PRELIMINARY REPORT OF 060520

last update on Sat May 20 16:41:04 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 2006-05-19 00:00:00 to 2006-05-20 16:41:04

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

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	40	69	14	0	26
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	40	69	14	0	26
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	40	69	14	0	26
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	40	69	14	0	26

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	33	60	58	20	32
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	33	60	58	20	32
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	33	60	58	20	32
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	33	60	58	20	32

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	20060518 100806
H	20060519 143816

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	-3.967961	0.011586	0.022766
7	P1	-3.076124	0.013836	-0.086048
11	P1	-4.100387	0.015233	-0.038877
15	P1	-6.119797	0.011694	-0.074083
19	P1	-3.312577	0.008023	-0.015718
22	P1	-4.523723	0.010781	-0.002595
26	P1	-4.013595	0.020315	0.093896
30	P1	-5.741594	0.019517	-0.032843
3	P1	-16.636101	0.301915	0.173585
7	P1	-17.045452	0.151594	-0.331171
11	P1	-16.833132	0.317932	-0.378371
15	P1	-13.157725	0.143927	-0.217801
19	P1	-14.203072	0.048656	-0.219512
22	P1	-16.110054	0.430931	-0.191042
26	P1	-15.353208	0.269327	0.331186
30	P1	-16.887745	0.333512	-0.379261

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.258430	0.084151	0.129599
7	P2	-22.152239	0.100158	0.173083
11	P2	-15.995359	0.111666	0.148353
15	P2	-7.168054	0.093867	-0.005164
19	P2	-9.158324	0.086805	-0.024804
22	P2	-18.084740	0.085208	-0.110016
26	P2	-16.337273	0.090451	-0.106547
30	P2	-19.599720	0.085492	0.031722

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.190630	0.003963	0.001910
7	P3	-8.190630	0.003963	0.001910
11	P3	-8.190630	0.003963	0.001910
15	P3	-8.190630	0.003963	0.001910
19	P3	-8.190630	0.003963	0.001910
22	P3	-8.190630	0.003963	0.001910
26	P3	-8.190649	0.003964	0.001969
30	P3	-8.190649	0.003964	0.001969

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	-3.748822	0.038811	-0.015248
7	P1	-2.635489	0.101262	0.114889
11	P1	-2.868683	0.030429	0.046304
15	P1	-3.501562	0.029142	0.062116
19	P1	-3.387193	0.014234	-0.018741
22	P1	-5.102121	0.022096	0.058427
26	P1	-5.826866	0.021631	-0.041002
30	P1	-5.182825	0.043973	-0.032148
3	P1	-11.602431	0.135497	-0.034523
7	P1	-9.973670	0.153592	0.009637
11	P1	-10.210306	0.082556	0.050097
15	P1	-10.643235	0.126608	0.195847
19	P1	-15.474298	0.086966	-0.091176
22	P1	-20.780798	1.286870	-0.392582
26	P1	-16.436142	0.386674	-0.197331
30	P1	-18.144783	0.484171	0.361864

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.927917	0.070102	0.094876
7	P2	-22.512732	0.176052	-0.020033
11	P2	-11.190912	0.049714	0.005110
15	P2	-4.883460	0.042250	-0.066153
19	P2	-6.866800	0.041586	-0.027161
22	P2	-8.172779	0.053301	-0.056890
26	P2	-24.068174	0.125660	-0.095579
30	P2	-22.053520	0.086974	-0.018235

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.023151	0.003711	0.006659
7	P3	-8.023179	0.003725	0.006120
11	P3	-8.023250	0.003703	0.006385
15	P3	-8.023007	0.003723	0.006756
19	P3	-8.023226	0.003718	0.006786
22	P3	-8.023200	0.003713	0.006428
26	P3	-8.023025	0.003704	0.006460
30	P3	-8.023090	0.003713	0.006795

4.3 - cal pulses monitoring (all rows)

4.3.1 - Evolution for WVS

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4.3.2 - Evolution for GM1

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5 - RAW data statistics

No anomalies observed.

5.1 - Input mean I/Q

channel	stat	DSS-B
MEAN I	mean	0.000538509
	stdev	1.88671e-07
MEAN Q	mean	0.000513765
	stdev	2.27559e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.135121
	stdev	0.00118903
STDEV Q	mean	0.135470
	stdev	0.00120614

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006051[890]
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_WSM_1PNPDE20060518_112524_000000672047_00438_22035_9798.N1	0	30
ASA_WSM_1PNPDK20060518_140701_000000912047_00440_22037_5419.N1	0	57
ASA_WSM_1PNPDK20060518_140704_000000852047_00440_22037_5450.N1	0	57

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
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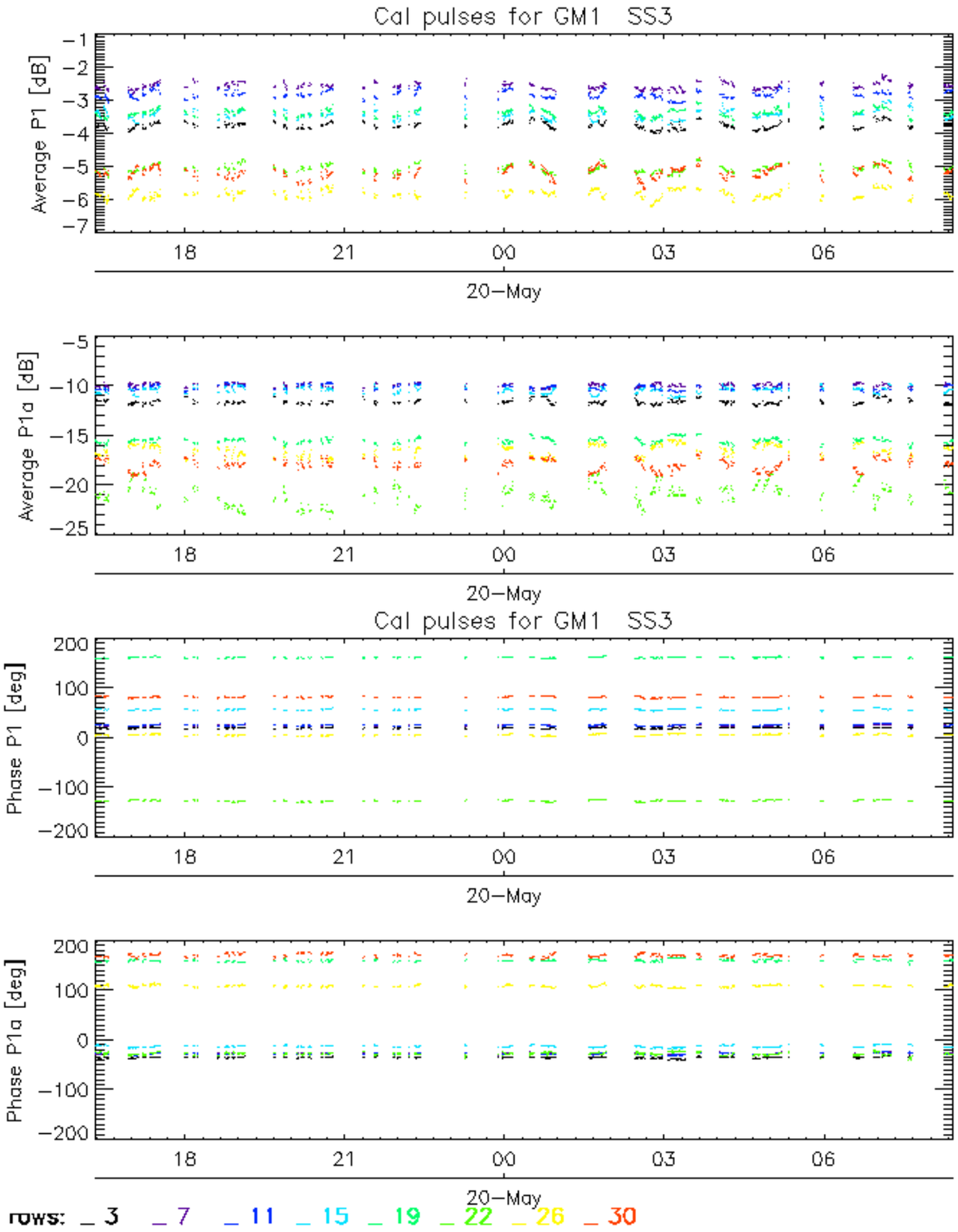
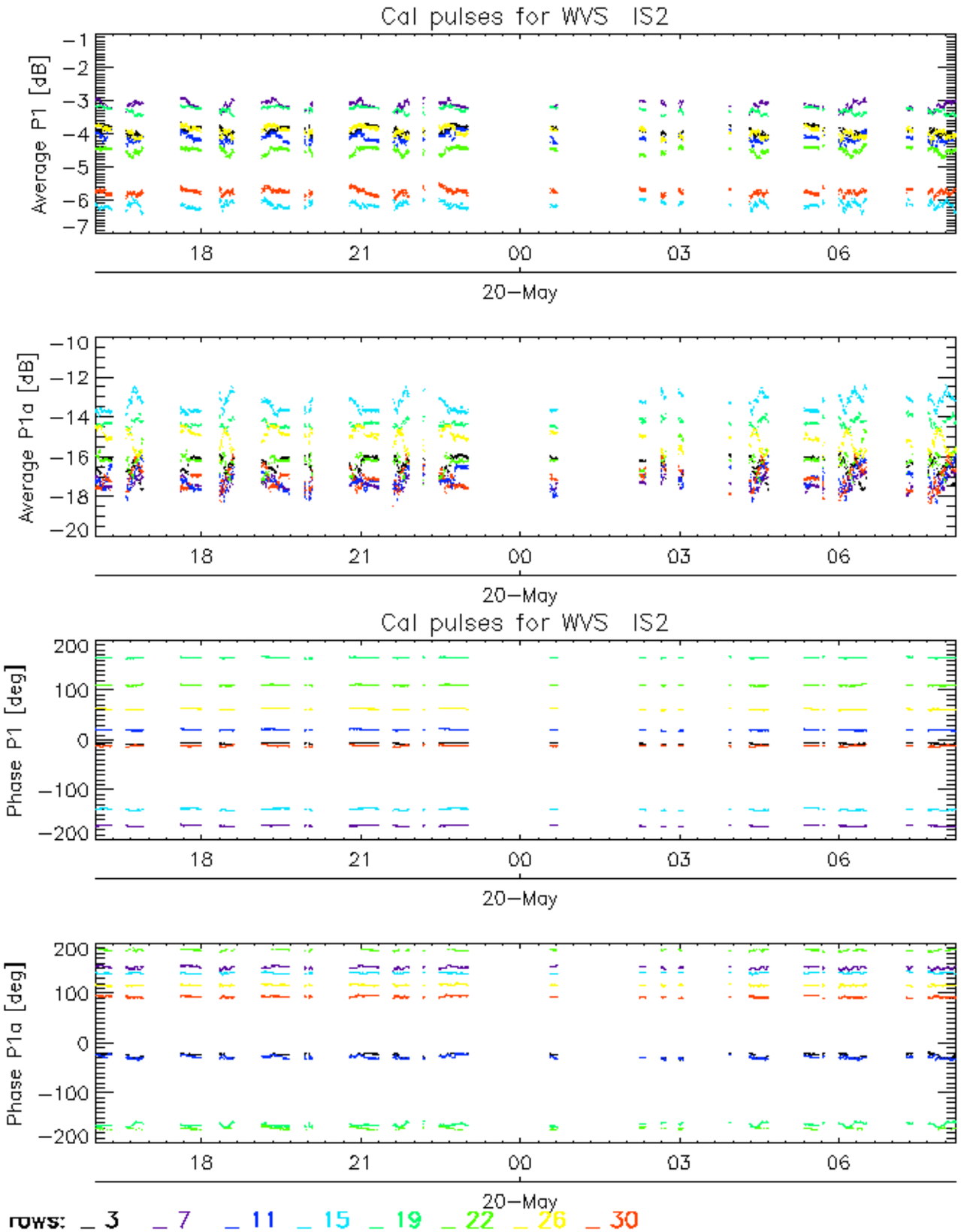
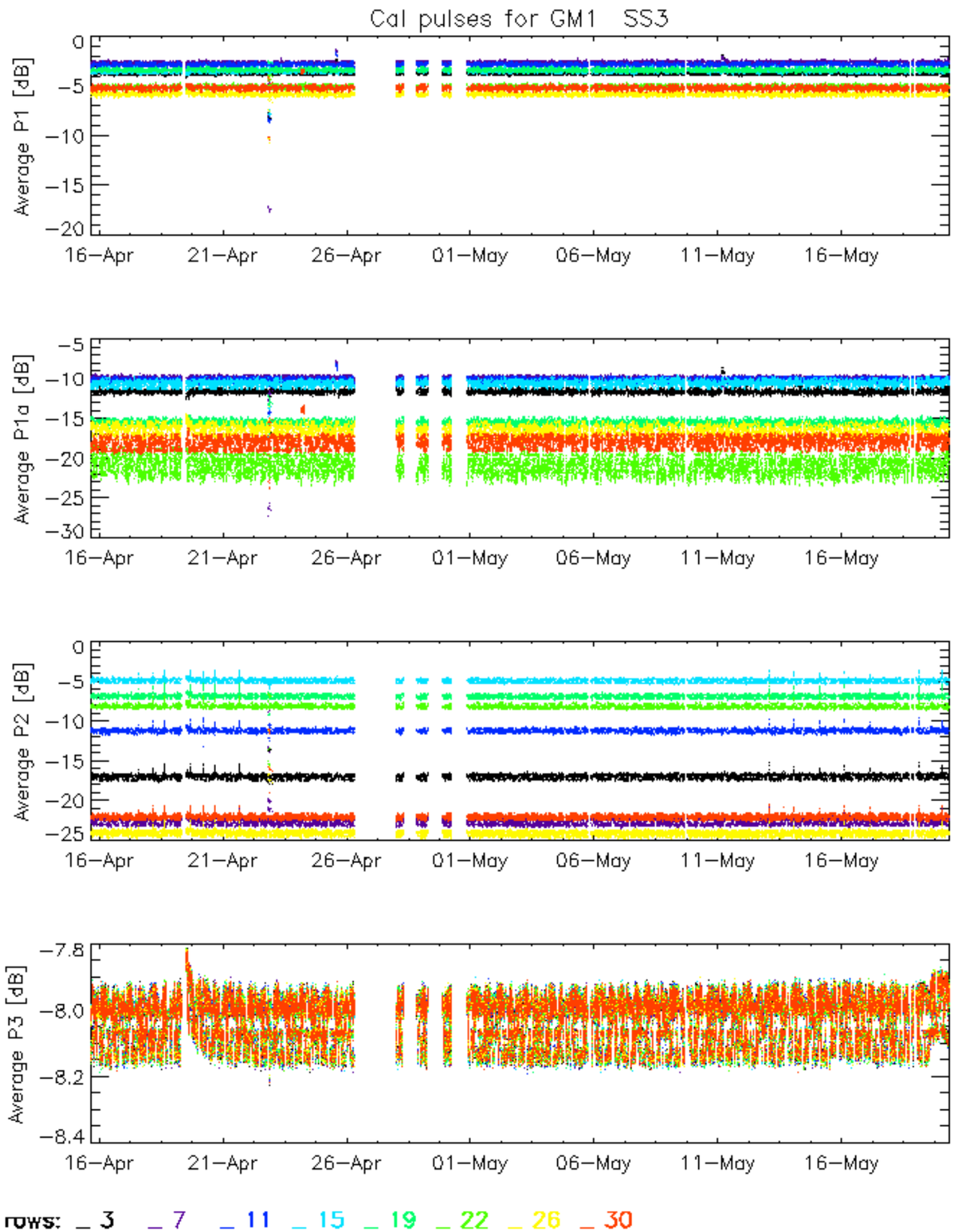
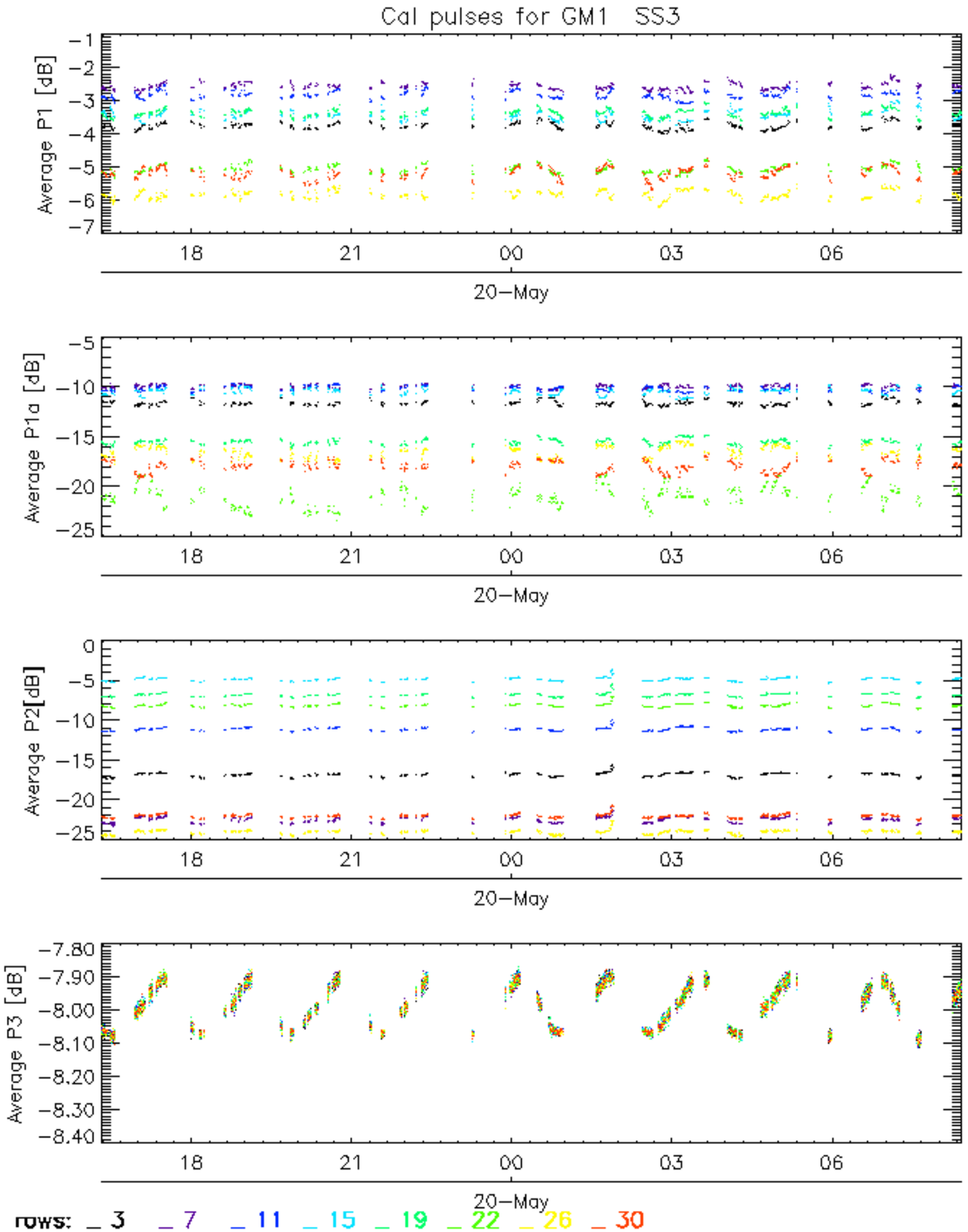
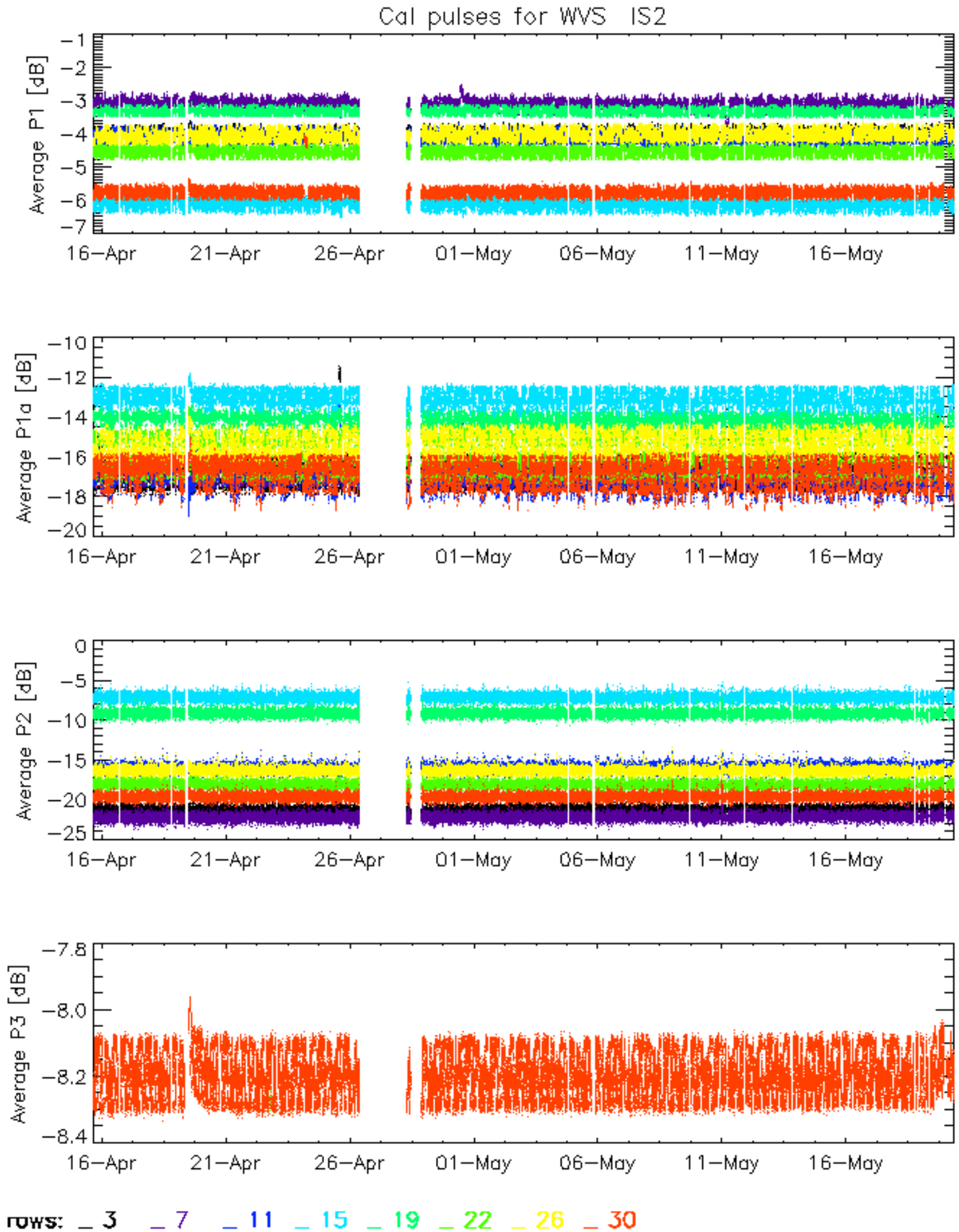
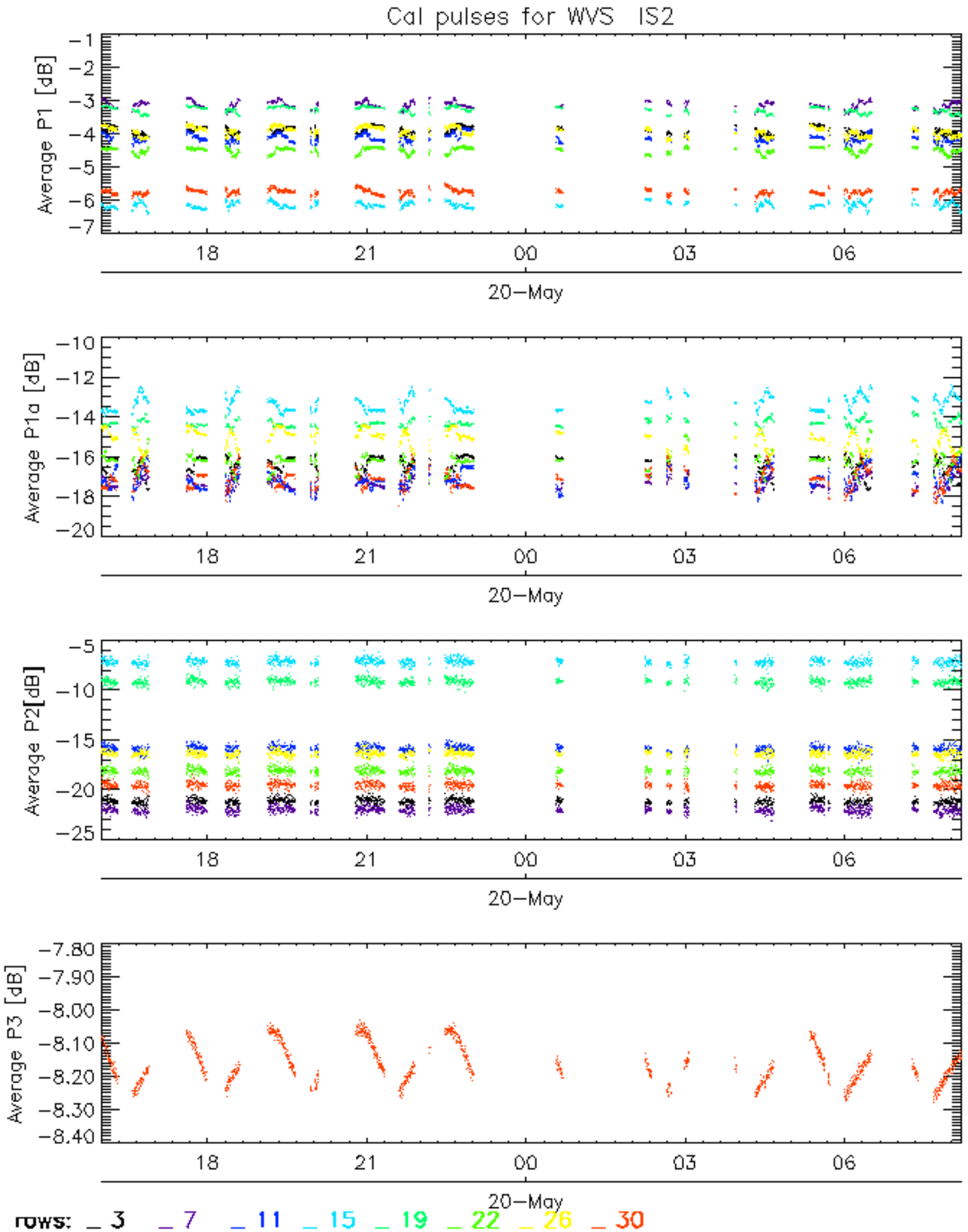

