PRELIMINARY REPORT OF 050705

last update on Tue Jul 5 10:55:26 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 2005-07-04 00:00:00 to 2005-07-05 10:55:26

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	18	39	5	1	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	18	39	5	1	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	18	39	5	1	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	18	39	5	1	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	23	26	0	0	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	23	26	0	0	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	23	26	0	0	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	23	26	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	20050703 053220
H	20050702 060357

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
☒

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	-3.328587	0.007717	0.013462
7	P1	-3.144172	0.014736	0.022268
11	P1	-4.642062	0.034561	-0.081227
15	P1	-5.512855	0.044102	-0.074598
19	P1	-3.758670	0.004509	-0.037169
22	P1	-4.591361	0.016061	-0.008198
26	P1	-4.842079	0.021100	0.005700
30	P1	-7.157772	0.027095	-0.058065
3	P1	-15.558820	0.108462	-0.050102
7	P1	-15.585242	0.109682	0.112827
11	P1	-21.463314	0.302727	-0.252476
15	P1	-11.288929	0.048427	0.005549
19	P1	-14.444138	0.033756	-0.040011
22	P1	-15.883012	0.343173	0.184491
26	P1	-17.642649	0.365111	0.309422
30	P1	-17.805353	0.221116	0.069580

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.947899	0.082516	0.164719
7	P2	-22.144423	0.102444	0.186700
11	P2	-13.847547	0.098102	0.254076
15	P2	-7.131149	0.090814	0.063636
19	P2	-9.608990	0.090604	0.019957
22	P2	-16.872236	0.090539	0.038582
26	P2	-16.510029	0.091820	0.004884
30	P2	-18.789022	0.078143	0.006435

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.162416	0.002824	0.010852
7	P3	-8.162416	0.002824	0.010852
11	P3	-8.162416	0.002824	0.010852
15	P3	-8.162416	0.002824	0.010852
19	P3	-8.162416	0.002824	0.010852
22	P3	-8.162416	0.002824	0.010852
26	P3	-8.162416	0.002824	0.010852
30	P3	-8.162416	0.002824	0.010852

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	-2.795558	0.014209	0.031432
7	P1	-2.947637	0.029639	-0.052623
11	P1	-3.974499	0.017912	-0.045127
15	P1	-3.538982	0.024129	-0.043362
19	P1	-3.646653	0.016036	-0.012273
22	P1	-5.640358	0.046142	-0.037868
26	P1	-7.319712	0.034310	-0.085090
30	P1	-6.294635	0.045597	0.018084
3	P1	-10.832047	0.042639	0.021478
7	P1	-10.411743	0.161648	-0.137028
11	P1	-12.572911	0.113586	-0.051594
15	P1	-11.612192	0.081368	-0.035620
19	P1	-15.623404	0.064001	0.026541
22	P1	-26.074167	3.188760	0.421916
26	P1	-15.561624	0.365557	0.271784
30	P1	-20.212442	1.133111	-0.013457

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.702316	0.049353	0.190393
7	P2	-22.104612	0.038871	0.112321
11	P2	-9.817253	0.061059	0.201884
15	P2	-5.132415	0.047015	0.015513
19	P2	-6.915851	0.060240	0.032396
22	P2	-7.099813	0.040851	0.041898
26	P2	-23.962126	0.043633	0.006309
30	P2	-21.962795	0.038212	0.005339

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.997561	0.004148	0.003789
7	P3	-7.997497	0.004141	0.003664
11	P3	-7.997705	0.004123	0.003849
15	P3	-7.997564	0.004134	0.003561
19	P3	-7.997594	0.004147	0.003684
22	P3	-7.997581	0.004132	0.003772
26	P3	-7.997677	0.004137	0.003651
30	P3	-7.997627	0.004137	0.003820

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	0.000459033
	stdev	2.15765e-07
MEAN Q	mean	0.000502673
	stdev	2.28242e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127737
	stdev	0.000935835
STDEV Q	mean	0.127965
	stdev	0.000946080

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005070[345]
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_1PNPDK20050703_125925_000001752038_00382_17470_1169.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

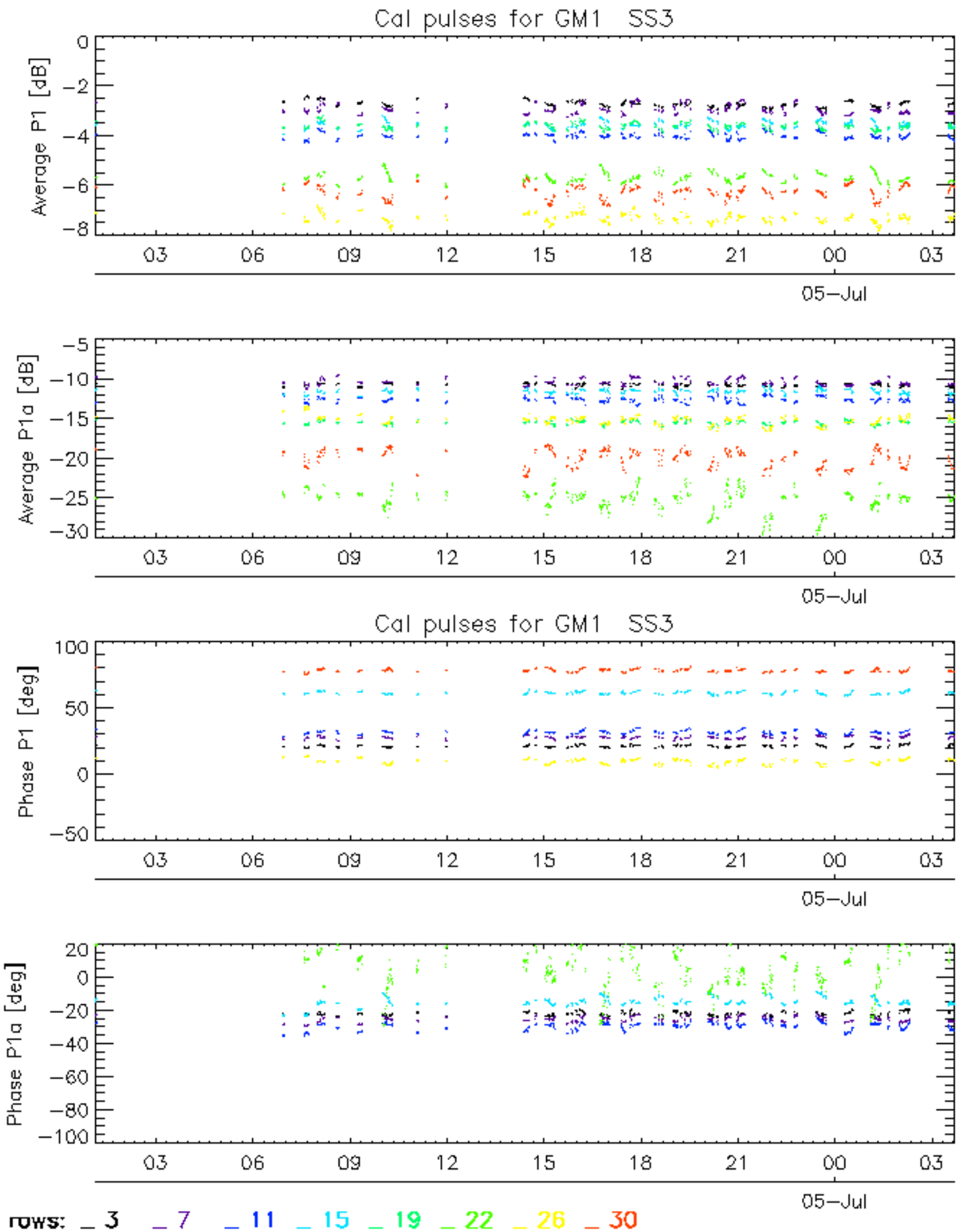
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

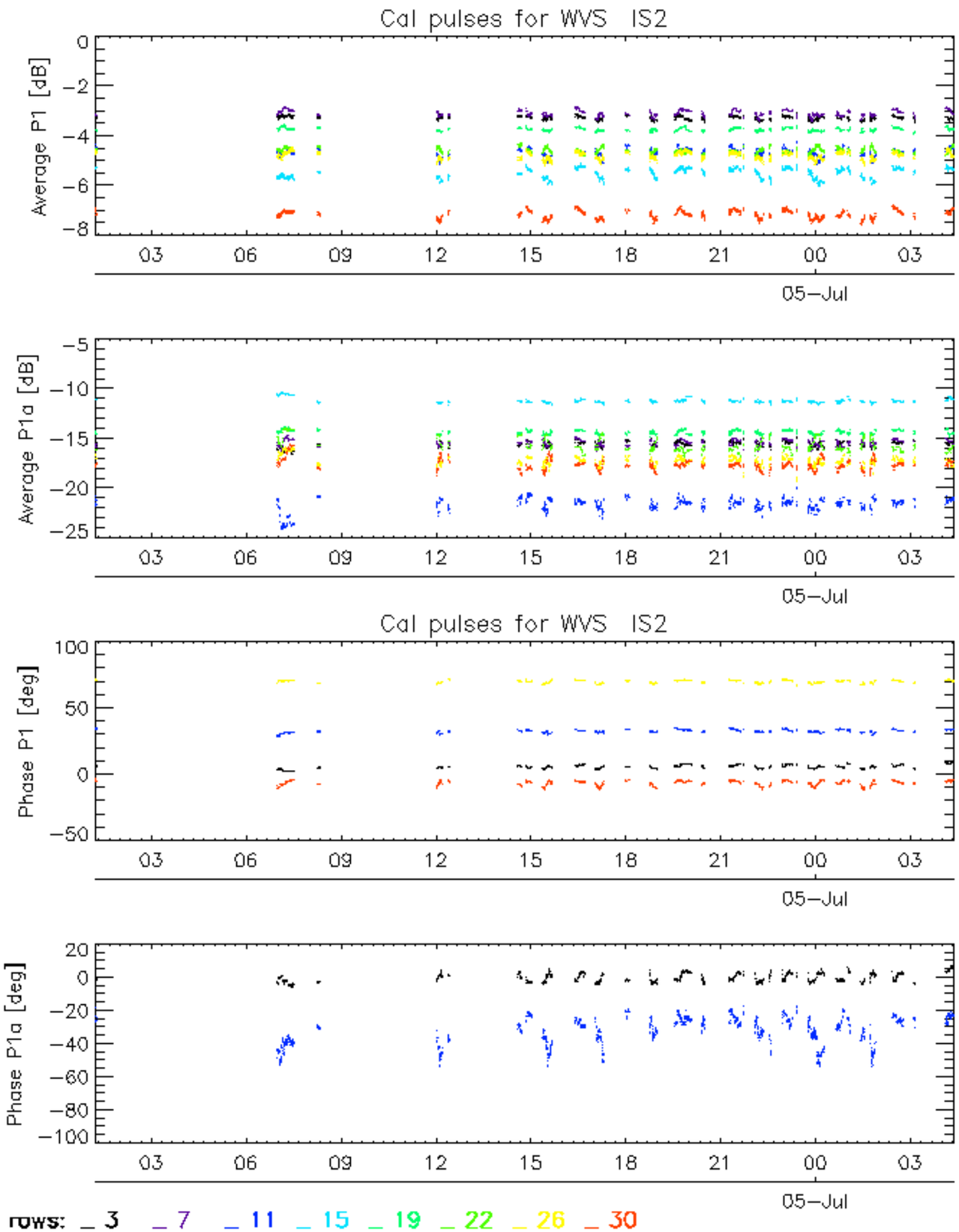
7.5 - Absolute Doppler for GM1

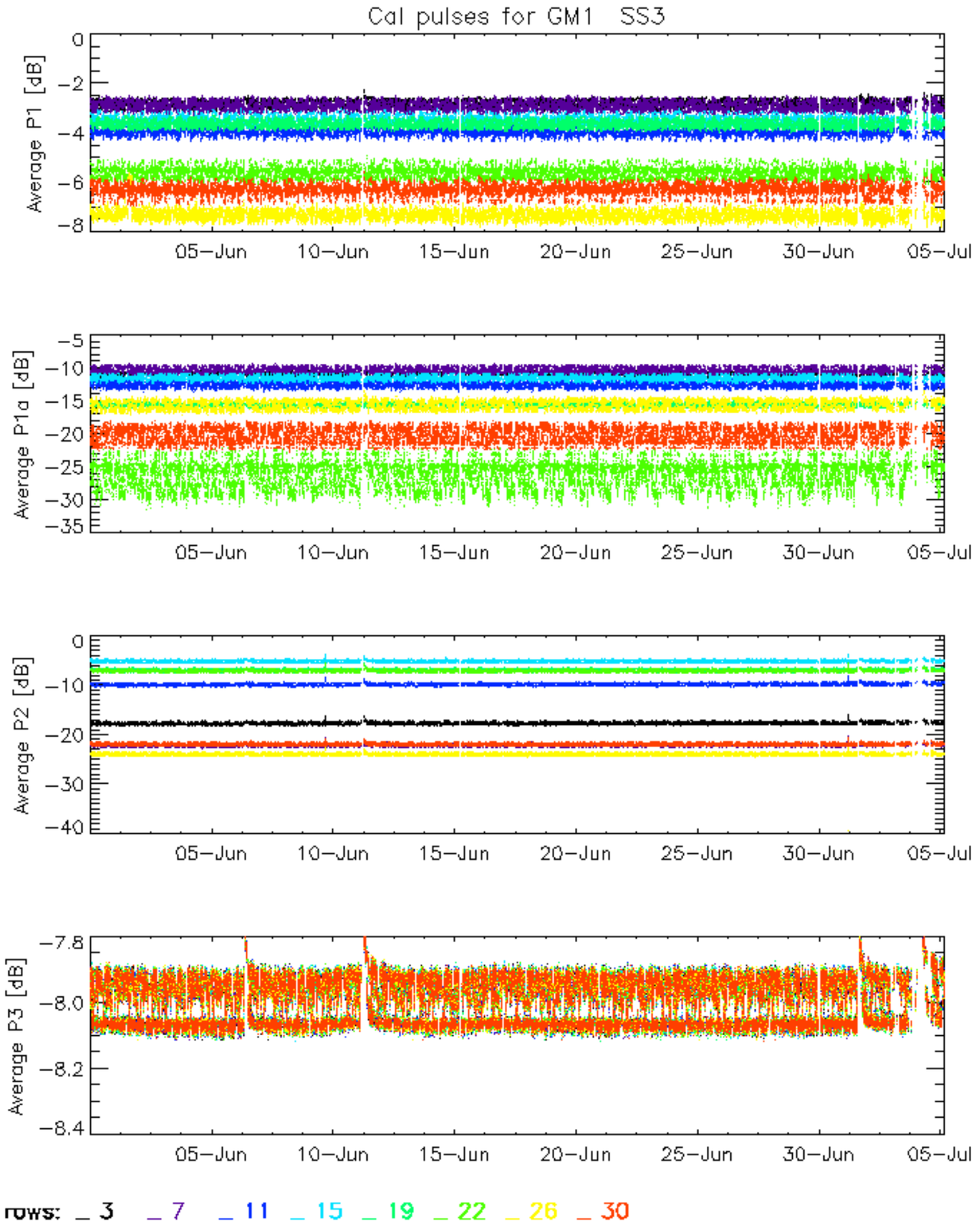
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

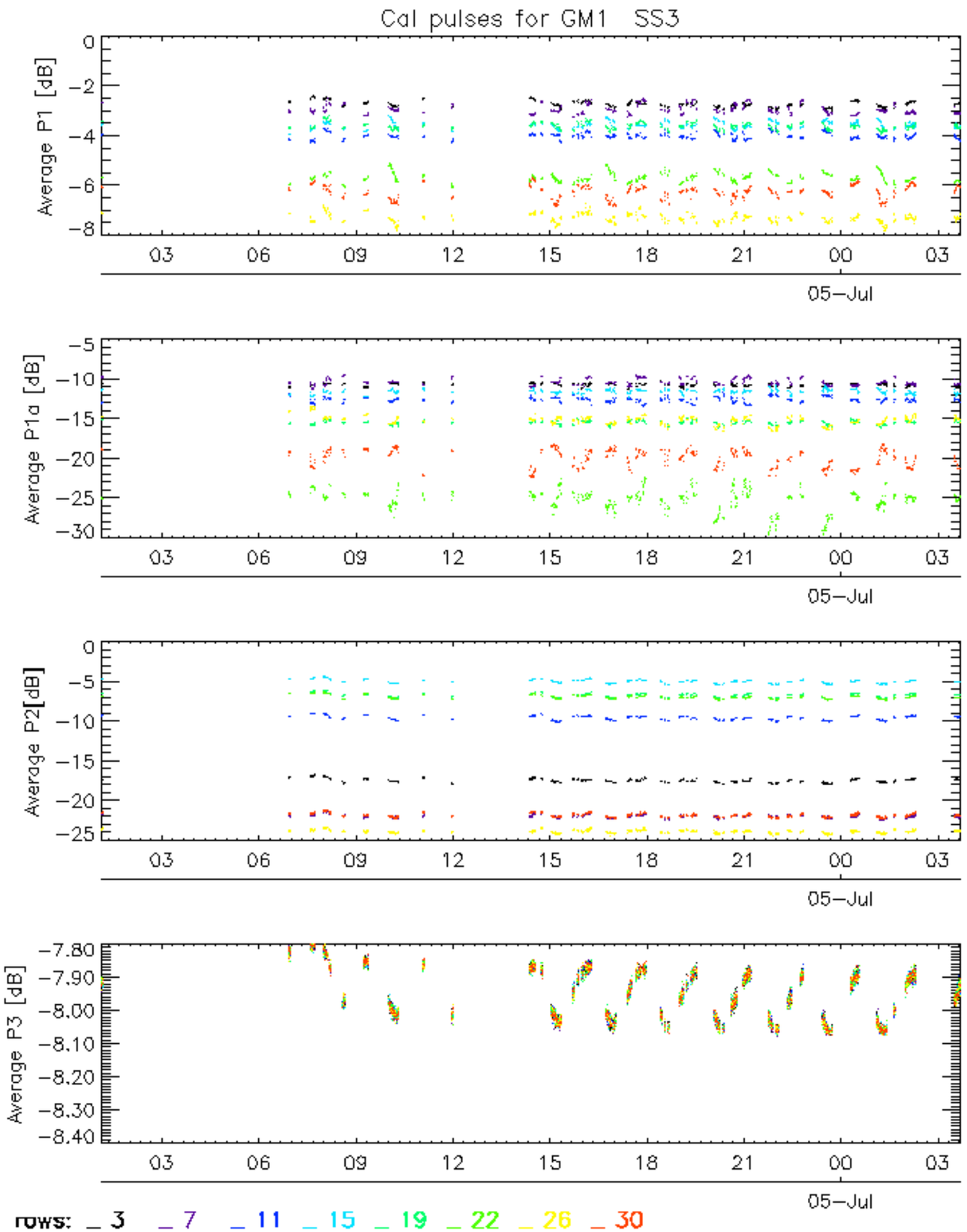
7.6 - Doppler evolution versus ANX for GM1

