PRELIMINARY REPORT OF 050411

last update on Mon Apr 11 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 2005-04-10 00:00:00 to 2005-04-11 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	29	54	0	1	3
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	29	54	0	1	3
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	29	54	0	1	3
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	29	54	0	1	3

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	35	41	4	18	6
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	35	41	4	18	6
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	35	41	4	18	6
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	35	41	4	18	6

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	20050409 064407
H	20050410 061230

MSM in V/V polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference

MSM in H/H polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference

4 - Internal calibration Results

No anomalies observed.

4.1 - Daily statistics

4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS

4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1

4.2 - Cyclic statistics

4.2.1 - Evolution for WVS

Evolution of cal pulses for WVS

P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.345264	0.013432	-0.002081
7	P1	-3.113014	0.008907	-0.031619
11	P1	-4.675433	0.031028	0.006886
15	P1	-5.627048	0.040266	0.032488
19	P1	-3.696445	0.003910	-0.024757
22	P1	-4.532965	0.011609	-0.046297
26	P1	-4.922982	0.018993	0.034205
30	P1	-7.191553	0.020489	0.003955
3	P1	-15.837920	0.331701	0.090625
7	P1	-15.535943	0.077161	-0.026459
11	P1	-21.048853	0.455757	-0.256781
15	P1	-11.552504	0.052613	0.078394
19	P1	-14.313820	0.026134	-0.019338
22	P1	-15.707966	0.312263	-0.210079
26	P1	-17.630678	0.187164	-0.058520
30	P1	-17.947903	0.406859	0.047527

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.056328	0.081372	0.050069
7	P2	-22.235636	0.094957	0.076265
11	P2	-14.283257	0.109836	0.201370
15	P2	-7.048722	0.090941	-0.030470
19	P2	-9.635649	0.093594	-0.024215
22	P2	-16.890974	0.094823	0.037596
26	P2	-16.444935	0.092857	-0.024415
30	P2	-18.831509	0.085049	0.017676

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.164301	0.004678	-0.007144
7	P3	-8.164301	0.004678	-0.007144
11	P3	-8.164301	0.004678	-0.007144
15	P3	-8.164301	0.004678	-0.007144
19	P3	-8.164301	0.004678	-0.007144
22	P3	-8.164301	0.004678	-0.007144
26	P3	-8.164301	0.004678	-0.007144
30	P3	-8.164301	0.004678	-0.007144

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	-2.716041	0.026166	-0.038422
7	P1	-3.015955	0.047067	0.021343
11	P1	-3.983654	0.026905	-0.015057
15	P1	-3.550488	0.035150	-0.017745
19	P1	-3.606131	0.013759	-0.028148
22	P1	-5.725562	0.038553	0.025342
26	P1	-7.296745	0.026130	-0.030322
30	P1	-6.254388	0.057311	-0.093686
3	P1	-10.706661	0.166328	-0.036996
7	P1	-10.342715	0.176926	0.006931
11	P1	-12.534179	0.137068	-0.046095
15	P1	-11.721466	0.102388	-0.002456
19	P1	-15.577513	0.049220	-0.055603
22	P1	-24.688410	1.370253	-0.286177
26	P1	-15.518599	0.216009	-0.062137
30	P1	-20.171057	1.229347	0.236545

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.755760	0.038969	0.051348
7	P2	-22.318041	0.043574	0.049259
11	P2	-10.101187	0.057896	0.072375
15	P2	-5.000072	0.030327	-0.067982
19	P2	-6.841258	0.045590	-0.052240
22	P2	-7.077091	0.037566	-0.005934
26	P2	-23.854330	0.035150	-0.039289
30	P2	-21.891785	0.040848	-0.028931

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.998597	0.003379	-0.015055
7	P3	-7.998692	0.003377	-0.014924
11	P3	-7.998626	0.003379	-0.015046
15	P3	-7.998564	0.003378	-0.014882
19	P3	-7.998692	0.003385	-0.015213
22	P3	-7.998691	0.003370	-0.014845
26	P3	-7.998689	0.003379	-0.015174
30	P3	-7.998585	0.003380	-0.015441

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	0.000467292
	stdev	2.21712e-07
MEAN Q	mean	0.000482073
	stdev	2.34588e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128918
	stdev	0.00105185
STDEV Q	mean	0.129177
	stdev	0.00106379

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005041[901]
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_GM1_1PNPDK20050410_161611_000003442036_00183_16269_7778.N1	0	7

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

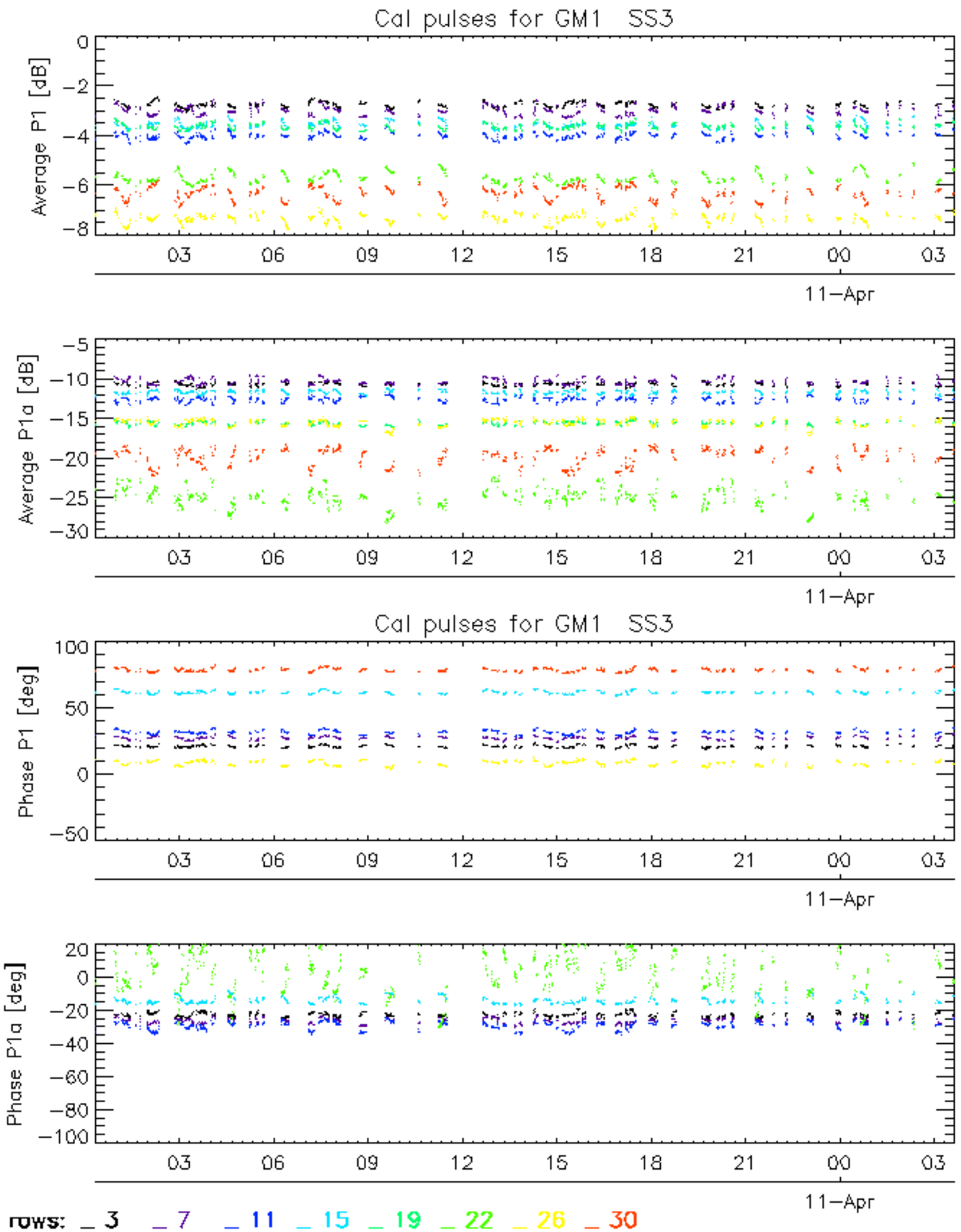
Descending

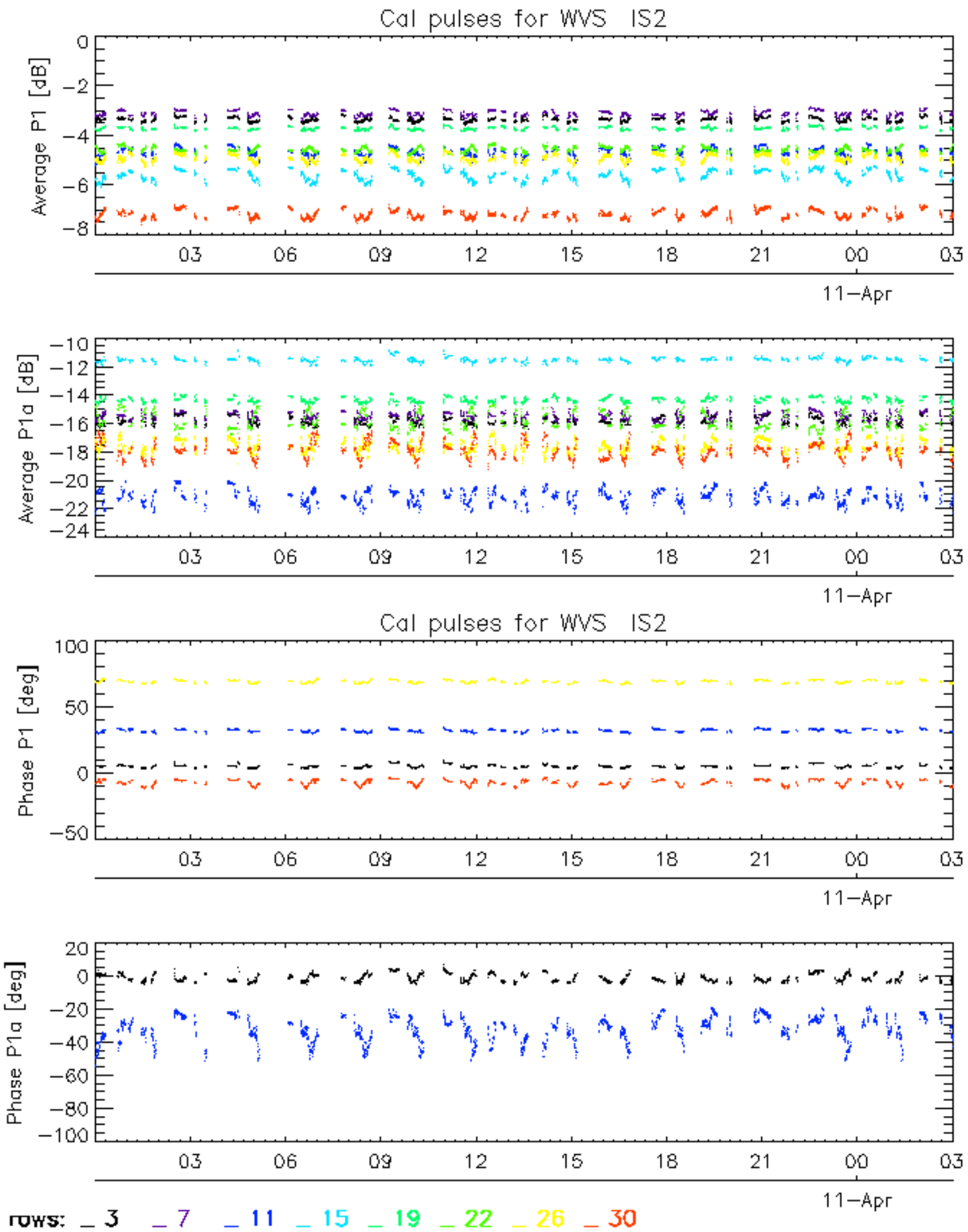
7.5 - Absolute Doppler for GM1

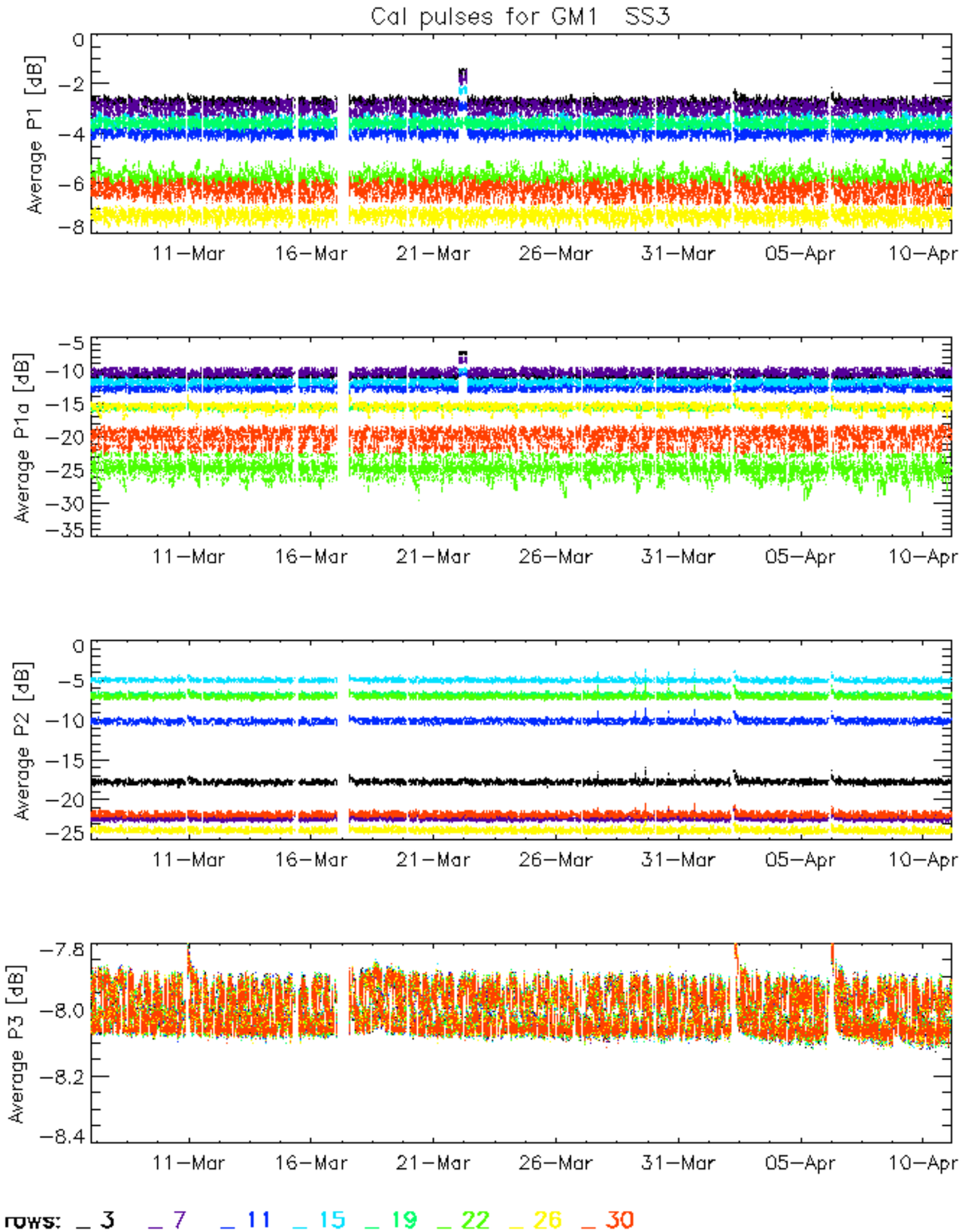
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

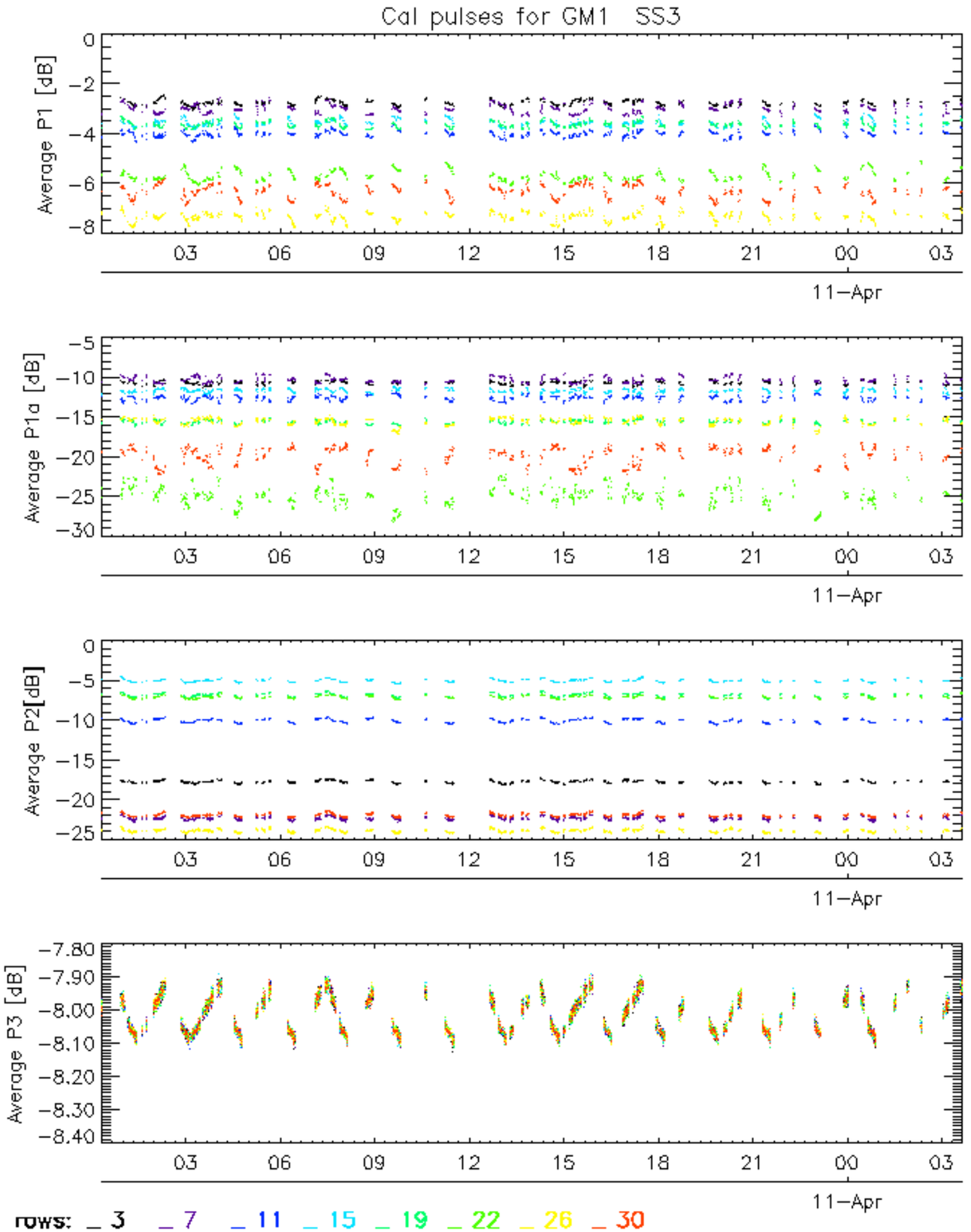
7.6 - Doppler evolution versus ANX for GM1

