PRELIMINARY REPORT OF 061220

last update on Wed Dec 20 16:27:21 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 2006-12-19 00:00:00 to 2006-12-20 16:27:21

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

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	50	57	44	9	60
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	50	57	44	9	60
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	50	57	44	9	57
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	0	0	0	0	3
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	50	57	44	9	60

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	20061216 204905
H	20061219 173338

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	-3.964226	0.008233	0.006309
7	P1	-3.149415	0.024589	0.024094
11	P1	-4.124859	0.026419	0.027349
15	P1	-6.319324	0.016226	-0.053020
19	P1	-3.642111	0.006140	-0.063752
22	P1	-4.654000	0.013772	-0.010658
26	P1	-3.954421	0.009989	-0.028224
30	P1	-5.886894	0.009631	-0.029112
3	P1	-16.547037	0.249588	-0.020076
7	P1	-17.295094	0.185318	-0.015249
11	P1	-17.196539	0.476559	0.090374
15	P1	-13.062190	0.140868	0.018264
19	P1	-14.974790	0.093017	-0.100127
22	P1	-15.819606	0.559094	-0.012275
26	P1	-15.061750	0.195517	-0.125365
30	P1	-17.506269	0.481574	-0.089271

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.813639	0.095406	0.065762
7	P2	-21.730324	0.096951	0.022553
11	P2	-15.606543	0.106485	0.135534
15	P2	-7.117826	0.111024	0.020932
19	P2	-9.190104	0.108947	-0.017248
22	P2	-18.234802	0.101674	0.012122
26	P2	-16.577295	0.116688	-0.065758
30	P2	-19.463680	0.091901	0.025715

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.244250	0.009184	0.017923

7	P3	-8.244250	0.009184	0.017923
11	P3	-8.244250	0.009184	0.017923
15	P3	-8.244250	0.009184	0.017923
19	P3	-8.244250	0.009184	0.017923
22	P3	-8.244250	0.009184	0.017923
26	P3	-8.244296	0.009188	0.018182
30	P3	-8.244296	0.009188	0.018182

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	-3.917580	0.018062	-0.023132
7	P1	-2.485181	0.037024	0.038771
11	P1	-2.854028	0.019353	-0.012100
15	P1	-3.687069	0.033469	-0.025151
19	P1	-3.540641	0.018350	-0.035502
22	P1	-5.027516	0.023357	-0.024066
26	P1	-6.023246	0.029212	-0.032764
30	P1	-5.340258	0.040681	-0.018977
3	P1	-11.744166	0.089934	-0.015967
7	P1	-10.062140	0.114538	-0.044278
11	P1	-10.336843	0.144054	-0.058317
15	P1	-10.714170	0.129951	-0.009629
19	P1	-15.722446	0.121280	-0.022419
22	P1	-21.576982	1.436162	0.054707
26	P1	-16.068682	0.338387	0.054804
30	P1	-17.879385	0.369948	-0.073521

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.466064	0.129719	-0.009385
7	P2	-22.230124	0.291228	0.010435
11	P2	-10.906042	0.154159	0.139863
15	P2	-4.987643	0.274015	0.011897
19	P2	-6.963052	0.270967	-0.020677
22	P2	-8.257388	0.159717	0.022491
26	P2	-24.320435	0.204365	0.013315
30	P2	-21.949356	0.174971	-0.015237

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.092737	0.004678	0.022053
7	P3	-8.092766	0.004660	0.022016
11	P3	-8.092745	0.004671	0.022128
15	P3	-8.092551	0.004667	0.022350
19	P3	-8.092686	0.004674	0.022023
22	P3	-8.092655	0.004661	0.022494
26	P3	-8.092684	0.004676	0.021552
30	P3	-8.092562	0.004658	0.021402

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	0.000558422
	stdev	1.69631e-07
MEAN Q	mean	0.000512200
	stdev	2.16637e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138698
	stdev	0.00117866
STDEV Q	mean	0.139084
	stdev	0.00119823

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006121[890]
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_1PNPDE20061210_234034_000001412053_00388_24991_8054.N1	0	32
ASA_WSM_1PNPDE20061218_165907_000000852053_00499_25102_3527.N1	0	2
ASA_WSM_1PNPDE20061219_020903_000001152054_00003_25107_4095.N1	0	18
ASA_WSM_1PNPDE20061219_231143_000000972054_00016_25120_5295.N1	0	55

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

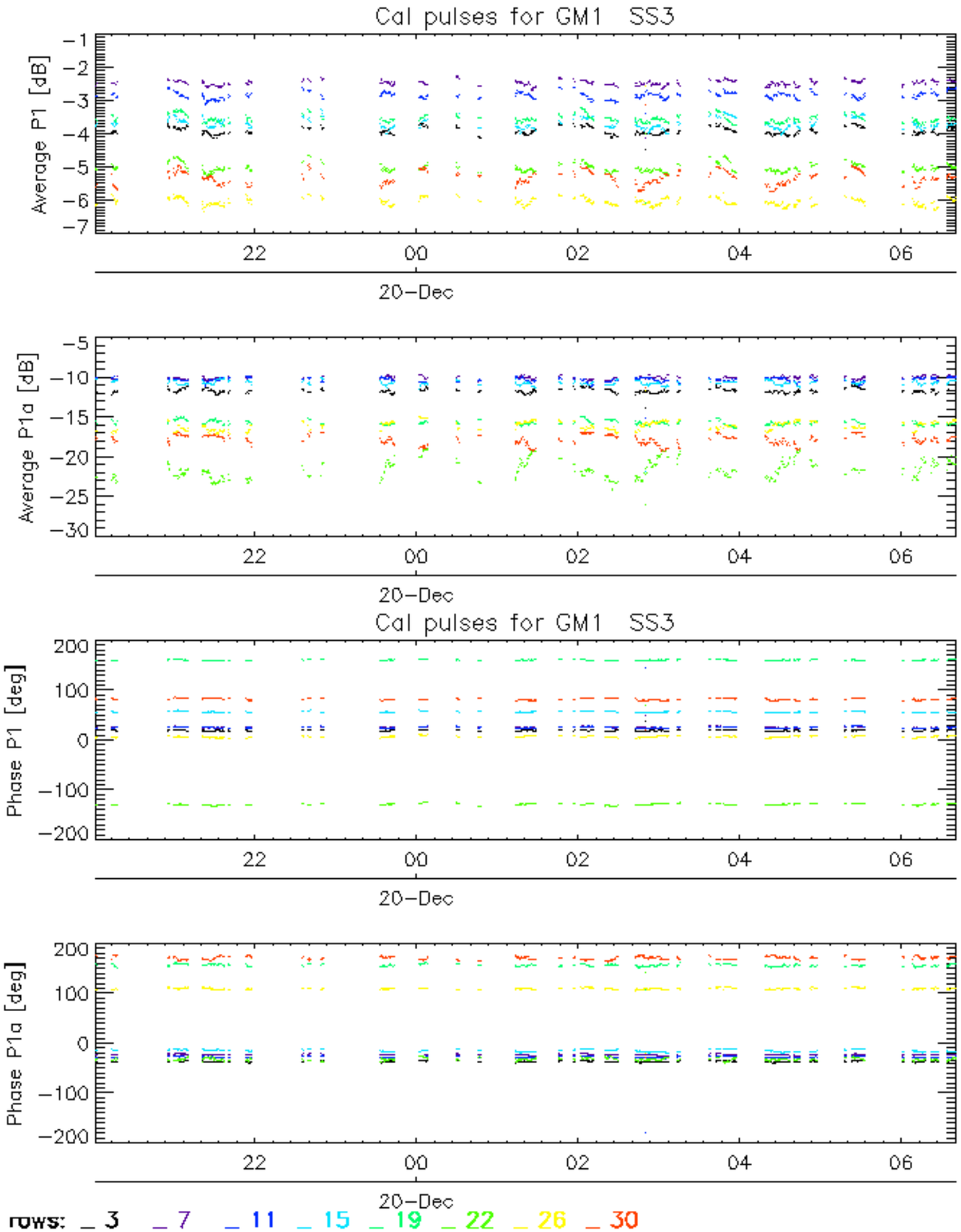
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

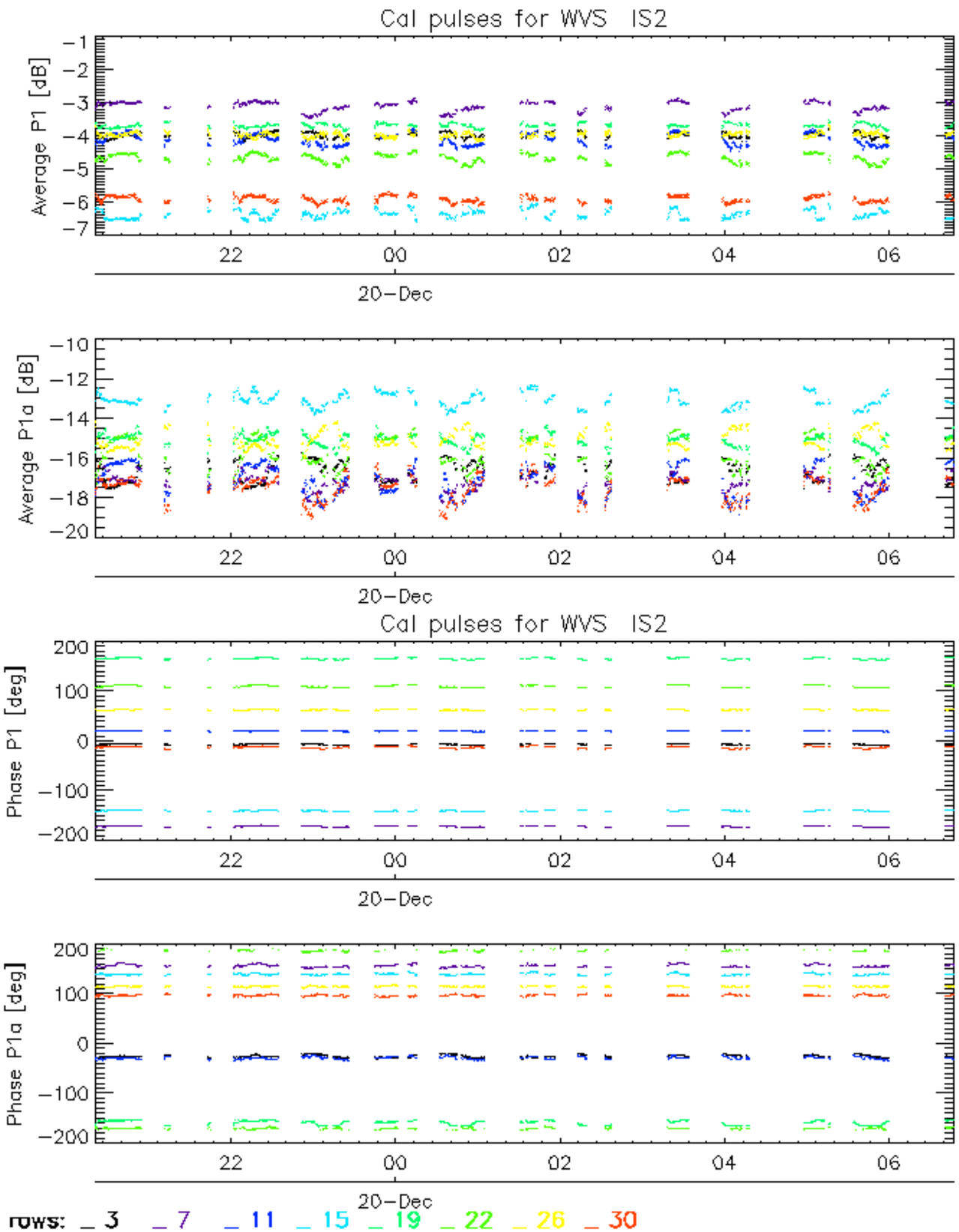
7.5 - Absolute Doppler for GM1

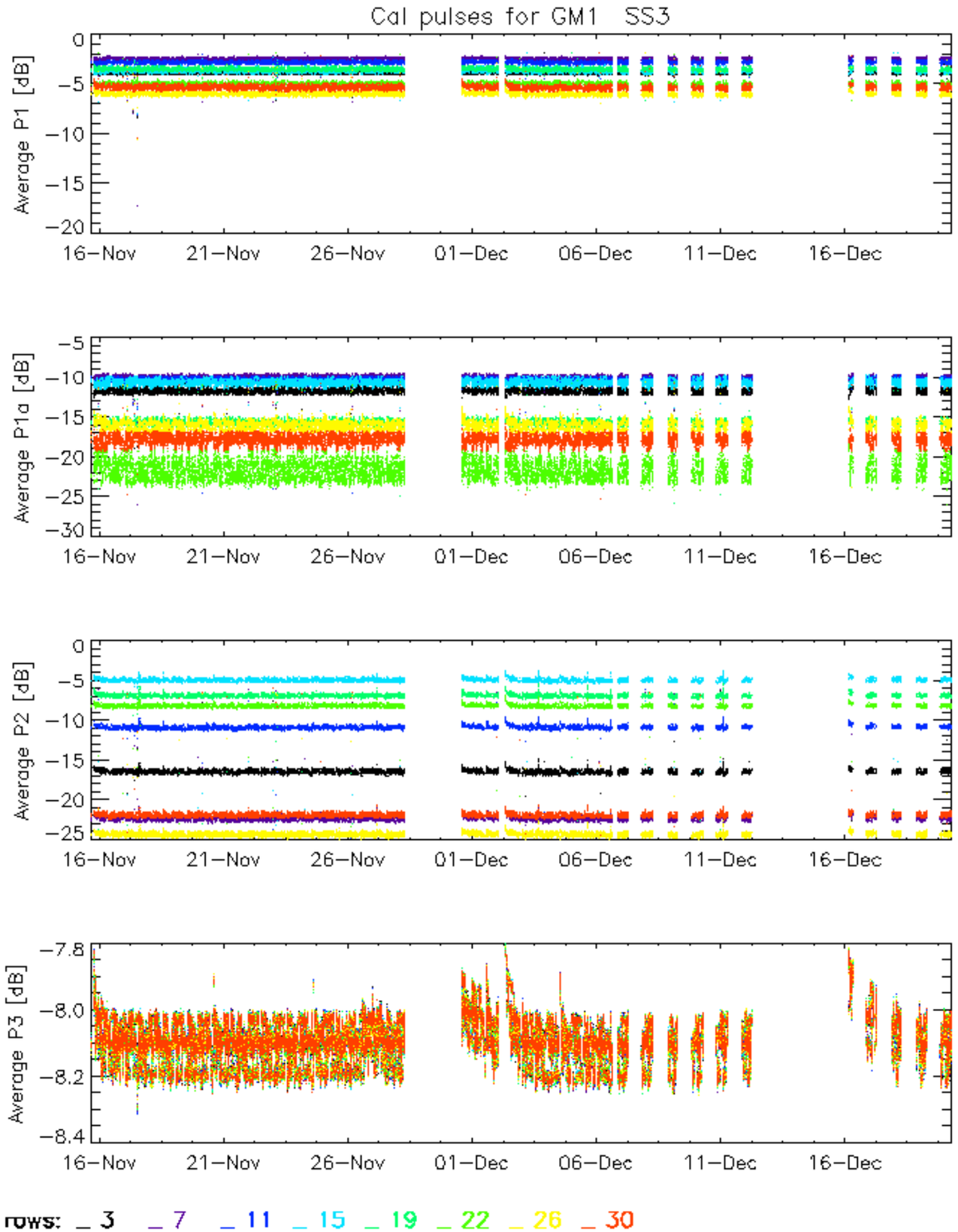
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

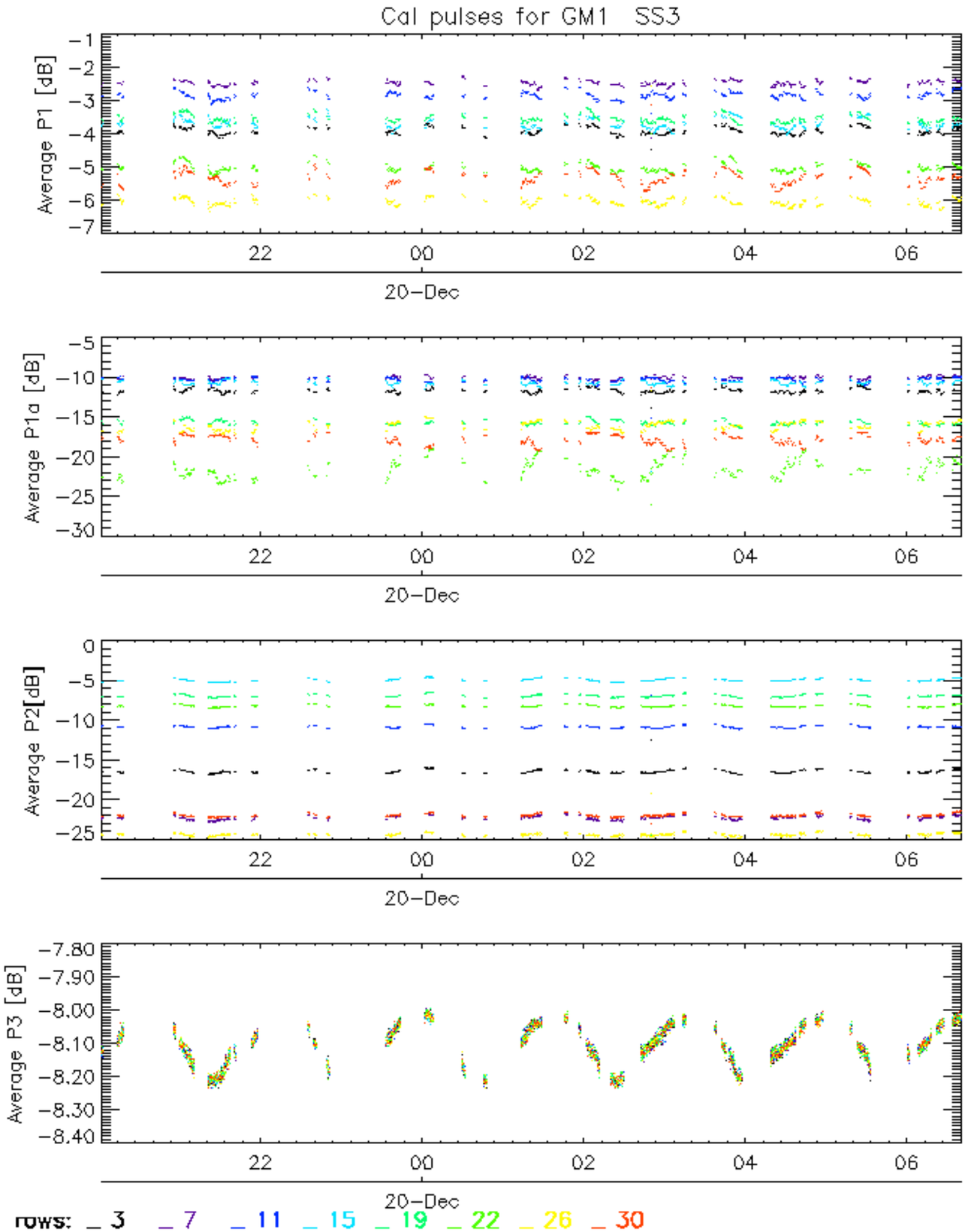
7.6 - Doppler evolution versus ANX for GM1