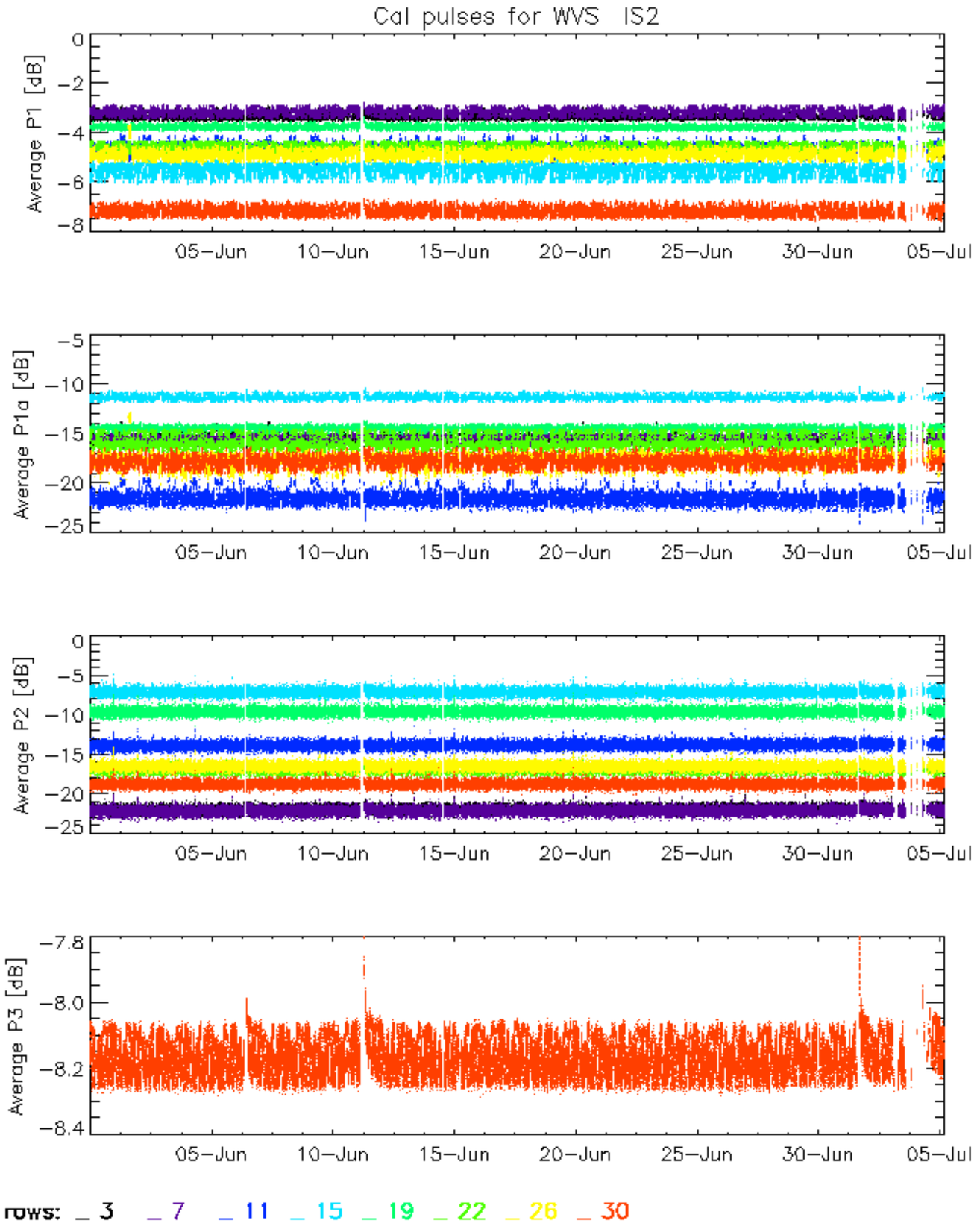
Evolution Doppler error versus ANX
☒

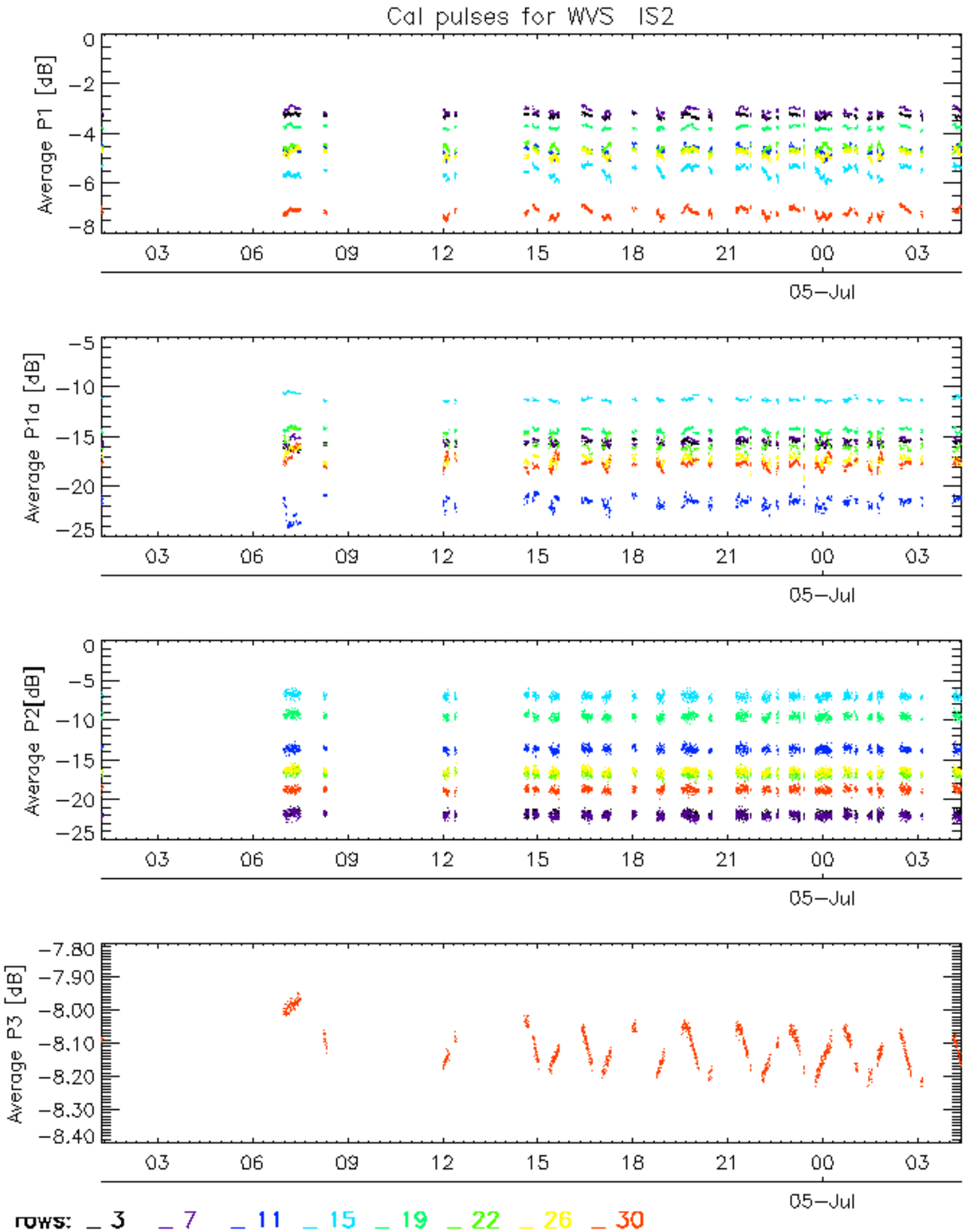

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
05−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
05−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
Cal pulses for WVS IS2
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30

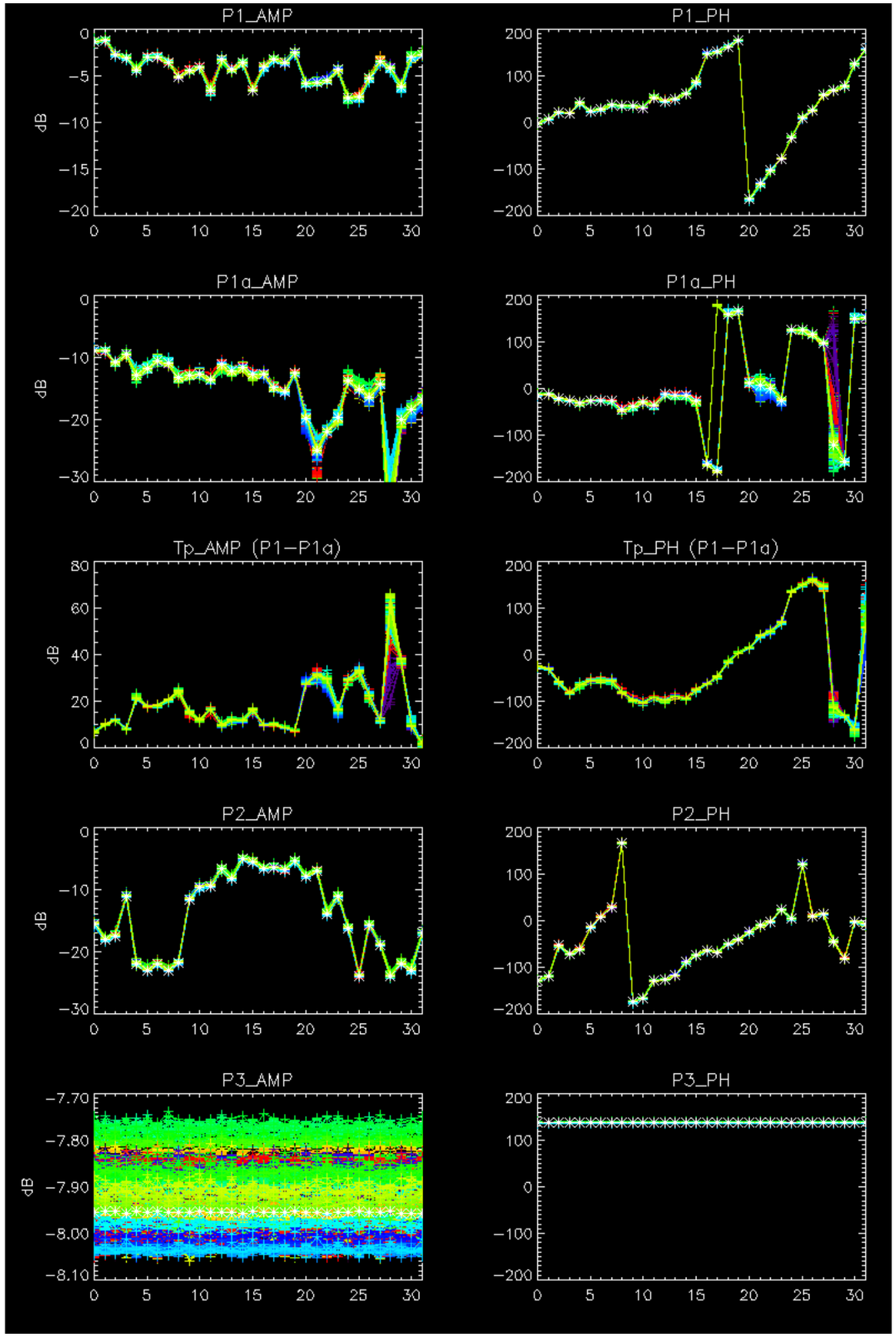

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
0
−10
−20
−30
−40
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
05−Jun
10−Jun
15−Jun
20−Jun
25−Jun
30−Jun
05−Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

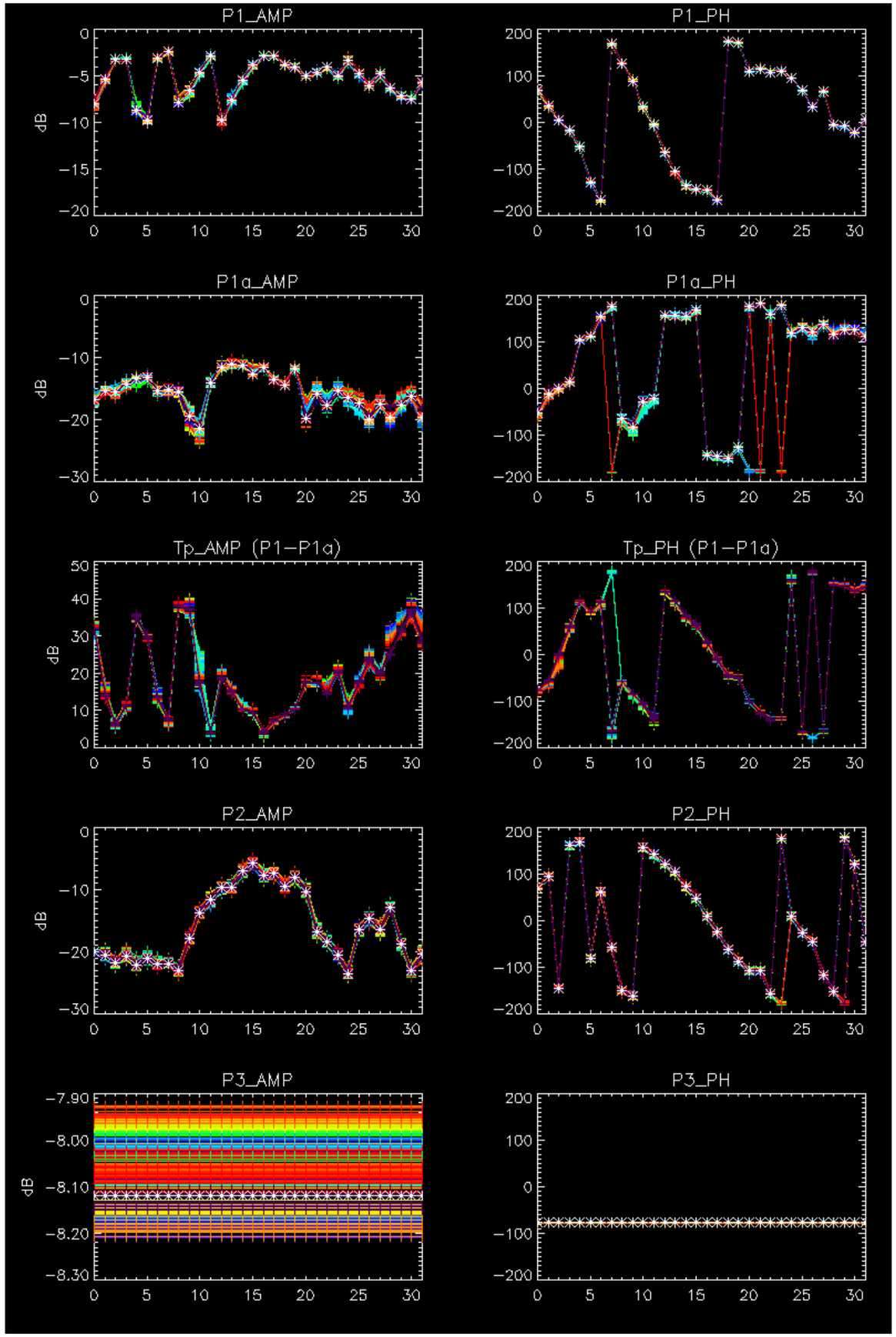

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
05−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
05−Jun
10−Jun
15−Jun
20−Jun
25−Jun
30−Jun
05−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
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
03
06
09
12
15
18
21
00
03
05−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
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

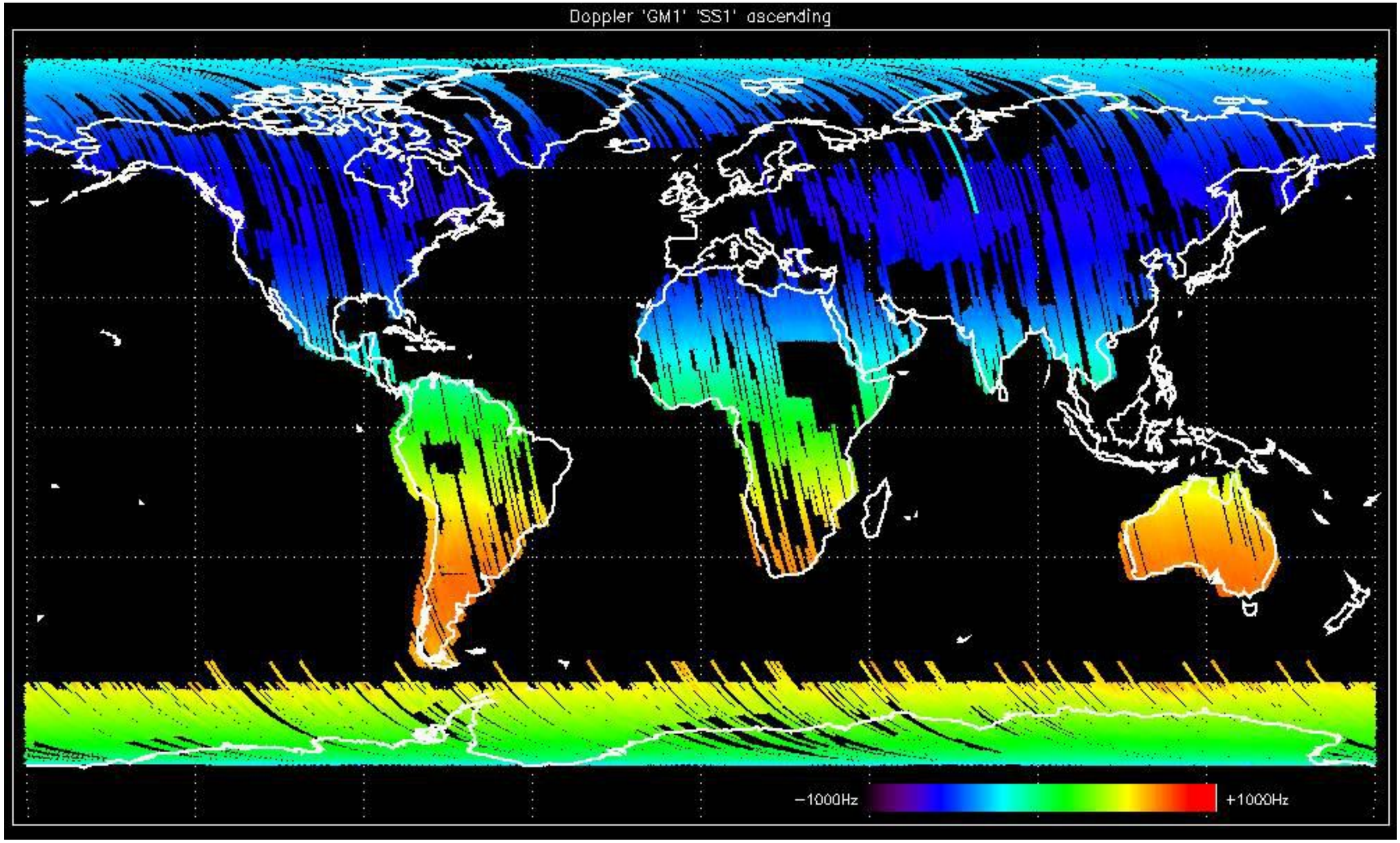
No anomalies observed.