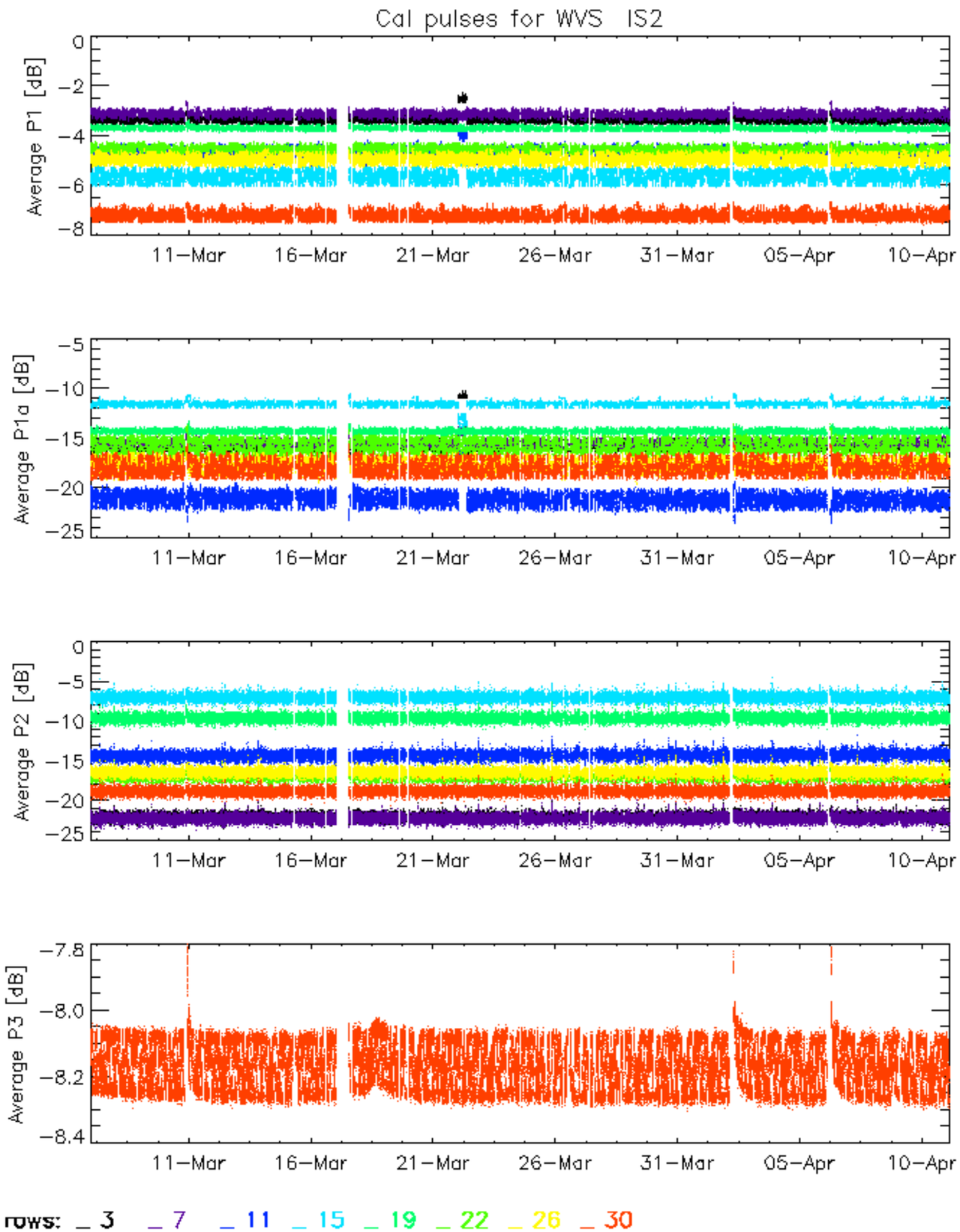
Evolution Doppler error versus ANX
☒

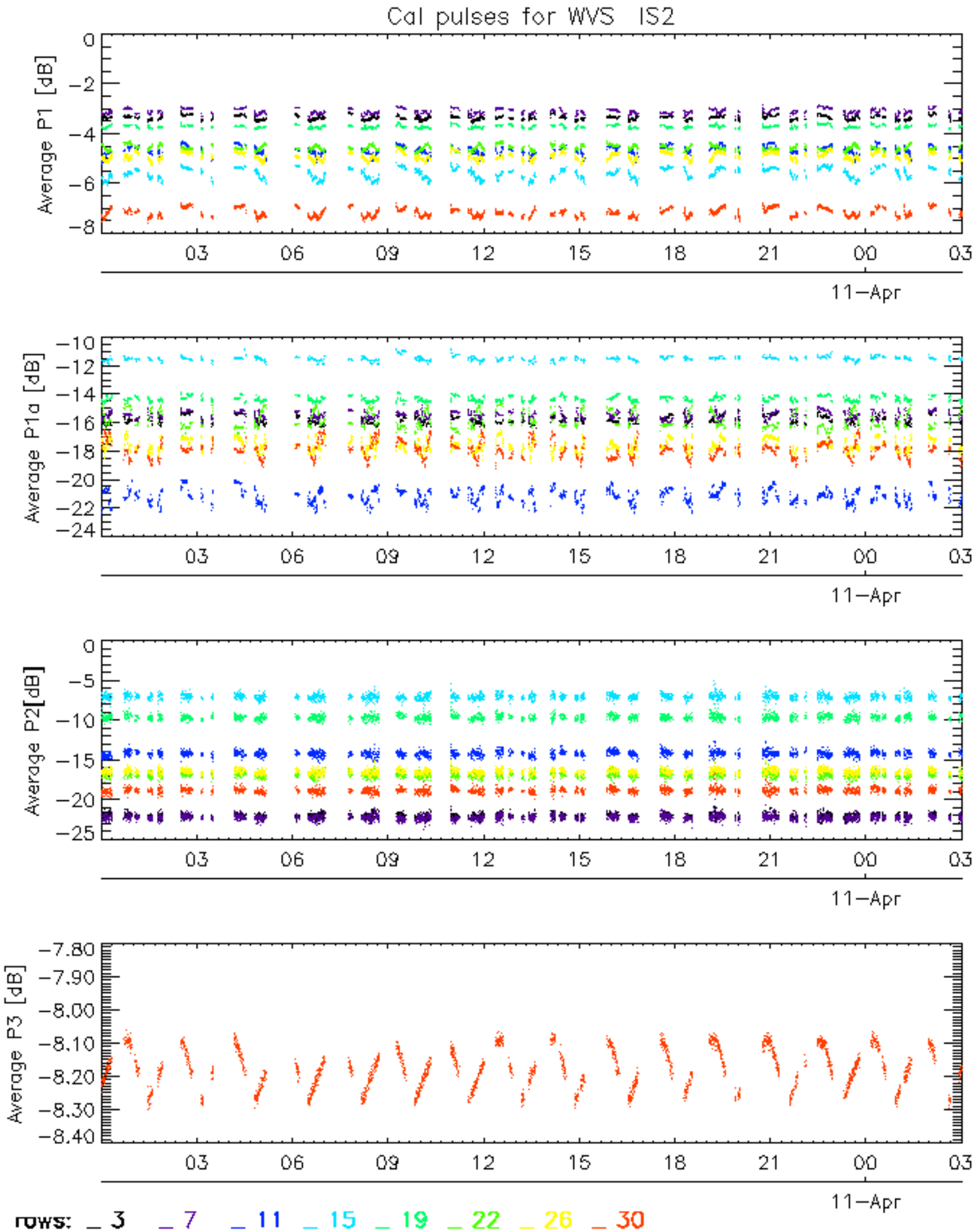

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
11−Apr
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
11−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

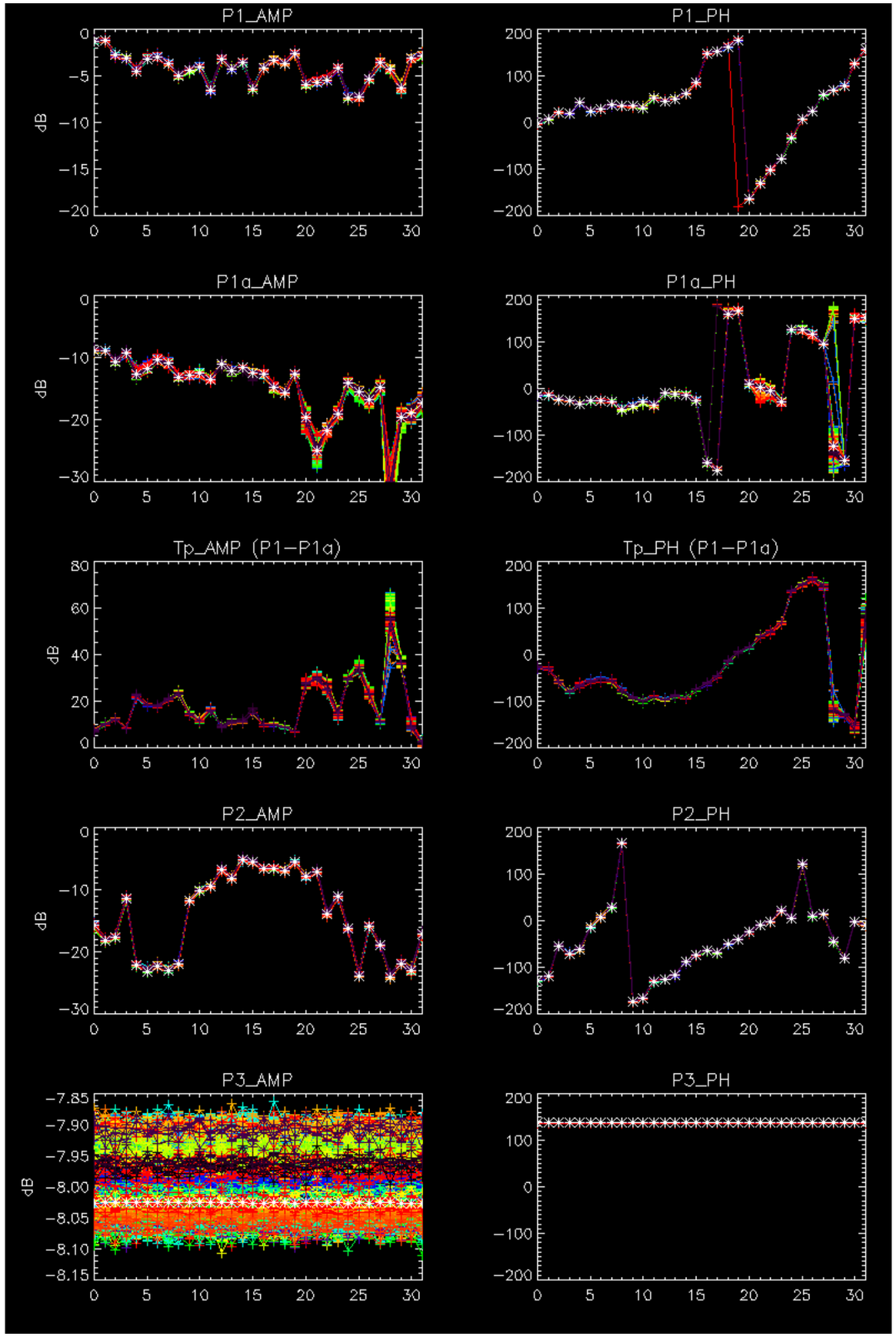

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
11−Mar
16−Mar
21−Mar
26−Mar
31−Mar
05−Apr
10−Apr
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

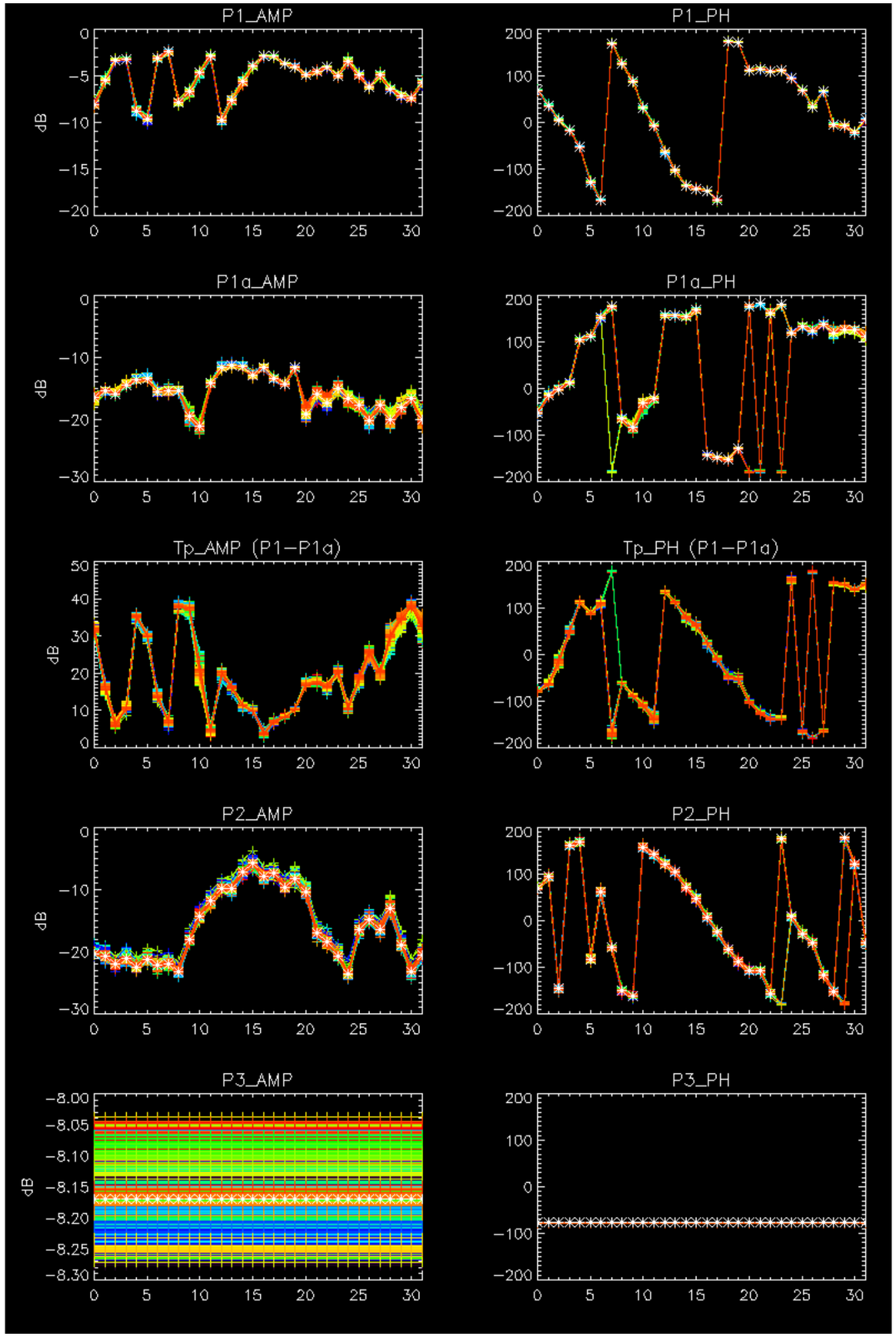

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
11−Apr
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
11−Mar
16−Mar
21−Mar
26−Mar
31−Mar
05−Apr
10−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
11−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

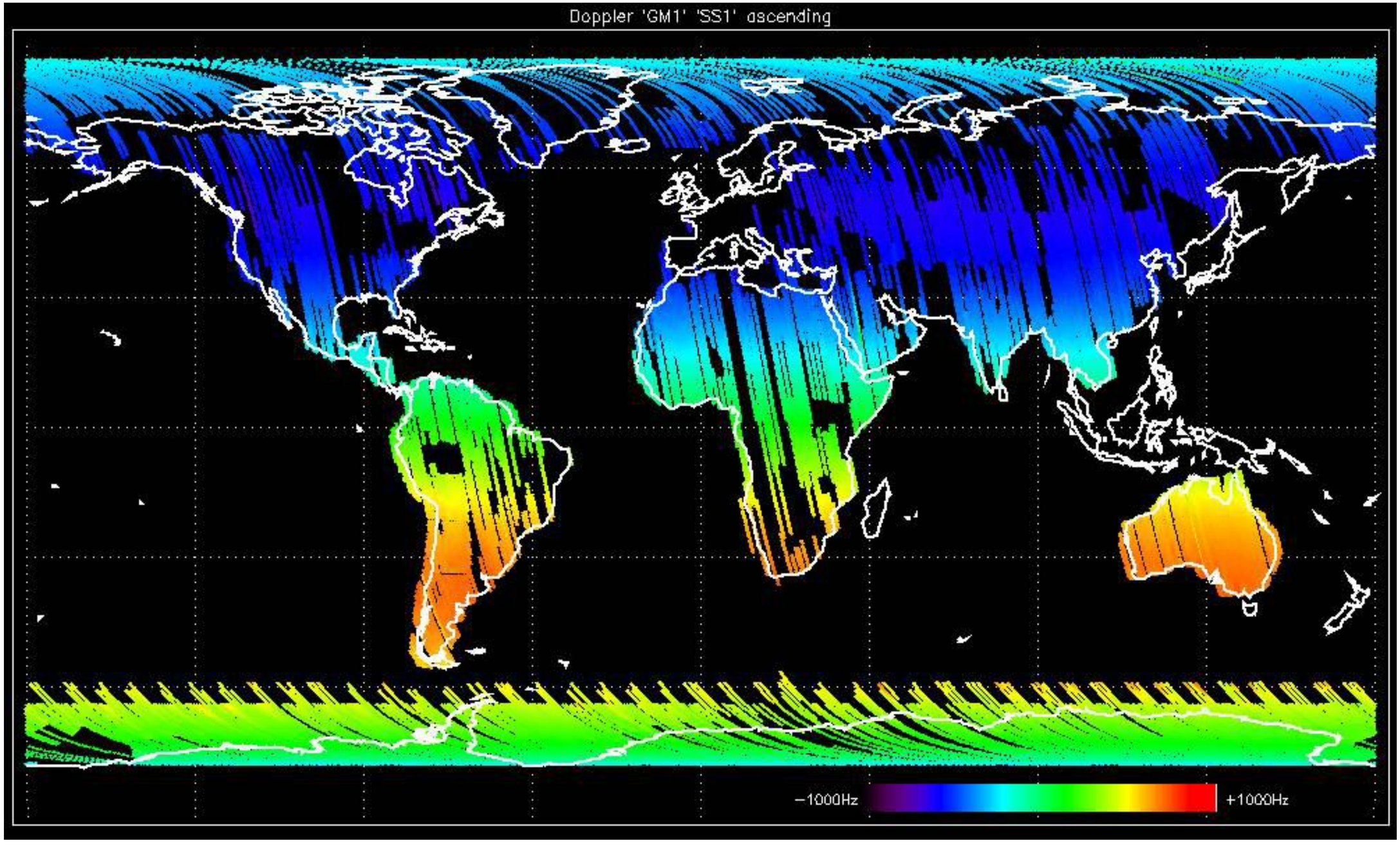
No anomalies observed.

