PRELIMINARY REPORT OF 050207

last update on Mon Feb 7 11:02:57 GMT 2005

1 - Introduction

This report is based on the analysis of wave mode level-1 cross spectra (ASA_WVS_1P), global monitoring products (ASA_GM1_1P), which are the available few hours after the acquisition, on the browse (BP) products and
on the Module Stepping (MS) product.

2 - Summary

2.1 - Instrument Unavailability

No unavailabilities during the reported period.

2.2 - Auxiliary files

Summary of the auxiliary files used from 2005-02-06 00:00:00 to 2005-02-07 11:02:57

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	28	41	4	1	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	28	41	4	1	4
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	28	41	4	1	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	28	41	4	1	4

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	0	0	5	8	3
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	0	0	5	8	3
ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000	0	0	5	8	3
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	0	0	5	8	3

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	20050129 064404
H	20050130 061227

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
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☒	☒
☒	☒
☒	☒

4 - Internal calibration Results

No anomalies observed.

4.1 - Daily statistics

4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS
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4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1
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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	-3.404708	0.008133	0.049939
7	P1	-3.079671	0.008082	0.011935
11	P1	-4.655758	0.018945	-0.046146
15	P1	-5.642056	0.033828	-0.023653
19	P1	-3.663810	0.004375	0.004149
22	P1	-4.559378	0.014719	0.032486
26	P1	-4.938342	0.012720	-0.001986
30	P1	-7.143424	0.016186	-0.037330
3	P1	-15.905360	0.102175	0.021208
7	P1	-15.509063	0.070441	-0.026496
11	P1	-20.852741	0.234438	-0.130107
15	P1	-11.605433	0.061858	0.073434
19	P1	-14.177238	0.024583	-0.004813
22	P1	-15.919510	0.389177	0.266881
26	P1	-17.626289	0.220071	0.138406
30	P1	-17.914494	0.341492	-0.050796

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.237574	0.086856	0.180355
7	P2	-22.427746	0.113441	0.183124
11	P2	-14.659301	0.105377	0.213847
15	P2	-7.107722	0.098694	0.083822
19	P2	-9.692922	0.098064	0.070510
22	P2	-17.041914	0.095424	0.154253
26	P2	-16.490326	0.095492	0.074025
30	P2	-18.912201	0.081233	0.049496

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.187238	0.006200	0.040517
7	P3	-8.187238	0.006200	0.040517
11	P3	-8.187238	0.006200	0.040517
15	P3	-8.187238	0.006200	0.040517
19	P3	-8.187238	0.006200	0.040517
22	P3	-8.187238	0.006200	0.040517
26	P3	-8.187214	0.006204	0.040606
30	P3	-8.187214	0.006204	0.040606

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	-2.799742	0.019377	0.068989
7	P1	-2.961441	0.075840	-0.052208
11	P1	-3.955450	0.030520	-0.026464
15	P1	-3.527436	0.029120	-0.042634
19	P1	-3.600082	0.013514	0.019163
22	P1	-5.680694	0.063918	-0.091230
26	P1	-6.978627	0.182906	-1.220096
30	P1	-6.286580	0.043583	0.075172
3	P1	-10.768352	0.091502	0.032580
7	P1	-10.149536	0.190906	-0.080410
11	P1	-12.545426	0.129427	-0.023123
15	P1	-11.763886	0.079065	-0.007025
19	P1	-15.595905	0.053740	0.088262
22	P1	-24.074144	1.640325	-0.158061
26	P1	-15.265447	0.447694	-1.165409
30	P1	-19.994949	0.826473	-0.070176

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.940458	0.048256	0.142840
7	P2	-22.476337	0.130760	0.168386
11	P2	-10.460233	0.052144	0.257454
15	P2	-5.018797	0.021884	0.062912
19	P2	-6.900291	0.032984	0.103084
22	P2	-7.214841	0.050412	0.115895
26	P2	-23.904392	0.097152	0.101835
30	P2	-21.957966	0.057360	0.053094

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.021915	0.002489	0.041524
7	P3	-8.021972	0.002496	0.041406
11	P3	-8.022042	0.002497	0.041812
15	P3	-8.021909	0.002490	0.041866
19	P3	-8.022006	0.002508	0.041751
22	P3	-8.021946	0.002487	0.041687
26	P3	-8.021905	0.002501	0.041601
30	P3	-8.022010	0.002496	0.041675

4.3 - cal pulses monitoring (all rows)

4.3.1 - Evolution for WVS

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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	0.000472075
	stdev	2.15020e-07
MEAN Q	mean	0.000544876
	stdev	2.29600e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129140
	stdev	0.000964484
STDEV Q	mean	0.129376
	stdev	0.000975710

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005020[567]
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

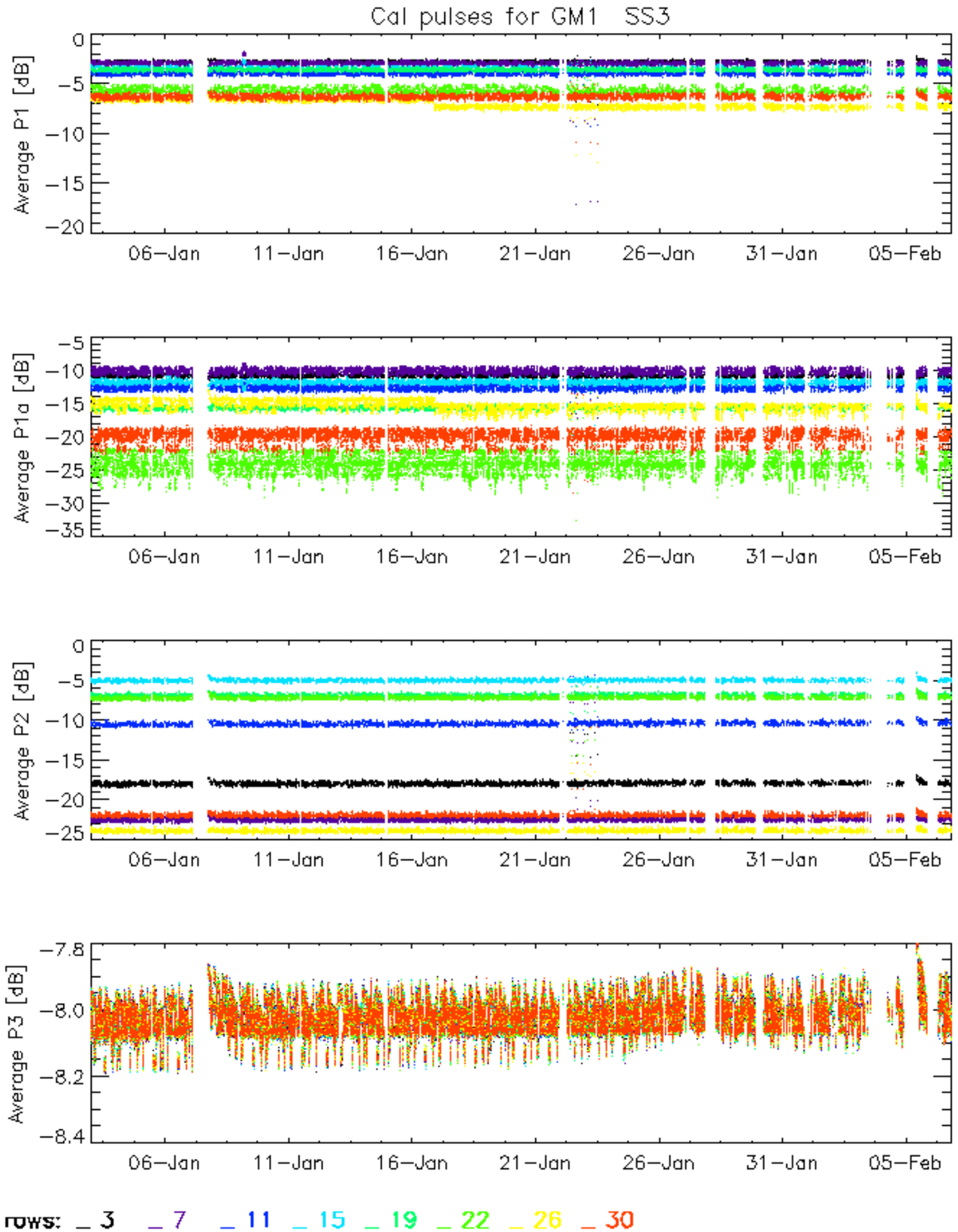
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

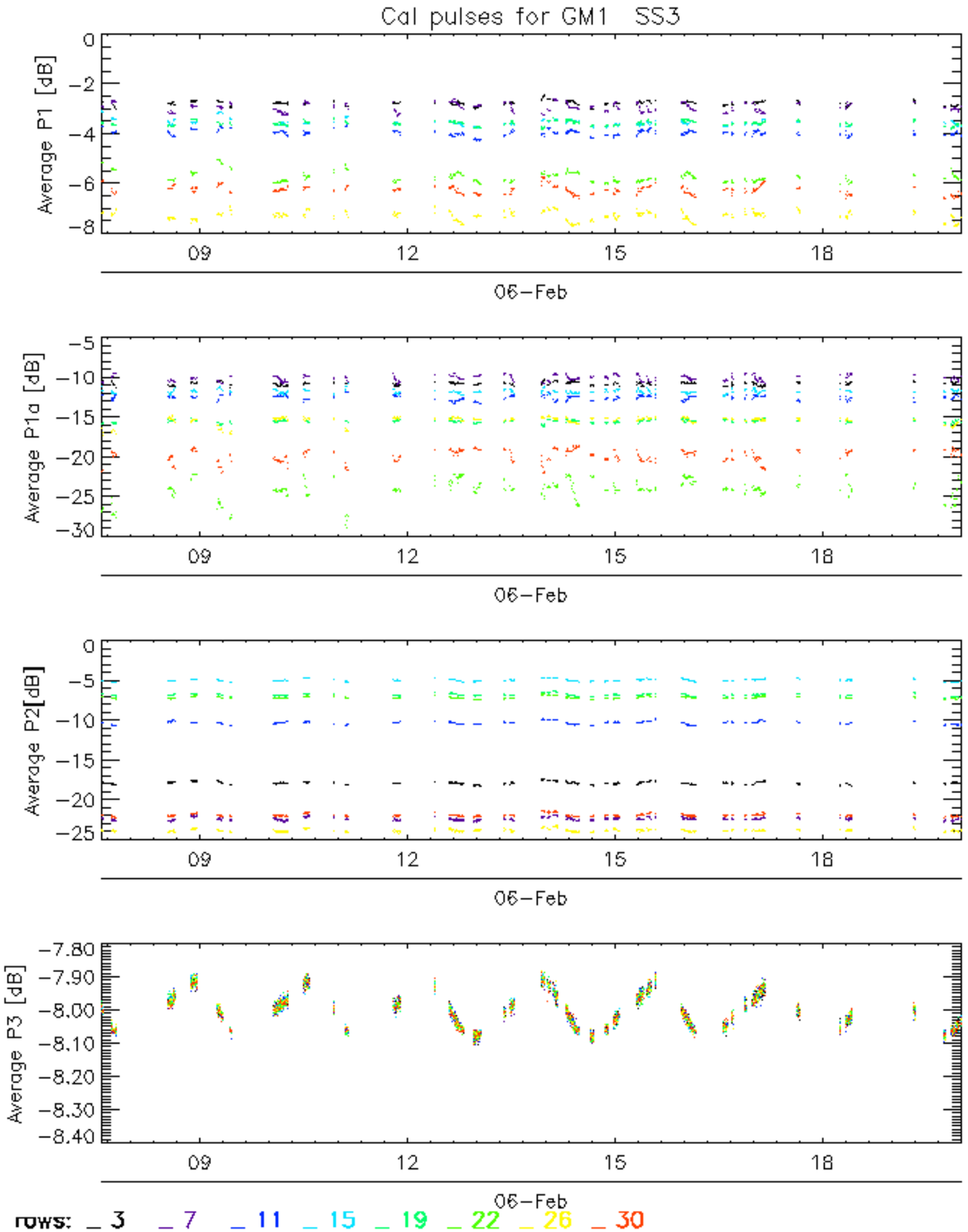
7.5 - Absolute Doppler for GM1

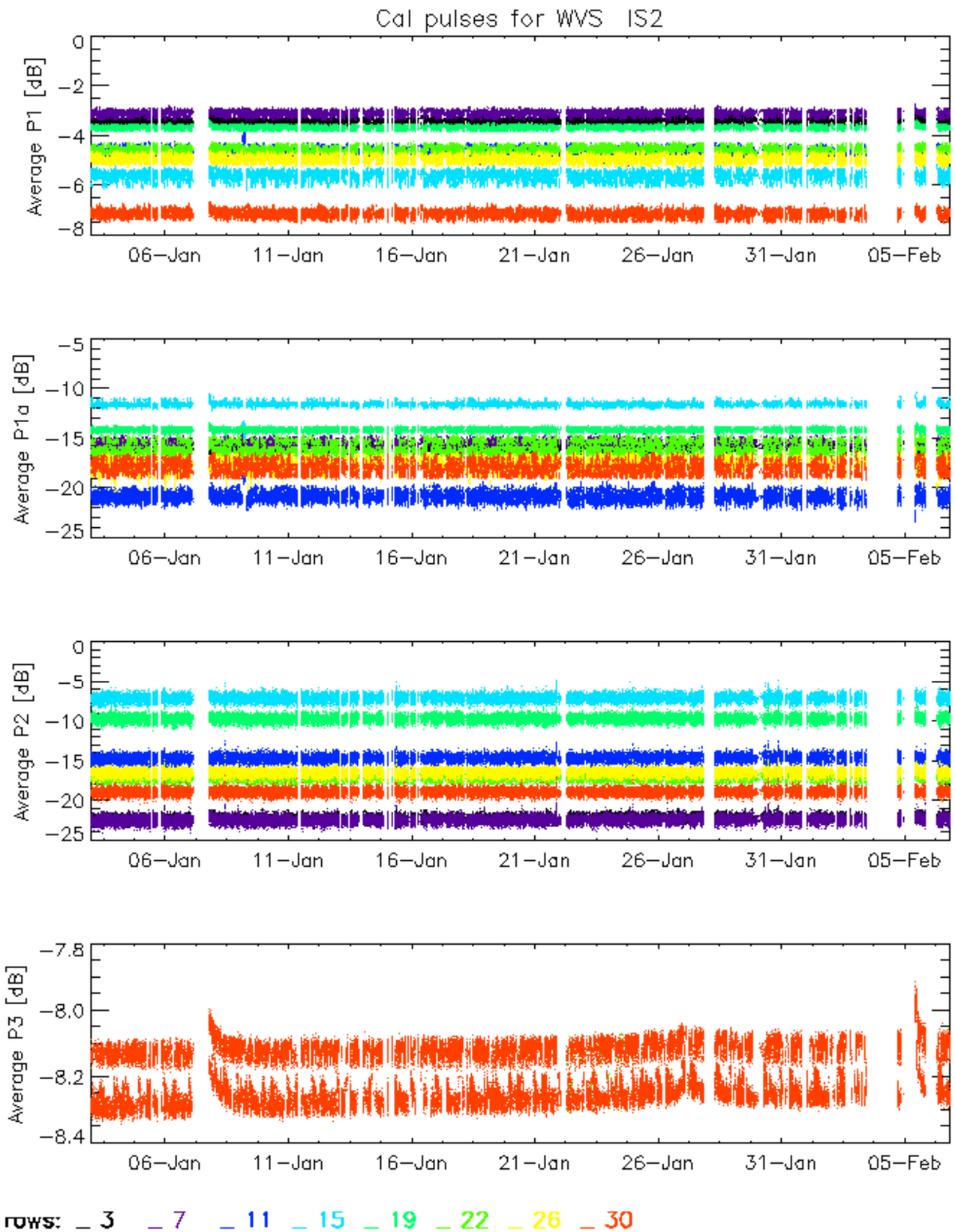
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

