PRELIMINARY REPORT OF 061222

last update on Fri Dec 22 16:23:19 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 2006-12-21 00:00:00 to 2006-12-22 16:23:19

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

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_XCA_AXVIEC20061220_155633_20050916_195733_20071231_000000	15	22	23	3	20
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	21	29	34	10	31
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	36	51	57	13	51
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	36	51	57	13	51
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	36	51	57	13	51

2.3 - Browse Visual Inspection

No anomalies observed on available browse products

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	-3.965966	0.007995	0.006740
7	P1	-3.148961	0.024715	0.035707
11	P1	-4.122532	0.026628	0.020034
15	P1	-6.323860	0.015956	-0.041014
19	P1	-3.645950	0.005951	-0.058400
22	P1	-4.655178	0.013960	-0.013717
26	P1	-3.957040	0.009438	-0.021587
30	P1	-5.890257	0.009363	-0.026887
3	P1	-16.550333	0.252256	-0.041448
7	P1	-17.292534	0.188510	0.014452
11	P1	-17.187916	0.476658	0.046143
15	P1	-13.066627	0.137749	0.050051
19	P1	-14.979733	0.093973	-0.092657
22	P1	-15.815270	0.554420	0.008330
26	P1	-15.073520	0.184498	-0.057500
30	P1	-17.510201	0.477525	-0.034466

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.812223	0.095680	0.060960
7	P2	-21.730207	0.096169	0.043377
11	P2	-15.602563	0.105679	0.127791
15	P2	-7.120094	0.110336	0.033300
19	P2	-9.193061	0.107627	-0.005412
22	P2	-18.237537	0.100126	0.028064
26	P2	-16.583712	0.115009	-0.053993
30	P2	-19.465933	0.090818	0.033149

P3 Cyclic statistics

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

3	P3	-8.245552	0.008952	0.024690
7	P3	-8.245552	0.008952	0.024690
11	P3	-8.245552	0.008952	0.024690
15	P3	-8.245552	0.008952	0.024690
19	P3	-8.245552	0.008952	0.024690
22	P3	-8.245552	0.008952	0.024690
26	P3	-8.245557	0.008953	0.024661
30	P3	-8.245557	0.008953	0.024661

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	-3.917608	0.012776	-0.026172
7	P1	-2.480757	0.014378	0.017491
11	P1	-2.851930	0.017557	-0.027262
15	P1	-3.687447	0.031638	-0.037340
19	P1	-3.542821	0.017584	-0.028695
22	P1	-5.026810	0.023337	-0.023409
26	P1	-6.026532	0.027204	-0.026034
30	P1	-5.344677	0.038267	-0.001800
3	P1	-11.744689	0.081387	-0.020833
7	P1	-10.059718	0.091428	-0.067272
11	P1	-10.331751	0.132322	-0.110072
15	P1	-10.709514	0.115359	-0.066787
19	P1	-15.727732	0.118832	-0.003032
22	P1	-21.597099	1.432572	0.190003
26	P1	-16.077181	0.334147	0.127442
30	P1	-17.874298	0.367704	-0.122235

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.471006	0.123461	0.016447
7	P2	-22.236574	0.249729	0.079443
11	P2	-10.905245	0.145292	0.154593
15	P2	-4.990958	0.269393	0.022021
19	P2	-6.967759	0.274971	-0.013494
22	P2	-8.256824	0.141766	0.002986
26	P2	-24.325317	0.188578	0.037160
30	P2	-21.949808	0.167464	-0.002747

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.093857	0.004710	0.024620
7	P3	-8.093868	0.004690	0.024741
11	P3	-8.093846	0.004702	0.024619
15	P3	-8.093654	0.004698	0.024979
19	P3	-8.093776	0.004709	0.024431
22	P3	-8.093727	0.004691	0.025058
26	P3	-8.093885	0.004711	0.024664
30	P3	-8.093752	0.004692	0.024445

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	0.000559159
	stdev	1.68975e-07
MEAN Q	mean	0.000510960
	stdev	2.16219e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138913
	stdev	0.00118363
STDEV Q	mean	0.139302
	stdev	0.00120337

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006122[012]
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_1PNPDE20061220_113811_000000852054_00023_25127_6009.N1	0	46
ASA_WSM_1PNPDE20061220_150157_000002852054_00025_25129_6077.N1	0	24
ASA_WSM_1PNPDE20061221_152555_000001832054_00040_25144_8164.N1	0	28

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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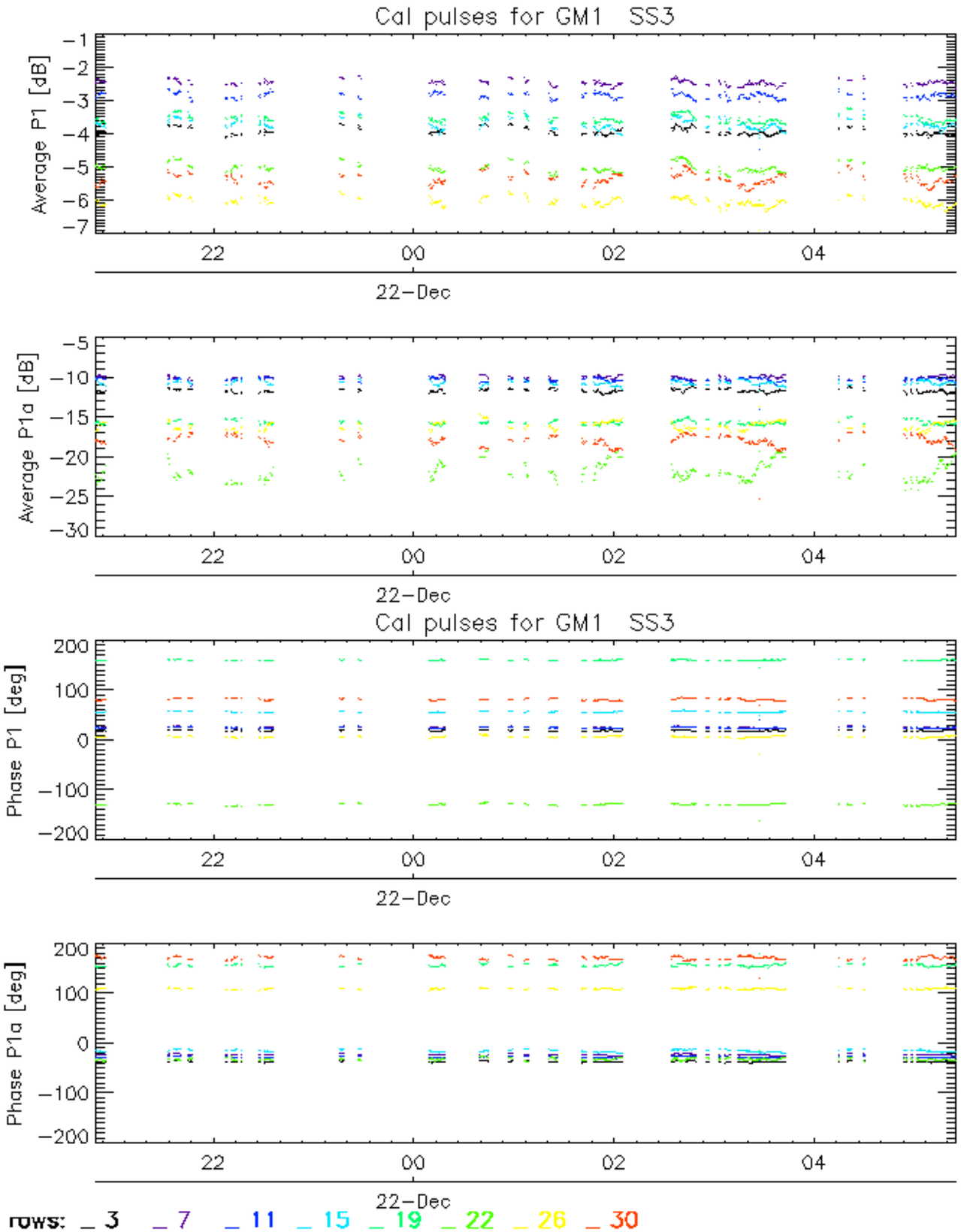
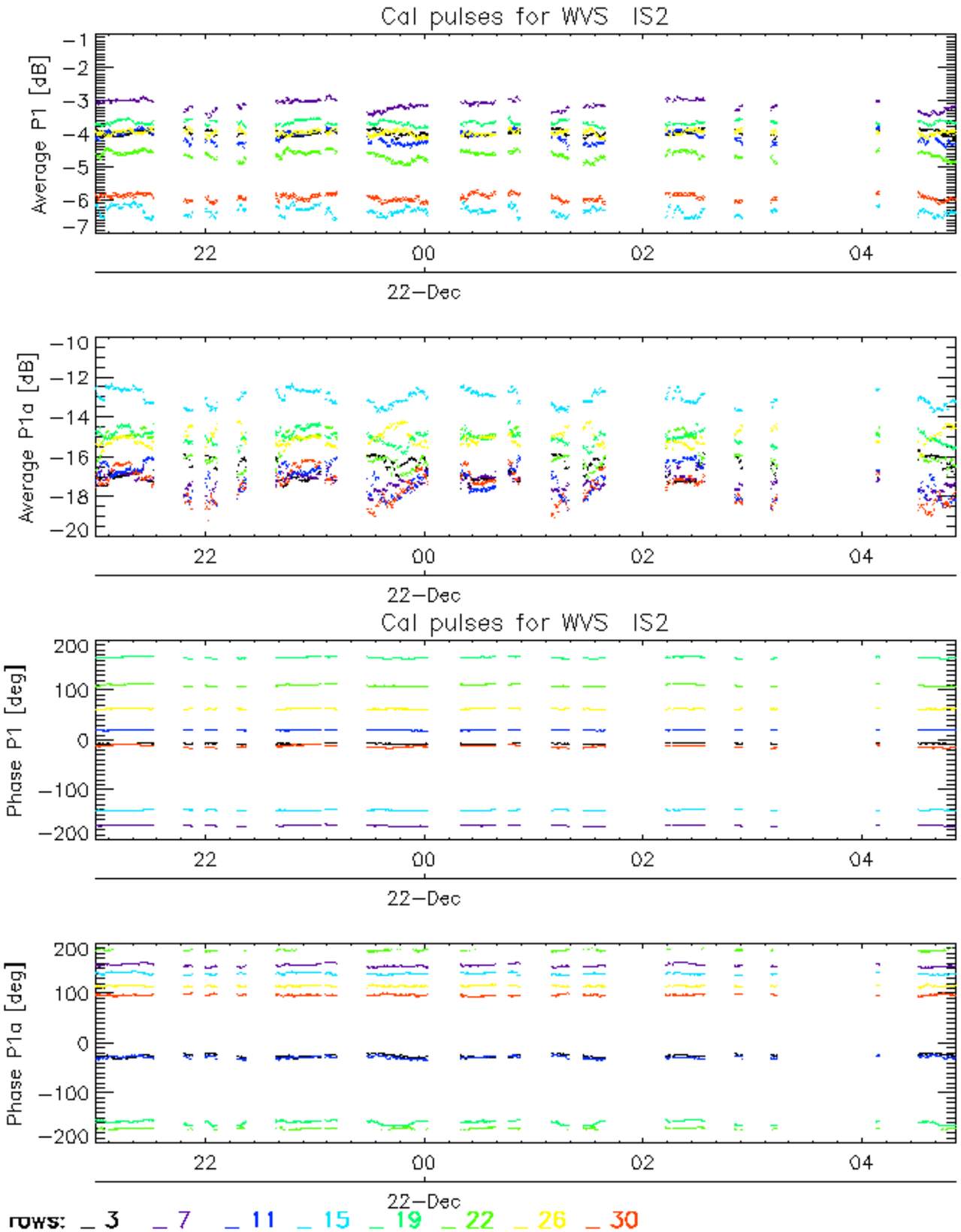
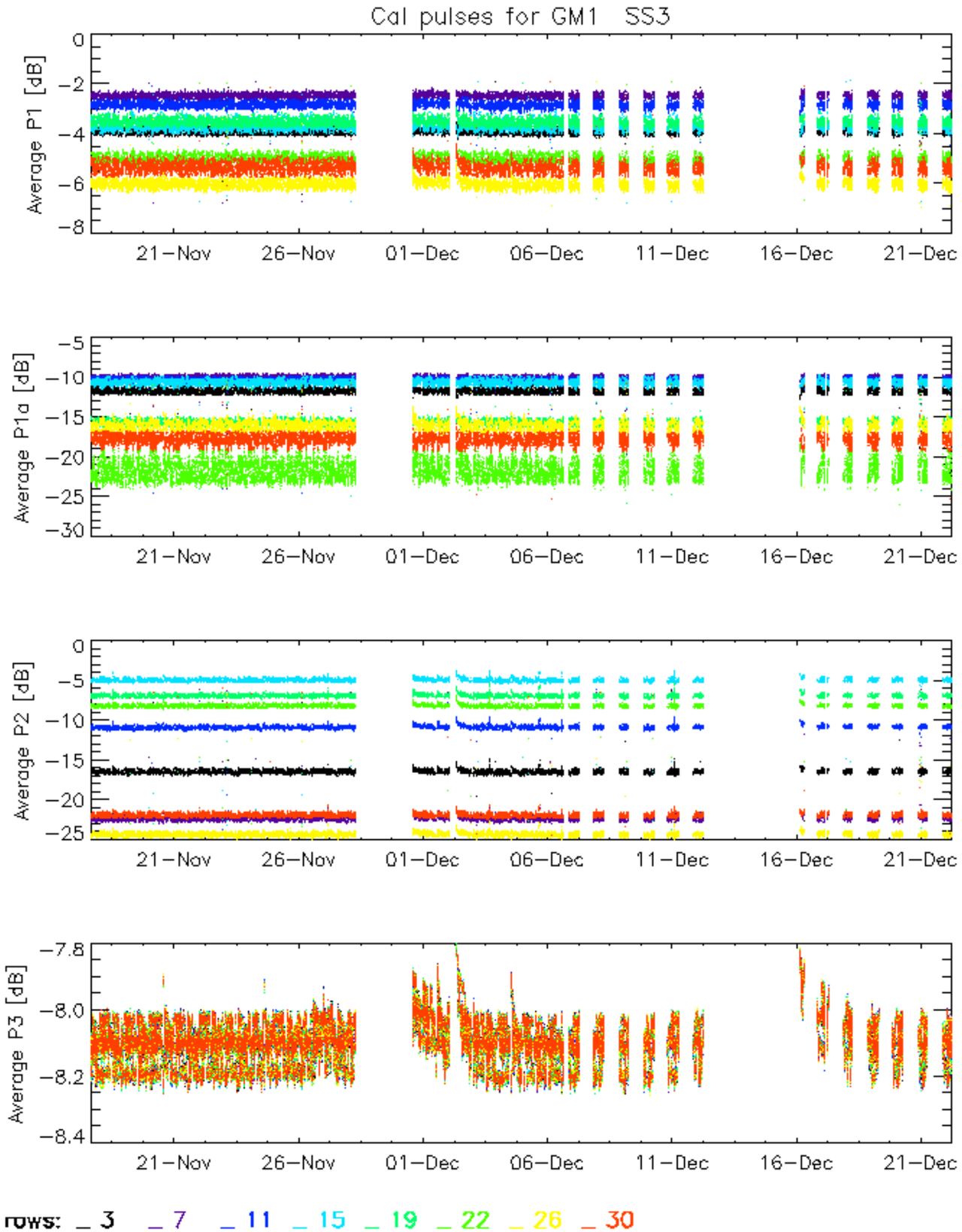
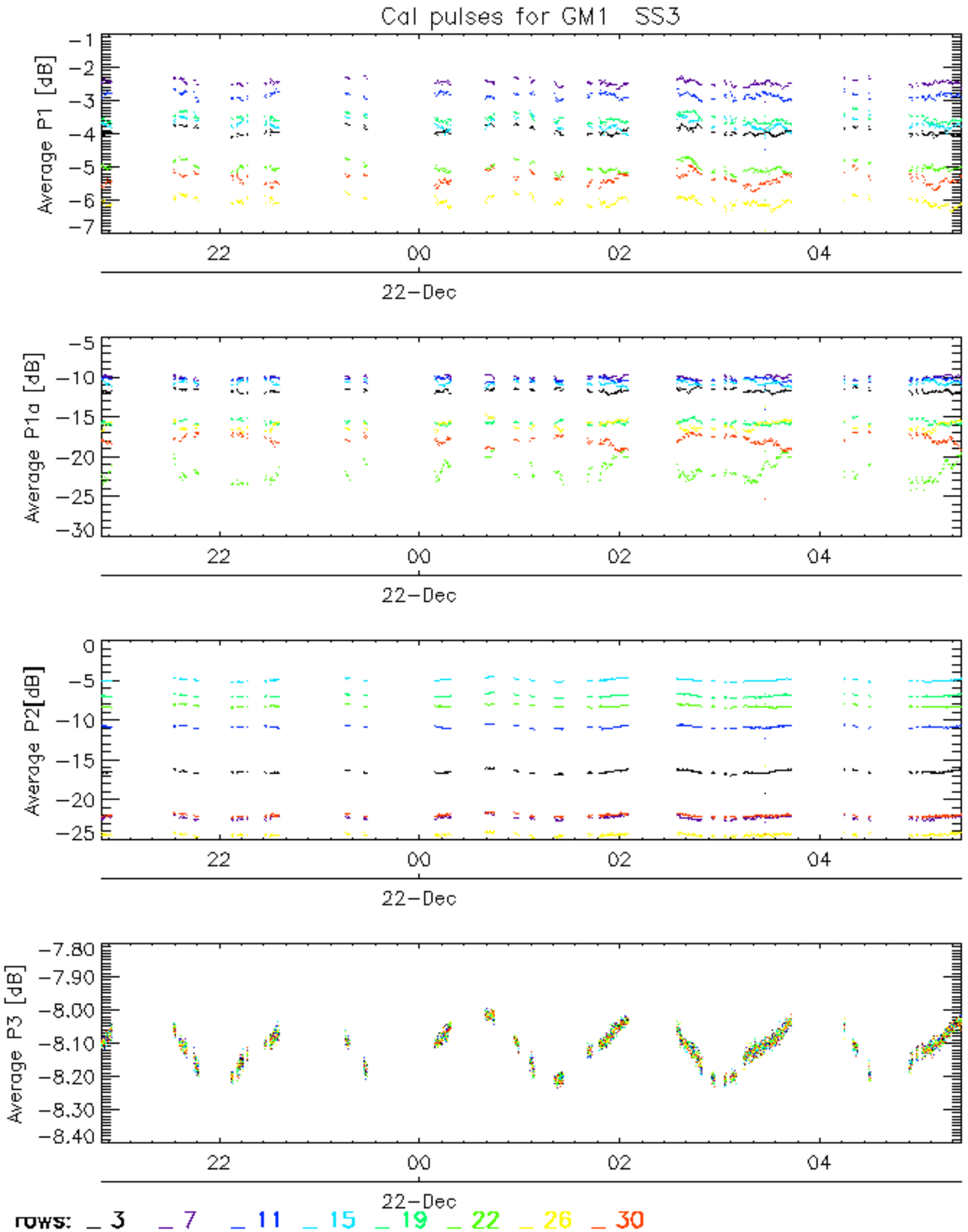
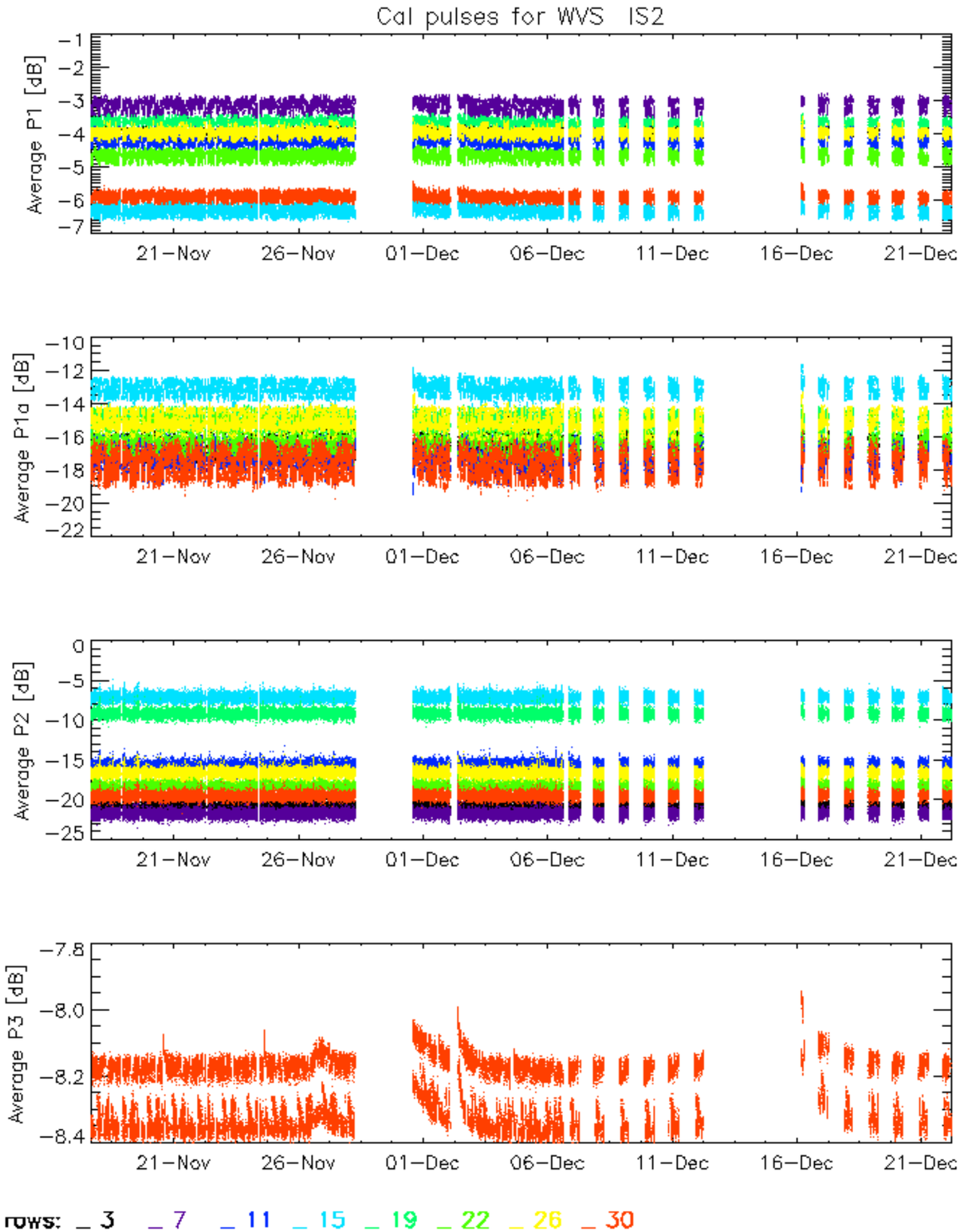
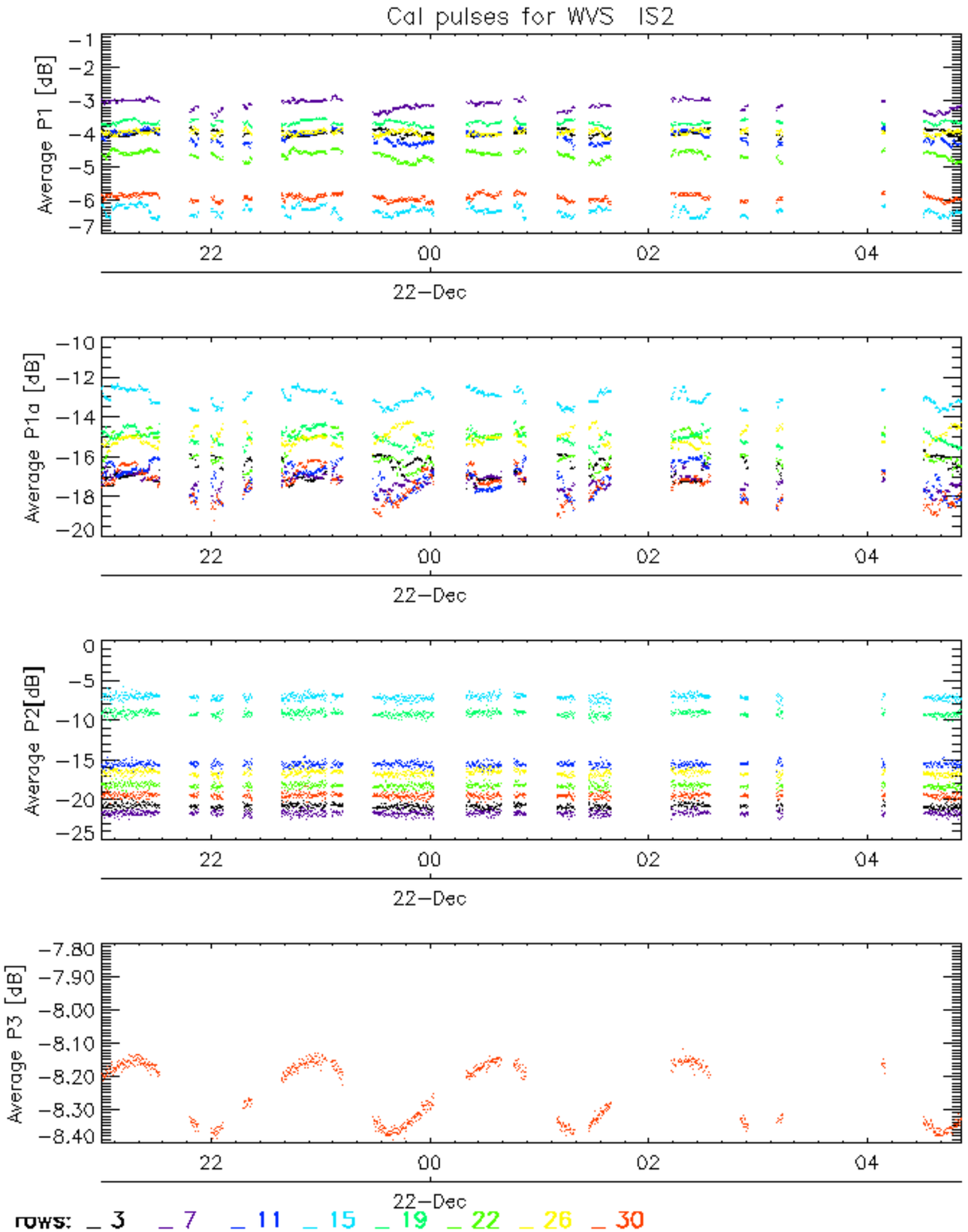

