PRELIMINARY REPORT OF 050825

last update on Thu Aug 25 10:50:01 GMT 2005

1. Introduction
2. Summary
   - Instrument Unavailability
   - Auxiliary files used
   - Browse Visual Inspection
   - Module Stepping Results
   - Data Analysis
3. Module Stepping
4. Internal Calibration pulses
   - Daily statistics
   - Cyclic statistics
   - cal pulses monitoring (all rows)
5. Raw Data Statistics
   - raw data mean I and Q
   - raw data stdev I and Q
   - raw gain imbalance
6. TLM analysis
7. Wave Doppler analysis
   - Unbiased Doppler Error for WVS
   - Absolute Doppler for WVS
   - Doppler evolution versus ANX for WVS
   - Unbiased Doppler Error for GM1
   - Absolute Doppler for GM1
   - Doppler evolution versus ANX for GM1

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 2005-08-24 00:00:00 to 2005-08-25 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	25	42	12	7	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	25	42	12	7	0
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	25	42	12	7	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	25	42	12	7	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	38	33	13	11	20
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	38	33	13	11	20
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	38	33	13	11	20
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	38	33	13	11	20

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	20050823 085034
H	20050824 081857

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	-3.313174	0.029390	0.034227
7	P1	-3.167442	0.027852	-0.046547
11	P1	-4.718122	0.032921	-0.029984
15	P1	-5.604896	0.049573	-0.075822
19	P1	-3.806007	0.004160	-0.045575
22	P1	-4.644838	0.103709	0.138755
26	P1	-4.852065	0.136601	0.142983
30	P1	-7.255693	0.137535	0.097148
3	P1	-15.540603	0.078031	0.024544
7	P1	-15.535853	0.152815	-0.128363
11	P1	-21.782122	0.280583	-0.169920
15	P1	-11.295913	0.069528	-0.013419
19	P1	-14.500147	0.035780	-0.077455
22	P1	-15.650900	0.342373	0.253073
26	P1	-17.305386	0.191823	0.111468
30	P1	-17.790989	0.428586	-0.255515

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.794149	0.085080	0.147285
7	P2	-21.940611	0.101149	0.170727
11	P2	-13.522939	0.107309	0.203565
15	P2	-7.060903	0.091010	0.060838
19	P2	-9.590309	0.095066	0.009976
22	P2	-16.826939	0.097824	0.060769
26	P2	-16.509939	0.098029	0.010721
30	P2	-18.802282	0.086166	-0.004790

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)

3	P3	-8.157383	0.002786	0.001456
7	P3	-8.157383	0.002786	0.001456
11	P3	-8.157383	0.002786	0.001456
15	P3	-8.157383	0.002786	0.001456
19	P3	-8.157383	0.002786	0.001456
22	P3	-8.157383	0.002786	0.001456
26	P3	-8.157395	0.002786	0.001398
30	P3	-8.157395	0.002786	0.001398

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	-2.804934	0.092839	0.038283
7	P1	-2.968451	0.065724	0.032211
11	P1	-4.017537	0.025096	-0.005895
15	P1	-3.622801	0.063537	-0.006262
19	P1	-3.630012	0.014733	-0.013116
22	P1	-5.709407	0.099820	0.026928
26	P1	-7.393780	0.173300	0.143383
30	P1	-6.317714	0.100925	0.091362
3	P1	-10.928951	0.051603	-0.056814
7	P1	-10.477911	0.169097	-0.044354
11	P1	-12.644566	0.101037	0.003795
15	P1	-11.621960	0.120103	-0.136244
19	P1	-15.480297	0.061673	0.054687
22	P1	-25.503967	2.728493	0.190998
26	P1	-15.247545	0.296456	0.127876
30	P1	-20.064928	1.327547	-0.150368

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.504353	0.047836	0.189487
7	P2	-22.007309	0.037657	0.061739
11	P2	-9.554343	0.066217	0.182455
15	P2	-5.093101	0.040498	0.047985
19	P2	-6.868745	0.061186	0.062392
22	P2	-7.042498	0.040004	0.060253
26	P2	-23.960995	0.037294	0.028616
30	P2	-21.938372	0.043325	0.038171

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.997701	0.004167	-0.001407
7	P3	-7.997701	0.004161	-0.002038
11	P3	-7.997629	0.004165	-0.001798
15	P3	-7.997587	0.004166	-0.001840
19	P3	-7.997635	0.004165	-0.001735
22	P3	-7.997607	0.004162	-0.001510
26	P3	-7.997578	0.004157	-0.001300
30	P3	-7.997571	0.004154	-0.001728

4.3 - cal pulses monitoring (all rows)

4.3.1 - Evolution for WVS

4.3.2 - Evolution for GM1

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5 - RAW data statistics

No anomalies observed.

5.1 - Input mean I/Q

channel	stat	DSS-B
MEAN I	mean	0.000450698
	stdev	2.24659e-07
MEAN Q	mean	0.000478909
	stdev	2.36594e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127528
	stdev	0.00100582
STDEV Q	mean	0.127784
	stdev	0.00101597

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005082[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_1PNPDK20050823_180038_000003422040_00113_18203_2283.N1	0	1
ASA_IMM_1PNPDK20050823_230625_000001812040_00116_18206_2306.N1	0	1
ASA_GM1_1PNPDK20050823_185247_000003142040_00113_18203_3299.N1	0	15
ASA_WSM_1PNPDE20050823_182450_000002082040_00113_18203_5752.N1	0	1
ASA_WSM_1PNPDE20050823_201129_000000852040_00114_18204_5772.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)

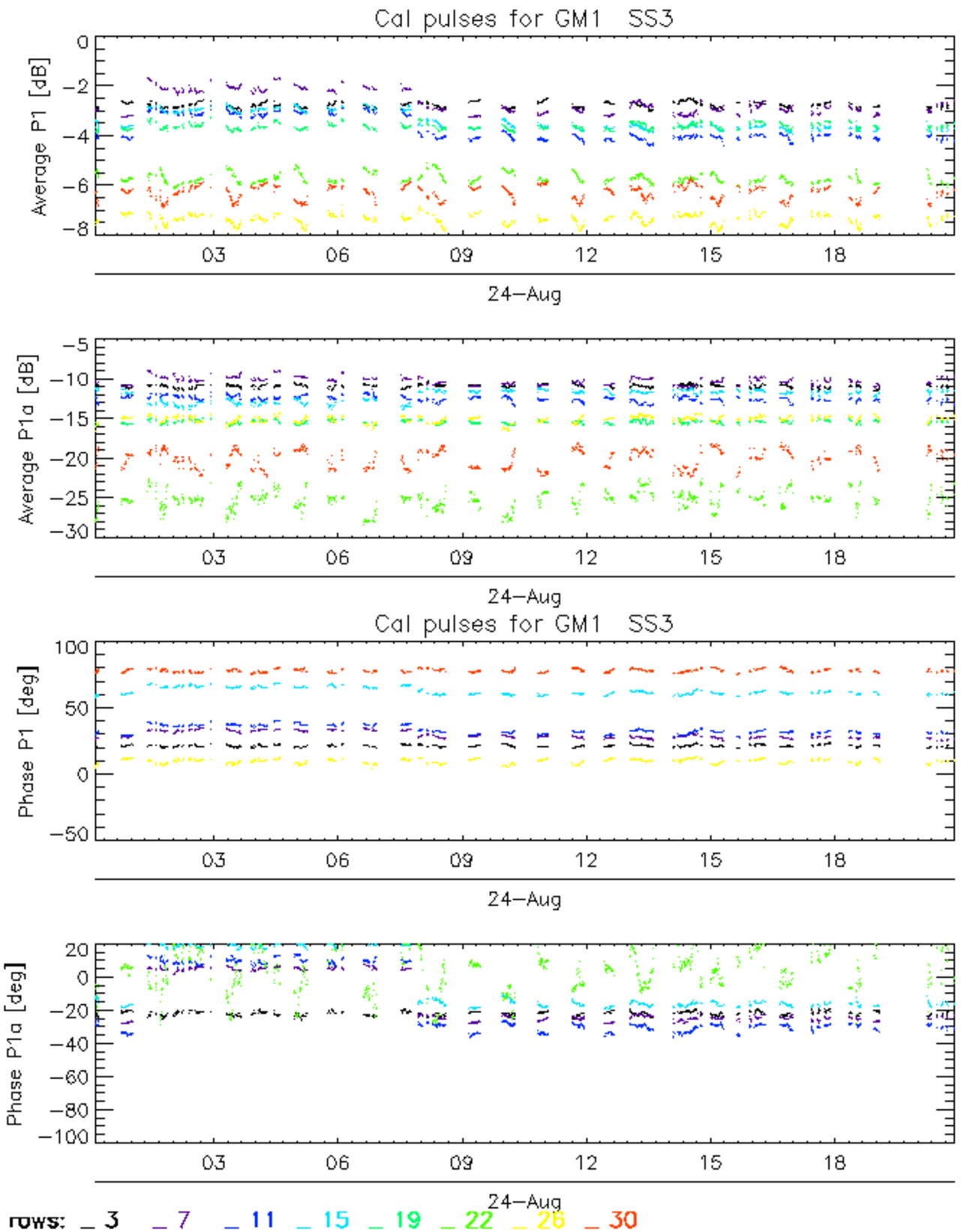
Acsending
☒
Descending

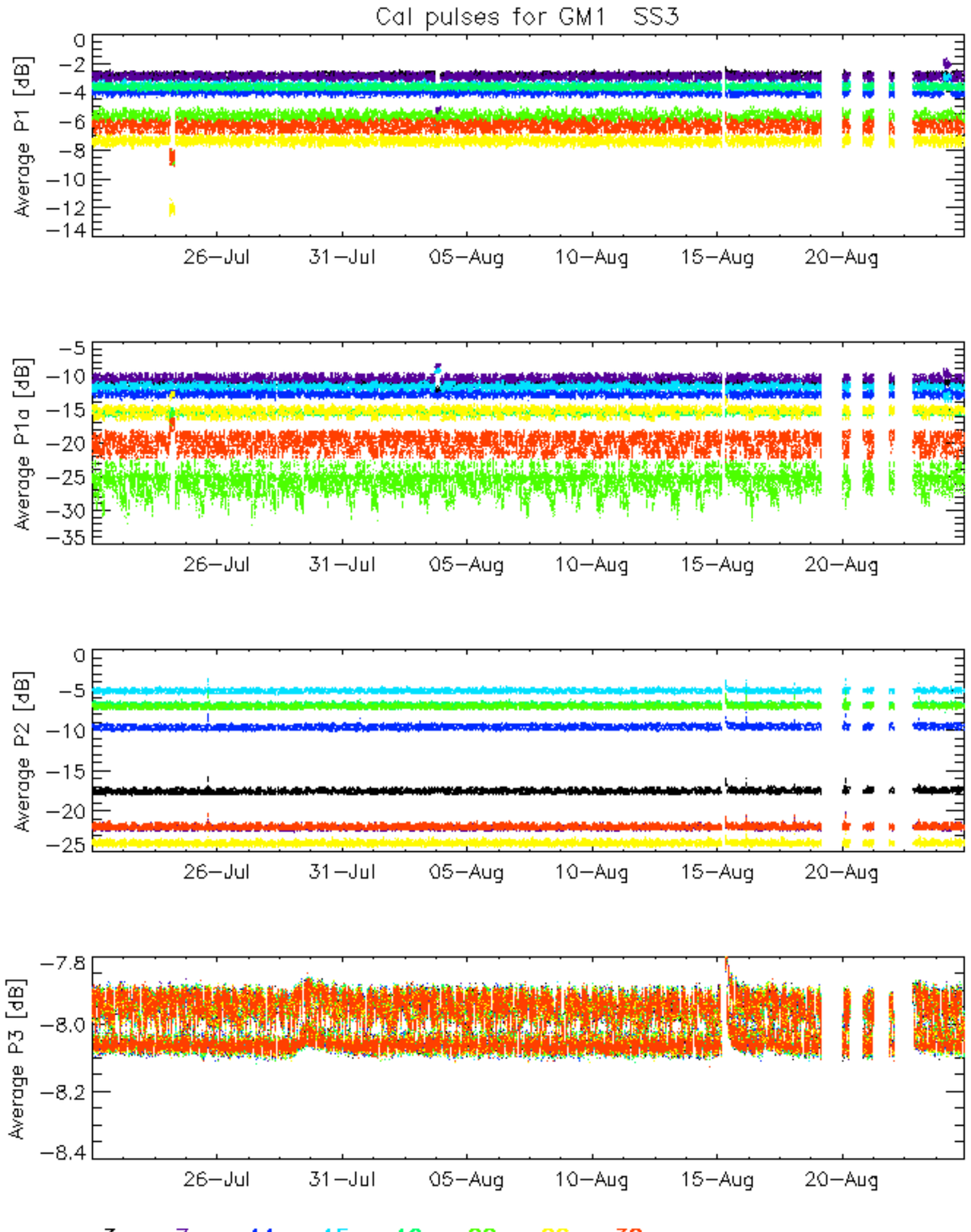
7.5 - Absolute Doppler for GM1

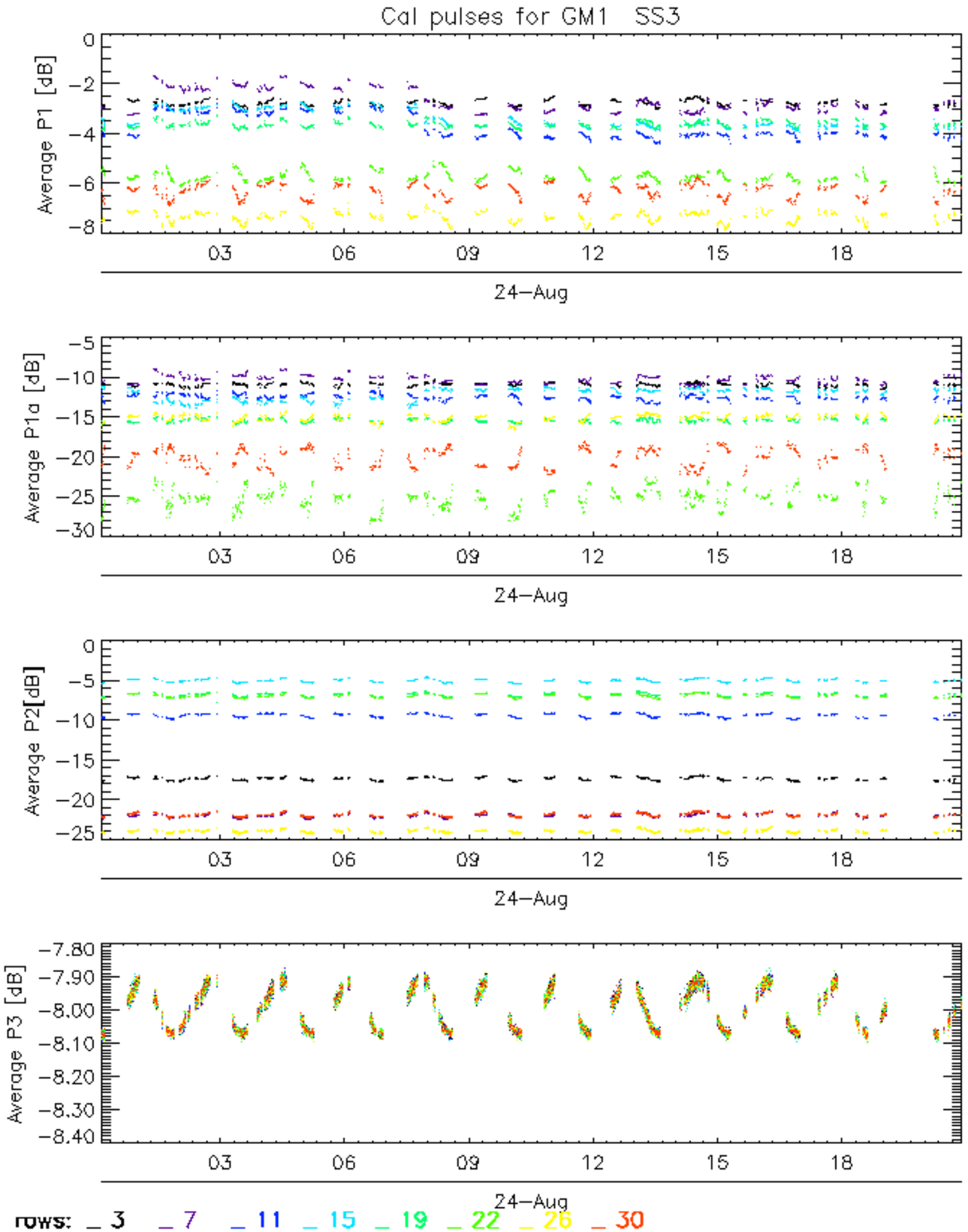
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

