PRELIMINARY REPORT OF 041204

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

last update on Sat Dec 4 10:54:11 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	20041203 063528
H	20041202 070705

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	-3.461957	0.006606	0.031428
7	P1	-3.226791	0.031554	0.403742
11	P1	-4.606661	0.018078	-0.016268
15	P1	-5.654678	0.029159	0.000978
19	P1	-3.619245	0.005200	-0.048892
22	P1	-4.580531	0.015897	0.010845
26	P1	-4.881816	0.060695	-0.165472

30	P1	-7.084622	0.014497	-0.035461
3	P1	-15.984698	0.114192	0.090013
7	P1	-14.790354	0.637370	-2.222139
11	P1	-20.706955	0.215513	-0.120850
15	P1	-11.647193	0.039747	0.064344
19	P1	-14.097060	0.028448	-0.094973
22	P1	-16.185671	0.425750	0.115575
26	P1	-17.702345	0.738961	-0.469111
30	P1	-17.932676	0.288935	0.110941

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.371937	0.087706	0.020356
7	P2	-22.612448	0.139431	-0.011434
11	P2	-15.022057	0.129711	0.112058
15	P2	-7.163352	0.109977	-0.033590
19	P2	-9.716799	0.130902	0.003577
22	P2	-17.222536	0.102478	0.057683
26	P2	-16.513557	0.108768	-0.005403
30	P2	-19.028748	0.083375	0.076517

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.204814	0.006822	-0.005438
7	P3	-8.204814	0.006822	-0.005440
11	P3	-8.204812	0.006822	-0.005447
15	P3	-8.204811	0.006822	-0.005448
19	P3	-8.204810	0.006821	-0.005454
22	P3	-8.204809	0.006821	-0.005460
26	P3	-8.204805	0.006822	-0.005483
30	P3	-8.204746	0.006823	-0.005292

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	-2.806568	0.011068	-0.017954
7	P1	-2.957590	0.021676	-0.010361
11	P1	-3.904300	0.022592	-0.040191
15	P1	-3.485367	0.027331	-0.005157
19	P1	-3.592365	0.012555	-0.019133
22	P1	-5.600701	0.067916	0.027184
26	P1	-6.435363	0.087841	-0.233225
30	P1	-6.276624	0.041902	-0.047972
3	P1	-10.606405	0.052864	-0.028001
7	P1	-10.104095	0.130593	-0.054404
11	P1	-12.383180	0.115676	-0.111918
15	P1	-11.728842	0.063786	-0.032904
19	P1	-15.623311	0.051771	-0.017887
22	P1	-24.075516	2.178310	-0.274532
26	P1	-15.116227	0.472812	-0.125622
30	P1	-20.243454	1.006207	0.202657

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.056244	0.039555	-0.006689
7	P2	-22.667789	0.029602	0.016271
11	P2	-10.818979	0.035577	0.137439
15	P2	-5.057934	0.027285	-0.034474
19	P2	-6.967031	0.035025	-0.020779
22	P2	-7.342389	0.028721	0.032382
26	P2	-23.951773	0.020768	-0.019378
30	P2	-22.081388	0.018828	0.031258

P3 Cyclic statistics

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

3	P3	-8.042999	0.003264	0.002604
7	P3	-8.042964	0.003275	0.002214
11	P3	-8.043033	0.003266	0.002184
15	P3	-8.042907	0.003271	0.002615
19	P3	-8.043031	0.003272	0.002380
22	P3	-8.043032	0.003268	0.002736
26	P3	-8.043051	0.003260	0.002553
30	P3	-8.042966	0.003270	0.002651

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	0.000442996
	stdev	2.38704e-07
MEAN Q	mean	0.000504651
	stdev	2.53011e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.125255
	stdev	0.000982914

