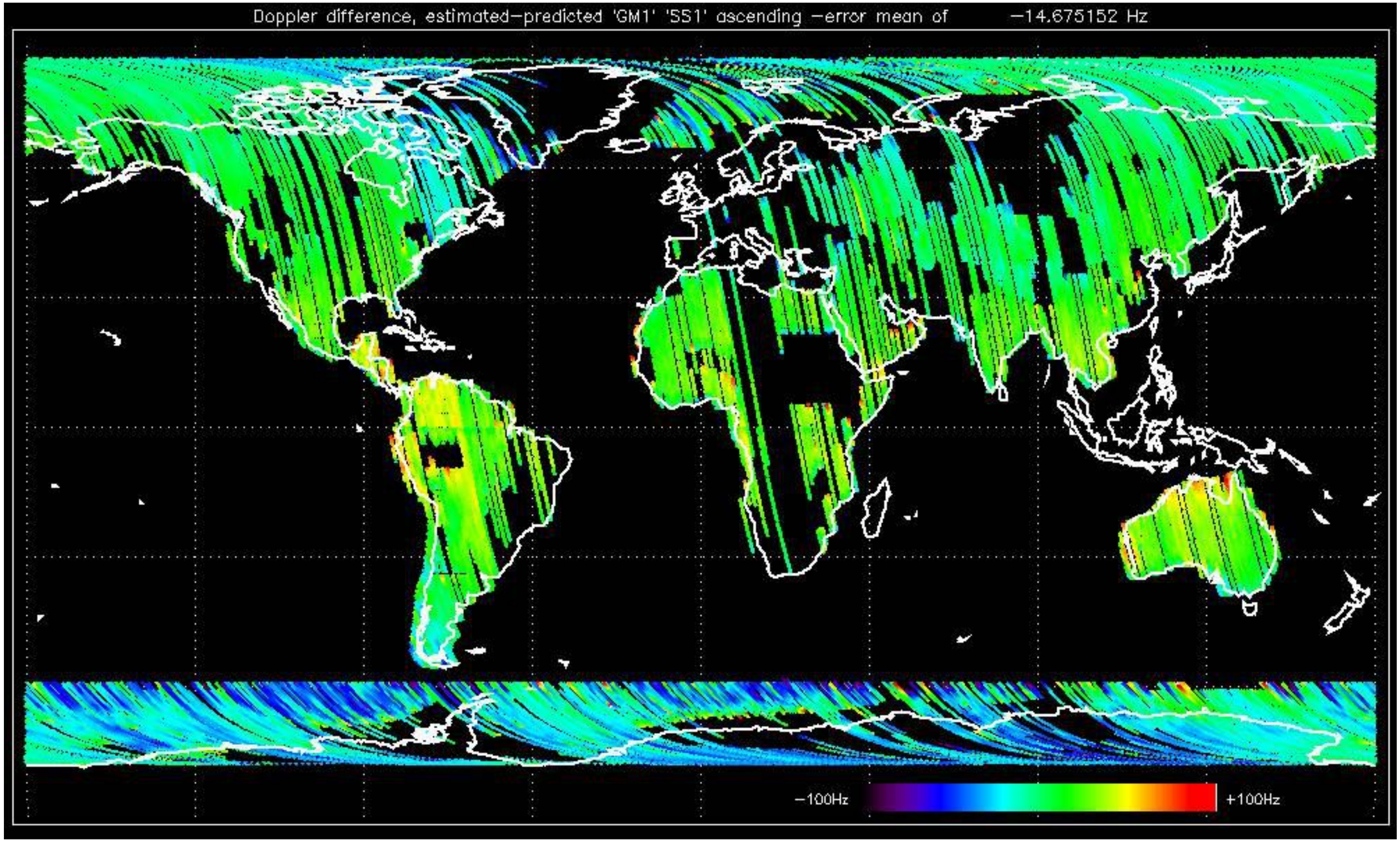

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

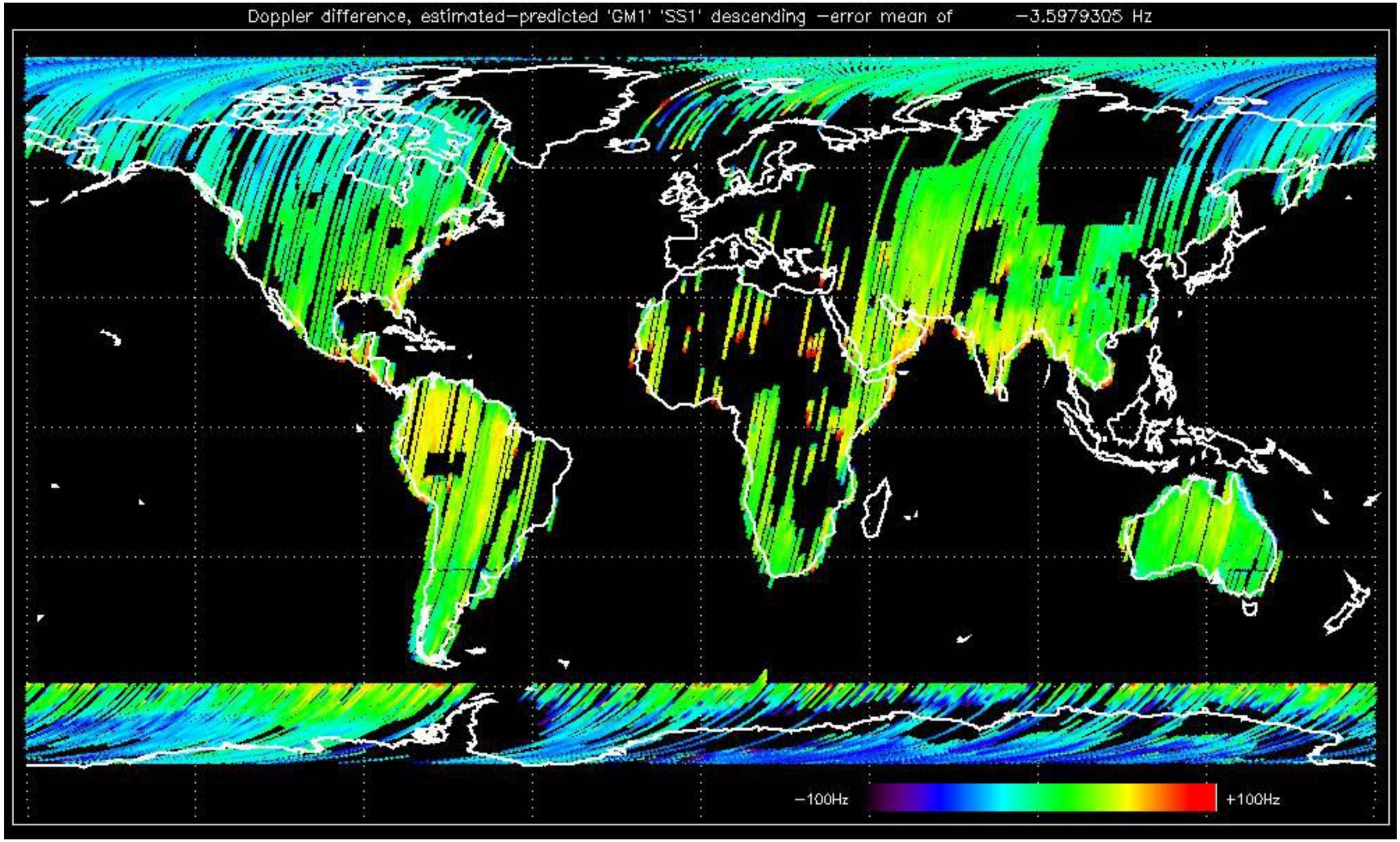

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
08
24−May
Date

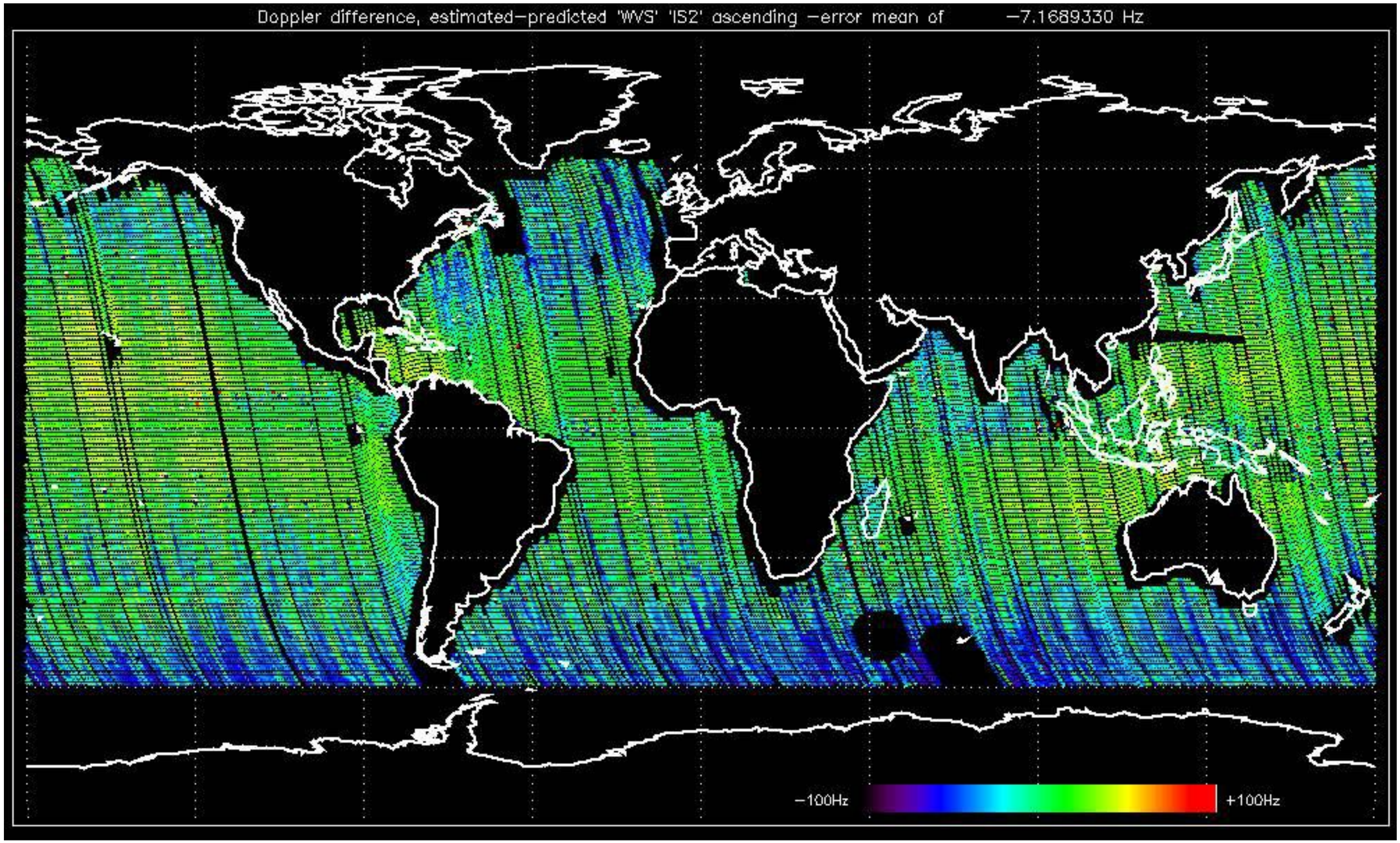

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

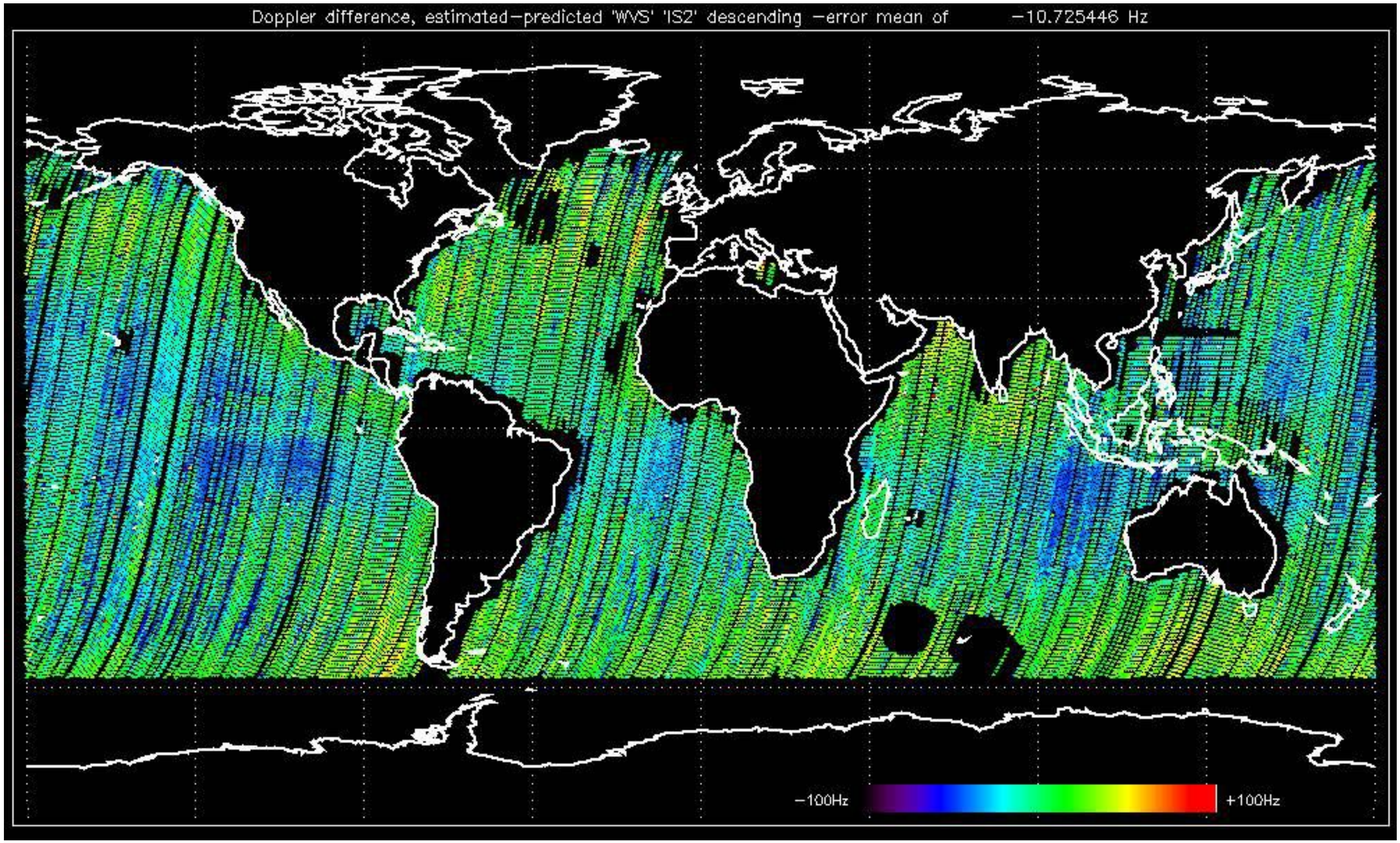

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −14.675152 Hz
−100Hz
+100Hz

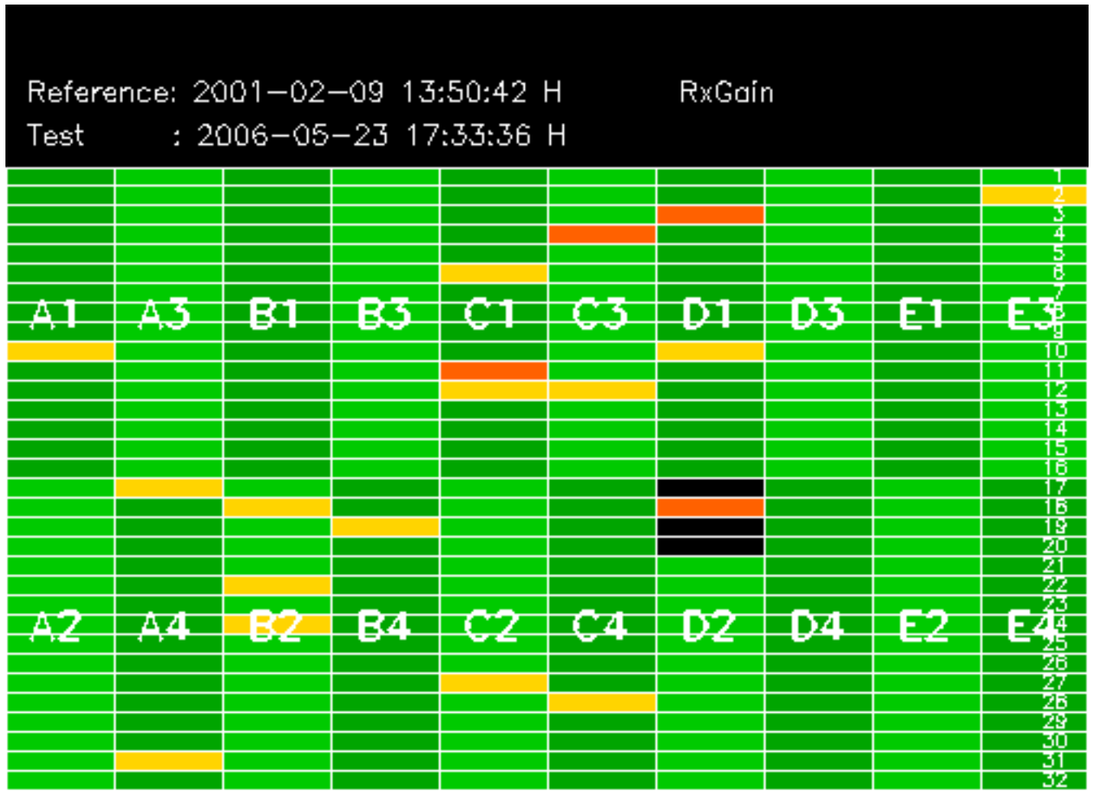

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -3.5979305 Hz
-100Hz
+100Hz

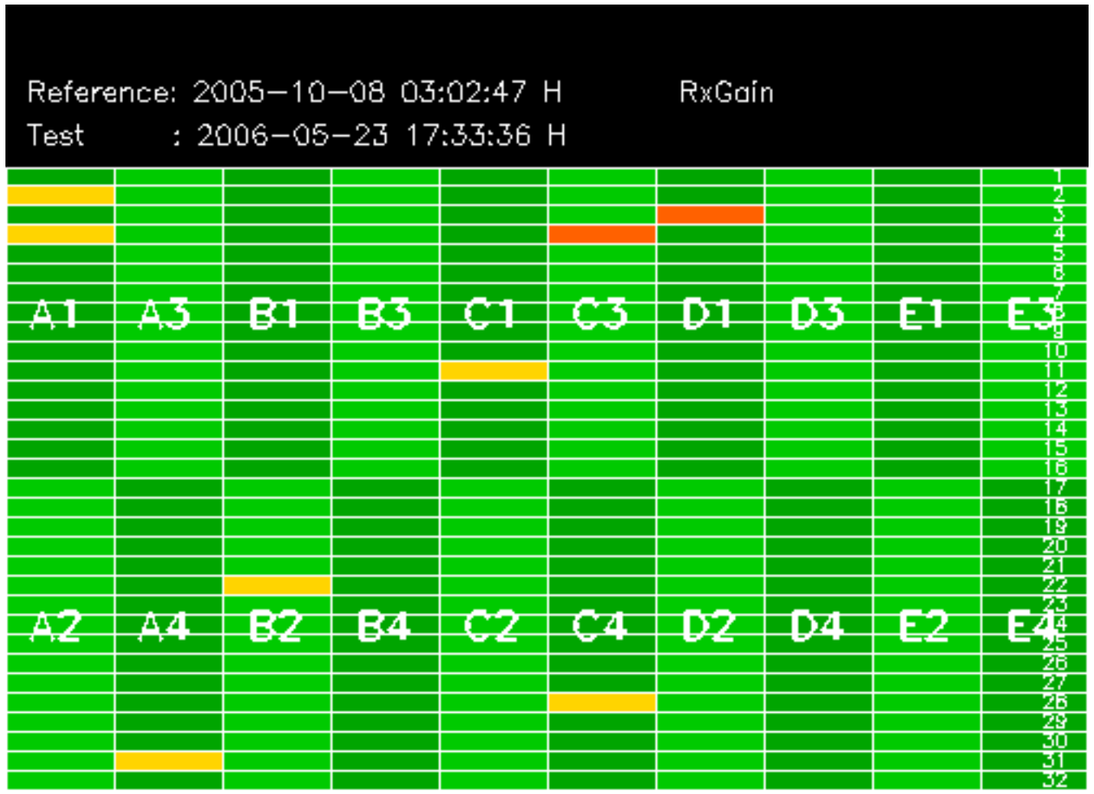