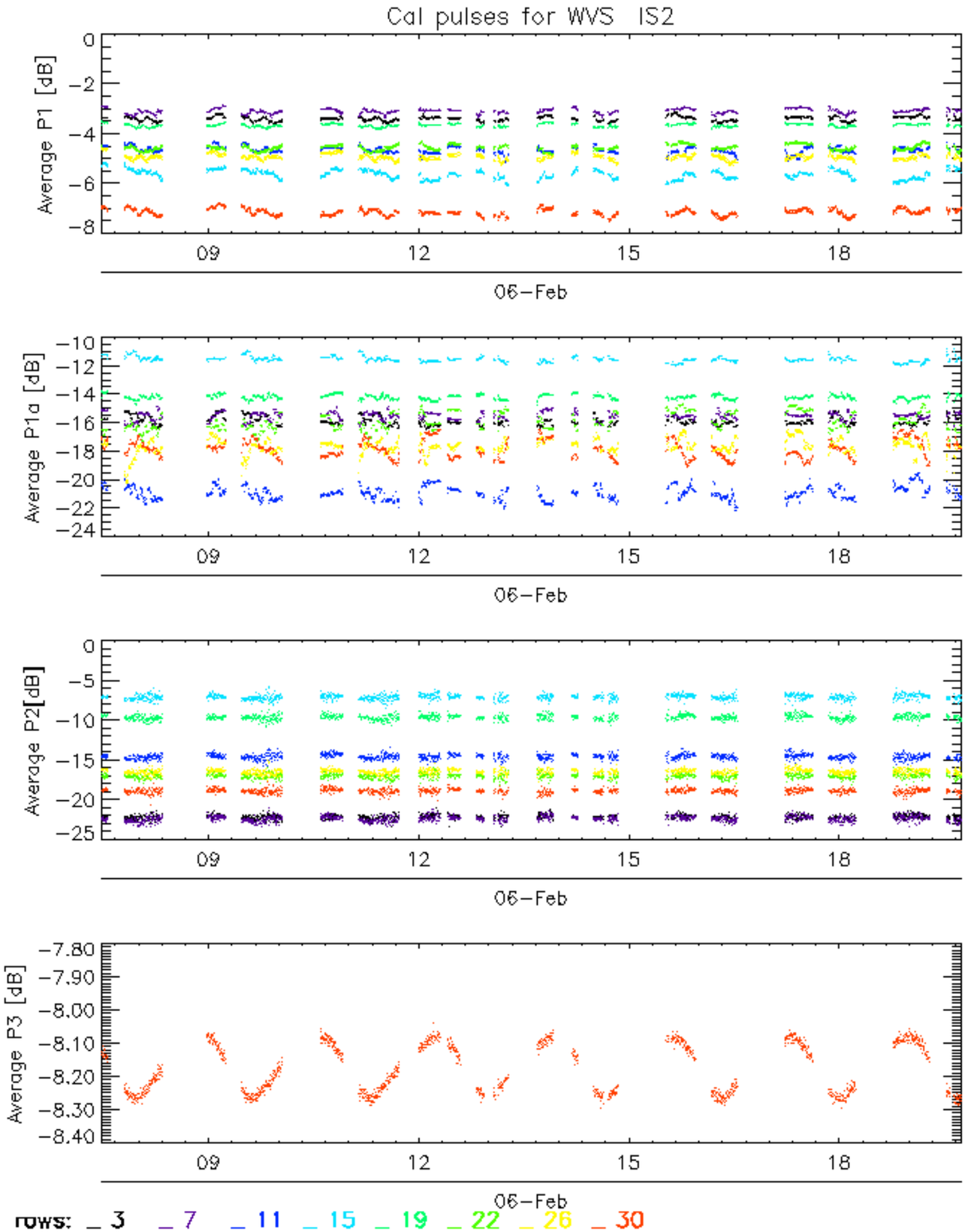
7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
☒

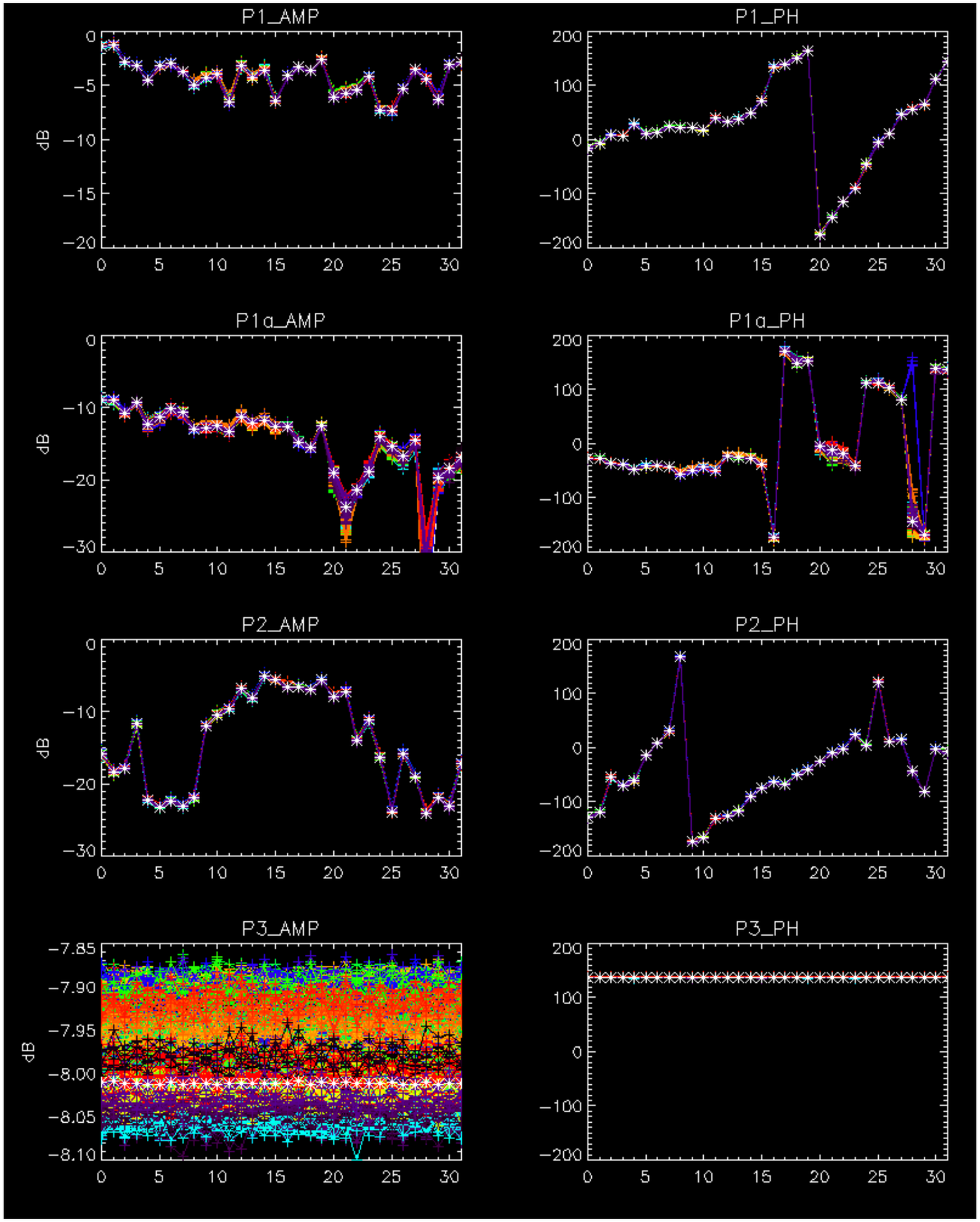

Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
−20
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
06−Jan
11−Jan
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

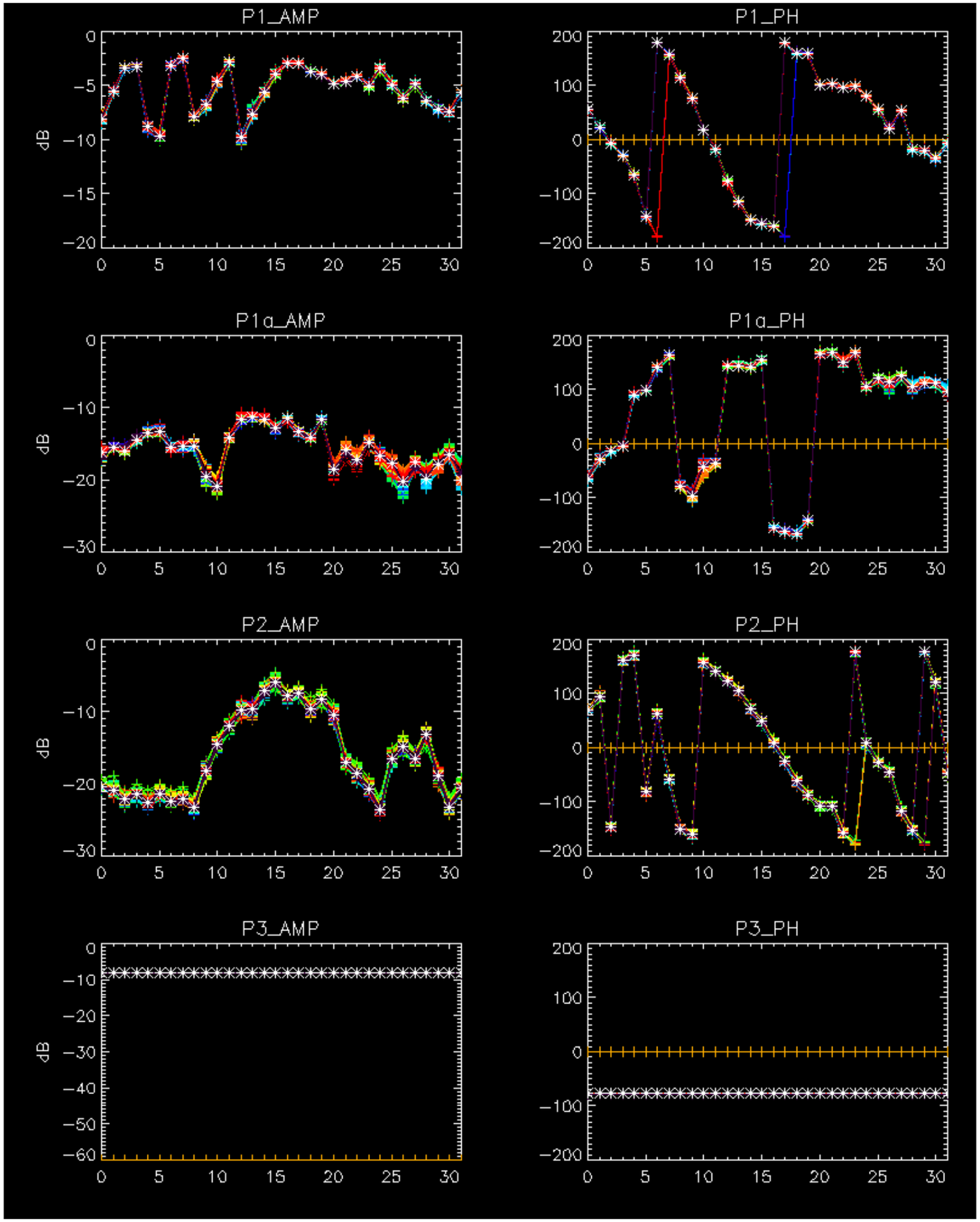

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
09
12
15
18
06−Feb
Average P1a [dB]
−5
−10
−15
−20
−25
−30
09
12
15
18
06−Feb
Average P2[dB]
0
−5
−10
−15
−20
−25
09
12
15
18
06−Feb
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
09
12
15
18
06−Feb
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


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


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
09
12
15
18
06−Feb
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
09
12
15
18
06−Feb
Average P2[dB]
0
−5
−10
−15
−20
−25
09
12
15
18
06−Feb
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
09
12
15
18
06−Feb
rows: 3 7 11 15 19 22 26 30

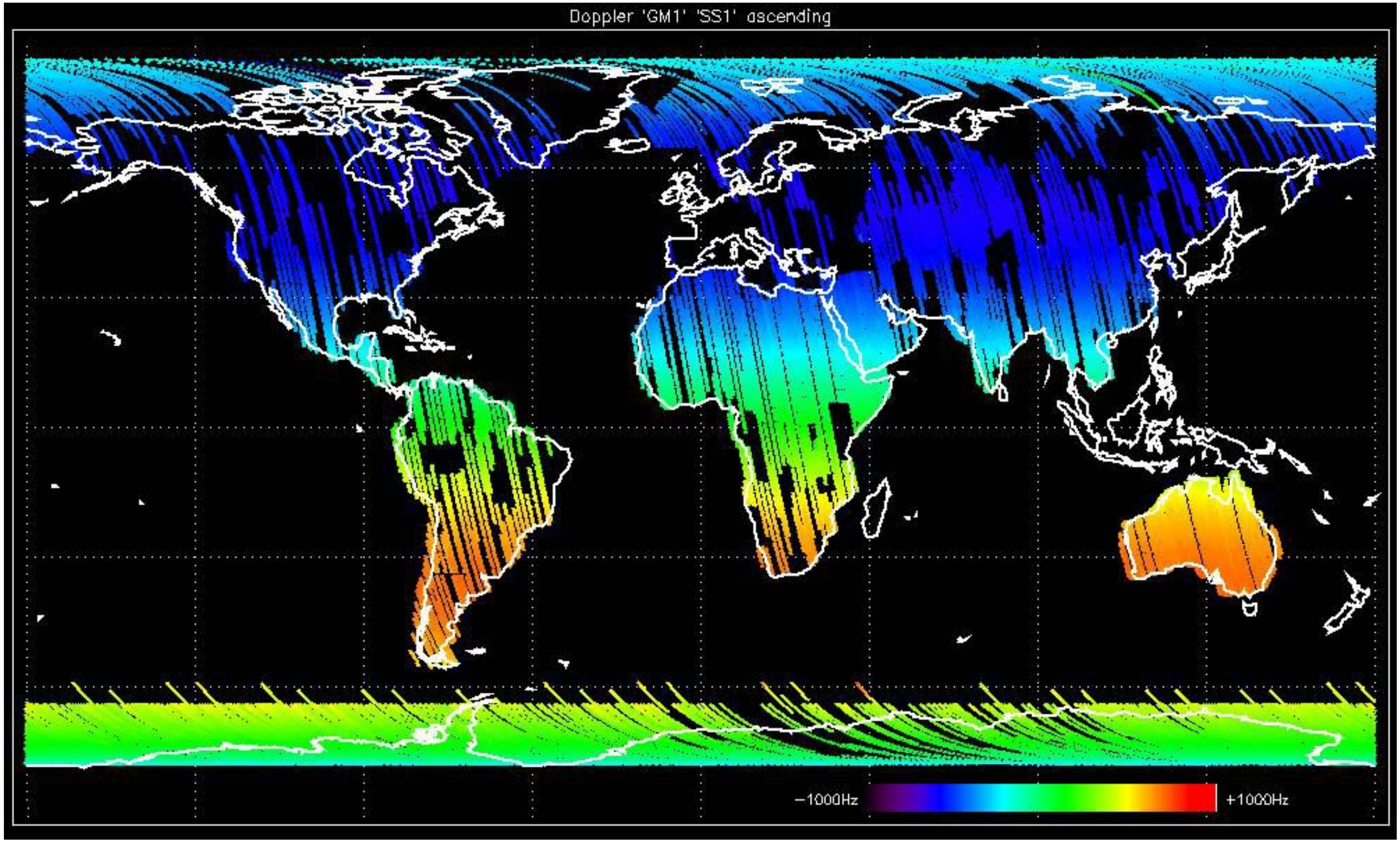
No anomalies observed.

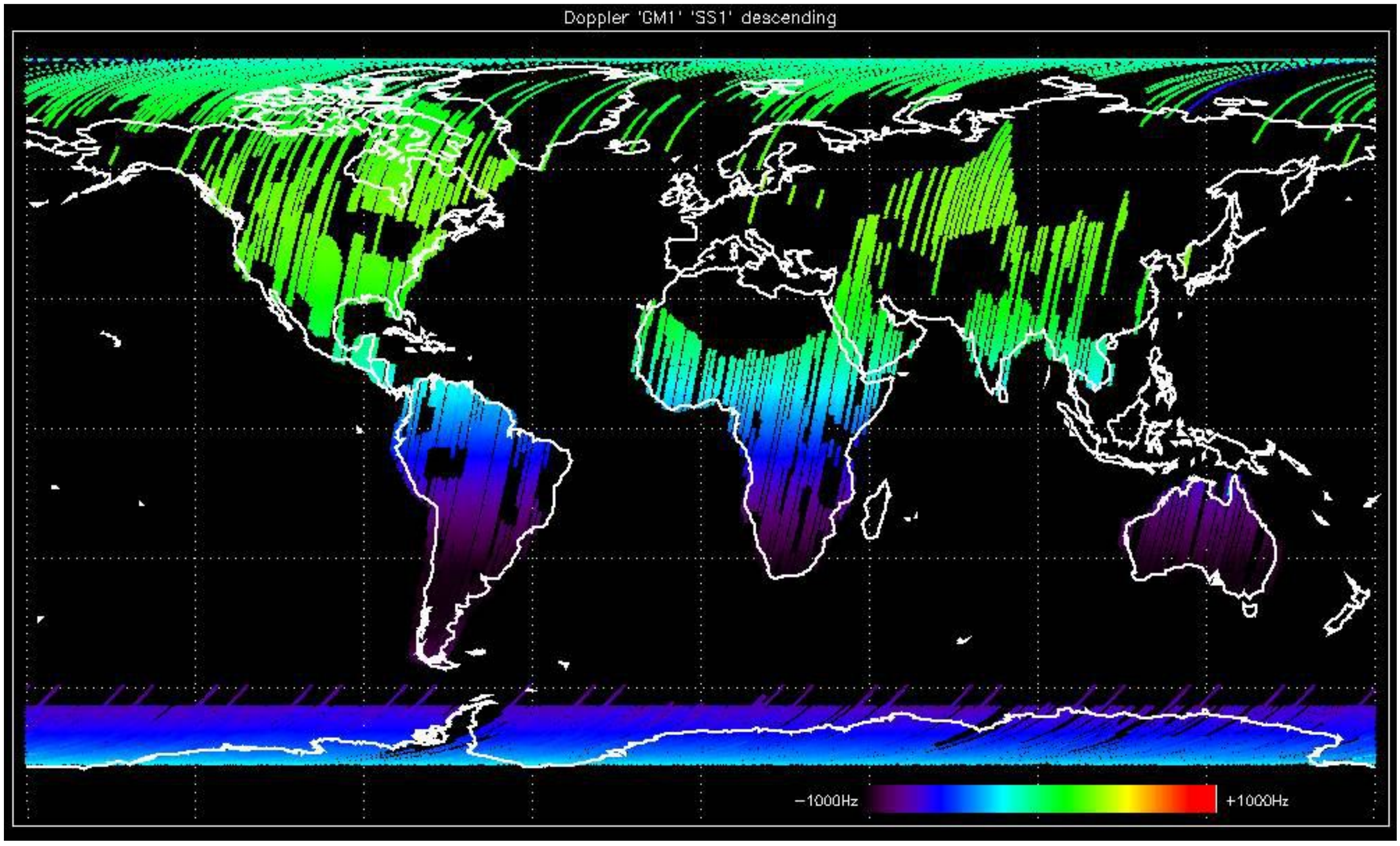

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.85
−7.90
−7.95
−8.00
−8.05
−8.10
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

