PRELIMINARY REPORT OF 060208

last update on Wed Feb 8 16:39:12 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 2006-02-07 00:00:00 to 2006-02-08 16:39:12

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	34	0	8	0	5
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	34	0	8	0	5
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	34	0	8	0	5
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	34	0	8	0	5

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	41	39	39	8	38
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	41	39	39	8	38
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	41	39	39	8	38
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	41	39	39	8	38

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	20060206 180508
H	20060207 173331

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	-4.018289	0.008132	0.051454
7	P1	-3.001825	0.013264	-0.004449
11	P1	-4.093445	0.022459	0.023421
15	P1	-6.059718	0.017657	0.011155
19	P1	-3.254615	0.006491	-0.012116
22	P1	-4.475050	0.019066	0.026416
26	P1	-4.199914	0.013073	0.047440
30	P1	-5.770117	0.010408	0.011884
3	P1	-16.918753	0.266023	0.068871
7	P1	-16.642248	0.125655	-0.110578
11	P1	-16.597488	0.305627	-0.010118
15	P1	-13.190057	0.113189	0.140191
19	P1	-13.887957	0.072024	-0.019351
22	P1	-15.817417	0.569560	0.254220
26	P1	-15.764464	0.252027	0.066278
30	P1	-16.582237	0.319197	0.060772

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.566772	0.093277	0.155955
7	P2	-22.443516	0.096922	0.104283
11	P2	-16.279303	0.102575	0.095516
15	P2	-7.199205	0.103773	0.061057
19	P2	-9.162603	0.097545	0.038866
22	P2	-17.939646	0.094392	0.002138
26	P2	-16.214663	0.101413	0.024442
30	P2	-19.643150	0.084924	0.033016

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.205118	0.007490	0.032491
7	P3	-8.205118	0.007490	0.032491
11	P3	-8.205118	0.007490	0.032491
15	P3	-8.205118	0.007490	0.032491
19	P3	-8.205118	0.007490	0.032491
22	P3	-8.205118	0.007490	0.032491
26	P3	-8.205118	0.007490	0.032491
30	P3	-8.205118	0.007490	0.032491

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	-3.731163	0.011214	-0.035861
7	P1	-2.745285	0.007537	0.012400
11	P1	-2.876413	0.012590	-0.059484
15	P1	-3.485810	0.020012	-0.085027
19	P1	-3.378310	0.012284	-0.018553
22	P1	-5.135904	0.021549	-0.064119
26	P1	-5.849524	0.017052	0.013402
30	P1	-5.235114	0.028748	0.045945
3	P1	-11.537860	0.041591	-0.052391
7	P1	-9.921431	0.047575	-0.032010
11	P1	-10.113376	0.053197	-0.164820
15	P1	-10.654631	0.094234	-0.132922
19	P1	-15.460853	0.061665	0.030659
22	P1	-20.483444	1.262441	0.456521

26	P1	-16.673737	0.349473	0.474420
30	P1	-18.199614	0.329833	-0.151100

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.354406	0.037582	0.222913
7	P2	-22.789511	0.068694	0.221781
11	P2	-11.389904	0.024750	0.139041
15	P2	-4.892419	0.028339	0.069301
19	P2	-6.901382	0.025289	0.052194
22	P2	-8.184115	0.025475	0.014076
26	P2	-23.956987	0.025948	0.015317
30	P2	-22.087418	0.019155	0.011779

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.043031	0.002741	0.038745
7	P3	-8.042898	0.002745	0.038580
11	P3	-8.042885	0.002739	0.039043
15	P3	-8.043017	0.002754	0.038747
19	P3	-8.043076	0.002748	0.039084
22	P3	-8.043023	0.002737	0.038707
26	P3	-8.043034	0.002748	0.038496
30	P3	-8.043014	0.002755	0.039215

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	0.000567001
	stdev	1.64055e-07
MEAN Q	mean	0.000527888
	stdev	2.10569e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.139976
	stdev	0.00115003
STDEV Q	mean	0.140339
	stdev	0.00116950

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006020[678]
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
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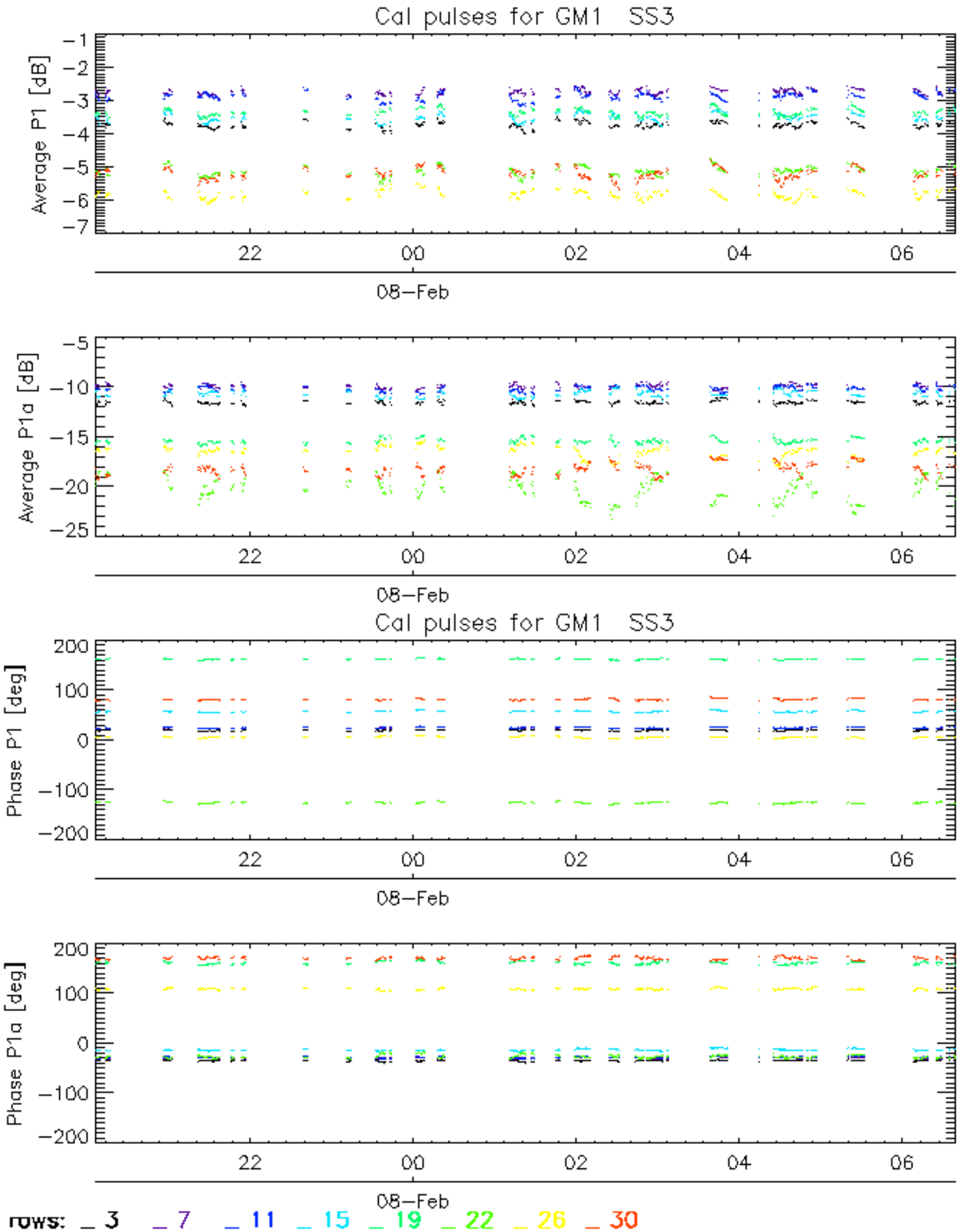
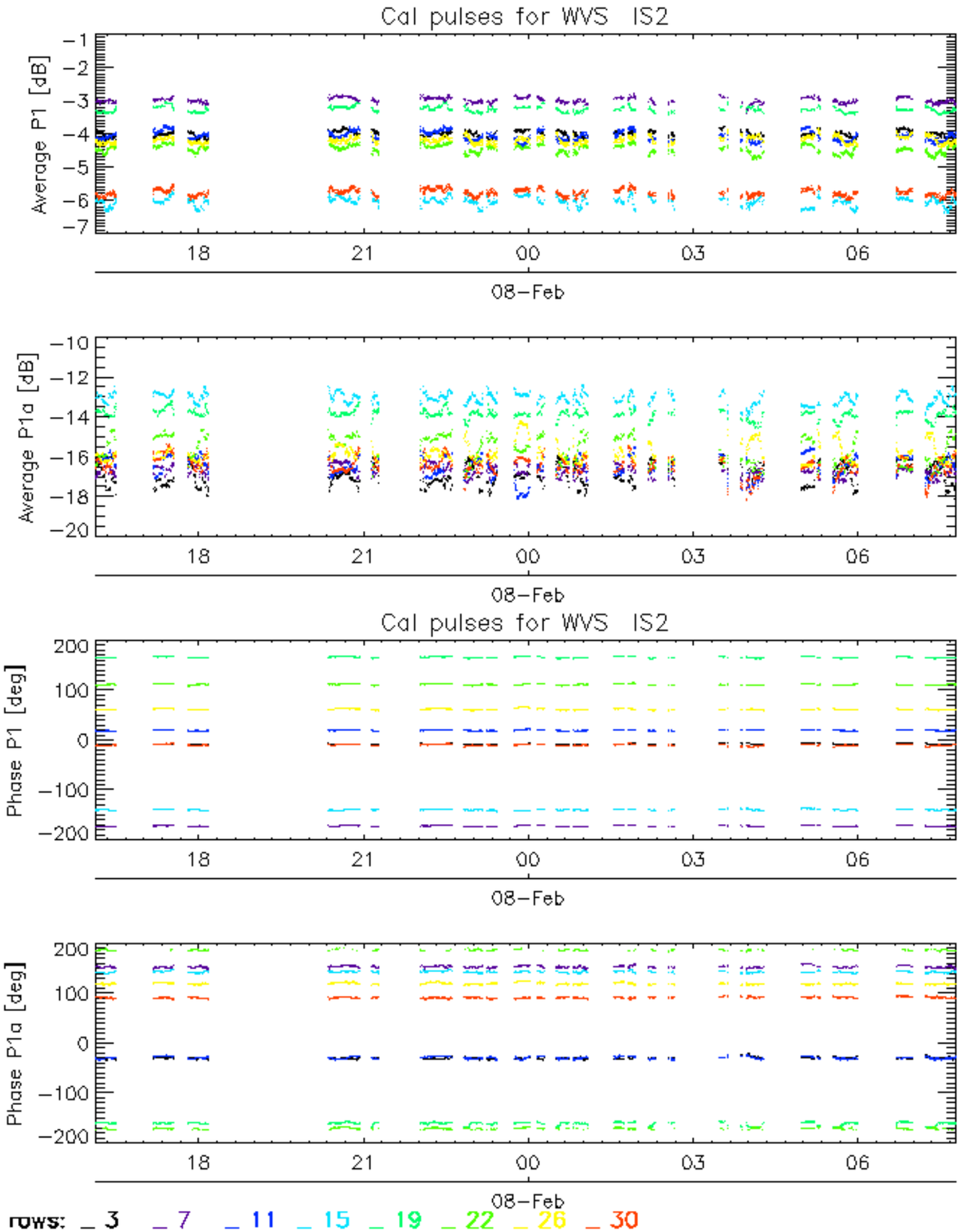
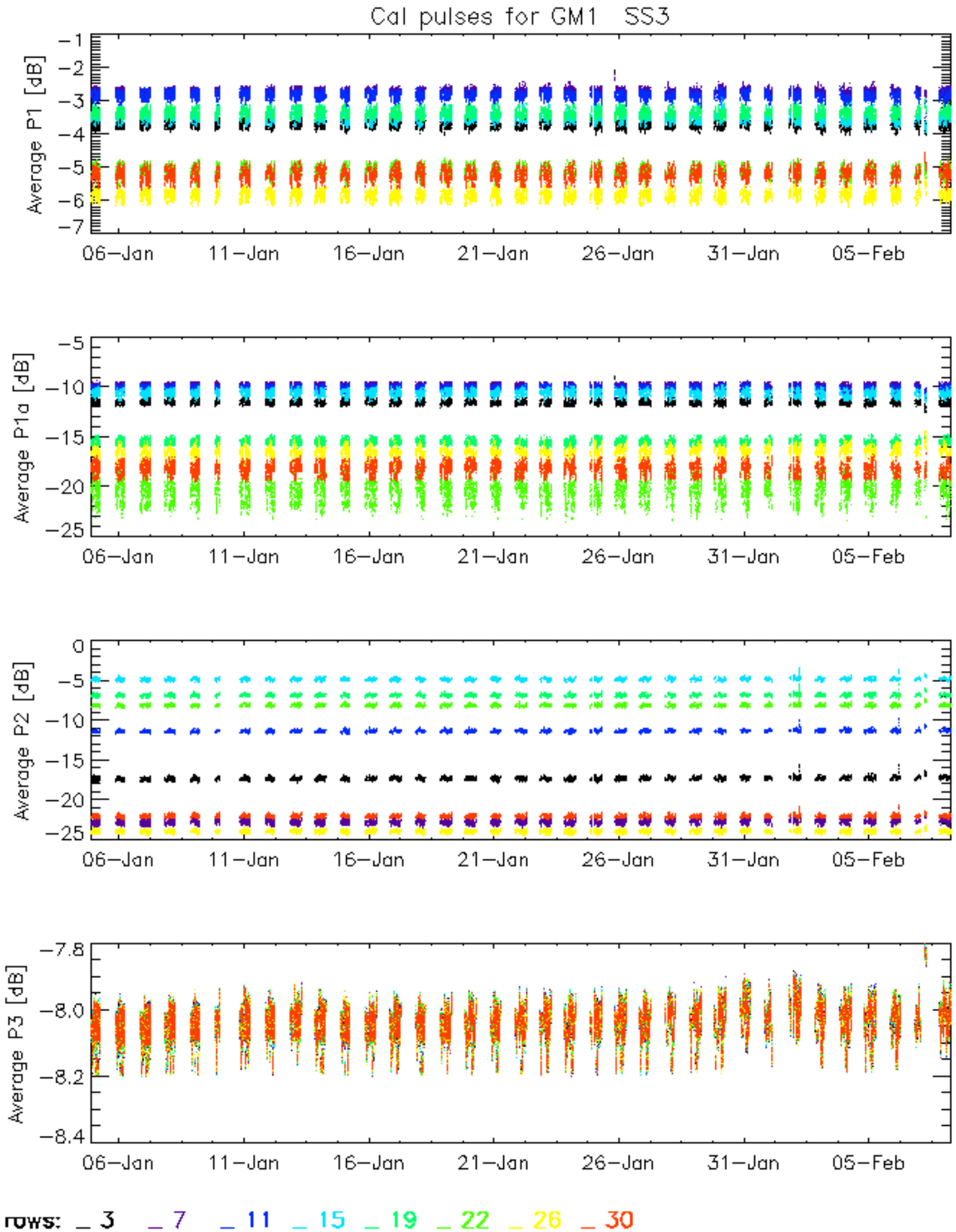
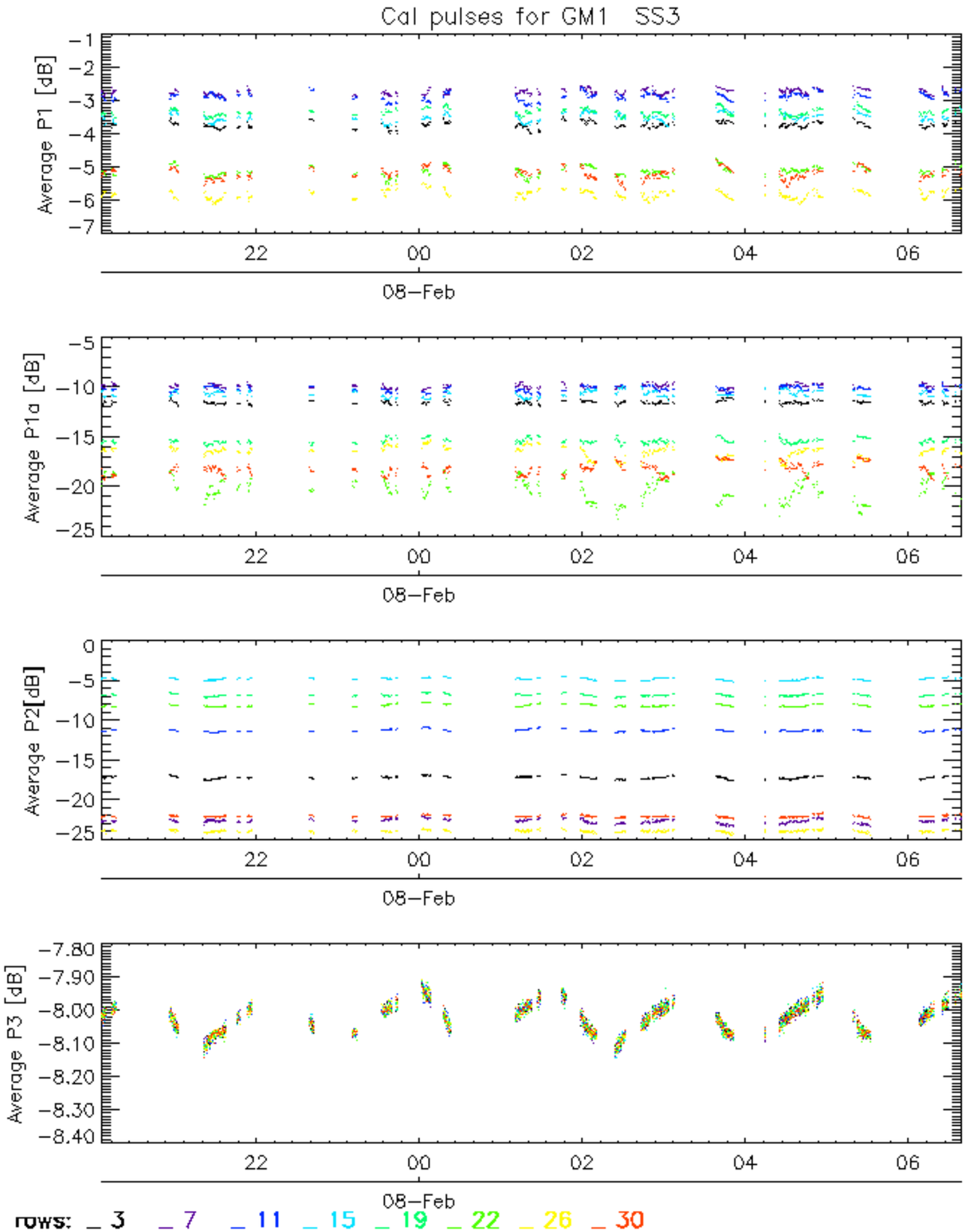
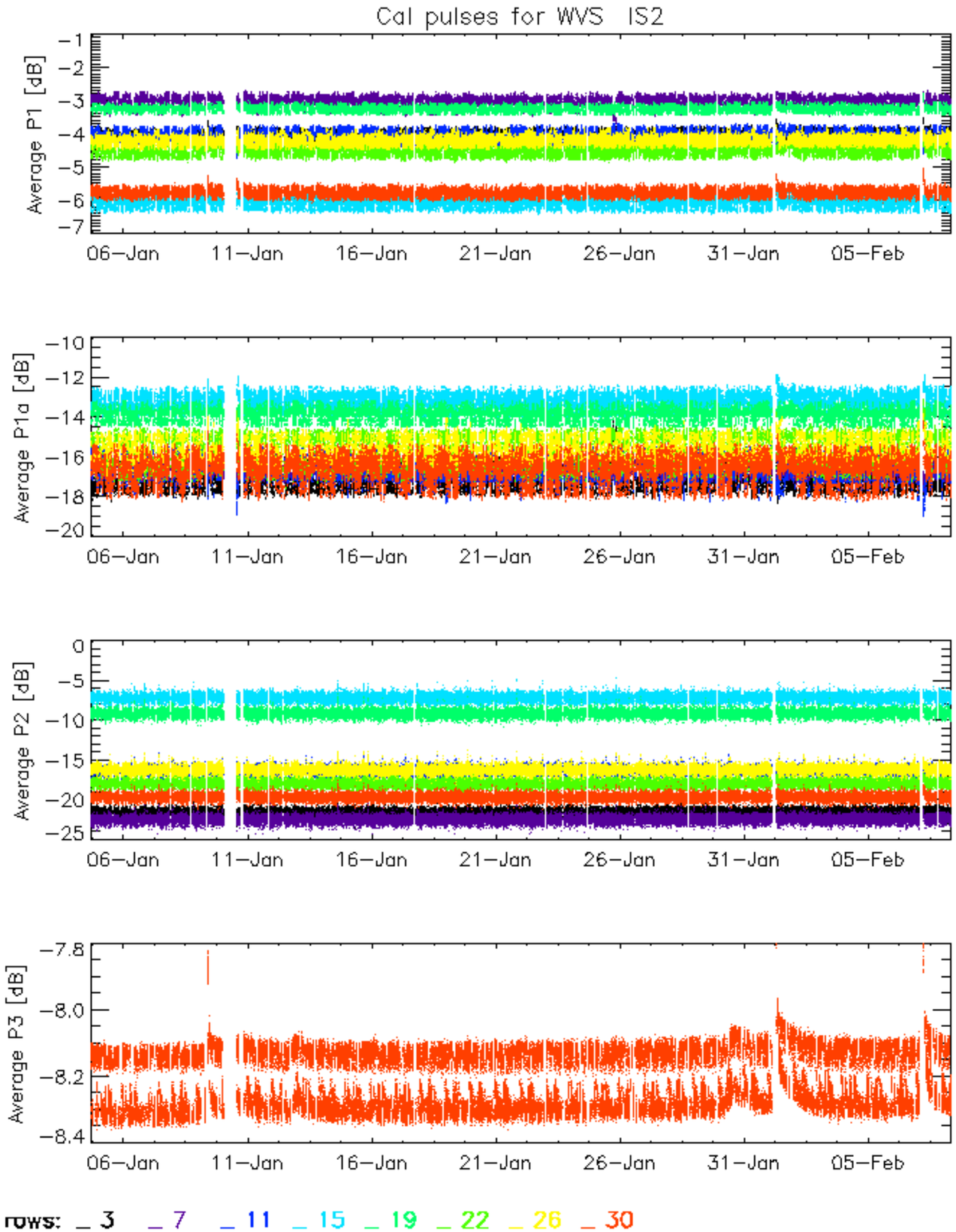
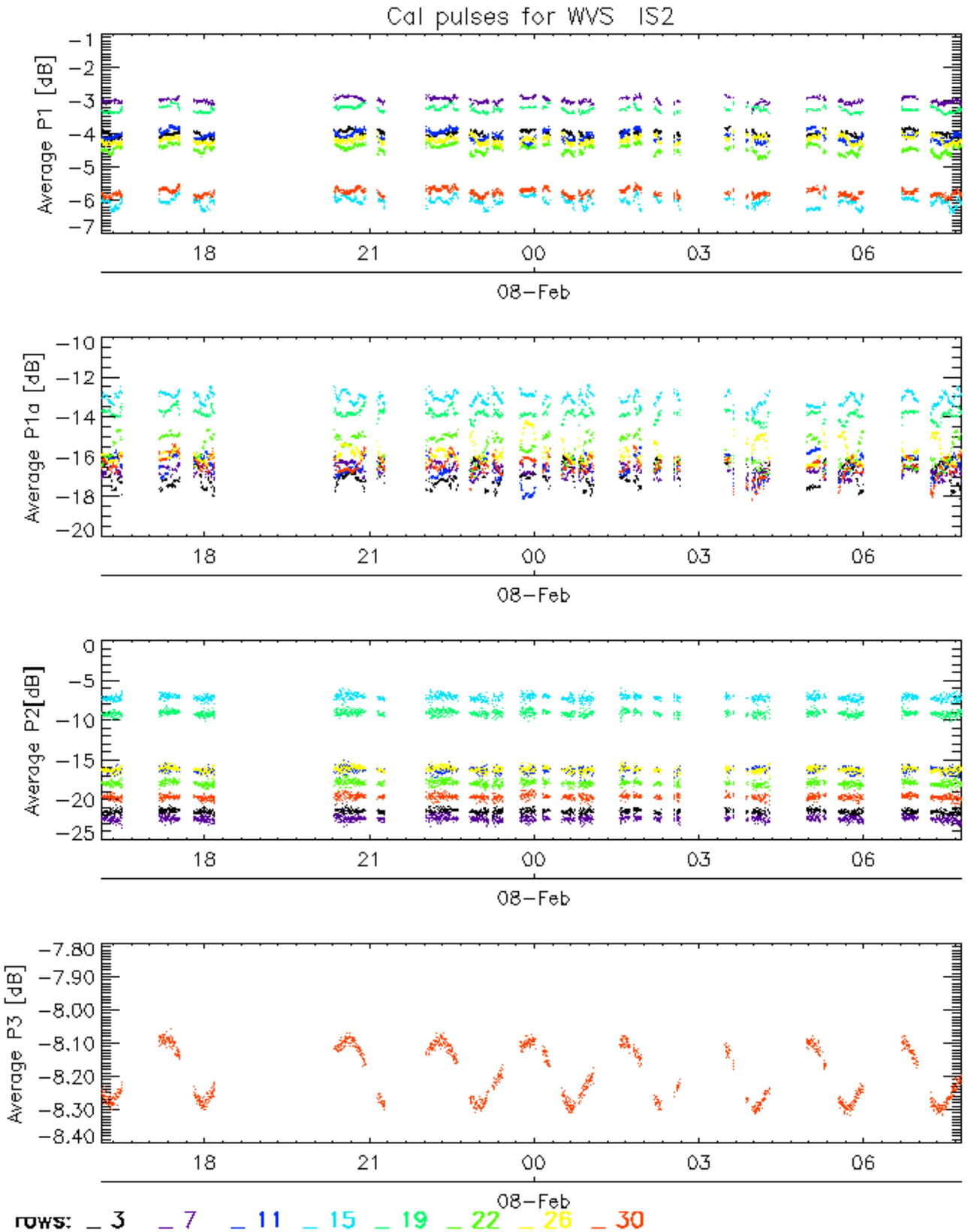