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −7.1689330 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −10.725446 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2006-05-23 17:33:36 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-10-08 03:02:47 H
Test : 2006-05-23 17:33:36 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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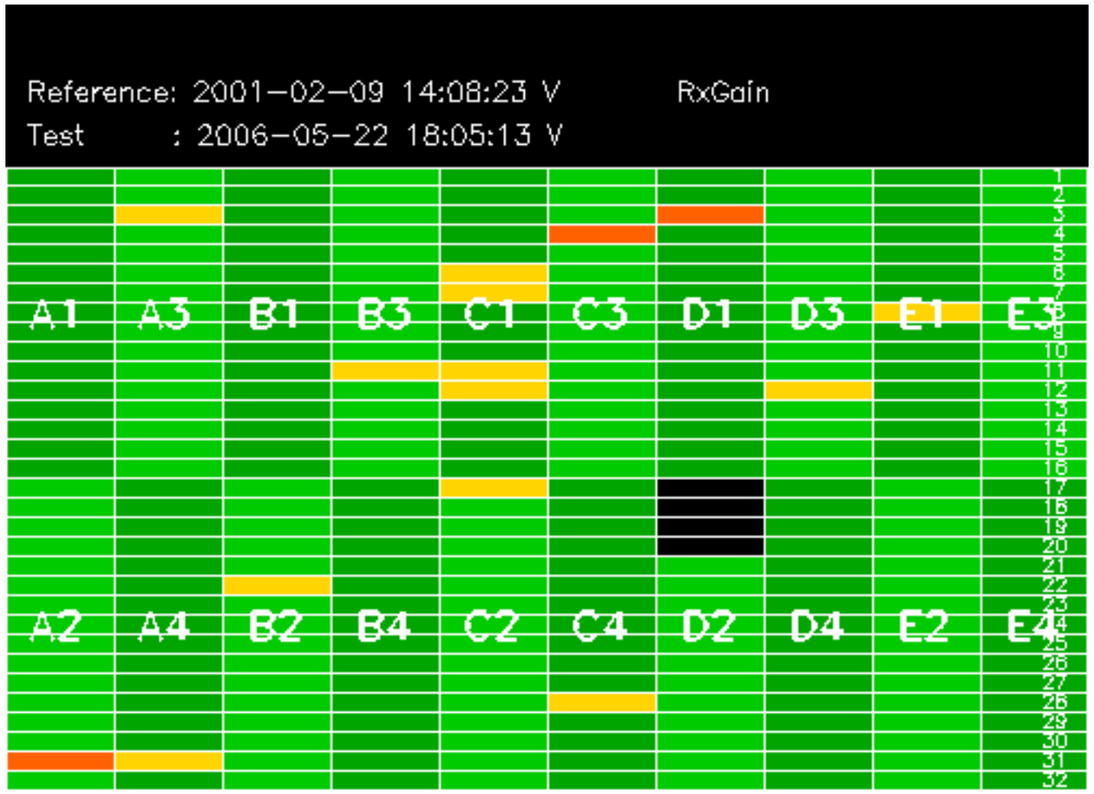
Reference: 2001-02-09 14:08:23 V
Test : 2006-05-22 18:05:13 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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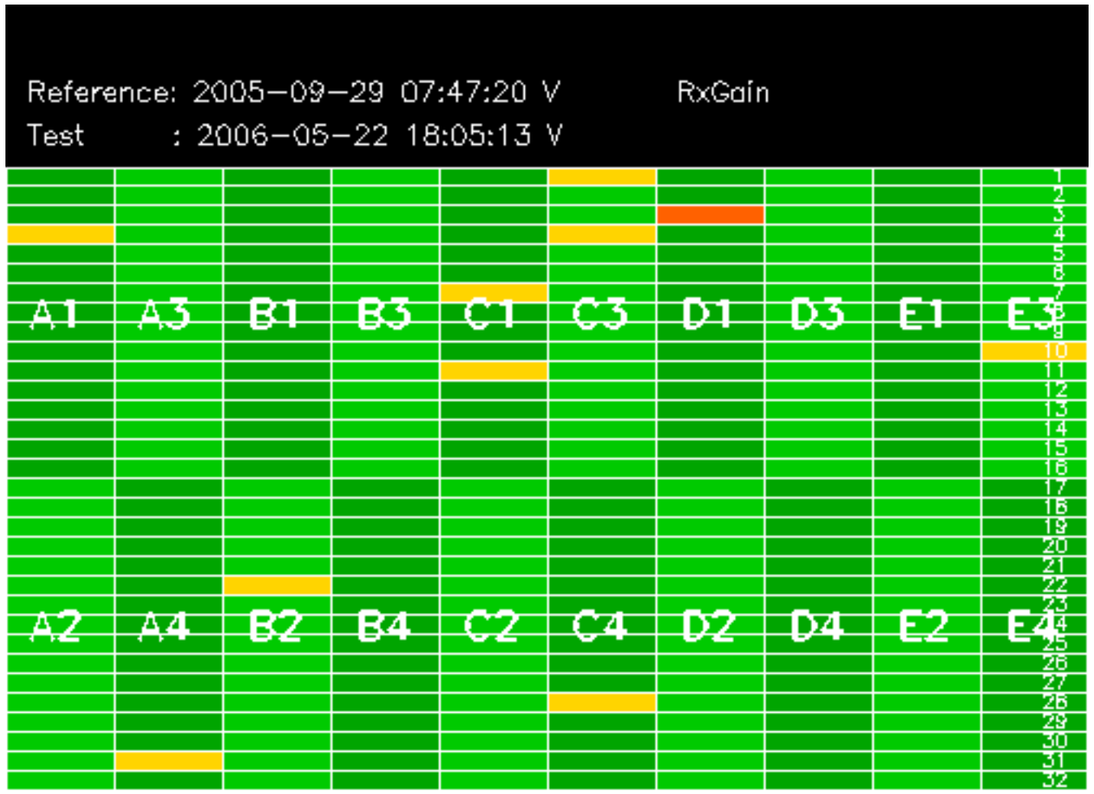
Reference: 2005-09-29 07:47:20 V
