PRELIMINARY REPORT OF 051029

last update on Sat Oct 29 16:43:53 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 2005-10-28 00:00:00 to 2005-10-29 16:43:53

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	16	23	6	3	5
ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	16	23	6	3	5
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	16	23	6	3	5
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	16	23	6	3	5

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	40	56	39	14	55
ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	40	56	39	14	55
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	40	56	39	14	55
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	40	56	39	14	55

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	20051028 055516
H	20051027 062653

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	-3.526319	0.008830	0.037401
7	P1	-2.910558	0.012237	-0.090135
11	P1	-4.082025	0.017034	-0.096190
15	P1	-6.035285	0.014692	-0.051001
19	P1	-3.162311	0.005452	-0.037245
22	P1	-4.457162	0.013706	-0.068452
26	P1	-4.265549	0.014758	0.054441
30	P1	-5.713812	0.008801	-0.049135
3	P1	-15.355479	0.180079	0.282744
7	P1	-16.301607	0.119417	-0.181489
11	P1	-16.275164	0.303254	-0.363365
15	P1	-13.362569	0.111098	-0.141512
19	P1	-13.643714	0.044792	-0.179979
22	P1	-16.177547	0.473849	-0.367329
26	P1	-16.100937	0.257598	0.389307
30	P1	-16.440004	0.204737	-0.243794

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.864527	0.098901	-0.001599
7	P2	-22.687239	0.104230	0.084132
11	P2	-16.723083	0.113656	0.162271
15	P2	-7.228378	0.101491	-0.050562
19	P2	-9.182951	0.094072	-0.065418
22	P2	-17.745266	0.100325	-0.145549
26	P2	-16.117424	0.096036	-0.134756
30	P2	-19.626572	0.090542	-0.022939

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.196133	0.005965	-0.041121
7	P3	-8.196133	0.005965	-0.041121
11	P3	-8.196133	0.005965	-0.041121
15	P3	-8.196133	0.005965	-0.041121
19	P3	-8.196133	0.005965	-0.041121
22	P3	-8.196133	0.005965	-0.041121
26	P3	-8.196133	0.005965	-0.041121
30	P3	-8.196133	0.005965	-0.041121

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	-3.662571	0.007075	-0.004828
7	P1	-2.819203	0.012038	0.087294
11	P1	-2.852183	0.012341	0.001589
15	P1	-3.382737	0.018316	0.028827
19	P1	-3.353084	0.011099	-0.030503
22	P1	-5.137631	0.019454	0.052216
26	P1	-5.785573	0.017153	-0.049930
30	P1	-5.215030	0.026334	-0.035574
3	P1	-11.404632	0.033616	-0.013156
7	P1	-9.925333	0.040872	0.003186
11	P1	-10.018417	0.057819	-0.021368
15	P1	-10.567272	0.092253	0.080454
19	P1	-15.469957	0.069524	-0.094079
22	P1	-20.526011	1.159935	-0.488977
26	P1	-17.125555	0.376775	-0.250164
30	P1	-18.690413	0.386328	0.591114

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.706089	0.037313	-0.003812
7	P2	-23.065626	0.089321	-0.099228
11	P2	-11.745948	0.026559	0.017607
15	P2	-4.905492	0.029357	-0.102319
19	P2	-6.907853	0.025222	-0.055196
22	P2	-8.116340	0.024704	-0.072383
26	P2	-23.881489	0.038632	-0.138903
30	P2	-22.067467	0.026942	-0.058938

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.039368	0.002805	-0.041004
7	P3	-8.039520	0.002813	-0.040945
11	P3	-8.039420	0.002810	-0.041006
15	P3	-8.039451	0.002805	-0.041006
19	P3	-8.039470	0.002821	-0.041031
22	P3	-8.039438	0.002824	-0.041356
26	P3	-8.039587	0.002825	-0.040866
30	P3	-8.039447	0.002814	-0.041146

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	0.000560928
	stdev	1.70149e-07
MEAN Q	mean	0.000543942
	stdev	2.13707e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.137762
	stdev	0.00111559
STDEV Q	mean	0.138106
	stdev	0.00113198

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005102[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_1PNPDE20051028_054402_000000352042_00048_19140_9592.N1	1	0
ASA_IMM_1PNPDE20051029_005058_000002402042_00059_19151_9651.N1	1	0

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

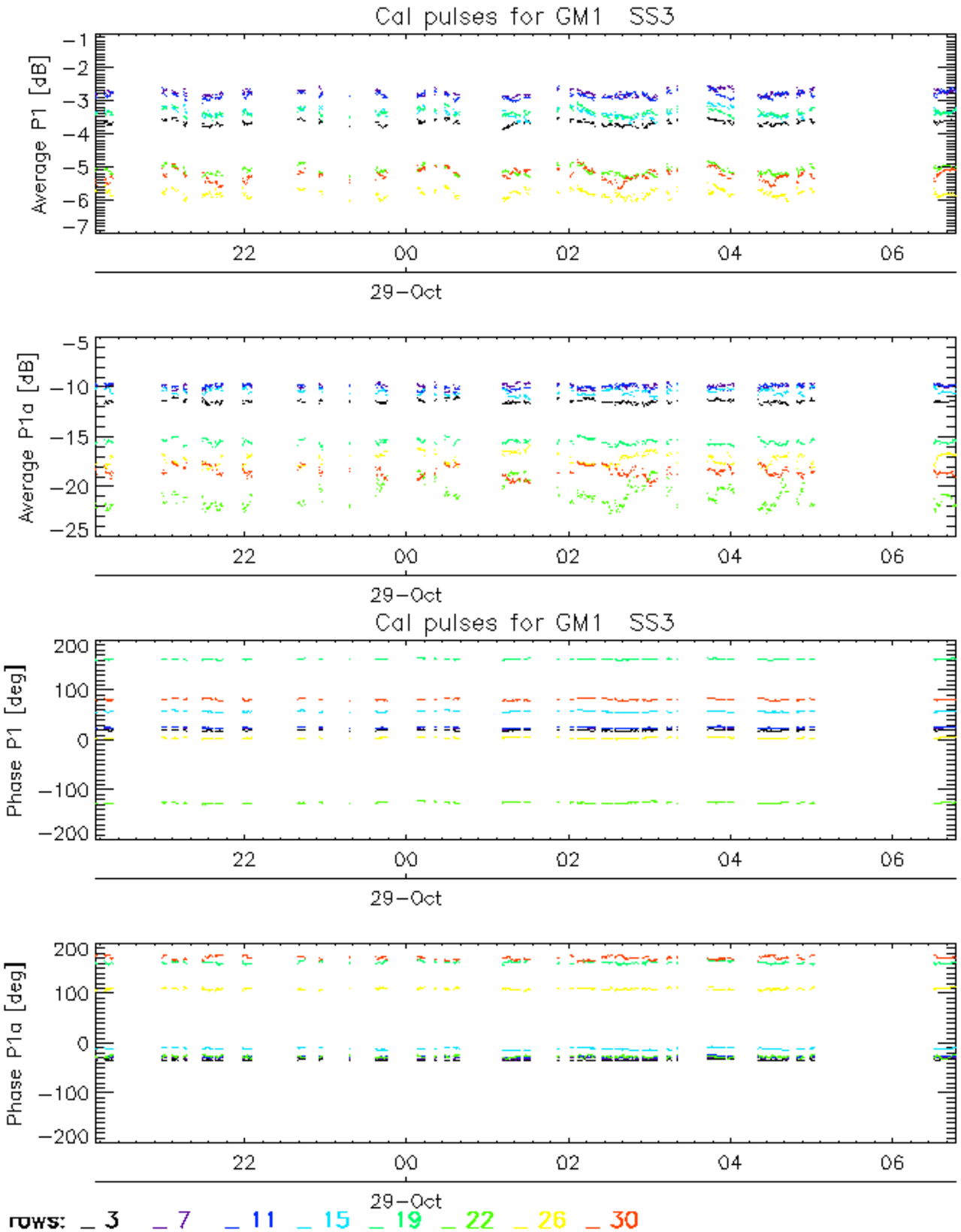
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

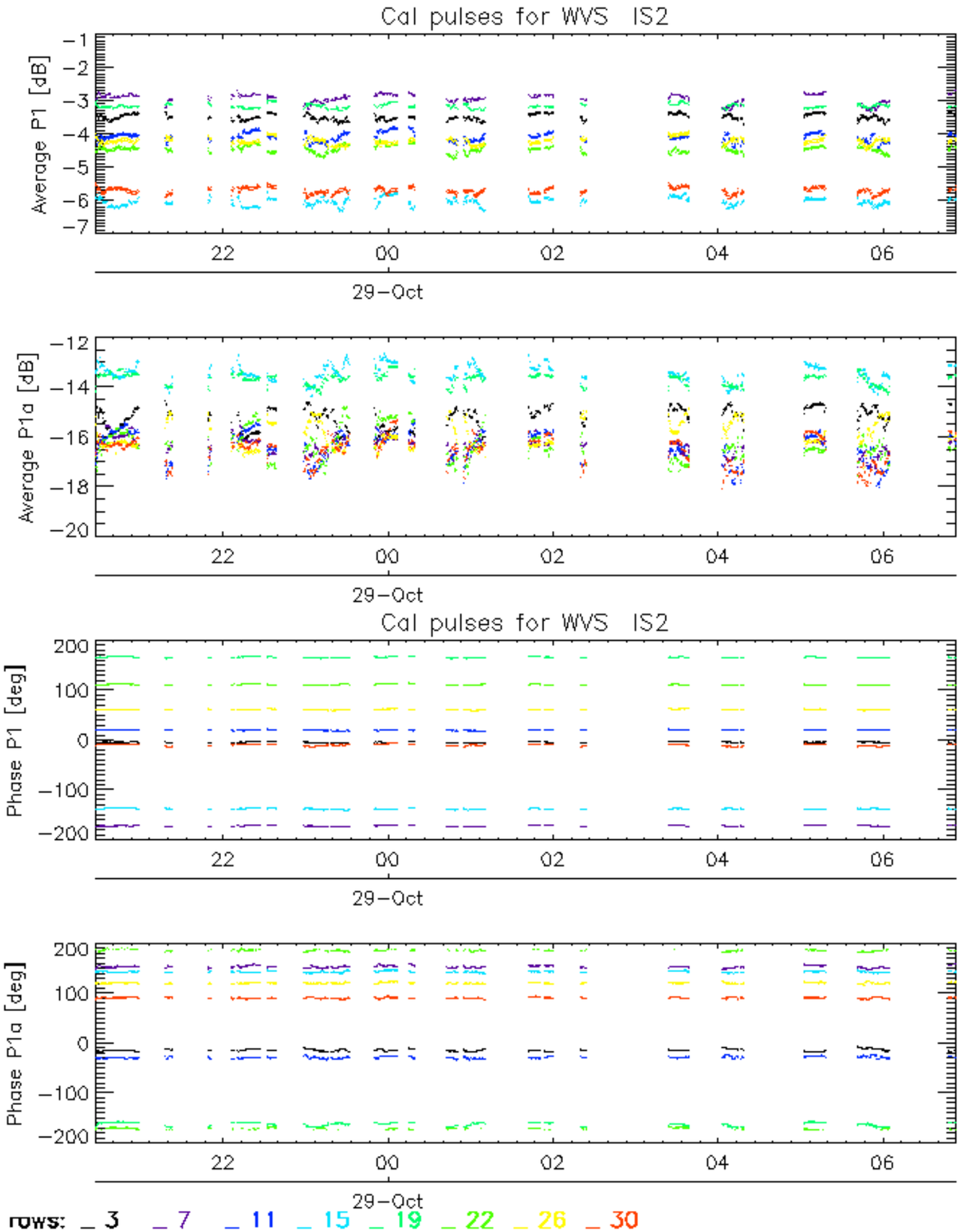
7.5 - Absolute Doppler for GM1

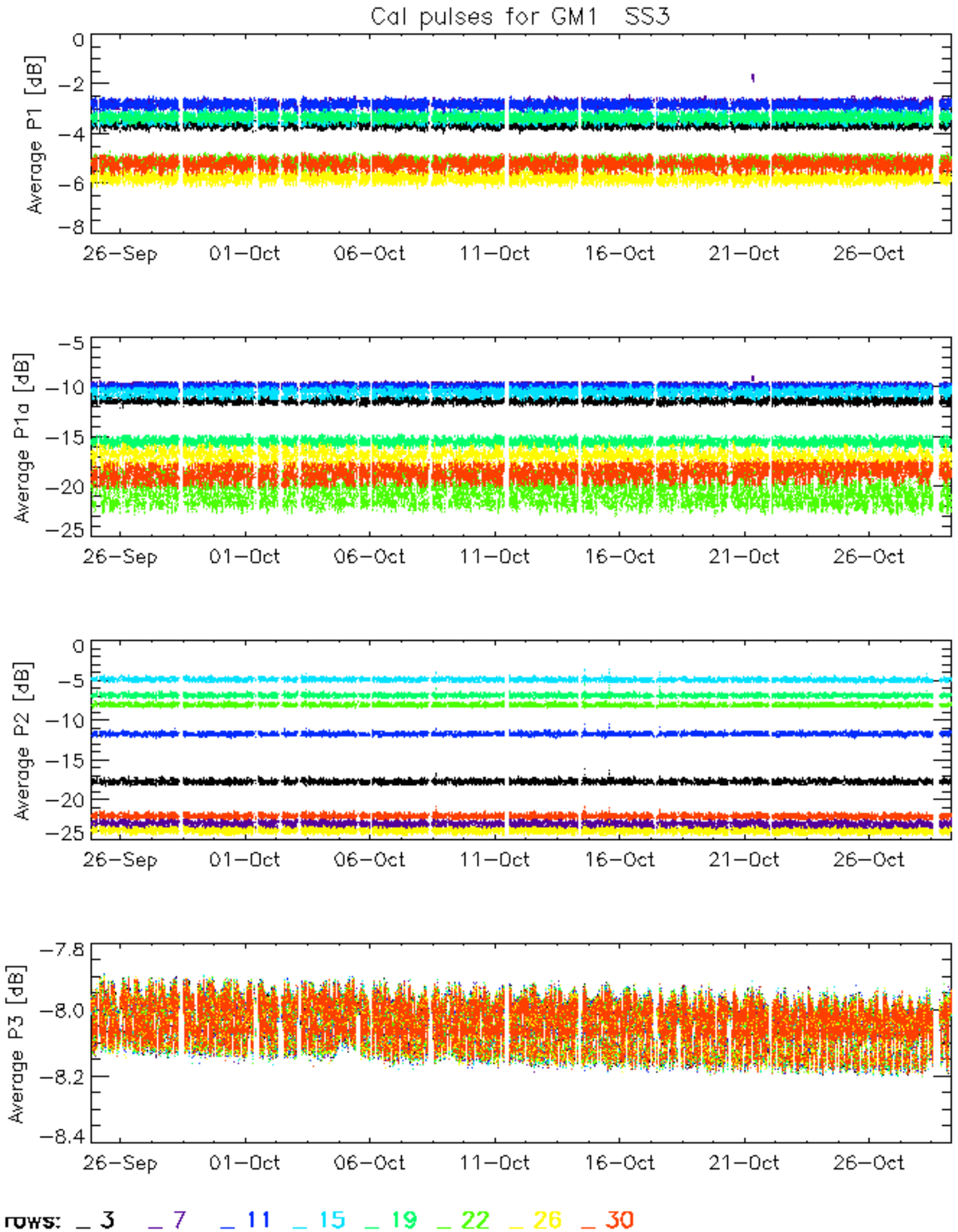
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

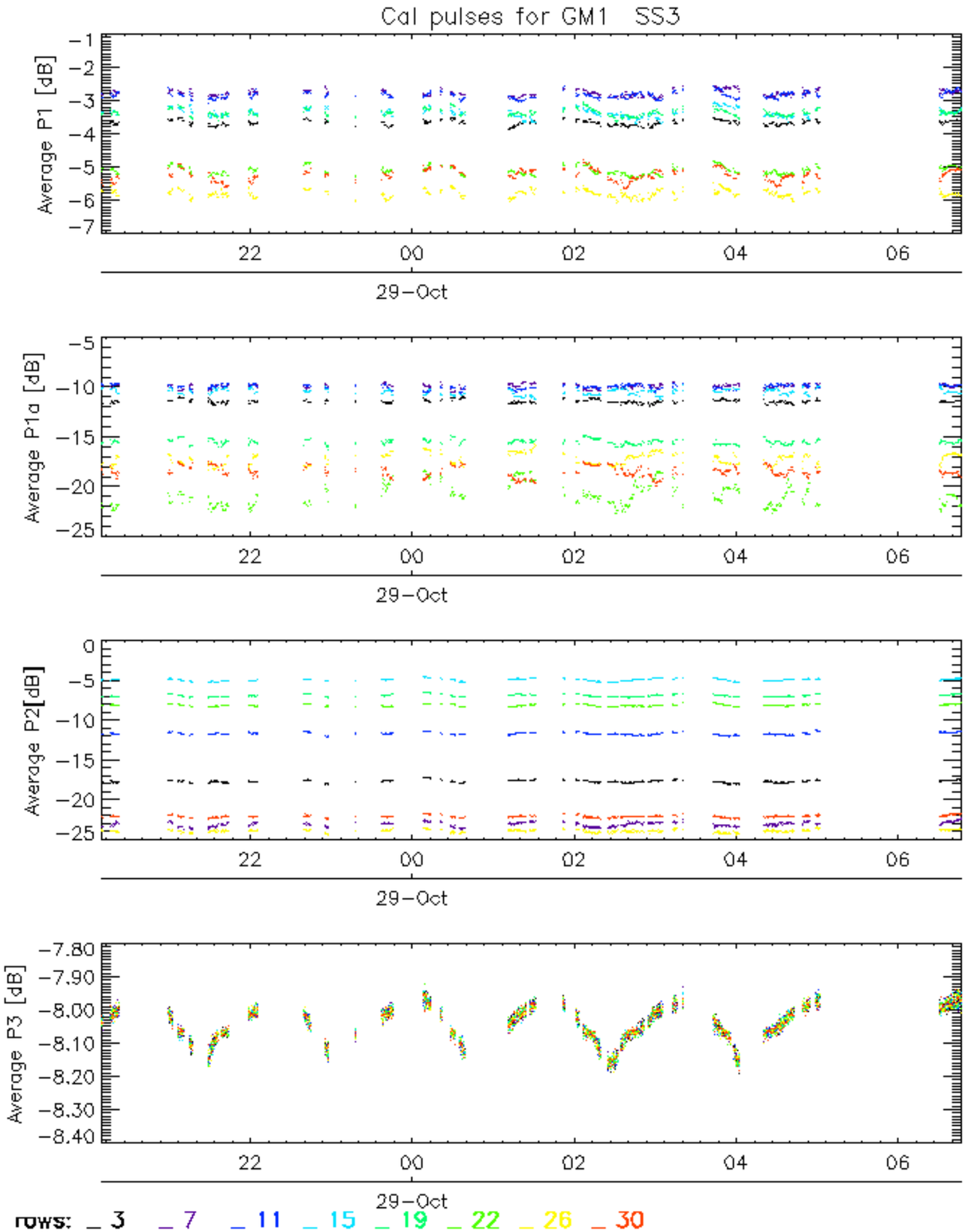
7.6 - Doppler evolution versus ANX for GM1

