PRELIMINARY REPORT OF 061209

last update on Sat Dec 9 16:41:26 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 2006-12-08 00:00:00 to 2006-12-09 16:41:26

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	43	51	52	17	41
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	43	51	52	17	41
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	43	51	52	17	41
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	43	51	52	17	41

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:

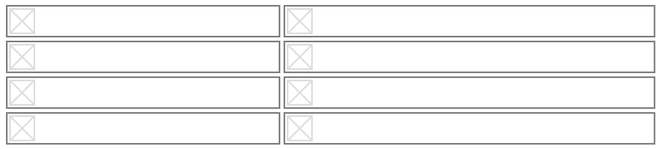
Polarisation	Start Time
V	20061206 073841
H	20061207 070704

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

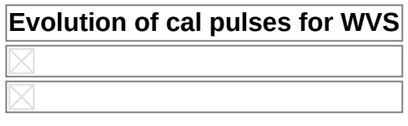


4 - Internal calibration Results

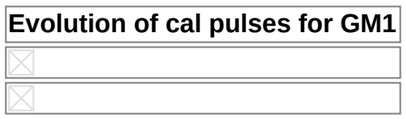
No anomalies observed.

4.1 - Daily statistics

4.1.1 - Evolution for WVS

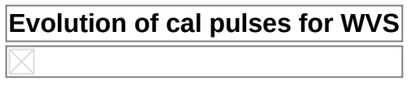


4.1.2 - Evolution for GM1



4.2 - Cyclic statistics

4.2.1 - Evolution 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	-3.962054	0.008204	-0.004245
7	P1	-3.154823	0.024403	0.009270
11	P1	-4.130670	0.025223	0.012820
15	P1	-6.310078	0.014908	-0.040982
19	P1	-3.626602	0.006320	-0.066177
22	P1	-4.652017	0.013071	-0.015556
26	P1	-3.951356	0.010364	-0.017449
30	P1	-5.878001	0.009409	-0.048971
3	P1	-16.521757	0.242708	-0.031571
7	P1	-17.296427	0.184238	-0.029697
11	P1	-17.196398	0.458257	-0.018208
15	P1	-13.073078	0.134927	0.006651
19	P1	-14.946190	0.092348	-0.134047
22	P1	-15.856144	0.528773	0.047731
26	P1	-15.057761	0.194034	-0.055157
30	P1	-17.512827	0.473022	-0.051912

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.829292	0.093944	0.058619
7	P2	-21.733175	0.095989	-0.003749
11	P2	-15.628021	0.104392	0.115928
15	P2	-7.123035	0.108394	0.004836
19	P2	-9.193460	0.106959	0.001433
22	P2	-18.239338	0.098915	-0.001931
26	P2	-16.568592	0.114289	-0.055964
30	P2	-19.469631	0.089457	0.024720

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.245688	0.008625	-0.009042
7	P3	-8.245688	0.008625	-0.009042
11	P3	-8.245688	0.008625	-0.009042

15	P3	-8.245688	0.008625	-0.009042
19	P3	-8.245688	0.008625	-0.009042
22	P3	-8.245688	0.008625	-0.009042
26	P3	-8.245640	0.008635	-0.009451
30	P3	-8.245640	0.008635	-0.009451

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	-3.912888	0.025696	-0.014609
7	P1	-2.497124	0.123880	0.067833
11	P1	-2.855110	0.028384	0.014499
15	P1	-3.682773	0.040919	0.004906
19	P1	-3.531834	0.017188	-0.039114
22	P1	-5.032676	0.022653	0.027774
26	P1	-6.012560	0.027577	-0.056391
30	P1	-5.330662	0.039134	-0.066662
3	P1	-11.731038	0.094704	-0.047251
7	P1	-10.060305	0.207497	0.012120
11	P1	-10.329643	0.134787	-0.002444
15	P1	-10.725973	0.138695	0.091062
19	P1	-15.708150	0.108327	-0.076790
22	P1	-21.521719	1.425221	-0.334050
26	P1	-16.063807	0.322424	-0.093312
30	P1	-17.891109	0.376944	0.050923

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.467552	0.109776	-0.028777
7	P2	-22.233377	0.251634	-0.031857
11	P2	-10.927673	0.128280	0.083715
15	P2	-4.979198	0.225740	-0.052394
19	P2	-6.957432	0.211017	-0.035630
22	P2	-8.255077	0.138374	-0.010417
26	P2	-24.324879	0.205664	0.007553
30	P2	-21.953465	0.163432	-0.011399

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.090782	0.003869	-0.015240
7	P3	-8.090795	0.003871	-0.015180
11	P3	-8.090853	0.003873	-0.015128
15	P3	-8.090718	0.003869	-0.015061
19	P3	-8.090858	0.003873	-0.014985
22	P3	-8.090759	0.003864	-0.015293
26	P3	-8.090807	0.003877	-0.015103
30	P3	-8.090710	0.003884	-0.014804

4.3 - cal pulses monitoring (all rows)

4.3.1 - Evolution for WVS

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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	0.000548779
	stdev	1.76497e-07
MEAN Q	mean	0.000512924
	stdev	2.19487e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.137529
	stdev	0.00117041
STDEV Q	mean	0.137906
	stdev	0.00118939

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006120[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_IMM_1PNPDE20061208_012029_000000352053_00346_24949_3814.N1	1	0
ASA_WSM_1PNPDE20061207_000625_000003242053_00331_24934_2346.N1	0	37
ASA_WSM_1PNPDE20061207_142735_000000852053_00340_24943_3217.N1	0	32
ASA_WSM_1PNPDE20061207_233448_000003242053_00345_24948_3807.N1	0	37

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
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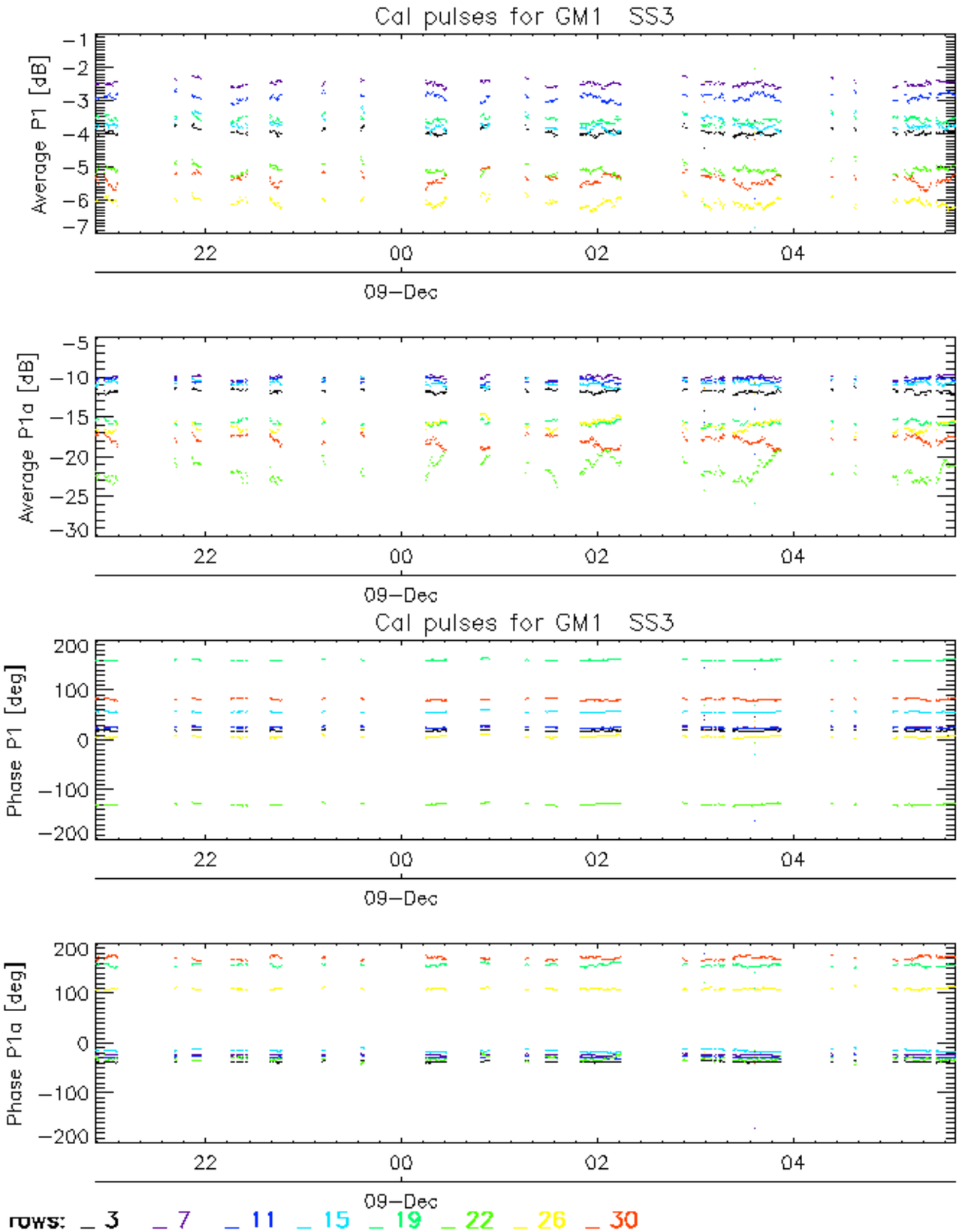
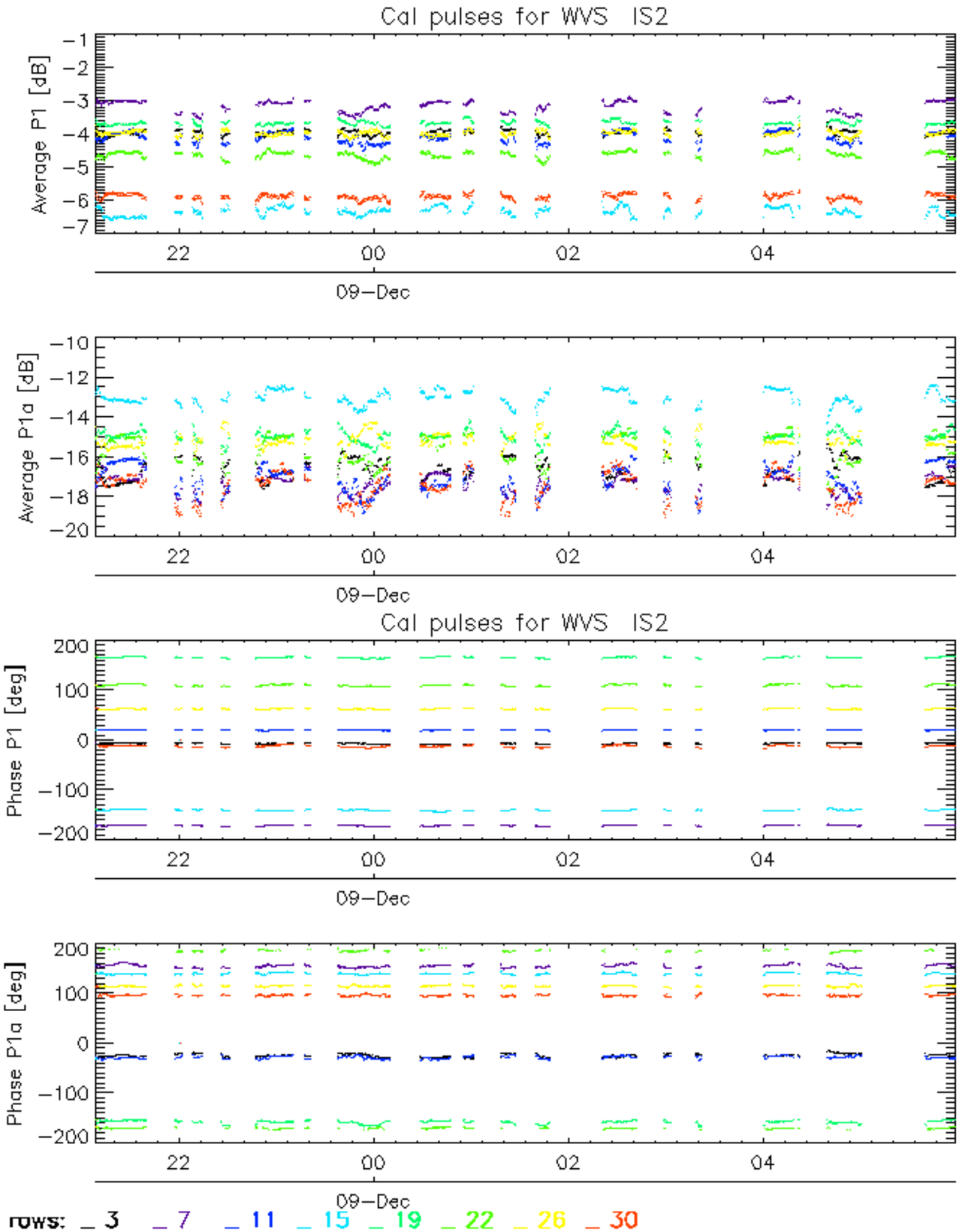
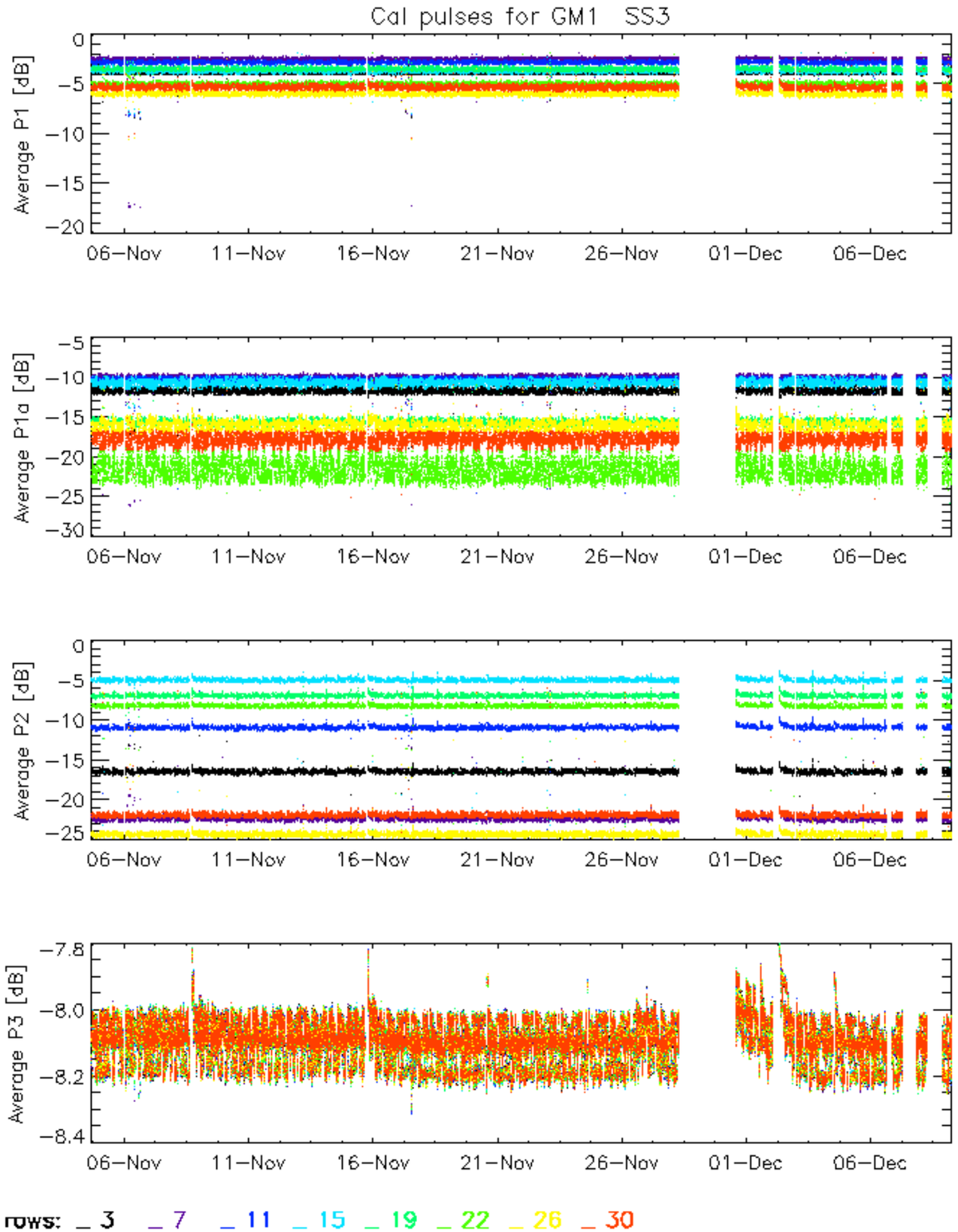
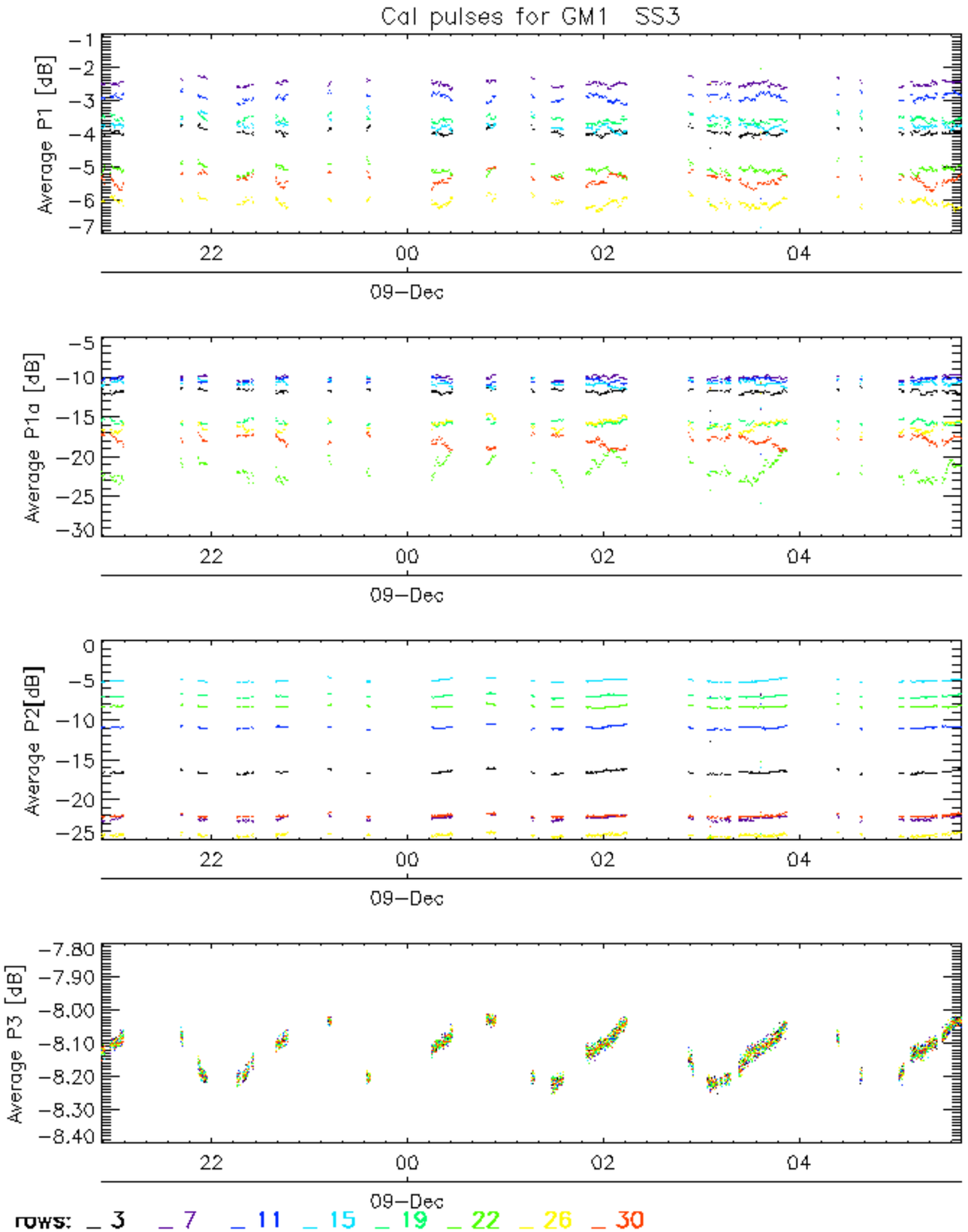
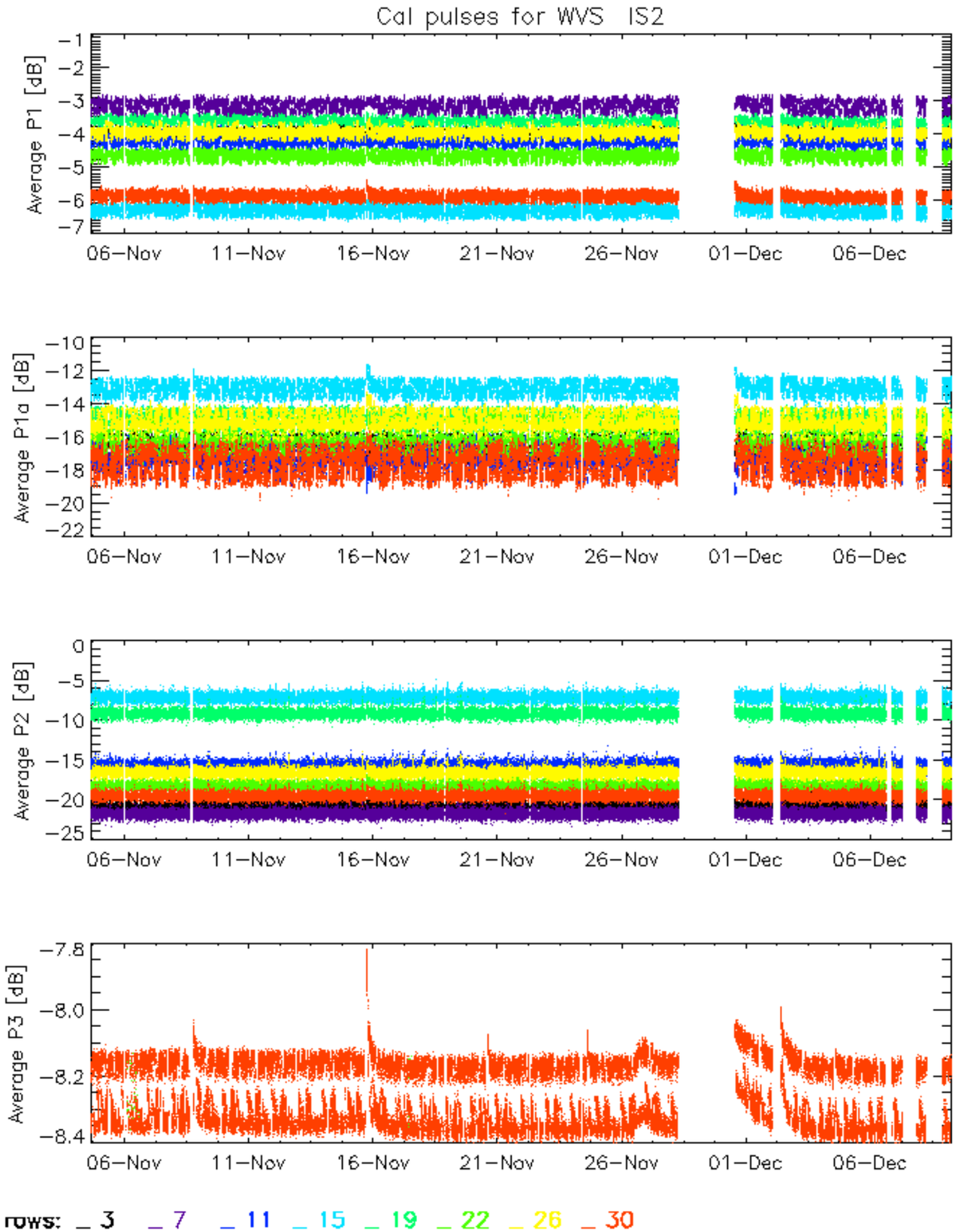
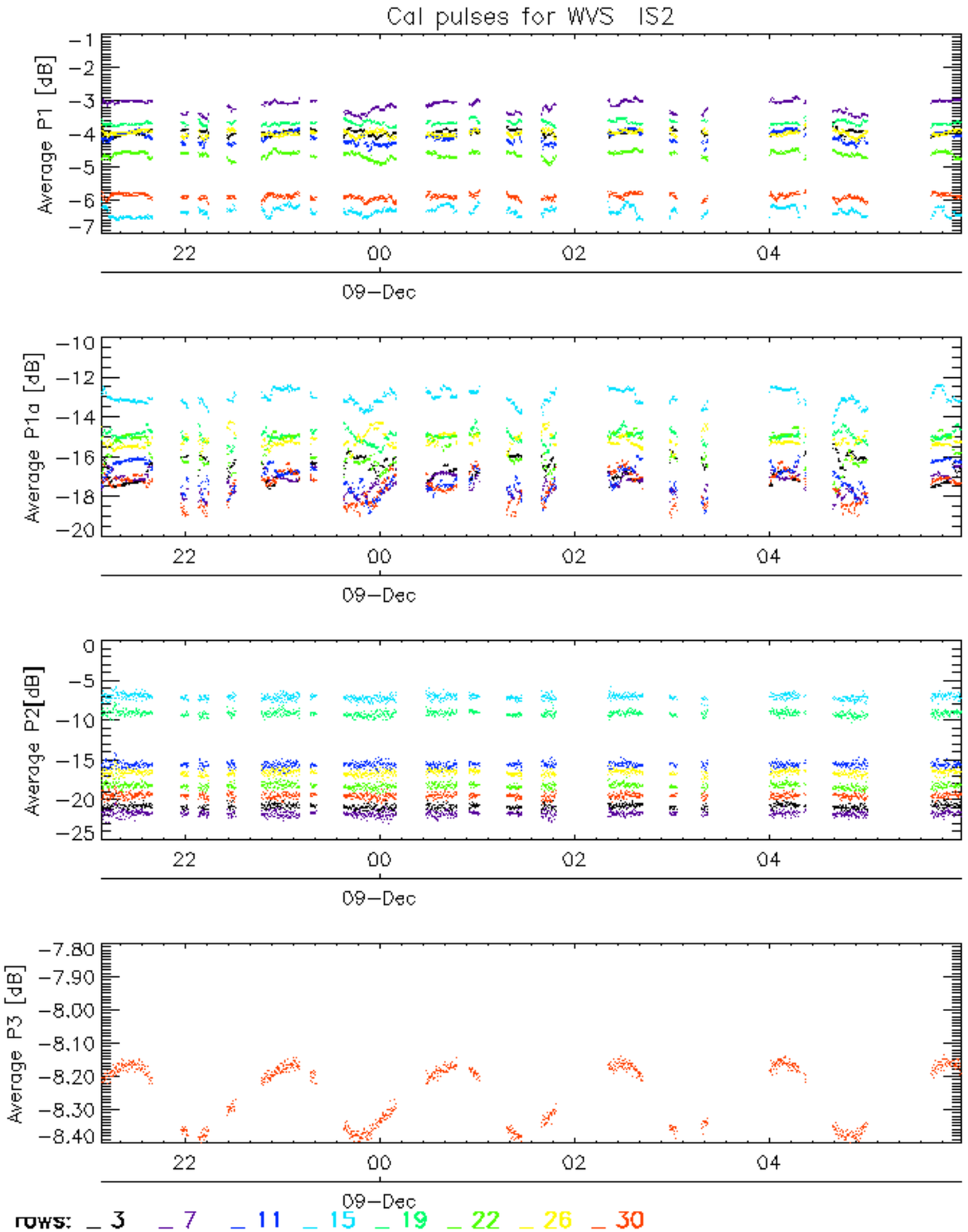

