PRELIMINARY REPORT OF 050603

last update on Fri Jun 3 11:21:55 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 2005-06-02 00:00:00 to 2005-06-03 11:21:56

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	24	34	24	6	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	24	34	24	6	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	24	34	24	6	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	24	34	24	6	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	42	51	0	0	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	42	51	0	0	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	42	51	0	0	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	42	51	0	0	0

2.3 - Browse Visual Inspection

2.4 - Data Analysis

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

3 - Module Stepping Mode

No anomalies observed on available MS products:

Polarisation	Start Time
V	20050602 100814
H	20050601 071839

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	-3.342799	0.007349	0.025130
7	P1	-3.128425	0.015088	-0.028911
11	P1	-4.635312	0.030855	0.034860
15	P1	-5.505854	0.043183	0.053861
19	P1	-3.733807	0.004061	-0.013838
22	P1	-4.589405	0.015573	0.017958
26	P1	-4.858180	0.022744	0.049121
30	P1	-7.140182	0.027490	0.000968
3	P1	-15.632222	0.100228	0.145409
7	P1	-15.550499	0.110684	-0.102715
11	P1	-21.337416	0.265406	-0.086791
15	P1	-11.340651	0.045508	0.136256
19	P1	-14.385609	0.033472	-0.072119
22	P1	-15.958047	0.331607	0.027026
26	P1	-17.680767	0.357416	-0.015134
30	P1	-17.856905	0.220676	0.064679

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.039730	0.077677	0.064173
7	P2	-22.213699	0.096004	0.055103
11	P2	-14.024302	0.096013	0.183331
15	P2	-7.126078	0.085394	-0.014822
19	P2	-9.629962	0.088383	0.039014
22	P2	-16.889496	0.086666	0.018691
26	P2	-16.502941	0.089718	-0.002985
30	P2	-18.807388	0.076399	0.037318

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.166443	0.002823	0.013703
7	P3	-8.166443	0.002823	0.013703
11	P3	-8.166443	0.002823	0.013703
15	P3	-8.166443	0.002823	0.013703
19	P3	-8.166443	0.002823	0.013703
22	P3	-8.166443	0.002823	0.013703
26	P3	-8.166443	0.002823	0.013703
30	P3	-8.166443	0.002823	0.013703

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	-2.787318	0.013086	-0.013531
7	P1	-2.953775	0.032445	0.054871
11	P1	-3.958784	0.018096	-0.005877
15	P1	-3.532632	0.022970	0.001760
19	P1	-3.627799	0.015653	0.000414
22	P1	-5.649758	0.046002	0.023231
26	P1	-7.291844	0.038332	0.056568
30	P1	-6.279086	0.048821	-0.005378
3	P1	-10.831161	0.042485	-0.035911
7	P1	-10.383015	0.169799	0.048704
11	P1	-12.549241	0.112644	-0.023946
15	P1	-11.626541	0.080329	0.030651
19	P1	-15.610713	0.063209	0.029540
22	P1	-25.830517	3.094138	-0.458026
26	P1	-15.628285	0.377318	0.073983
30	P1	-20.218008	1.115634	0.044567

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.773079	0.039874	0.047183
7	P2	-22.184496	0.043471	0.124950
11	P2	-9.956606	0.058112	0.161047
15	P2	-5.103232	0.042027	-0.021986
19	P2	-6.904843	0.056580	0.014936
22	P2	-7.101869	0.035014	0.013445
26	P2	-23.943605	0.036194	-0.028638
30	P2	-21.943226	0.039606	0.018148

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.998230	0.003707	0.015861
7	P3	-7.998094	0.003712	0.015635
11	P3	-7.998198	0.003715	0.015717
15	P3	-7.998110	0.003701	0.015807
19	P3	-7.998056	0.003721	0.016091
22	P3	-7.998220	0.003698	0.015664
26	P3	-7.998080	0.003712	0.015594
30	P3	-7.998203	0.003730	0.016146

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	0.000446692
	stdev	2.25999e-07
MEAN Q	mean	0.000481913
	stdev	2.37045e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.126539
	stdev	0.00101423
STDEV Q	mean	0.126779
	stdev	0.00102455

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005060[123]
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_1PNPDK20050601_130215_000000622037_00425_17012_5602.N1	1	0

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

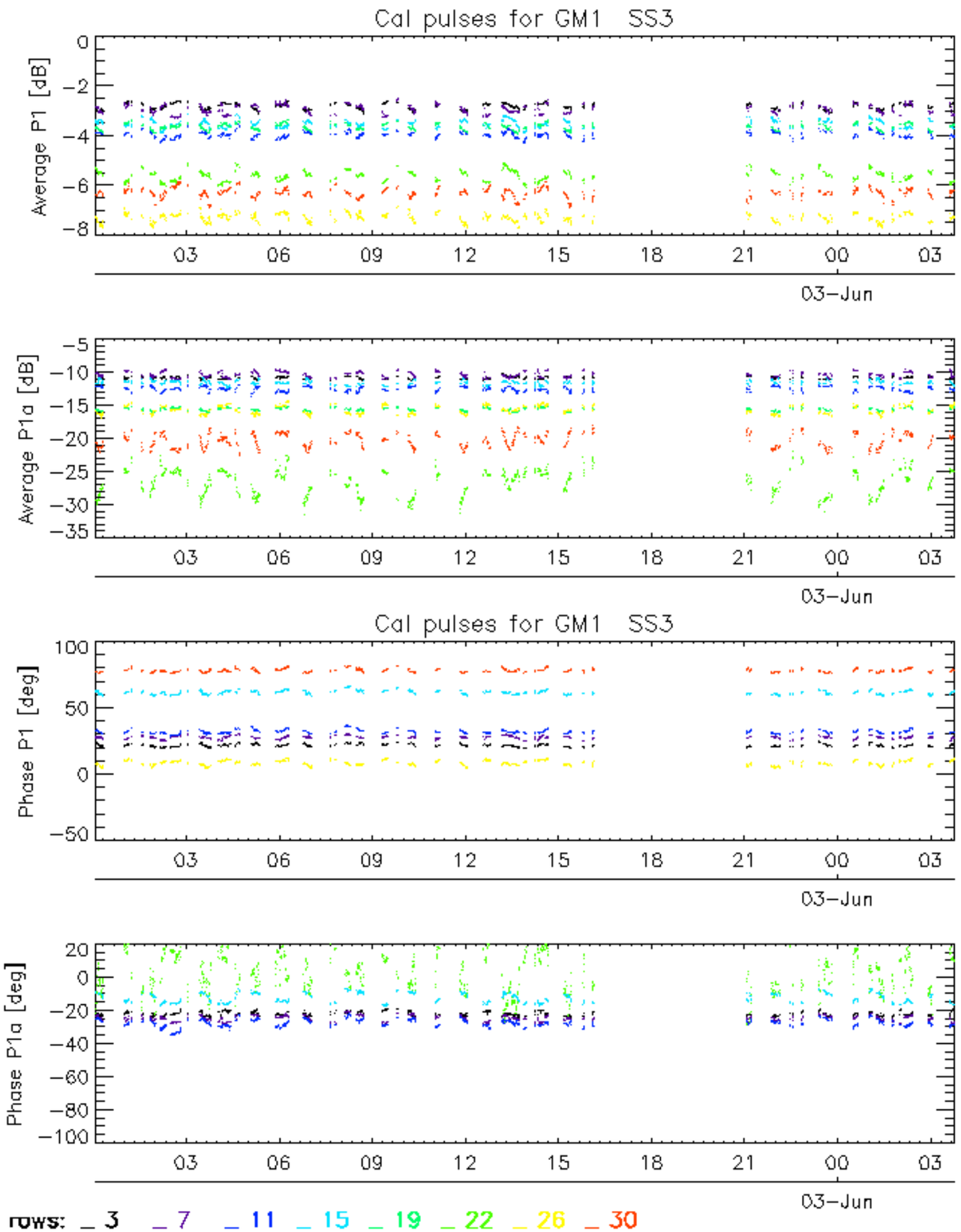
Descending

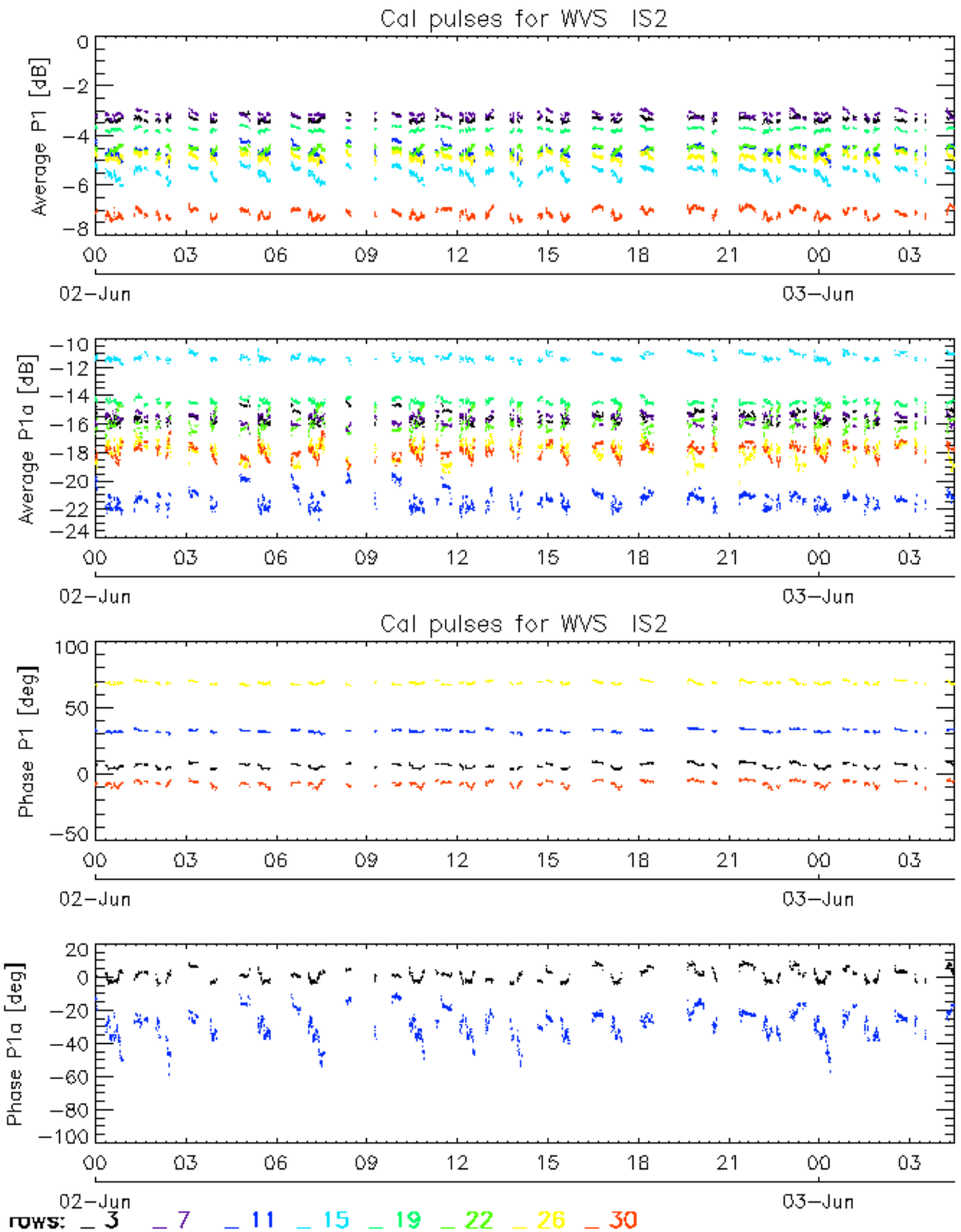
7.5 - Absolute Doppler for GM1

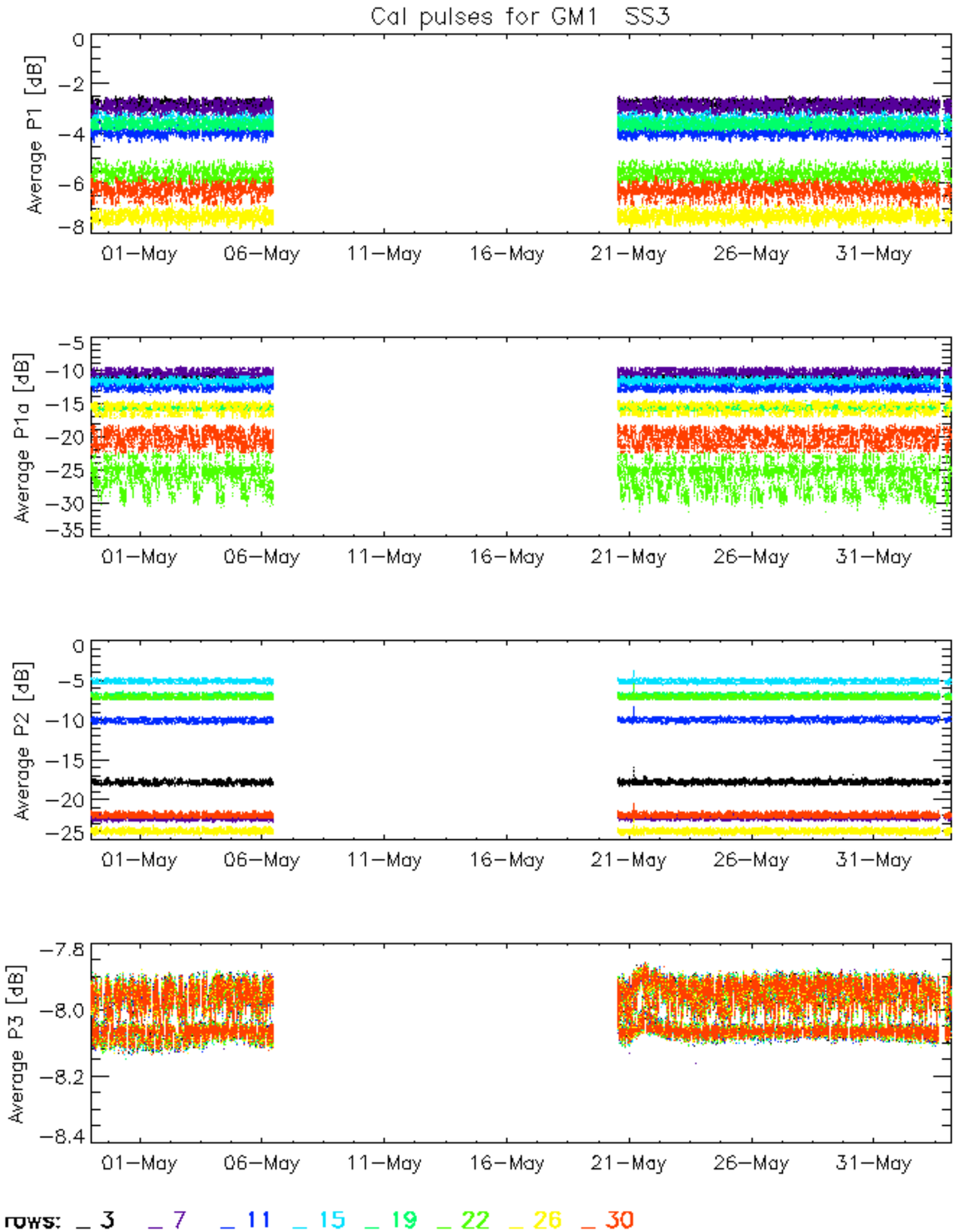
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

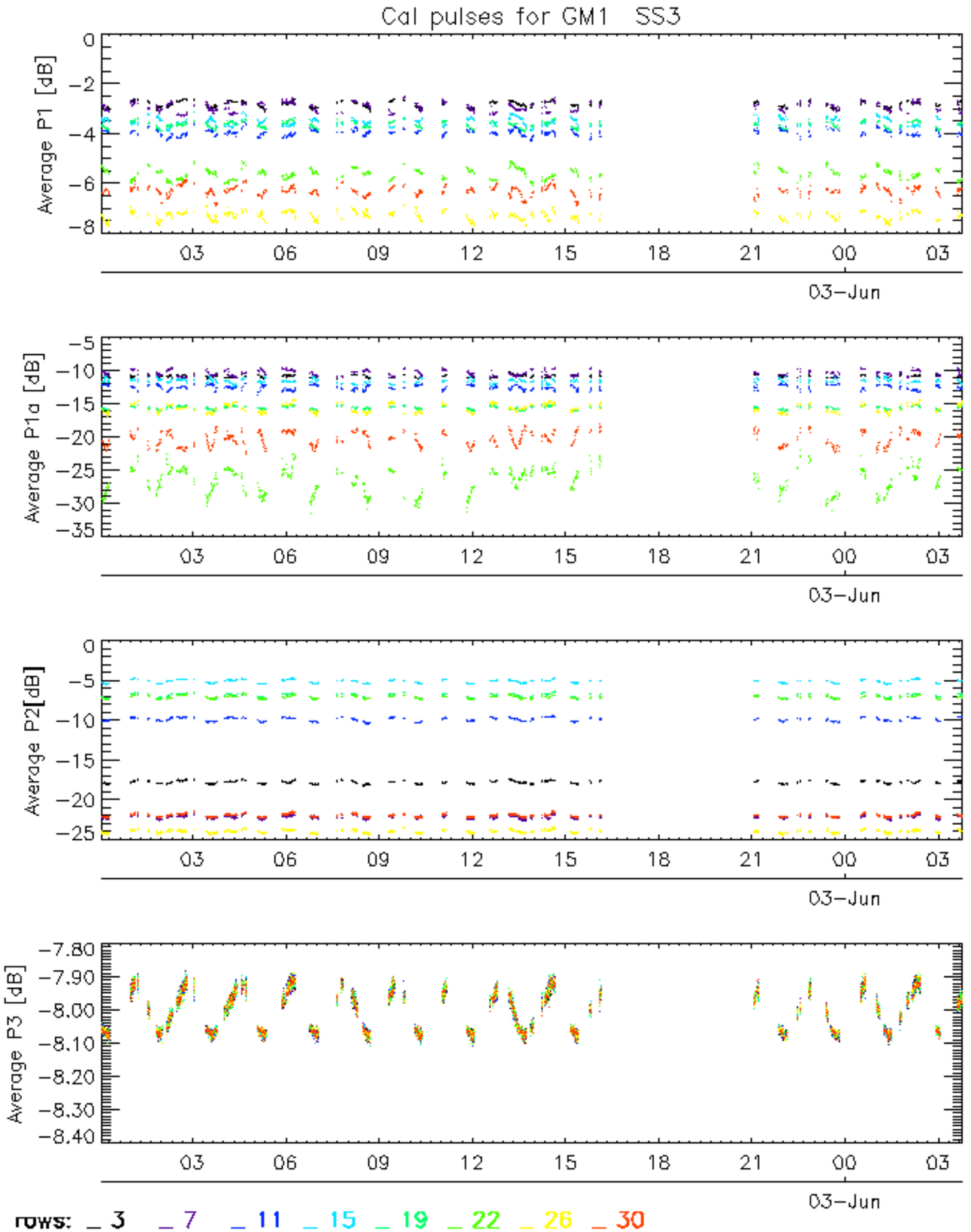
7.6 - Doppler evolution versus ANX for GM1

