PRELIMINARY REPORT OF 040726

ATTENTION: This report is automatically generated no comments are provided on data analysis

last update on Mon Jul 26 13:02:21 GMT 2004

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 - Browse Visual Inspection

No anomaly observed from browse visual inspection.

2.3 - Data Analysis

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

3 - Module Stepping Mode

The MS mode provides an internal health check on an individual module basis.
The purpose of this mode is to identify any malfunctionning modules and
to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

- ASA_MS__0PNPDK20040725_183659_000000152028_00485_12563_0028.N1

Polarisation	Start Time
V	20040725 183659
H	20040724 204912

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	-3.481294	0.006138	0.020359
7	P1	-3.323088	0.013493	0.029629
11	P1	-4.587741	0.032906	-0.058296
15	P1	-5.715073	0.056312	-0.041017
19	P1	-3.444150	0.004417	-0.010440

22	P1	-4.558389	0.011129	-0.014742
24	P1	-4.938969	0.017587	-0.030174
30	P1	-6.880407	0.025383	-0.038136
3	P1	-16.170469	0.140451	-0.087201
7	P1	-13.972756	0.089610	0.055897
11	P1	-20.000921	0.266381	-0.161346
15	P1	-11.787788	0.044005	0.017129
19	P1	-13.838918	0.032538	-0.025634
22	P1	-16.353806	0.365292	0.132660
24	P1	-14.608328	0.279555	0.053938
30	P1	-17.687534	0.406365	0.079854

P2 Cyclic statistics

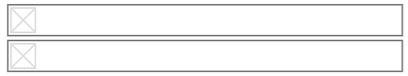
row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.355547	0.080068	0.093209
7	P2	-22.752039	0.121291	0.118833
11	P2	-15.497228	0.141295	0.128166
15	P2	-7.128607	0.091494	0.086042
19	P2	-9.561972	0.154222	0.050533
22	P2	-17.449383	0.104407	0.142257
24	P2	-20.780634	0.083889	0.071075
30	P2	-19.379654	0.077259	0.086537

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.143235	0.001913	-0.001503
7	P3	-8.143237	0.001912	-0.001519
11	P3	-8.143235	0.001912	-0.001527
15	P3	-8.143227	0.001912	-0.001546
19	P3	-8.143222	0.001912	-0.001550
22	P3	-8.143220	0.001912	-0.001565
24	P3	-8.143218	0.001913	-0.001579
30	P3	-8.143314	0.001912	-0.001796

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	-3.019797	0.128217	0.428353
7	P1	-2.898817	0.129720	-0.272435
11	P1	-3.829904	0.030206	-0.011208
15	P1	-4.031737	0.831339	1.035641
19	P1	-3.393704	0.045849	-0.155824
22	P1	-5.707695	0.048695	0.120819
24	P1	-3.985073	0.074691	0.288544
30	P1	-6.145695	0.079122	-0.138232
3	P1	-10.860975	0.392543	0.606216
7	P1	-9.905354	0.301439	-0.459265
11	P1	-11.891781	0.227715	-0.344020
15	P1	-11.805787	0.286898	0.338649
19	P1	-15.184464	0.701269	-0.851332
22	P1	-21.919876	6.703878	-2.436273
24	P1	-17.441093	0.320337	-0.327882
30	P1	-21.200792	3.989095	2.051994

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.067644	0.075146	0.189977
7	P2	-22.849115	0.234167	0.134125
11	P2	-10.967784	0.214968	-0.172722
15	P2	-4.959004	0.041204	0.009690
19	P2	-6.875057	0.048705	0.162348
22	P2	-7.567659	0.093176	0.172147
24	P2	-11.028166	0.149981	-0.037563
30	P2	-22.288567	0.131832	0.089203

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.983006	0.003583	-0.004354
7	P3	-7.983087	0.003579	-0.004645
11	P3	-7.983003	0.003589	-0.004498
15	P3	-7.982942	0.003598	-0.004639
19	P3	-7.982928	0.003597	-0.004514
22	P3	-7.983020	0.003578	-0.004445
24	P3	-7.982998	0.003616	-0.004584
30	P3	-7.983027	0.003587	-0.004555

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	0.000491167
	stdev	2.14735e-07
MEAN Q	mean	0.000535119
	stdev	2.44321e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129271
	stdev	0.00104888
STDEV Q	mean	0.129523
	stdev	0.00106063

5.3 - Gain imbalance I/Q

6 - Doppler Analysis

6.1 - Unbiased Doppler Error for WVS

Evolution of unbiased Doppler error (Real - Expected)

Acsending

Descending

6.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler

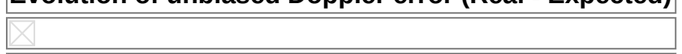
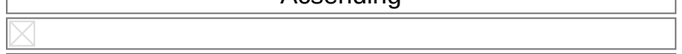
Acsending

Descending

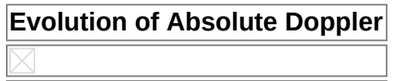
6.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX


6.4 - Unbiased Doppler Error for GM1

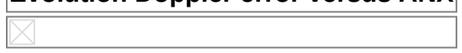
Evolution of unbiased Doppler error (Real - Expected)

Acsending

Descending

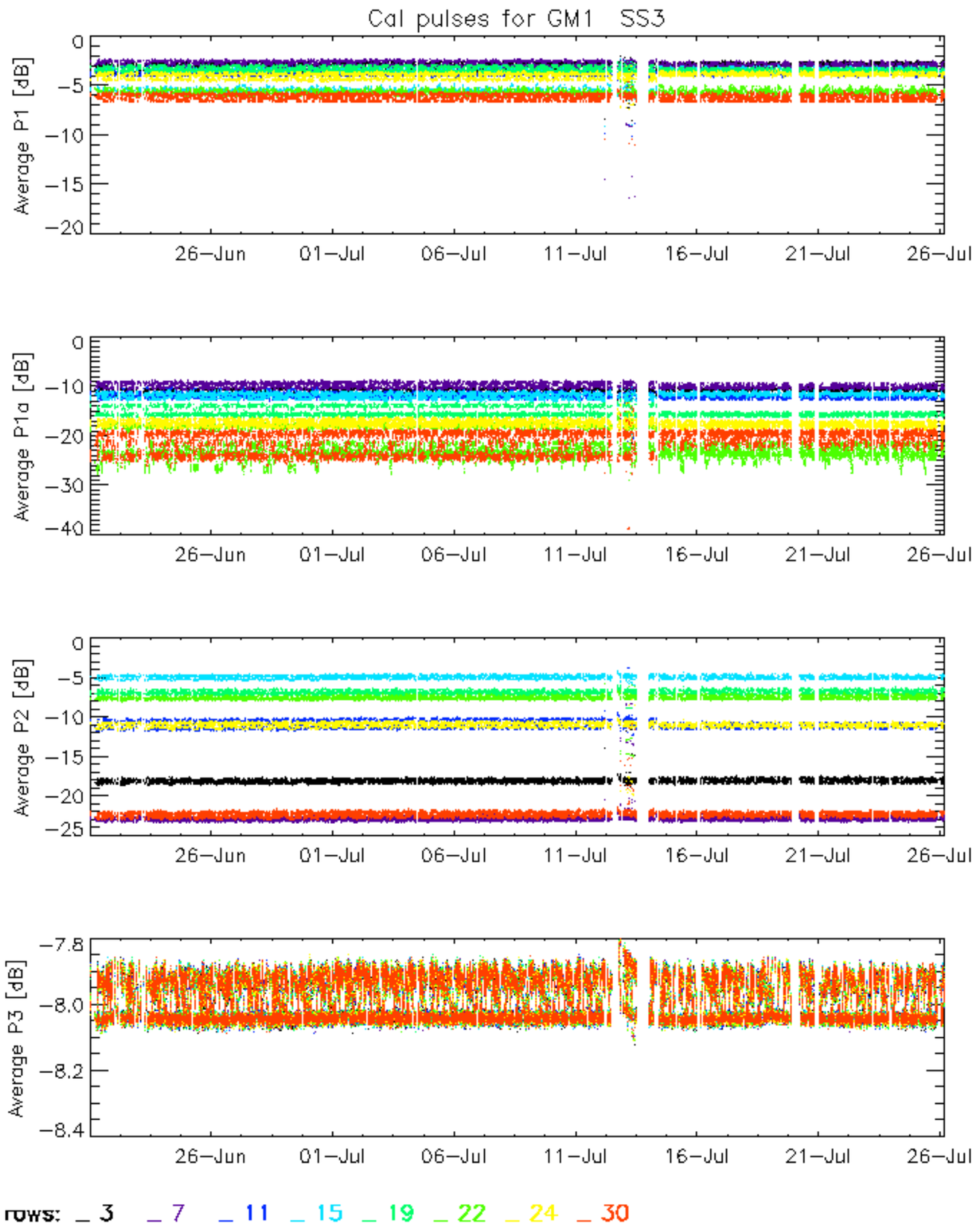
6.5 - Absolute Doppler for GM1

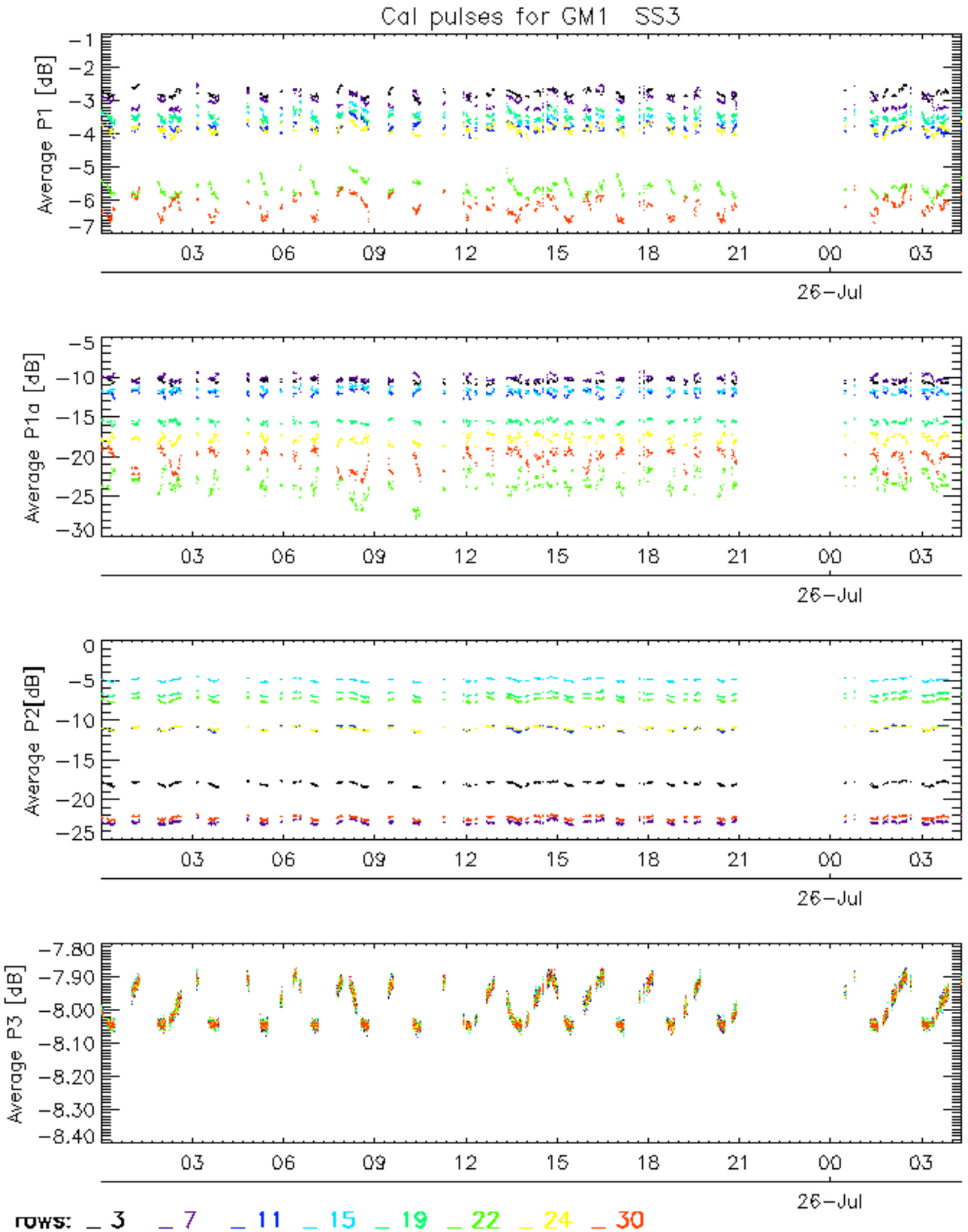
Evolution of Absolute Doppler

Acsending

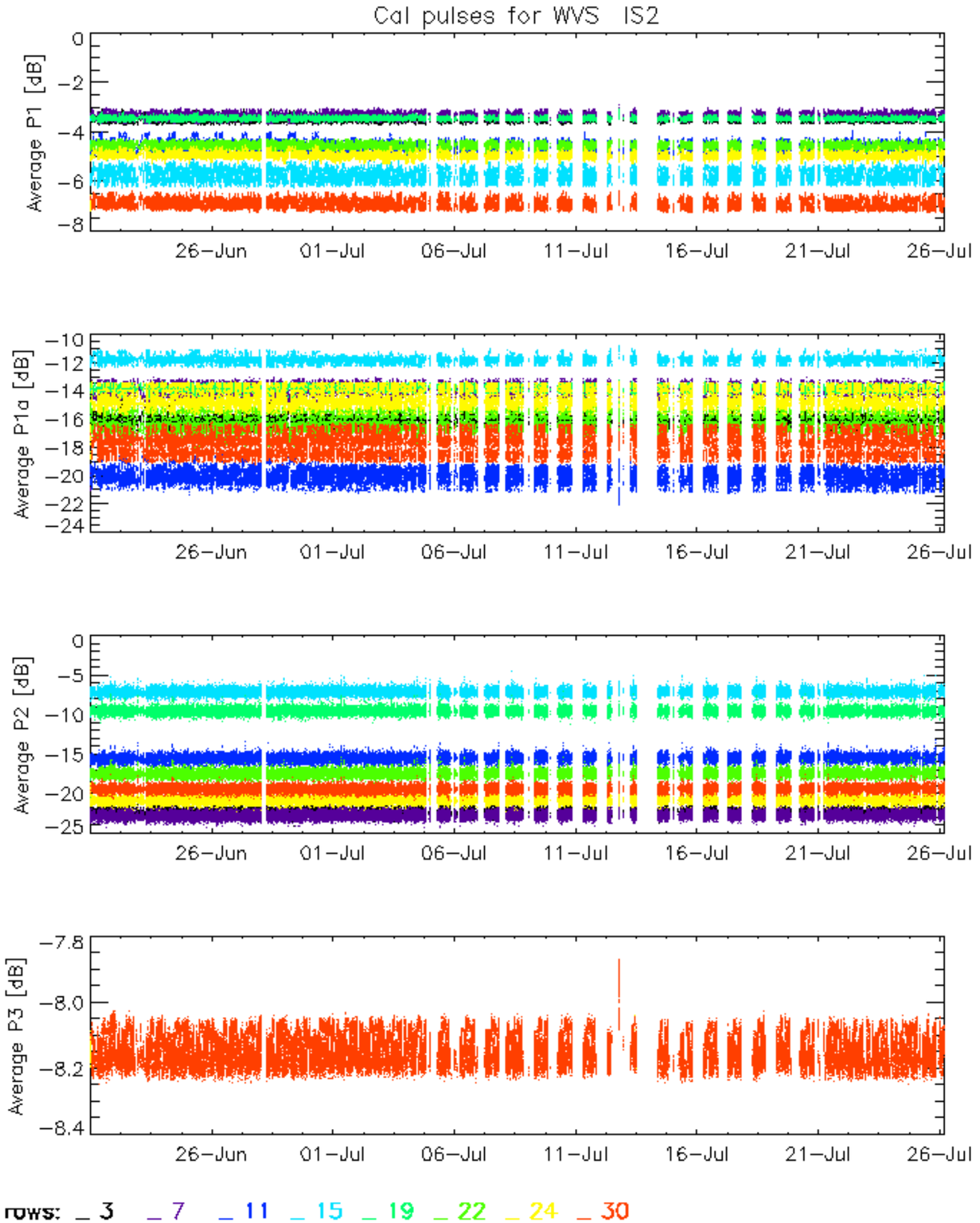
Descending

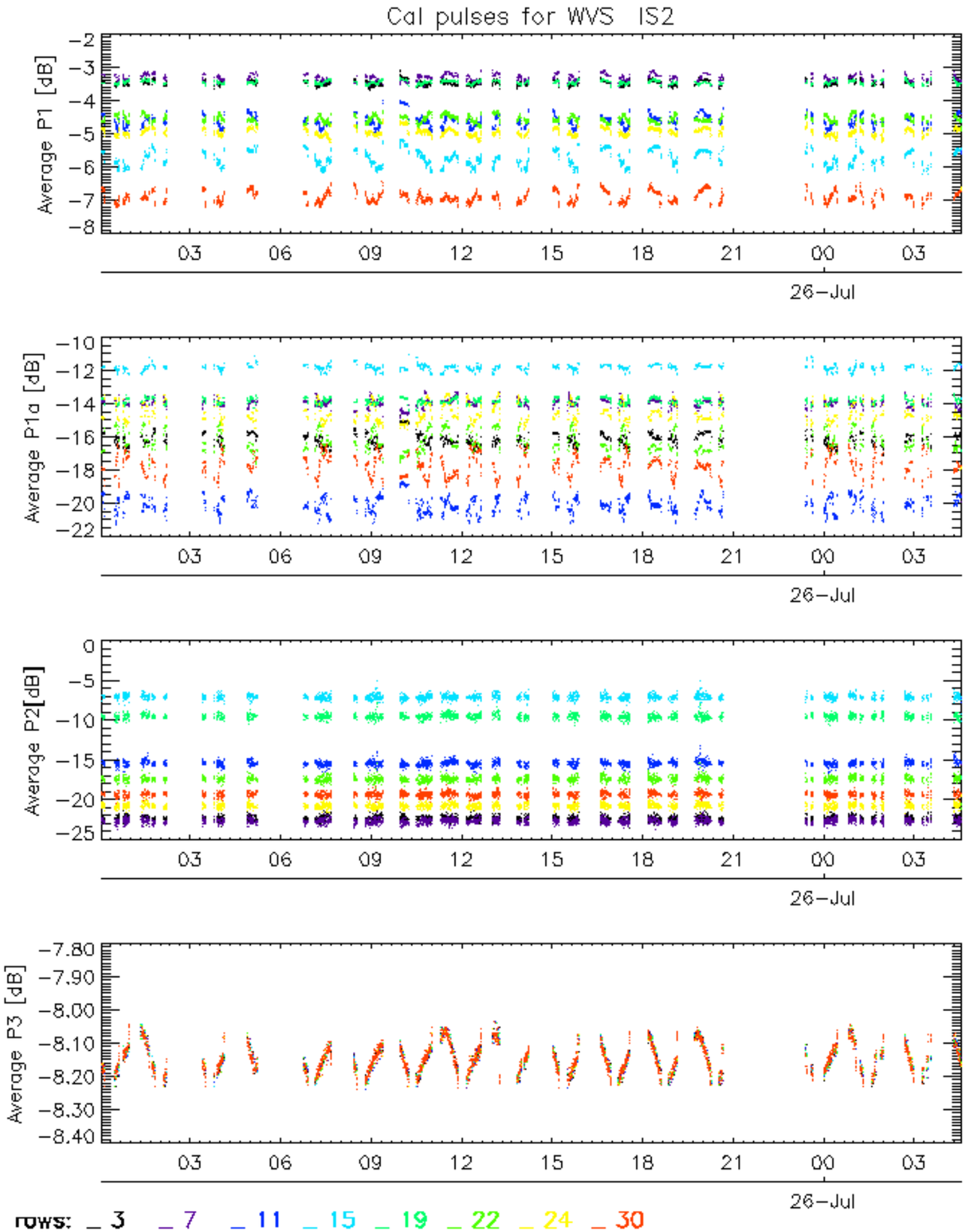
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX



Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
−20
Average P1a [dB]
0
−10
−20
−30
−40
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
26−Jul
rows: 3 7 11 15 19 22 24 30

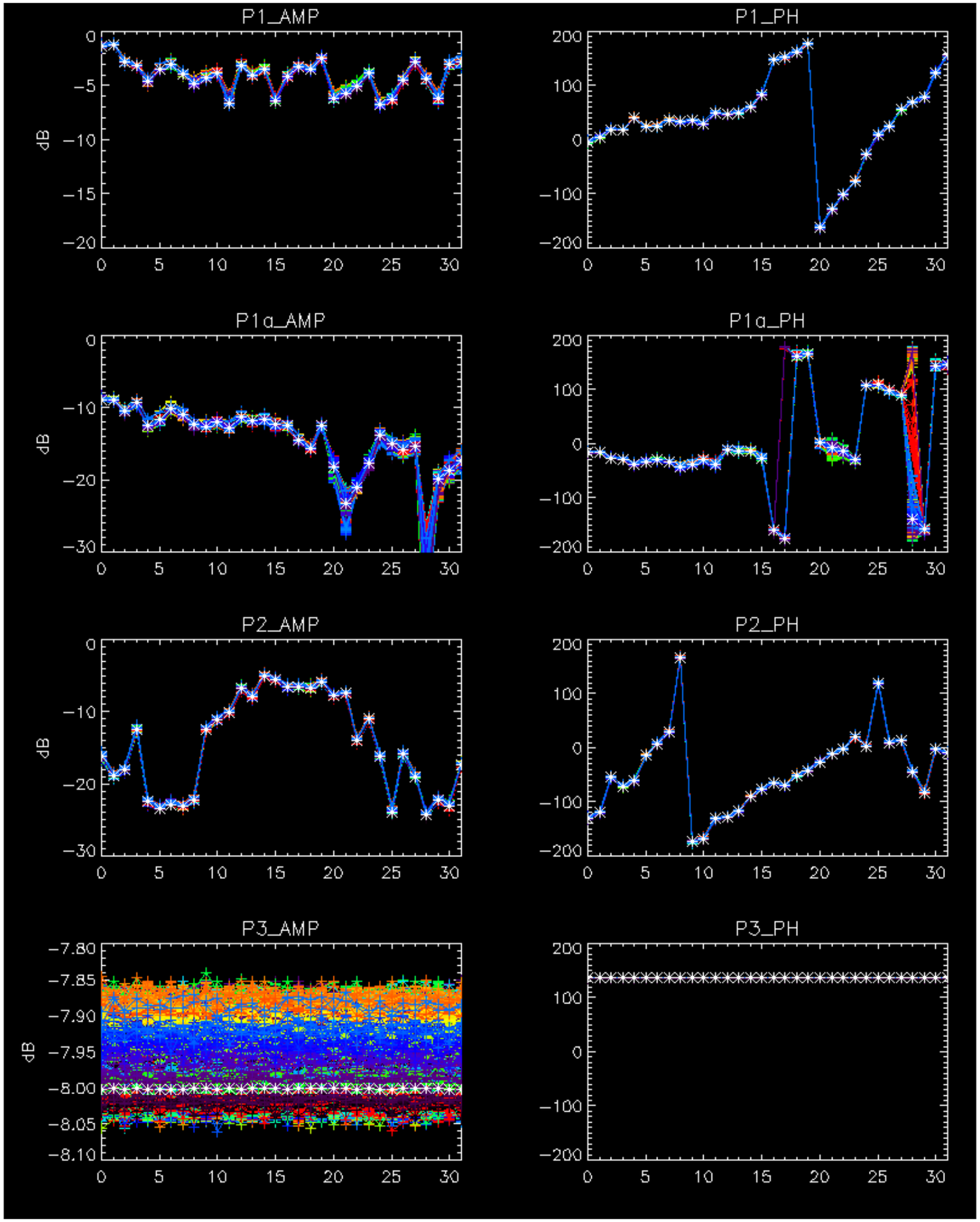

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
26−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
21
00
03
26−Jul
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
03
26−Jul
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06
09
12
15
18
21
00
03
26−Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

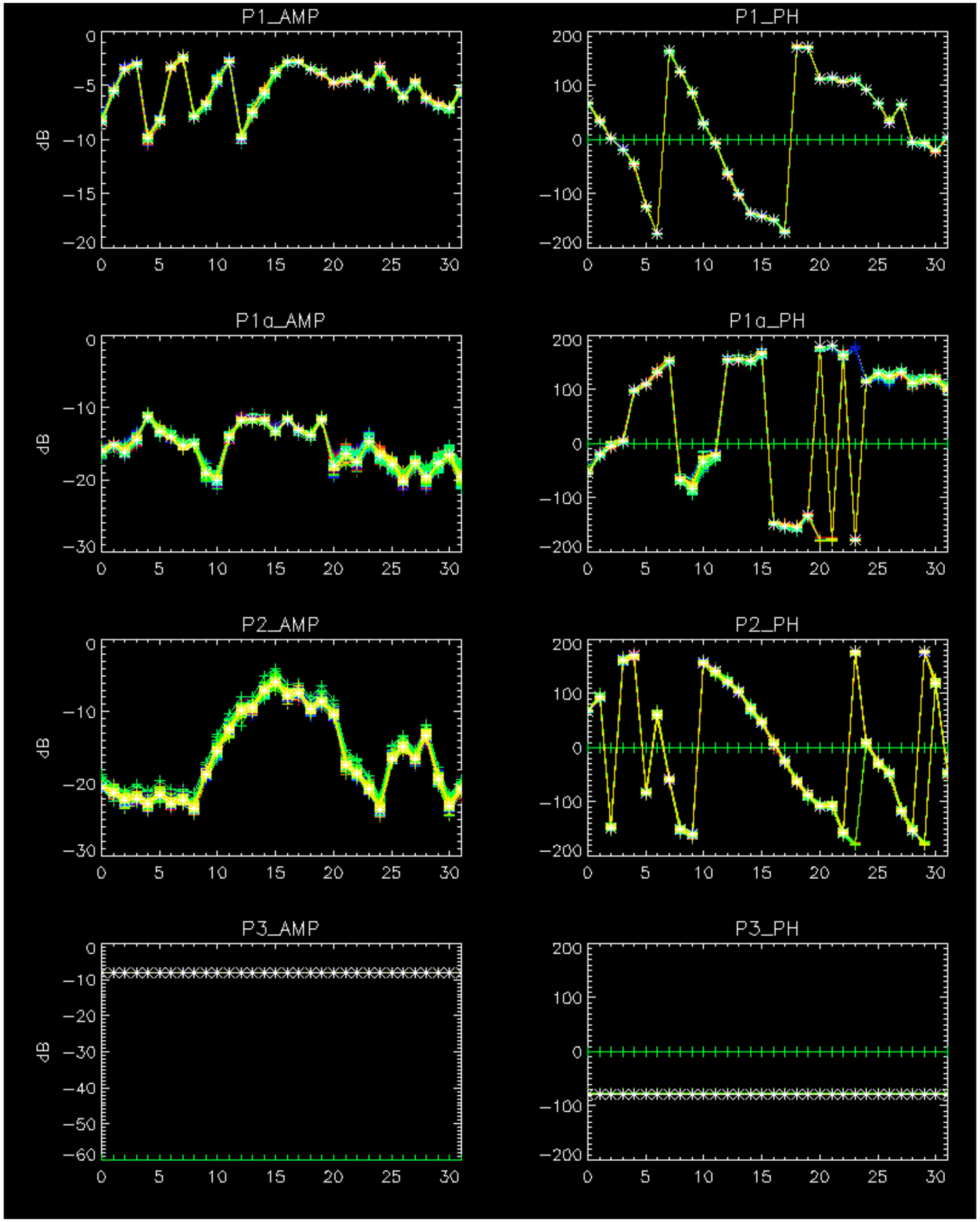

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
26−Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30


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

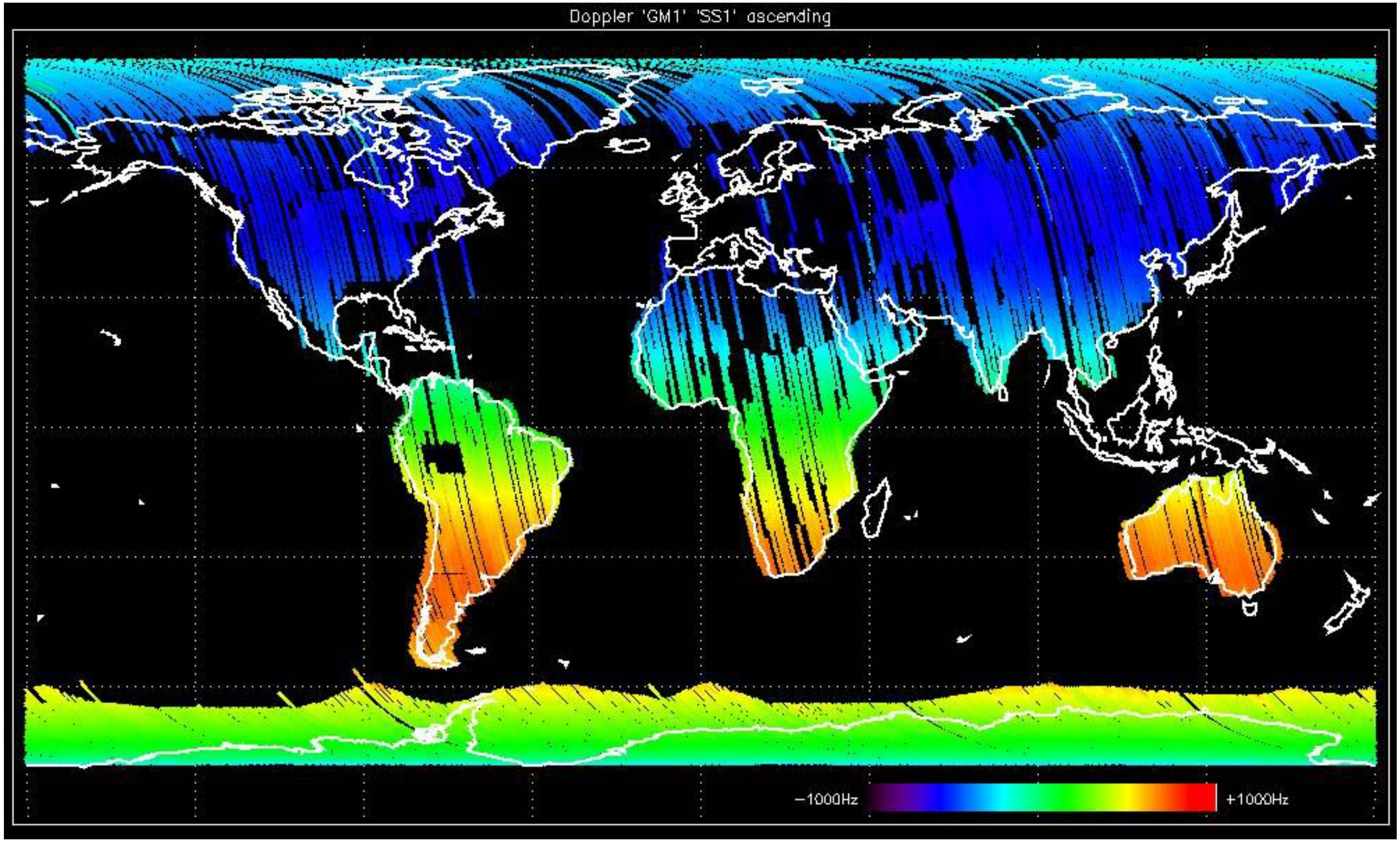
No anomaly observed from browse visual inspection.

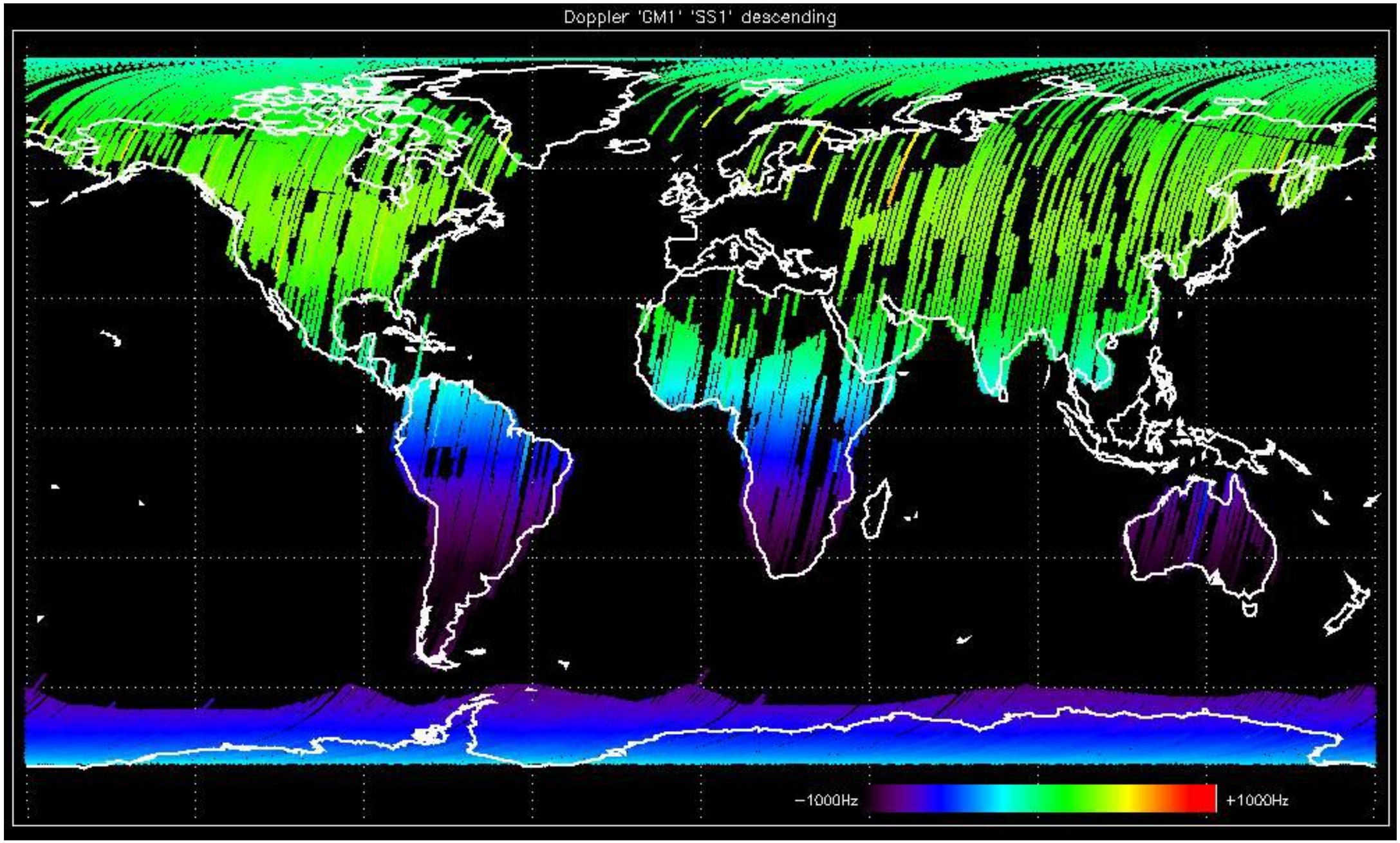
No anomalies observed.

