PRELIMINARY REPORT OF 040721

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

last update on Wed Jul 21 13:03:10 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

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 to identify any malfunctionning modules and to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

Polarisation	Start Time
V	20040717 060310
H	20040716 063447

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.

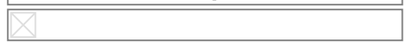
4.1 - Daily statistics

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	-3.484933	0.007313	0.016373
7	P1	-3.328782	0.014006	0.016628
11	P1	-4.574411	0.035230	-0.104186
15	P1	-5.706732	0.057767	-0.092028
19	P1	-3.441536	0.004526	-0.005147
22	P1	-4.556921	0.011090	-0.003445
24	P1	-4.932738	0.017702	-0.046511
30	P1	-6.873396	0.024813	-0.051678

3	P1	-16.152658	0.166877	-0.211591
7	P1	-13.982240	0.095427	0.072581
11	P1	-19.971701	0.285058	-0.218904
15	P1	-11.785110	0.045216	0.002736
19	P1	-13.835097	0.033430	-0.003958
22	P1	-16.386587	0.378867	0.303364
24	P1	-14.624899	0.292691	0.142100
30	P1	-17.686306	0.401956	0.121030

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.370684	0.081229	0.110158
7	P2	-22.775234	0.126026	0.155279
11	P2	-15.525480	0.148321	0.143742
15	P2	-7.145163	0.093150	0.124904
19	P2	-9.565375	0.159618	0.063395
22	P2	-17.472874	0.106485	0.167223
24	P2	-20.797253	0.086168	0.116112
30	P2	-19.396549	0.077820	0.059526

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.143182	0.001923	0.002881
7	P3	-8.143178	0.001923	0.002882
11	P3	-8.143177	0.001923	0.002886
15	P3	-8.143179	0.001923	0.002916
19	P3	-8.143188	0.001922	0.002967
22	P3	-8.143196	0.001922	0.003026
24	P3	-8.143195	0.001922	0.003023
30	P3	-8.143229	0.001919	0.003844

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	-3.071083	0.139749	0.285136
7	P1	-2.867234	0.136436	-0.216794
11	P1	-3.827977	0.031495	-0.058423
15	P1	-4.151654	0.928729	0.628930
19	P1	-3.374970	0.049768	-0.075885
22	P1	-5.721670	0.047096	0.062999
24	P1	-4.017366	0.080947	0.193663
30	P1	-6.128191	0.077755	-0.089869
3	P1	-10.933844	0.430698	0.352379
7	P1	-9.852213	0.319083	-0.333338
11	P1	-11.856600	0.241769	-0.323355
15	P1	-11.847975	0.309163	0.145857
19	P1	-15.086471	0.786274	-0.501132
22	P1	-21.629906	7.438126	-1.231535
24	P1	-17.395456	0.322972	-0.096670
30	P1	-21.429783	4.315868	1.415599

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.088579	0.075204	0.206452
7	P2	-22.860464	0.242484	0.207125
11	P2	-10.949022	0.237851	0.013212
15	P2	-4.960414	0.043088	0.077072
19	P2	-6.892171	0.046504	0.152757
22	P2	-7.591908	0.093089	0.176543
24	P2	-11.027880	0.158553	0.038149
30	P2	-22.298744	0.141296	0.185423

P3 Cyclic statistics

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

3	P3	-7.981812	0.003598	0.008668
7	P3	-7.981894	0.003588	0.008339
11	P3	-7.981777	0.003599	0.008463
15	P3	-7.981808	0.003608	0.008563
19	P3	-7.981753	0.003605	0.008634
22	P3	-7.981815	0.003588	0.008604
24	P3	-7.981739	0.003629	0.008420
30	P3	-7.981863	0.003598	0.008192

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	0.000498312
	stdev	2.10683e-07
MEAN Q	mean	0.000543957
	stdev	2.39508e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129832
	stdev	0.00105248

STDEV Q	mean	0.130085
	stdev	0.00106477

5.3 - Gain imbalance I/Q

6 - Doppler Analysis

Preliminary report.The data is not yet controled

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

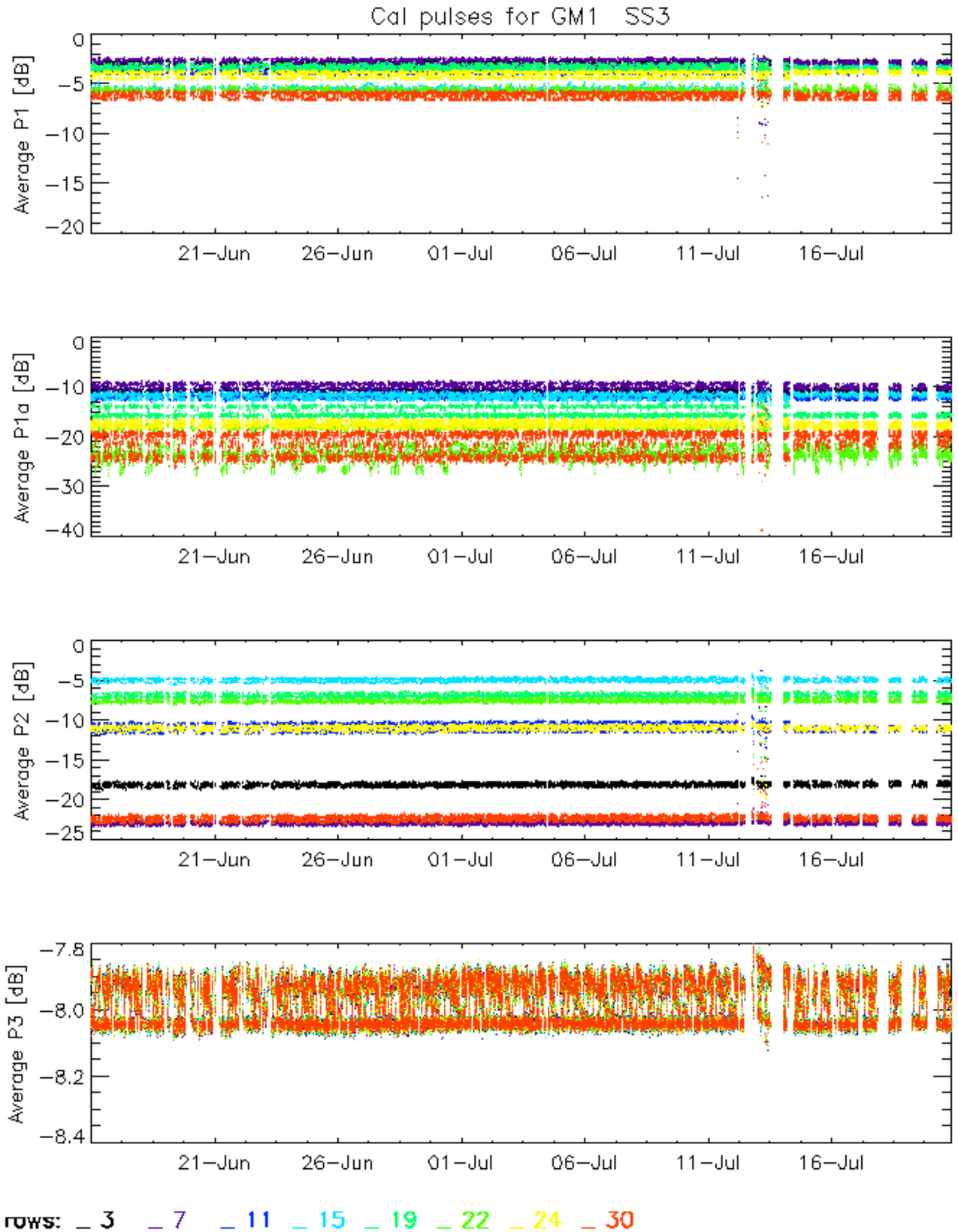
Evolution of Absolute Doppler

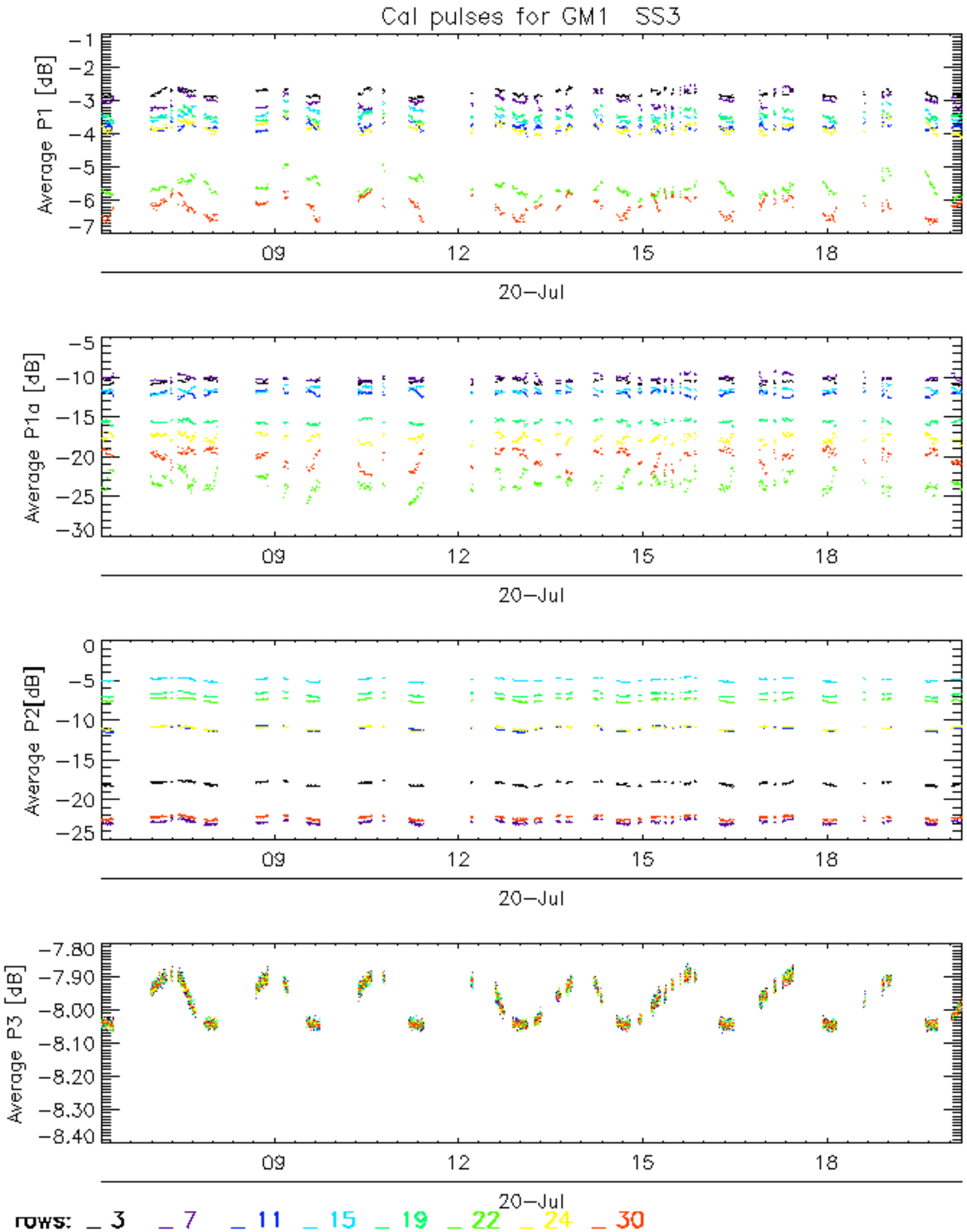
Acsending

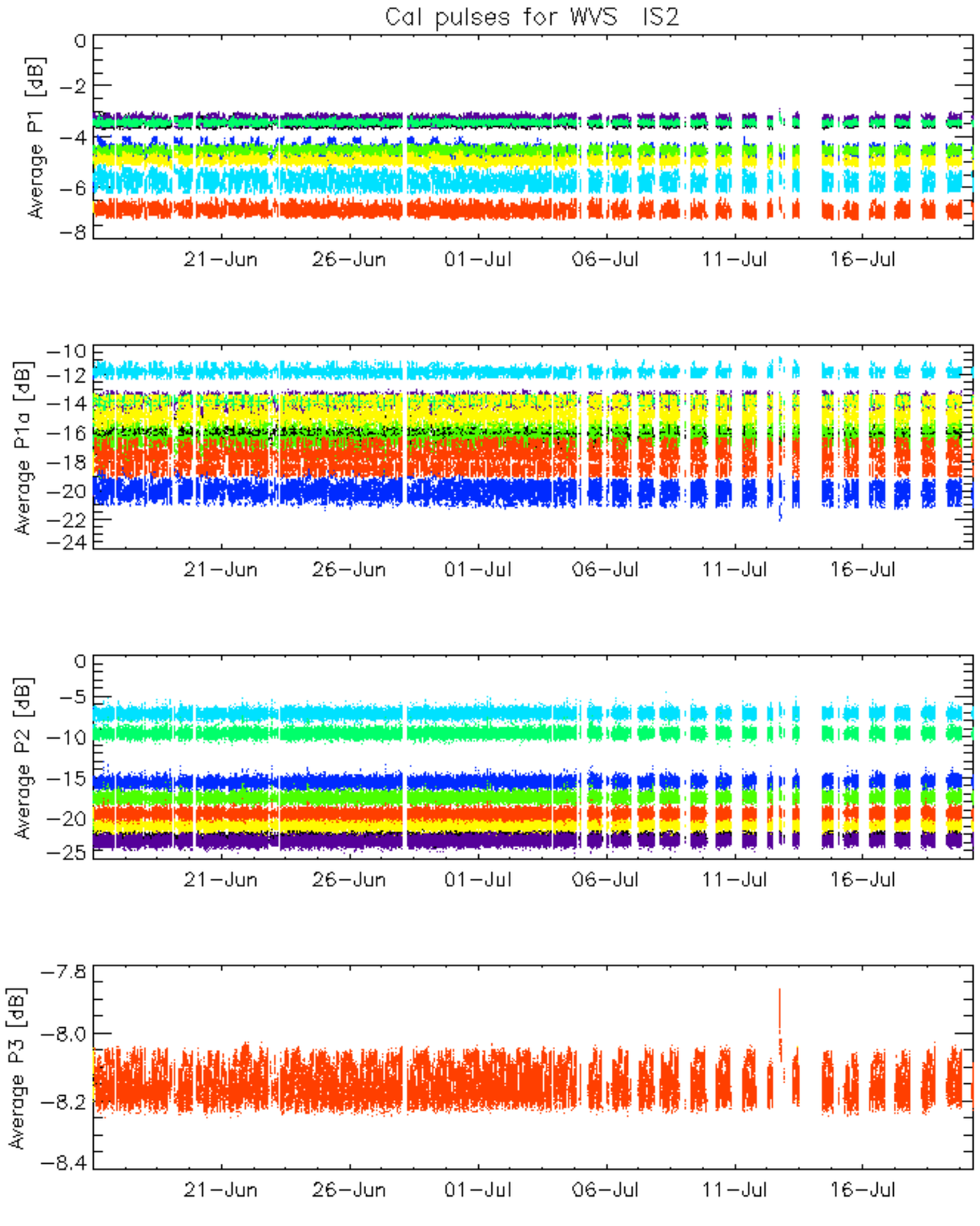
Descending

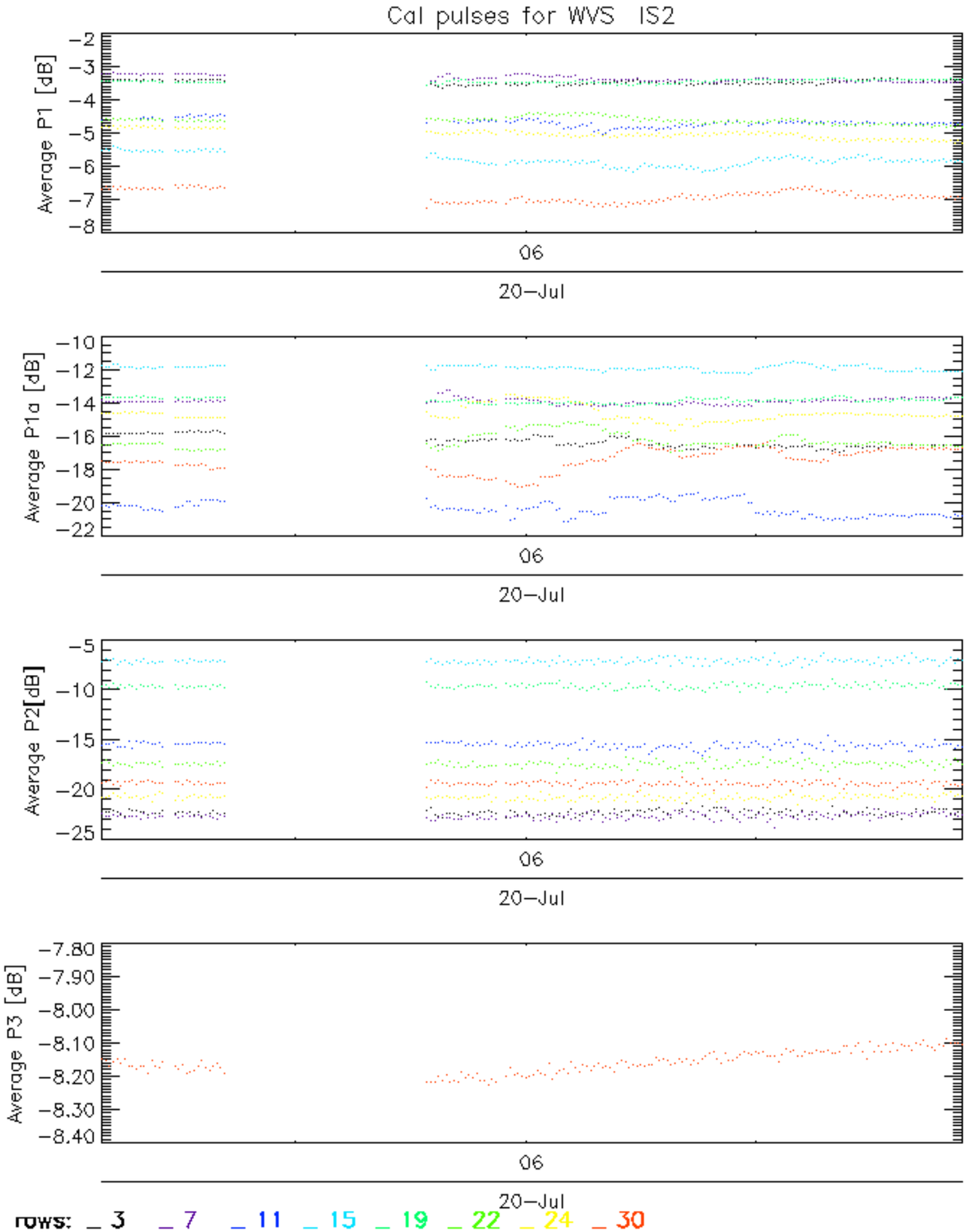
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