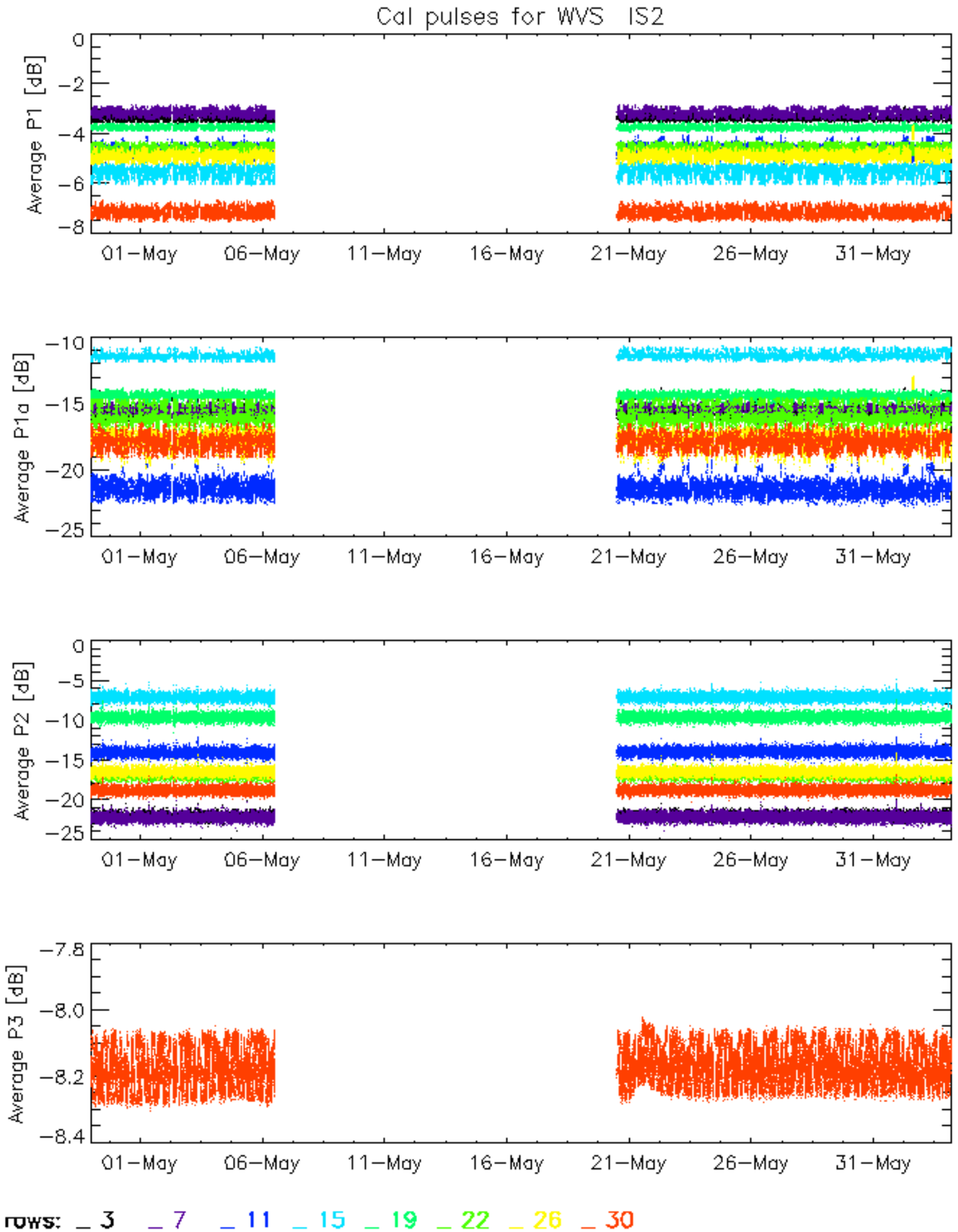
Evolution Doppler error versus ANX
☒

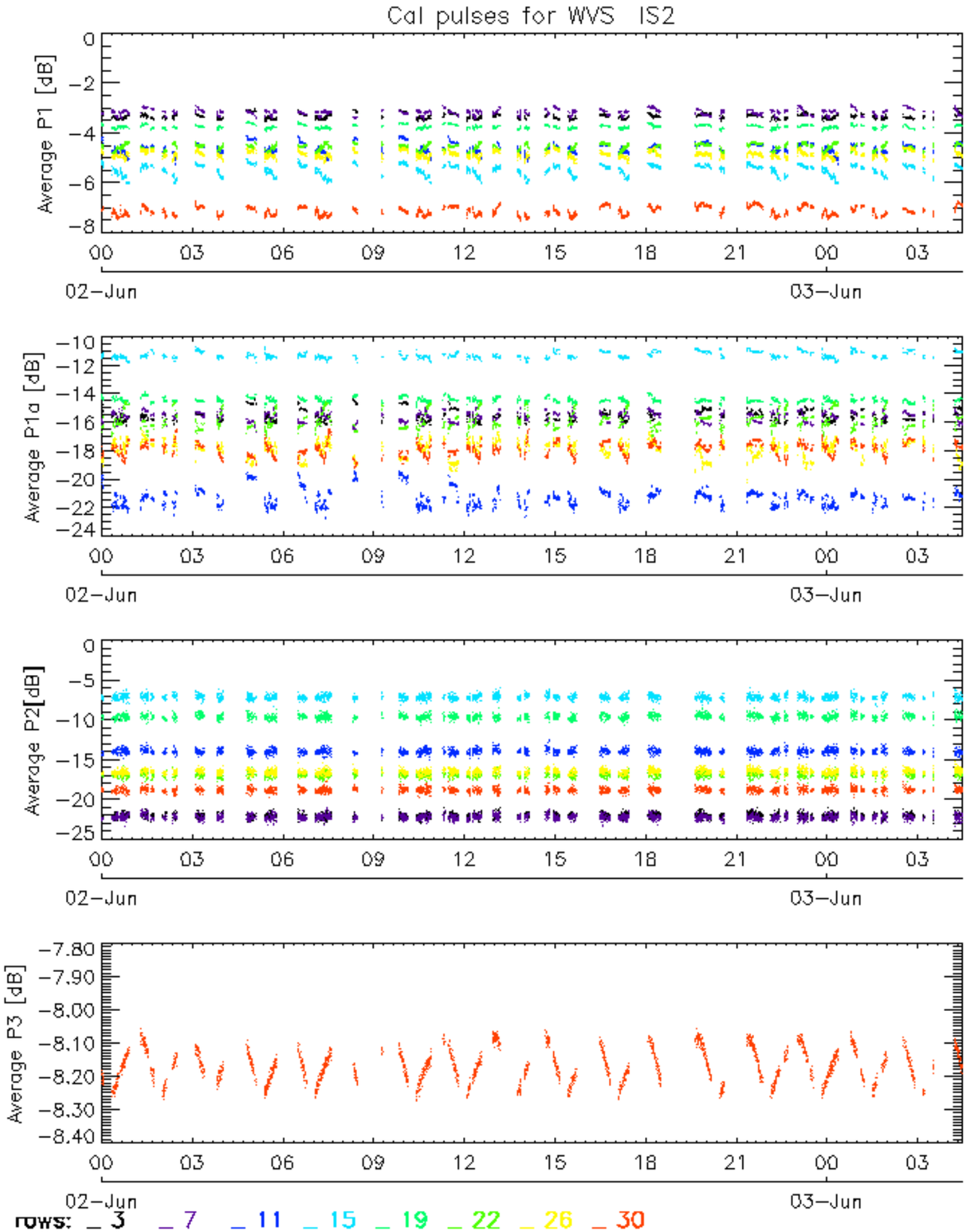

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
03−Jun
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30


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

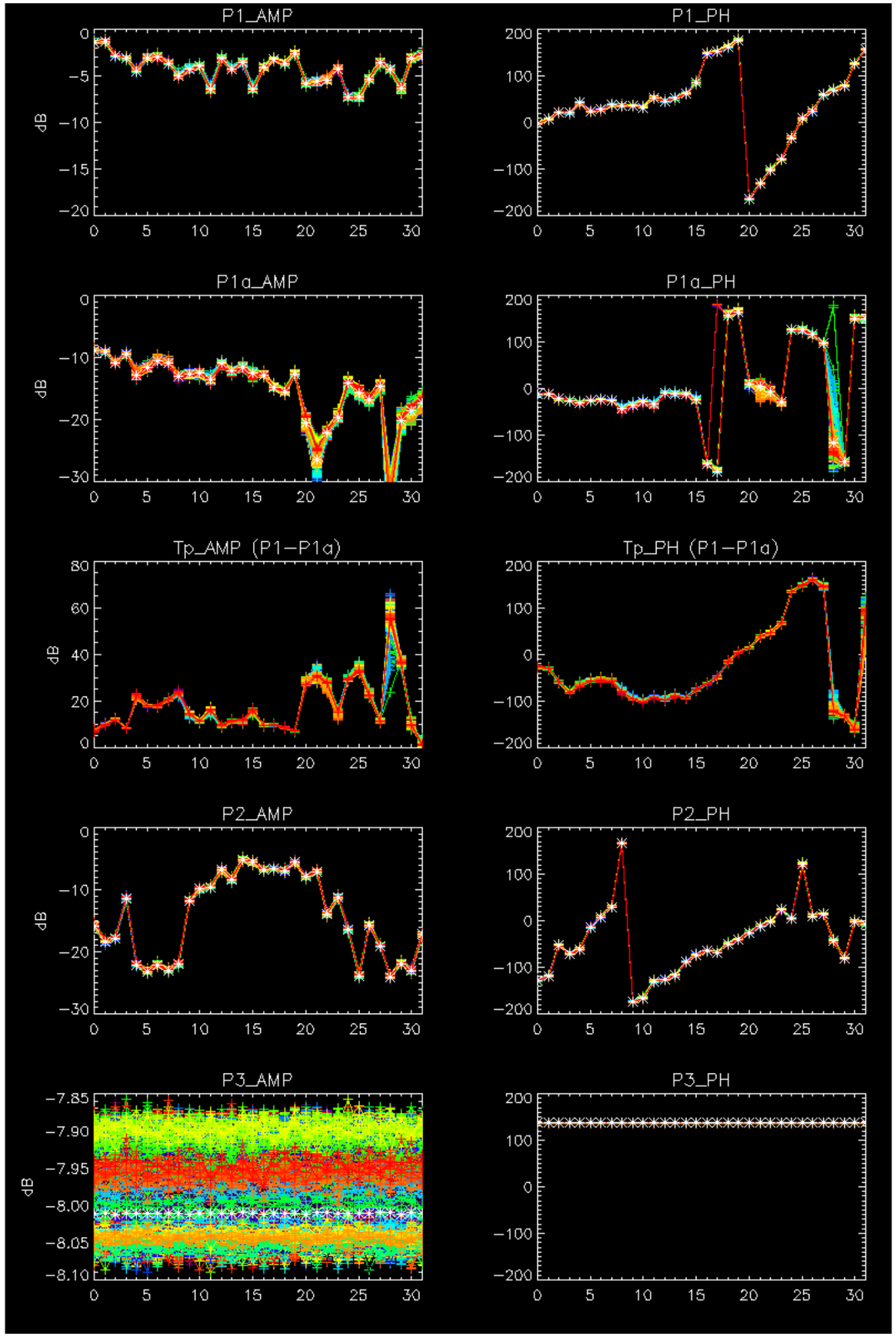

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
01−May
06−May
11−May
16−May
21−May
26−May
31−May
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

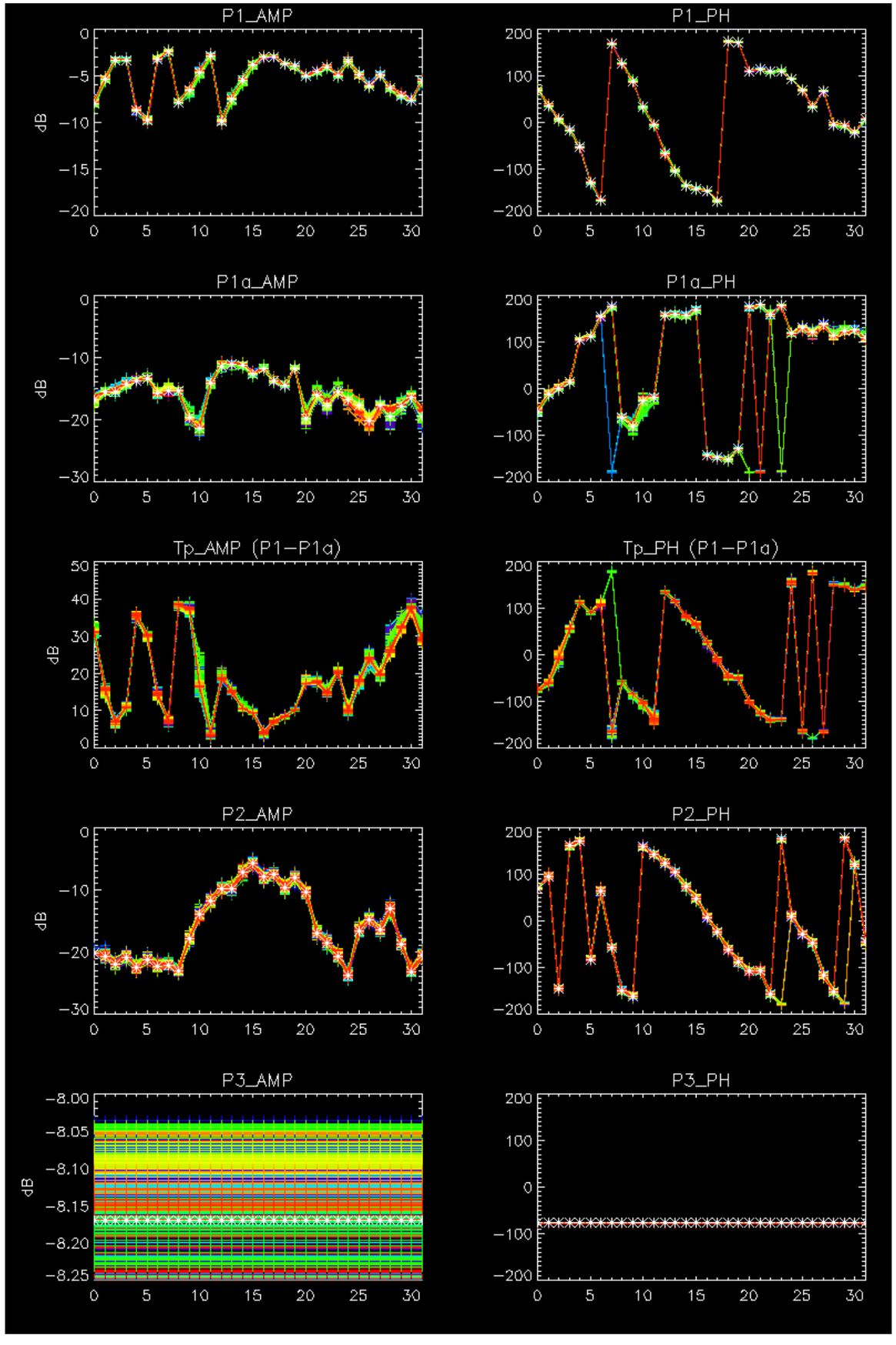

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
03−Jun
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


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


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
00
03
06
09
12
15
18
21
00
03
02−Jun
03−Jun
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
Average P2[dB]
−5
−10
−15
−20
−25
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: 3 7 11 15 19 22 26 30

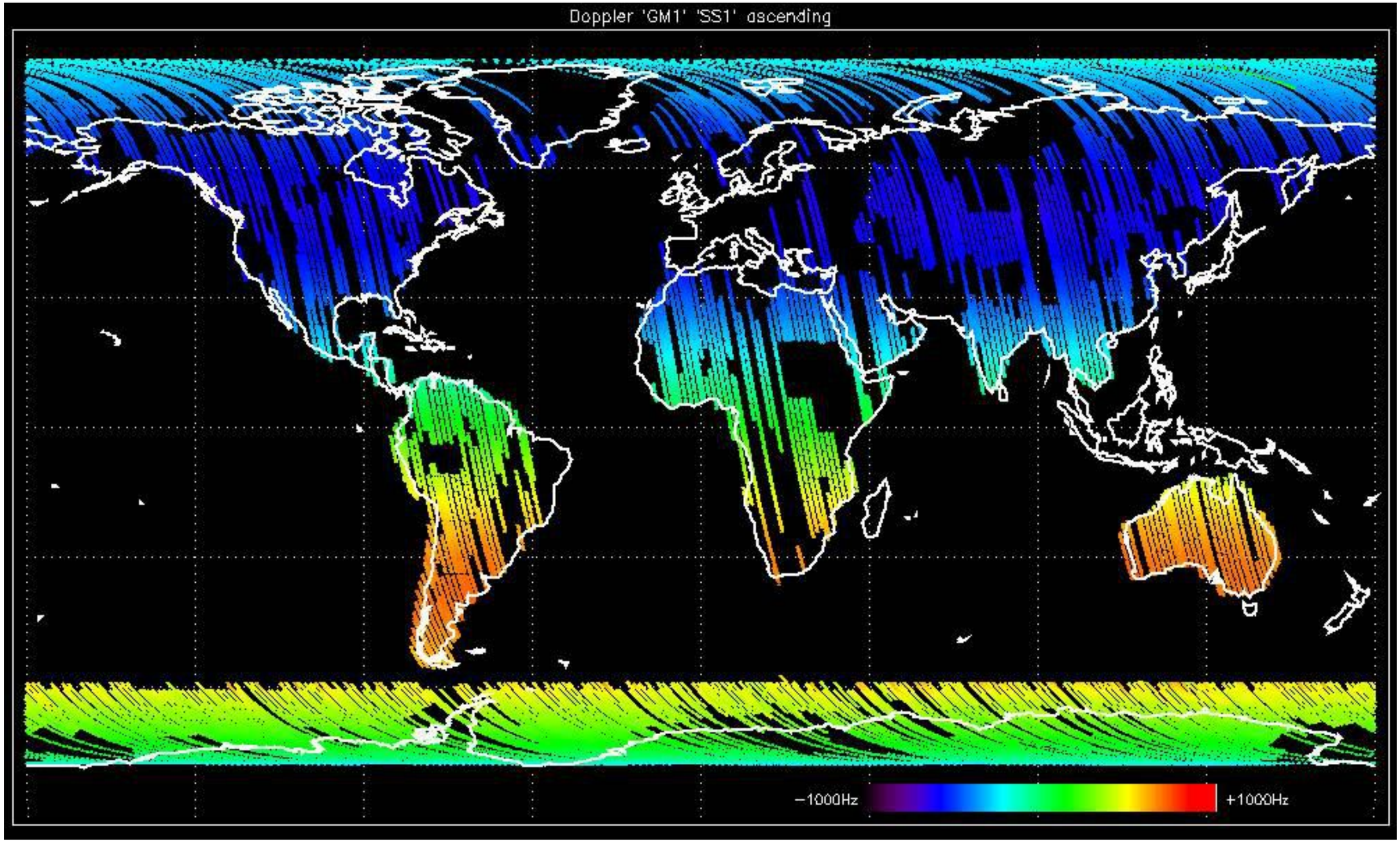
No anomalies observed.