STDEV Q	mean	0.125485
	stdev	0.000991349

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

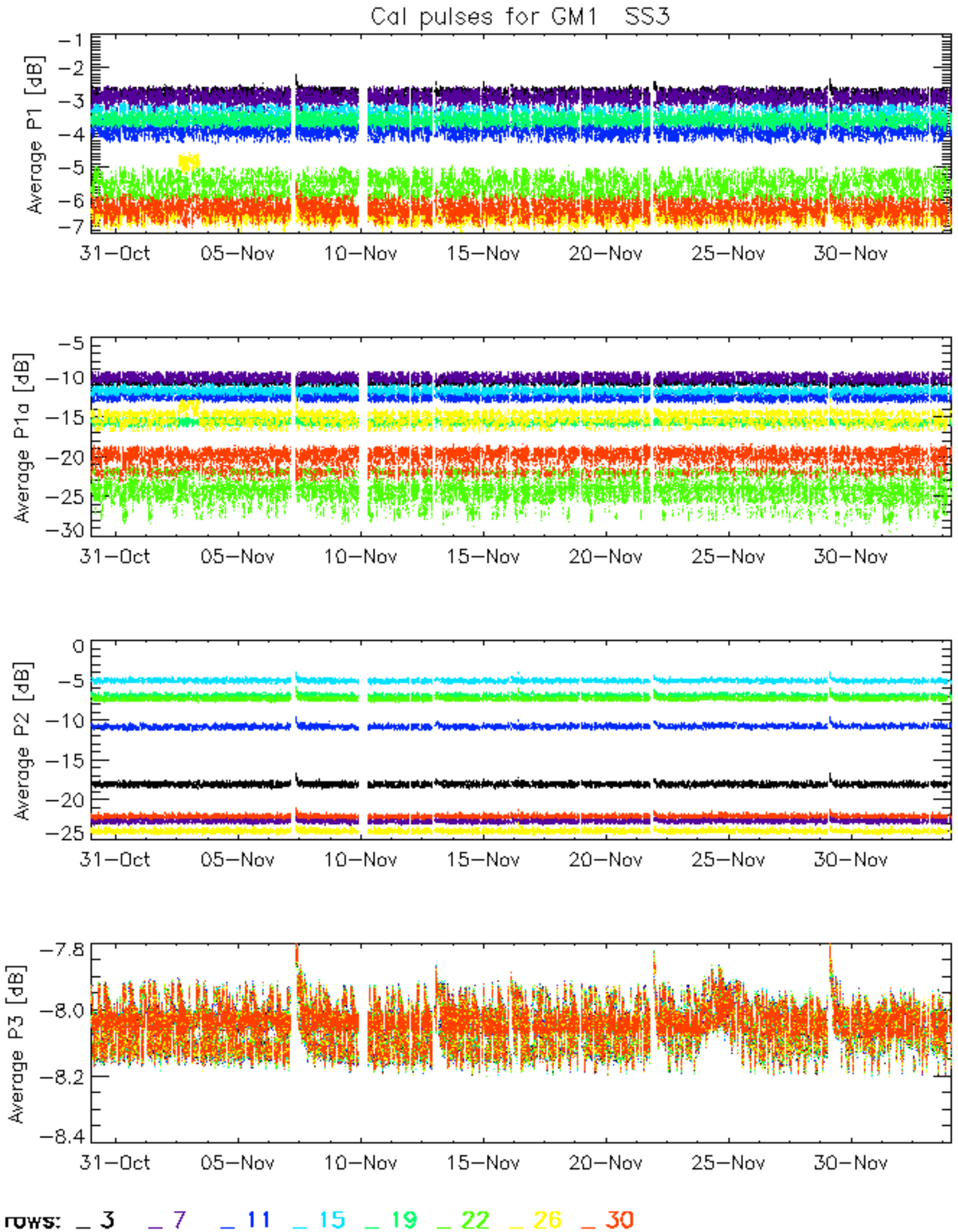
Evolution of Absolute Doppler

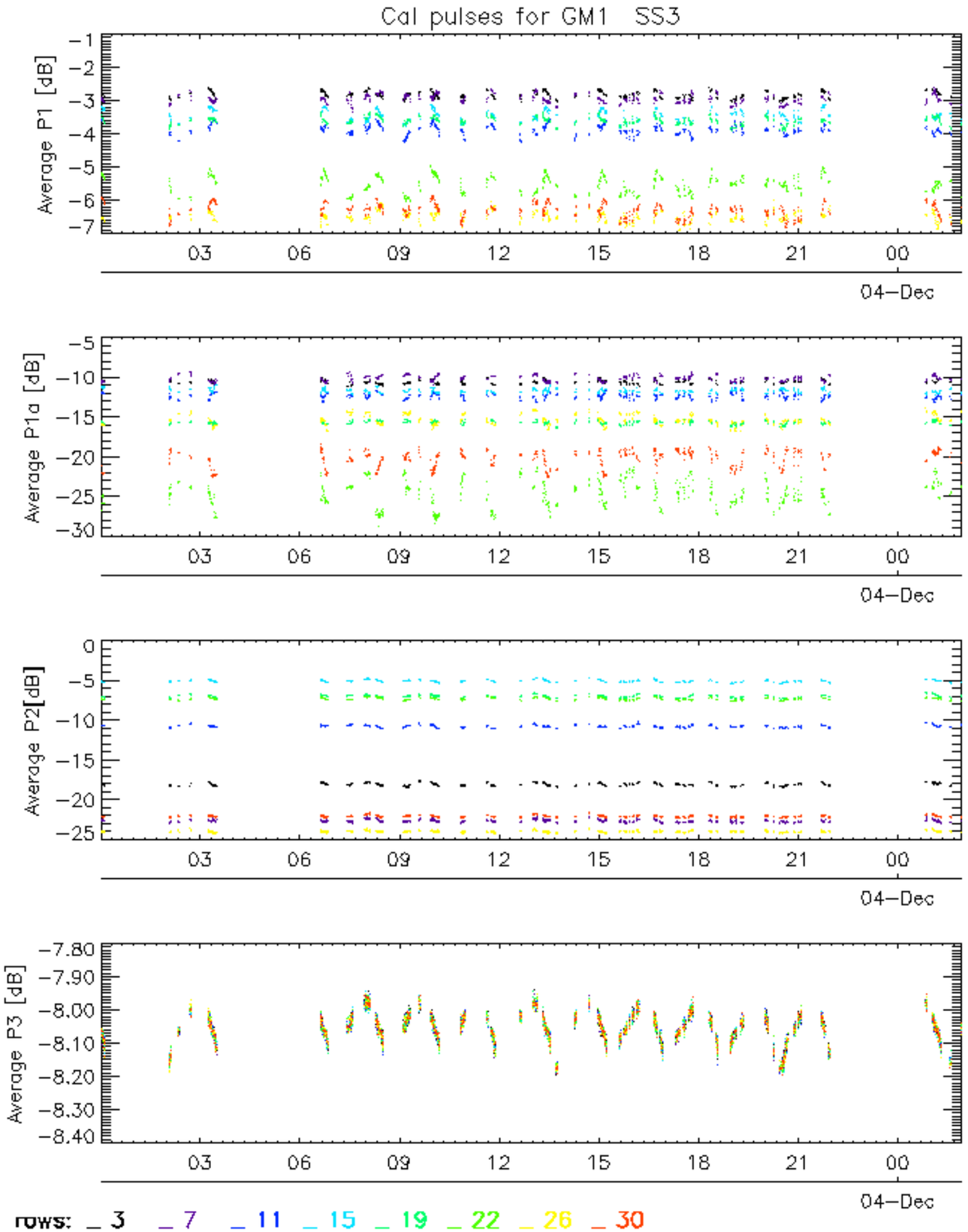
Acsending

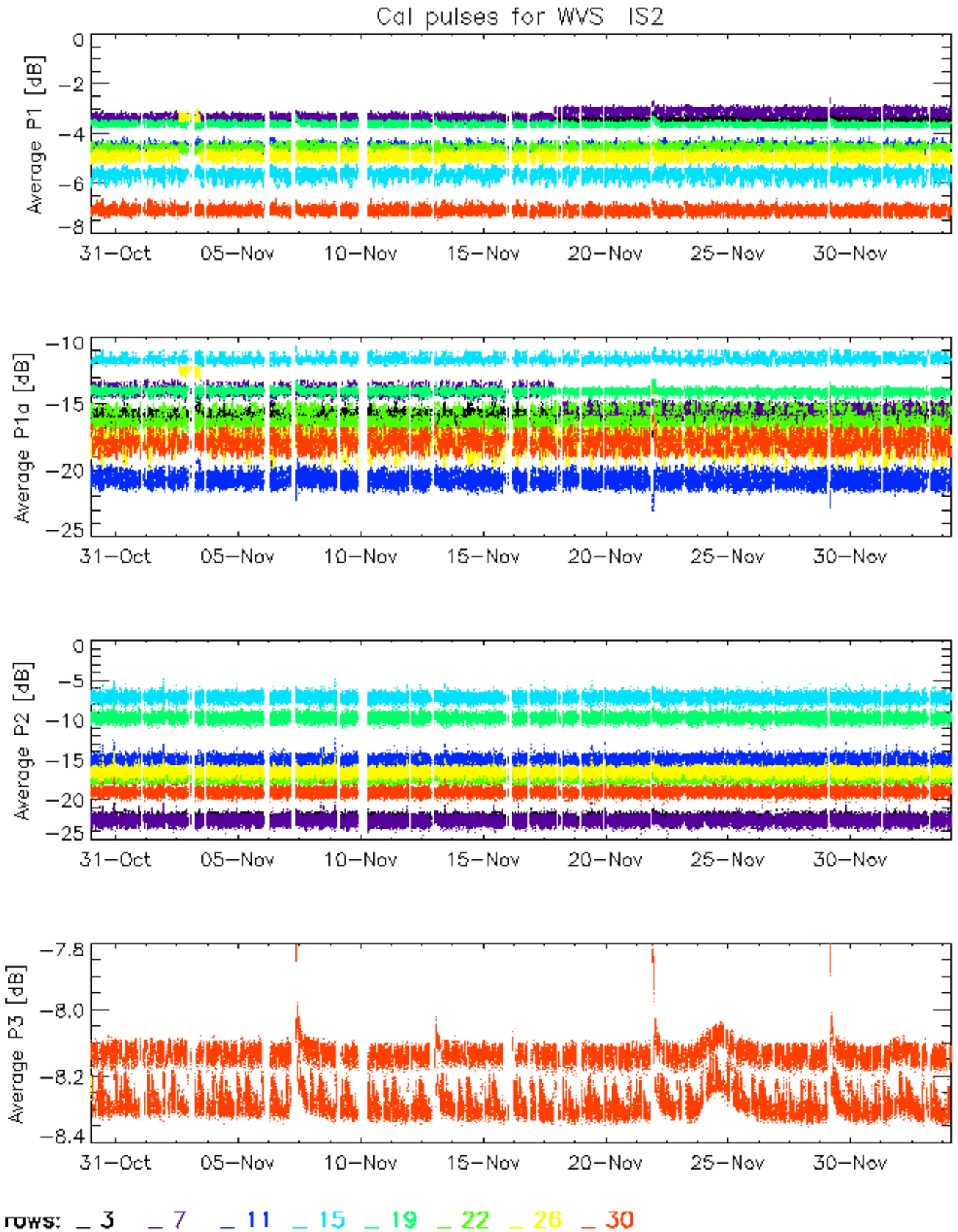
Descending

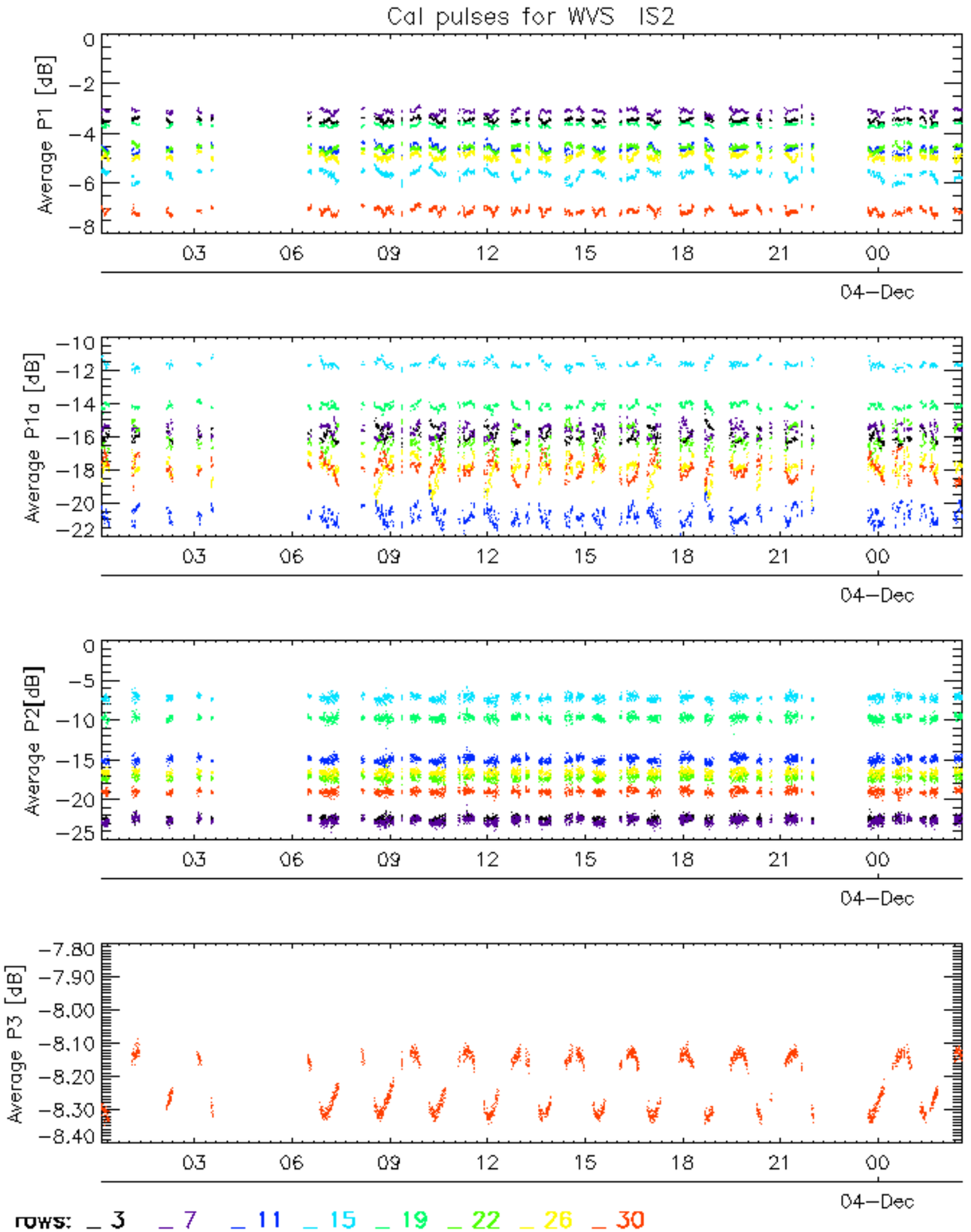
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

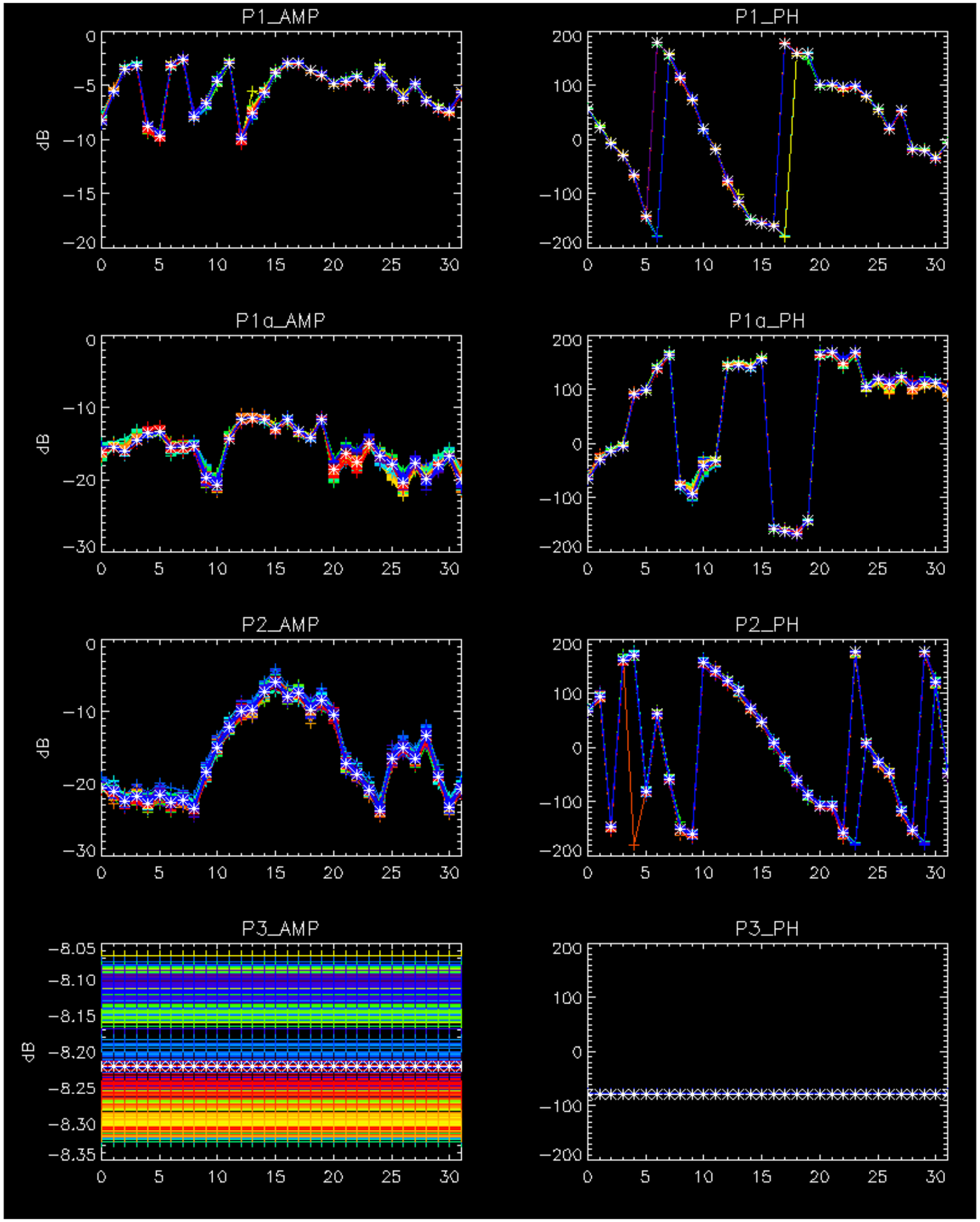


Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
31−Oct
05−Nov
10−Nov
15−Nov
20−Nov
25−Nov
30−Nov
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
04−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
21
00
04−Dec
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
04−Dec
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
04−Dec
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
31−Oct
05−Nov
10−Nov
15−Nov
20−Nov
25−Nov
30−Nov
Average P1a [dB]
−10
−15
−20
−25
Average P2 [dB]
−5
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