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
22
00
02
04
22−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
−30
22
00
02
04
22−Dec
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
22
00
02
04
22−Dec
Phase P1a [deg]
200
100
0
−100
−200
22
00
02
04
22−Dec
rows: 3 7 11 15 19 22 26 30


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

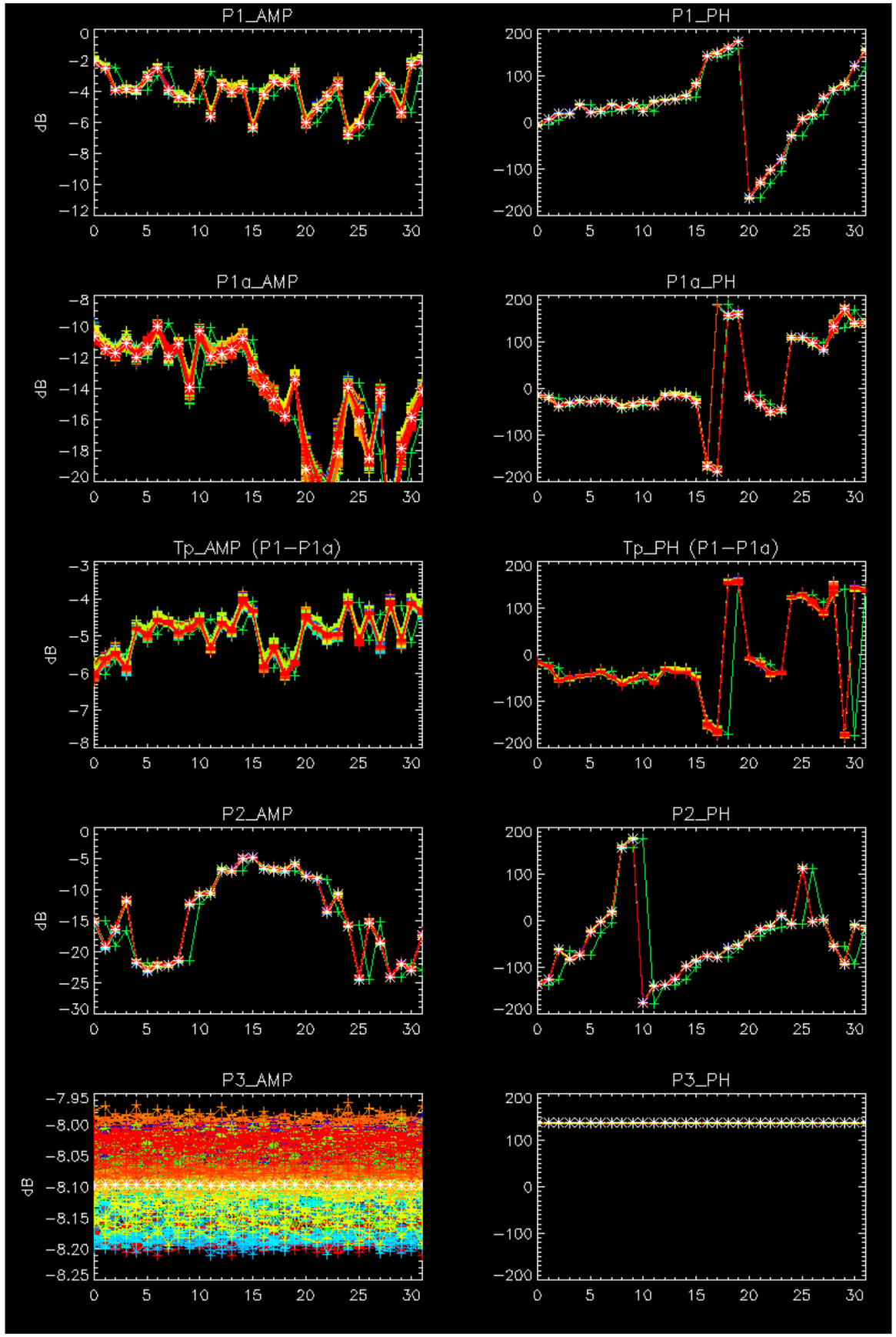

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
22
00
02
04
22−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
−30
22
00
02
04
22−Dec
Average P2[dB]
0
−5
−10
−15
−20
−25
22
00
02
04
22−Dec
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
22
00
02
04
22−Dec
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _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

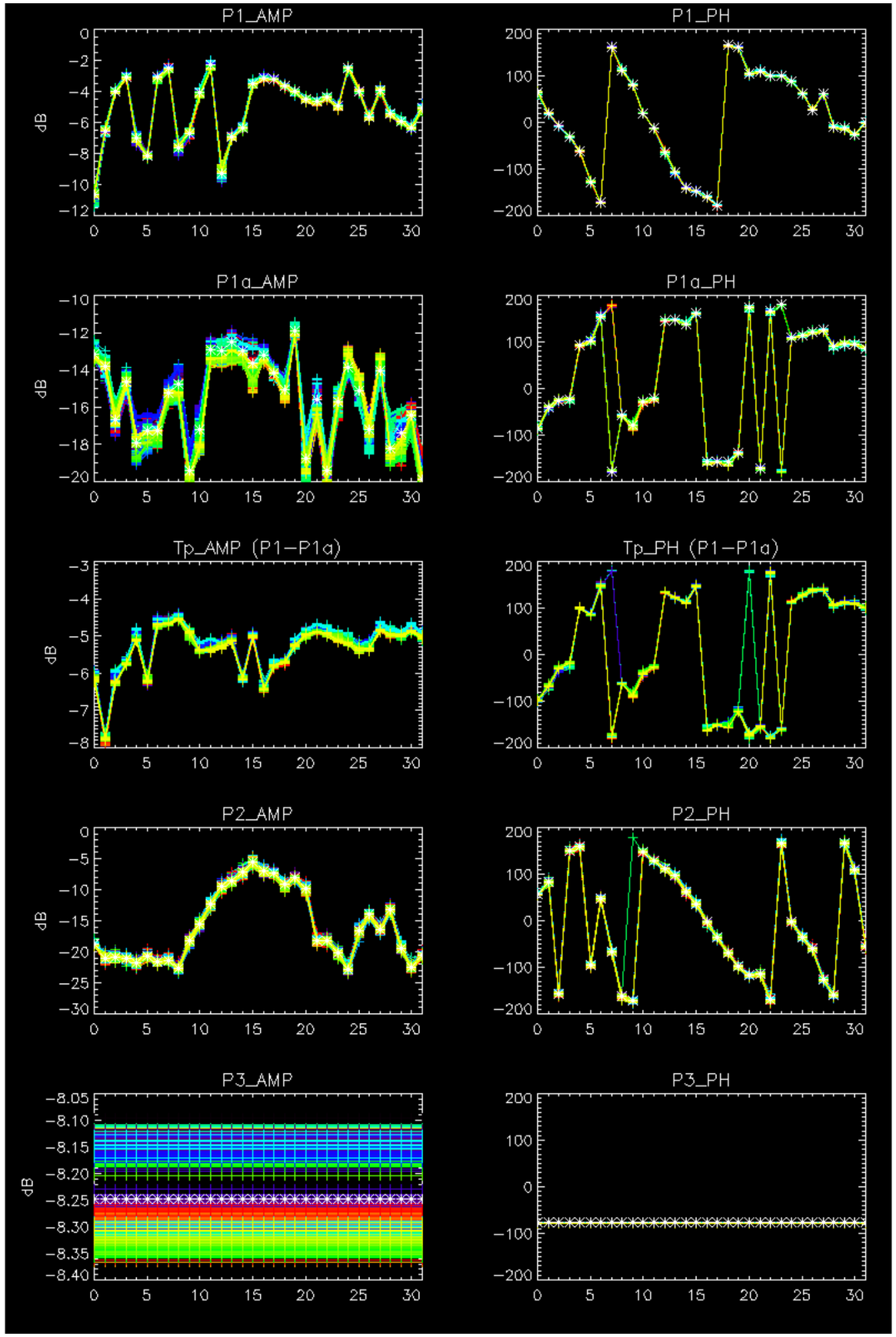

Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


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

No anomalies observed on available browse products

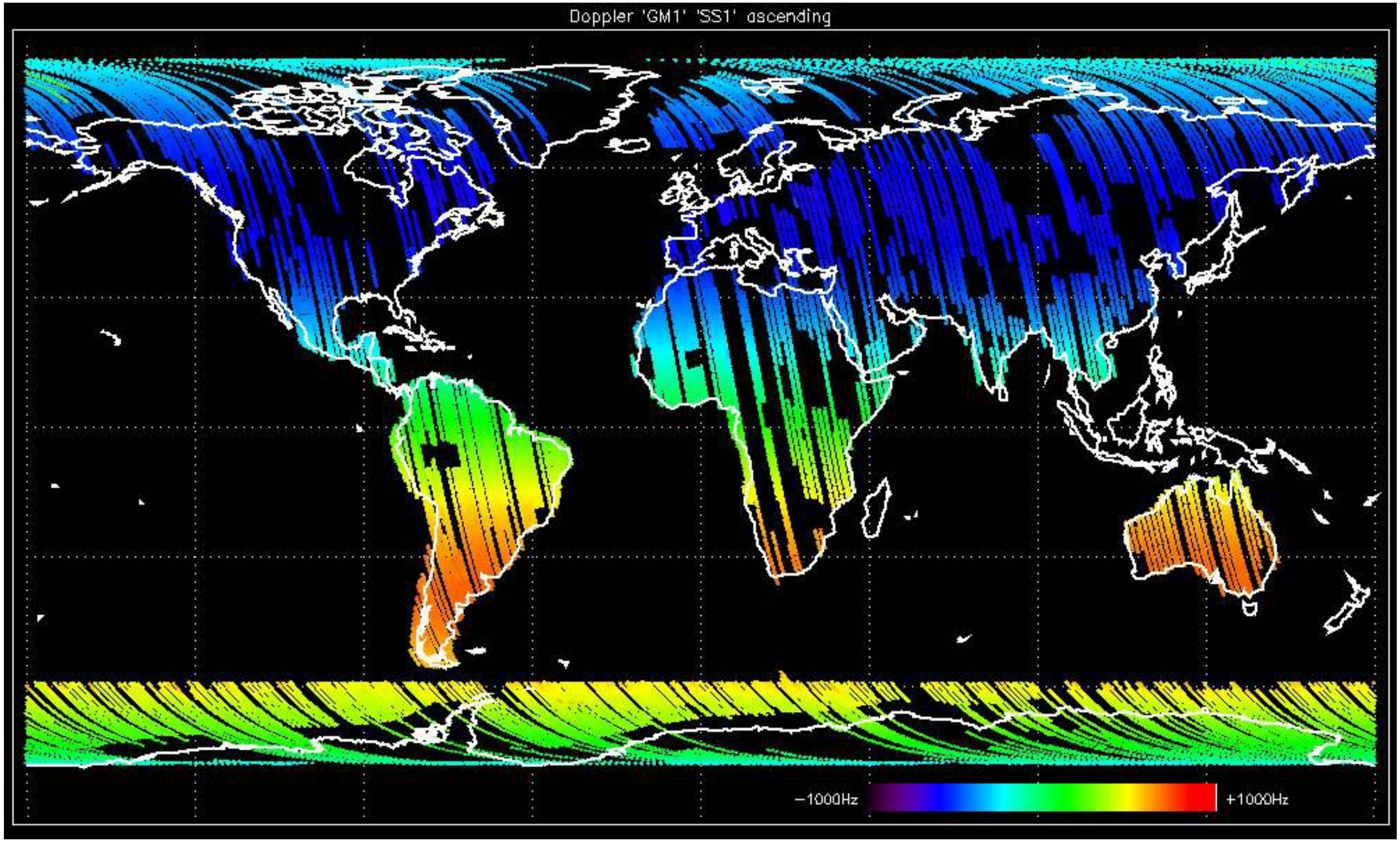
No anomalies observed.