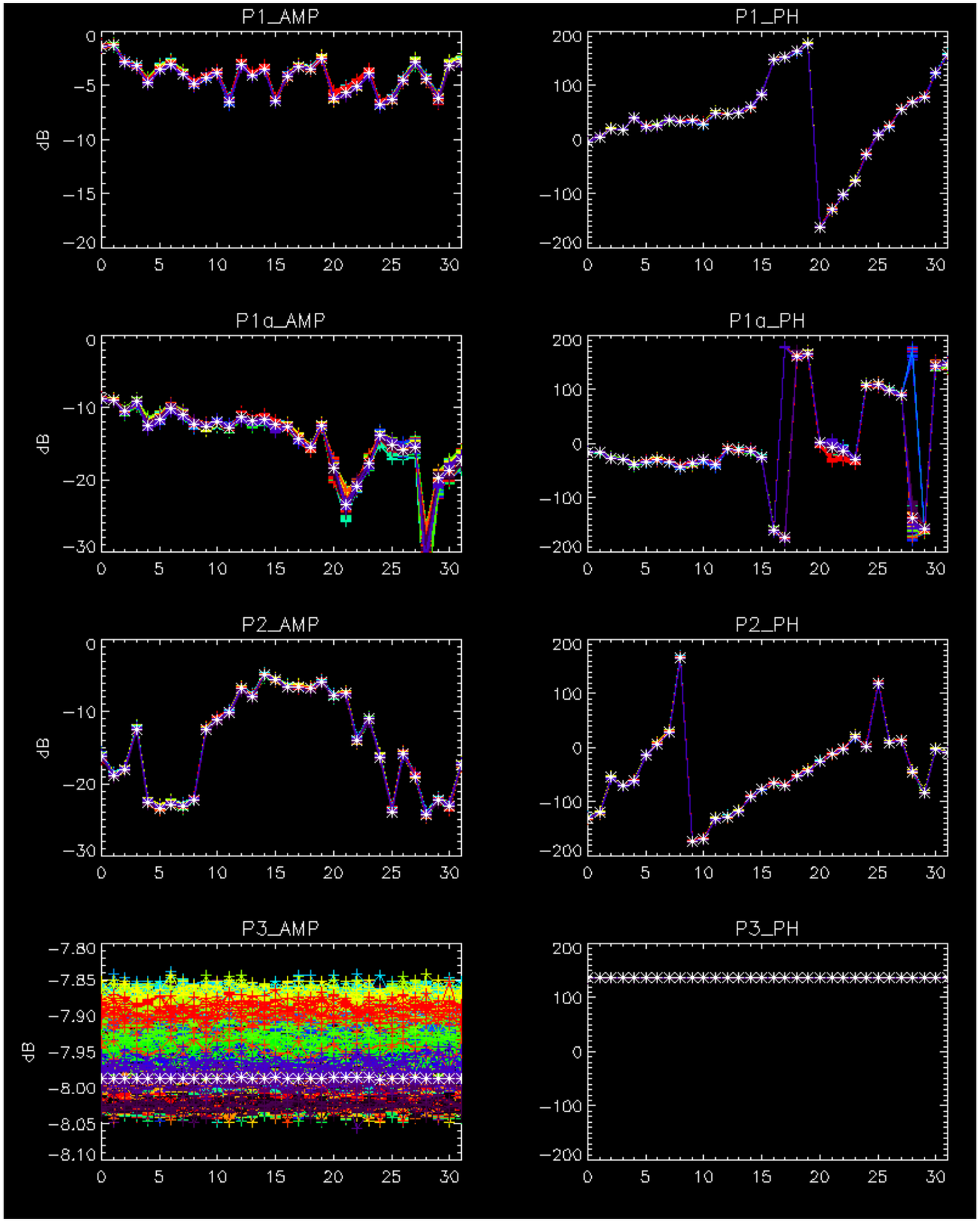


Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
−20
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
Average P1a [dB]
0
−10
−20
−30
−40
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
Average P2 [dB]
0
−5
−10
−15
−20
−25
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
21−Jun
26−Jun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

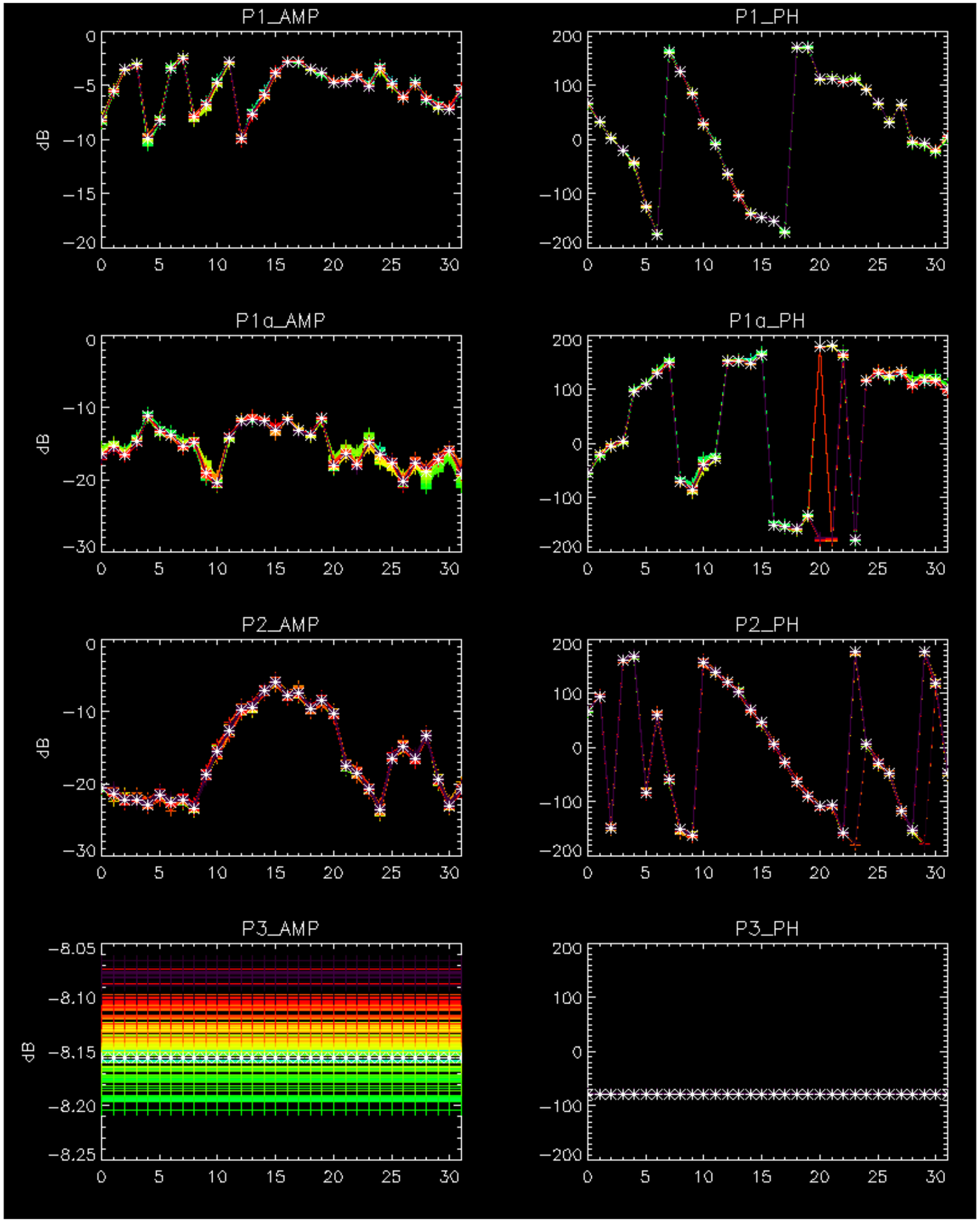

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
09
12
15
18
20−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
−30
09
12
15
18
20−Jul
Average P2[dB]
0
−5
−10
−15
−20
−25
09
12
15
18
20−Jul
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
09
12
15
18
20−Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _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


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


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

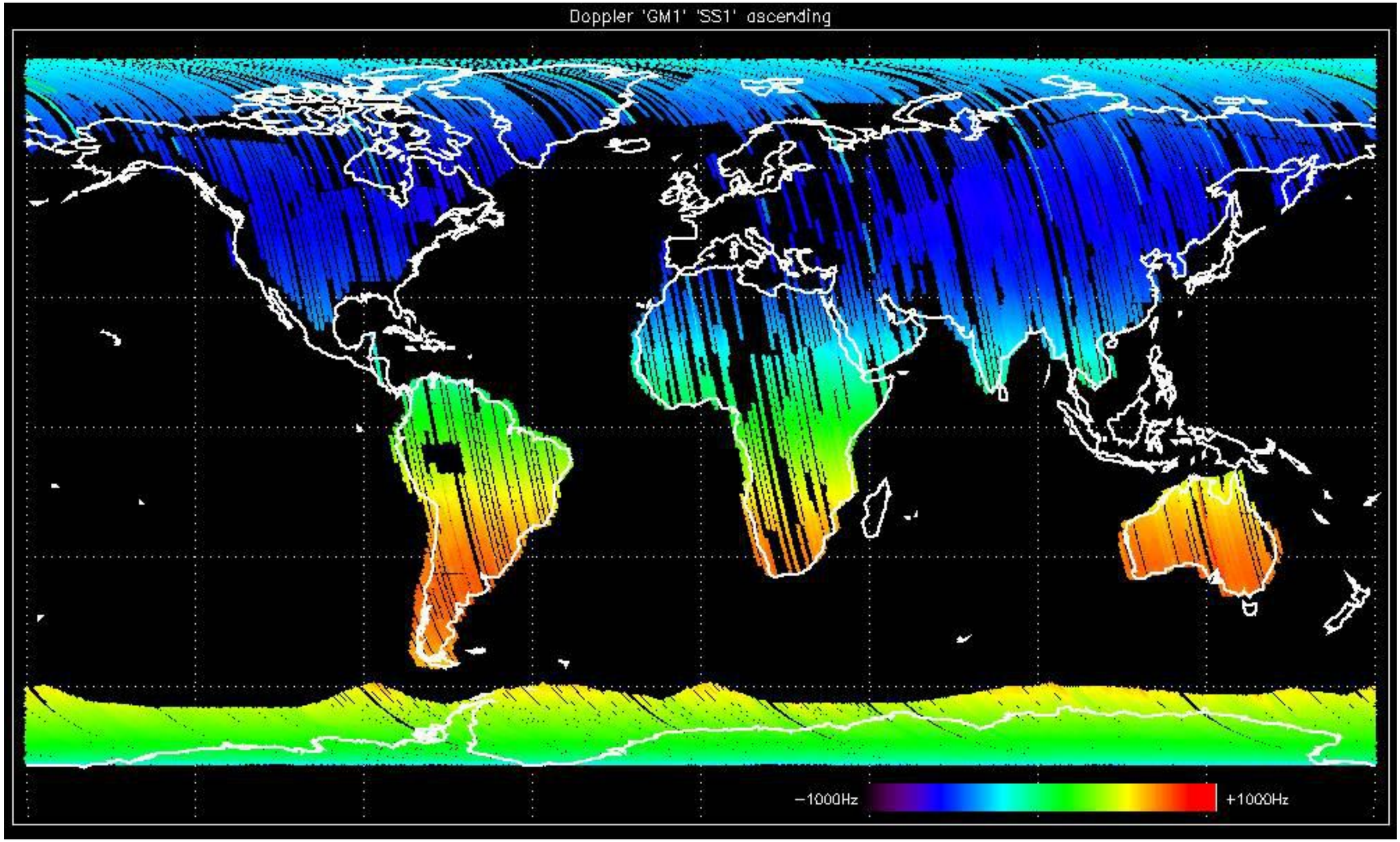
No anomalies observed.

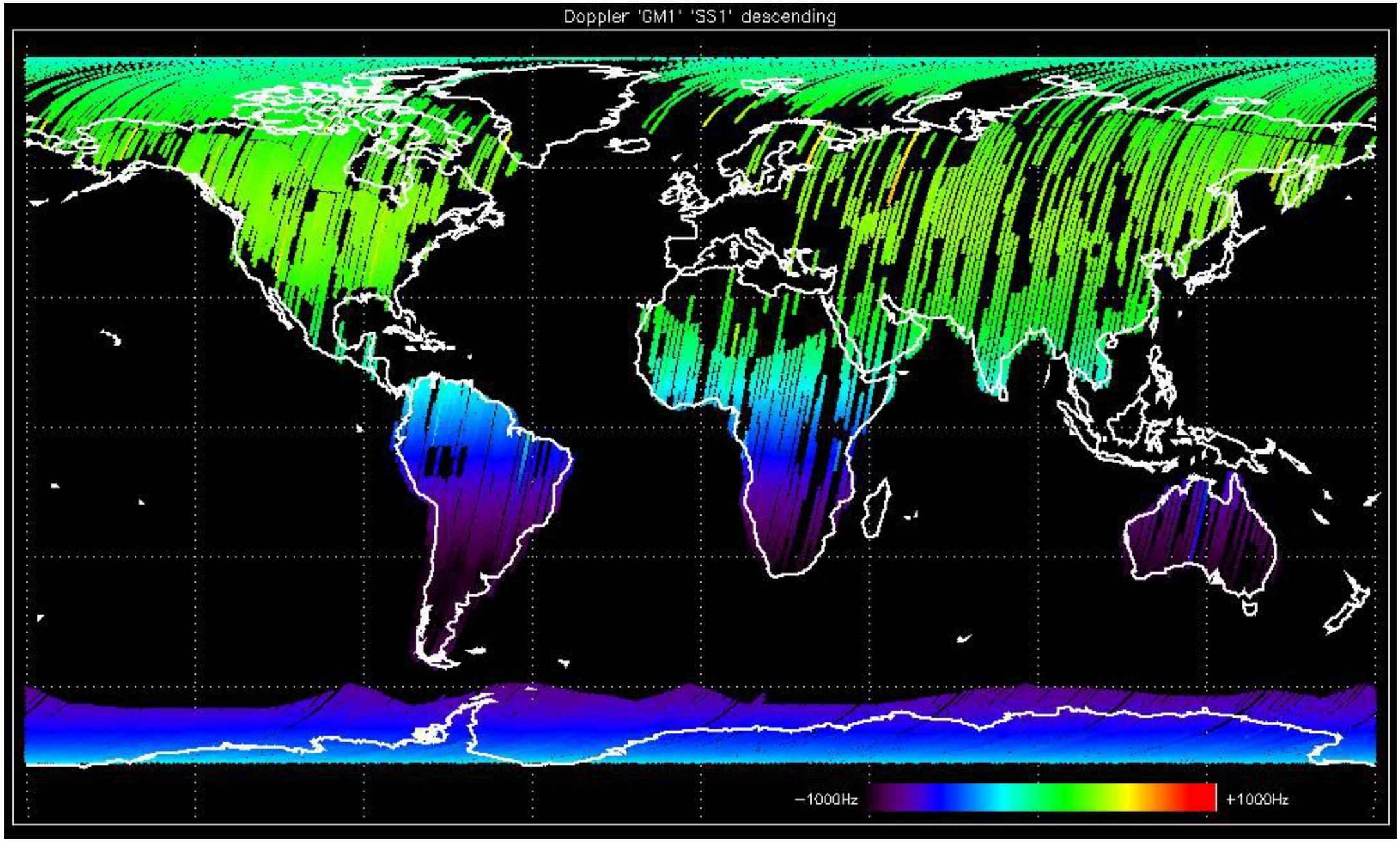

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.80
−7.85
−7.90
−7.95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

