PRELIMINARY REPORT OF 061224

last update on Sun Dec 24 16:24:57 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 2006-12-23 00:00:00 to 2006-12-24 16:24:57

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	44	56	39	8	65
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	44	56	39	8	65
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	44	56	39	8	65
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	44	56	39	8	65

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:

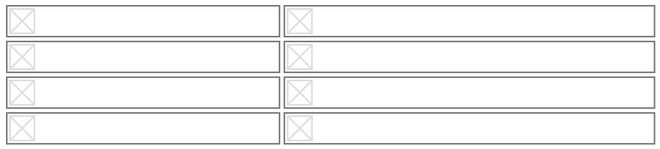
Polarisation	Start Time
V	20061220 170201
H	20061221 062648

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



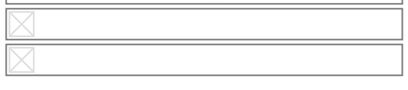
4 - Internal calibration Results

No anomalies observed.

4.1 - Daily statistics

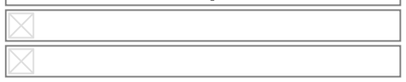
4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS



4.1.2 - Evolution for GM1

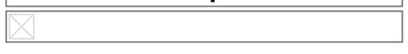
Evolution of cal pulses for GM1



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	-3.965805	0.007952	-0.004353
7	P1	-3.145853	0.024694	0.034808
11	P1	-4.119323	0.026849	0.028737
15	P1	-6.324574	0.016046	-0.043188
19	P1	-3.648252	0.005977	-0.059992
22	P1	-4.654468	0.014036	-0.009599
26	P1	-3.957592	0.009462	-0.026236
30	P1	-5.890285	0.009443	-0.032923
3	P1	-16.555832	0.254667	-0.094923
7	P1	-17.292625	0.189077	0.039895
11	P1	-17.187233	0.476007	0.092627
15	P1	-13.060476	0.138243	0.064160
19	P1	-14.984574	0.093907	-0.064838
22	P1	-15.805100	0.558583	0.069945
26	P1	-15.076911	0.184369	-0.064383
30	P1	-17.504761	0.478453	0.020541

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.809305	0.094703	0.058587
7	P2	-21.728487	0.094439	0.056223
11	P2	-15.596712	0.104209	0.116128
15	P2	-7.117383	0.109202	0.041636
19	P2	-9.192612	0.105845	0.004015
22	P2	-18.235283	0.098896	0.039465
26	P2	-16.585058	0.112979	-0.045963
30	P2	-19.464666	0.089347	0.023574

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.243669	0.008978	0.023091
7	P3	-8.243669	0.008978	0.023091
11	P3	-8.243669	0.008978	0.023091

15	P3	-8.243669	0.008978	0.023091
19	P3	-8.243669	0.008978	0.023091
22	P3	-8.243669	0.008978	0.023091
26	P3	-8.243701	0.008978	0.022932
30	P3	-8.243701	0.008978	0.022932

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	-3.918998	0.014479	-0.024678
7	P1	-2.479567	0.017181	0.011549
11	P1	-2.852237	0.017816	-0.022550
15	P1	-3.688763	0.032193	-0.040918
19	P1	-3.544462	0.018195	-0.025687
22	P1	-5.027185	0.023798	-0.021995
26	P1	-6.027123	0.028246	-0.026224
30	P1	-5.345801	0.038495	-0.002027
3	P1	-11.745440	0.083151	-0.012775
7	P1	-10.060142	0.090059	-0.076086
11	P1	-10.335567	0.138341	-0.102748
15	P1	-10.710536	0.120337	-0.078066
19	P1	-15.730476	0.124638	-0.003340
22	P1	-21.592730	1.438561	0.153597
26	P1	-16.070812	0.338402	0.100748
30	P1	-17.881344	0.369119	-0.089540

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.469301	0.129655	0.004688
7	P2	-22.230890	0.273555	0.075946
11	P2	-10.897482	0.150411	0.137711
15	P2	-4.990444	0.276420	0.025356
19	P2	-6.968370	0.292513	-0.019509
22	P2	-8.256231	0.144420	-0.000493
26	P2	-24.322384	0.200058	0.020054
30	P2	-21.948528	0.168799	-0.007891

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.092758	0.004835	0.019398
7	P3	-8.092767	0.004817	0.019279
11	P3	-8.092761	0.004832	0.019172
15	P3	-8.092618	0.004827	0.019767
19	P3	-8.092687	0.004835	0.019207
22	P3	-8.092632	0.004825	0.019882
26	P3	-8.092790	0.004836	0.019455
30	P3	-8.092652	0.004815	0.019198

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	0.000559328
	stdev	1.69180e-07
MEAN Q	mean	0.000509506
	stdev	2.15922e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.139153
	stdev	0.00119382
STDEV Q	mean	0.139544
	stdev	0.00121371

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006122[234]
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_1PNPDE20061223_035151_000004282054_00061_25165_0858.N1	0	2
ASA_WSM_1PNPDE20061223_132747_000000862054_00067_25171_1854.N1	0	39

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

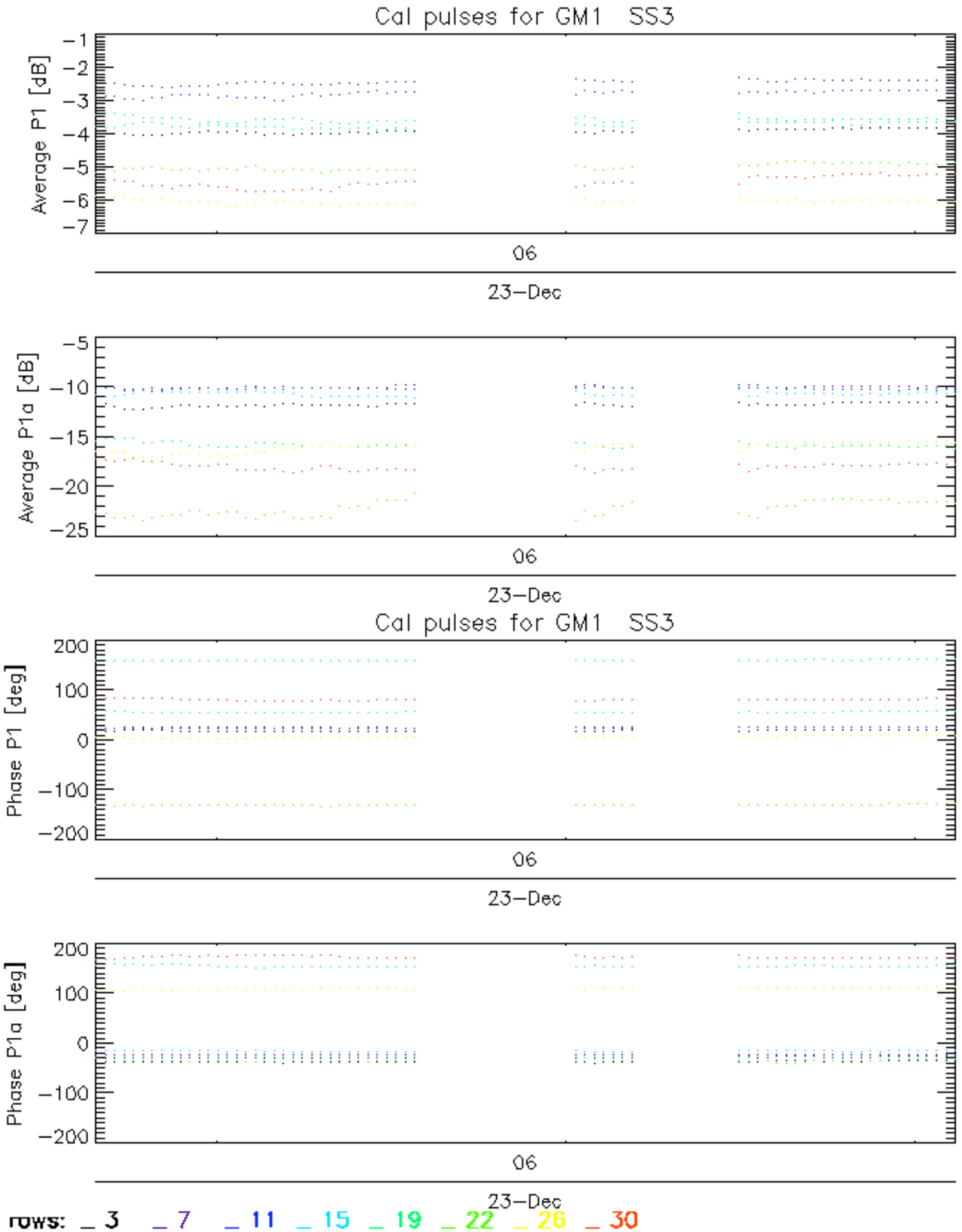
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

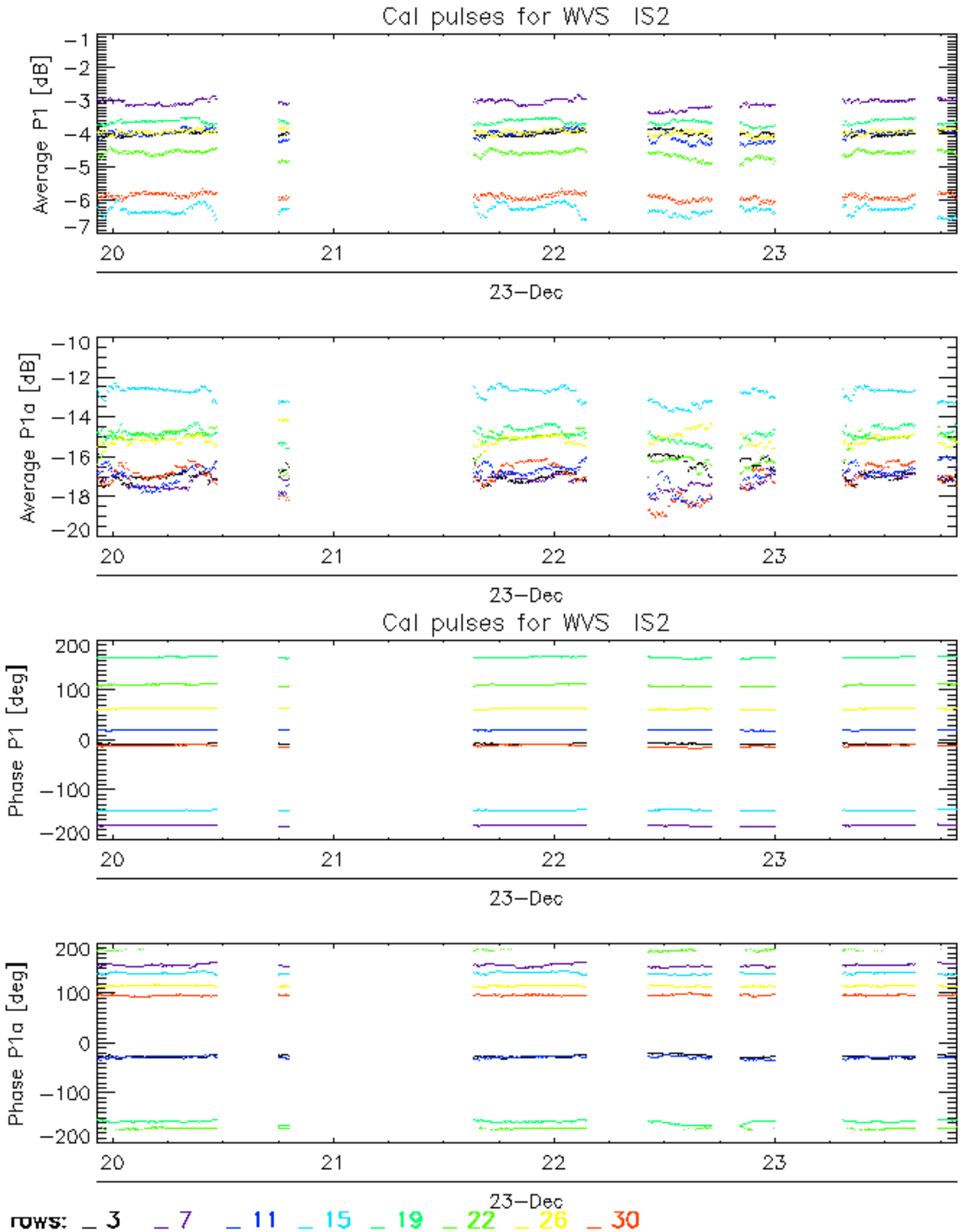
7.5 - Absolute Doppler for GM1

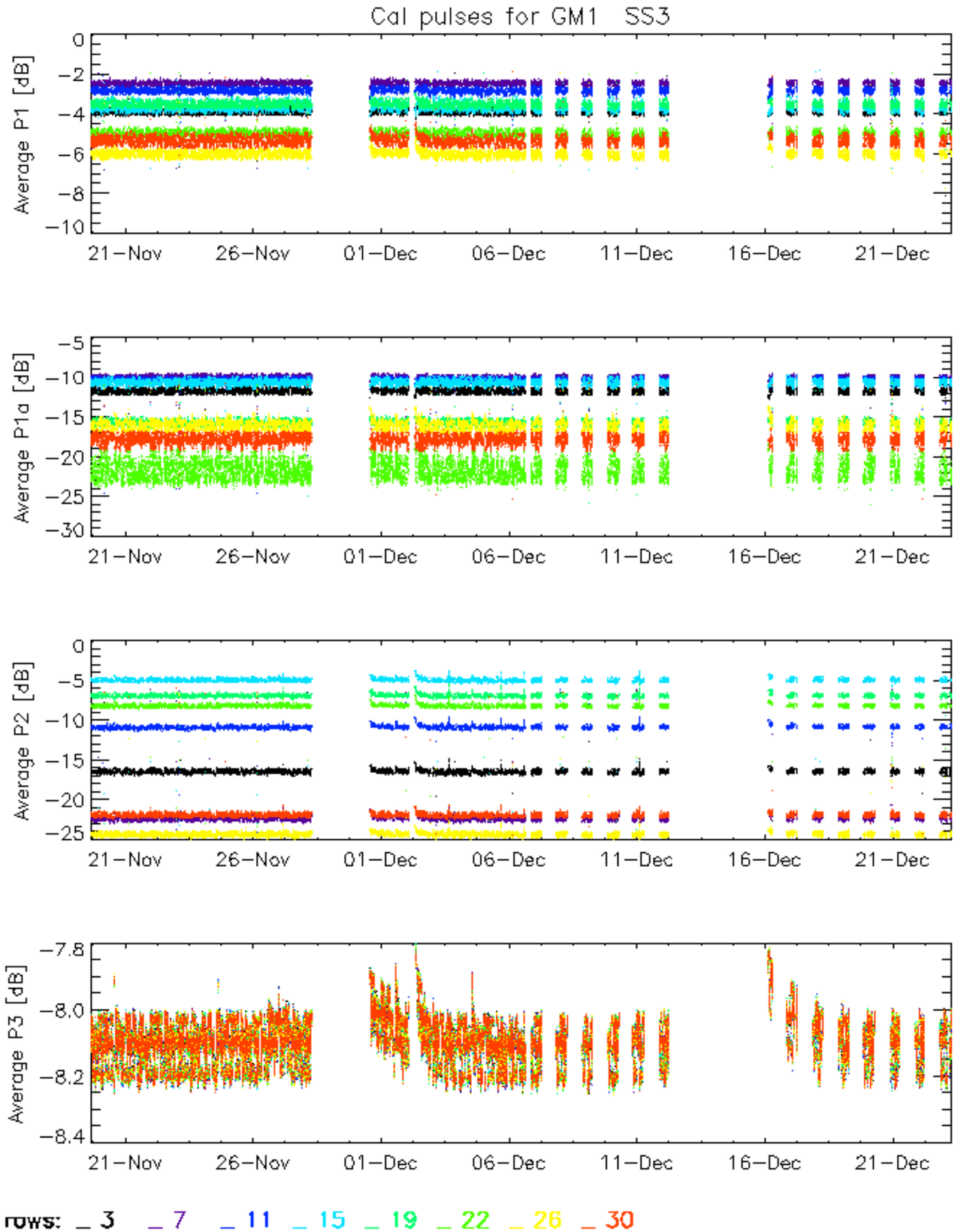
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

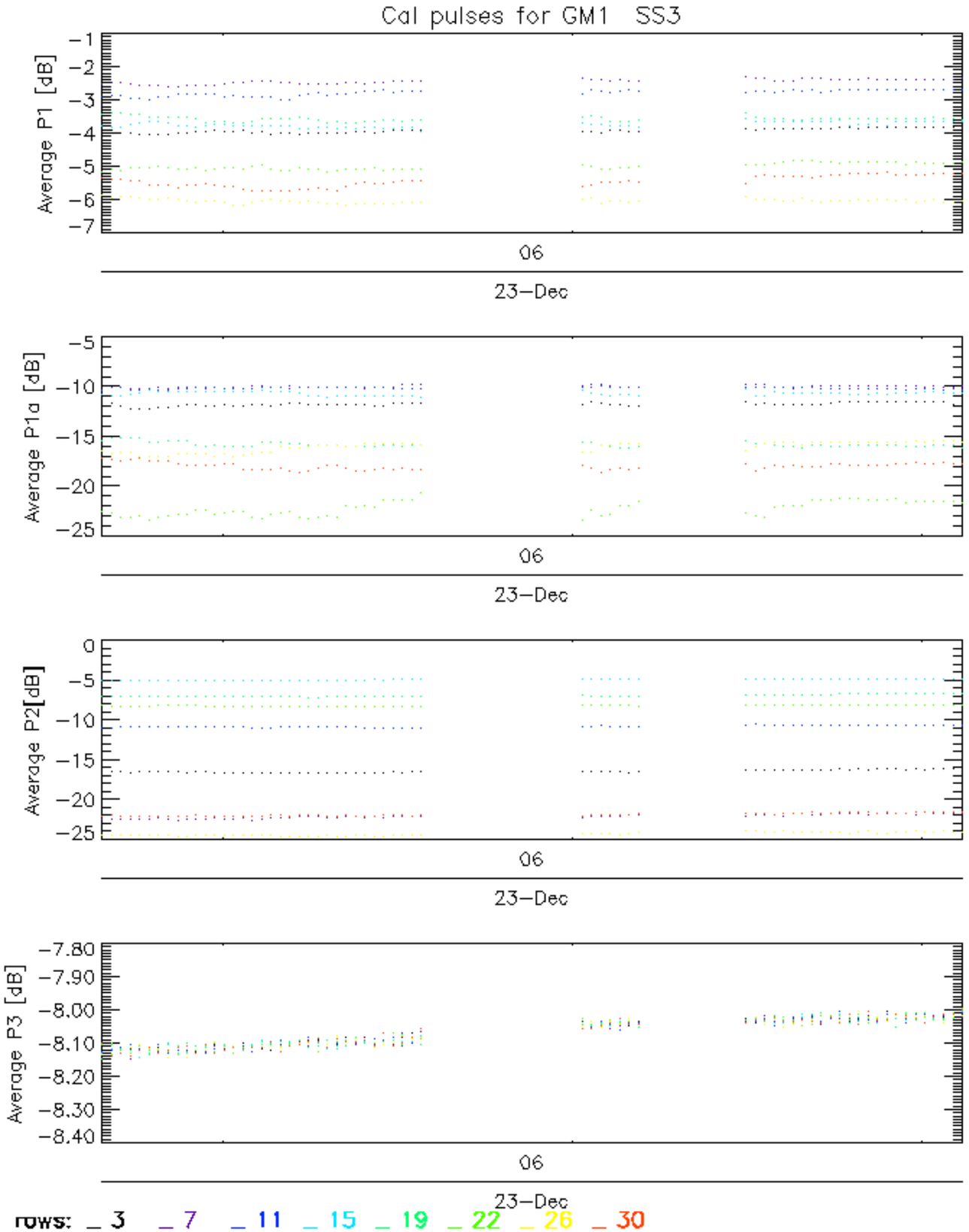
7.6 - Doppler evolution versus ANX for GM1