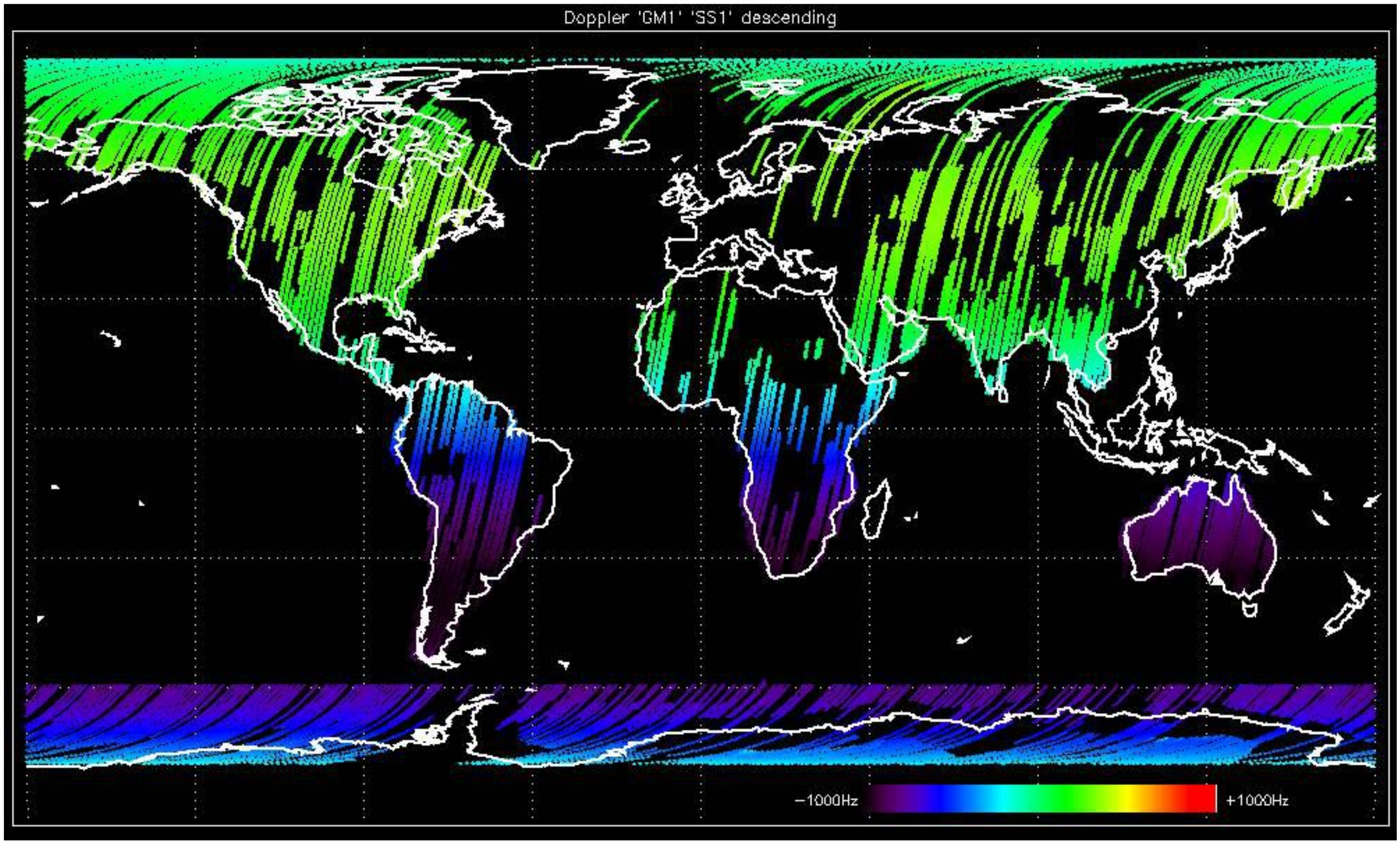

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

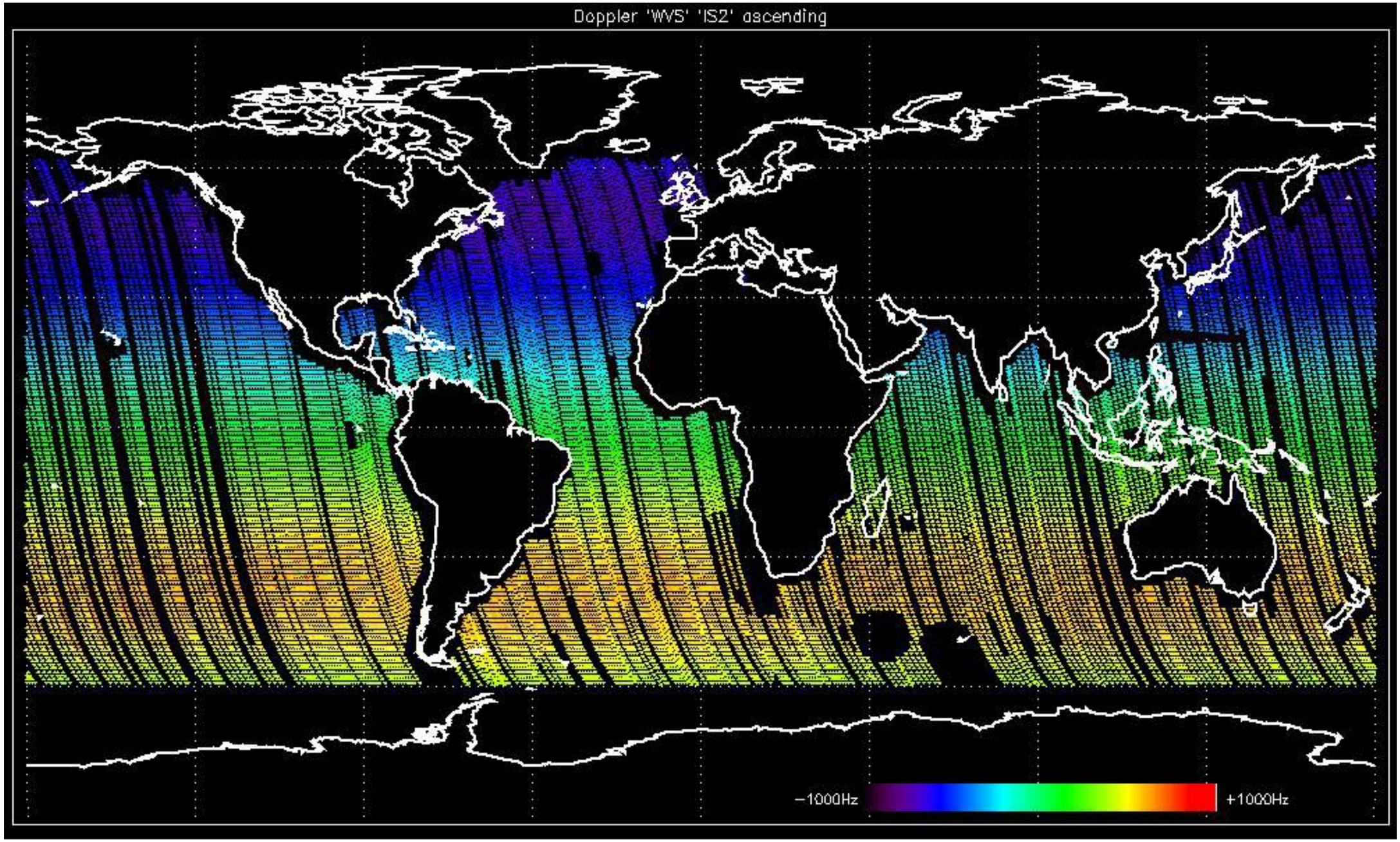

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

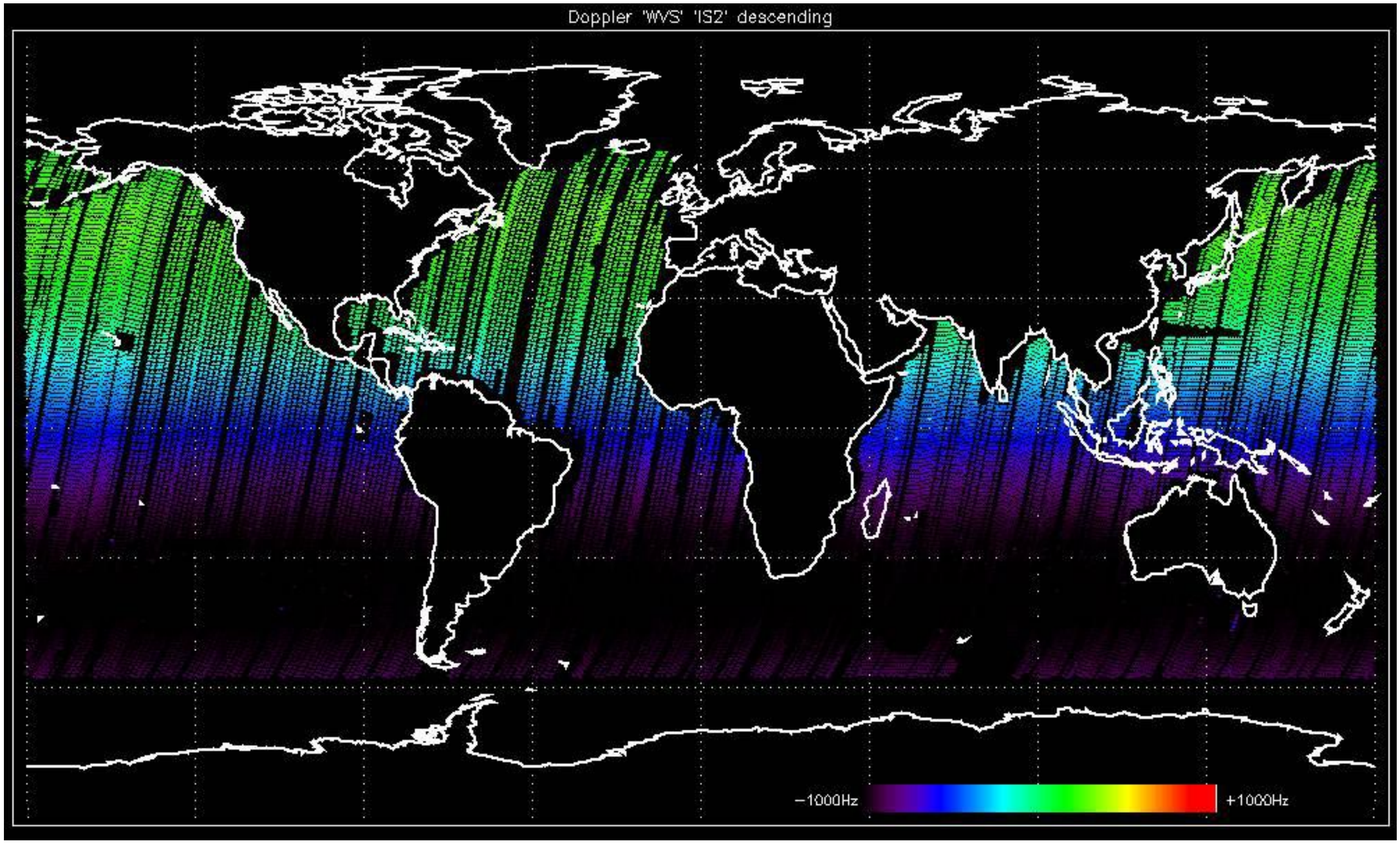
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

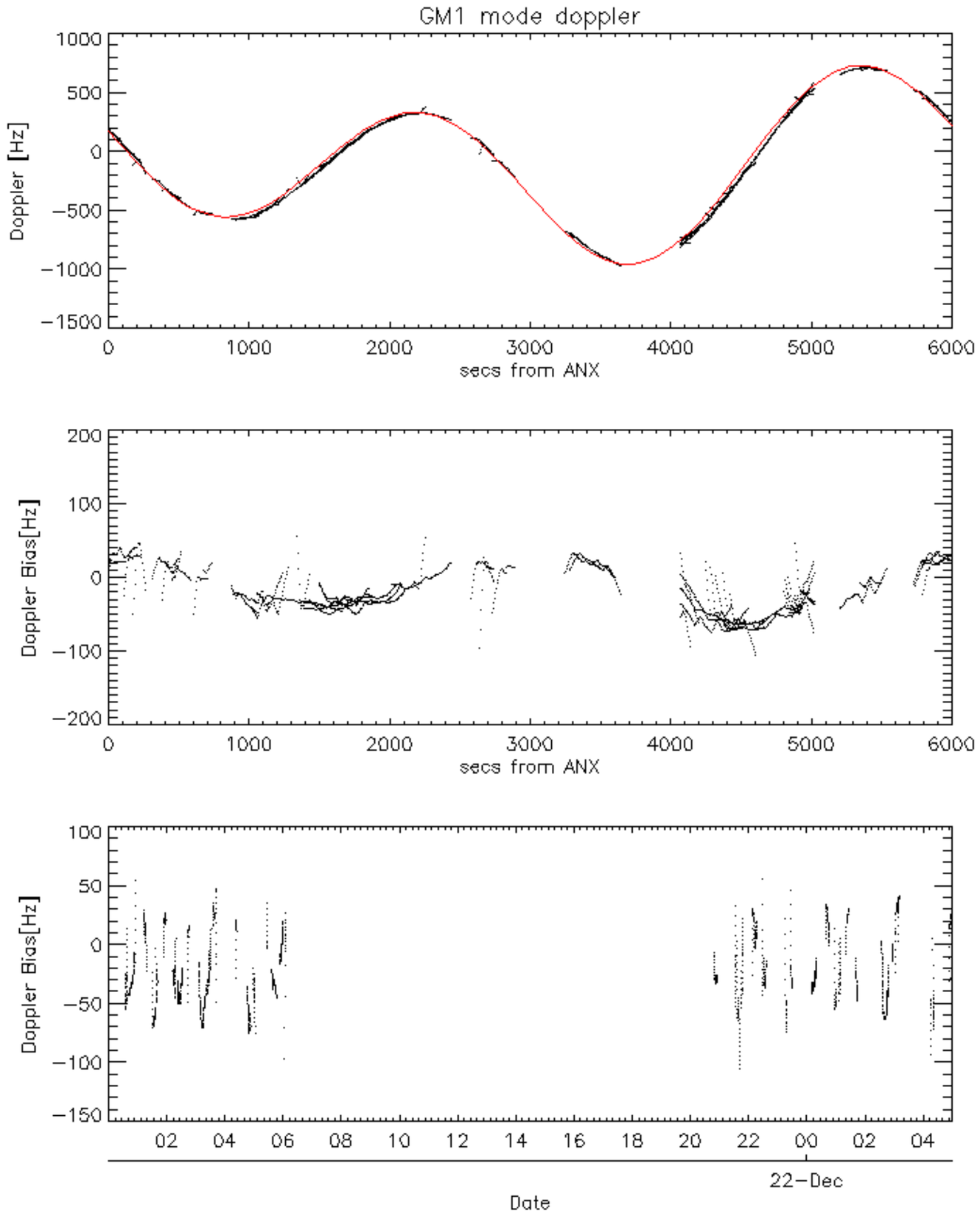
Preliminary report.The data is not yet controled