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
20−May
Average P1a [dB]
−5
−10
−15
−20
−25
18
21
00
03
06
20−May
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
18
21
00
03
06
20−May
Phase P1a [deg]
200
100
0
−100
−200
18
21
00
03
06
20−May
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


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

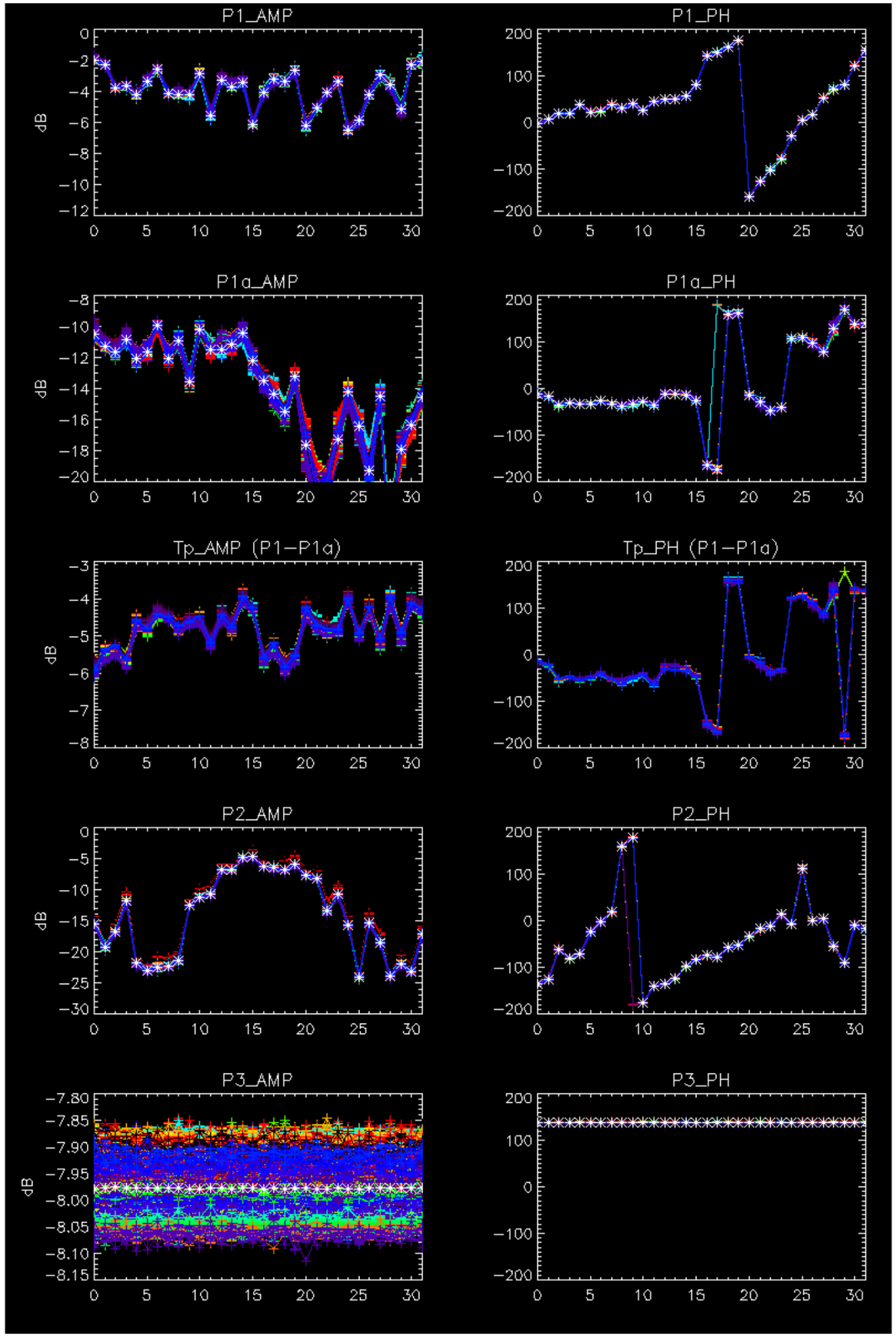

Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
−20
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
16−Apr
21−Apr
26−Apr
01−May
06−May
11−May
16−May
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

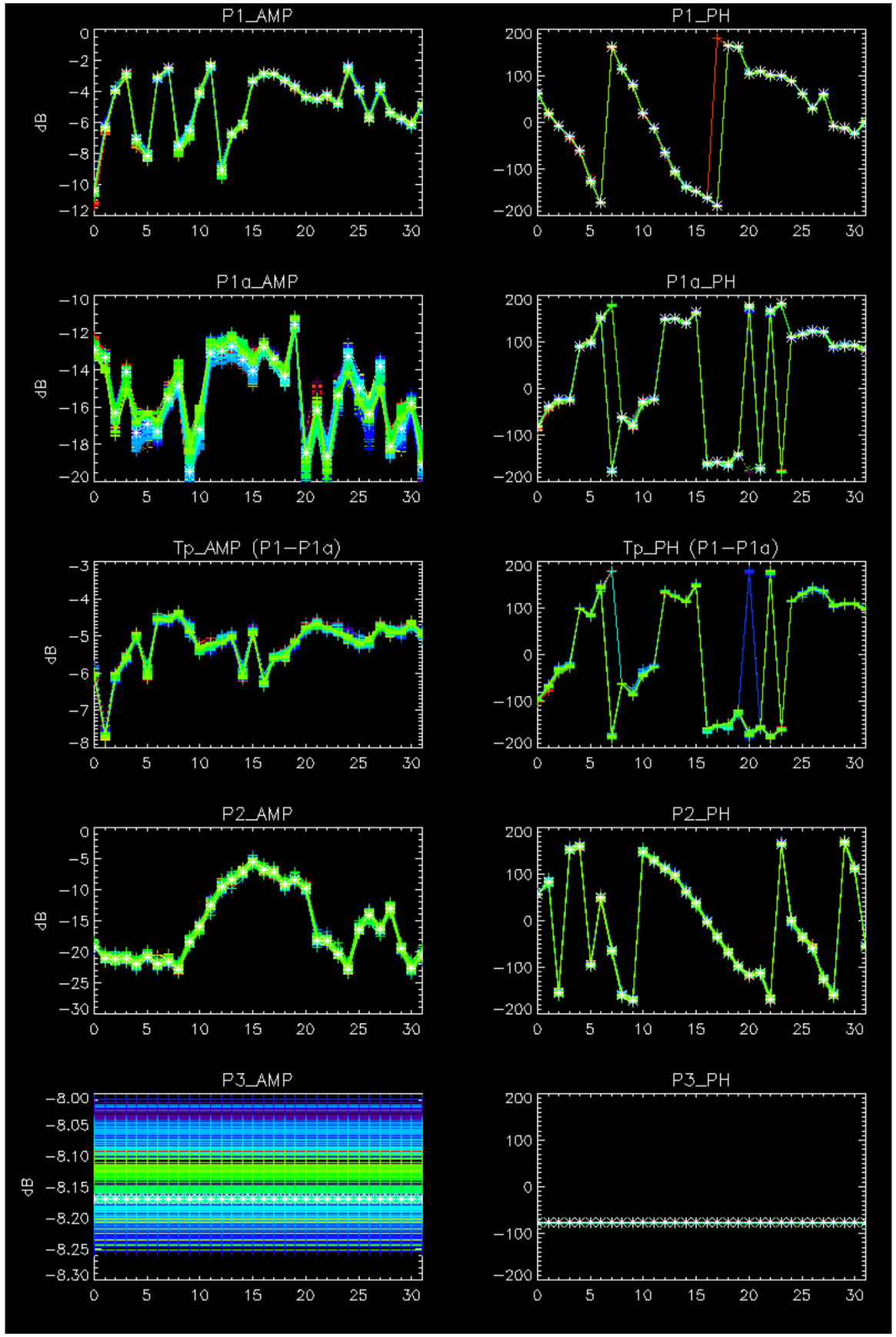

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
20−May
Average P1a [dB]
−5
−10
−15
−20
−25
18
21
00
03
06
20−May
Average P2[dB]
0
−5
−10
−15
−20
−25
18
21
00
03
06
20−May
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
18
21
00
03
06
20−May
rows: _ 3 _ 7 _ 11 _ 15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


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

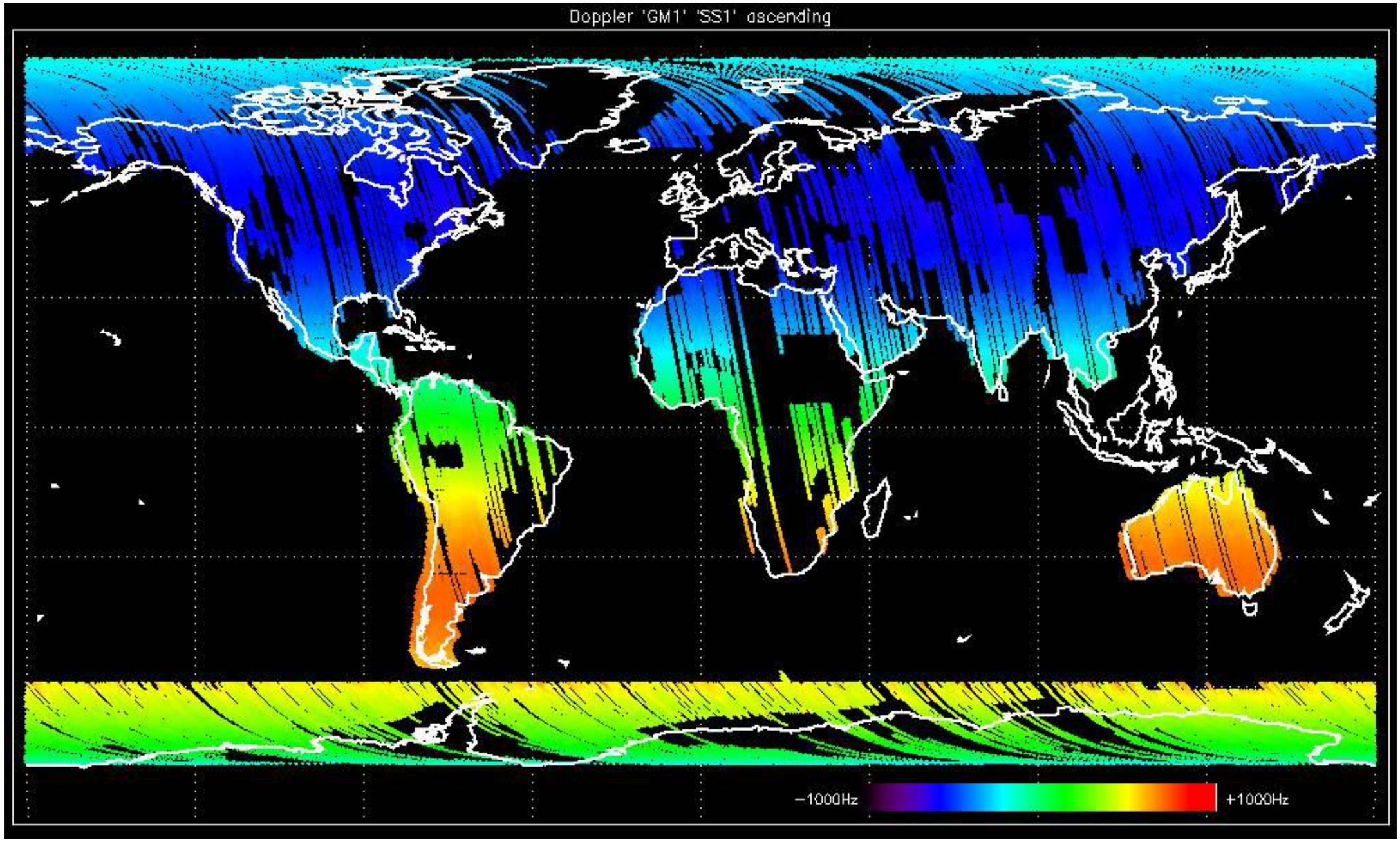
No anomalies observed.