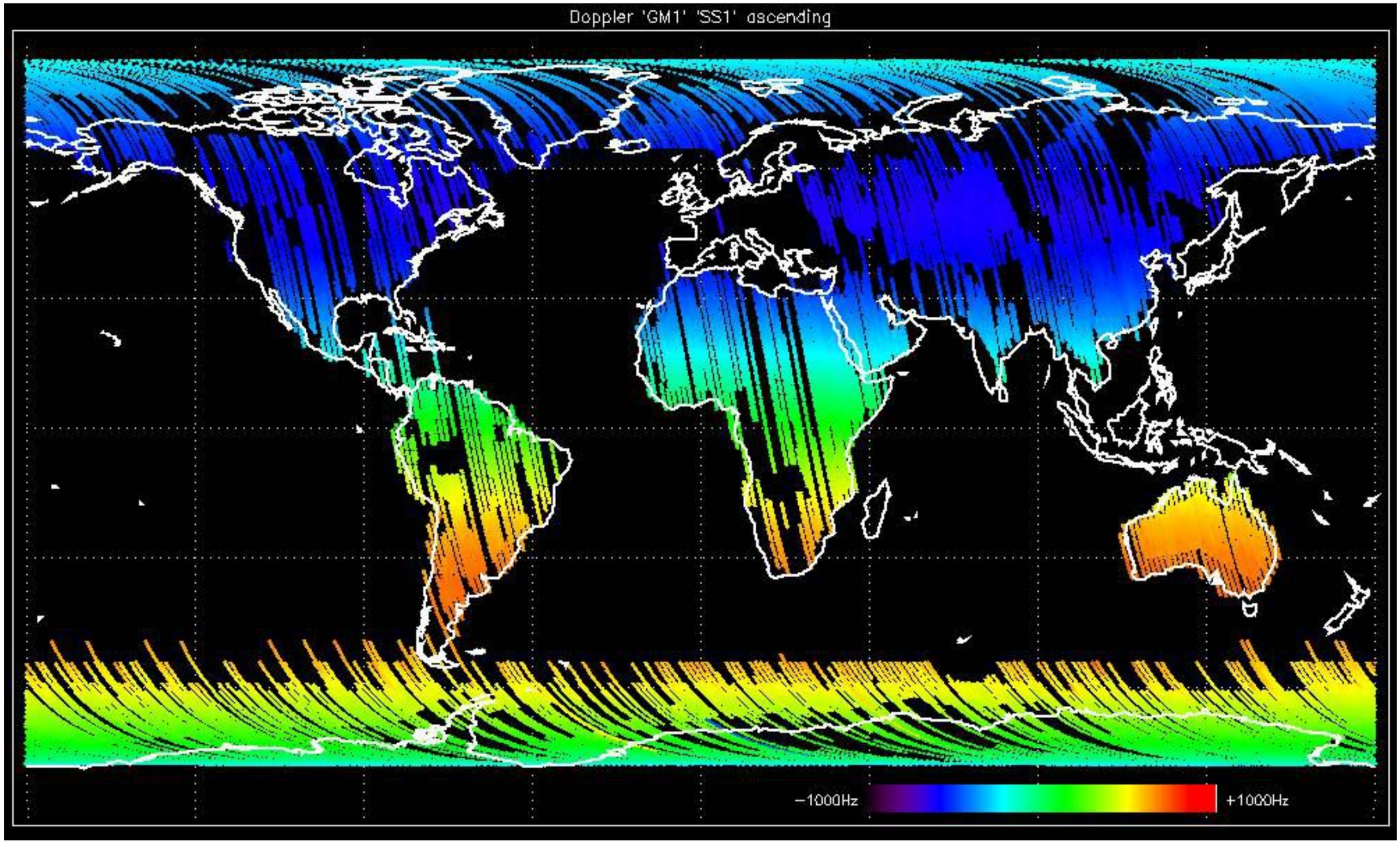

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
04−Dec
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
Average P2[dB]
−5
−10
−15
−20
−25
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

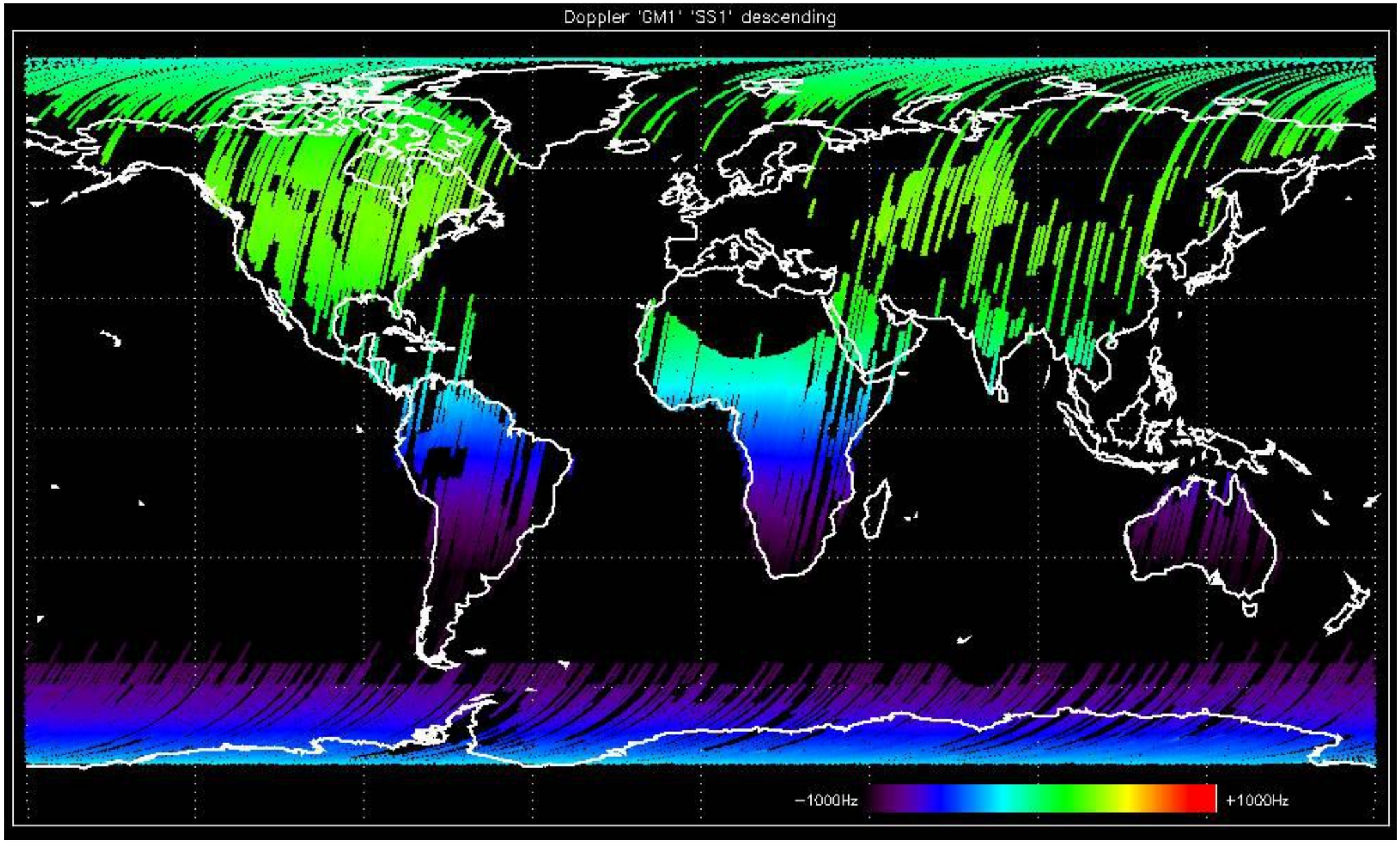
No anomalies observed.

