PRELIMINARY REPORT OF 060711

last update on Tue Jul 11 10:50:01 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 2006-07-10 00:00:00 to 2006-07-11 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	39	75	14	11	0
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	39	75	14	11	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	39	75	14	11	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	39	75	14	11	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	33	61	22	13	66
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	33	61	22	13	66
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	33	61	22	13	66
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	33	61	22	13	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	20060710 054053
H	20060709 061230

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	-3.939442	0.046073	0.002933
7	P1	-3.127433	0.012033	0.072636
11	P1	-4.097398	0.015478	0.038477
15	P1	-6.168937	0.011406	-0.016625
19	P1	-3.377906	0.008883	-0.033023
22	P1	-4.534080	0.010850	-0.024761
26	P1	-3.951994	0.018494	0.058057
30	P1	-5.761498	0.008278	-0.005578
3	P1	-16.534245	0.623461	-0.012418
7	P1	-17.228432	0.108928	0.115164
11	P1	-16.981686	0.277259	-0.003465
15	P1	-13.161462	0.156213	0.105137
19	P1	-14.401292	0.049078	-0.088331
22	P1	-16.101147	0.389202	0.241882
26	P1	-15.167021	0.228906	0.094356
30	P1	-17.135756	0.381599	0.114701

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.059546	0.087568	0.177576
7	P2	-21.966858	0.103505	0.119736
11	P2	-15.821946	0.117612	0.064137
15	P2	-7.149919	0.099914	0.050306
19	P2	-9.156985	0.090666	0.070181
22	P2	-18.167284	0.085723	0.047720
26	P2	-16.410435	0.091879	0.043224
30	P2	-19.546623	0.091725	0.048140

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.184032	0.003383	0.027555
7	P3	-8.184032	0.003383	0.027555
11	P3	-8.184032	0.003383	0.027555
15	P3	-8.184032	0.003383	0.027555
19	P3	-8.184032	0.003383	0.027555
22	P3	-8.184032	0.003383	0.027555
26	P3	-8.184032	0.003383	0.027555
30	P3	-8.184032	0.003383	0.027555

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	-3.811248	0.062902	0.009311
7	P1	-2.571134	0.008261	0.022169
11	P1	-2.858683	0.013755	-0.009769
15	P1	-3.544492	0.027998	-0.073177
19	P1	-3.417263	0.013841	0.005967
22	P1	-5.089034	0.019972	-0.021416
26	P1	-5.861957	0.015742	0.017494
30	P1	-5.195809	0.026033	0.009253
3	P1	-11.618555	0.168468	0.064630
7	P1	-9.981380	0.033333	0.012888
11	P1	-10.241177	0.058973	-0.009650
15	P1	-10.722260	0.135935	-0.128447
19	P1	-15.538485	0.075526	0.050524
22	P1	-20.950336	1.184990	0.077663

26	P1	-16.404781	0.353565	0.207203
30	P1	-17.870678	0.385429	-0.035134

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.719442	0.074583	0.205781
7	P2	-22.448559	0.131295	0.095471
11	P2	-11.095294	0.046419	0.110939
15	P2	-4.925052	0.047565	0.025114
19	P2	-6.884647	0.045819	0.017850
22	P2	-8.207401	0.040676	0.030349
26	P2	-24.181149	0.067359	-0.032914
30	P2	-22.040228	0.053854	0.062907

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.021510	0.004103	0.020012
7	P3	-8.021625	0.004088	0.020353
11	P3	-8.021518	0.004114	0.020489
15	P3	-8.021470	0.004107	0.020574
19	P3	-8.021514	0.004108	0.020252
22	P3	-8.021633	0.004092	0.020603
26	P3	-8.021621	0.004103	0.020569
30	P3	-8.021557	0.004083	0.020509

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	0.000573989
	stdev	1.61512e-07
MEAN Q	mean	0.000542160
	stdev	2.11595e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138571
	stdev	0.00110695
STDEV Q	mean	0.138935
	stdev	0.00112513

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006071[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
ASA_IMM_1PNPDE20060711_003719_000001342049_00202_22801_0613.N1	1	0
ASA_WSM_1PNPDE20060710_162344_000000672049_00198_22797_2353.N1	0	65
ASA_WSM_1PNPDE20060710_234911_000003302049_00202_22801_2445.N1	0	33

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)

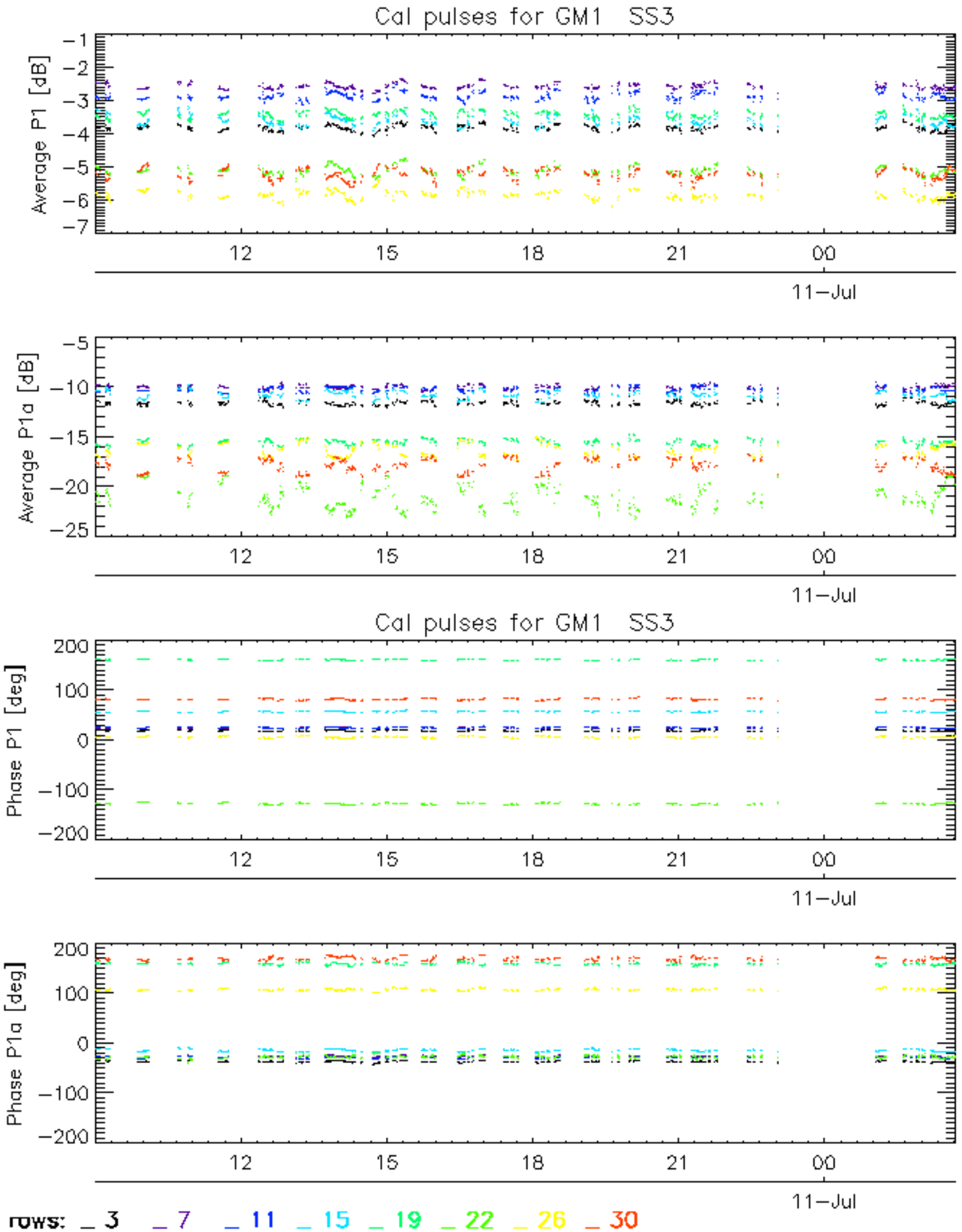
Acsending
Descending

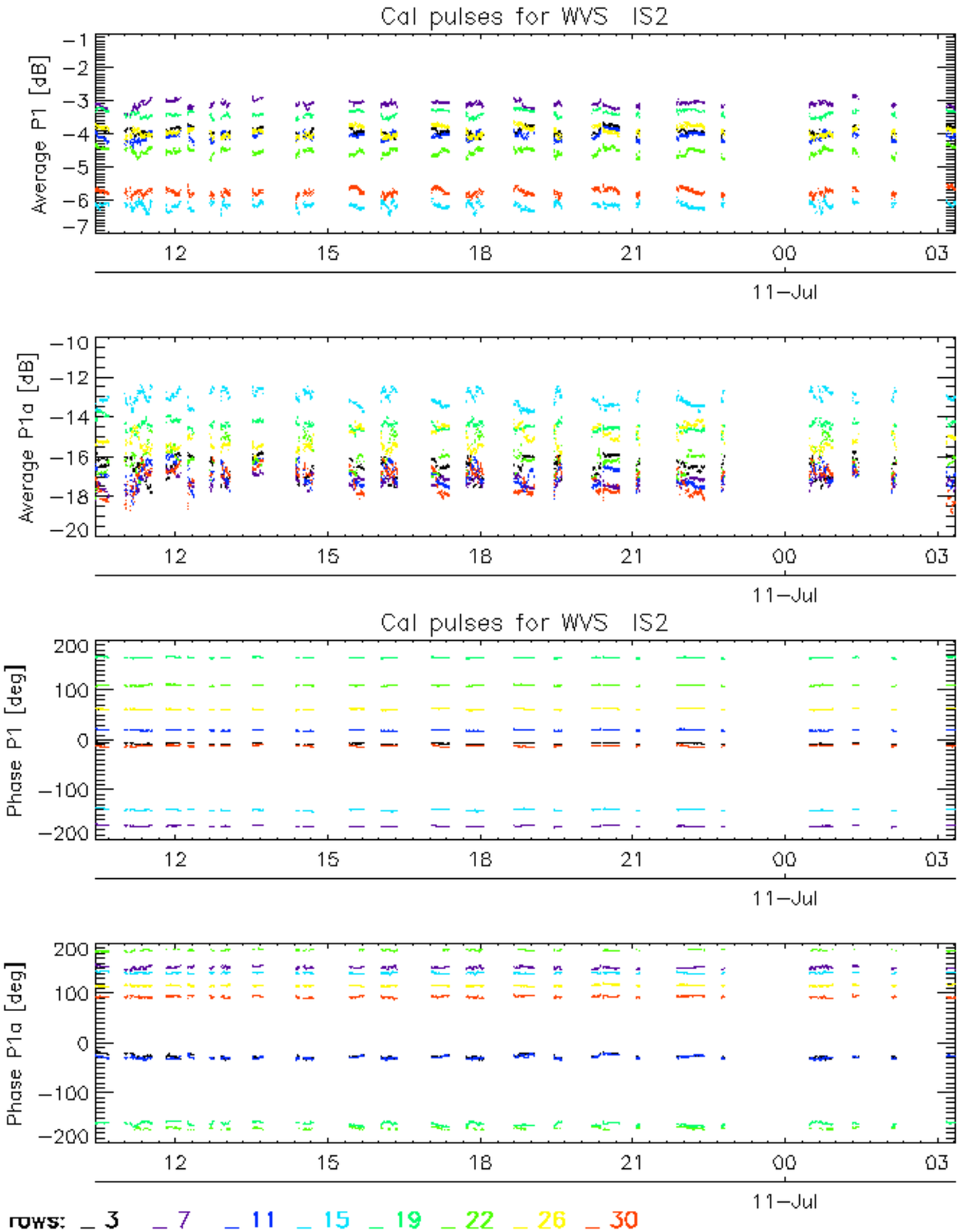
7.5 - Absolute Doppler for GM1

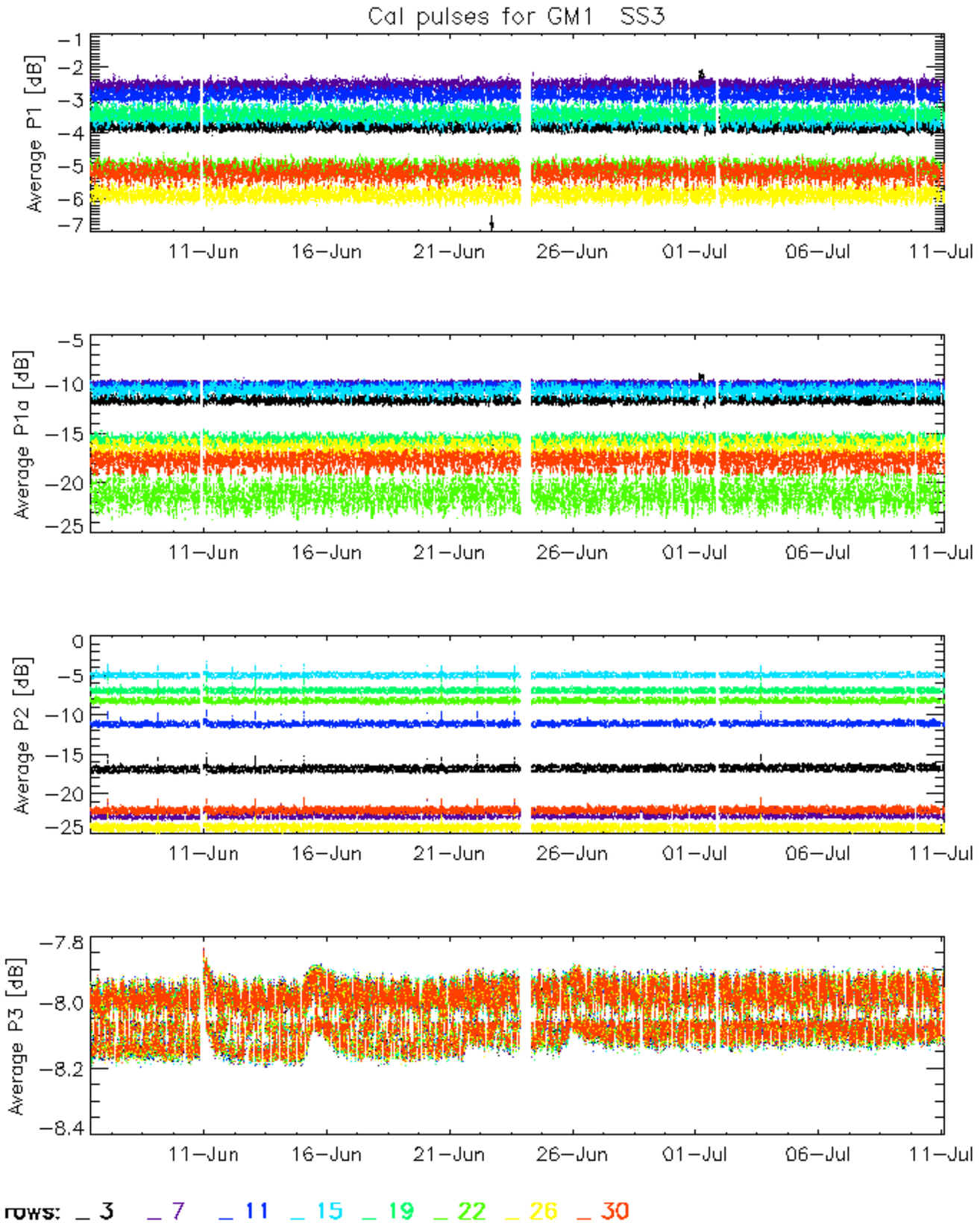
Evolution of Absolute Doppler
Acsending
Descending

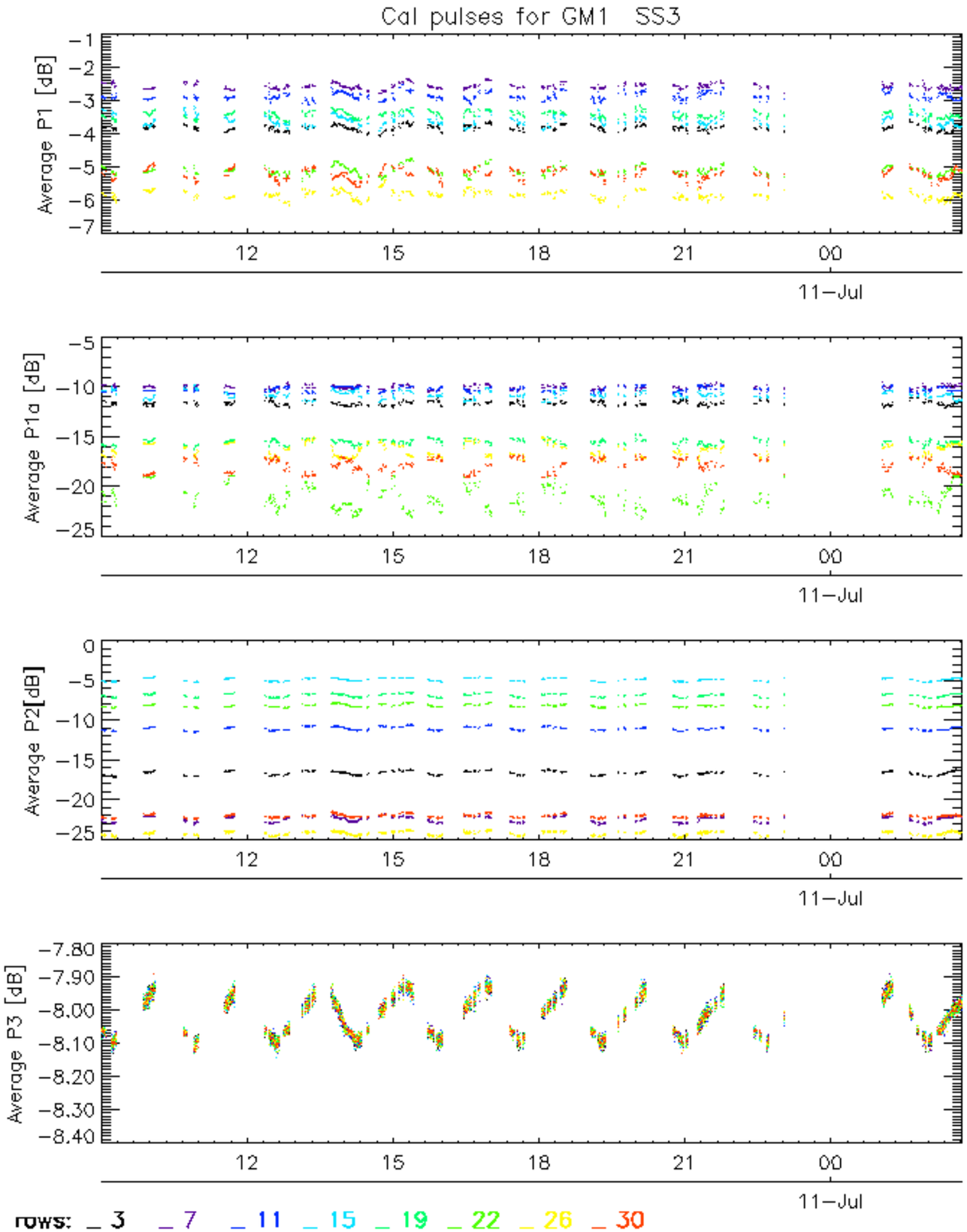
7.6 - Doppler evolution versus ANX for GM1