Test : 2006-05-22 18:05:13 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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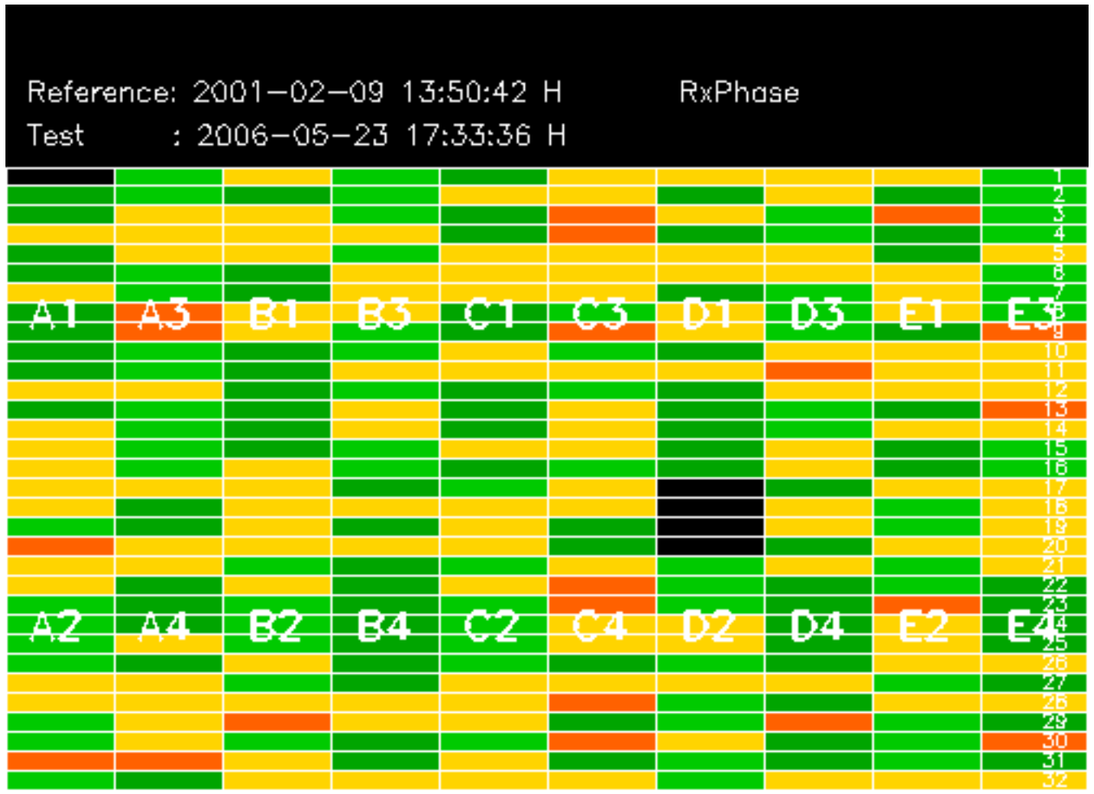
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-05-23 17:33:36 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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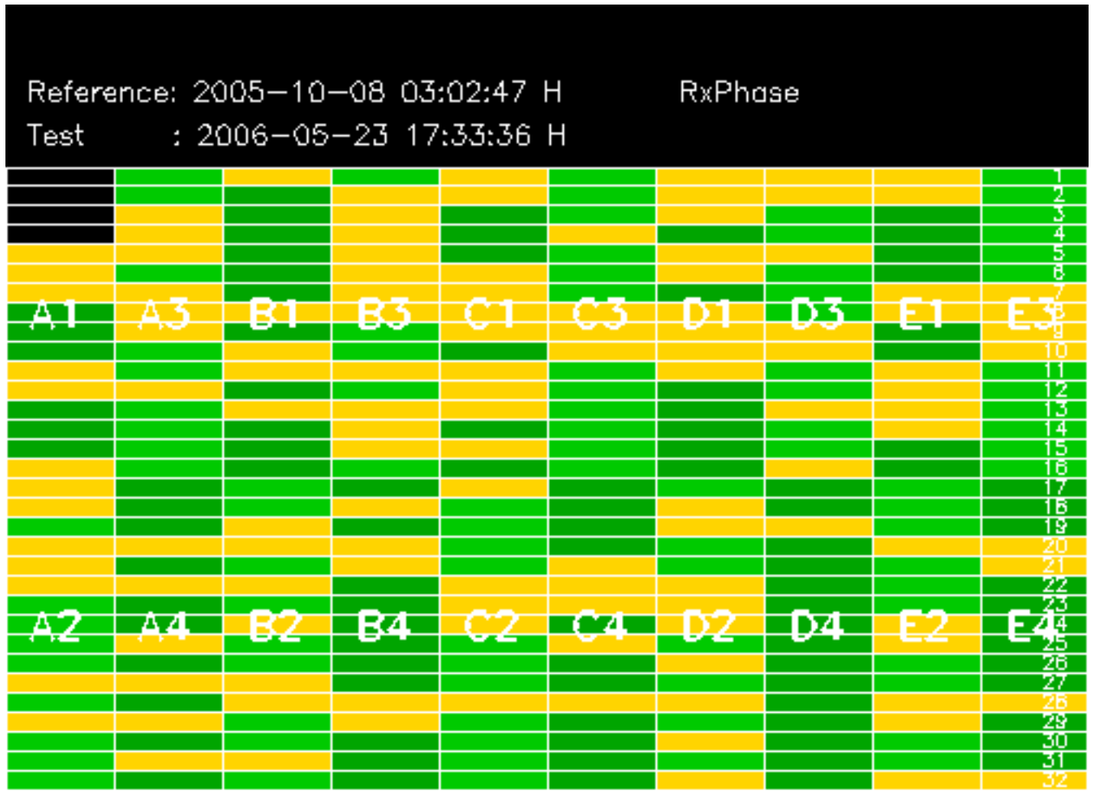
Reference: 2005-10-08 03:02:47 H
RxPhase
Test : 2006-05-23 17:33:36 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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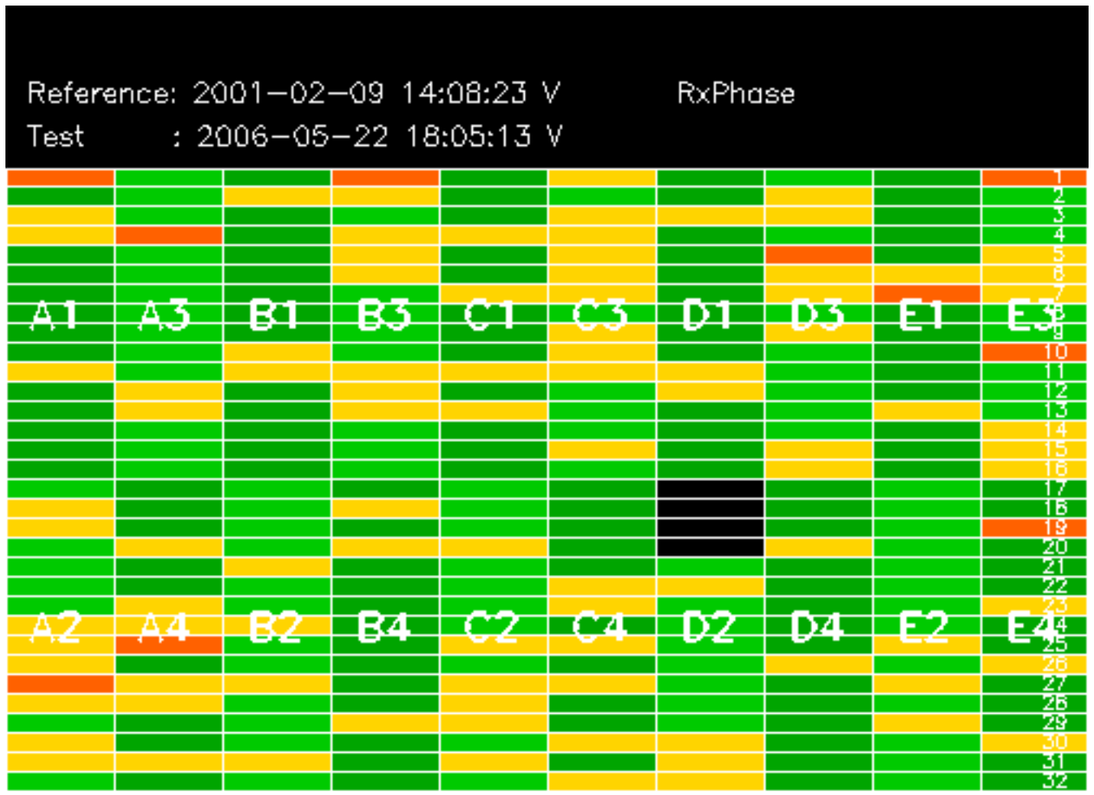
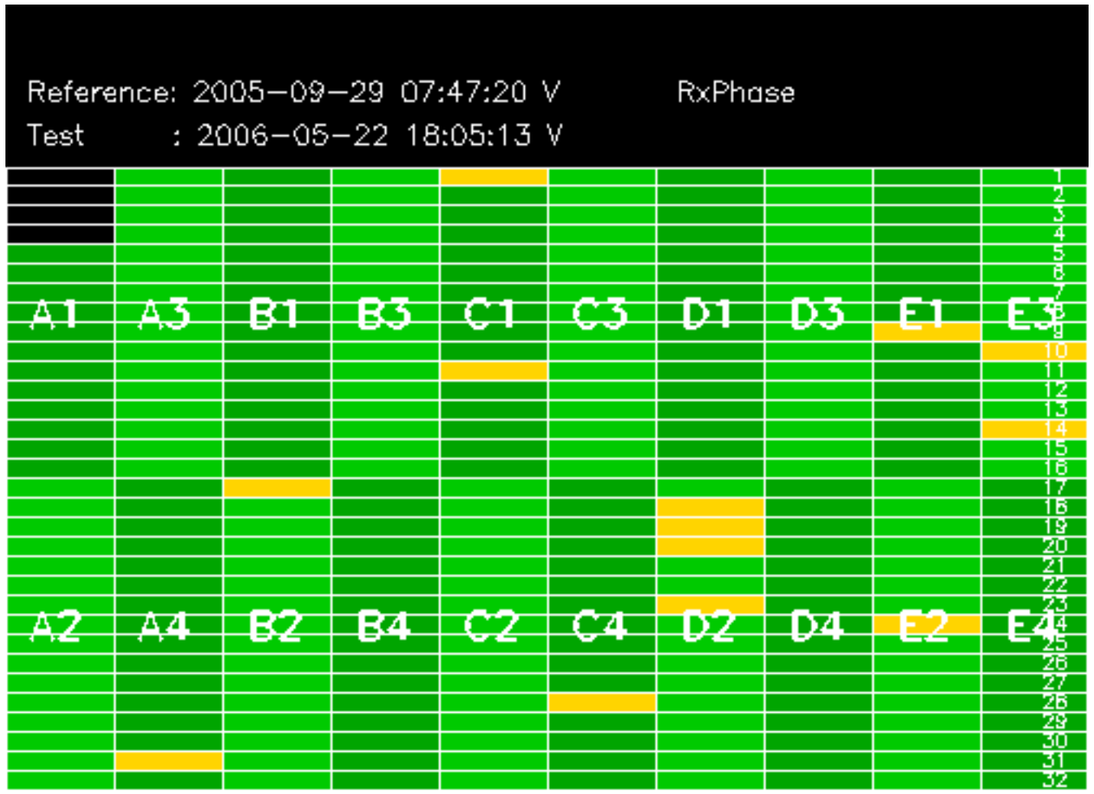

