PRELIMINARY REPORT OF 060110

last update on Tue Jan 10 16:49:29 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 2006-01-09 00:00:00 to 2006-01-10 16:49:29

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	23	0	4	0	16
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	23	0	4	0	16
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	23	0	4	0	16
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	23	0	4	0	16

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	21	29	18	11	39
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	21	29	18	11	39
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	21	29	18	11	39
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	21	29	18	11	39

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	20060108 095336
H	20060109 092159

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	-3.895327	0.158381	-0.735830
7	P1	-2.880925	0.086371	-0.534789
11	P1	-4.126661	0.036876	0.102511
15	P1	-5.607174	1.064188	-2.116115
19	P1	-3.147496	0.044004	-0.419581
22	P1	-4.464883	0.022919	-0.108484
26	P1	-4.304195	0.043393	0.378740
30	P1	-5.715203	0.024989	-0.245913
3	P1	-16.414764	1.863074	-2.690508
7	P1	-15.976583	1.782214	-2.748273
11	P1	-16.458992	0.442402	-0.618410
15	P1	-12.999593	0.622907	-1.275071
19	P1	-13.671884	0.262354	-0.932854
22	P1	-15.959012	0.594139	-0.074829
26	P1	-15.432320	0.775991	-1.543492
30	P1	-16.117060	1.662483	-2.285067

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.720037	0.109373	0.279426
7	P2	-22.522953	0.102653	0.069541
11	P2	-16.411715	0.120982	0.313975
15	P2	-7.254527	0.105255	0.095764
19	P2	-9.202013	0.102532	0.049023
22	P2	-17.913549	0.106417	-0.114892
26	P2	-16.301964	0.122960	0.342405
30	P2	-19.727556	0.105679	0.268948

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.228733	0.007817	0.034887
7	P3	-8.228733	0.007817	0.034887
11	P3	-8.228733	0.007817	0.034887
15	P3	-8.228733	0.007817	0.034887
19	P3	-8.228733	0.007817	0.034887
22	P3	-8.228733	0.007817	0.034887
26	P3	-8.228733	0.007817	0.034887
30	P3	-8.228733	0.007817	0.034887

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	-3.714227	0.008532	-0.023290
7	P1	-2.764646	0.007682	0.007912
11	P1	-2.872482	0.009903	0.023537
15	P1	-3.430529	0.017080	-0.069528
19	P1	-3.388529	0.014299	0.028567
22	P1	-5.122298	0.019683	0.005232
26	P1	-5.852587	0.015666	-0.003856
30	P1	-5.271614	0.032959	0.052584
3	P1	-11.496794	0.037484	-0.047674
7	P1	-9.954040	0.048564	0.074424
11	P1	-10.057338	0.054336	-0.014585
15	P1	-10.575274	0.074840	-0.116014
19	P1	-15.510206	0.071055	0.077023
22	P1	-20.858698	1.011613	0.525546

26	P1	-17.050013	0.312588	0.485895
30	P1	-18.158833	0.281771	0.069892

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.545294	0.031822	0.219176
7	P2	-22.996088	0.058731	0.267001
11	P2	-11.527527	0.020557	0.202849
15	P2	-4.971424	0.023231	0.115977
19	P2	-6.961843	0.022250	0.079710
22	P2	-8.207454	0.022556	0.030047
26	P2	-24.026400	0.029846	0.130621
30	P2	-22.126604	0.017949	0.065685

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.072676	0.002551	0.030090
7	P3	-8.072776	0.002543	0.030212
11	P3	-8.072912	0.002533	0.029856
15	P3	-8.072807	0.002528	0.029767
19	P3	-8.072841	0.002545	0.030069
22	P3	-8.072659	0.002530	0.030313
26	P3	-8.072625	0.002527	0.030648
30	P3	-8.072631	0.002534	0.029491

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	0.000502252
	stdev	2.00580e-07
MEAN Q	mean	0.000493172
	stdev	2.29071e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.133292
	stdev	0.00117799
STDEV Q	mean	0.133604
	stdev	0.00119361

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006010[890]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines

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

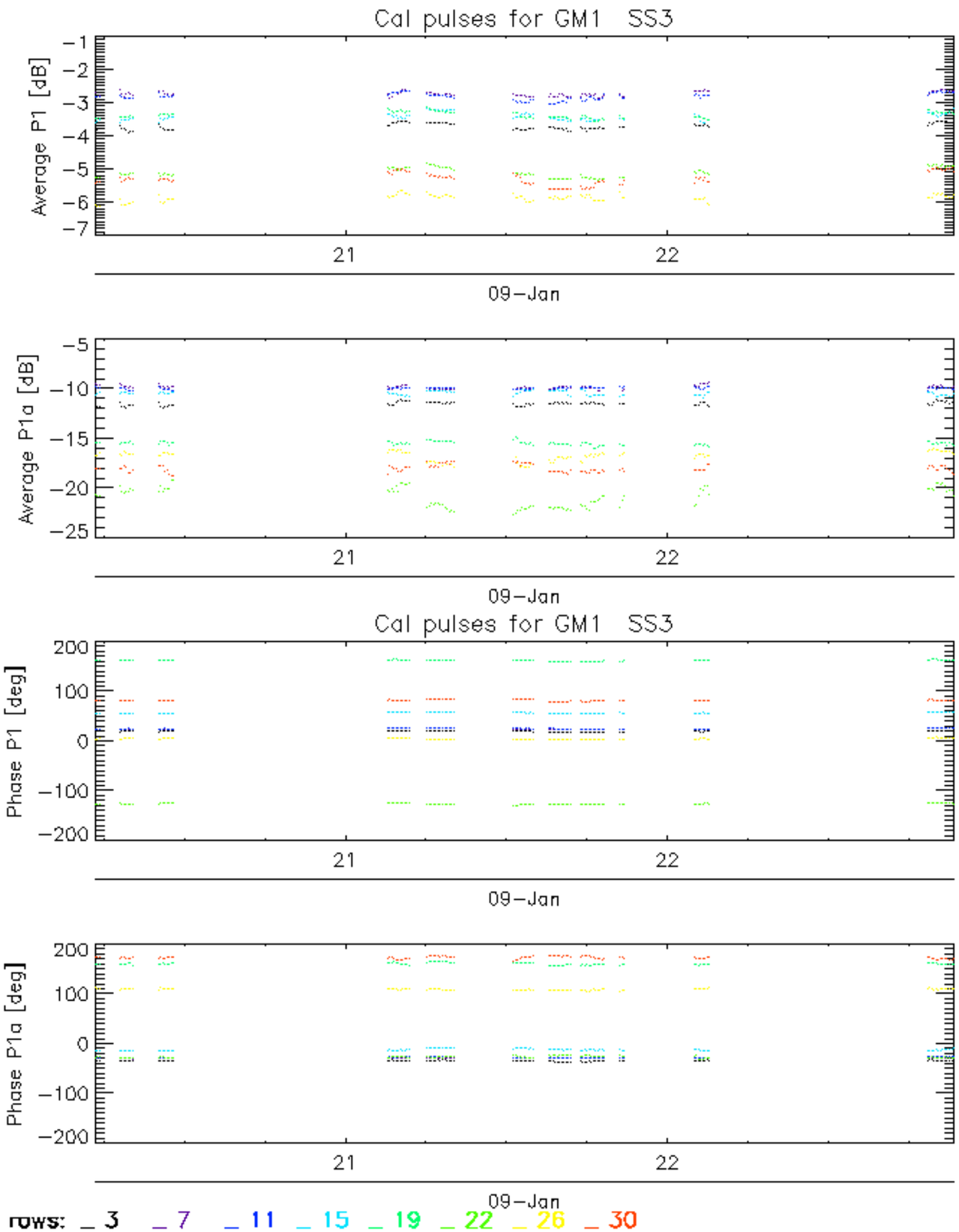

Descending

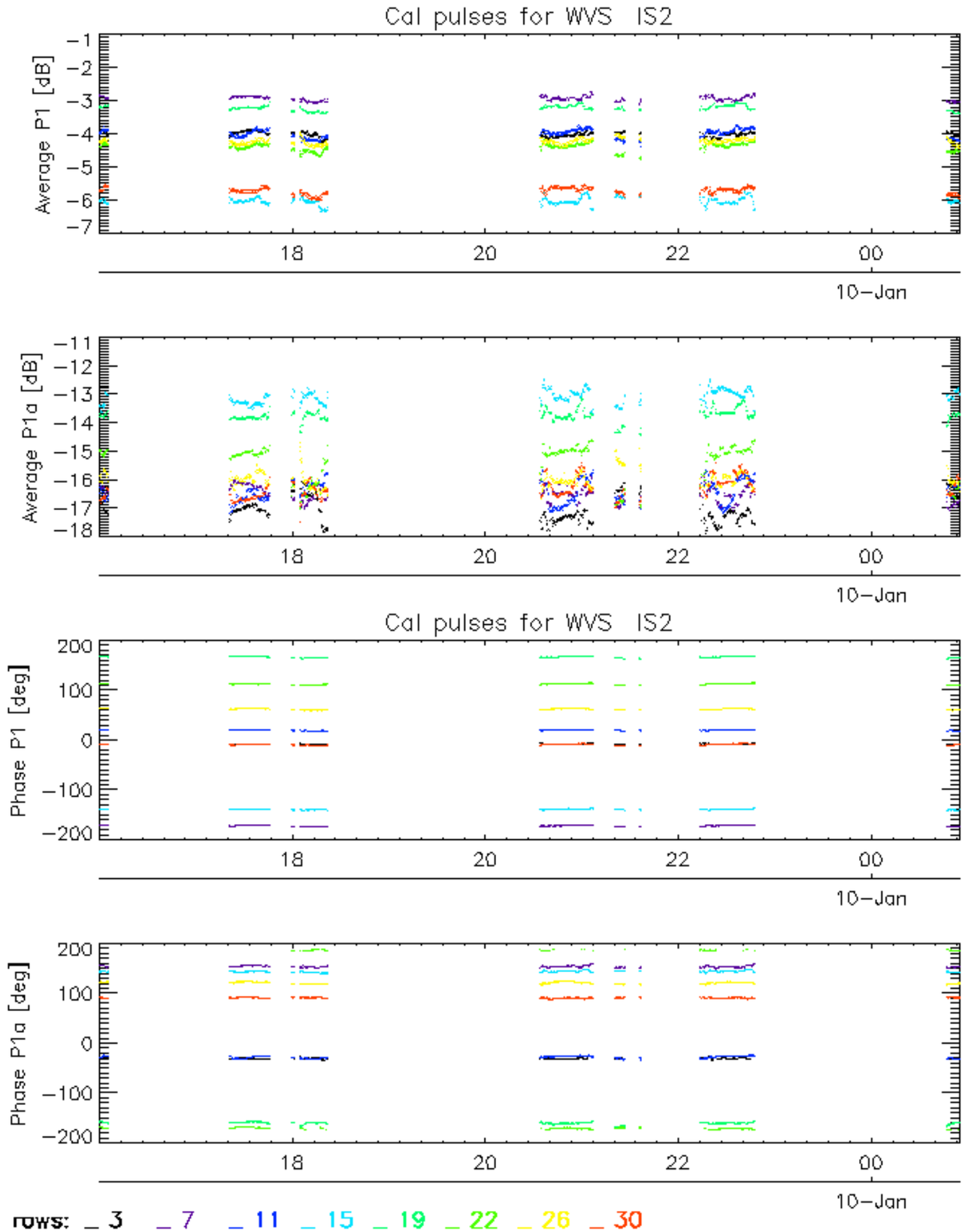
7.5 - Absolute Doppler for GM1

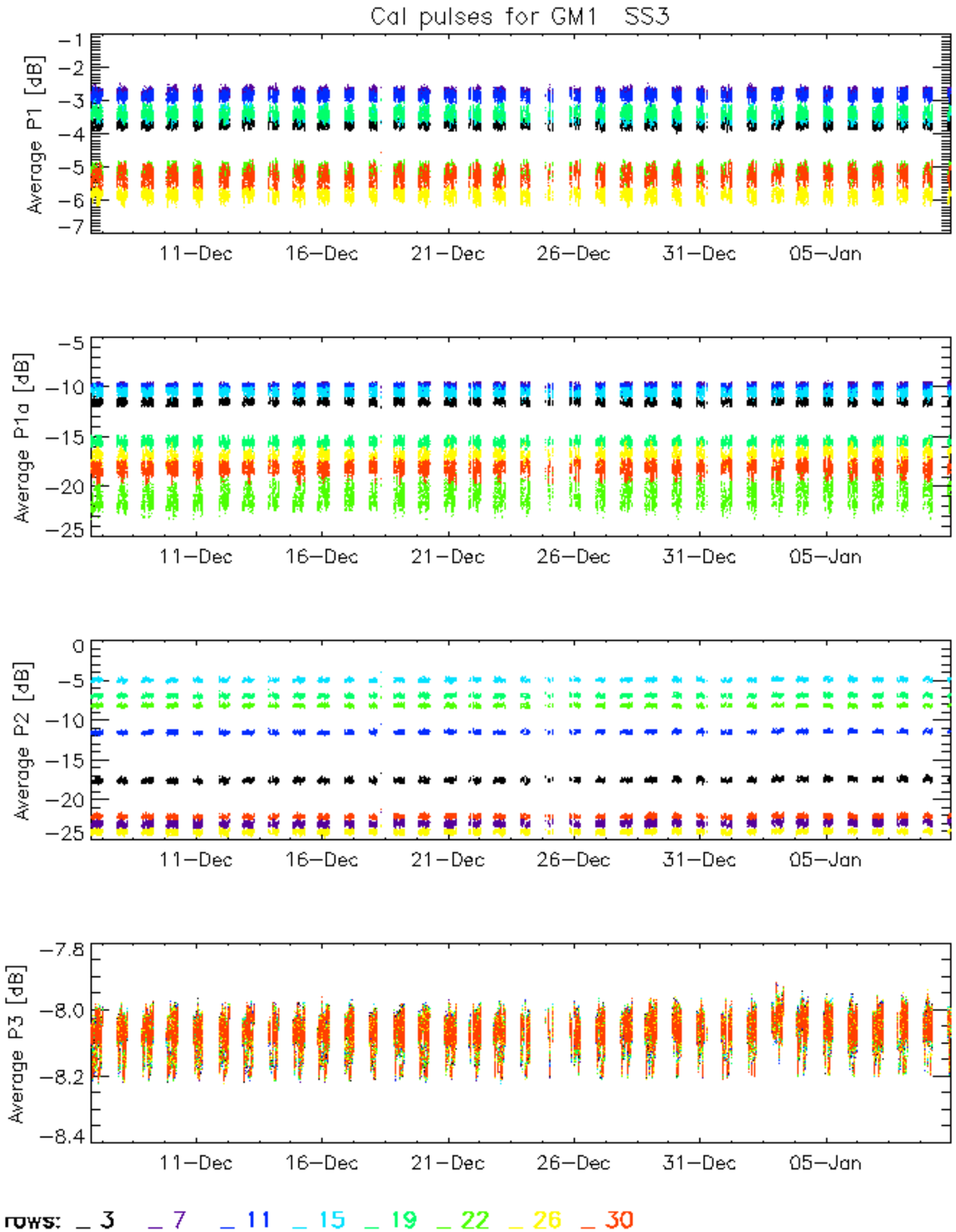
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

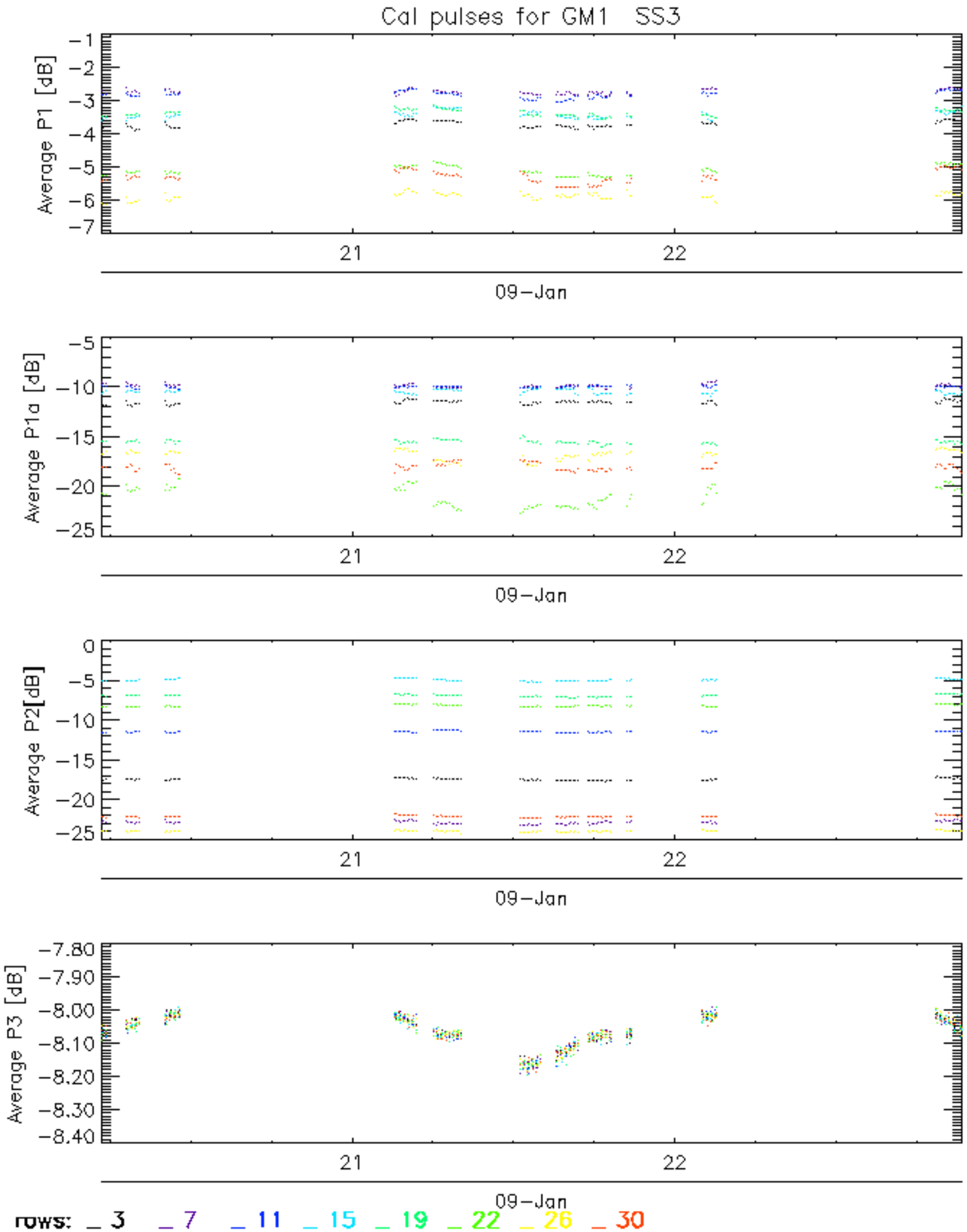
7.6 - Doppler evolution versus ANX for GM1

