PRELIMINARY REPORT OF 050709

last update on Sat Jul 9 10:58:18 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 2005-07-08 00:00:00 to 2005-07-09 10:58:18

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	30	53	8	2	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	30	53	8	2	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	30	53	8	2	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	30	53	8	2	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	39	61	0	0	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	39	61	0	0	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	39	61	0	0	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	39	61	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	20050707 100816
H	20050708 143827

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	-3.325621	0.007421	0.018875
7	P1	-3.141802	0.014749	0.018949
11	P1	-4.650401	0.034083	-0.078951
15	P1	-5.518716	0.044615	-0.073212
19	P1	-3.774013	0.044863	-0.093278
22	P1	-4.606077	0.066068	-0.069788
26	P1	-4.855553	0.068416	-0.034172
30	P1	-7.184978	0.155830	-0.162077
3	P1	-15.559799	0.100975	-0.043006
7	P1	-15.573177	0.107218	0.098873
11	P1	-21.493601	0.290587	-0.250475
15	P1	-11.287003	0.048103	0.005799
19	P1	-14.473556	0.251419	-0.172748
22	P1	-15.860426	0.350934	0.229035
26	P1	-17.608698	0.296898	0.410876
30	P1	-17.772289	0.347053	0.173169

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.929676	0.082386	0.157072
7	P2	-22.119841	0.103980	0.208179
11	P2	-13.814692	0.099238	0.259348
15	P2	-7.122647	0.091467	0.081054
19	P2	-9.605424	0.090723	0.024815
22	P2	-16.868650	0.091342	0.037548
26	P2	-16.507771	0.092147	0.020217
30	P2	-18.788664	0.078751	-0.001962

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.160595	0.002922	0.014031
7	P3	-8.160595	0.002922	0.014031
11	P3	-8.160595	0.002922	0.014031
15	P3	-8.160595	0.002922	0.014031
19	P3	-8.160595	0.002922	0.014031
22	P3	-8.160595	0.002922	0.014031
26	P3	-8.160595	0.002922	0.014031
30	P3	-8.160595	0.002922	0.014031

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	-2.793463	0.016007	0.028930
7	P1	-2.950980	0.031352	-0.036192
11	P1	-3.979895	0.018026	-0.043659
15	P1	-3.545391	0.025923	-0.039028
19	P1	-3.672438	0.120822	-0.125060
22	P1	-5.664148	0.117011	-0.133953
26	P1	-7.364540	0.206887	-0.199696
30	P1	-6.314218	0.112686	-0.077524
3	P1	-10.833758	0.074548	0.030699
7	P1	-10.423027	0.183609	-0.096651
11	P1	-12.583870	0.137881	-0.037747
15	P1	-11.617708	0.088066	-0.010774
19	P1	-15.704958	1.401623	-0.363114
22	P1	-25.948730	3.891211	0.664714
26	P1	-15.512871	0.466739	0.350887
30	P1	-20.176054	1.292089	0.105258

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.679342	0.051718	0.174400
7	P2	-22.086823	0.091236	0.083022
11	P2	-9.793643	0.063510	0.191171
15	P2	-5.132729	0.047036	0.011787
19	P2	-6.912755	0.062831	0.028154
22	P2	-7.101117	0.072023	0.044912
26	P2	-23.958836	0.089040	-0.030219
30	P2	-21.959629	0.046412	0.009894

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.996885	0.004211	0.000770
7	P3	-7.996882	0.004204	0.000462
11	P3	-7.997004	0.004189	0.000973
15	P3	-7.996948	0.004201	0.000613
19	P3	-7.996937	0.004212	0.000618
22	P3	-7.996970	0.004197	0.000596
26	P3	-7.997057	0.004200	0.000720
30	P3	-7.996999	0.004196	0.000922

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	0.000461114
	stdev	2.15493e-07
MEAN Q	mean	0.000501322
	stdev	2.28712e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127670
	stdev	0.000948542
STDEV Q	mean	0.127897
	stdev	0.000958866

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005070[789]
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_1PNPDE20050707_022326_000003662038_00433_17521_5431.N1	0	3

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

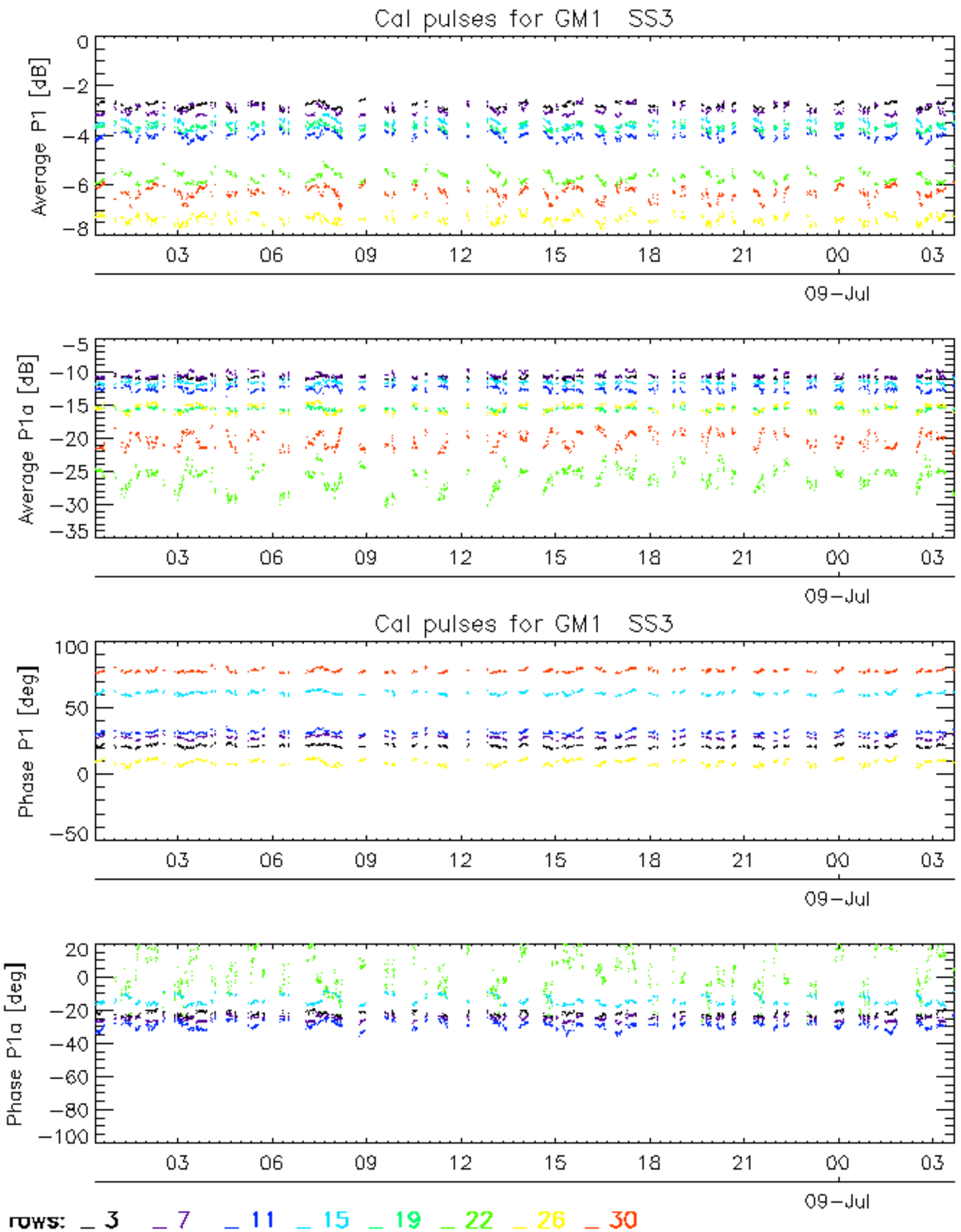
Descending

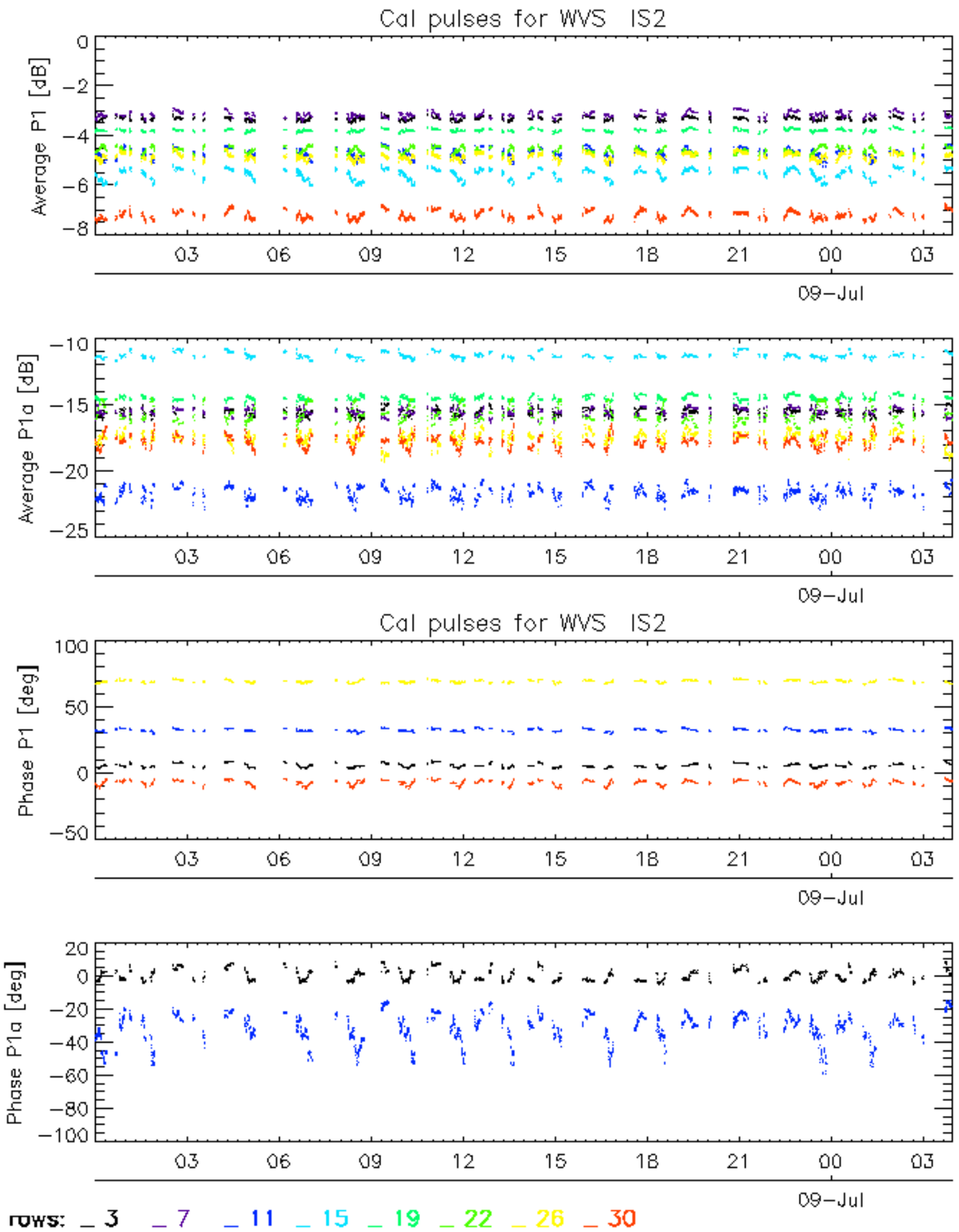
7.5 - Absolute Doppler for GM1

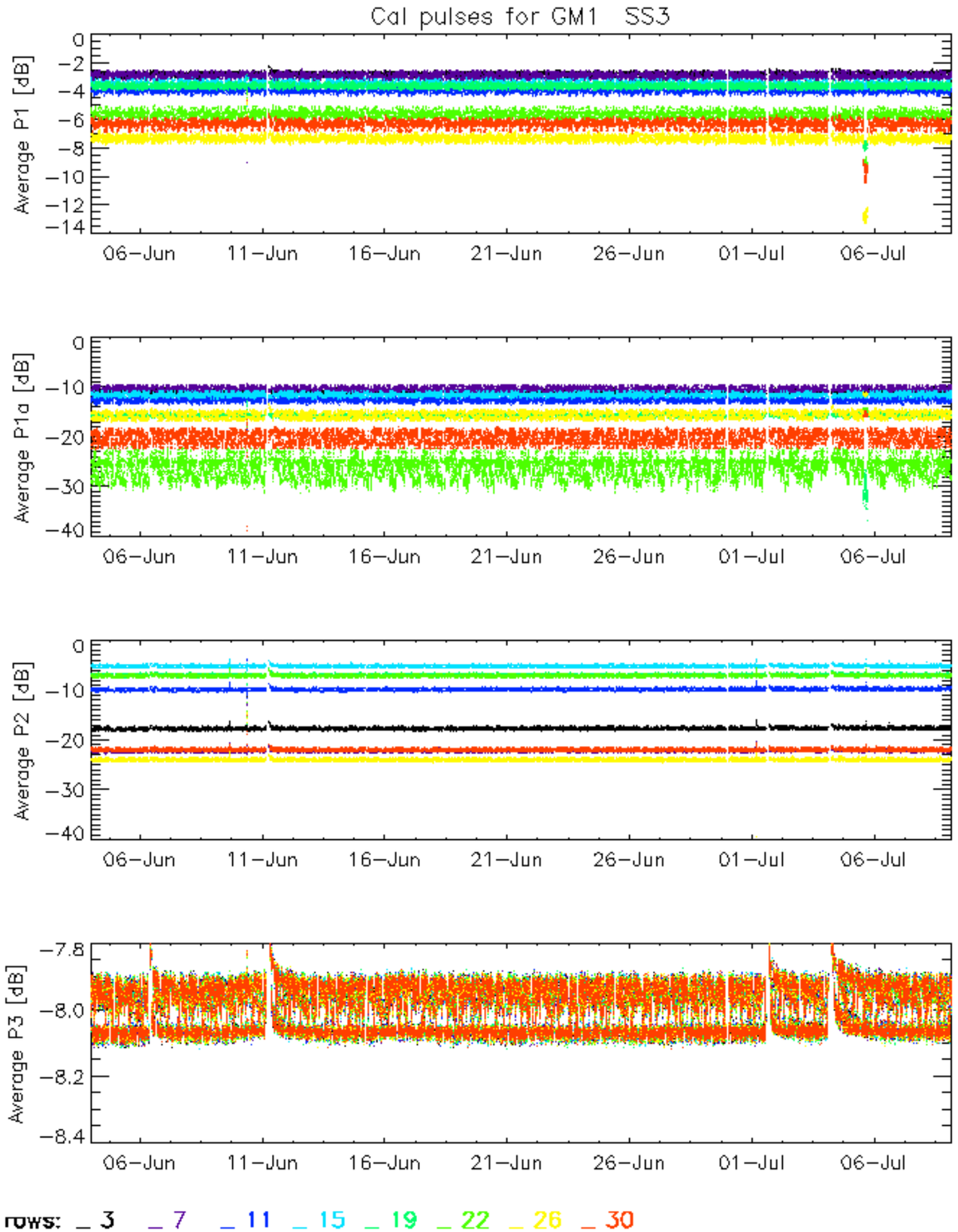
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

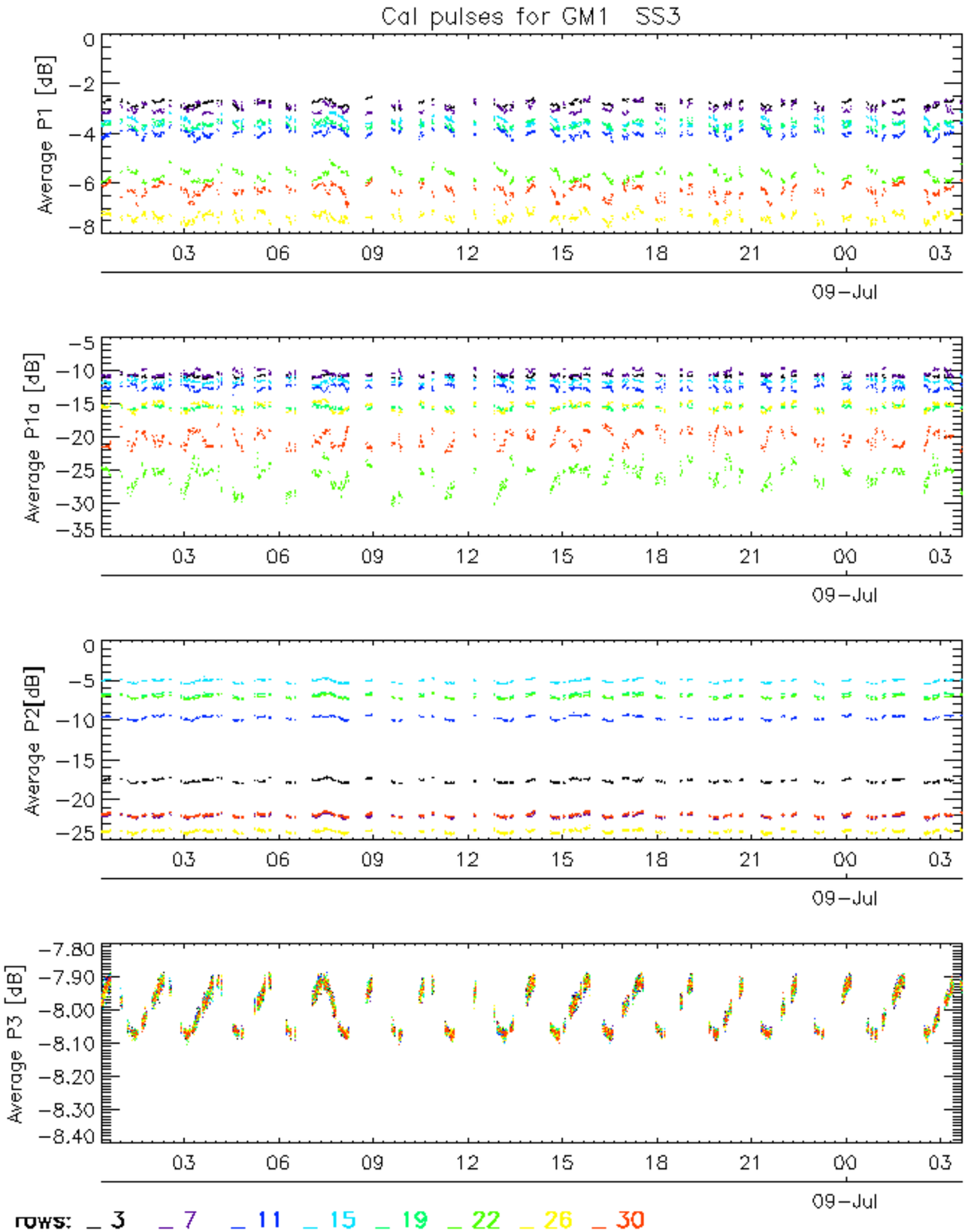
7.6 - Doppler evolution versus ANX for GM1