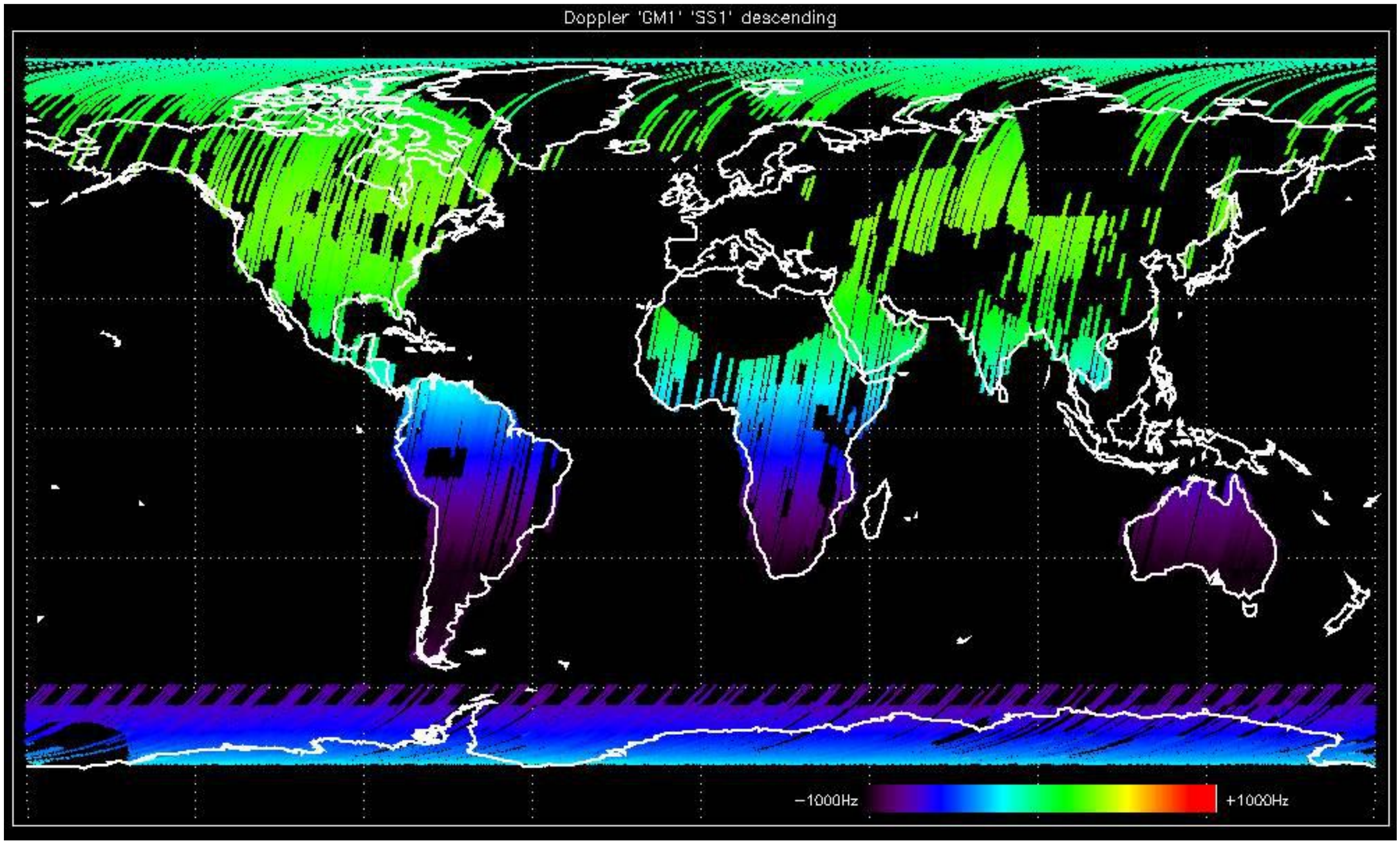

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

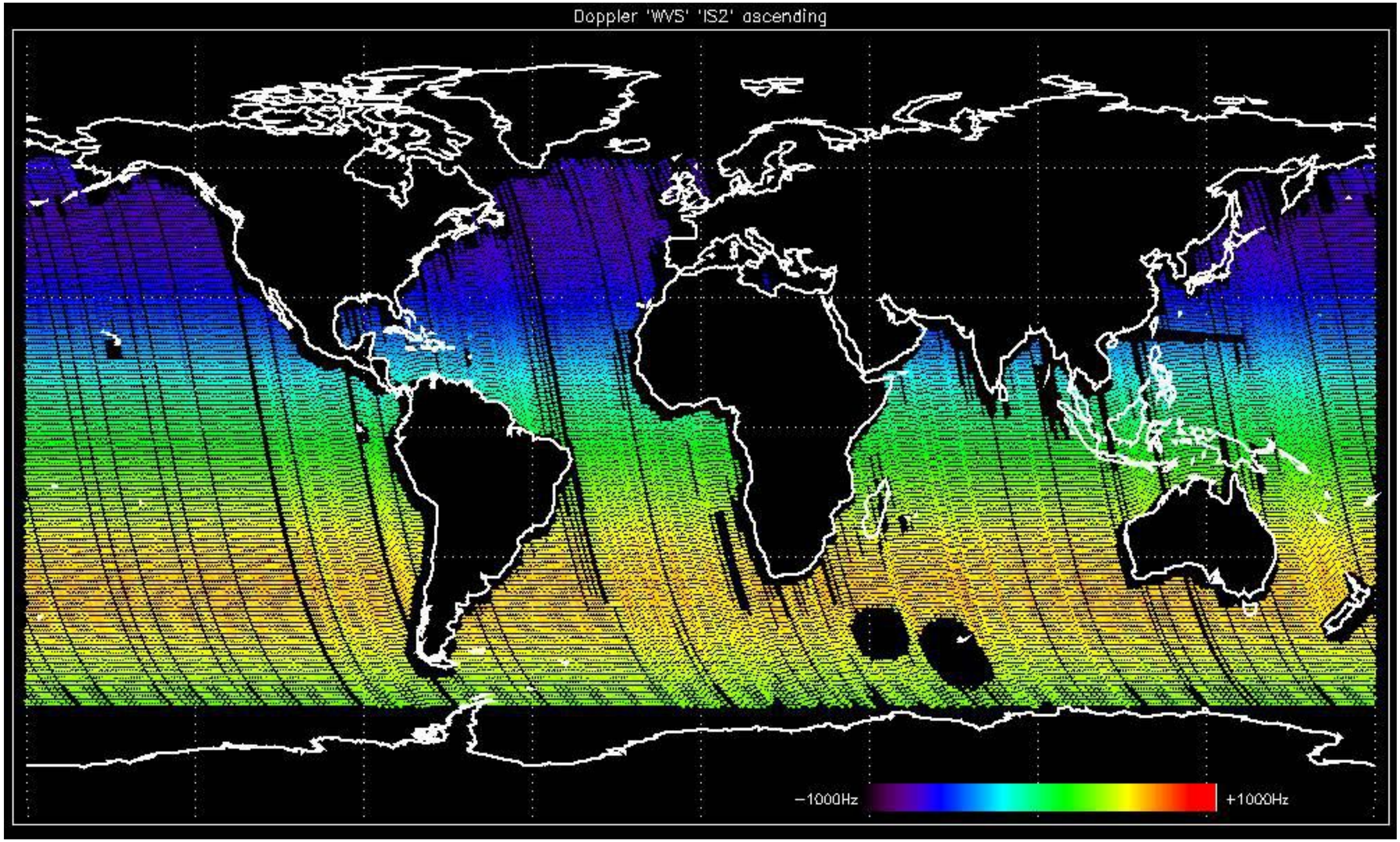

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

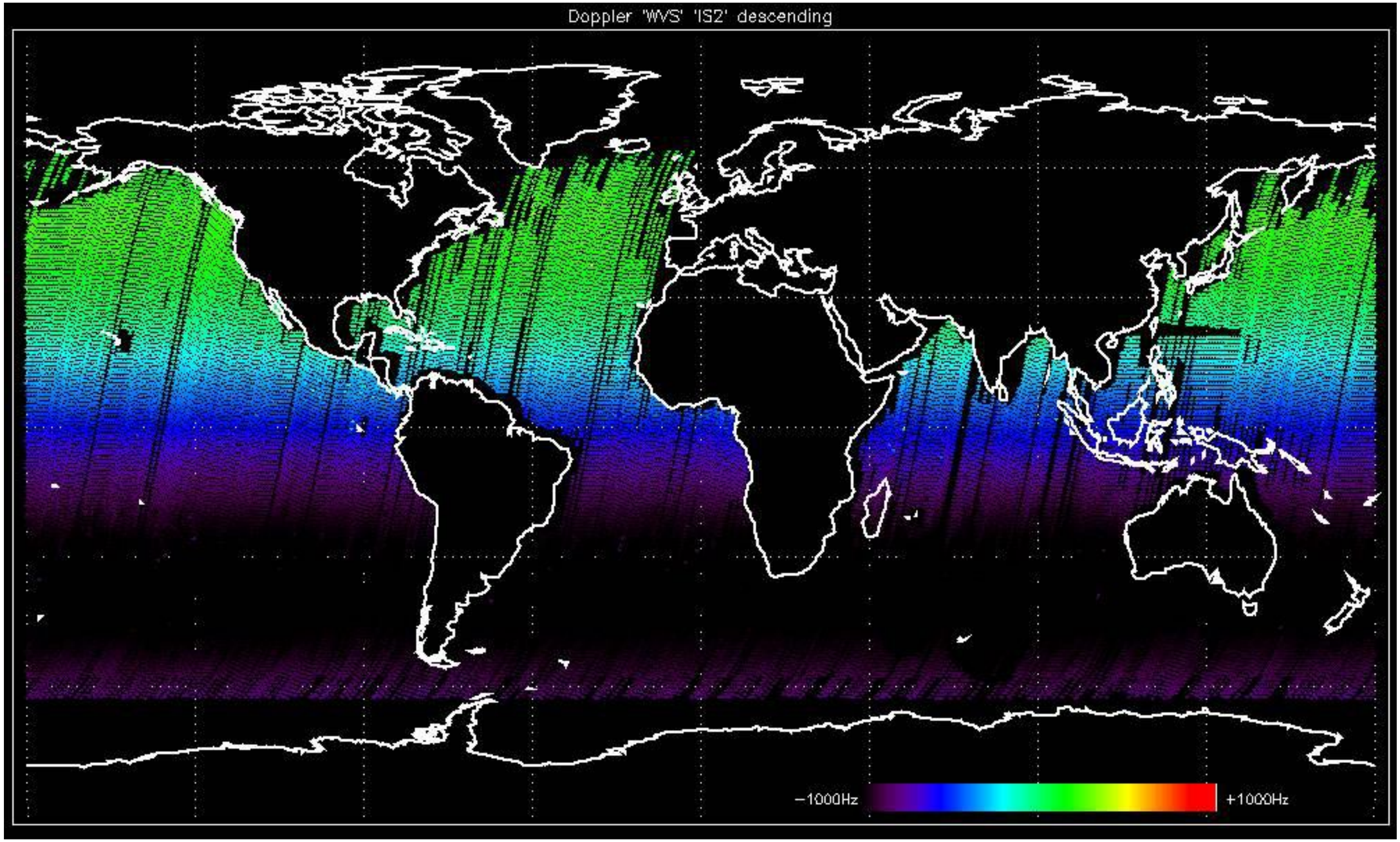
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

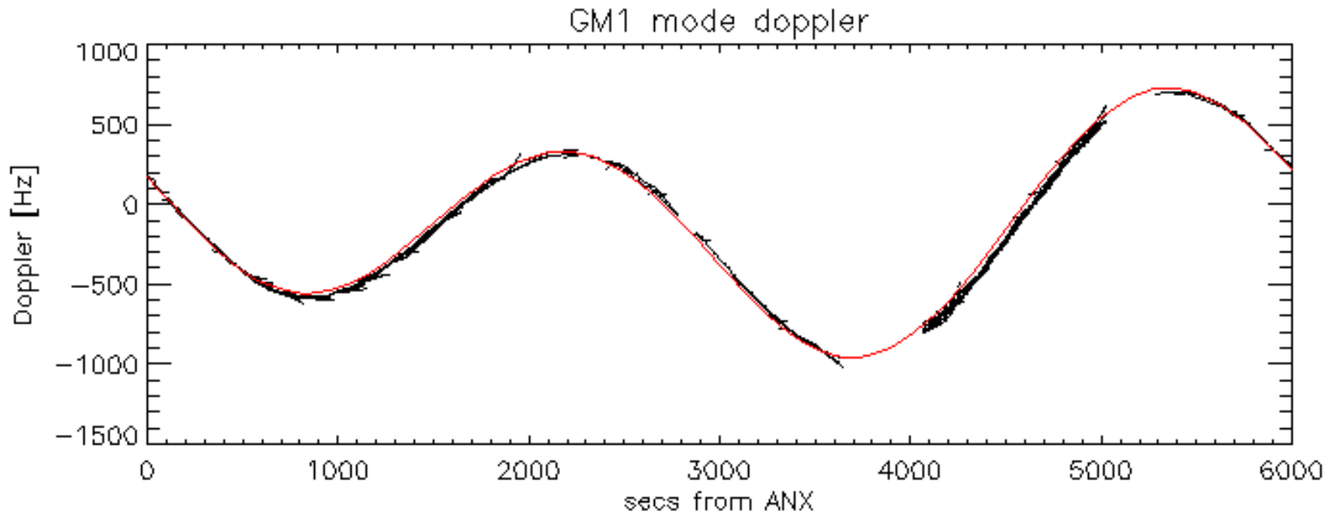
Preliminary report.The data is not yet controled

