PRELIMINARY REPORT OF 050731

last update on Sun Jul 31 11:02:18 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 2005-07-30 00:00:00 to 2005-07-31 11:02:18

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	25	46	12	5	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	25	46	12	5	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	25	46	12	5	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	25	46	12	5	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	40	46	32	9	37
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	40	46	32	9	37
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	40	46	32	9	37
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	40	46	32	9	37

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	20050729 033427
H	20050730 030250

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	-3.314514	0.006532	0.015764
7	P1	-3.137145	0.014959	-0.004064
11	P1	-4.691697	0.032726	-0.047070
15	P1	-5.560648	0.048301	-0.039828
19	P1	-3.793806	0.046351	0.008084
22	P1	-4.639729	0.141830	-0.077836
26	P1	-4.864242	0.167128	-0.021132
30	P1	-7.245625	0.252507	-0.065081
3	P1	-15.566780	0.078724	0.034470
7	P1	-15.526114	0.105025	0.036076
11	P1	-21.652550	0.260830	-0.250208
15	P1	-11.292801	0.040832	-0.018844
19	P1	-14.497671	0.264208	0.050995
22	P1	-15.753407	0.358179	0.072046
26	P1	-17.425936	0.232439	0.238149
30	P1	-17.726049	0.504456	0.029618

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.855360	0.083902	0.069725
7	P2	-22.017830	0.104405	0.104807
11	P2	-13.655893	0.106973	0.231136
15	P2	-7.083171	0.093512	0.038037
19	P2	-9.590683	0.095887	0.014783
22	P2	-16.851912	0.096748	0.018583
26	P2	-16.503471	0.098803	-0.009313
30	P2	-18.791279	0.085844	-0.008915

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.155507	0.002726	0.003147
7	P3	-8.155507	0.002726	0.003147
11	P3	-8.155507	0.002726	0.003147
15	P3	-8.155507	0.002726	0.003147
19	P3	-8.155507	0.002726	0.003147
22	P3	-8.155507	0.002726	0.003147
26	P3	-8.155507	0.002726	0.003147
30	P3	-8.155507	0.002726	0.003147

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	-2.783206	0.013564	0.000880
7	P1	-2.952349	0.031184	0.023607
11	P1	-3.998770	0.016305	-0.019127
15	P1	-3.575626	0.022979	-0.049385
19	P1	-3.663571	0.113772	0.100622
22	P1	-5.695837	0.160495	-0.021515
26	P1	-7.414172	0.322341	-0.038387
30	P1	-6.341401	0.149481	-0.036803
3	P1	-10.840139	0.040082	-0.083561
7	P1	-10.451194	0.153163	0.000629
11	P1	-12.618744	0.108869	-0.082380
15	P1	-11.612982	0.070472	0.017499
19	P1	-15.638840	1.316383	0.377747
22	P1	-25.696211	3.760855	0.383269
26	P1	-15.372351	0.431208	0.211303
30	P1	-20.075006	1.335597	0.292260

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.598446	0.046268	0.100021
7	P2	-22.044003	0.040752	0.061107
11	P2	-9.680115	0.063519	0.178317
15	P2	-5.120549	0.045765	0.035295
19	P2	-6.900573	0.065031	0.028932
22	P2	-7.075612	0.039287	0.041048
26	P2	-23.971537	0.044235	-0.004203
30	P2	-21.952009	0.043971	0.018413

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.997645	0.004215	0.004345
7	P3	-7.997575	0.004208	0.004734
11	P3	-7.997512	0.004210	0.004660
15	P3	-7.997676	0.004215	0.004886
19	P3	-7.997721	0.004215	0.004611
22	P3	-7.997706	0.004198	0.004761
26	P3	-7.997769	0.004202	0.004534
30	P3	-7.997560	0.004206	0.004814

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	0.000473433
	stdev	2.13835e-07
MEAN Q	mean	0.000500243
	stdev	2.31919e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128567
	stdev	0.00100317
STDEV Q	mean	0.128818
	stdev	0.00101418

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005073[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_WSM_1PNPDE20050730_184435_000003042039_00271_17860_2061.N1	0	20
ASA_WSM_1PNPDE20050730_220500_000001832039_00273_17862_2104.N1	0	29

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

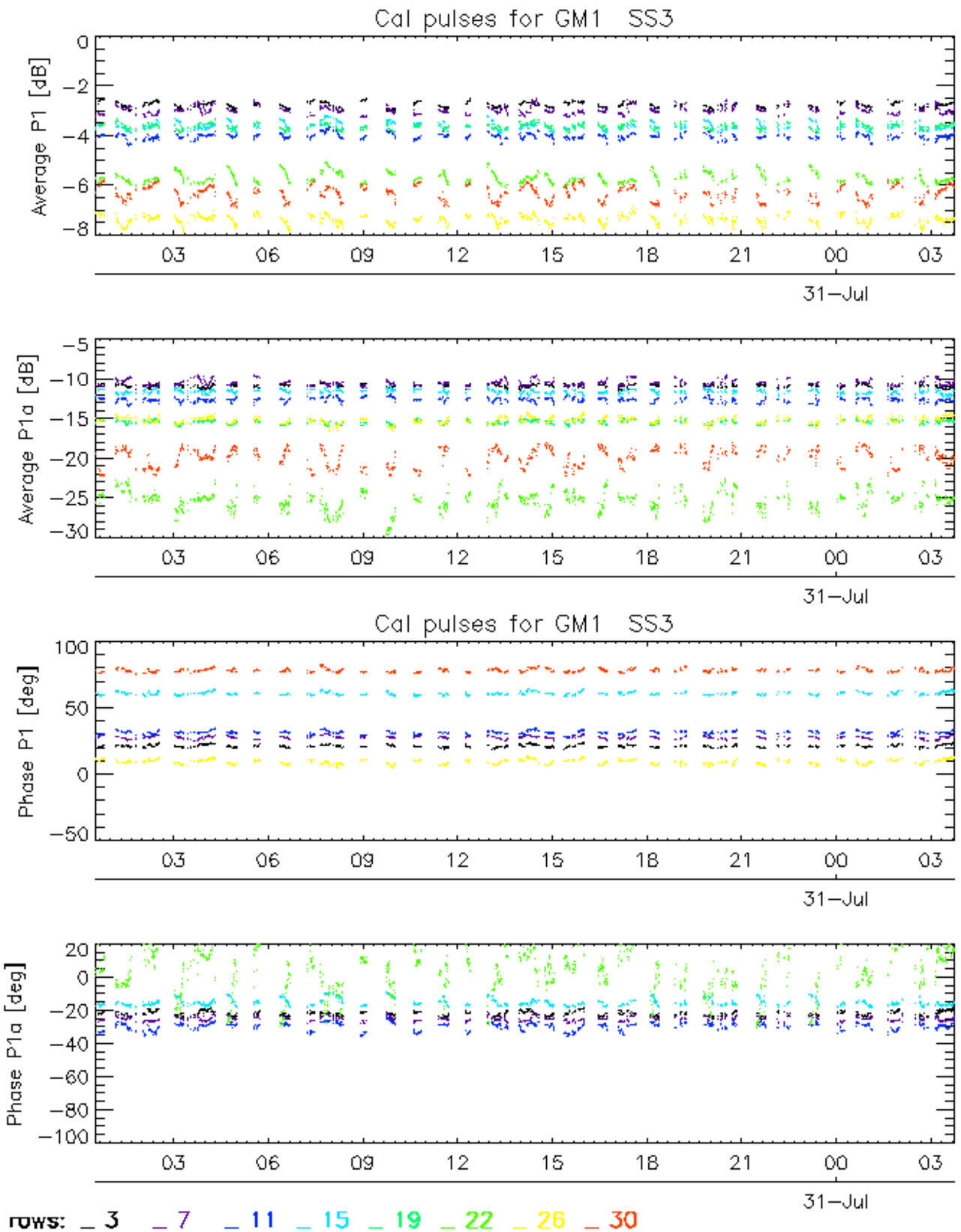
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

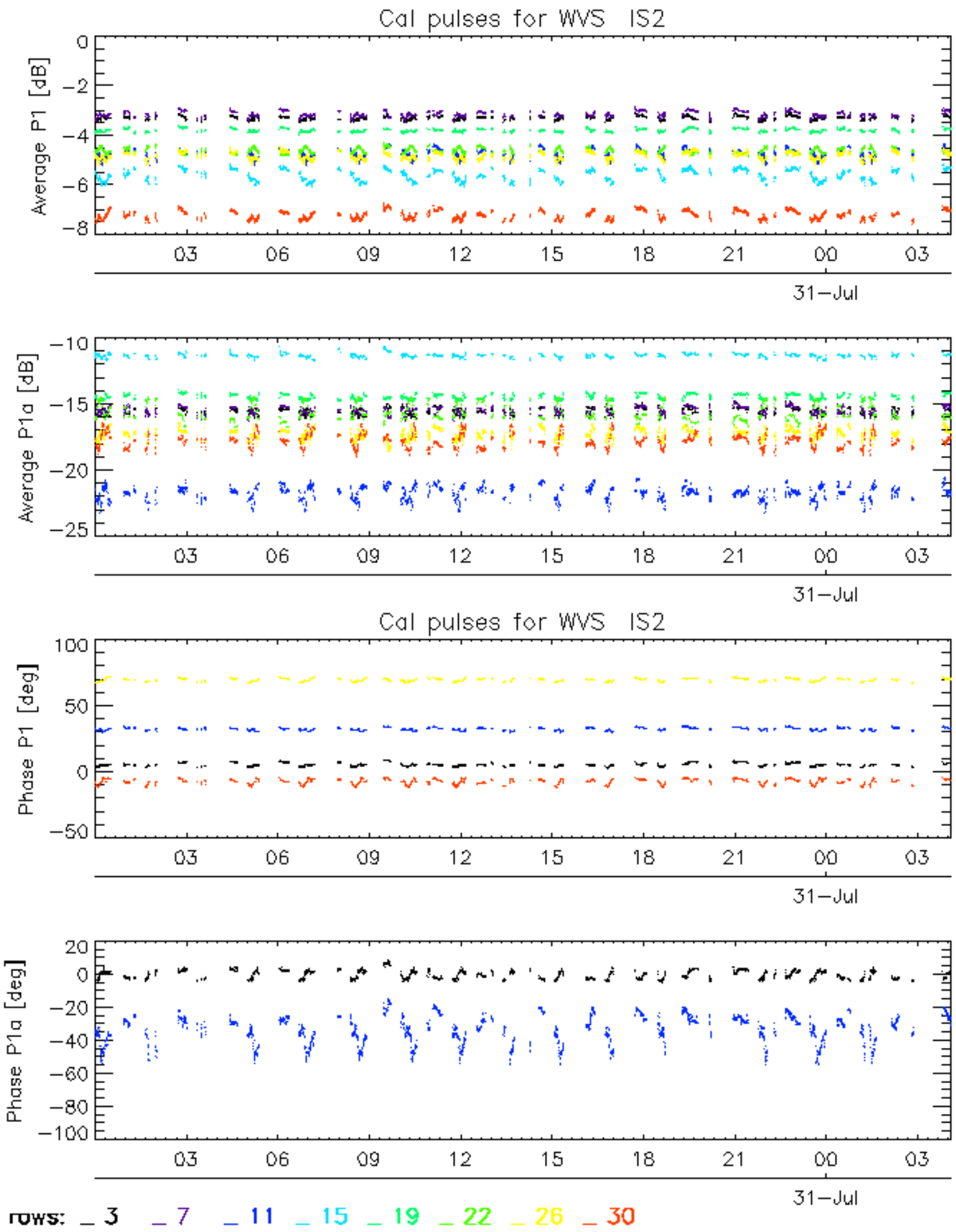
7.5 - Absolute Doppler for GM1

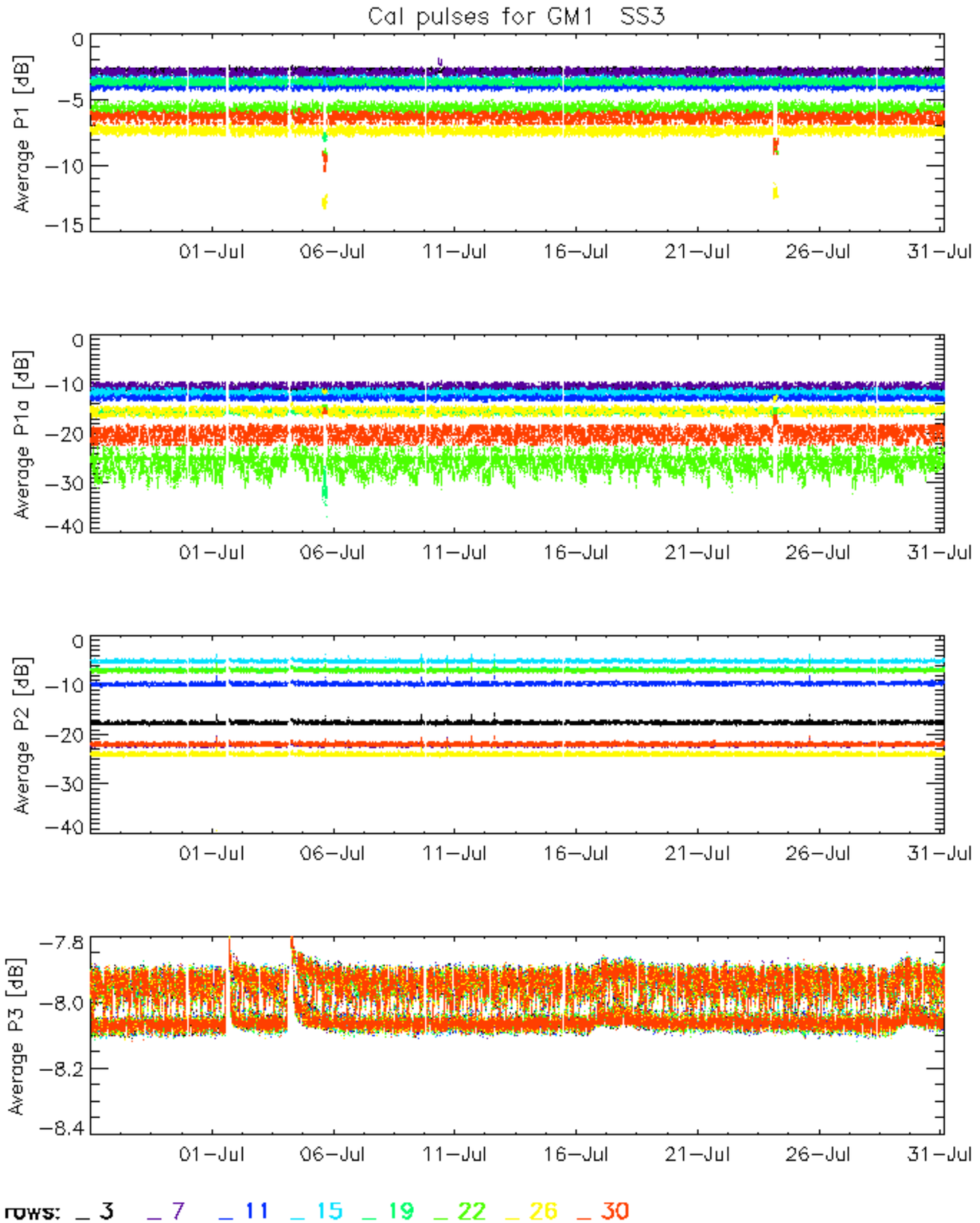
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

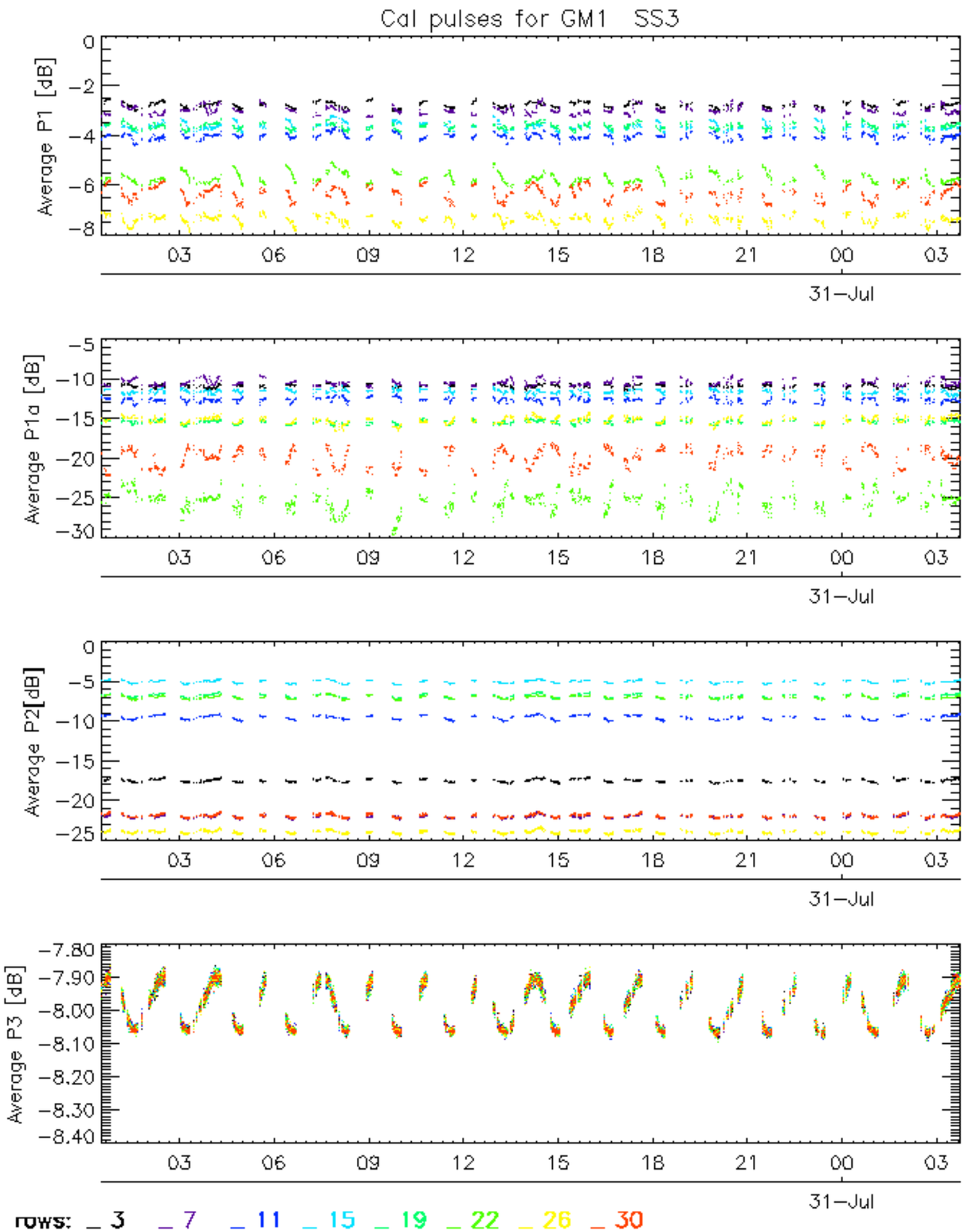
7.6 - Doppler evolution versus ANX for GM1