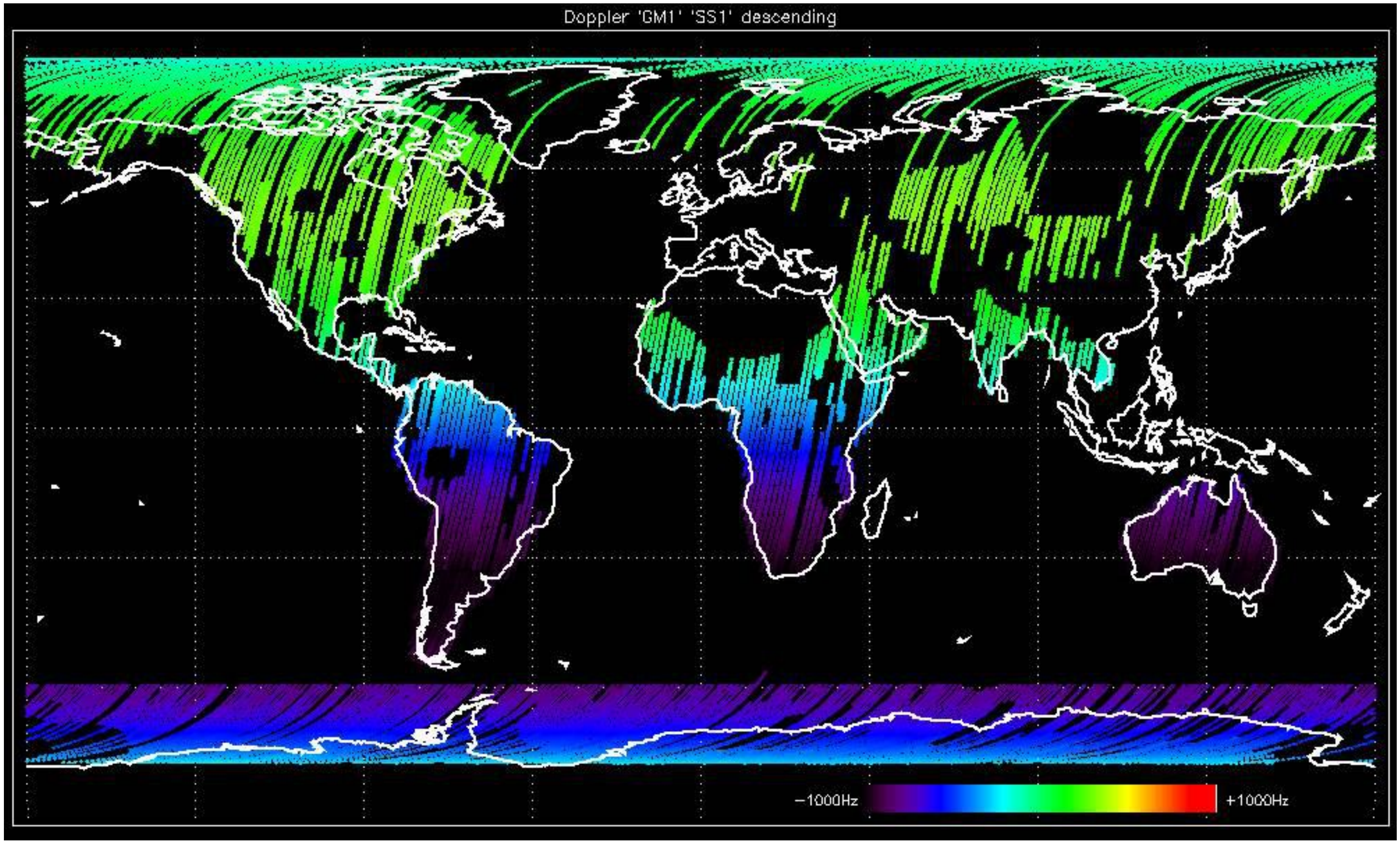

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

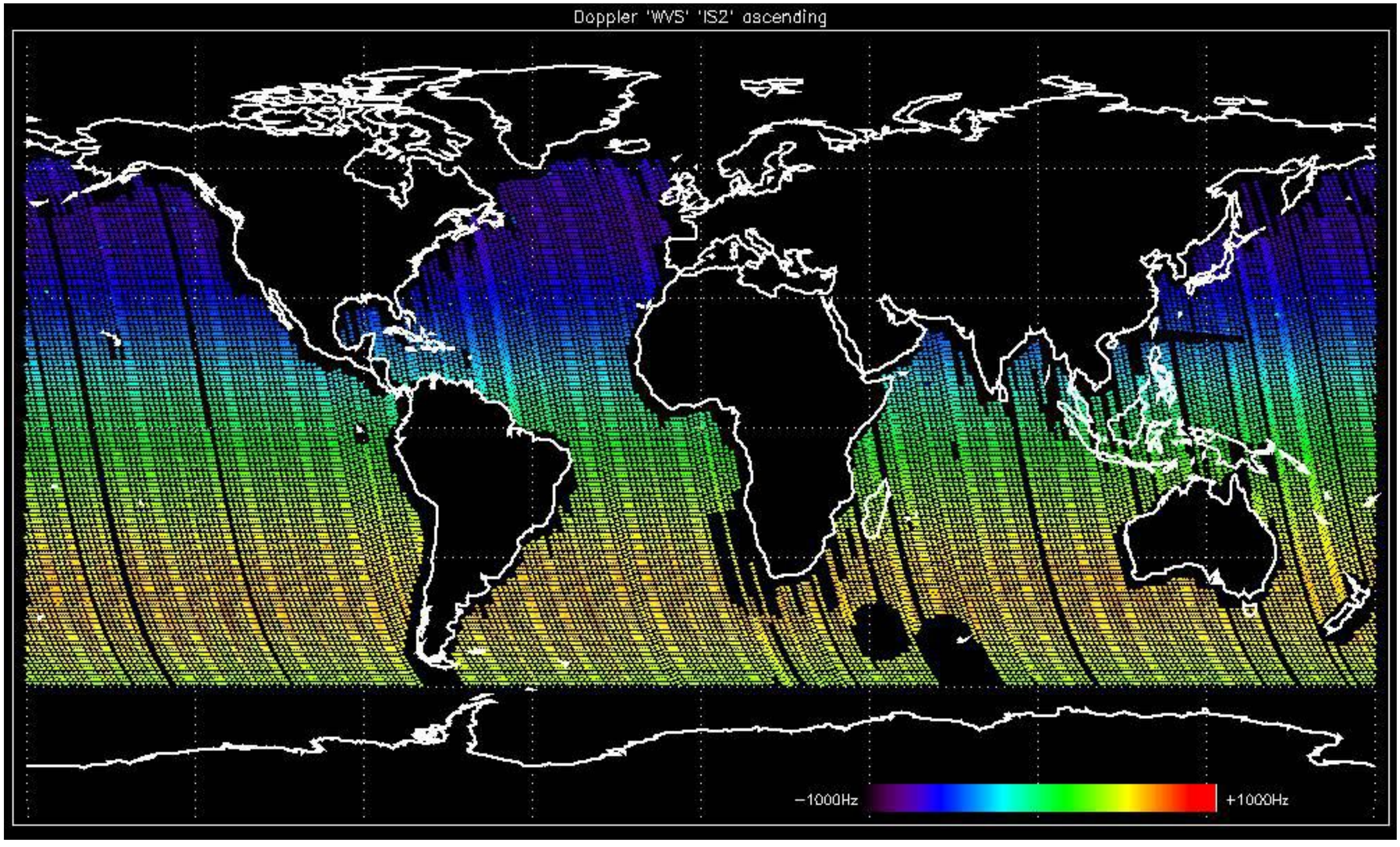

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

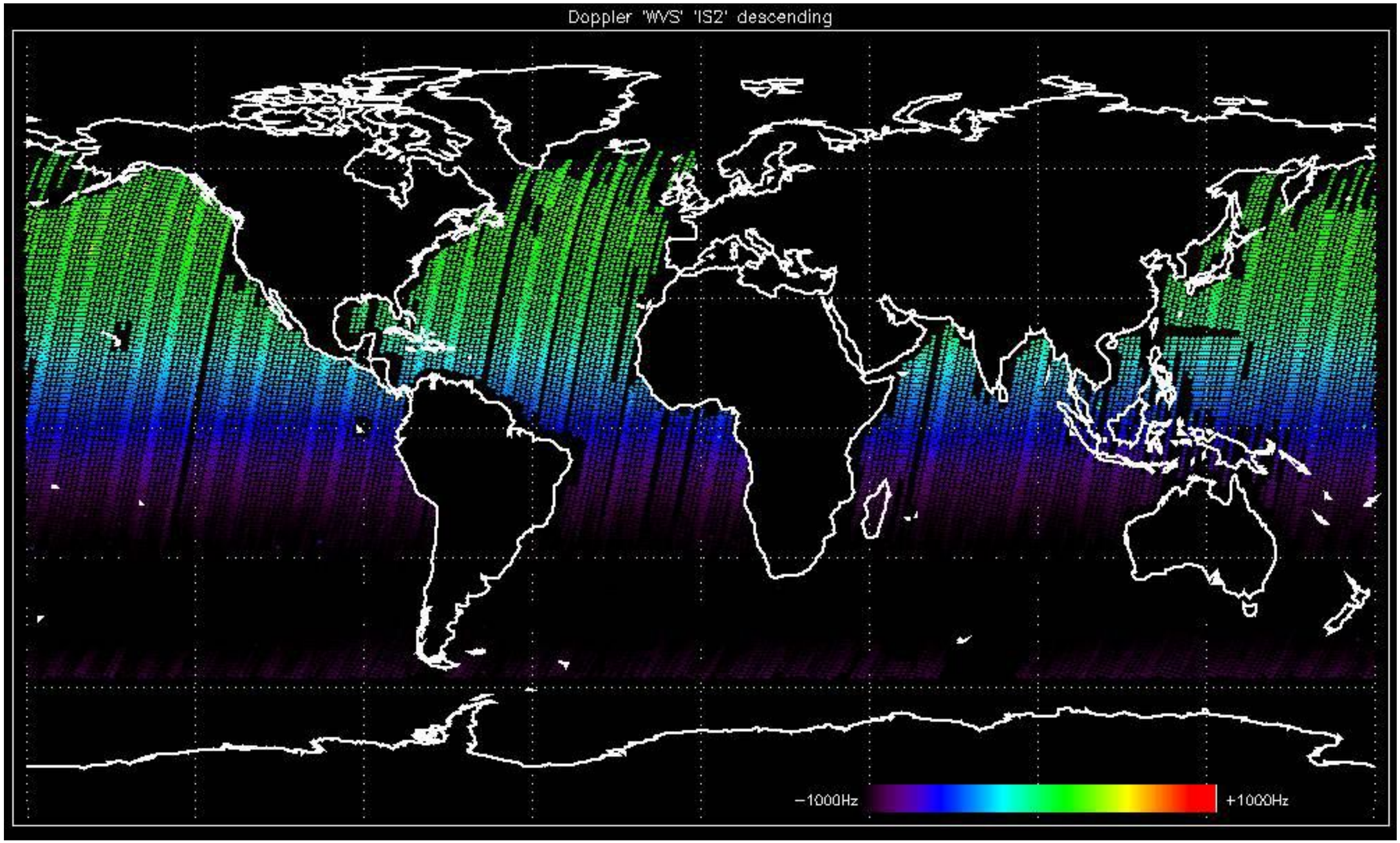
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

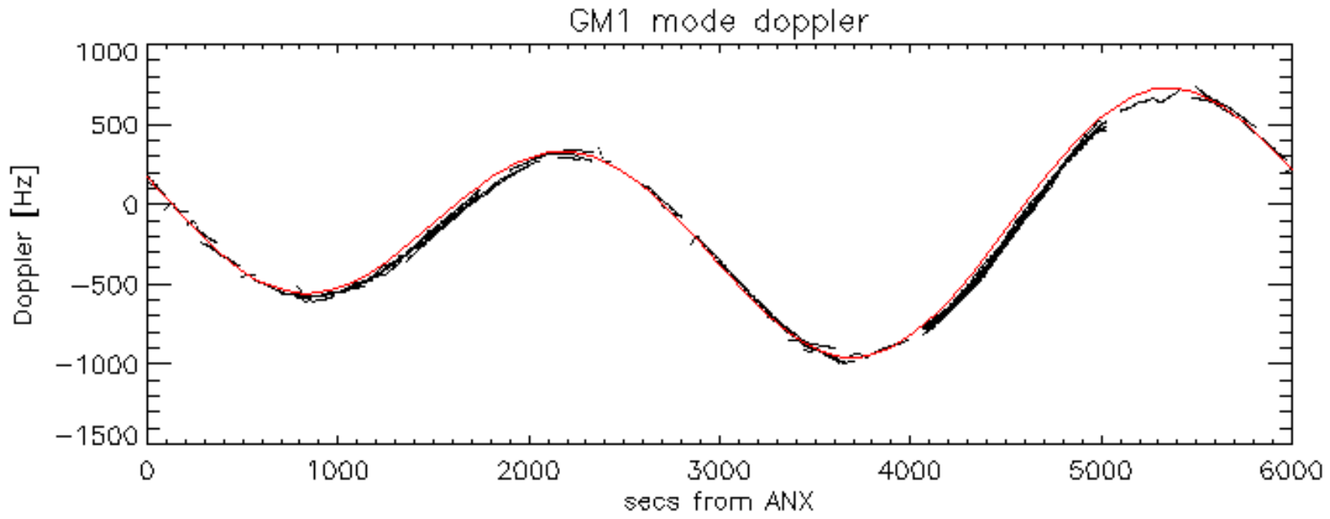
Preliminary report.The data is not yet controled