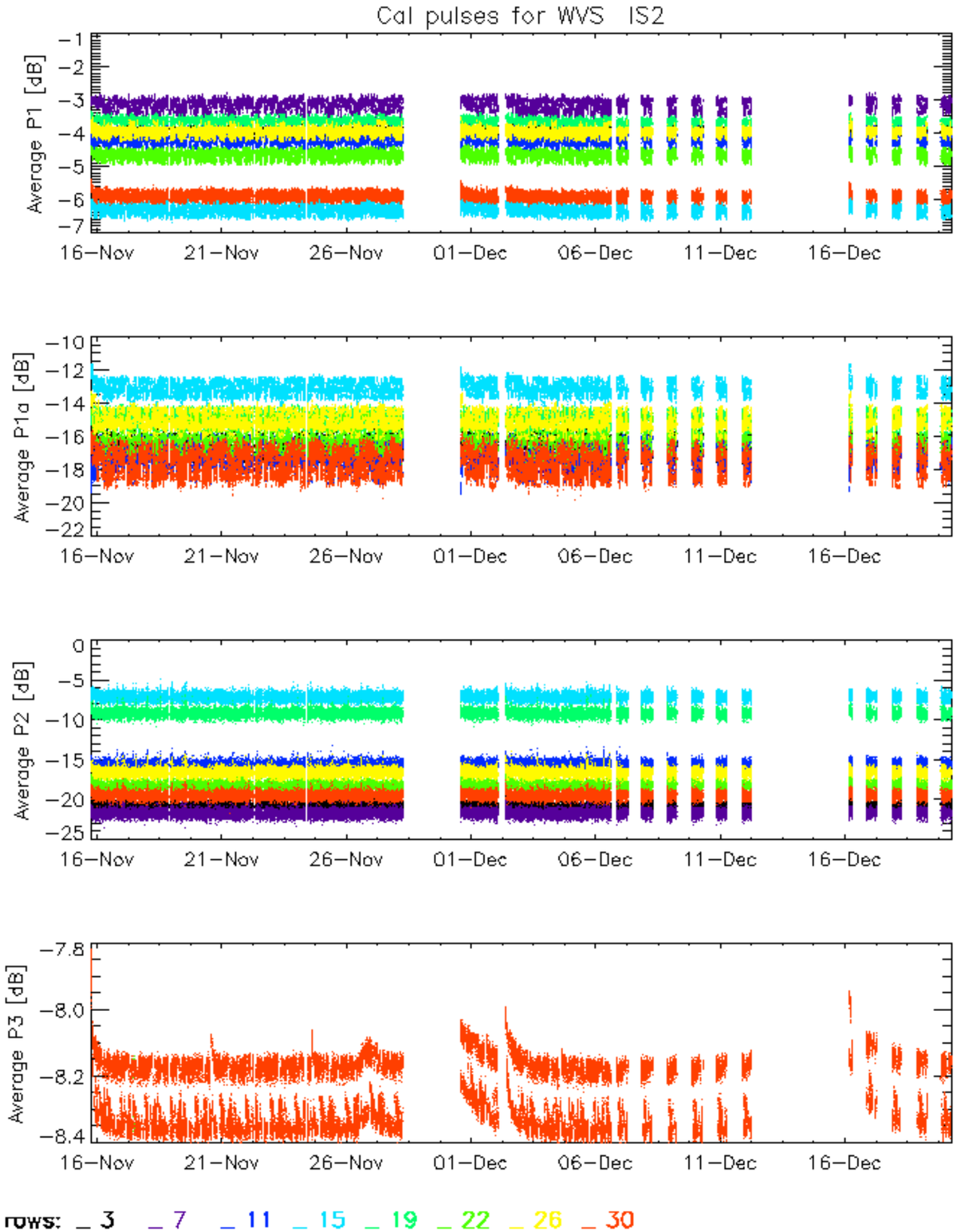
Evolution Doppler error versus ANX
☒

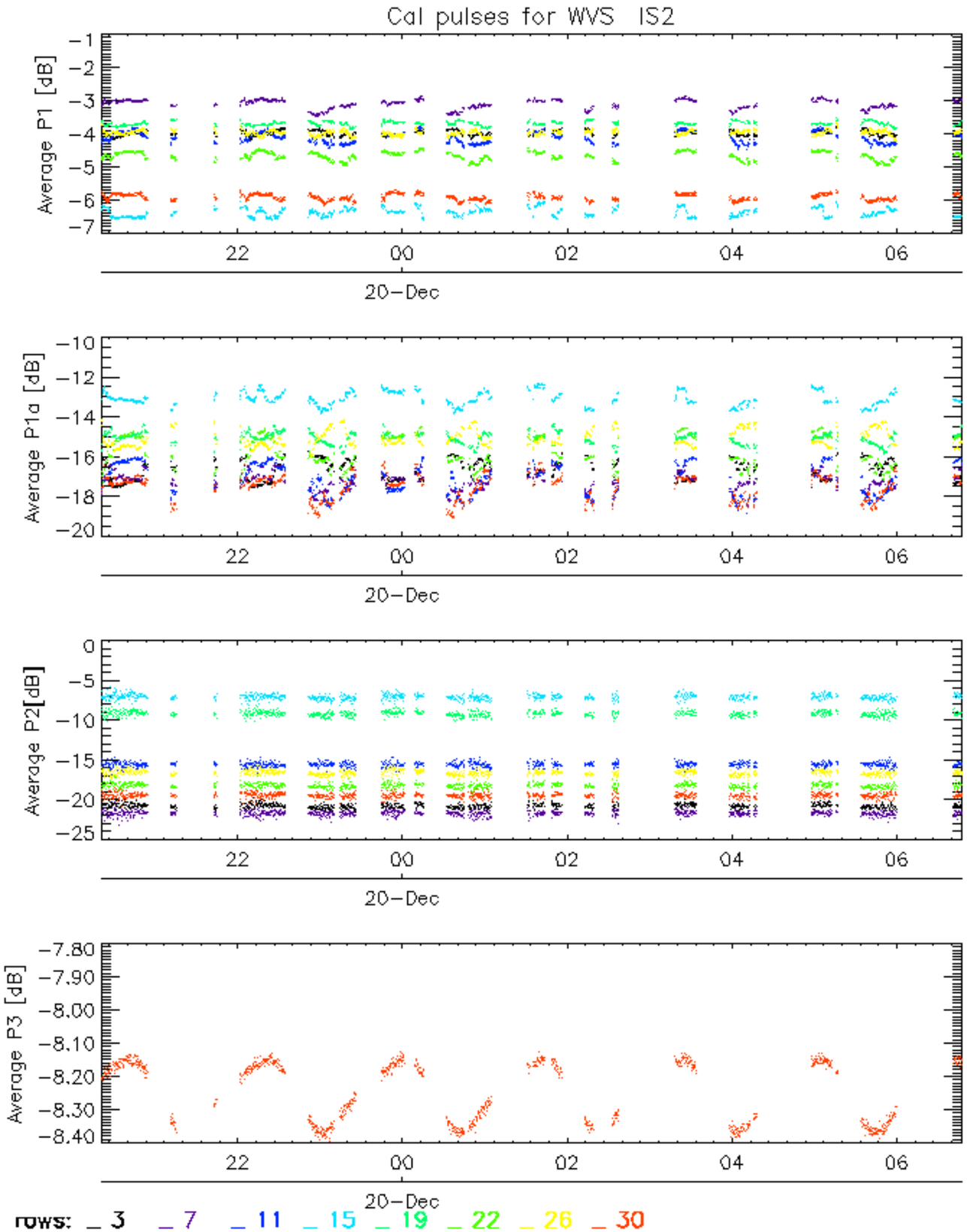

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
22
00
02
04
06
20−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
−30
22
00
02
04
06
20−Dec
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
22
00
02
04
06
20−Dec
Phase P1a [deg]
200
100
0
−100
−200
22
00
02
04
06
20−Dec
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
22
00
02
04
06
20−Dec
Average P1a [dB]
−10
−12
−14
−16
−18
−20
22
00
02
04
06
20−Dec
Cal pulses for WVS IS2
Phase P1 [deg]
200
100
0
−100
−200
22
00
02
04
06
20−Dec
Phase P1a [deg]
200
100
0
−100
−200
22
00
02
04
06
20−Dec
rows: 3 7 11 15 19 22 26 30

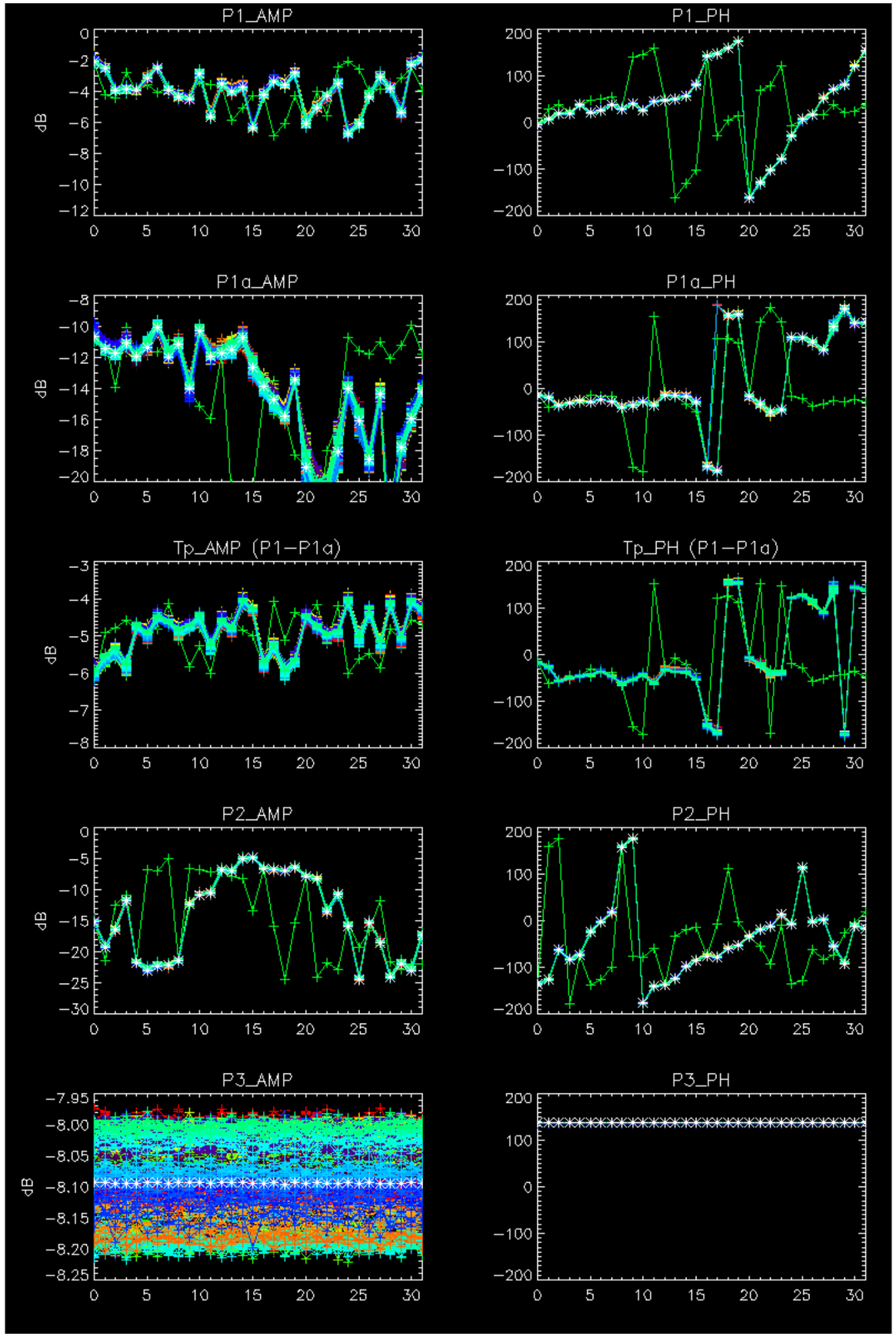

Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
−20
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
rows: 3 7 11 15 19 22 26 30

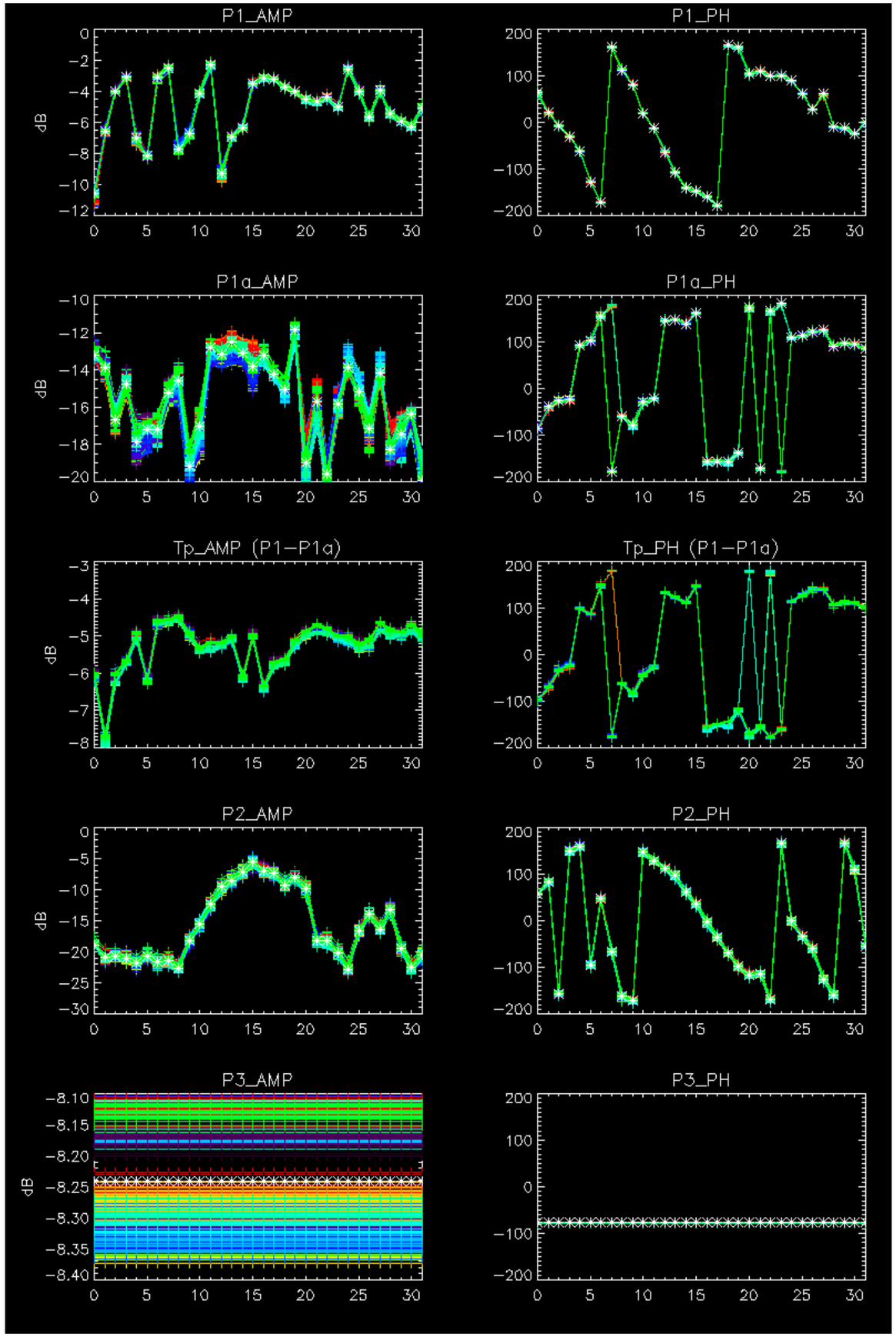

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
22
00
02
04
06
20−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
−30
22
00
02
04
06
20−Dec
Average P2[dB]
0
−5
−10
−15
−20
−25
22
00
02
04
06
20−Dec
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
22
00
02
04
06
20−Dec
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
Average P2 [dB]
0
−5
−10
−15
−20
−25
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
22
00
02
04
06
20−Dec
Average P1a [dB]
−10
−12
−14
−16
−18
−20
22
00
02
04
06
20−Dec
Average P2[dB]
0
−5
−10
−15
−20
−25
22
00
02
04
06
20−Dec
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
22
00
02
04
06
20−Dec
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

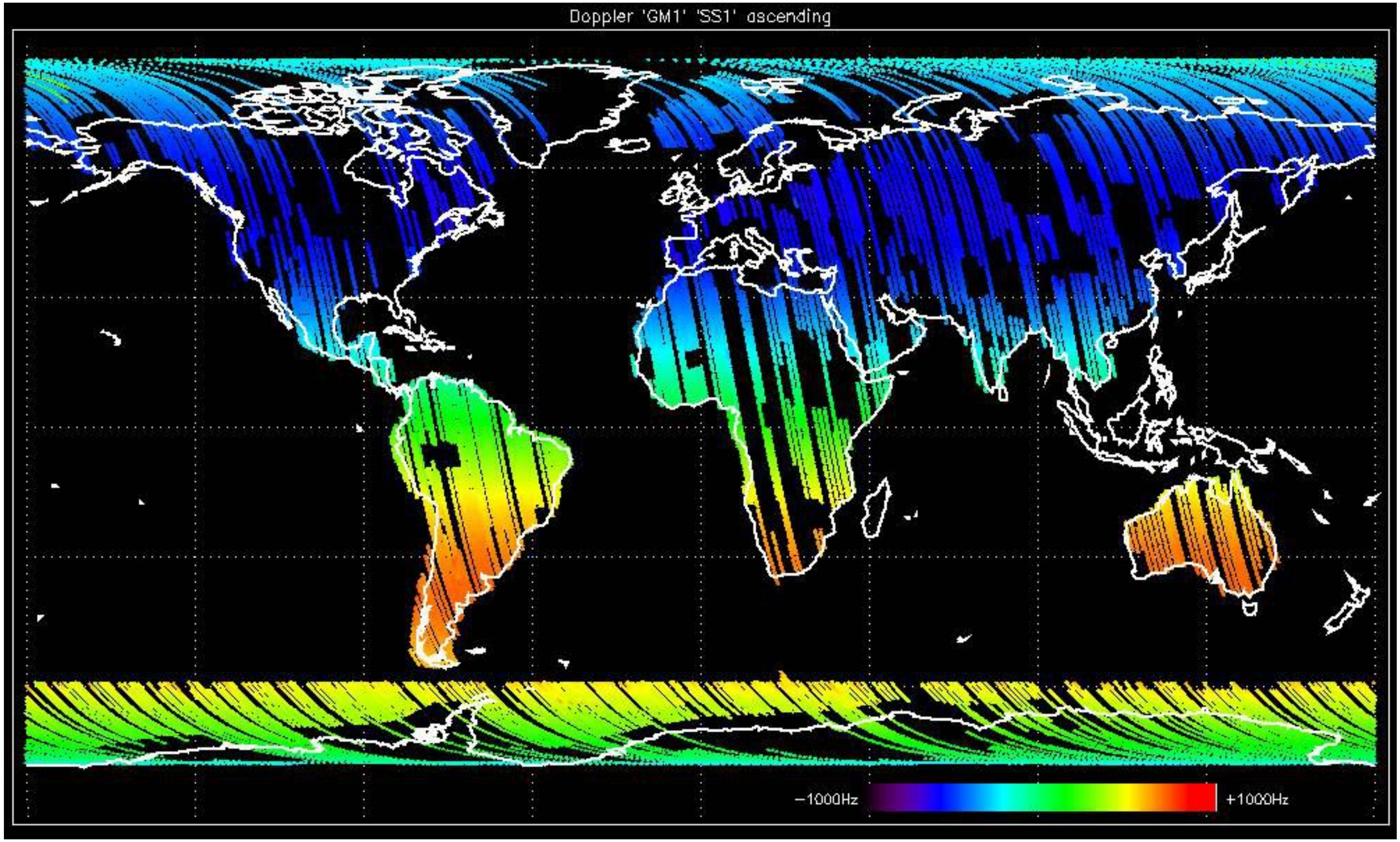
No anomalies observed.