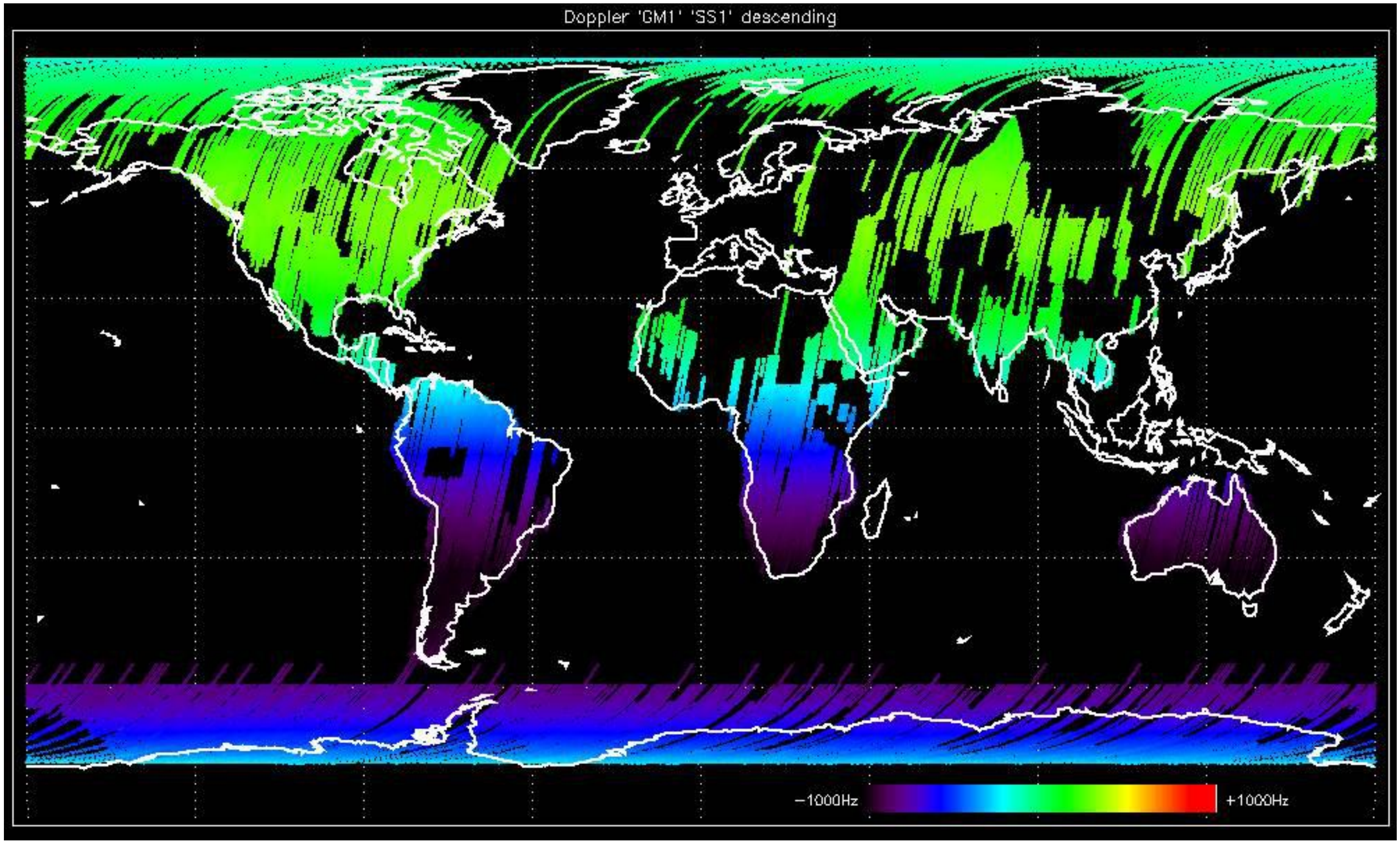

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

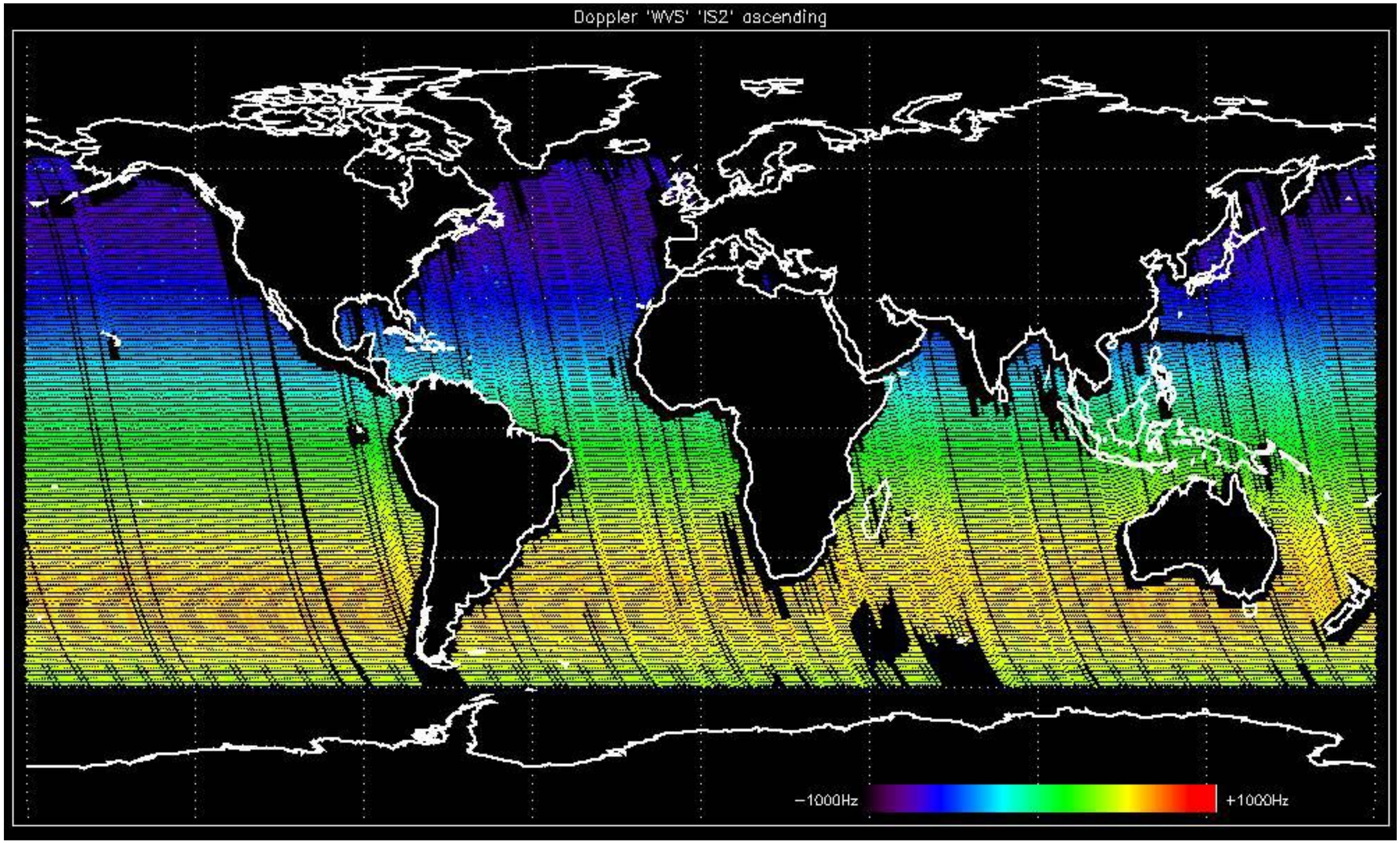

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

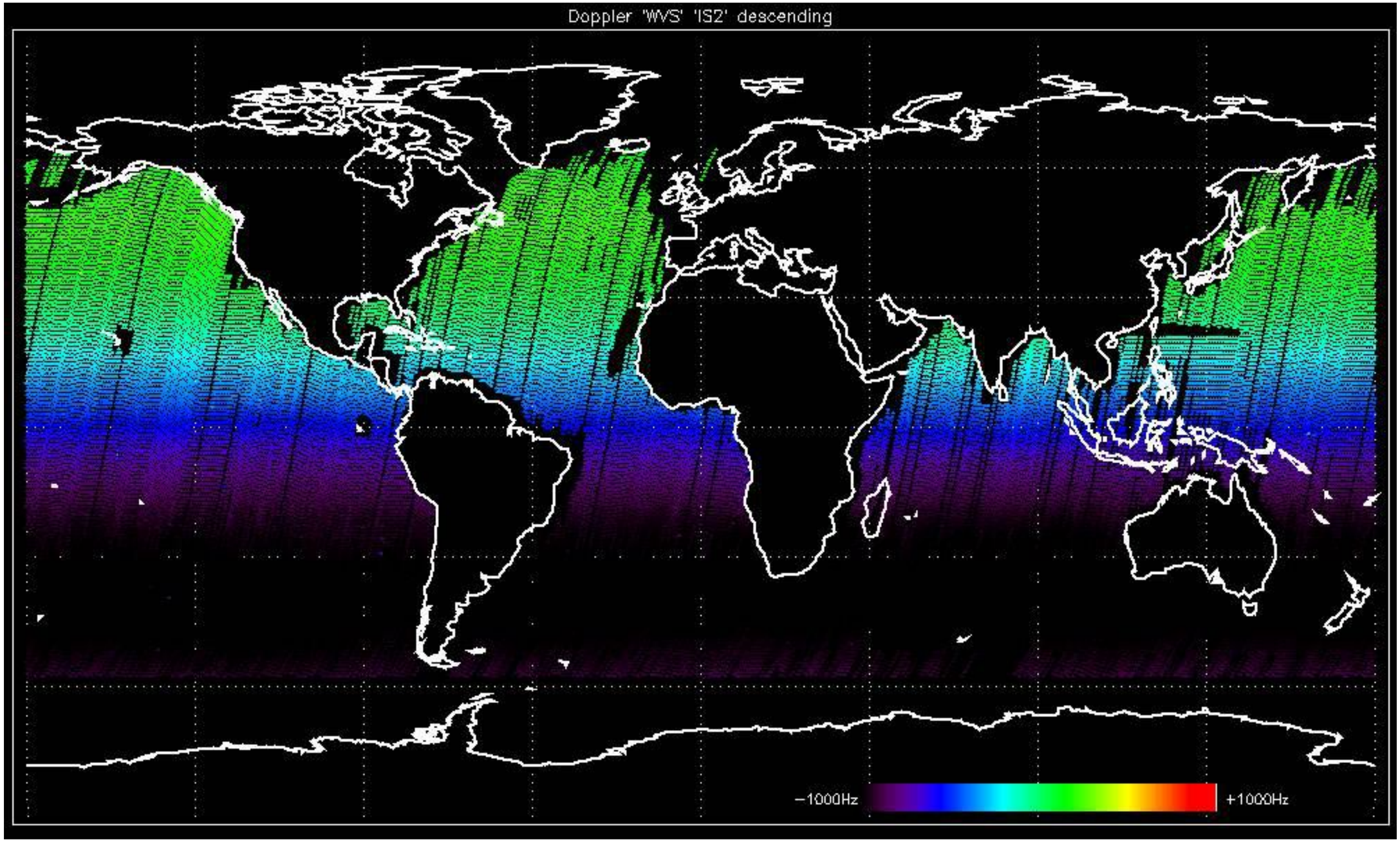
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

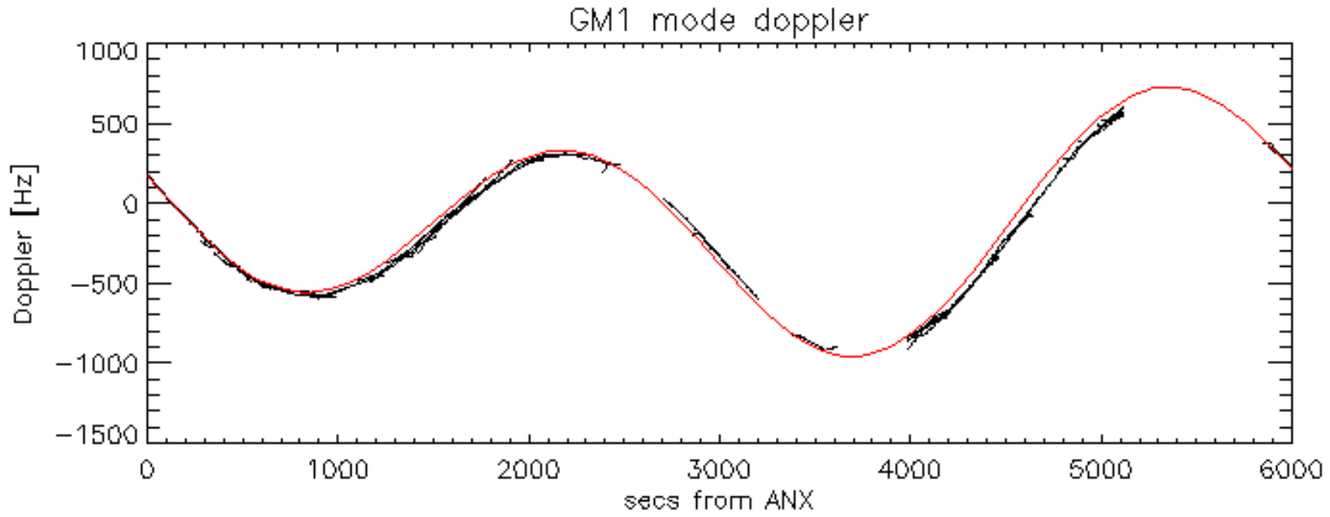
Preliminary report.The data is not yet controled