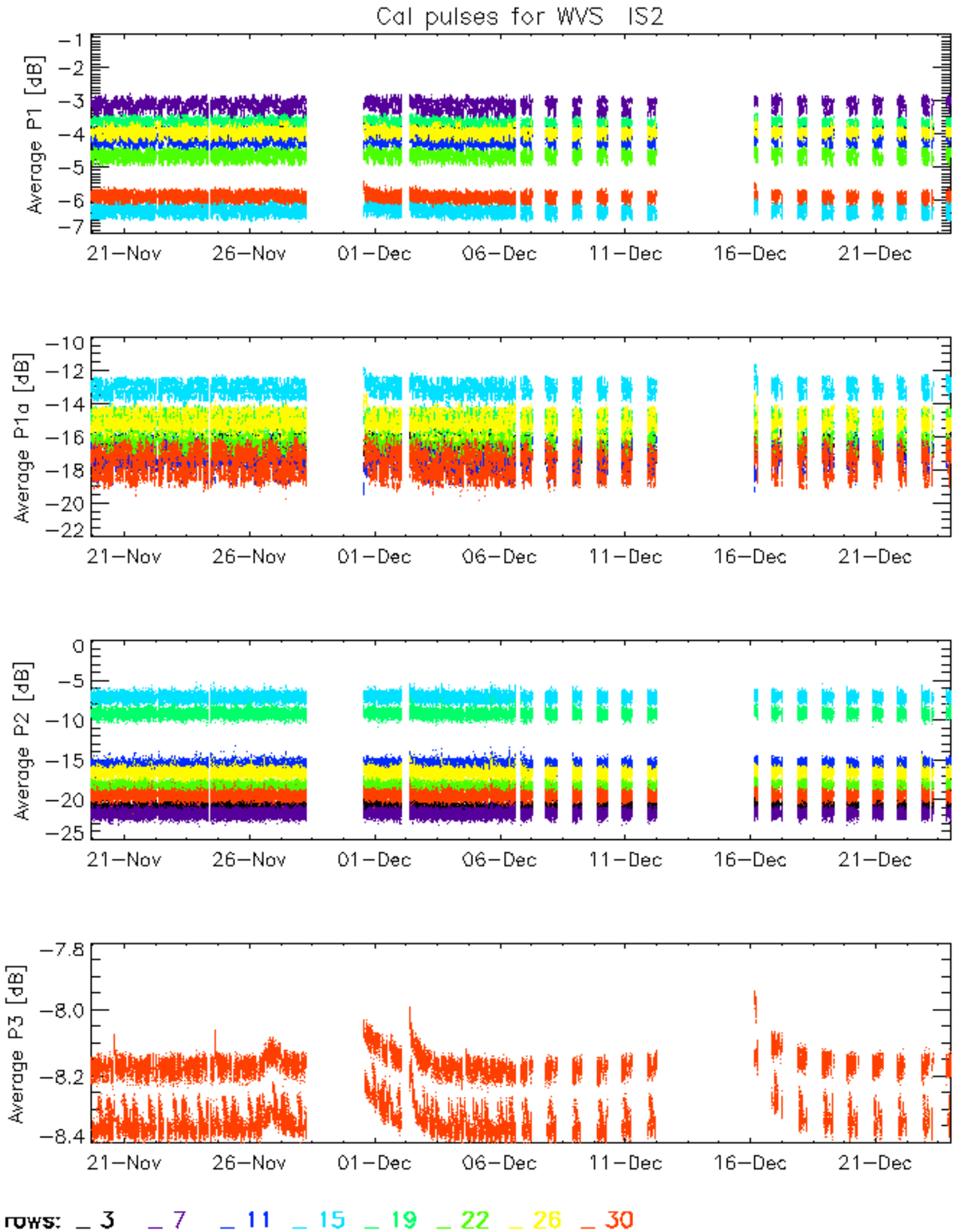
Evolution Doppler error versus ANX
☒

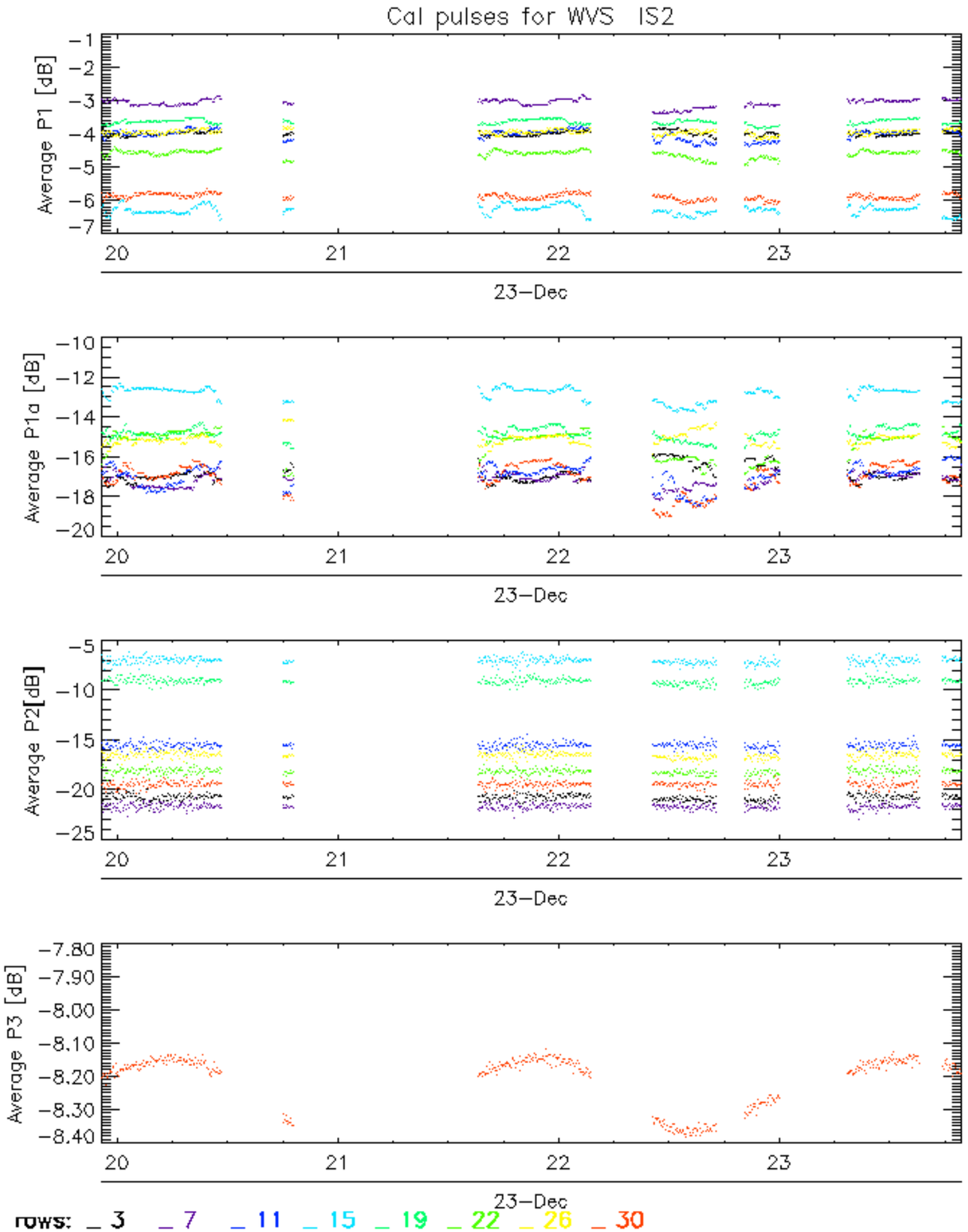

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
06
23−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
06
23−Dec
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
06
23−Dec
Phase P1a [deg]
200
100
0
−100
−200
06
23−Dec
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
20
21
22
23
23−Dec
Average P1a [dB]
−10
−12
−14
−16
−18
−20
20
21
22
23
23−Dec
Cal pulses for WVS IS2
Phase P1 [deg]
200
100
0
−100
−200
20
21
22
23
23−Dec
Phase P1a [deg]
200
100
0
−100
−200
20
21
22
23
23−Dec
rows: 3 7 11 15 19 22 26 30

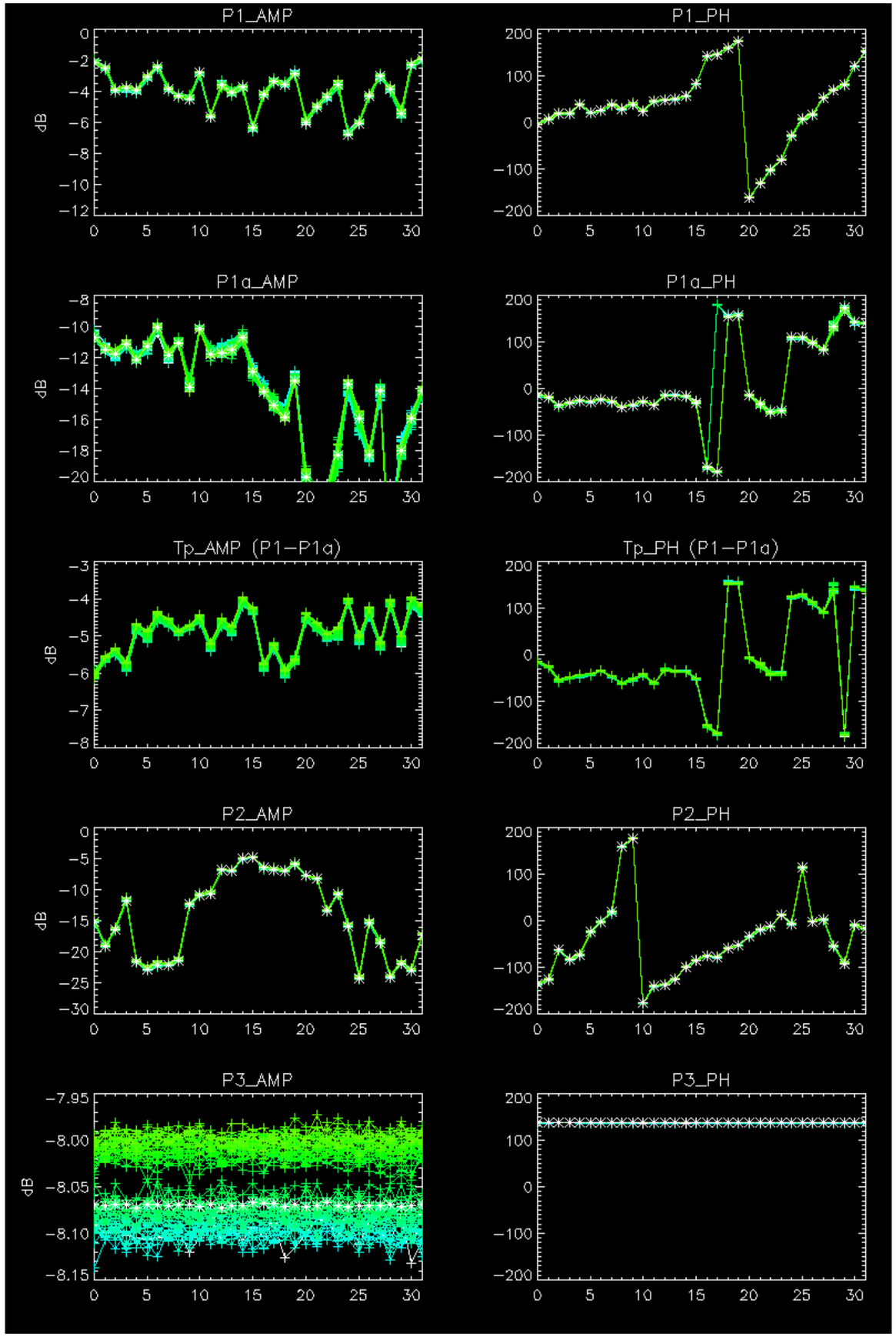

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
−10
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
rows: 3 7 11 15 19 22 26 30

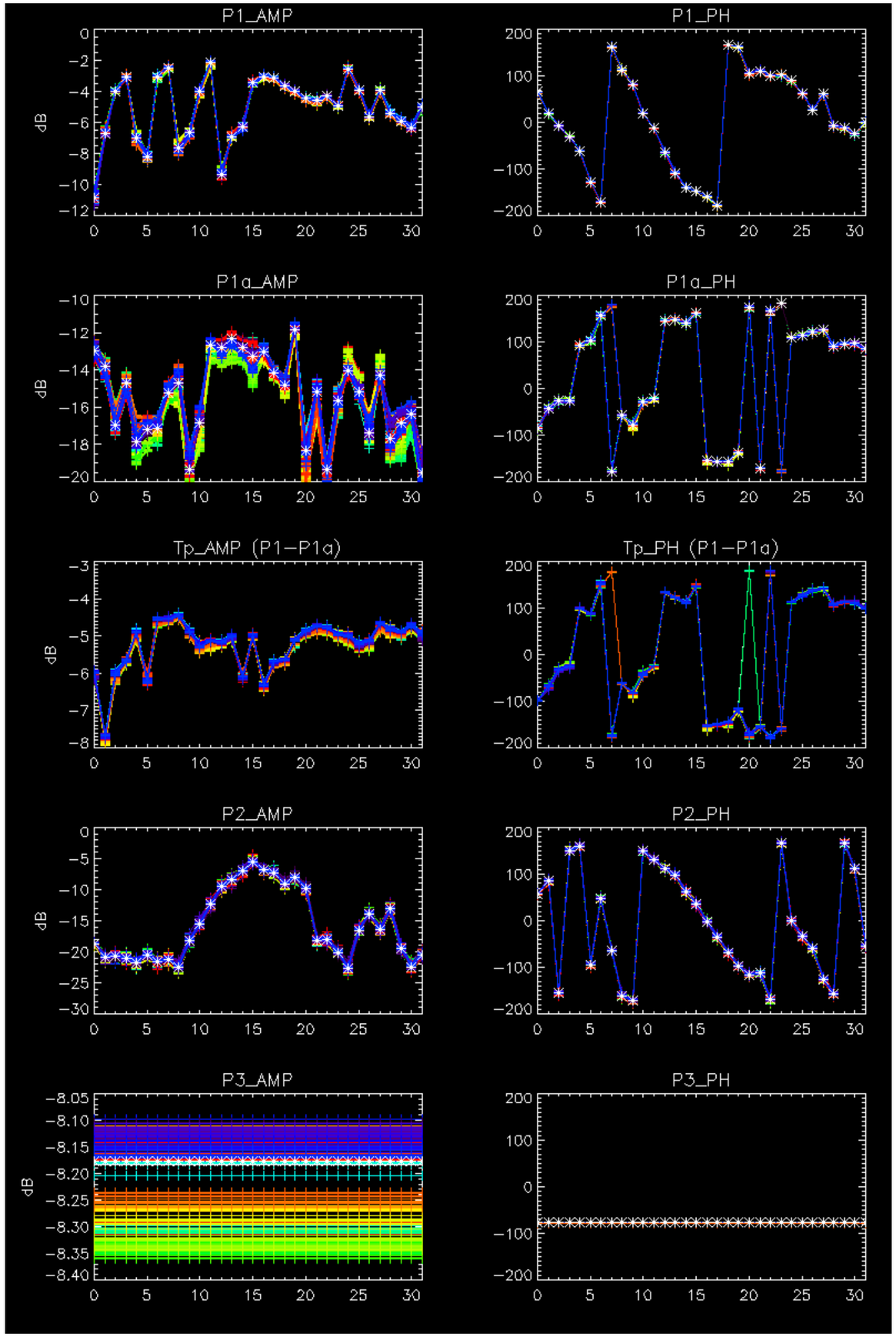

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
06
23−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
06
23−Dec
Average P2[dB]
0
−5
−10
−15
−20
−25
06
23−Dec
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
06
23−Dec
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−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
20
21
22
23
23−Dec
Average P1a [dB]
−10
−12
−14
−16
−18
−20
20
21
22
23
23−Dec
Average P2[dB]
−5
−10
−15
−20
−25
20
21
22
23
23−Dec
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
20
21
22
23
23−Dec
rows: 3 7 11 15 19 22 26 30

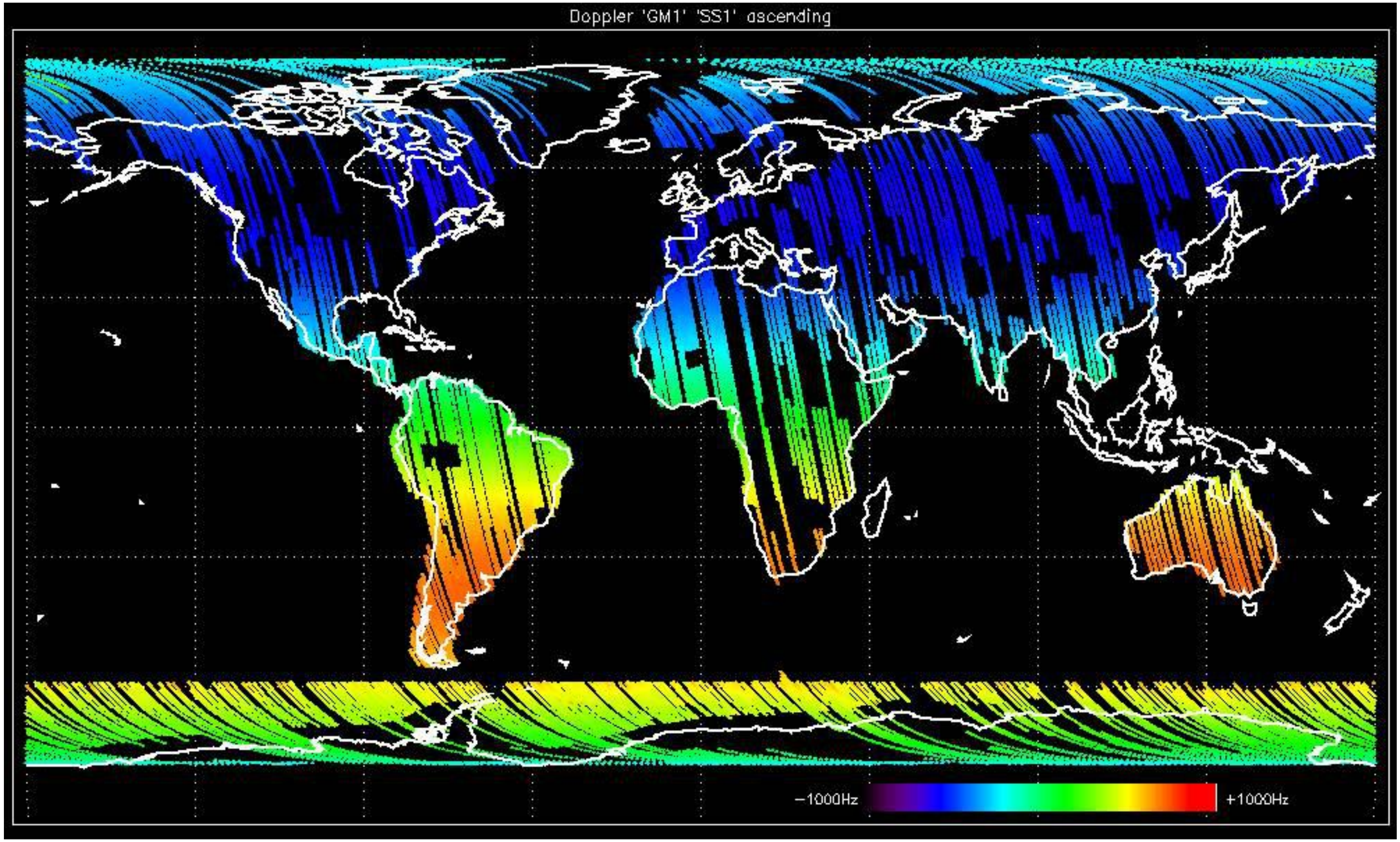
No anomalies observed.