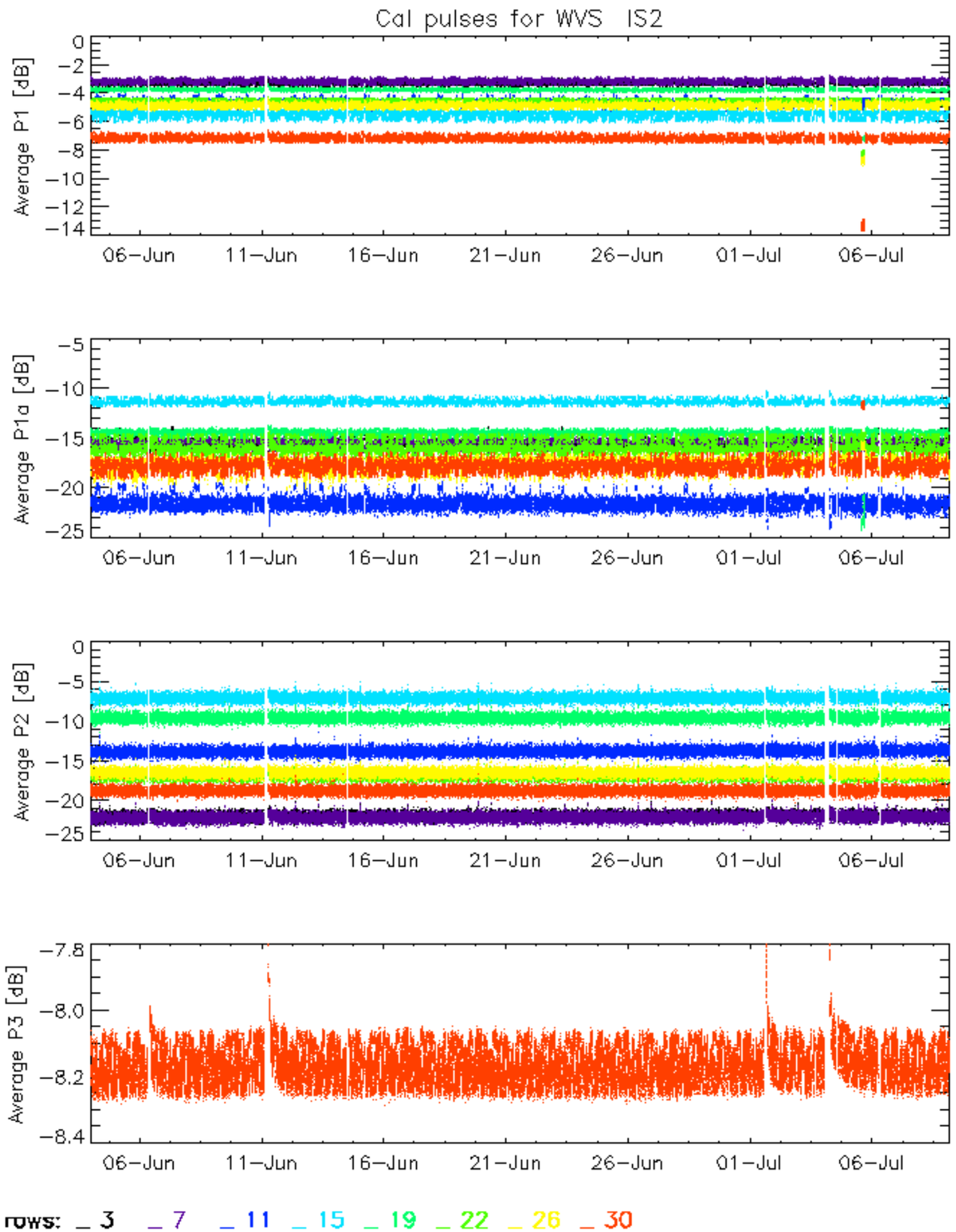
Evolution Doppler error versus ANX
☒

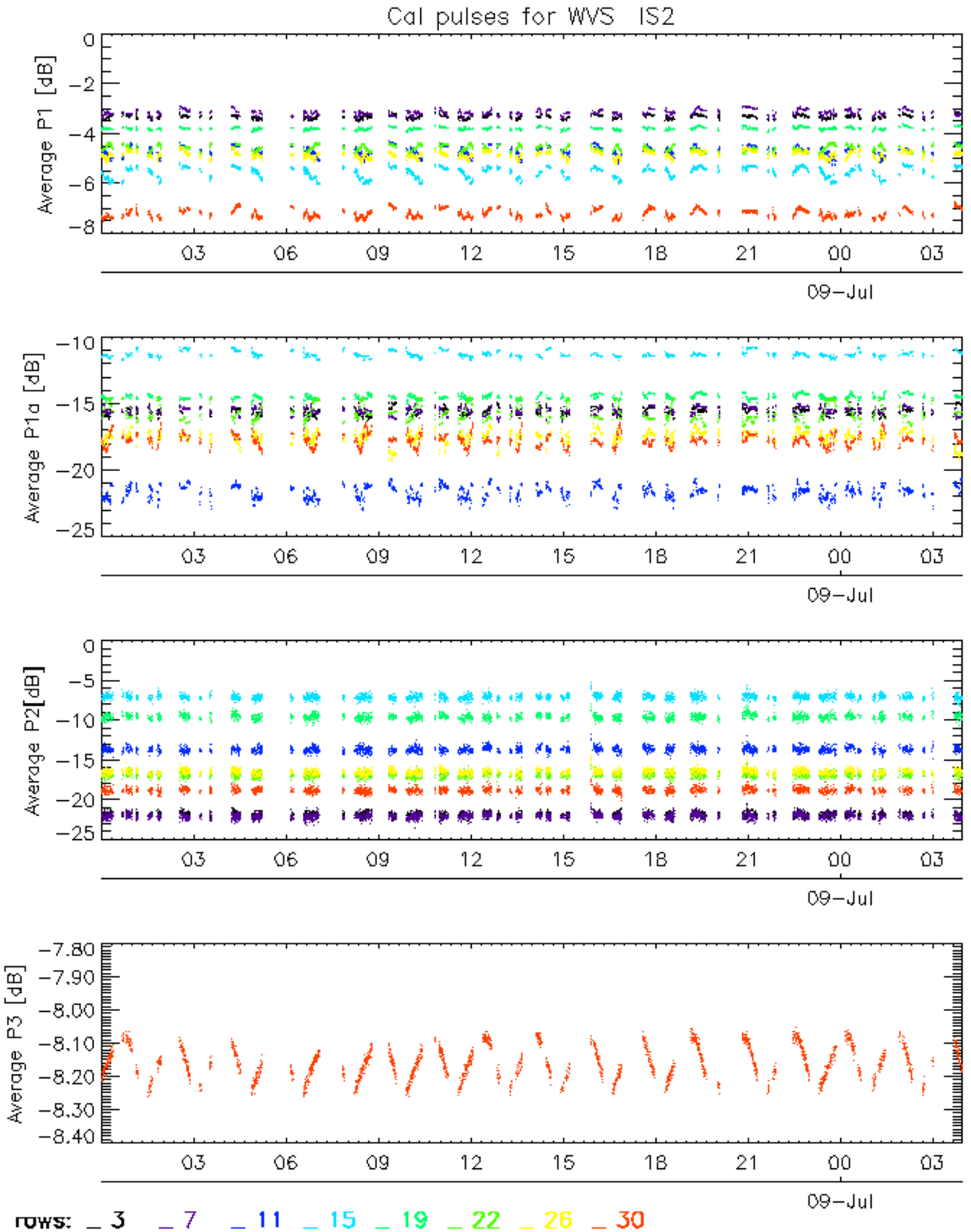

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
09−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30


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

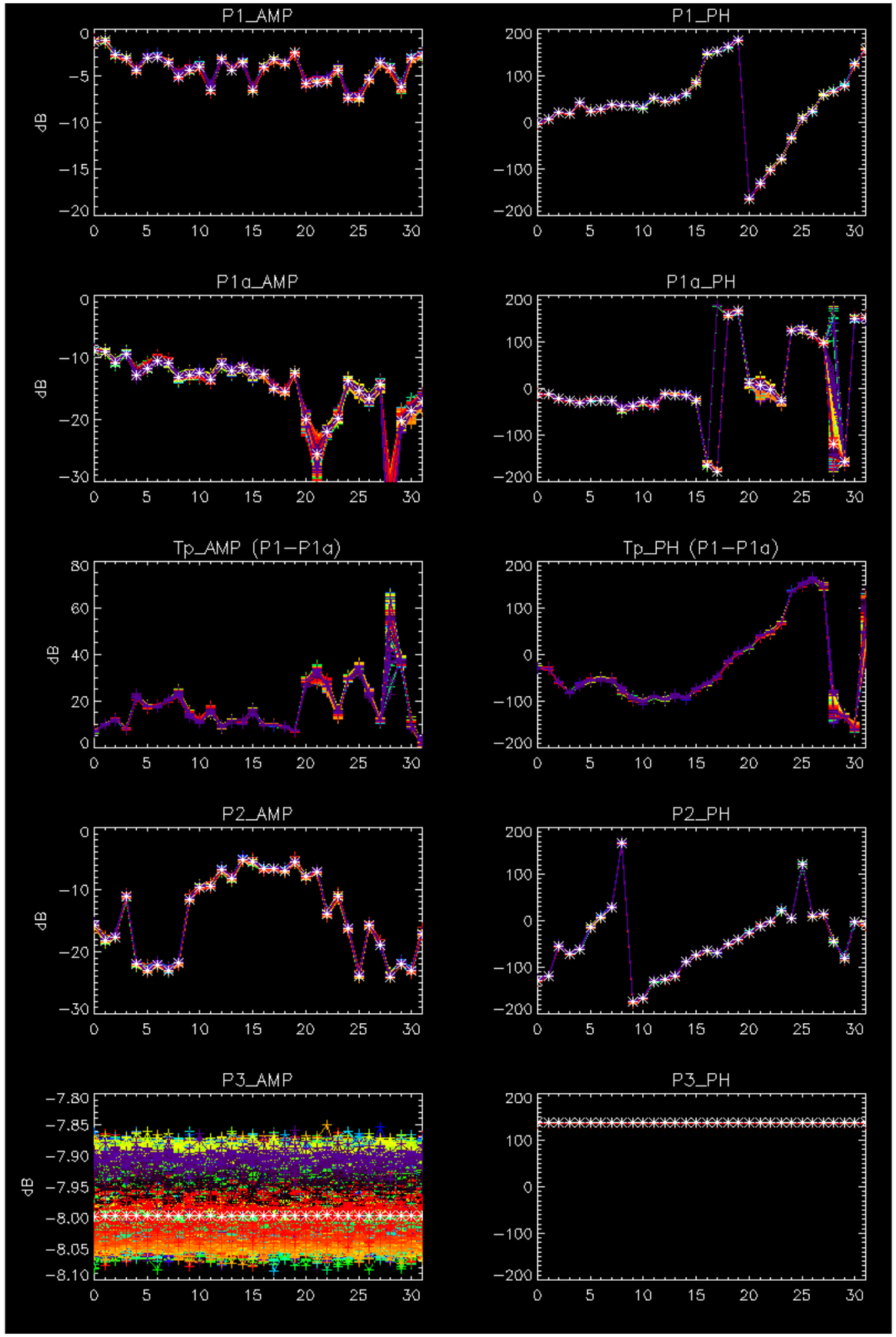

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
−14
06−Jun
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
Average P1a [dB]
0
−10
−20
−30
−40
Average P2 [dB]
0
−10
−20
−30
−40
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: 3 7 11 15 19 22 26 30

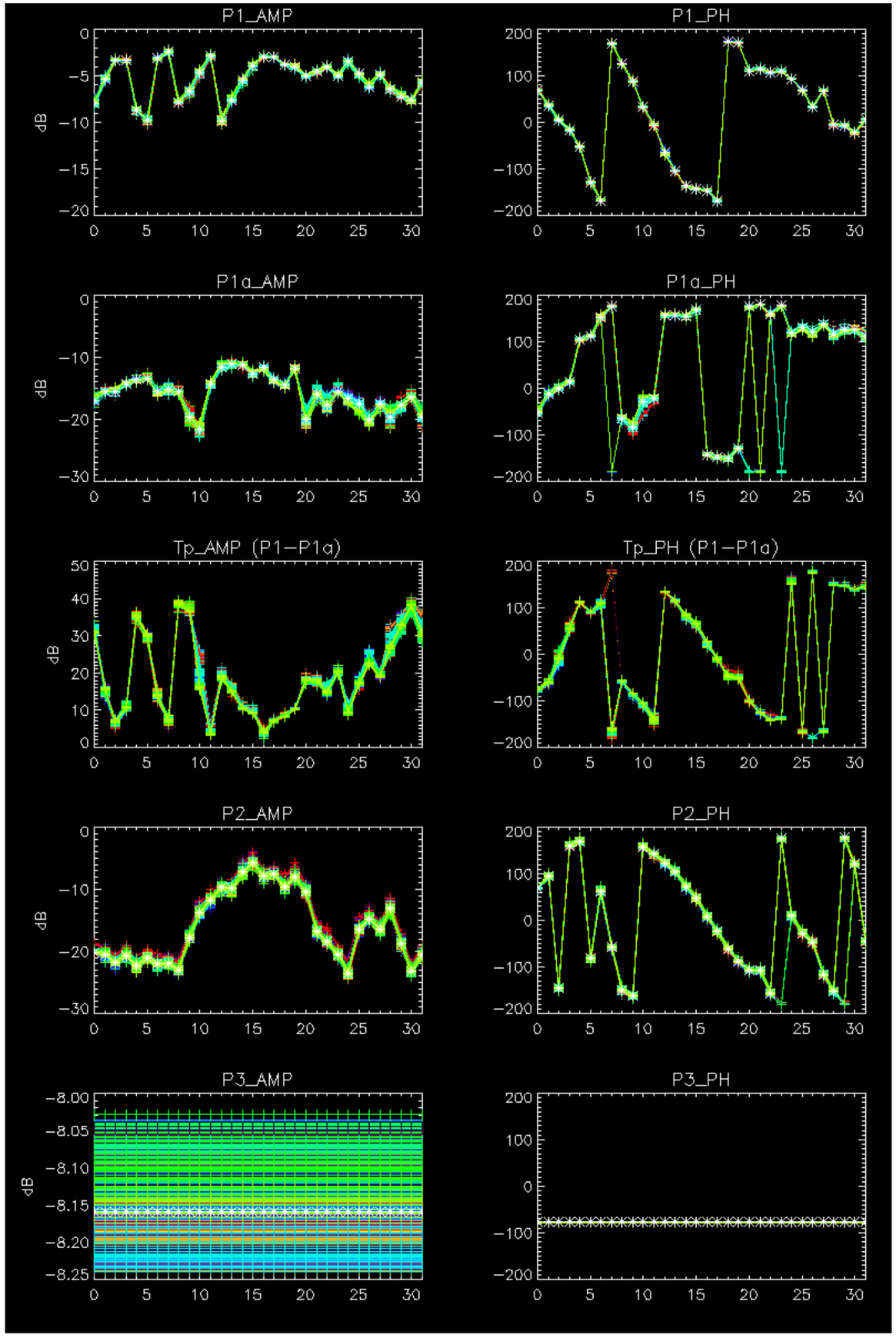

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
09−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
−14
06−Jun
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−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
09−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

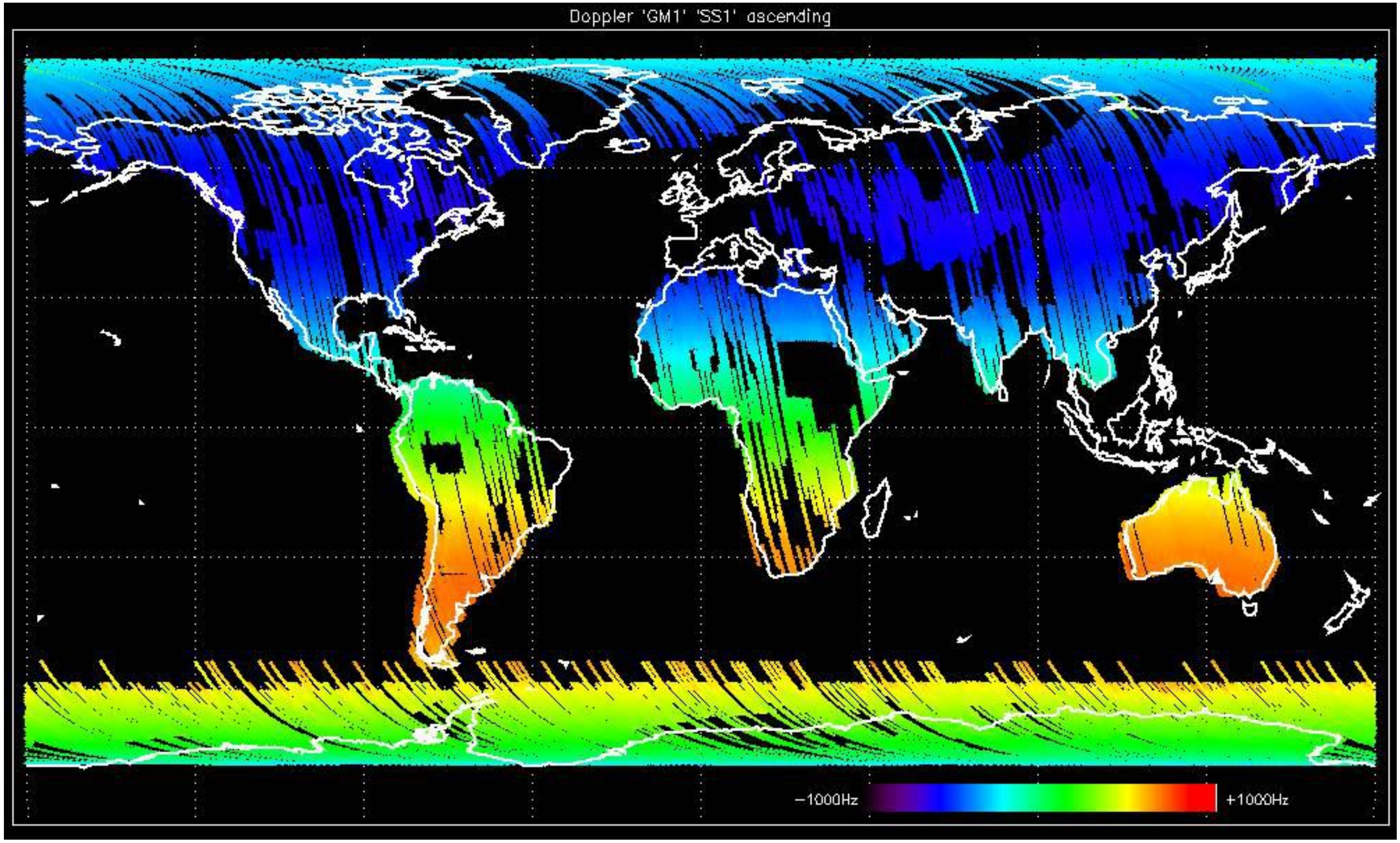
No anomalies observed.