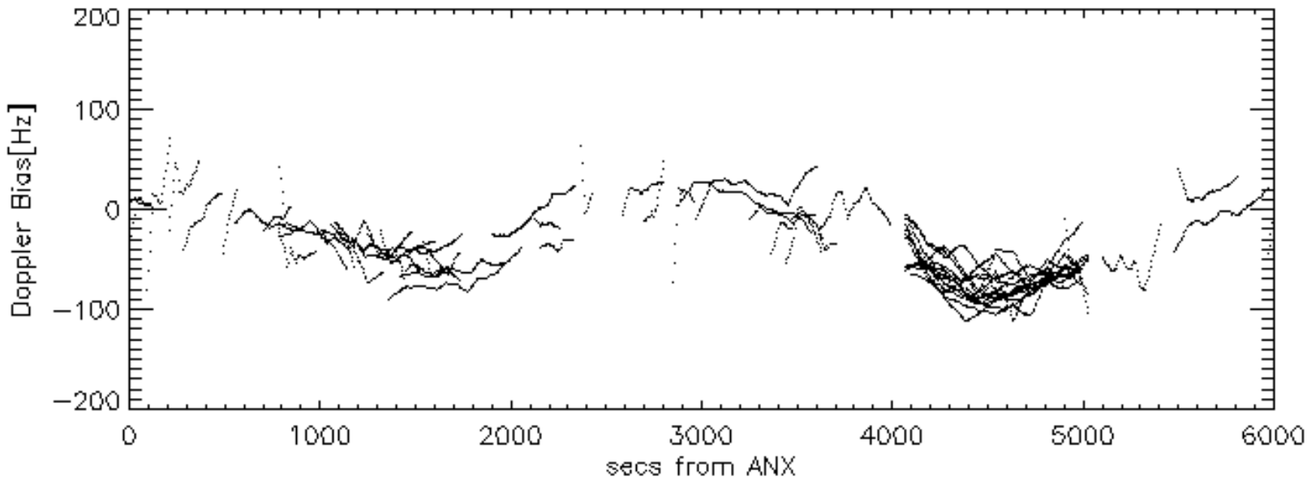

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

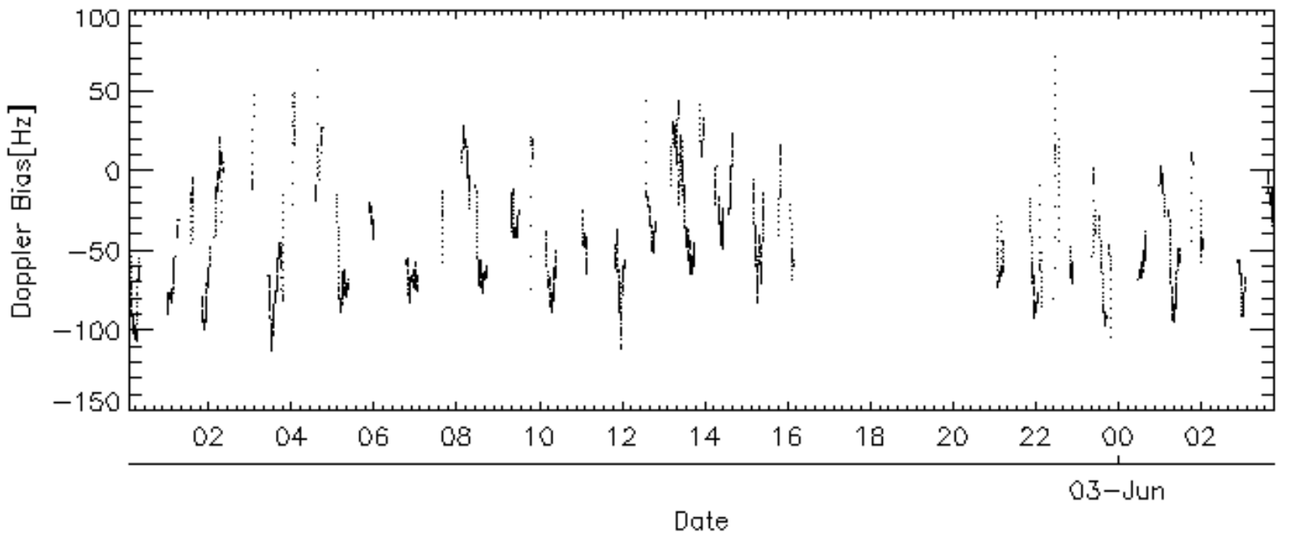

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

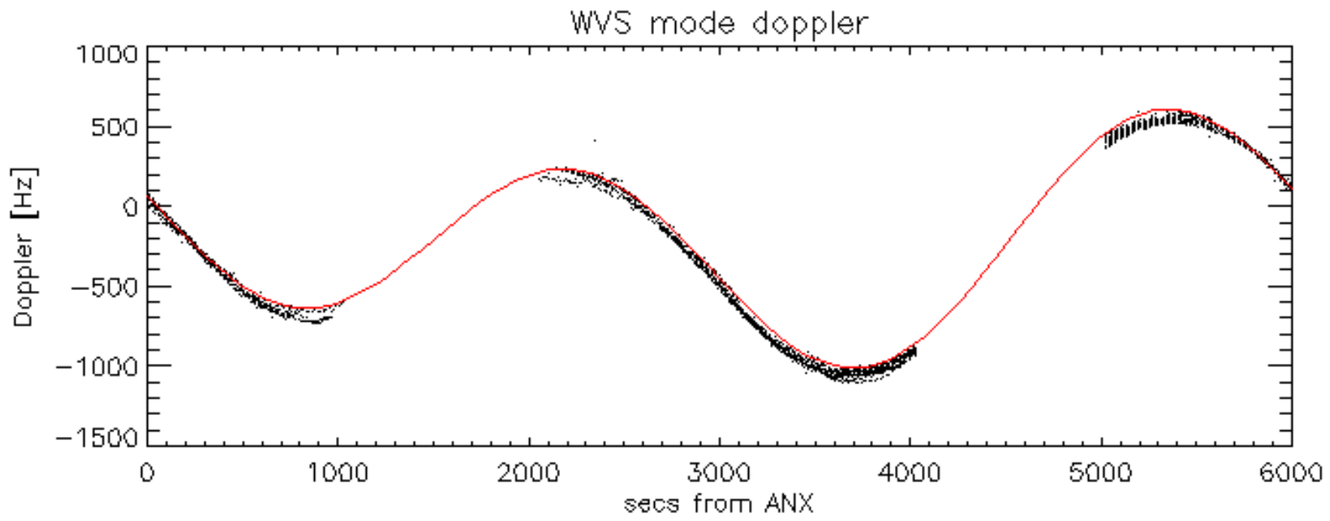

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

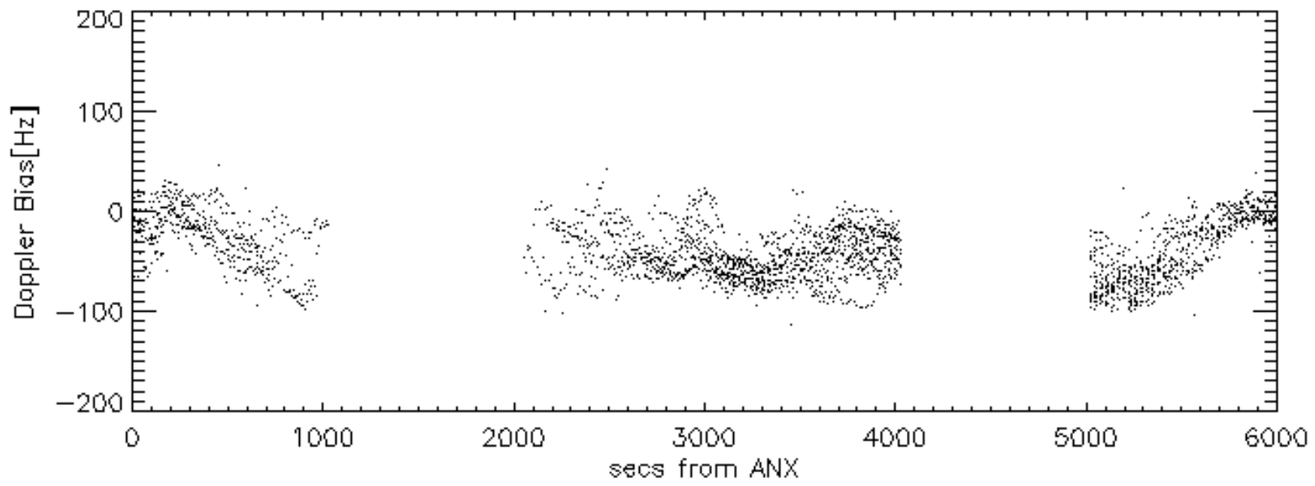

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

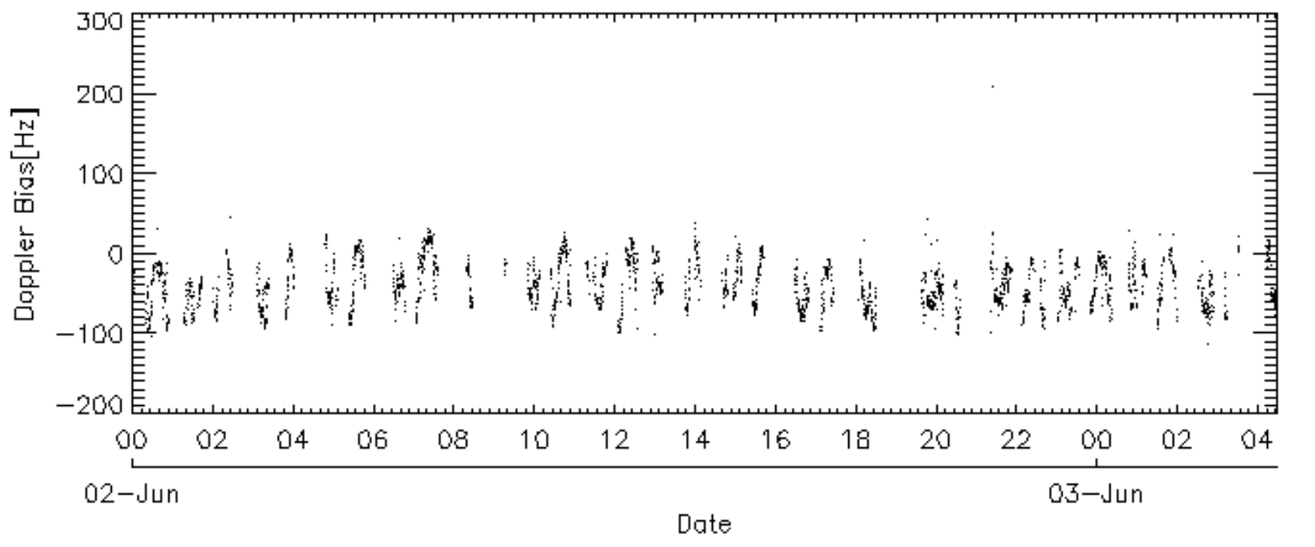

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

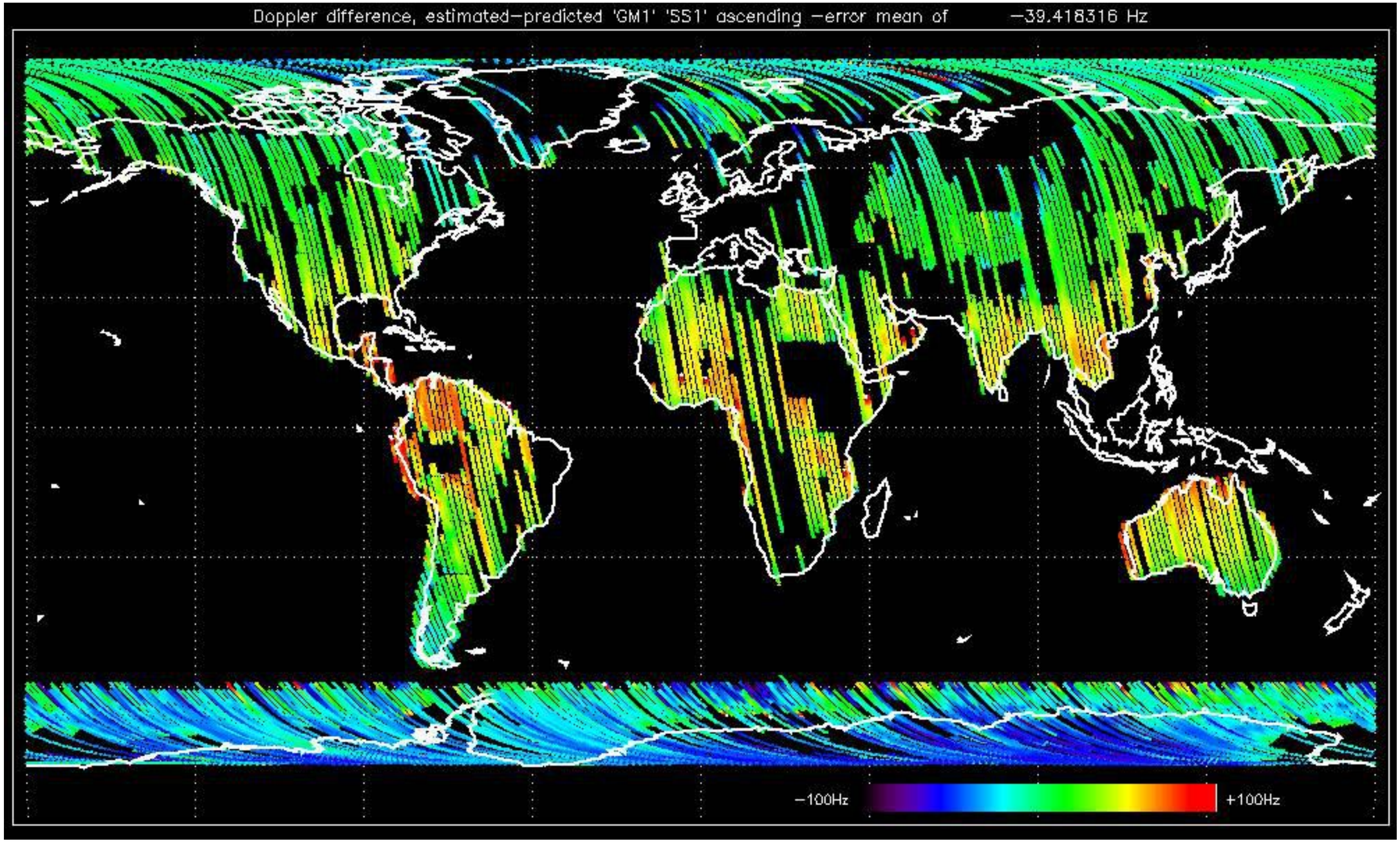

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

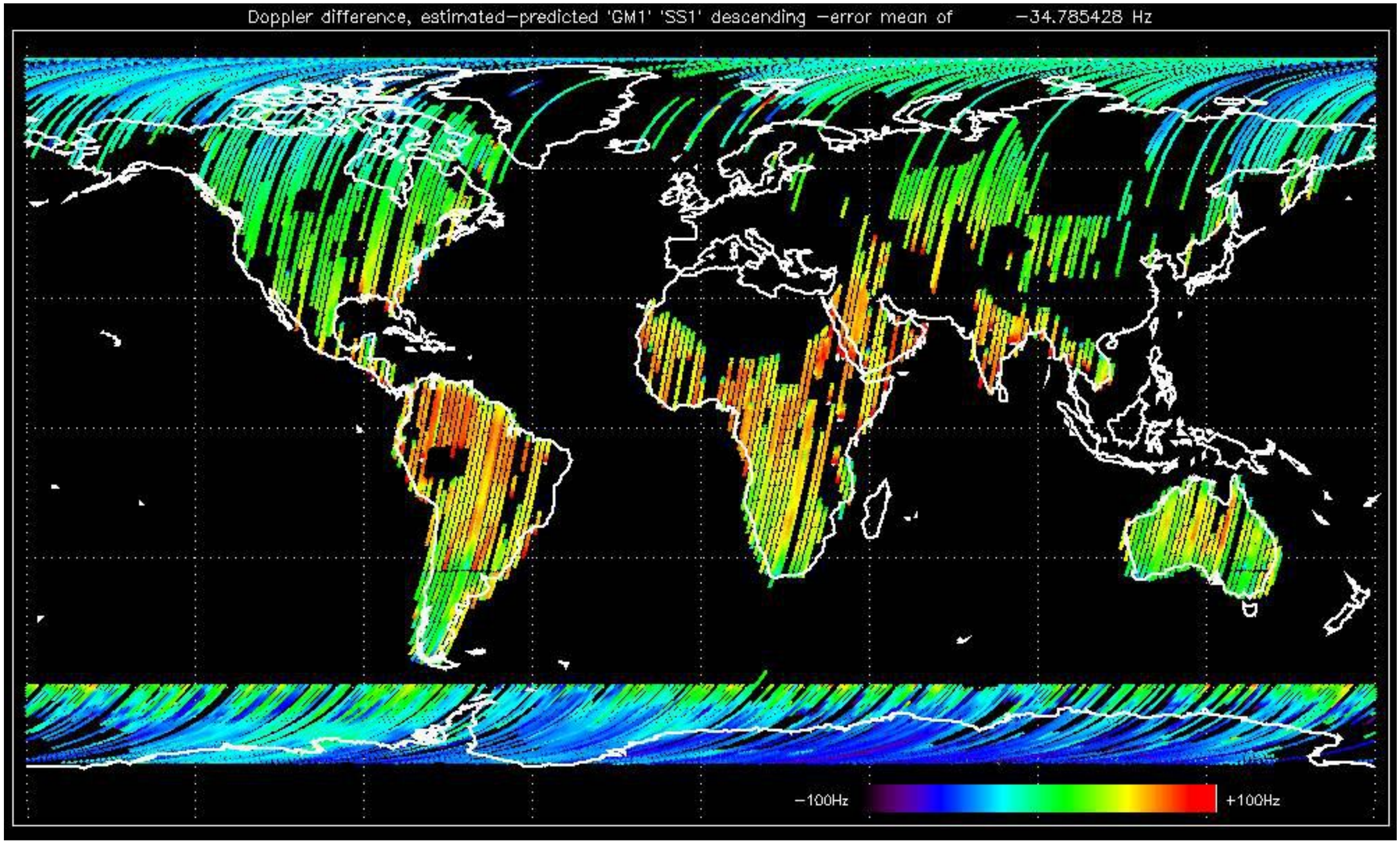

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
03−Jun
Date

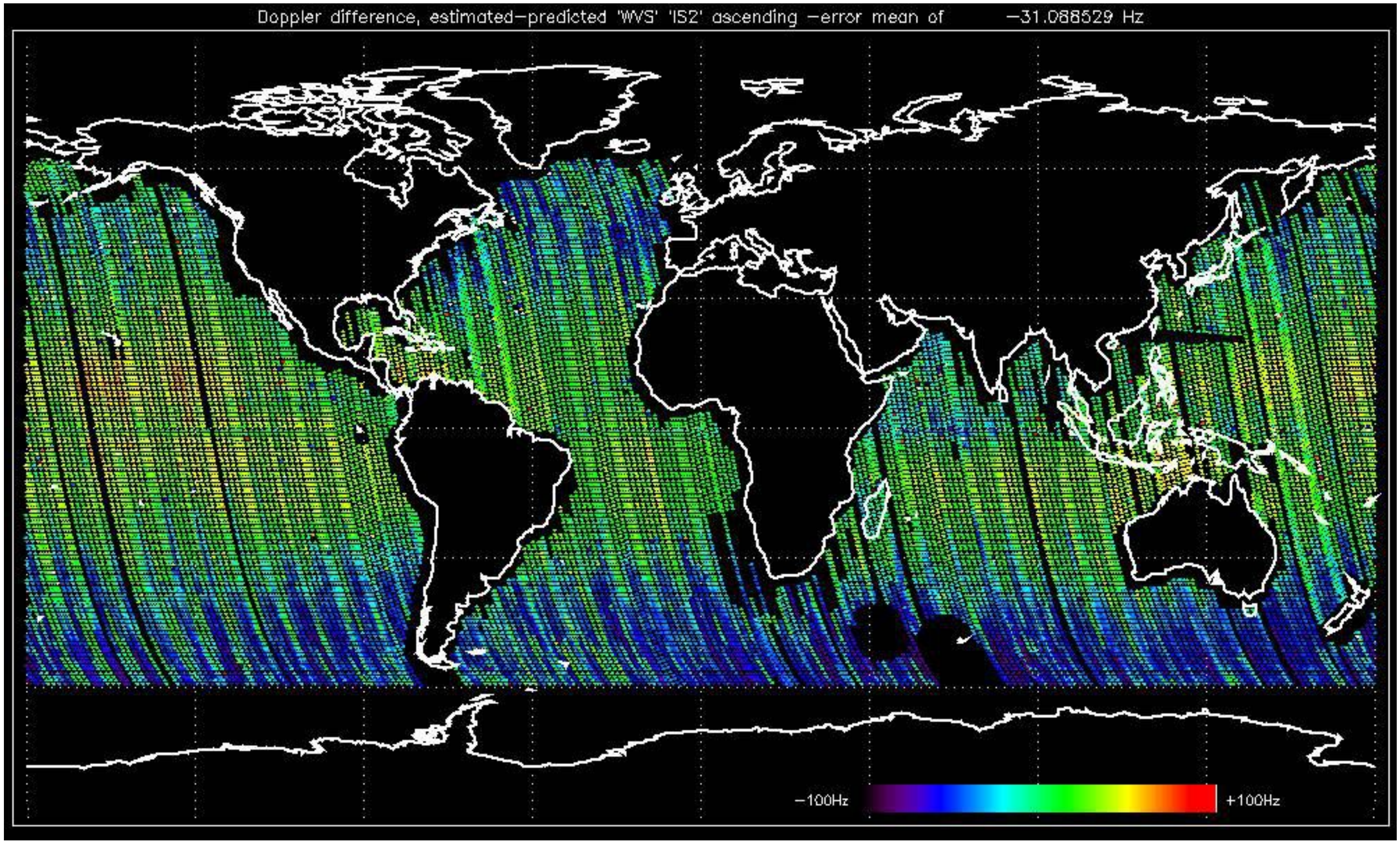

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

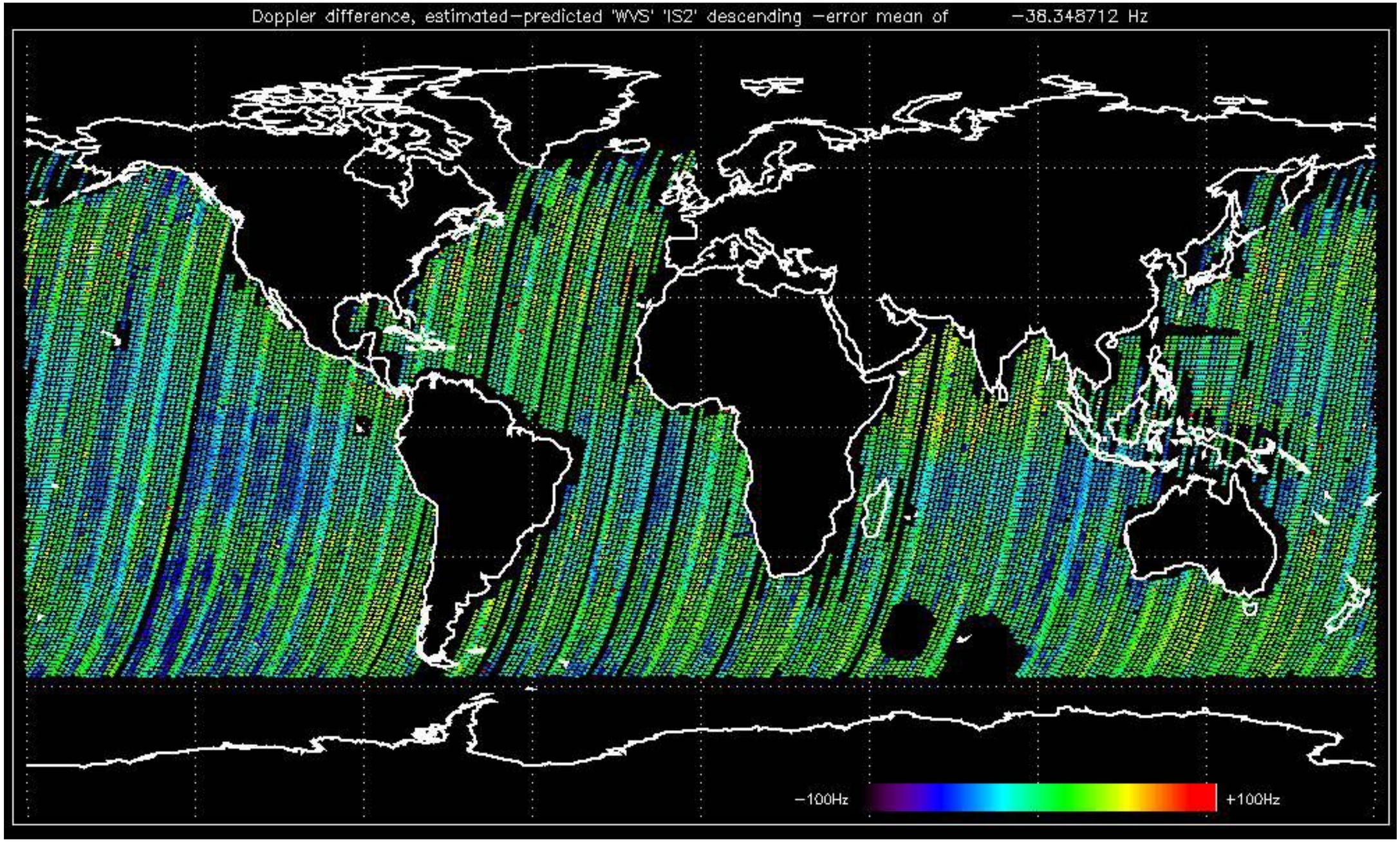

