PRELIMINARY REPORT OF 050713

last update on Wed Jul 13 06:58:25 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 2005-07-12 00:00:00 to 2005-07-13 06:58:25

PDHS-K					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	23	42	15	0	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	23	42	15	0	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	23	42	15	0	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	23	42	15	0	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	38	49	33	11	25
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	38	49	33	11	25
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	38	49	33	11	25
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	38	49	33	11	25

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	20050711 180523
H	20050712 173346

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	-3.325166	0.007157	0.021505
7	P1	-3.141411	0.014787	0.003689
11	P1	-4.657499	0.033533	-0.064295
15	P1	-5.525204	0.045010	-0.070111
19	P1	-3.778723	0.046200	-0.080992
22	P1	-4.607219	0.067828	-0.054184
26	P1	-4.854153	0.070371	-0.028947
30	P1	-7.191507	0.160840	-0.140555
3	P1	-15.562511	0.094218	-0.014739
7	P1	-15.564643	0.106983	0.071086
11	P1	-21.523857	0.279468	-0.233415
15	P1	-11.286138	0.047098	0.003246
19	P1	-14.481575	0.259713	-0.155360
22	P1	-15.840818	0.352340	0.235602
26	P1	-17.578674	0.282533	0.313058
30	P1	-17.768591	0.351953	0.114026

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.916388	0.082385	0.139551
7	P2	-22.101784	0.104125	0.200103
11	P2	-13.788895	0.100364	0.259276
15	P2	-7.117239	0.092154	0.071415
19	P2	-9.604272	0.091605	0.025428
22	P2	-16.866940	0.092092	0.029234
26	P2	-16.508390	0.093172	0.022496
30	P2	-18.789263	0.079921	-0.006675

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.160190	0.002881	0.009737
7	P3	-8.160190	0.002881	0.009737
11	P3	-8.160190	0.002881	0.009737
15	P3	-8.160190	0.002881	0.009737
19	P3	-8.160190	0.002881	0.009737
22	P3	-8.160190	0.002881	0.009737
26	P3	-8.160190	0.002881	0.009737
30	P3	-8.160190	0.002881	0.009737

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	-2.791627	0.017111	0.022619
7	P1	-2.948396	0.036011	0.006508
11	P1	-3.983606	0.018012	-0.044011
15	P1	-3.549845	0.026034	-0.047248
19	P1	-3.672721	0.123479	-0.101600
22	P1	-5.667045	0.118221	-0.118399
26	P1	-7.367460	0.211707	-0.172178
30	P1	-6.313097	0.116464	-0.089479
3	P1	-10.832812	0.078348	0.028453
7	P1	-10.426272	0.185188	-0.025773
11	P1	-12.591641	0.138500	-0.045913
15	P1	-11.619970	0.092575	0.004008
19	P1	-15.699916	1.436788	-0.267261
22	P1	-25.925041	3.851551	0.526351
26	P1	-15.492683	0.460455	0.289053
30	P1	-20.180716	1.324999	0.160606

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.663364	0.053502	0.146294
7	P2	-22.074045	0.102722	0.056387
11	P2	-9.775795	0.065082	0.173459
15	P2	-5.130439	0.046979	0.002523
19	P2	-6.910532	0.061813	0.013119
22	P2	-7.097155	0.074061	0.042494
26	P2	-23.959827	0.098227	-0.059000
30	P2	-21.956480	0.048261	0.001754

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.996882	0.004195	-0.005295
7	P3	-7.996969	0.004184	-0.005453
11	P3	-7.997023	0.004170	-0.005009
15	P3	-7.997020	0.004185	-0.005421
19	P3	-7.996972	0.004193	-0.005370
22	P3	-7.997003	0.004179	-0.005498
26	P3	-7.997115	0.004176	-0.004912
30	P3	-7.997029	0.004178	-0.005340

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	0.000462613
	stdev	2.15822e-07
MEAN Q	mean	0.000500962
	stdev	2.30359e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127696
	stdev	0.000966439
STDEV Q	mean	0.127928
	stdev	0.000976868

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005071[123]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDK20050712_065358_000000592039_00006_17595_1425.N1	0	1
ASA_IMM_1PNPDK20050712_065657_000000602039_00006_17595_1429.N1	0	5
ASA_IMM_1PNPDK20050712_083354_000001742039_00007_17596_1442.N1	0	1
ASA_IMM_1PNPDK20050712_083948_000000922039_00007_17596_1443.N1	0	2
ASA_IMM_1PNPDK20050712_182402_000001582039_00013_17602_1463.N1	0	3
ASA_WSM_1PNPDE20050711_015643_000000672038_00490_17578_3437.N1	0	32
ASA_WSM_1PNPDE20050711_141432_000000672038_00497_17585_3591.N1	0	1
ASA_WSM_1PNPDE20050711_184226_000002312038_00500_17588_3621.N1	0	40
ASA_WSM_1PNPDE20050712_162924_000001232039_00012_17601_3817.N1	0	57

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

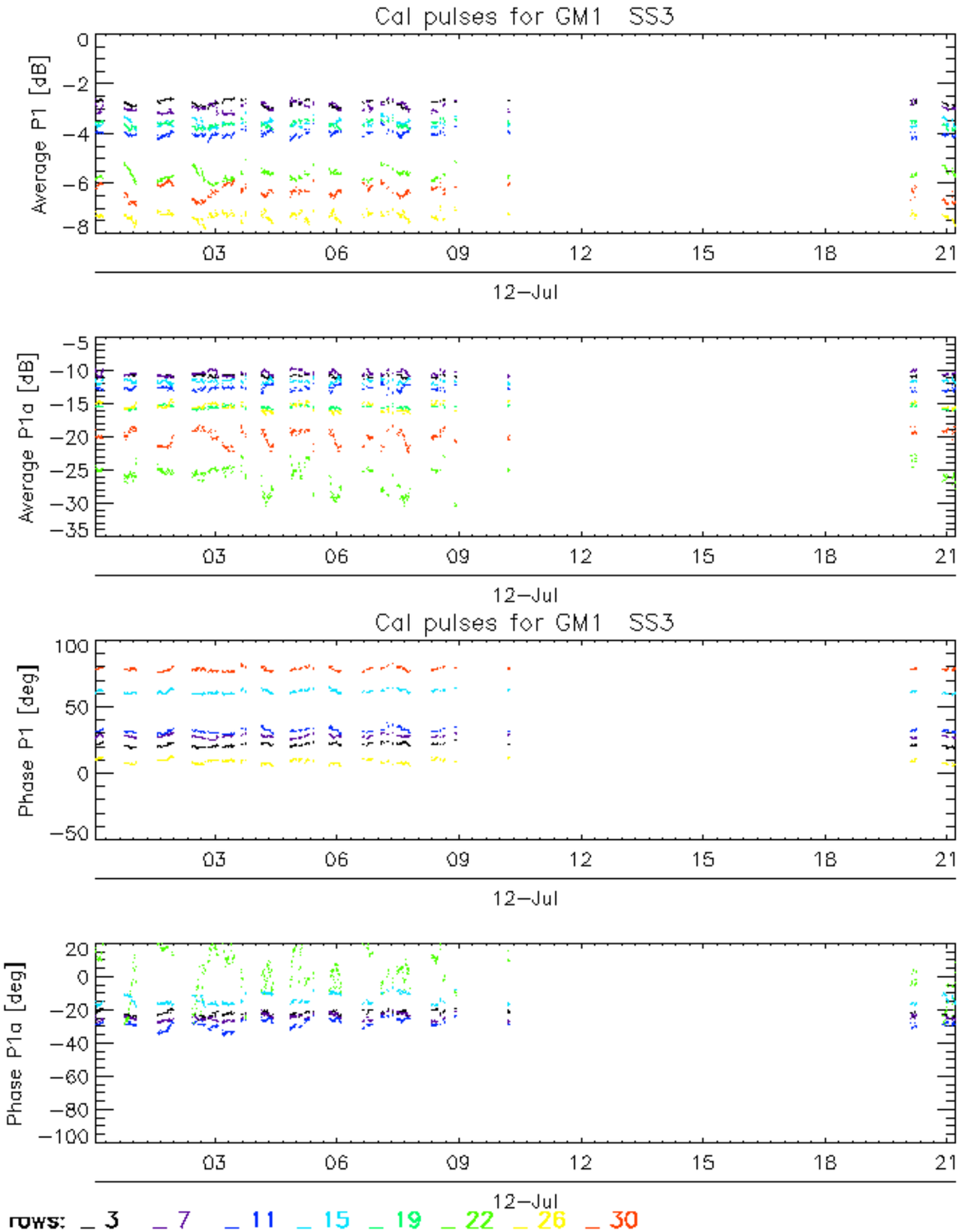
Evolution of Absolute Doppler

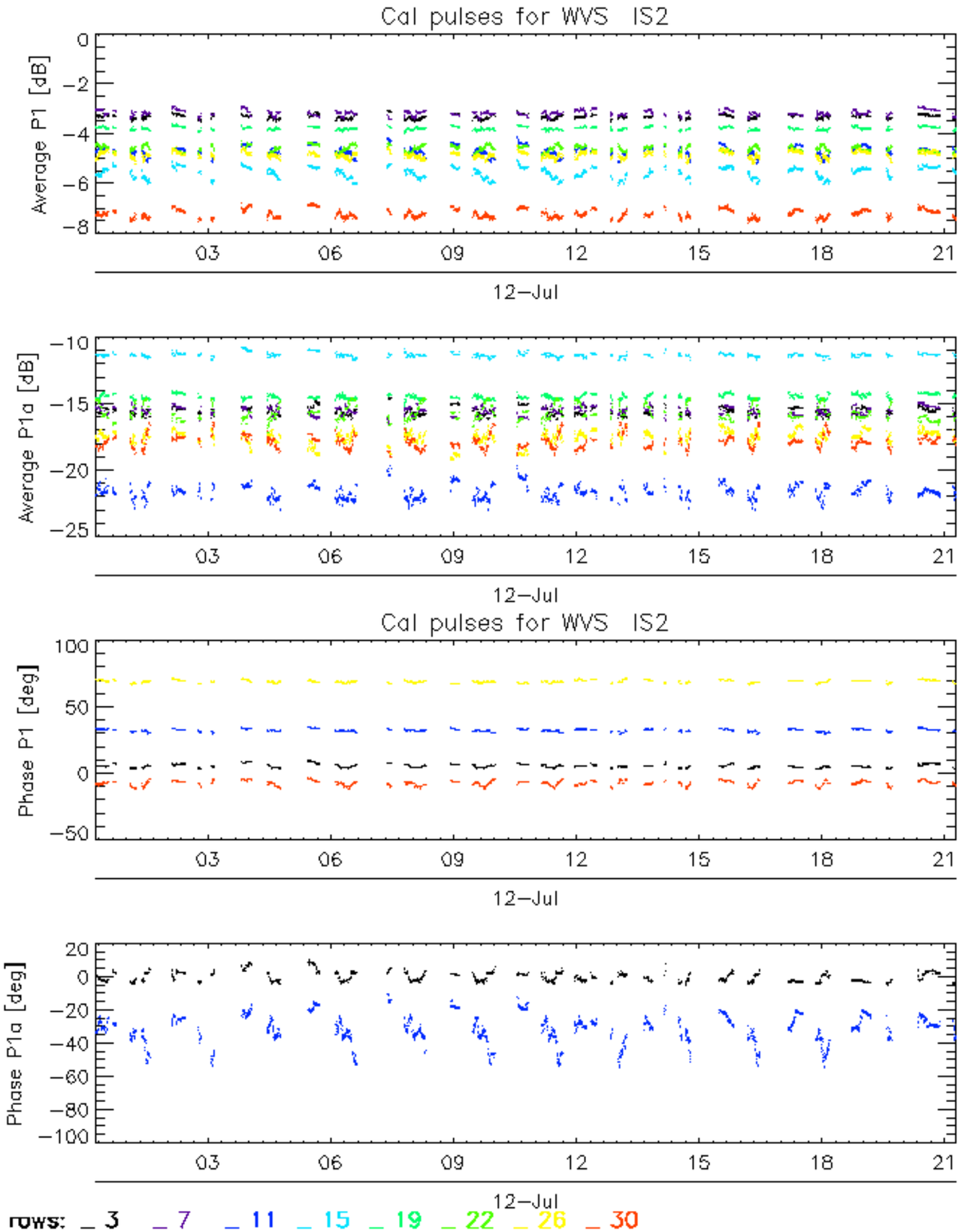
Acsending

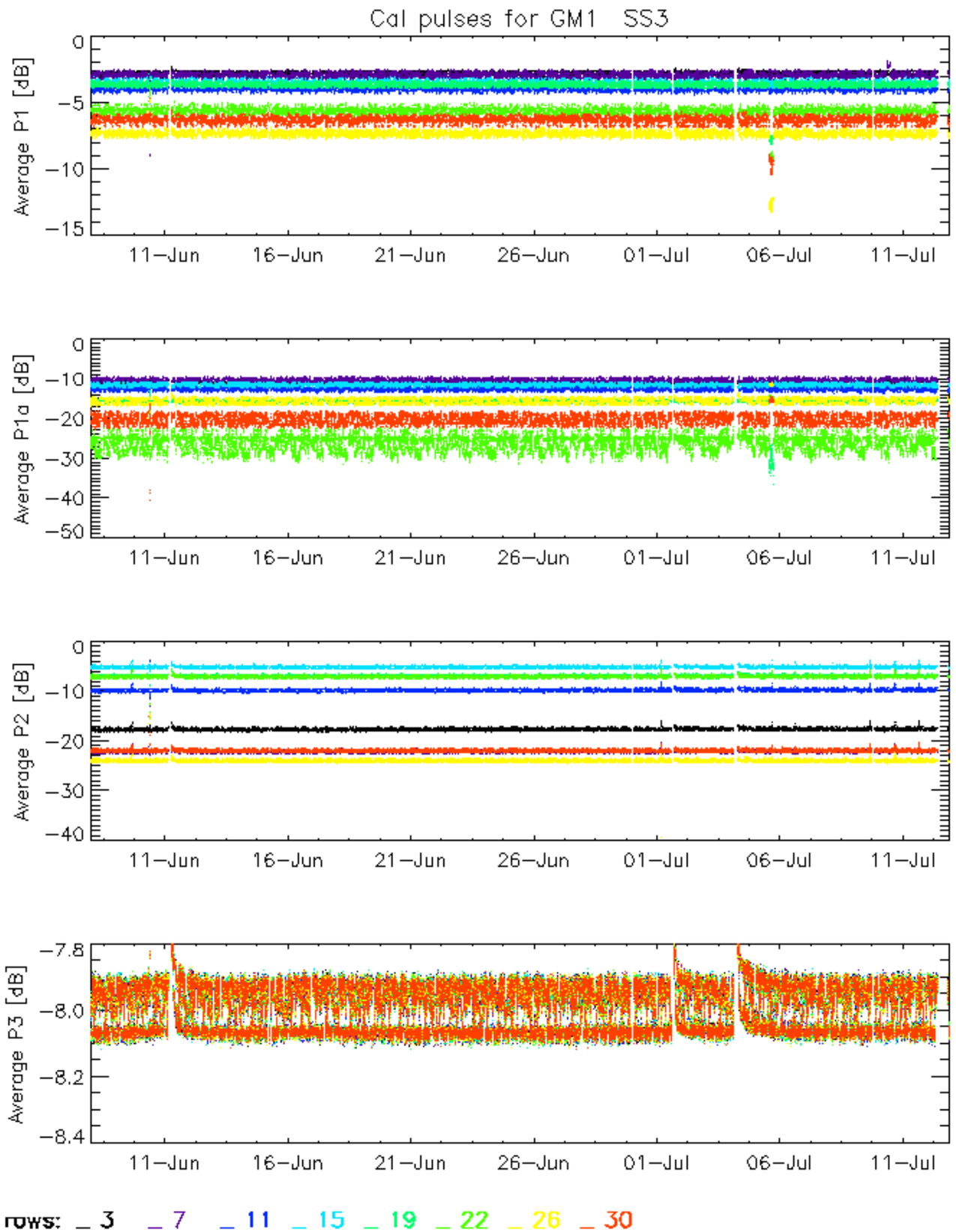
Descending

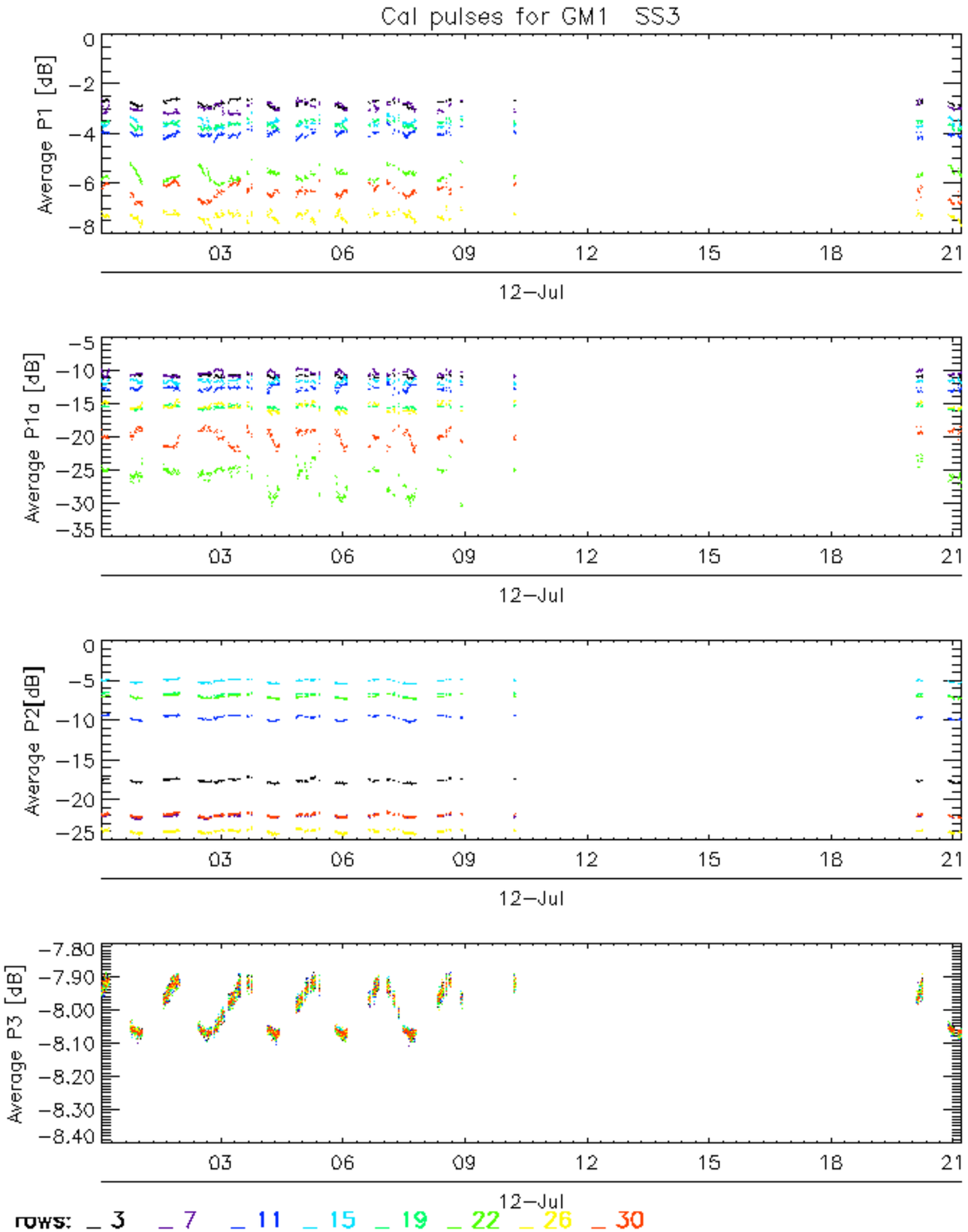
7.6 - Doppler evolution versus ANX for GM1

