PRELIMINARY REPORT OF 060822

last update on Tue Aug 22 16:35:02 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 2006-08-21 00:00:00 to 2006-08-22 16:35:02

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

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	48	76	19	7	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	48	76	19	7	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	48	76	19	7	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	48	76	19	7	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	27	57	64	24	31
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	27	57	64	24	31
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	27	57	64	24	31
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	27	57	64	24	31

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**

MSM in V/V polarisation

MSM in H/H polarisation

4 - Internal calibration Results

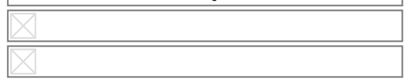
No anomalies observed.

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	-3.944100	0.009833	0.001942
7	P1	-3.085115	0.051241	0.093638
11	P1	-4.090164	0.062709	0.017551
15	P1	-6.200112	0.093204	-0.042063
19	P1	-3.445948	0.010119	-0.081445
22	P1	-4.566732	0.009935	-0.024641
26	P1	-3.921652	0.020104	-0.013426
30	P1	-5.765616	0.009920	-0.010639
3	P1	-16.538528	0.255199	0.021620
7	P1	-16.881191	0.644513	1.459303
11	P1	-16.891256	0.294223	0.213684
15	P1	-13.011447	0.163091	0.145234
19	P1	-14.507405	0.054724	-0.073618
22	P1	-15.924926	0.460285	0.176877
26	P1	-15.133532	0.222619	-0.102825
30	P1	-17.059002	0.321196	0.115759

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.892124	0.084635	0.095656
7	P2	-21.868288	0.100196	0.024177
11	P2	-15.759441	0.115997	0.043656
15	P2	-7.107564	0.097116	0.029435
19	P2	-9.118586	0.090692	0.012787
22	P2	-18.141354	0.085252	0.014804
26	P2	-16.398590	0.091394	-0.004791
30	P2	-19.490845	0.091122	0.043070

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.172457	0.003417	-0.001920
7	P3	-8.172457	0.003417	-0.001920
11	P3	-8.172457	0.003417	-0.001920
15	P3	-8.172457	0.003417	-0.001920
19	P3	-8.172457	0.003417	-0.001920
22	P3	-8.172457	0.003417	-0.001920
26	P3	-8.172509	0.003415	-0.002076
30	P3	-8.172509	0.003415	-0.002076

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	-3.830612	0.021606	-0.012971
7	P1	-2.498701	0.286117	0.433352
11	P1	-2.891235	0.142077	-0.048183
15	P1	-3.637619	0.148888	-0.112183
19	P1	-3.428246	0.025527	-0.002740
22	P1	-5.087494	0.020736	-0.011894
26	P1	-5.867463	0.023502	-0.017315
30	P1	-5.194358	0.039965	0.005128
3	P1	-11.622190	0.066448	-0.020432
7	P1	-9.913758	0.187607	0.298254
11	P1	-10.280534	0.081954	-0.083323
15	P1	-10.791711	0.173463	-0.131563
19	P1	-15.550518	0.527456	0.082111
22	P1	-20.942953	1.335351	-0.123855
26	P1	-16.160954	0.405938	0.183694
30	P1	-17.995577	0.430984	-0.080695

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.500380	0.085046	0.137075
7	P2	-22.288837	0.205081	0.183091
11	P2	-10.976527	0.055131	0.146175
15	P2	-4.888175	0.043486	0.026595
19	P2	-6.861837	0.040346	0.008727

22	P2	-8.187474	0.062295	0.008492
26	P2	-24.171511	0.129190	0.018008
30	P2	-21.979034	0.079043	0.048749

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.012823	0.003697	-0.010340
7	P3	-8.012691	0.003698	-0.010057
11	P3	-8.012785	0.003702	-0.009998
15	P3	-8.012875	0.003699	-0.010404
19	P3	-8.012782	0.003712	-0.010324
22	P3	-8.012941	0.003690	-0.010314
26	P3	-8.012794	0.003685	-0.009786
30	P3	-8.012750	0.003697	-0.009929

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	0.000554684
	stdev	1.76868e-07
MEAN Q	mean	0.000531829
	stdev	2.16127e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.136777
	stdev	0.00107949
STDEV Q	mean	0.137128
	stdev	0.00109602

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006082[012]
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_1PNPDE20060820_013600_000001612050_00275_23375_3774.N1	1	0
ASA_IMM_1PNPDE20060821_004801_000000802050_00288_23388_3949.N1	1	0
ASA_IMM_1PNPDE20060821_155731_000000522050_00298_23398_4040.N1	1	0
ASA_IMM_1PNPDE20060822_010019_000000812050_00303_23403_4134.N1	1	0
ASA_WSM_1PNPDE20060820_231435_000000972050_00288_23388_8788.N1	0	56
ASA_WSM_1PNPDE20060821_141902_000000852050_00297_23397_8839.N1	0	36

7 - Doppler Analysis

Preliminary report.The data is not yet controled

7.1 - Unbiased Doppler Error for WVS

Evolution of unbiased Doppler error (Real - Expected)

Acsending

Descending

7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler

Acsending

Descending

7.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX


7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)

Acsending

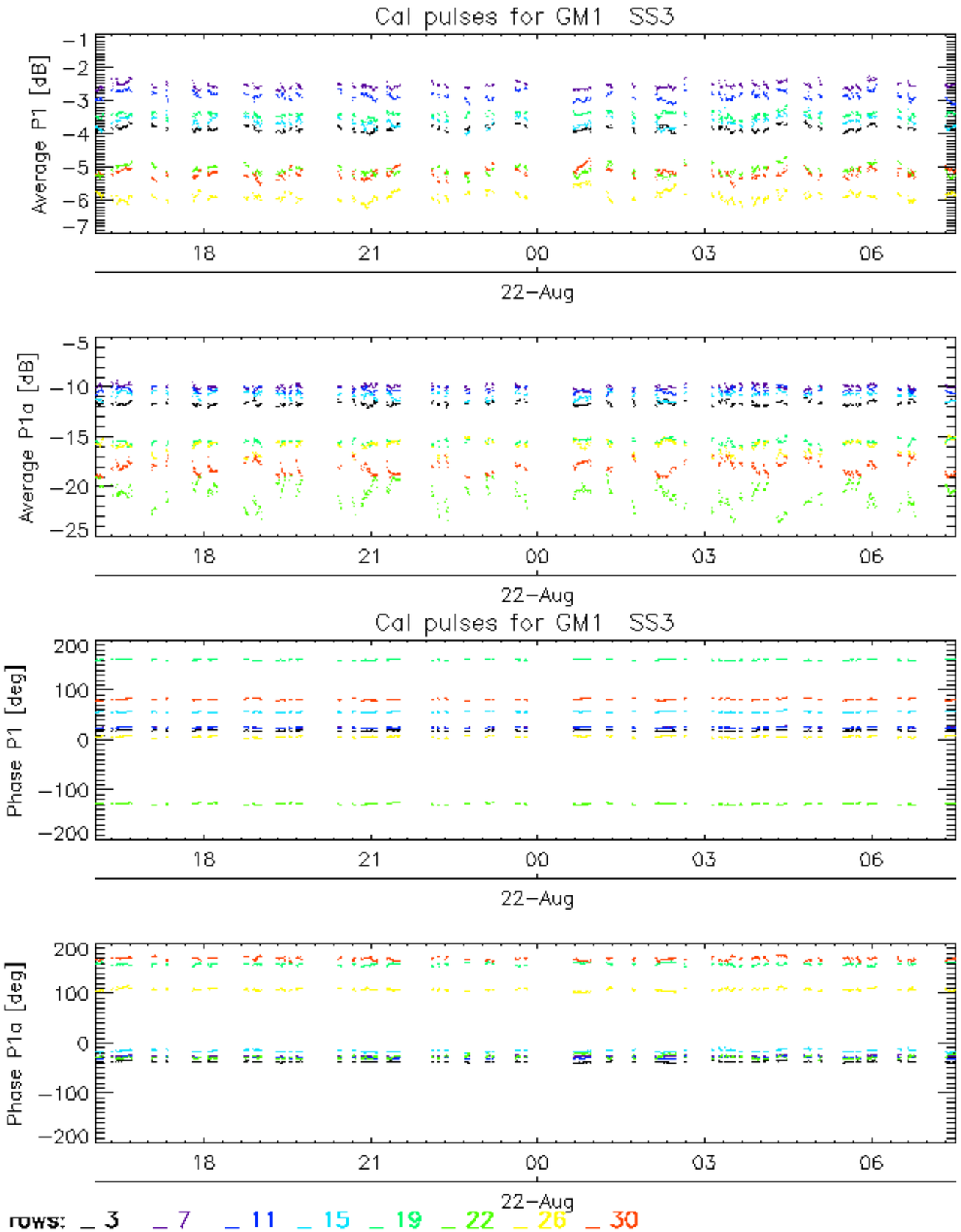
Descending

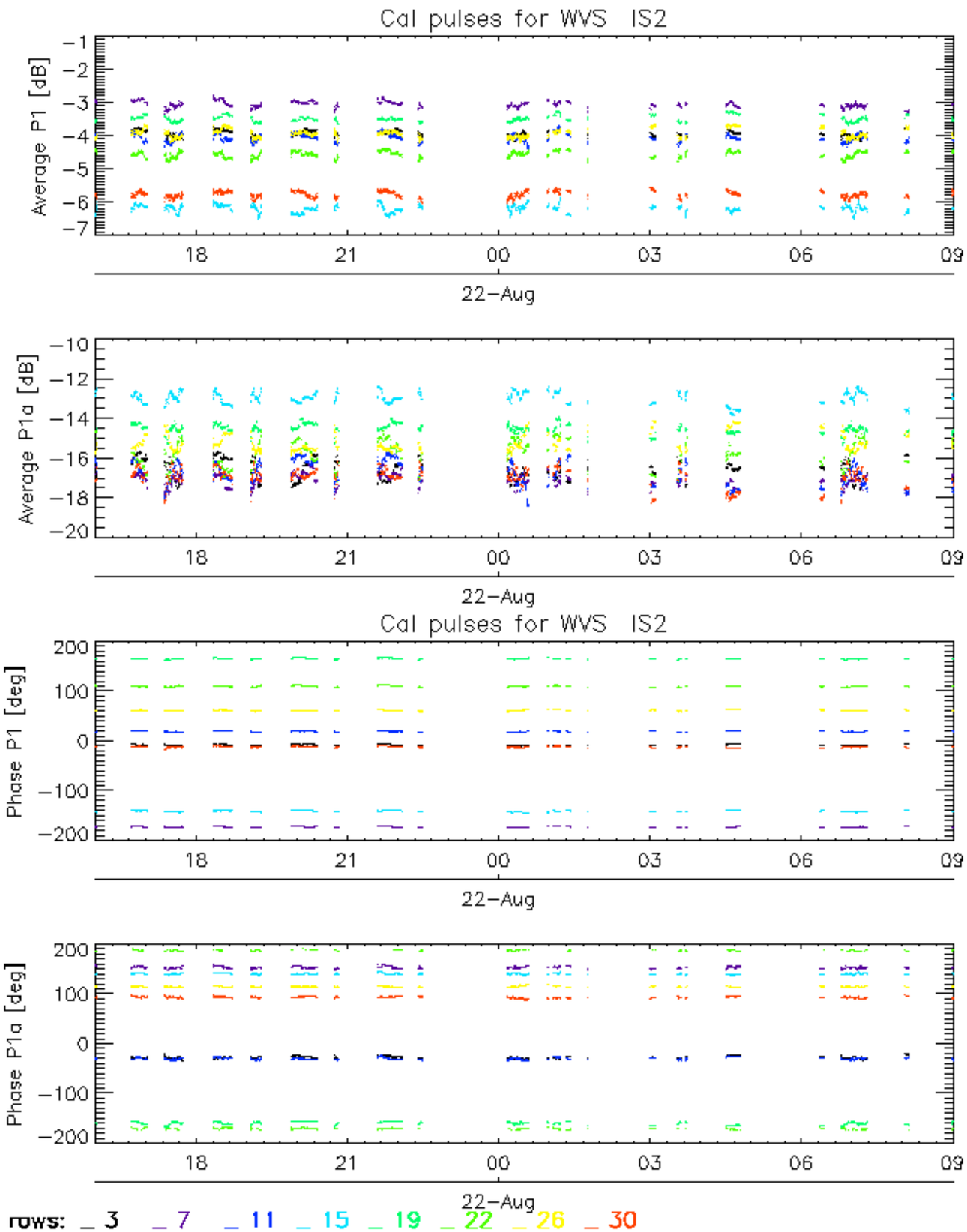
7.5 - Absolute Doppler for GM1

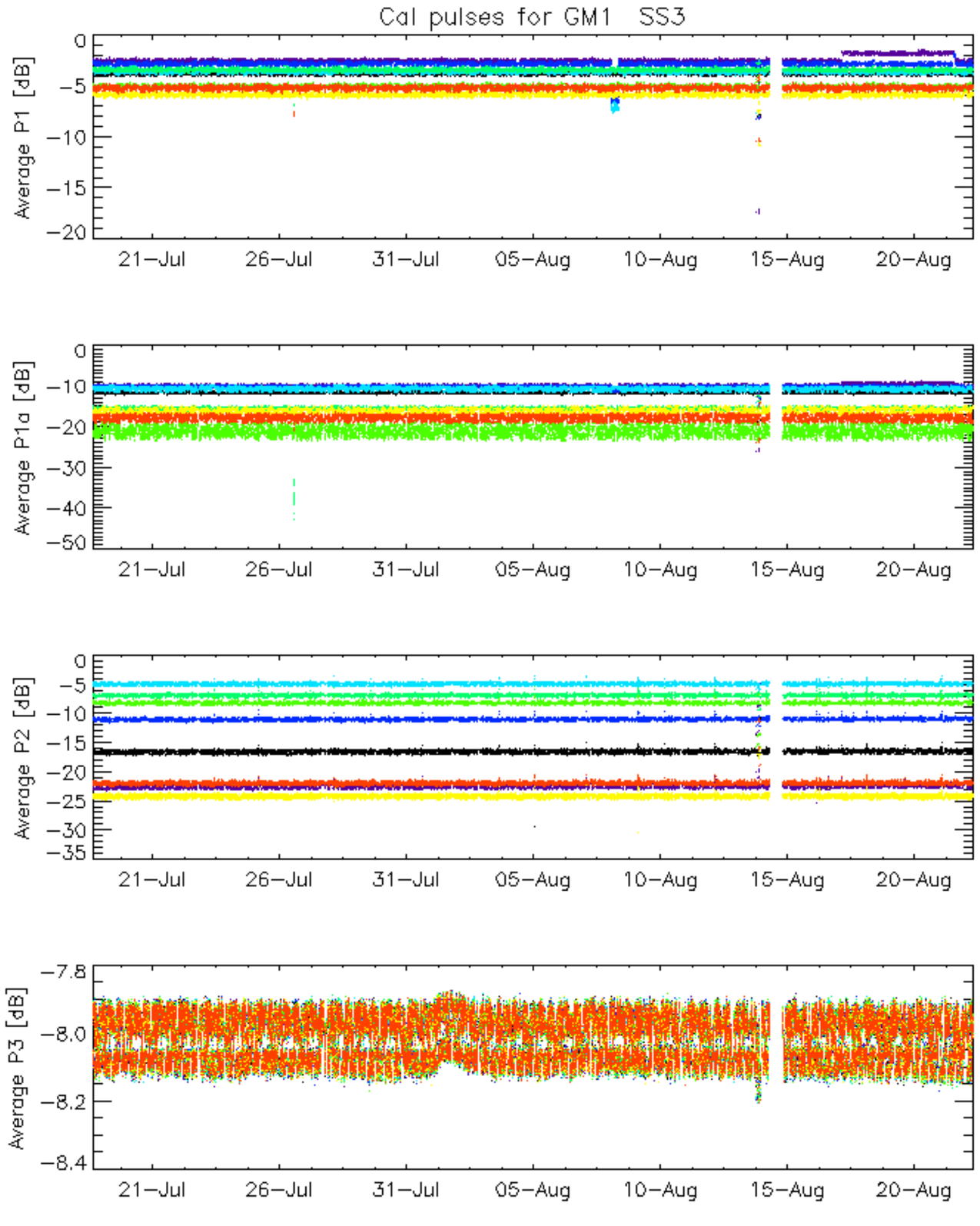
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

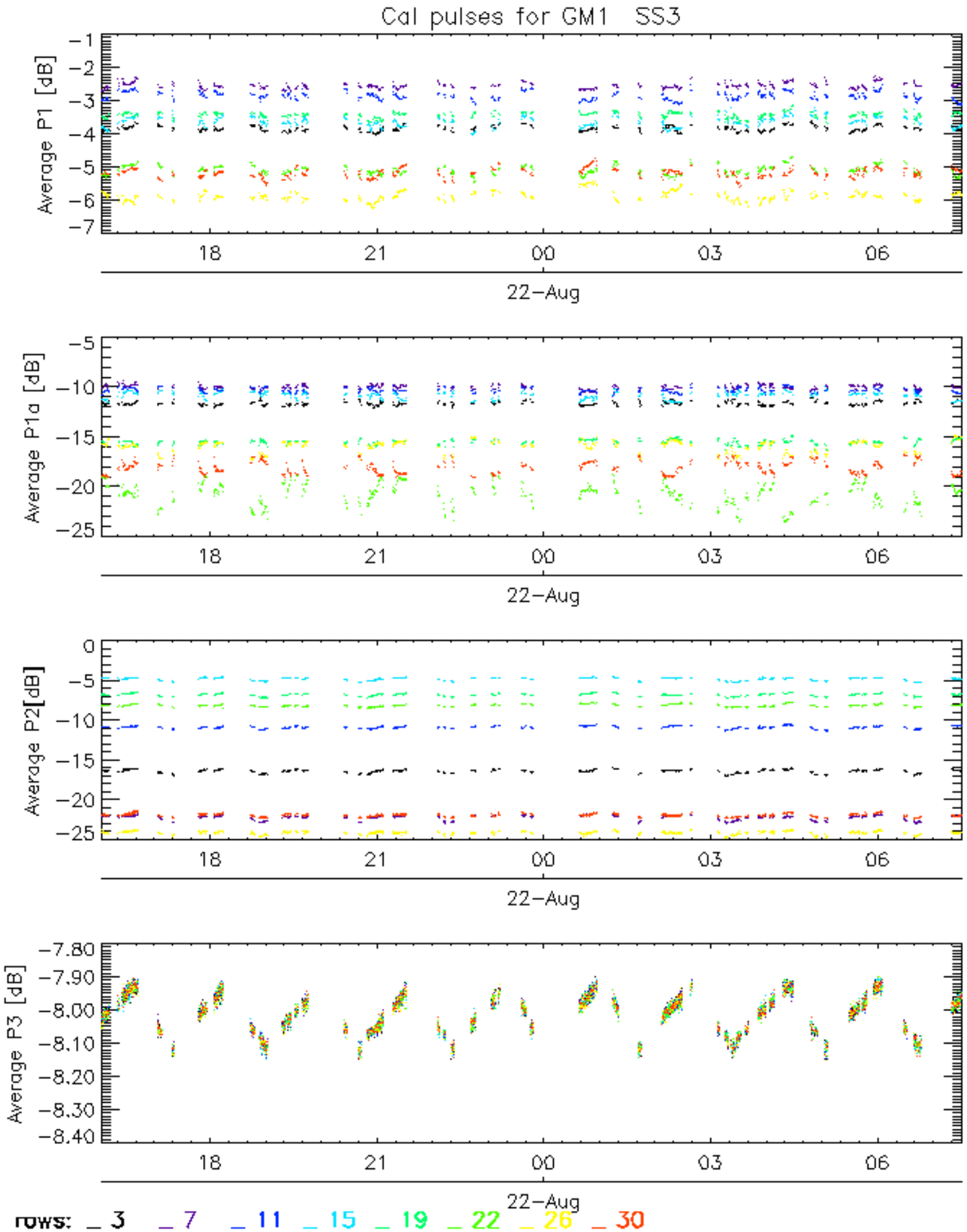
7.6 - Doppler evolution versus ANX for GM1