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
22
00
02
04
06
08−Feb
Average P1a [dB]
−5
−10
−15
−20
−25
22
00
02
04
06
08−Feb
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
22
00
02
04
06
08−Feb
Phase P1a [deg]
200
100
0
−100
−200
22
00
02
04
06
08−Feb
rows: _ 3 _ 7 _ 11 _ 15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


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
08−Feb
Average P1a [dB]
−10
−12
−14
−16
−18
−20
18
21
00
03
06
08−Feb
Cal pulses for WVS IS2
Phase P1 [deg]
200
100
0
−100
−200
18
21
00
03
06
08−Feb
Phase P1a [deg]
200
100
0
−100
−200
18
21
00
03
06
08−Feb
rows: 3 7 11 15 19 22 26 30


Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
06−Jan
11−Jan
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb
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

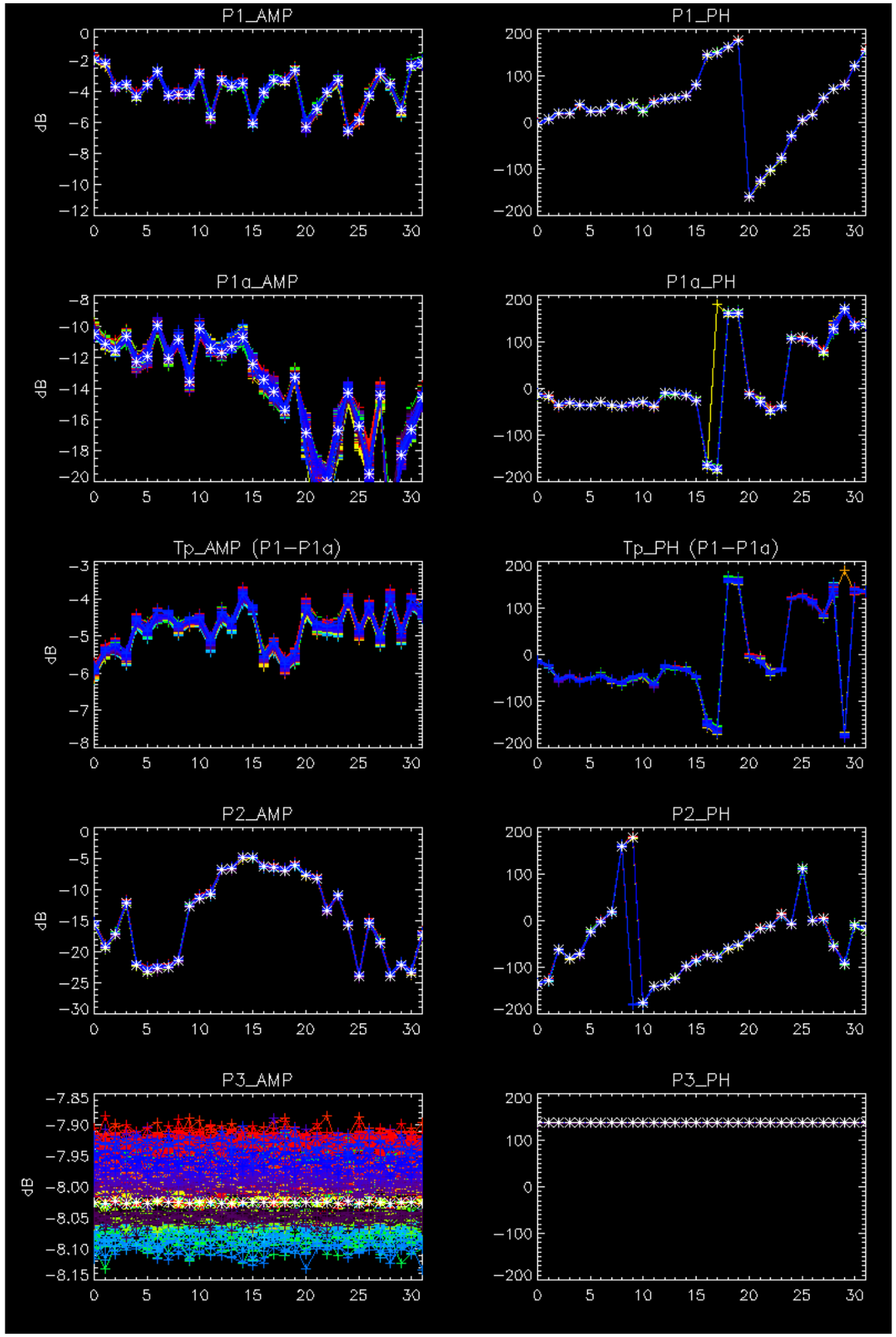

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
22
00
02
04
06
08−Feb
Average P1a [dB]
−5
−10
−15
−20
−25
22
00
02
04
06
08−Feb
Average P2[dB]
0
−5
−10
−15
−20
−25
22
00
02
04
06
08−Feb
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
22
00
02
04
06
08−Feb
rows: _ 3 _ 7 _ 11 _ 15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

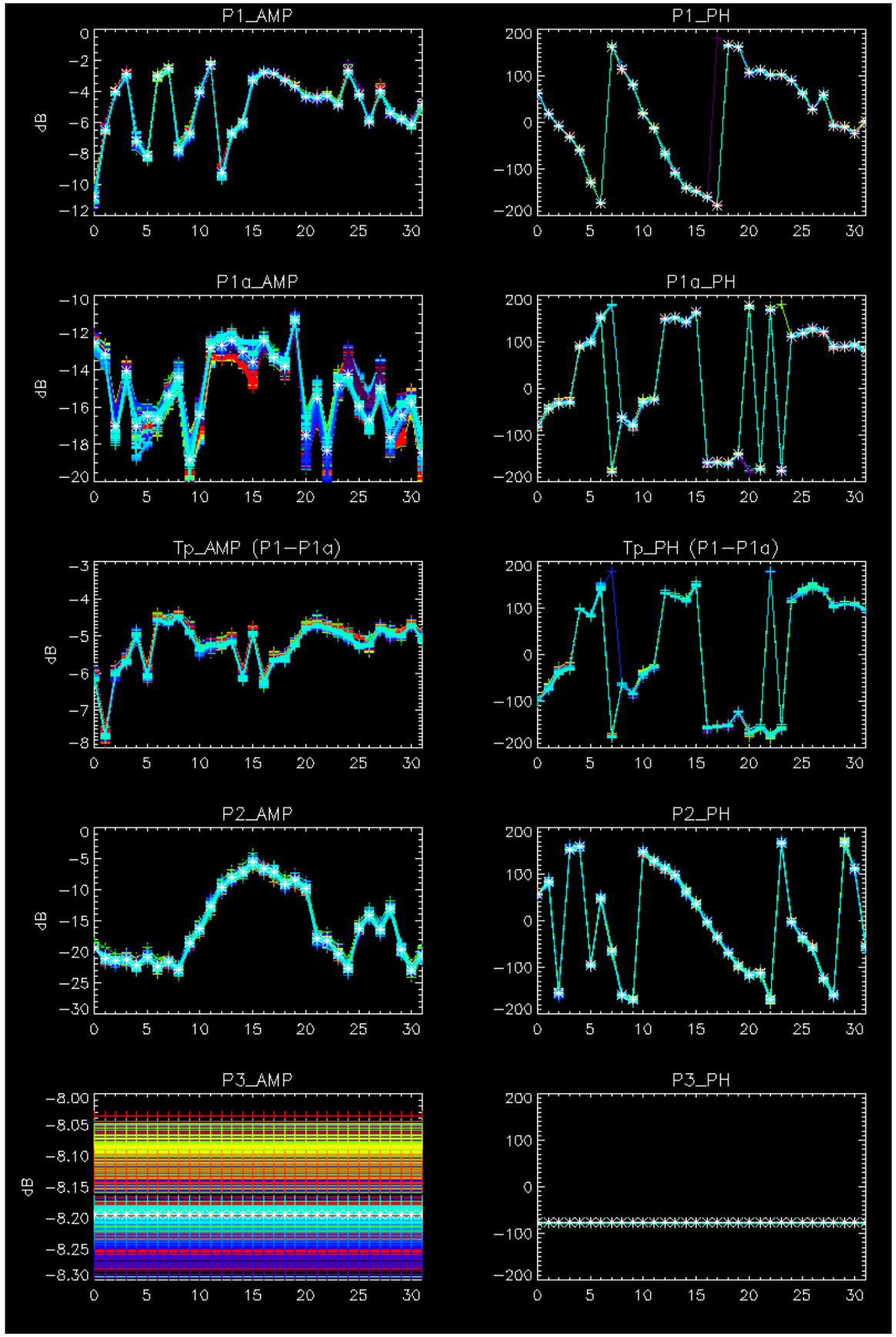

Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
06−Jan
11−Jan
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb
Average P1a [dB]
−10
−12
−14
−16
−18
−20
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


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

No anomalies observed on available browse products

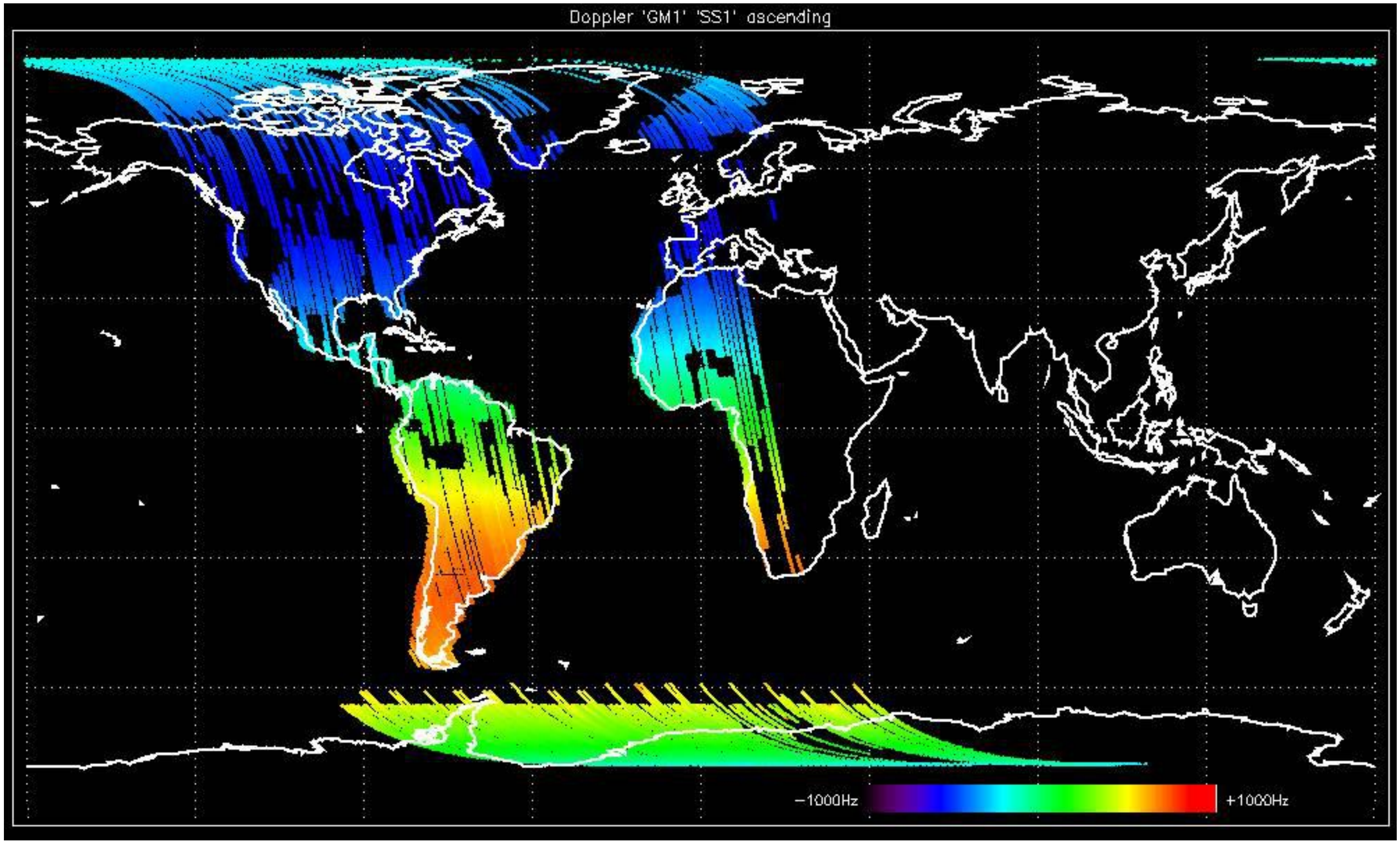
No anomalies observed.