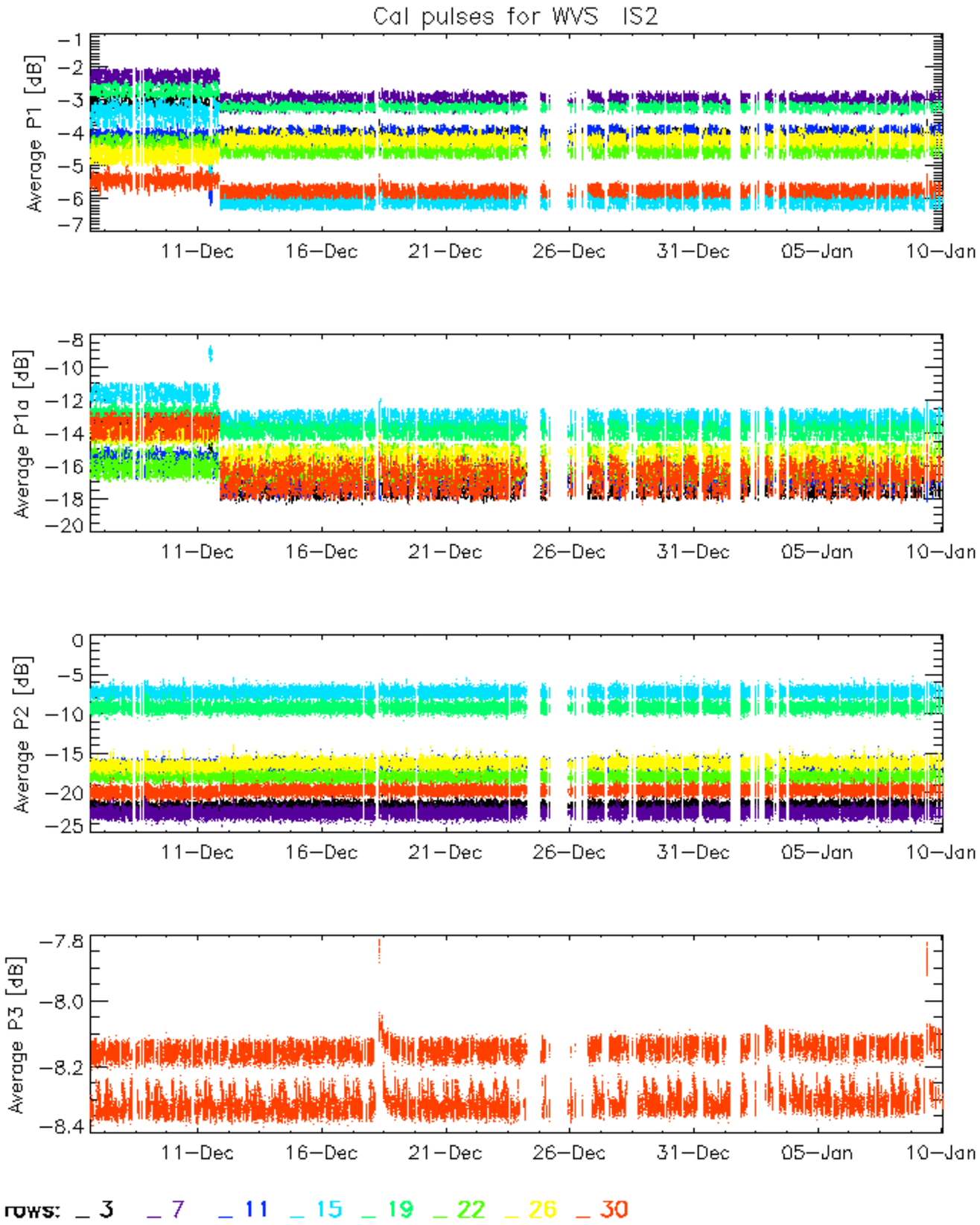
Evolution Doppler error versus ANX
☒

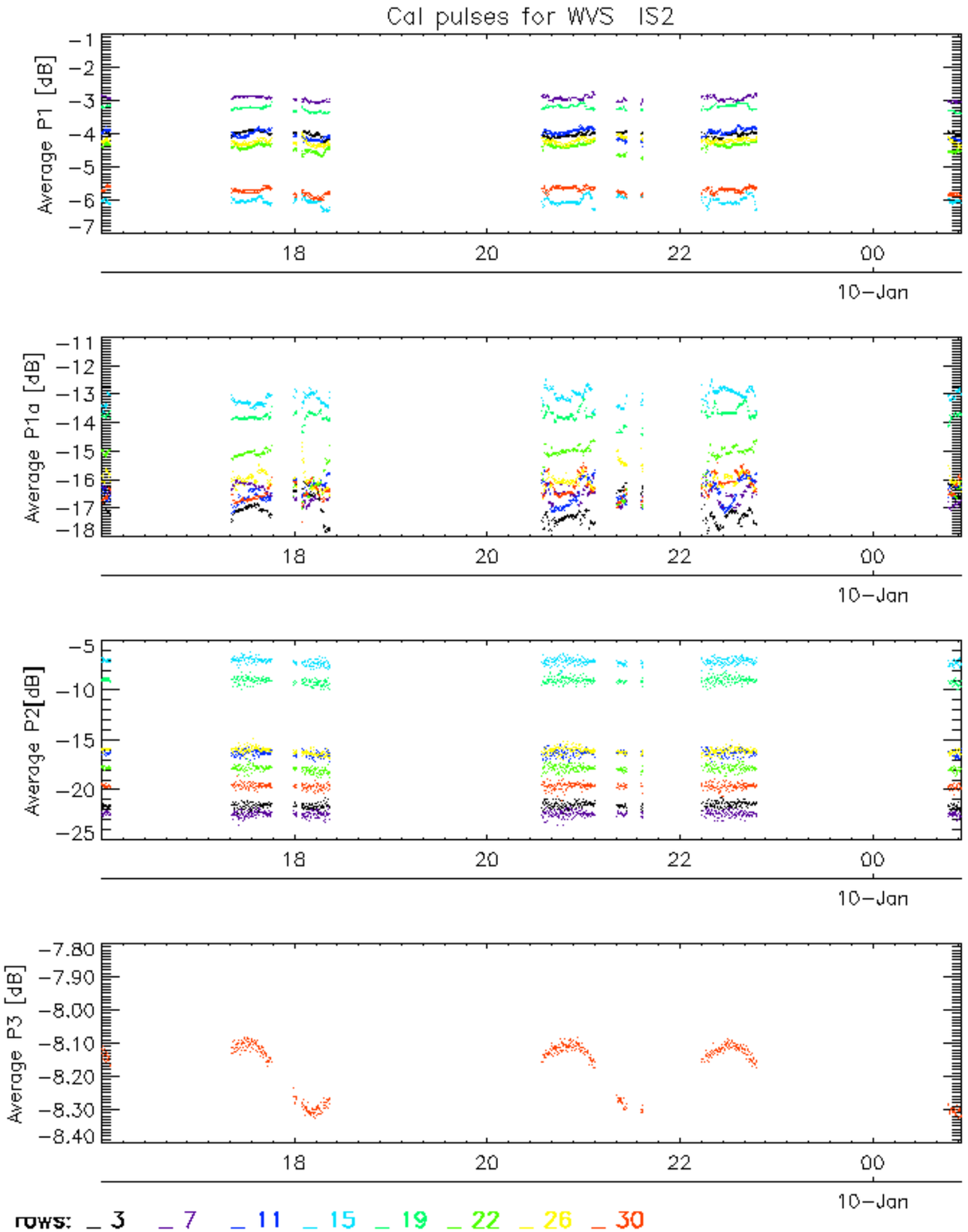

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
21
22
09−Jan
Average P1a [dB]
−5
−10
−15
−20
−25
21
22
09−Jan
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
21
22
09−Jan
Phase P1a [deg]
200
100
0
−100
−200
21
22
09−Jan
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
20
22
00
10−Jan
Average P1a [dB]
−11
−12
−13
−14
−15
−16
−17
−18
18
20
22
00
10−Jan
Cal pulses for WVS IS2
Phase P1 [deg]
200
100
0
−100
−200
18
20
22
00
10−Jan
Phase P1a [deg]
200
100
0
−100
−200
18
20
22
00
10−Jan
rows: 3 7 11 15 19 22 26 30


Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan
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
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

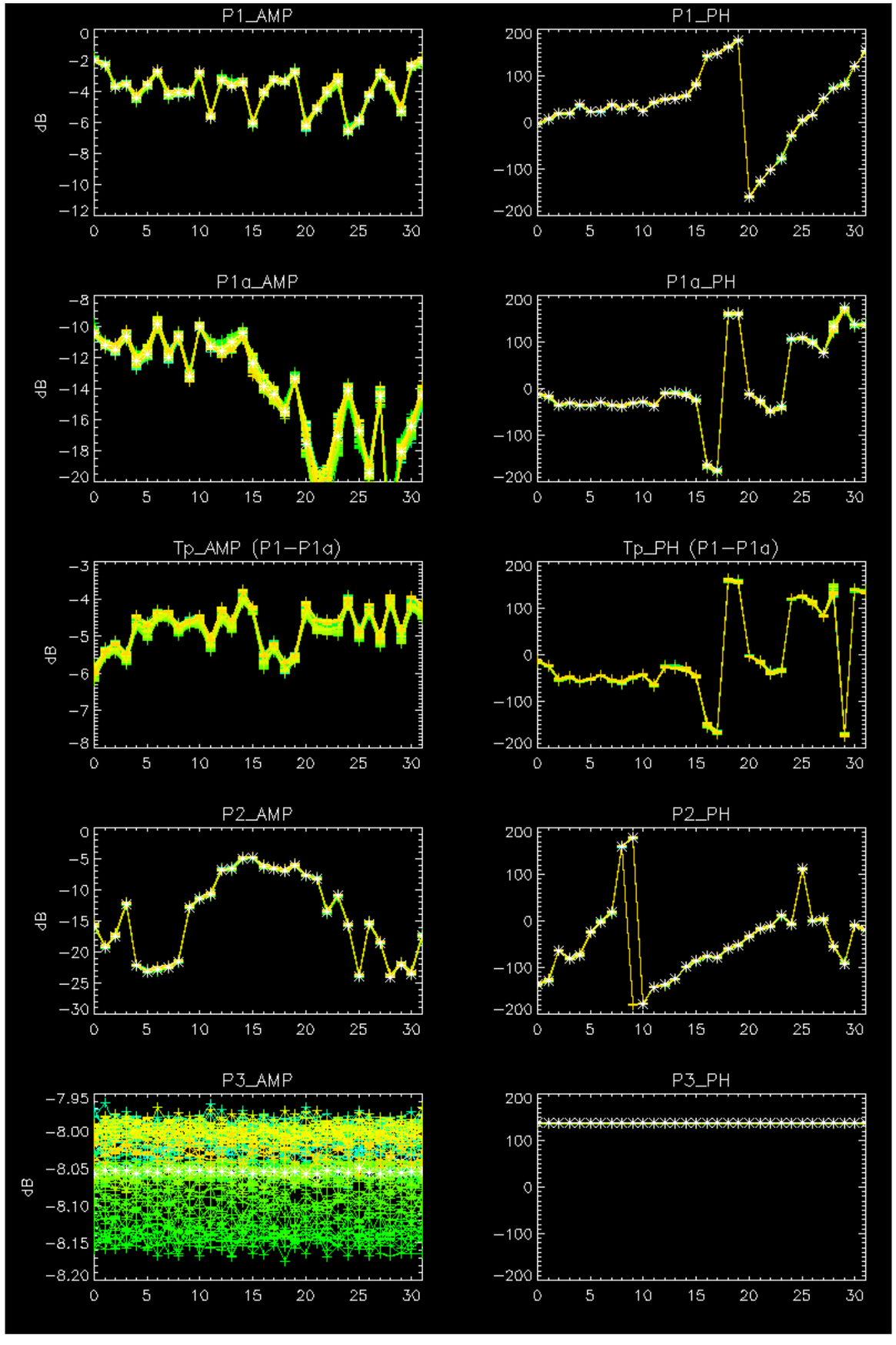

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
21
22
09−Jan
Average P1a [dB]
−5
−10
−15
−20
−25
21
22
09−Jan
Average P2[dB]
0
−5
−10
−15
−20
−25
21
22
09−Jan
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
21
22
09−Jan
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

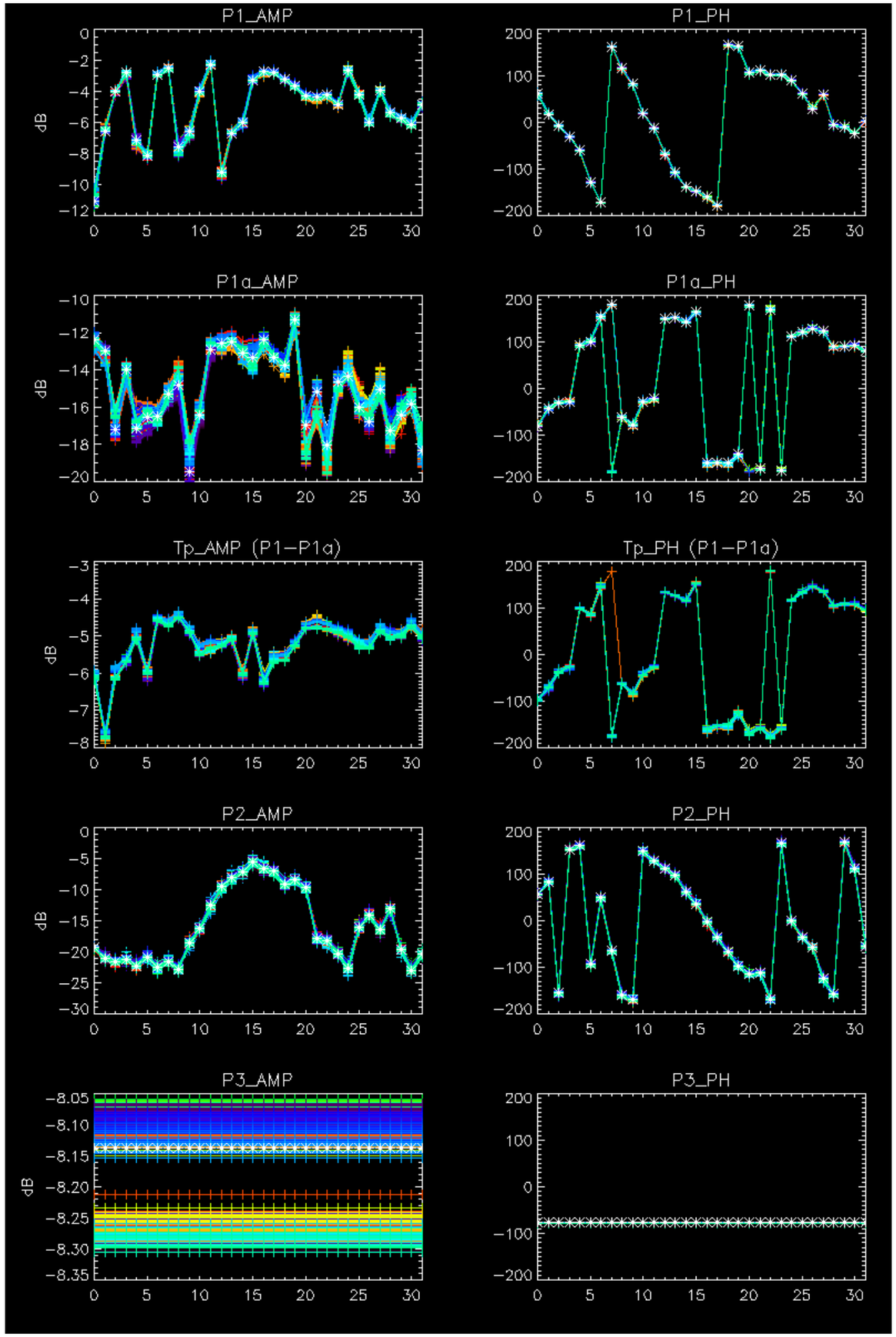

Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
Average P1a [dB]
−8
−10
−12
−14
−16
−18
−20
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
20
22
00
10−Jan
Average P1a [dB]
−11
−12
−13
−14
−15
−16
−17
−18
18
20
22
00
10−Jan
Average P2[dB]
−5
−10
−15
−20
−25
18
20
22
00
10−Jan
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
18
20
22
00
10−Jan
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

No anomalies observed on available browse products

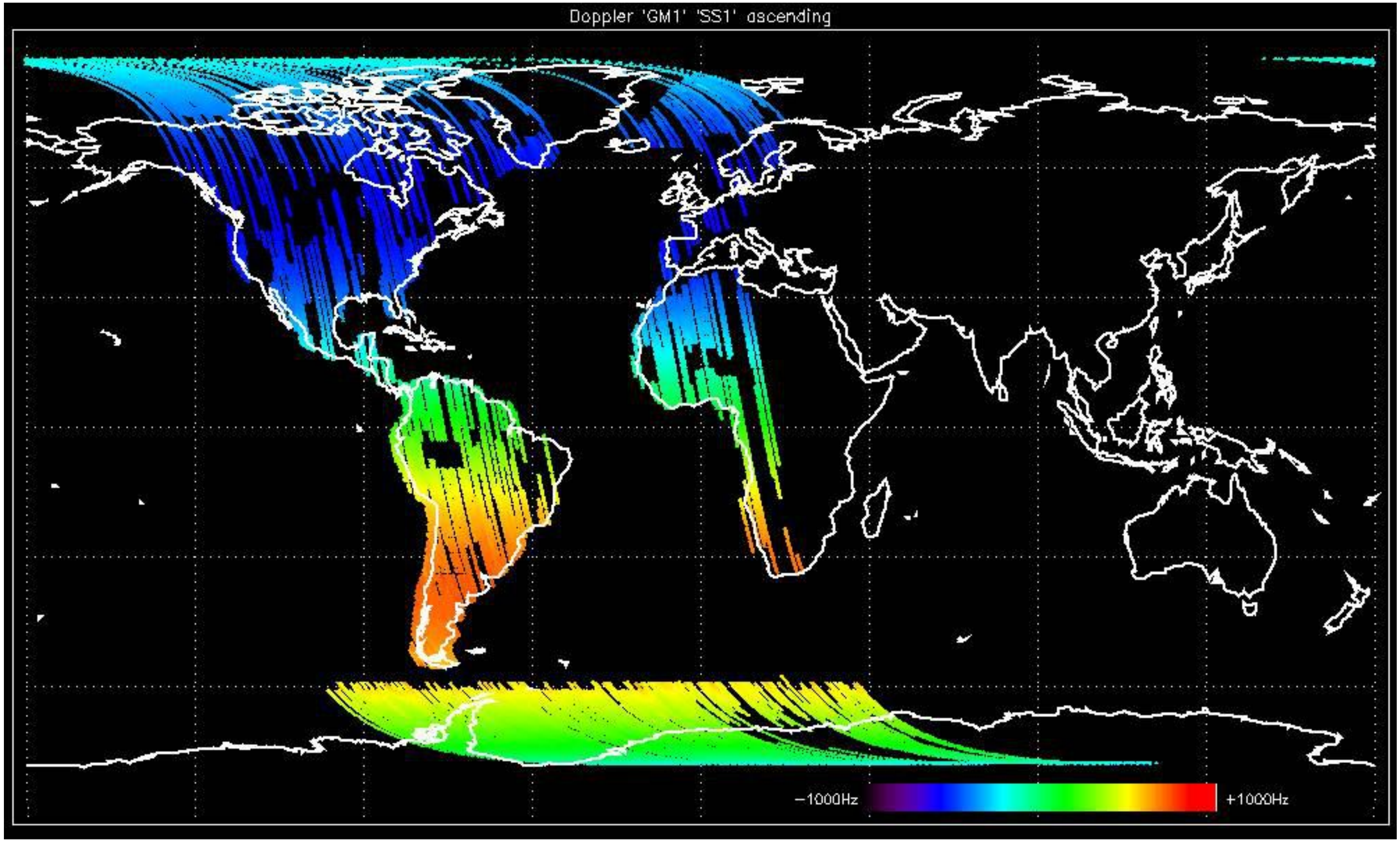
No anomalies observed.

