PRELIMINARY REPORT OF 060120

last update on Fri Jan 20 16:54:58 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 2006-01-19 00:00:00 to 2006-01-20 16:54:58

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	31	0	4	0	28
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	31	0	4	0	28
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	31	0	4	0	28
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	31	0	4	0	28

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	48	59	32	17	57
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	48	59	32	17	57
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	48	59	32	17	57
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	48	59	32	17	57

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	20060118 043726
H	20060119 040549

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	-4.046475	0.007433	0.050808
7	P1	-2.997840	0.014695	0.003420
11	P1	-4.102231	0.022808	0.009319
15	P1	-6.064891	0.017126	0.017124
19	P1	-3.242648	0.005594	-0.027823
22	P1	-4.486705	0.020217	0.014539
26	P1	-4.219050	0.012095	0.021557
30	P1	-5.771895	0.009948	-0.003070
3	P1	-16.977516	0.250568	0.124084
7	P1	-16.585627	0.127163	-0.088232
11	P1	-16.601578	0.323750	-0.000421
15	P1	-13.259164	0.127242	0.155940
19	P1	-13.875719	0.074914	-0.019959
22	P1	-15.946415	0.571193	0.253514
26	P1	-15.776279	0.260200	-0.015469
30	P1	-16.612366	0.354355	0.101053

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.644949	0.097315	0.149238
7	P2	-22.495739	0.097834	0.090377
11	P2	-16.330786	0.103561	0.102527
15	P2	-7.227725	0.103457	0.053416
19	P2	-9.187003	0.098859	0.066822
22	P2	-17.940628	0.096688	0.016999
26	P2	-16.226929	0.101007	0.037515
30	P2	-19.661953	0.084149	0.041383

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.218631	0.007636	0.023060
7	P3	-8.218631	0.007636	0.023060
11	P3	-8.218631	0.007636	0.023060
15	P3	-8.218631	0.007636	0.023060
19	P3	-8.218631	0.007636	0.023060
22	P3	-8.218631	0.007636	0.023060
26	P3	-8.218631	0.007636	0.023060
30	P3	-8.218631	0.007636	0.023060

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	-3.720793	0.008604	-0.008511
7	P1	-2.759001	0.007574	0.035985
11	P1	-2.866754	0.010652	0.017772
15	P1	-3.450380	0.018154	-0.048470
19	P1	-3.380886	0.013843	0.039072
22	P1	-5.121033	0.021607	0.016947
26	P1	-5.854014	0.015494	0.007727
30	P1	-5.257501	0.030800	0.064897
3	P1	-11.516050	0.033736	-0.049007
7	P1	-9.932261	0.050532	0.076923
11	P1	-10.063742	0.050712	-0.038701
15	P1	-10.607891	0.080735	-0.078815
19	P1	-15.483249	0.063961	0.097472
22	P1	-20.715958	1.123906	0.434948

26	P1	-16.916971	0.327042	0.451700
30	P1	-18.147720	0.302003	-0.003303

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.472521	0.032188	0.259511
7	P2	-22.917091	0.058163	0.268715
11	P2	-11.469207	0.020520	0.186091
15	P2	-4.940072	0.023399	0.112520
19	P2	-6.936687	0.022602	0.106507
22	P2	-8.198395	0.022977	0.049883
26	P2	-23.991995	0.025609	0.123063
30	P2	-22.108656	0.017203	0.072456

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.062874	0.002468	0.039635
7	P3	-8.062899	0.002465	0.040249
11	P3	-8.063002	0.002469	0.040284
15	P3	-8.062865	0.002468	0.039971
19	P3	-8.062975	0.002471	0.040042
22	P3	-8.062826	0.002461	0.039574
26	P3	-8.062693	0.002458	0.039940
30	P3	-8.062927	0.002470	0.039819

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	0.000548259
	stdev	1.78393e-07
MEAN Q	mean	0.000511736
	stdev	2.19719e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138130
	stdev	0.00122385
STDEV Q	mean	0.138483
	stdev	0.00124293

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006011[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
ASA_IMM_1PNPDE20060118_004619_000001942044_00217_20311_0394.N1	1	0
ASA_WVS_1PNPDE20060119_021612_000000002044_00232_20326_0259.N1	1	0
ASA_WSM_1PNPDE20060118_183920_000003002044_00228_20322_1369.N1	0	18
ASA_WSM_1PNPDE20060119_180830_000001842044_00242_20336_1532.N1	0	8

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

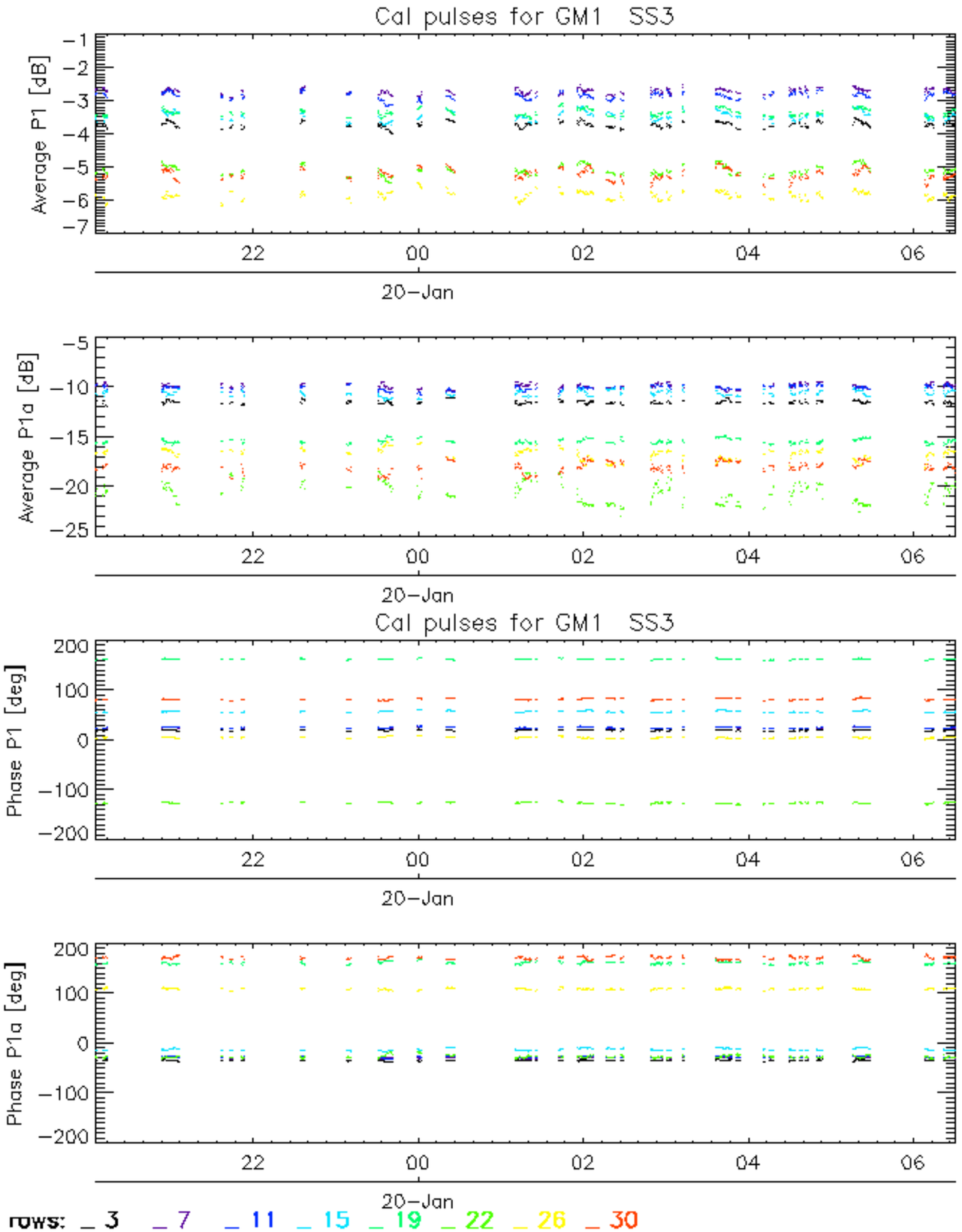
Evolution of Absolute Doppler

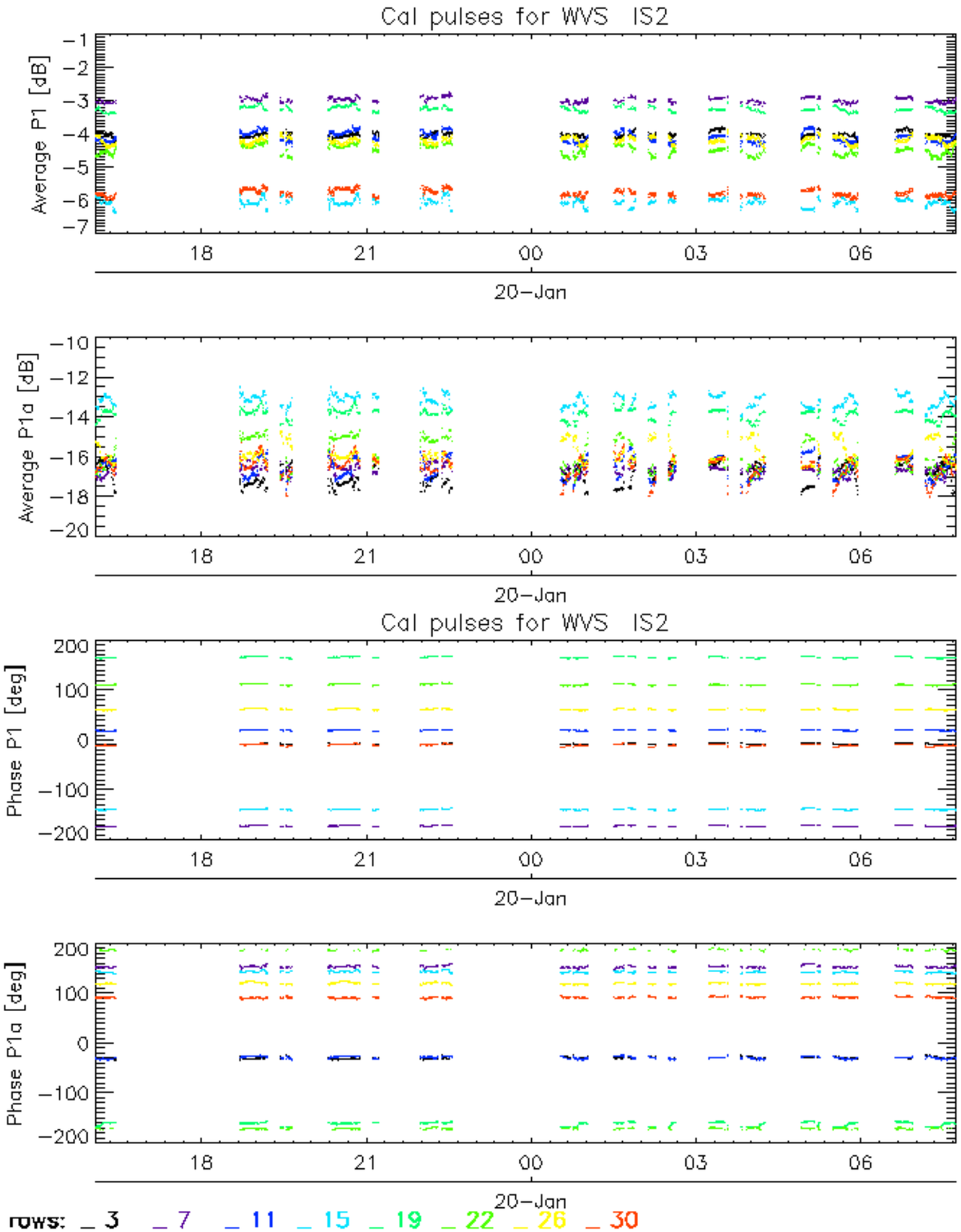
Acsending

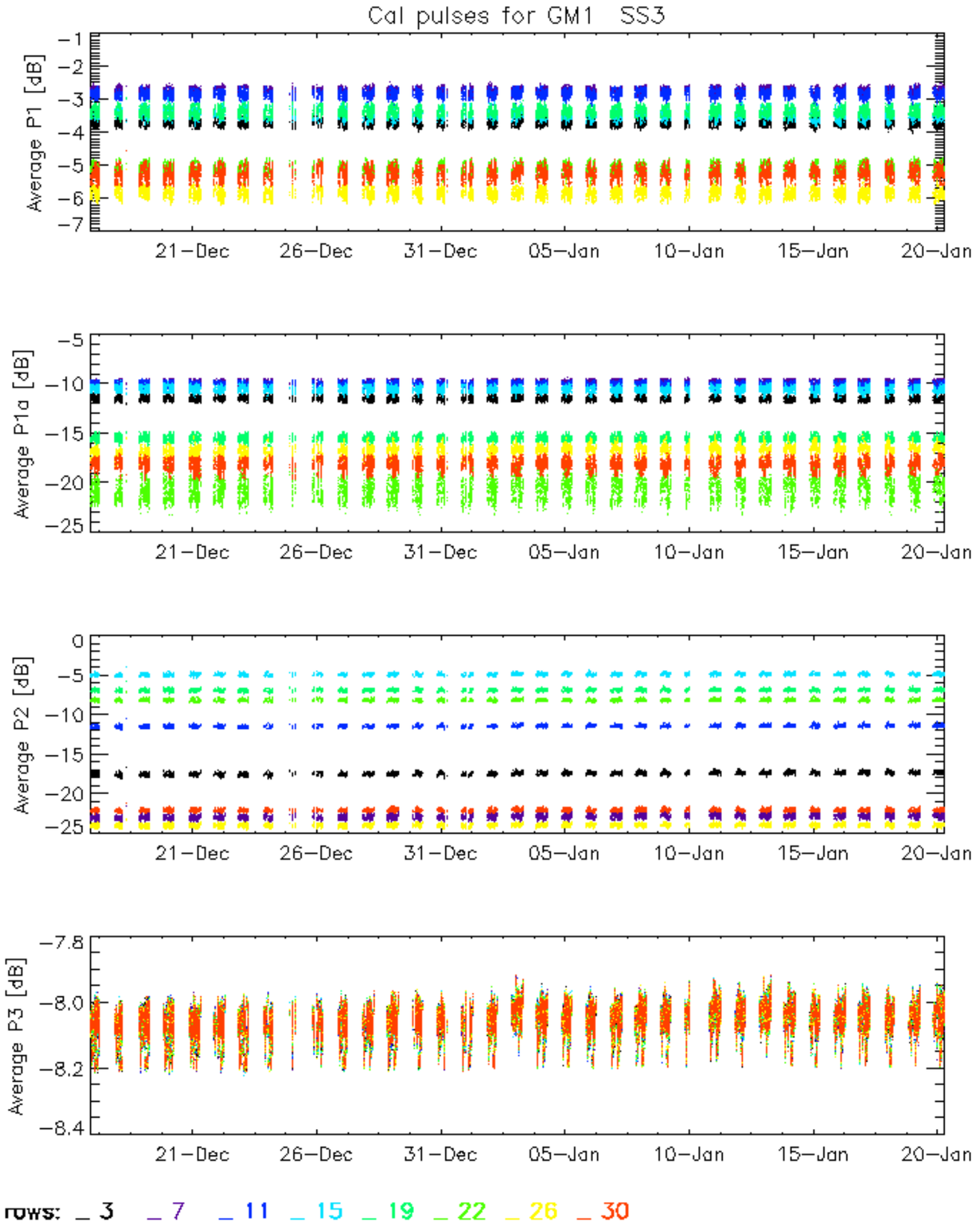
Descending

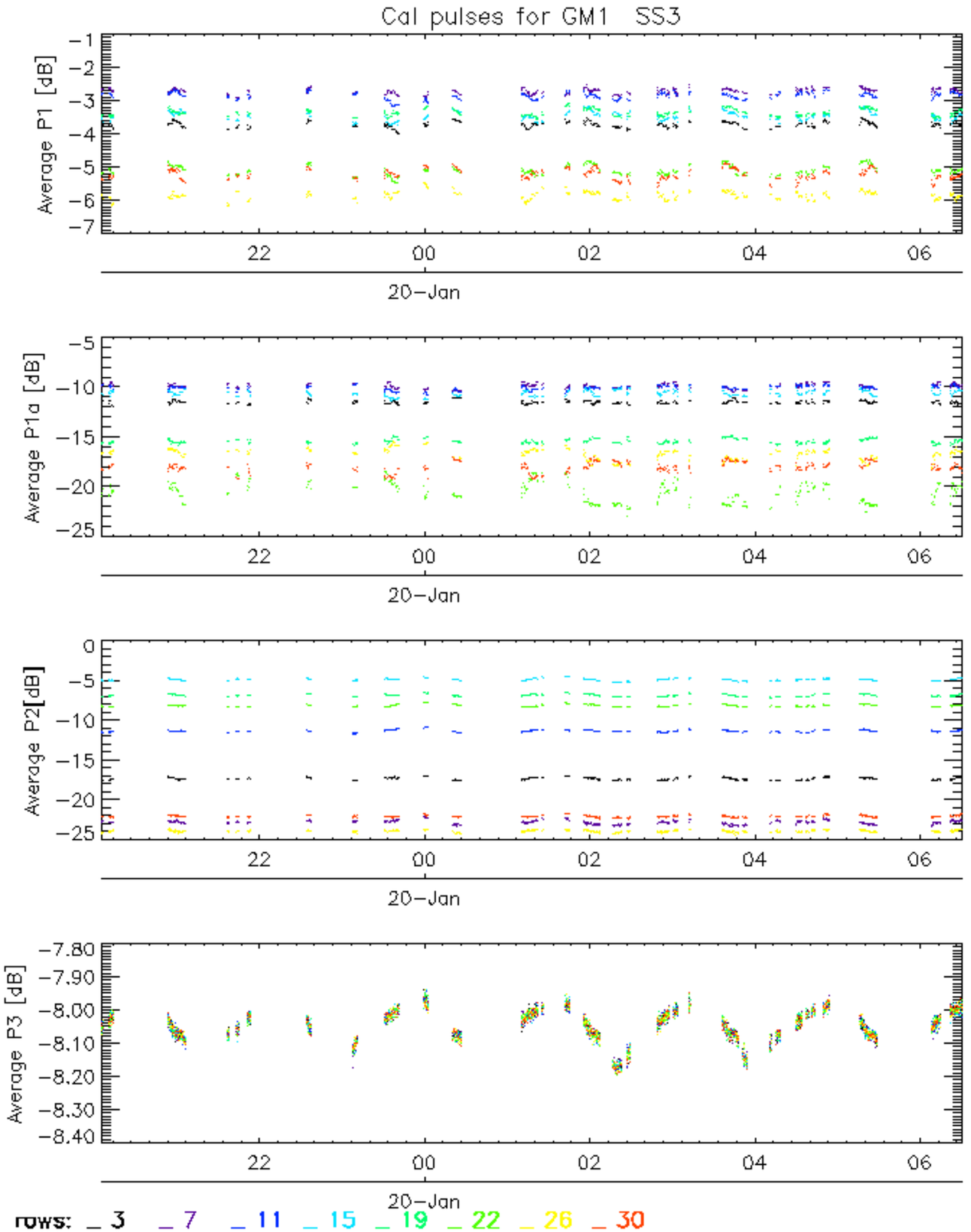
7.6 - Doppler evolution versus ANX for GM1