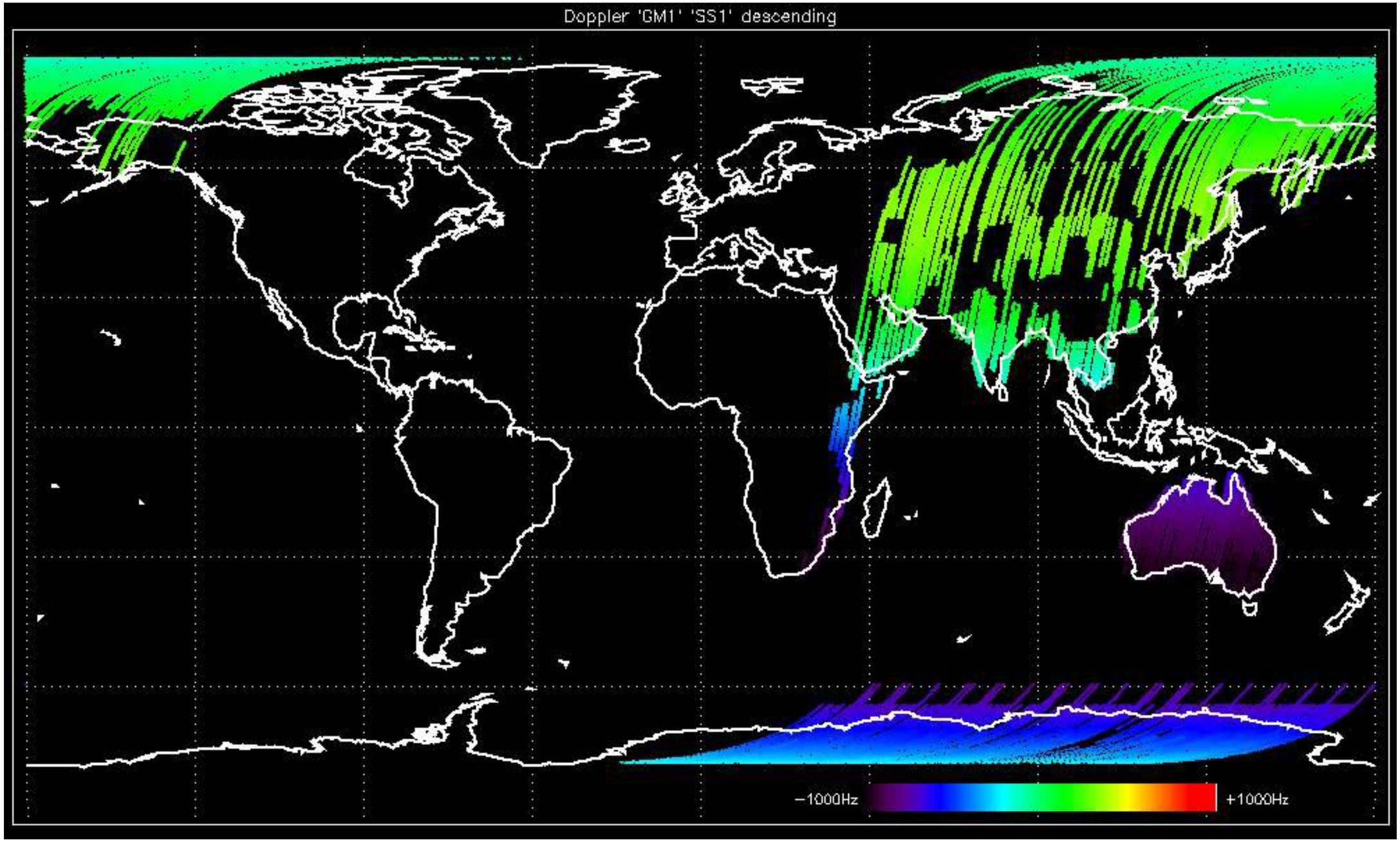

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

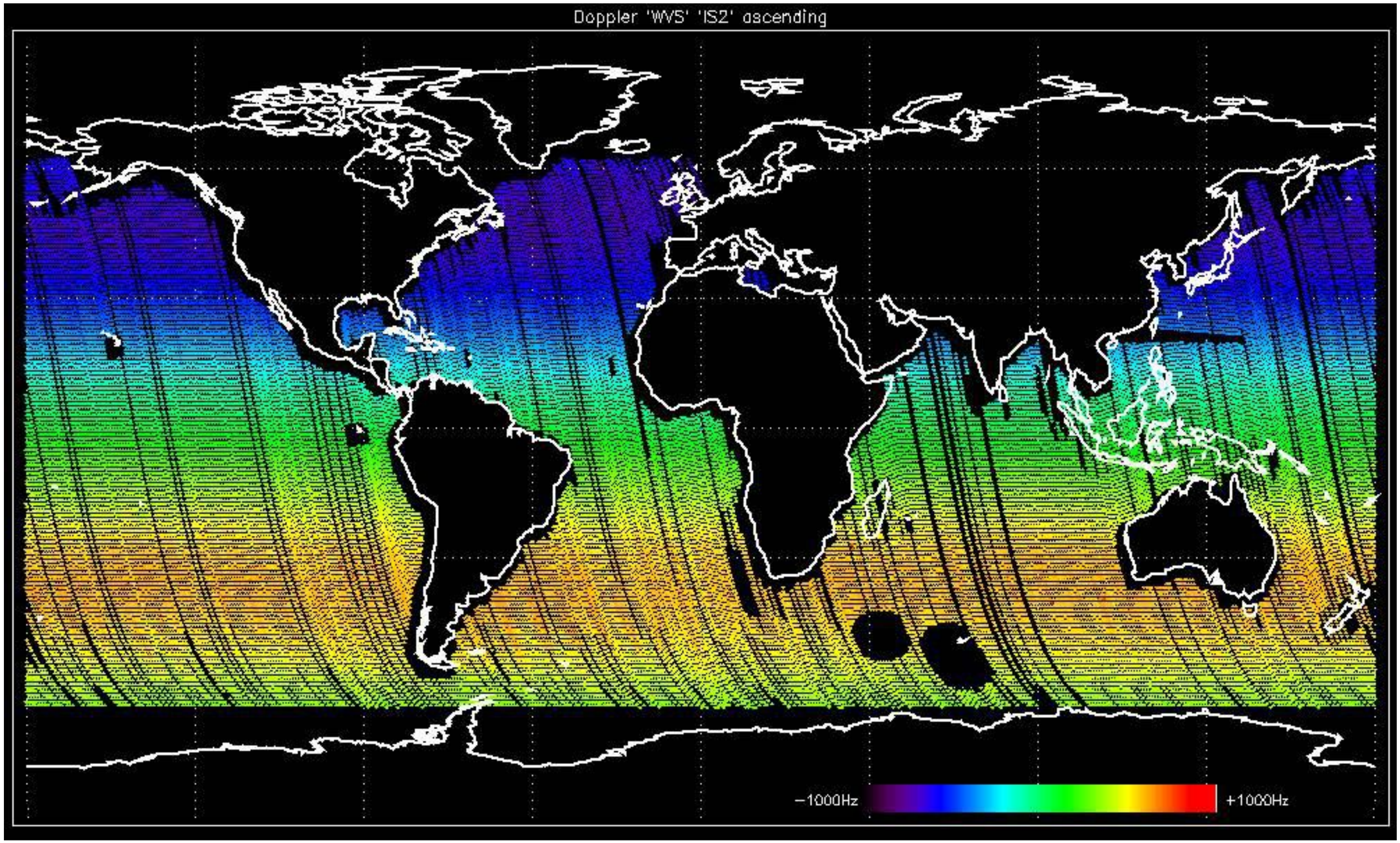

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

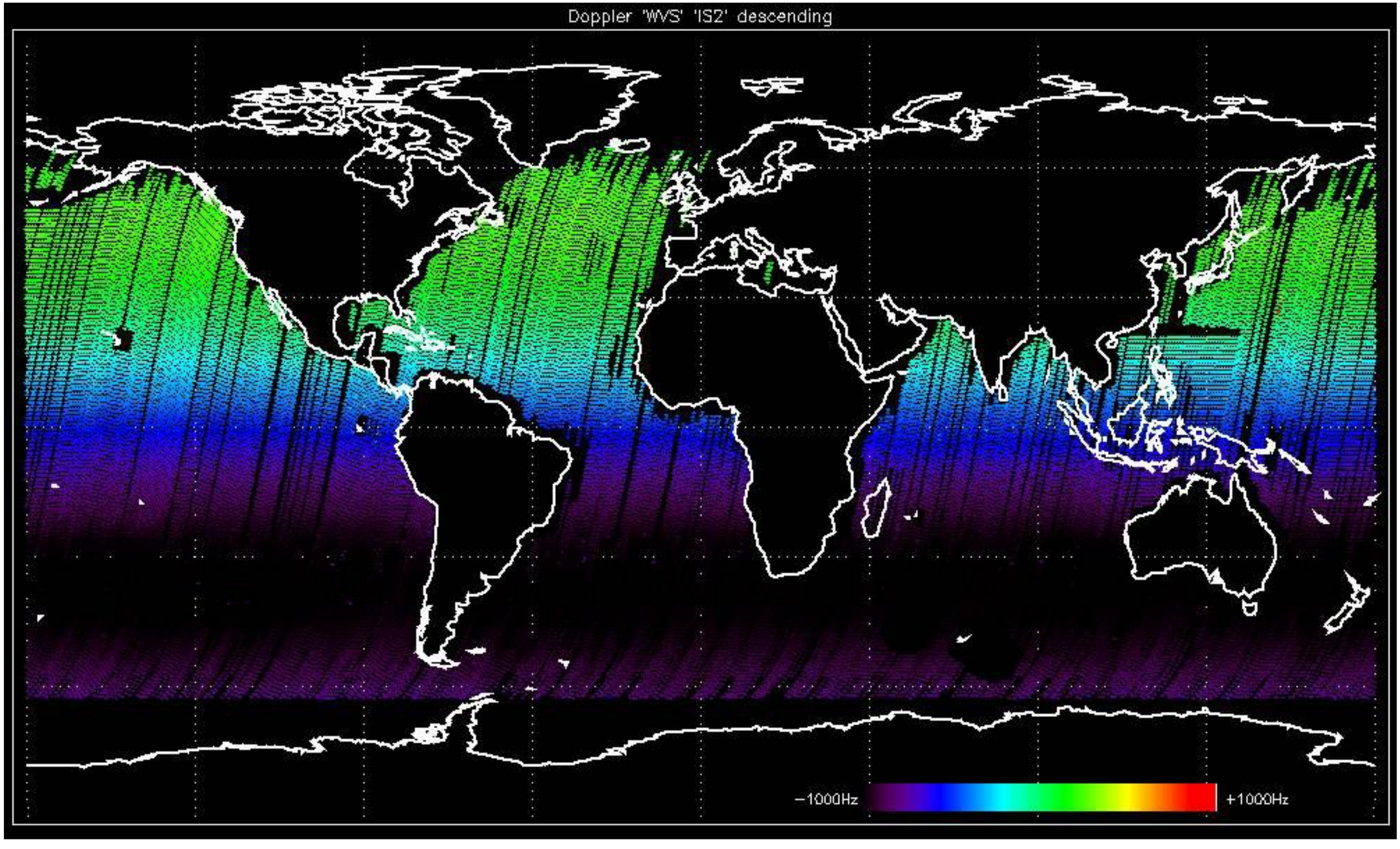
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

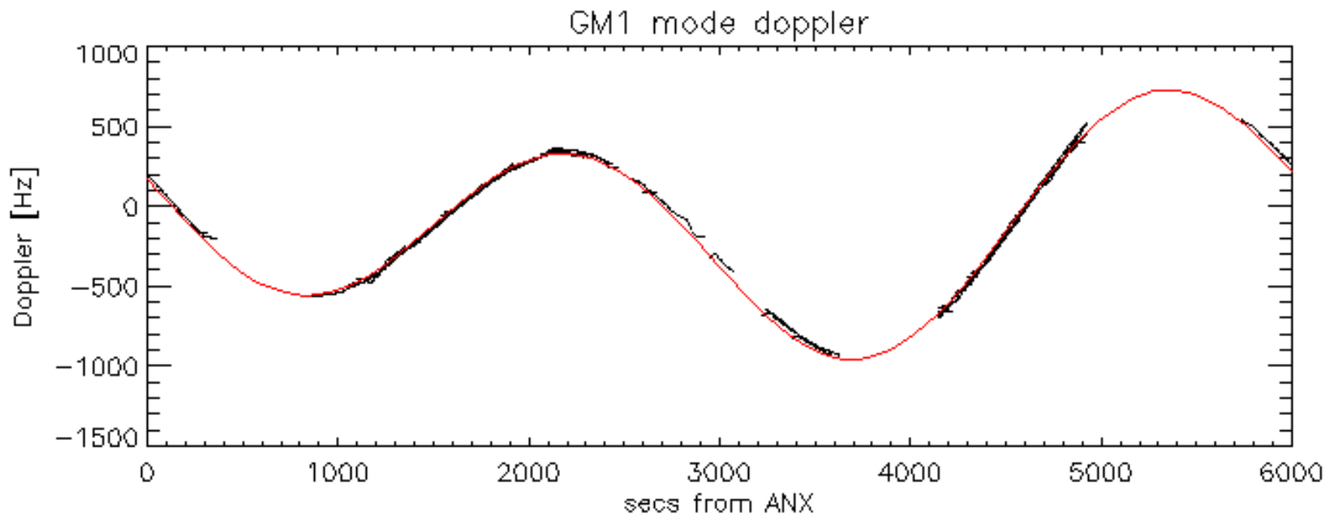
Preliminary report.The data is not yet controled