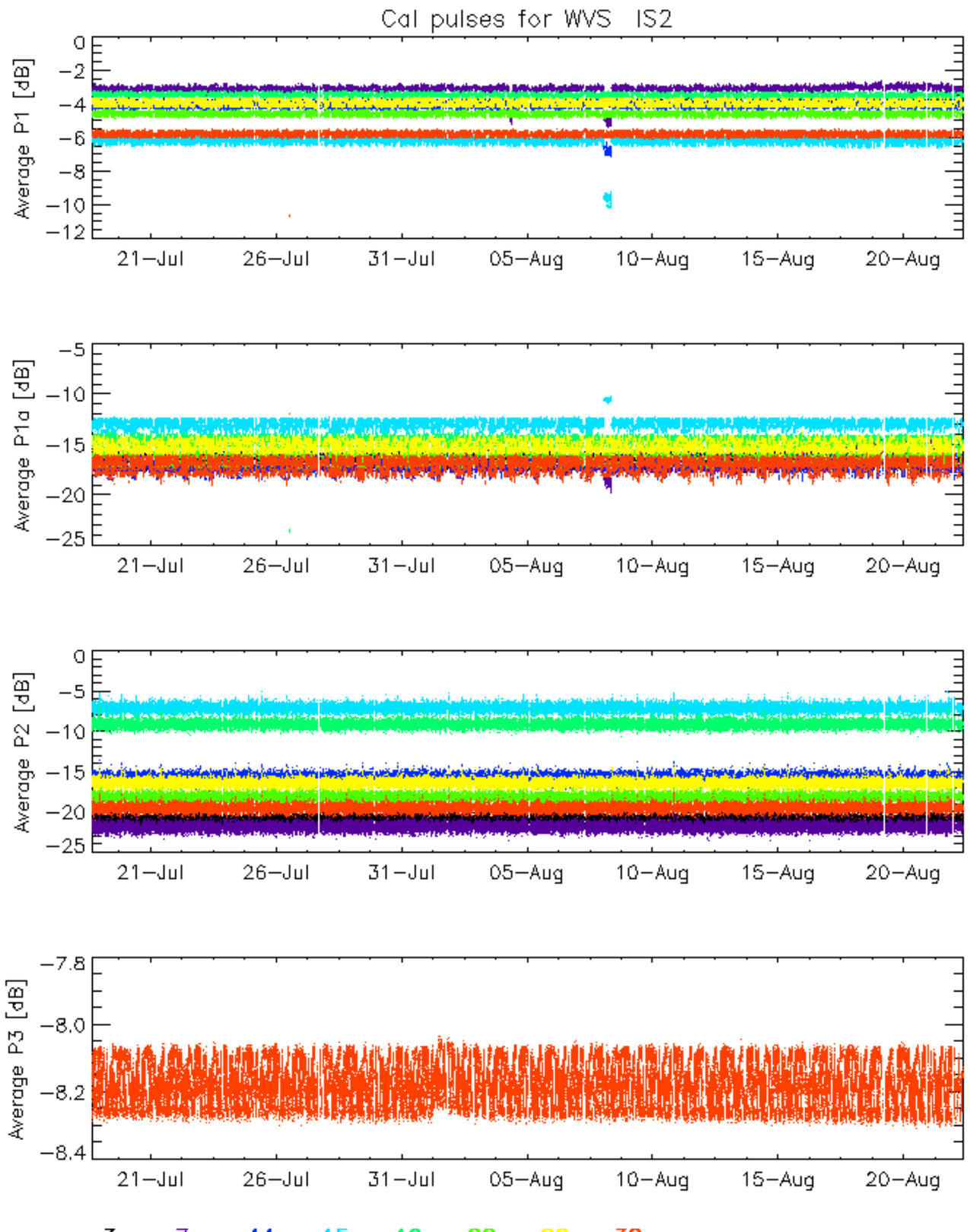
Evolution Doppler error versus ANX
☒

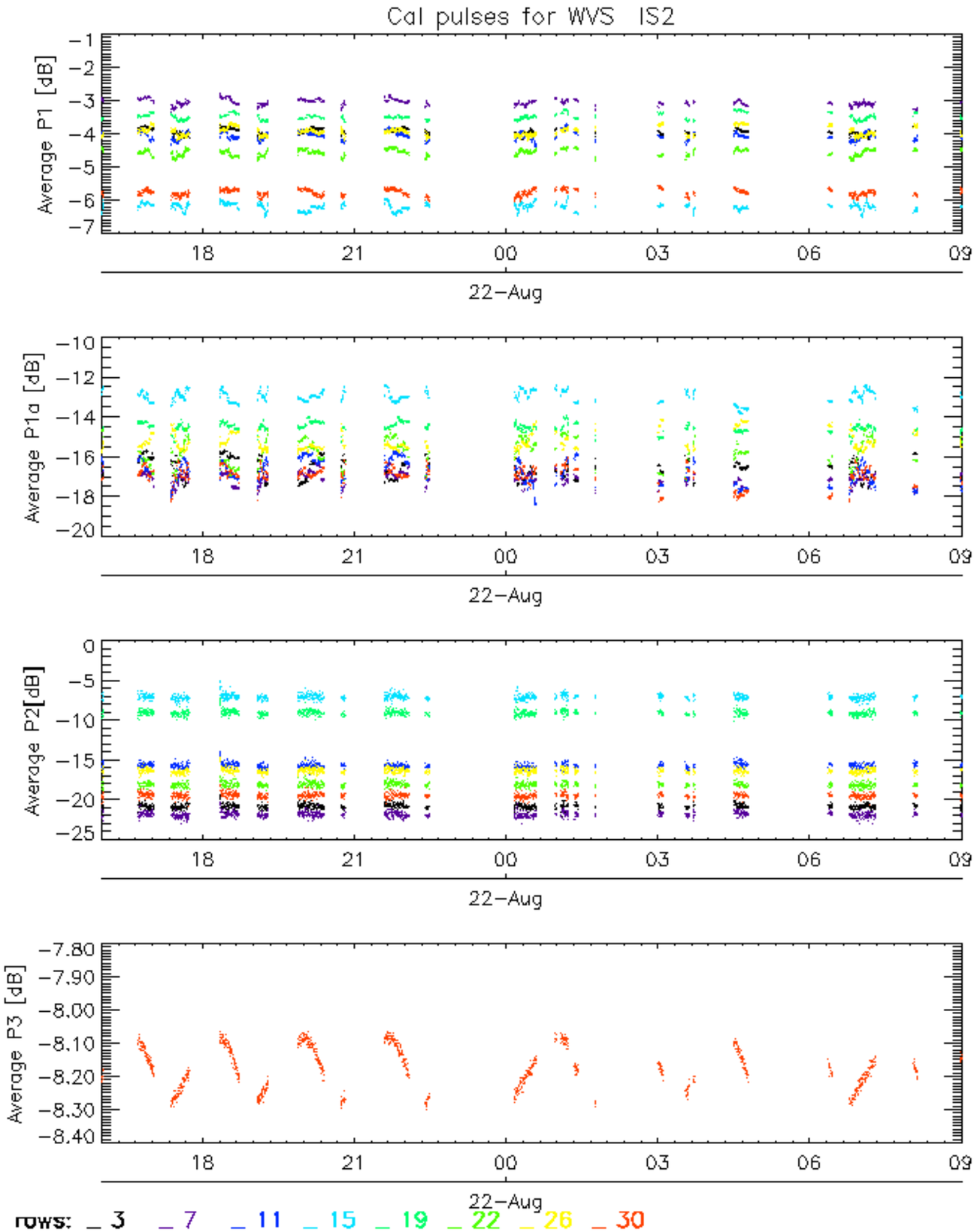

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
22−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
18
21
00
03
06
22−Aug
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
18
21
00
03
06
22−Aug
Phase P1a [deg]
200
100
0
−100
−200
18
21
00
03
06
22−Aug
rows: 3 7 11 15 19 22 26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


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
09
22−Aug
Average P1a [dB]
−10
−12
−14
−16
−18
−20
18
21
00
03
06
09
22−Aug
Cal pulses for WVS IS2
Phase P1 [deg]
200
100
0
−100
−200
18
21
00
03
06
09
22−Aug
Phase P1a [deg]
200
100
0
−100
−200
18
21
00
03
06
09
22−Aug
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]
0
−10
−20
−30
−40
−50
Average P2 [dB]
0
−5
−10
−15
−20
−25
−30
−35
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug
20−Aug
rows: 3 7 11 15 19 22 26 30

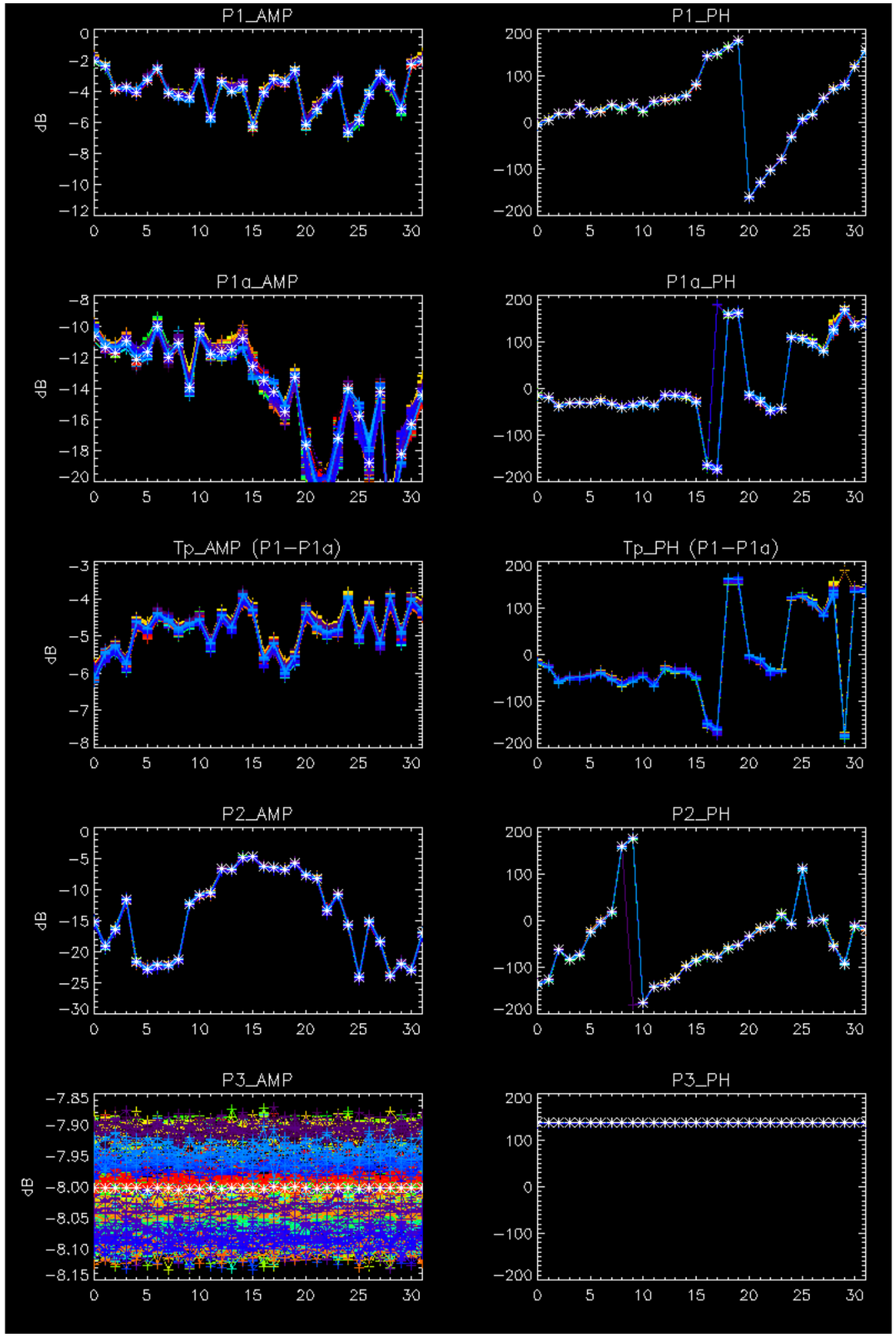

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
22−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
18
21
00
03
06
22−Aug
Average P2[dB]
0
−5
−10
−15
−20
−25
18
21
00
03
06
22−Aug
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
18
21
00
03
06
22−Aug
rows: _ 3 _ 7 _ 11 _ 15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

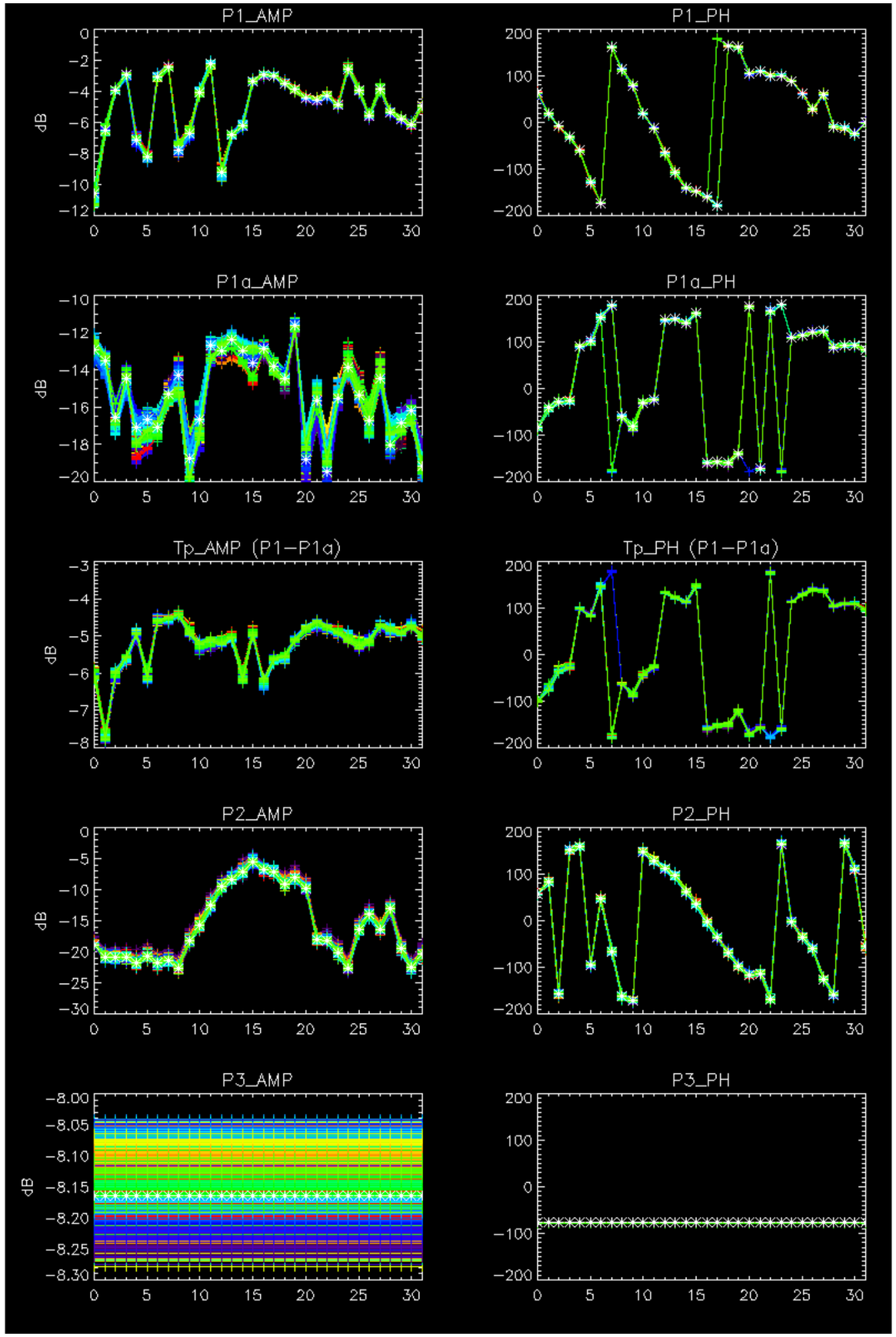

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug
20−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
09
22−Aug
Average P1a [dB]
−10
−12
−14
−16
−18
−20
18
21
00
03
06
09
22−Aug
Average P2[dB]
0
−5
−10
−15
−20
−25
18
21
00
03
06
09
22−Aug
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
18
21
00
03
06
09
22−Aug
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

No anomalies observed on available browse products

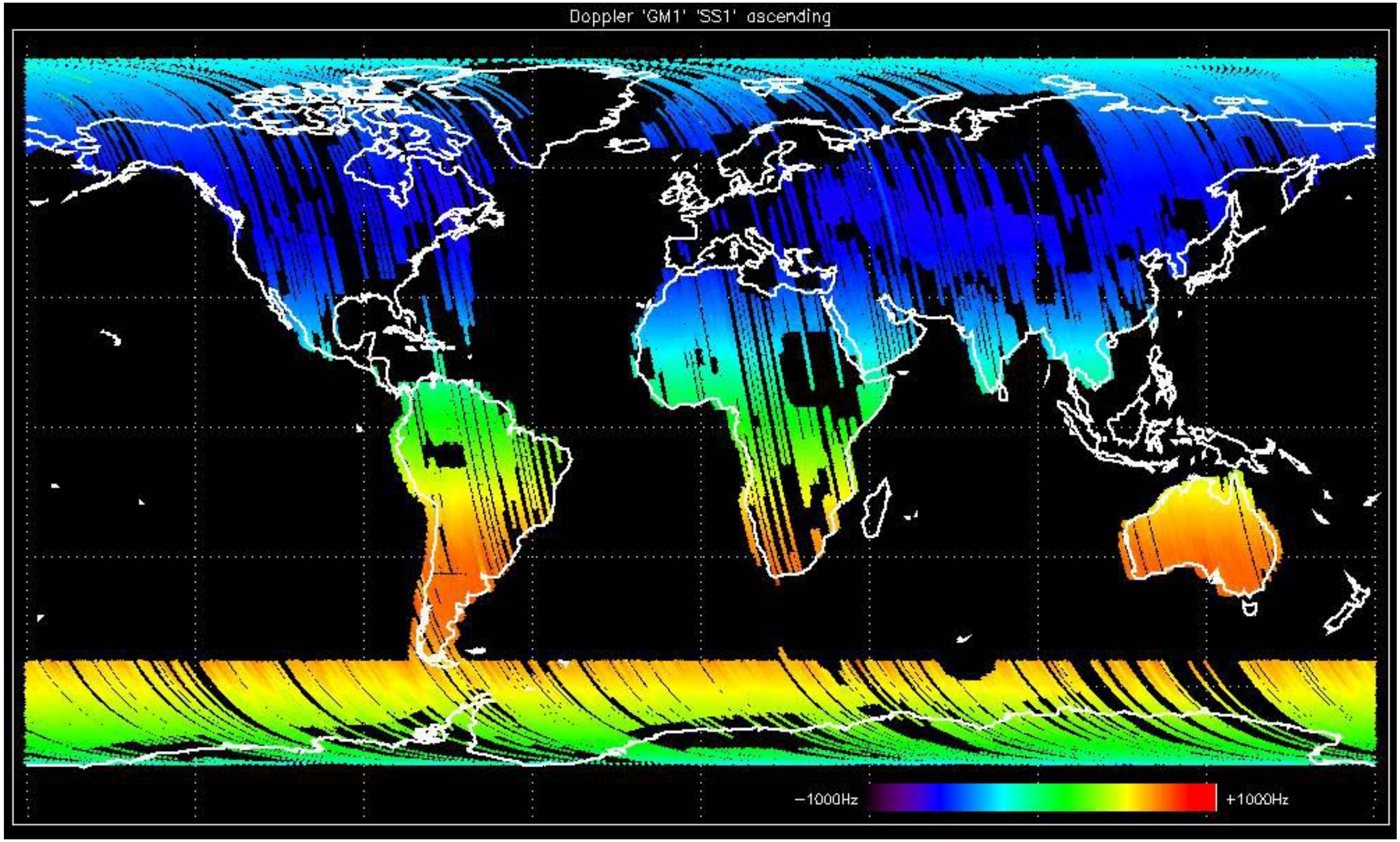
No anomalies observed.