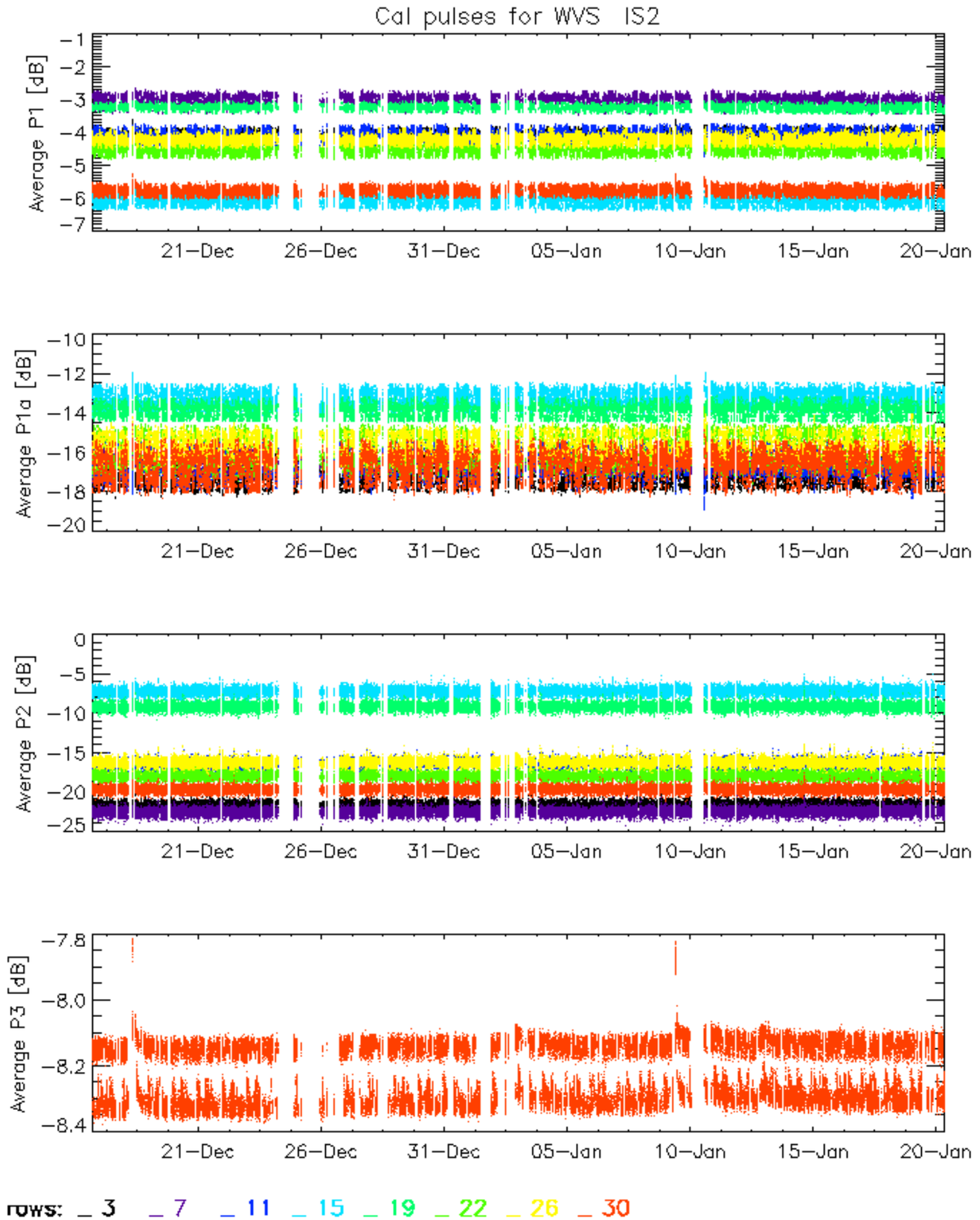
Evolution Doppler error versus ANX

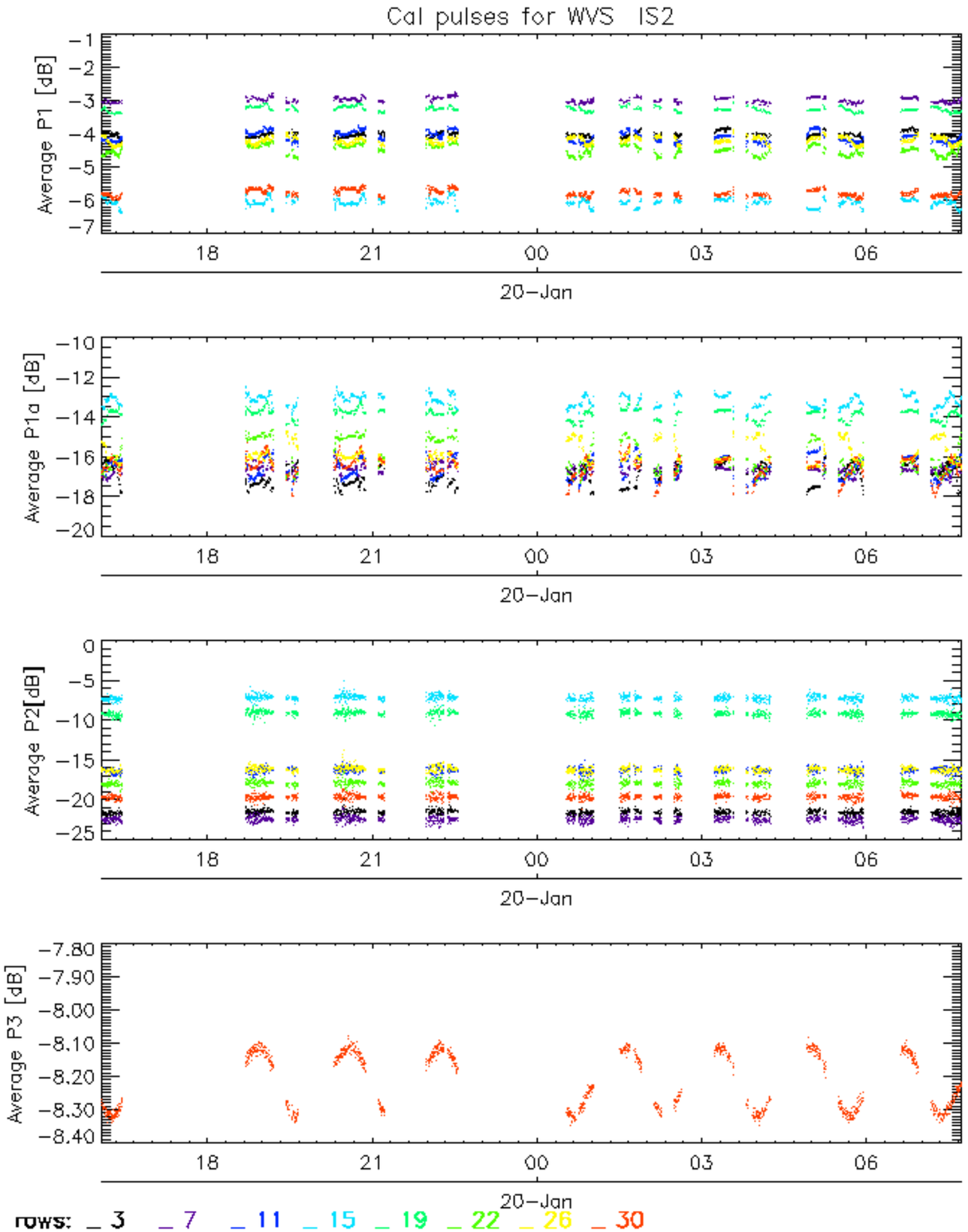


Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
22
00
02
04
06
20−Jan
Average P1a [dB]
−5
−10
−15
−20
−25
22
00
02
04
06
20−Jan
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
22
00
02
04
06
20−Jan
Phase P1a [deg]
200
100
0
−100
−200
22
00
02
04
06
20−Jan
rows: 3 7 11 15 19 22 26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


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
20−Jan
Average P1a [dB]
−10
−12
−14
−16
−18
−20
18
21
00
03
06
20−Jan
Cal pulses for WVS IS2
Phase P1 [deg]
200
100
0
−100
−200
18
21
00
03
06
20−Jan
Phase P1a [deg]
200
100
0
−100
−200
18
21
00
03
06
20−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
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−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

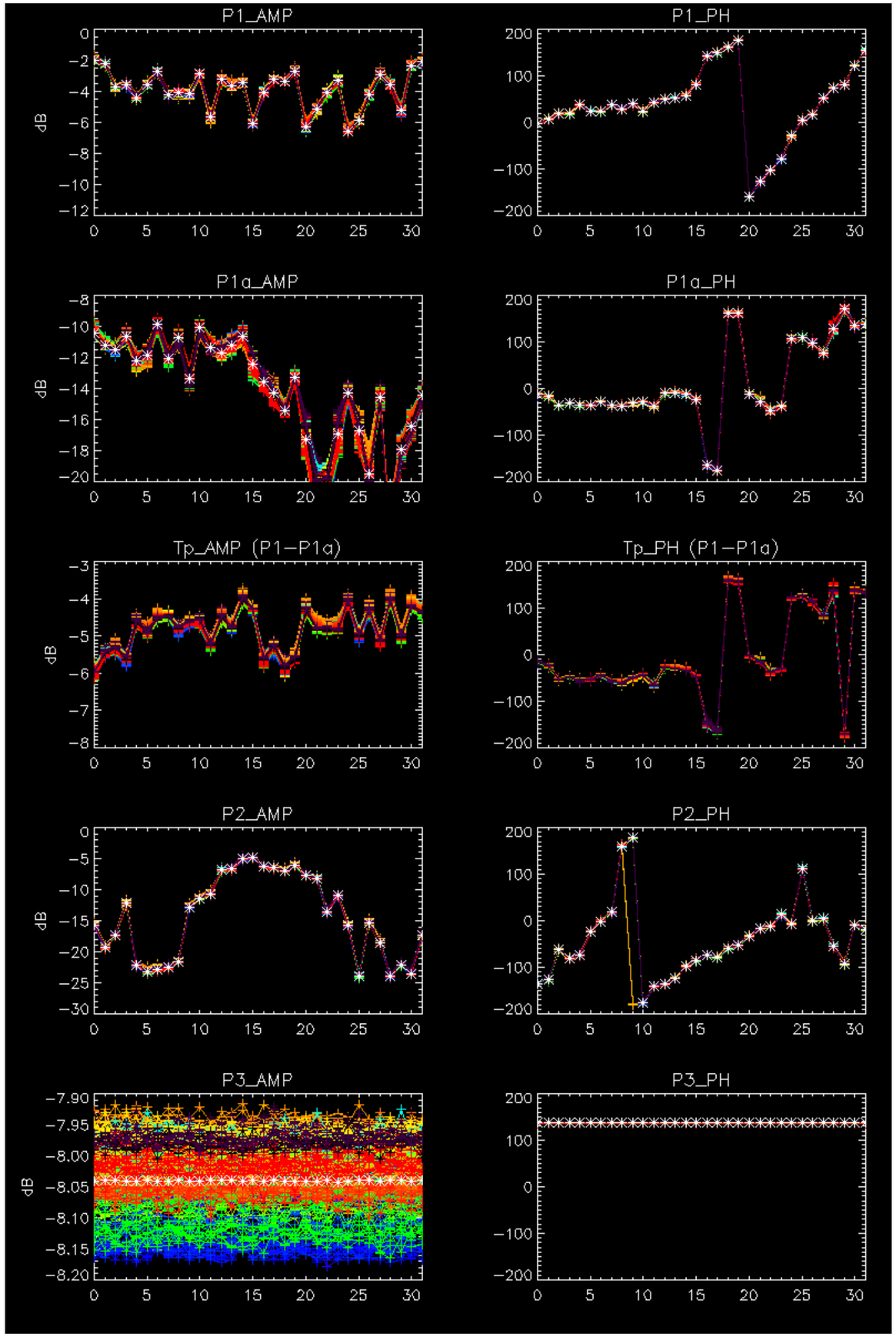

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
22
00
02
04
06
20−Jan
Average P1a [dB]
−5
−10
−15
−20
−25
22
00
02
04
06
20−Jan
Average P2[dB]
0
−5
−10
−15
−20
−25
22
00
02
04
06
20−Jan
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
22
00
02
04
06
20−Jan
rows: _ 3 _ 7 _ 11 _ 15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

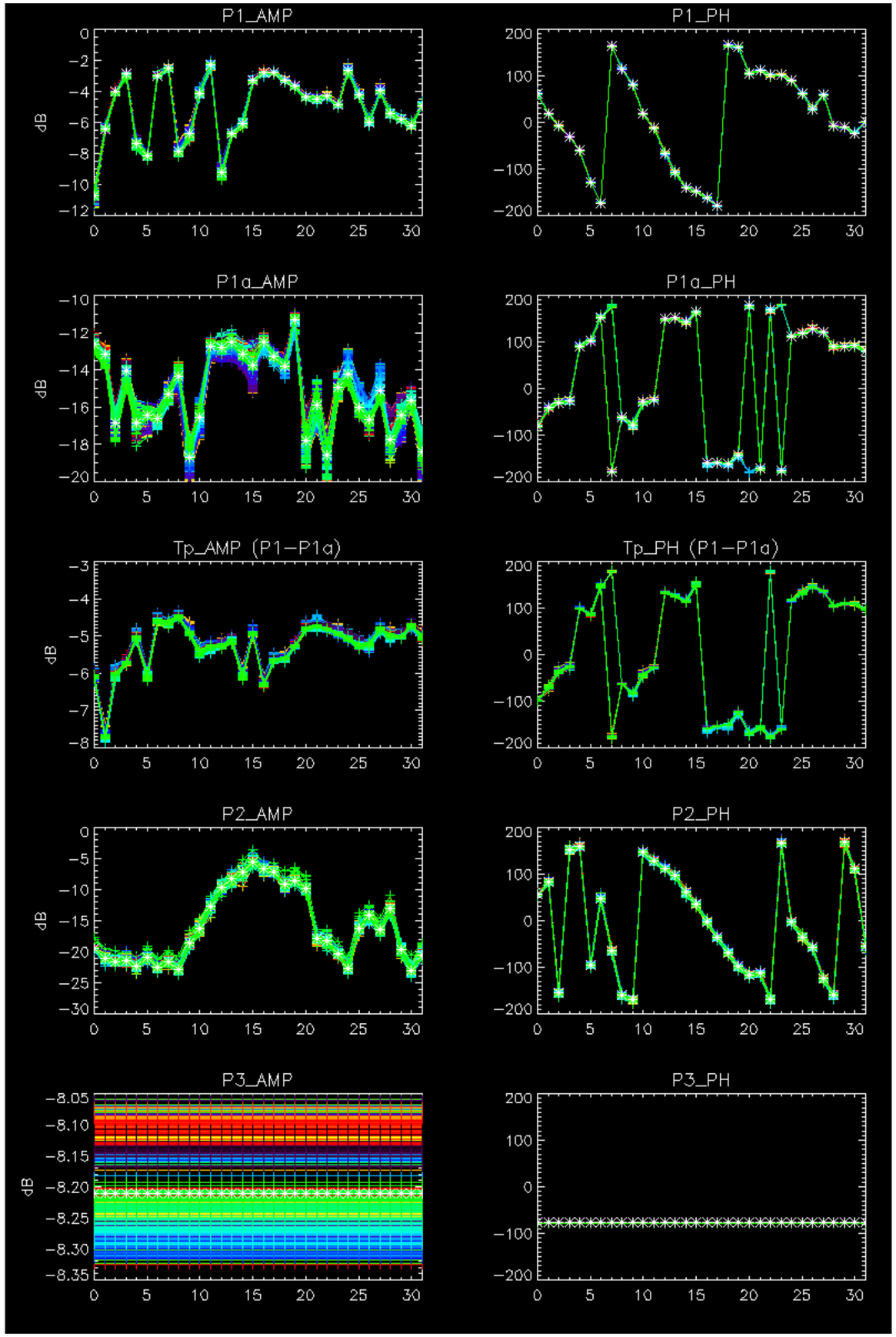

Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan
Average P1a [dB]
−10
−12
−14
−16
−18
−20
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
20−Jan
Average P1a [dB]
−10
−12
−14
−16
−18
−20
18
21
00
03
06
20−Jan
Average P2[dB]
0
−5
−10
−15
−20
−25
18
21
00
03
06
20−Jan
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
18
21
00
03
06
20−Jan
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

No anomalies observed on available browse products

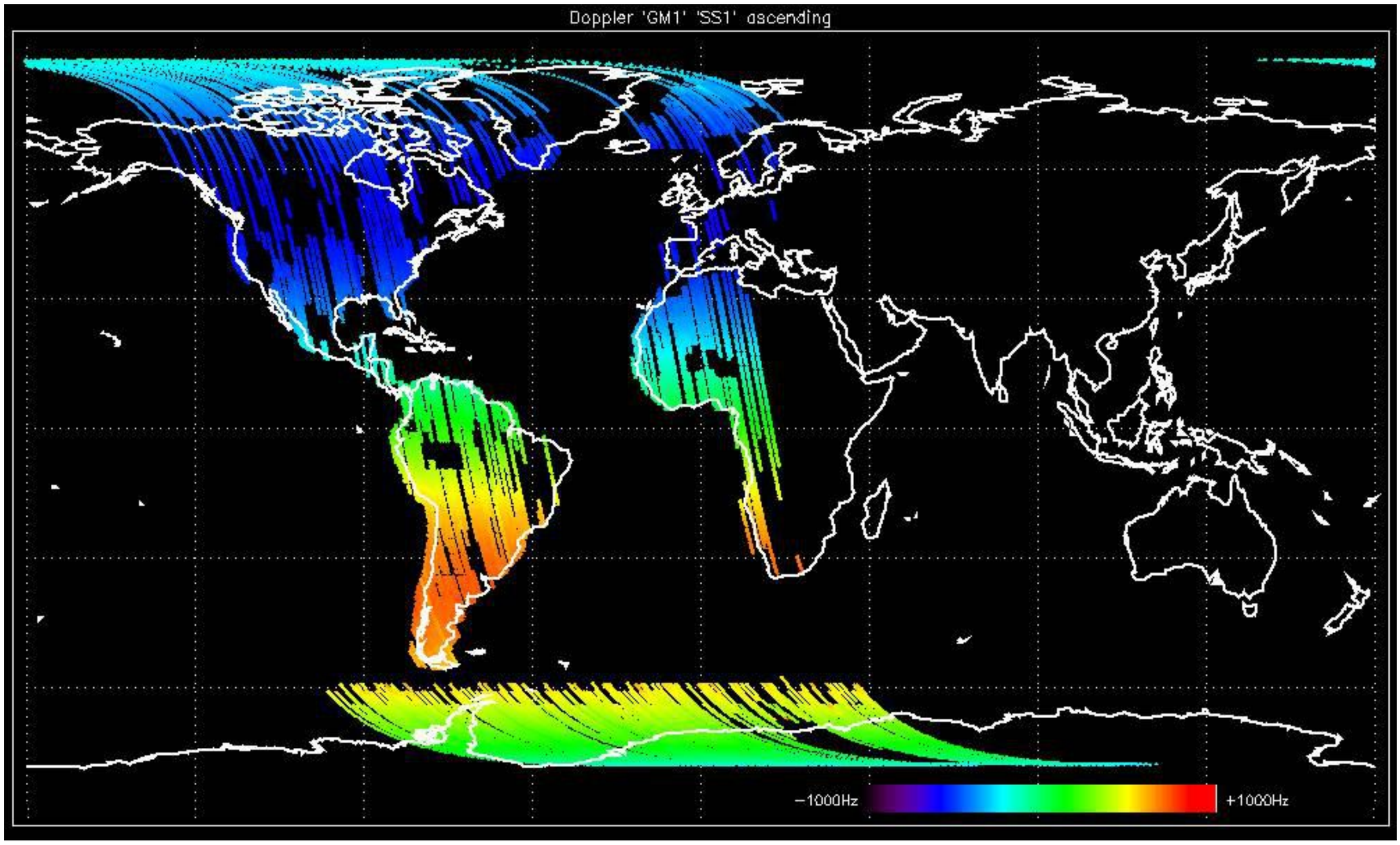
No anomalies observed.