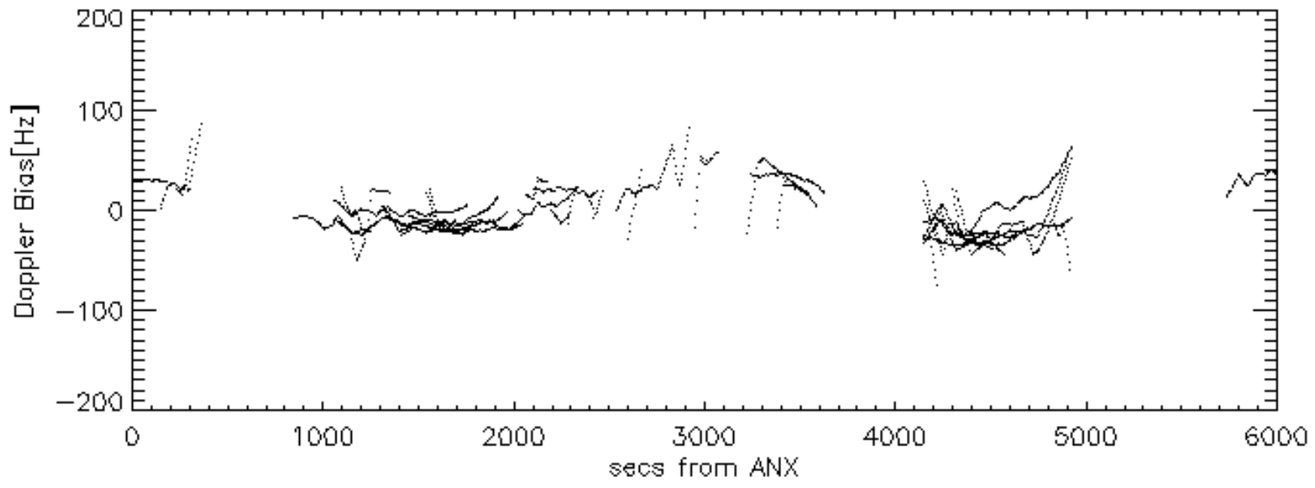

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

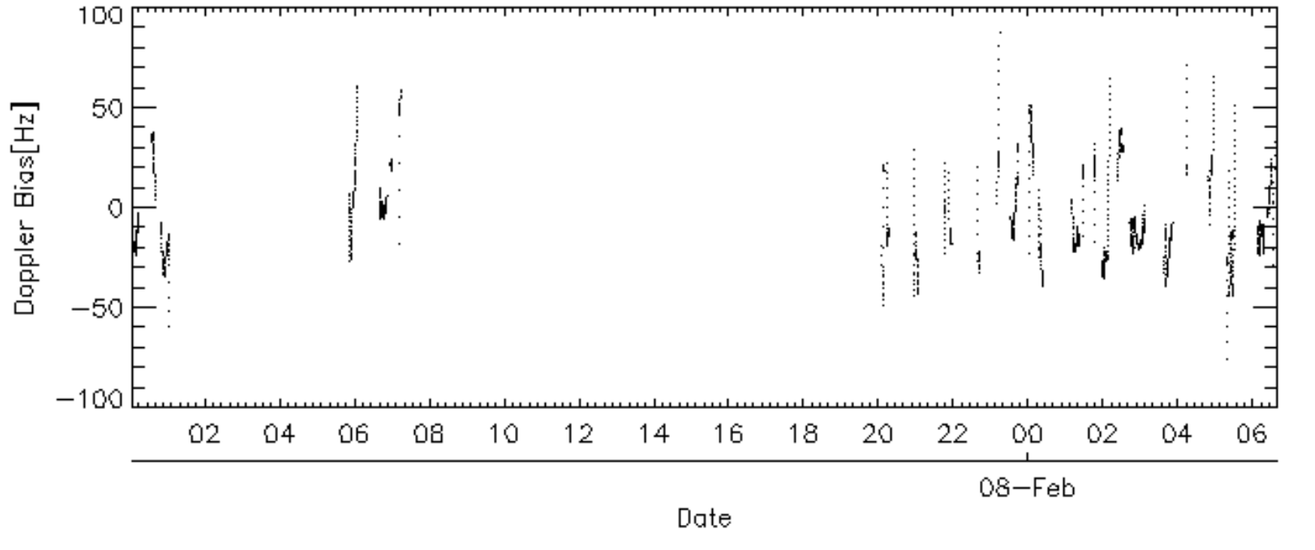

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

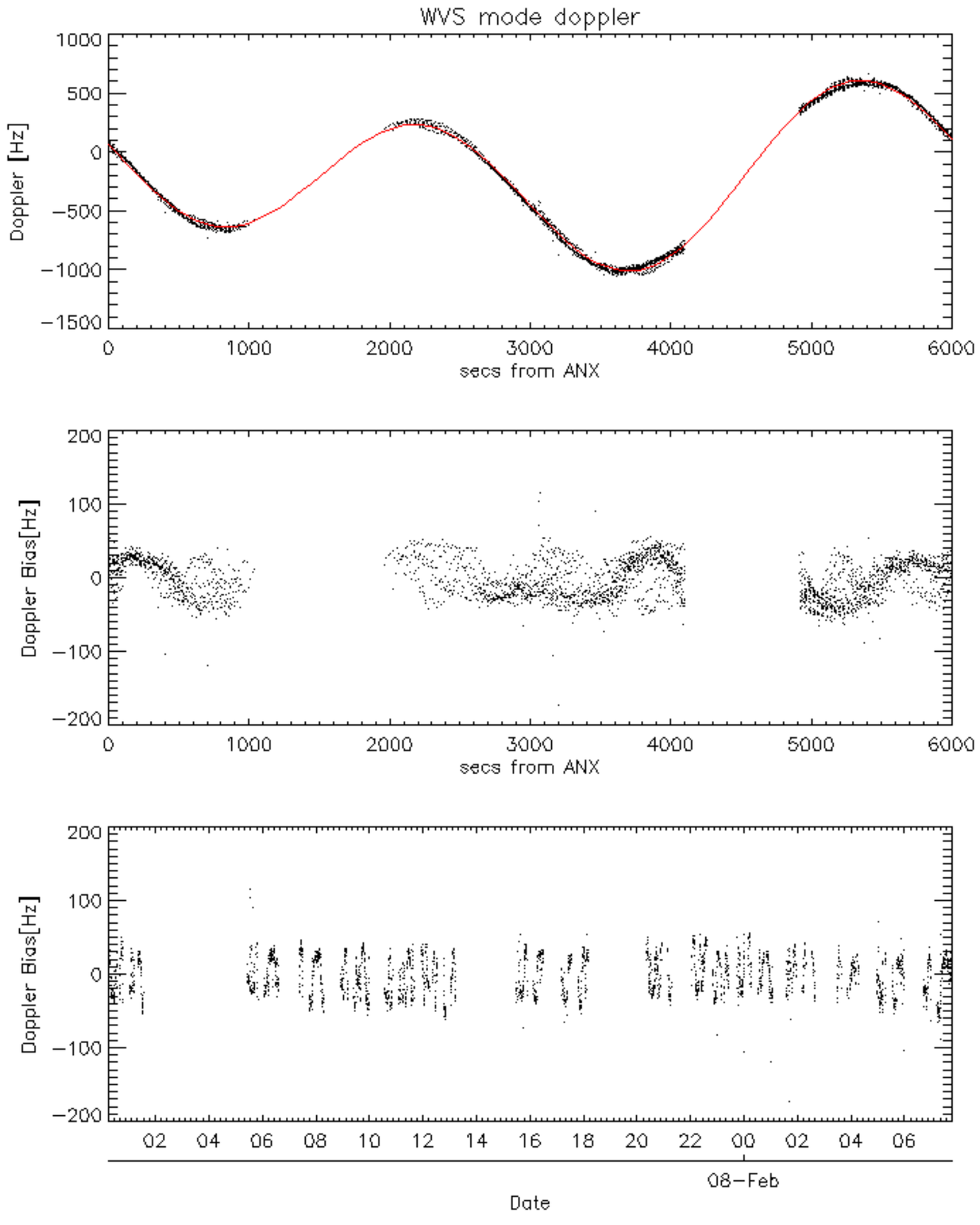

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

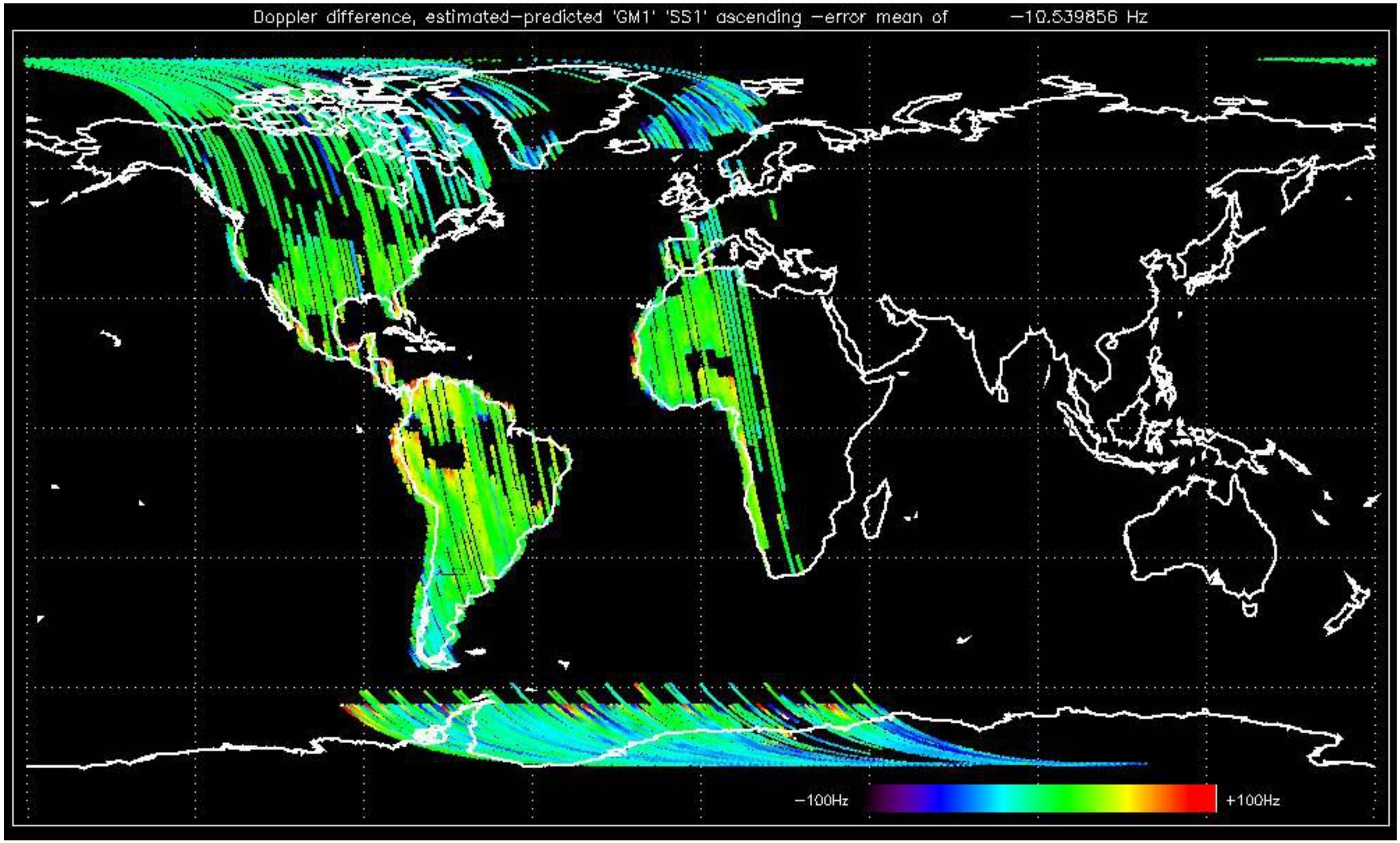

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

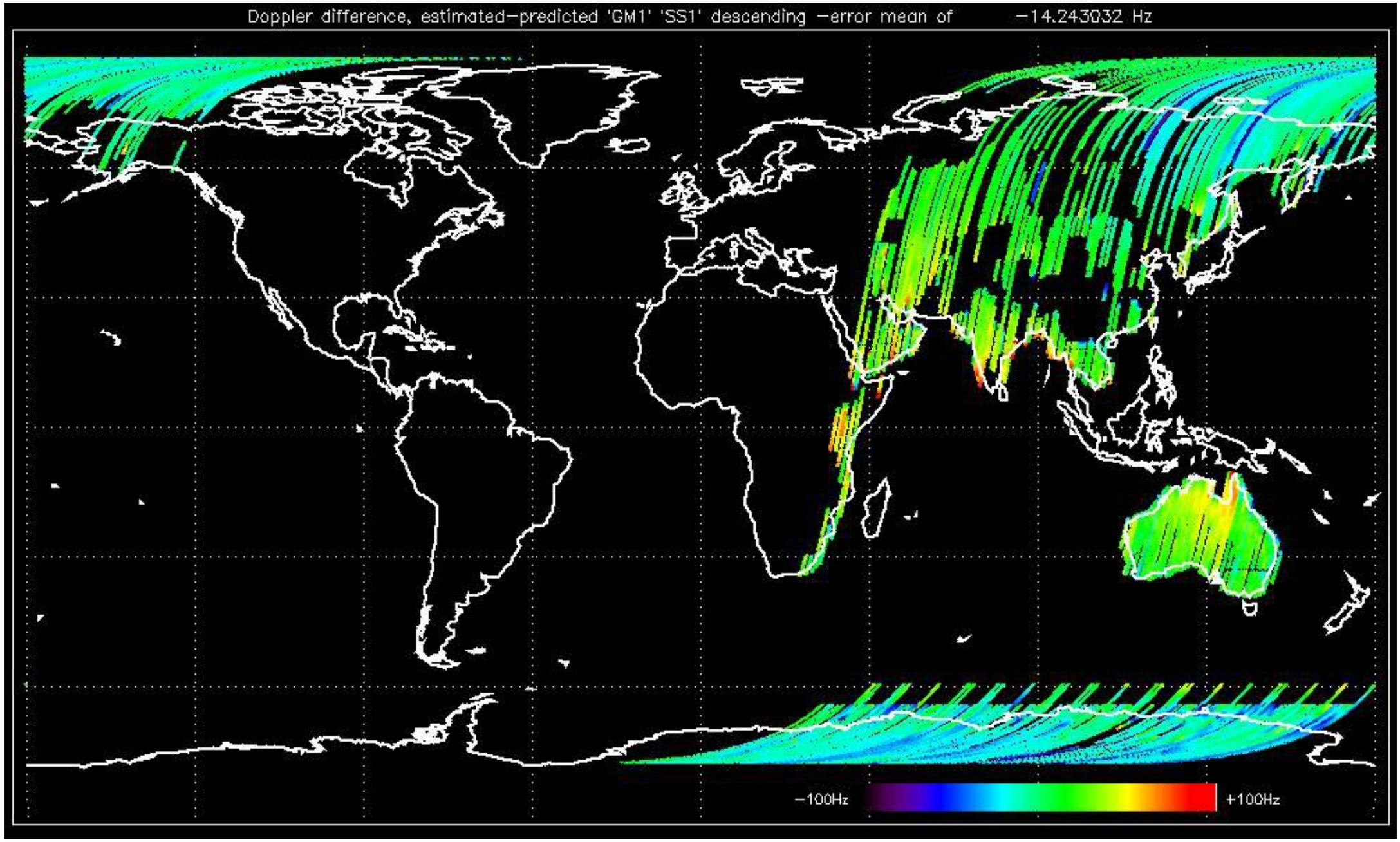

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

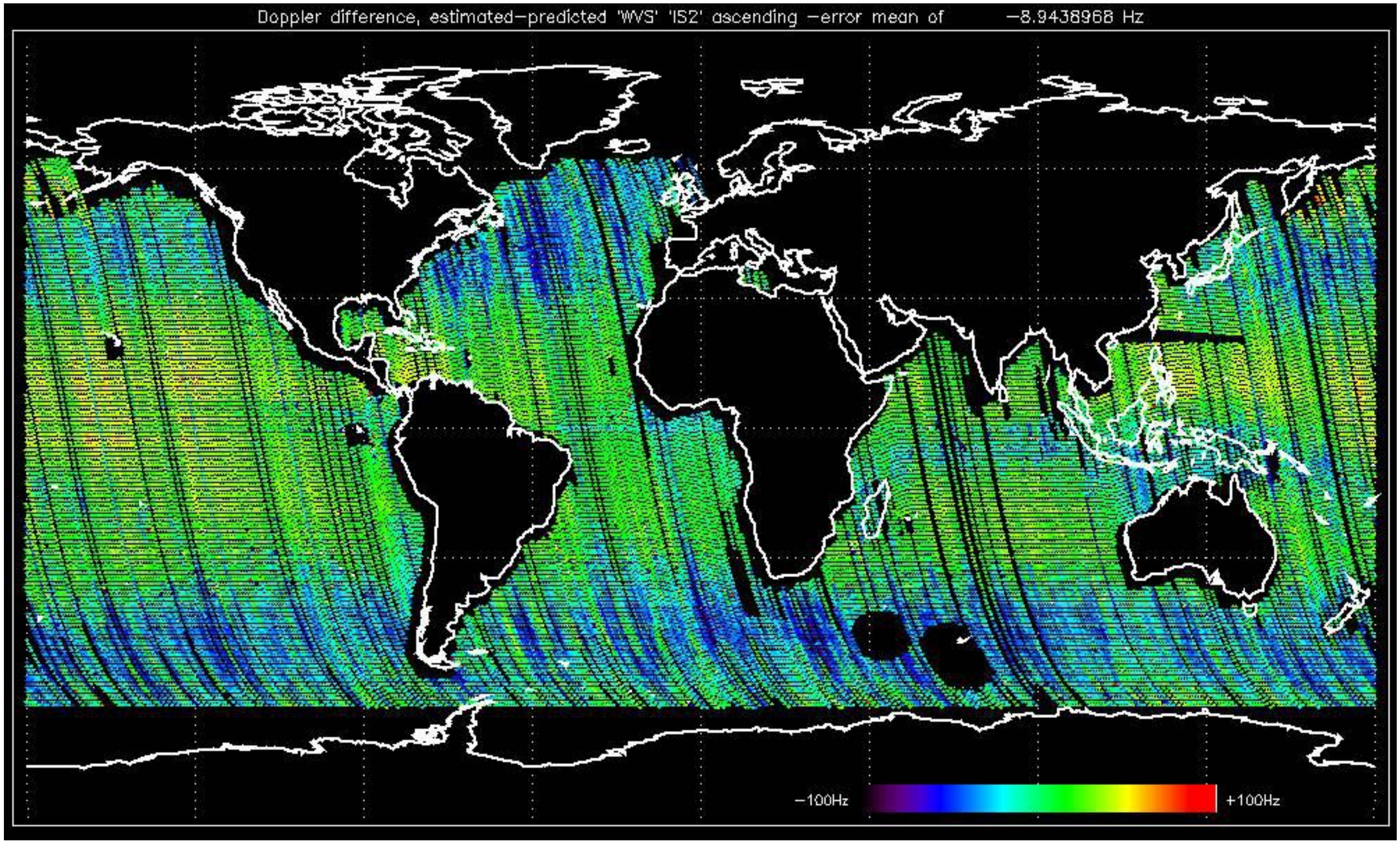

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

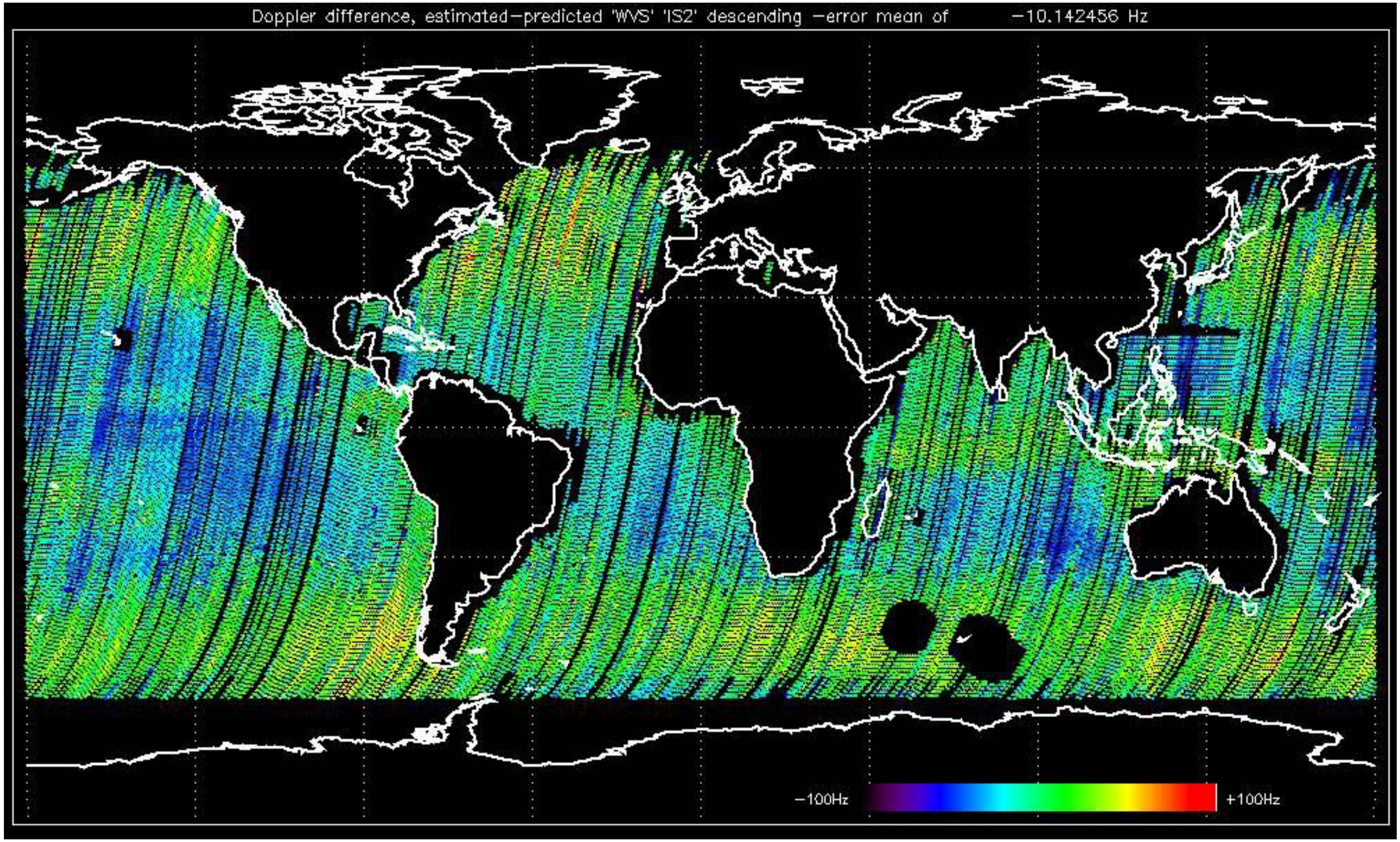

Doppler Bias[Hz]
100
50
0
−50
−100
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
08−Feb
Date


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]
200
100
0
−100
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
08−Feb
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −10.539856 Hz
−100Hz
+100Hz