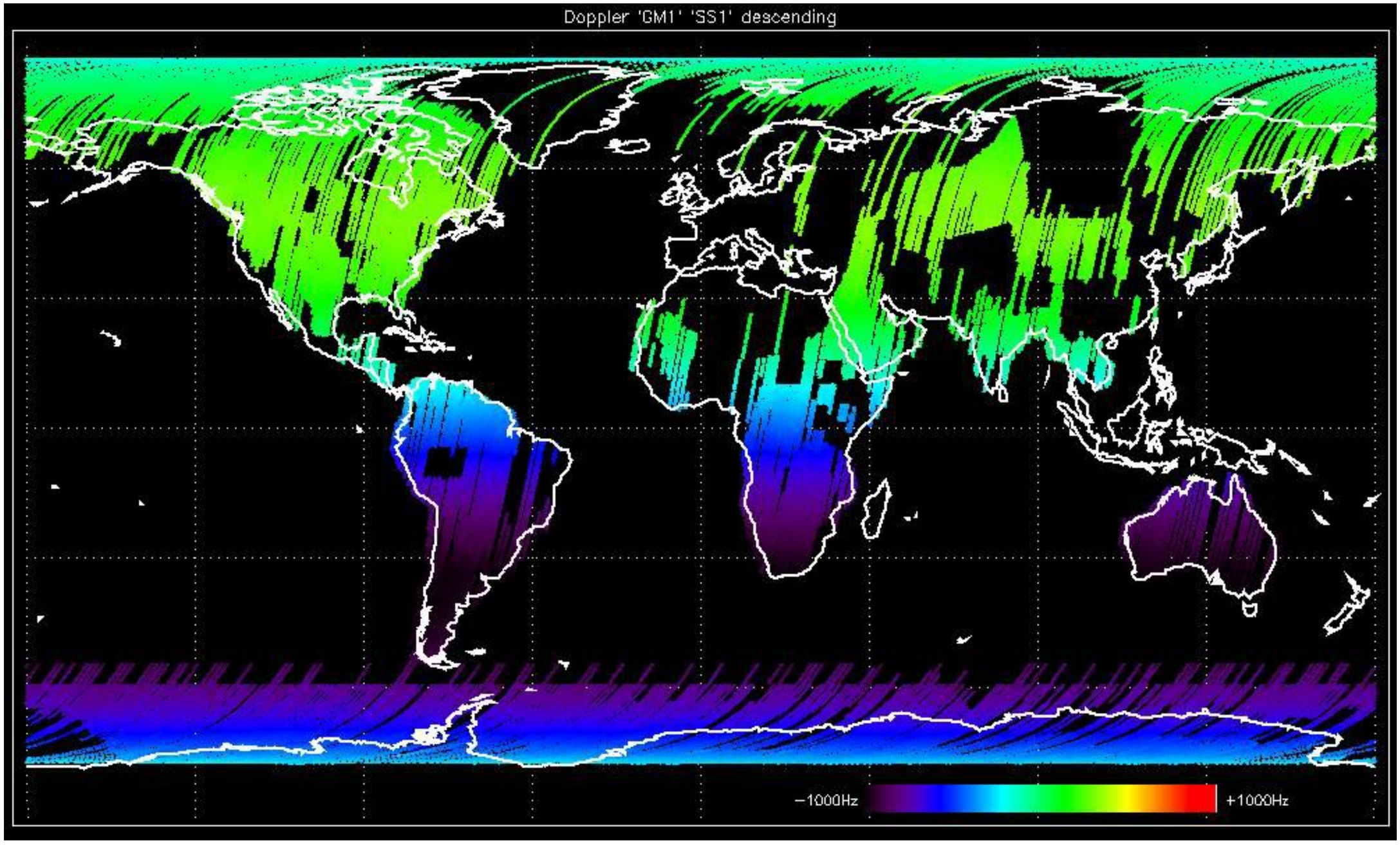

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

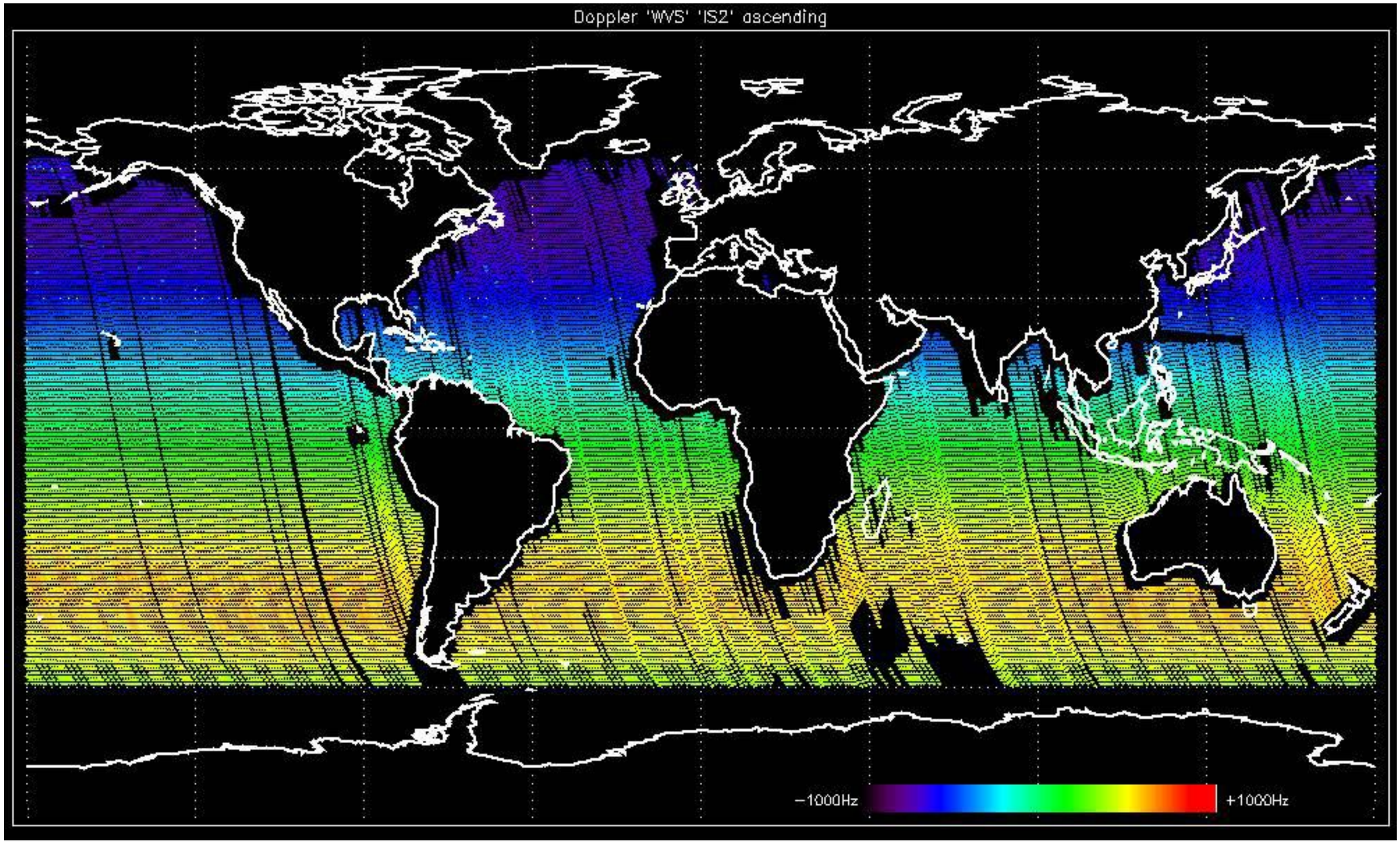

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

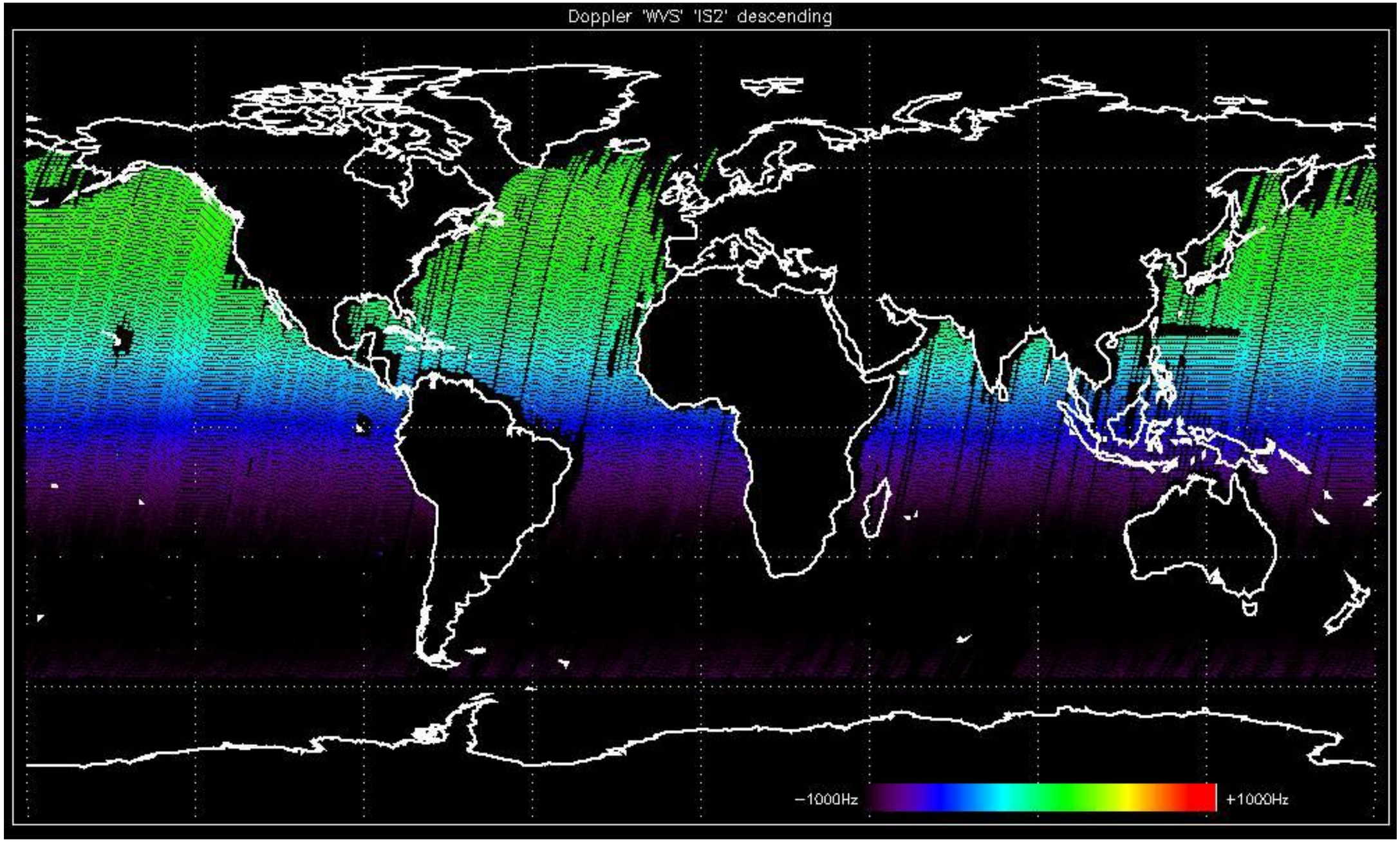
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

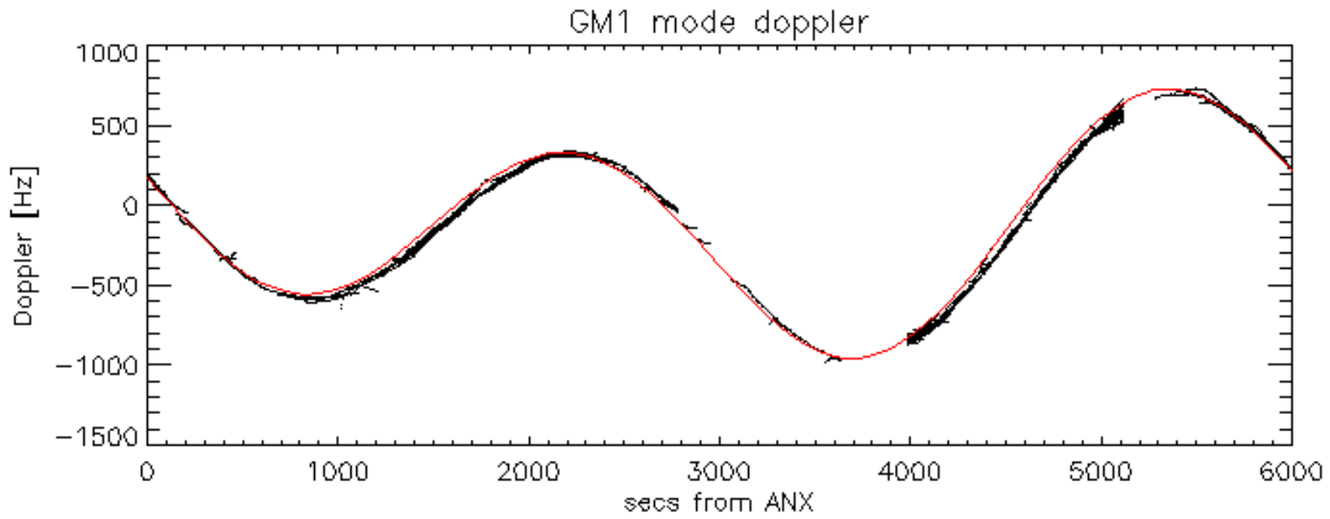
Preliminary report.The data is not yet controled