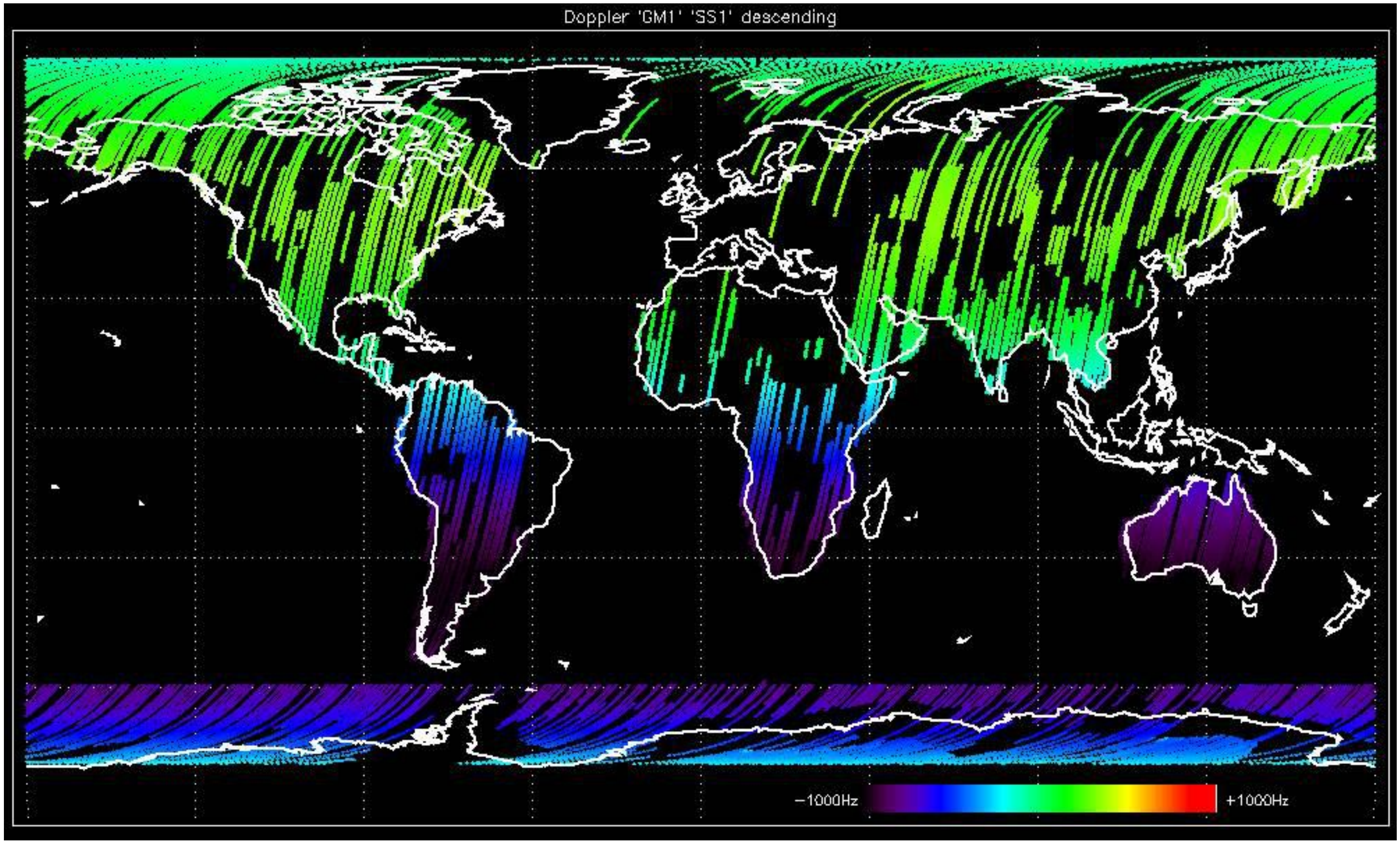

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

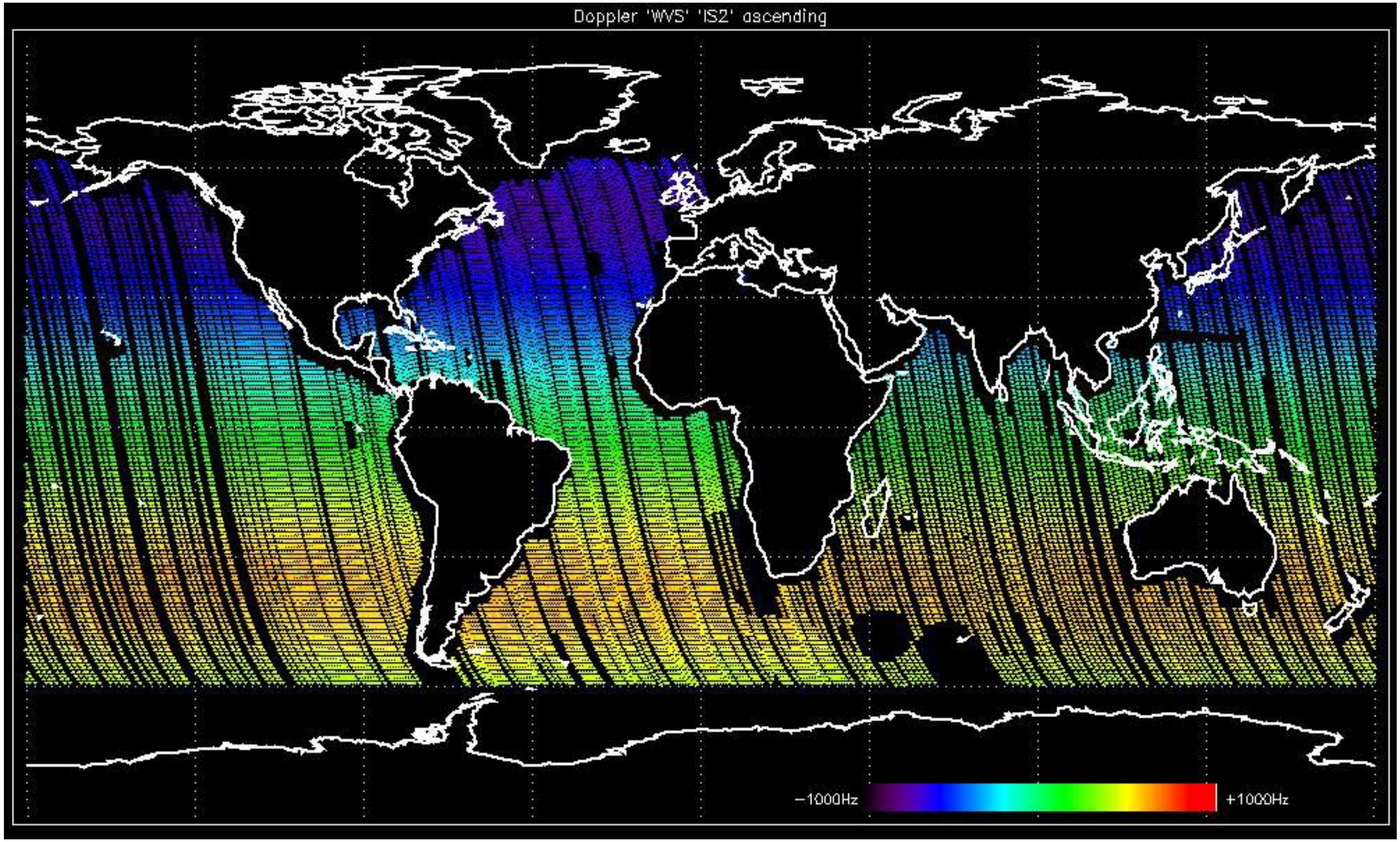

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

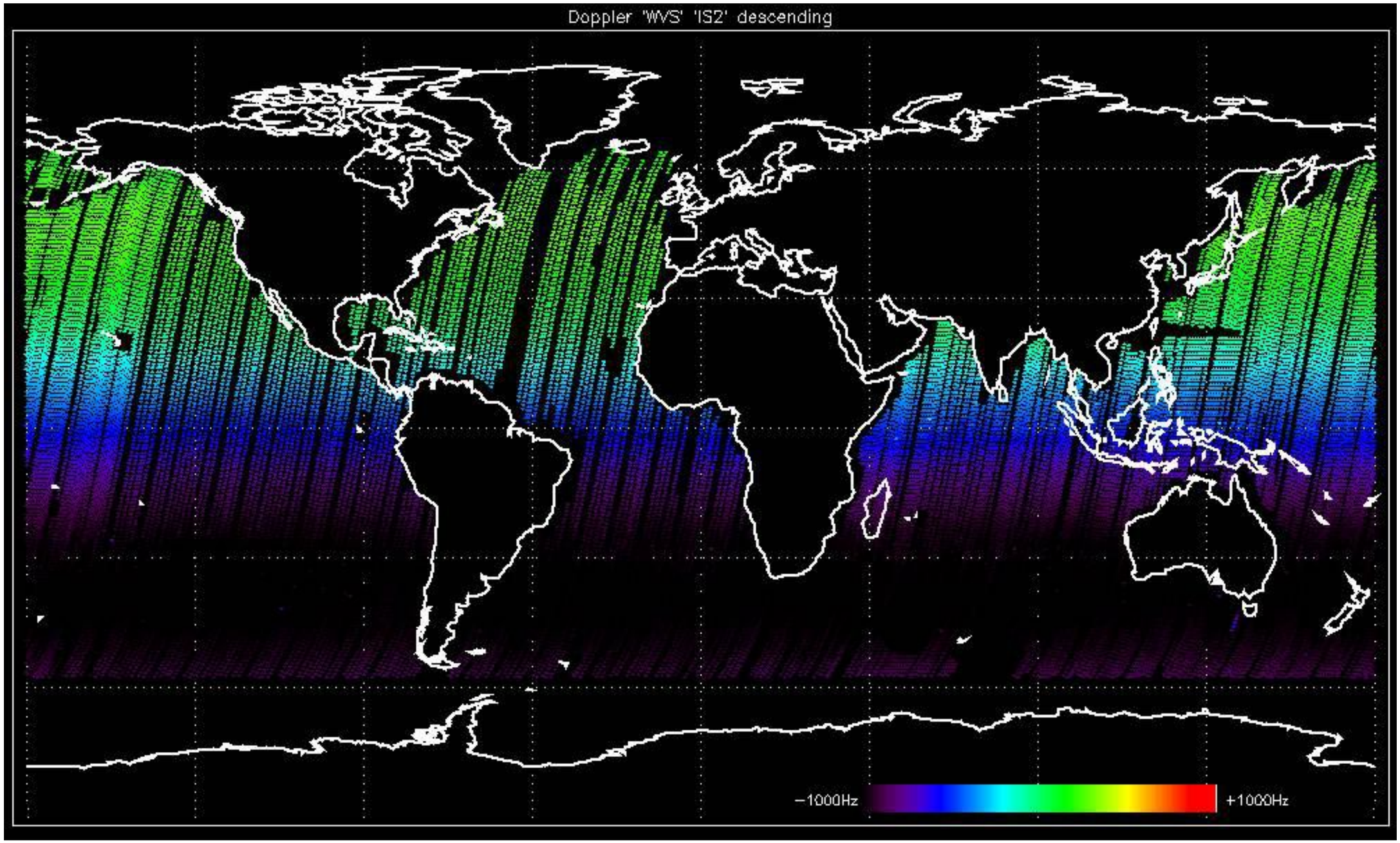
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

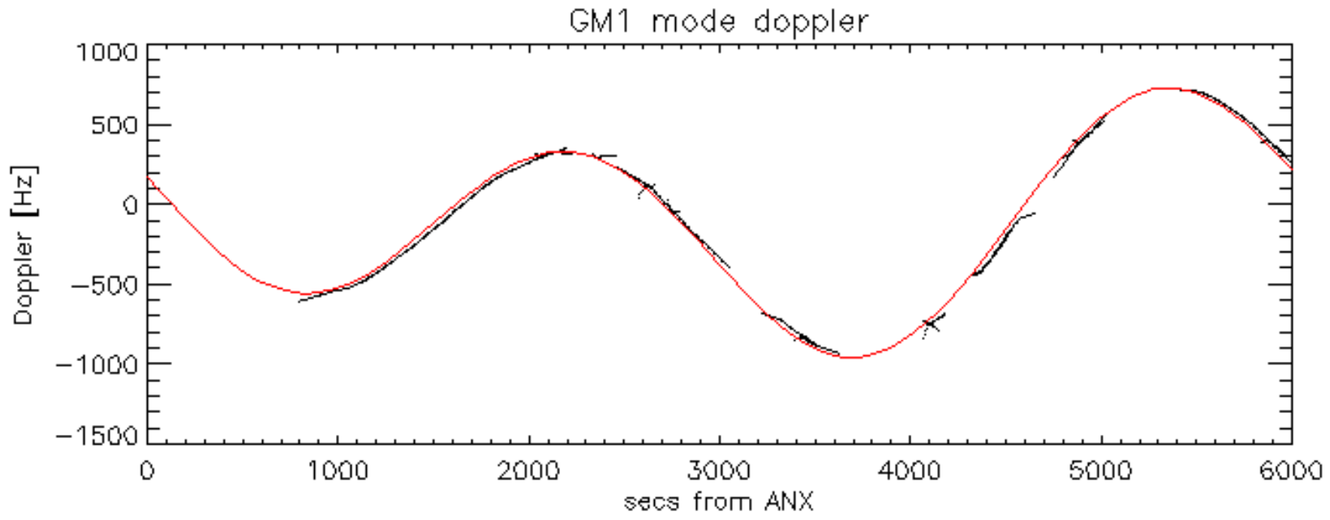
Preliminary report.The data is not yet controled