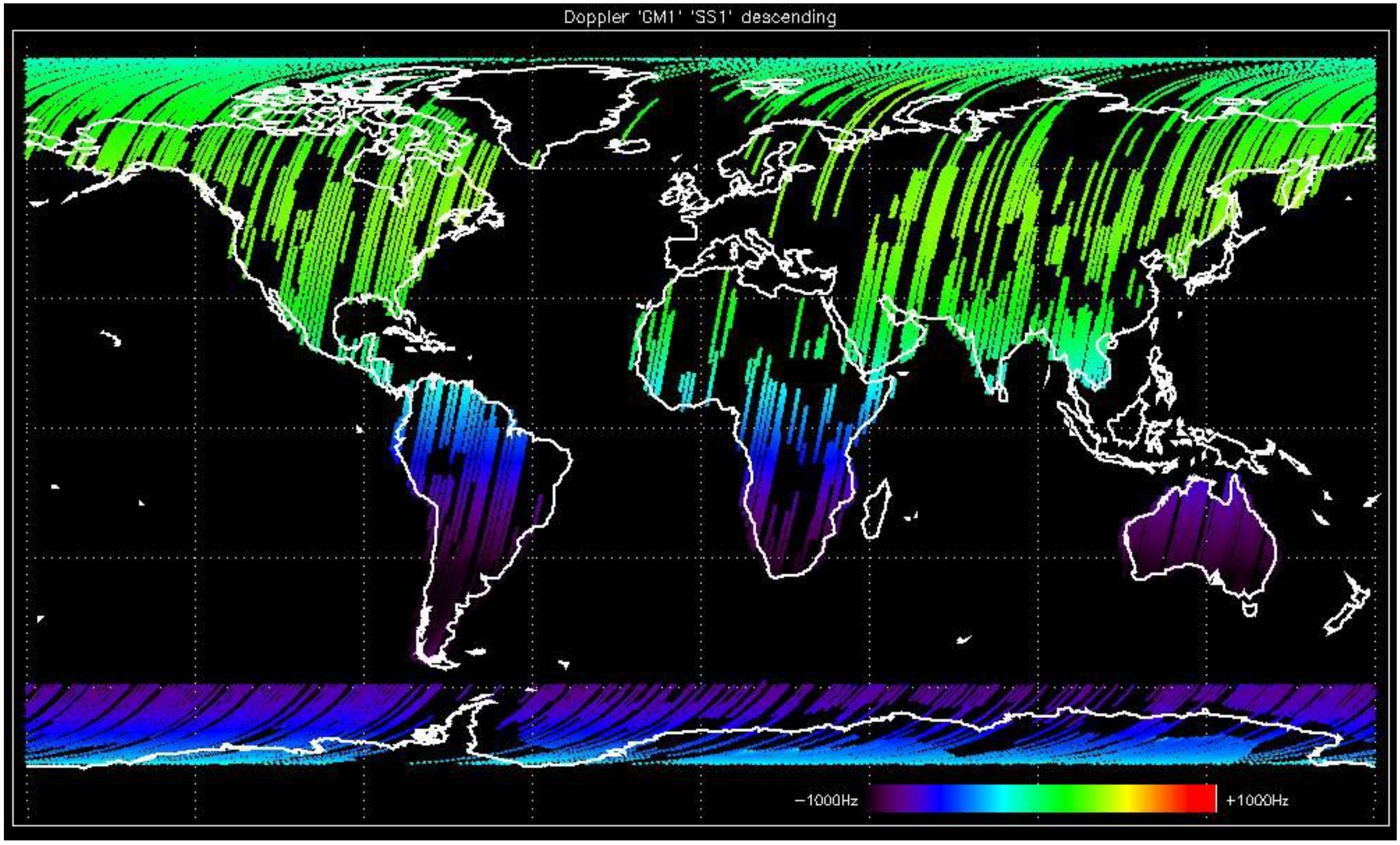

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

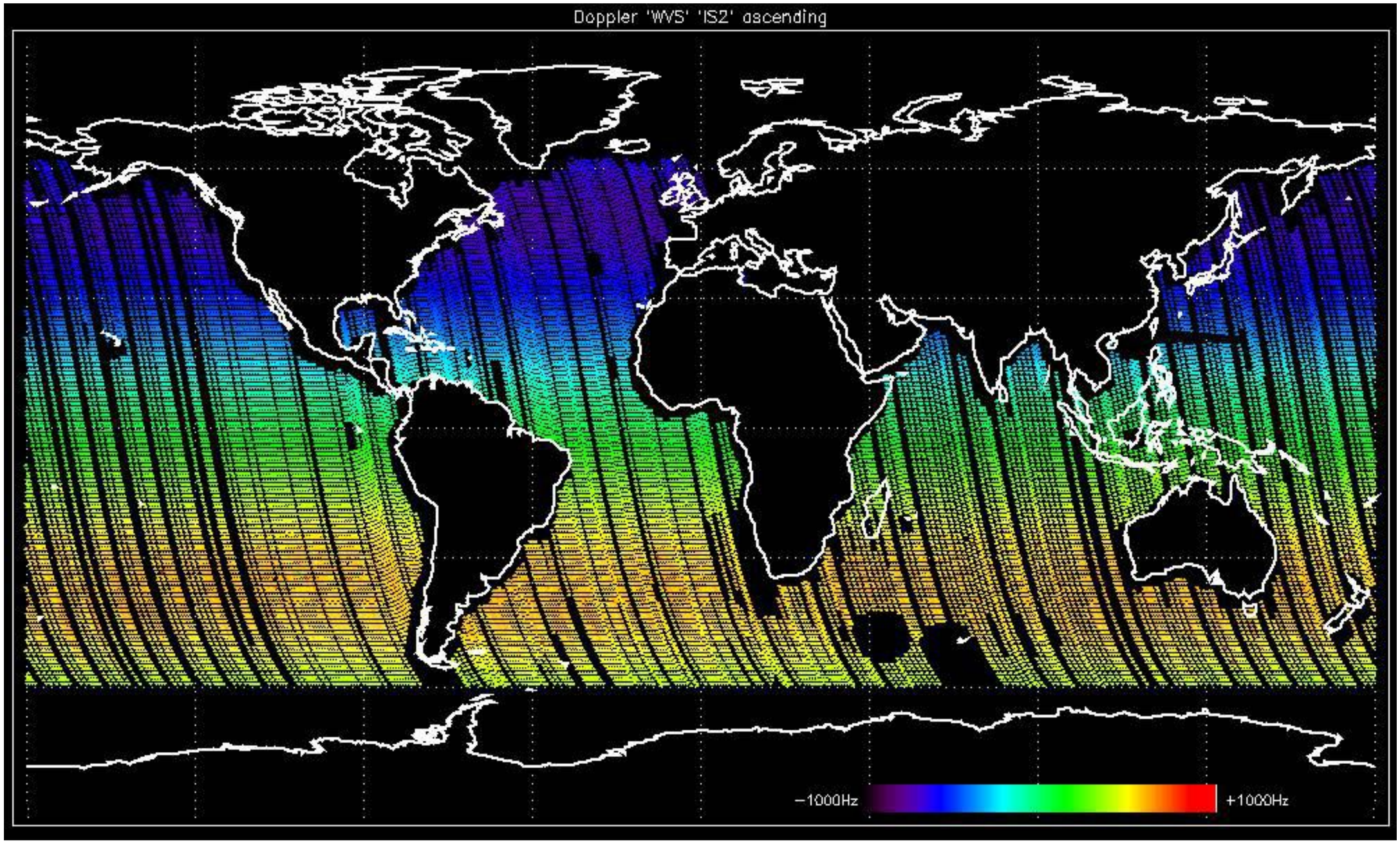

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

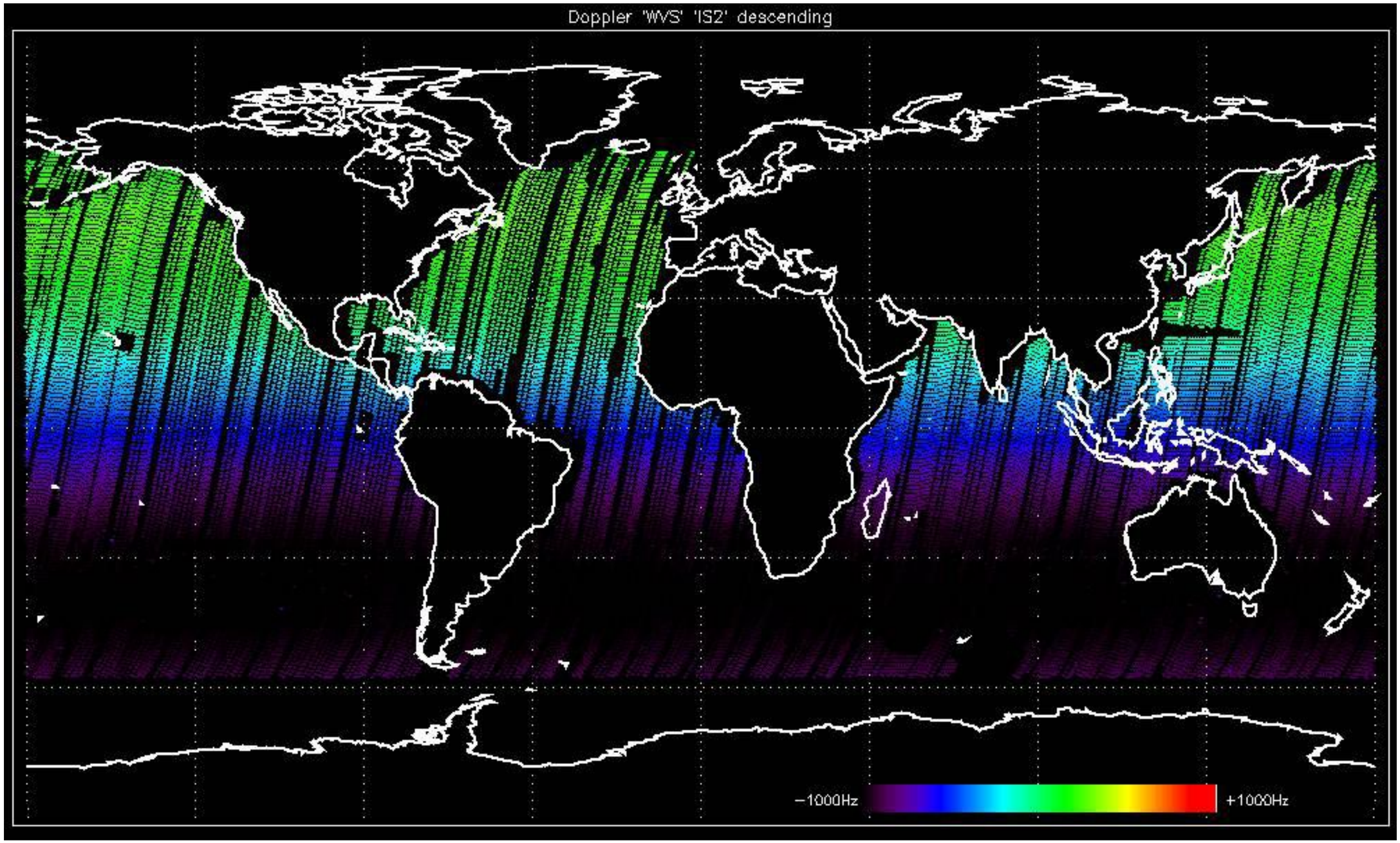
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

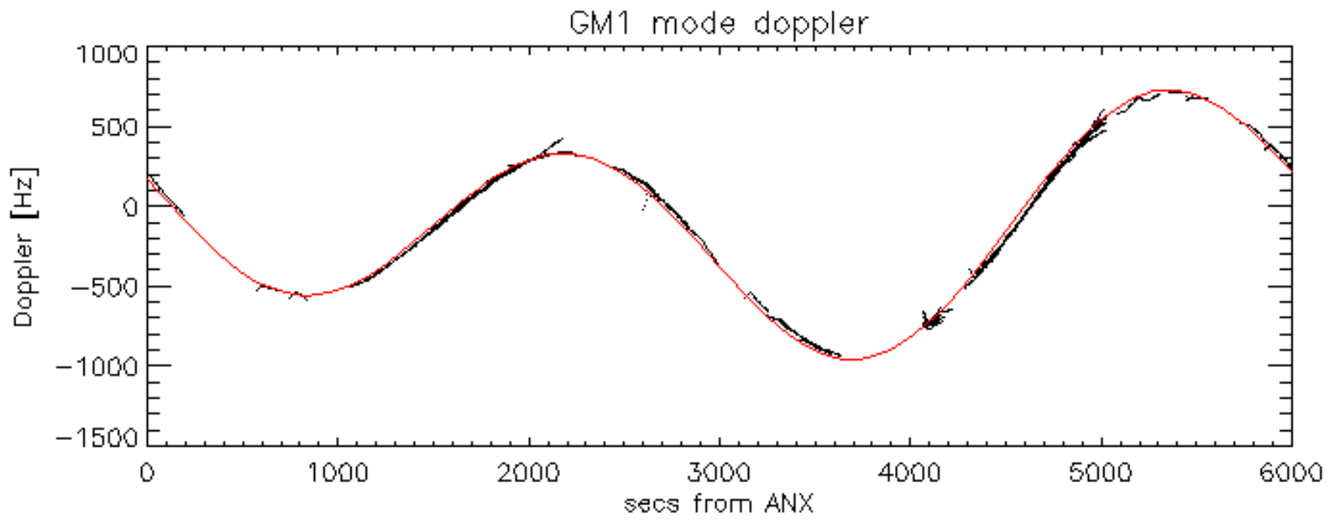
Preliminary report.The data is not yet controled