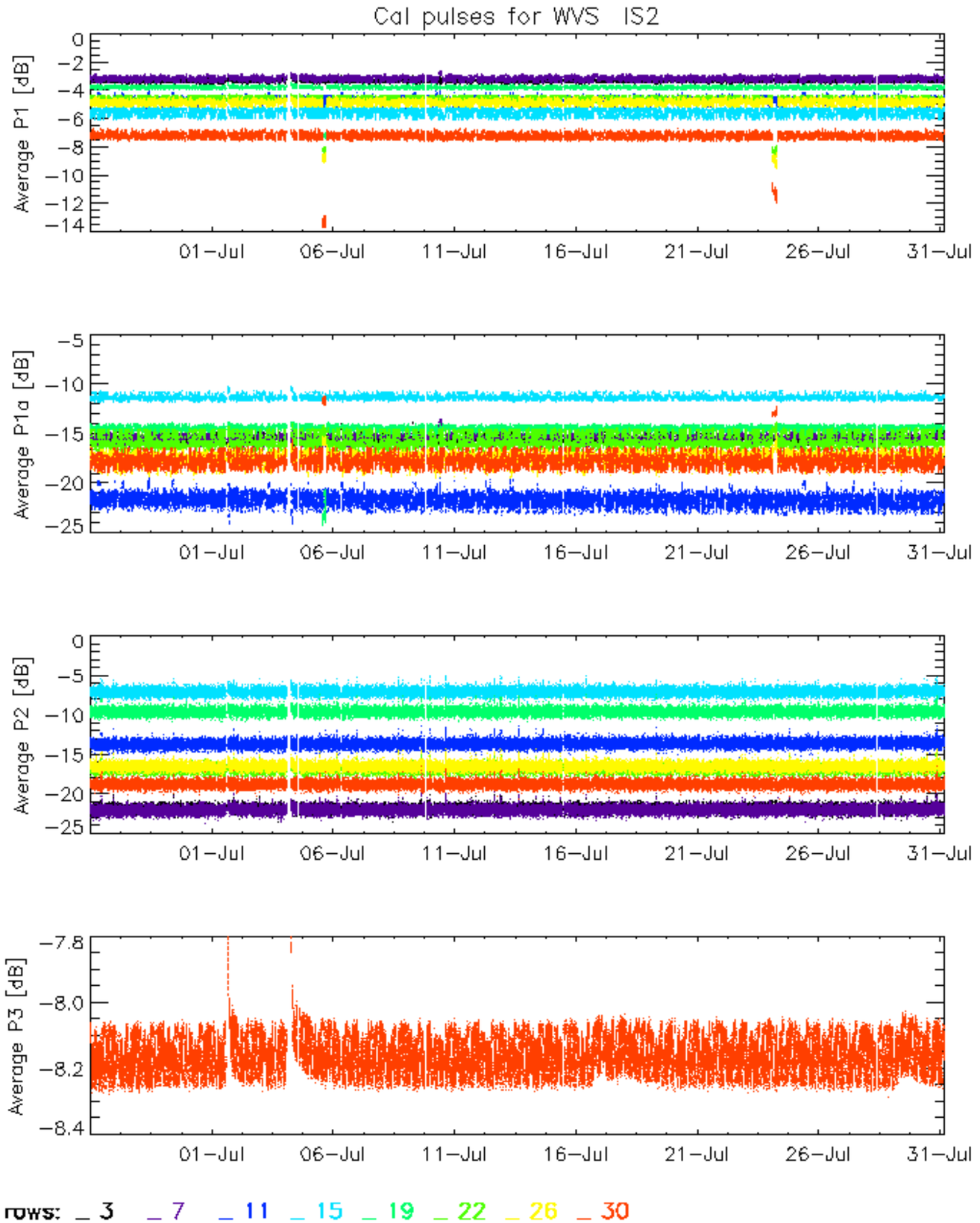
Evolution Doppler error versus ANX
☒

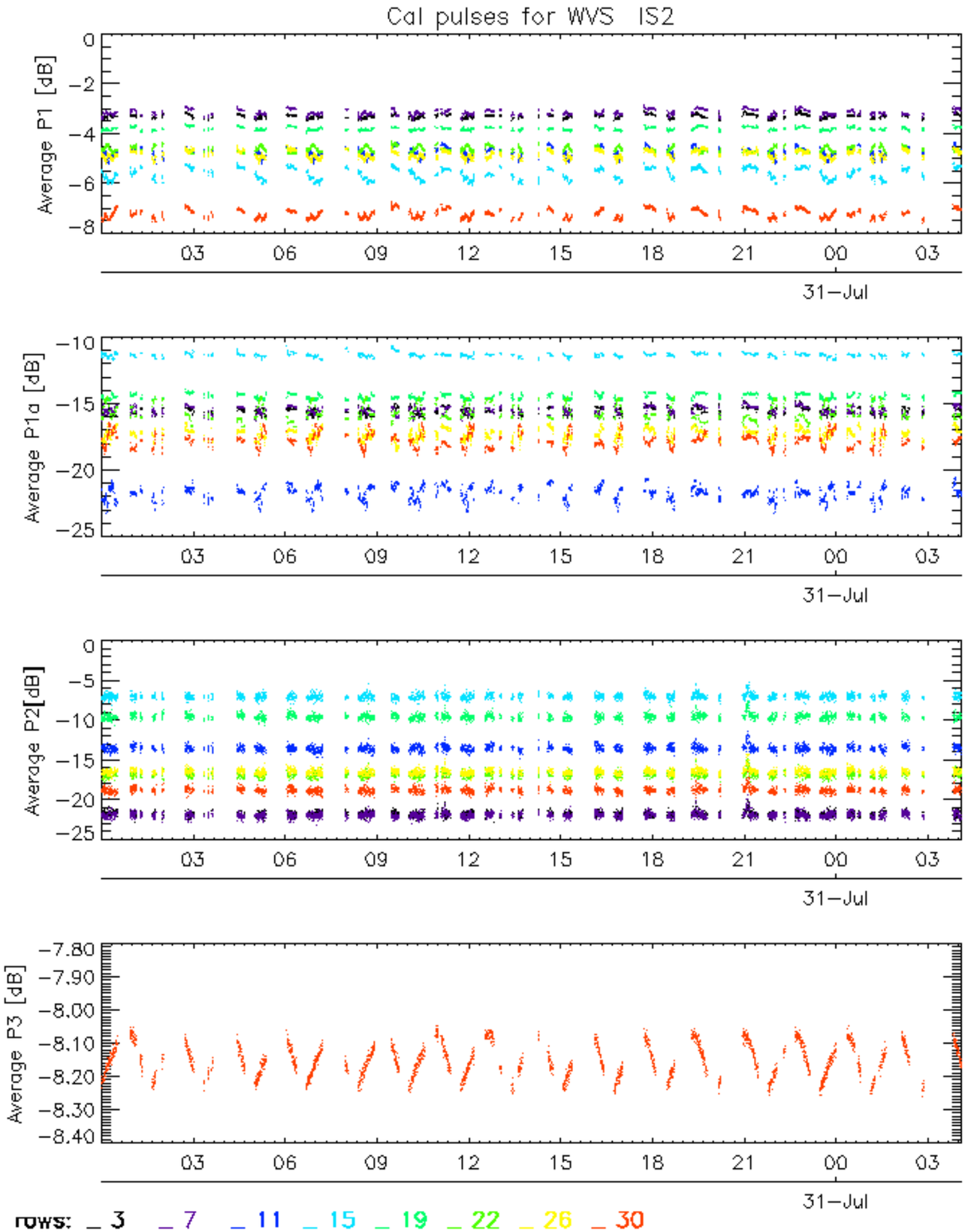

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
31−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
31−Jul
Average P1a [dB]
−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

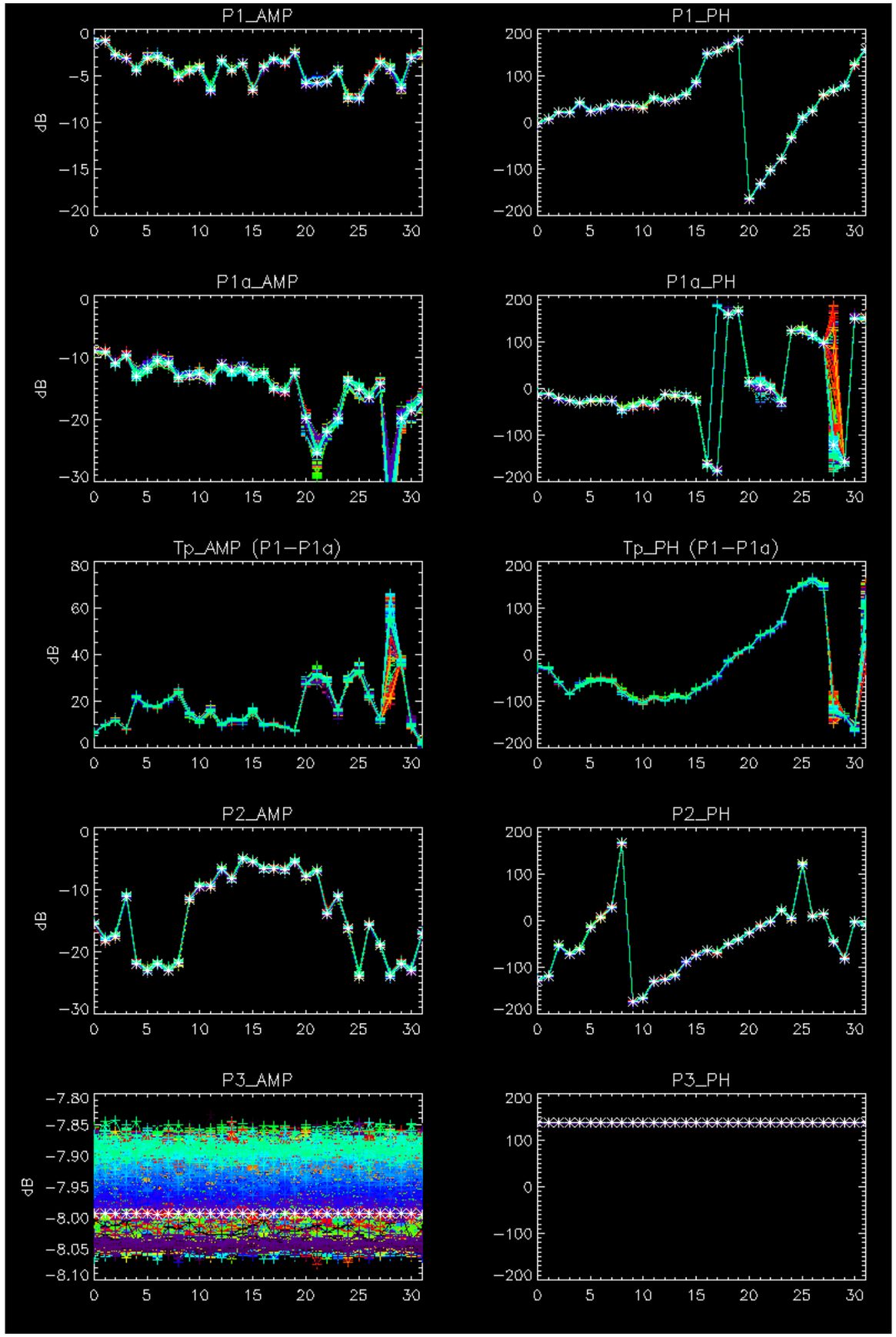

Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
Average P1a [dB]
0
−10
−20
−30
−40
Average P2 [dB]
0
−10
−20
−30
−40
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
26−Jul
31−Jul
rows: 3 7 11 15 19 22 26 30

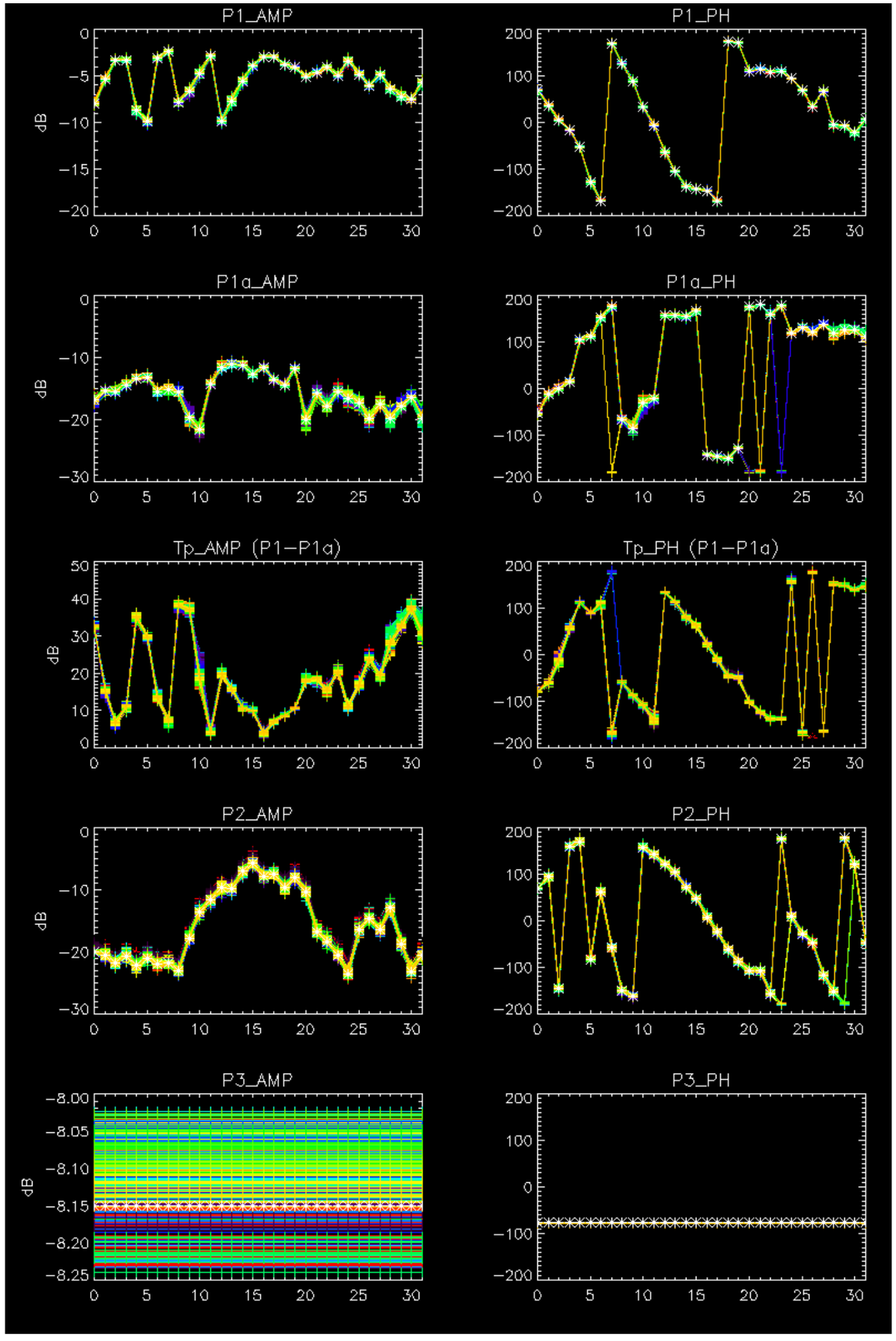

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
31−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
−14
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
26−Jul
31−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
31−Jul
Average P1a [dB]
−10
−15
−20
−25
Average P2[dB]
−5
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

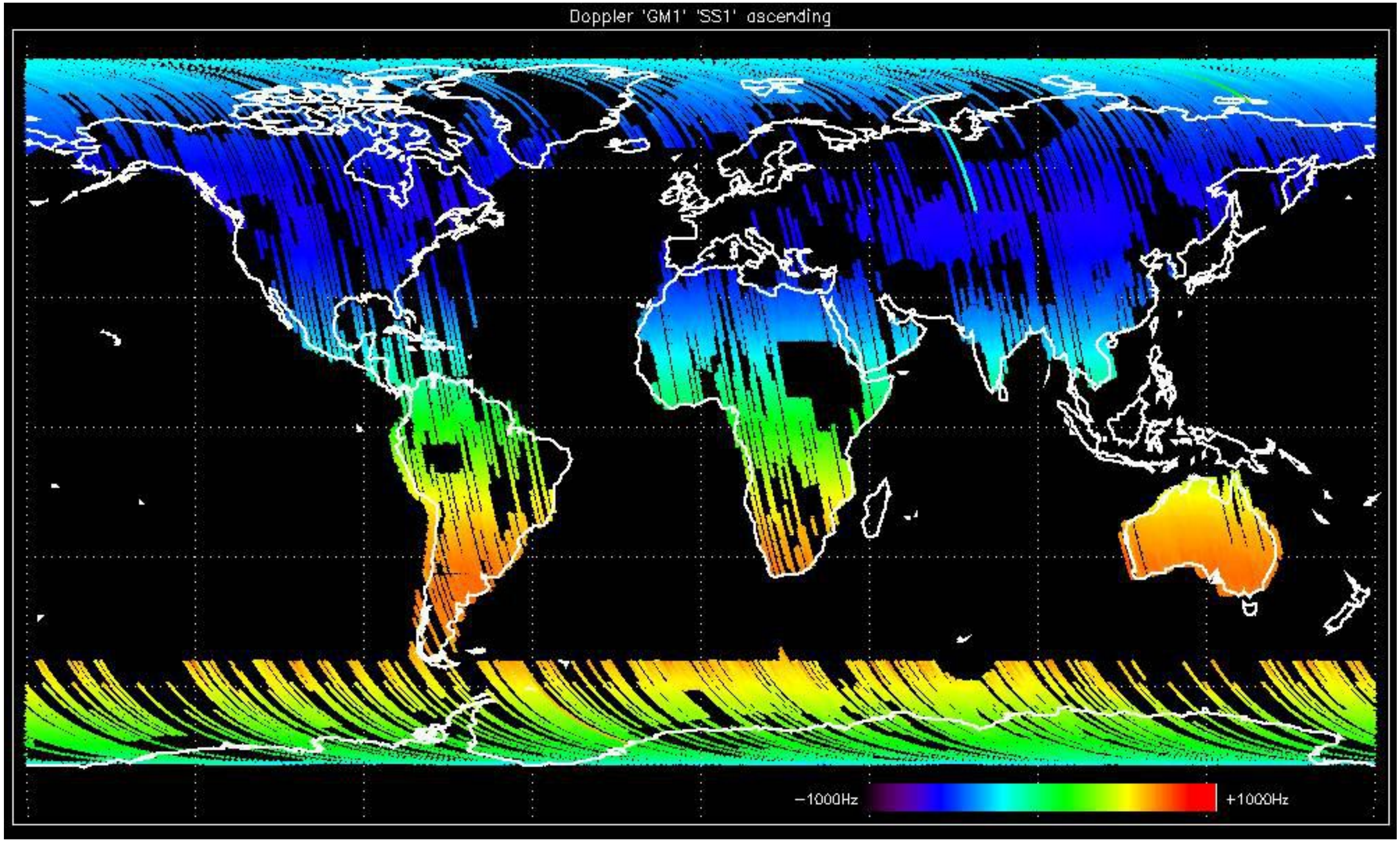
No anomalies observed.