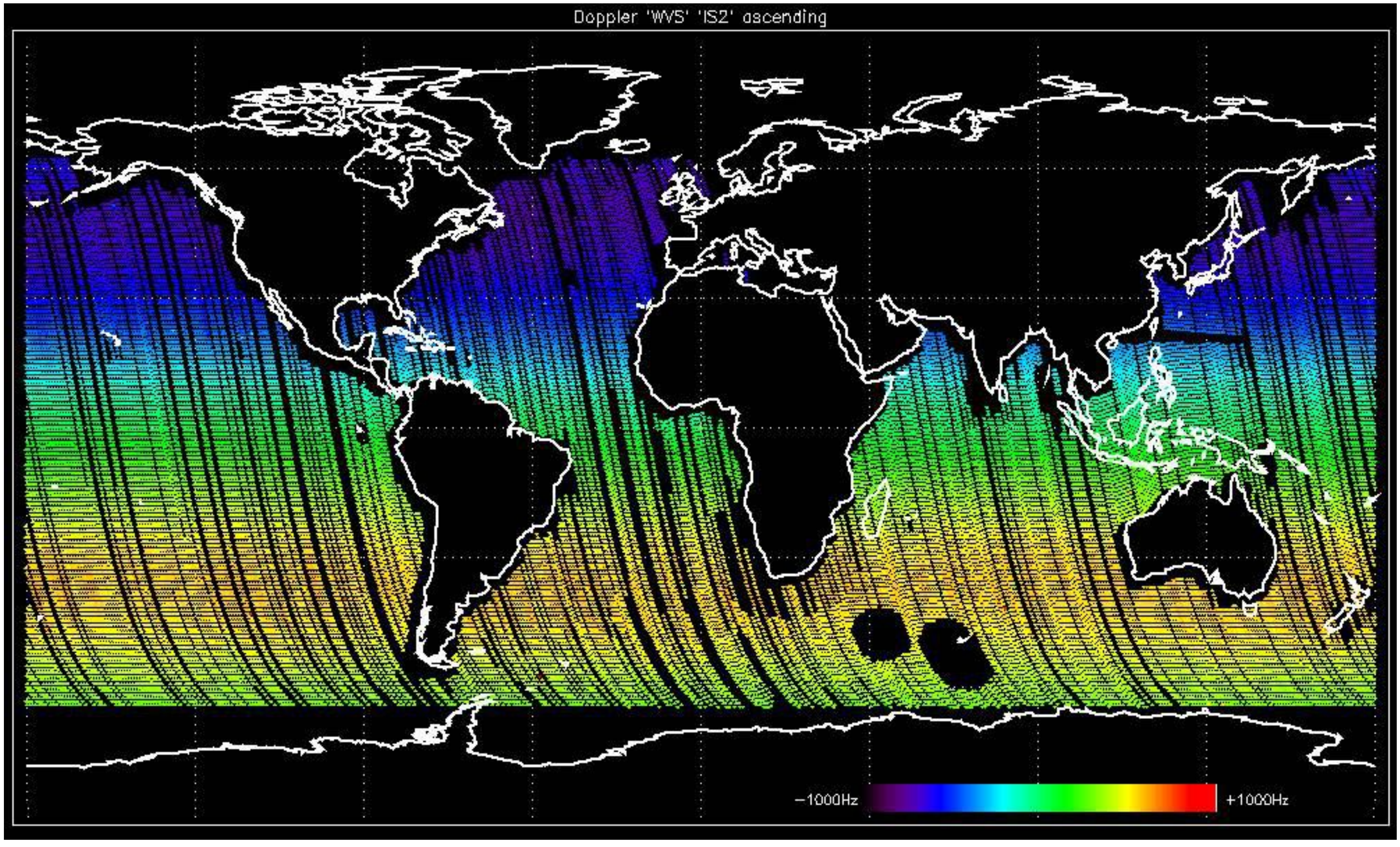

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
0
−10
−20
−30
−40
−50
−60
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

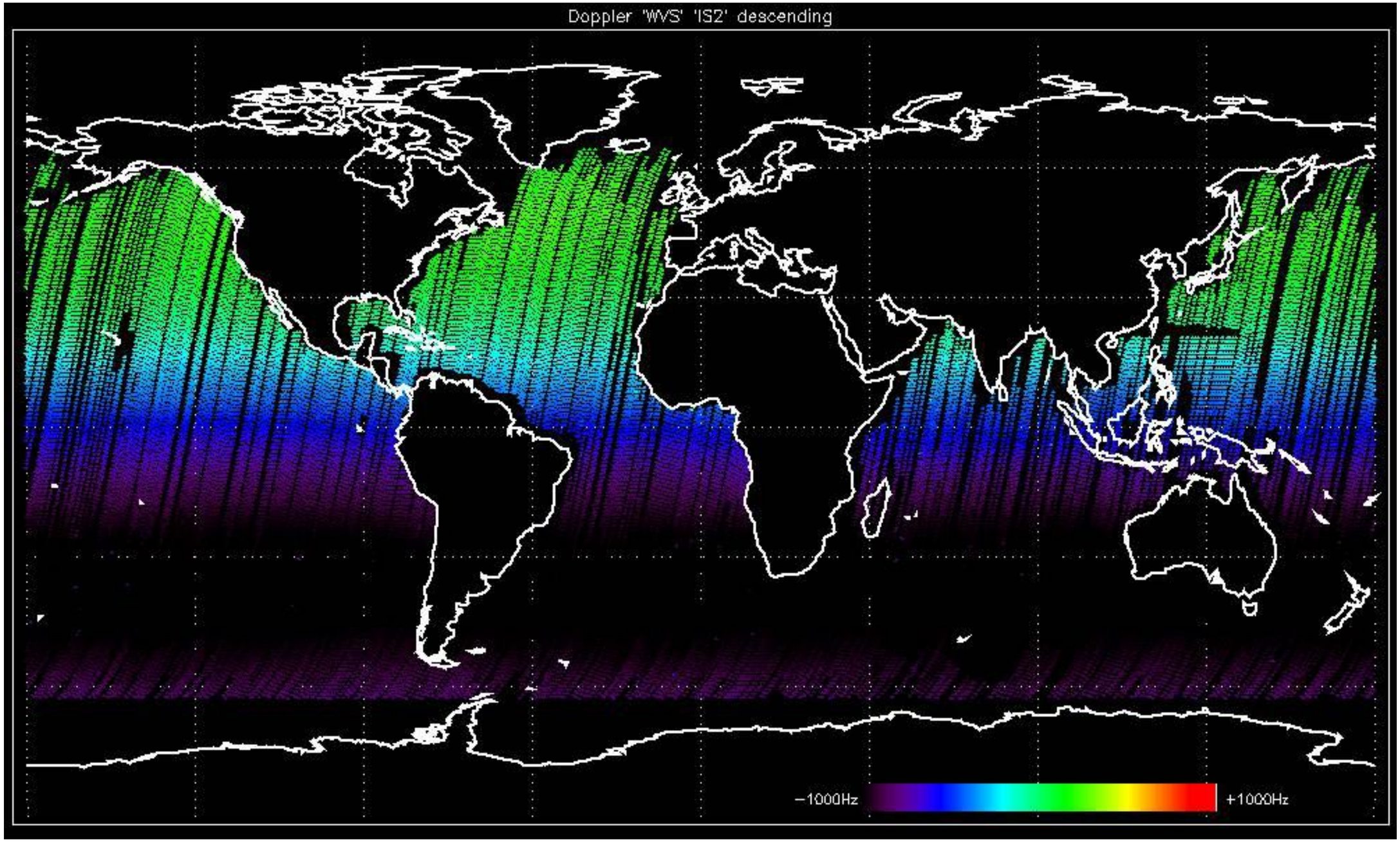
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

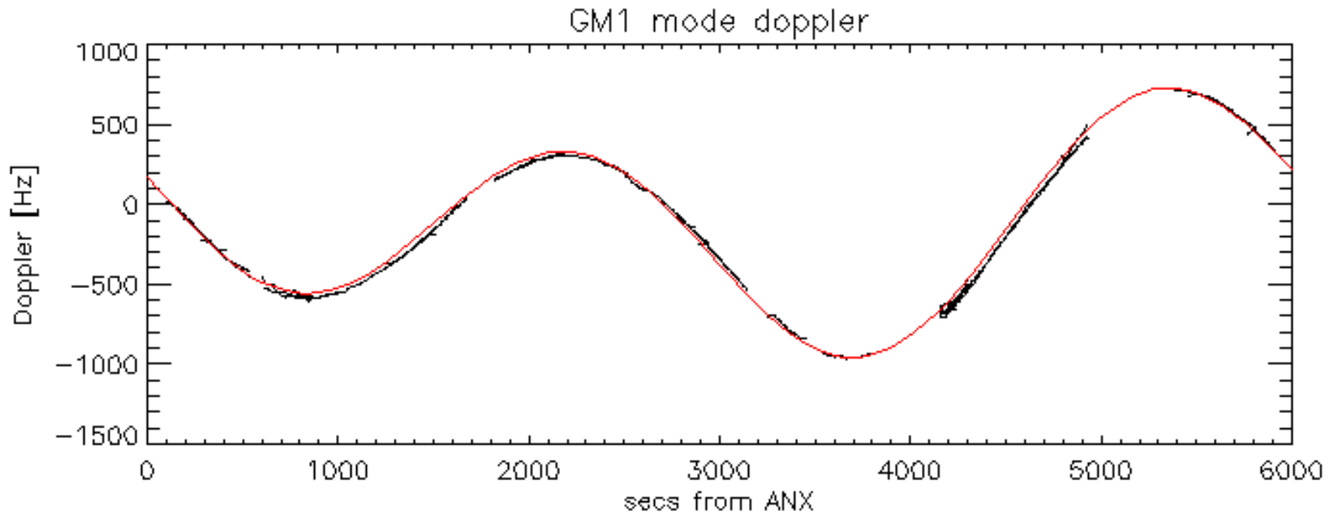
Preliminary report.The data is not yet controled