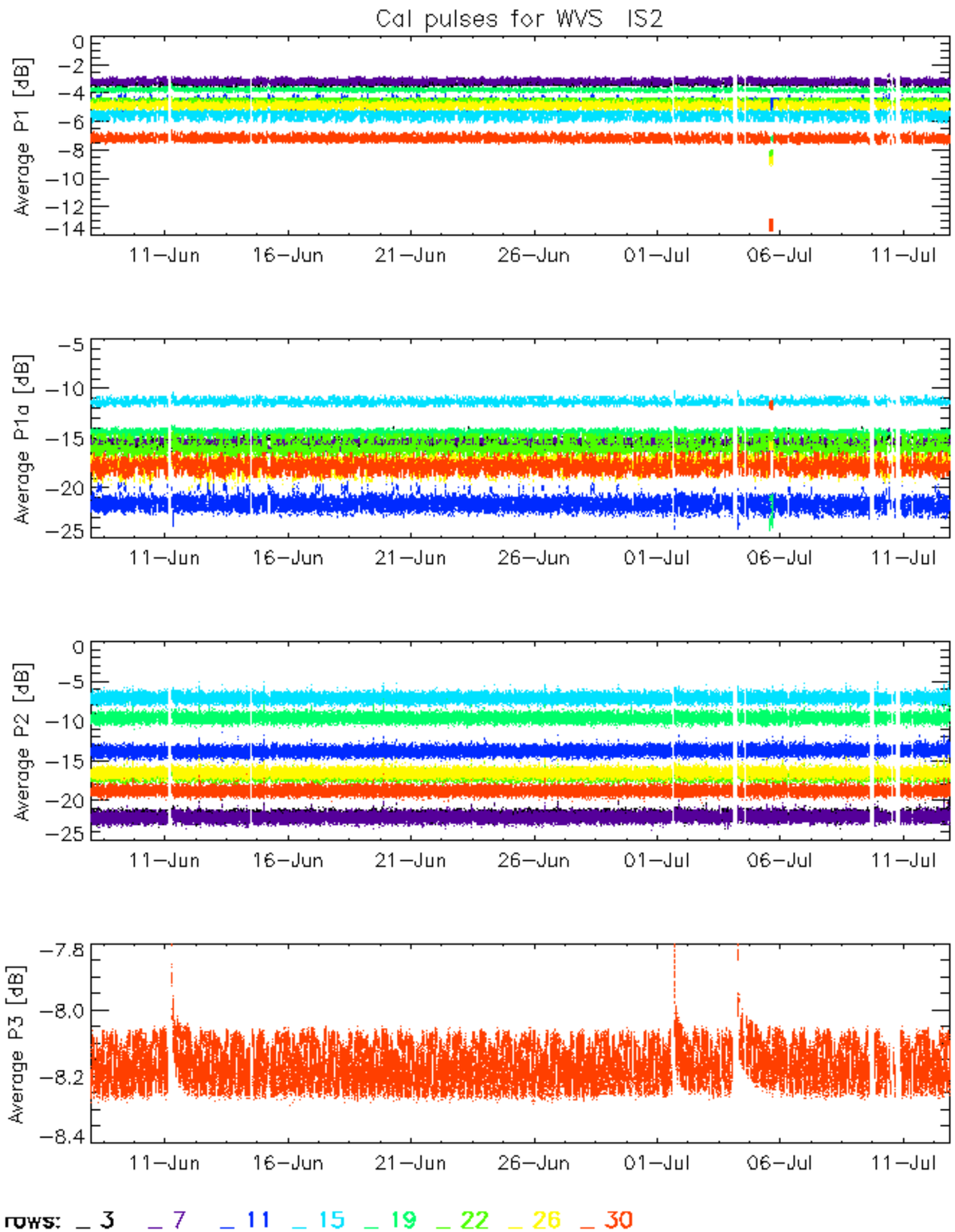
Evolution Doppler error versus ANX

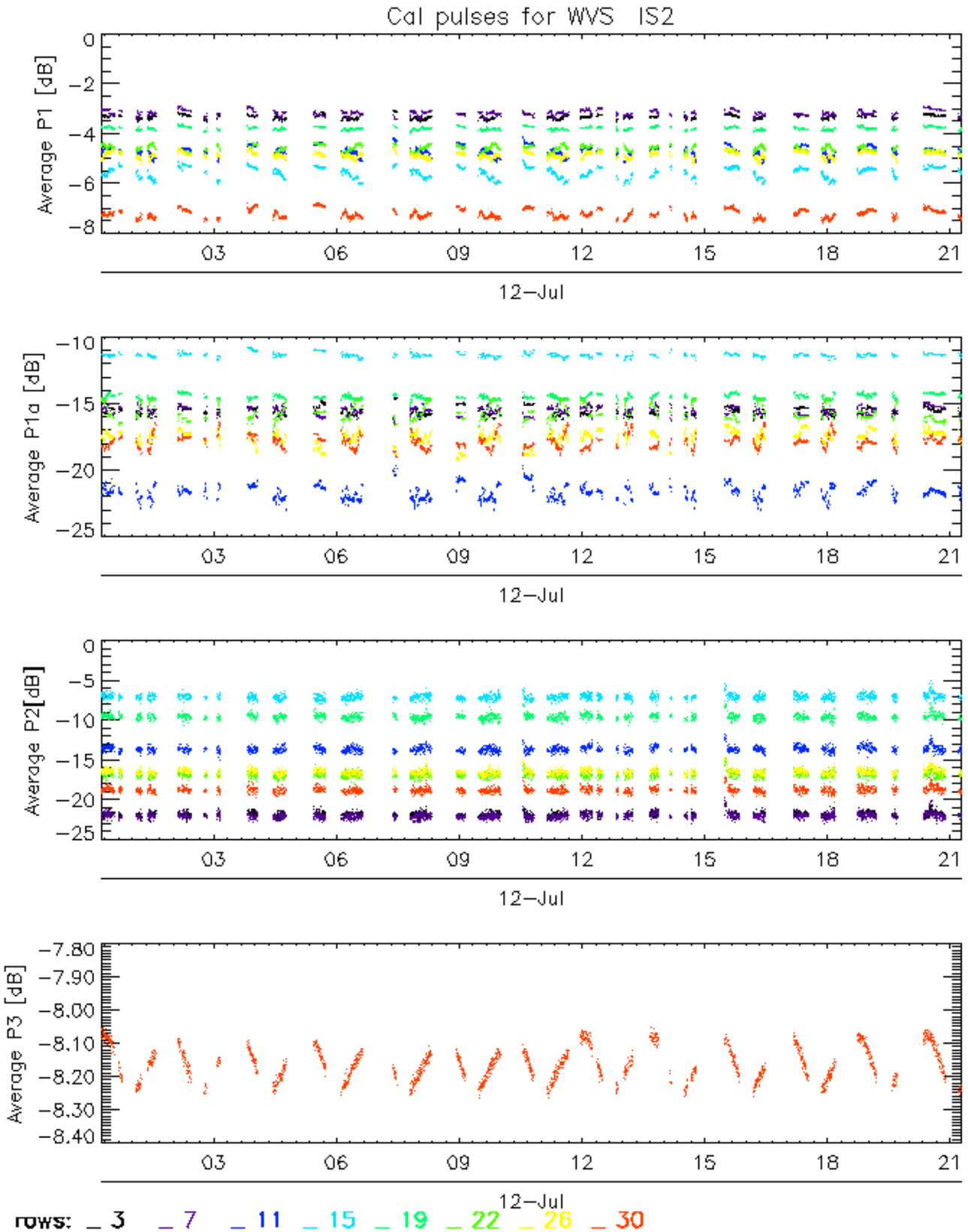


Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
12−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
12−Jul
Average P1a [dB]
−10
−15
−20
−25
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

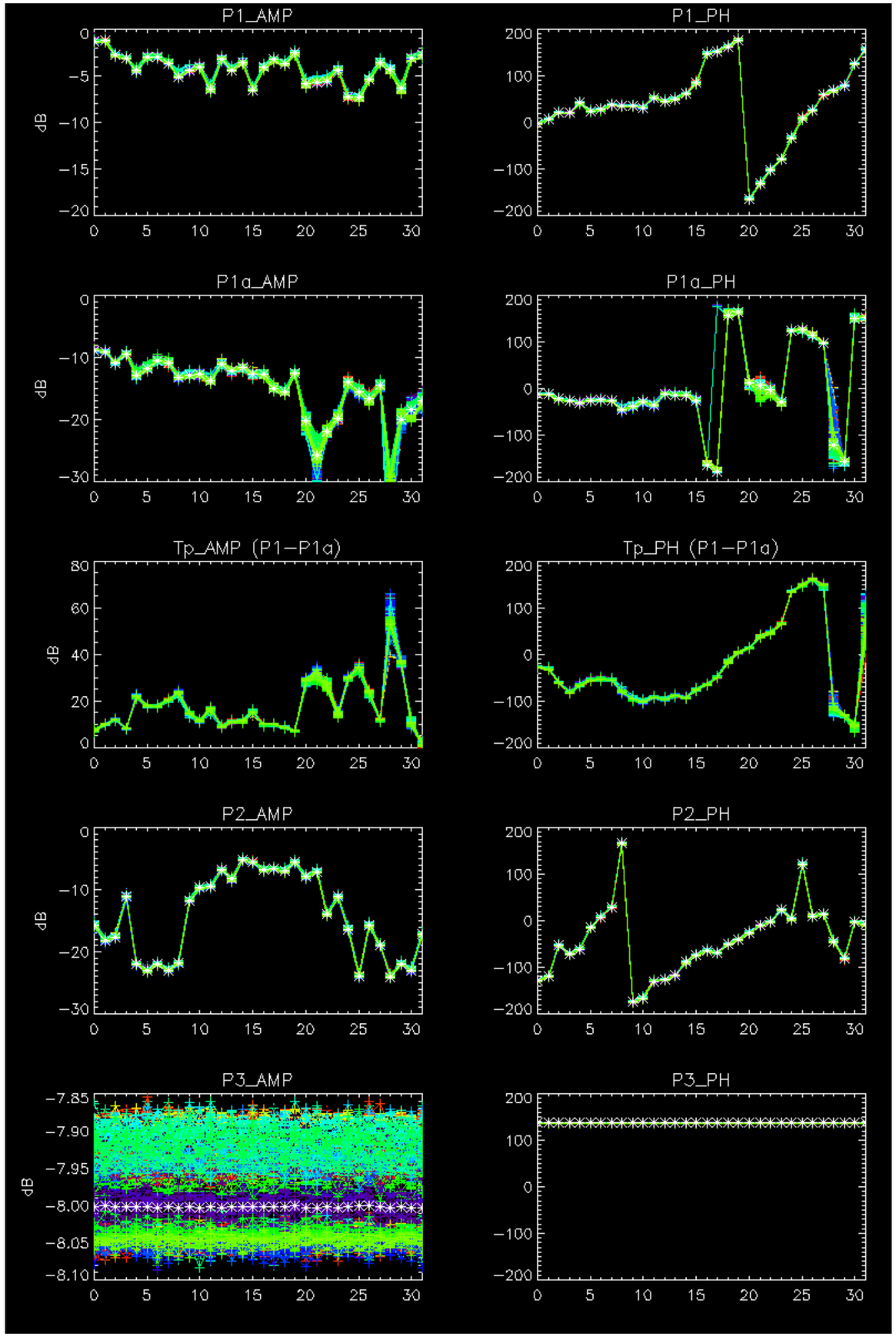

Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
Average P1a [dB]
0
−10
−20
−30
−40
−50
Average P2 [dB]
0
−10
−20
−30
−40
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

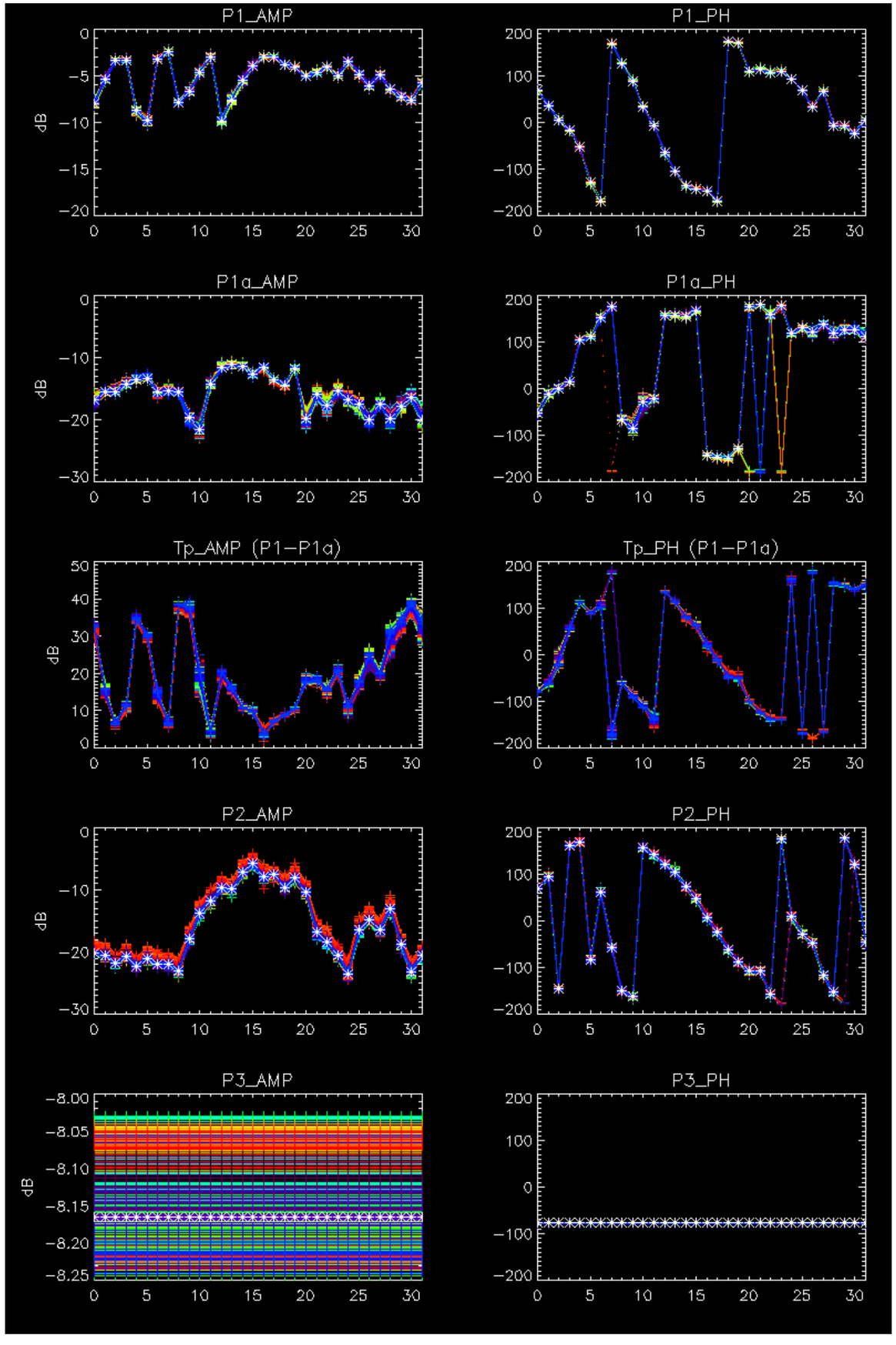

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
12−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
−14
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
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
12−Jul
Average P1a [dB]
−10
−15
−20
−25
Average P2[dB]
−5
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

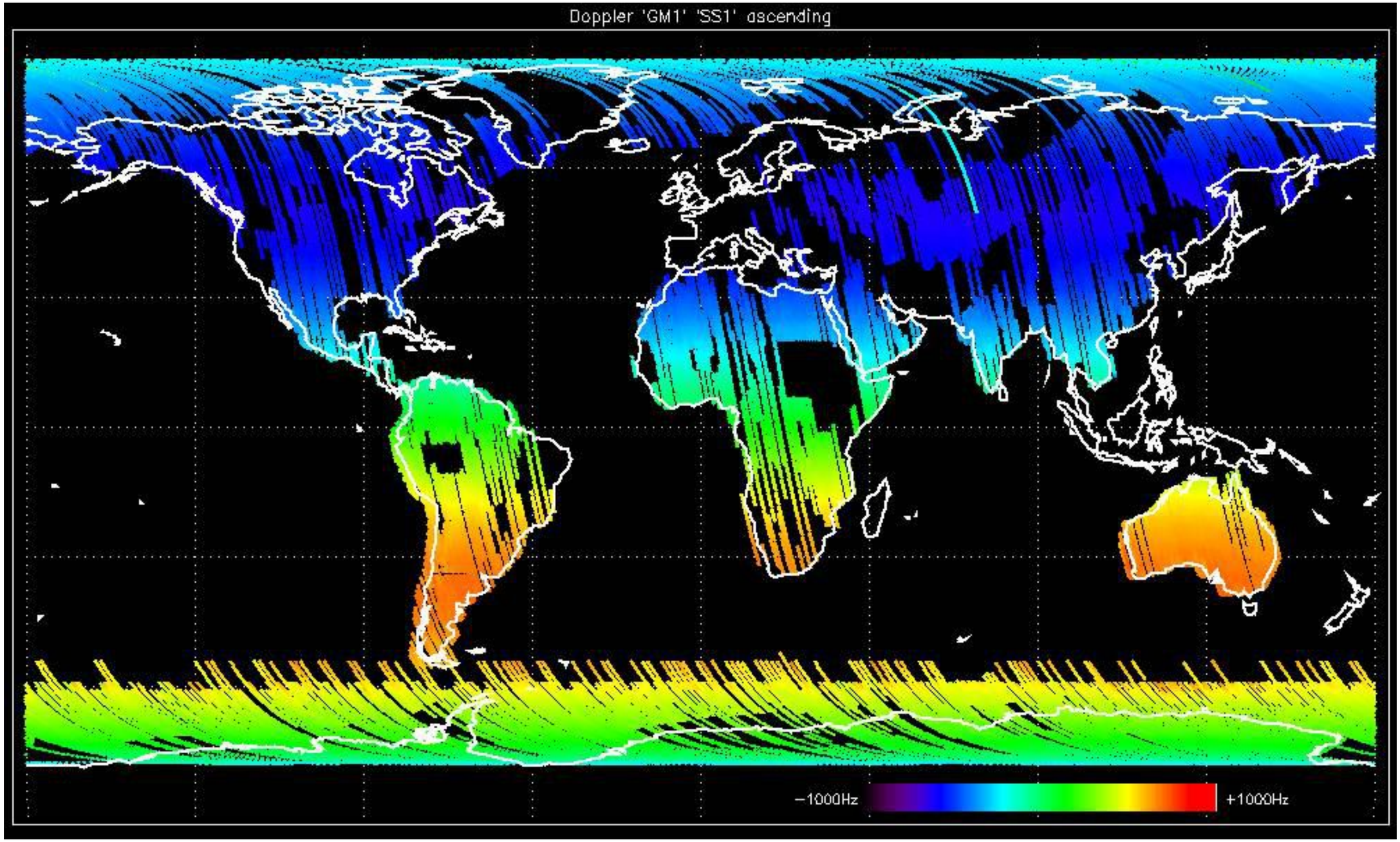
No anomalies observed.