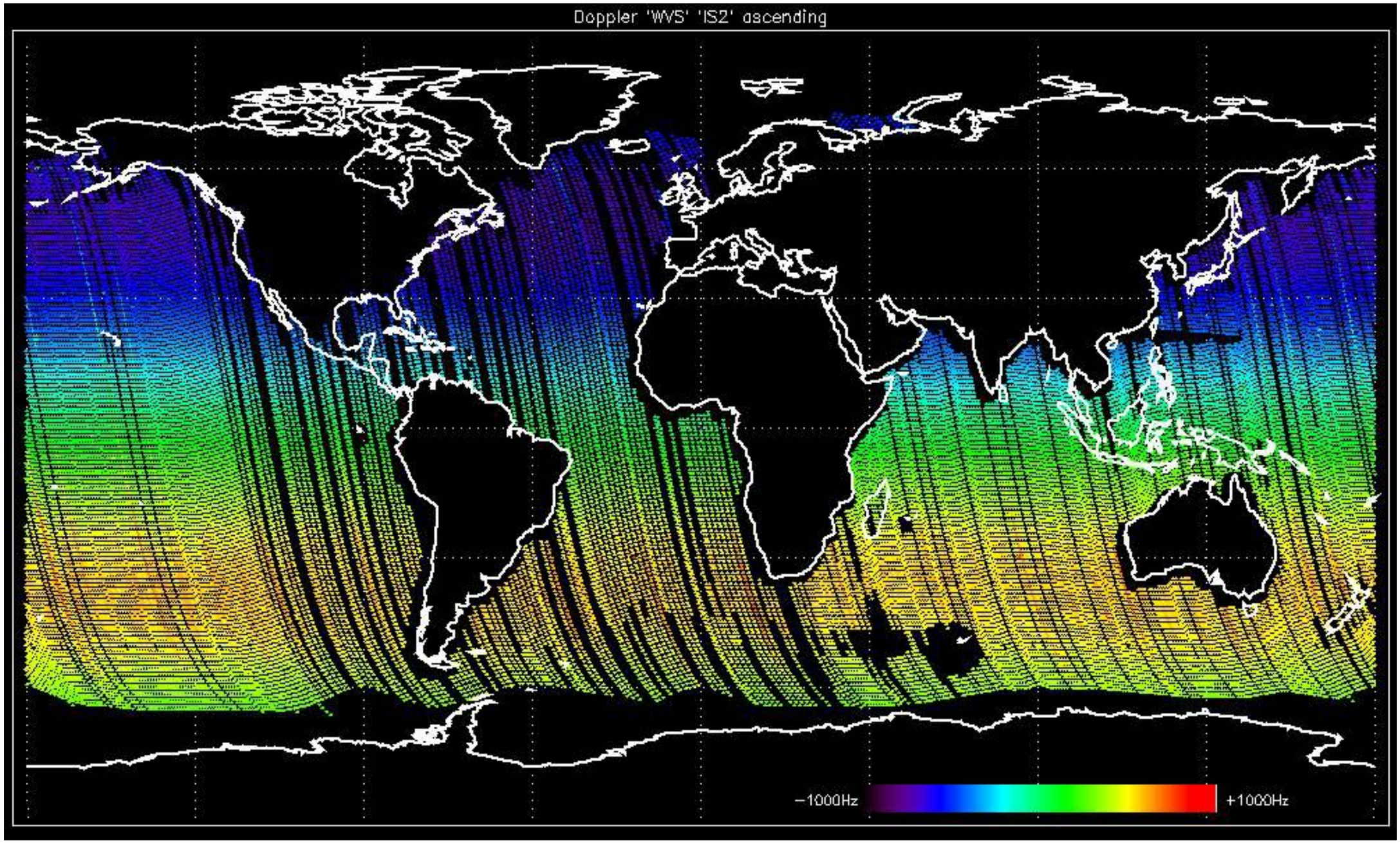

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.05
−8.10
−8.15
−8.20
−8.25
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

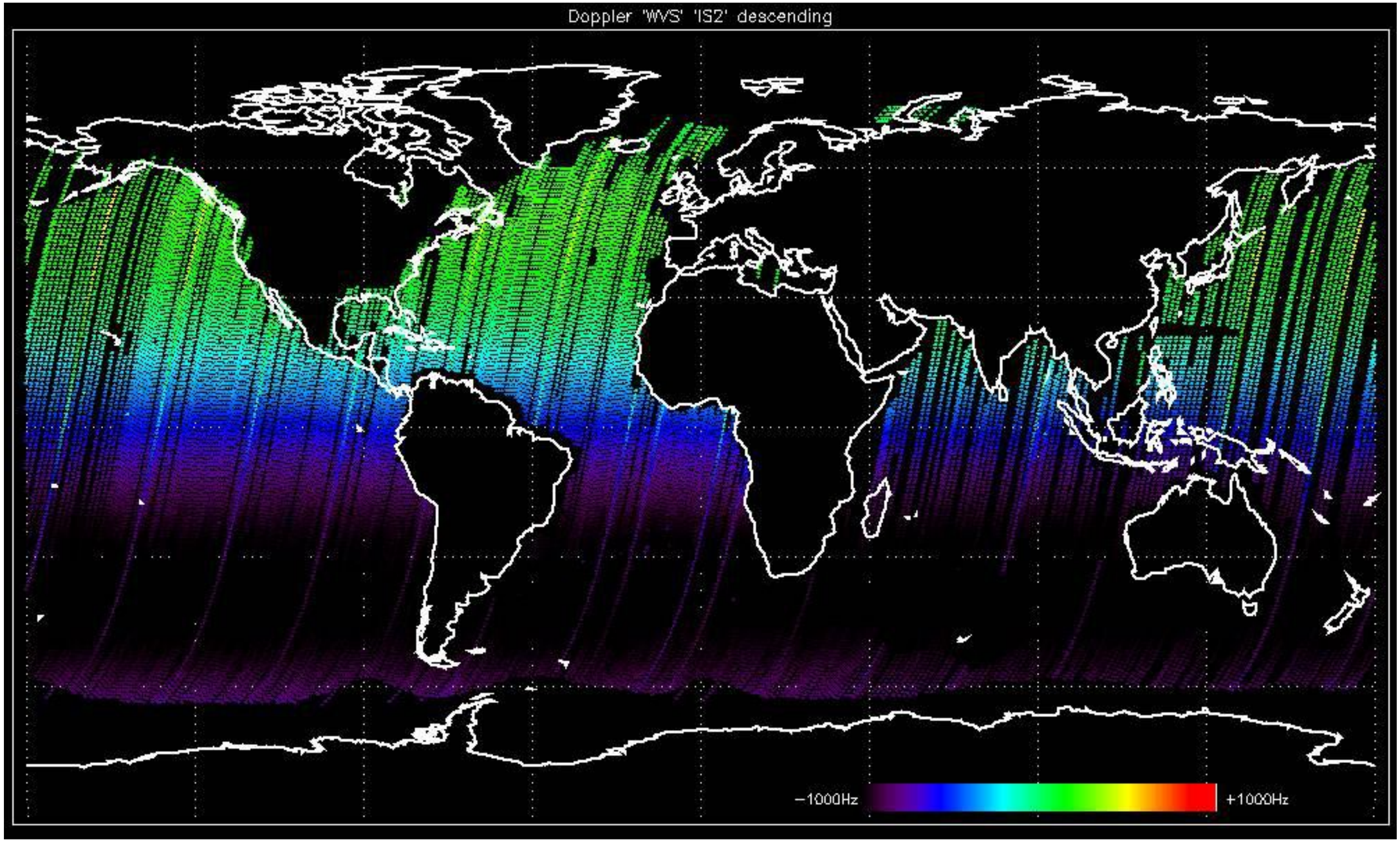
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

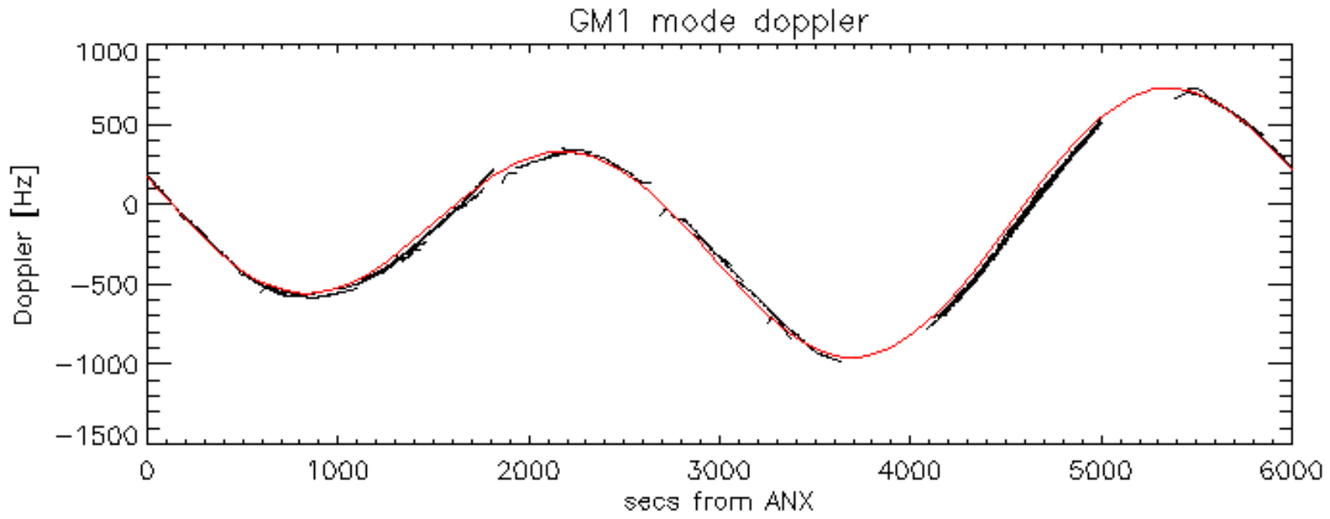
Preliminary report.The data is not yet controled