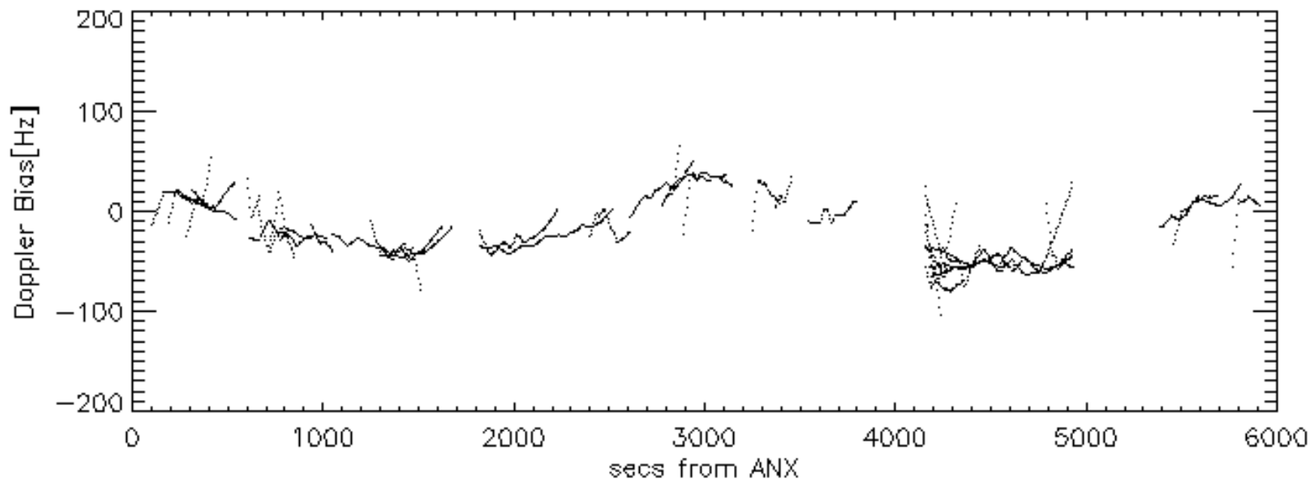

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

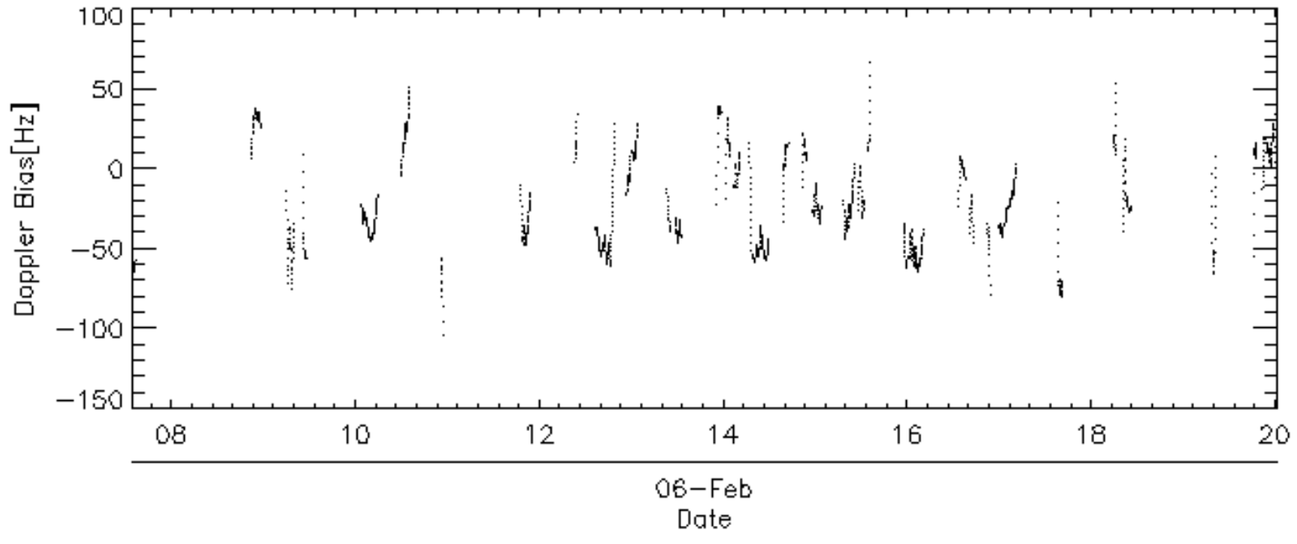

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

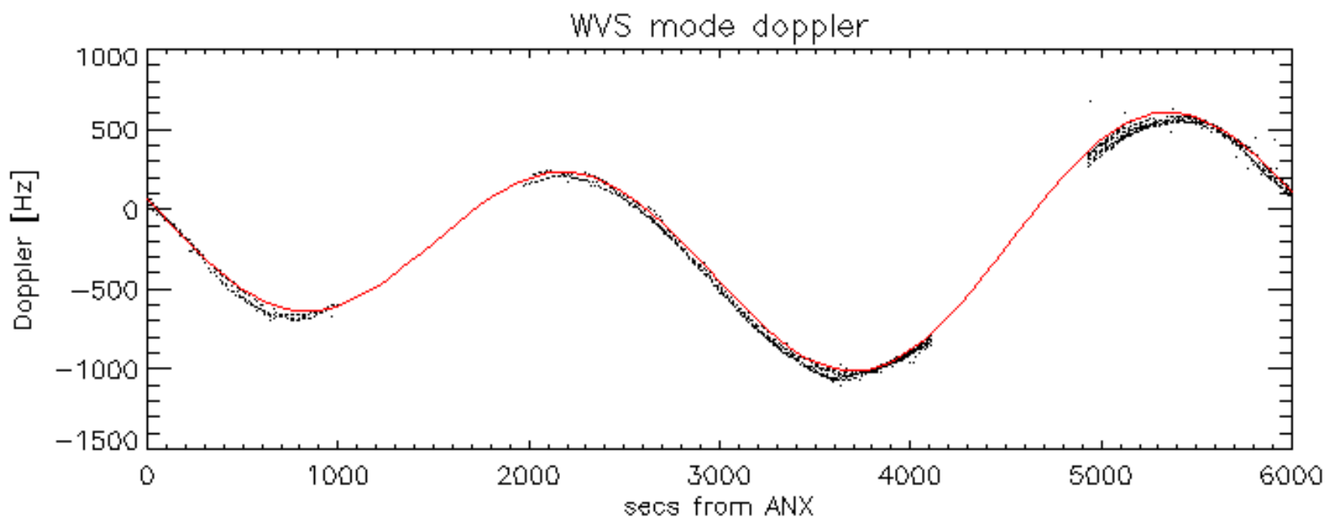

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

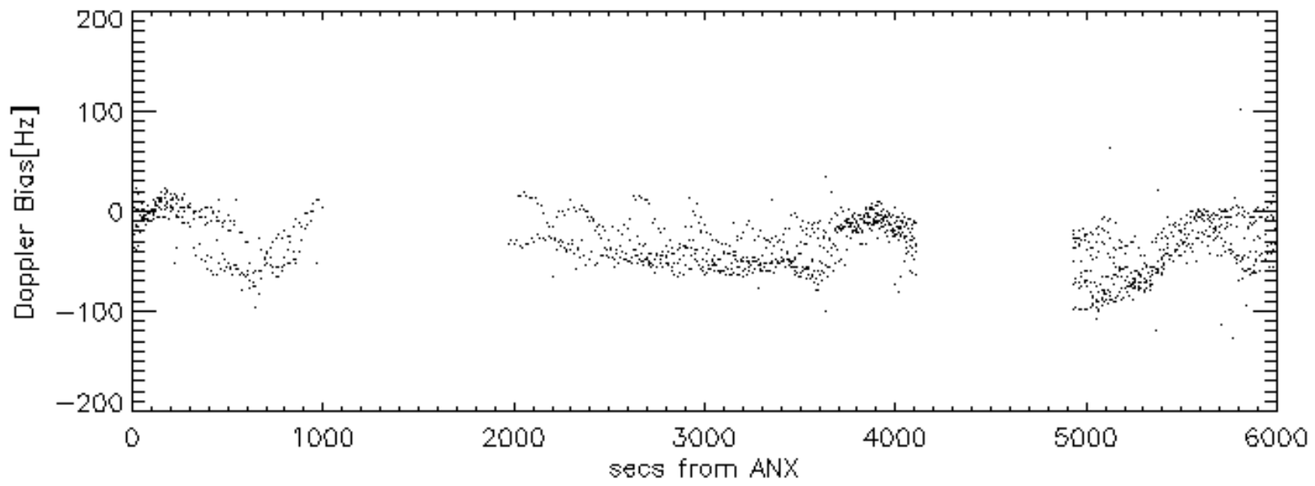

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

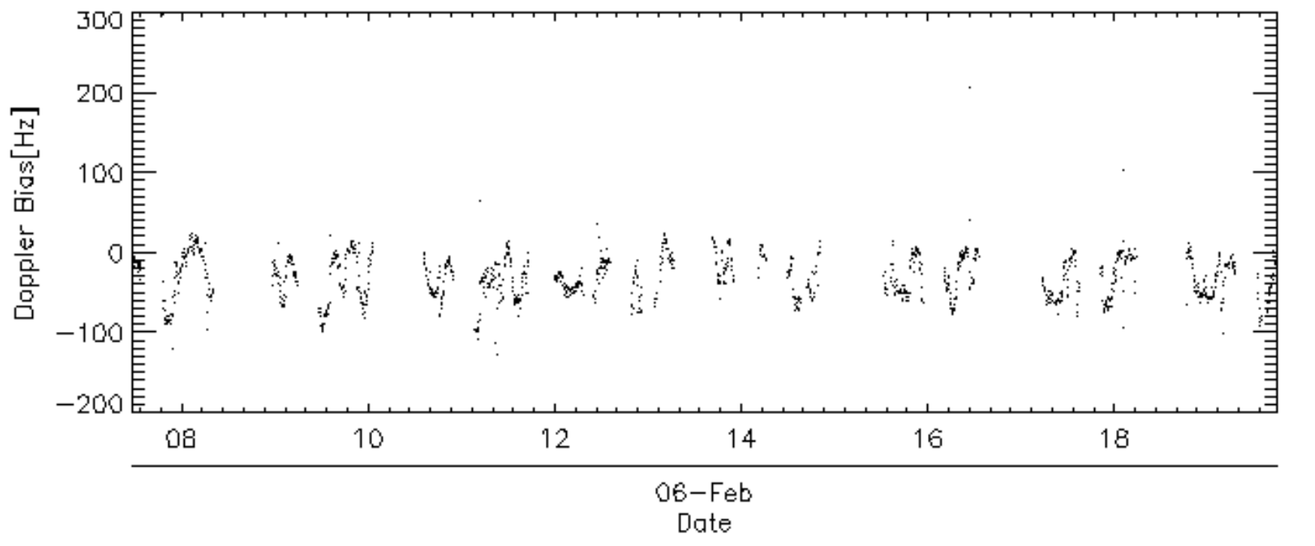

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

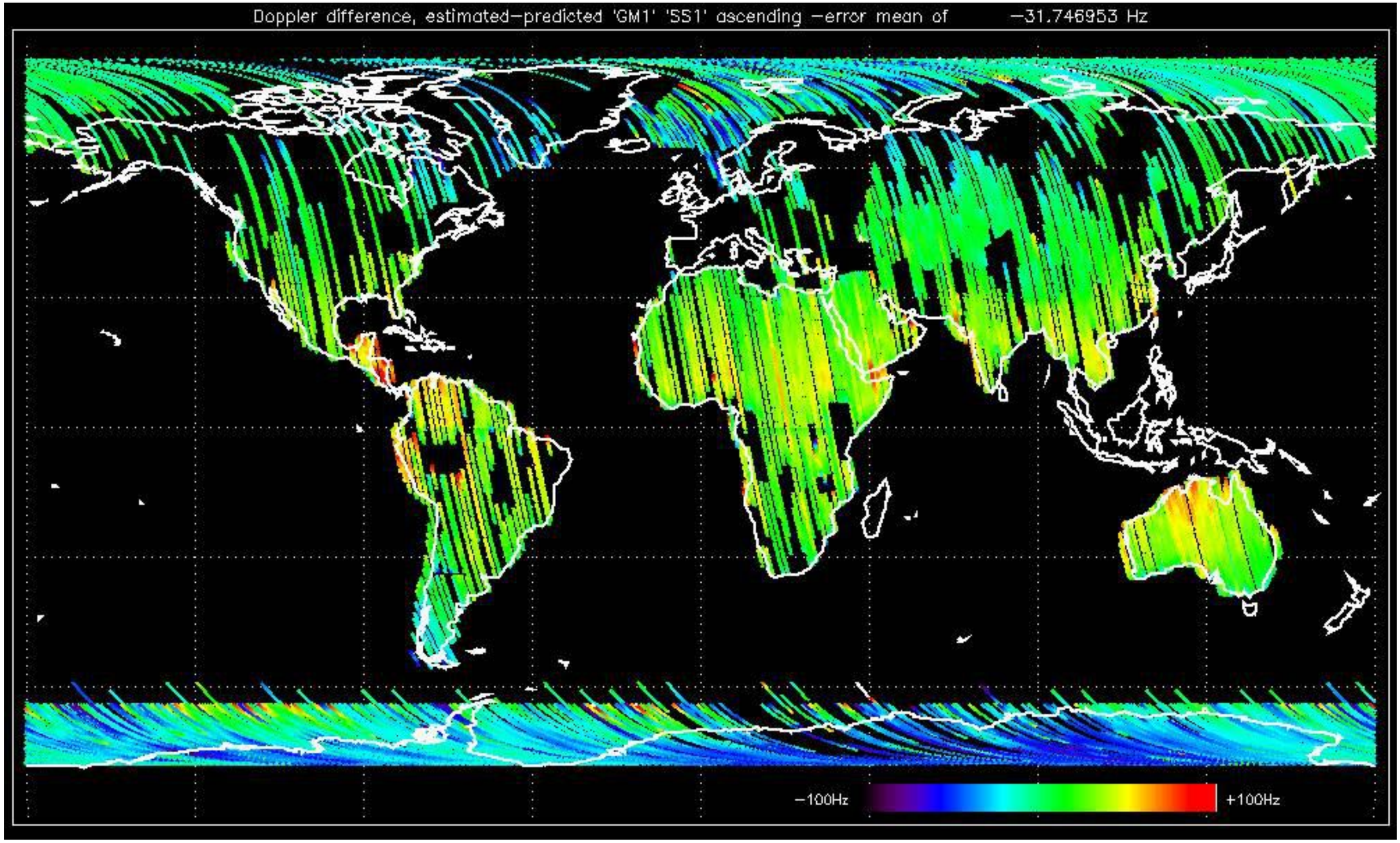

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

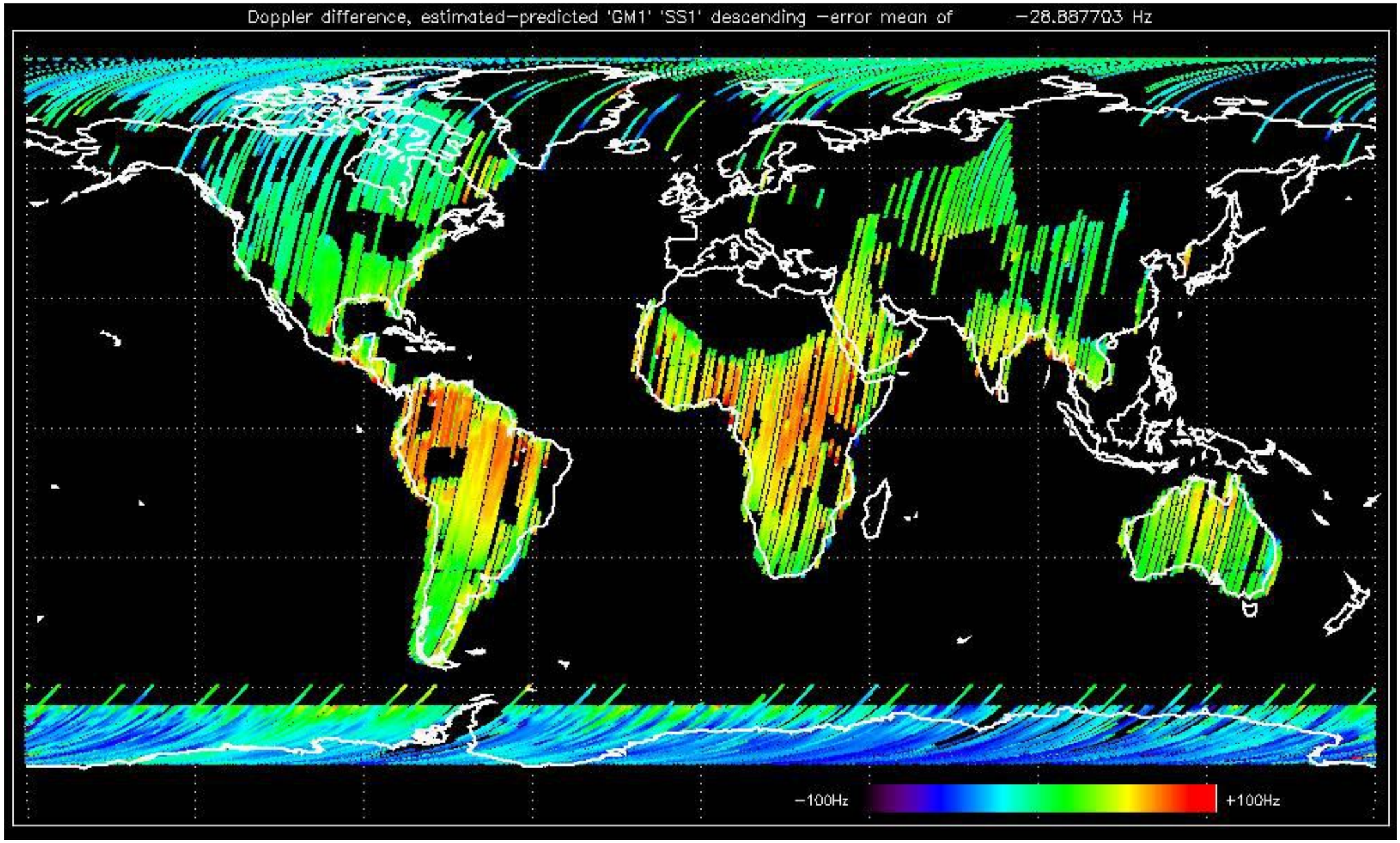

Doppler Bias[Hz]
100
50
0
−50
−100
−150
08
10
12
14
16
18
20
06−Feb
Date

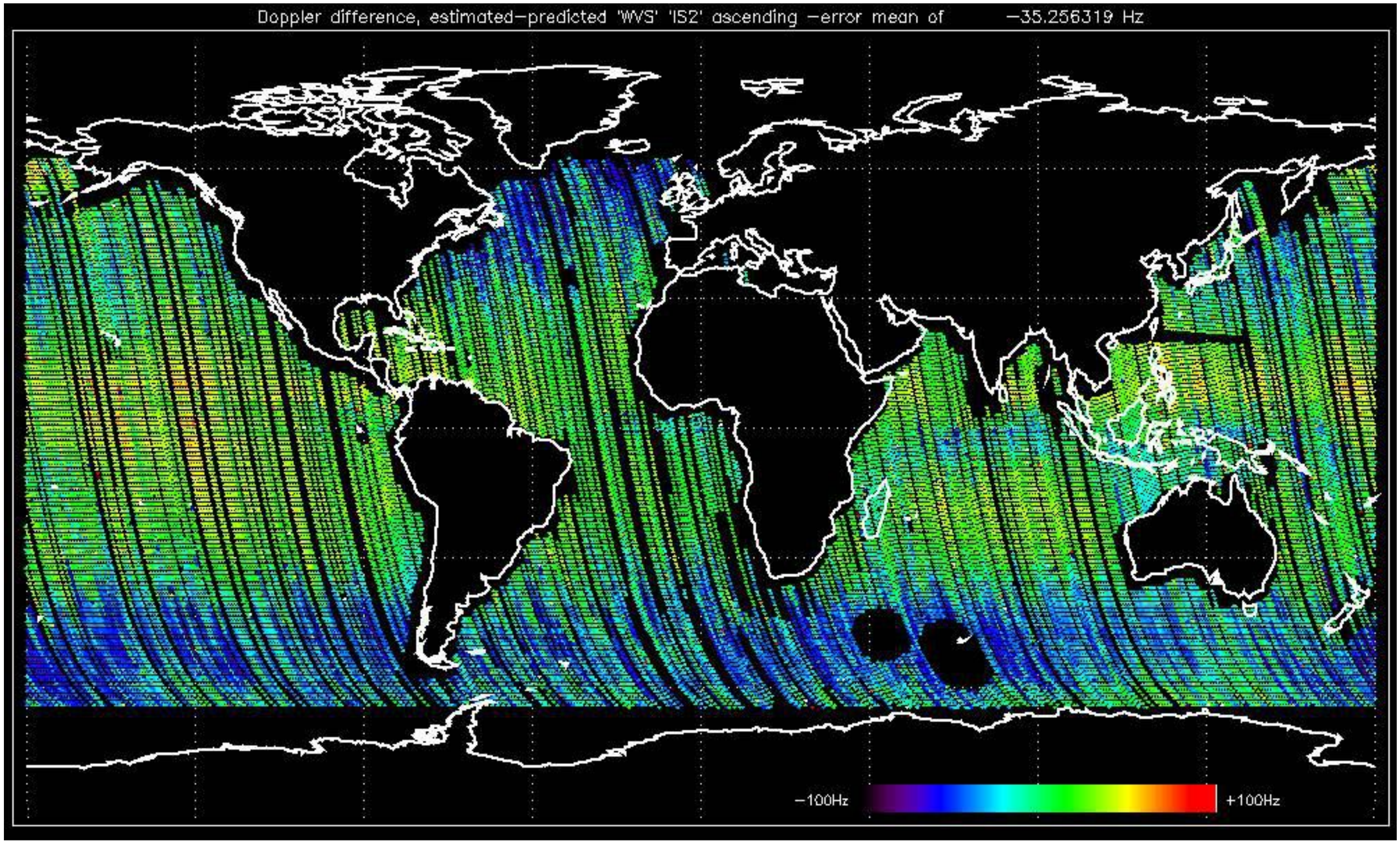

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

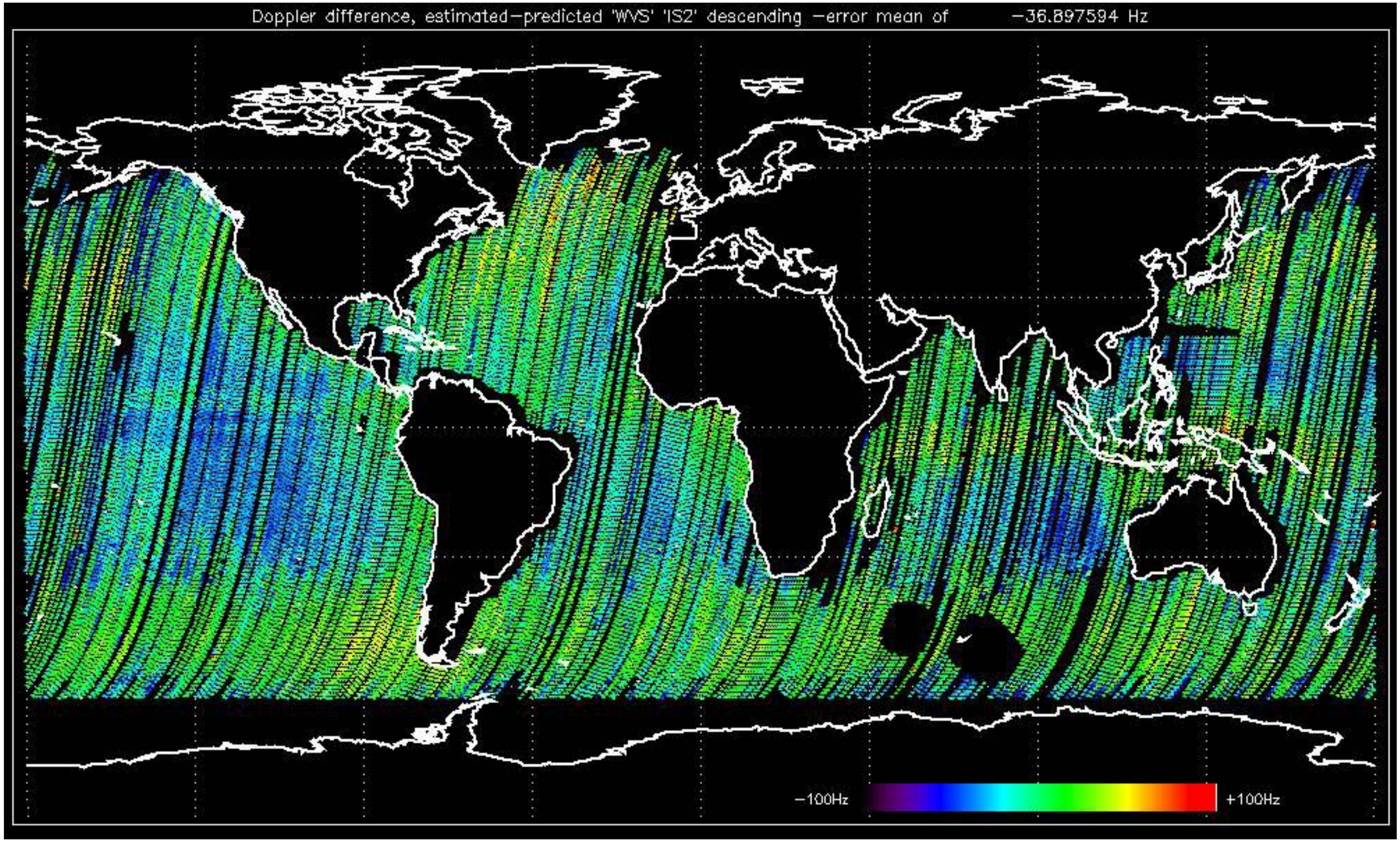

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


Doppler Bias[Hz]
300
200
100
0
−100
−200
08
10
12
14
16
18
06−Feb
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −31.746953 Hz
−100Hz
+100Hz