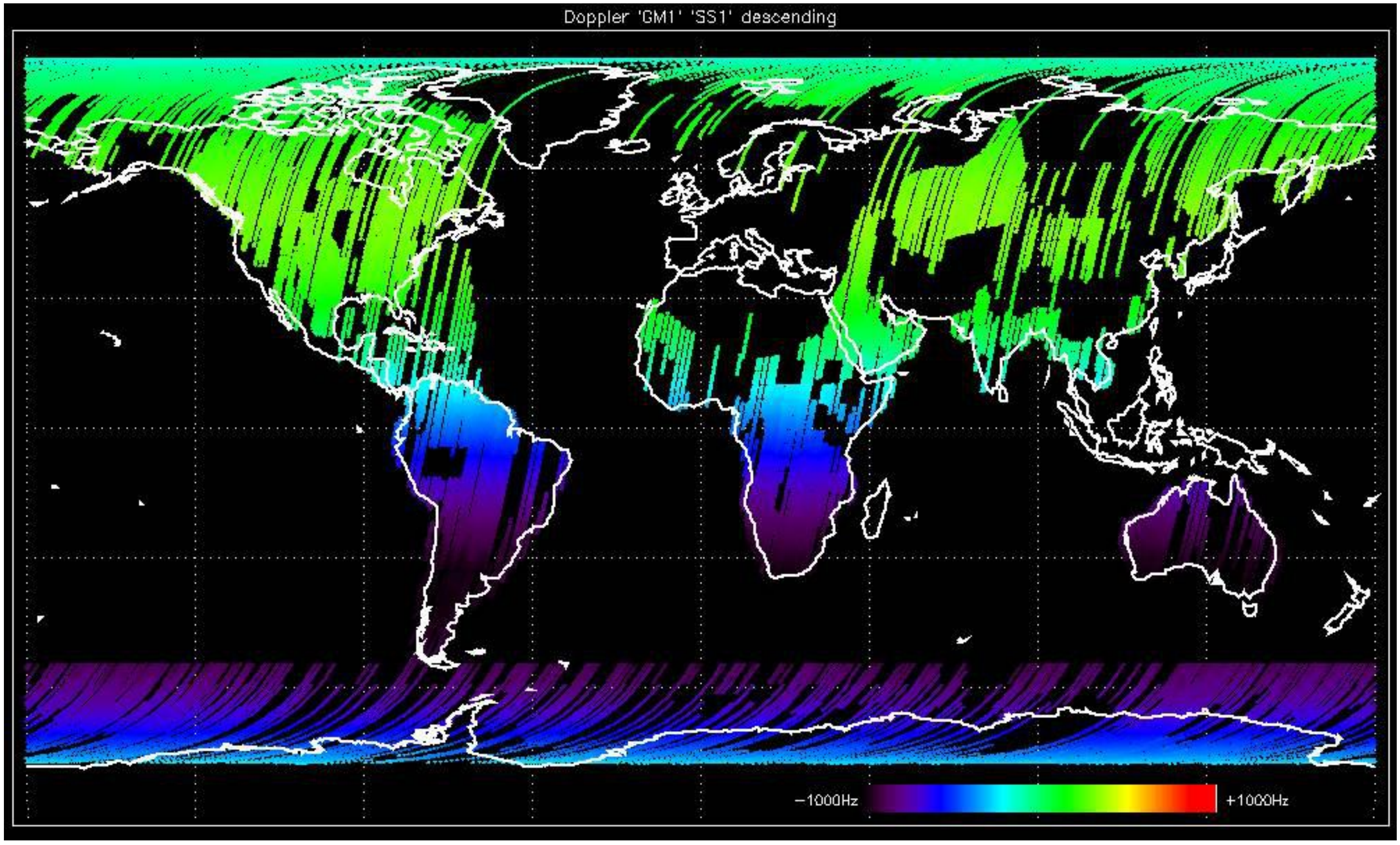

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

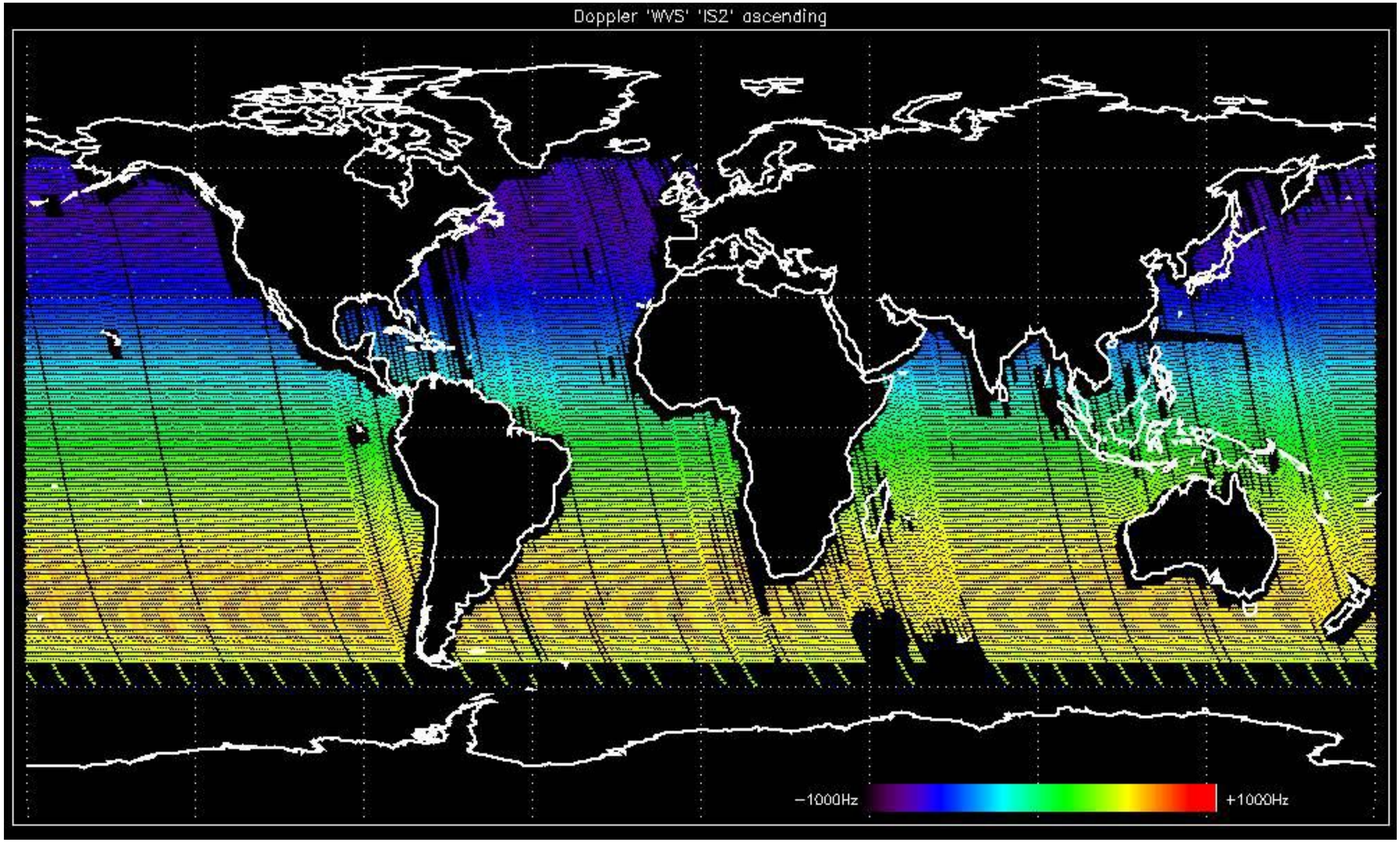

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

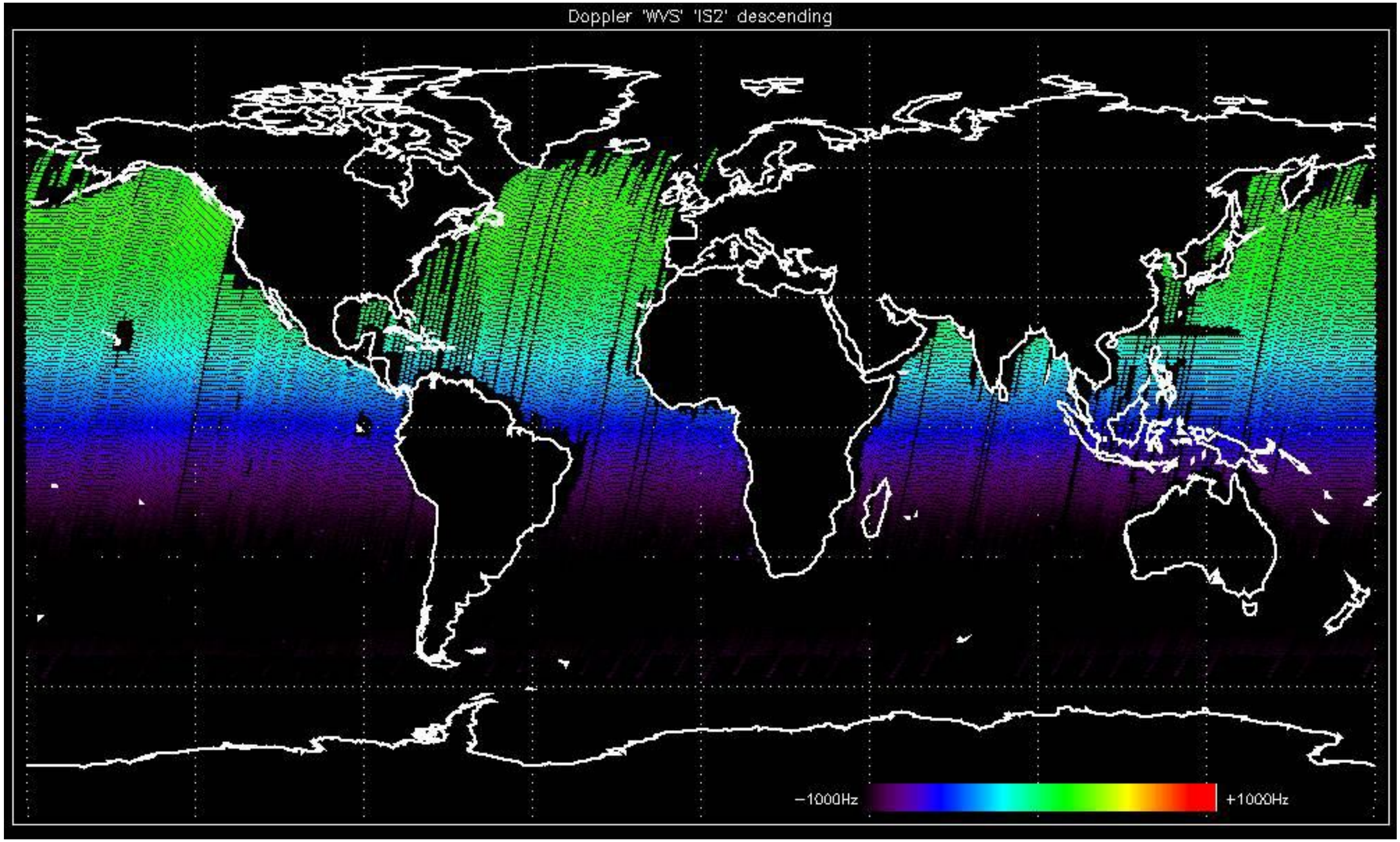
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

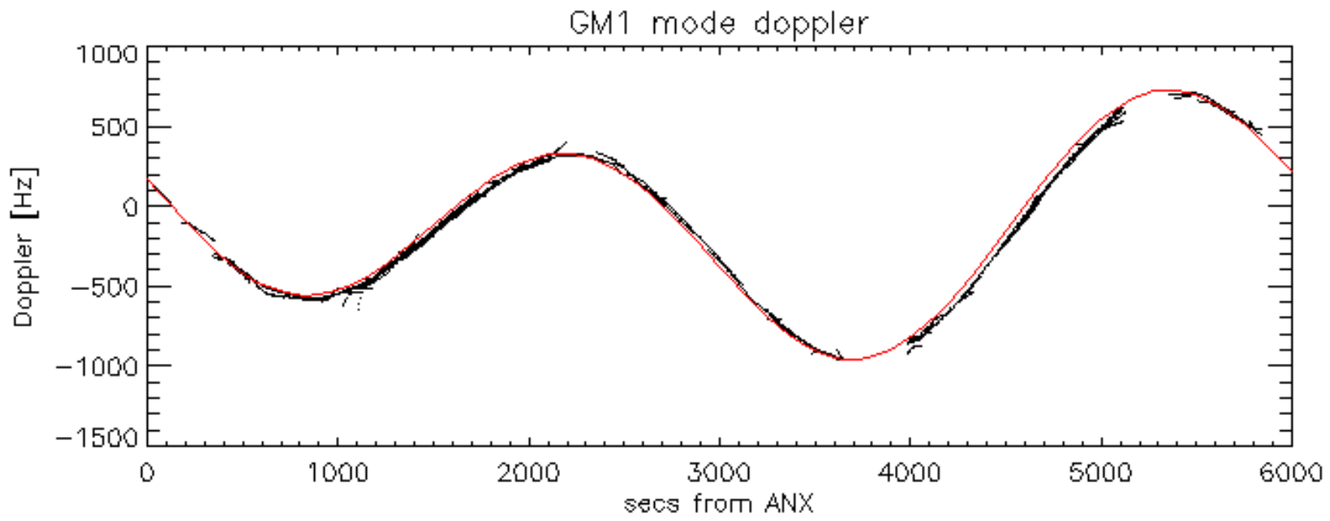
Preliminary report.The data is not yet controled