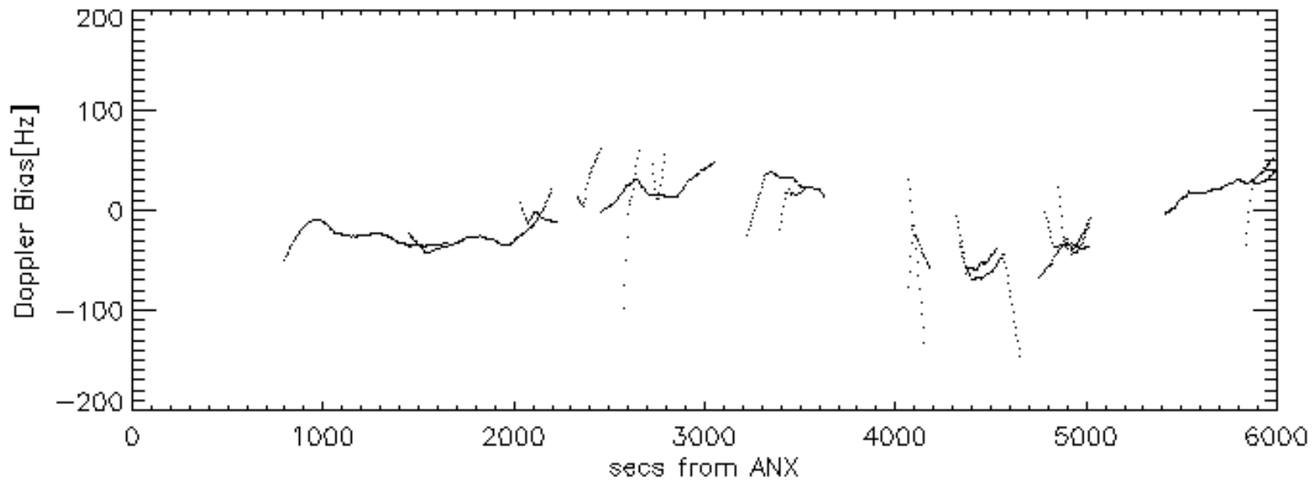

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

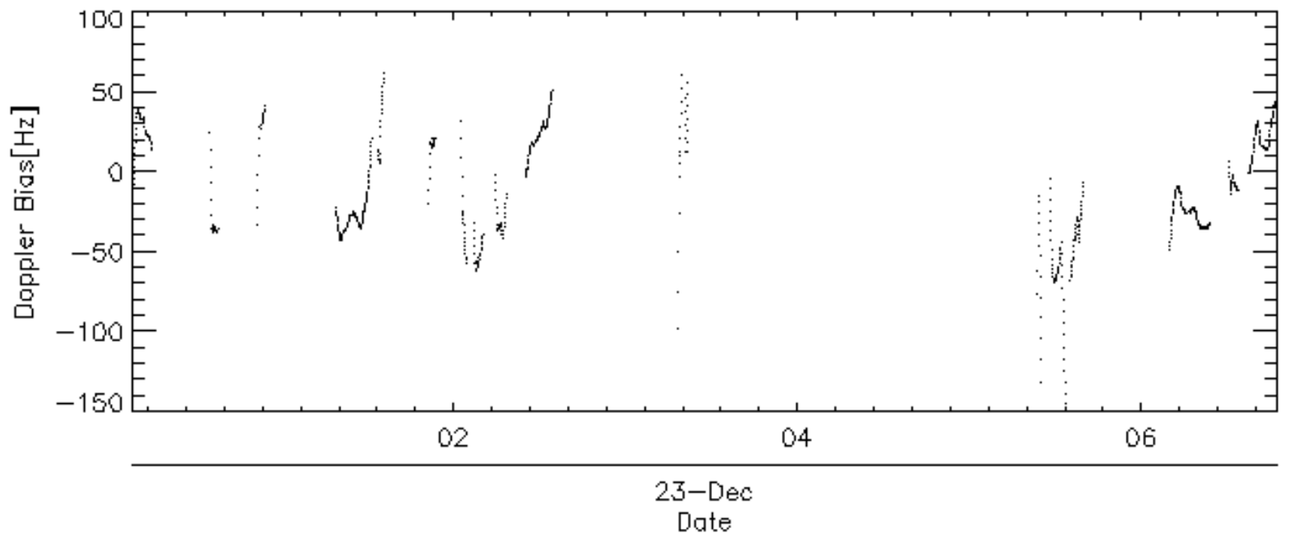

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

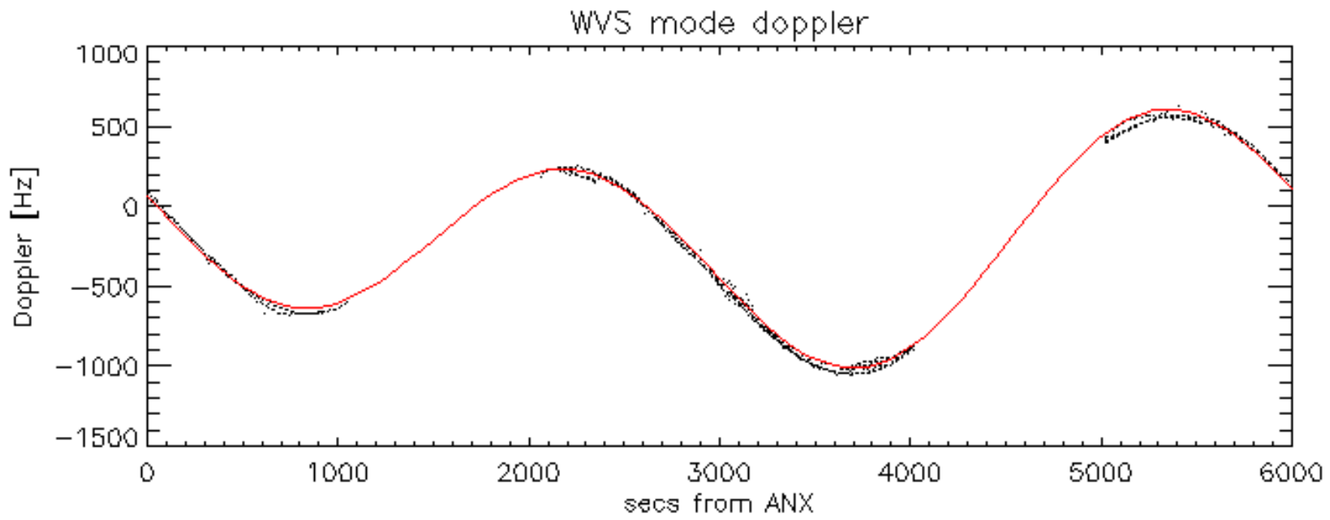

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

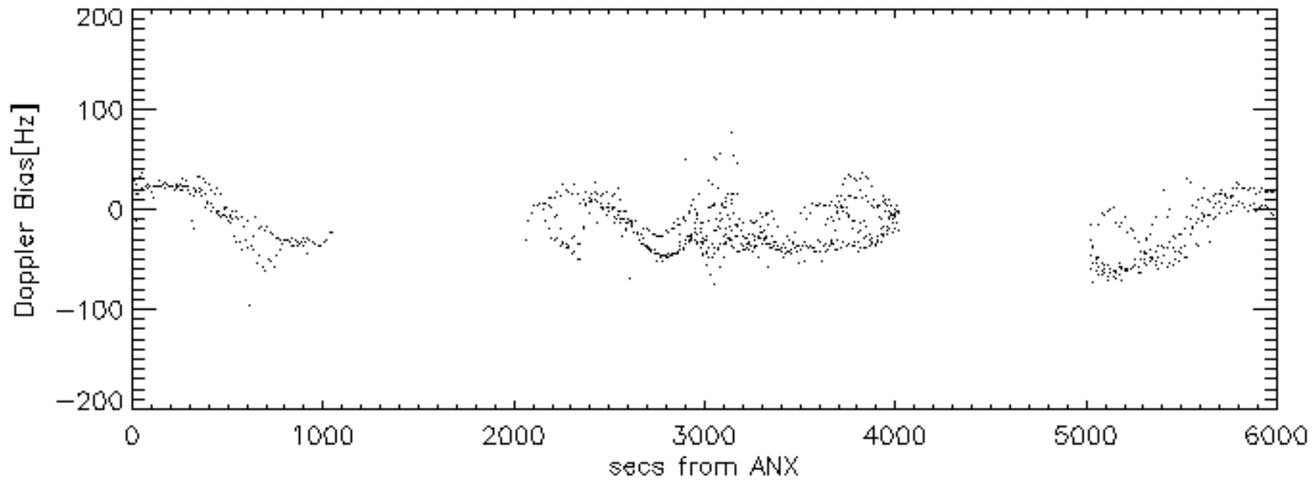

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

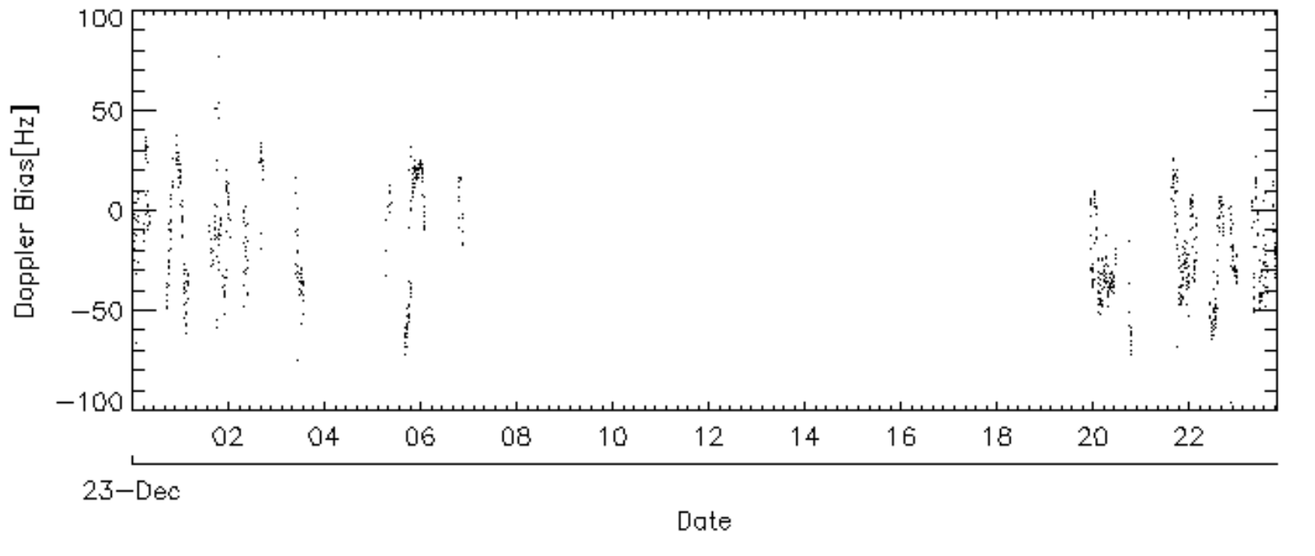

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

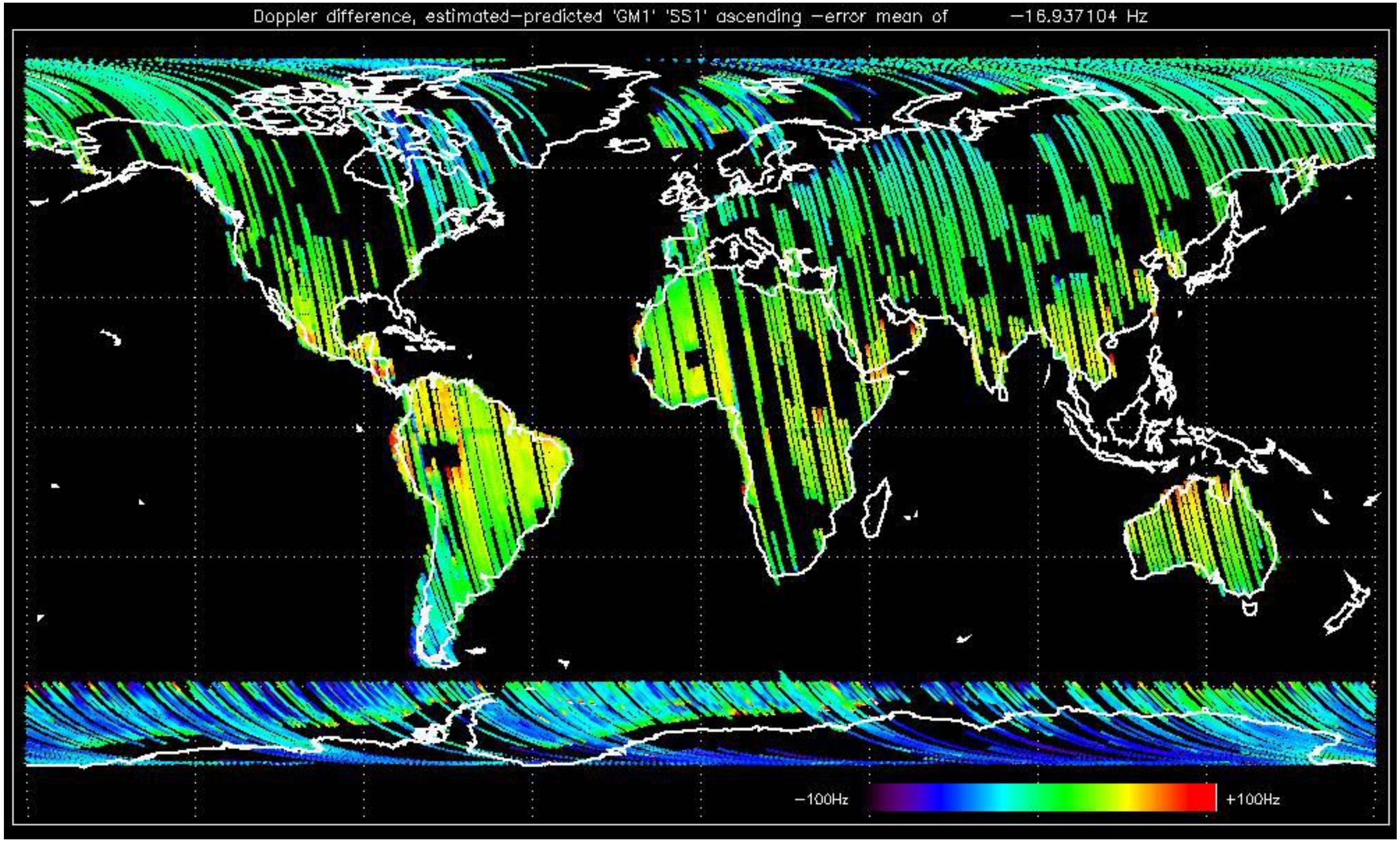

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

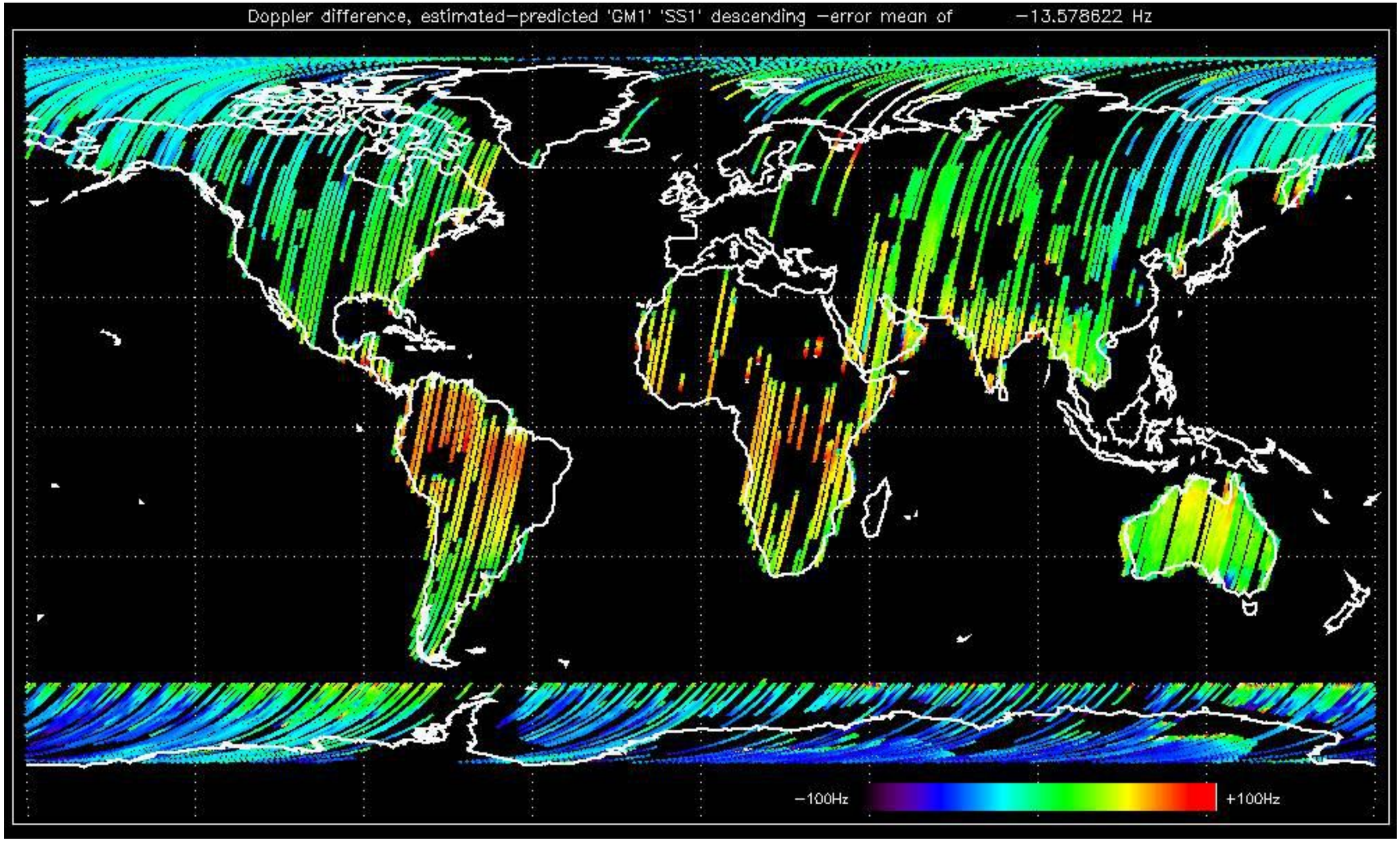

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
23−Dec
Date

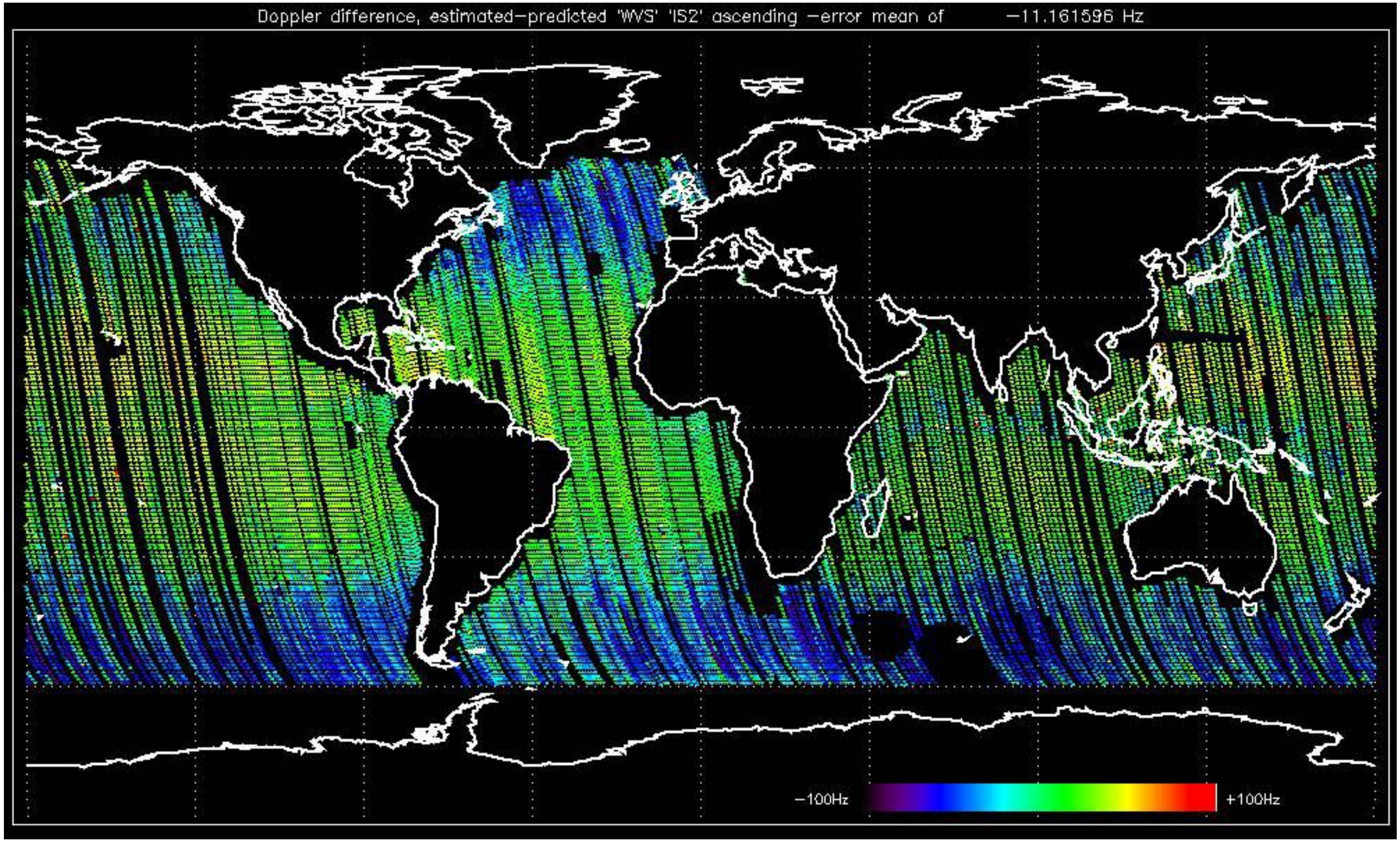

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

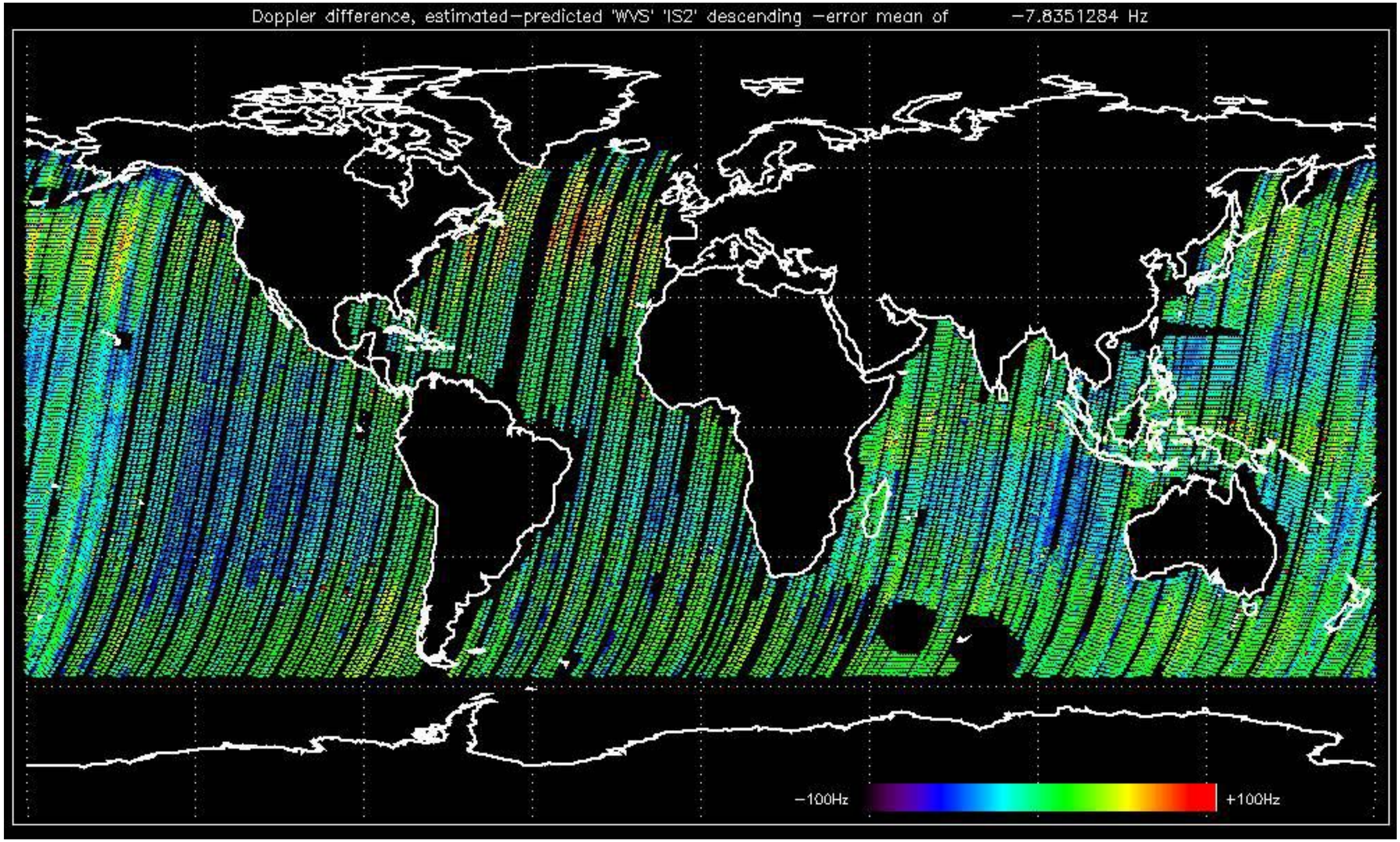

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −16.937104 Hz
−100Hz
+100Hz

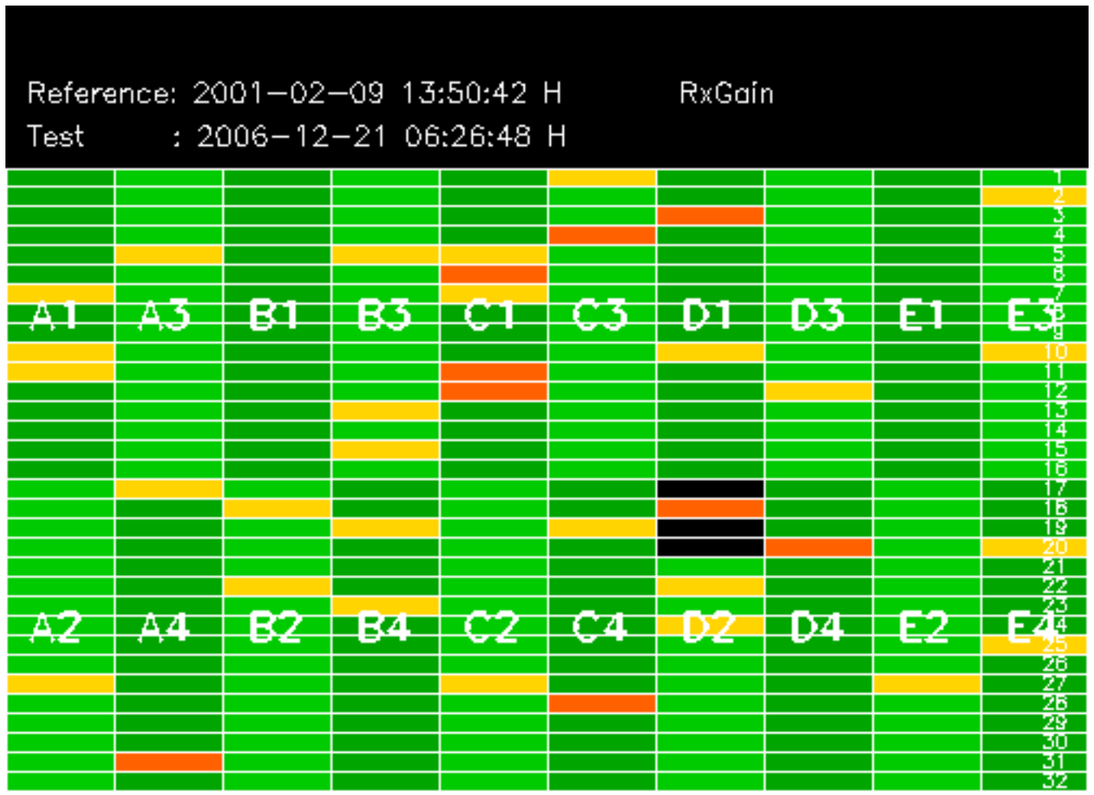