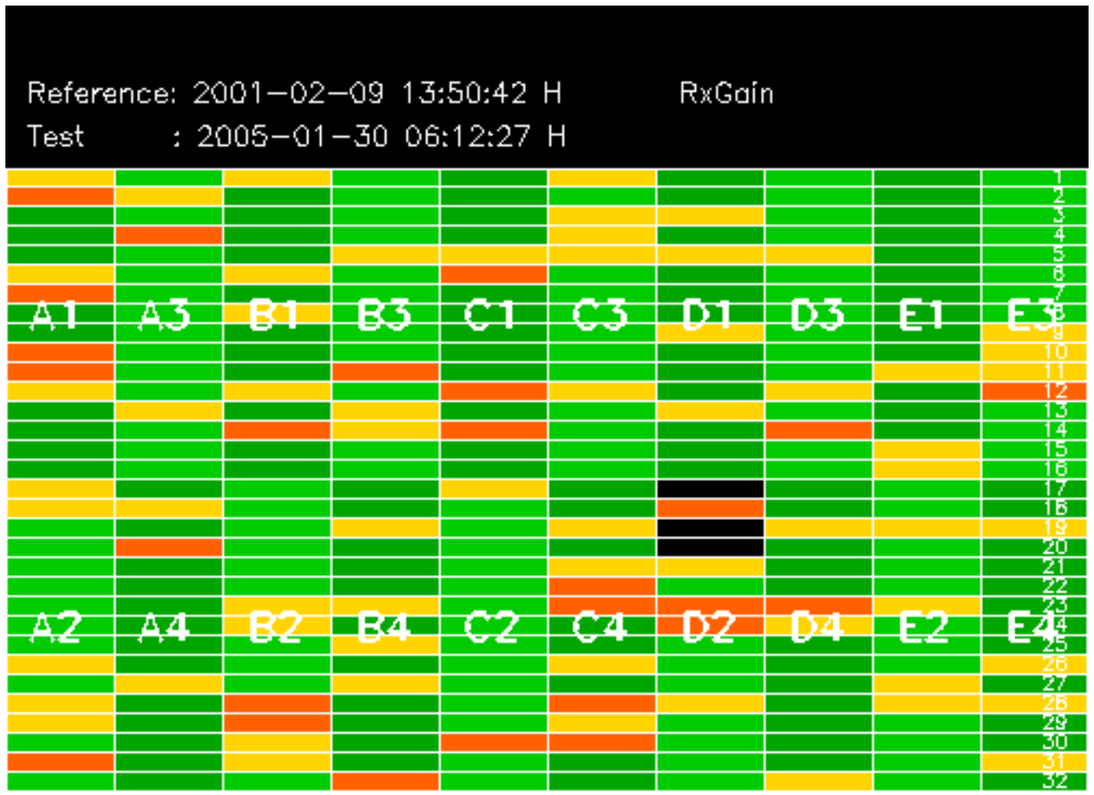

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -28.887703 Hz
-100Hz
+100Hz

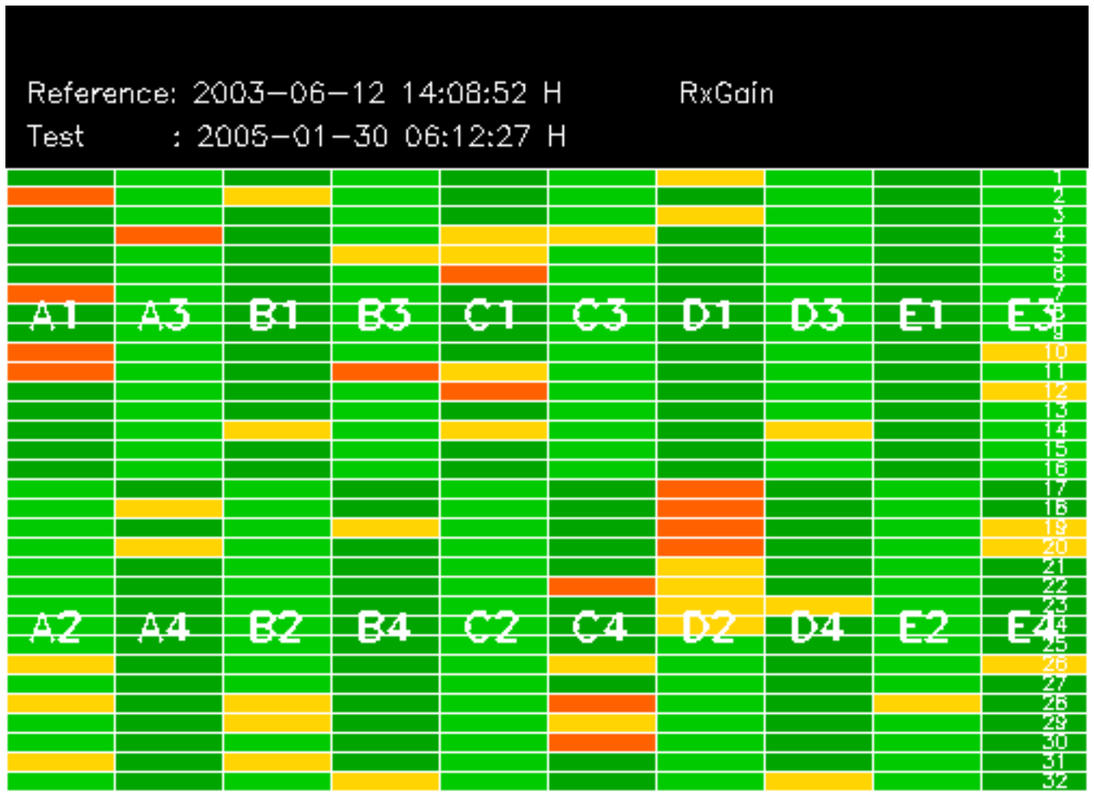

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −35.256319 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −36.897594 Hz
−100Hz
+100Hz