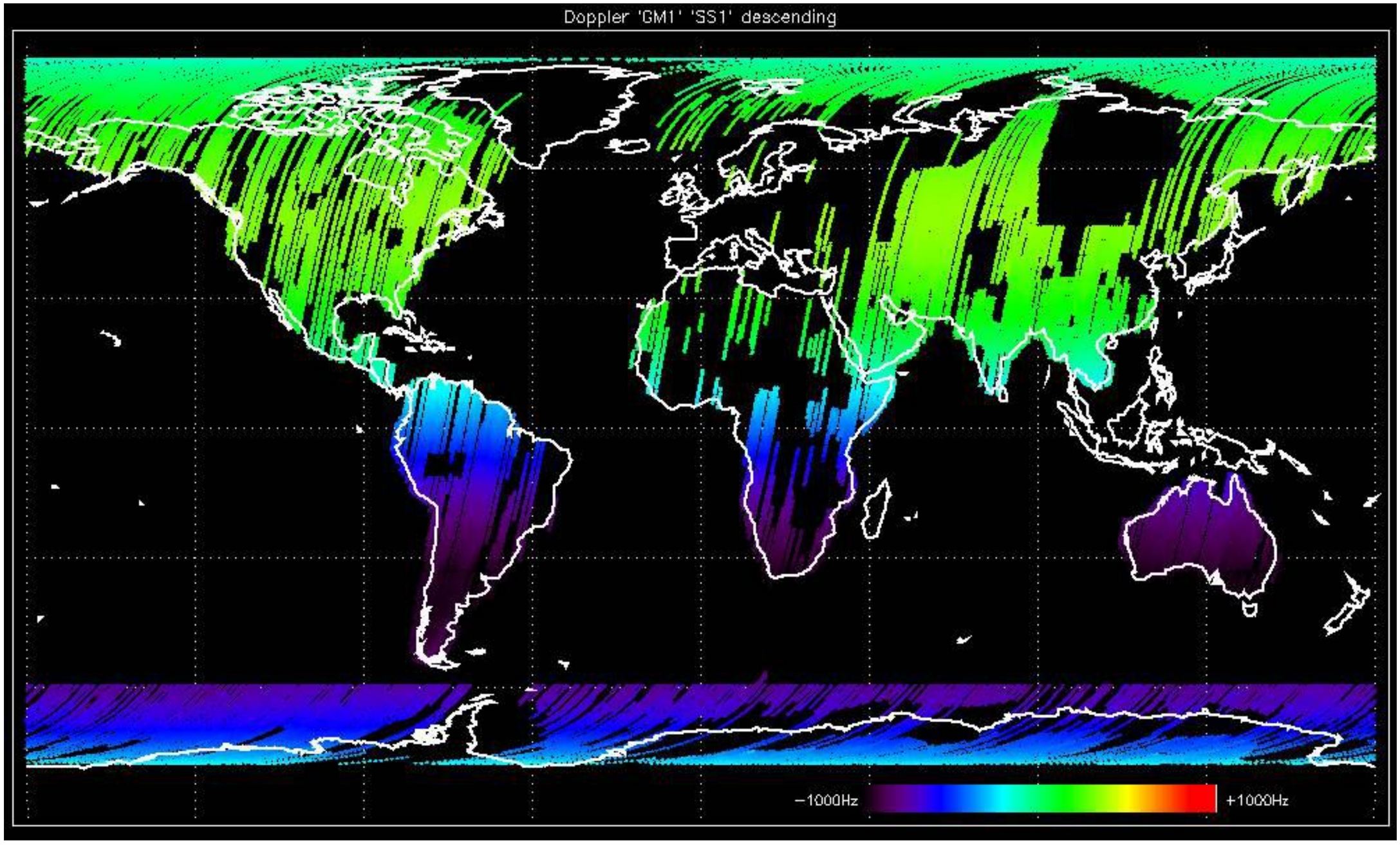

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

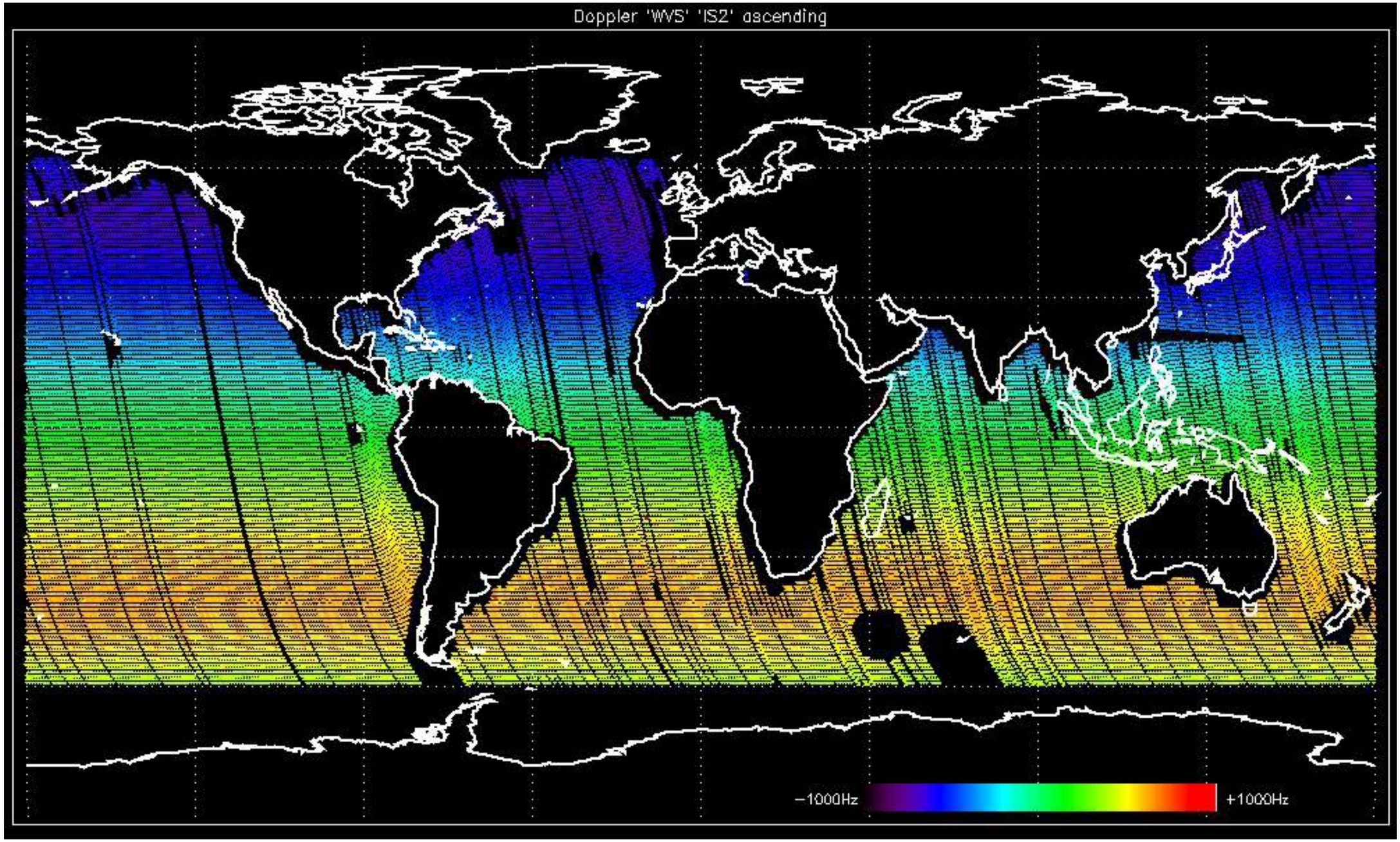

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

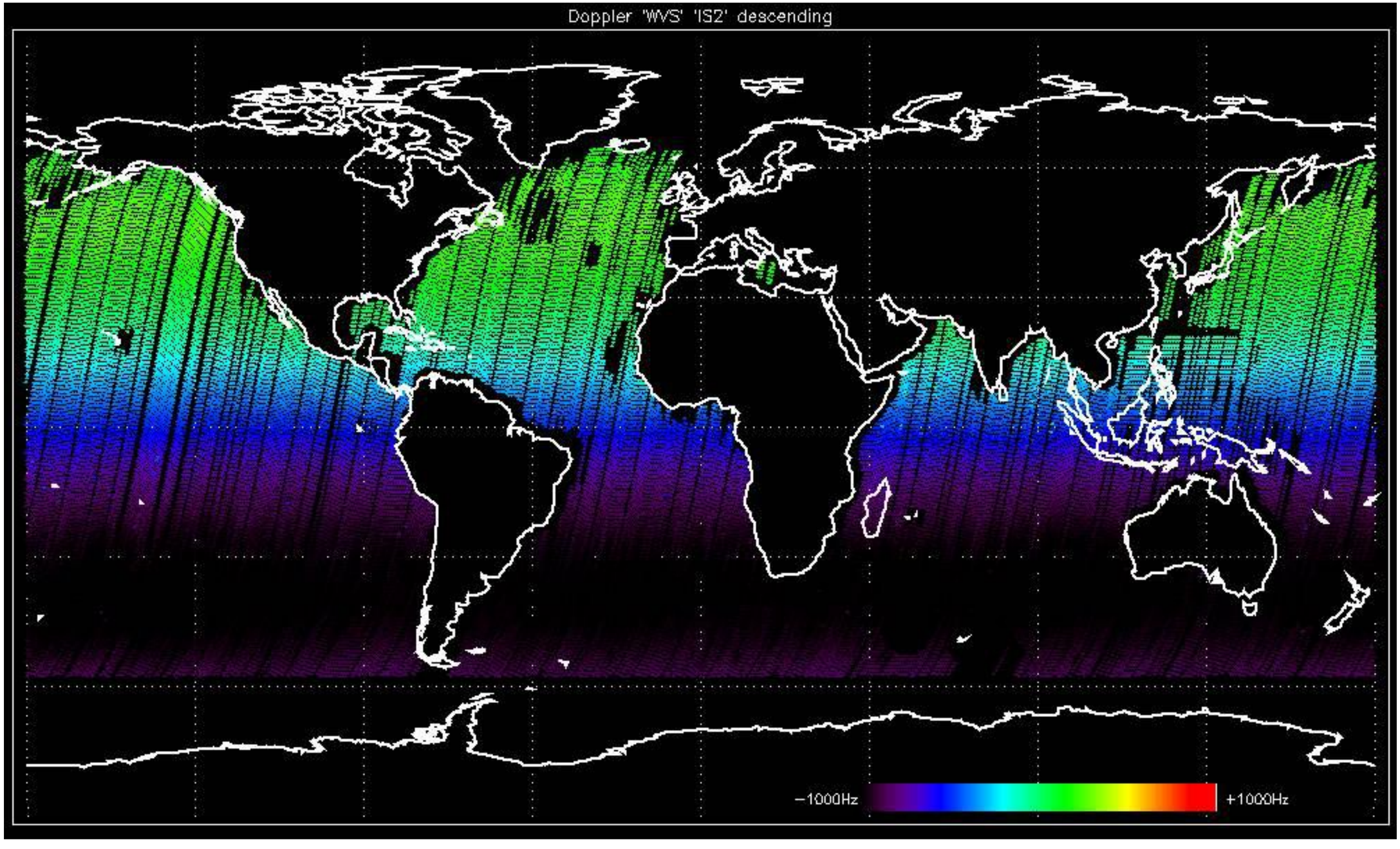
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

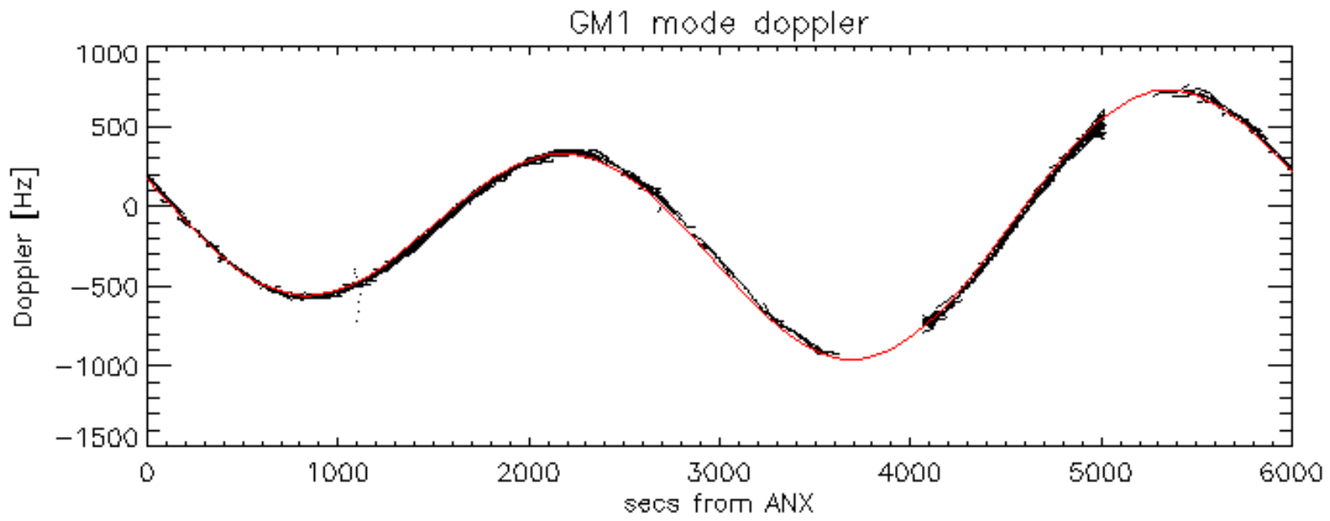
Preliminary report.The data is not yet controled