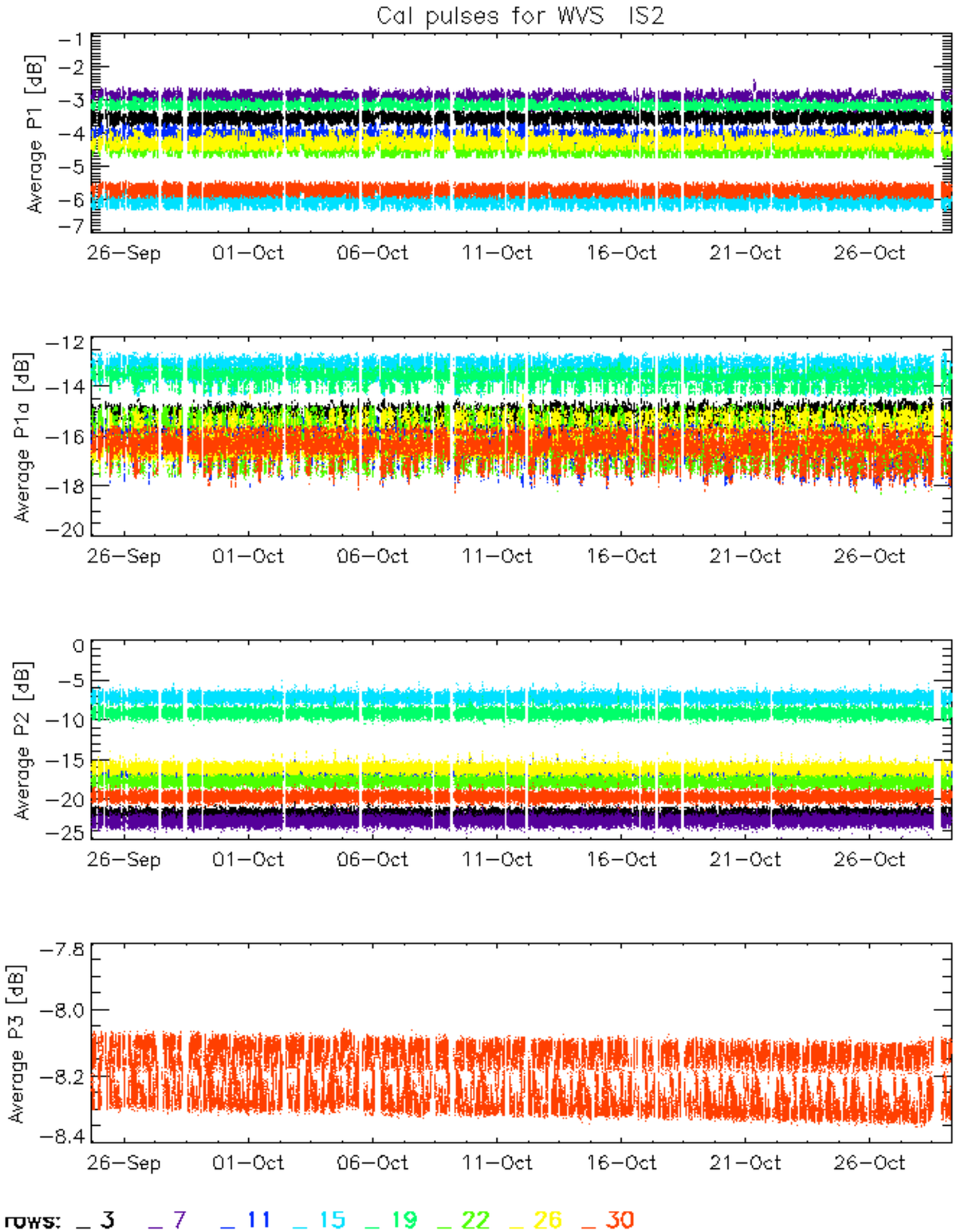
Evolution Doppler error versus ANX
☒

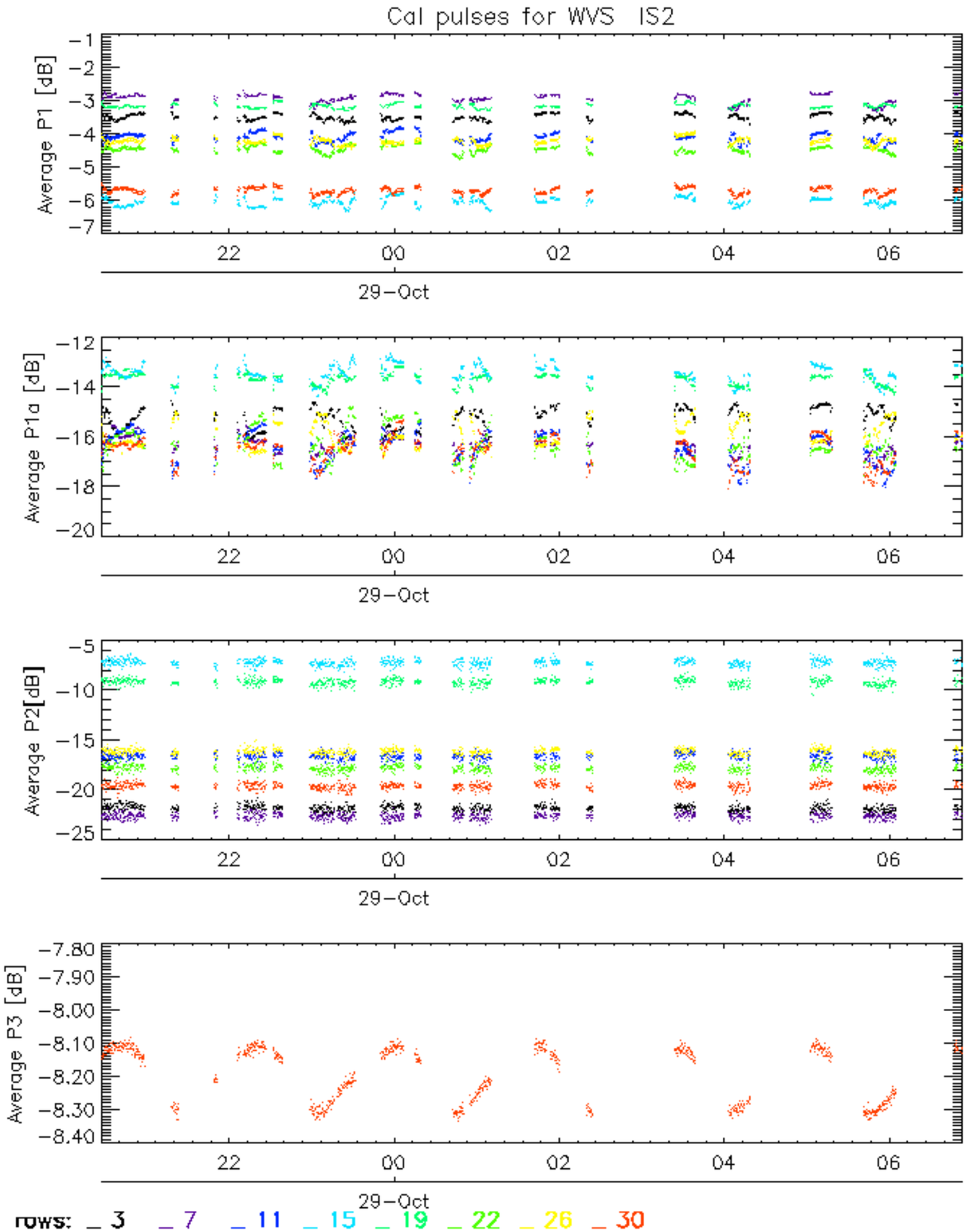

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
22
00
02
04
06
29−Oct
Average P1a [dB]
−5
−10
−15
−20
−25
22
00
02
04
06
29−Oct
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
22
00
02
04
06
29−Oct
Phase P1a [deg]
200
100
0
−100
−200
22
00
02
04
06
29−Oct
rows: _ 3 _ 7 _ 11 _ 15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


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

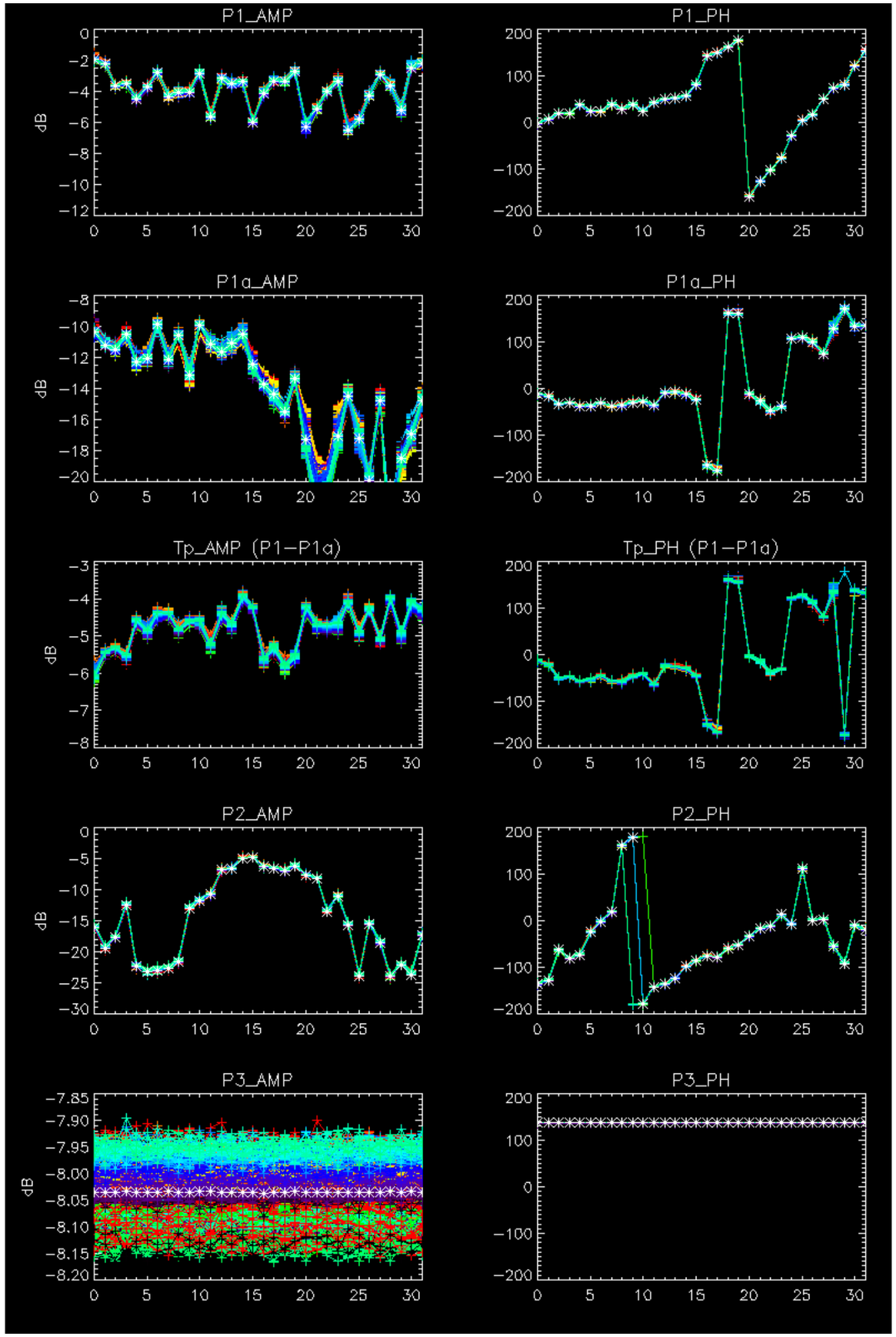

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
26−Sep
01−Oct
06−Oct
11−Oct
16−Oct
21−Oct
26−Oct
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

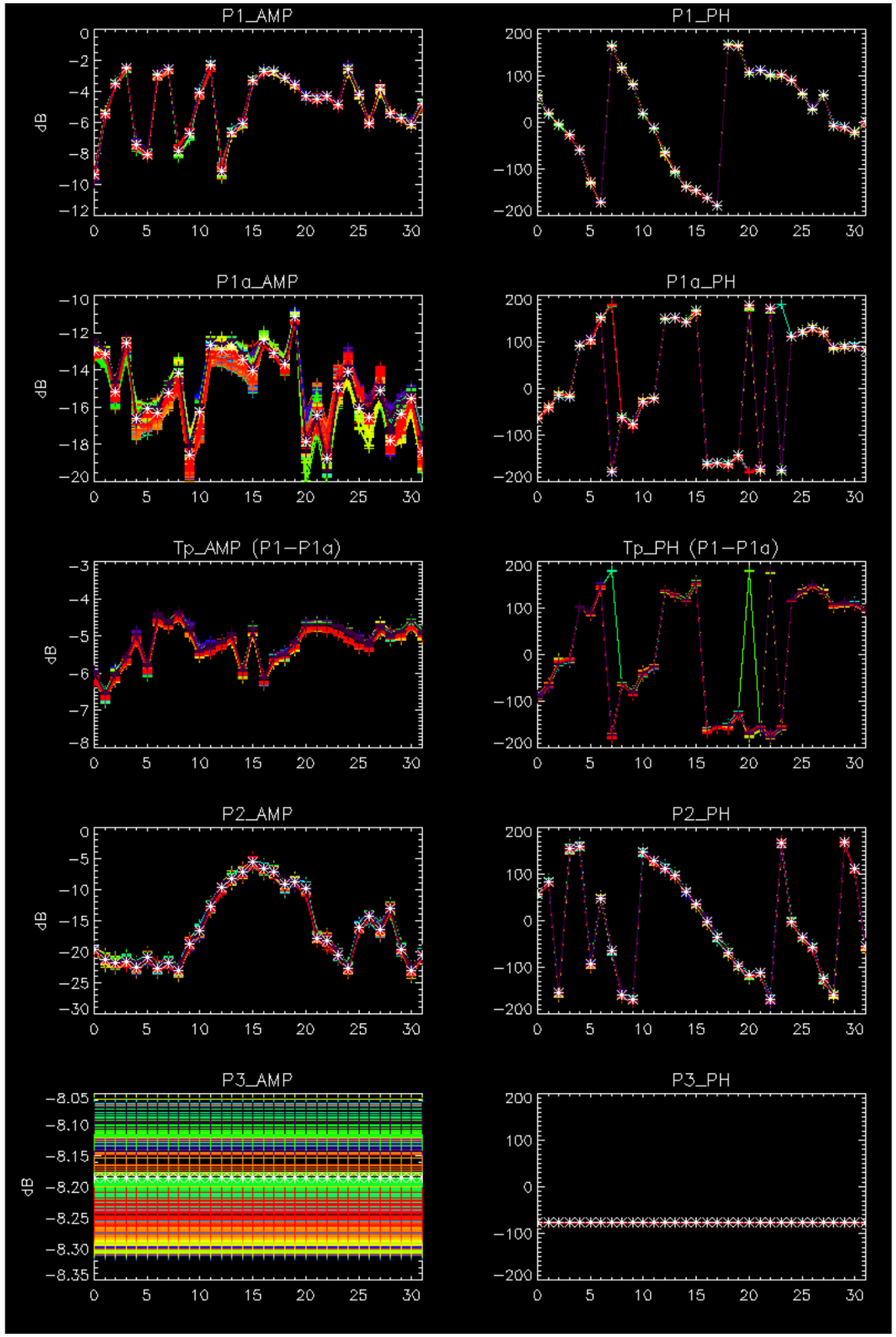

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
22
00
02
04
06
29−Oct
Average P1a [dB]
−5
−10
−15
−20
−25
22
00
02
04
06
29−Oct
Average P2[dB]
0
−5
−10
−15
−20
−25
22
00
02
04
06
29−Oct
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
22
00
02
04
06
29−Oct
rows: _ 3 _ 7 _ 11 _ 15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


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

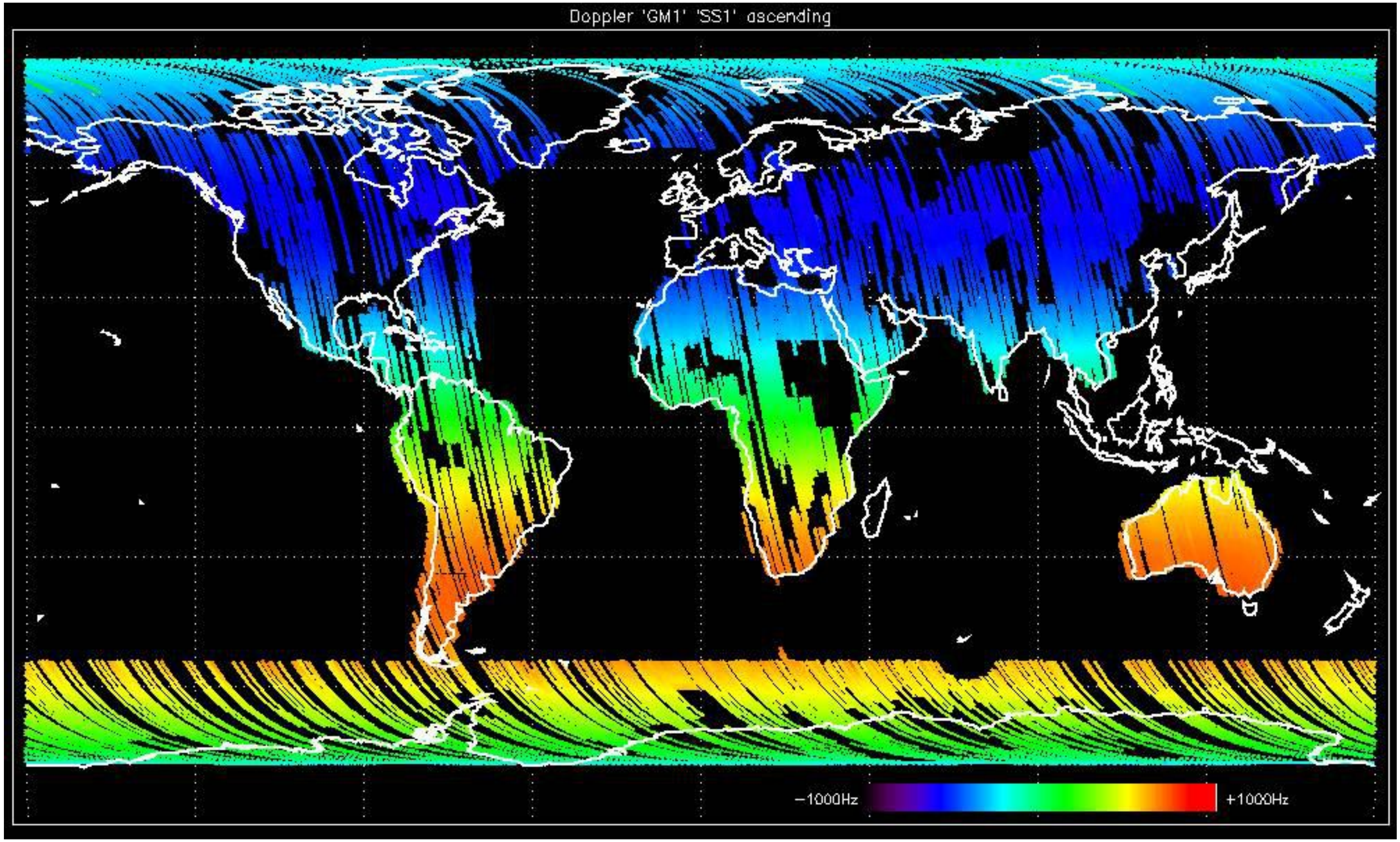
No anomalies observed.