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
22
00
02
04
09−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
−30
22
00
02
04
09−Dec
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
22
00
02
04
09−Dec
Phase P1a [deg]
200
100
0
−100
−200
22
00
02
04
09−Dec
rows: 3 7 11 15 19 22 26 30


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

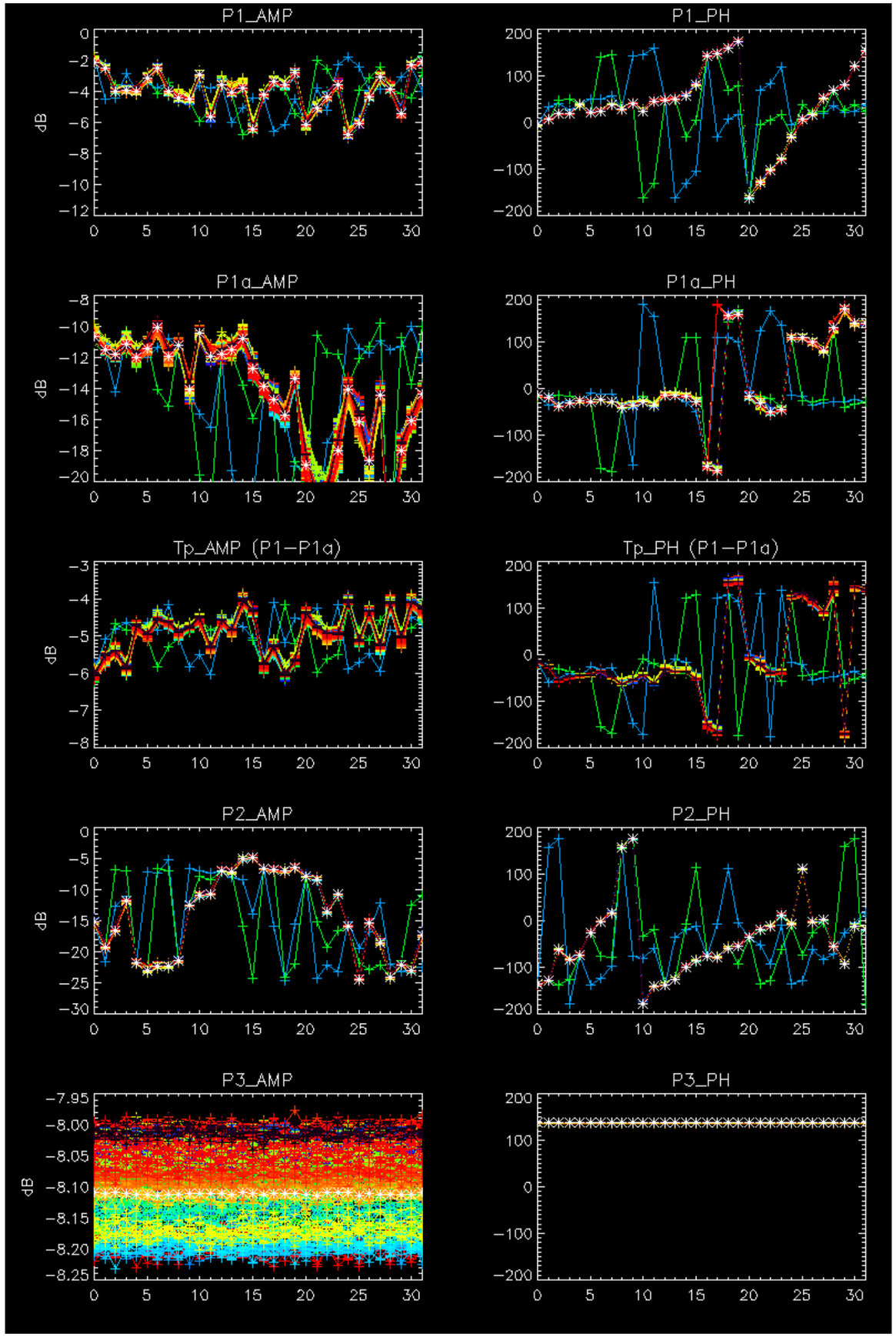

Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
−20
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
06−Nov
11−Nov
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

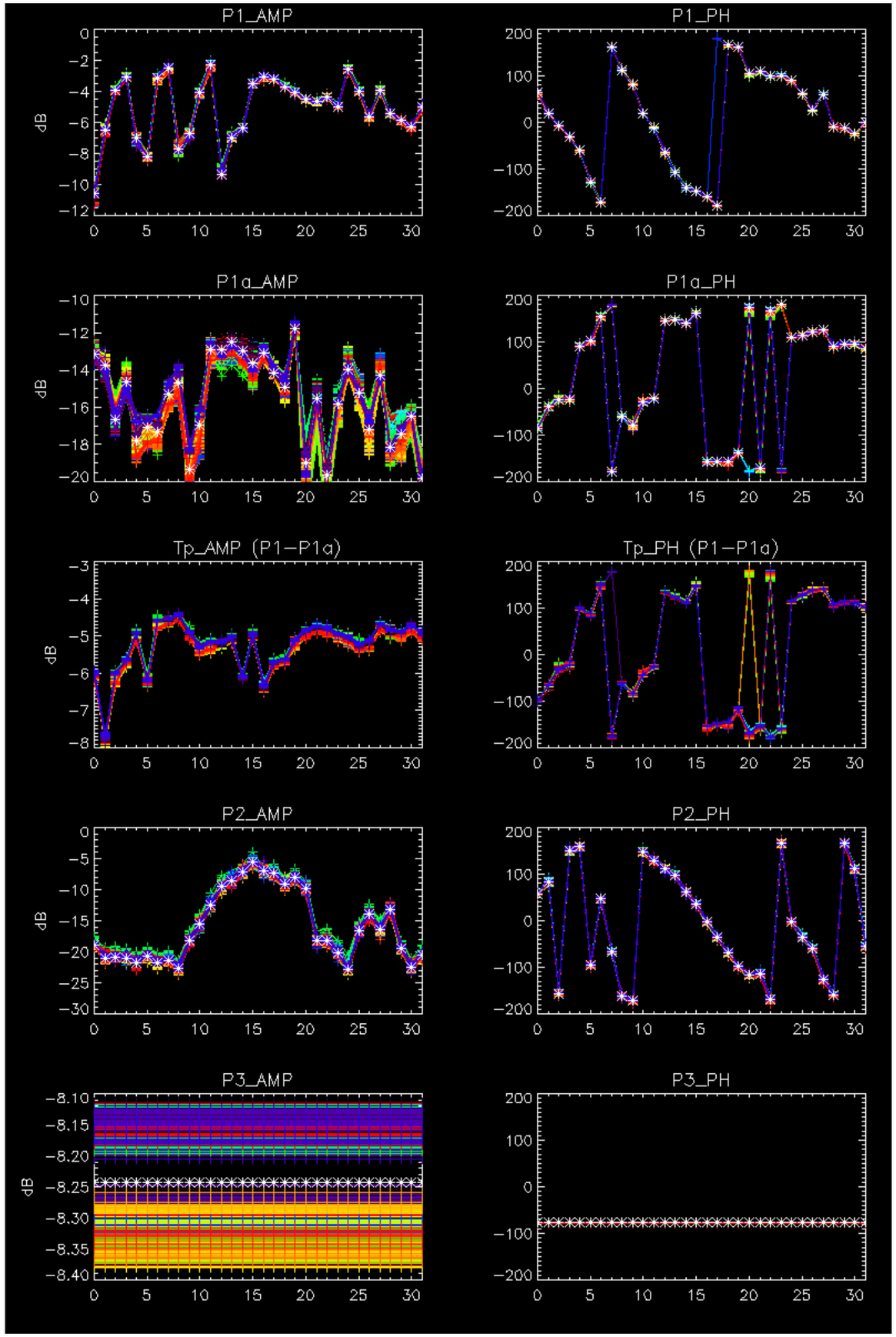

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
22
00
02
04
09−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
−30
22
00
02
04
09−Dec
Average P2[dB]
0
−5
−10
−15
−20
−25
22
00
02
04
09−Dec
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
22
00
02
04
09−Dec
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _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


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

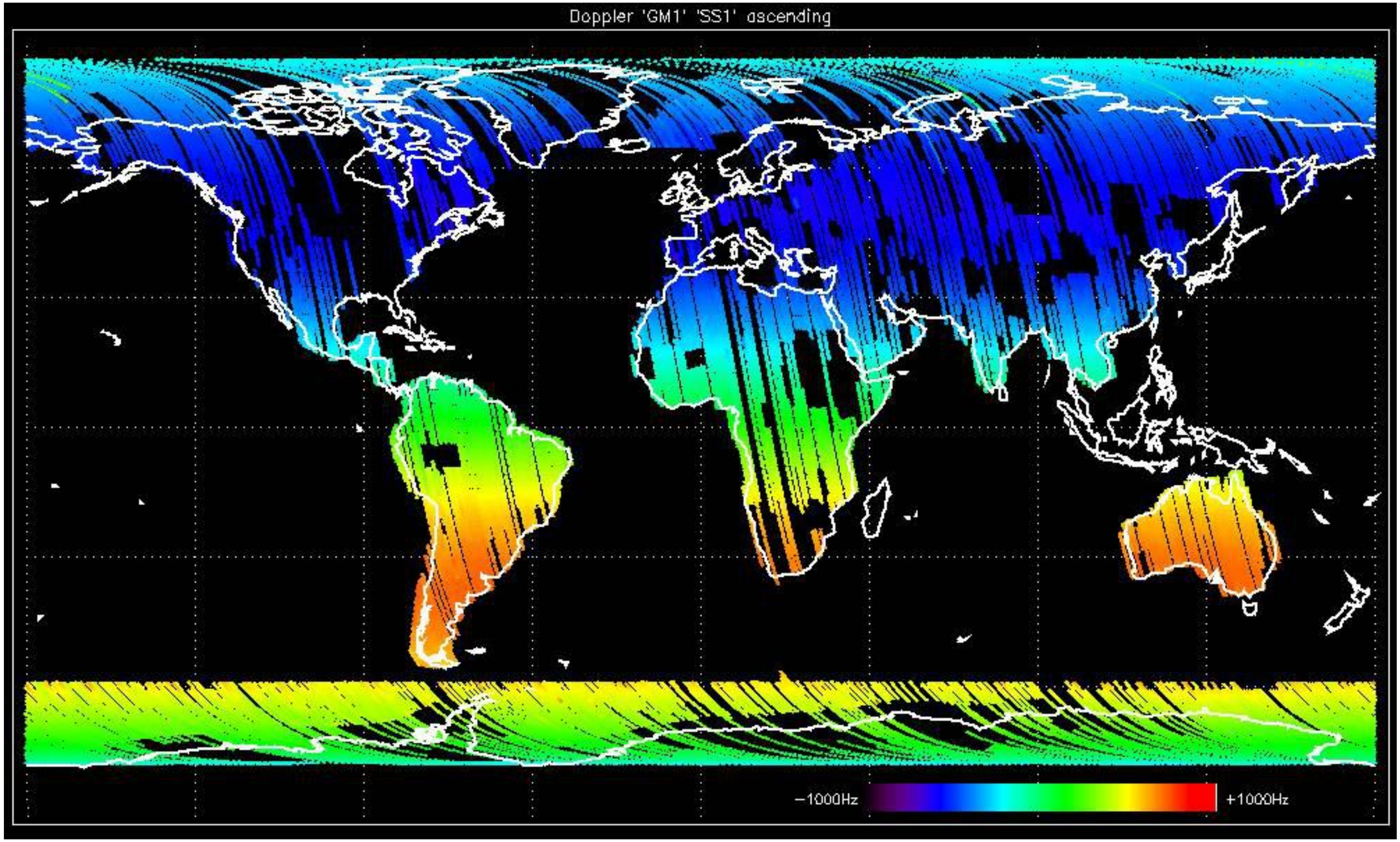
No anomalies observed.