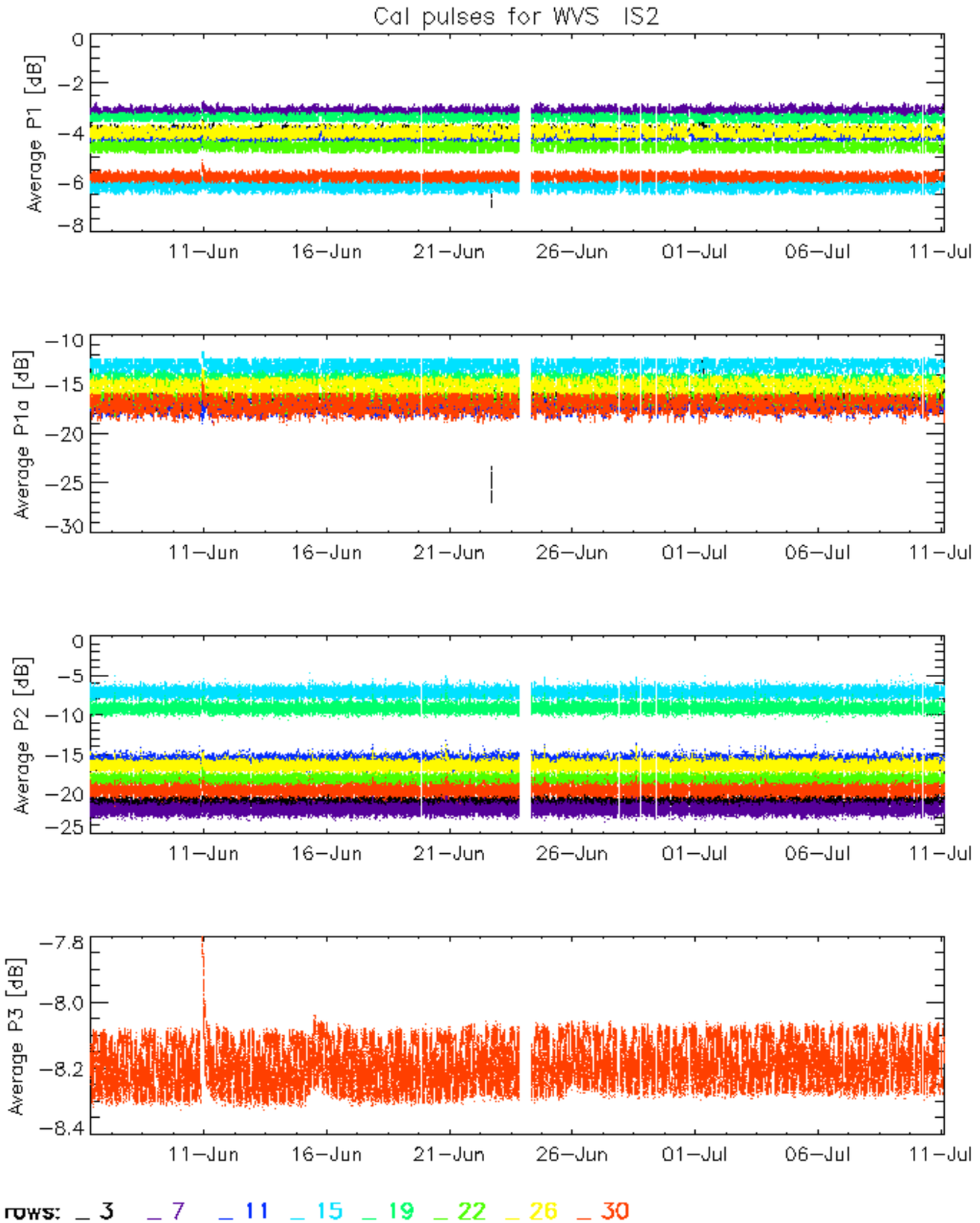
Evolution Doppler error versus ANX

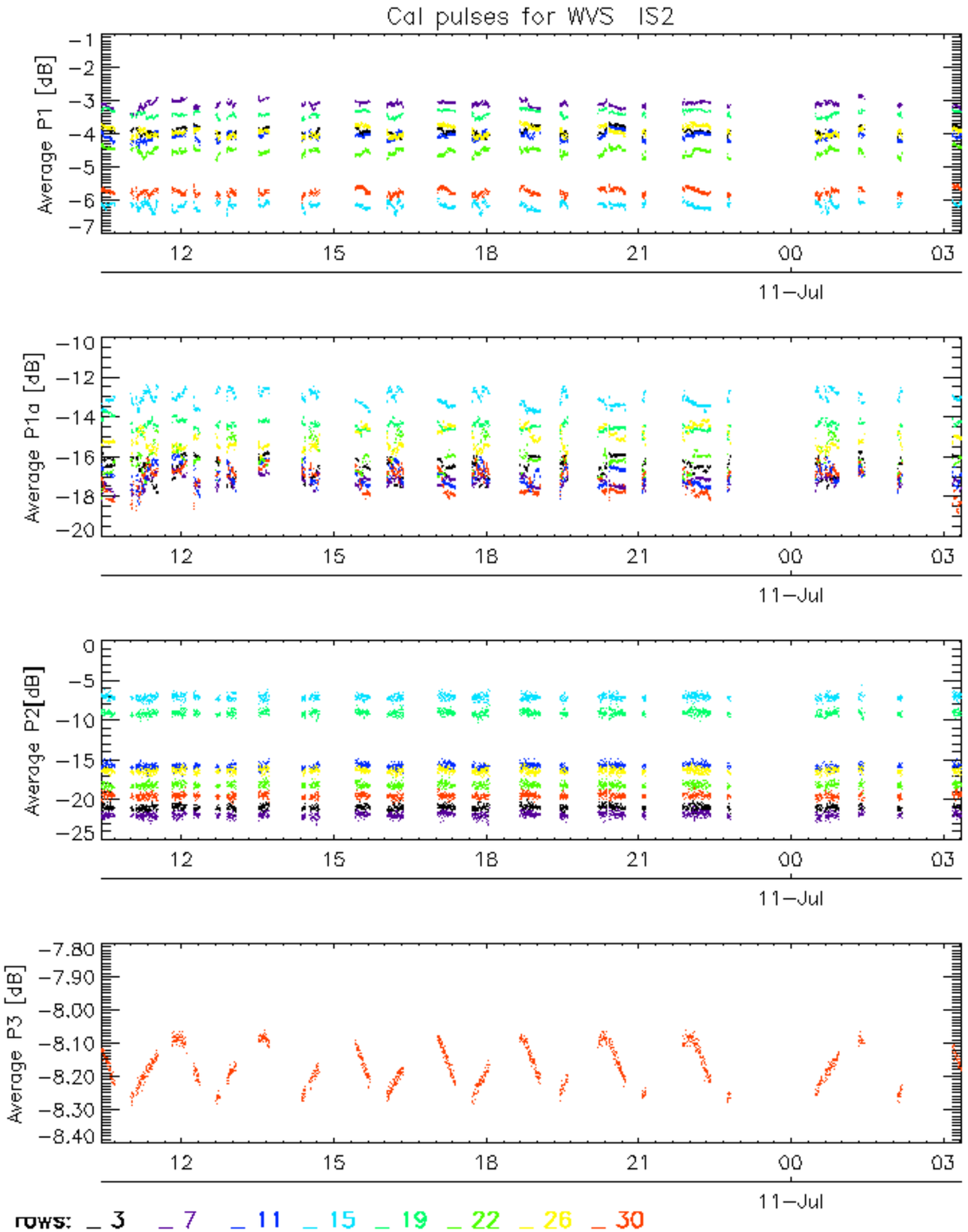

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
12
15
18
21
00
11−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
12
15
18
21
00
11−Jul
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
12
15
18
21
00
11−Jul
Phase P1a [deg]
200
100
0
−100
−200
12
15
18
21
00
11−Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


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


Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
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

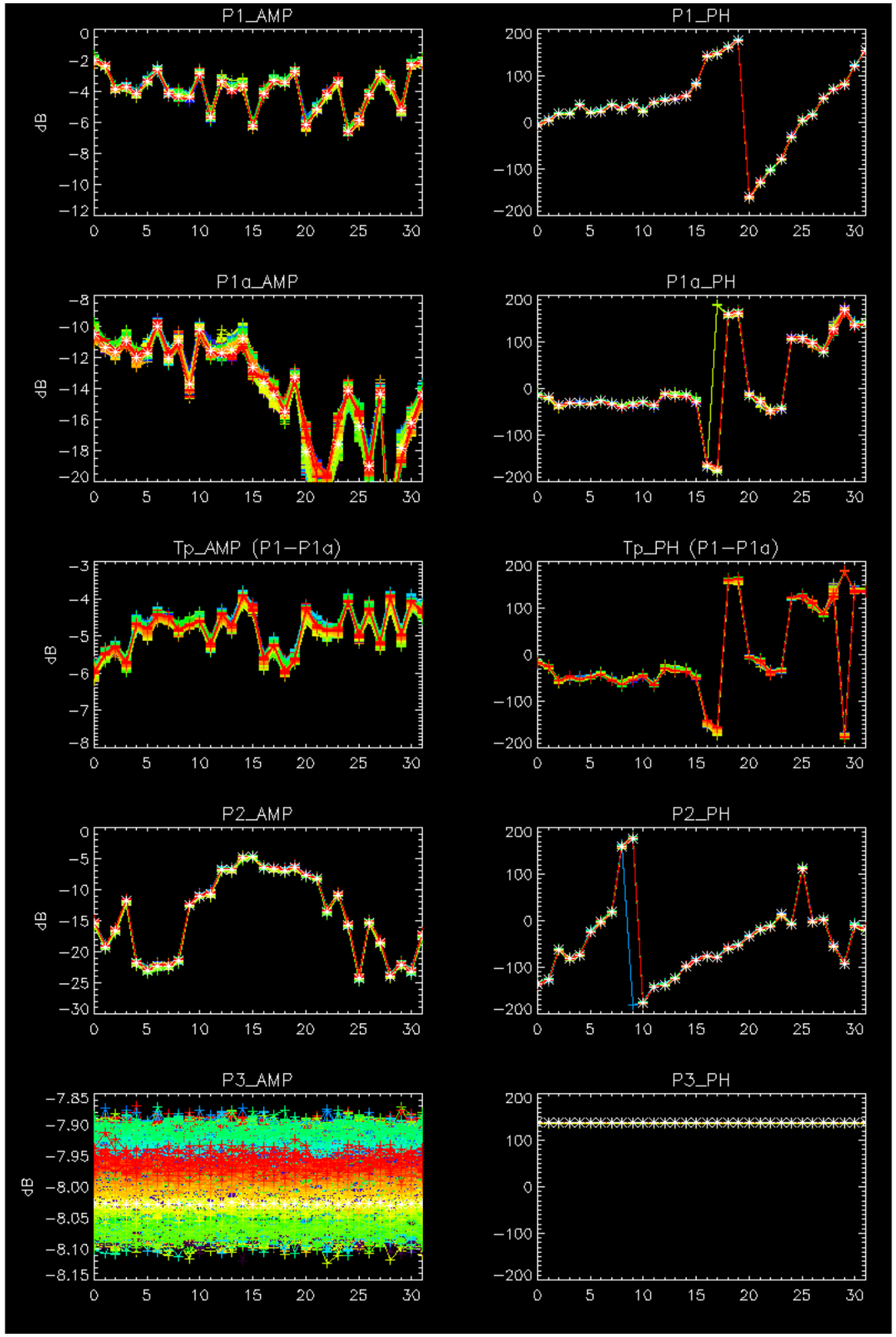

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
12
15
18
21
00
11−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
12
15
18
21
00
11−Jul
Average P2[dB]
0
−5
−10
−15
−20
−25
12
15
18
21
00
11−Jul
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
12
15
18
21
00
11−Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

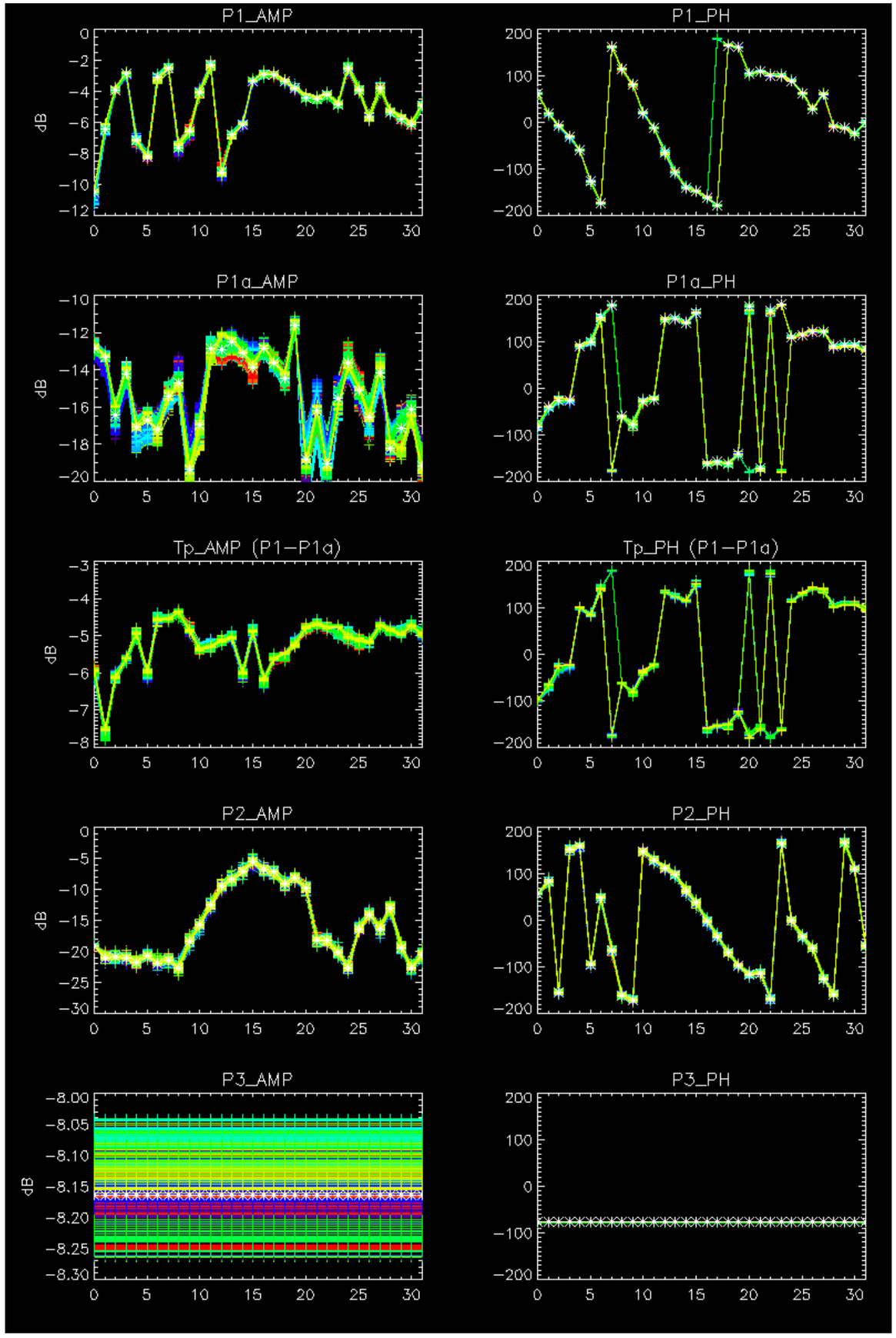

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
Average P1a [dB]
−10
−15
−20
−25
−30
Average P2 [dB]
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


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

No anomalies observed on available browse products

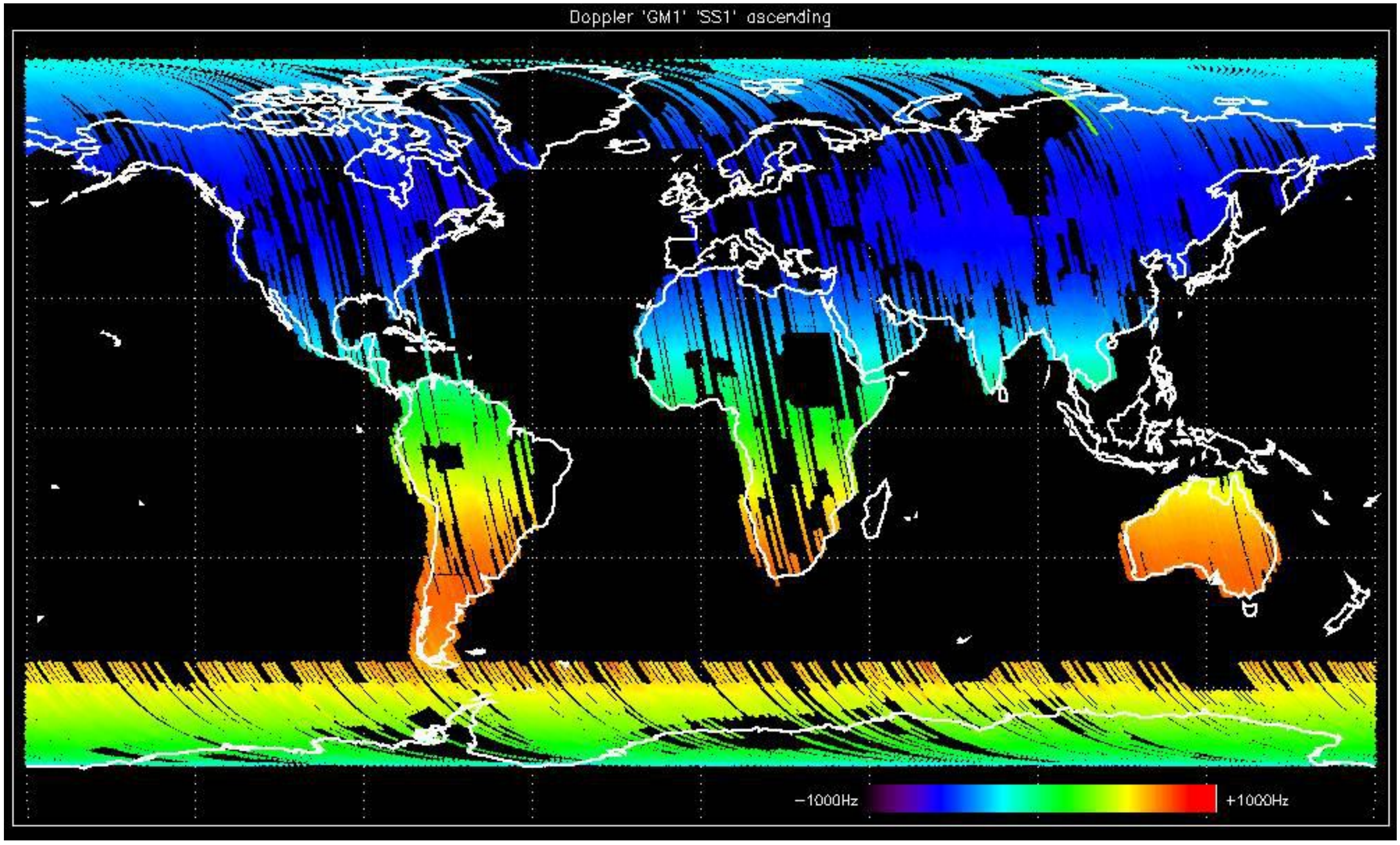
No anomalies observed.