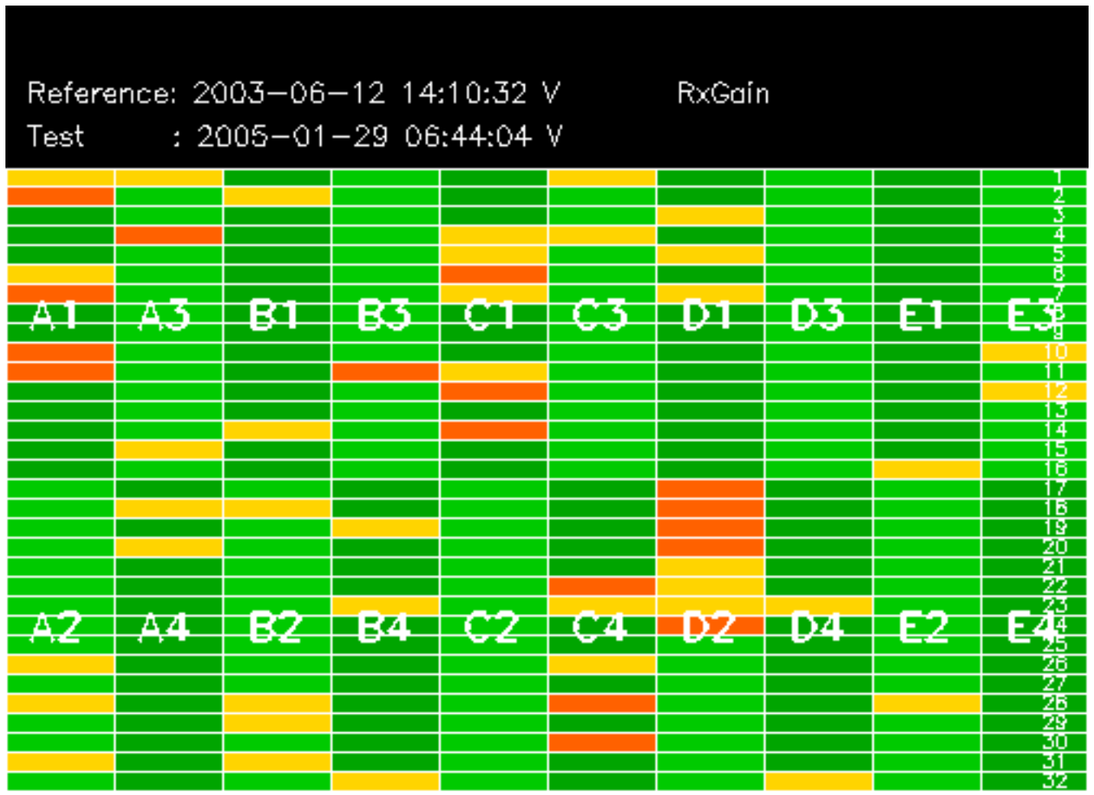
No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2005-01-30 06:12:27 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
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-01-30 06:12:27 H
RxGain
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 : 2005-01-29 06:44:04 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-01-29 06:44:04 V
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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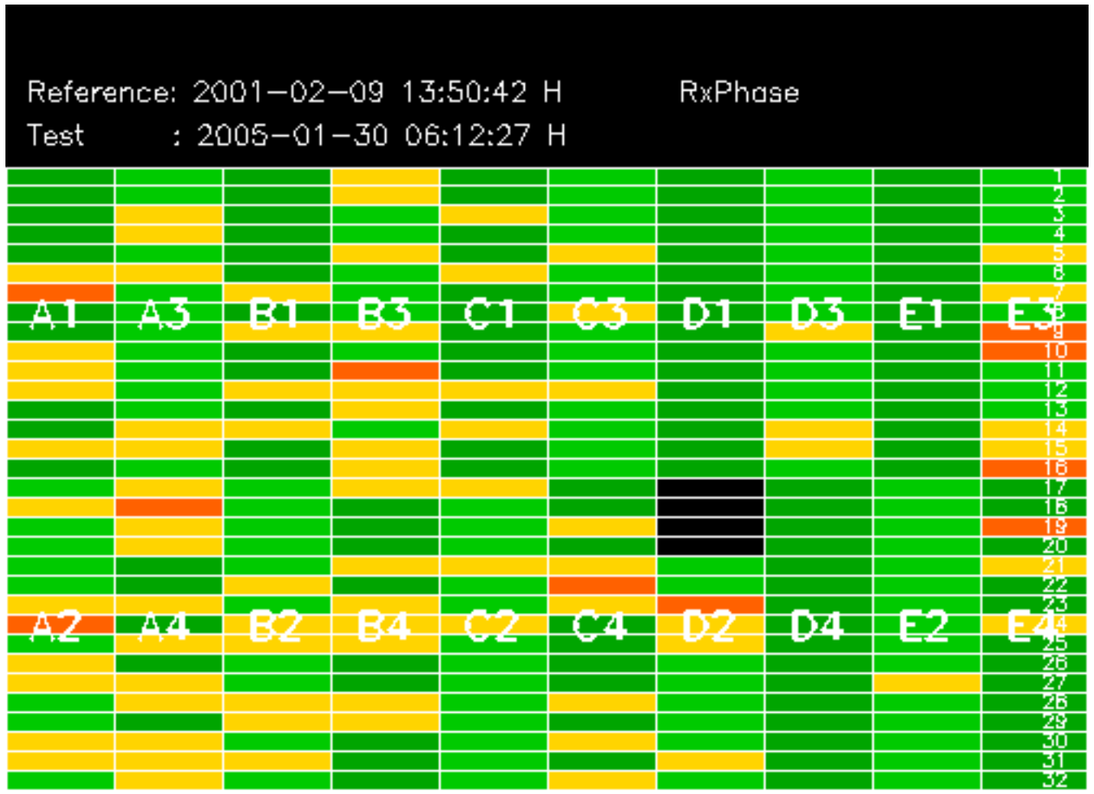
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-01-30 06:12:27 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
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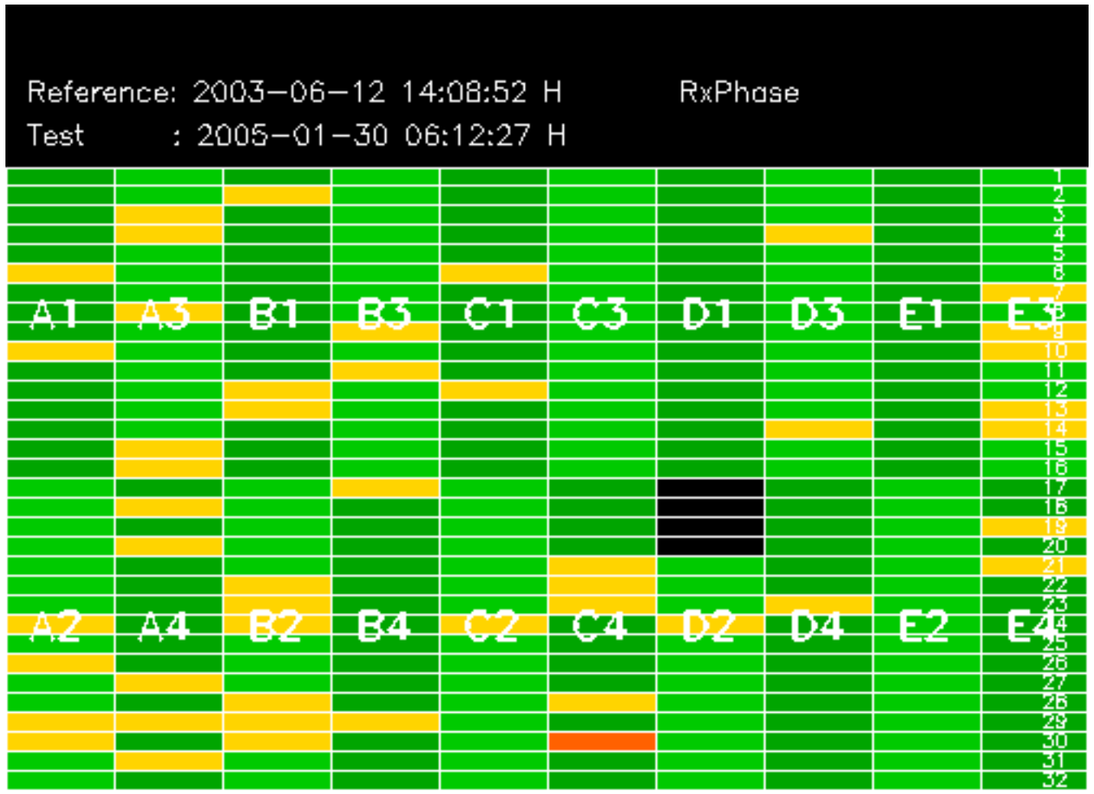
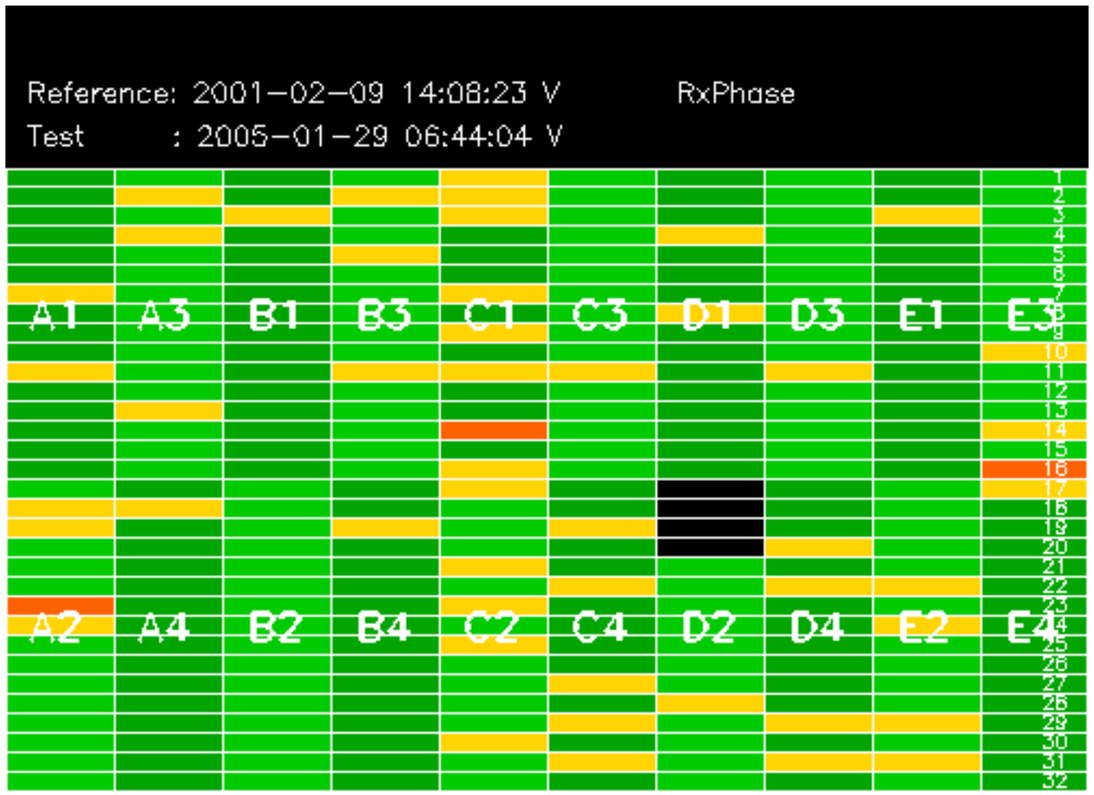
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-01-30 06:12:27 H
RxPhase
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 : 2005-01-29 06:44:04 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
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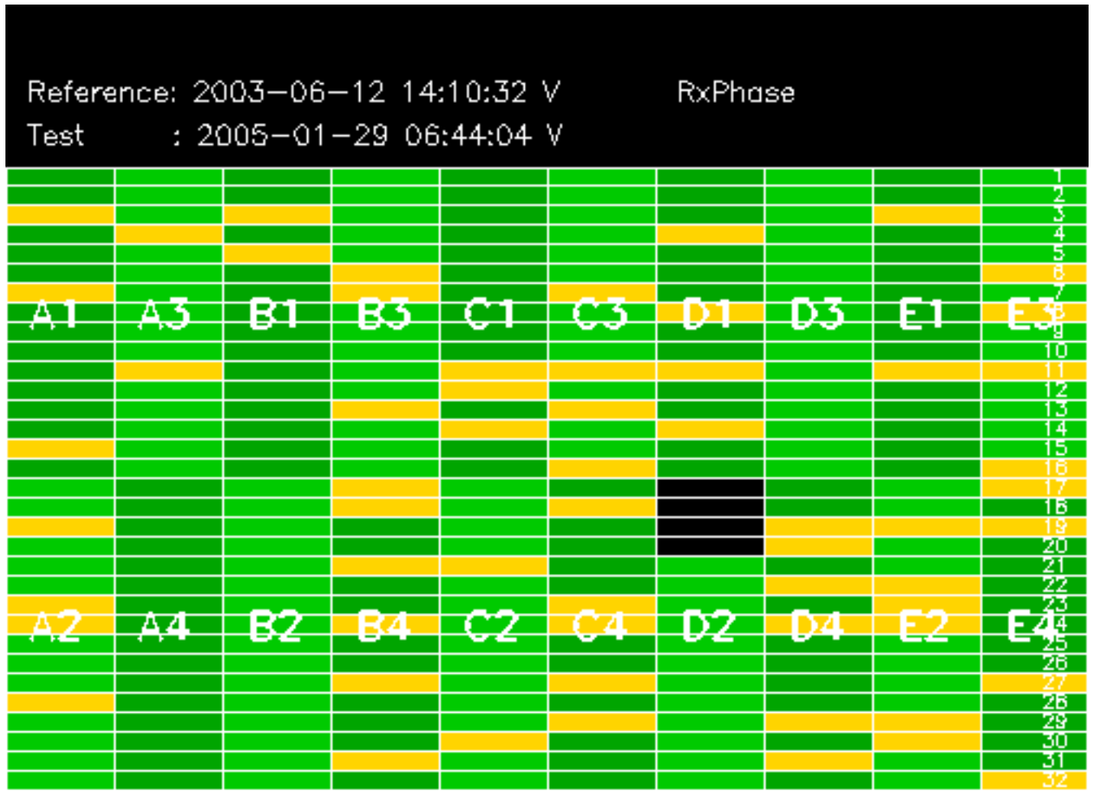
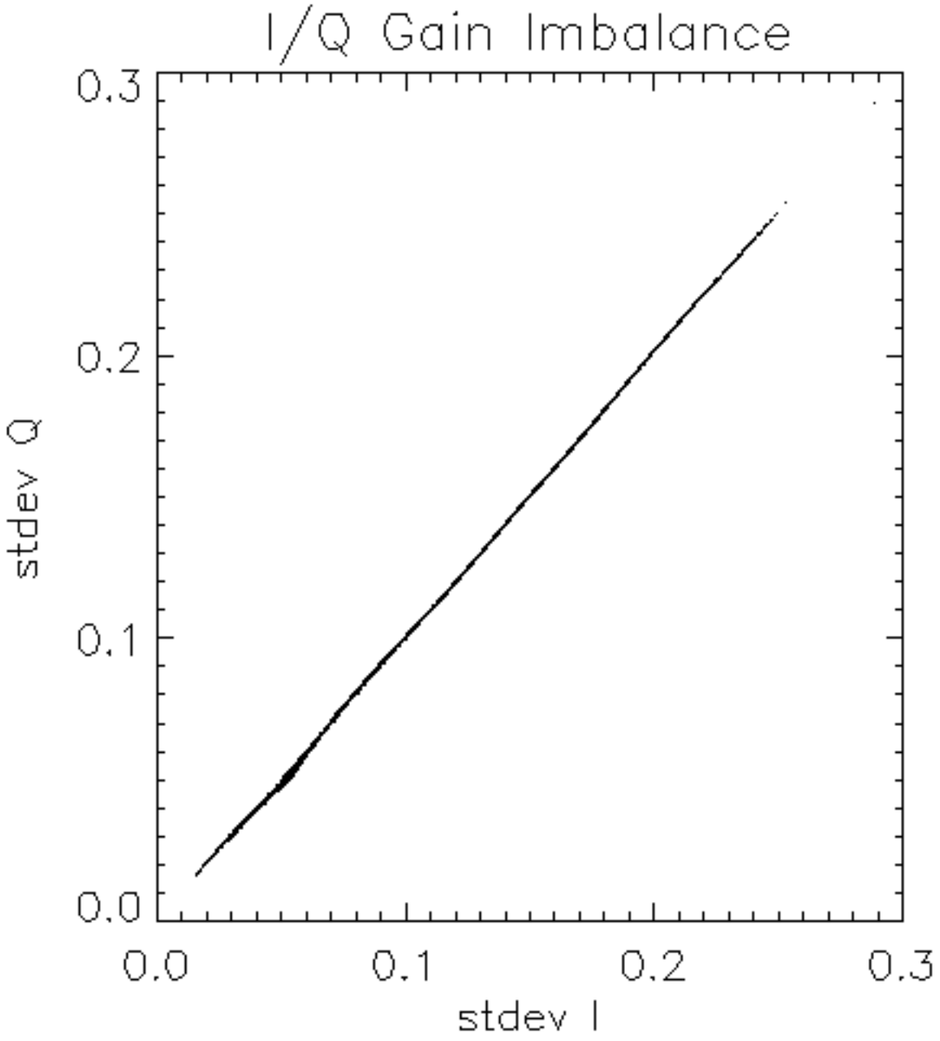
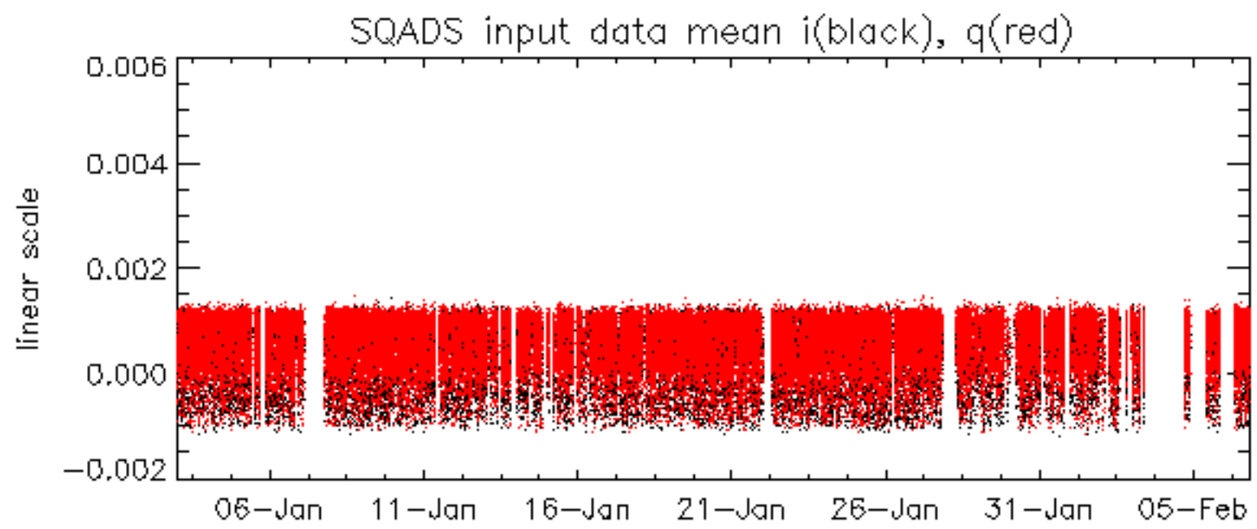
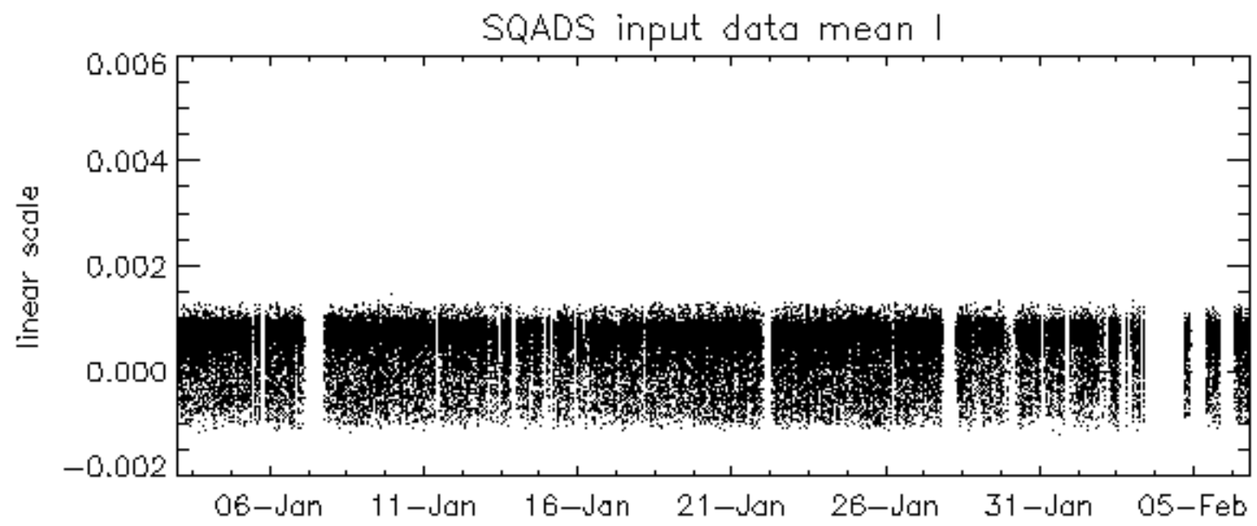
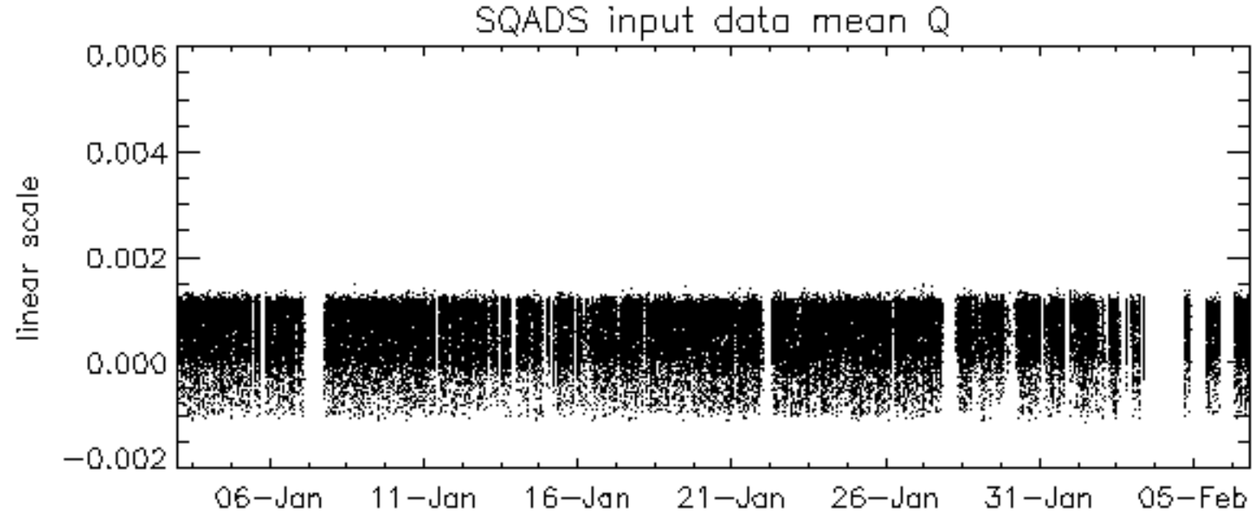
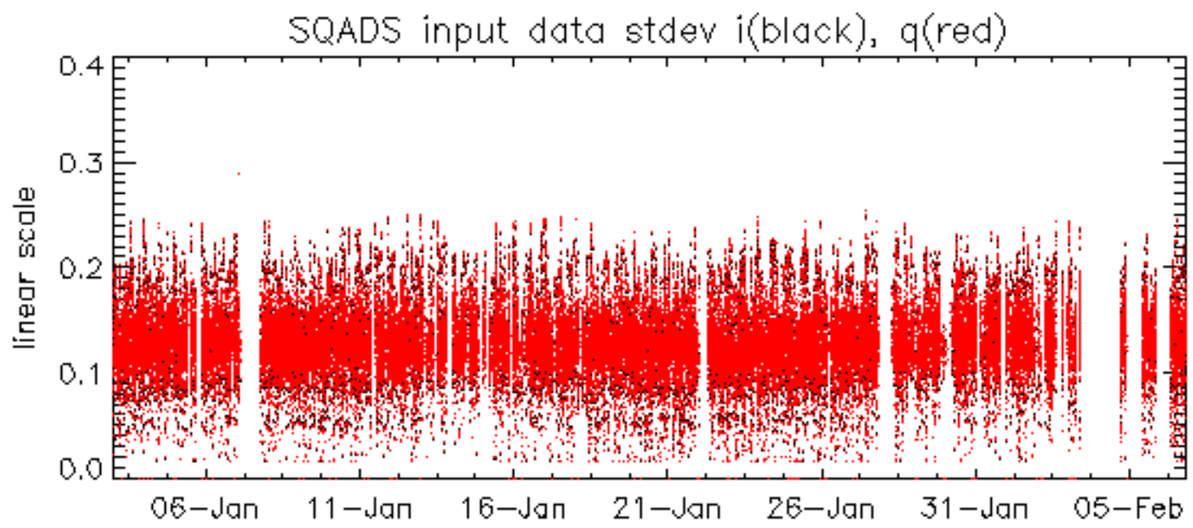

Reference: 2003-06-12 14:10:32 V
Test : 2005-01-29 06:44:04 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