Reference: 2001-02-09 14:08:23 V
Test : 2006-05-22 18:05:13 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-05-22 18:05:13 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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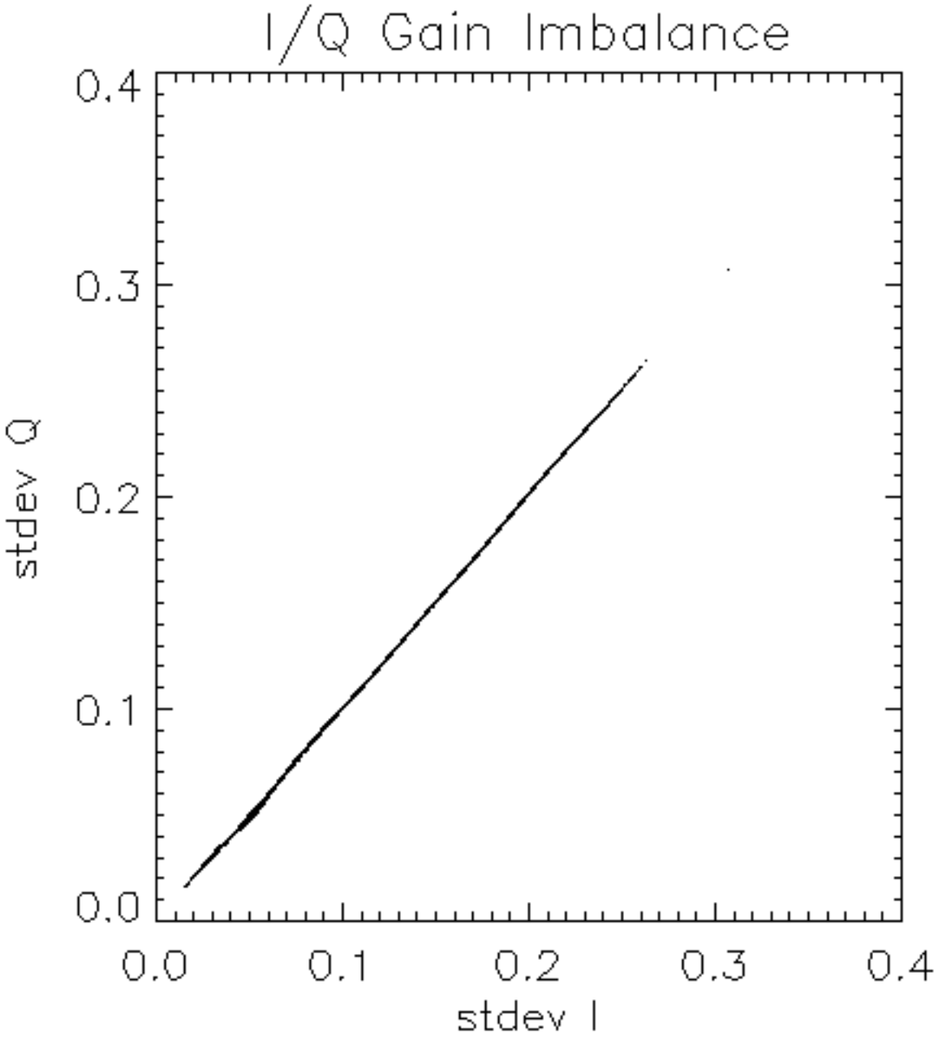
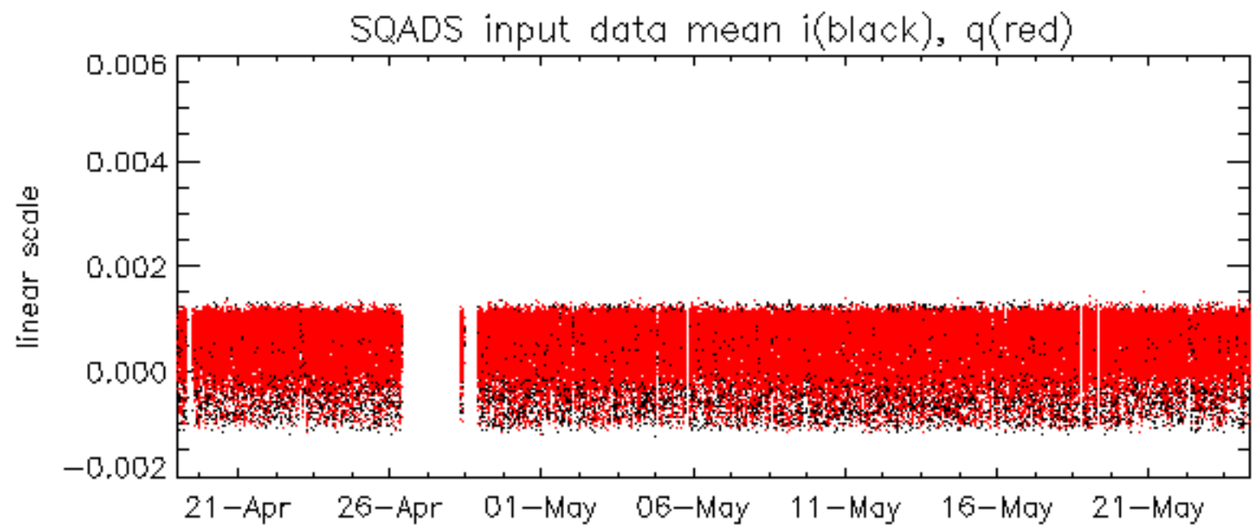
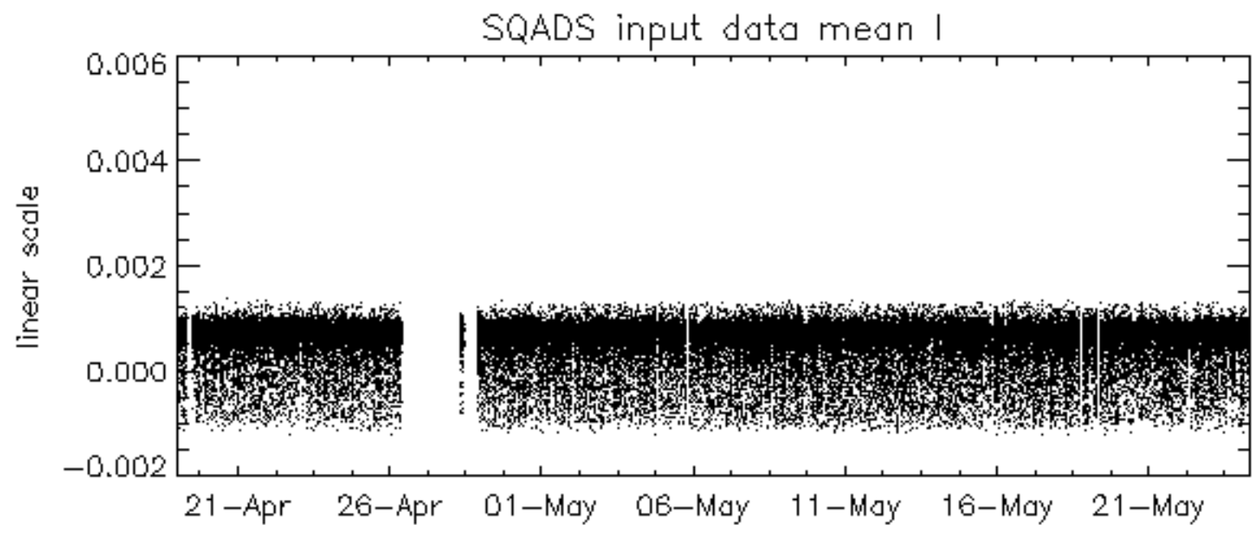
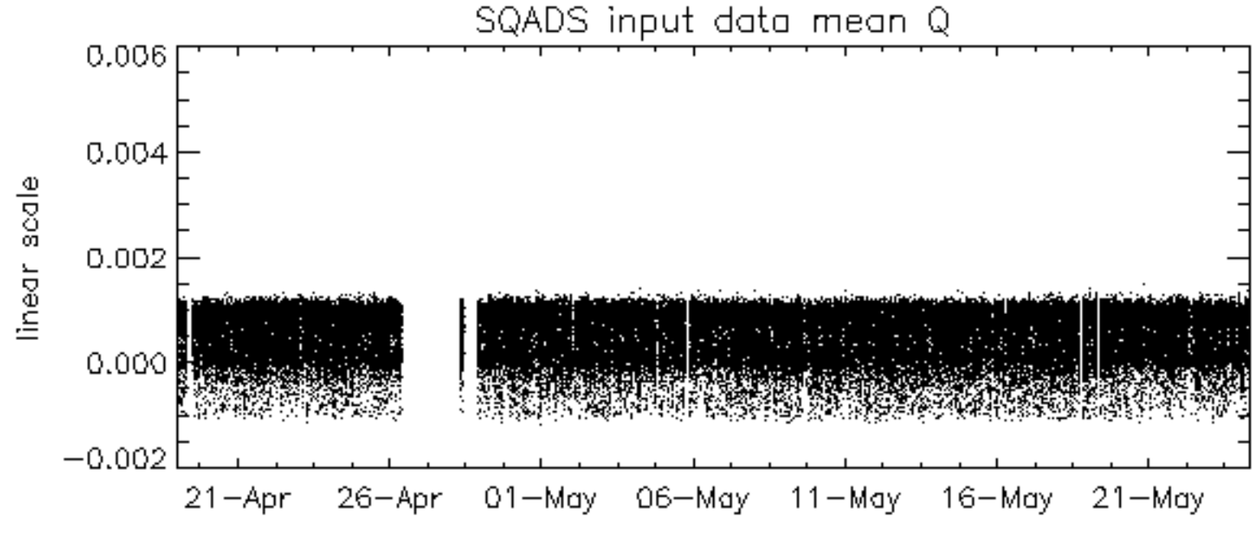
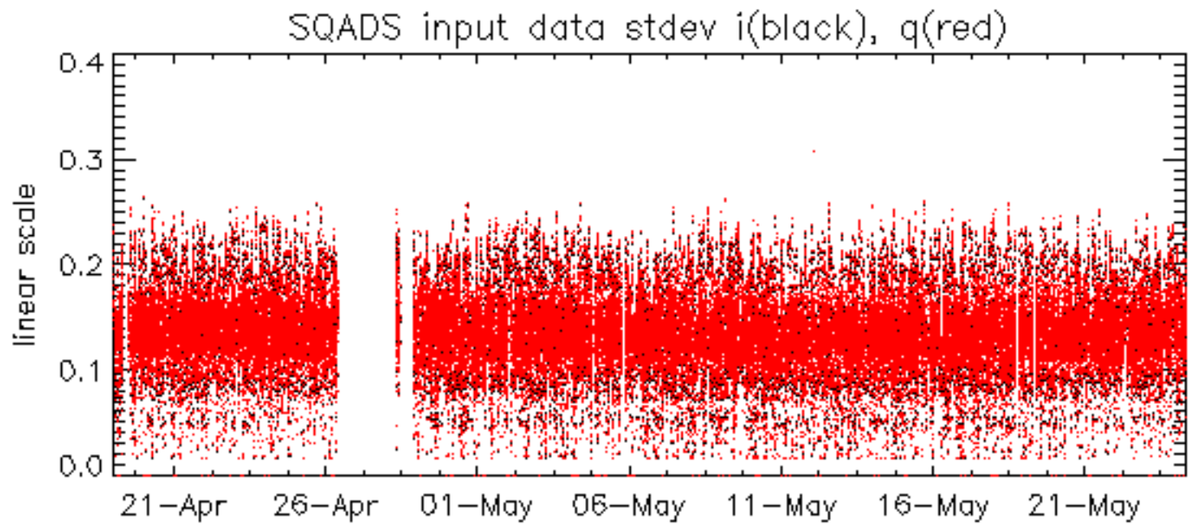
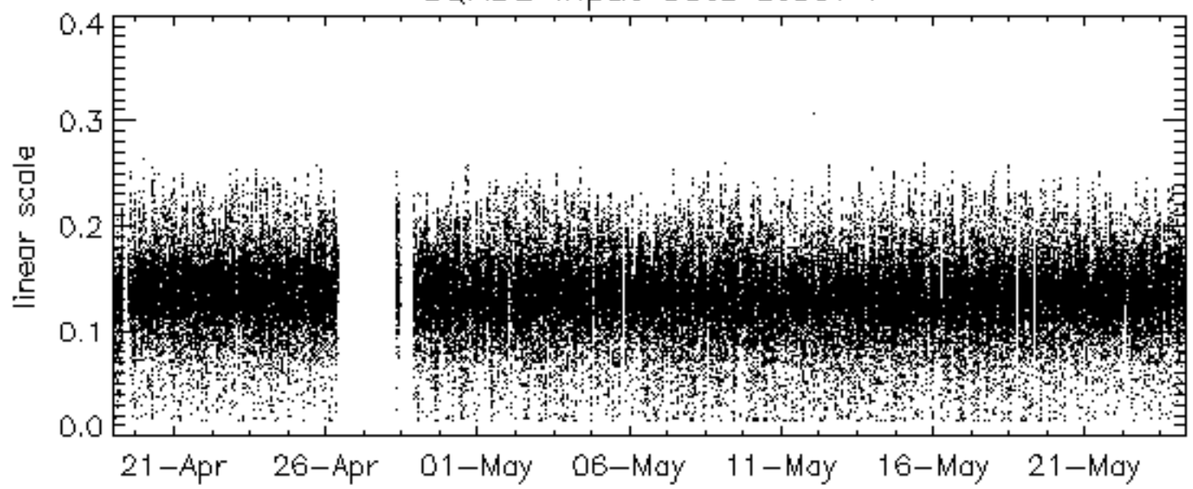