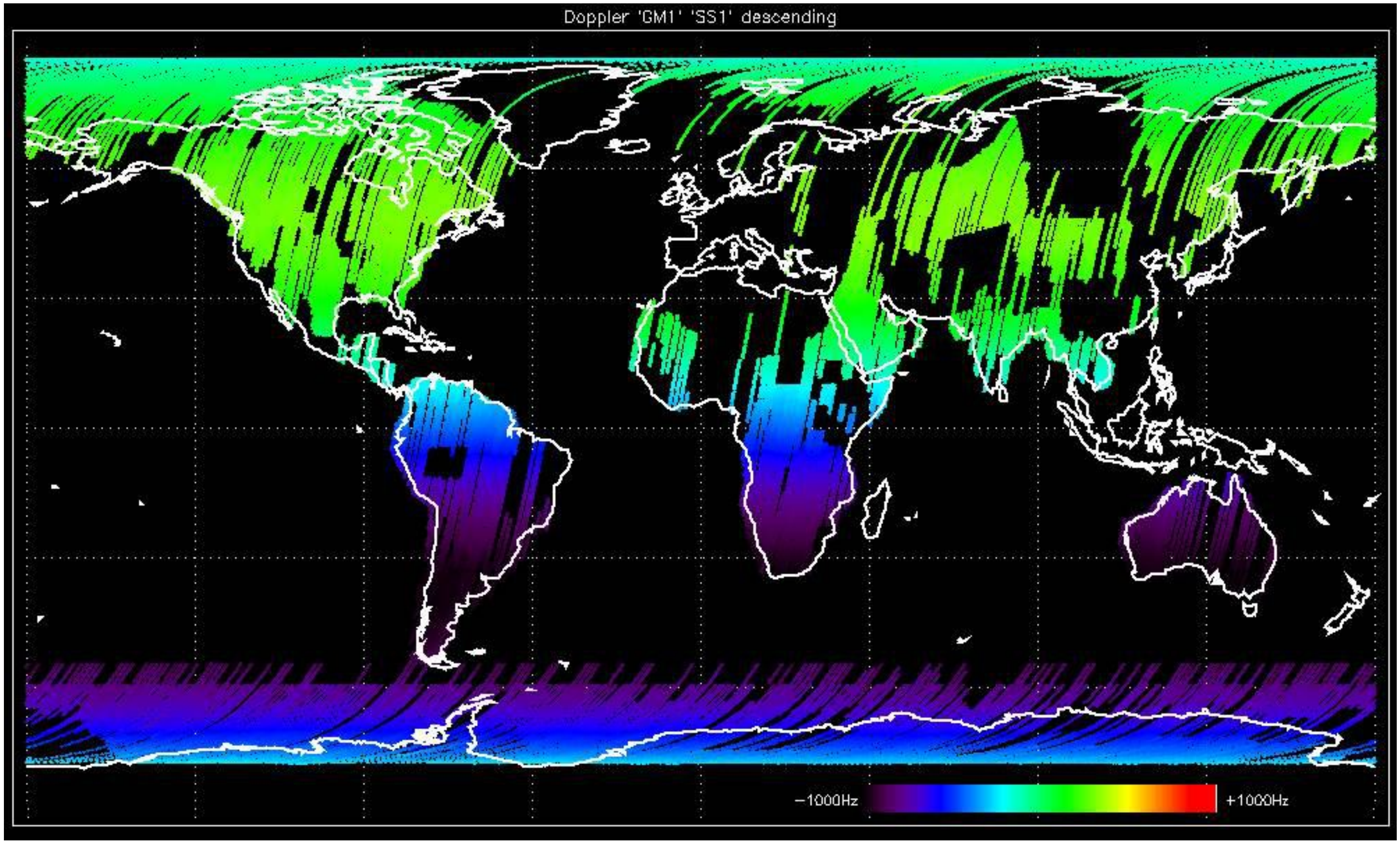

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

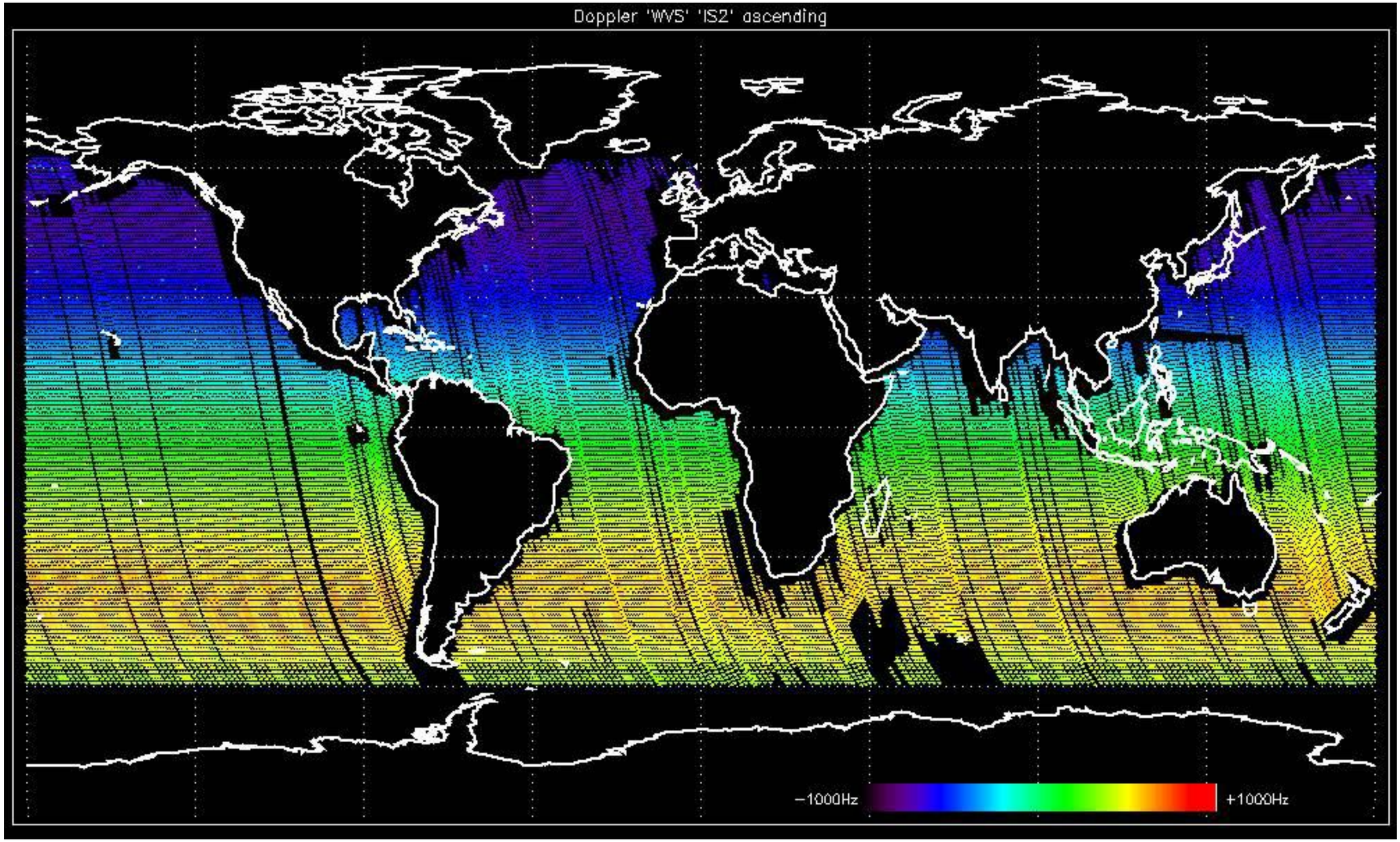

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

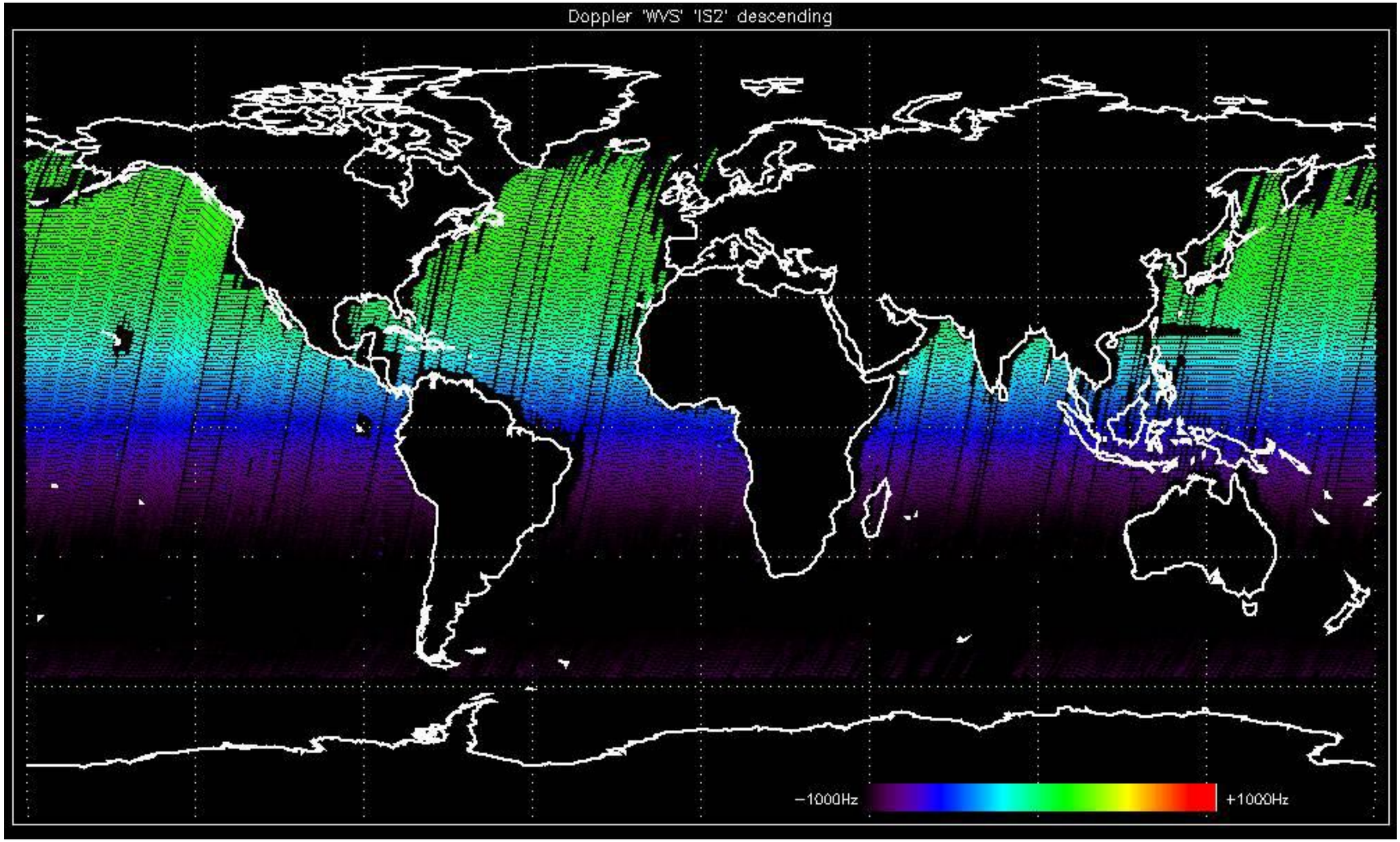
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

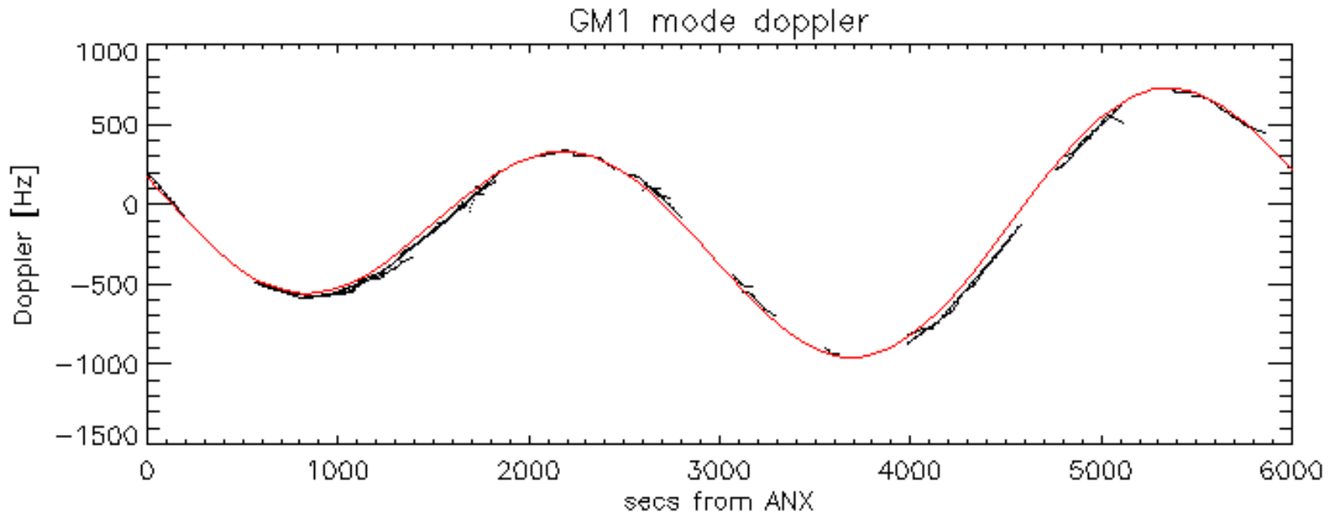
Preliminary report.The data is not yet controled