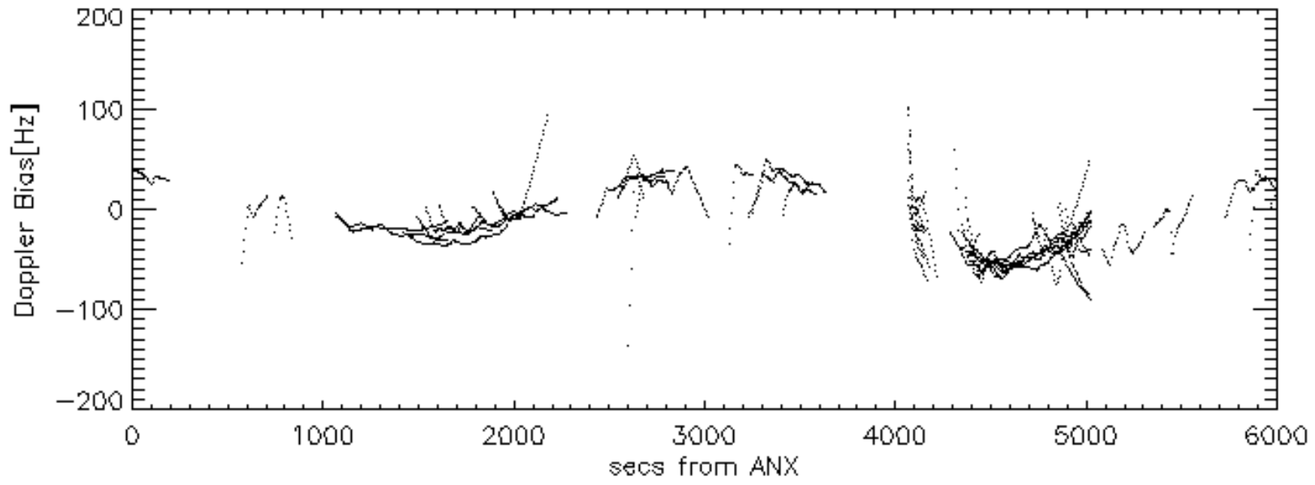

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

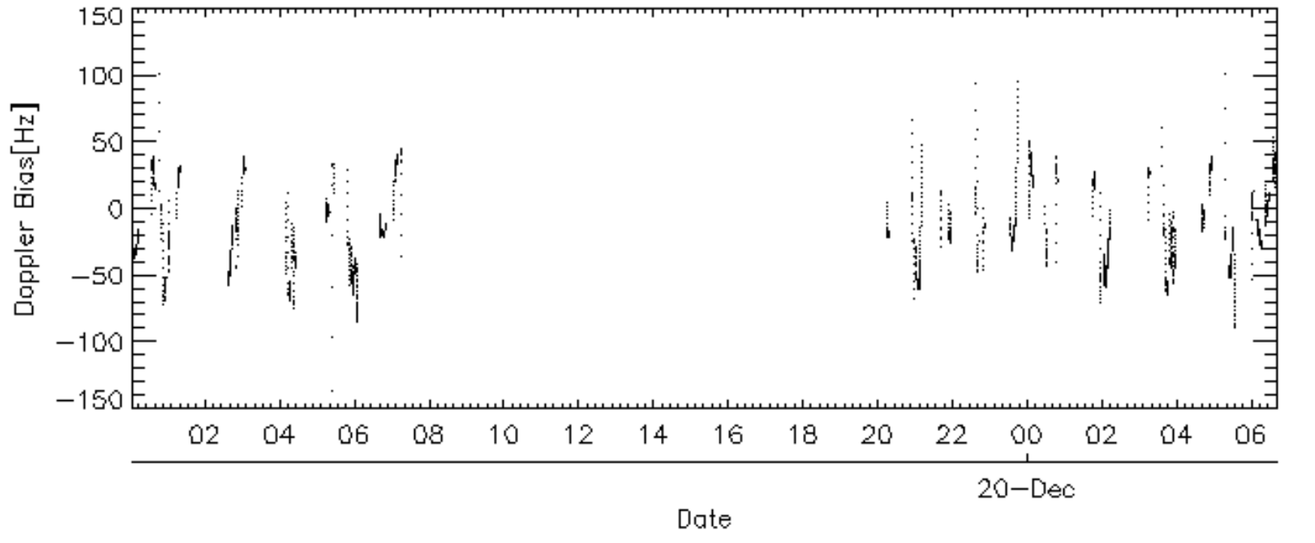

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

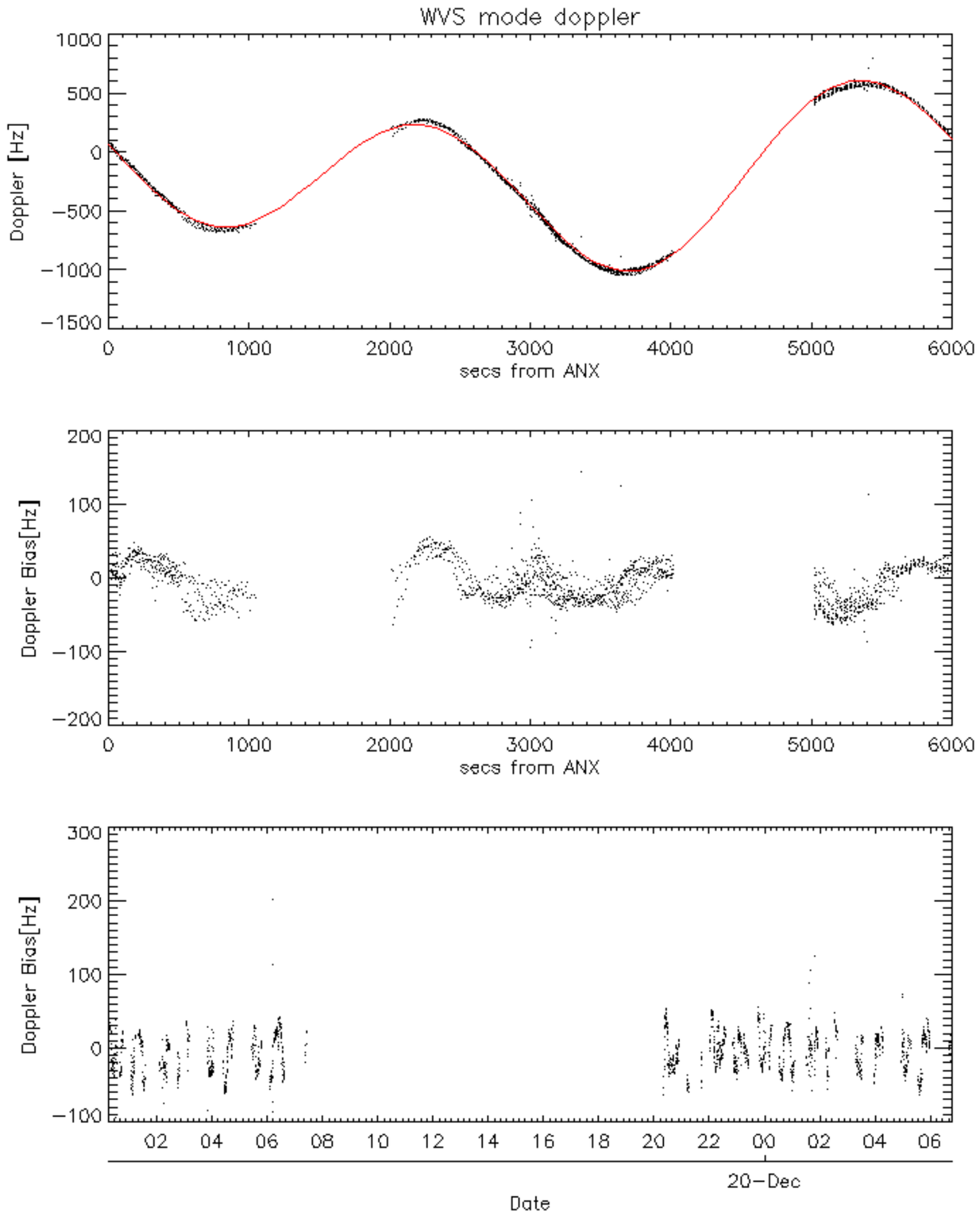

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

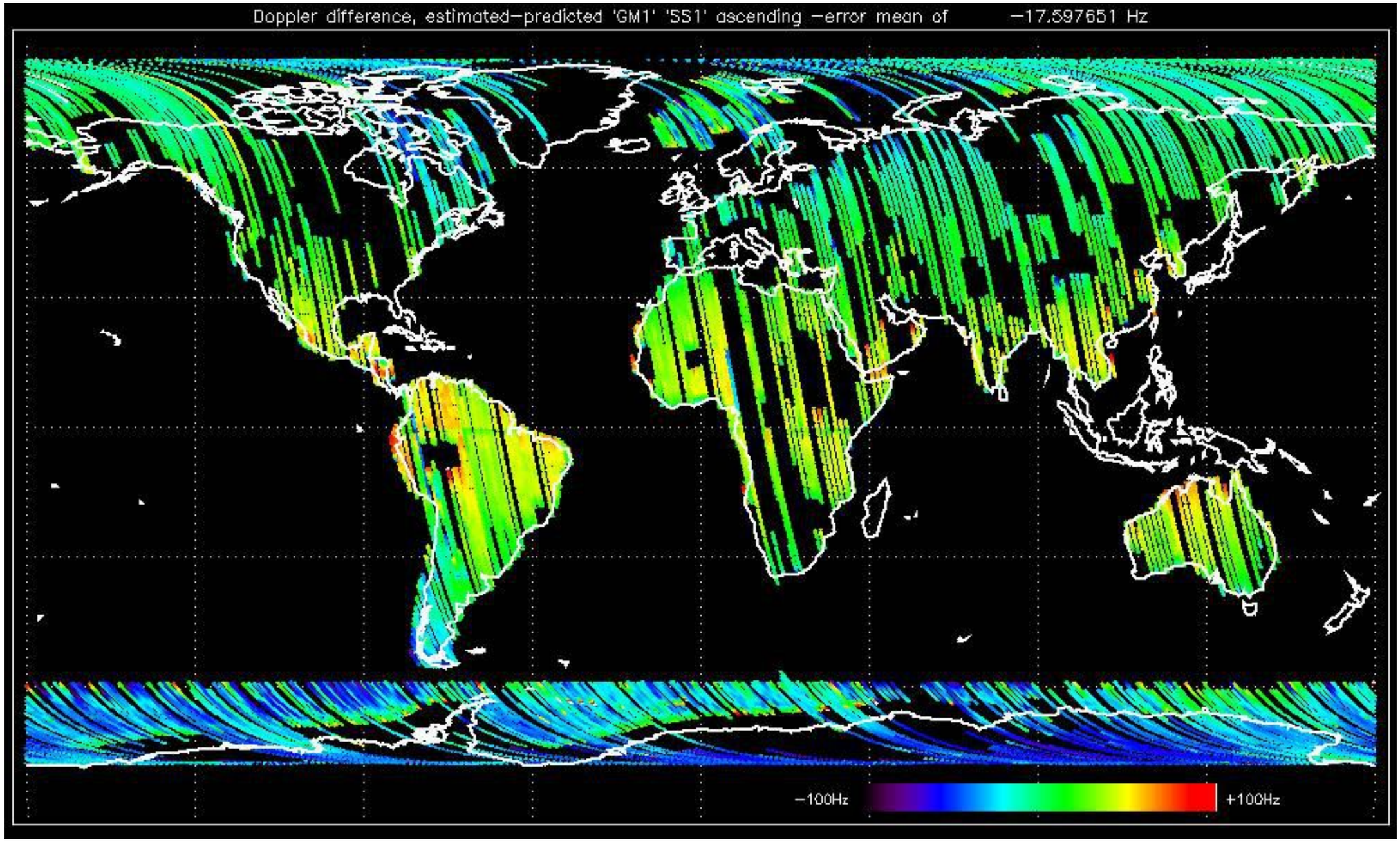

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

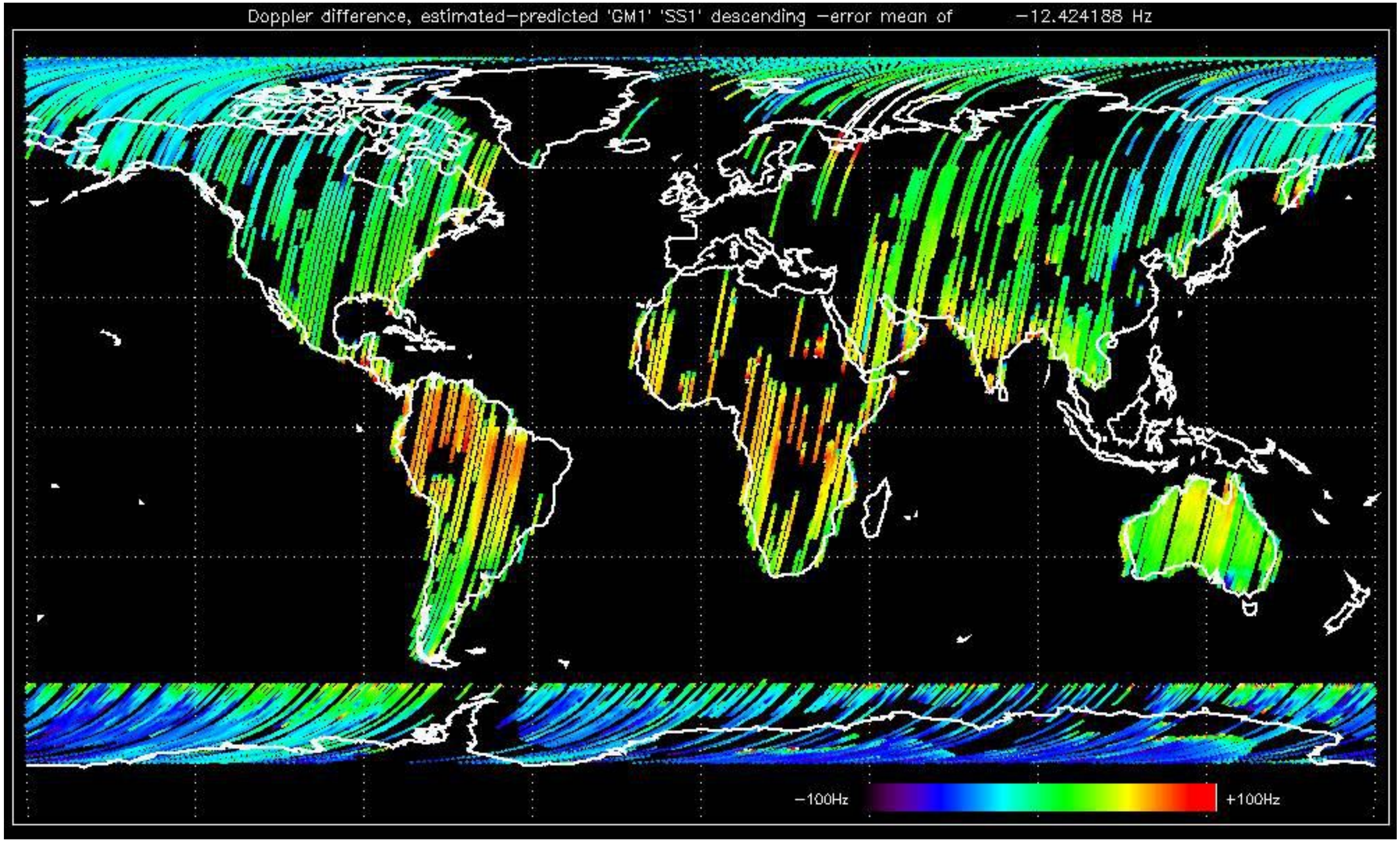

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

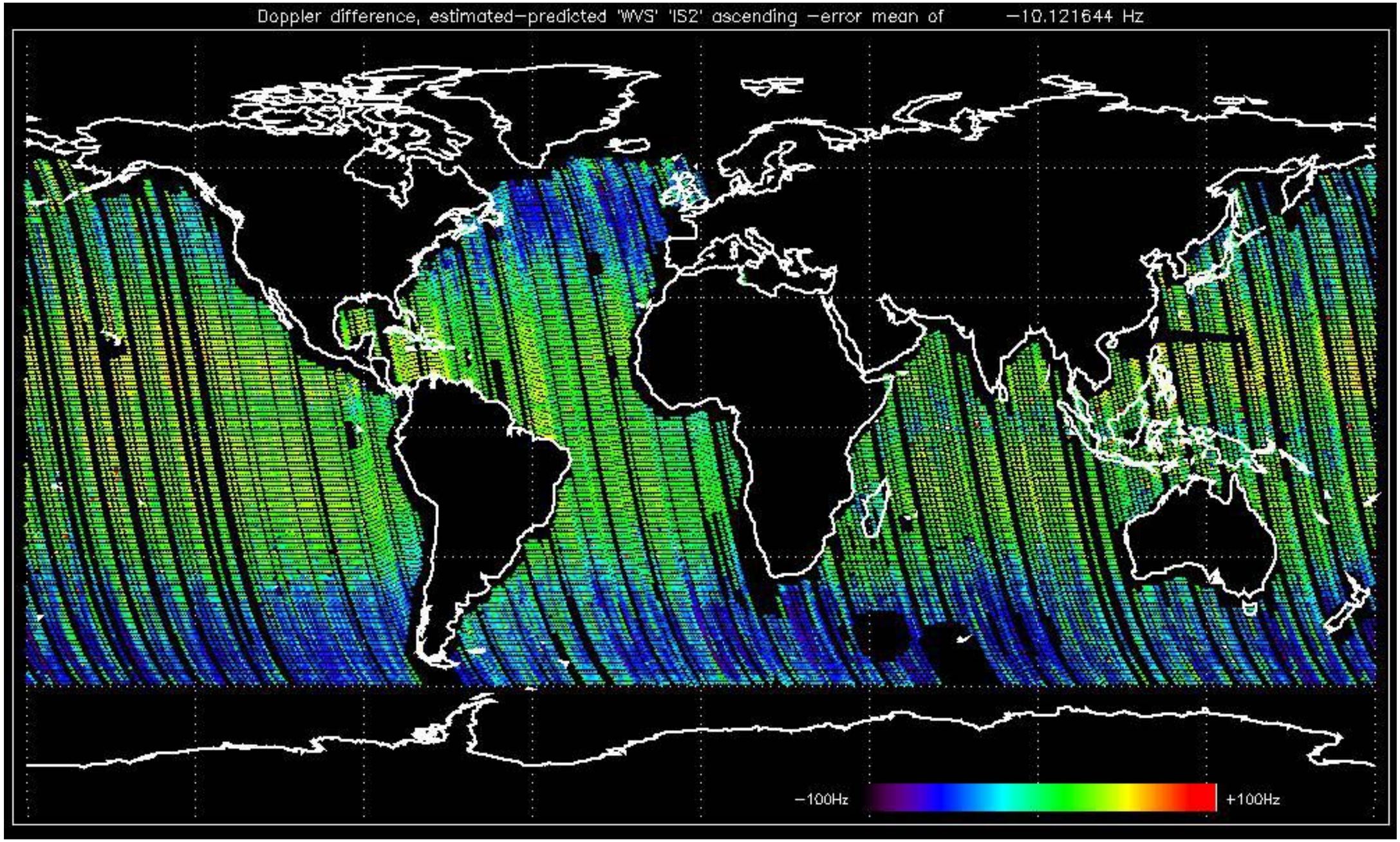

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

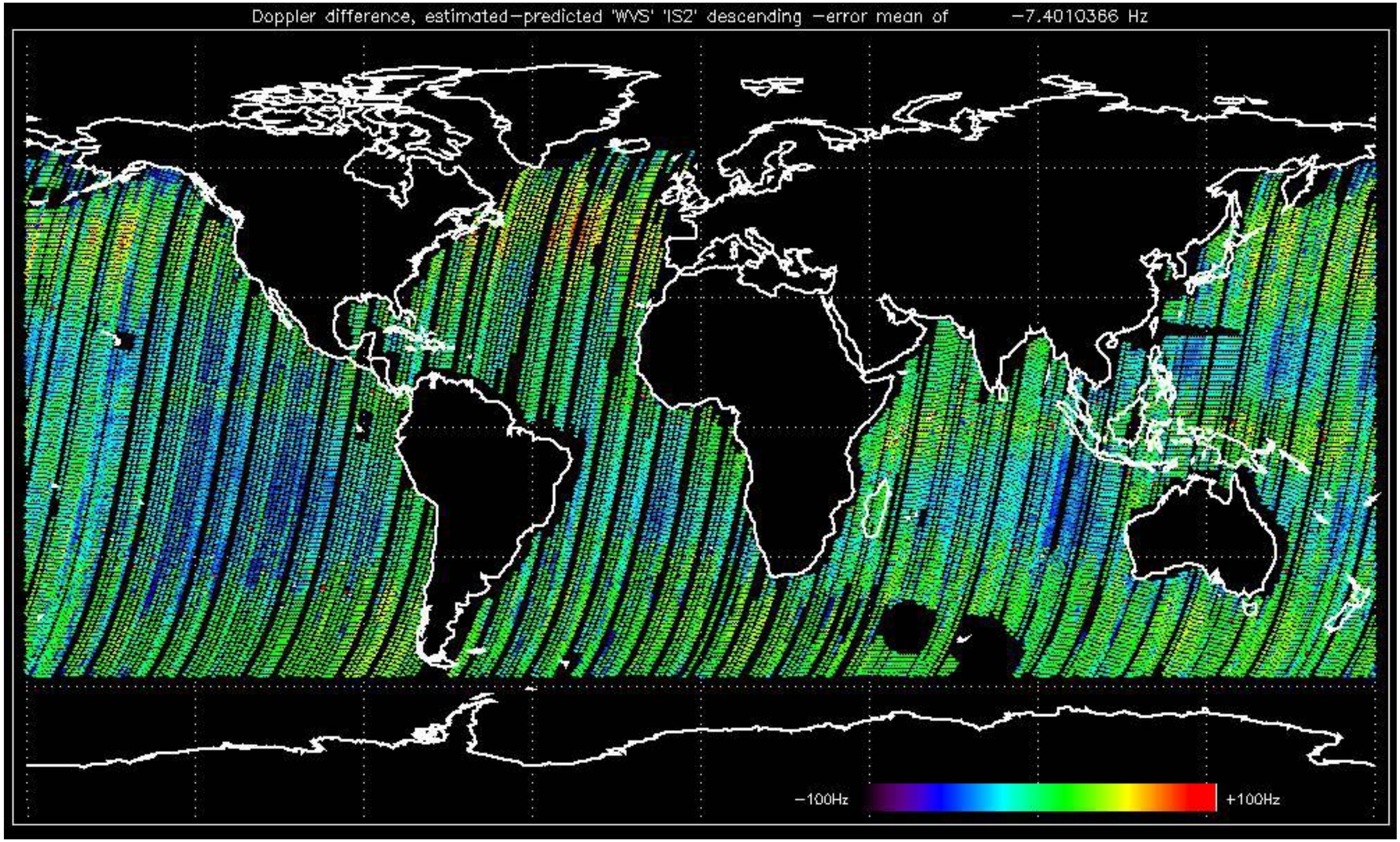

Doppler Bias[Hz]
150
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
20−Dec
Date


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
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
20−Dec
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −17.597651 Hz
−100Hz
+100Hz