I/Q Gain Imbalance
stdev Q
stdev I
0.0
0.1
0.2
0.3
0.4

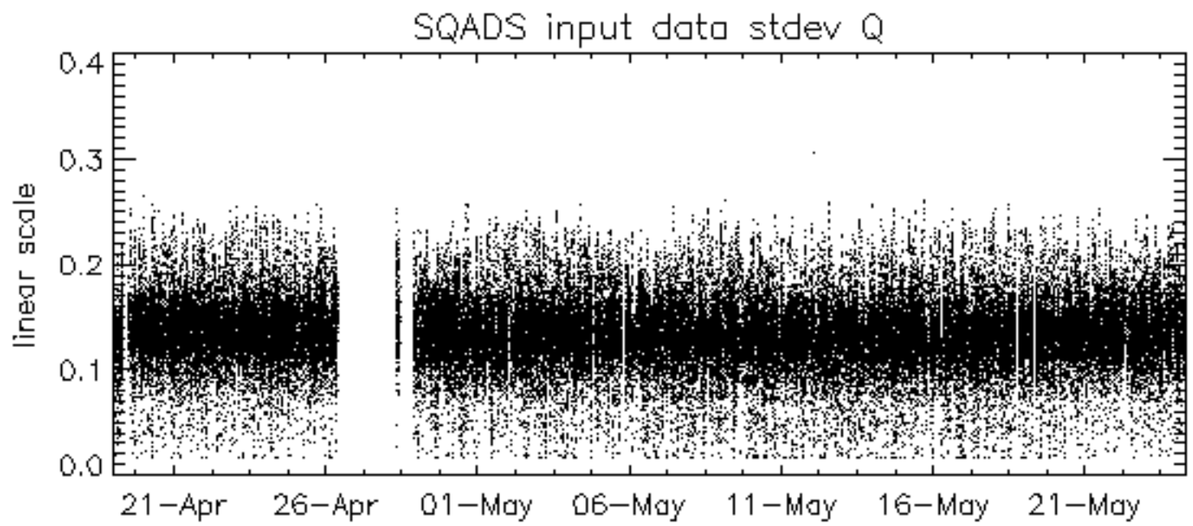

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Apr
26−Apr
01−May
06−May
11−May
16−May
21−May

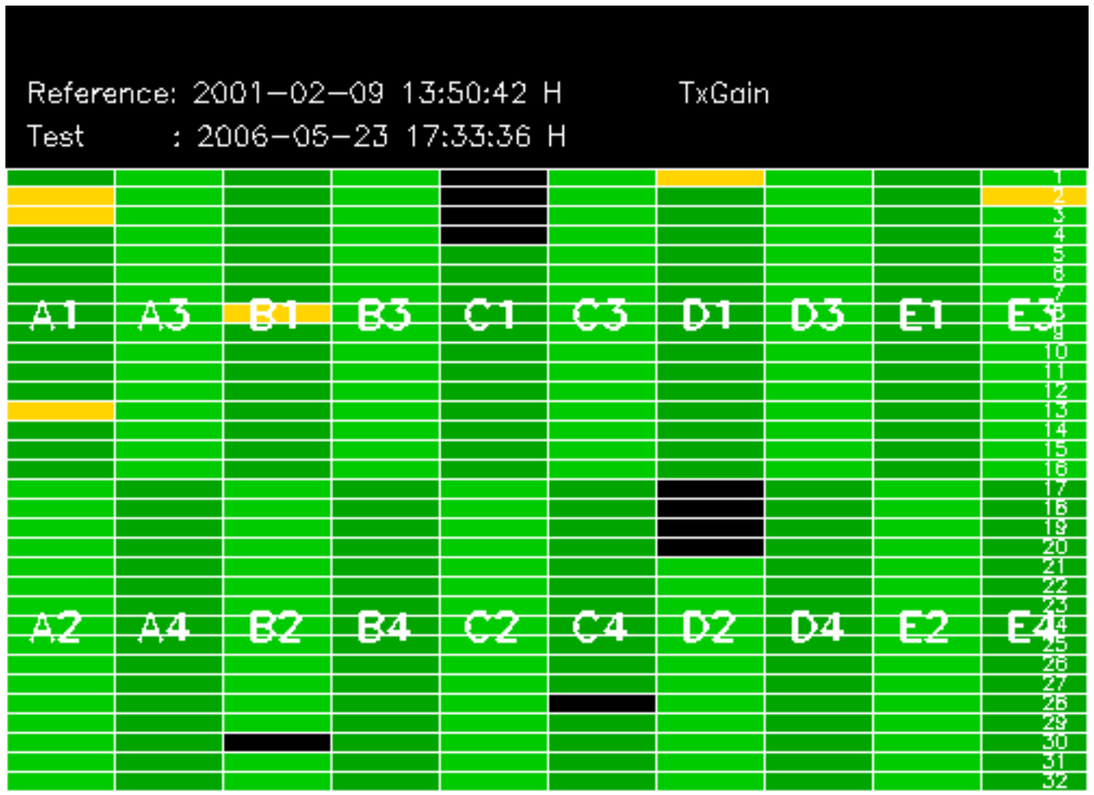

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Apr
26−Apr
01−May
06−May
11−May
16−May
21−May