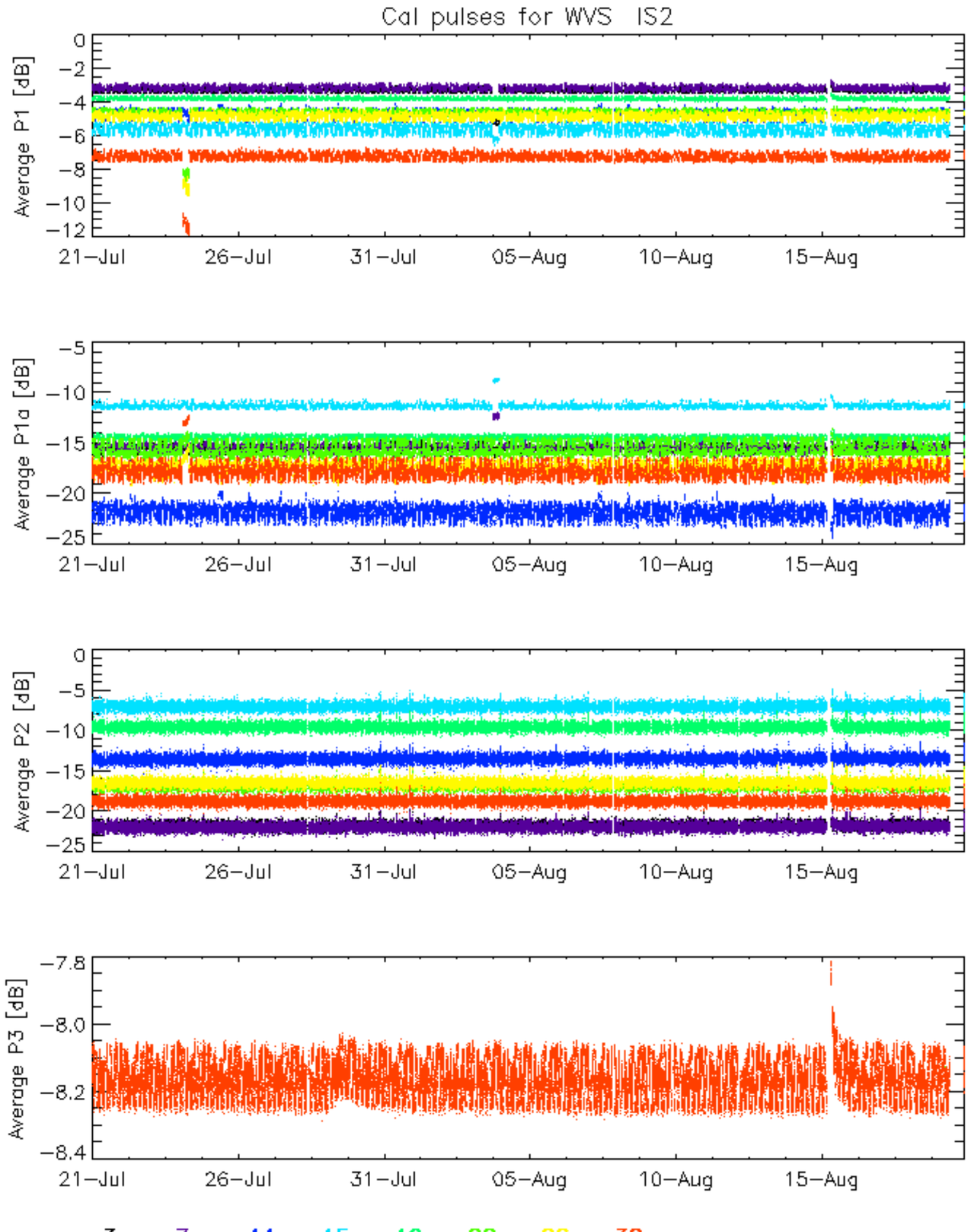
7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
☒

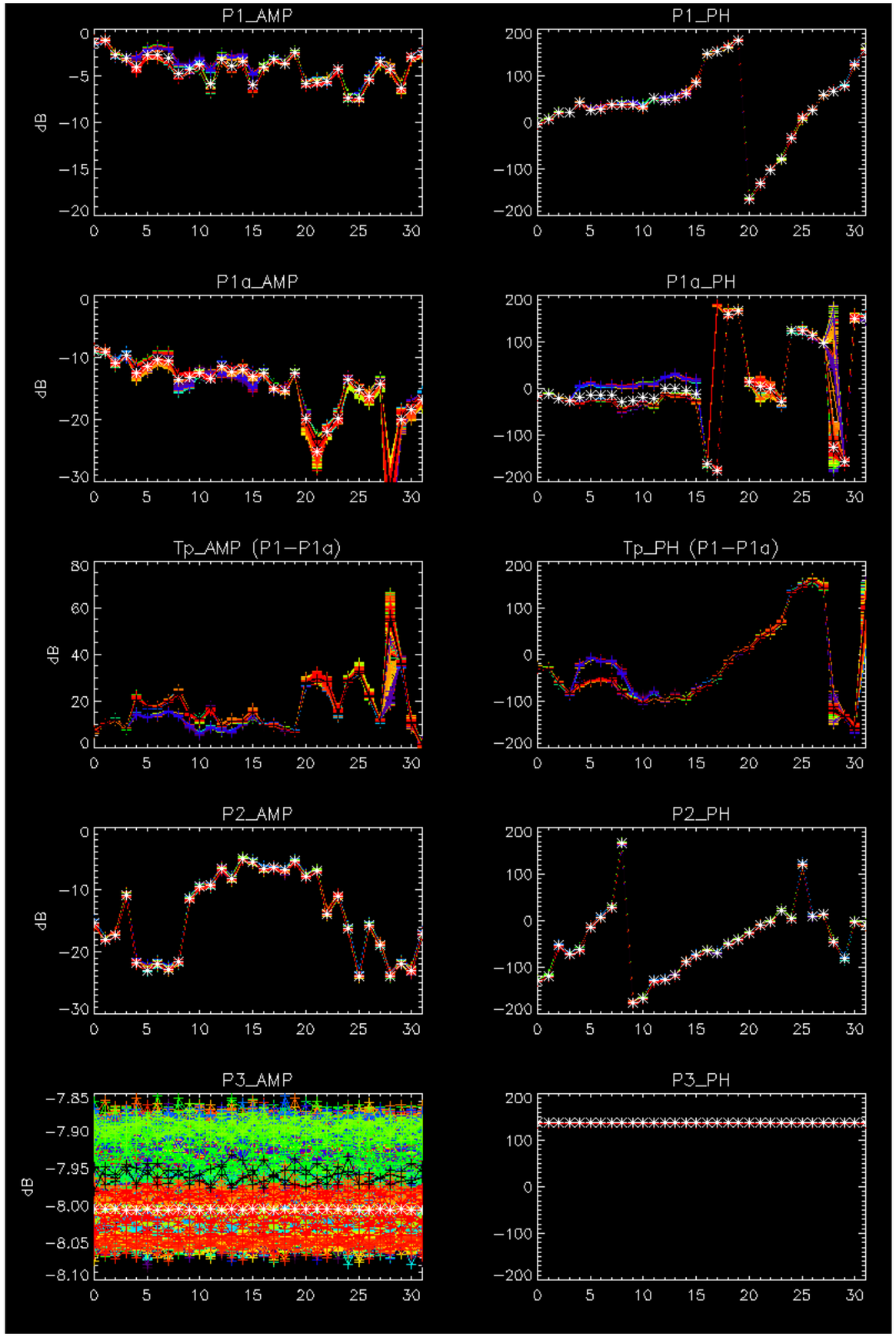

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
24−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
24−Aug
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
03
06
09
12
15
18
24−Aug
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
03
06
09
12
15
18
24−Aug
rows: 3 7 11 15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


Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
−14
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug
20−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
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 GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
24−Aug
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

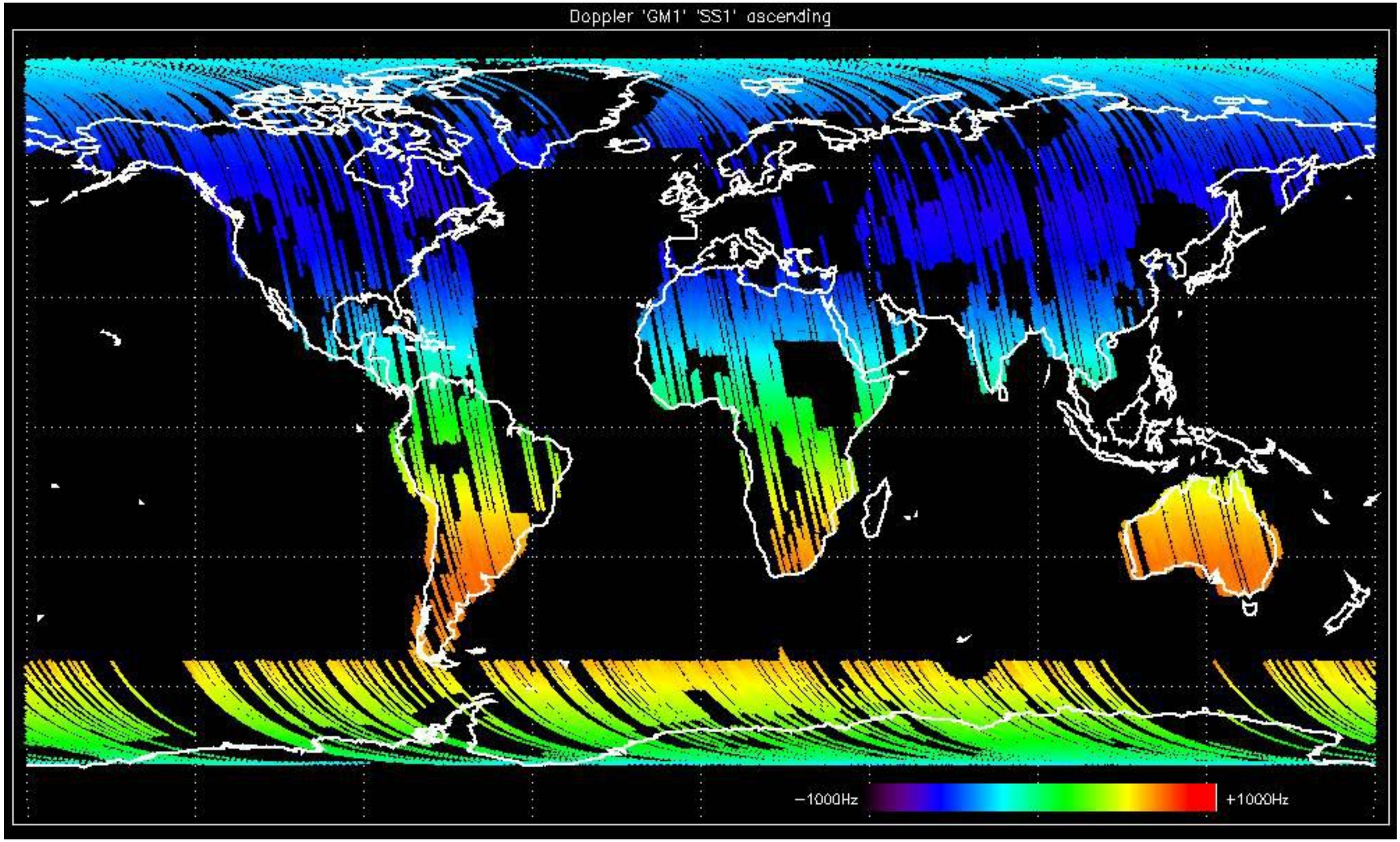

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

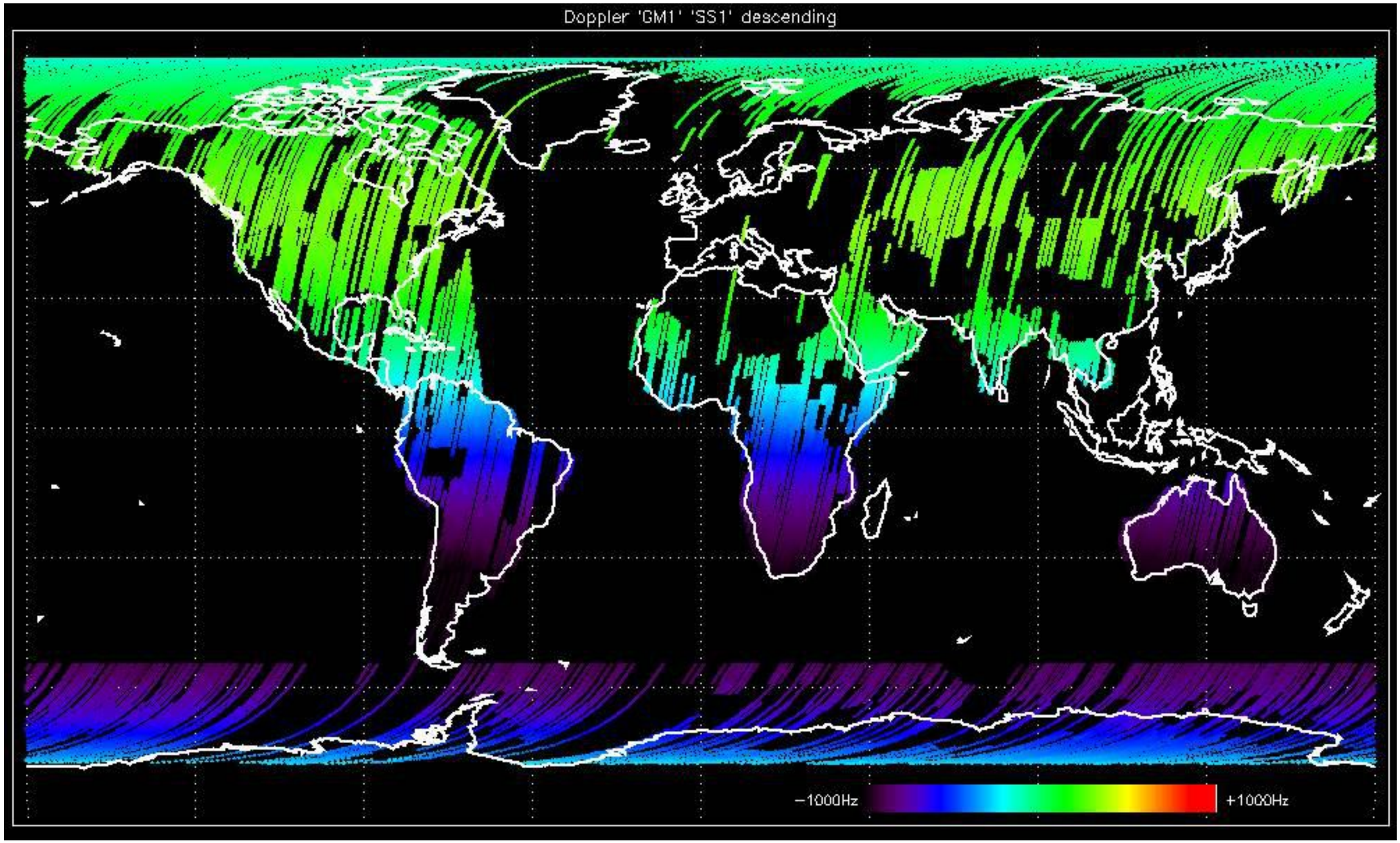
No anomalies observed.