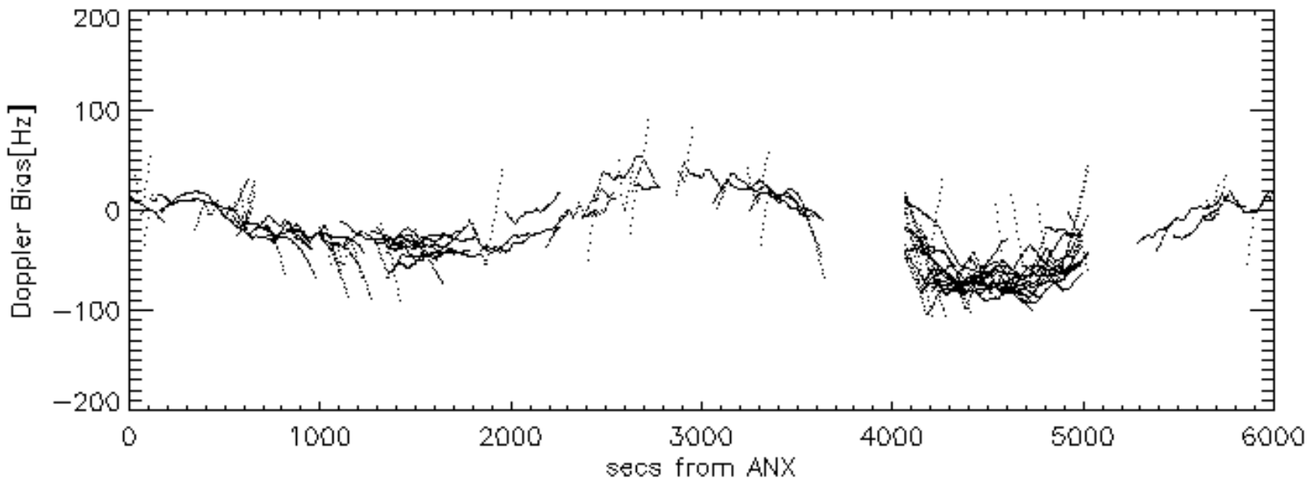

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

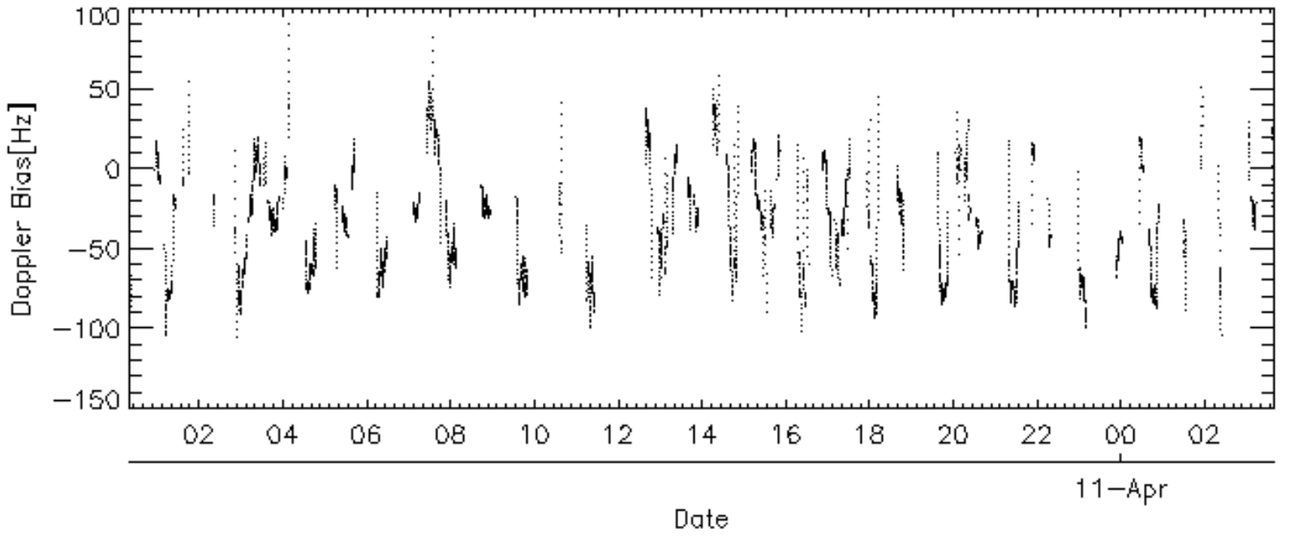

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

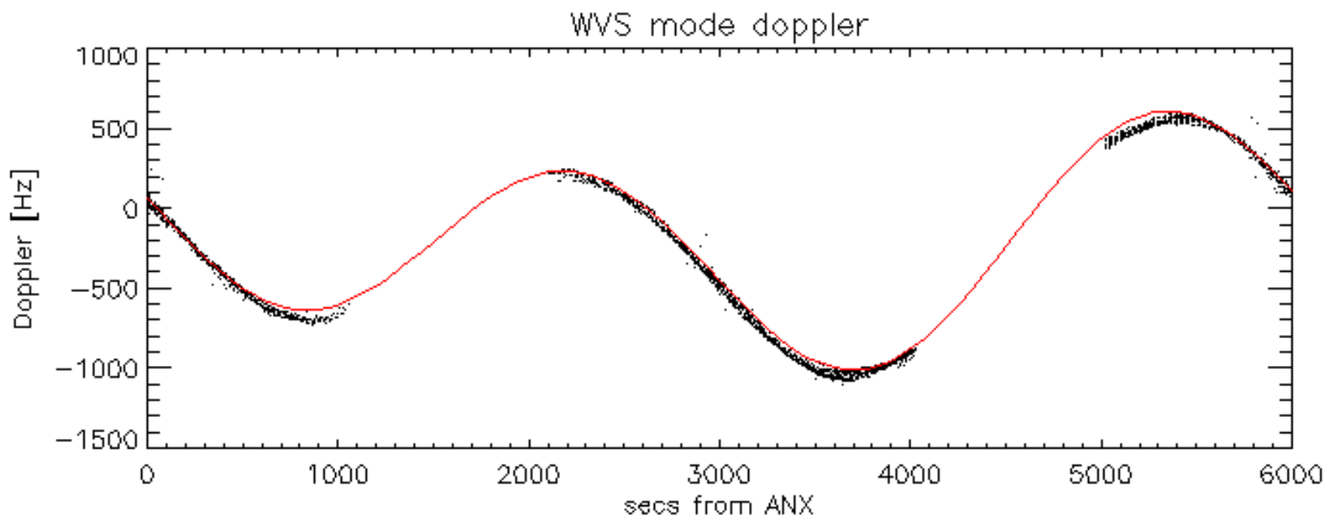

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

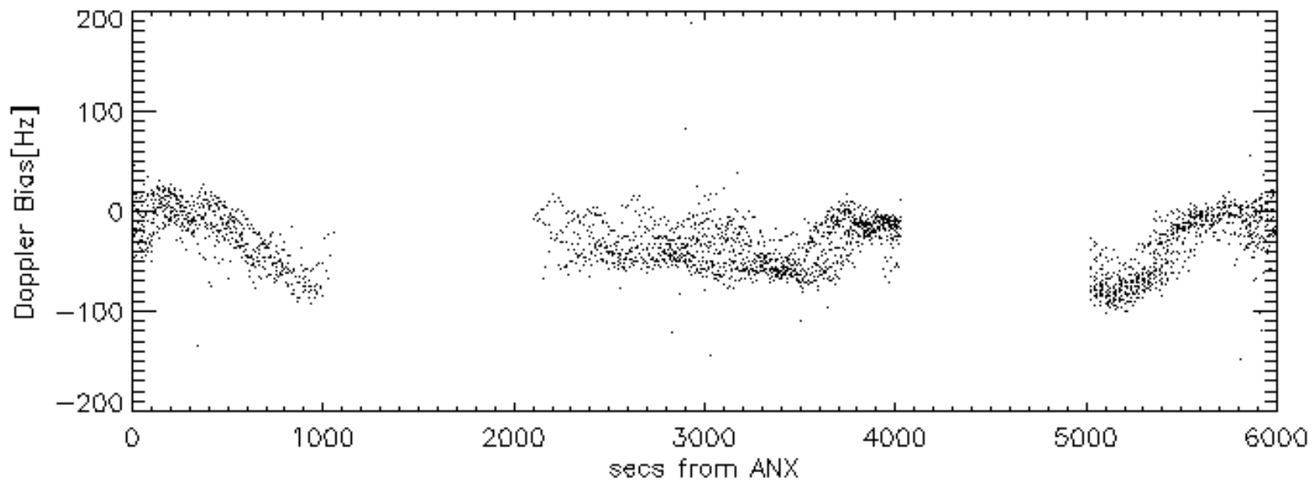

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

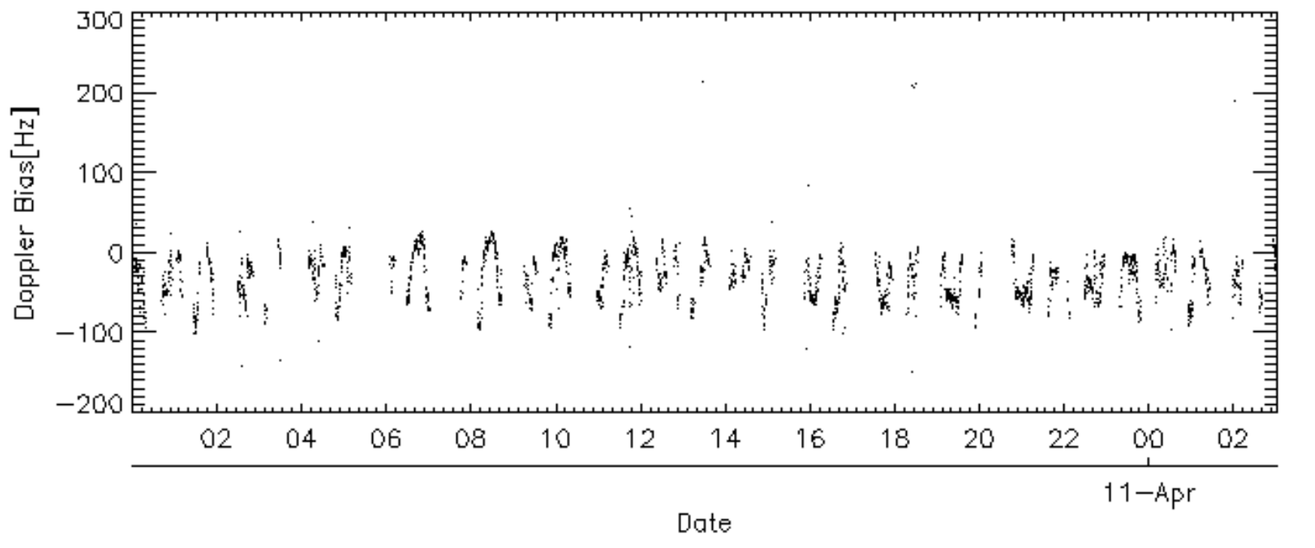

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

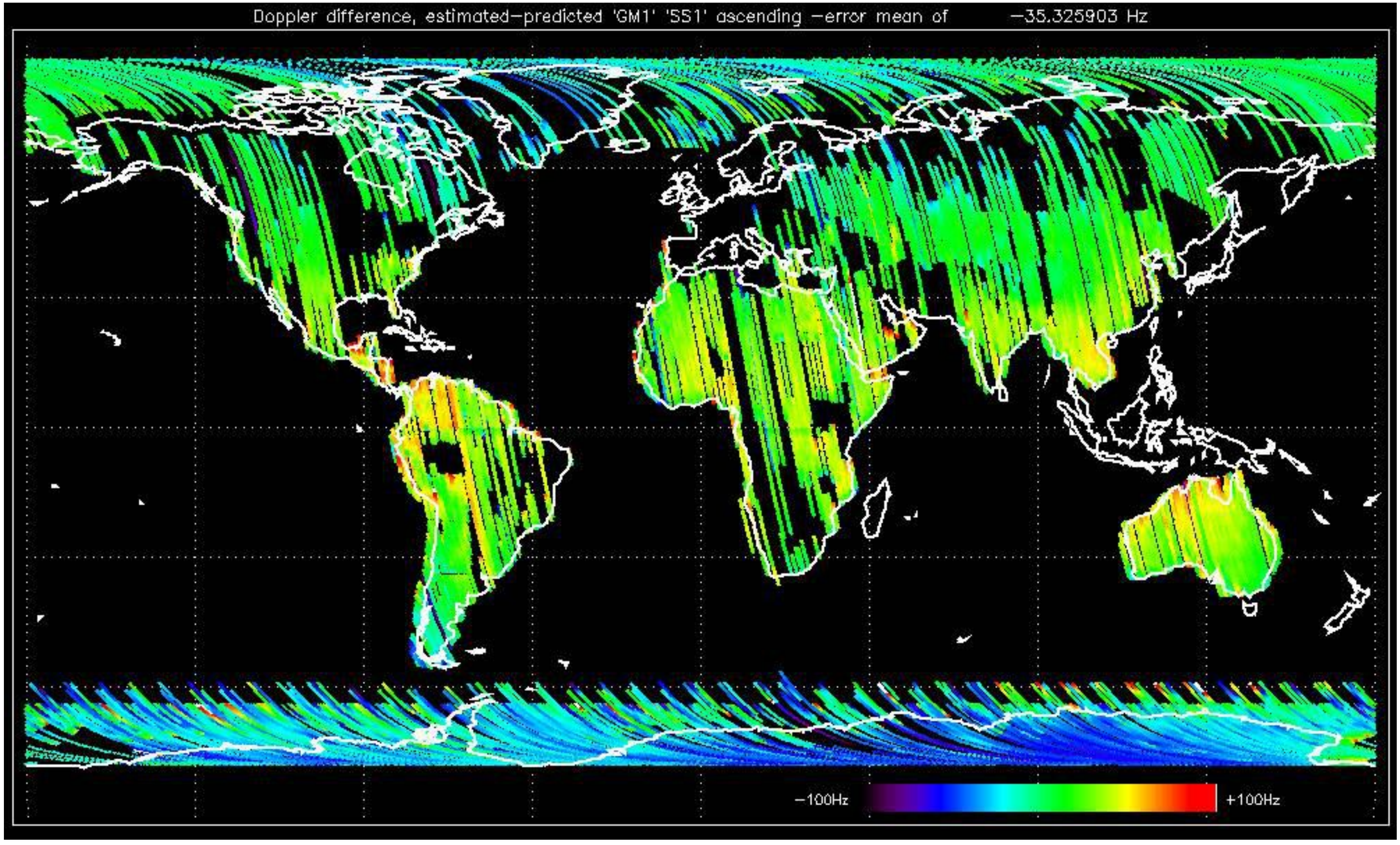

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

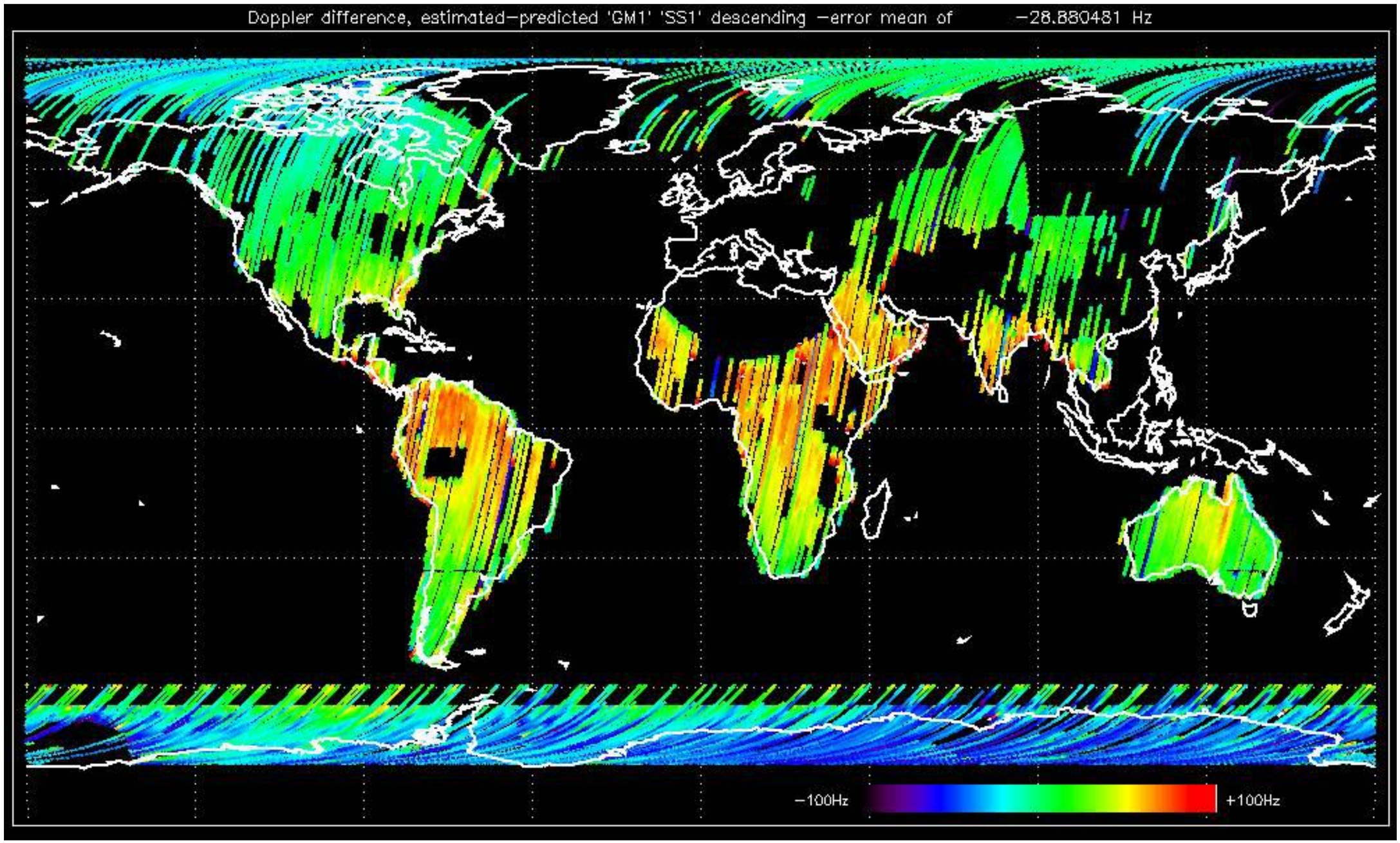

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
11−Apr
Date

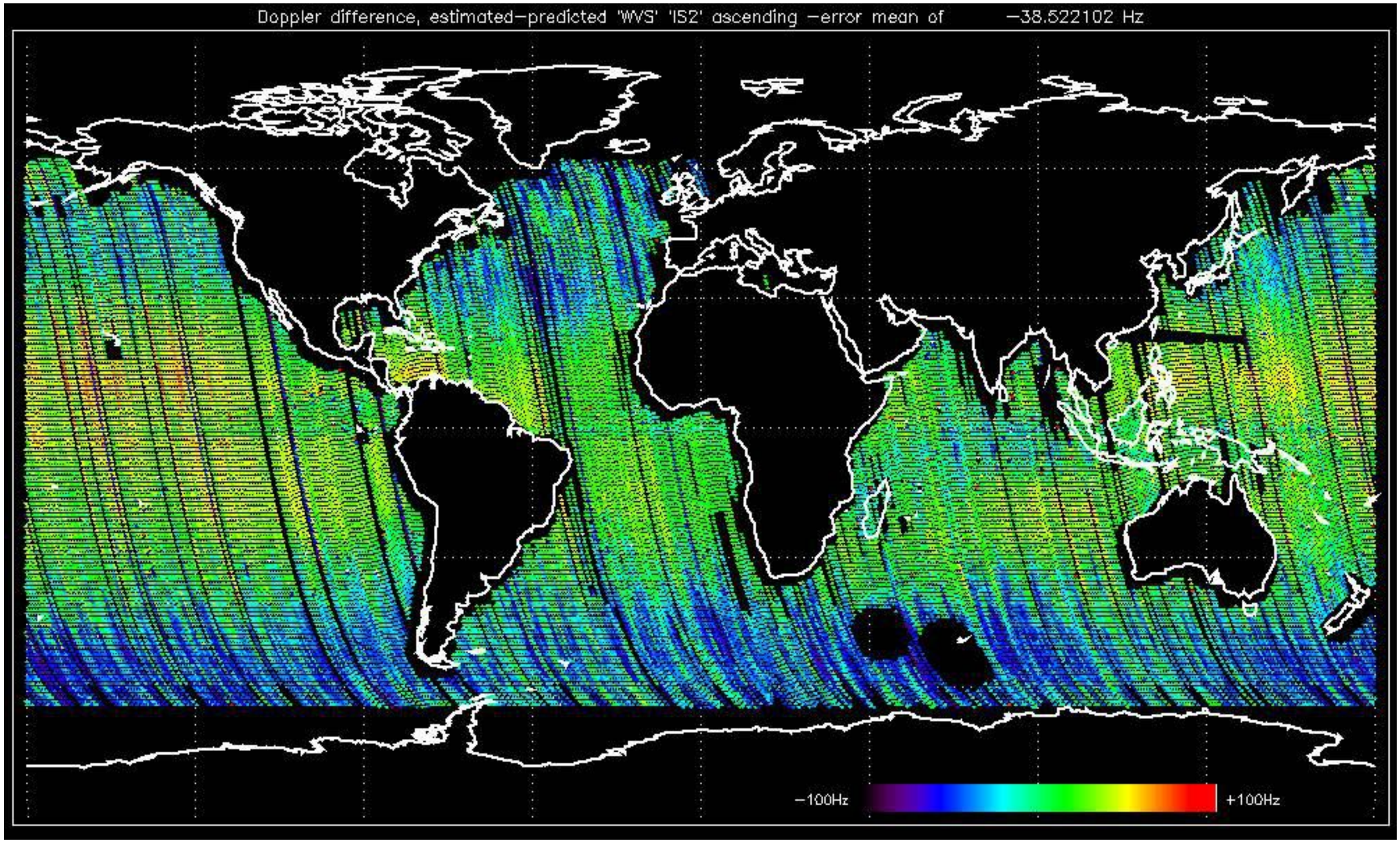

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

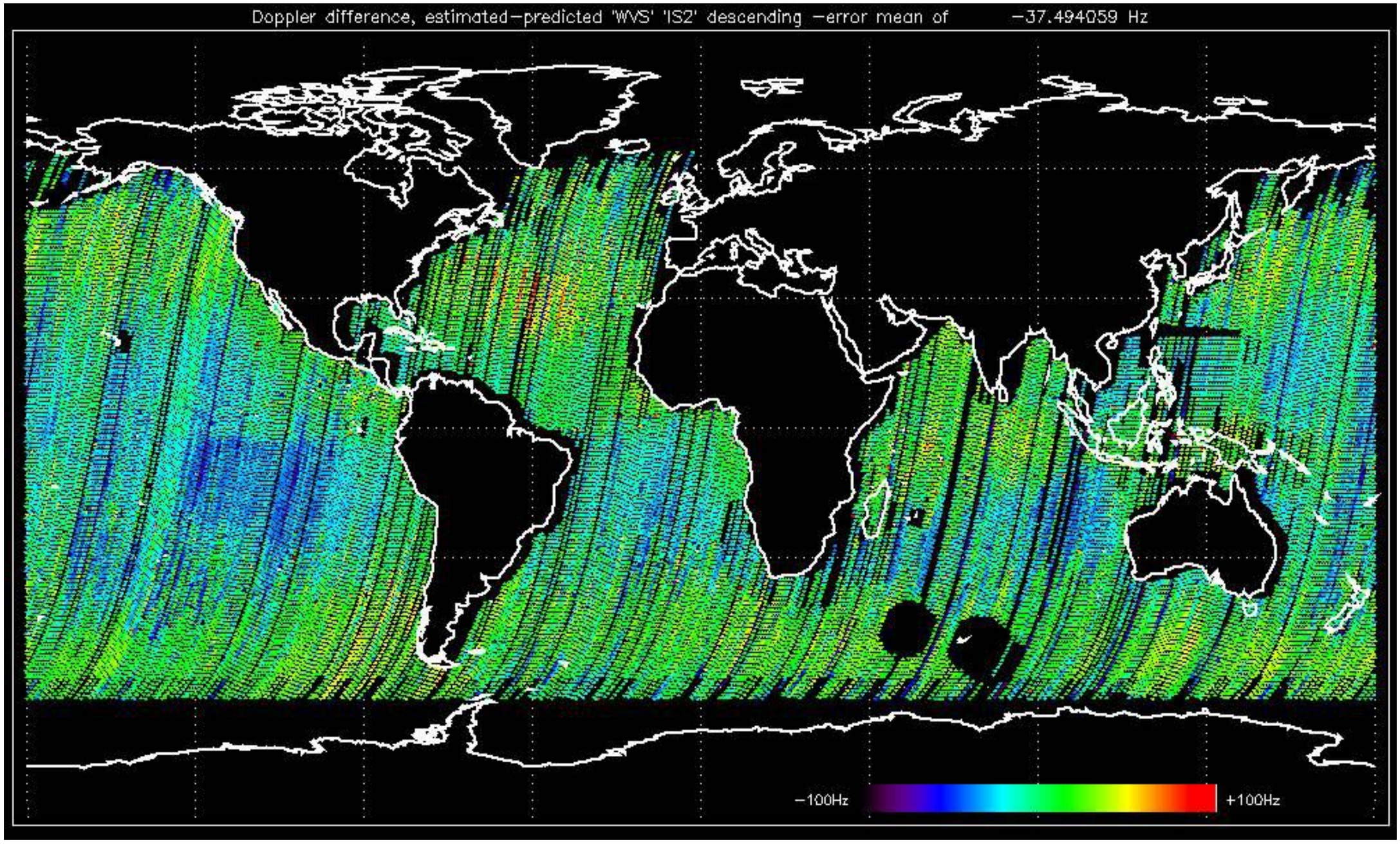

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −35.325903 Hz
−100Hz
+100Hz