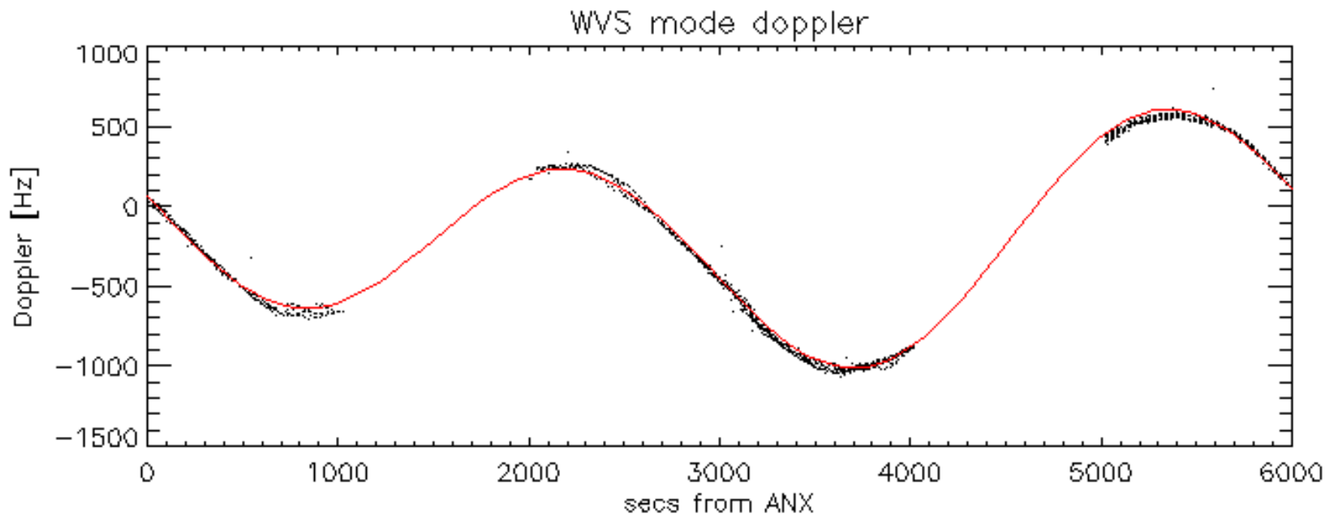

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

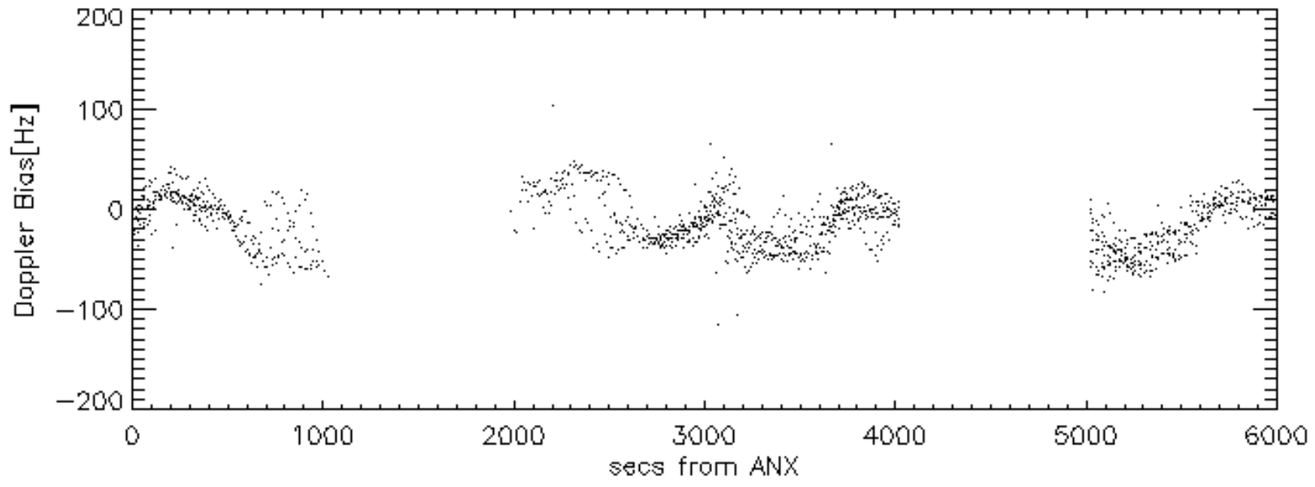

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

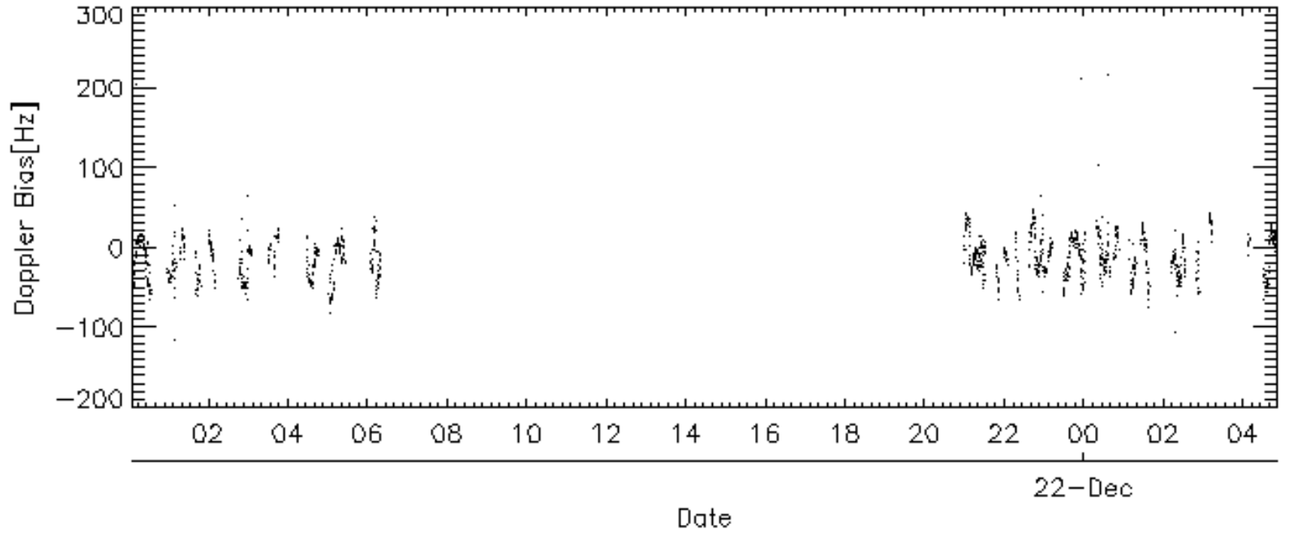

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

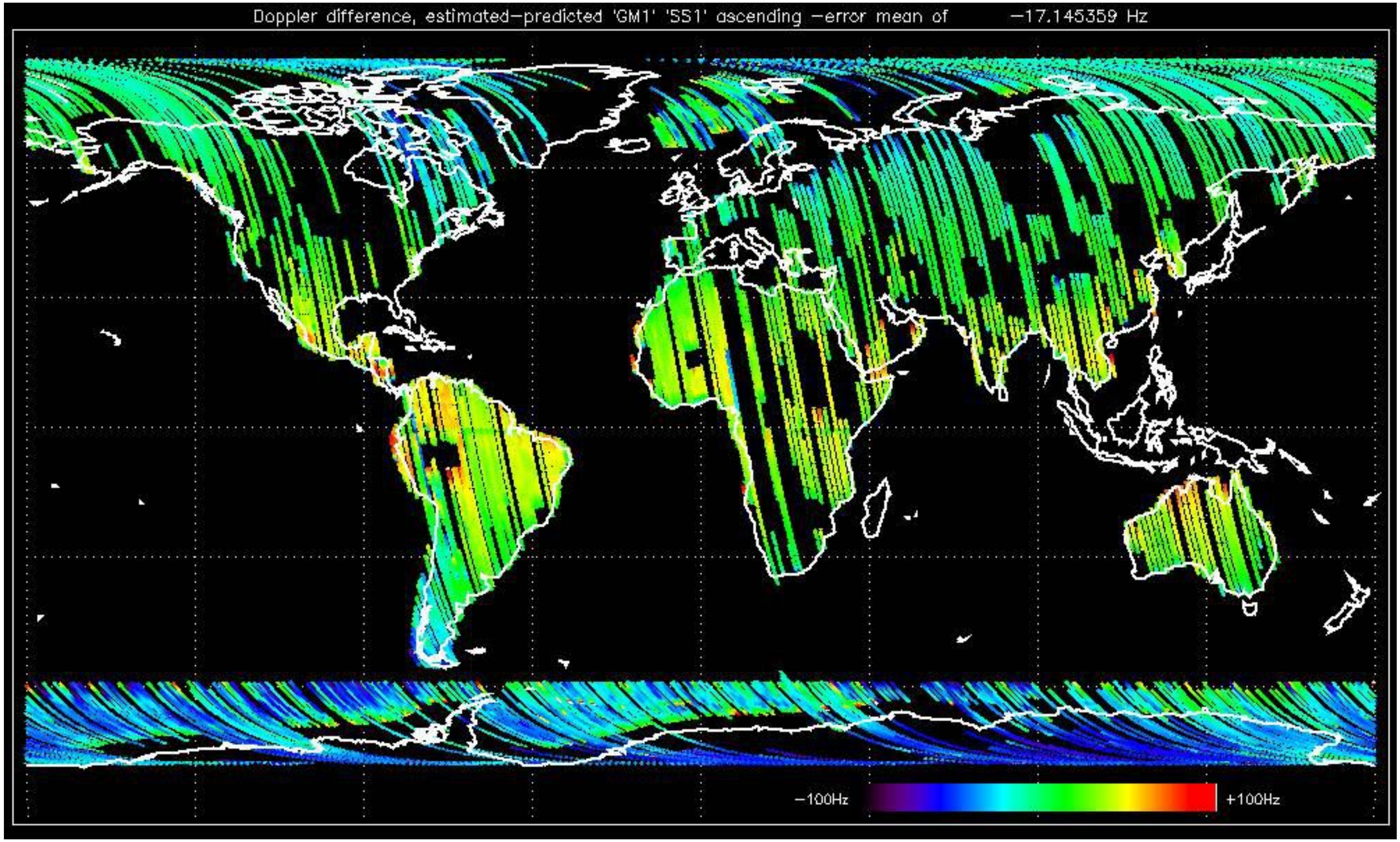

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

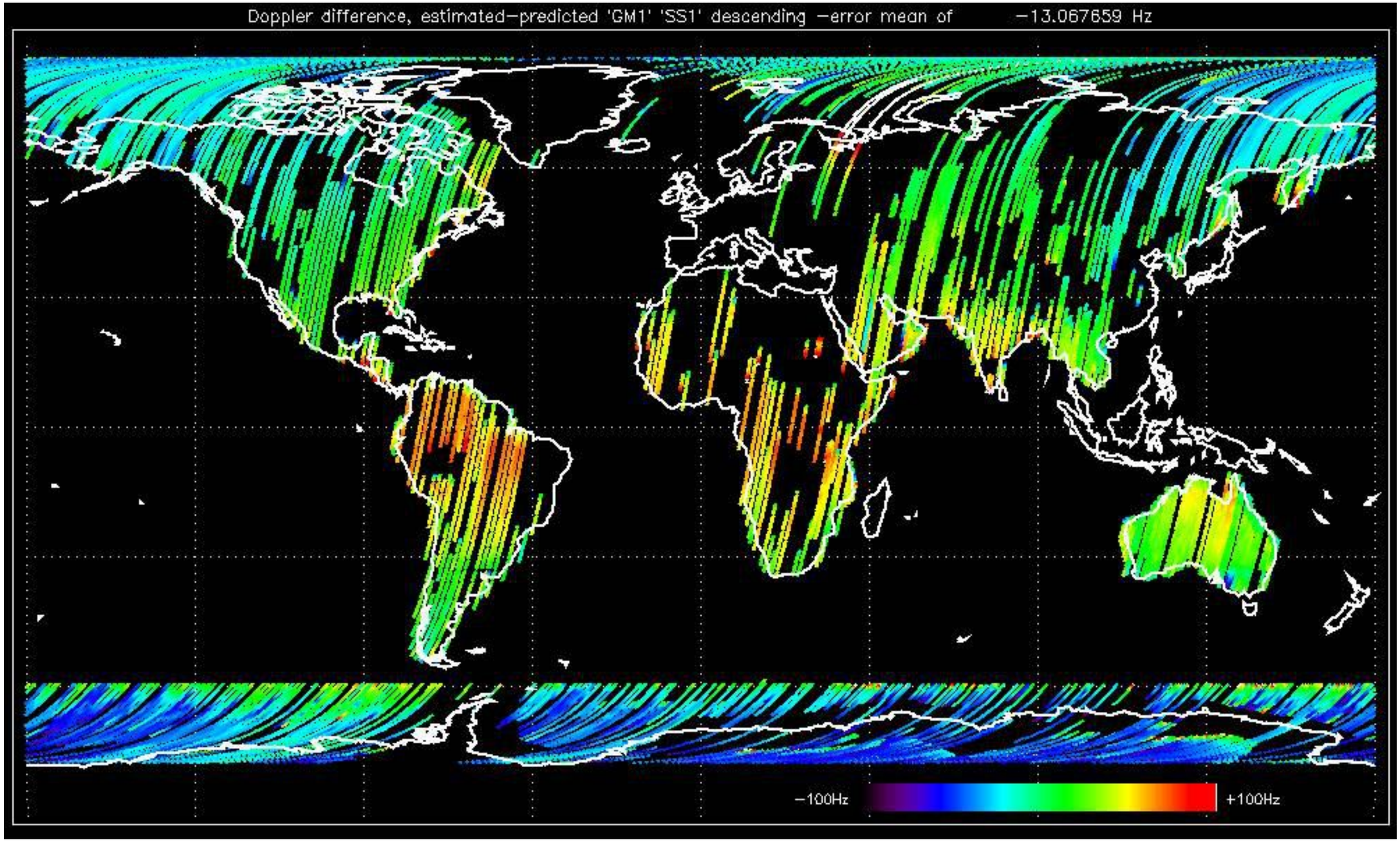

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
04
22−Dec
Date

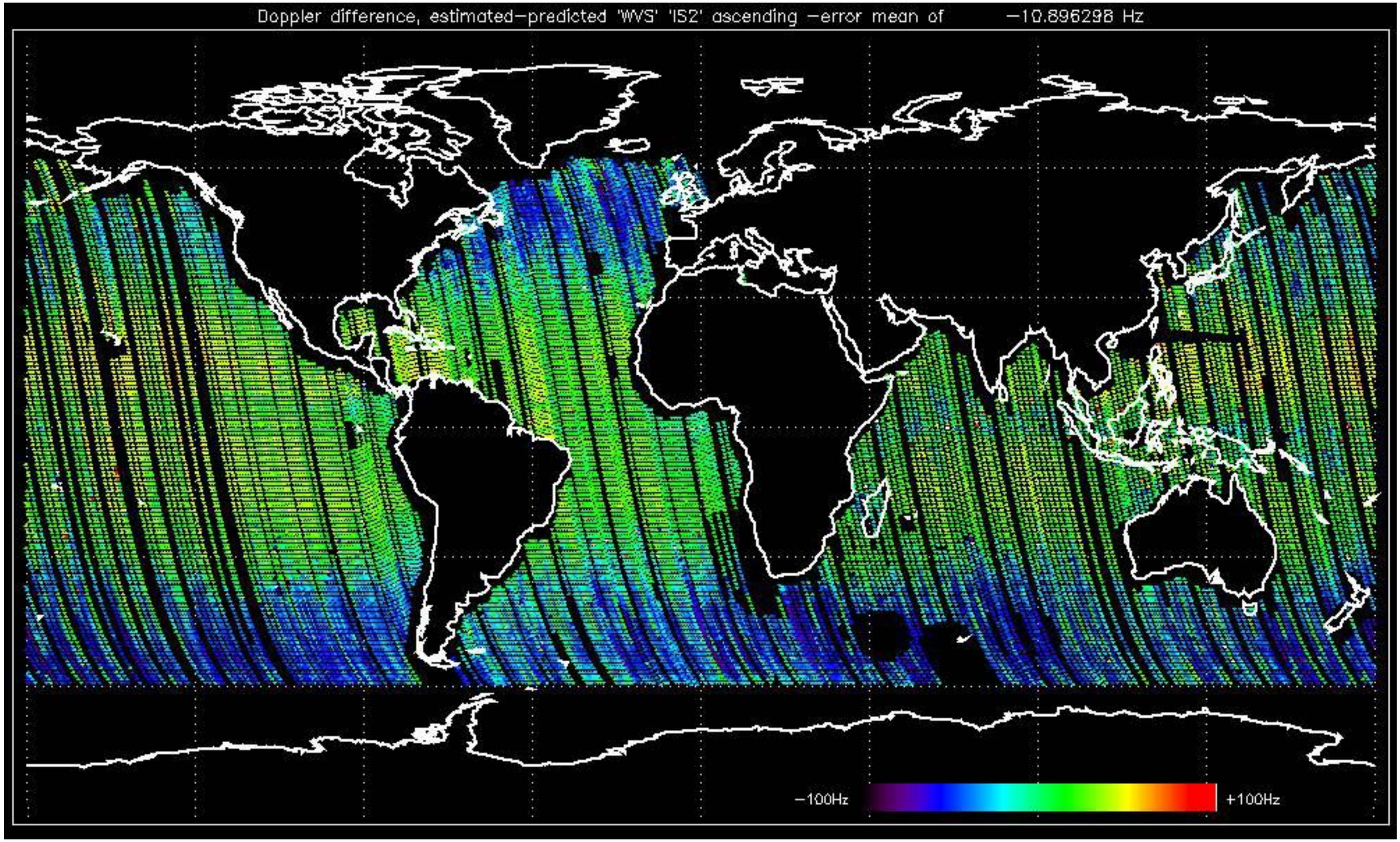

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

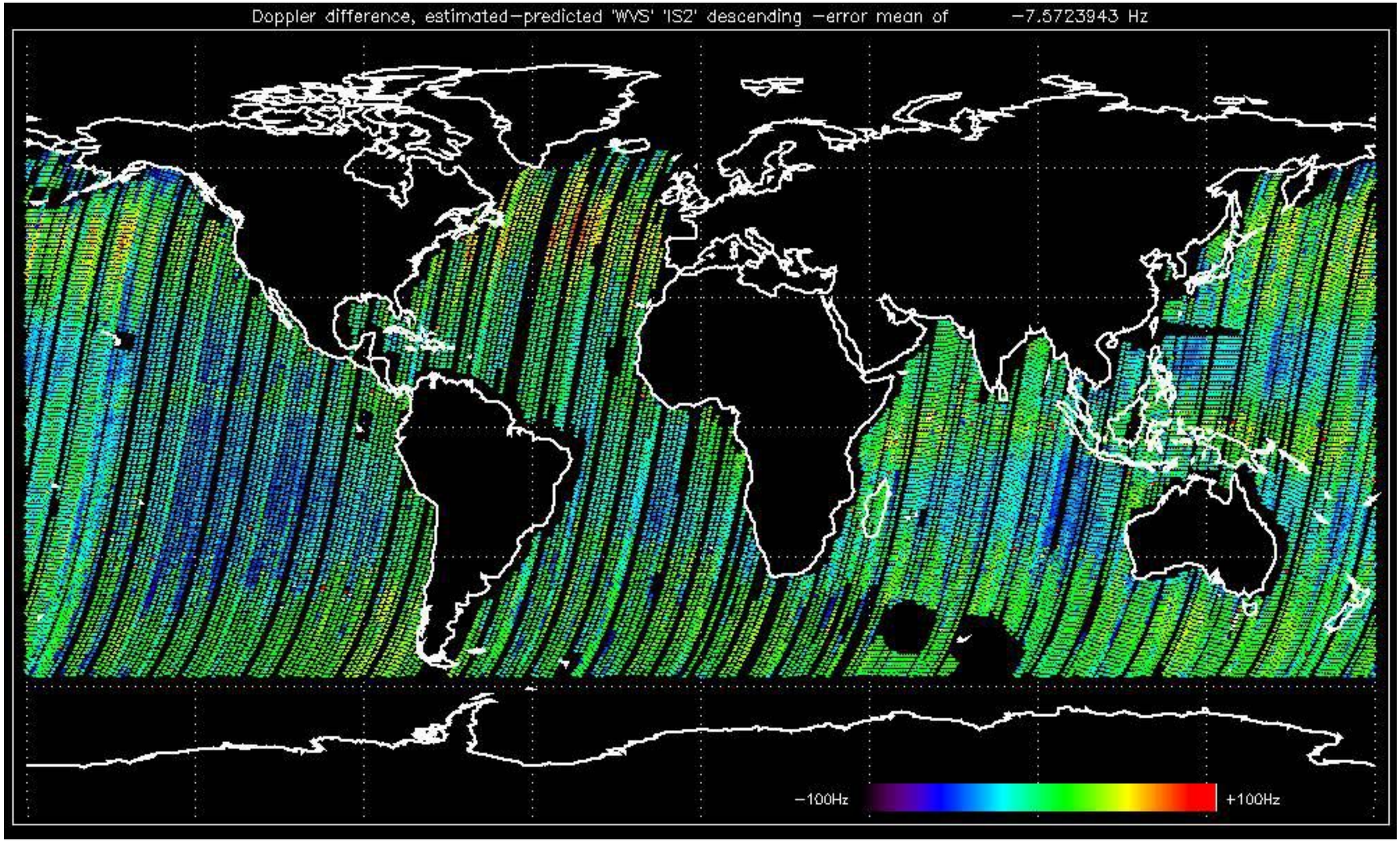

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −17.145359 Hz
−100Hz
+100Hz

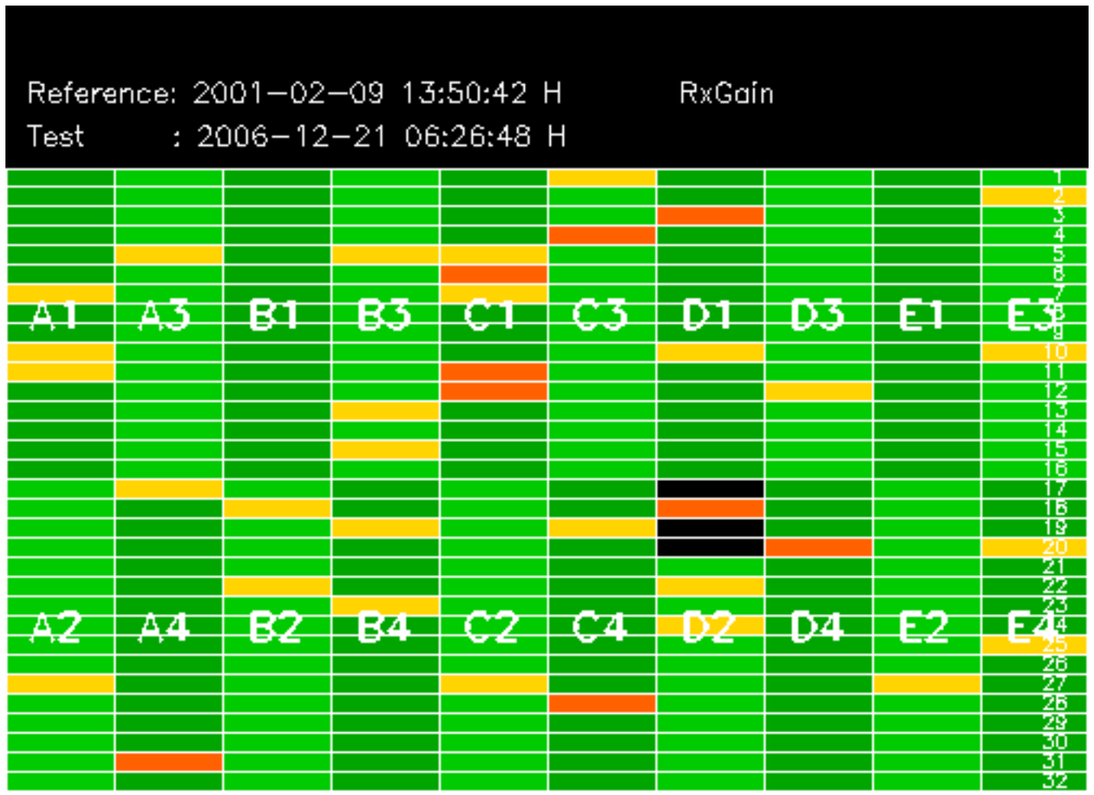