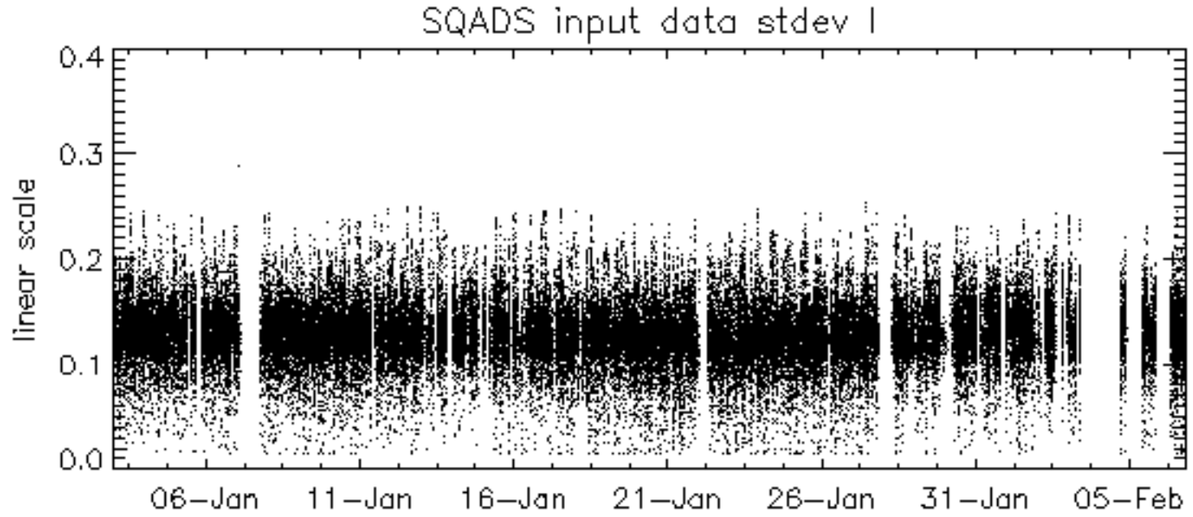

I/Q Gain Imbalance
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
stdev I

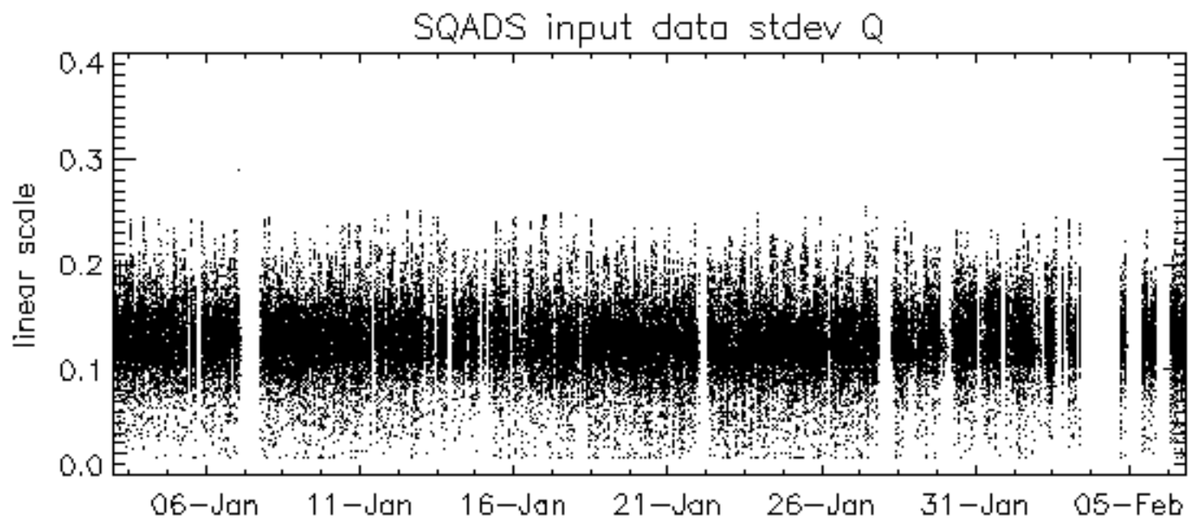

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Jan
11−Jan
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb

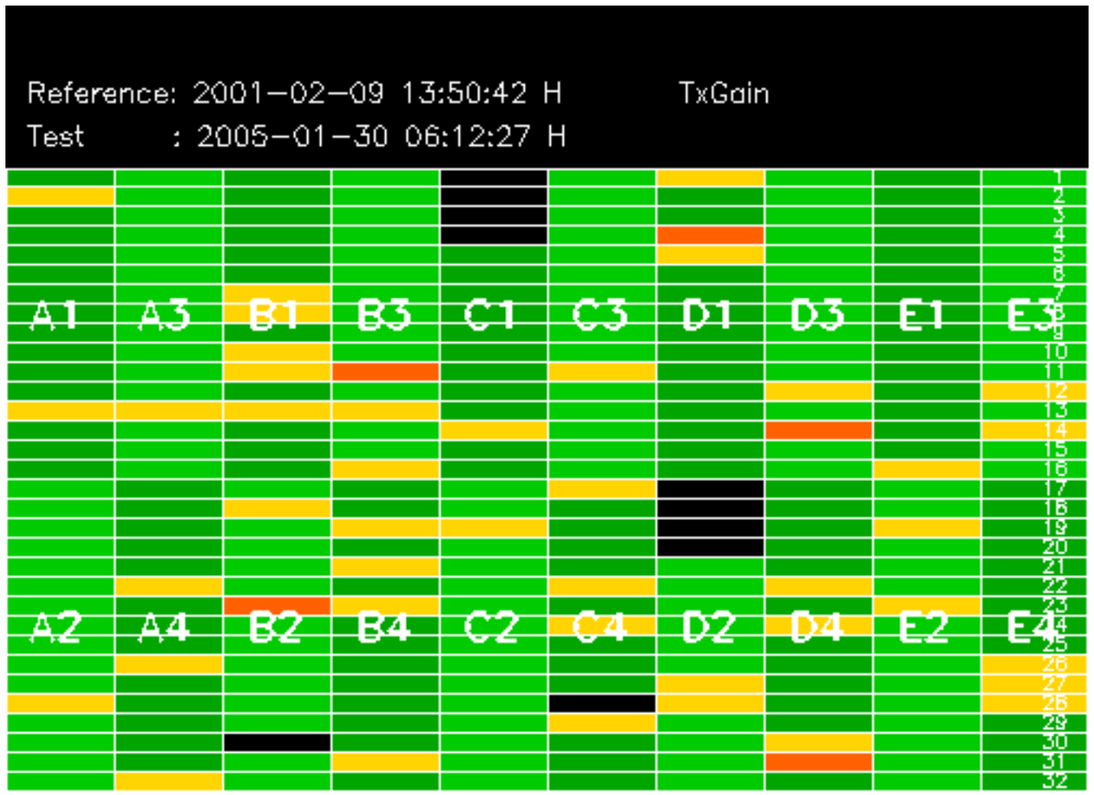

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Jan
11−Jan
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2005-01-30 06:12:27 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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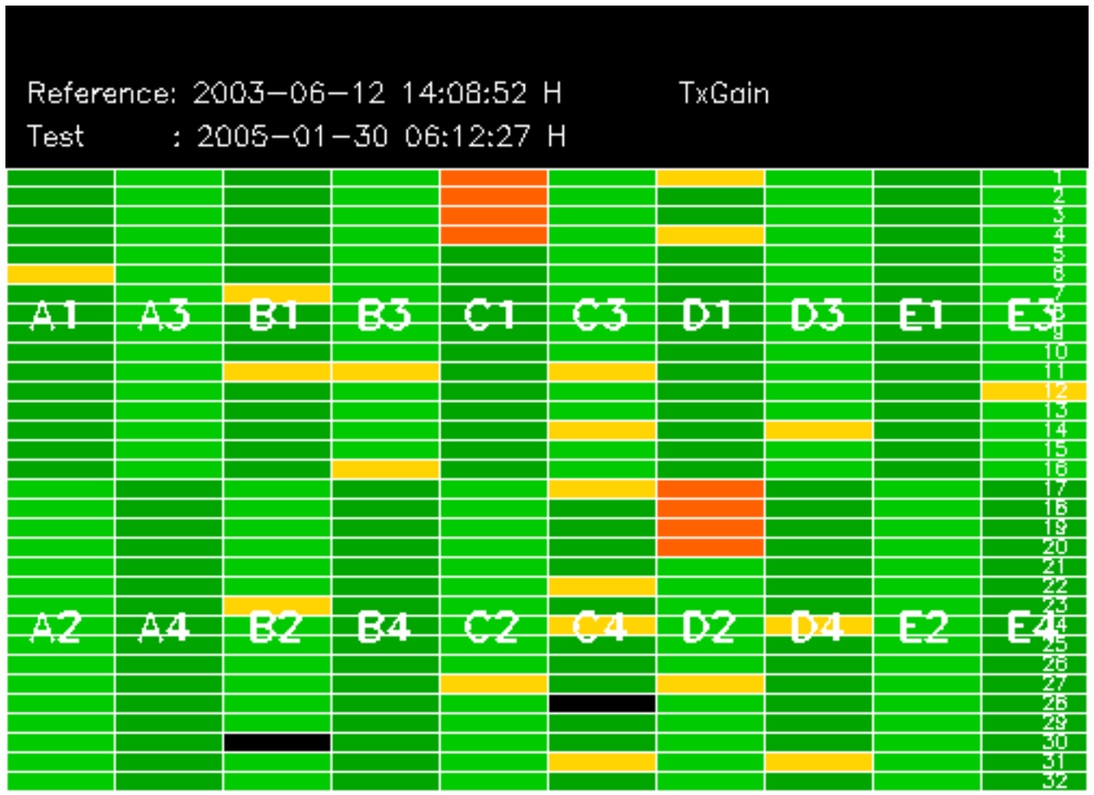
Reference: 2003-06-12 14:08:52 H
Test : 2005-01-30 06:12:27 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
TxGain
Test : 2005-01-29 06:44:04 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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28
29
30
31
32


Reference: 2003-06-12 14:10:32 V
Test : 2005-01-29 06:44:04 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
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8
9
10
11
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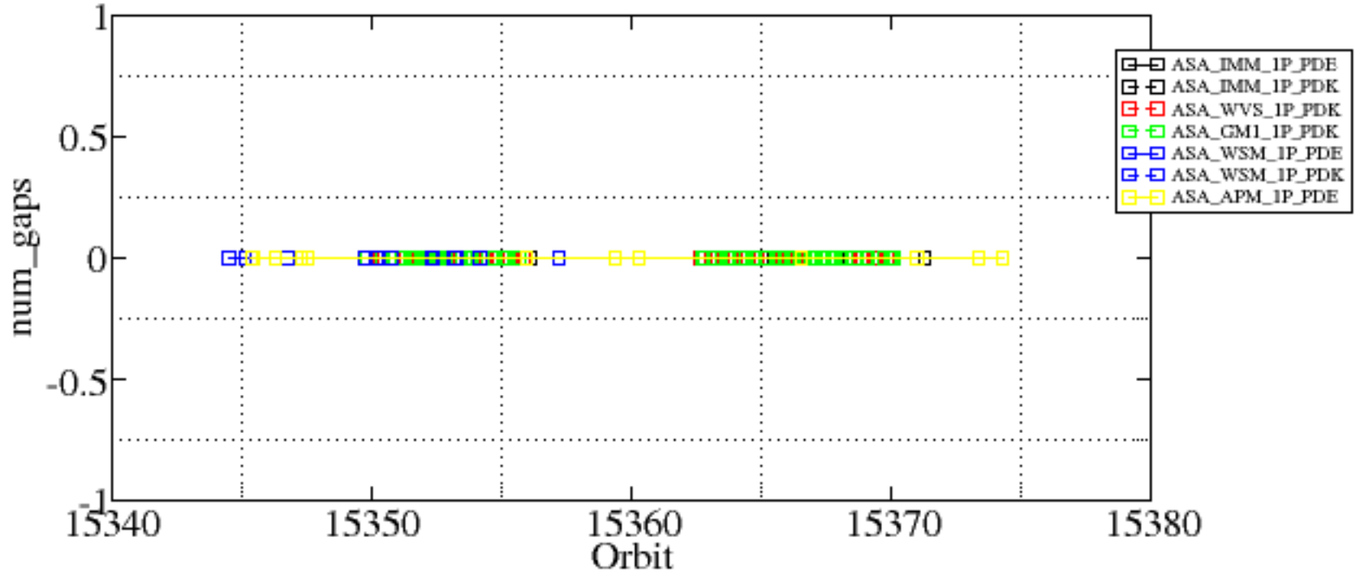
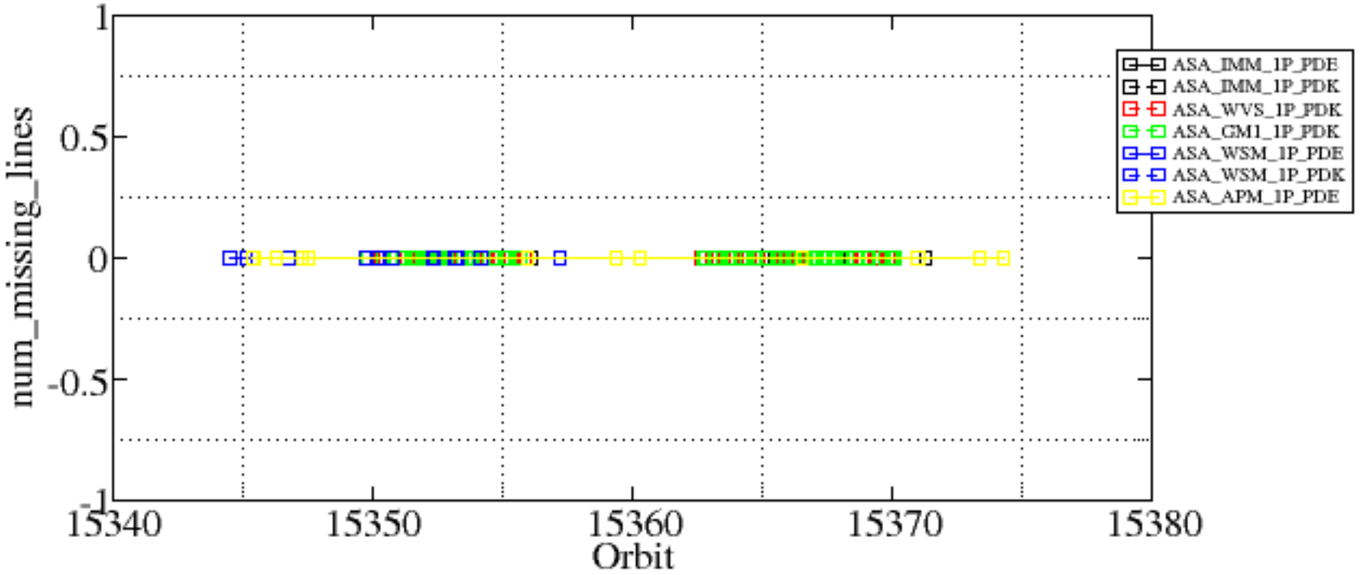
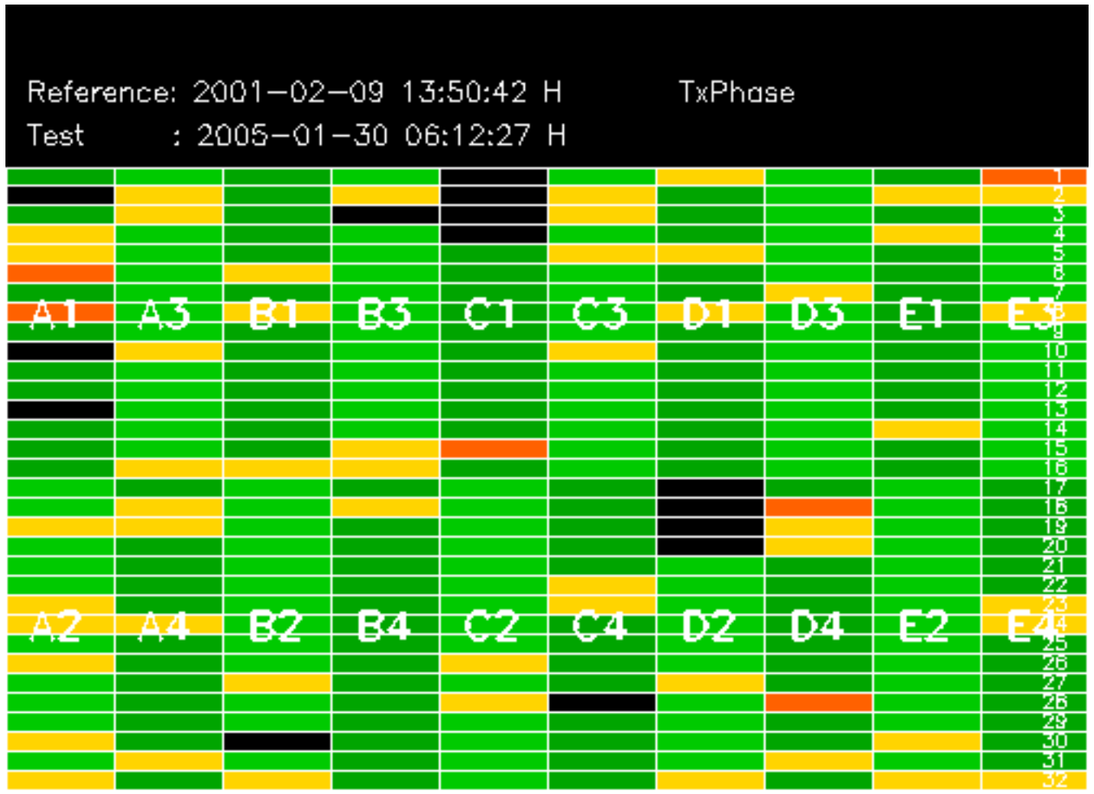
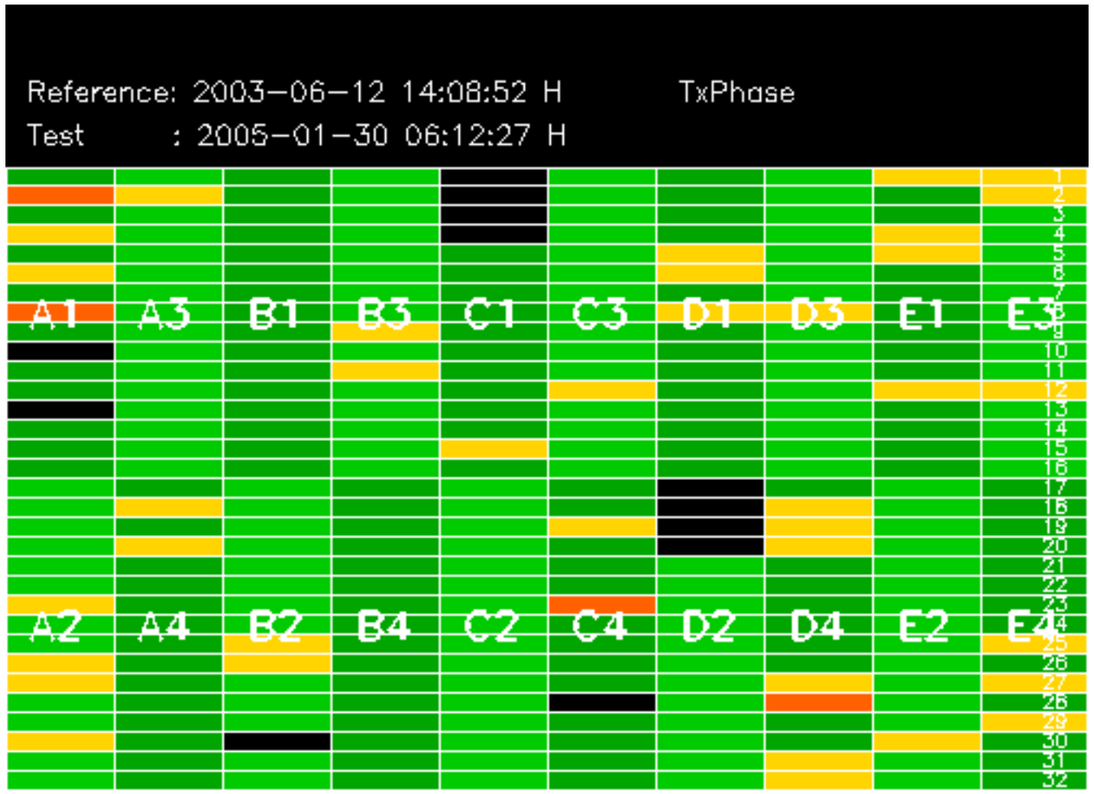
Summary of analysis for the last 3 days 2005020[567]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
15340
15350
15360
15370
15380
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDK
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE


num_missing_lines
1
0.5
0
-0.5
-1
15340
15350
15360
15370
15380
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDK
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE