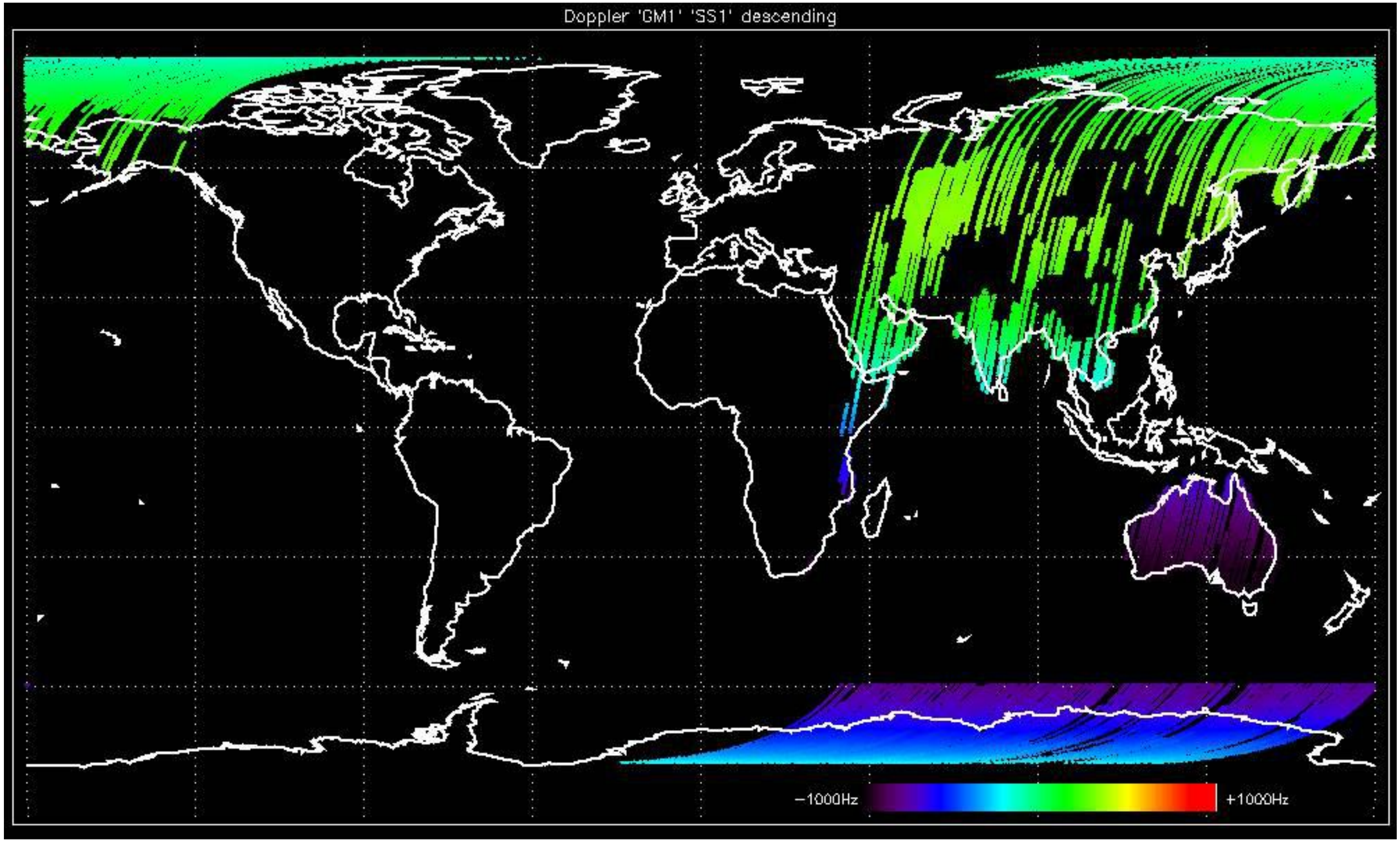

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

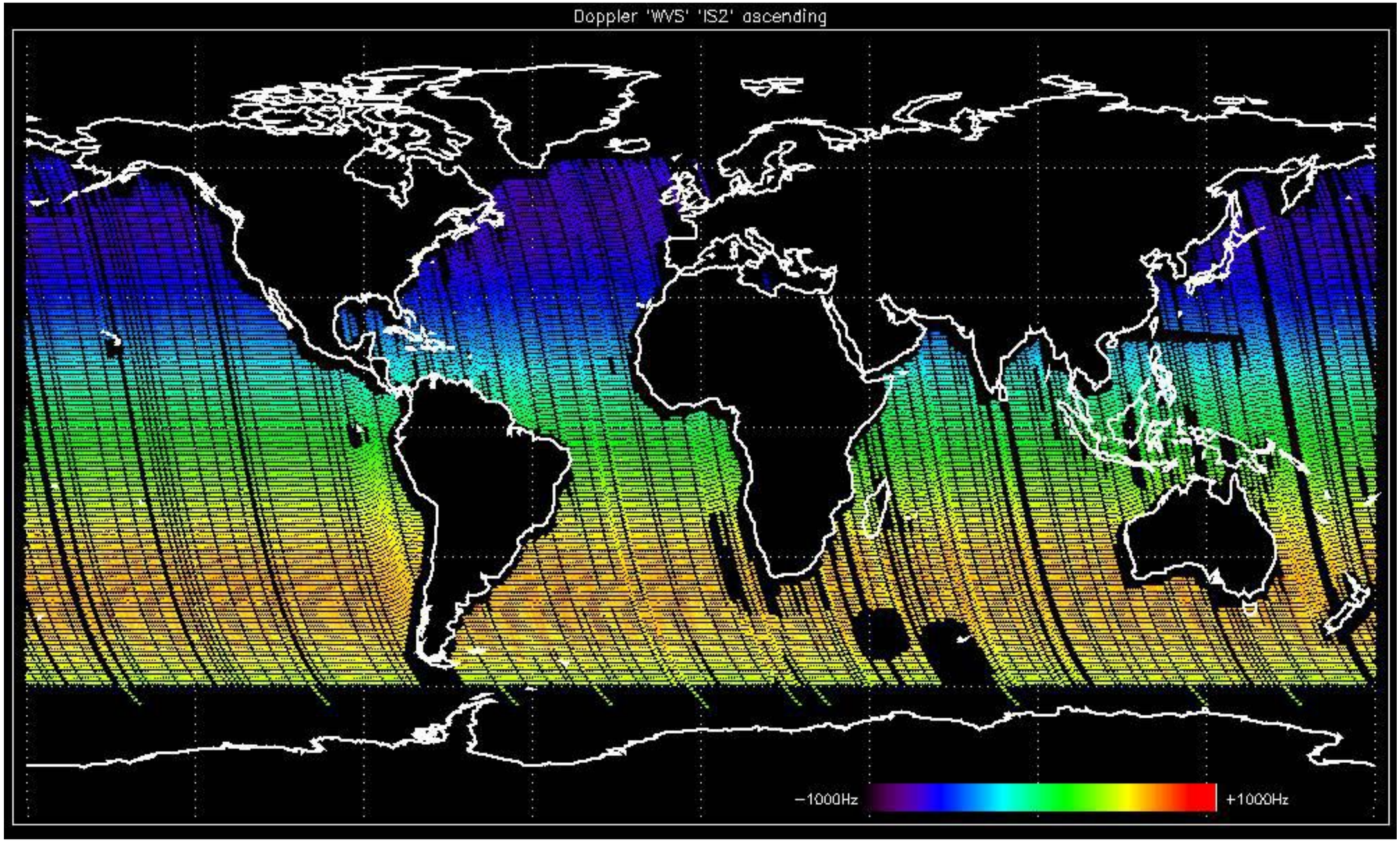

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

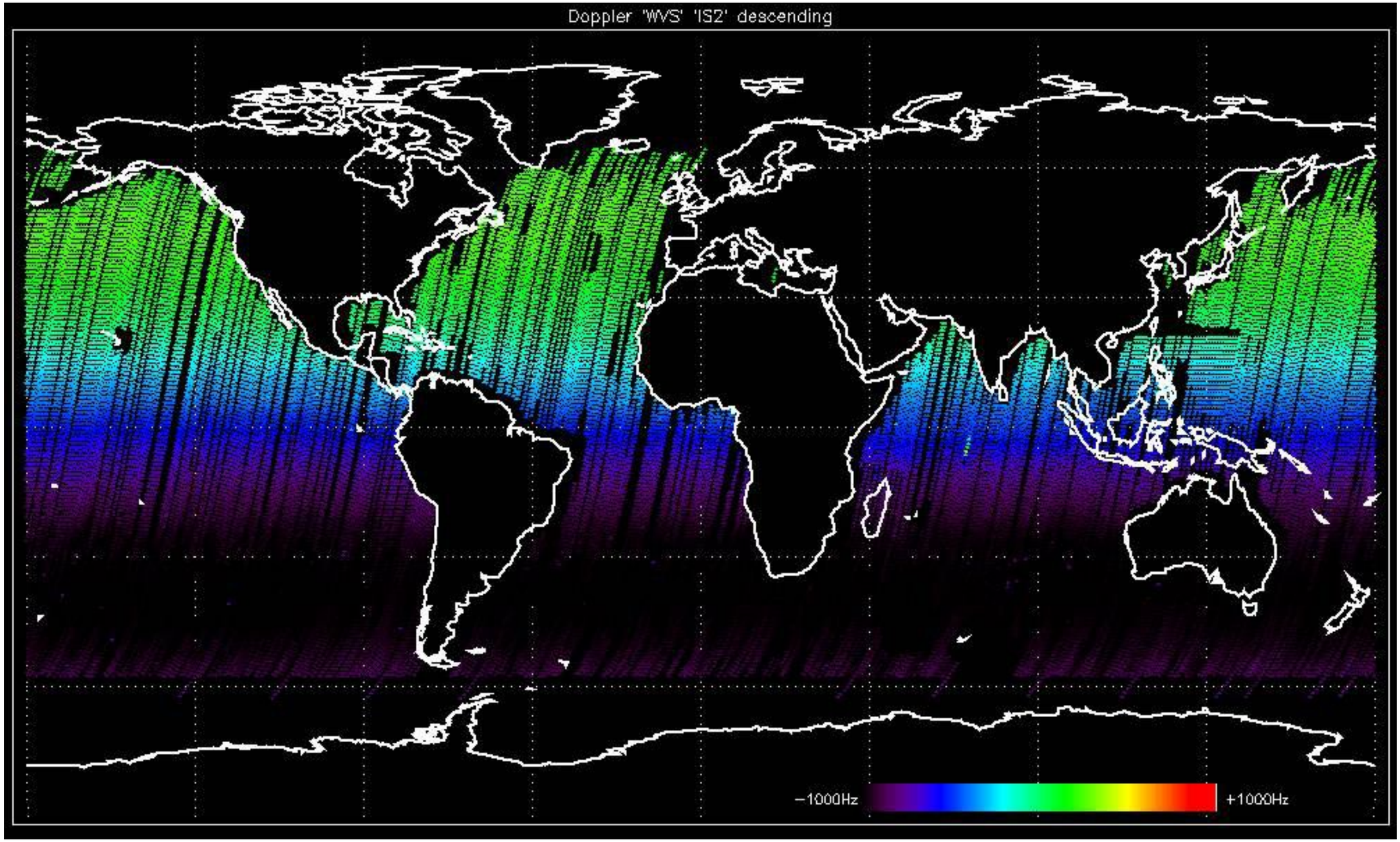
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

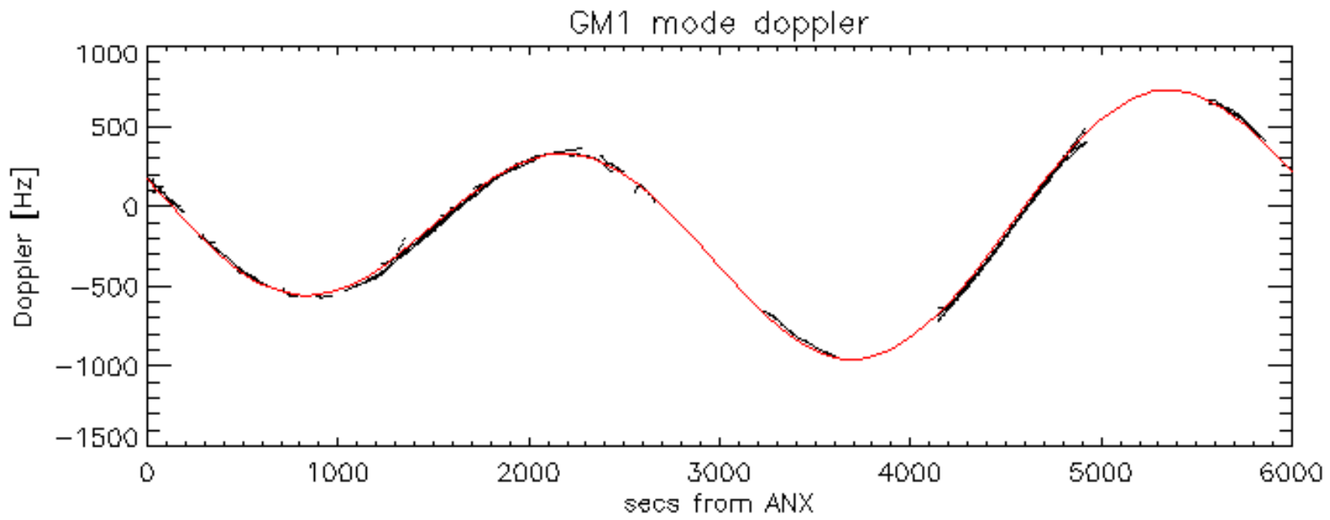
Preliminary report.The data is not yet controled