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −13.578622 Hz
−100Hz
+100Hz

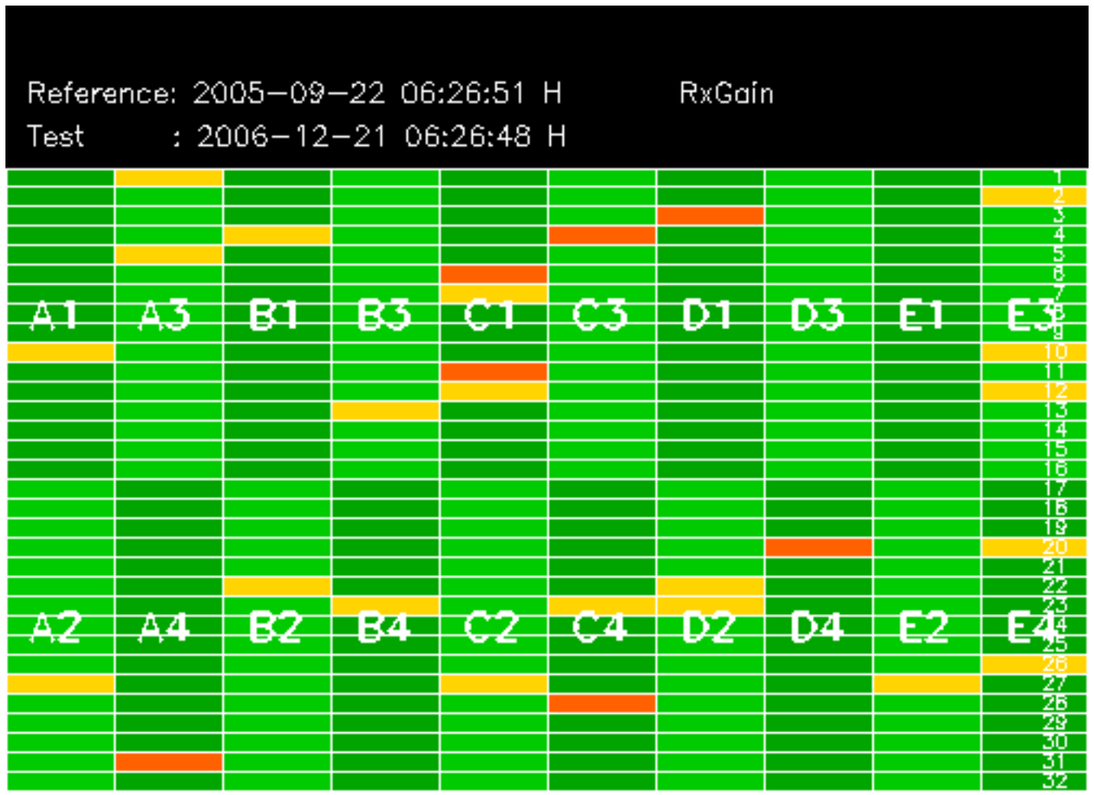

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −11.161596 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −7.8351284 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2006-12-21 06:26:48 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 : 2006-12-21 06:26:48 H
RxGain
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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9
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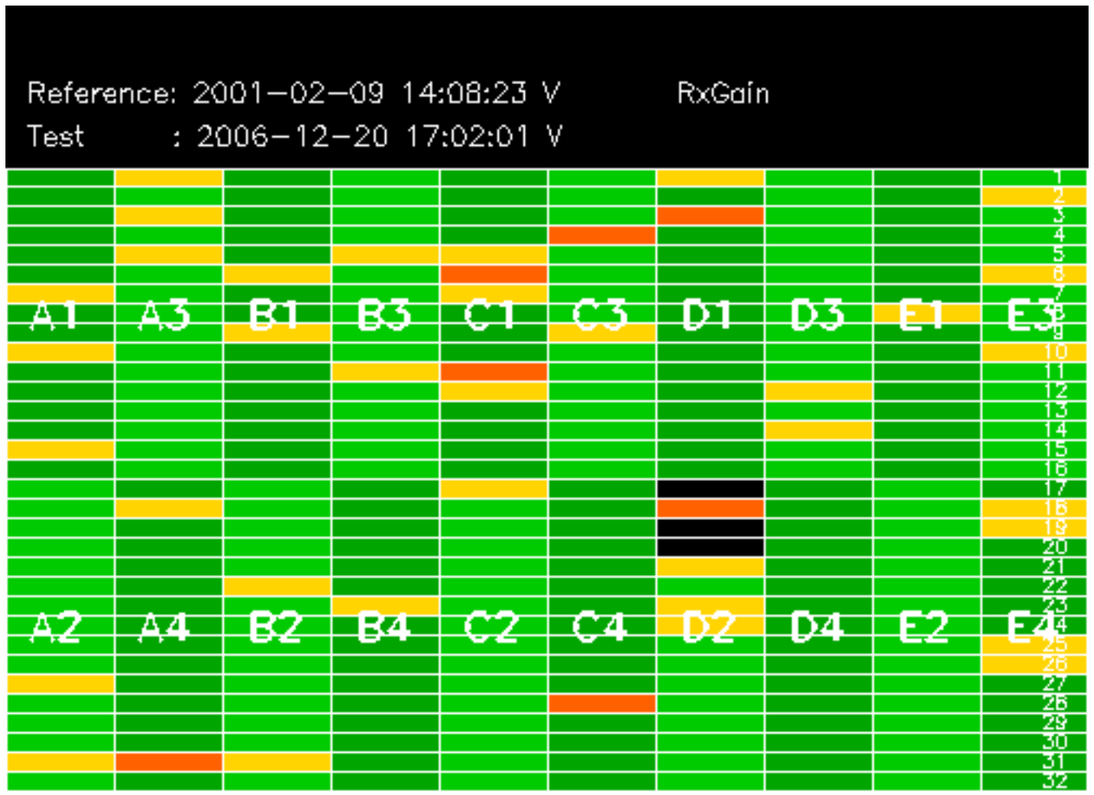
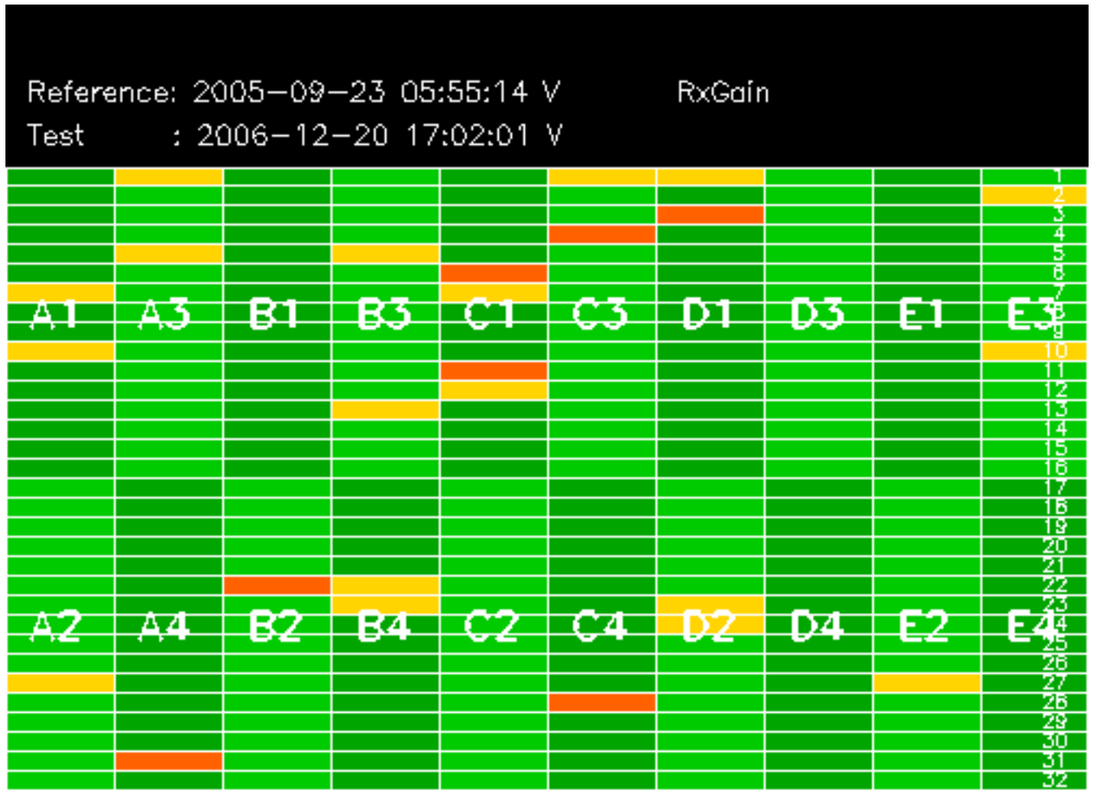

Reference: 2001-02-09 14:08:23 V
Test : 2006-12-20 17:02:01 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-23 05:55:14 V
Test : 2006-12-20 17:02:01 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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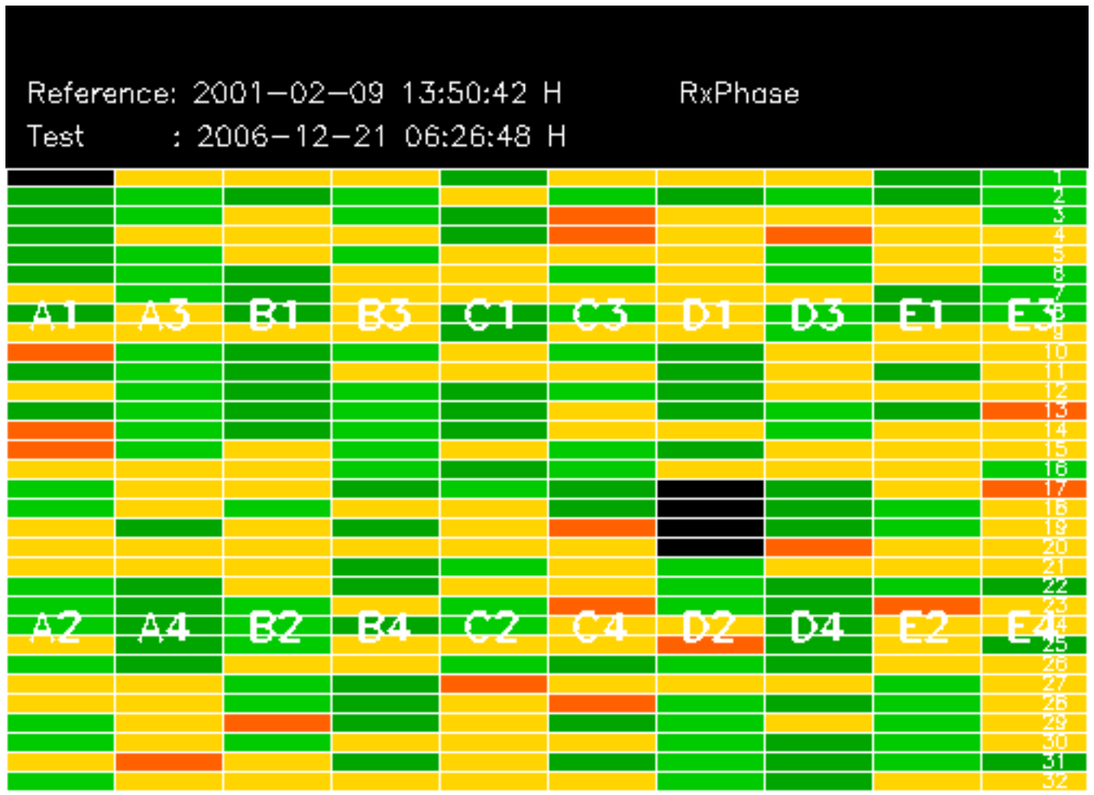
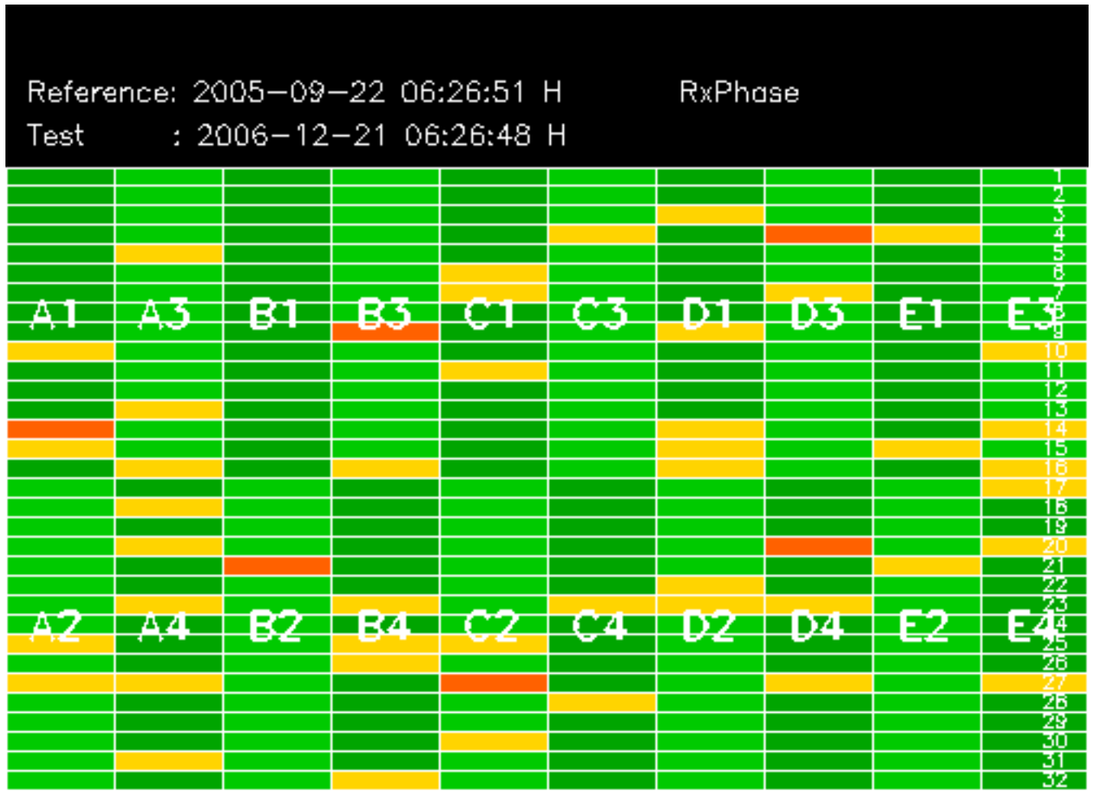