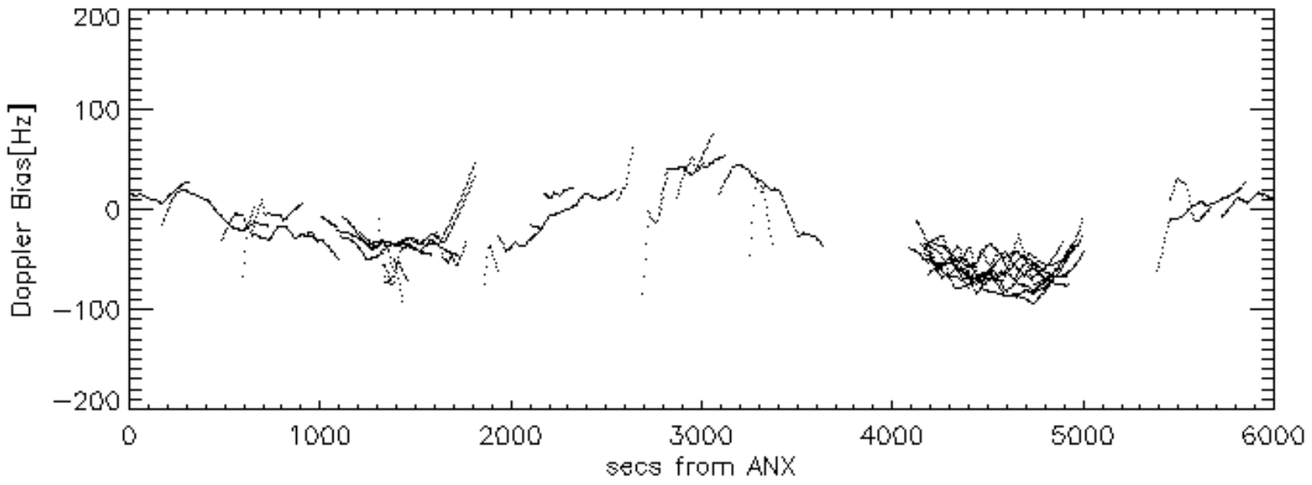

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

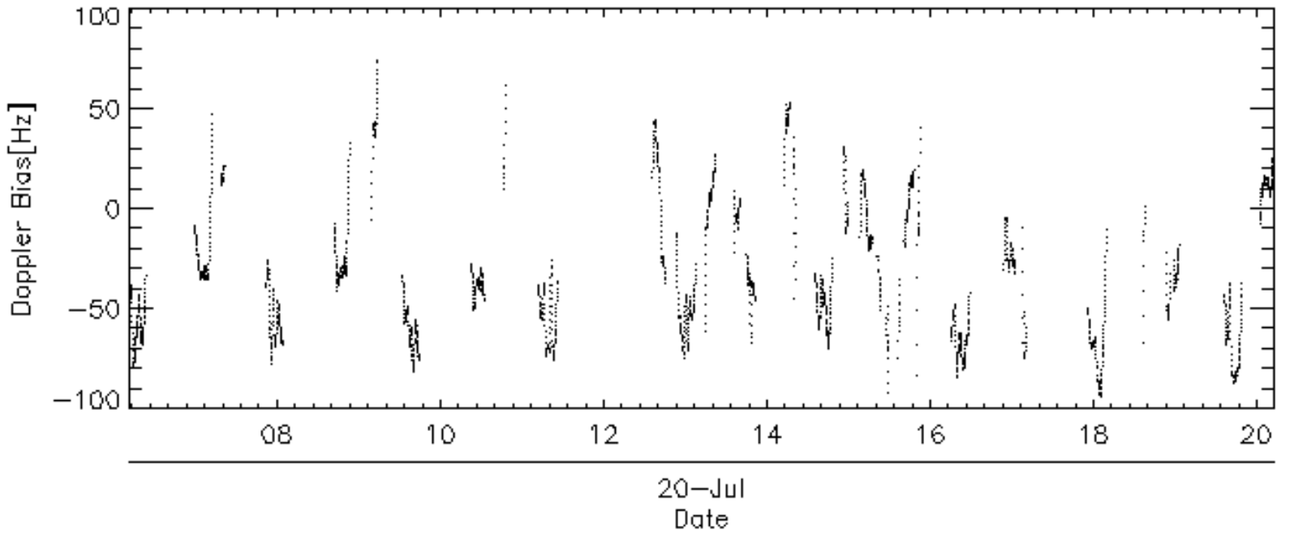

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

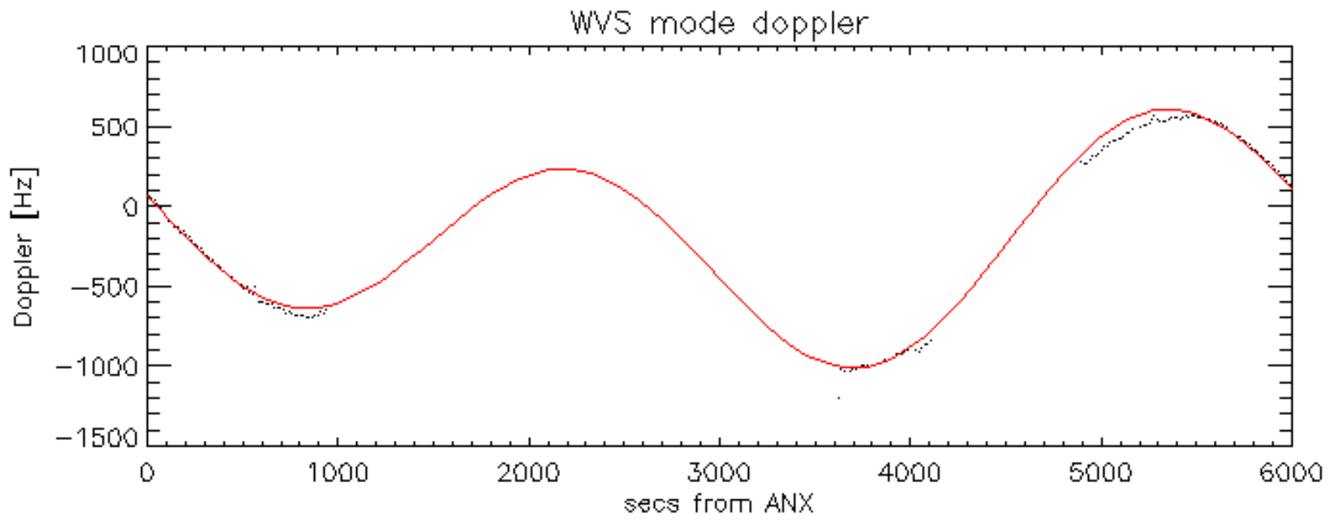

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

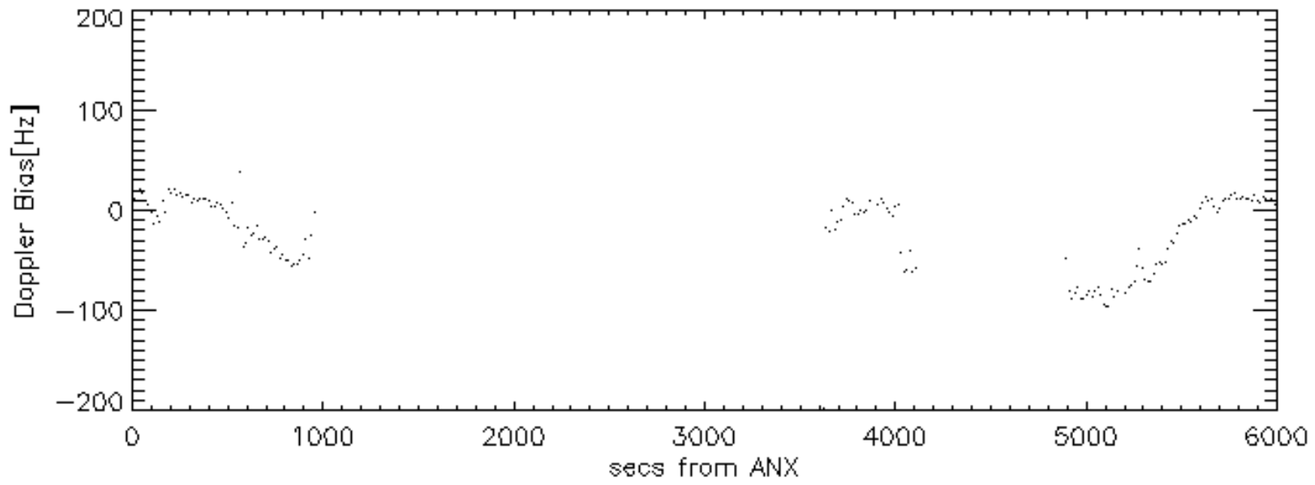

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

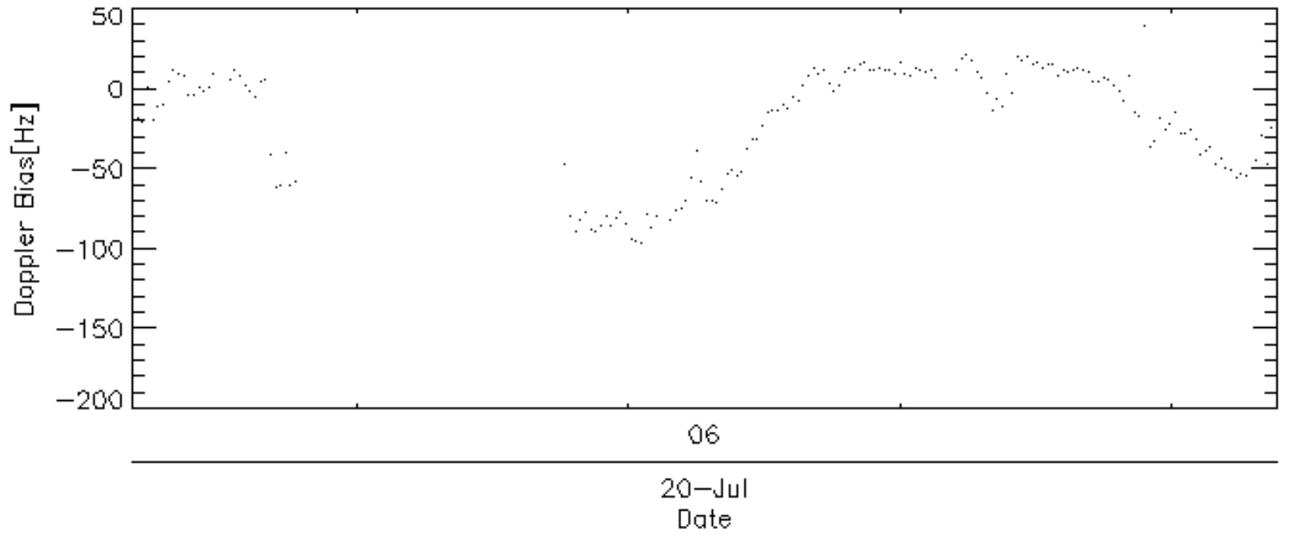

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

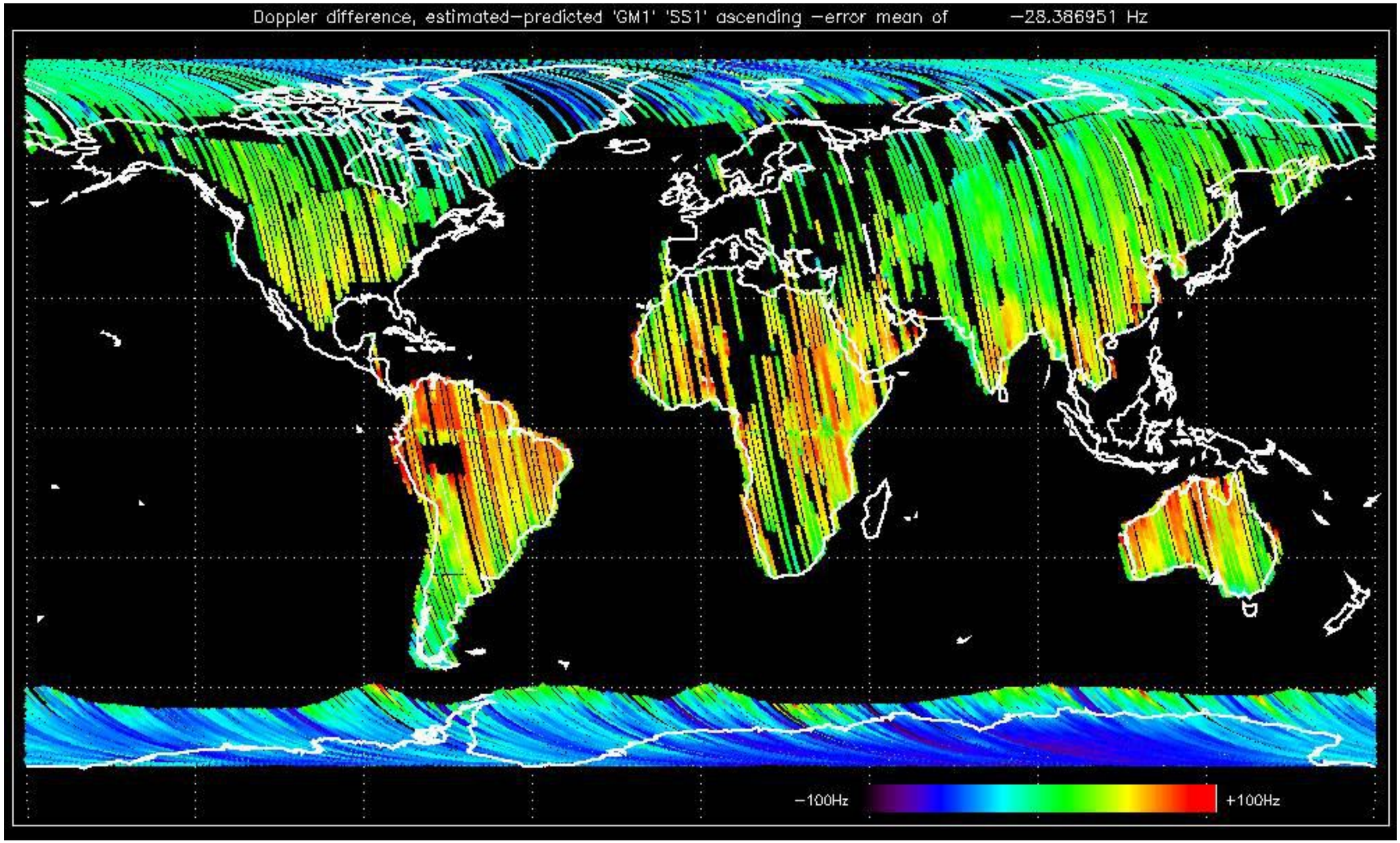

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

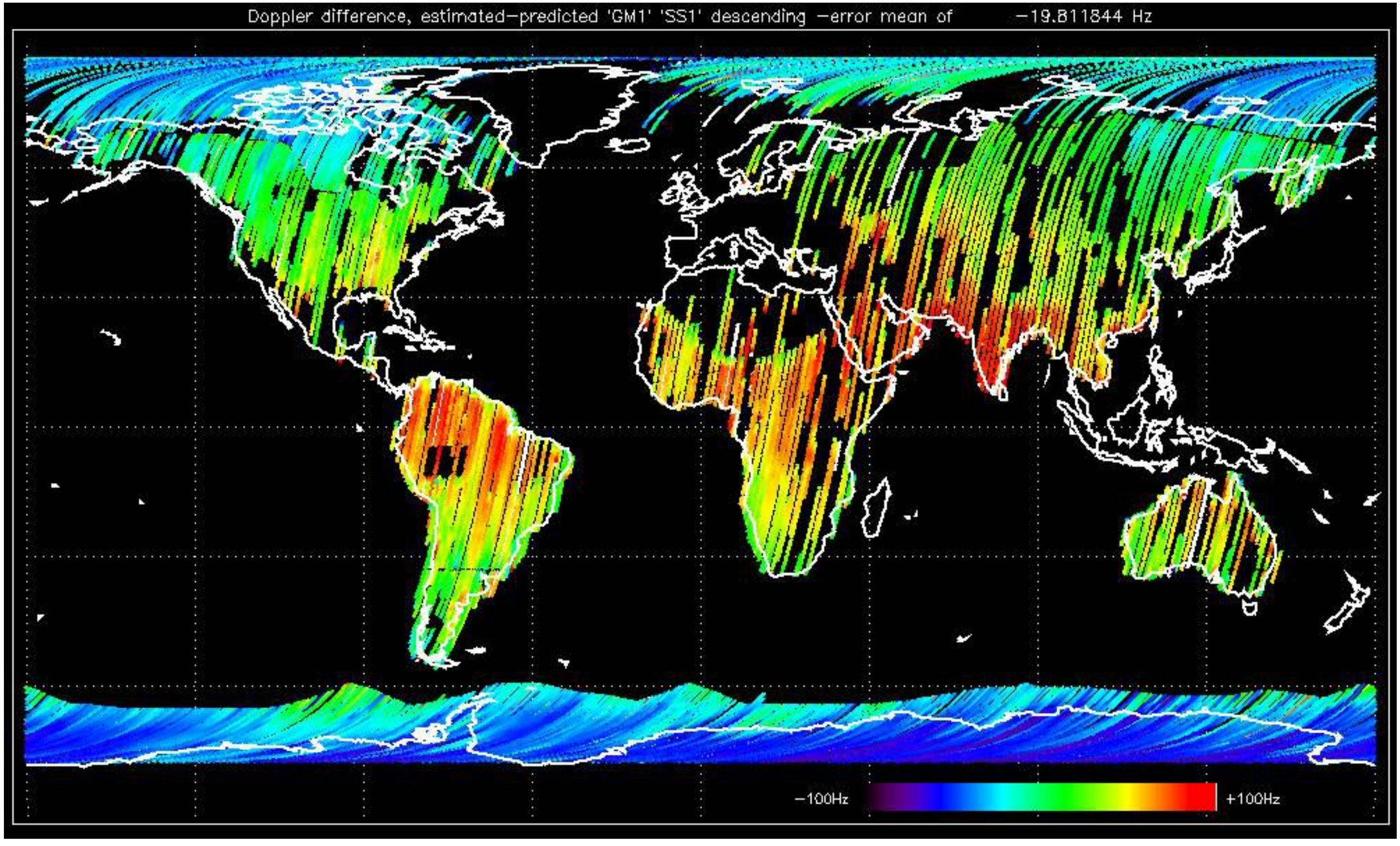

Doppler Bias[Hz]
100
50
0
−50
−100
08
10
12
14
16
18
20
20−Jul
Date

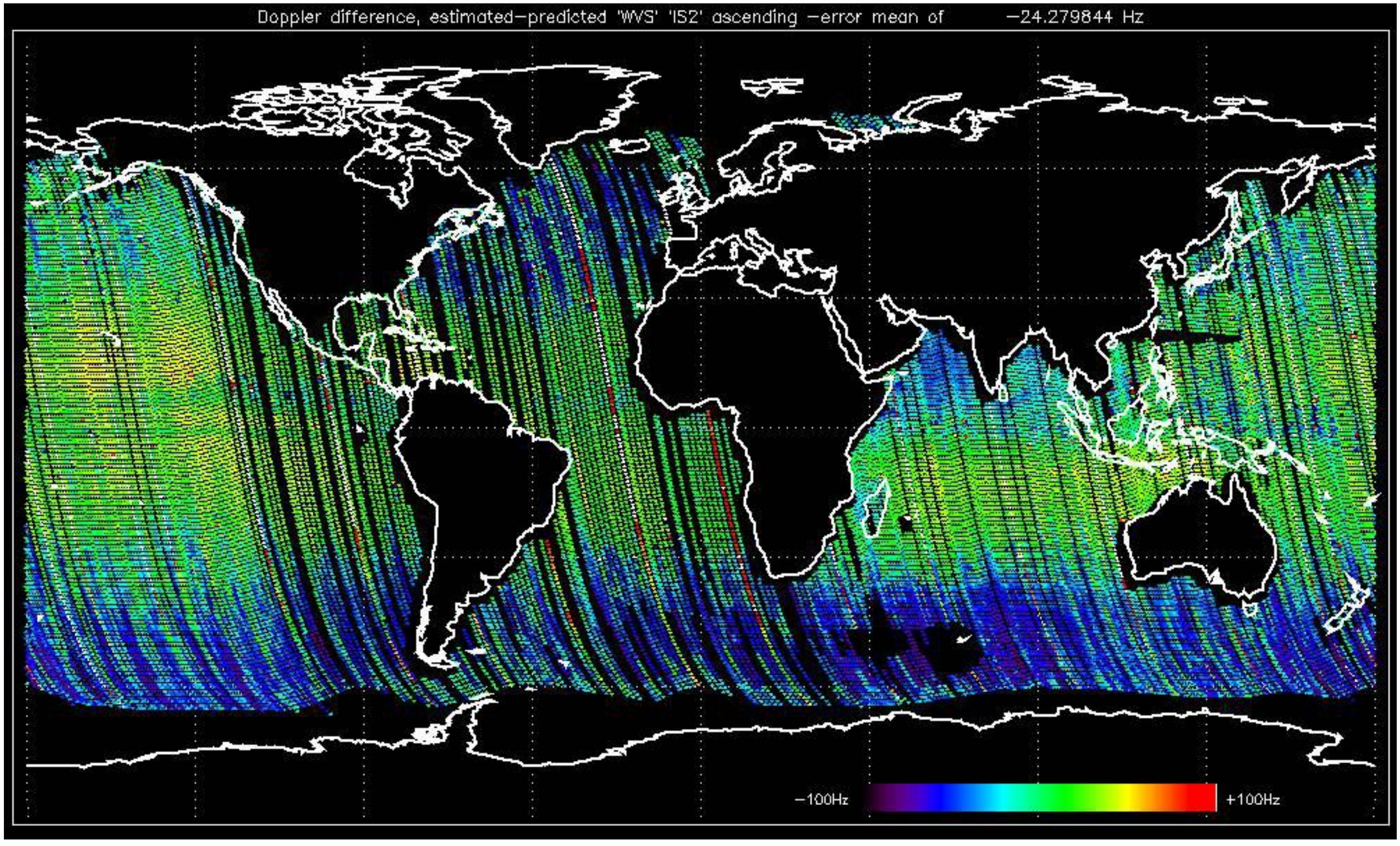

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

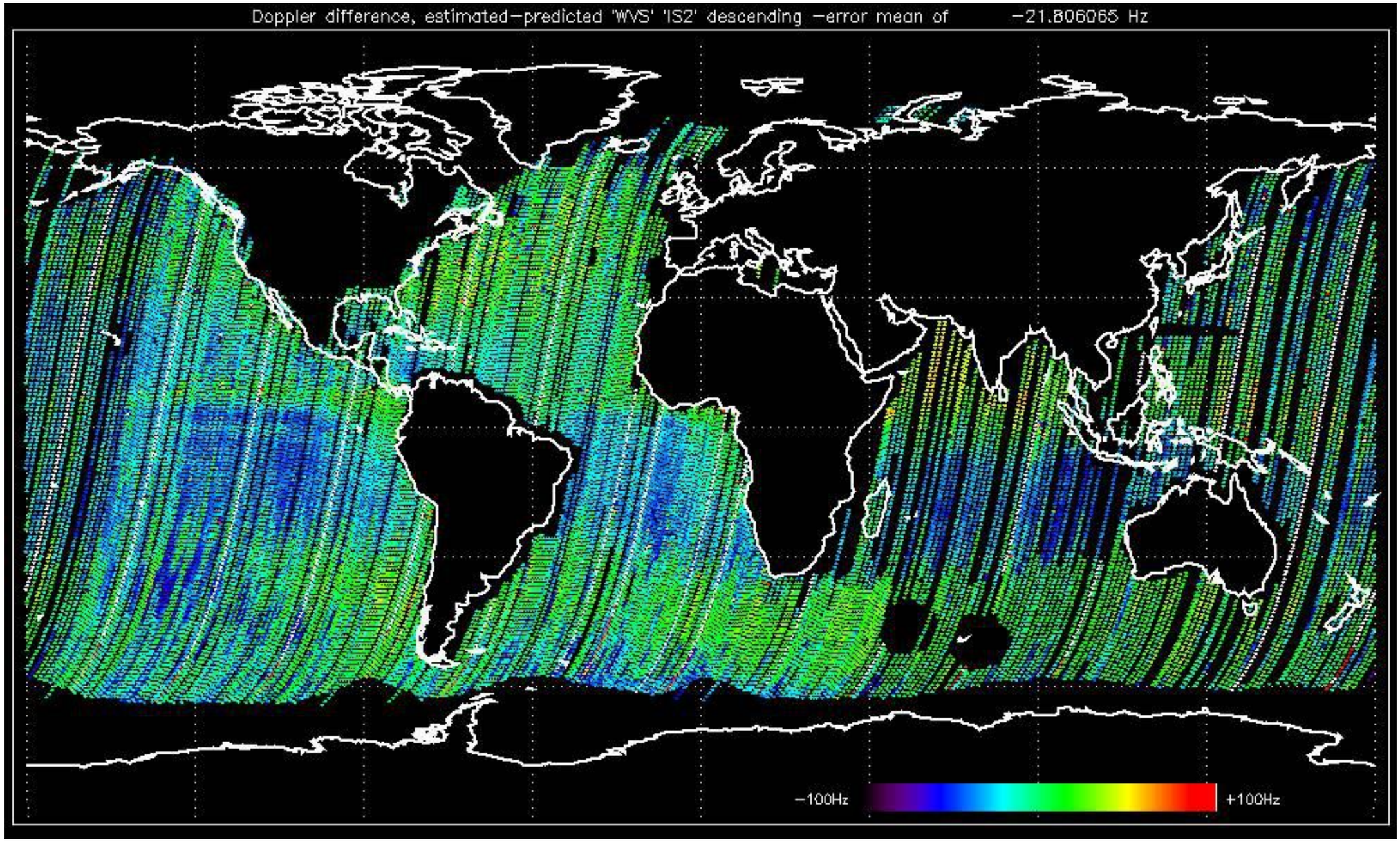

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


Doppler Bias[Hz]
50
0
−50
−100
−150
−200
06
20−Jul
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −28.386951 Hz
−100Hz
+100Hz