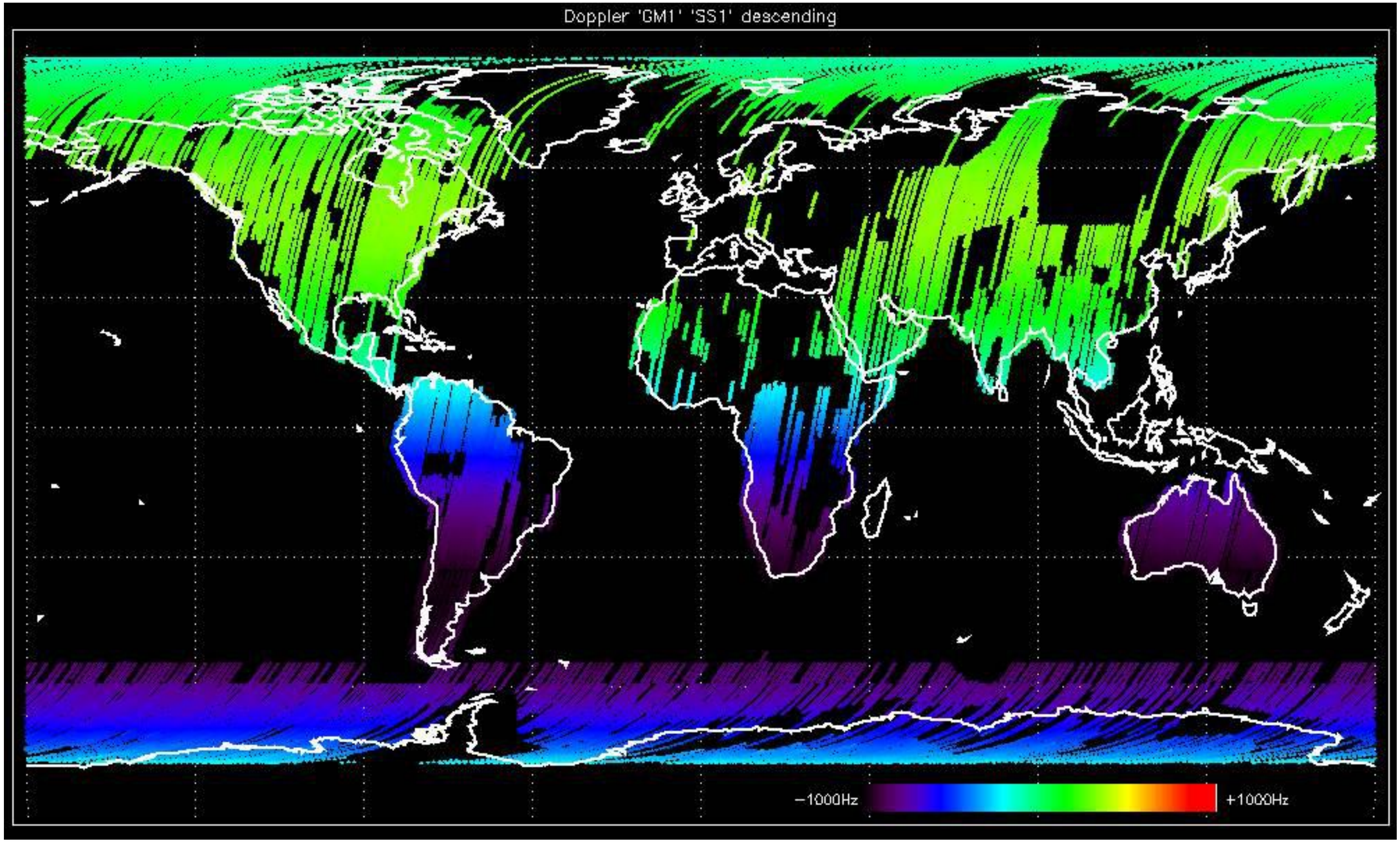

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

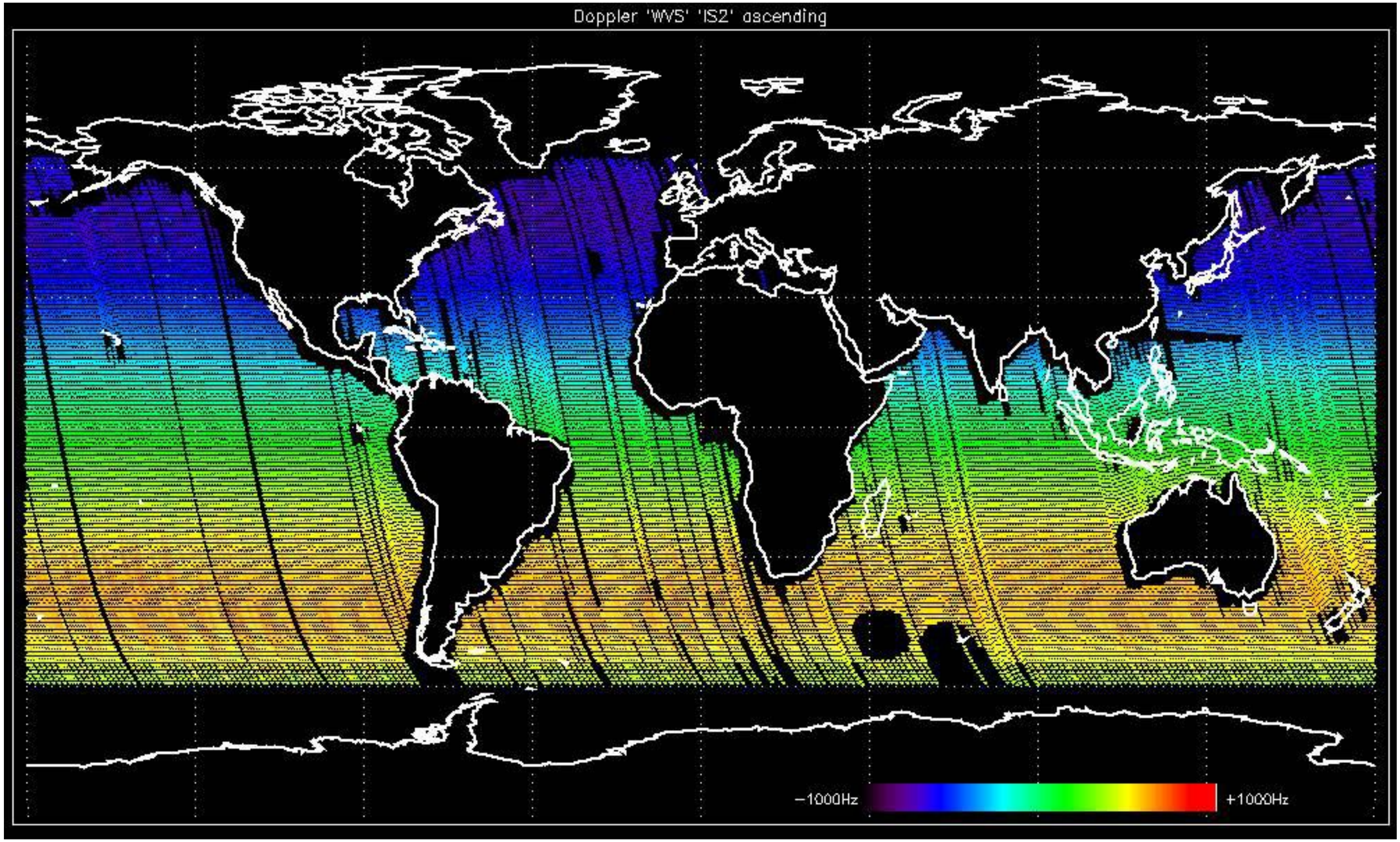

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

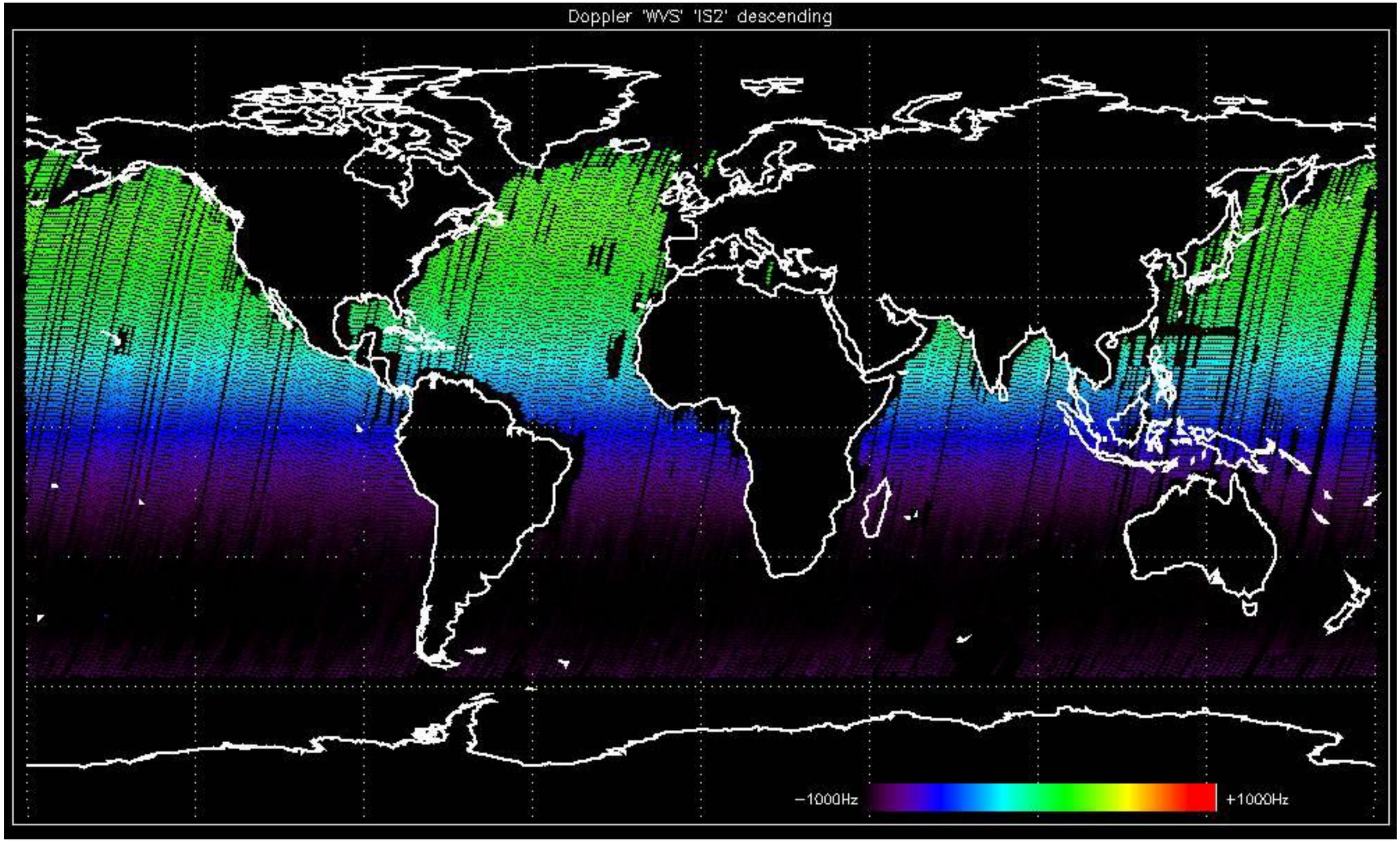
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

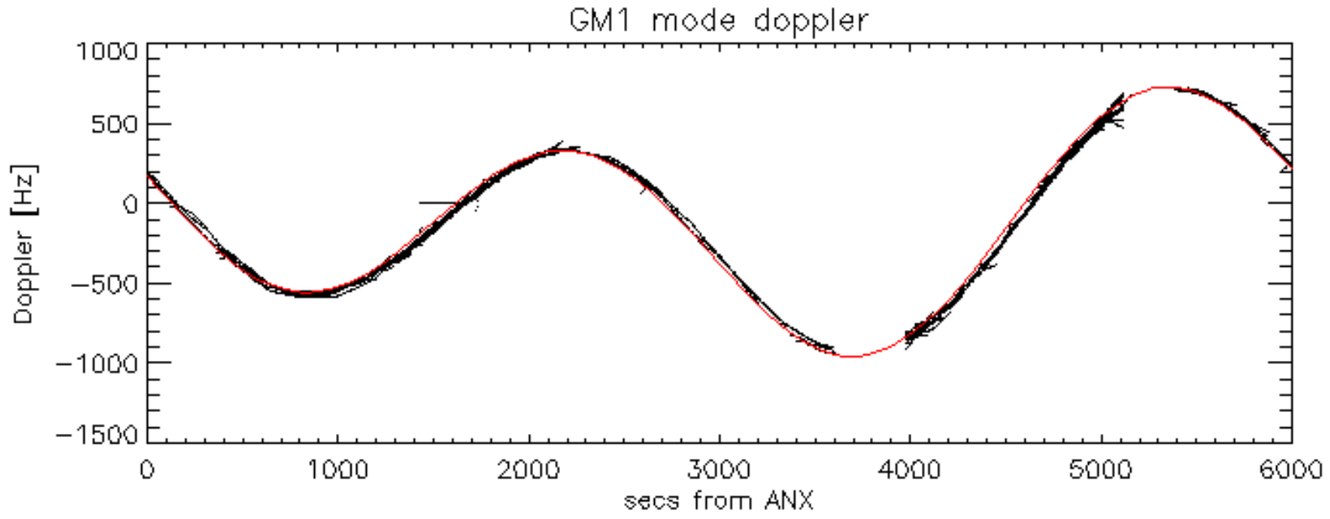
Preliminary report.The data is not yet controled

