PRELIMINARY REPORT OF 050424

last update on Sun Apr 24 10:50:01 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 2005-04-23 00:00:00 to 2005-04-24 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	11	39	4	7	4
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	11	39	4	7	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	11	39	4	7	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	11	39	4	7	4

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	47	57	5	11	5
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	47	57	5	11	5
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	47	57	5	11	5
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	47	57	5	11	5

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	20050422 063532
H	20050421 070709

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
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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
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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	-3.340809	0.013706	-0.022815
7	P1	-3.116762	0.010478	0.017591
11	P1	-4.668138	0.032396	-0.007432
15	P1	-5.597609	0.045857	0.080616
19	P1	-3.706341	0.004059	-0.023812
22	P1	-4.556321	0.012166	-0.082043
26	P1	-4.906425	0.020011	0.054175
30	P1	-7.174144	0.024962	0.088484
3	P1	-15.764703	0.341567	-0.036078
7	P1	-15.522949	0.093136	0.022376
11	P1	-21.125212	0.451583	-0.393770
15	P1	-11.521300	0.056093	0.203147
19	P1	-14.317847	0.029271	0.003749
22	P1	-15.806090	0.320049	-0.306248
26	P1	-17.631693	0.178593	0.054512
30	P1	-17.910210	0.342021	0.200186

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.048452	0.082565	0.022450
7	P2	-22.223675	0.099271	0.020203
11	P2	-14.219427	0.109381	0.157784
15	P2	-7.064816	0.092631	-0.046084
19	P2	-9.647502	0.095520	-0.029526
22	P2	-16.884962	0.097347	0.015605
26	P2	-16.460388	0.095630	-0.049757
30	P2	-18.826559	0.086180	0.003806

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.167420	0.004342	0.004251
7	P3	-8.167420	0.004342	0.004251
11	P3	-8.167418	0.004342	0.004254
15	P3	-8.167418	0.004342	0.004254
19	P3	-8.167418	0.004342	0.004254
22	P3	-8.167418	0.004342	0.004254
26	P3	-8.167418	0.004342	0.004254
30	P3	-8.167419	0.004342	0.004252

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	-2.729916	0.026091	-0.109393
7	P1	-3.006391	0.045316	-0.027947
11	P1	-3.979228	0.026819	-0.035032
15	P1	-3.536943	0.036733	-0.020228
19	P1	-3.619284	0.014134	-0.026960
22	P1	-5.698698	0.044543	0.095831
26	P1	-7.305982	0.025426	-0.031048
30	P1	-6.272593	0.062212	-0.052898
3	P1	-10.711397	0.157734	-0.174042
7	P1	-10.364363	0.176650	-0.189103
11	P1	-12.541124	0.138987	-0.133615
15	P1	-11.684487	0.097734	0.041554
19	P1	-15.601483	0.056513	-0.046809
22	P1	-24.902746	1.597058	-0.699072
26	P1	-15.582400	0.249403	-0.203345
30	P1	-20.173014	1.247195	0.057769

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.749382	0.038343	0.008138
7	P2	-22.303185	0.045735	0.044641
11	P2	-10.076972	0.058318	0.048250
15	P2	-5.033512	0.034798	-0.098396
19	P2	-6.866867	0.050425	-0.079223
22	P2	-7.085809	0.037655	-0.031351
26	P2	-23.878557	0.037072	-0.083576
30	P2	-21.908182	0.042506	-0.065073

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.002984	0.003509	-0.007459
7	P3	-8.003160	0.003496	-0.007288
11	P3	-8.002974	0.003501	-0.007260
15	P3	-8.003163	0.003509	-0.007900
19	P3	-8.003124	0.003498	-0.007653
22	P3	-8.003086	0.003487	-0.007438
26	P3	-8.003104	0.003499	-0.007413
30	P3	-8.003026	0.003500	-0.007324

4.3 - cal pulses monitoring (all rows)

4.3.1 - Evolution for WVS

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4.3.2 - Evolution for GM1

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5 - RAW data statistics

No anomalies observed.

5.1 - Input mean I/Q

channel	stat	DSS-B
MEAN I	mean	0.000479858
	stdev	2.16007e-07
MEAN Q	mean	0.000493668
	stdev	2.33718e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129460
	stdev	0.00104330
STDEV Q	mean	0.129723
	stdev	0.00105502

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005042[234]
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_WVS_1PNPDE20050423_055635_000000002036_00363_16449_8523.N1	1	0
ASA_WSM_1PNPDE20050422_020205_000001102036_00346_16432_8152.N1	0	1
ASA_WSM_1PNPDK20050423_103054_000000672036_00366_16452_1268.N1	0	31

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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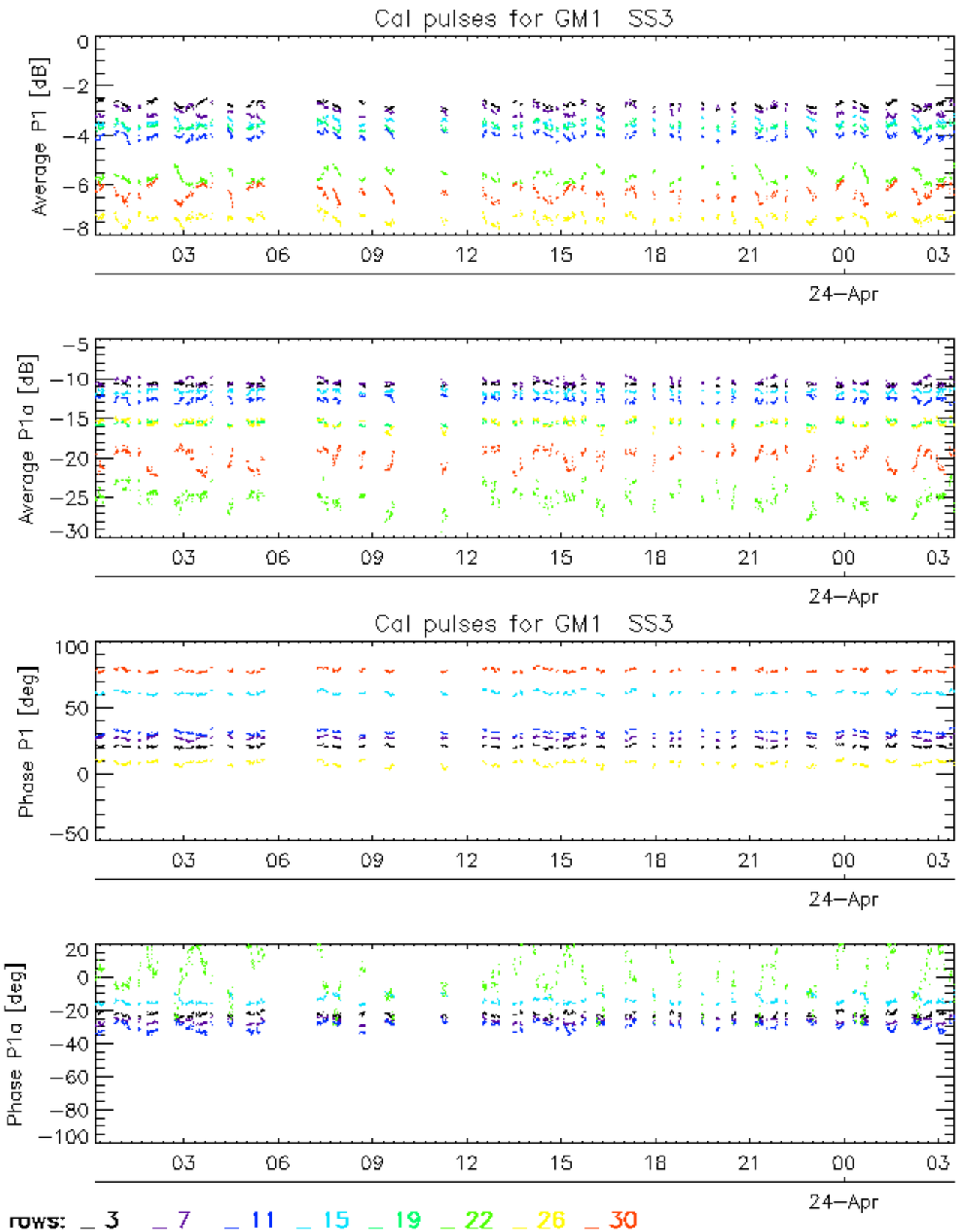
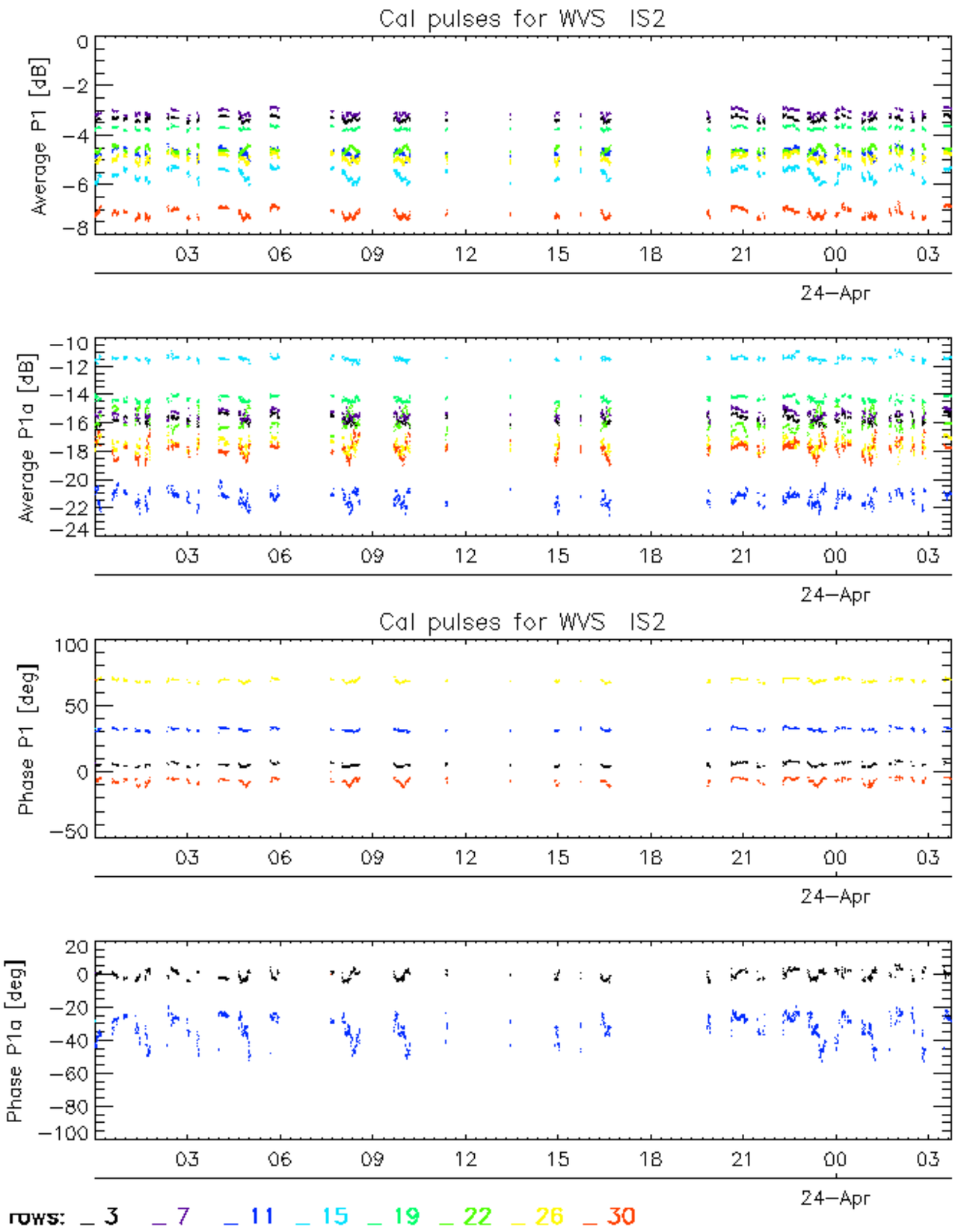
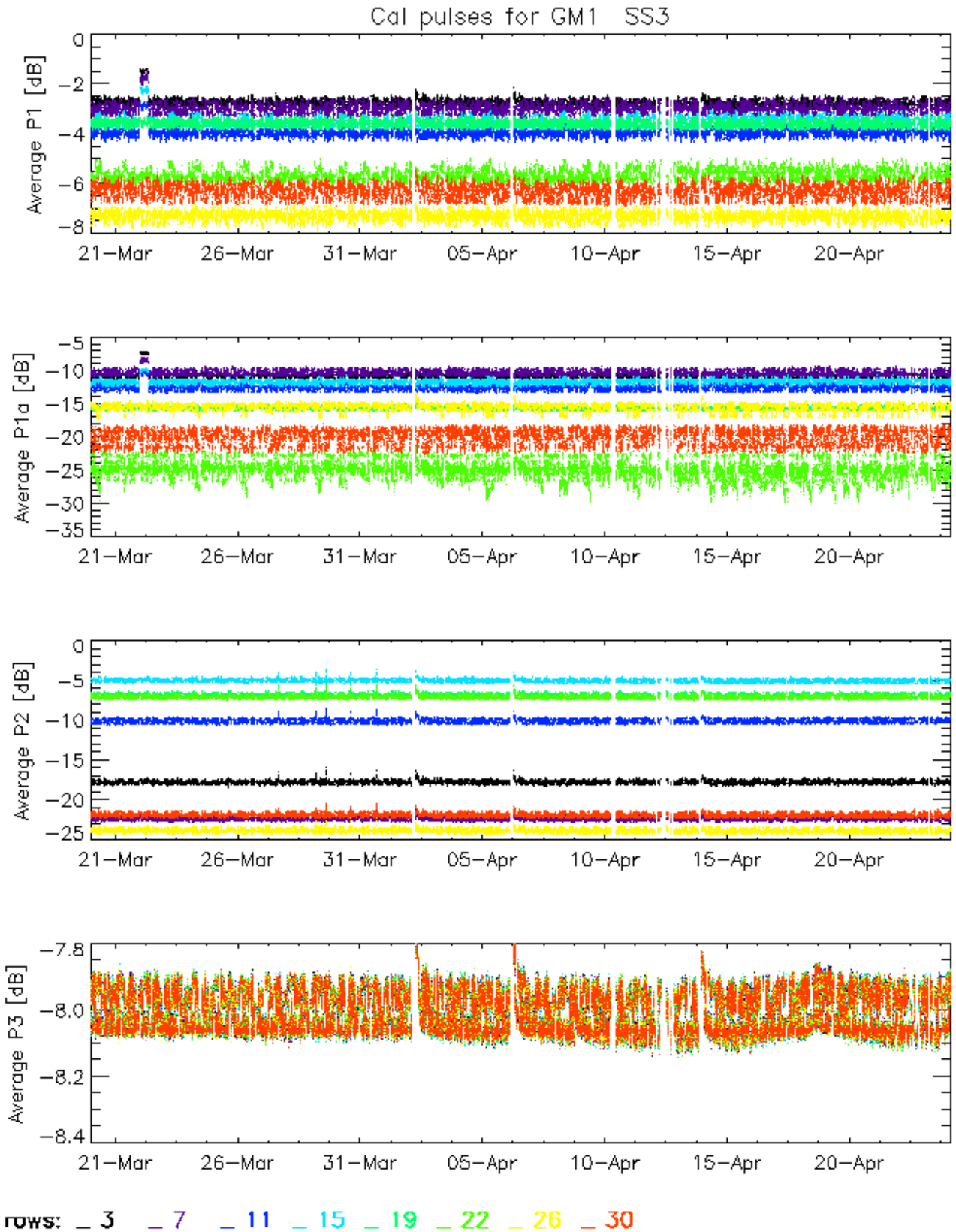
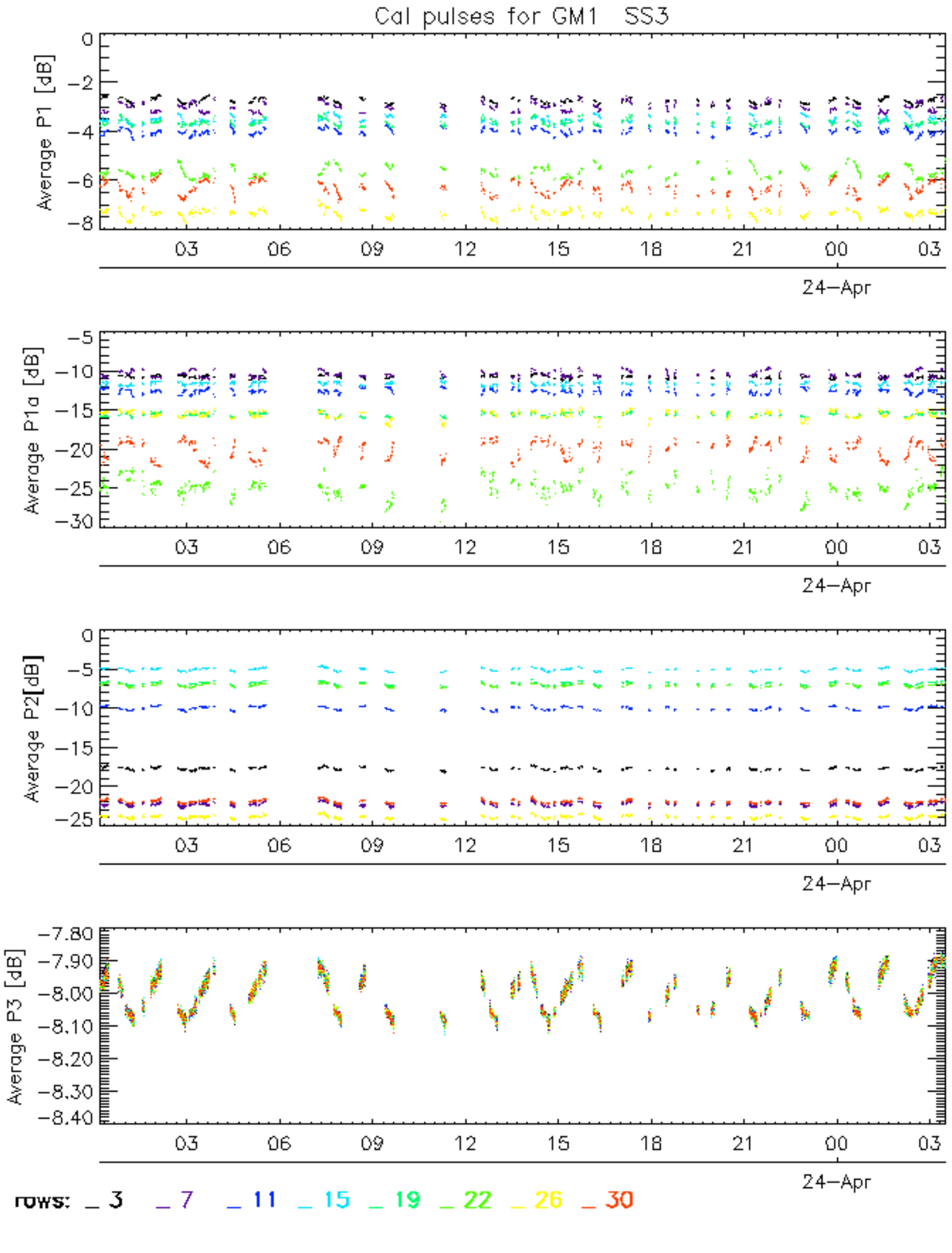
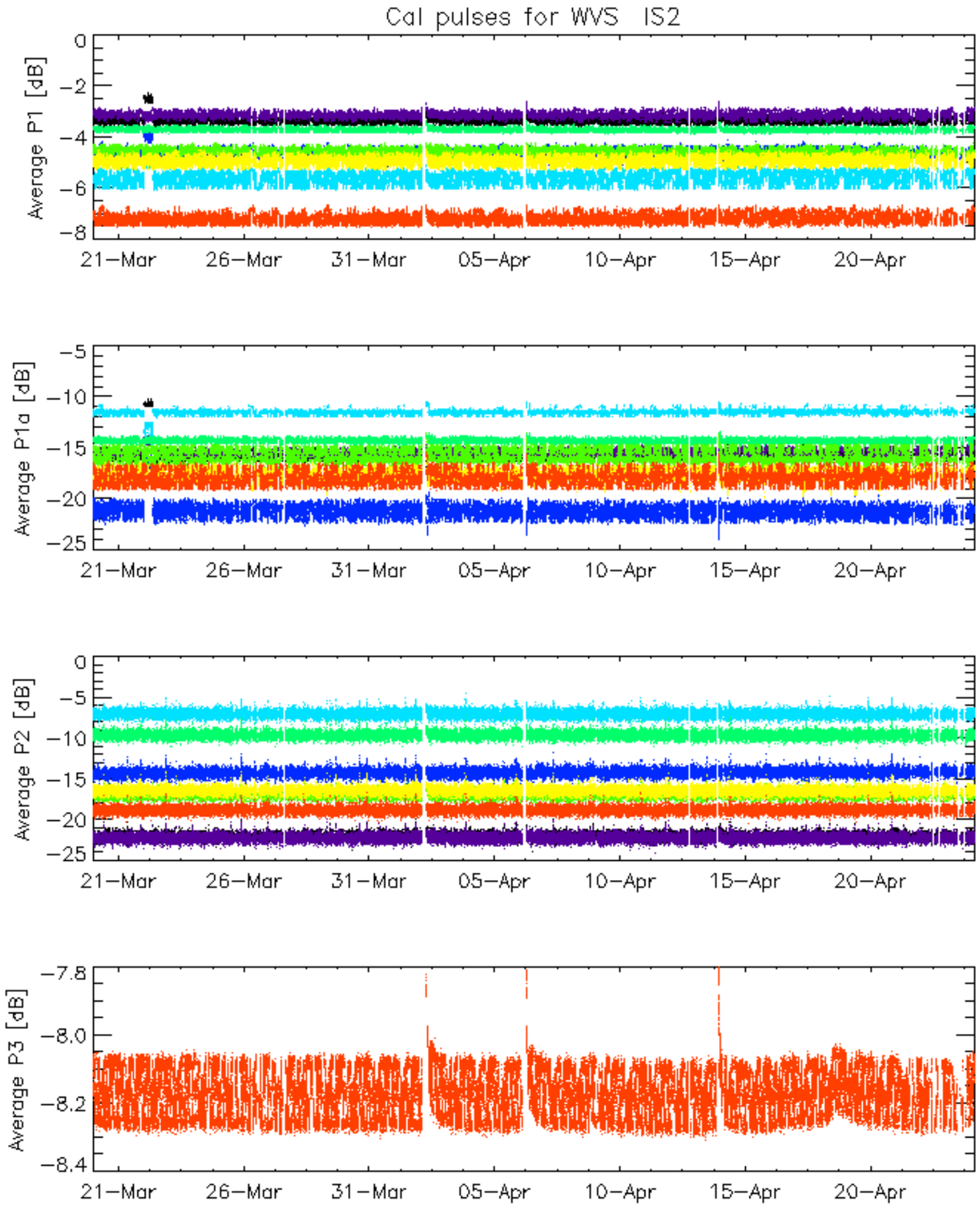
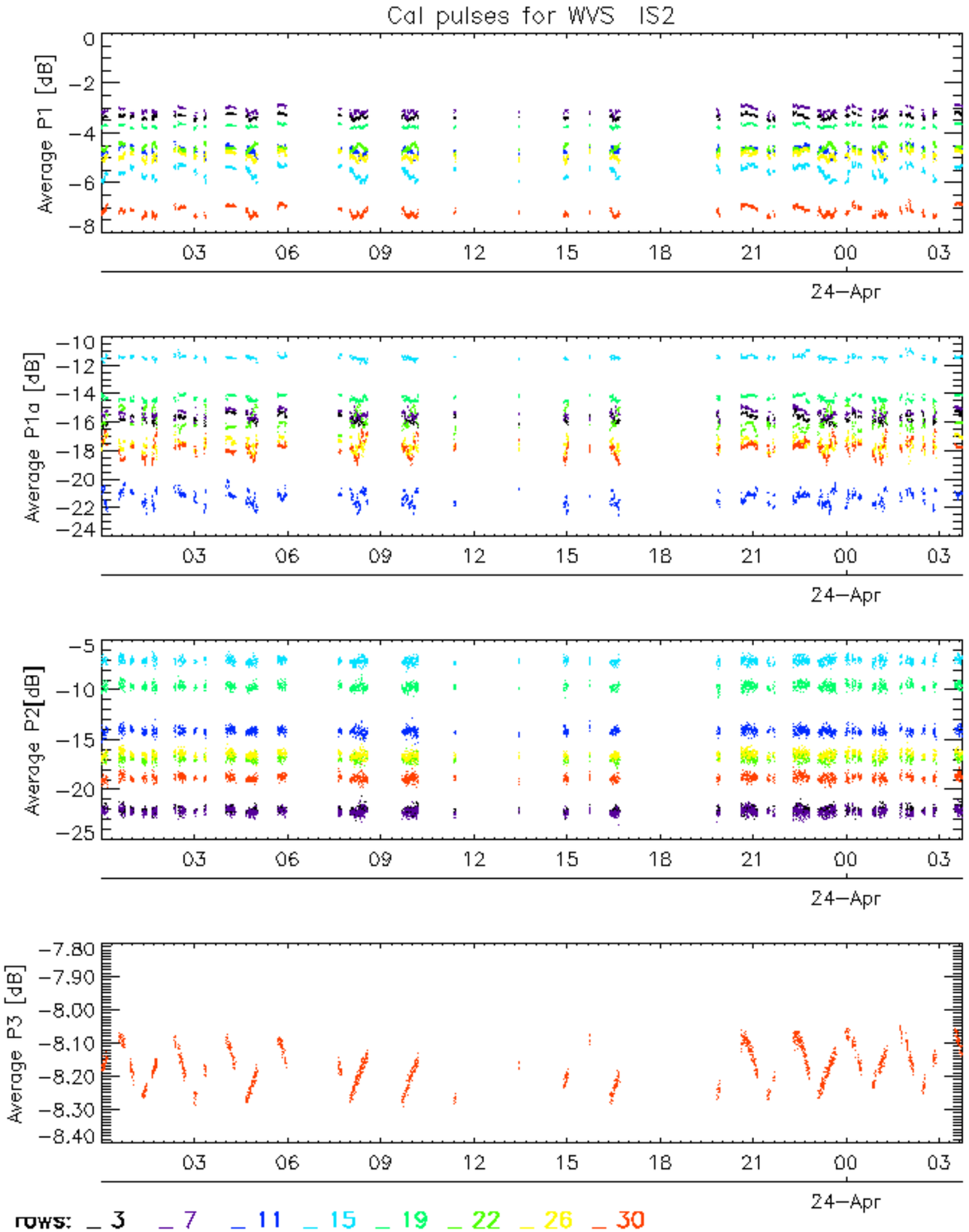