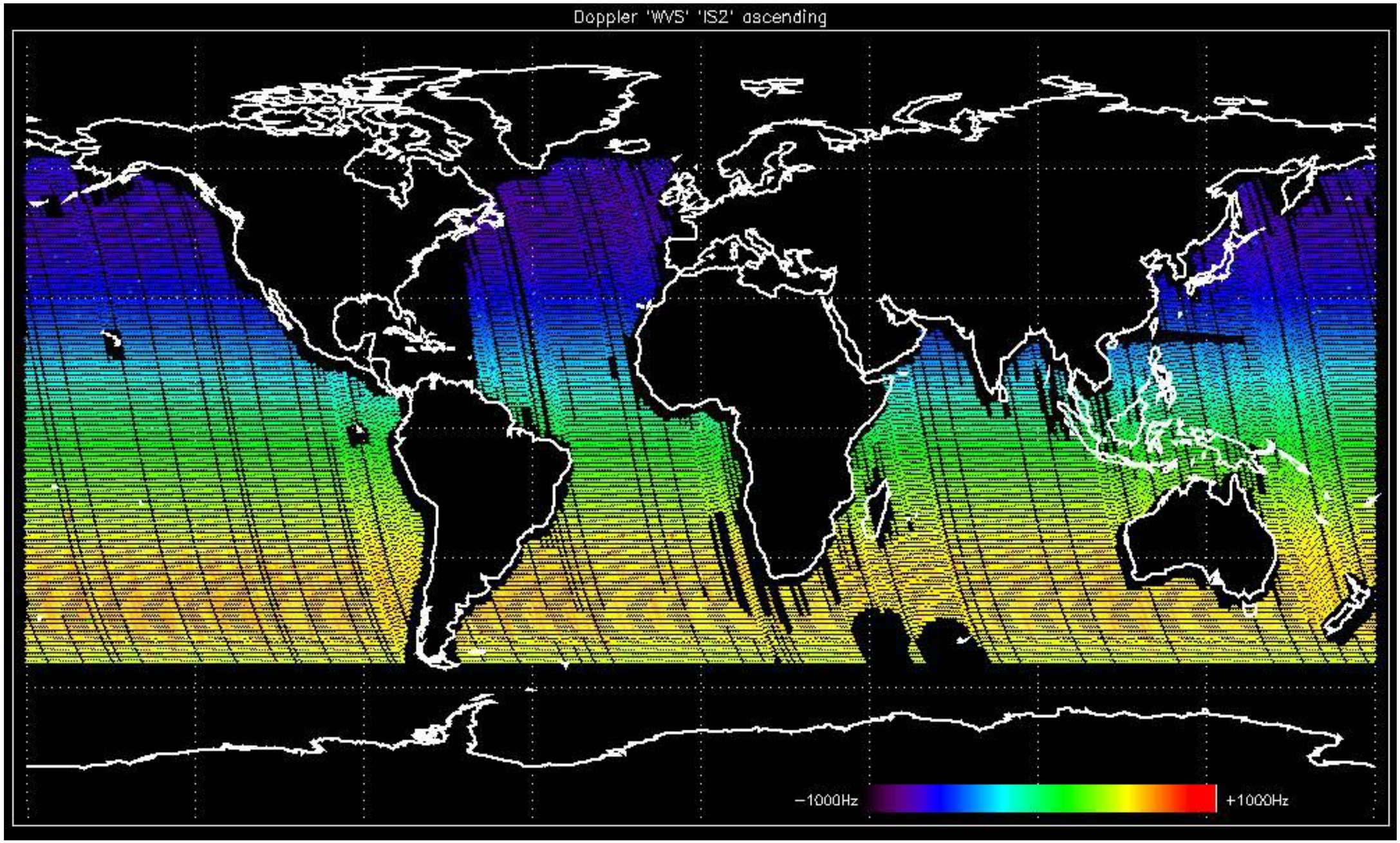

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

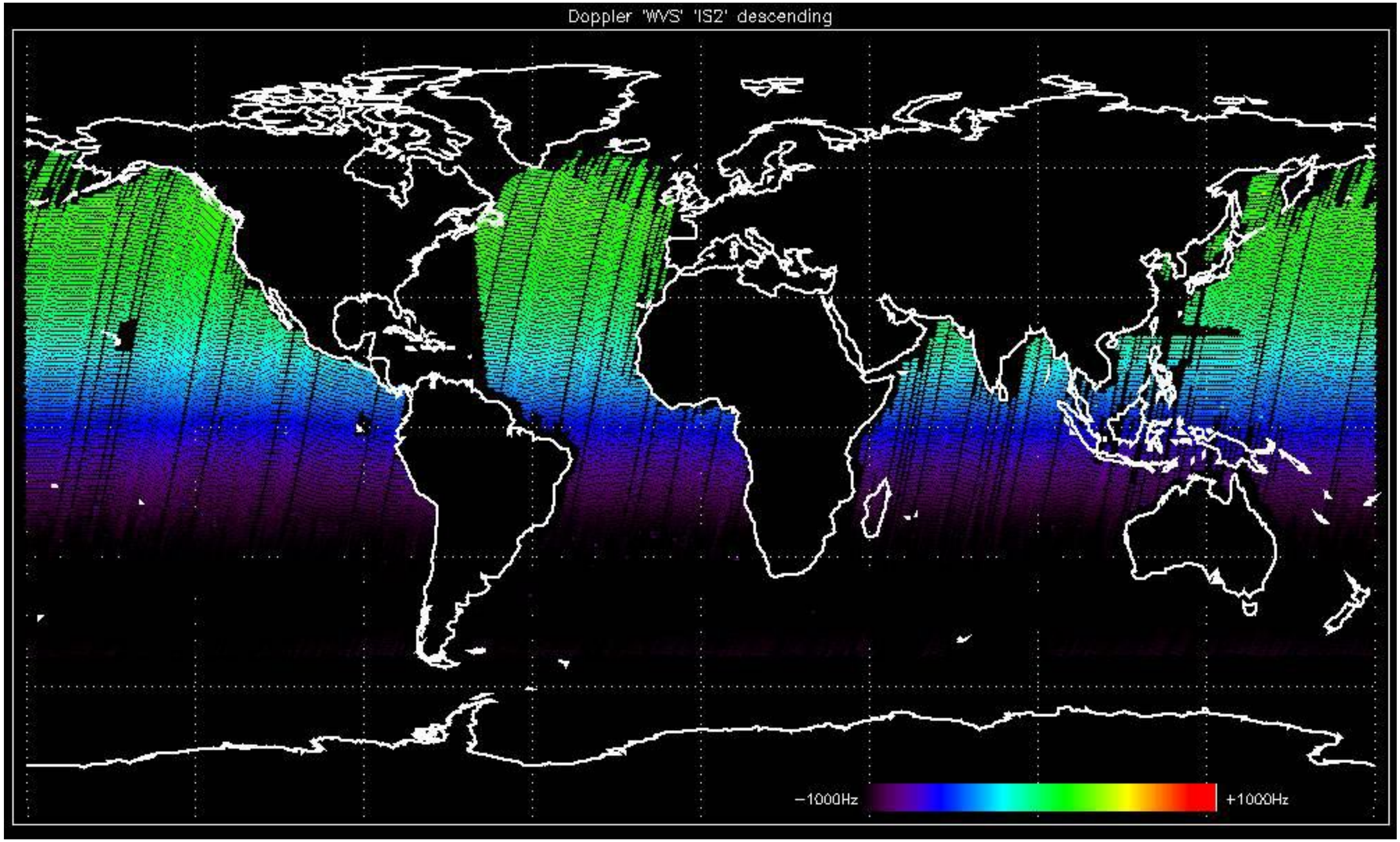
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

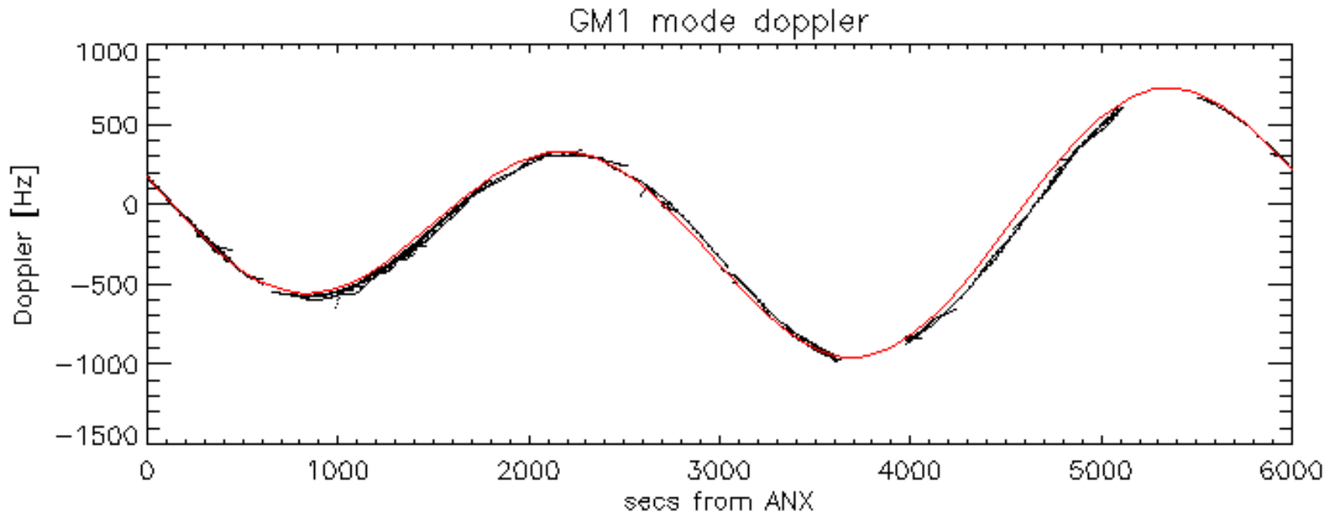
Preliminary report.The data is not yet controled