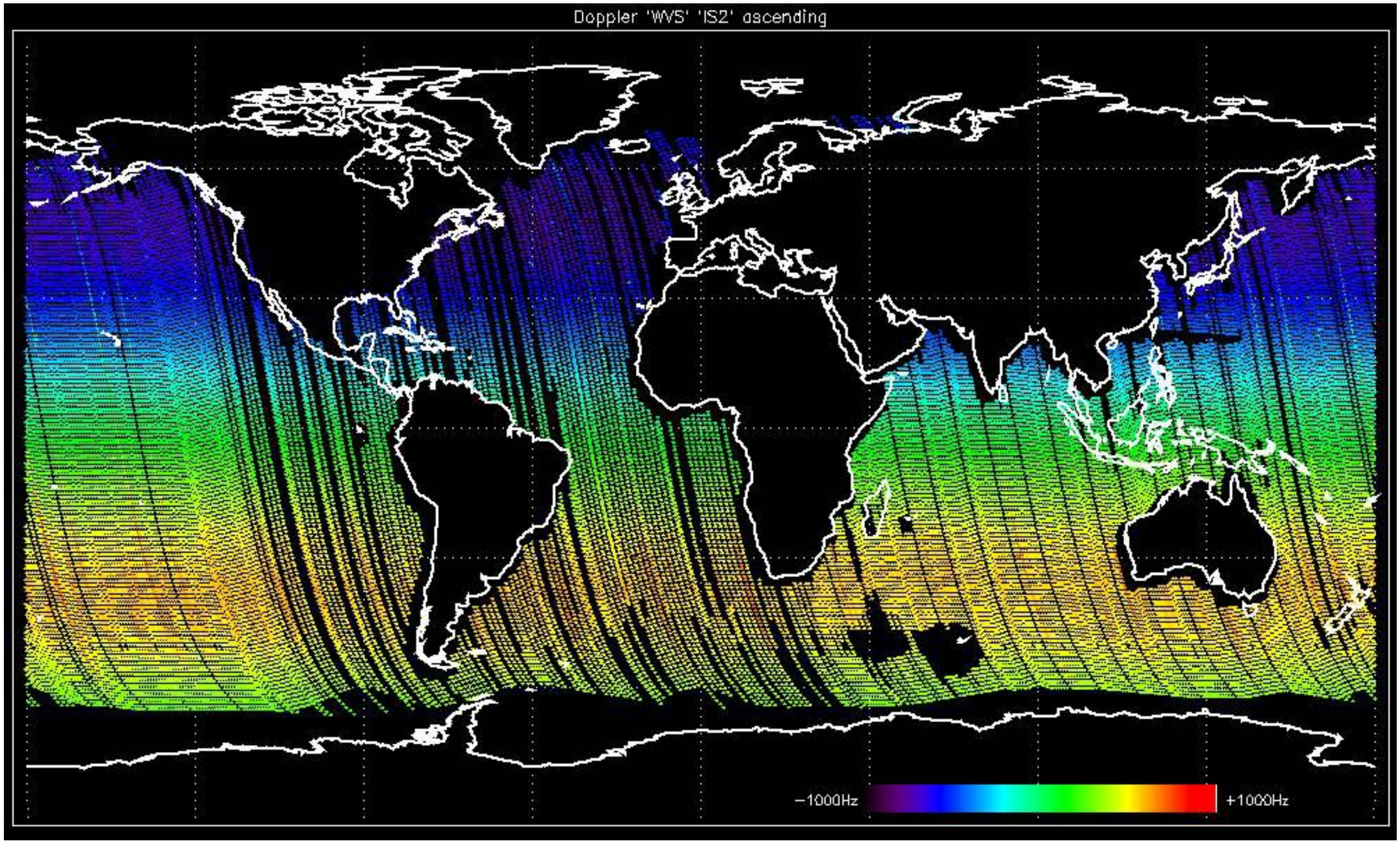

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.80
−7.85
−7.90
−7.95
−8.00
−8.05
−8.10
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

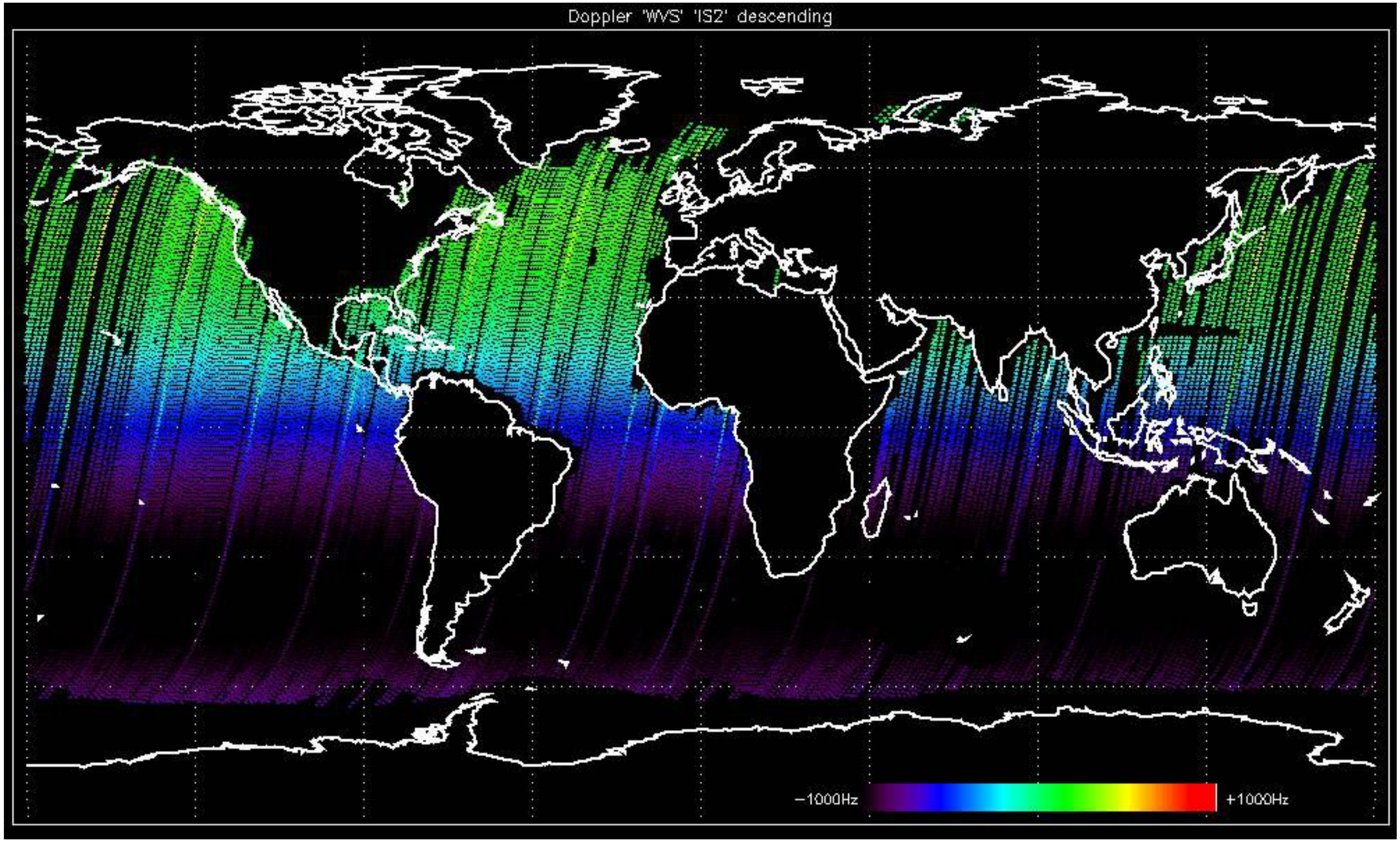

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
0
−10
−20
−30
−40
−50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

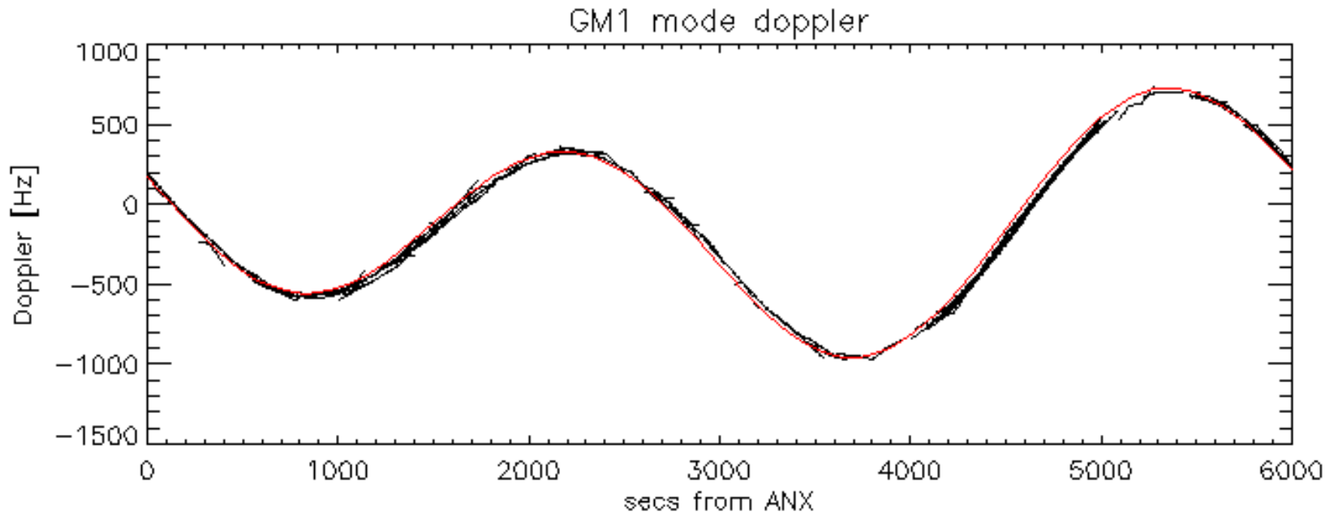
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