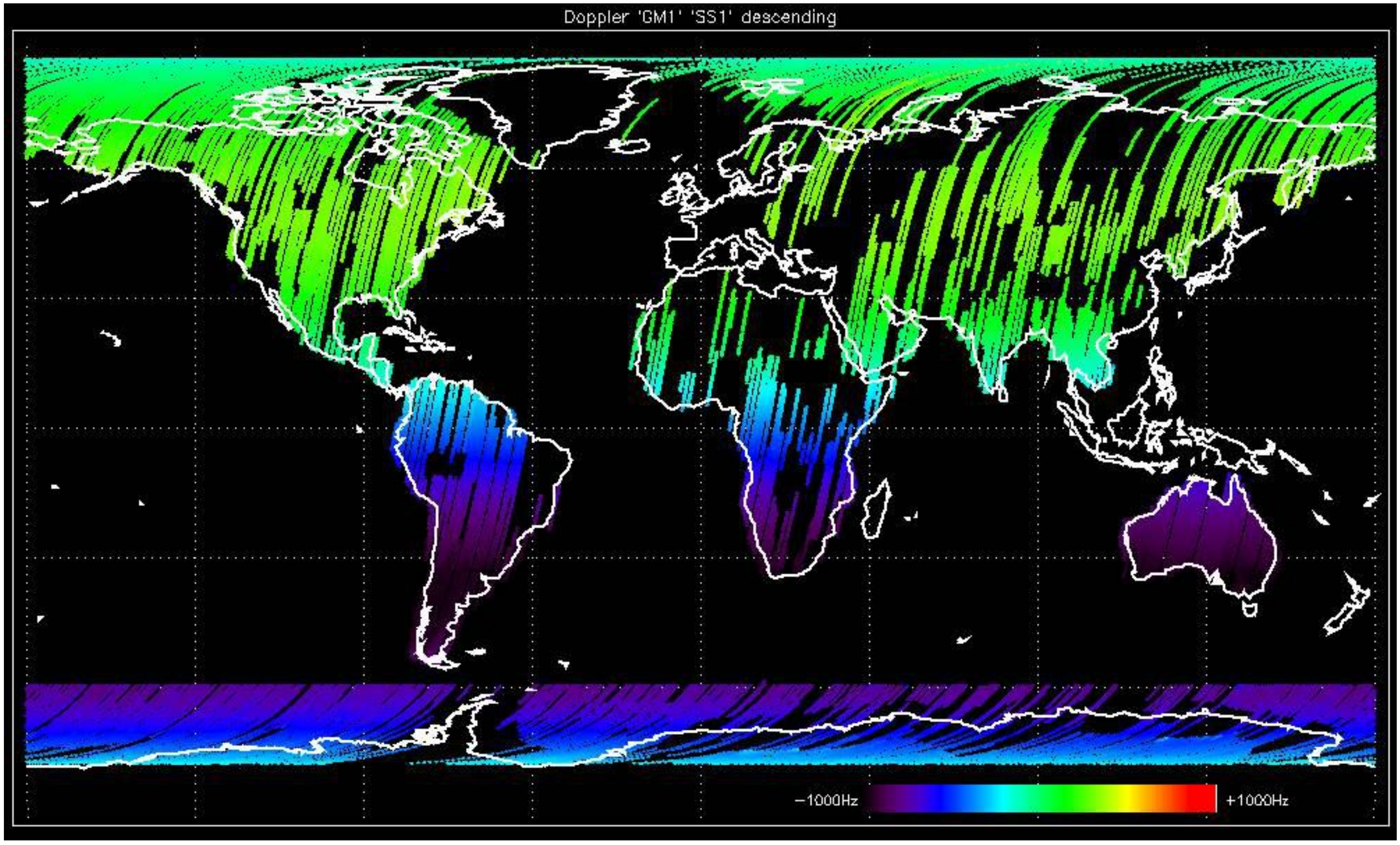

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

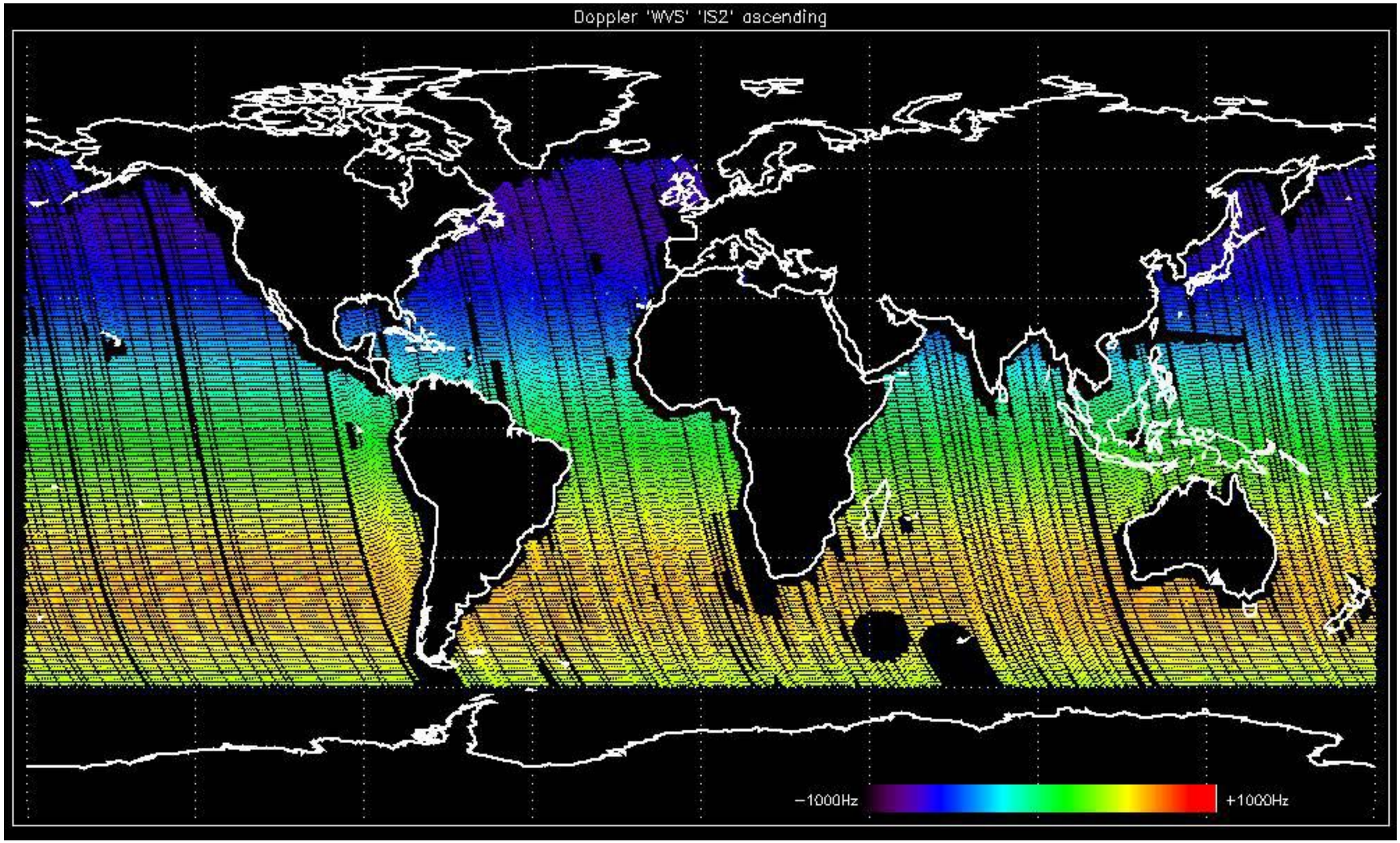

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

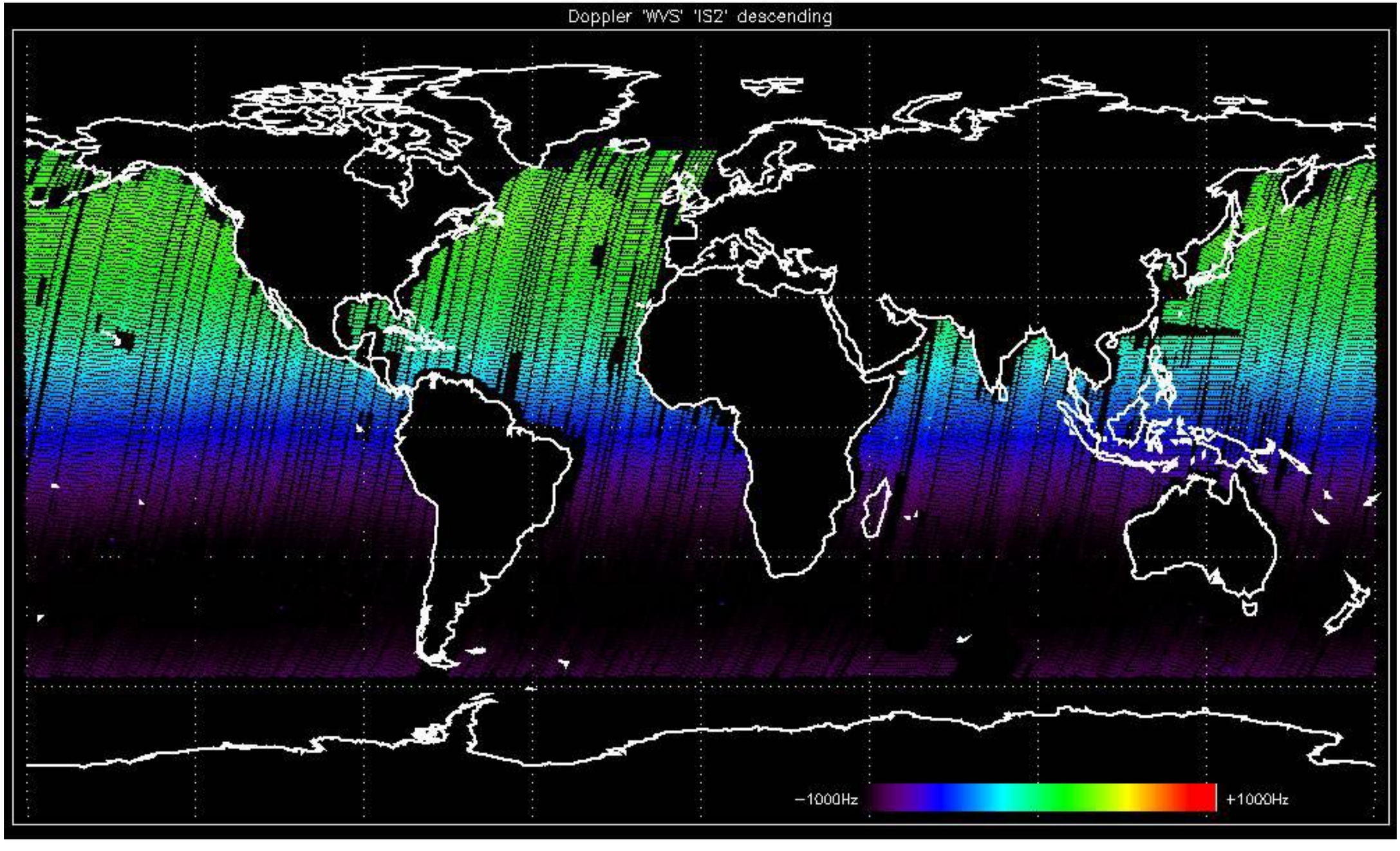
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

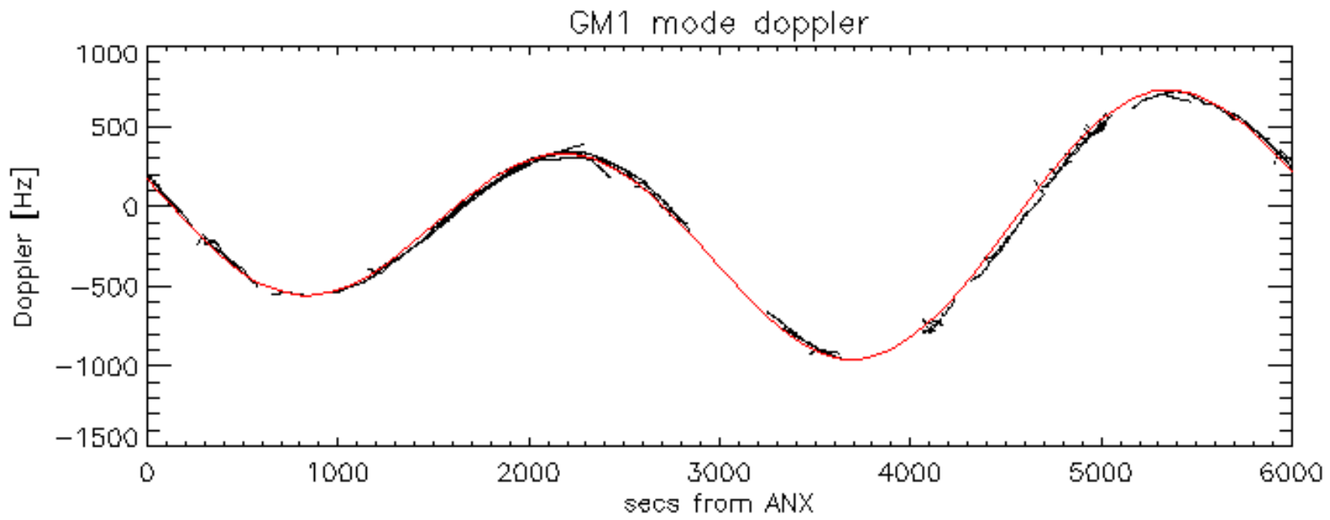
Preliminary report.The data is not yet controled