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −39.418316 Hz
−100Hz
+100Hz

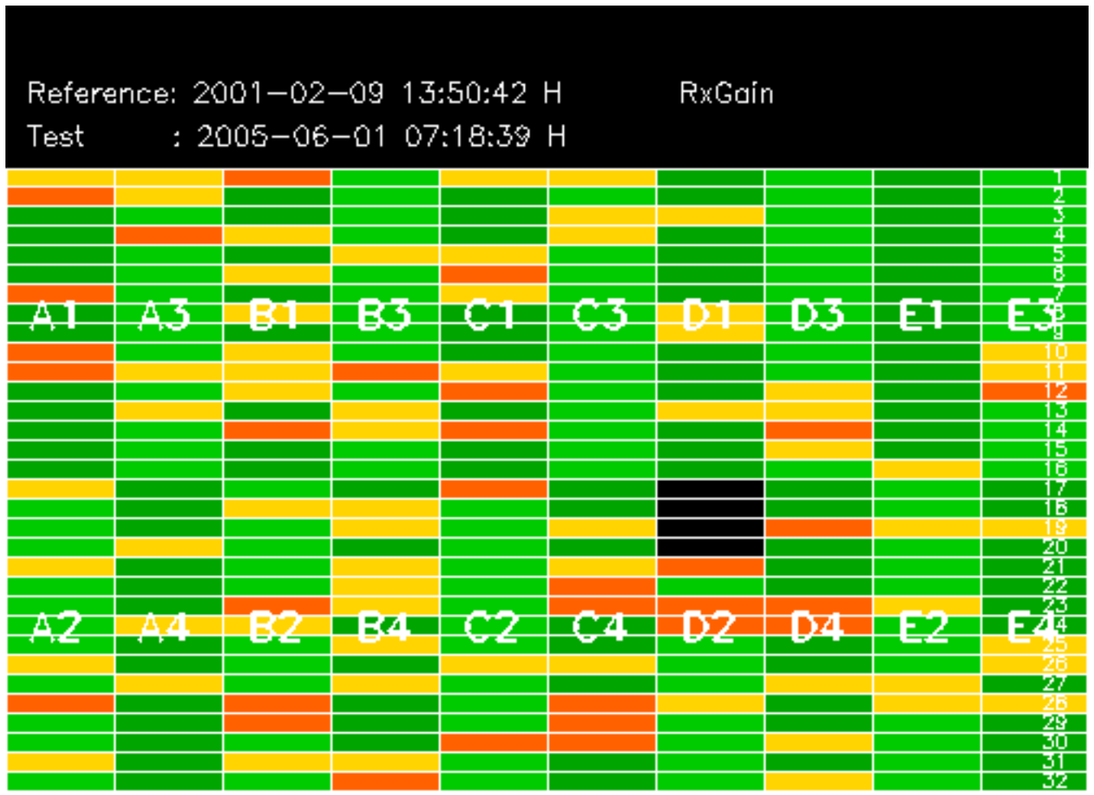

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -34.785428 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −31.088529 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −38.348712 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2005-06-01 07:18:39 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
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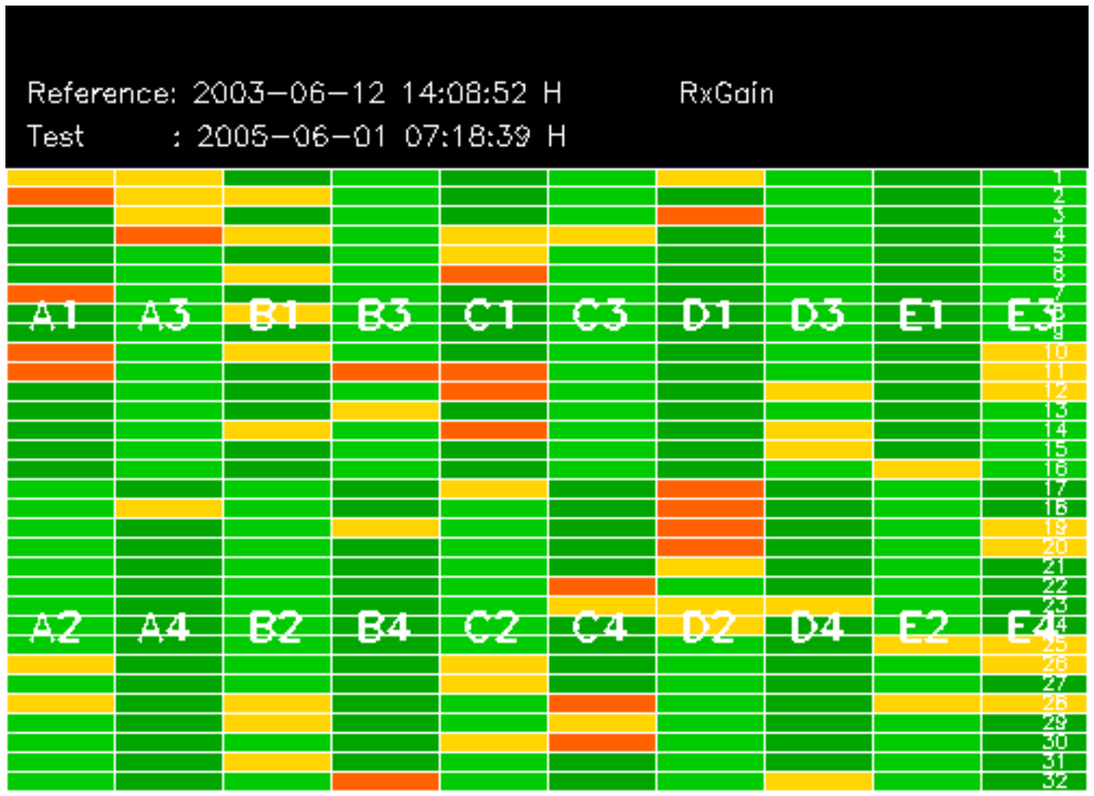
Reference: 2003-06-12 14:08:52 H
Test : 2005-06-01 07:18:39 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
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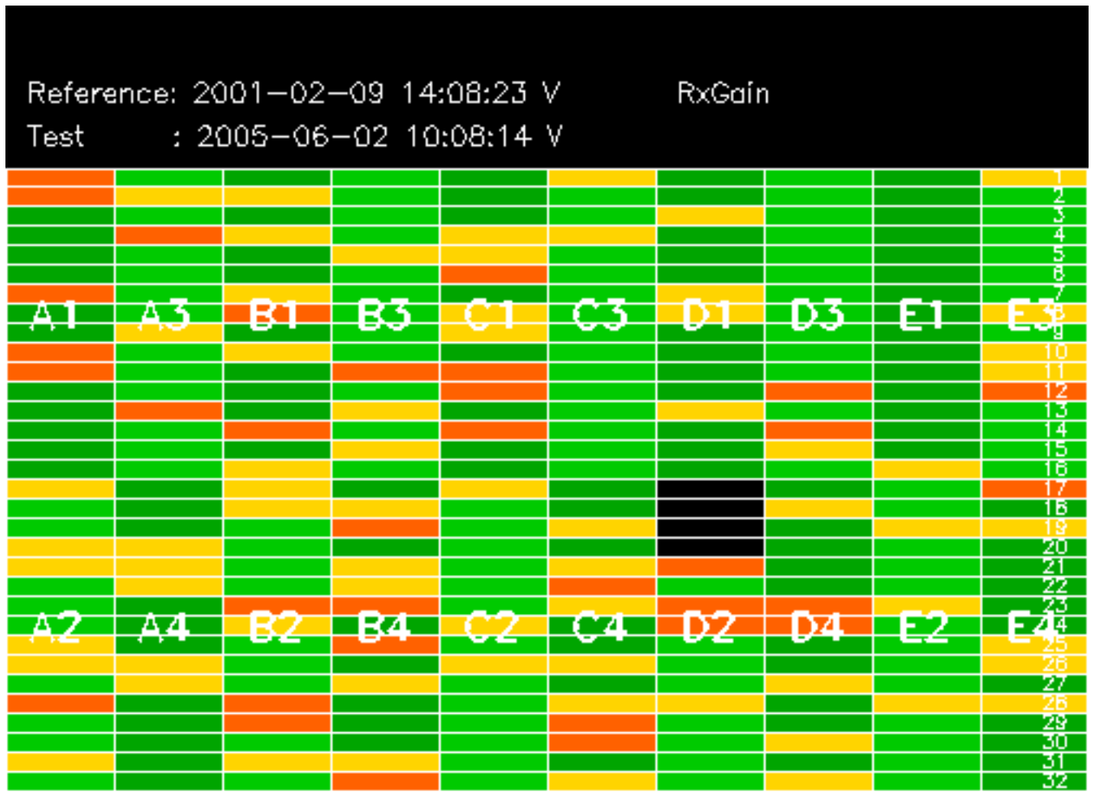
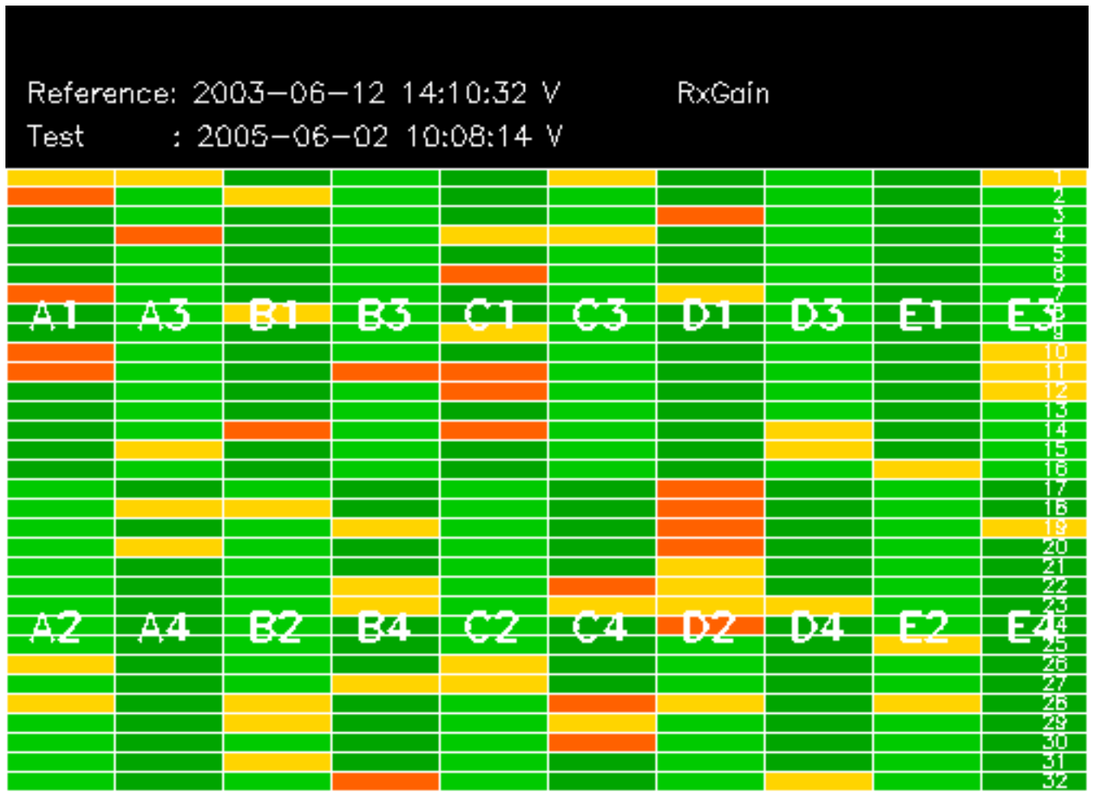
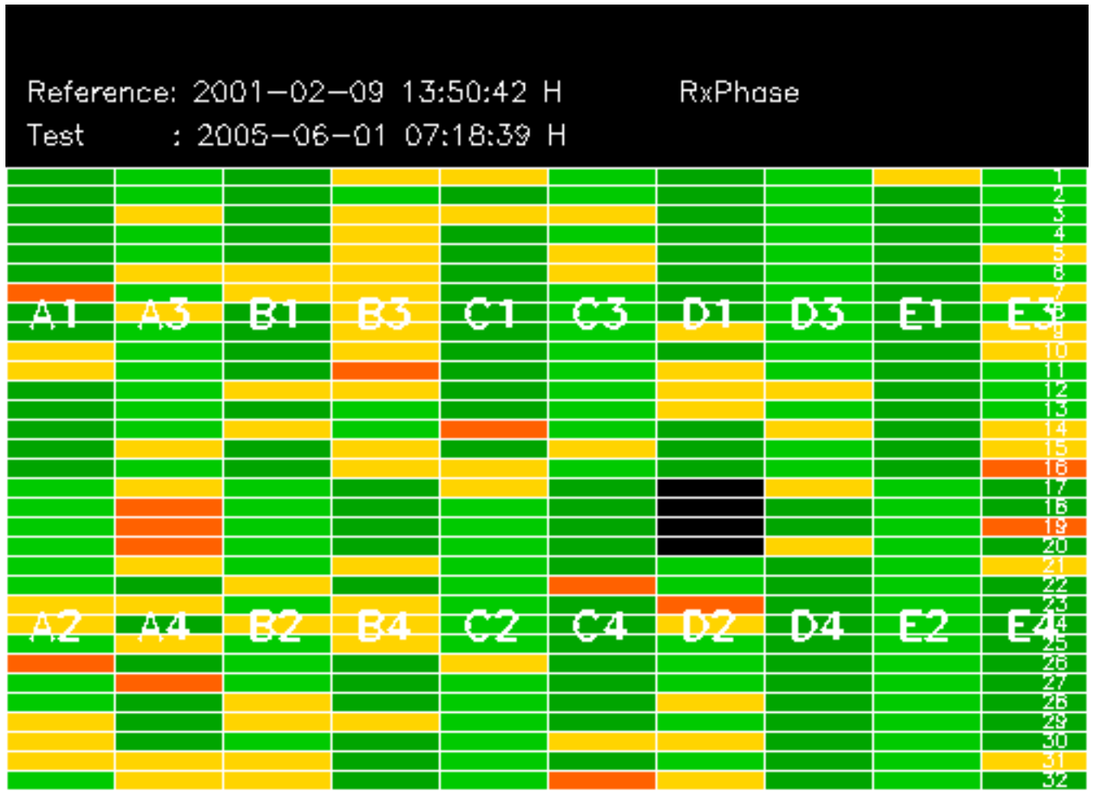