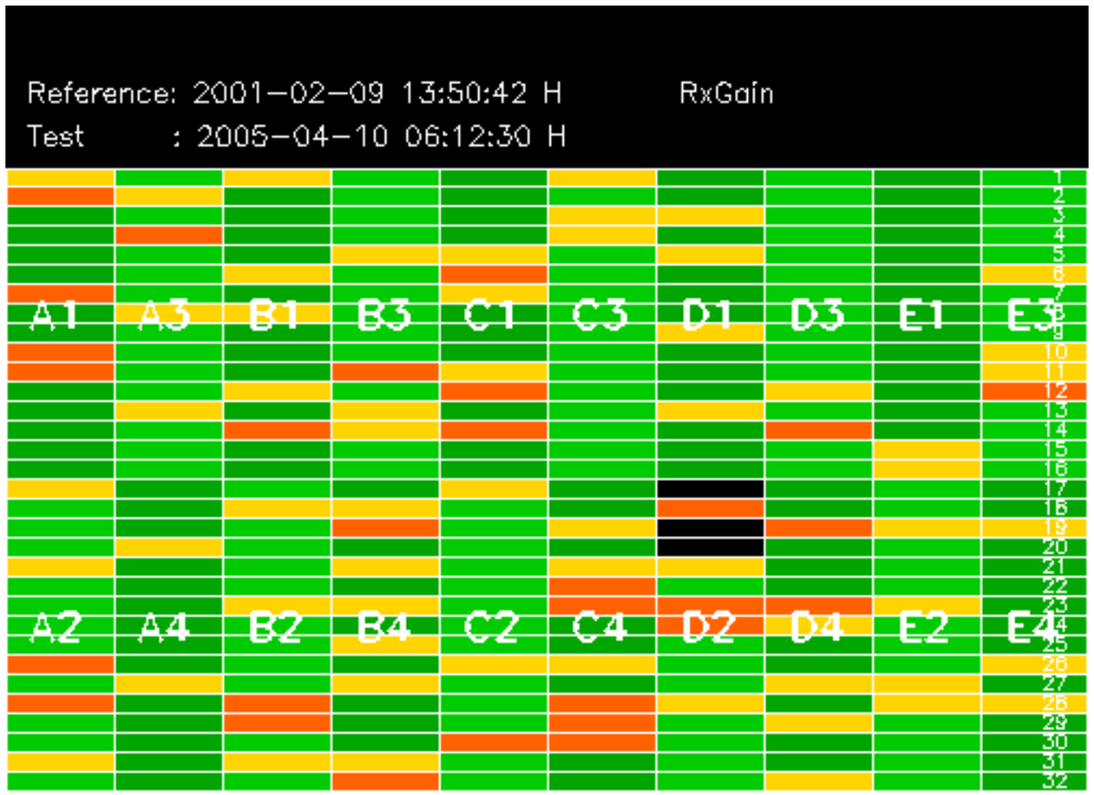

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -28.880481 Hz
-100Hz
+100Hz

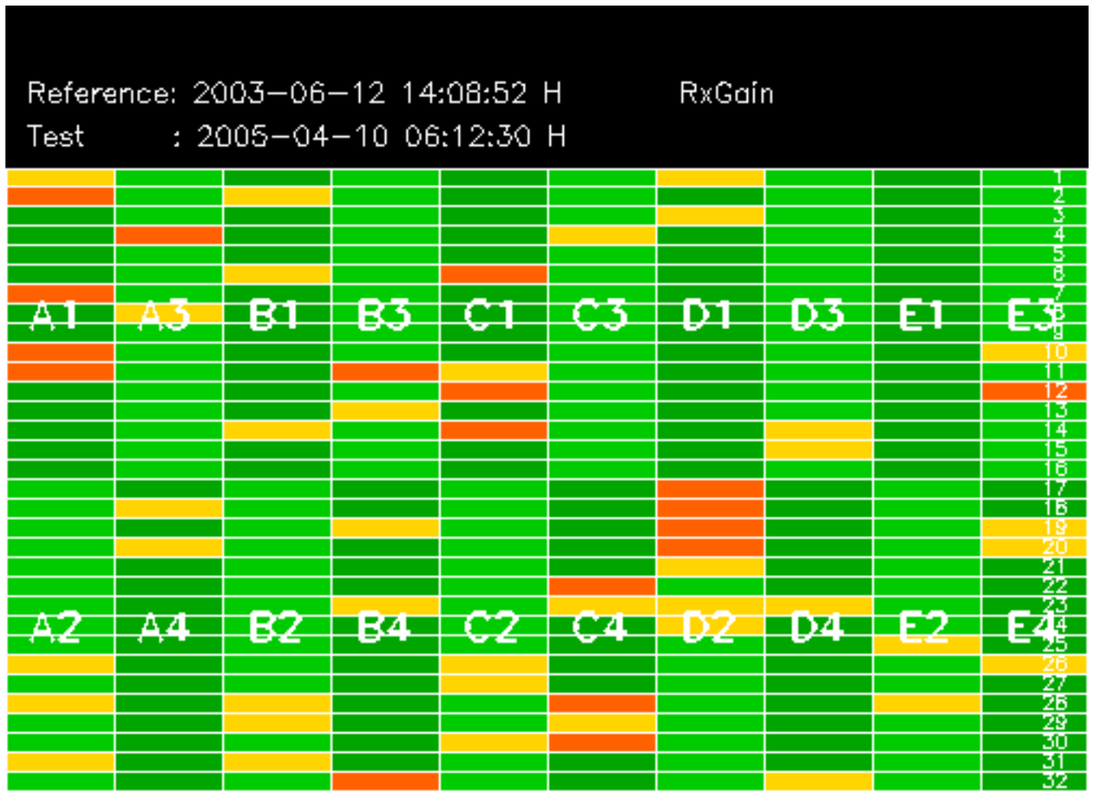

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −38.522102 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −37.494059 Hz
−100Hz
+100Hz

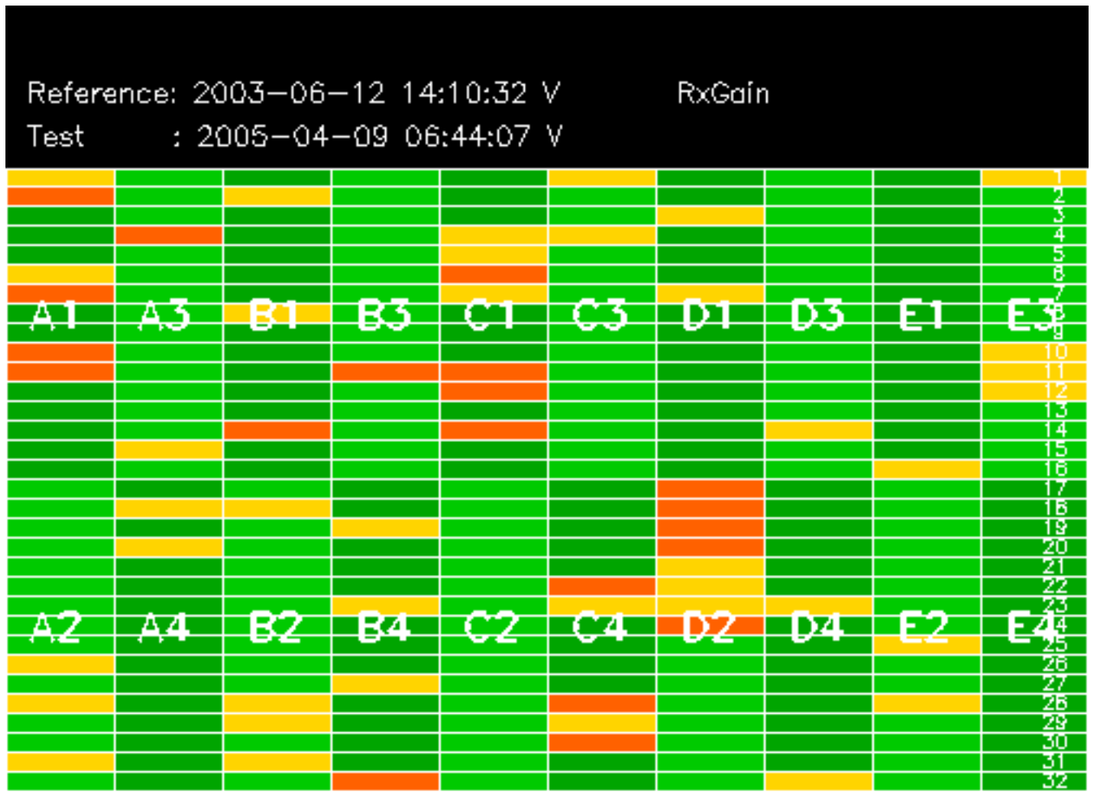
No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2005-04-10 06:12:30 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 : 2005-04-10 06:12:30 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: 2001-02-09 14:08:23 V
Test : 2005-04-09 06:44:07 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 : 2005-04-09 06:44:07 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
7
8
9
10
11
12
13
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21
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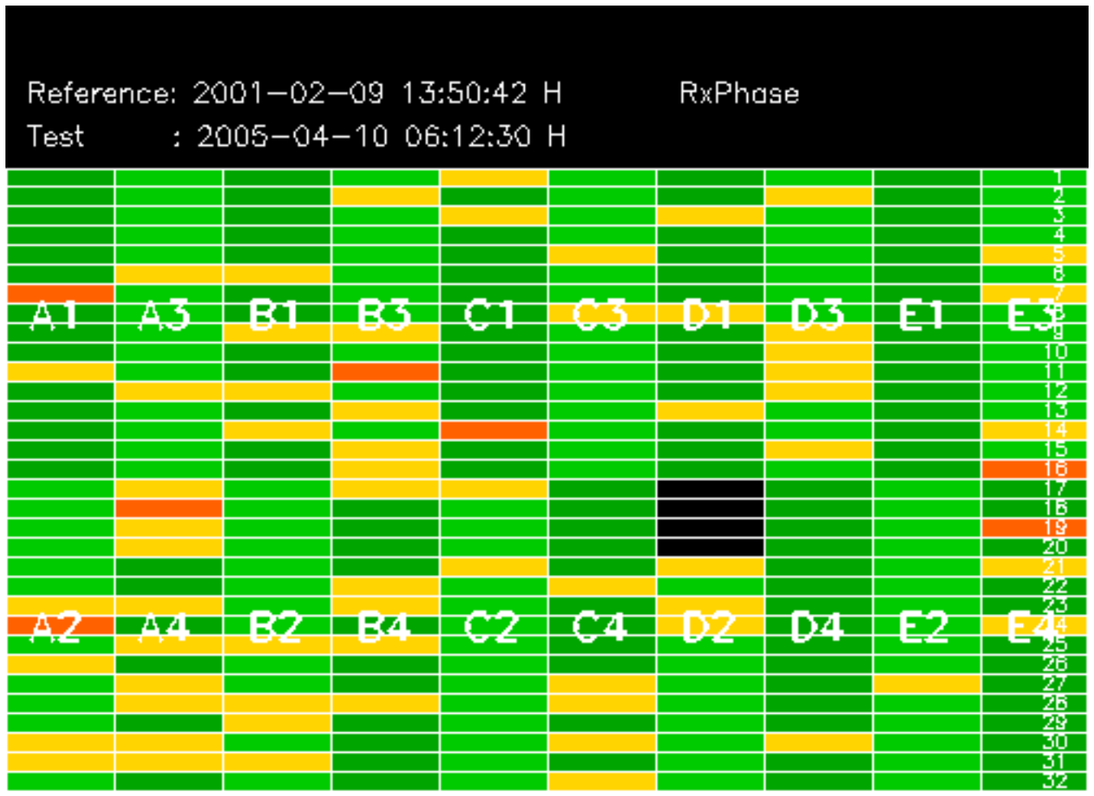
27
28
29
30
31
32