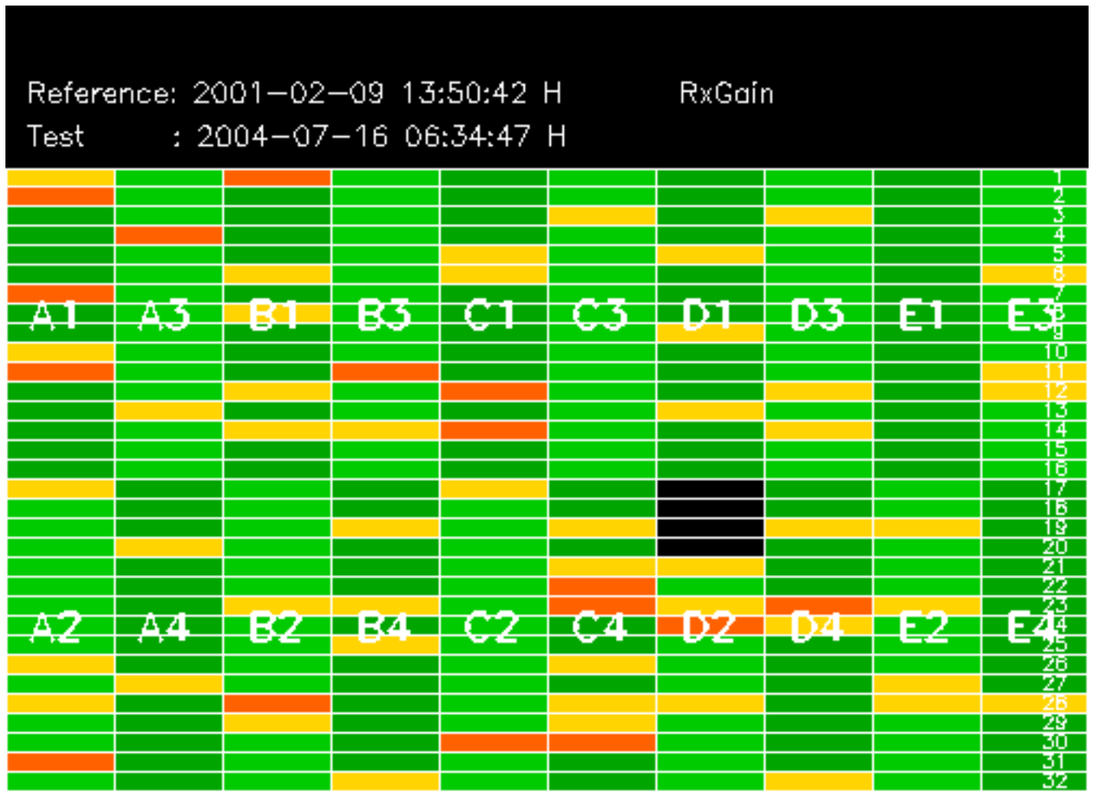

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -19.811844 Hz
-100Hz
+100Hz

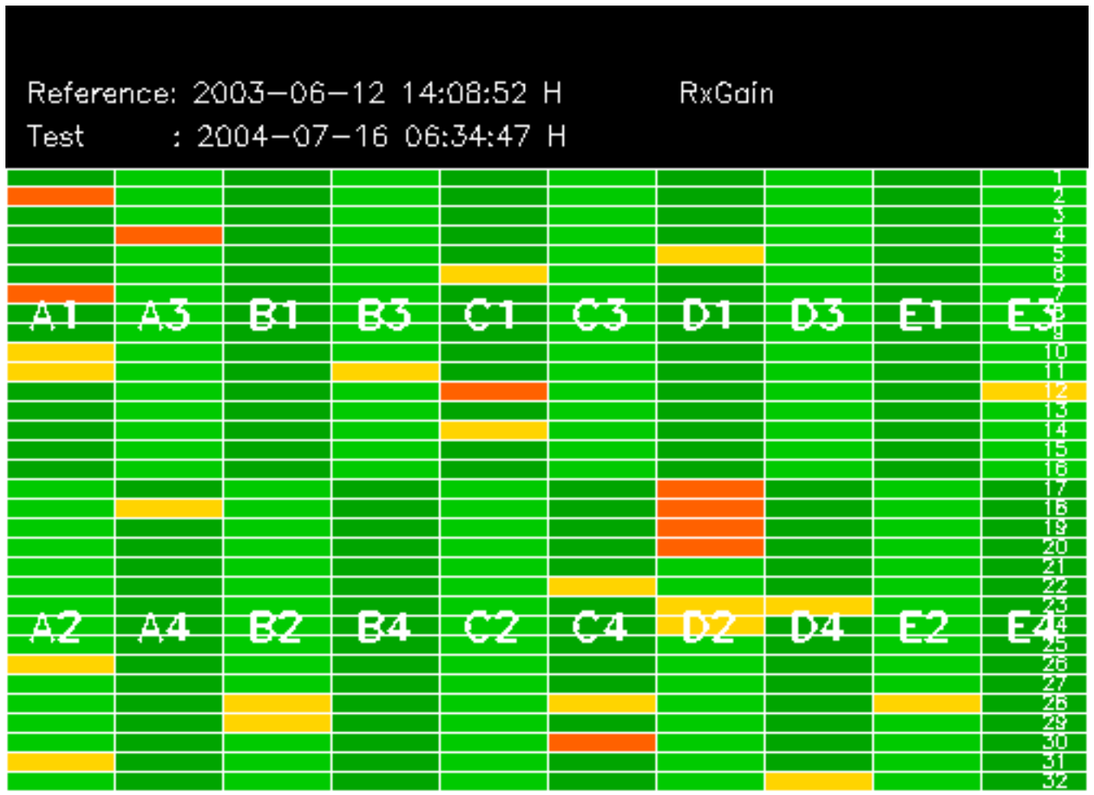

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −24.279844 Hz
−100Hz
+100Hz

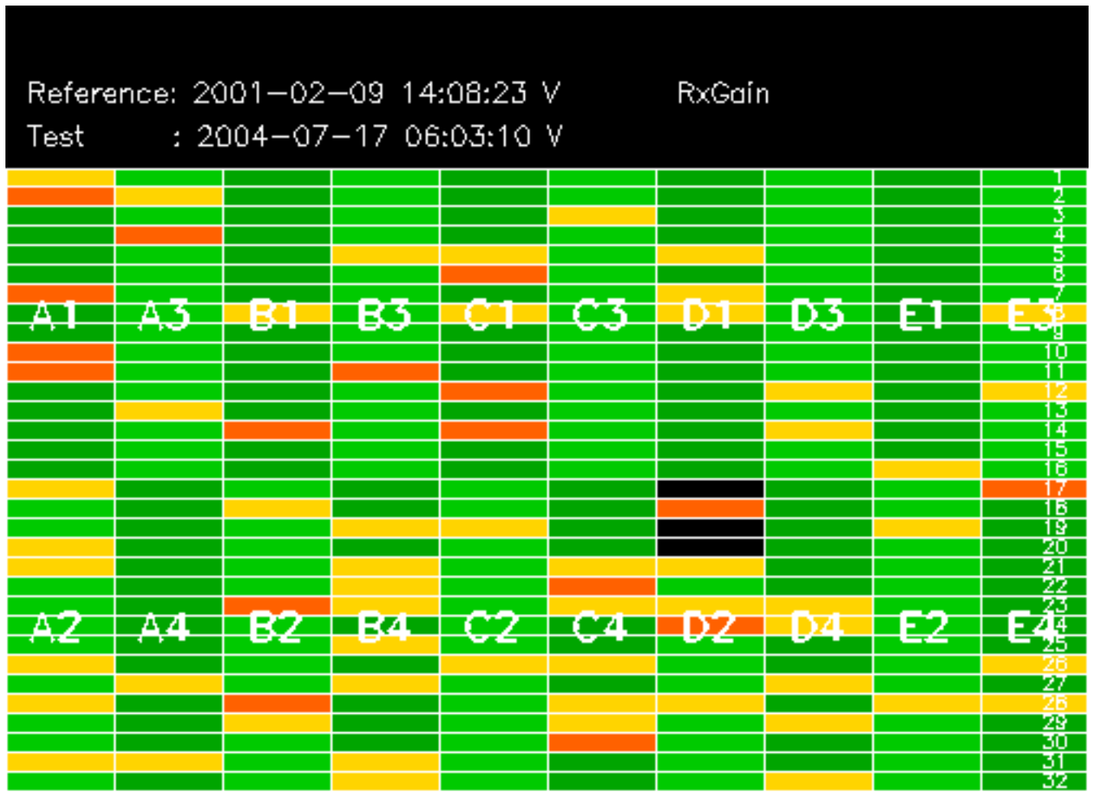

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −21.806065 Hz
−100Hz
+100Hz

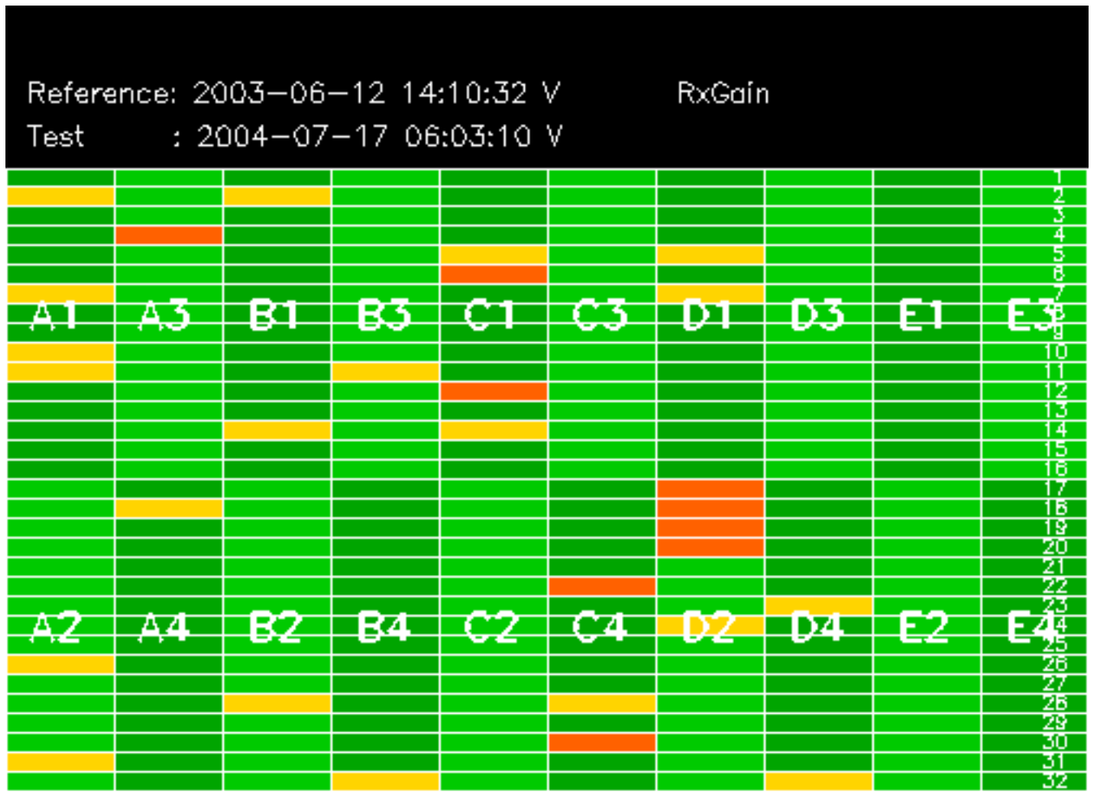
The MS mode provides an internal health check on an individual module basis.
The purpose of this mode is to identify to identify any malfunctionning modules and
to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

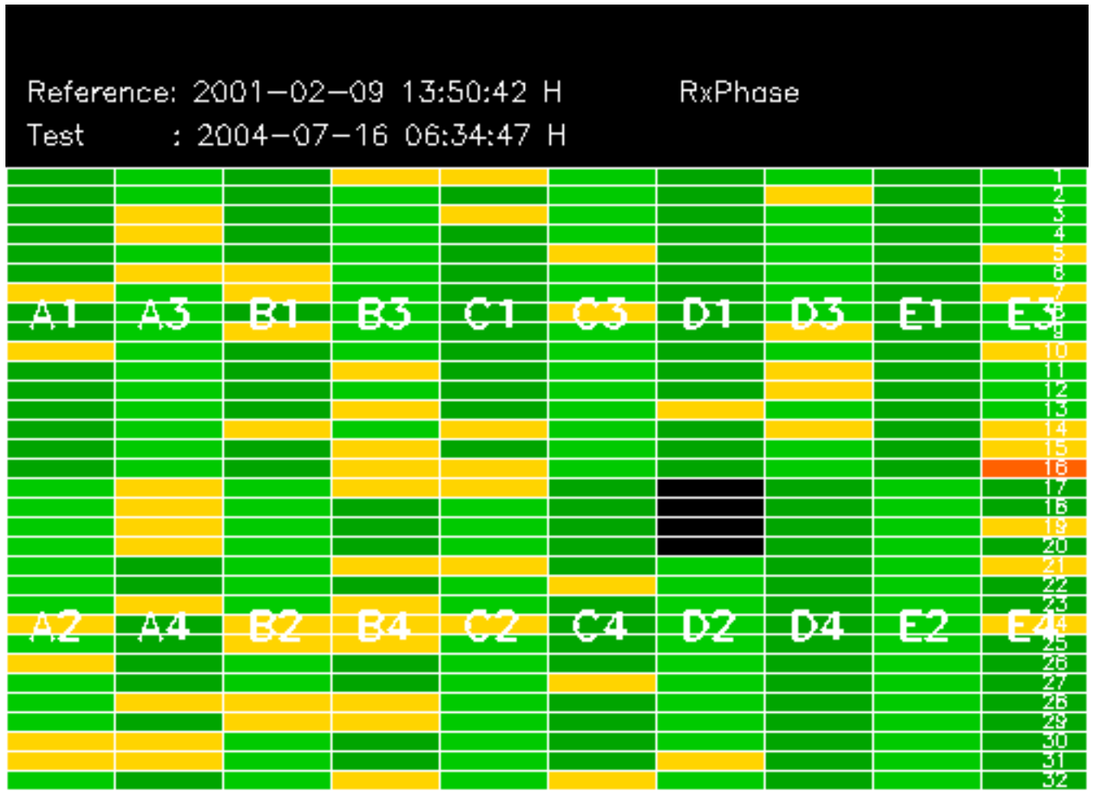
No anomalies observed.

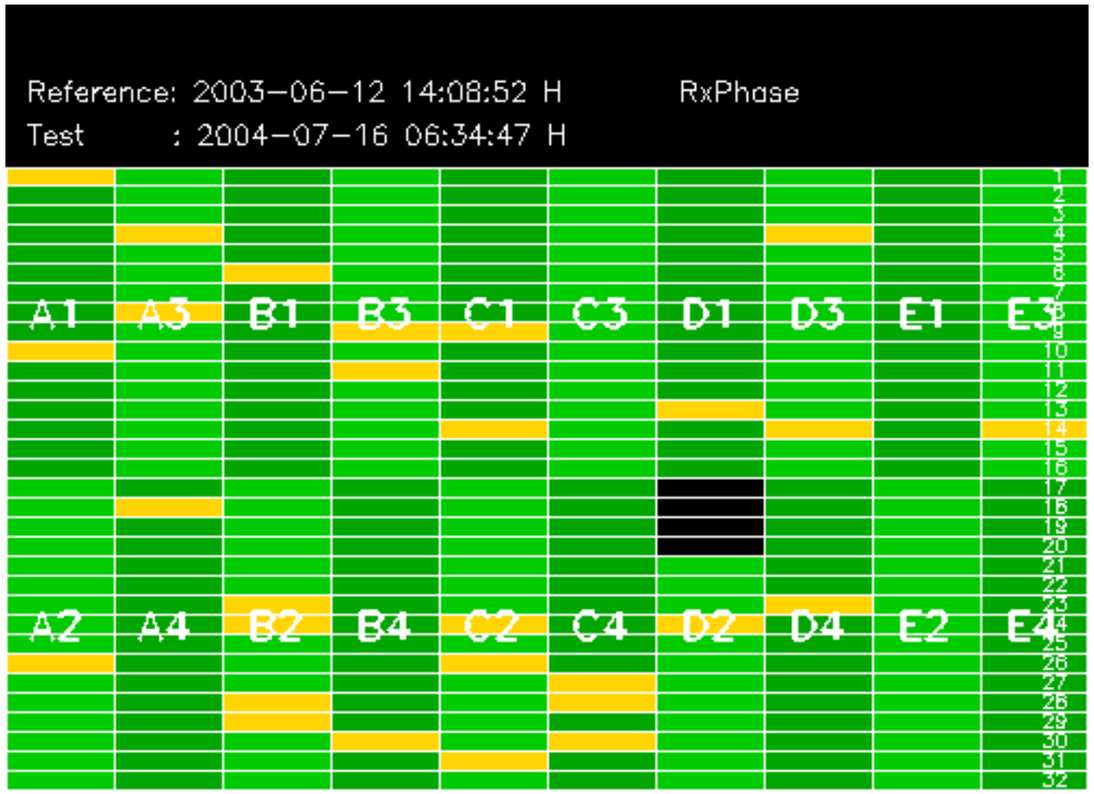

Reference: 2001-02-09 13:50:42 H
Test : 2004-07-16 06:34:47 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

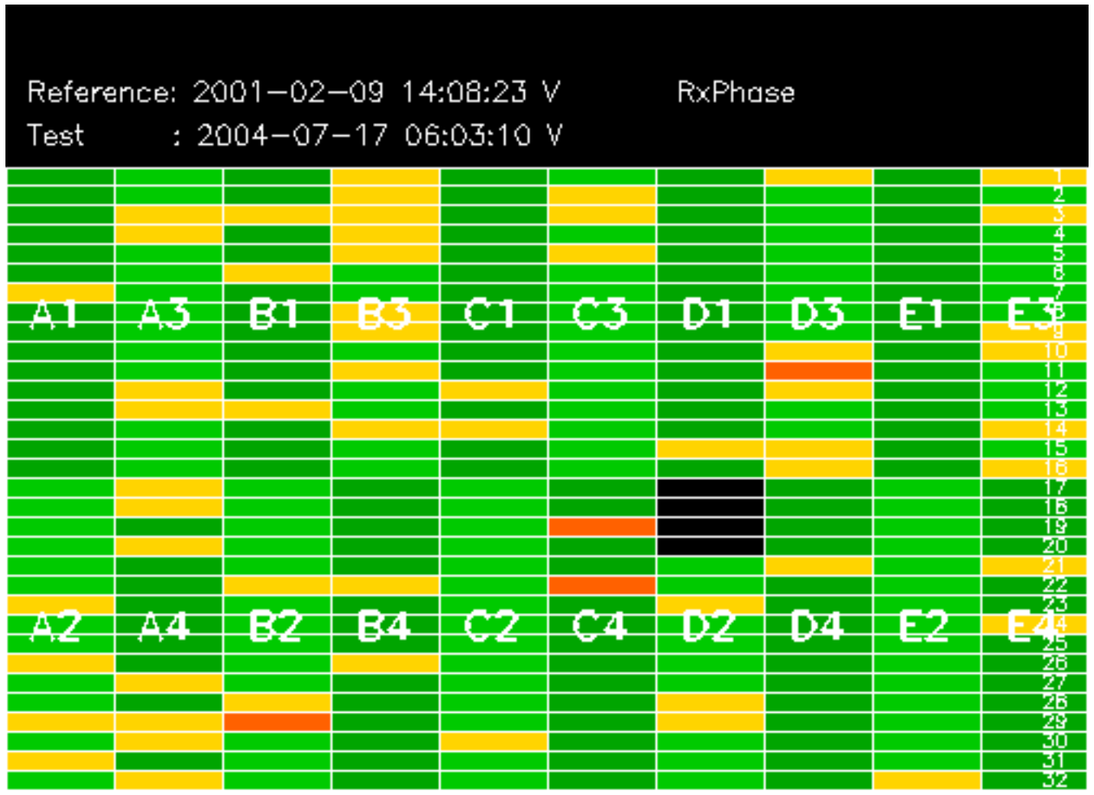

Reference: 2003-06-12 14:08:52 H
Test : 2004-07-16 06:34:47 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