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −13.067659 Hz
−100Hz
+100Hz

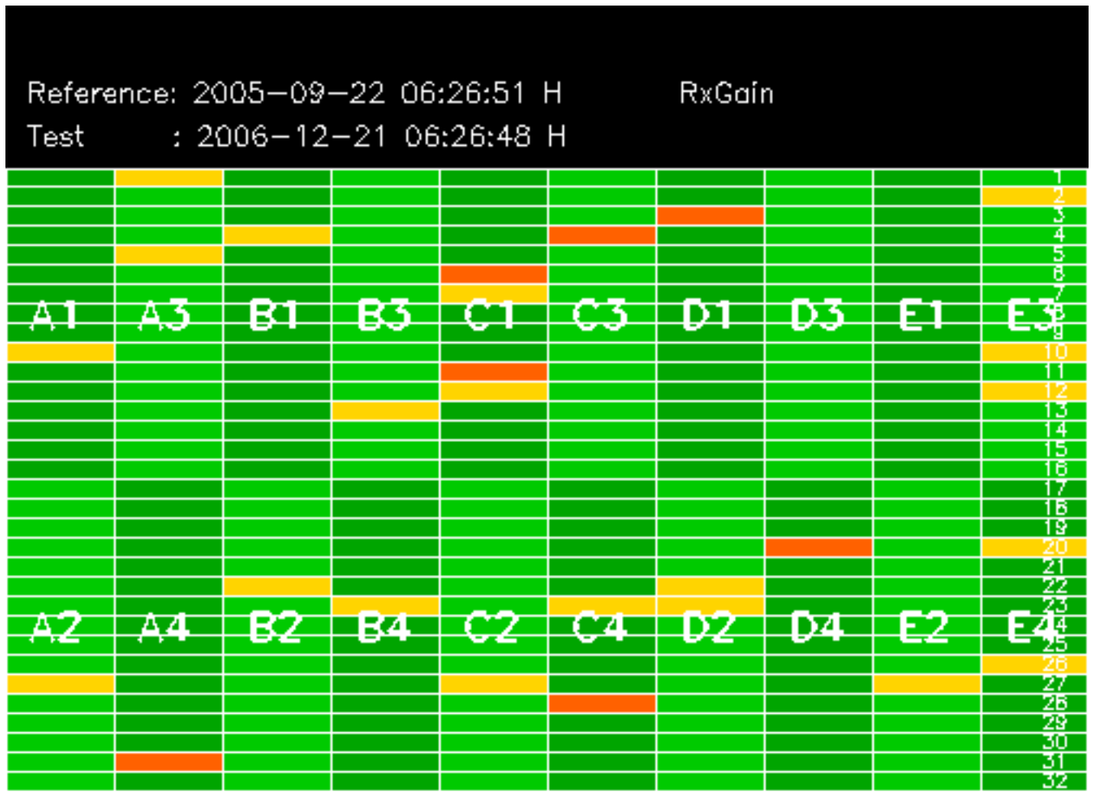

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −10.896298 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −7.5723943 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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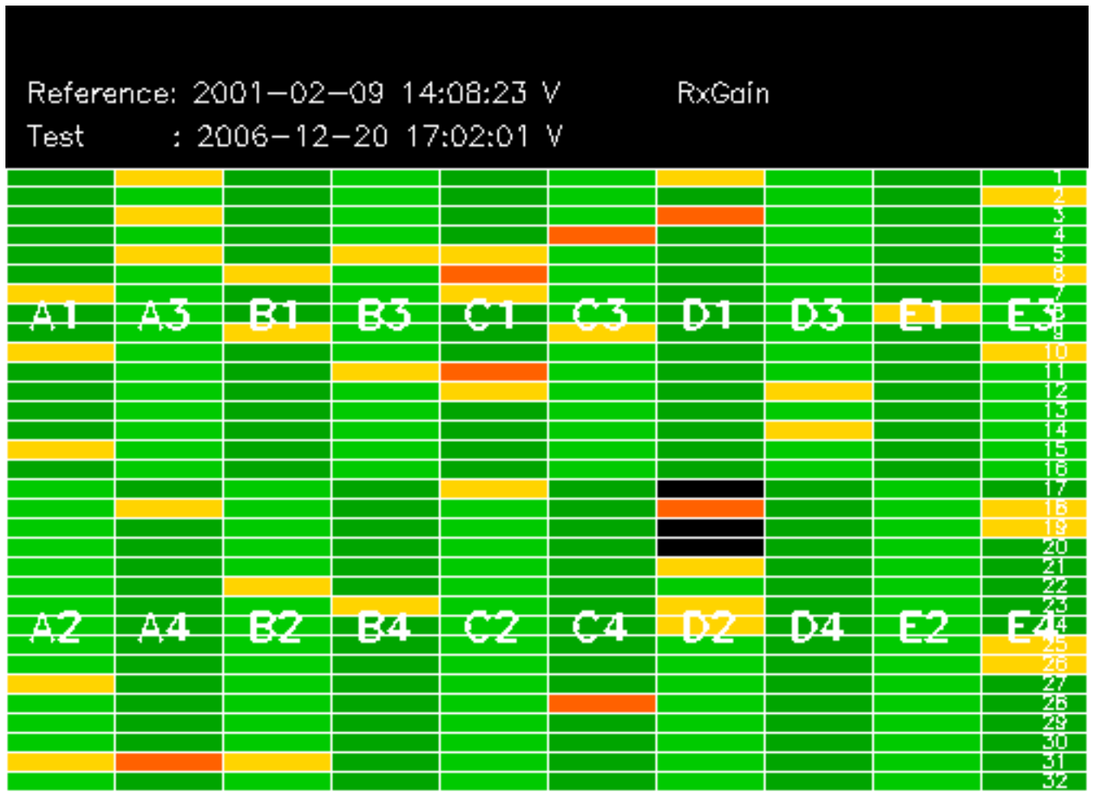
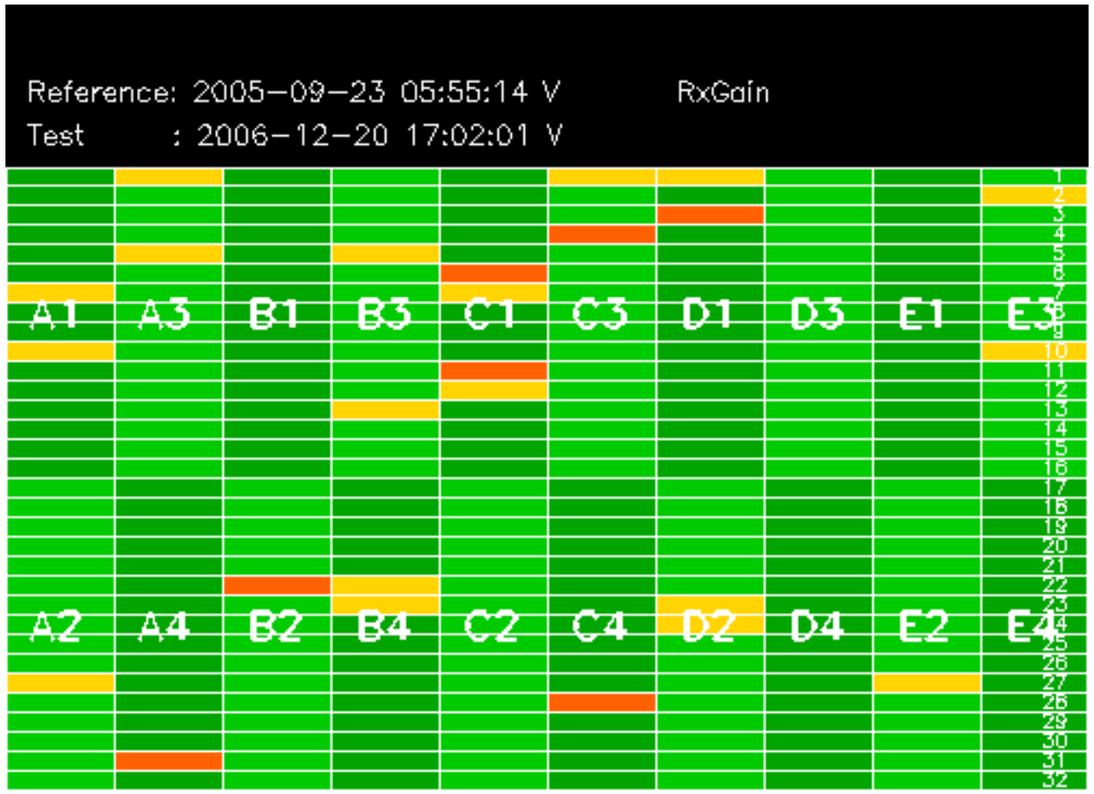

Reference: 2001-02-09 14:08:23 V
Test : 2006-12-20 17:02:01 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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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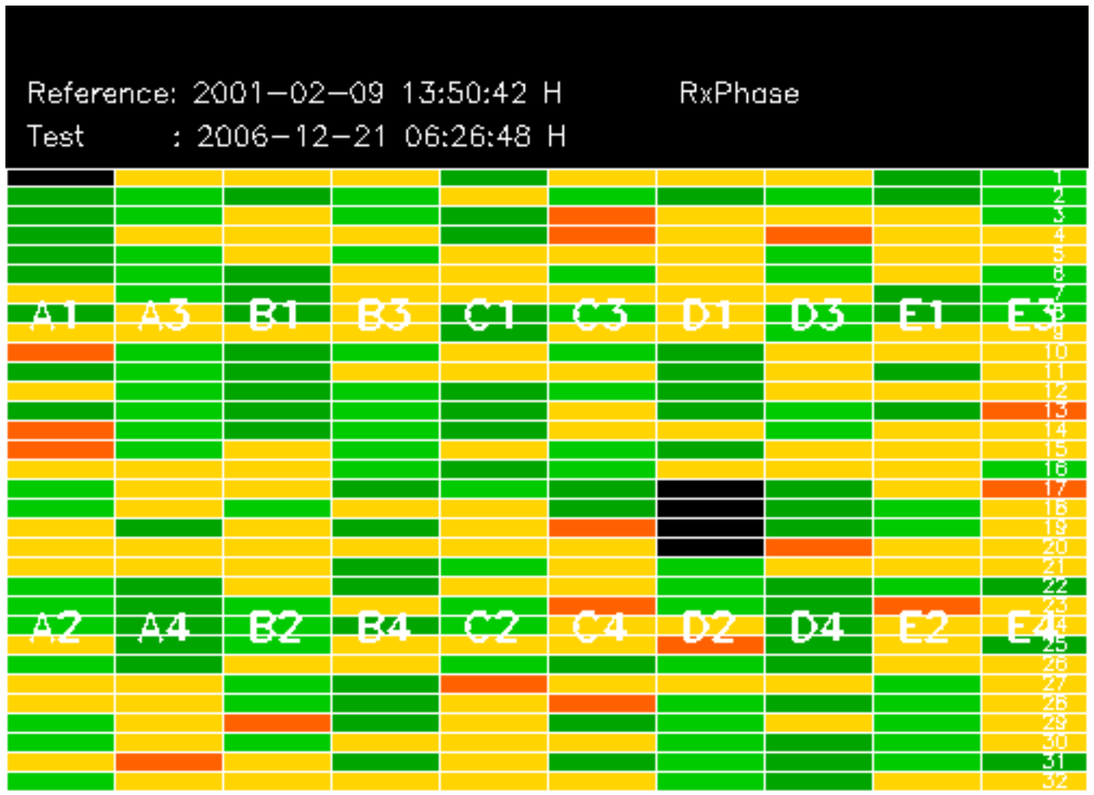
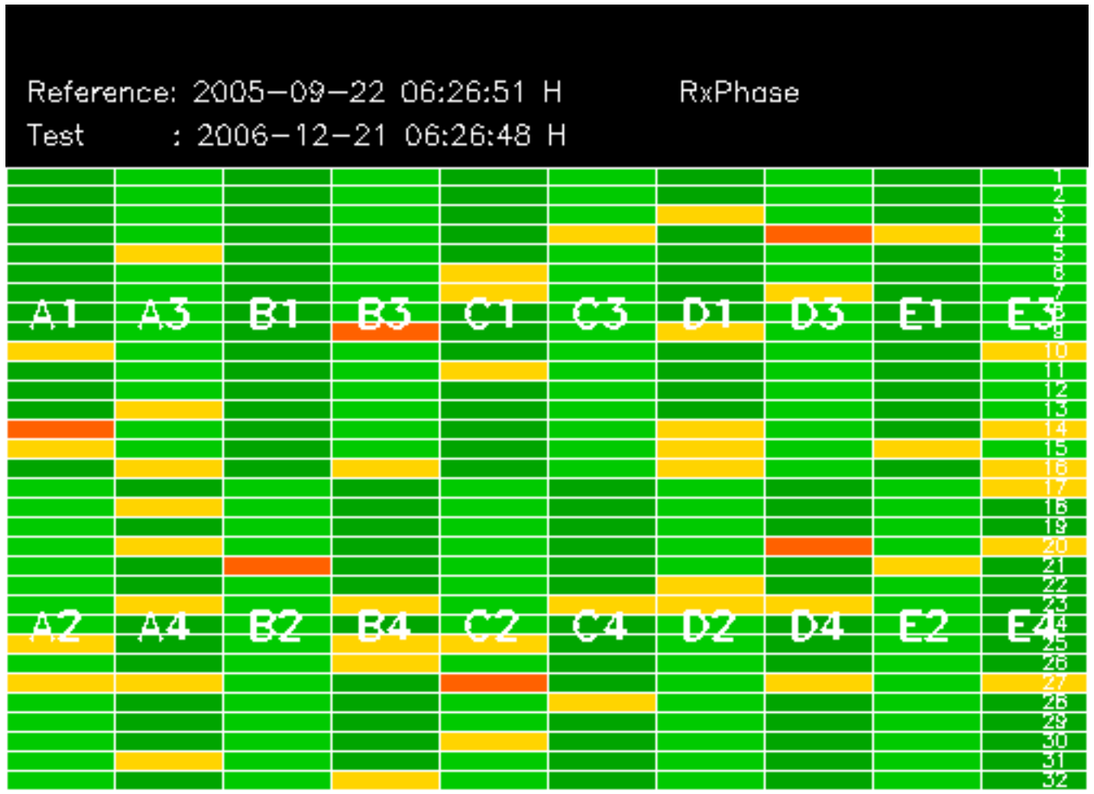