Reference: 2001-02-09 14:08:23 V
Test : 2005-06-02 10:08:14 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-06-02 10:08:14 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-06-01 07:18:39 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 : 2005-06-01 07:18:39 H
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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30
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2005-06-02 10:08:14 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
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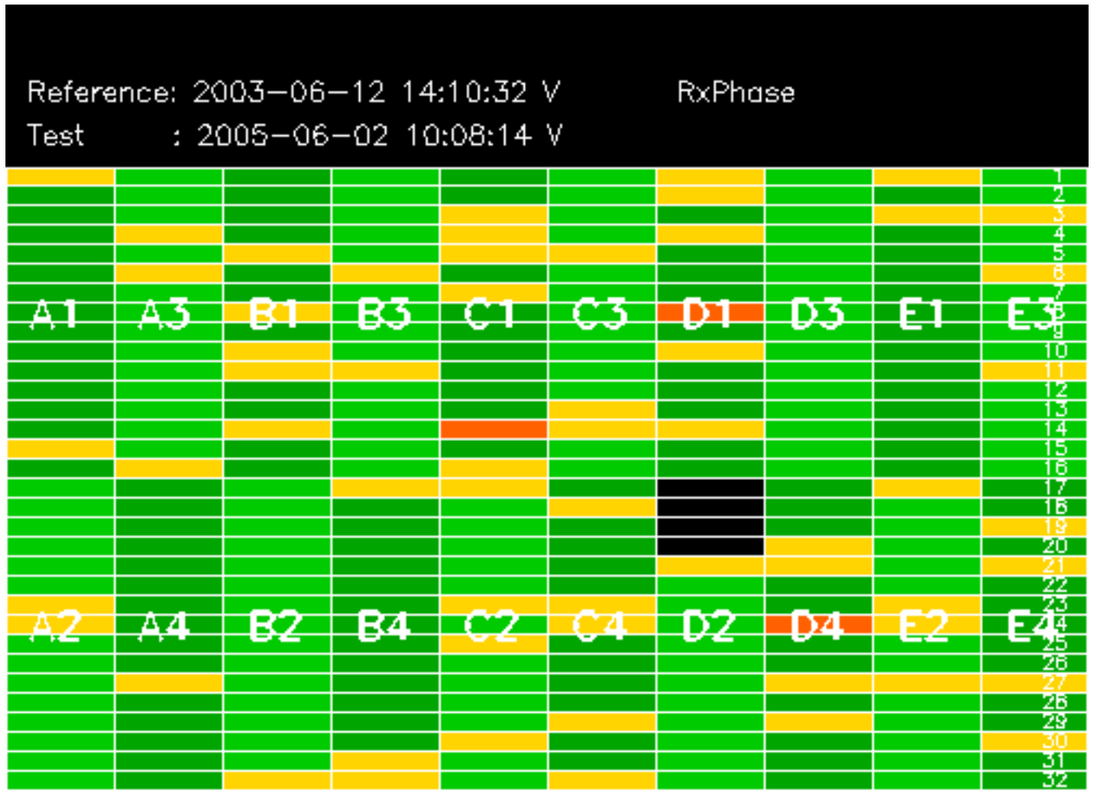
Reference: 2003-06-12 14:10:32 V
Test : 2005-06-02 10:08:14 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
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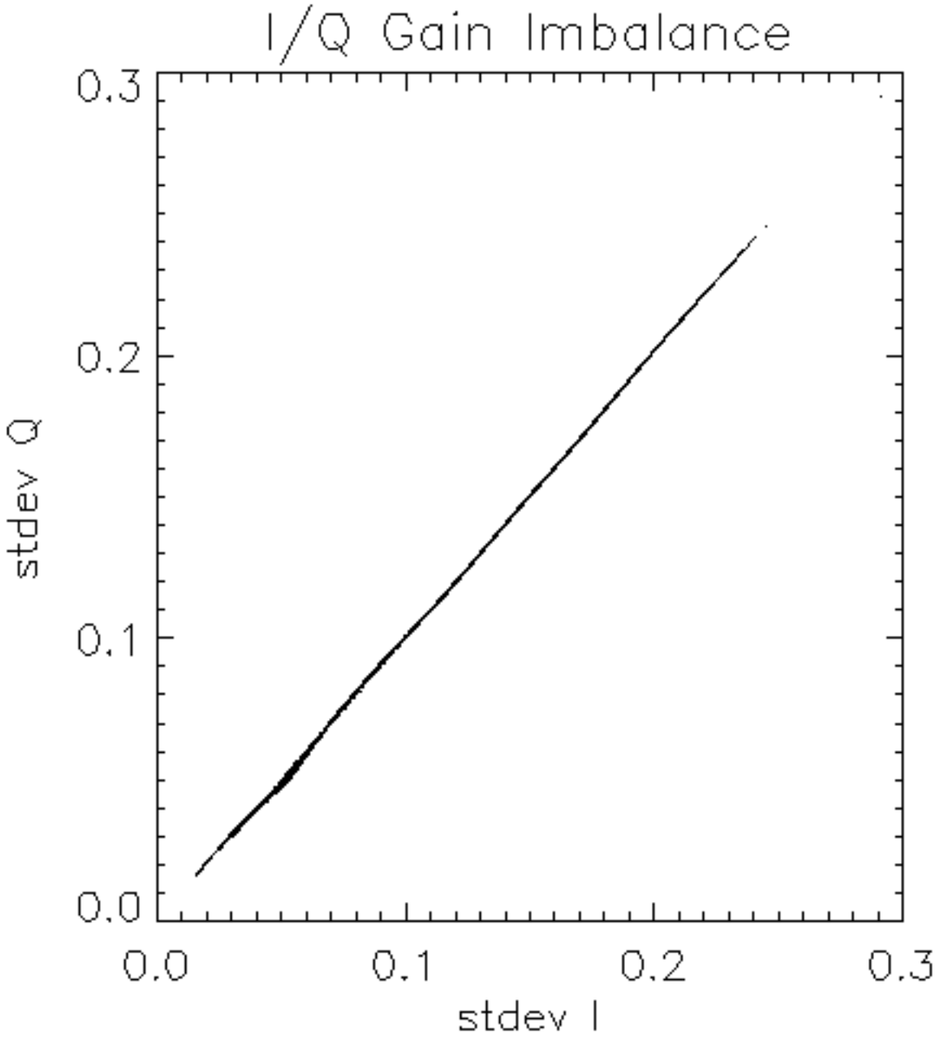
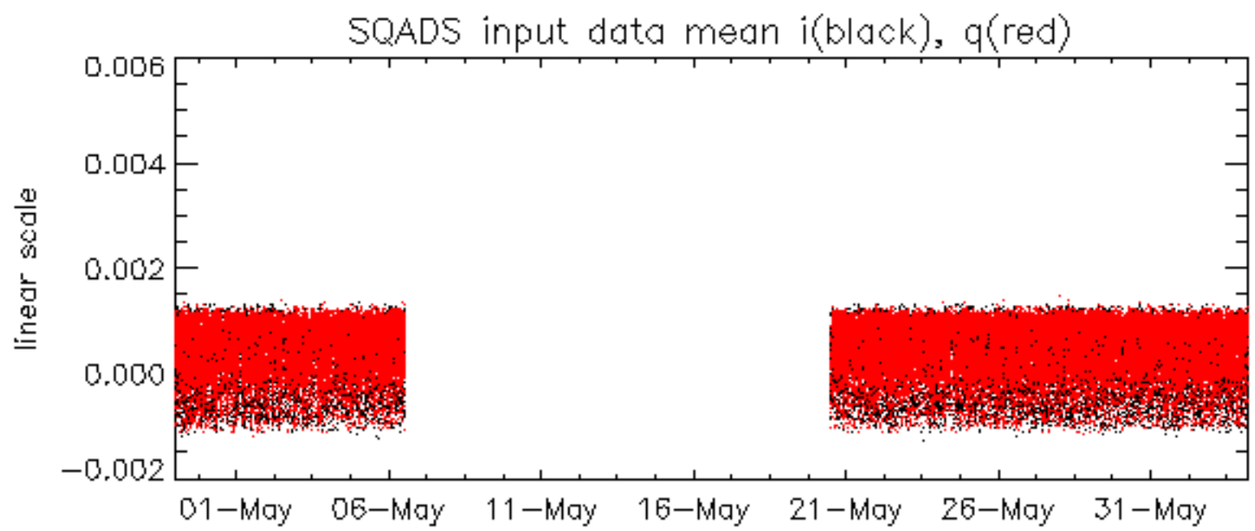
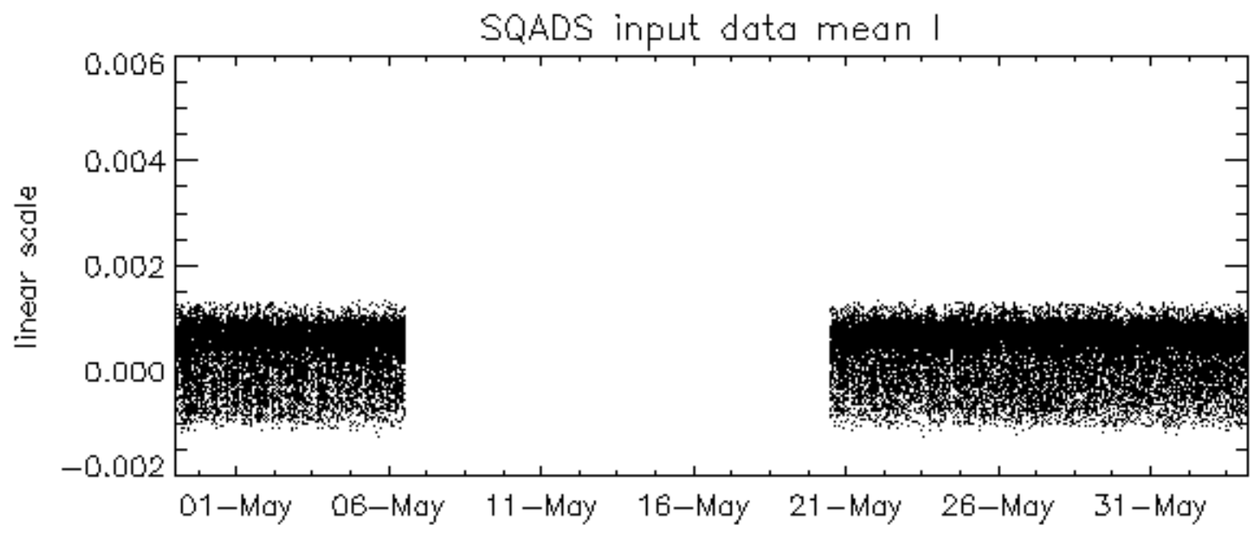
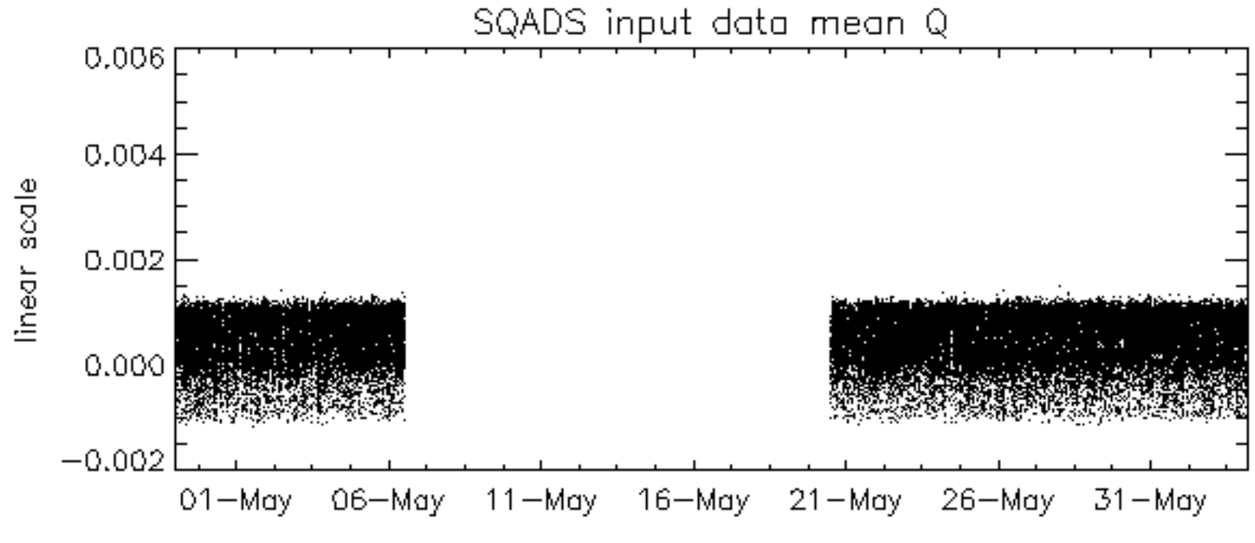
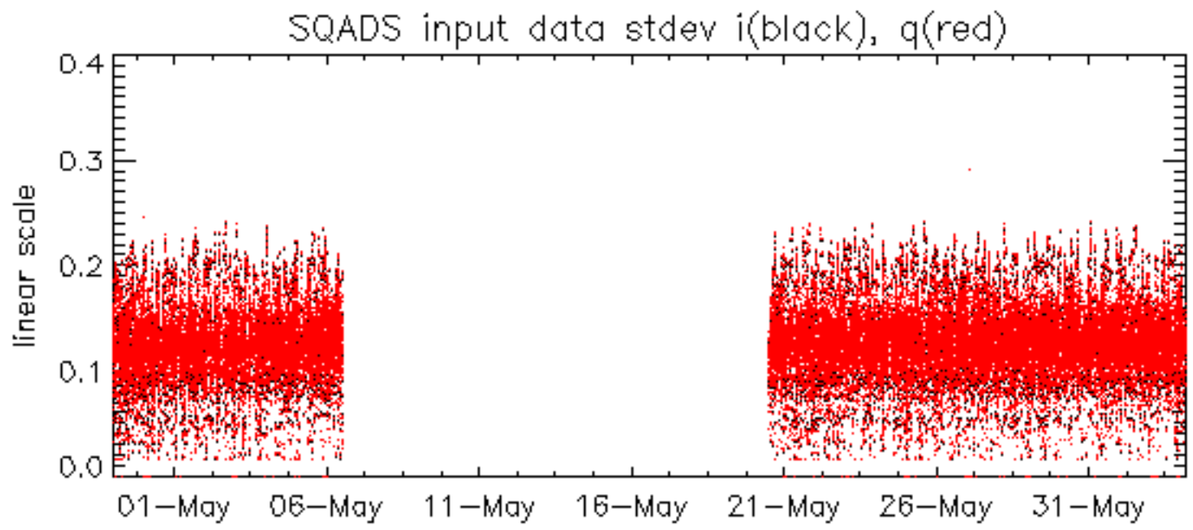
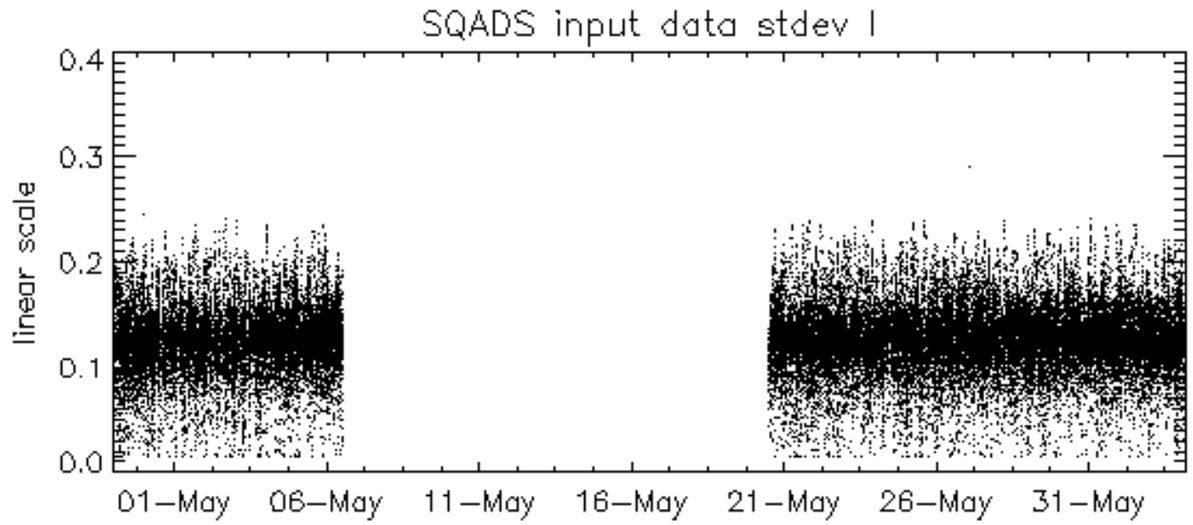

I/Q Gain Imbalance
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
stdev I

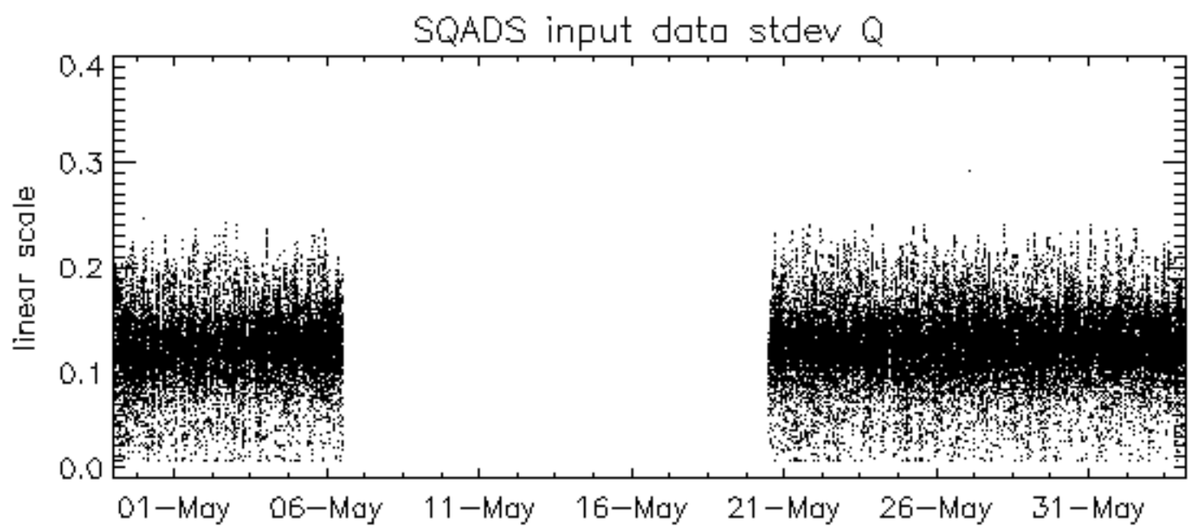

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
01−May
06−May
11−May
16−May
21−May
26−May
31−May