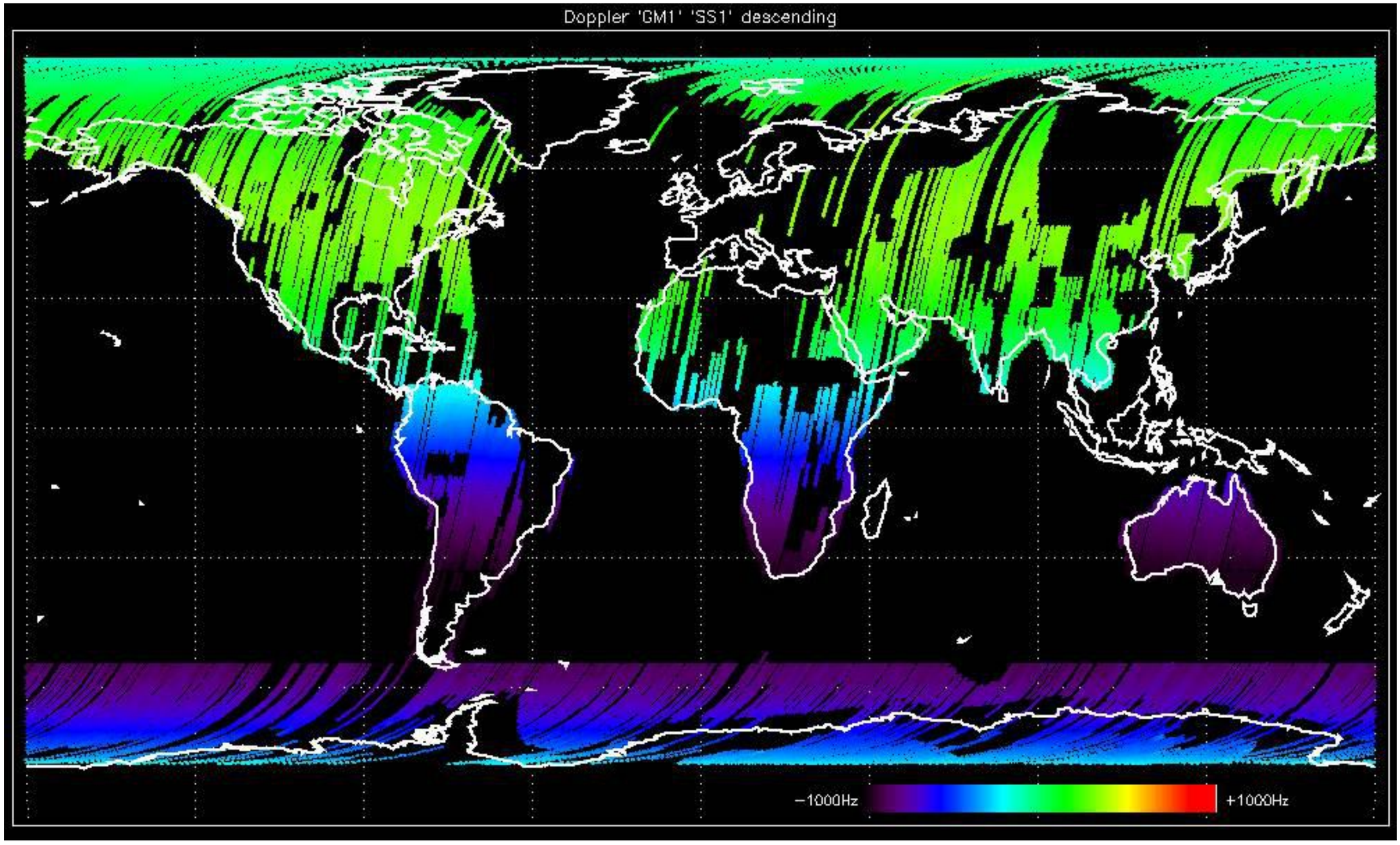

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

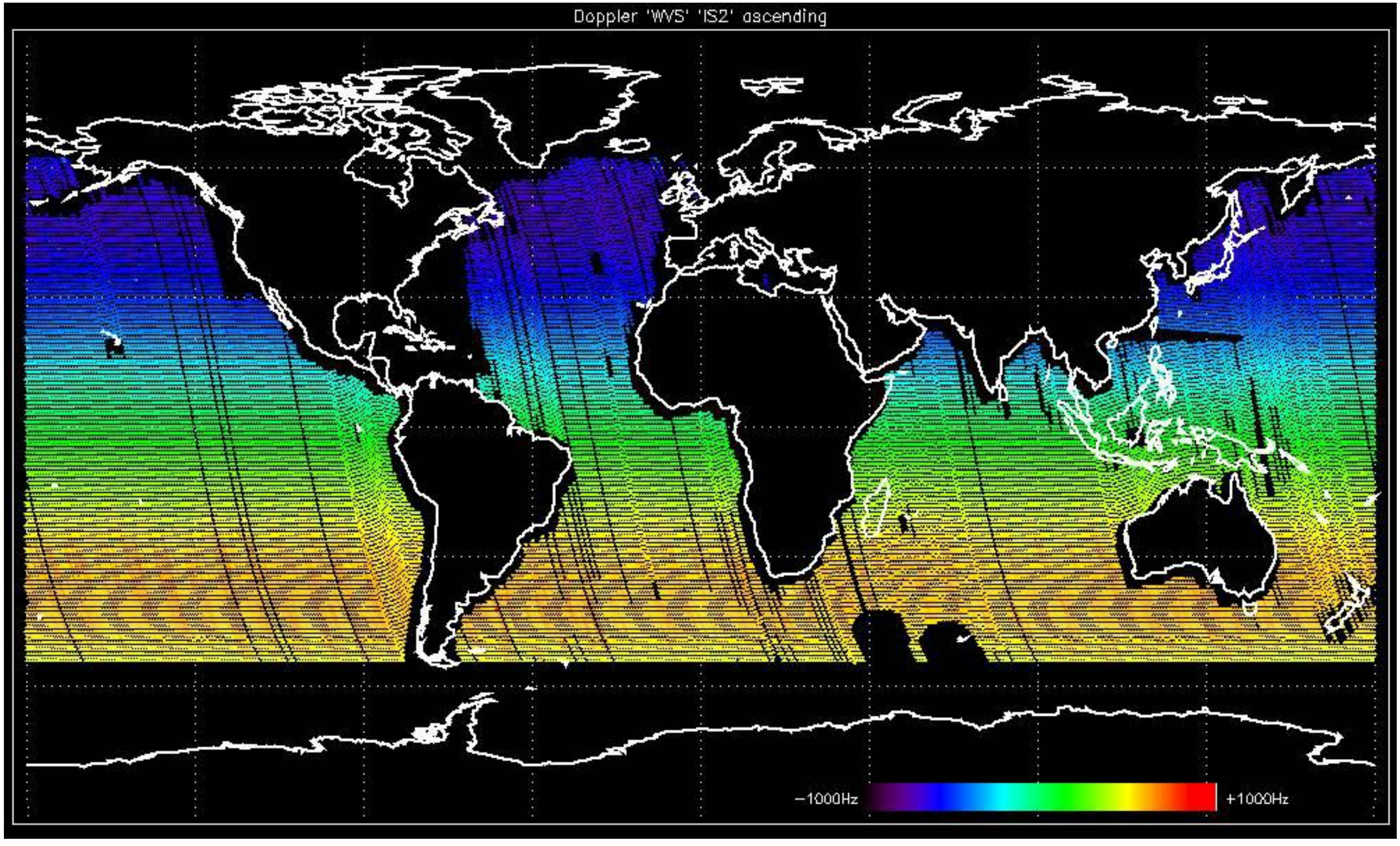

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

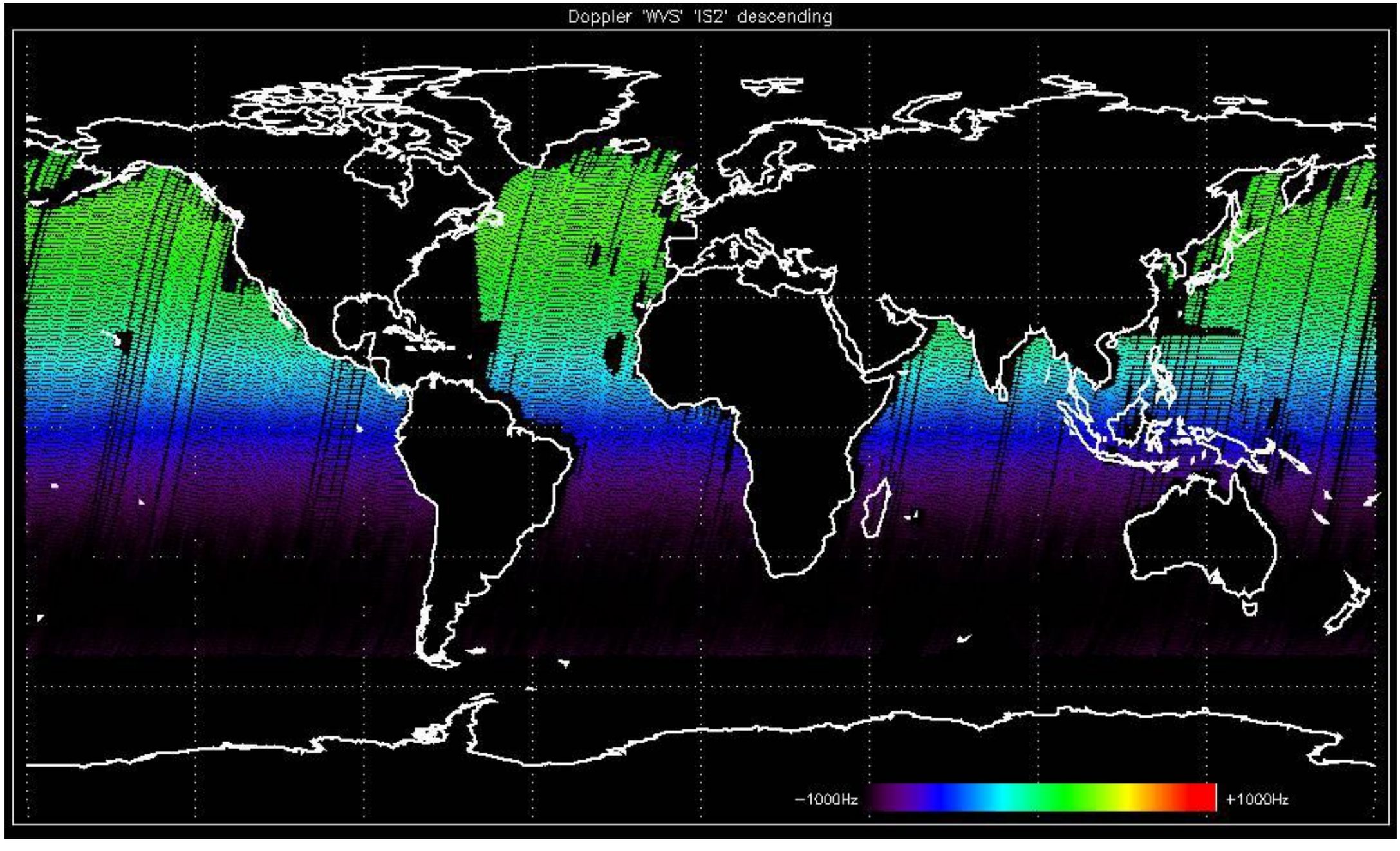
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

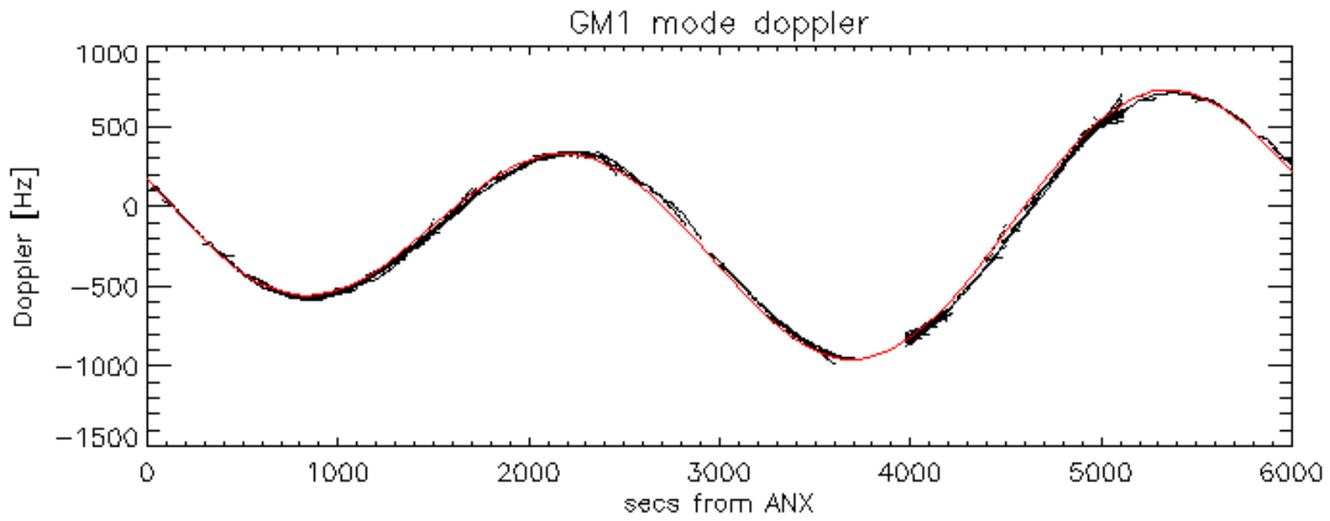
Preliminary report.The data is not yet controled