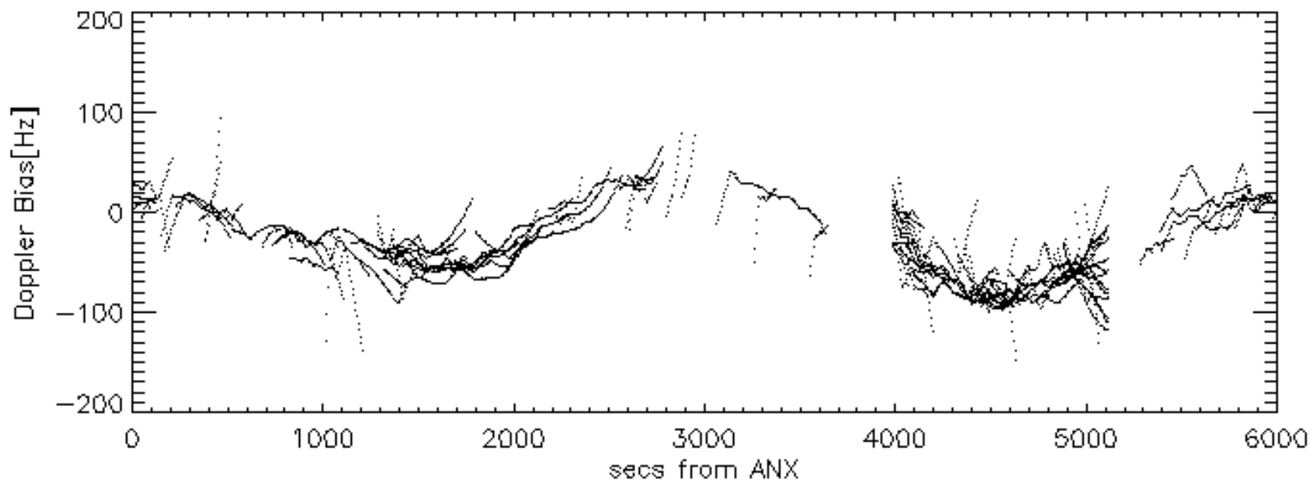

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

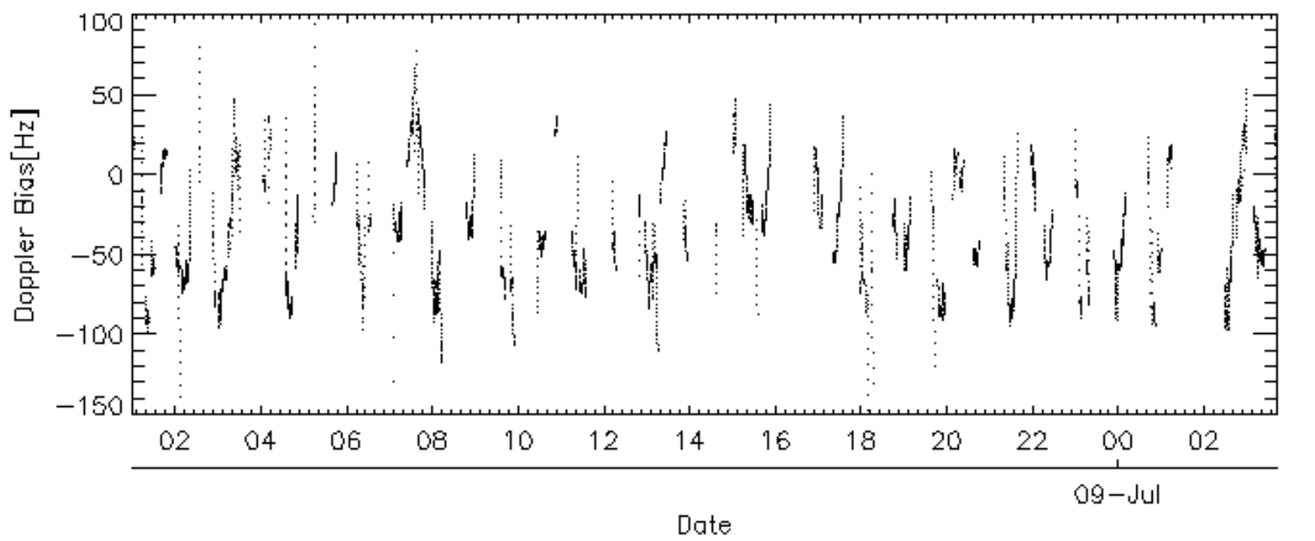

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

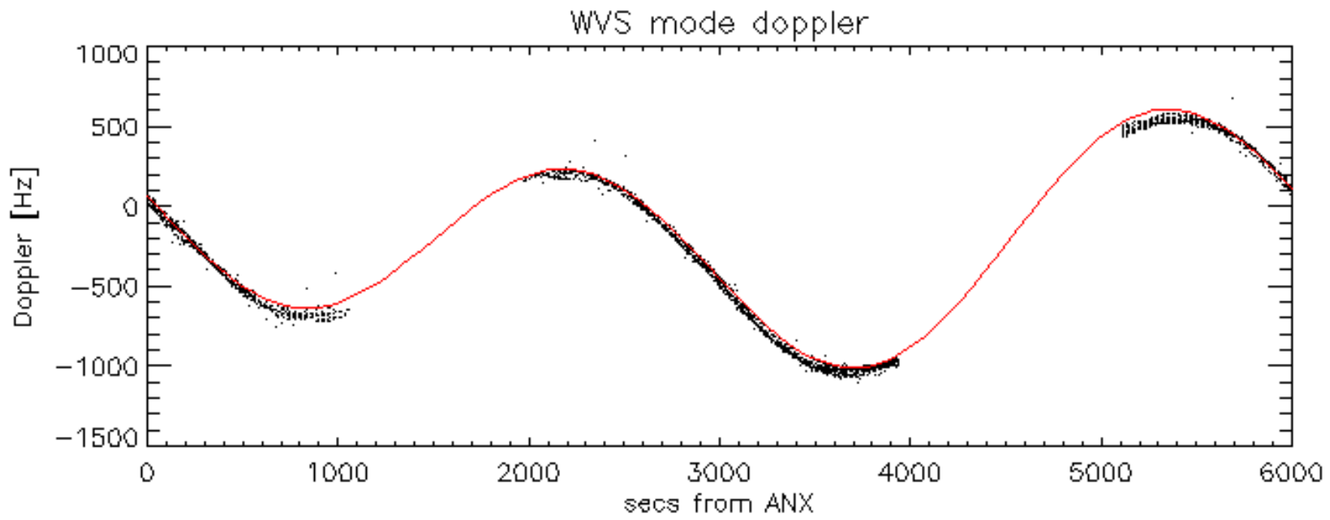

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

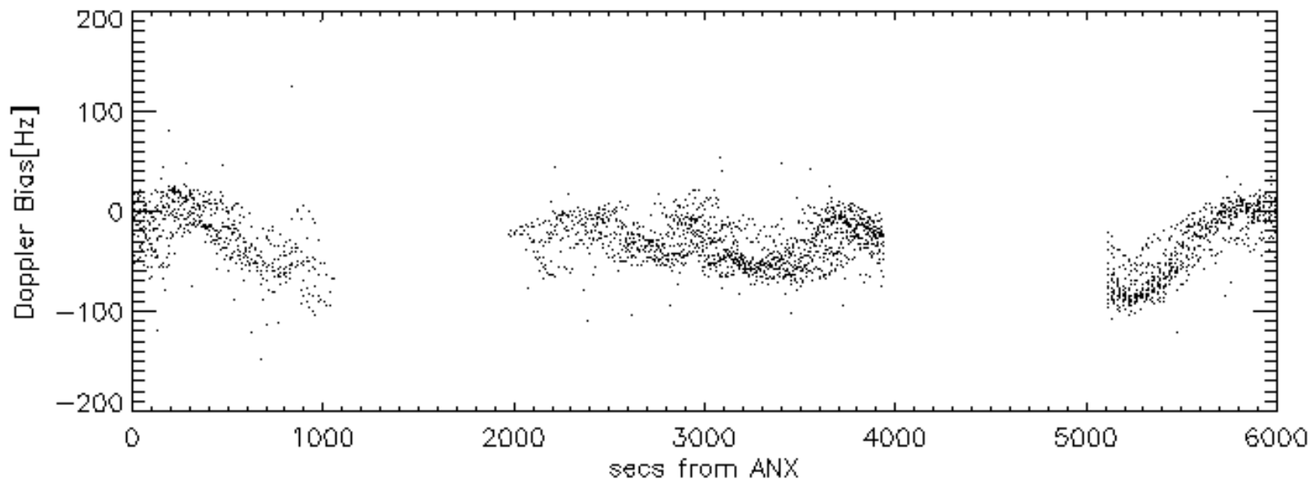

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

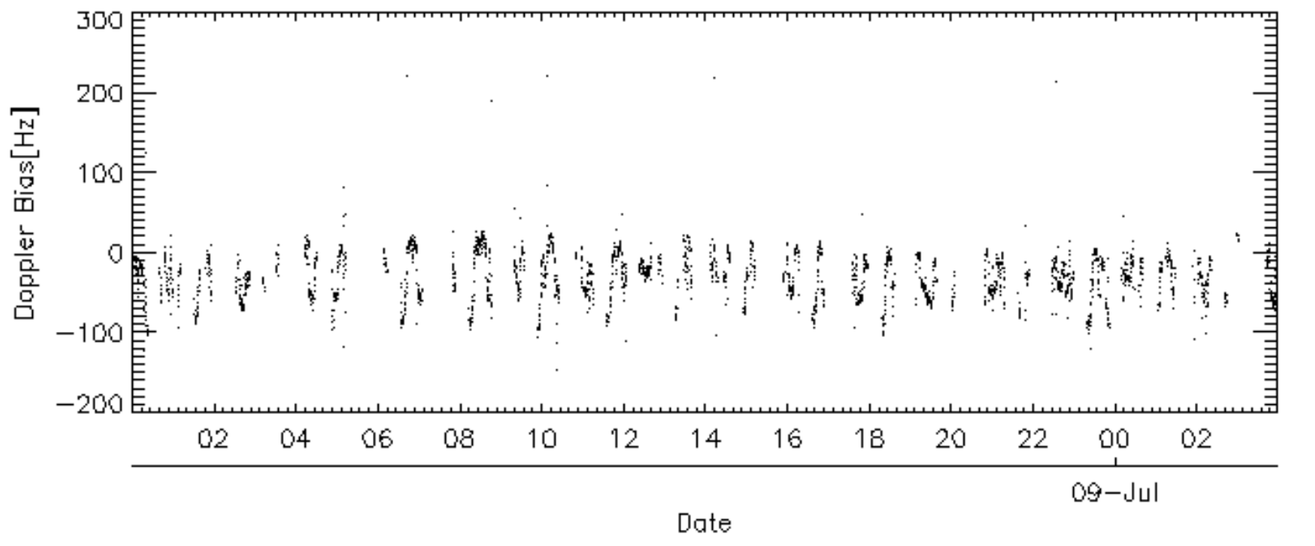

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

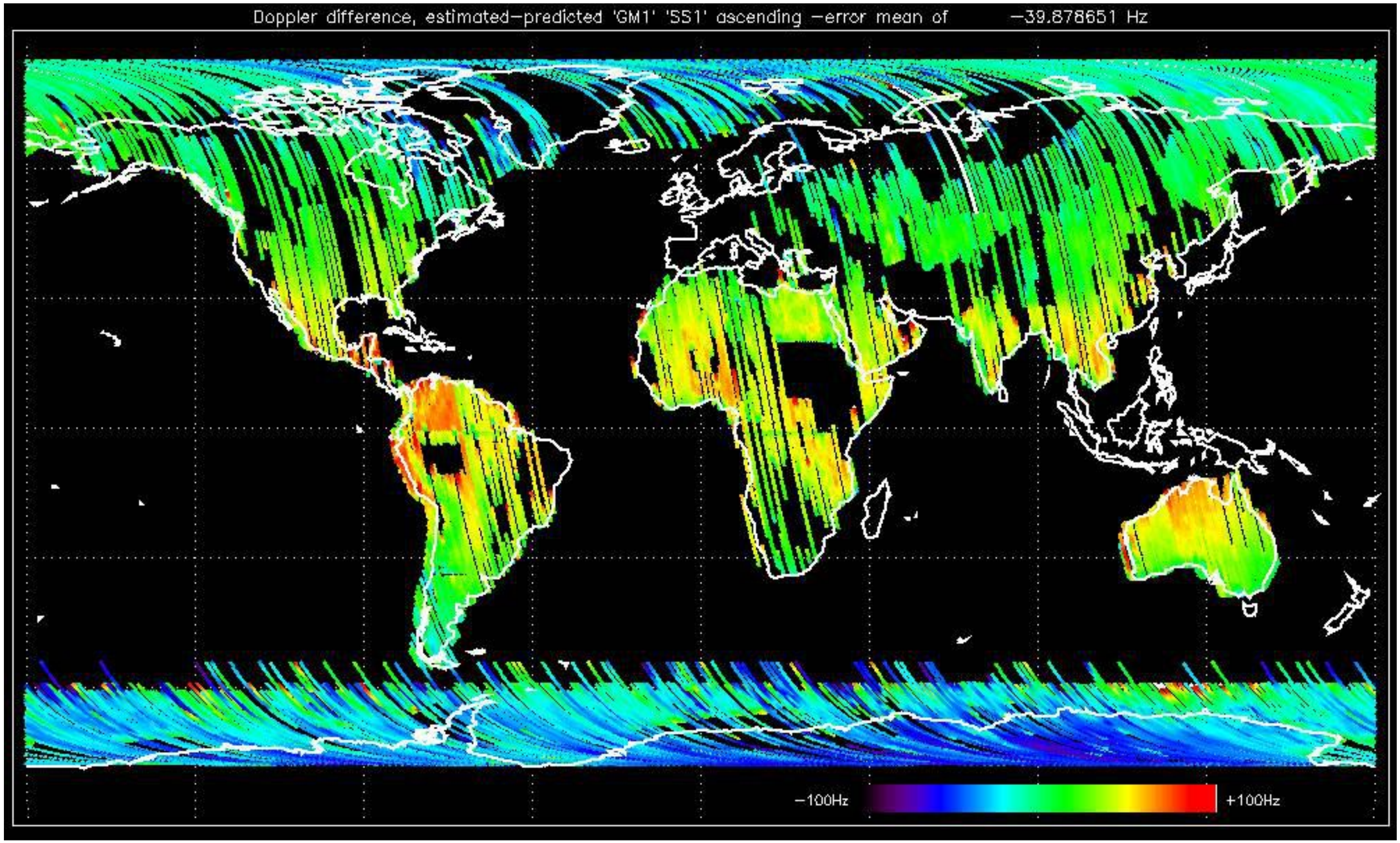

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

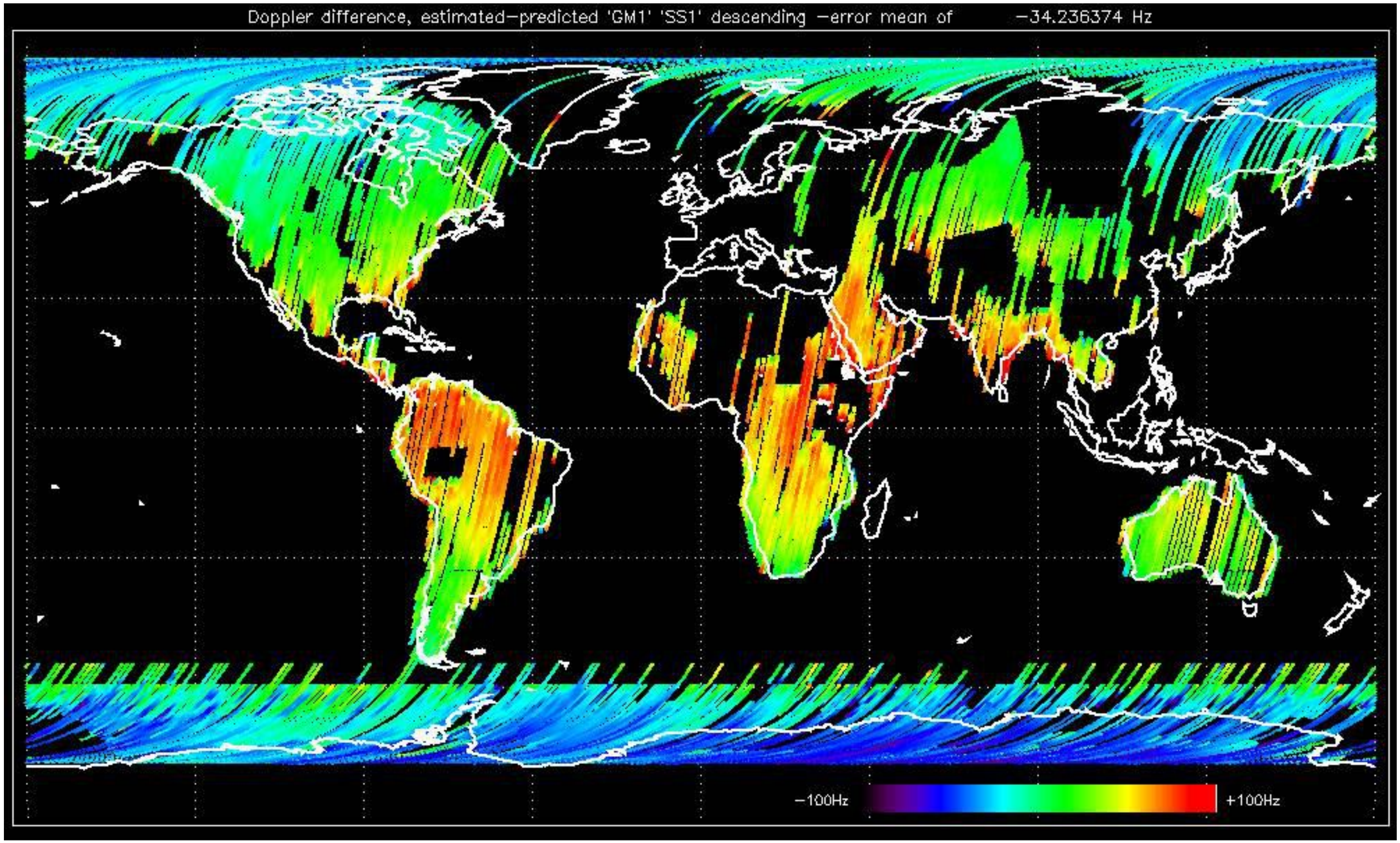

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
09−Jul
Date

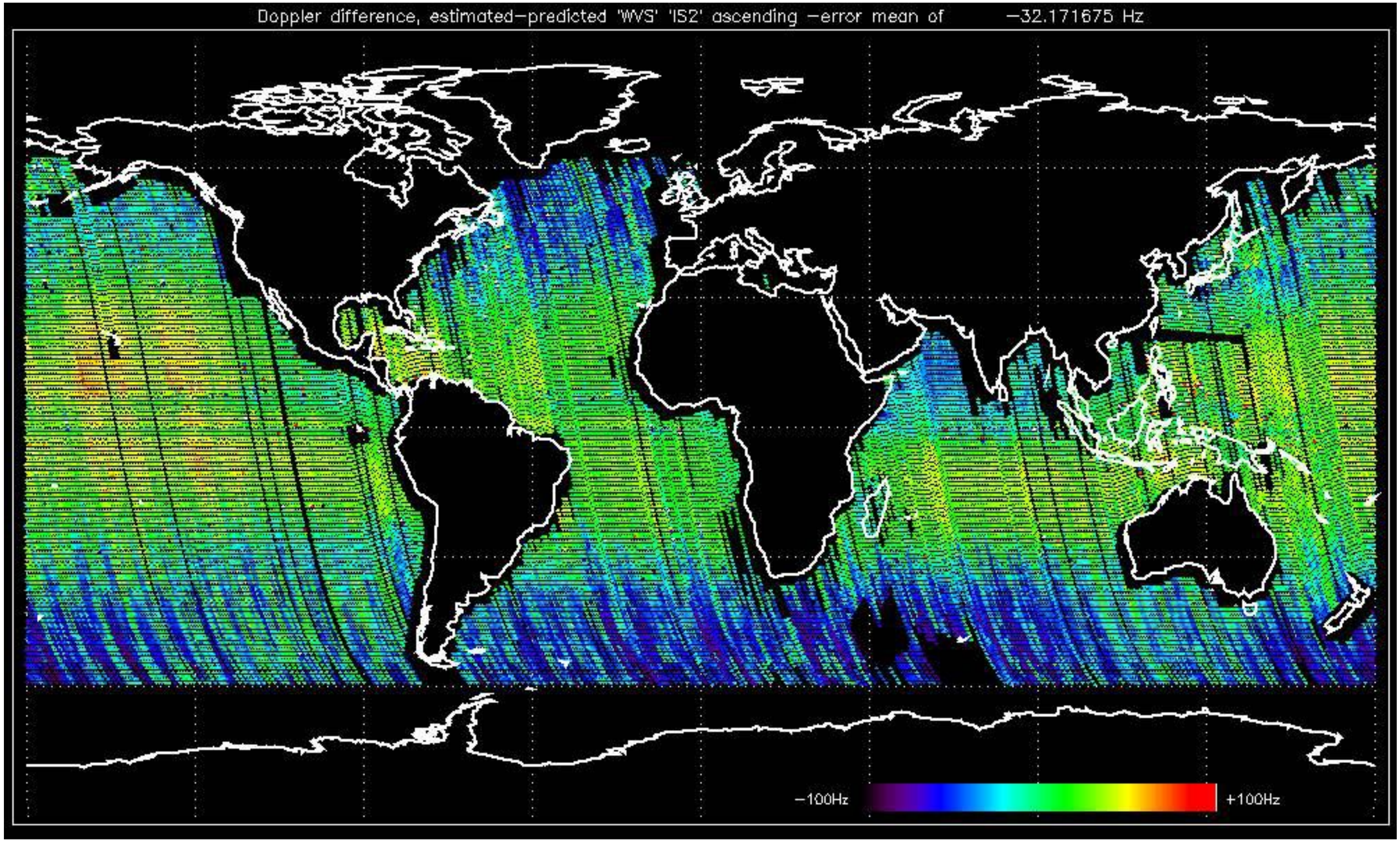

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

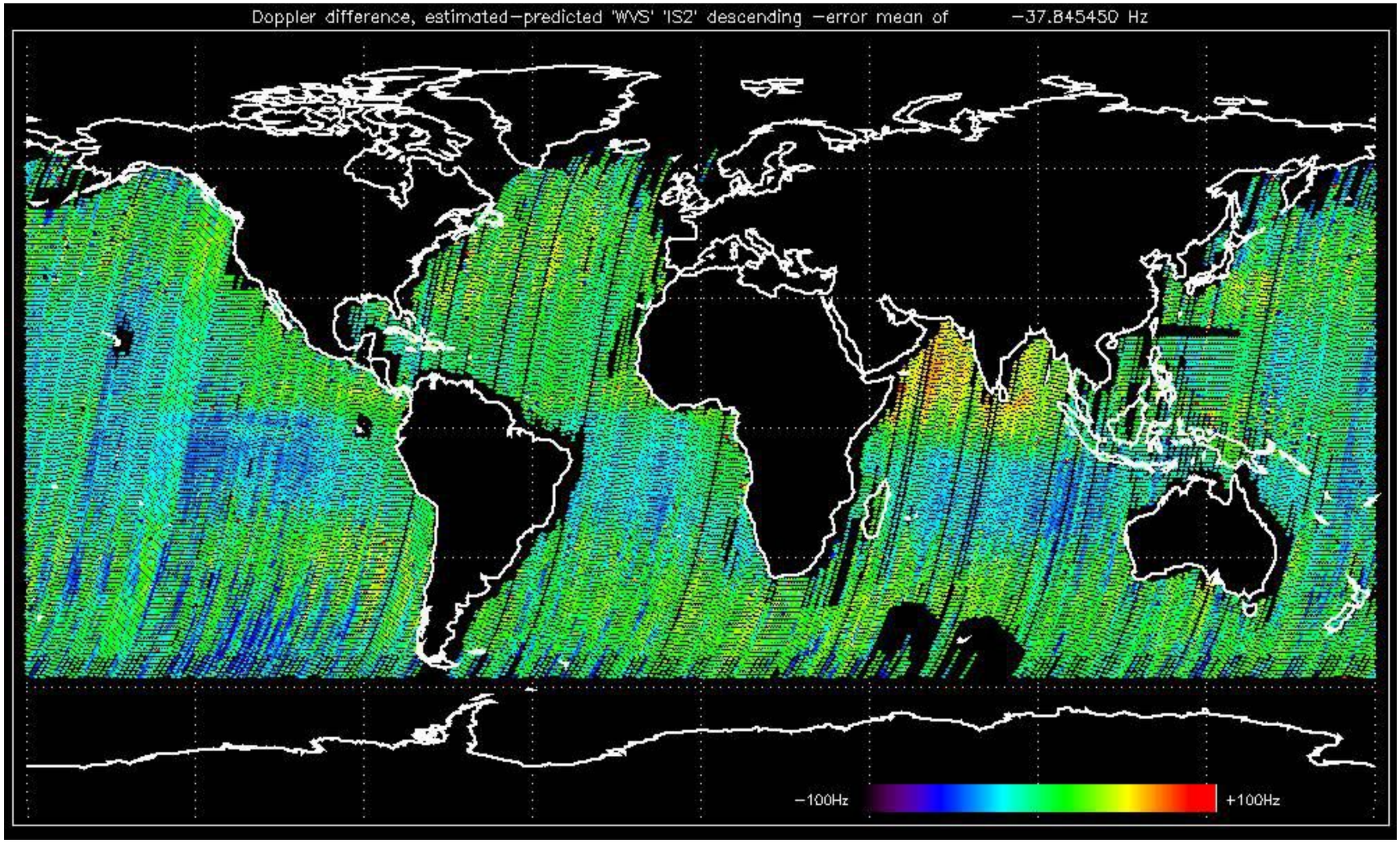

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −39.878651 Hz
−100Hz
+100Hz

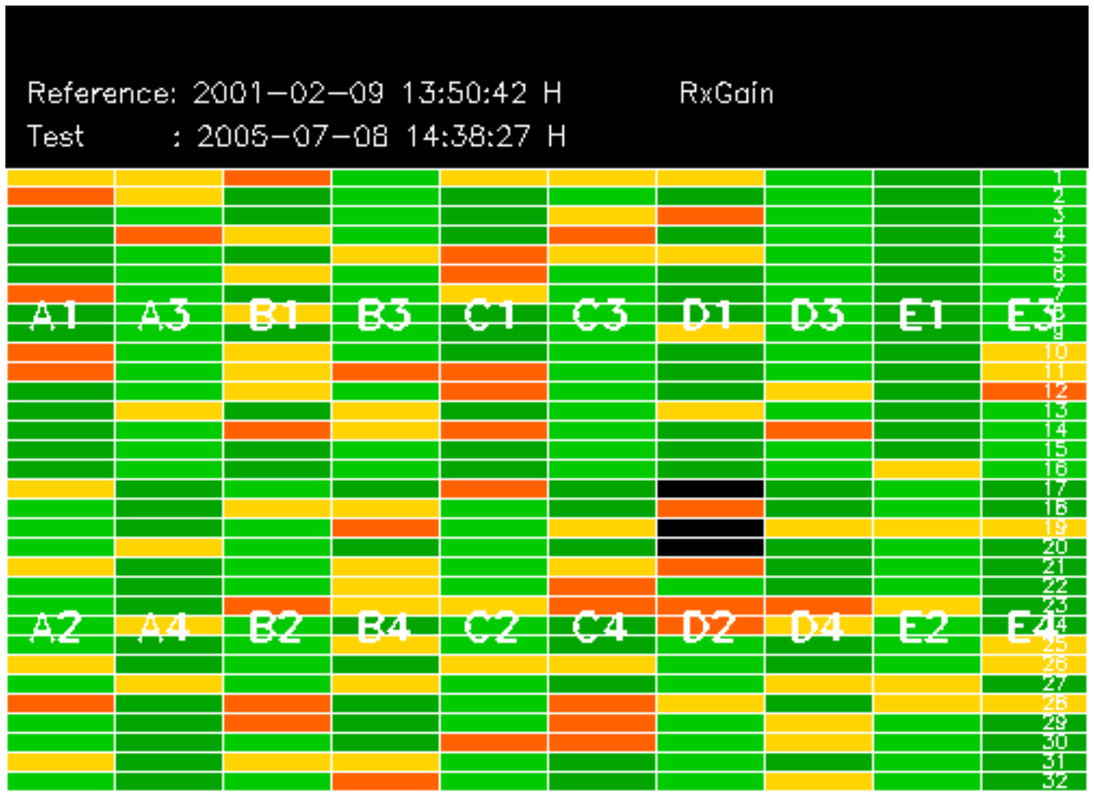

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −34.236374 Hz
−100Hz
+100Hz

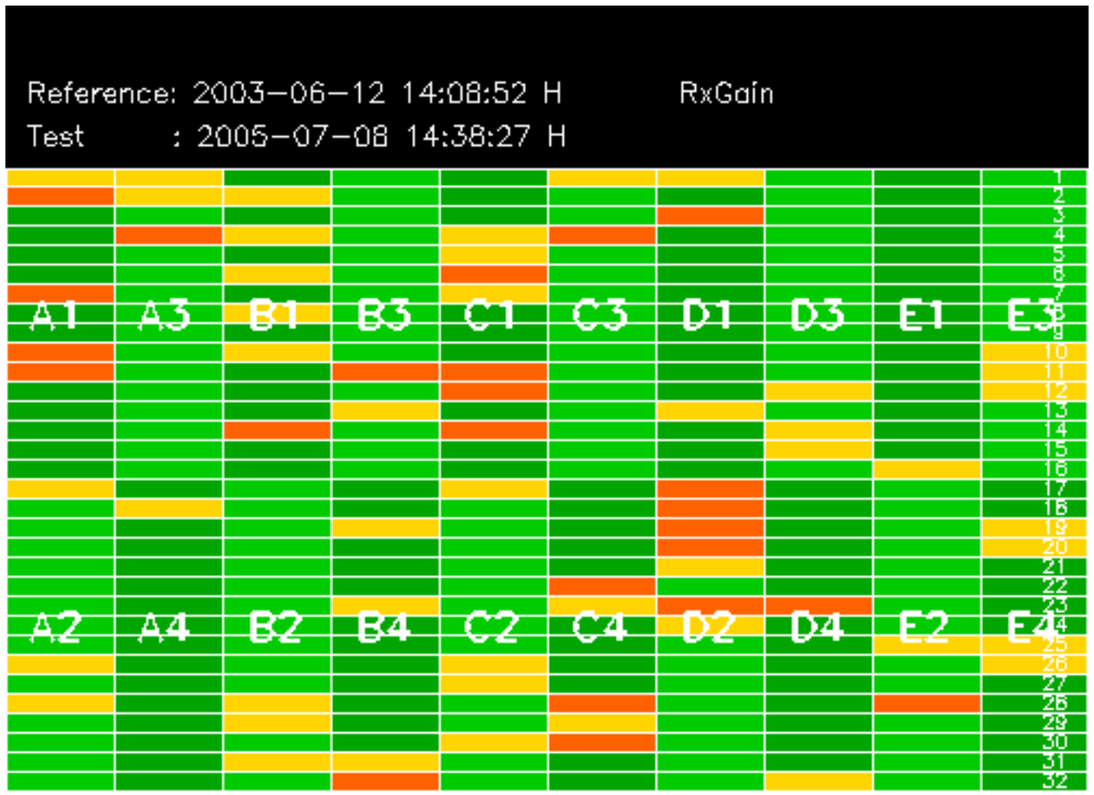