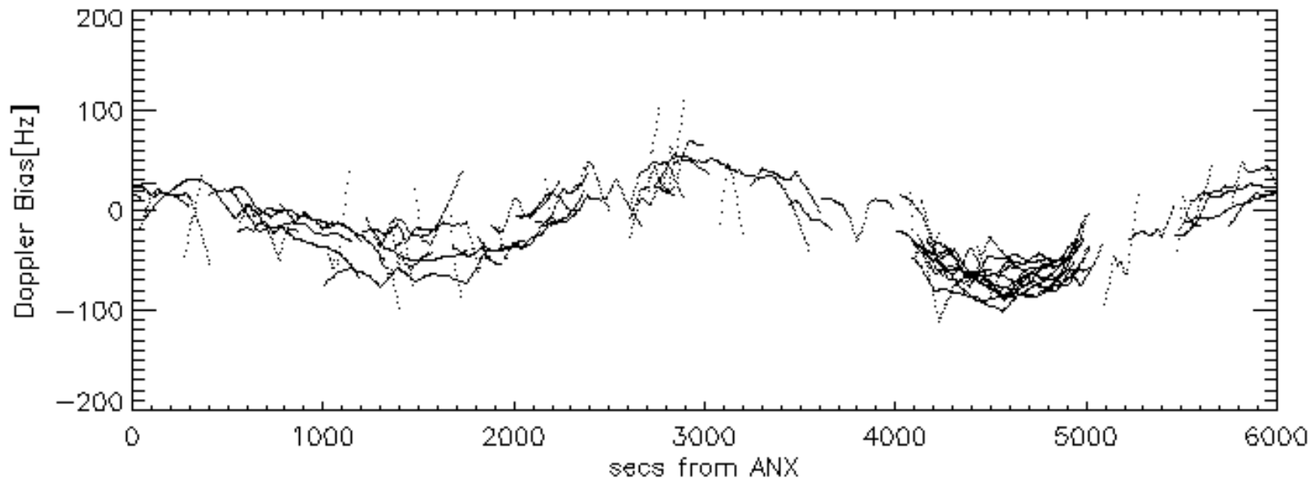

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

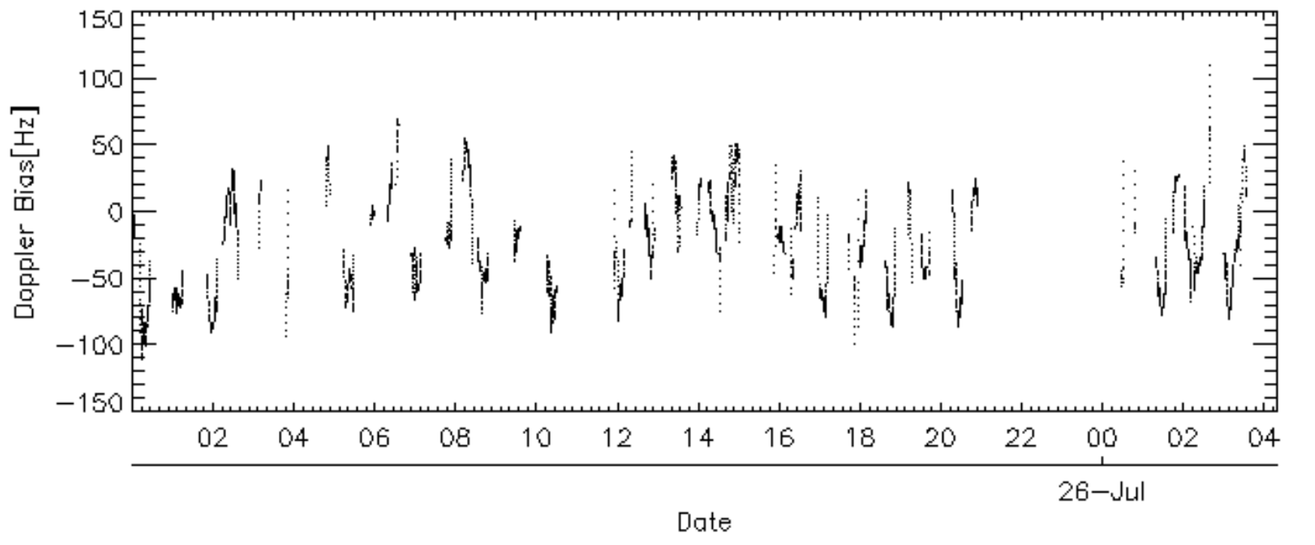

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

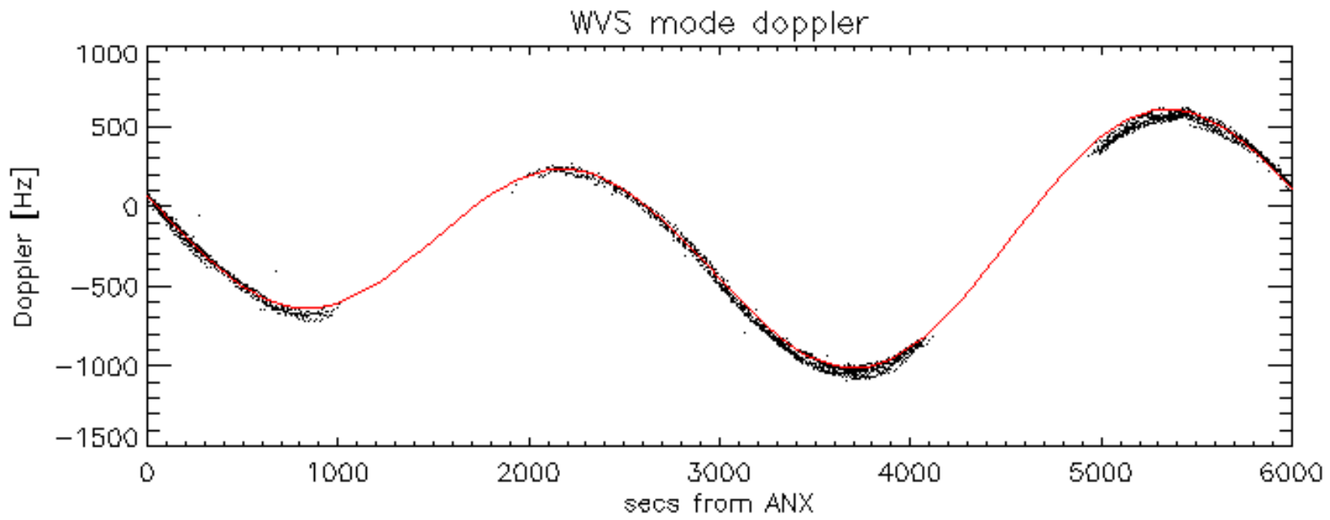

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

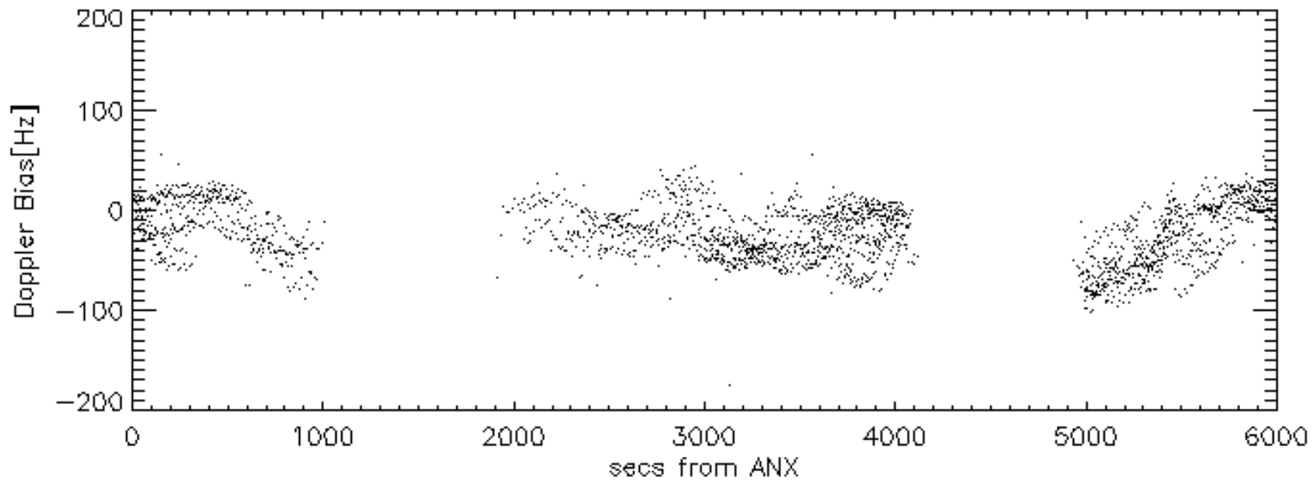

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

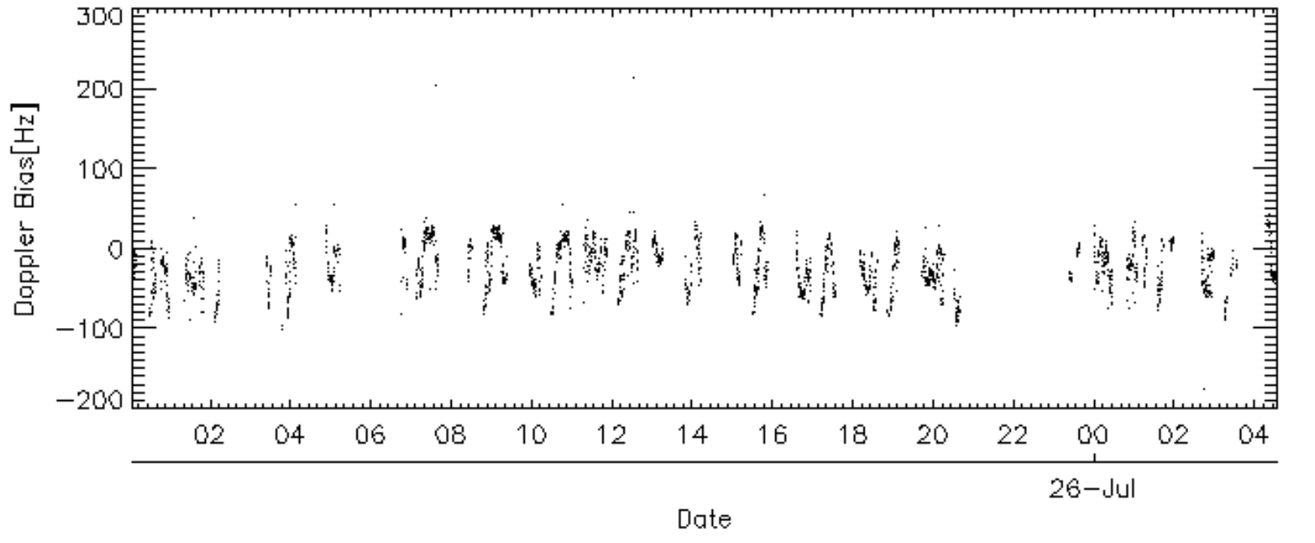

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

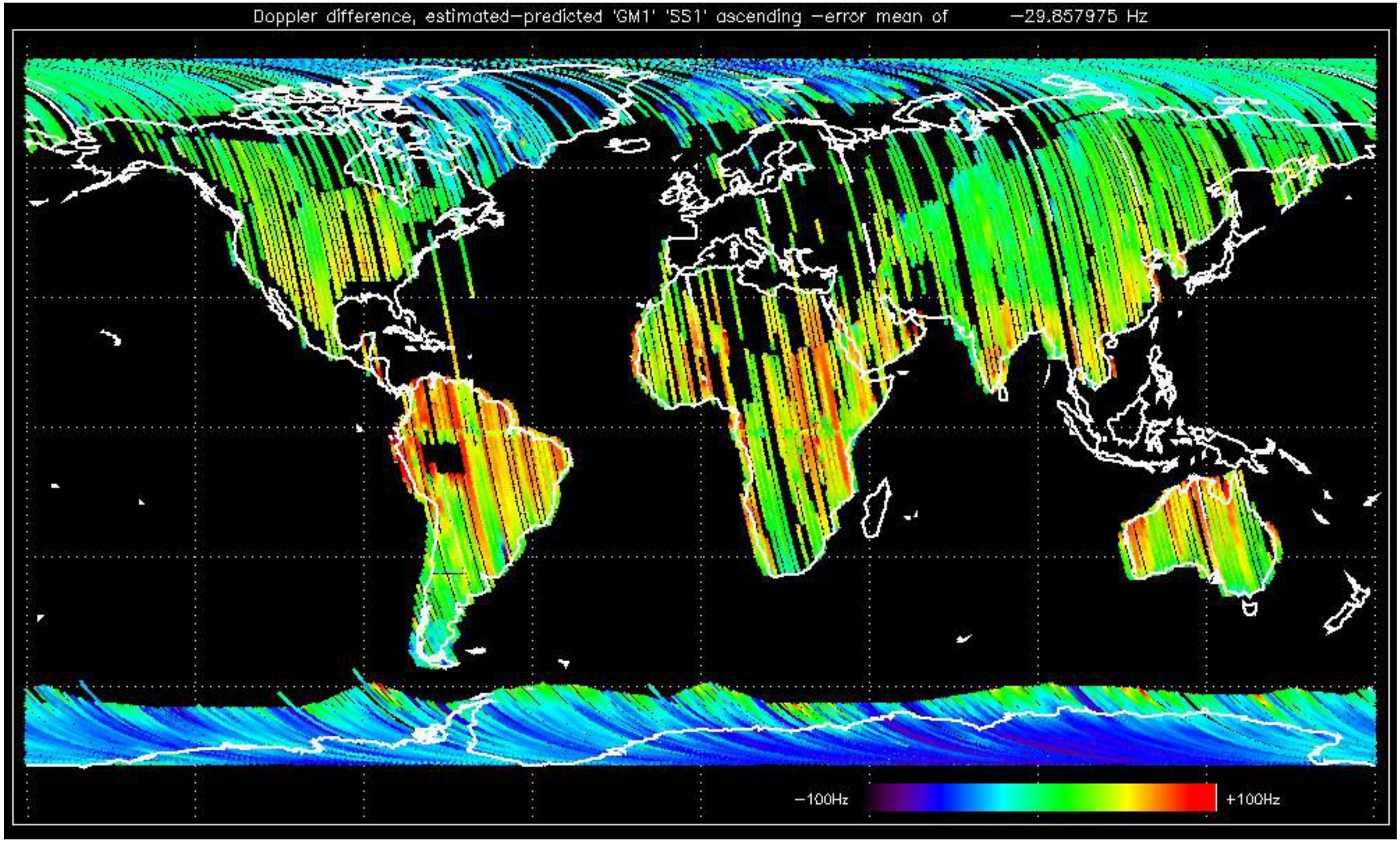

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

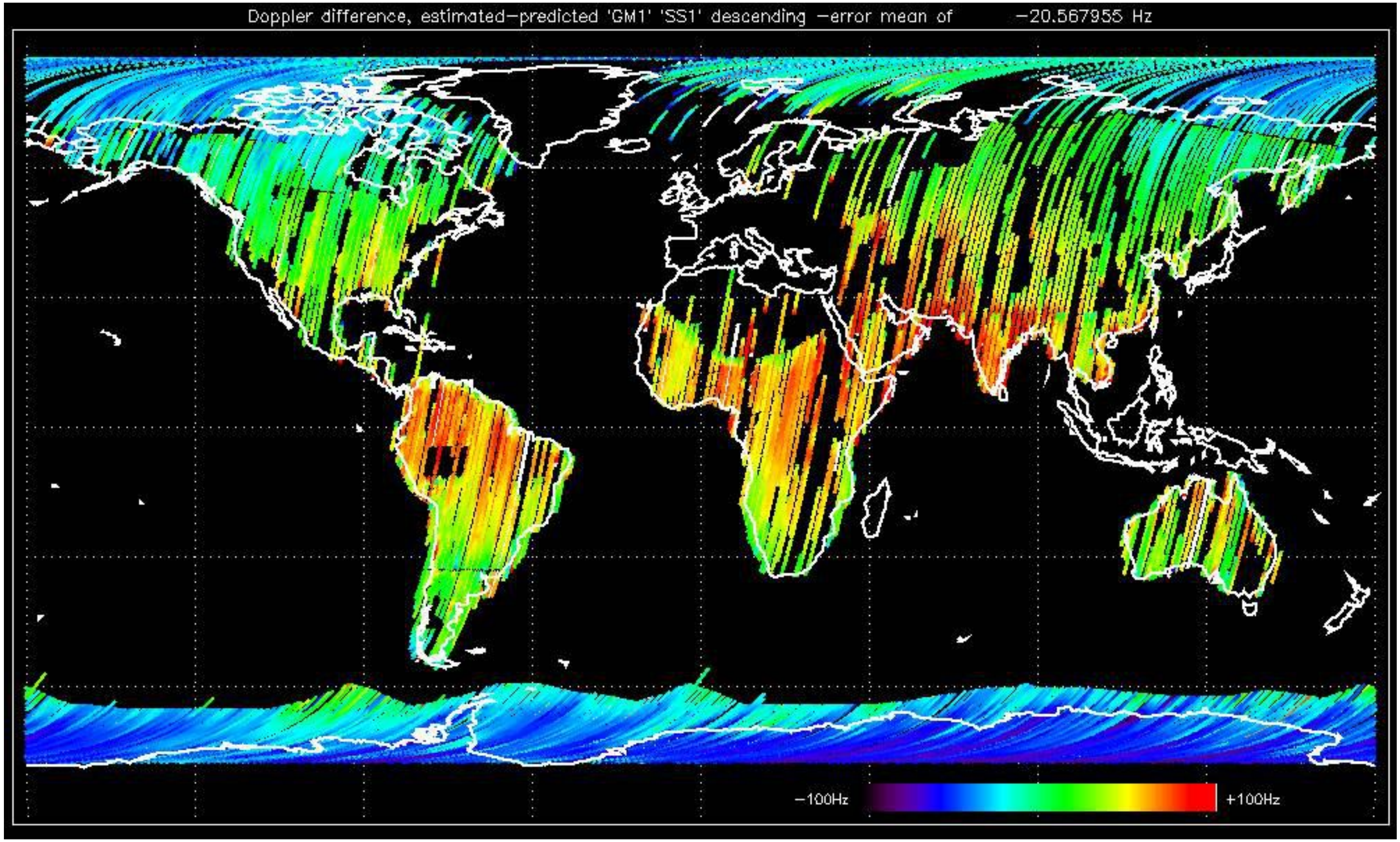

Doppler Bias[Hz]
150
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
04
26−Jul
Date