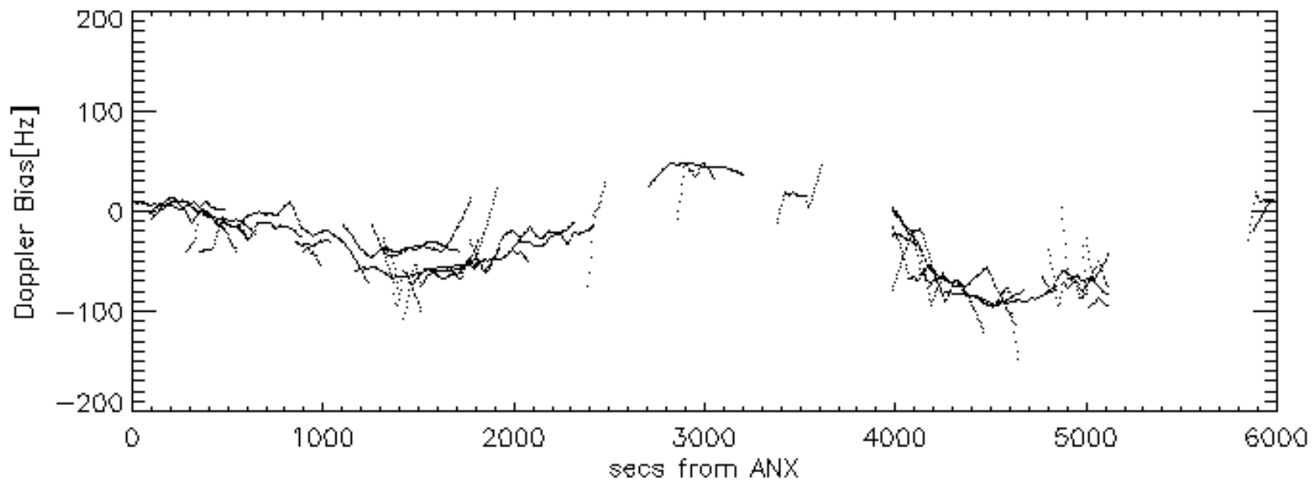

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

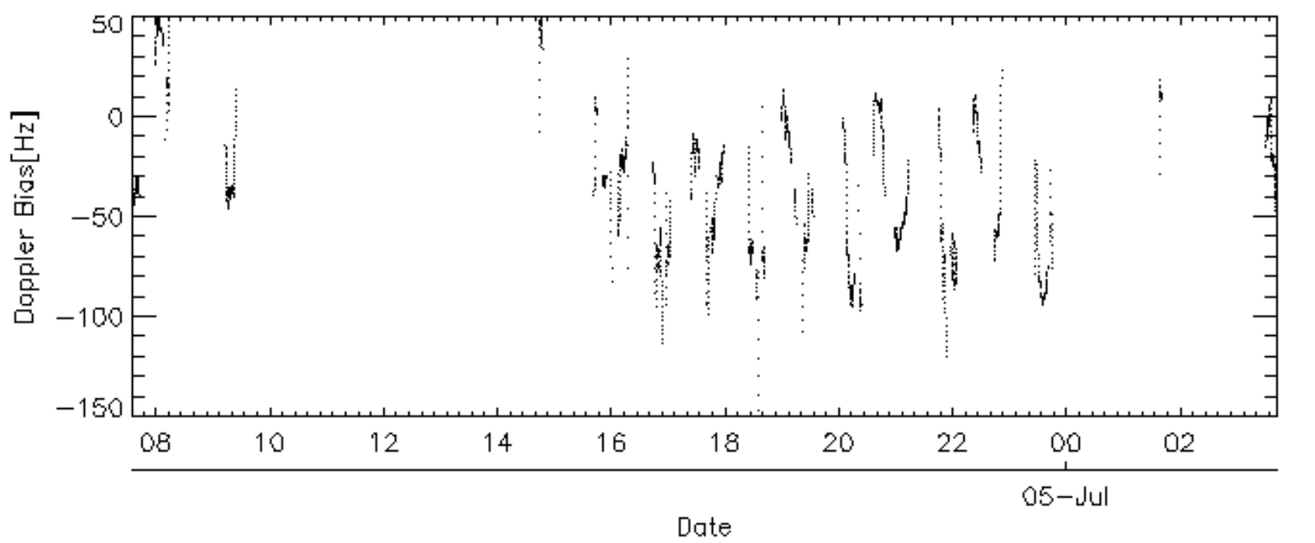

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

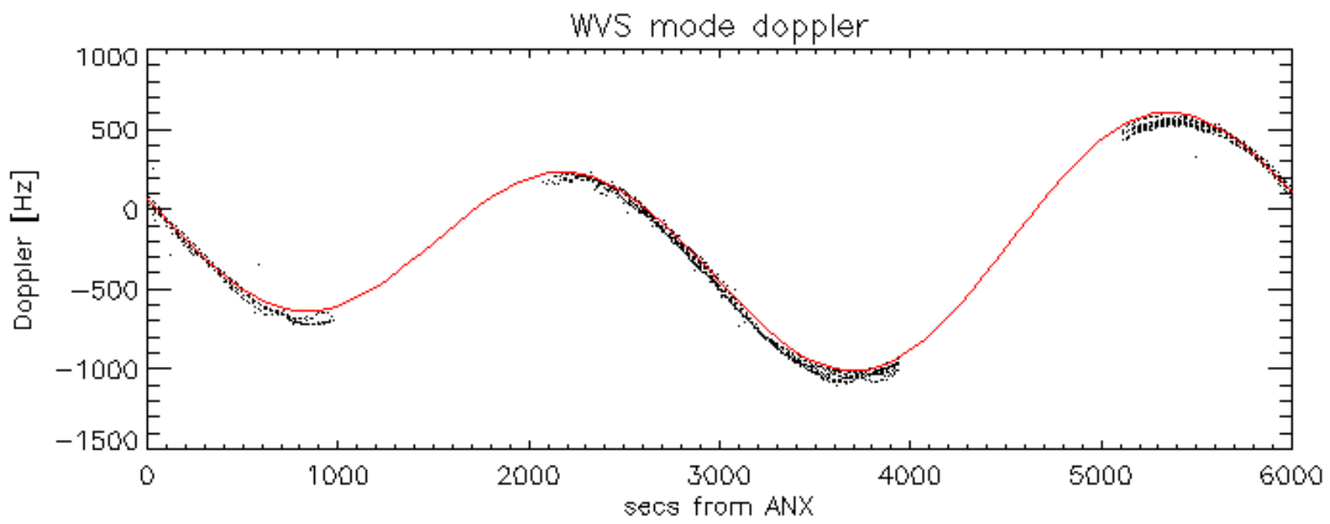

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

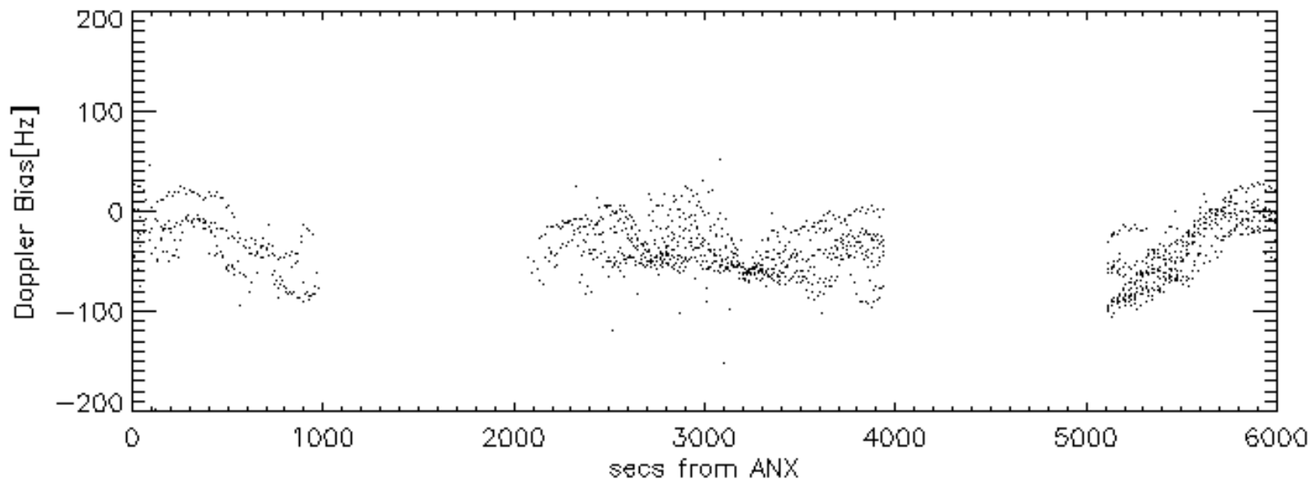

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

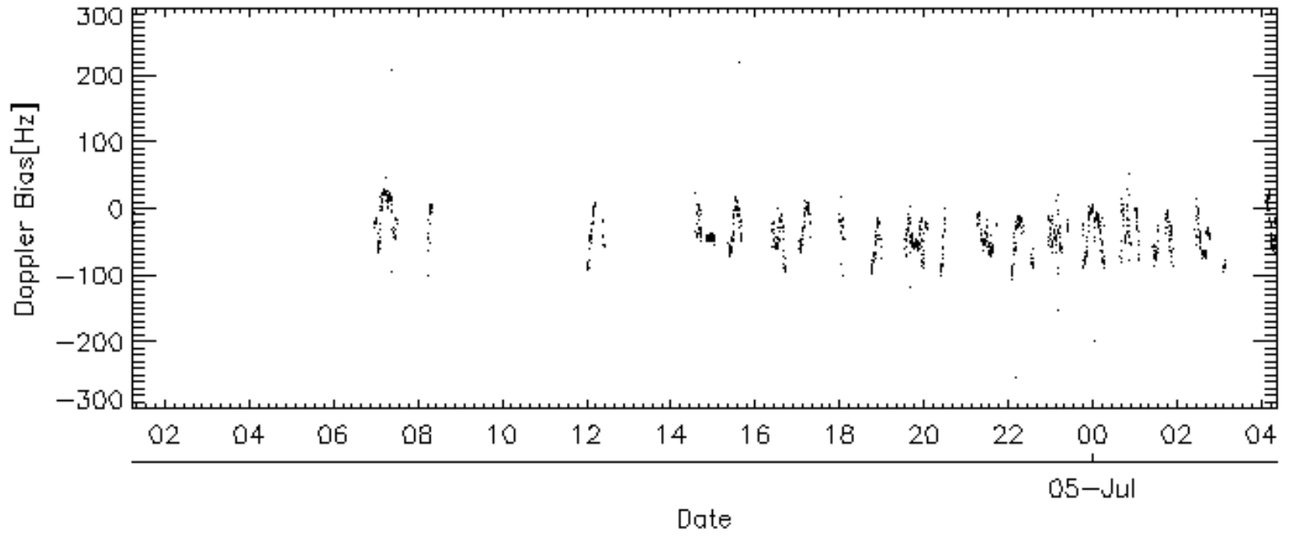

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

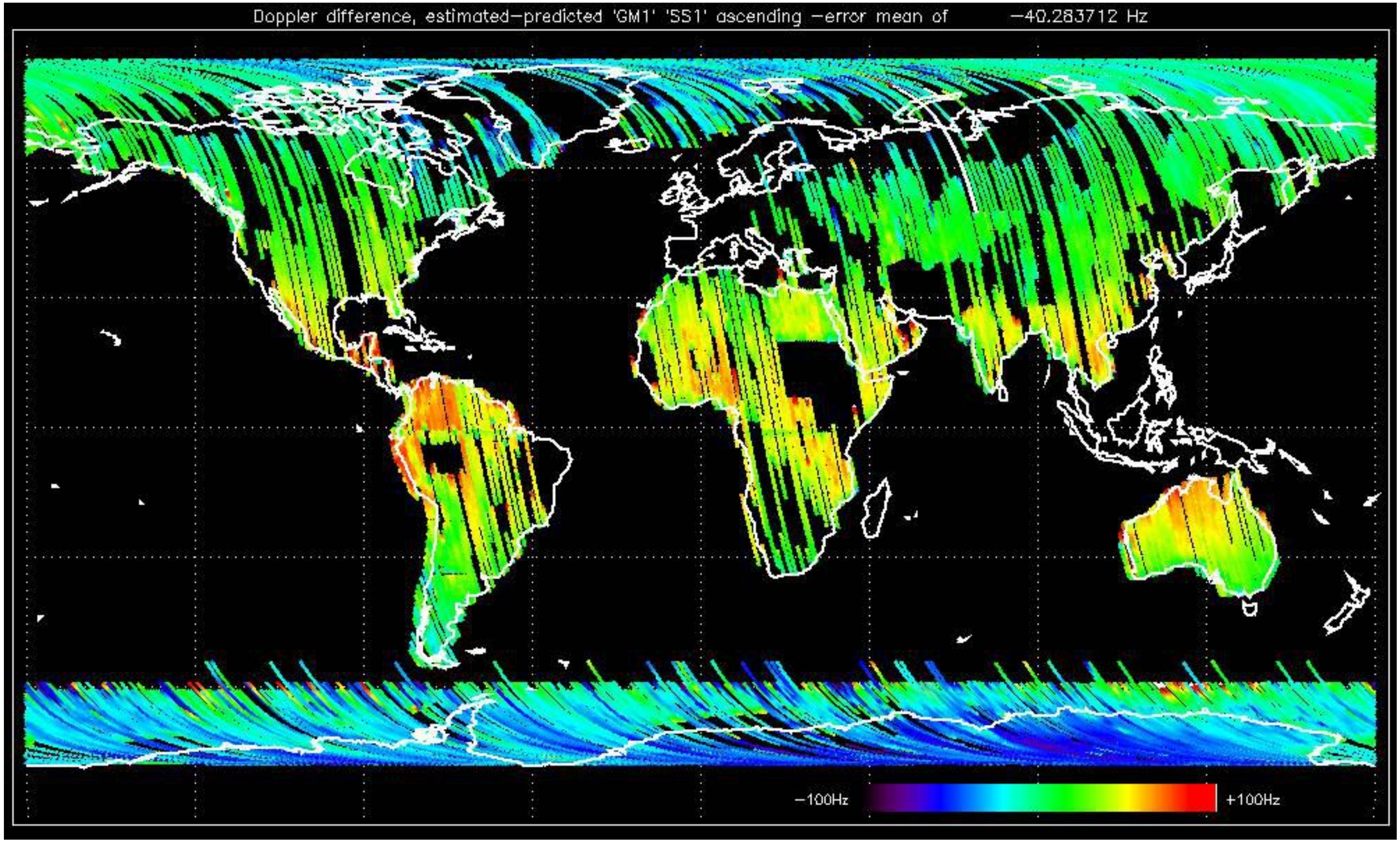

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

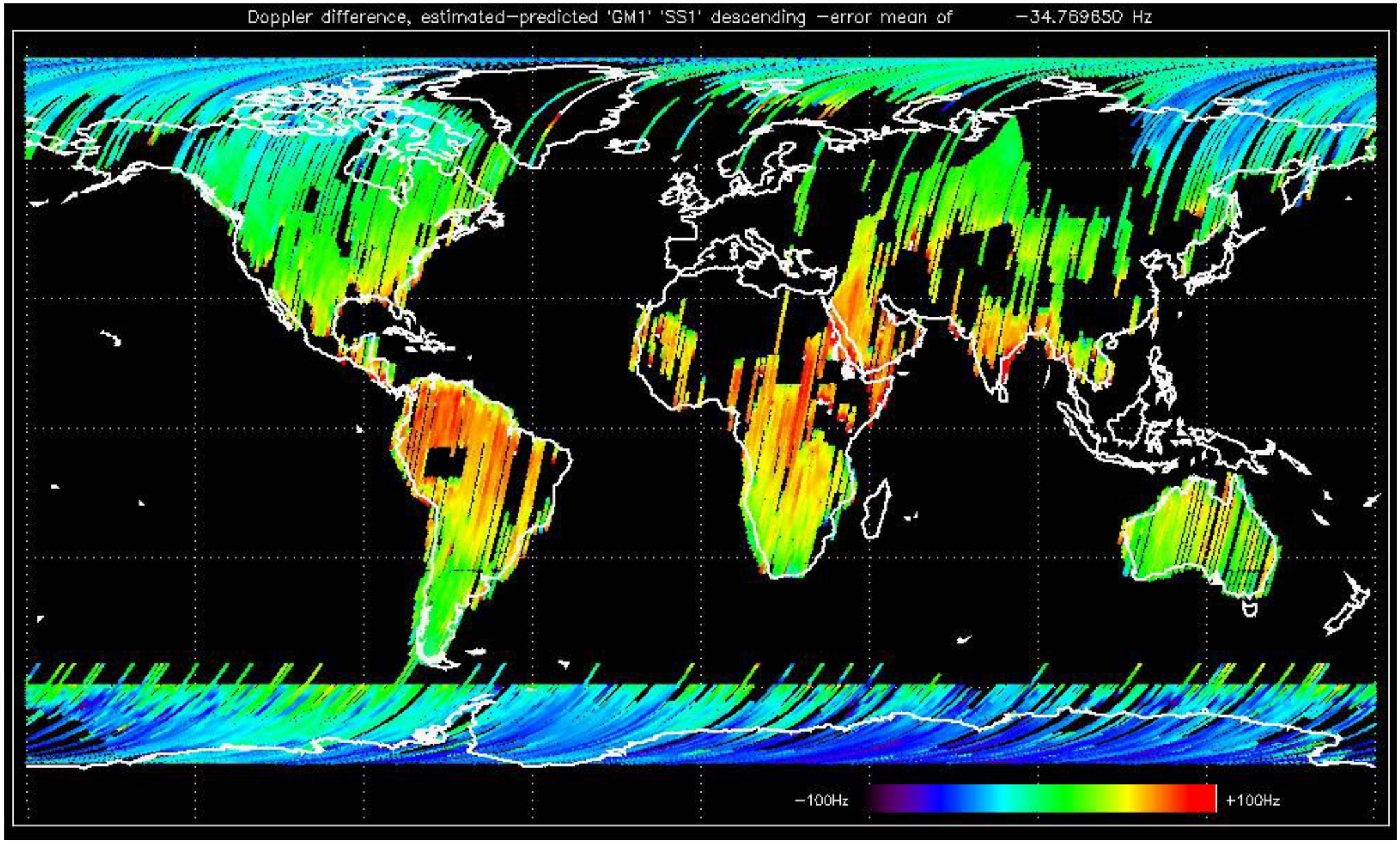

Doppler Bias[Hz]
50
0
−50
−100
−150
08
10
12
14
16
18
20
22
00
02
05−Jul
Date

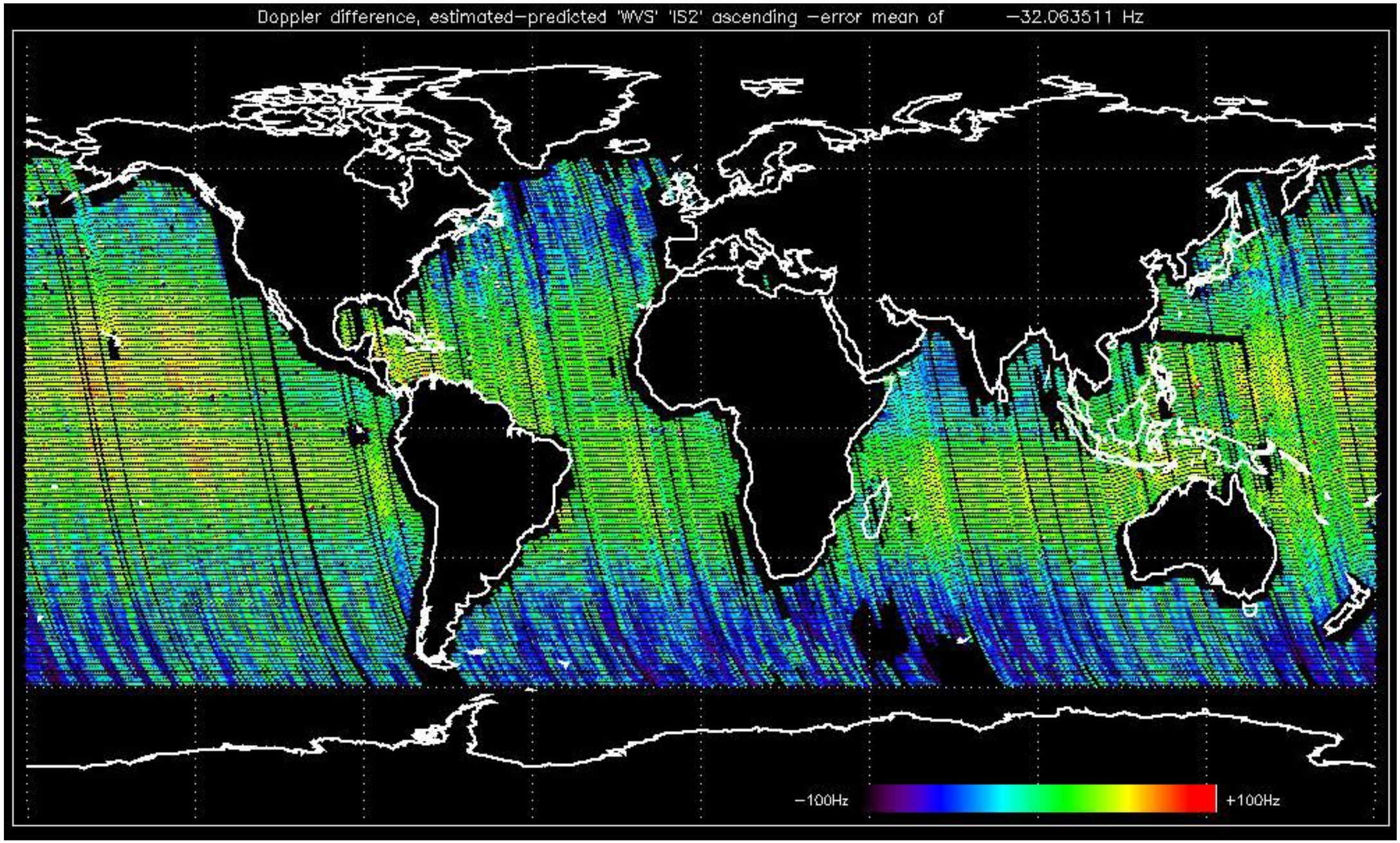

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

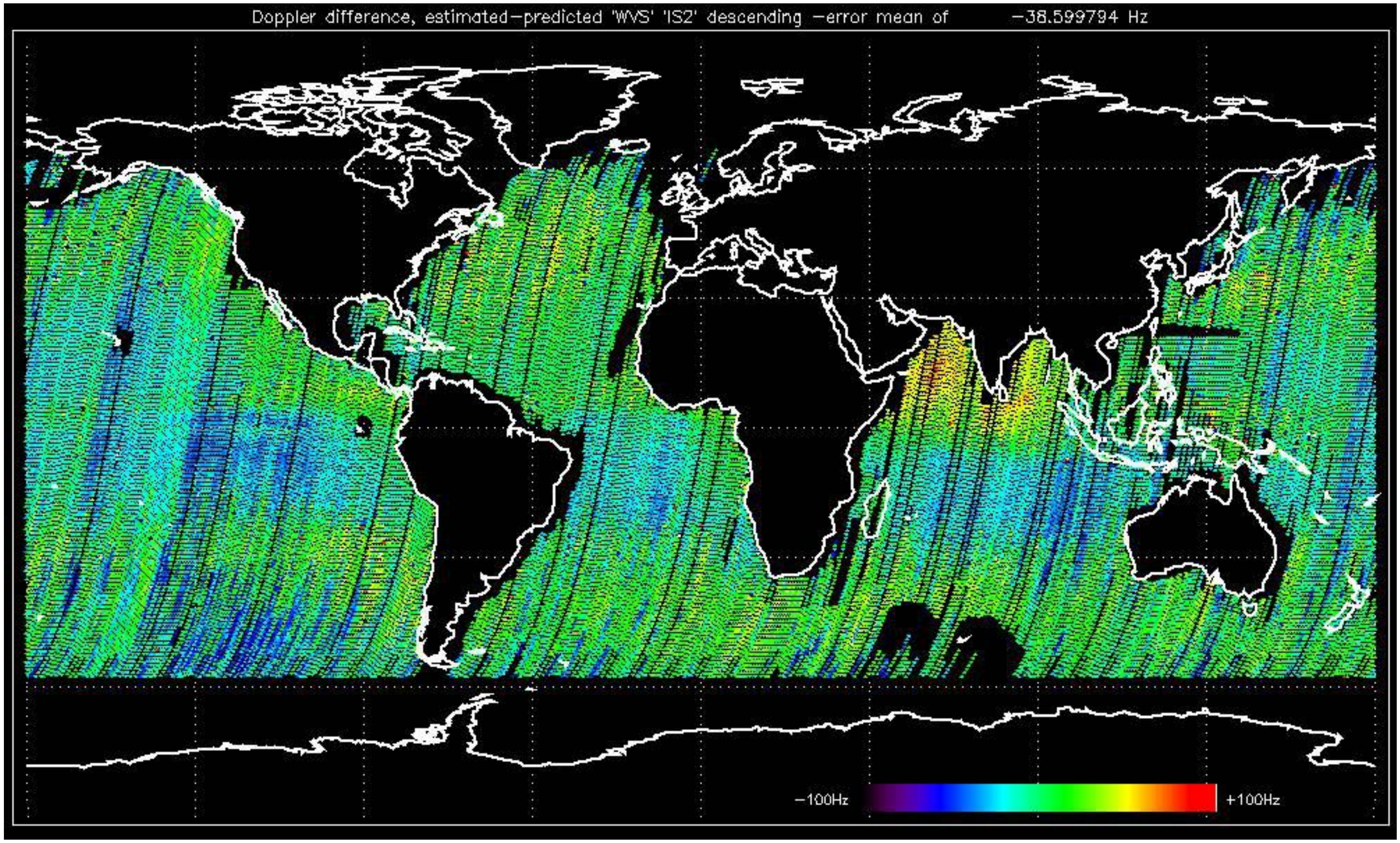

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −40.283712 Hz
−100Hz
+100Hz

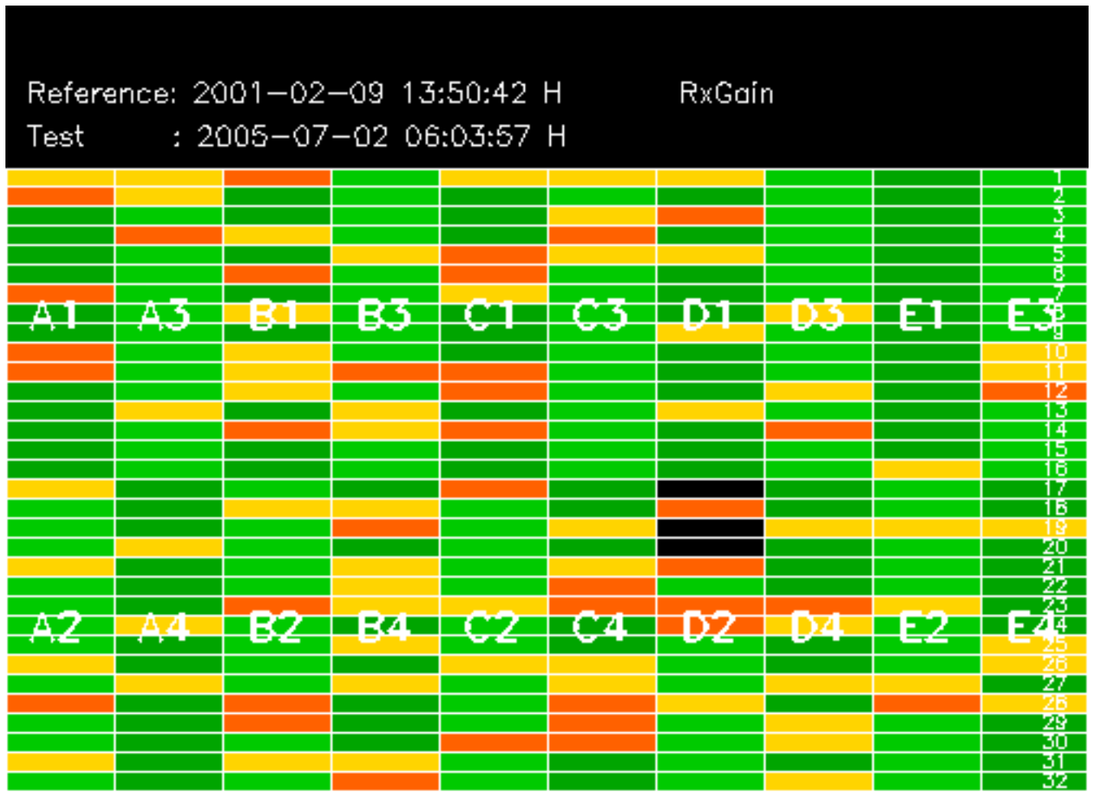

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -34.769650 Hz
-100Hz
+100Hz

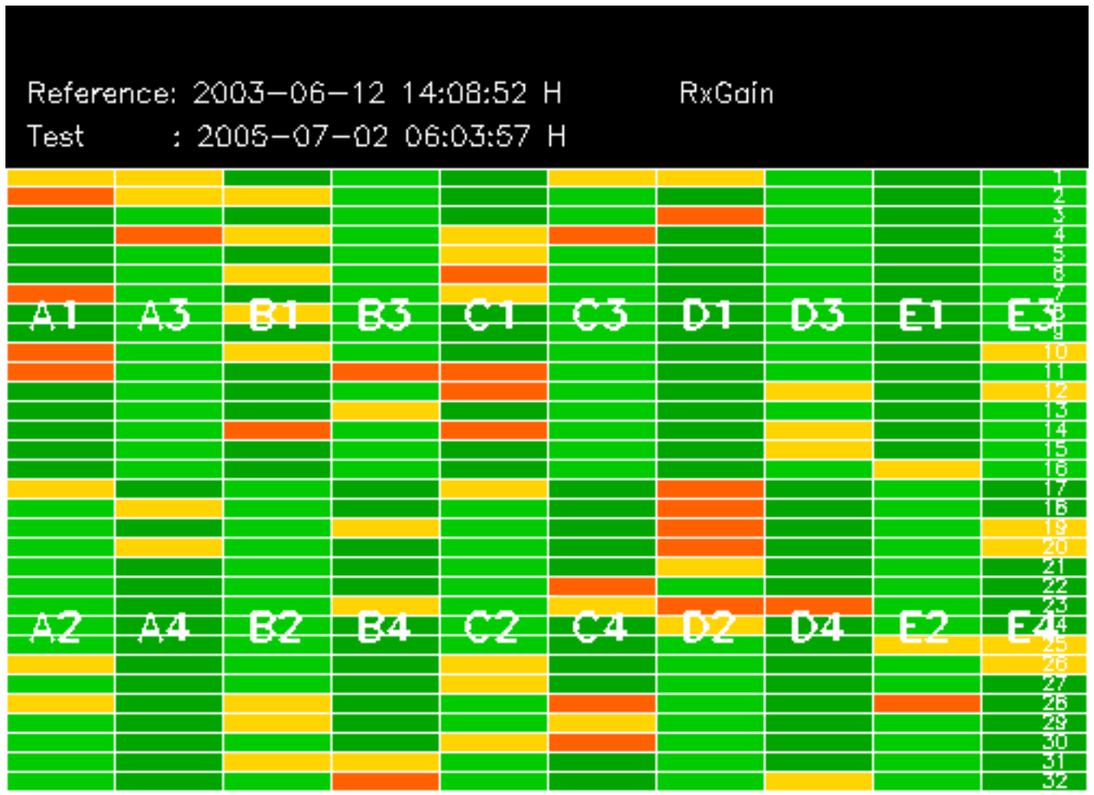