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
24−Apr
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
24−Apr
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
Cal pulses for WVS IS2
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30

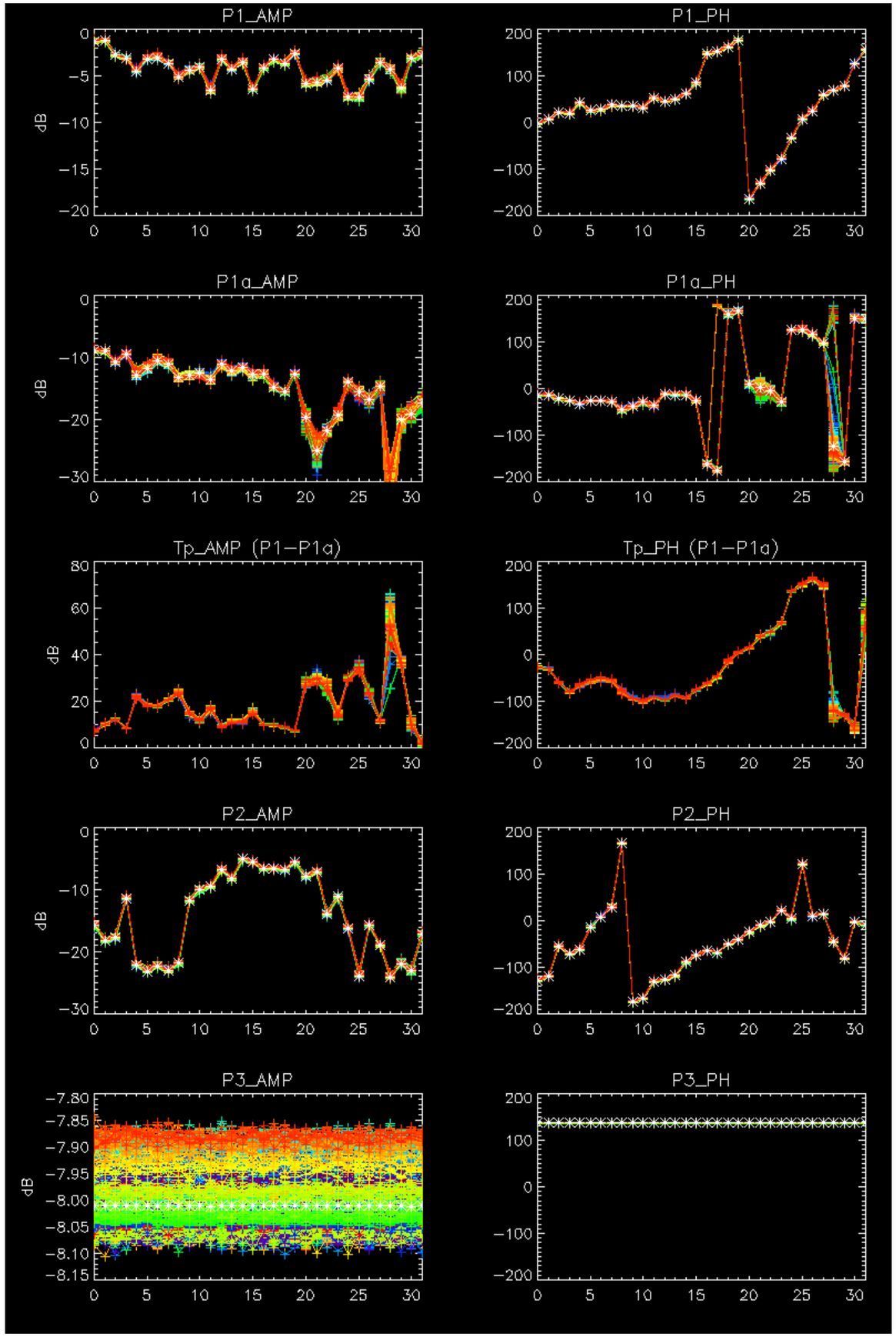

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
21−Mar
26−Mar
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

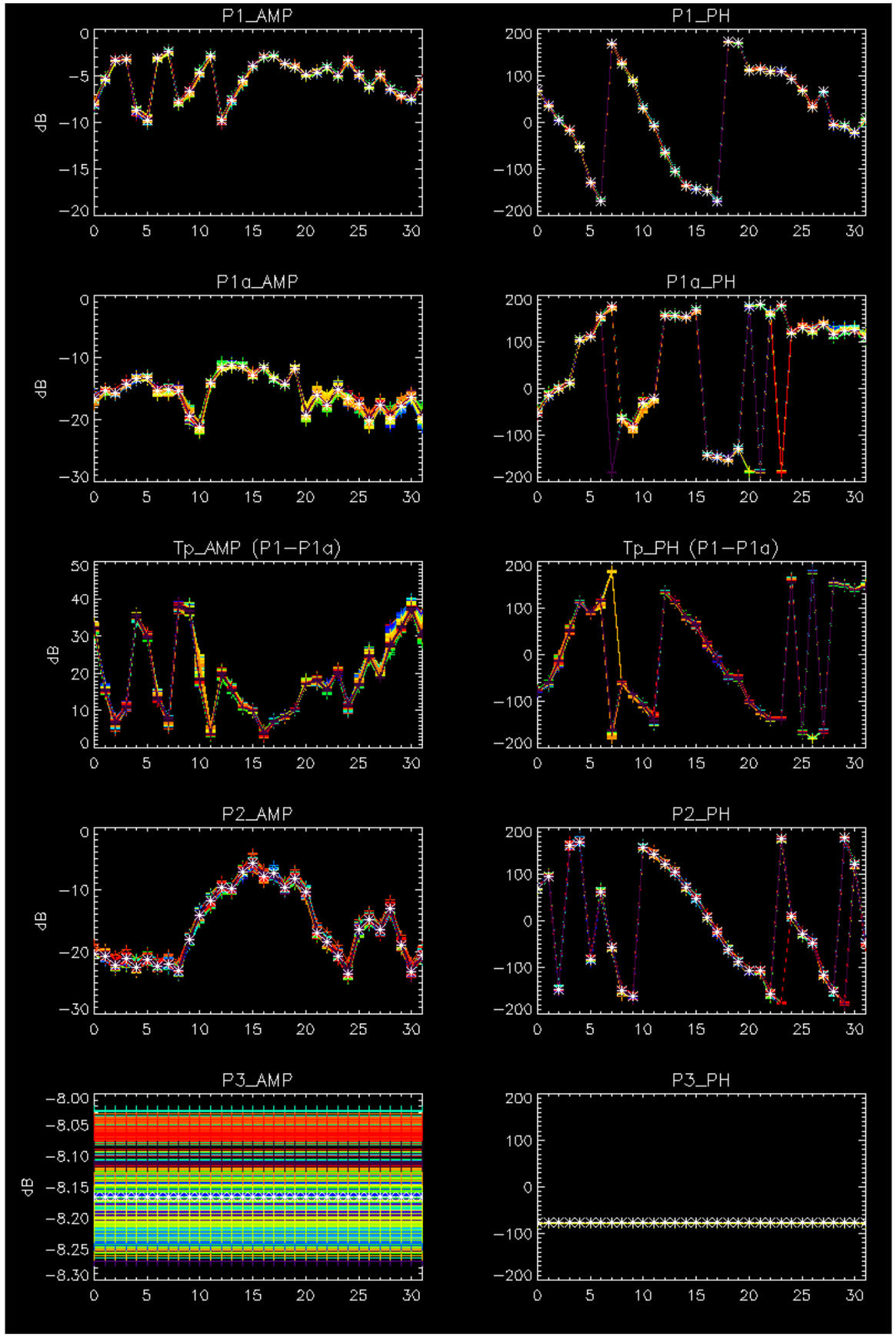

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
24−Apr
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
21−Mar
26−Mar
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
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]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
24−Apr
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
Average P2[dB]
−5
−10
−15
−20
−25
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

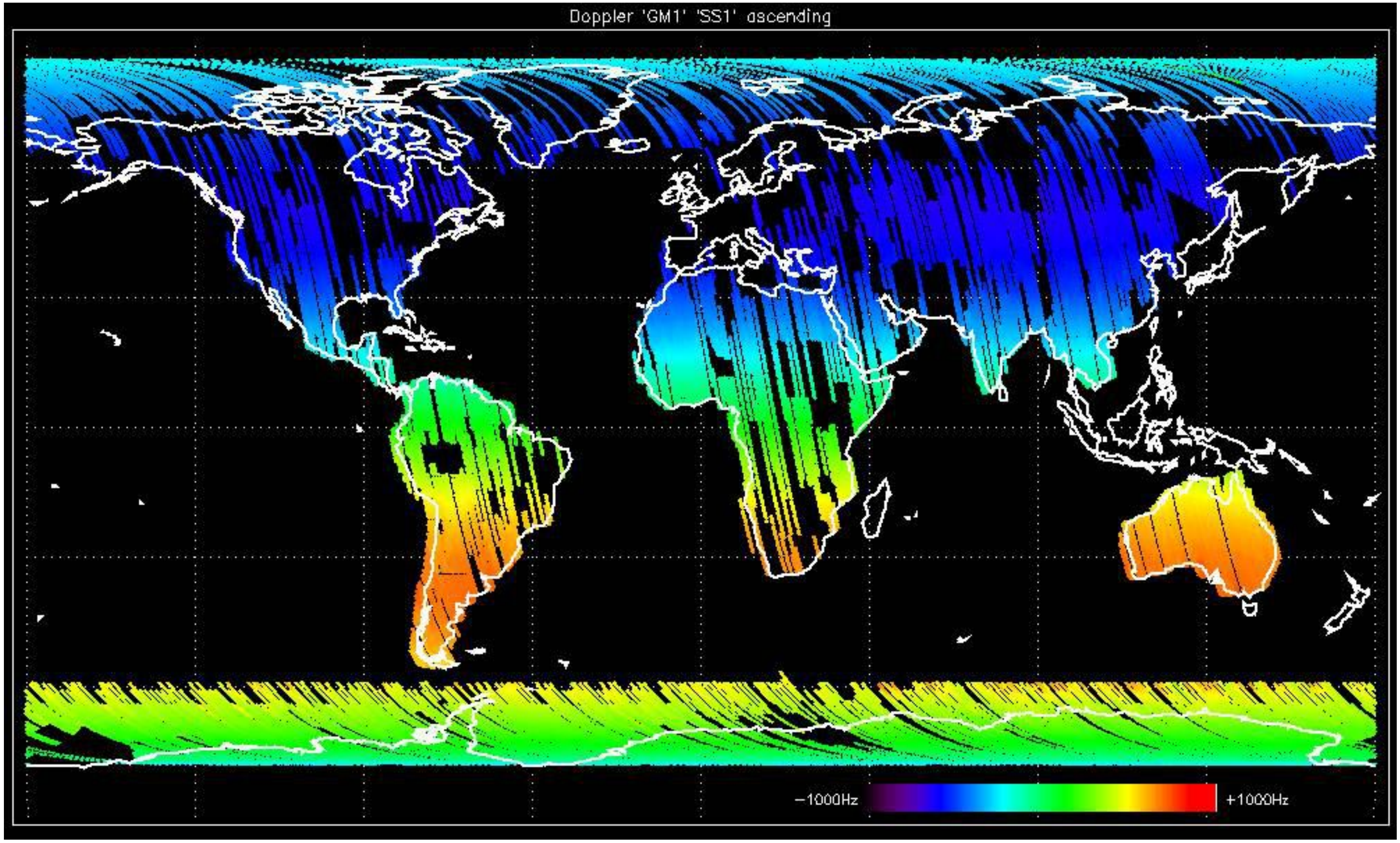
No anomalies observed.