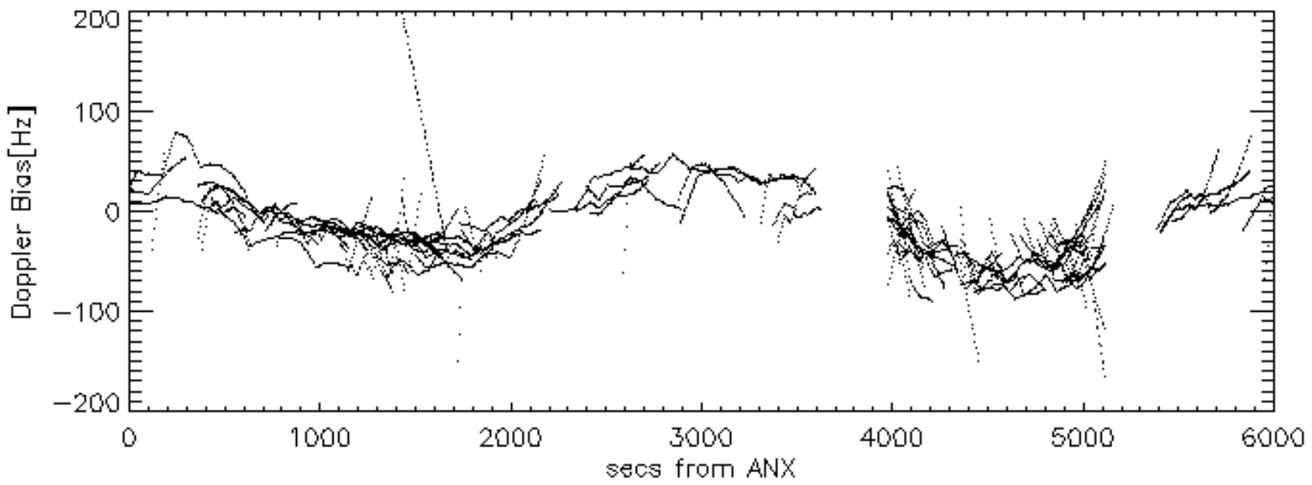

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

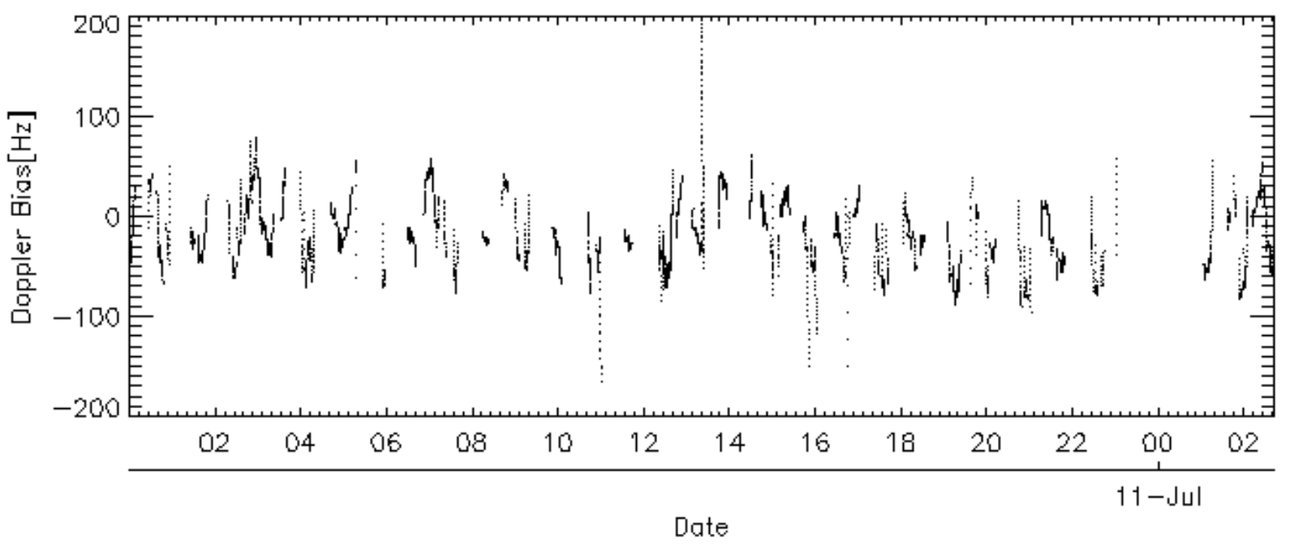

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

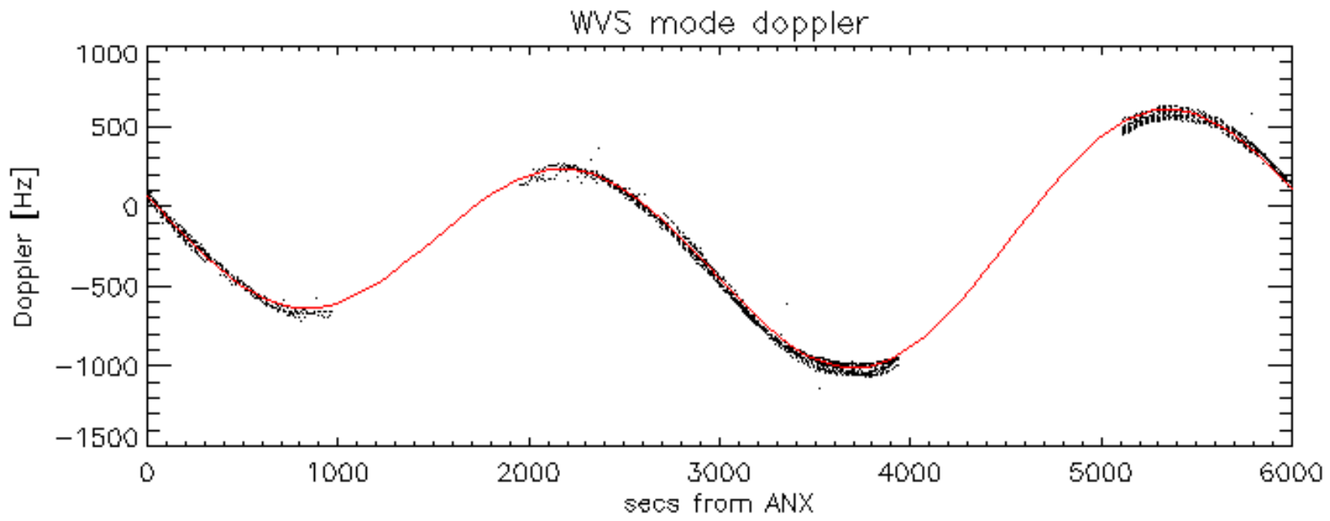

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

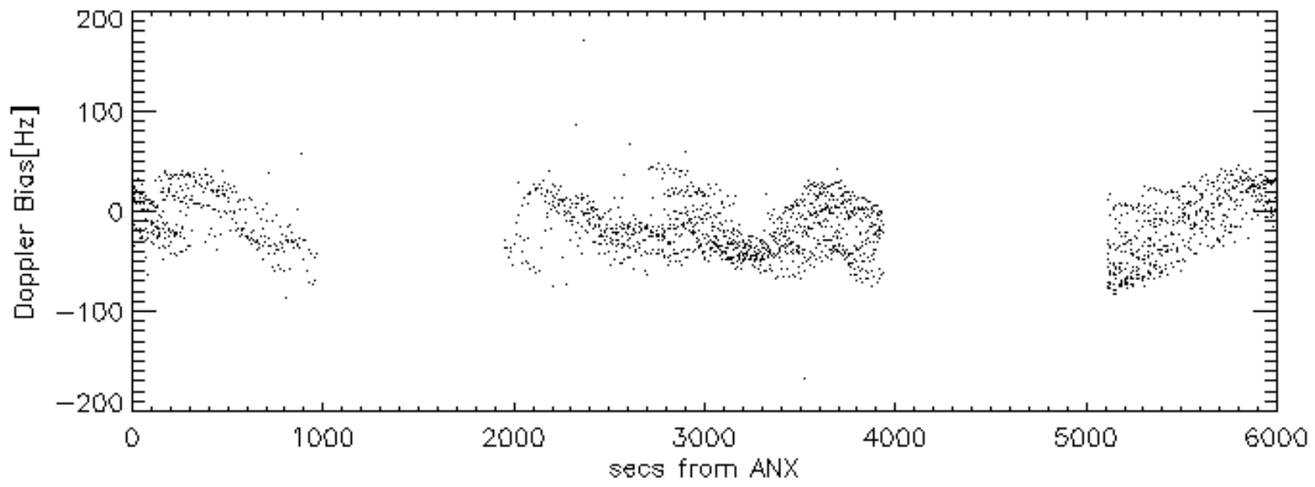

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

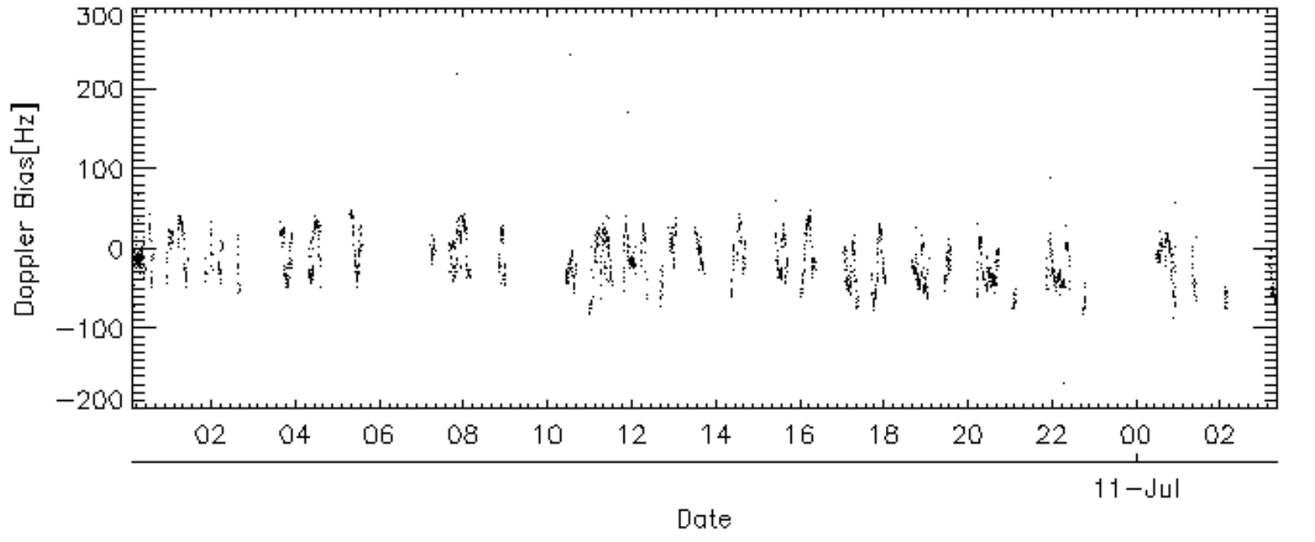

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

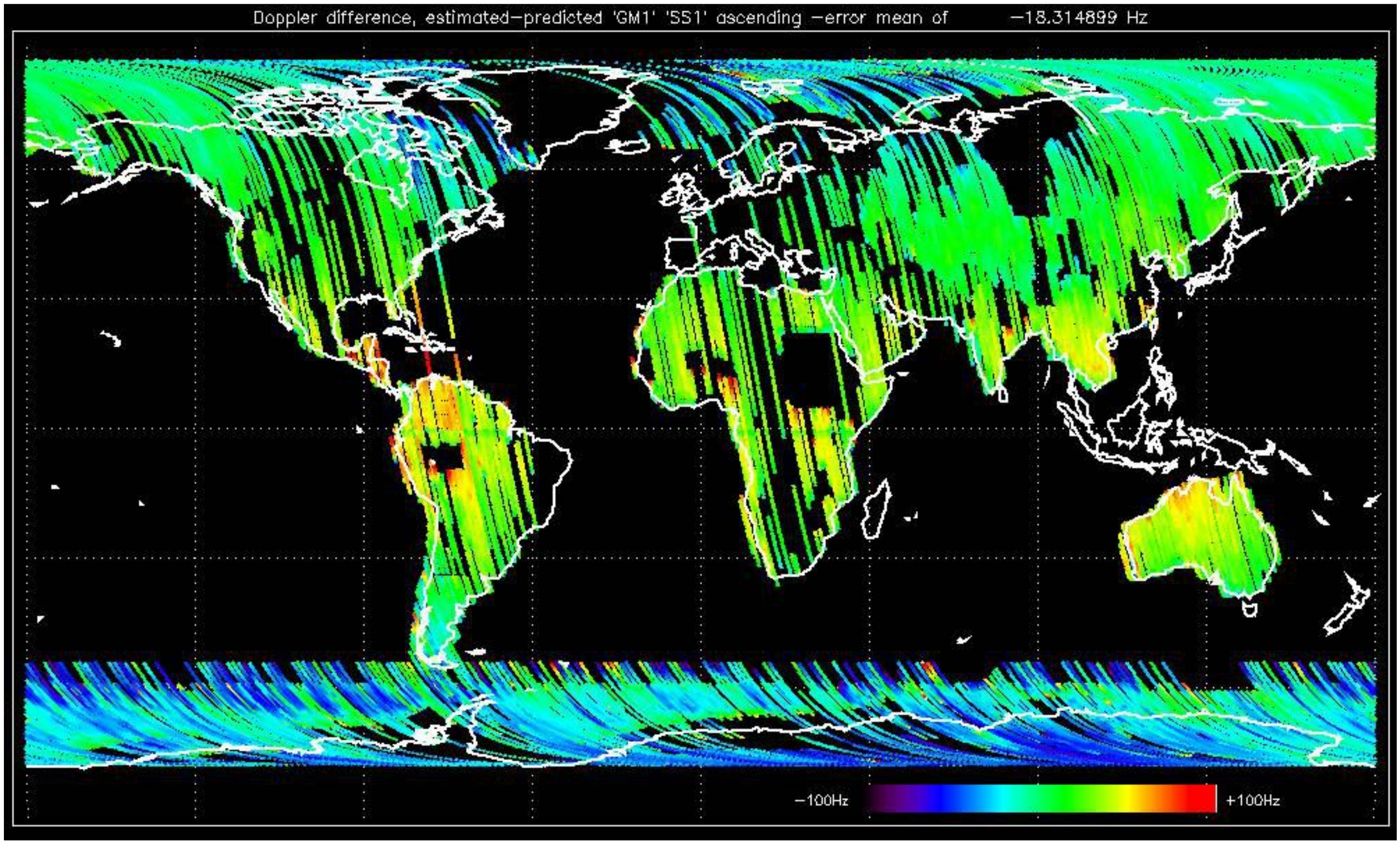

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

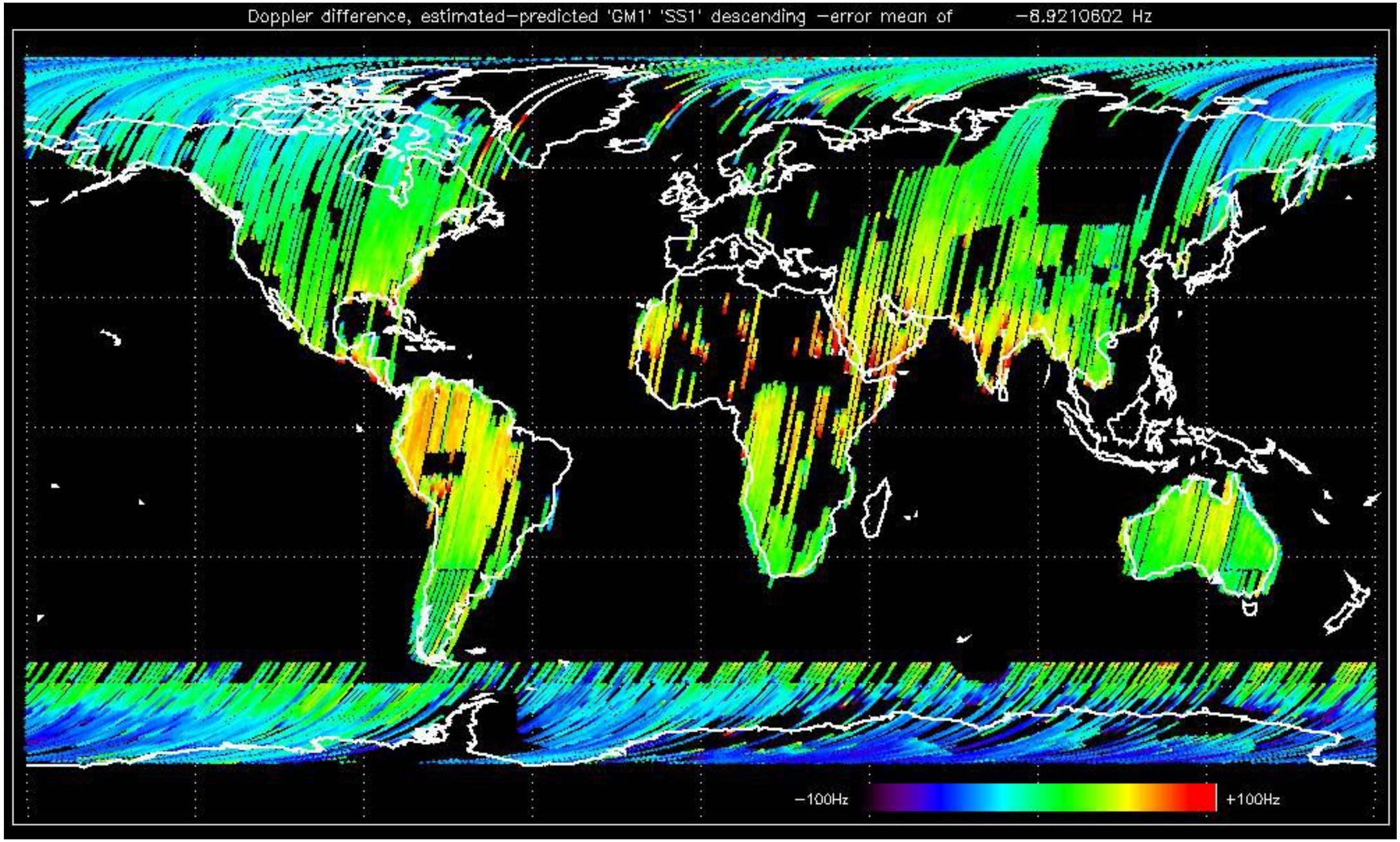

Doppler Bias[Hz]
200
100
0
−100
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
11−Jul
Date