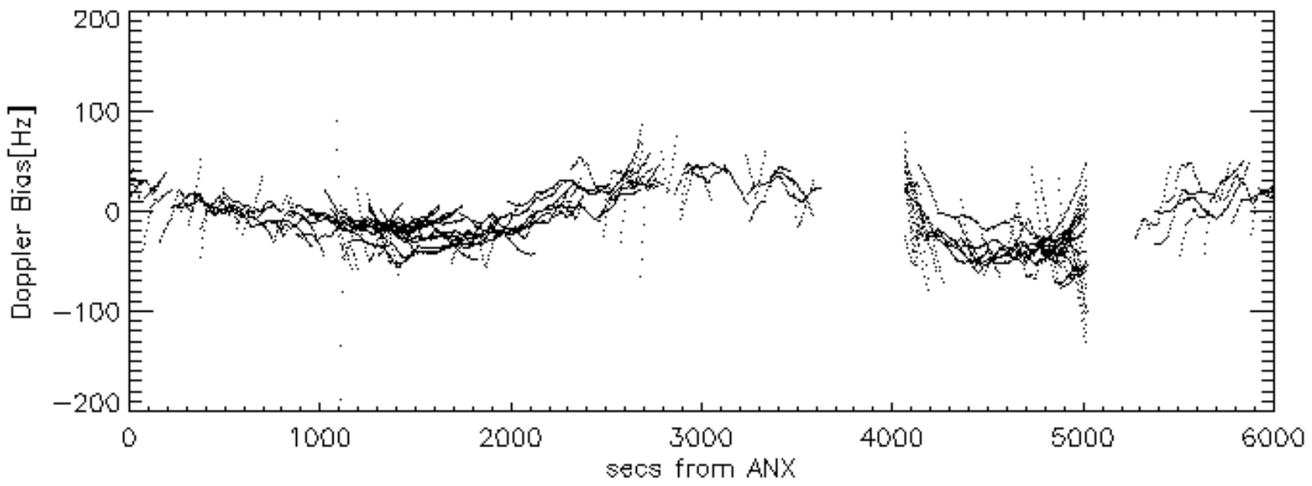

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

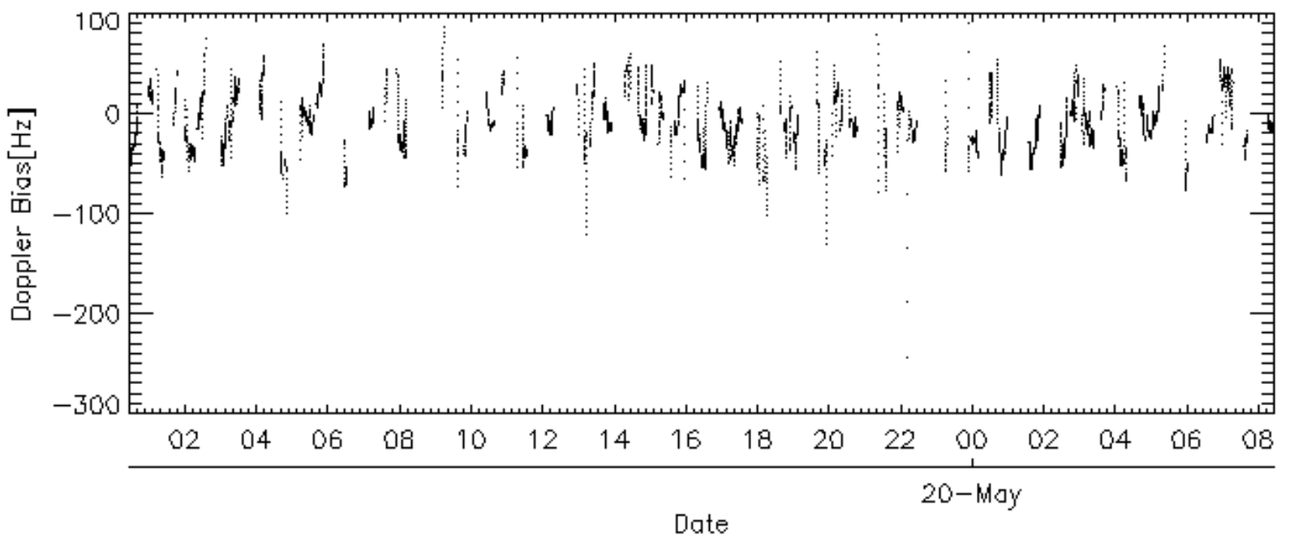

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

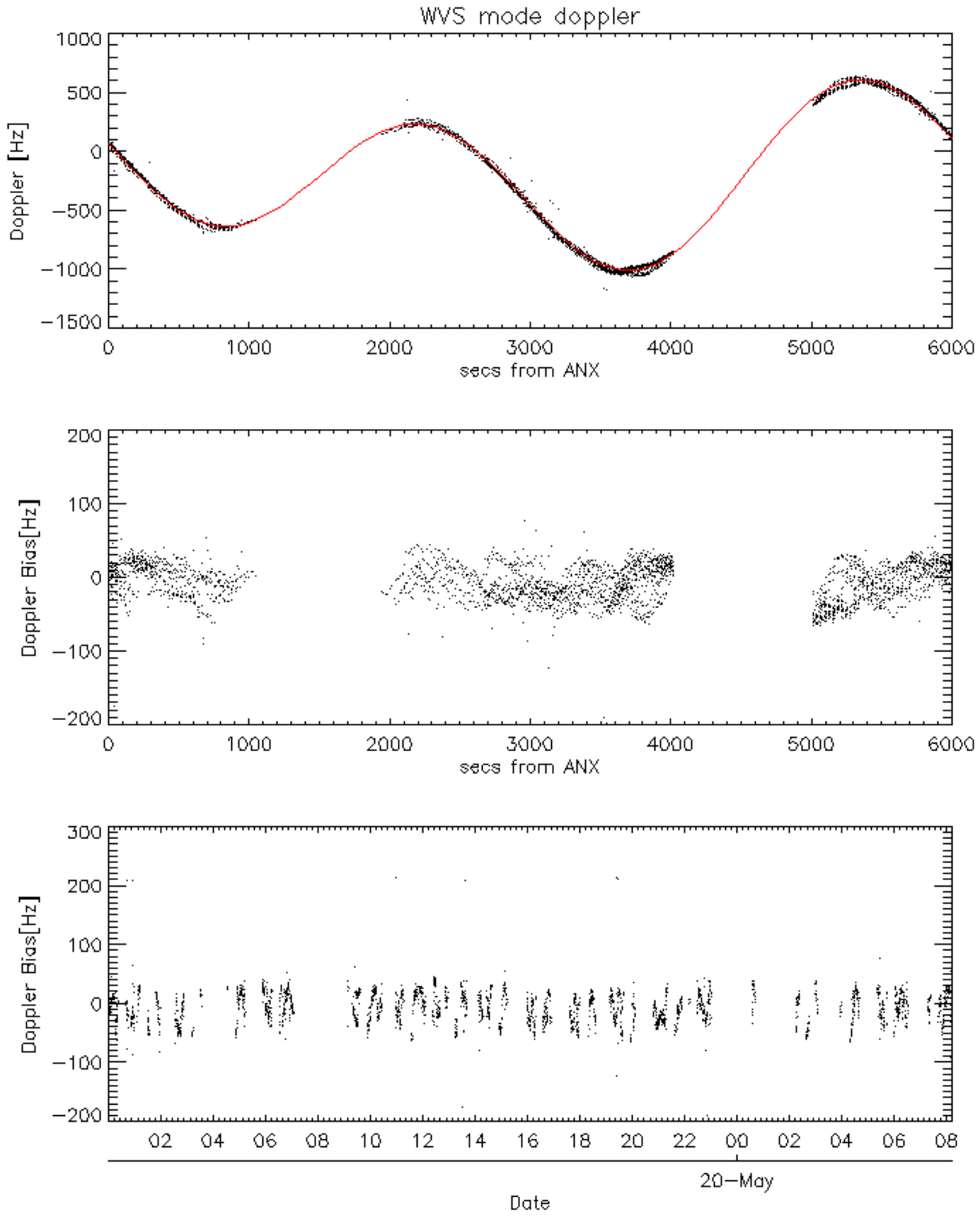

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

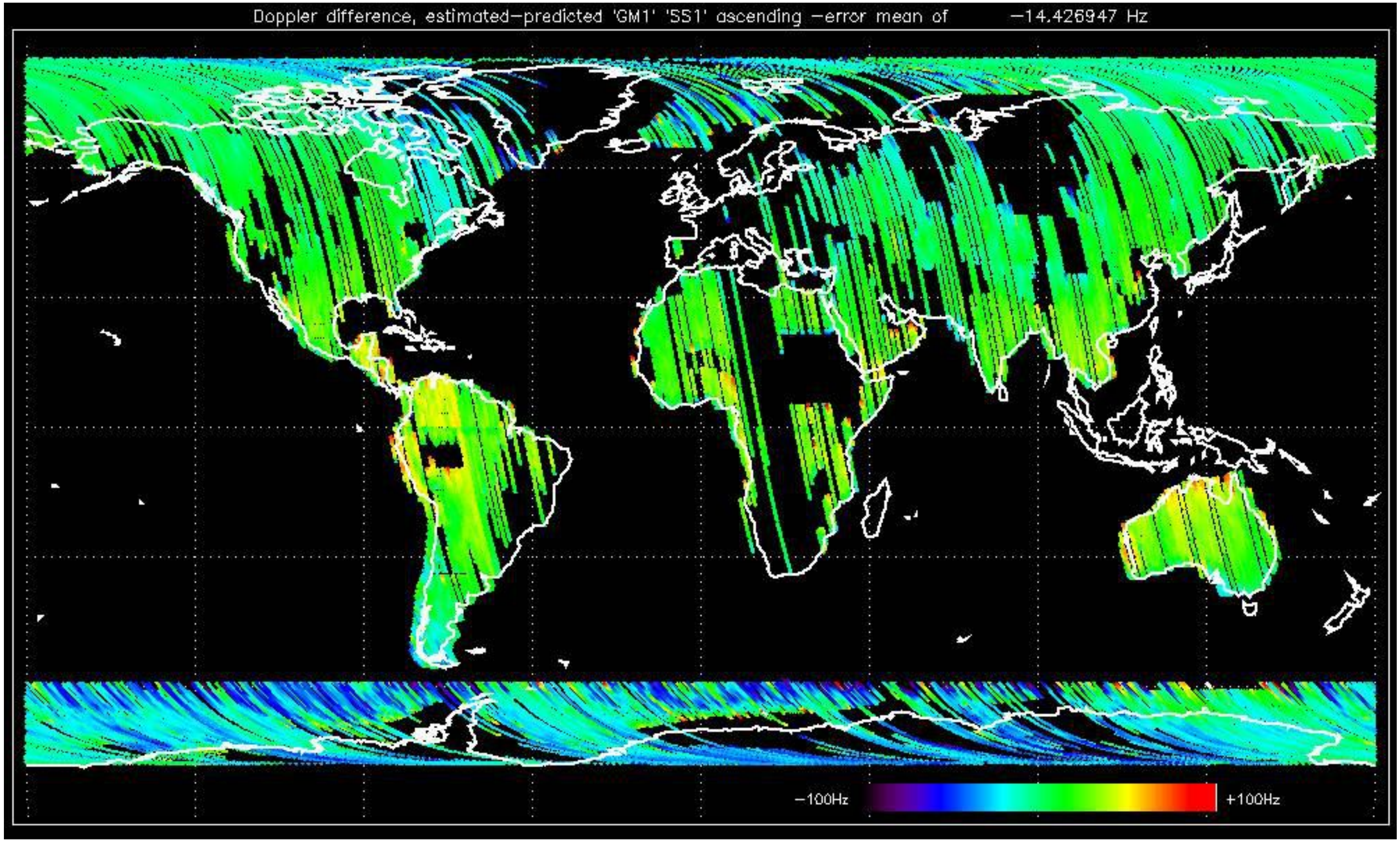

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

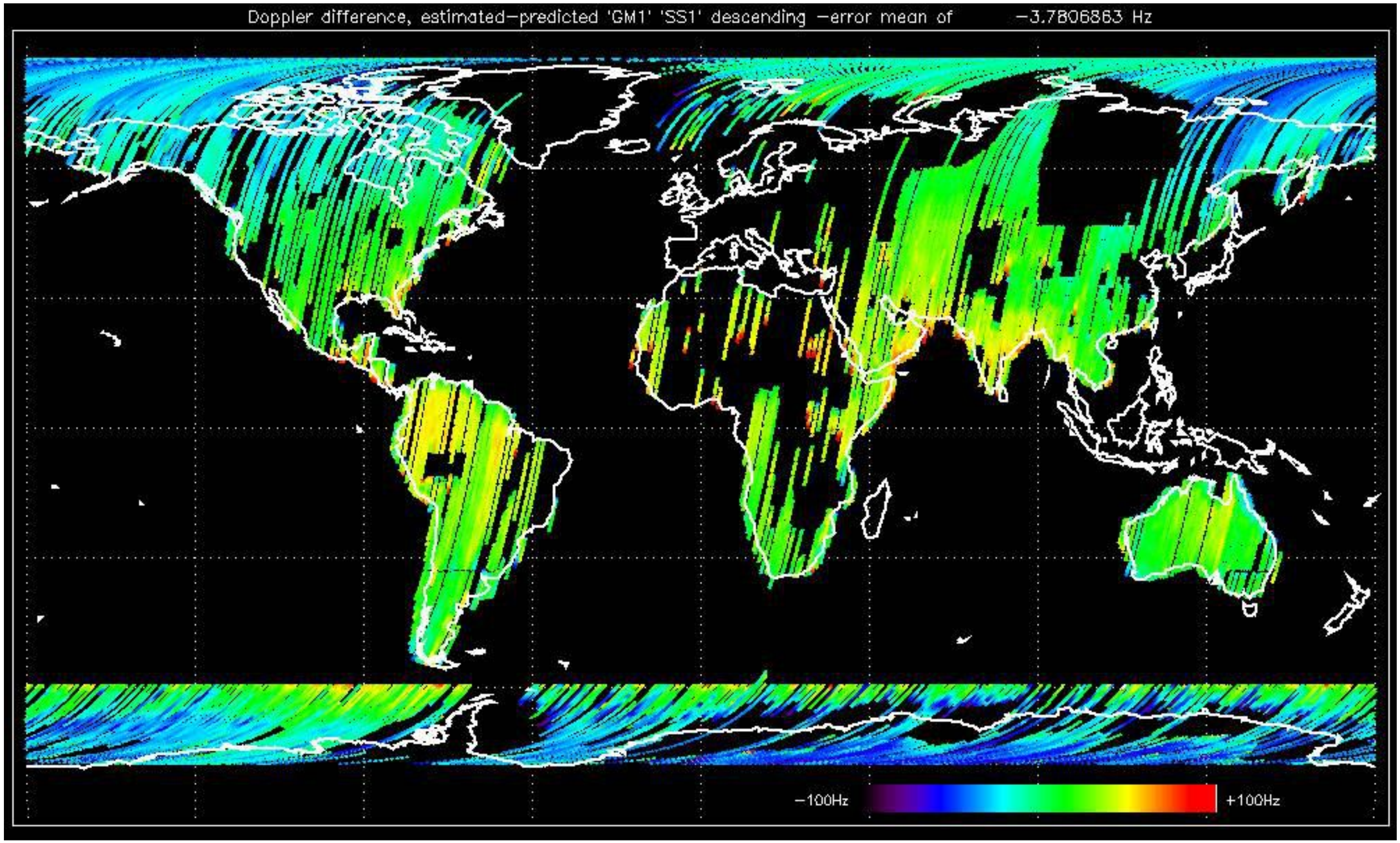

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

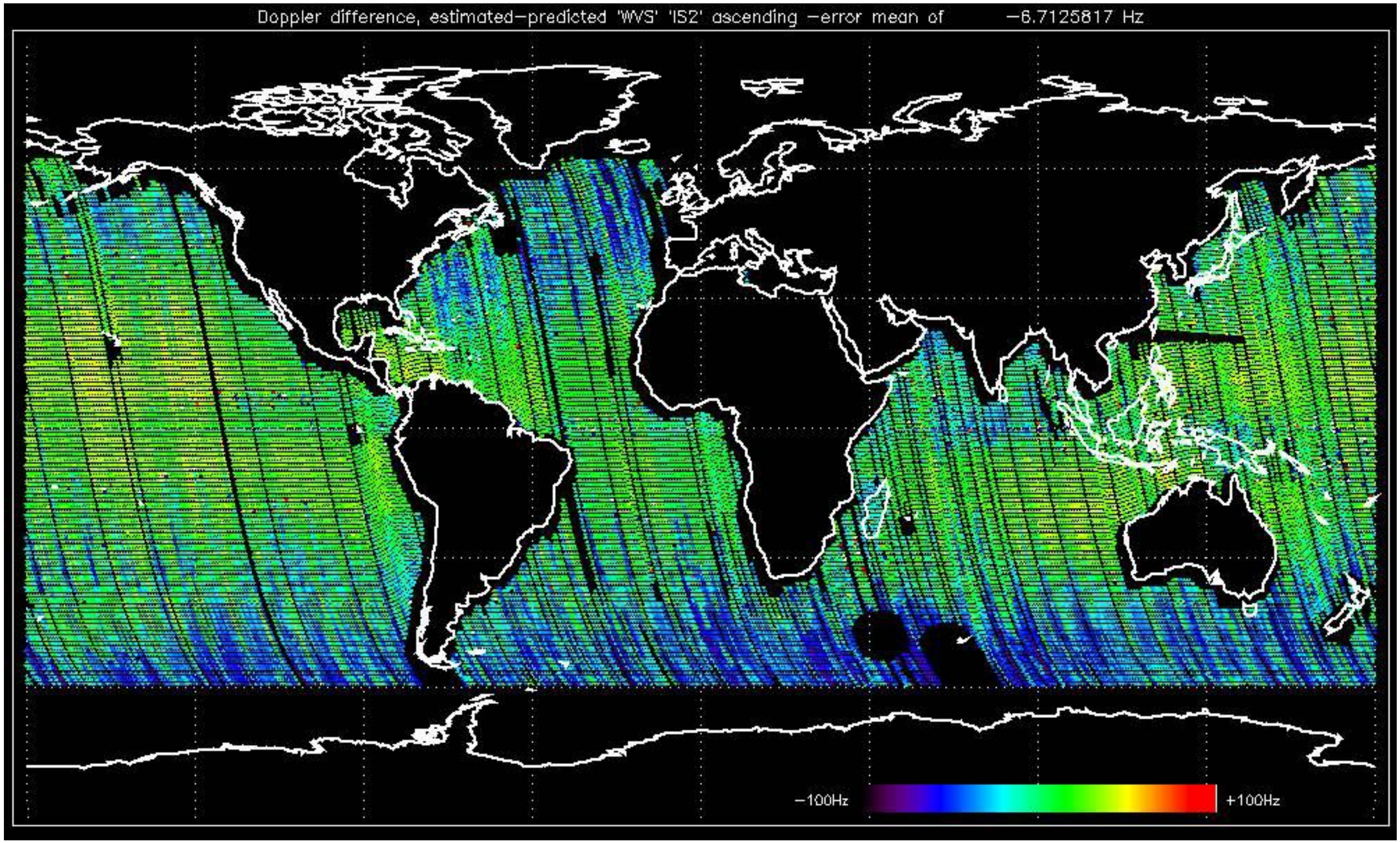

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

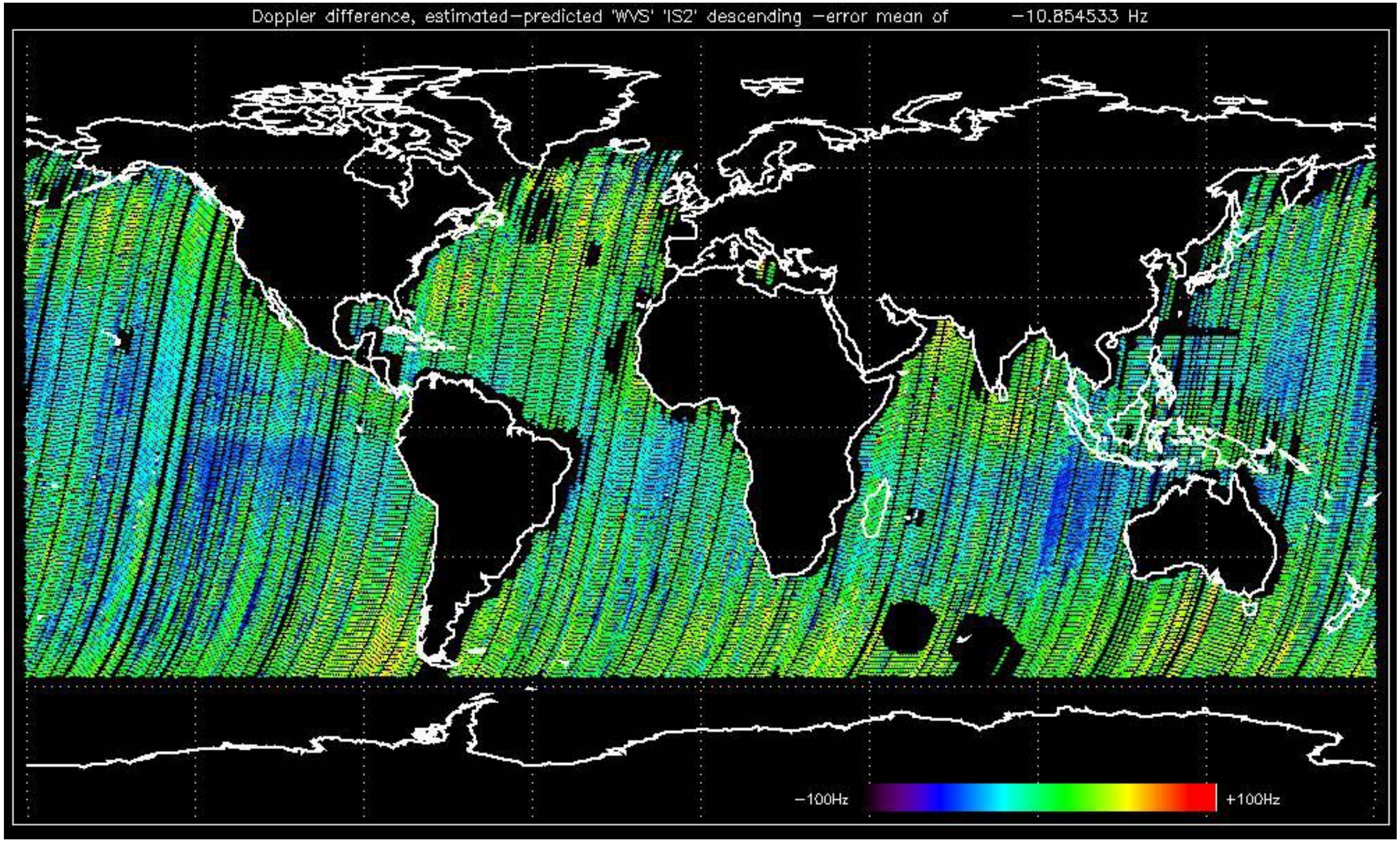

Doppler Bias[Hz]
100
0
−100
−200
−300
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
08
20−May
Date


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
08
20−May
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −14.426947 Hz
−100Hz
+100Hz