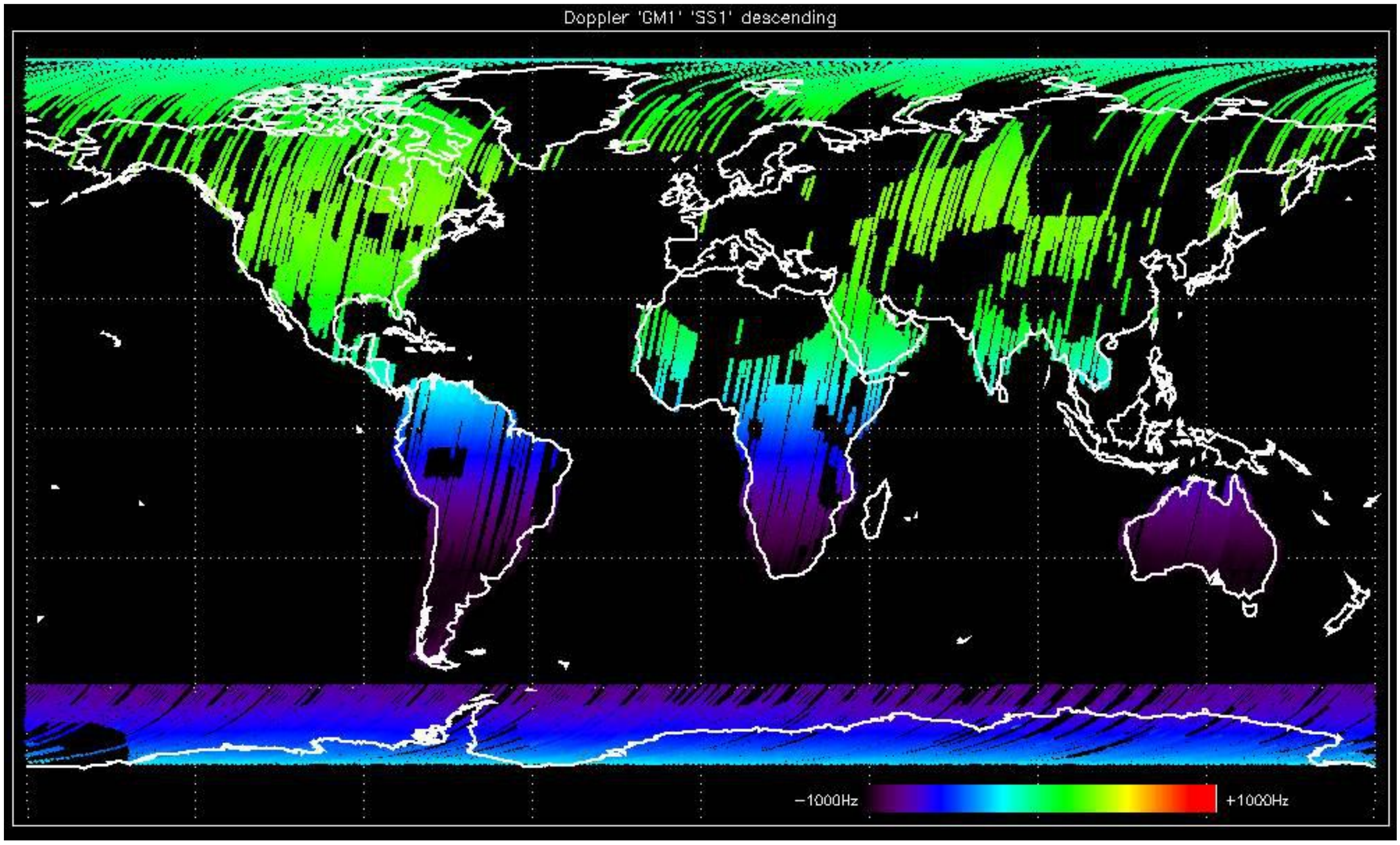

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

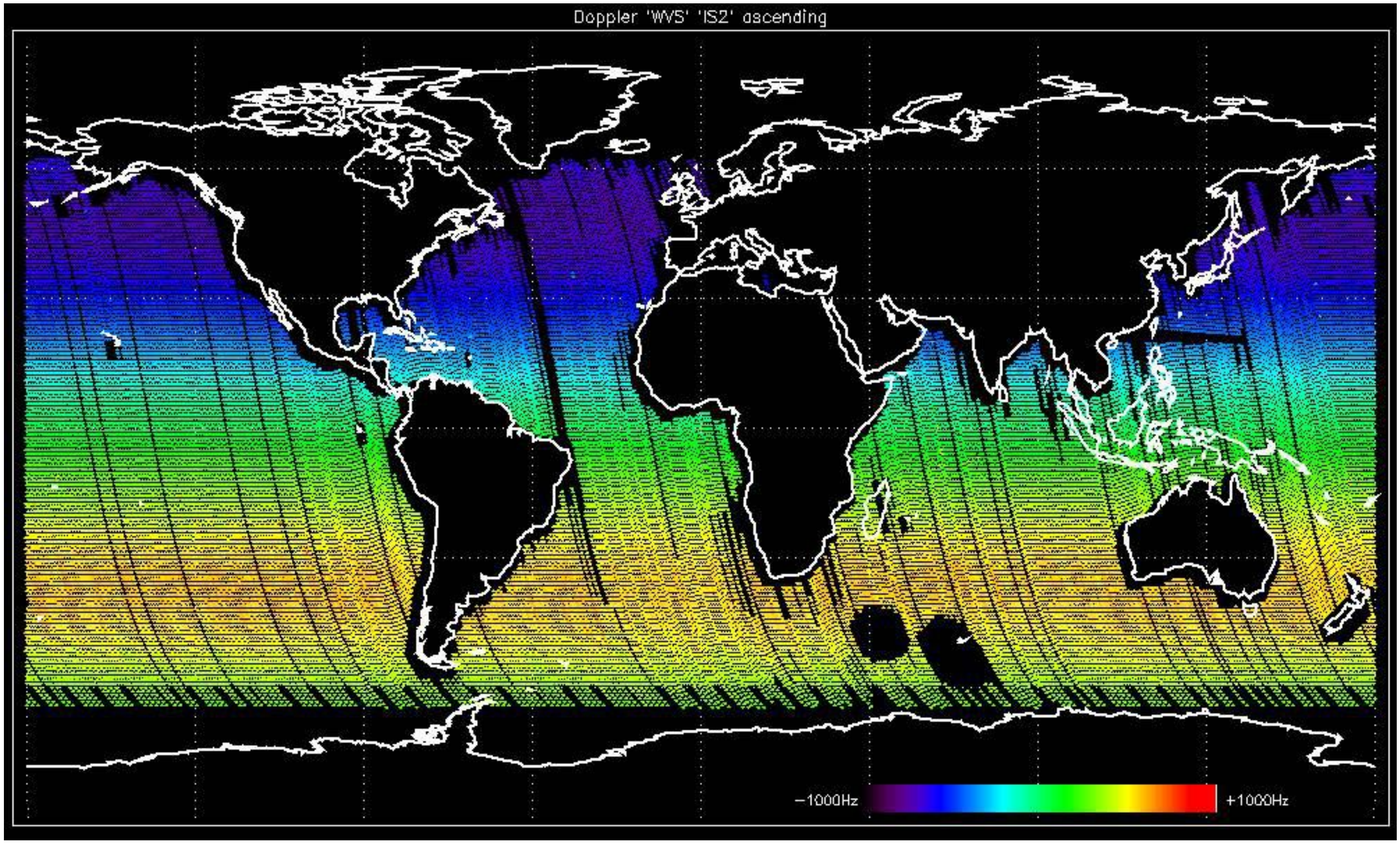

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

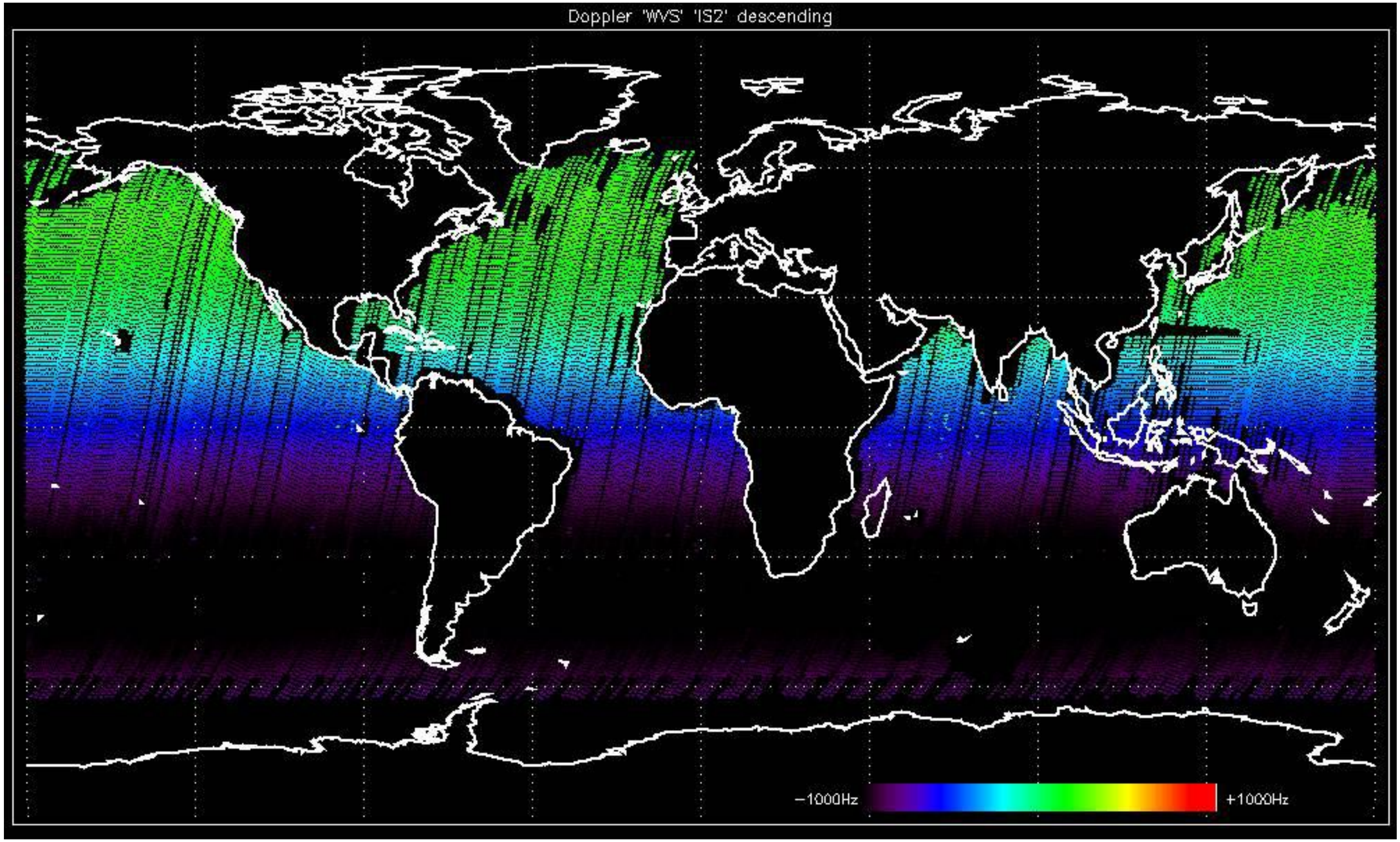
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

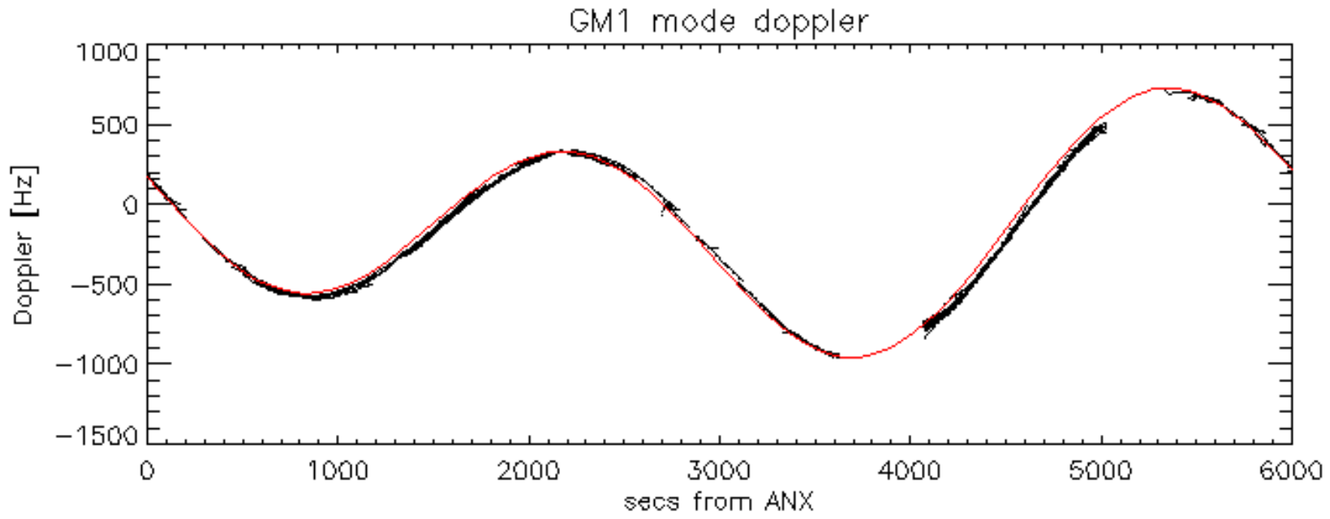
Preliminary report.The data is not yet controled