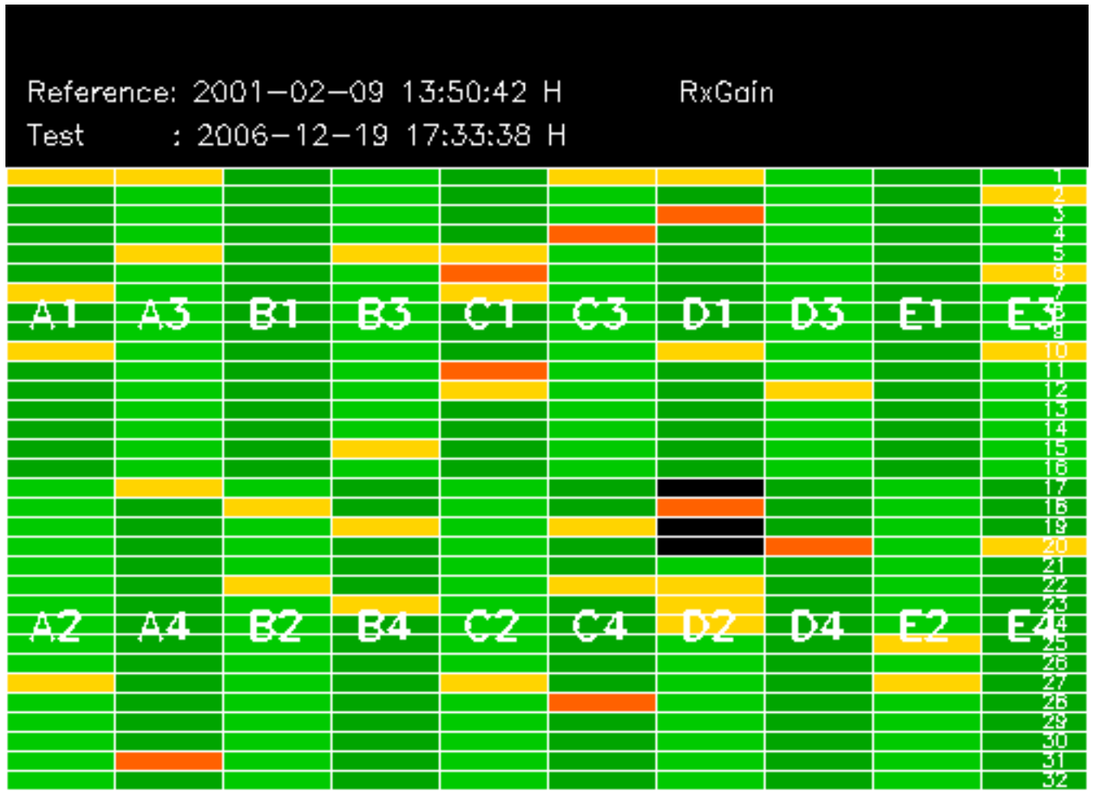

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -12.424188 Hz
-100Hz
+100Hz

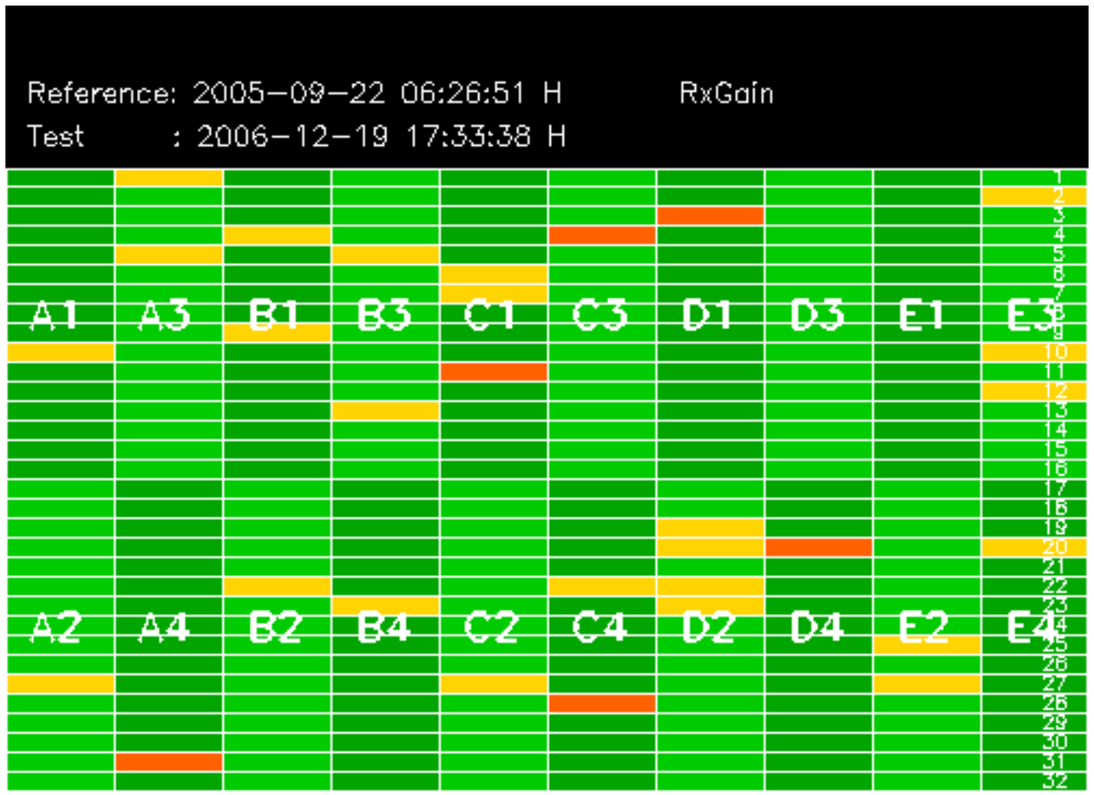

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −10.121644 Hz
−100Hz
+100Hz

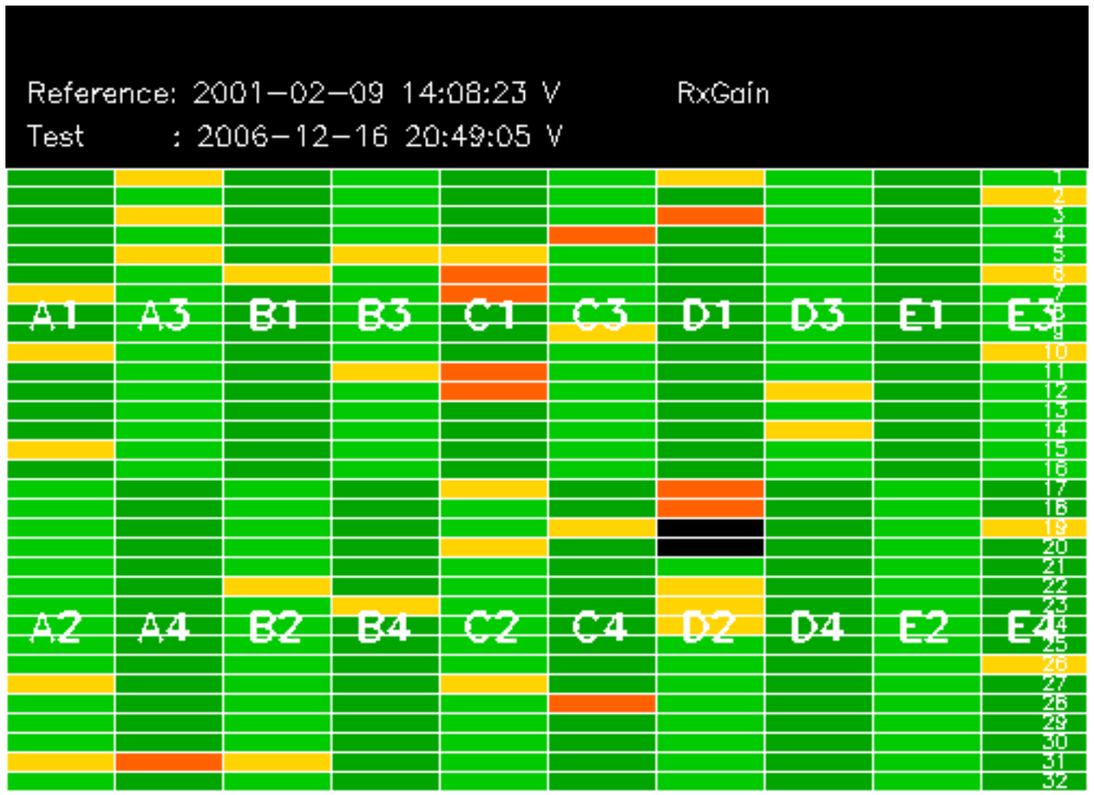

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −7.4010366 Hz
−100Hz
+100Hz

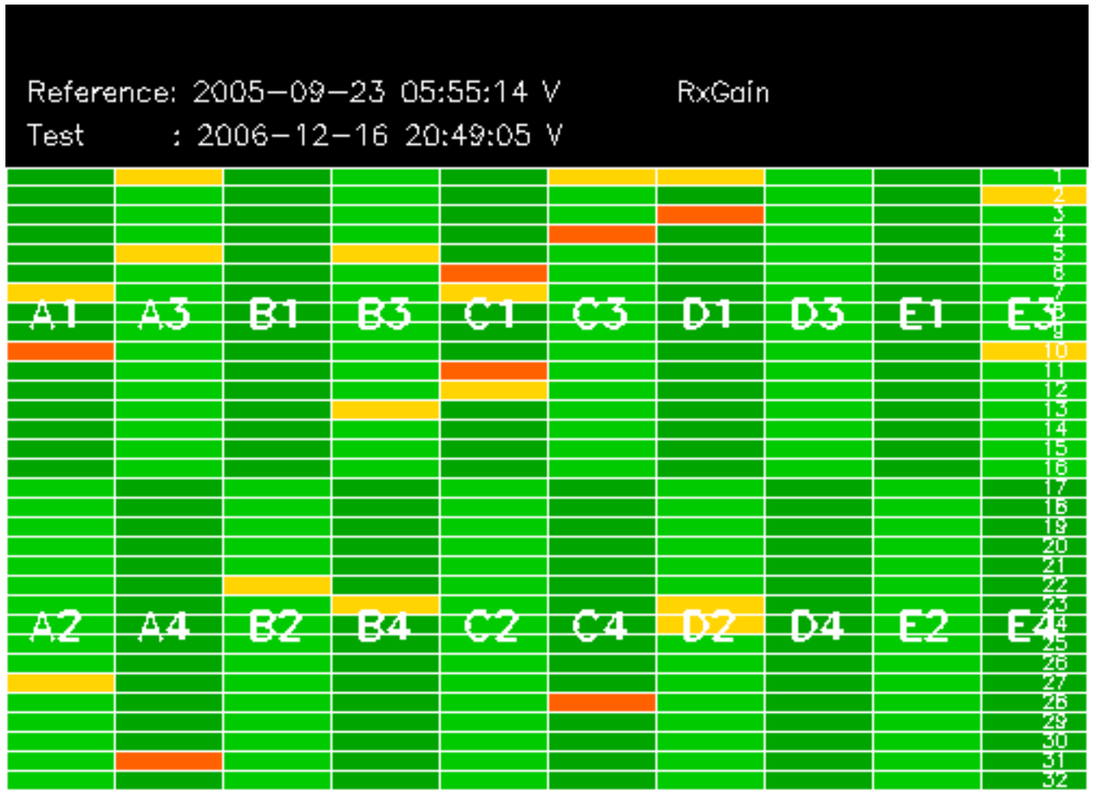
No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2006-12-19 17:33:38 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-22 06:26:51 H
Test : 2006-12-19 17:33:38 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 : 2006-12-16 20:49:05 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-23 05:55:14 V
Test : 2006-12-16 20:49:05 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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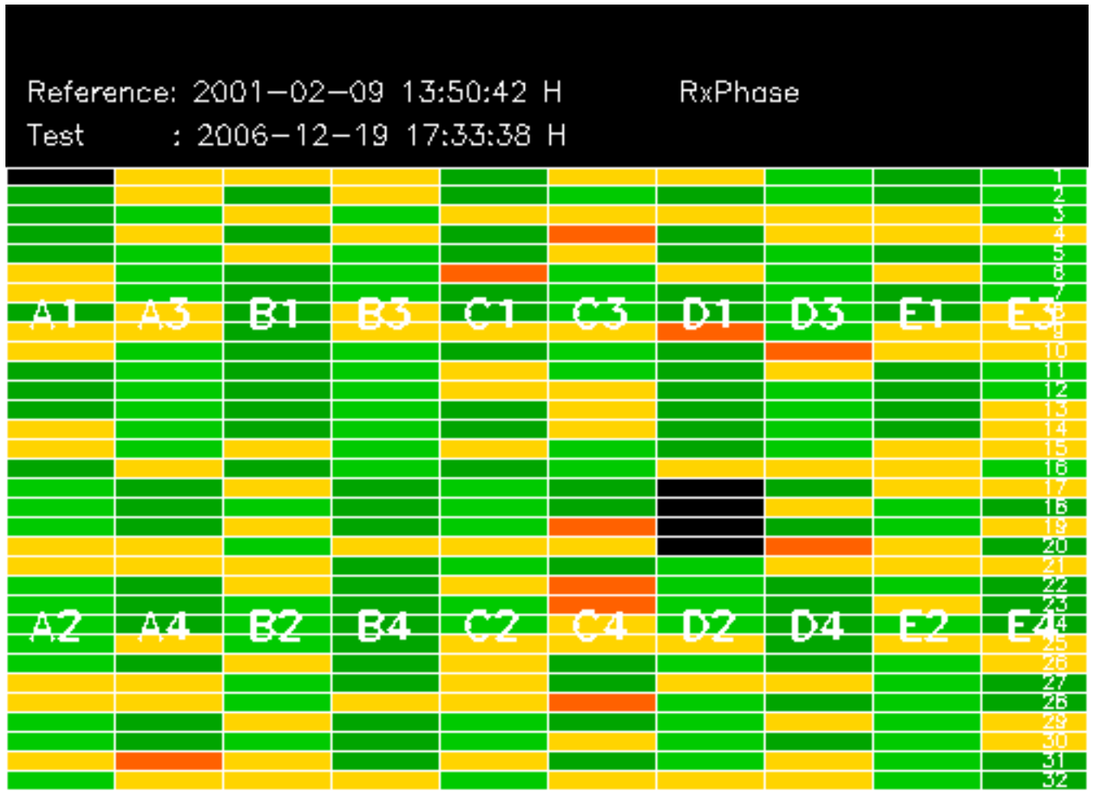
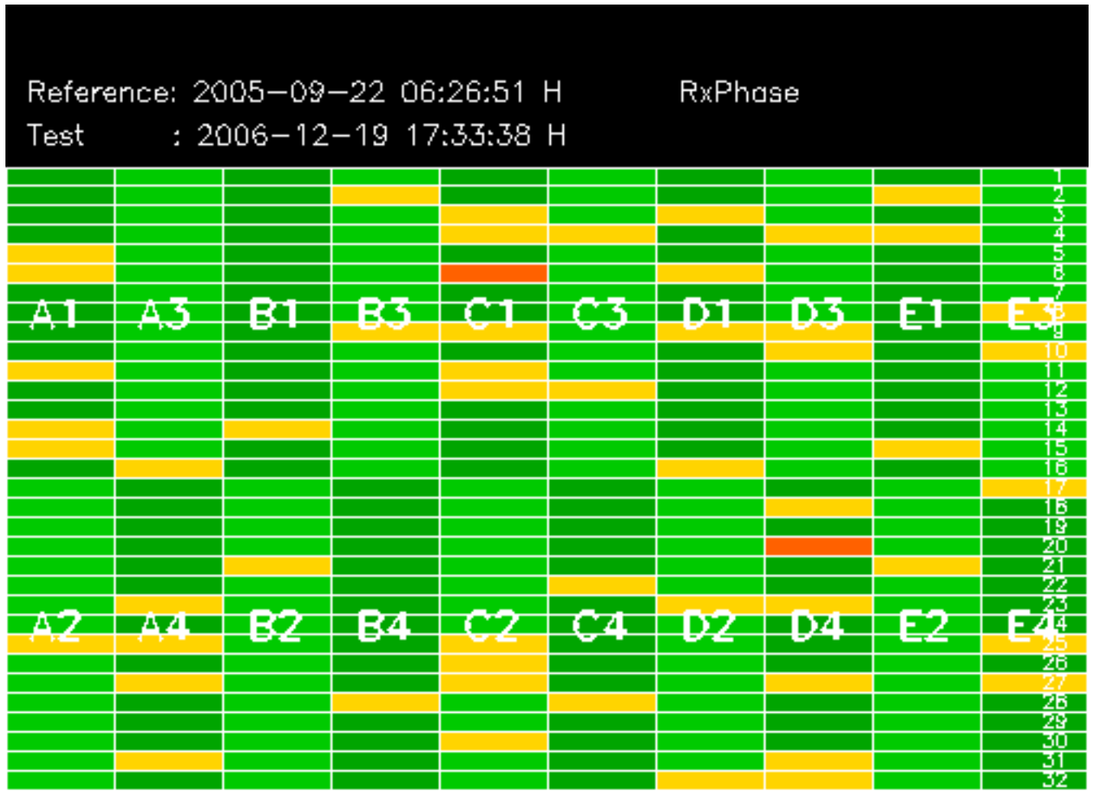
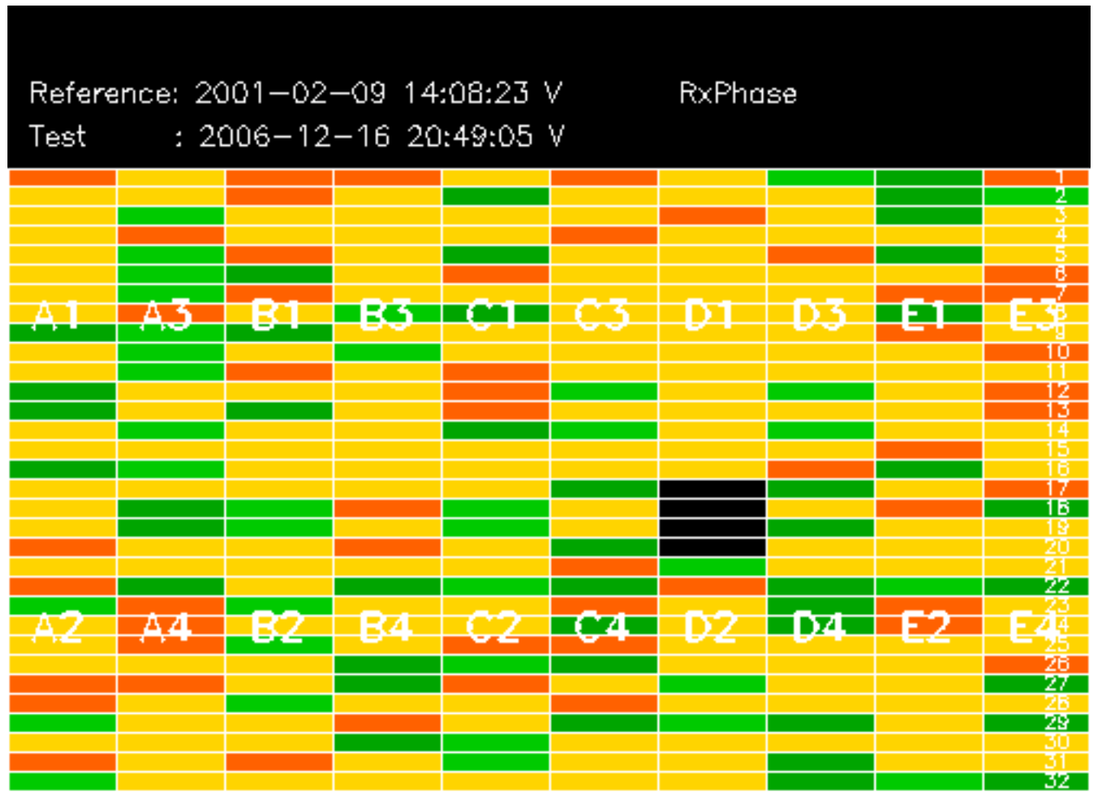
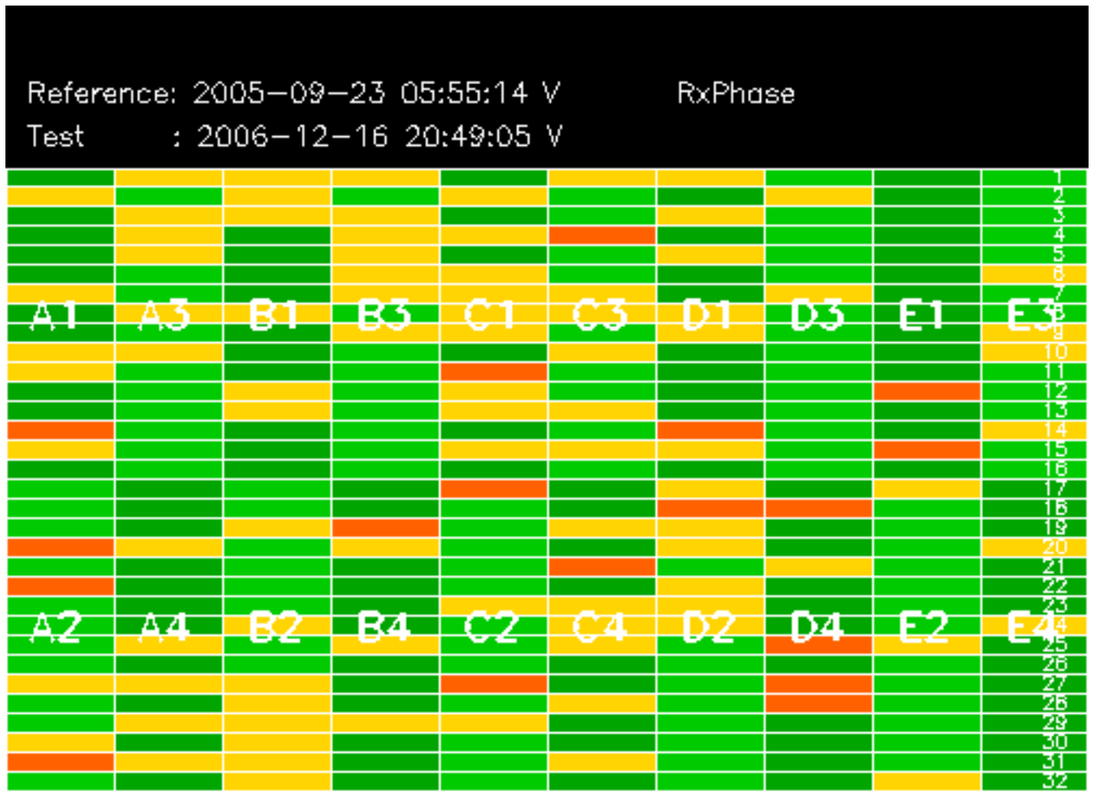