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-04-10 06:12:30 H
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
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 : 2005-04-10 06:12:30 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
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16
17
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22
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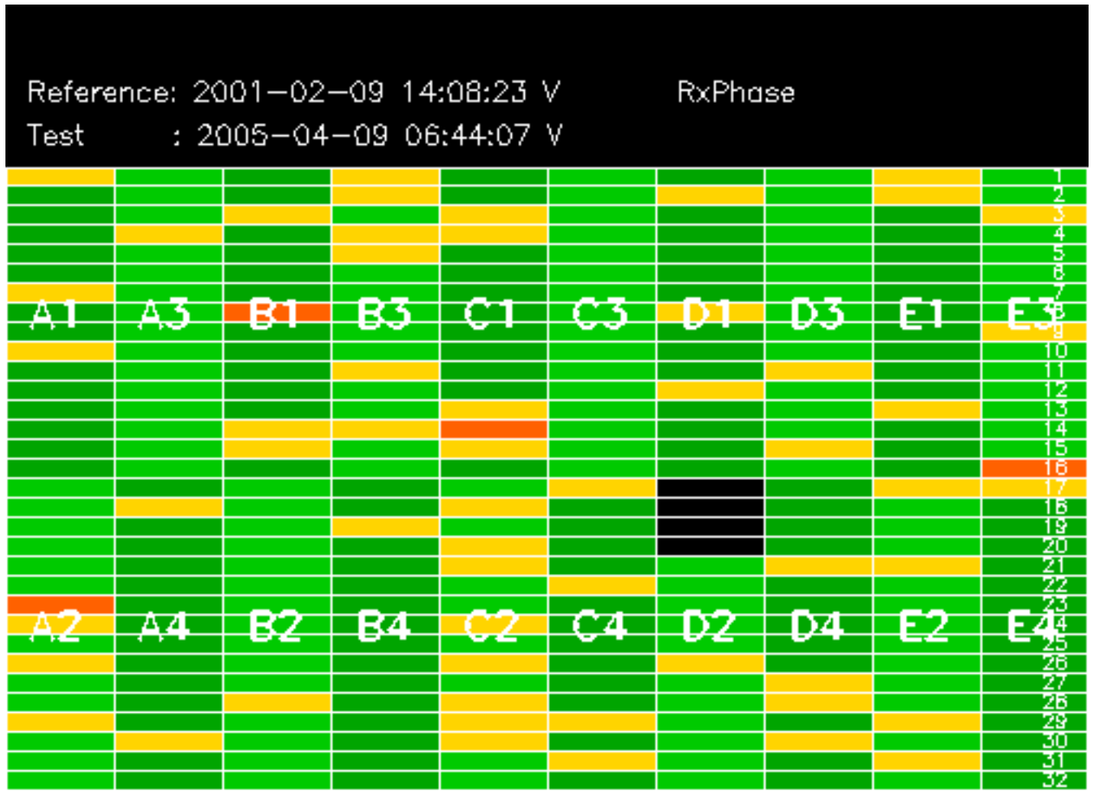
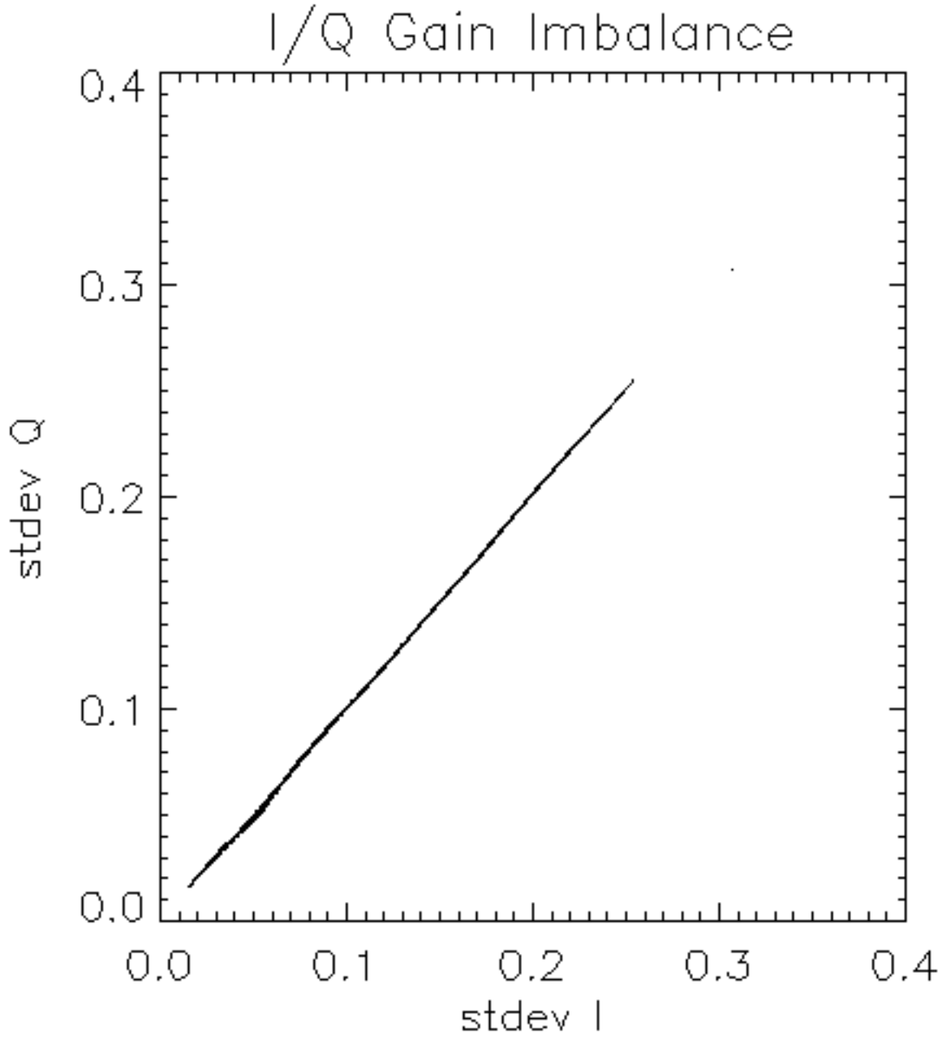
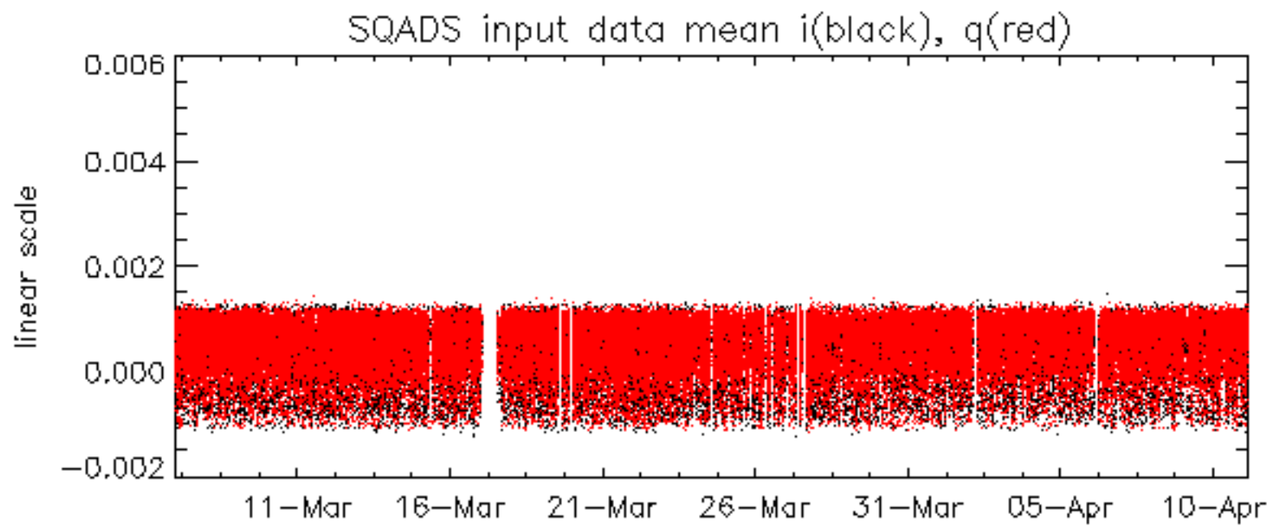
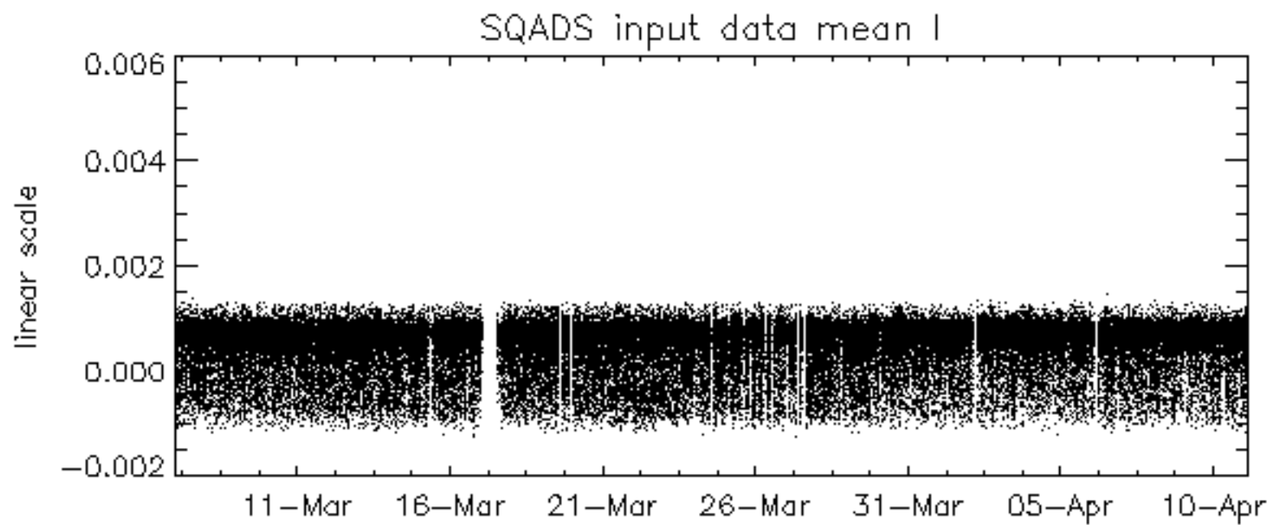
29
30
31
32

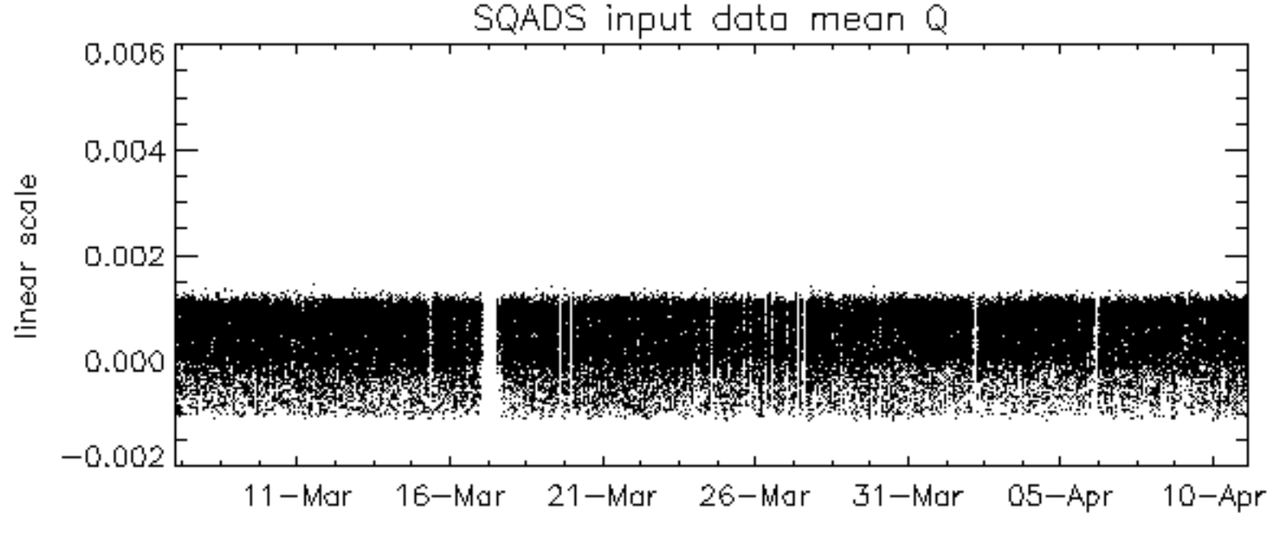

Reference: 2001-02-09 14:08:23 V
Test : 2005-04-09 06:44:07 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

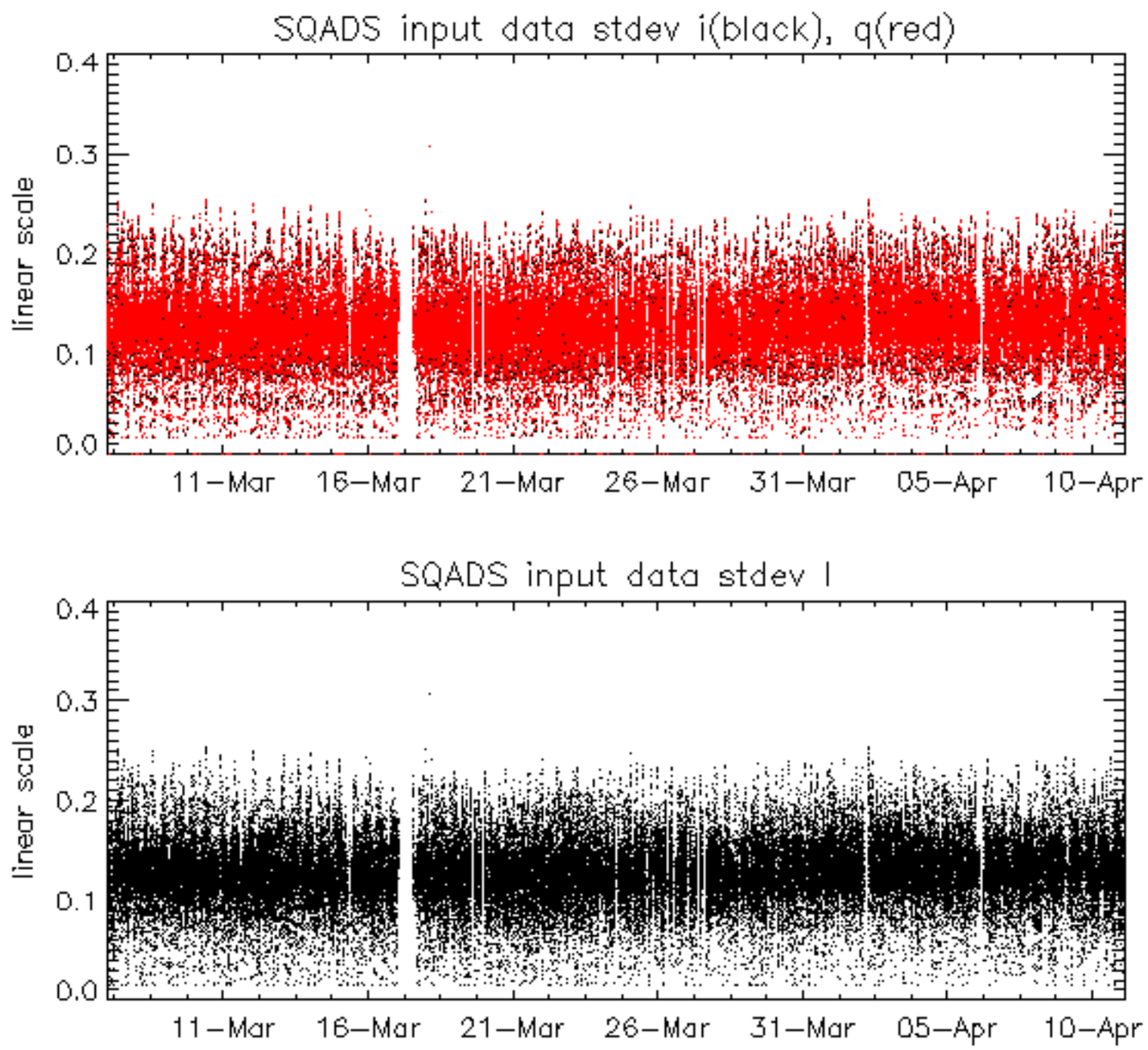

Reference: 2003-06-12 14:10:32 V
Test : 2005-04-09 06:44:07 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

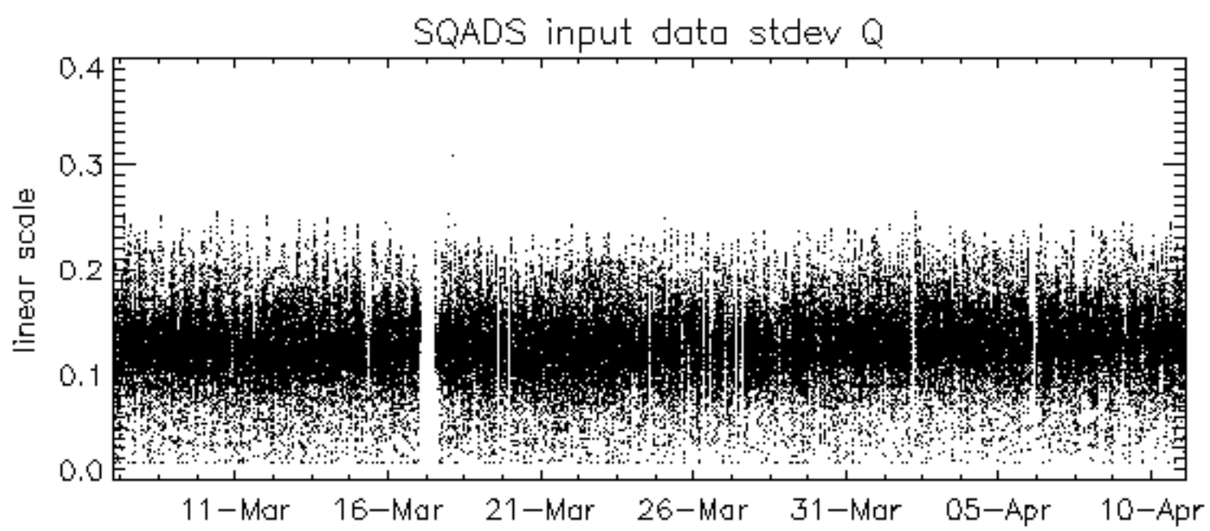

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I


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

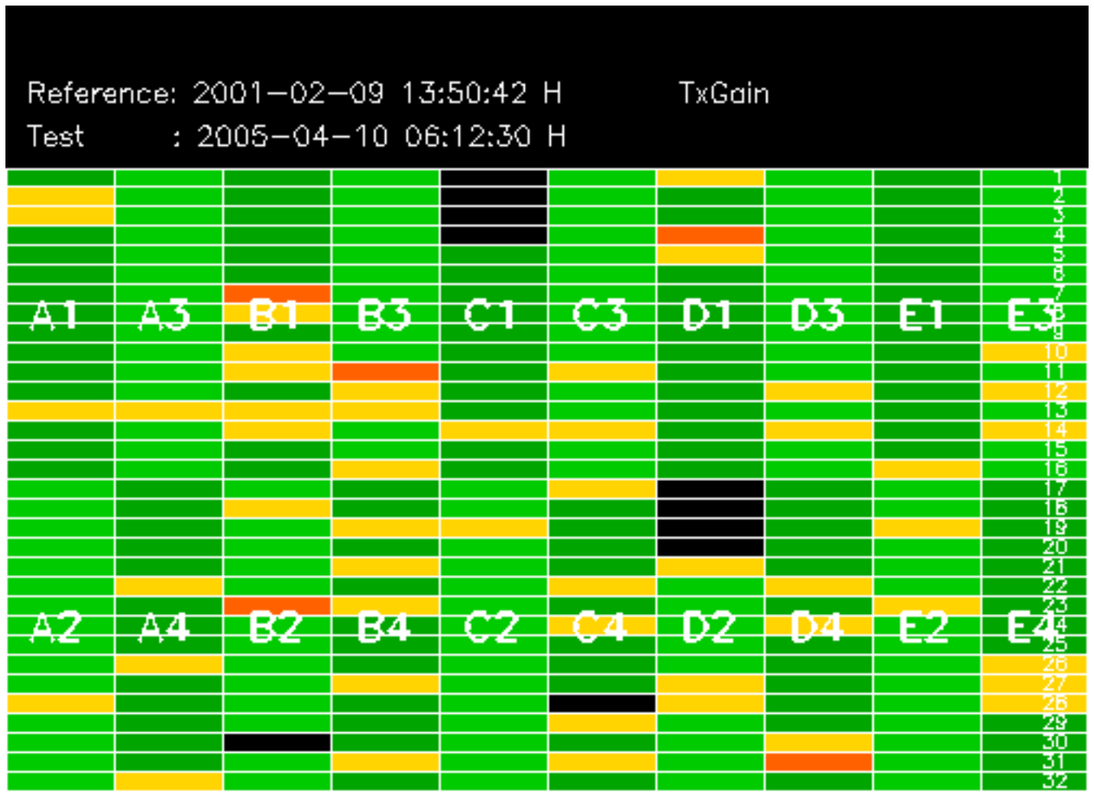

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Mar
16−Mar
21−Mar
26−Mar
31−Mar
05−Apr
10−Apr