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −32.171675 Hz
−100Hz
+100Hz

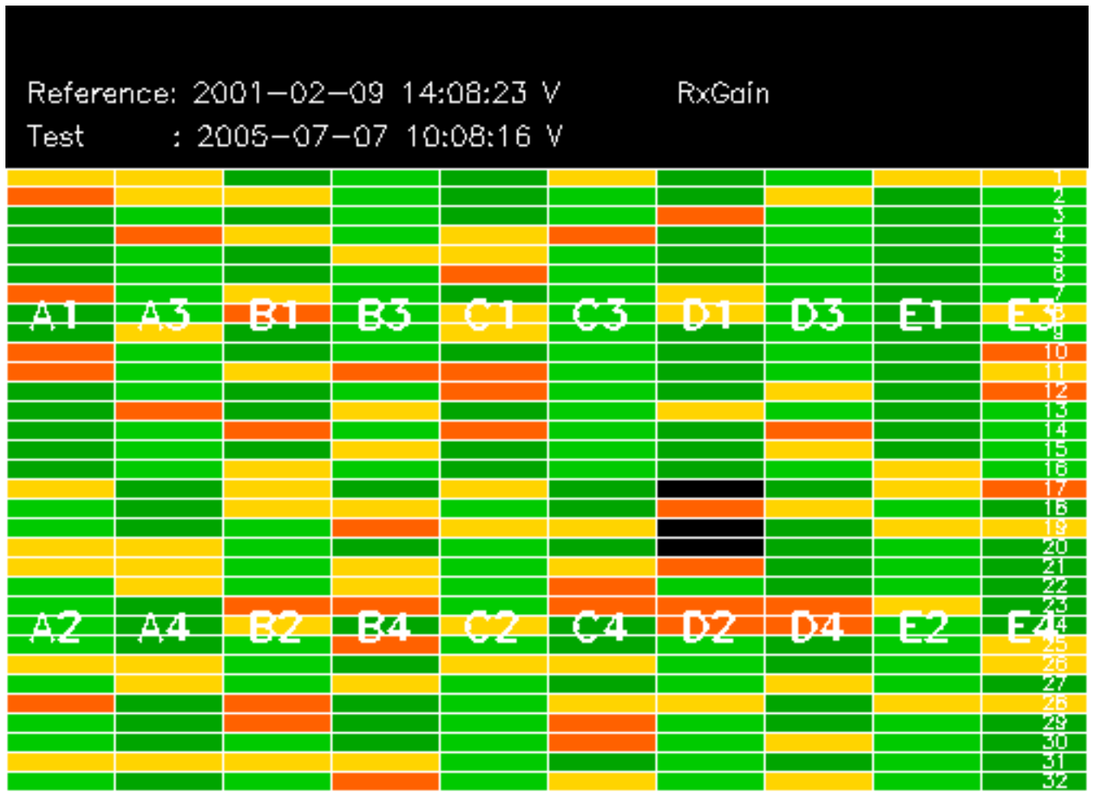

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −37.845450 Hz
−100Hz
+100Hz

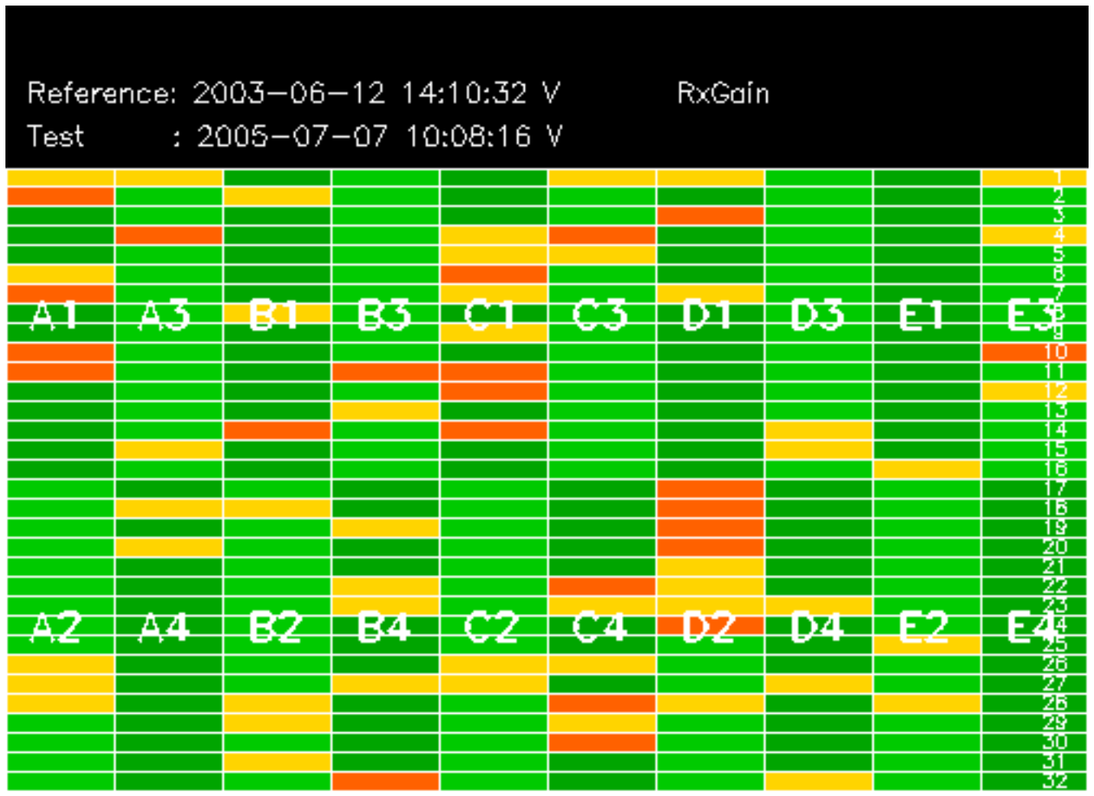
No anomalies observed on available MS products:

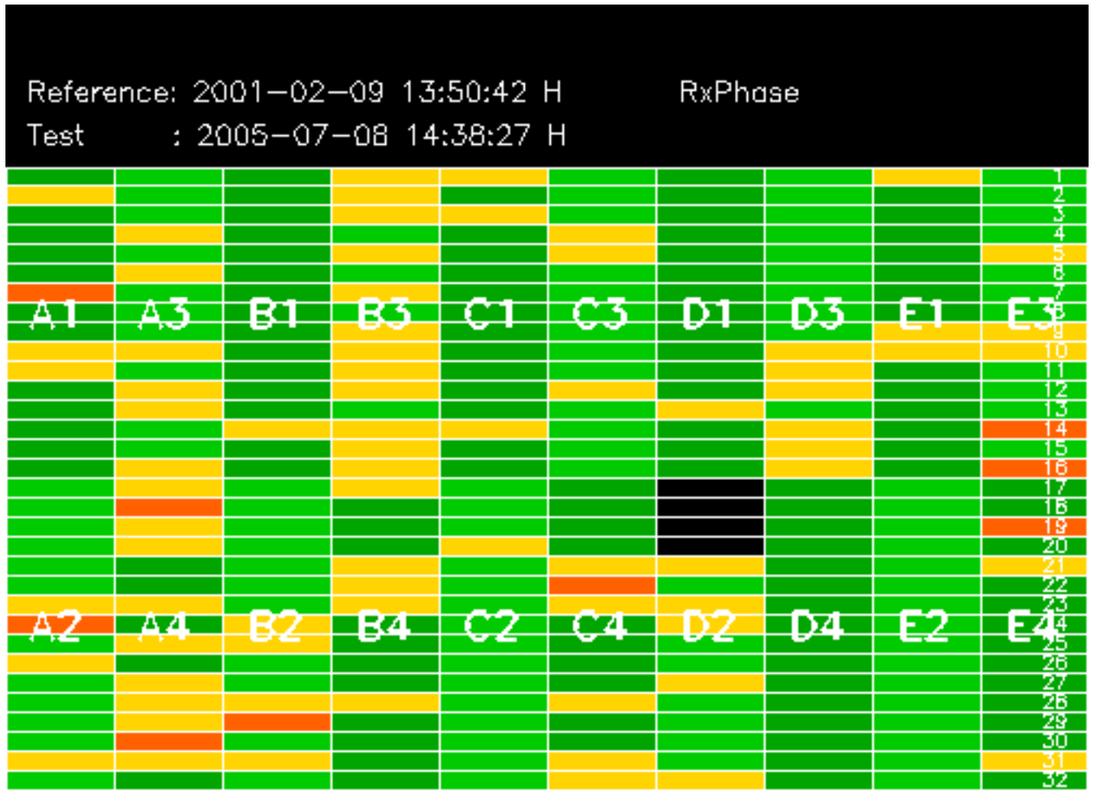
No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2005-07-08 14:38:27 H
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 14:08:52 H
Test : 2005-07-08 14:38:27 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 : 2005-07-07 10:08:16 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 : 2005-07-07 10:08:16 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 : 2005-07-08 14:38:27 H
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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10
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31
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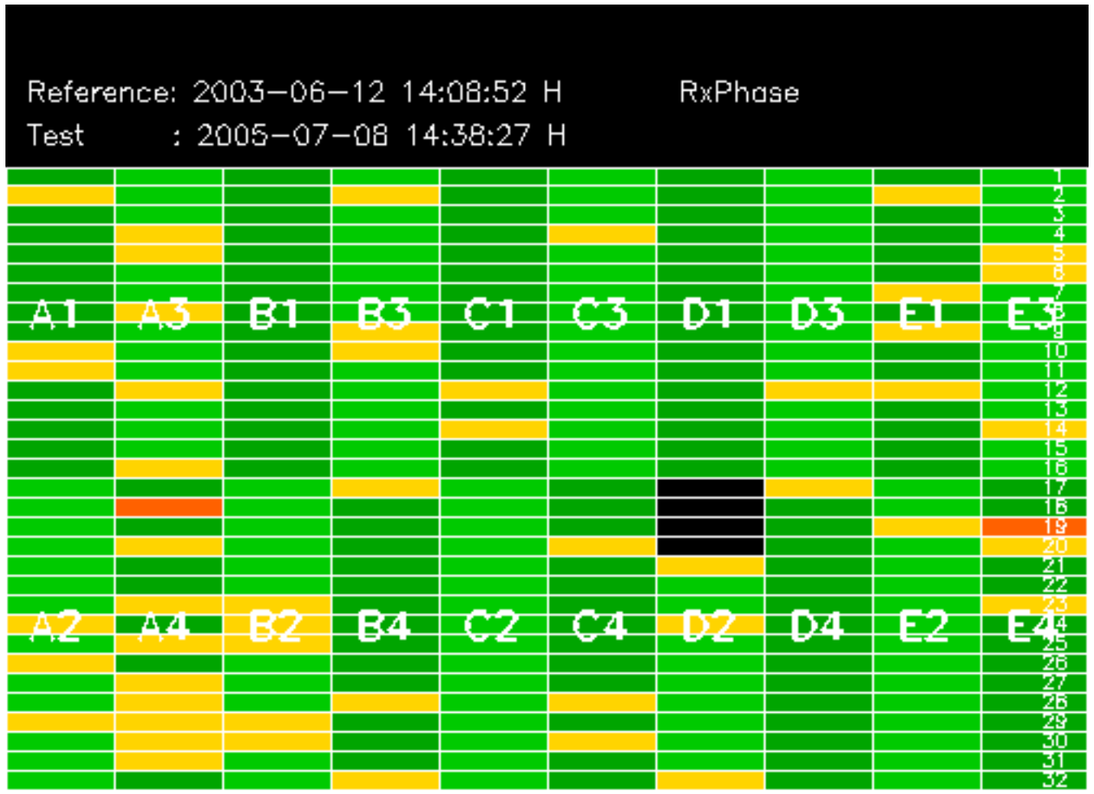
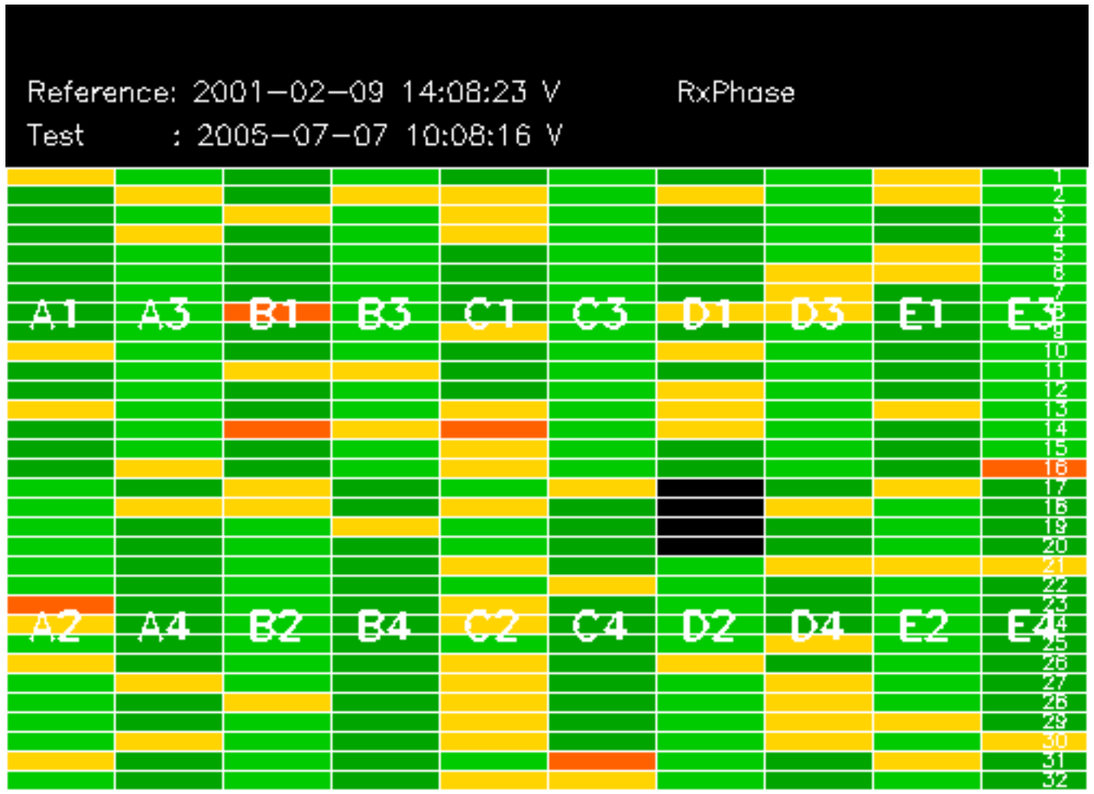