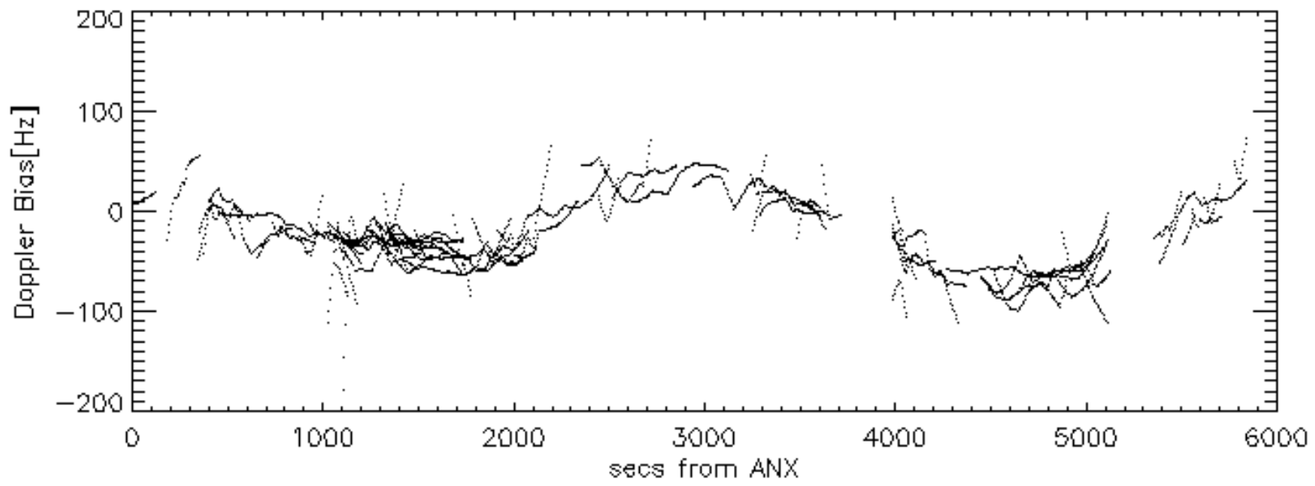

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

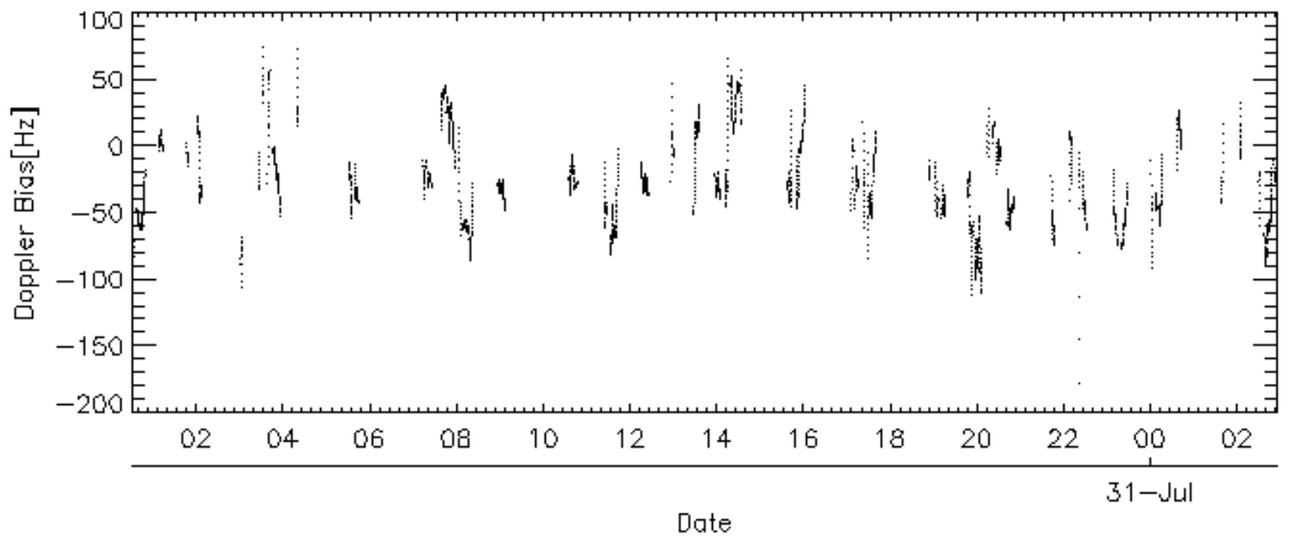

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

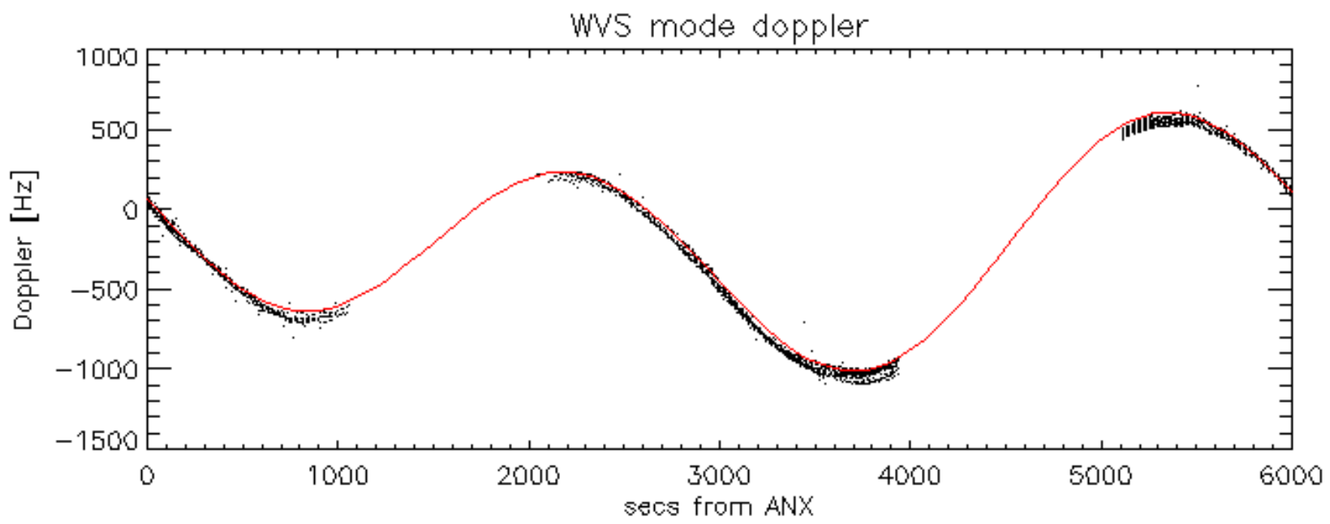

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

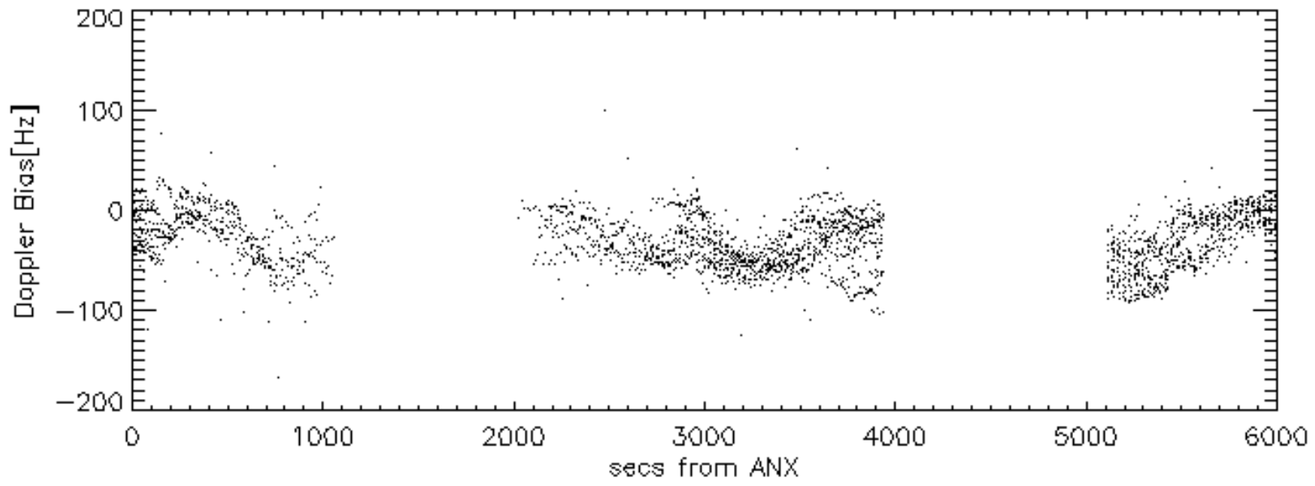

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

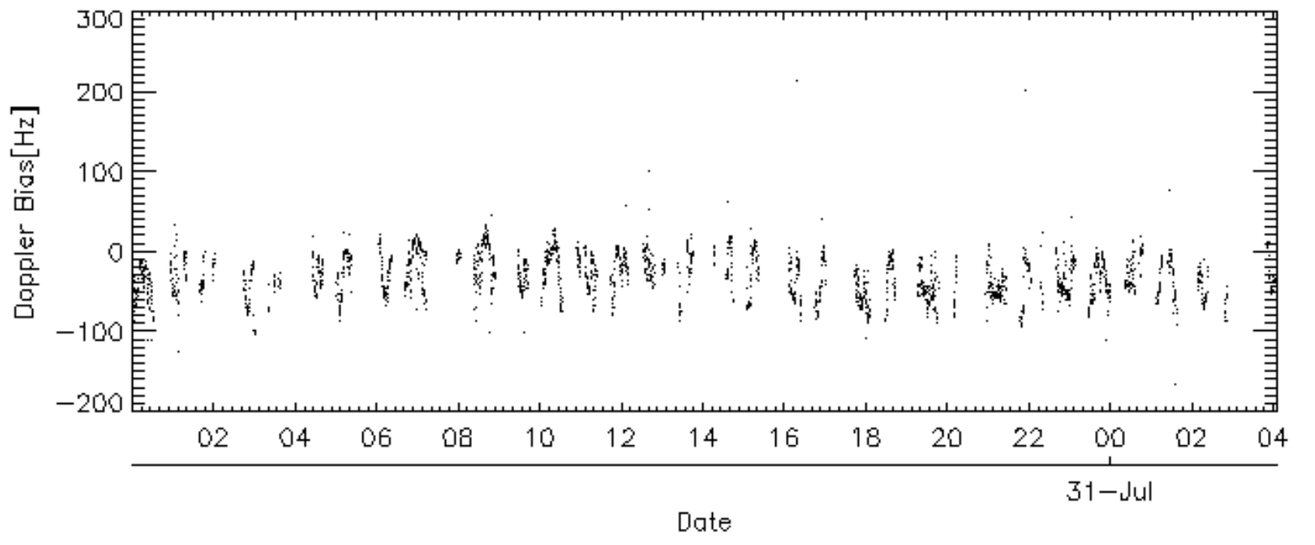

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

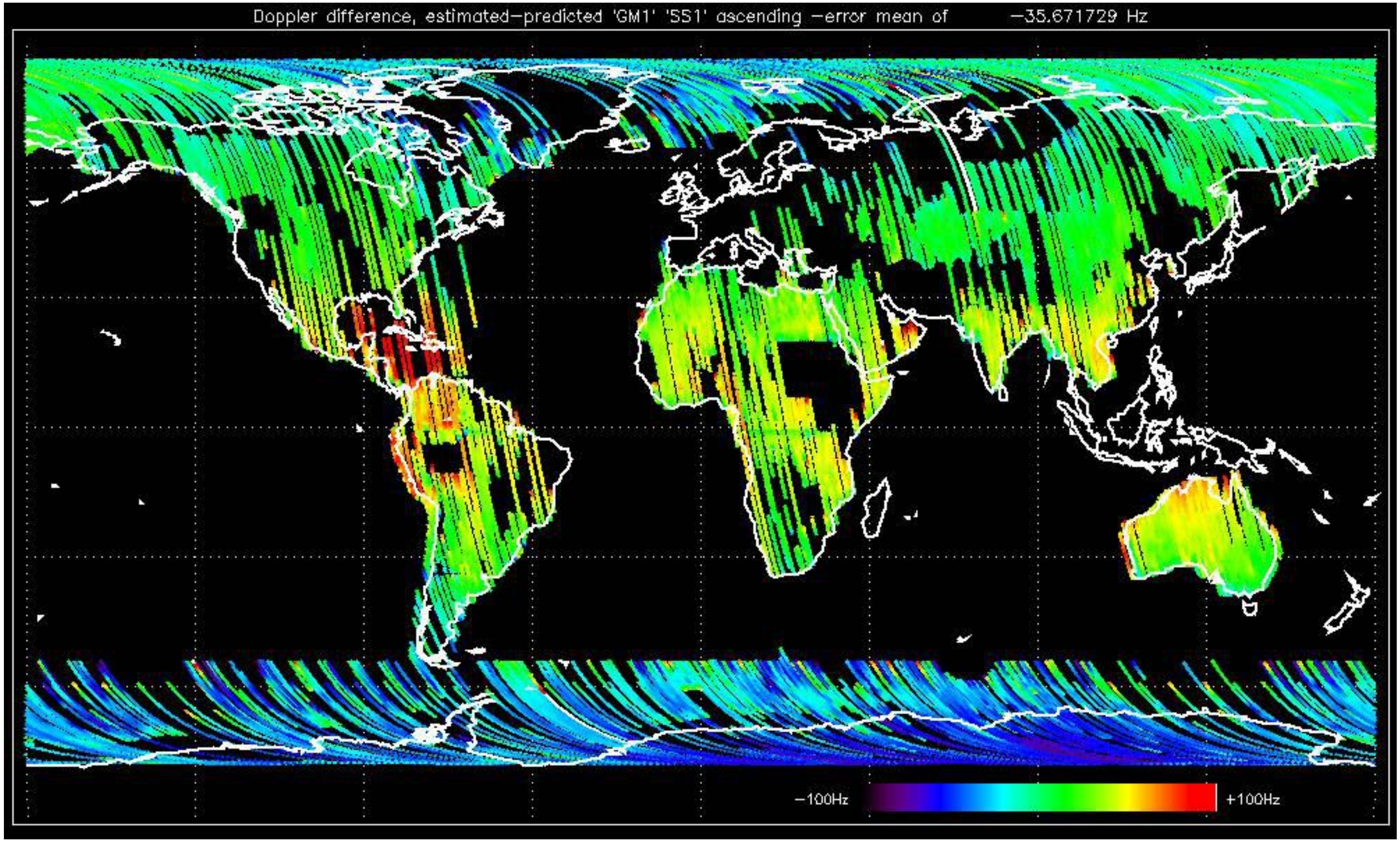

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

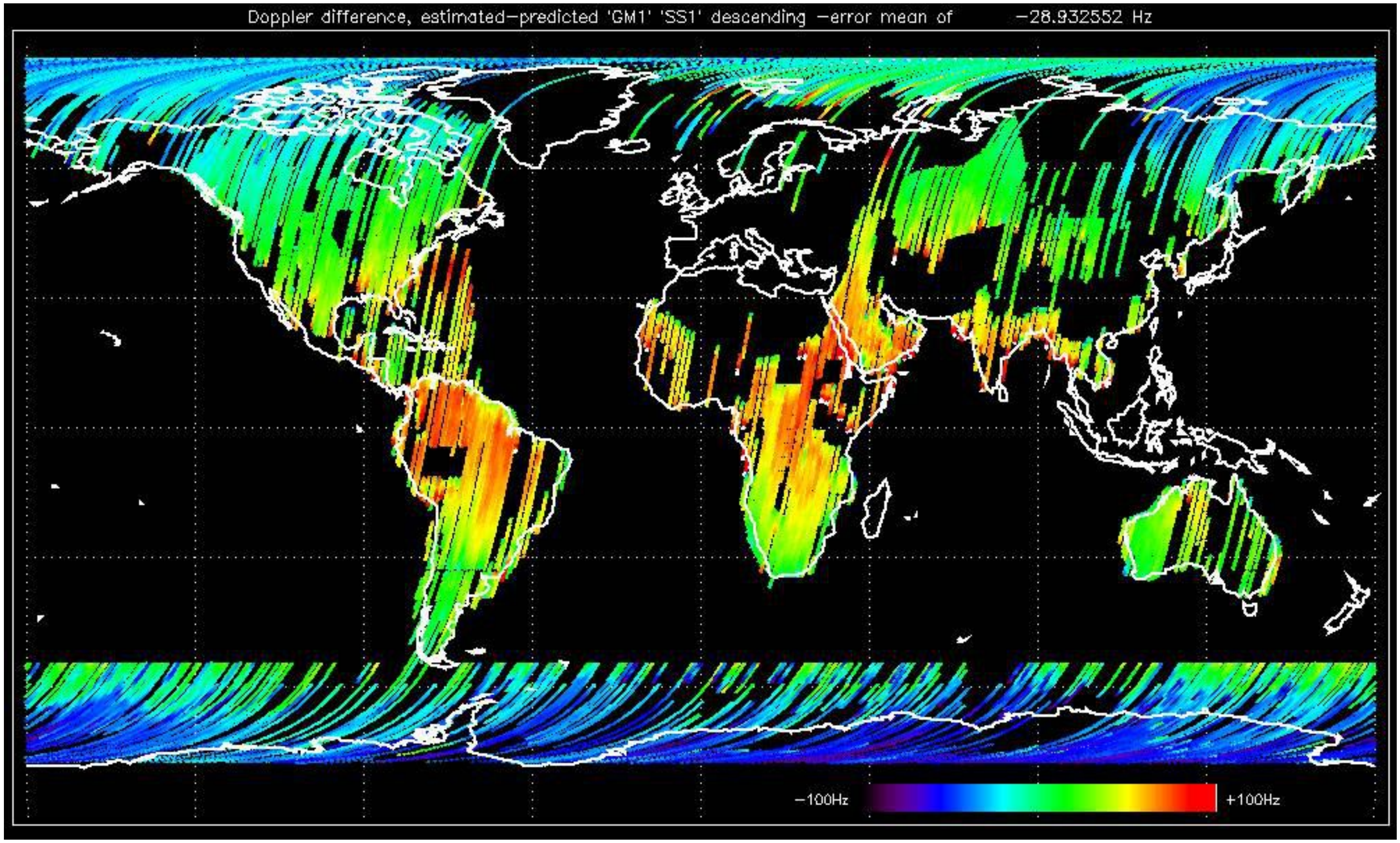

Doppler Bias[Hz]
100
50
0
−50
−100
−150
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
31−Jul
Date