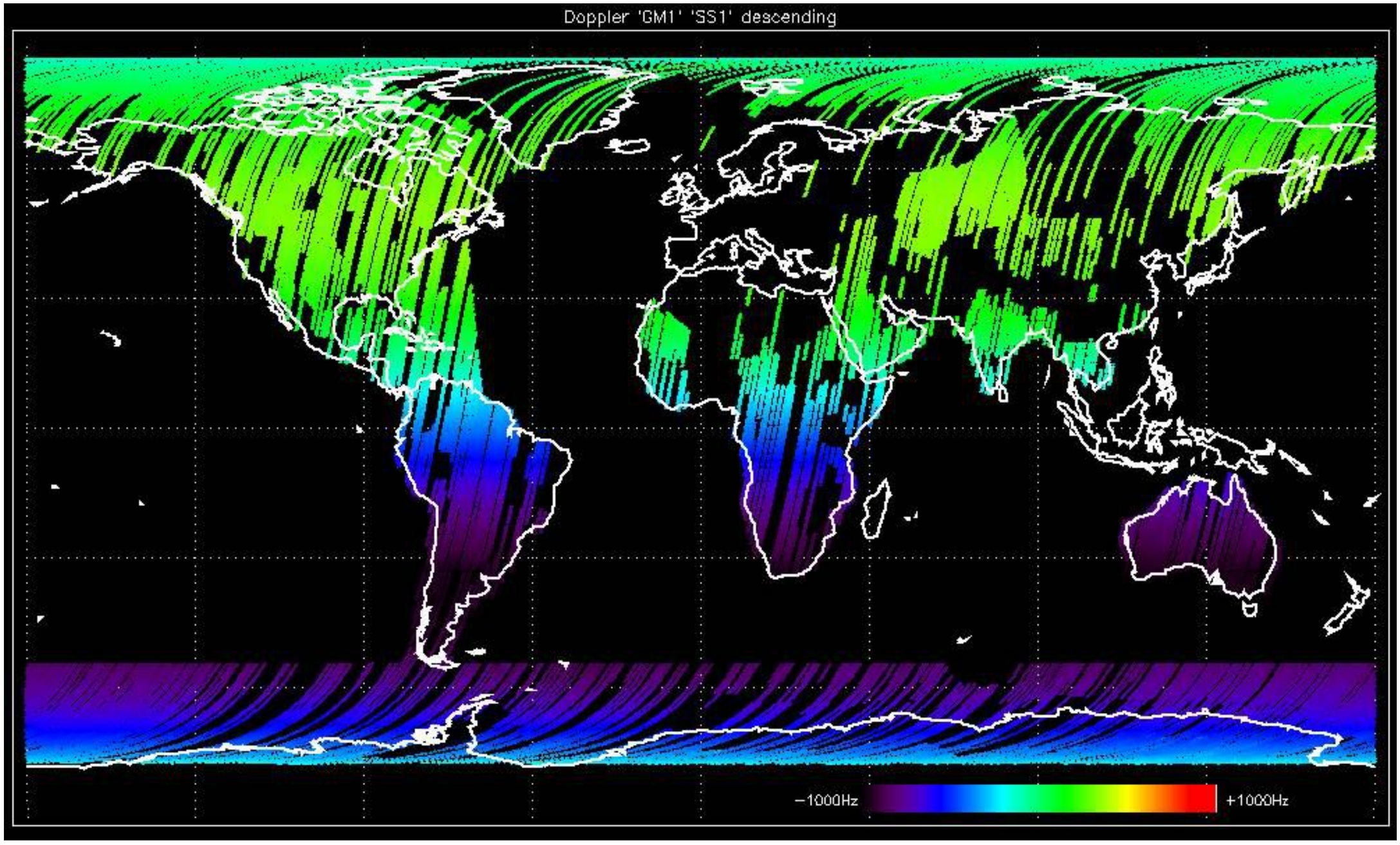

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

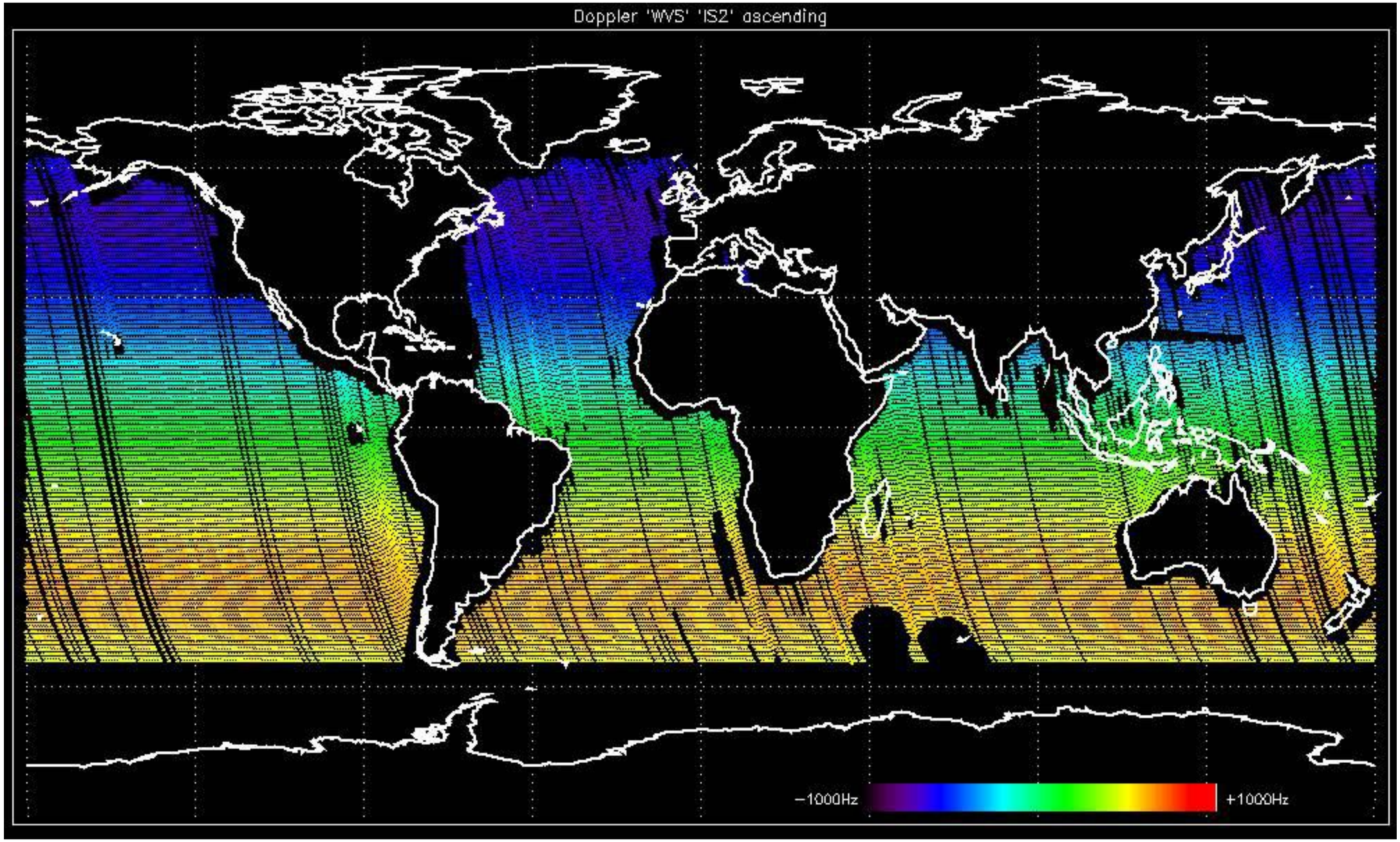

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

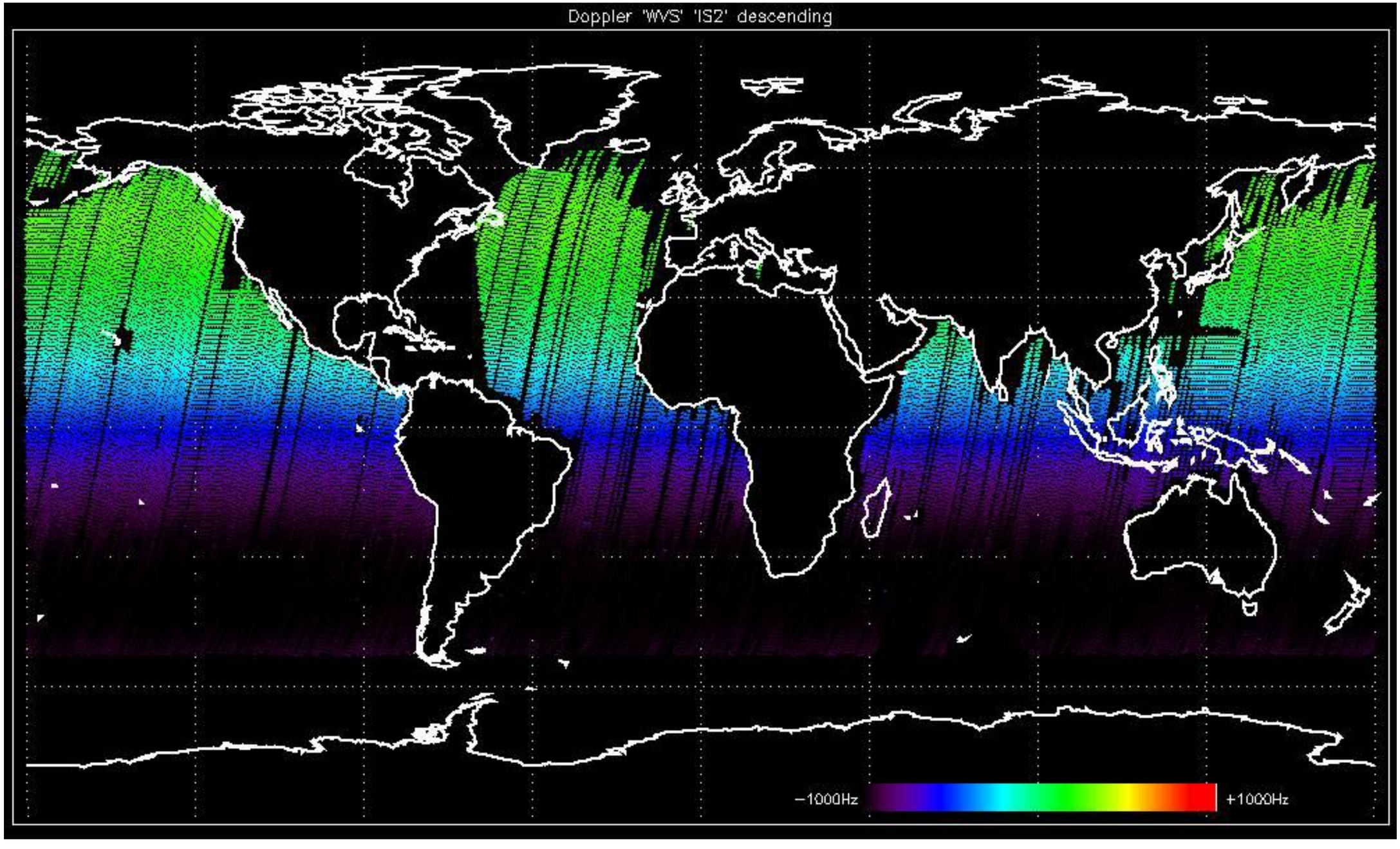
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

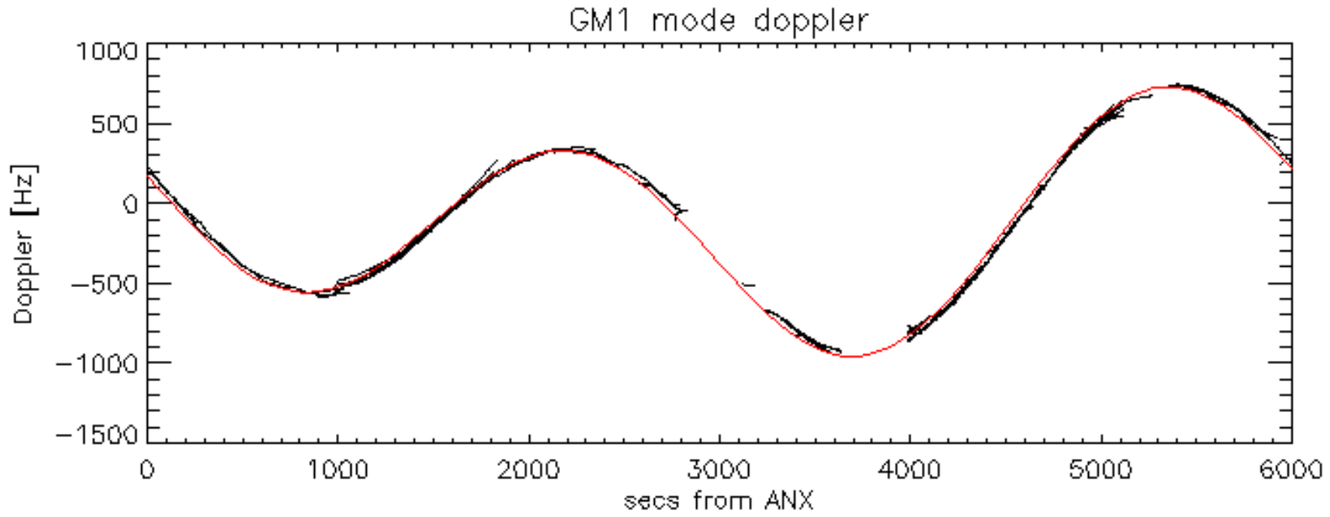
Preliminary report.The data is not yet controled