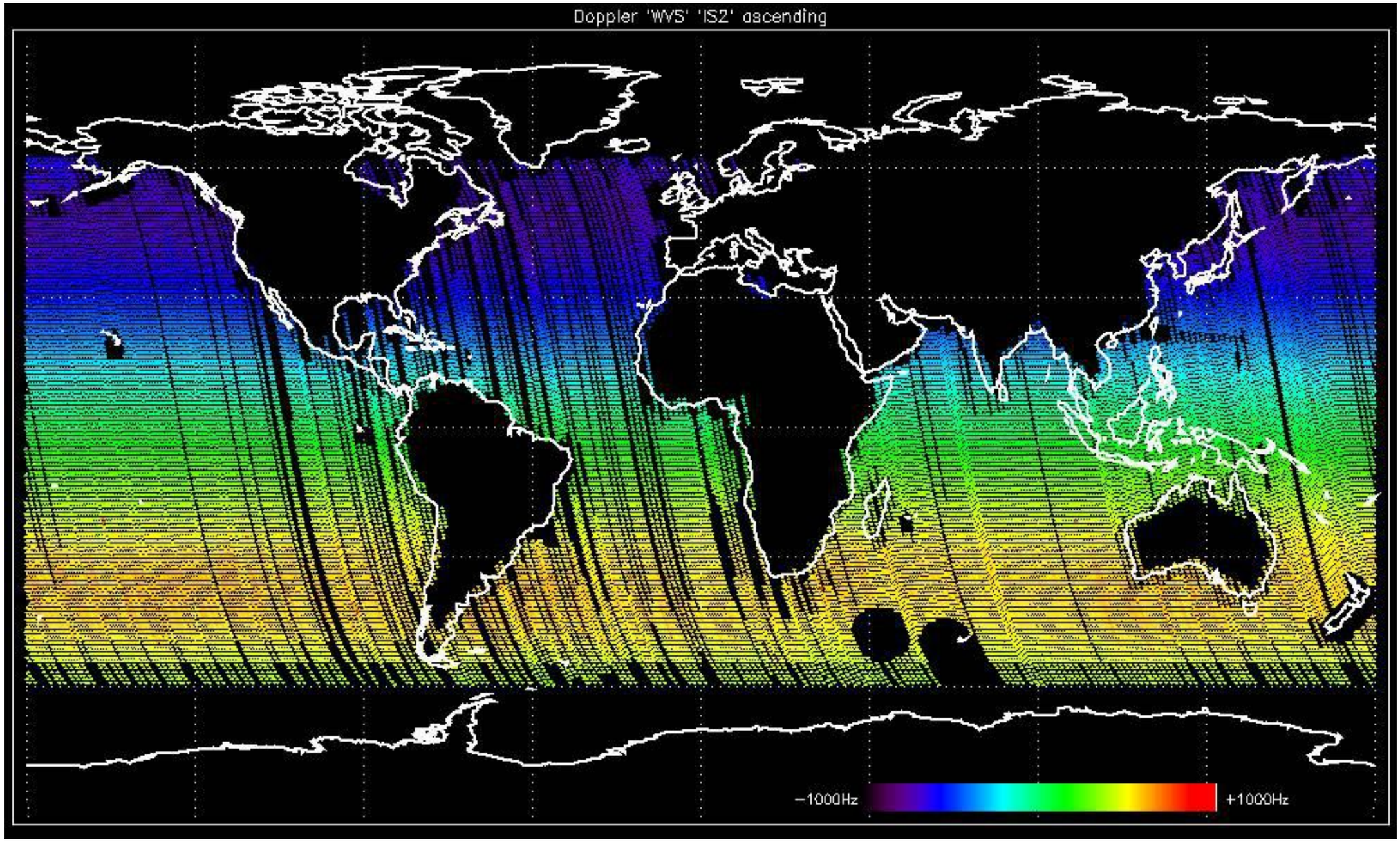

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.05
−8.10
−8.15
−8.20
−8.25
−8.30
−8.35
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

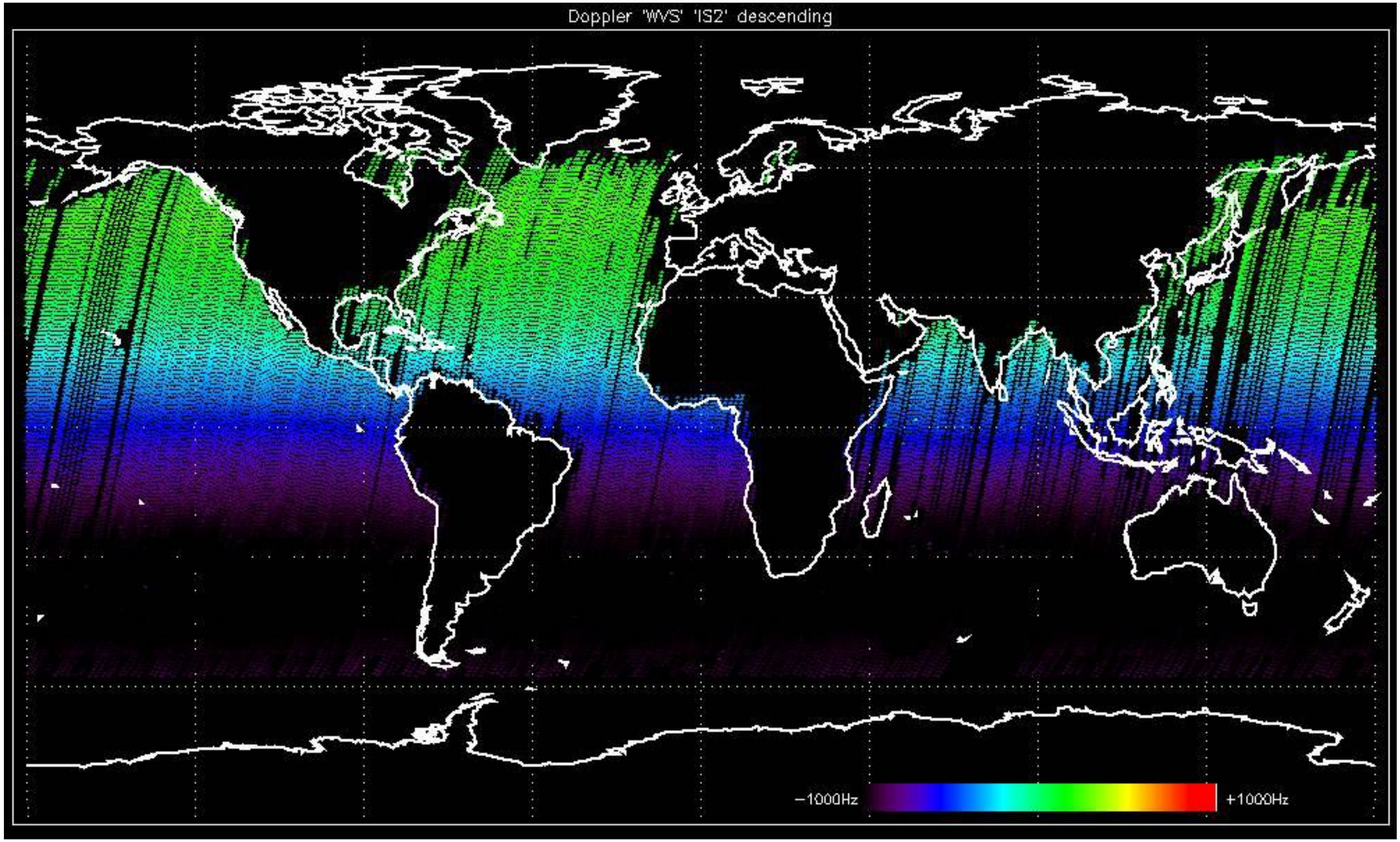
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

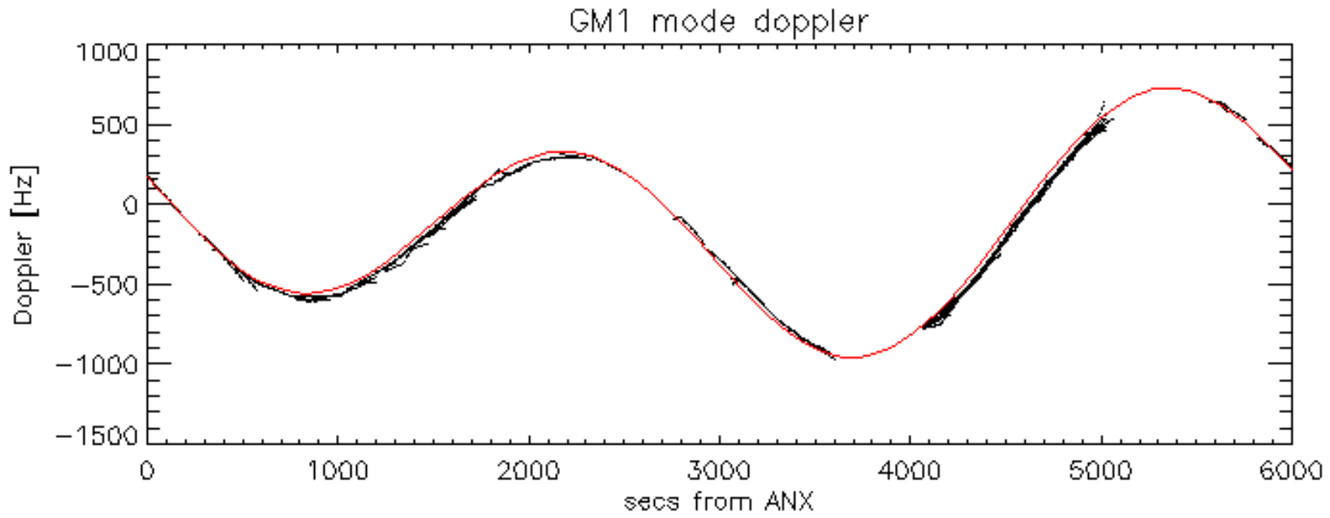
Preliminary report.The data is not yet controled