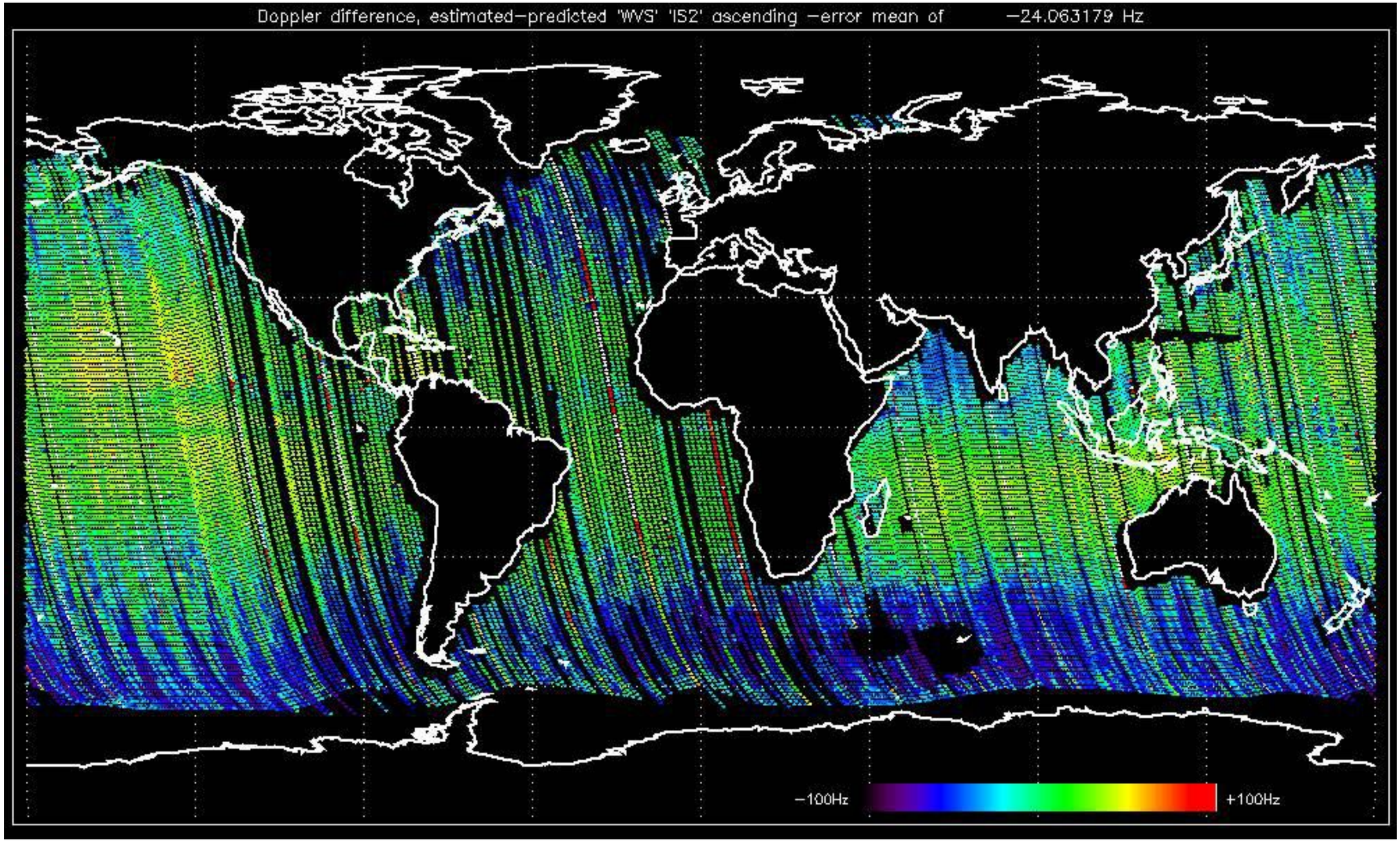

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

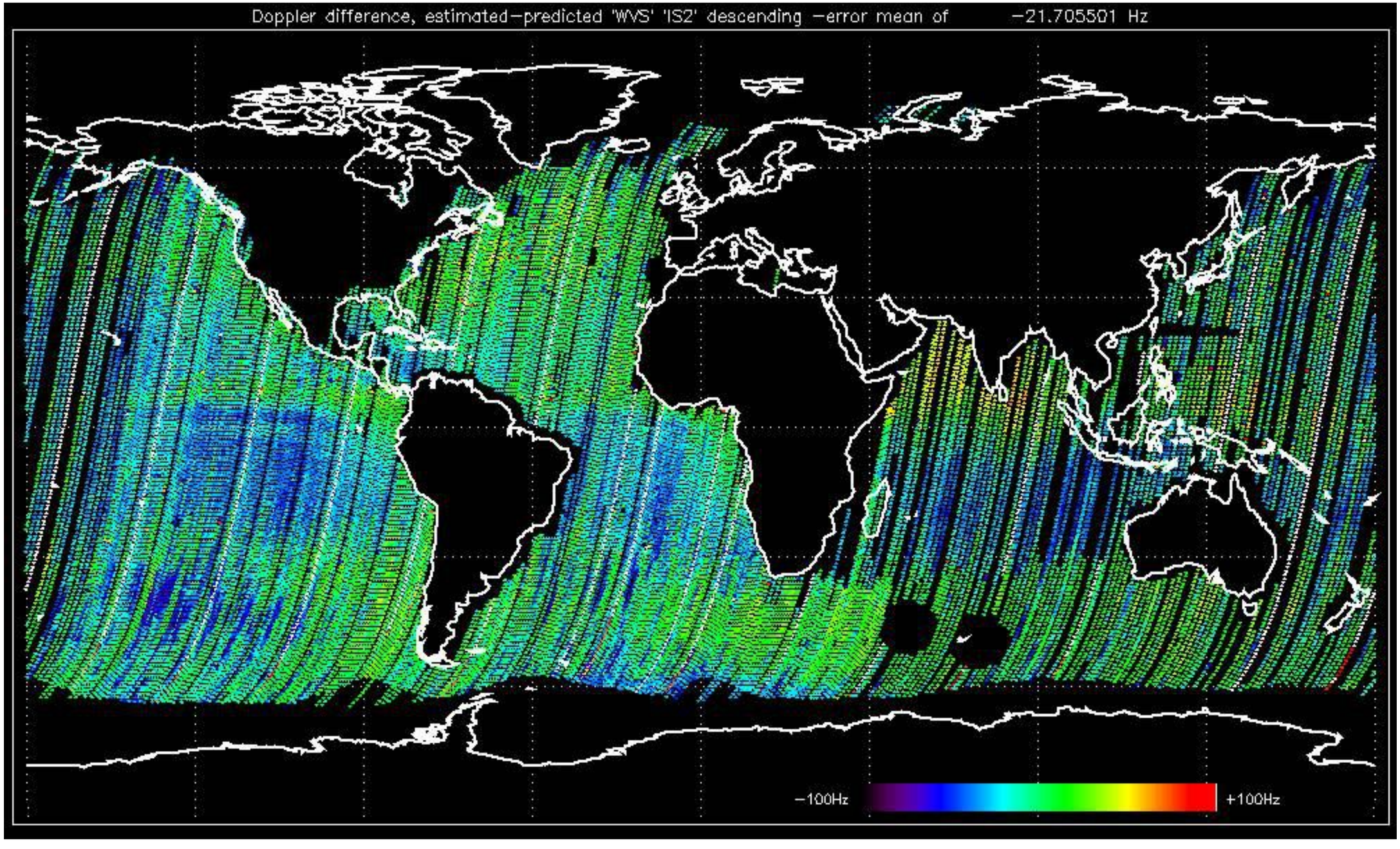

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −29.857975 Hz
−100Hz
+100Hz


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -20.567955 Hz
-100Hz
+100Hz

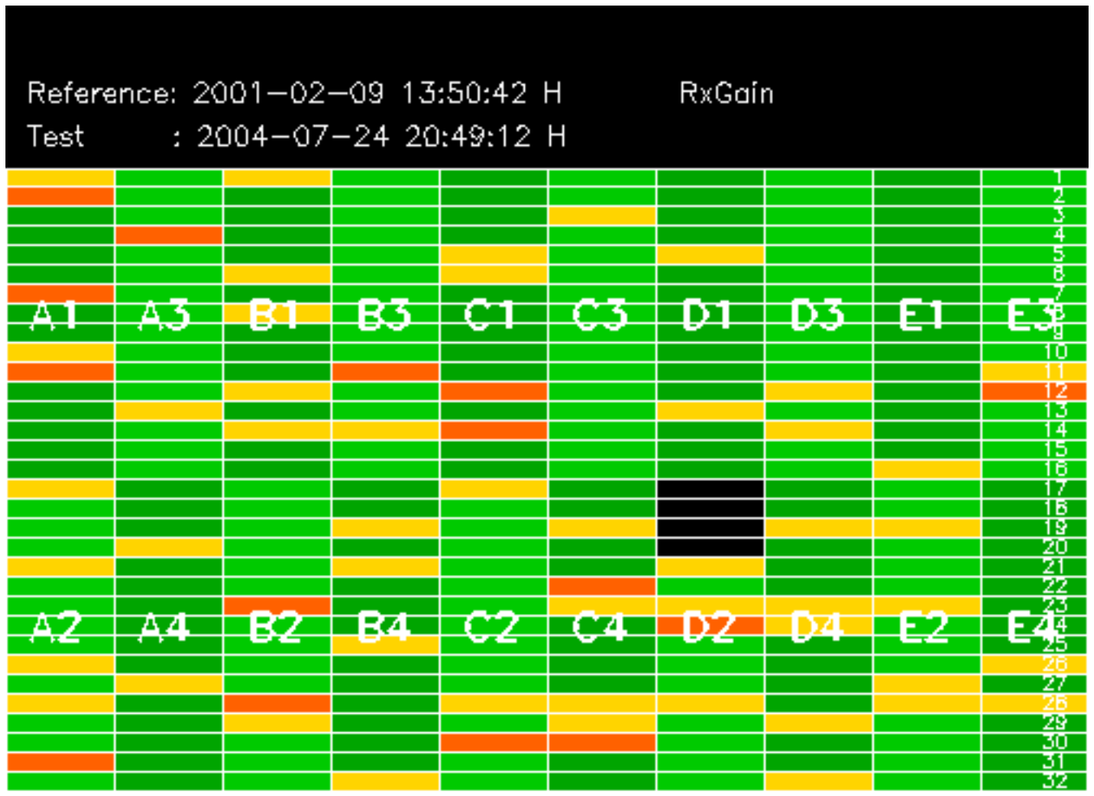

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −24.063179 Hz
−100Hz
+100Hz

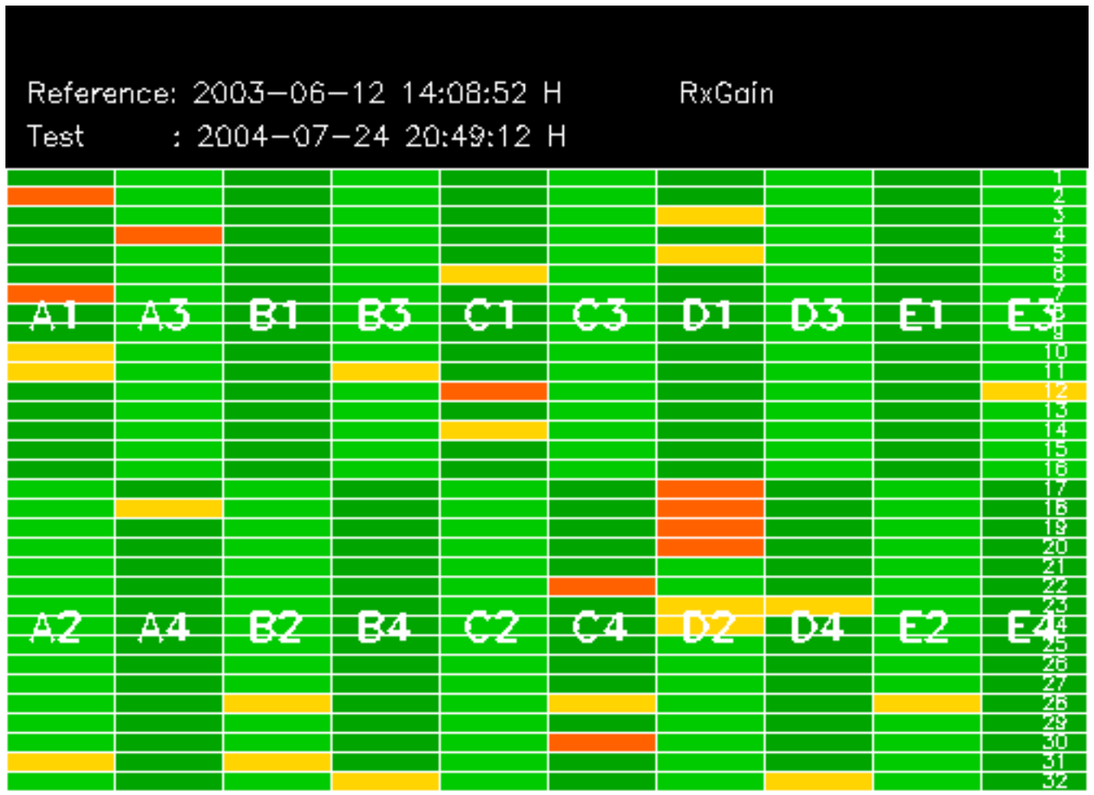

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −21.705501 Hz
−100Hz
+100Hz

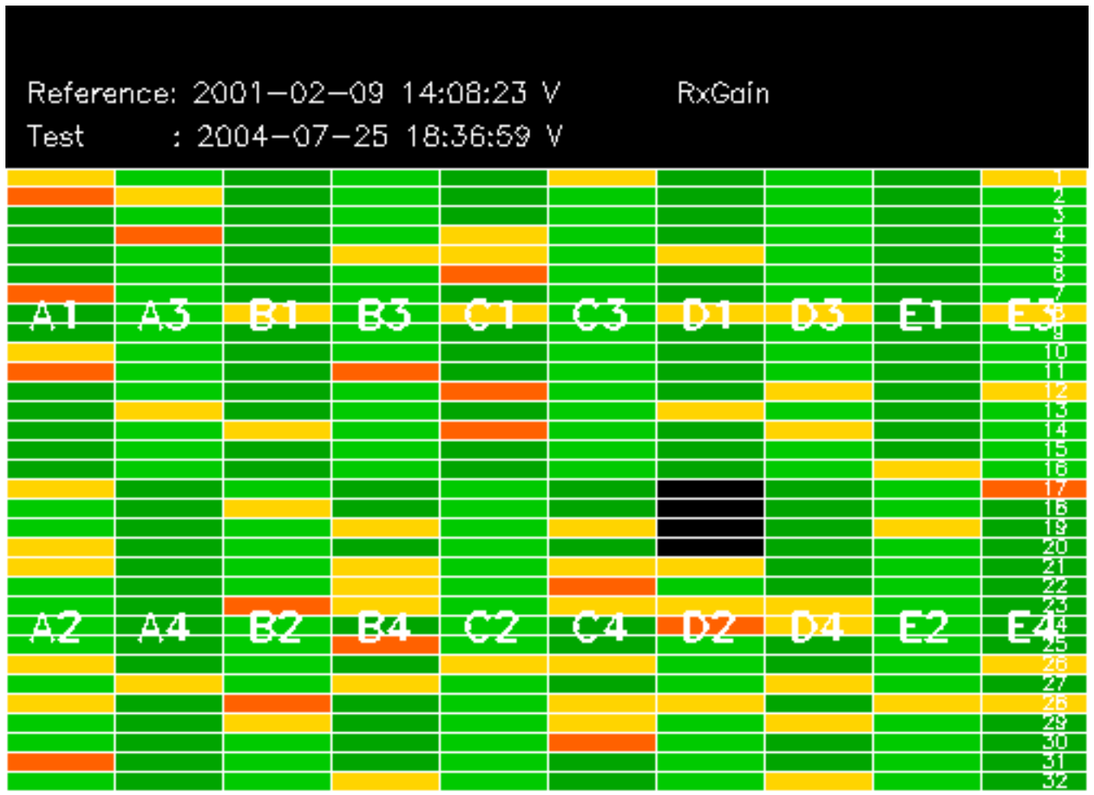
The MS mode provides an internal health check on an individual module basis.
The purpose of this mode is to identify any malfunctionning modules and
to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

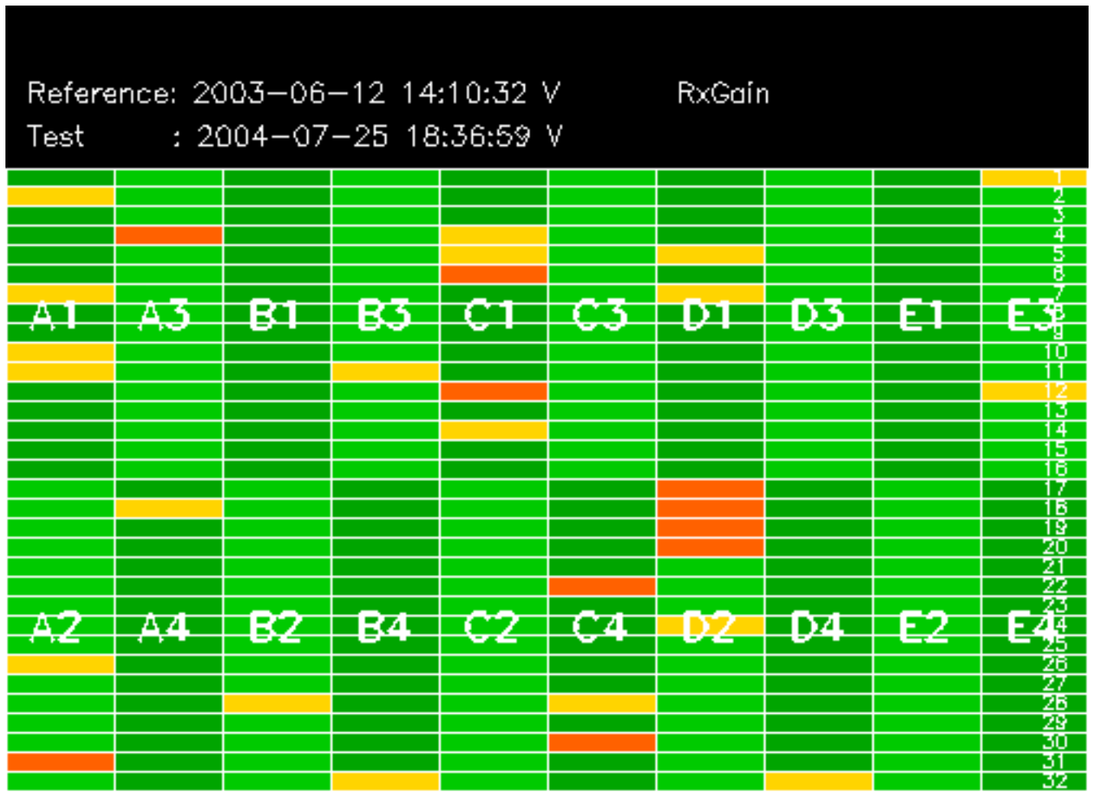
- ASA_MS__0PNPDK20040725_183659_000000152028_00485_12563_0028.N1

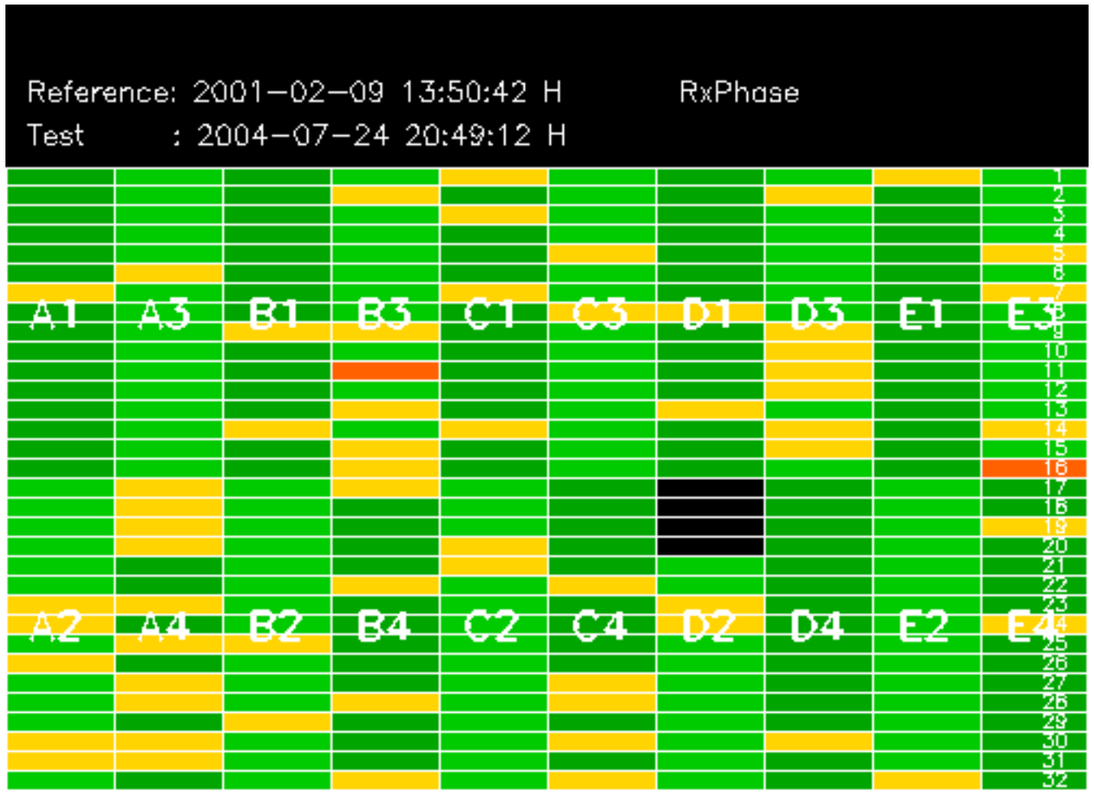
No anomalies observed.

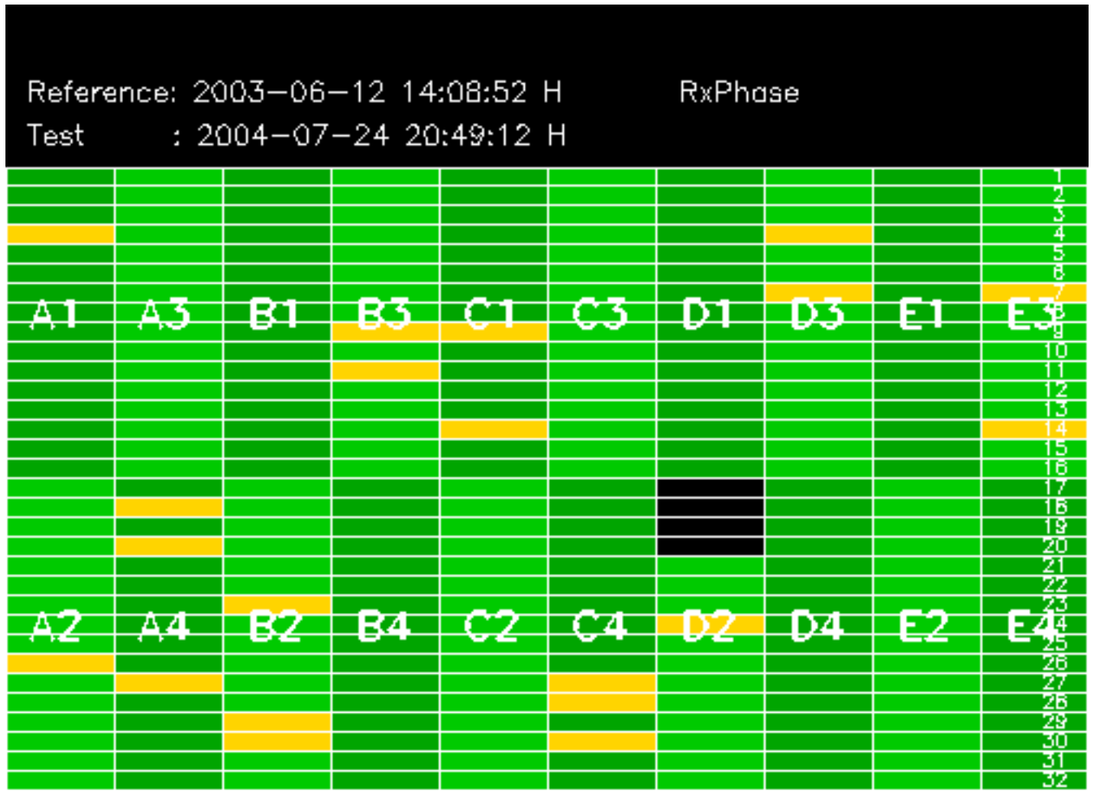

Reference: 2001-02-09 13:50:42 H
Test : 2004-07-24 20:49:12 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

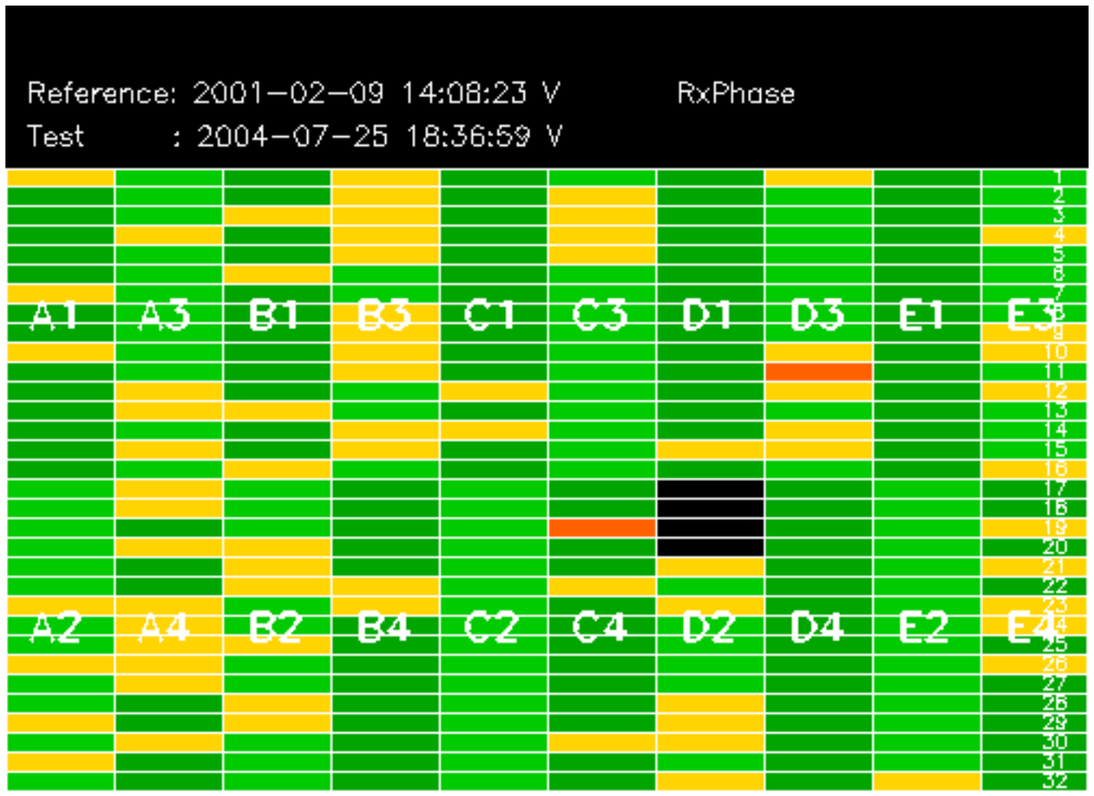

Reference: 2003-06-12 14:08:52 H
Test : 2004-07-24 20:49:12 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