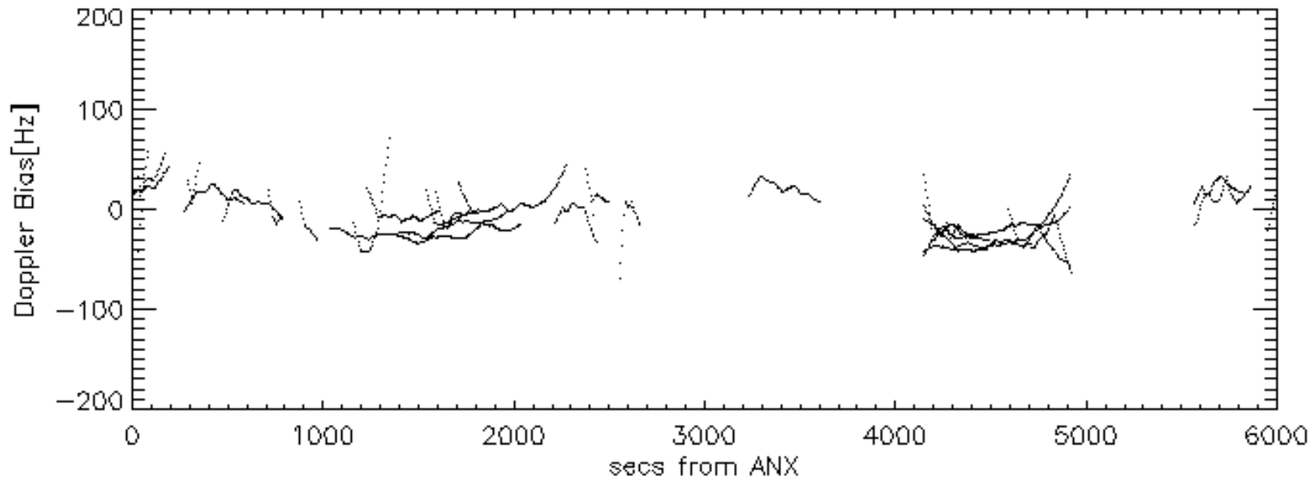

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

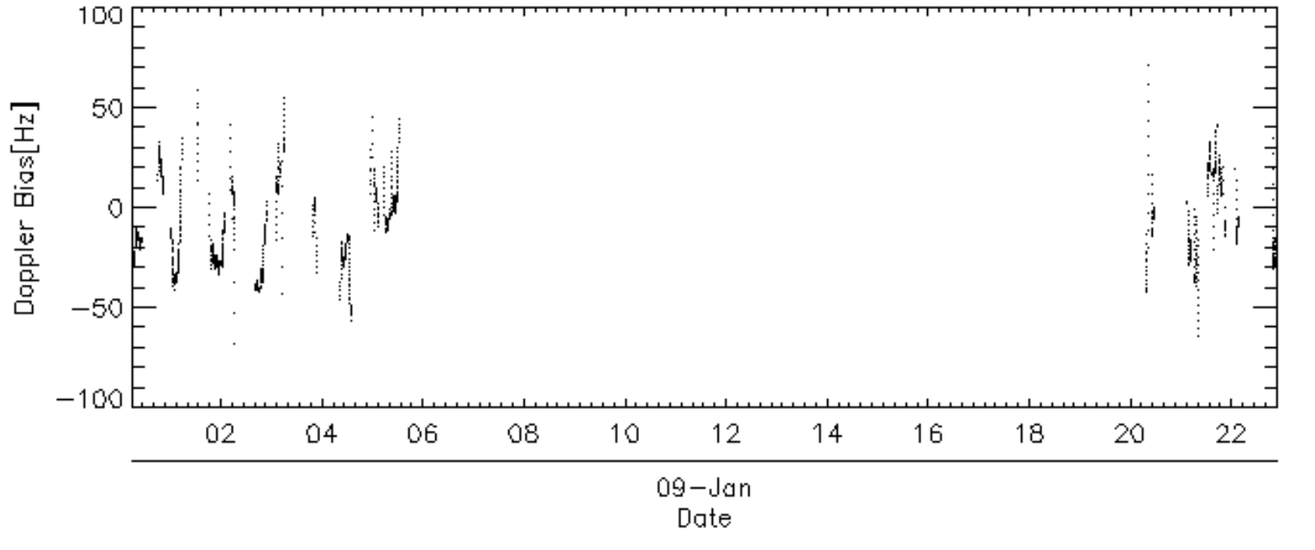

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

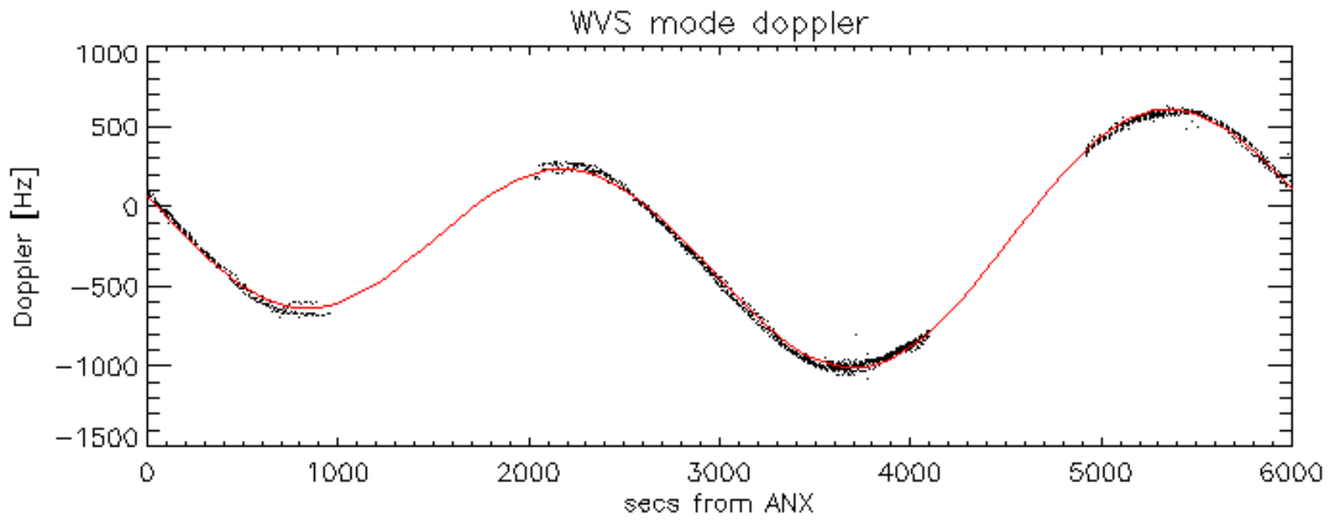

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

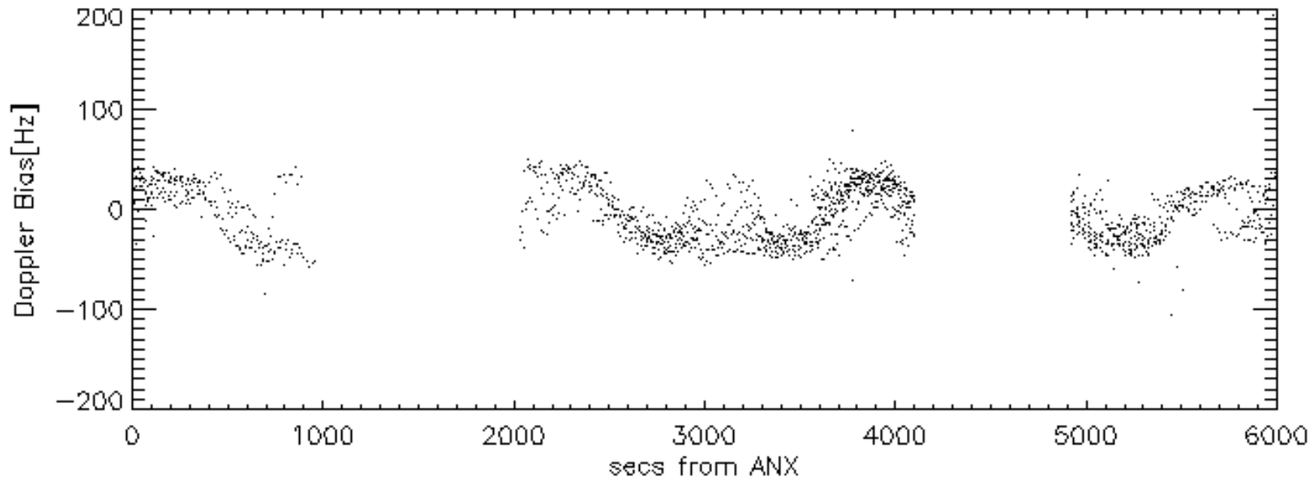

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

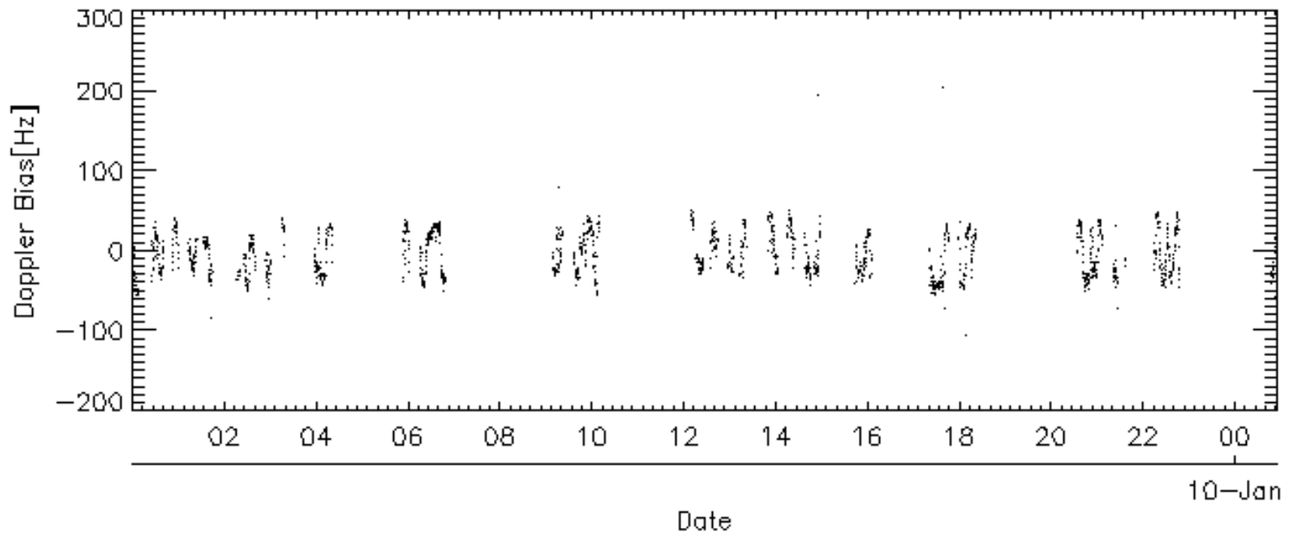

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

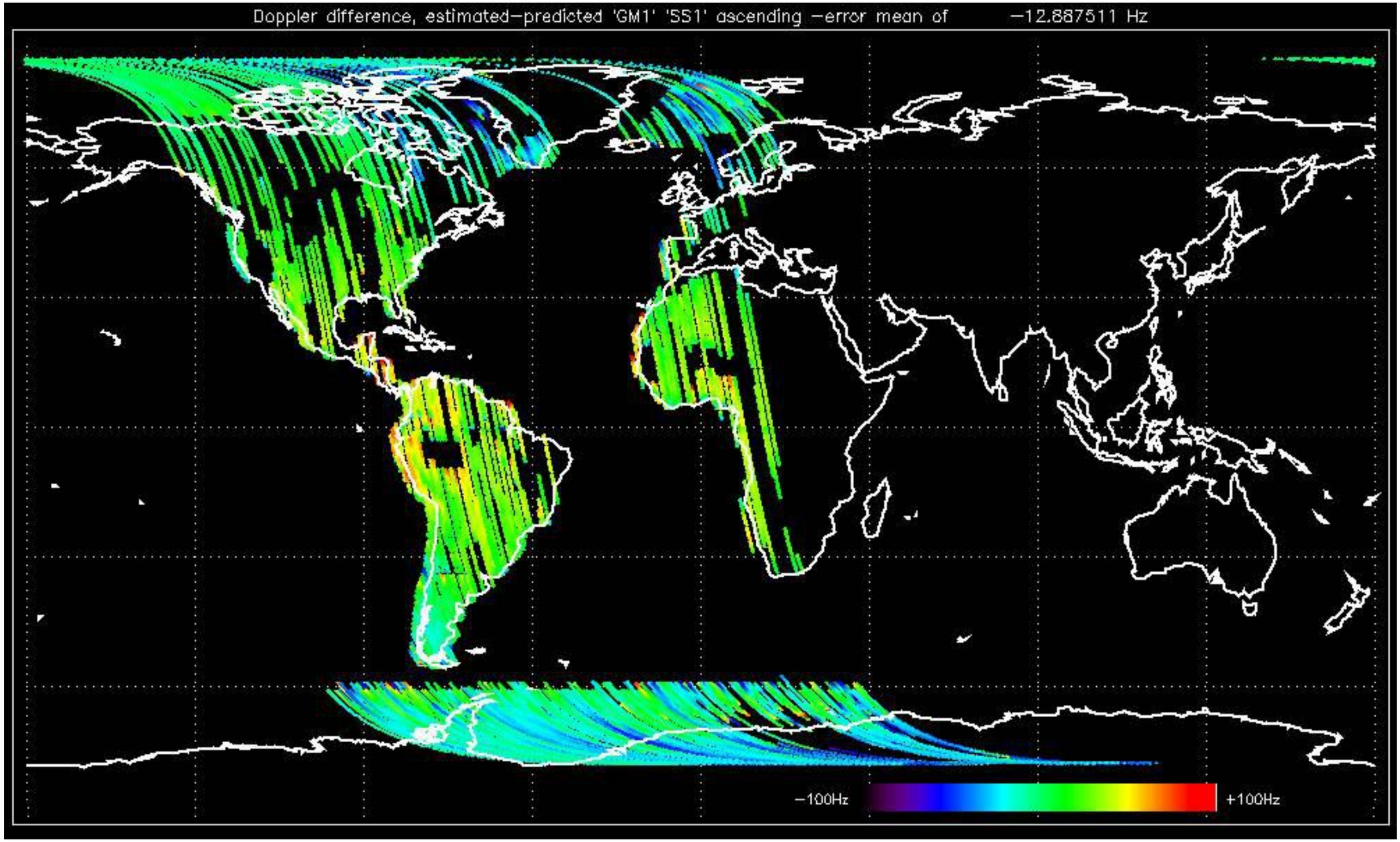

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

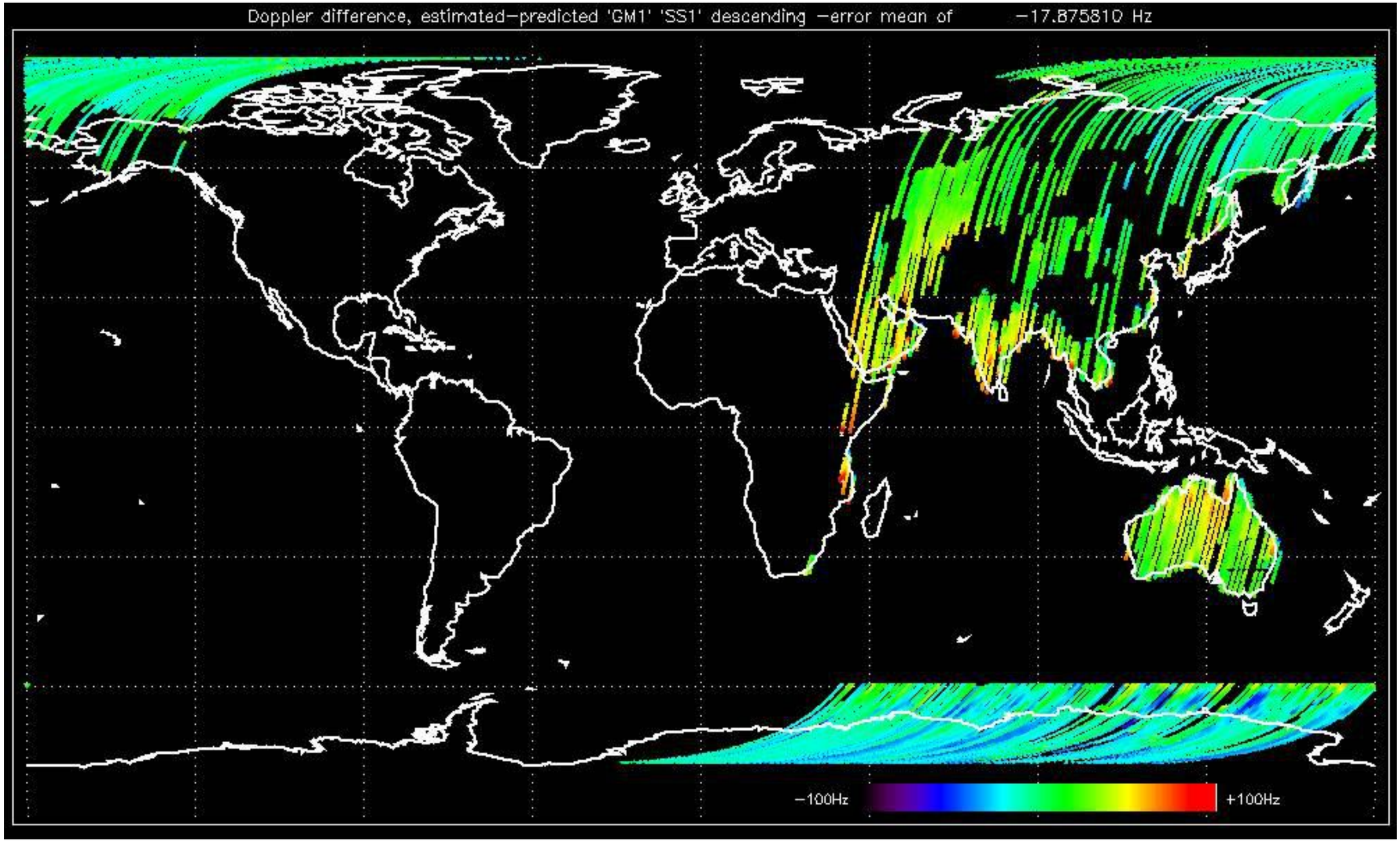

Doppler Bias[Hz]
100
50
0
−50
−100
02
04
06
08
10
12
14
16
18
20
22
09−Jan
Date

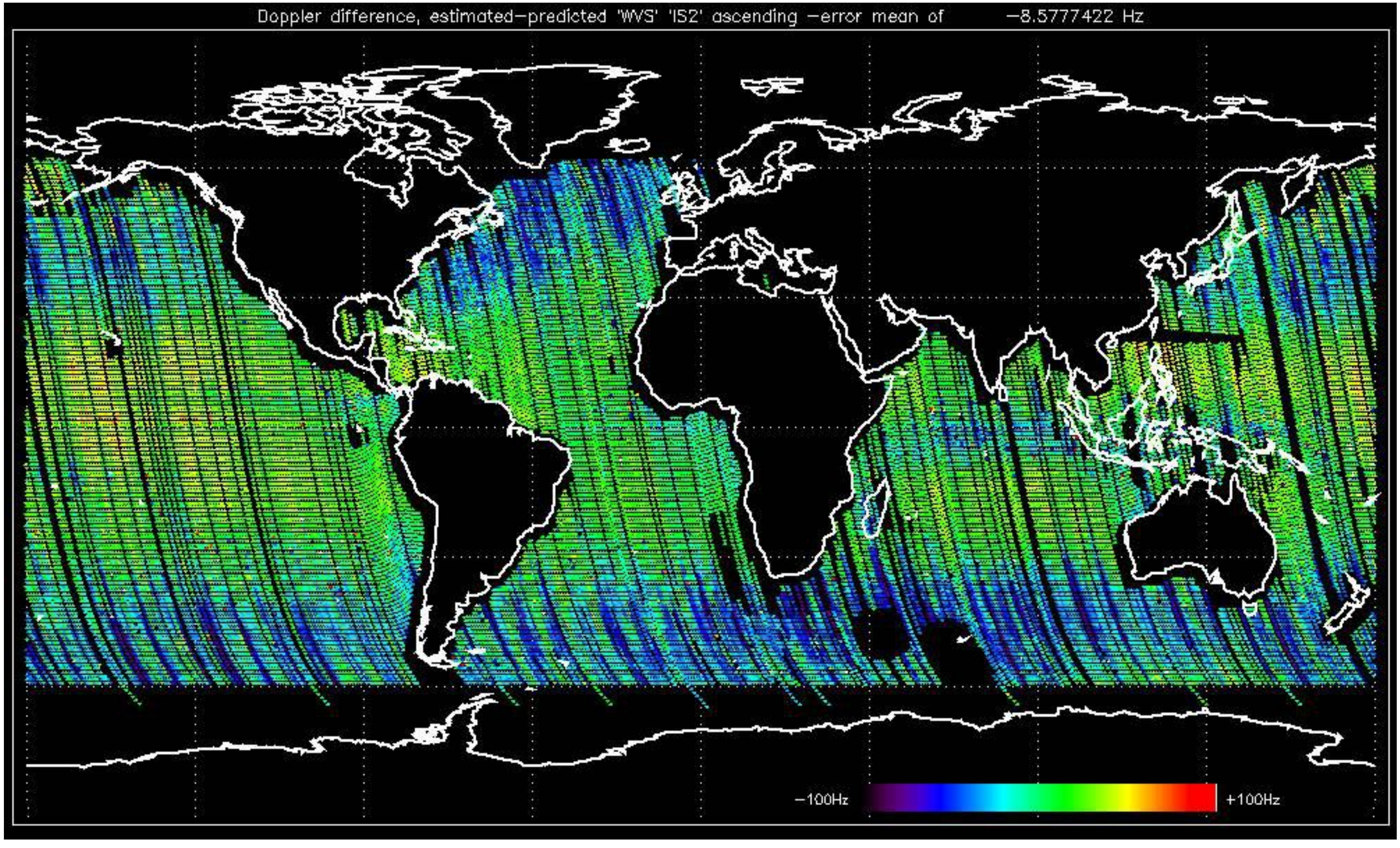

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

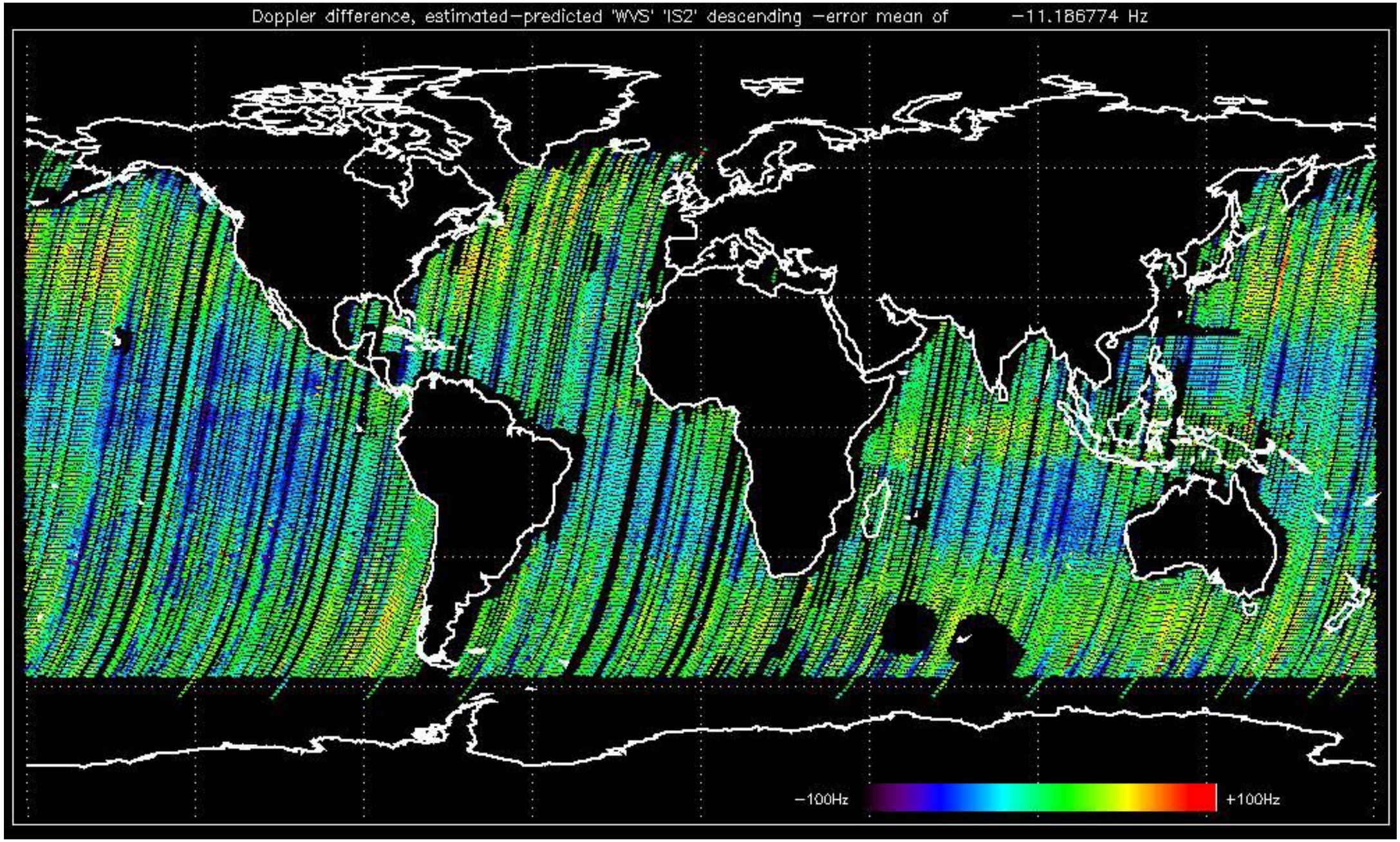

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −12.887511 Hz
−100Hz
+100Hz

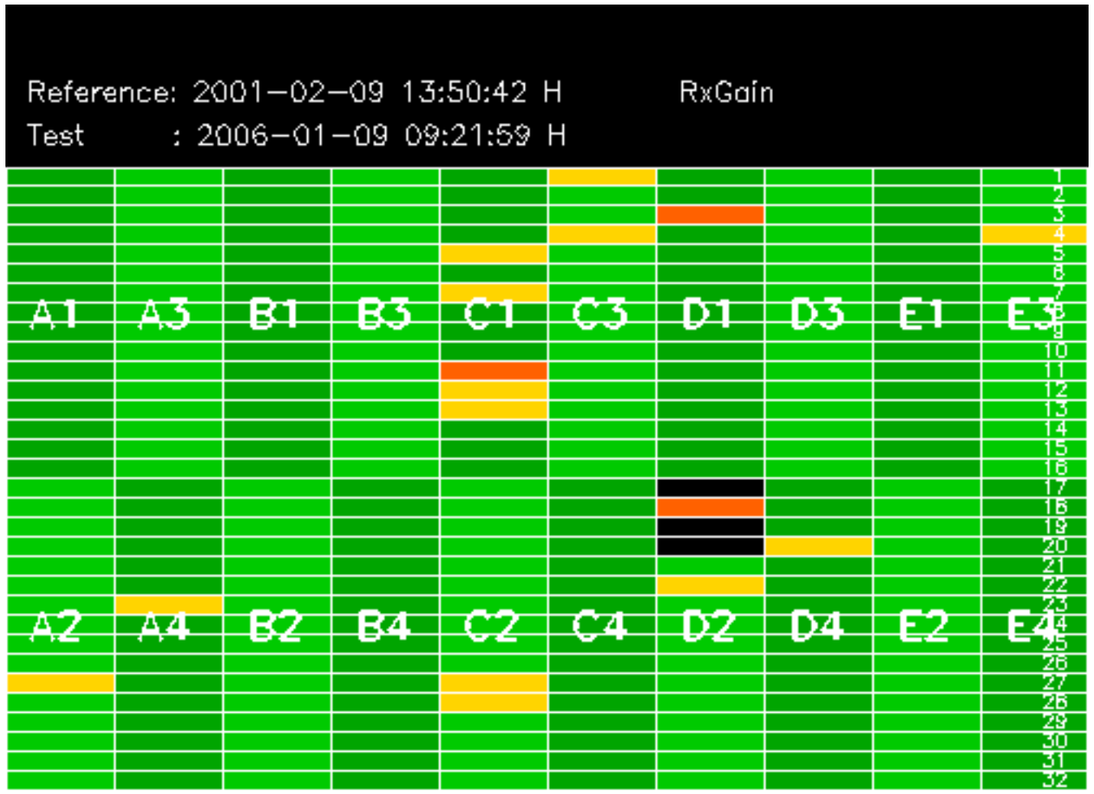