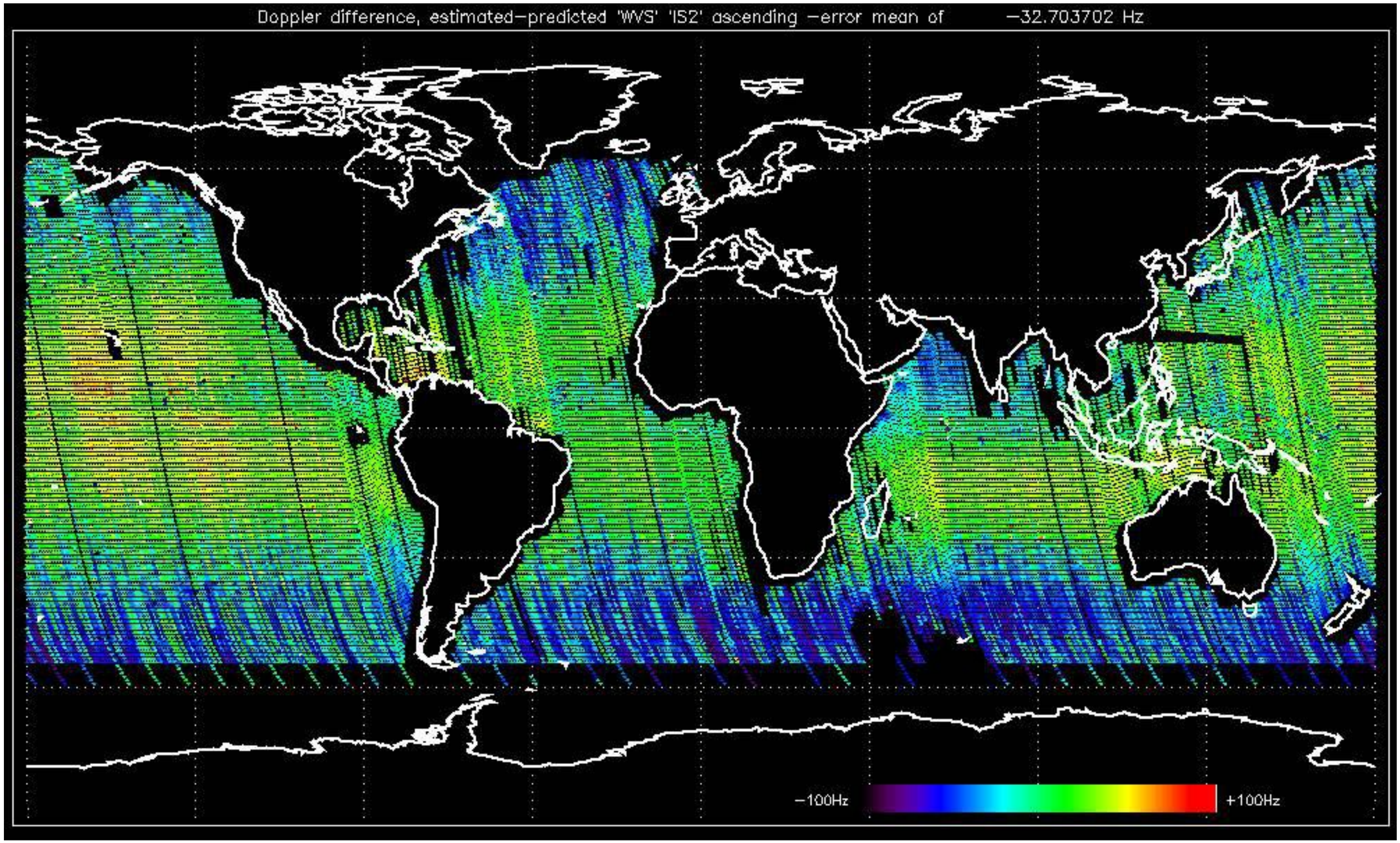

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

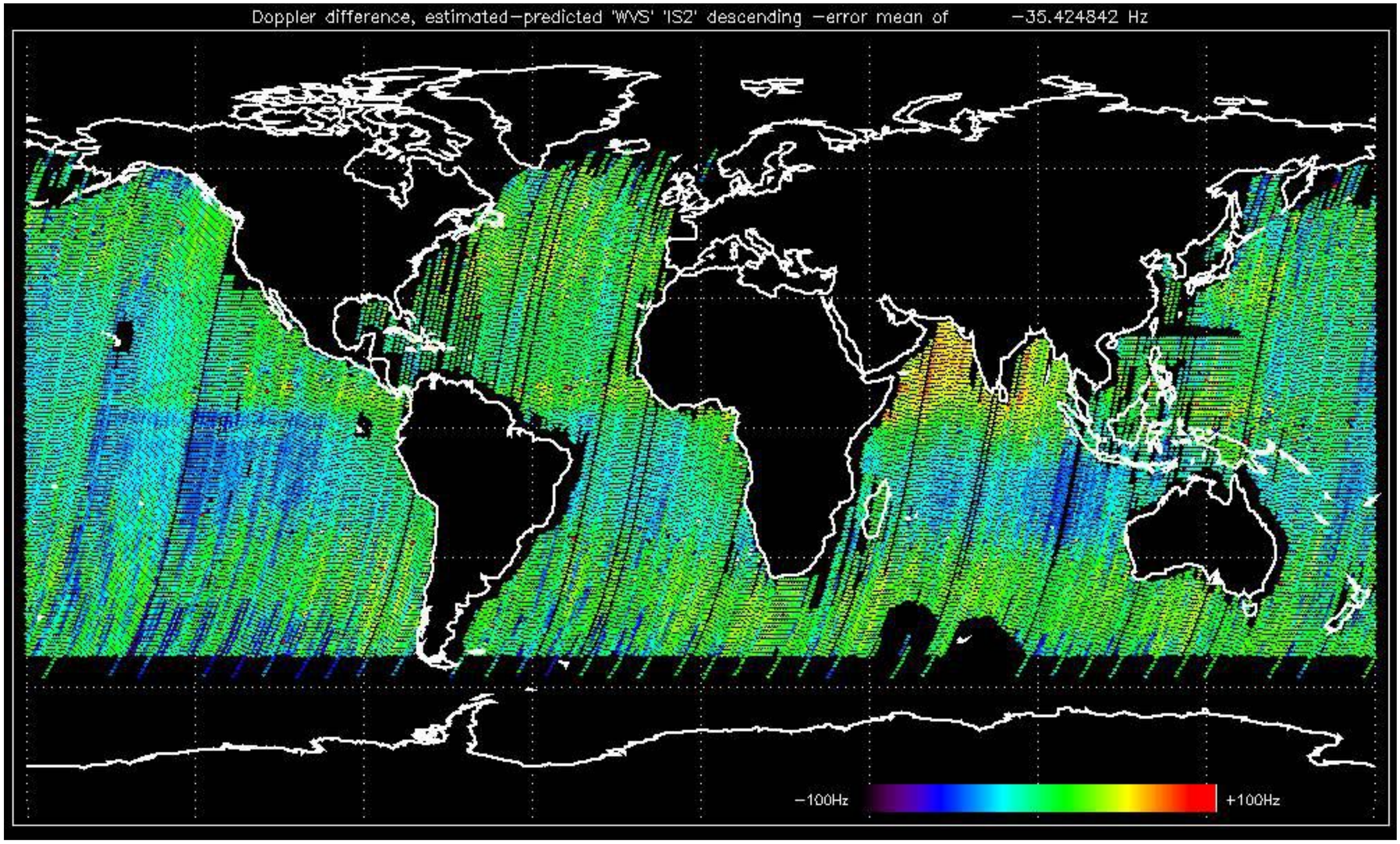

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −35.671729 Hz
−100Hz
+100Hz

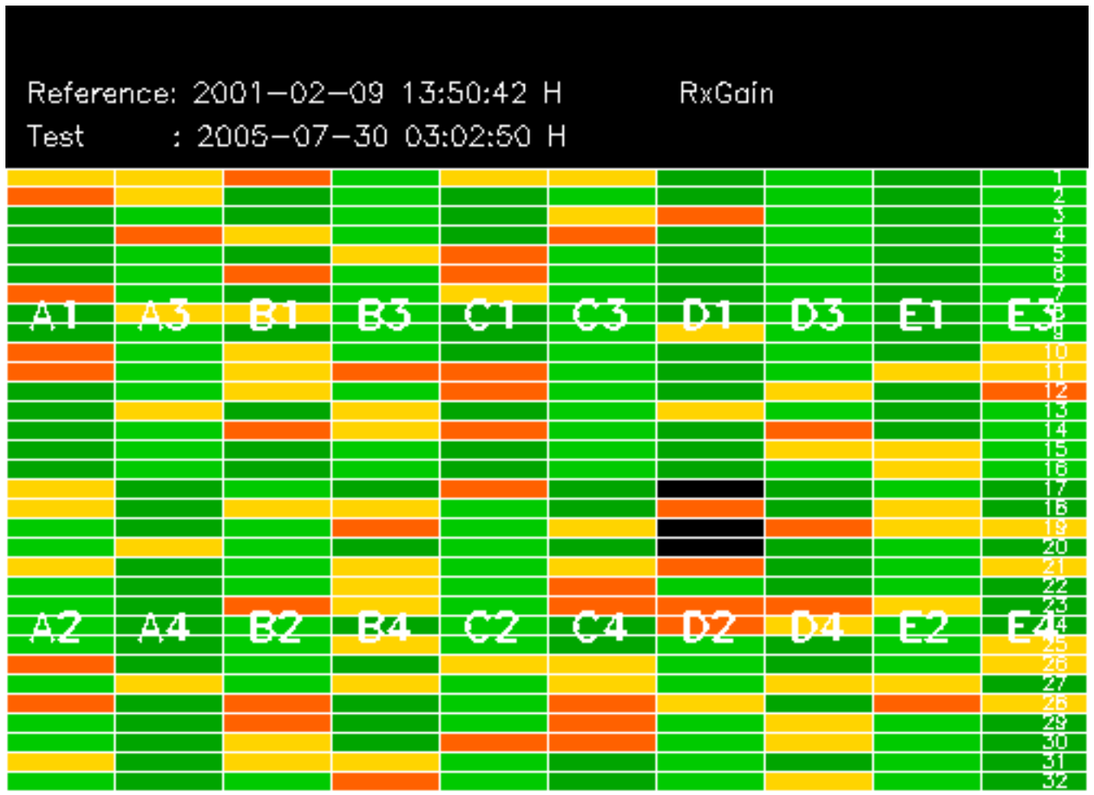

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -28.932552 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −32.703702 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −35.424842 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2005-07-30 03:02:50 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
17
18
19
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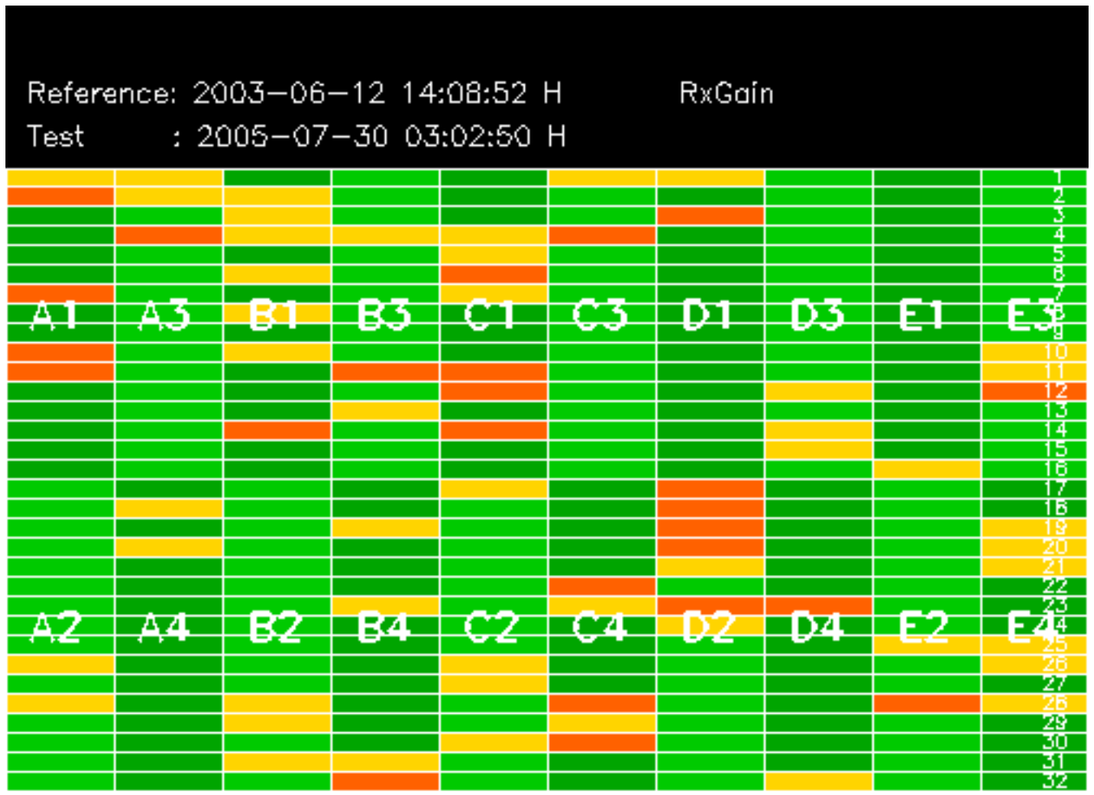
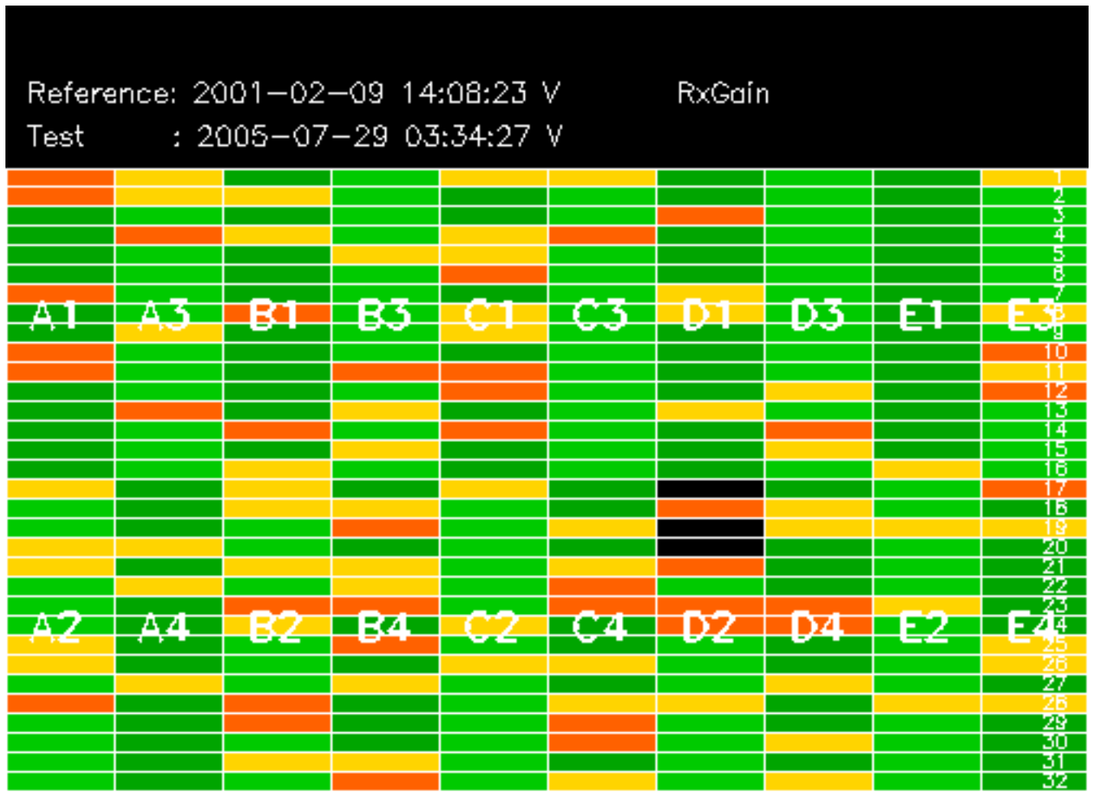

Reference: 2003-06-12 14:08:52 H
Test : 2005-07-30 03:02:50 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2005-07-29 03:34:27 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
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8
9
10
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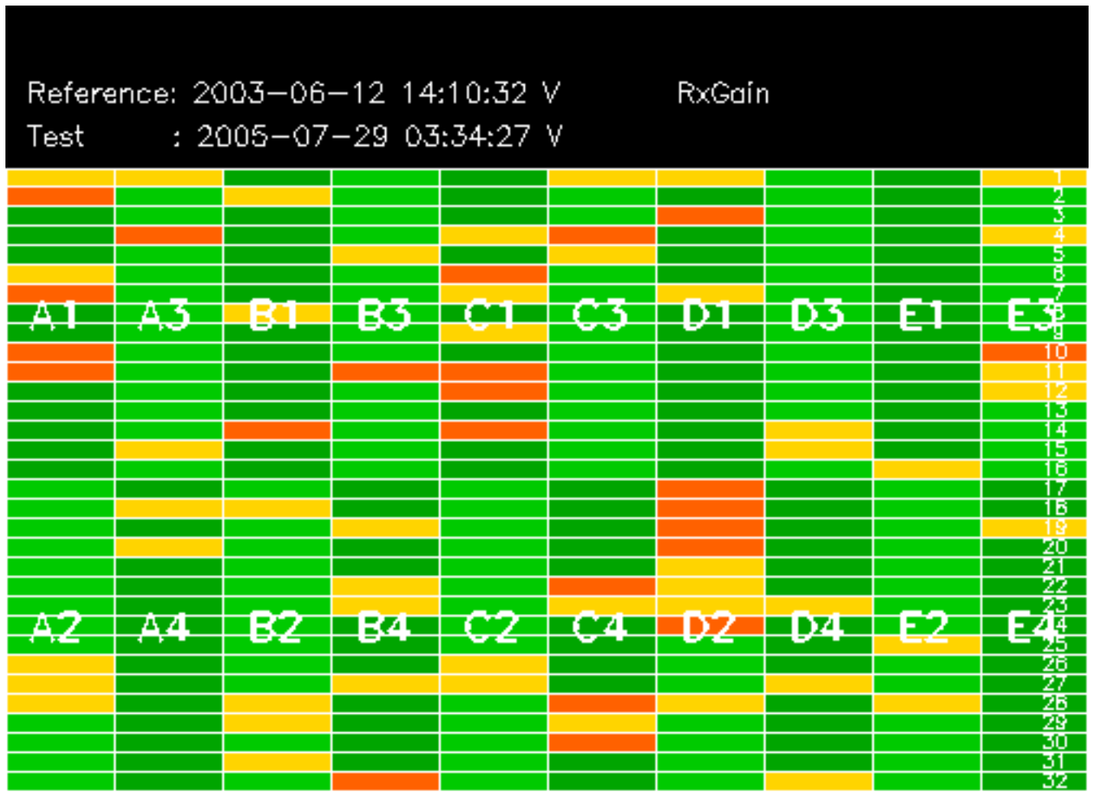
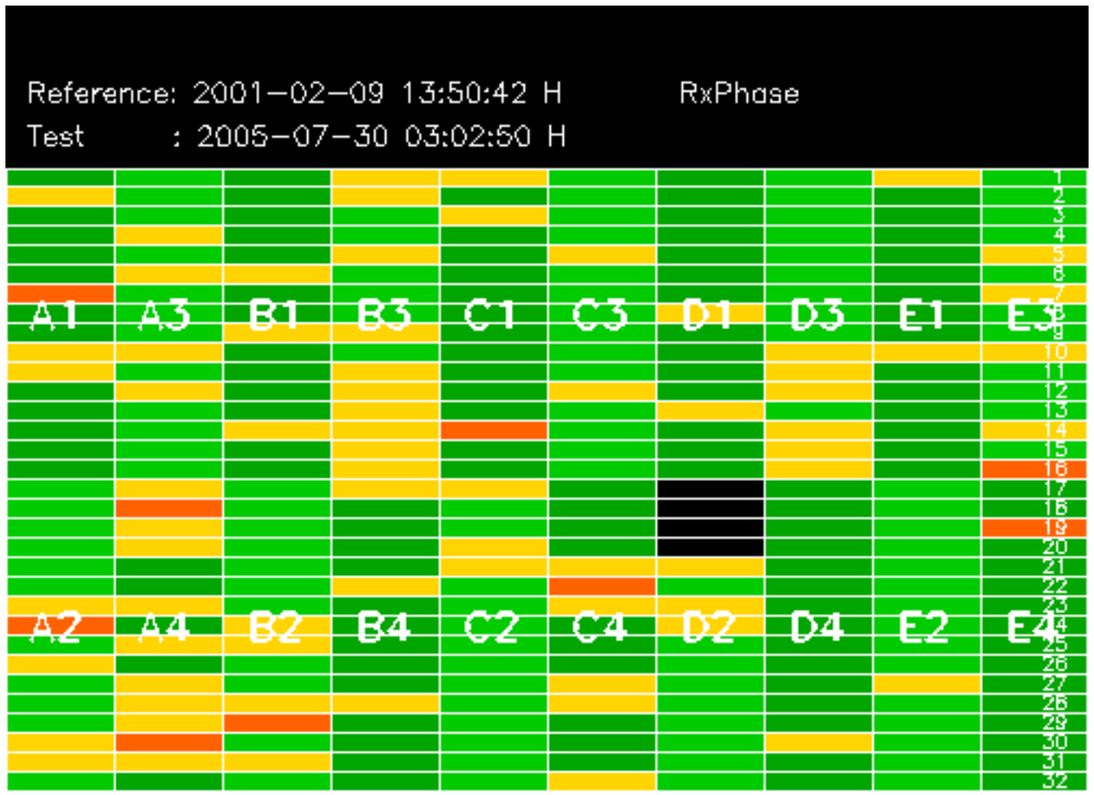
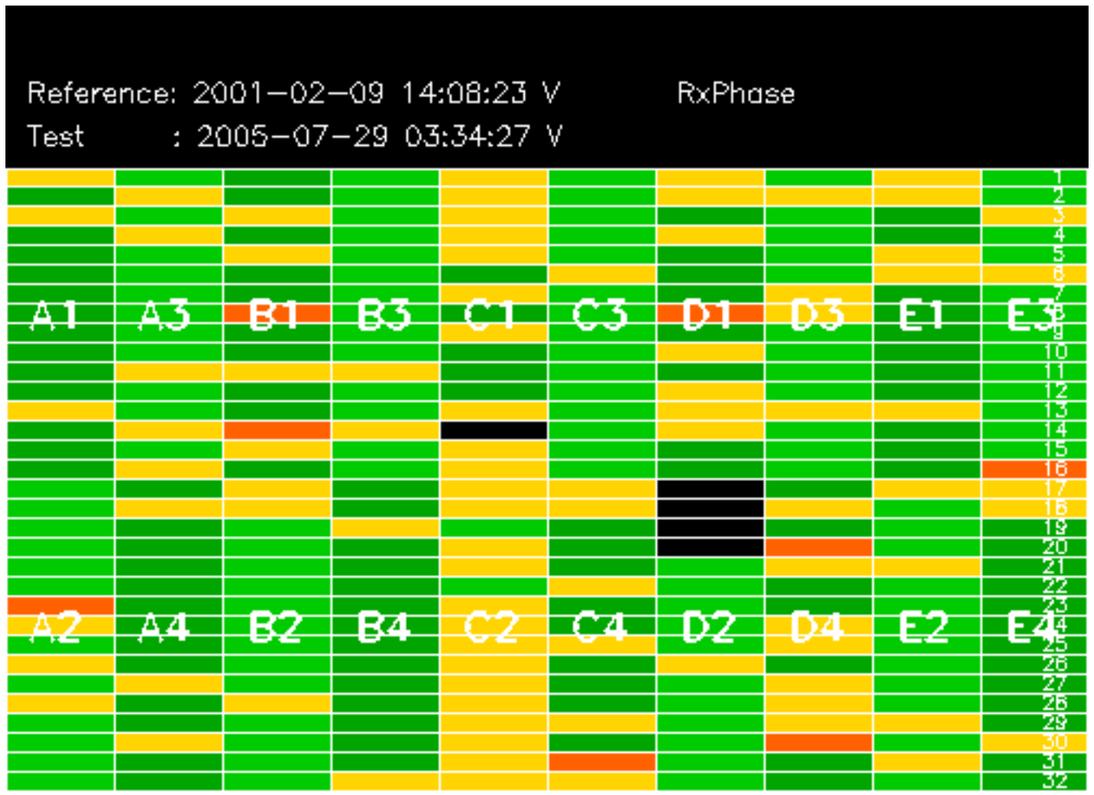
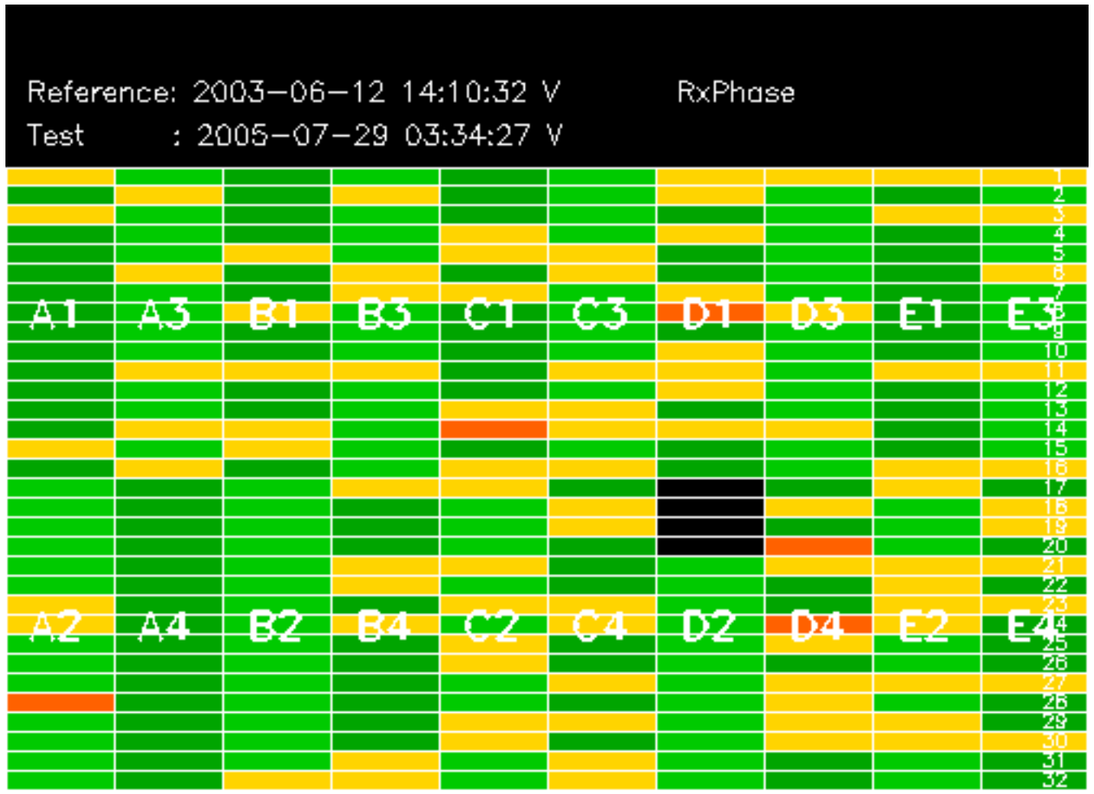