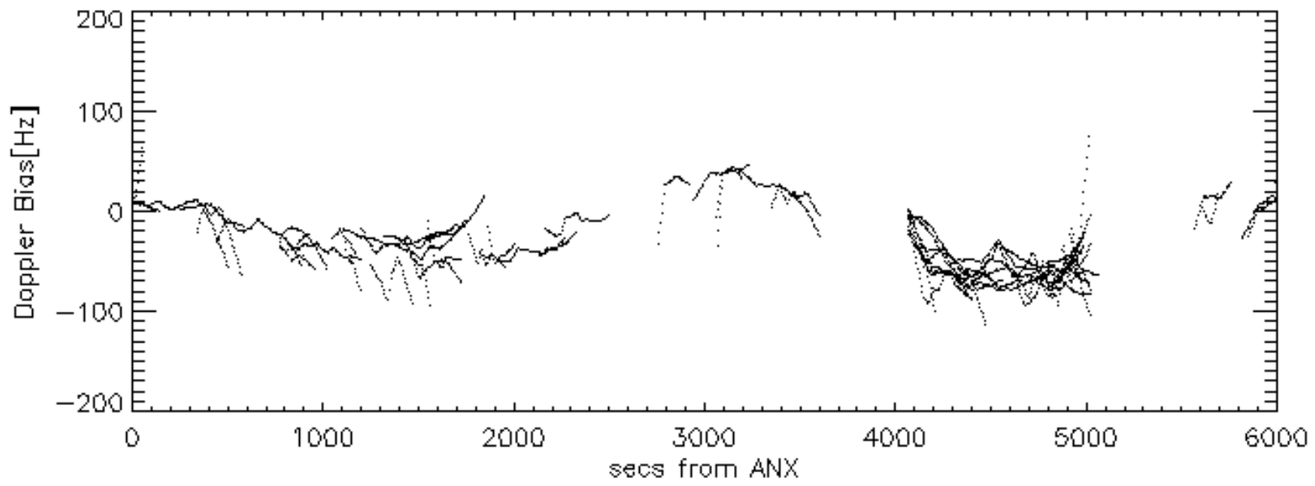

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

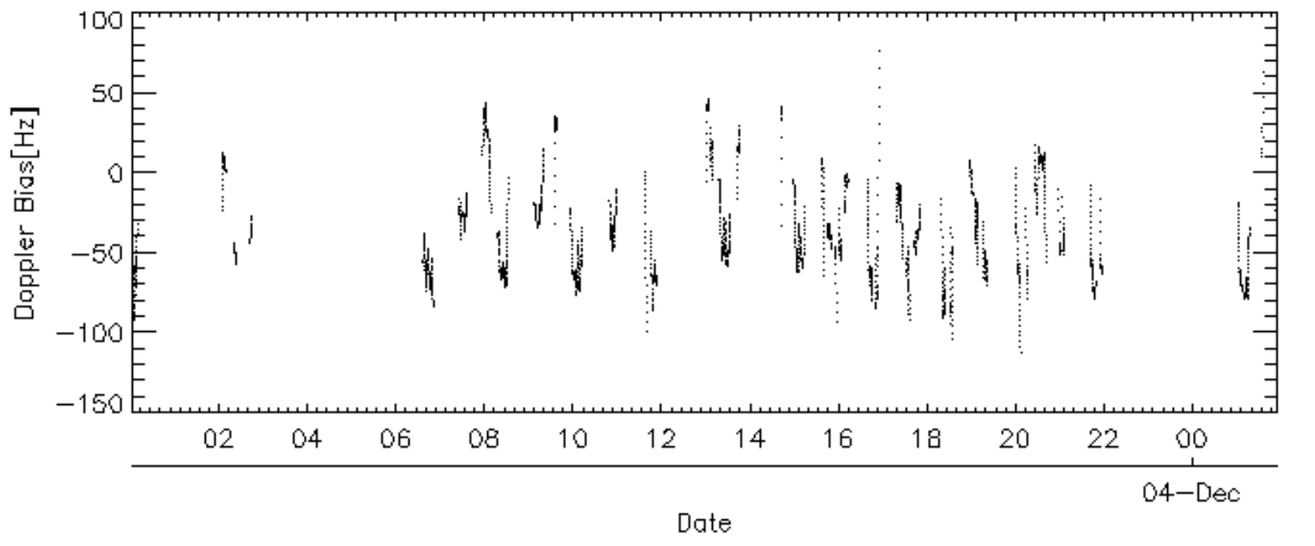

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

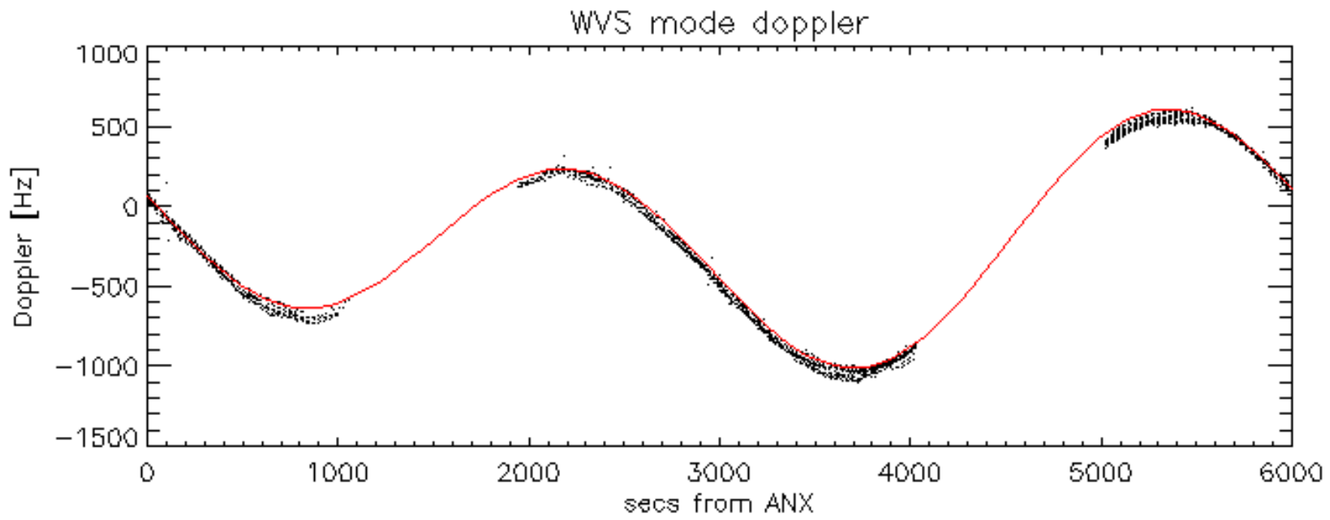

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

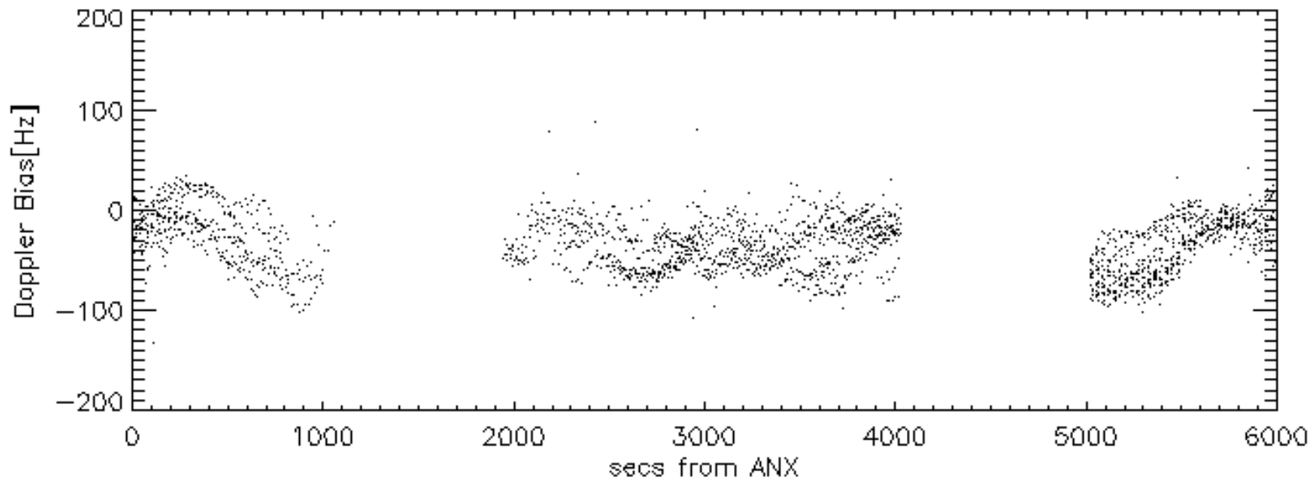

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

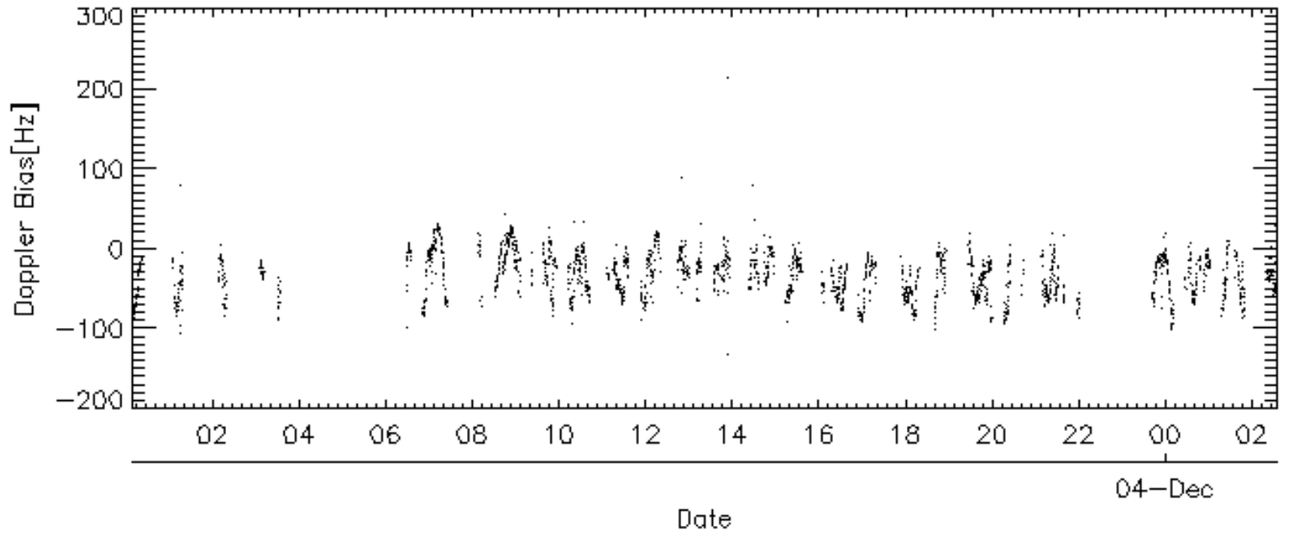

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