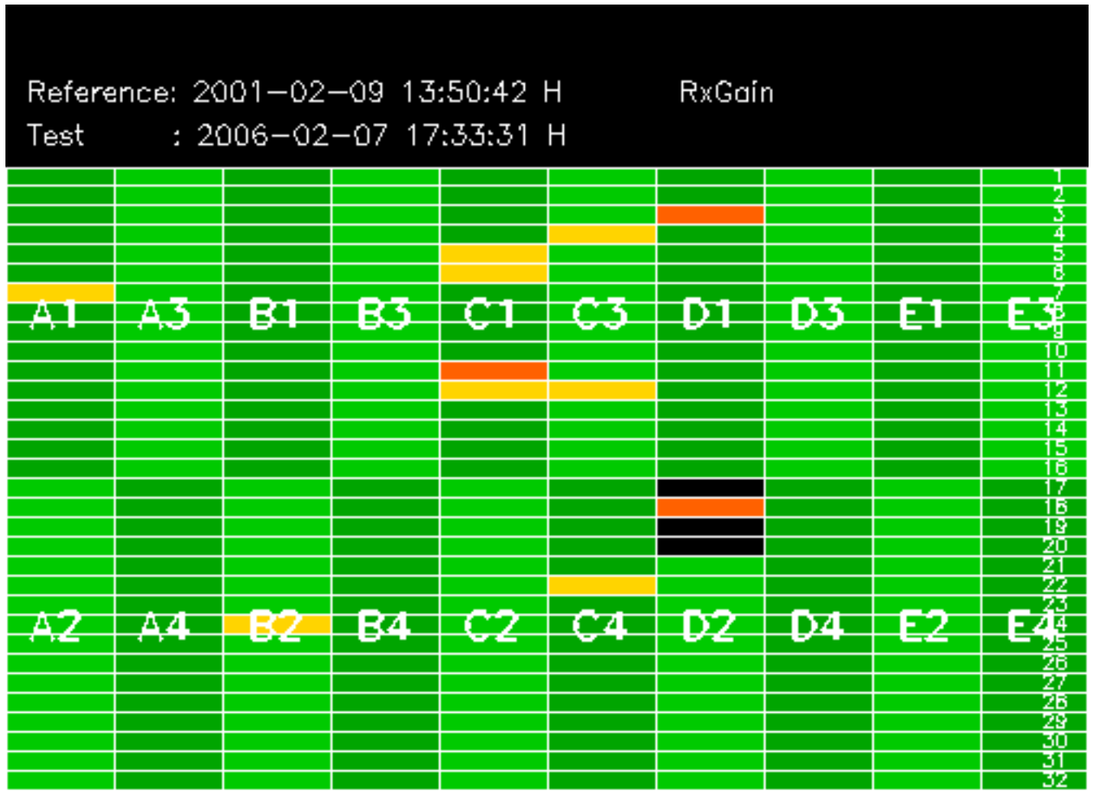

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −14.243032 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −8.9438968 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −10.142456 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2006-02-07 17:33:31 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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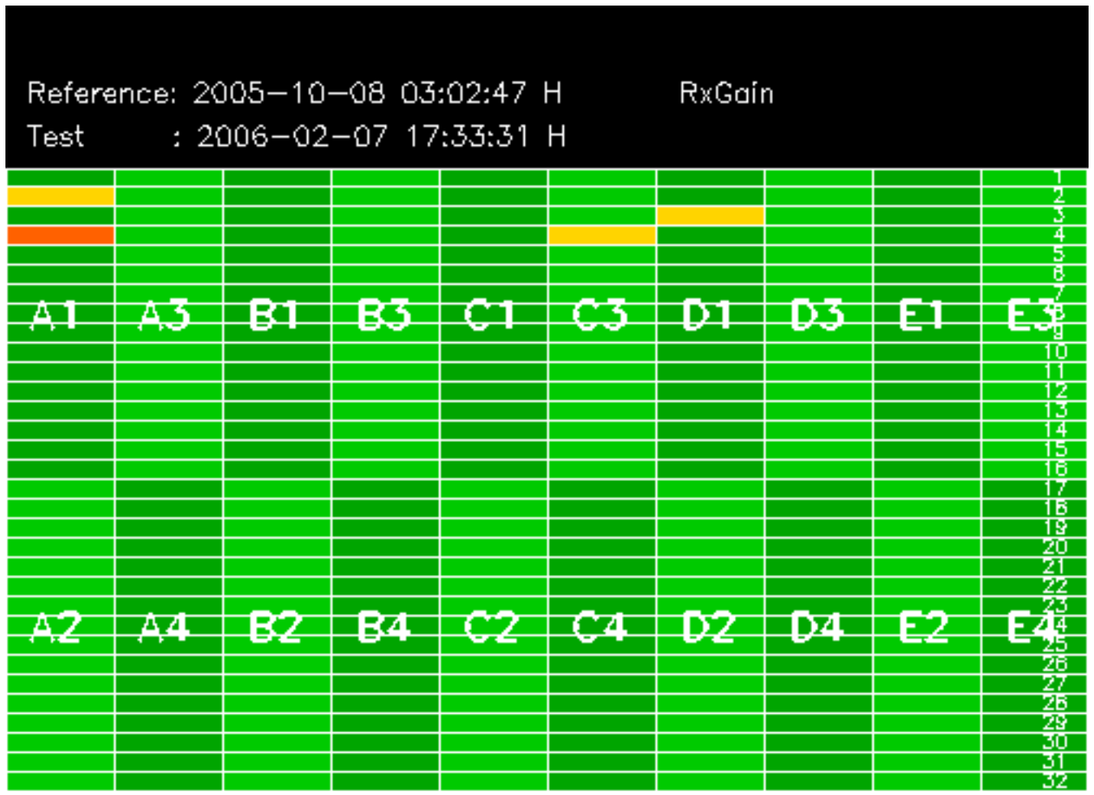
Reference: 2005-10-08 03:02:47 H
Test : 2006-02-07 17:33:31 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
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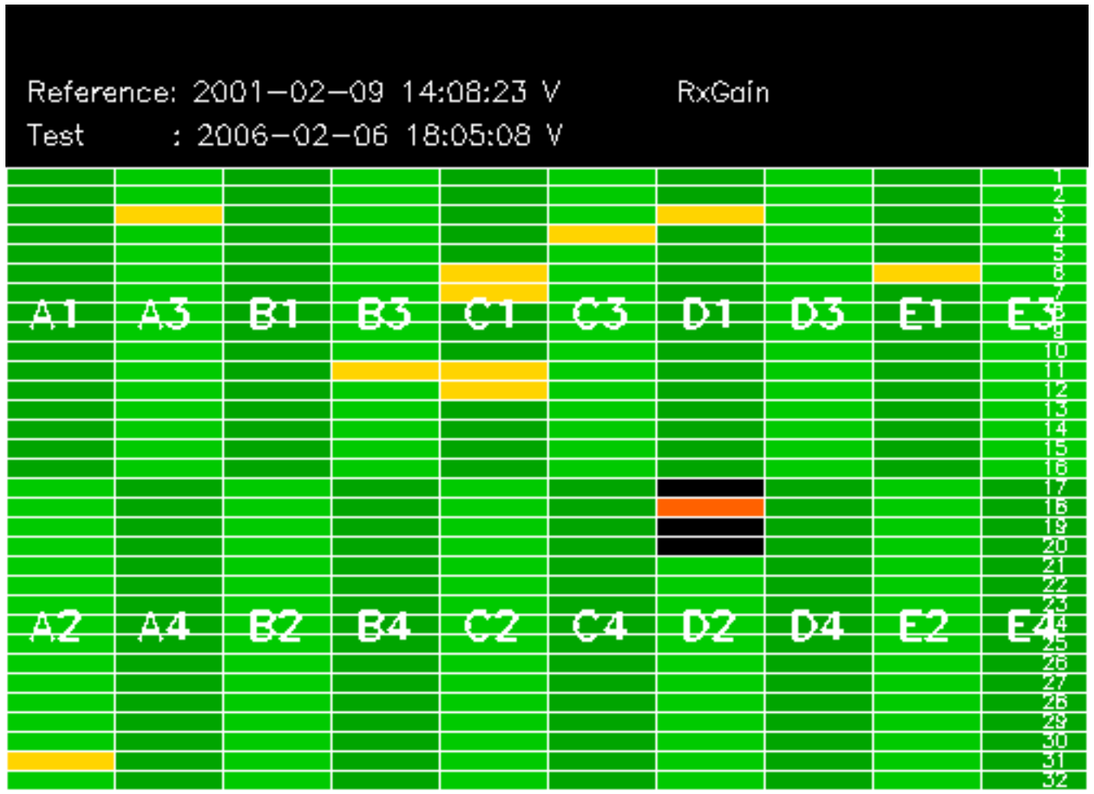
Reference: 2001-02-09 14:08:23 V
Test : 2006-02-06 18:05:08 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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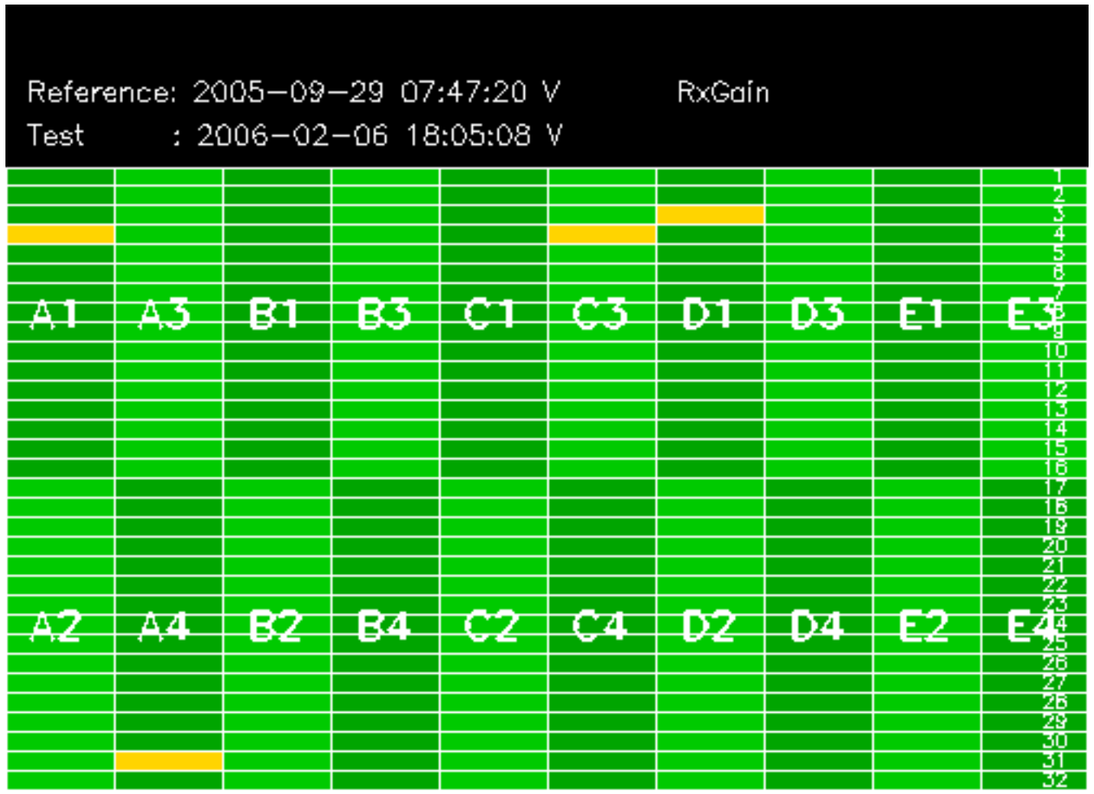
Reference: 2005-09-29 07:47:20 V
Test : 2006-02-06 18:05:08 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
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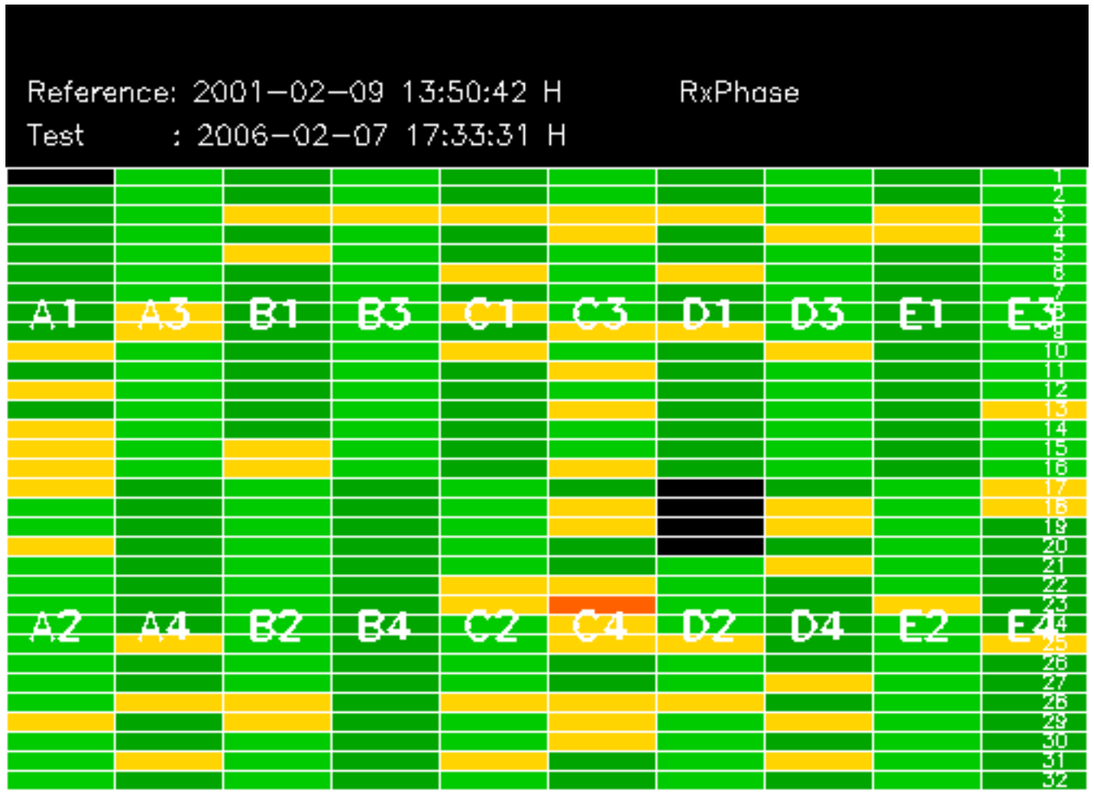
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-02-07 17:33:31 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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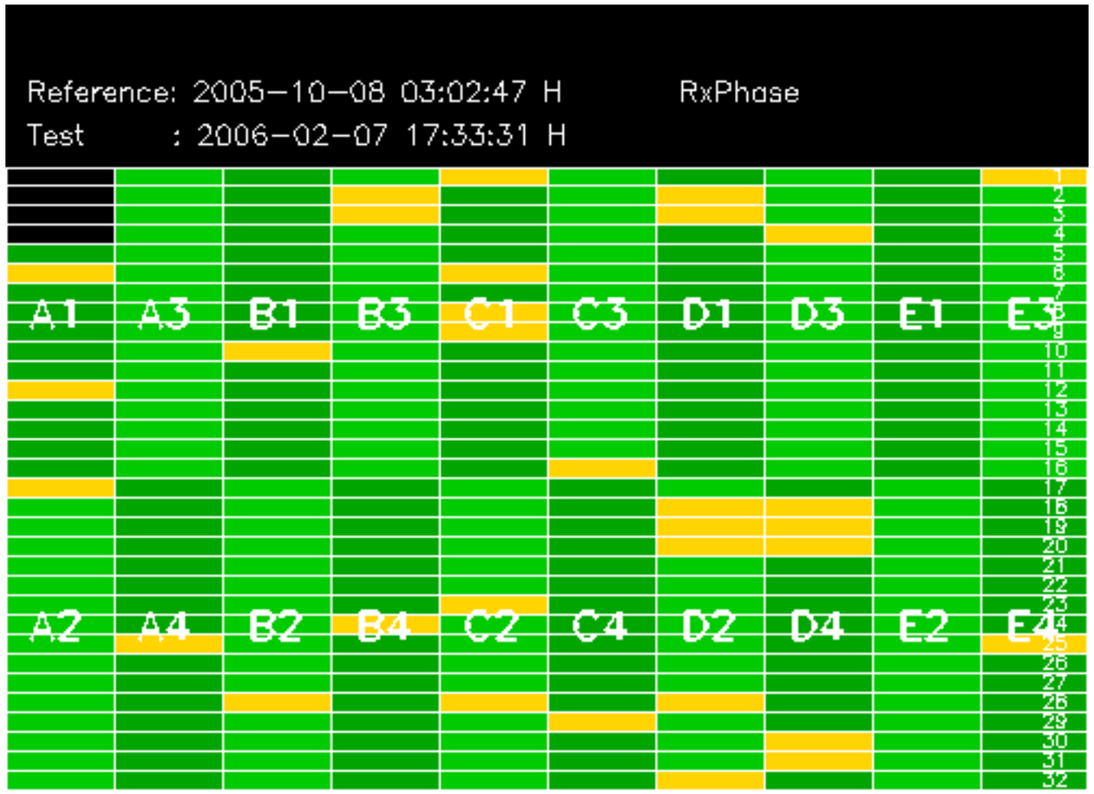
Reference: 2005-10-08 03:02:47 H
RxPhase
Test : 2006-02-07 17:33:31 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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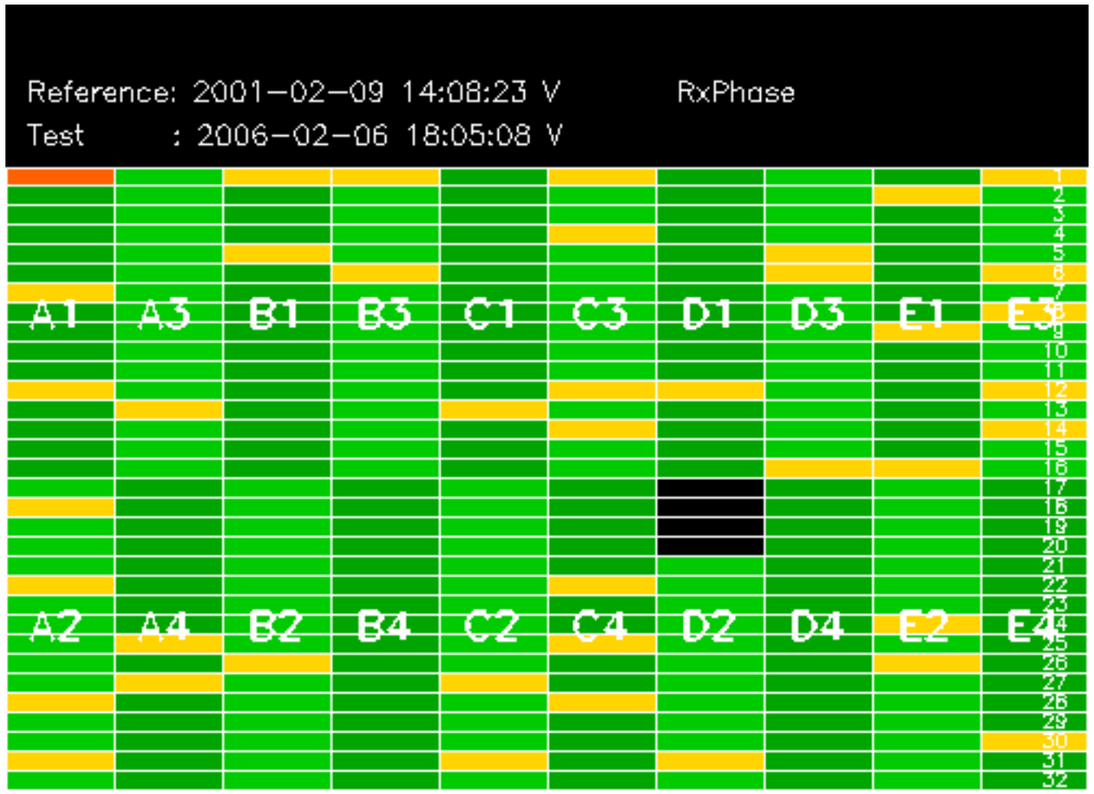
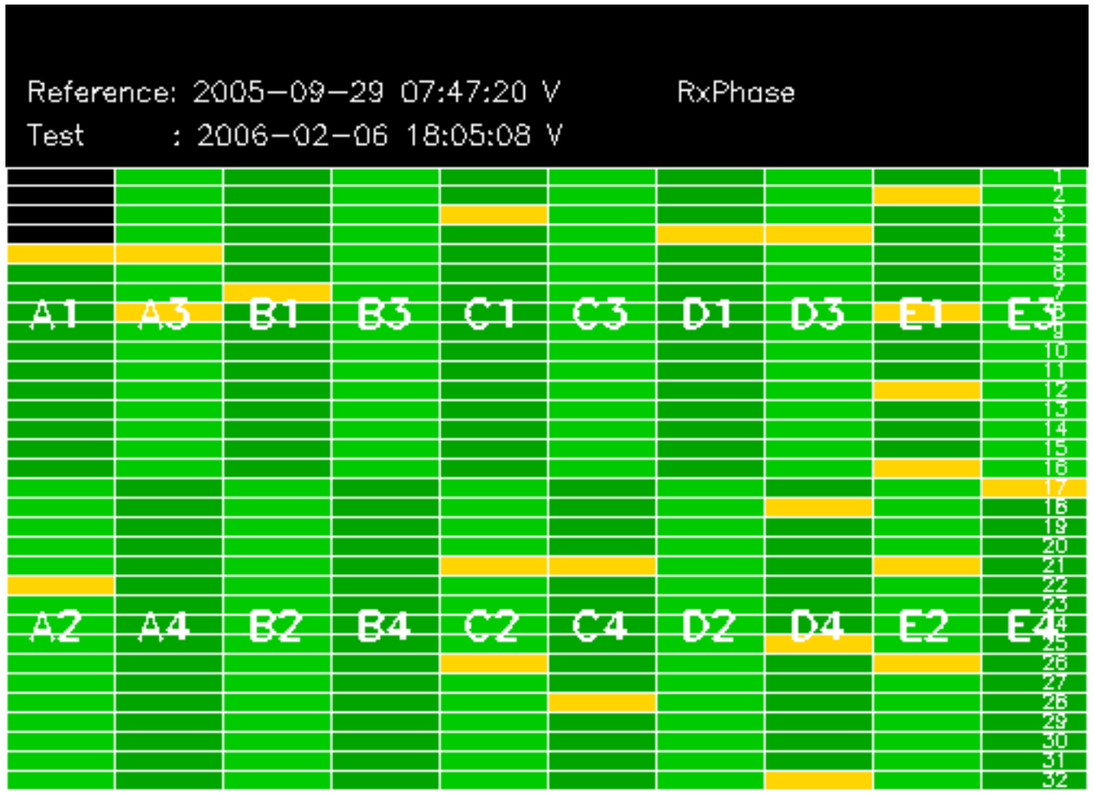