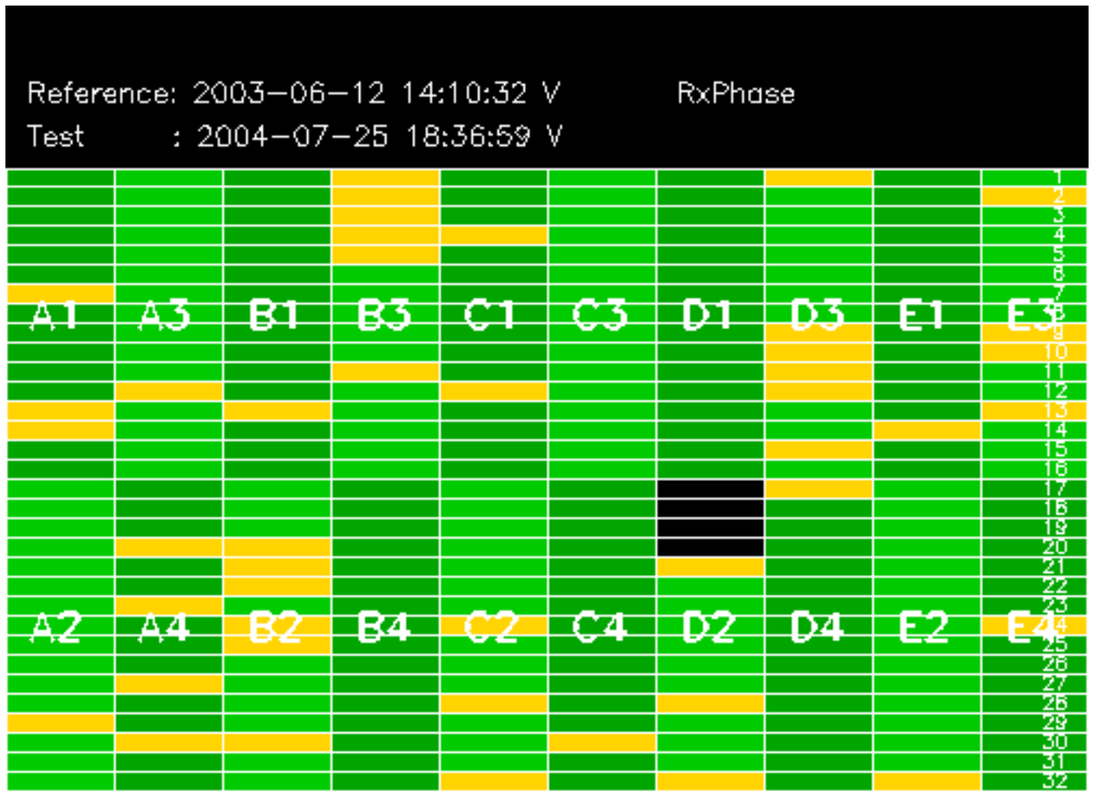

Reference: 2001-02-09 14:08:23 V
Test : 2004-07-25 18:36:59 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

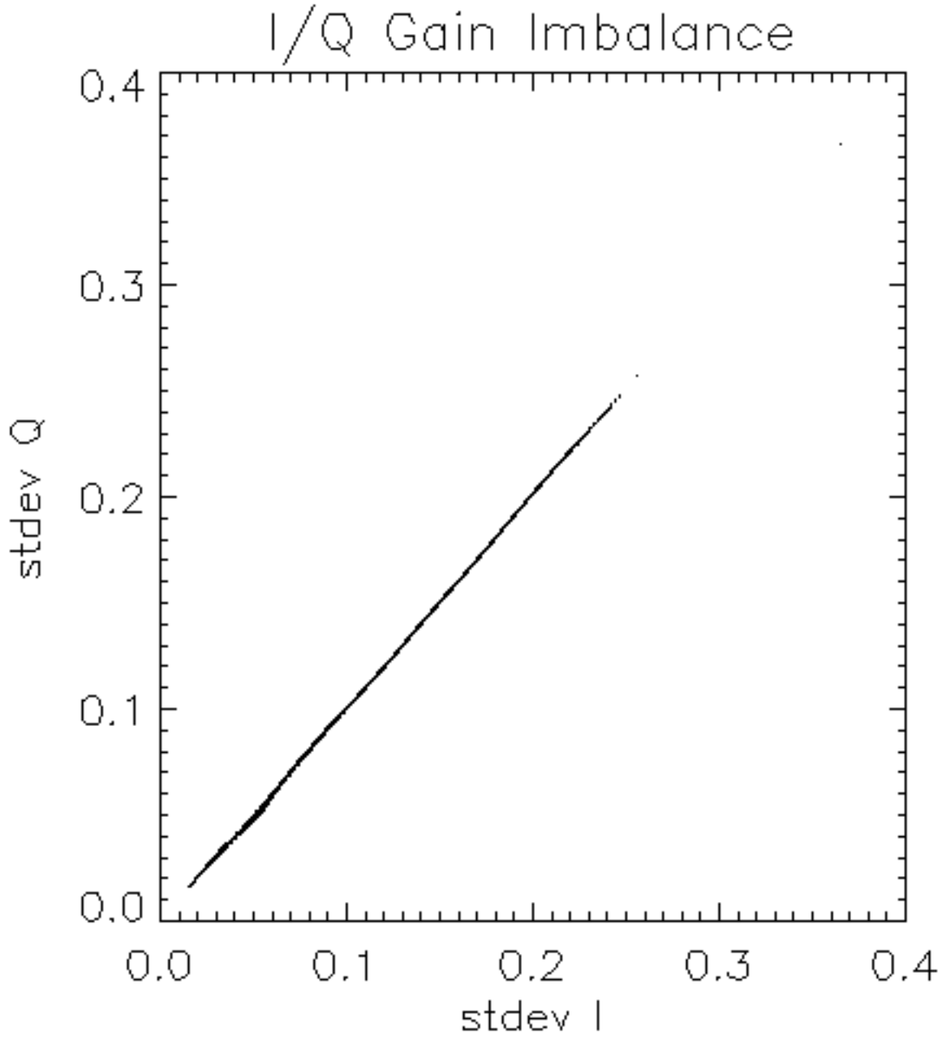

Reference: 2003-06-12 14:10:32 V
Test : 2004-07-25 18:36:59 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

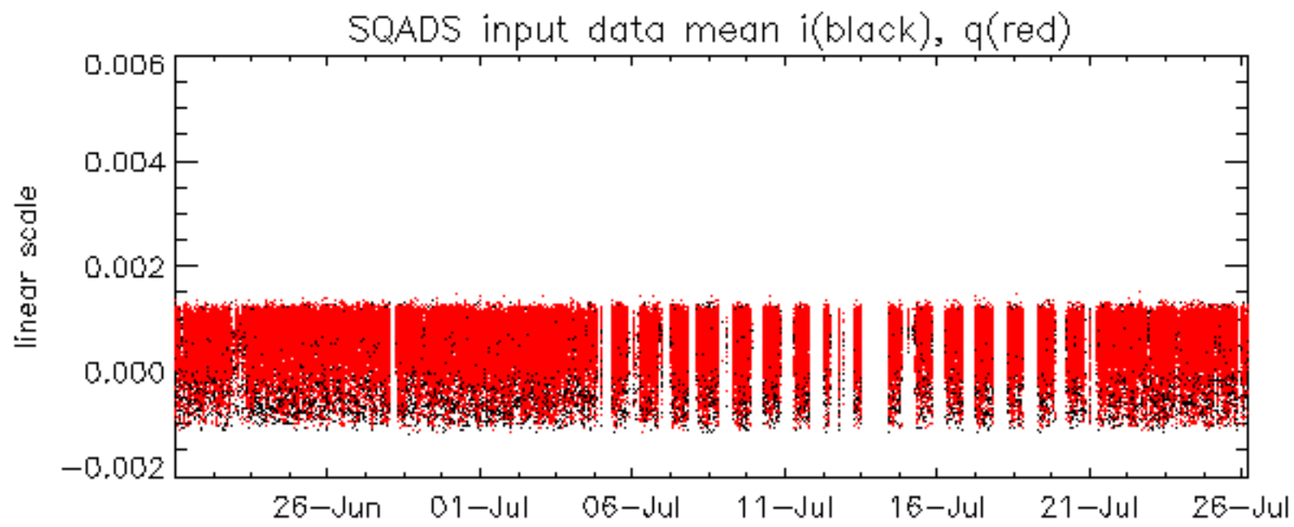

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-07-24 20:49:12 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

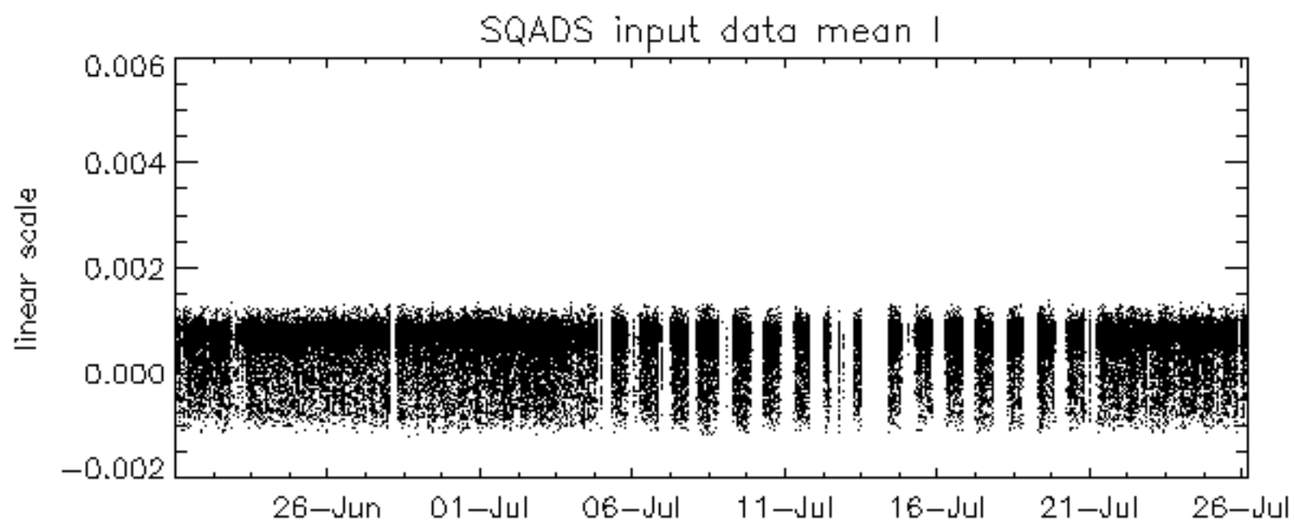

Reference: 2003-06-12 14:08:52 H
Test : 2004-07-24 20:49:12 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

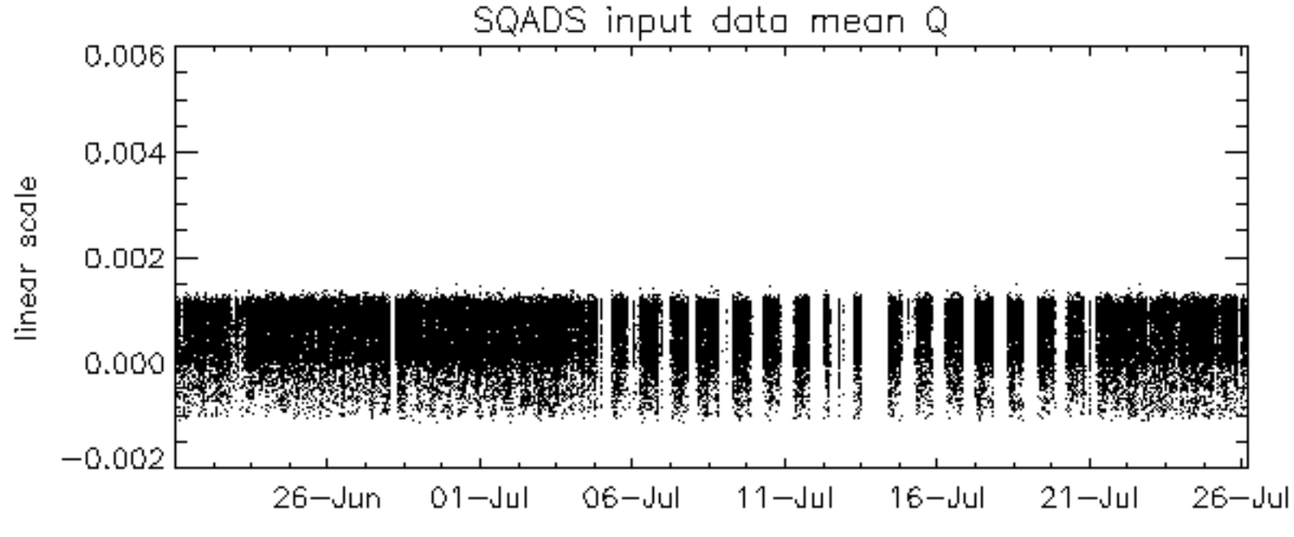

Reference: 2001-02-09 14:08:23 V
Test : 2004-07-25 18:36:59 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

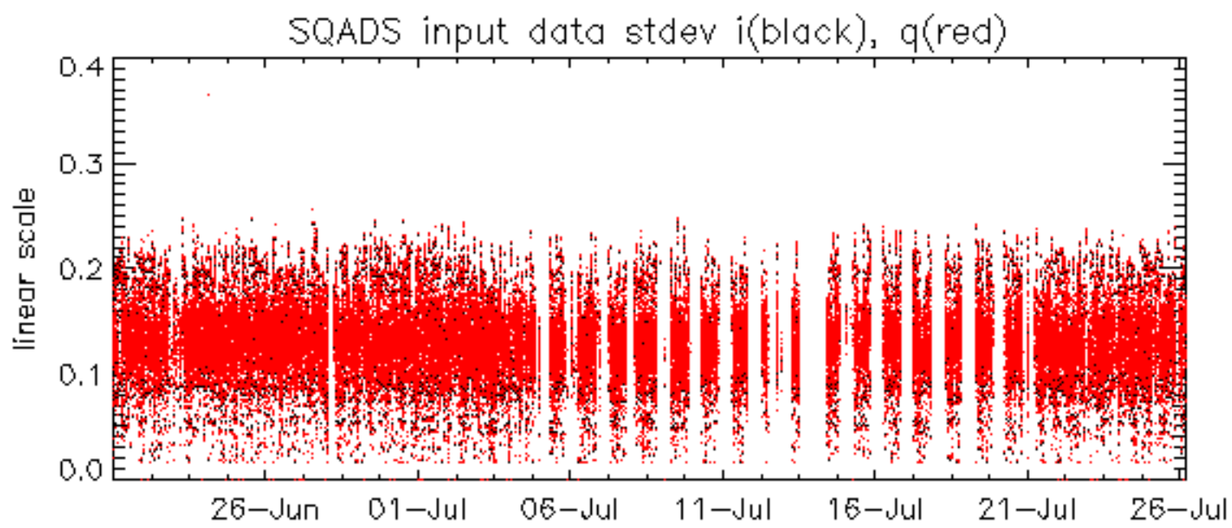

Reference: 2003-06-12 14:10:32 V
Test : 2004-07-25 18:36:59 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