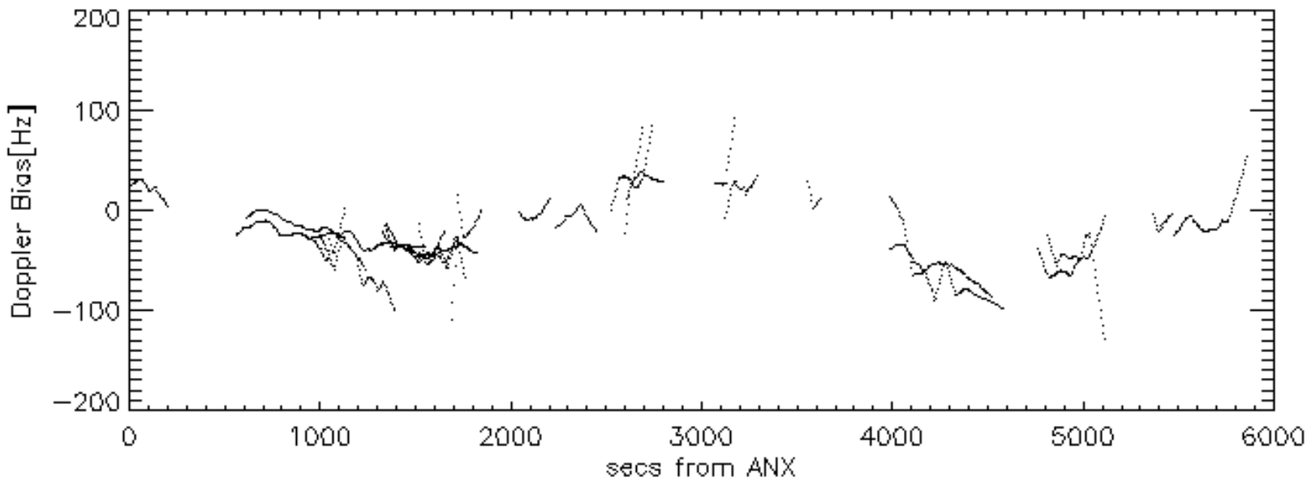

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

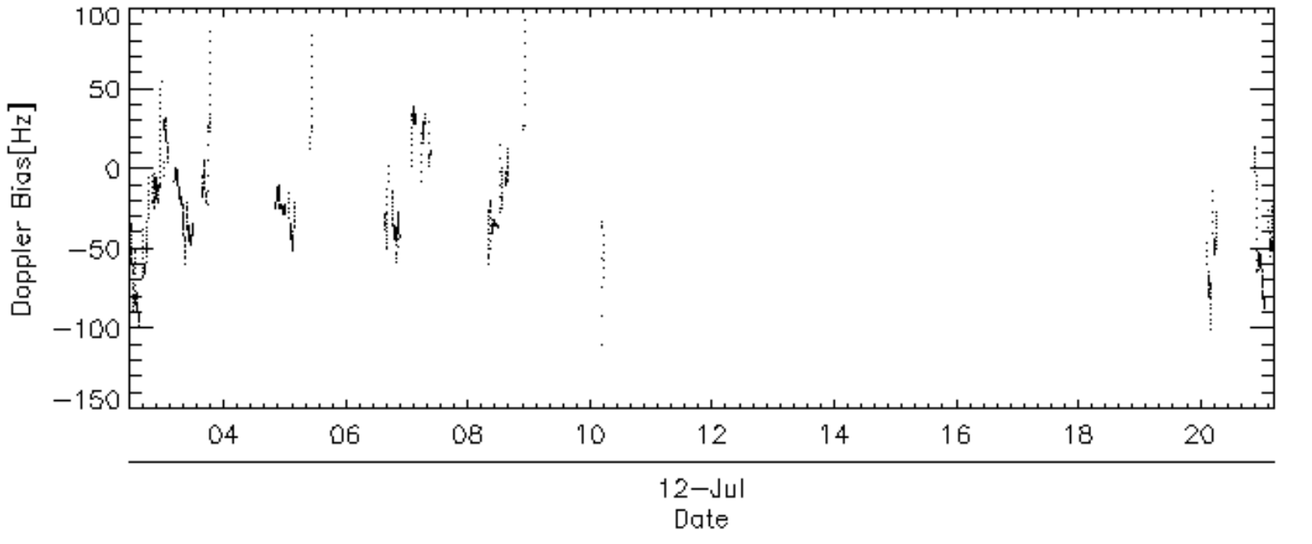

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

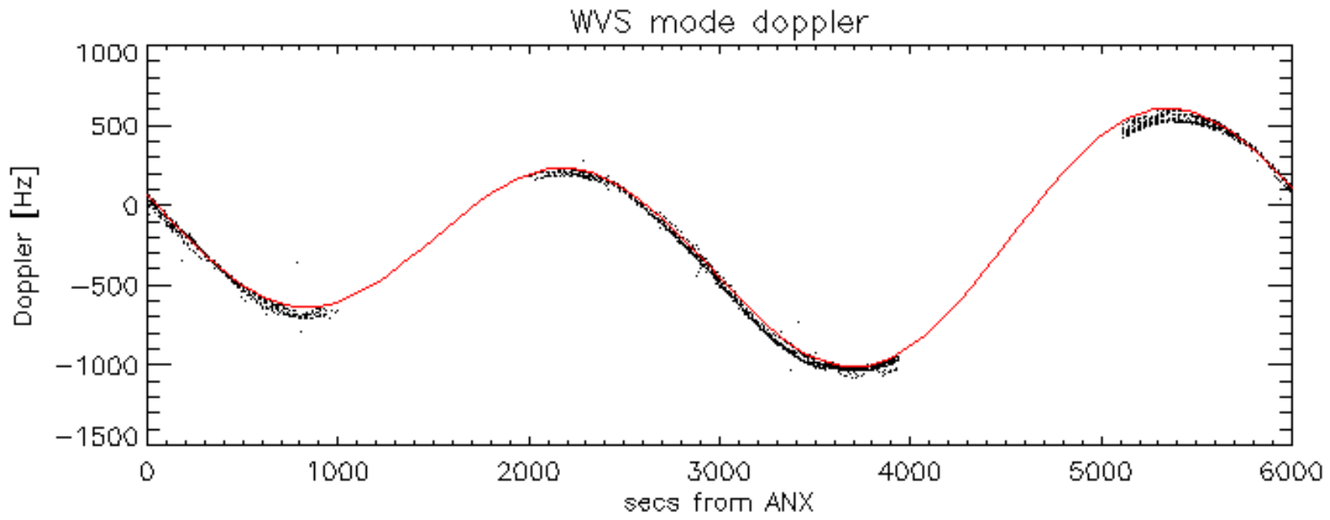

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

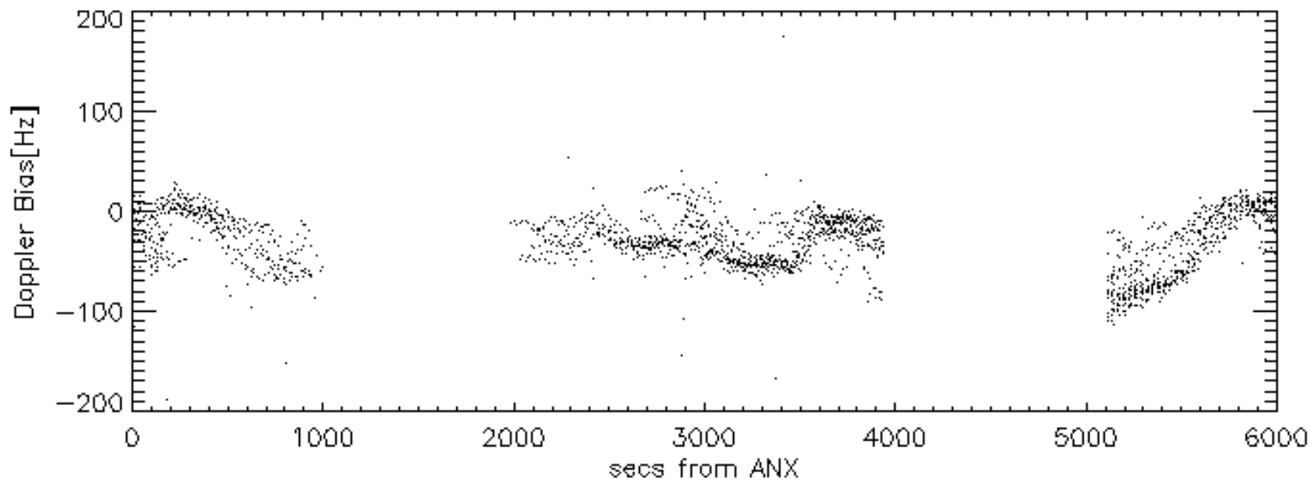

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

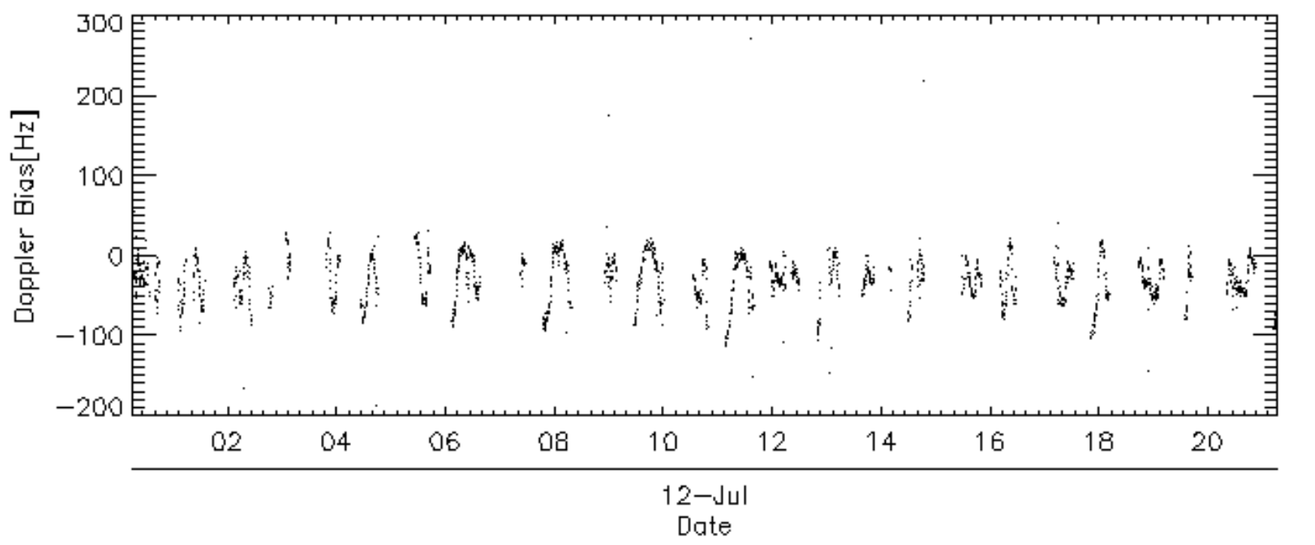

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

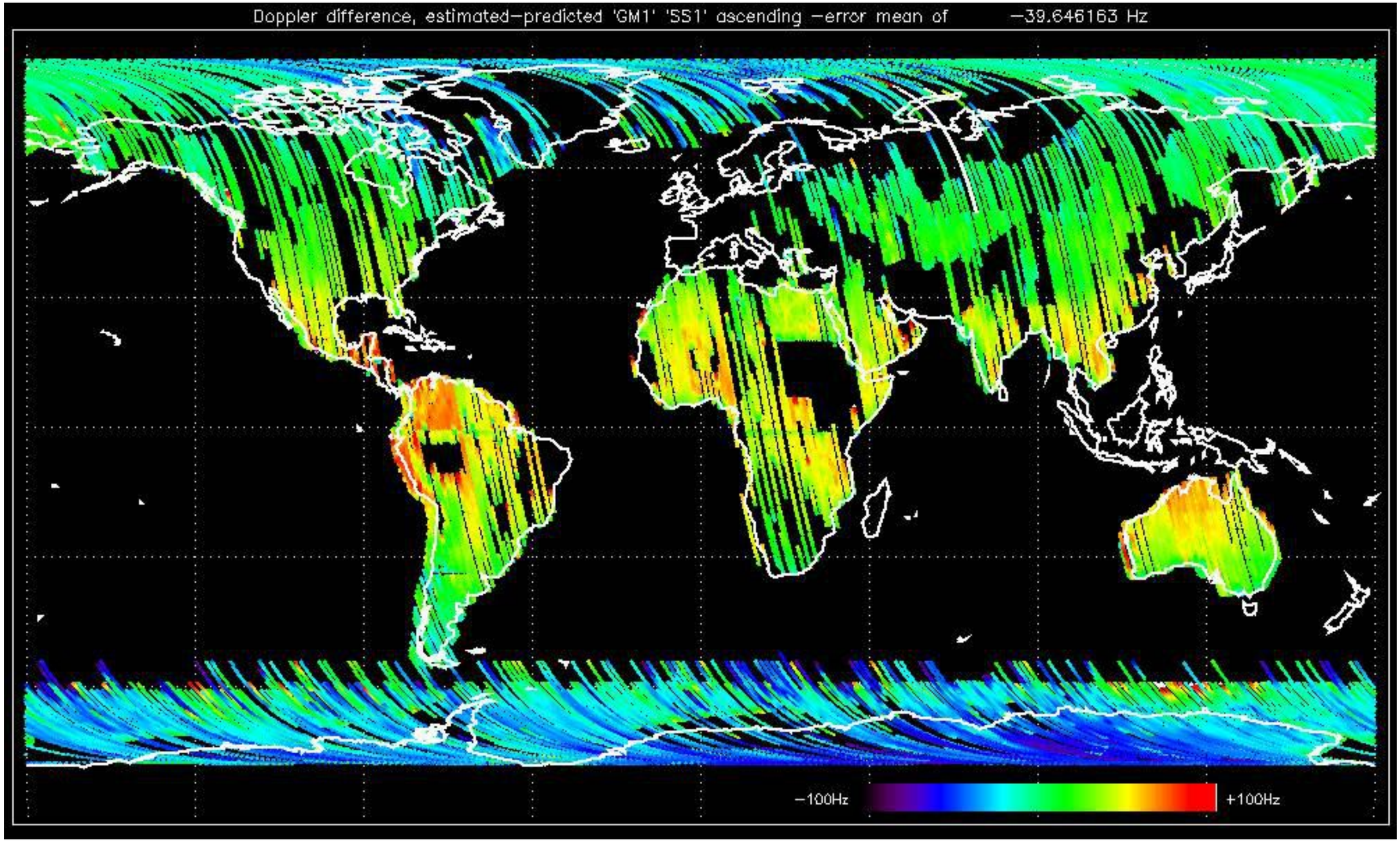

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

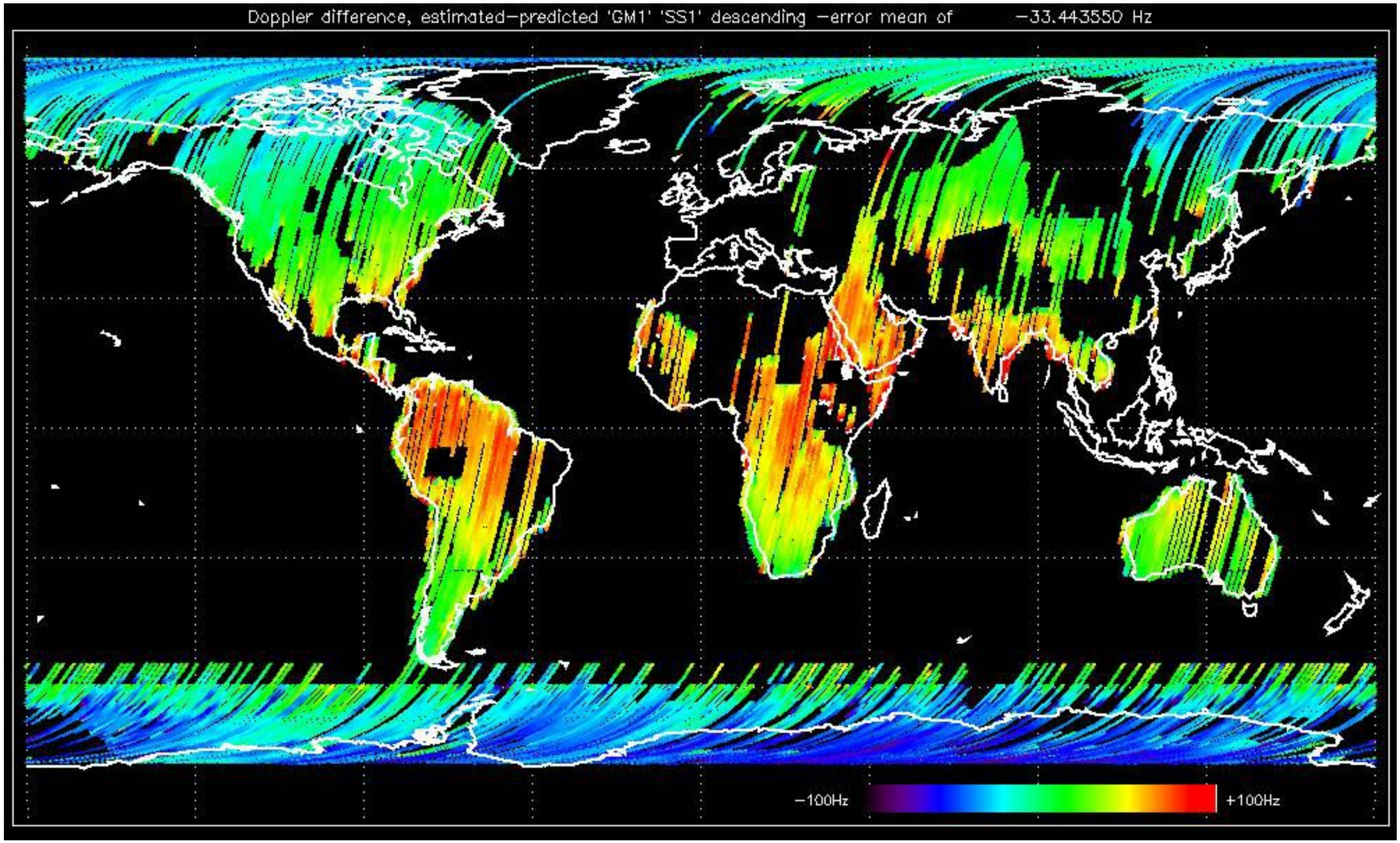

Doppler Bias[Hz]
100
50
0
−50
−100
−150
04
06
08
10
12
14
16
18
20
12−Jul
Date

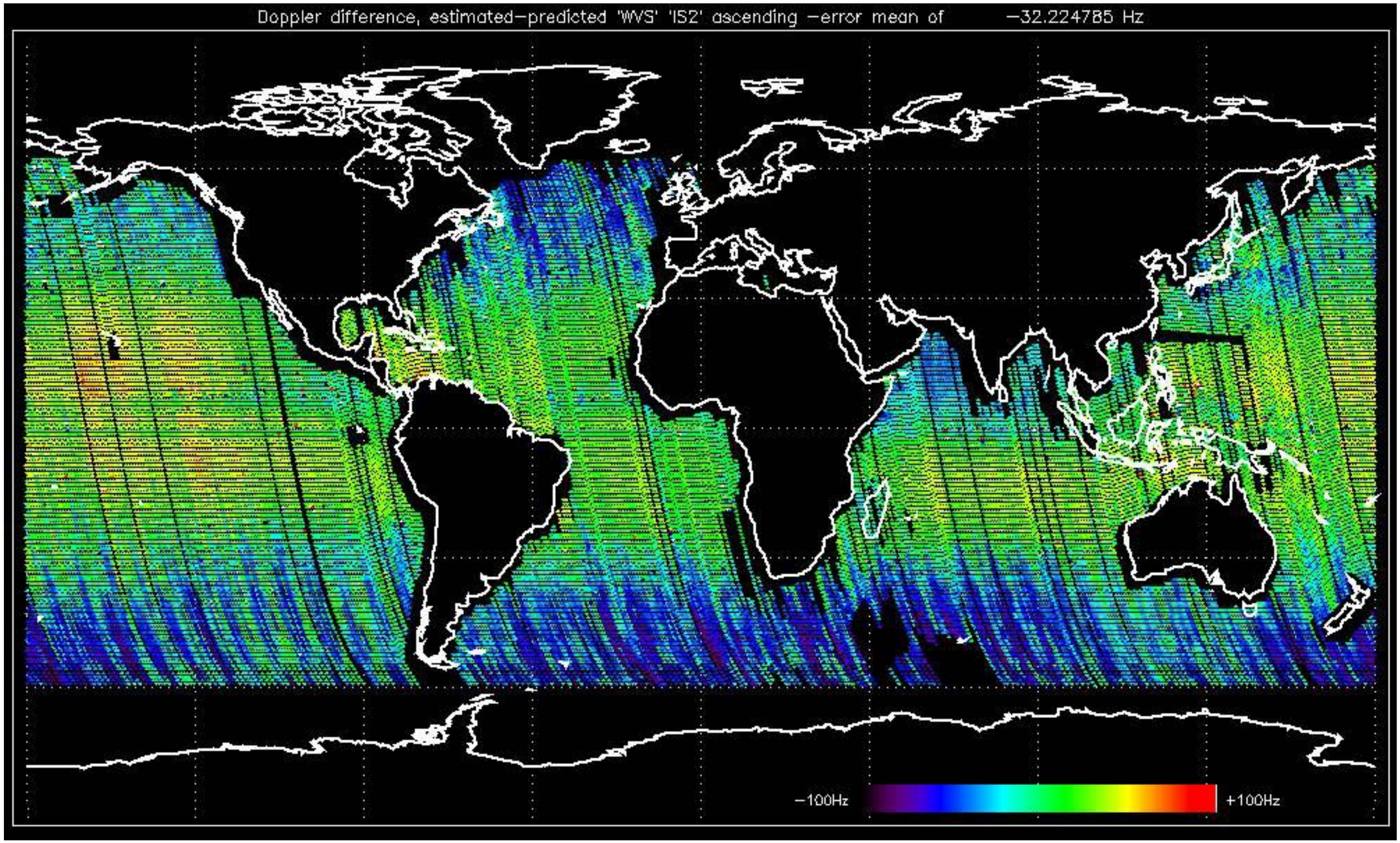

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

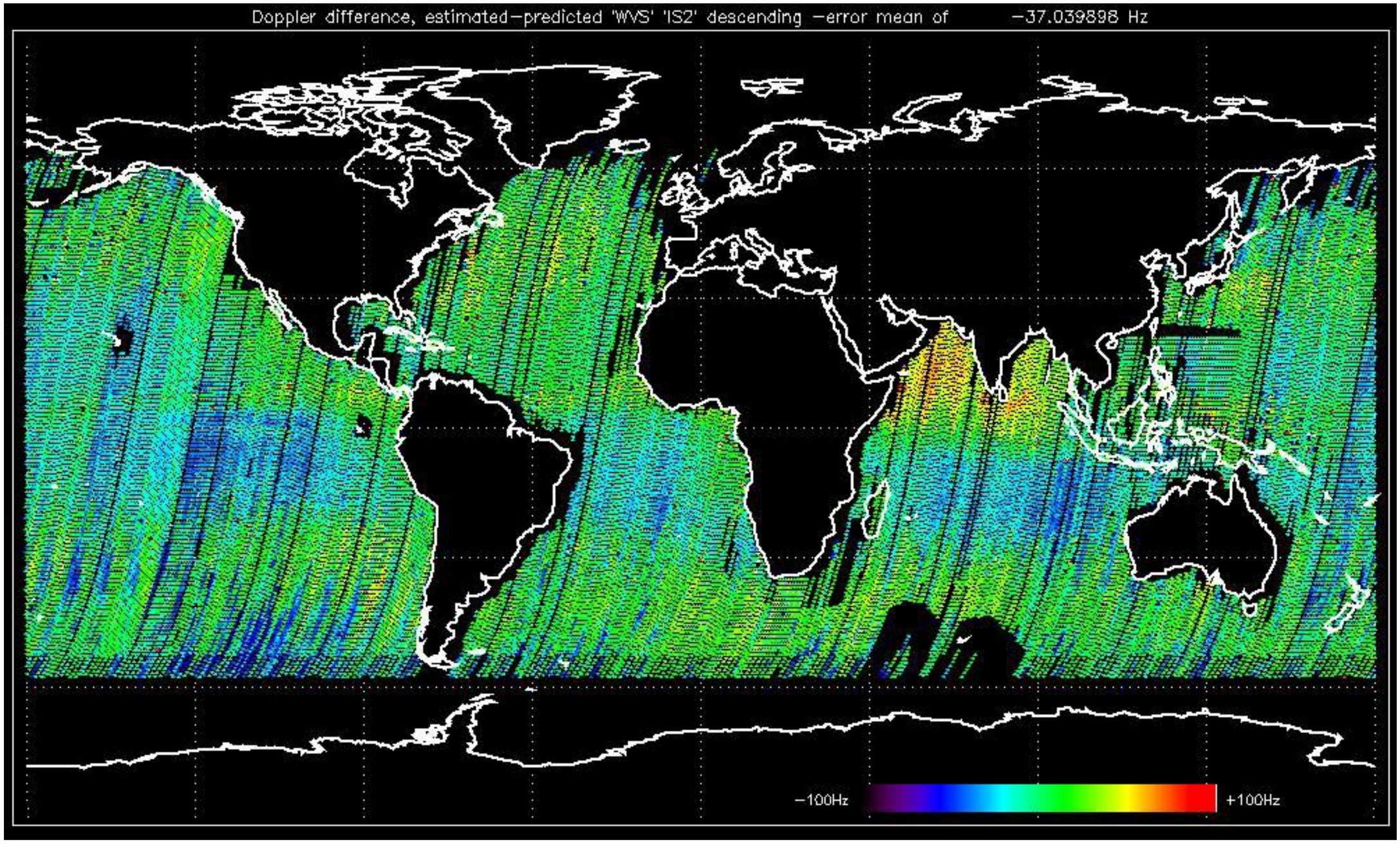

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −39.646163 Hz
−100Hz
+100Hz

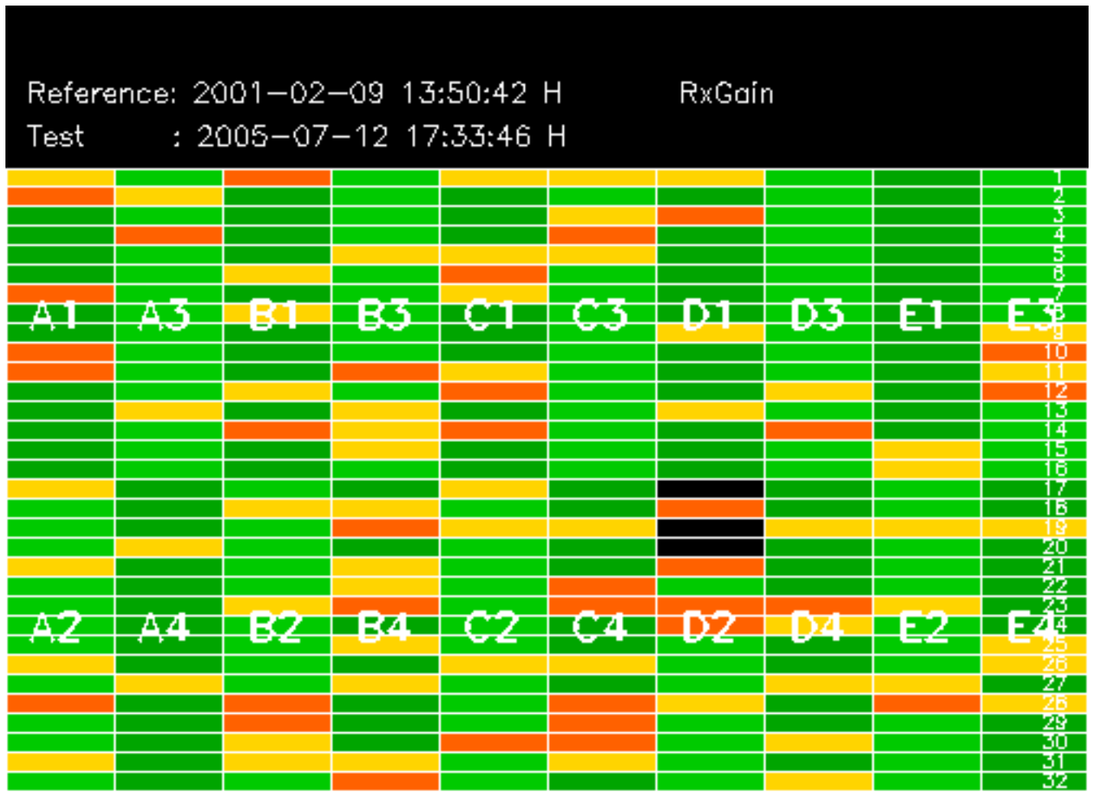