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2006-05-23 17:33:36 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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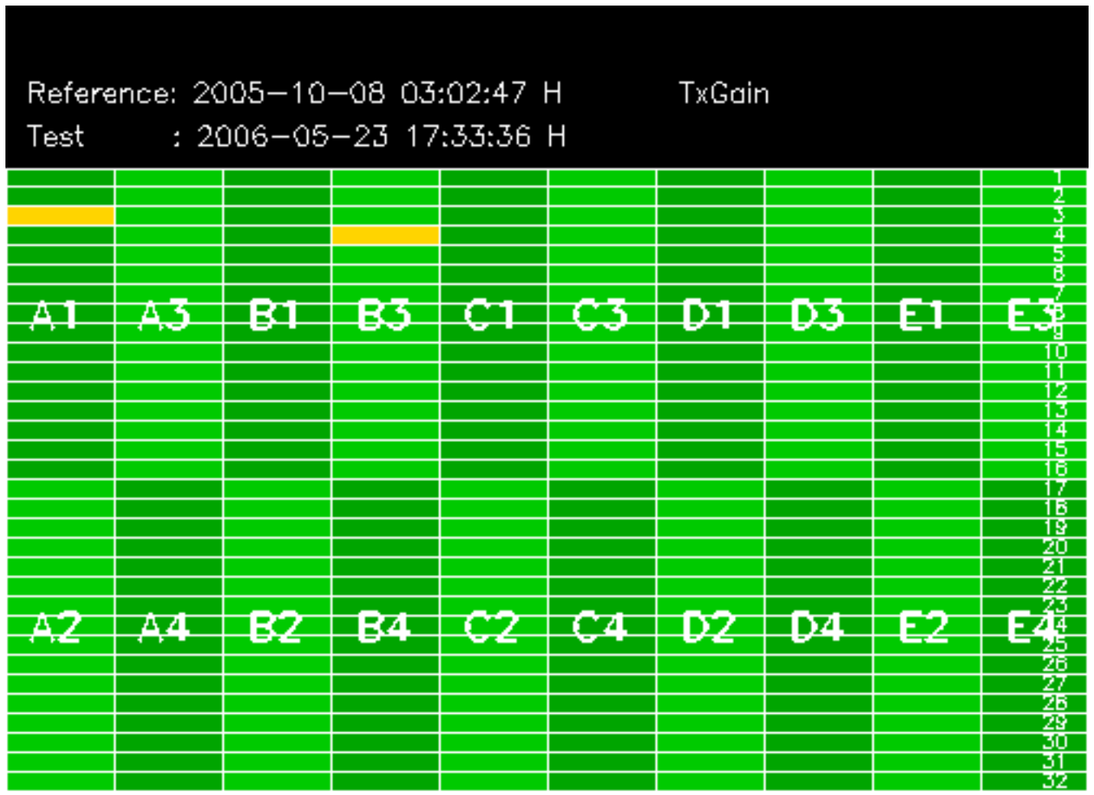
Reference: 2005-10-08 03:02:47 H
Test : 2006-05-23 17:33:36 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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E4
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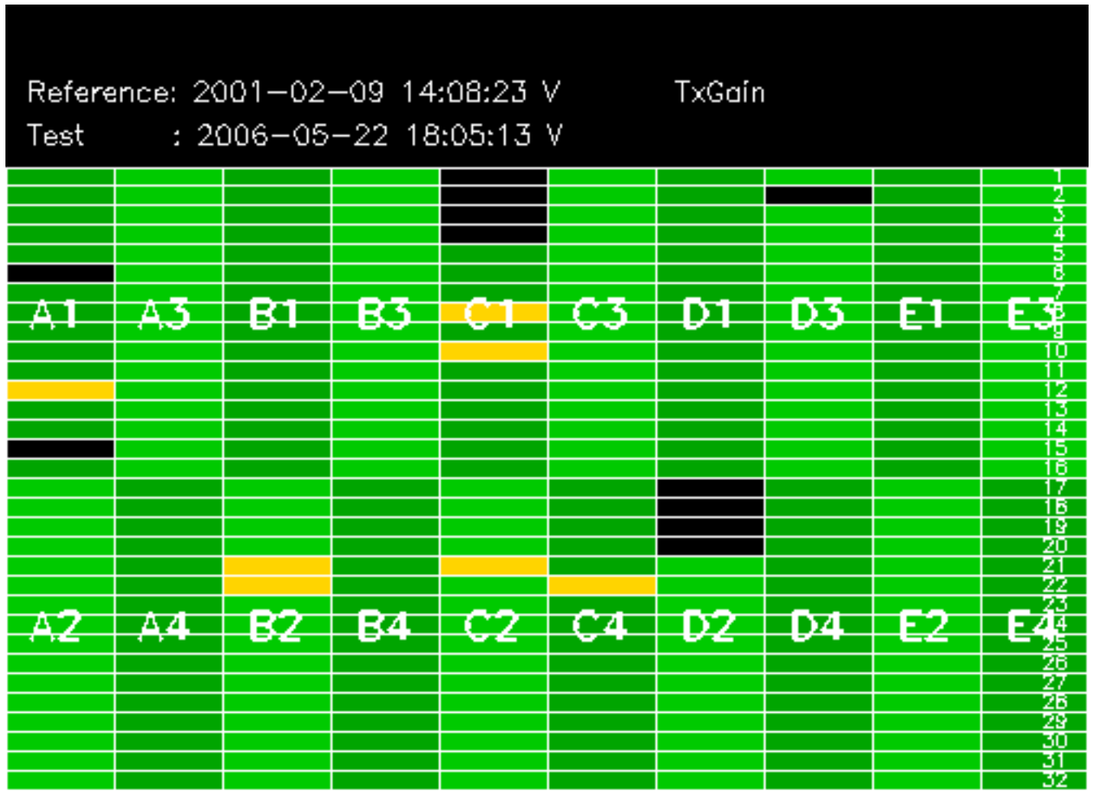
Reference: 2001-02-09 14:08:23 V
Test : 2006-05-22 18:05:13 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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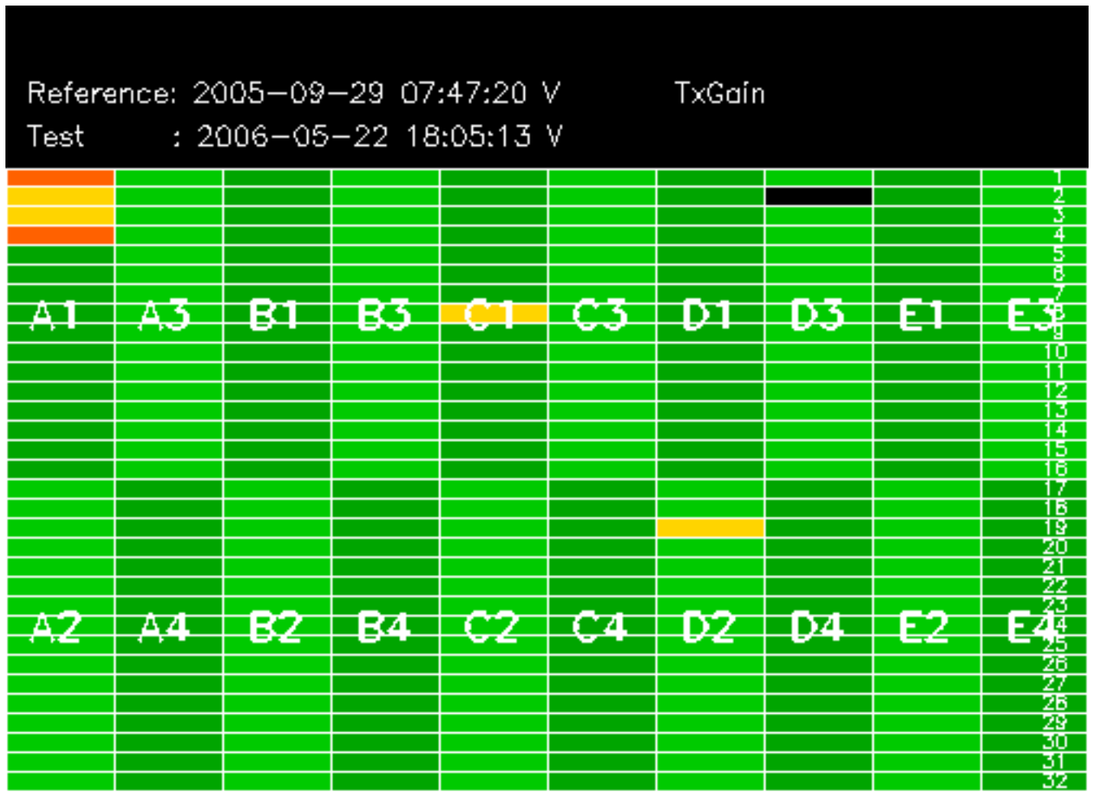
Reference: 2005-09-29 07:47:20 V
Test : 2006-05-22 18:05:13 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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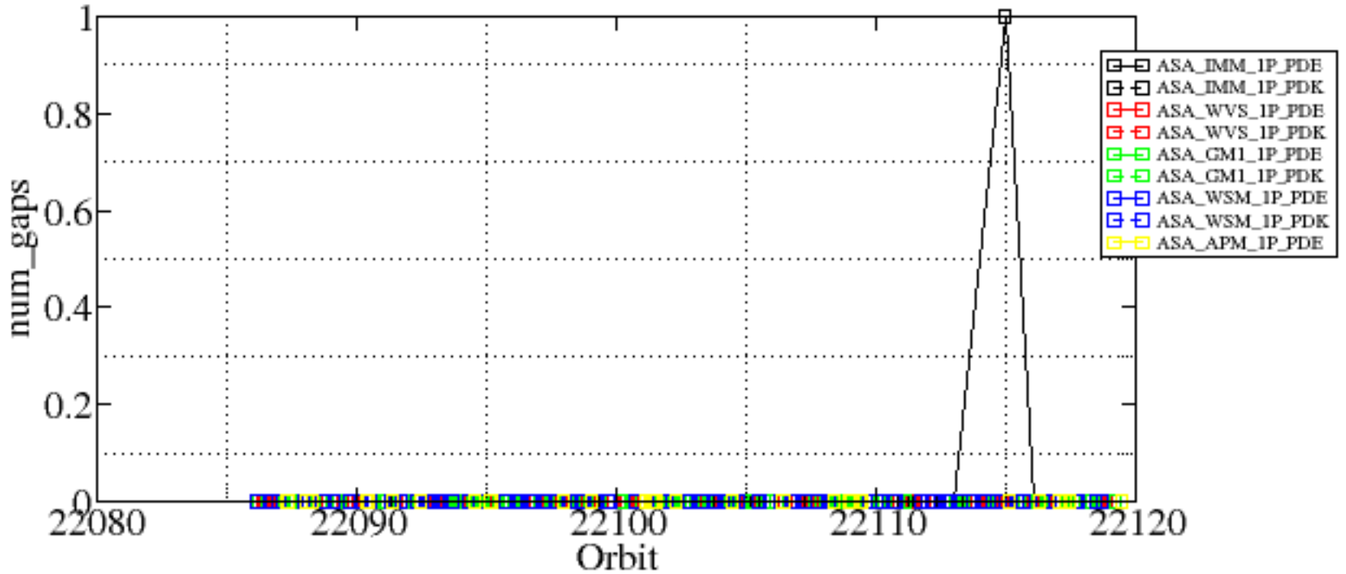
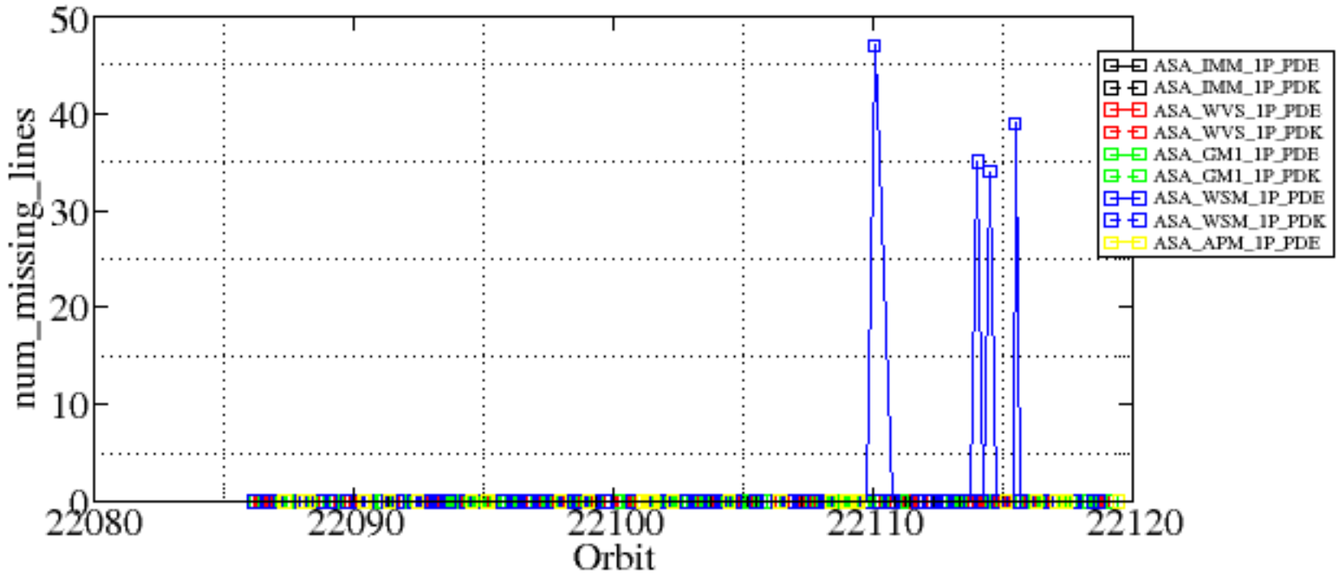
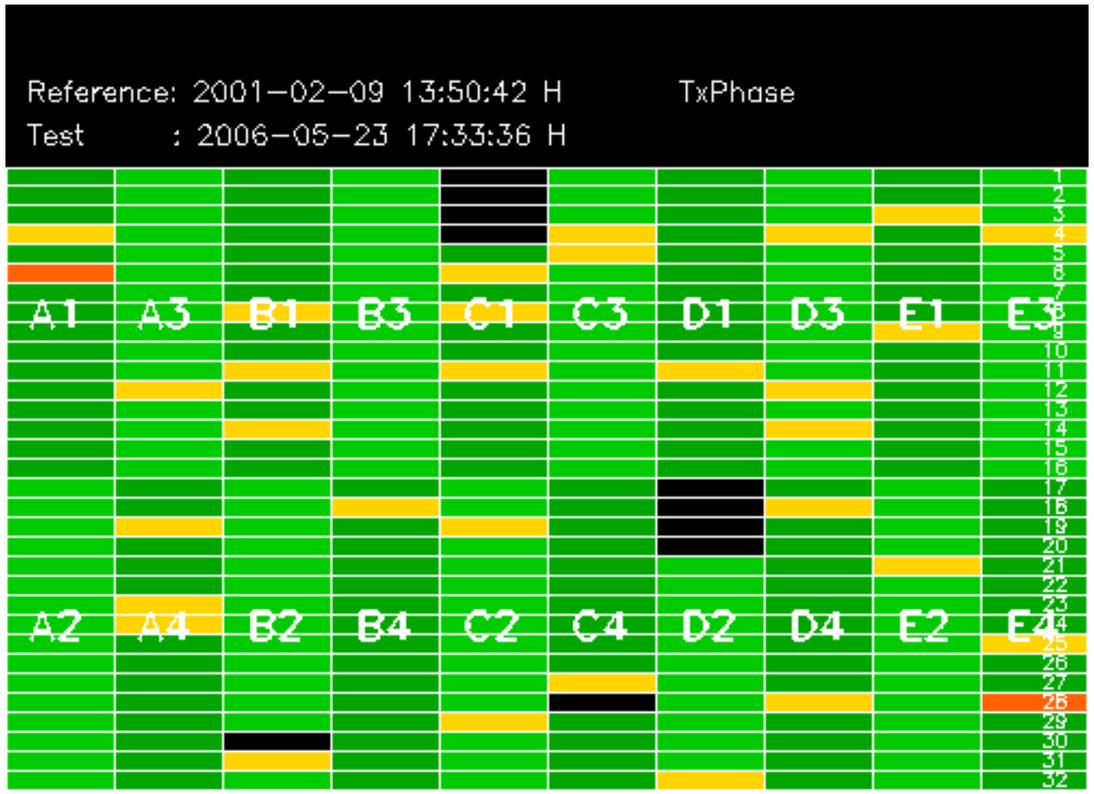
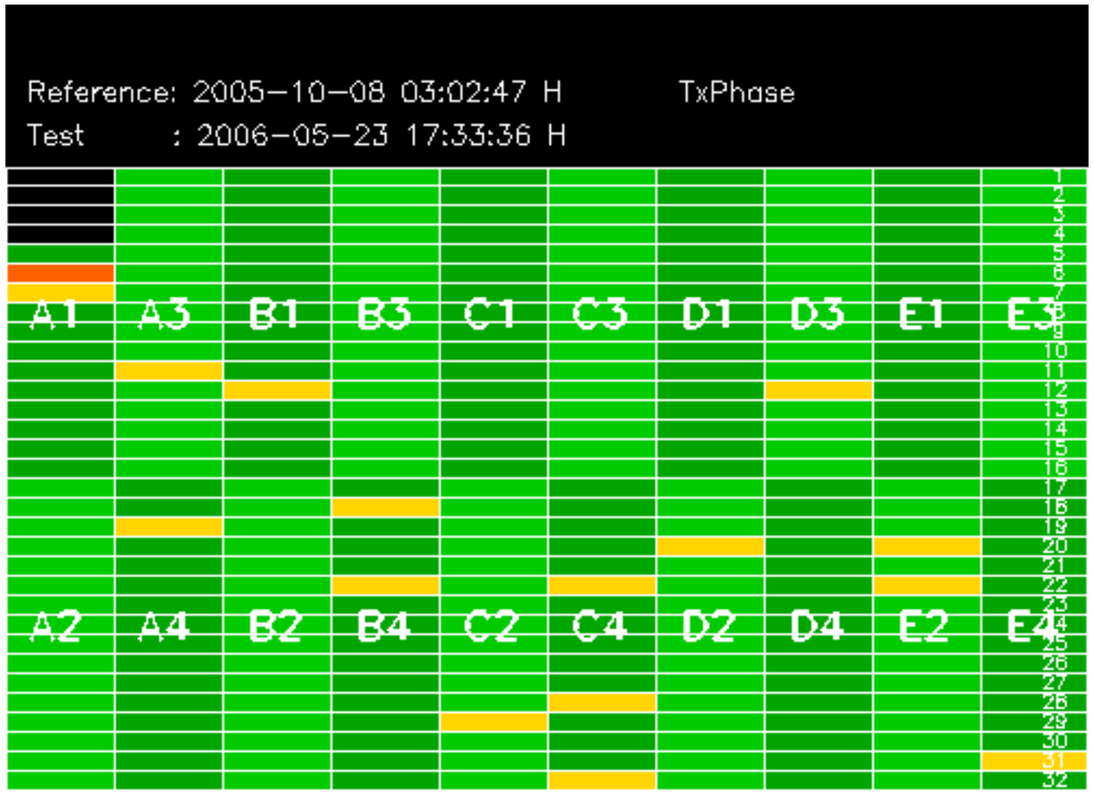
Summary of analysis for the last 3 days 2006052[234]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_IMM_1PNPDE20060524_004516_000001932048_00016_22114_6100.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20060523_163146_000001282048_00012_22110_0468.N1 </td> <td>0 </td> <td>47 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20060523_231127_000001152048_00016_22114_0537.N1 </td> <td>0 </td> <td>35 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20060523_235742_000003302048_00016_22114_0549.N1 </td> <td>0 </td> <td>34 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20060524_013517_000000852048_00017_22115_0566.N1 </td> <td>0 </td> <td>39 </td></tr>
</table>