Reference: 2001-02-09 14:08:23 V
Test : 2006-02-06 18:05:08 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-02-06 18:05:08 V
RxPhase
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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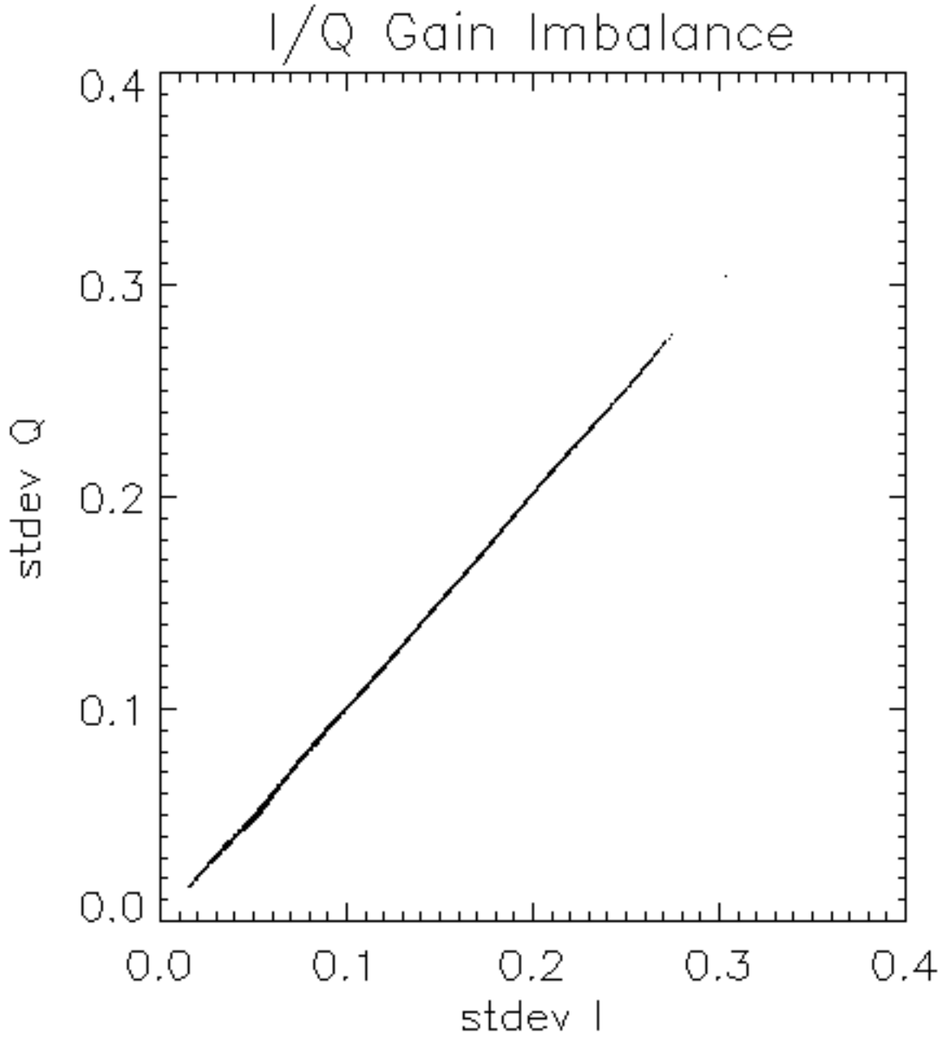
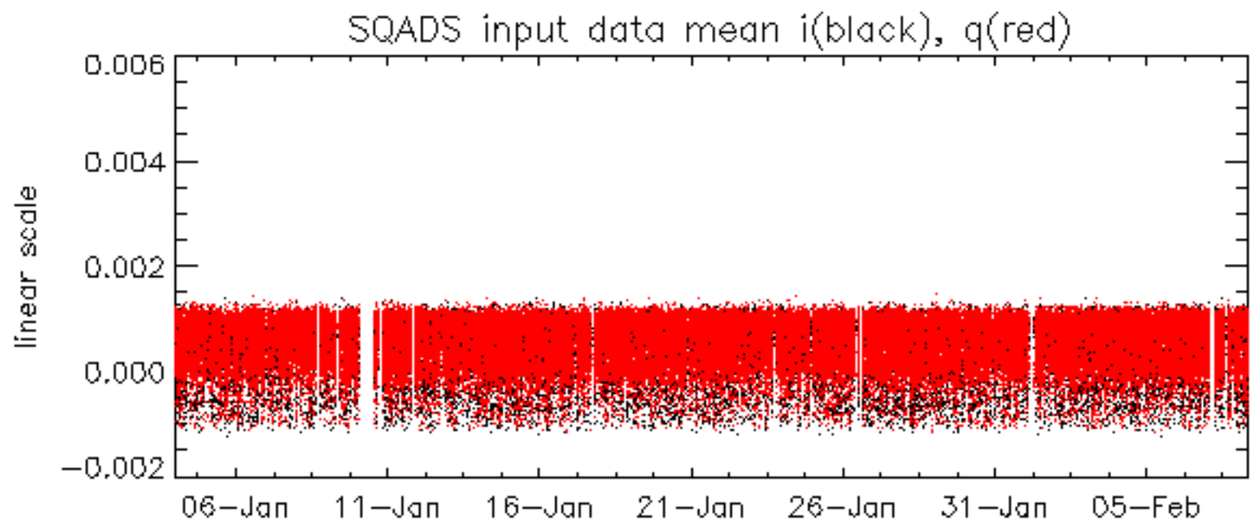
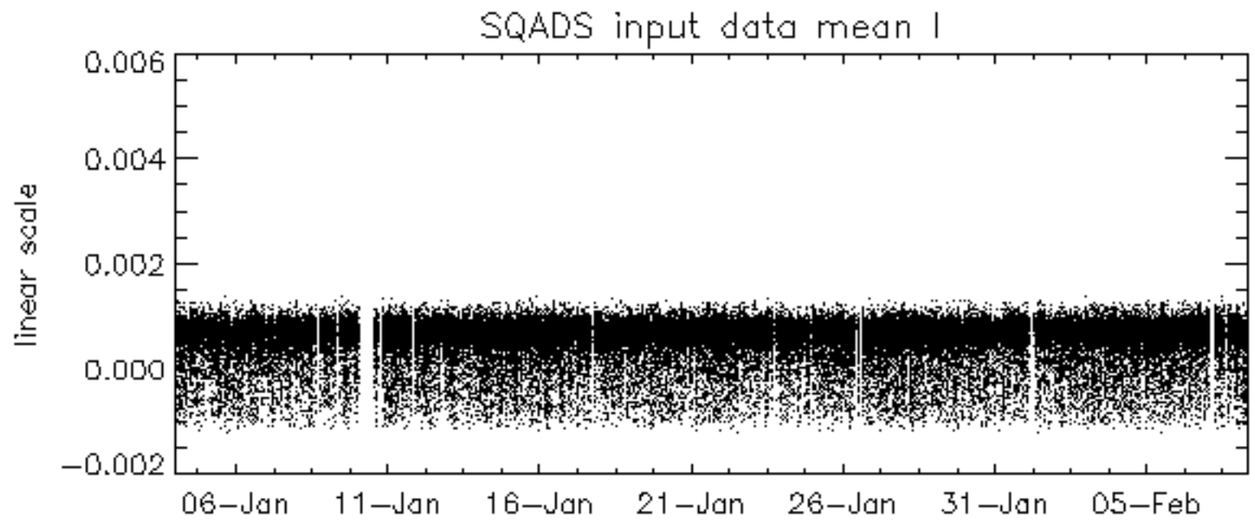
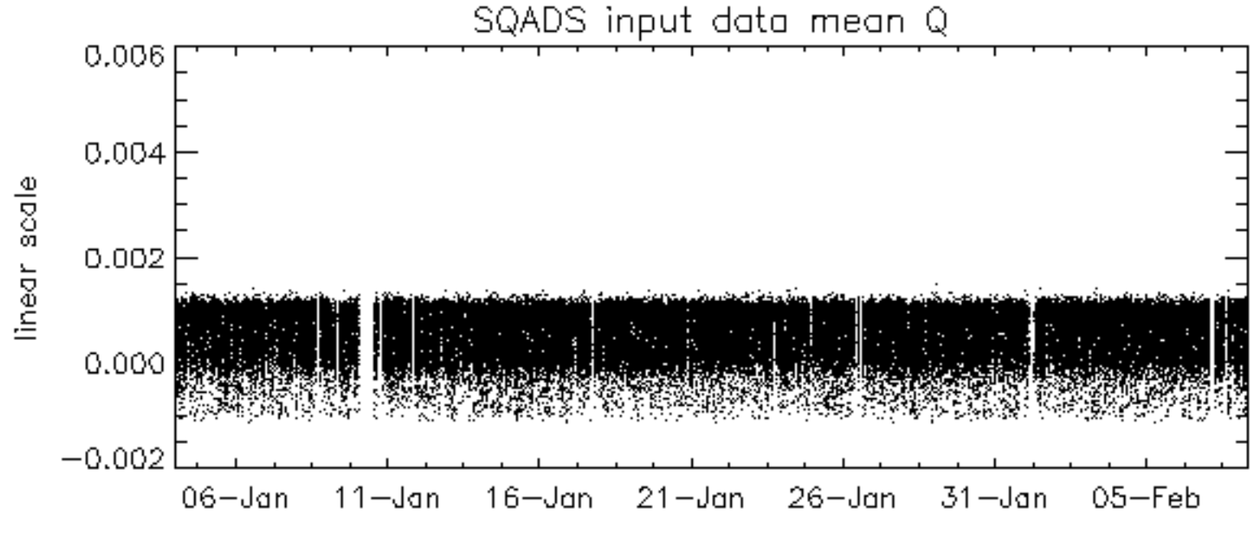
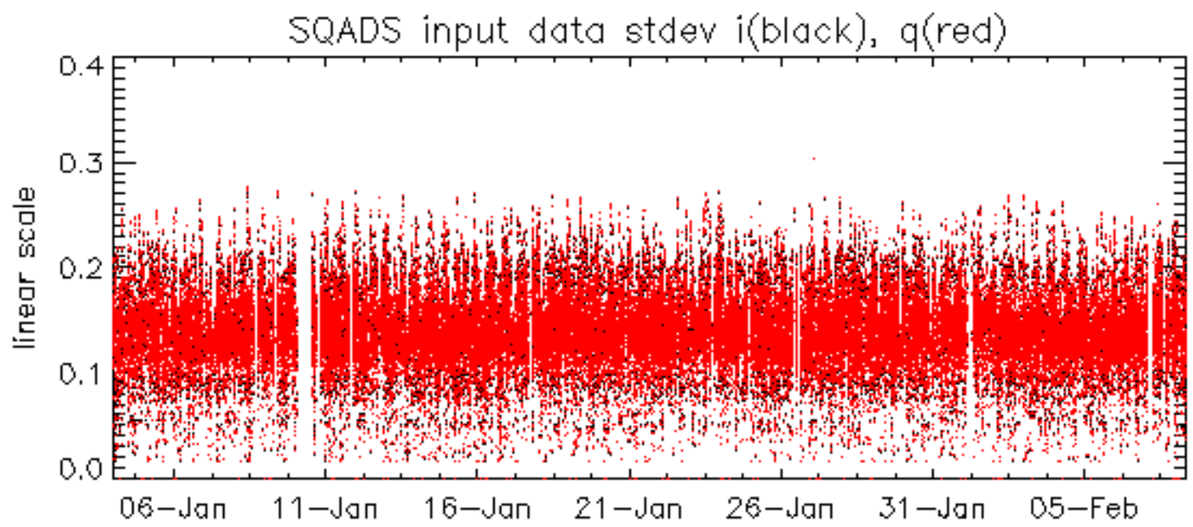
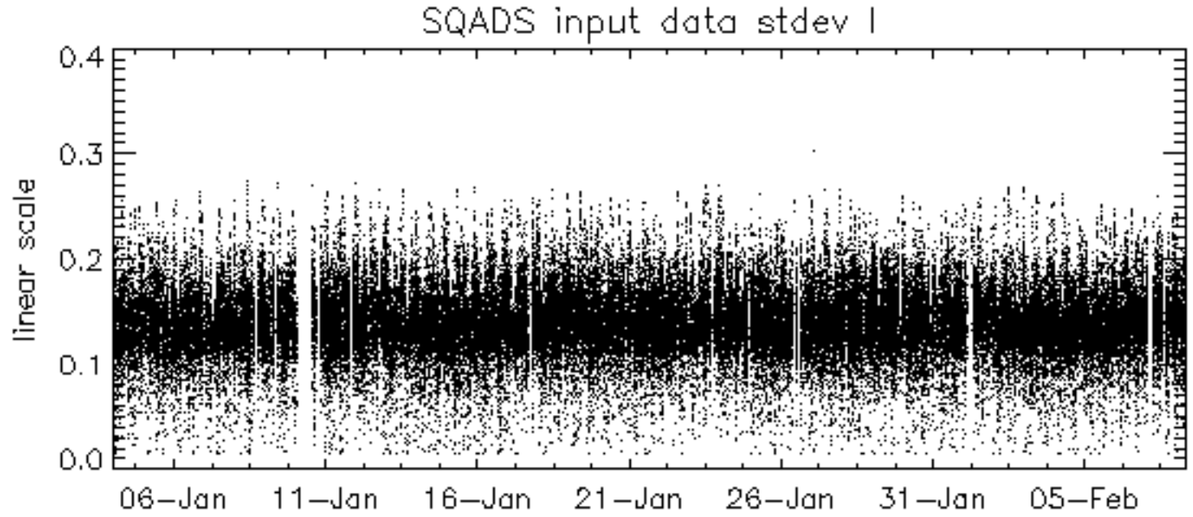

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

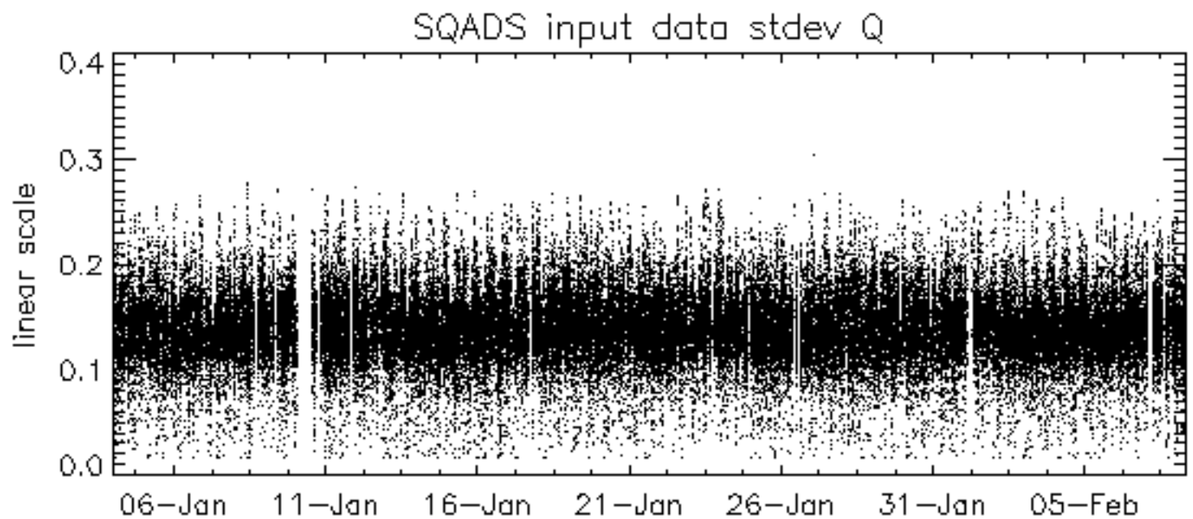

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Jan
11−Jan
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb

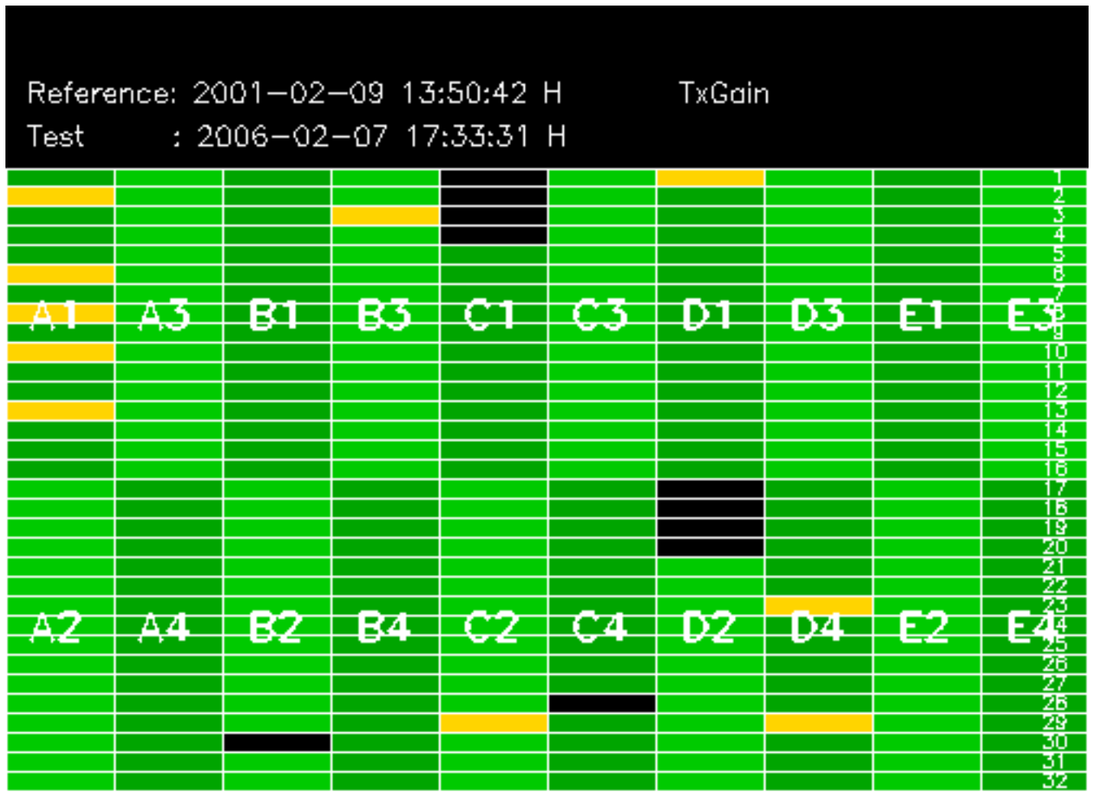

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Jan
11−Jan
16−Jan
21−Jan
26−Jan
31−Jan
05−Feb