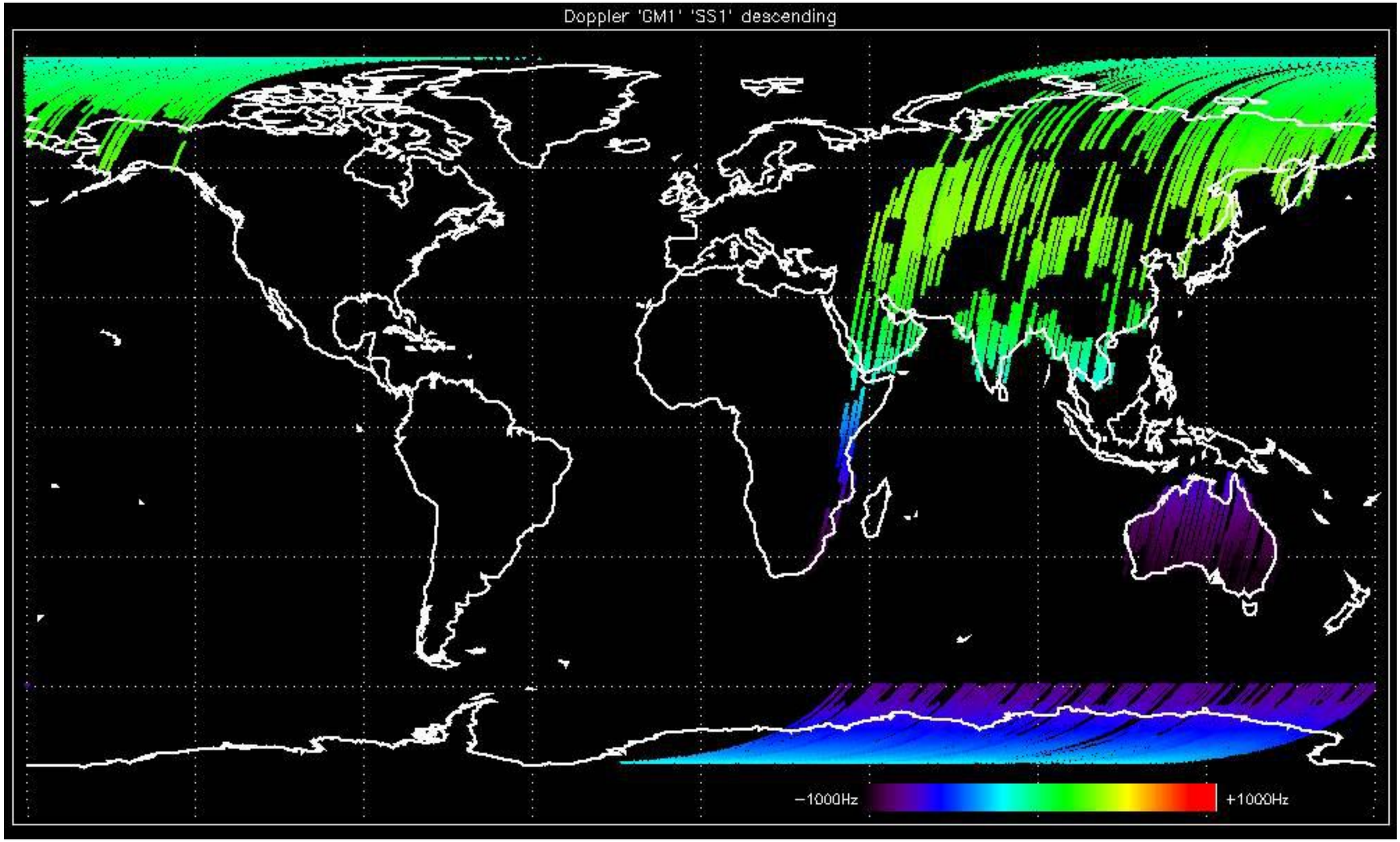

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

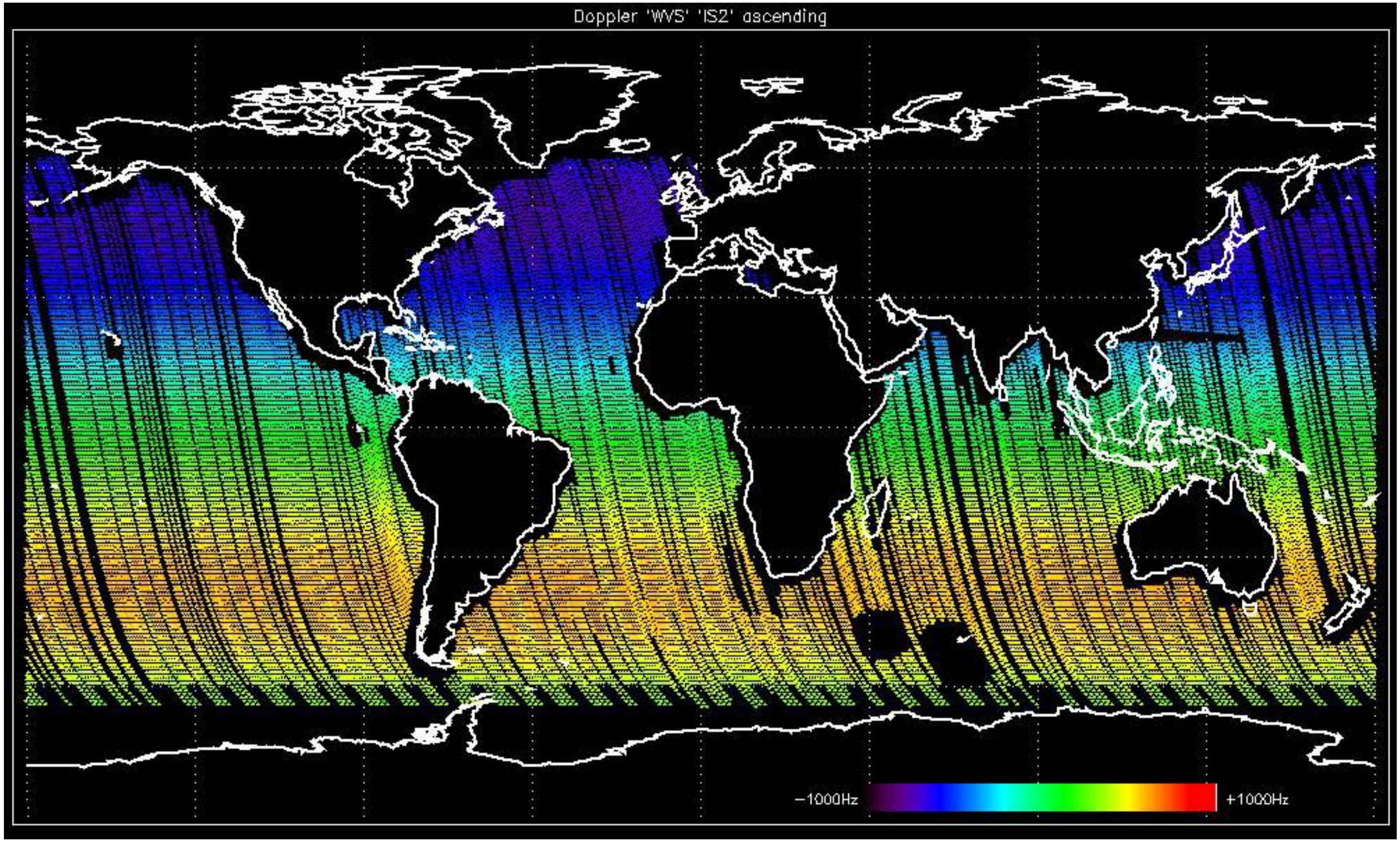

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

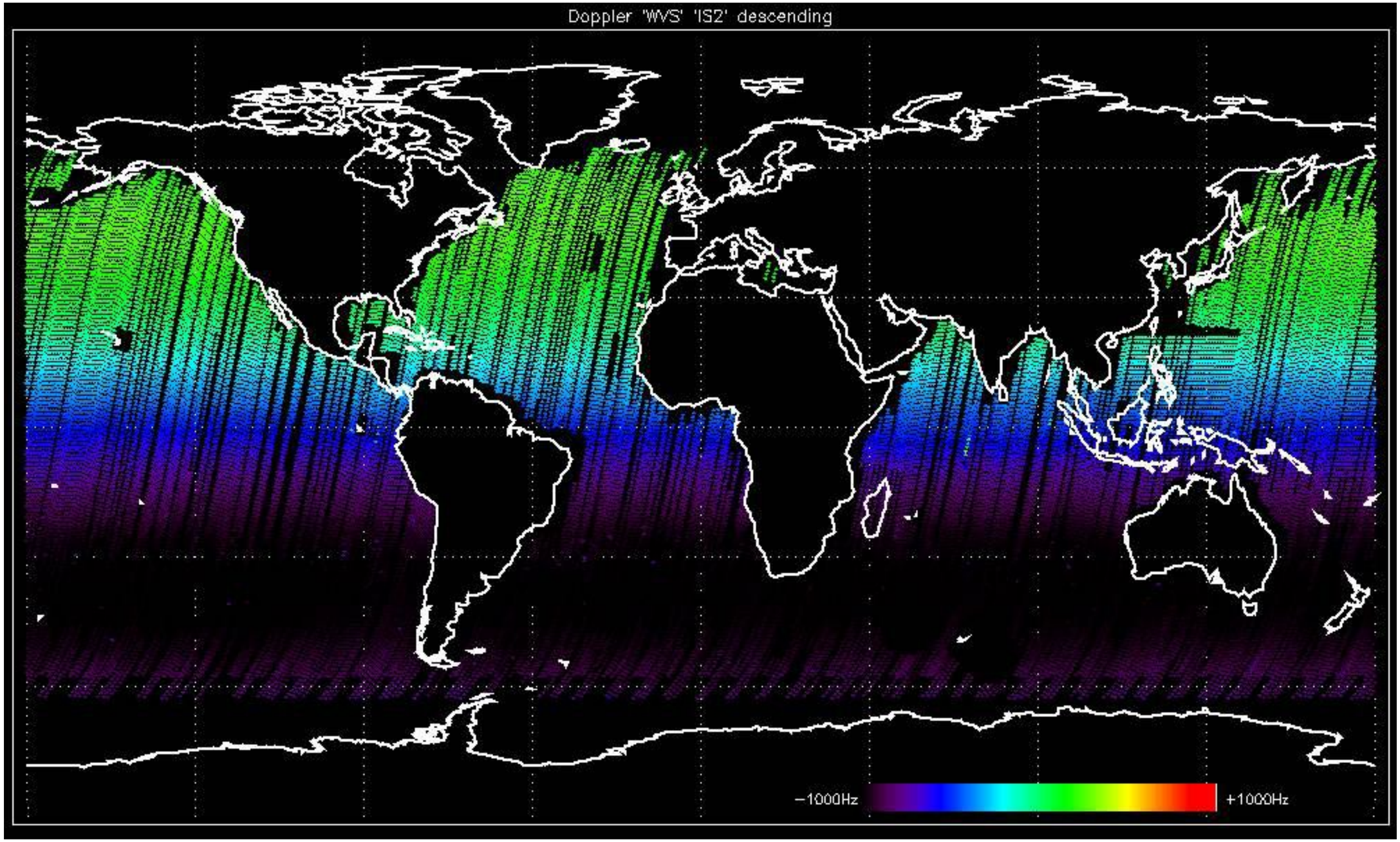
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

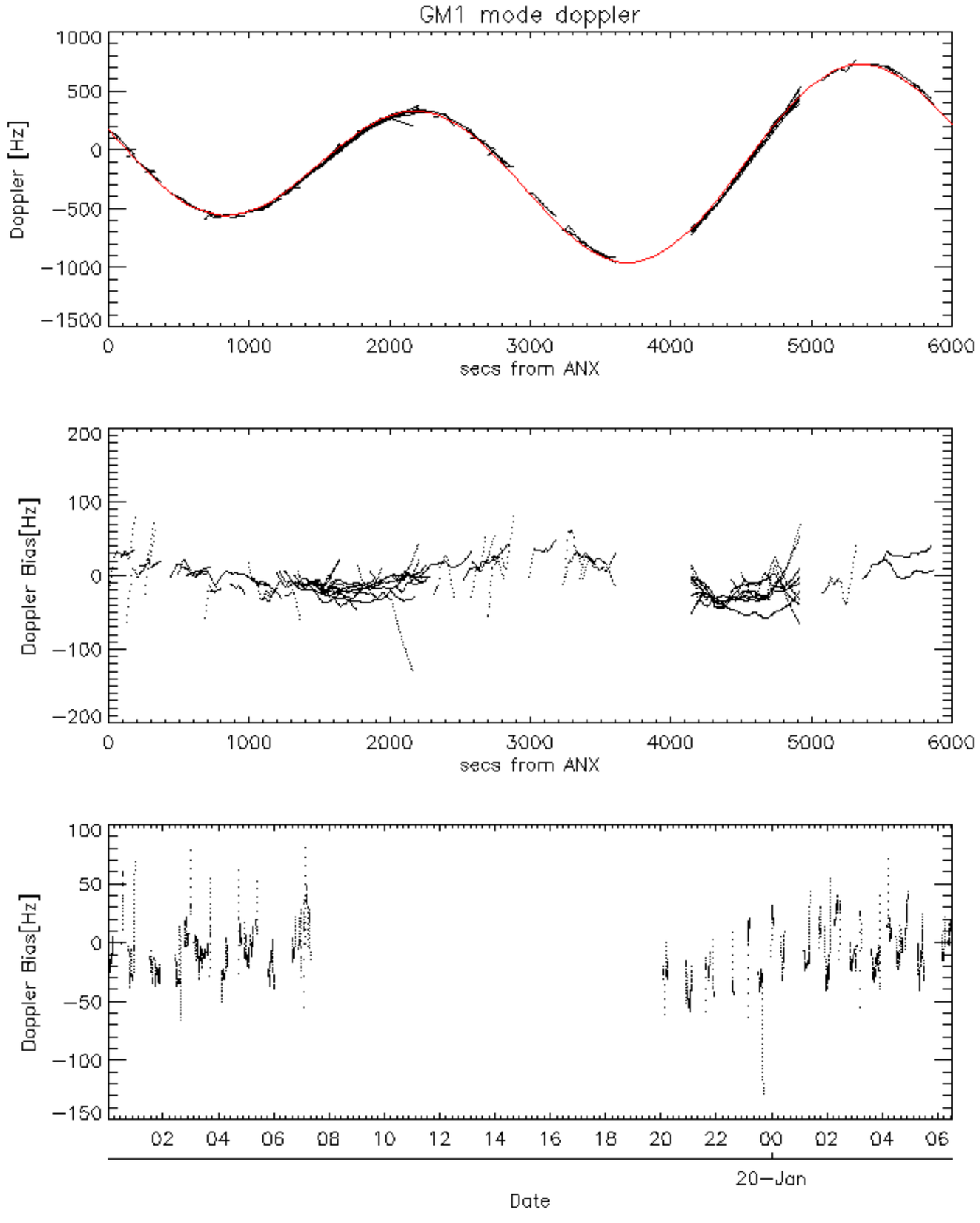
Preliminary report.The data is not yet controled