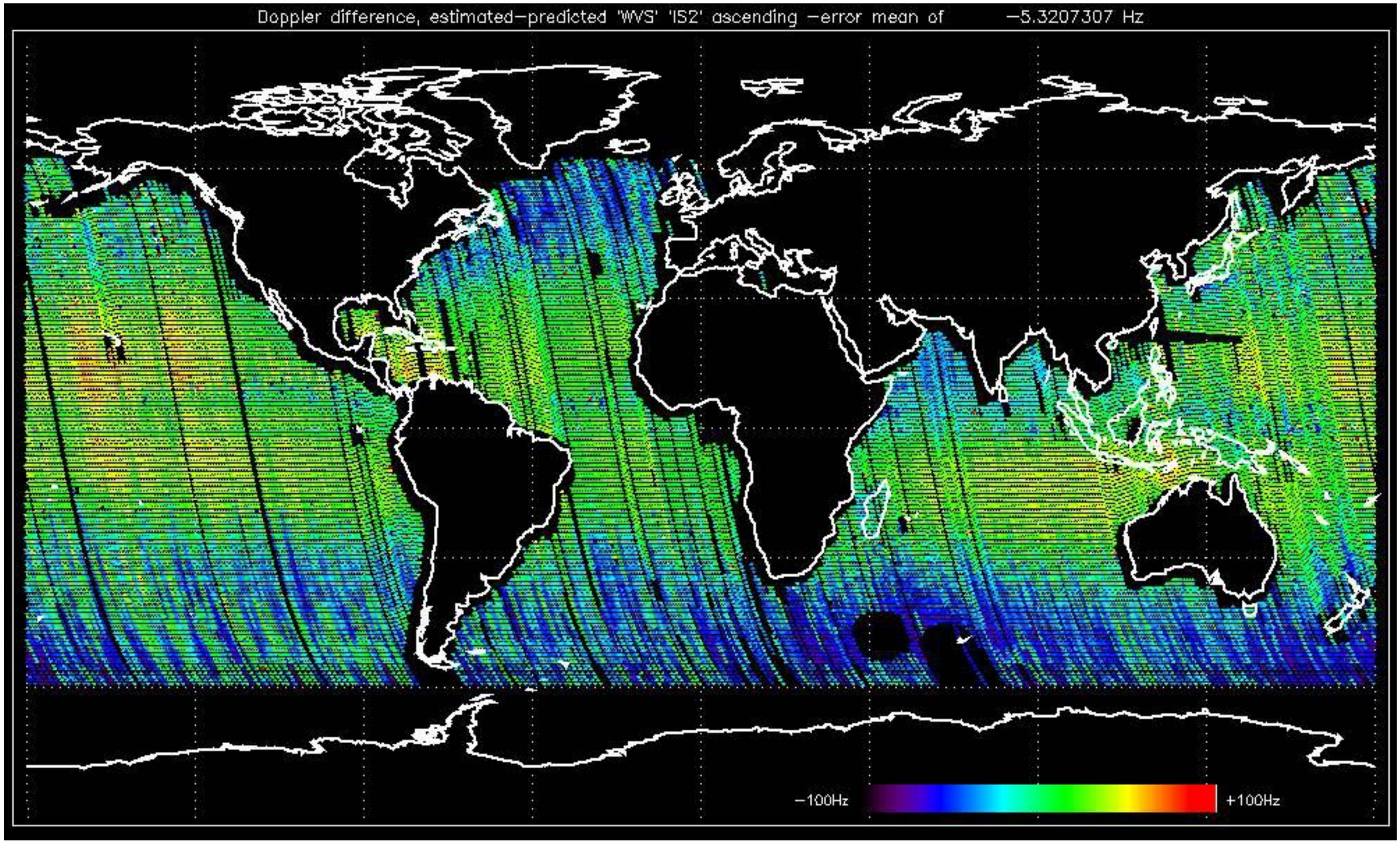

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

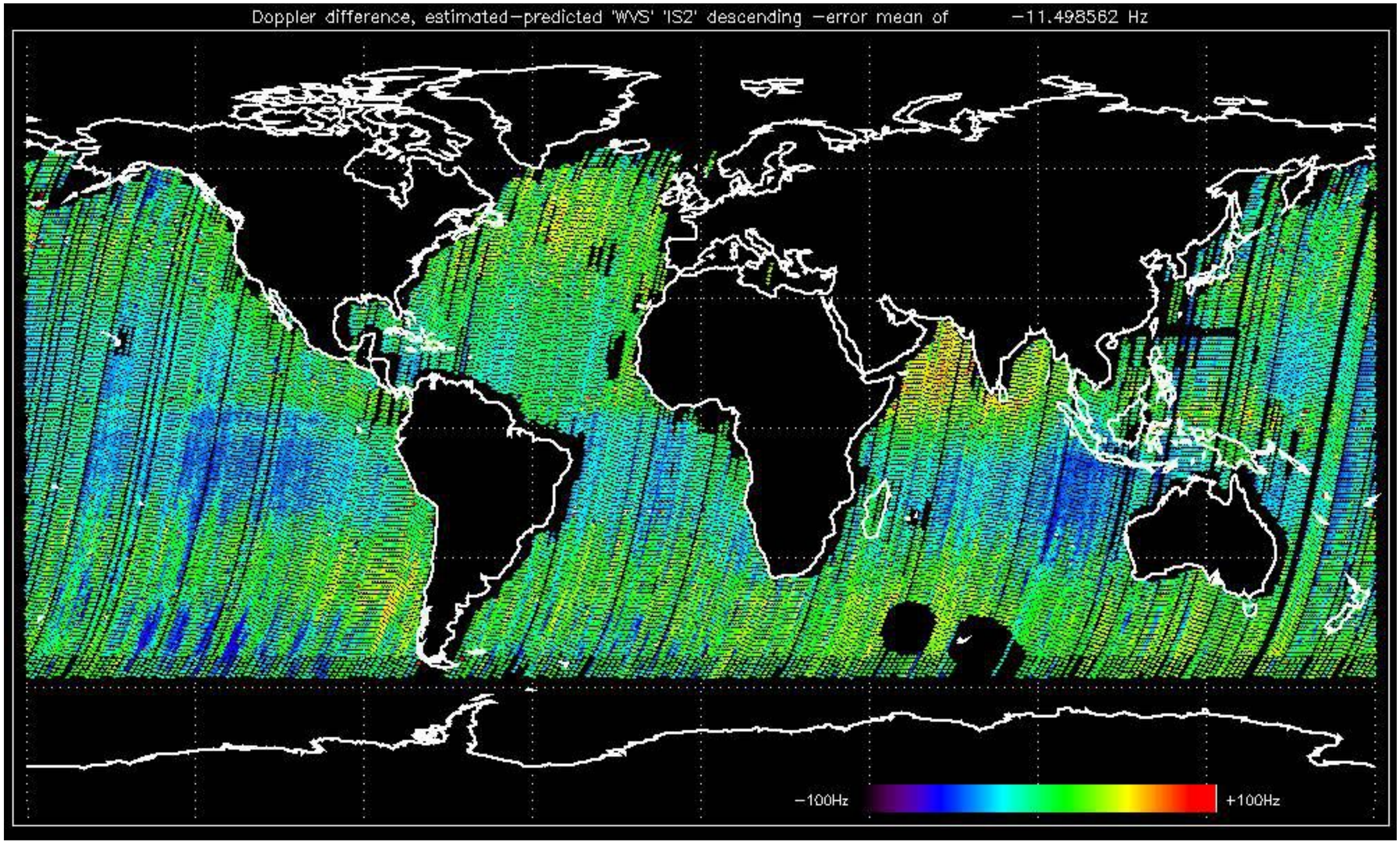

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −18.314899 Hz
−100Hz
+100Hz

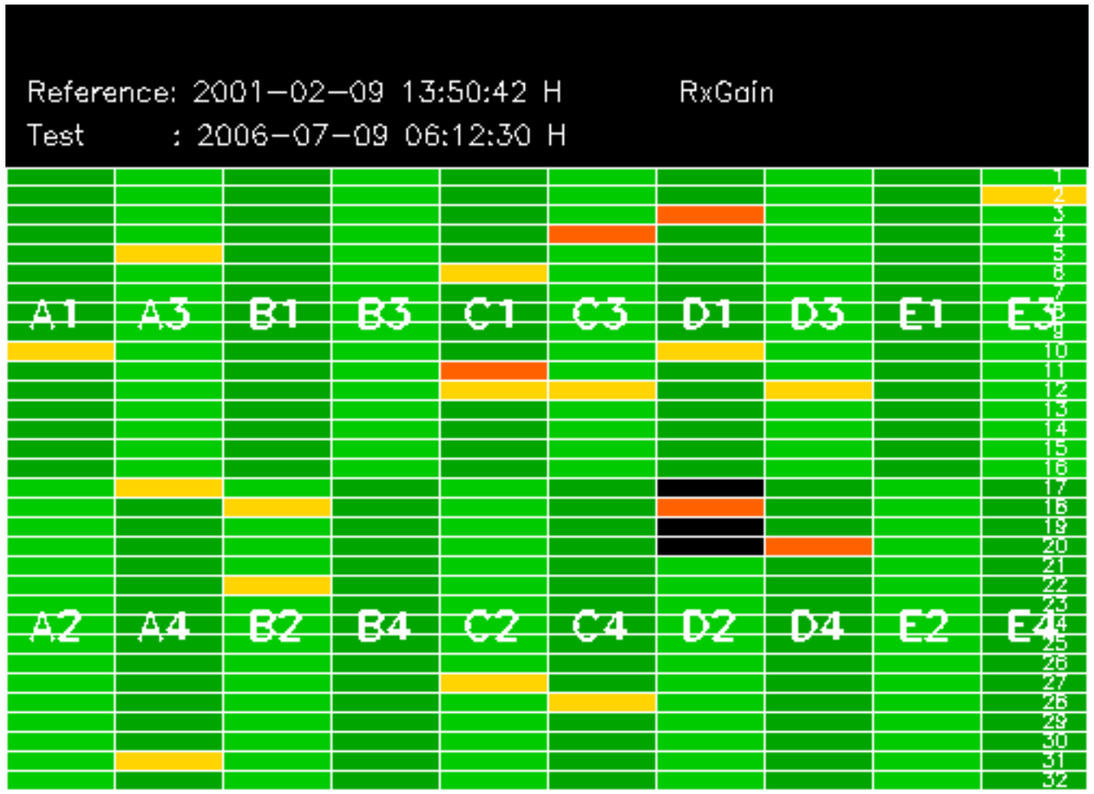

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −8.9210602 Hz
−100Hz
+100Hz

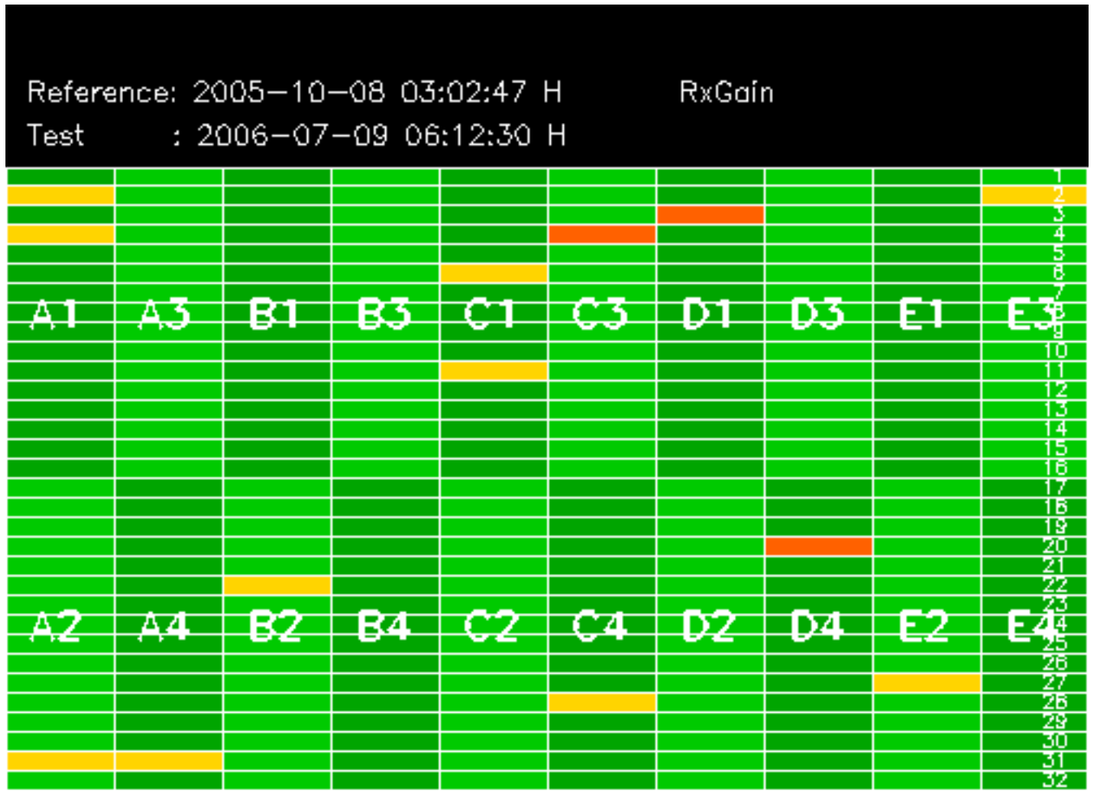

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −5.3207307 Hz
−100Hz
+100Hz

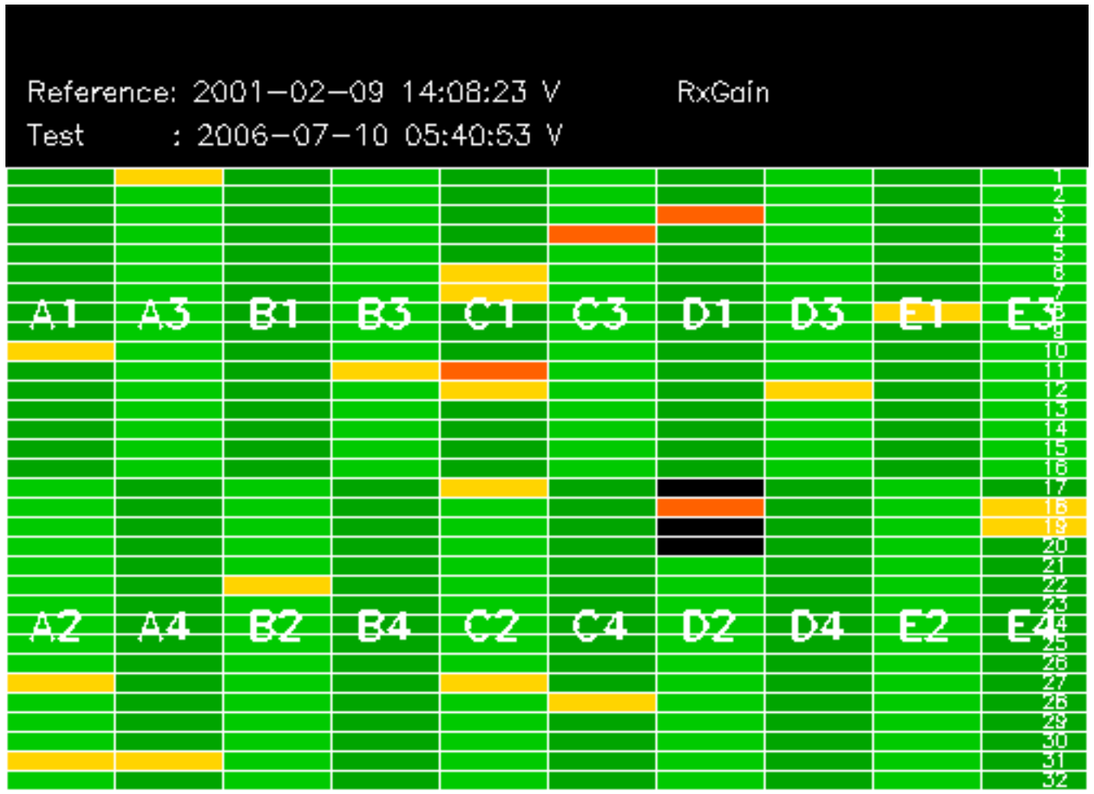

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −11.498562 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2006-07-09 06:12:30 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 : 2006-07-09 06:12:30 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 : 2006-07-10 05:40:53 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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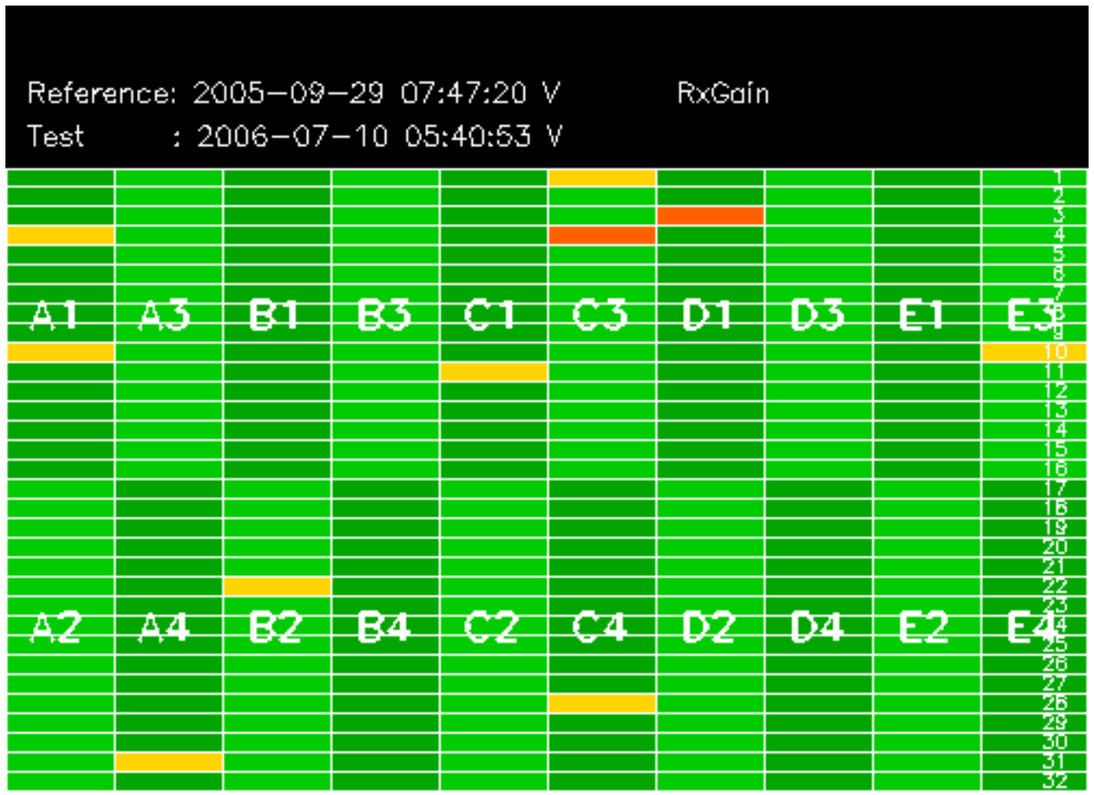
Reference: 2005-09-29 07:47:20 V
Test : 2006-07-10 05:40:53 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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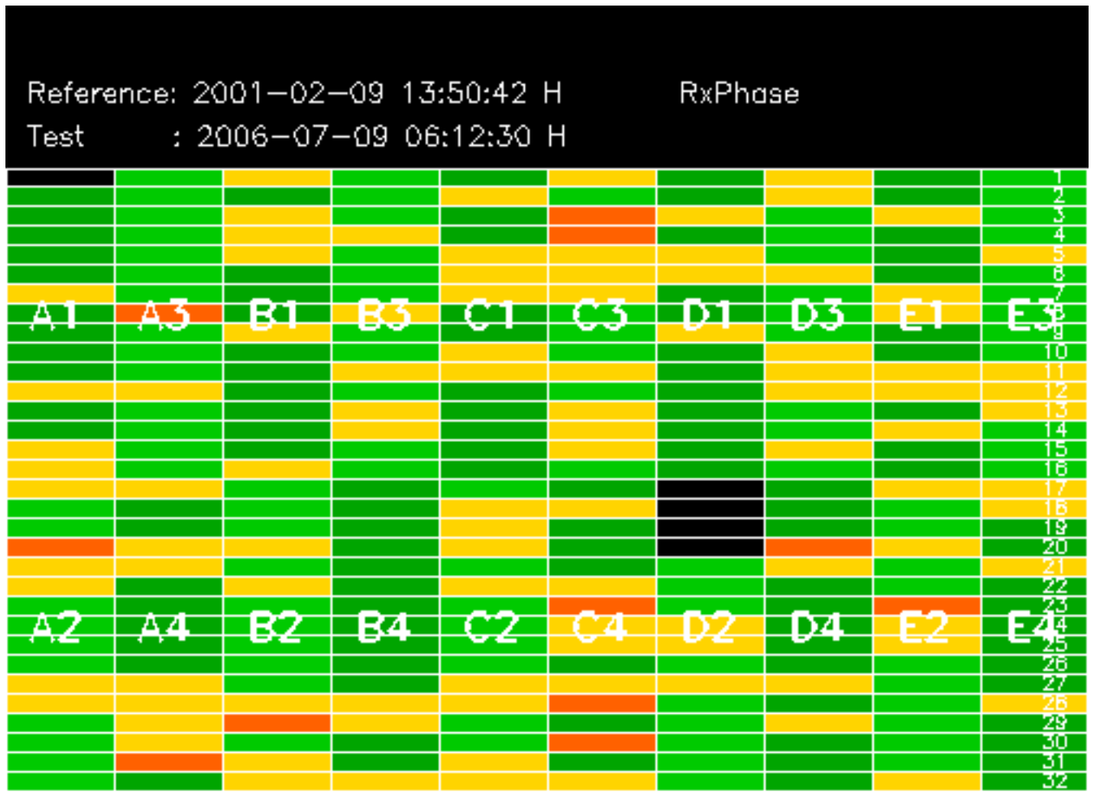
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-07-09 06:12:30 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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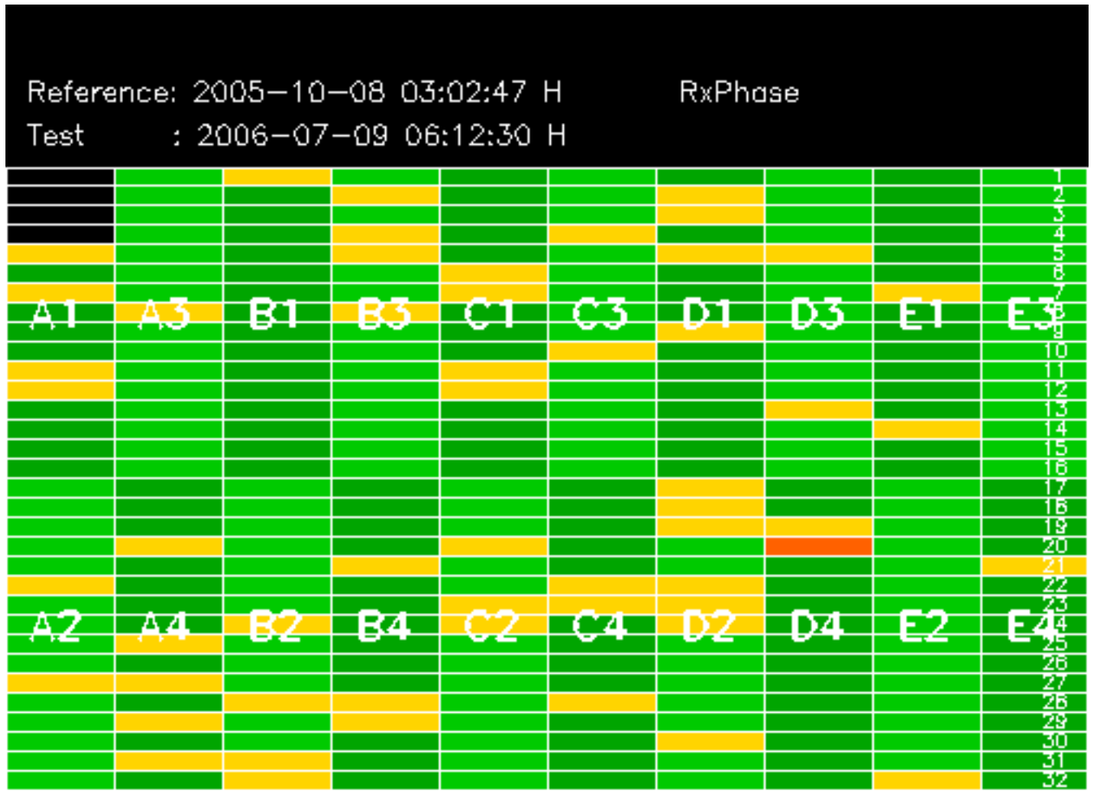
Reference: 2005-10-08 03:02:47 H
RxPhase
Test : 2006-07-09 06:12:30 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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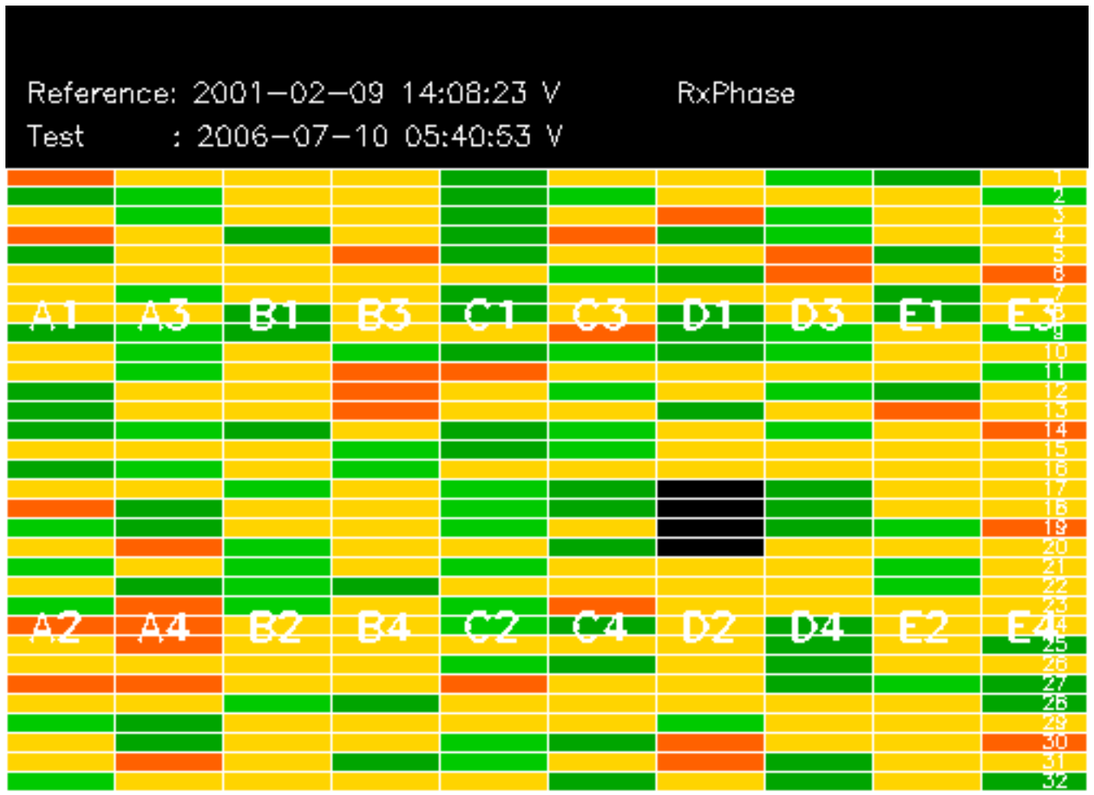
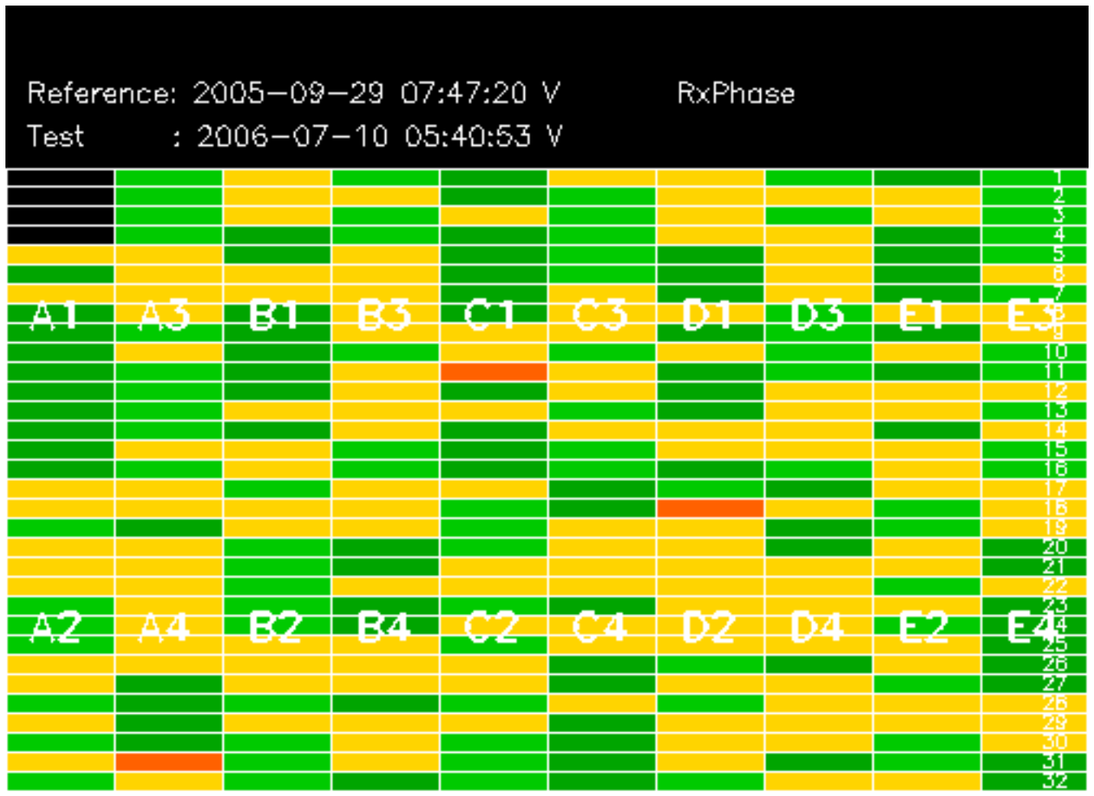