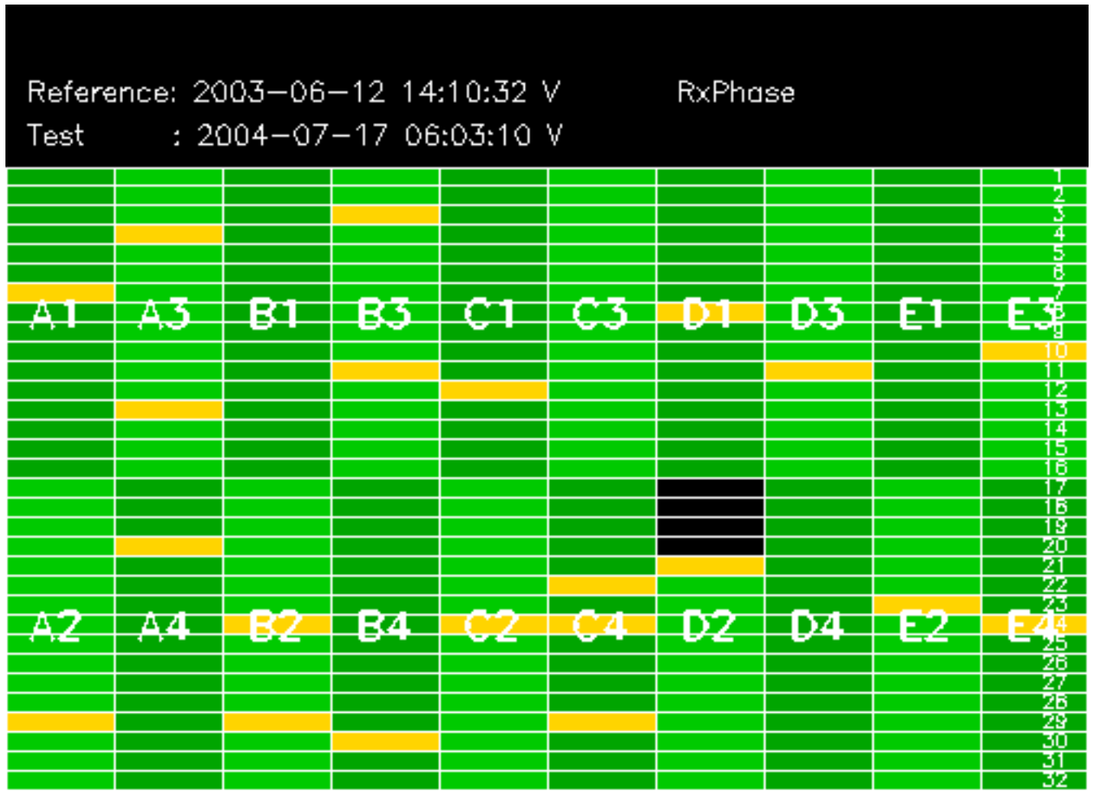

Reference: 2001-02-09 14:08:23 V
Test : 2004-07-17 06:03:10 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

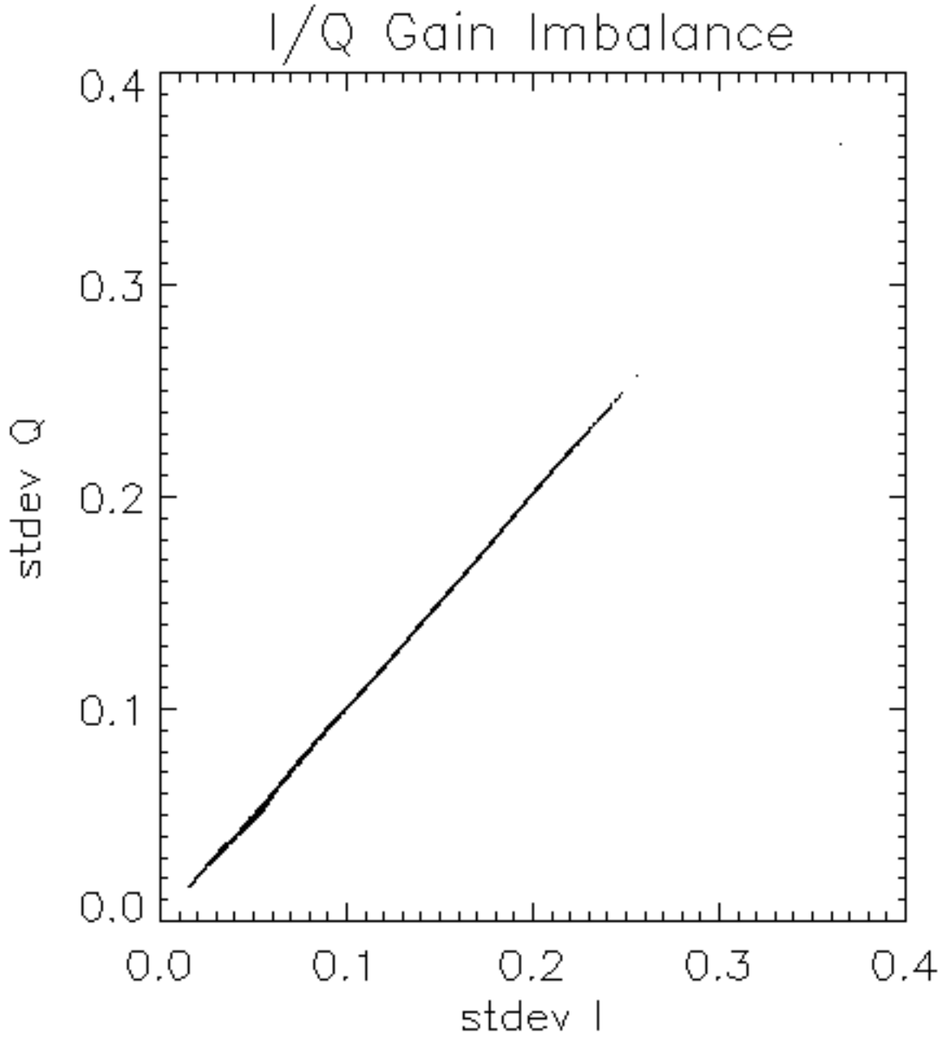

Reference: 2003-06-12 14:10:32 V
Test : 2004-07-17 06:03:10 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

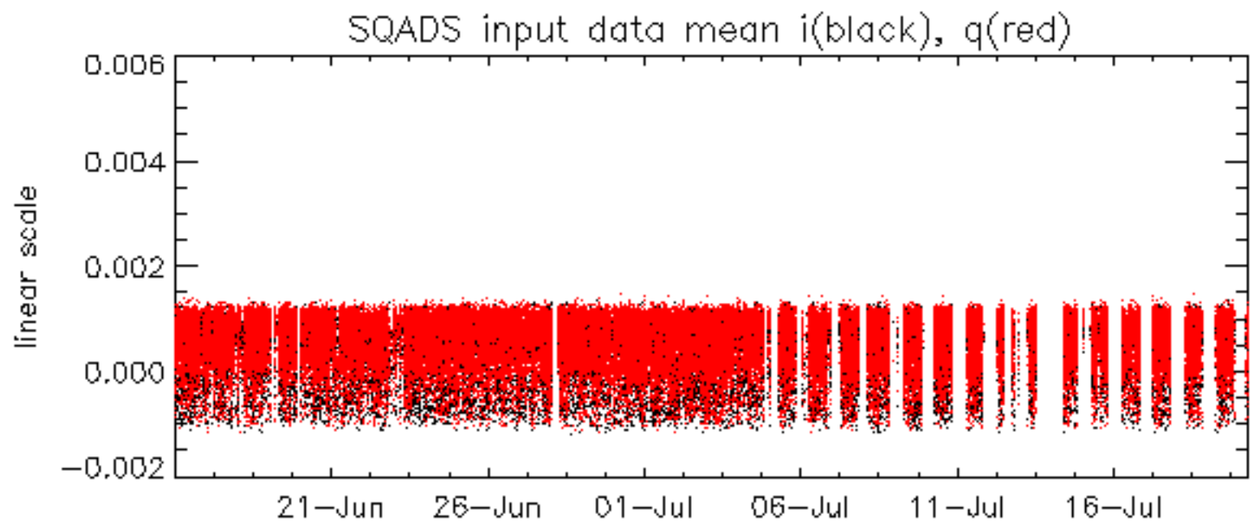

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-07-16 06:34:47 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

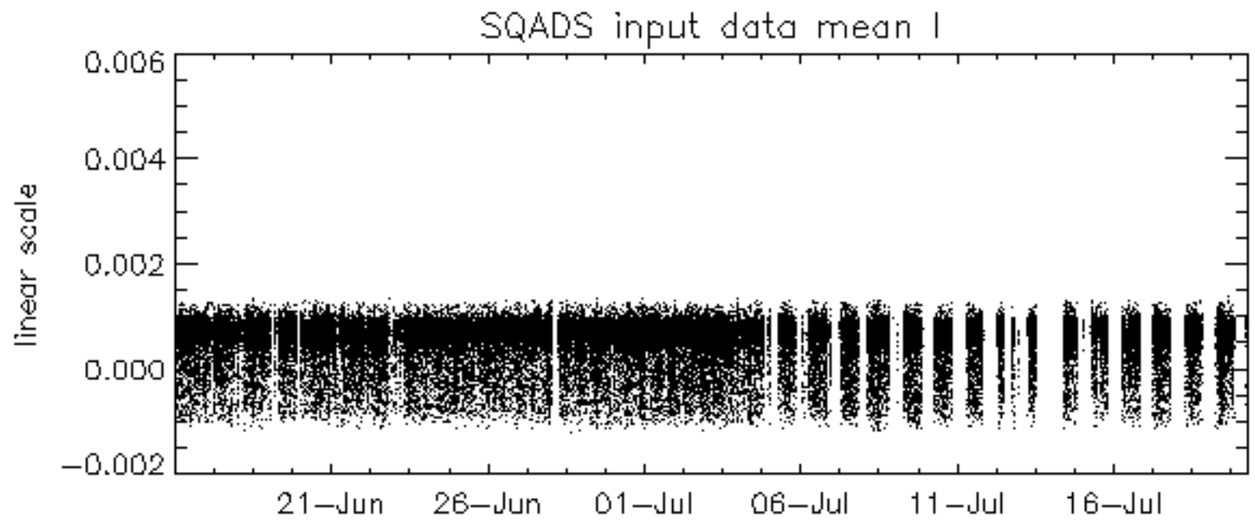

Reference: 2003-06-12 14:08:52 H
Test : 2004-07-16 06:34:47 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

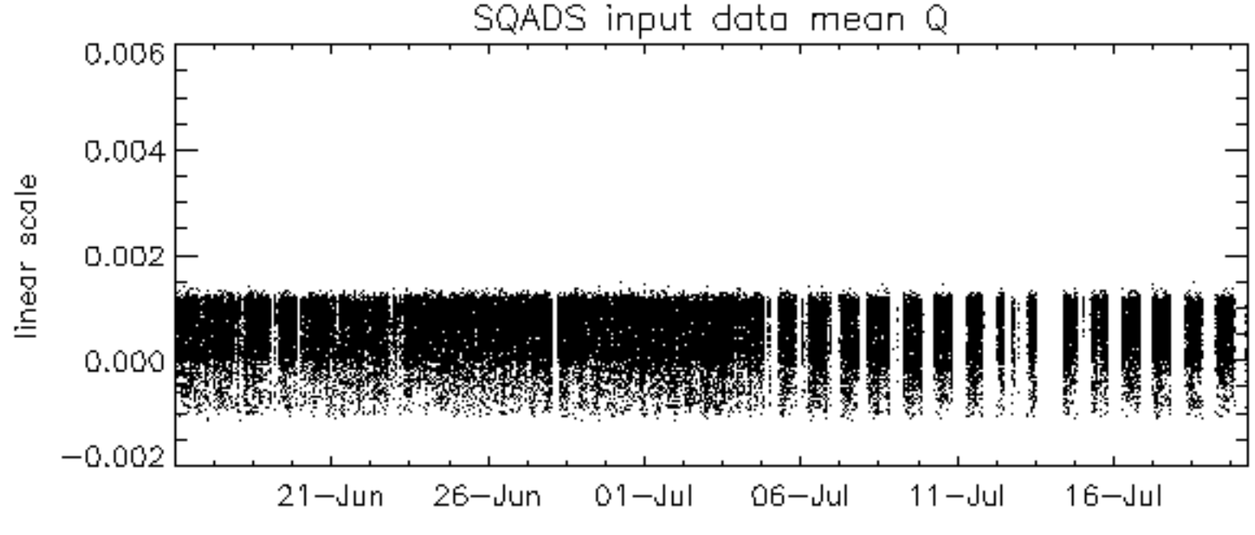

Reference: 2001-02-09 14:08:23 V
Test : 2004-07-17 06:03:10 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

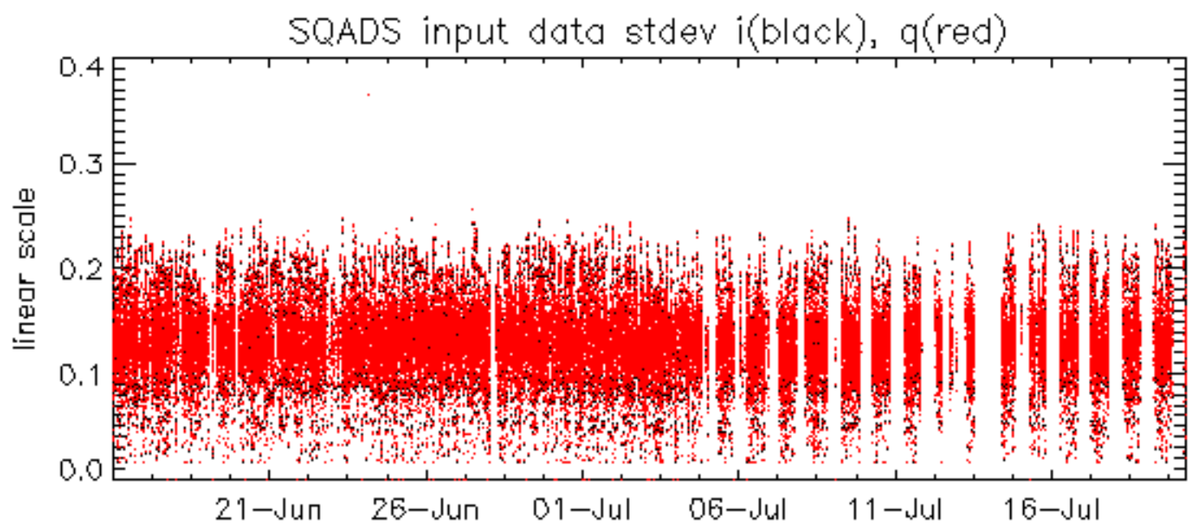

Reference: 2003-06-12 14:10:32 V
Test : 2004-07-17 06:03:10 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