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-12-19 17:33:38 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-22 06:26:51 H
RxPhase
Test : 2006-12-19 17:33:38 H
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 : 2006-12-16 20:49:05 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-23 05:55:14 V
Test : 2006-12-16 20:49:05 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
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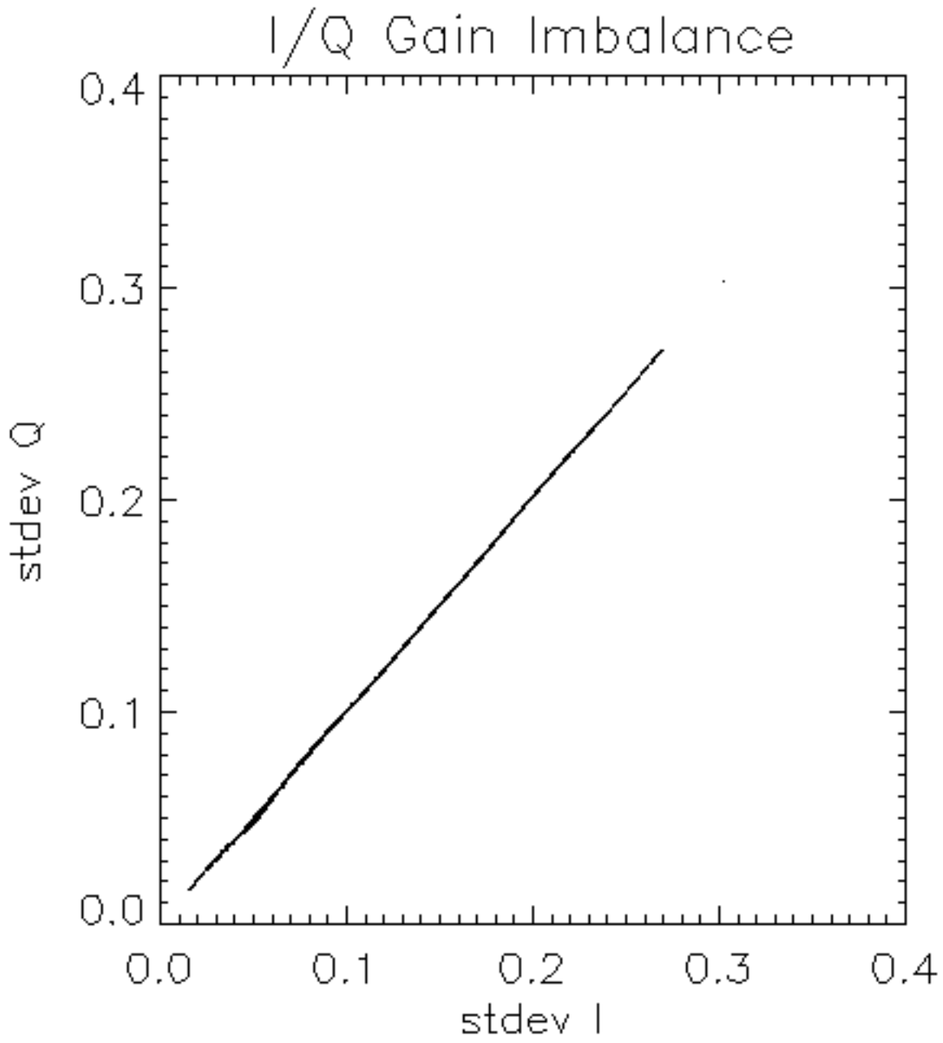
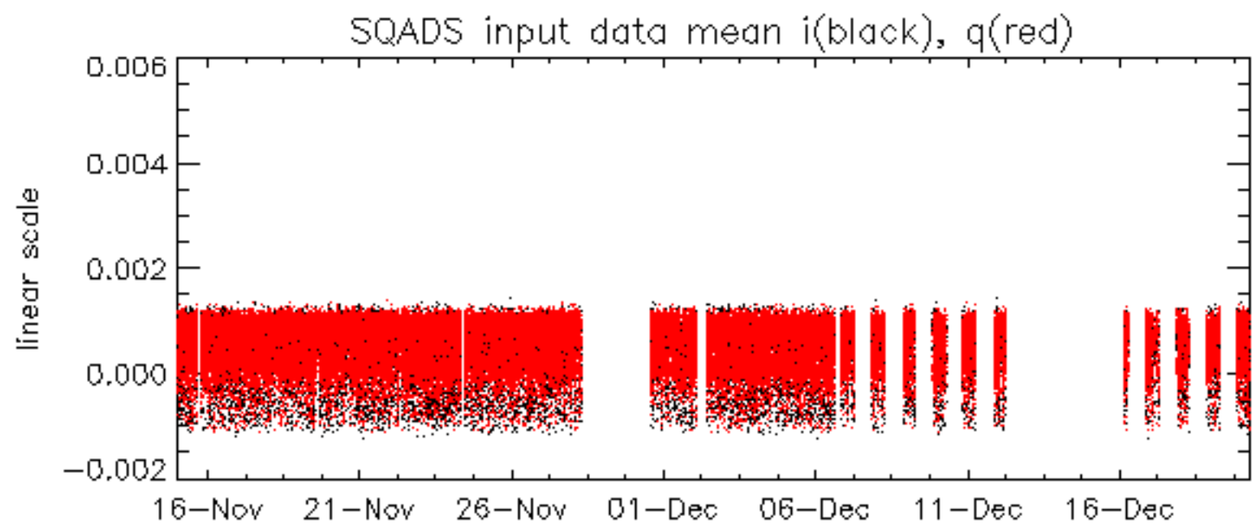
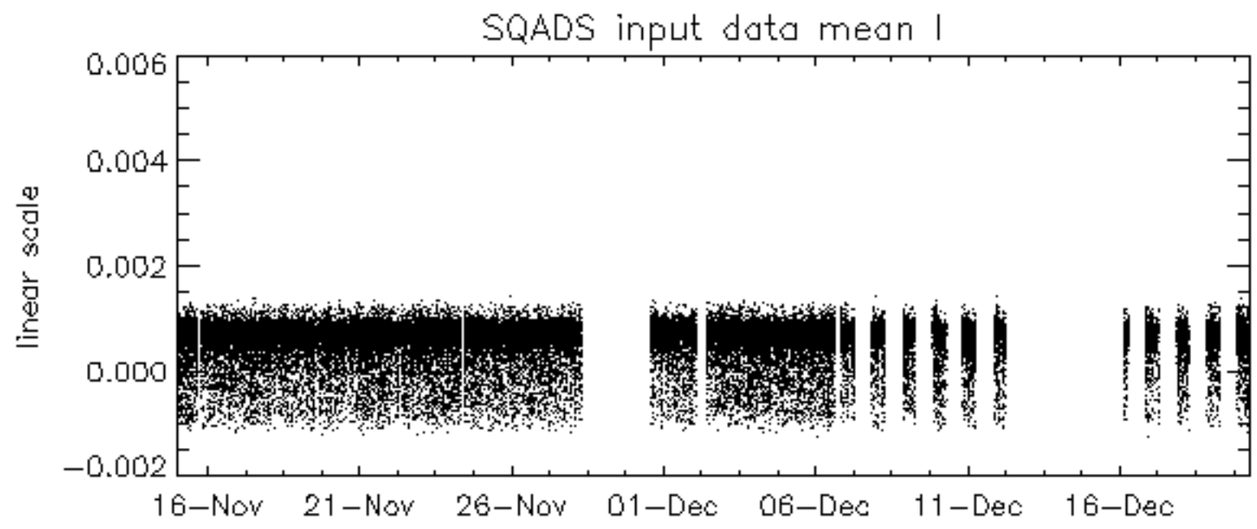
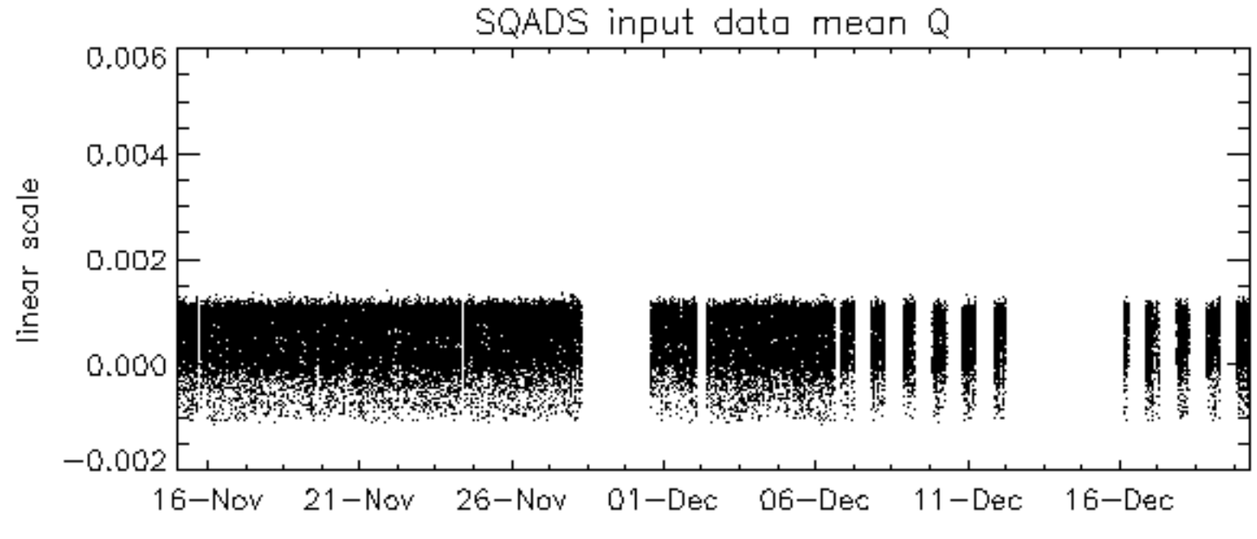
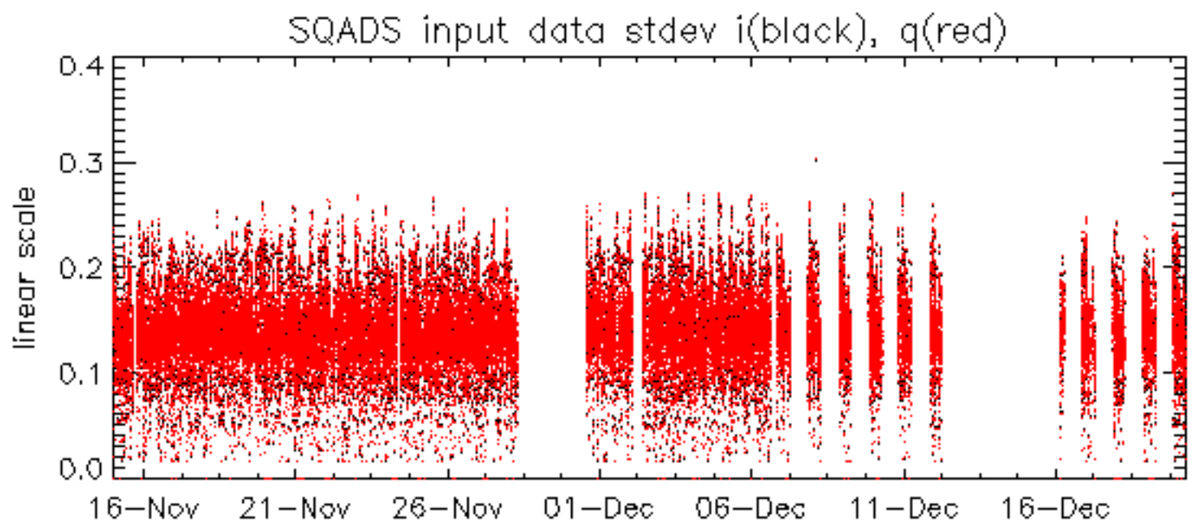
32