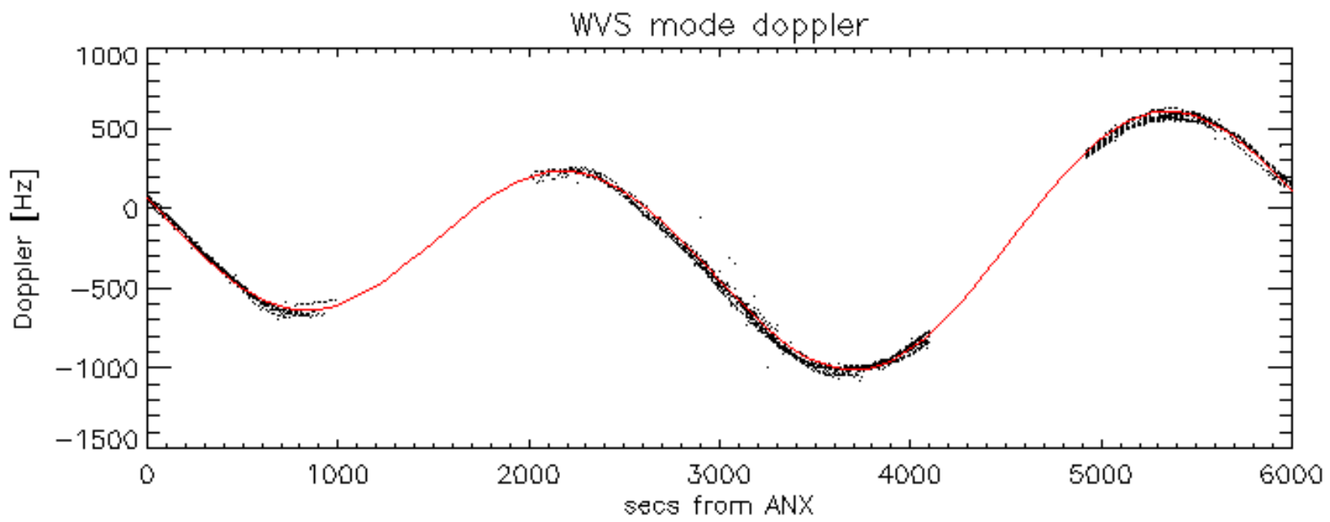

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

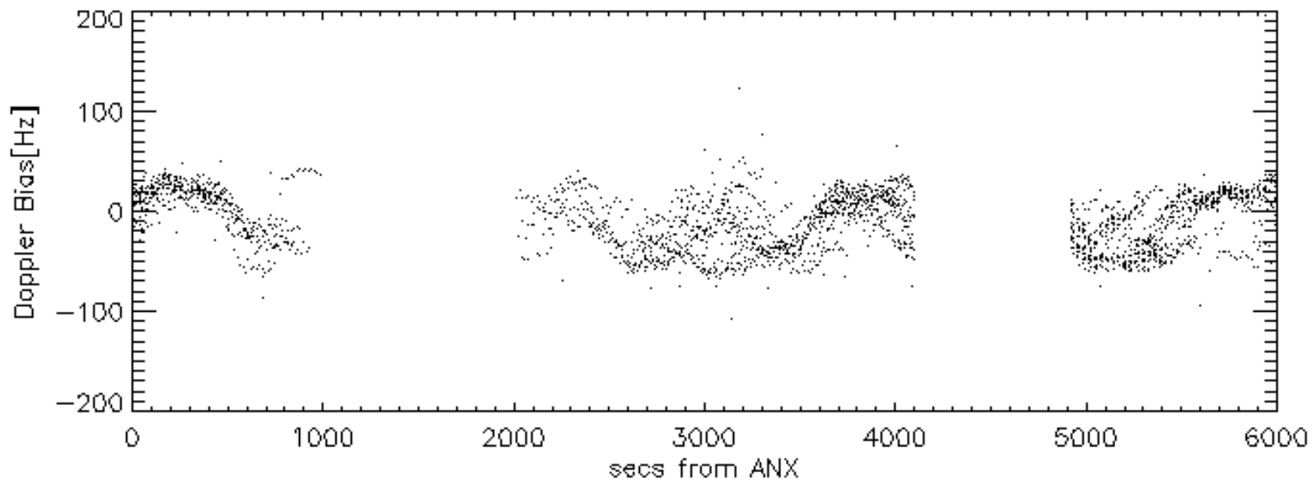

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

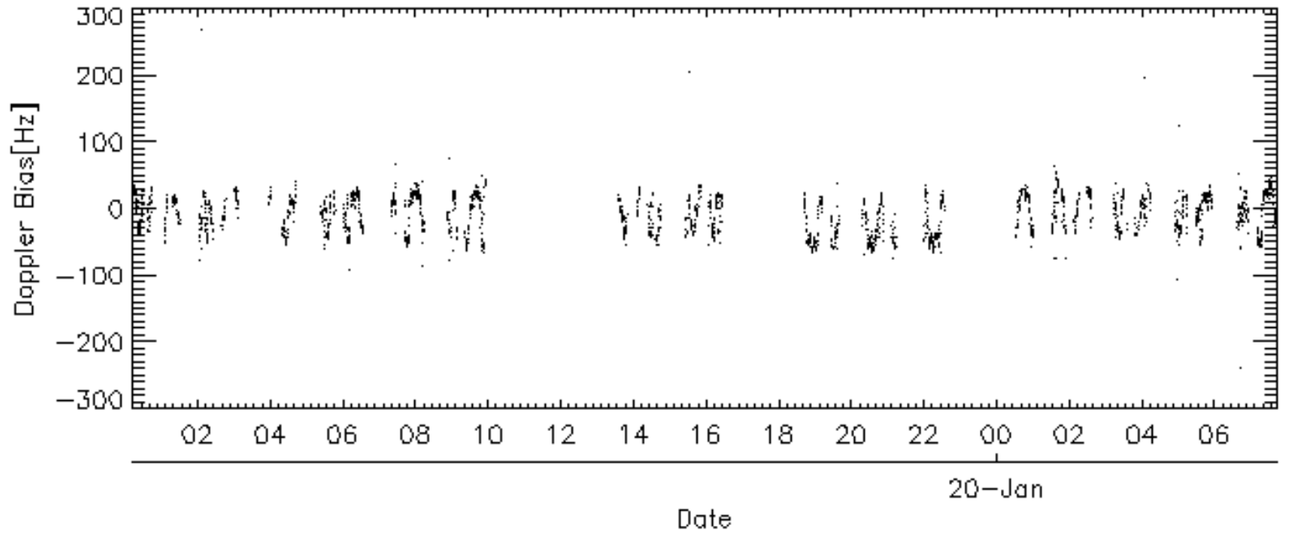

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

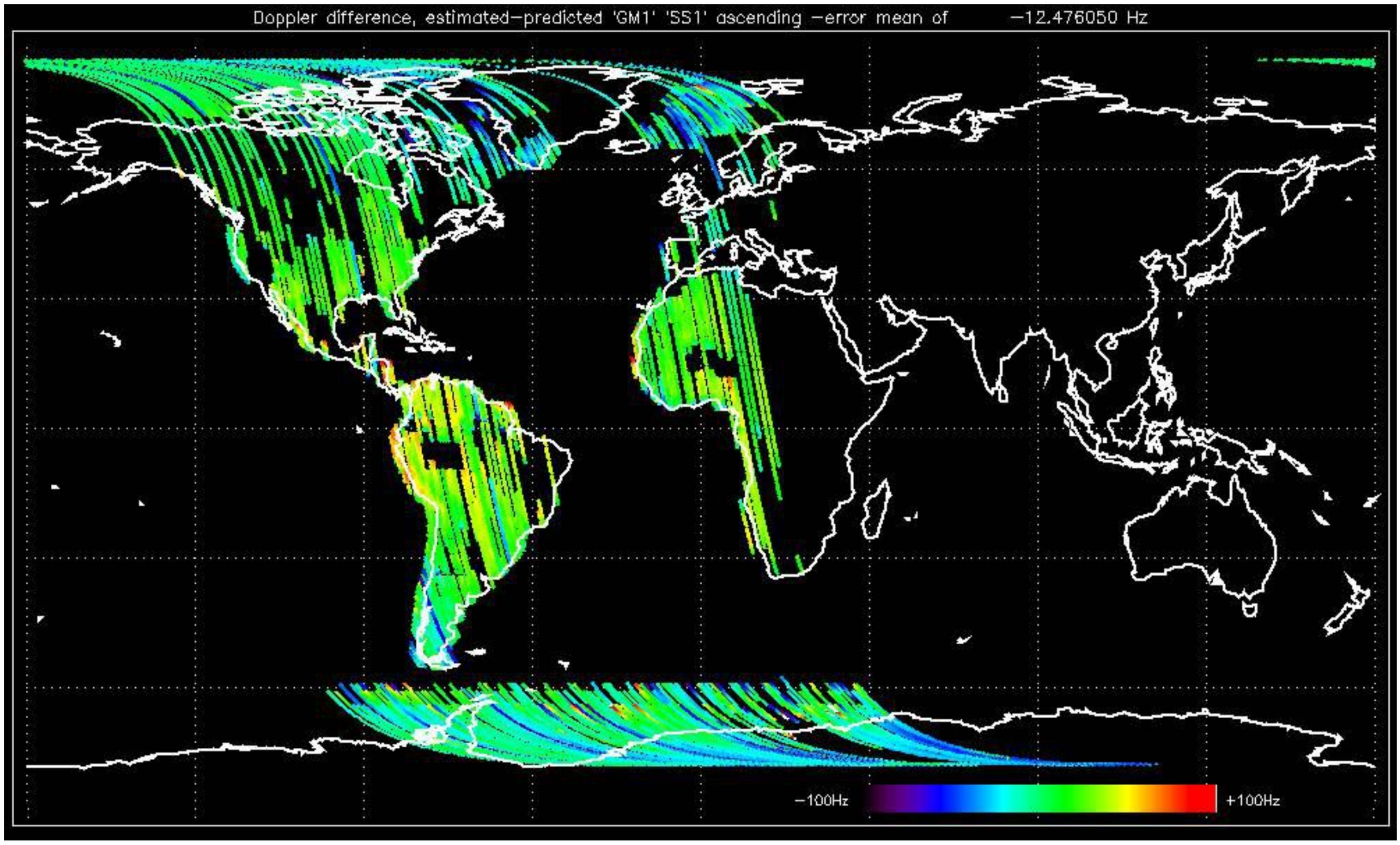

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

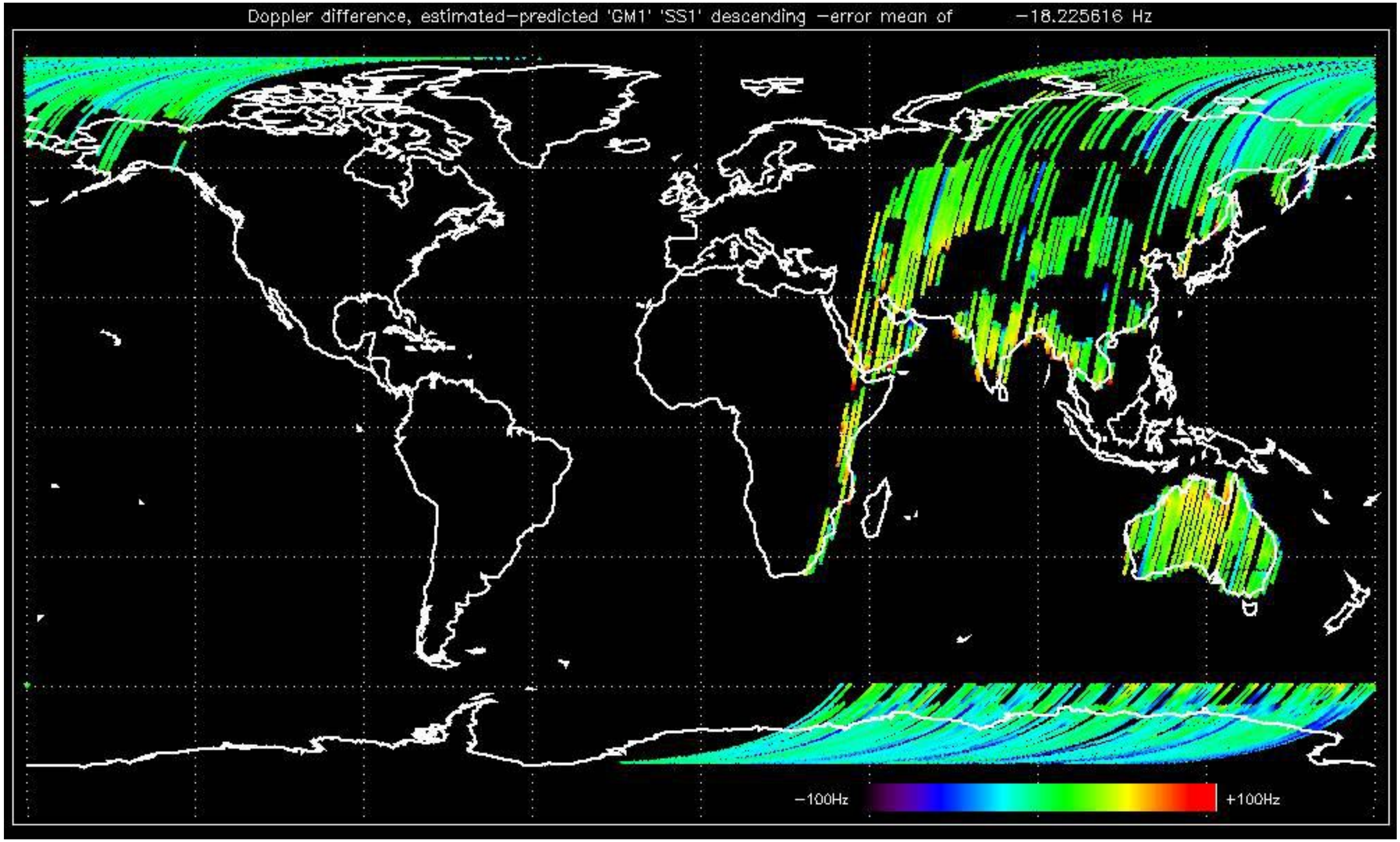

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
20−Jan
Date

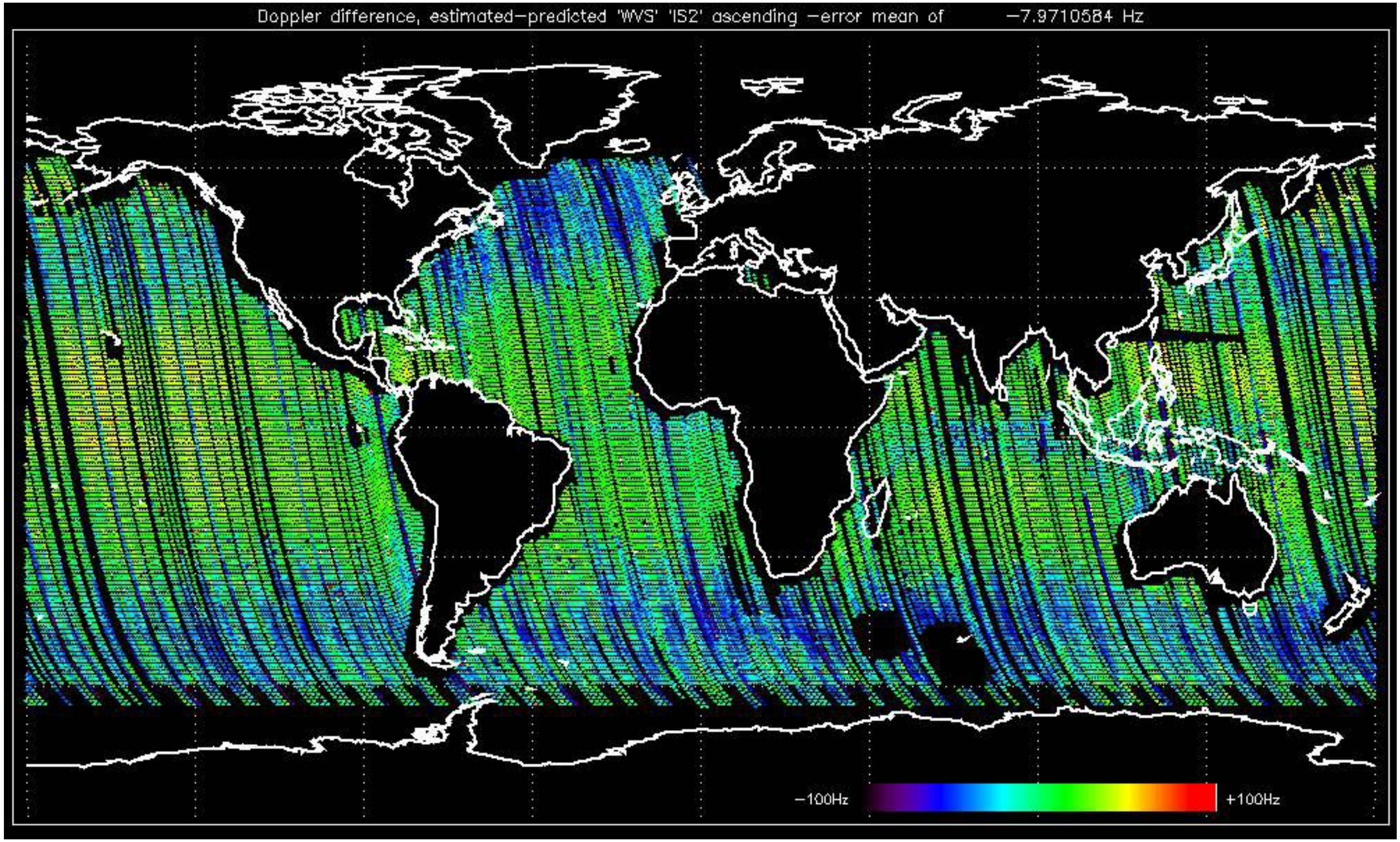

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

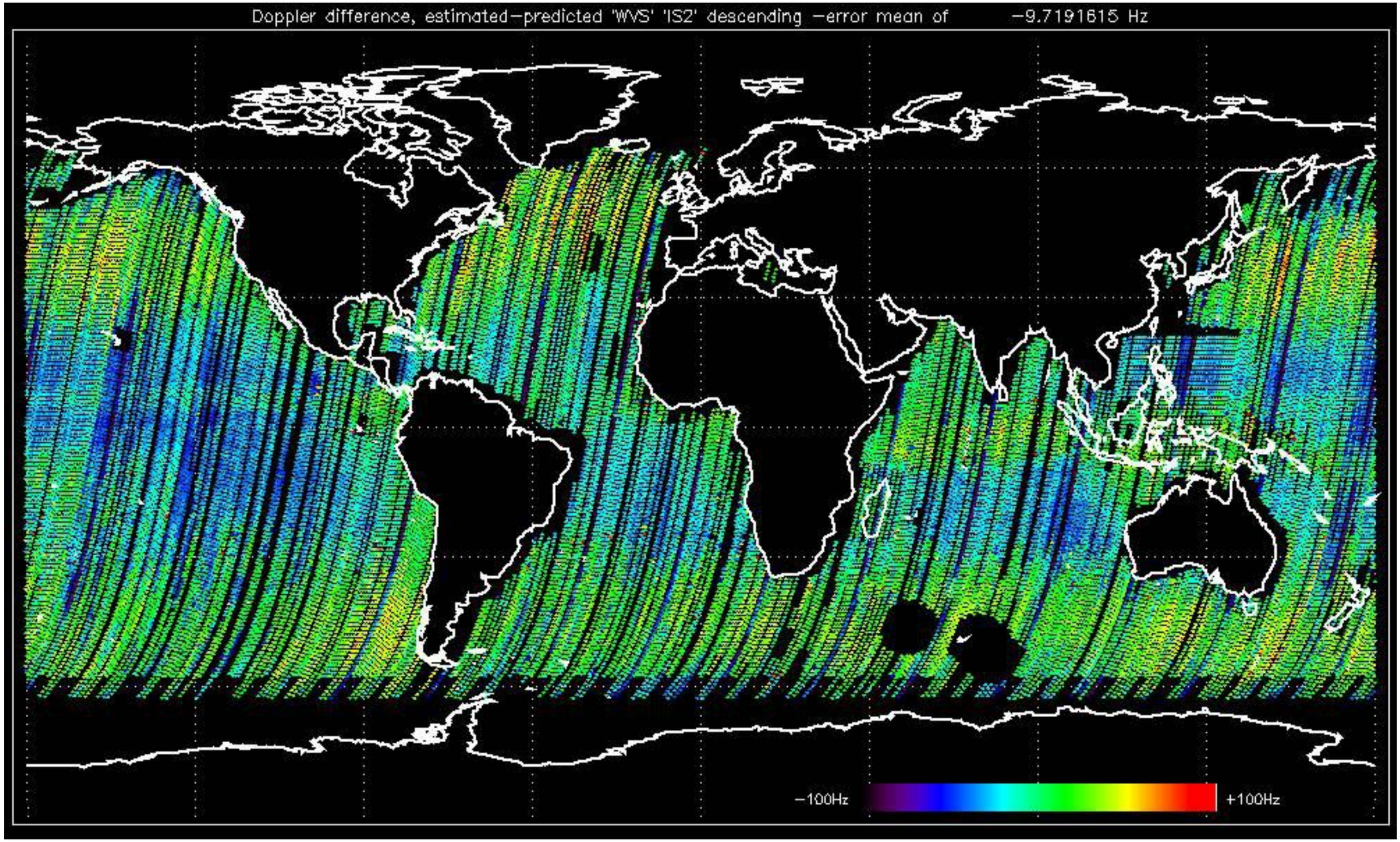

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −12.476050 Hz
−100Hz
+100Hz

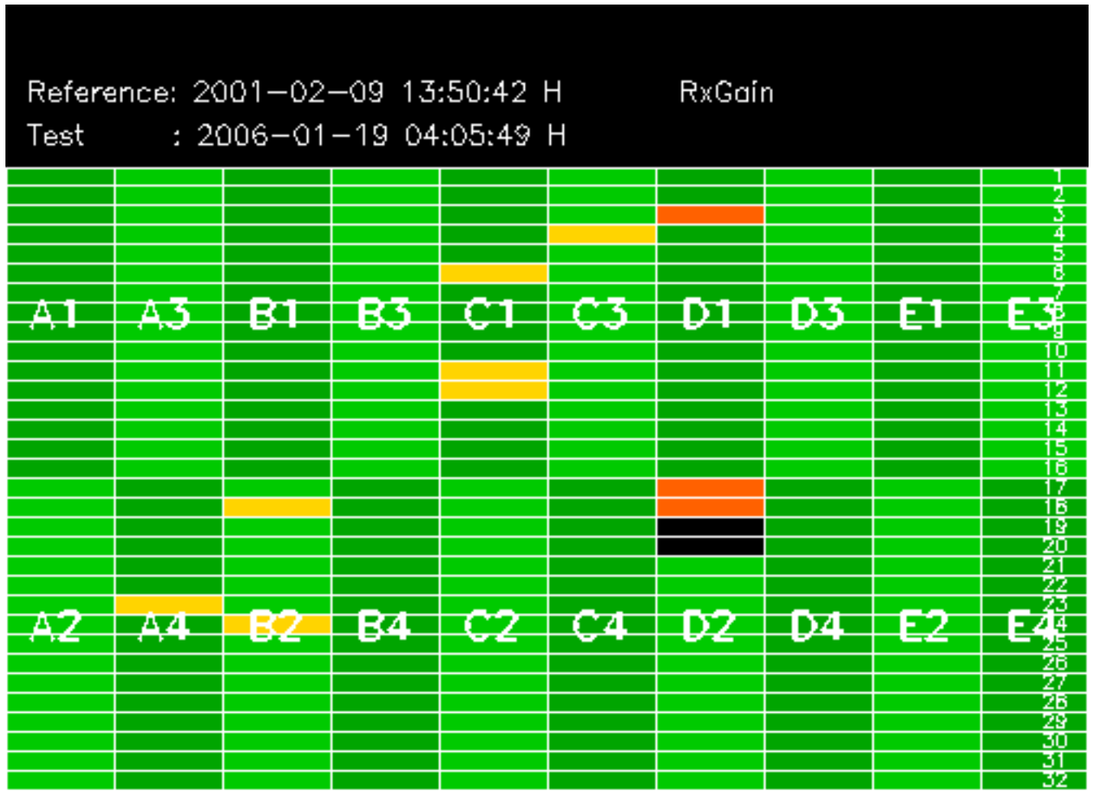

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −18.225616 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −7.9710584 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −9.7191615 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2006-01-19 04:05:49 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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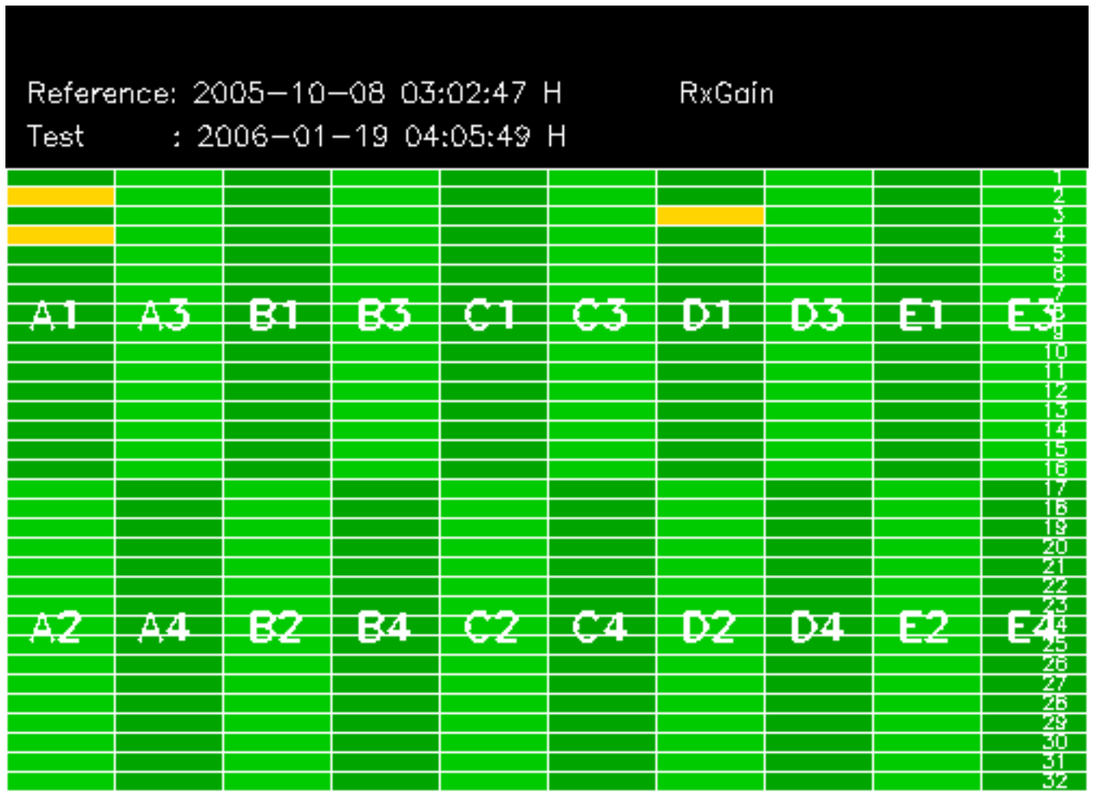