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 : 2006-02-07 17:33:31 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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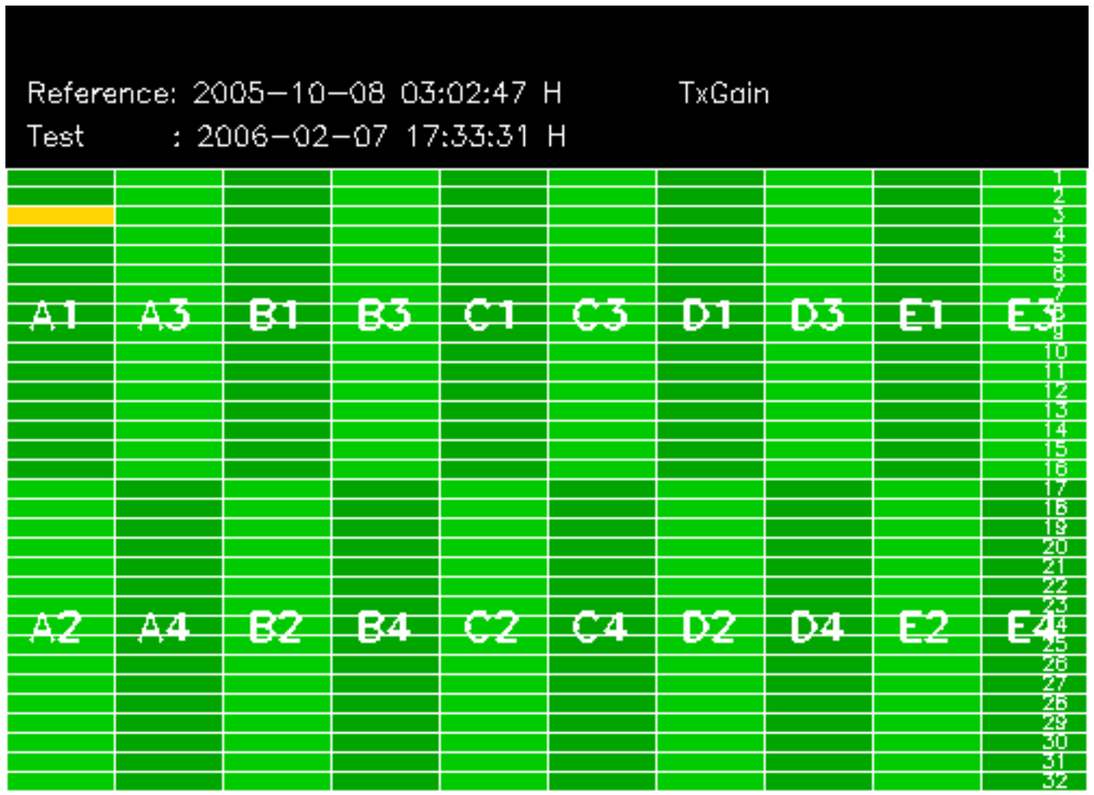
Reference: 2005-10-08 03:02:47 H
Test : 2006-02-07 17:33:31 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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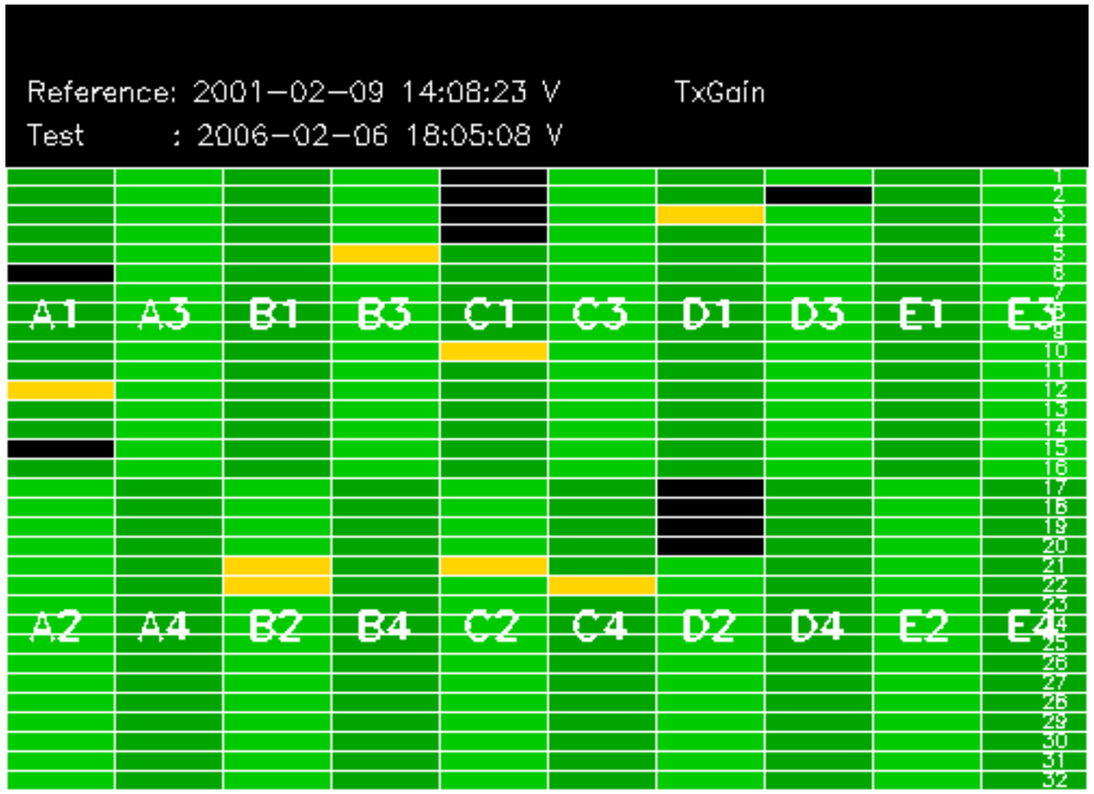
Reference: 2001-02-09 14:08:23 V
Test : 2006-02-06 18:05:08 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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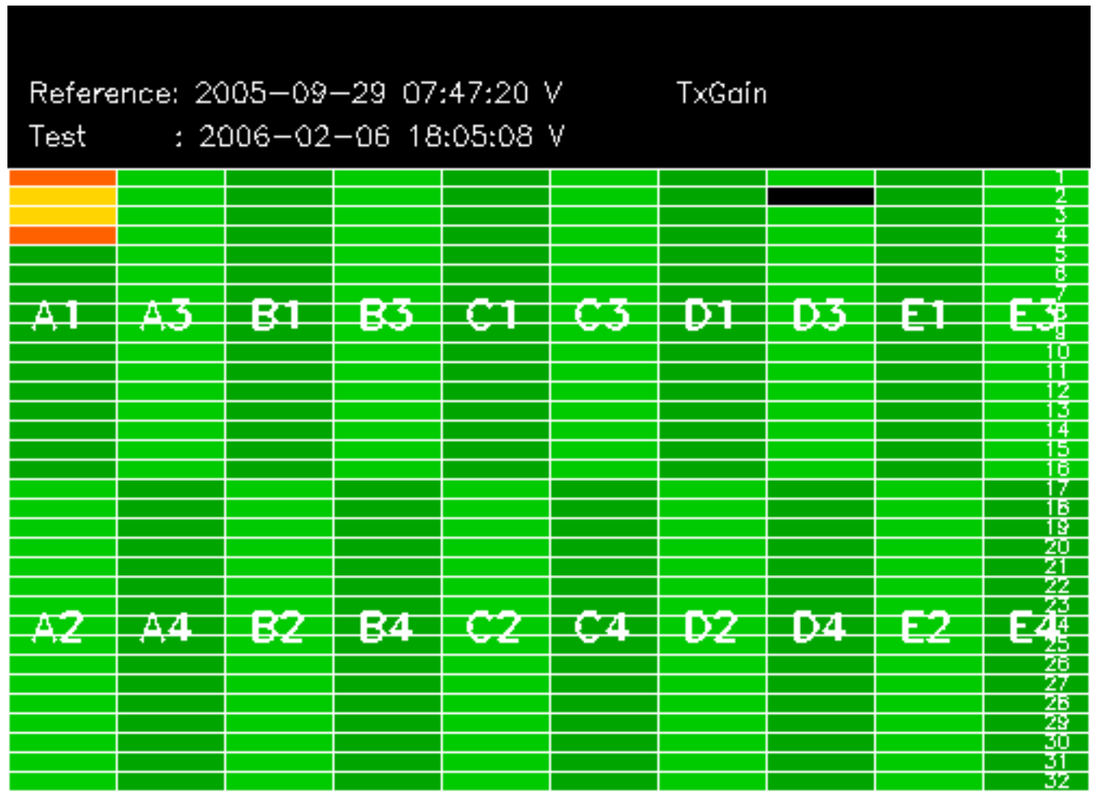
Reference: 2005-09-29 07:47:20 V
Test : 2006-02-06 18:05:08 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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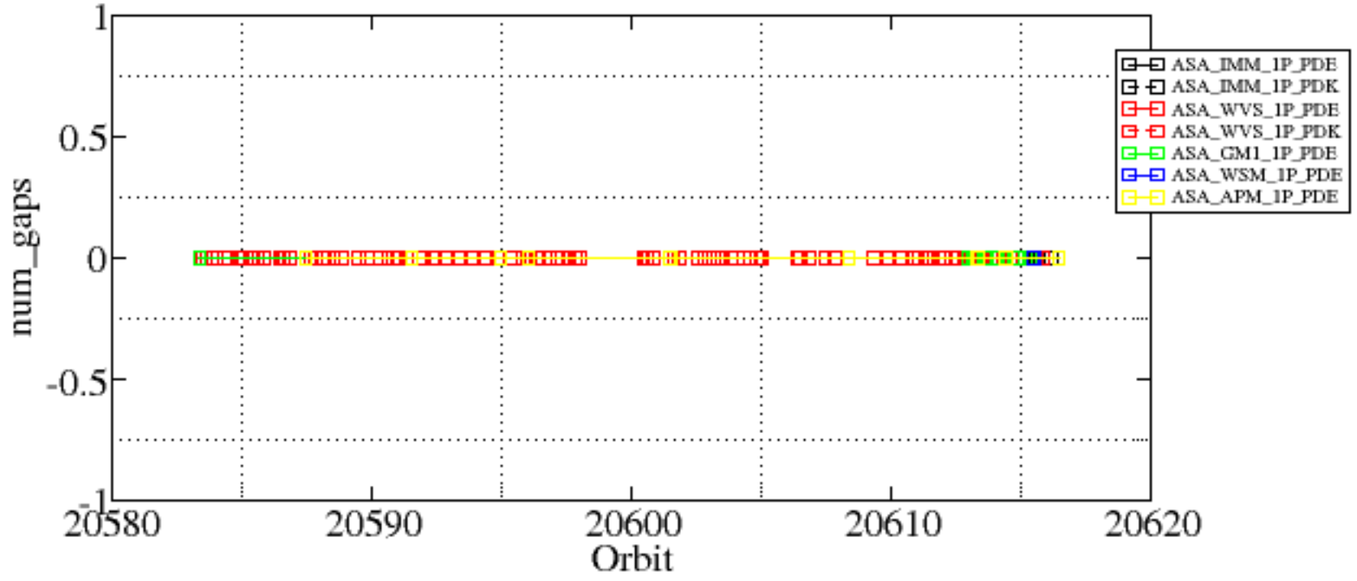
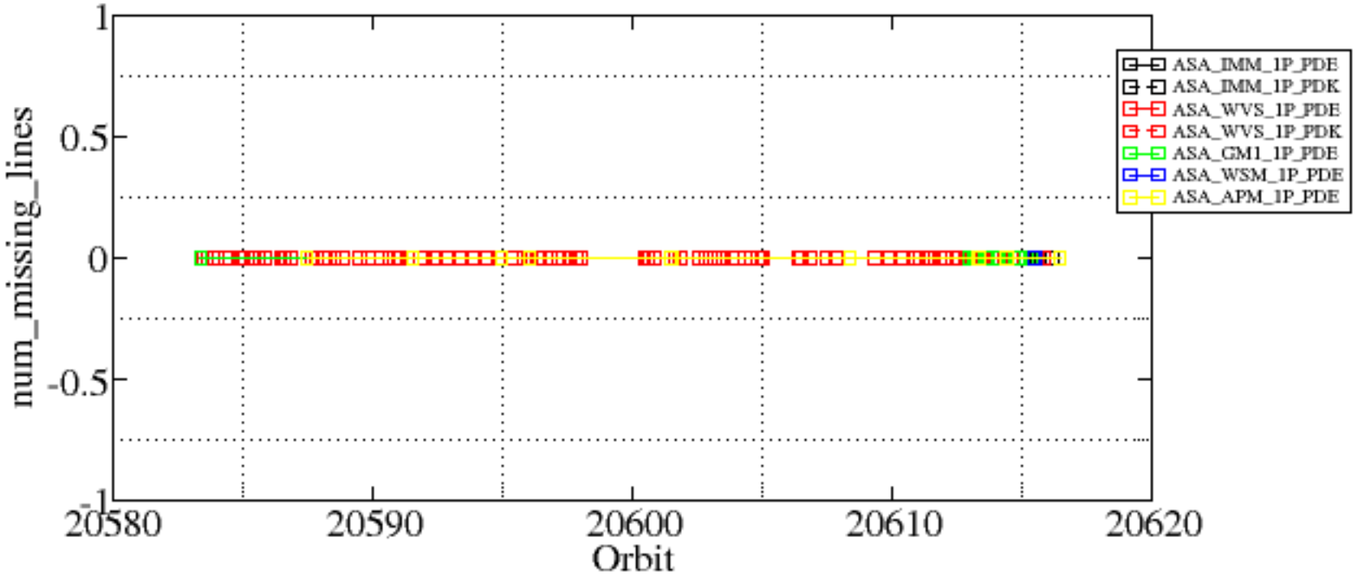
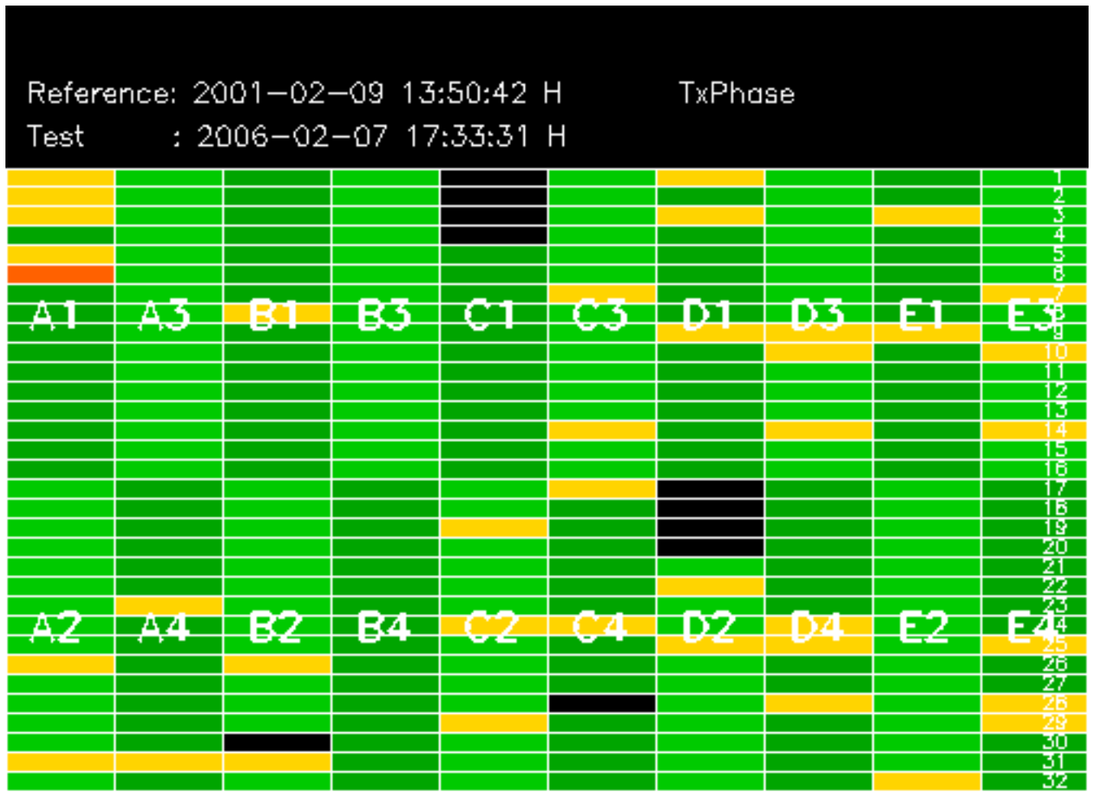
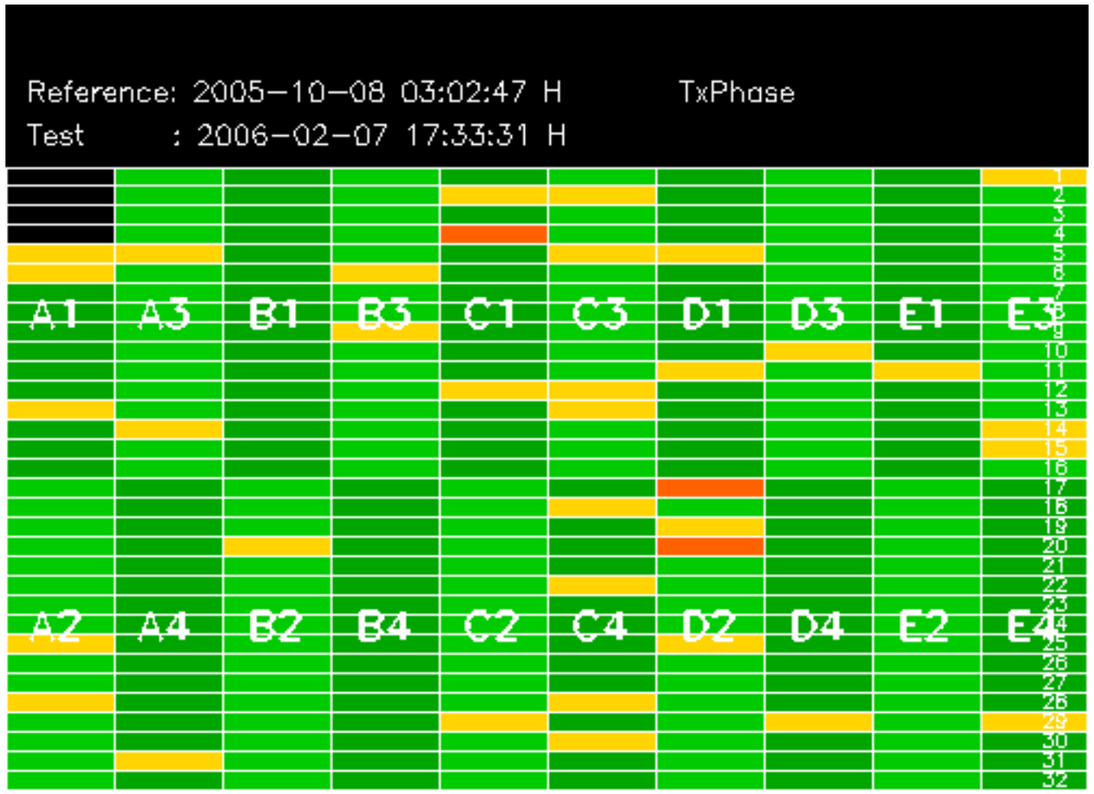
Summary of analysis for the last 3 days 2006020[678]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
20580
20590
20600
20610
20620
Orbit
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_APM_1P_PDE


num_missing_lines
1
0.5
0
-0.5
-1
20580
20590
20600
20610
20620
Orbit
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_APM_1P_PDE