Reference: 2001-02-09 13:50:42 H
Test : 2005-01-30 06:12:27 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2005-01-30 06:12:27 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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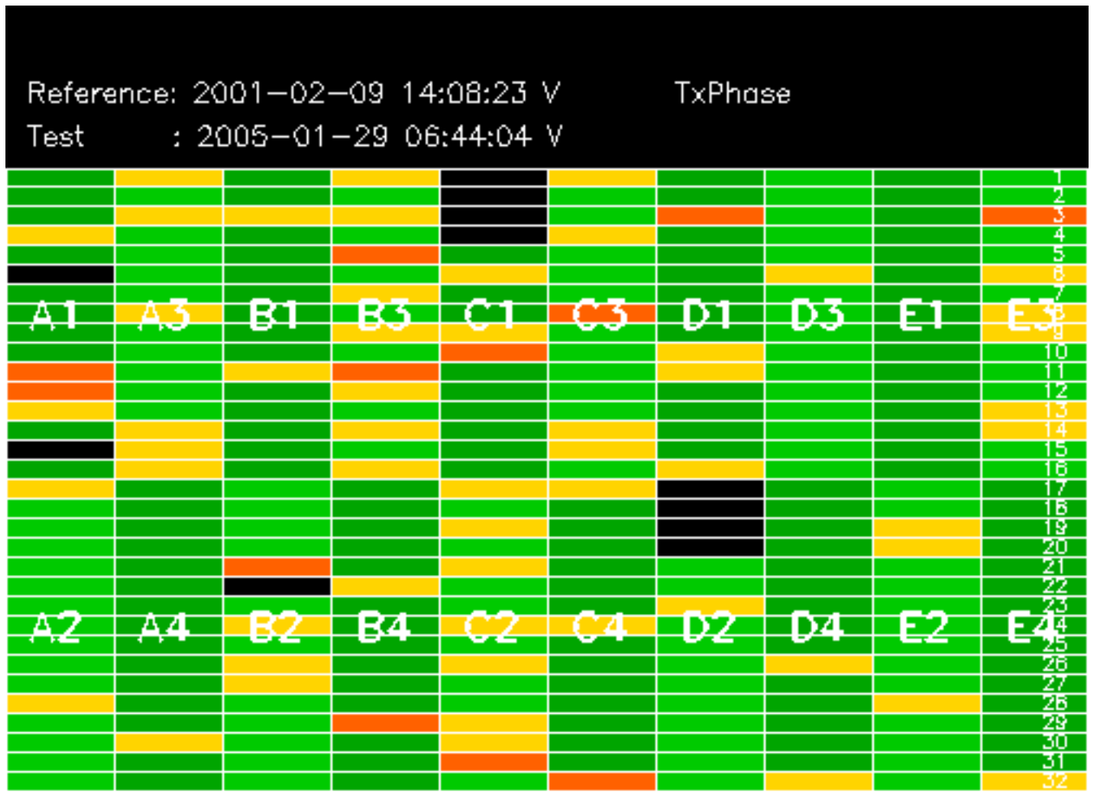
Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2005-01-29 06:44:04 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-01-29 06:44:04 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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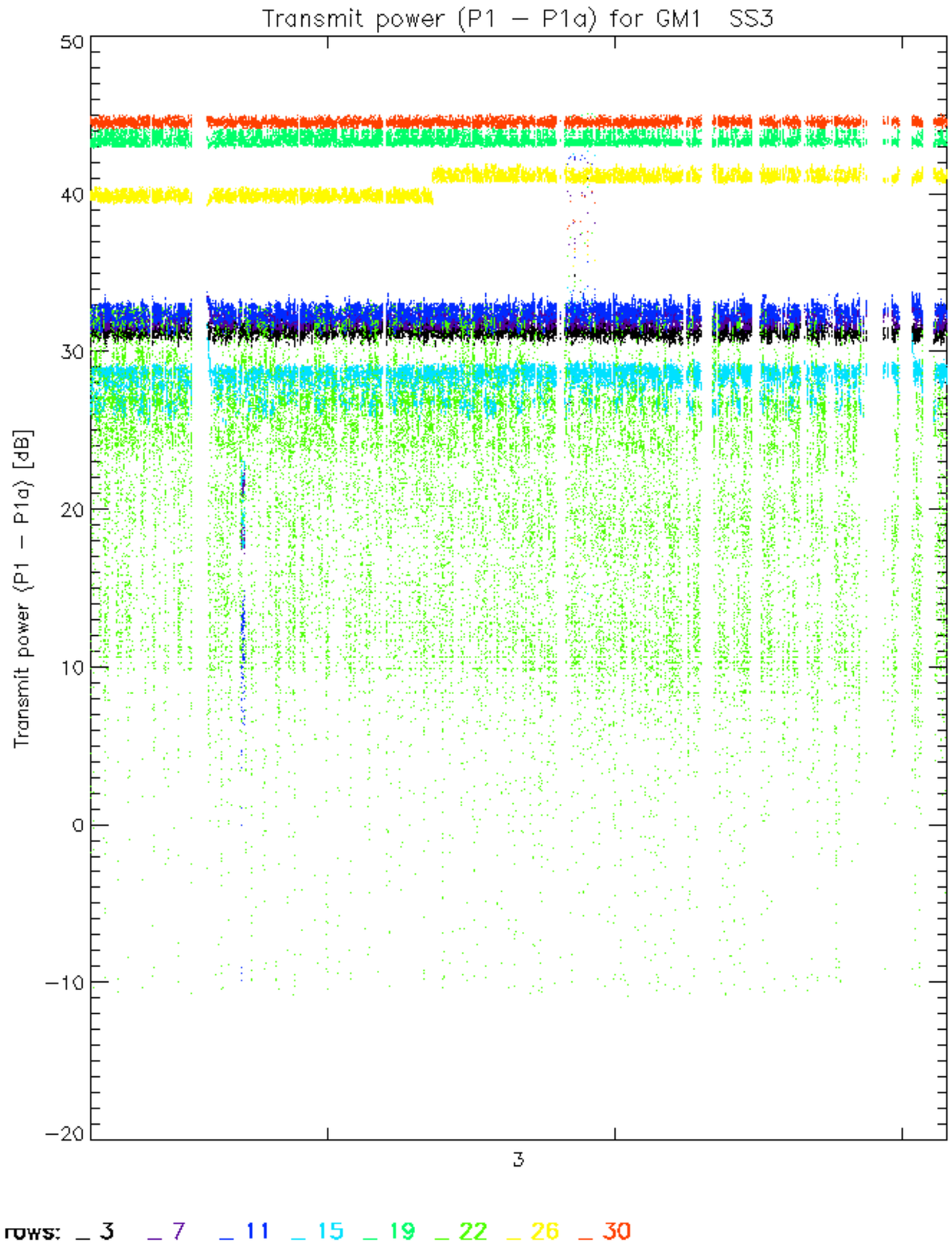
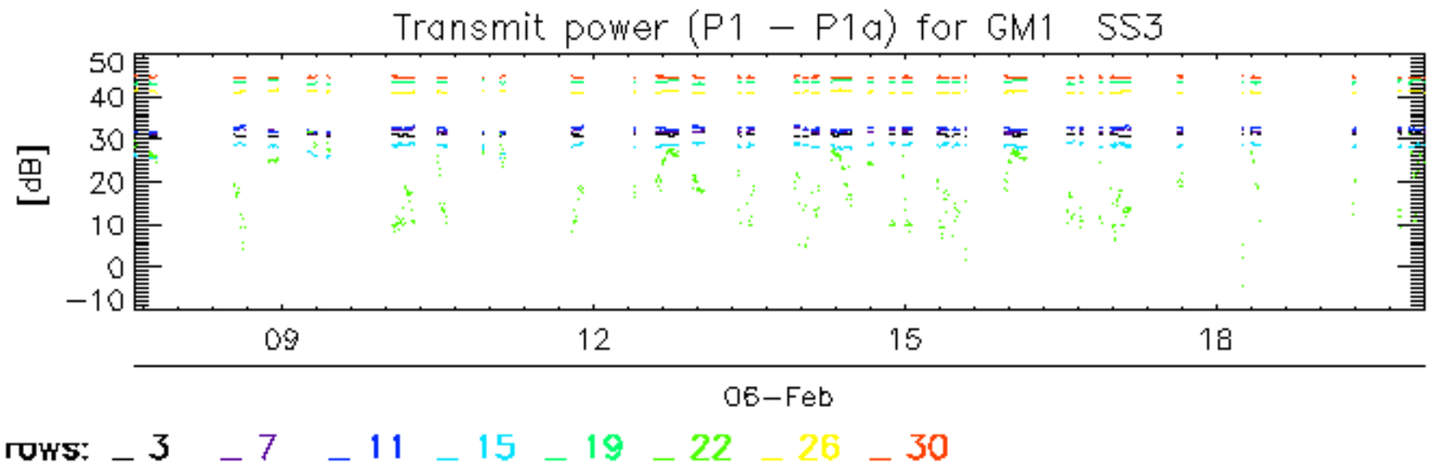
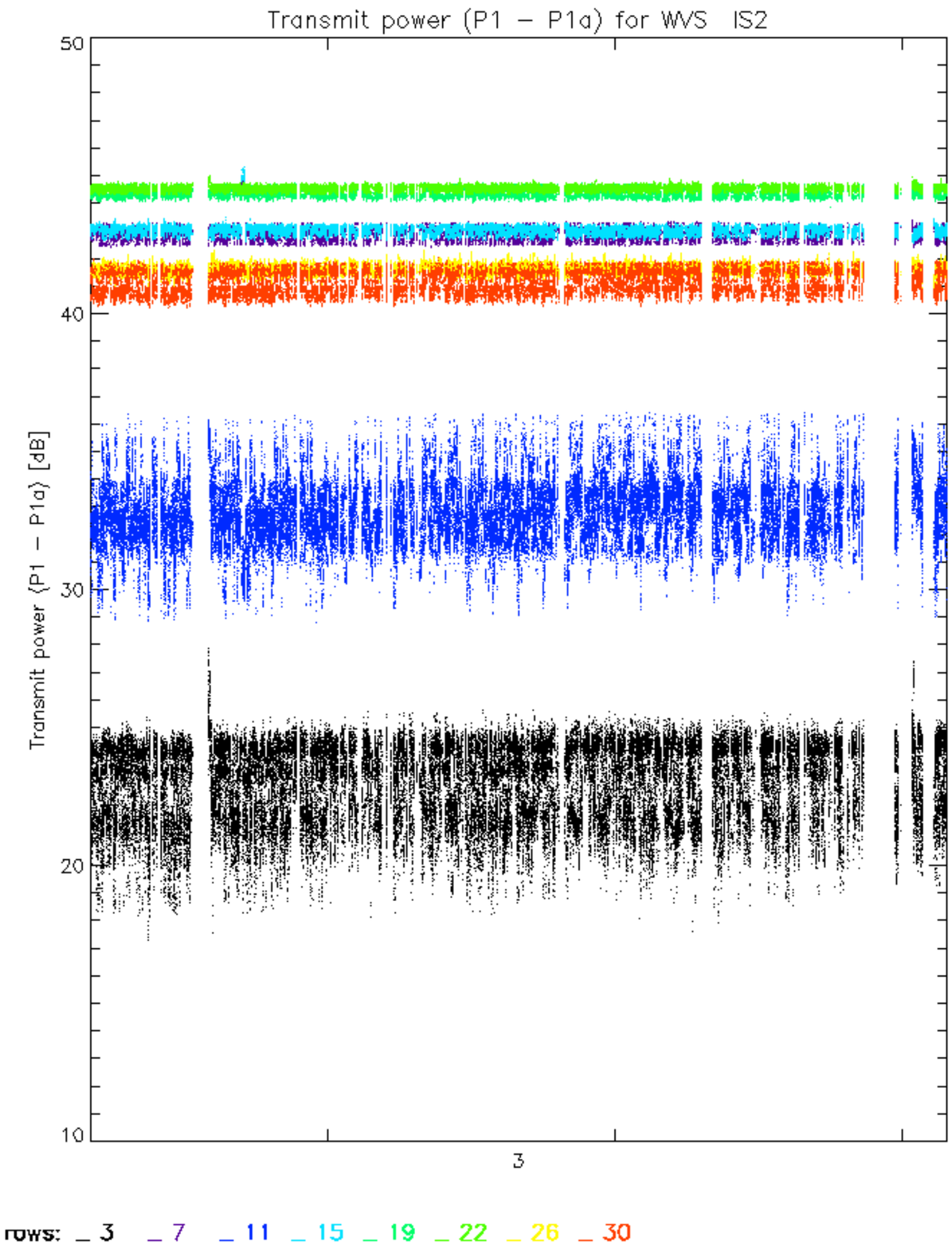
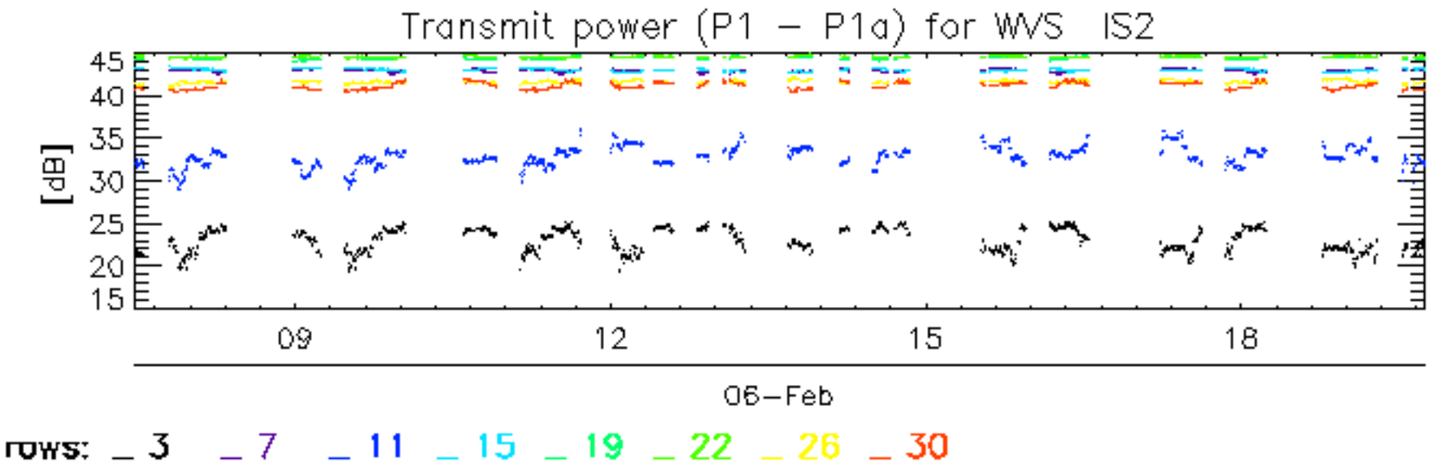
32


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


Transmit power (P1 – P1a) for GM1 SS3
[dB]
50
40
30
20
10
0
−10
09
12
15
18
06−Feb
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
50
40
30
20
10
Transmit power (P1 – P1a) [dB]
3
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
[dB]
45
40
35
30
25
20
15
09
12
15
18
06–Feb
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.