Reference: 2005-10-08 03:02:47 H
Test : 2006-01-19 04:05:49 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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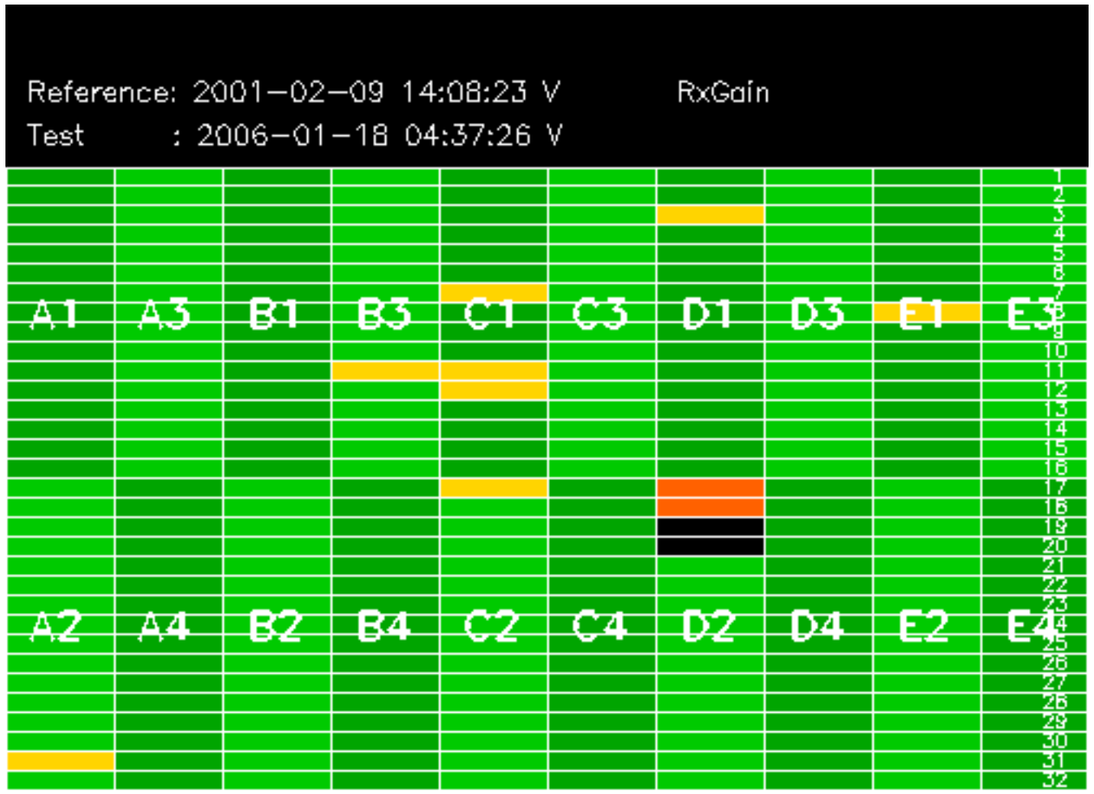
Reference: 2001-02-09 14:08:23 V
Test : 2006-01-18 04:37:26 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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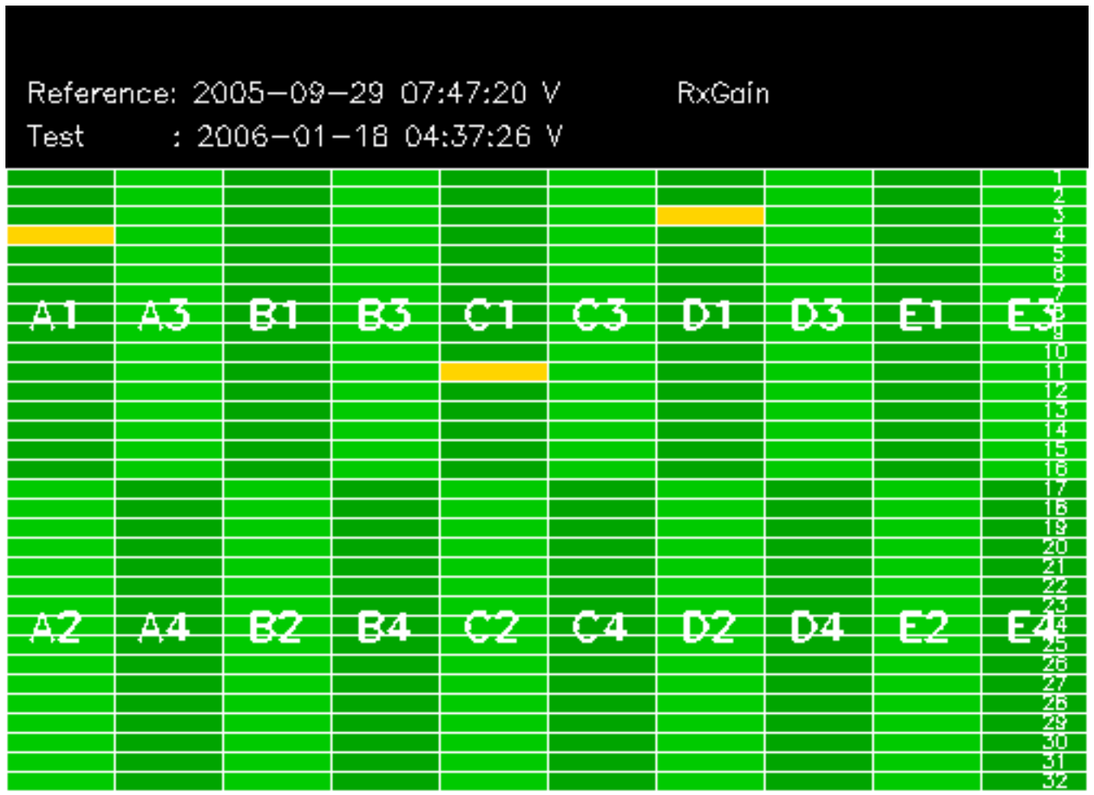
Reference: 2005-09-29 07:47:20 V
Test : 2006-01-18 04:37:26 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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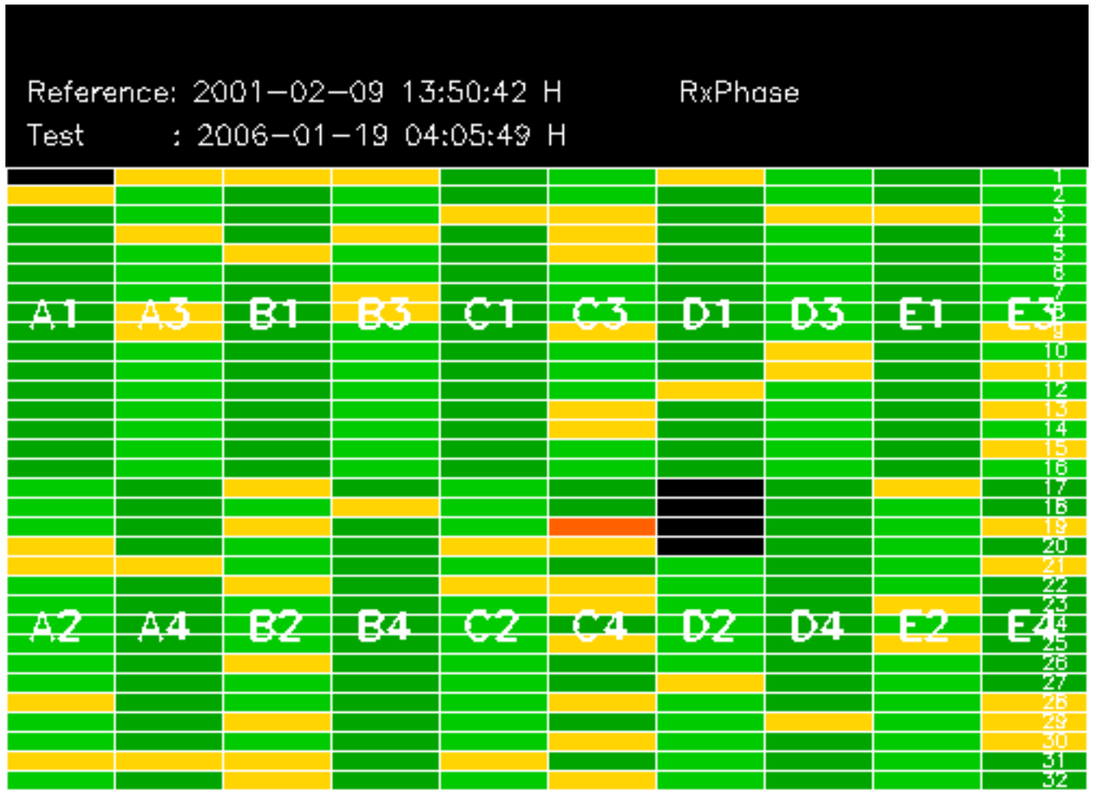
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-01-19 04:05:49 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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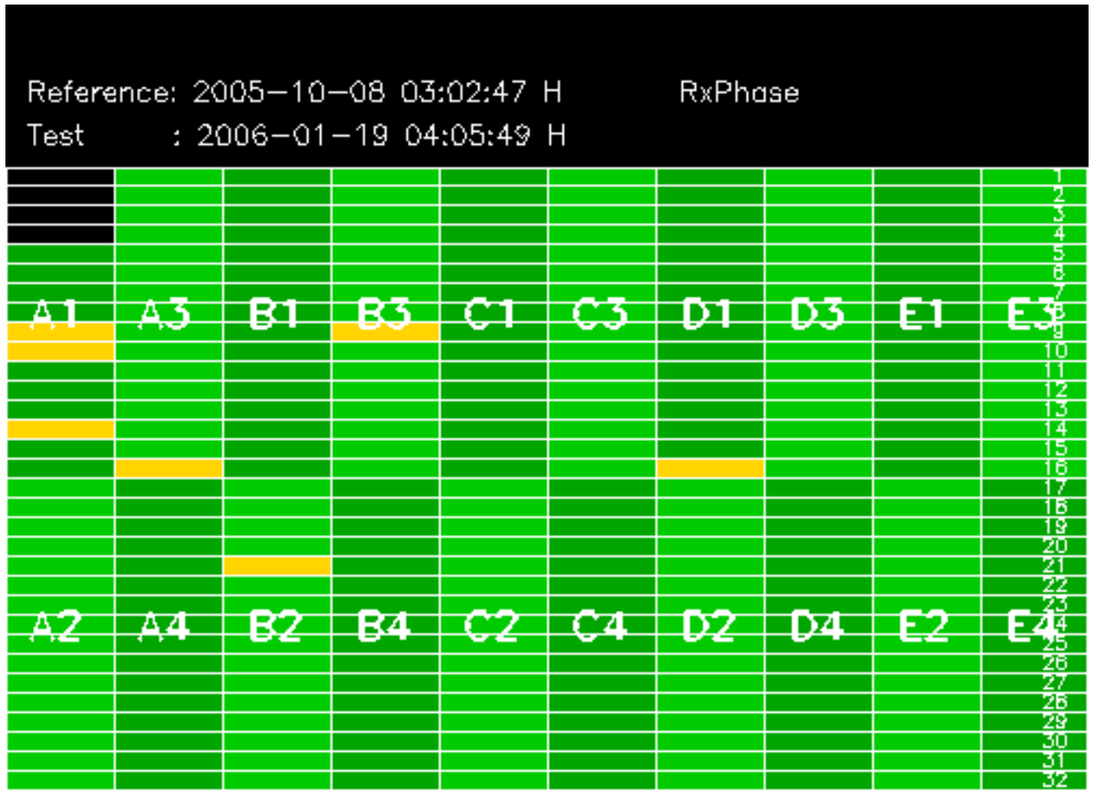
Reference: 2005-10-08 03:02:47 H
RxPhase
Test : 2006-01-19 04:05:49 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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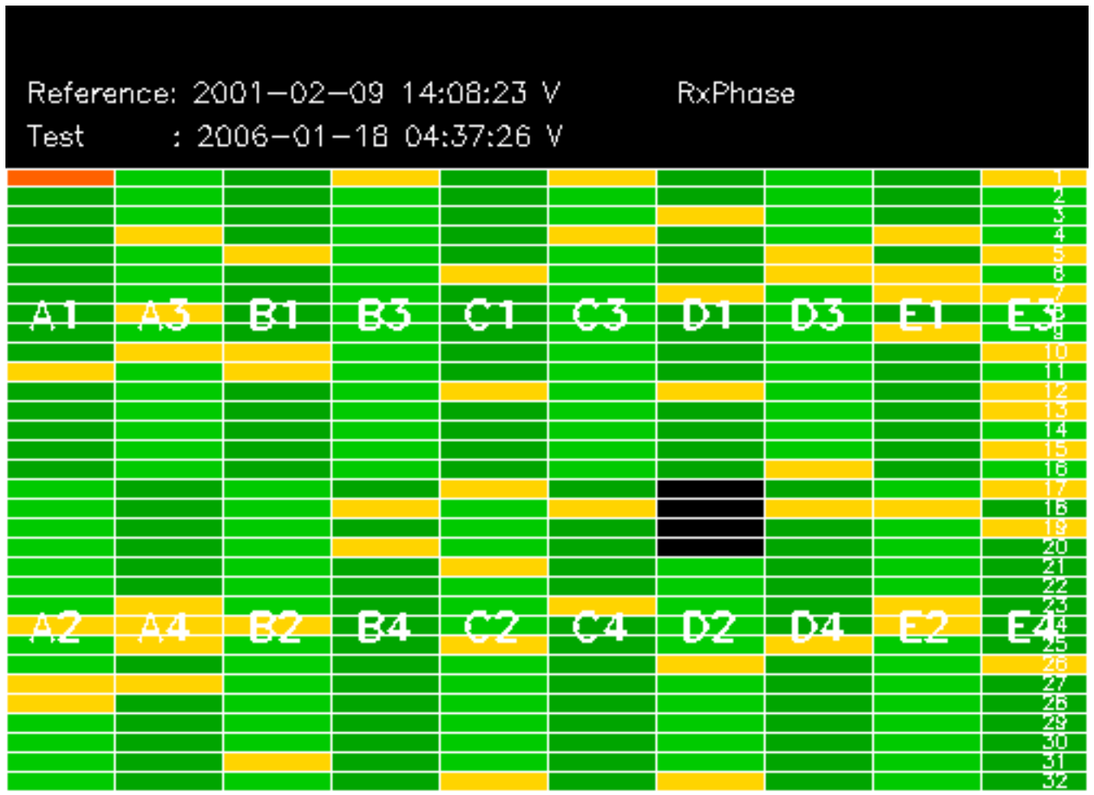
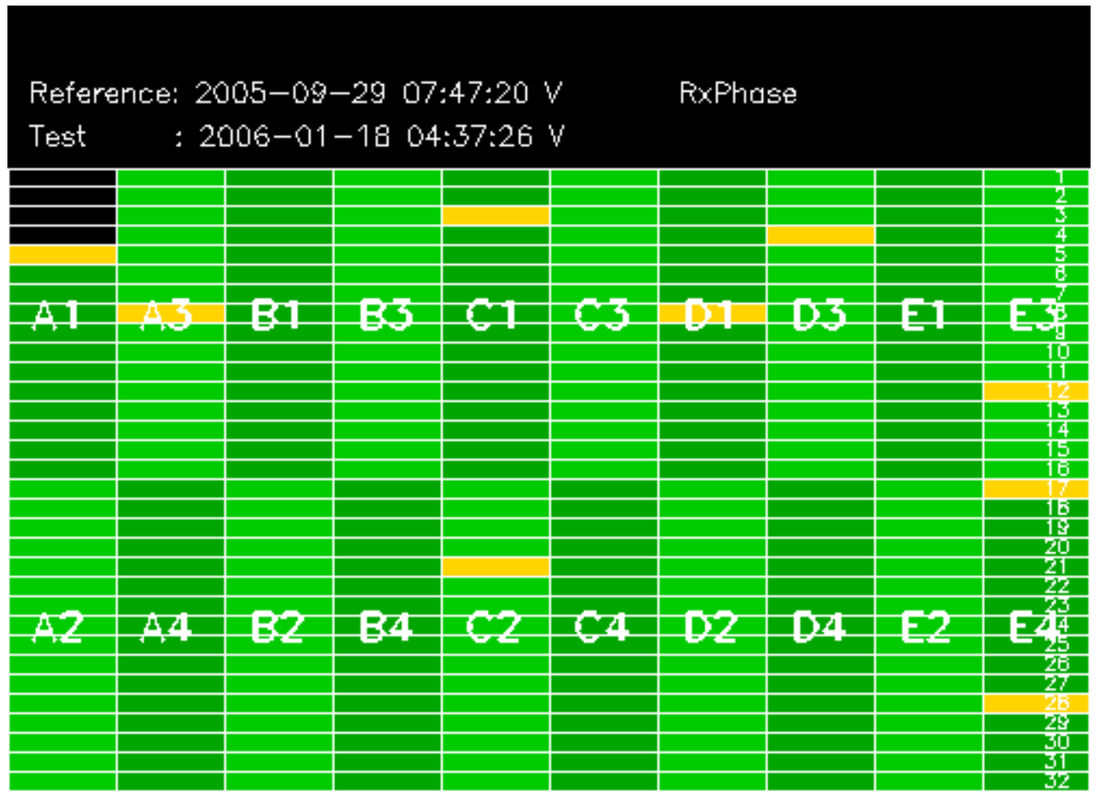