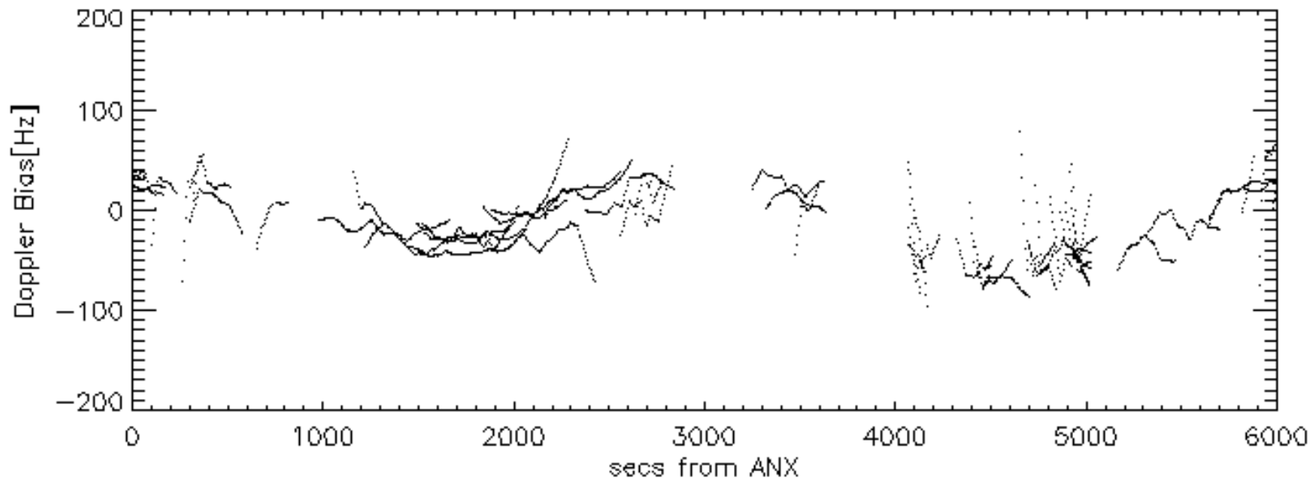

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

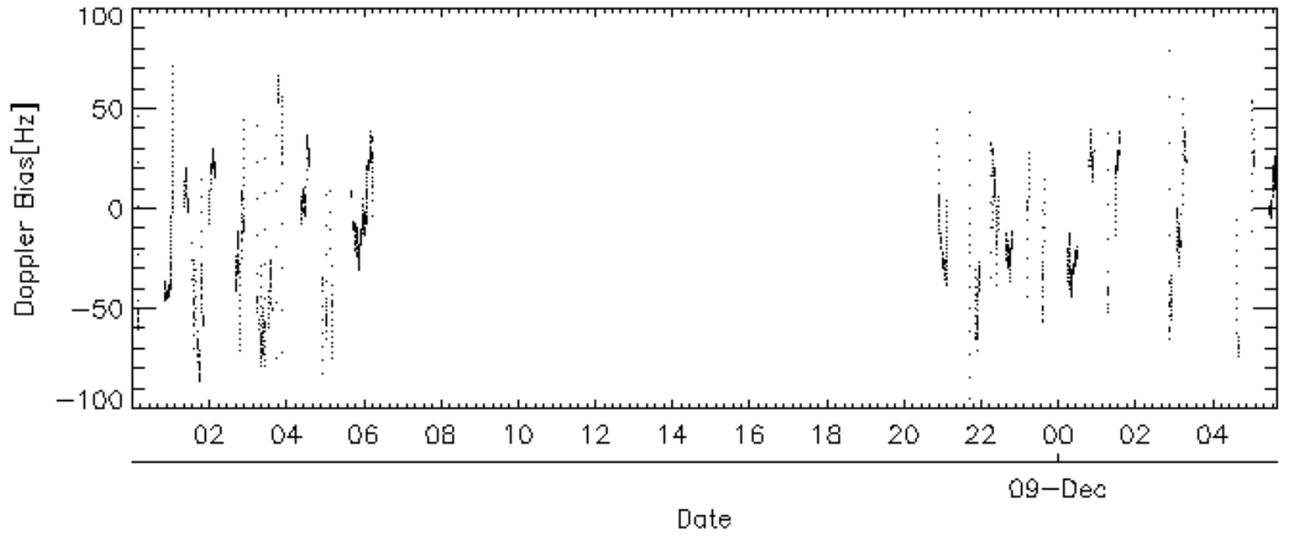

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

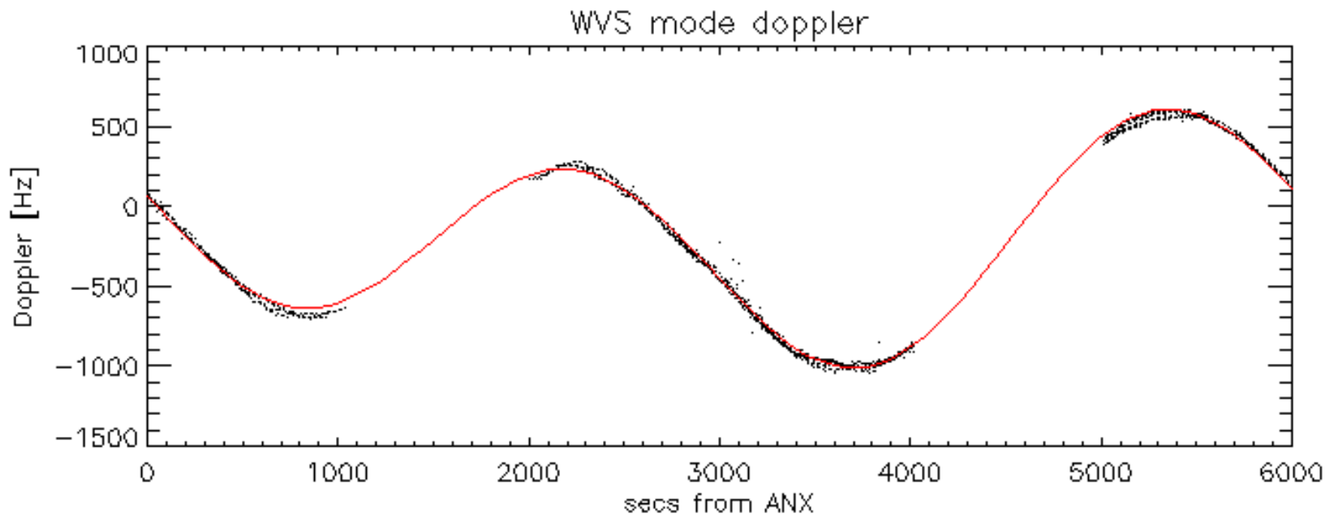

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

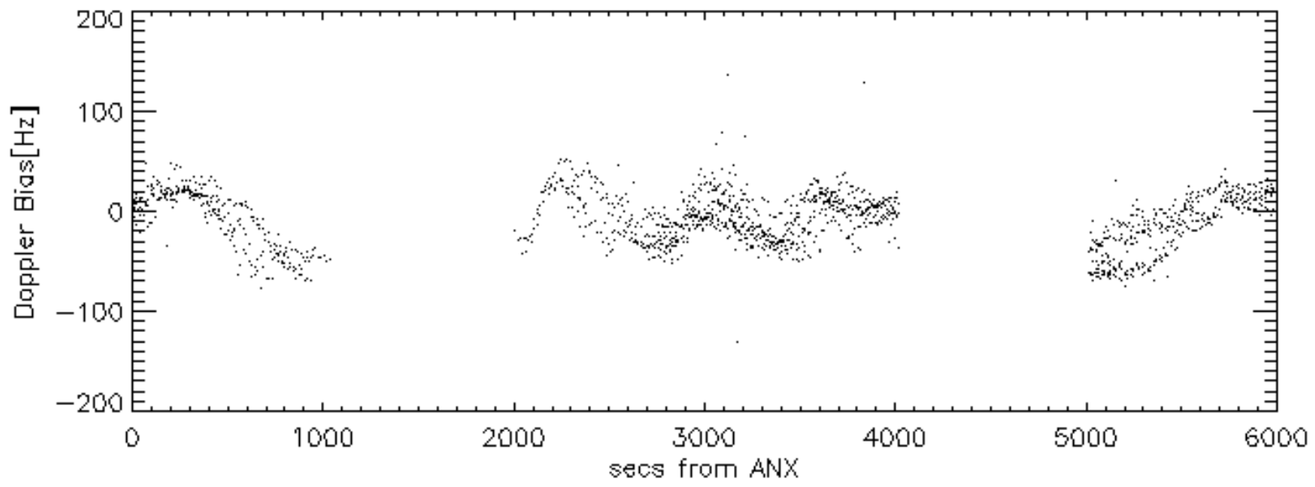

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

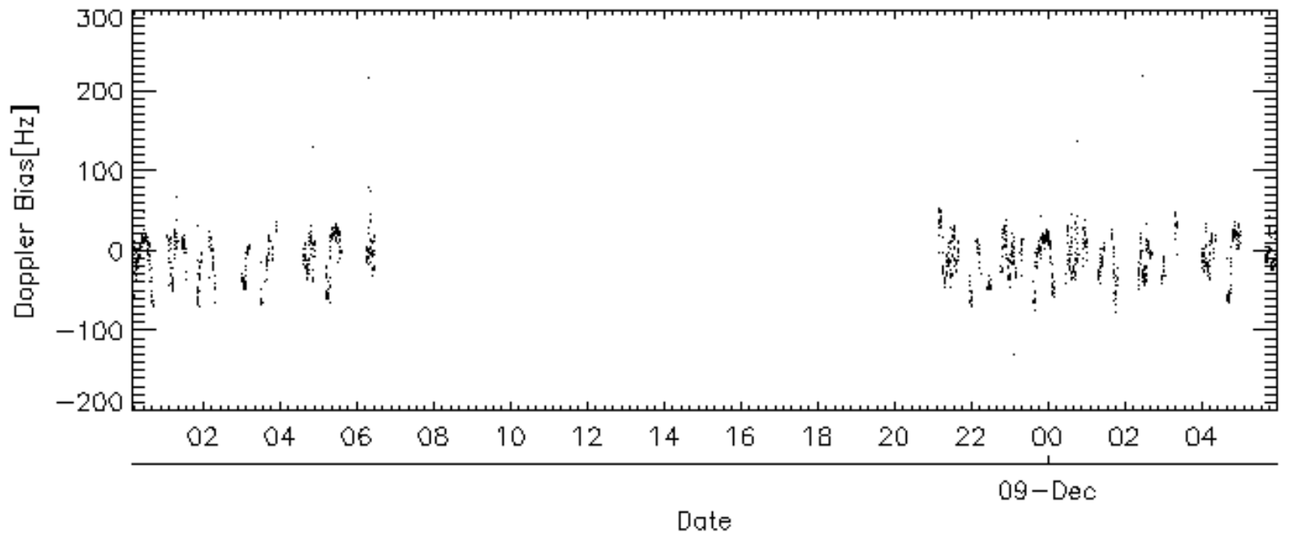

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

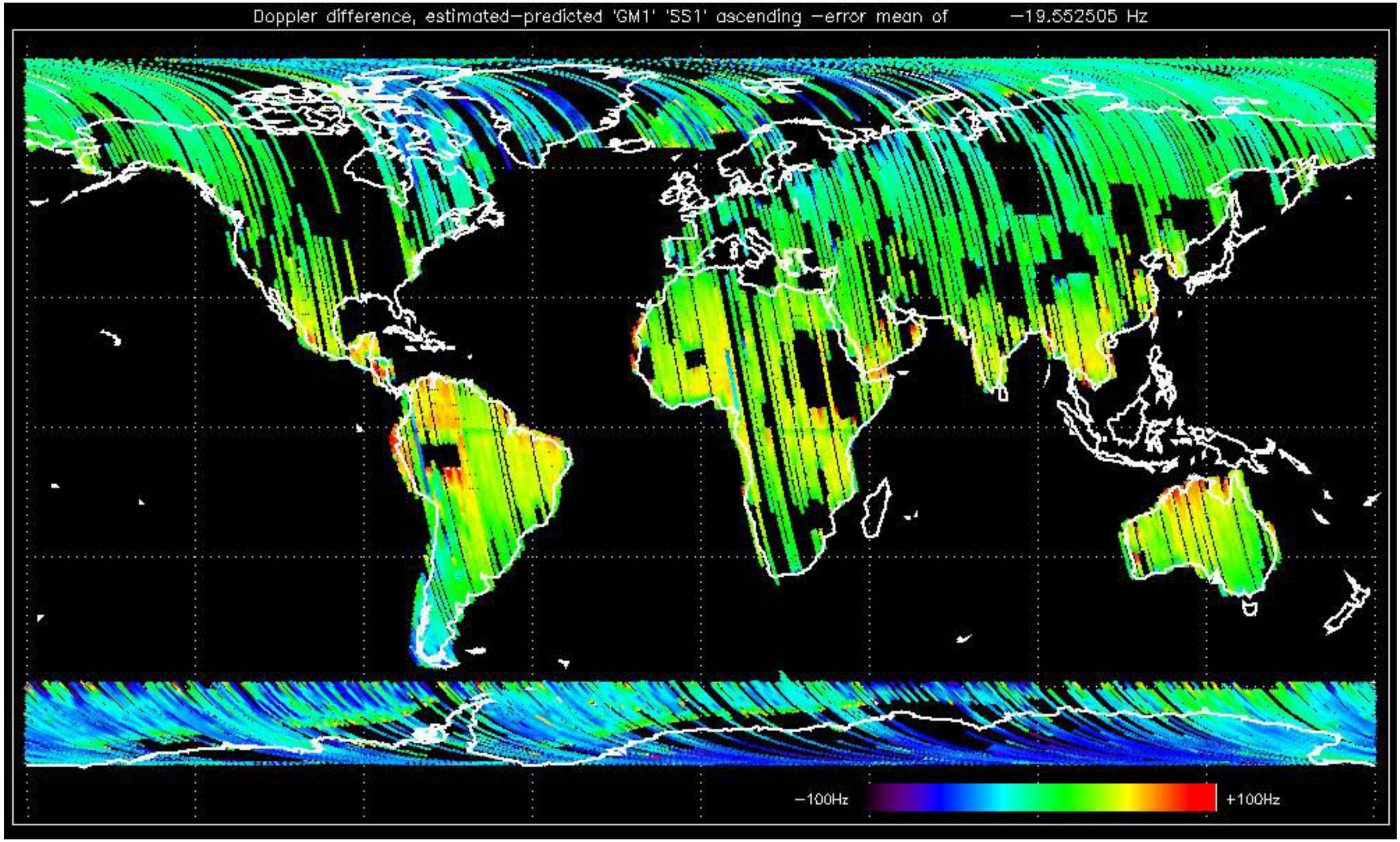

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

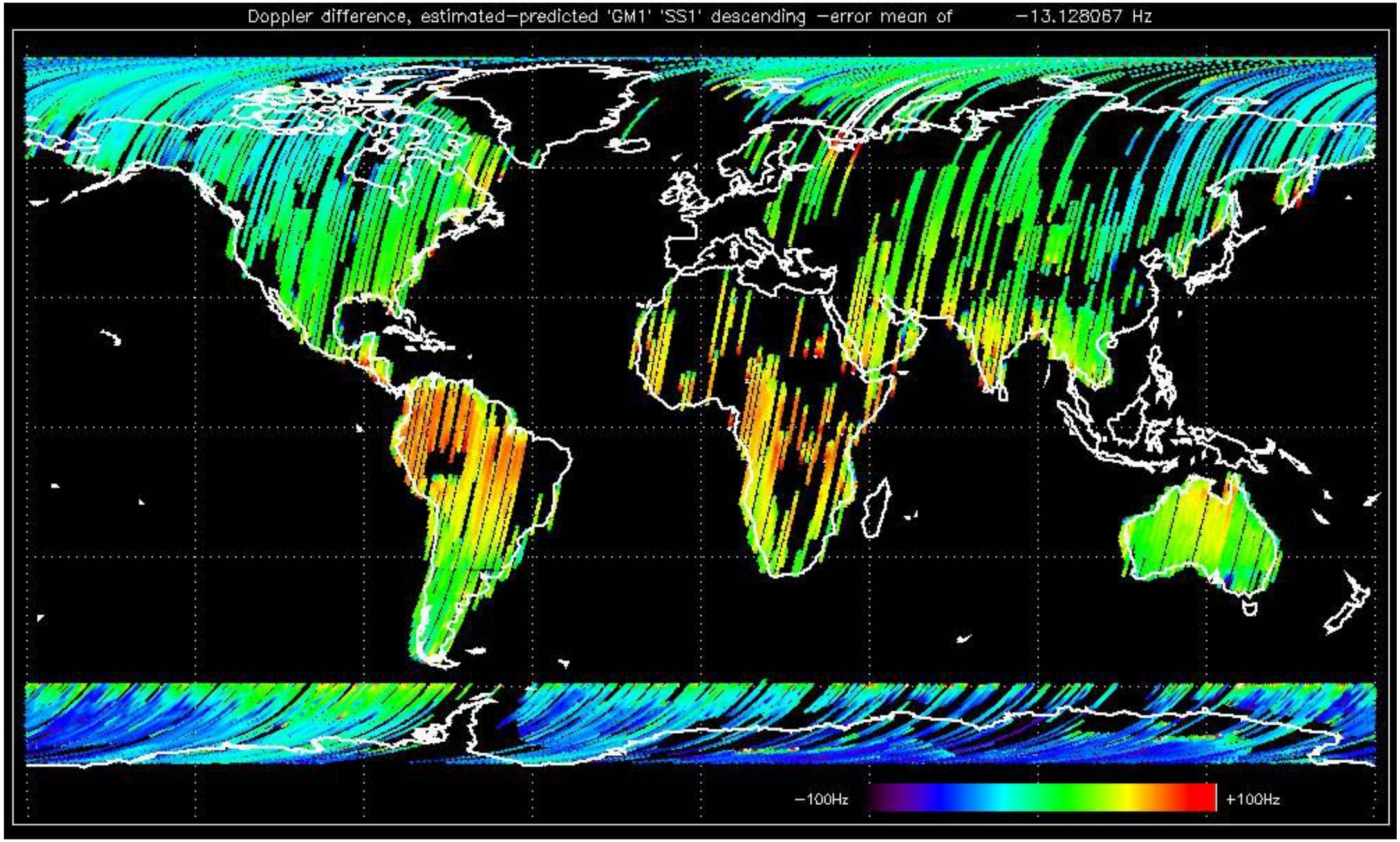

Doppler Bias[Hz]
100
50
0
−50
−100
02
04
06
08
10
12
14
16
18
20
22
00
02
04
09−Dec
Date