Reference: 2003-06-12 14:10:32 V
Test : 2005-07-29 03:34:27 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-07-30 03:02:50 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 : 2005-07-30 03:02:50 H
RxPhase
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 : 2005-07-29 03:34:27 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 : 2005-07-29 03:34:27 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
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8
9
10
11
12
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17
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19
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24
25
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27
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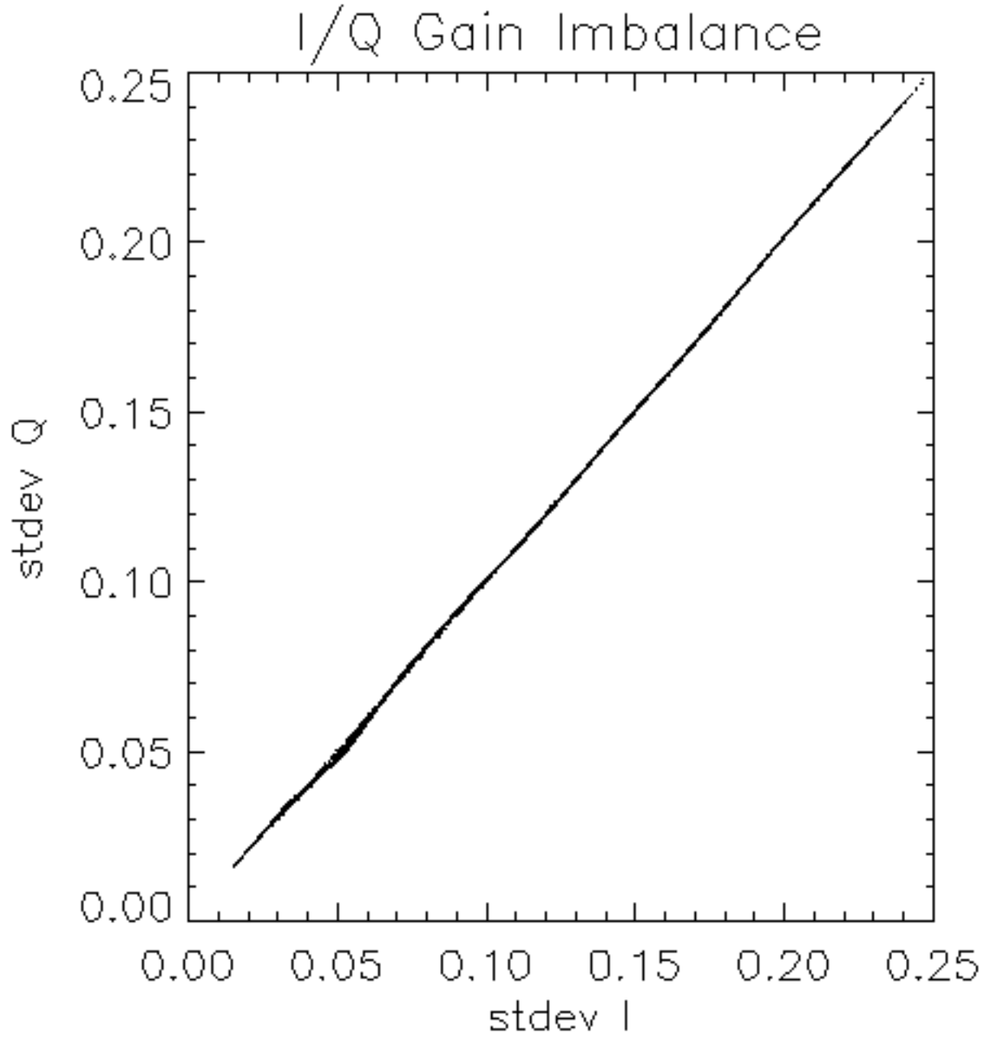
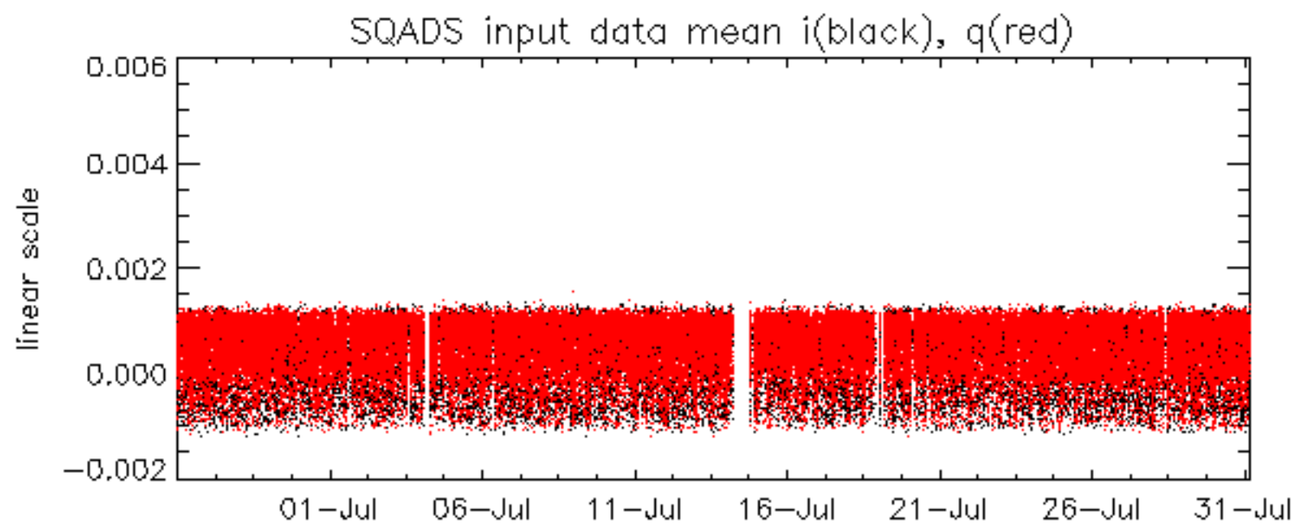
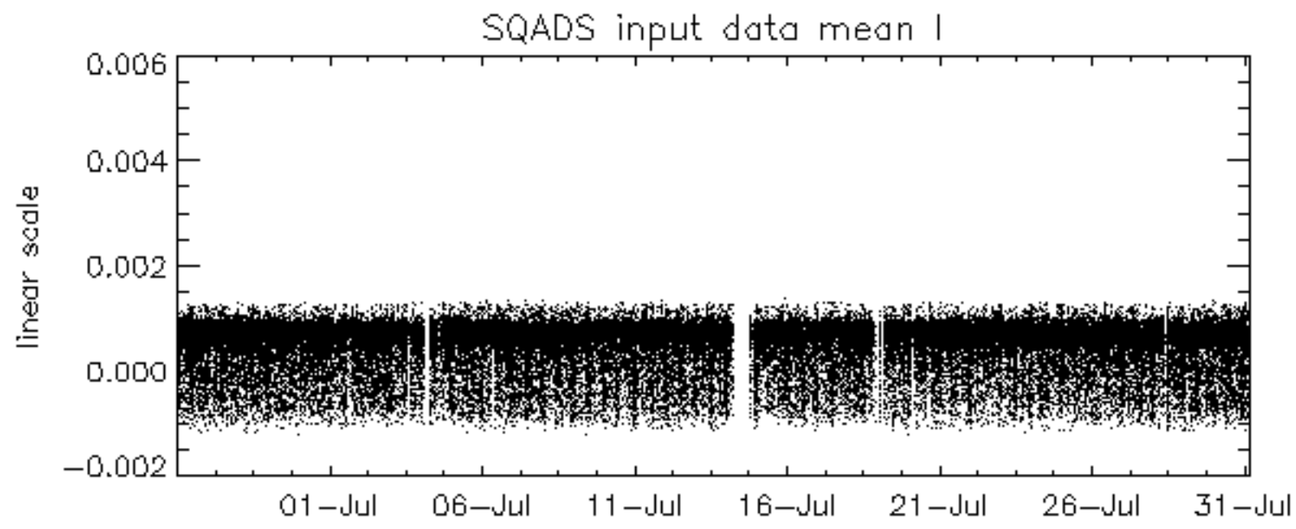
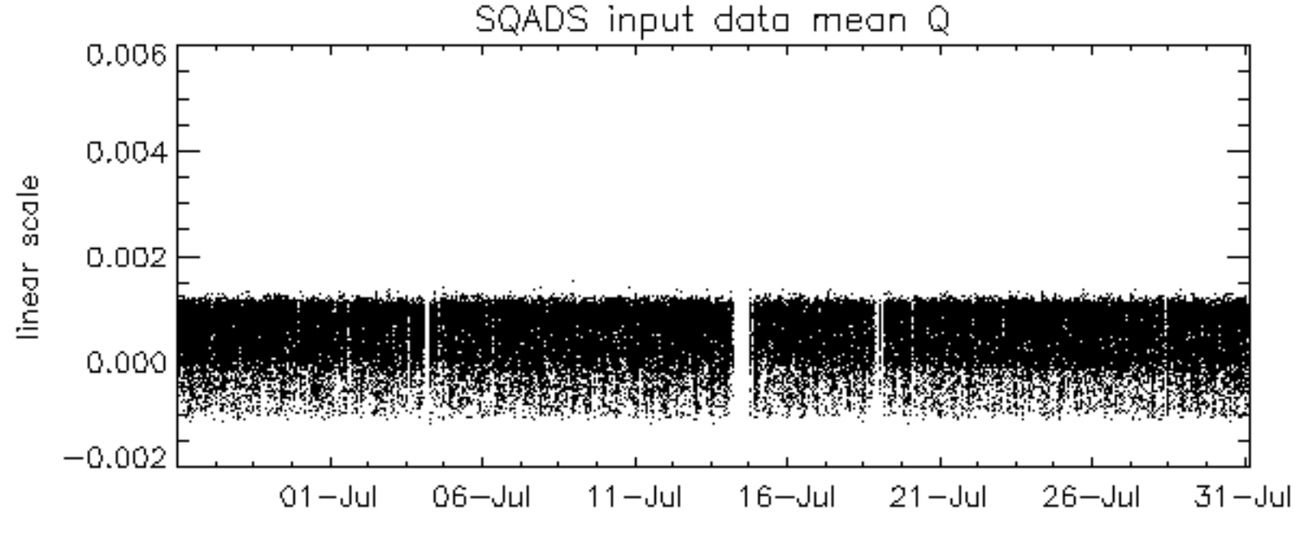
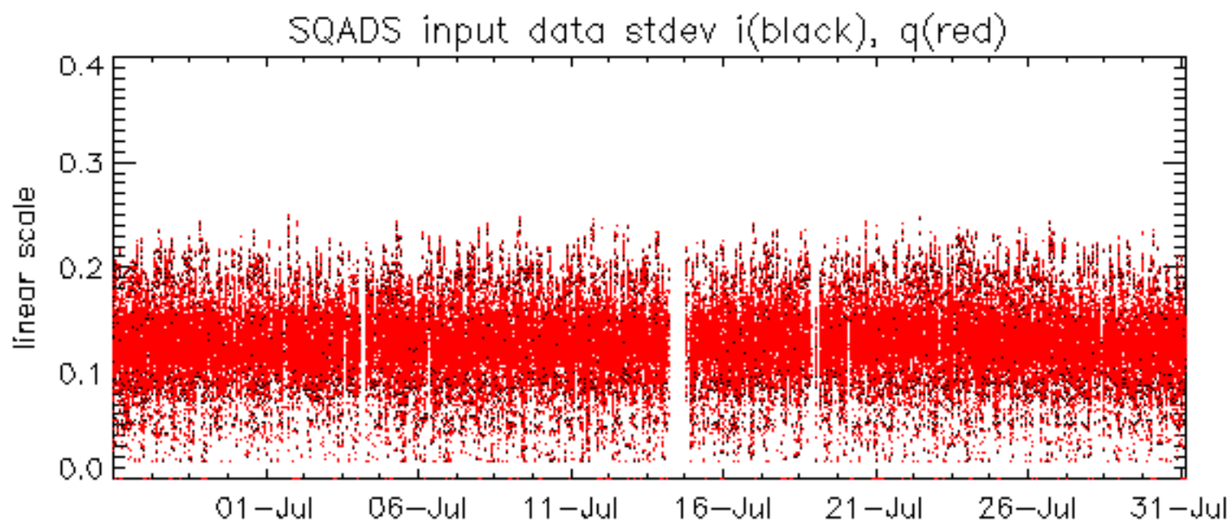
29
30
31
32