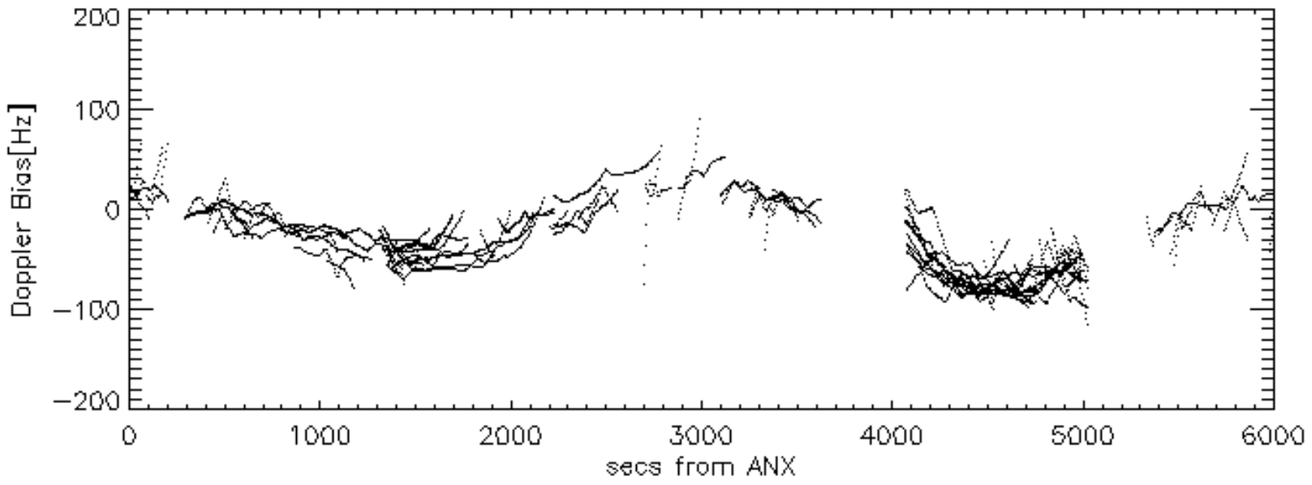

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

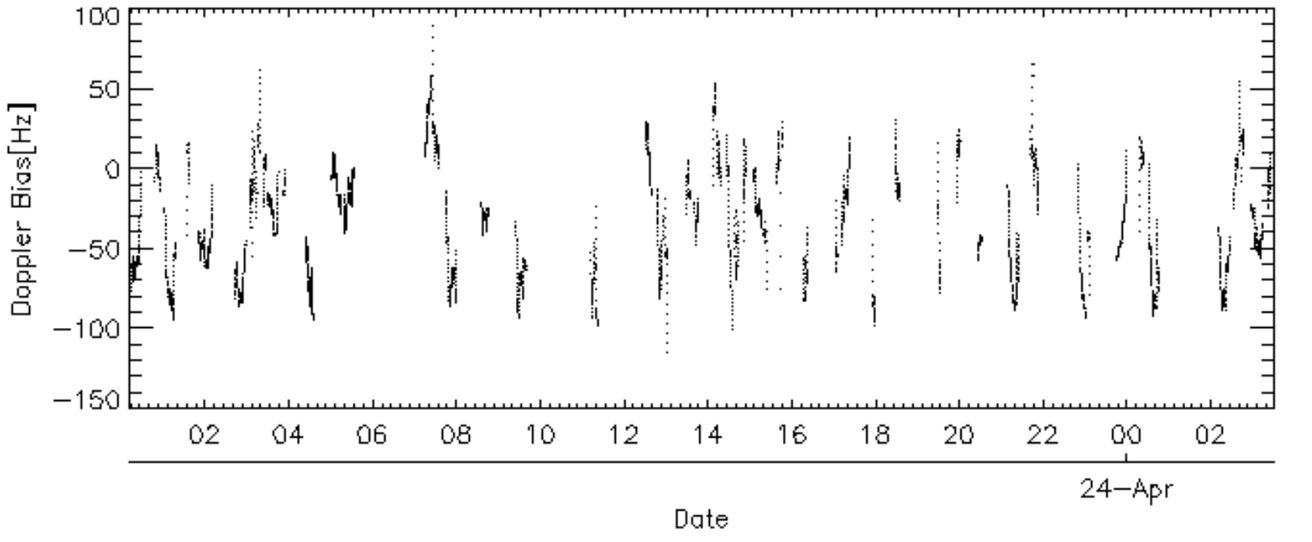

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

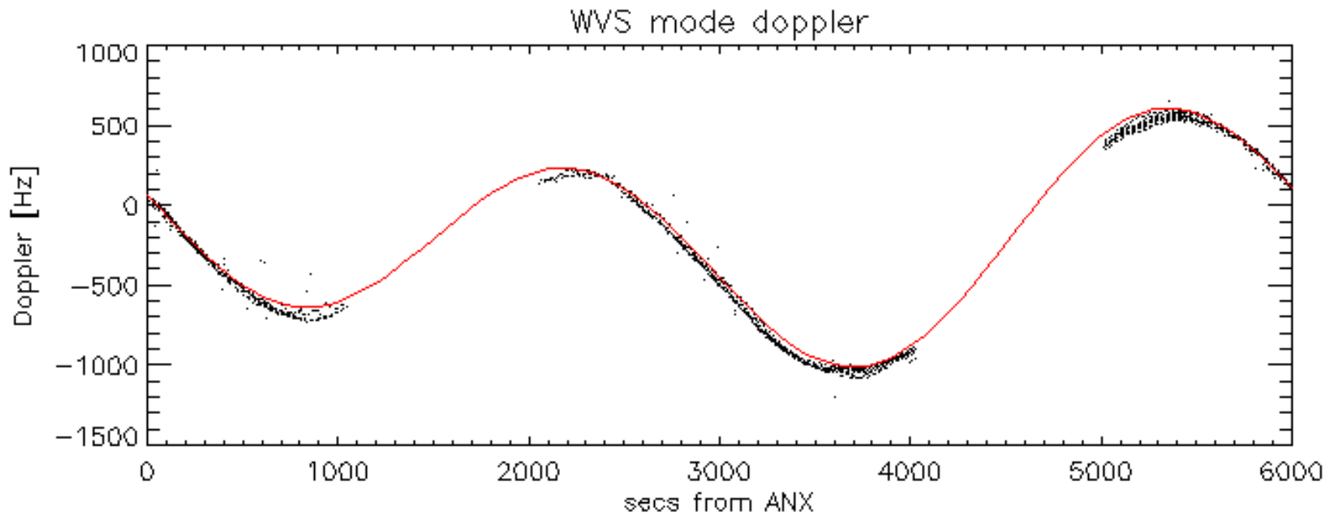

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

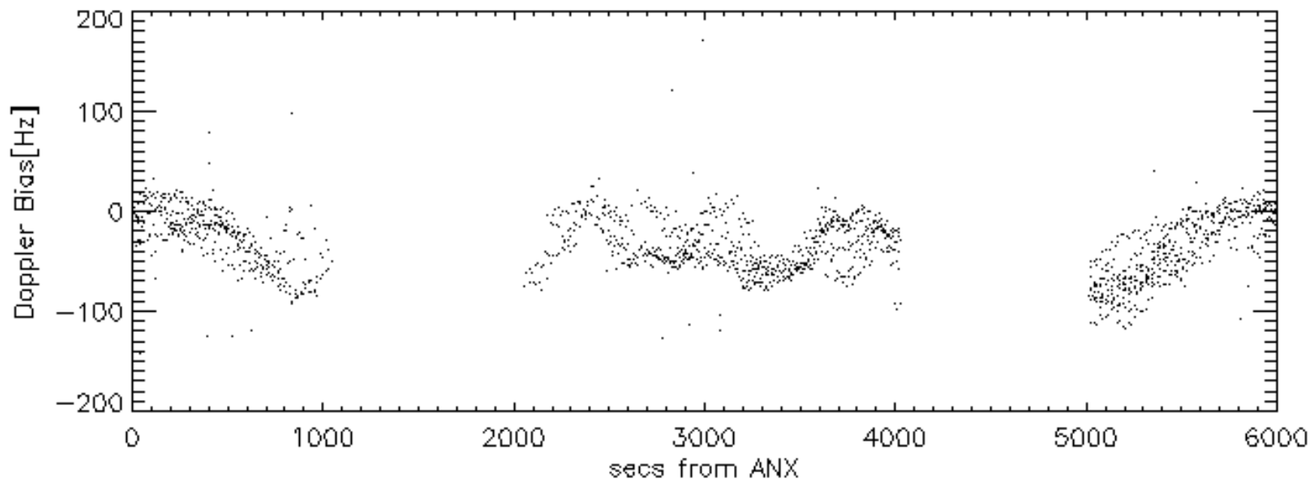

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

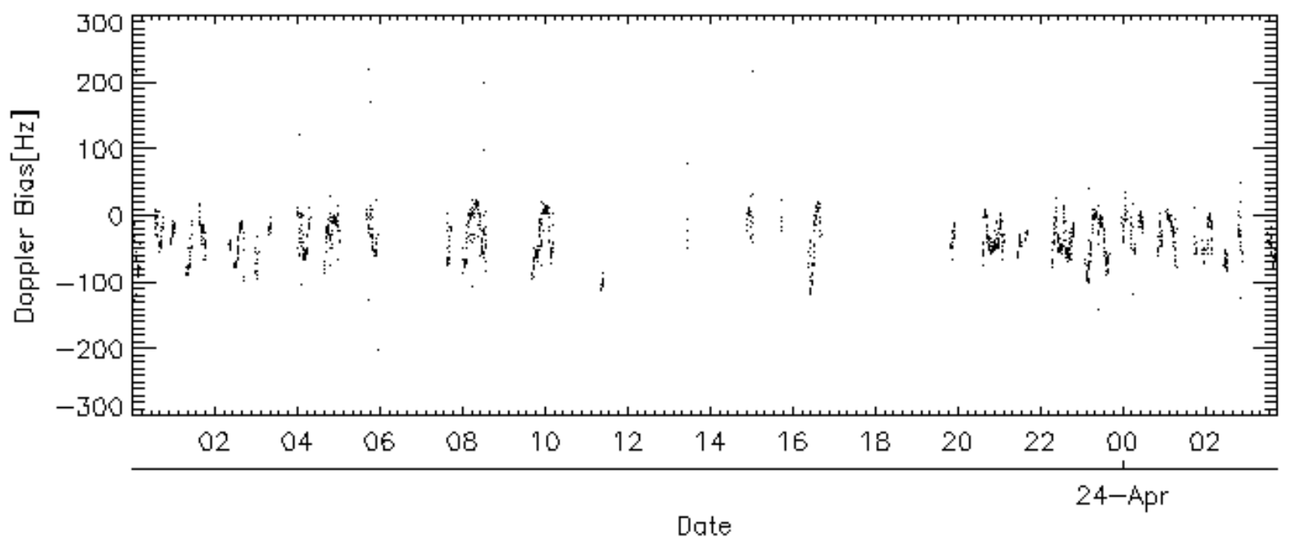

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

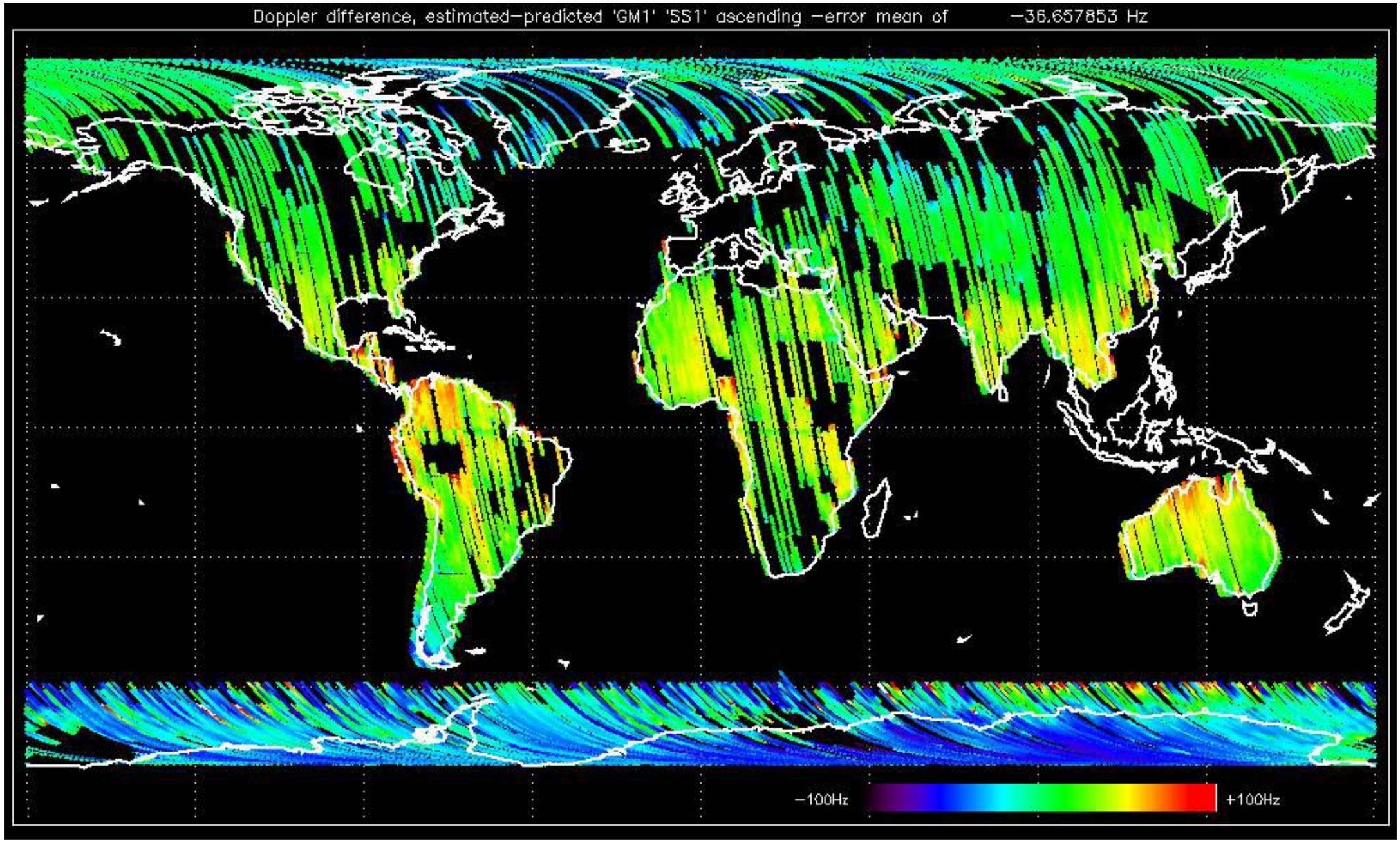

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

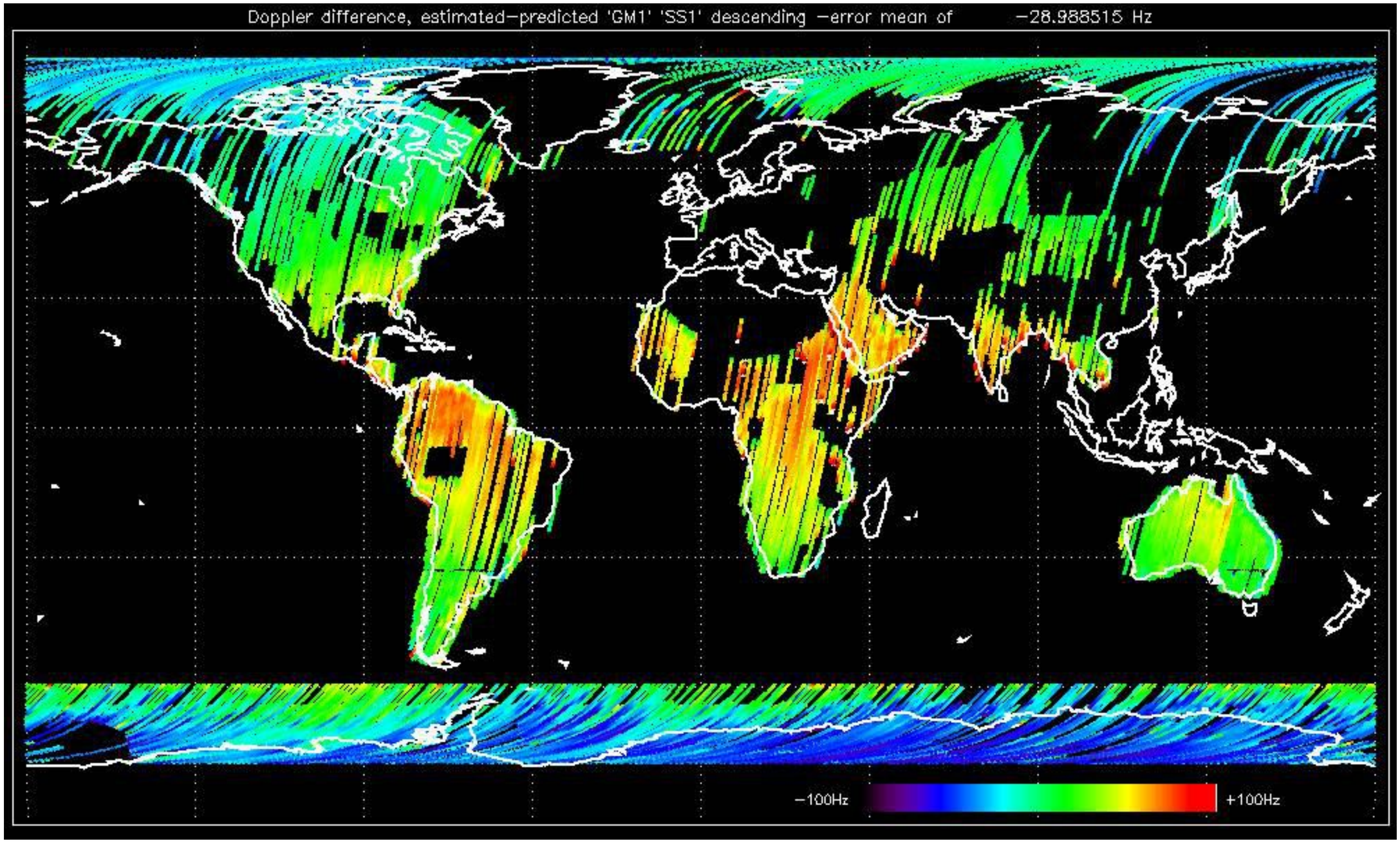

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
24−Apr
Date

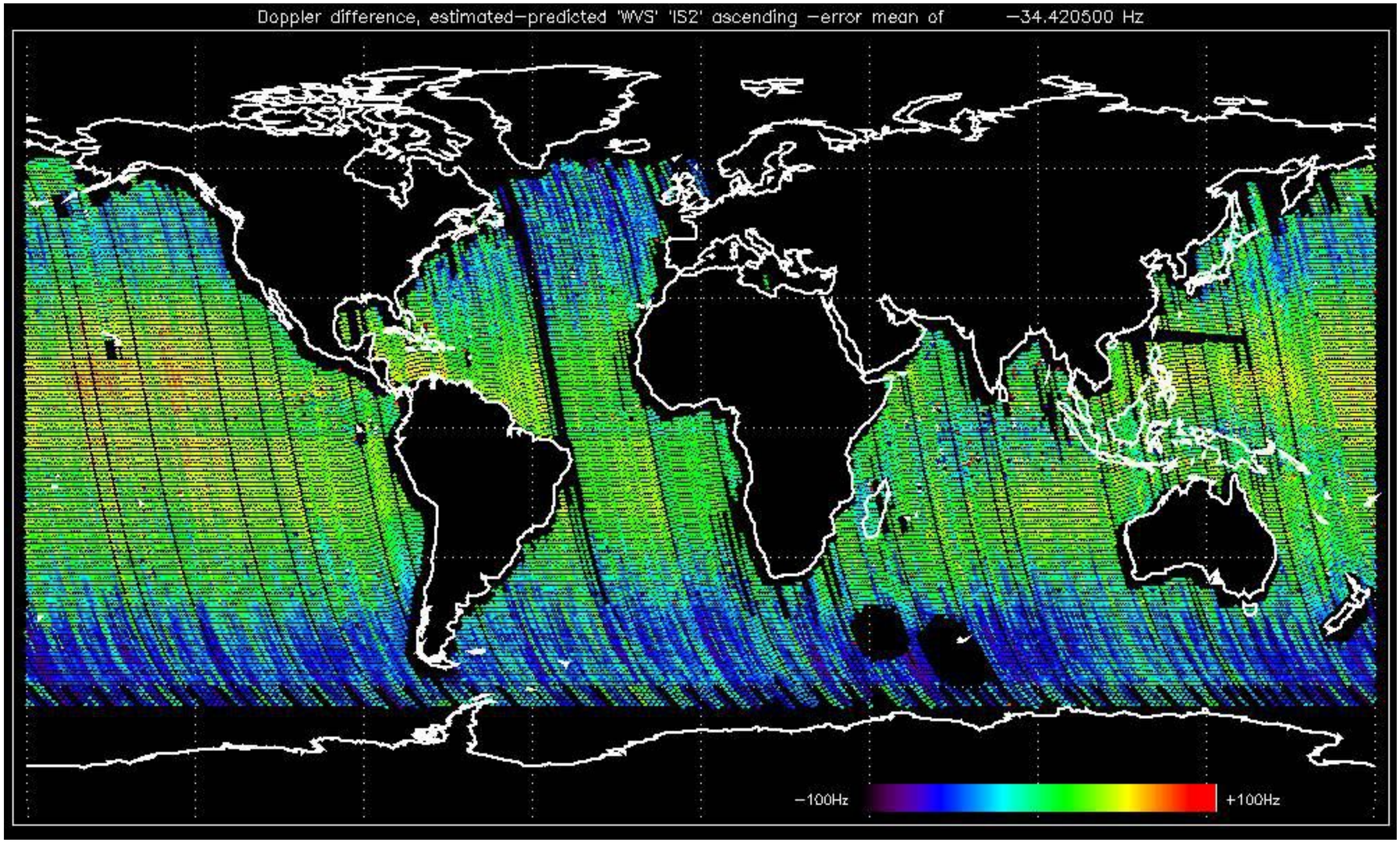

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

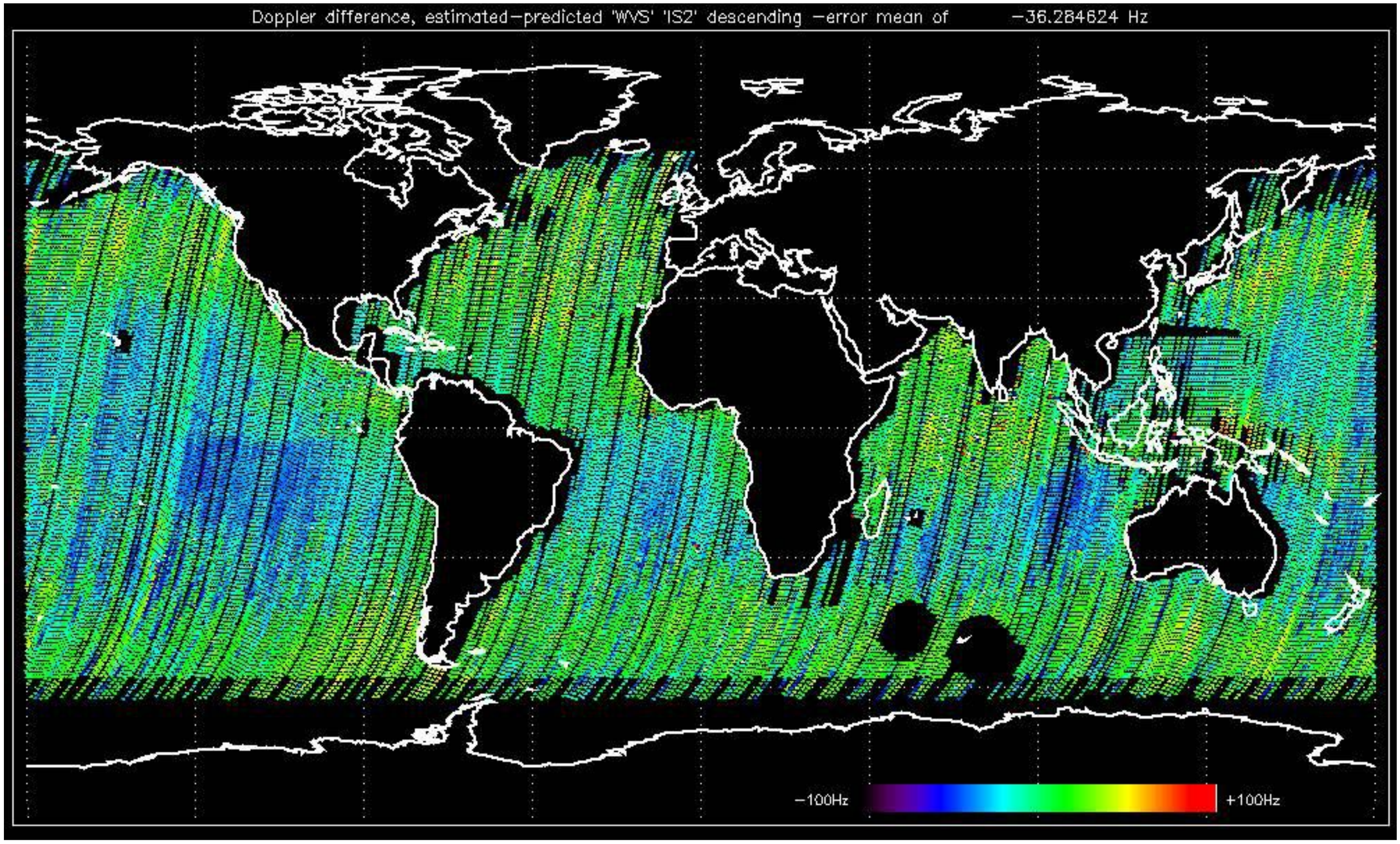

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −36.657853 Hz
−100Hz
+100Hz

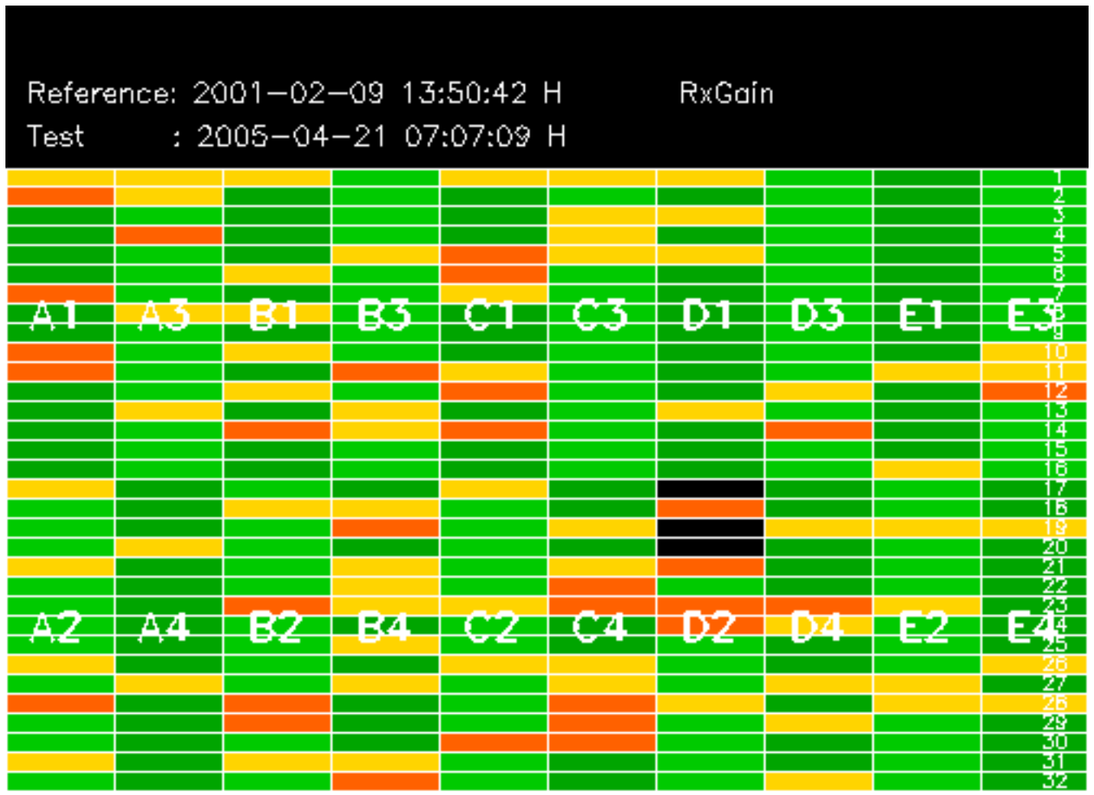