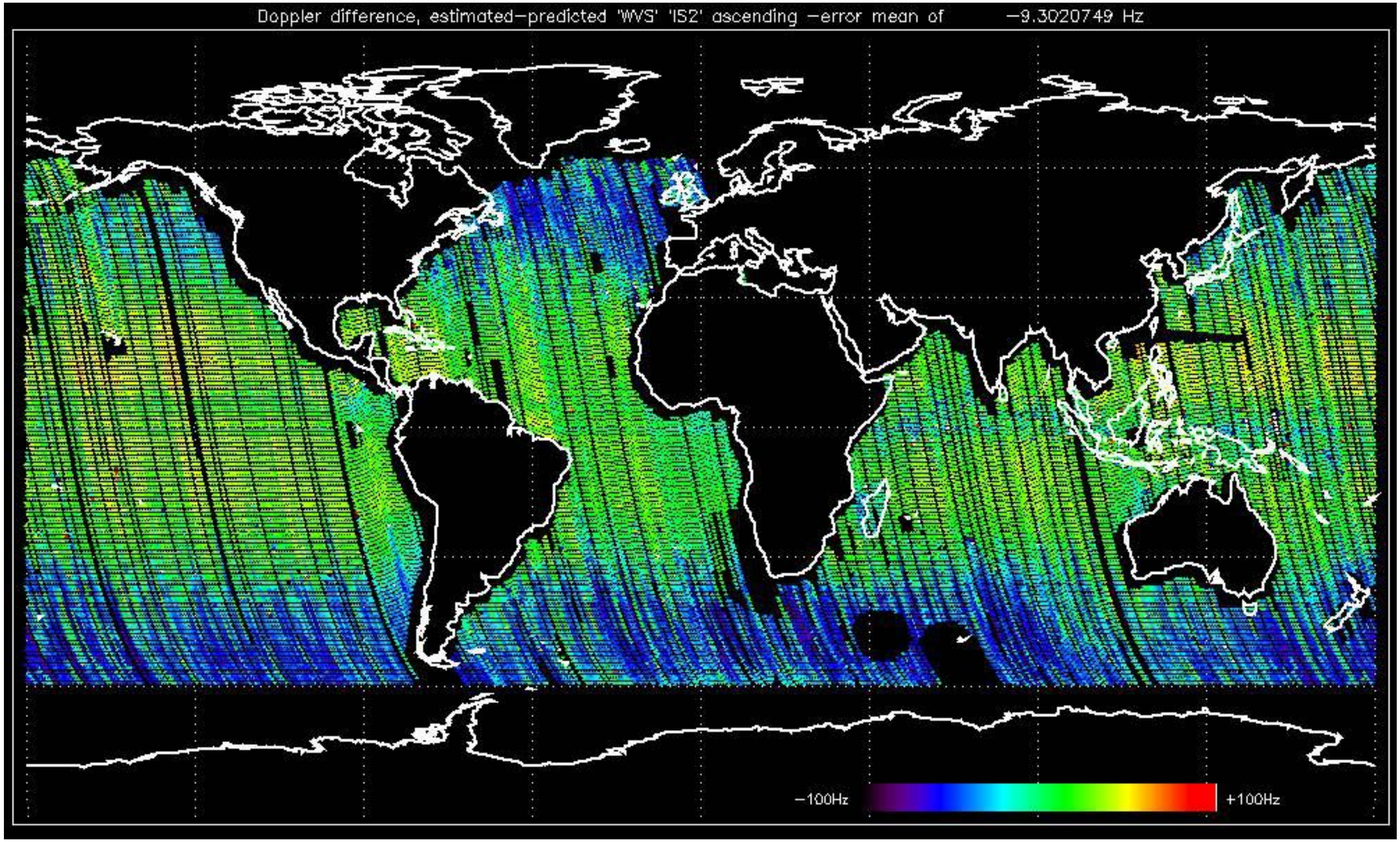

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

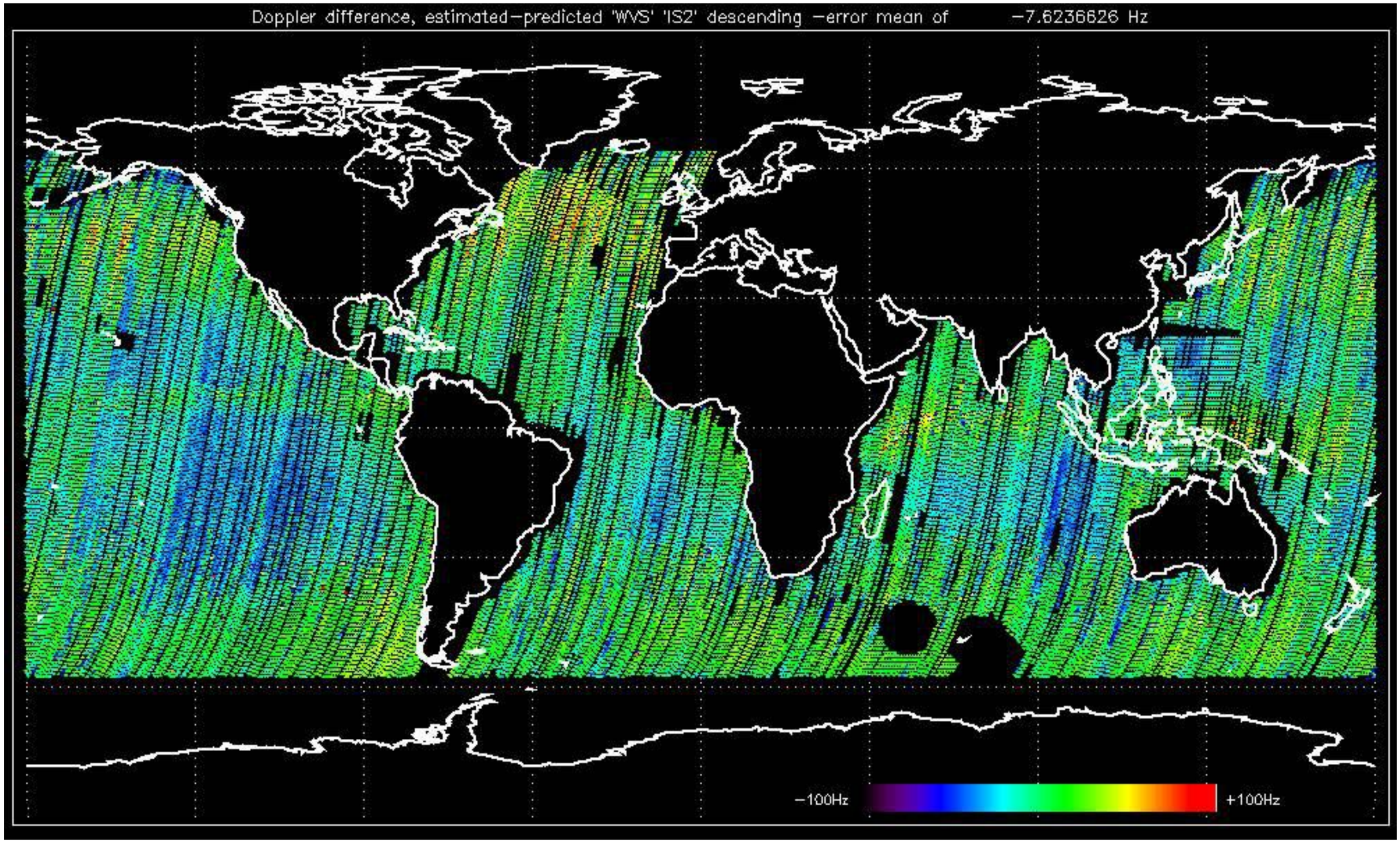

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −19.552505 Hz
−100Hz
+100Hz

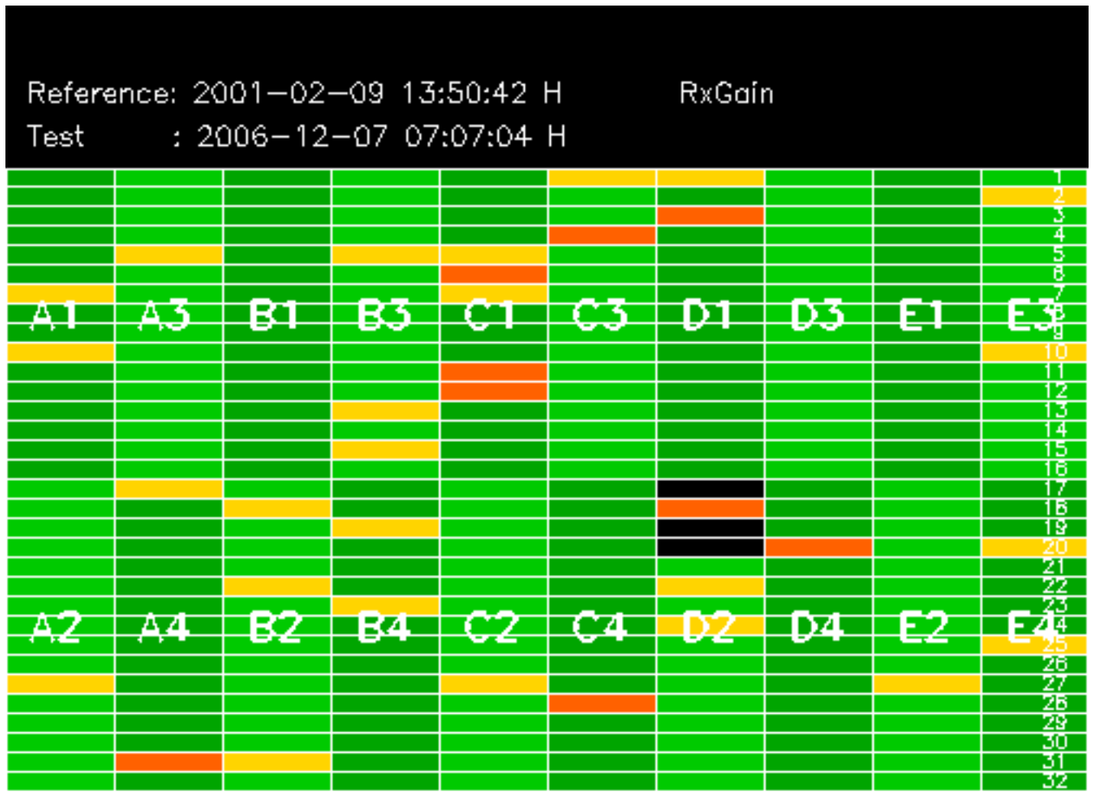

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -13.128067 Hz
-100Hz
+100Hz

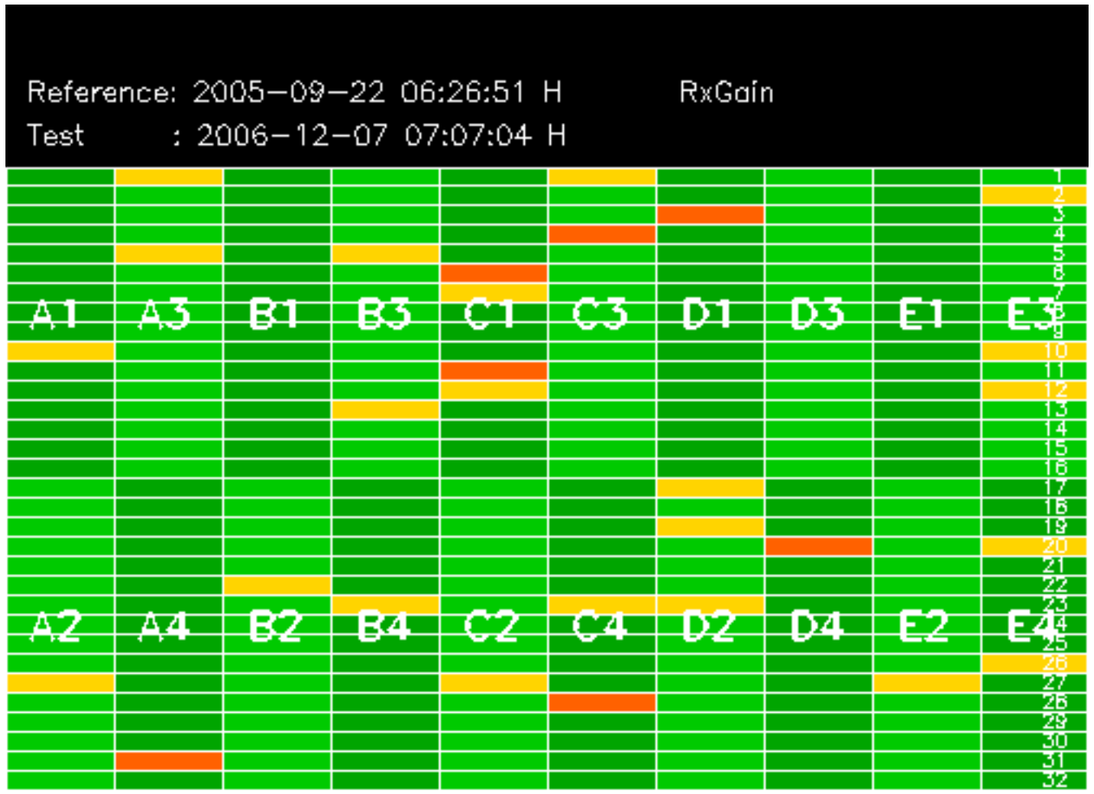

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −9.3020749 Hz
−100Hz
+100Hz

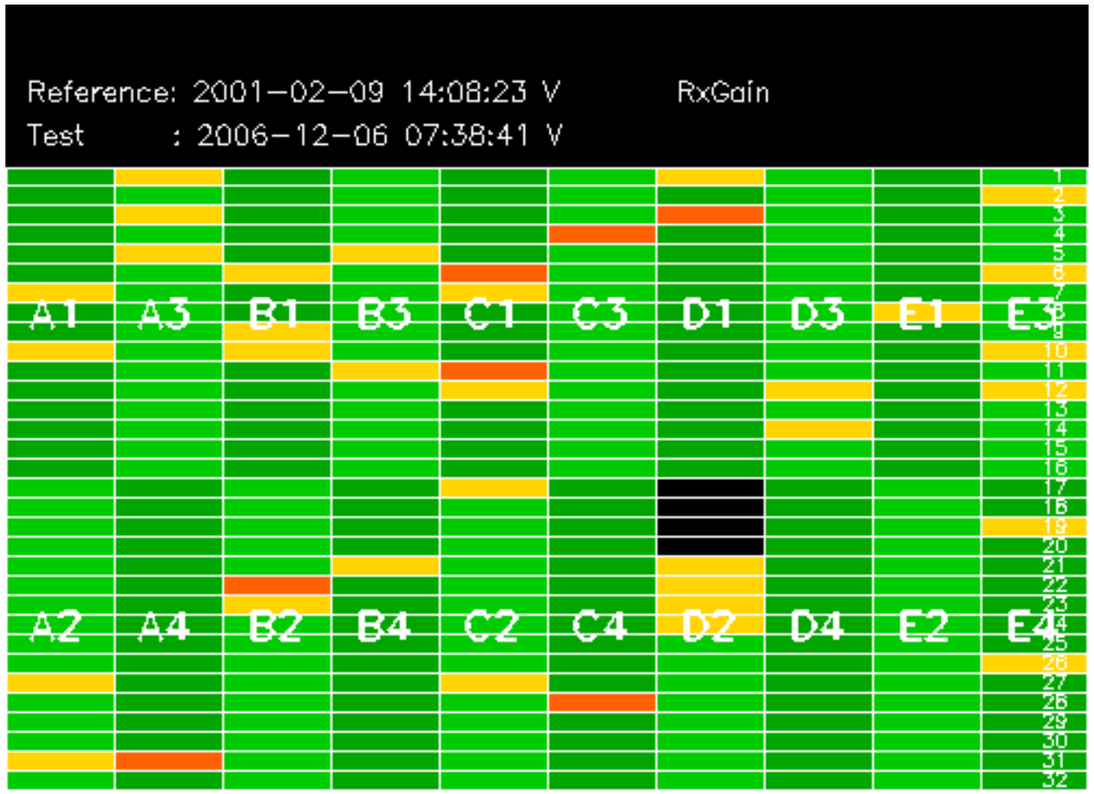

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −7.6236626 Hz
−100Hz
+100Hz

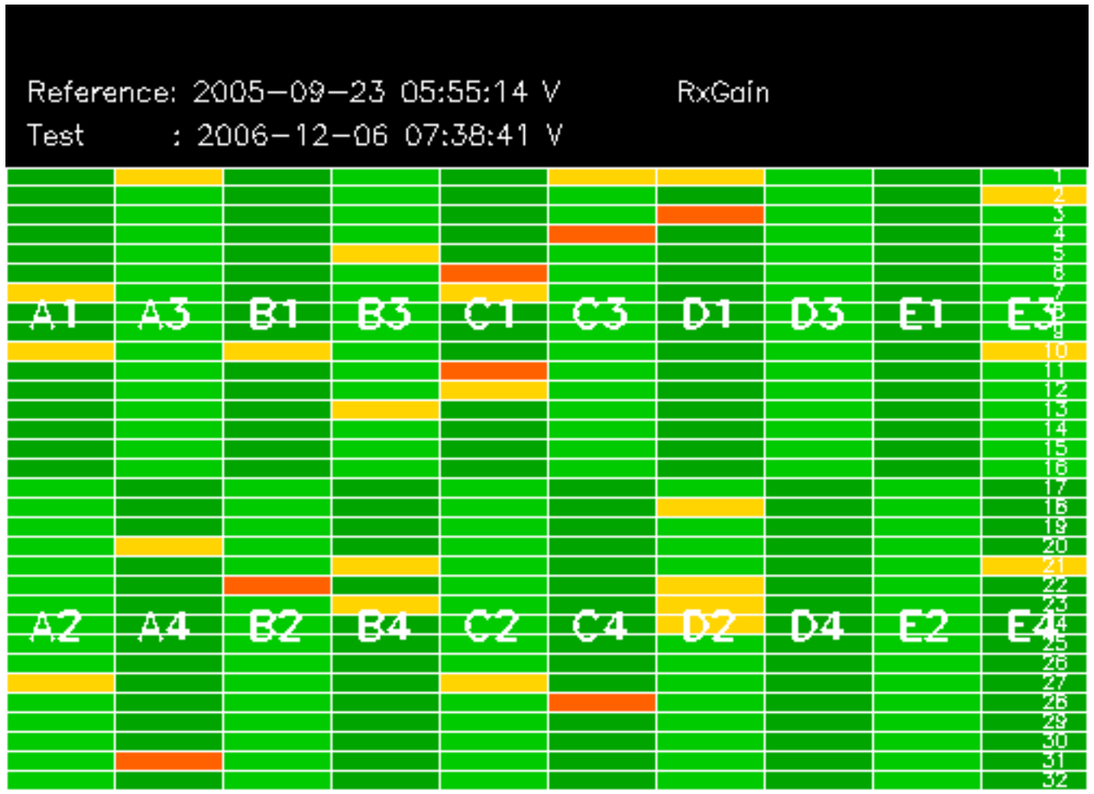
No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2006-12-07 07:07:04 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 : 2006-12-07 07:07:04 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 : 2006-12-06 07:38:41 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 : 2006-12-06 07:38:41 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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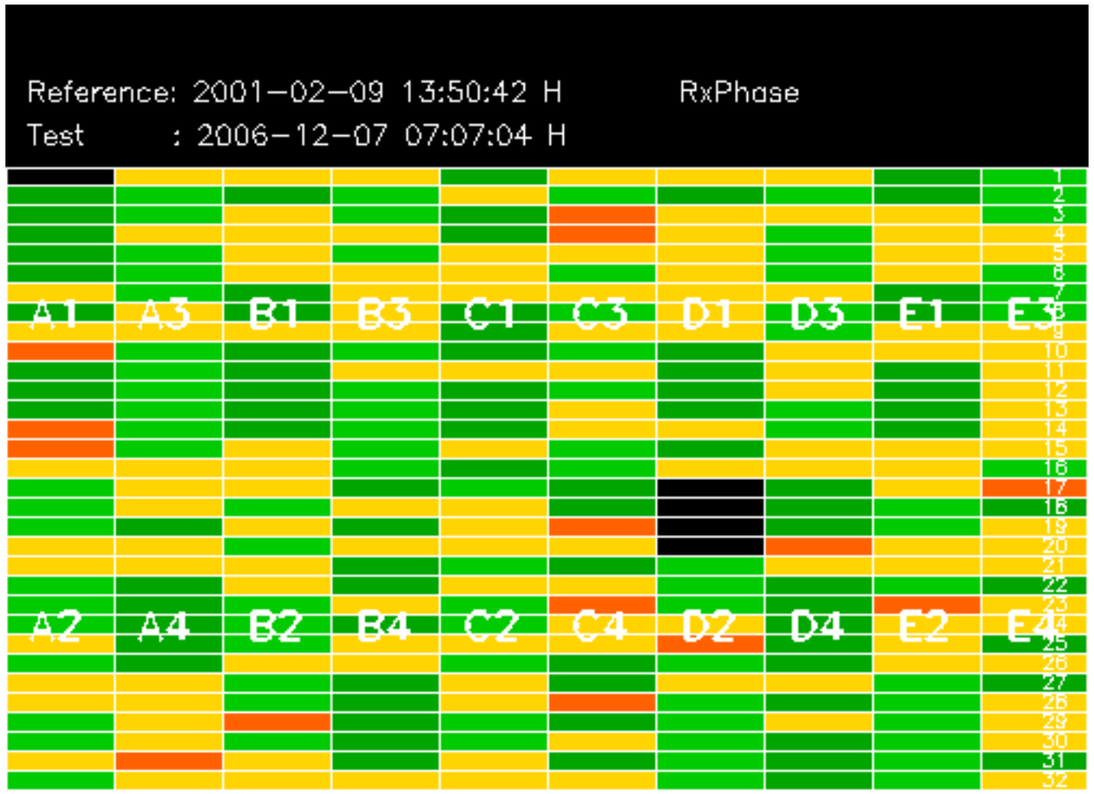
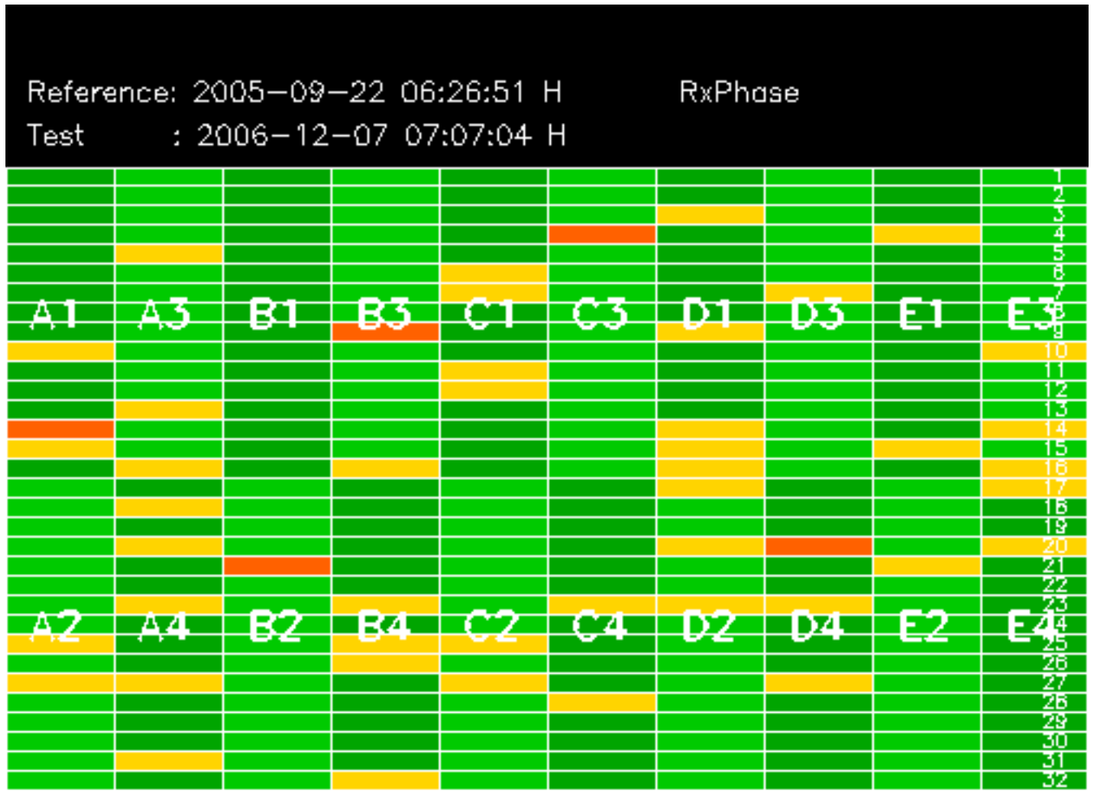