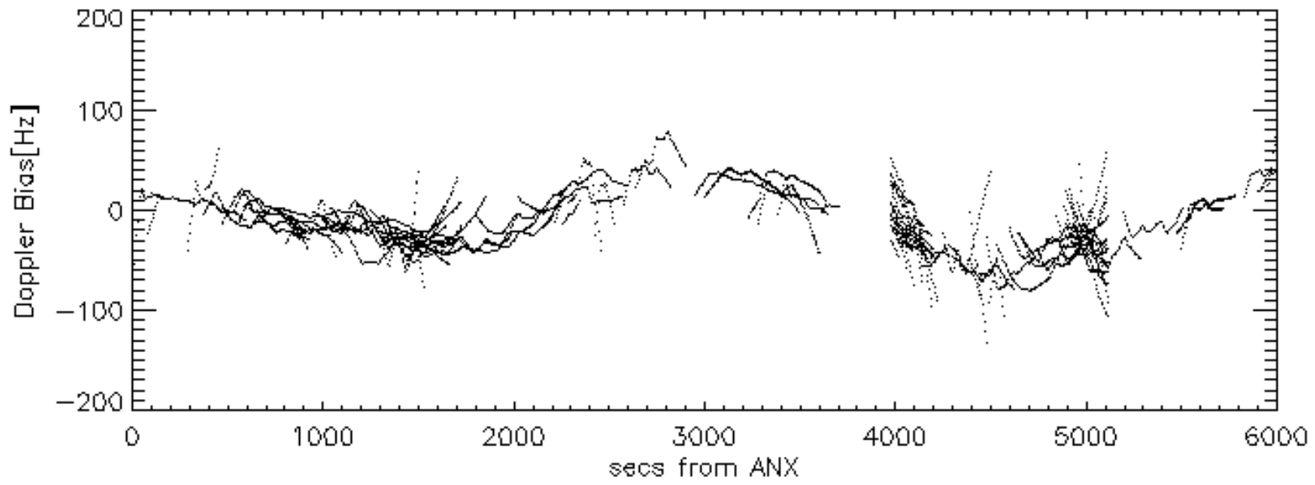

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

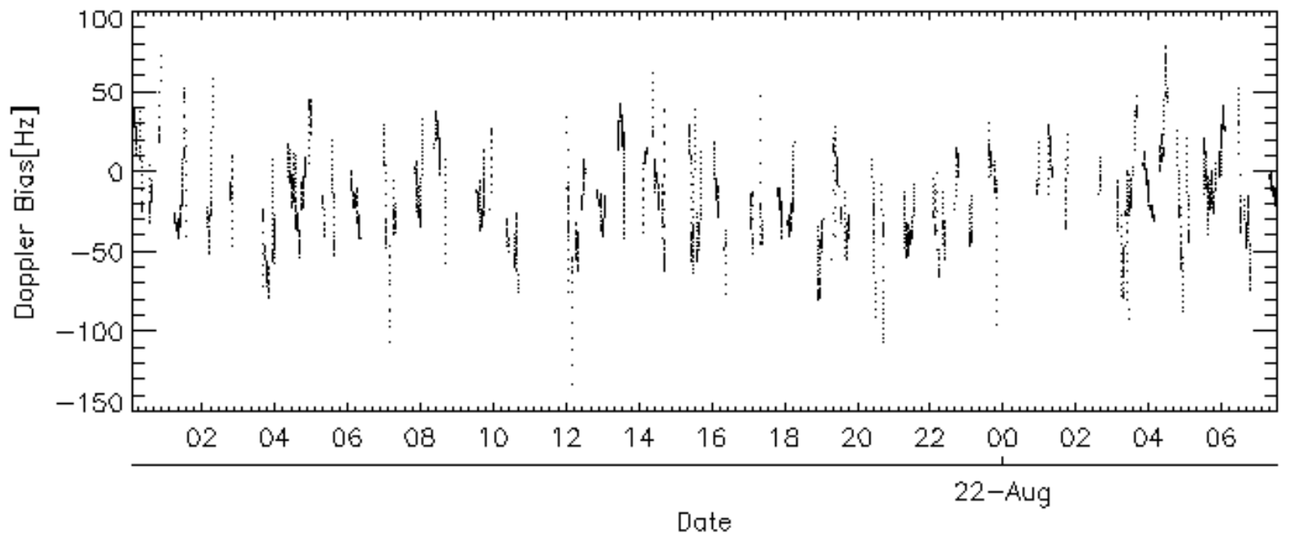

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

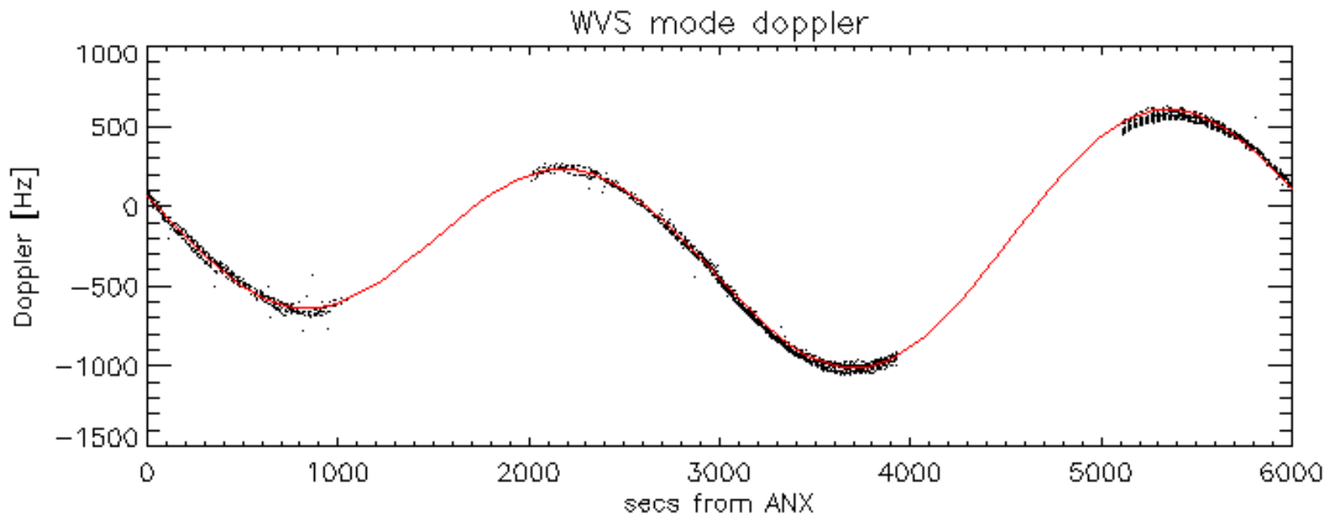

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

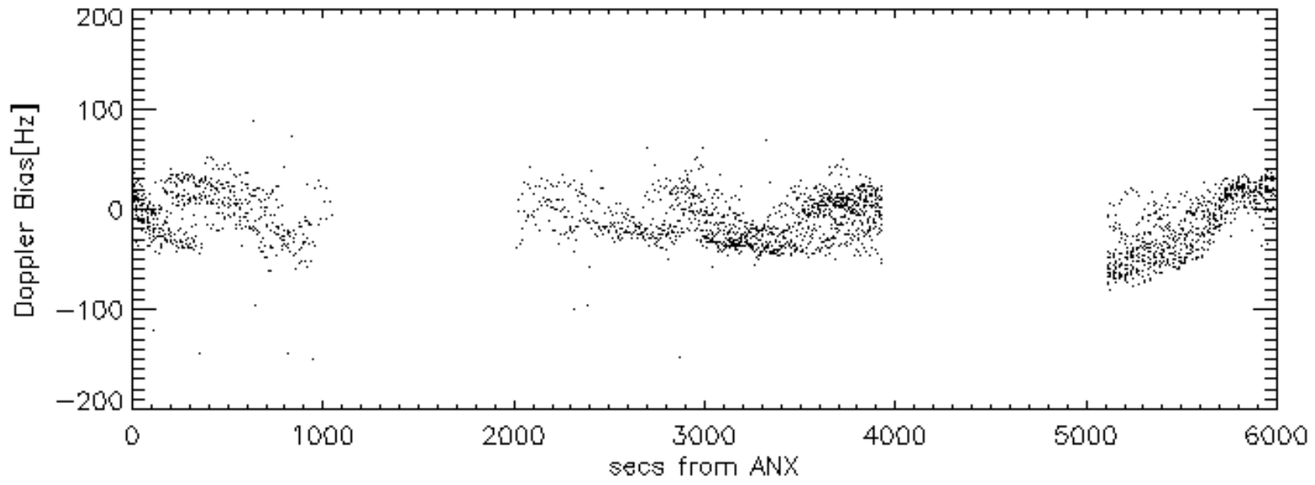

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

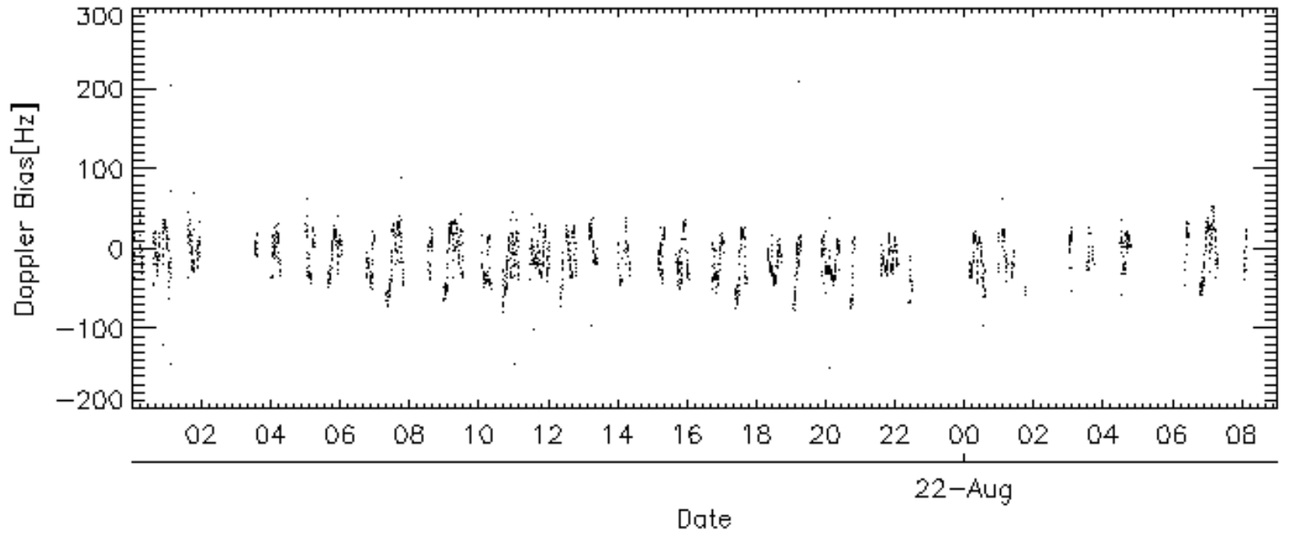

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

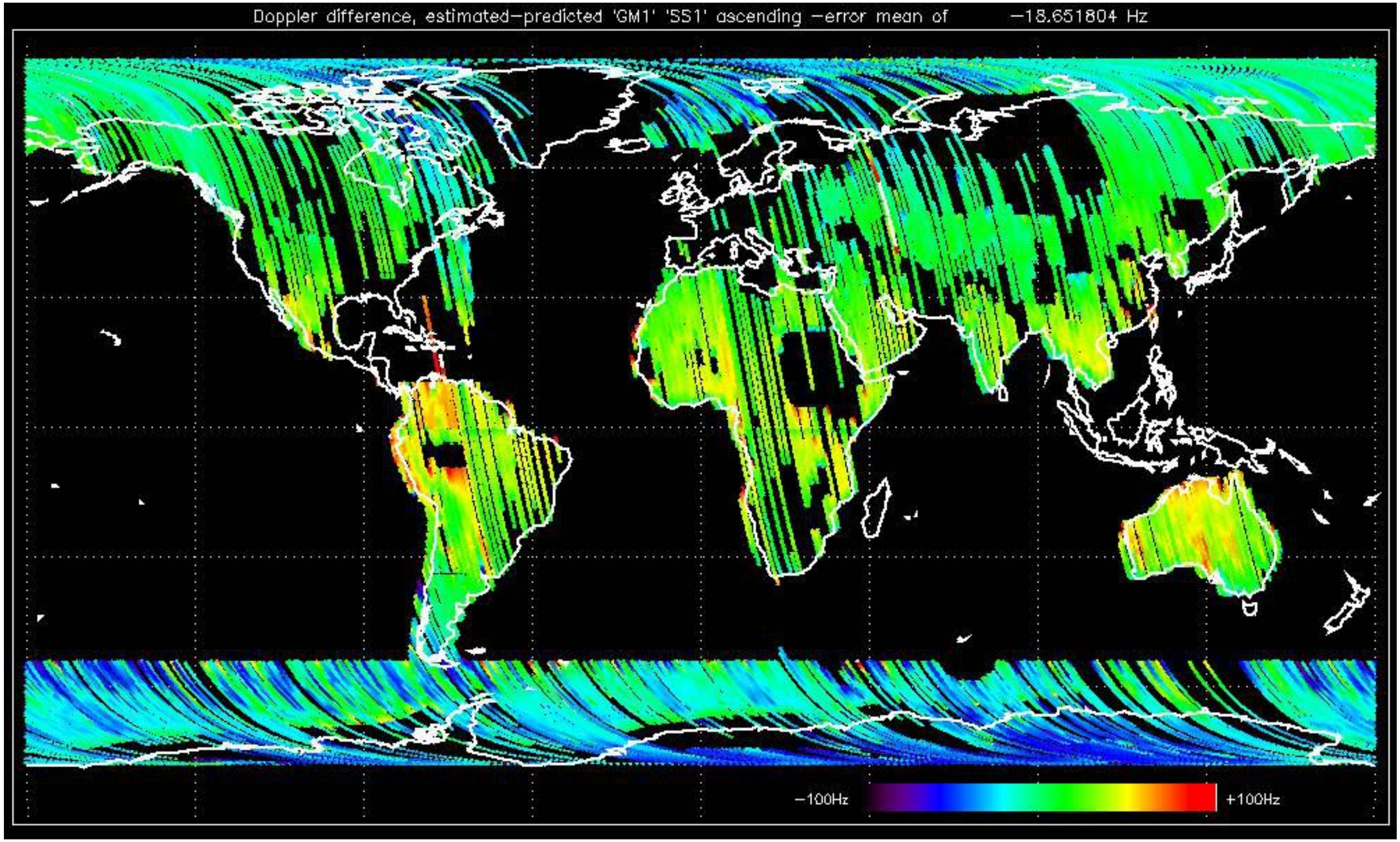

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

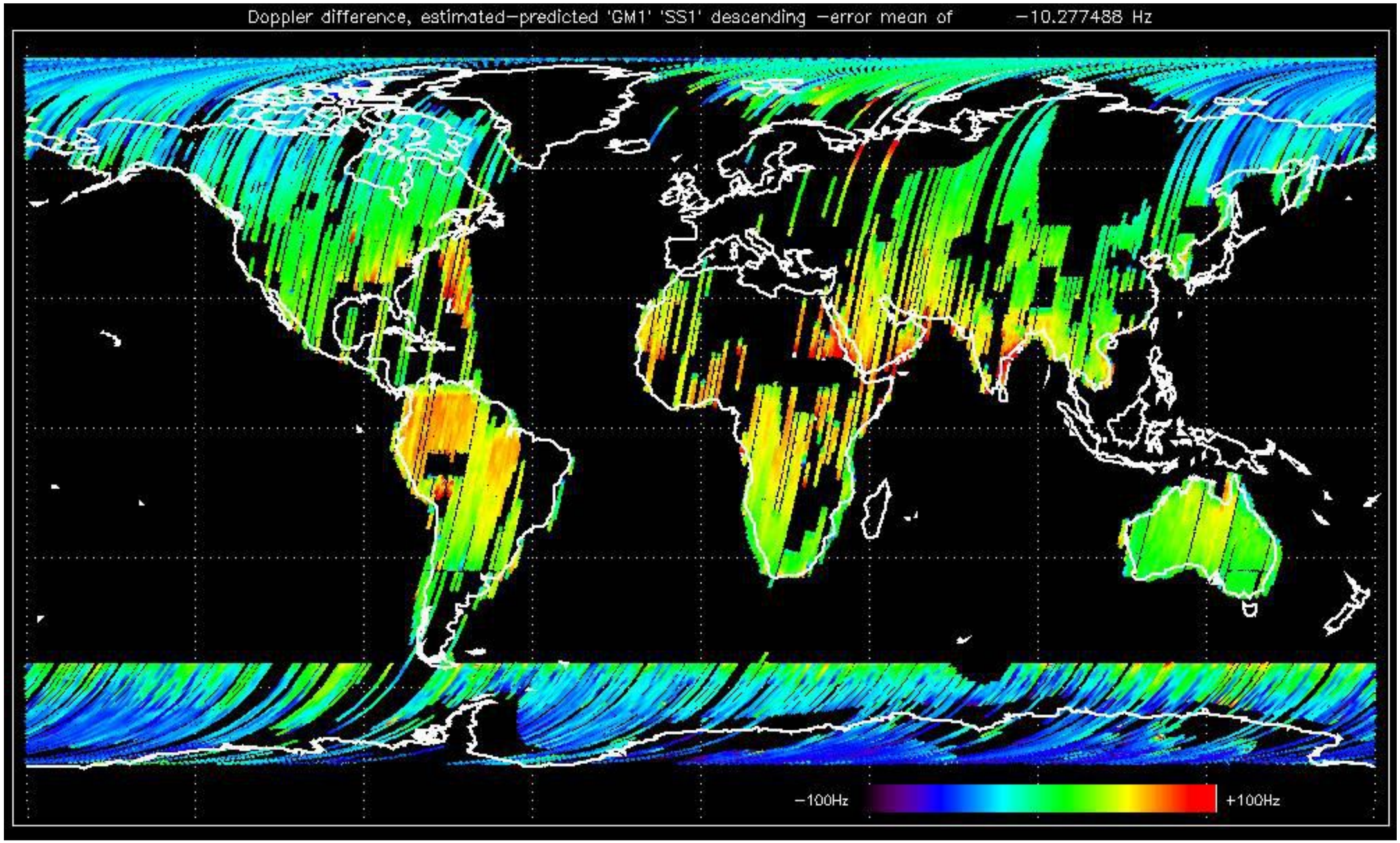

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
22−Aug
Date

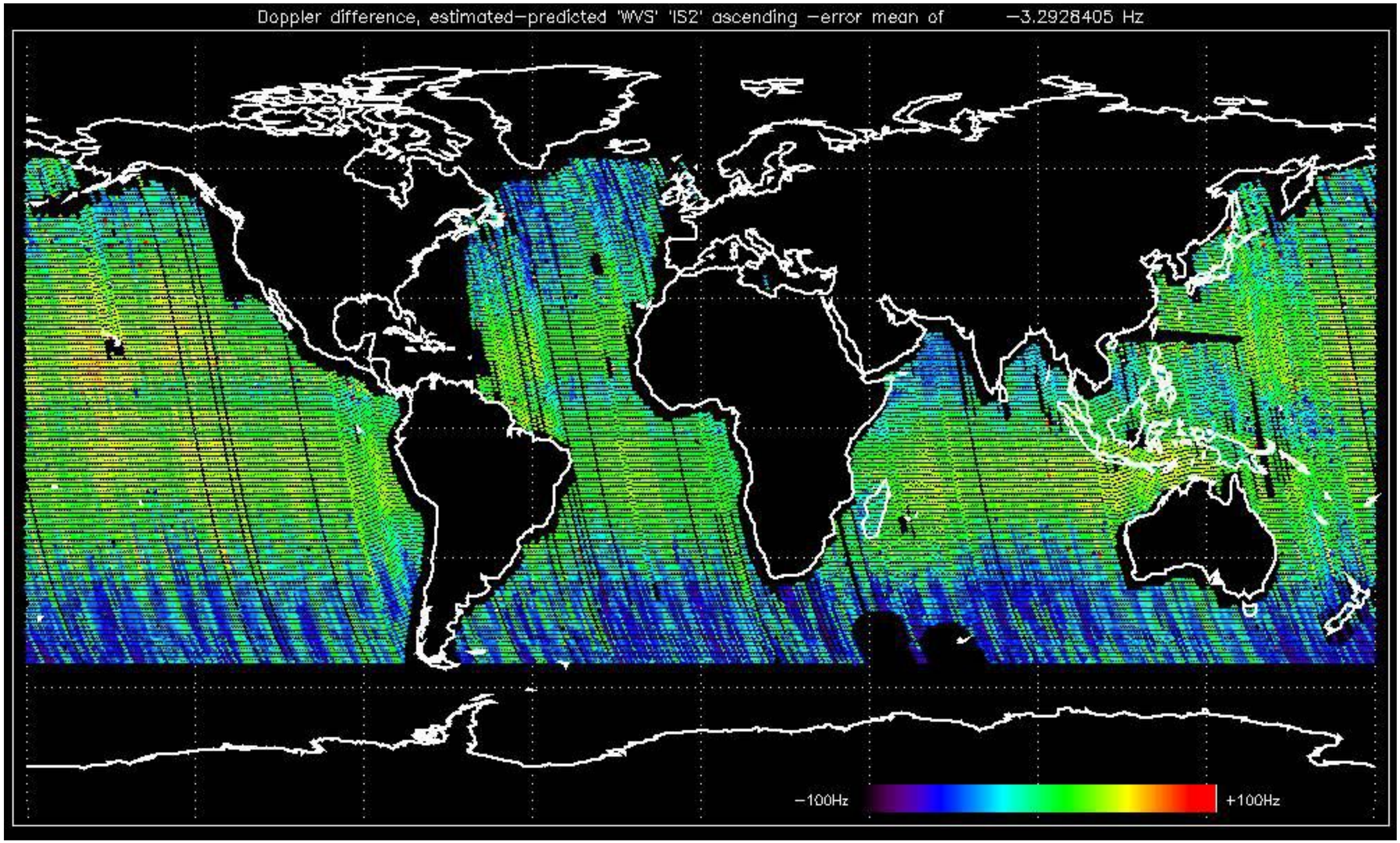

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

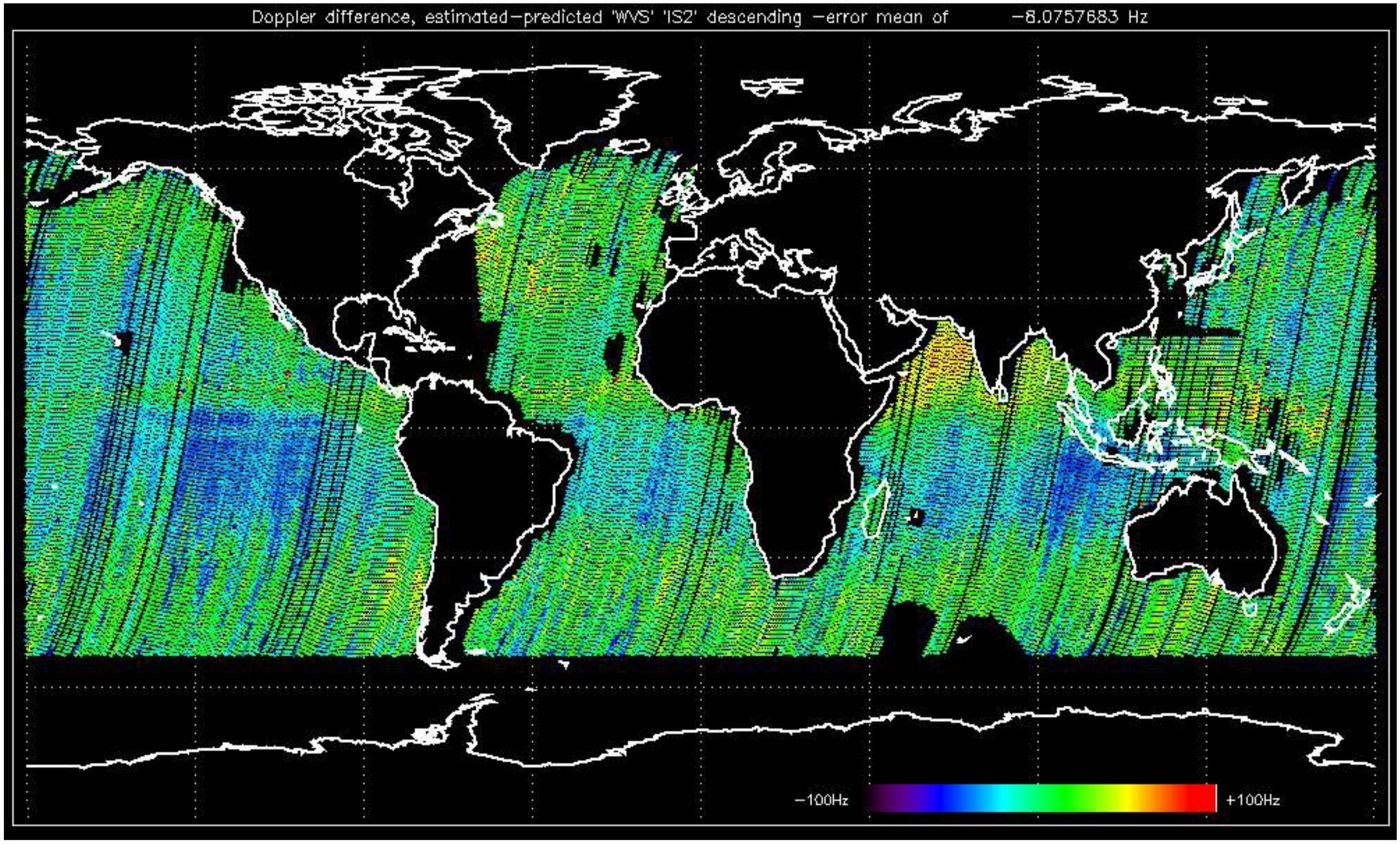

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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
22−Aug
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −18.651804 Hz
−100Hz
+100Hz