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -28.988515 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −34.420500 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −36.284624 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2005-04-21 07:07:09 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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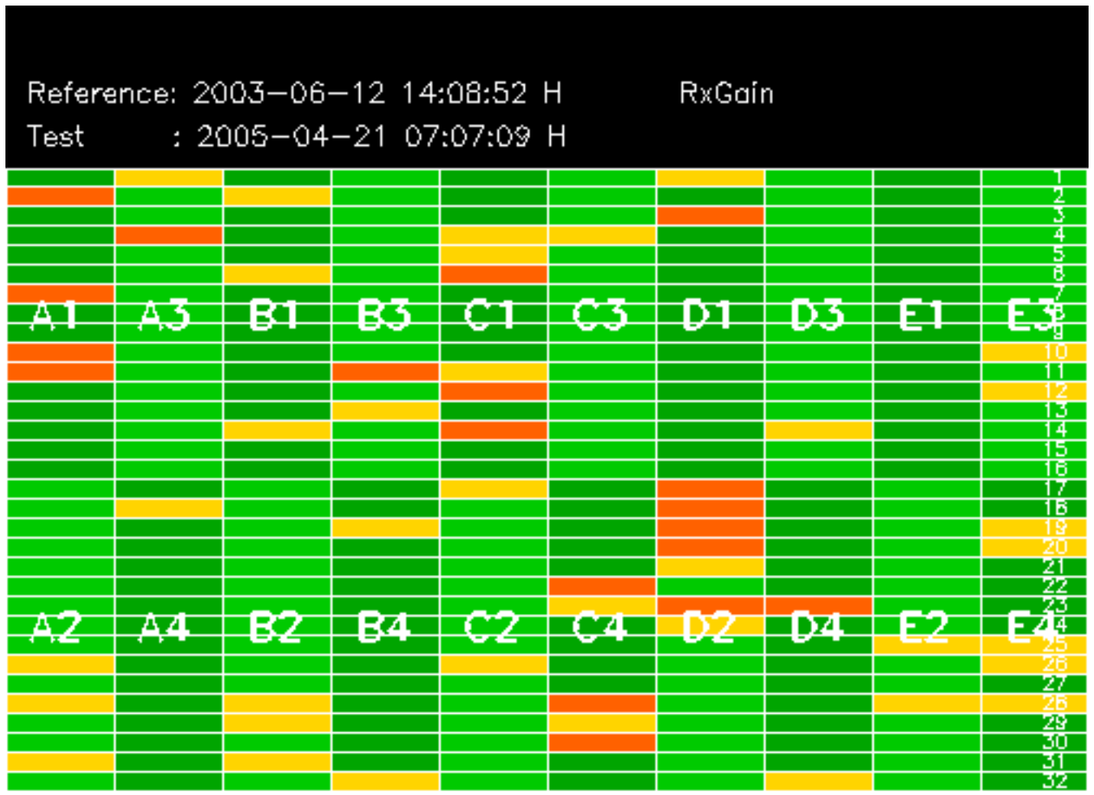
Reference: 2003-06-12 14:08:52 H
Test : 2005-04-21 07:07:09 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2005-04-22 06:35:32 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
4
5
6
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8
9
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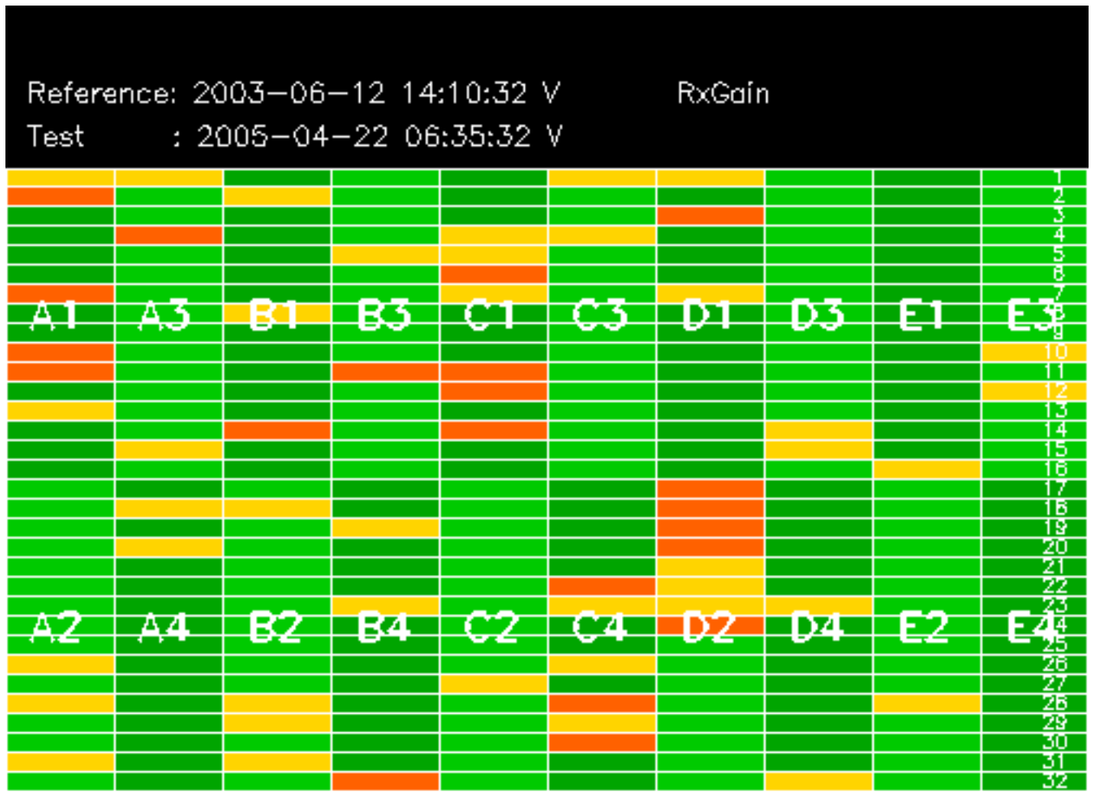
Reference: 2003-06-12 14:10:32 V
Test : 2005-04-22 06:35:32 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
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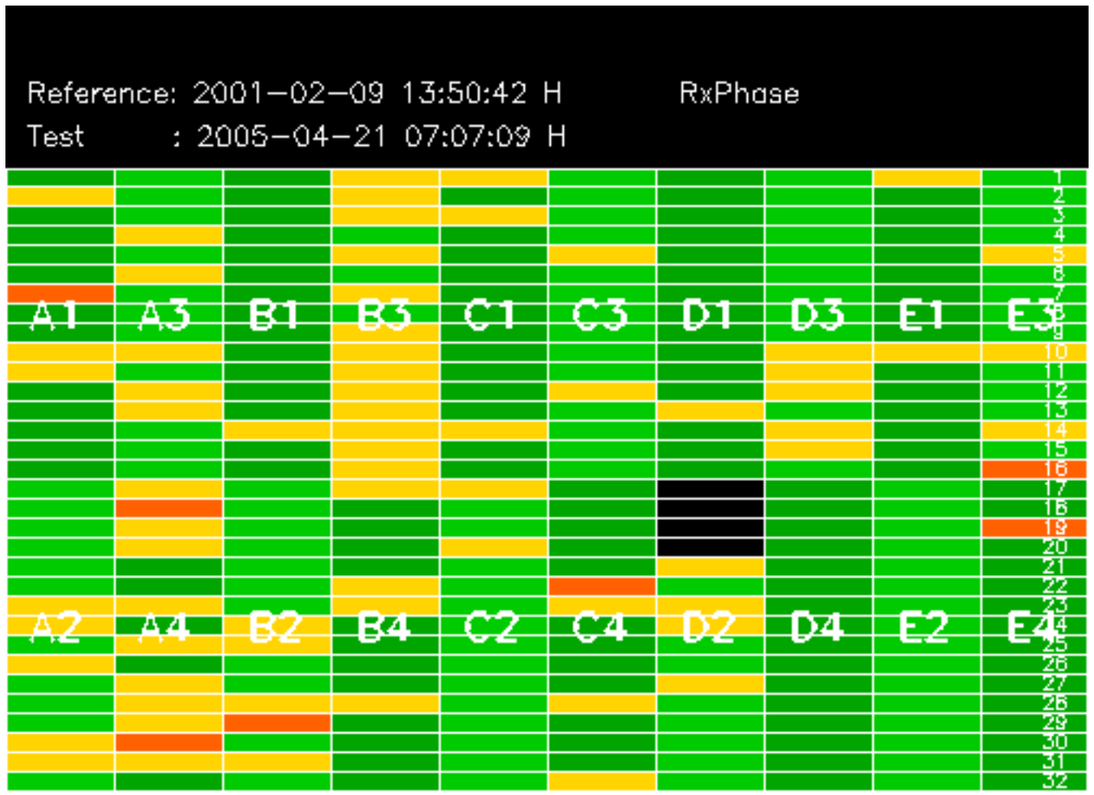
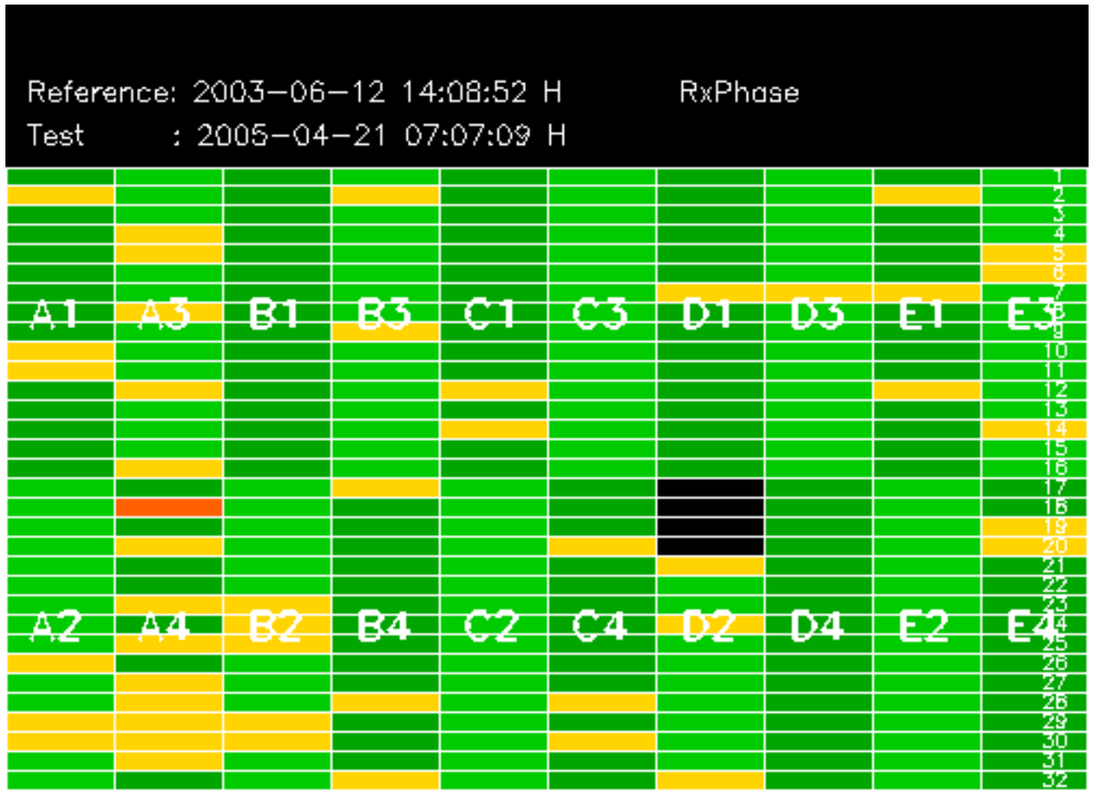