Reference: 2001-02-09 14:08:23 V
Test : 2006-07-10 05:40:53 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-07-10 05:40:53 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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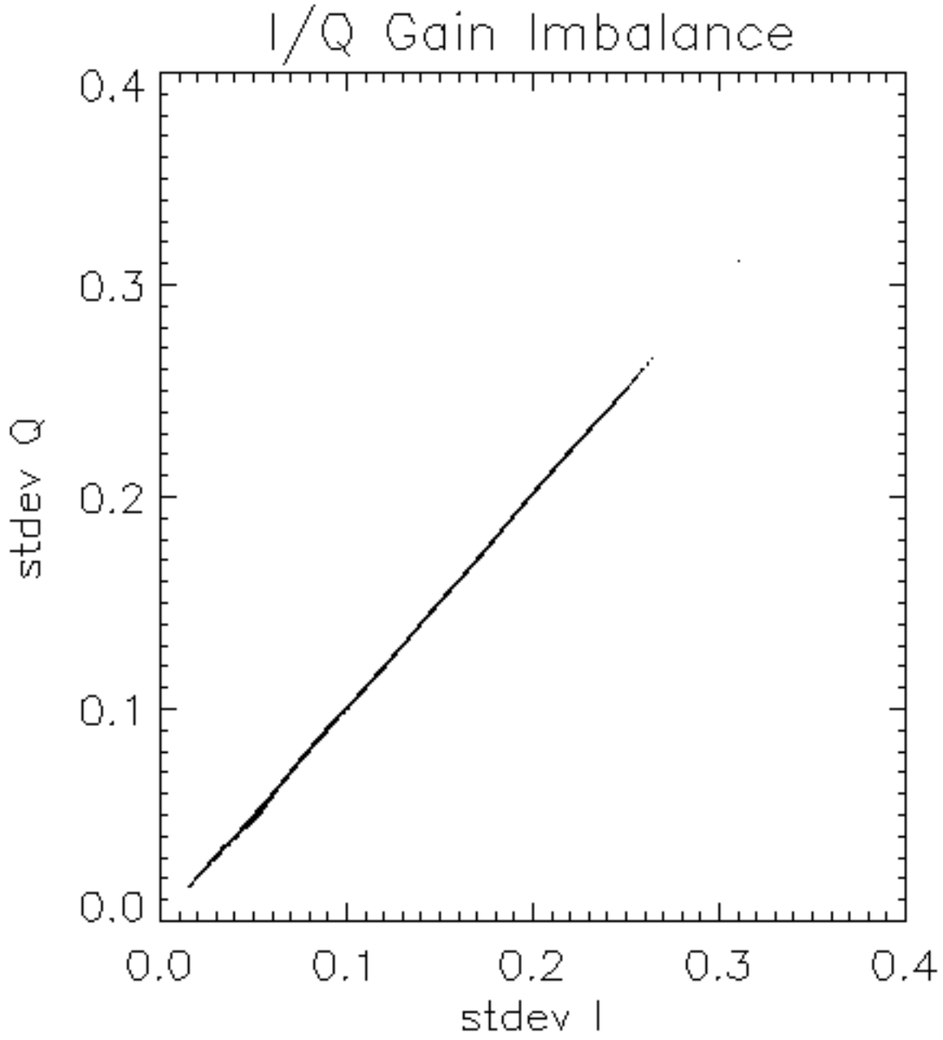
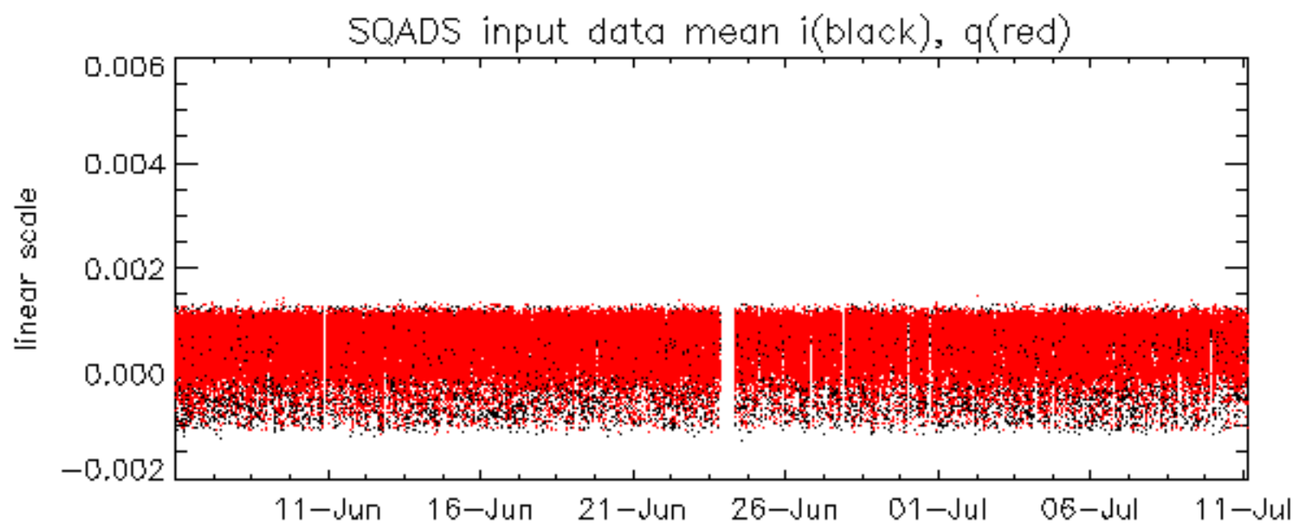
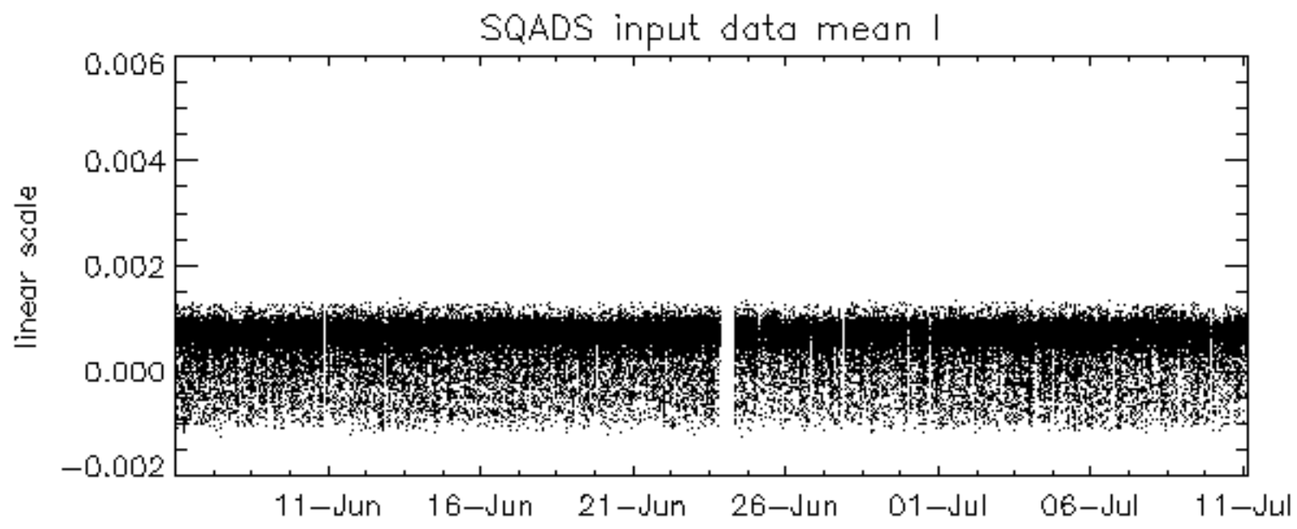
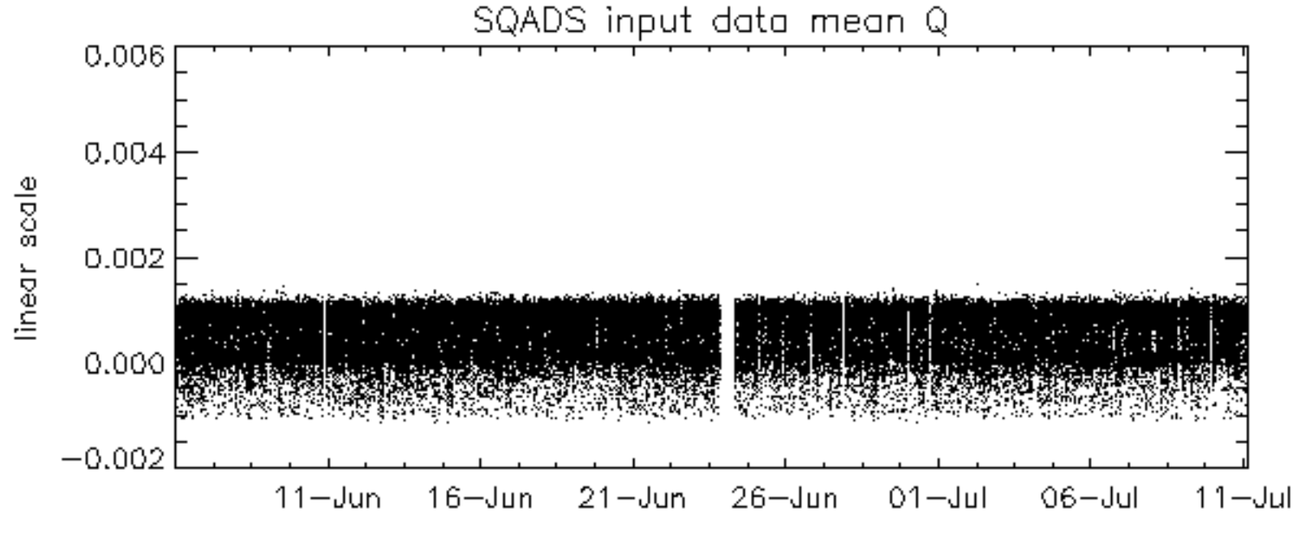
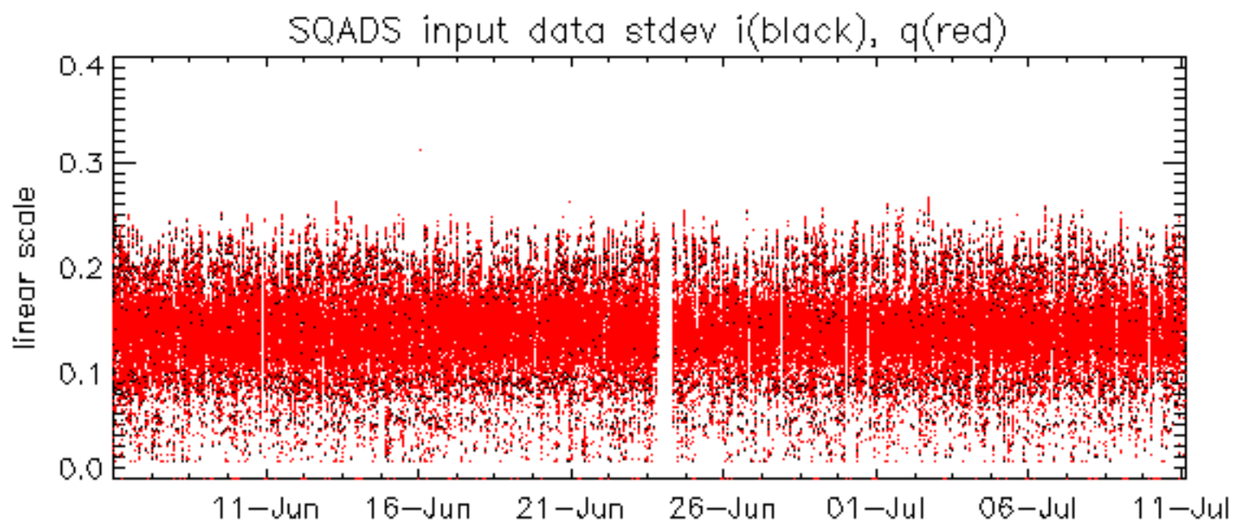
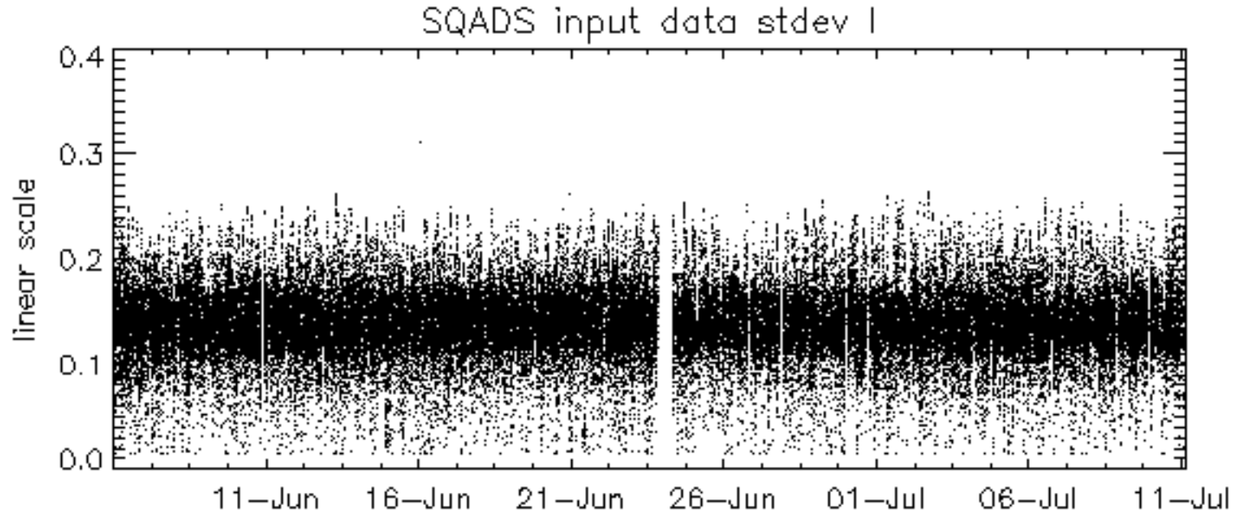

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

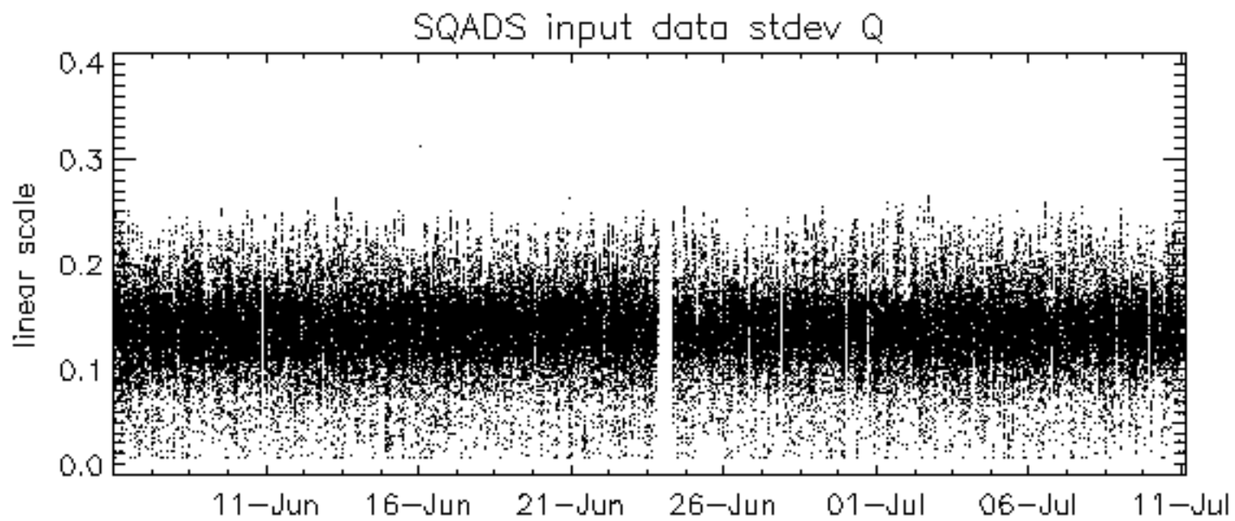

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul

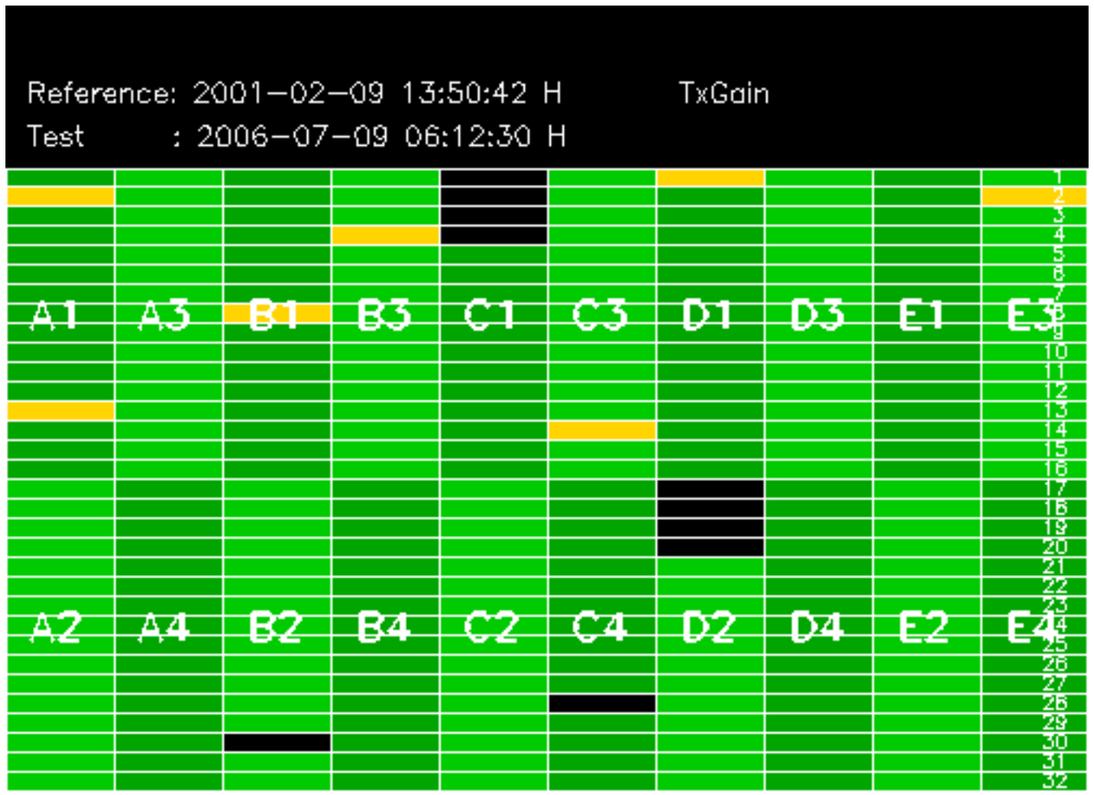

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul


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


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


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
11–Jun
16–Jun
21–Jun
26–Jun
01–Jul
06–Jul
11–Jul


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
11–Jun
16–Jun
21–Jun
26–Jun
01–Jul
06–Jul
11–Jul