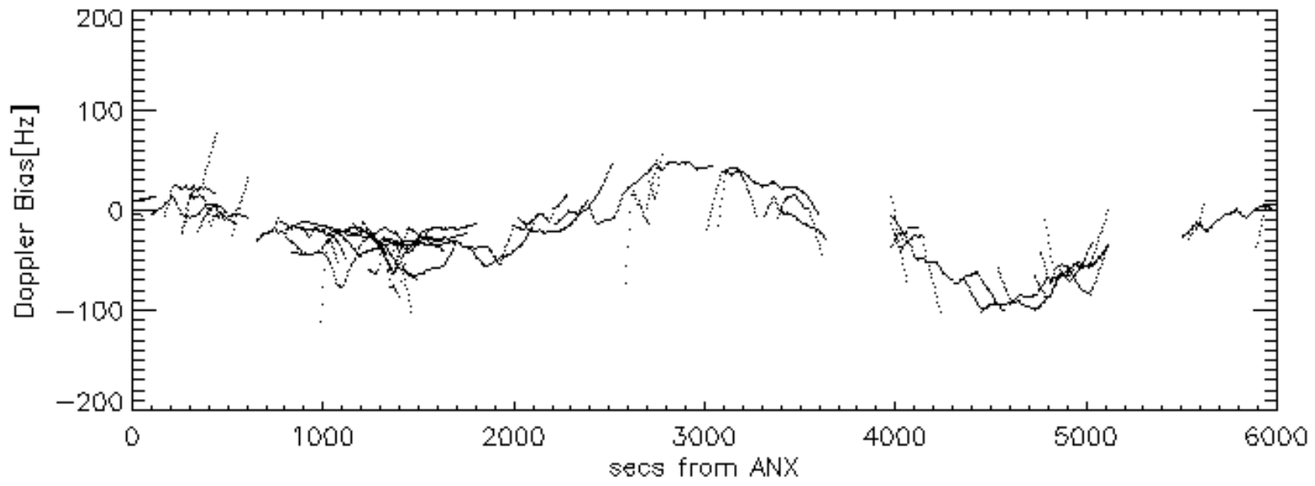

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

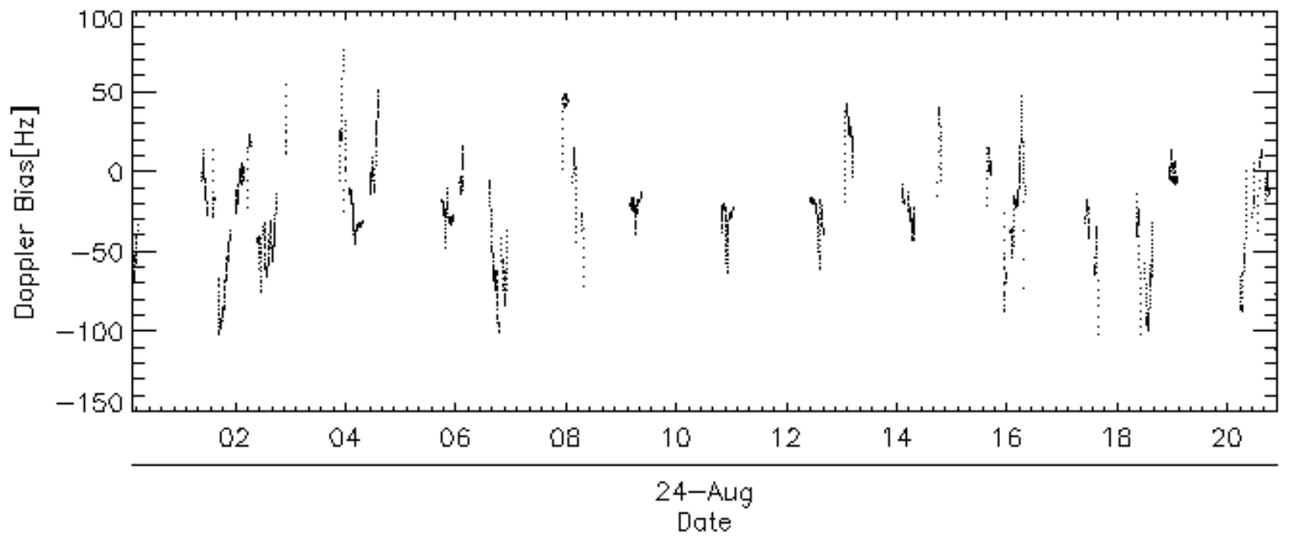

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

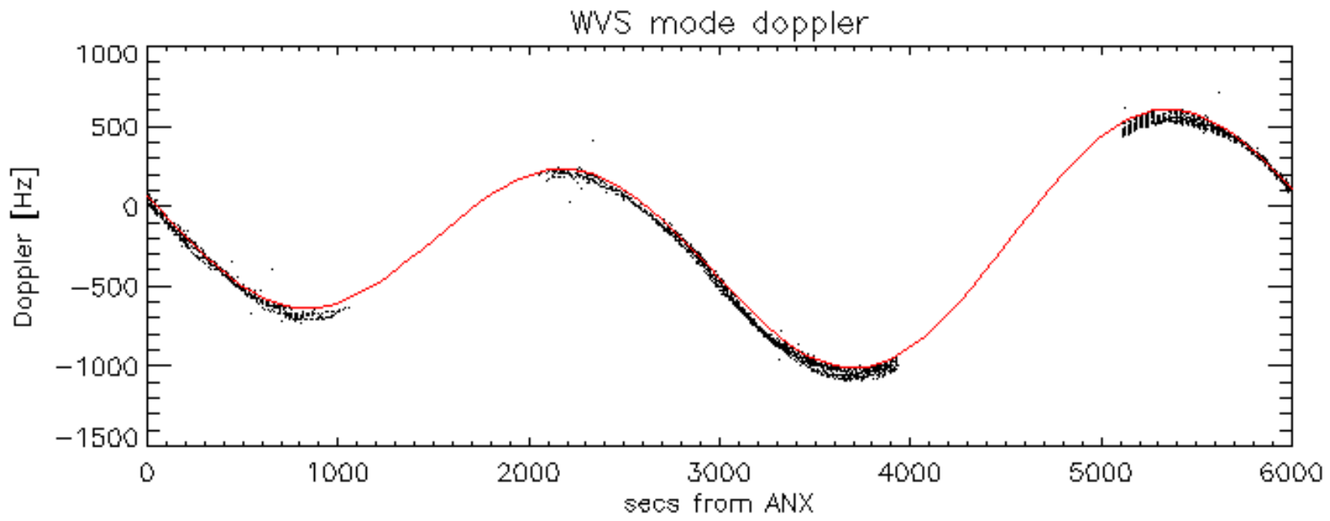

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

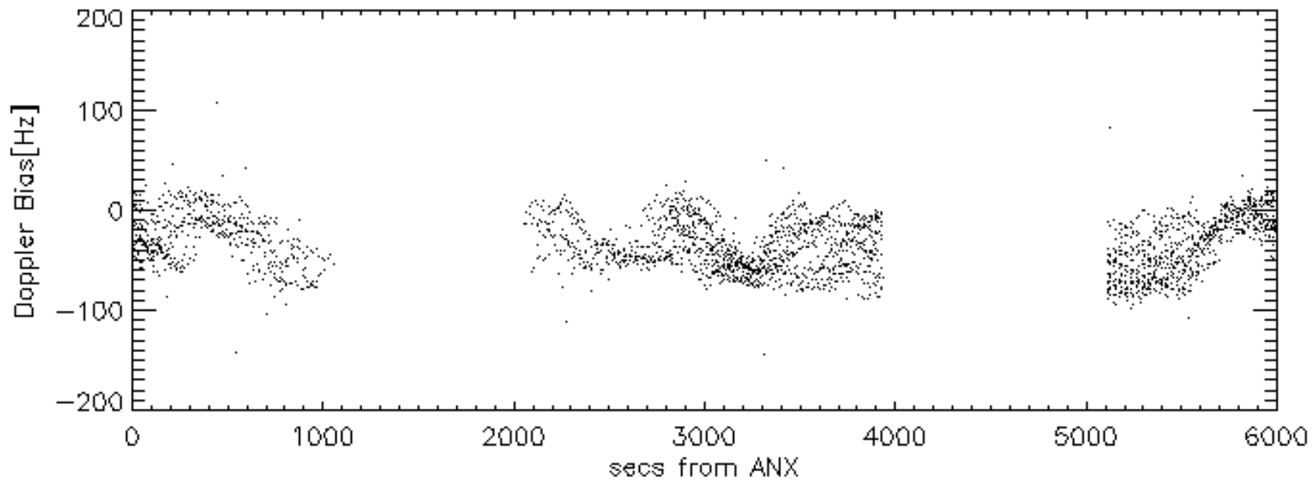

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

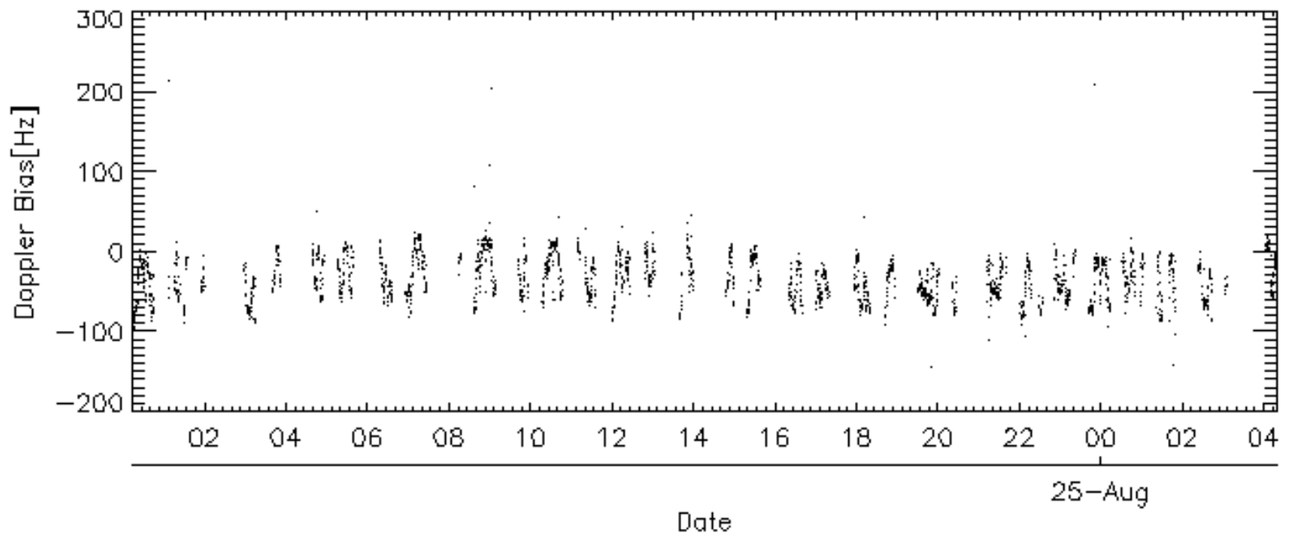

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

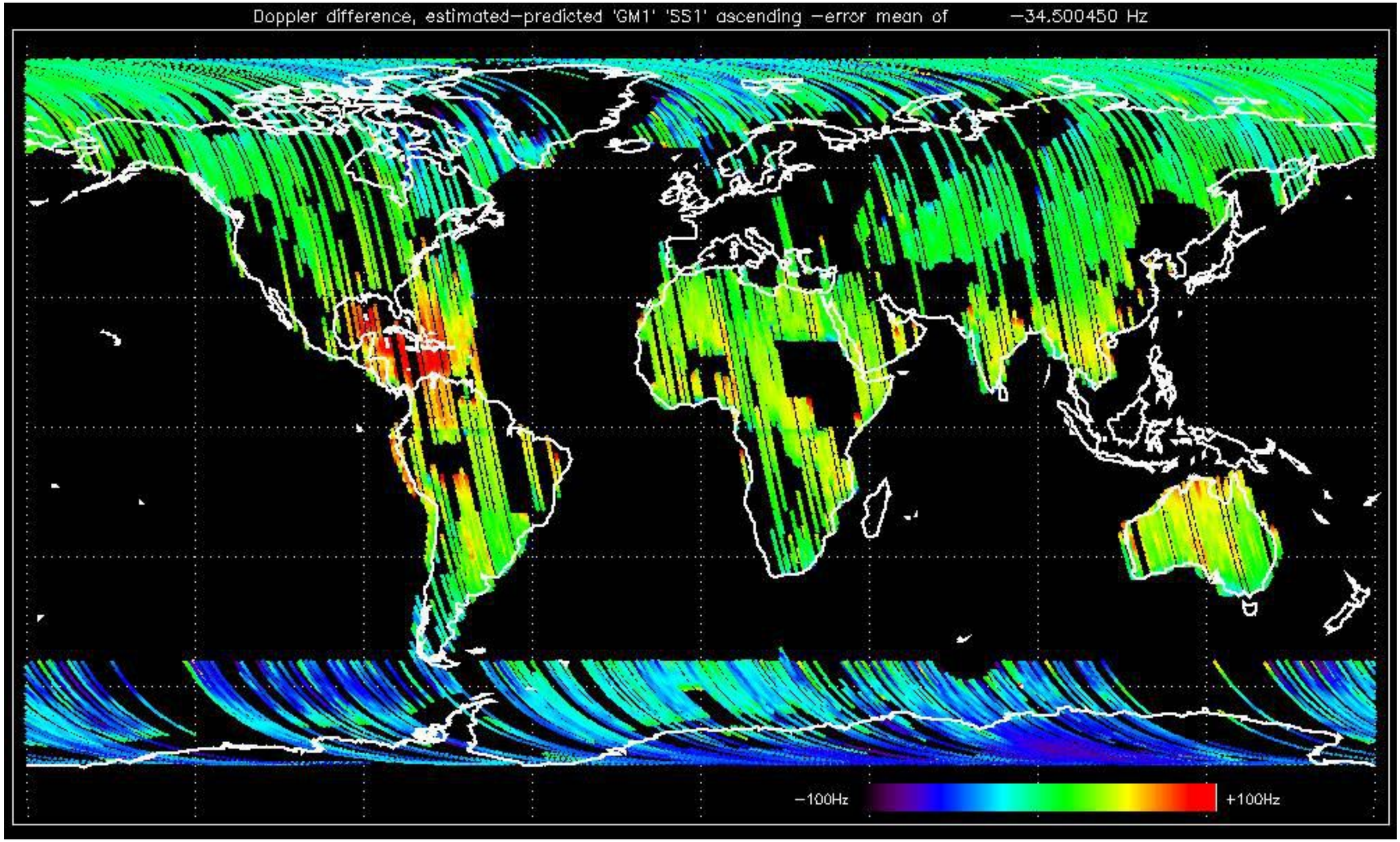

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

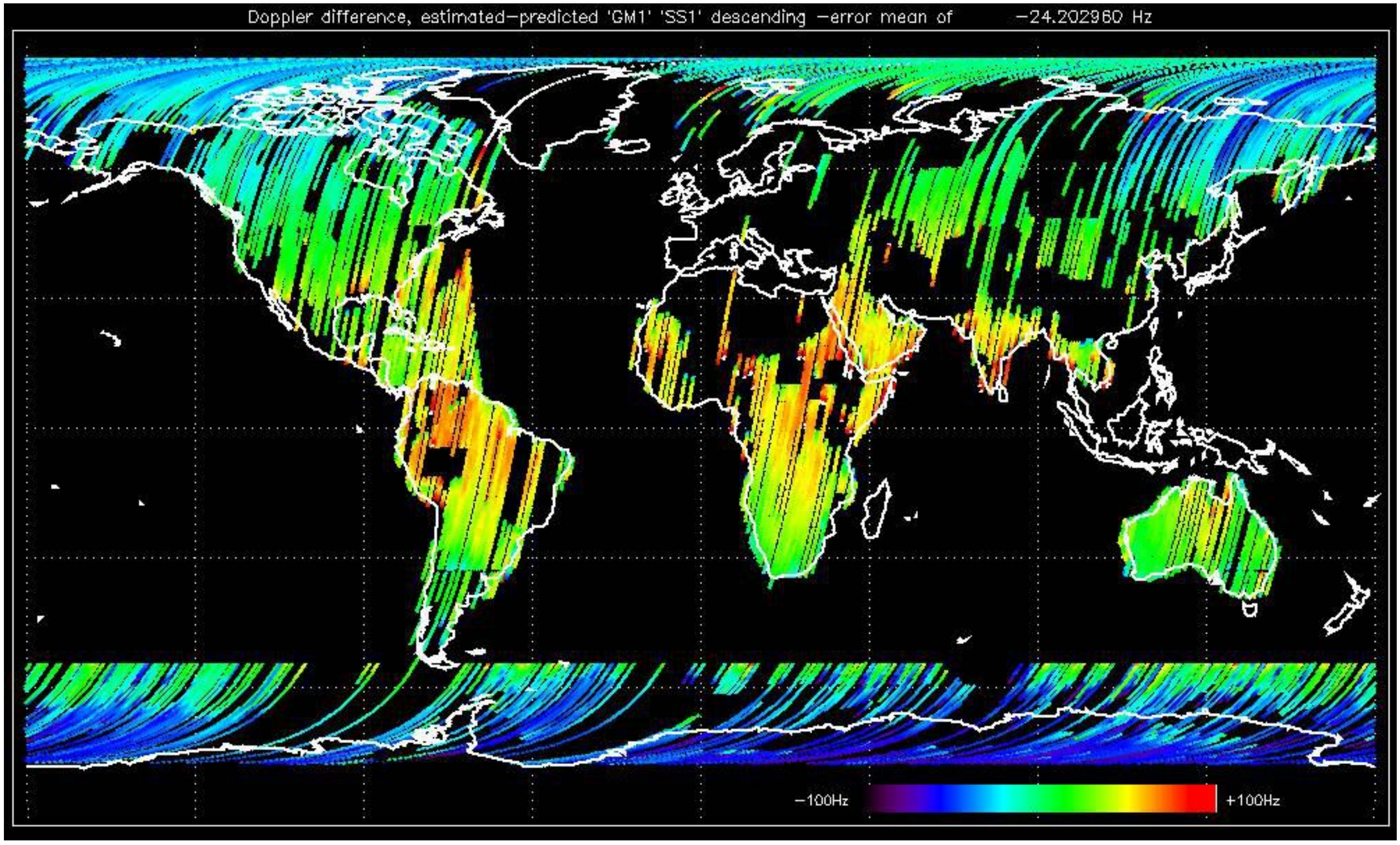

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
24−Aug
Date

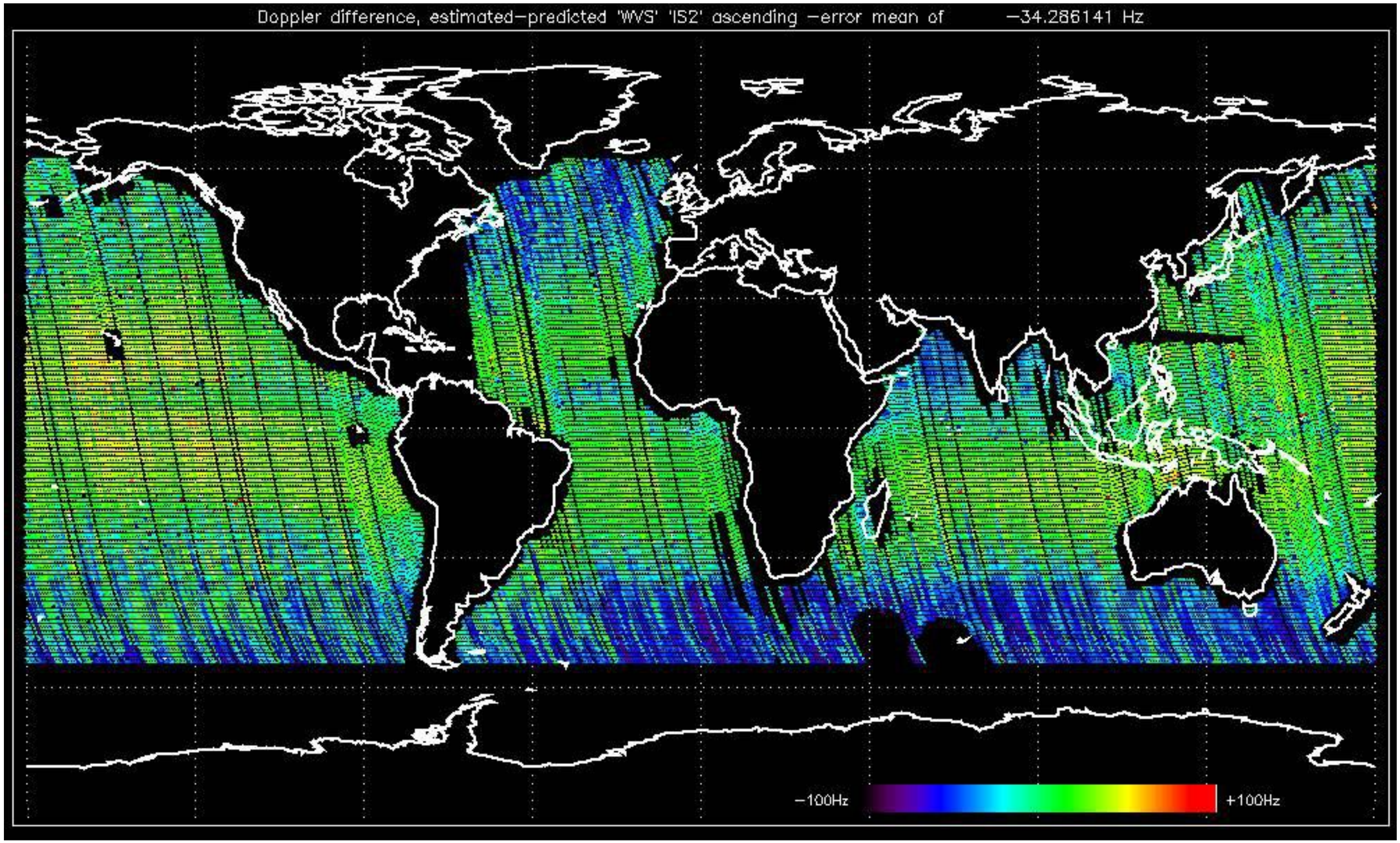

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

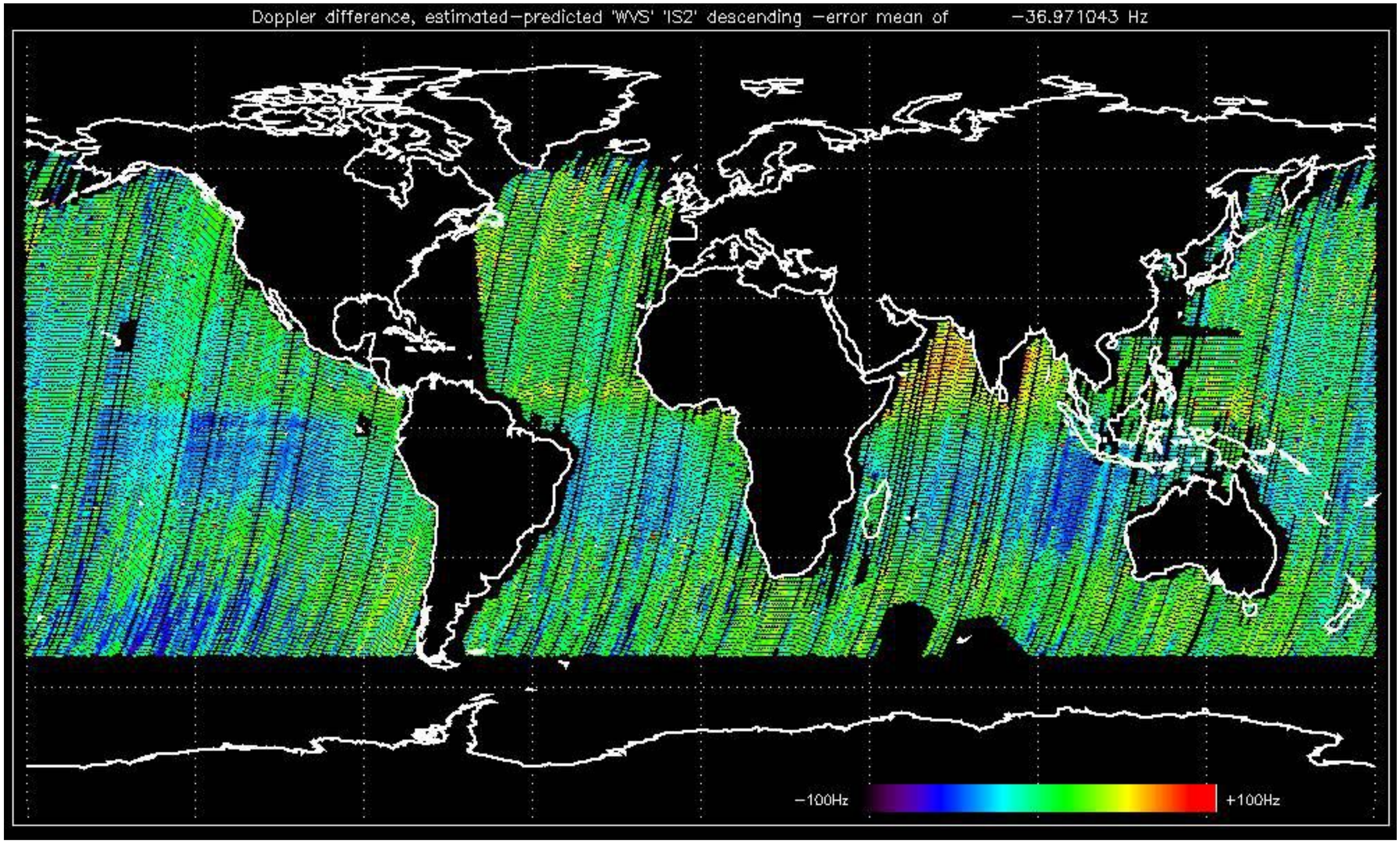

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −34.500450 Hz
−100Hz
+100Hz


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -24.202960 Hz
-100Hz
+100Hz

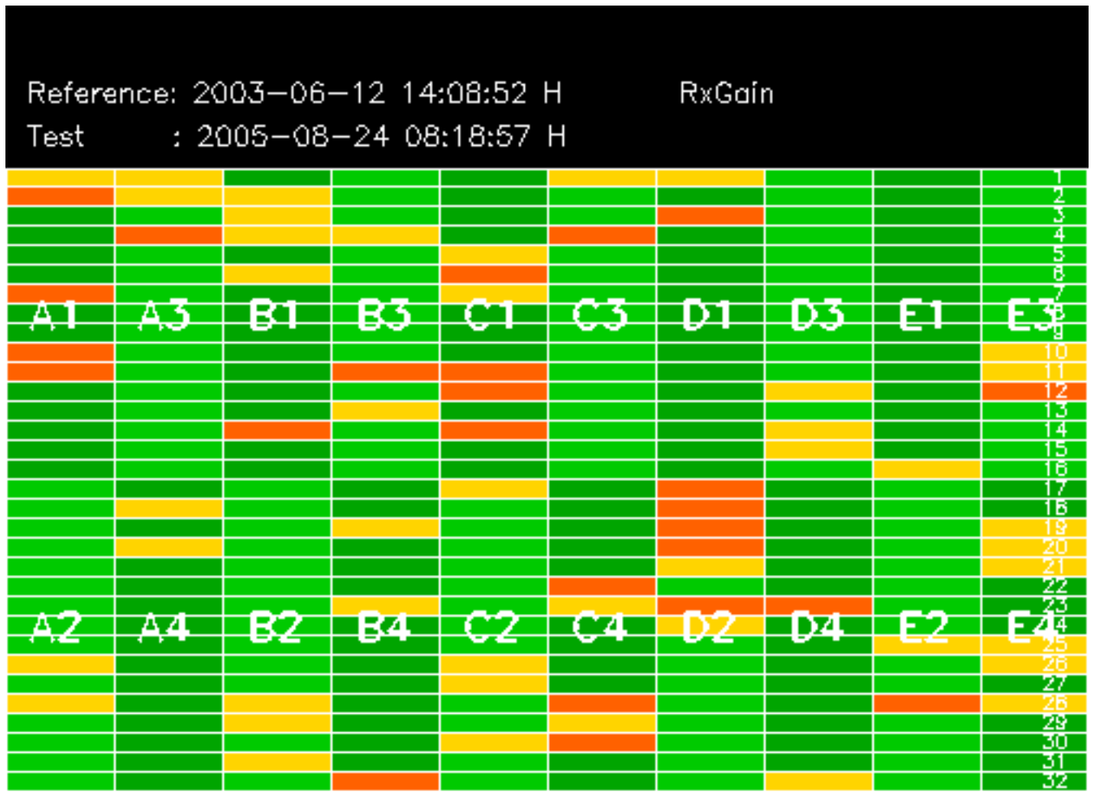

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −34.286141 Hz
−100Hz
+100Hz