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


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


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

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


Reference: 2001-02-09 13:50:42 H
Test : 2005-04-10 06:12:30 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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27
28
29
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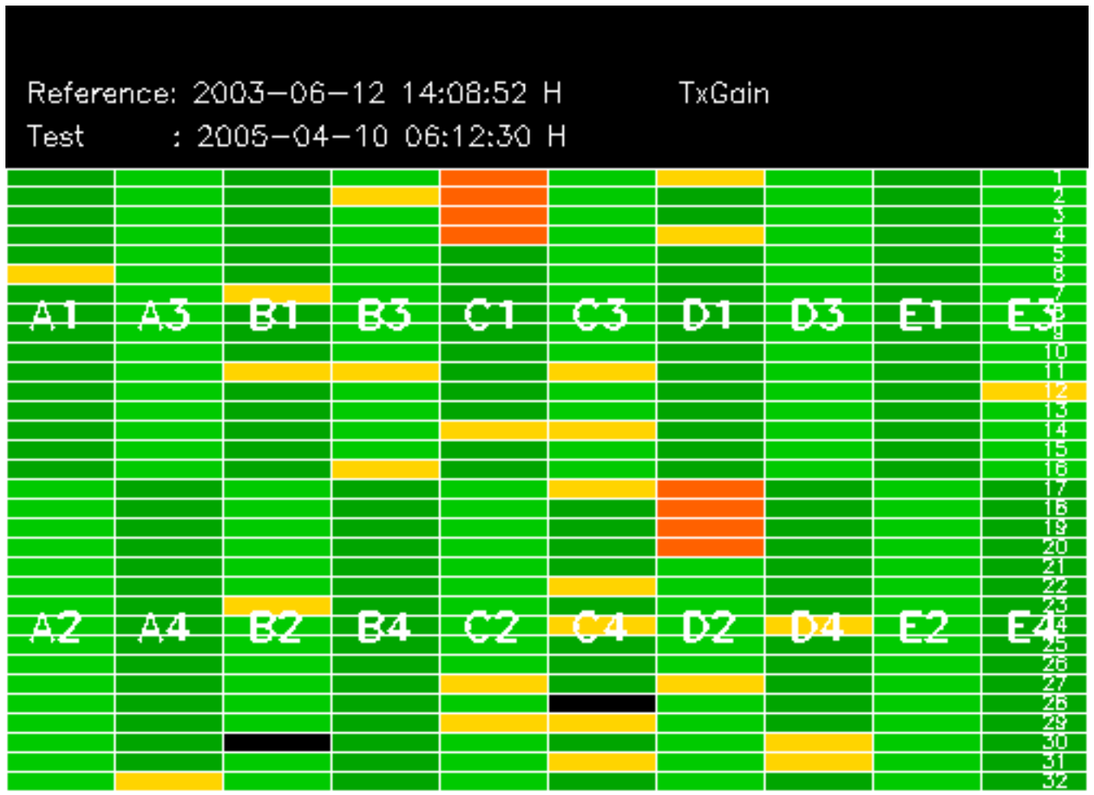
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-04-10 06:12:30 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
Test : 2005-04-09 06:44:07 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
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6
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8
9
10
11
12
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14
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16
17
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19
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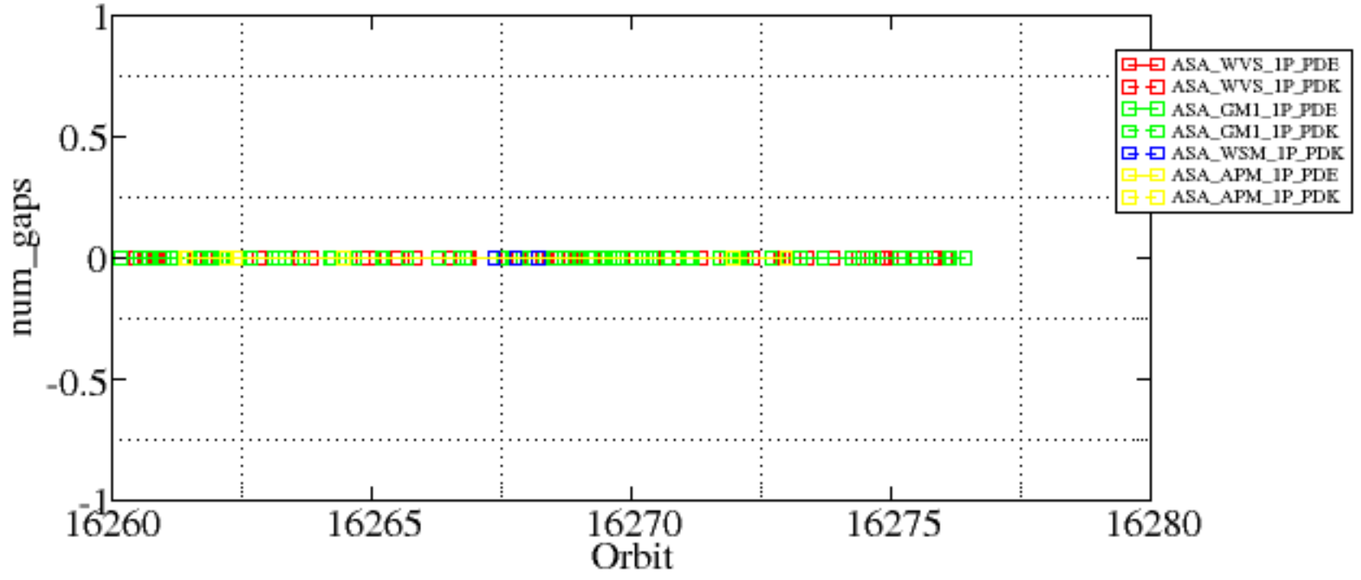
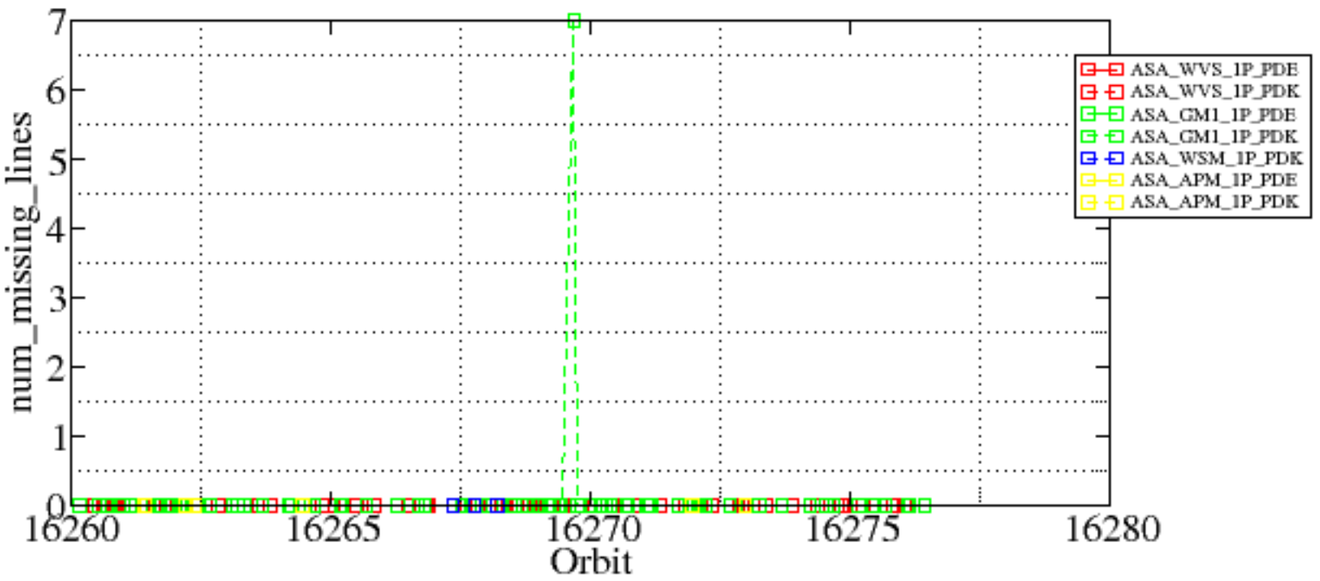
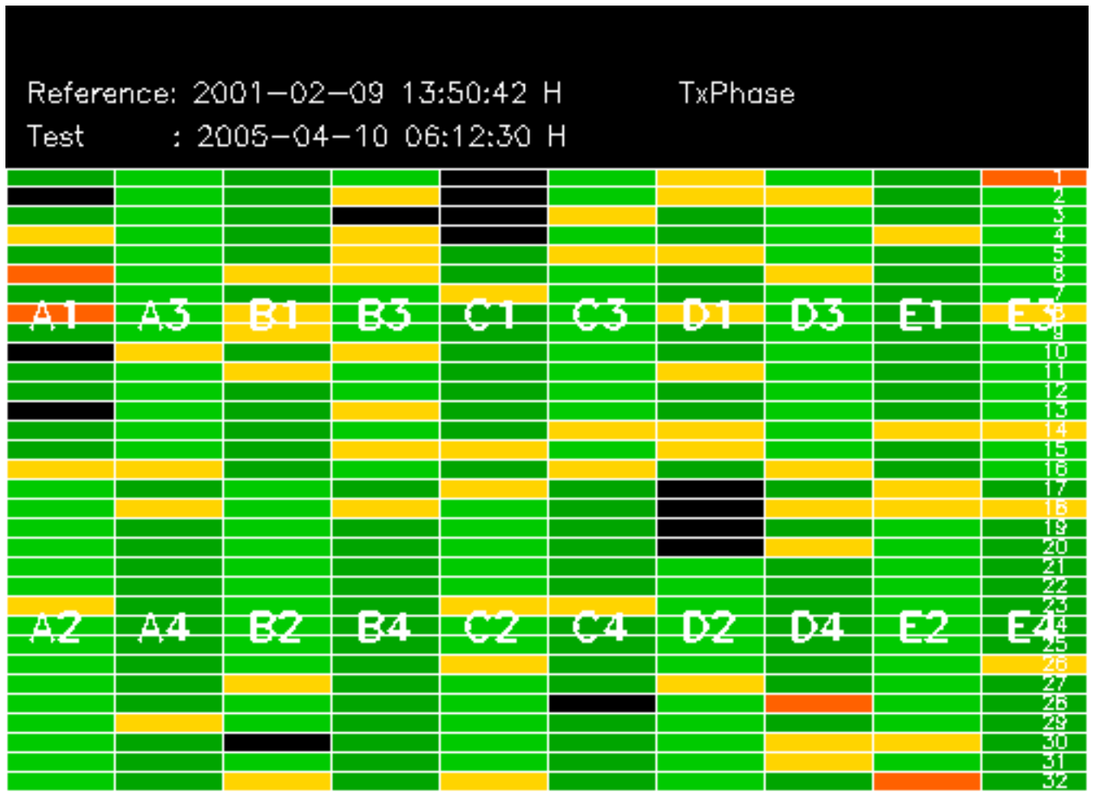
21
22
23
24
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:10:32 V
Test : 2005-04-09 06:44:07 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

Summary of analysis for the last 3 days 2005041[901]
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_GM1_1PNPDK20050410_161611_000003442036_00183_16269_7778.N1 </td> <td>0 </td> <td>7 </td></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
16260
16265
16270
16275
16280
Orbit
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK