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-12-07 07:07:04 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-22 06:26:51 H
Test : 2006-12-07 07:07:04 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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E4
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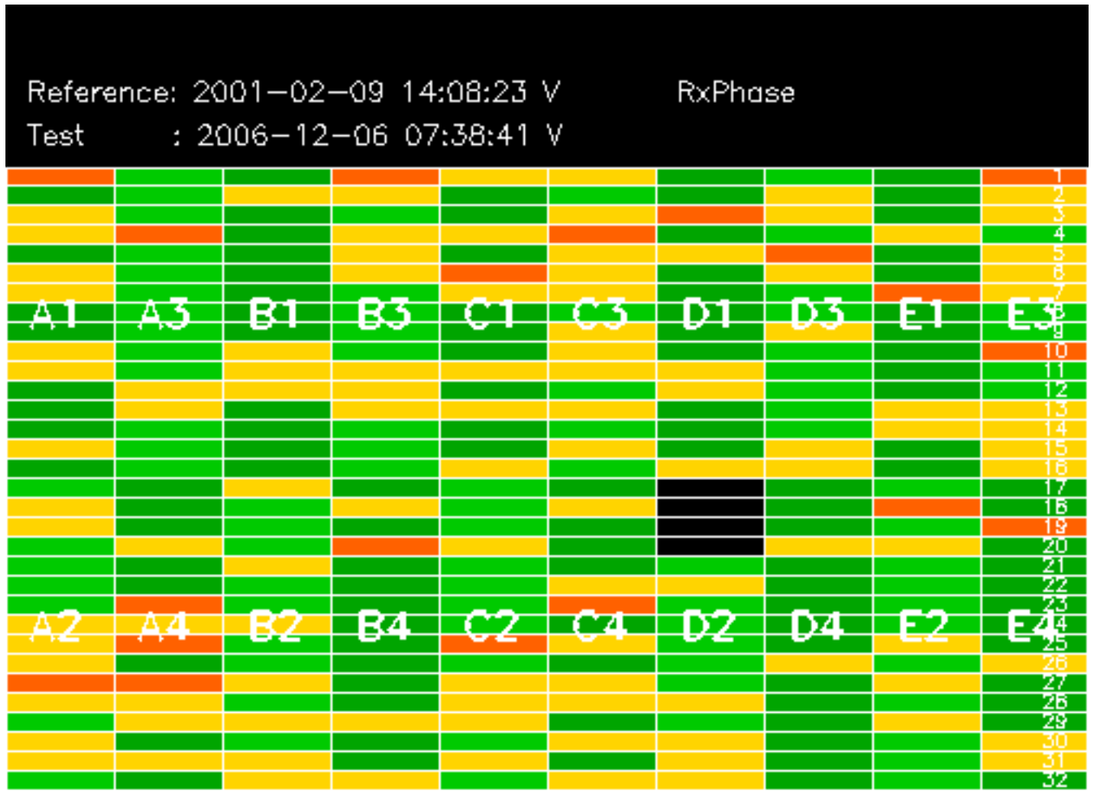
Reference: 2001-02-09 14:08:23 V
Test : 2006-12-06 07:38:41 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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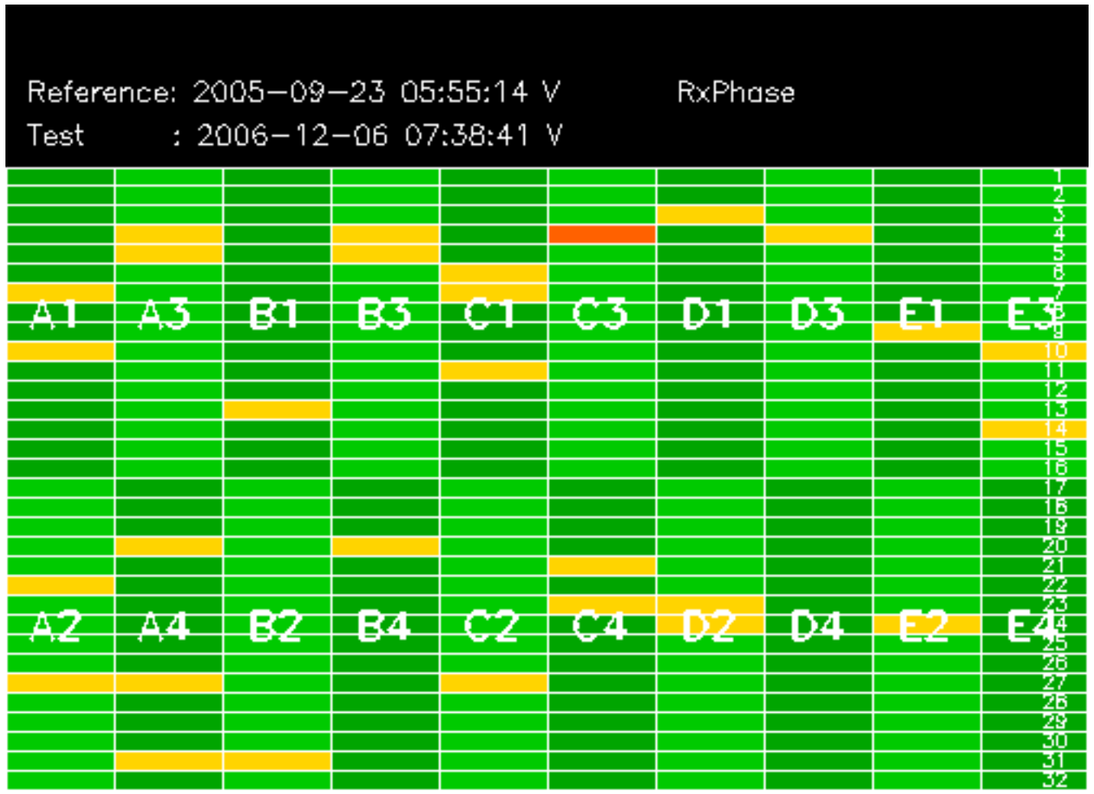
Reference: 2005-09-23 05:55:14 V
Test : 2006-12-06 07:38:41 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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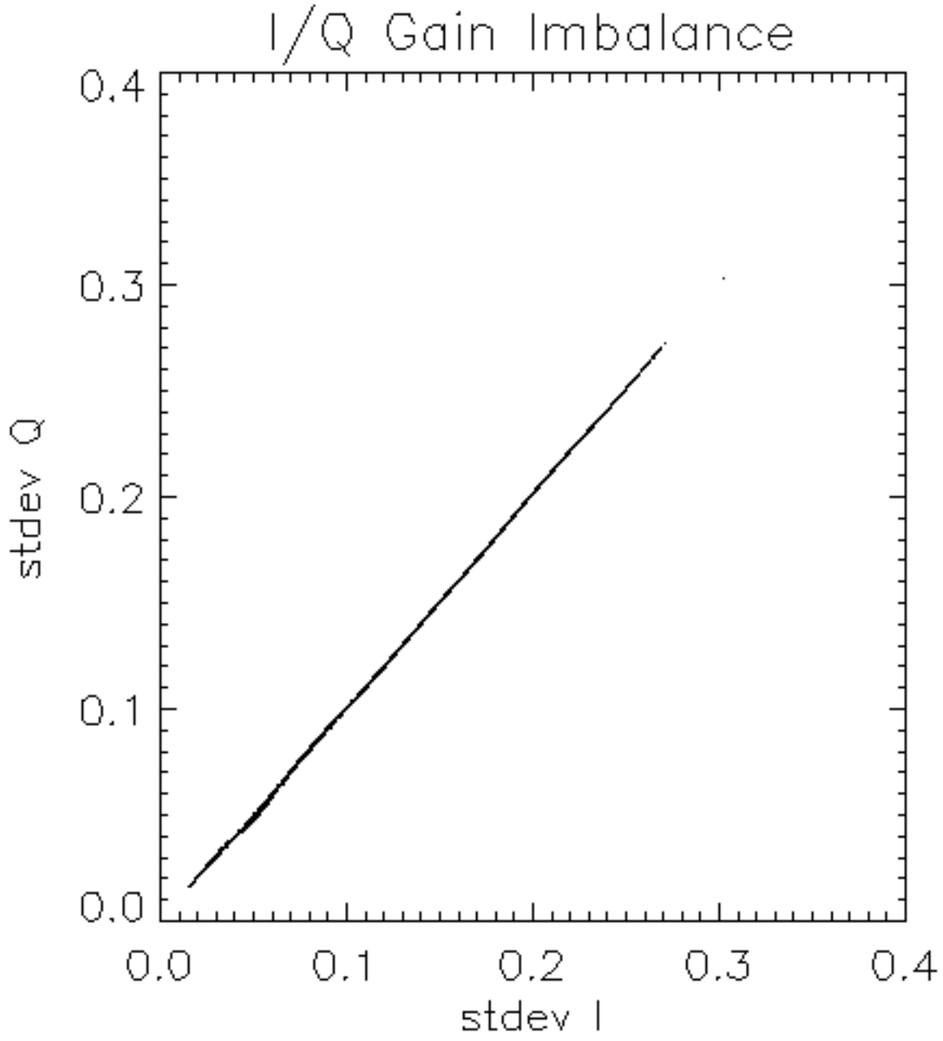
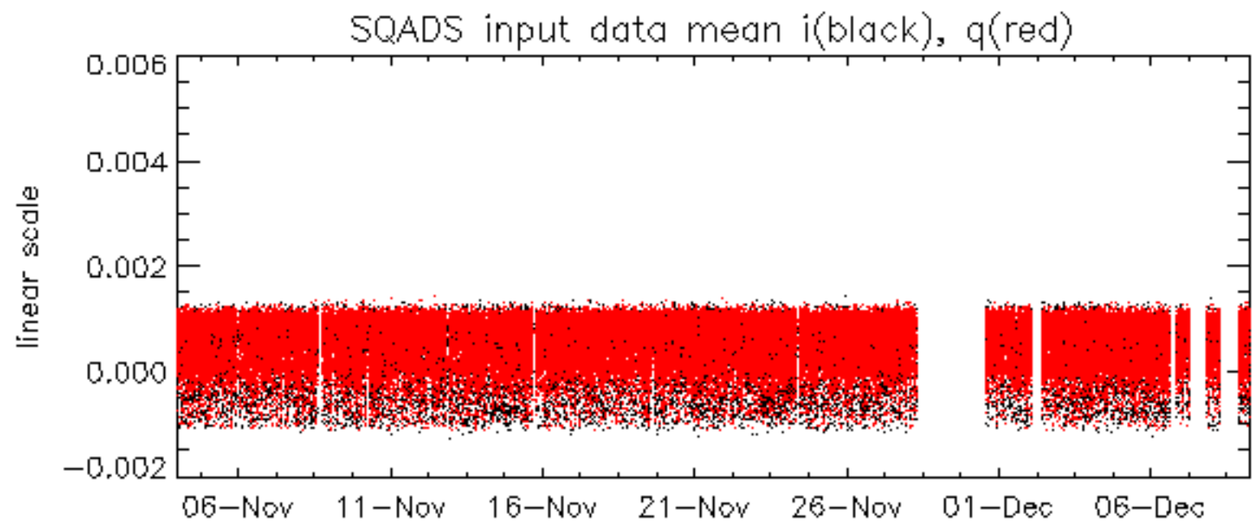
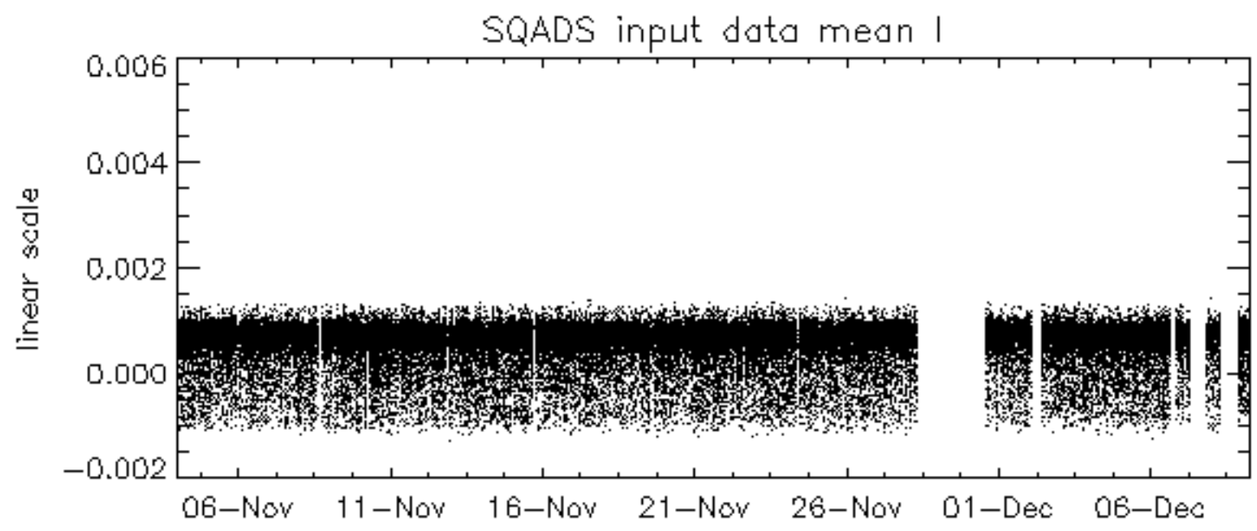
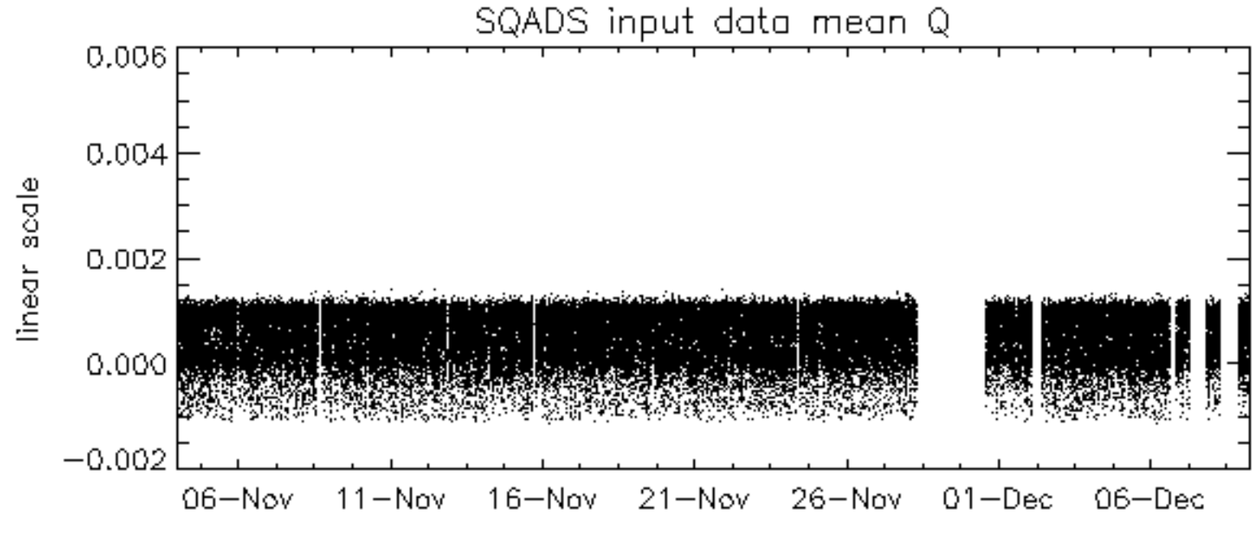
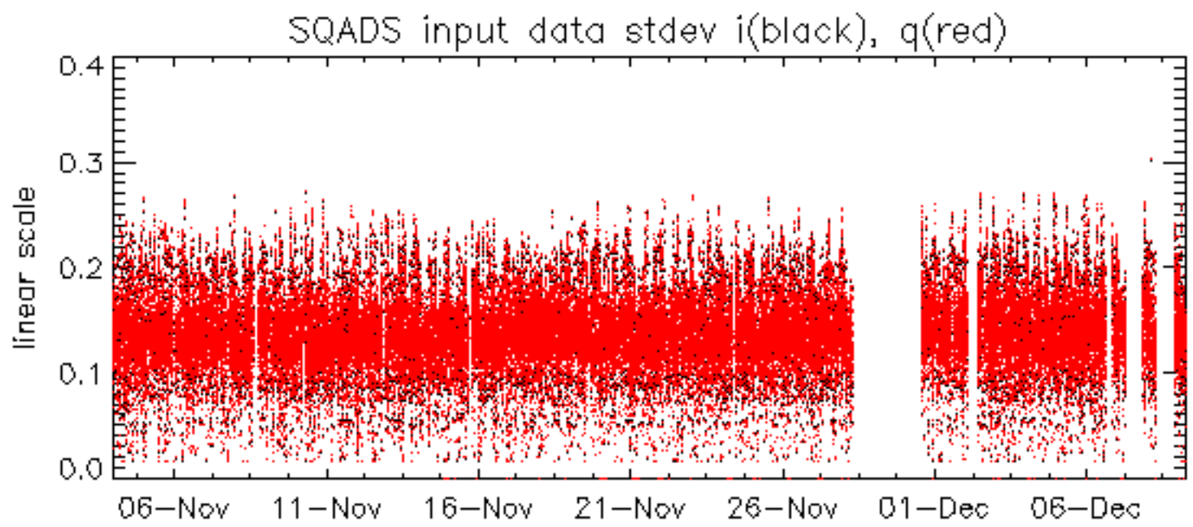
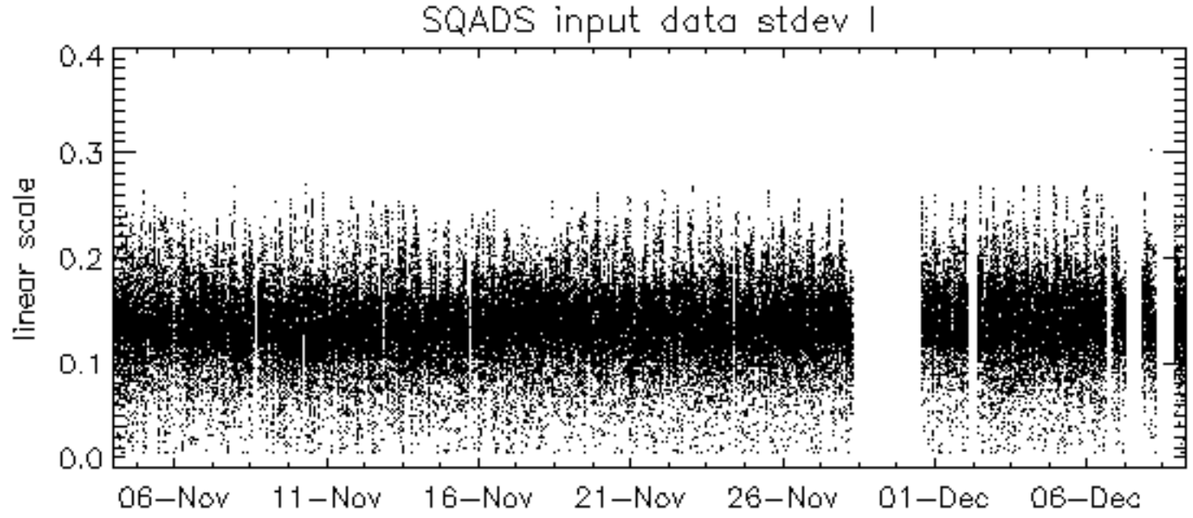

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

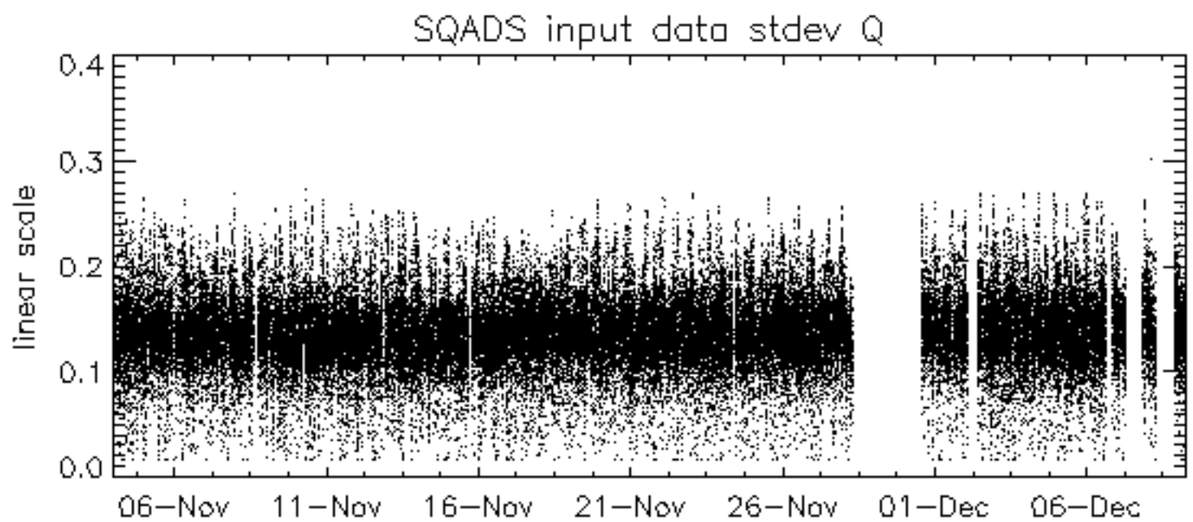

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Nov
11−Nov
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec

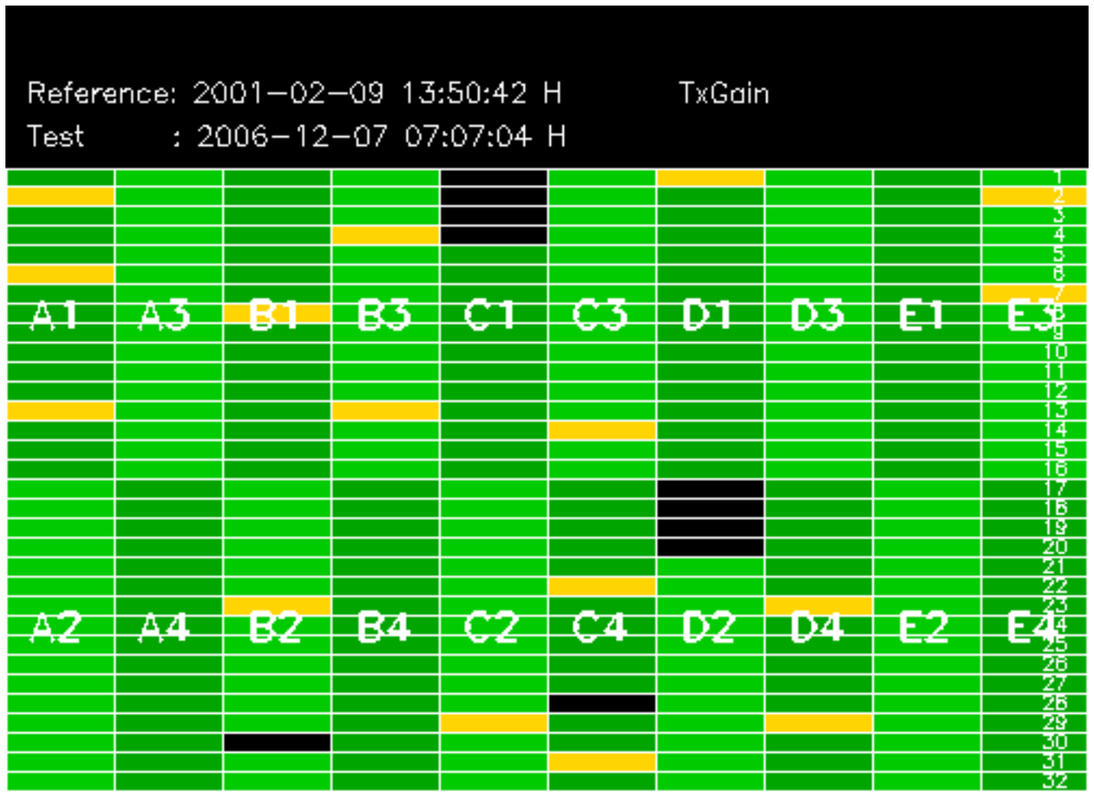

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Nov
11−Nov
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec