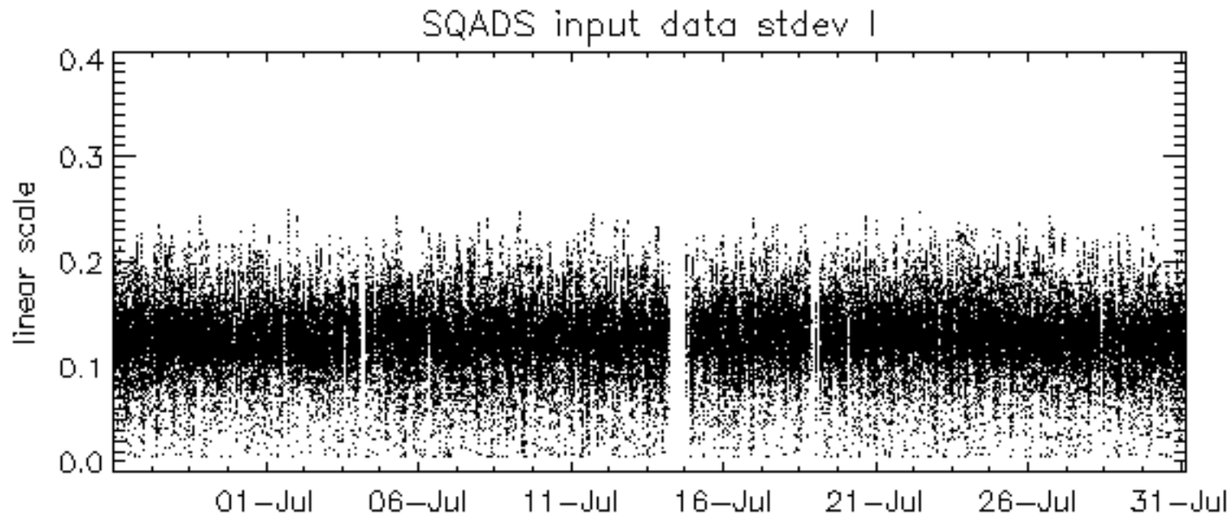

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

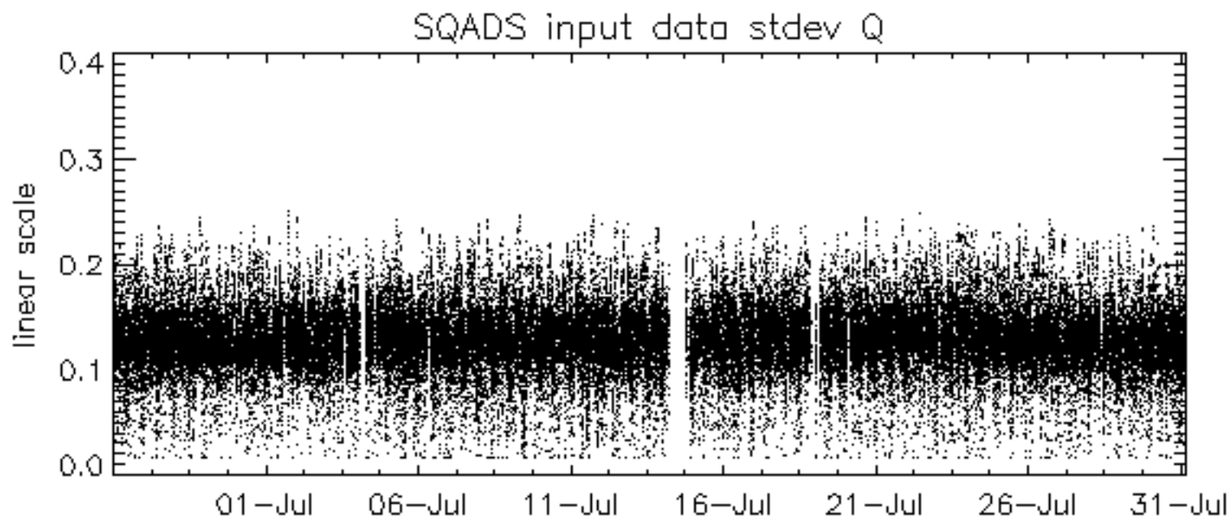

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
26−Jul
31−Jul

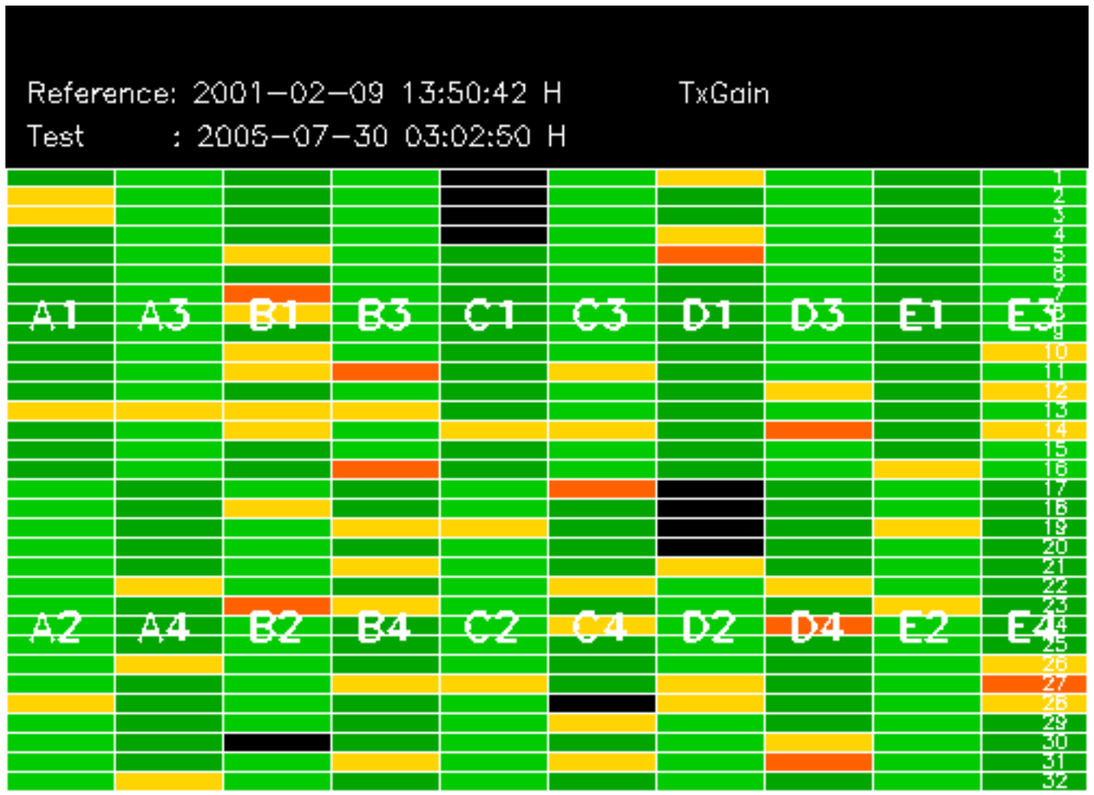

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
26−Jul
31−Jul

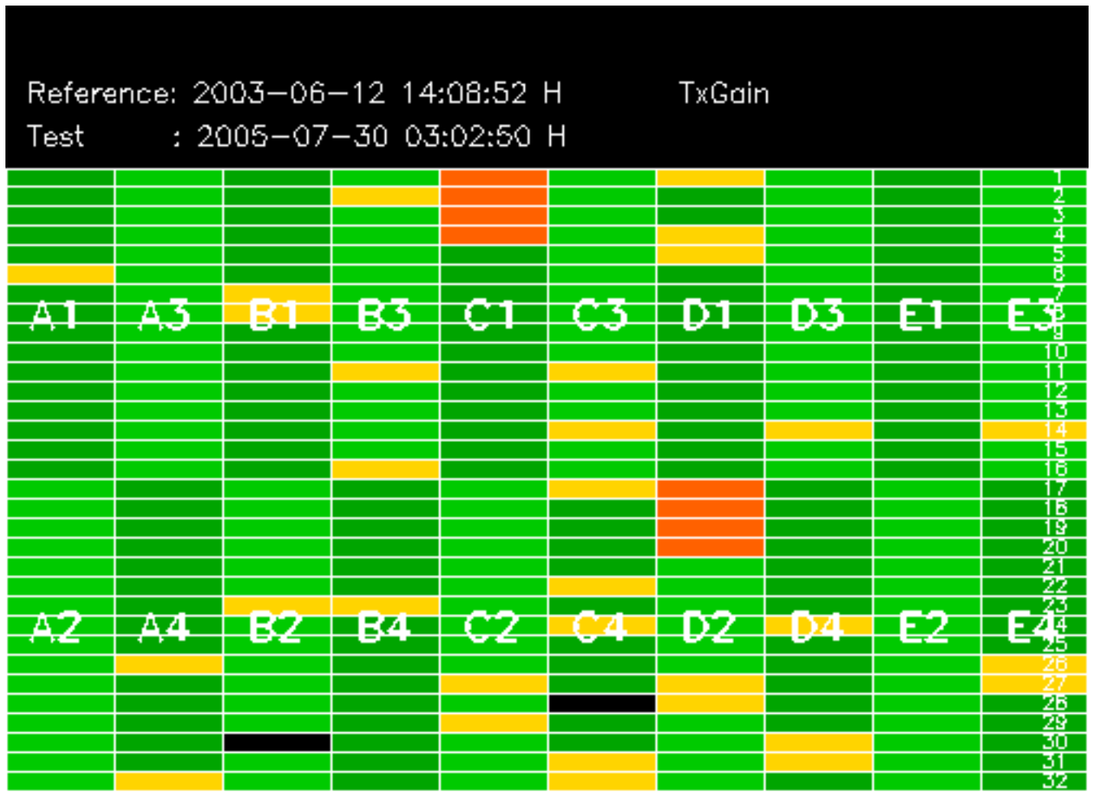

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
26−Jul
31−Jul


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2005-07-30 03:02:50 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 : 2005-07-30 03:02:50 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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29
30
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2005-07-29 03:34:27 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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3
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8
9
10
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27
28
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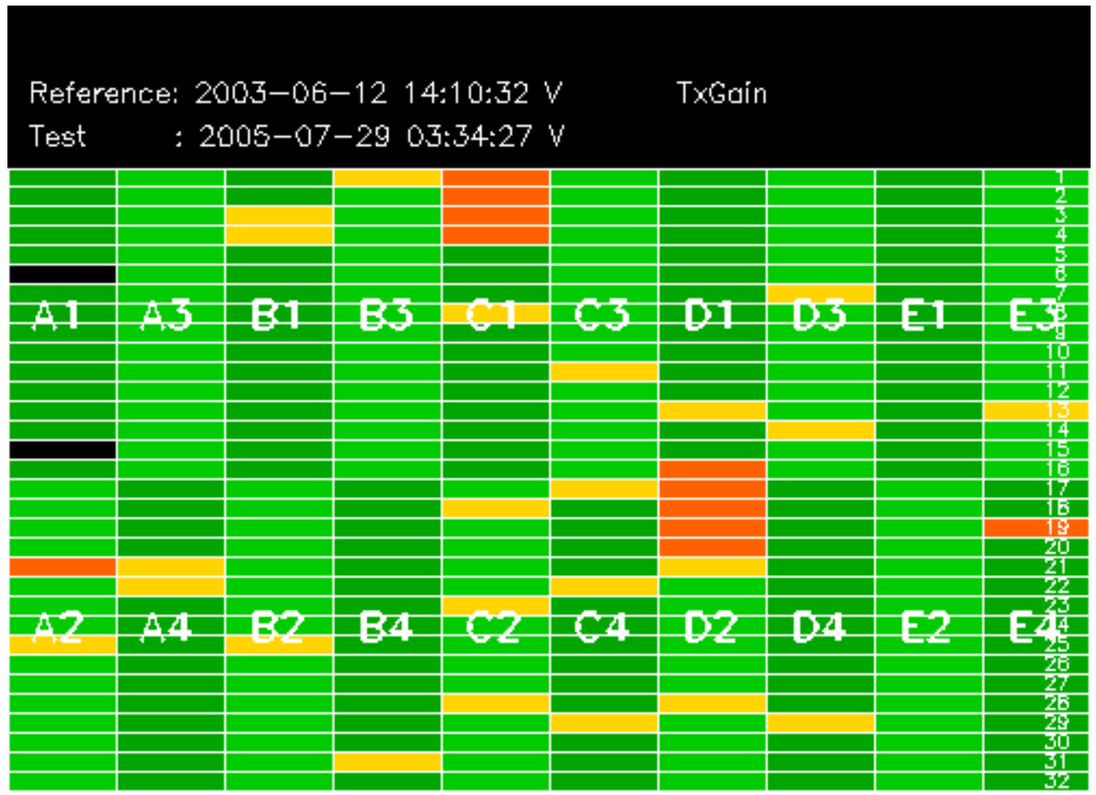
32


Reference: 2003-06-12 14:10:32 V
Test : 2005-07-29 03:34:27 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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11
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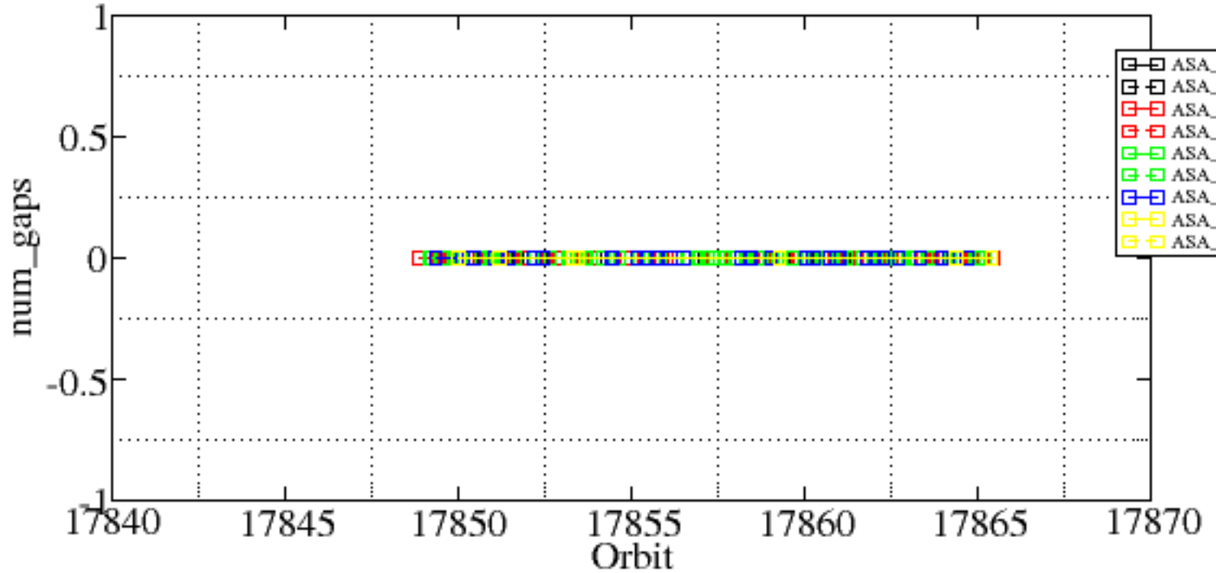
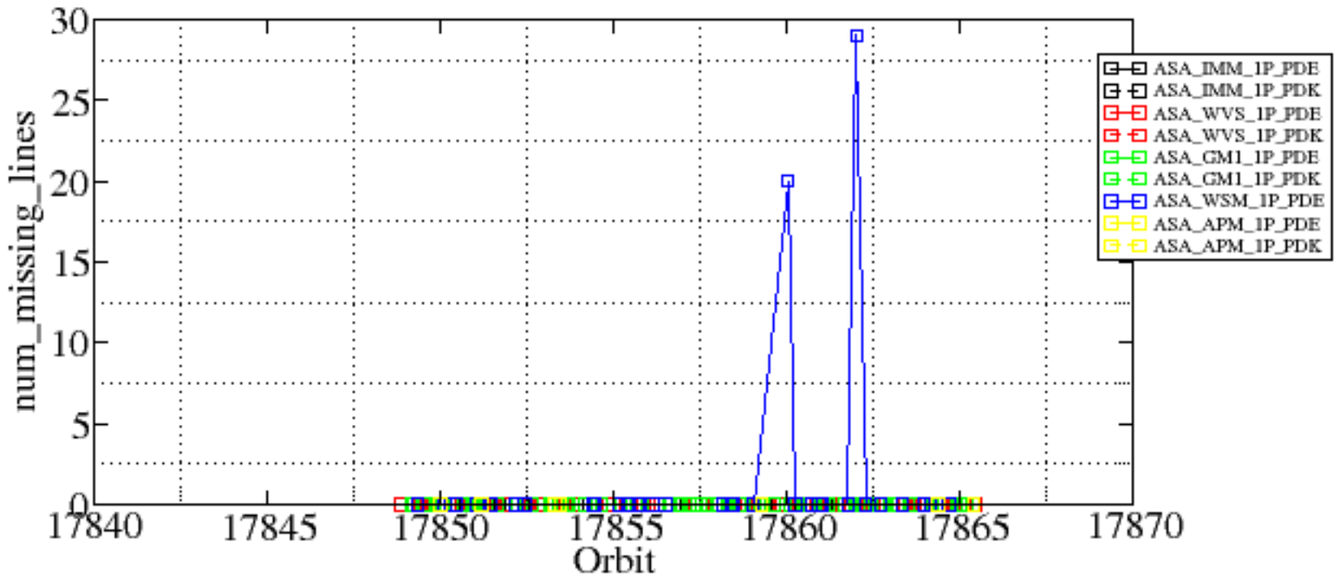
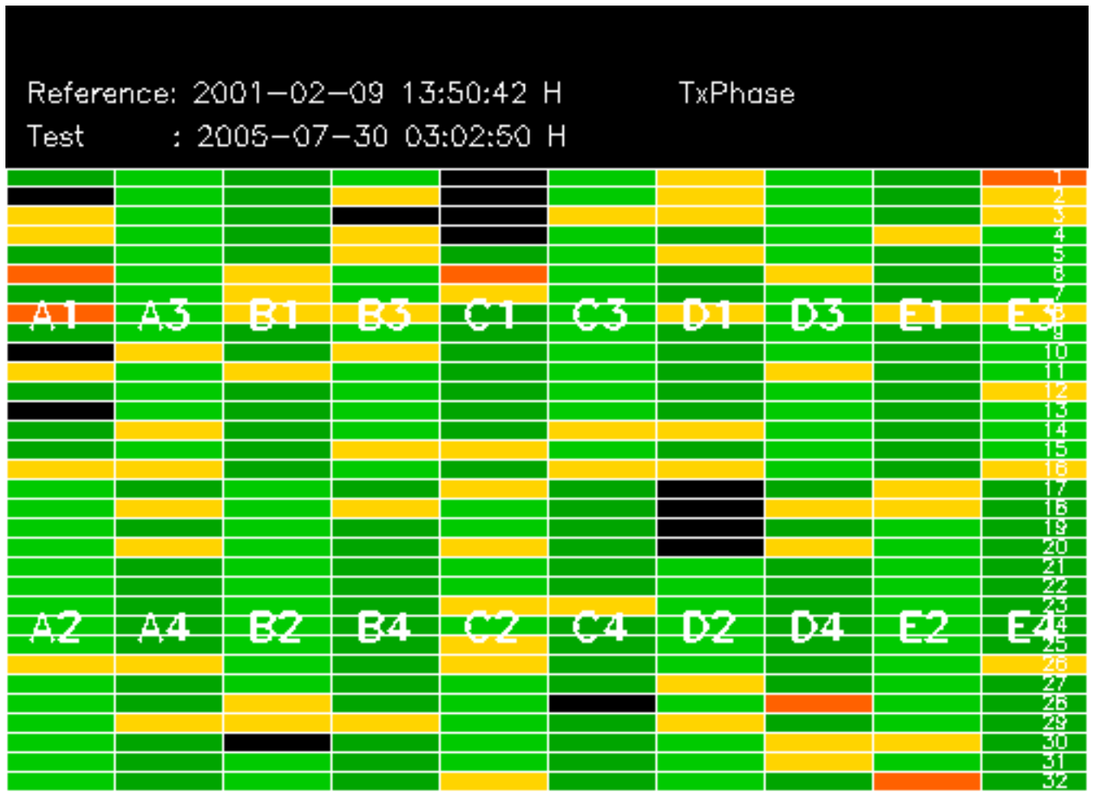
Summary of analysis for the last 3 days 2005073[901]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_WSM_1PNPDE20050730_184435_000003042039_00271_17860_2061.N1 </td> <td>0 </td> <td>20 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20050730_220500_000001832039_00273_17862_2104.N1 </td> <td>0 </td> <td>29 </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
17840
17845
17850
17855
17860
17865
17870
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
30
25
20
15
10
5
0
17840
17845
17850
17855
17860
17865
17870
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 : 2005-07-30 03:02:50 H
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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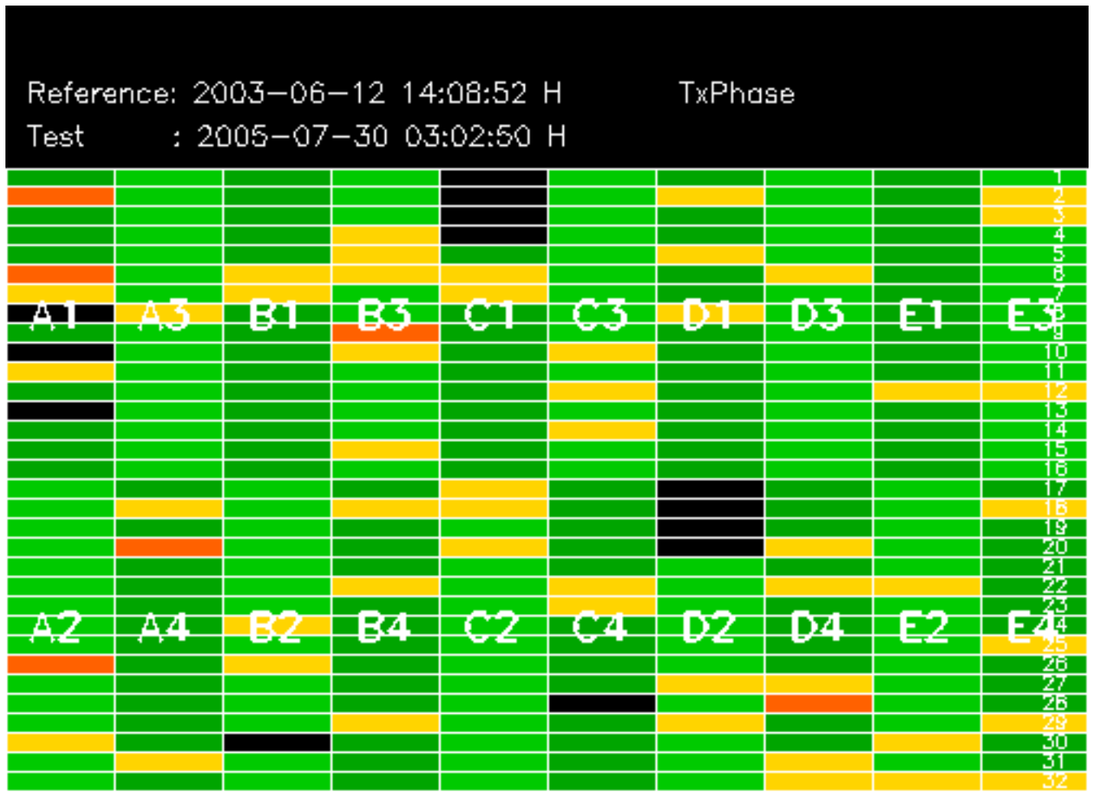
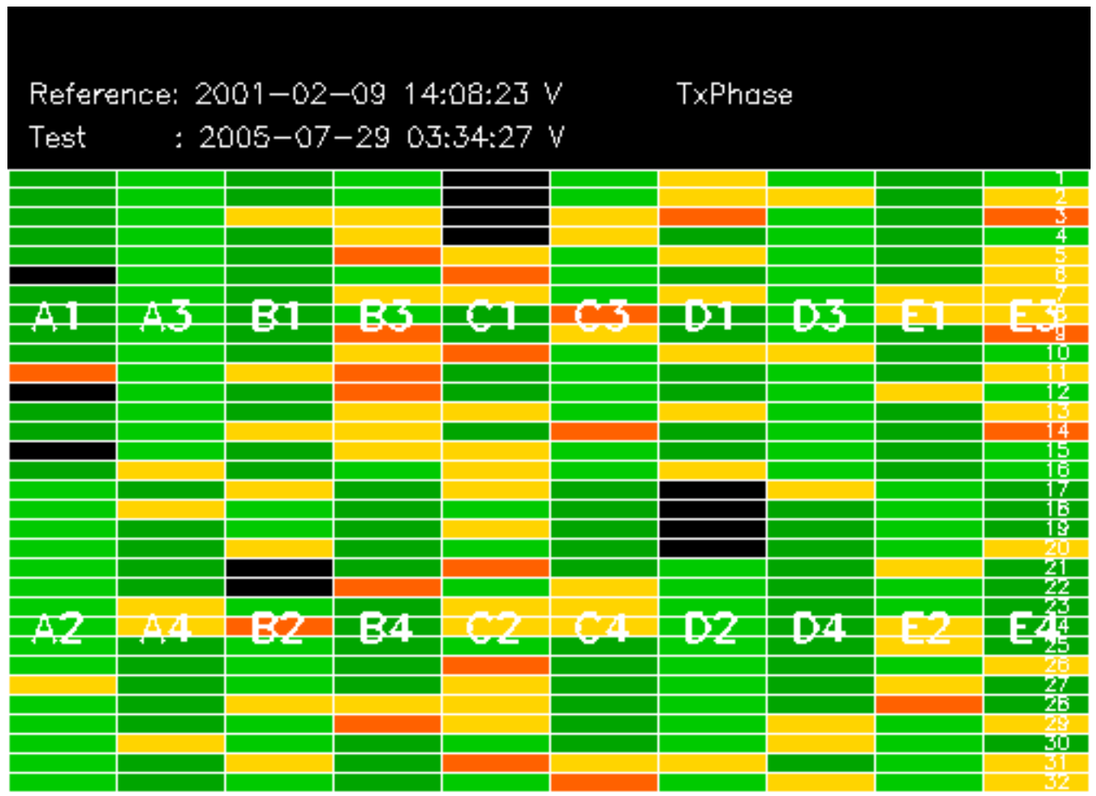
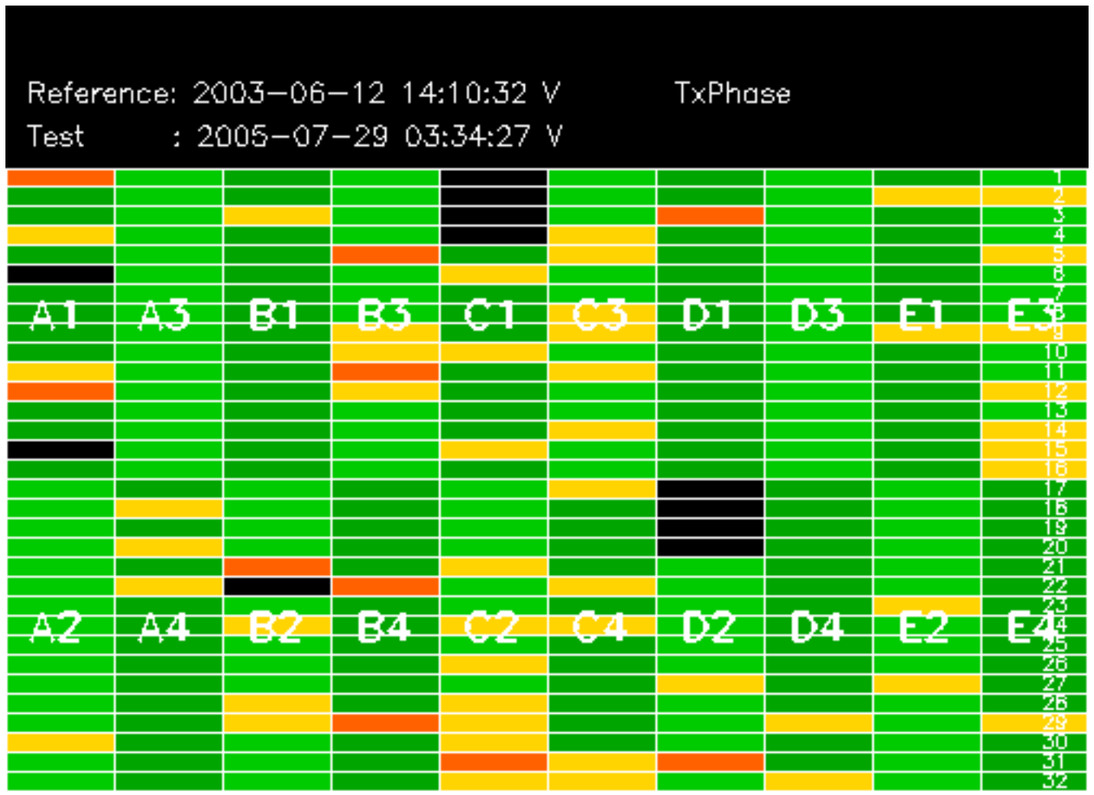
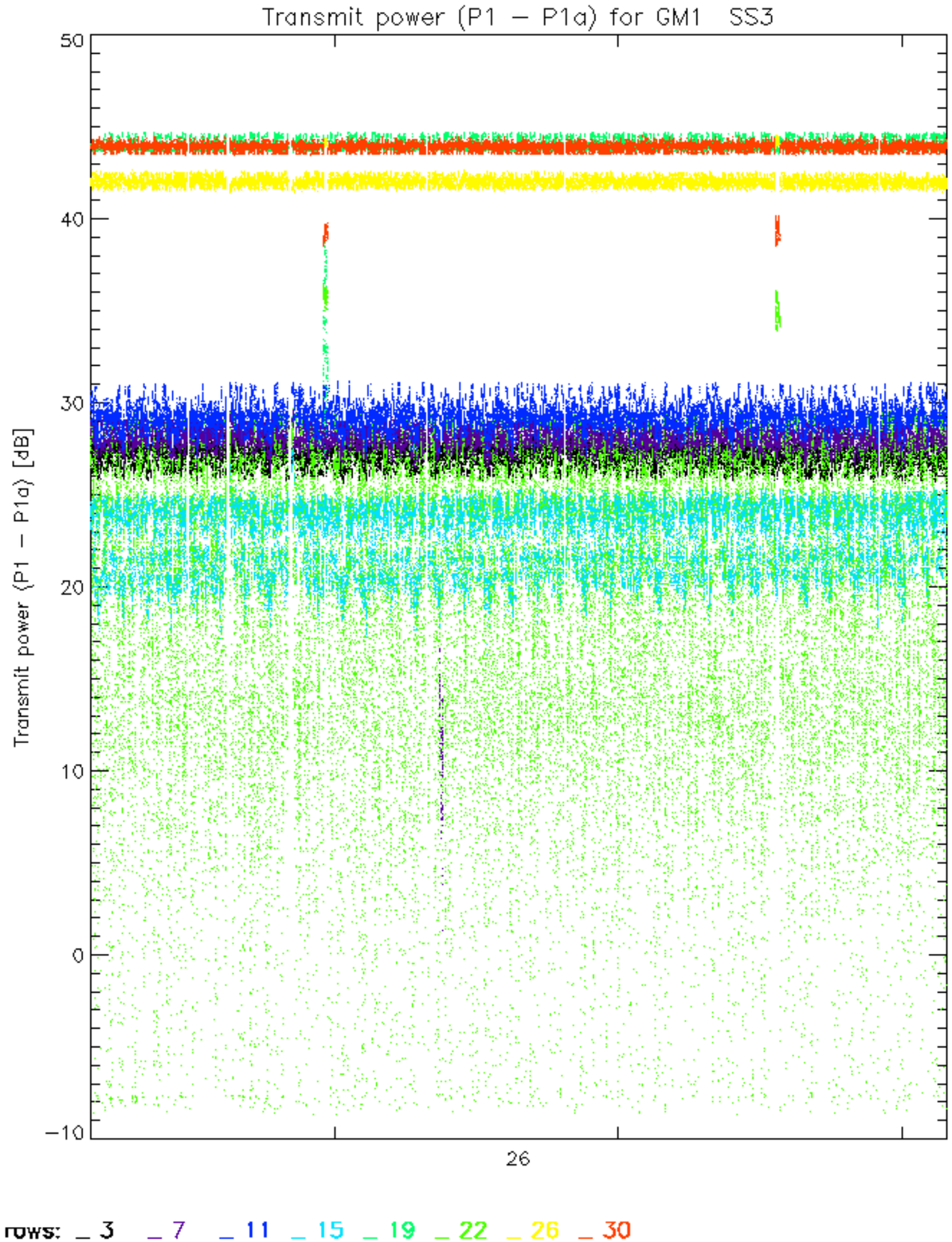
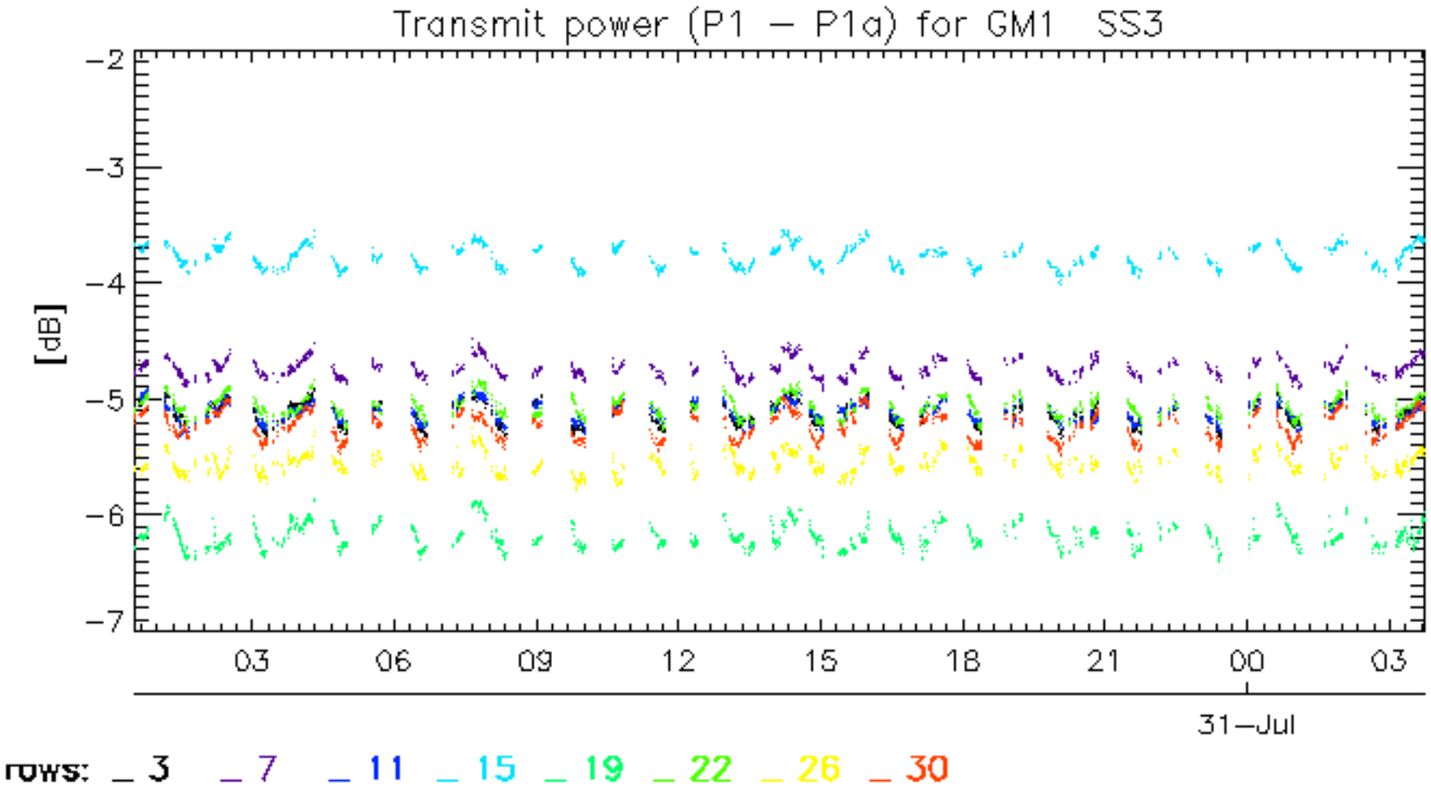
30
31
32