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −33.443550 Hz
−100Hz
+100Hz

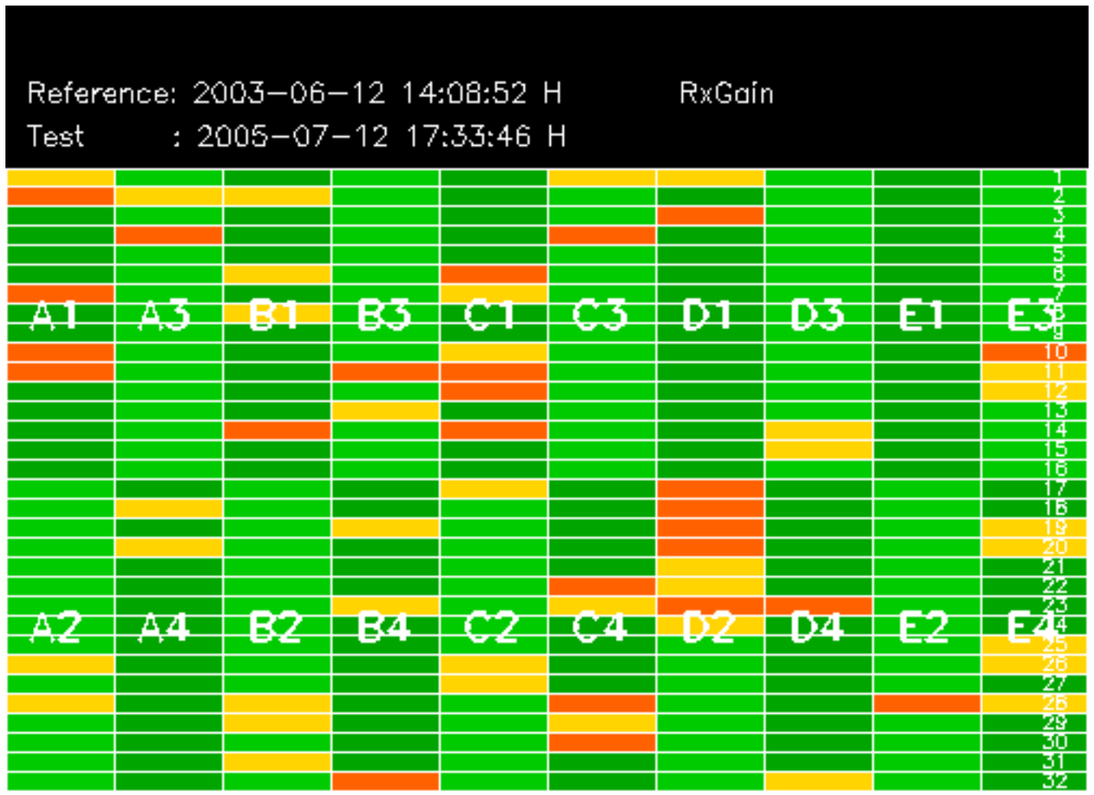

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −32.224785 Hz
−100Hz
+100Hz

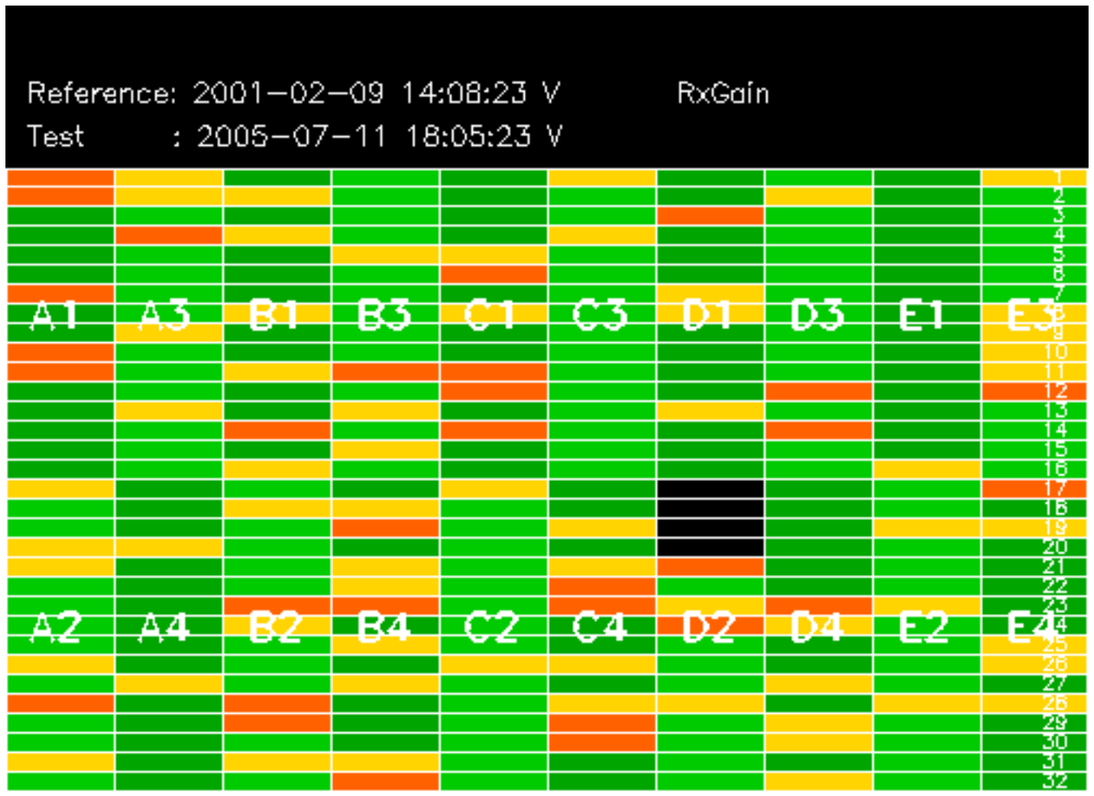

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −37.039898 Hz
−100Hz
+100Hz

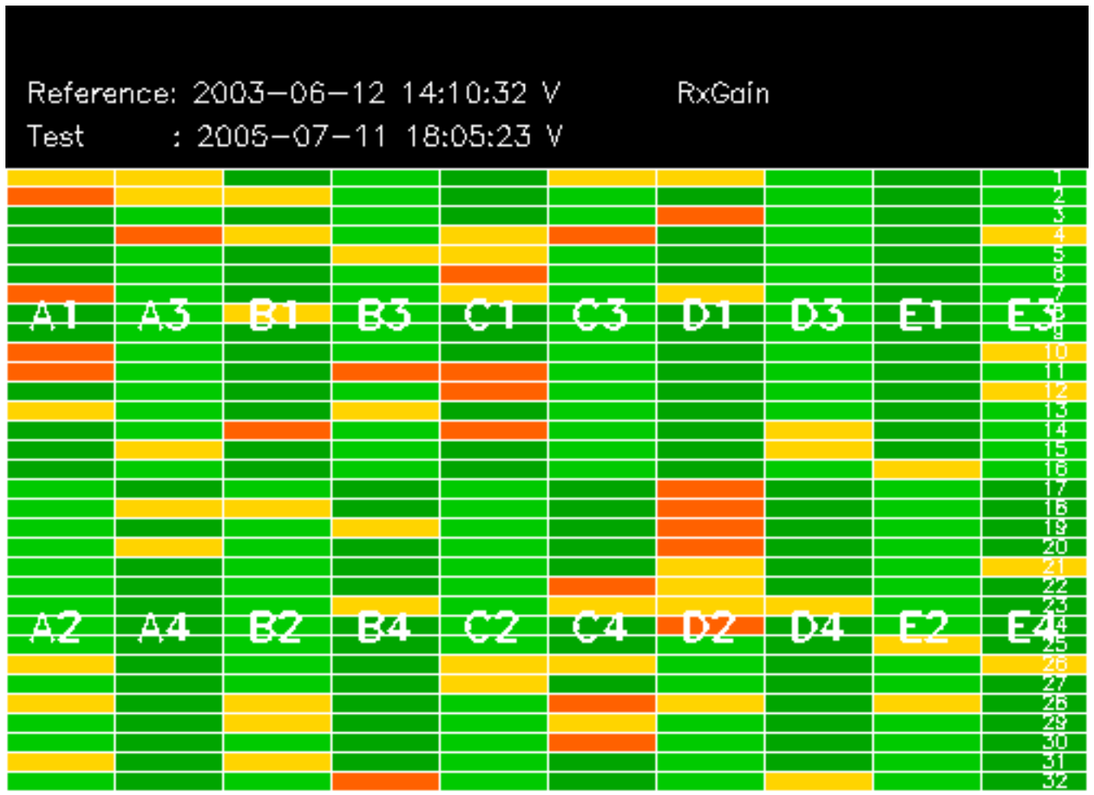
No anomalies observed on available MS products:

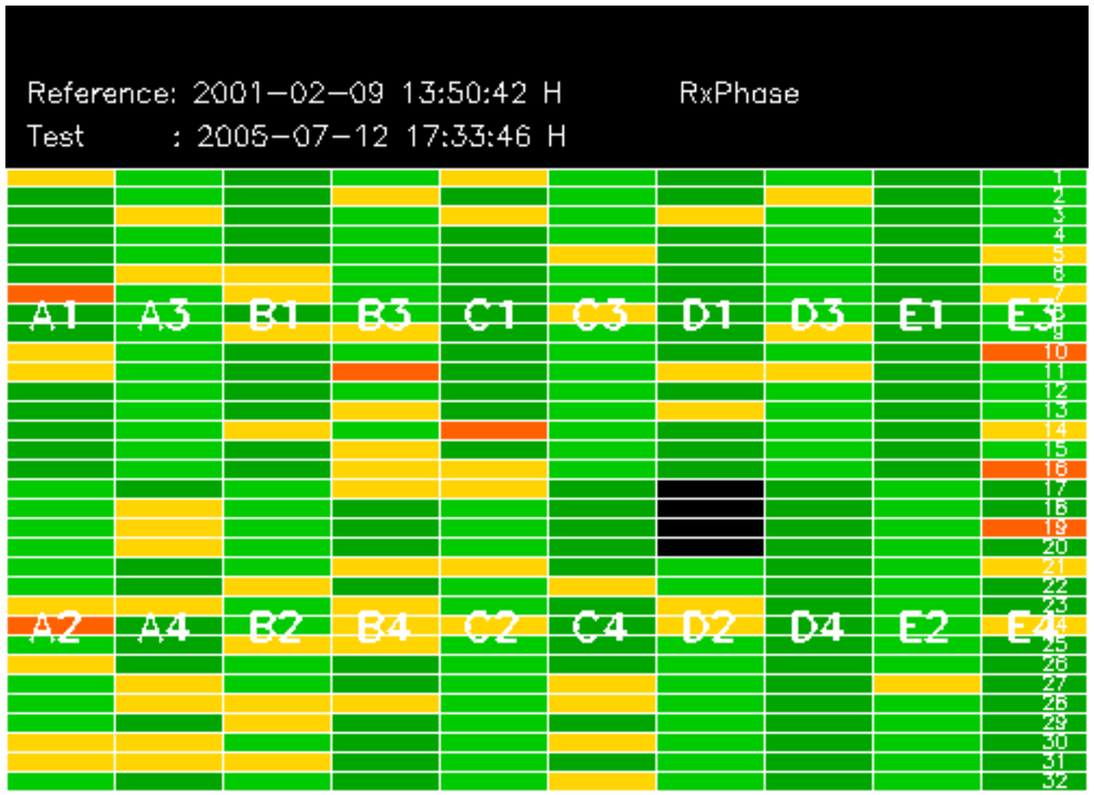
No anomalies observed.

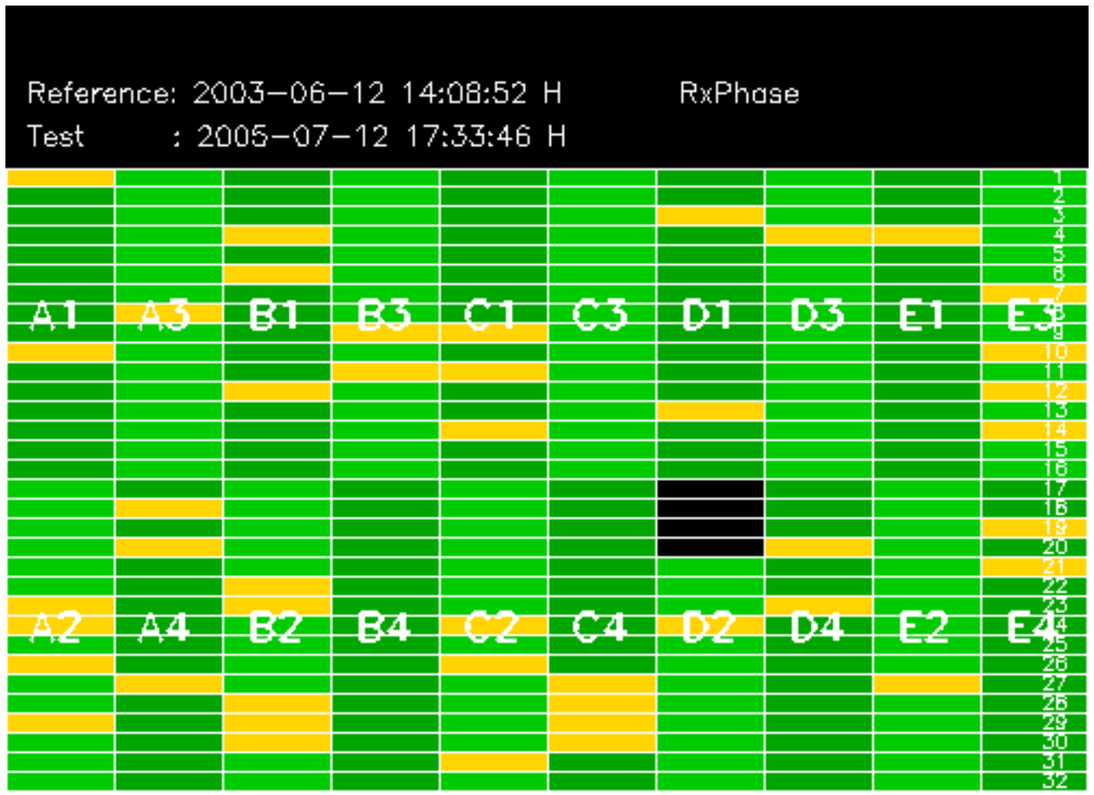

Reference: 2001-02-09 13:50:42 H
Test : 2005-07-12 17:33:46 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

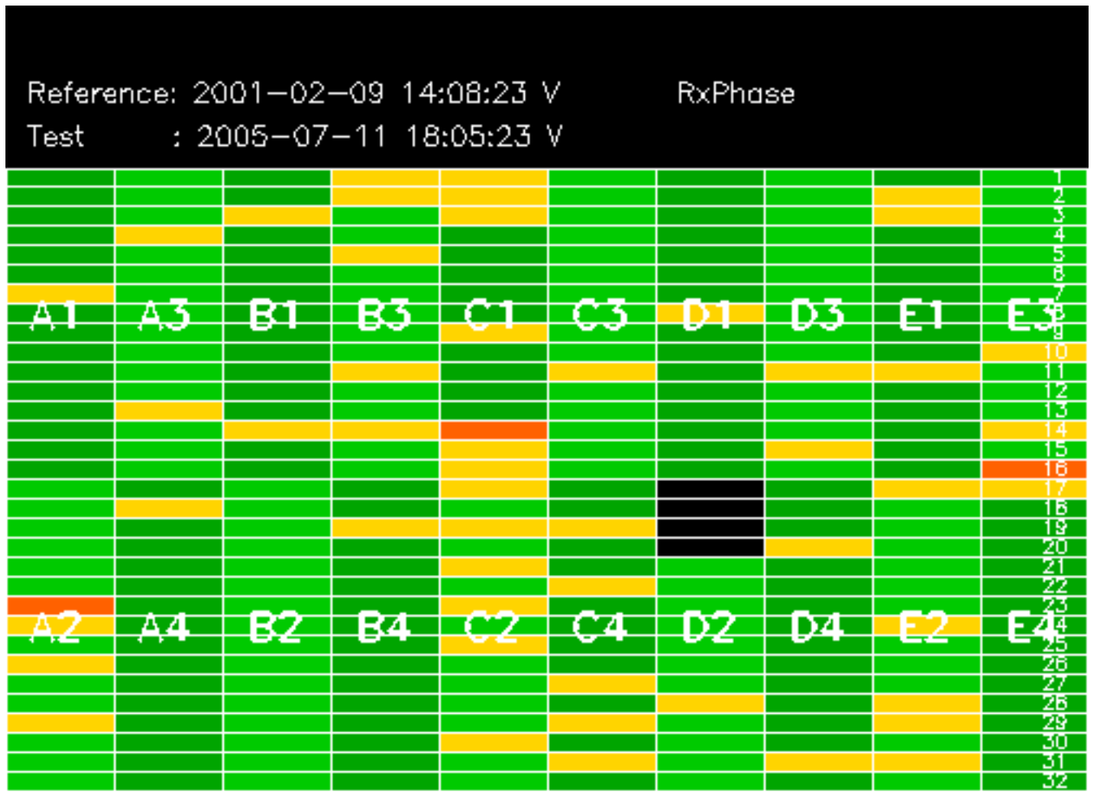

Reference: 2003-06-12 14:08:52 H
Test : 2005-07-12 17:33:46 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

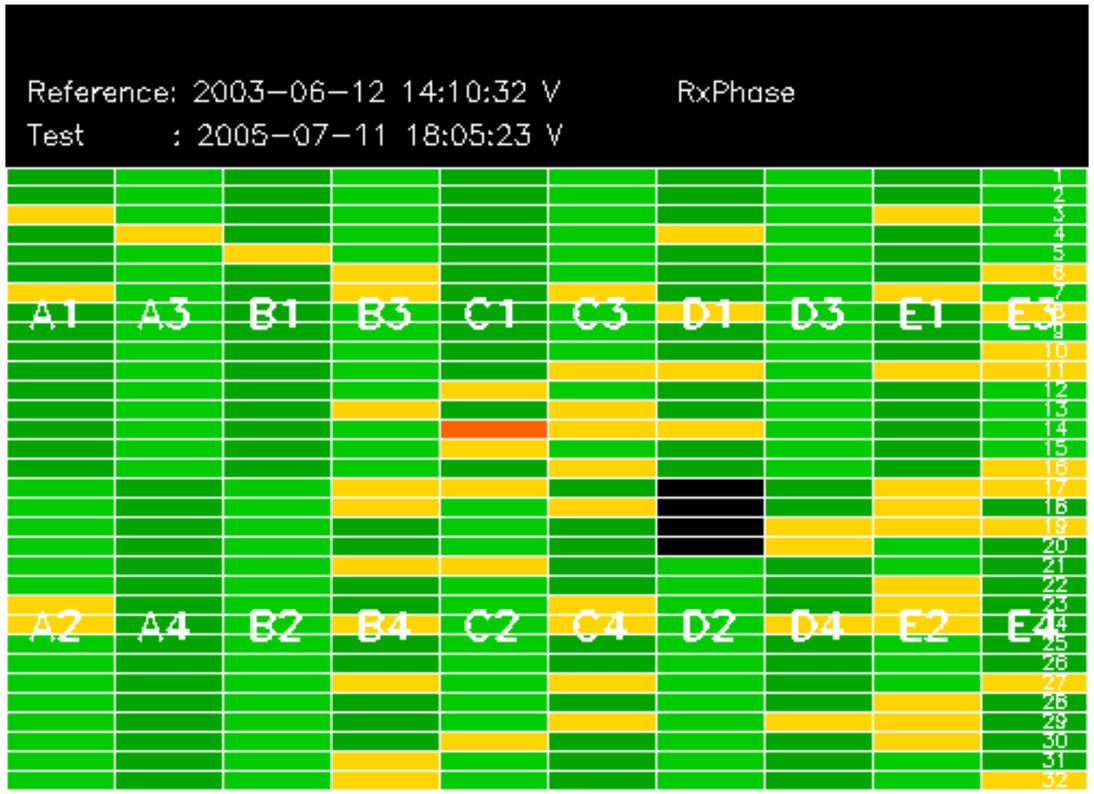

Reference: 2001-02-09 14:08:23 V
Test : 2005-07-11 18:05:23 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