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −17.875810 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −8.5777422 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −11.186774 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2006-01-09 09:21:59 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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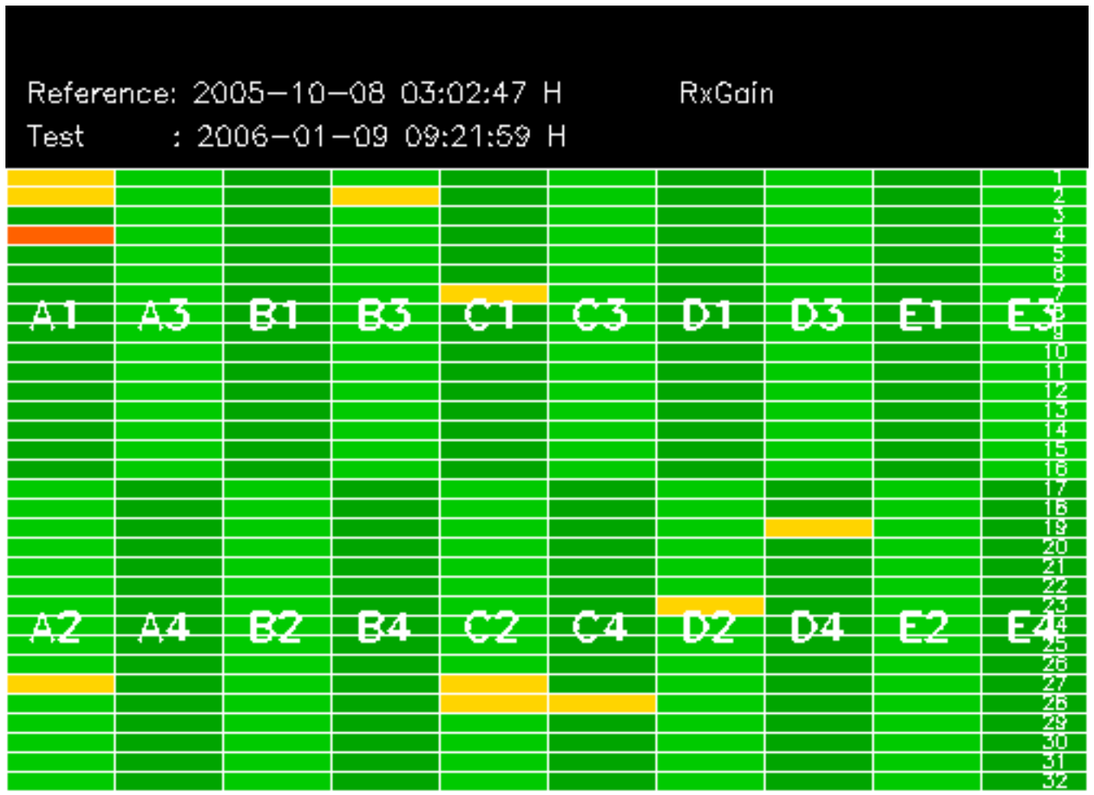
Reference: 2005-10-08 03:02:47 H
Test : 2006-01-09 09:21:59 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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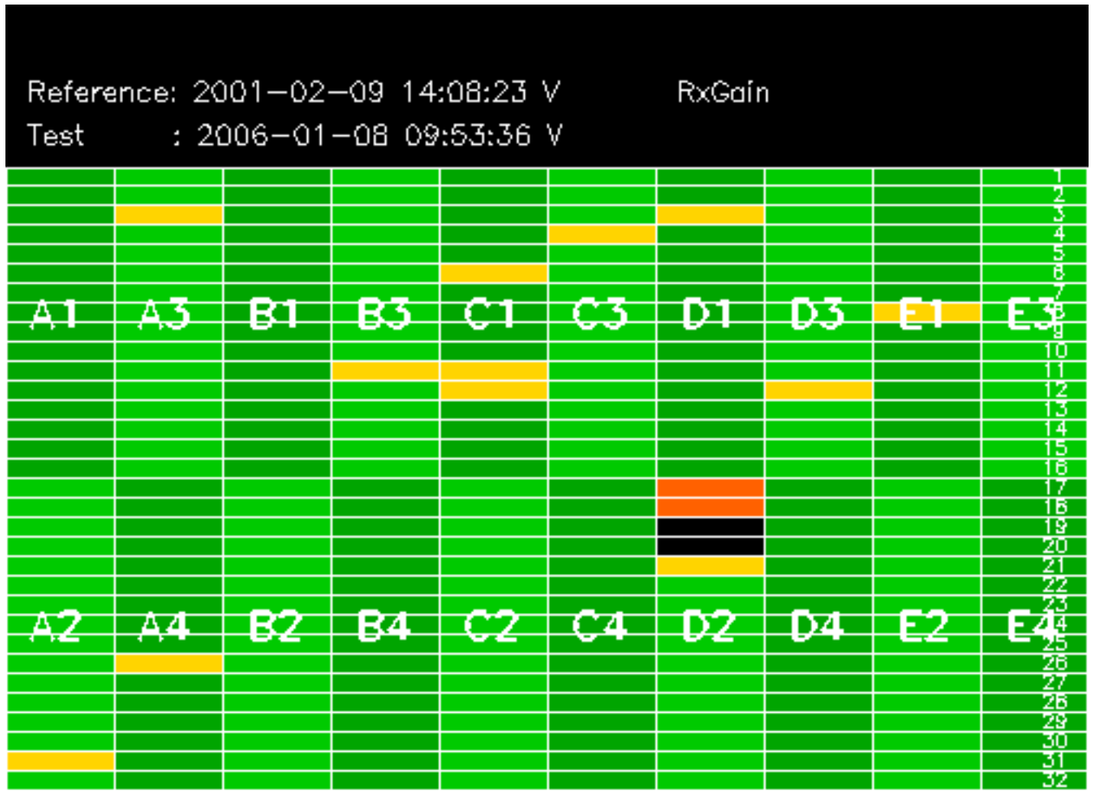
Reference: 2001-02-09 14:08:23 V
Test : 2006-01-08 09:53:36 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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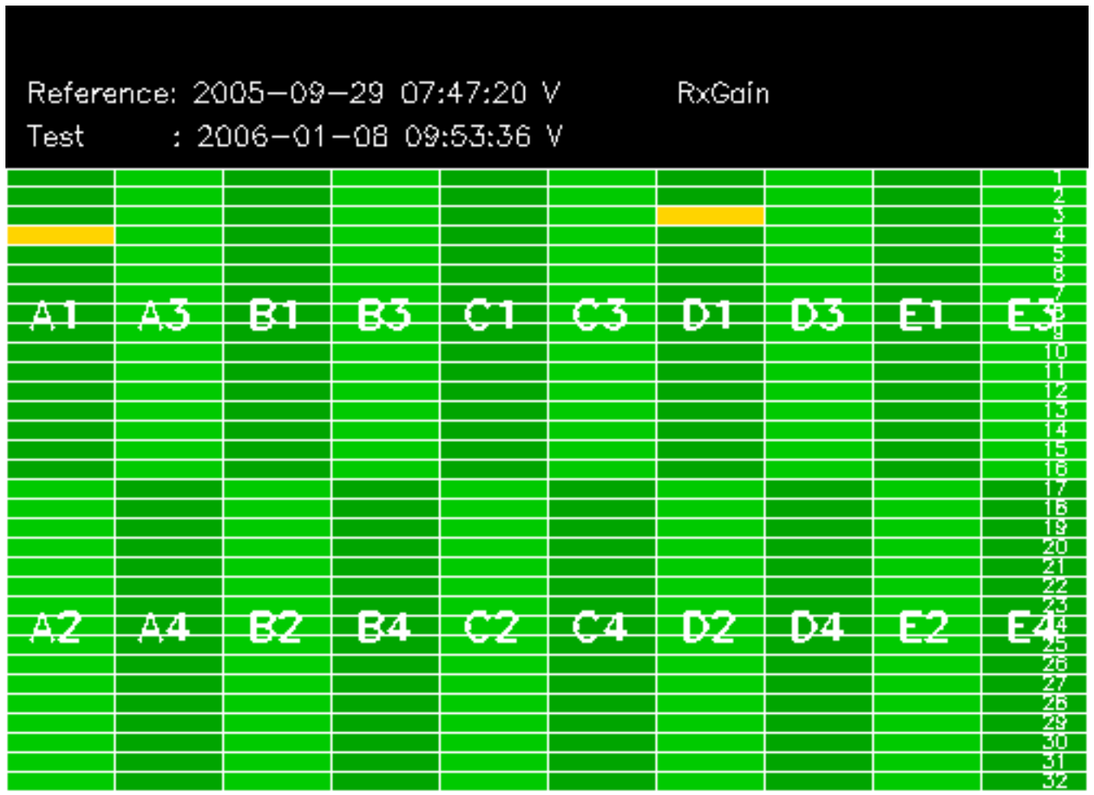
Reference: 2005-09-29 07:47:20 V
Test : 2006-01-08 09:53:36 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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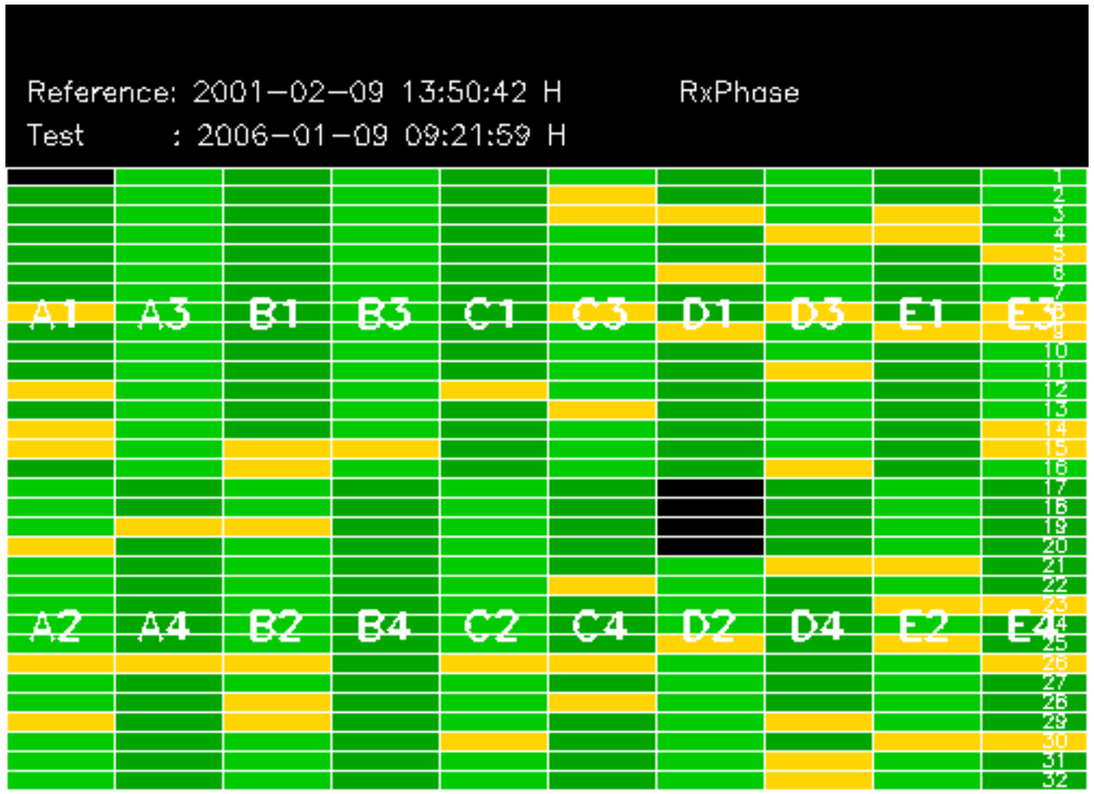
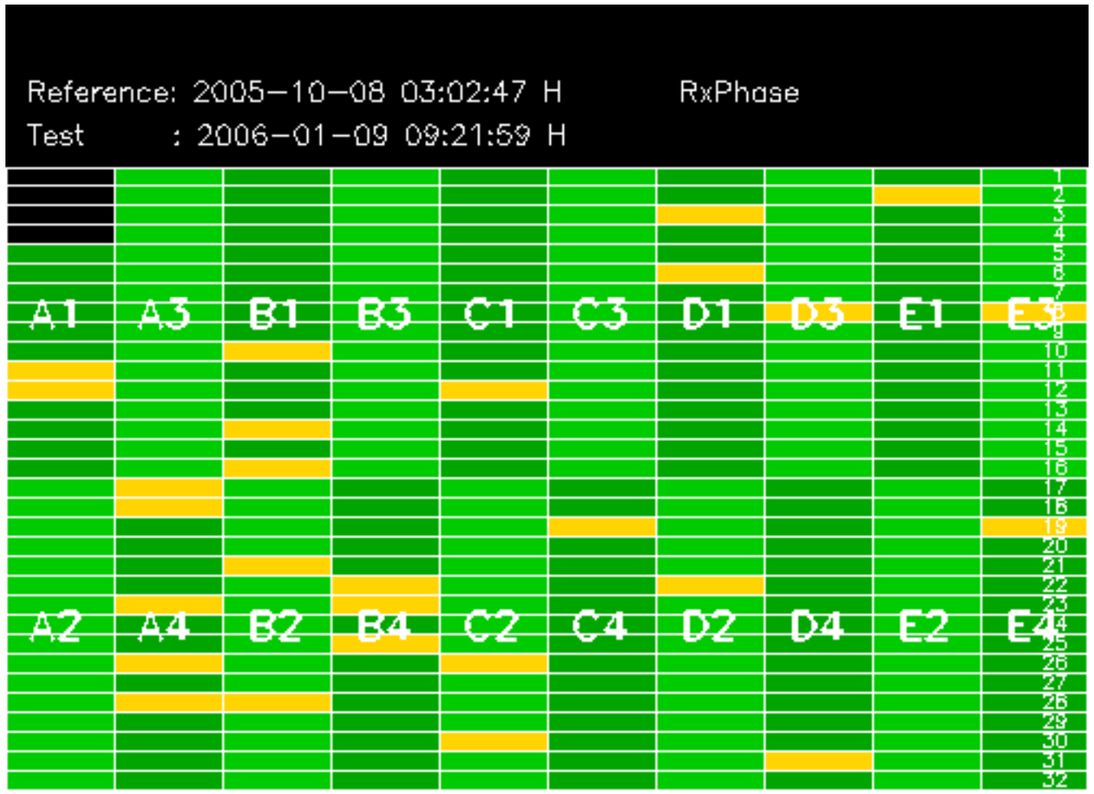
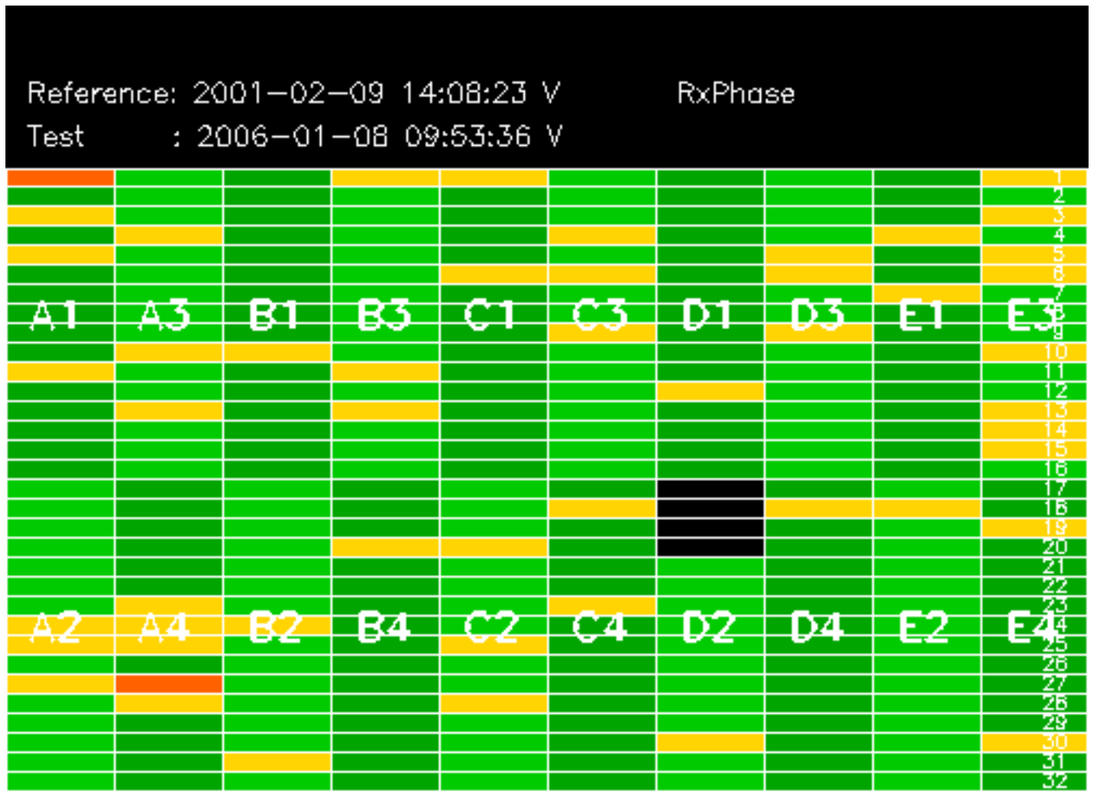
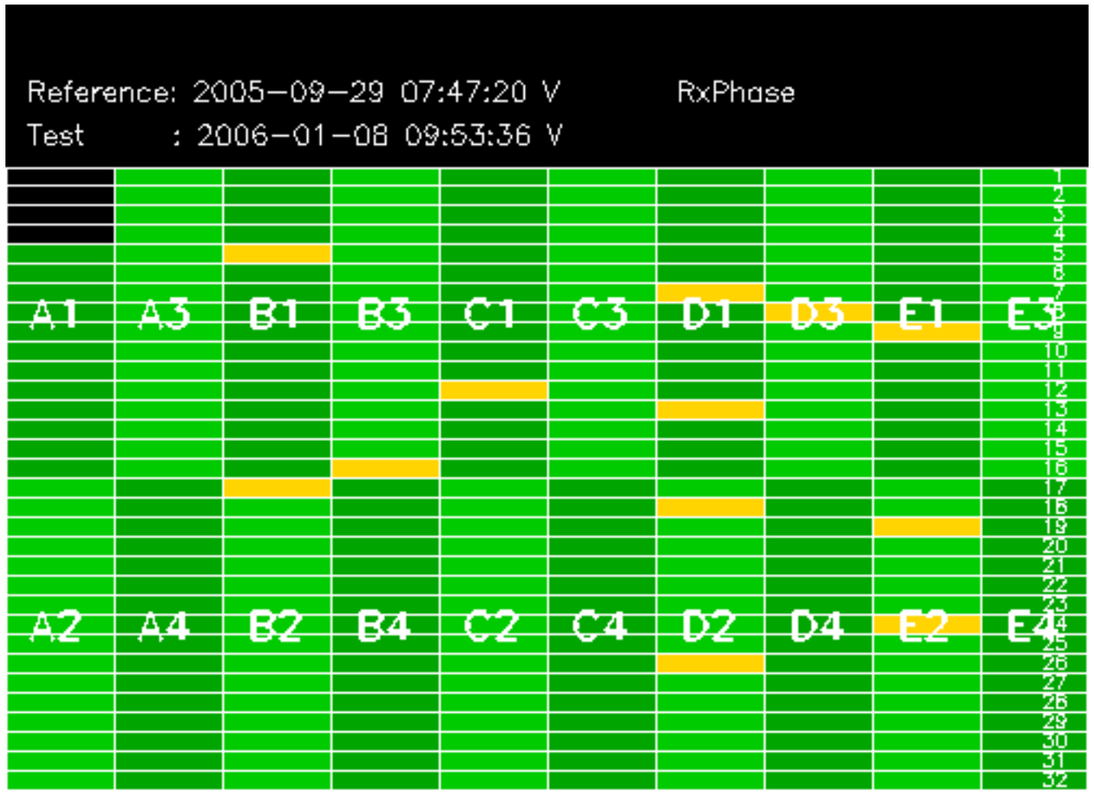