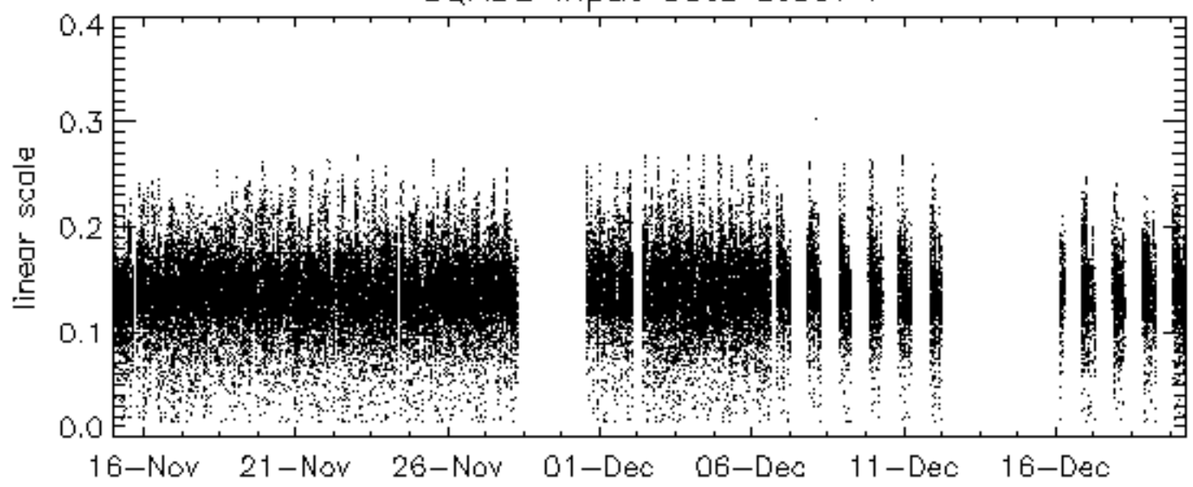

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

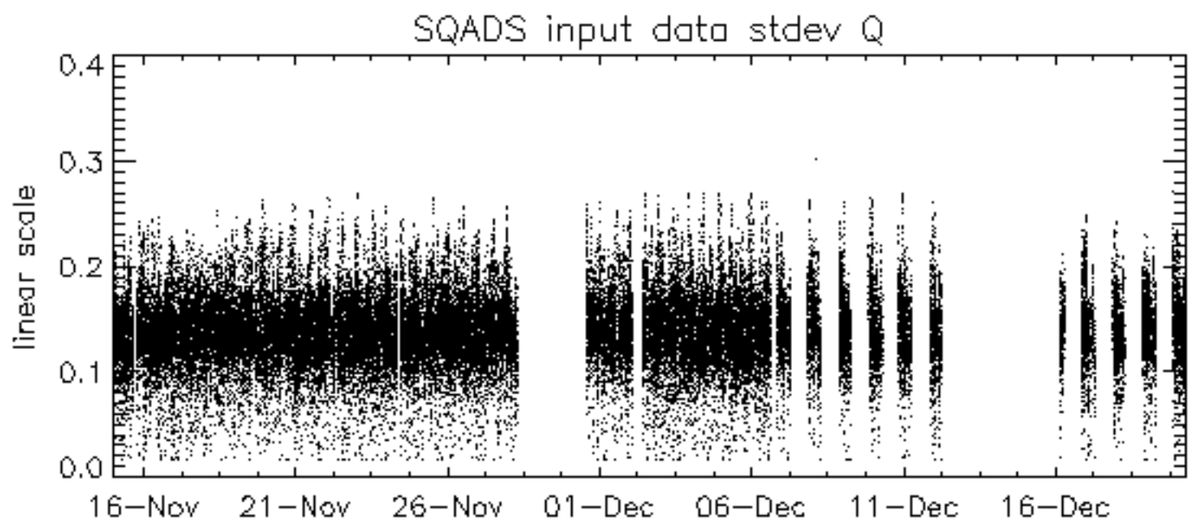

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec

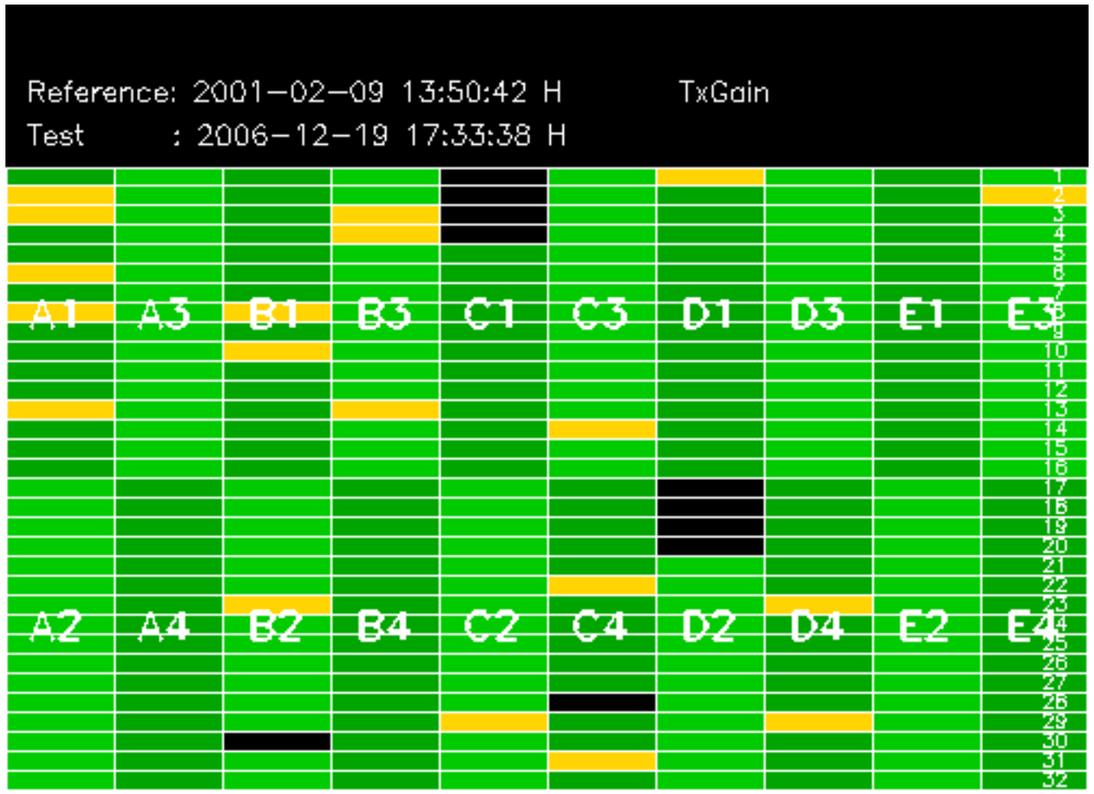

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec

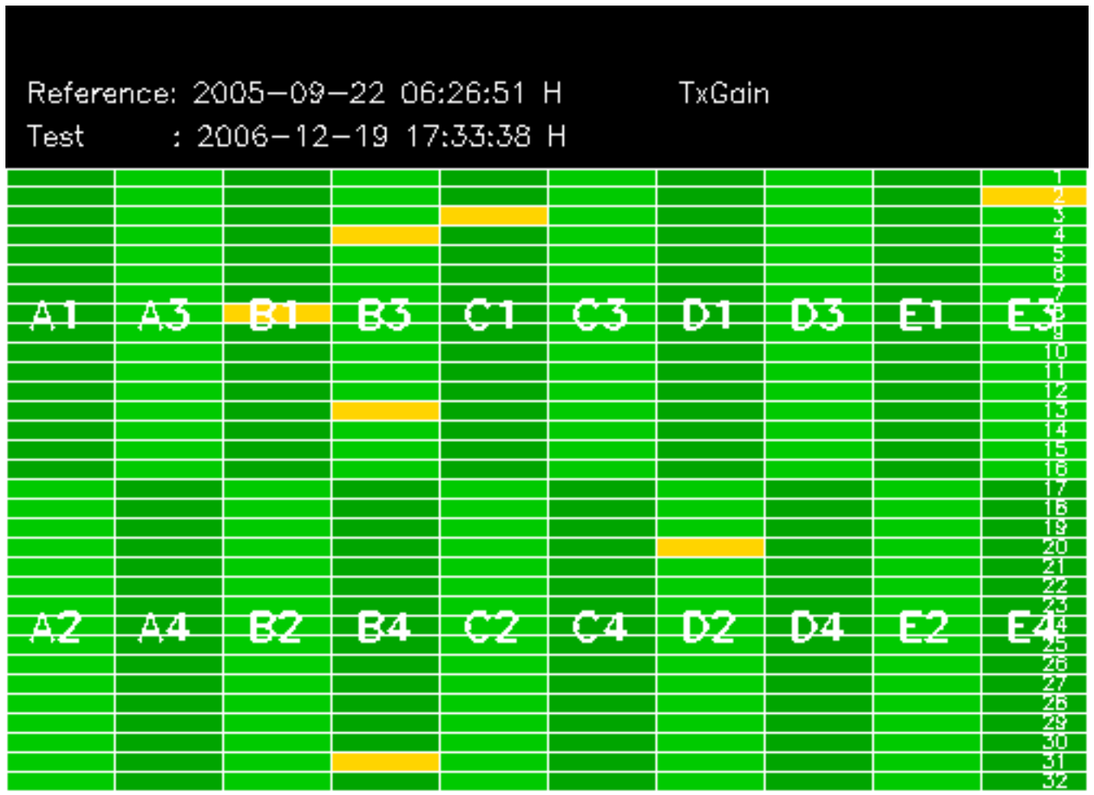

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2006-12-19 17:33:38 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-22 06:26:51 H
Test : 2006-12-19 17:33:38 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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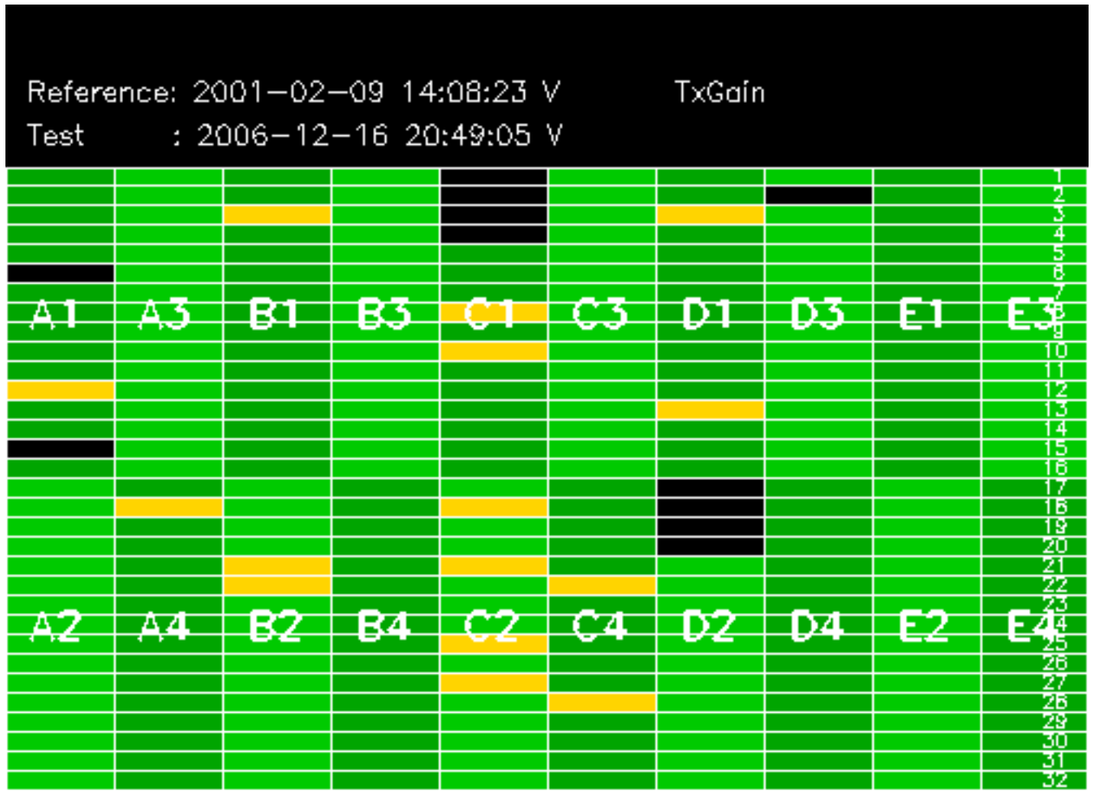
Reference: 2001-02-09 14:08:23 V
Test : 2006-12-16 20:49:05 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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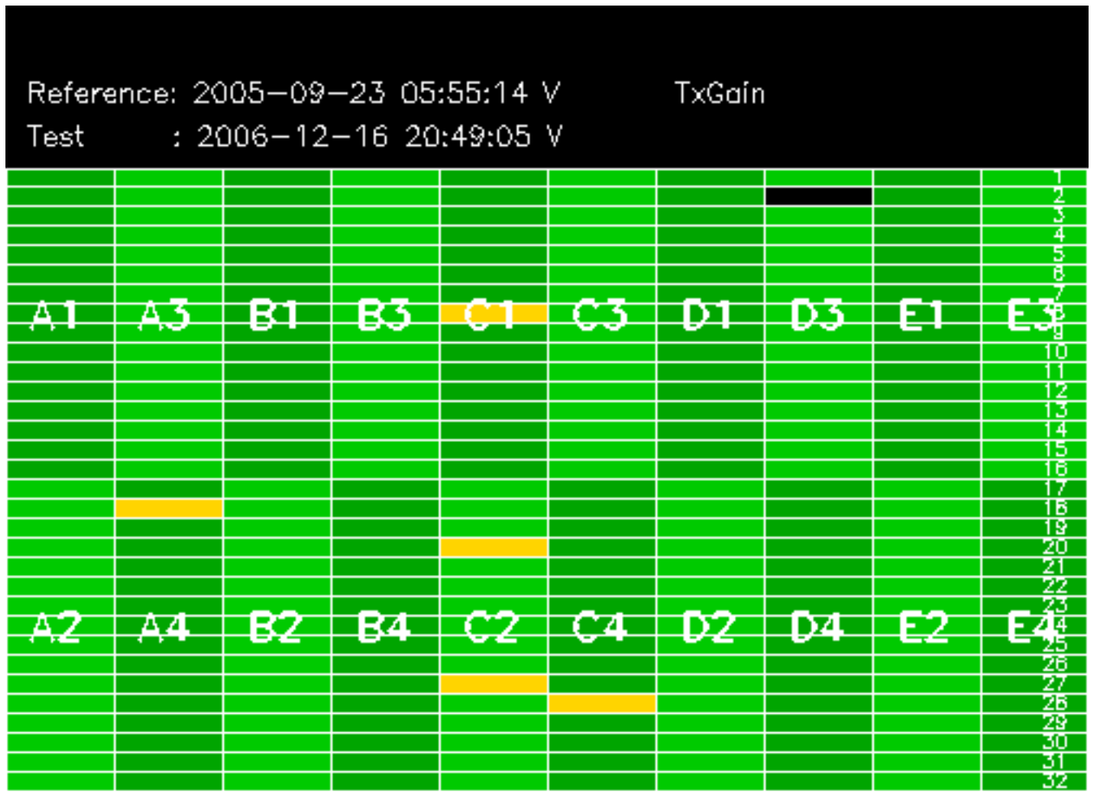
Reference: 2005-09-23 05:55:14 V
Test : 2006-12-16 20:49:05 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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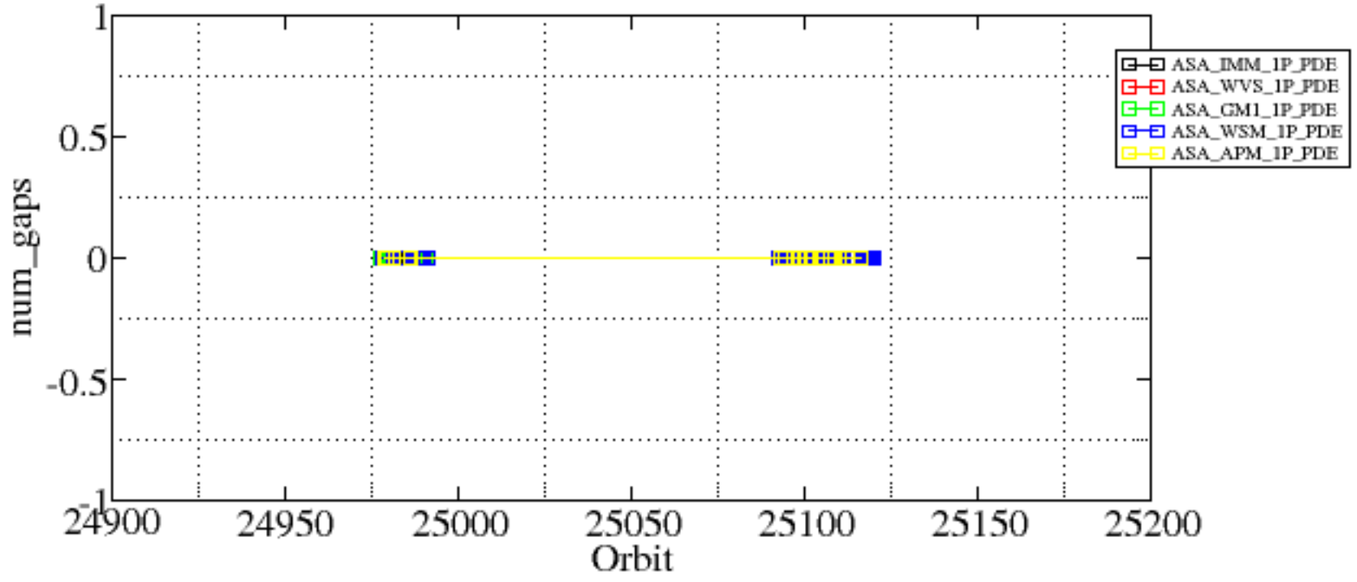
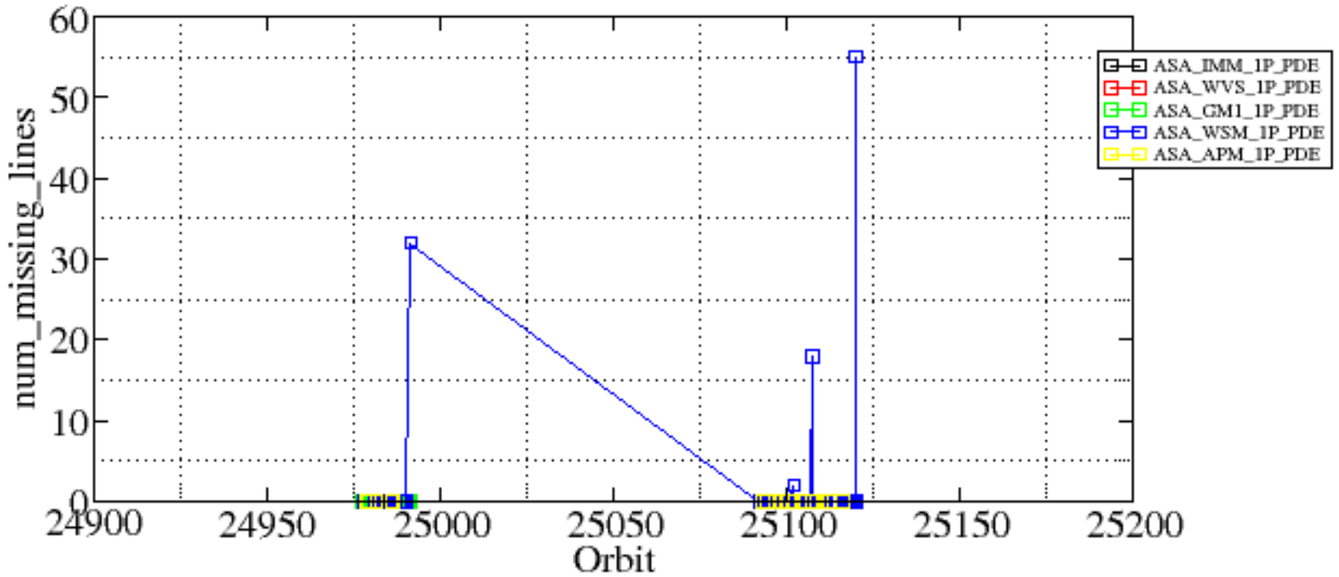
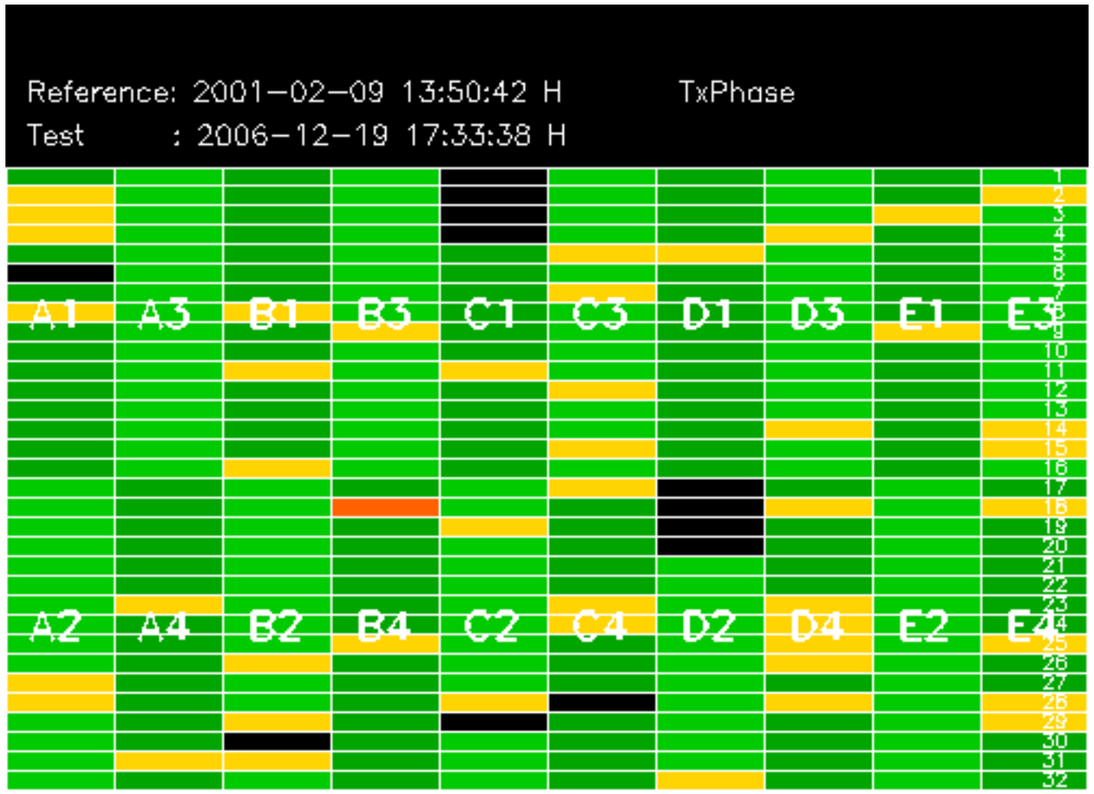
Summary of analysis for the last 3 days 2006121[890]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_WSM_1PNPDE20061210_234034_000001412053_00388_24991_8054.N1 </td> <td>0 </td> <td>32 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20061218_165907_000000852053_00499_25102_3527.N1 </td> <td>0 </td> <td>2 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20061219_020903_000001152054_00003_25107_4095.N1 </td> <td>0 </td> <td>18 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20061219_231143_000000972054_00016_25120_5295.N1 </td> <td>0 </td> <td>55 </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
24900
24950
25000
25050
25100
25150
25200
Orbit
ASA_IMM_1P_PDE
ASA_WVS_1P_PDE
ASA_GM1_1P_PDE
ASA_WSM_1P_PDE
ASA_APM_1P_PDE


num_missing_lines
Orbit
60
50
40
30
20
10
0
24900
24950
25000
25050
25100
25150
25200
ASA_IMM_1P_PDE
ASA_WVS_1P_PDE
ASA_GM1_1P_PDE
ASA_WSM_1P_PDE
ASA_APM_1P_PDE