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-12-21 06:26:48 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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
1
2
3
4
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8
9
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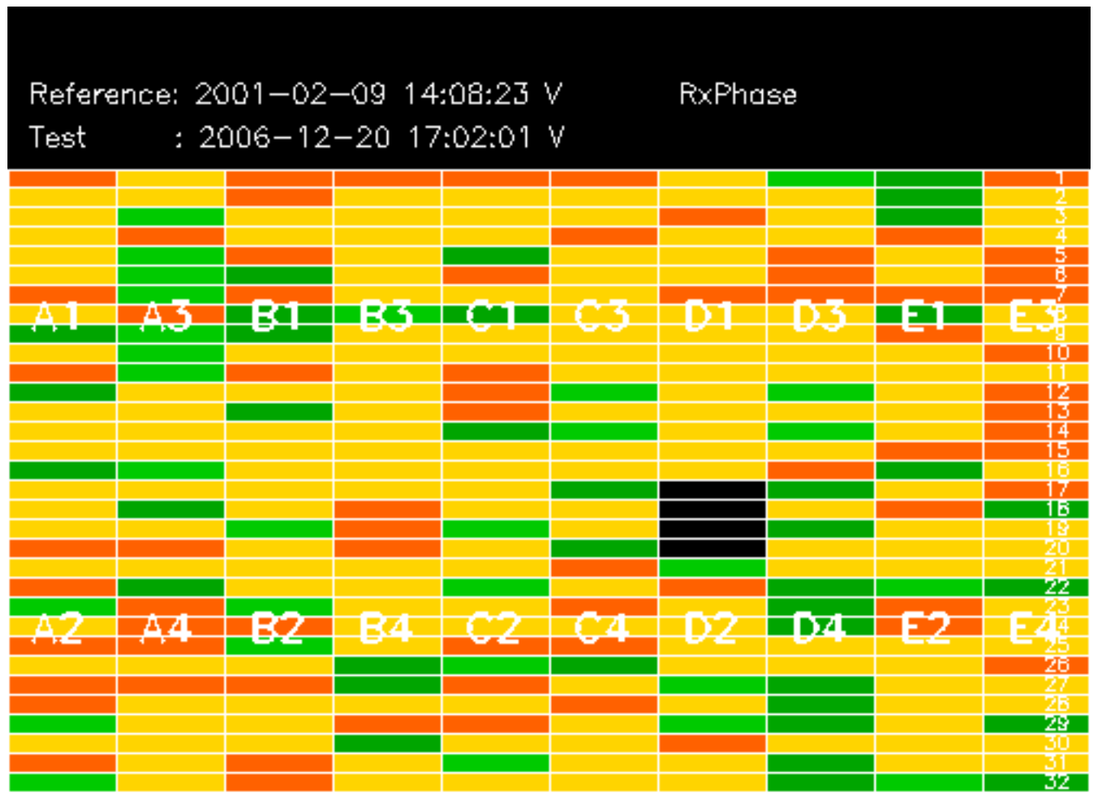
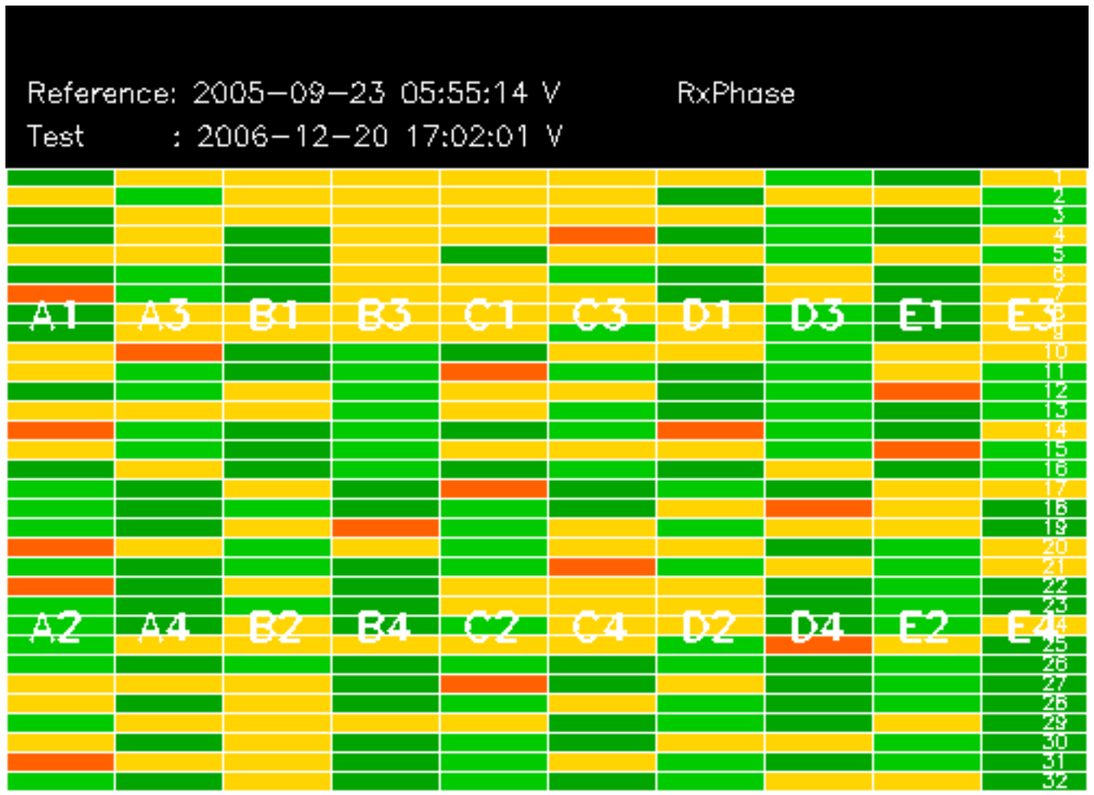
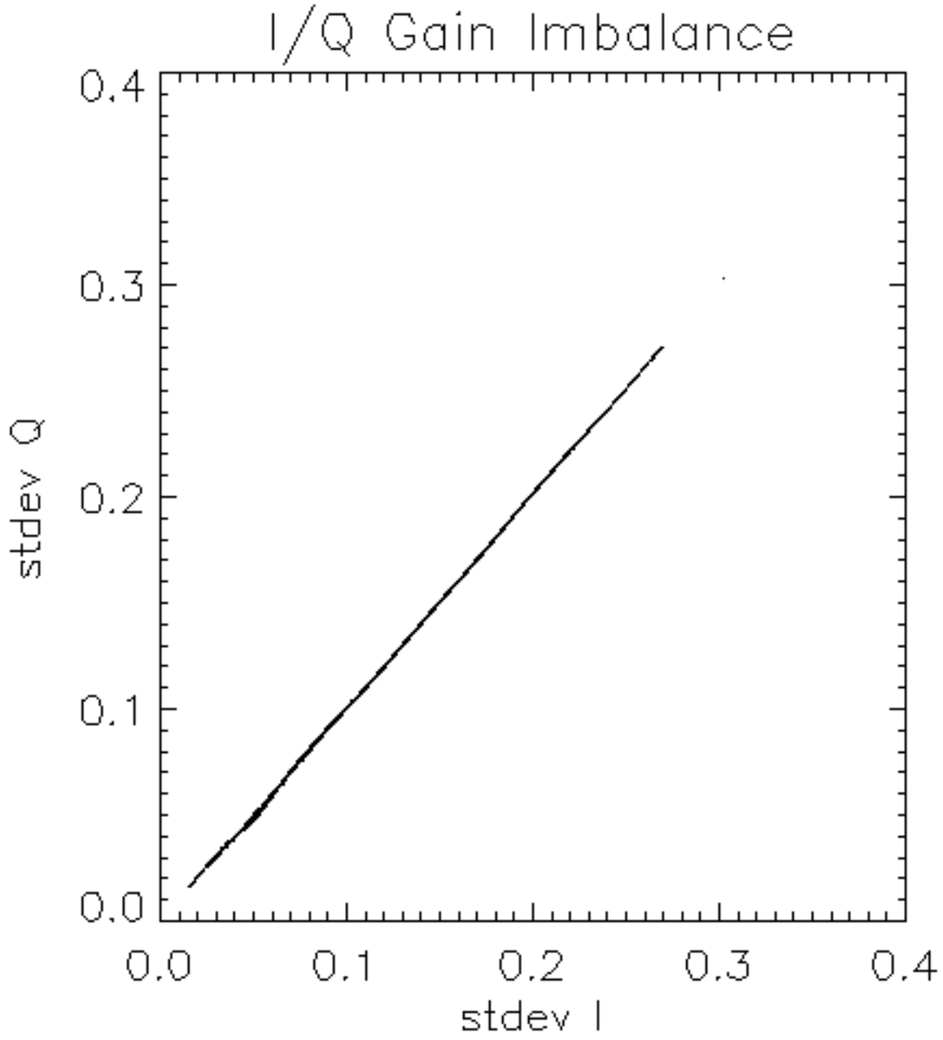
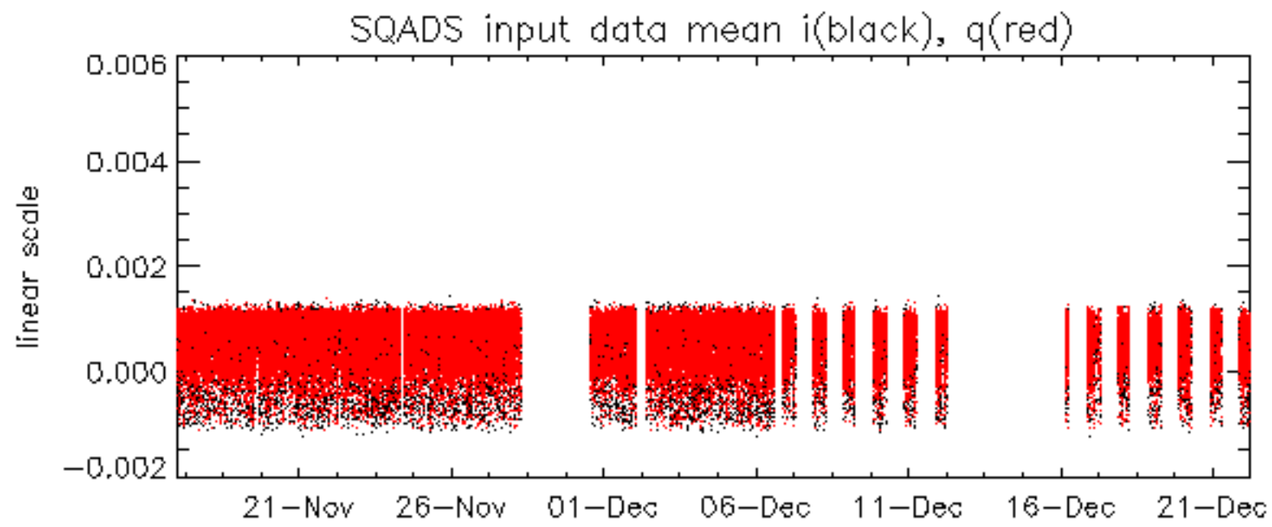
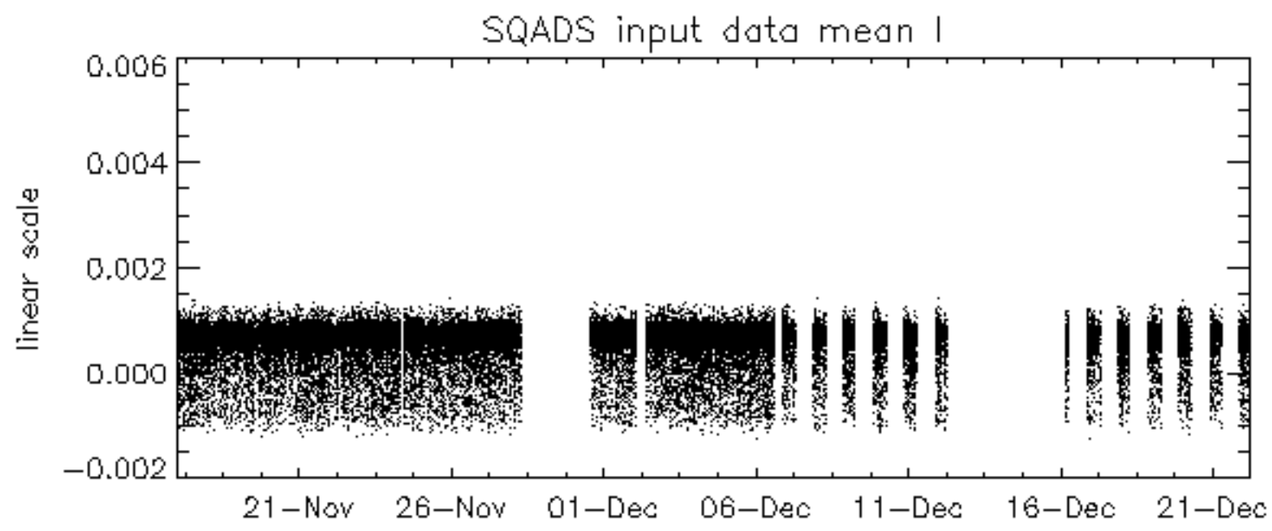
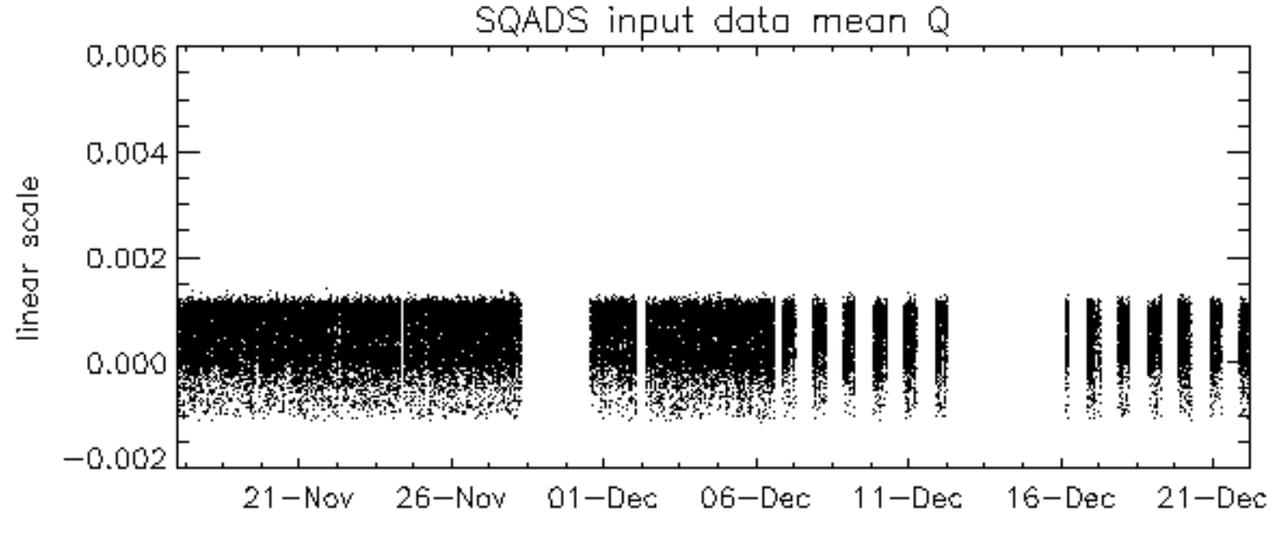

Reference: 2001-02-09 14:08:23 V
Test : 2006-12-20 17:02:01 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

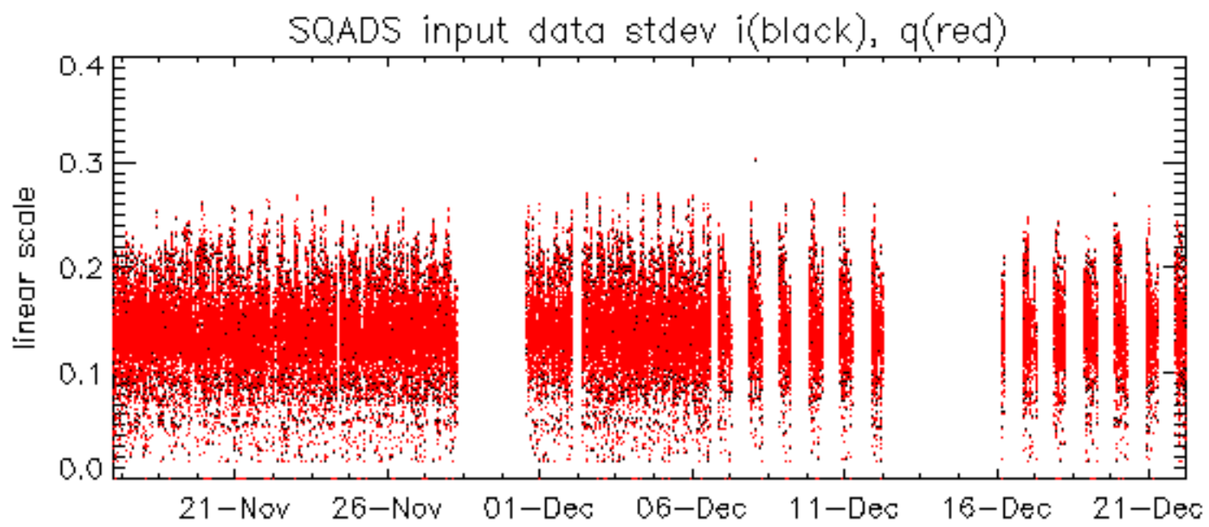

Reference: 2005-09-23 05:55:14 V
Test : 2006-12-20 17:02:01 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

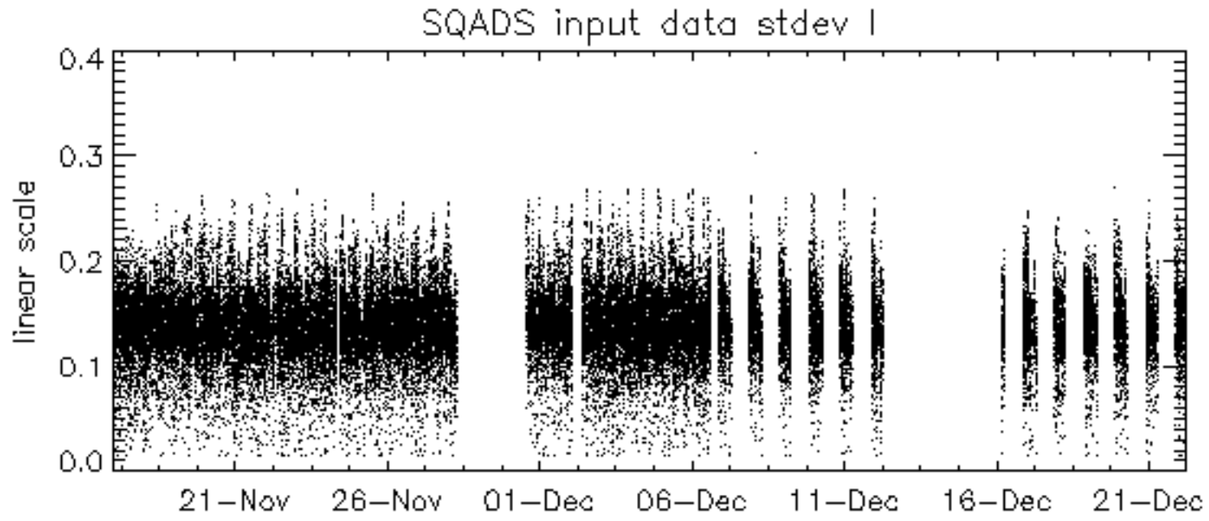

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

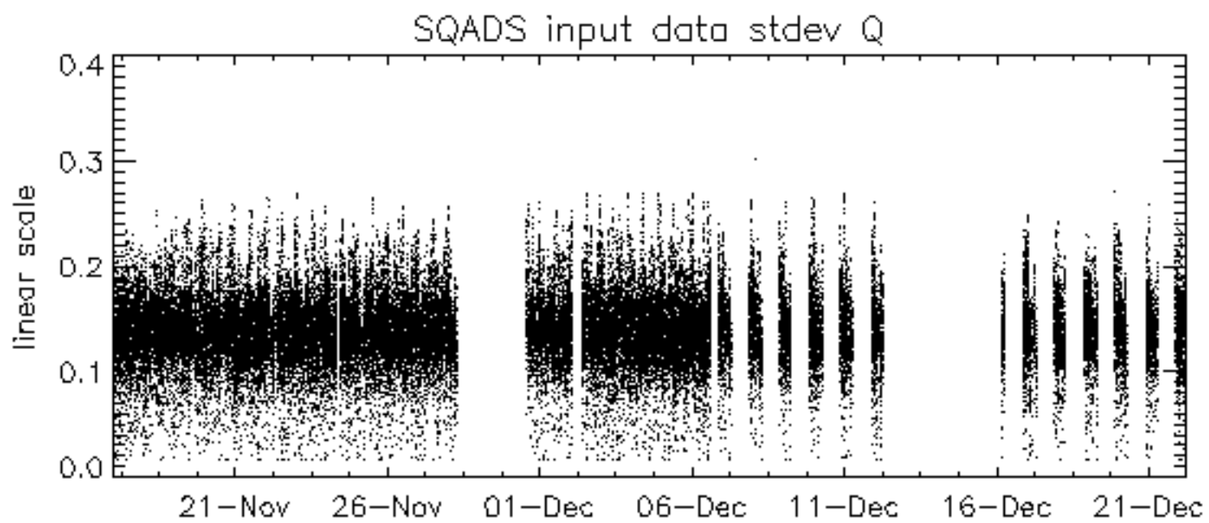

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec

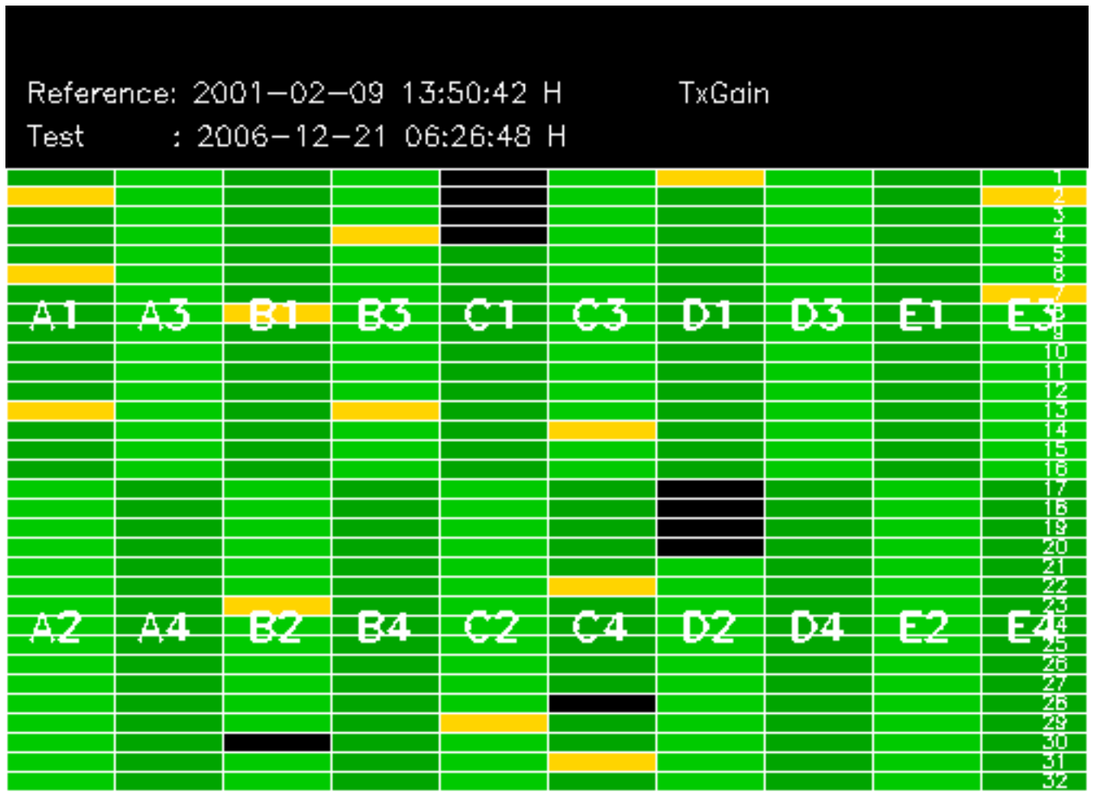

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec

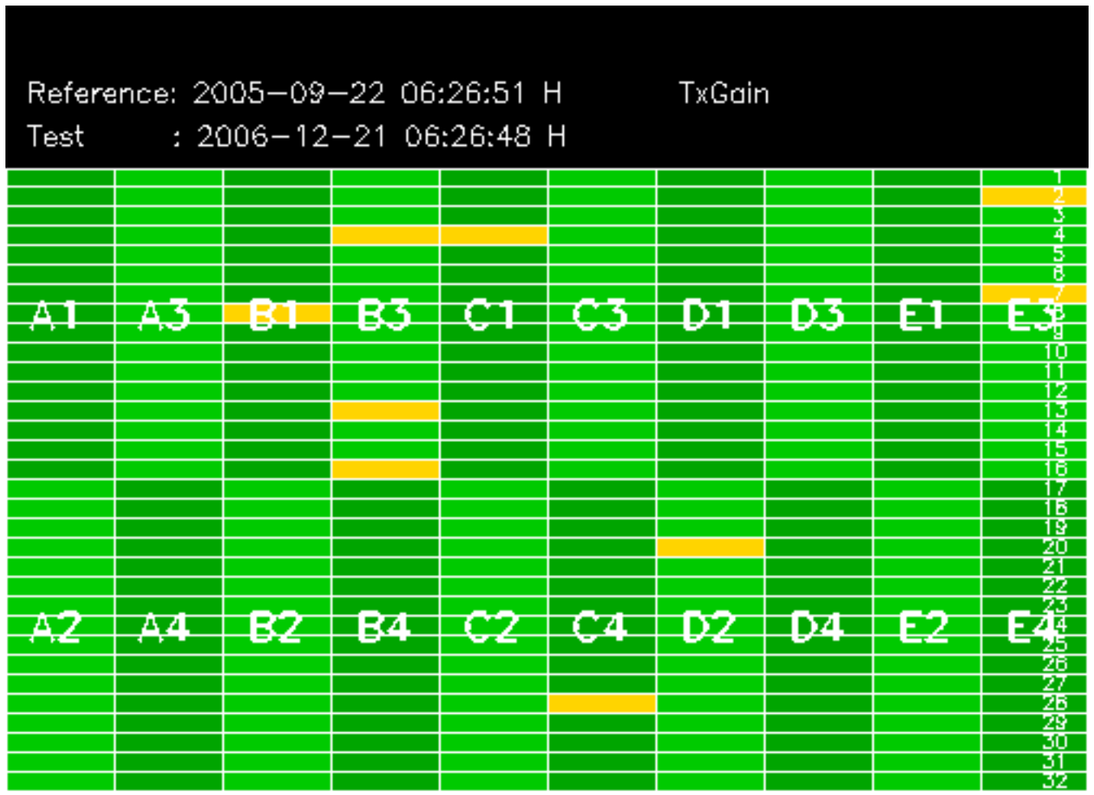

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Nov
26−Nov
01−Dec
06−Dec
11−Dec
16−Dec
21−Dec