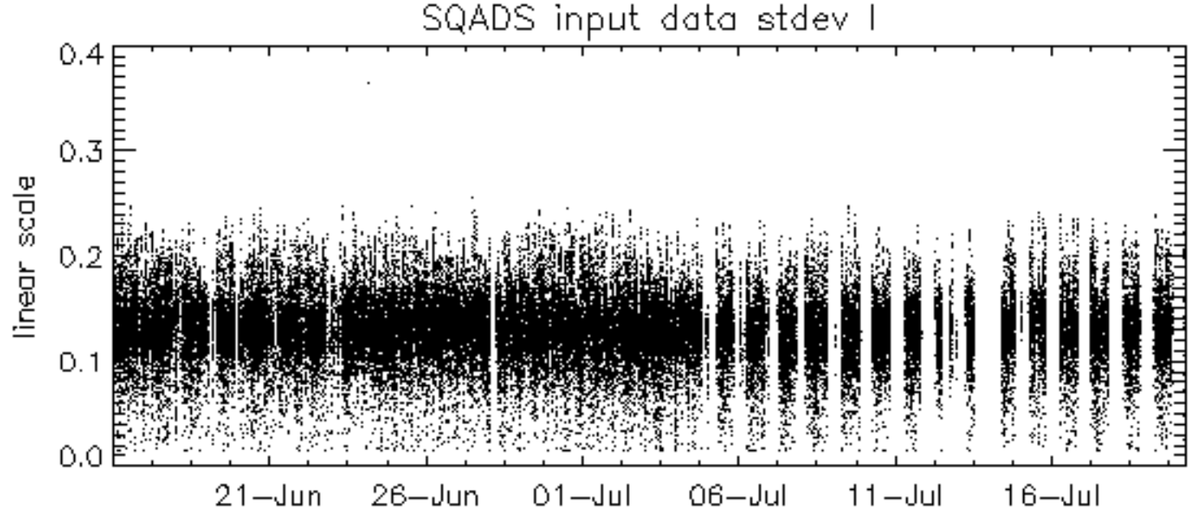

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

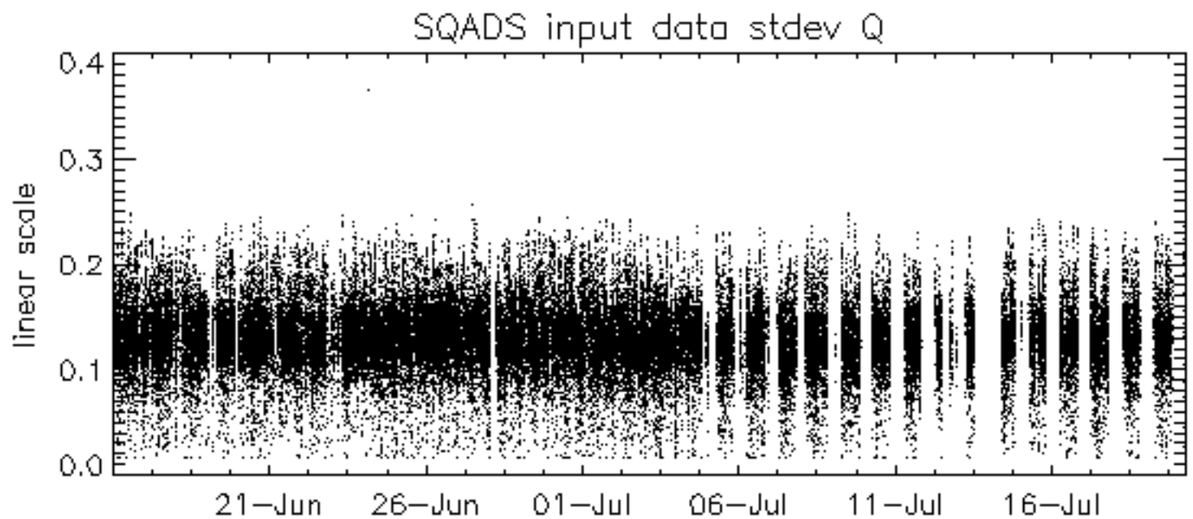

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul

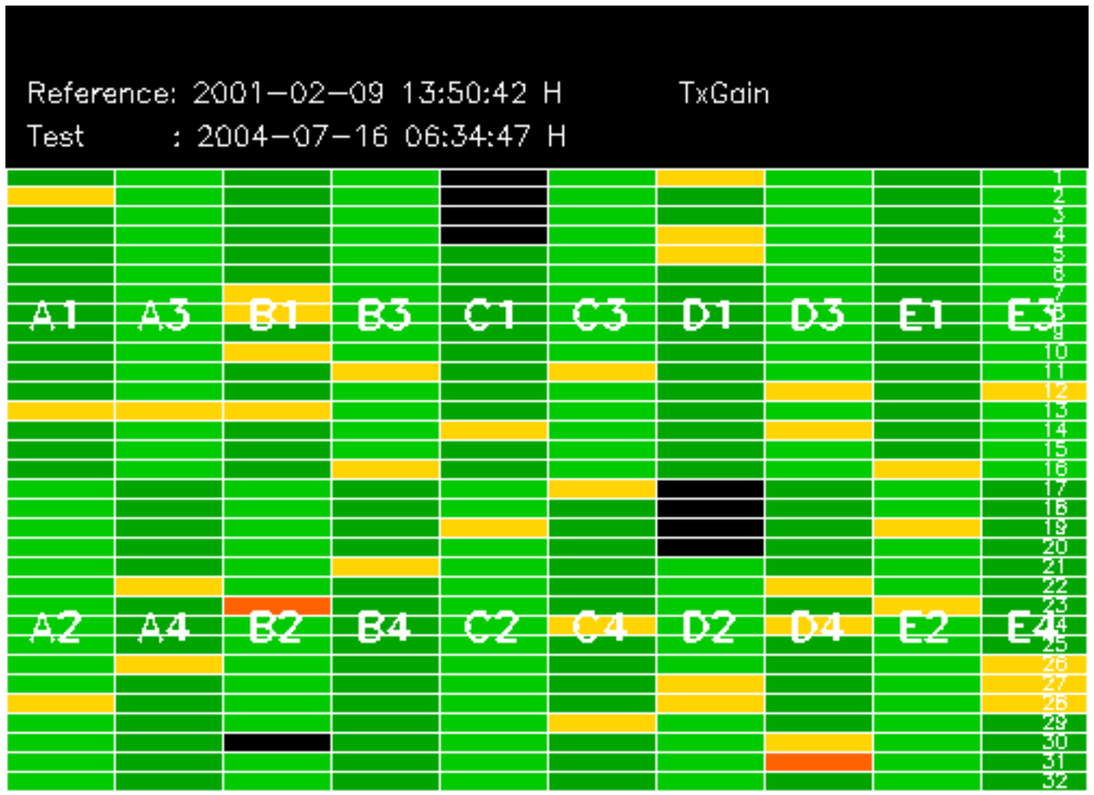

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul

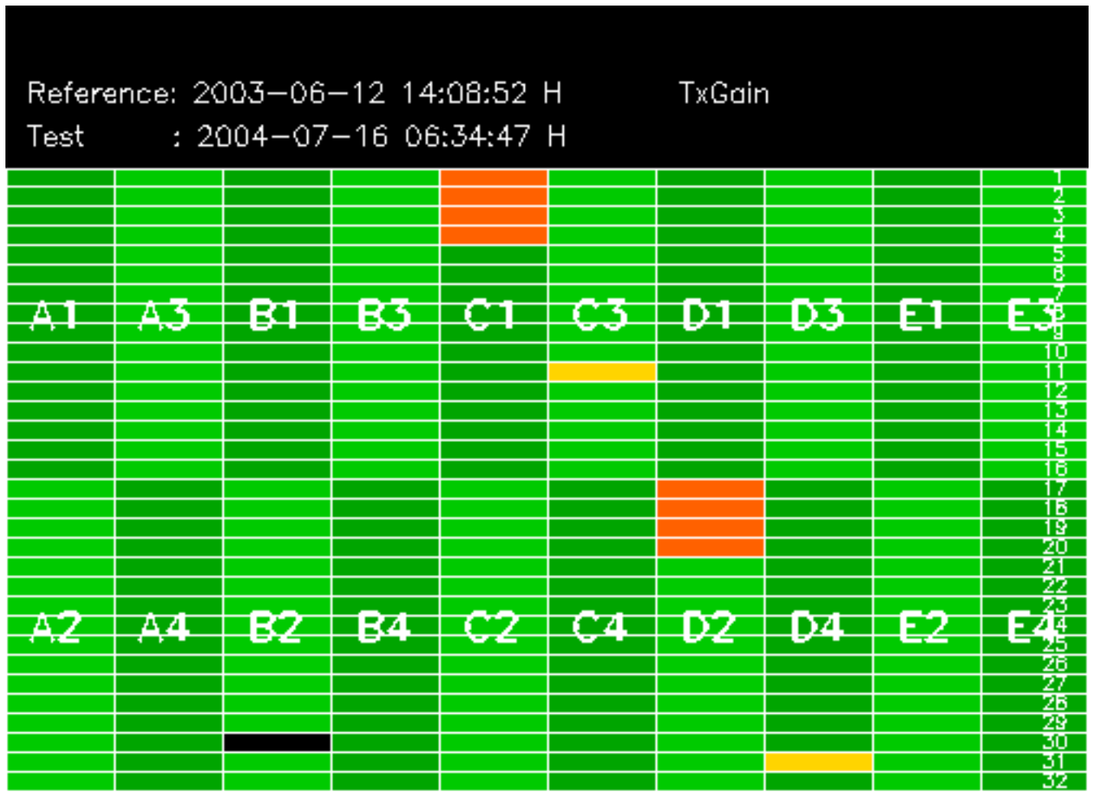

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul

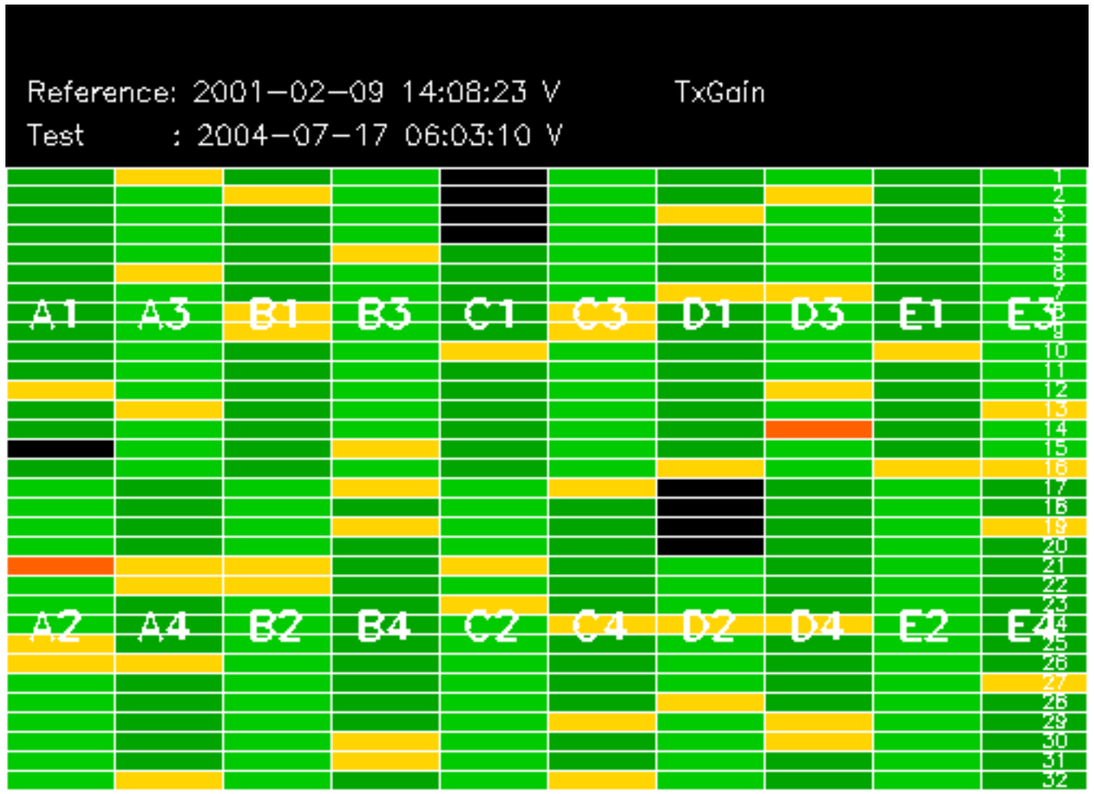

SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
21–Jun
26–Jun
01–Jul
06–Jul
11–Jul
16–Jul

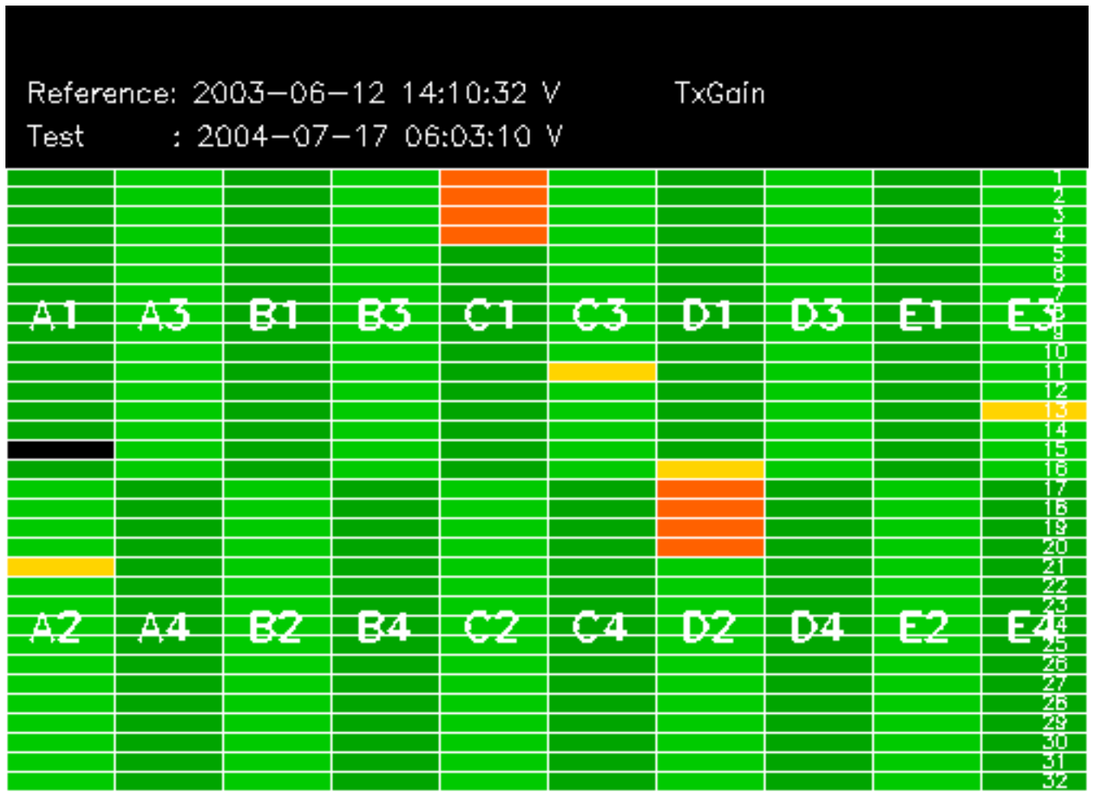

SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
21–Jun
26–Jun
01–Jul
06–Jul
11–Jul
16–Jul

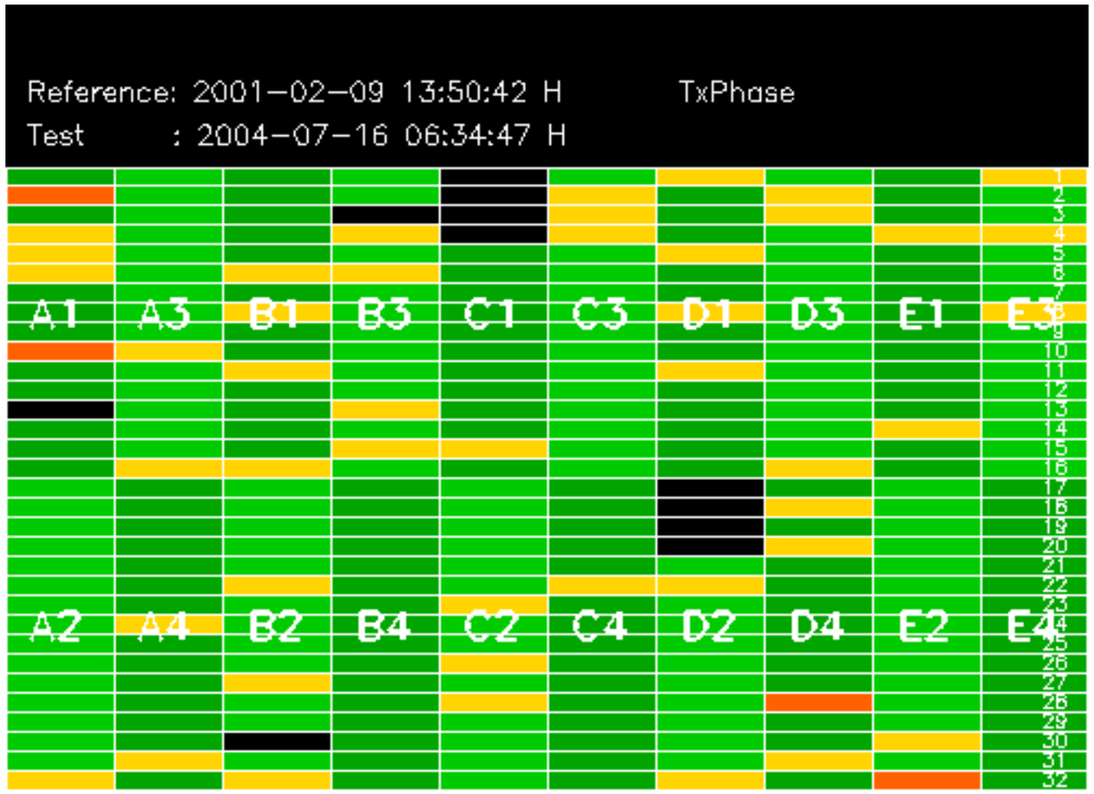

SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
21–Jun
26–Jun
01–Jul
06–Jul
11–Jul
16–Jul

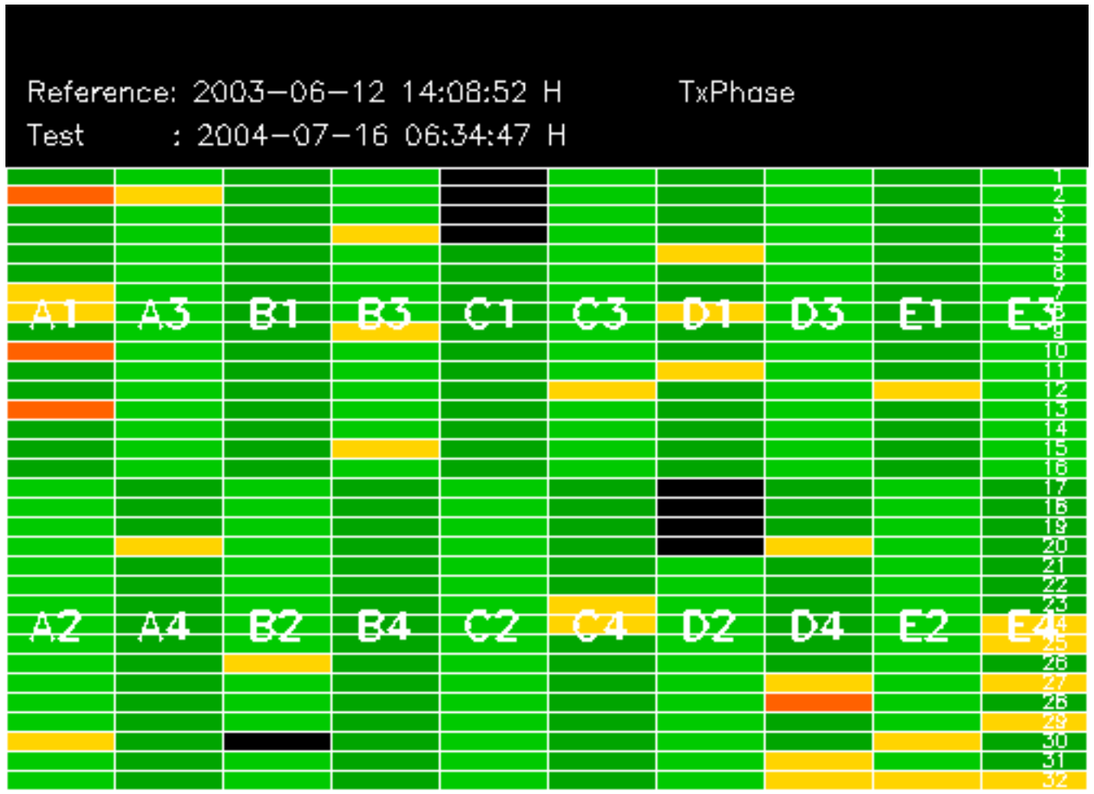

Reference: 2001-02-09 13:50:42 H
Test : 2004-07-16 06:34:47 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