Reference: 2001-02-09 13:50:42 H
Test : 2006-02-07 17:33:31 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 : 2006-02-07 17:33:31 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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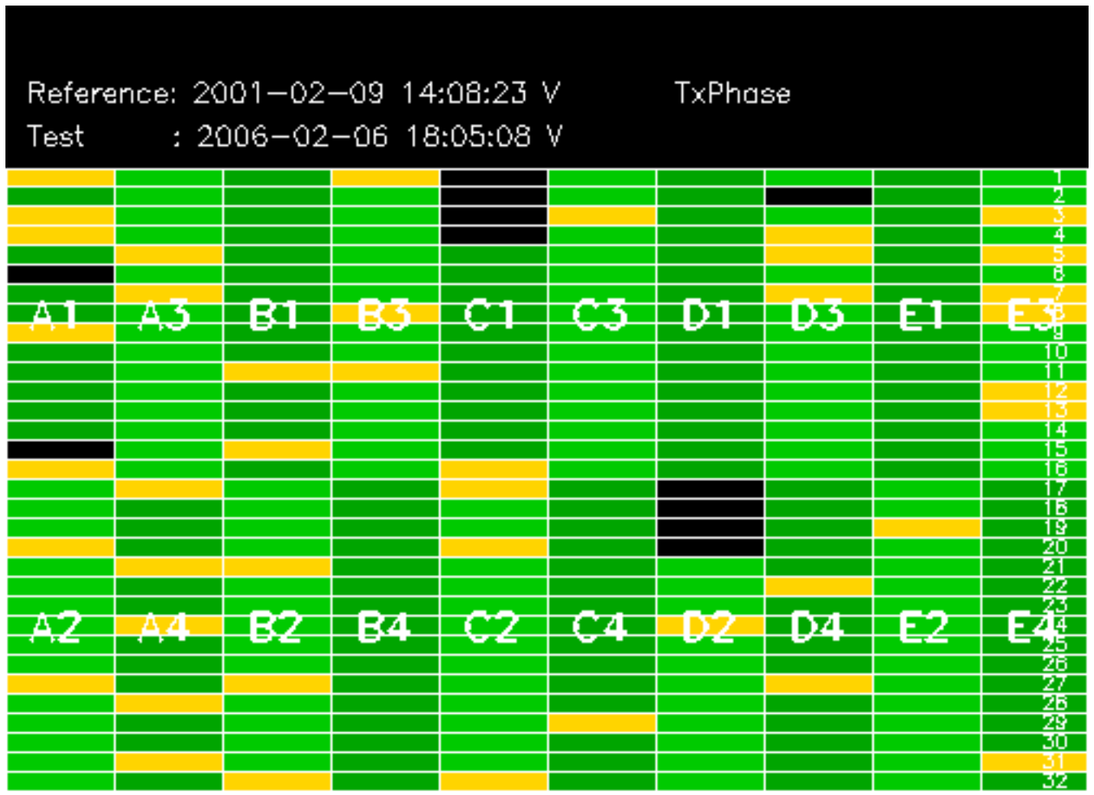
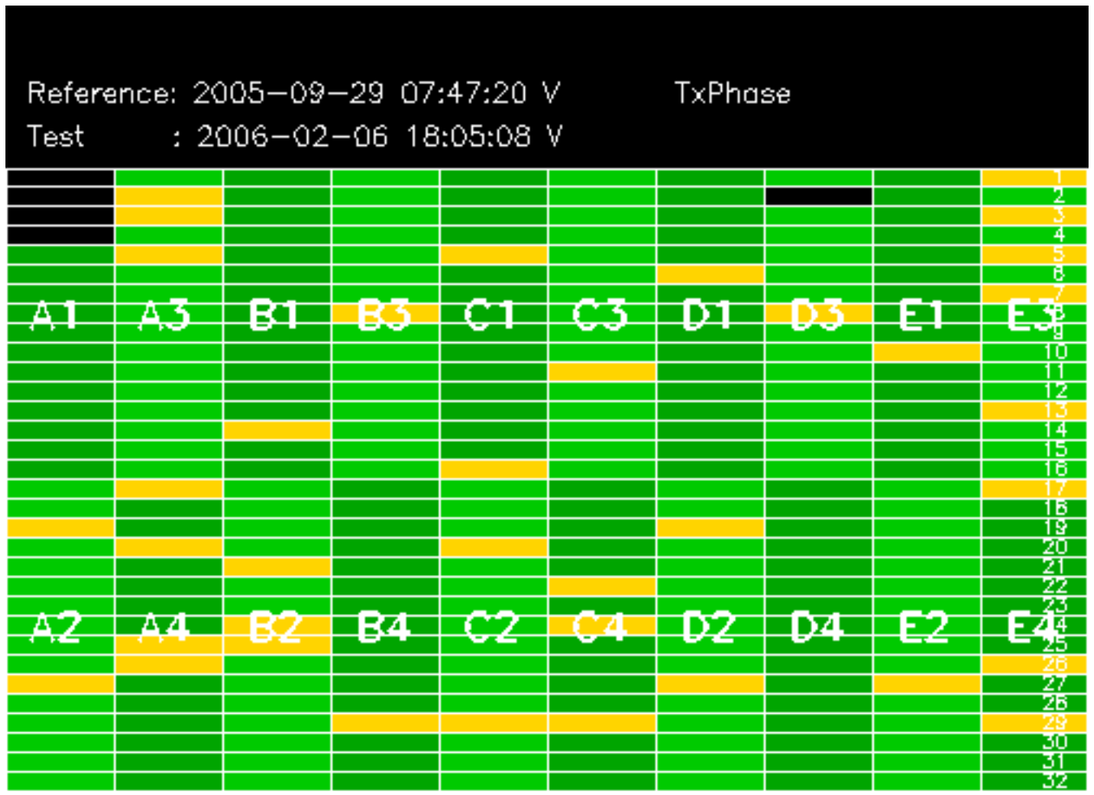

Reference: 2001-02-09 14:08:23 V
Test : 2006-02-06 18:05:08 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-02-06 18:05:08 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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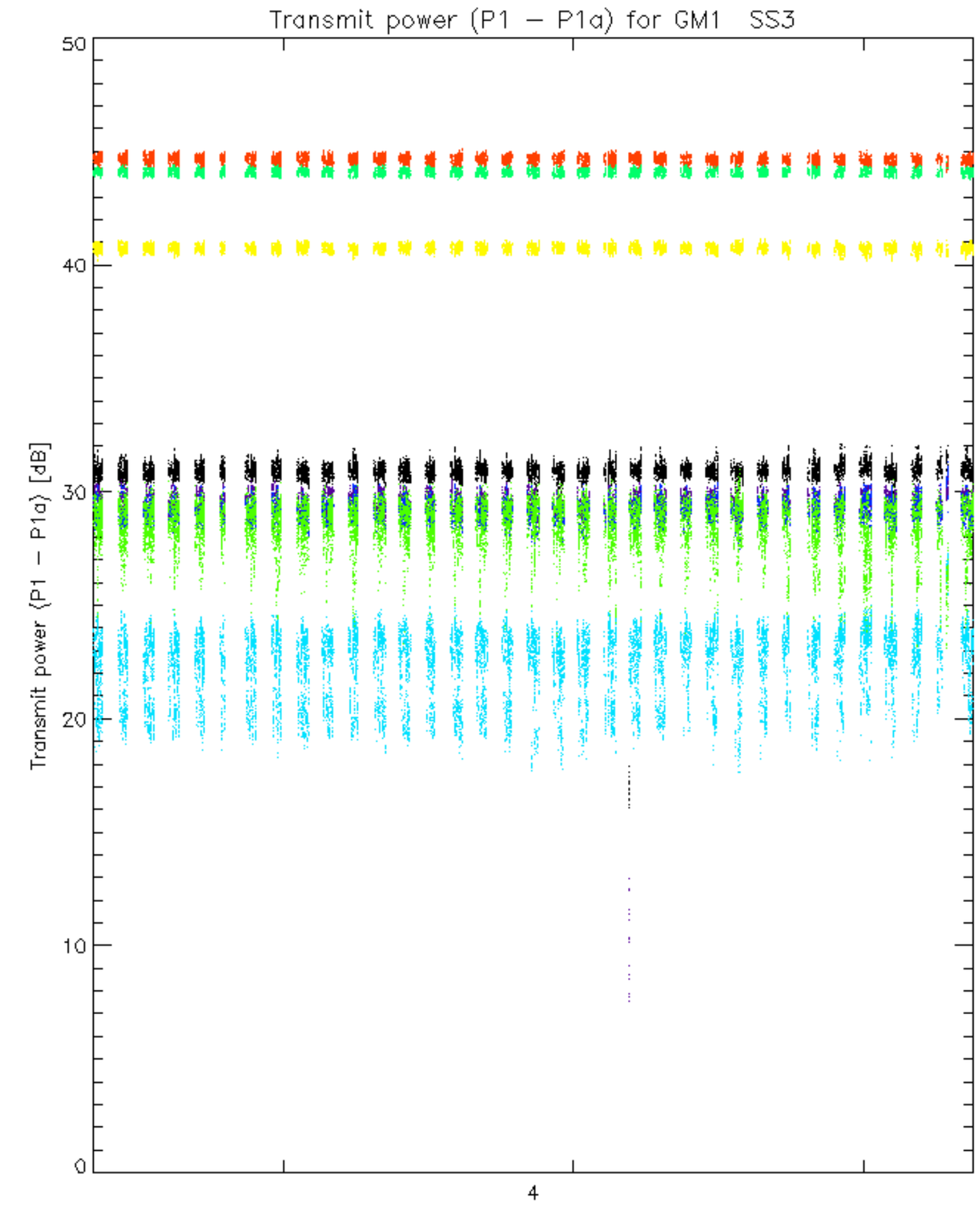
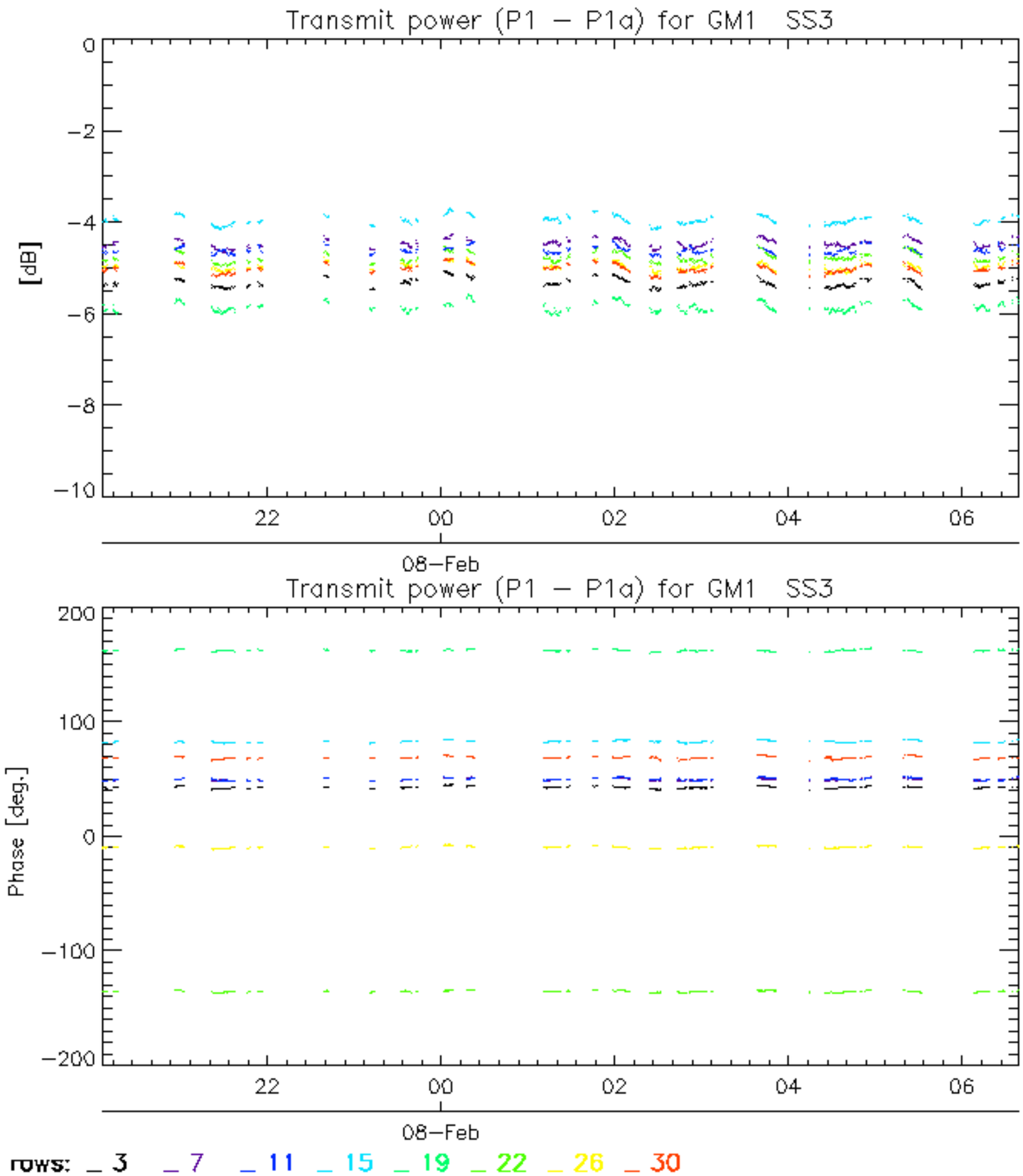
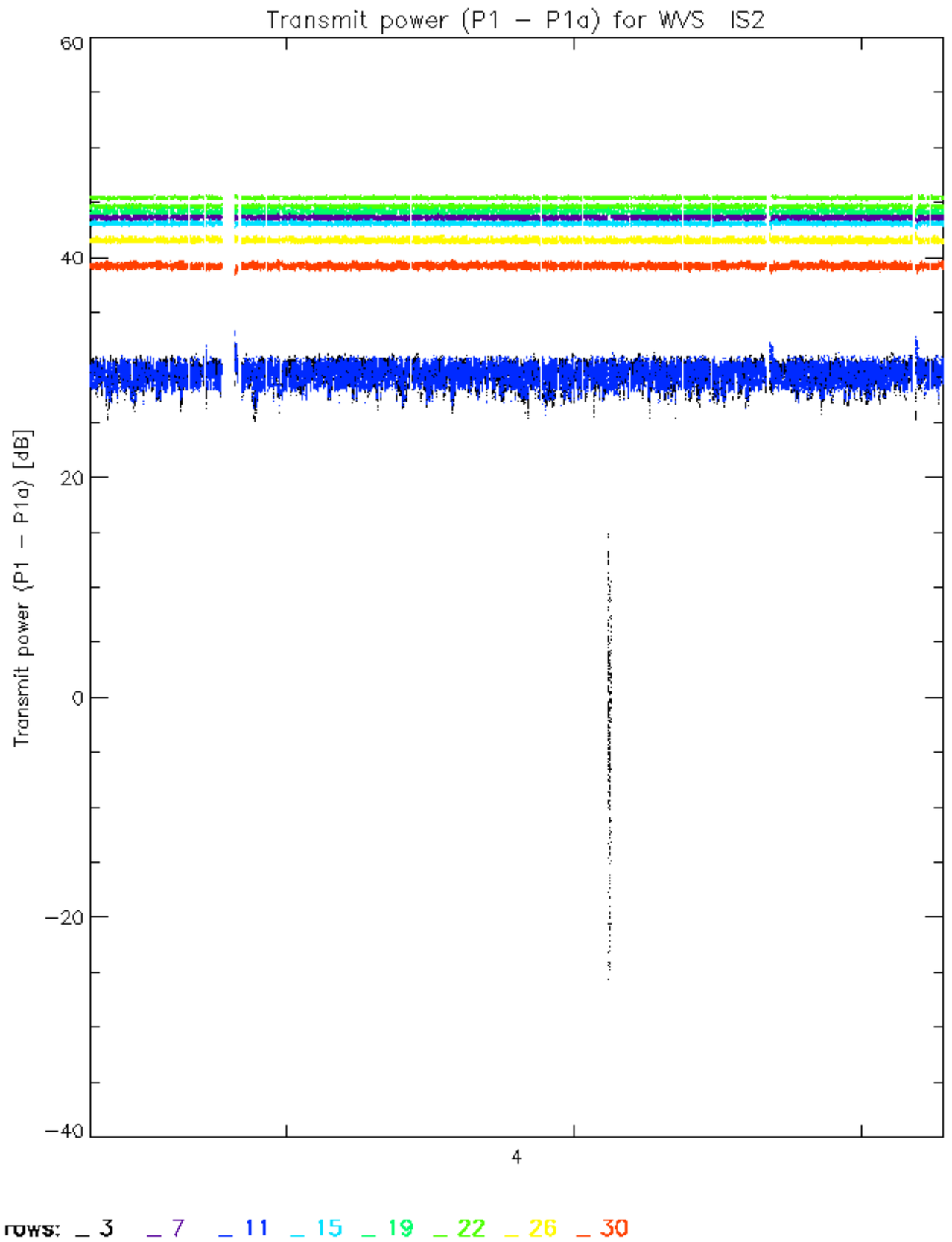
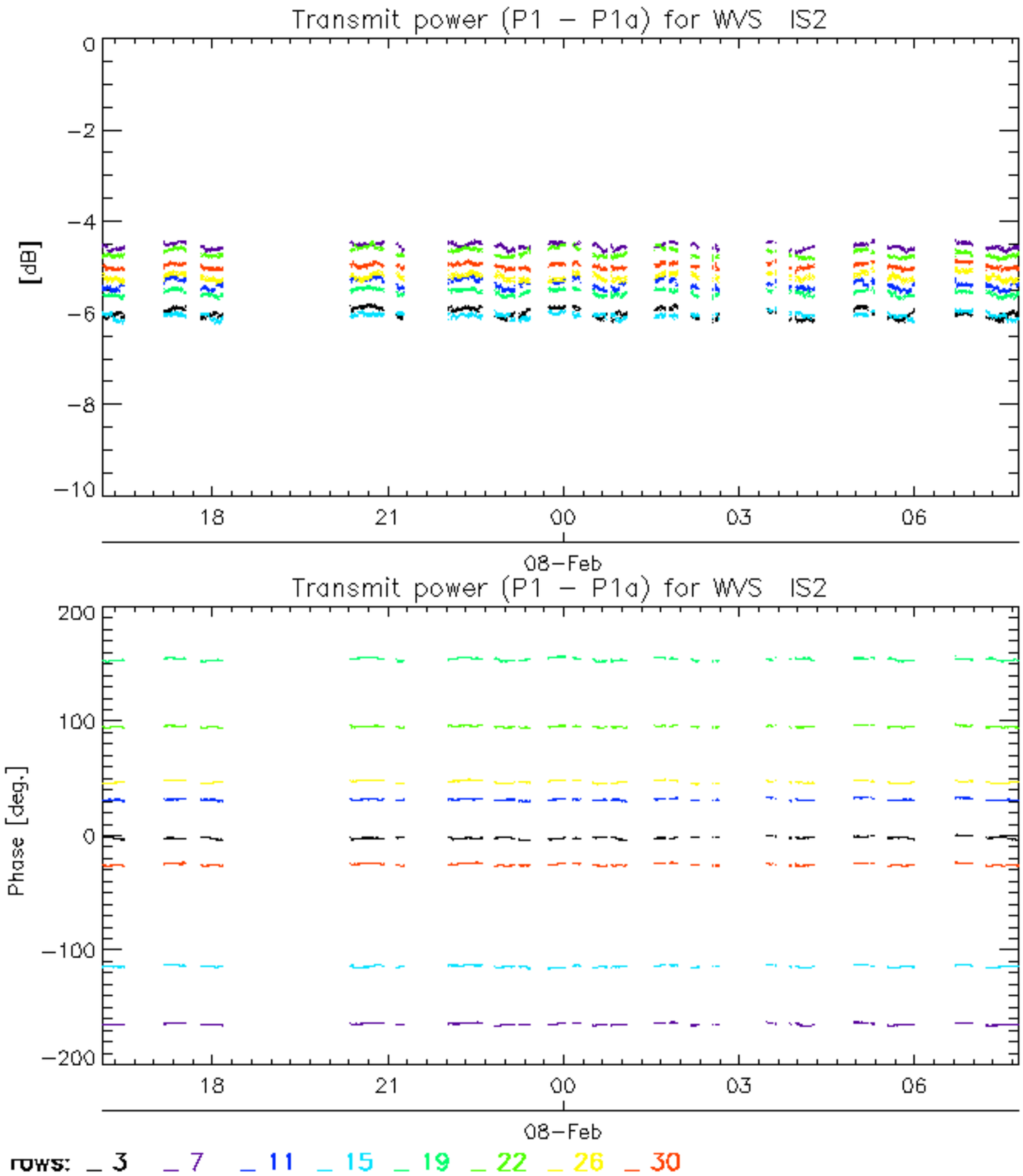

Transmit power (P1 – P1a) for GM1 SS3
Transmit power ⟨P1 – P1a⟩ [dB]
50
40
30
20
10
0
4
rows: 3 7 11 15 19 22 26 30


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


Transmit power (P1 – P1a) for WVS IS2
Transmit power (P1 – P1a) [dB]
60
40
20
0
−20
−40
4
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
08−Feb
Transmit power (P1 − P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
18
21
00
03
06
08−Feb
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.