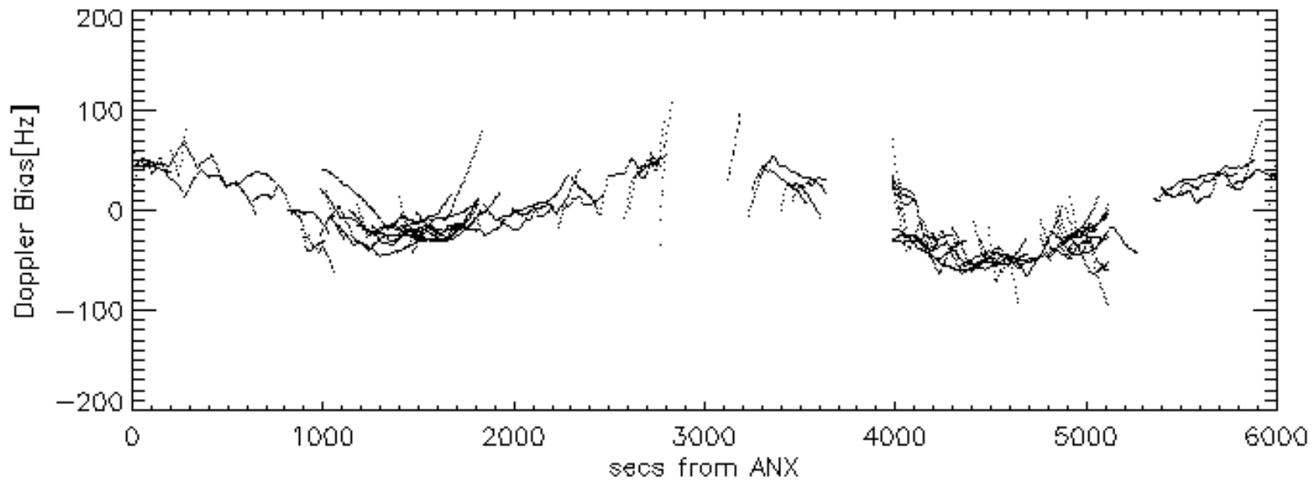

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

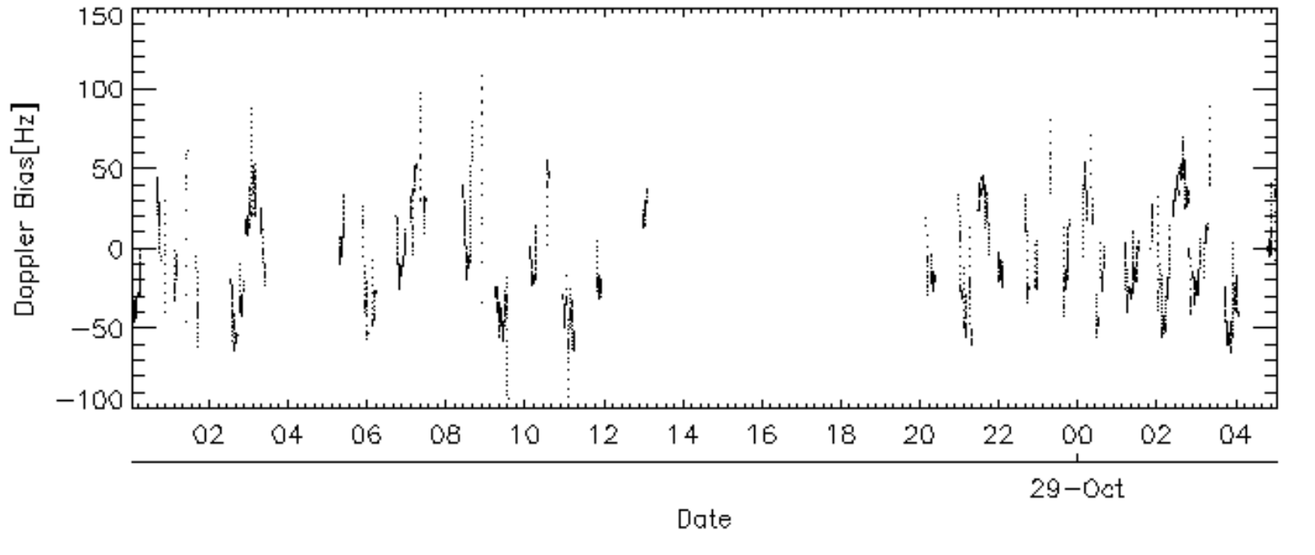

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

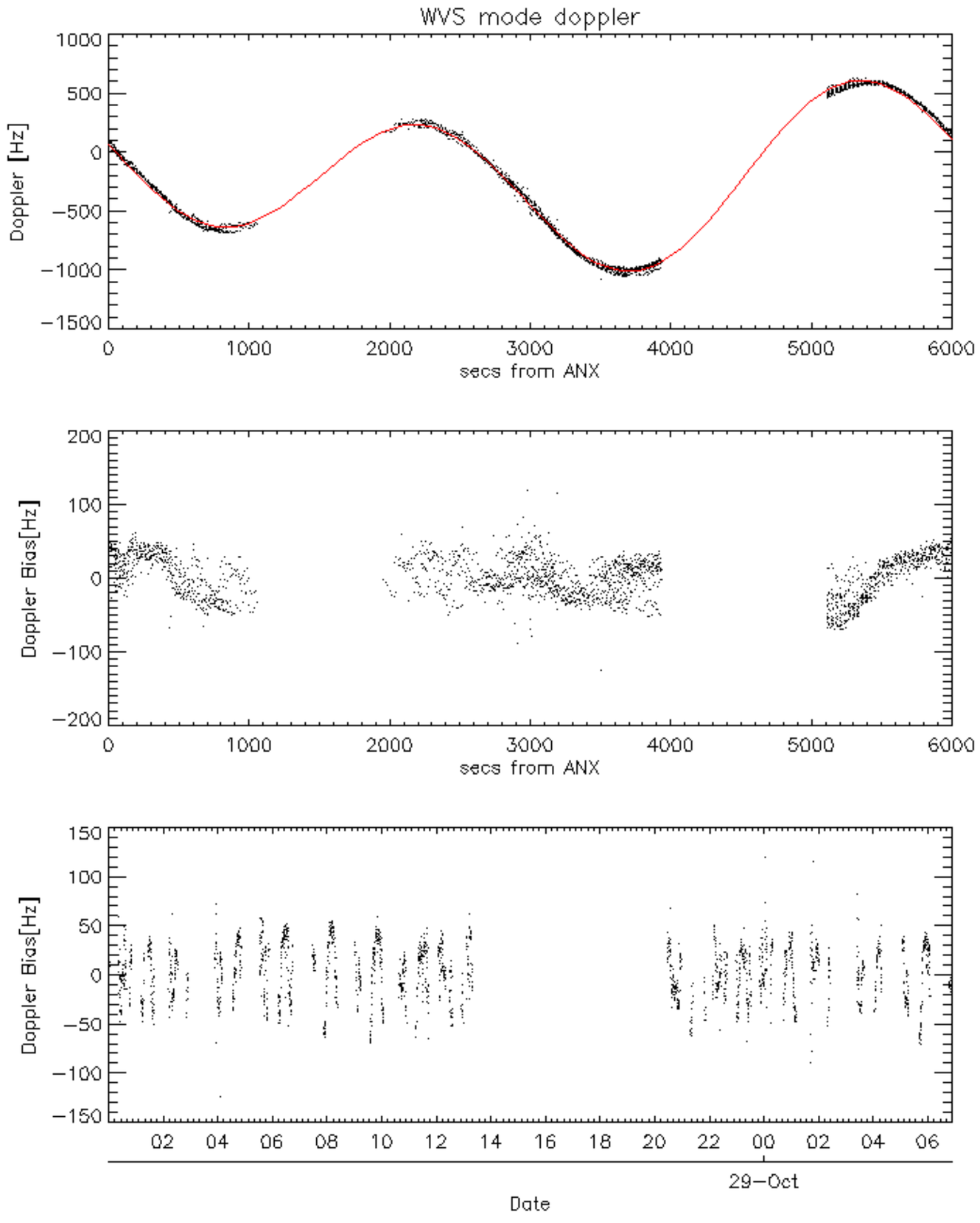

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

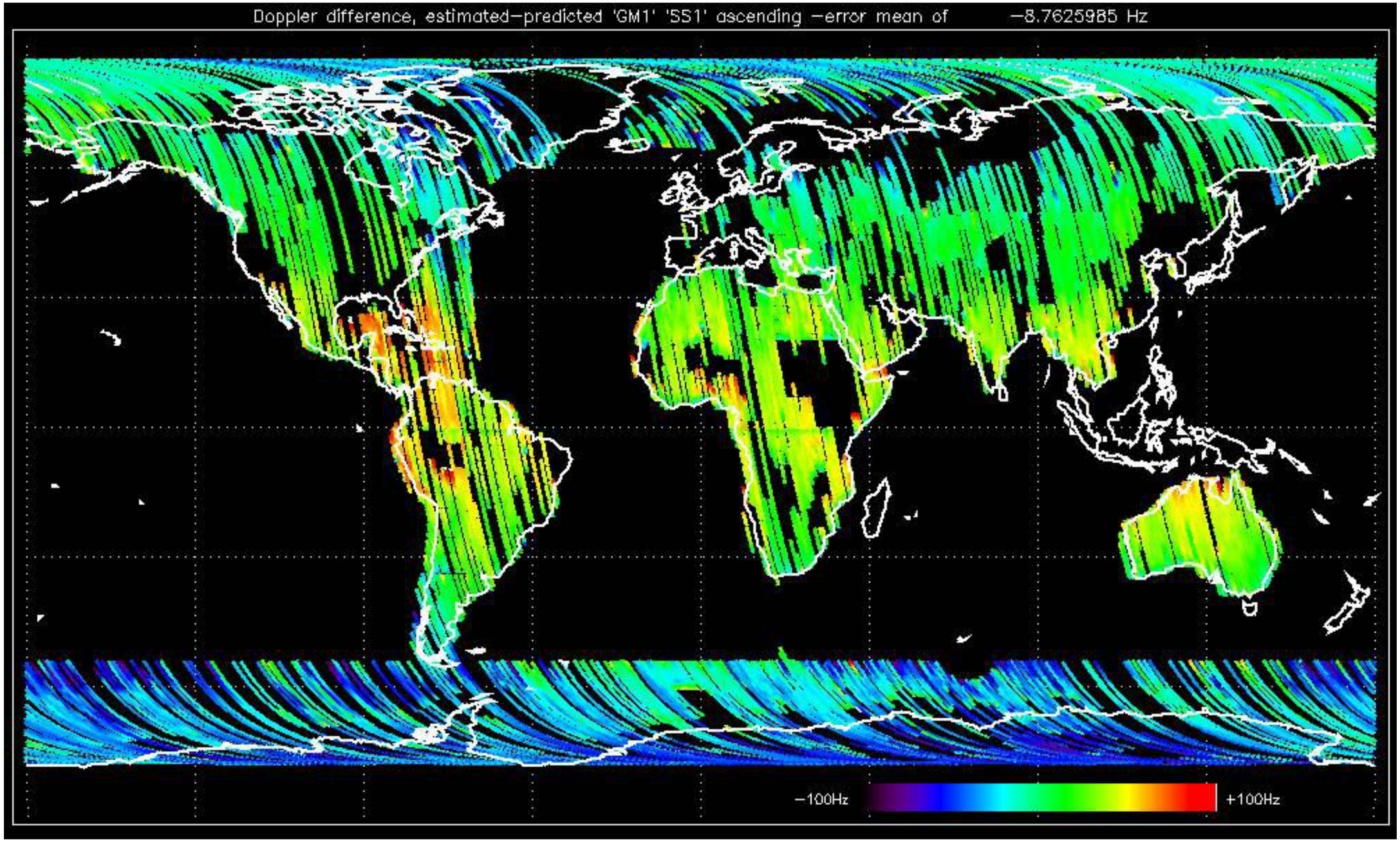

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

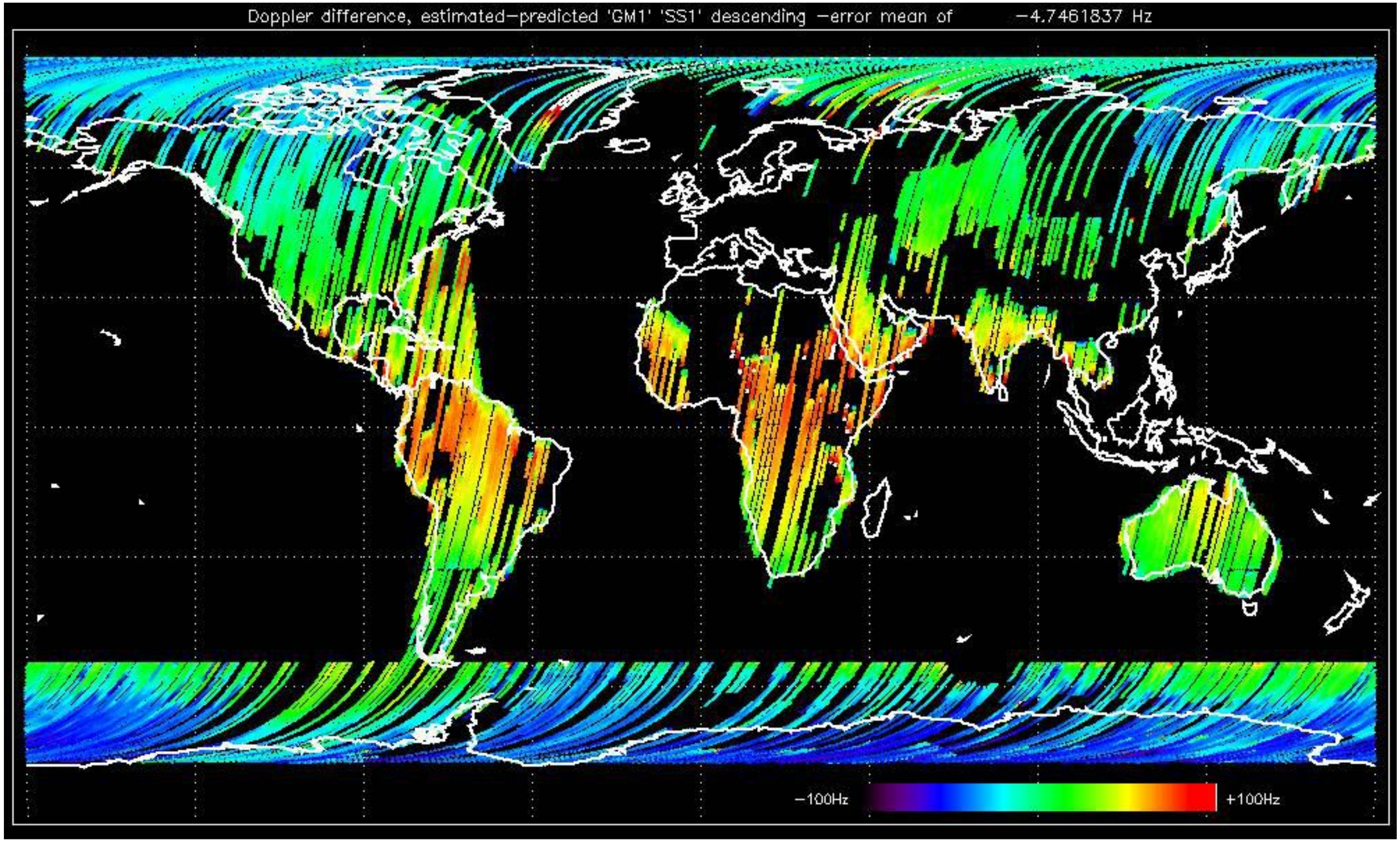

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

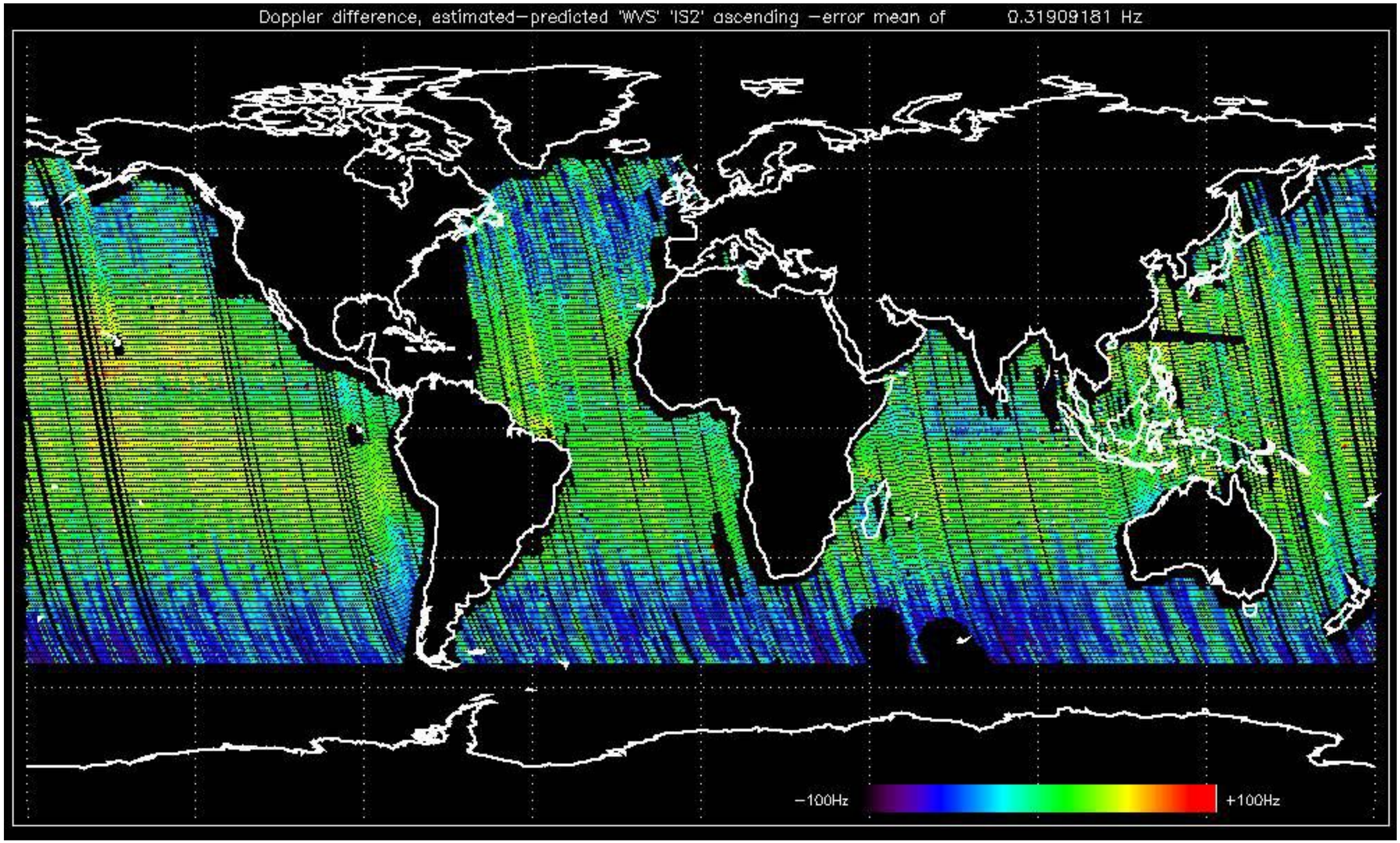

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

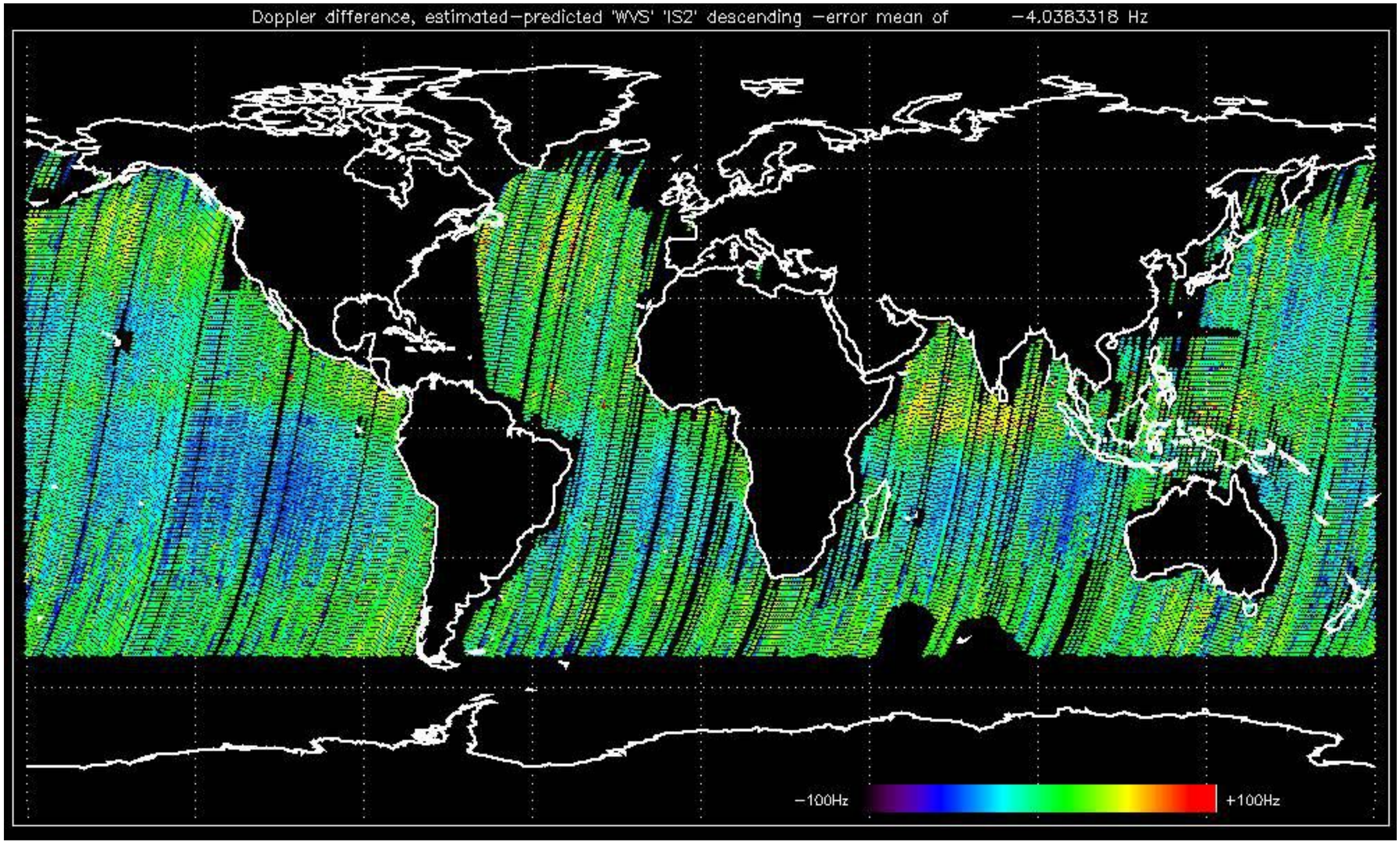

Doppler Bias[Hz]
150
100
50
0
−50
−100
02
04
06
08
10
12
14
16
18
20
22
00
02
04
29−Oct
Date


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]
150
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
29−Oct
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −8.7625985 Hz
−100Hz
+100Hz