num_gaps
1
0.8
0.6
0.4
0.2
0
22080
22090
22100
22110
22120
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


num_missing_lines
50
40
30
20
10
0
22080
22090
22100
22110
22120
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


Reference: 2001-02-09 13:50:42 H
Test : 2006-05-23 17:33:36 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-10-08 03:02:47 H
TxPhase
Test : 2006-05-23 17:33:36 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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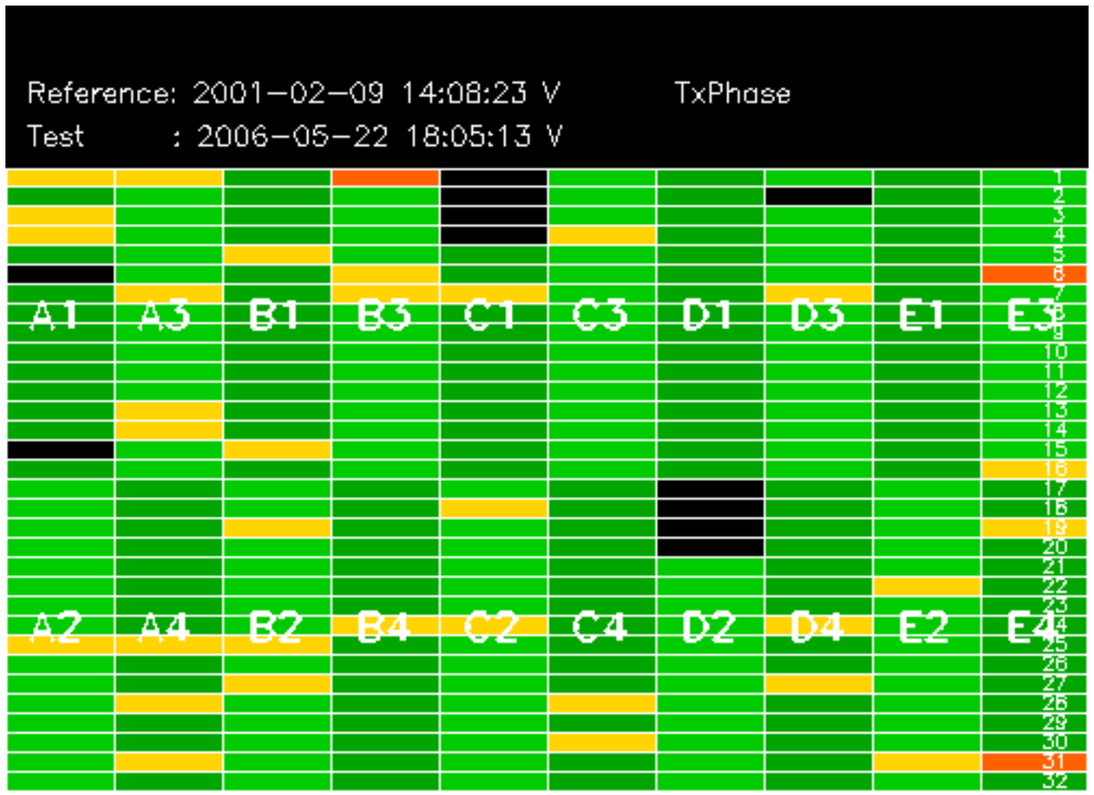
Reference: 2001-02-09 14:08:23 V
Test : 2006-05-22 18:05:13 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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D4