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −32.063511 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −38.599794 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2005-07-02 06:03:57 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 : 2005-07-02 06:03:57 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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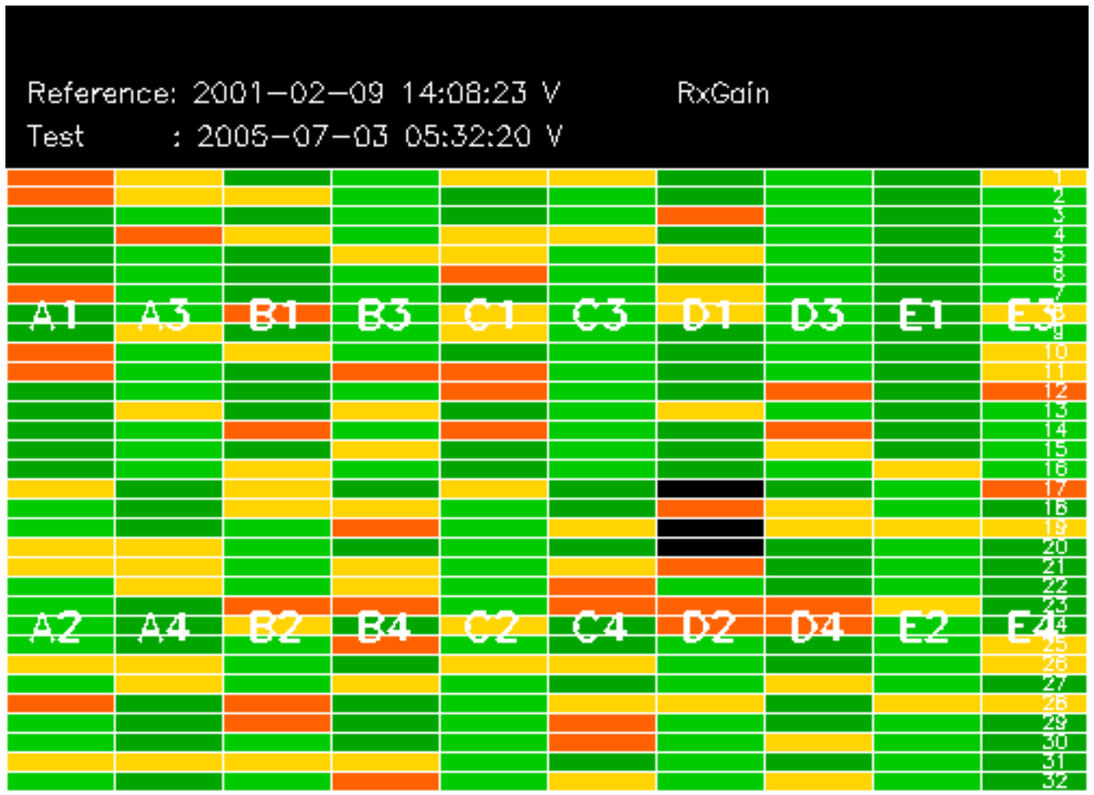
Reference: 2001-02-09 14:08:23 V
Test : 2005-07-03 05:32:20 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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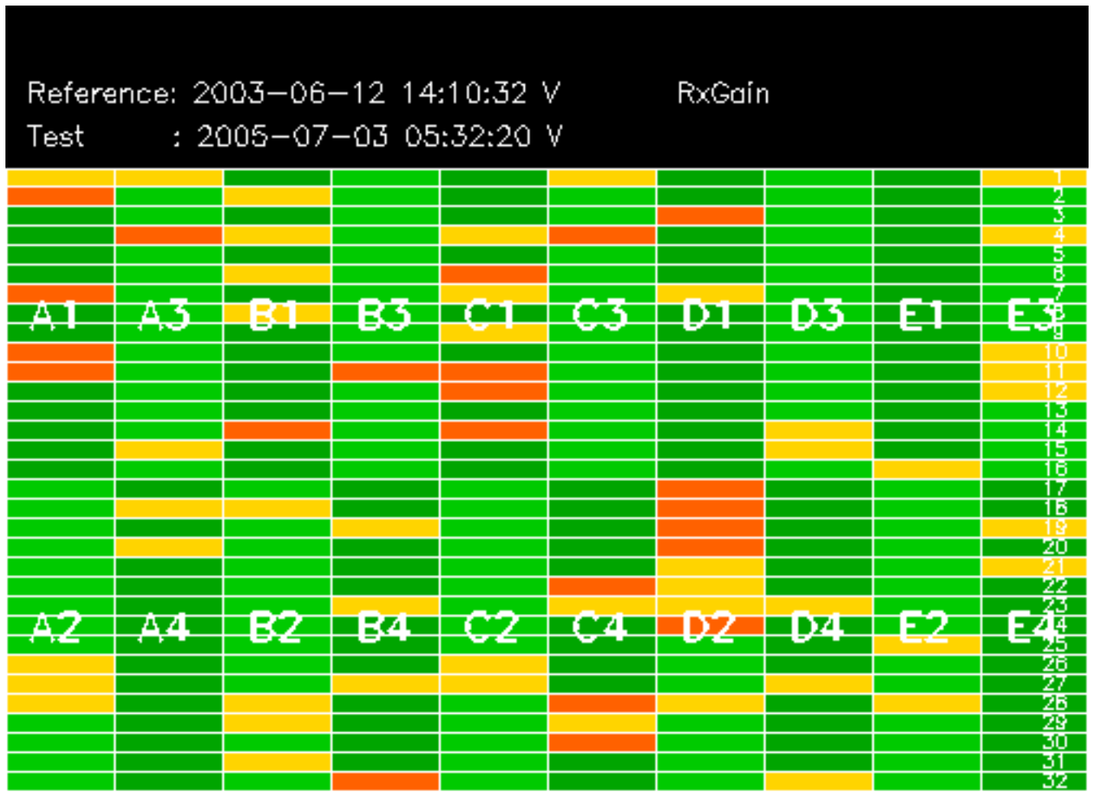
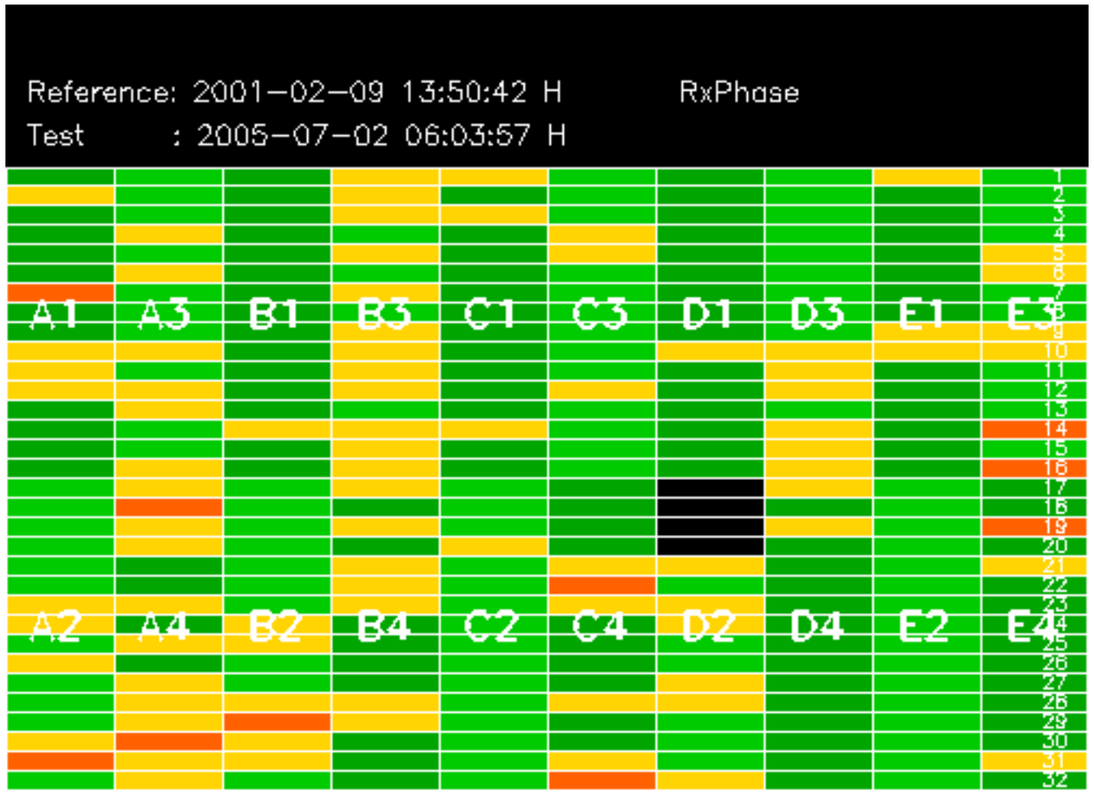

Reference: 2003-06-12 14:10:32 V
Test : 2005-07-03 05:32:20 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-07-02 06:03:57 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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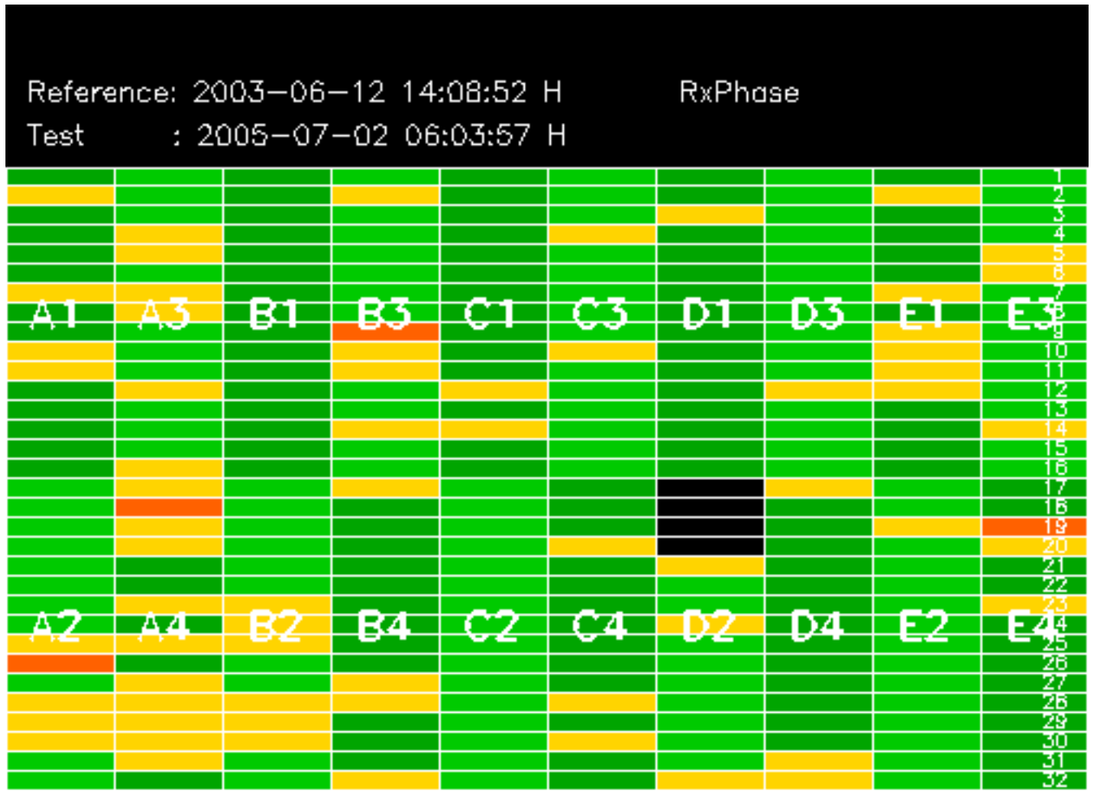
Reference: 2003-06-12 14:08:52 H
Test : 2005-07-02 06:03:57 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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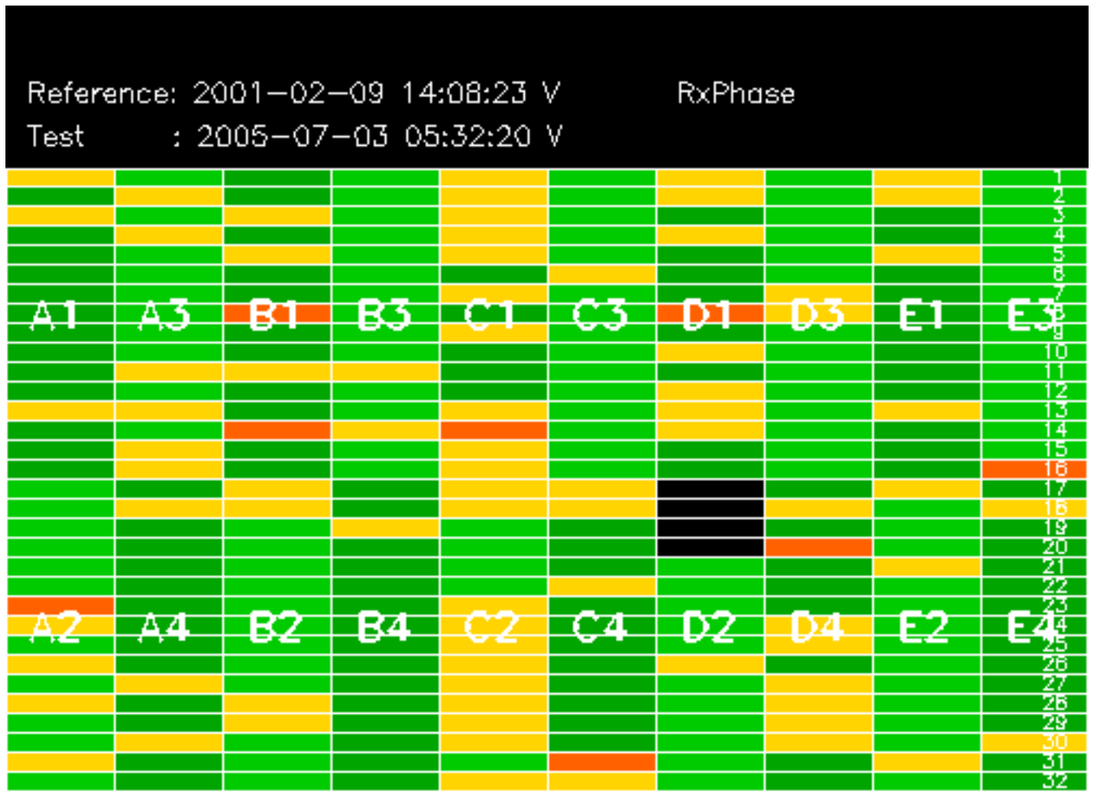
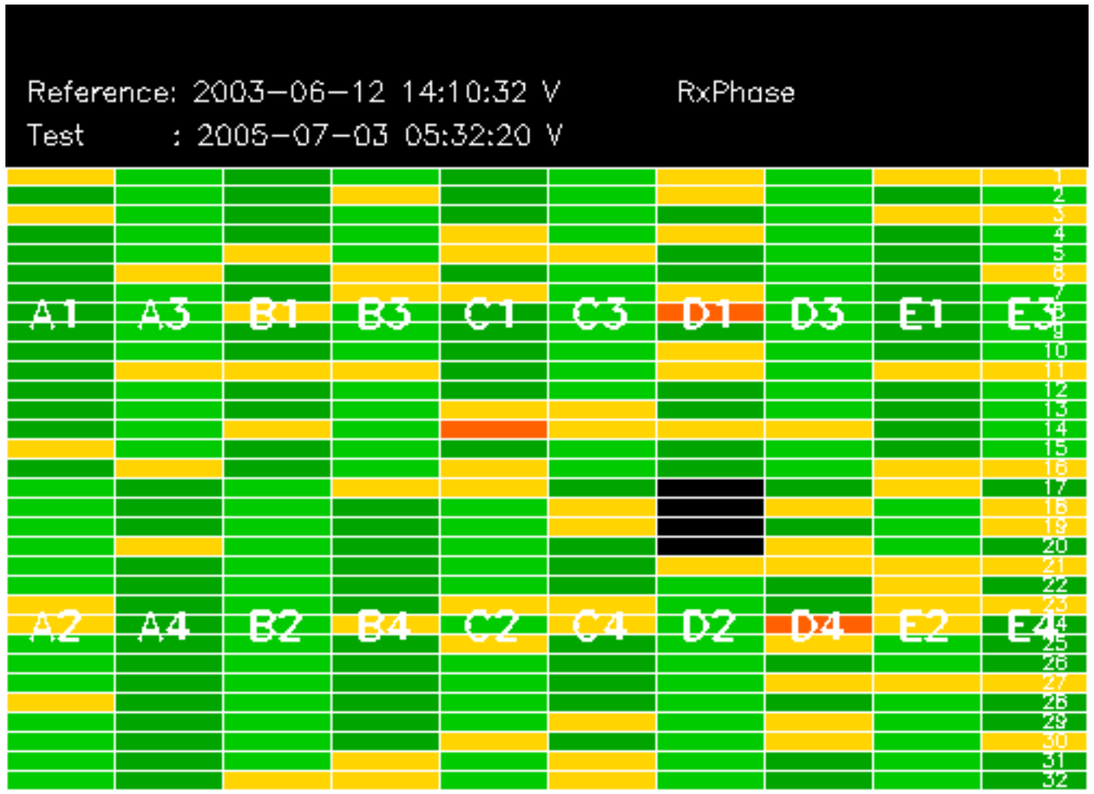