Reference: 2001-02-09 13:50:42 H
Test : 2006-07-09 06:12:30 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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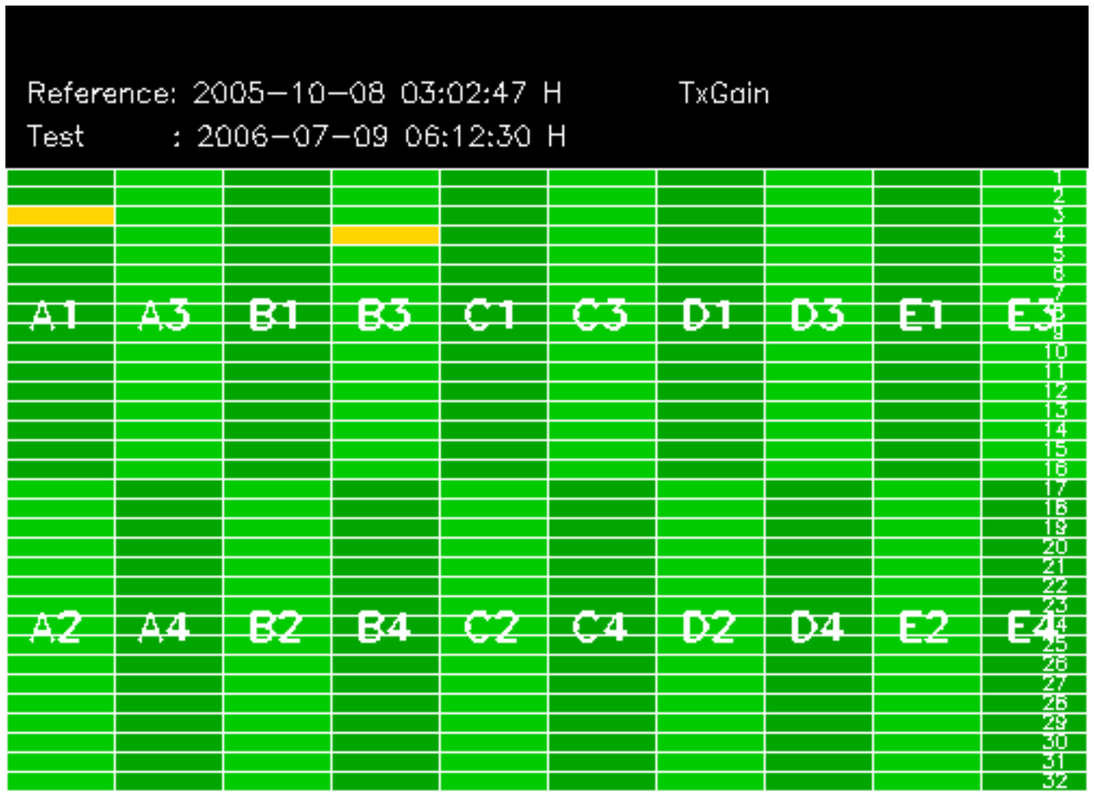
Reference: 2005-10-08 03:02:47 H
Test : 2006-07-09 06:12:30 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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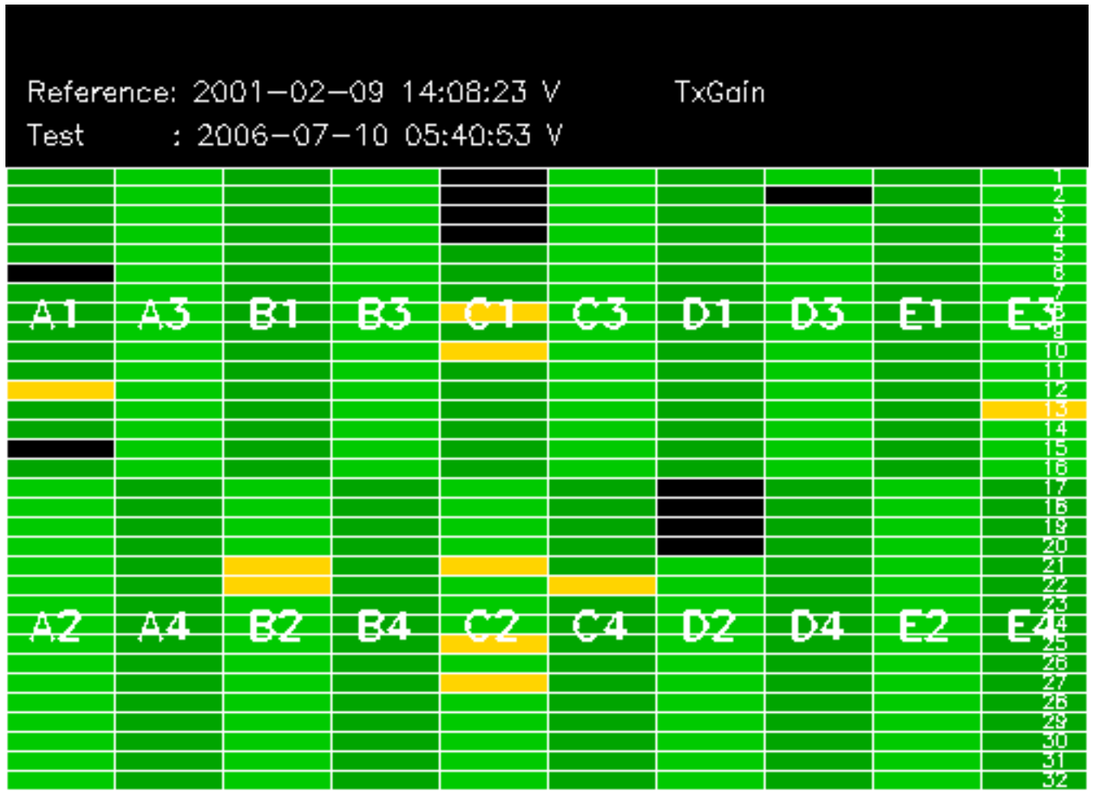
Reference: 2001-02-09 14:08:23 V
Test : 2006-07-10 05:40:53 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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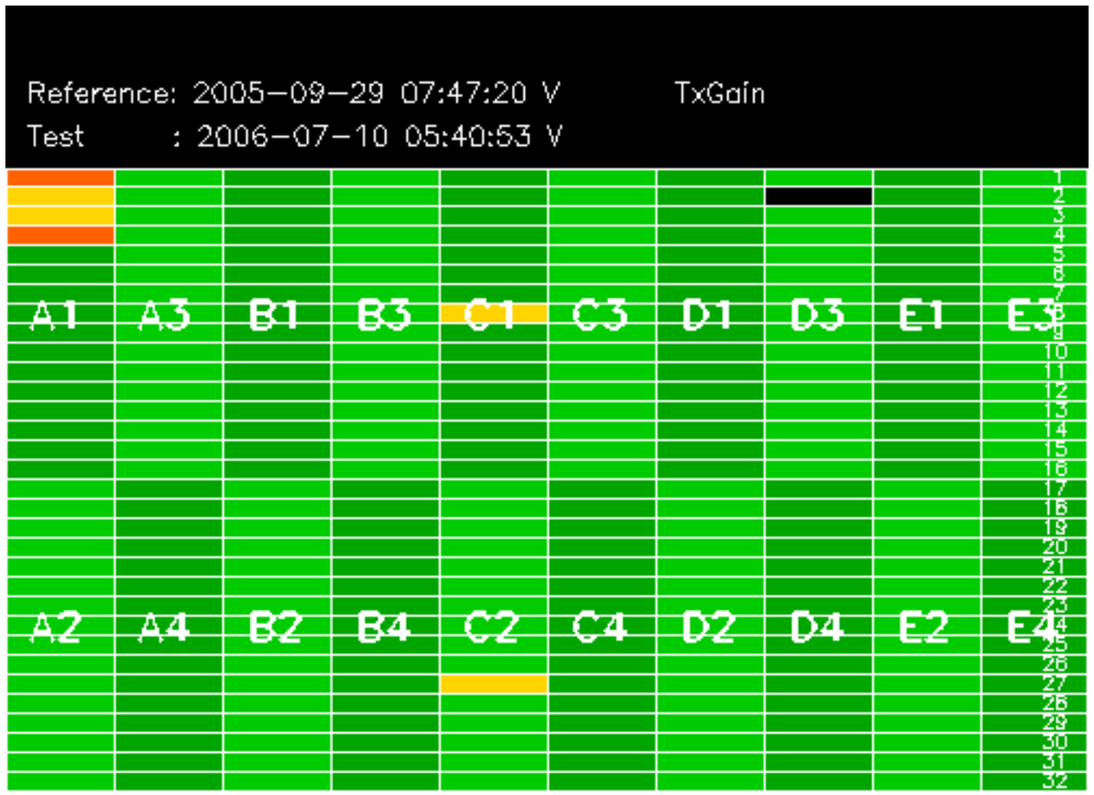
Reference: 2005-09-29 07:47:20 V
Test : 2006-07-10 05:40:53 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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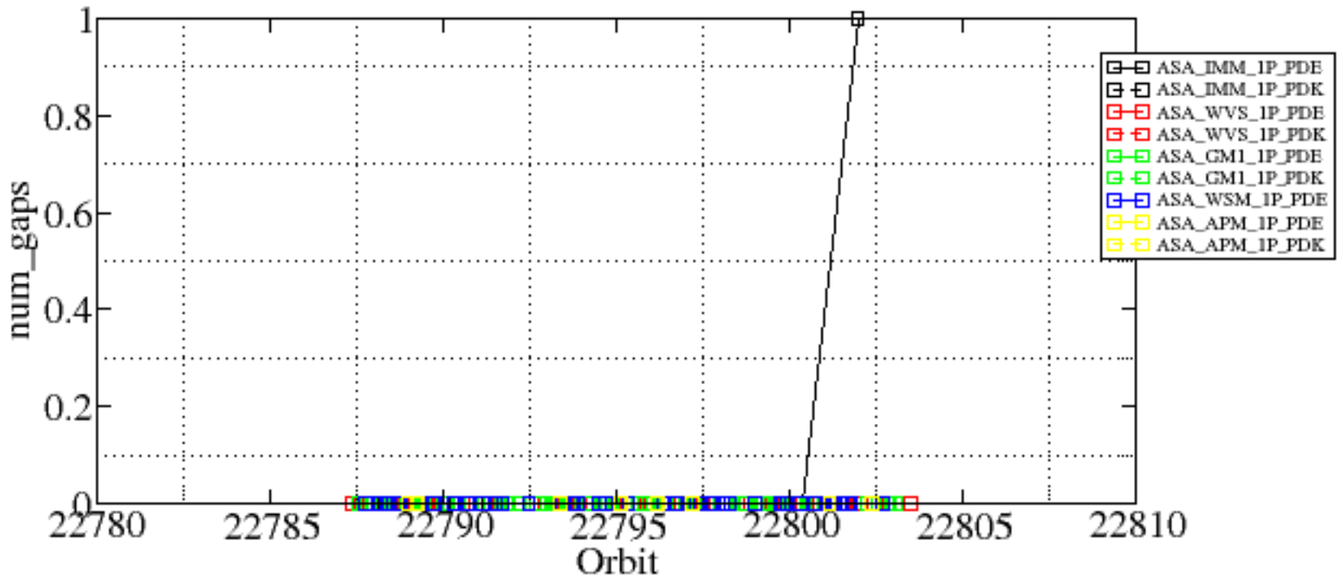
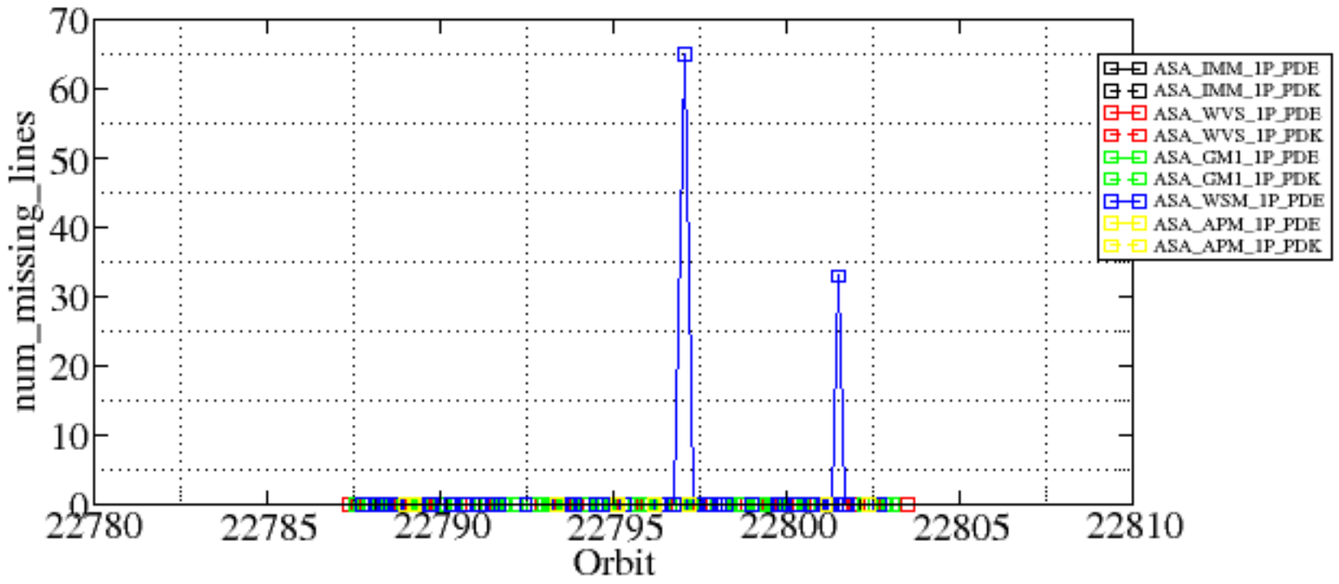
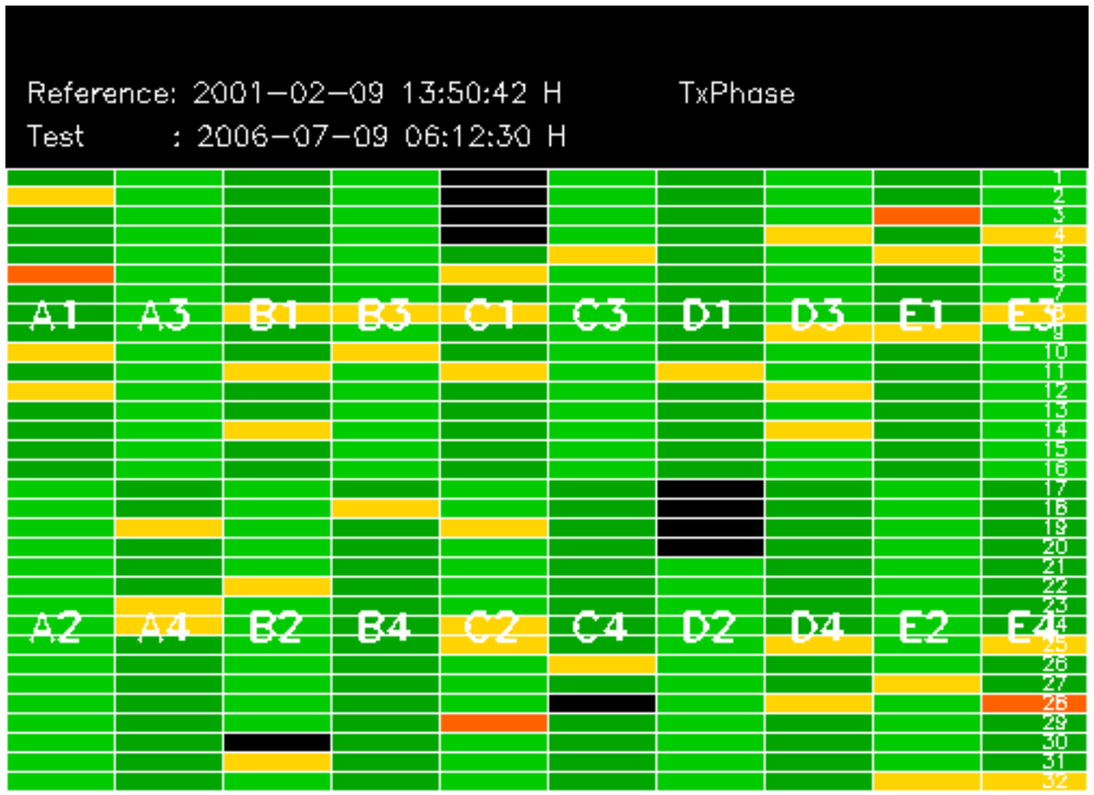
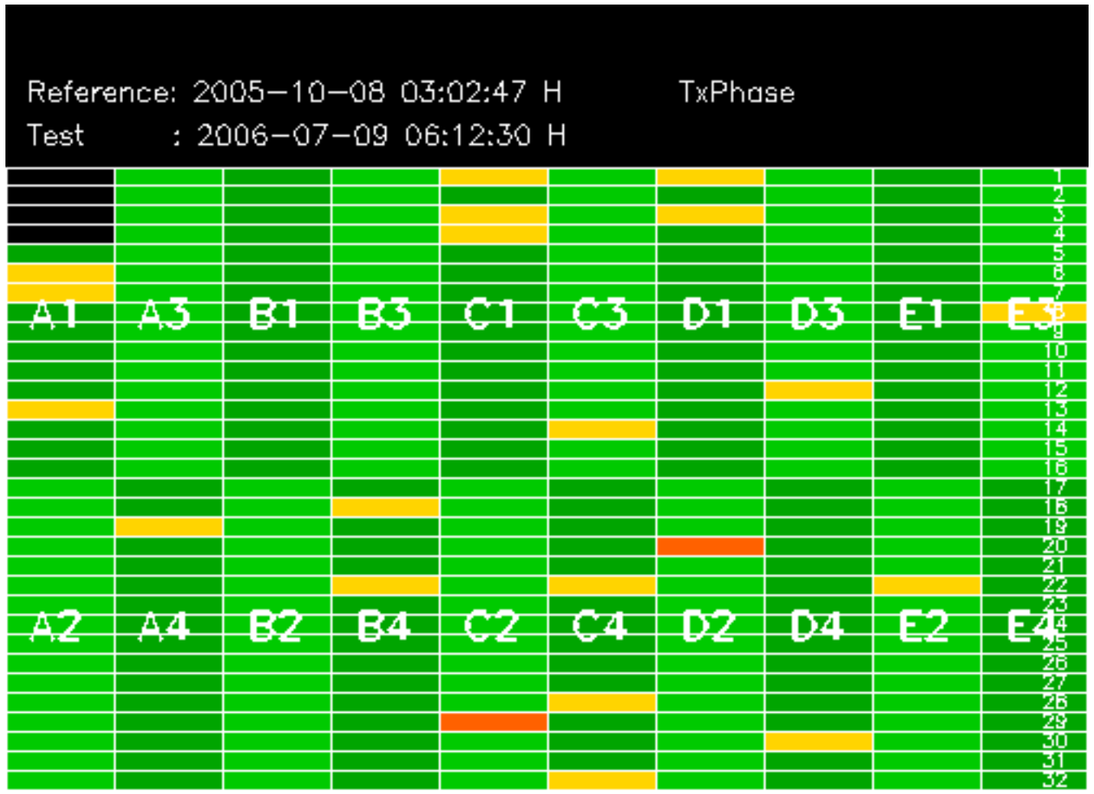
Summary of analysis for the last 3 days 2006071[901]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20060711_003719_000001342049_00202_22801_0613.N1	1	0
ASA_WSM_1PNPDE20060710_162344_000000672049_00198_22797_2353.N1	0	65
ASA_WSM_1PNPDE20060710_234911_000003302049_00202_22801_2445.N1	0	33


num_gaps
1
0.8
0.6
0.4
0.2
0
22780
22785
22790
22795
22800
22805
22810
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_APM_1P_PDE
ASA_APM_1P_PDK