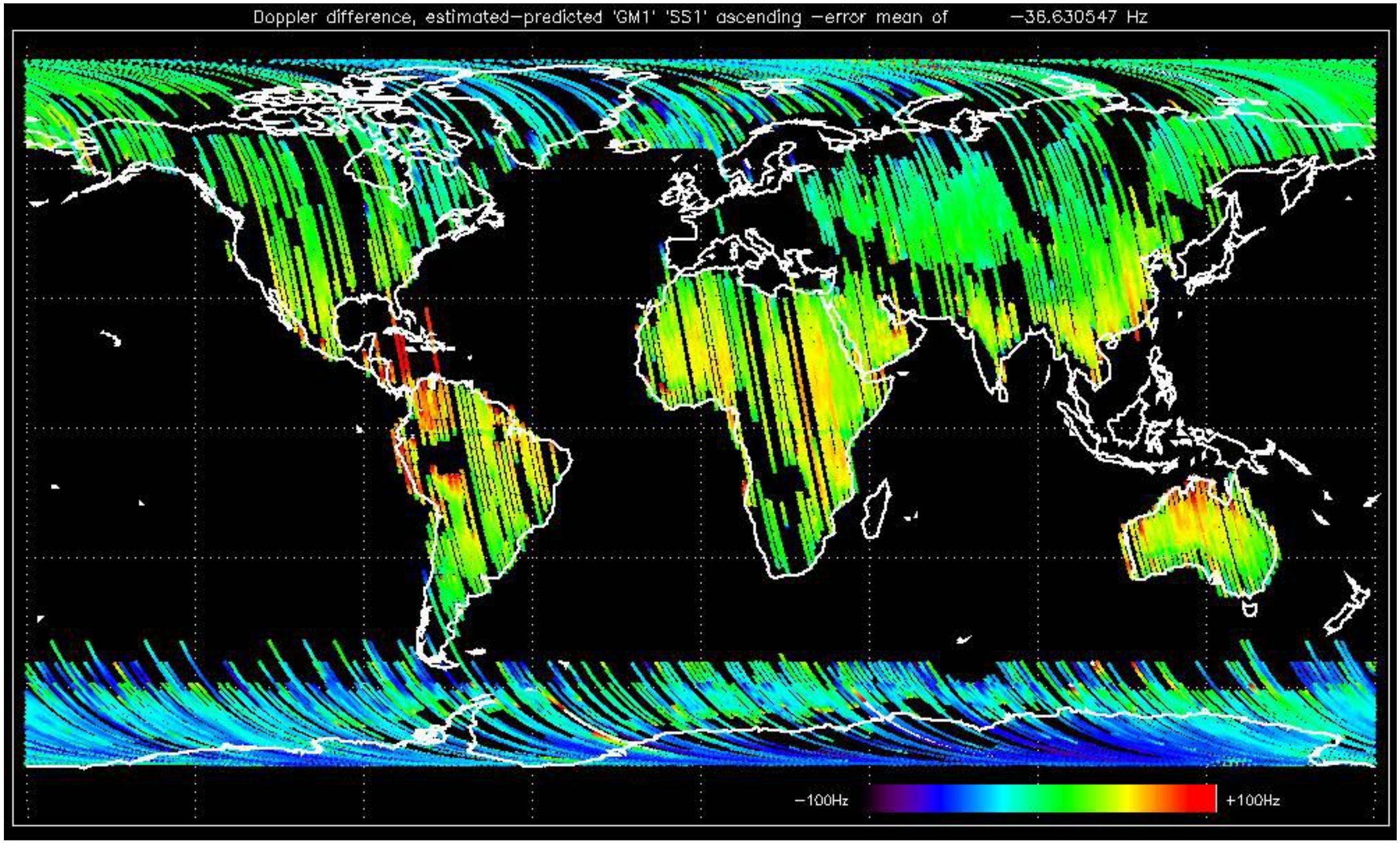

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

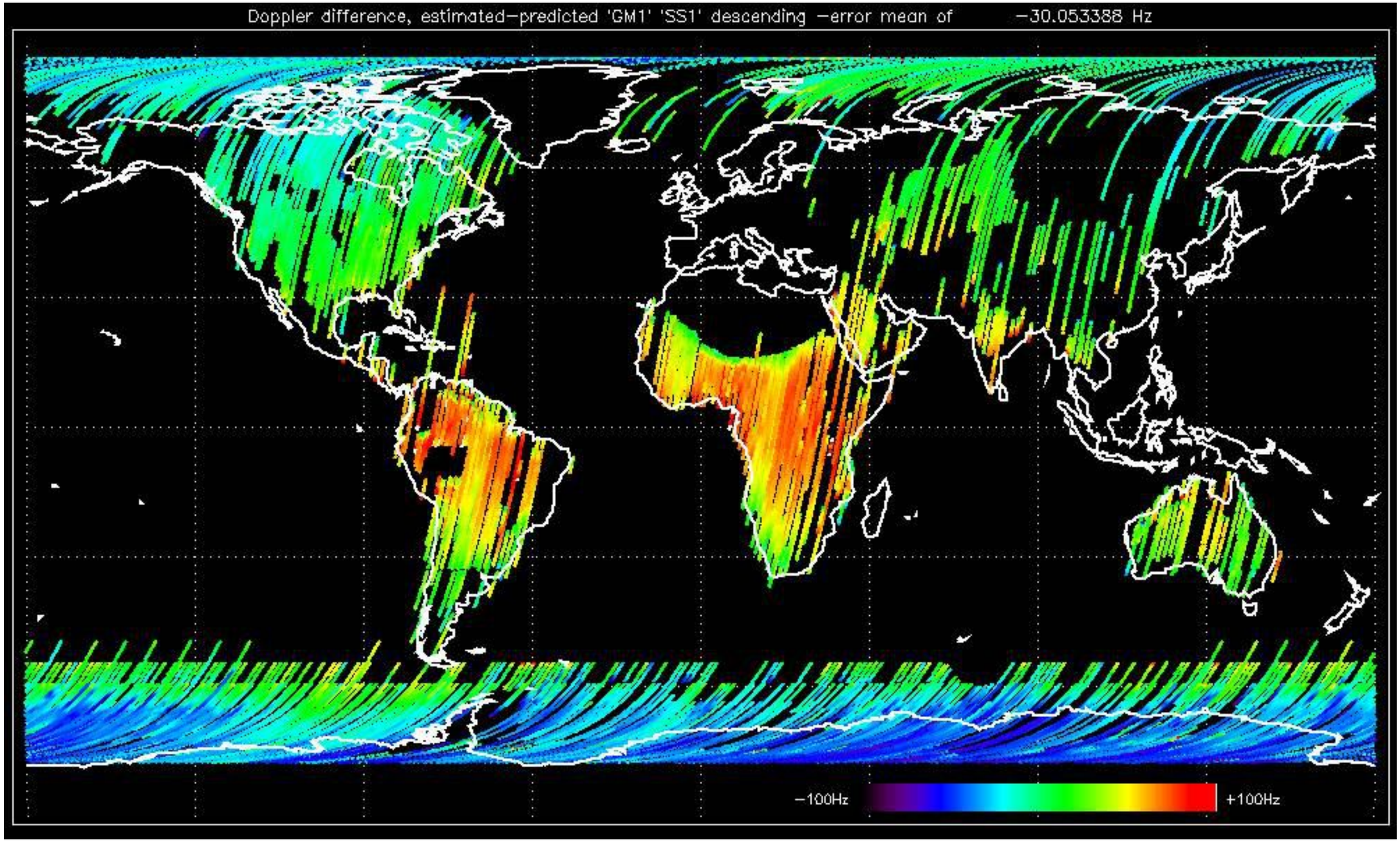

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
04−Dec
Date

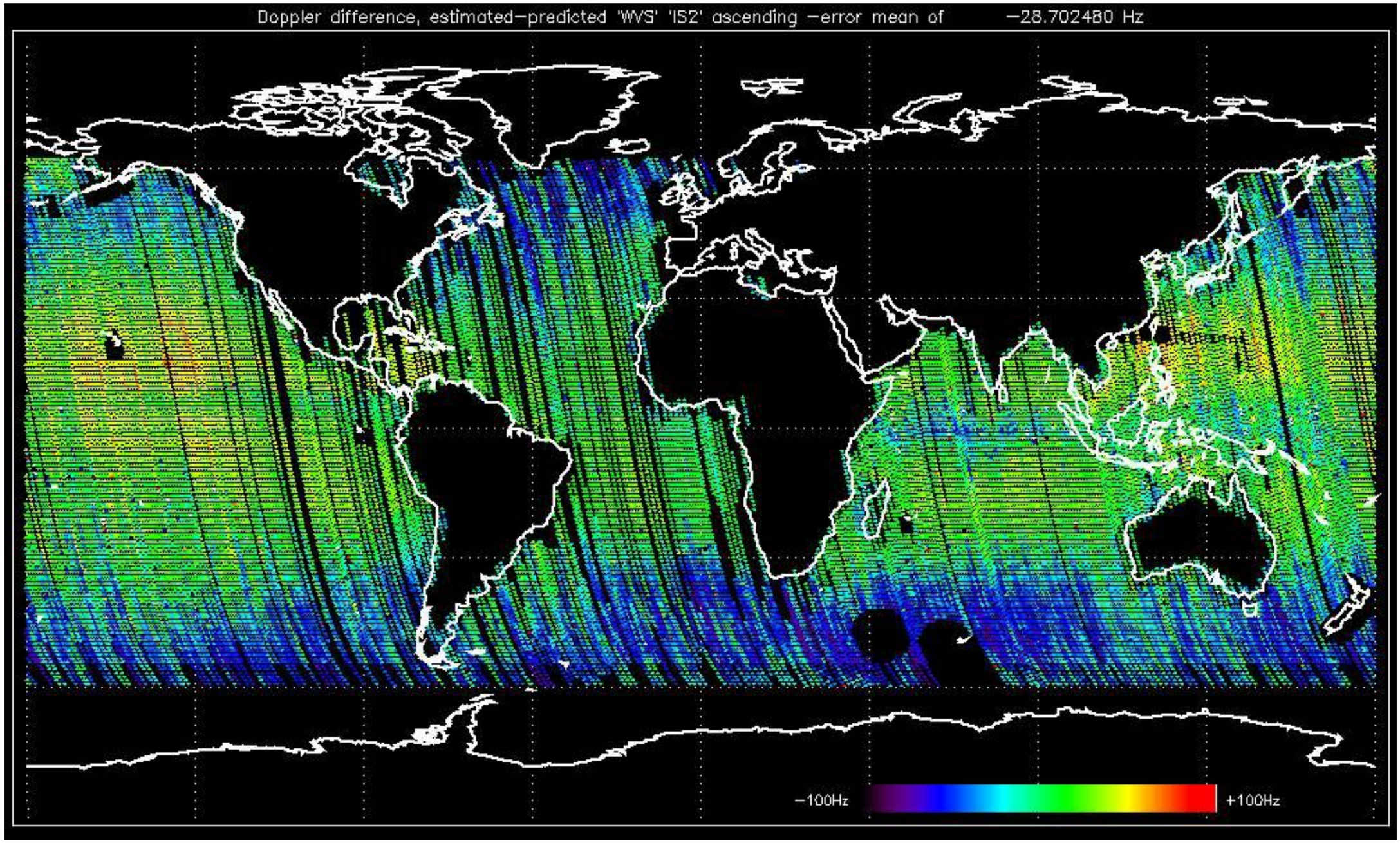

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

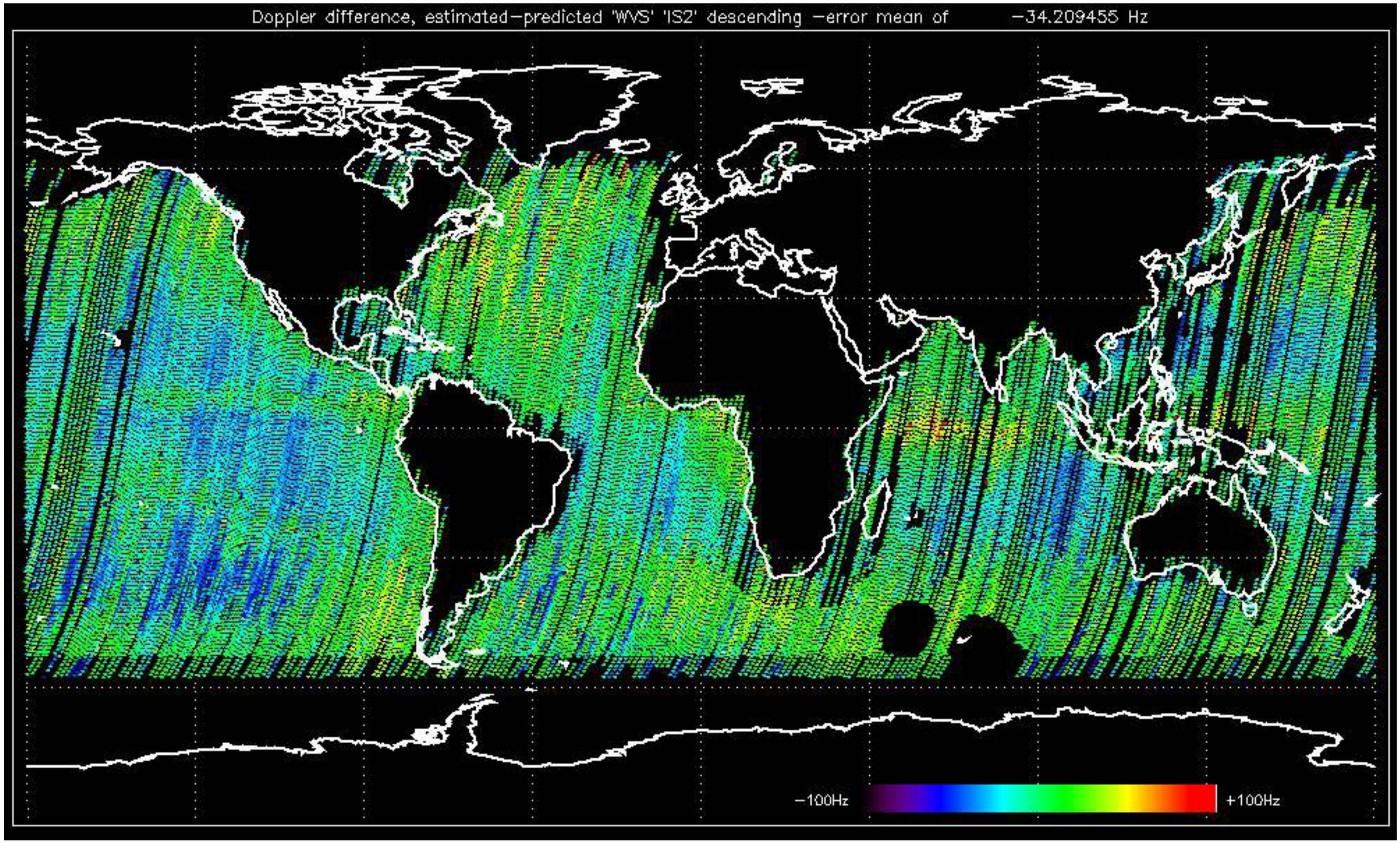

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −36.630547 Hz
−100Hz
+100Hz

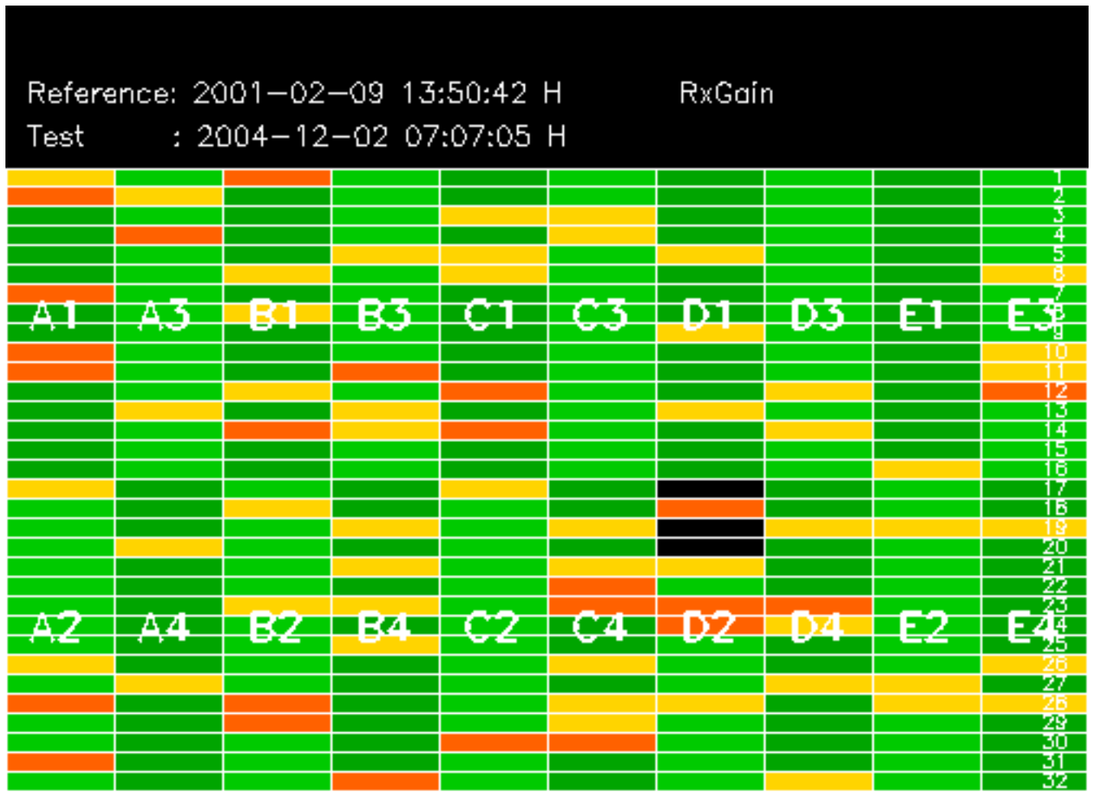

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −30.053388 Hz