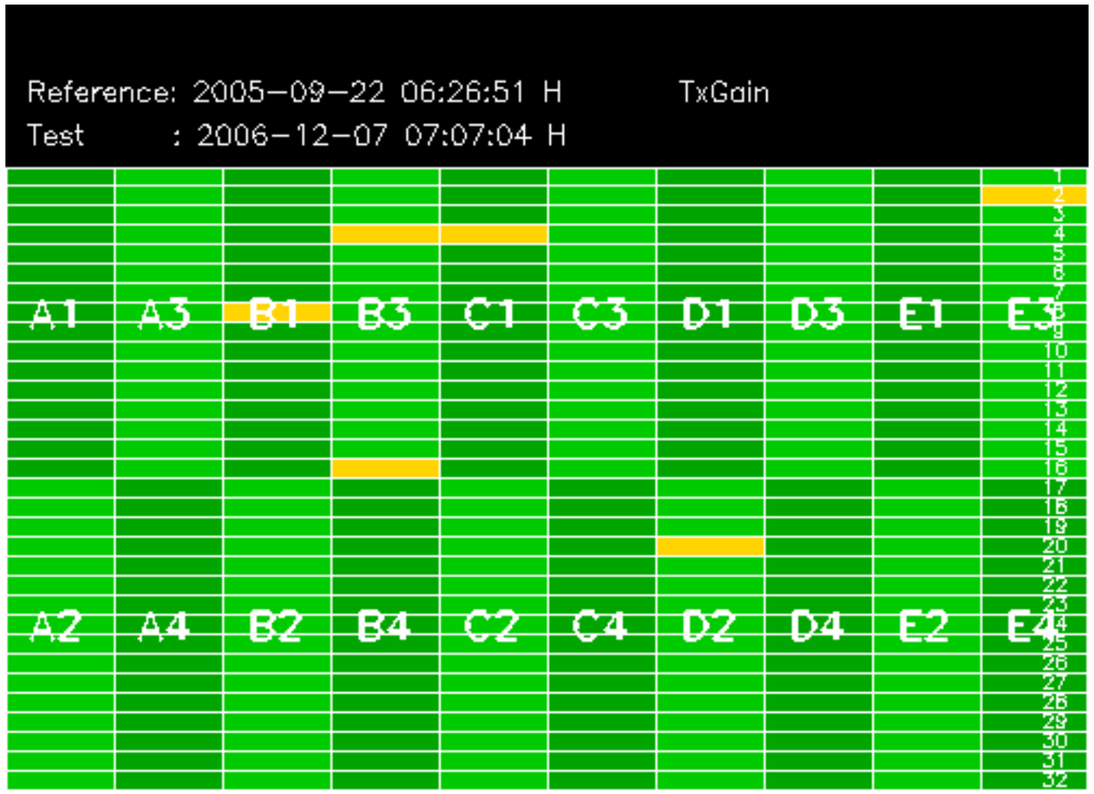

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Nov
11−Nov
16−Nov
21−Nov
26−Nov
01−Dec
06−Dec


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2006-12-07 07:07:04 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 : 2006-12-07 07:07:04 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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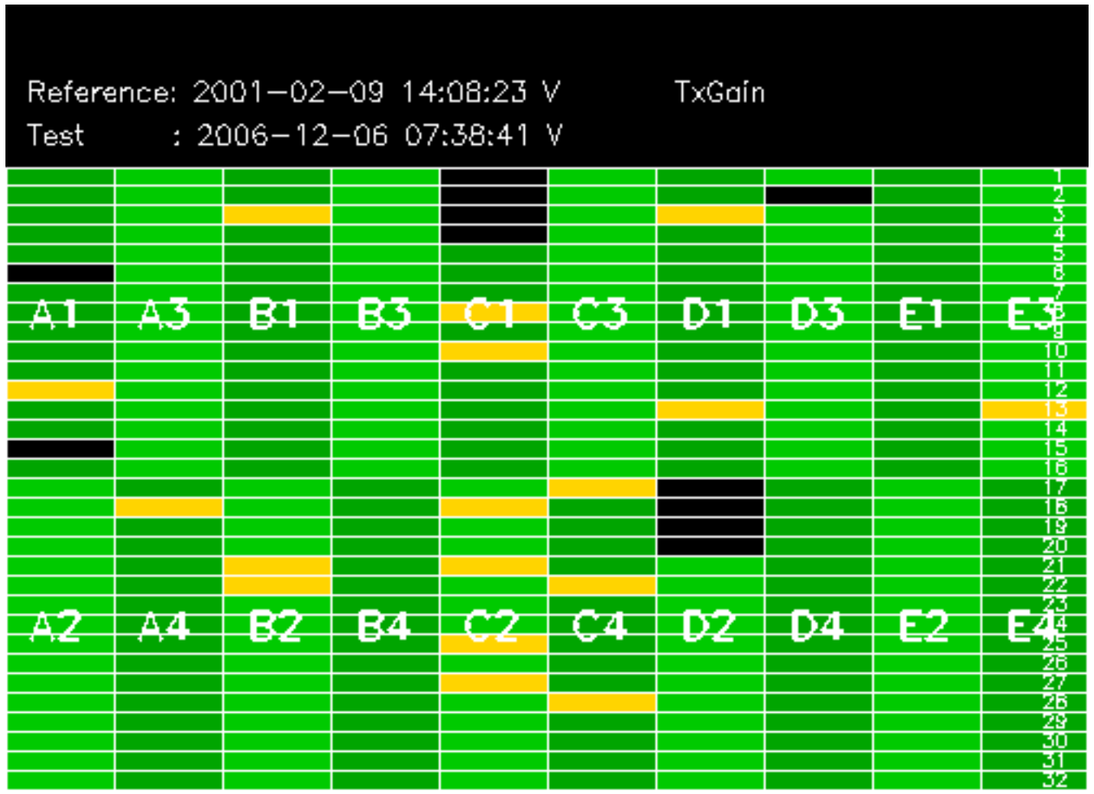
Reference: 2001-02-09 14:08:23 V
Test : 2006-12-06 07:38:41 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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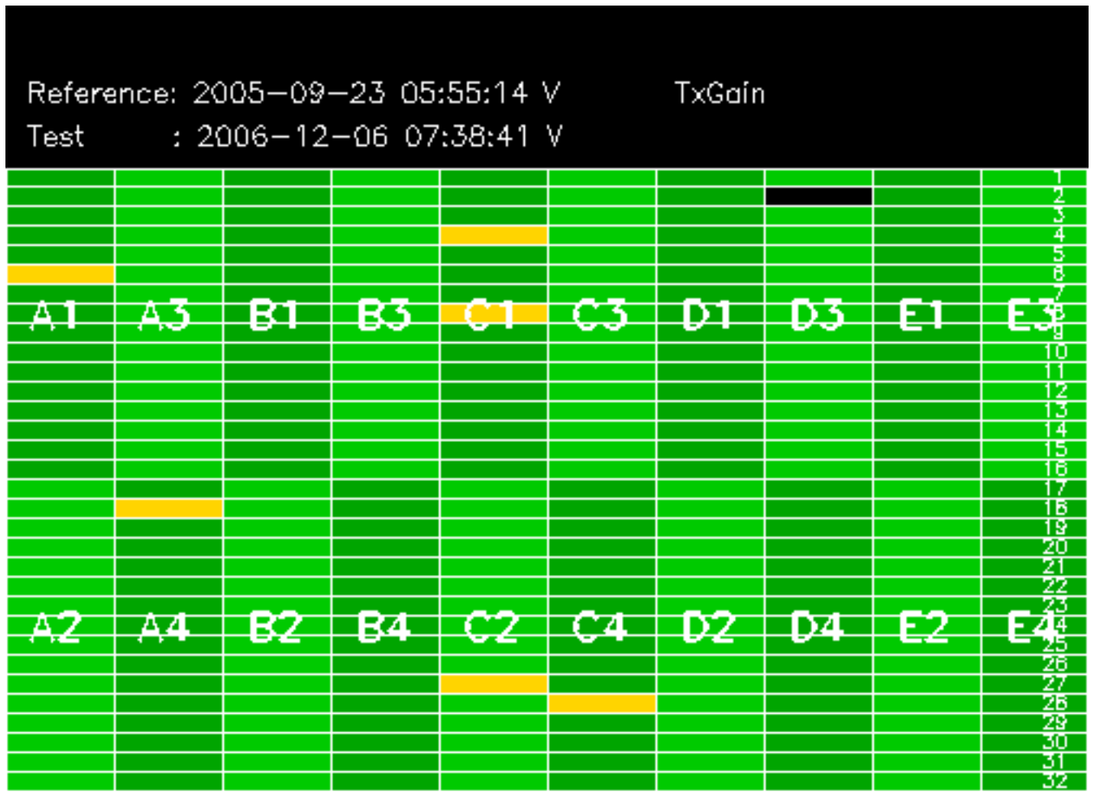
Reference: 2005-09-23 05:55:14 V
Test : 2006-12-06 07:38:41 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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D4
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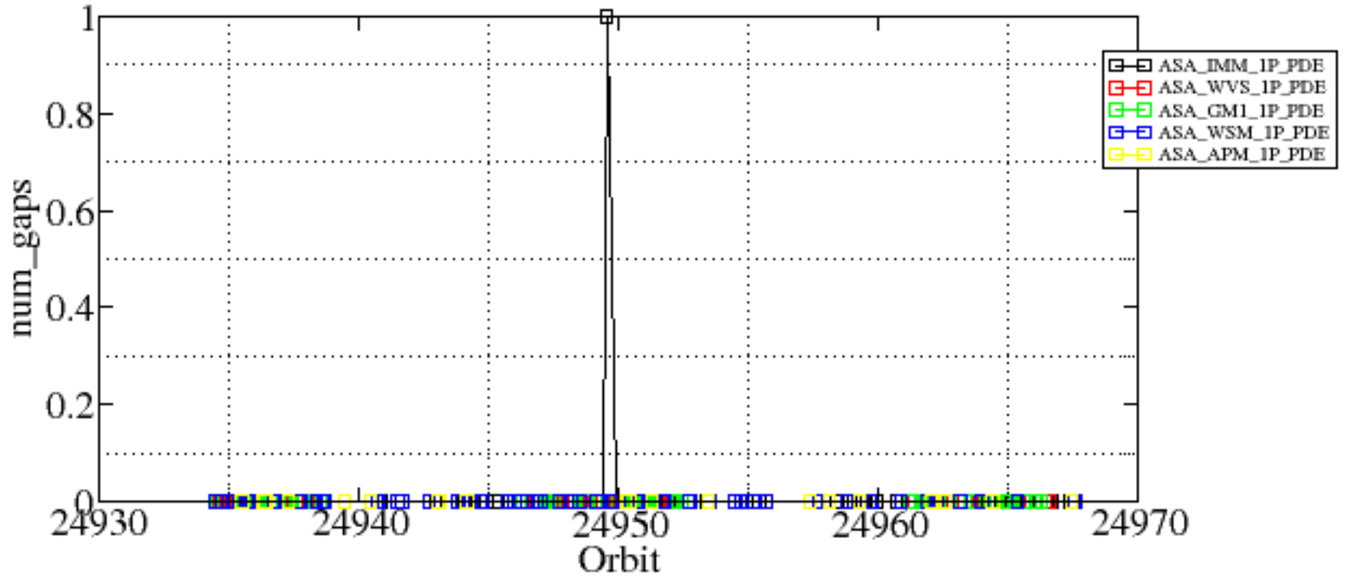
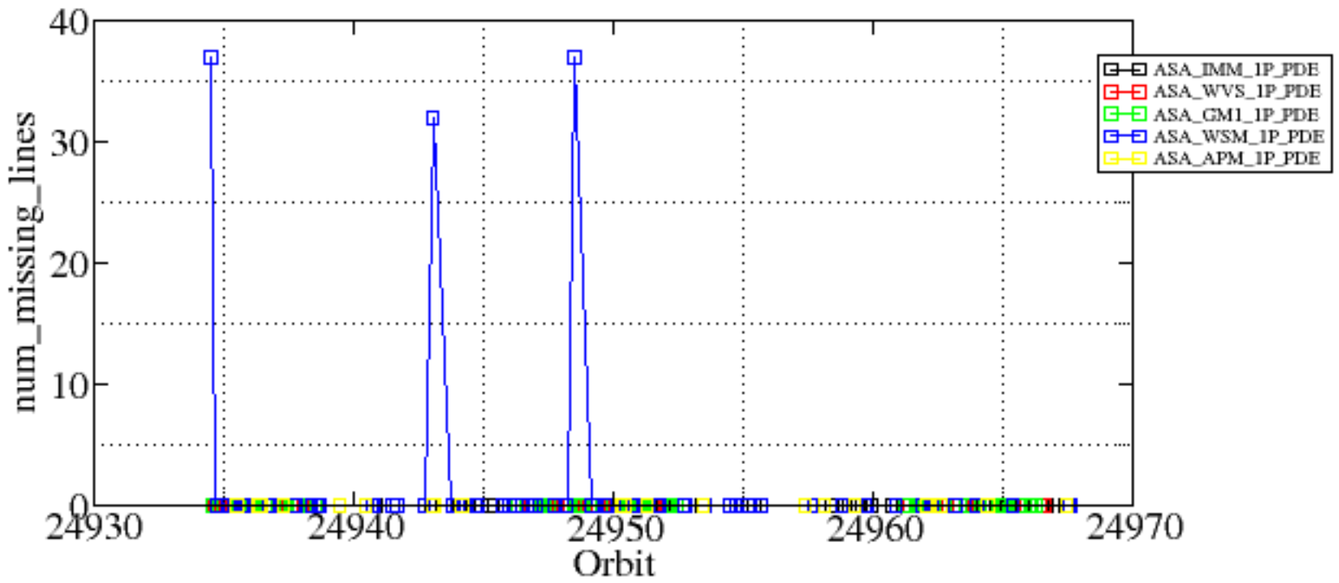
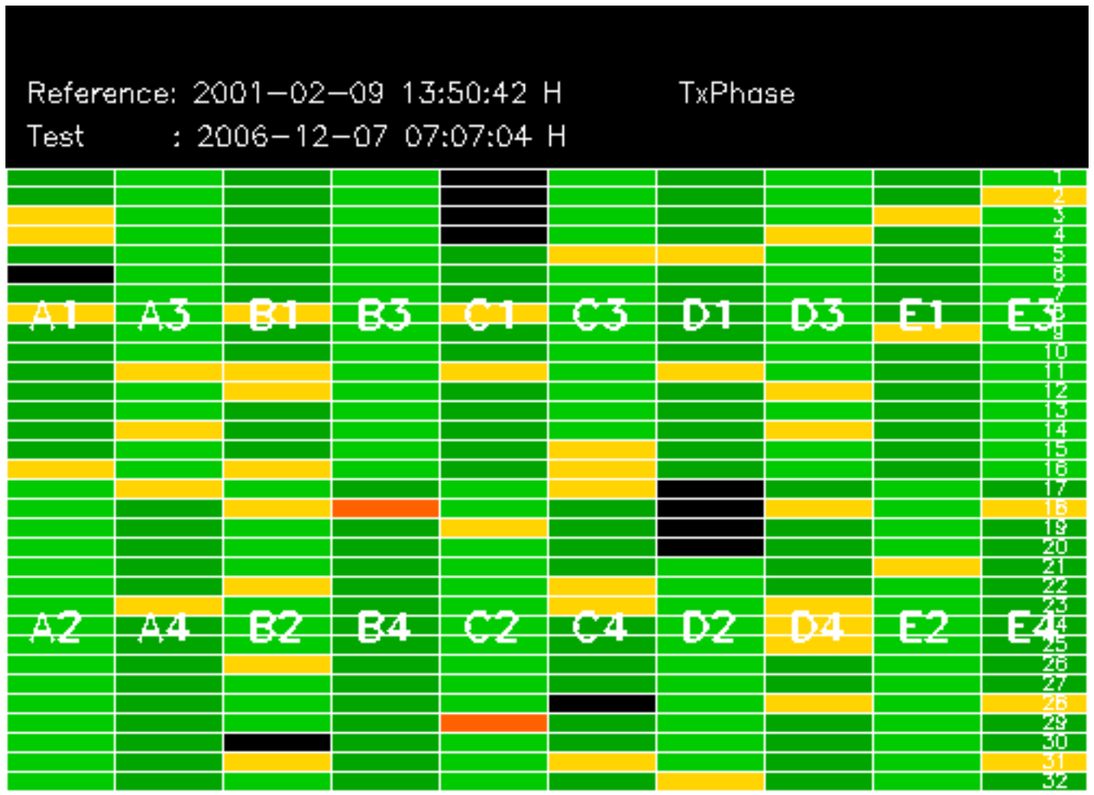
Summary of analysis for the last 3 days 2006120[789]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20061208_012029_000000352053_00346_24949_3814.N1	1	0
ASA_WSM_1PNPDE20061207_000625_000003242053_00331_24934_2346.N1	0	37
ASA_WSM_1PNPDE20061207_142735_000000852053_00340_24943_3217.N1	0	32
ASA_WSM_1PNPDE20061207_233448_000003242053_00345_24948_3807.N1	0	37


num_gaps
1
0.8
0.6
0.4
0.2
0
24930
24940
24950
24960
24970
Orbit
ASA_IMM_1P_PDE
ASA_WVS_1P_PDE
ASA_GM1_1P_PDE
ASA_WSM_1P_PDE
ASA_APM_1P_PDE