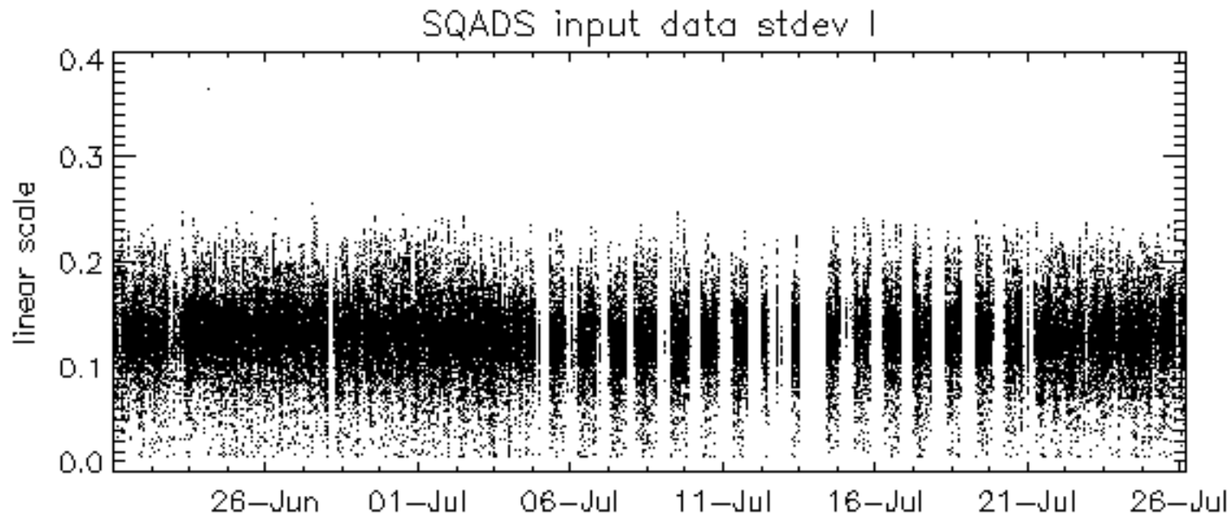

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

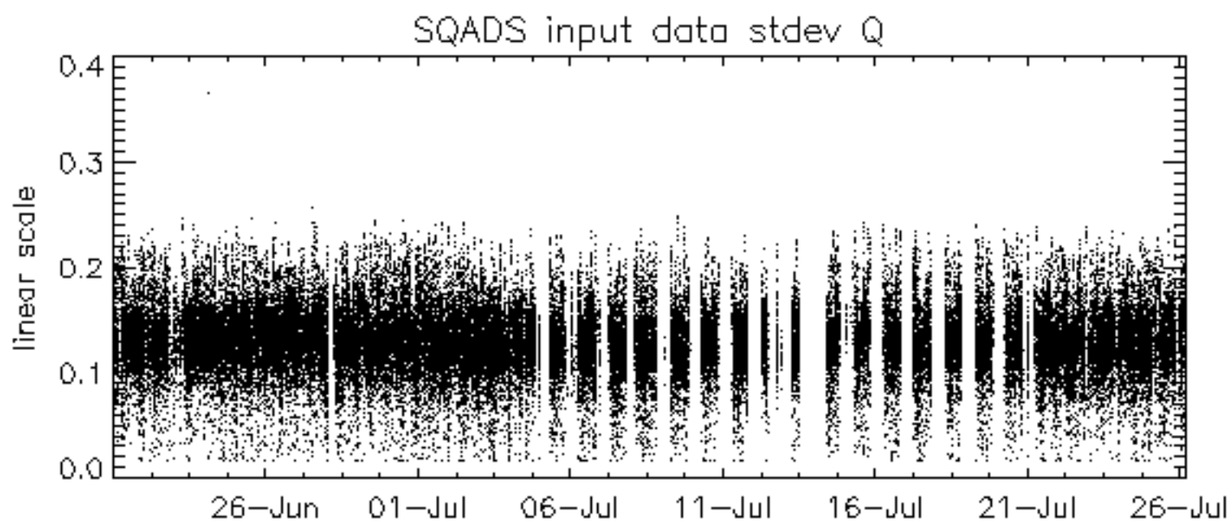

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
26−Jul

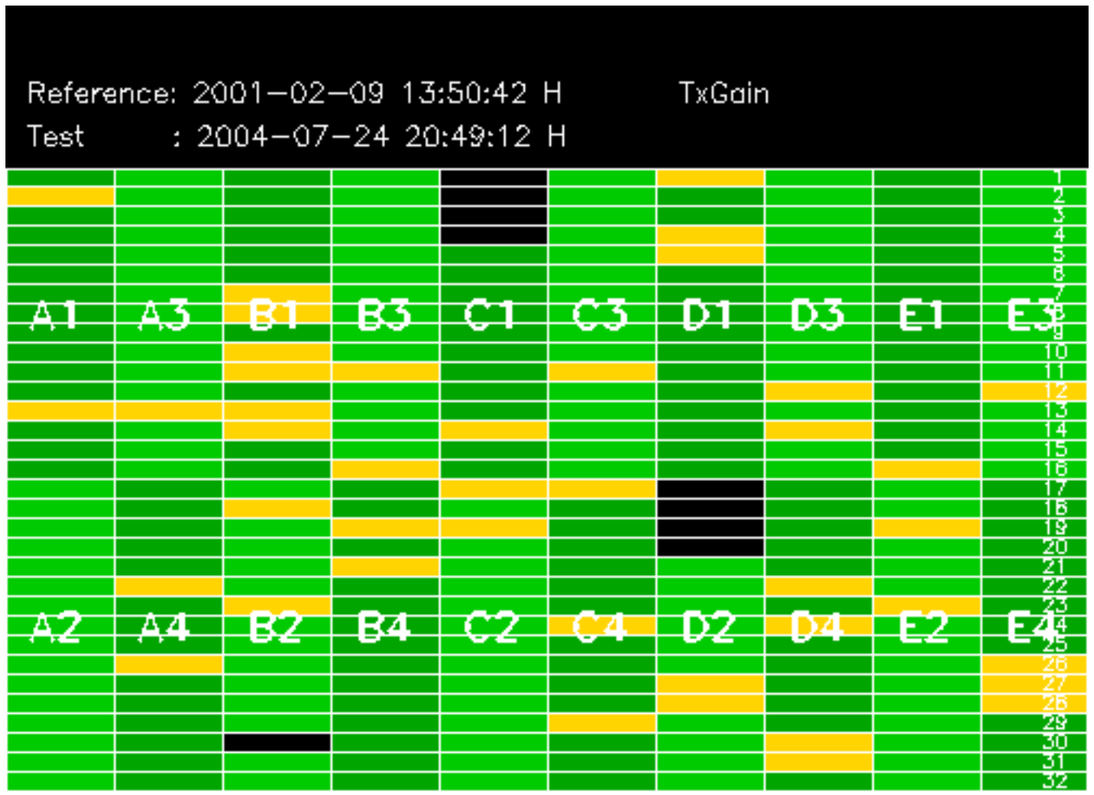

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
26−Jul

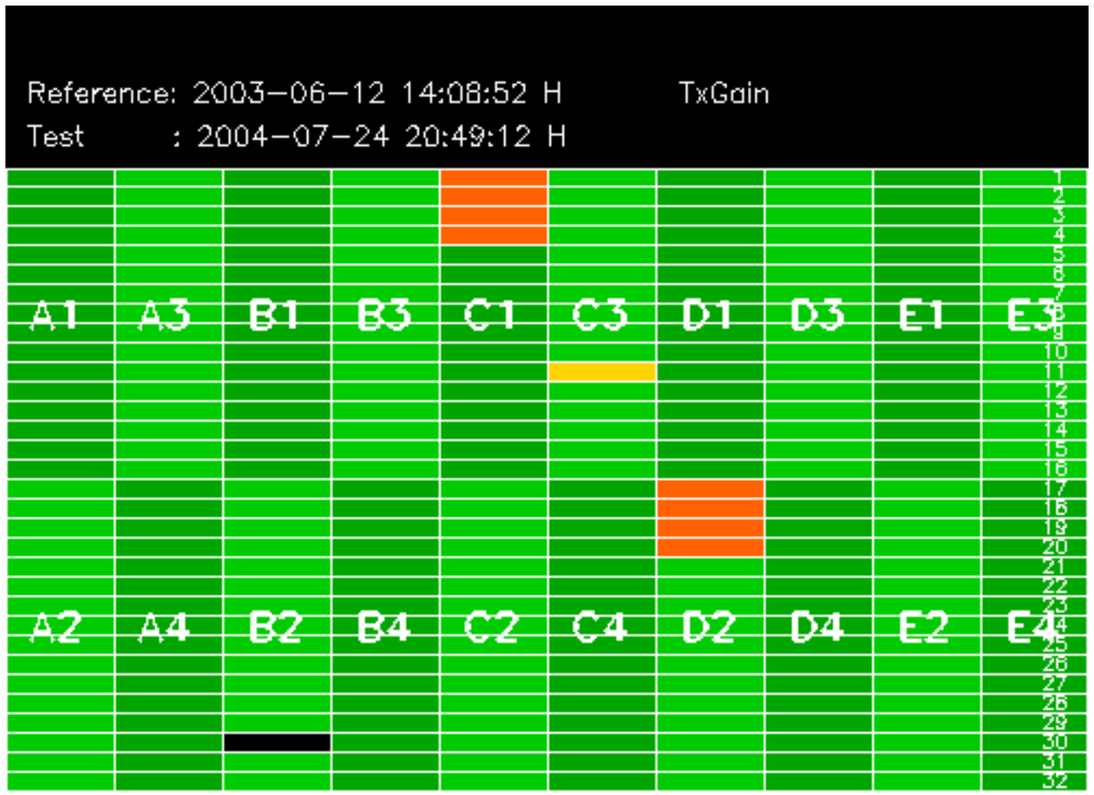

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
26−Jul

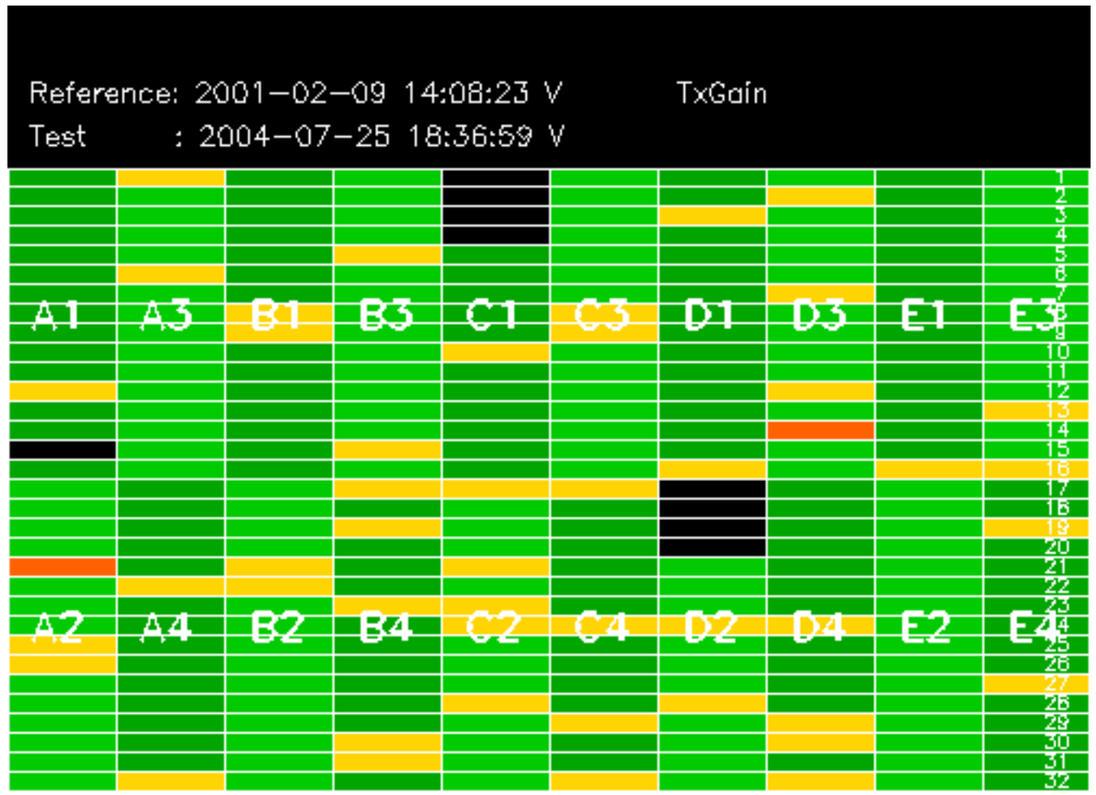

SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
26–Jun
01–Jul
06–Jul
11–Jul
16–Jul
21–Jul
26–Jul

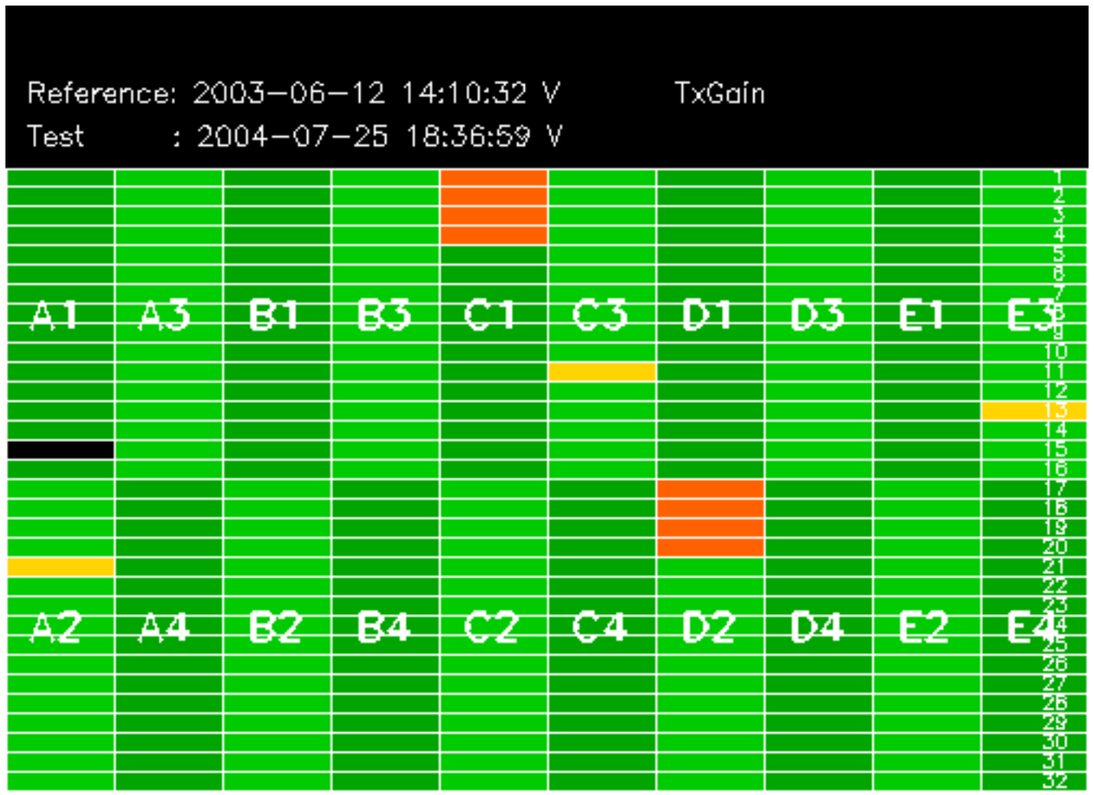

SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
26–Jun
01–Jul
06–Jul
11–Jul
16–Jul
21–Jul
26–Jul

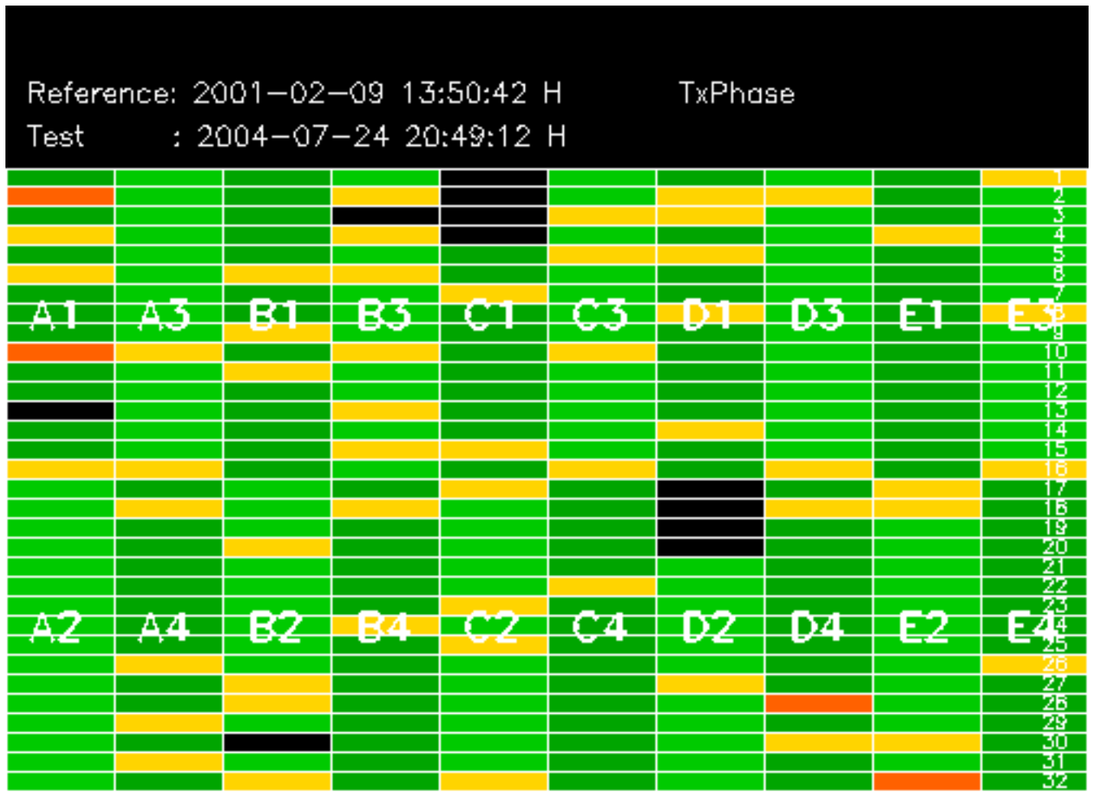

SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
26–Jun
01–Jul
06–Jul
11–Jul
16–Jul
21–Jul
26–Jul

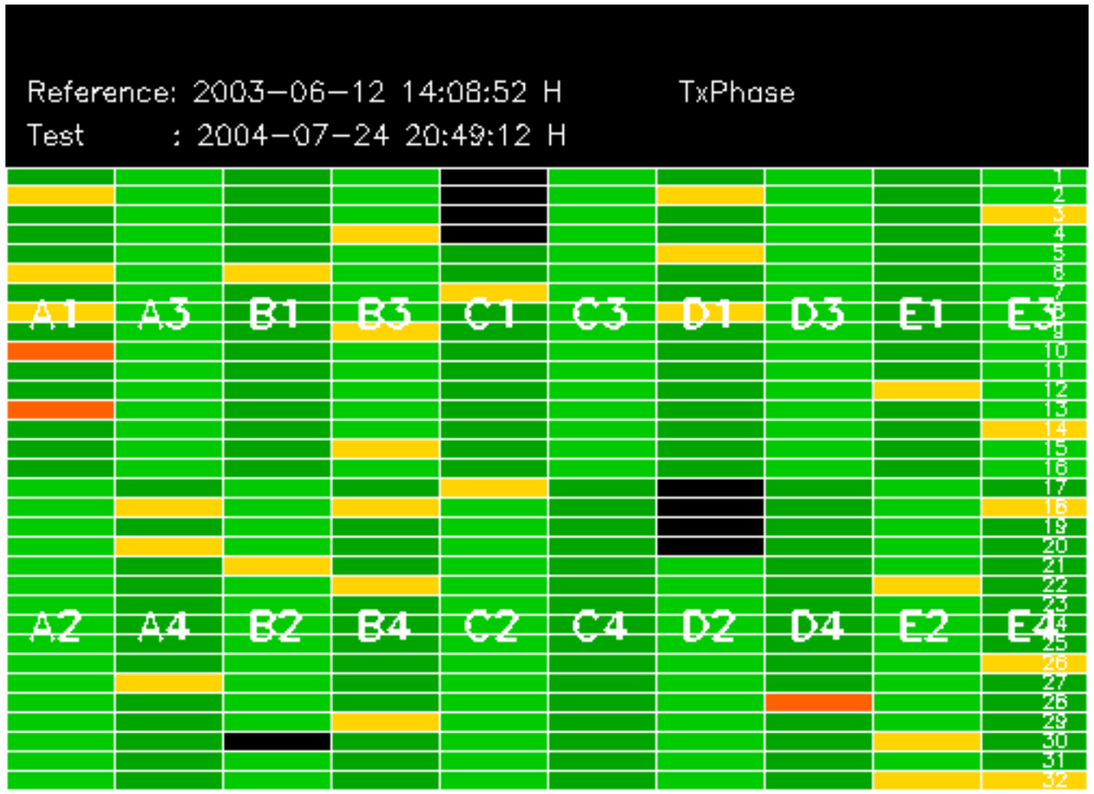

Reference: 2001-02-09 13:50:42 H
Test : 2004-07-24 20:49:12 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