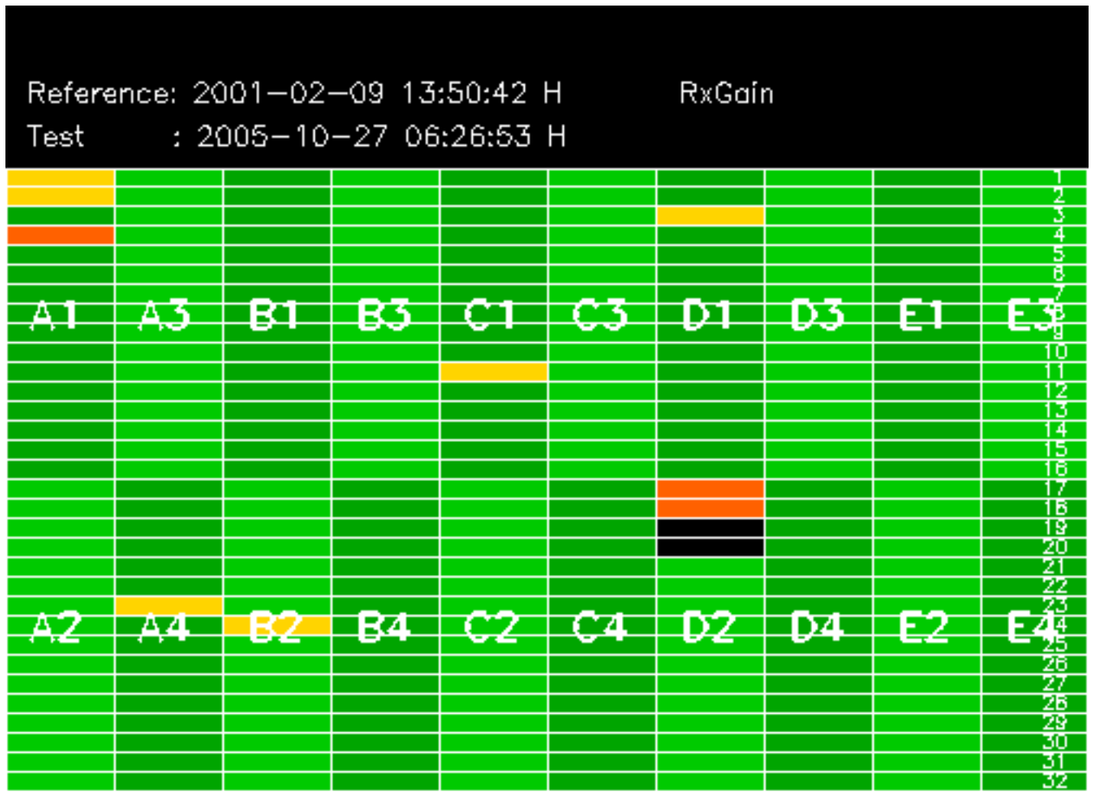

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −4.7461837 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of 0.31909181 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −4.0383318 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2005-10-27 06:26:53 H
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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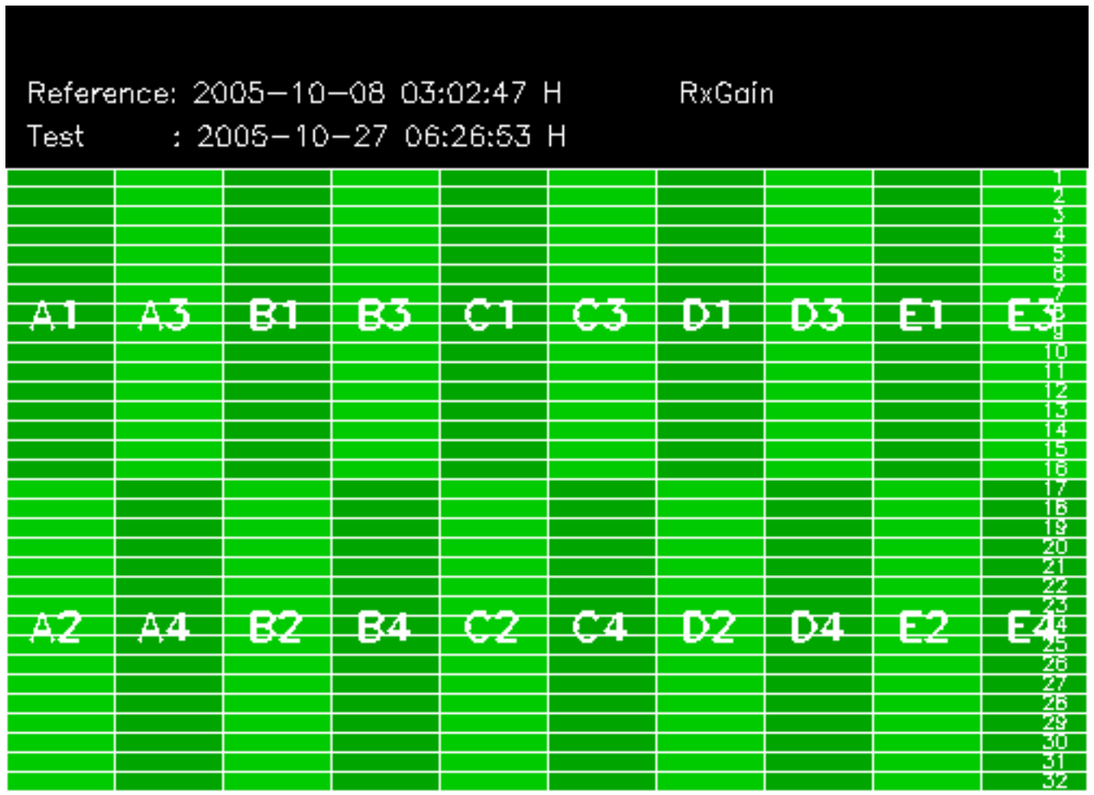
Reference: 2005-10-08 03:02:47 H
Test : 2005-10-27 06:26:53 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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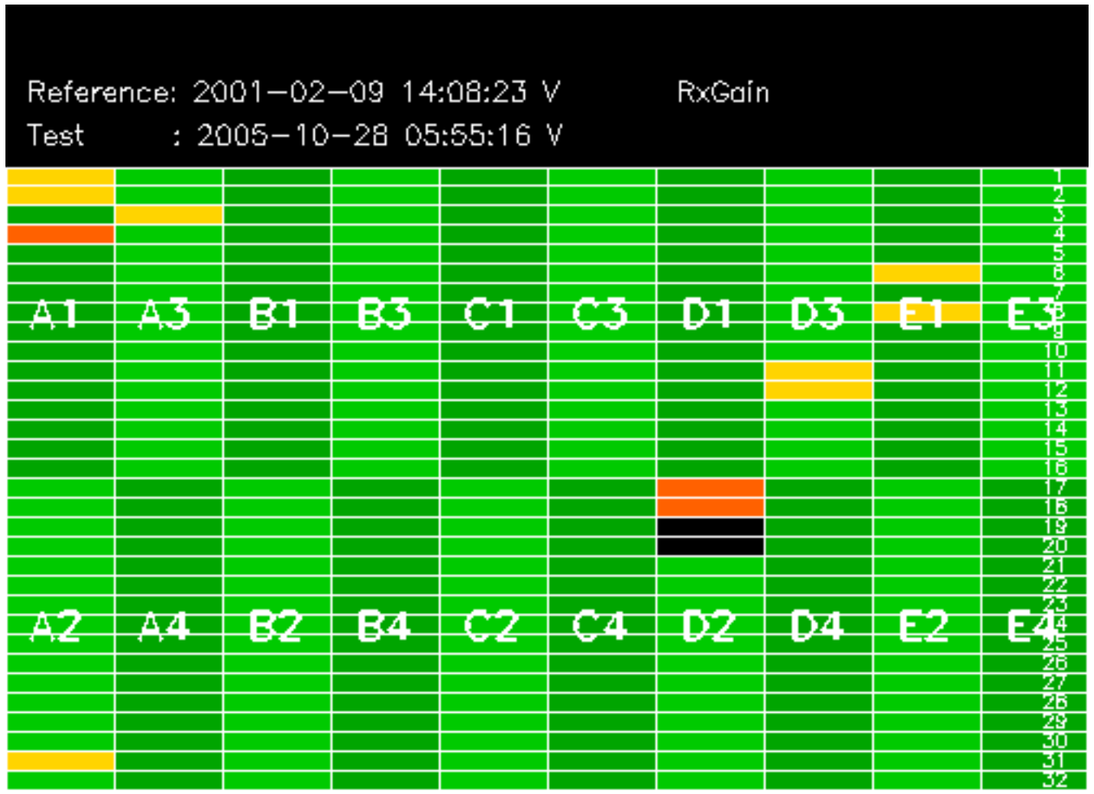
Reference: 2001-02-09 14:08:23 V
Test : 2005-10-28 05:55:16 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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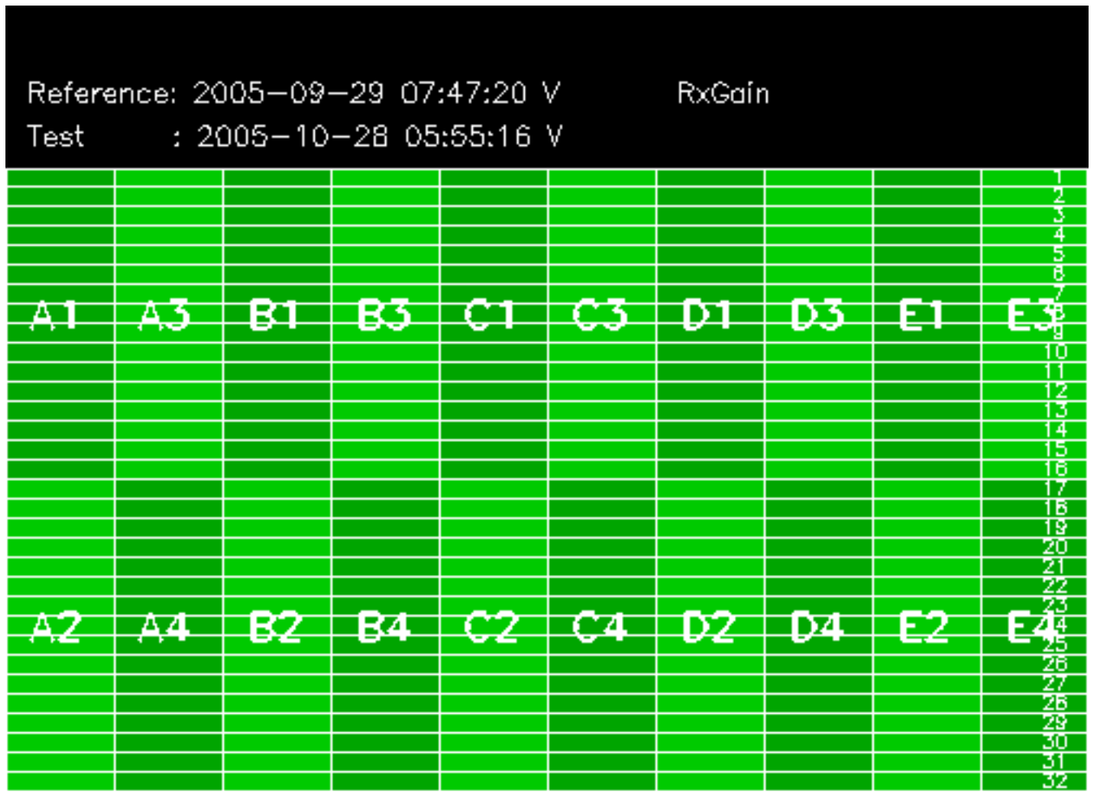
Reference: 2005-09-29 07:47:20 V
Test : 2005-10-28 05:55:16 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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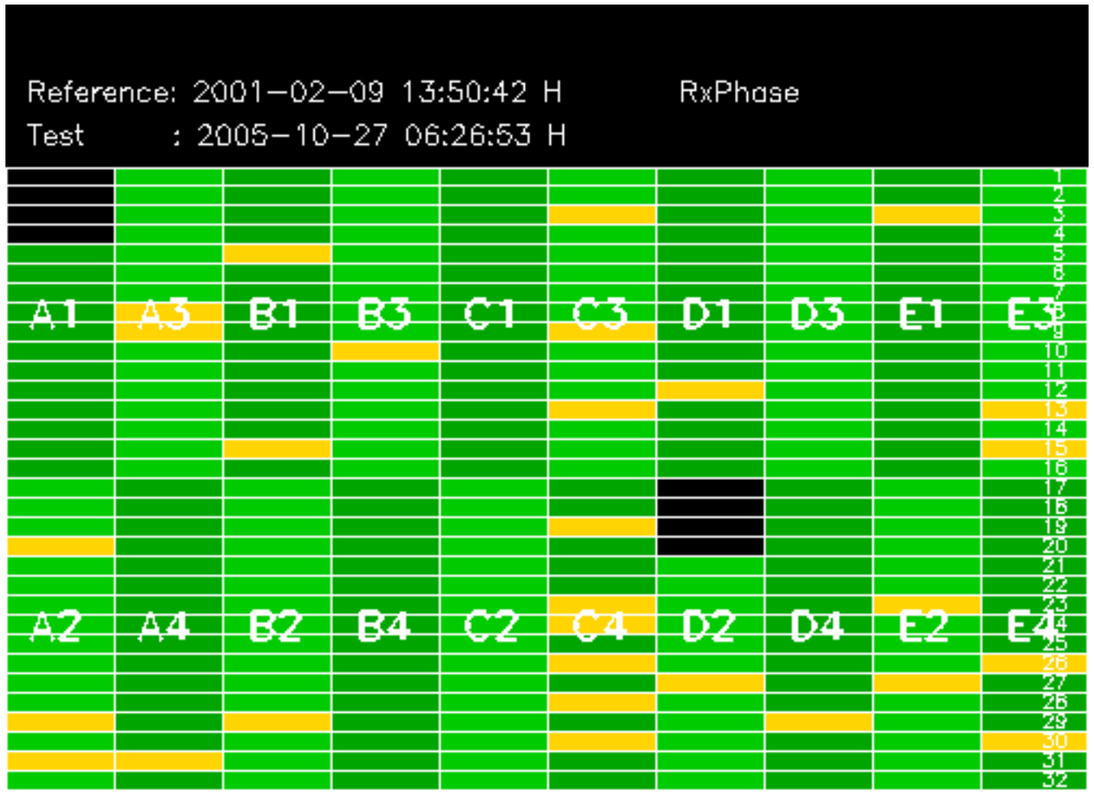
Reference: 2001-02-09 13:50:42 H
Test : 2005-10-27 06:26:53 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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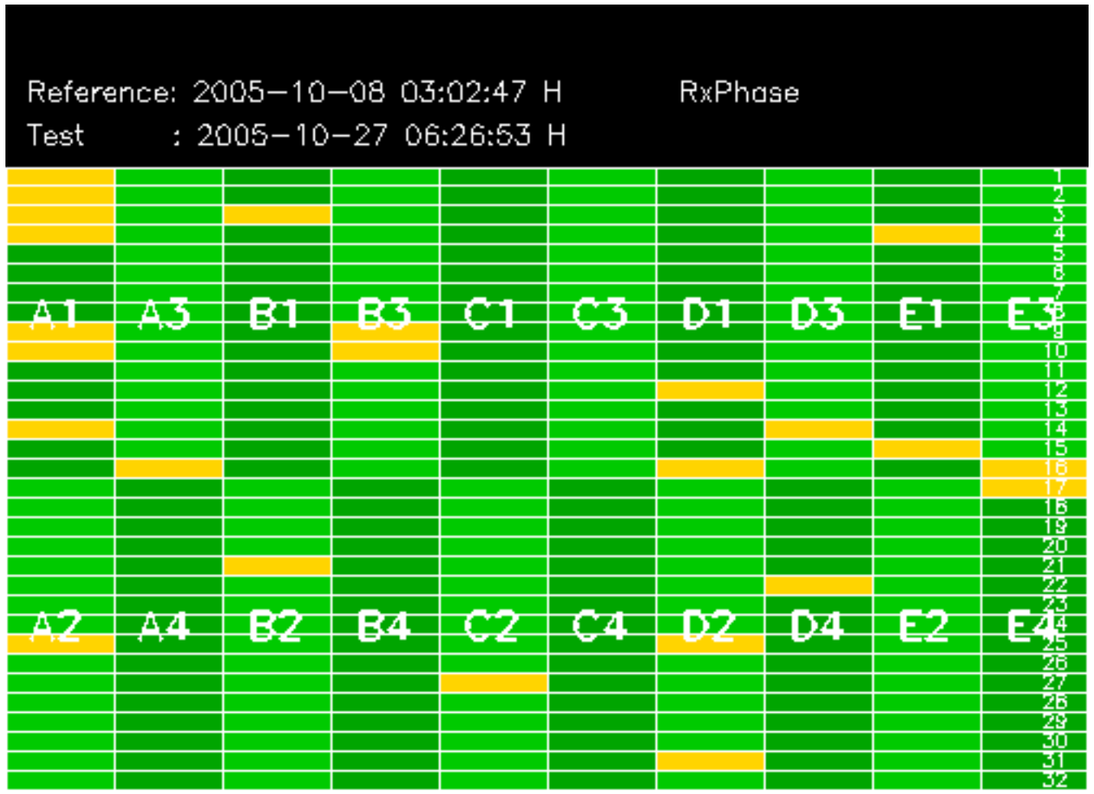
Reference: 2005-10-08 03:02:47 H
RxPhase
Test : 2005-10-27 06:26:53 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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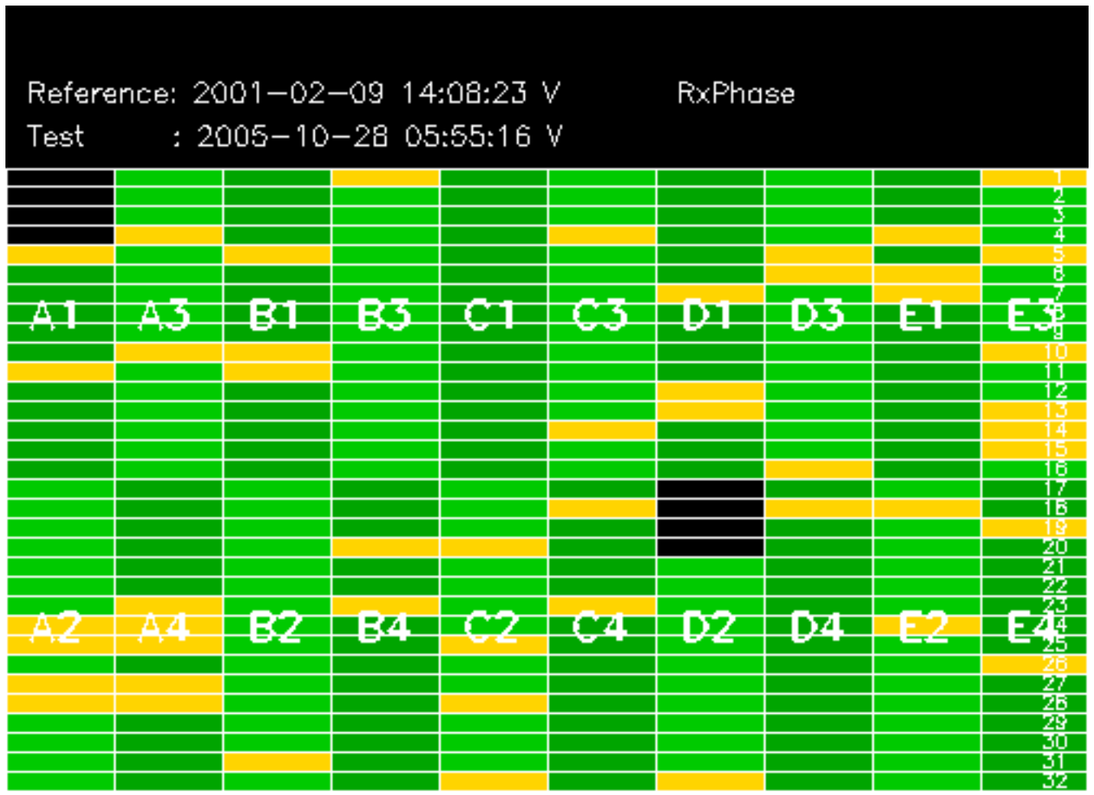
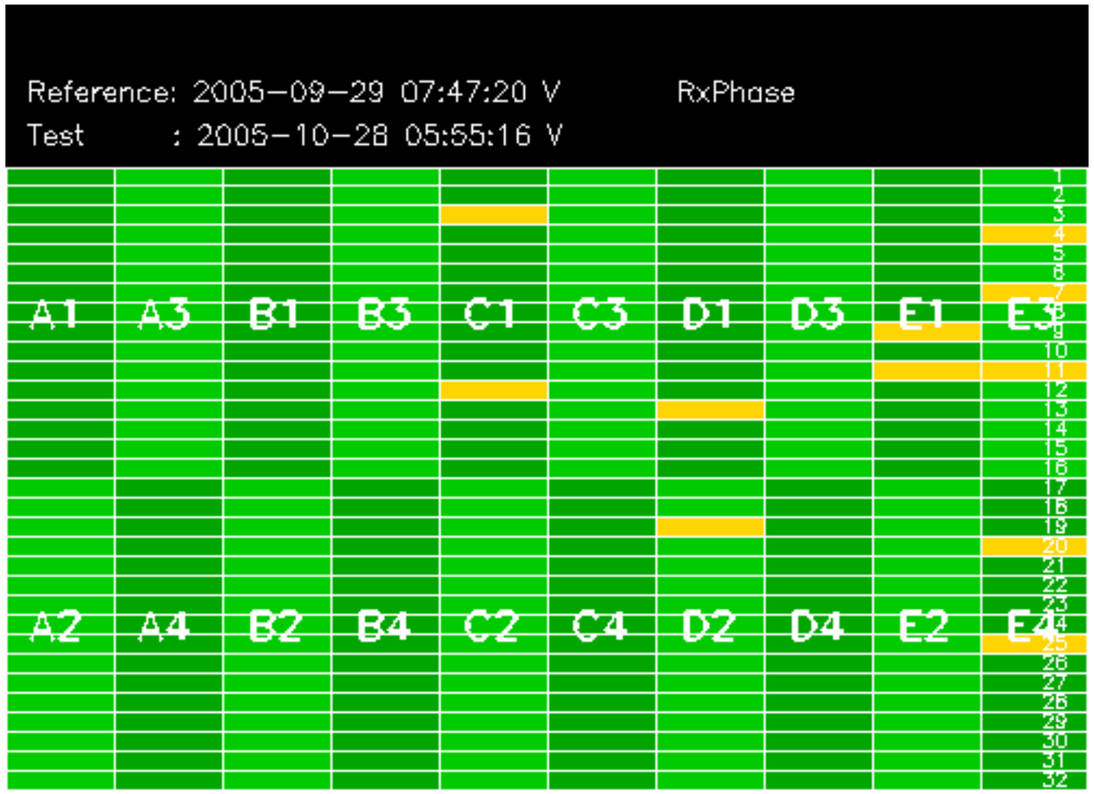
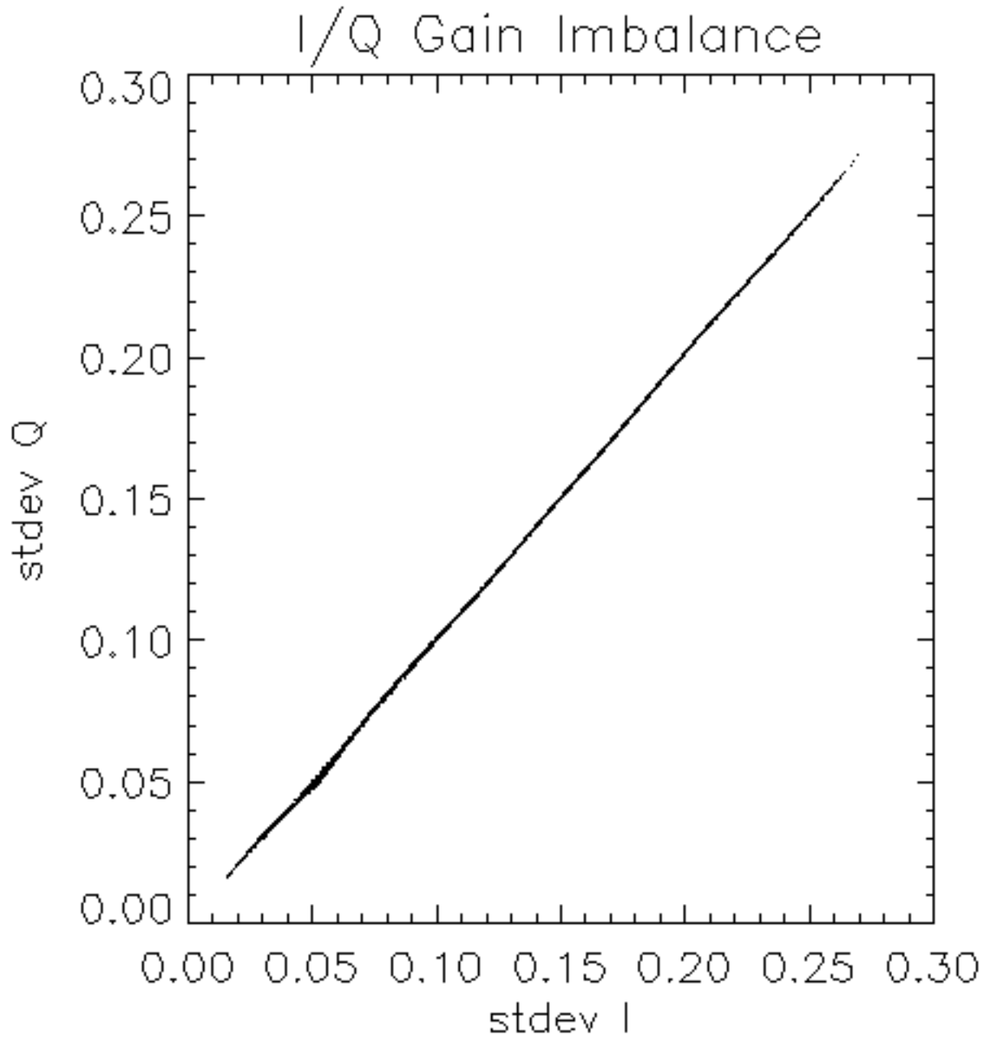
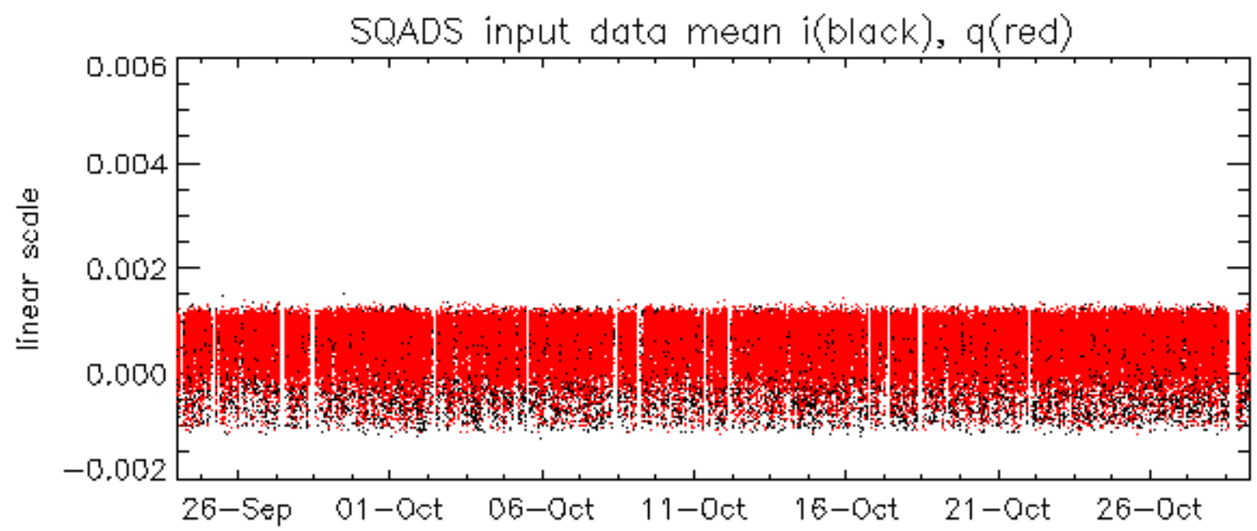
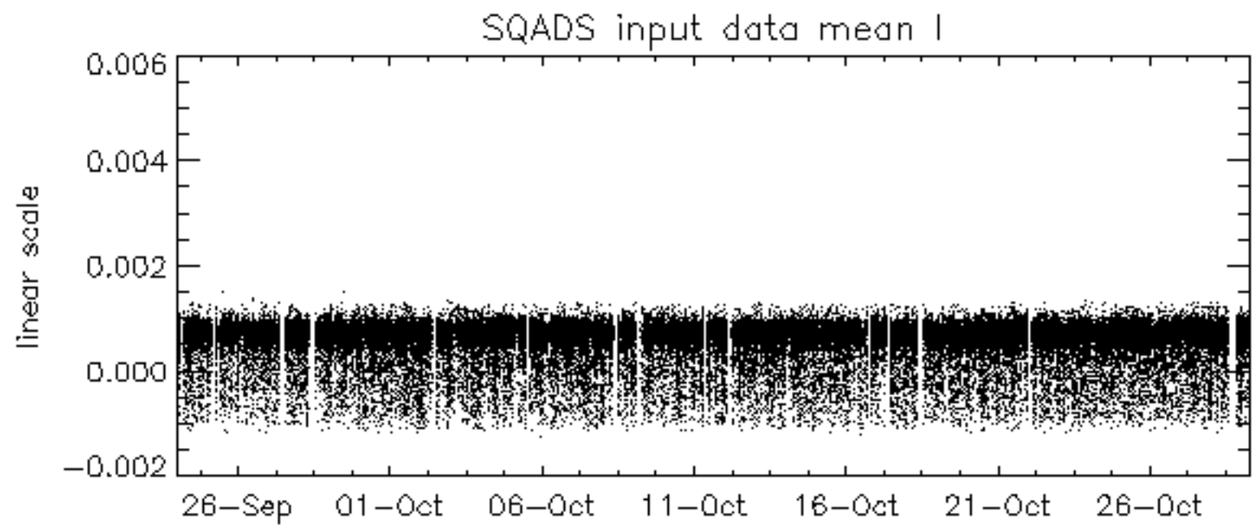
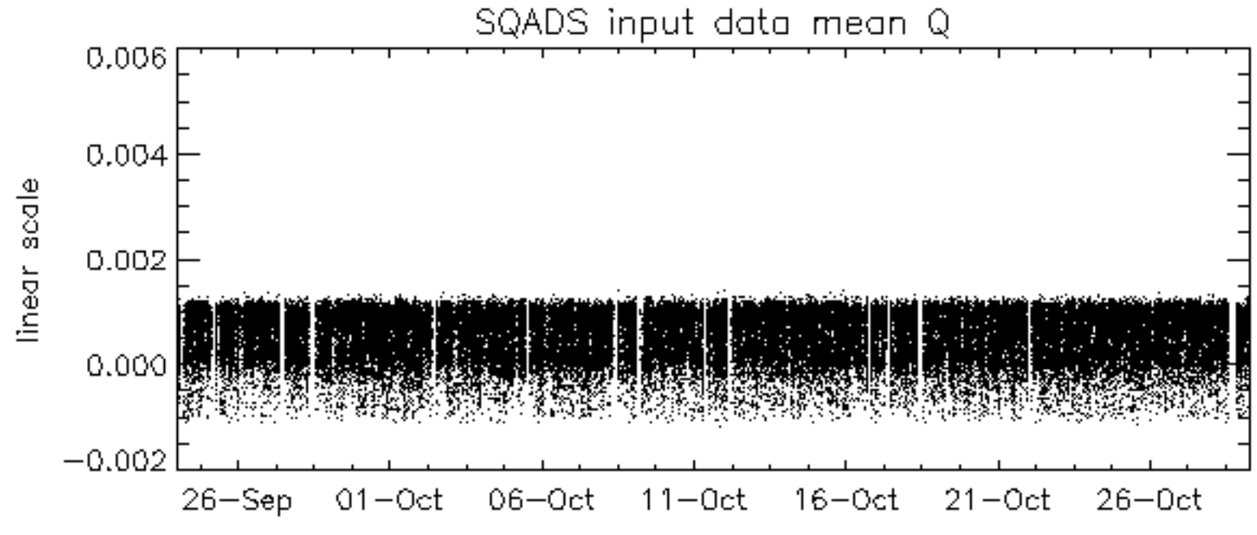