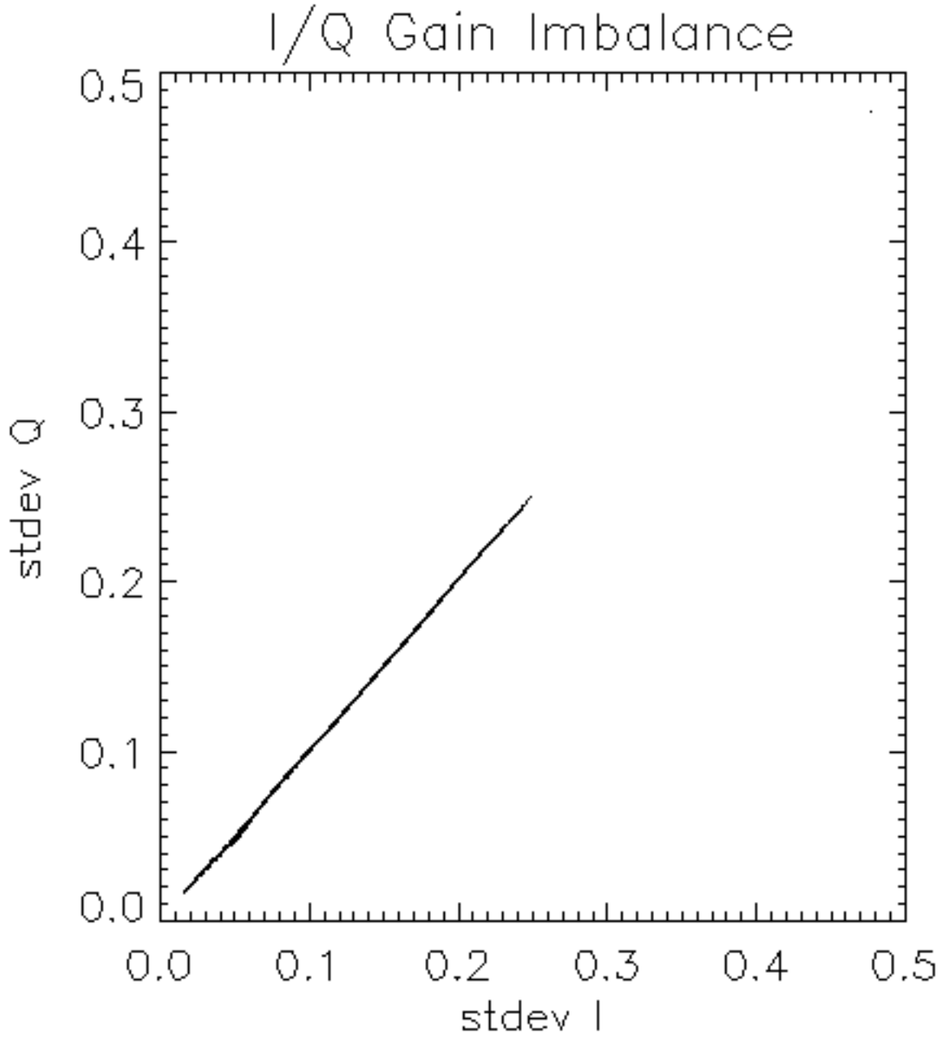

Reference: 2003-06-12 14:10:32 V
Test : 2005-07-11 18:05:23 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

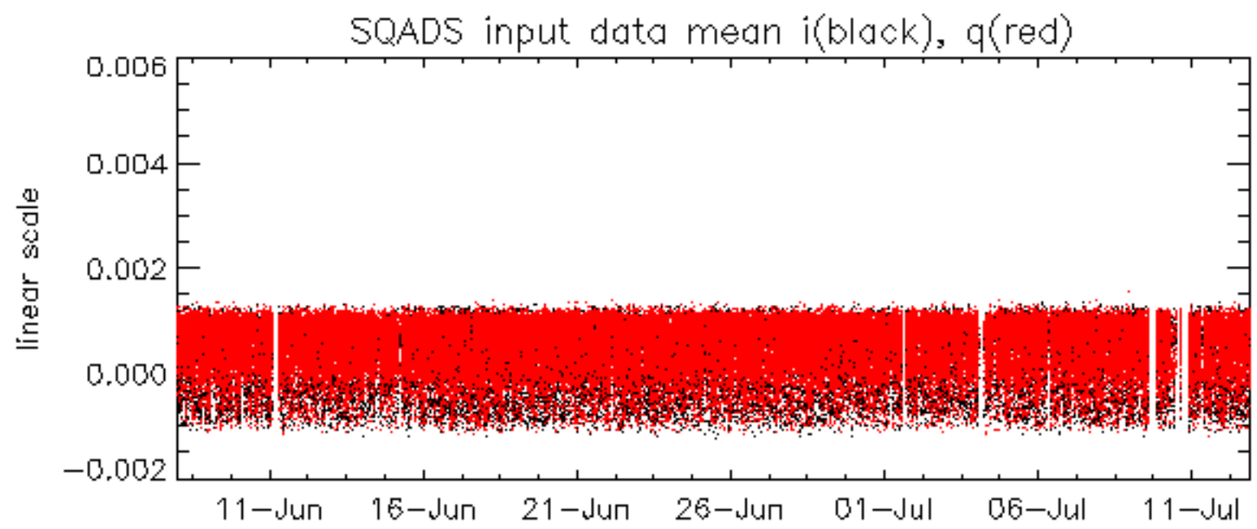

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-07-12 17:33:46 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

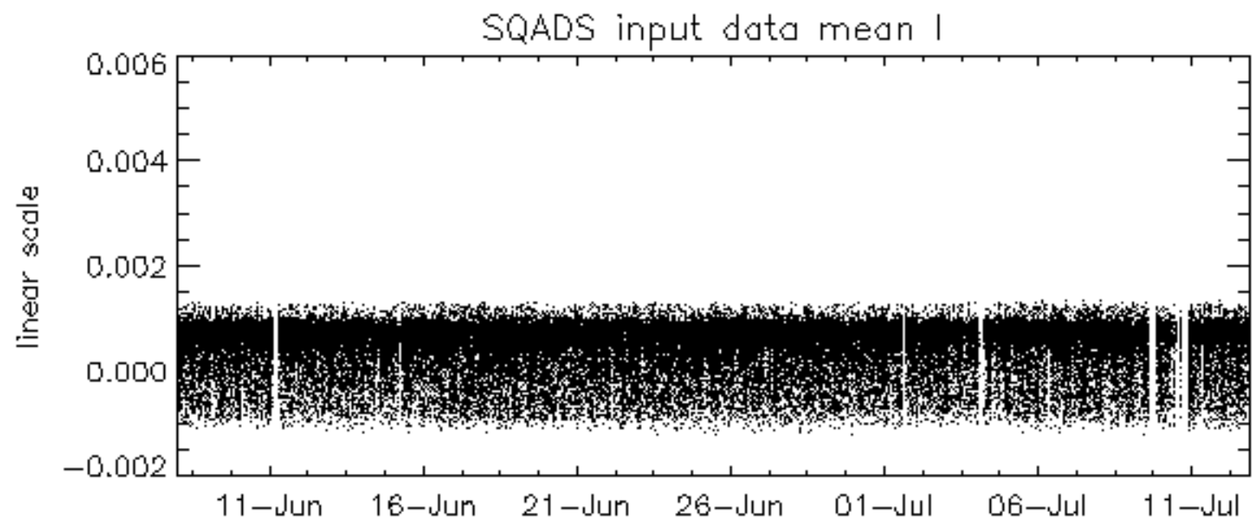

Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2005-07-12 17:33:46 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

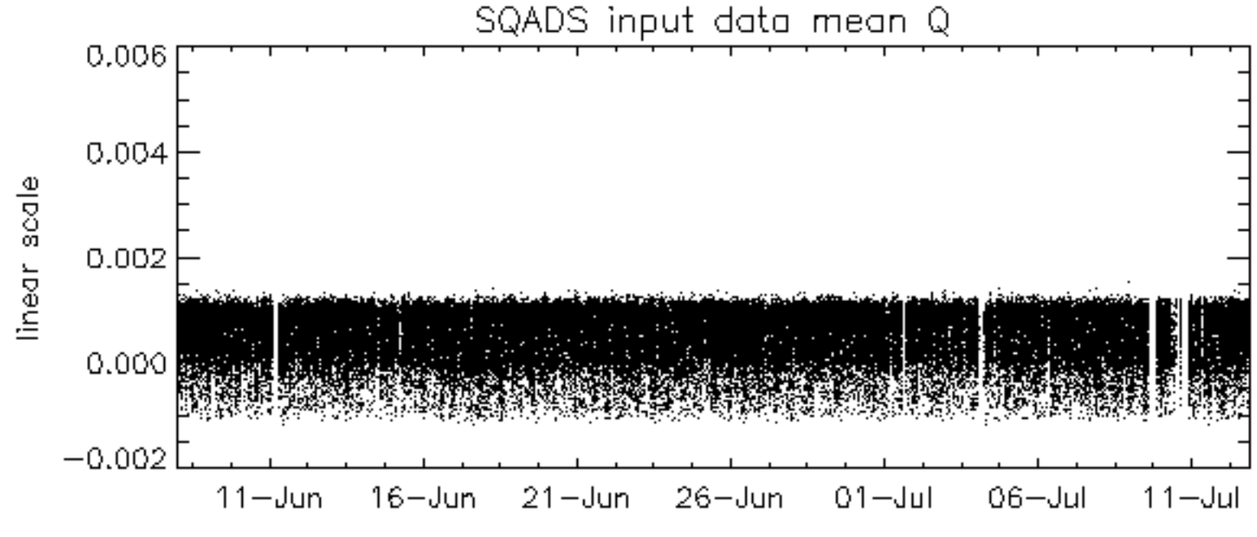

Reference: 2001-02-09 14:08:23 V
Test : 2005-07-11 18:05:23 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

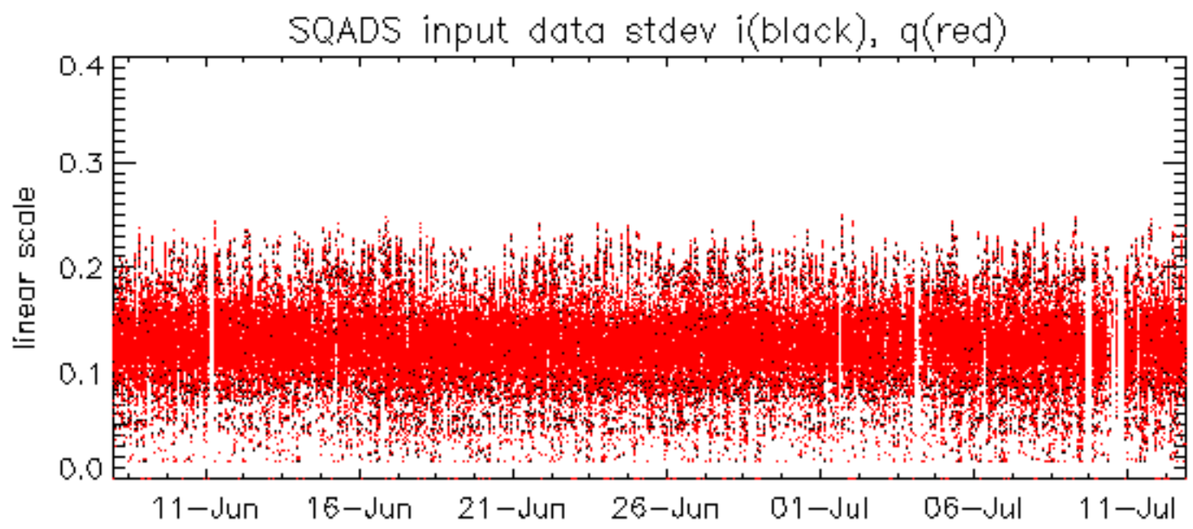

Reference: 2003-06-12 14:10:32 V
Test : 2005-07-11 18:05:23 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