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-12-21 06:26:48 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-22 06:26:51 H
RxPhase
Test : 2006-12-21 06:26:48 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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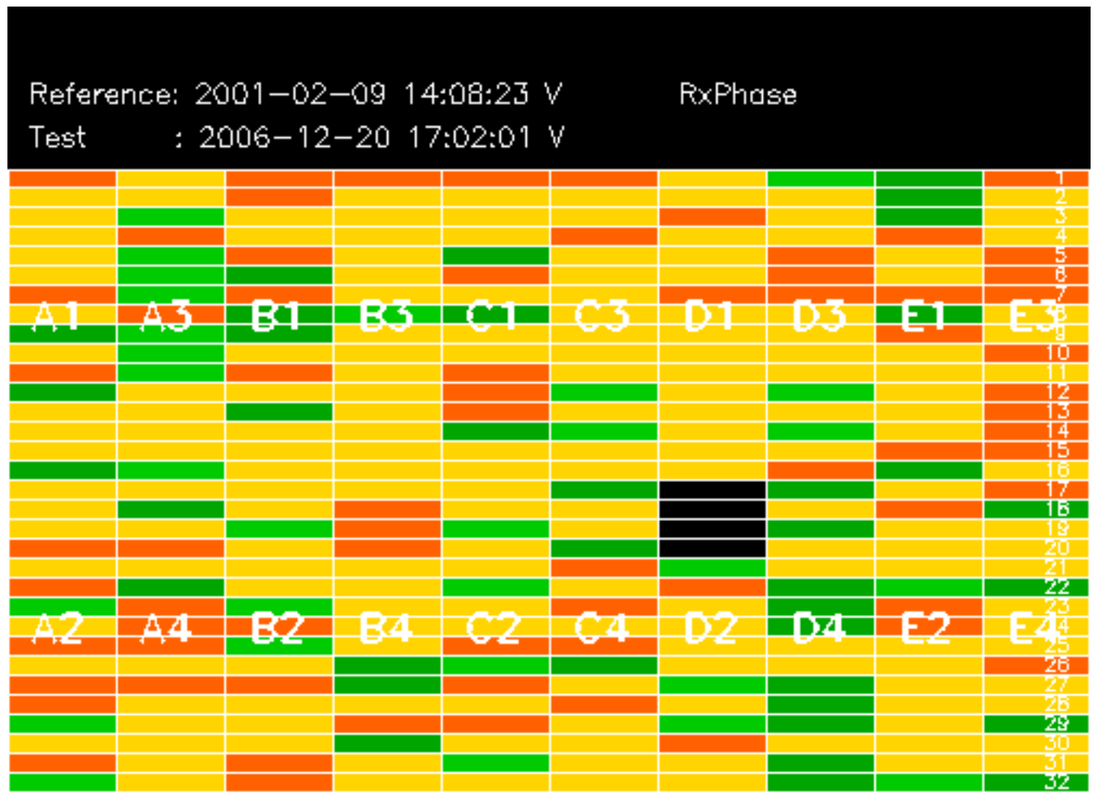
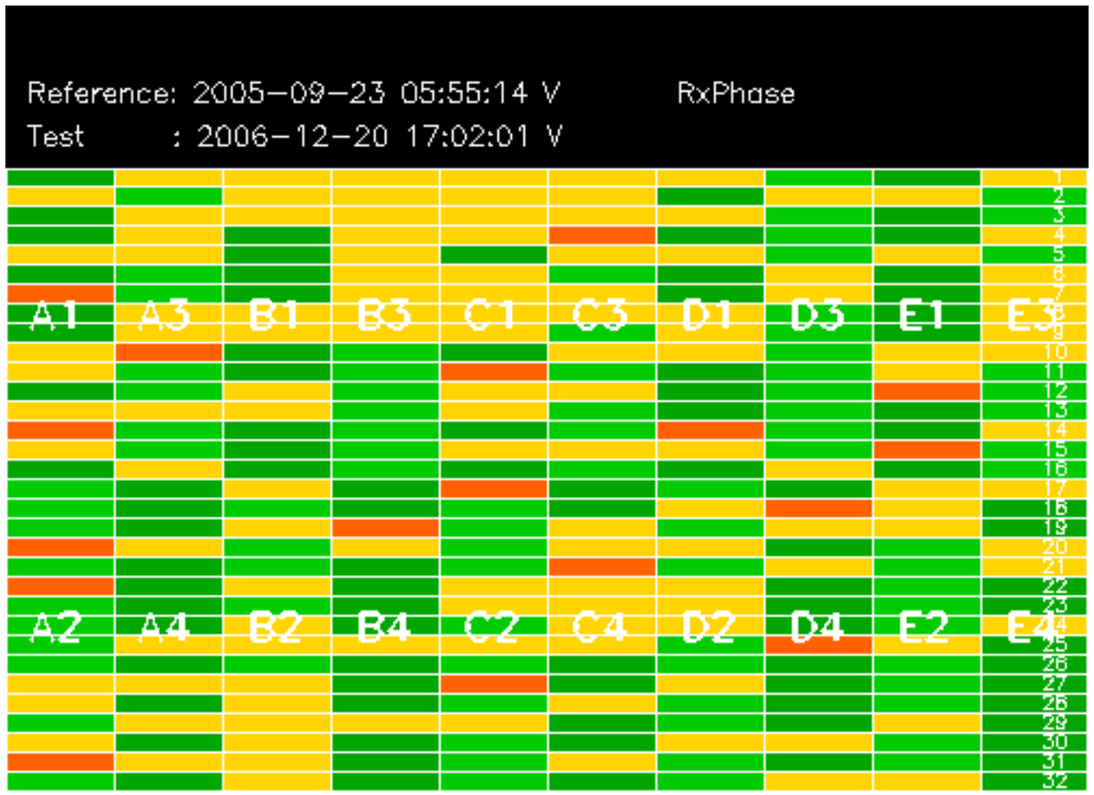
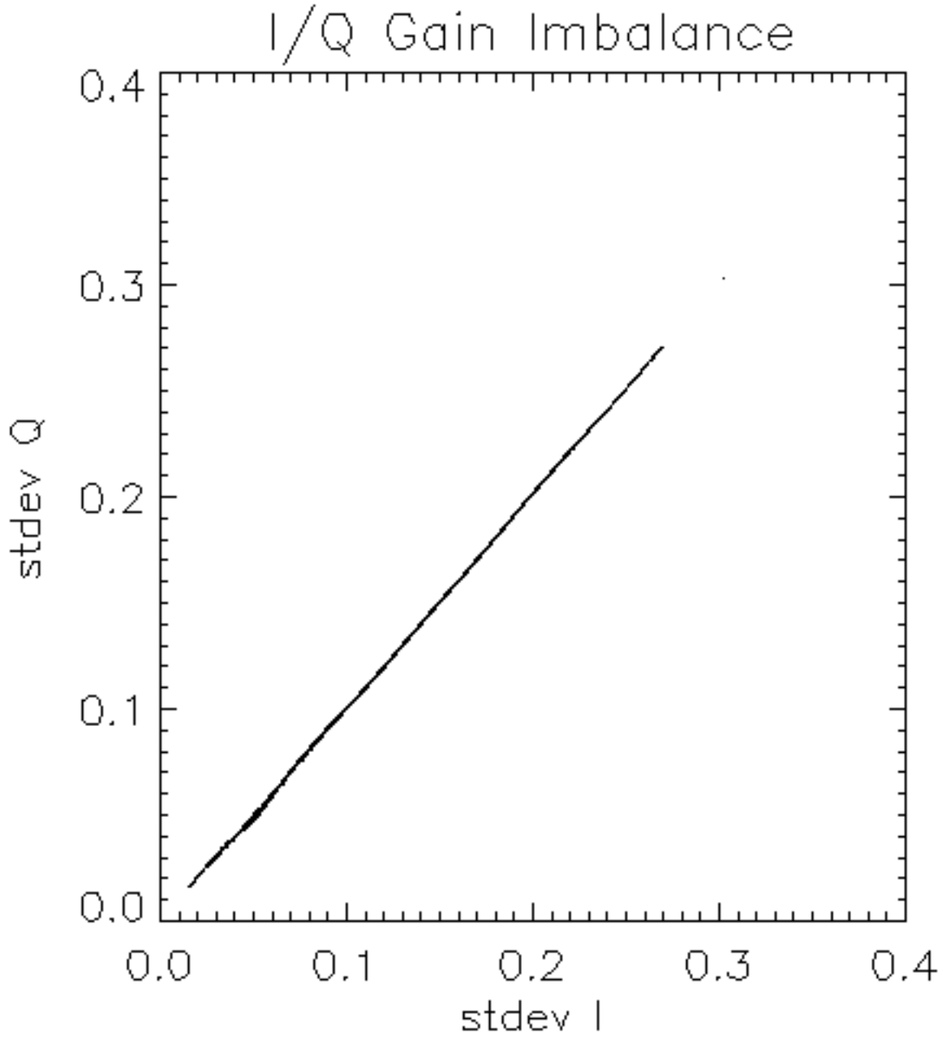
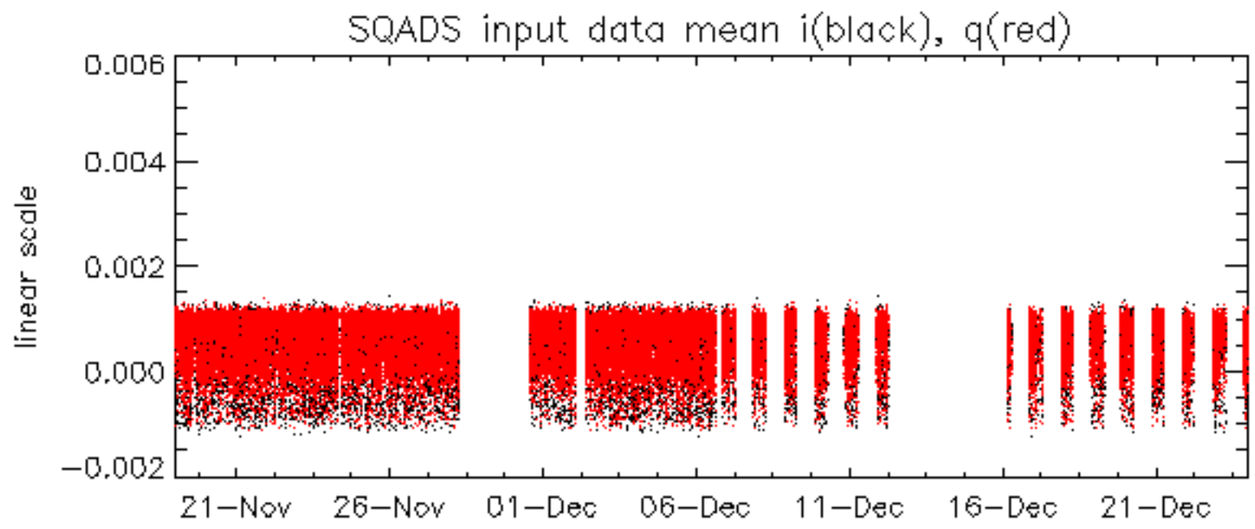
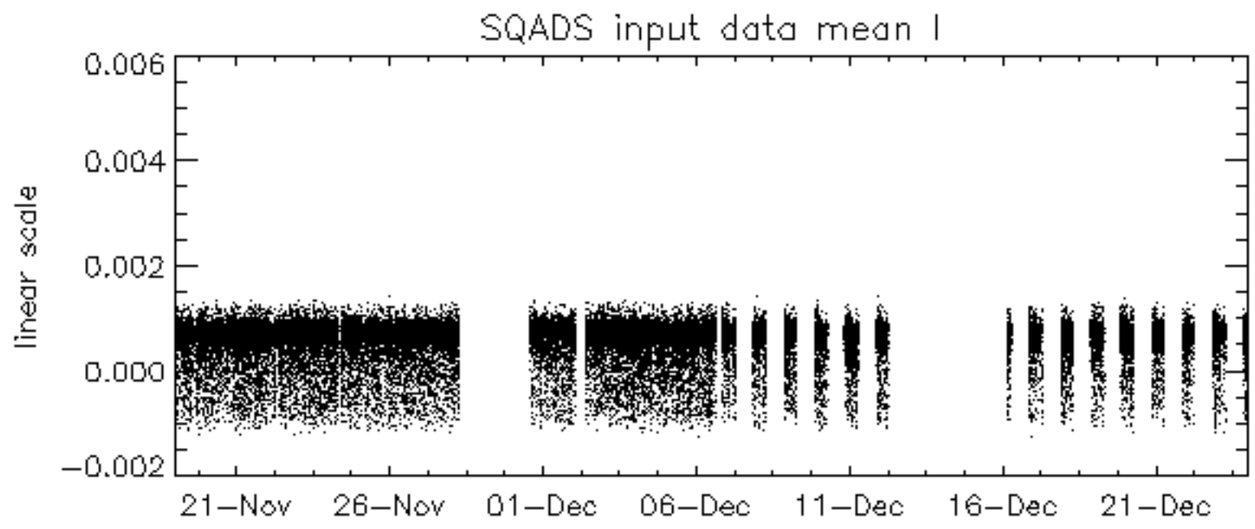
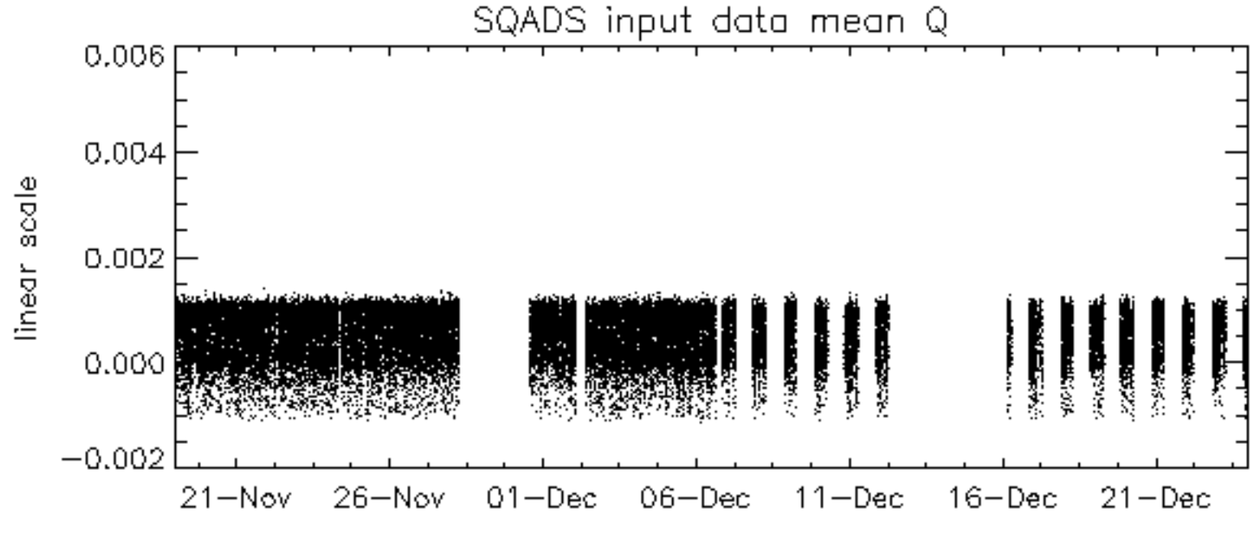

Reference: 2001-02-09 14:08:23 V
Test : 2006-12-20 17:02:01 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

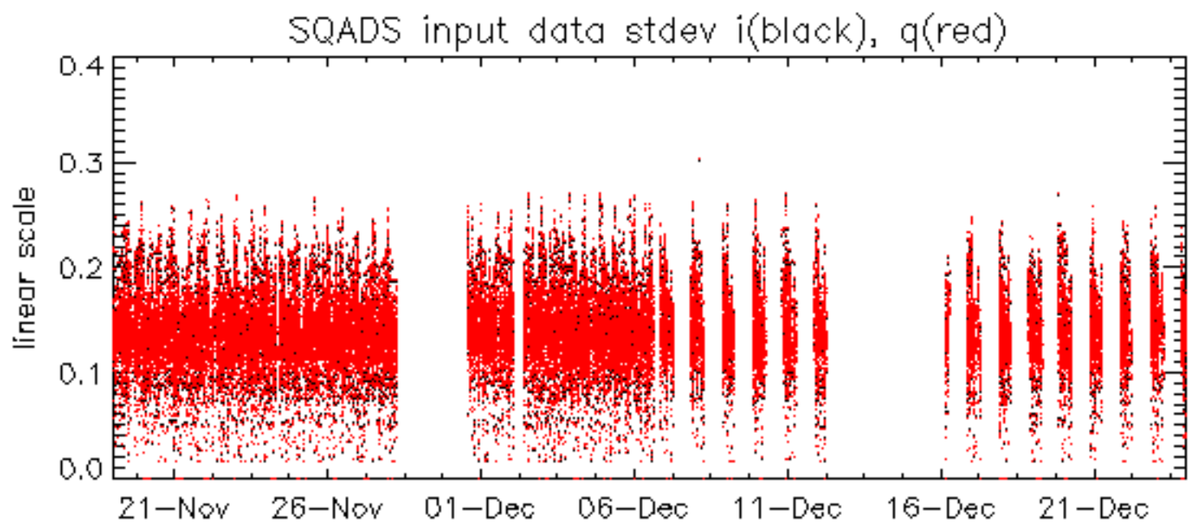

Reference: 2005-09-23 05:55:14 V
Test : 2006-12-20 17:02:01 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