Reference: 2001-02-09 14:08:23 V
Test : 2005-07-03 05:32:20 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-07-03 05:32:20 V
RxPhase
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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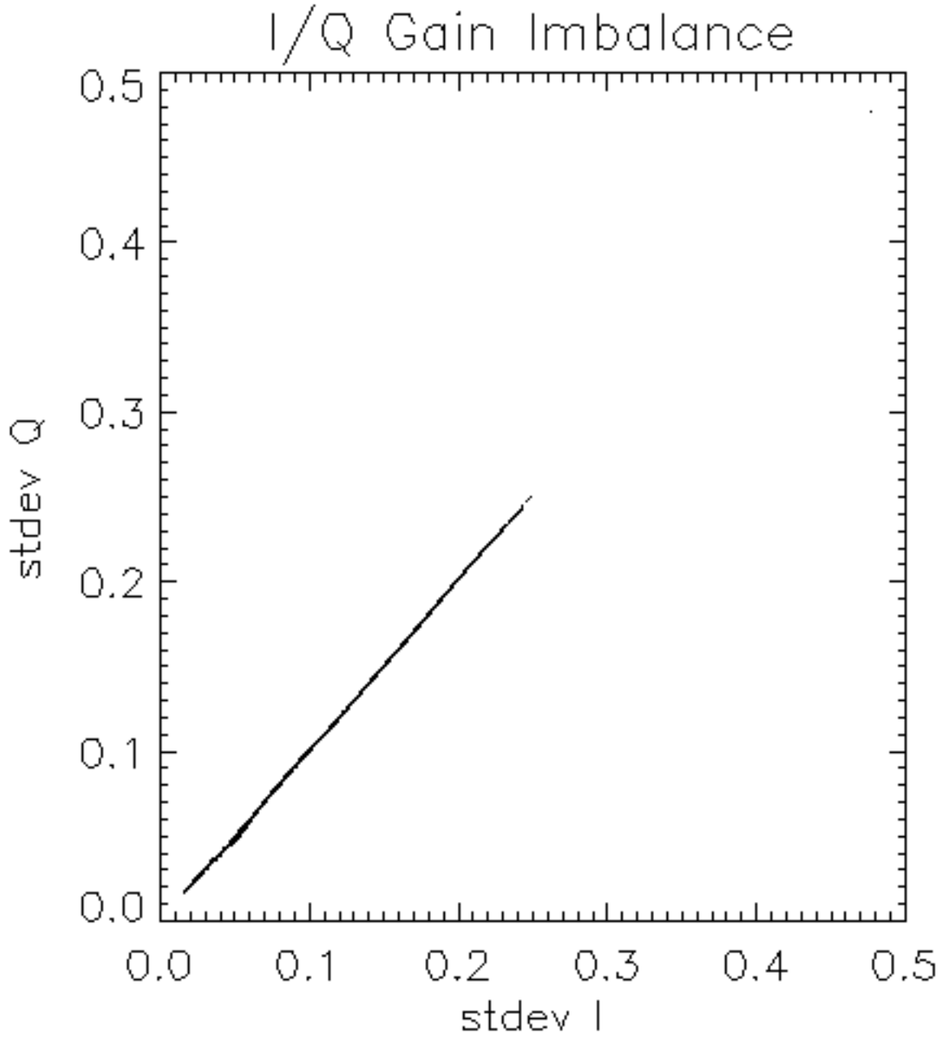
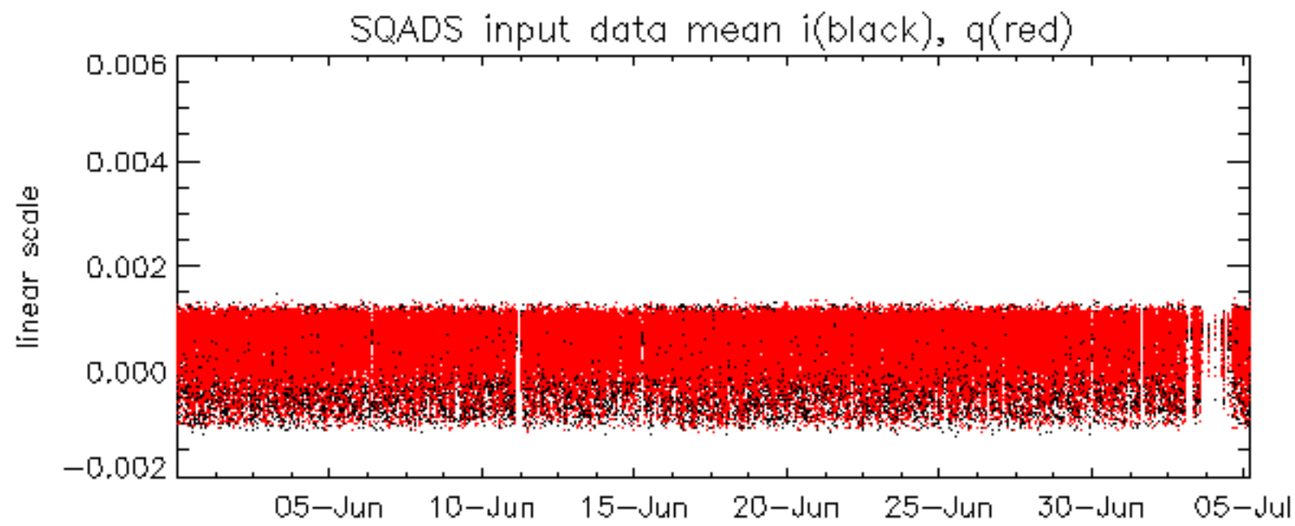
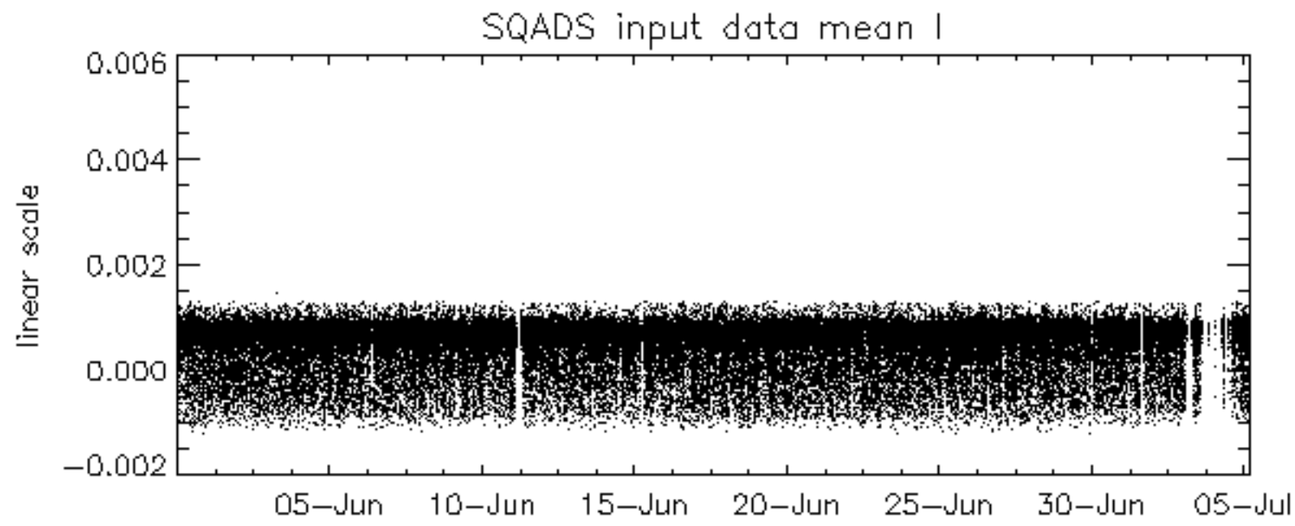
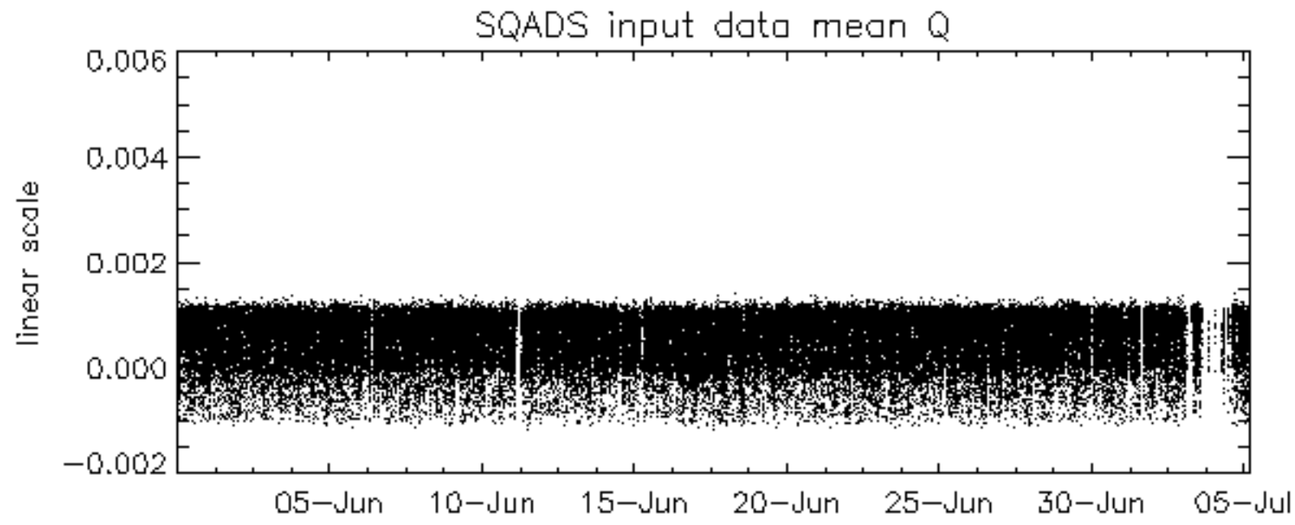
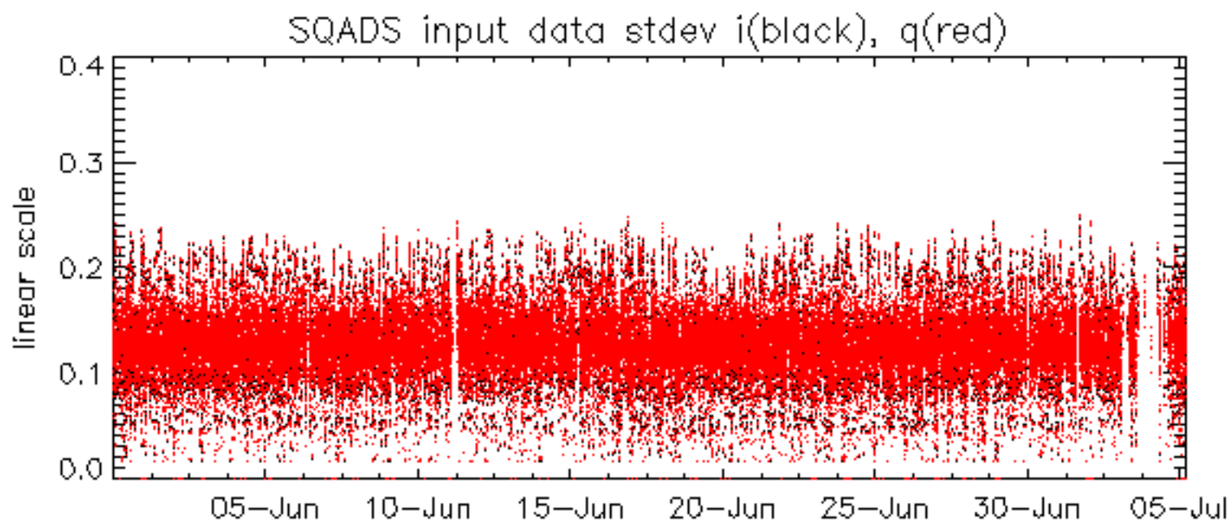
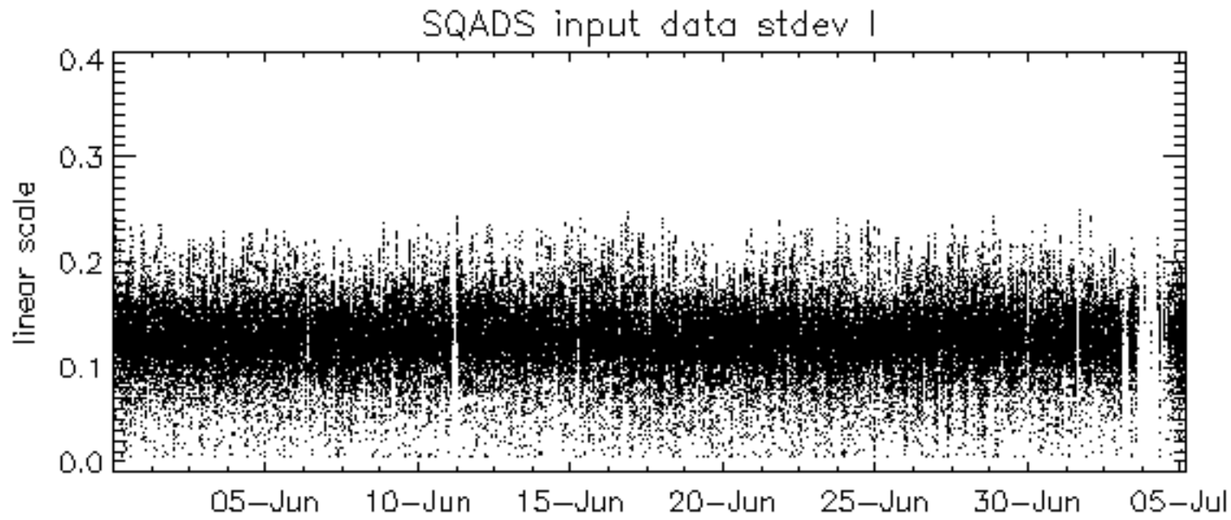

I/Q Gain Imbalance
stdev Q
stdev I
0.0
0.1
0.2
0.3
0.4
0.5

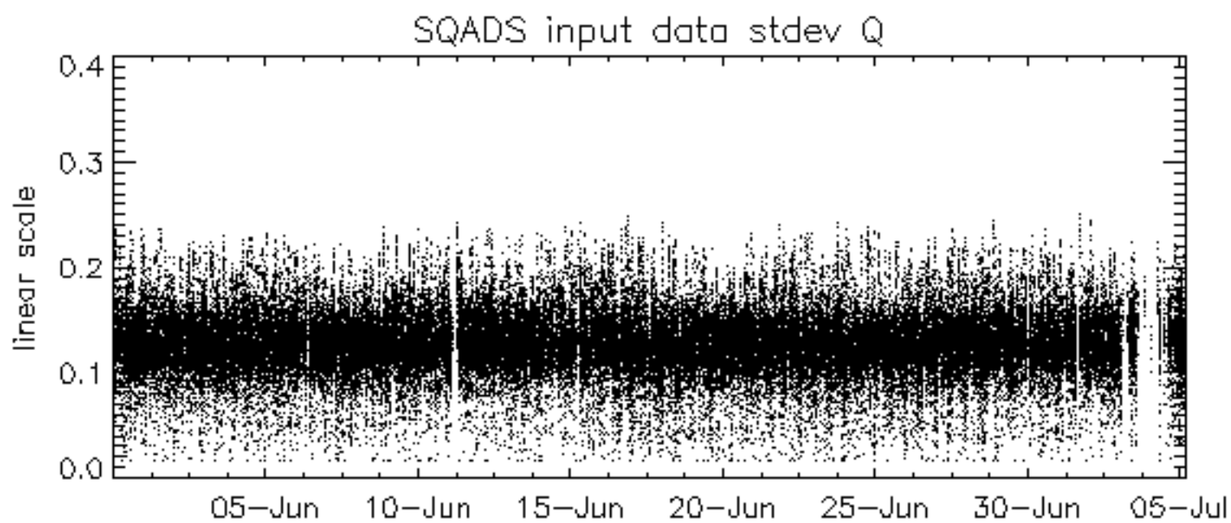

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
05−Jun
10−Jun
15−Jun
20−Jun
25−Jun
30−Jun
05−Jul

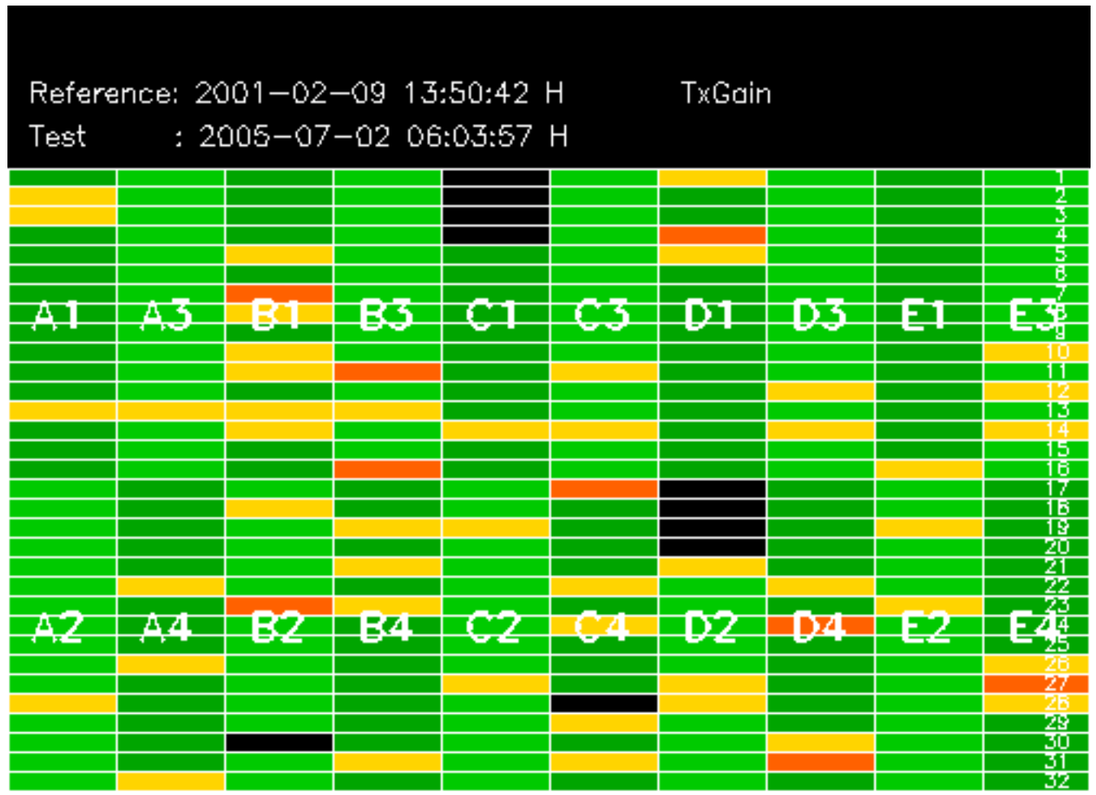

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
05−Jun
10−Jun
15−Jun
20−Jun
25−Jun
30−Jun
05−Jul