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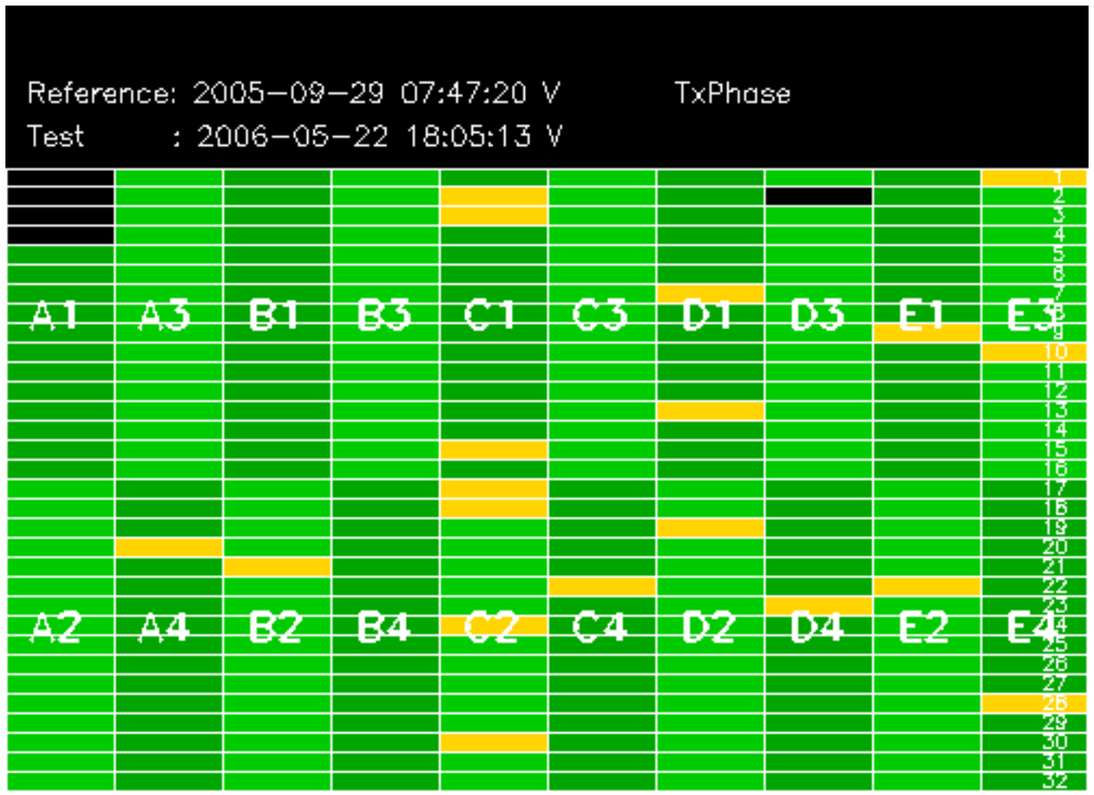
Reference: 2005-09-29 07:47:20 V
Test : 2006-05-22 18:05:13 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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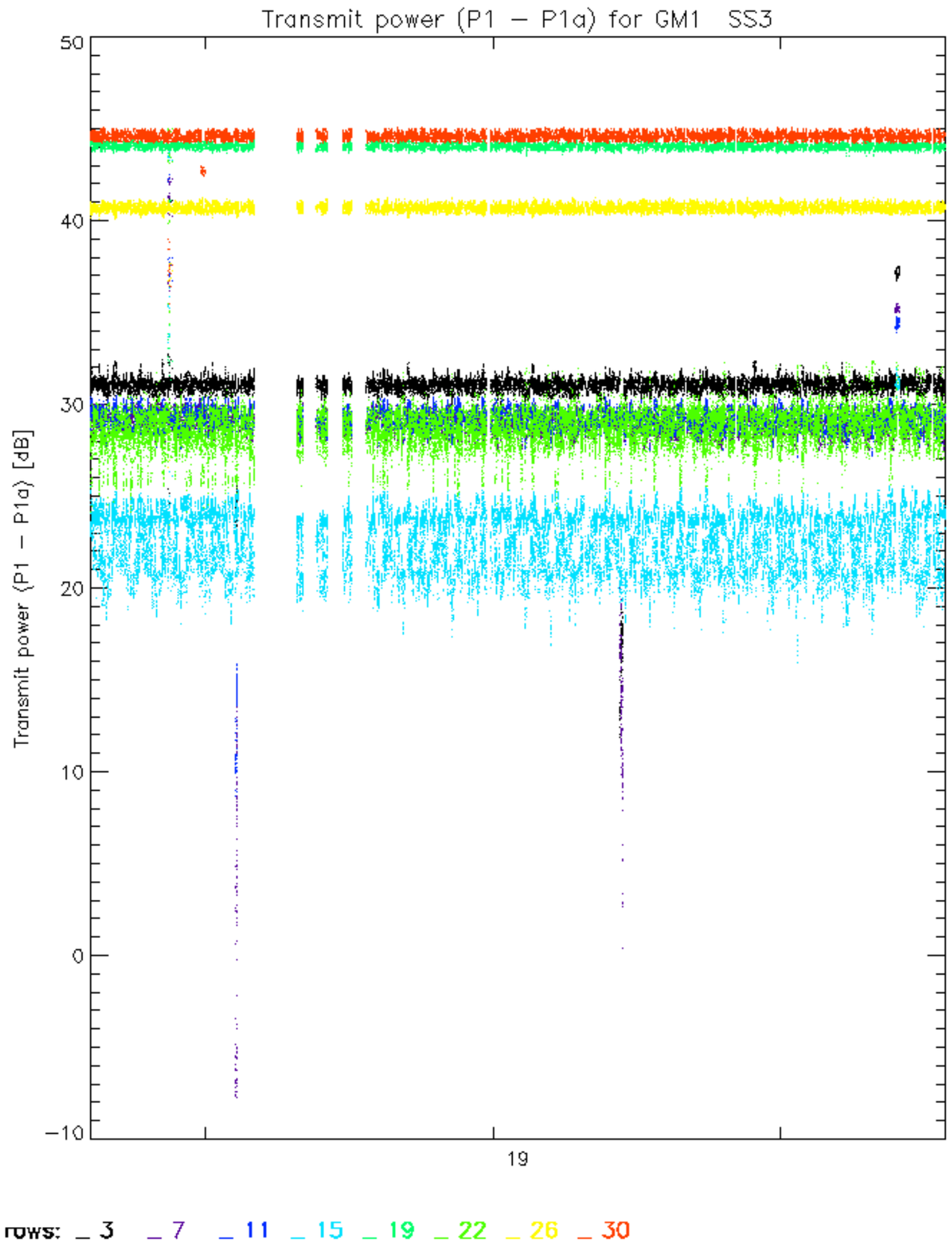
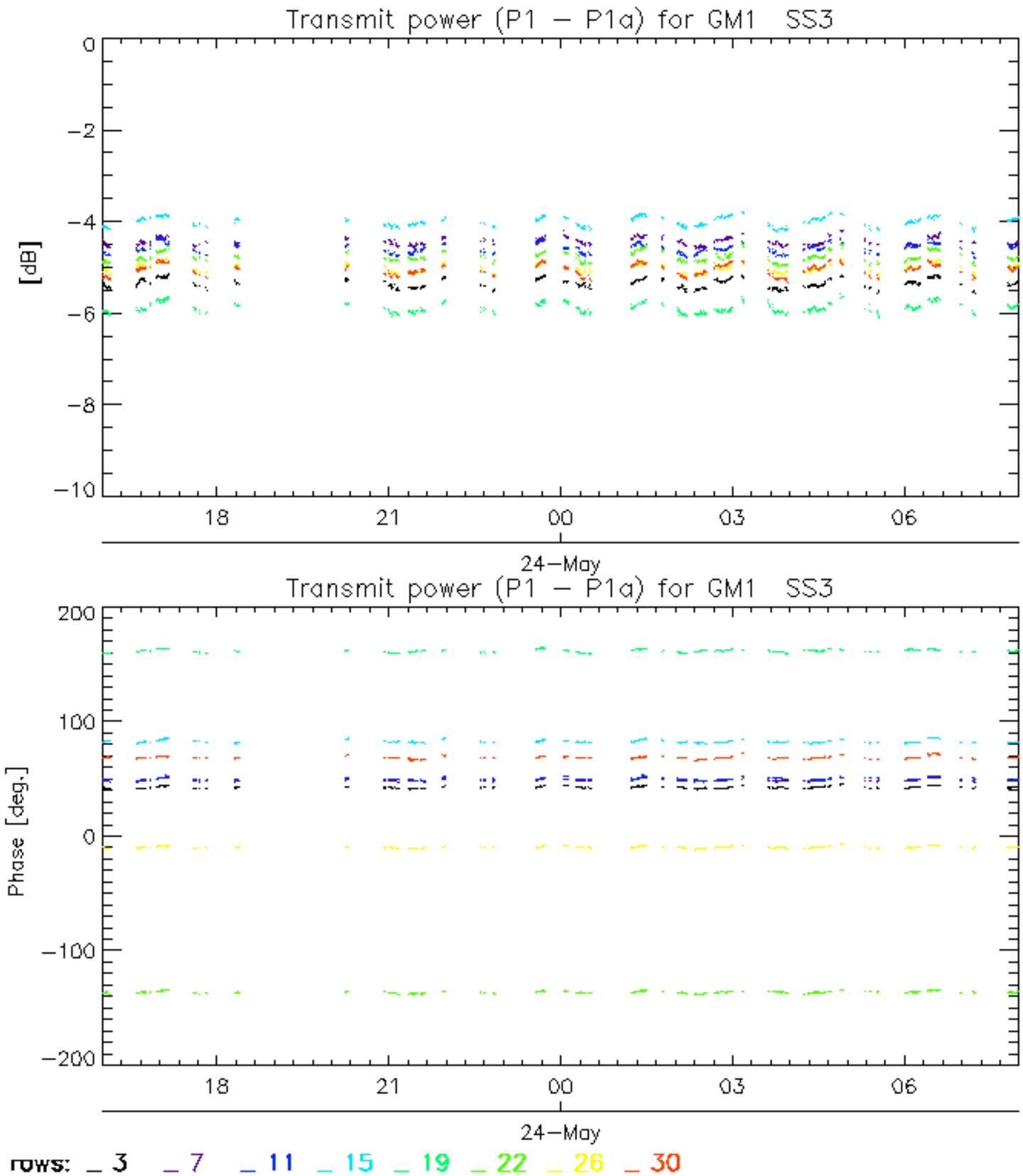
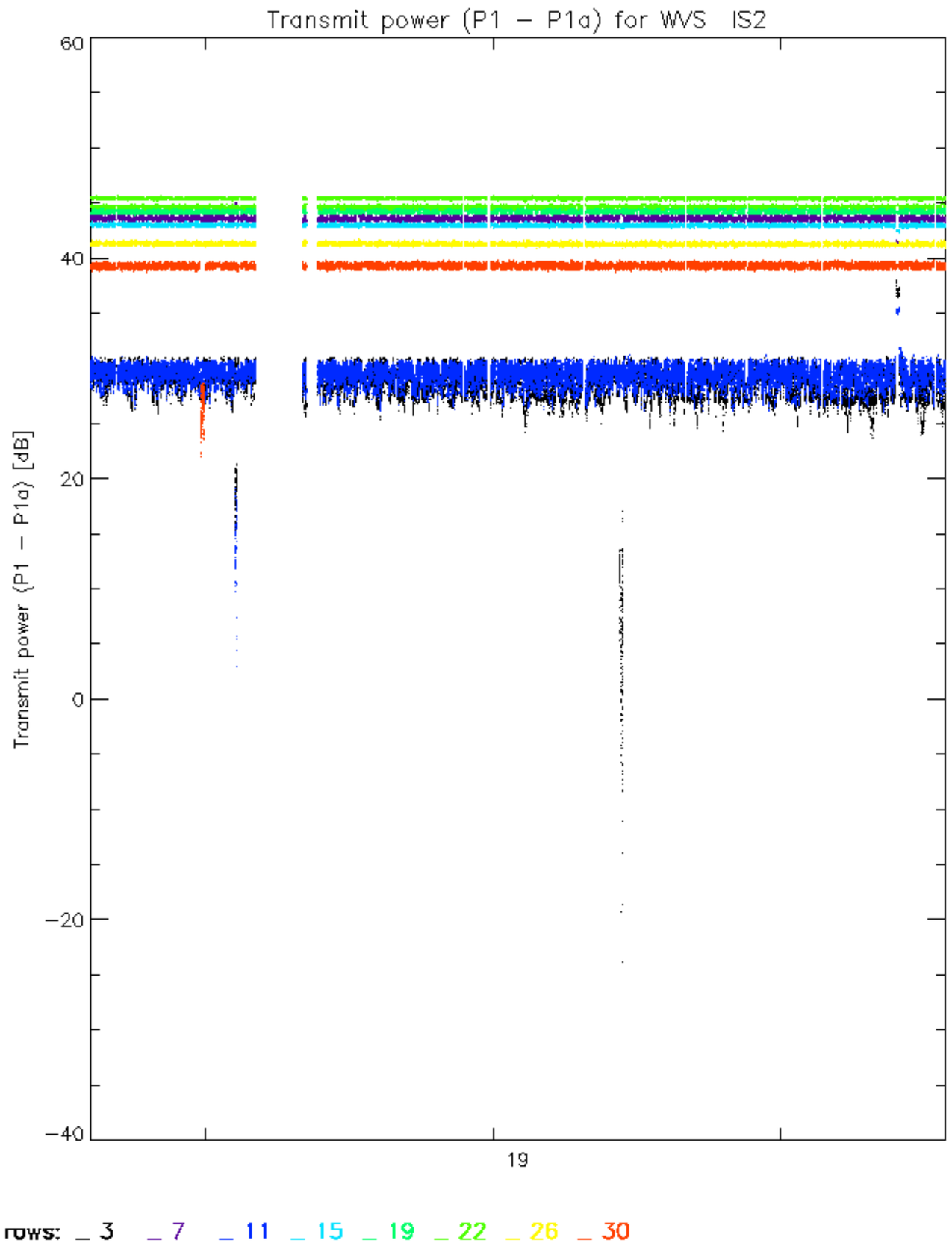
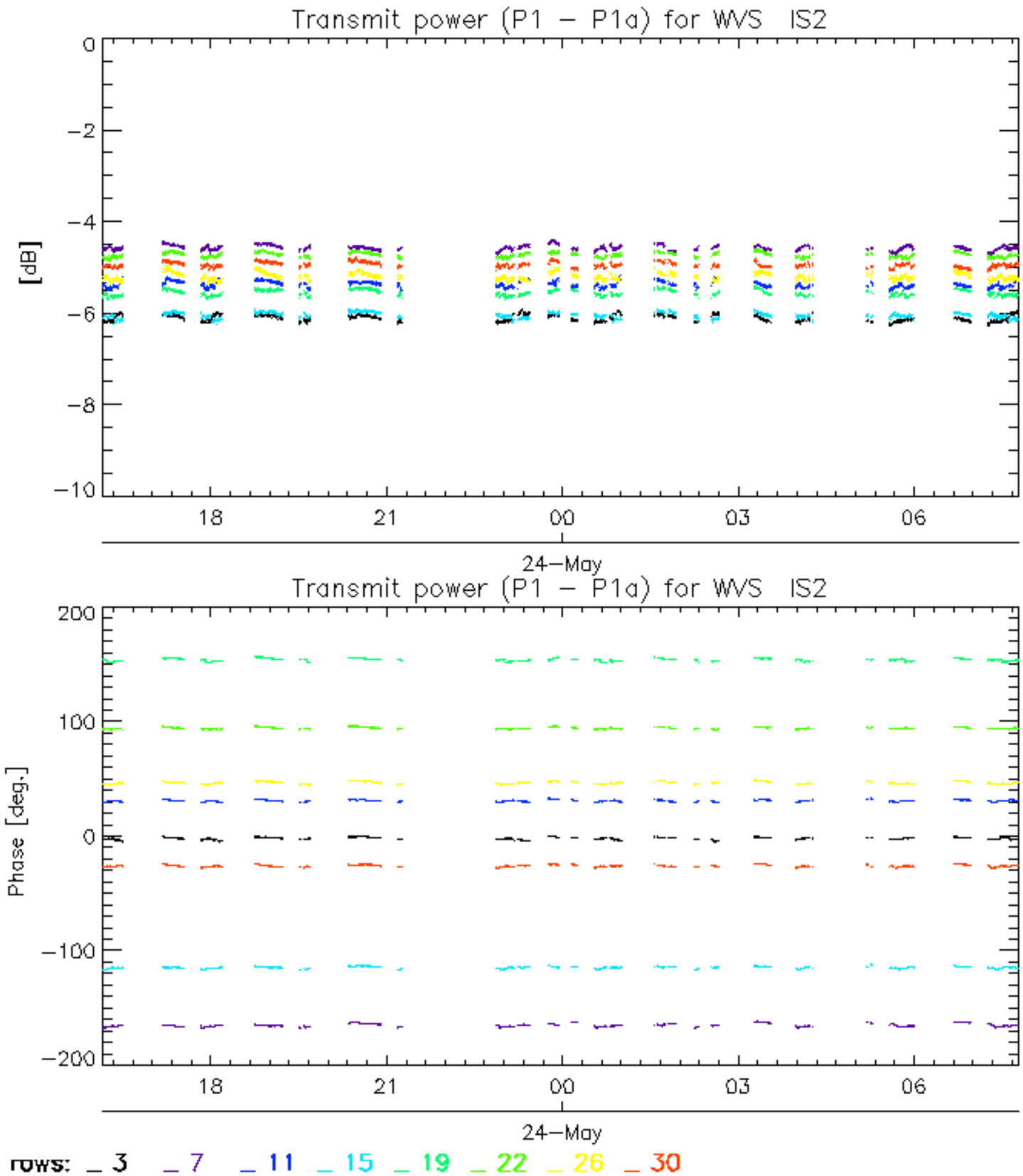

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
19
rows: 3 7 11 15 19 22 26 30


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


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


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

No unavailabilities during the reported period.