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-01-09 09:21:59 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-10-08 03:02:47 H
RxPhase
Test : 2006-01-09 09:21:59 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2006-01-08 09:53:36 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 : 2006-01-08 09:53:36 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
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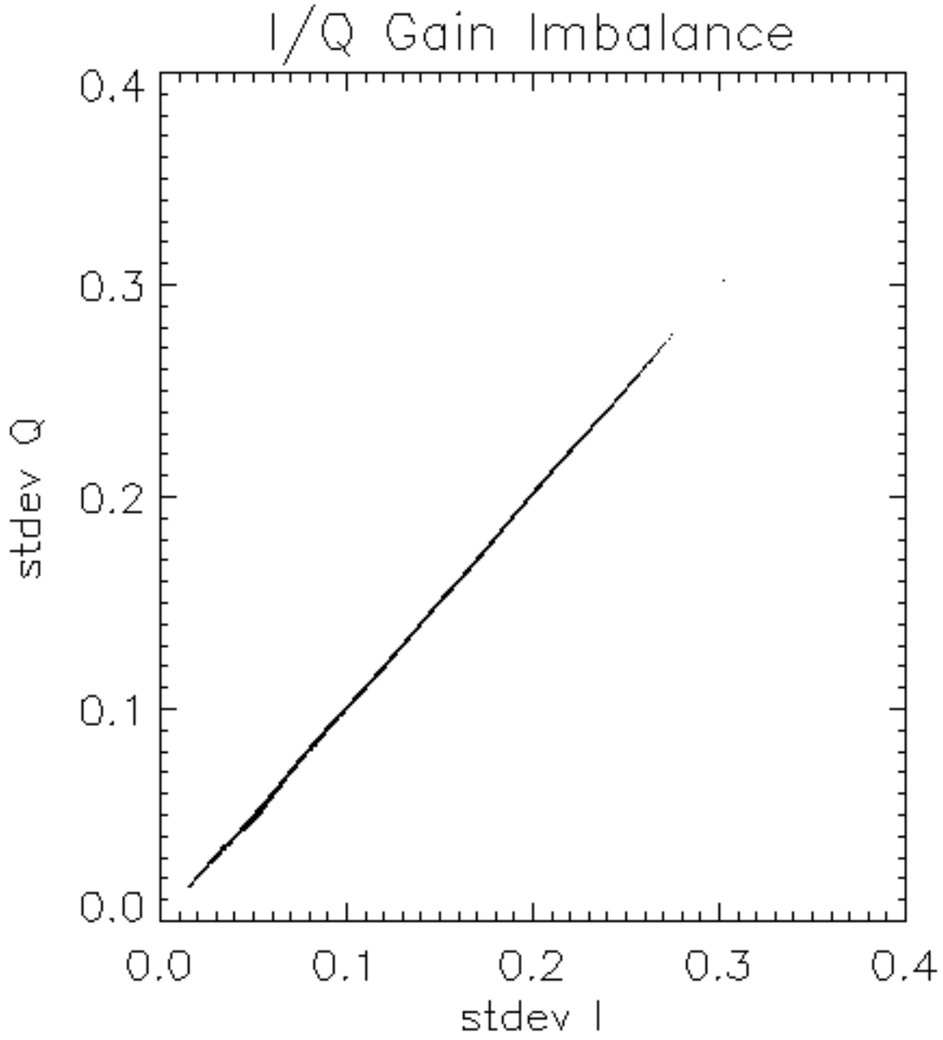
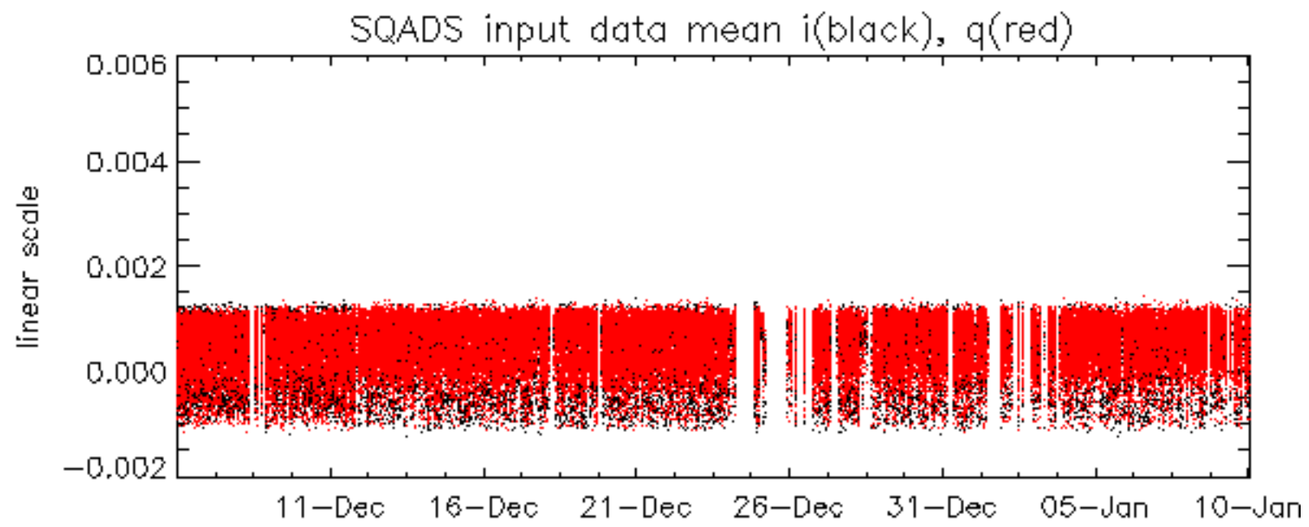
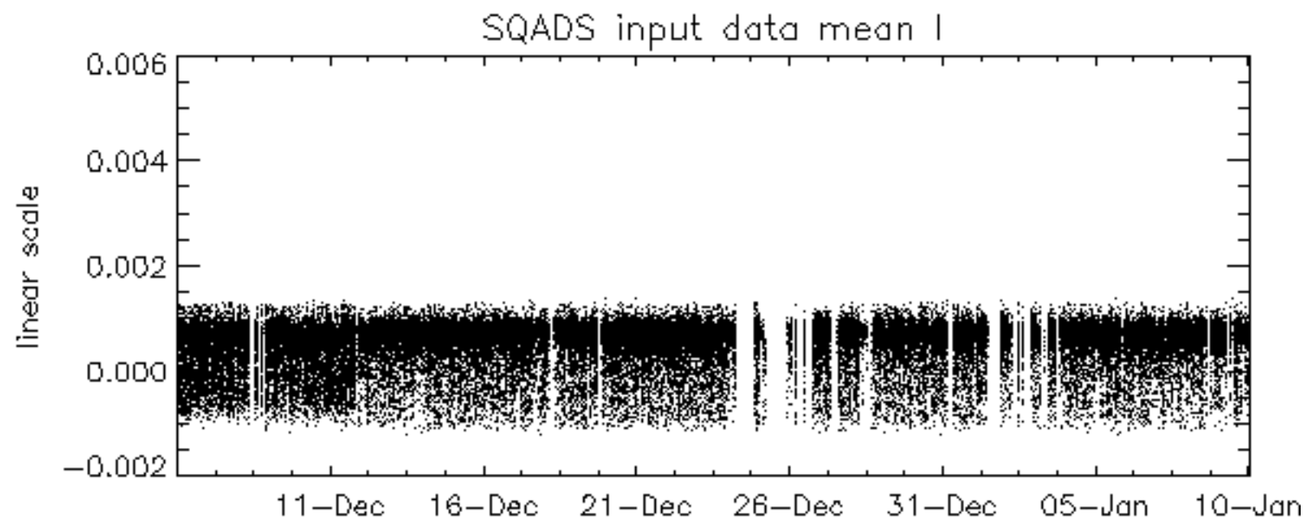
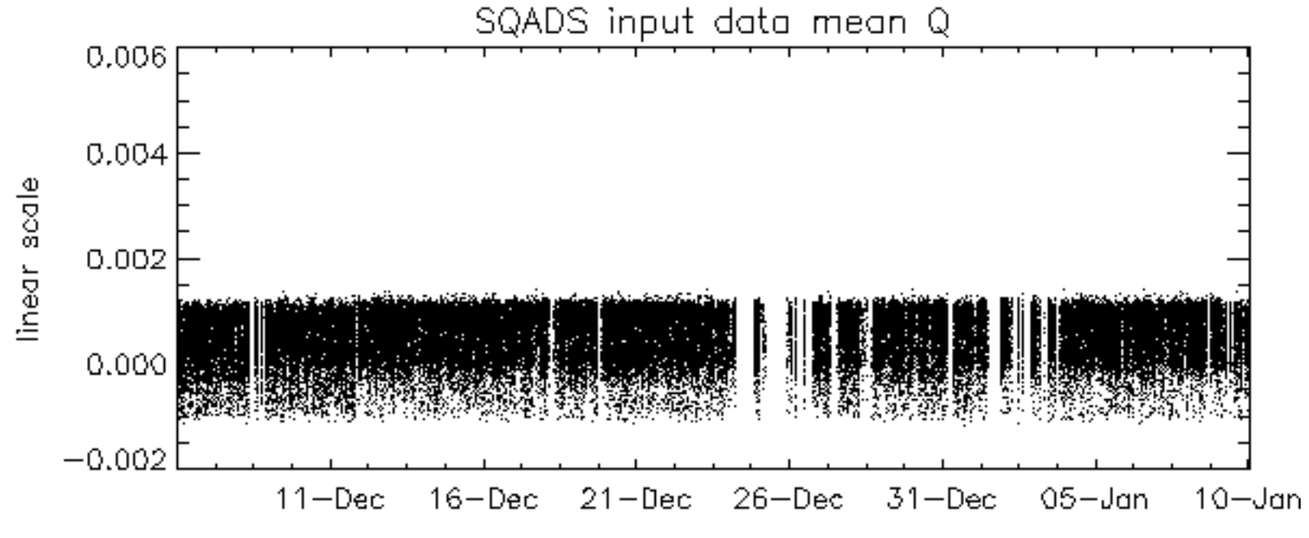
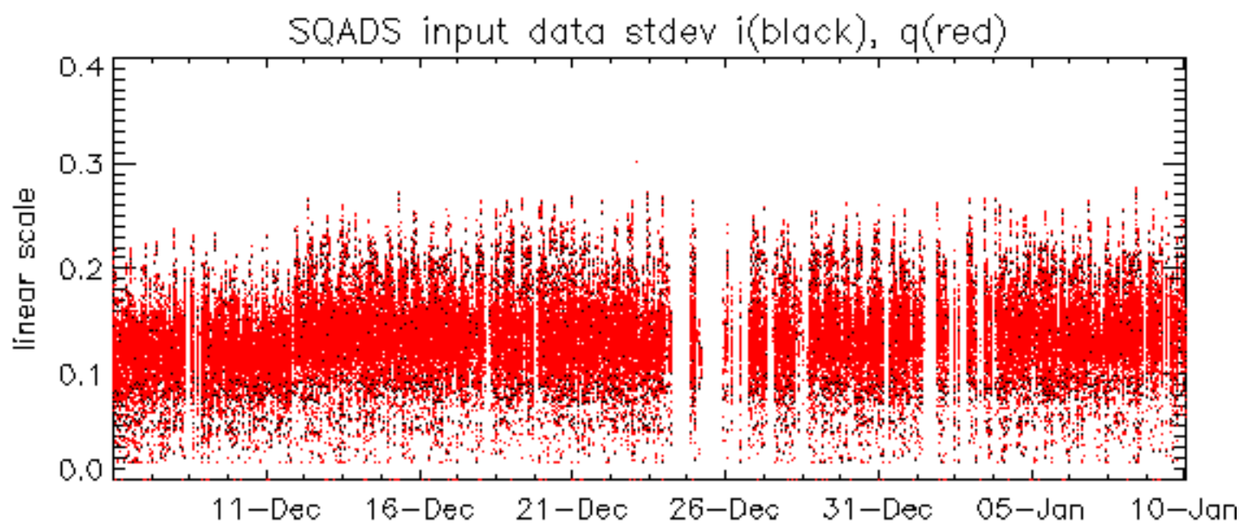
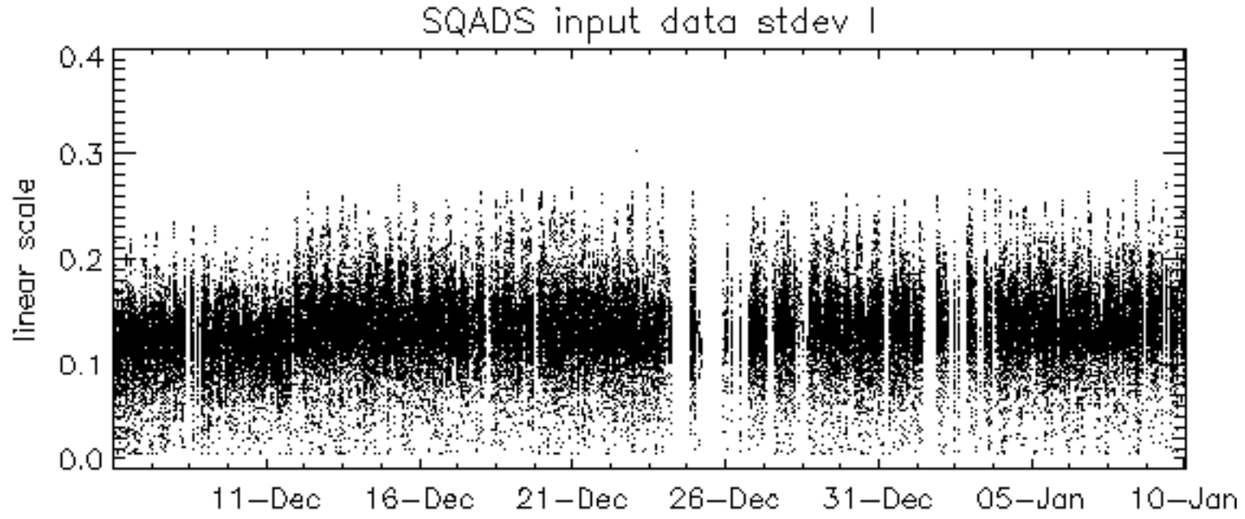

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

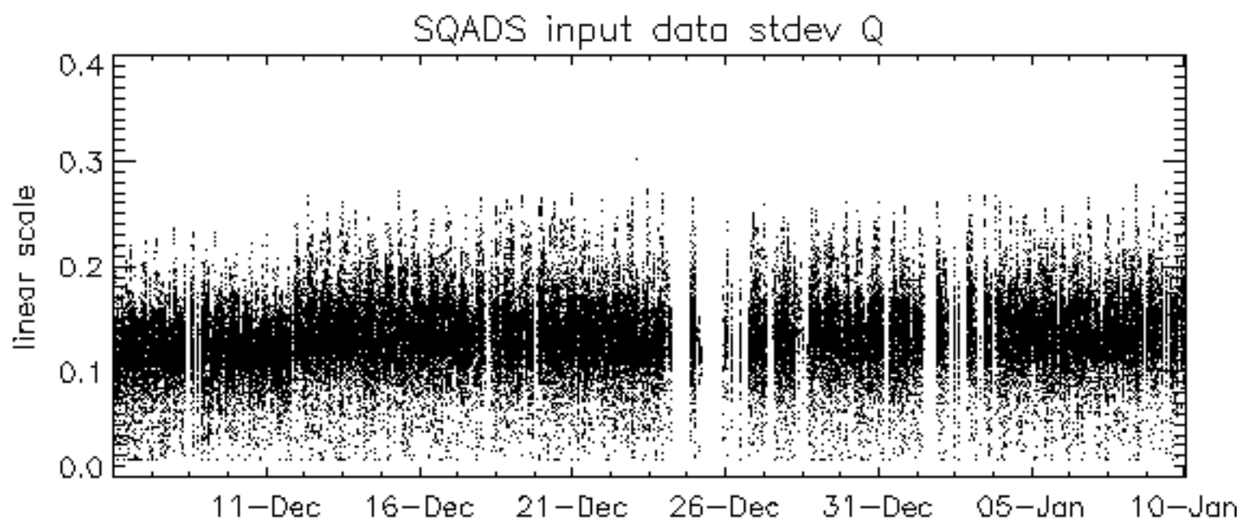

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan

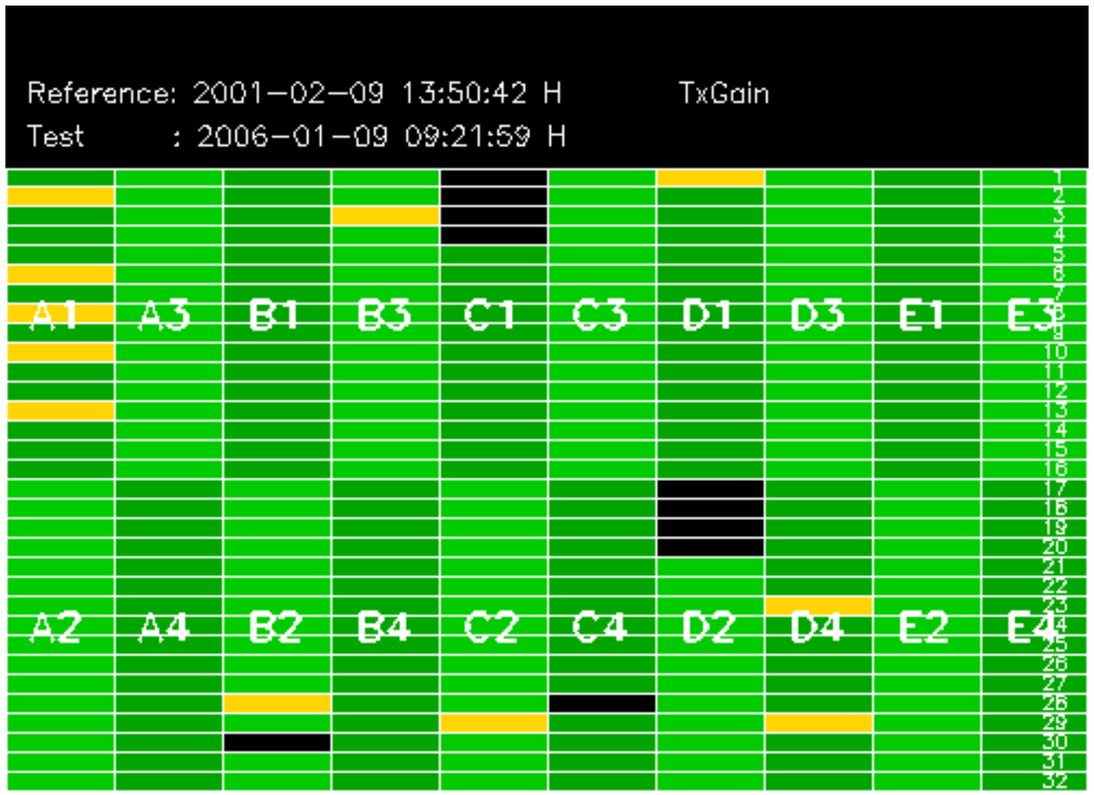

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan


SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan


SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
11−Dec
16−Dec
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan