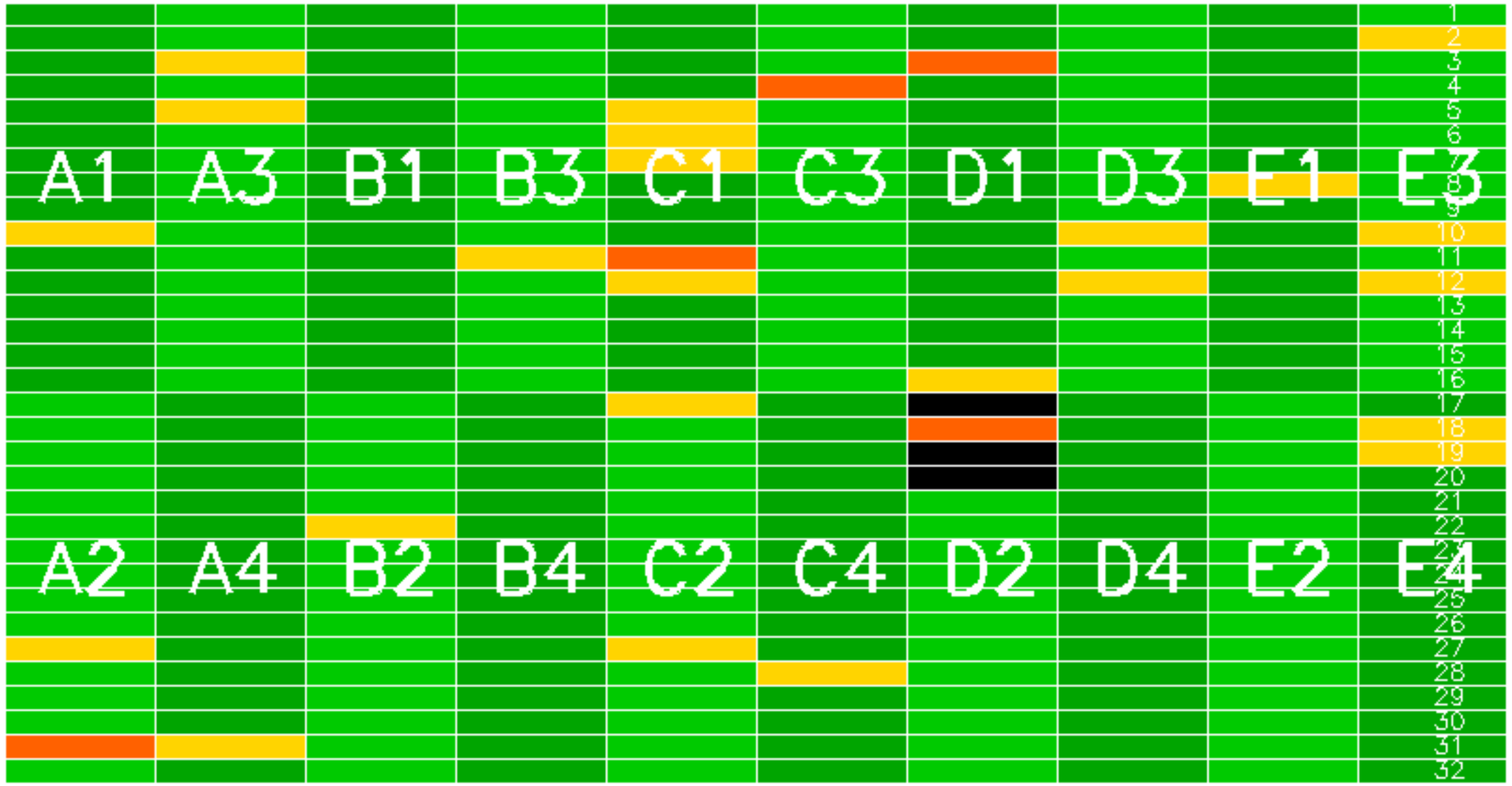

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −10.277488 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −3.2928405 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −8.0757683 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


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
17
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19
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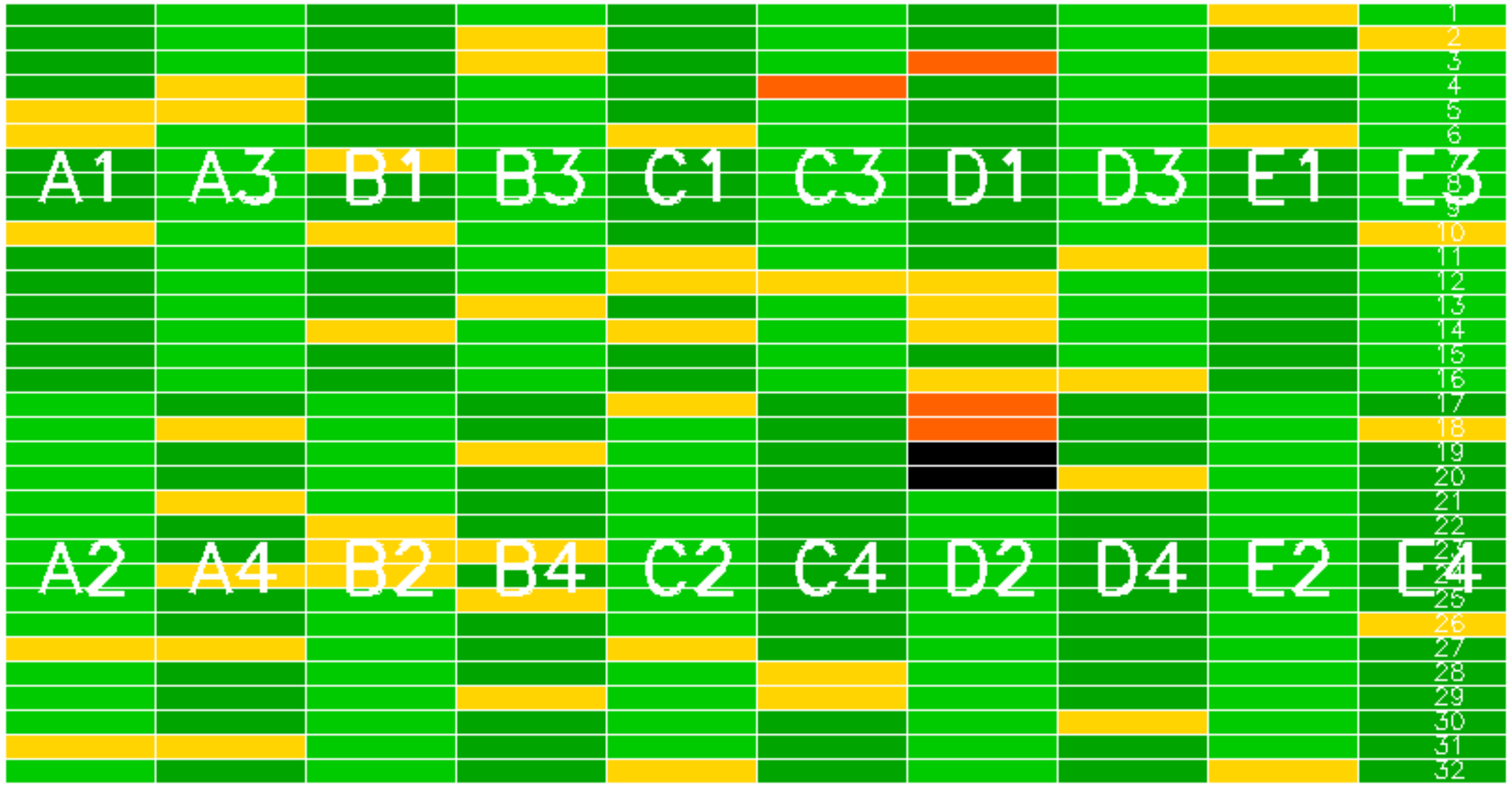
21
22
23
24
25
26
27
28
29
30
31
32


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
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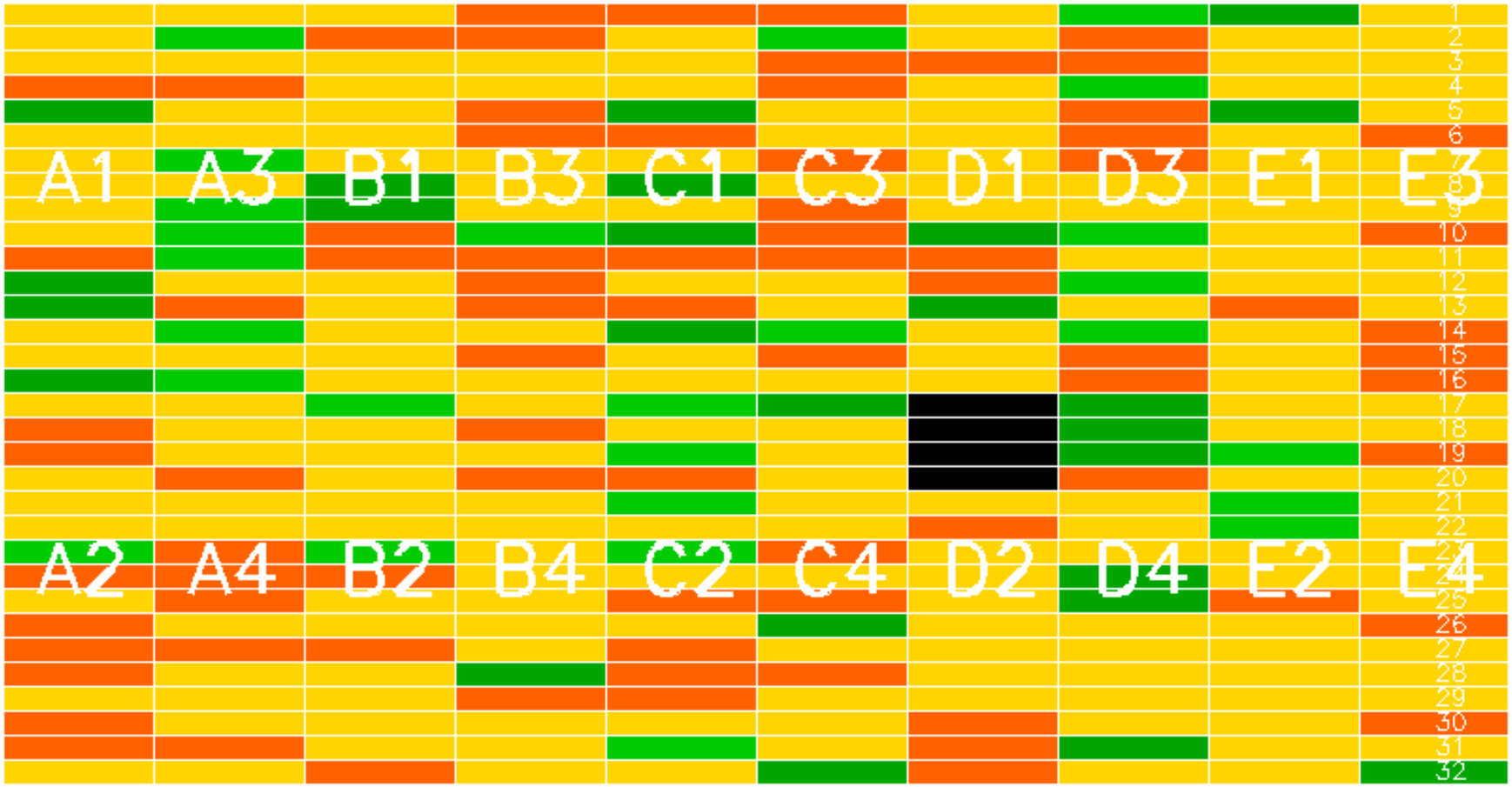
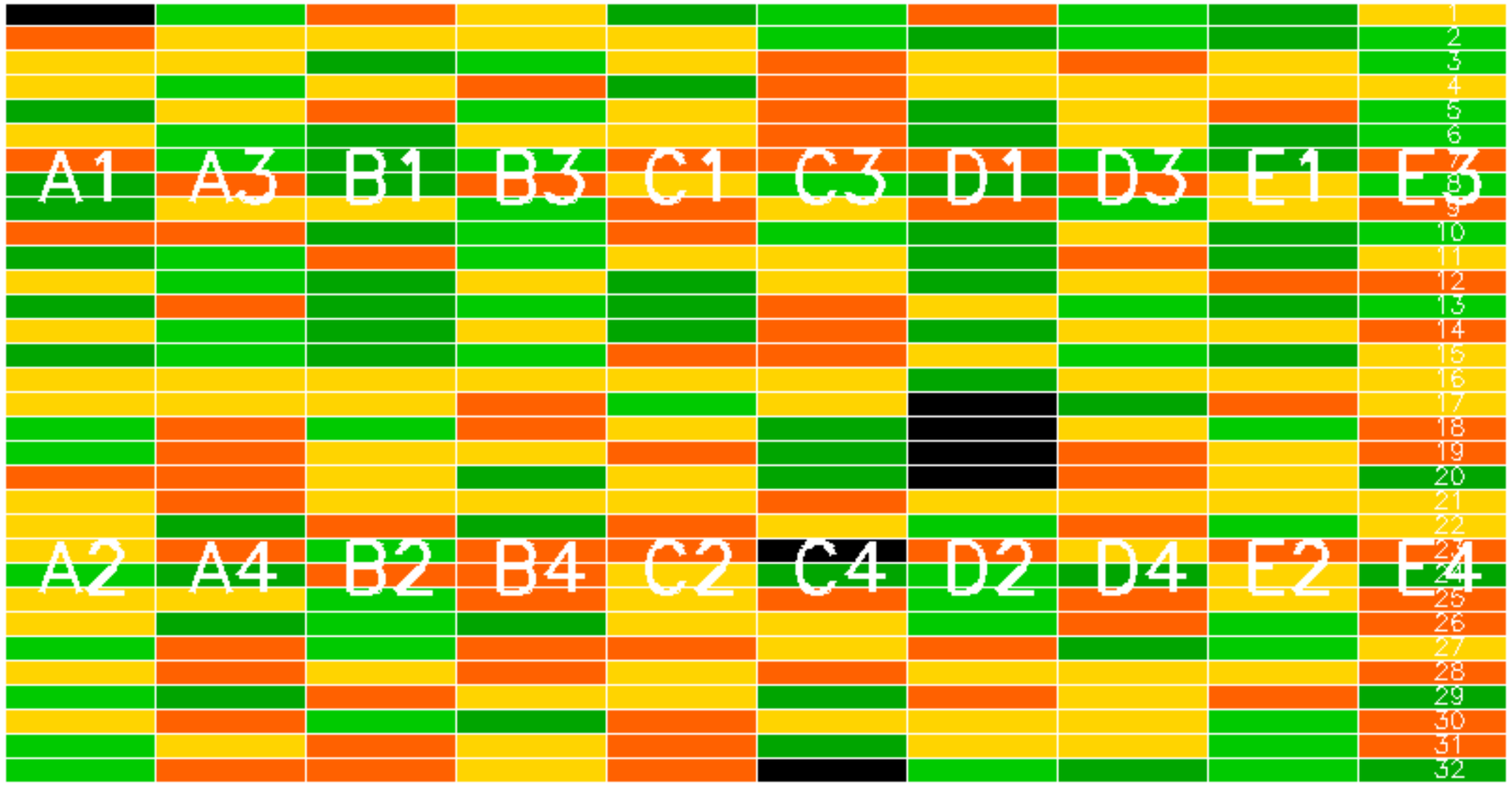
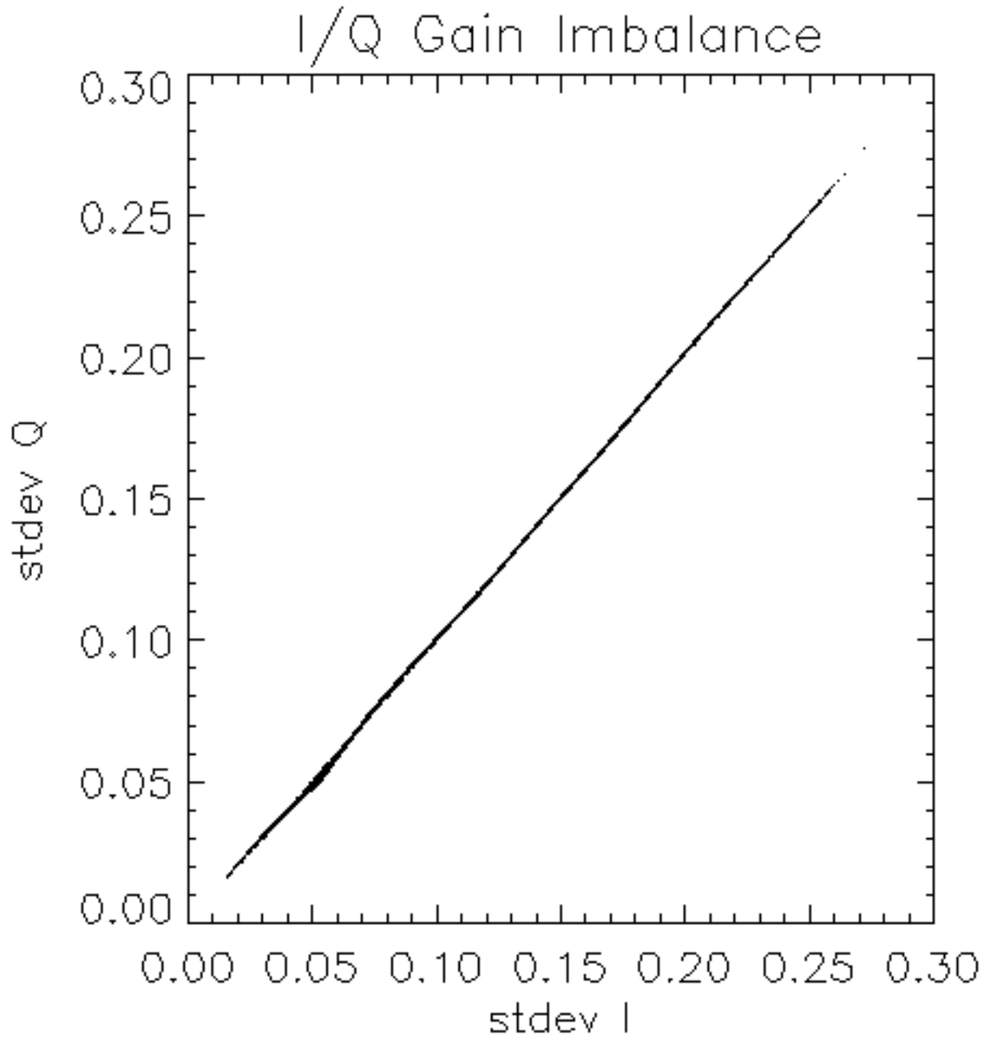
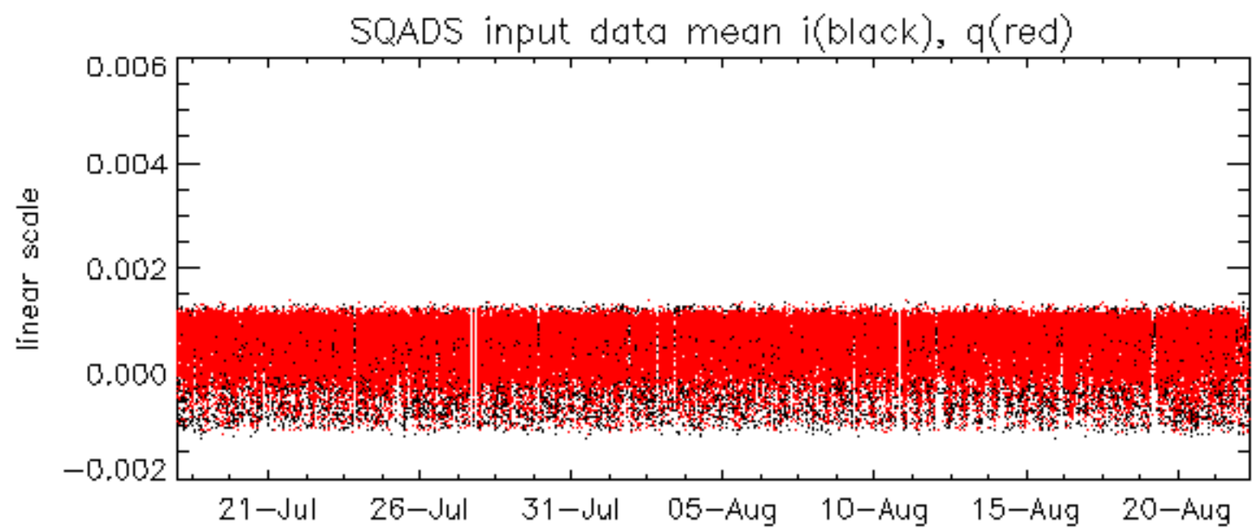
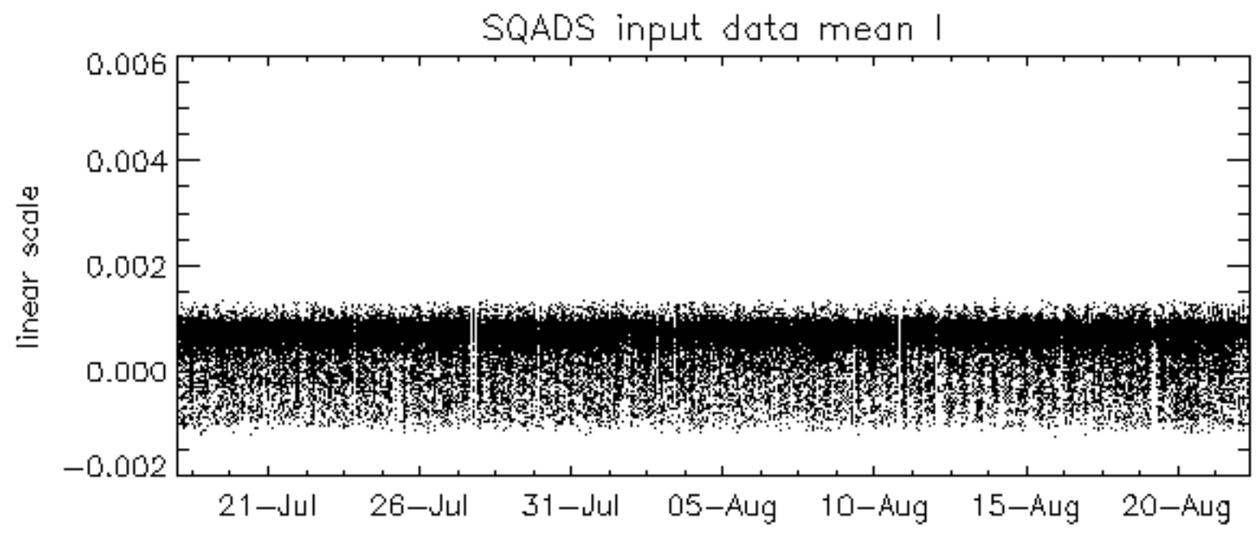
29
30
31
32