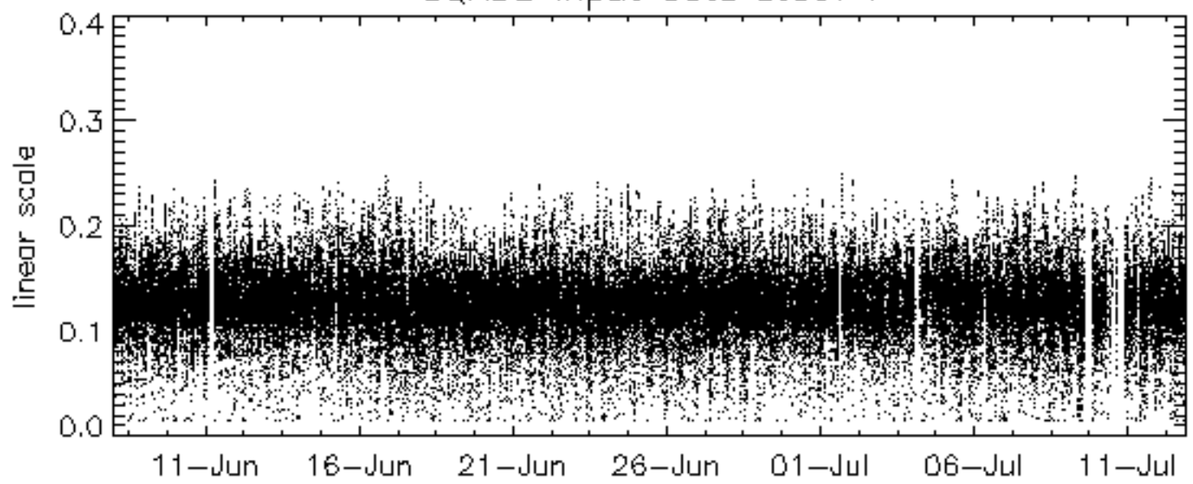

I/Q Gain Imbalance
stdev Q
stdev I
0.0
0.1
0.2
0.3
0.4
0.5

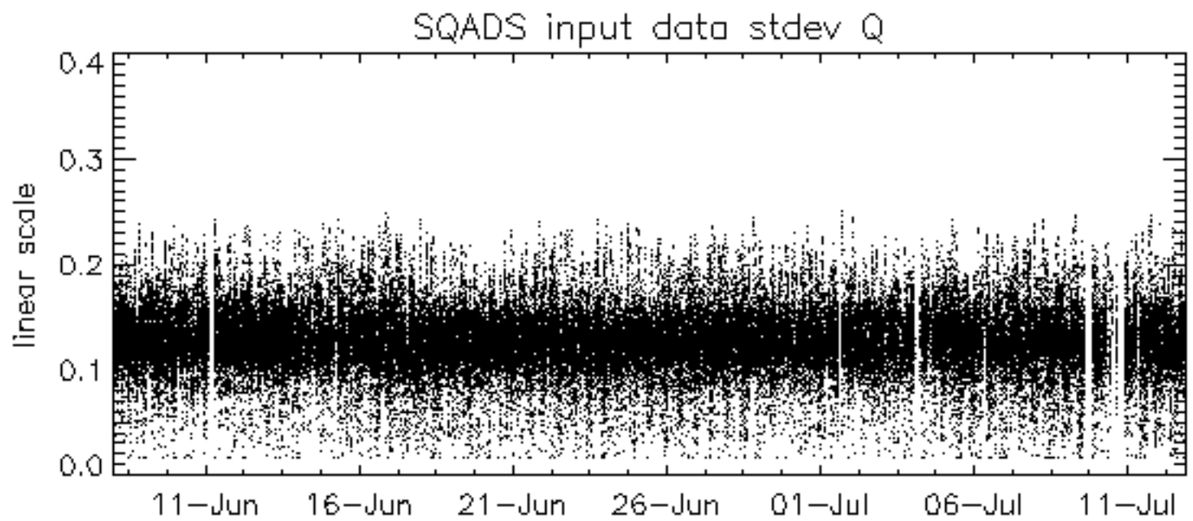

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul

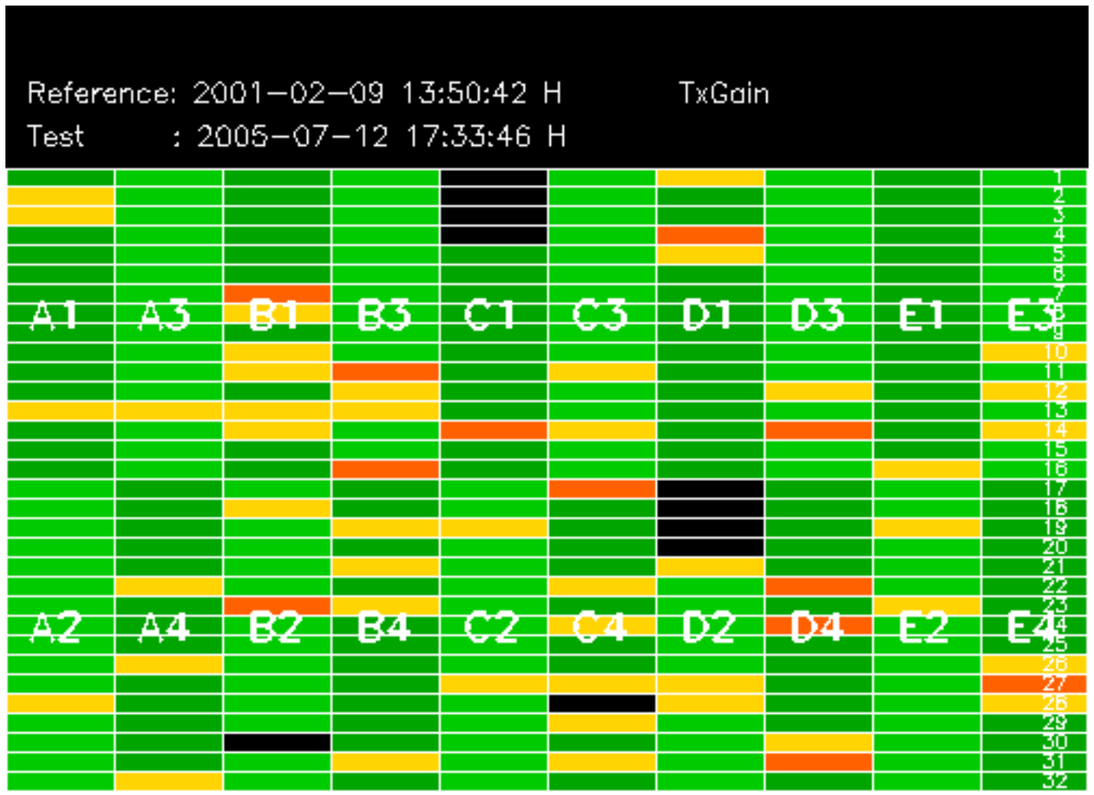

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul

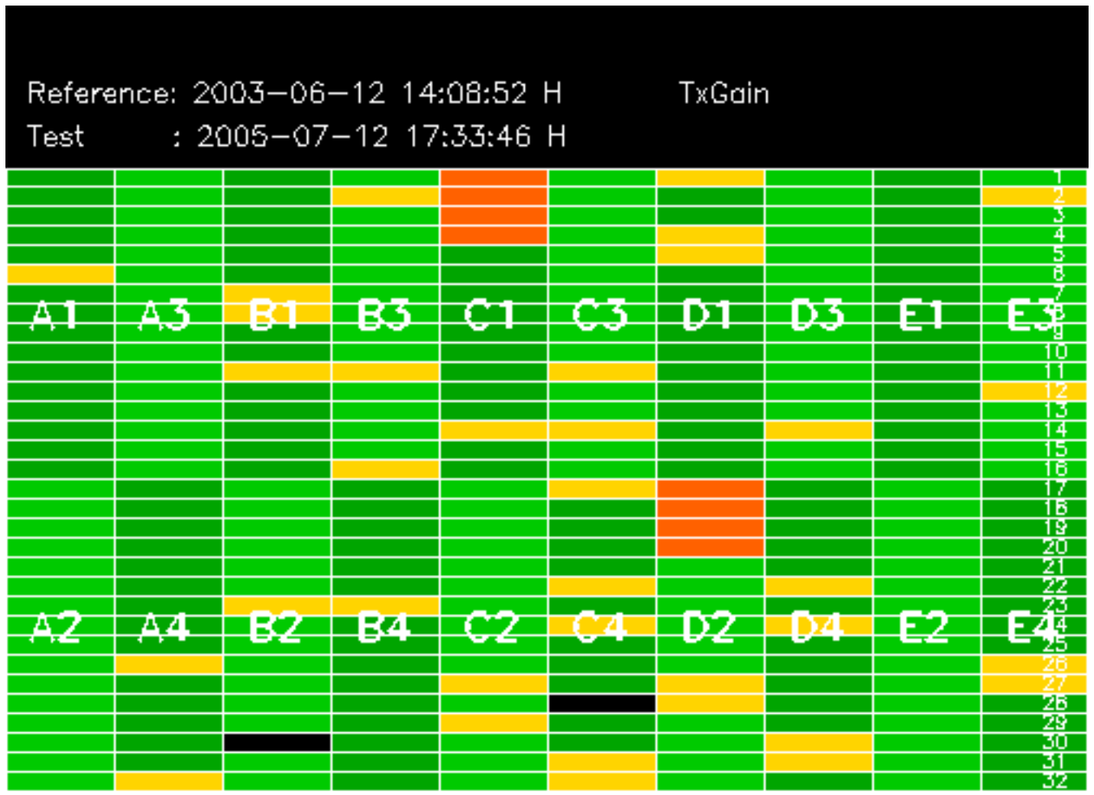

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul

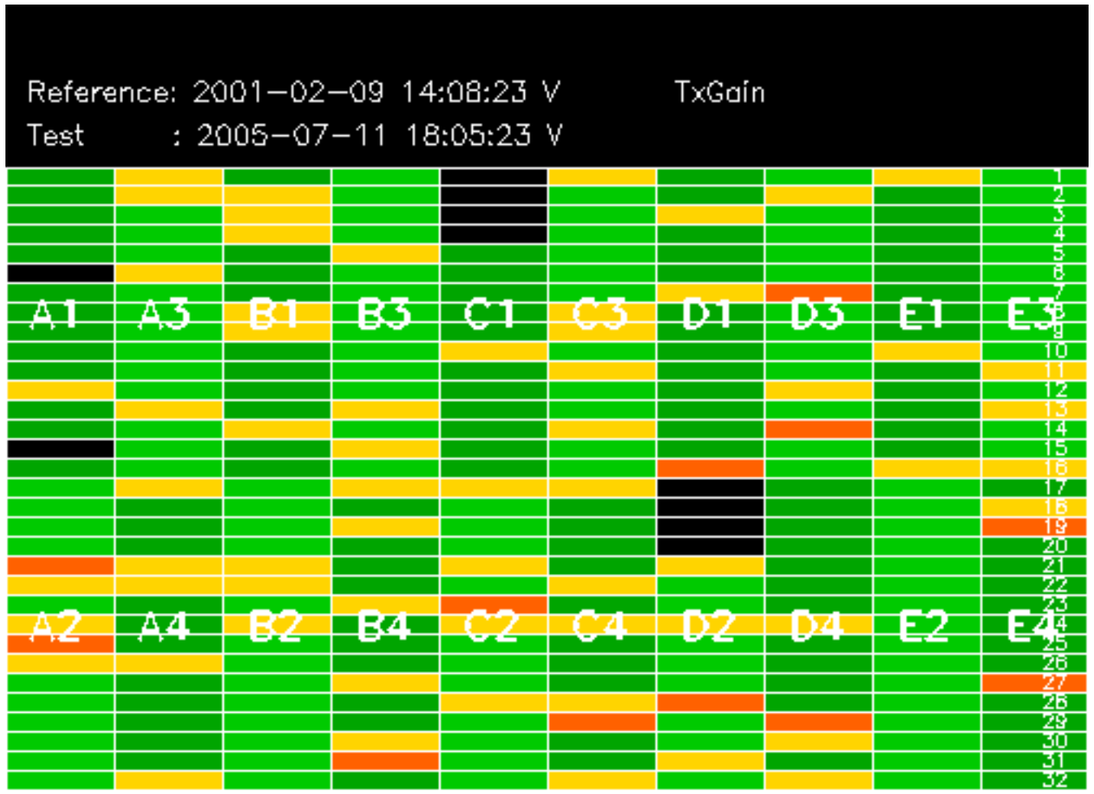

SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul

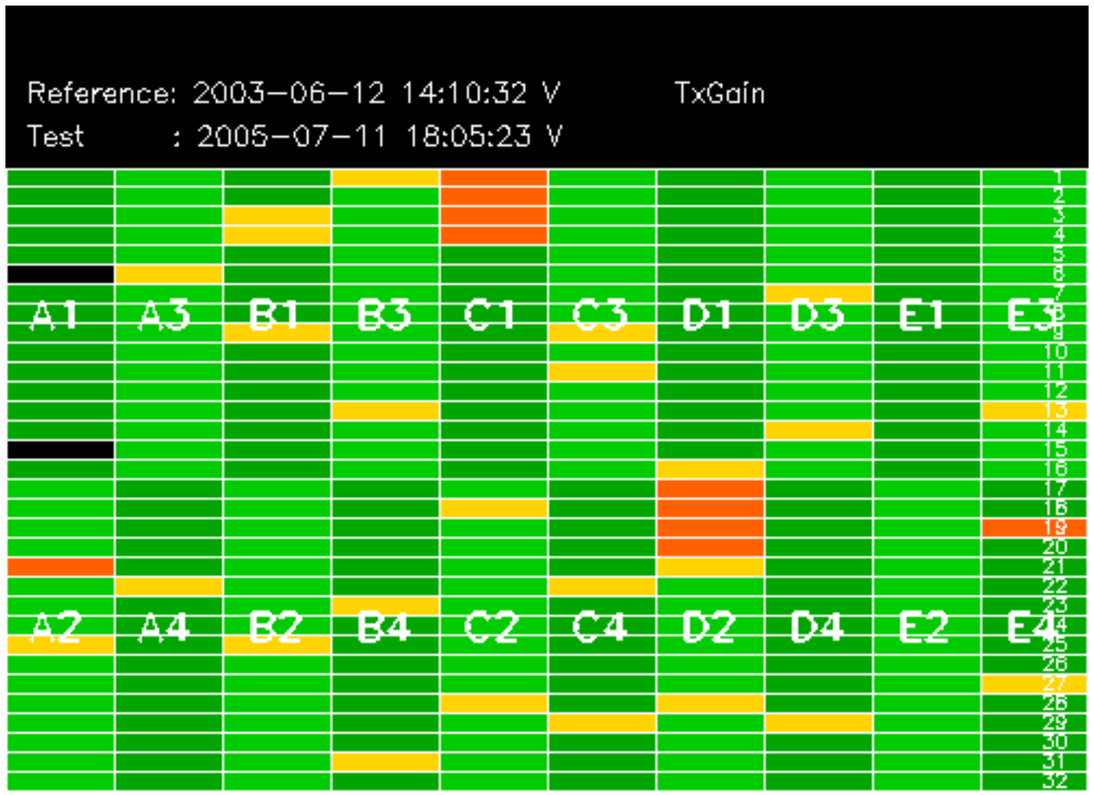

SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul


Reference: 2001-02-09 13:50:42 H
Test : 2005-07-12 17:33:46 H
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
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

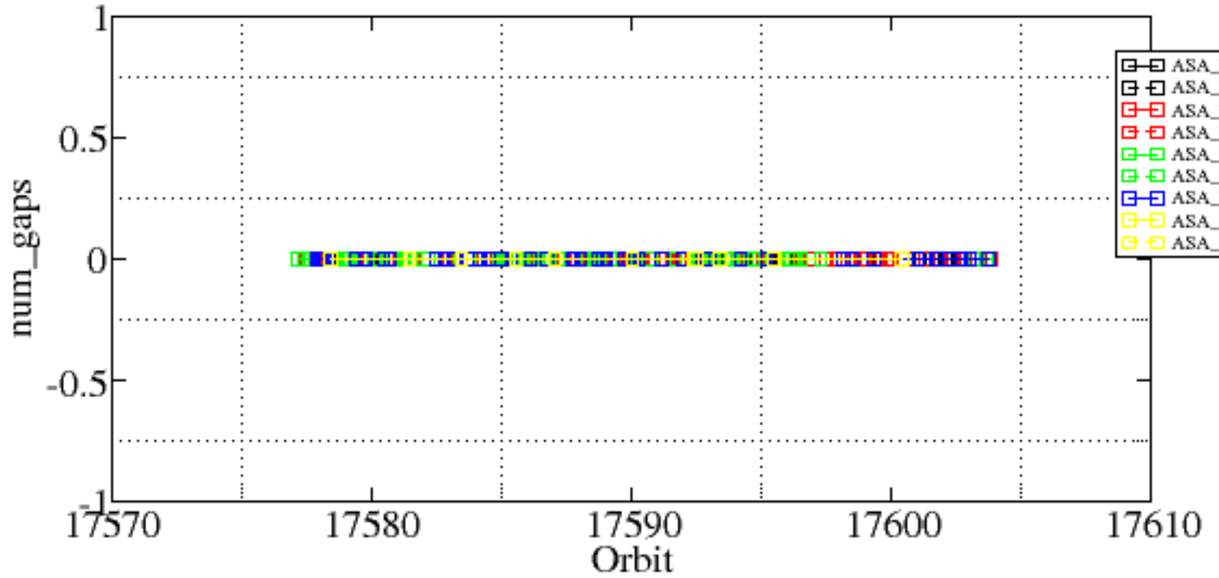

Reference: 2003-06-12 14:08:52 H
Test : 2005-07-12 17:33:46 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

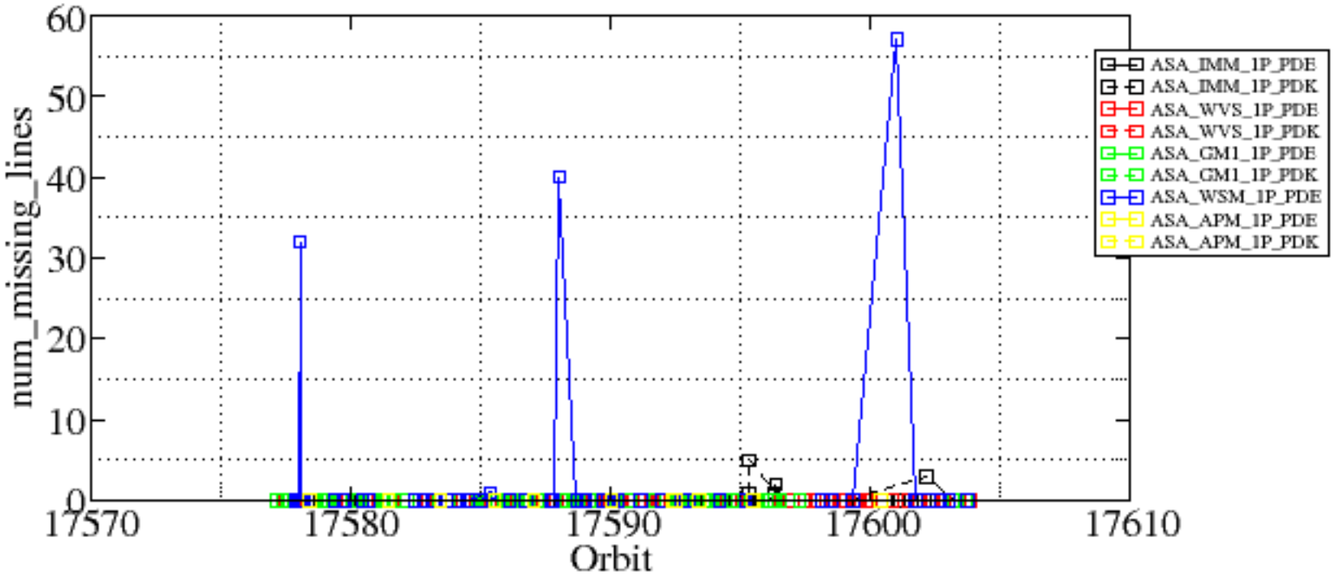

Reference: 2001-02-09 14:08:23 V
Test : 2005-07-11 18:05:23 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

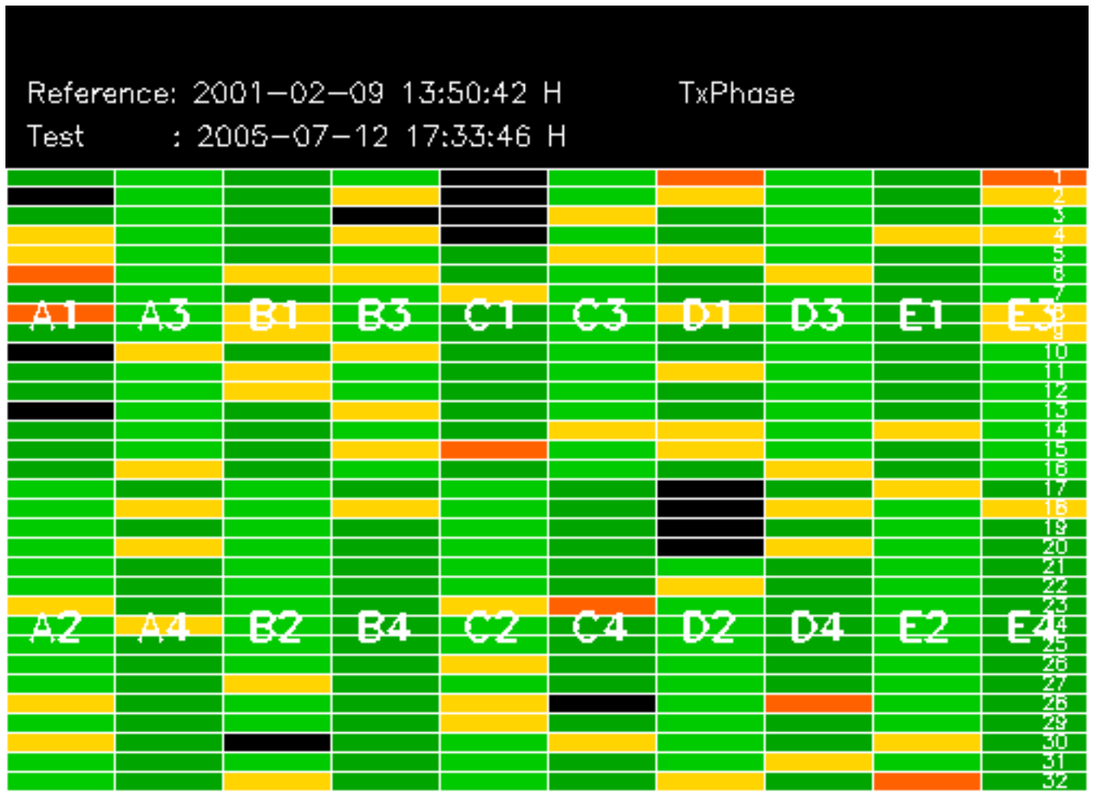

Reference: 2003-06-12 14:10:32 V
Test : 2005-07-11 18:05:23 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

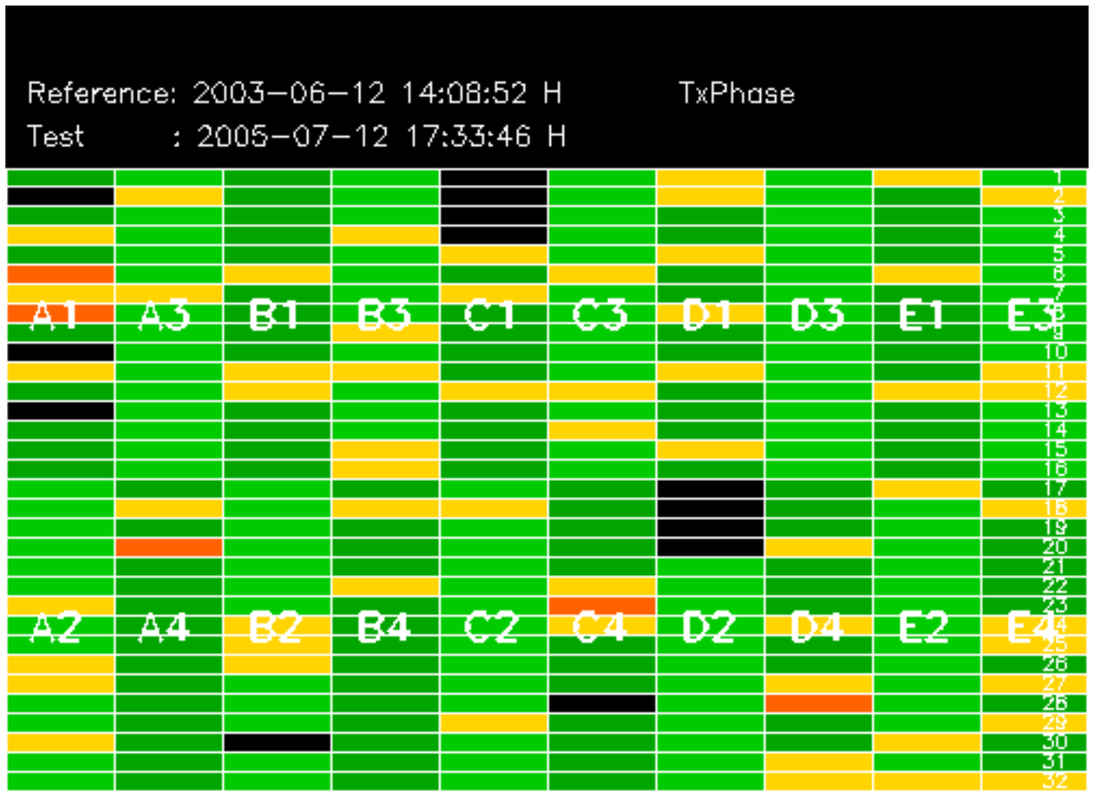
Summary of analysis for the last 3 days 2005071[123]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