Reference: 2001-02-09 13:50:42 H
Test : 2006-01-09 09:21:59 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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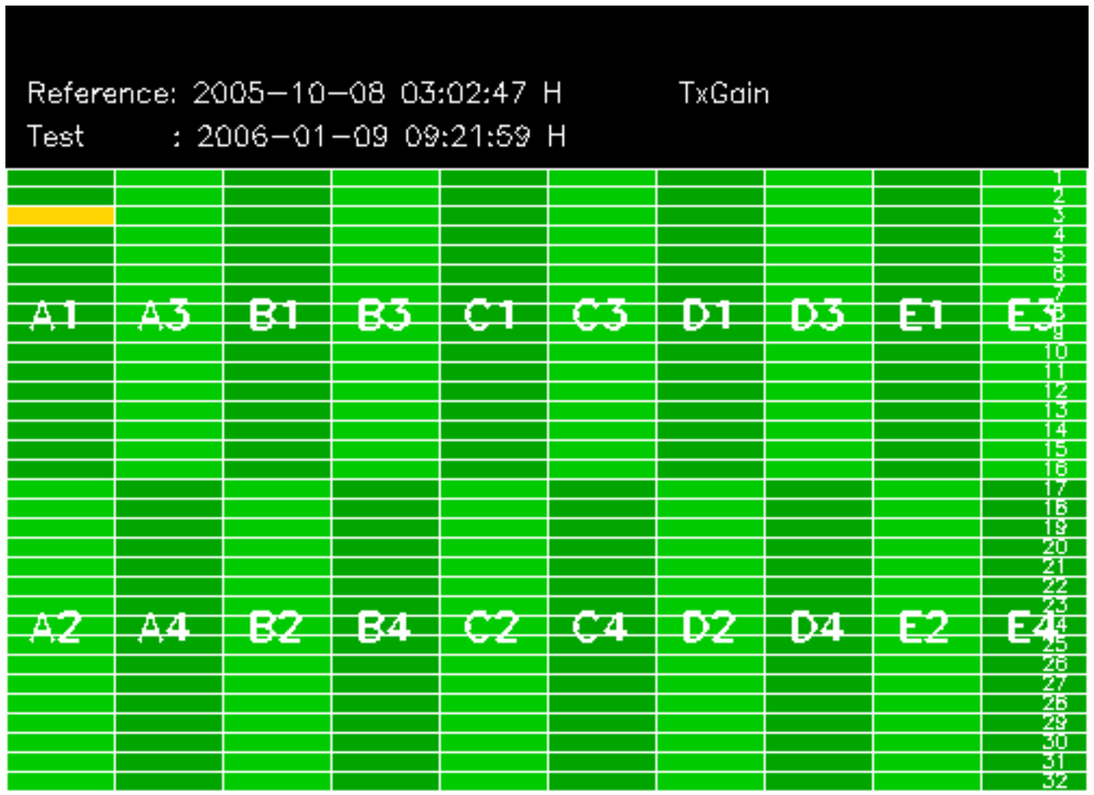
Reference: 2005-10-08 03:02:47 H
Test : 2006-01-09 09:21:59 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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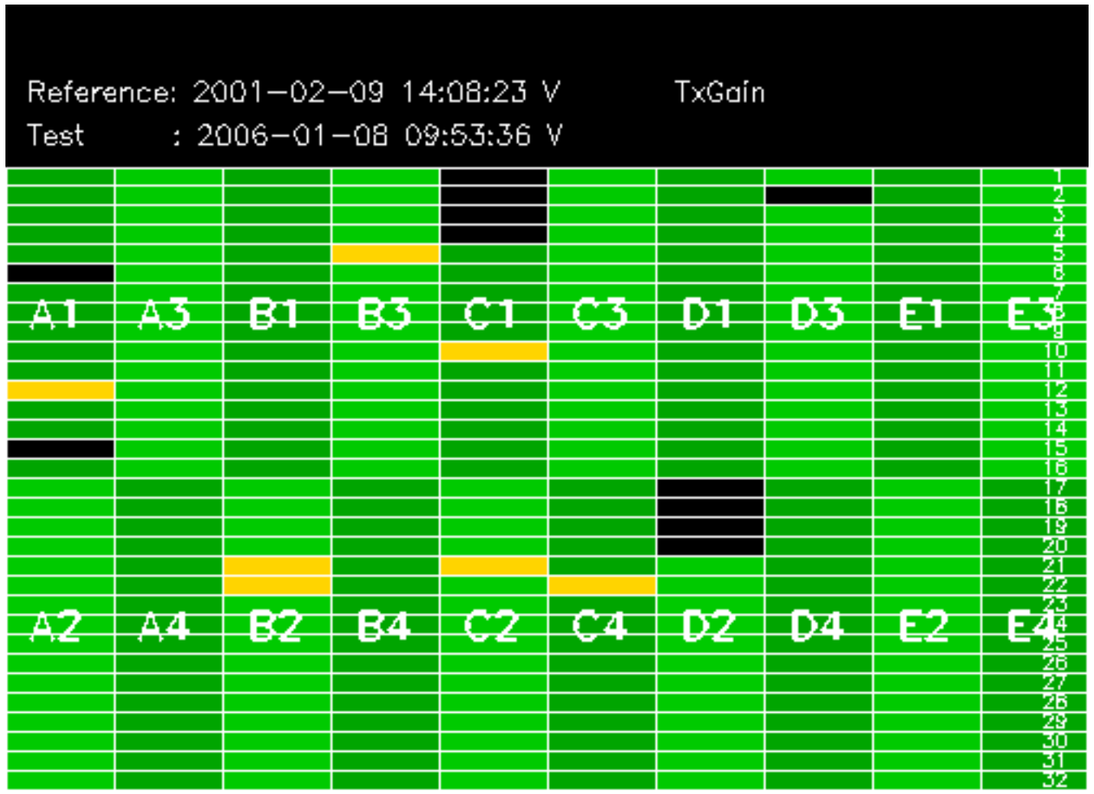
Reference: 2001-02-09 14:08:23 V
Test : 2006-01-08 09:53:36 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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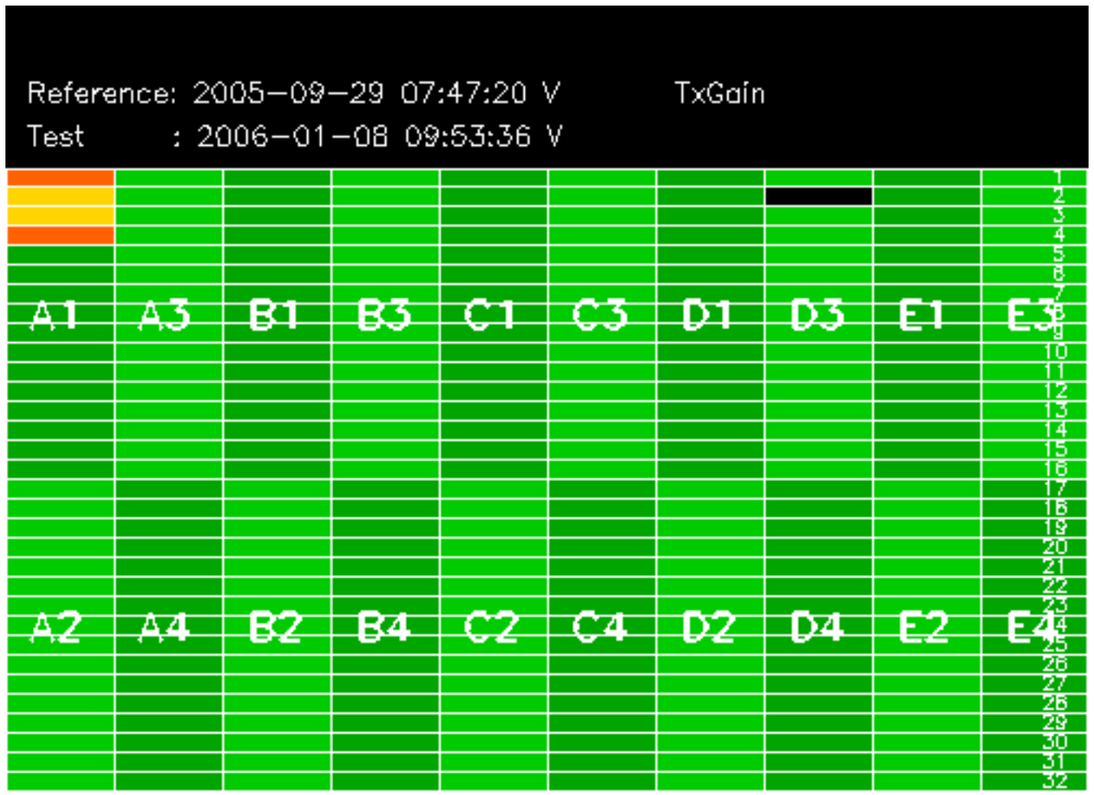
Reference: 2005-09-29 07:47:20 V
Test : 2006-01-08 09:53:36 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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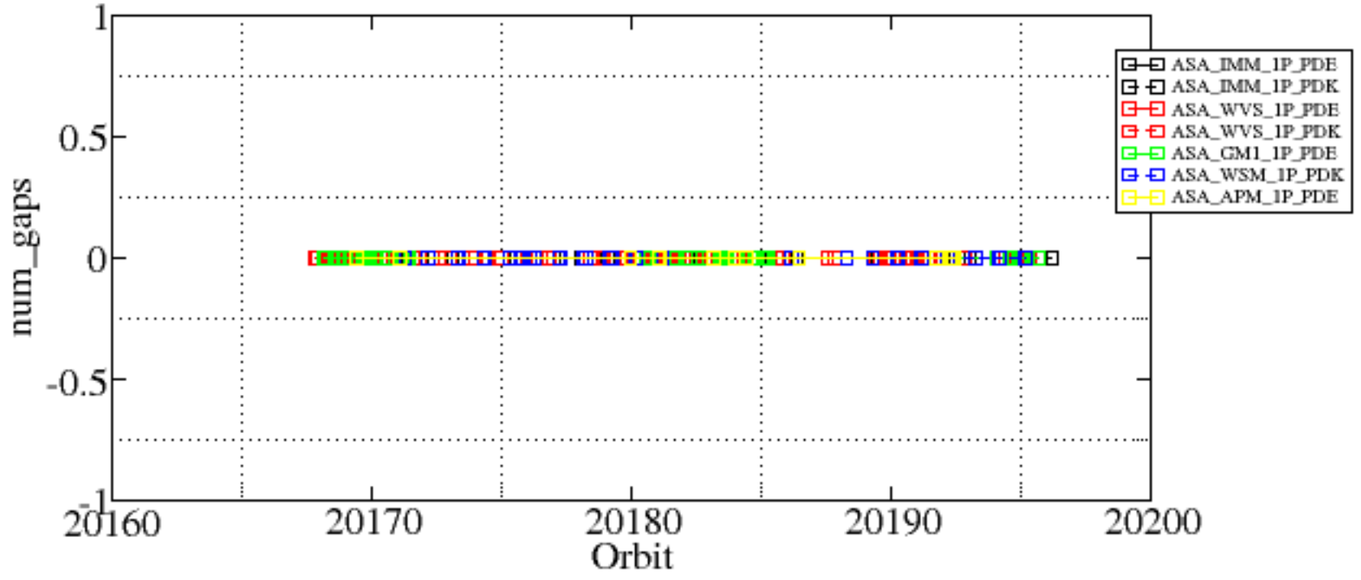
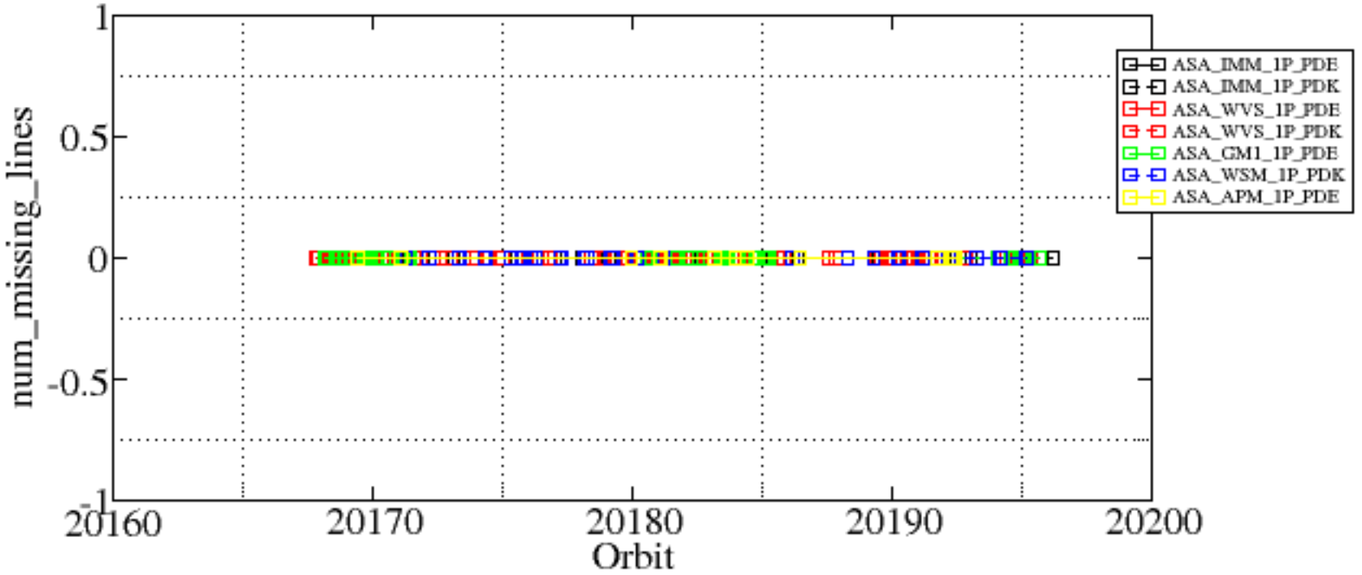
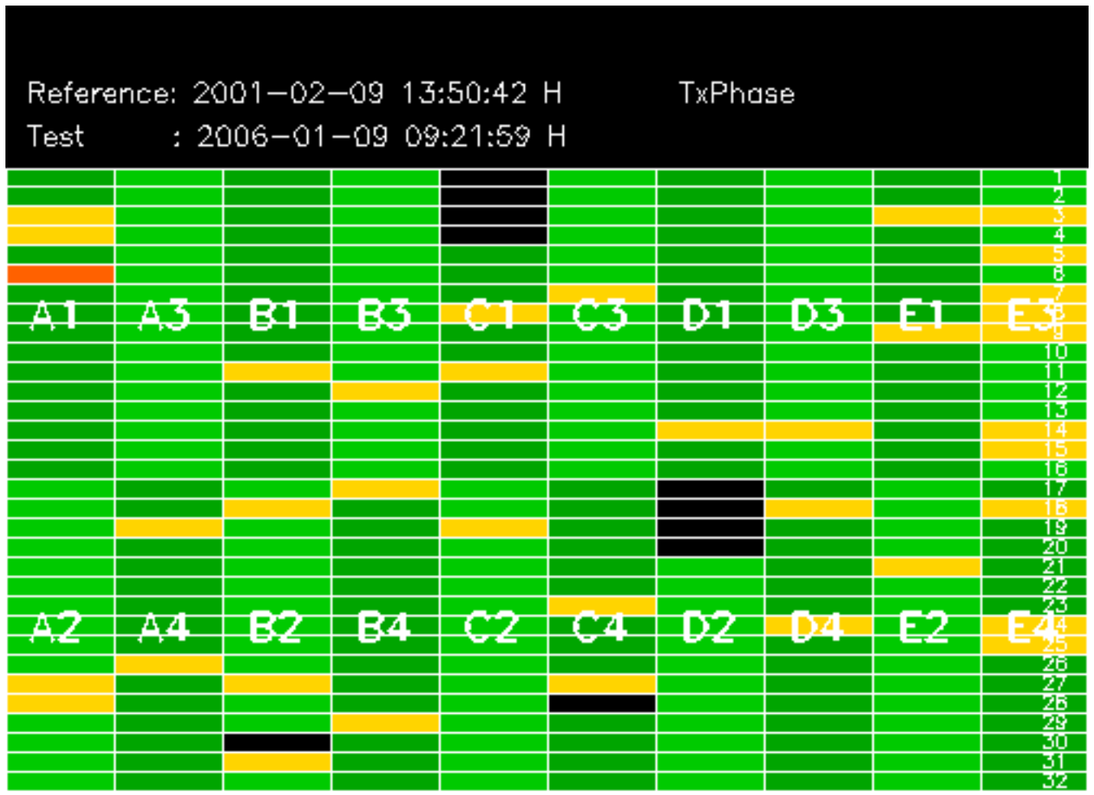
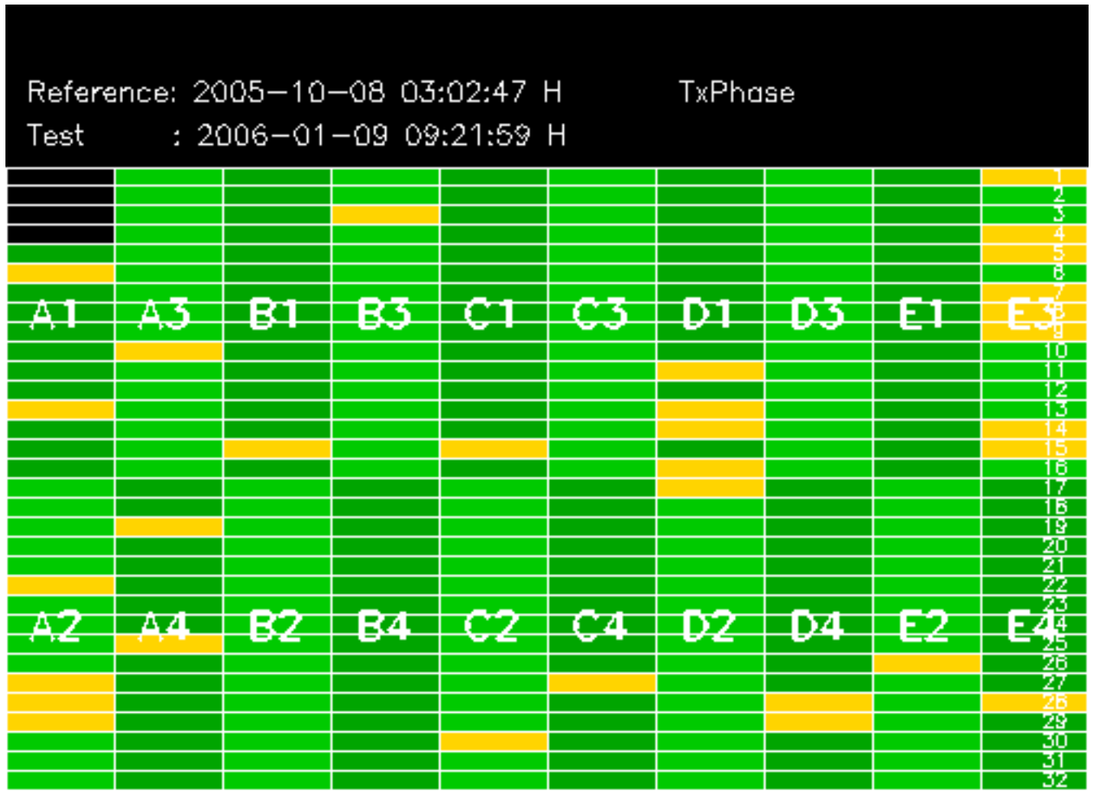
Summary of analysis for the last 3 days 2006010[890]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
20160
20170
20180
20190
20200
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE


num_missing_lines
1
0.5
0
-0.5
-1
20160
20170
20180
20190
20200
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE