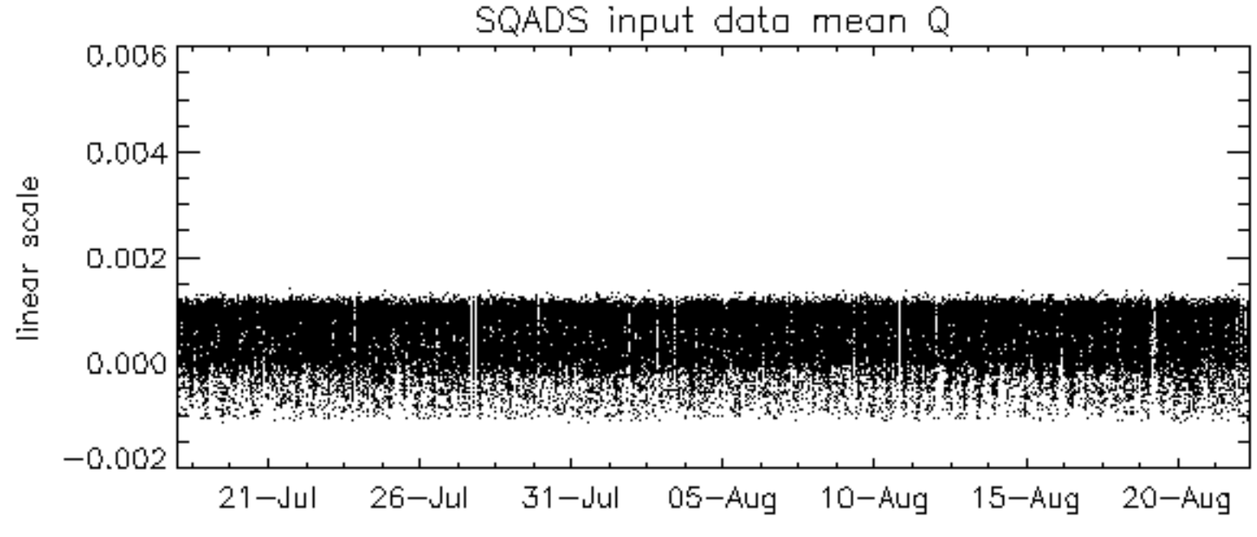

A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

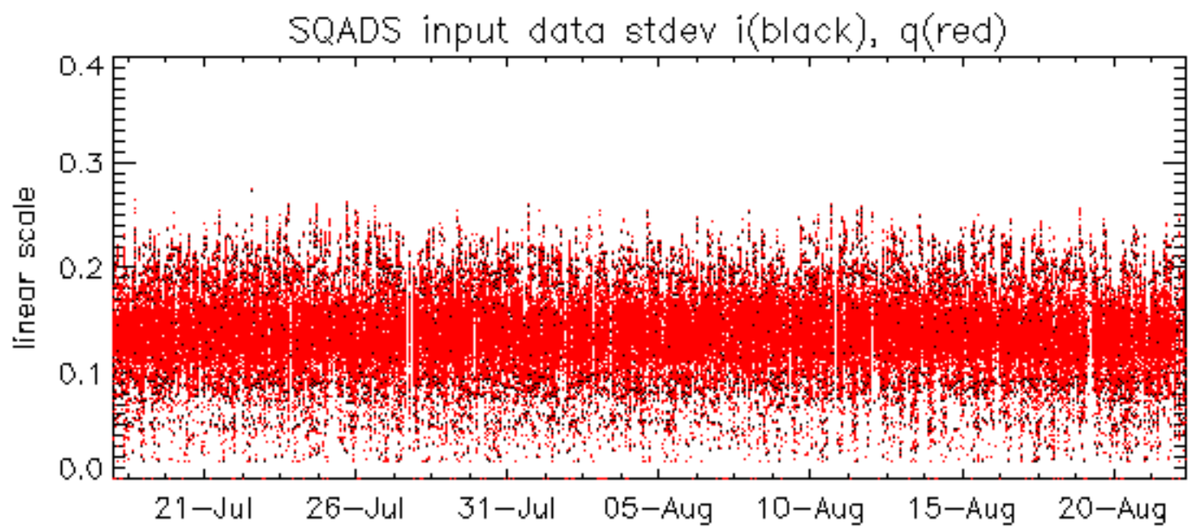

A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

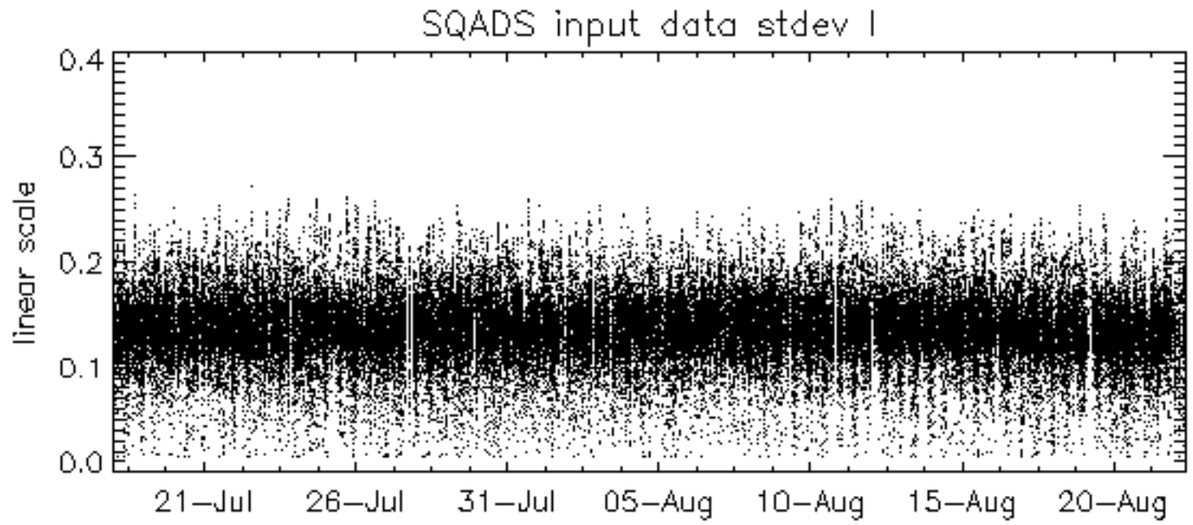

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

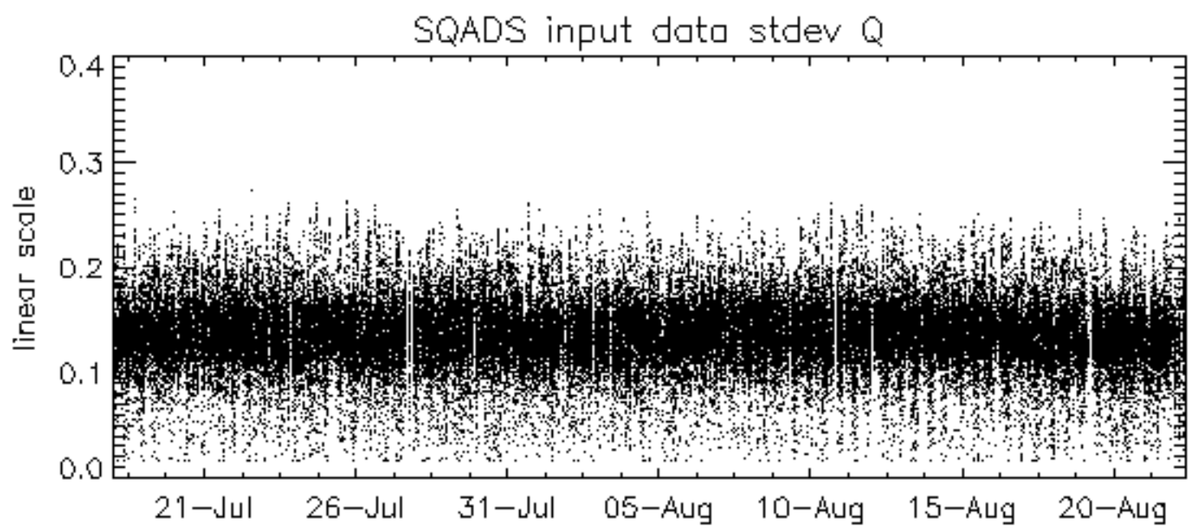

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug
20−Aug

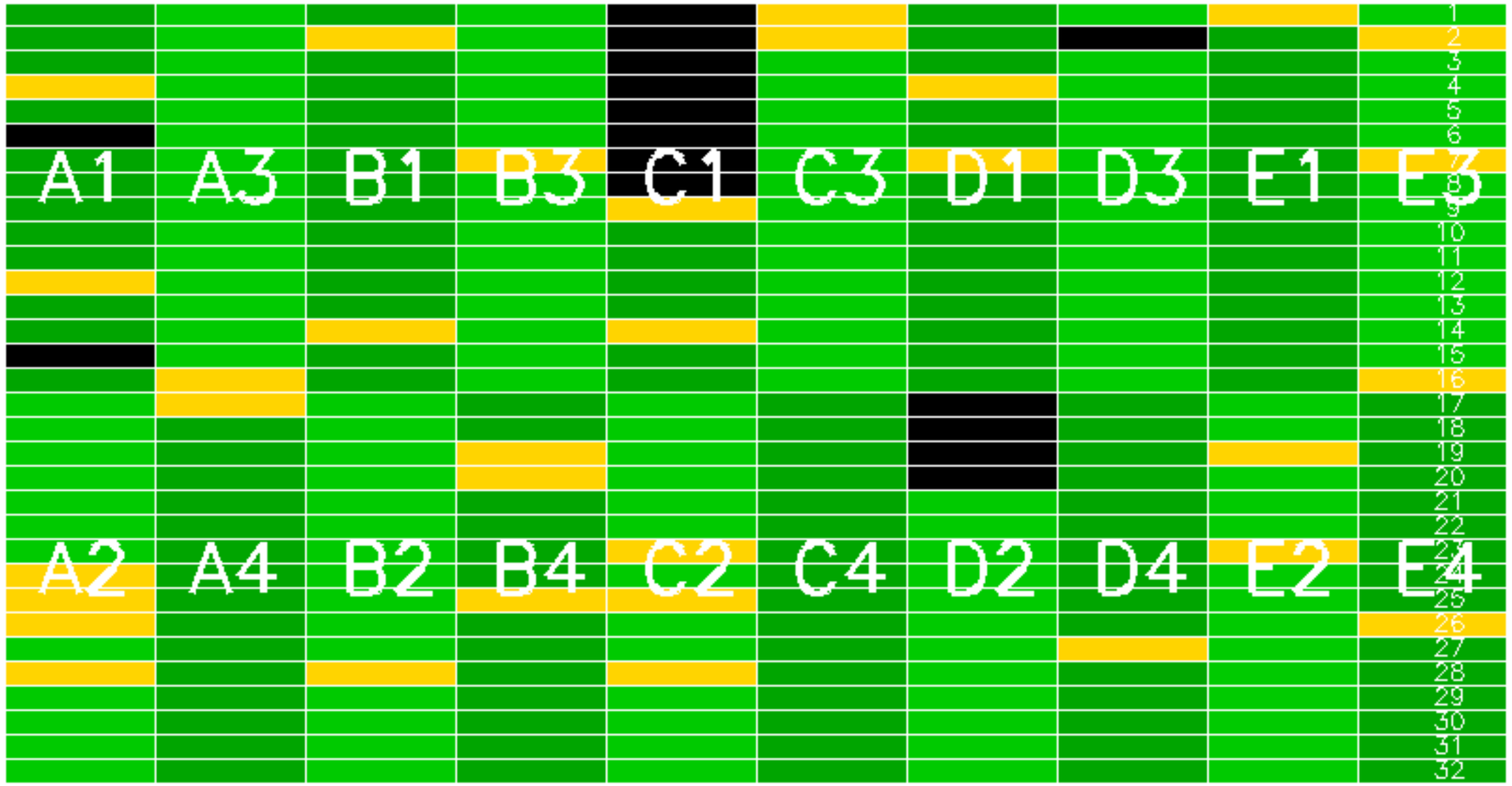

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug
20−Aug


SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug
20−Aug


SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
21–Jul
26–Jul
31–Jul
05–Aug
10–Aug
15–Aug
20–Aug


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
21–Jul
26–Jul
31–Jul
05–Aug
10–Aug
15–Aug
20–Aug


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
21–Jul
26–Jul
31–Jul
05–Aug
10–Aug
15–Aug
20–Aug