Reference: 2003-06-12 14:08:52 H
Test : 2005-07-08 14:38:27 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2005-07-07 10:08:16 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
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29
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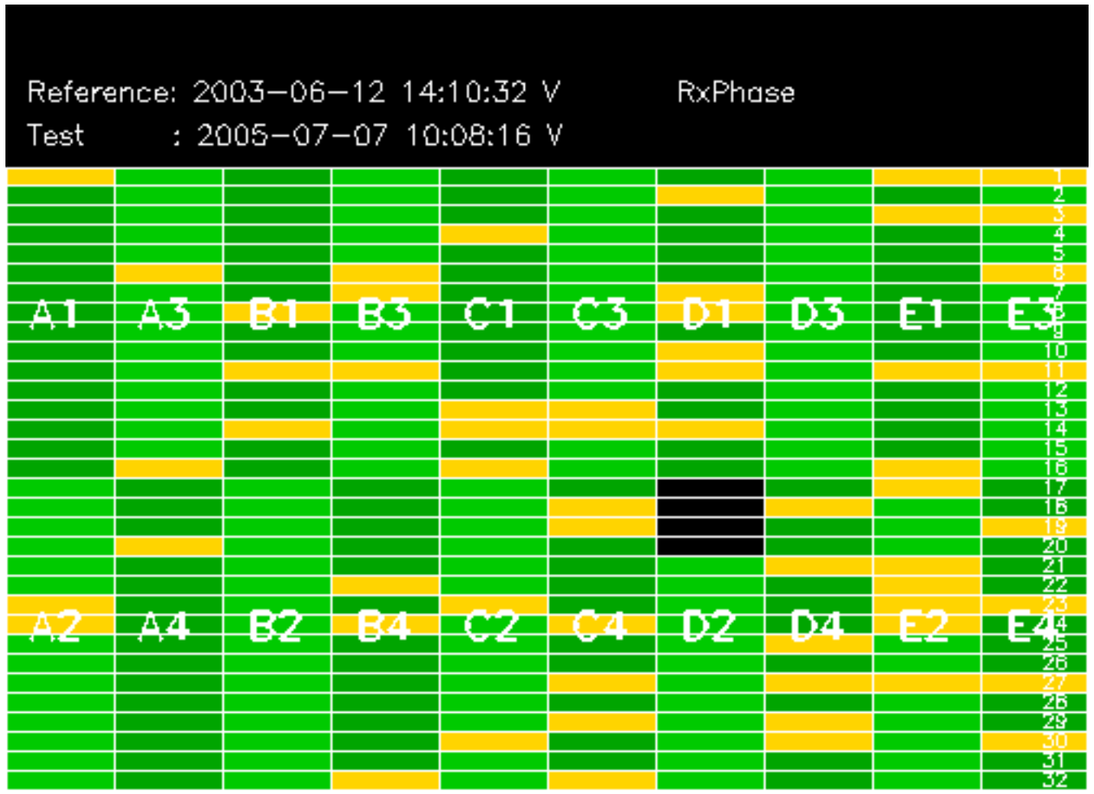
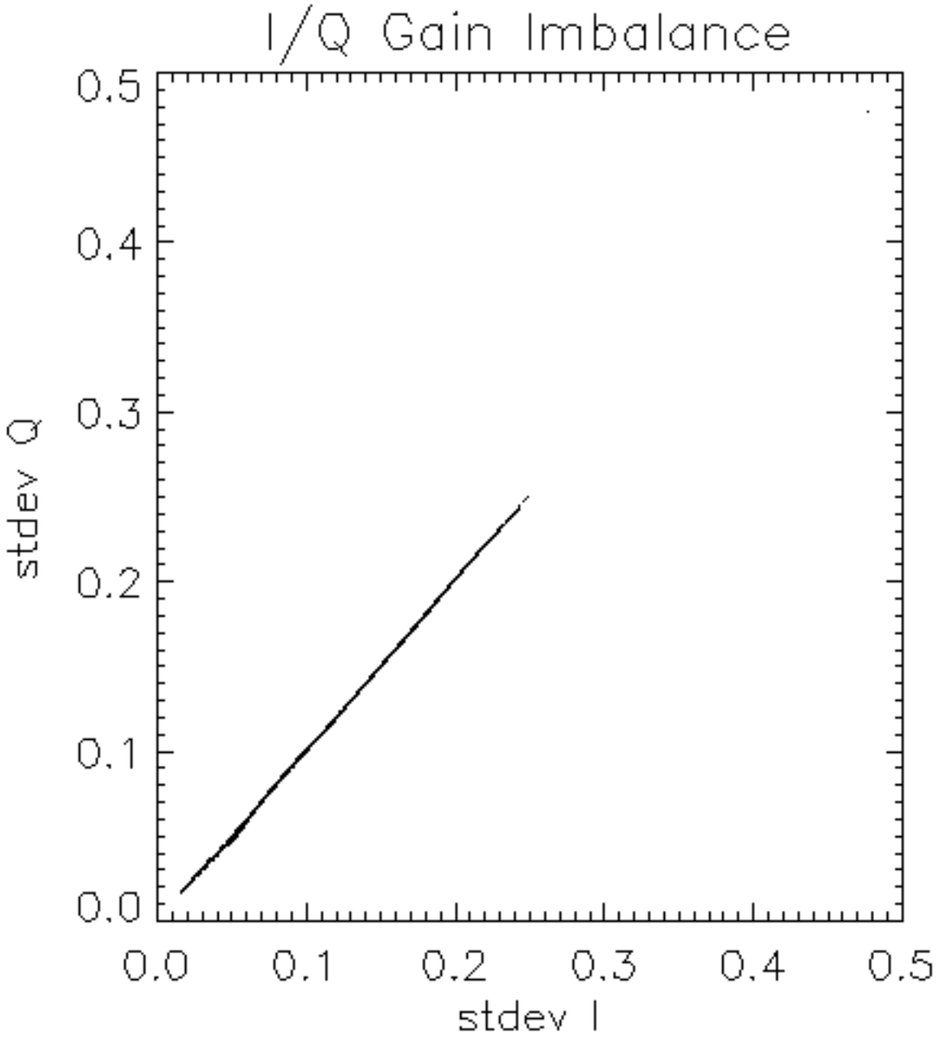
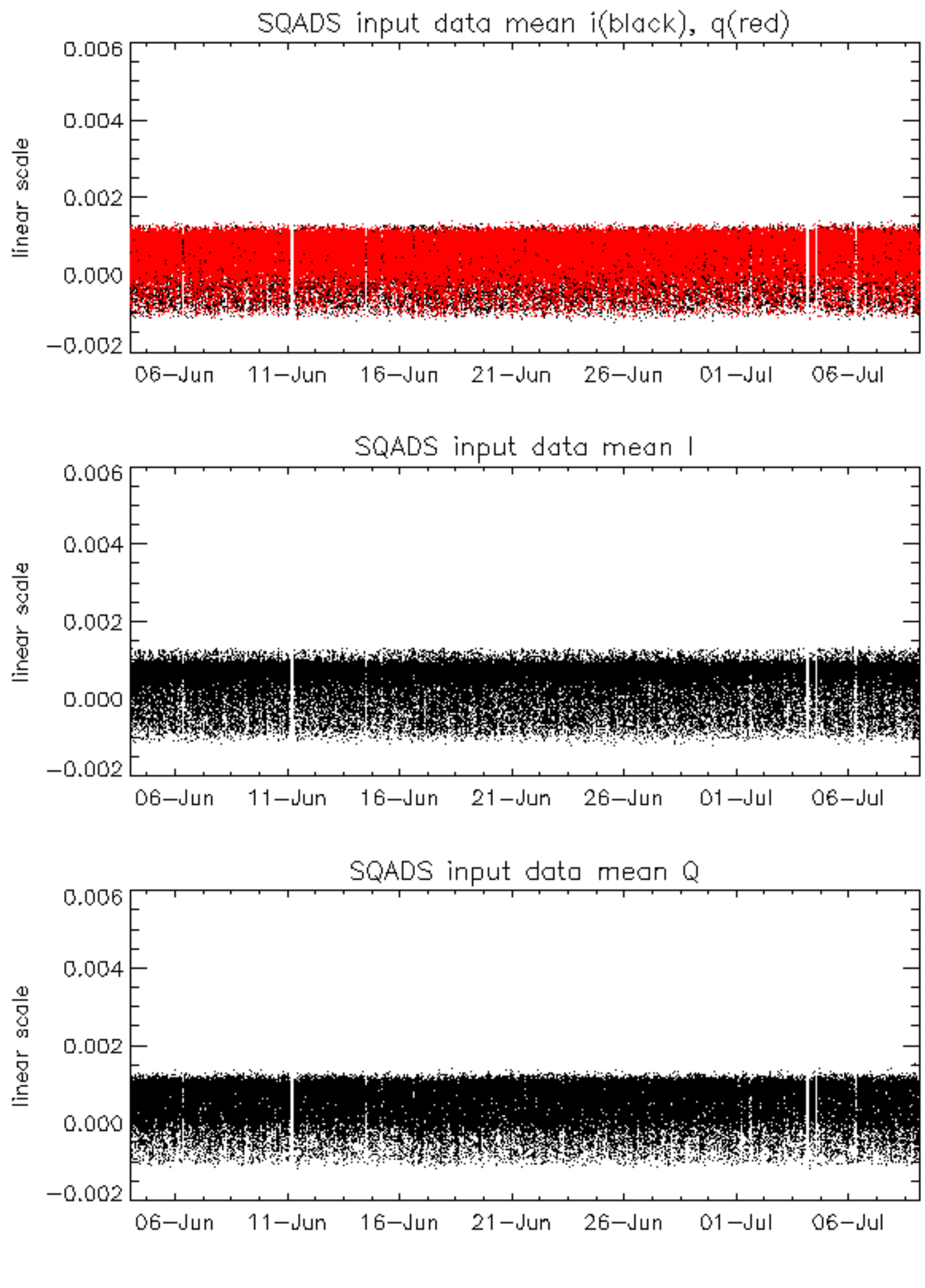
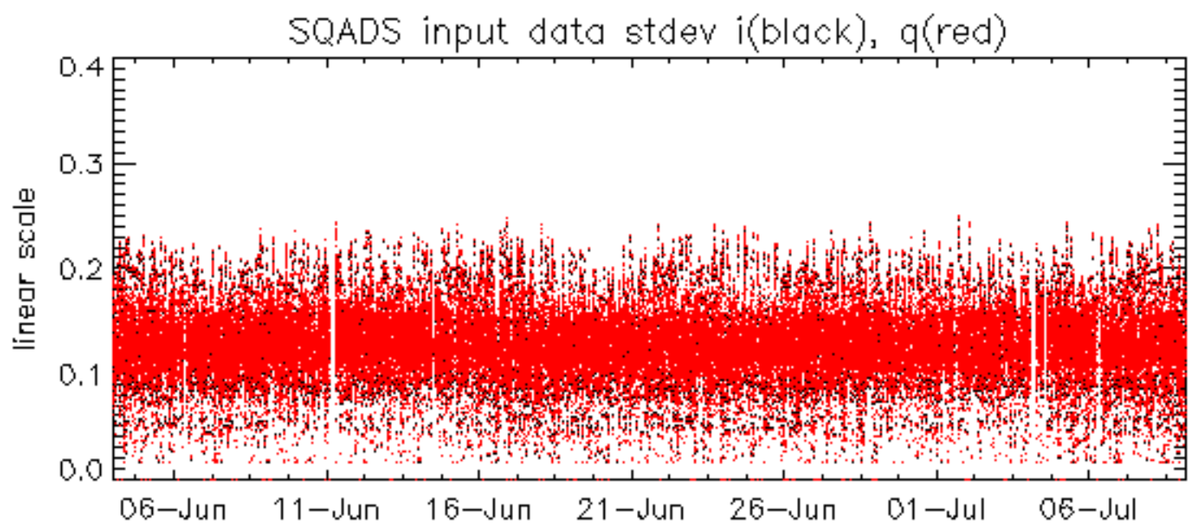
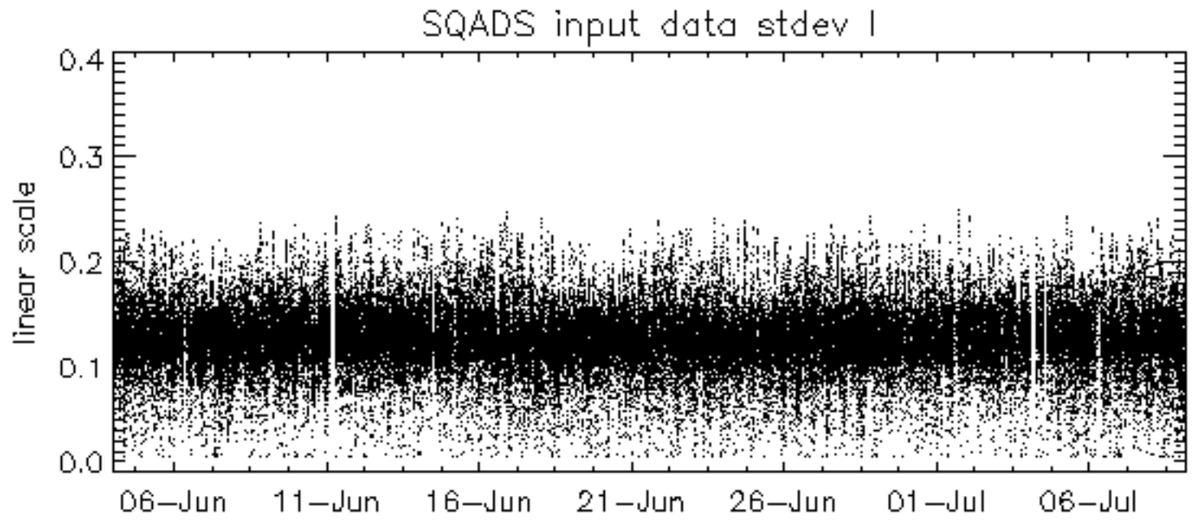
31
32

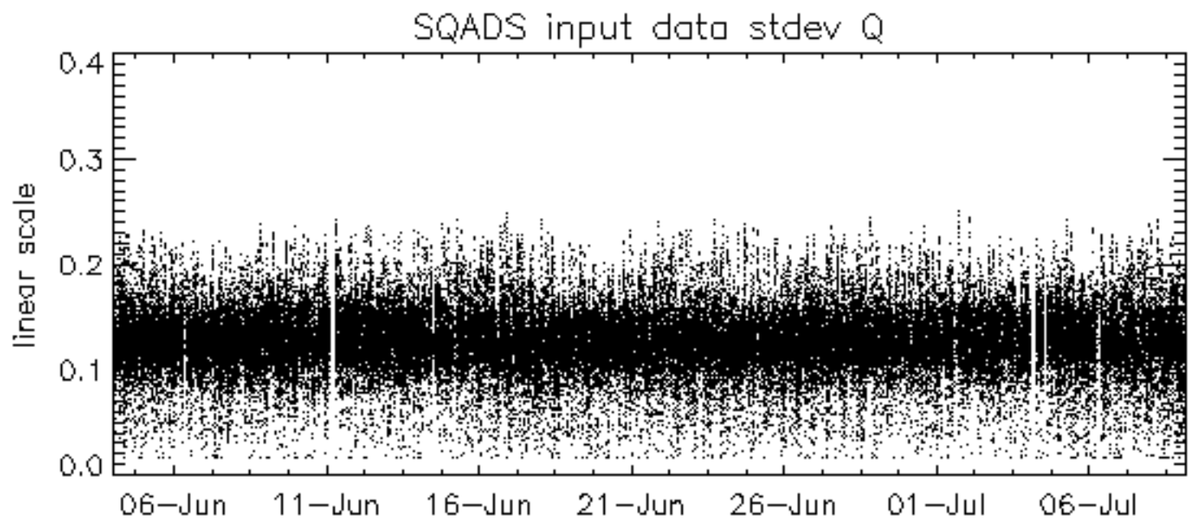

Reference: 2003-06-12 14:10:32 V
Test : 2005-07-07 10:08:16 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