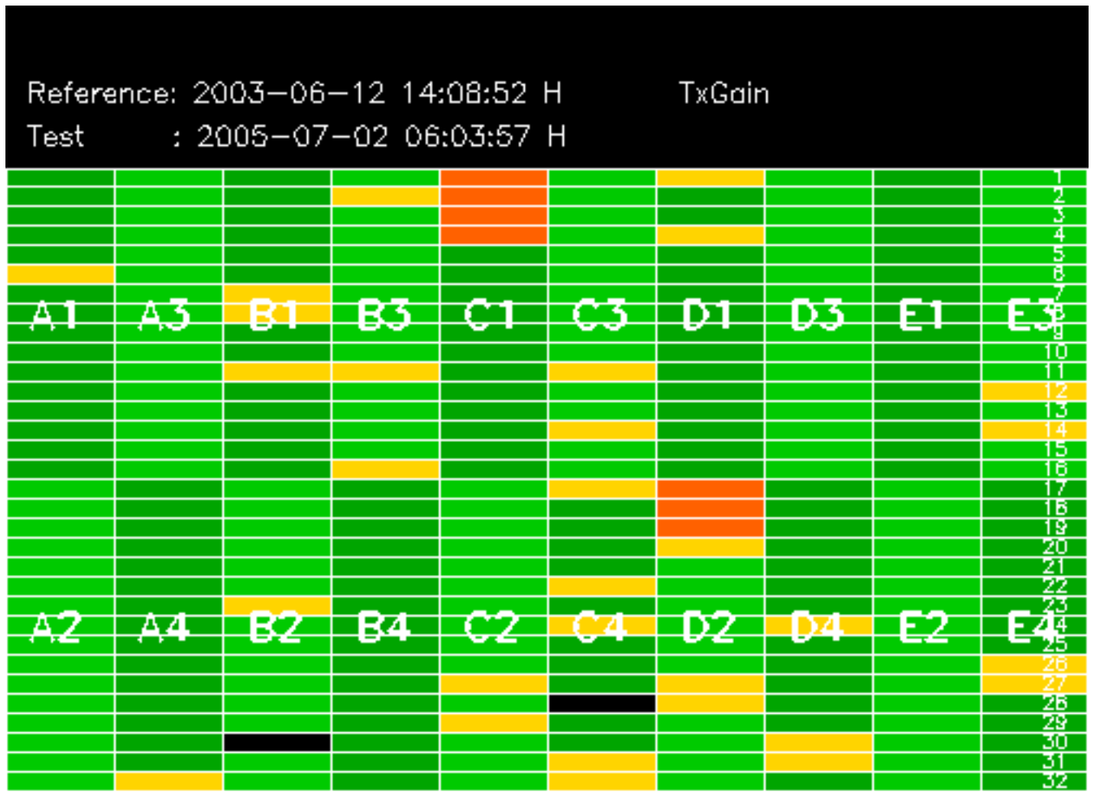

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
05−Jun
10−Jun
15−Jun
20−Jun
25−Jun
30−Jun
05−Jul


SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
05–Jun
10–Jun
15–Jun
20–Jun
25–Jun
30–Jun
05–Jul


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
05–Jun
10–Jun
15–Jun
20–Jun
25–Jun
30–Jun
05–Jul


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
05–Jun
10–Jun
15–Jun
20–Jun
25–Jun
30–Jun
05–Jul


Reference: 2001-02-09 13:50:42 H
Test : 2005-07-02 06:03:57 H
TxGain
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 : 2005-07-02 06:03:57 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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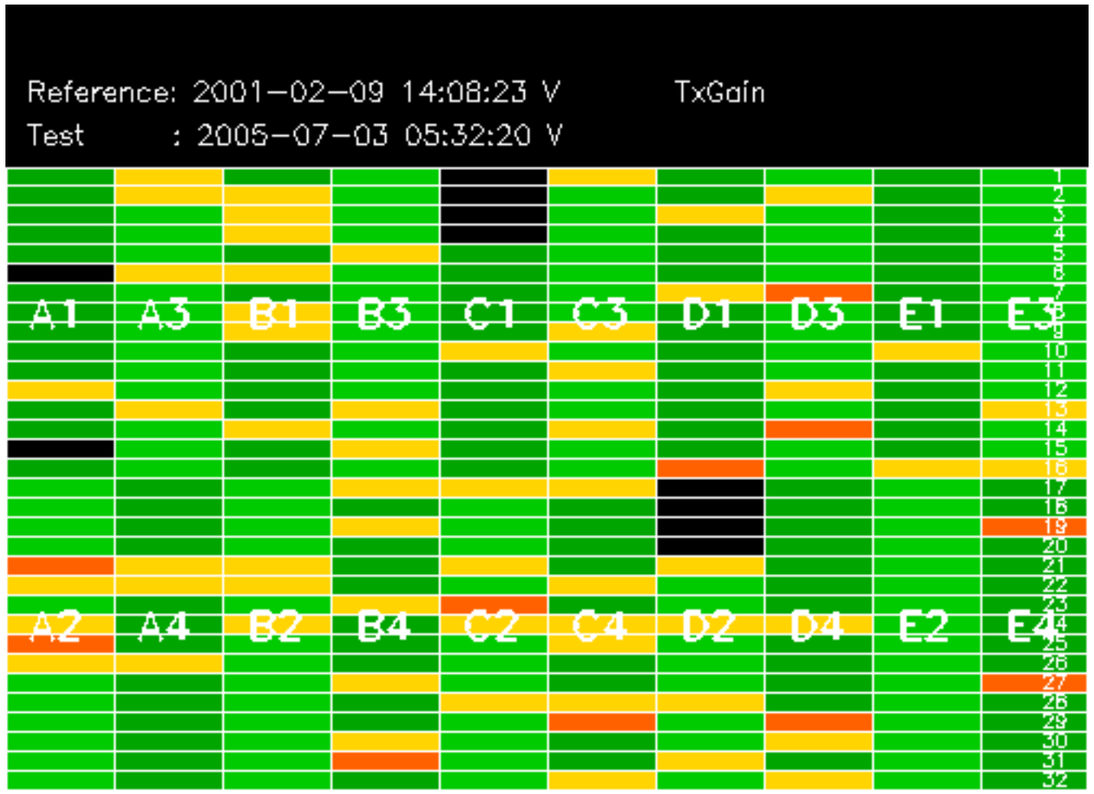
Reference: 2001-02-09 14:08:23 V
Test : 2005-07-03 05:32:20 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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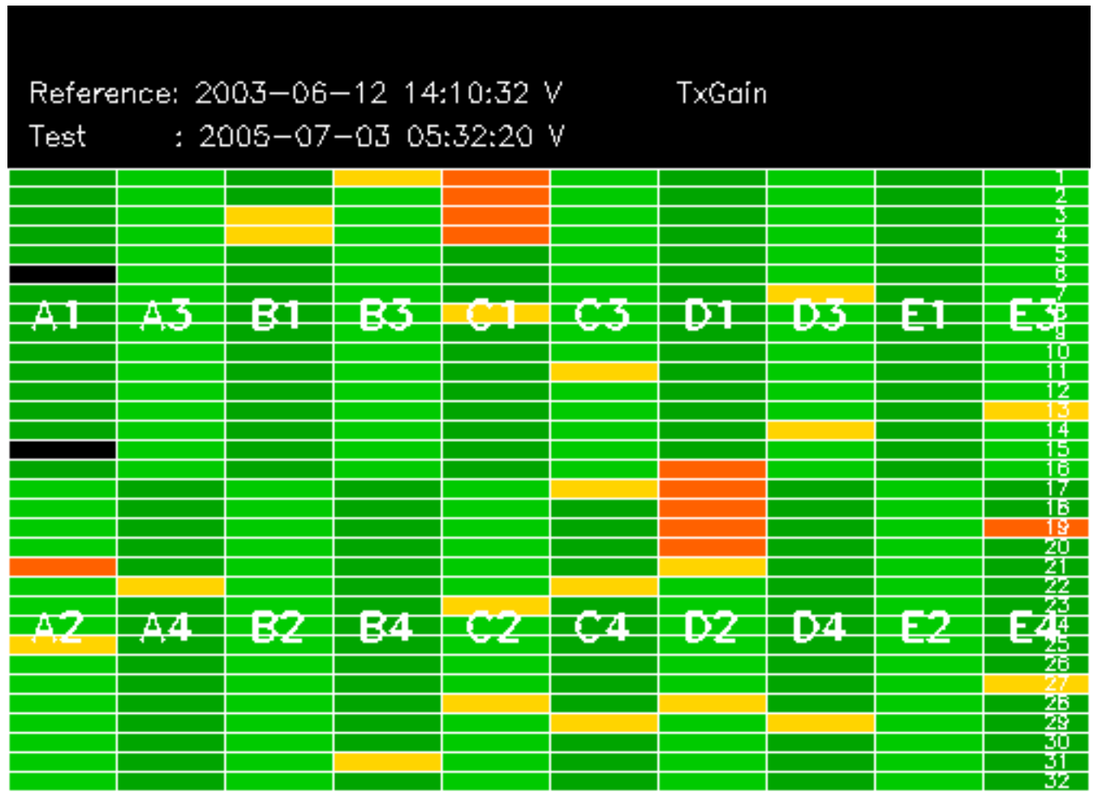
32


Reference: 2003-06-12 14:10:32 V
Test : 2005-07-03 05:32:20 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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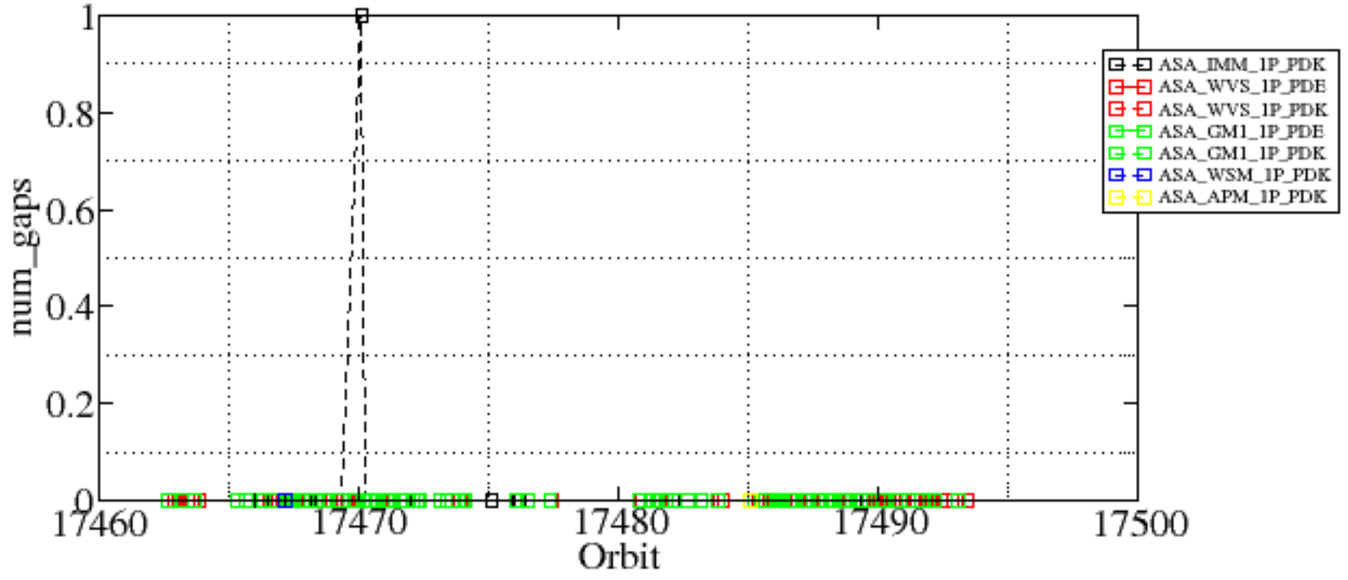
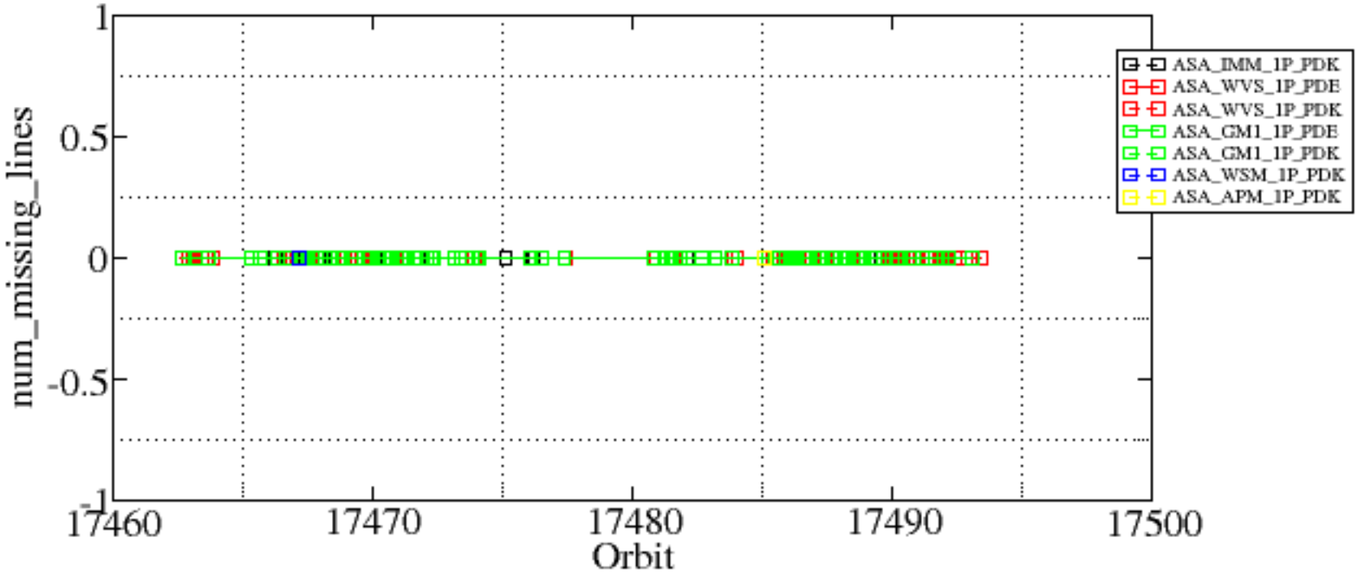
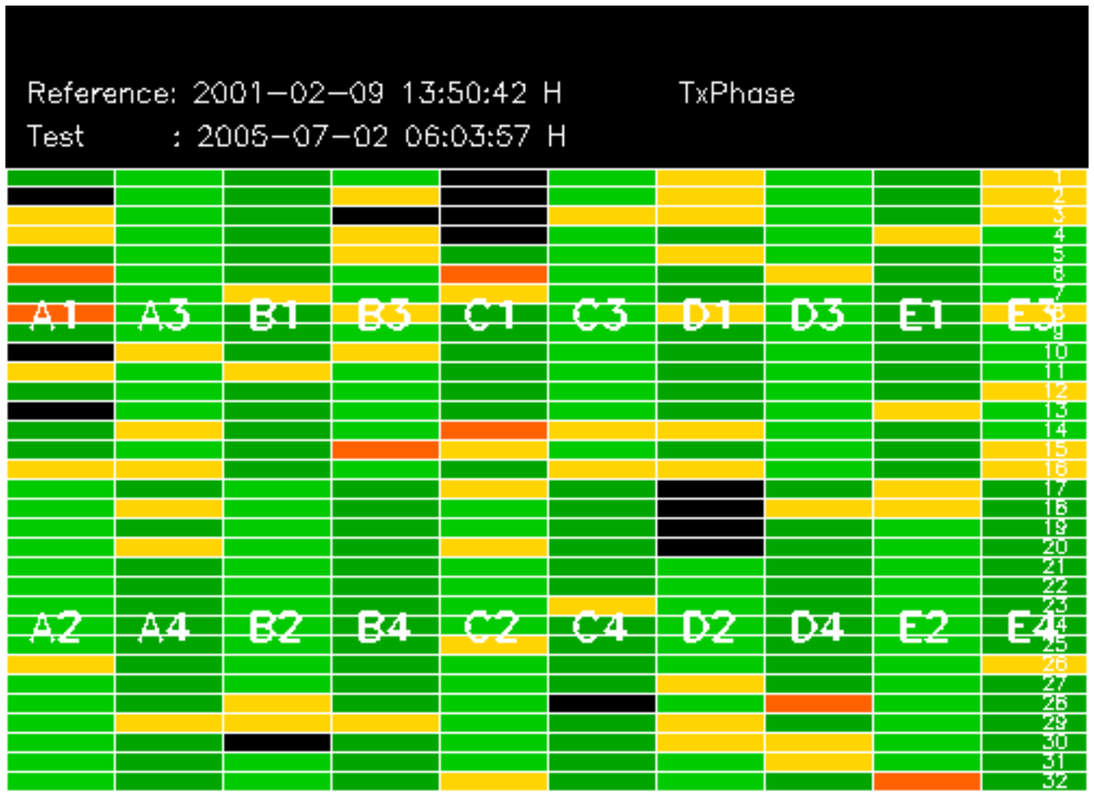
Summary of analysis for the last 3 days 2005070[345]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename   </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_IMM_1PNPDK20050703_125925_000001752038_00382_17470_1169.N1 </td> <td>1   </td> <td>0   </td></tr>
</table>