Reference: 2001-02-09 13:50:42 H
Test : 2006-01-09 09:21:59 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-10-08 03:02:47 H
TxPhase
Test : 2006-01-09 09:21:59 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2006-01-08 09:53:36 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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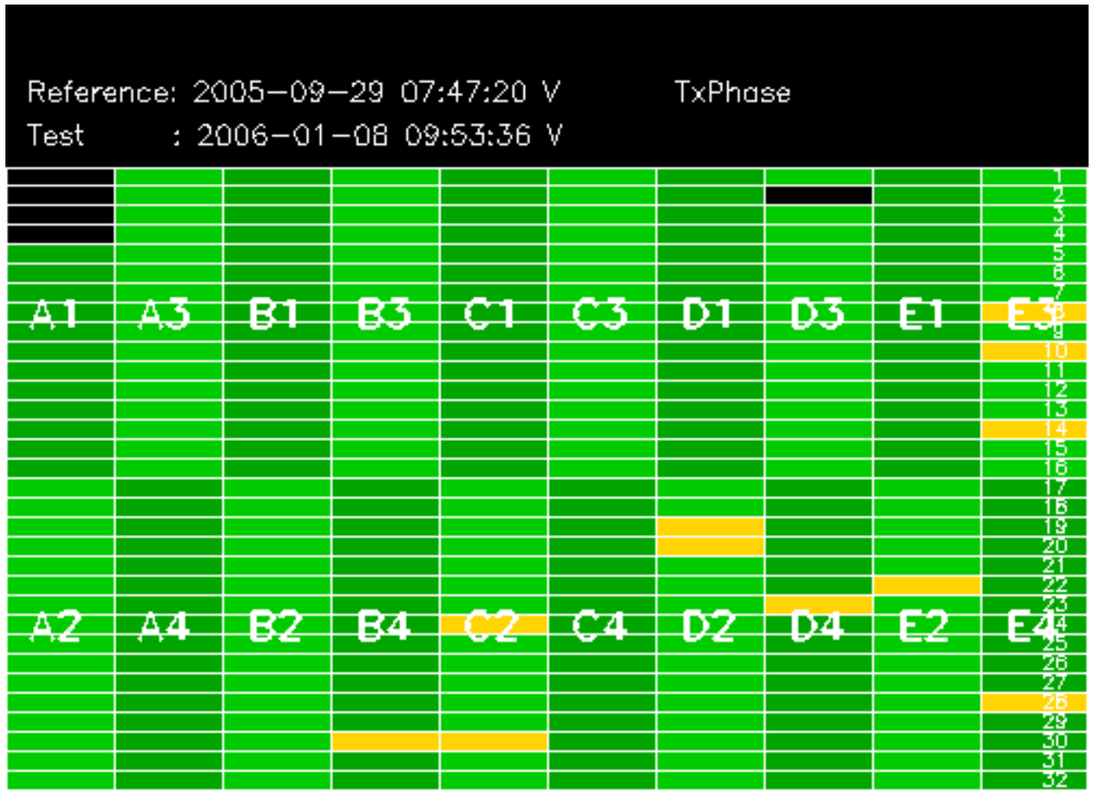
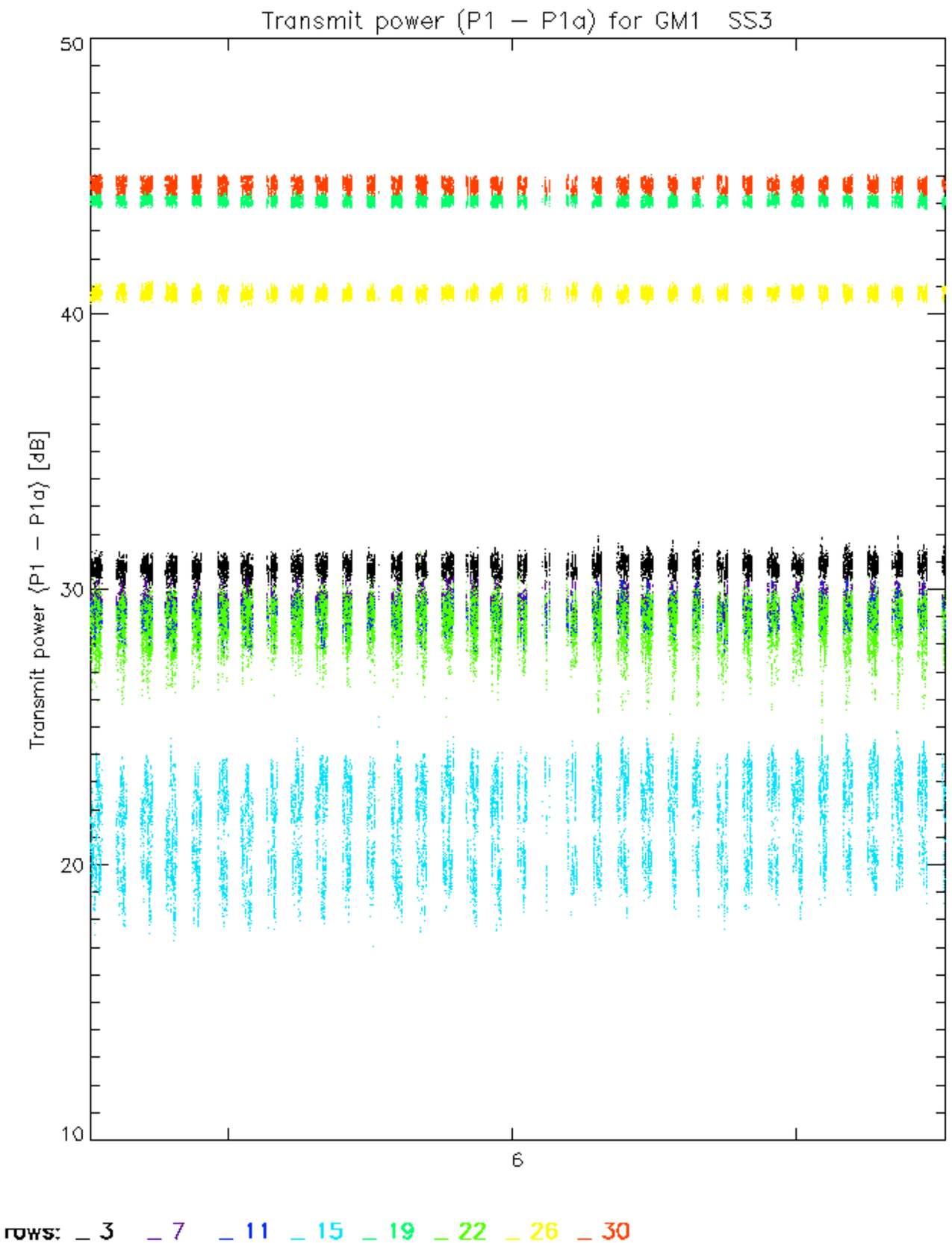
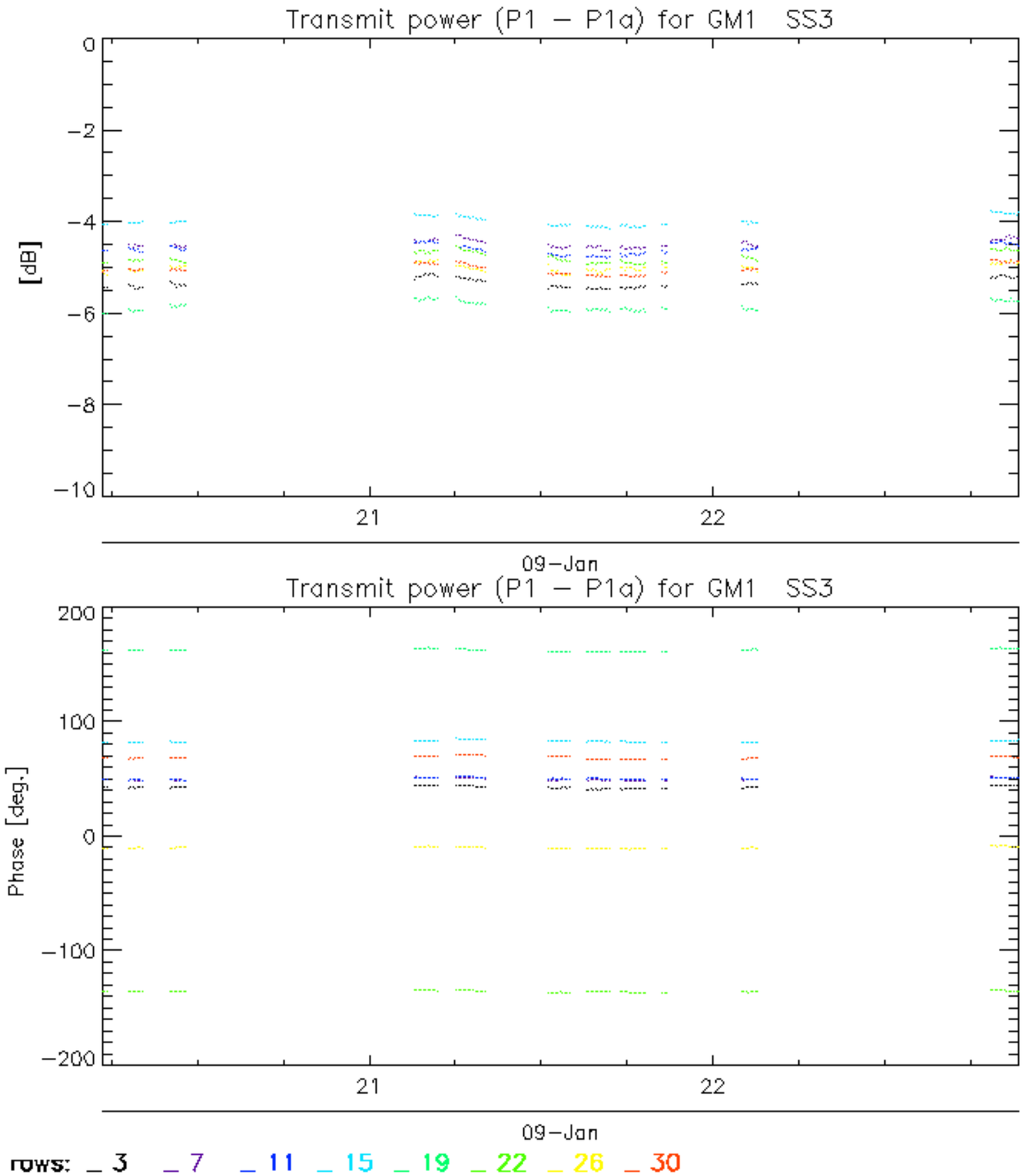
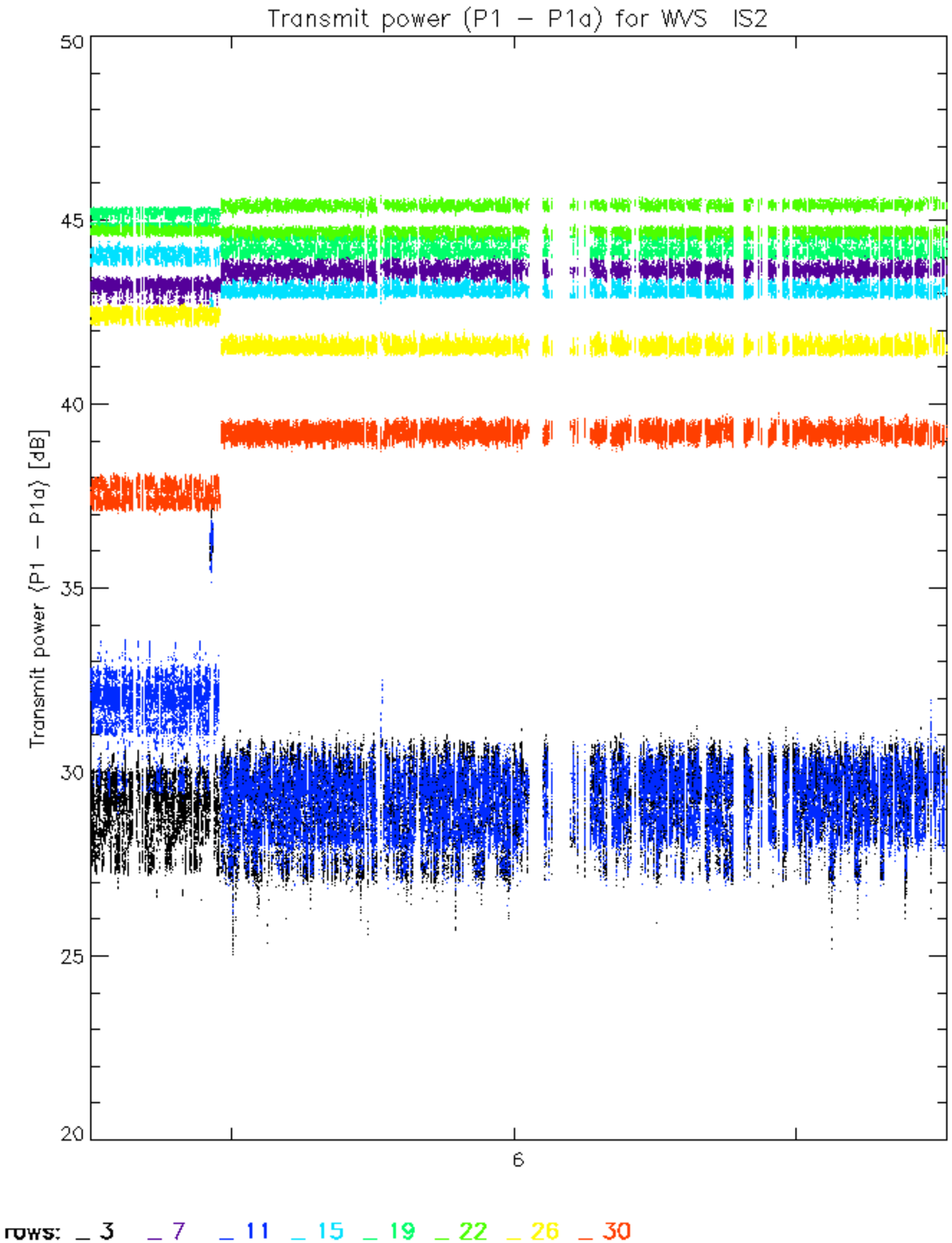
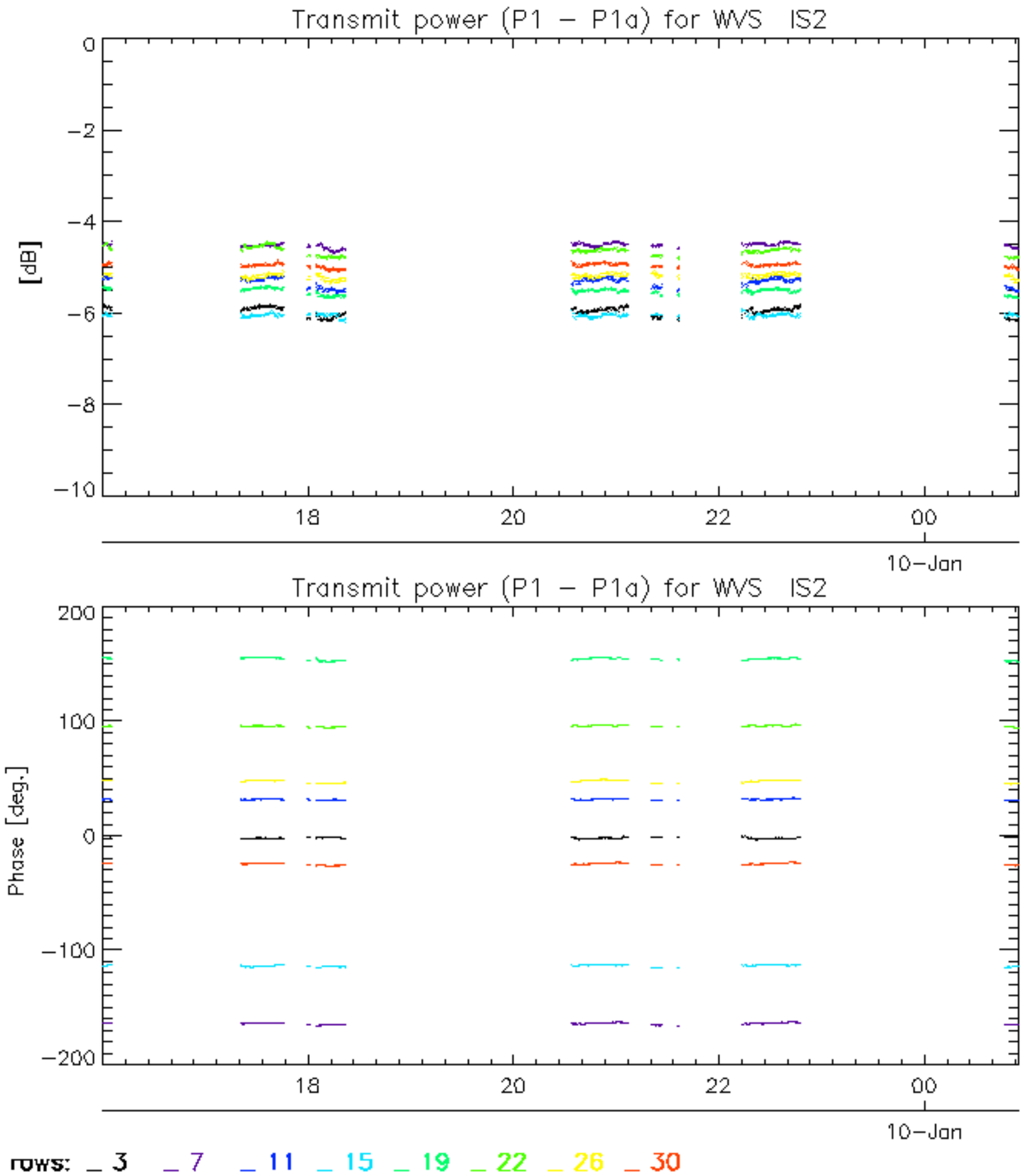

Reference: 2005-09-29 07:47:20 V
Test : 2006-01-08 09:53:36 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
6
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
0
−2
−4
−6
−8
−10
[dB]
21
22
09−Jan
Transmit power (P1 – P1a) for GM1 SS3
200
100
0
−100
−200
Phase [deg.]
21
22
09−Jan
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
6
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
0
−2
−4
−6
−8
−10
[dB]
18
20
22
00
10−Jan
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
18
20
22
00
10−Jan
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.