Reference: 2001-02-09 14:08:23 V
Test : 2005-10-28 05:55:16 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

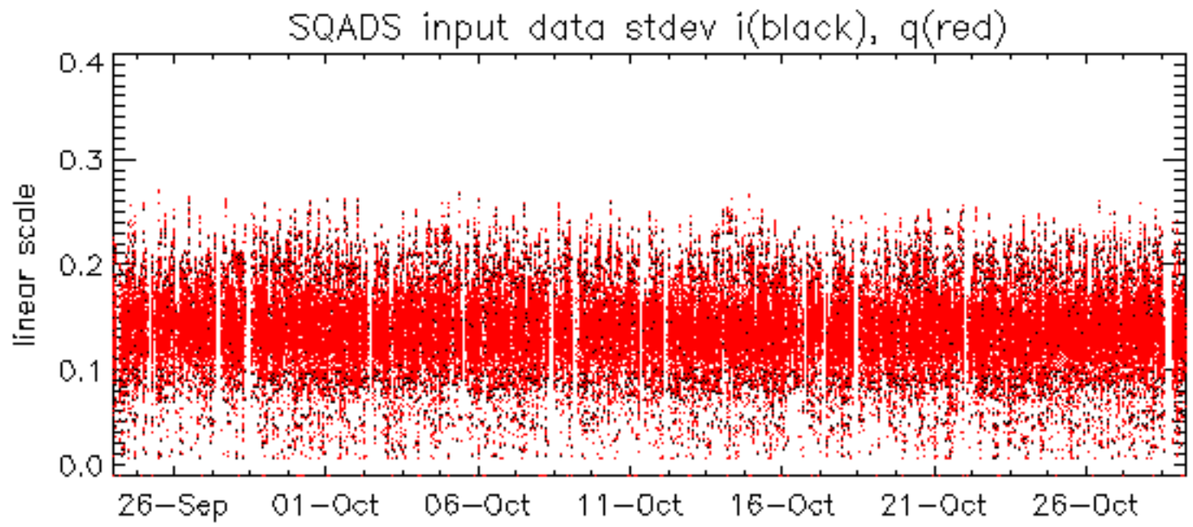

Reference: 2005-09-29 07:47:20 V
Test : 2005-10-28 05:55:16 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

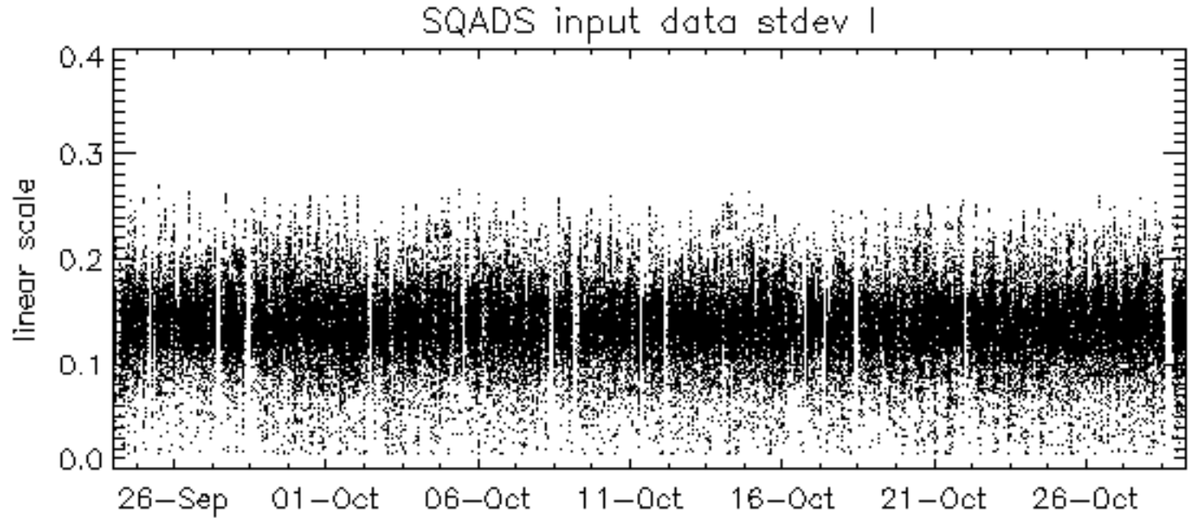

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

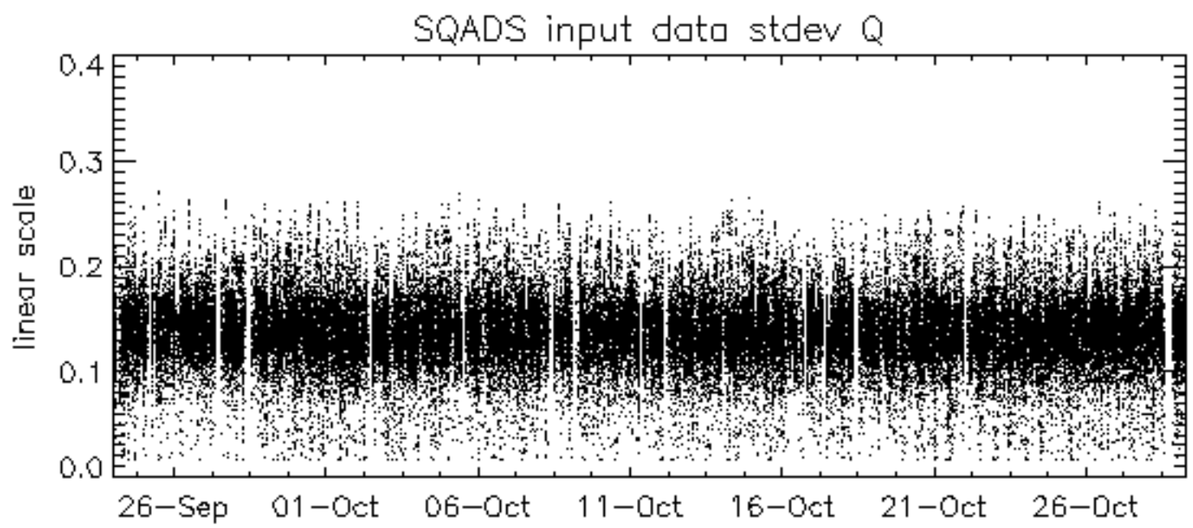

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Sep
01−Oct
06−Oct
11−Oct
16−Oct
21−Oct
26−Oct

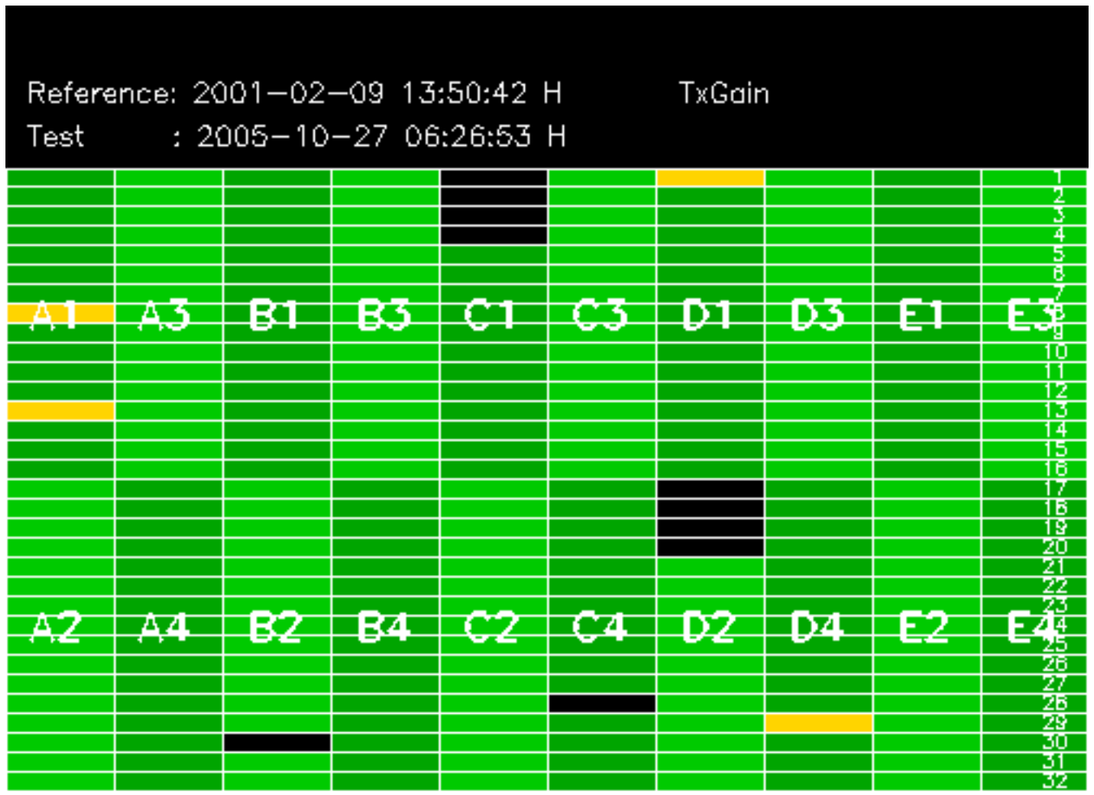

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Sep
01−Oct
06−Oct
11−Oct
16−Oct
21−Oct
26−Oct