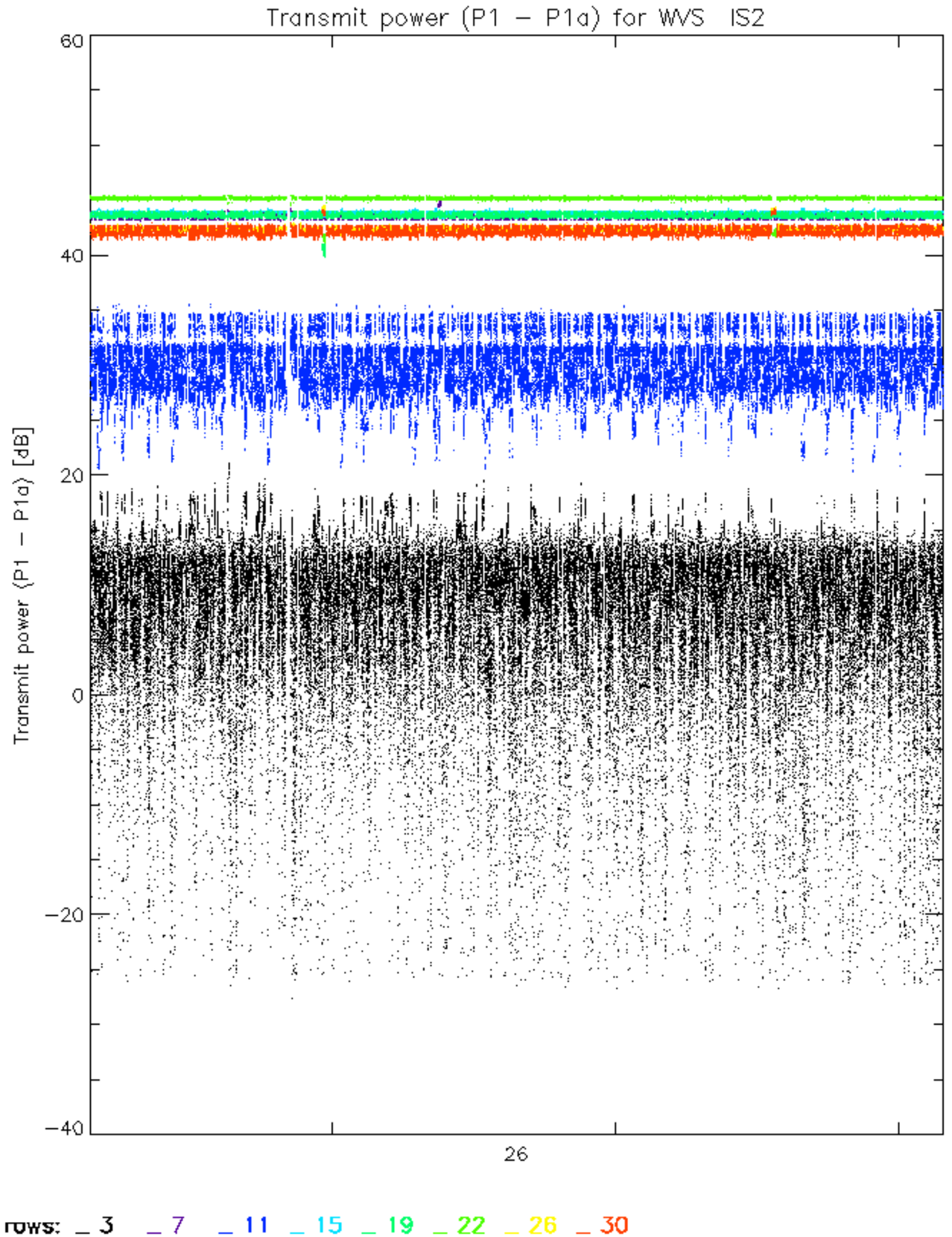

Reference: 2003-06-12 14:08:52 H
Test : 2005-07-30 03:02:50 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

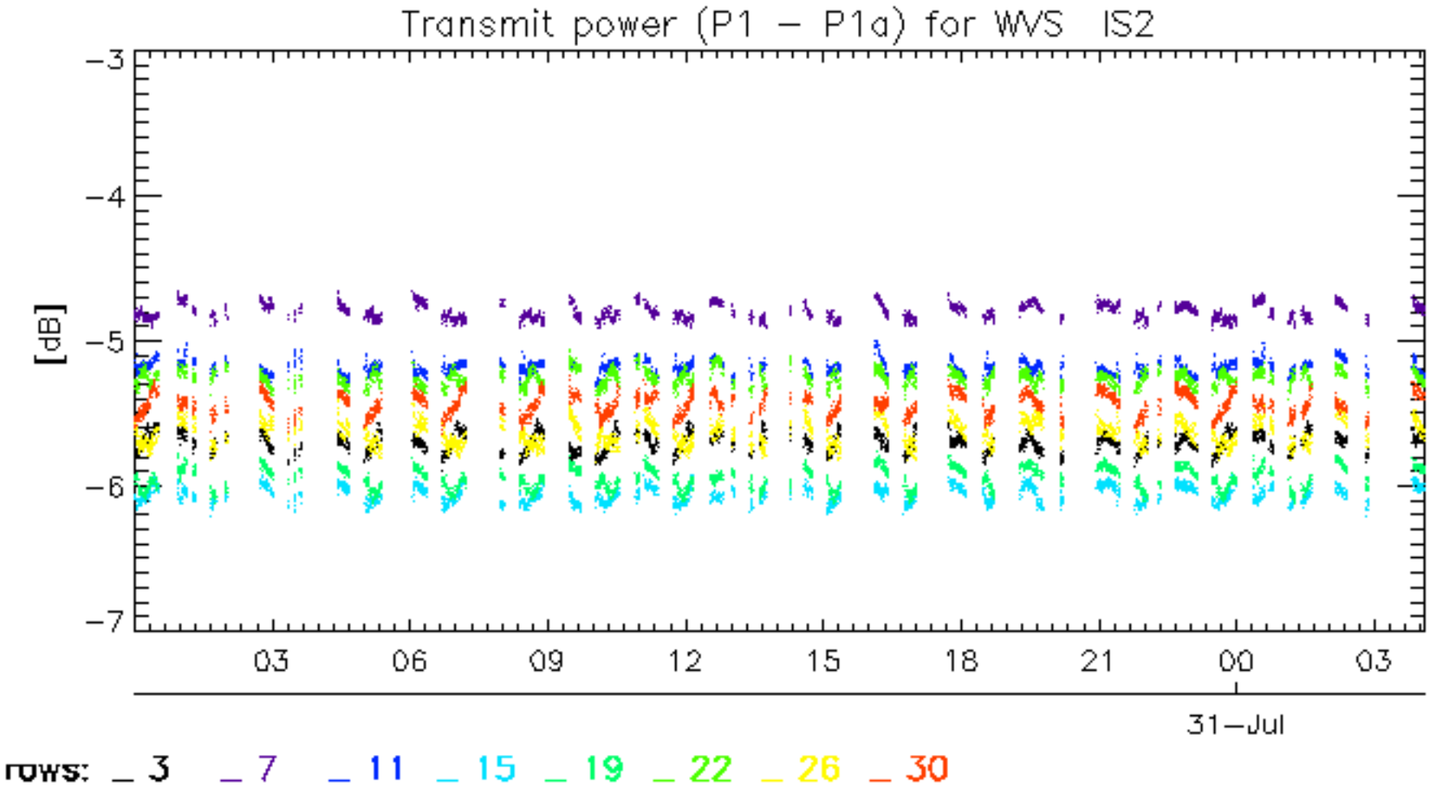

Reference: 2001-02-09 14:08:23 V
Test : 2005-07-29 03:34:27 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-07-29 03:34:27 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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


Transmit power (P1 − P1a) for WVS IS2
60
40
20
0
−20
−40
Transmit power ⟨P1 − P1a⟩ [dB]
26
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
31–Jul
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.