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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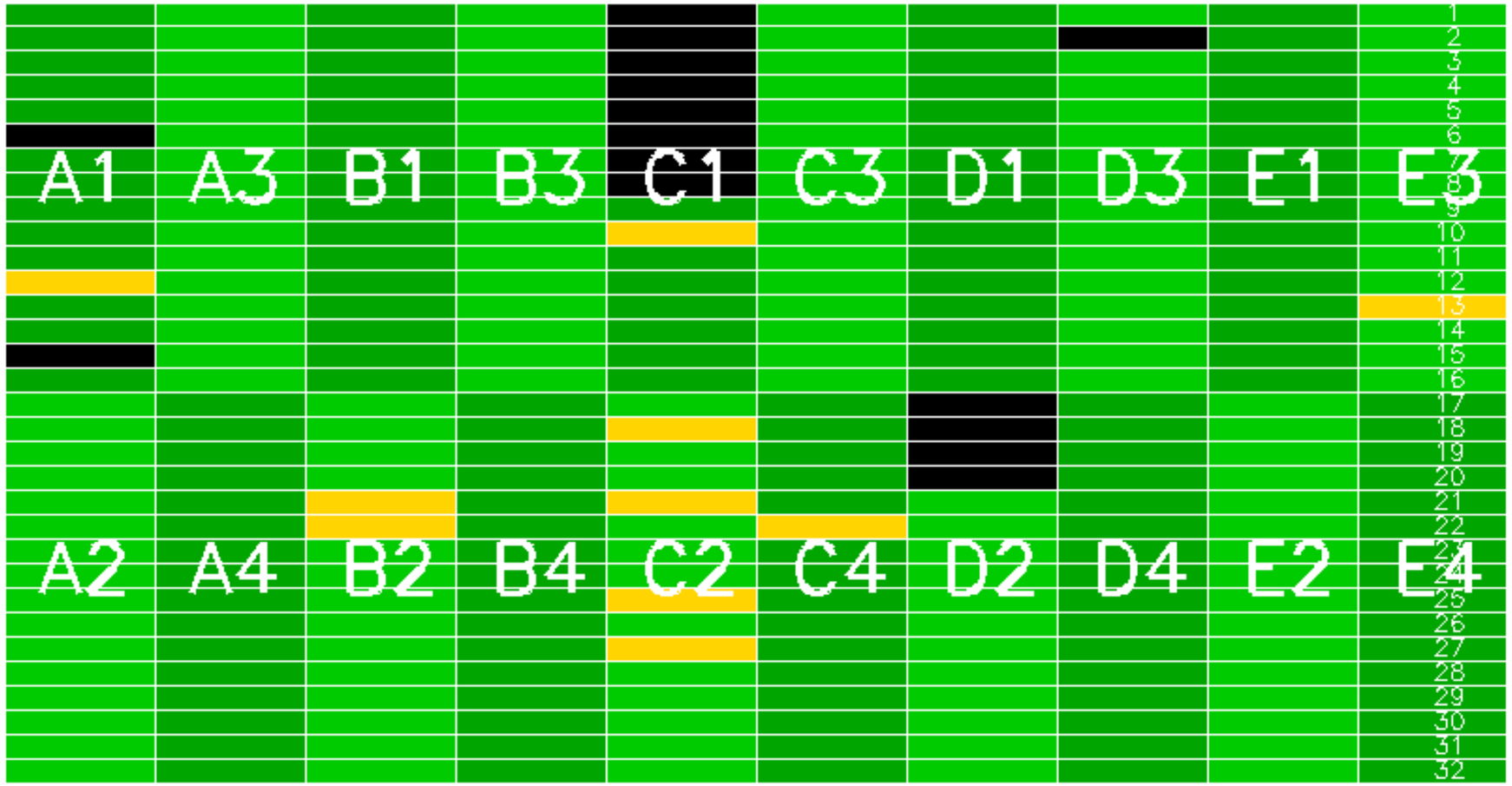
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
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27
28
29
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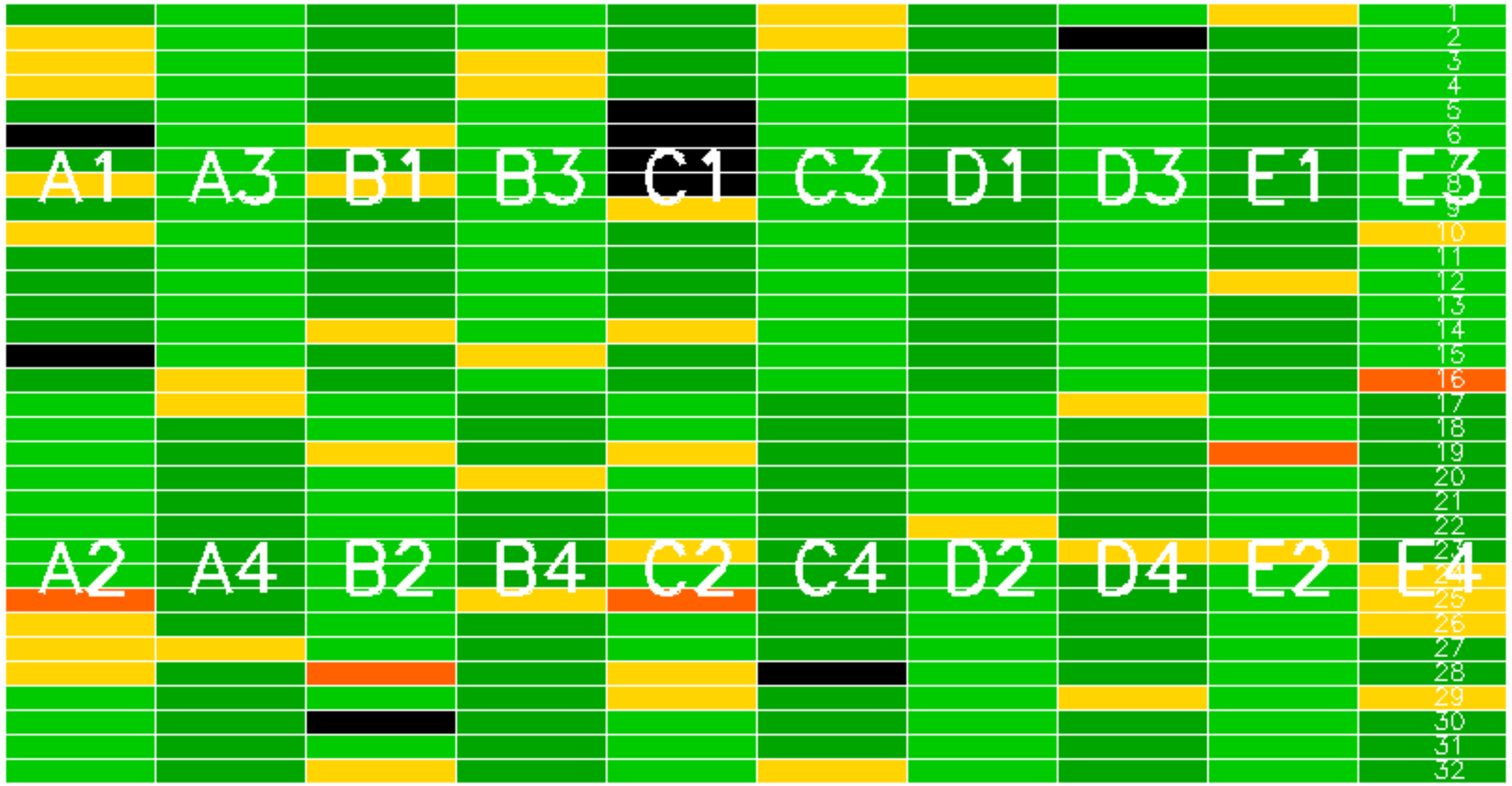
31
32


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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16
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21
22
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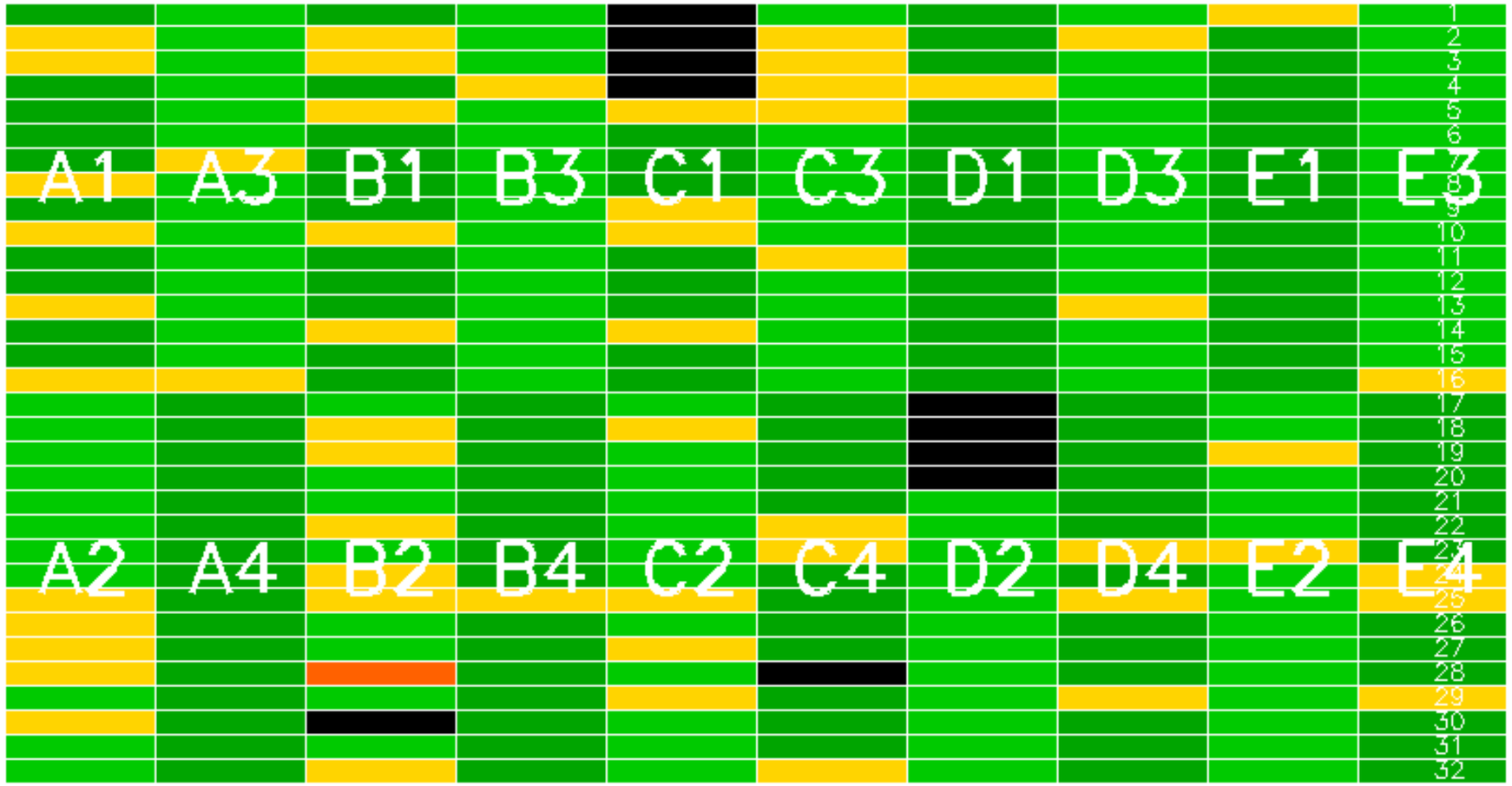
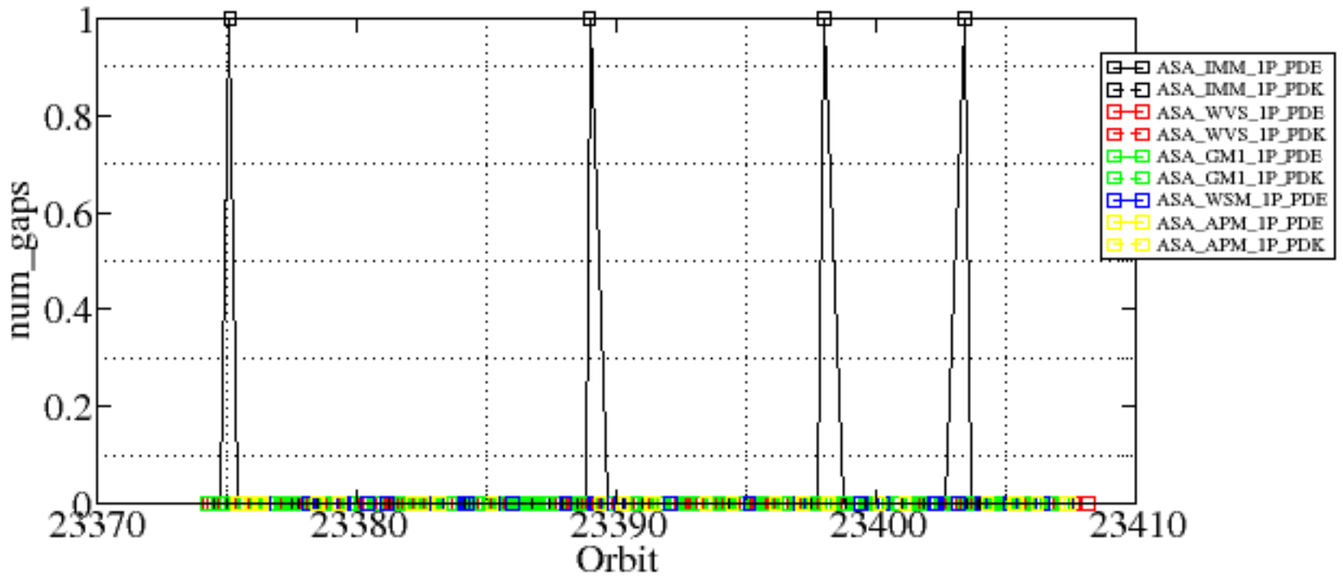
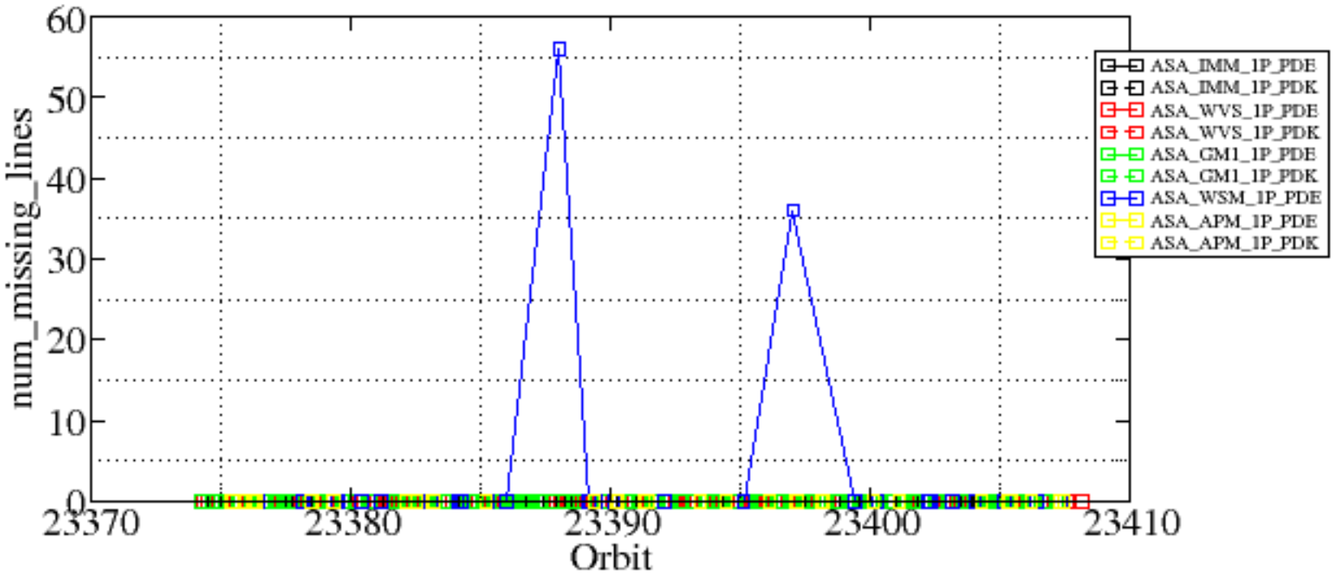
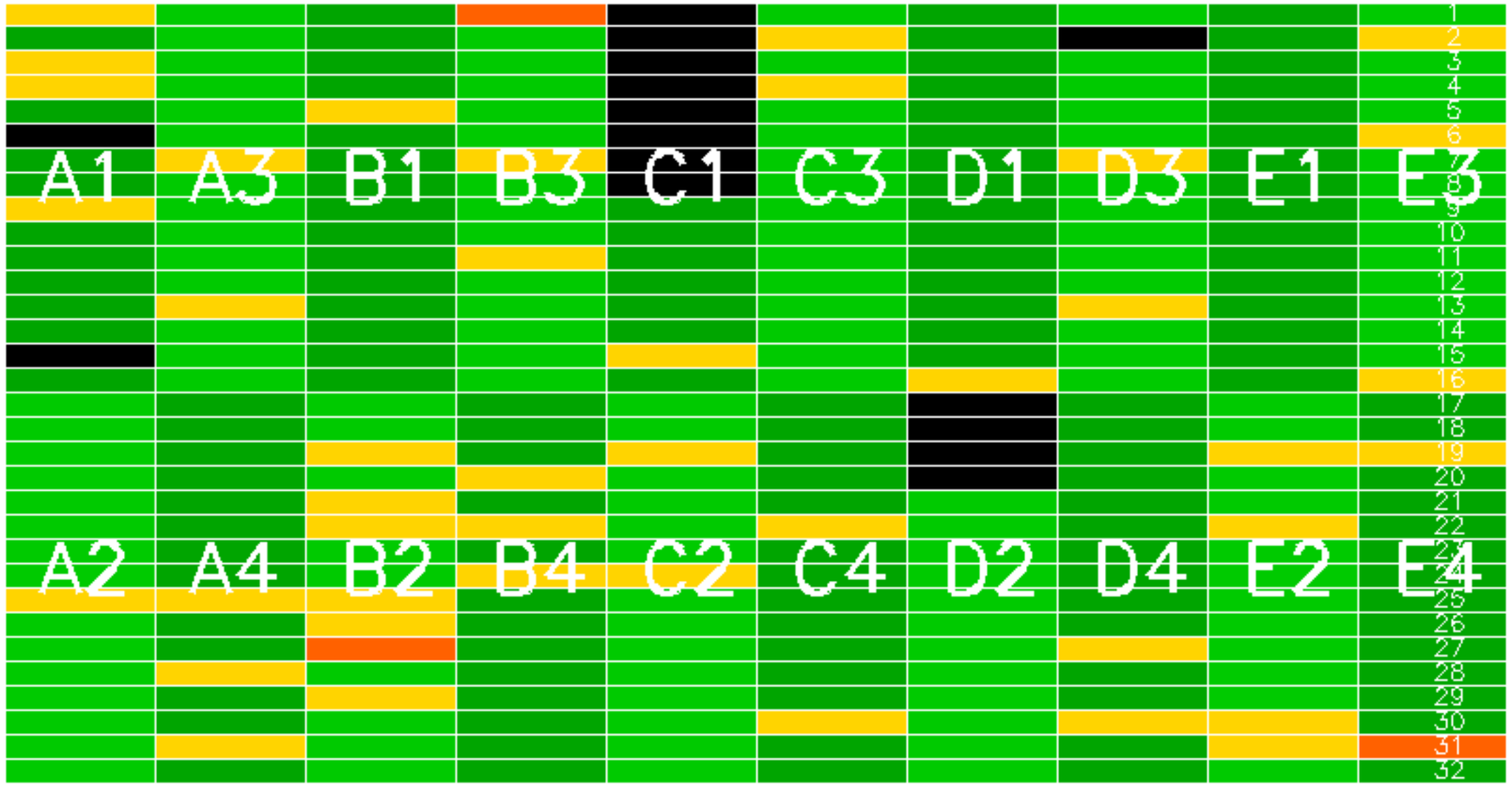
26
27
28
29
30
31
32


A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

Summary of analysis for the last 3 days 2006082[012]
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_1PNPDE20060820_013600_000001612050_00275_23375_3774.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_IMM_1PNPDE20060821_004801_000000802050_00288_23388_3949.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_IMM_1PNPDE20060821_155731_000000522050_00298_23398_4040.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_IMM_1PNPDE20060822_010019_000000812050_00303_23403_4134.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20060820_231435_000000972050_00288_23388_8788.N1 </td> <td>0 </td> <td>56 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20060821_141902_000000852050_00297_23397_8839.N1 </td> <td>0 </td> <td>36 </td></tr>
</table>


num_gaps
1
0.8
0.6
0.4
0.2
0
23370
23380
23390
23400
23410
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
60
50
40
30
20
10
0
23370
23380
23390
23400
23410
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