num_gaps
Orbit
1
0.8
0.6
0.4
0.2
0
17460
17470
17480
17490
17500
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
17460
17470
17480
17490
17500
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 : 2005-07-02 06:03:57 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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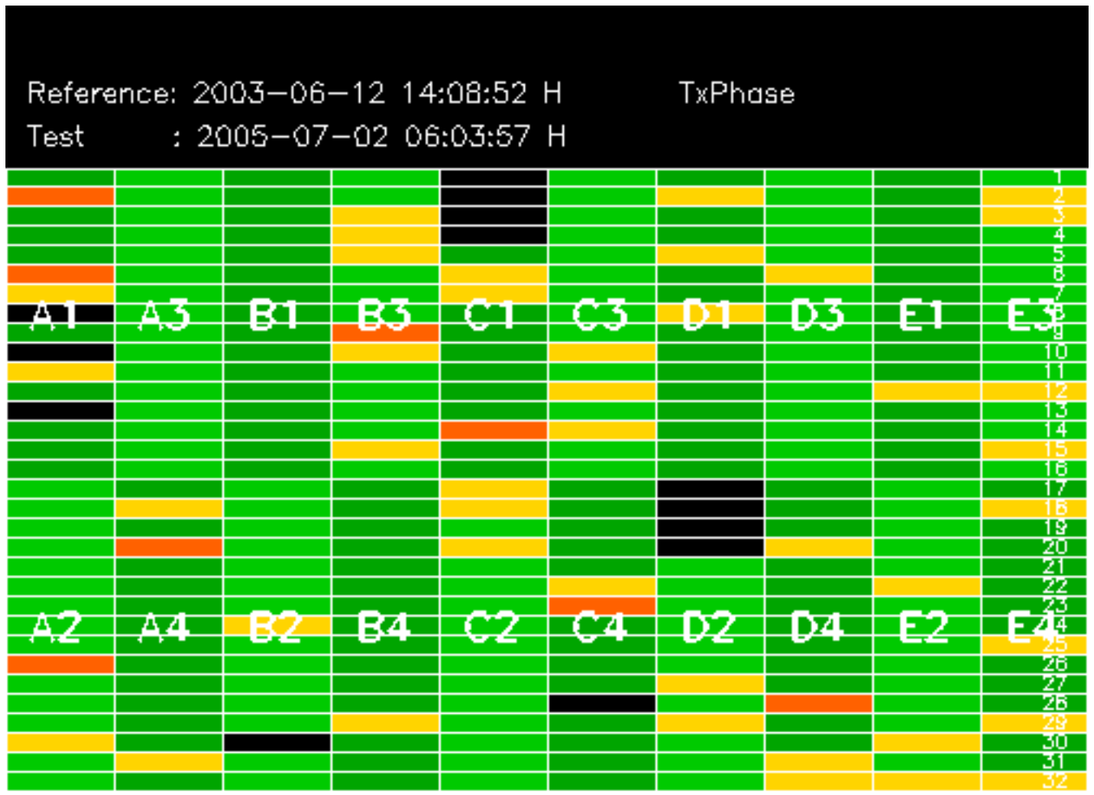
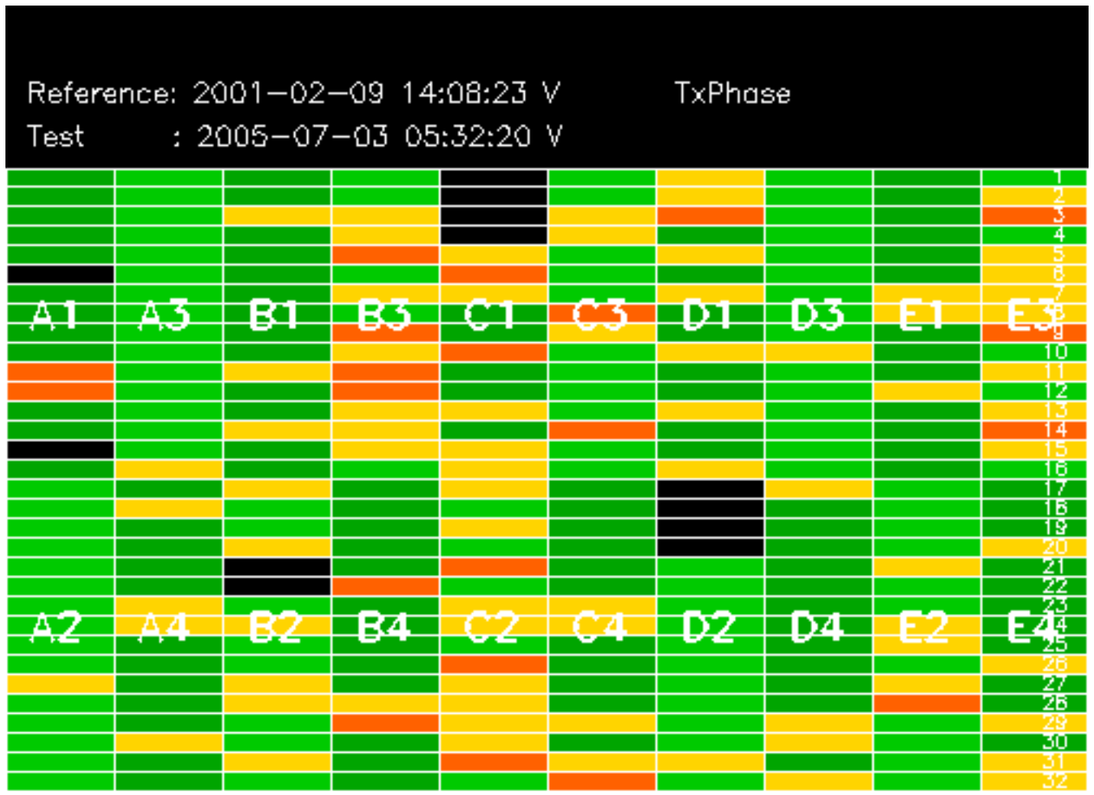
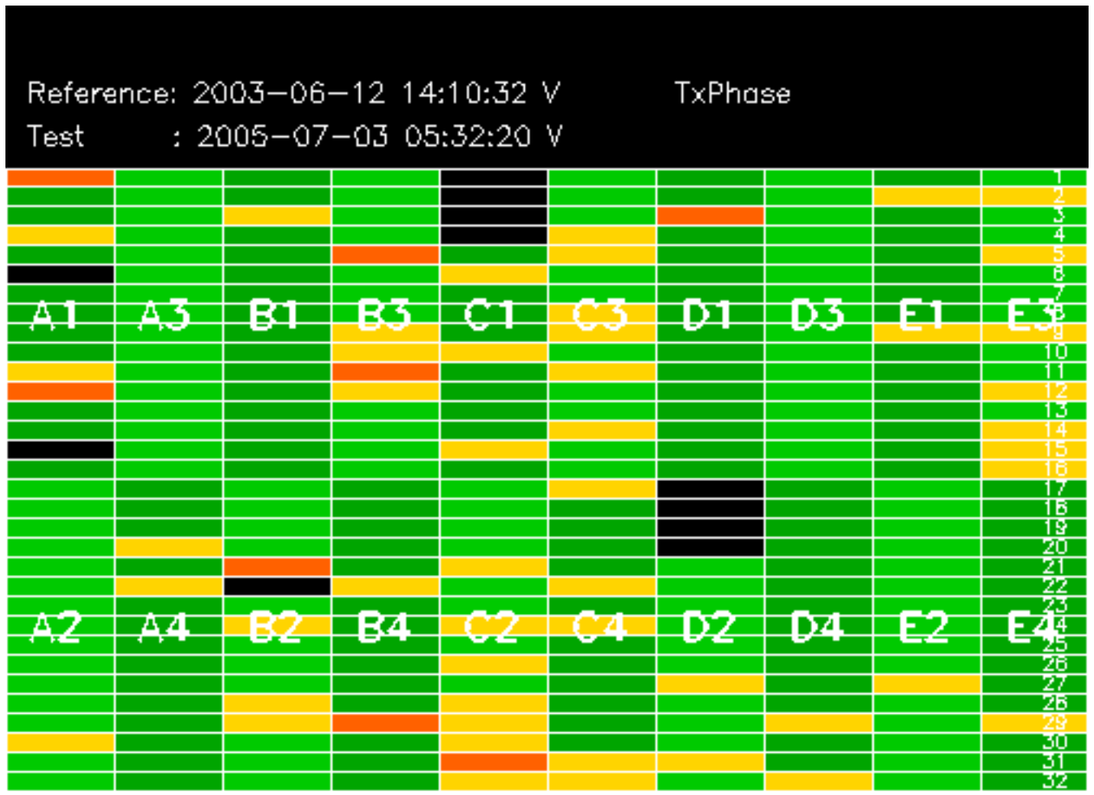

Reference: 2003-06-12 14:08:52 H
Test : 2005-07-02 06:03:57 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2005-07-03 05:32:20 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-07-03 05:32:20 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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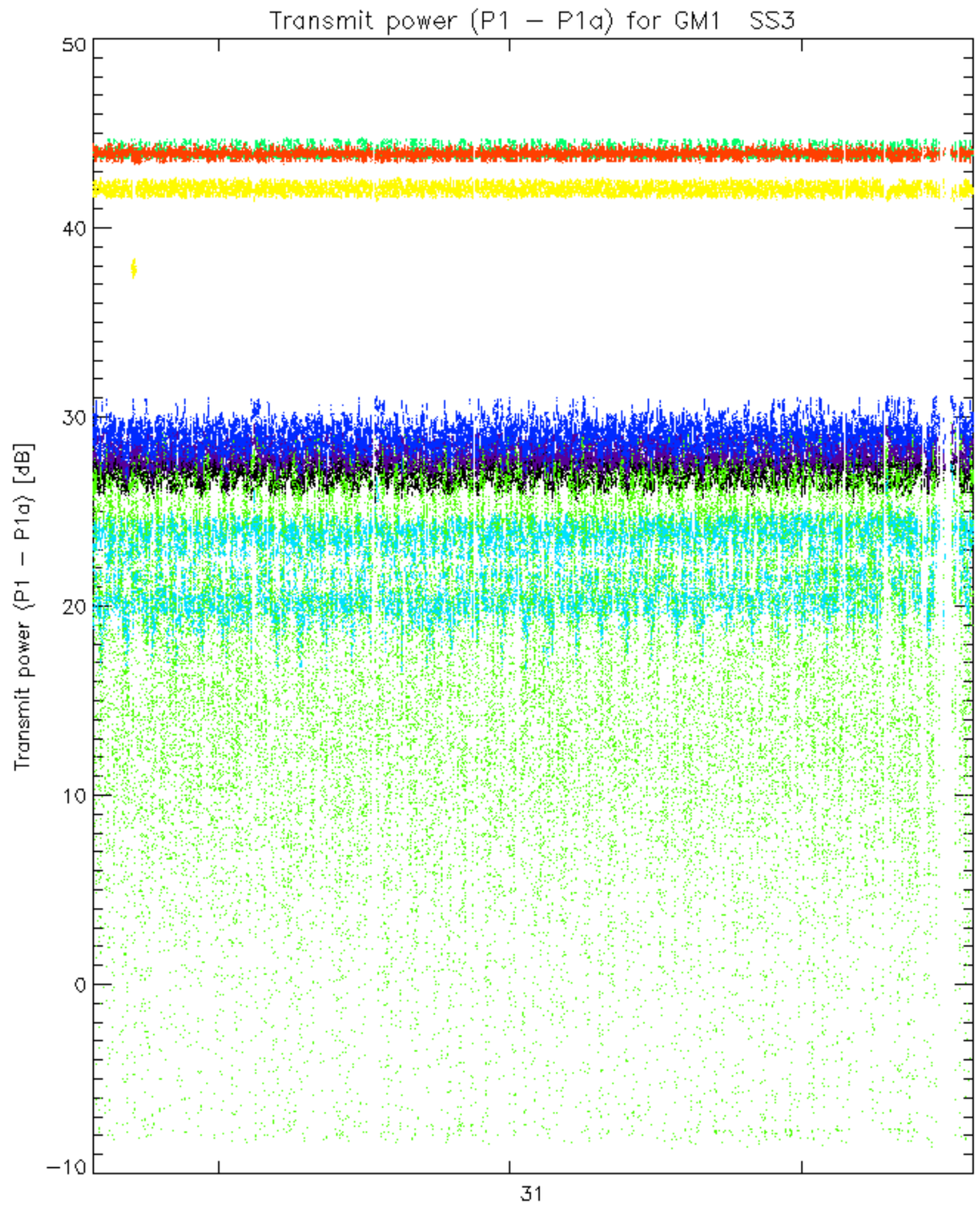
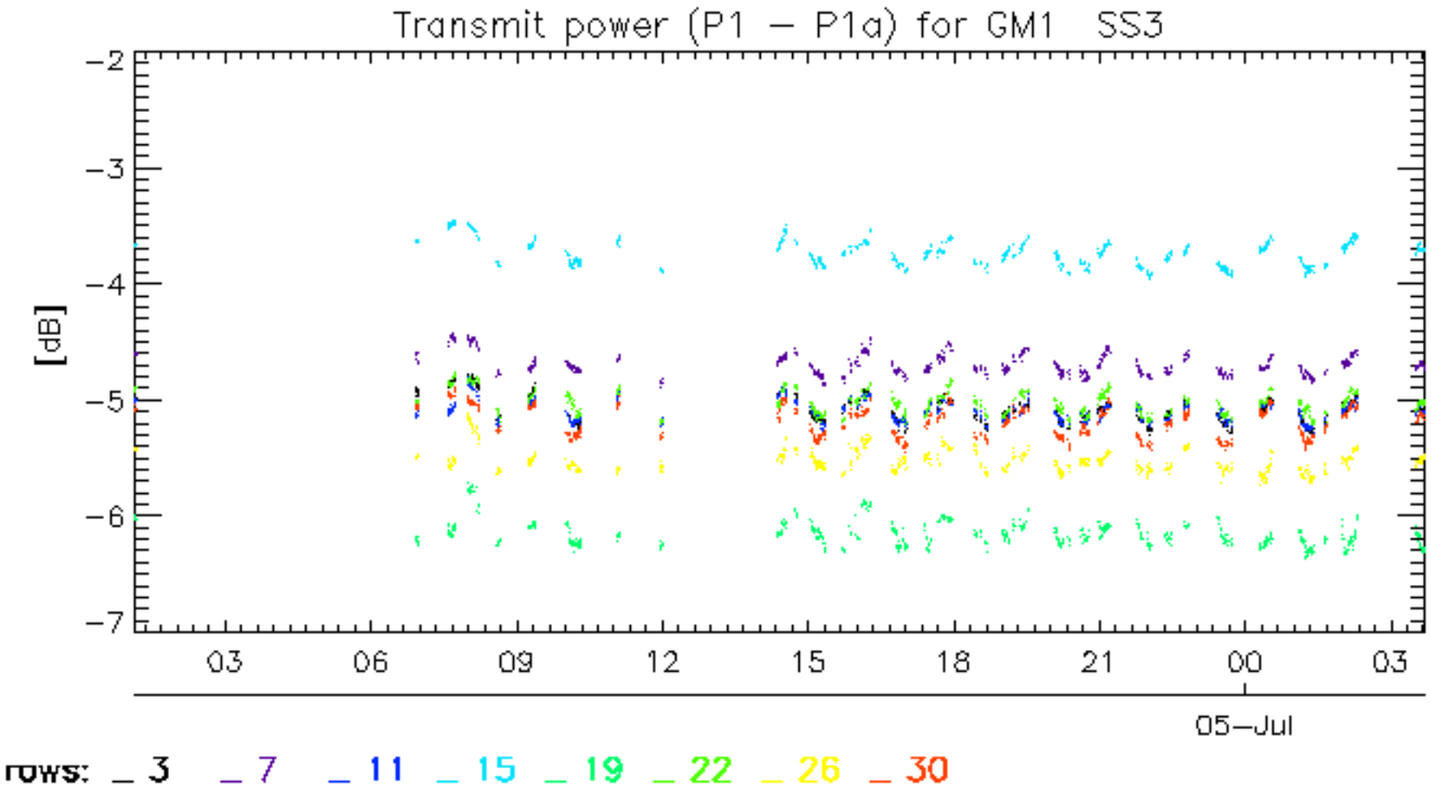
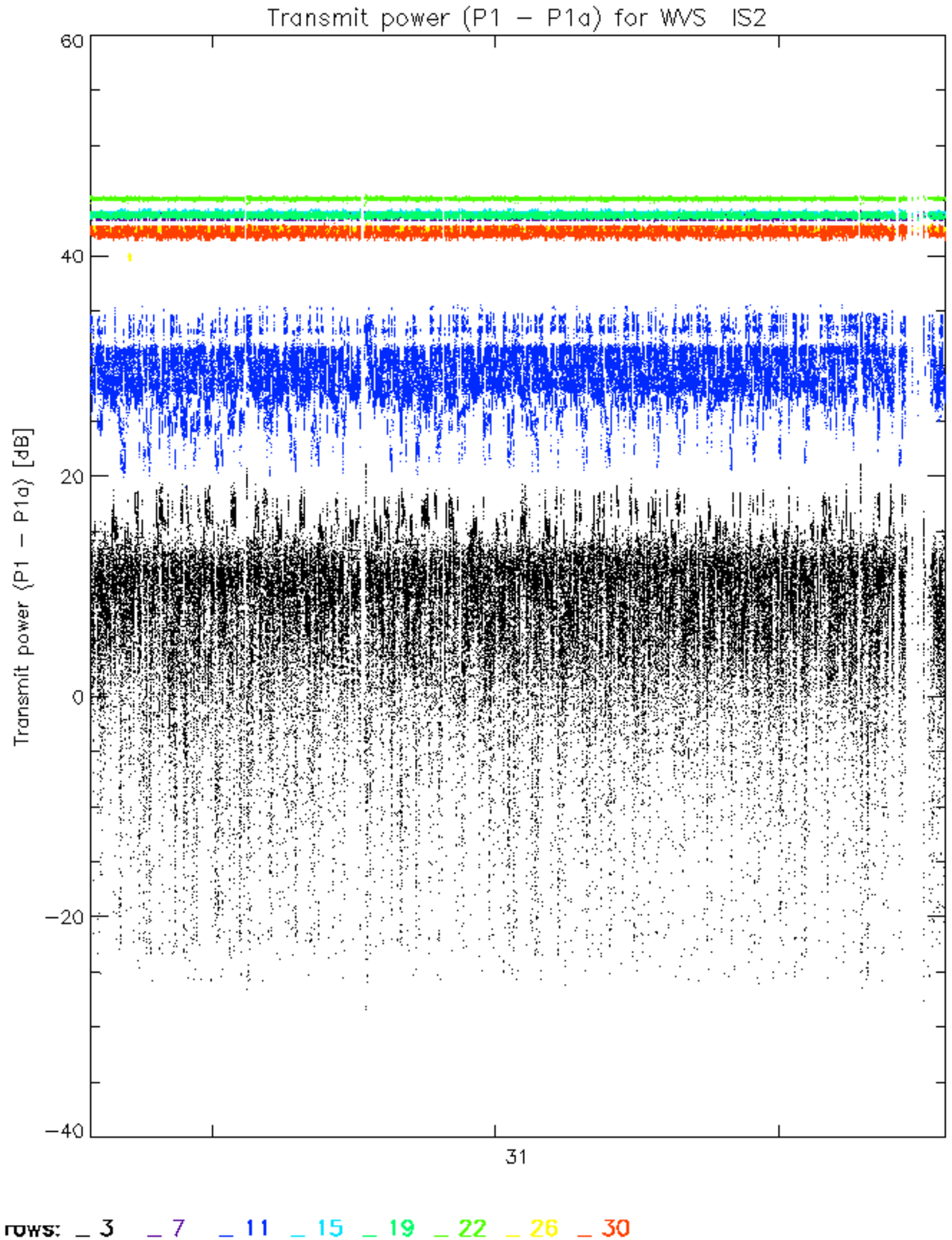
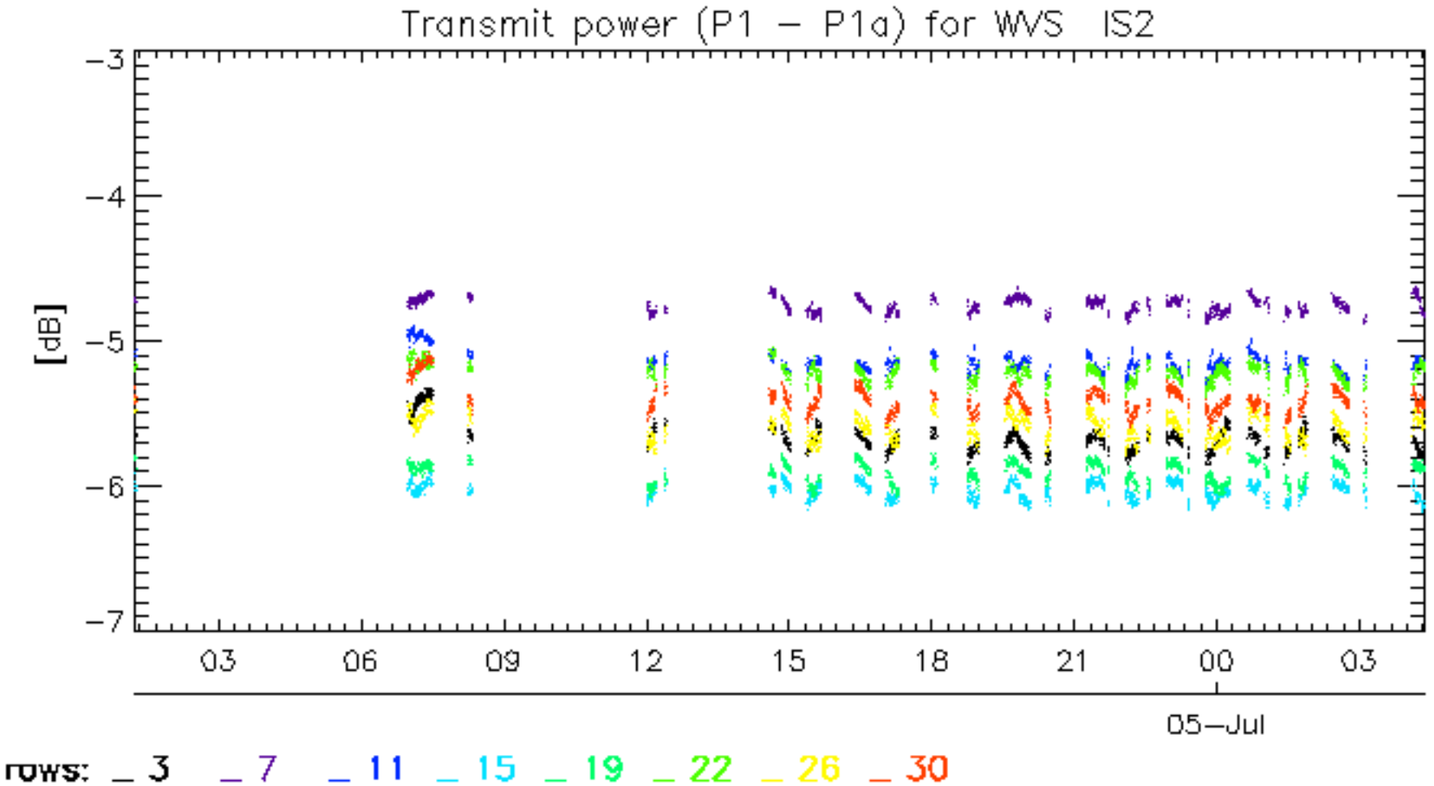

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
31
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
05–Jul
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
31
rows: 3 7 11 15 19 22 26 30


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

No unavailabilities during the reported period.