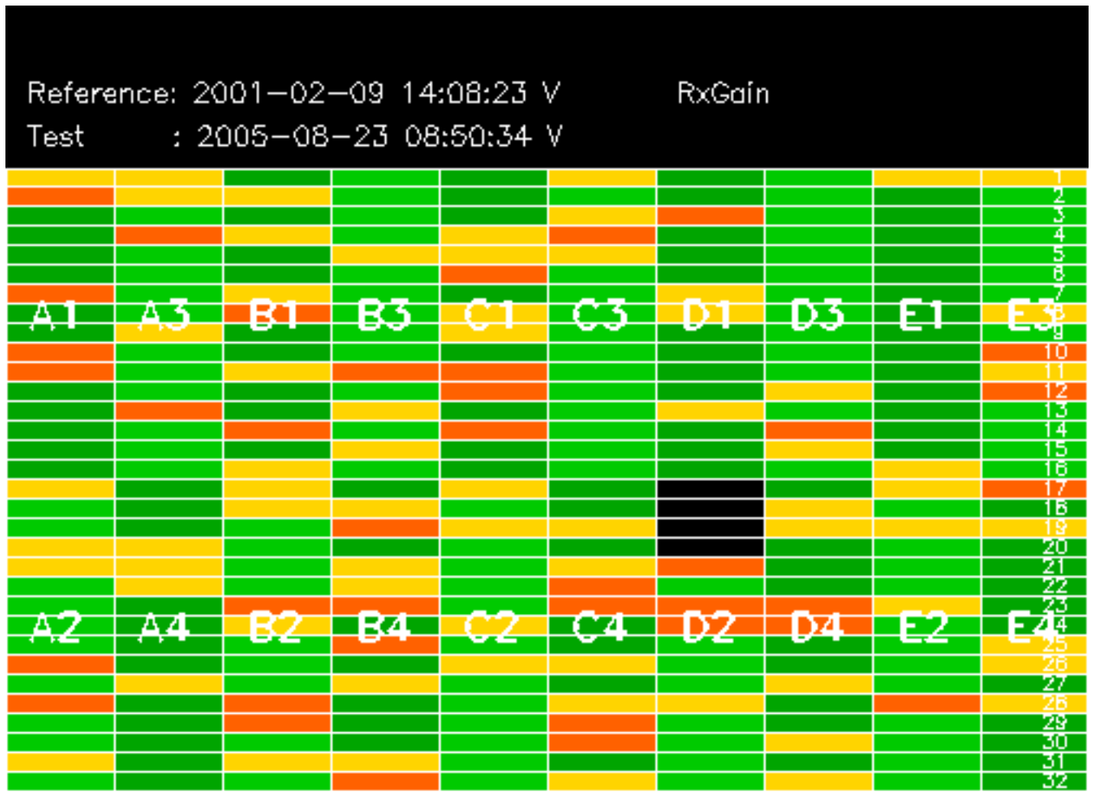

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −36.971043 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

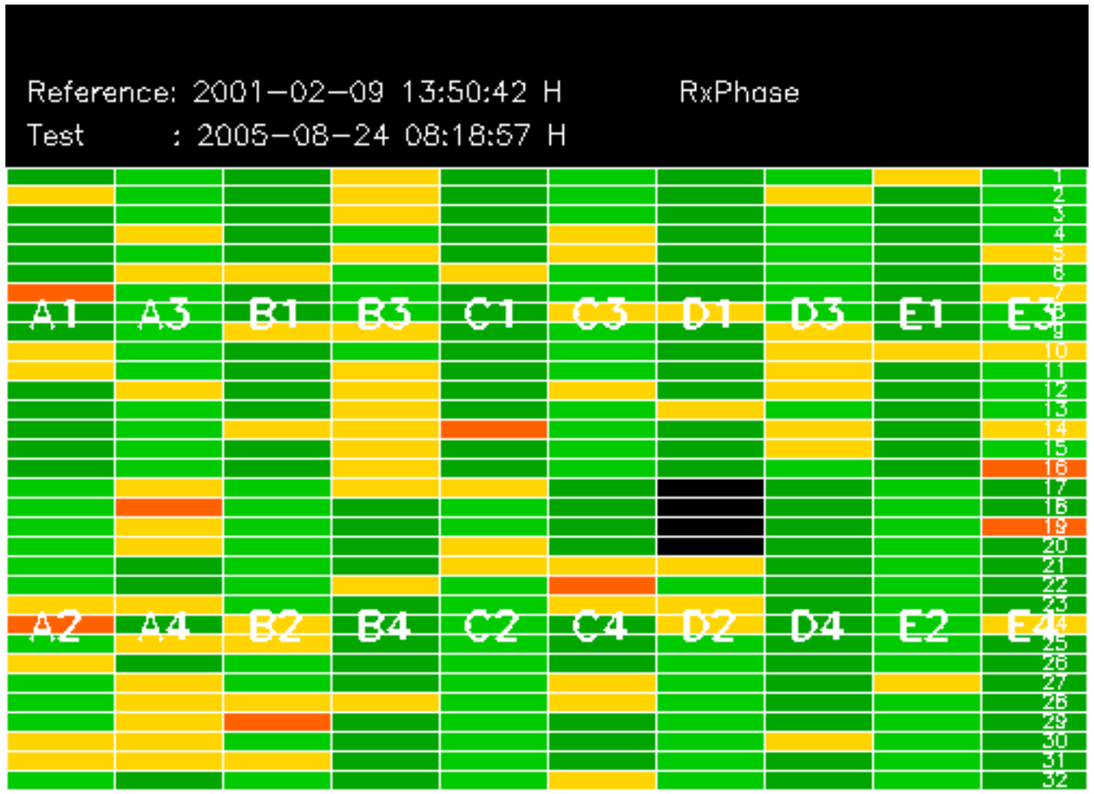
No anomalies observed.

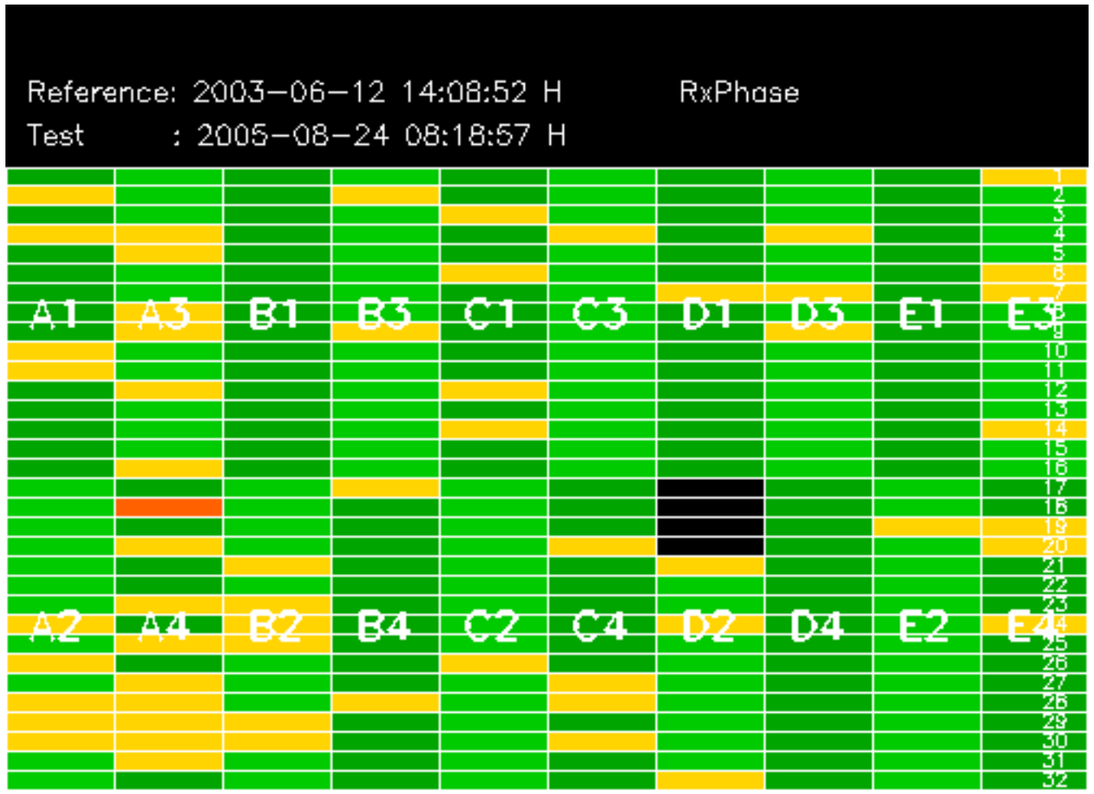
Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2005-08-24 08:18:57 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2005-08-24 08:18:57 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 : 2005-08-23 08:50:34 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 : 2005-08-23 08:50:34 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 : 2005-08-24 08:18:57 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
RxPhase
Test : 2005-08-24 08:18:57 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
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8
9
10
11
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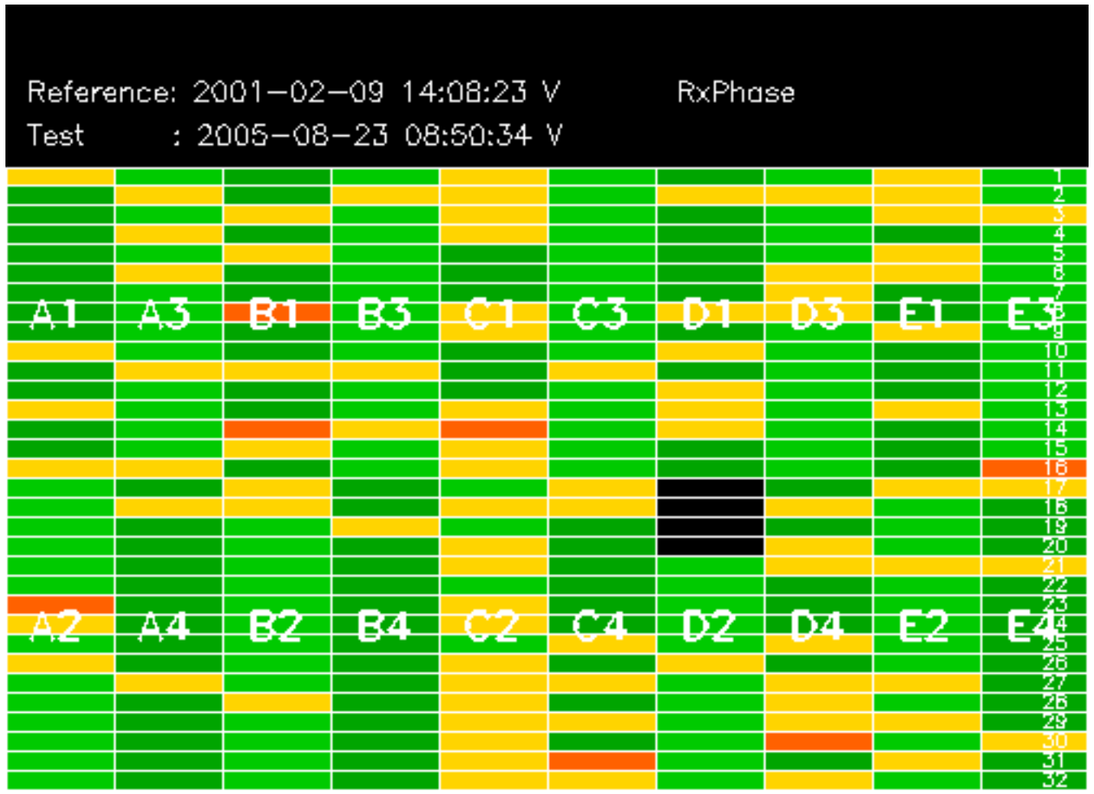
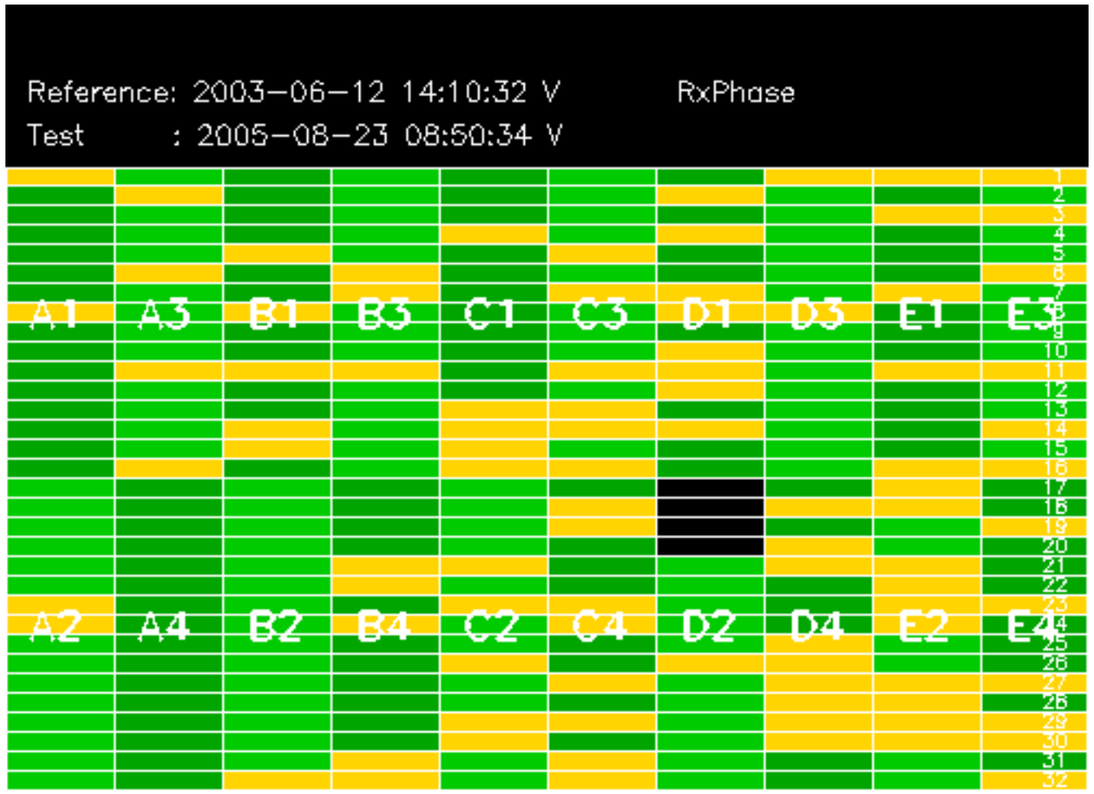
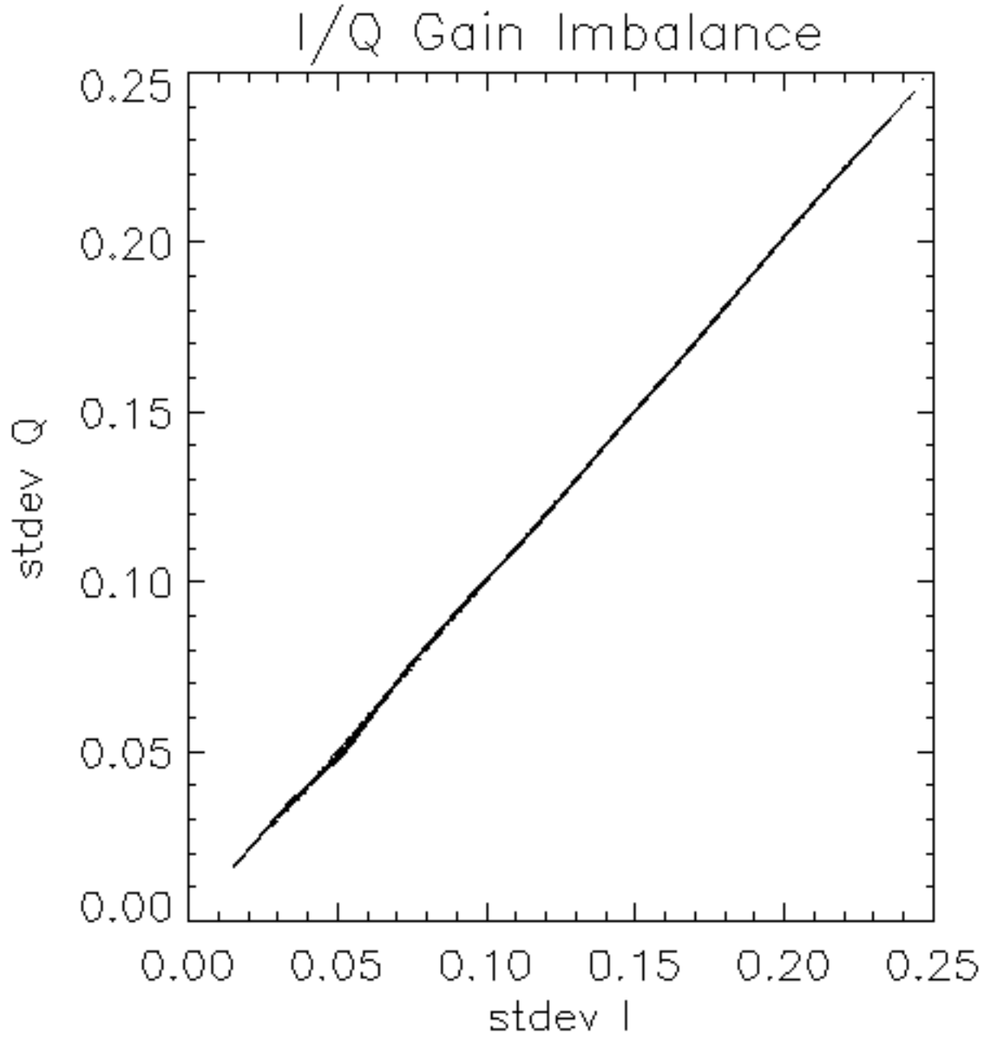
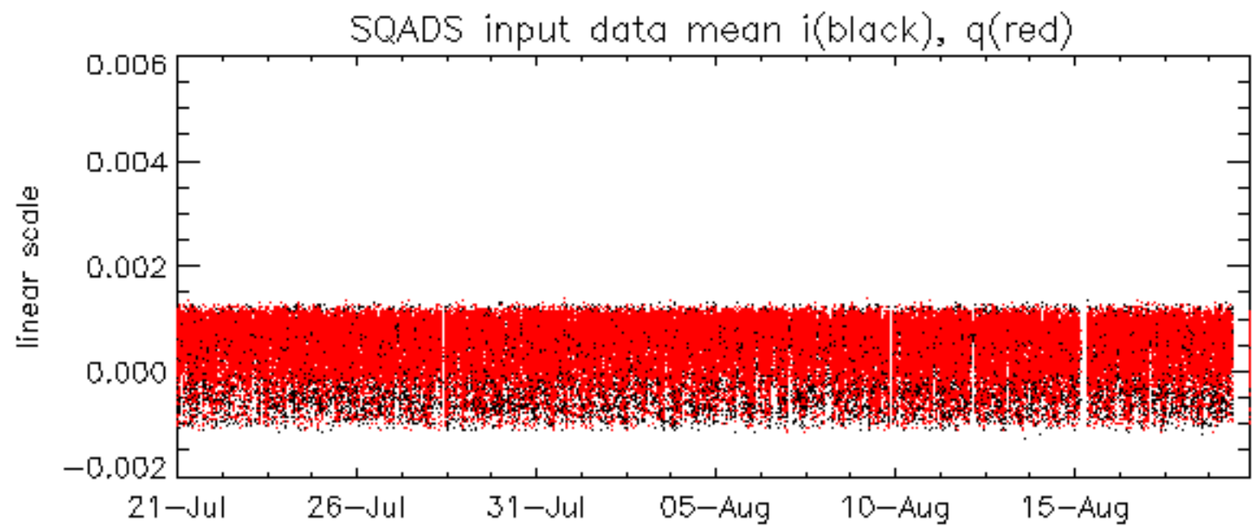
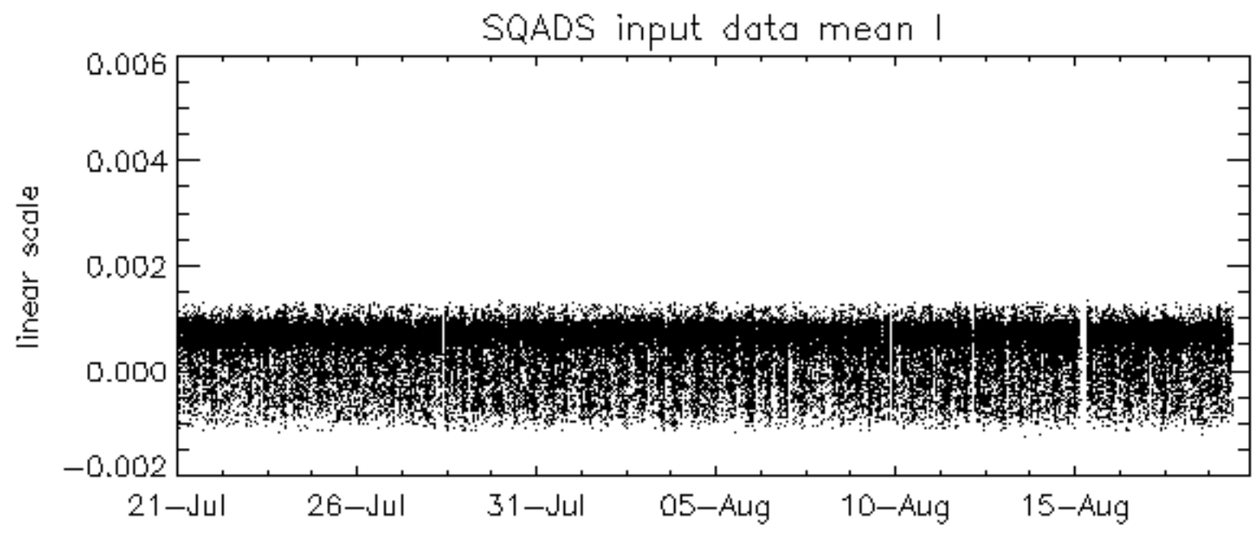
31
32