A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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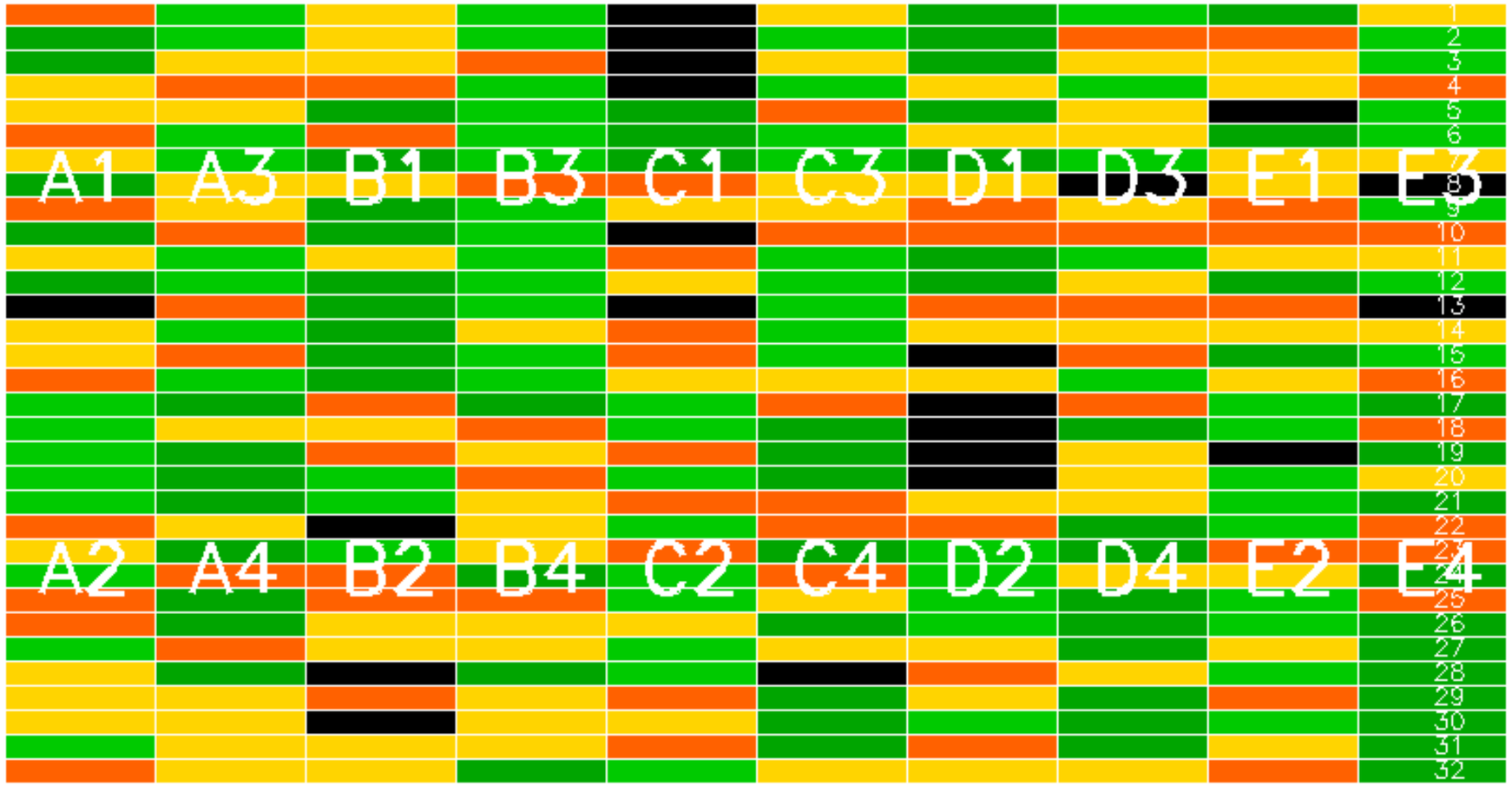
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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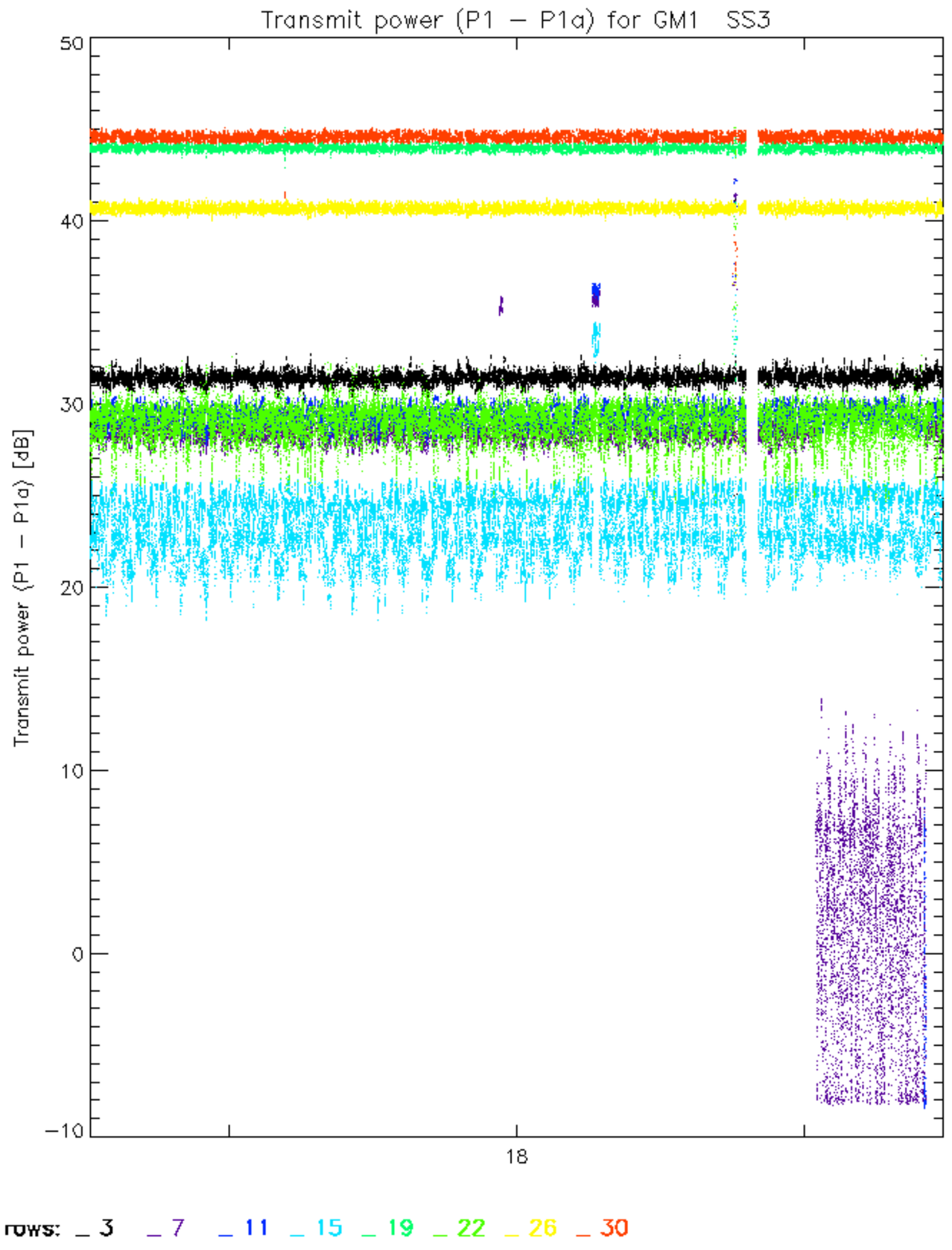
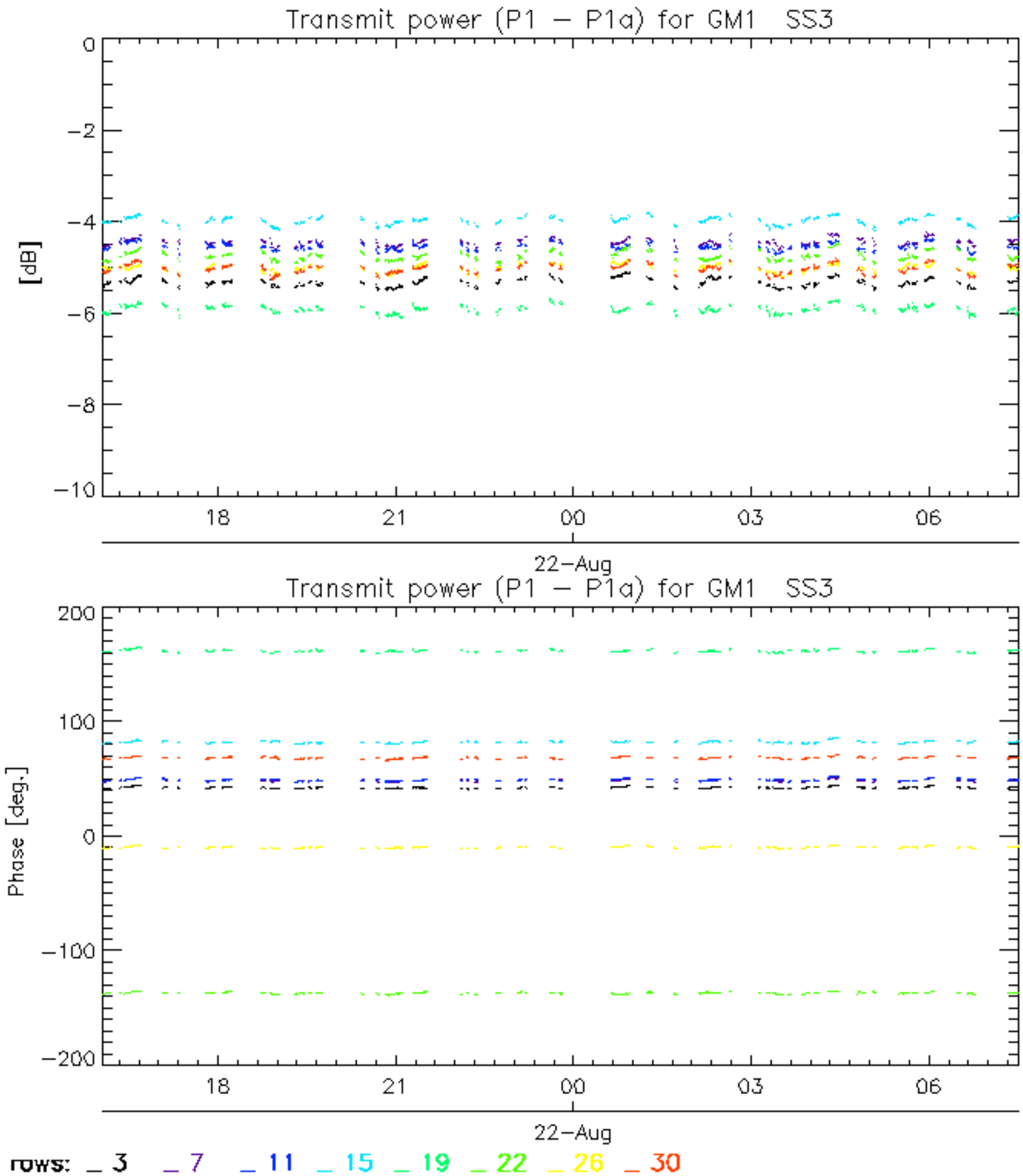
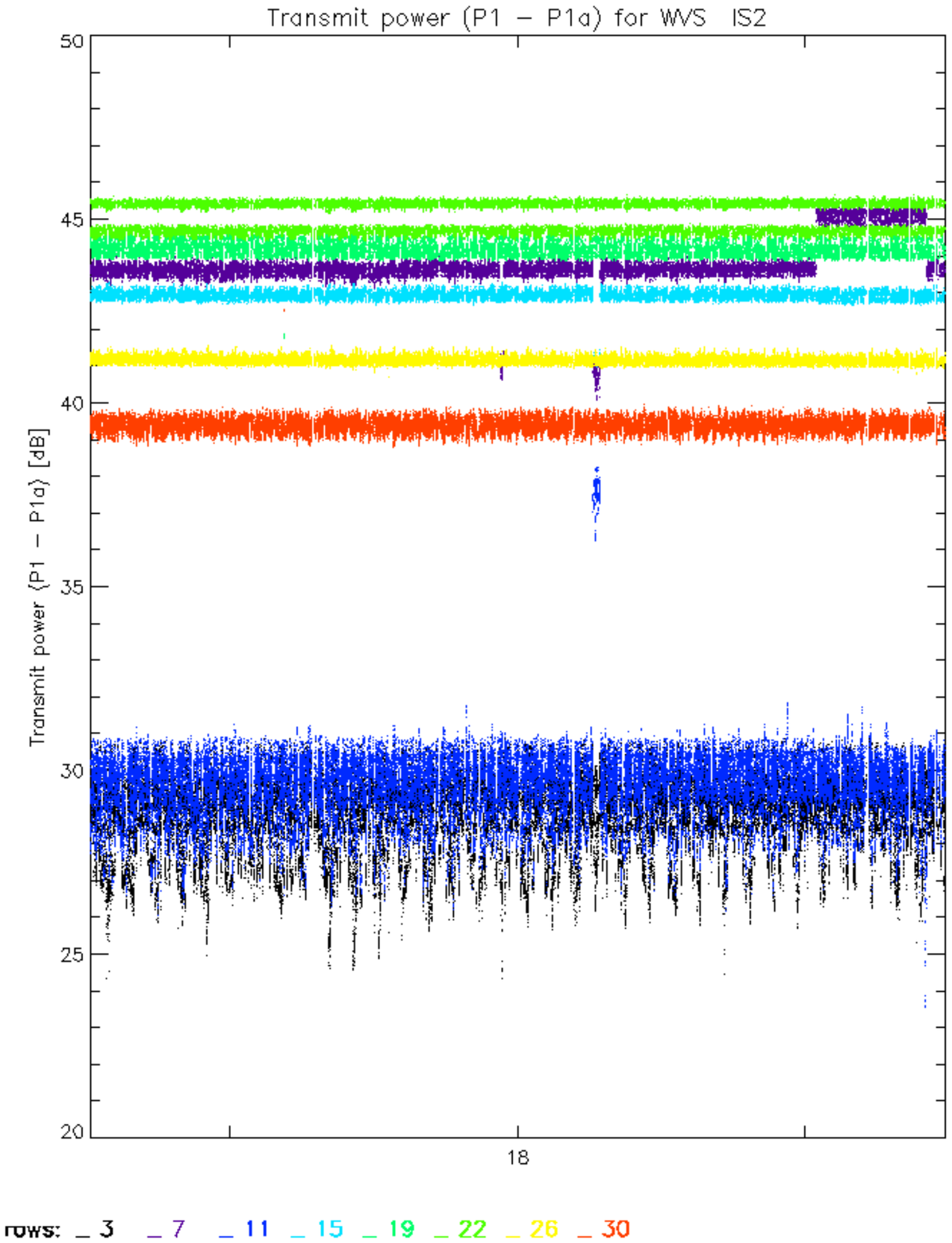
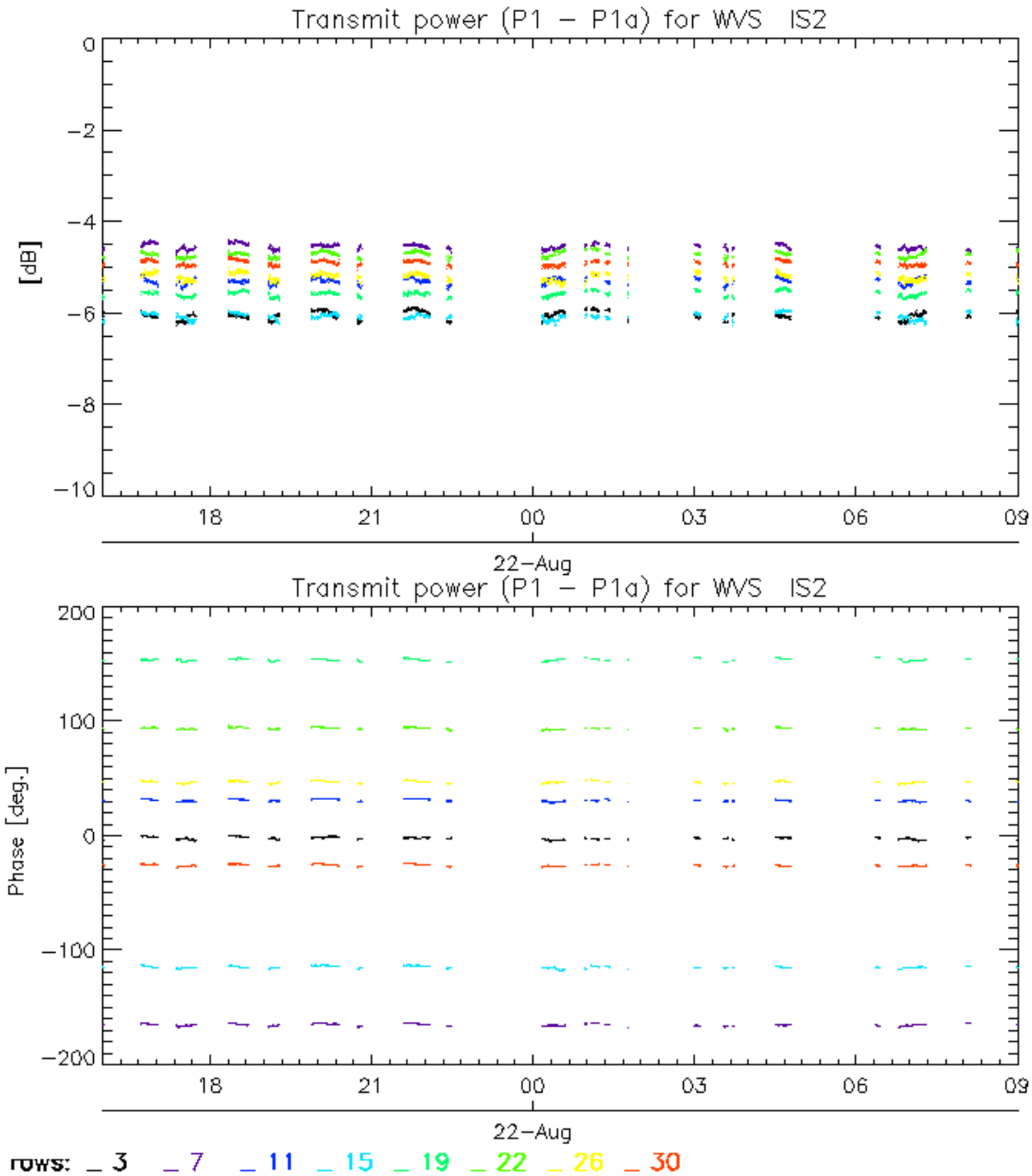
30
31
32


Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
18
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
22–Aug
Transmit power (P1 – P1a) for GM1 SS3
200
100
0
−100
−200
Phase [deg.]
18
21
00
03
06
22–Aug
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
Transmit power (P1 – P1a) [dB]
50
45
40
35
30
25
20
18
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
09
22−Aug
Transmit power (P1 − P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
18
21
00
03
06
09
22−Aug
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.