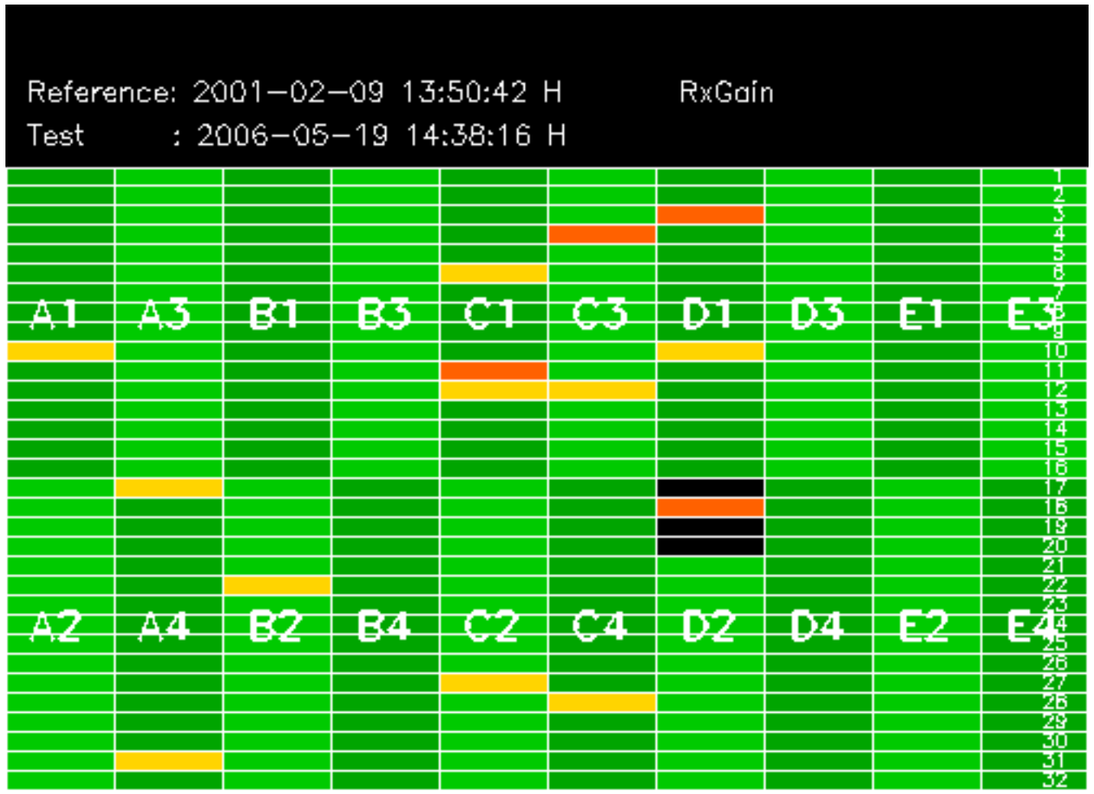

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −3.7806863 Hz
−100Hz
+100Hz

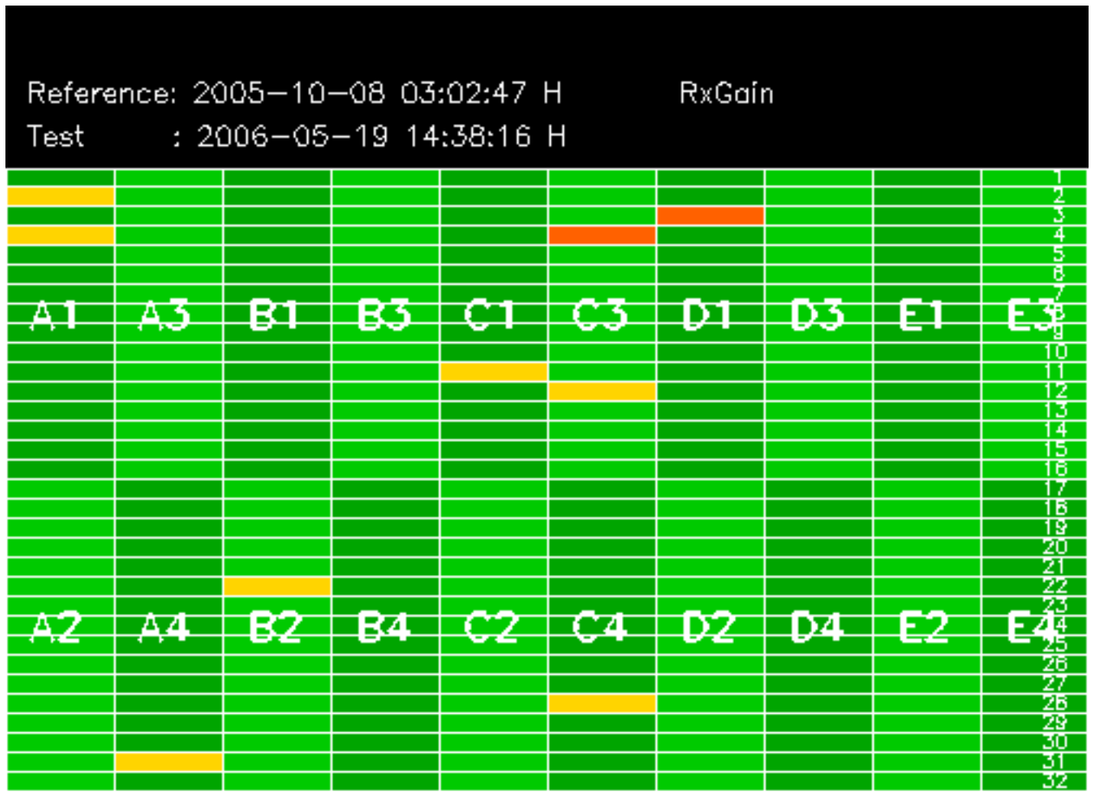

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −6.7125817 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −10.854533 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2006-05-19 14:38:16 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 : 2006-05-19 14:38:16 H
RxGain
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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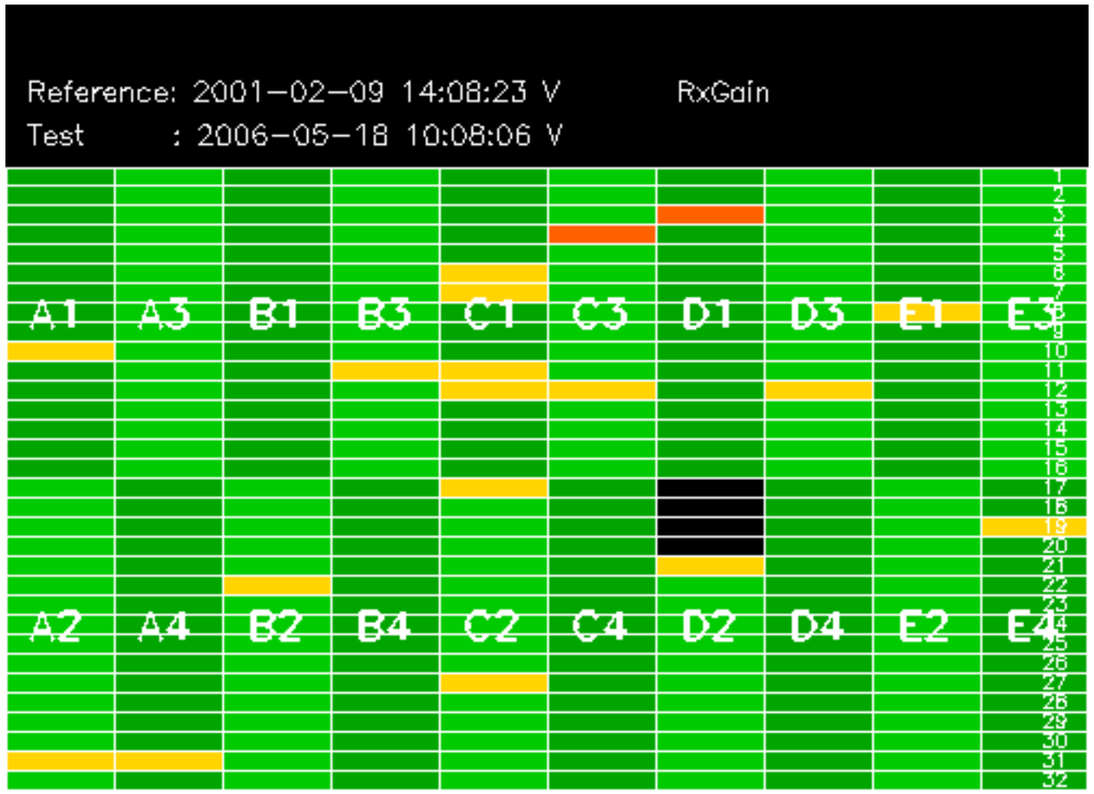
Reference: 2001-02-09 14:08:23 V
Test : 2006-05-18 10:08:06 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
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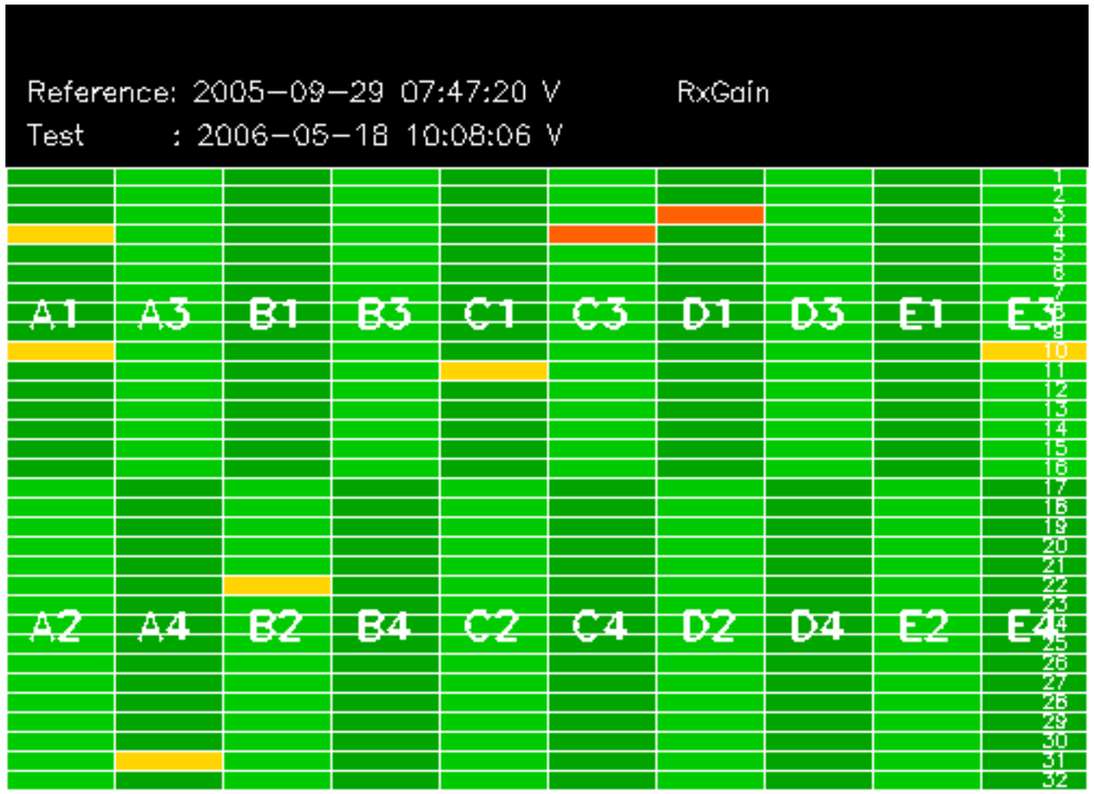
Reference: 2005-09-29 07:47:20 V
Test : 2006-05-18 10:08:06 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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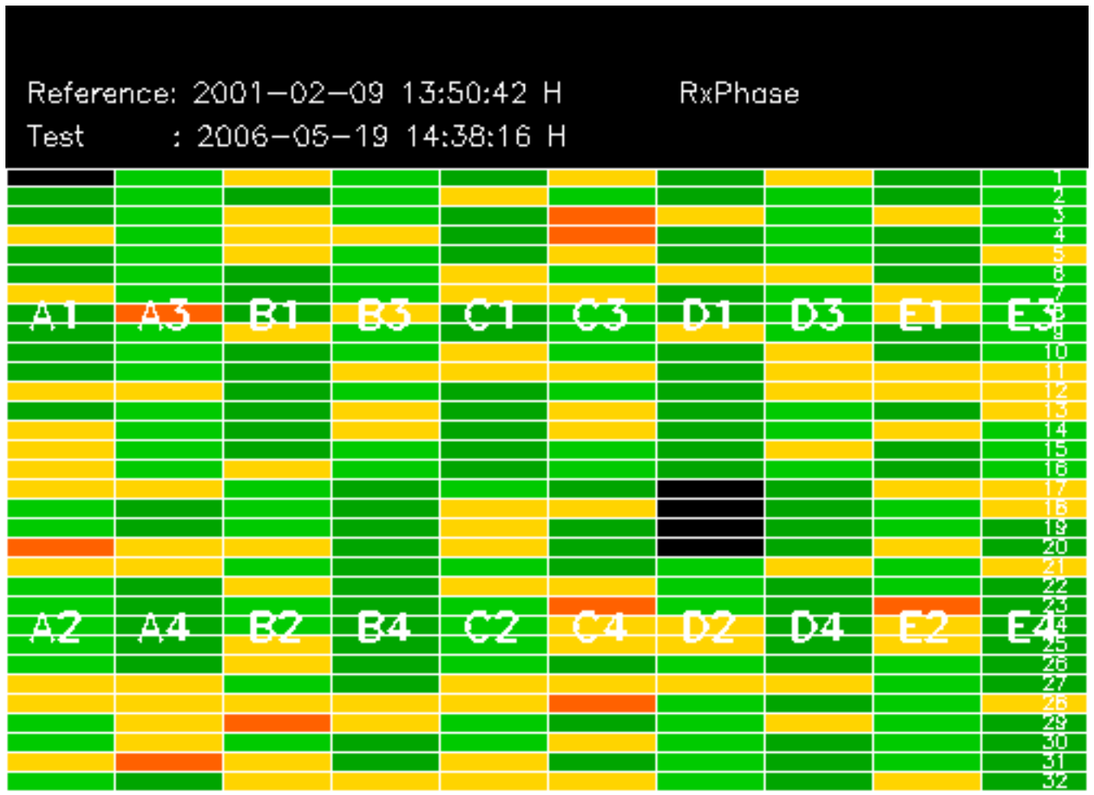
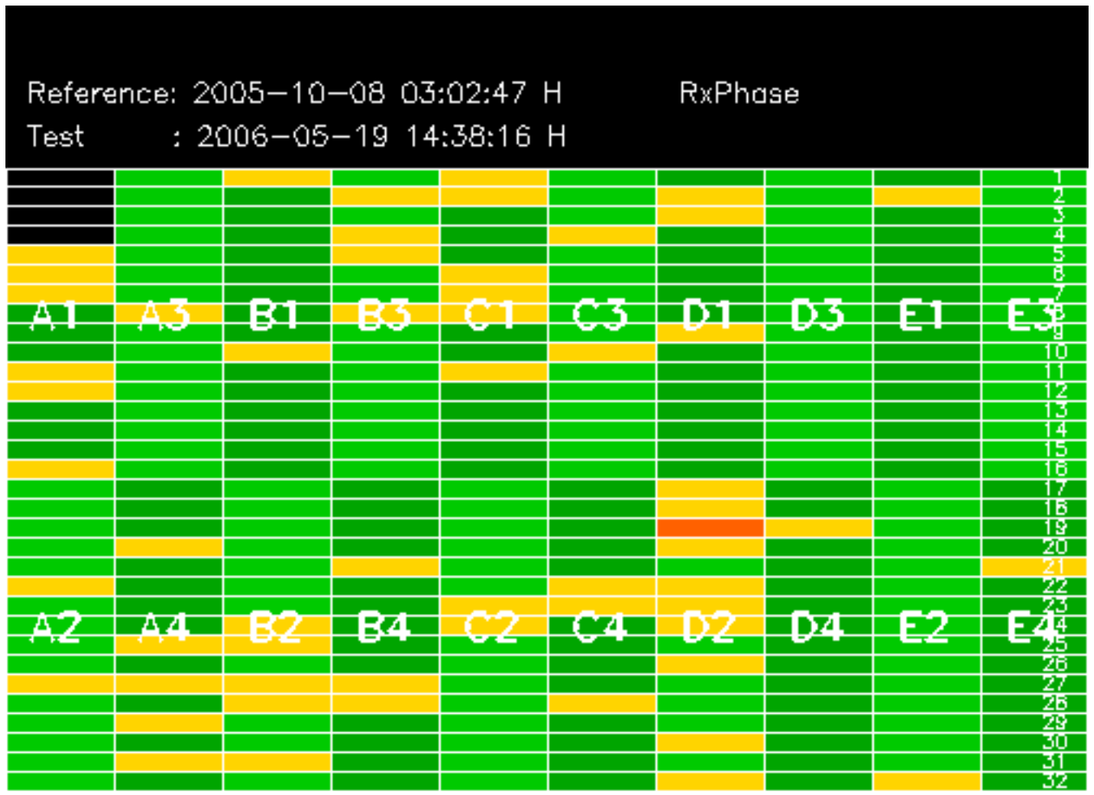