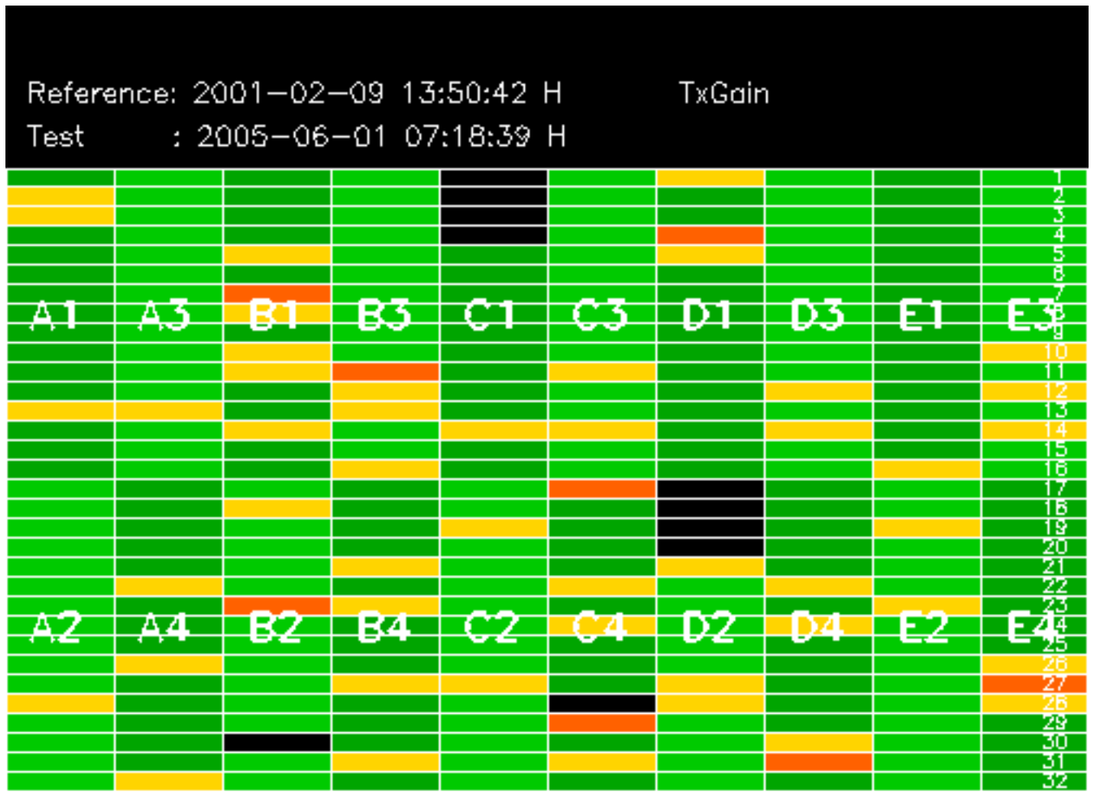

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
01−May
06−May
11−May
16−May
21−May
26−May
31−May


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2005-06-01 07:18:39 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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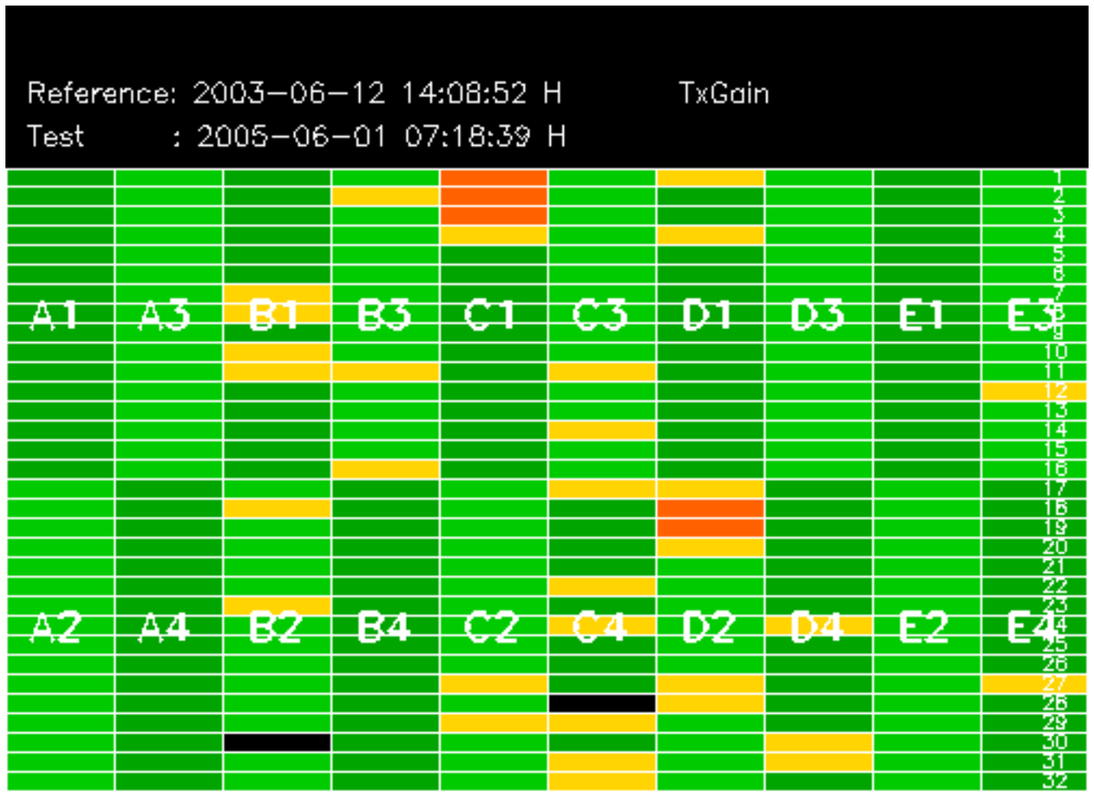
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-06-01 07:18:39 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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26
27
28
29
30
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2005-06-02 10:08:14 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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30
31
32


Reference: 2003-06-12 14:10:32 V
Test : 2005-06-02 10:08:14 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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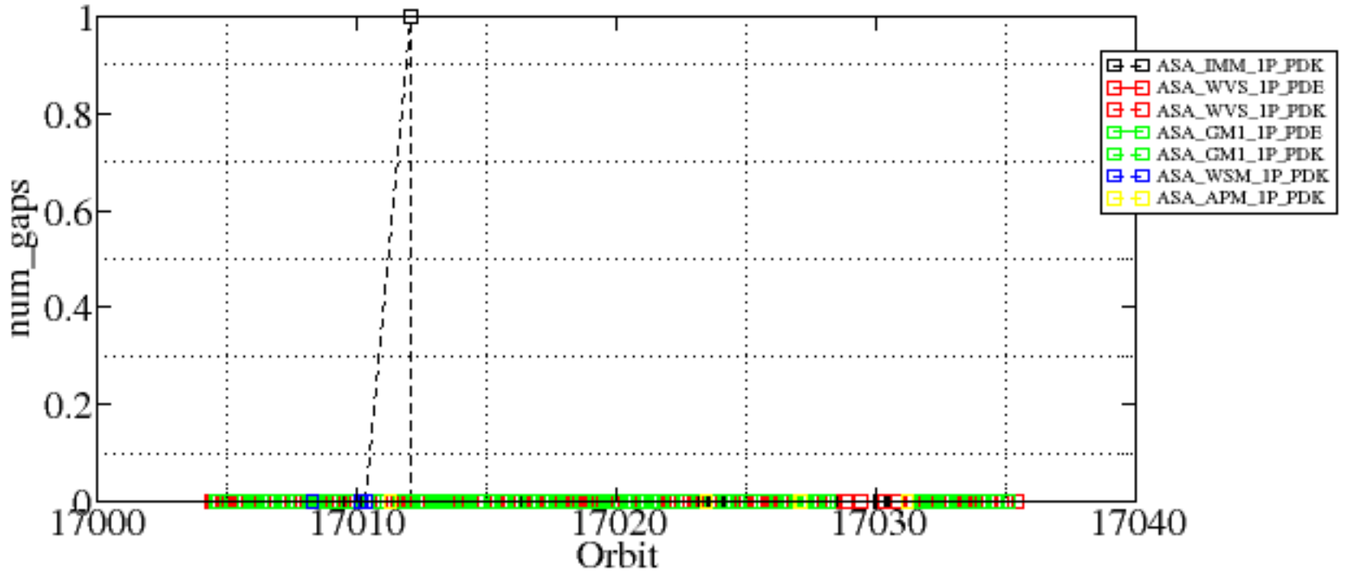
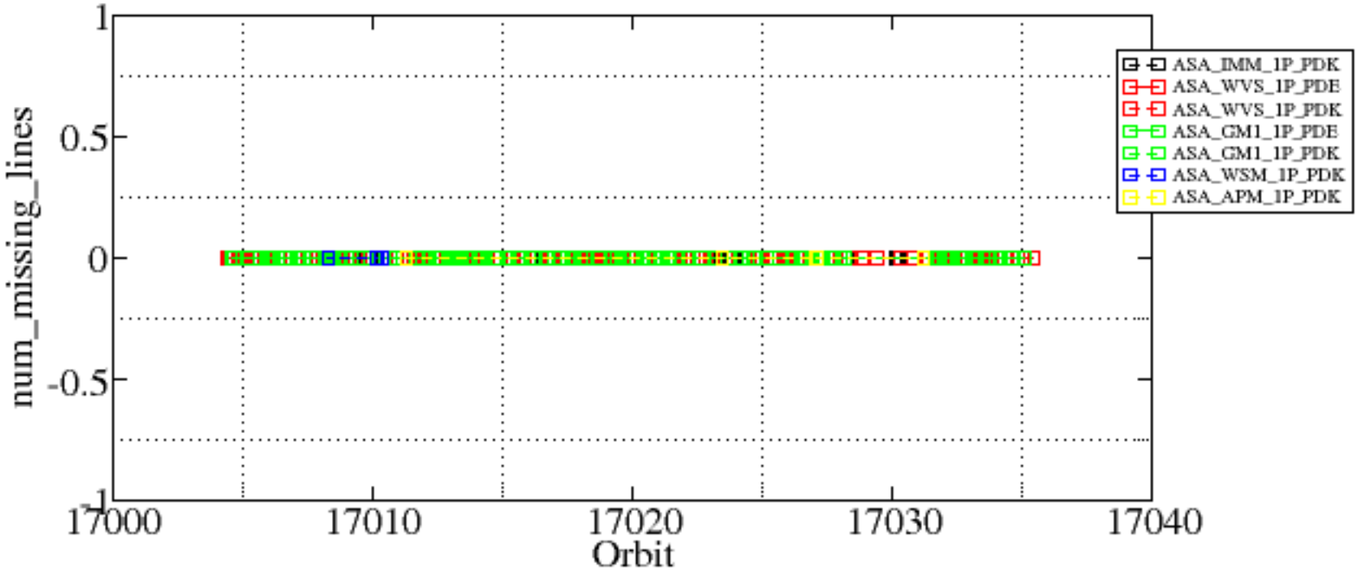
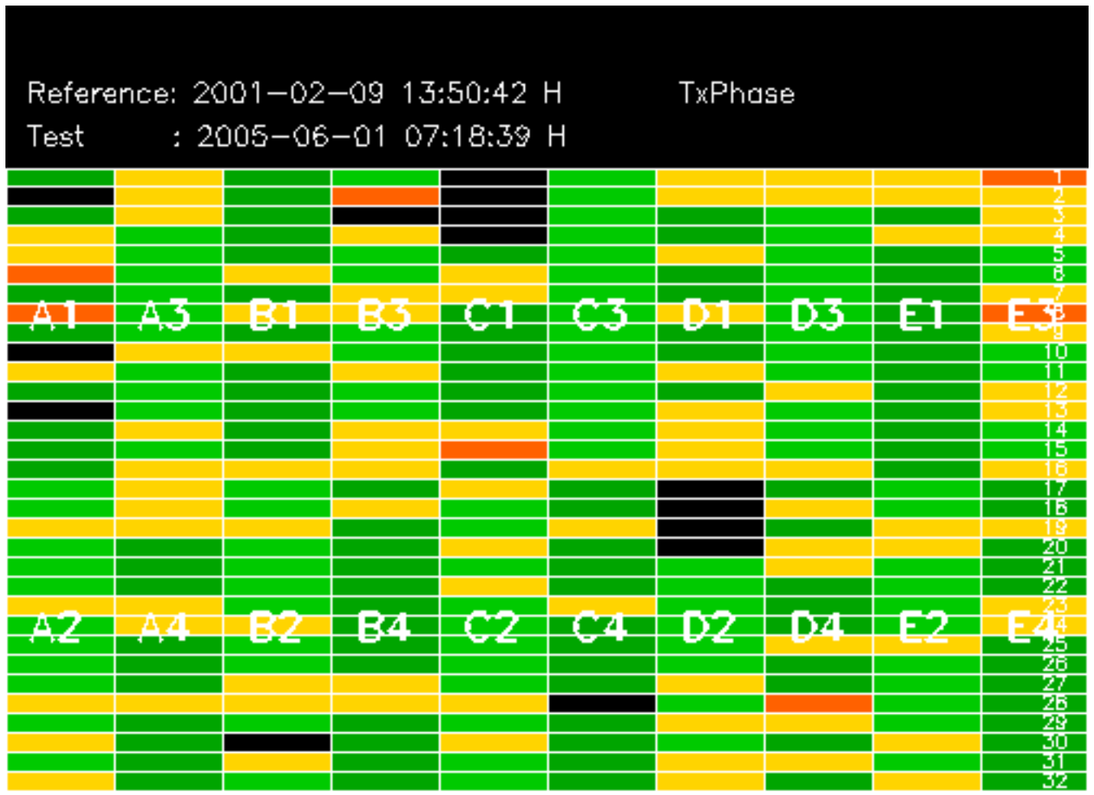
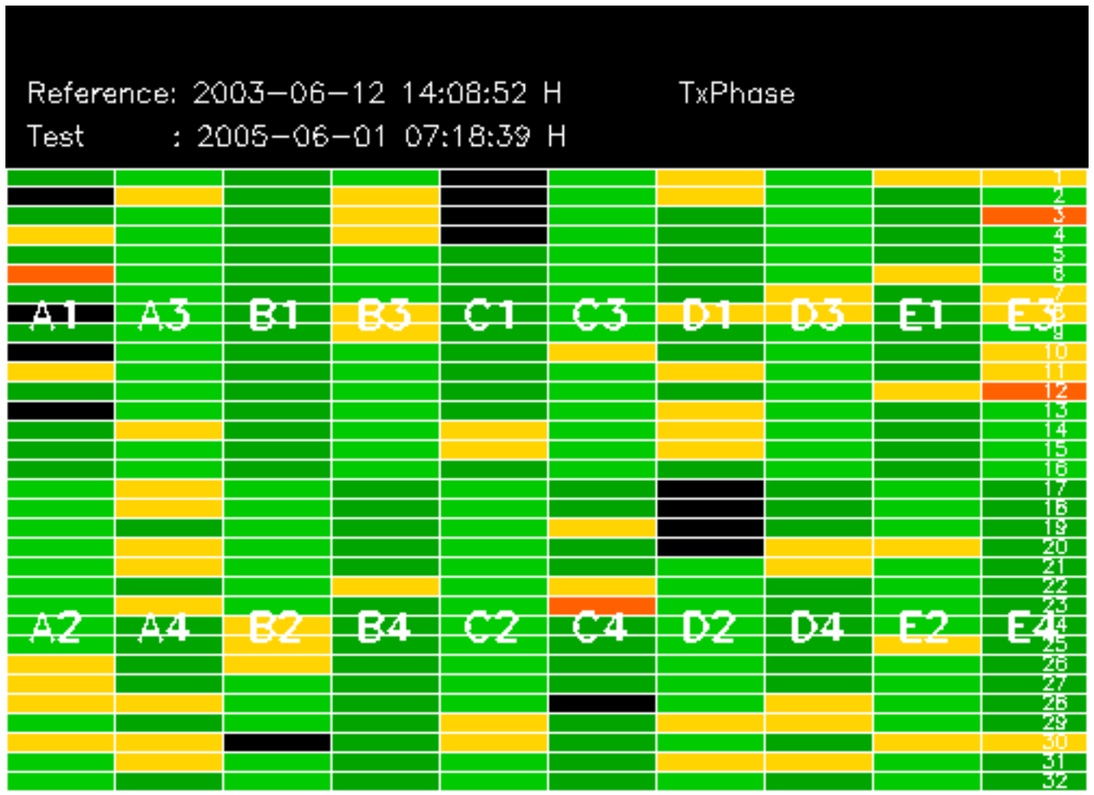
31
32