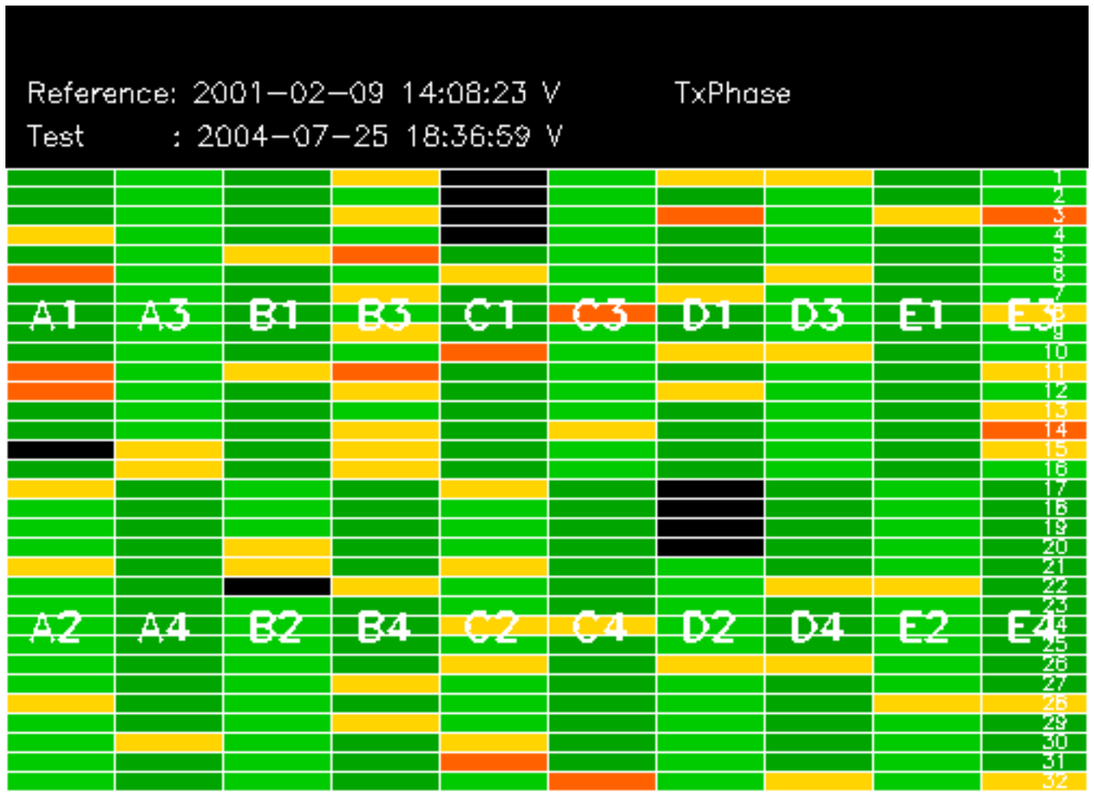

Reference: 2003-06-12 14:08:52 H
Test : 2004-07-24 20:49:12 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

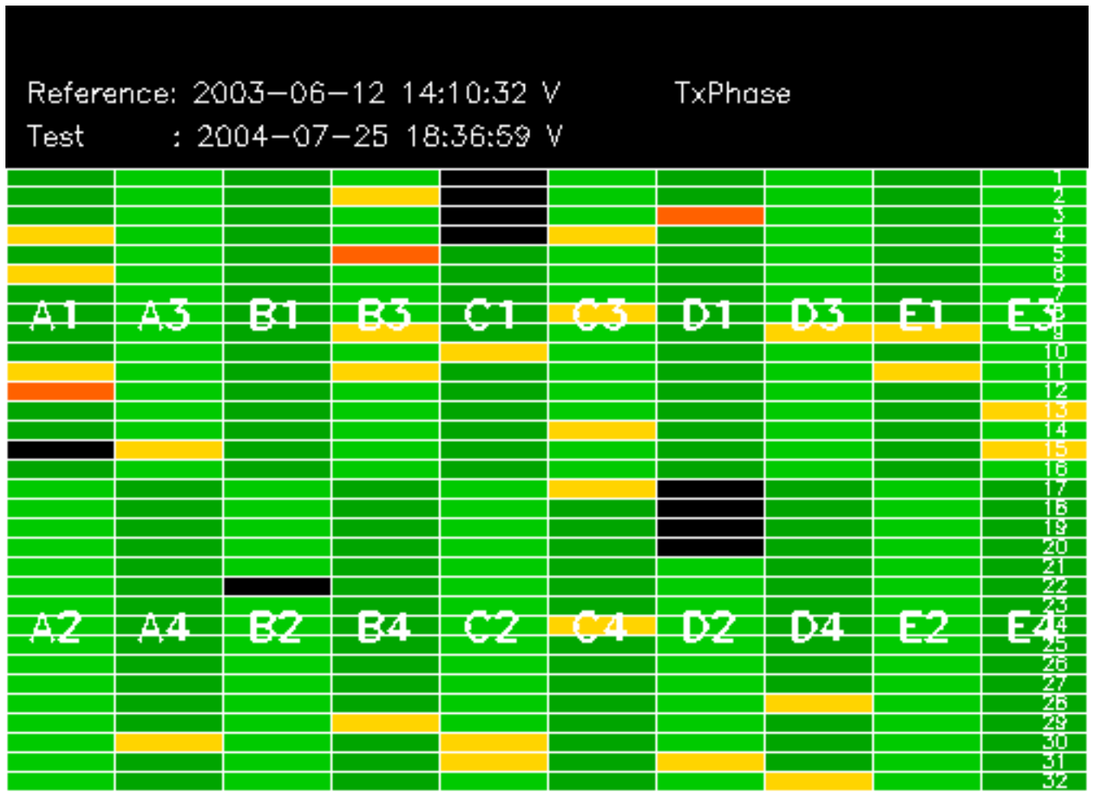

Reference: 2001-02-09 14:08:23 V
Test : 2004-07-25 18:36:59 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

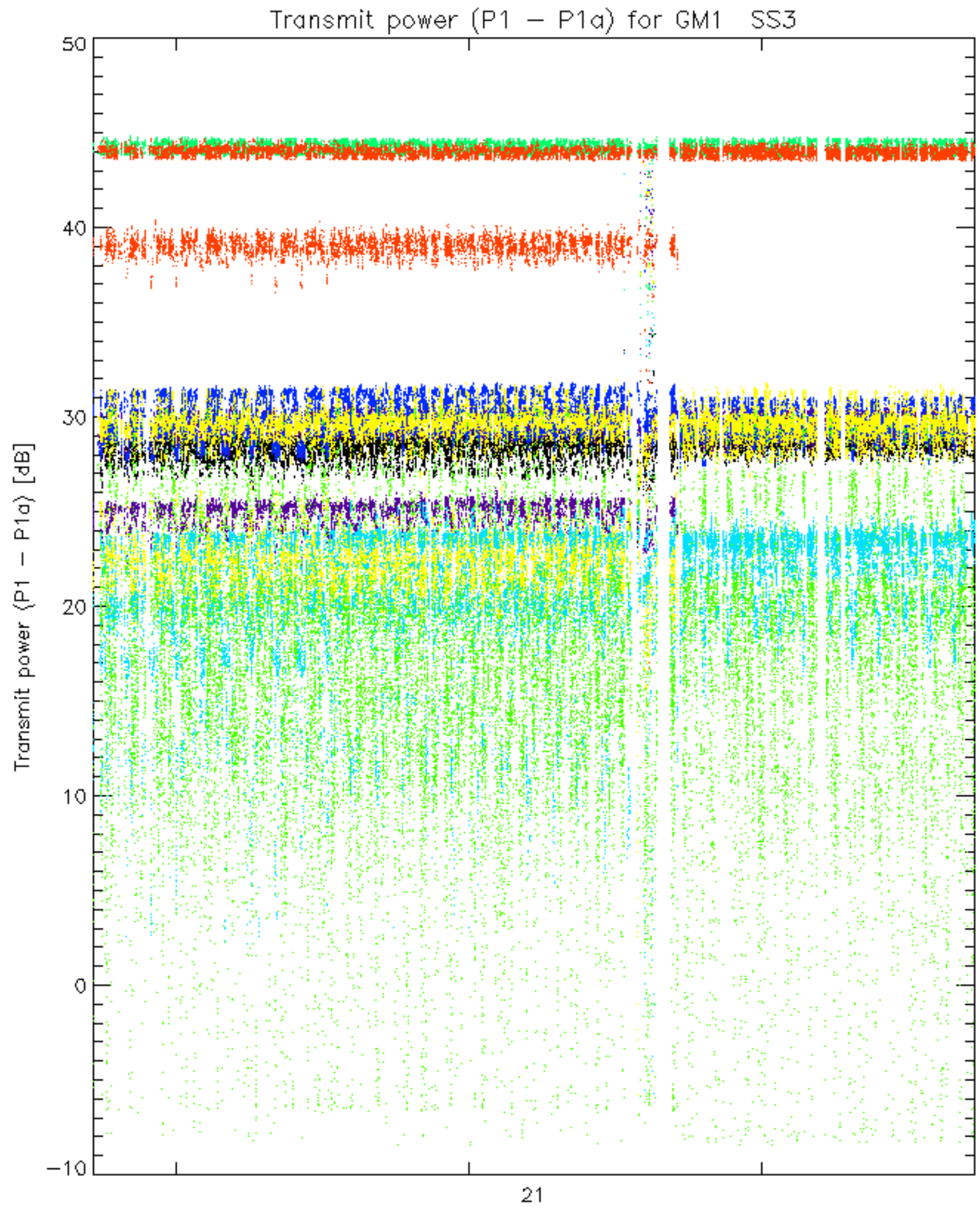

Reference: 2003-06-12 14:10:32 V
Test : 2004-07-25 18:36:59 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

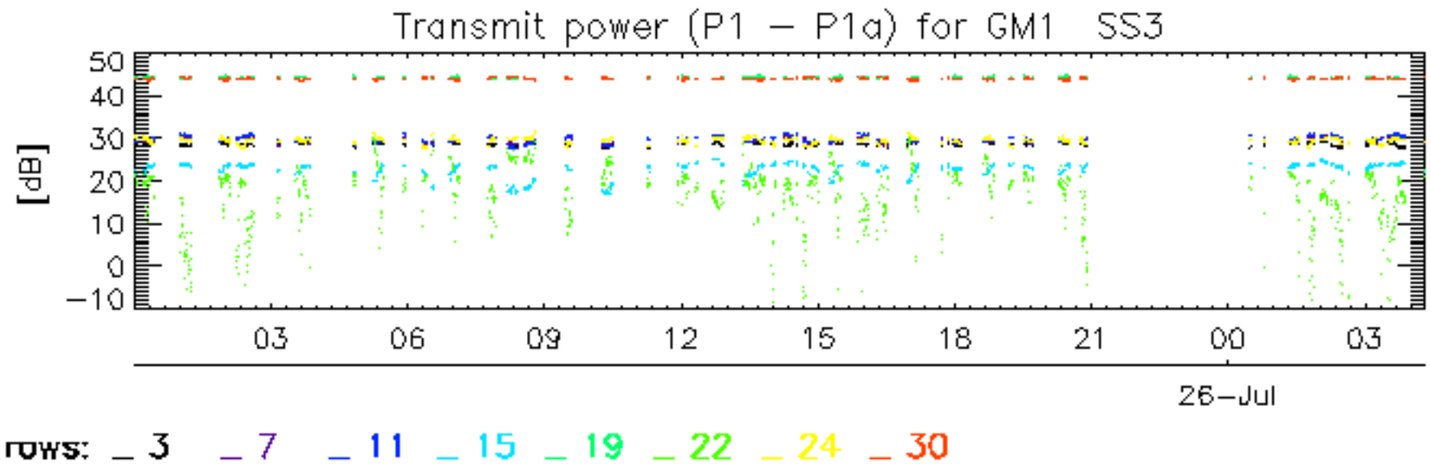

Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-07-24 20:49:12 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

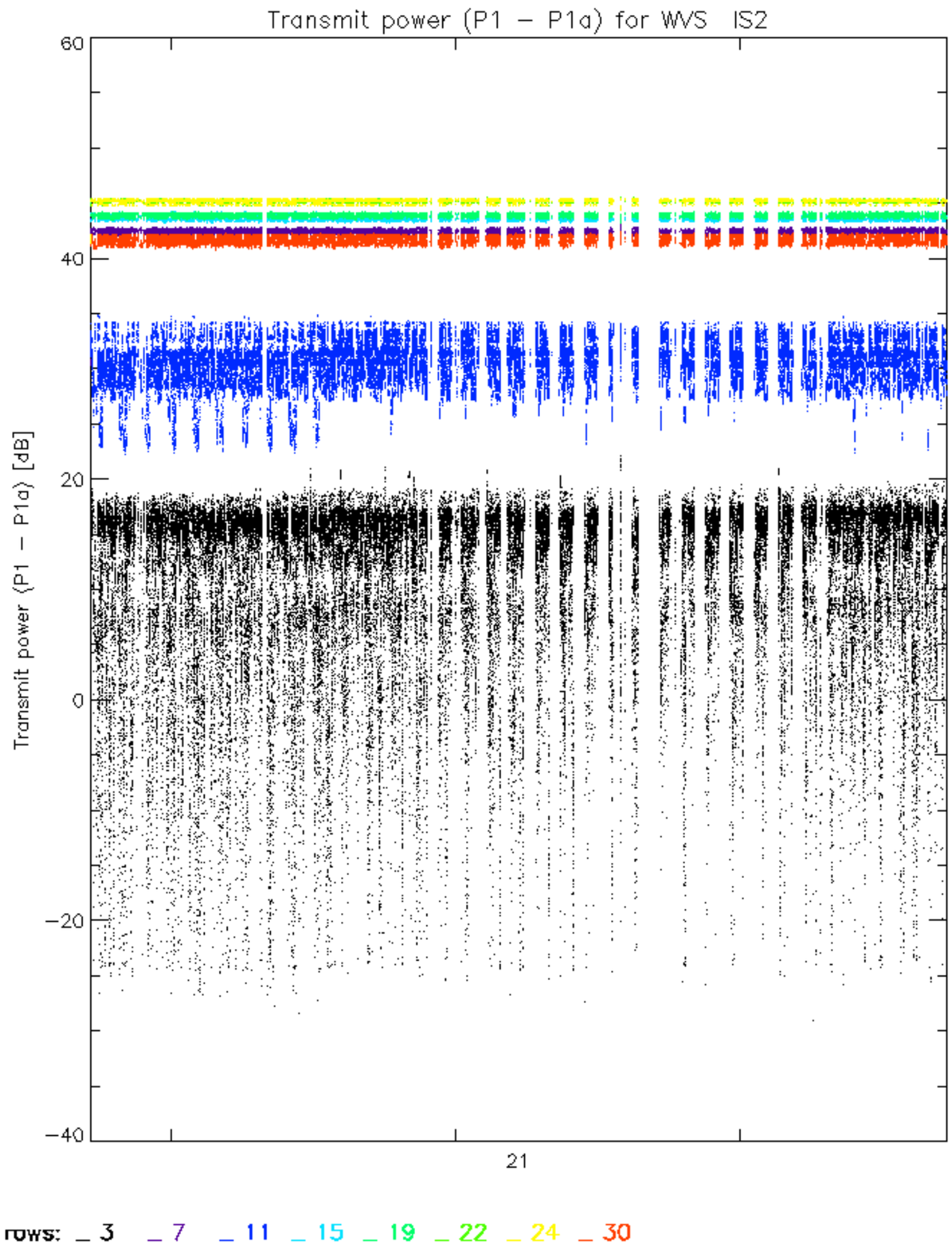

Reference: 2003-06-12 14:08:52 H
Test : 2004-07-24 20:49:12 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

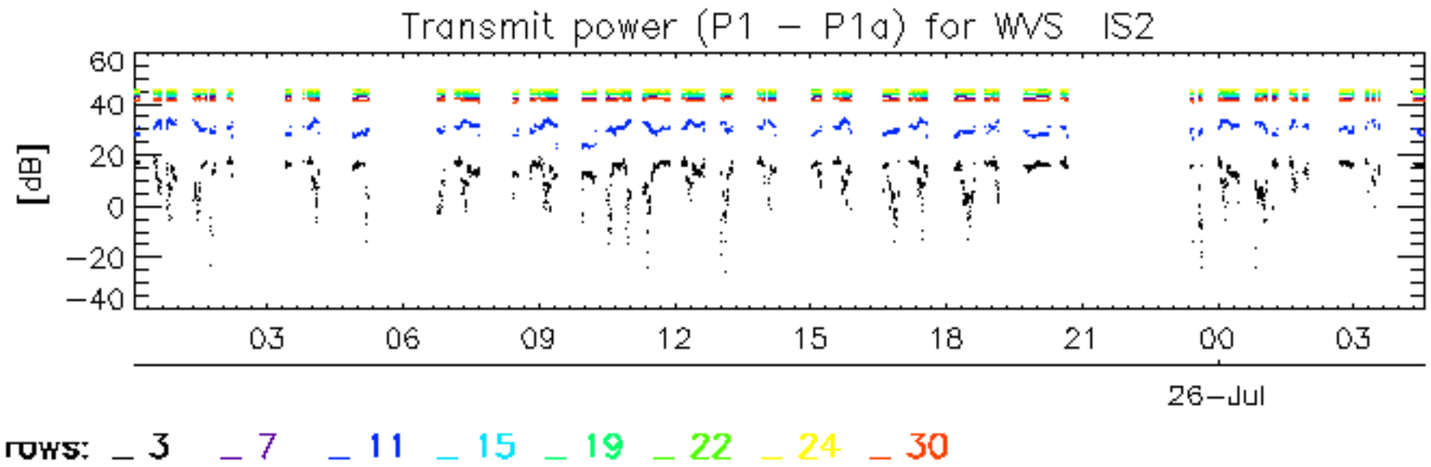

Reference: 2001-02-09 14:08:23 V
Test : 2004-07-25 18:36:59 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-07-25 18:36:59 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
21
rows: 3 7 11 15 19 22 24 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
50
40
30
20
10
0
−10
03
06
09
12
15
18
21
00
03
26–Jul
rows: 3 7 11 15 19 22 24 30


Transmit power (P1 – P1a) for WVS IS2
60
40
20
0
−20
−40
Transmit power ⟨P1 – P1a⟩ [dB]
21
rows: 3 7 11 15 19 22 24 30


Transmit power (P1 – P1a) for WVS IS2
[dB]
60
40
20
0
−20
−40
03
06
09
12
15
18
21
00
03
26−Jul
rows: 3
7
11
15
19
22
24
30

No unavailabilities during the reported period.