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-05-19 14:38:16 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-10-08 03:02:47 H
RxPhase
Test : 2006-05-19 14:38:16 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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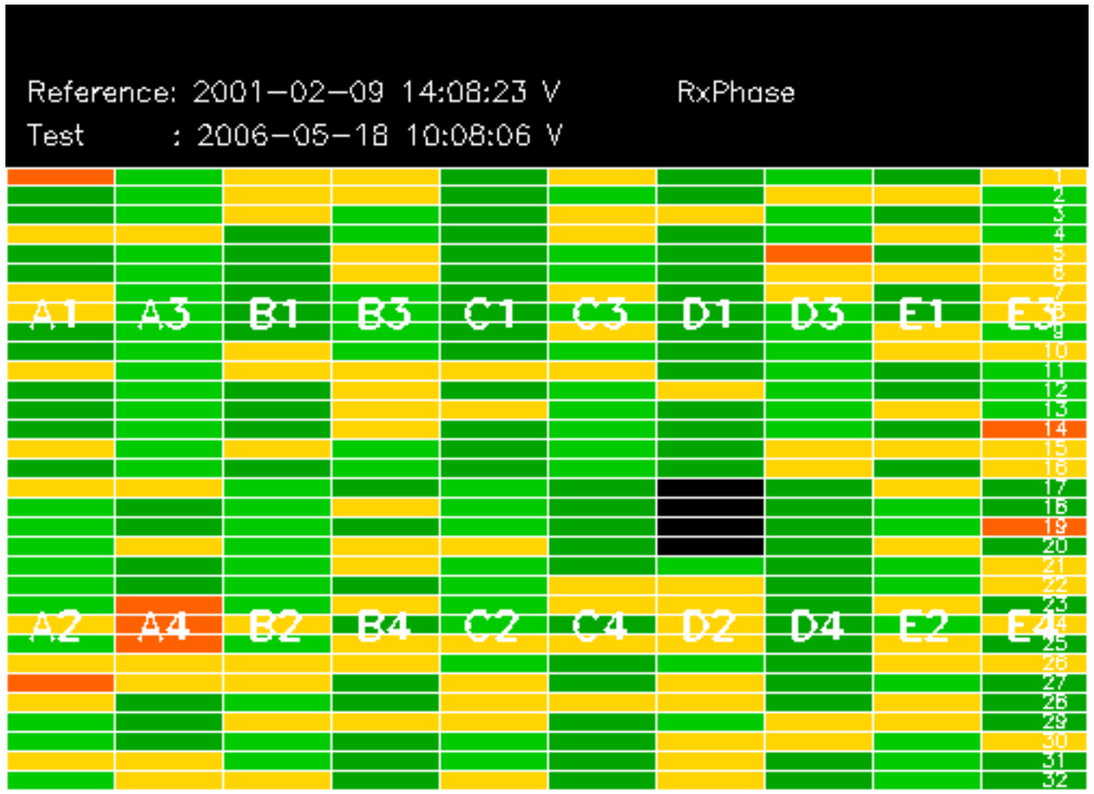
Reference: 2001-02-09 14:08:23 V
Test : 2006-05-18 10:08:06 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
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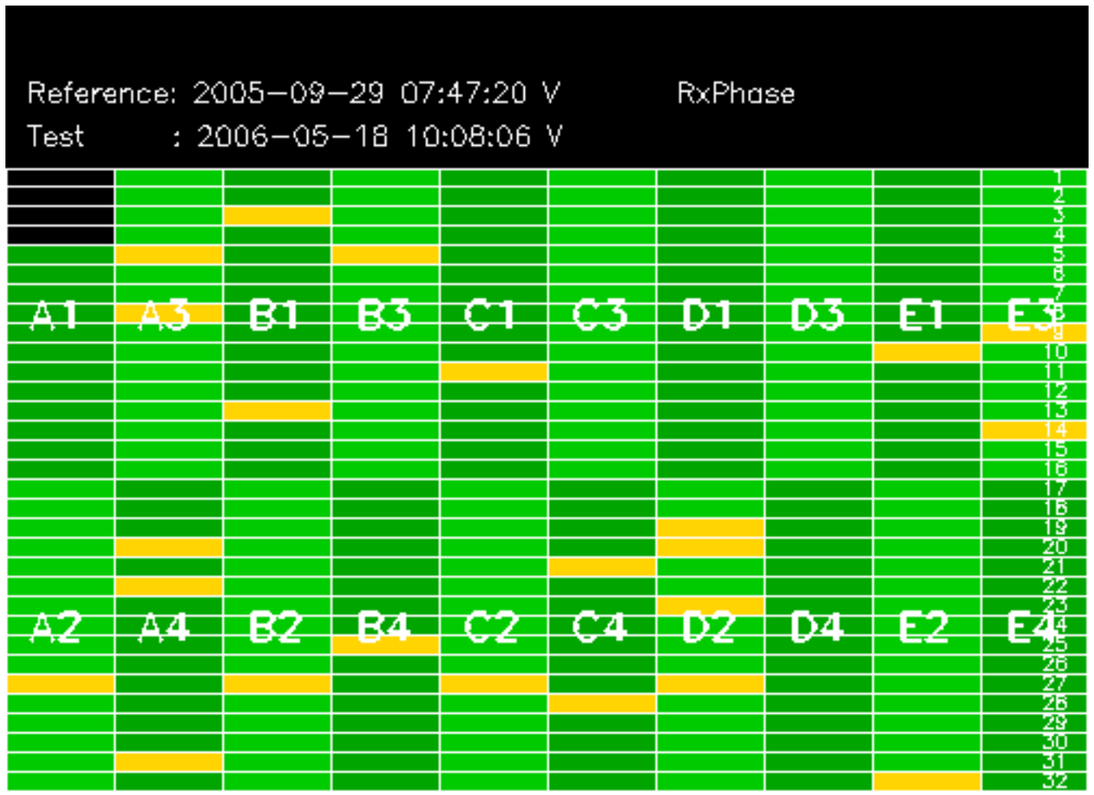
Reference: 2005-09-29 07:47:20 V
Test : 2006-05-18 10:08:06 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
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8
9
10
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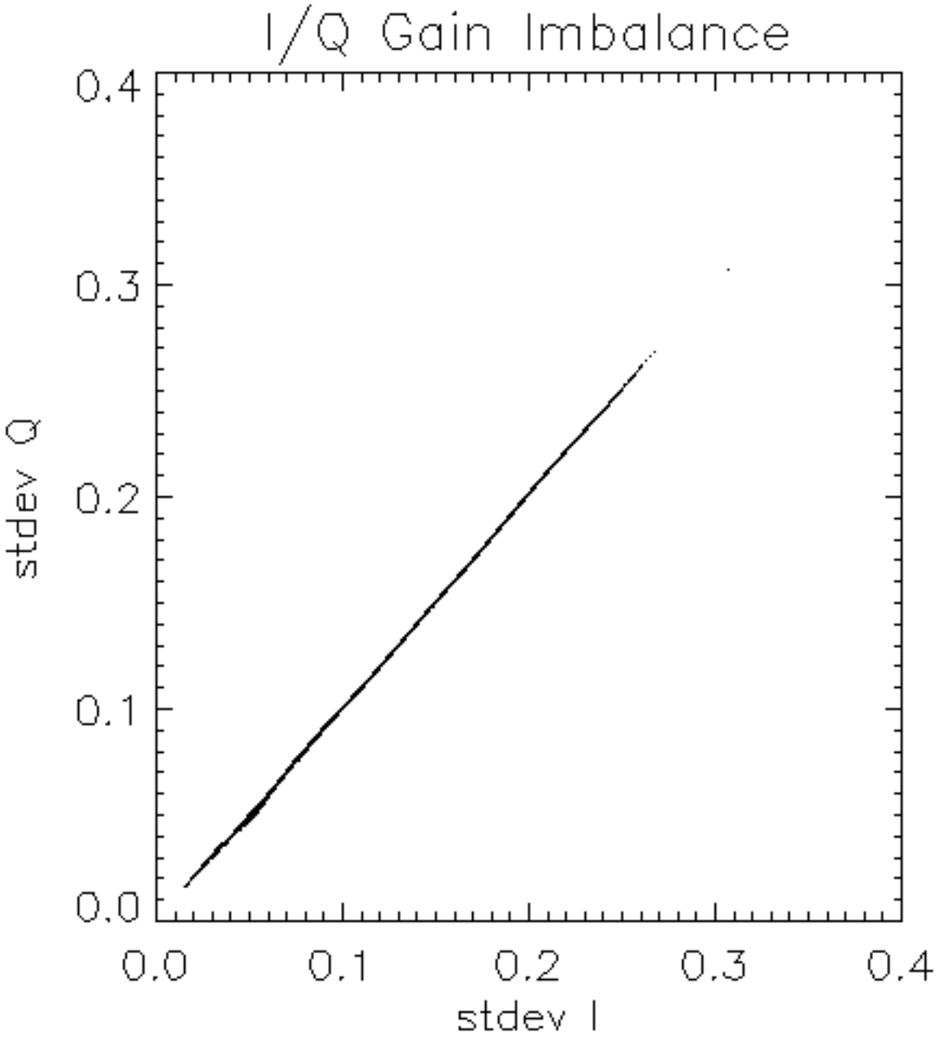
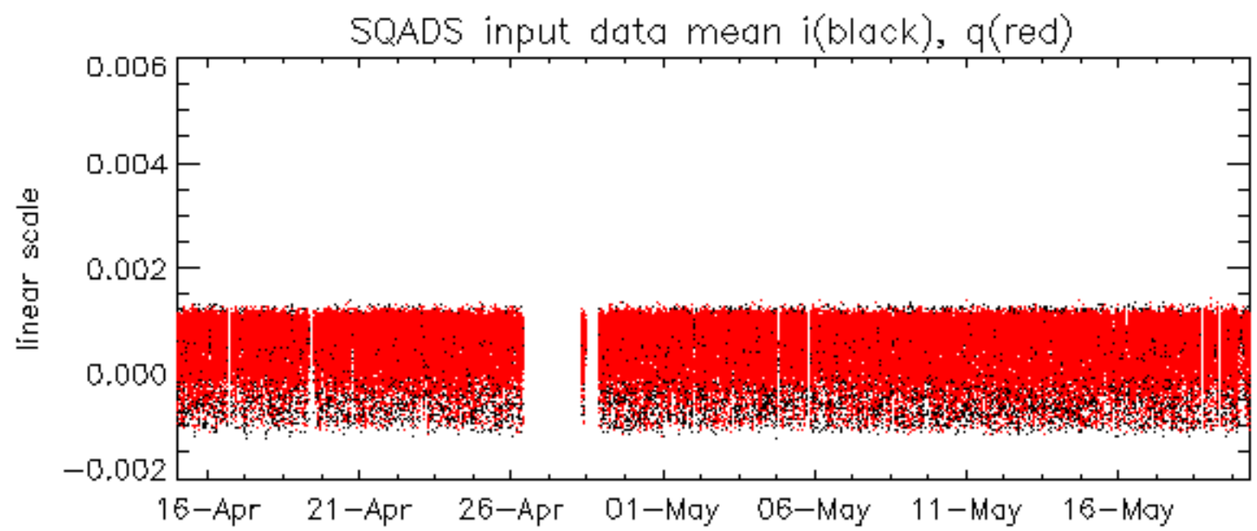
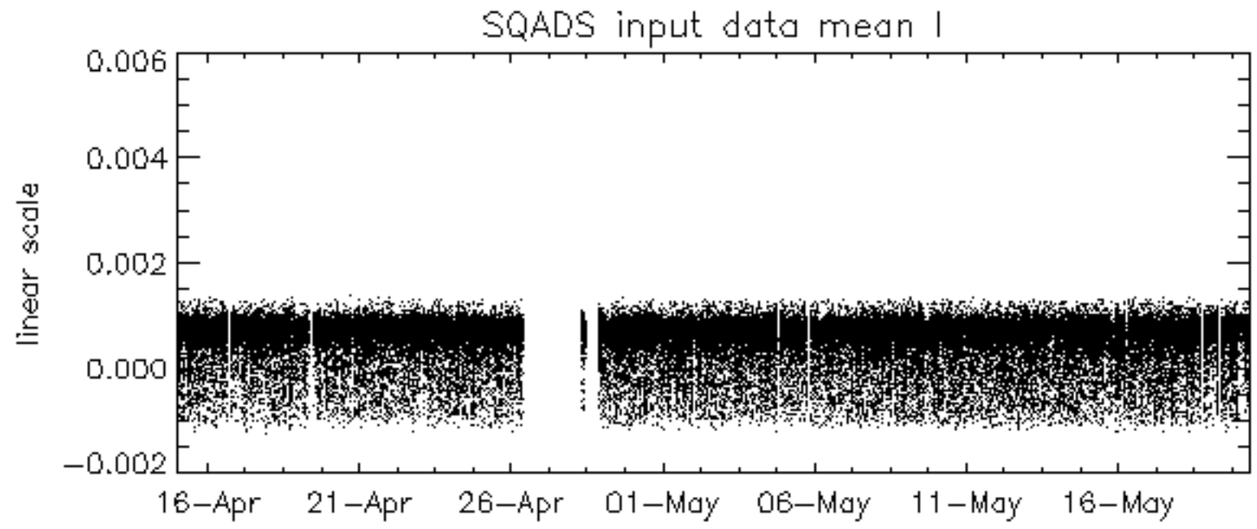
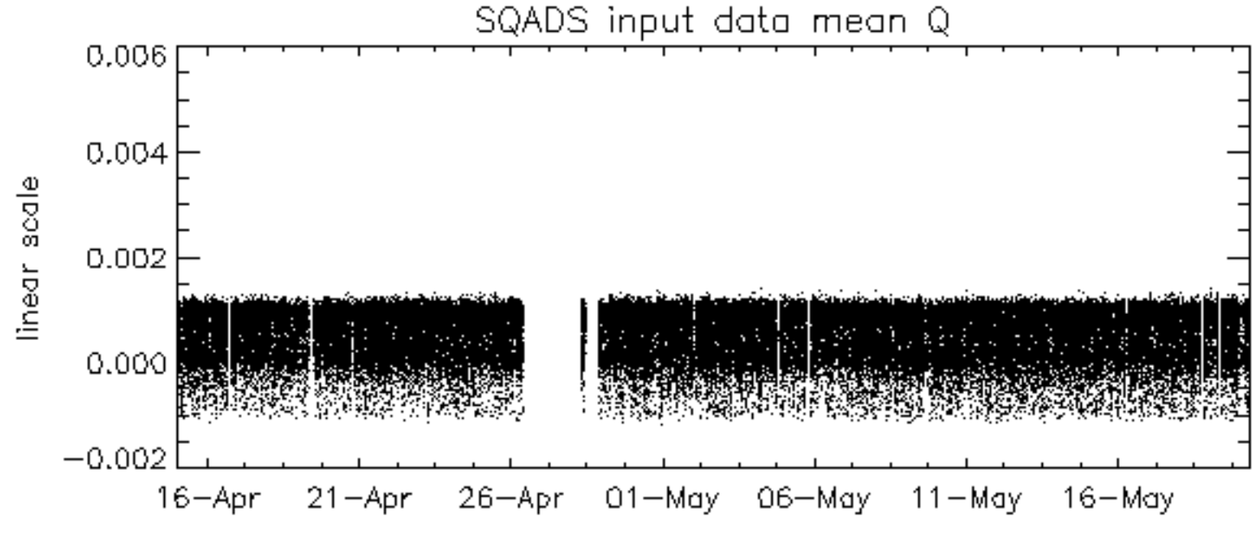
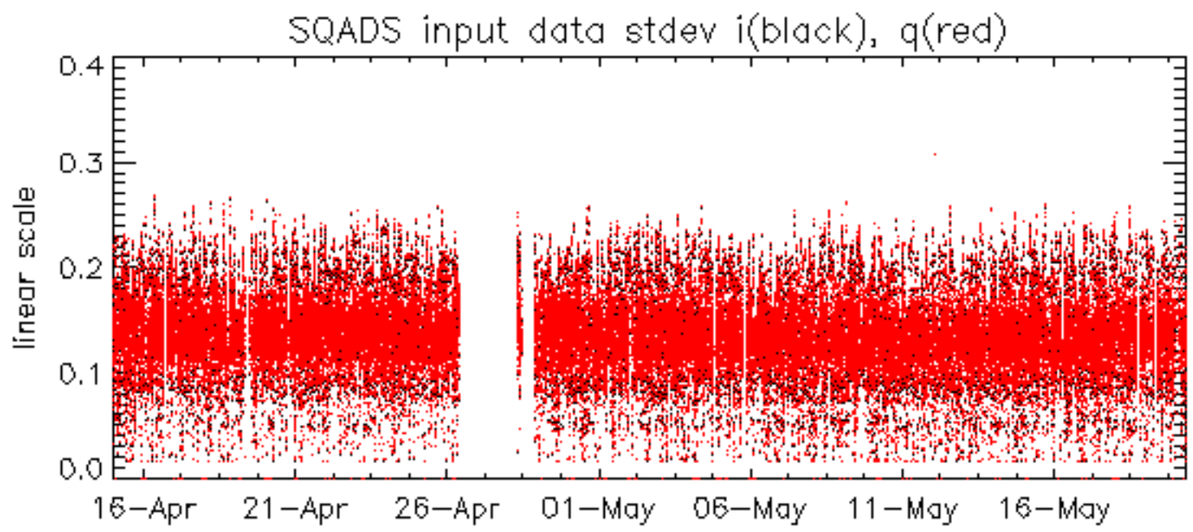
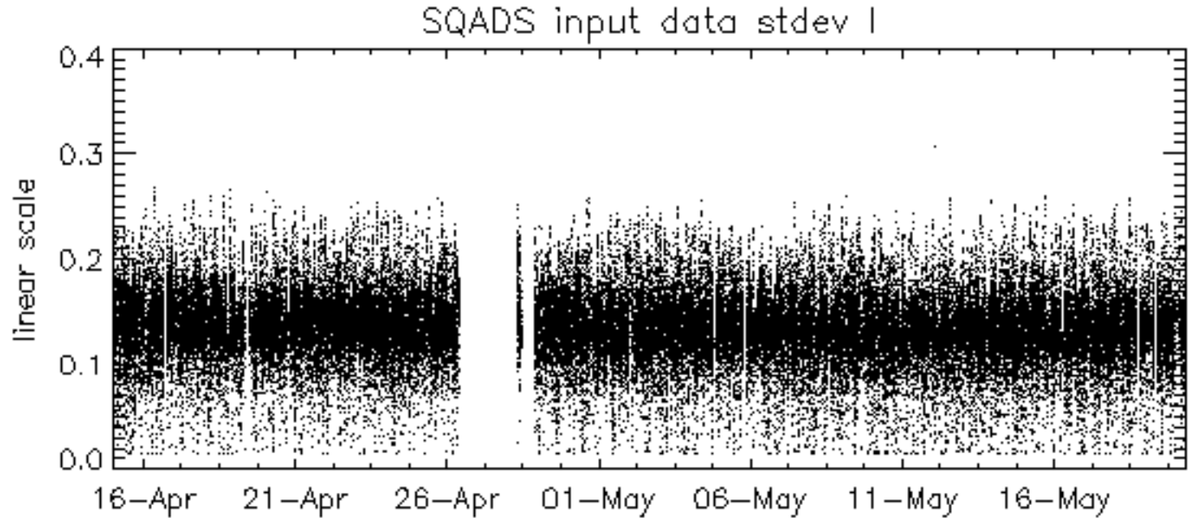

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

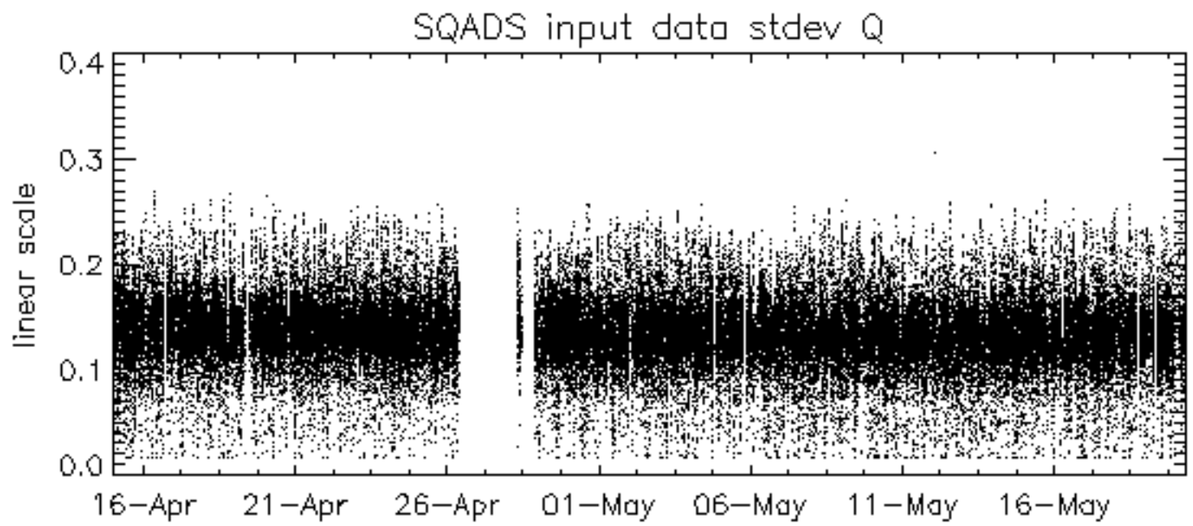

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Apr
21−Apr
26−Apr
01−May
06−May
11−May
16−May

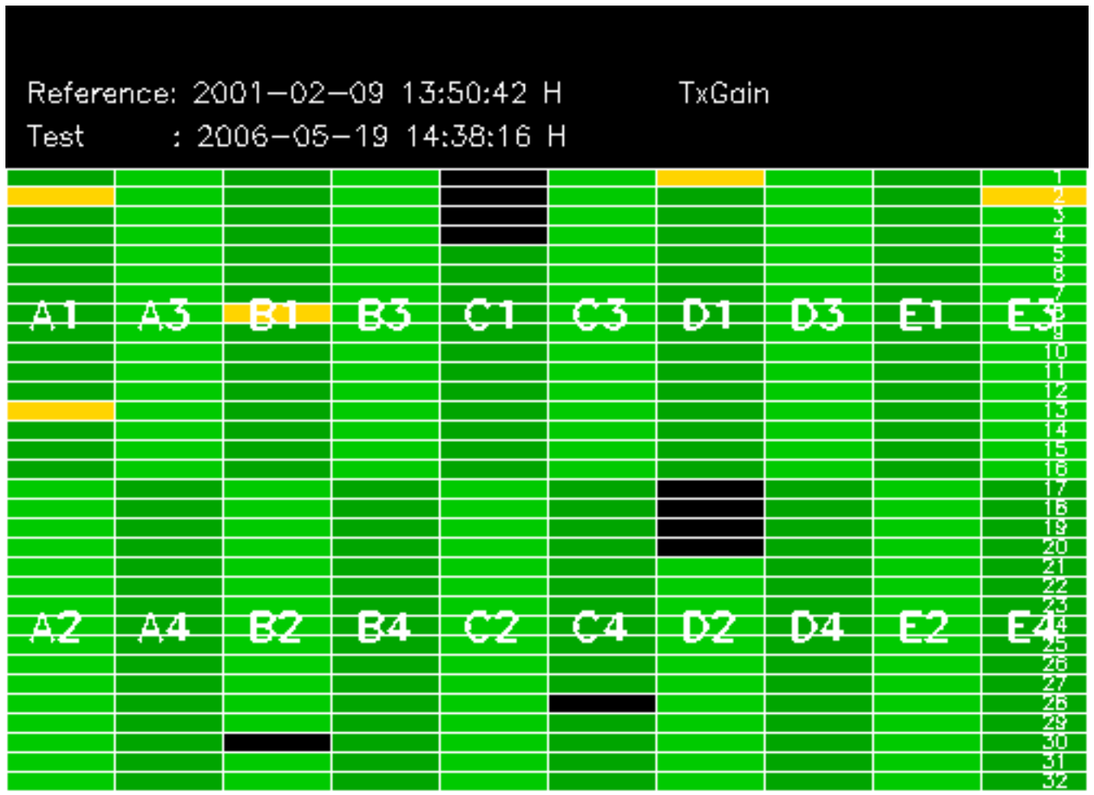

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Apr
21−Apr
26−Apr
01−May
06−May
11−May
16−May

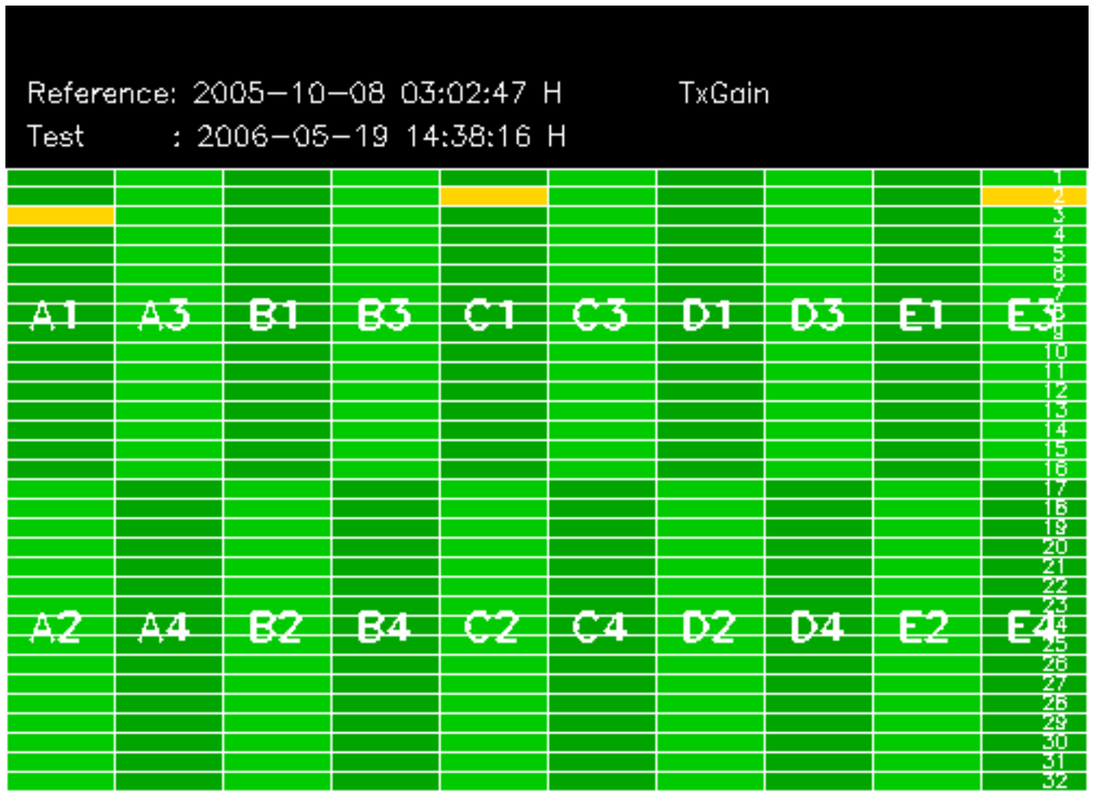

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Apr
21−Apr
26−Apr
01−May
06−May
11−May
16−May