num_missing_lines
40
30
20
10
0
24930
24940
24950
24960
24970
Orbit
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 : 2006-12-07 07:07:04 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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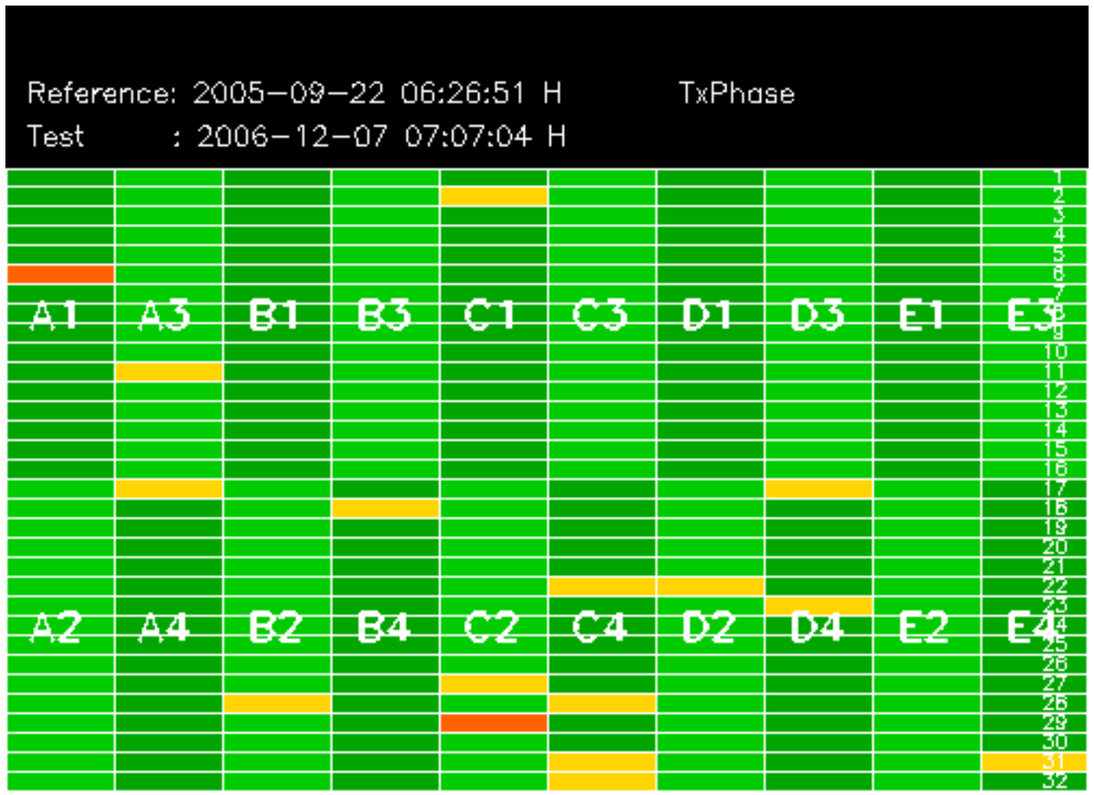
Reference: 2005-09-22 06:26:51 H
TxPhase
Test : 2006-12-07 07:07:04 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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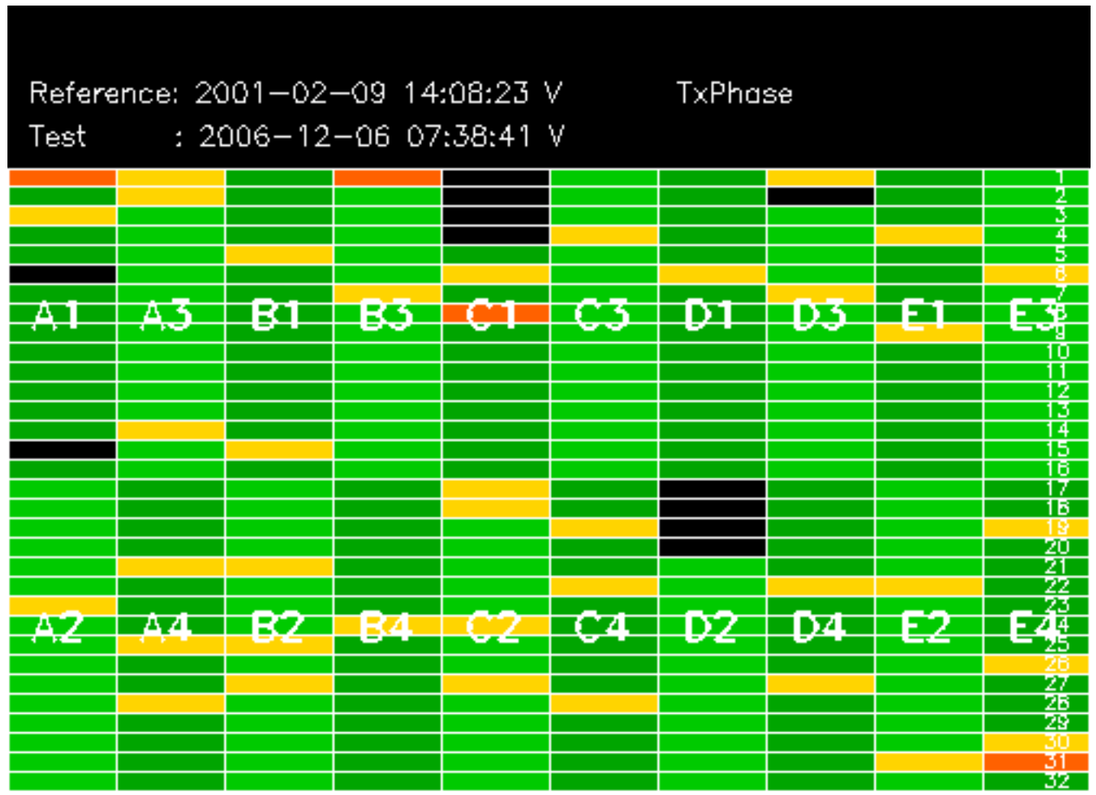
Reference: 2001-02-09 14:08:23 V
Test : 2006-12-06 07:38:41 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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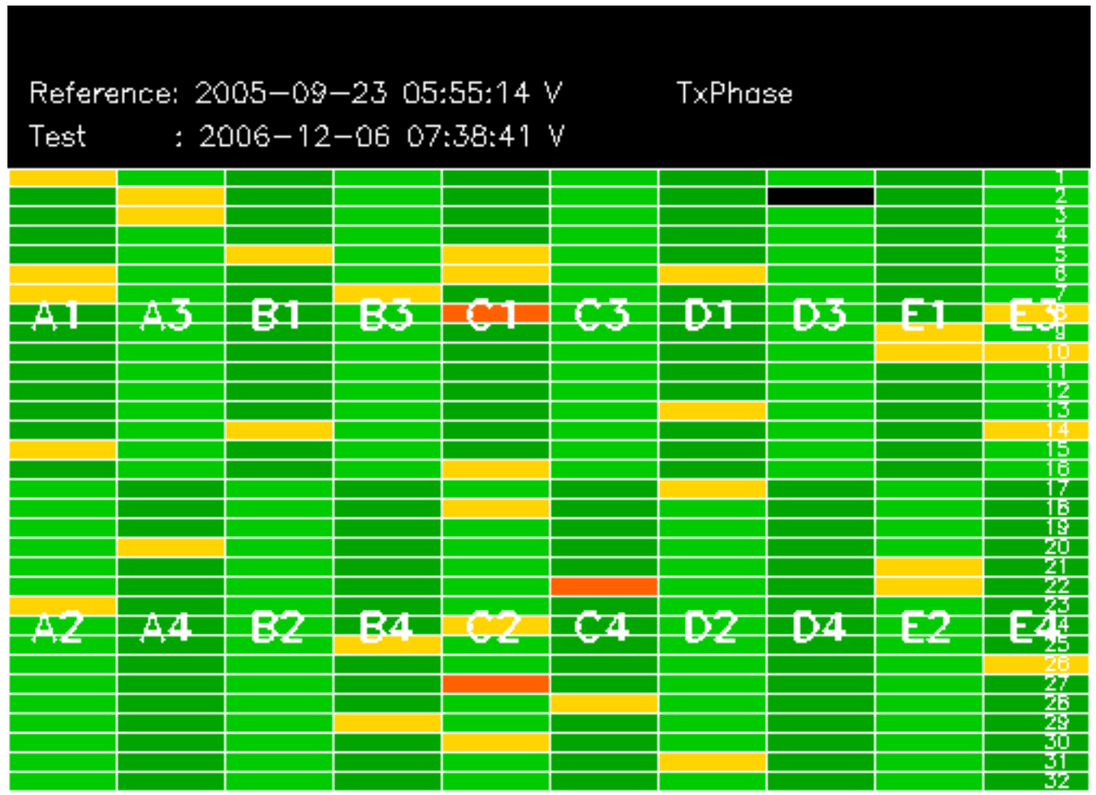
Reference: 2005-09-23 05:55:14 V
Test : 2006-12-06 07:38:41 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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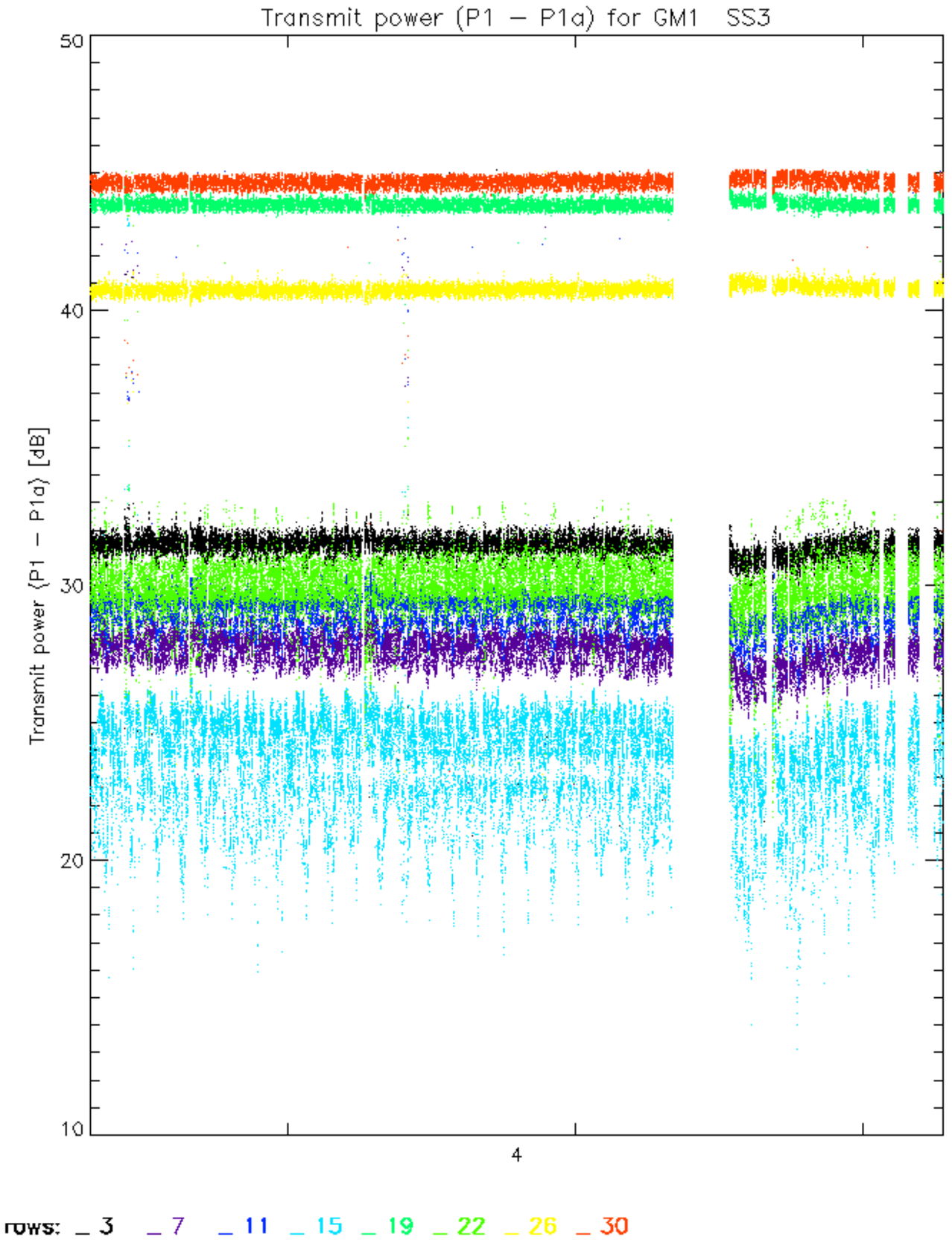
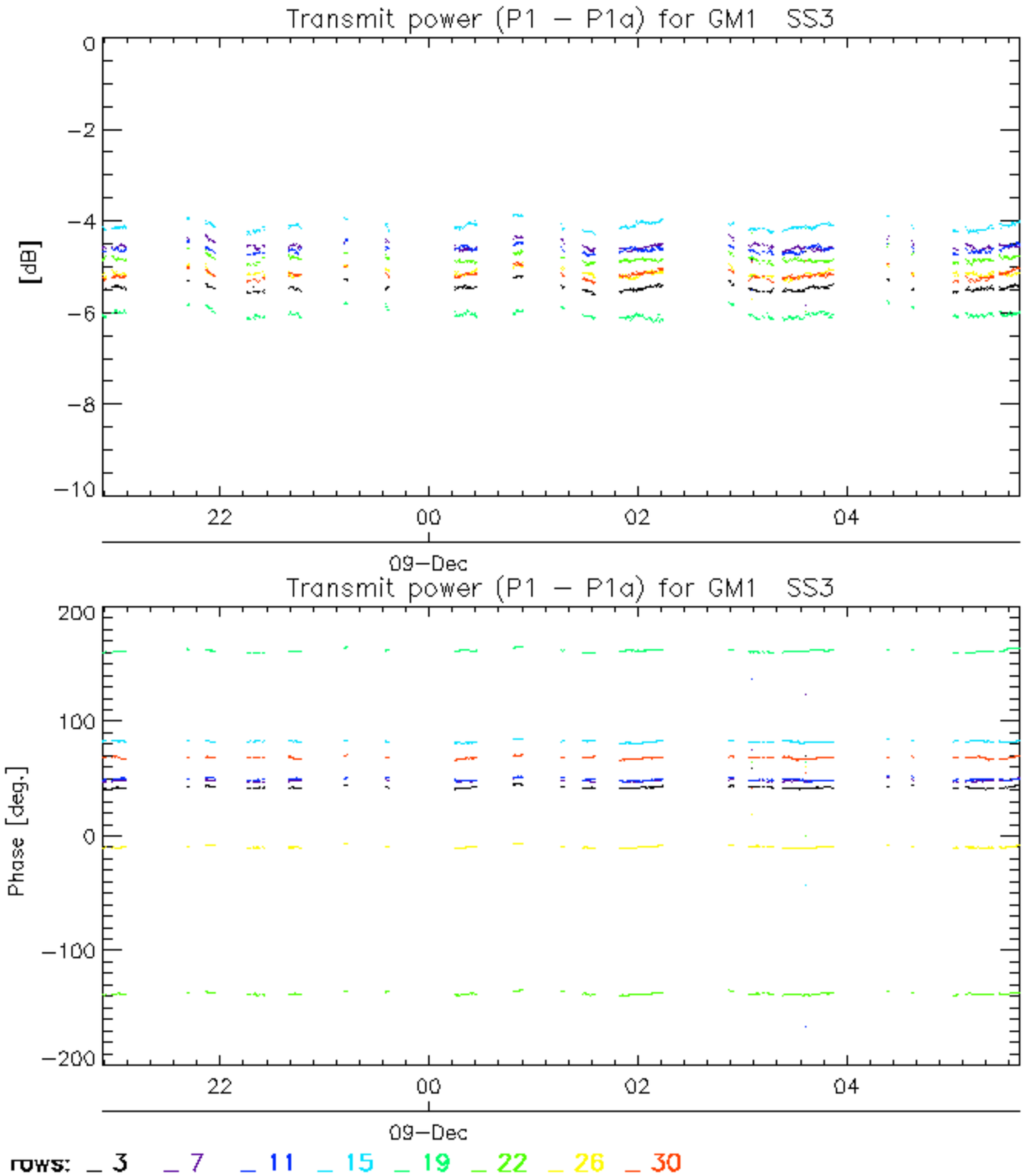
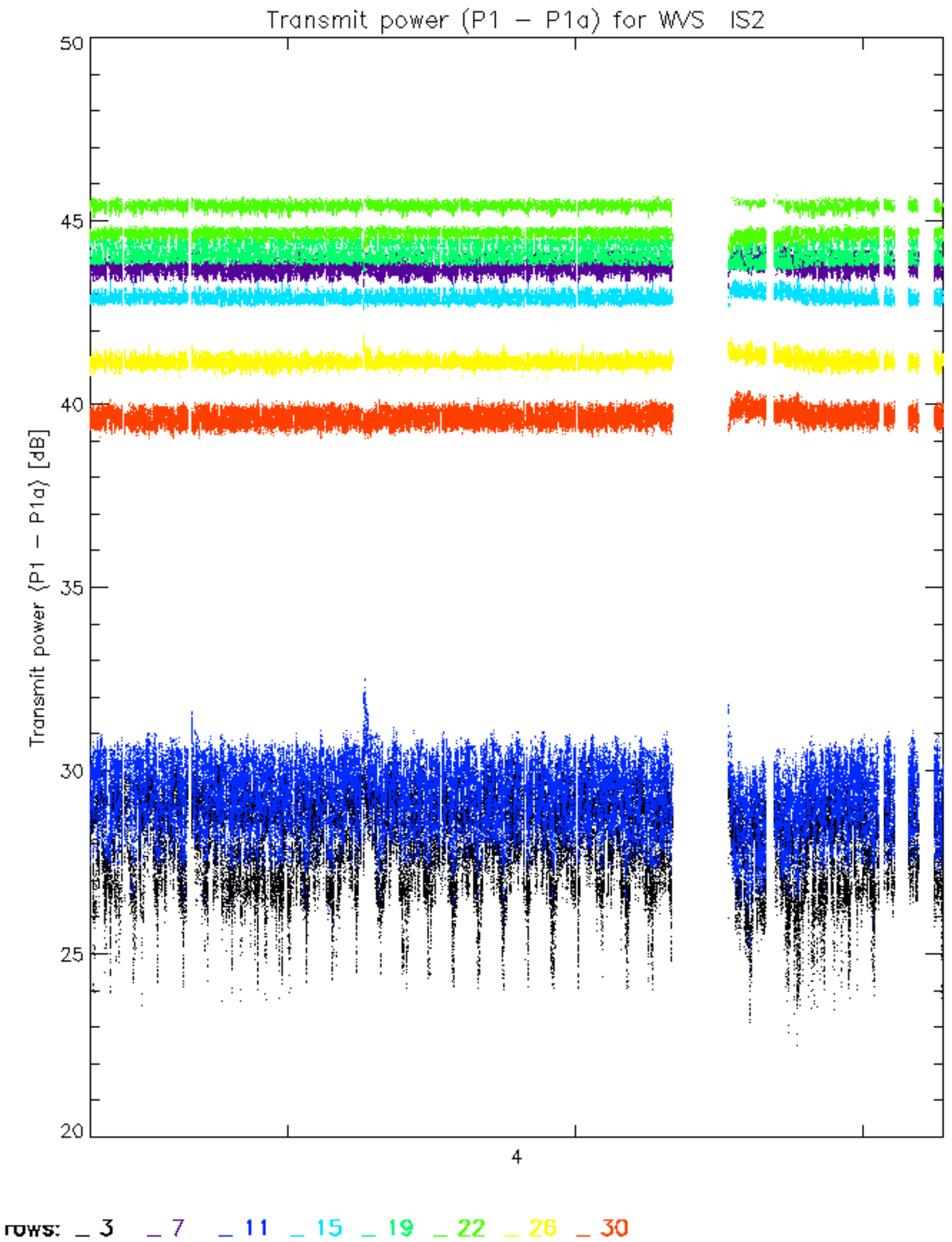
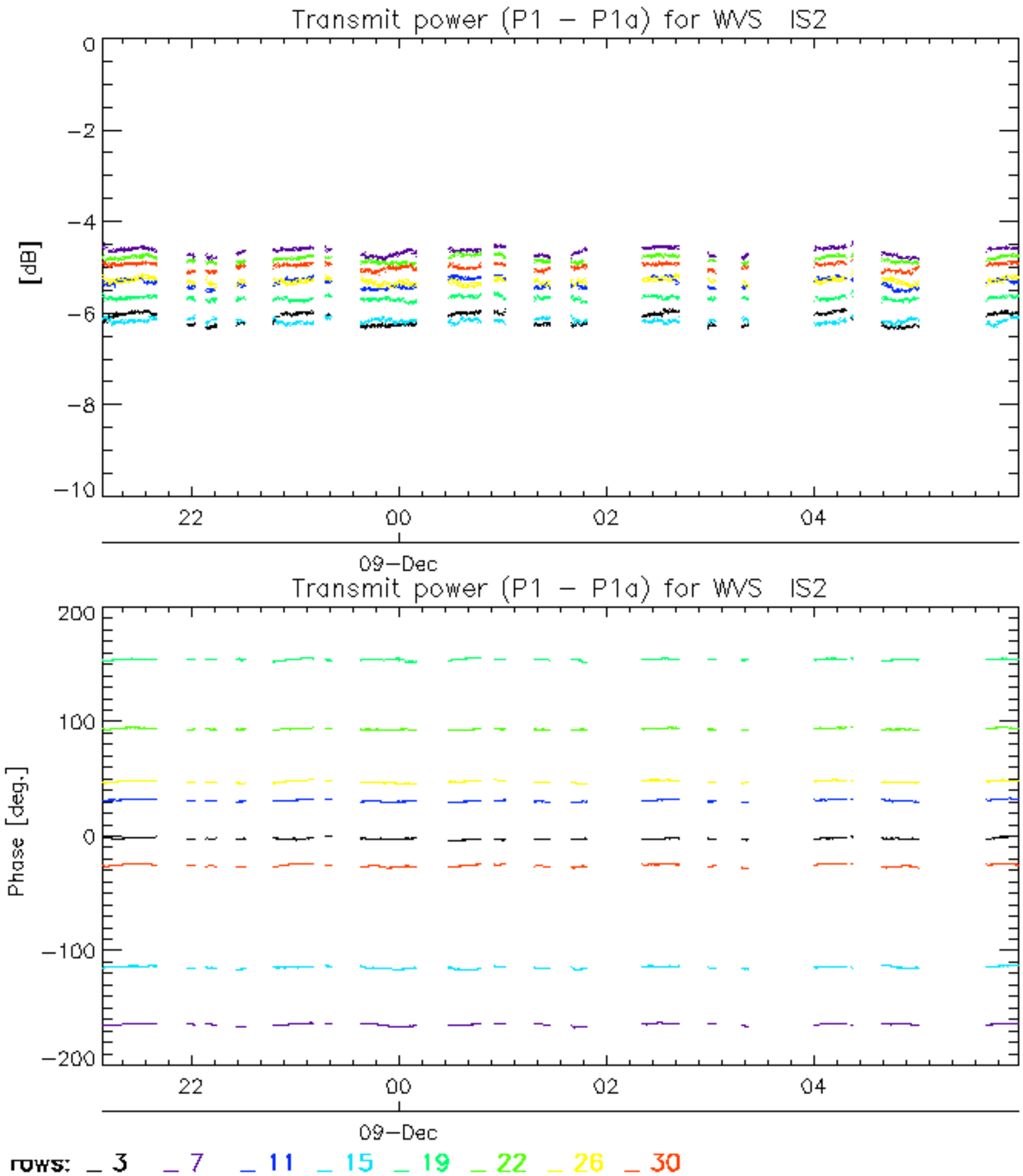

Transmit power (P1 – P1a) for GM1 SS3
50
40
30
20
10
Transmit power (P1 – P1a) [dB]
4
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
0
−2
−4
−6
−8
−10
[dB]
22
00
02
04
09–Dec
Transmit power (P1 – P1a) for GM1 SS3
200
100
0
−100
−200
Phase [deg.]
22
00
02
04
09–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
4
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
09−Dec
Transmit power (P1 − P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
22
00
02
04
09−Dec
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.