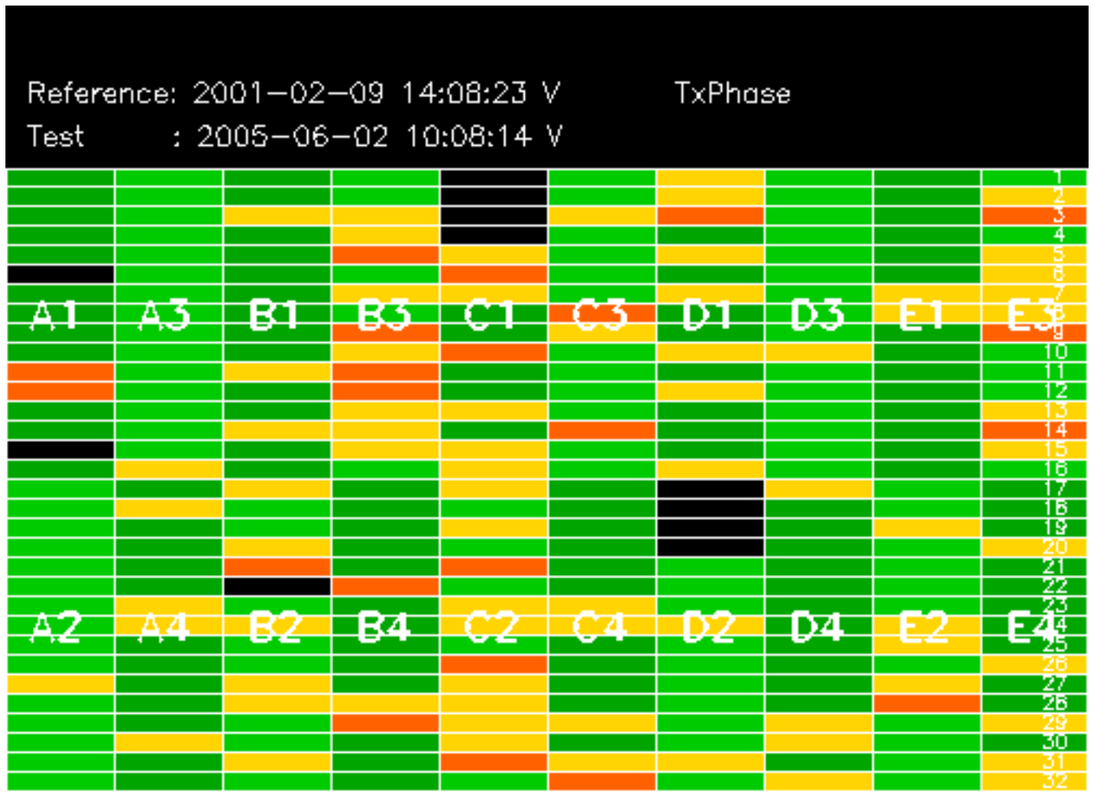
Summary of analysis for the last 3 days 2005060[123]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename   </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_IMM_1PNPDK20050601_130215_000000622037_00425_17012_5602.N1 </td> <td>1   </td> <td>0   </td></tr>
</table>


num_gaps
1
0.8
0.6
0.4
0.2
0
17000
17010
17020
17030
17040
Orbit
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDK
ASA_APM_1P_PDK


num_missing_lines
1
0.5
0
-0.5
-1
17000
17010
17020
17030
17040
Orbit
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDK
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2005-06-01 07:18:39 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 : 2005-06-01 07:18:39 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 : 2005-06-02 10:08:14 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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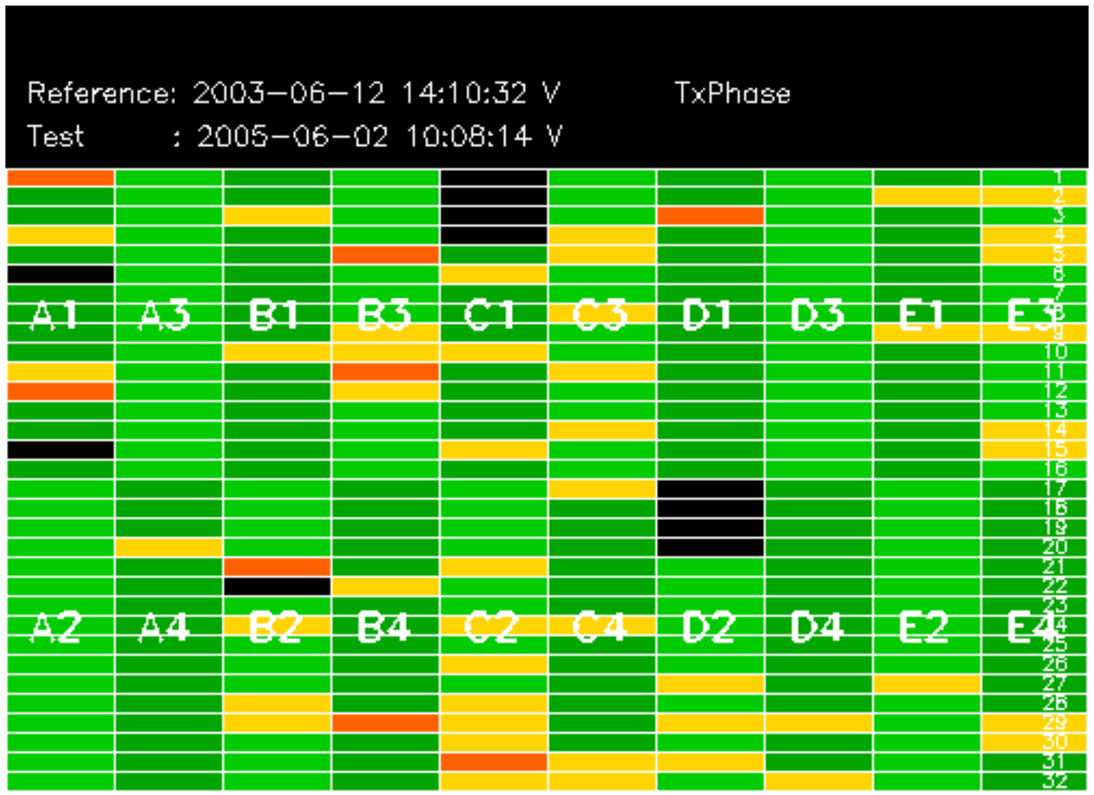
Reference: 2003-06-12 14:10:32 V
Test : 2005-06-02 10:08:14 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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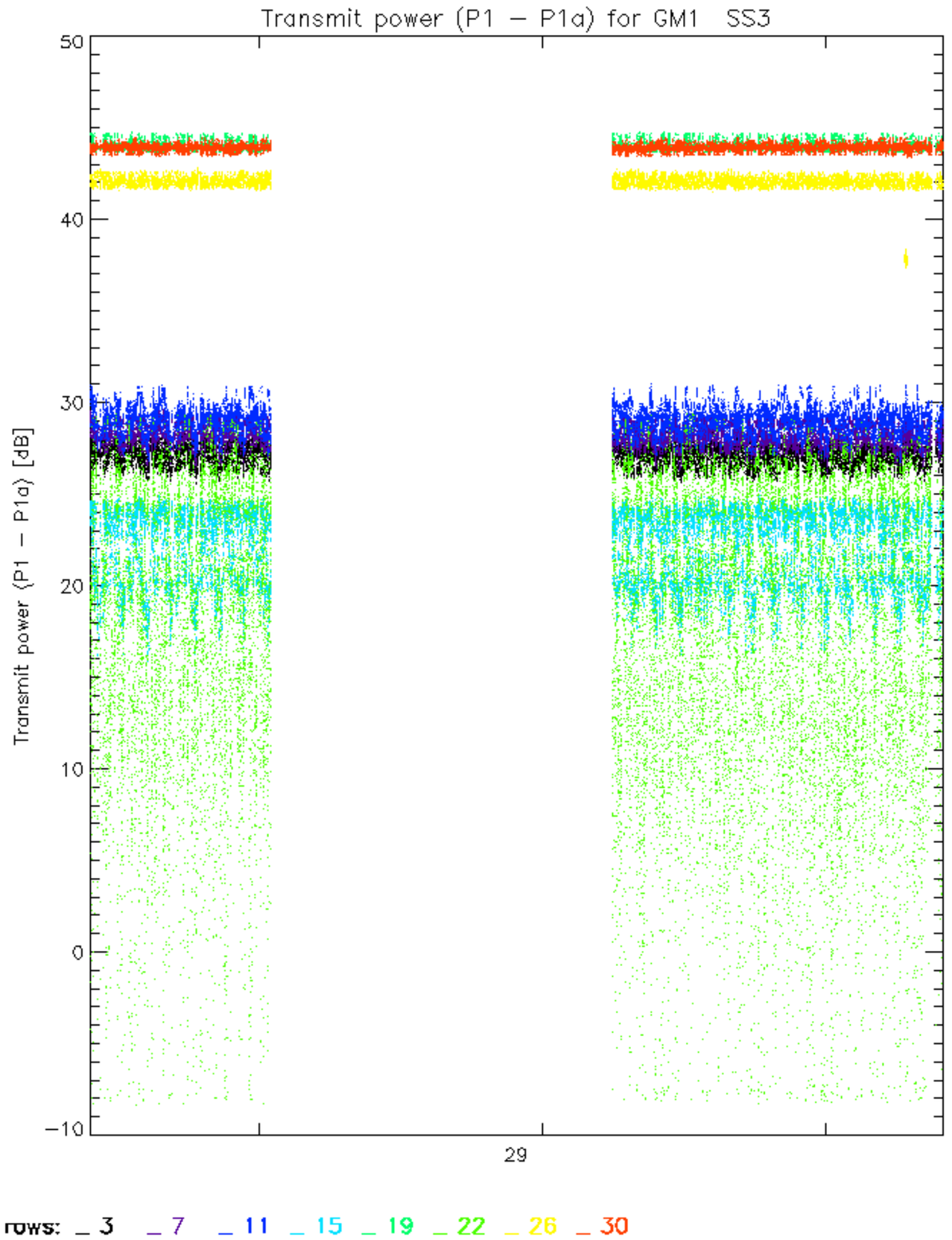
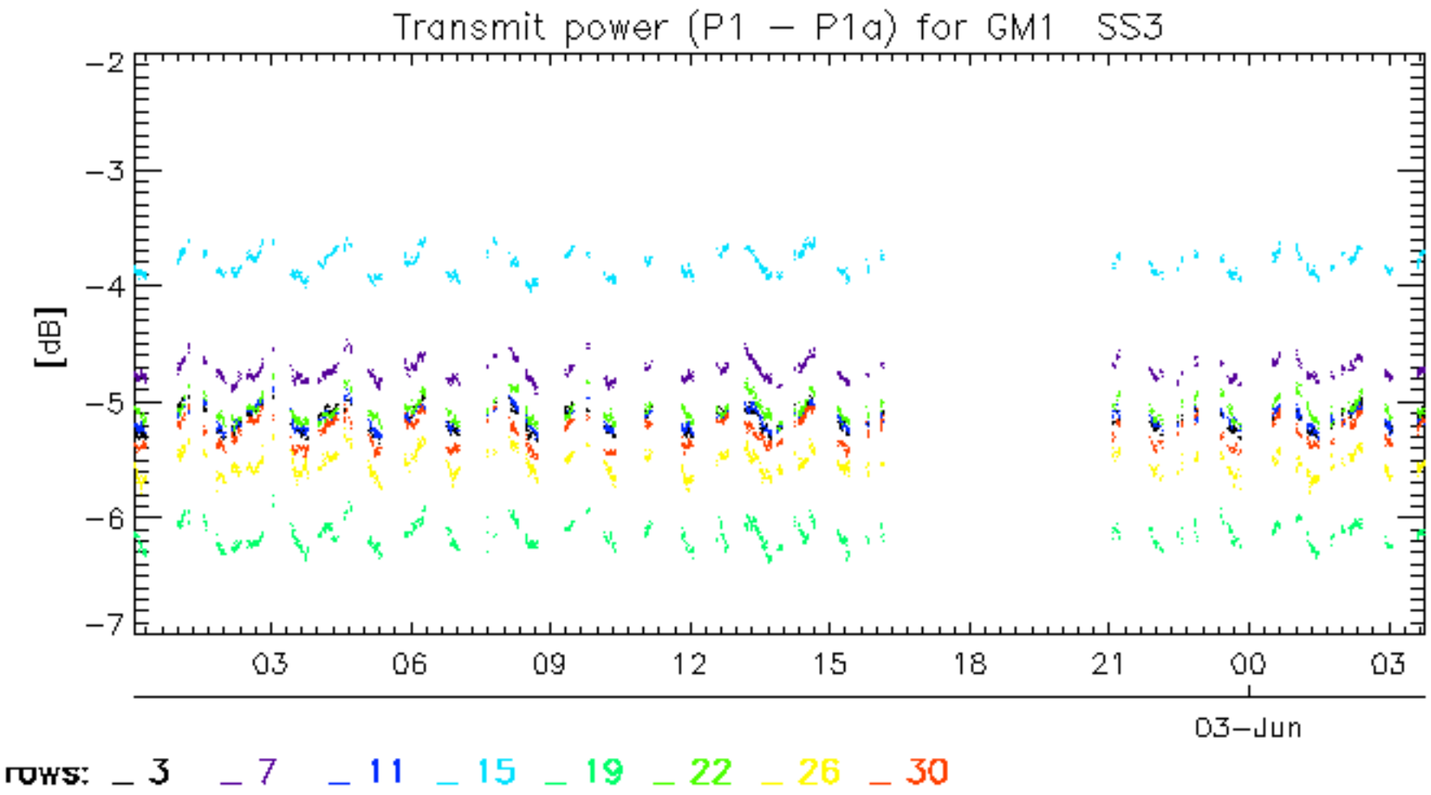
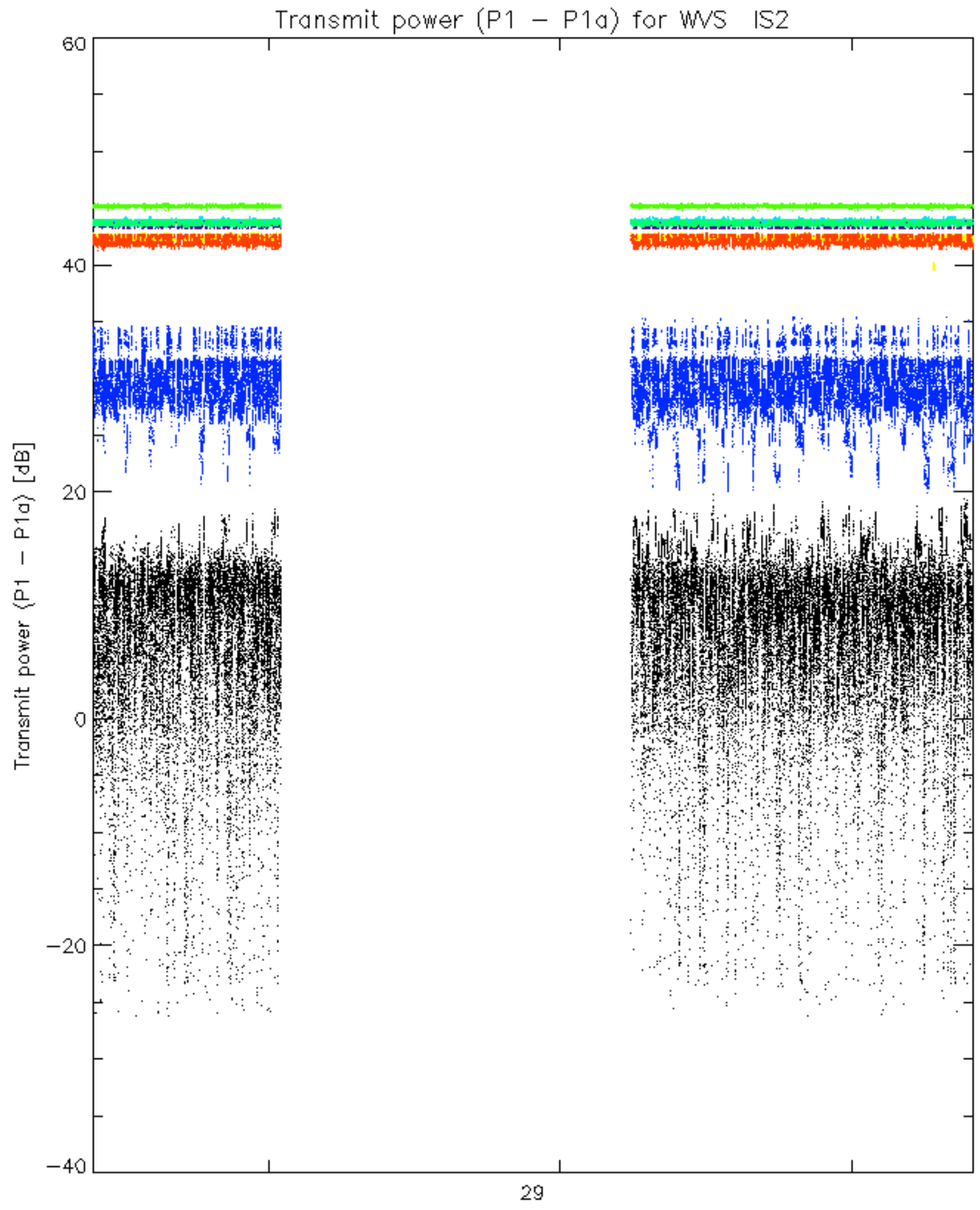
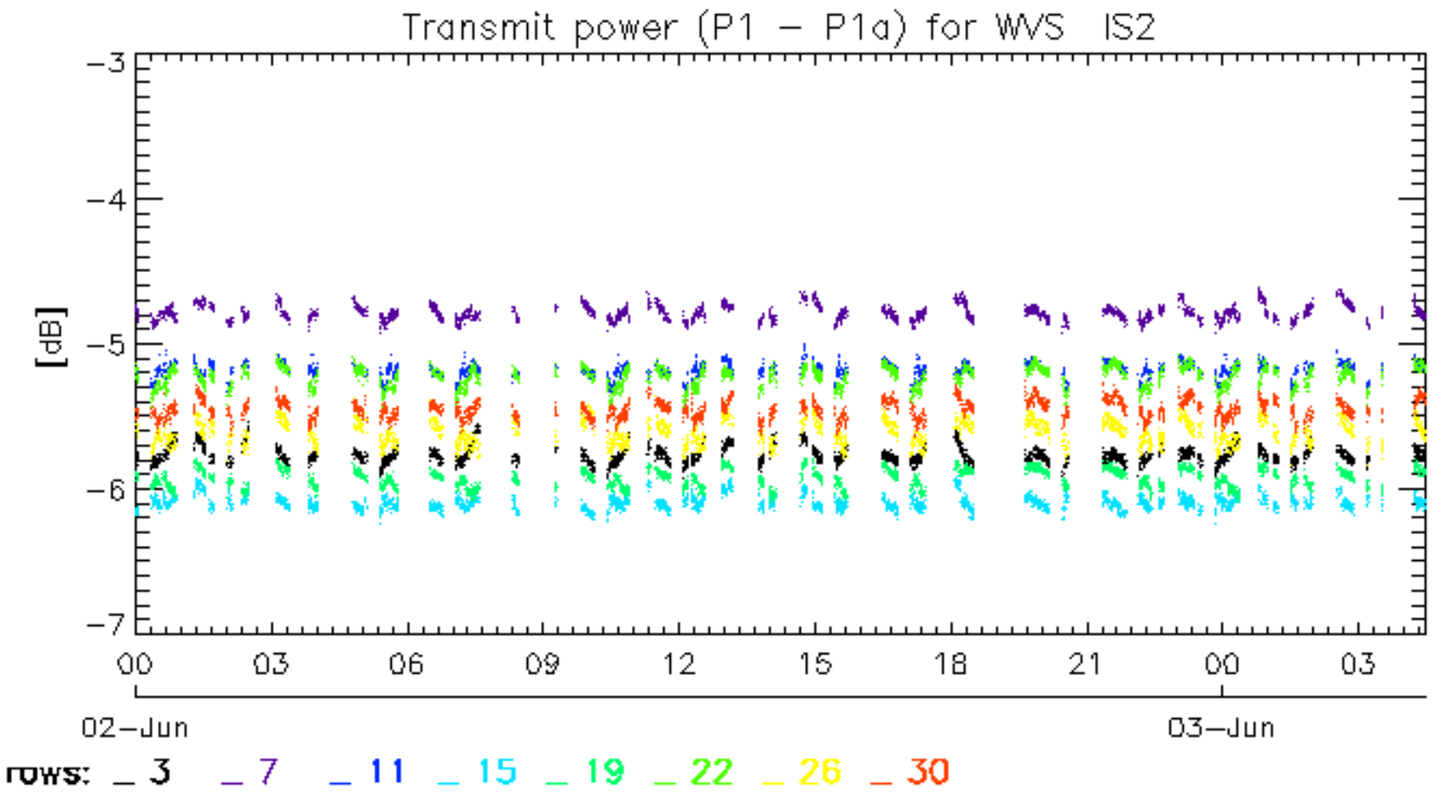

Transmit power (P1 – P1a) for GM1 SS3
Transmit power ⟨P1 – P1a⟩ [dB]
50
40
30
20
10
0
−10
29
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
03–Jun
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
29
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
[dB]
−3
−4
−5
−6
−7
00
03
06
09
12
15
18
21
00
03
02–Jun
03–Jun
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.