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2005-10-27 06:26:53 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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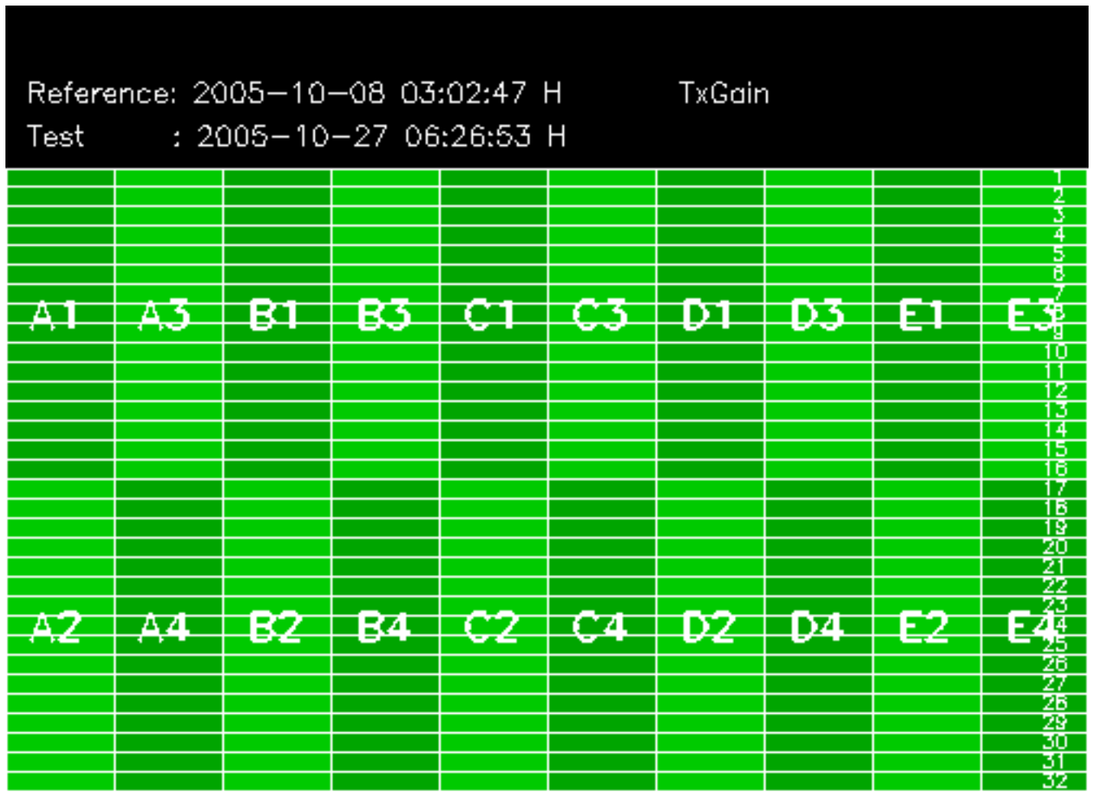
Reference: 2005-10-08 03:02:47 H
Test : 2005-10-27 06:26:53 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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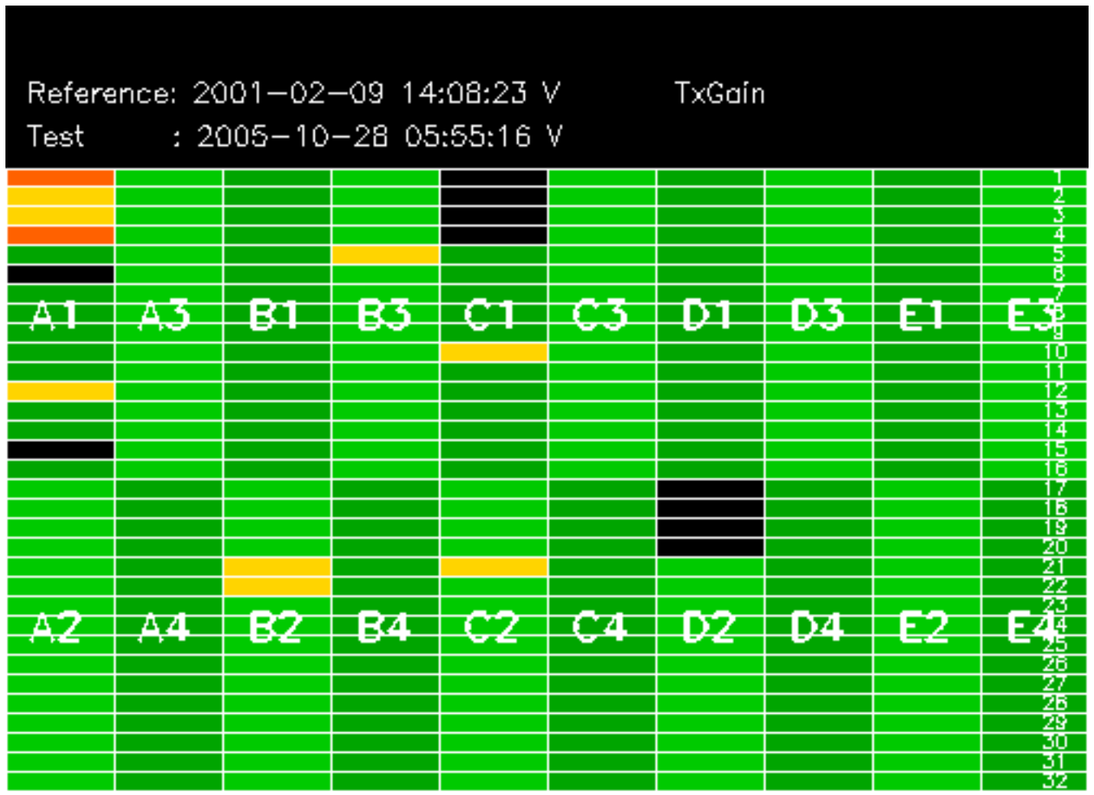
Reference: 2001-02-09 14:08:23 V
Test : 2005-10-28 05:55:16 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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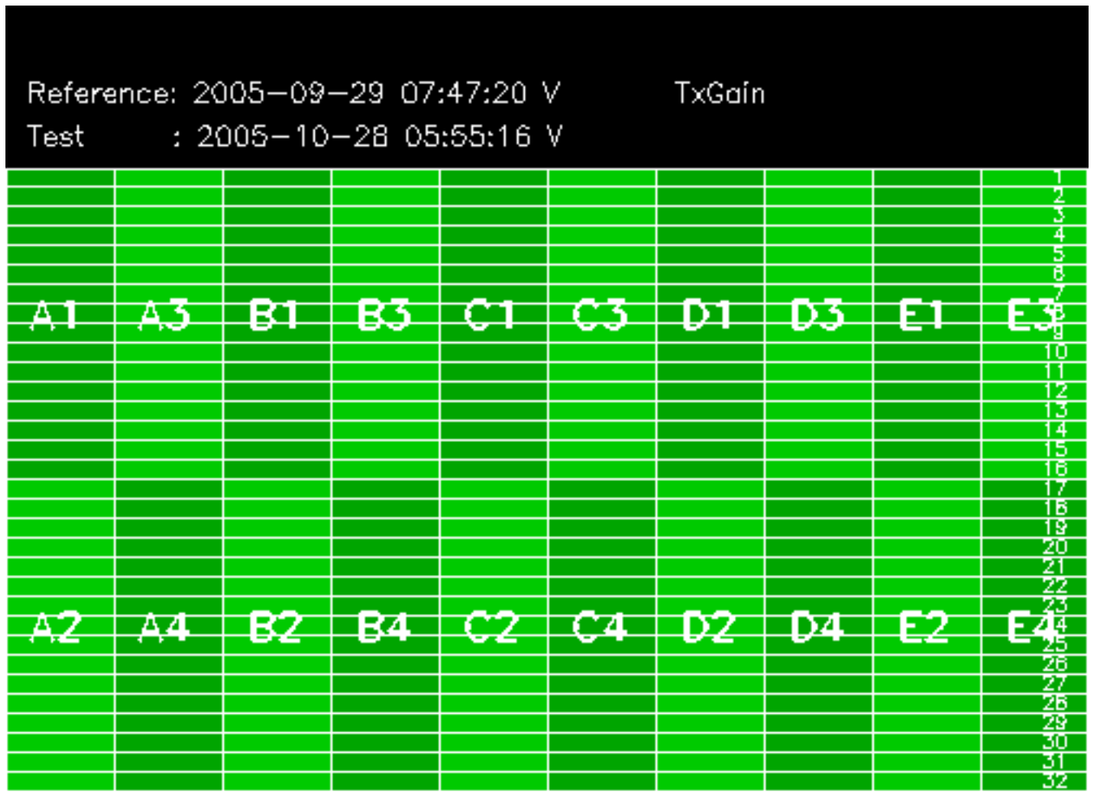
Reference: 2005-09-29 07:47:20 V
Test : 2005-10-28 05:55:16 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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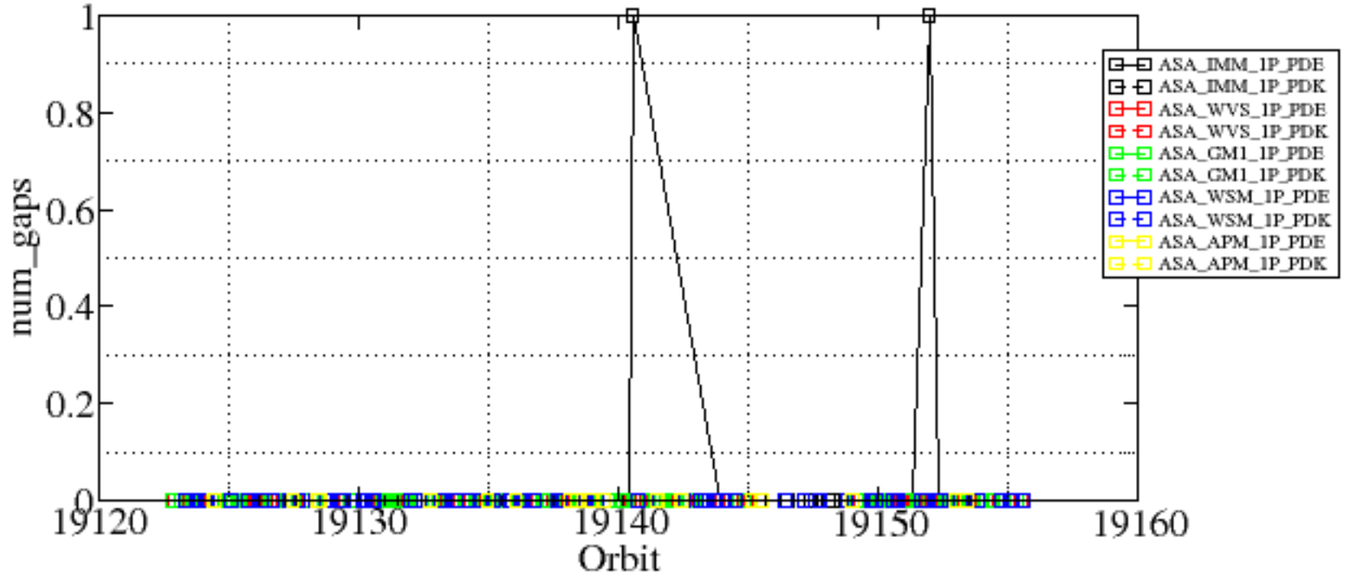
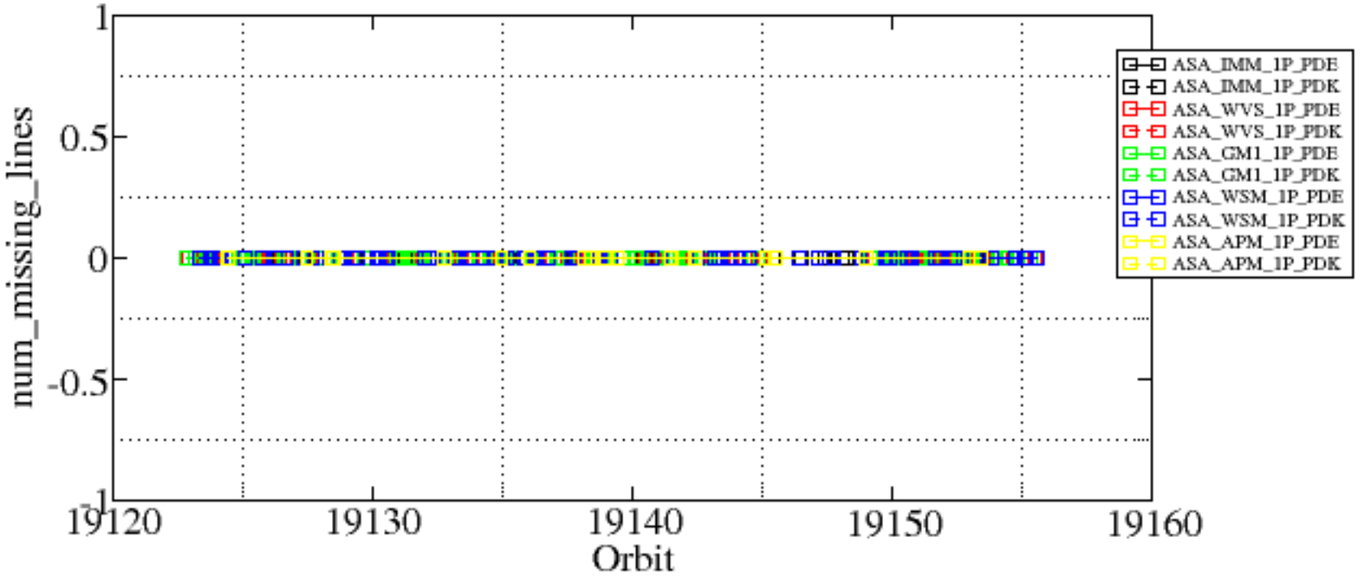
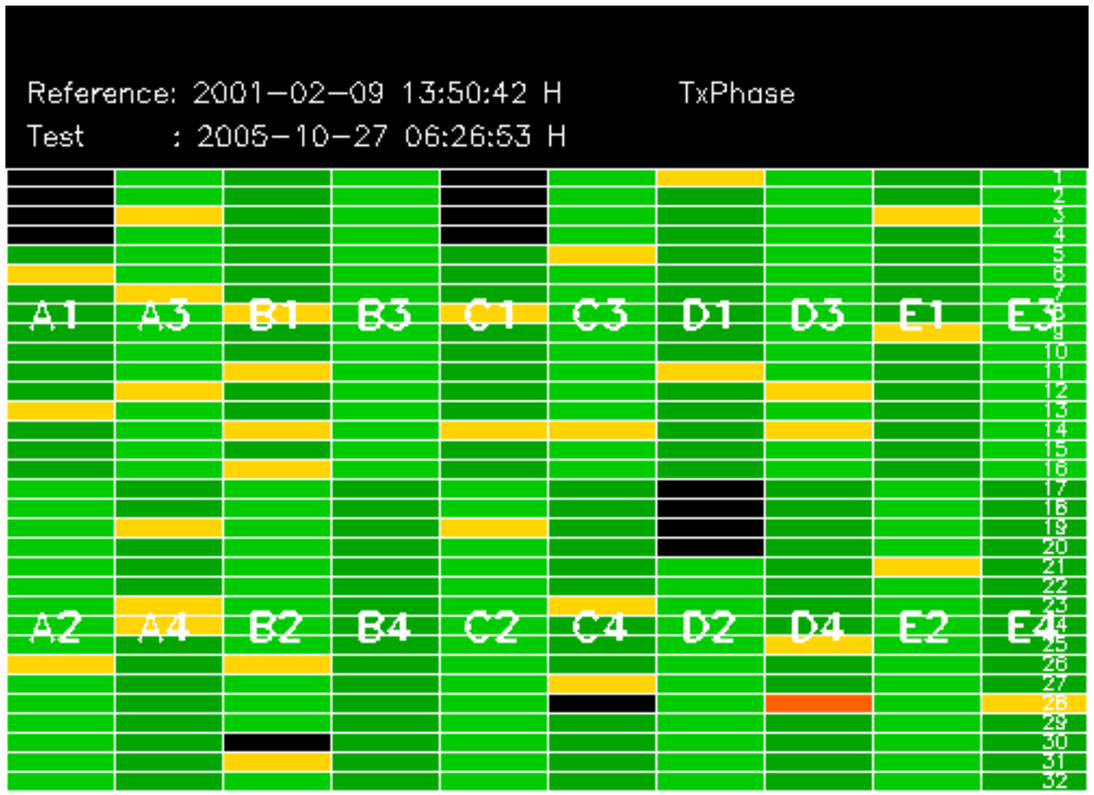
Summary of analysis for the last 3 days 2005102[789]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_IMM_1PNPDE20051028_054402_000000352042_00048_19140_9592.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_IMM_1PNPDE20051029_005058_000002402042_00059_19151_9651.N1 </td> <td>1 </td> <td>0 </td></tr>
</table>