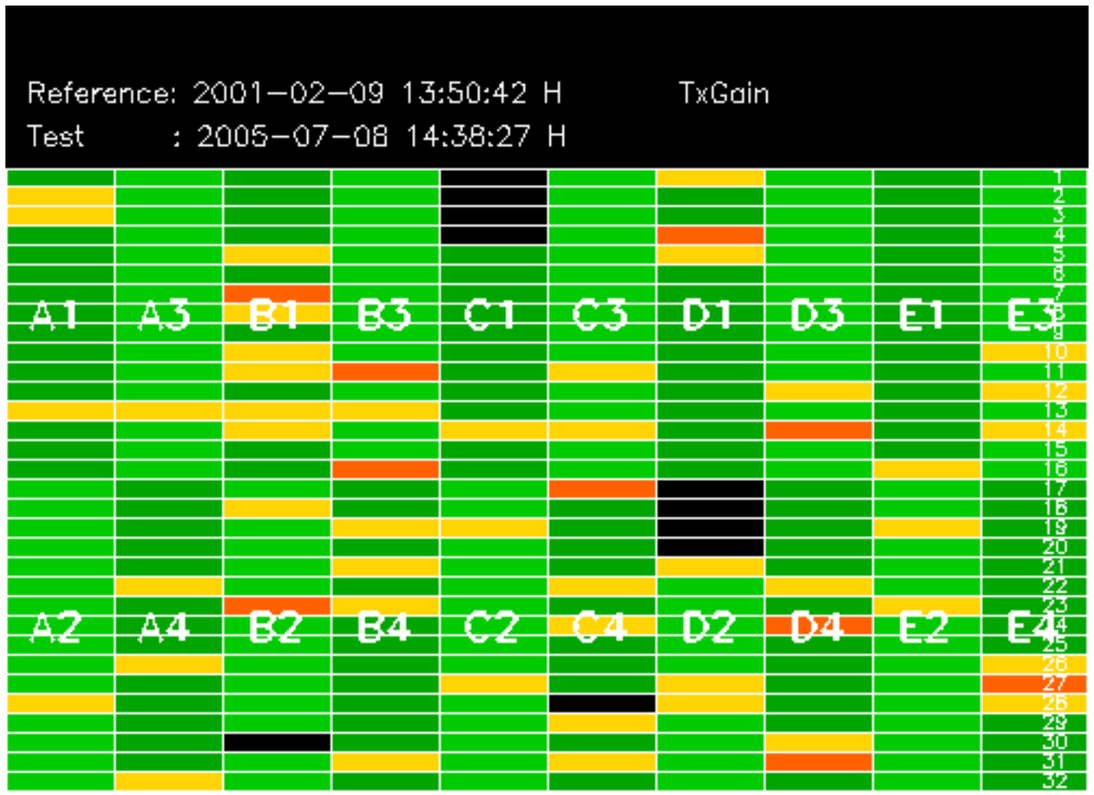

I/Q Gain Imbalance
stdev Q
stdev I
0.0
0.1
0.2
0.3
0.4
0.5


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2005-07-08 14:38:27 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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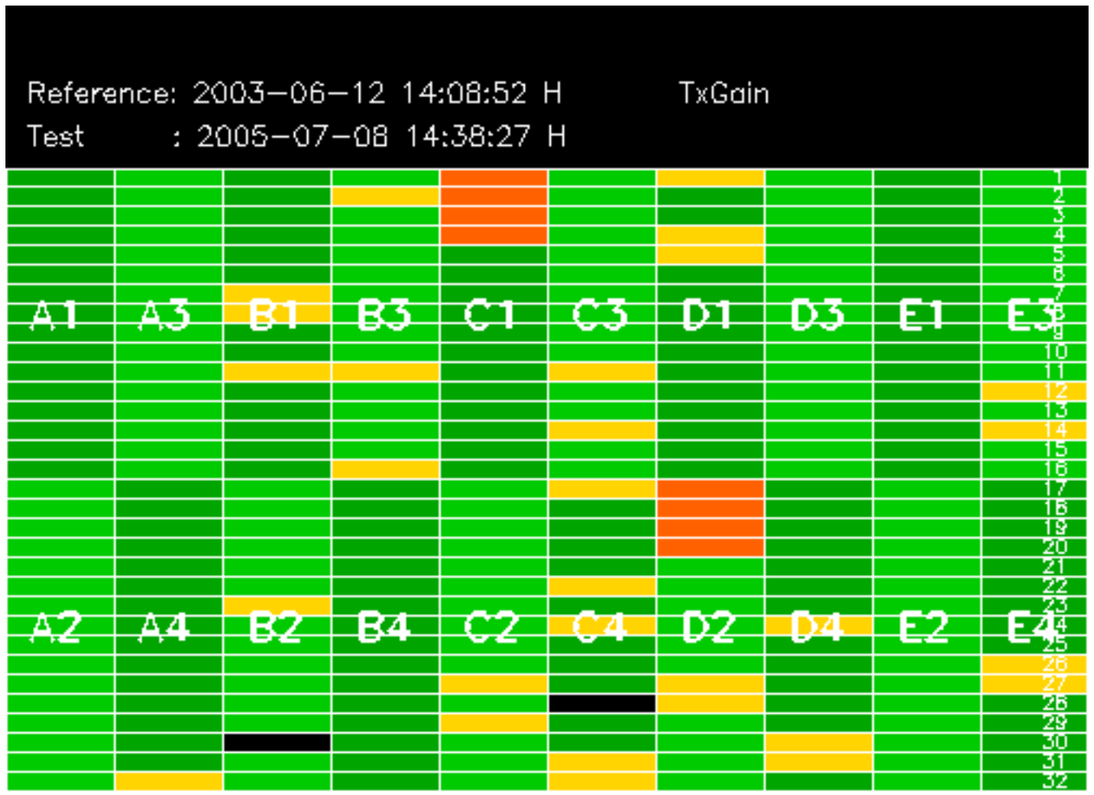
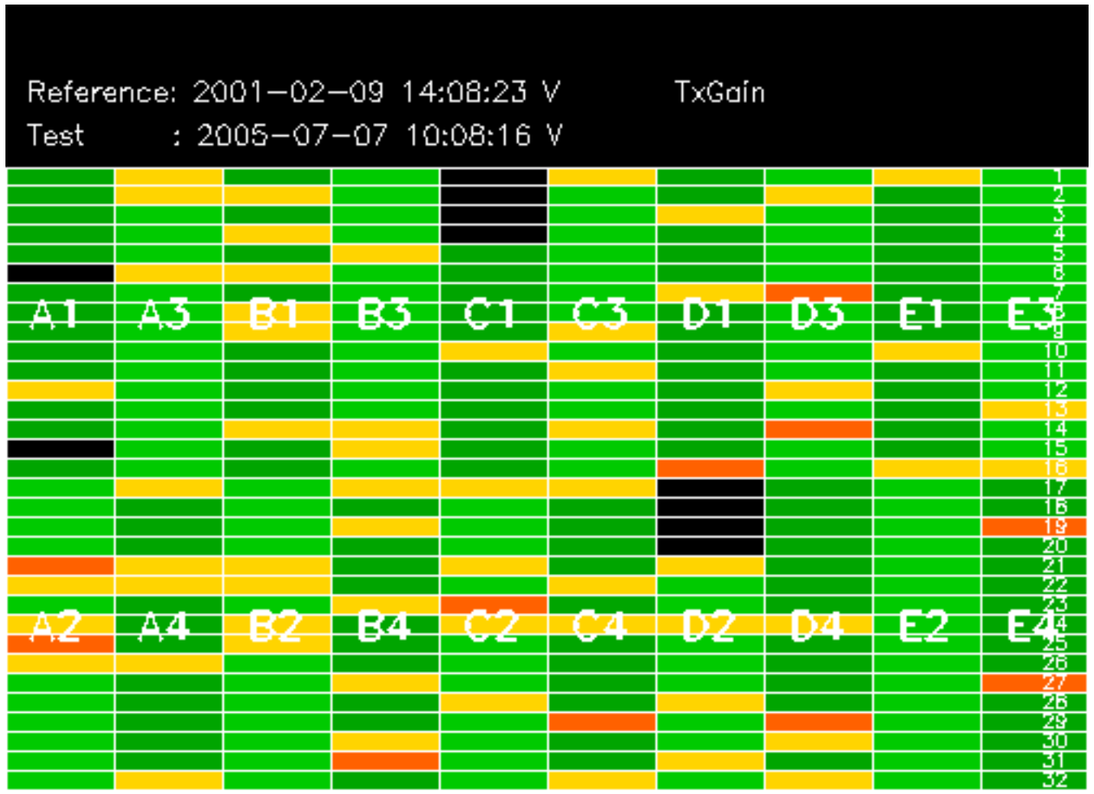

Reference: 2003-06-12 14:08:52 H
Test : 2005-07-08 14:38:27 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2005-07-07 10:08:16 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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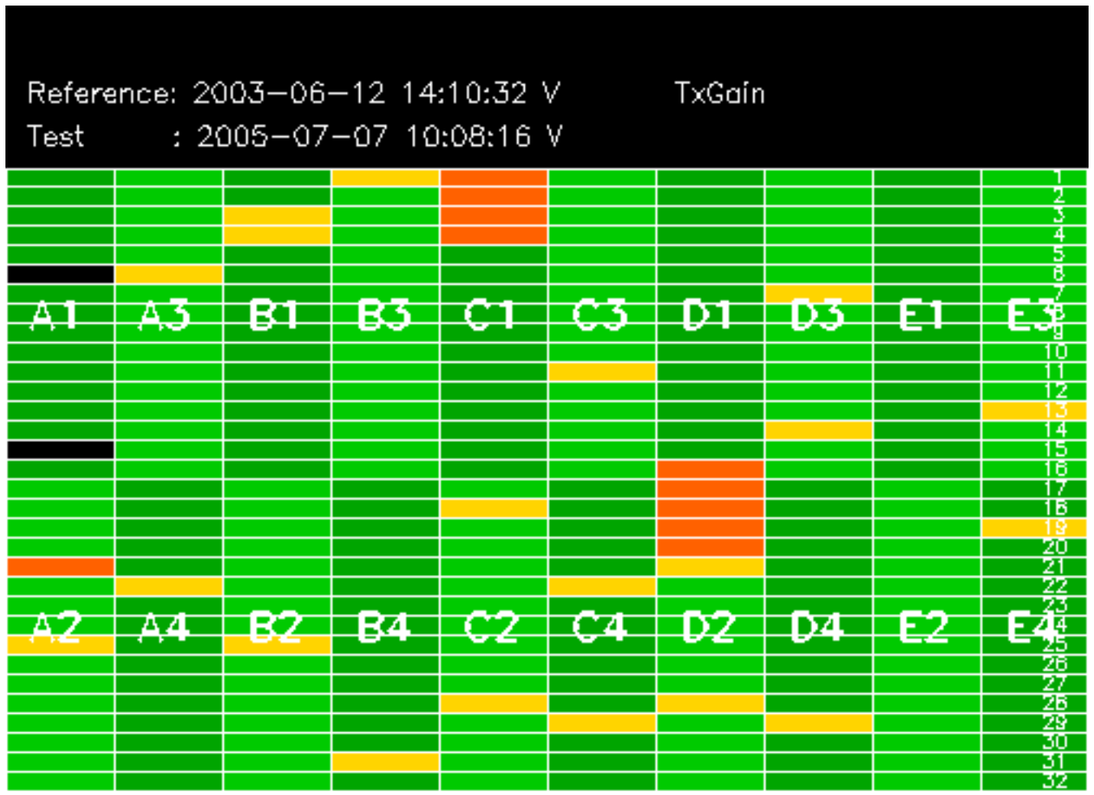
Reference: 2003-06-12 14:10:32 V
Test : 2005-07-07 10:08:16 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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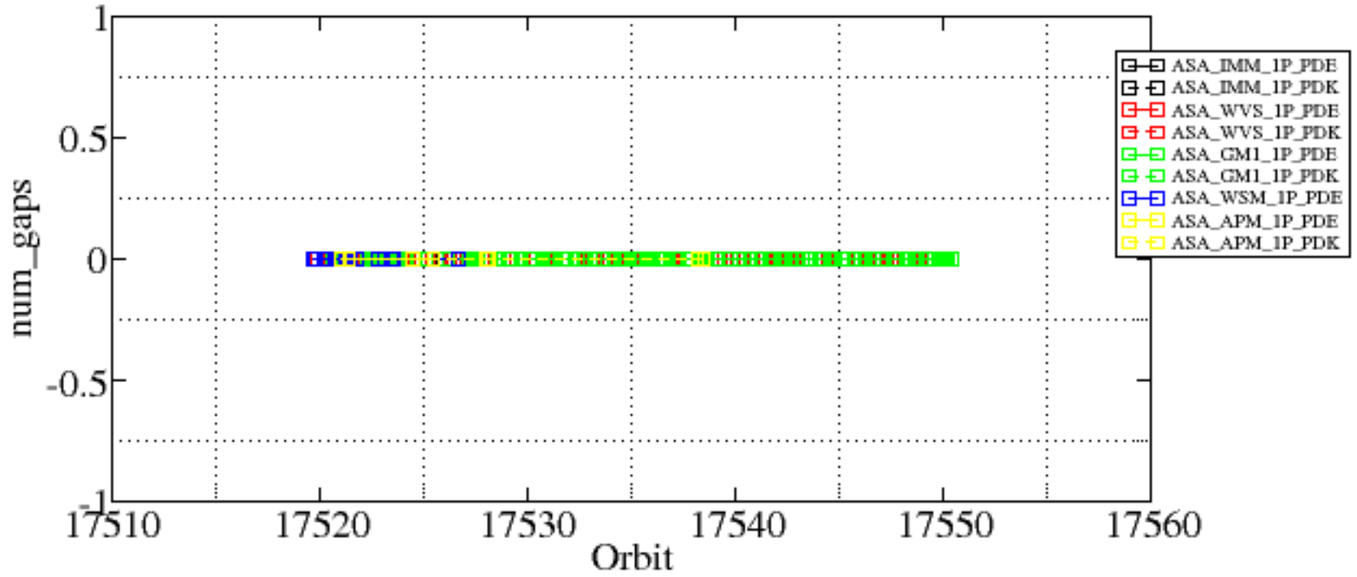
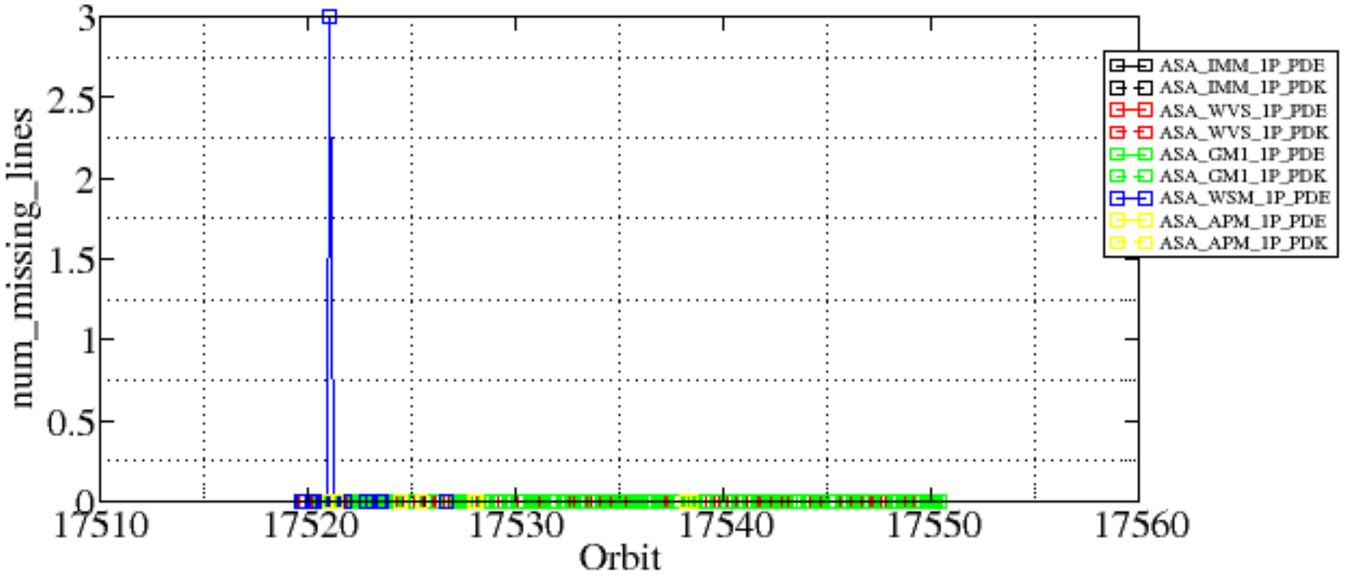
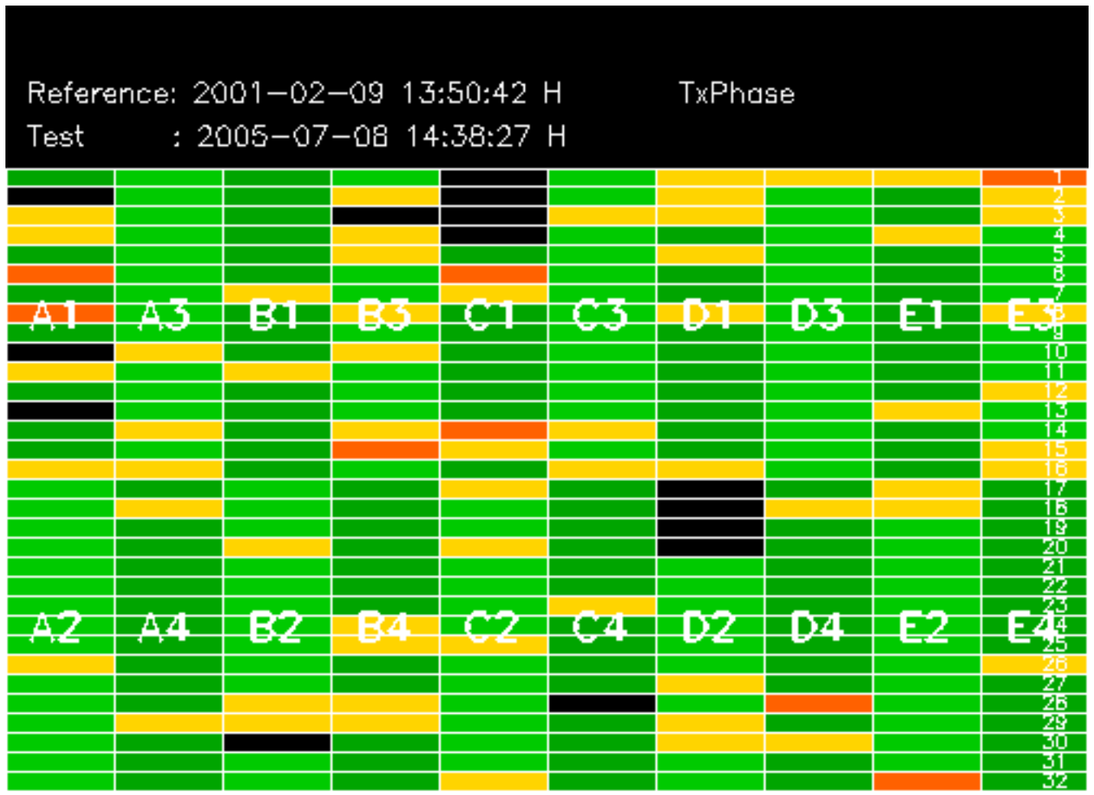
32