Reference: 2001-02-09 14:08:23 V
Test : 2006-01-18 04:37:26 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-01-18 04:37:26 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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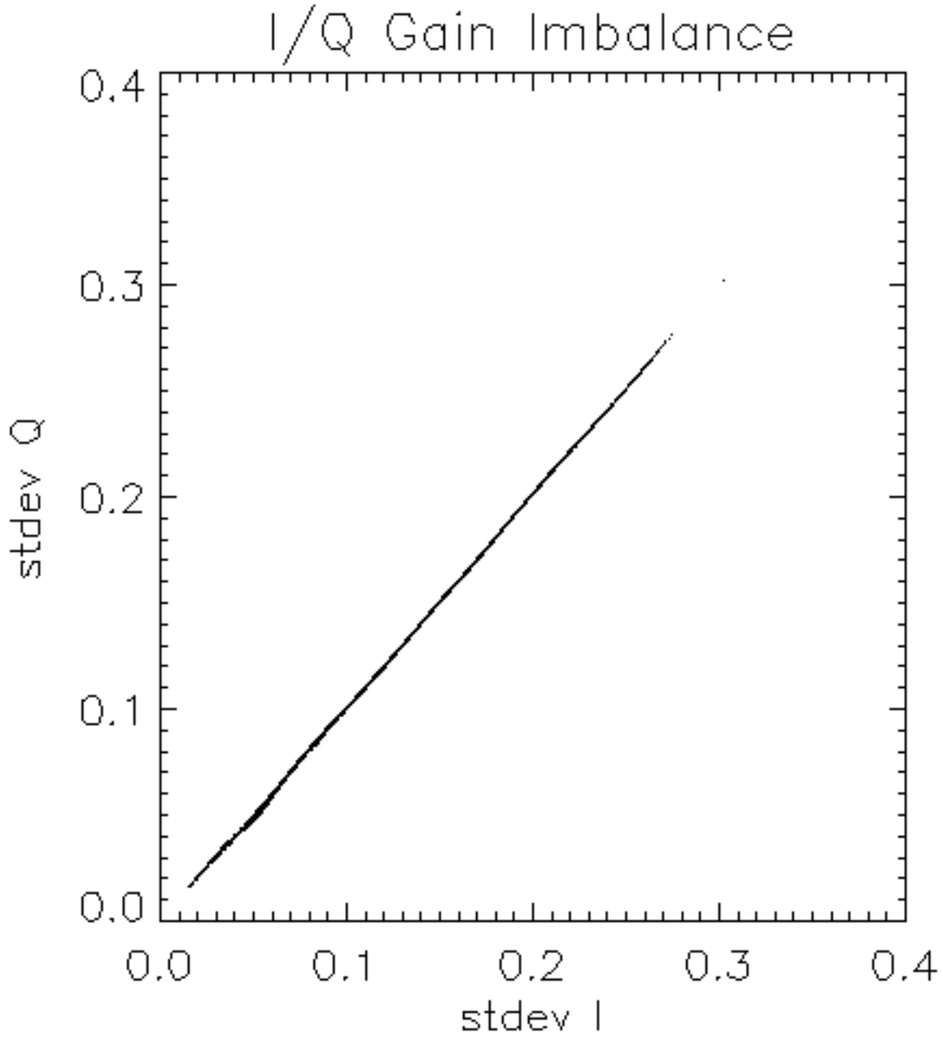
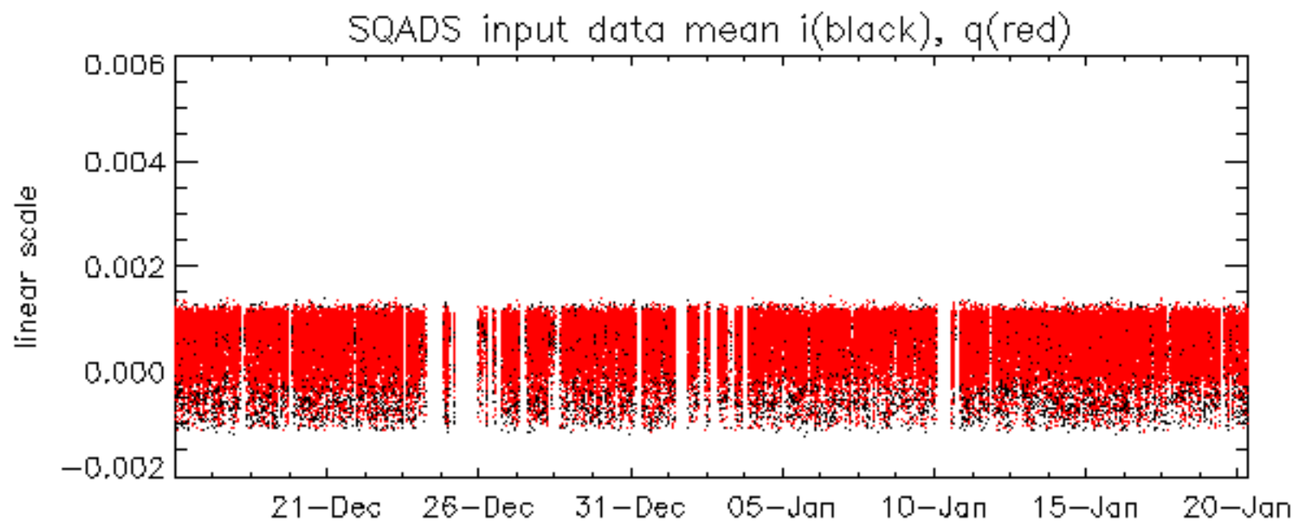
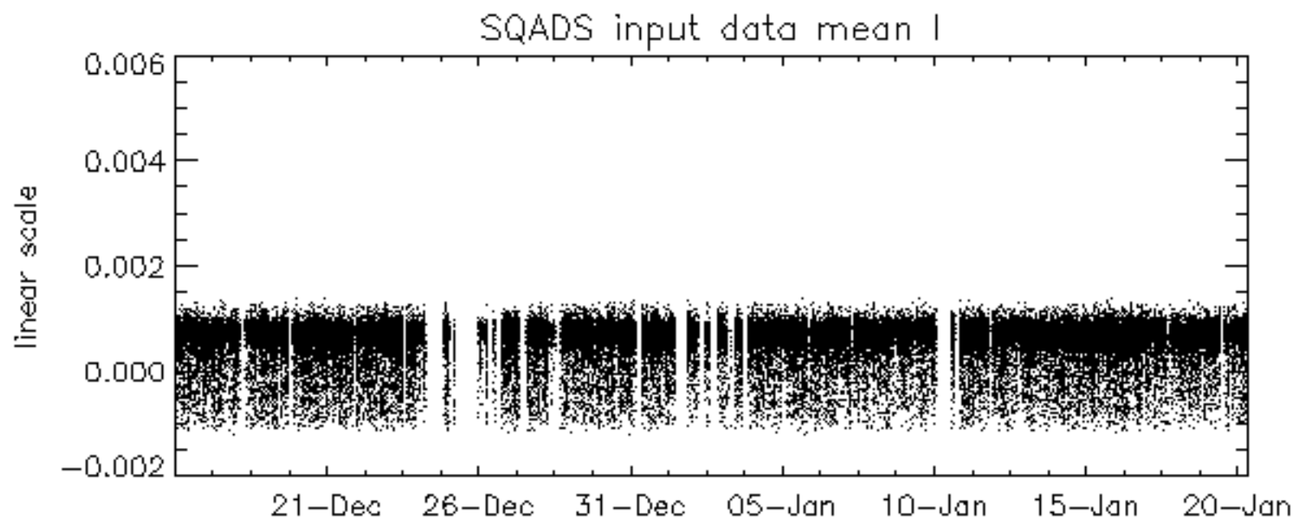
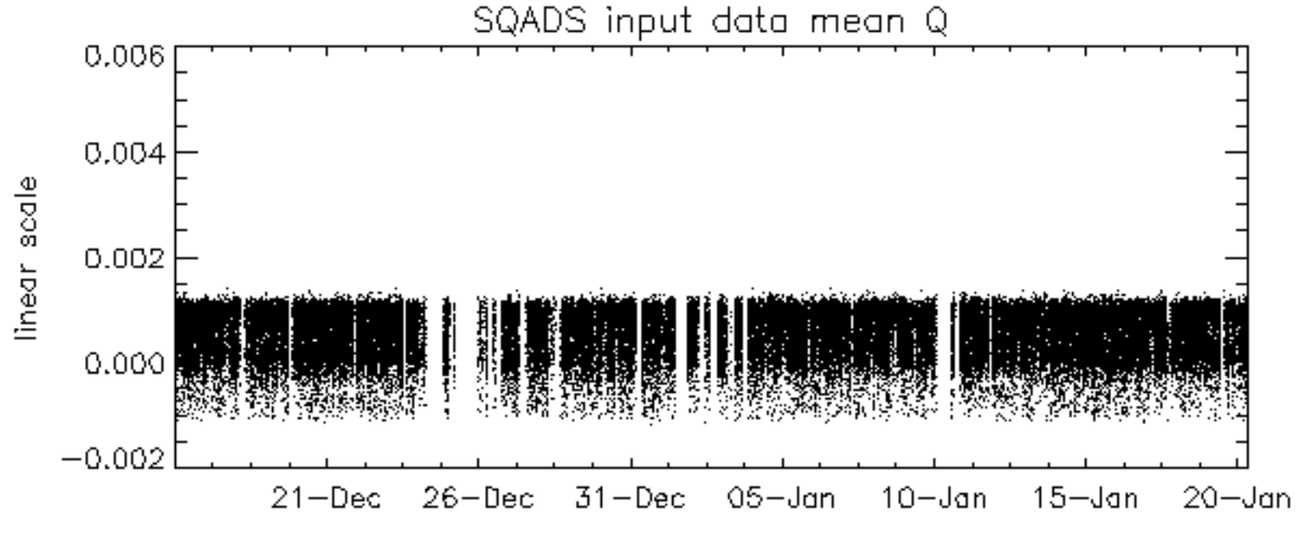
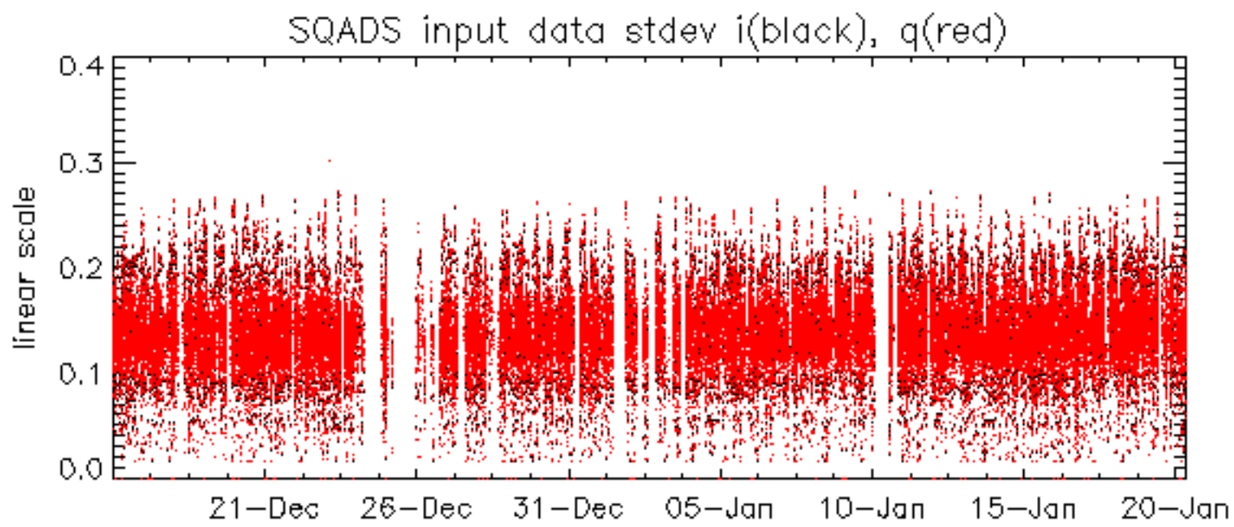
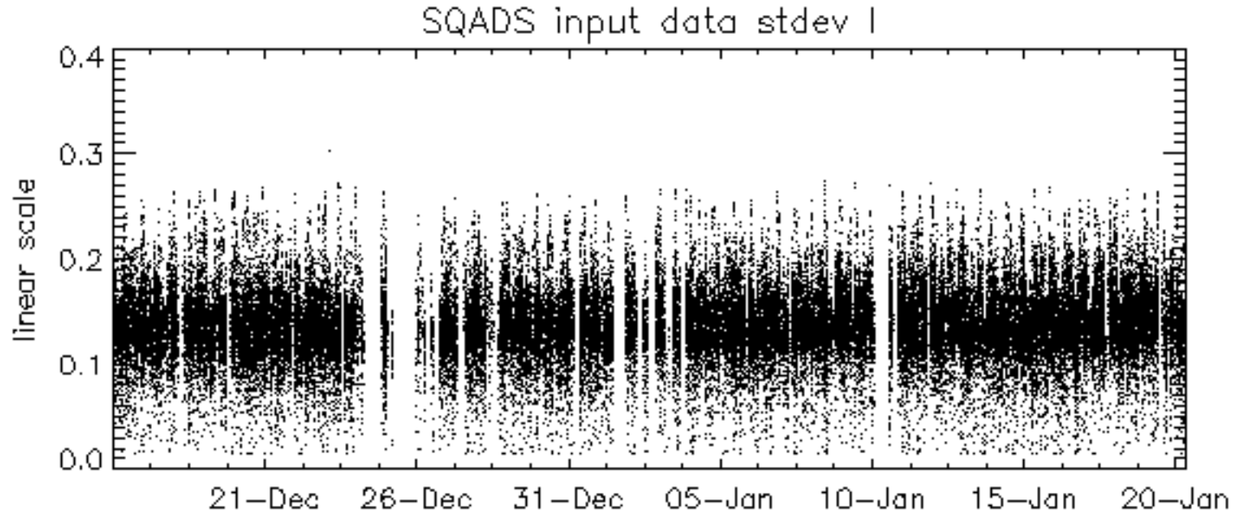

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

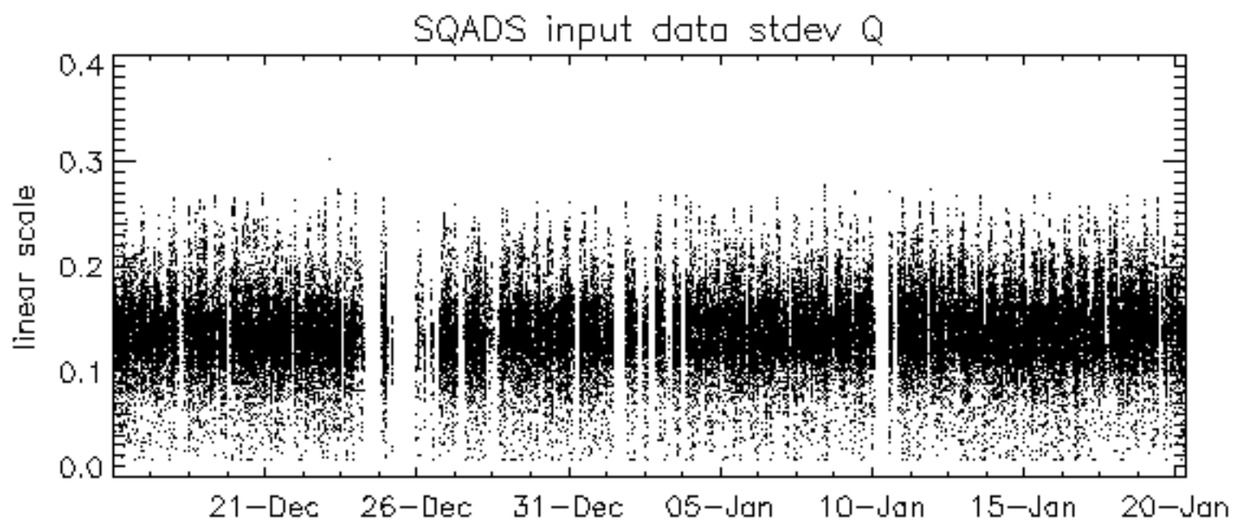

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan

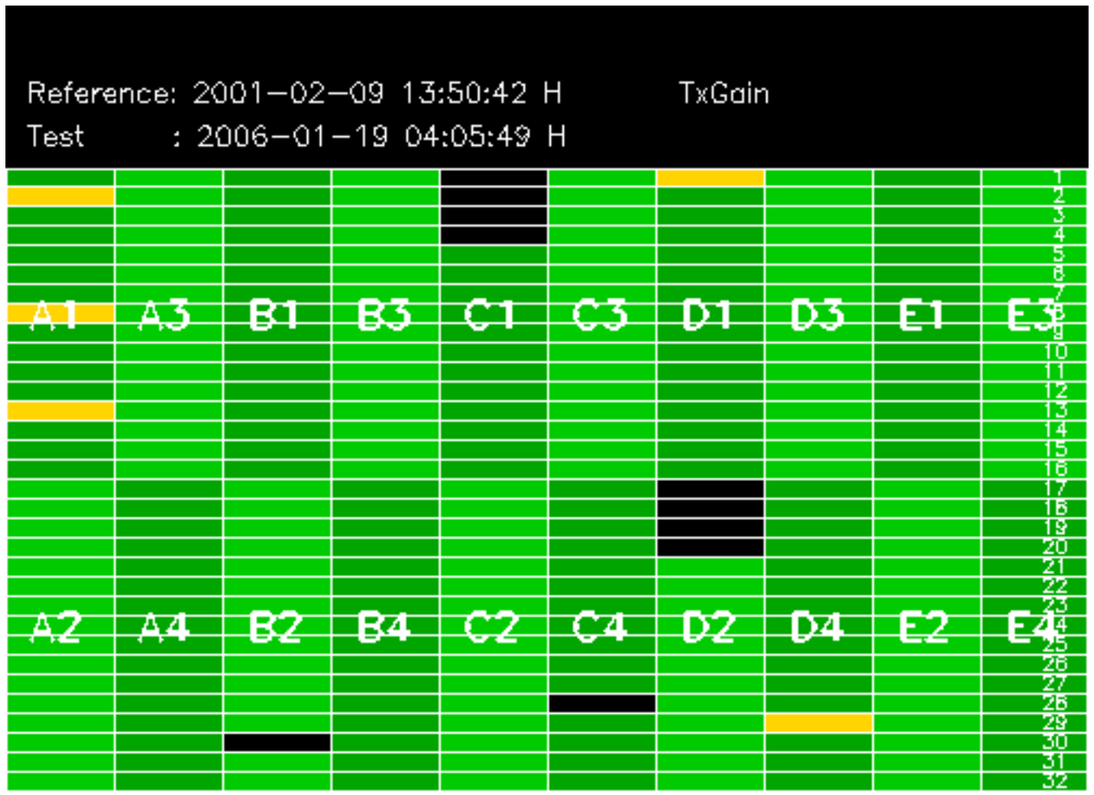

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan

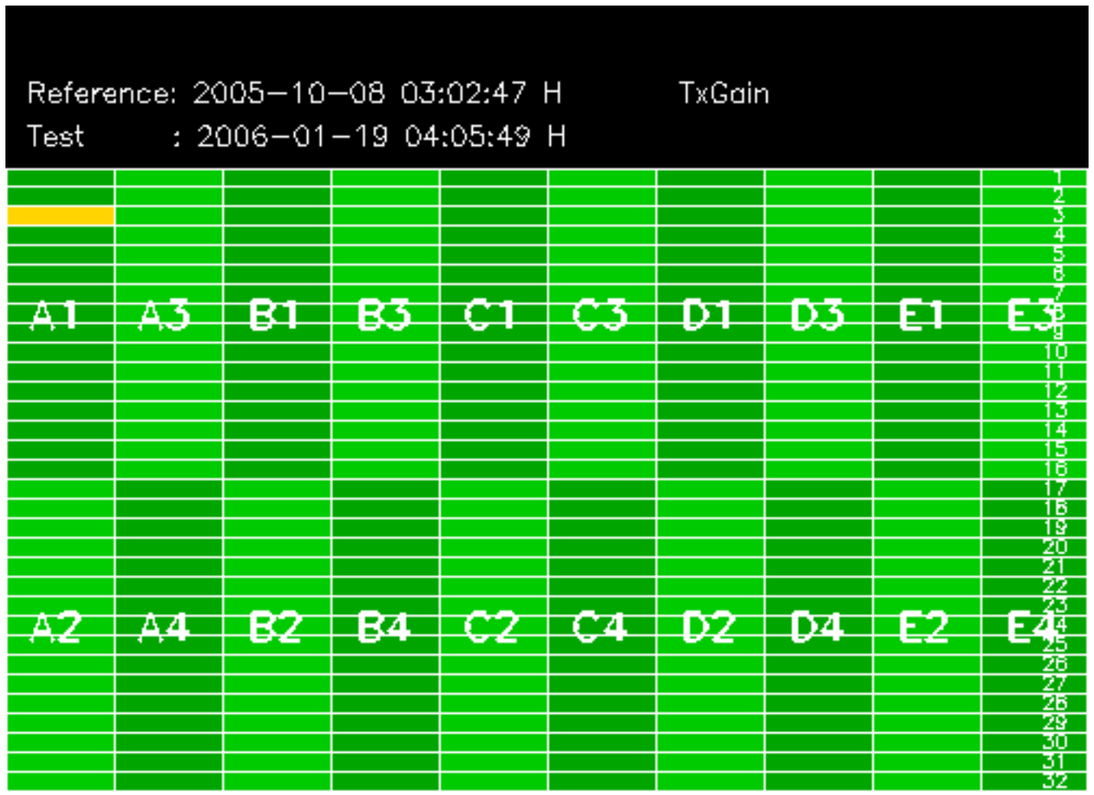

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Dec
26−Dec
31−Dec
05−Jan
10−Jan
15−Jan
20−Jan