num_gaps
Orbit
1
0.8
0.6
0.4
0.2
0
19120
19130
19140
19150
19160
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
1
0.5
0
-0.5
-1
19120
19130
19140
19150
19160
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
Test : 2005-10-27 06:26:53 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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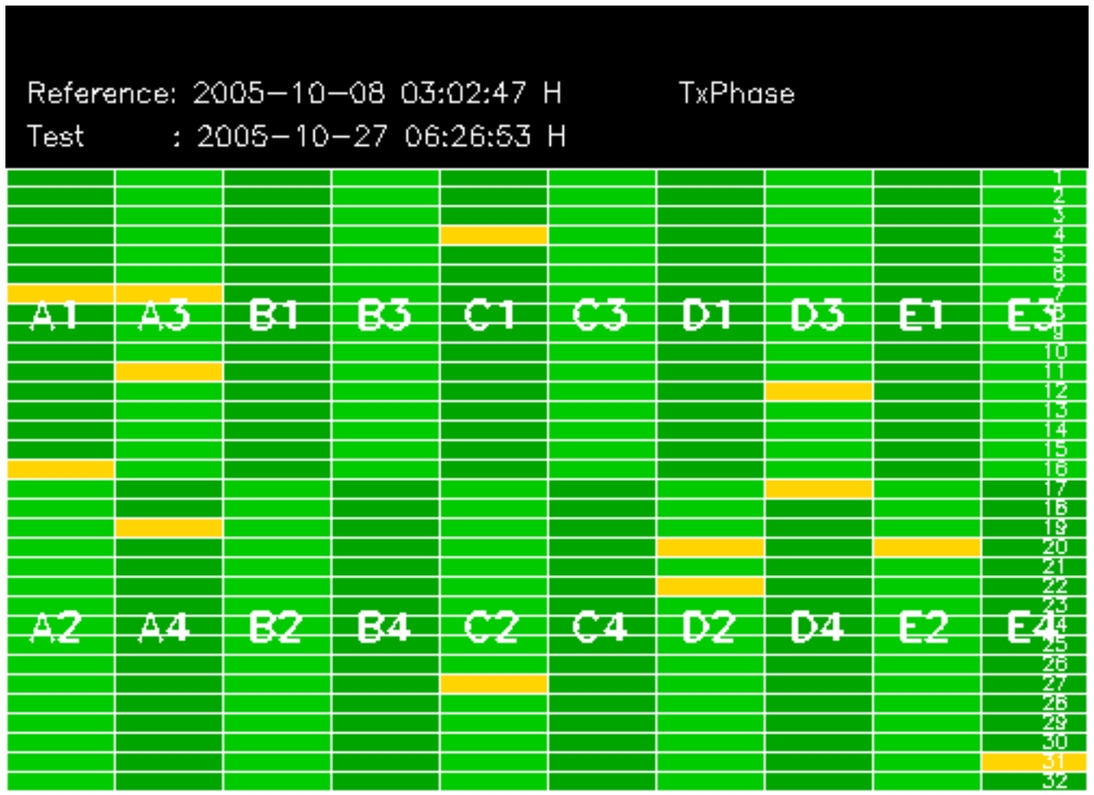
Reference: 2005-10-08 03:02:47 H
Test : 2005-10-27 06:26:53 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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D4
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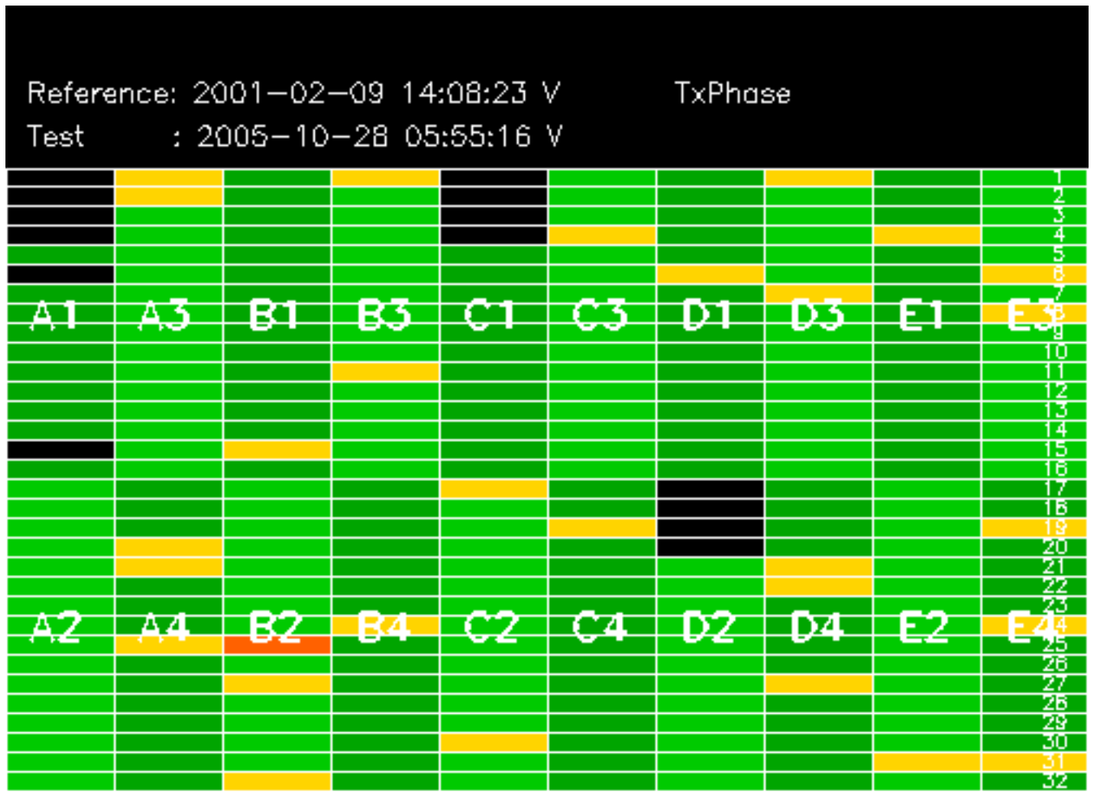
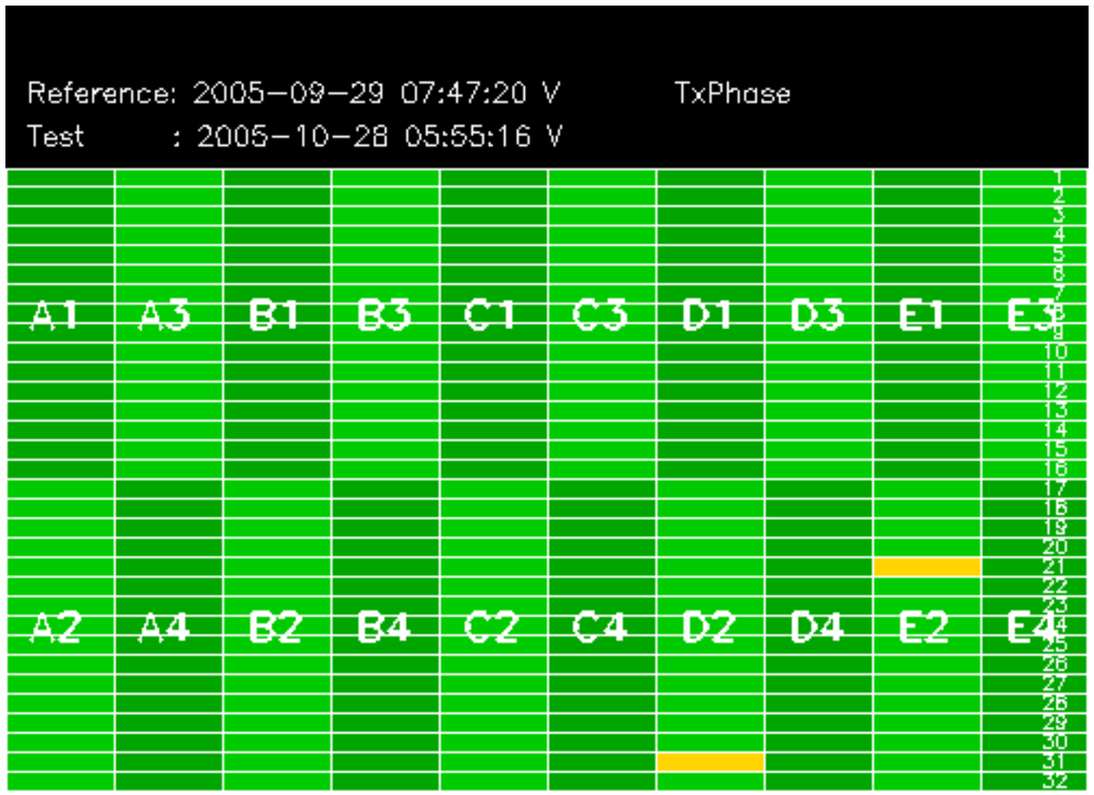

Reference: 2001-02-09 14:08:23 V
Test : 2005-10-28 05:55:16 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2005-10-28 05:55:16 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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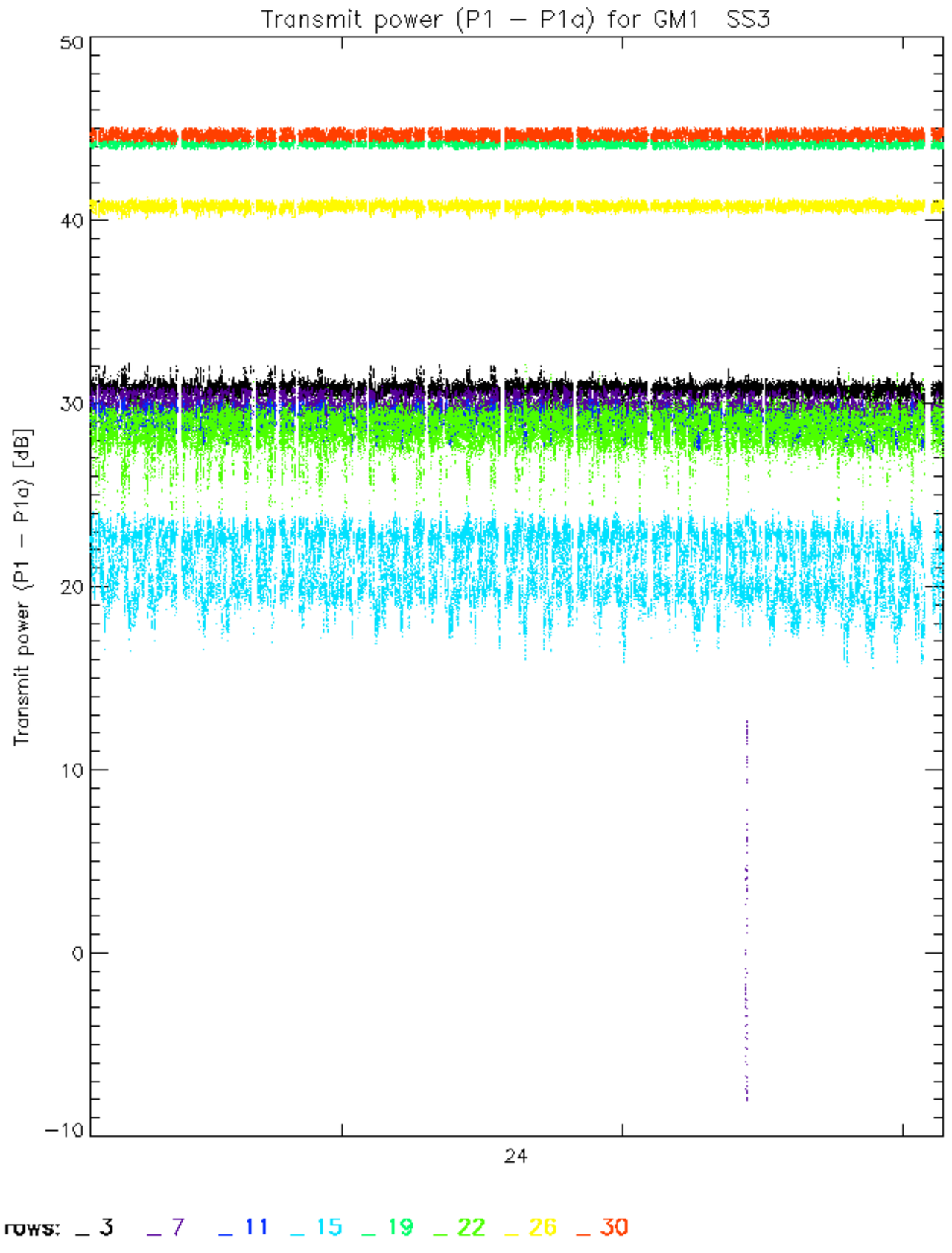
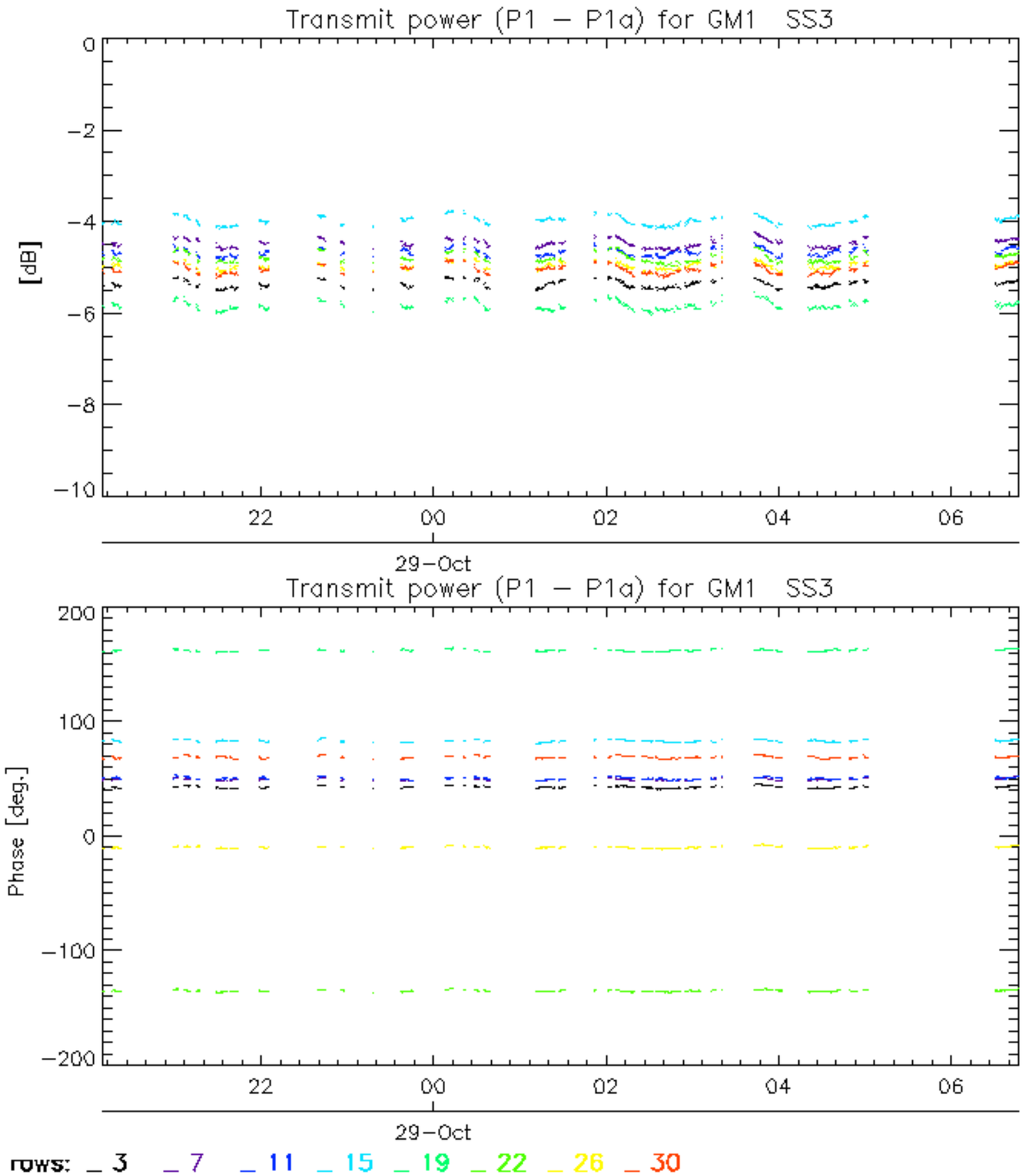
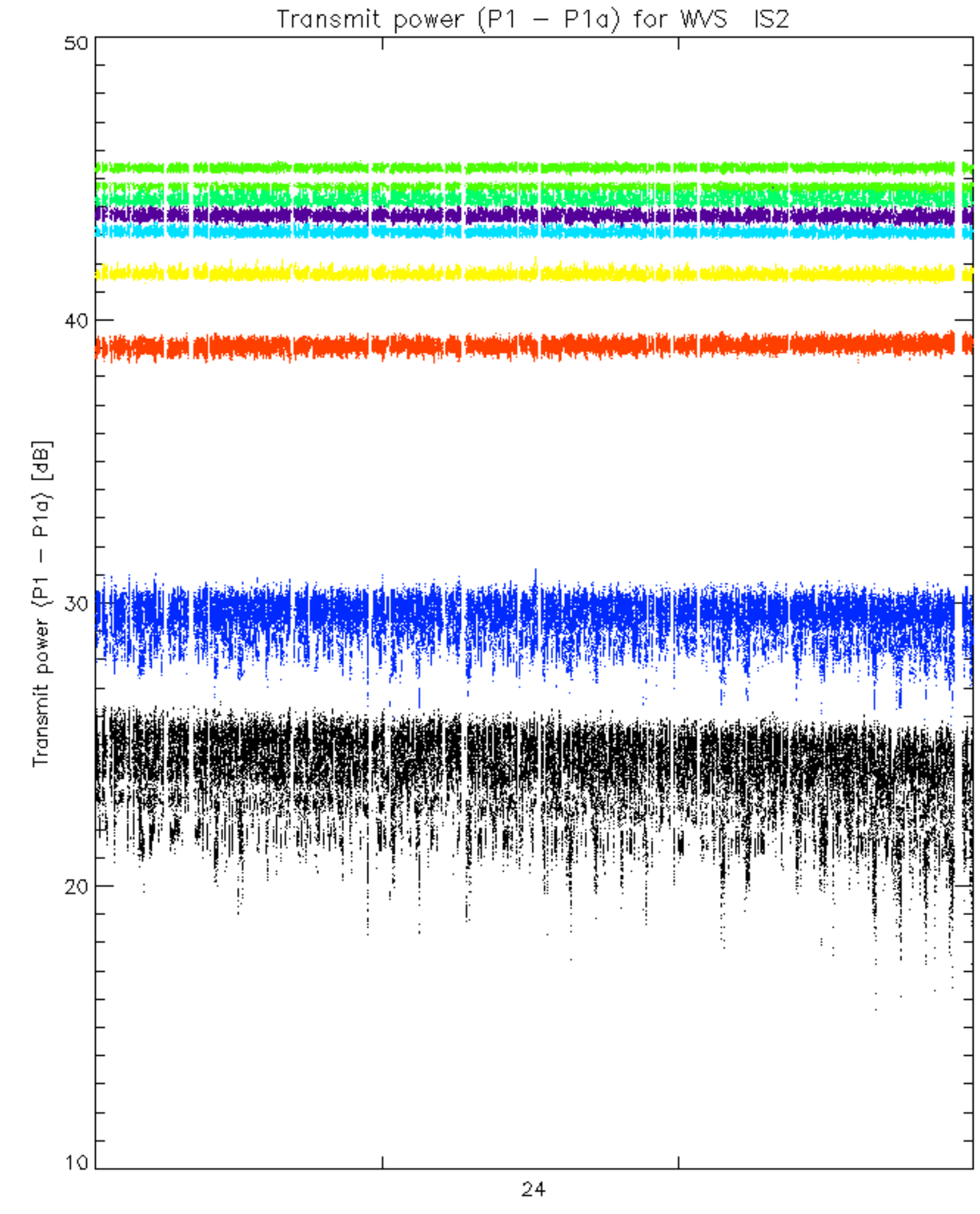
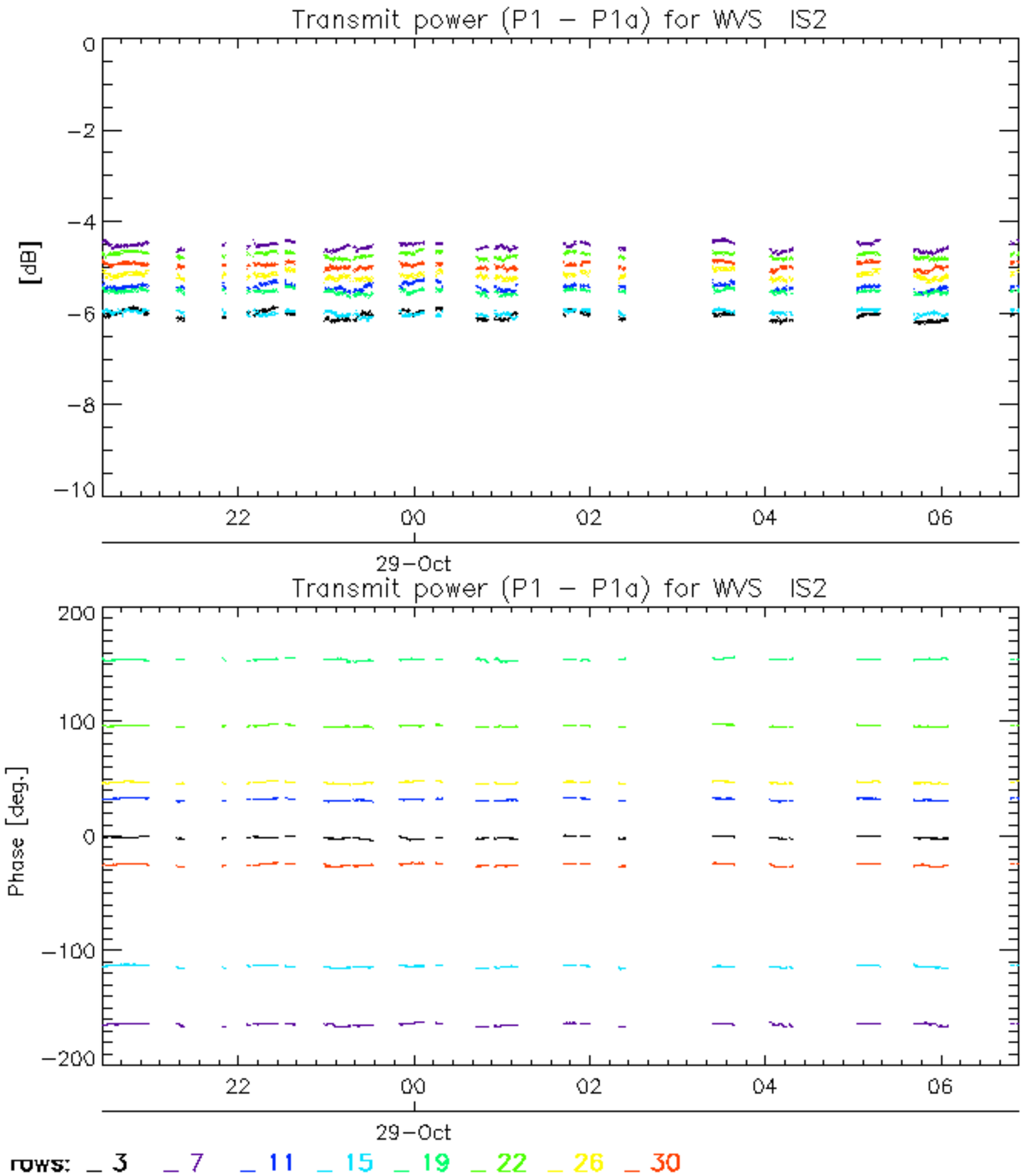

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
24
rows: 3 7 11 15 19 22 26 30


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


Transmit power (P1 – P1a) for WVS IS2
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
24
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
29−Oct
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
22
00
02
04
06
29−Oct
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.