Summary of analysis for the last 3 days 2005070[789]
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_1PNPDE20050707_022326_000003662038_00433_17521_5431.N1 </td> <td>0 </td> <td>3 </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
17510
17520
17530
17540
17550
17560
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
3
2.5
2
1.5
1
0.5
0
17510
17520
17530
17540
17550
17560
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 : 2005-07-08 14:38:27 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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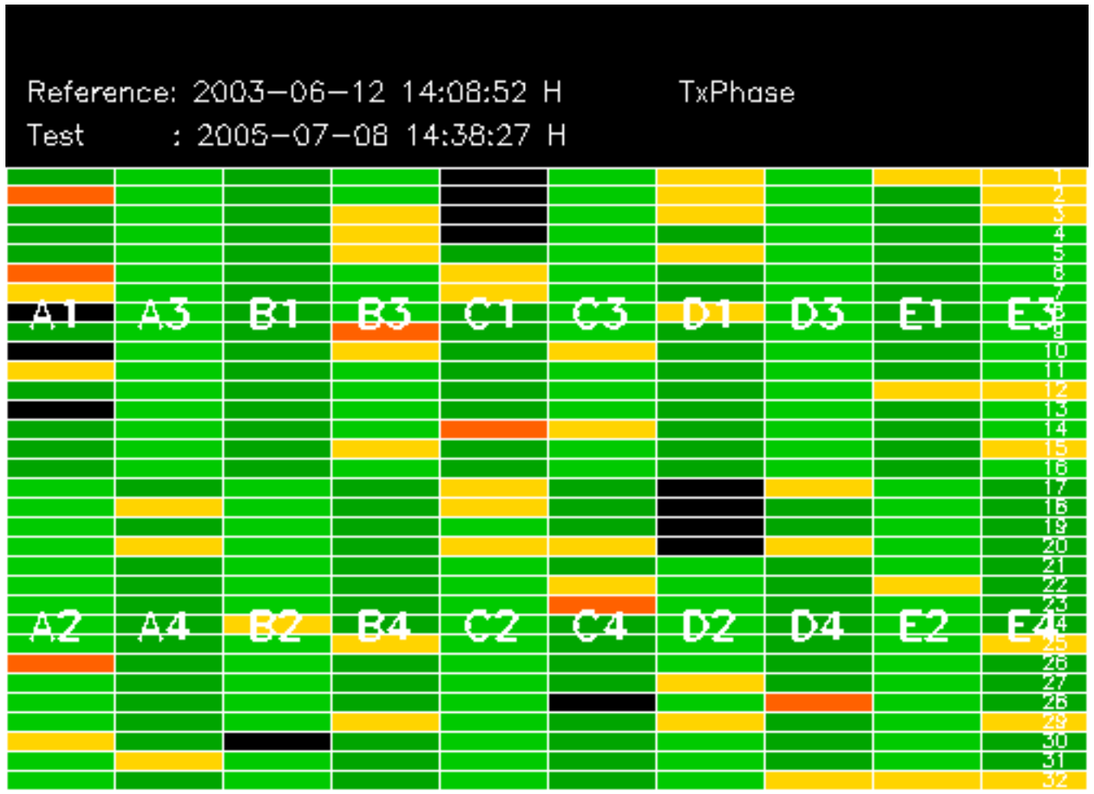
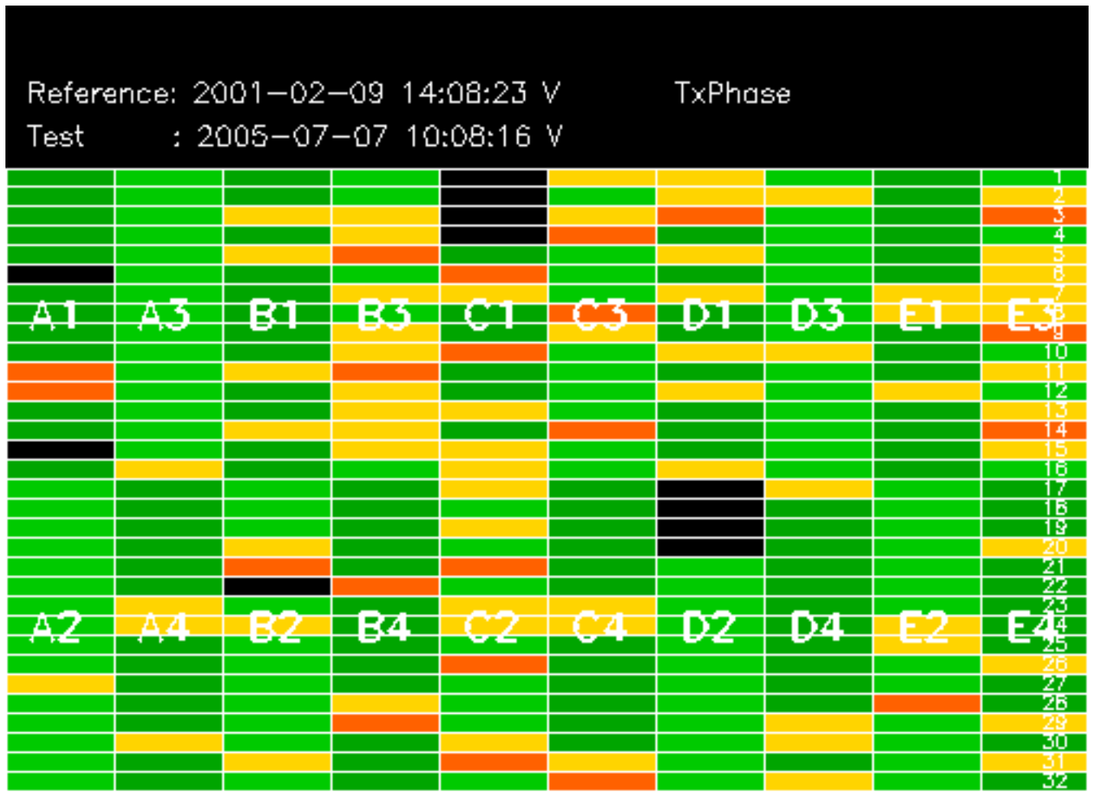
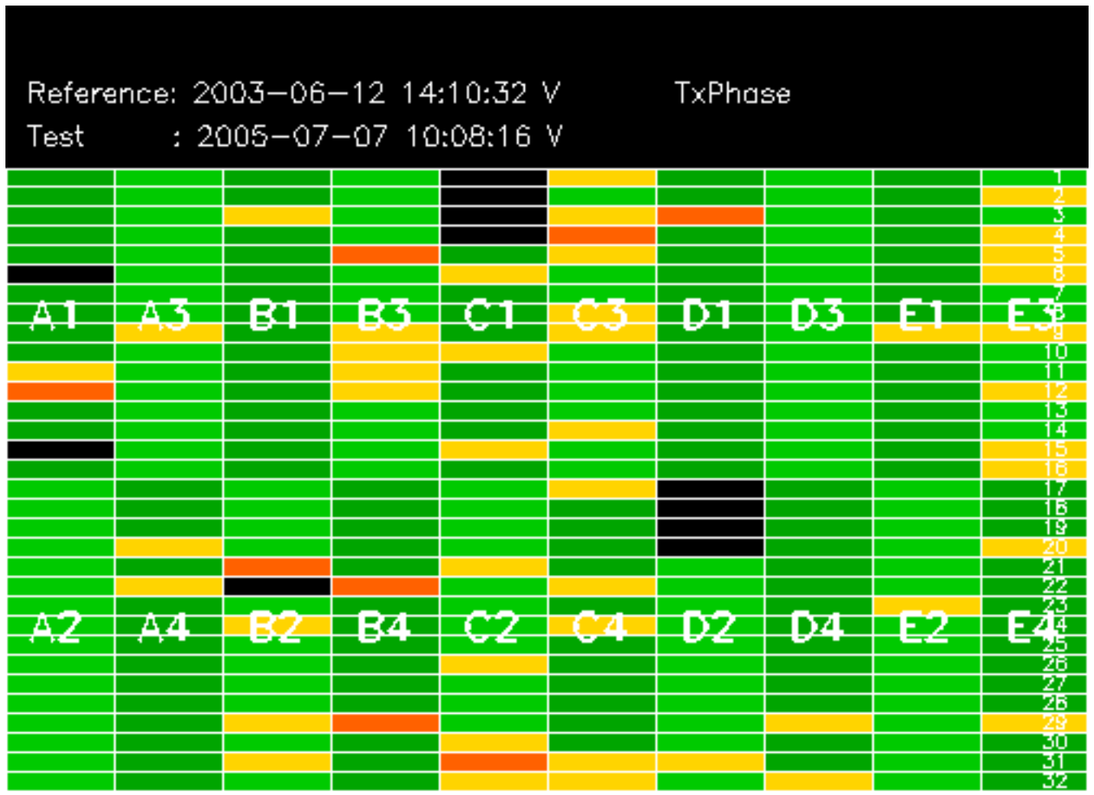
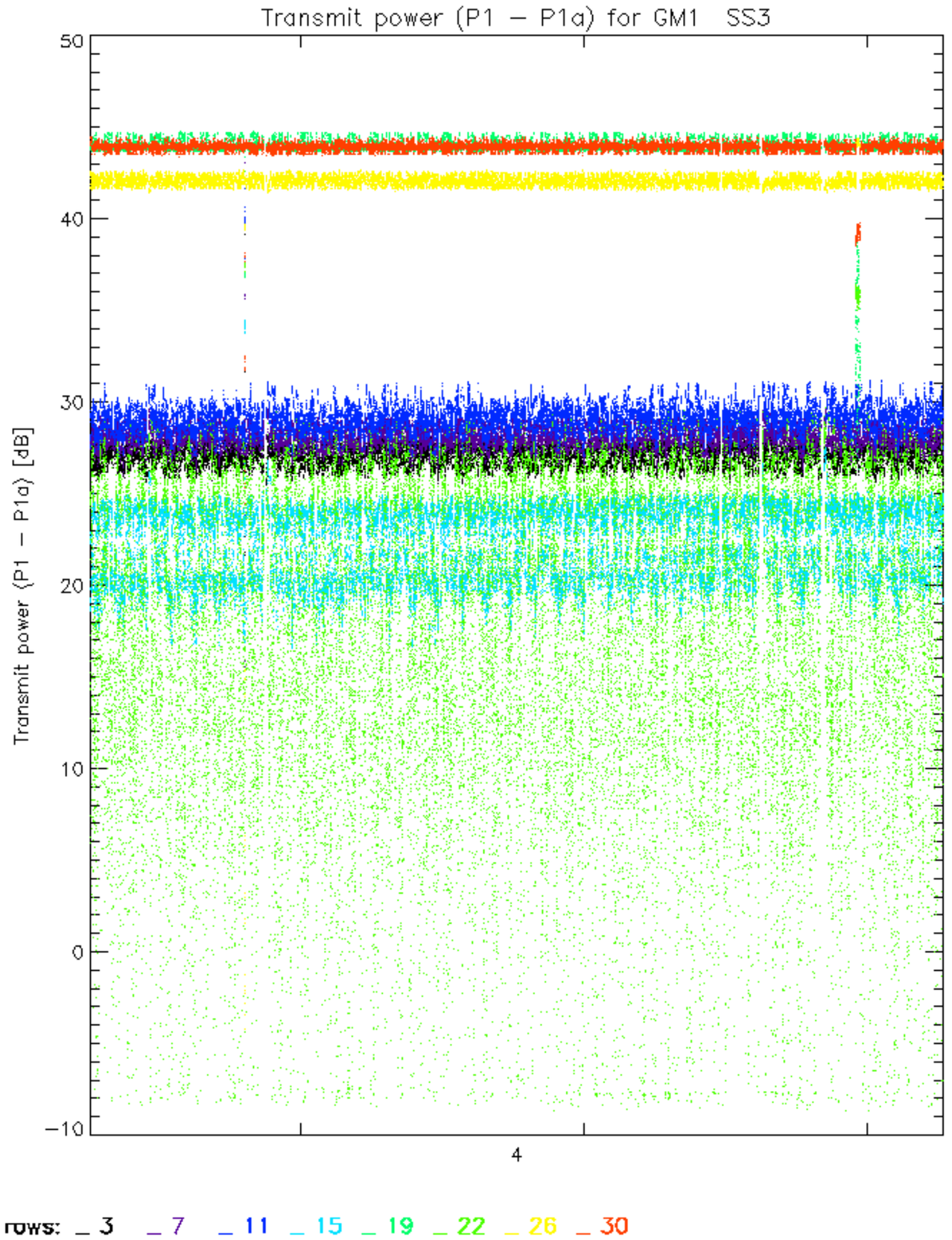
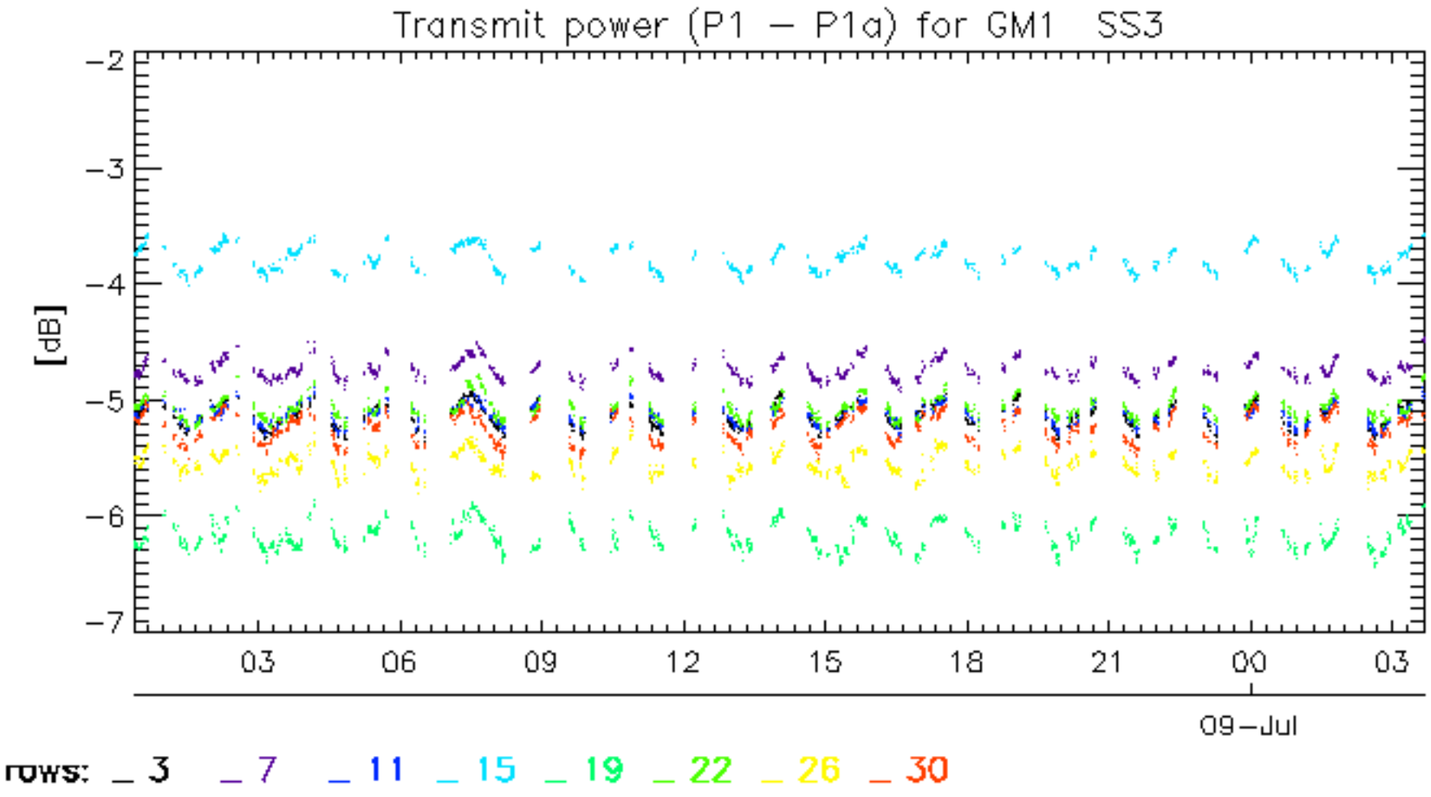
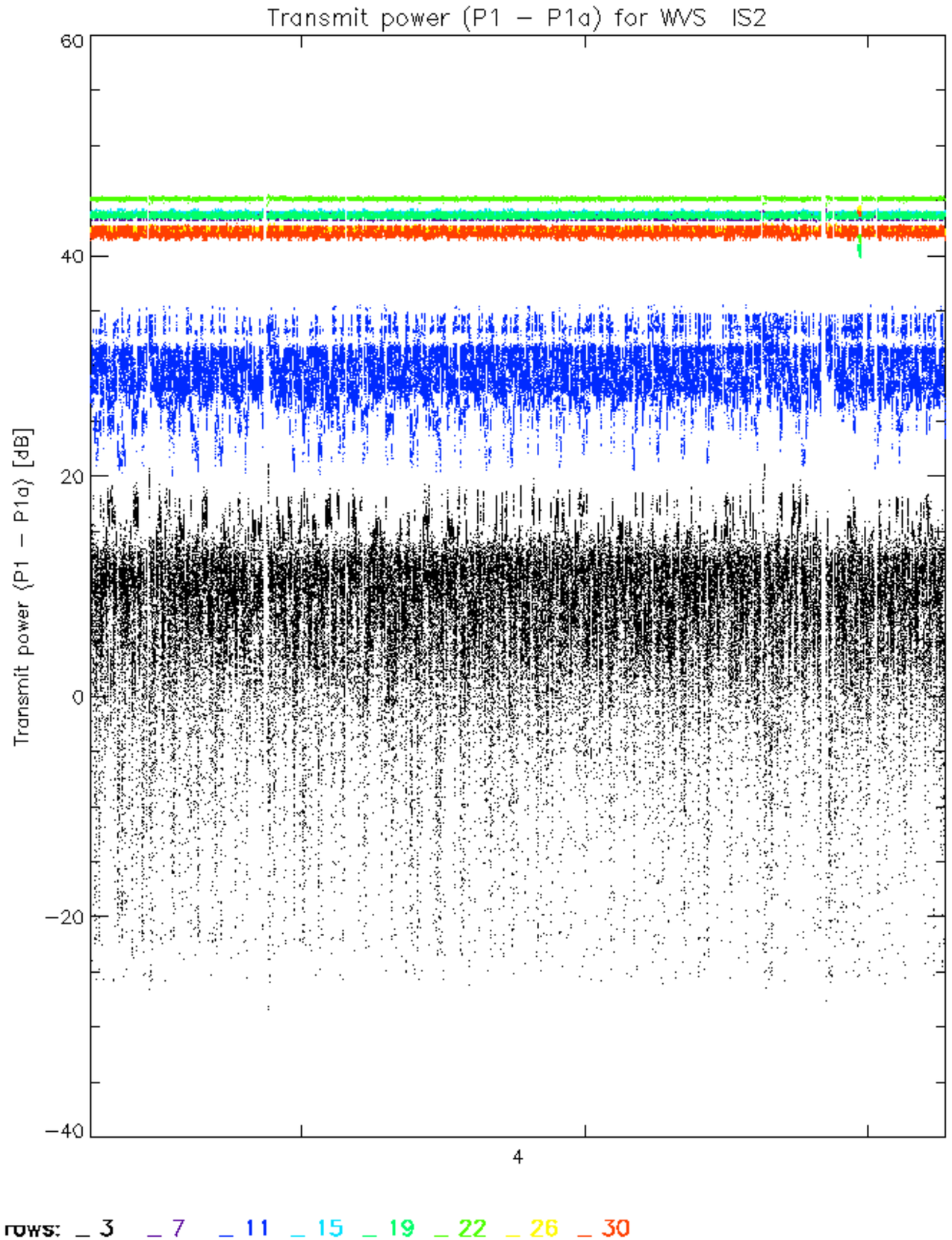

Reference: 2003-06-12 14:08:52 H
Test : 2005-07-08 14:38:27 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

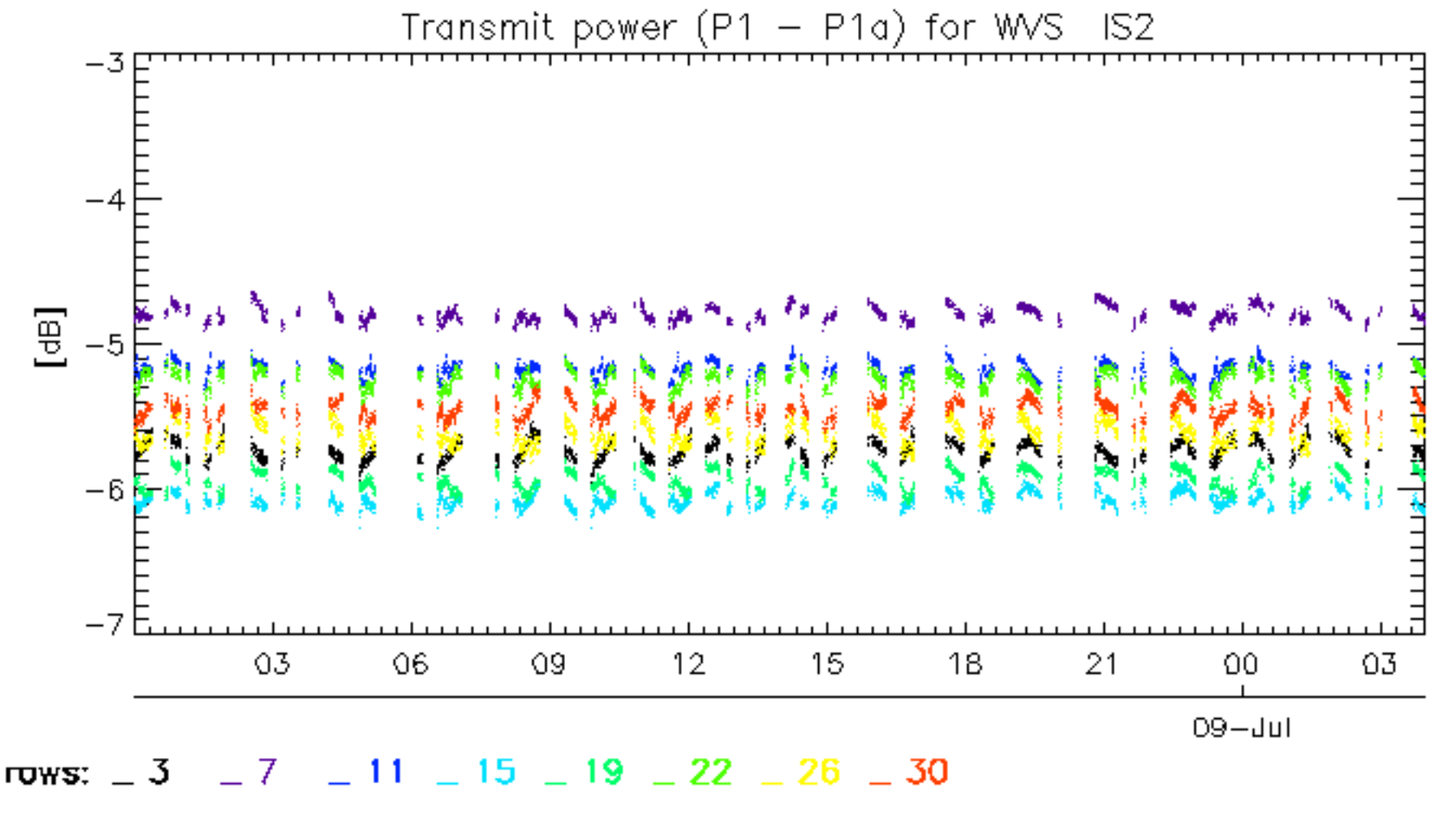

Reference: 2001-02-09 14:08:23 V
Test : 2005-07-07 10:08:16 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-07-07 10:08:16 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
4
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
09–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]
4
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
09–Jul
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.