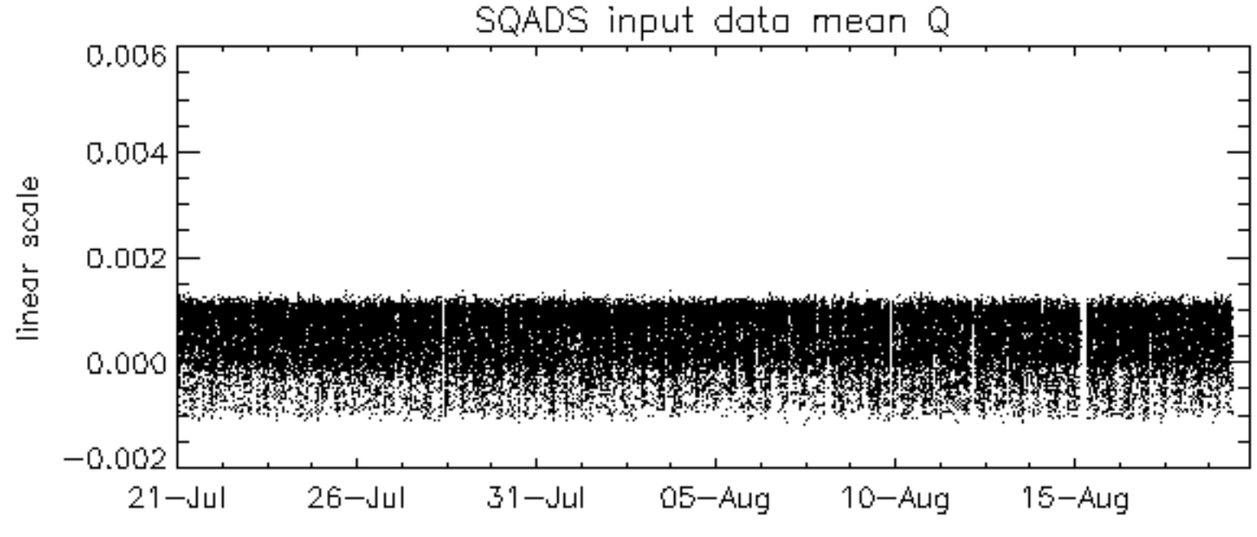

Reference: 2001-02-09 14:08:23 V
Test : 2005-08-23 08:50:34 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

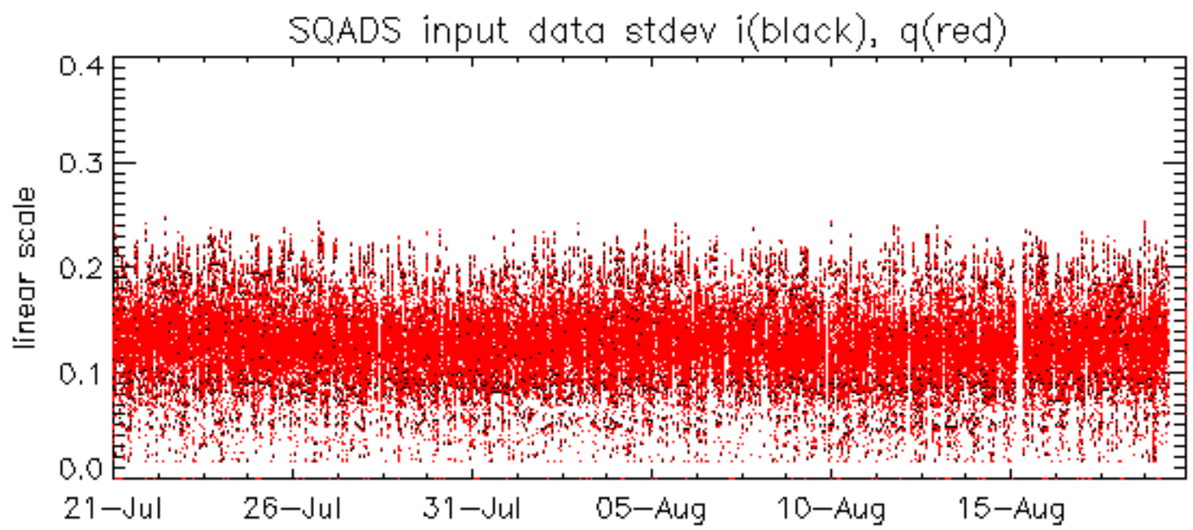

Reference: 2003-06-12 14:10:32 V
Test : 2005-08-23 08:50:34 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

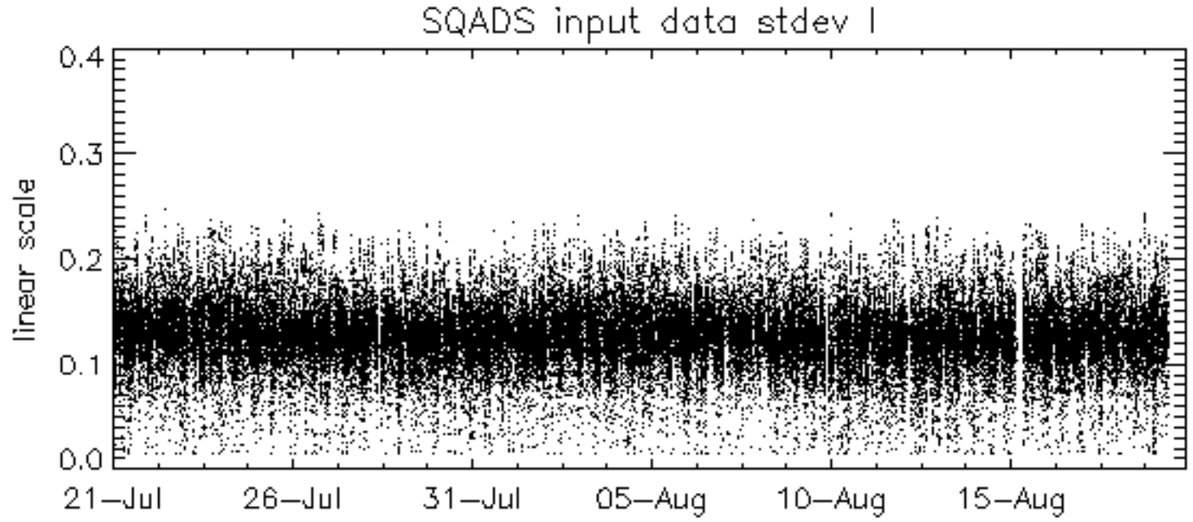

I/Q Gain Imbalance
stdev Q
0.25
0.20
0.15
0.10
0.05
0.00
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