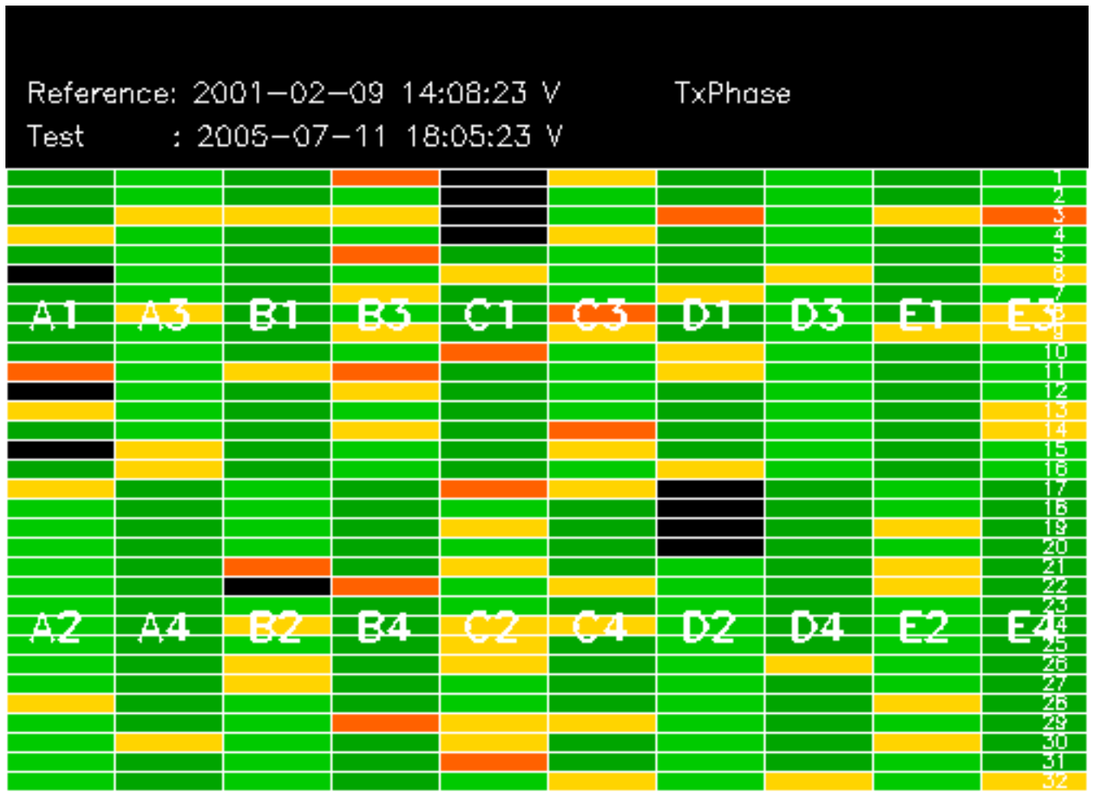
Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDK20050712_065358_000000592039_00006_17595_1425.N1	0	1
ASA_IMM_1PNPDK20050712_065657_000000602039_00006_17595_1429.N1	0	5
ASA_IMM_1PNPDK20050712_083354_000001742039_00007_17596_1442.N1	0	1
ASA_IMM_1PNPDK20050712_083948_000000922039_00007_17596_1443.N1	0	2
ASA_IMM_1PNPDK20050712_182402_000001582039_00013_17602_1463.N1	0	3
ASA_WSM_1PNPDE20050711_015643_000000672038_00490_17578_3437.N1	0	32
ASA_WSM_1PNPDE20050711_141432_000000672038_00497_17585_3591.N1	0	1
ASA_WSM_1PNPDE20050711_184226_000002312038_00500_17588_3621.N1	0	40
ASA_WSM_1PNPDE20050712_162924_000001232039_00012_17601_3817.N1	0	57

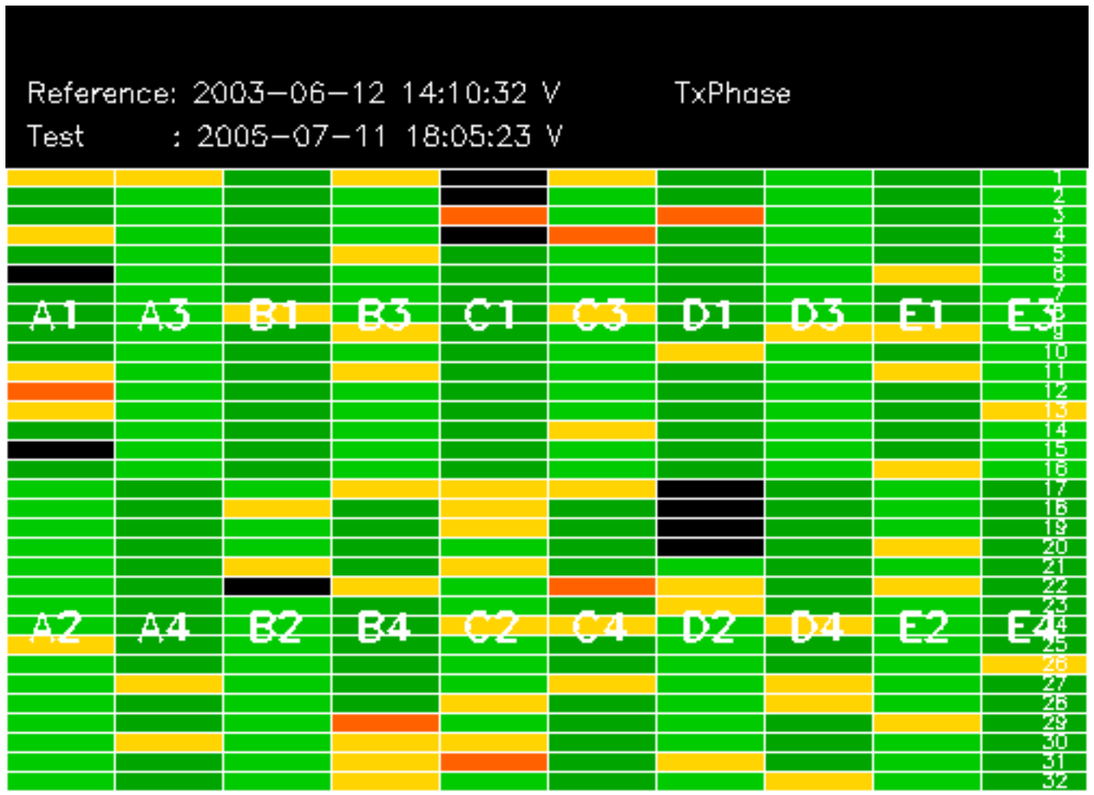

num_gaps
1
0.5
0
-0.5
-1
17570
17580
17590
17600
17610
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_APM_1P_PDE
ASA_APM_1P_PDK

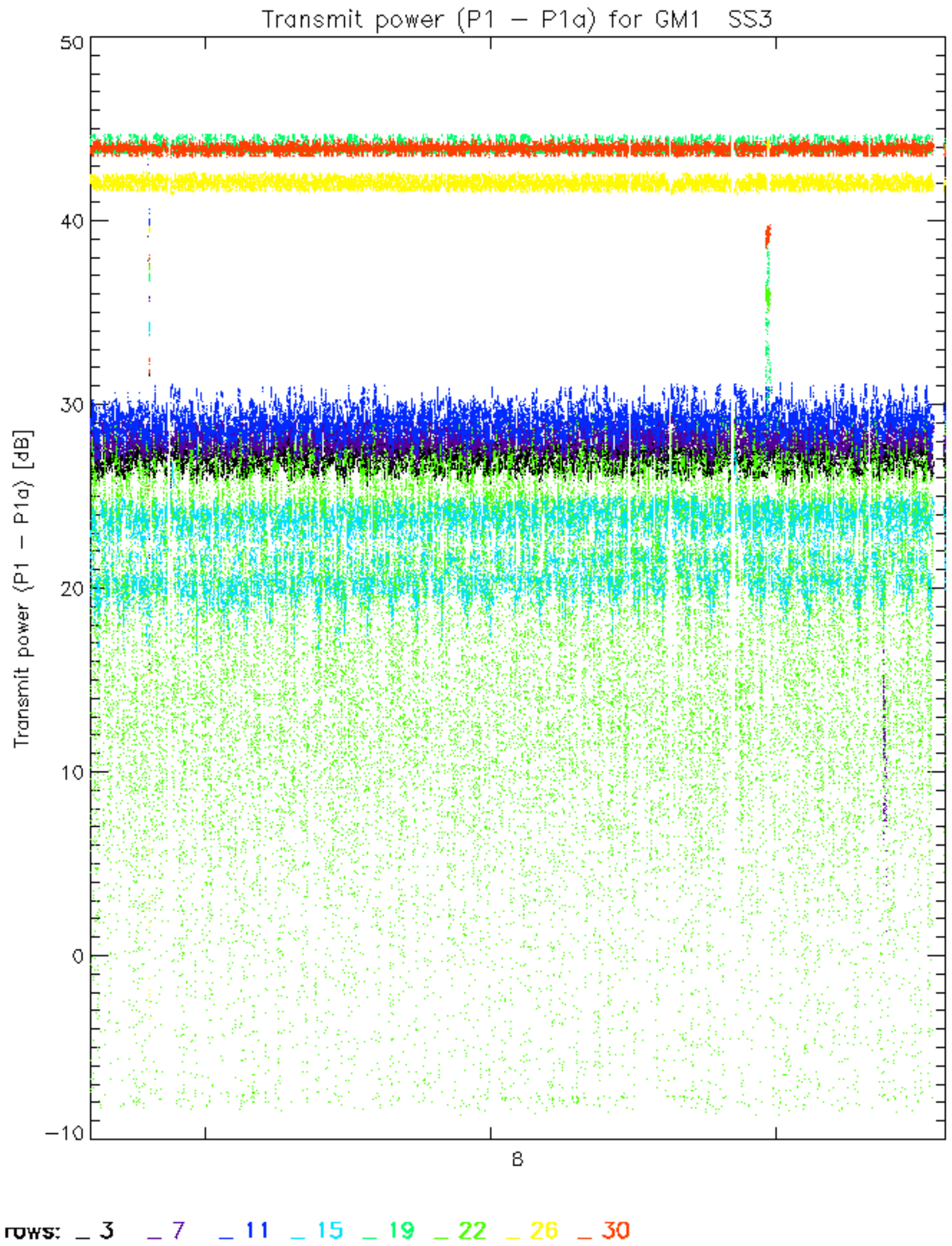

num_missing_lines
60
50
40
30
20
10
0
17570
17580
17590
17600
17610
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_APM_1P_PDE
ASA_APM_1P_PDK

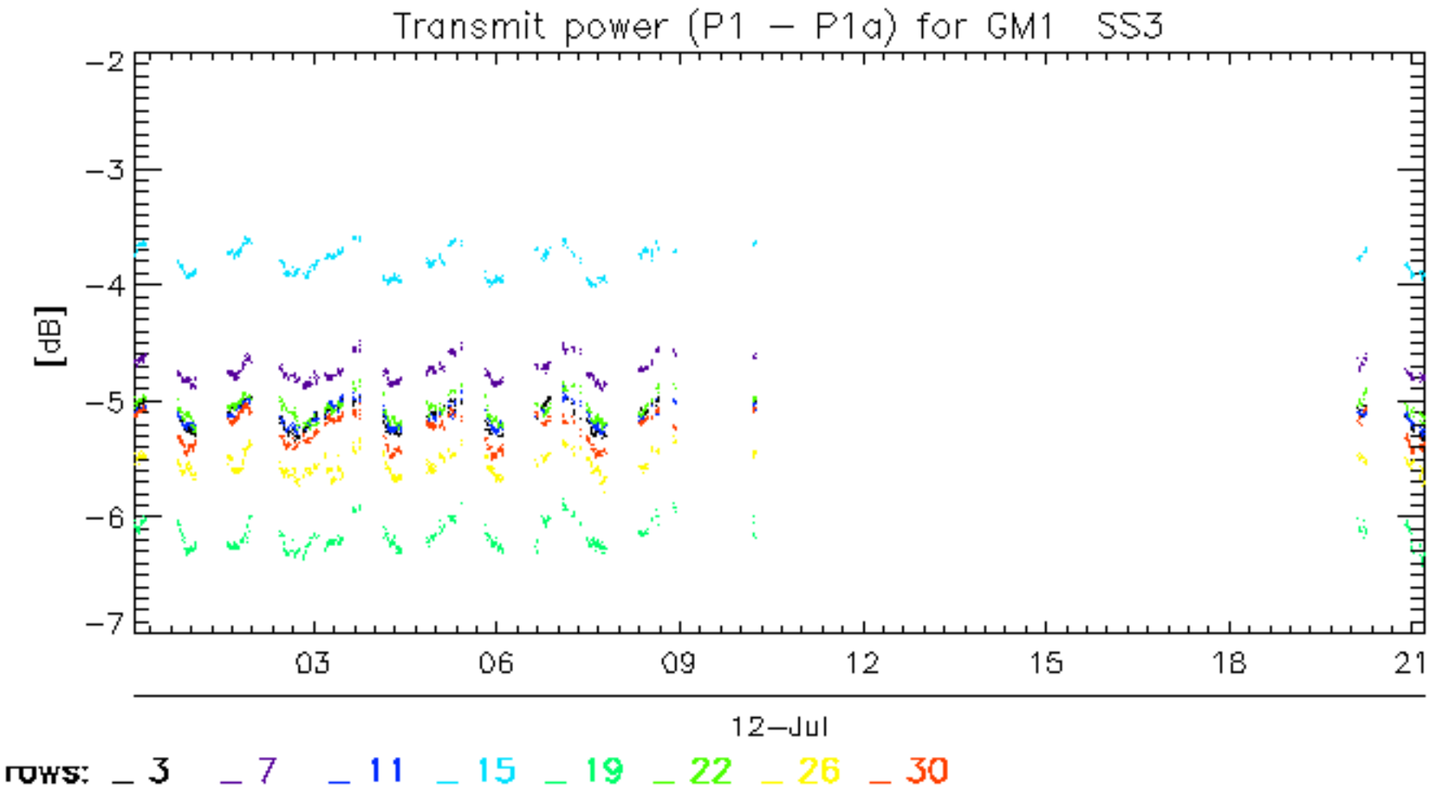

Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2005-07-12 17:33:46 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

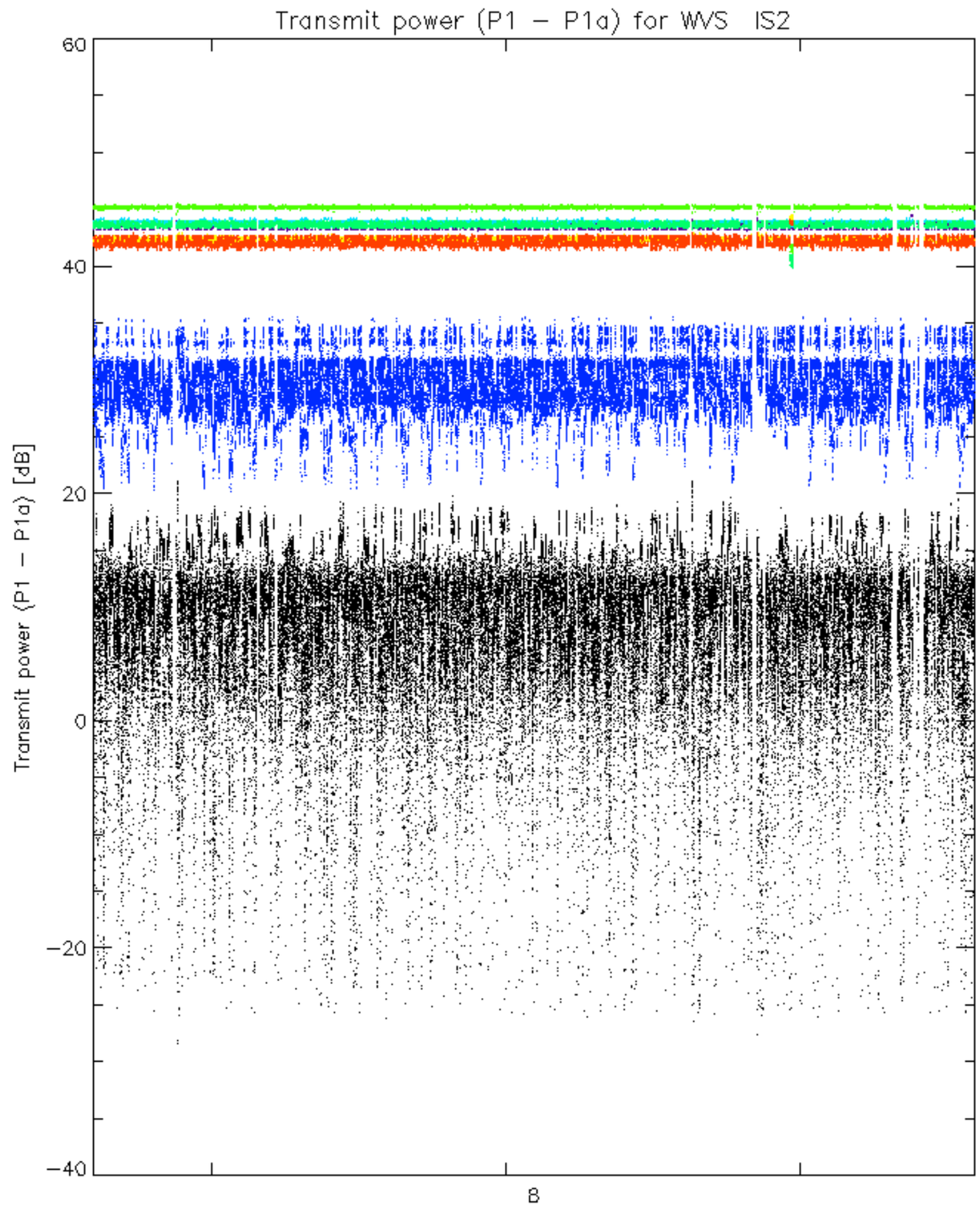

Reference: 2003-06-12 14:08:52 H
TxPhase
Test : 2005-07-12 17:33:46 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

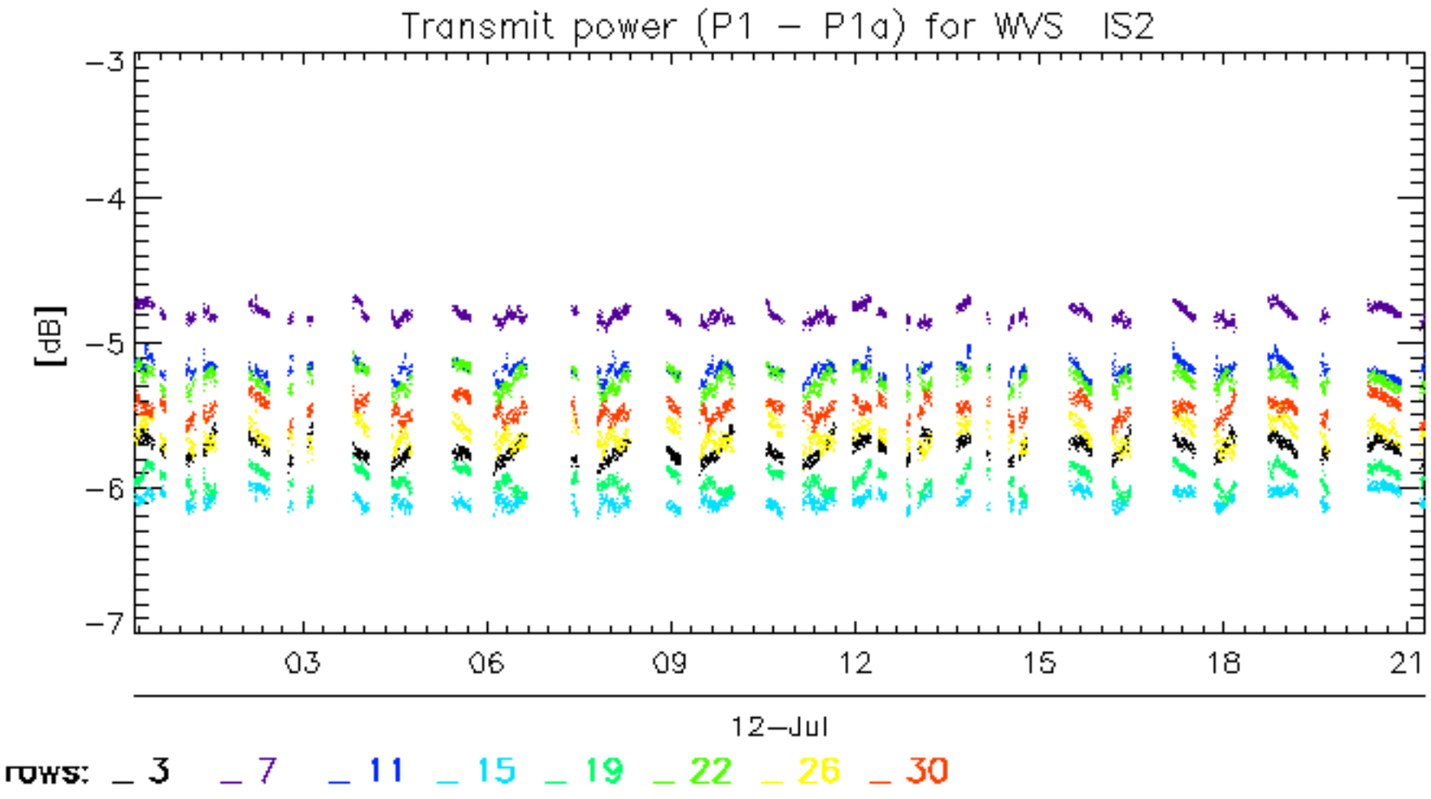

Reference: 2001-02-09 14:08:23 V
Test : 2005-07-11 18:05:23 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-07-11 18:05:23 V
TxPhase
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


Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
8
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
12–Jul
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
8
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
12–Jul
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.