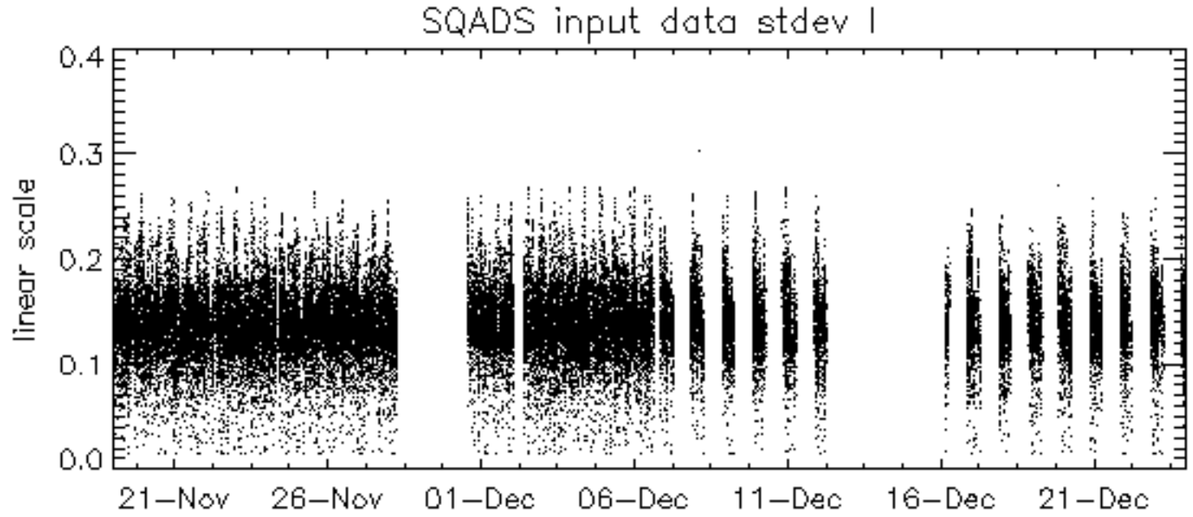

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

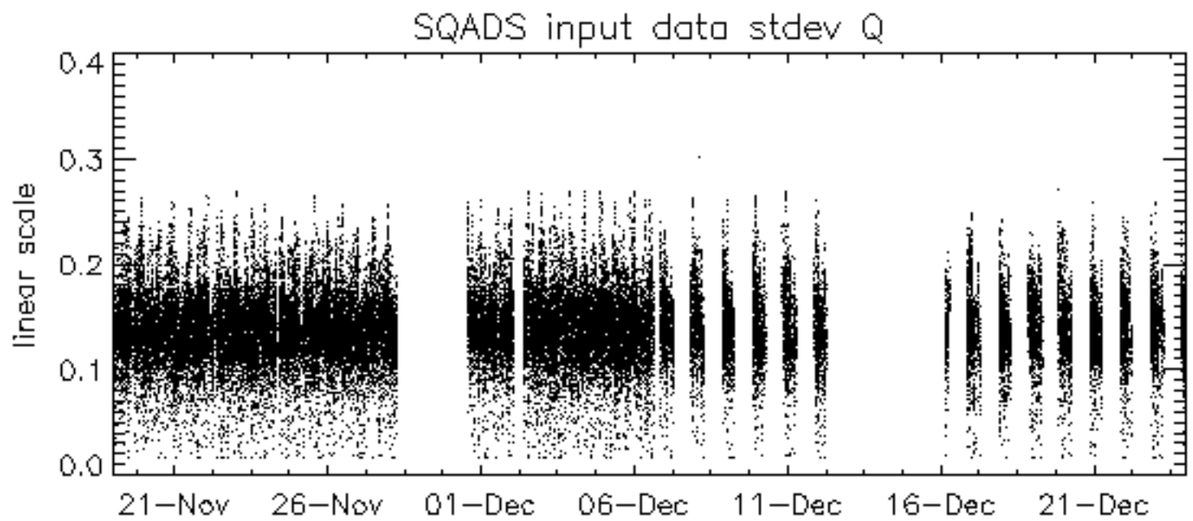

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec

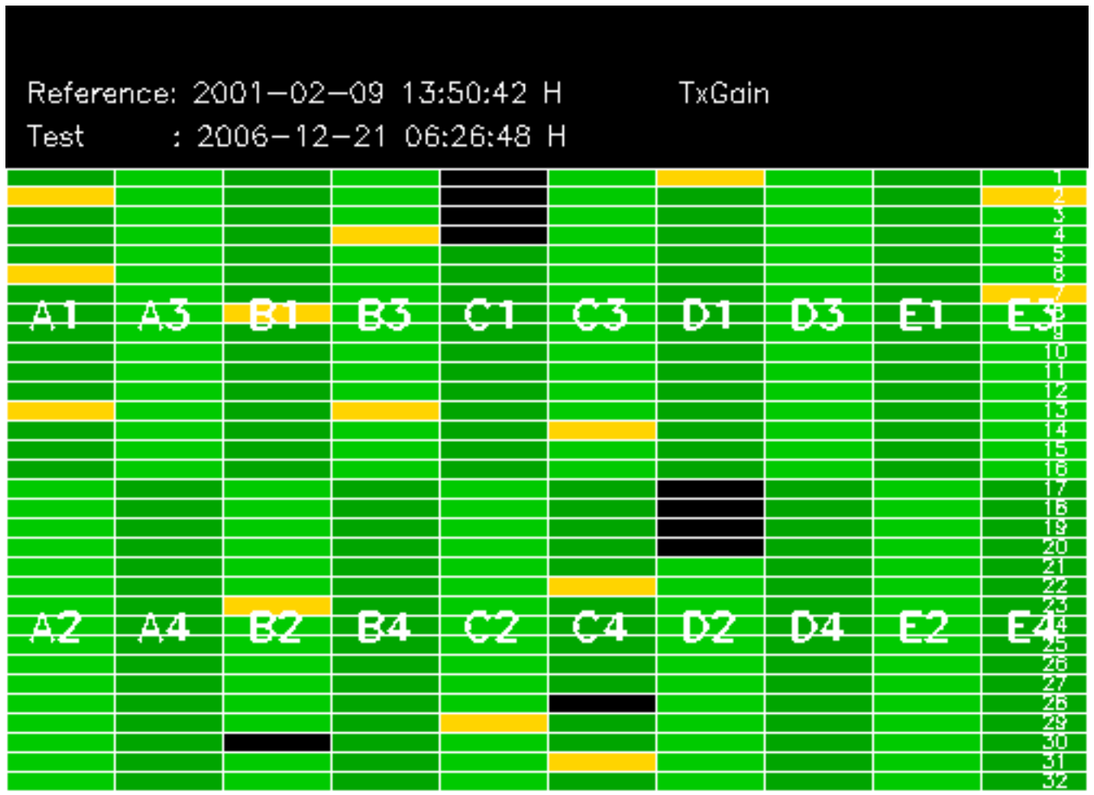

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec

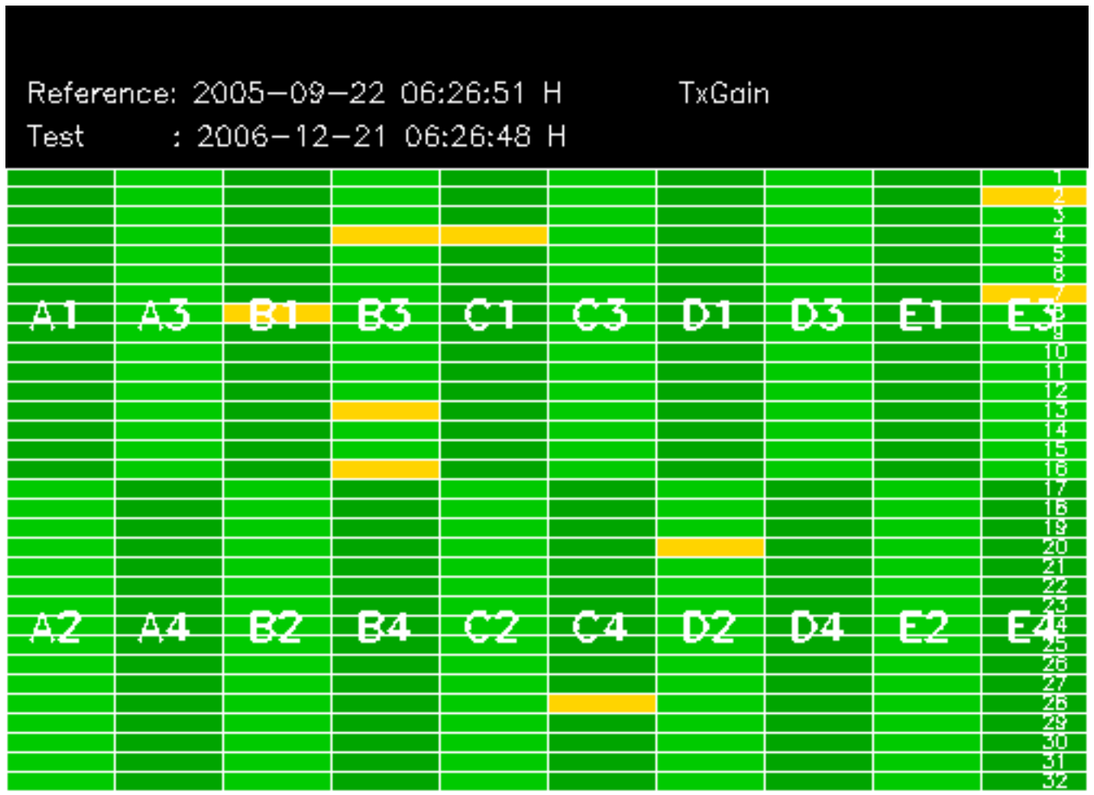

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2006-12-21 06:26:48 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 : 2006-12-21 06:26:48 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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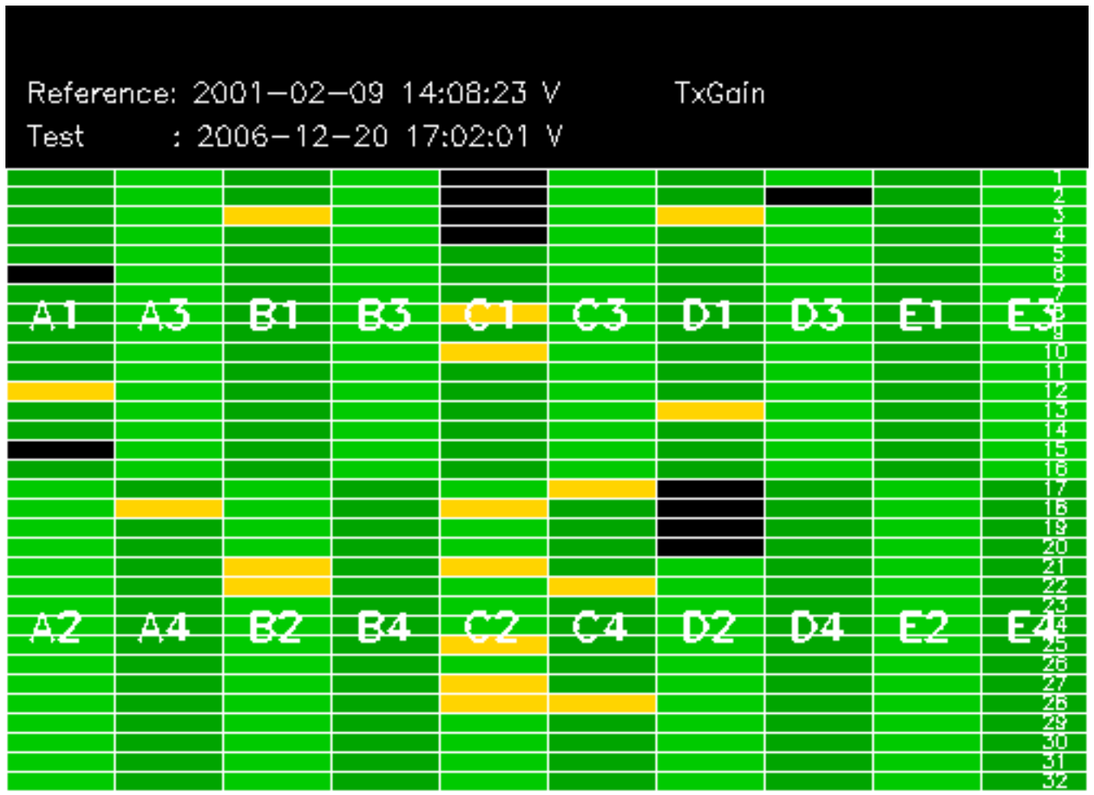
Reference: 2001-02-09 14:08:23 V
Test : 2006-12-20 17:02:01 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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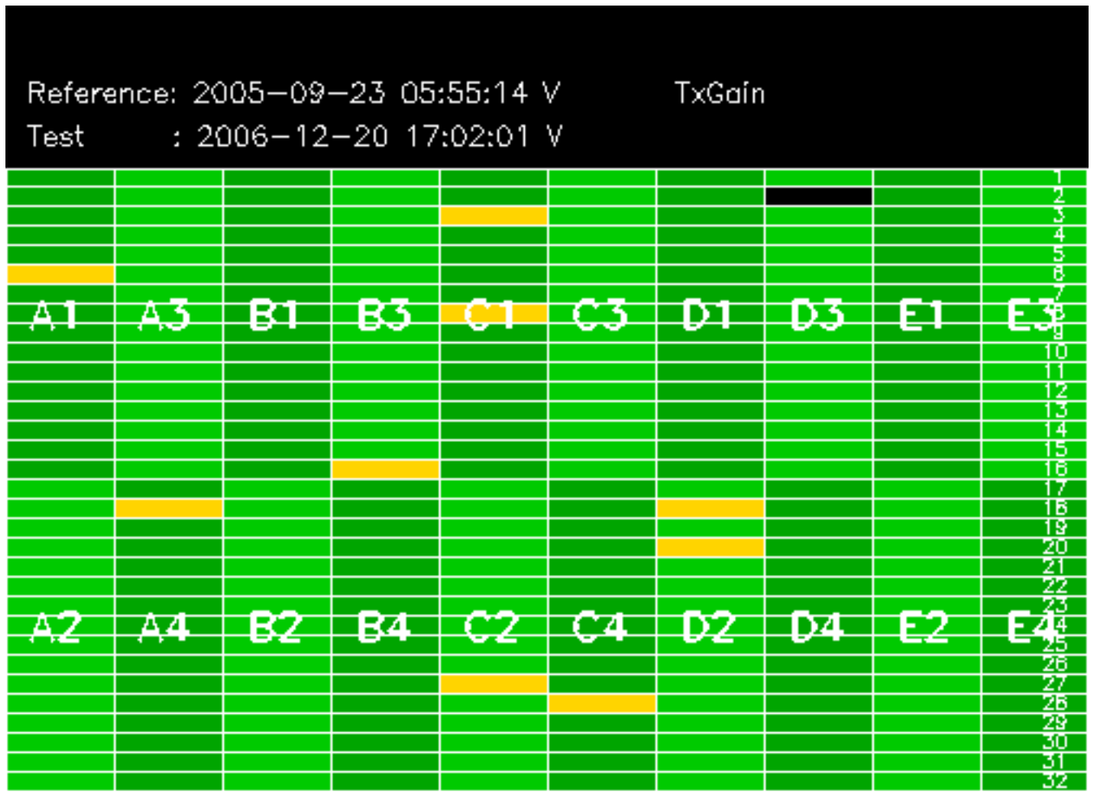
Reference: 2005-09-23 05:55:14 V
Test : 2006-12-20 17:02:01 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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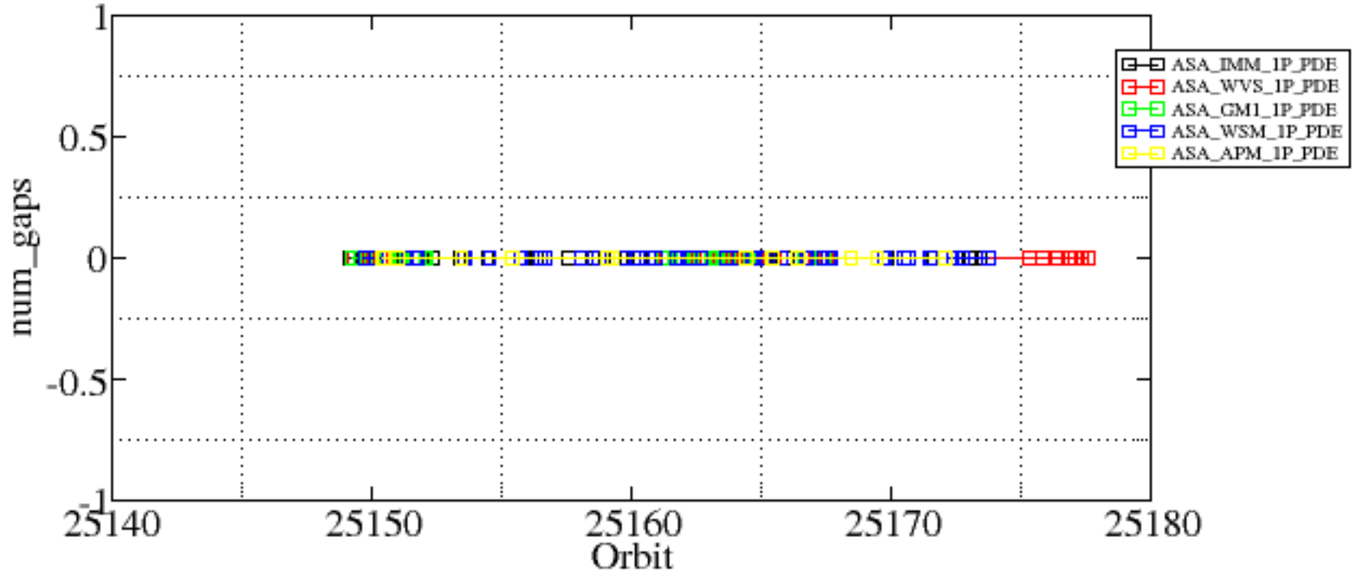
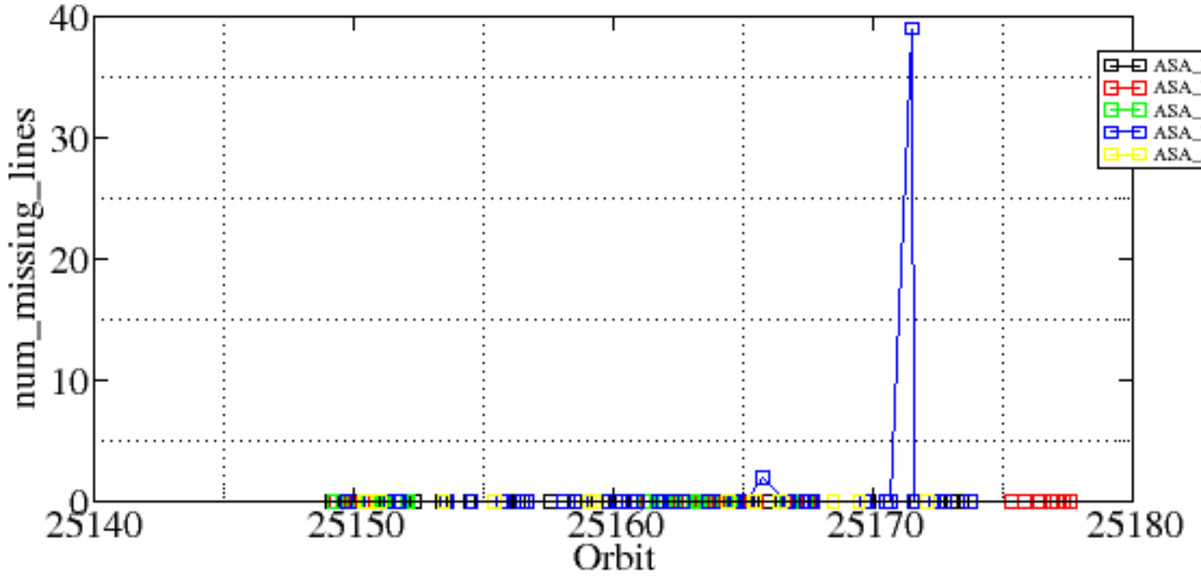
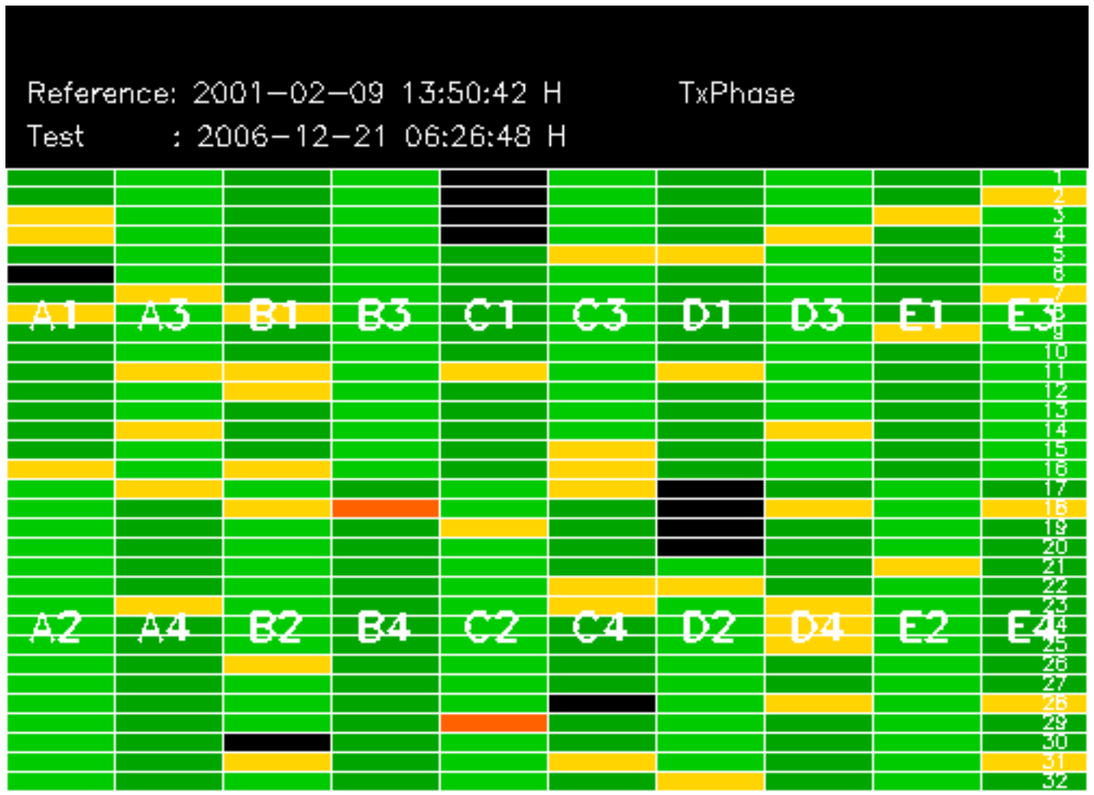
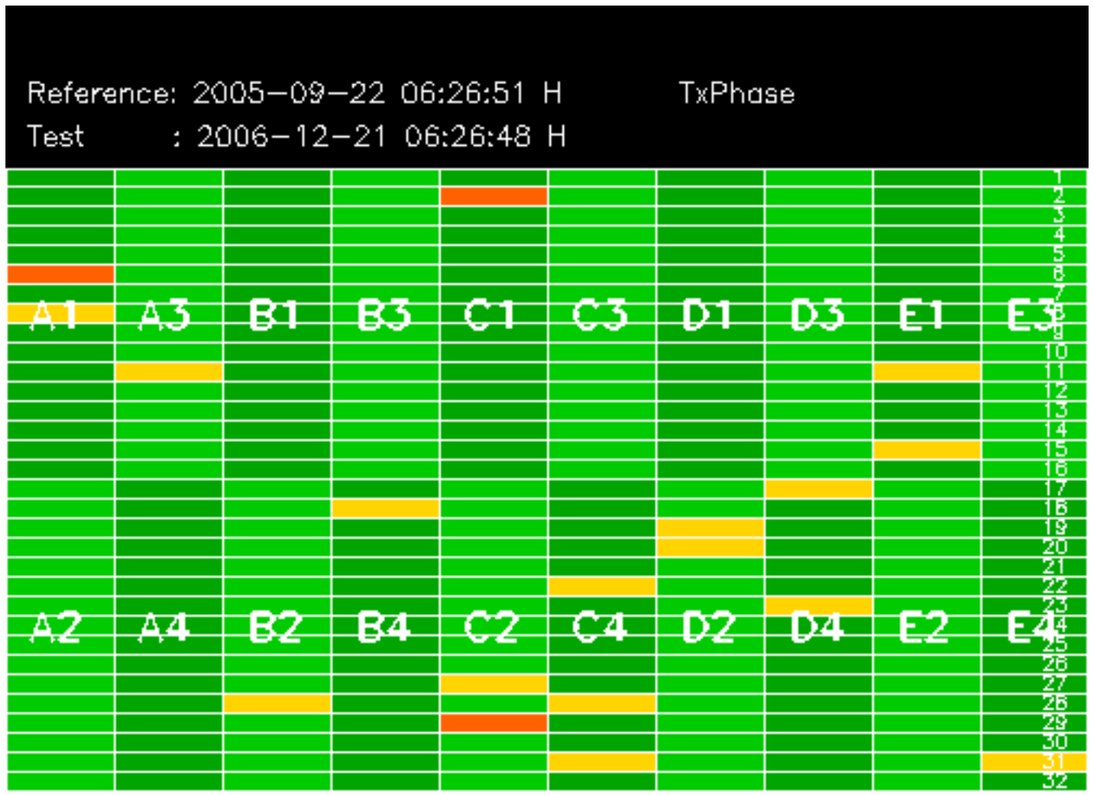
Summary of analysis for the last 3 days 2006122[234]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_WSM_1PNPDE20061223_035151_000004282054_00061_25165_0858.N1 </td> <td>0 </td> <td>2 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20061223_132747_000000862054_00067_25171_1854.N1 </td> <td>0 </td> <td>39 </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
25140
25150
25160
25170
25180
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
40
30
20
10
0
25140
25150
25160
25170
25180
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
Test : 2006-12-21 06:26:48 H
TxPhase
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 : 2006-12-21 06:26:48 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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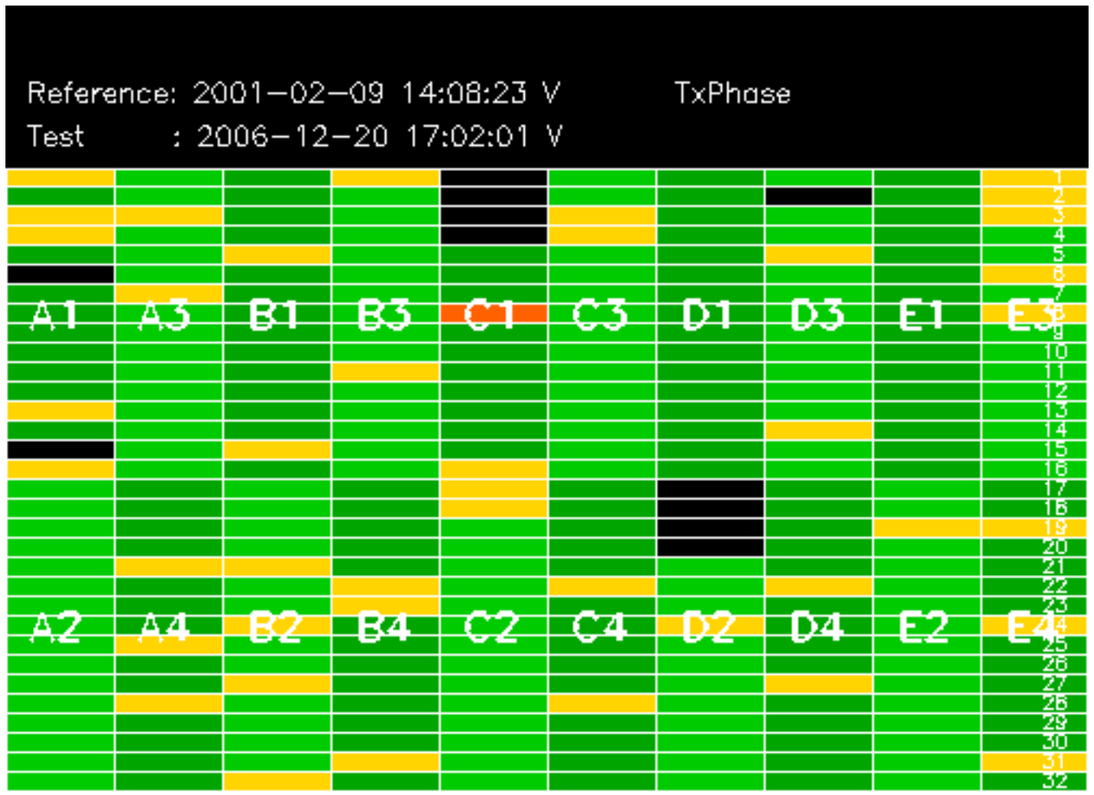
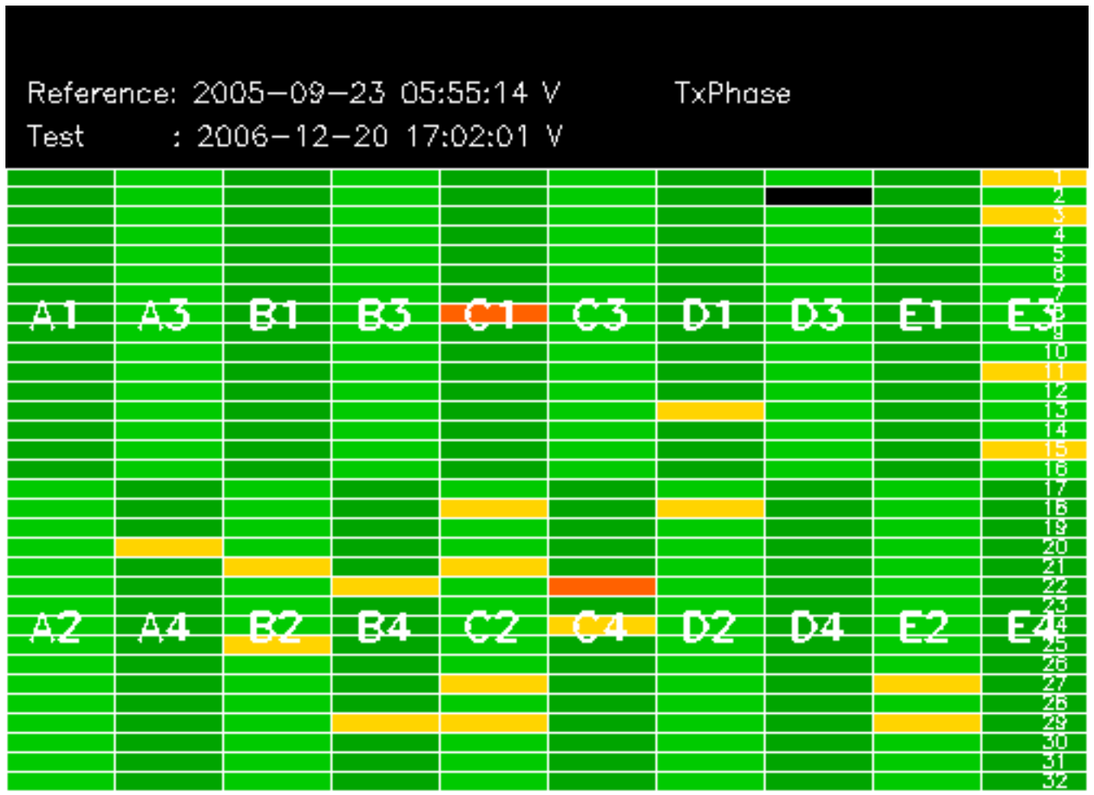