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2006-05-19 14:38:16 H
TxGain
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 : 2006-05-19 14:38:16 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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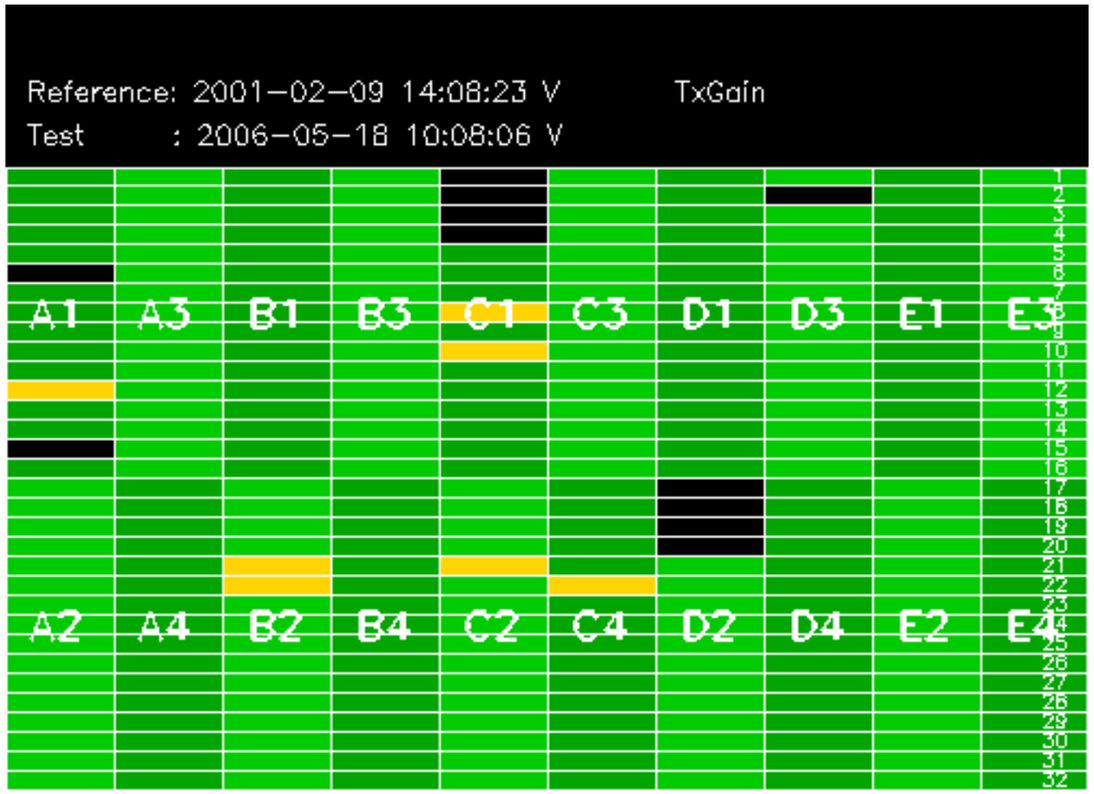
Reference: 2001-02-09 14:08:23 V
Test : 2006-05-18 10:08:06 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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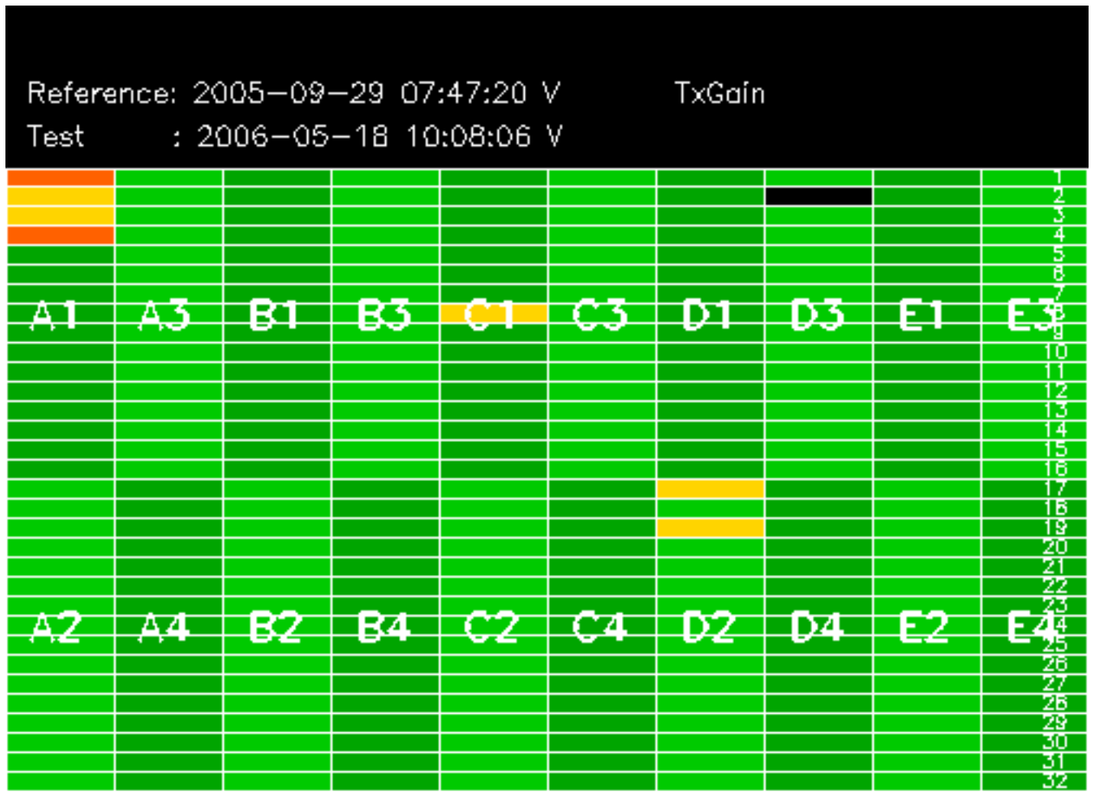
Reference: 2005-09-29 07:47:20 V
Test : 2006-05-18 10:08:06 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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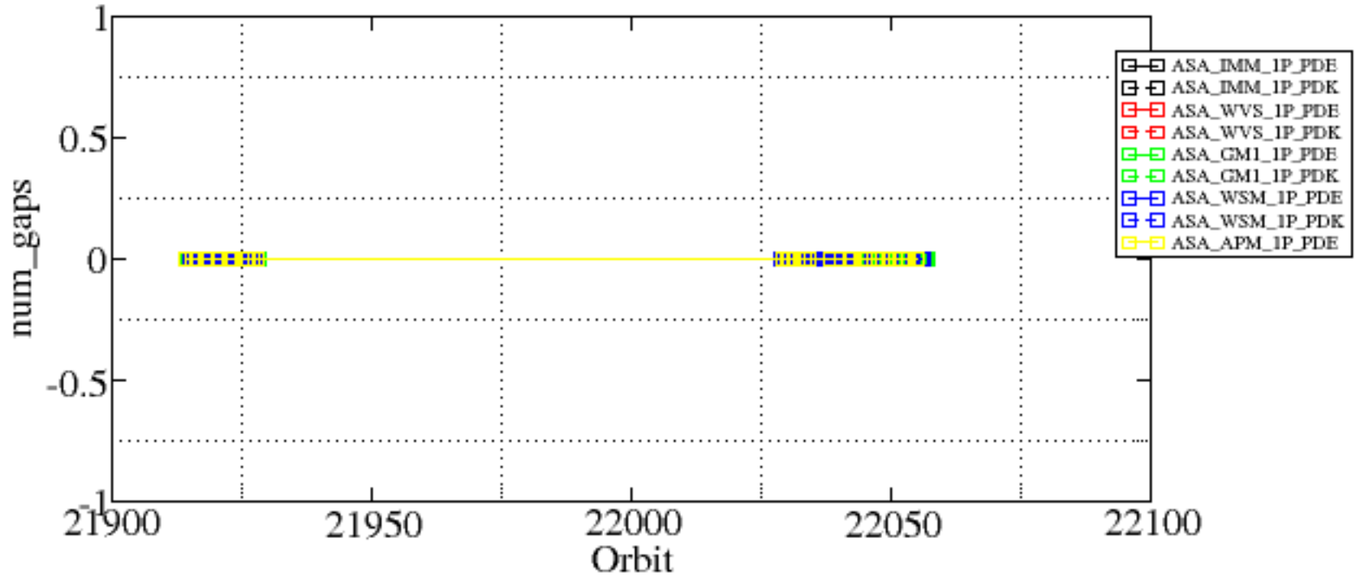
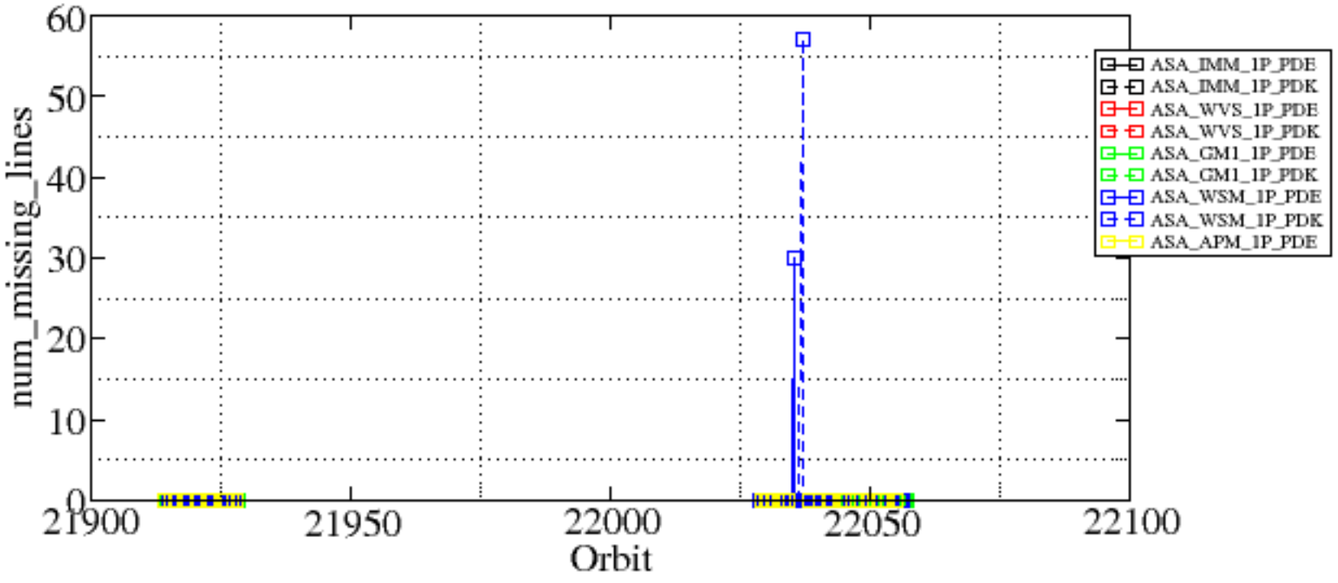
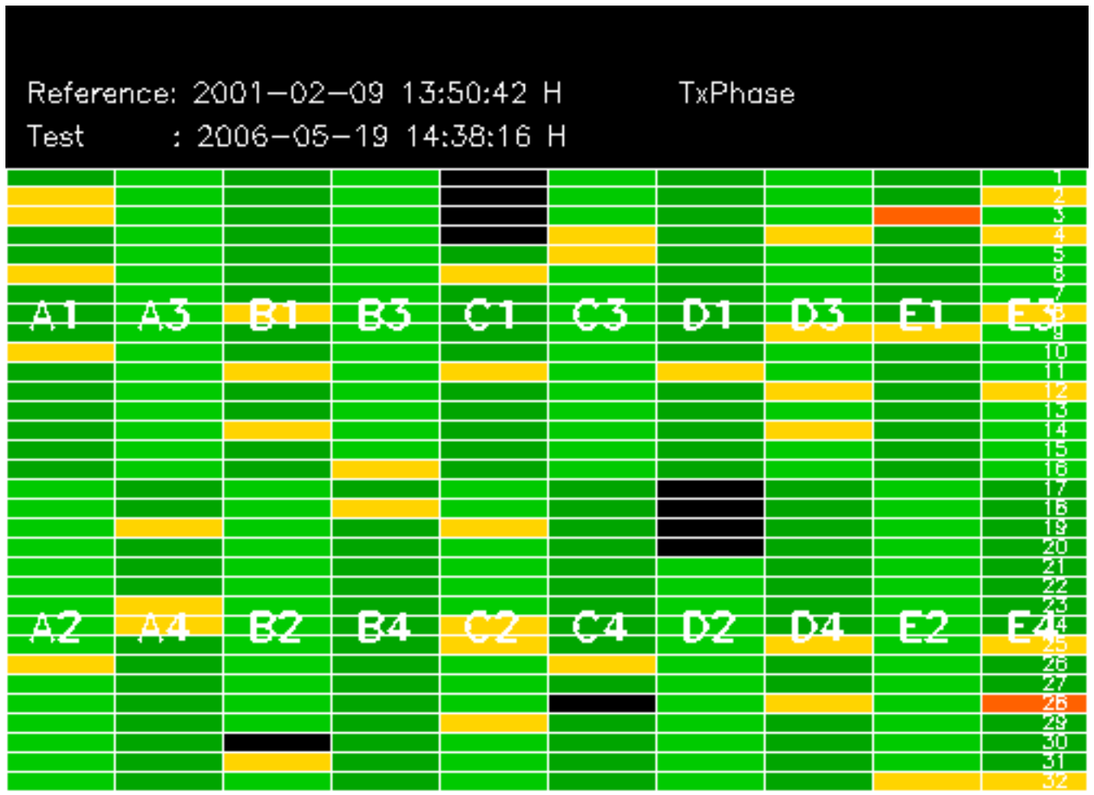
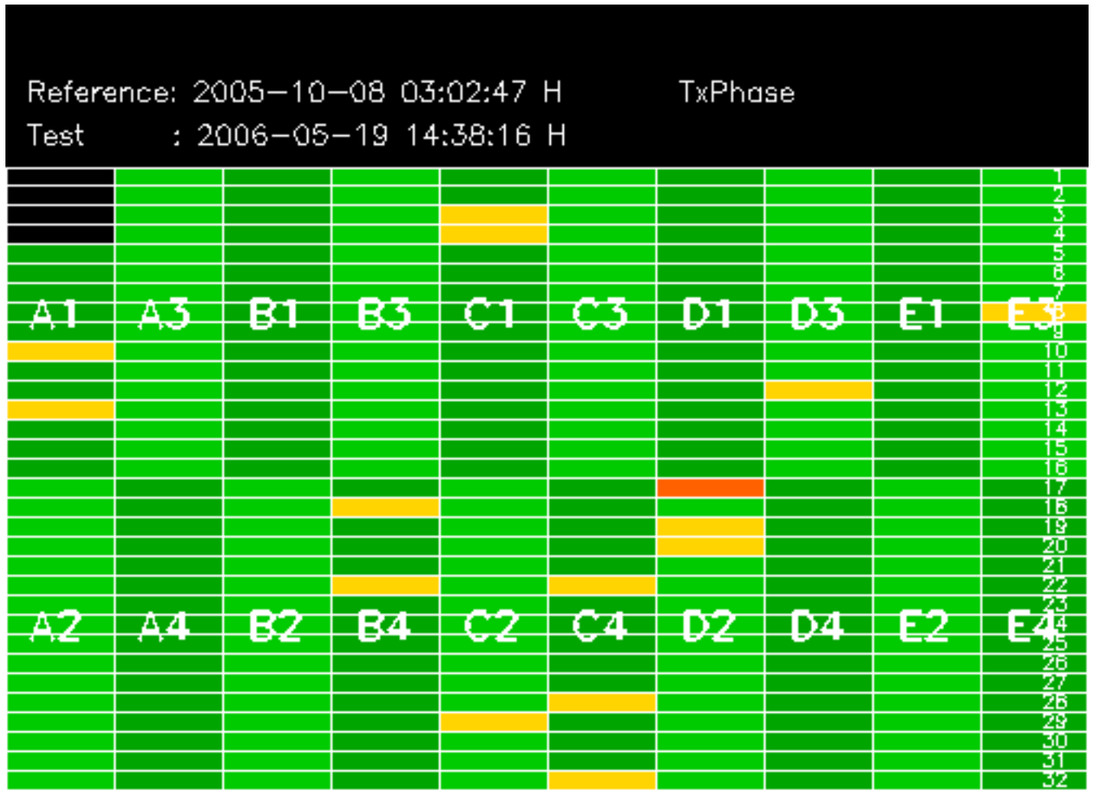
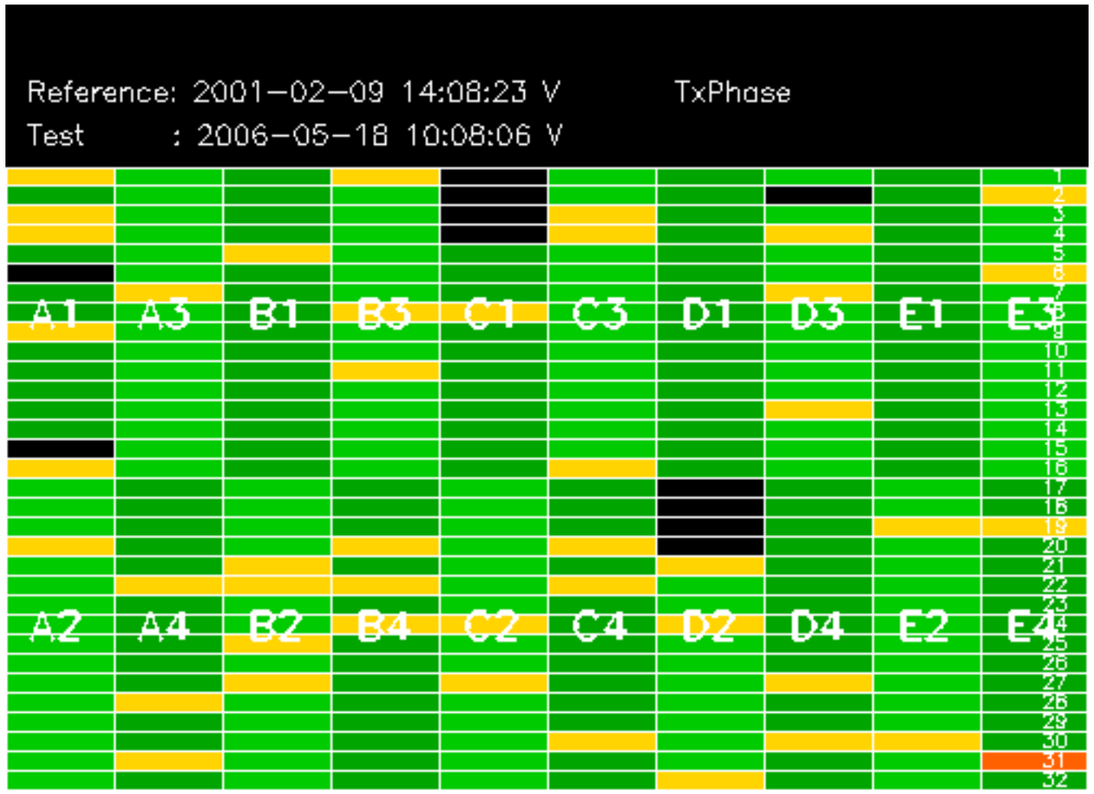
Summary of analysis for the last 3 days 2006051[890]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_WSM_1PNPDE20060518_112524_000000672047_00438_22035_9798.N1 </td> <td>0 </td> <td>30 </td></tr>
<tr> <td>ASA_WSM_1PNPDK20060518_140701_000000912047_00440_22037_5419.N1 </td> <td>0 </td> <td>57 </td></tr>
<tr> <td>ASA_WSM_1PNPDK20060518_140704_000000852047_00440_22037_5450.N1 </td> <td>0 </td> <td>57 </td></tr>
</table>