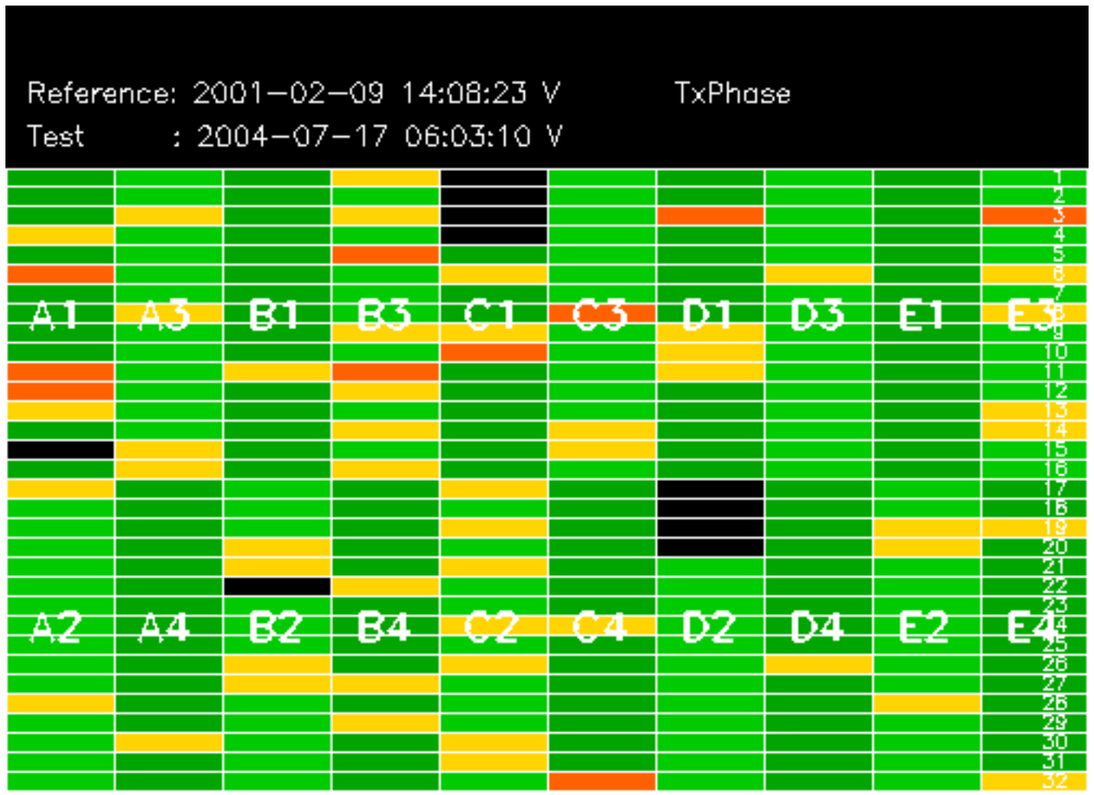

Reference: 2003-06-12 14:08:52 H
Test : 2004-07-16 06:34:47 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

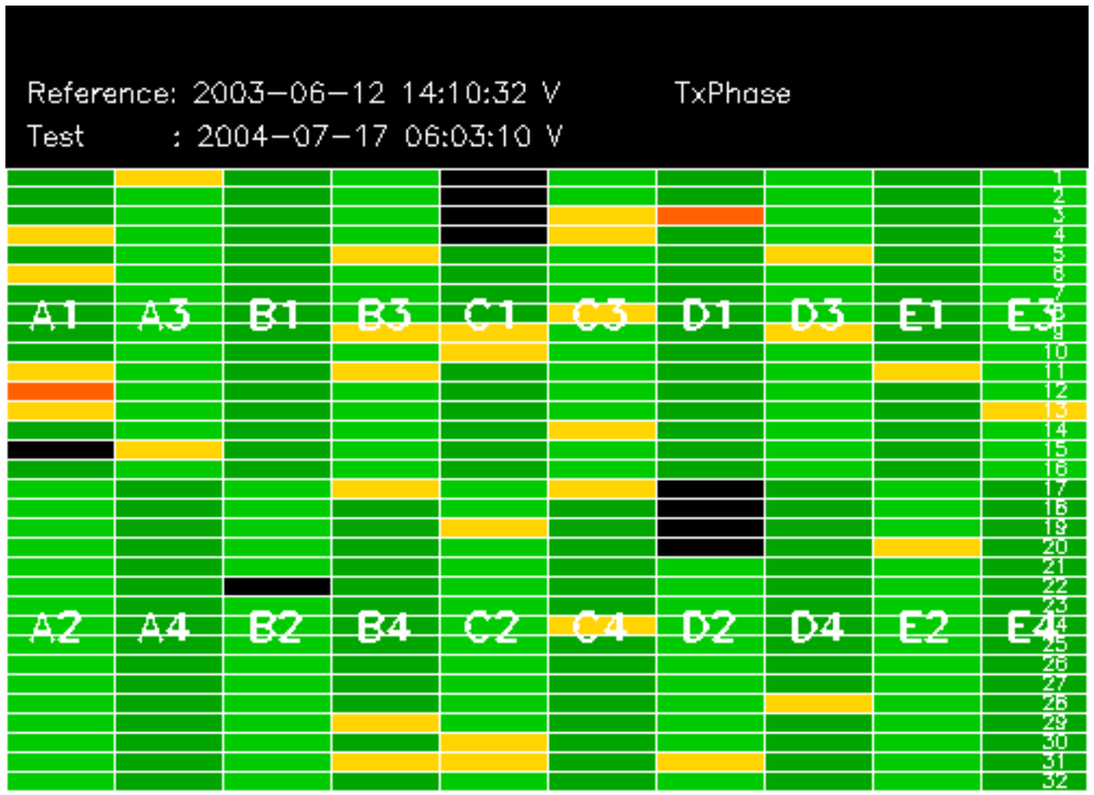

Reference: 2001-02-09 14:08:23 V
Test : 2004-07-17 06:03:10 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

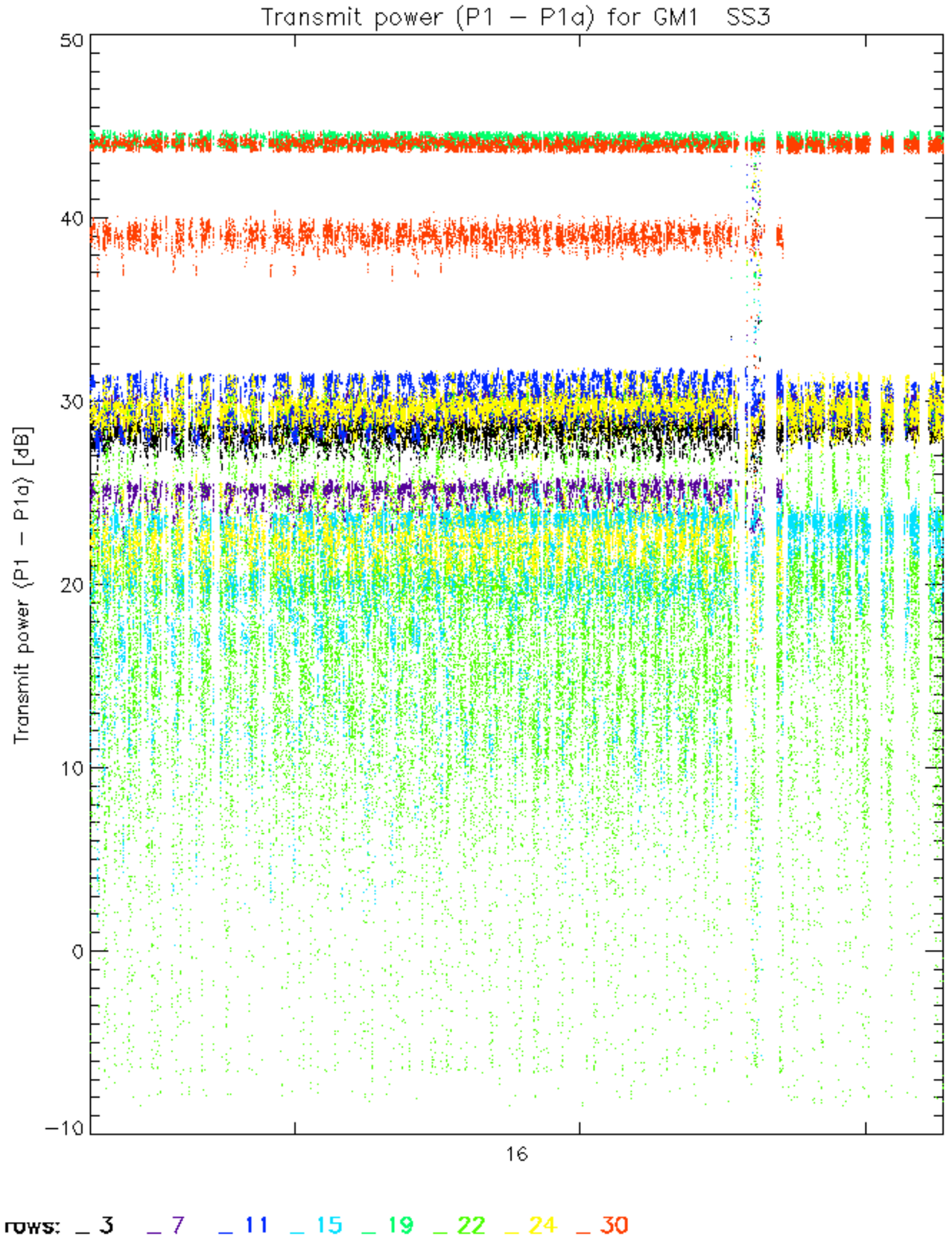

Reference: 2003-06-12 14:10:32 V
Test : 2004-07-17 06:03:10 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

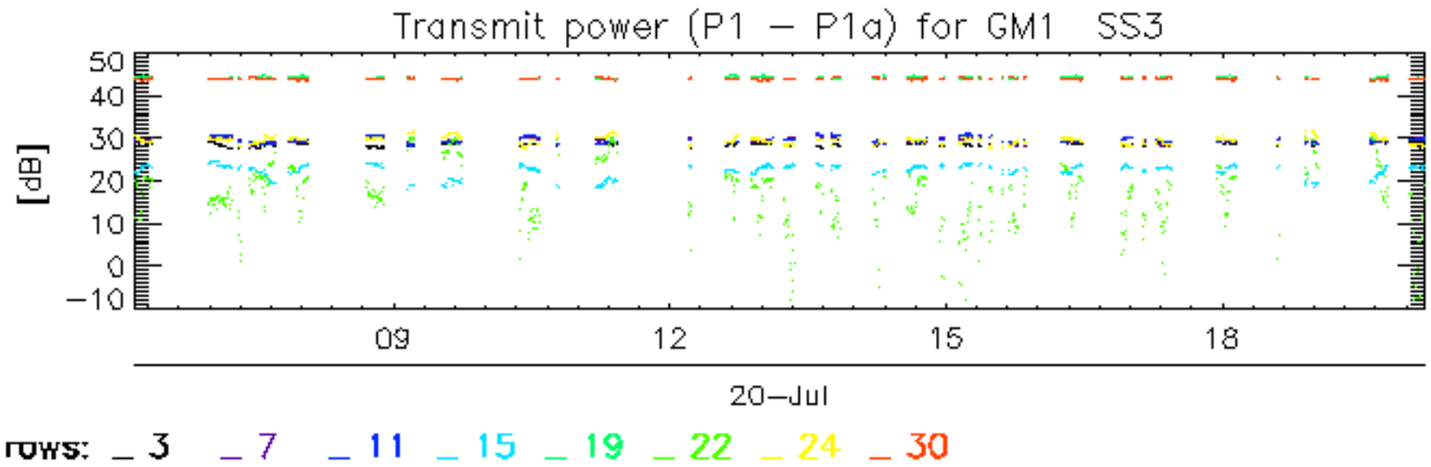

Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-07-16 06:34:47 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

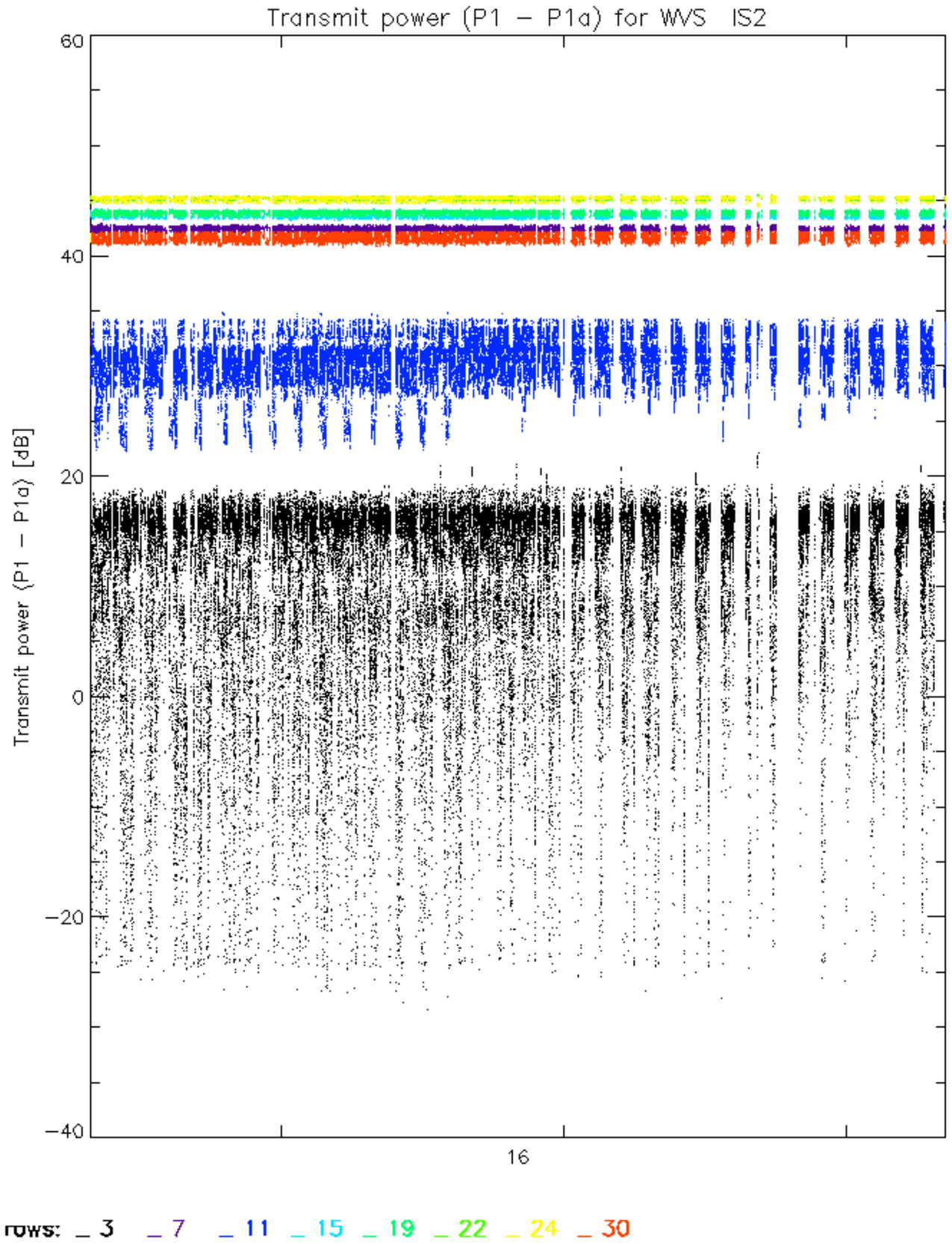

Reference: 2003-06-12 14:08:52 H
Test : 2004-07-16 06:34:47 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

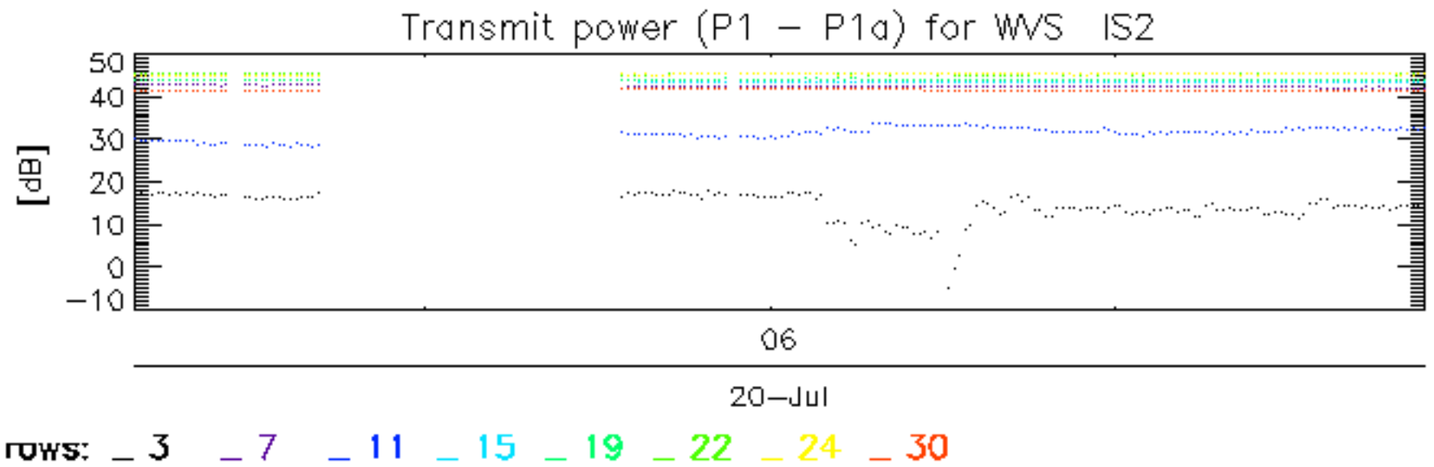

Reference: 2001-02-09 14:08:23 V
Test : 2004-07-17 06:03:10 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:10:32 V
Test : 2004-07-17 06:03:10 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
16
rows: 3 7 11 15 19 22 24 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
50
40
30
20
10
0
−10
09
12
15
18
20–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]
16
rows: 3 7 11 15 19 22 24 30


Transmit power (P1 – P1a) for WVS IS2
[dB]
50
40
30
20
10
0
−10
06
20–Jul
rows: 3 7 11 15 19 22 24 30

No unavailabilities during the reported period.