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-04-21 07:07:09 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2005-04-21 07:07:09 H
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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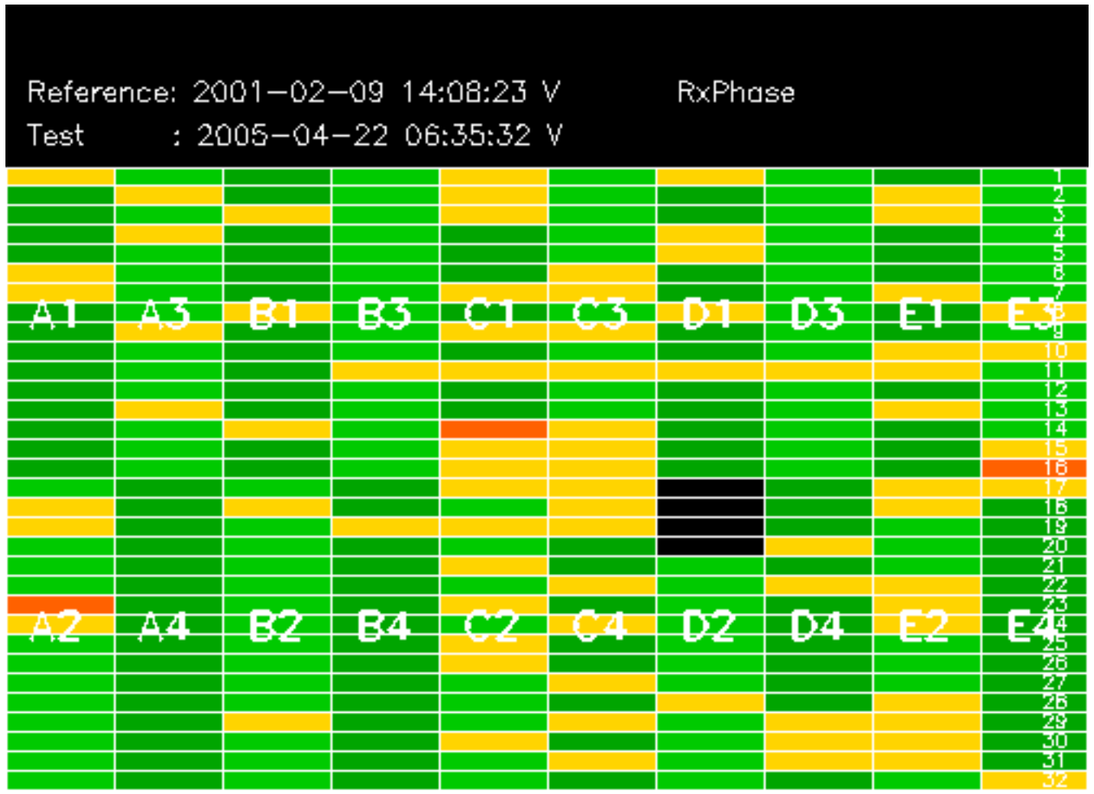
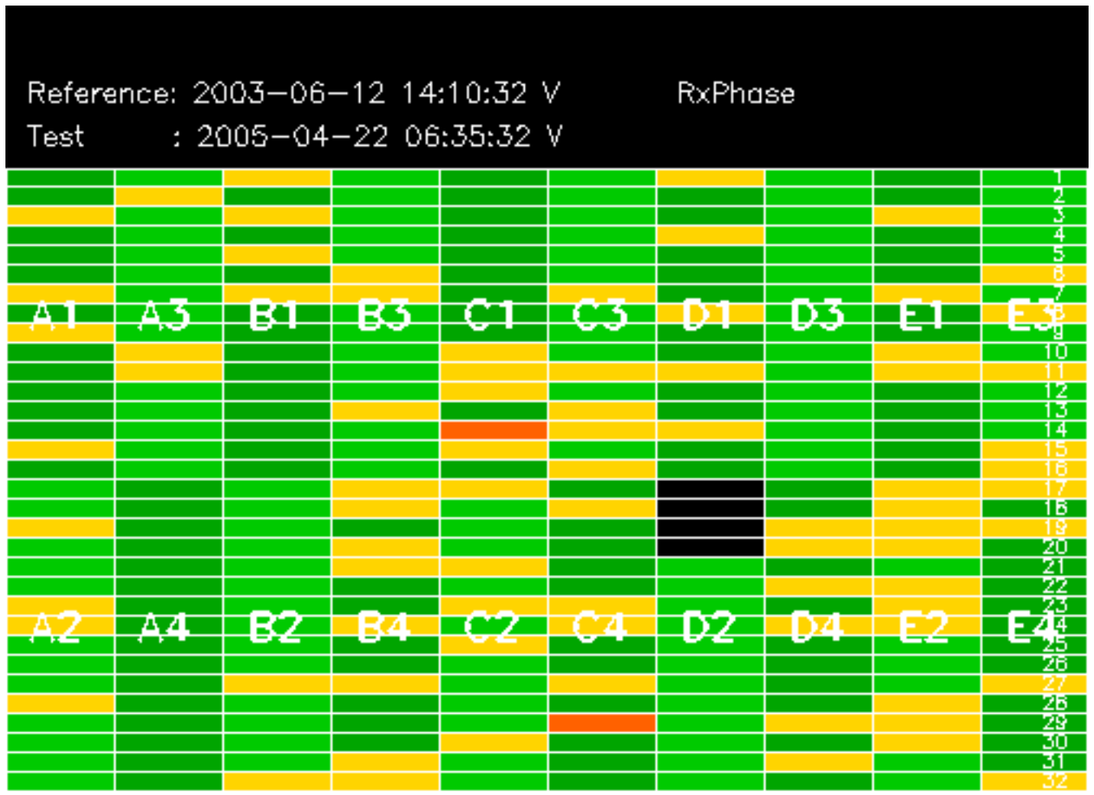
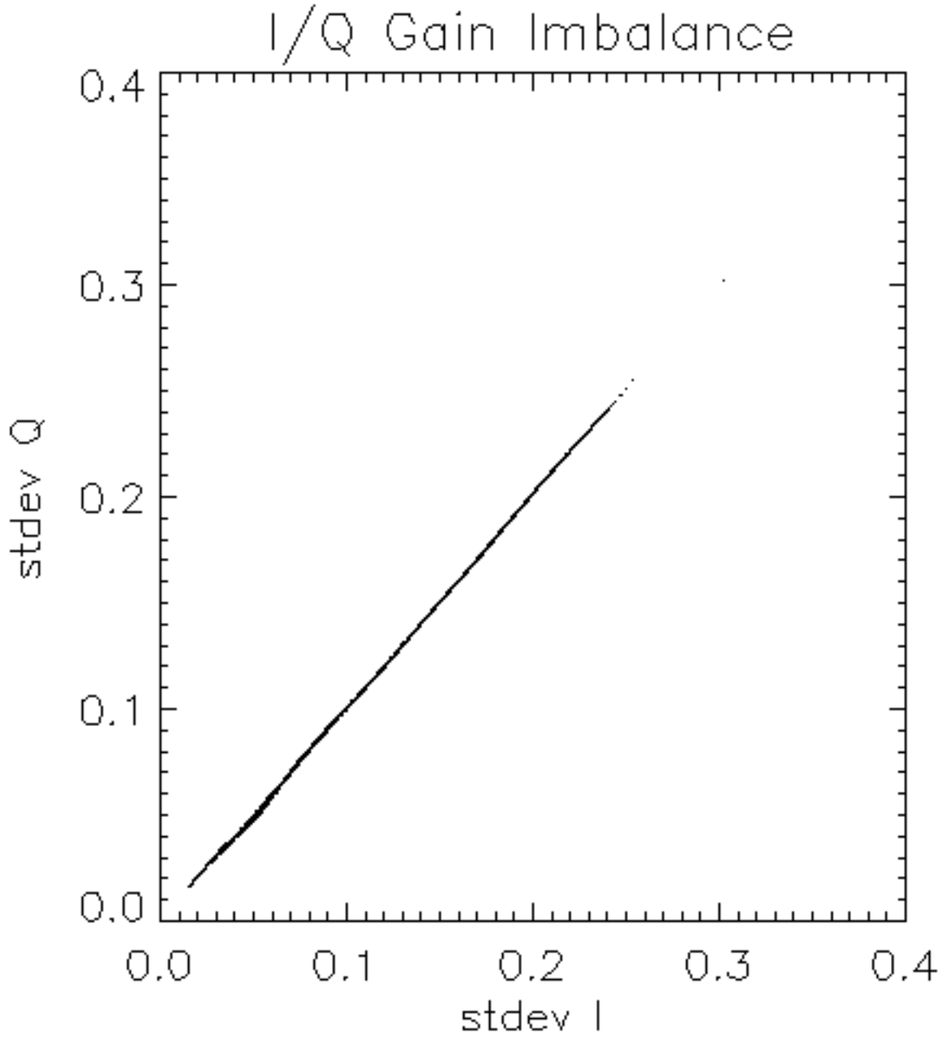
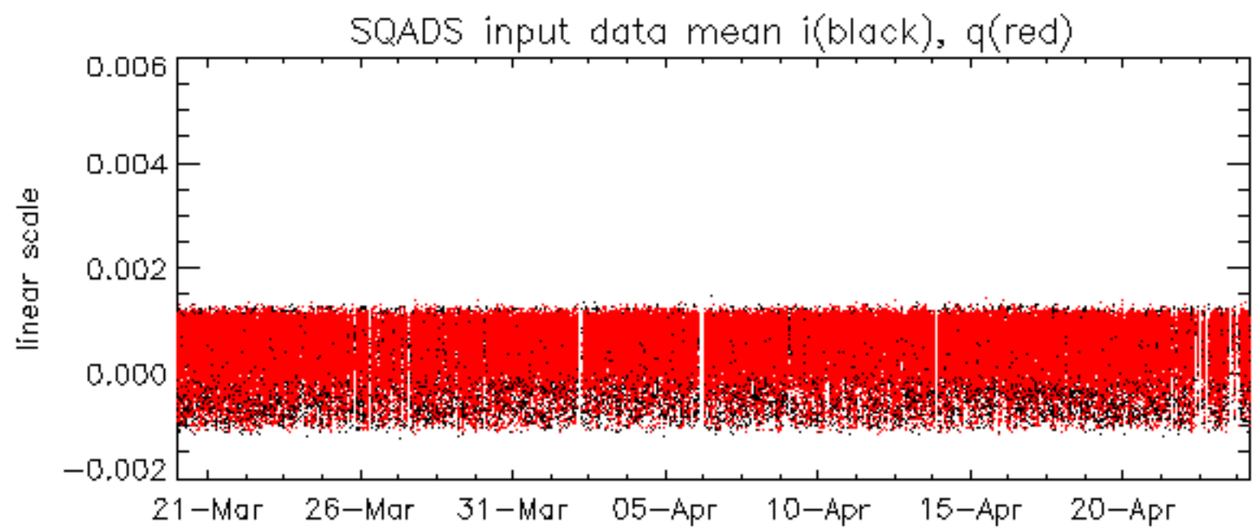
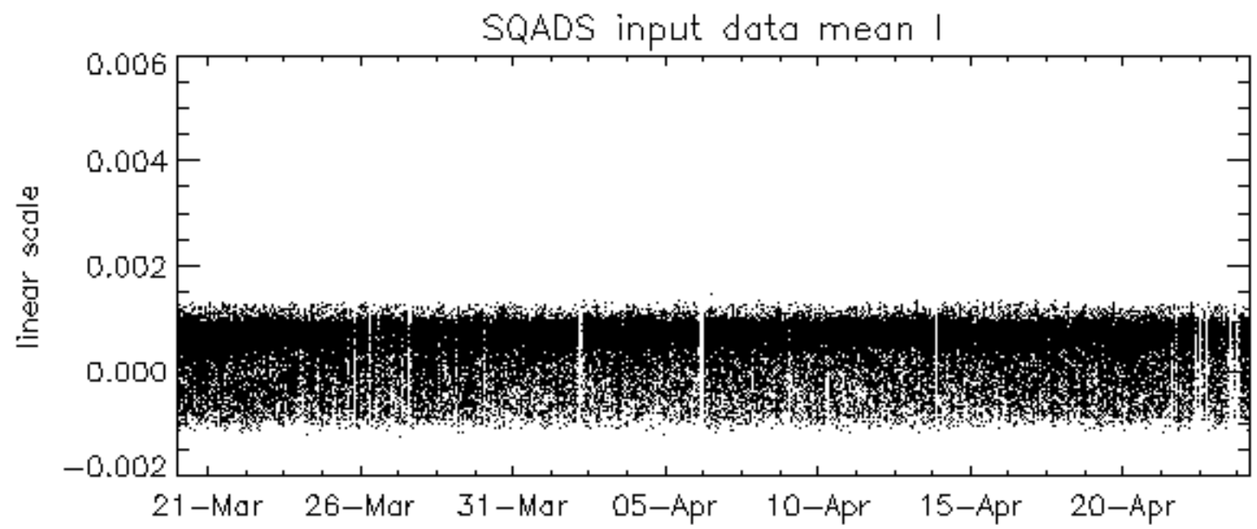
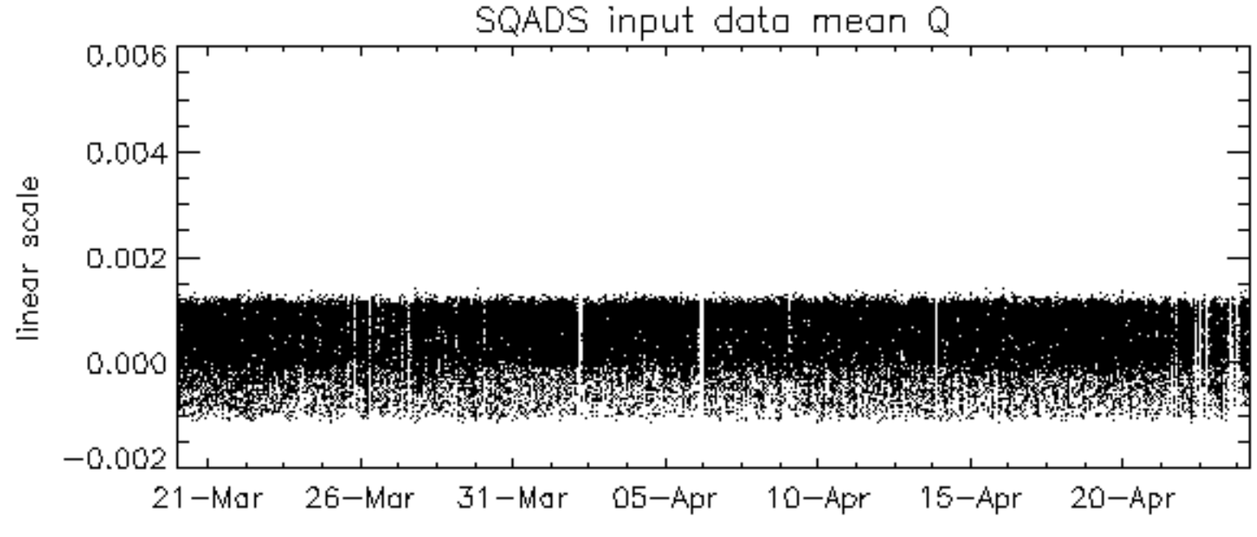

Reference: 2001-02-09 14:08:23 V
RxPhase
Test : 2005-04-22 06:35:32 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

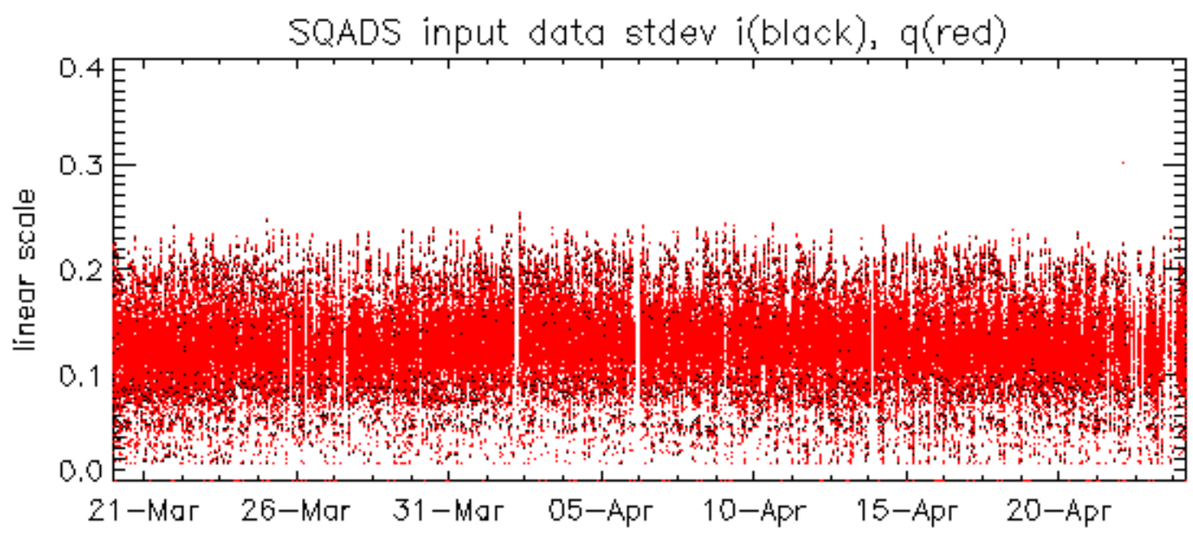

Reference: 2003-06-12 14:10:32 V
Test : 2005-04-22 06:35:32 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

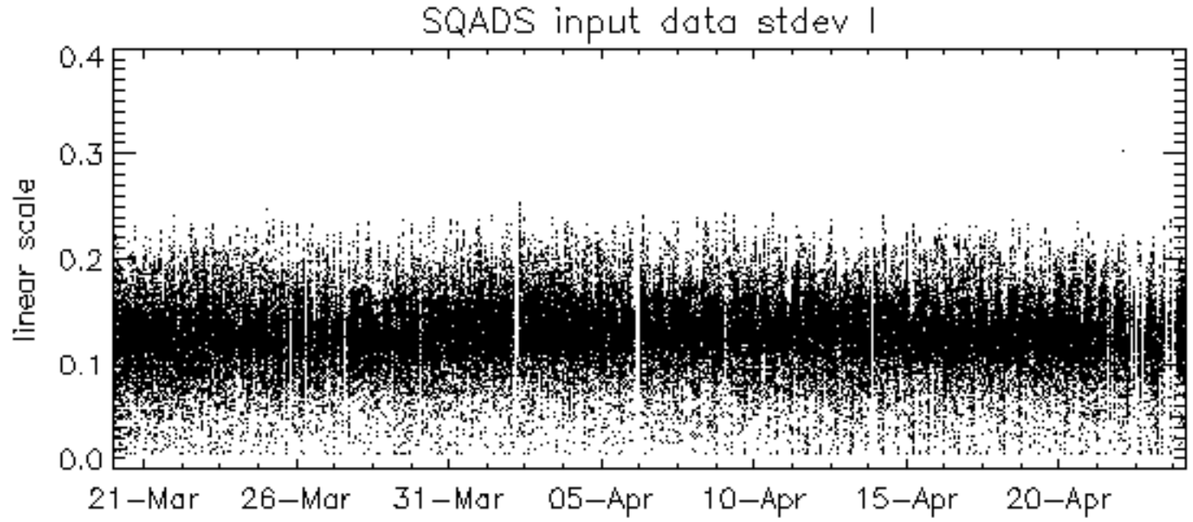

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

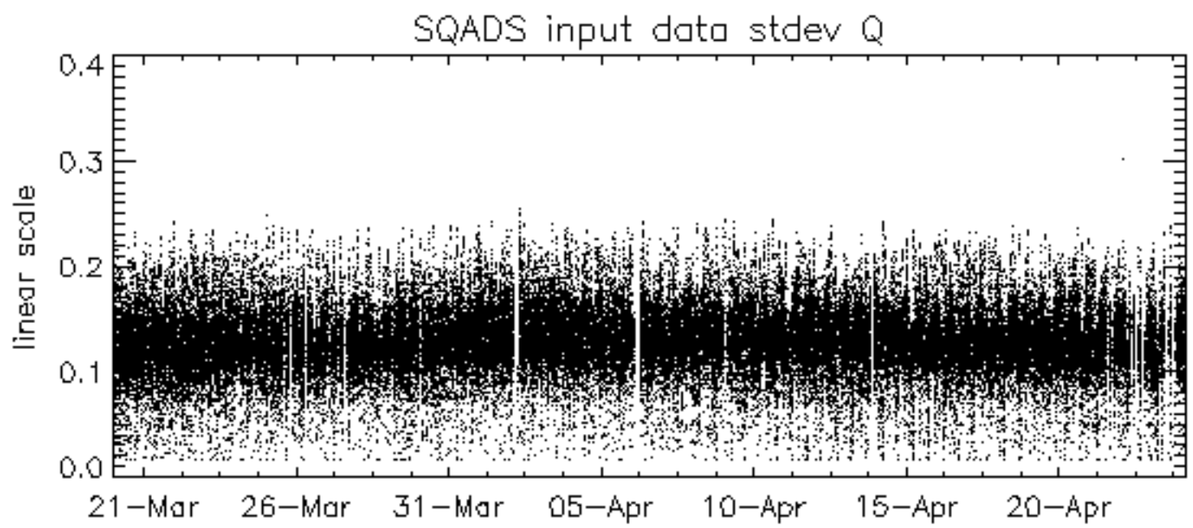

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Mar
26−Mar
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr

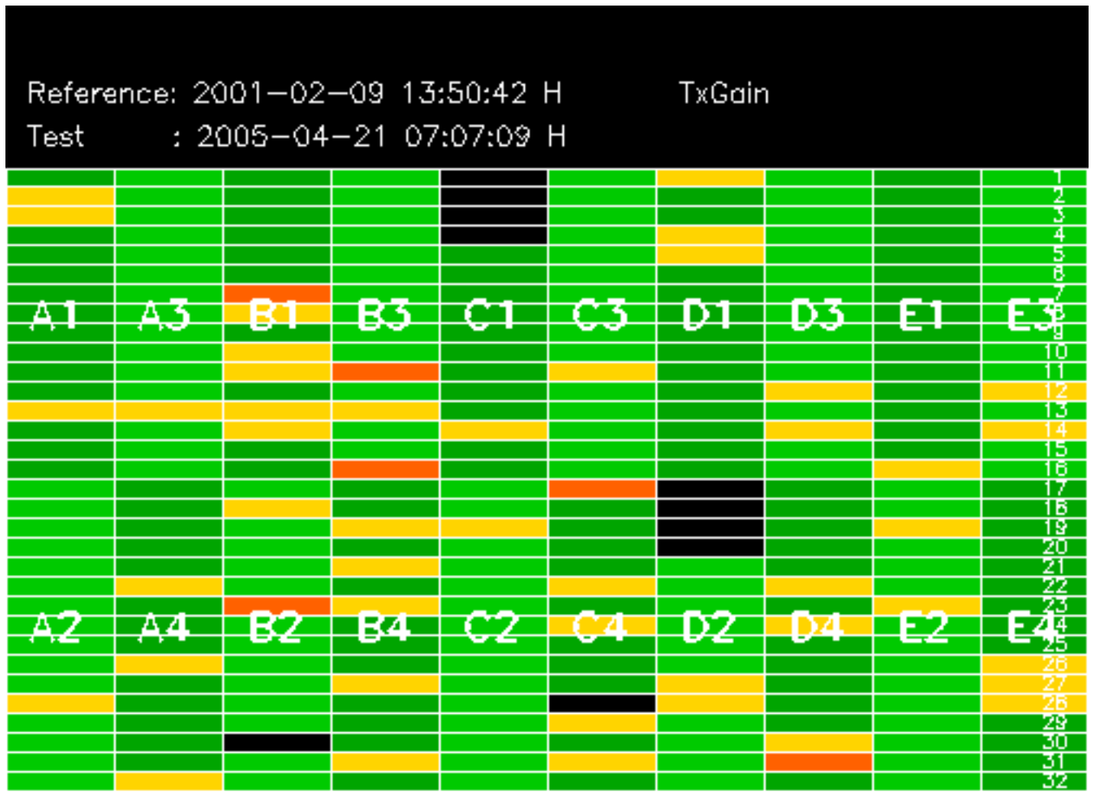

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Mar
26−Mar
31−Mar
05−Apr
10−Apr
15−Apr
20−Apr


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2005-04-21 07:07:09 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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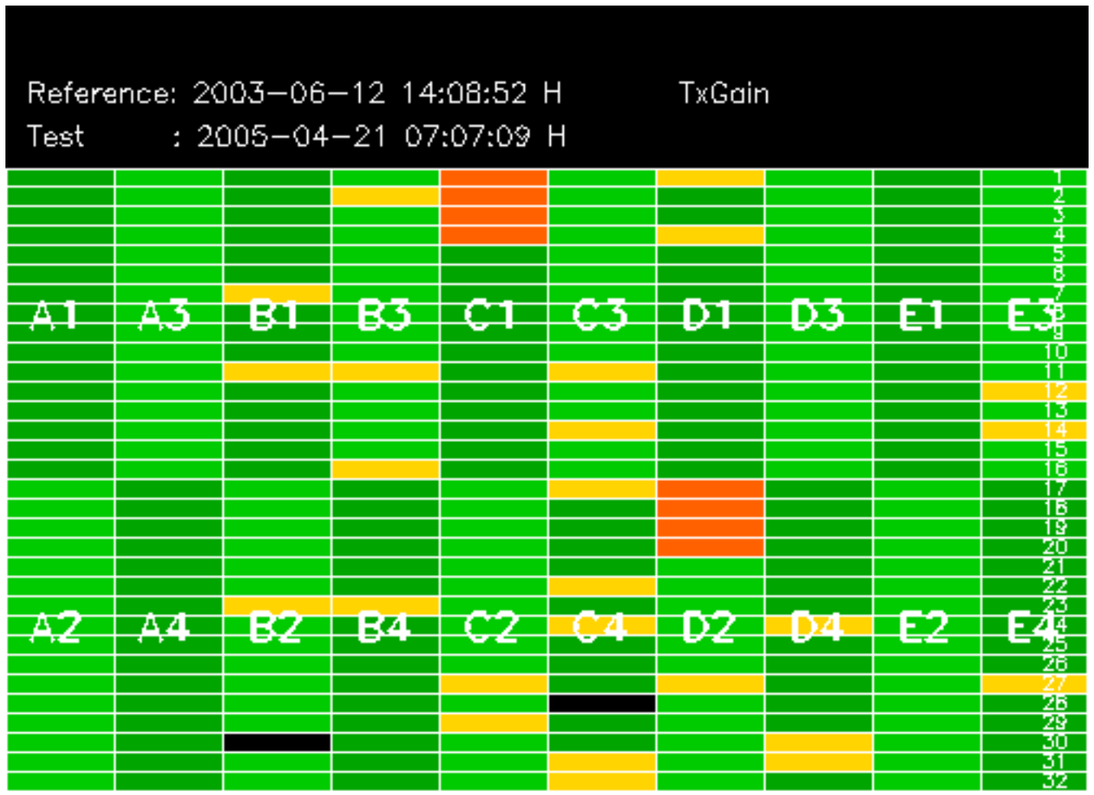
Reference: 2003-06-12 14:08:52 H
Test : 2005-04-21 07:07:09 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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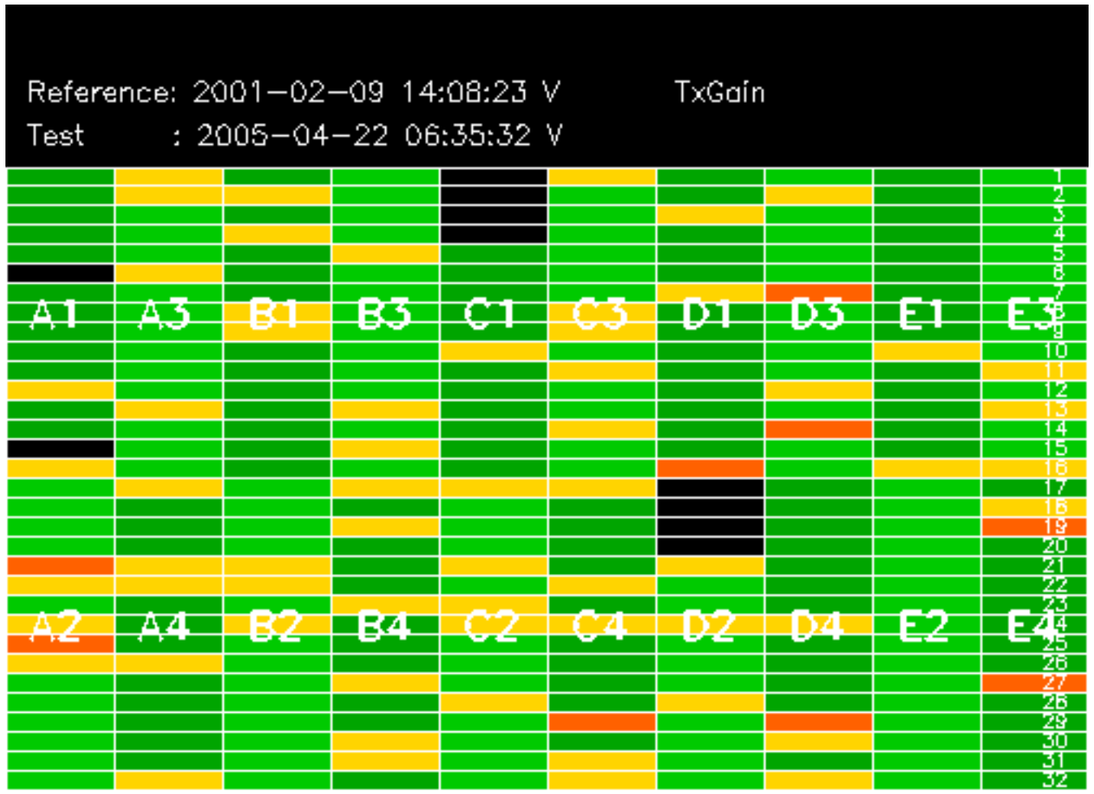
Reference: 2001-02-09 14:08:23 V
Test : 2005-04-22 06:35:32 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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26
27
28
29
30
31
32


Reference: 2003-06-12 14:10:32 V
Test : 2005-04-22 06:35:32 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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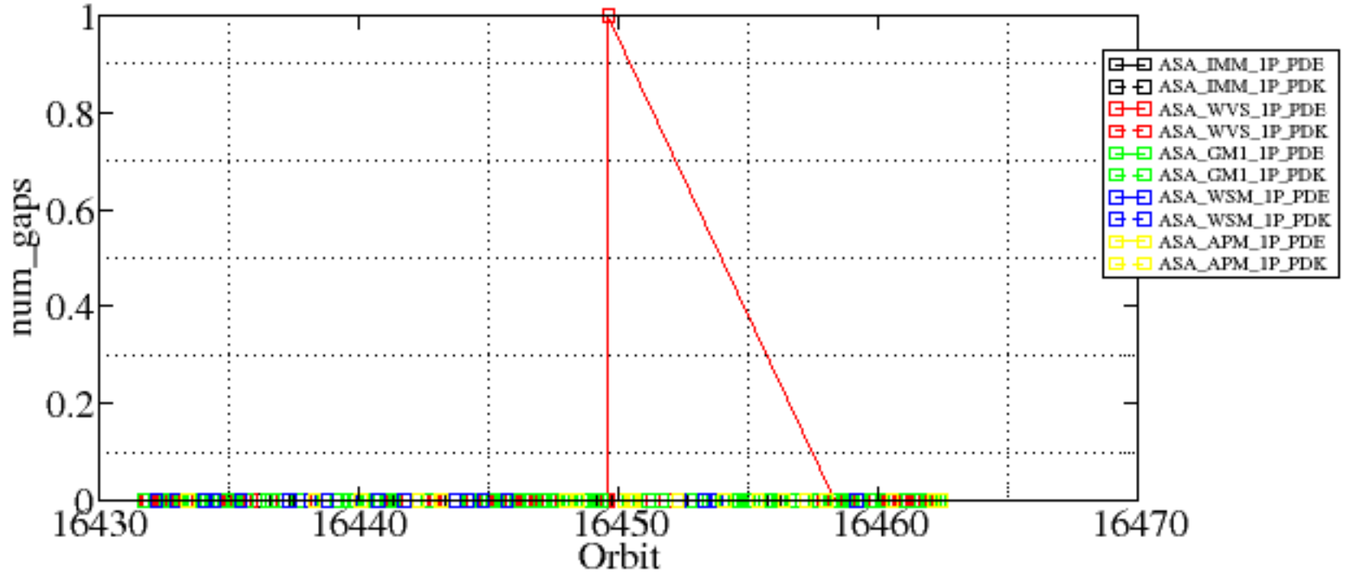
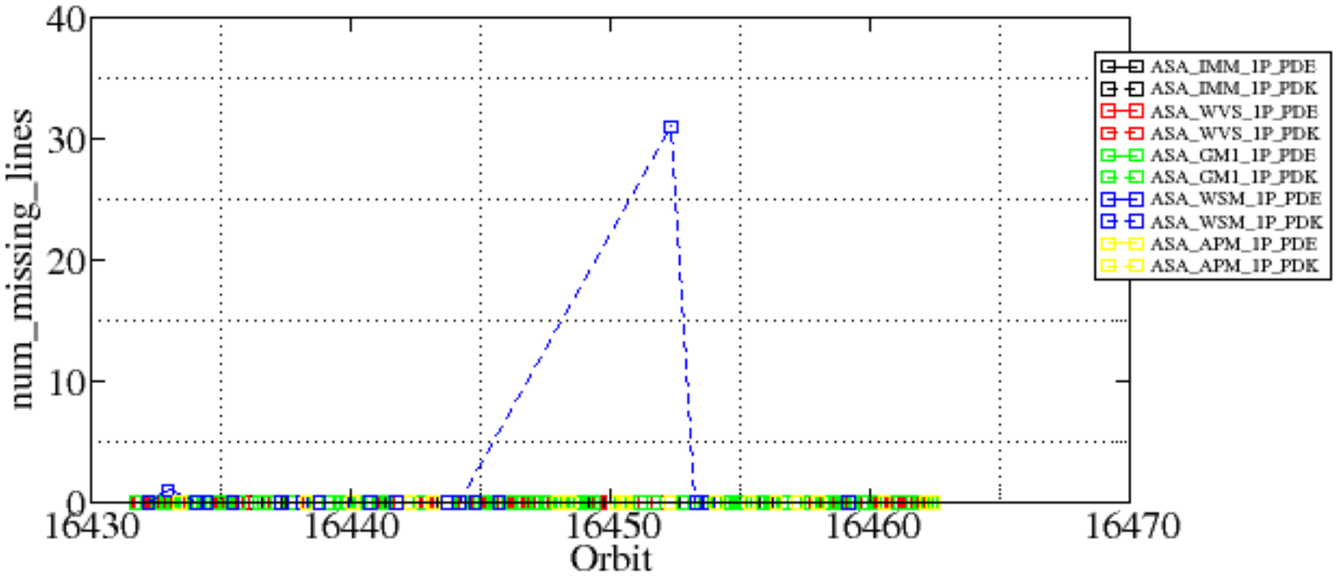
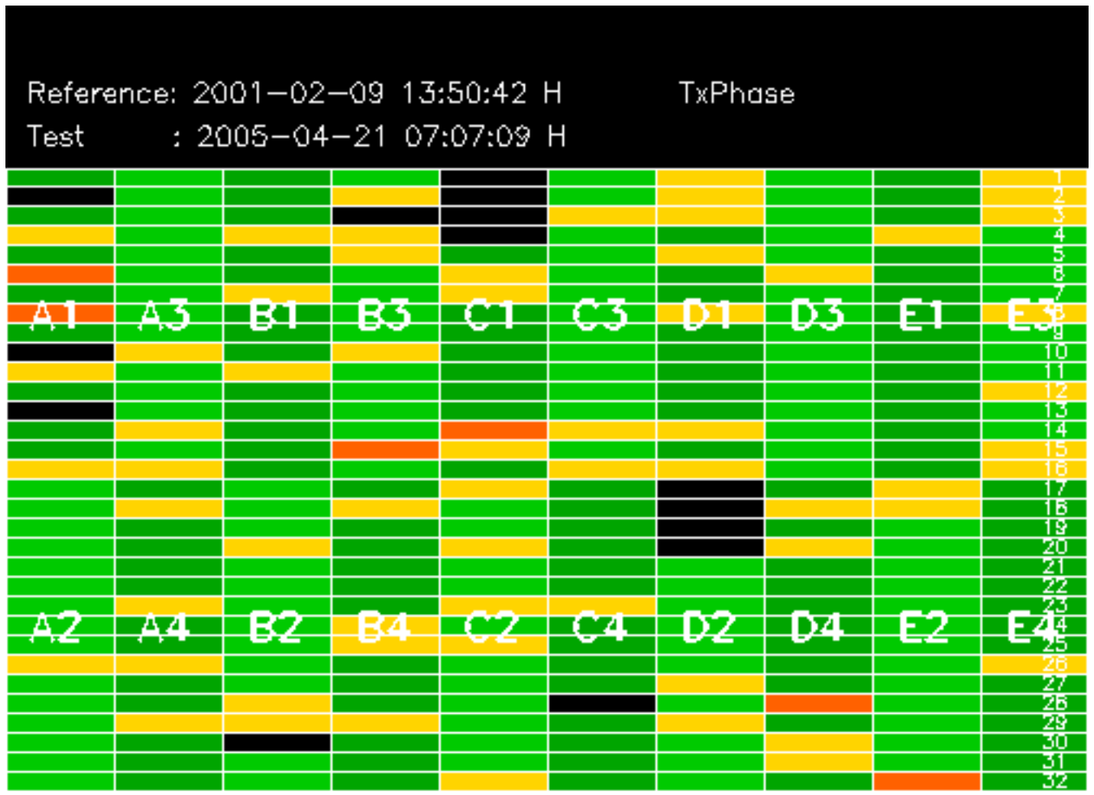
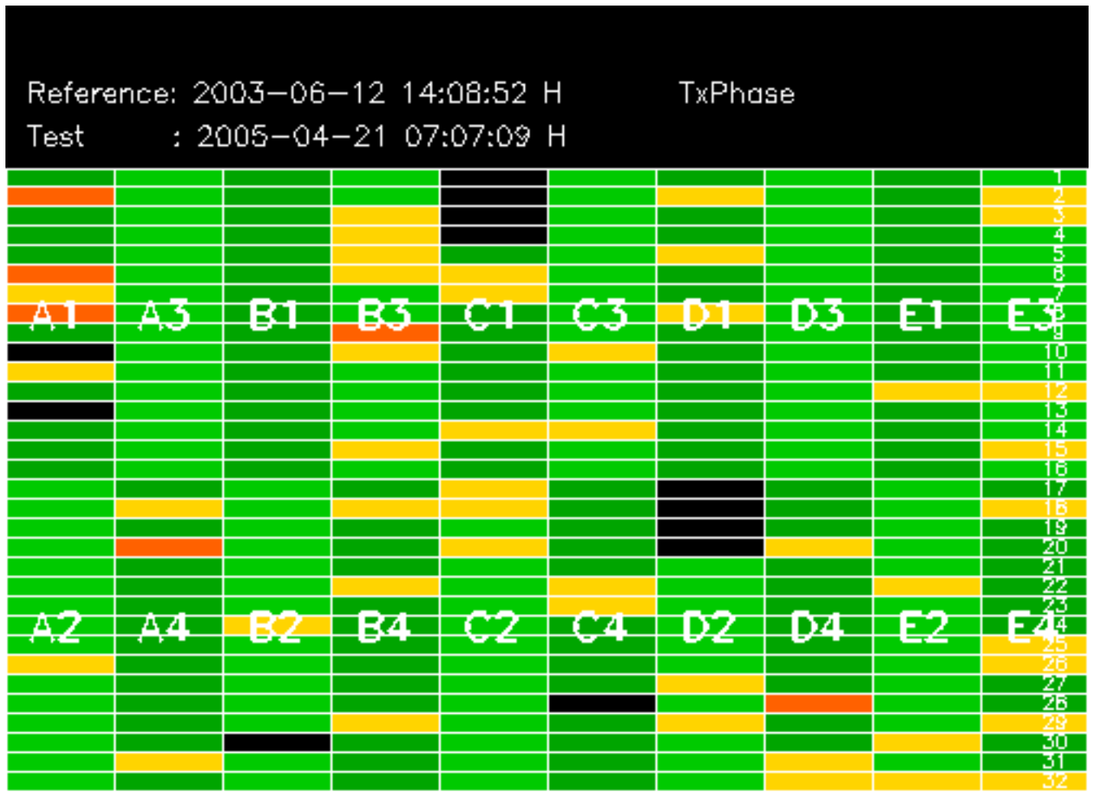
Summary of analysis for the last 3 days 2005042[234]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