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2006-01-19 04:05:49 H
TxGain
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
Test : 2006-01-19 04:05:49 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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E4
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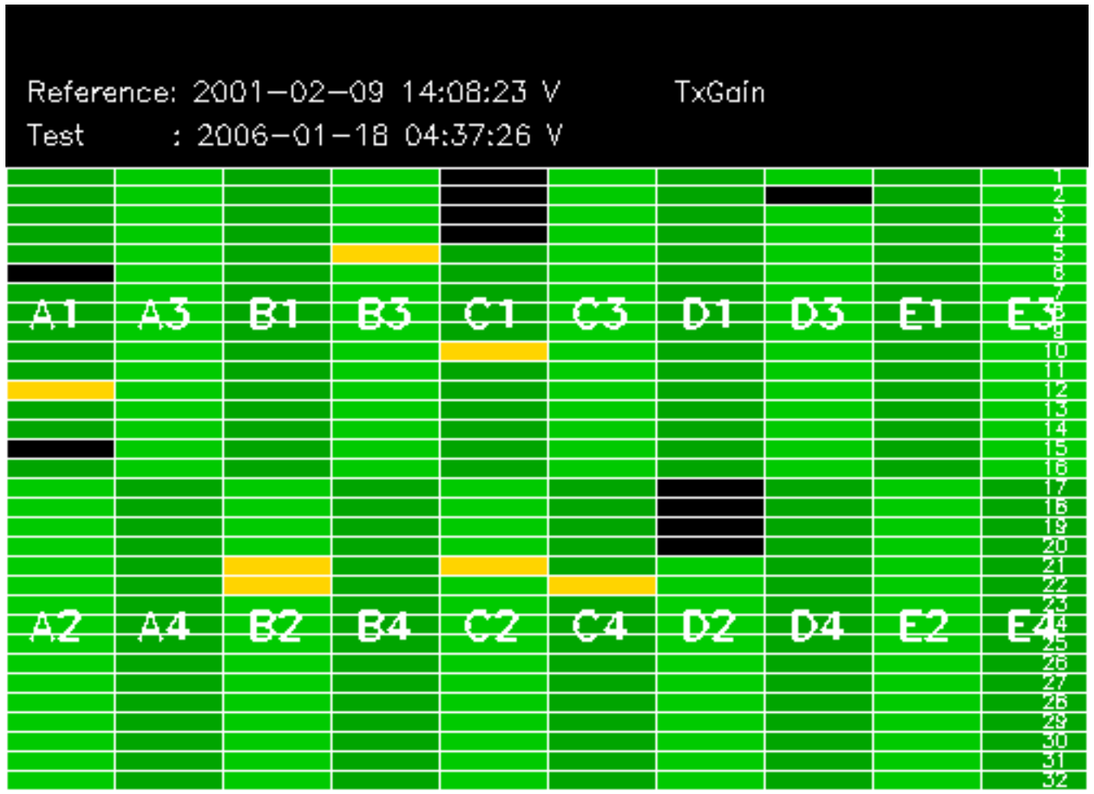
Reference: 2001-02-09 14:08:23 V
Test : 2006-01-18 04:37:26 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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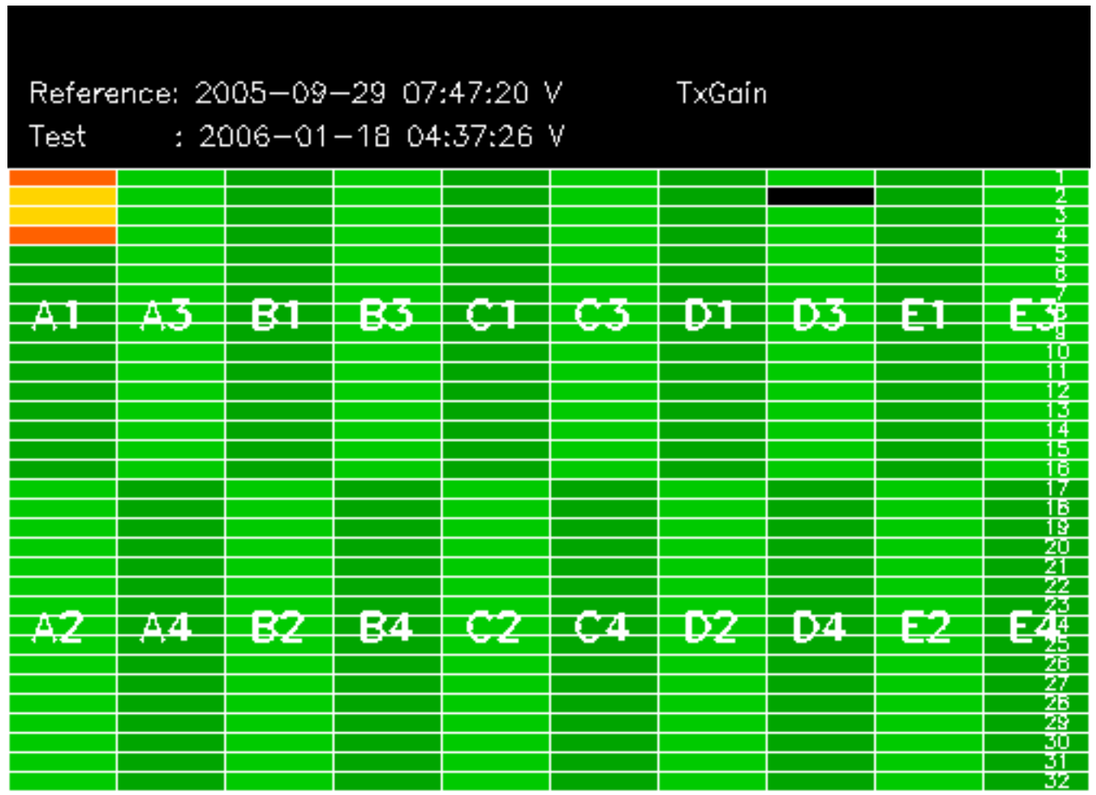
Reference: 2005-09-29 07:47:20 V
Test : 2006-01-18 04:37:26 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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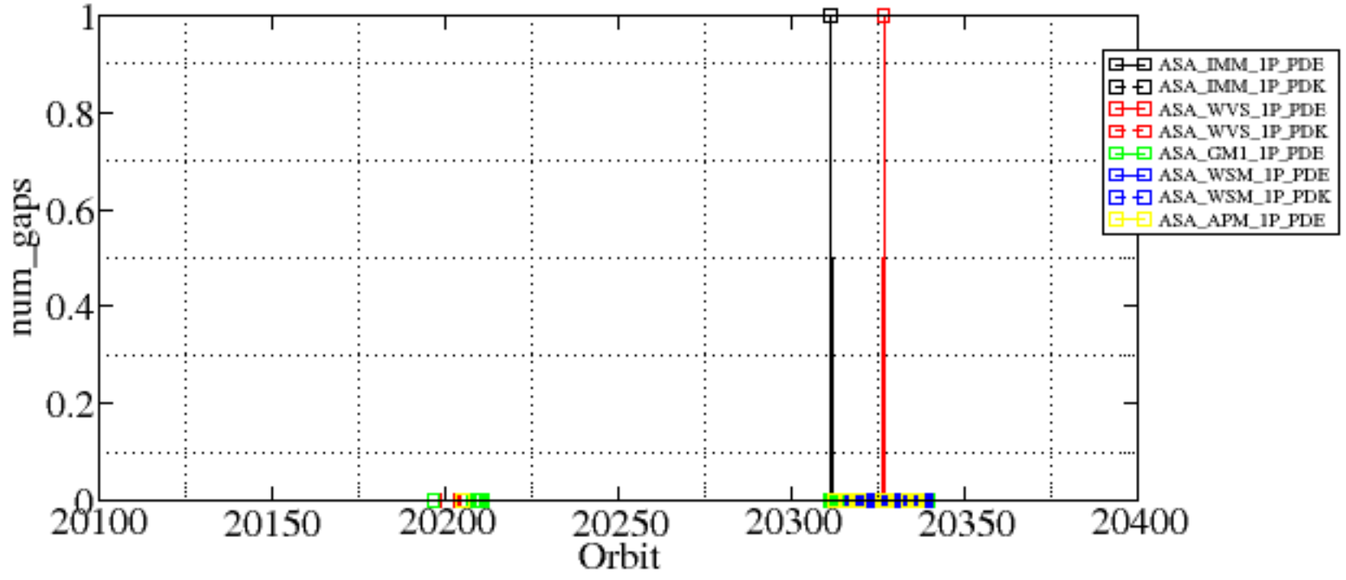
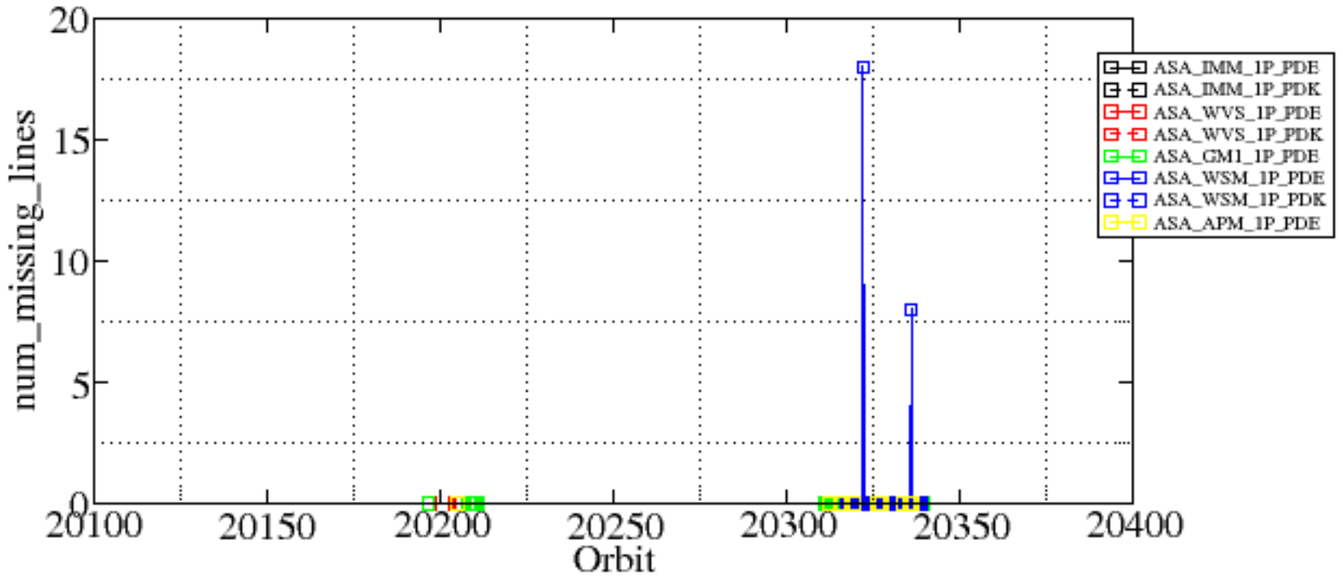
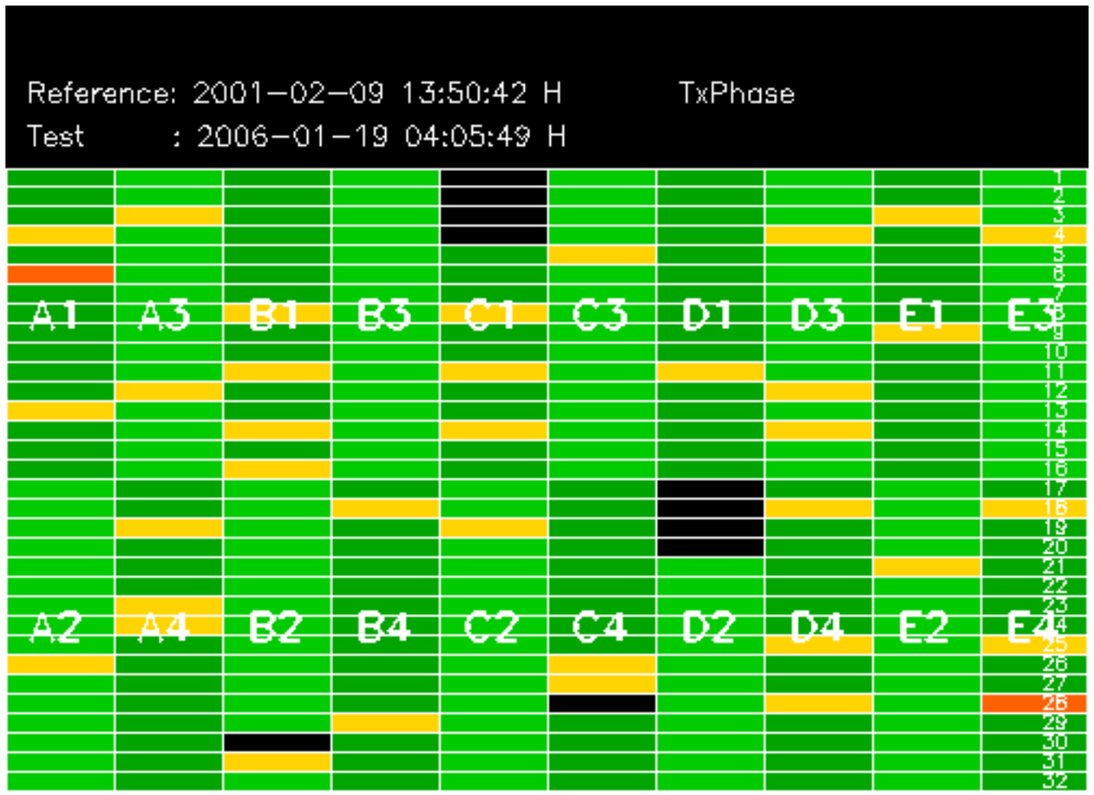
Summary of analysis for the last 3 days 2006011[890]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_IMM_1PNPDE20060118_004619_000001942044_00217_20311_0394.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_WVS_1PNPDE20060119_021612_000000002044_00232_20326_0259.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20060118_183920_000003002044_00228_20322_1369.N1 </td> <td>0 </td> <td>18 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20060119_180830_000001842044_00242_20336_1532.N1 </td> <td>0 </td> <td>8 </td></tr>
</table>


num_gaps
Orbit
1
0.8
0.6
0.4
0.2
0
20100
20150
20200
20250
20300
20350
20400
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_WSM_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE


num_missing_lines
Orbit
20
15
10
5
0
20100
20150
20200
20250
20300
20350
20400
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_WSM_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE


Reference: 2001-02-09 13:50:42 H
Test : 2006-01-19 04:05:49 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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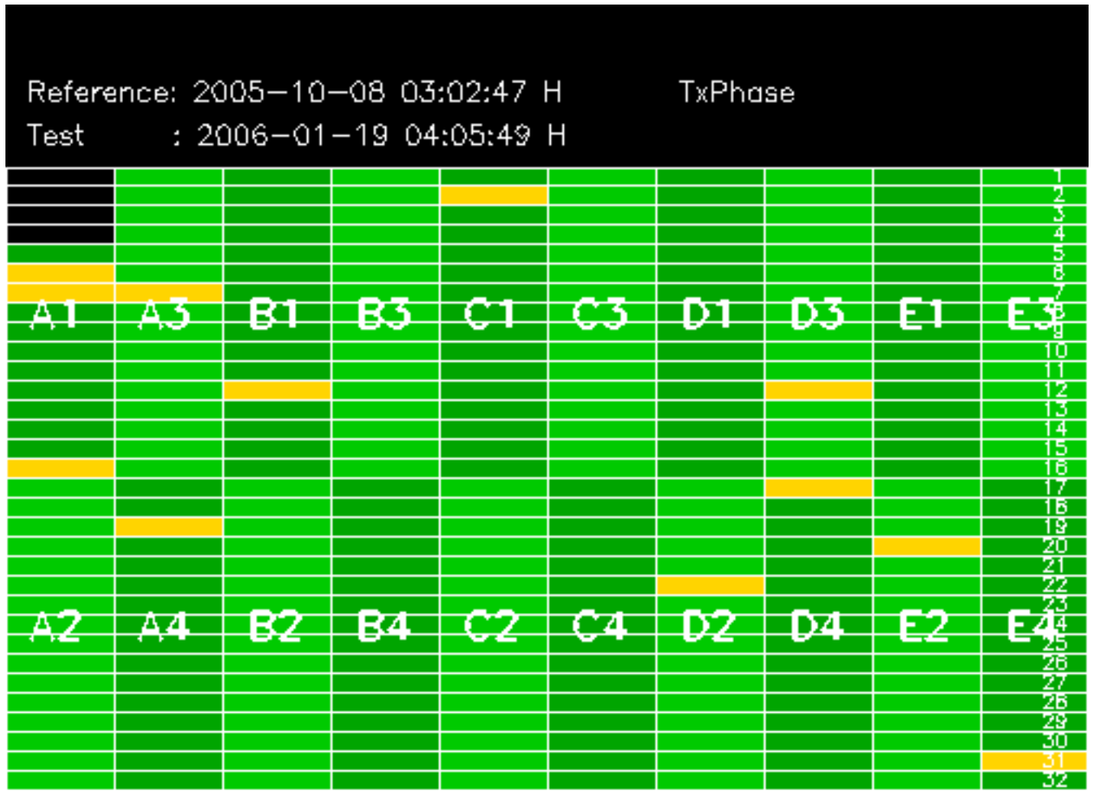
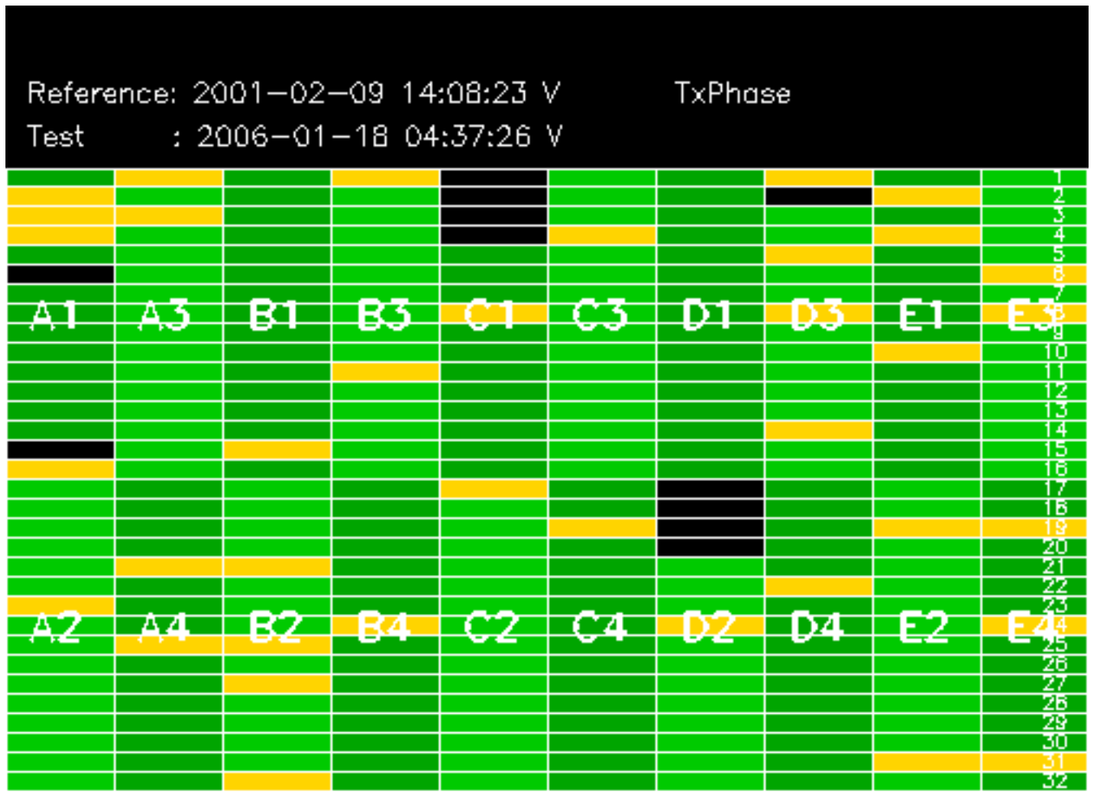
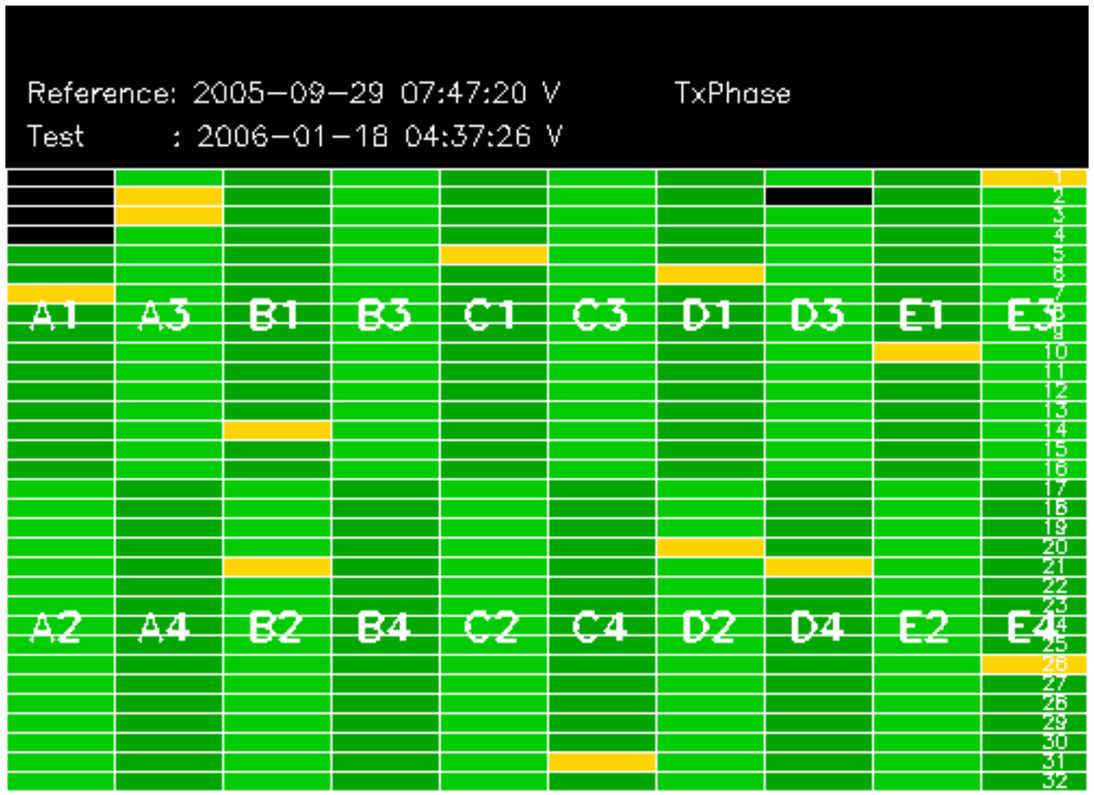

Reference: 2005-10-08 03:02:47 H
TxPhase
Test : 2006-01-19 04:05:49 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2006-01-18 04:37:26 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
TxPhase
Test : 2006-01-18 04:37:26 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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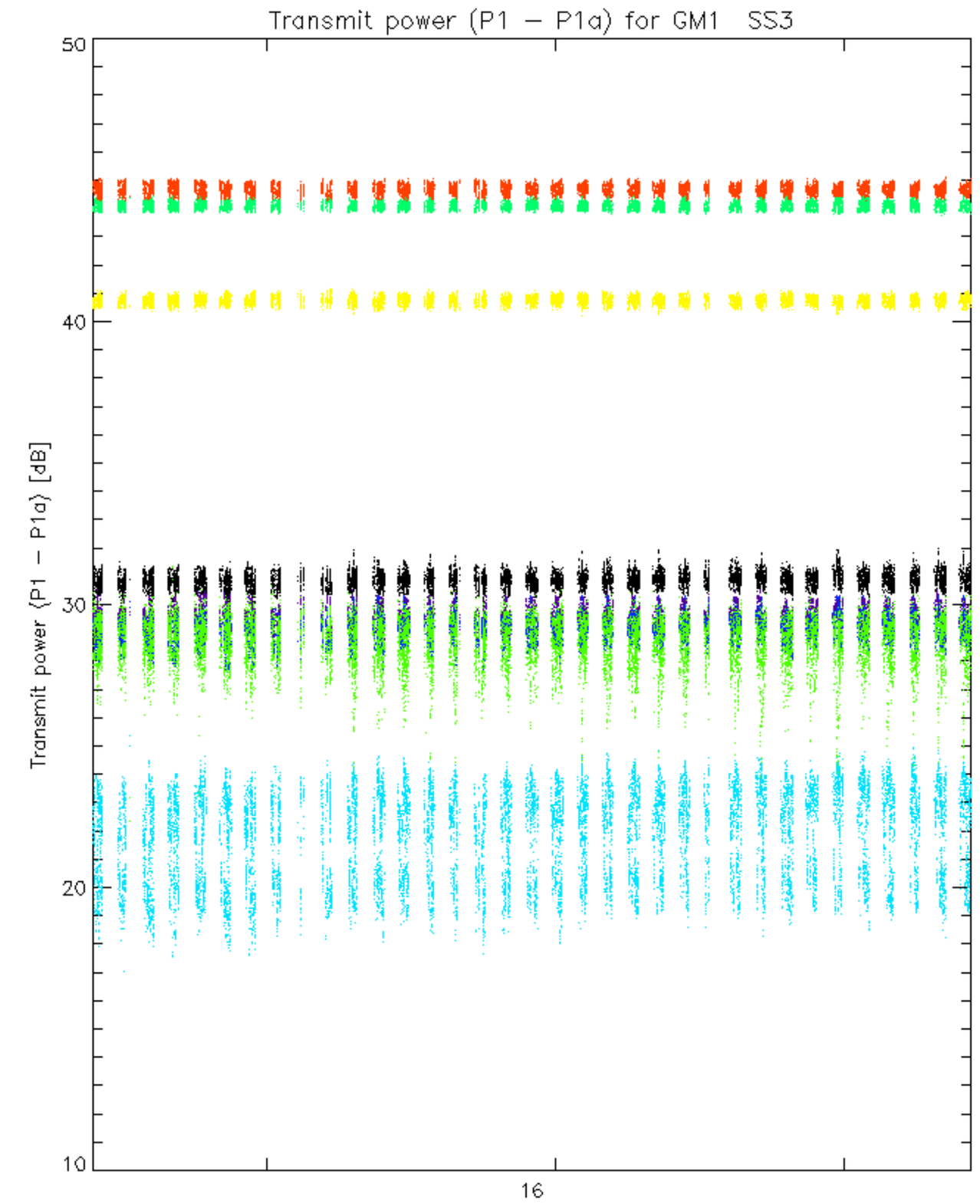
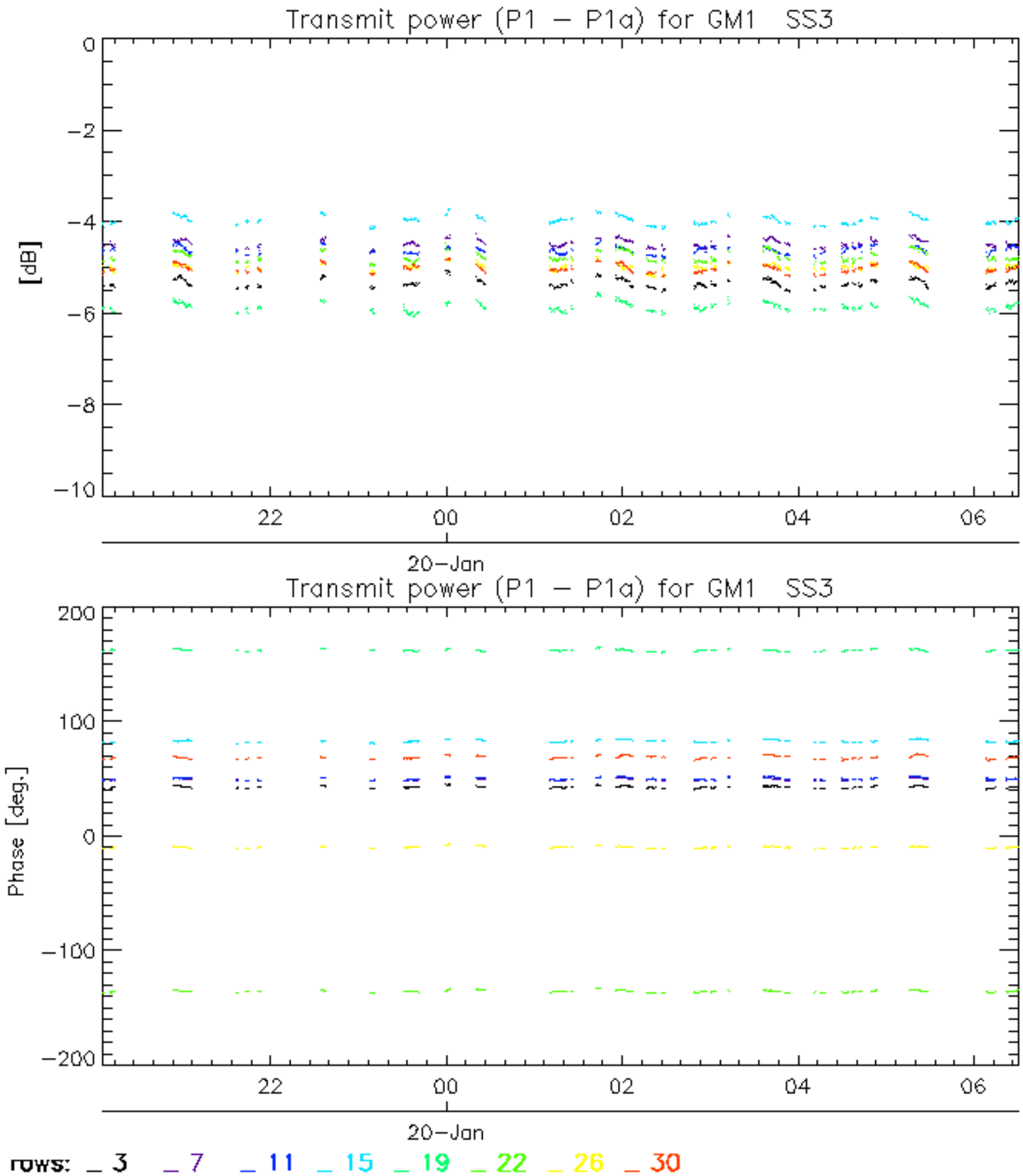
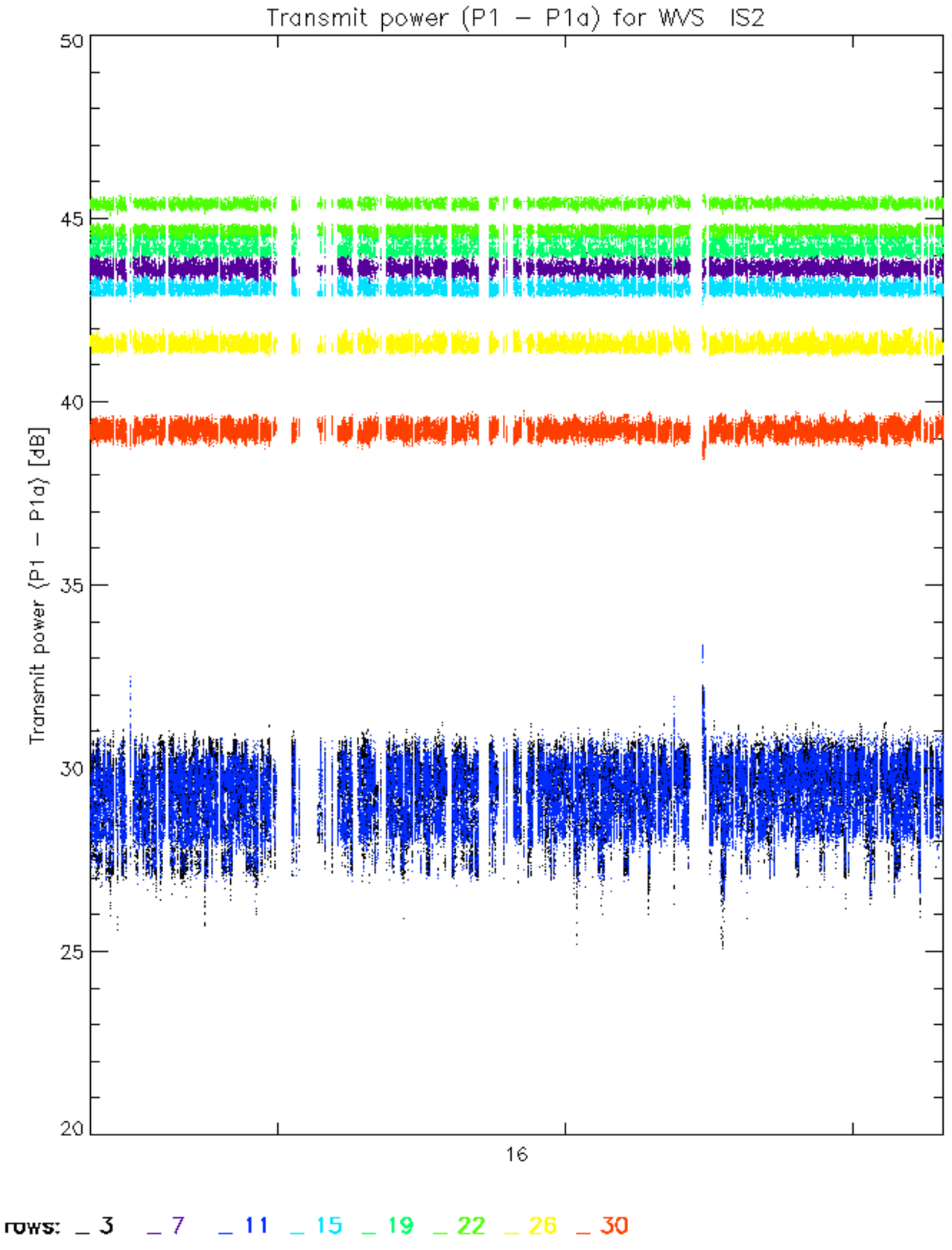
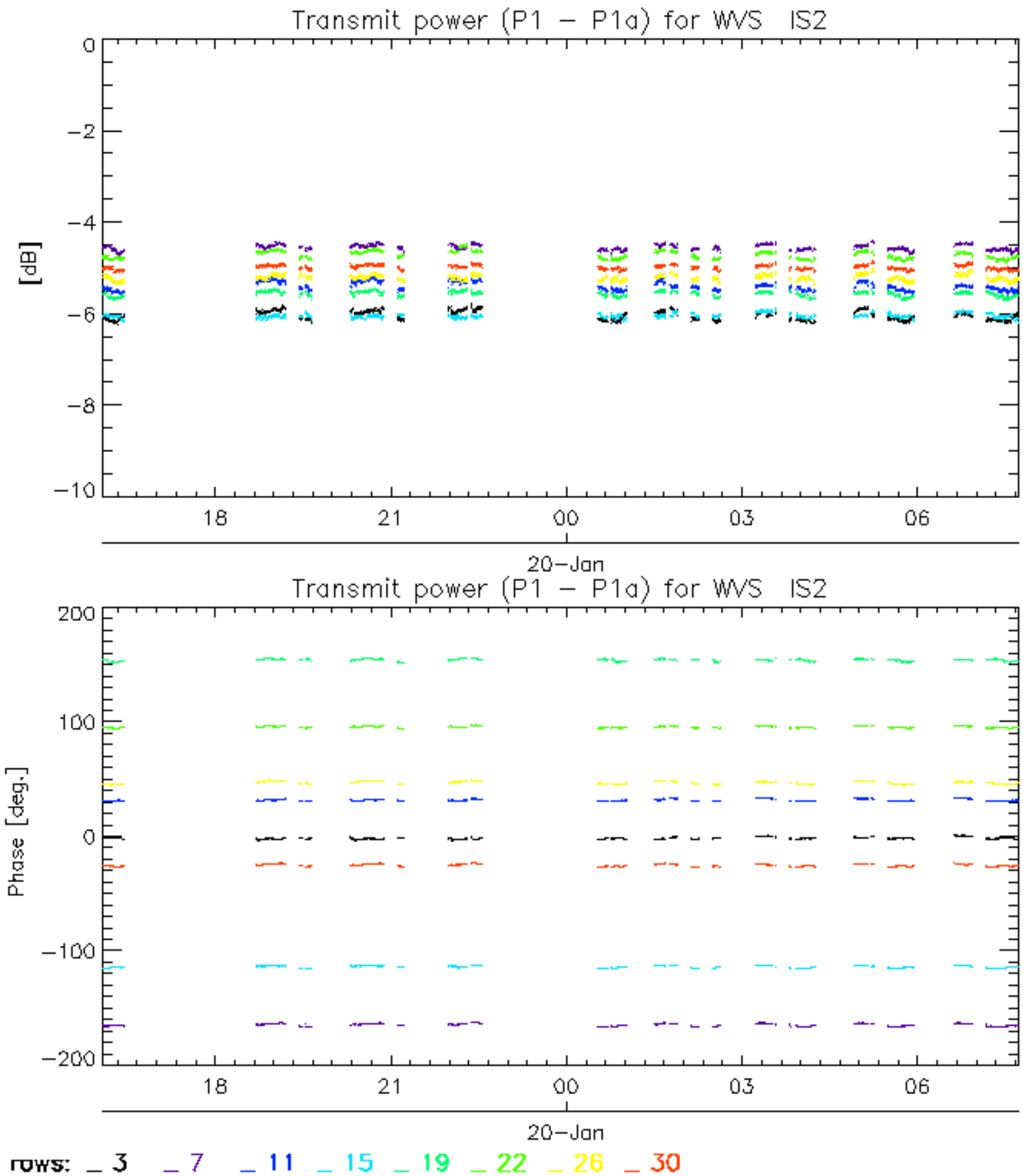

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
16
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
0
−2
−4
−6
−8
−10
[dB]
22
00
02
04
06
20−Jan
Transmit power (P1 – P1a) for GM1 SS3
200
100
0
−100
−200
Phase [deg.]
22
00
02
04
06
20−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
16
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
0
−2
−4
−6
−8
−10
[dB]
18
21
00
03
06
20−Jan
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
18
21
00
03
06
20−Jan
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.