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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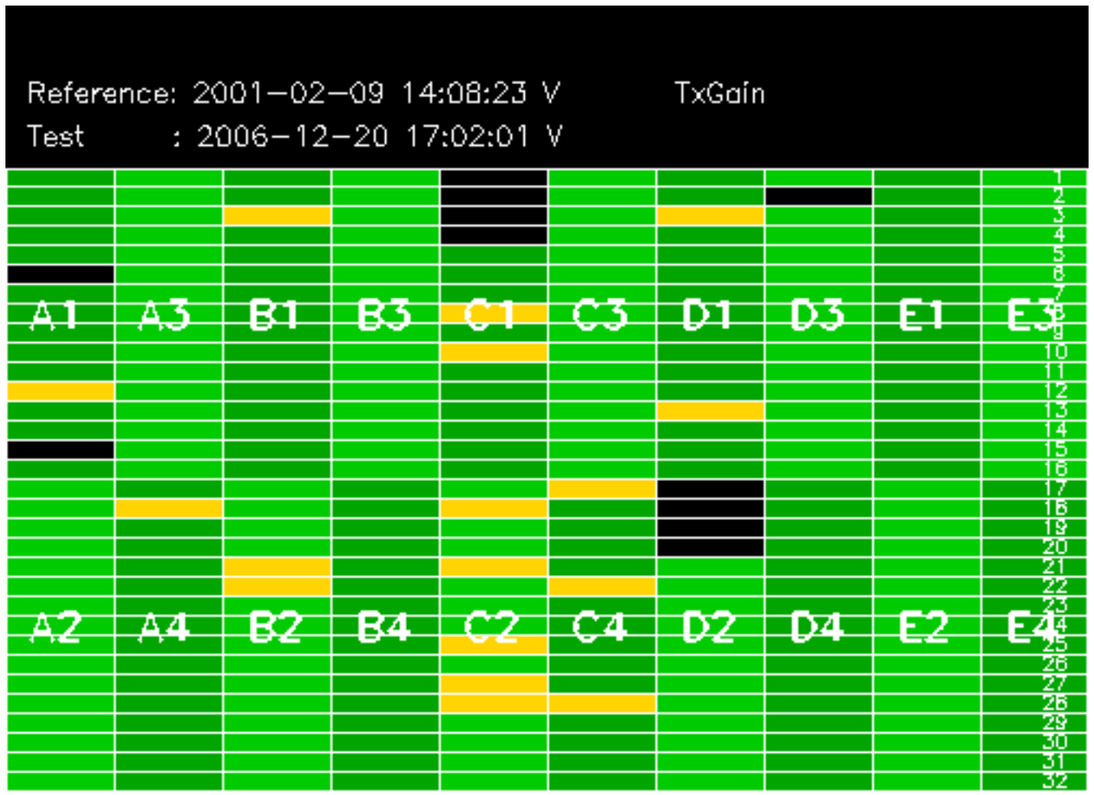
Reference: 2001-02-09 14:08:23 V
Test : 2006-12-20 17:02:01 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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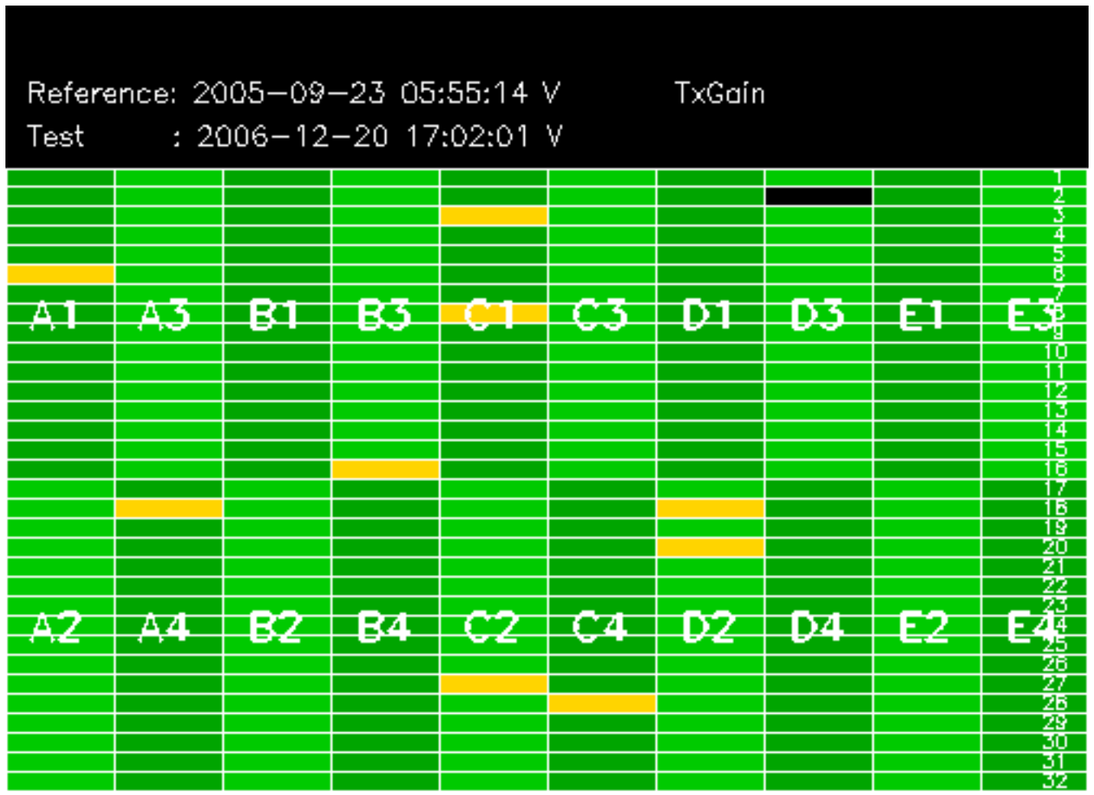
Reference: 2005-09-23 05:55:14 V
Test : 2006-12-20 17:02:01 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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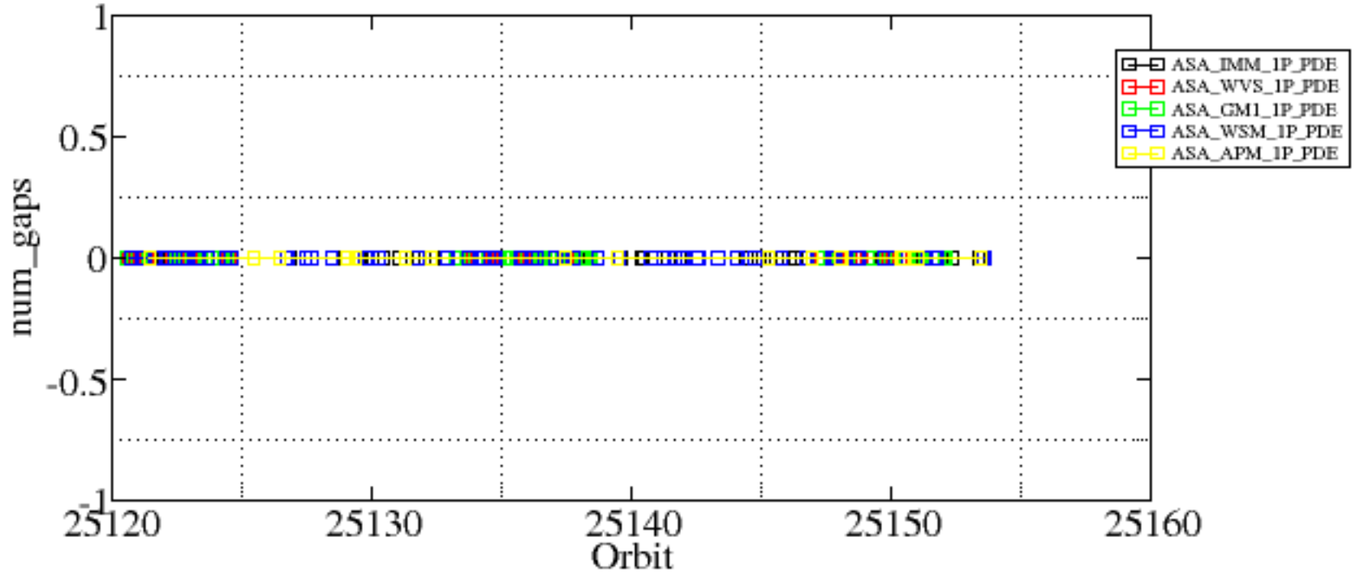
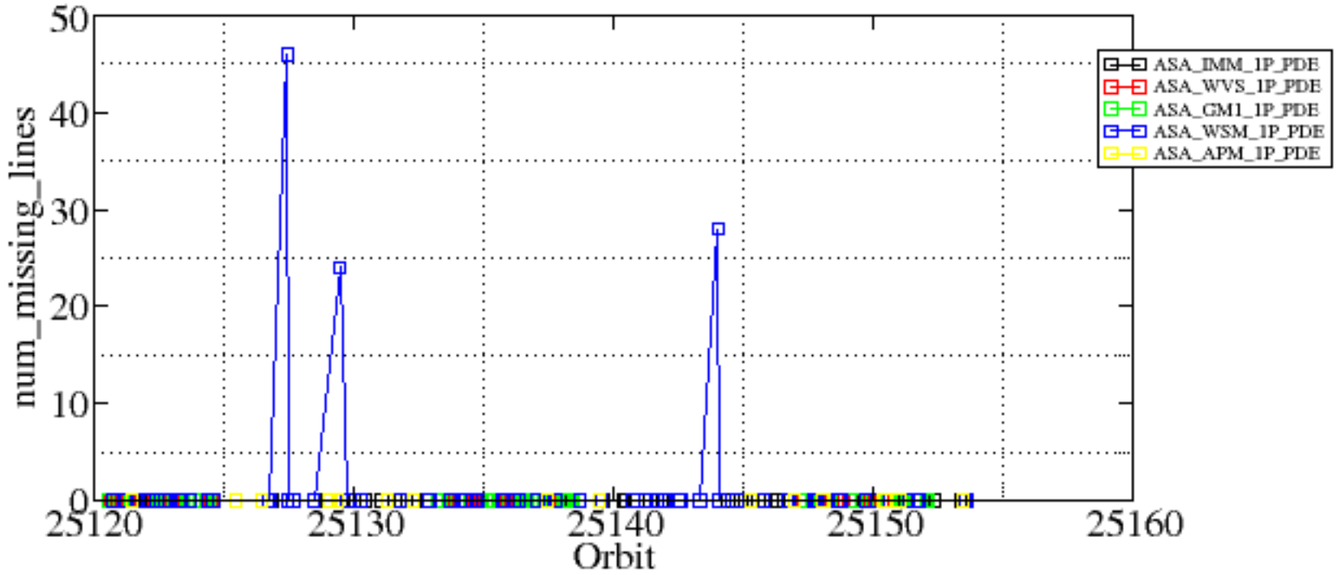
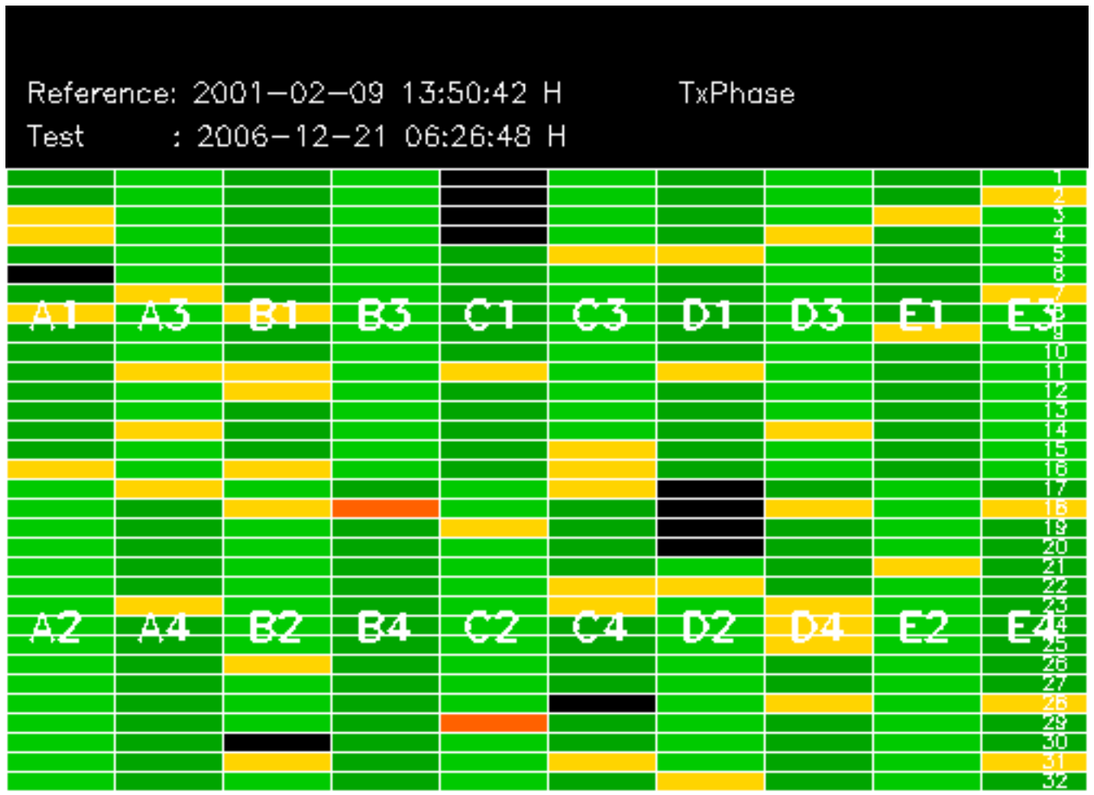
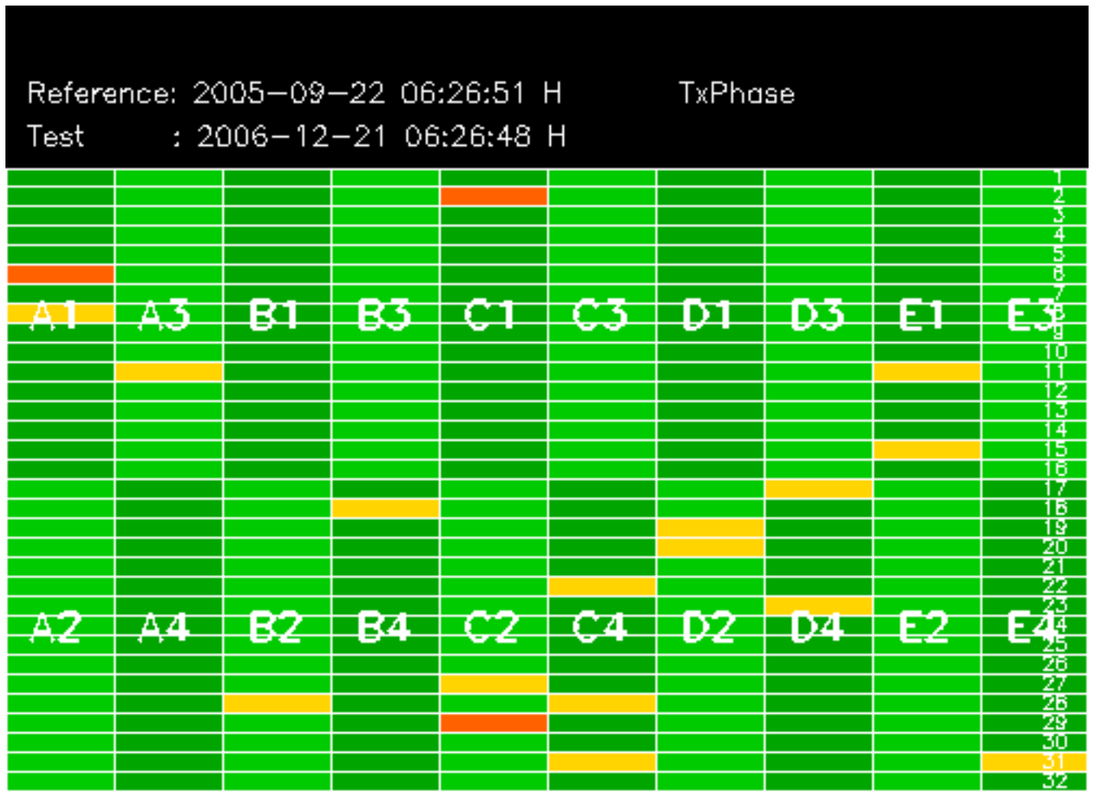
Summary of analysis for the last 3 days 2006122[012]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_WSM_1PNPDE20061220_113811_000000852054_00023_25127_6009.N1 </td> <td>0 </td> <td>46 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20061220_150157_000002852054_00025_25129_6077.N1 </td> <td>0 </td> <td>24 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20061221_152555_000001832054_00040_25144_8164.N1 </td> <td>0 </td> <td>28 </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
25120
25130
25140
25150
25160
Orbit
ASA_IMM_1P_PDE
ASA_WVS_1P_PDE
ASA_GM1_1P_PDE
ASA_WSM_1P_PDE
ASA_APM_1P_PDE