Reference: 2001-02-09 14:08:23 V
Test : 2006-12-20 17:02:01 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-23 05:55:14 V
Test : 2006-12-20 17:02:01 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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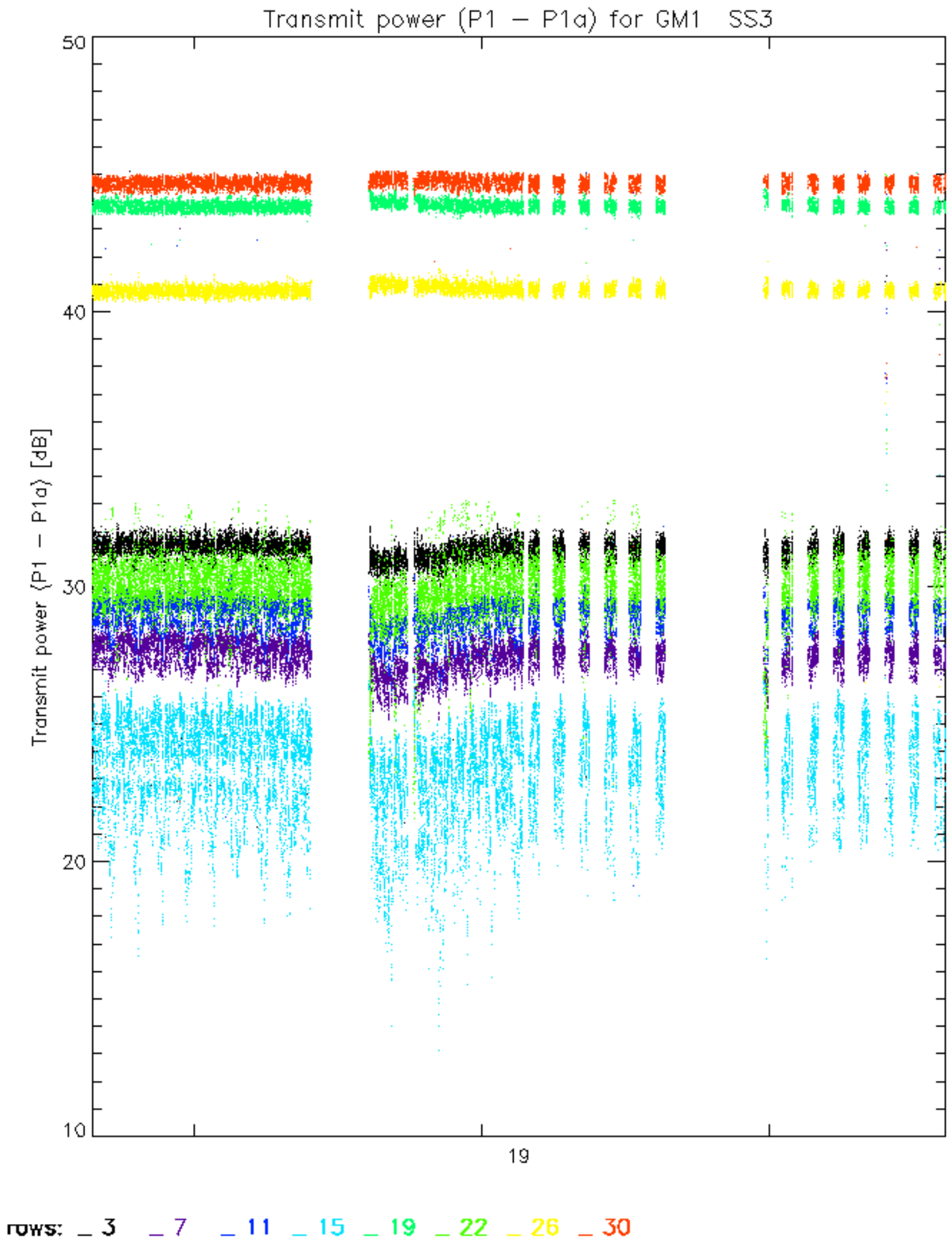
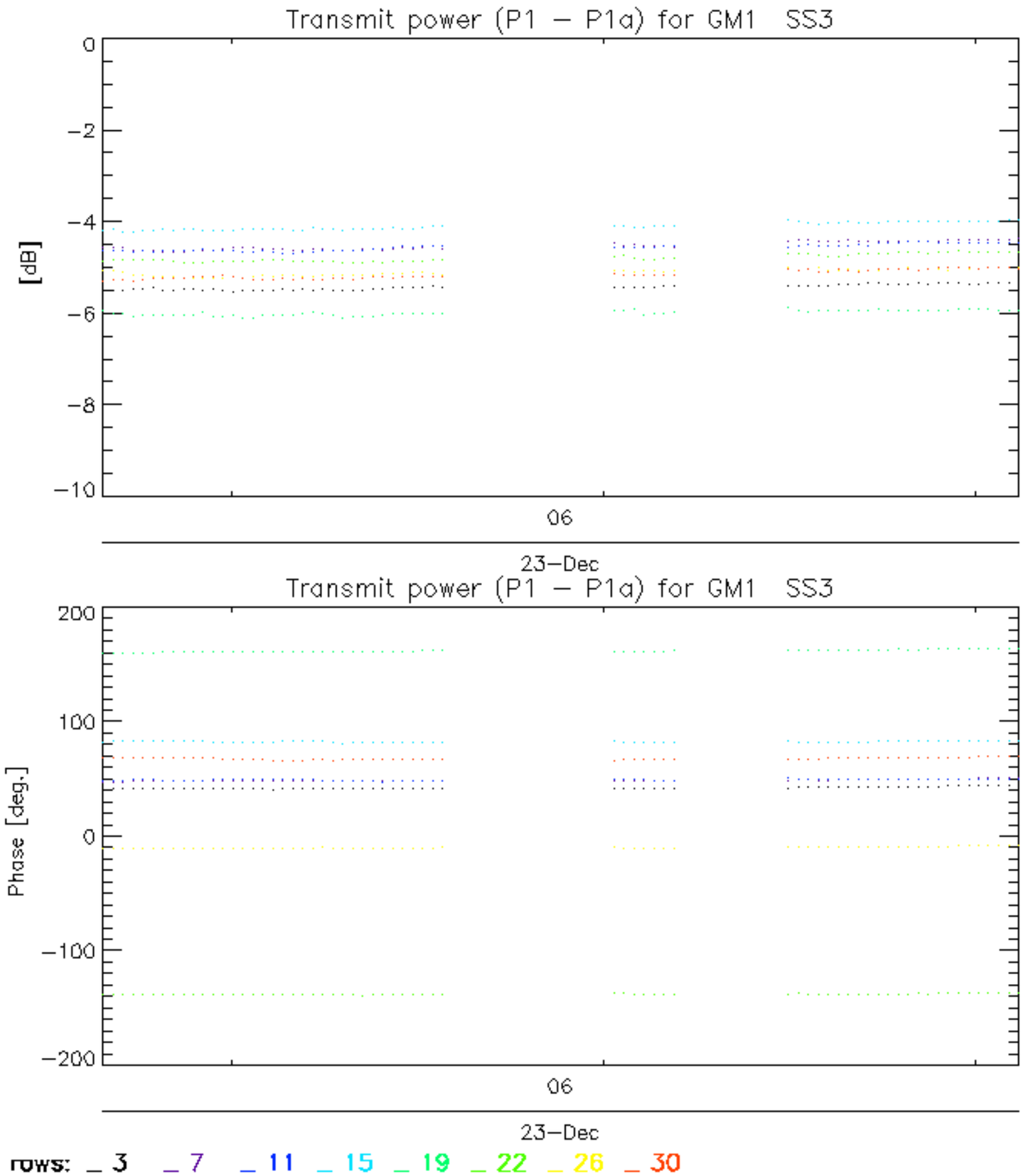
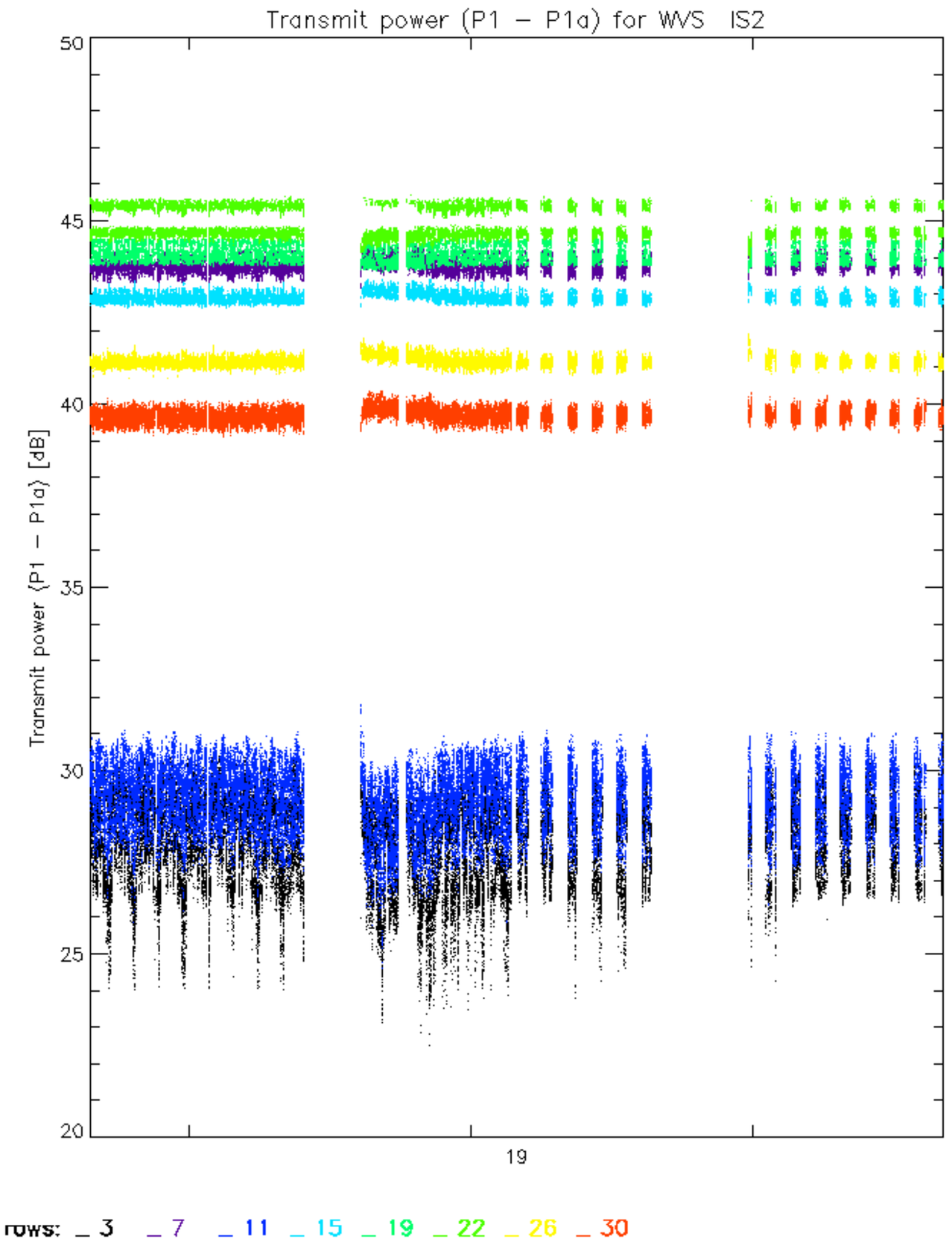
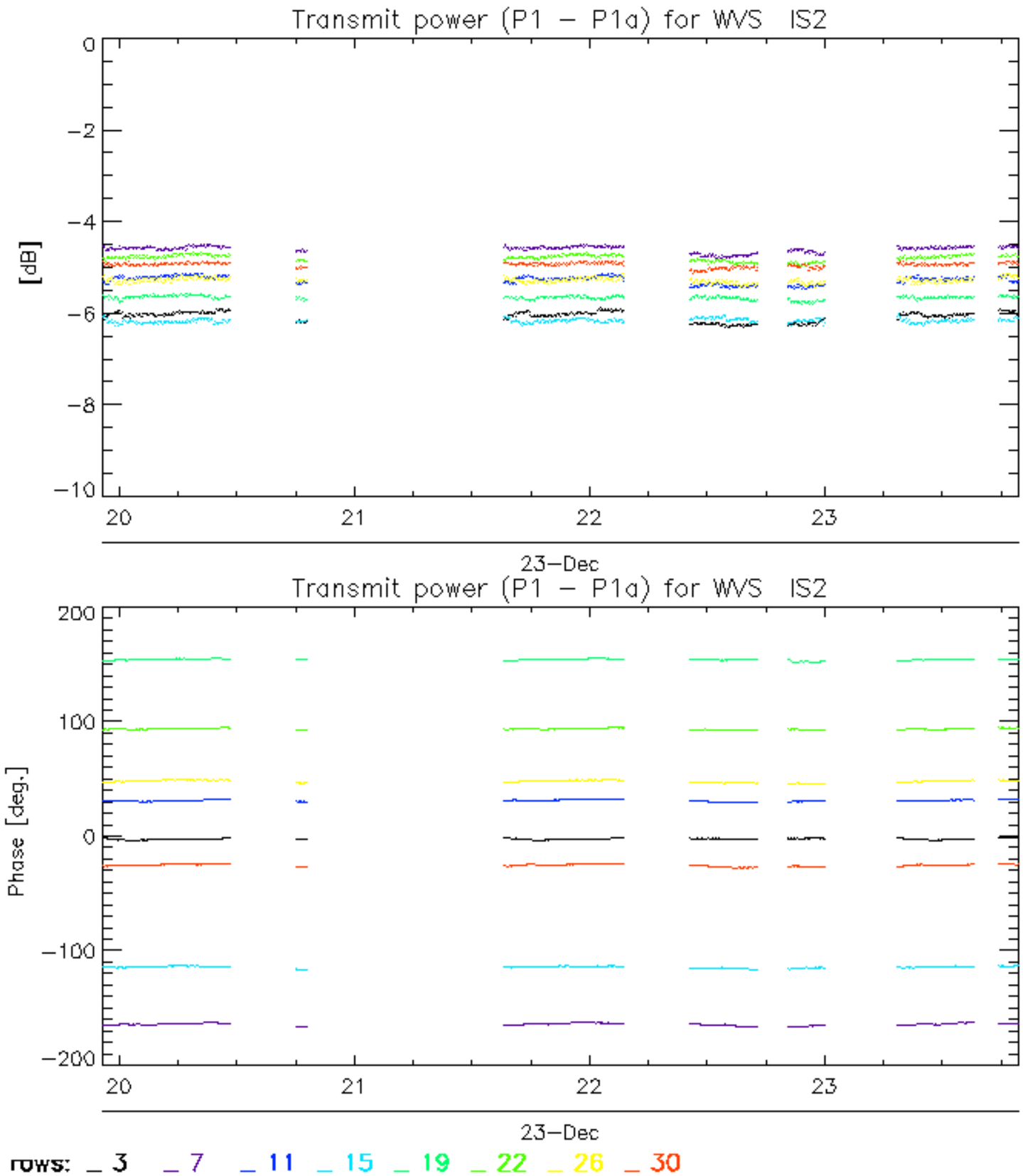

Transmit power (P1 – P1a) for GM1 SS3
50
40
30
20
10
Transmit power (P1 – P1a) [dB]
19
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
0
−2
−4
−6
−8
−10
[dB]
06
23–Dec
Transmit power (P1 – P1a) for GM1 SS3
200
100
0
−100
−200
Phase [deg.]
06
23–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
19
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
0
−2
−4
−6
−8
−10
[dB]
20
21
22
23
23–Dec
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
20
21
22
23
23–Dec
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.