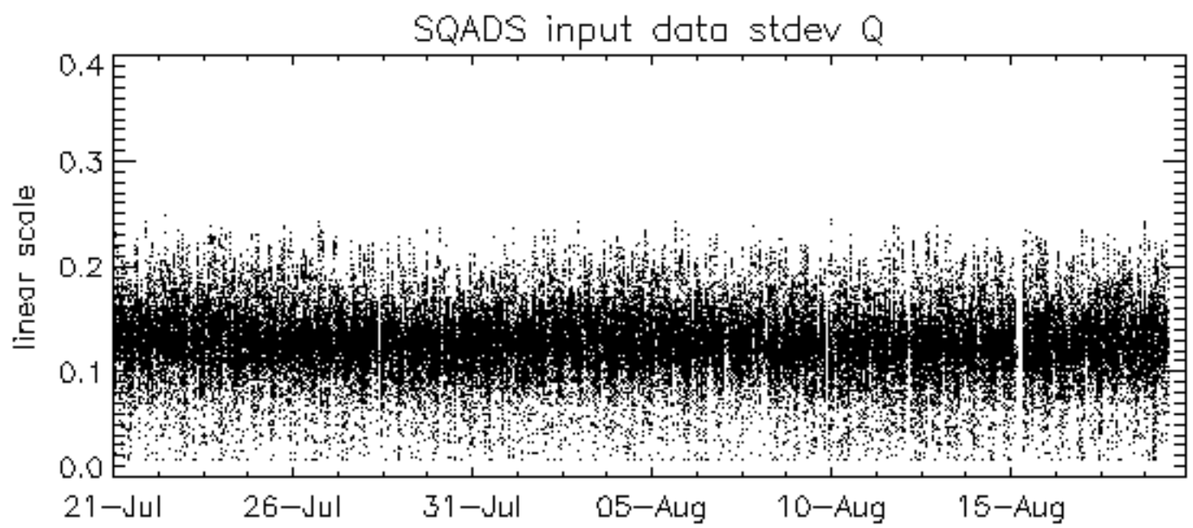

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug

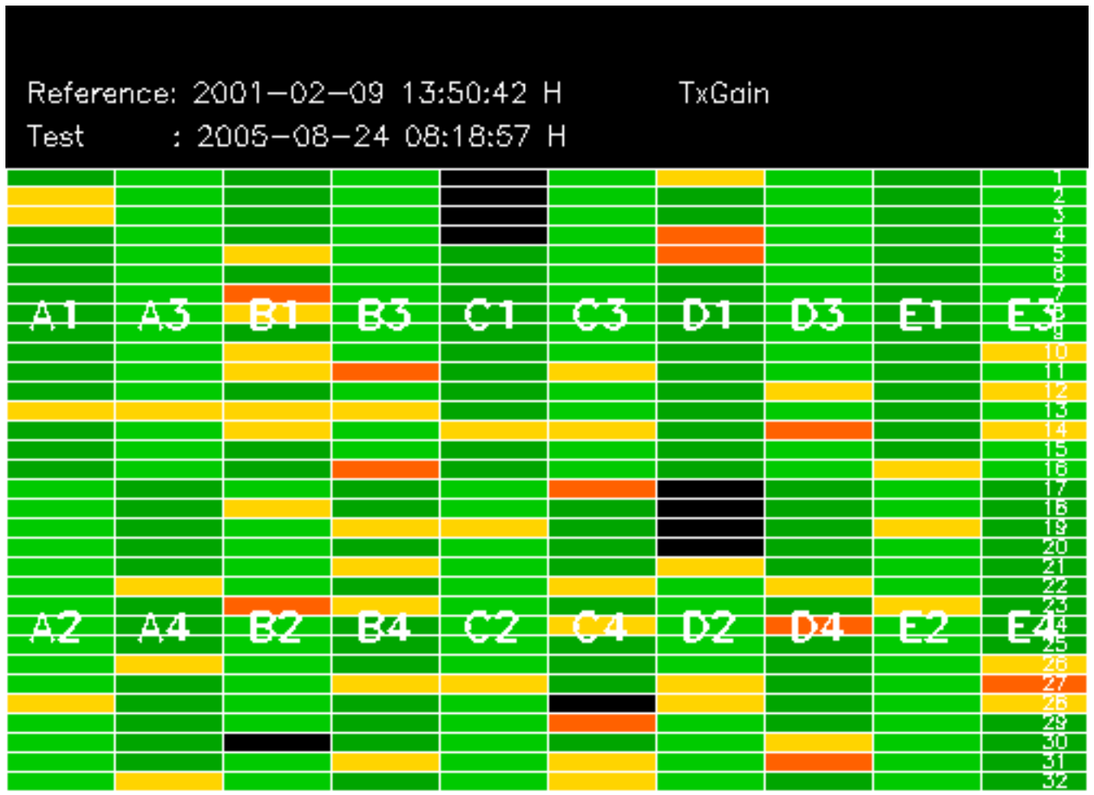

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2005-08-24 08:18:57 H
TxGain
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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8
9
10
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22
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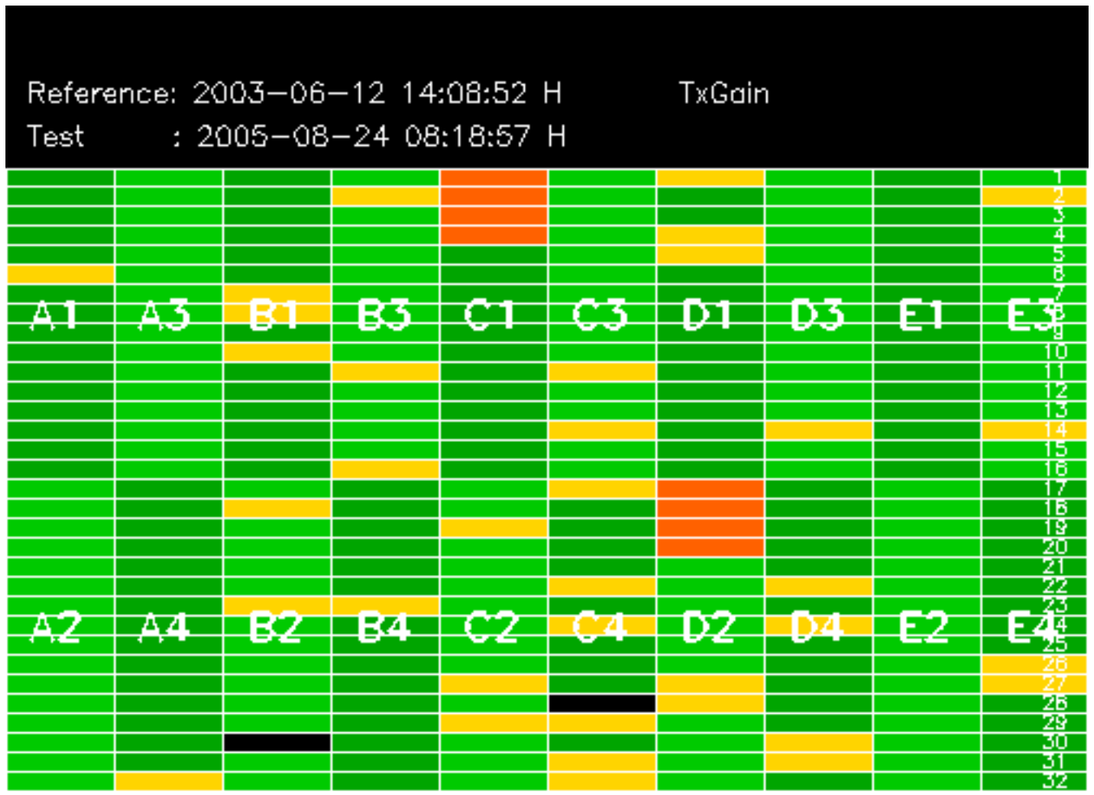
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-08-24 08:18:57 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 : 2005-08-23 08:50:34 V
TxGain
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
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14
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16
17
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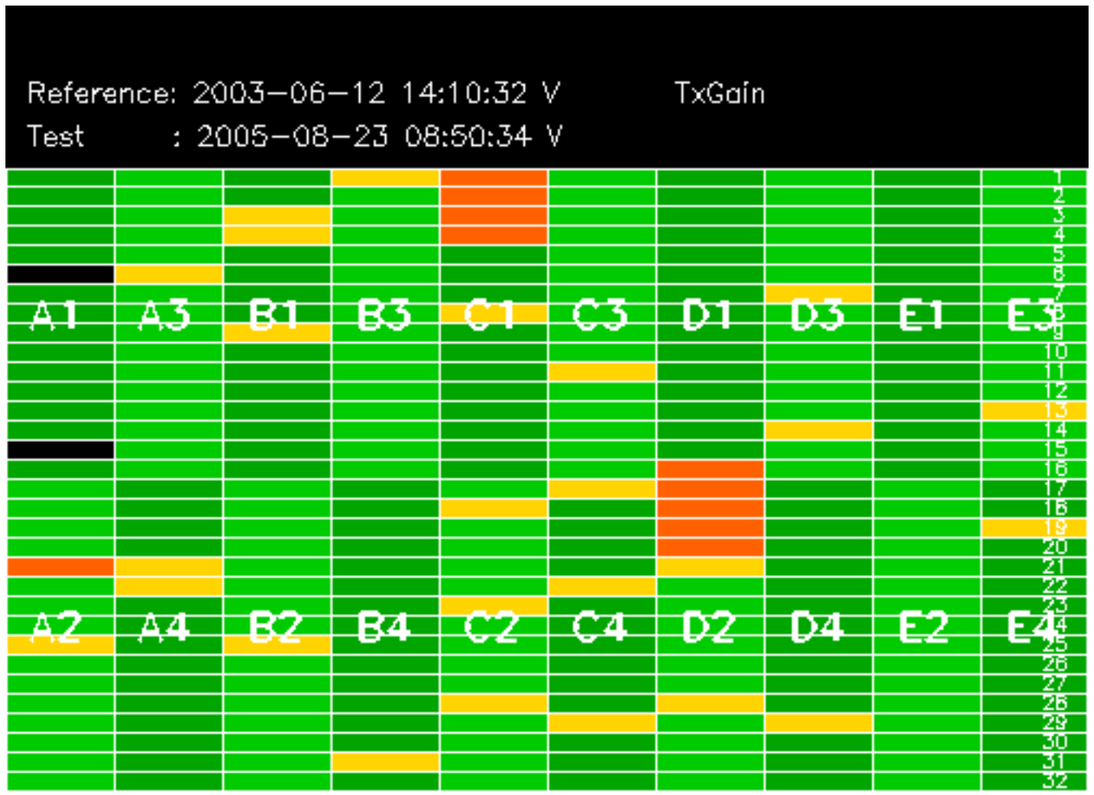
21
22
23
24
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:10:32 V
Test : 2005-08-23 08:50:34 V
TxGain
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
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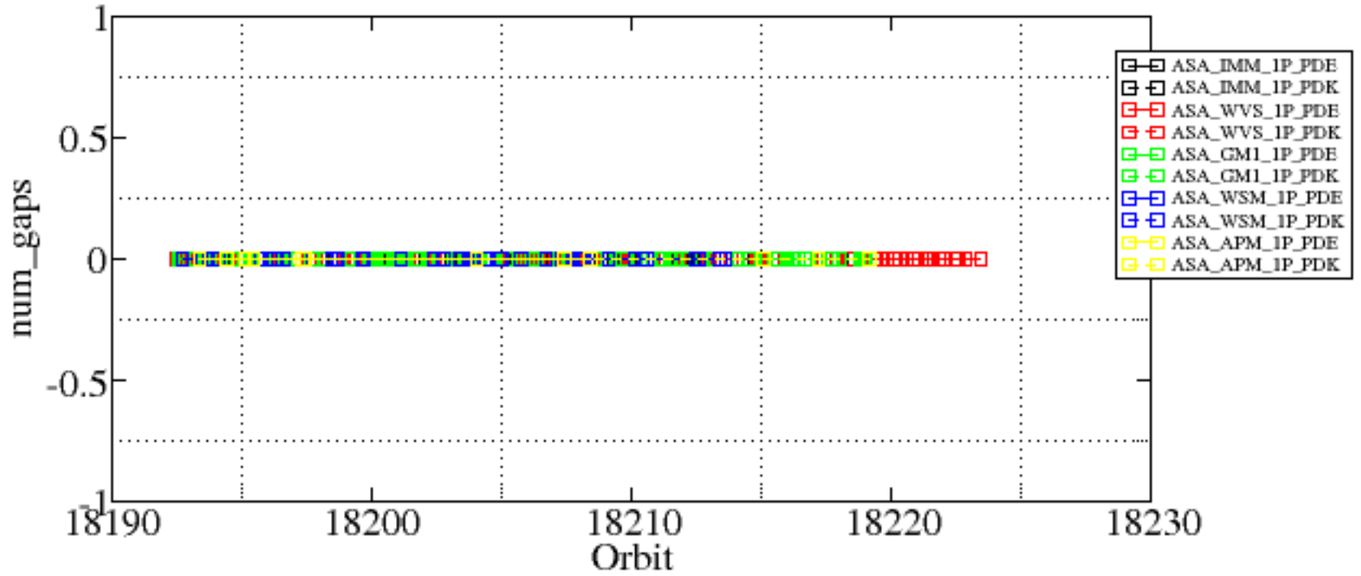
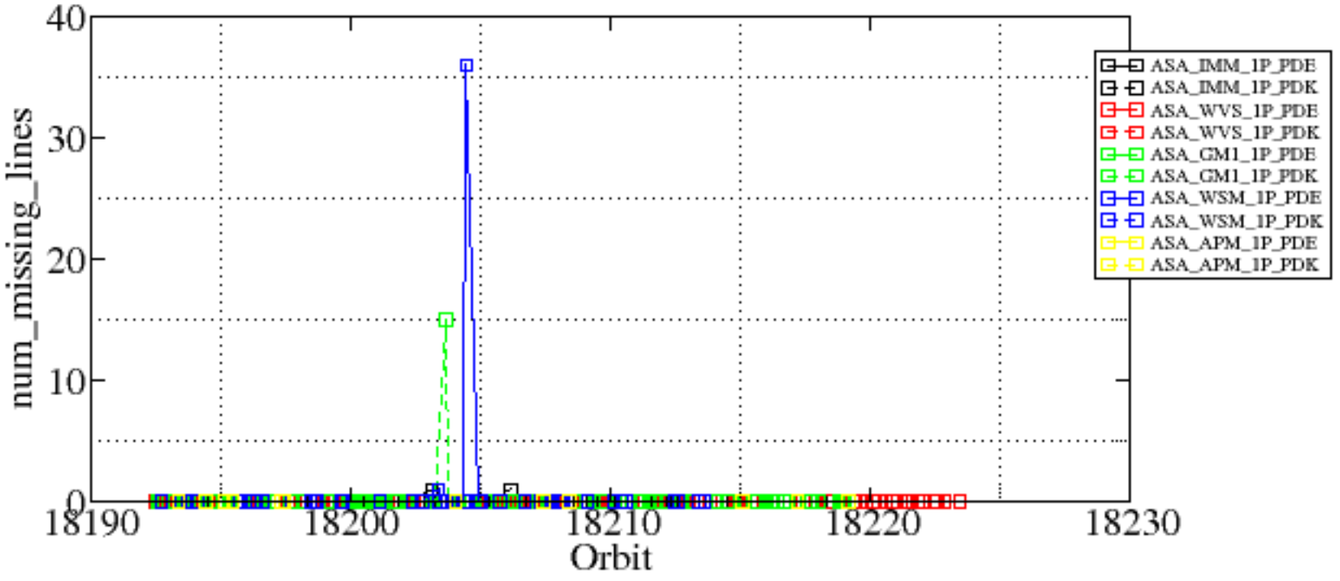
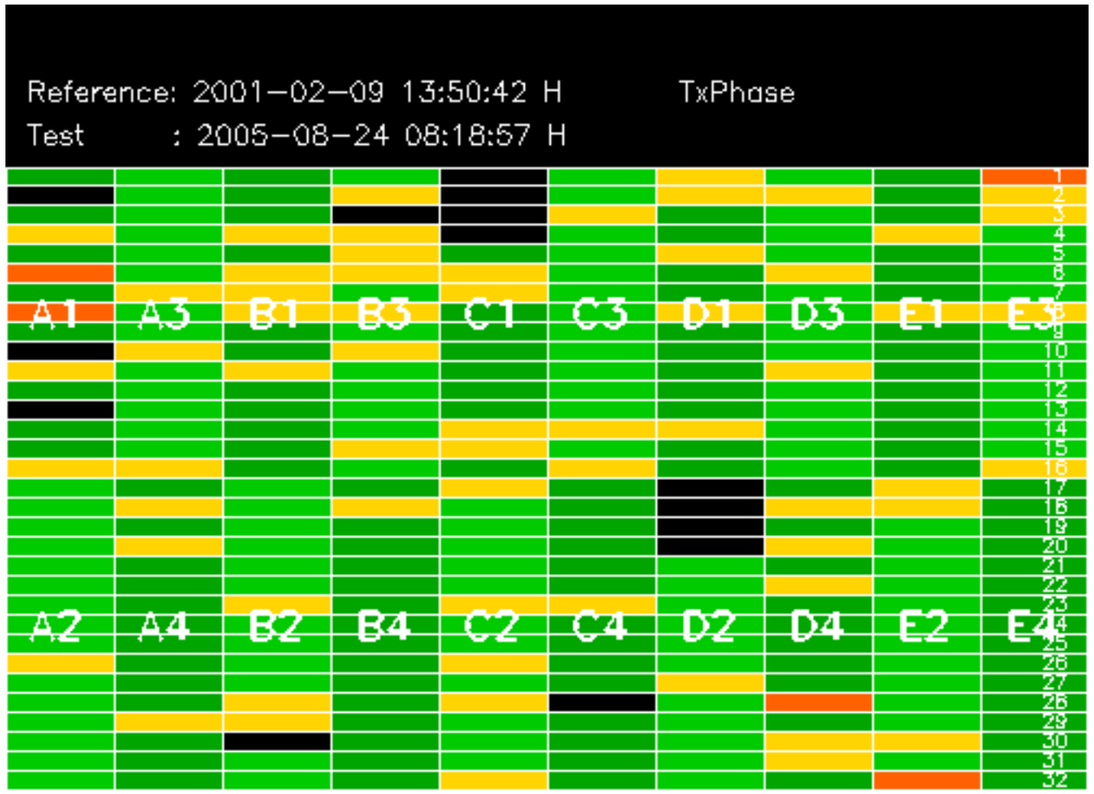
31
32

Summary of analysis for the last 3 days 2005082[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_1PNPDK20050823_180038_000003422040_00113_18203_2283.N1 </td> <td>0 </td> <td>1 </td></tr>
<tr> <td>ASA_IMM_1PNPDK20050823_230625_000001812040_00116_18206_2306.N1 </td> <td>0 </td> <td>1 </td></tr>
<tr> <td>ASA_GM1_1PNPDK20050823_185247_000003142040_00113_18203_3299.N1 </td> <td>0 </td> <td>15 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20050823_182450_000002082040_00113_18203_5752.N1 </td> <td>0 </td> <td>1 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20050823_201129_000000852040_00114_18204_5772.N1 </td> <td>0 </td> <td>36 </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
18190
18200
18210
18220
18230
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_WSM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK


num_missing_lines
40
30
20
10
0
18190
18200
18210
18220
18230
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_WSM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2005-08-24 08:18:57 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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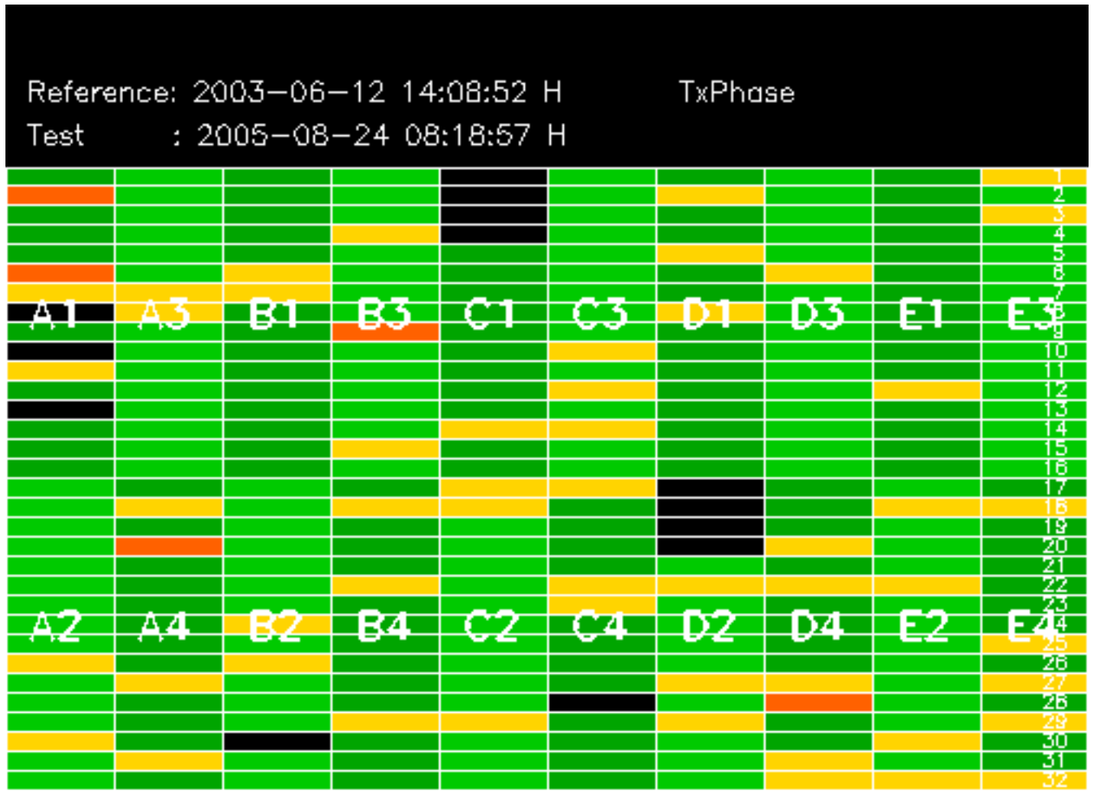
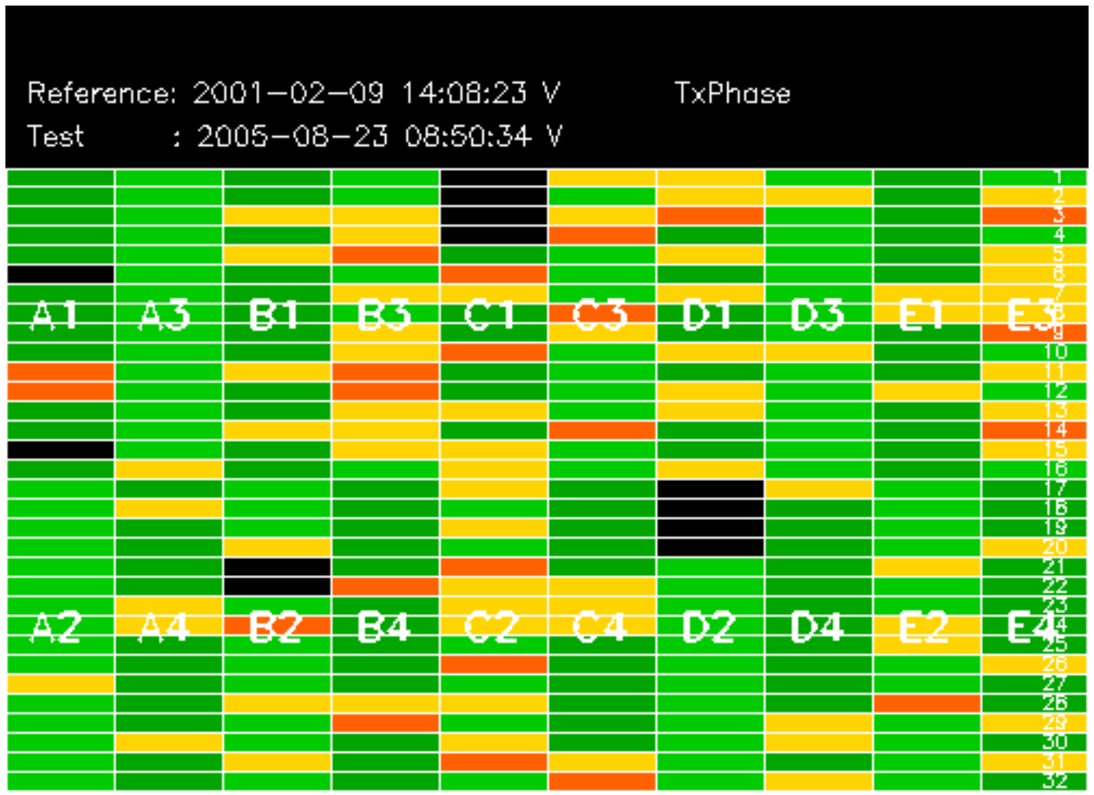
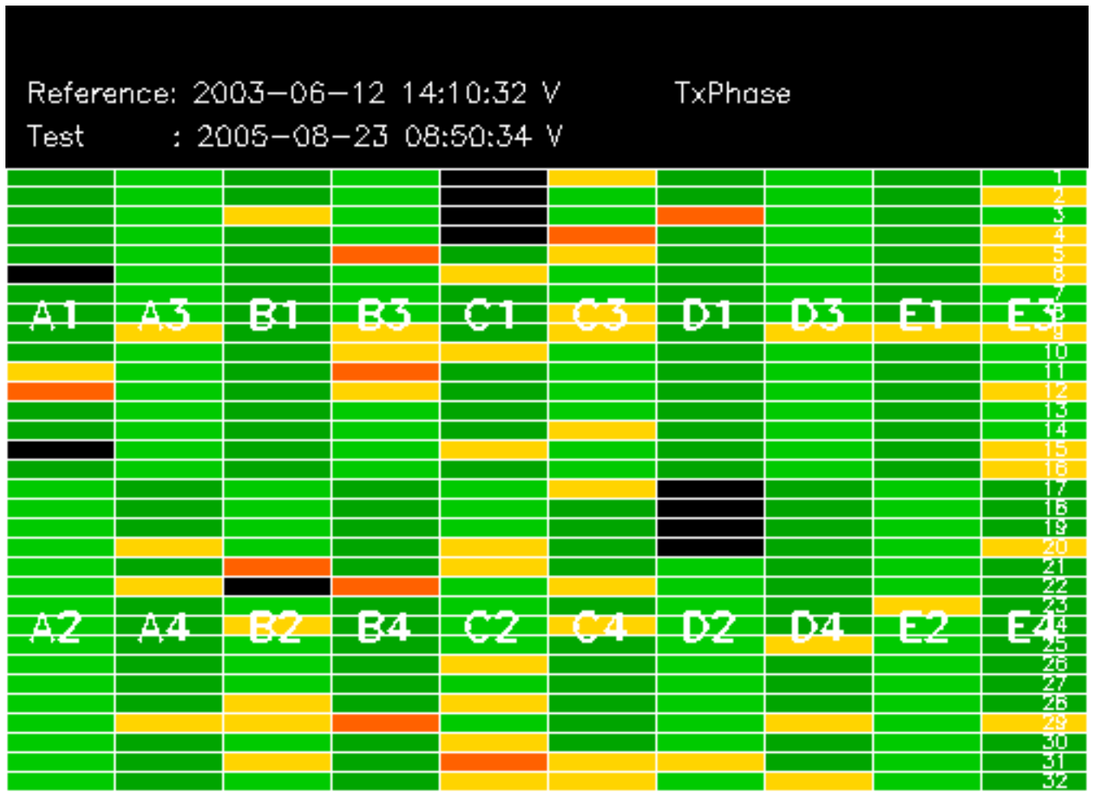
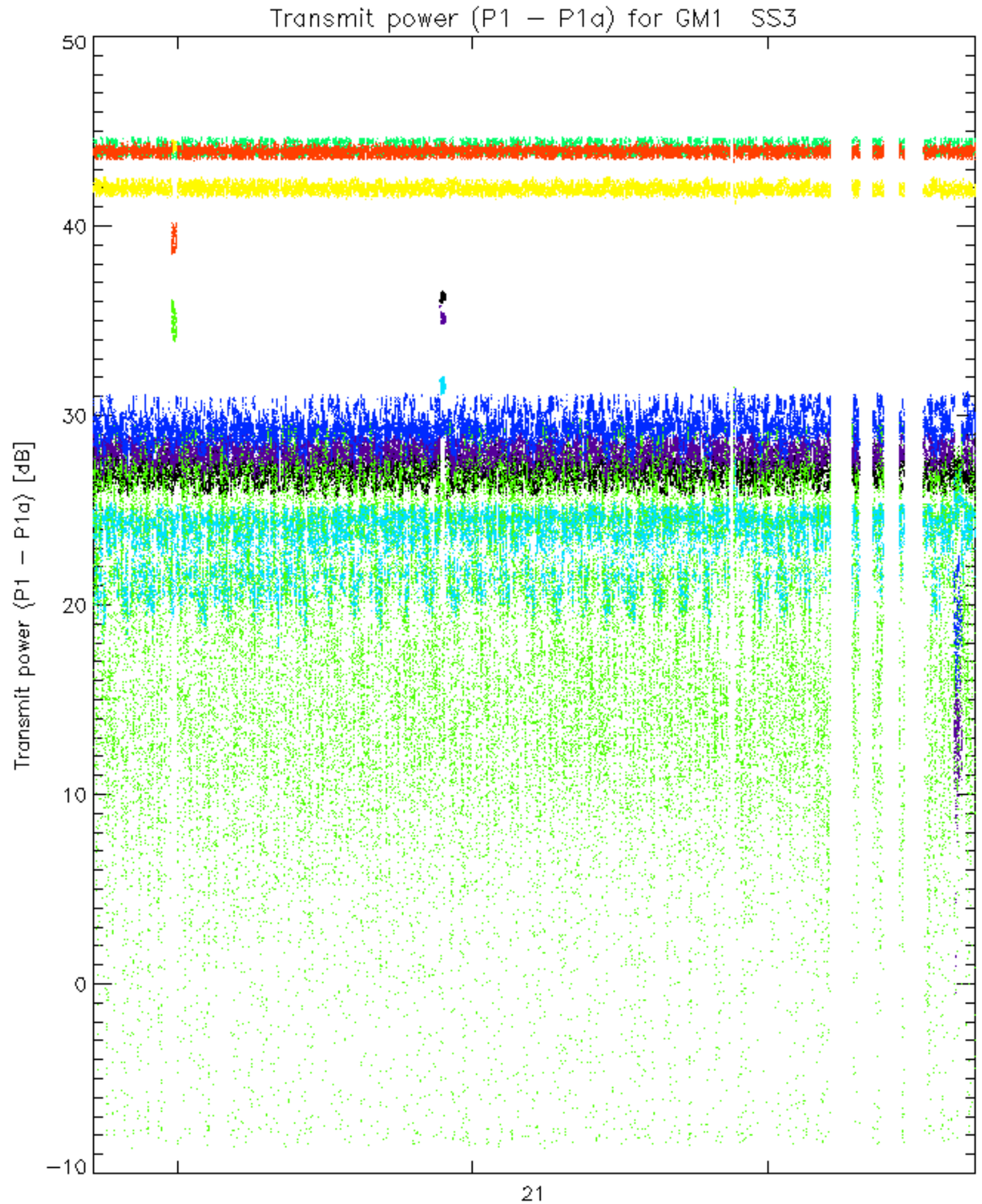
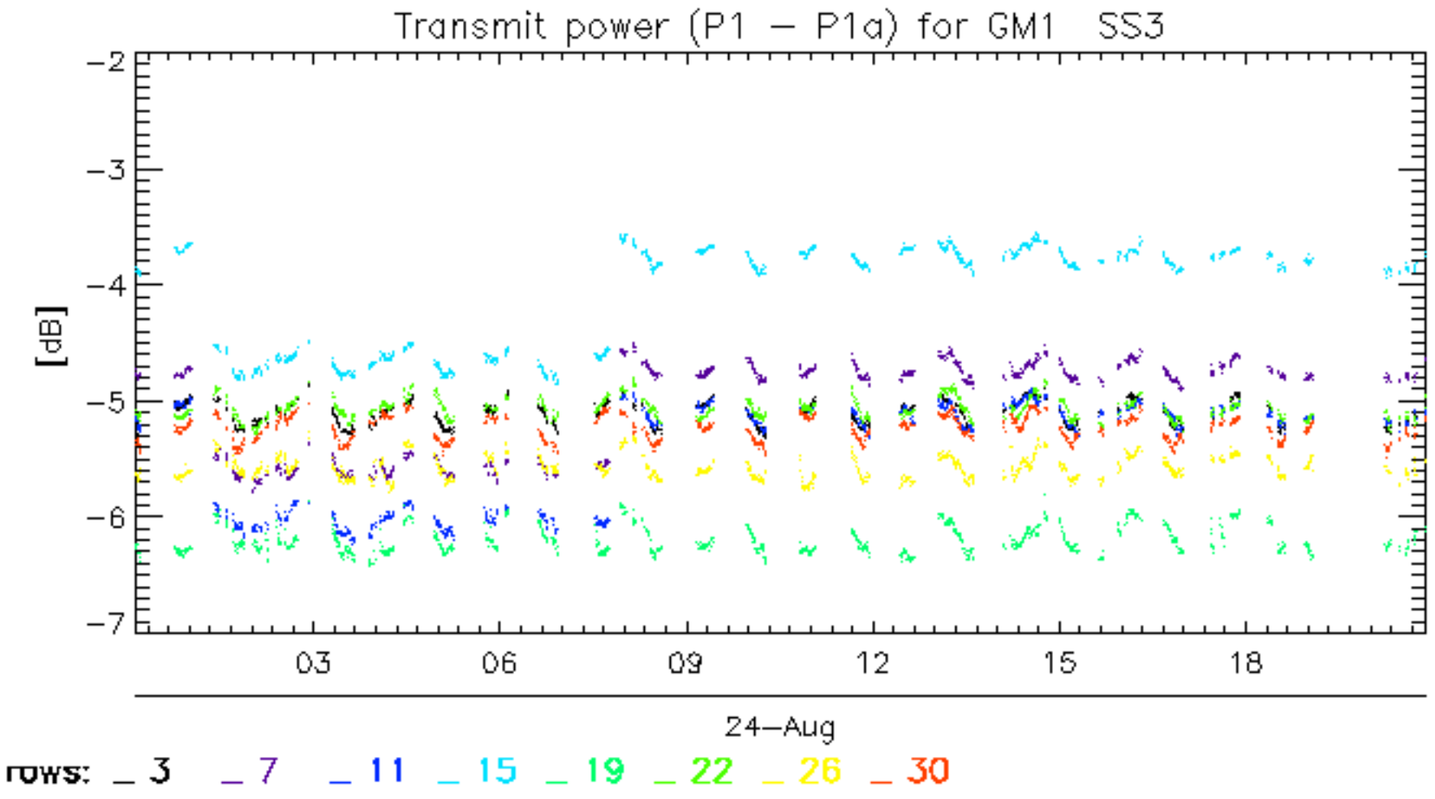
32

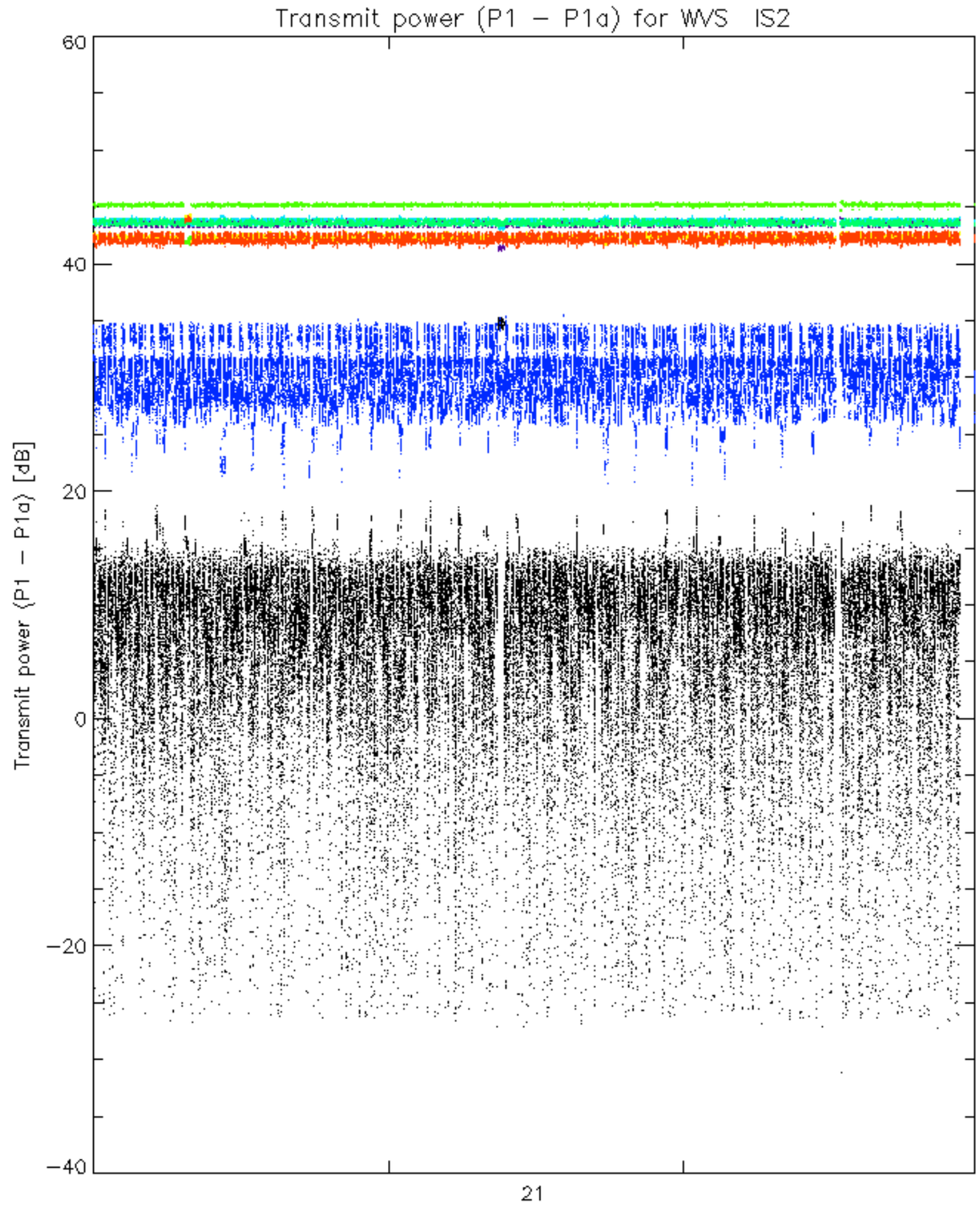

Reference: 2003-06-12 14:08:52 H
Test : 2005-08-24 08:18:57 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2005-08-23 08:50:34 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 : 2005-08-23 08:50:34 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
21
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
24–Aug
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
21
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.