num_missing_lines
50
40
30
20
10
0
25120
25130
25140
25150
25160
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
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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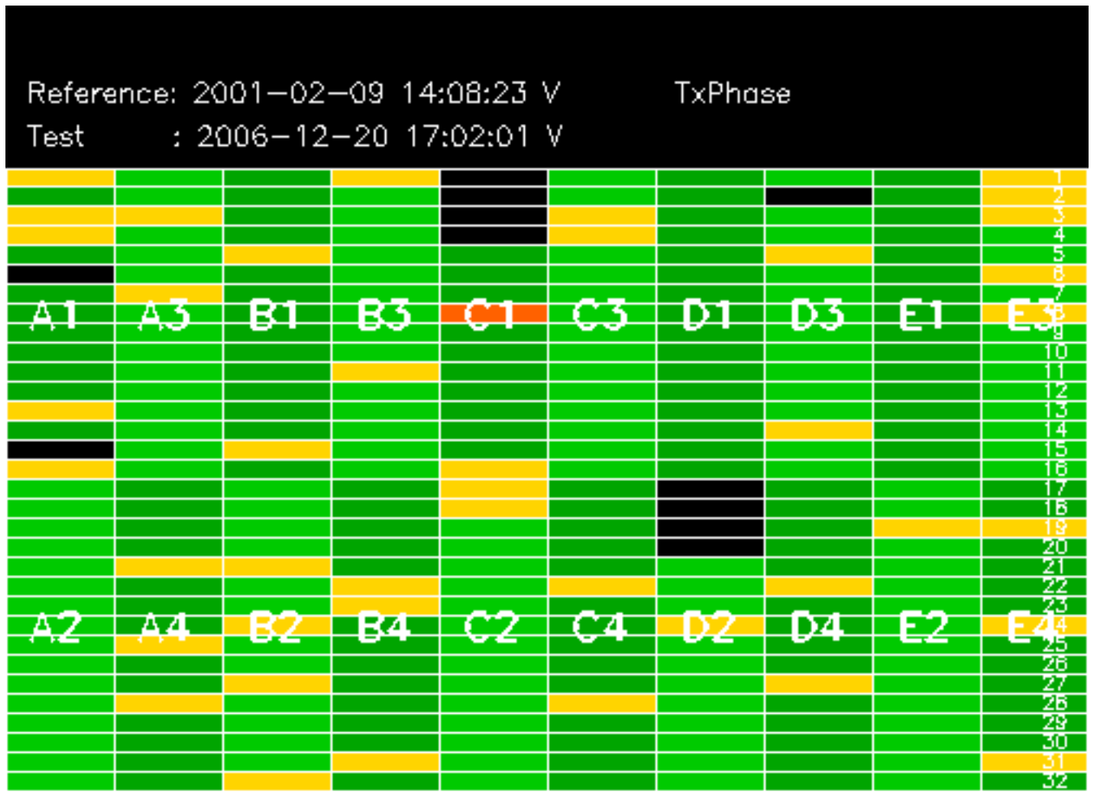
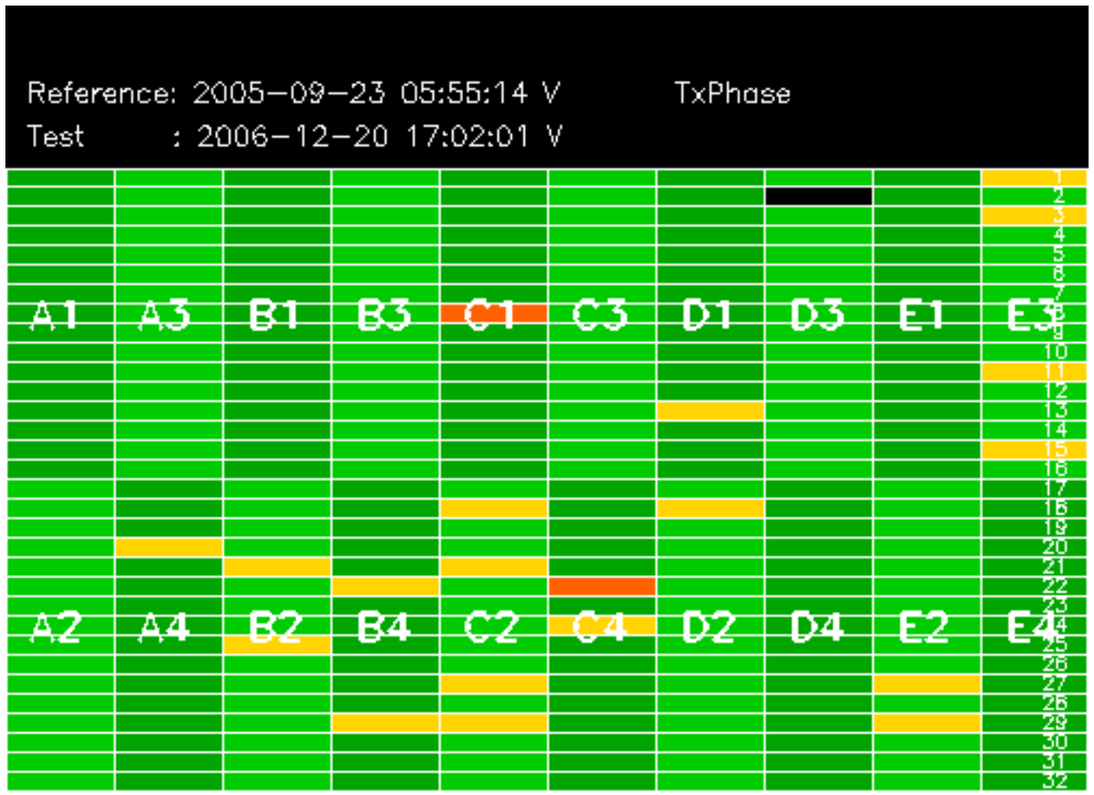

Reference: 2001-02-09 14:08:23 V
Test : 2006-12-20 17:02:01 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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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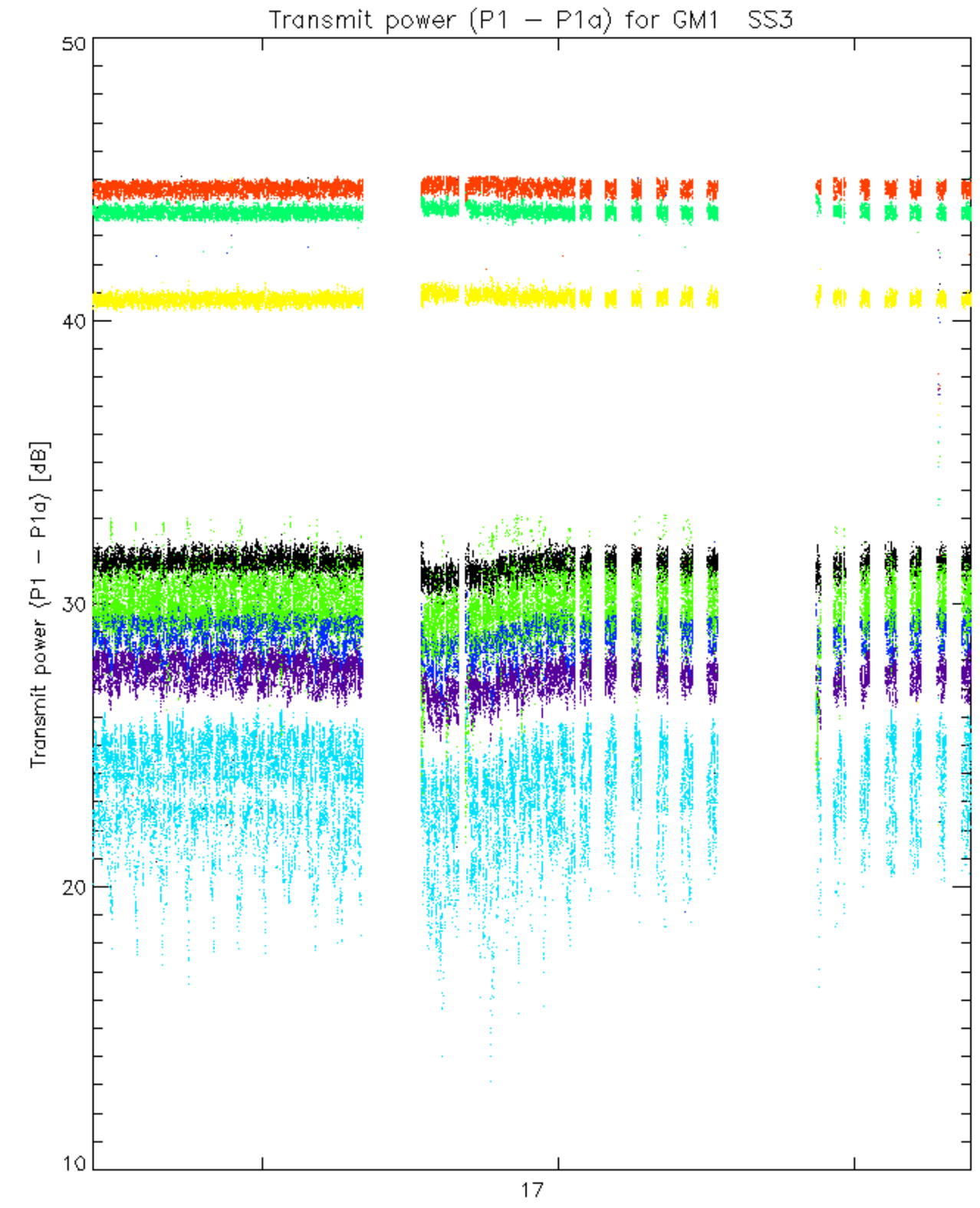
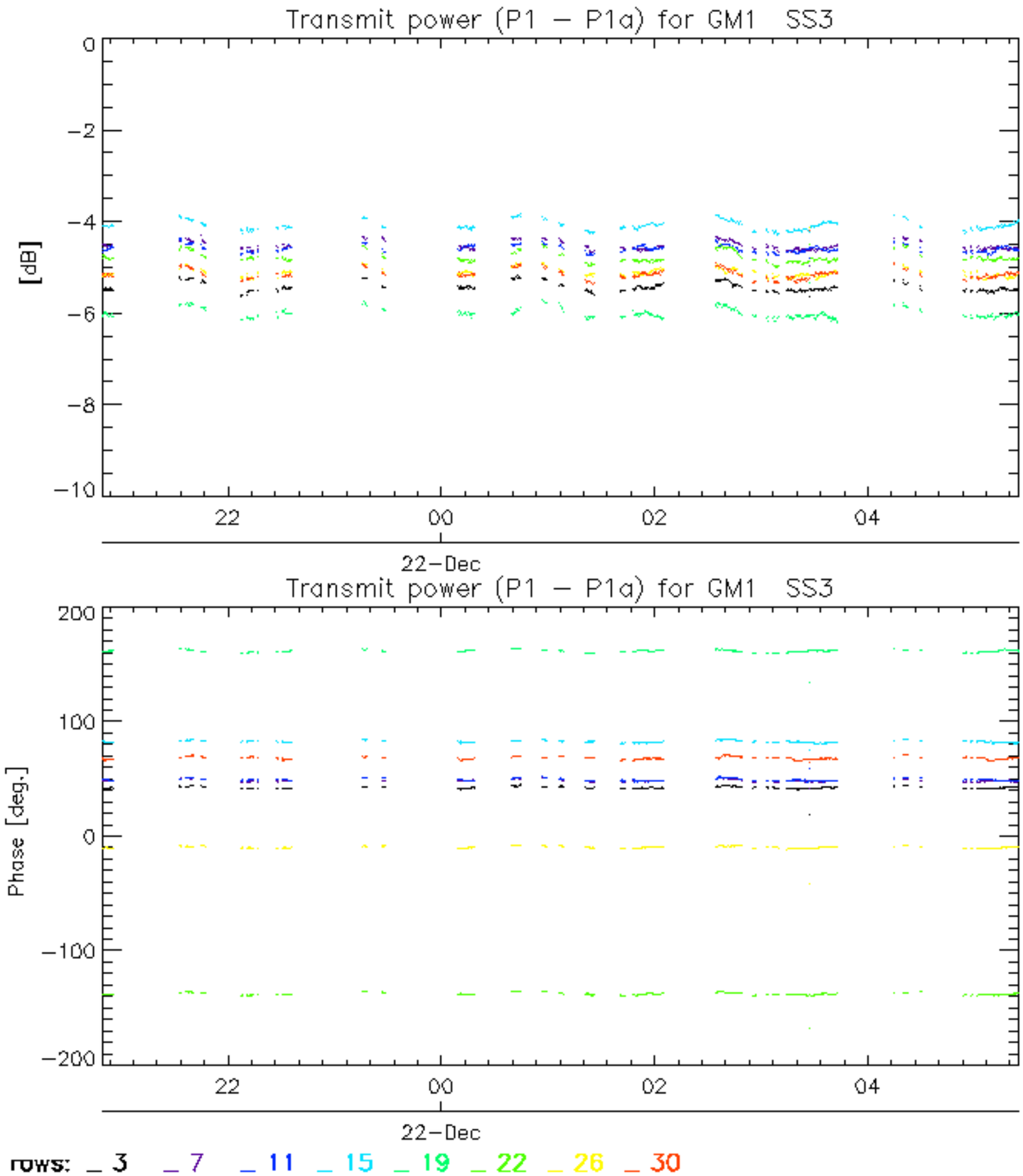
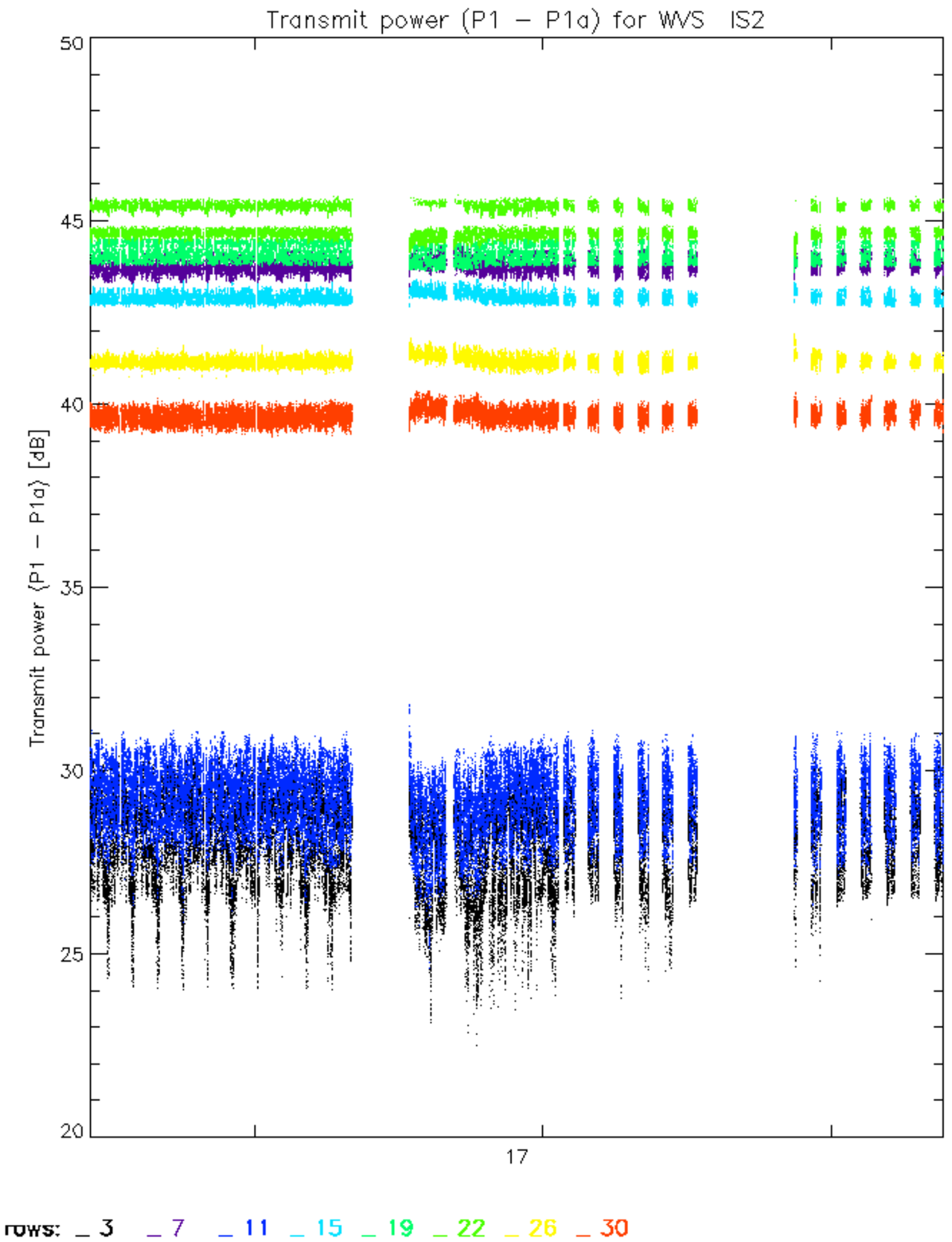
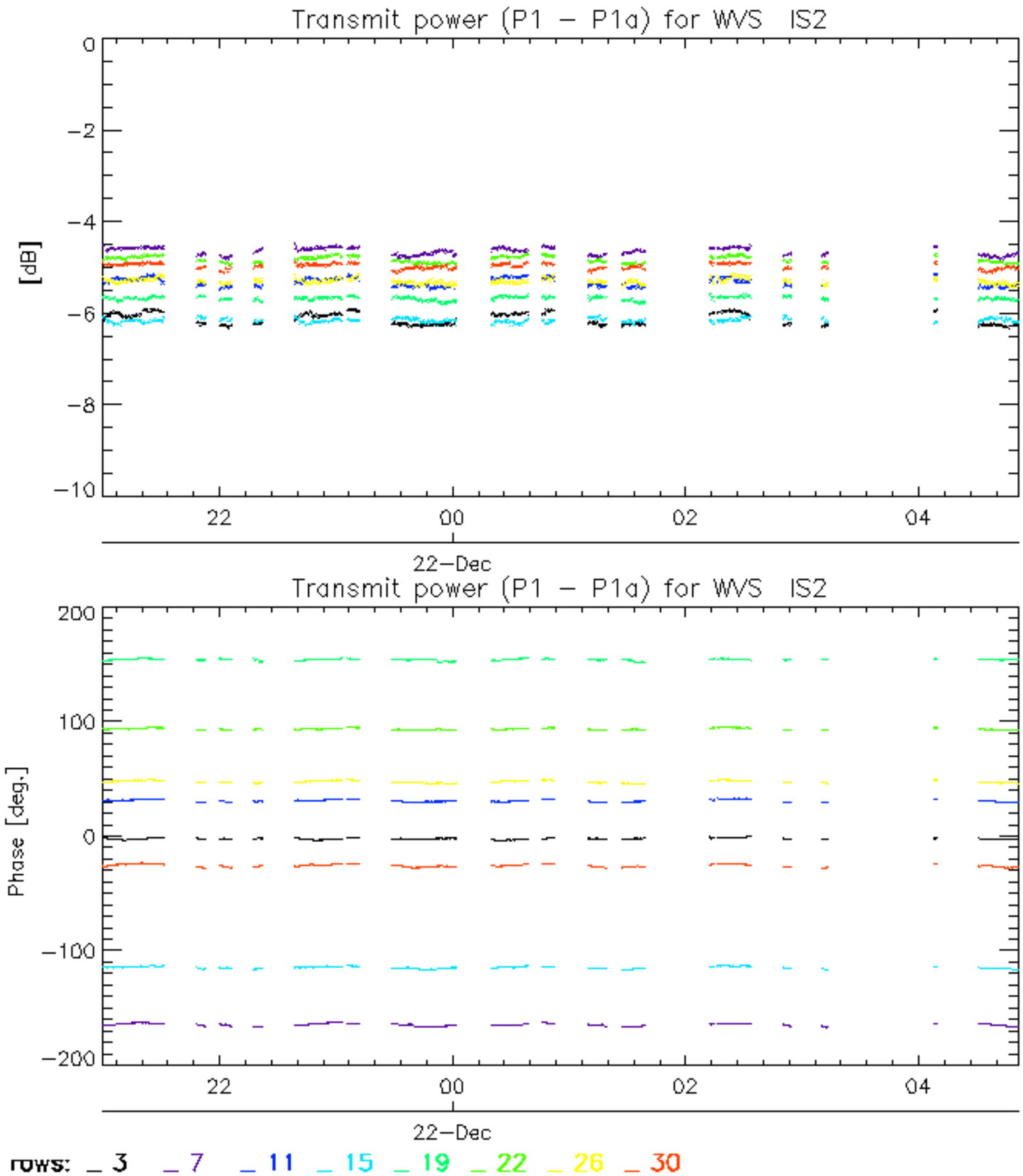

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
17
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
0
−2
−4
−6
−8
−10
[dB]
22
00
02
04
22−Dec
Transmit power (P1 – P1a) for GM1 SS3
200
100
0
−100
−200
Phase [deg.]
22
00
02
04
22−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
17
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
22–Dec
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
22
00
02
04
22–Dec
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.