num_missing_lines
70
60
50
40
30
20
10
0
22780
22785
22790
22795
22800
22805
22810
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_APM_1P_PDE
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2006-07-09 06:12:30 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 : 2006-07-09 06:12:30 H
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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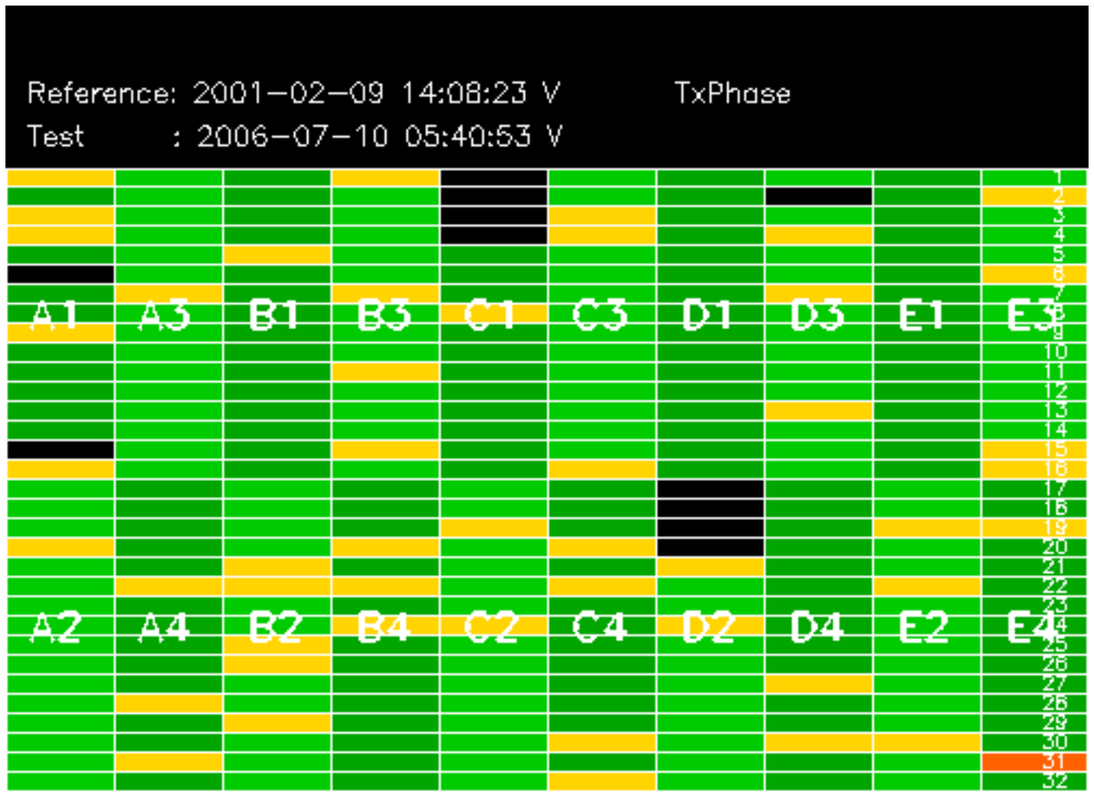
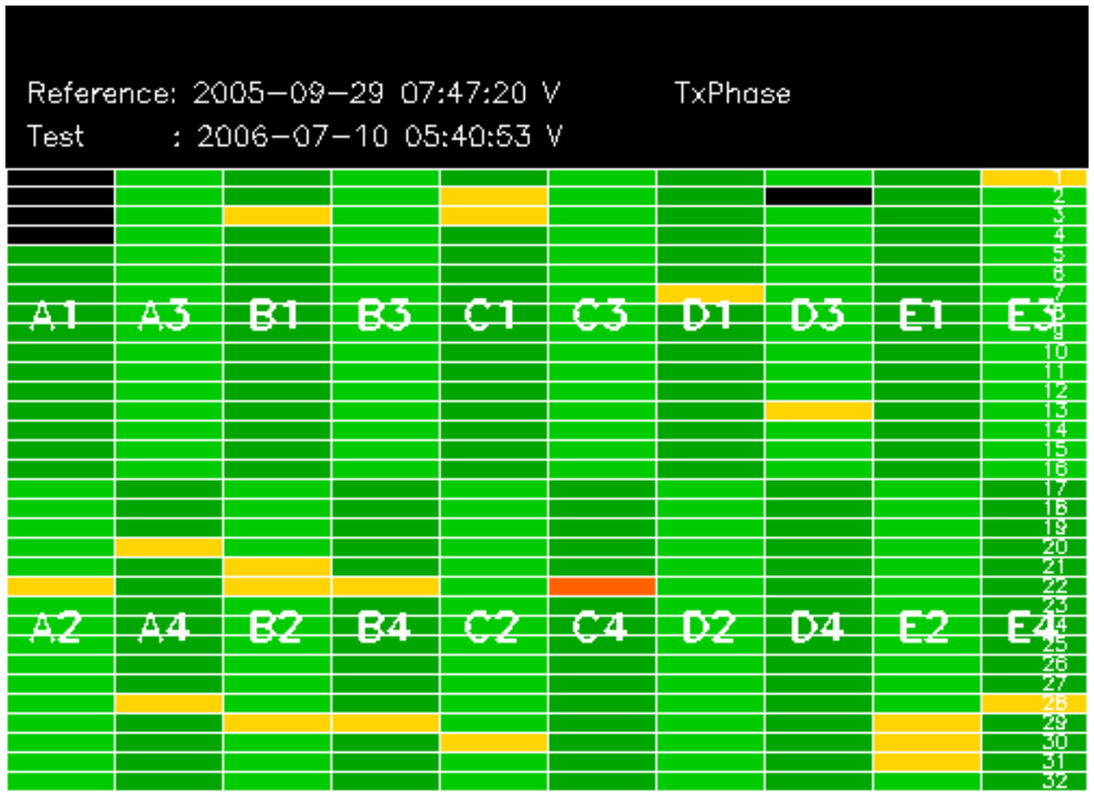

Reference: 2001-02-09 14:08:23 V
Test : 2006-07-10 05:40:53 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-07-10 05:40:53 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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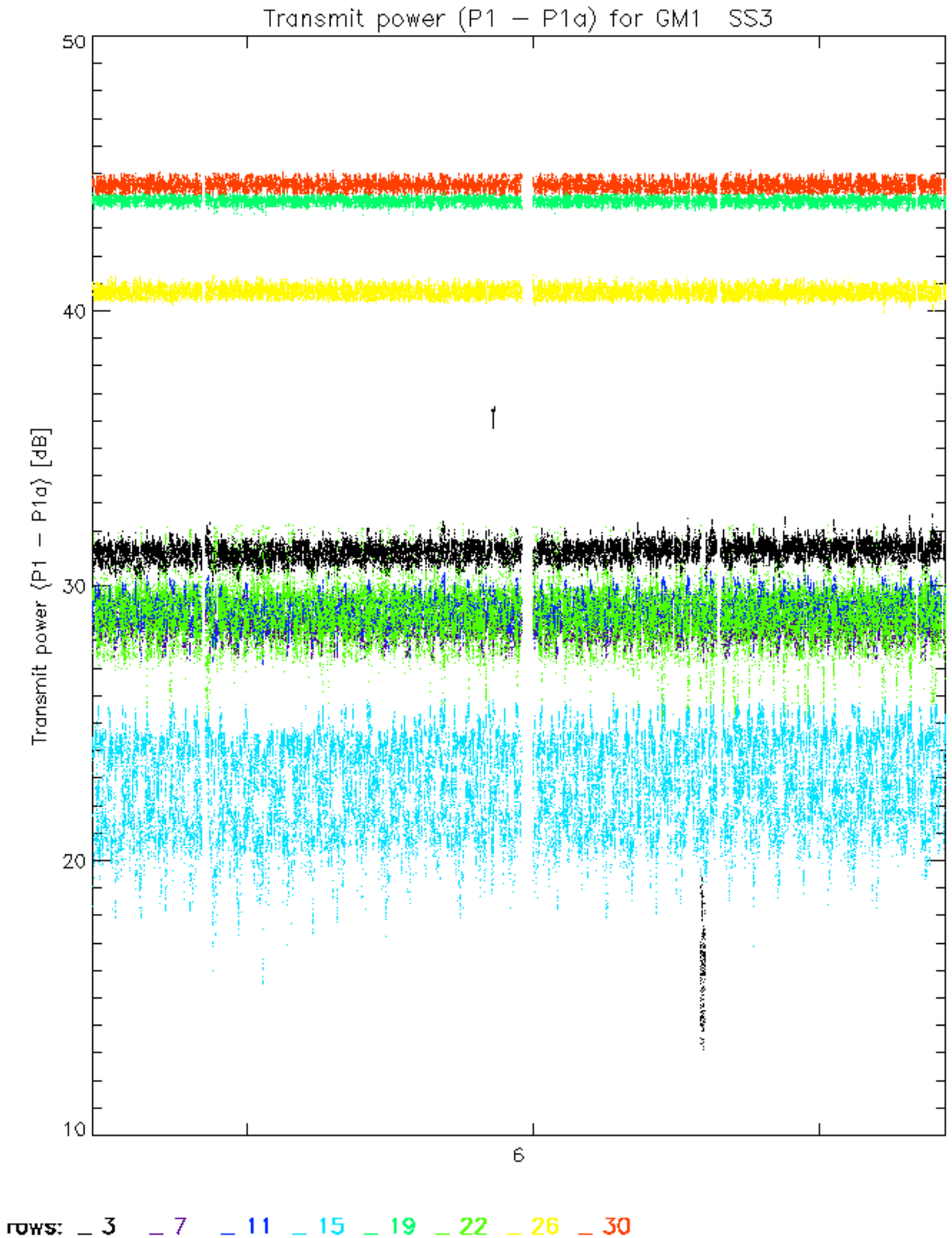
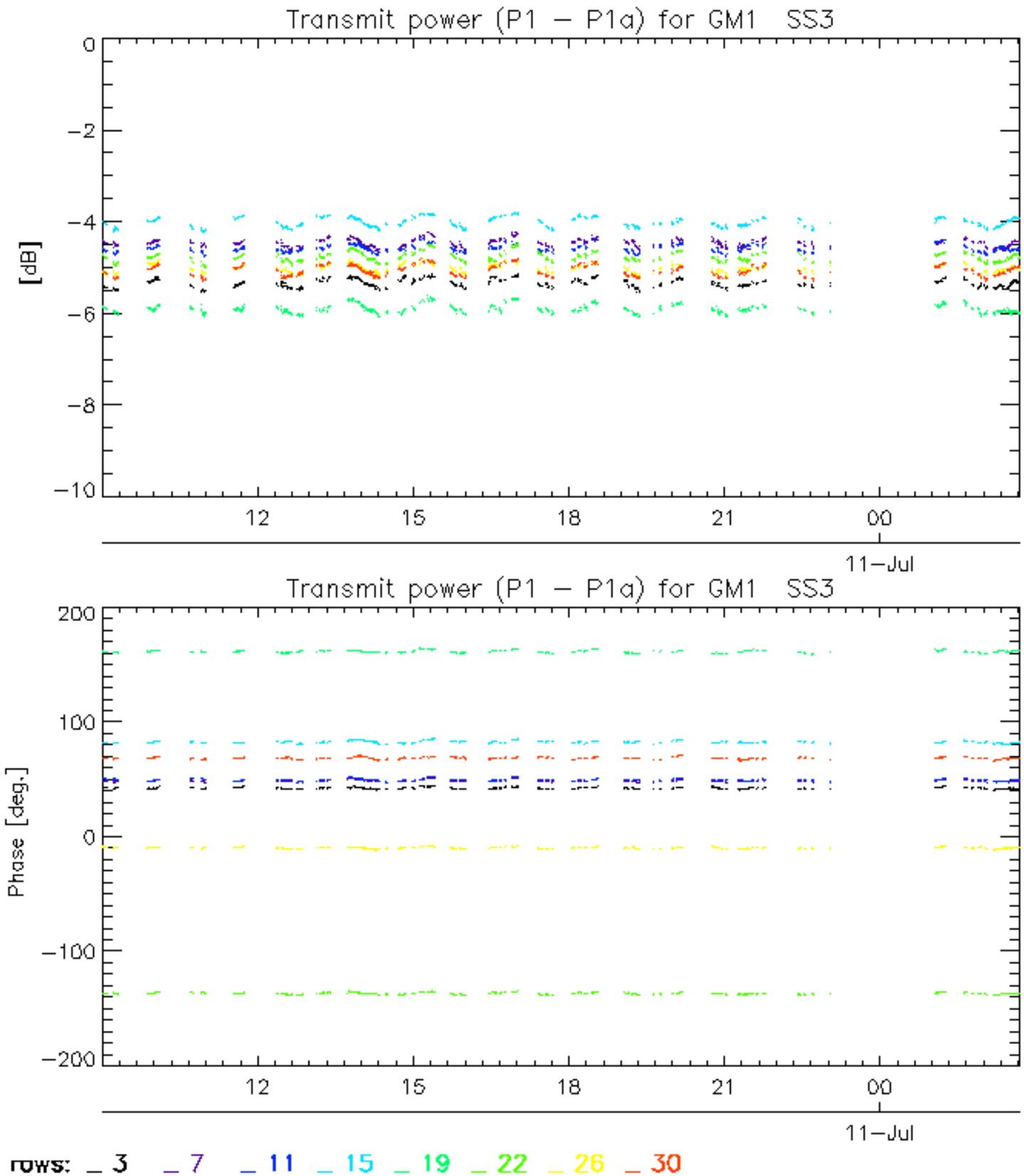
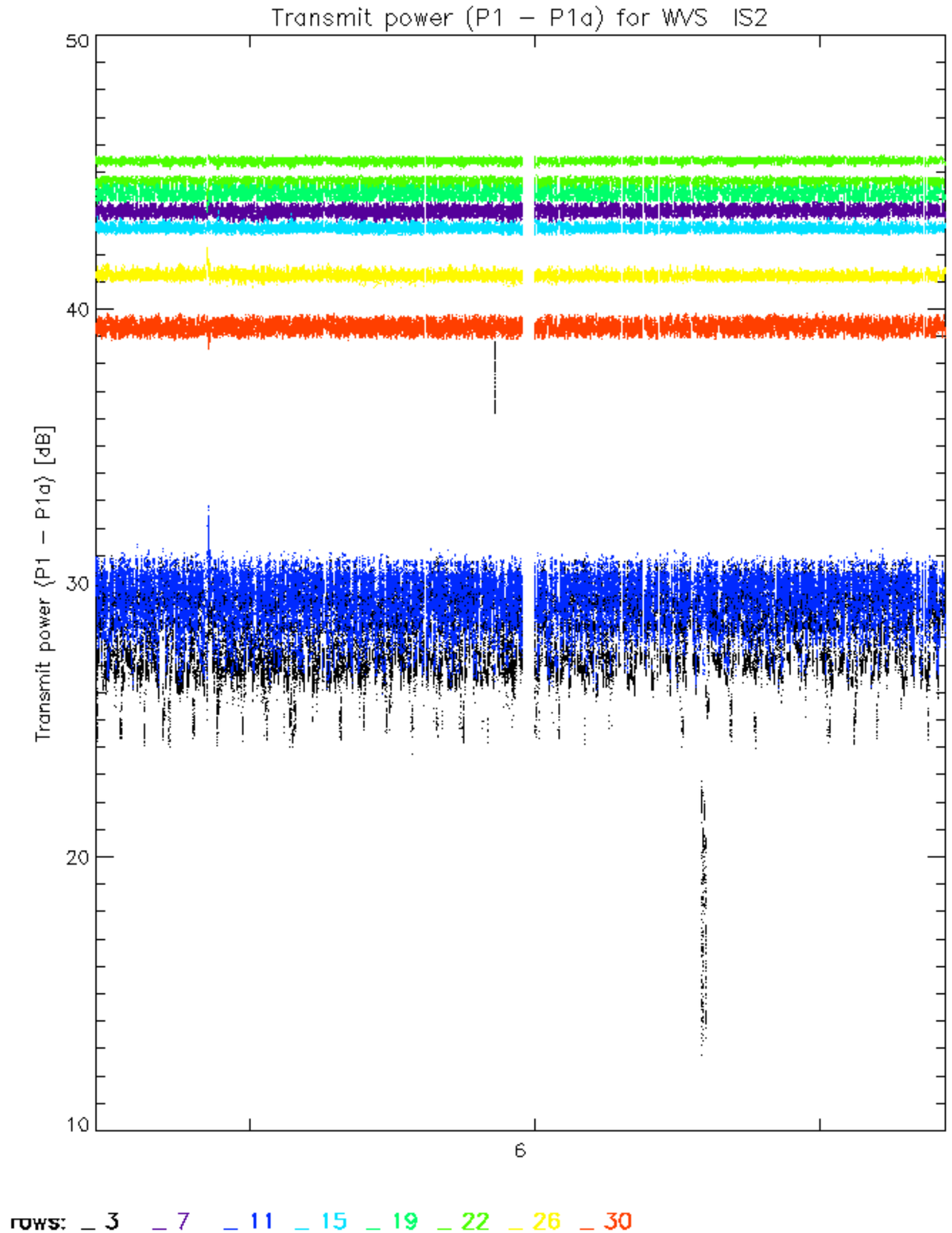
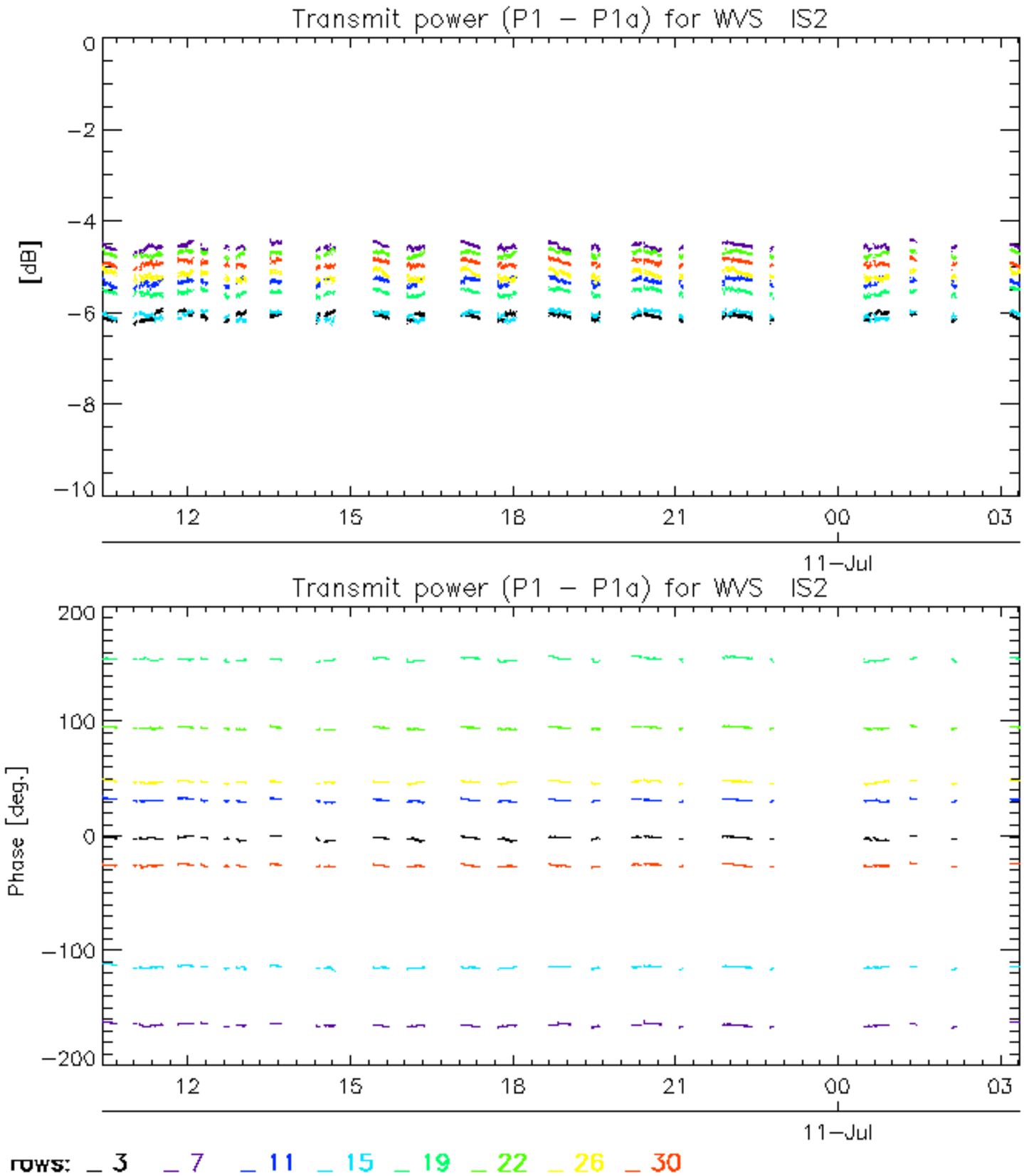

Transmit power (P1 – P1a) for GM1 SS3
50
40
30
20
10
Transmit power (P1 – P1a) [dB]
6
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Transmit power (P1 – P1a) for GM1 SS3
0
−2
−4
−6
−8
−10
[dB]
12
15
18
21
00
11–Jul
Transmit power (P1 – P1a) for GM1 SS3
200
100
0
−100
−200
Phase [deg.]
12
15
18
21
00
11–Jul
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
6
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
0
−2
−4
−6
−8
−10
[dB]
12
15
18
21
00
03
11–Jul
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
12
15
18
21
00
03
11–Jul
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.