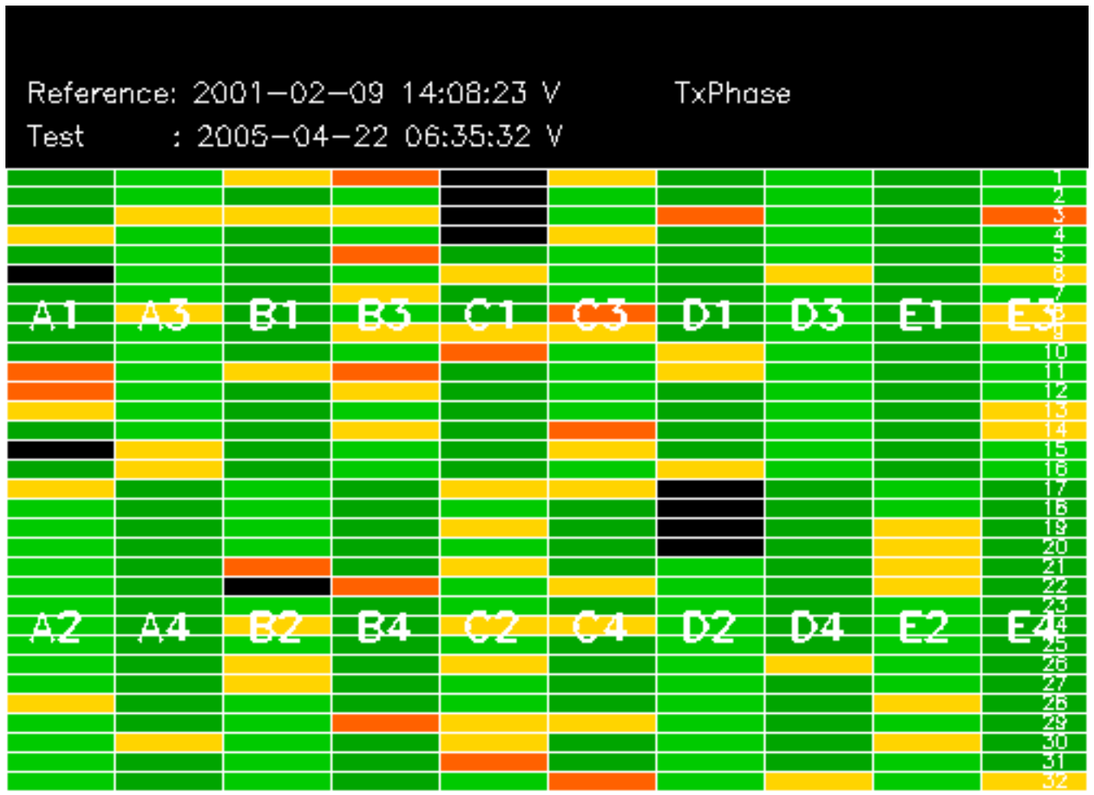
Filename	num_gaps	num_missing_lines
ASA_WVS_1PNPDE20050423_055635_000000002036_00363_16449_8523.N1	1	0
ASA_WSM_1PNPDE20050422_020205_000001102036_00346_16432_8152.N1	0	1
ASA_WSM_1PNPDK20050423_103054_000000672036_00366_16452_1268.N1	0	31


num_gaps
Orbit
1
0.8
0.6
0.4
0.2
0
16430
16440
16450
16460
16470
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK


num_missing_lines
40
30
20
10
0
16430
16440
16450
16460
16470
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2005-04-21 07:07:09 H
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 : 2005-04-21 07:07:09 H
TxPhase
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 : 2005-04-22 06:35:32 V
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 14:10:32 V
Test : 2005-04-22 06:35:32 V
TxPhase
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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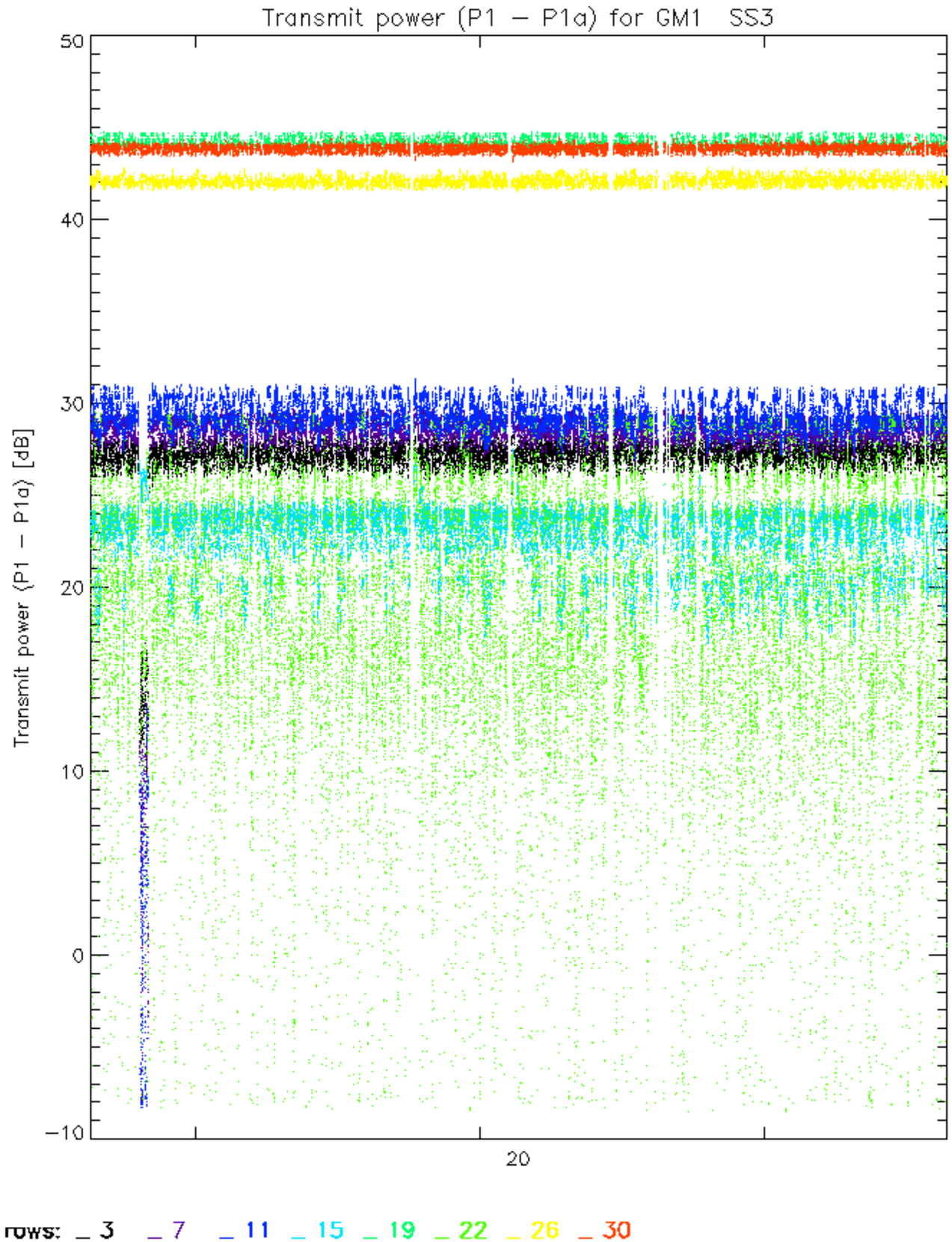
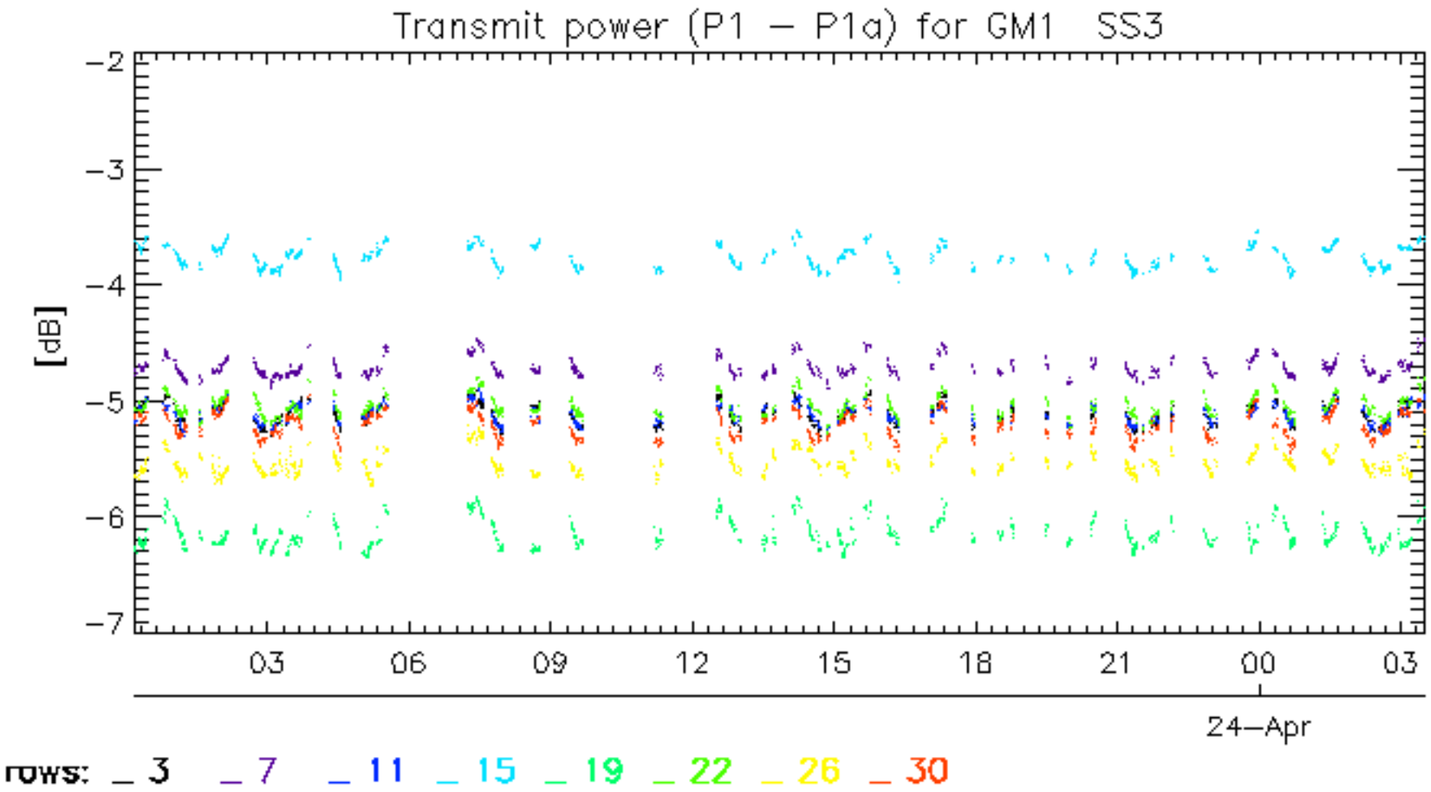
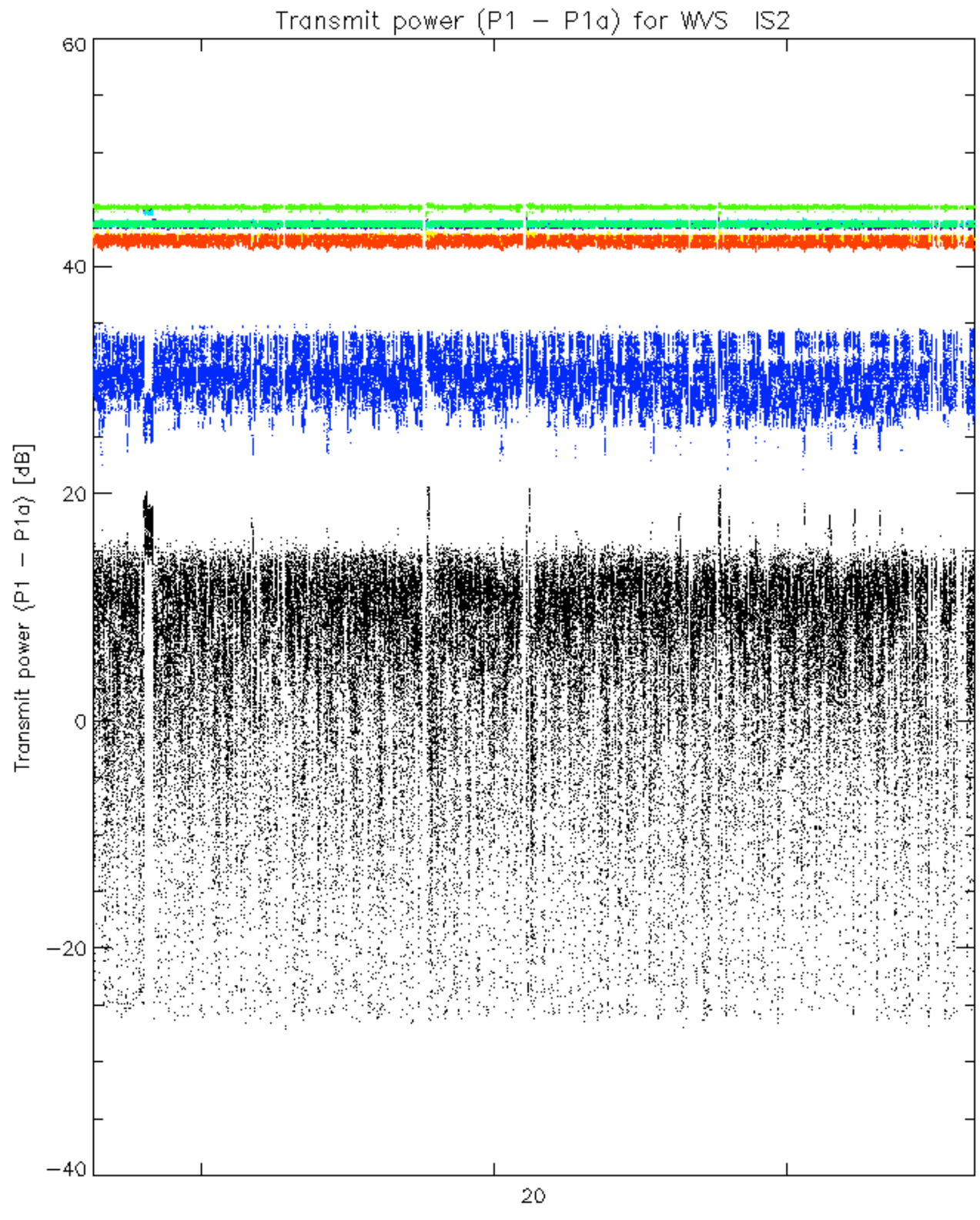
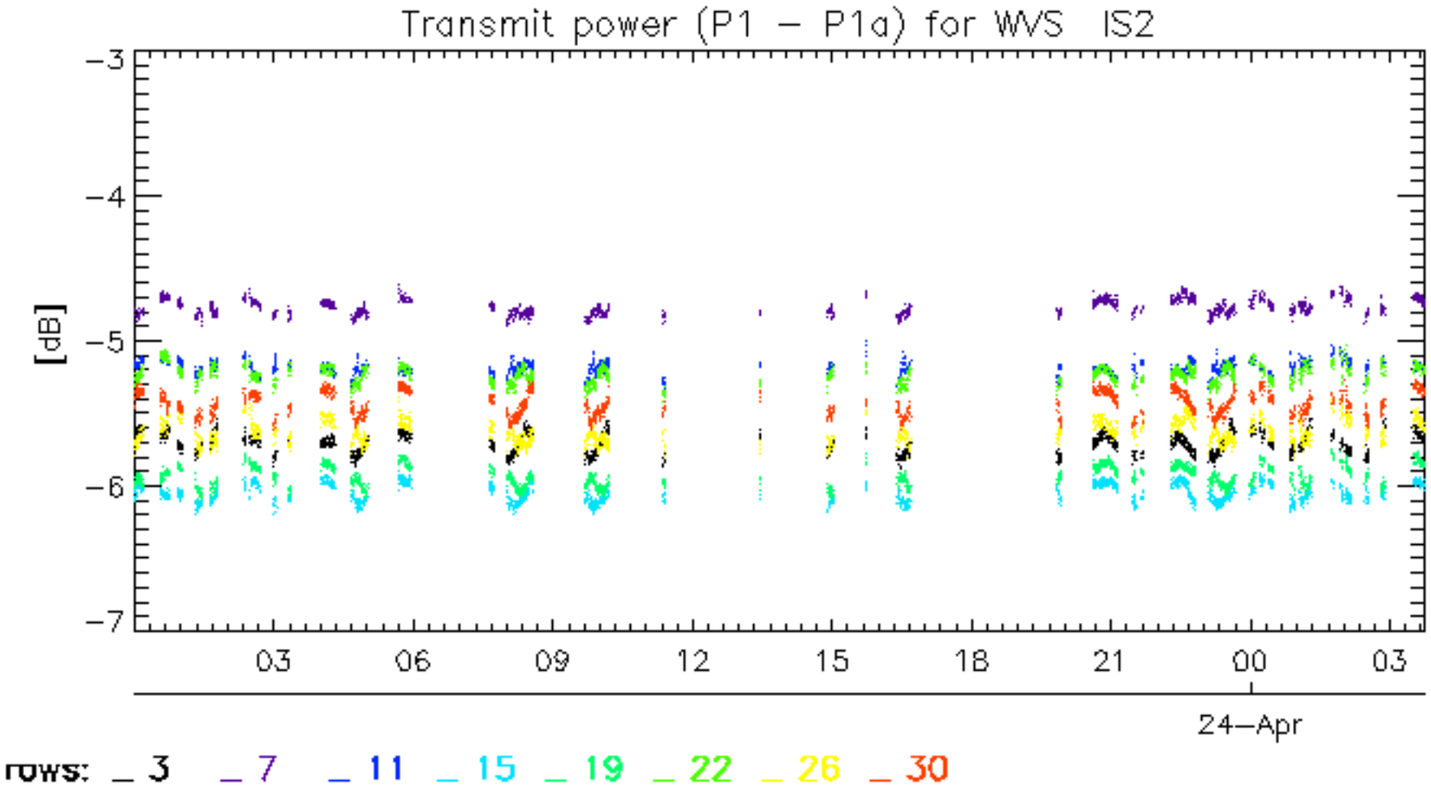

Transmit power (P1 – P1a) for GM1 SS3
Transmit power ⟨P1 – P1a⟩ [dB]
50
40
30
20
10
0
−10
20
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
24–Apr
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Transmit power (P1 – P1a) for WVS IS2
60
40
20
0
−20
−40
Transmit power ⟨P1 – P1a⟩ [dB]
20
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
[dB]
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
24–Apr
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

No unavailabilities during the reported period.