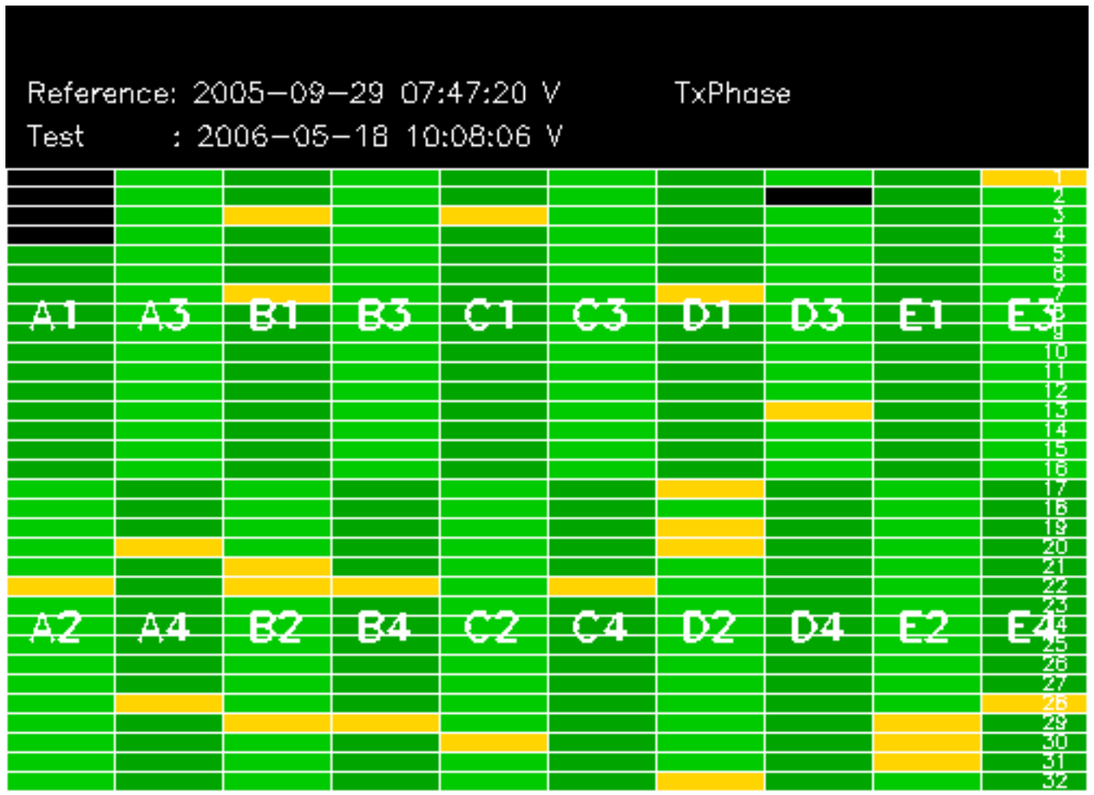

num_gaps
1
0.5
0
-0.5
-1
21900
21950
22000
22050
22100
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE


num_missing_lines
60
50
40
30
20
10
0
21900
21950
22000
22050
22100
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
TxPhase
Test : 2006-05-19 14:38:16 H
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 : 2006-05-19 14:38:16 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 : 2006-05-18 10:08:06 V
TxPhase
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 : 2006-05-18 10:08:06 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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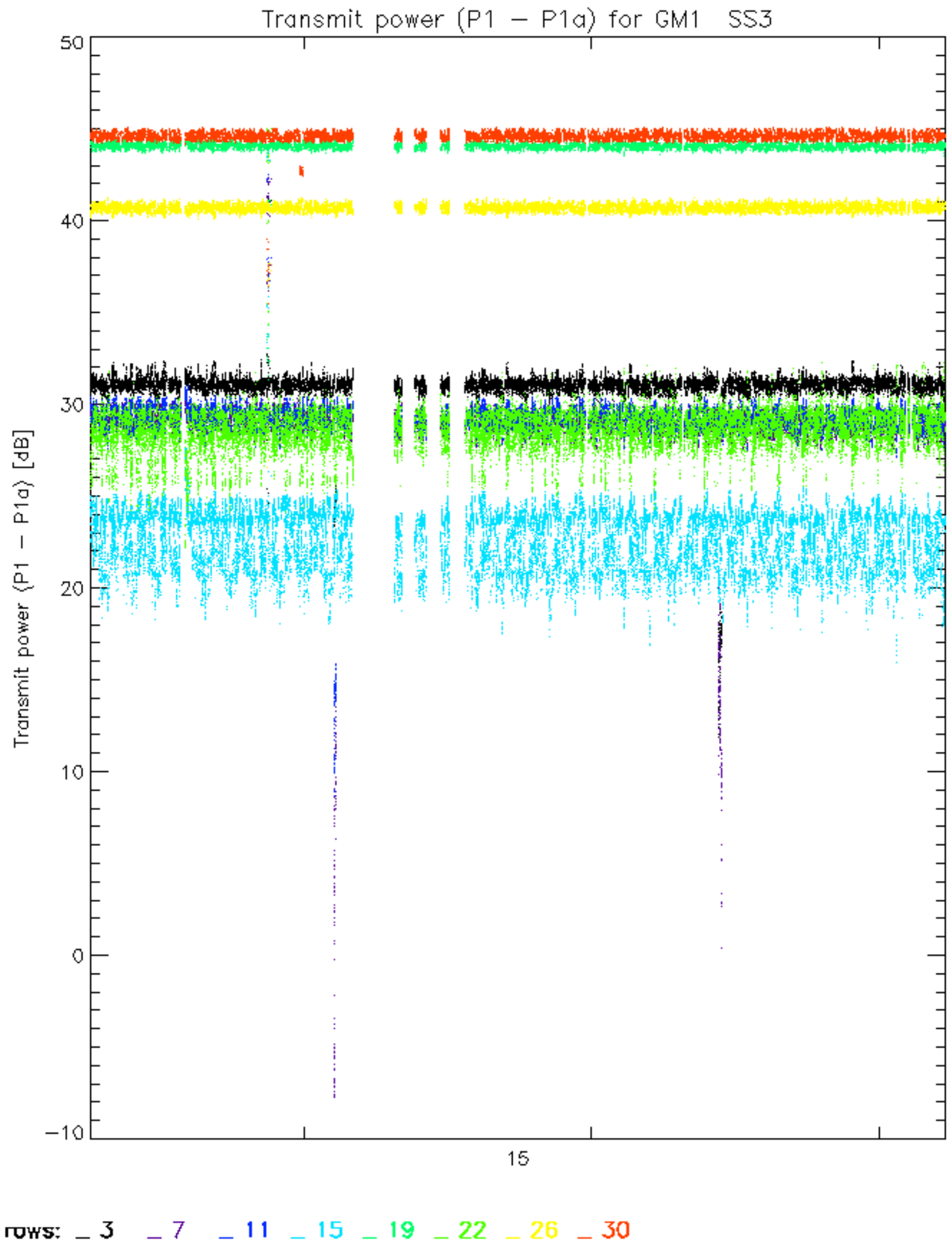
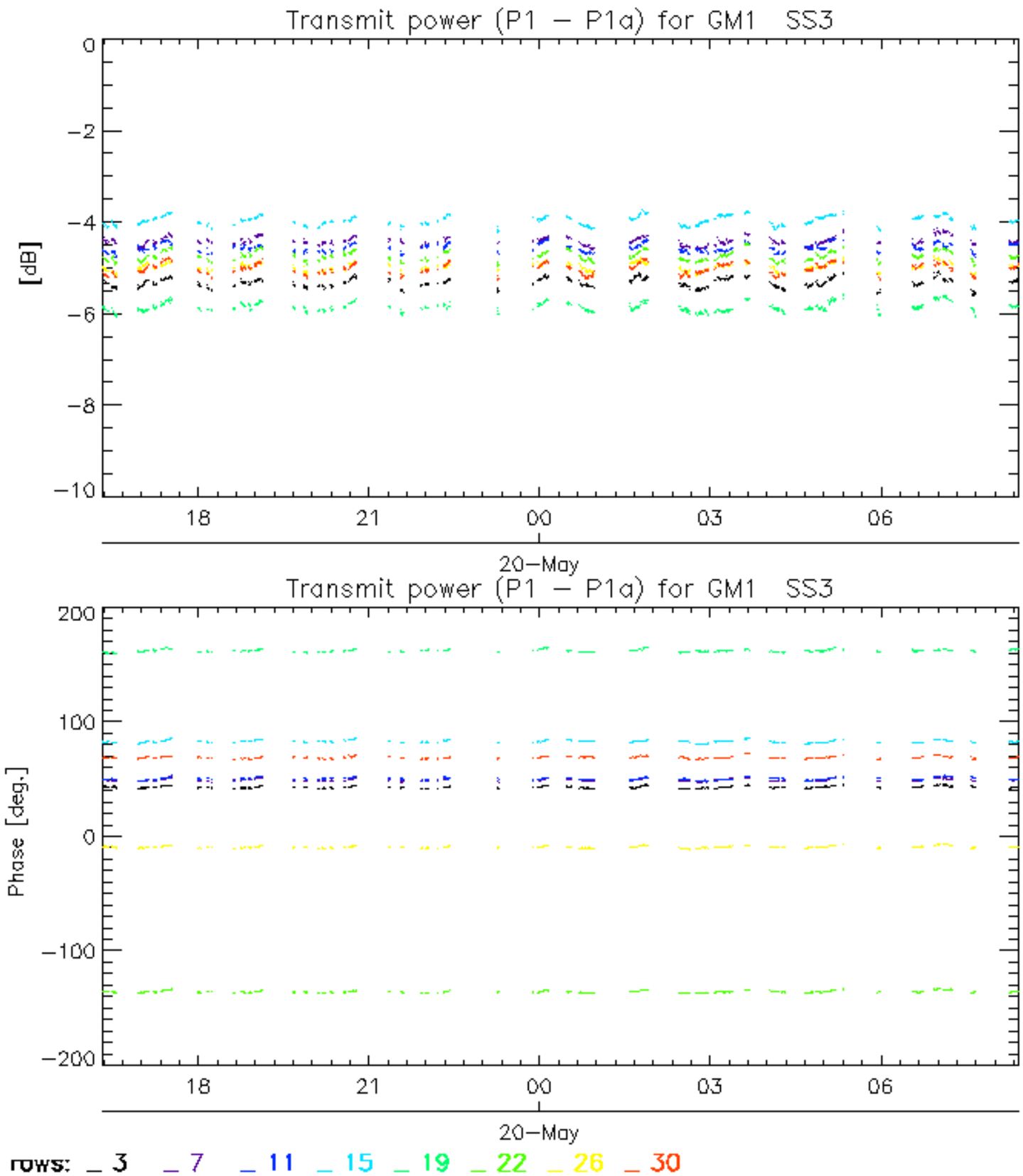
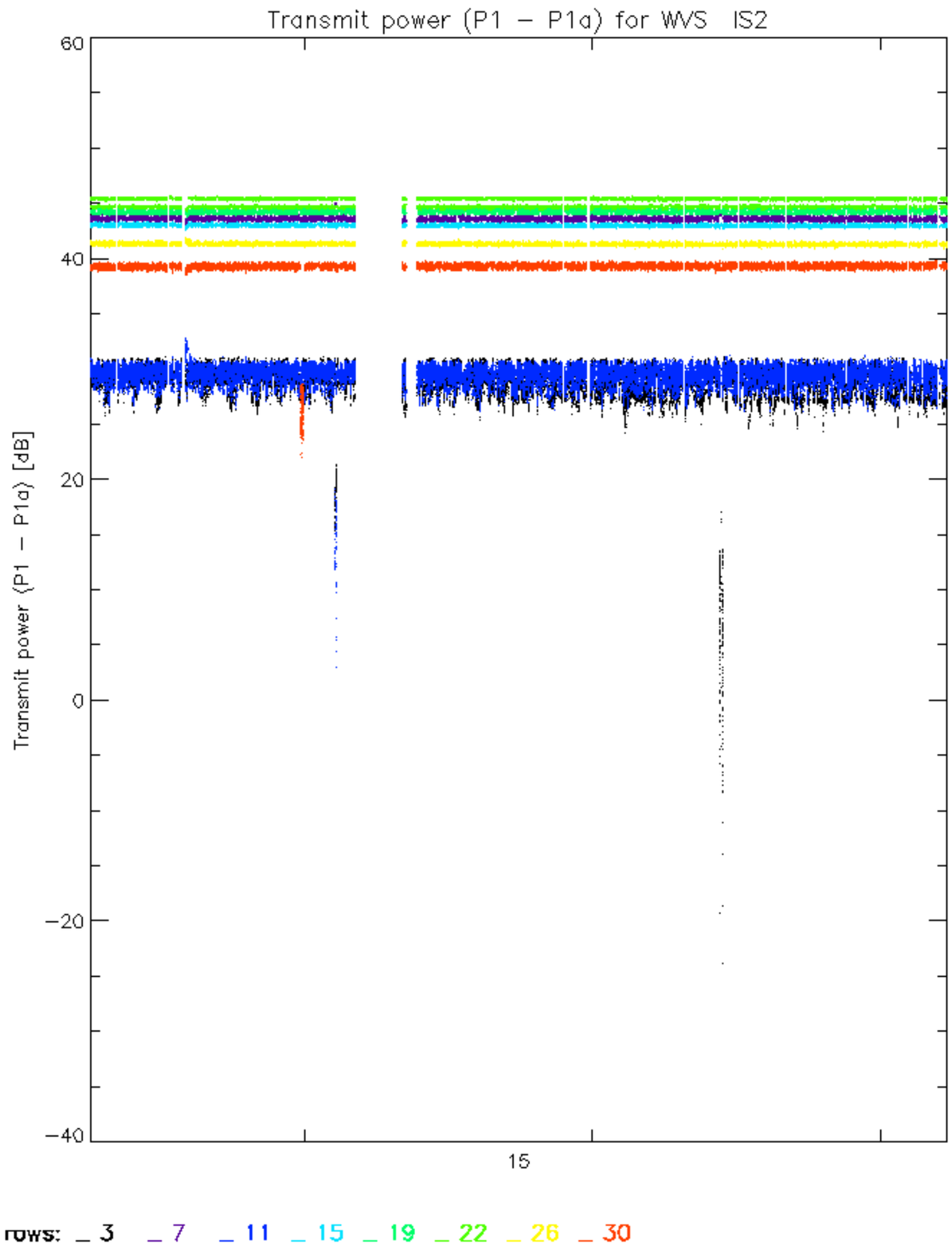
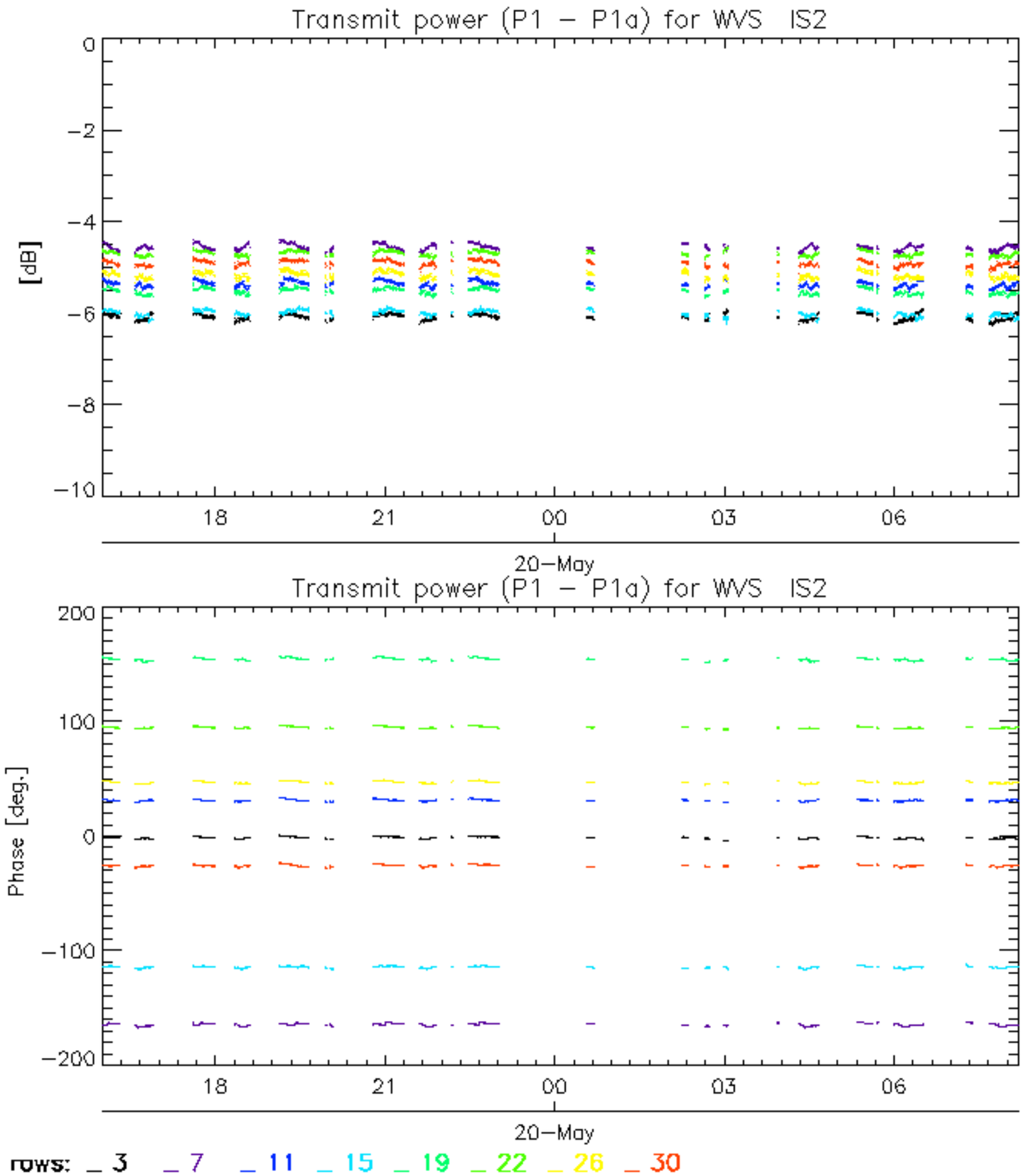

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
15
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
0
−2
−4
−6
−8
−10
[dB]
18
21
00
03
06
20–May
Transmit power (P1 – P1a) for GM1 SS3
200
100
0
−100
−200
Phase [deg.]
18
21
00
03
06
20–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
15
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
20–May
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
18
21
00
03
06
20–May
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.