num_missing_lines
Orbit
0
1
2
3
4
5
6
7
16260
16265
16270
16275
16280
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2005-04-10 06:12:30 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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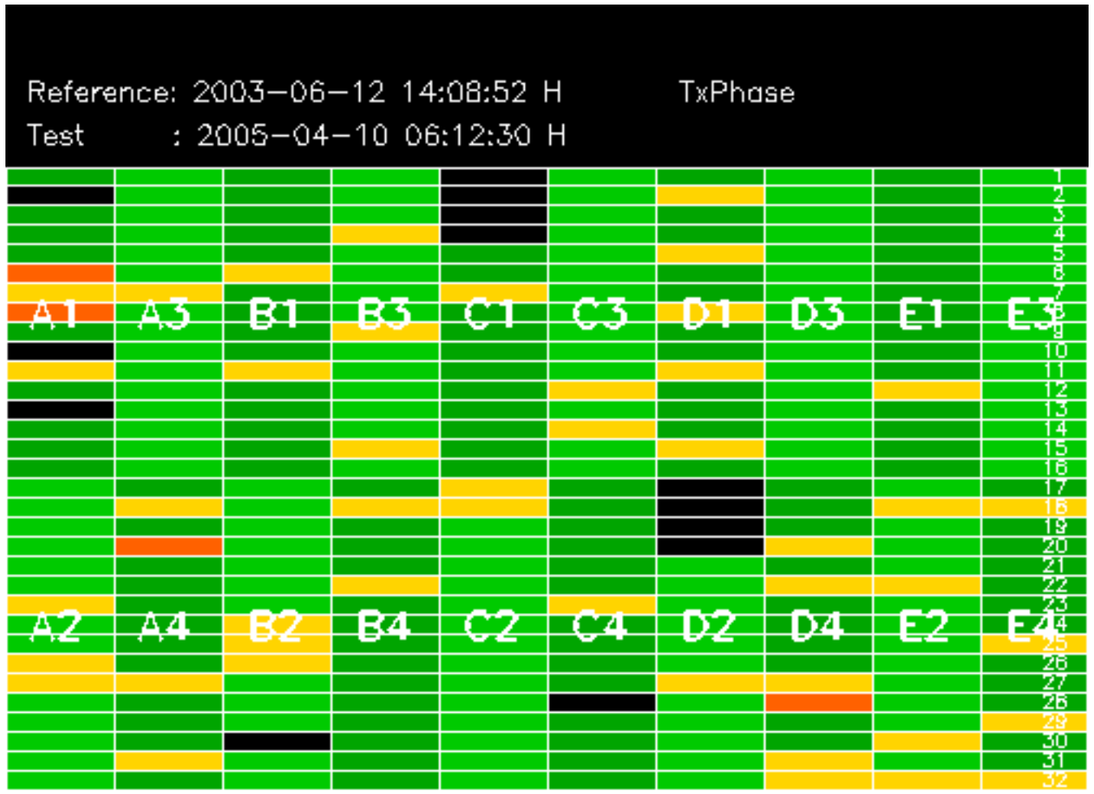
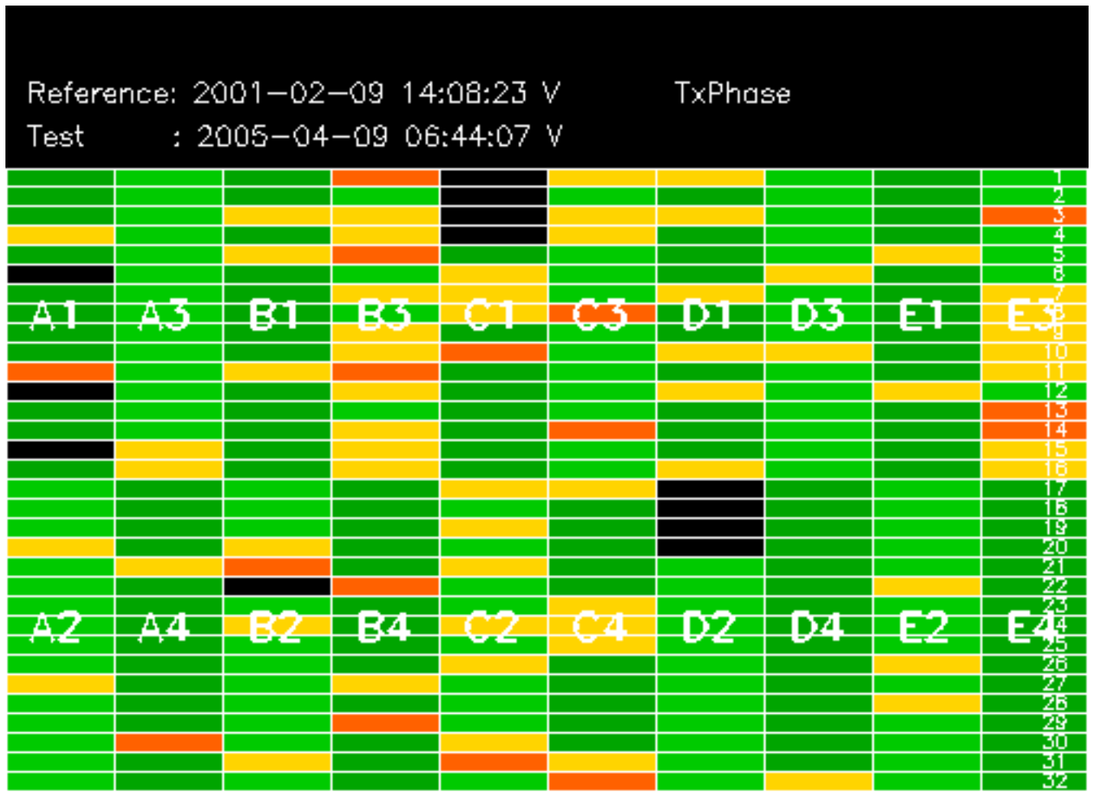
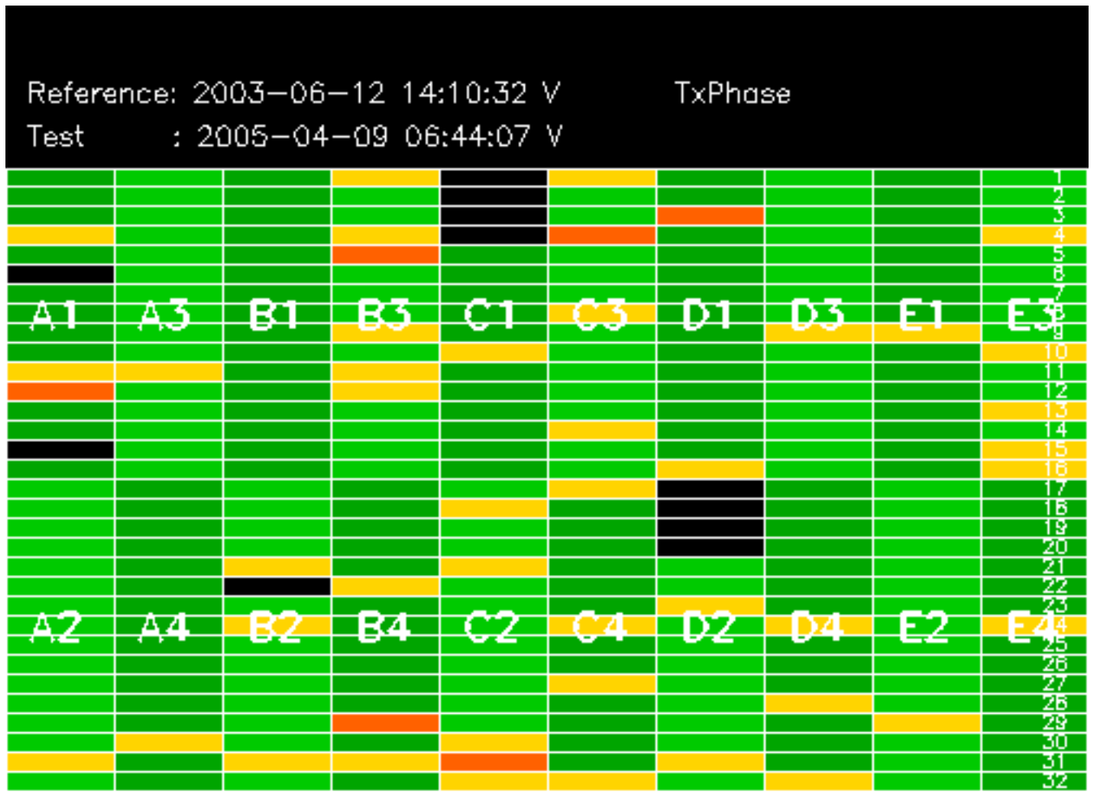
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-04-10 06:12:30 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 : 2005-04-09 06:44:07 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 : 2005-04-09 06:44:07 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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30
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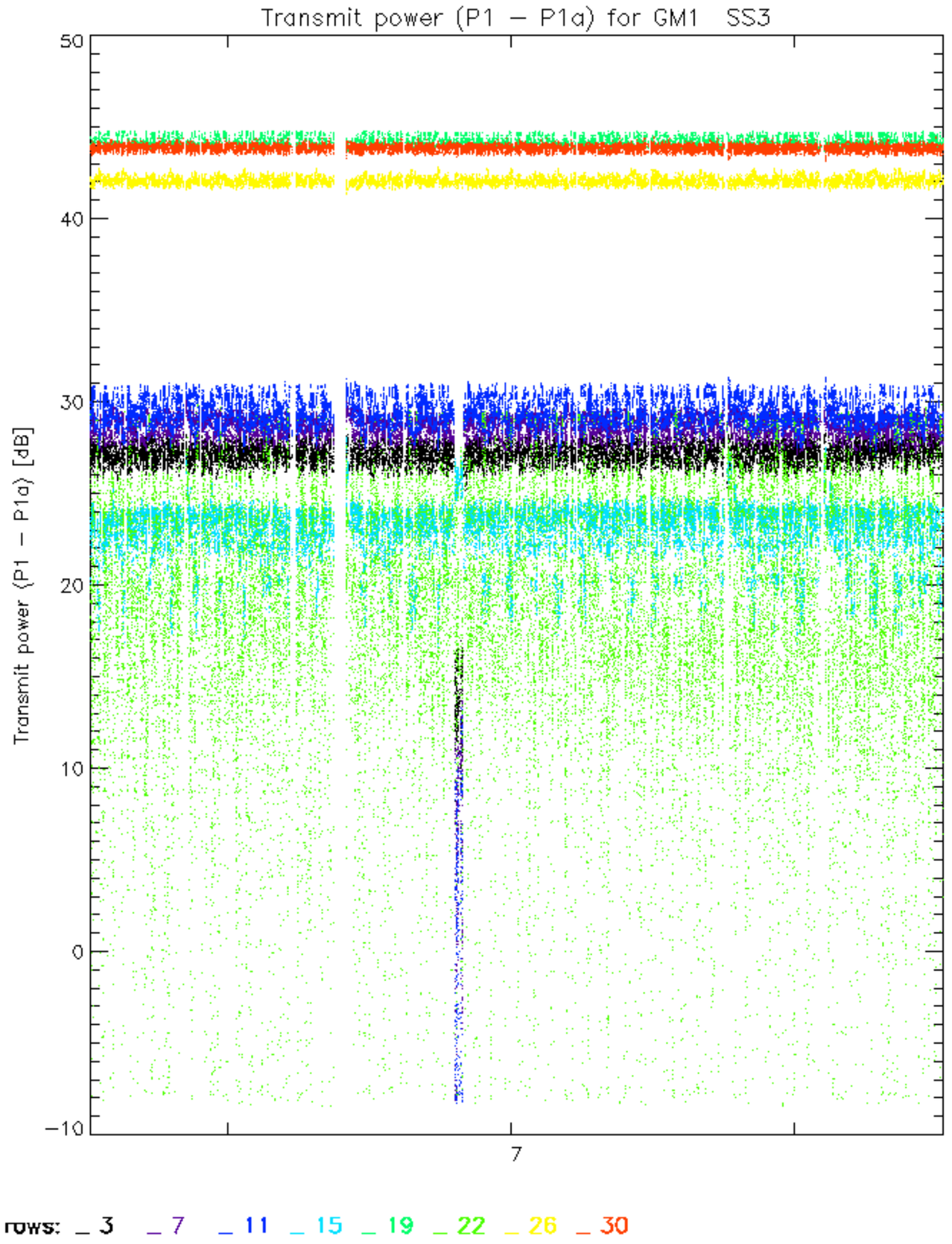
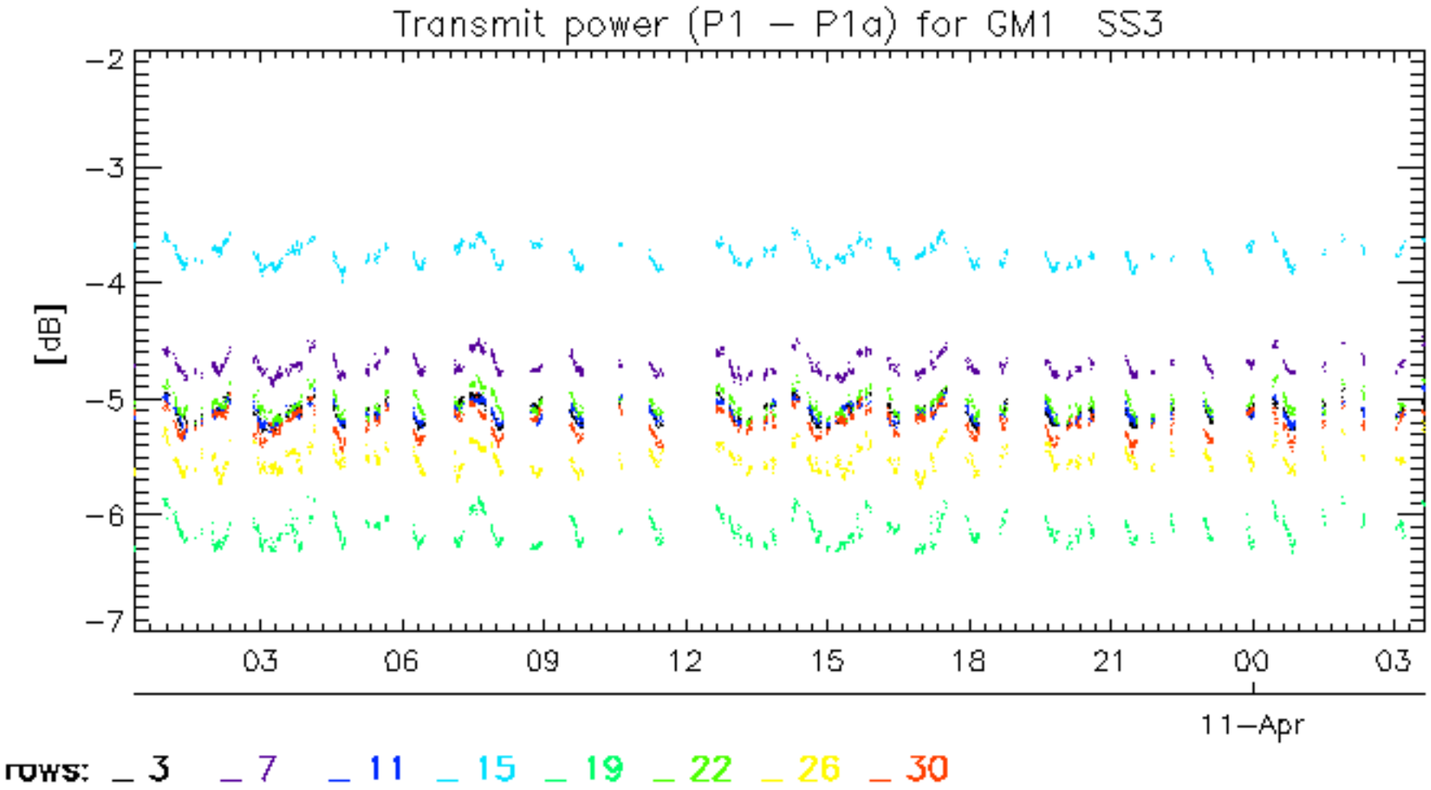
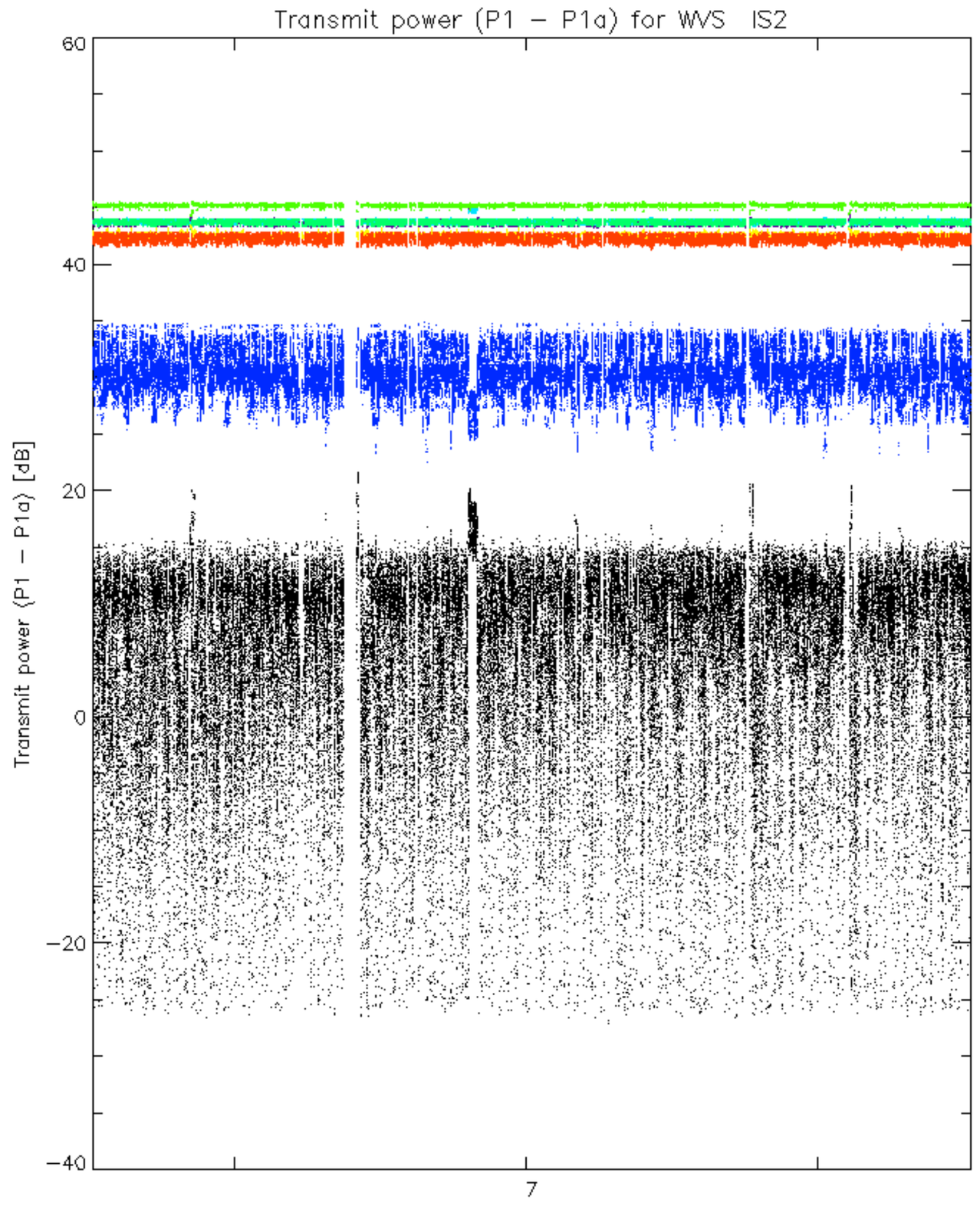
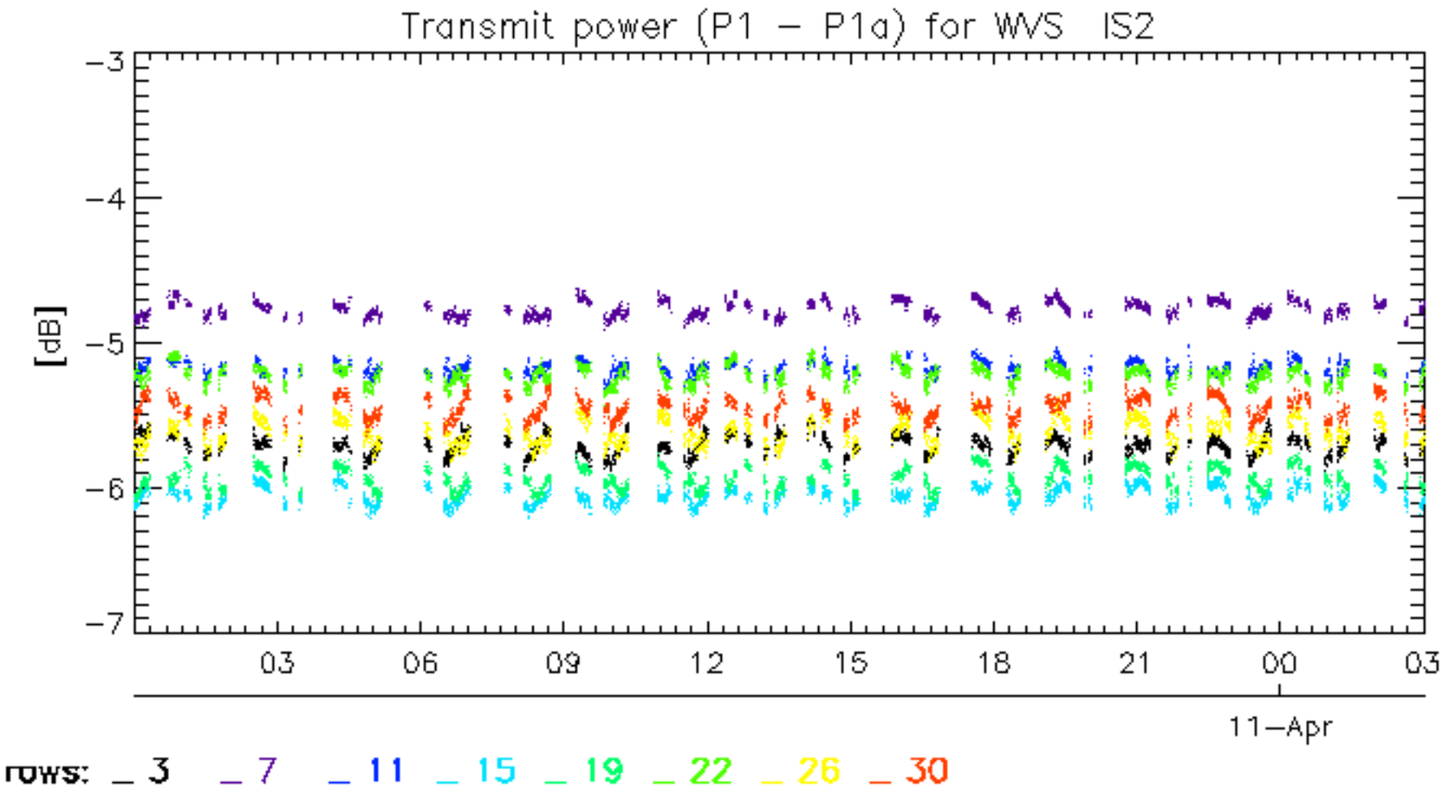
32


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

No unavailabilities during the reported period.