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2006-12-19 17:33:38 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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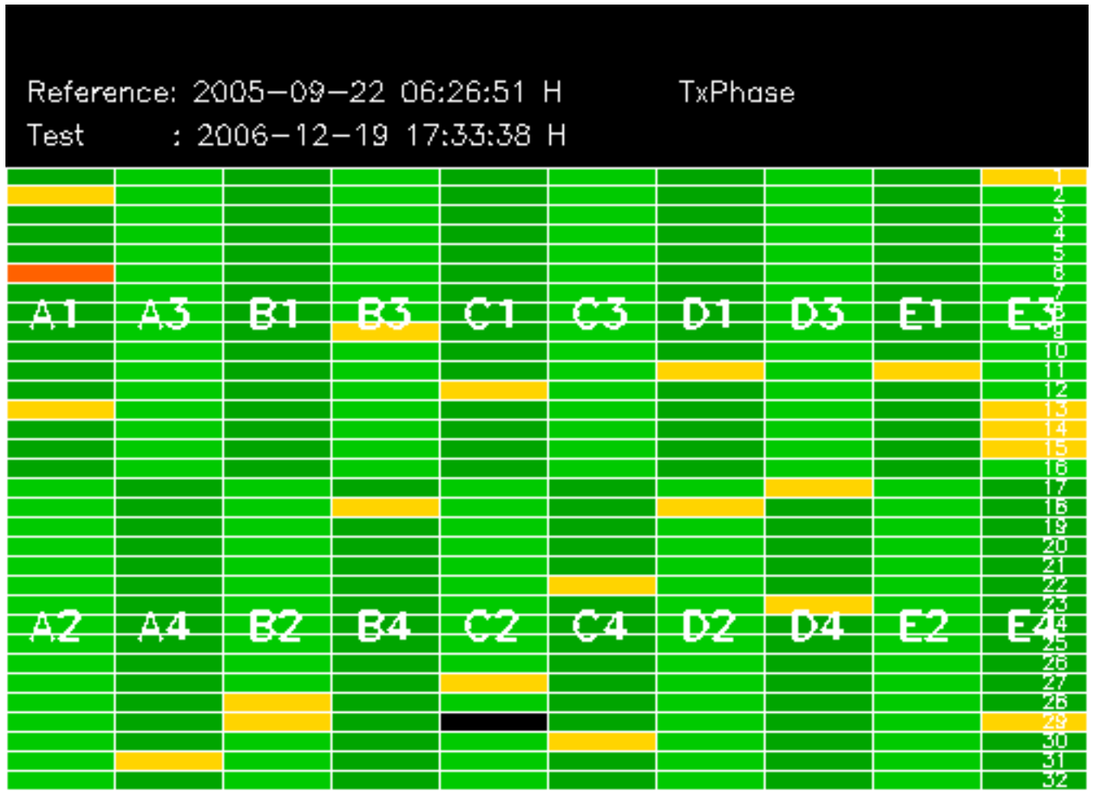
Reference: 2005-09-22 06:26:51 H
Test : 2006-12-19 17:33:38 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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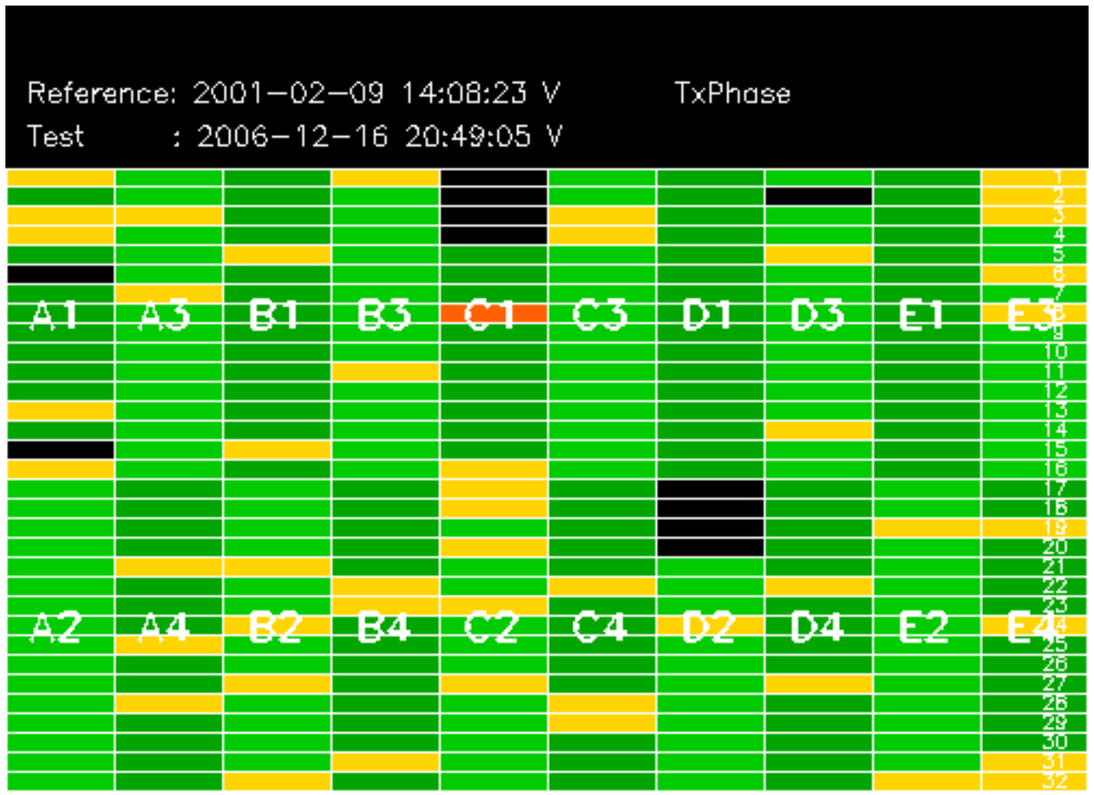
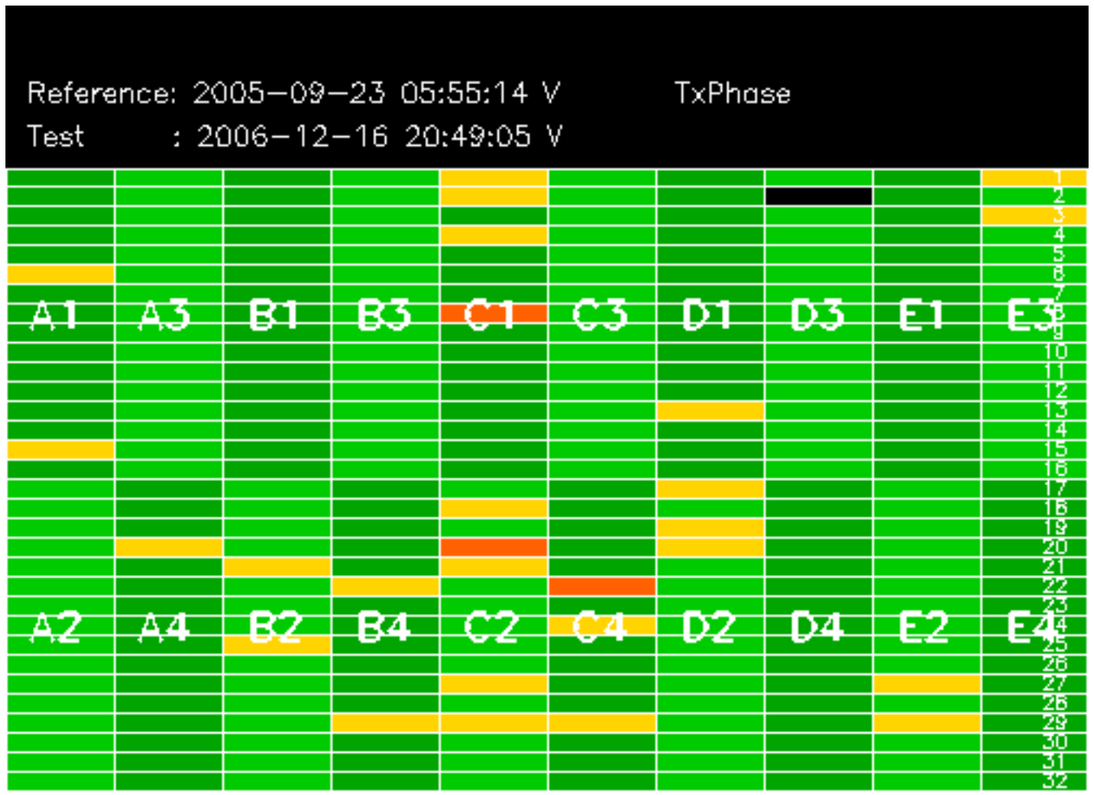

Reference: 2001-02-09 14:08:23 V
Test : 2006-12-16 20:49:05 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-23 05:55:14 V
Test : 2006-12-16 20:49:05 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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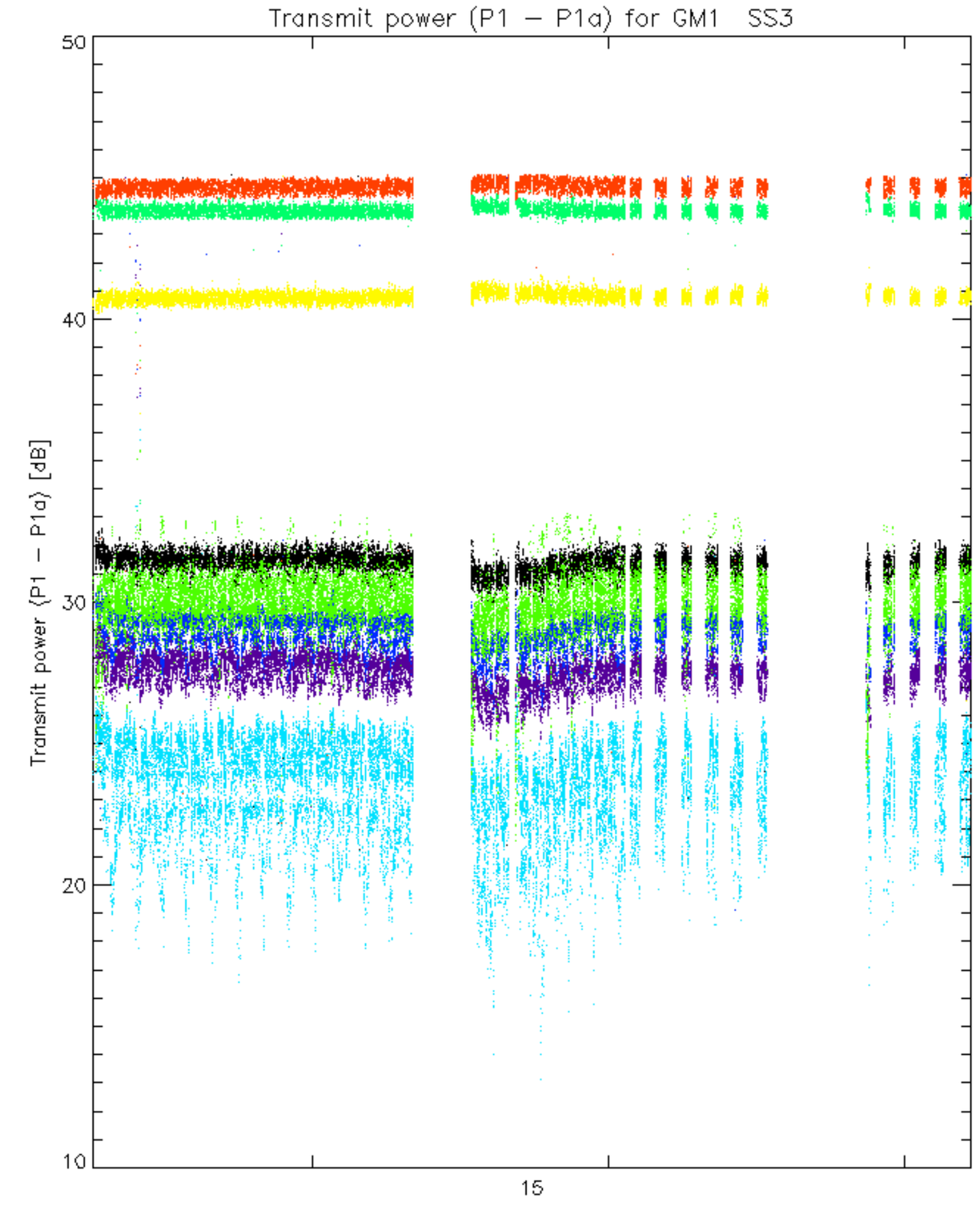
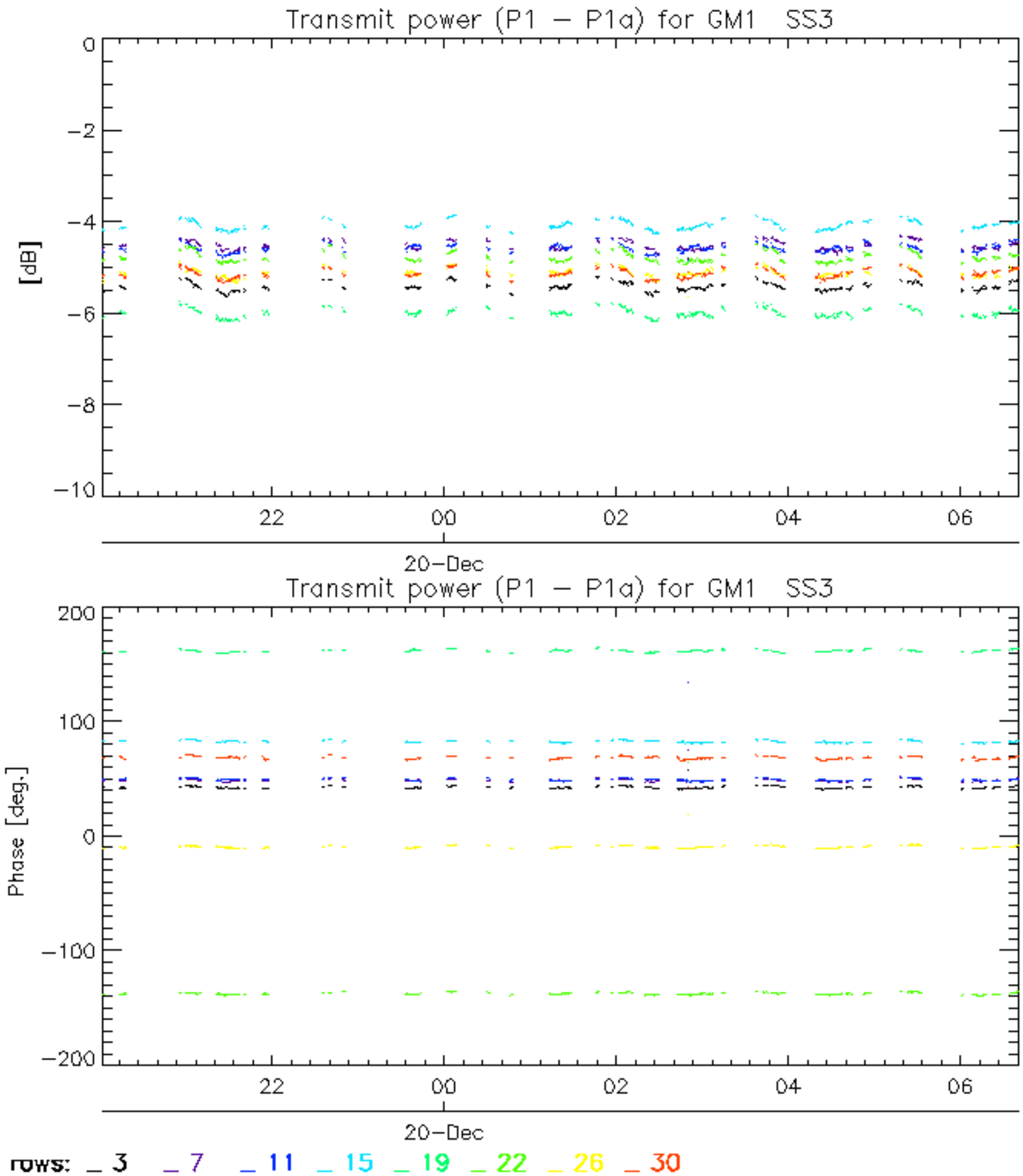
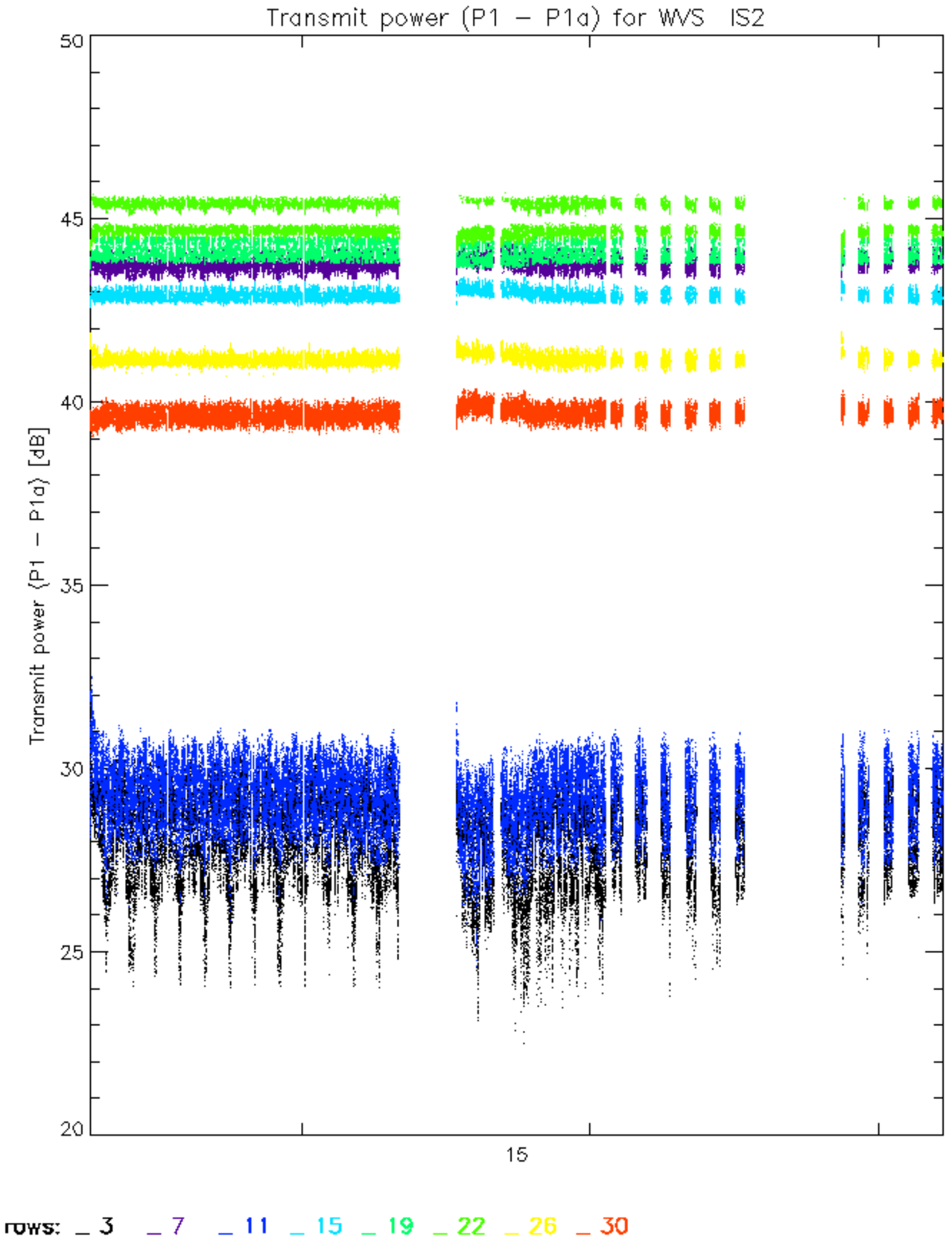
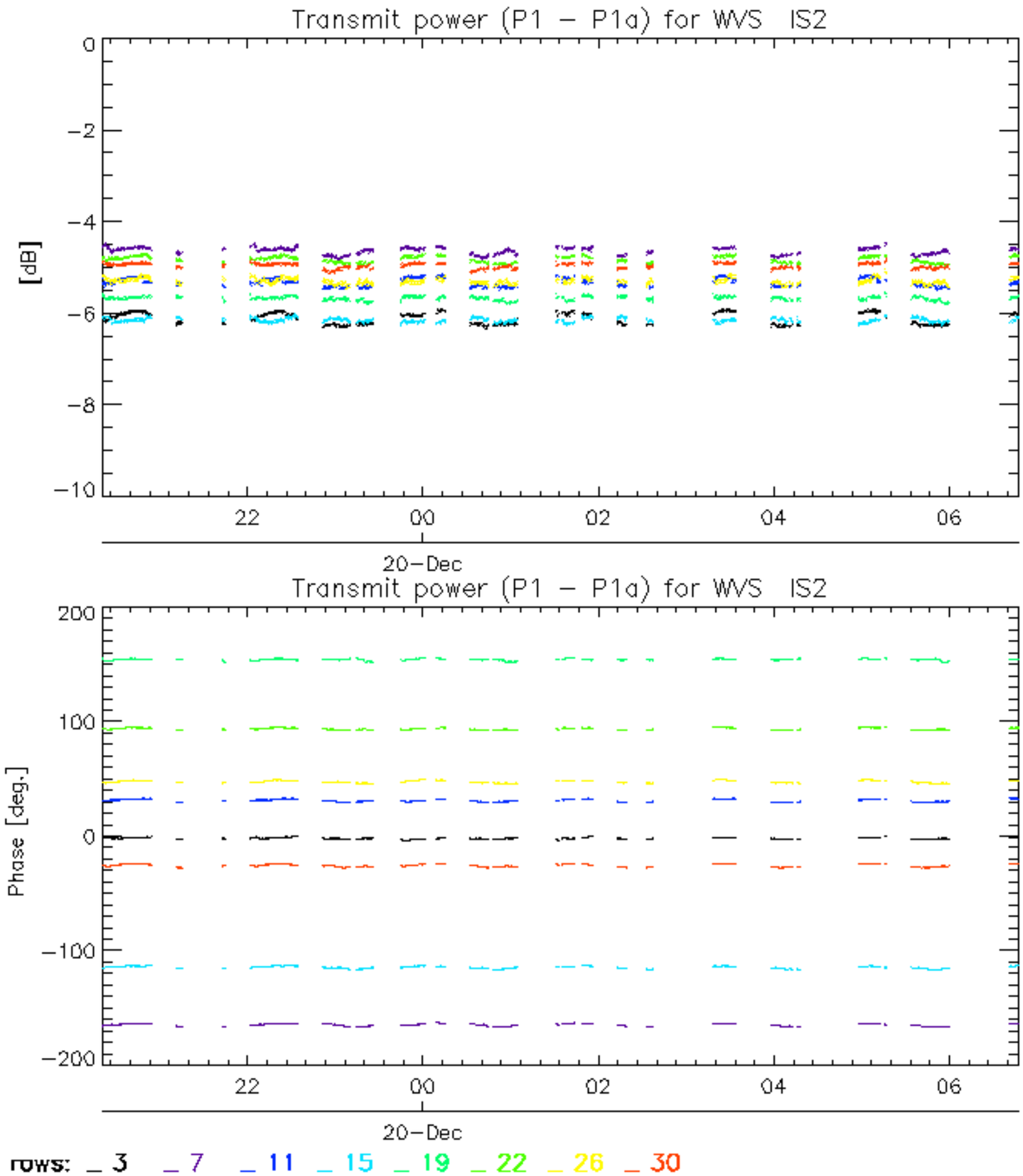

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
15
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
0
−2
−4
−6
−8
−10
[dB]
22
00
02
04
06
20−Dec
Transmit power (P1 – P1a) for GM1 SS3
200
100
0
−100
−200
Phase [deg.]
22
00
02
04
06
20−Dec
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
15
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
0
−2
−4
−6
−8
−10
[dB]
22
00
02
04
06
20−Dec
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
22
00
02
04
06
20−Dec
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.