−100Hz
+100Hz

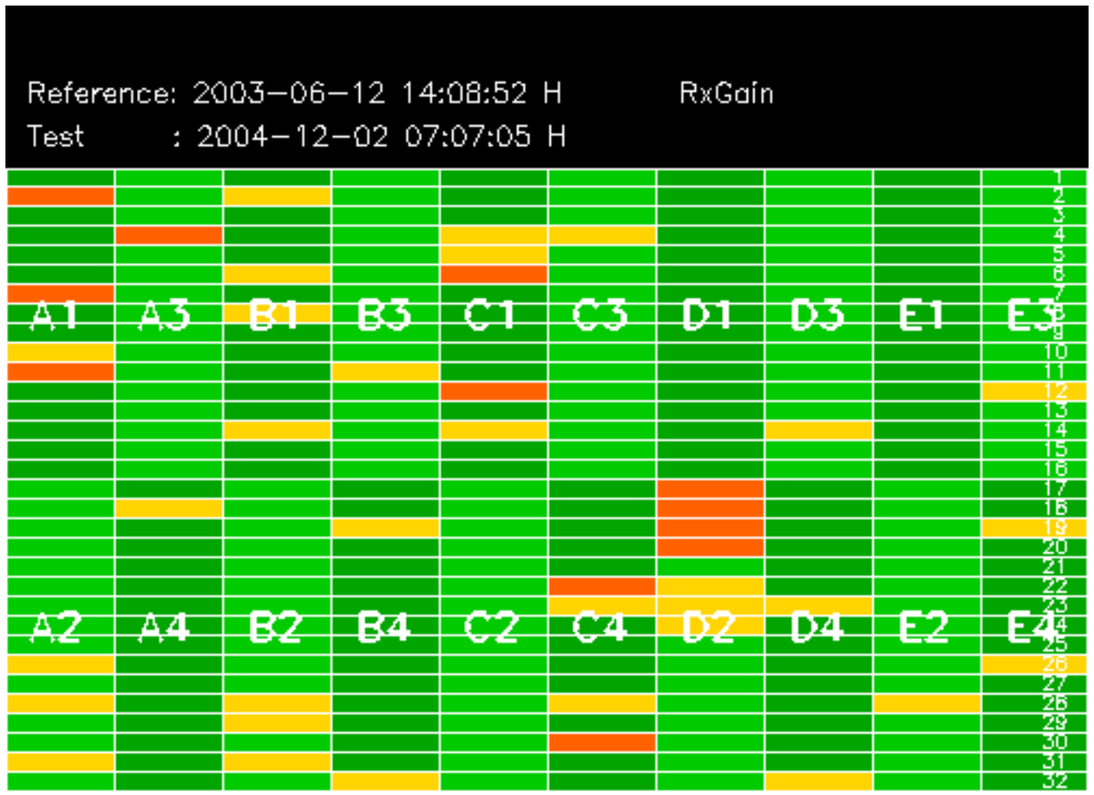

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −28.702480 Hz
−100Hz
+100Hz

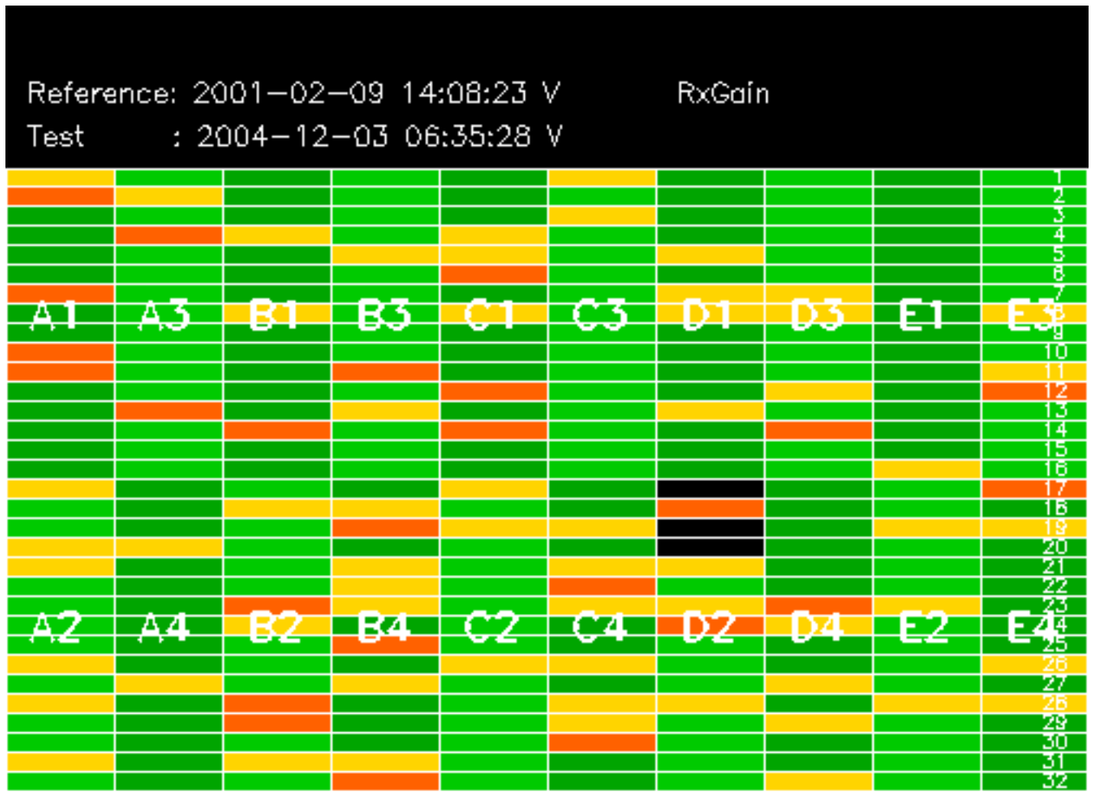

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −34.209455 Hz
−100Hz
+100Hz

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
RxGain
Test : 2004-12-02 07:07:05 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 : 2004-12-02 07:07:05 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 : 2004-12-03 06:35:28 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
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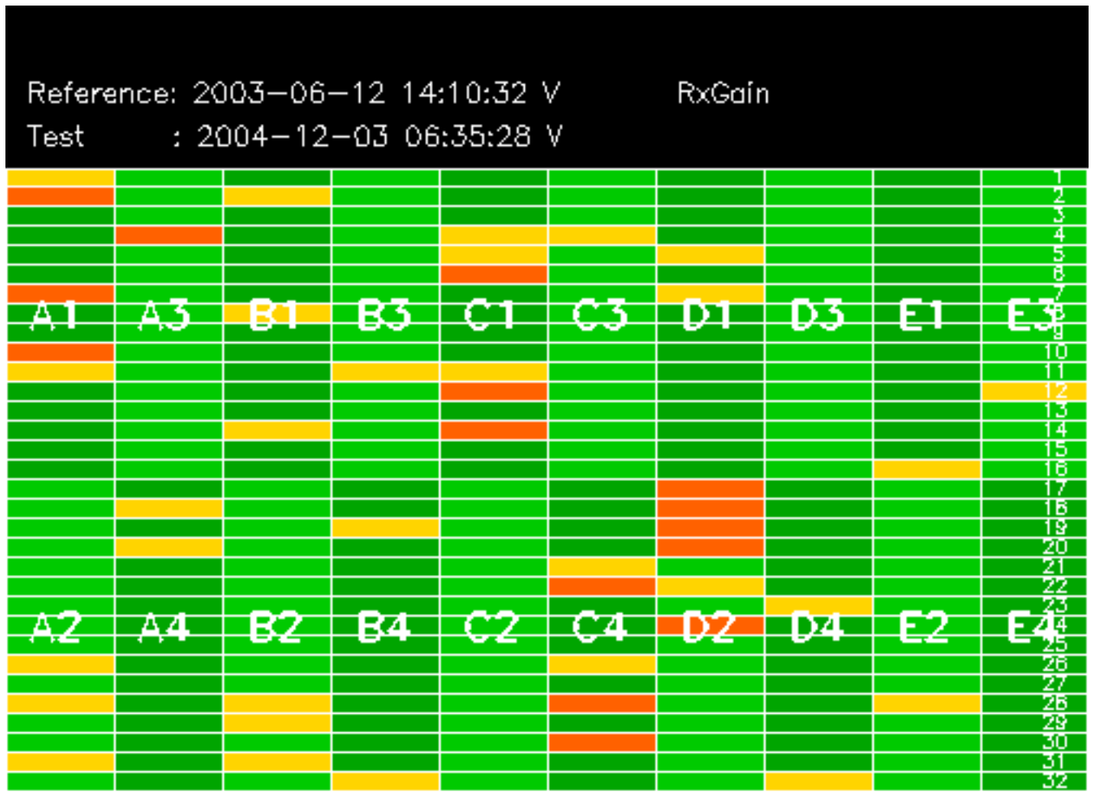
23
24
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:10:32 V
Test : 2004-12-03 06:35:28 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
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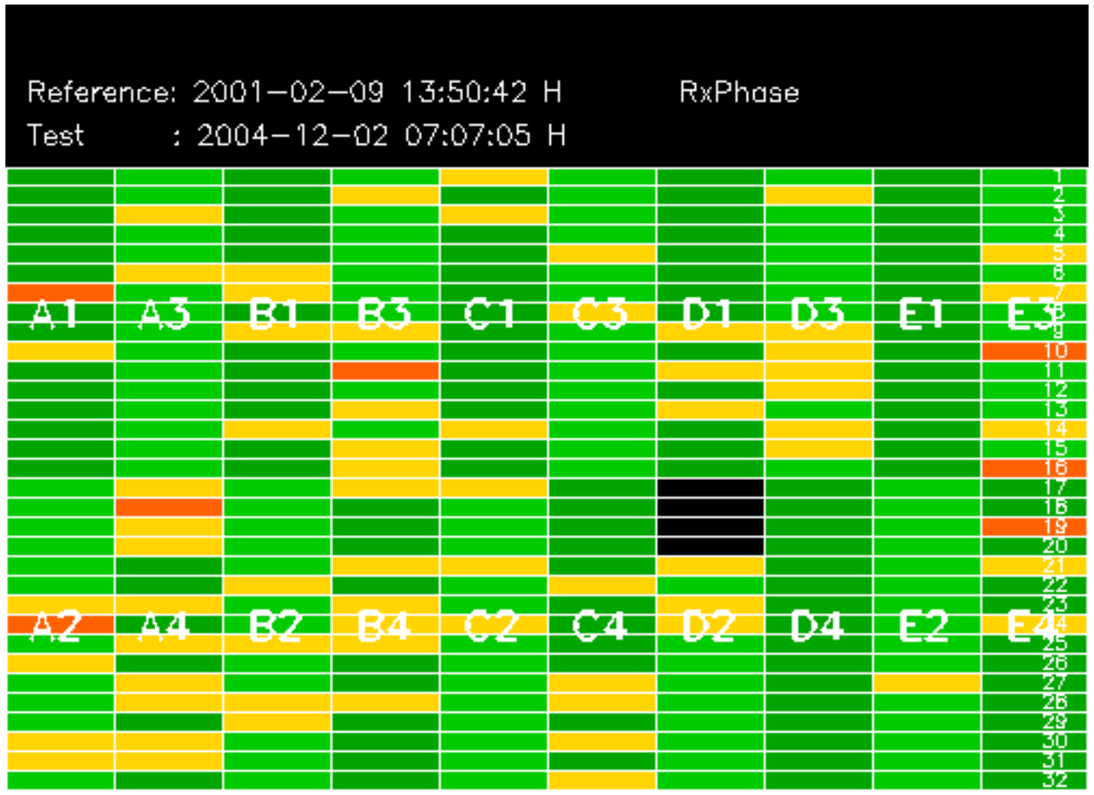
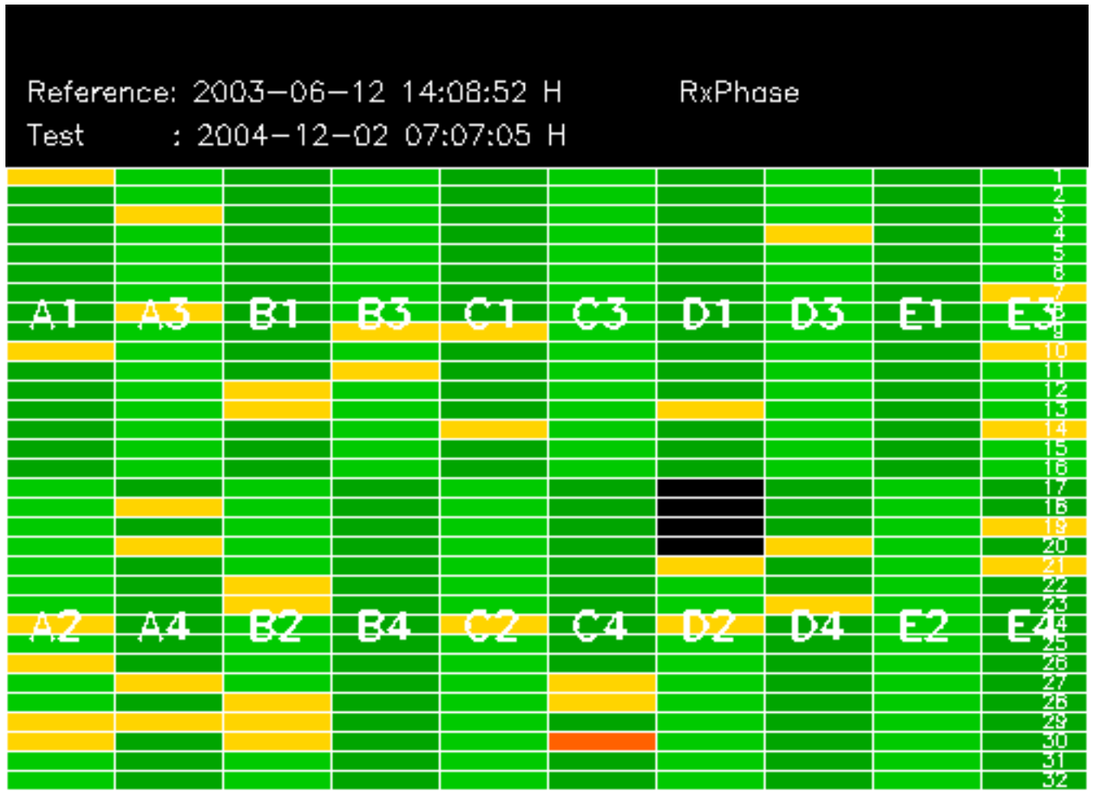
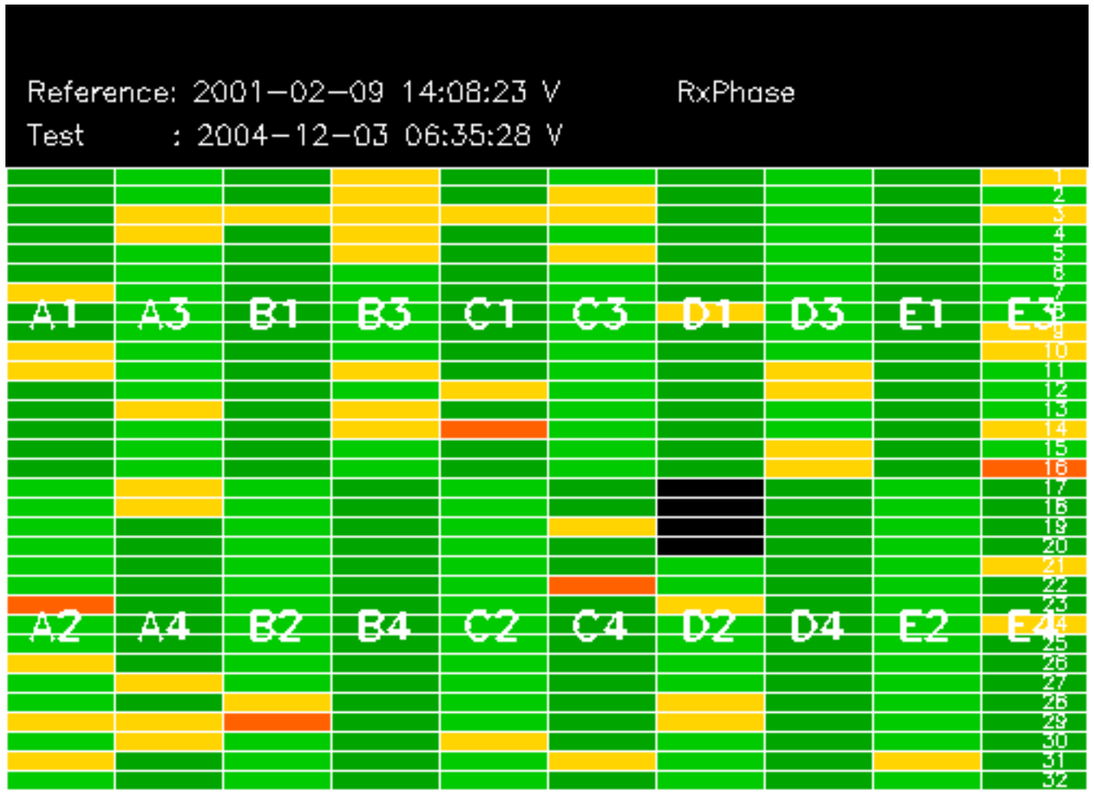
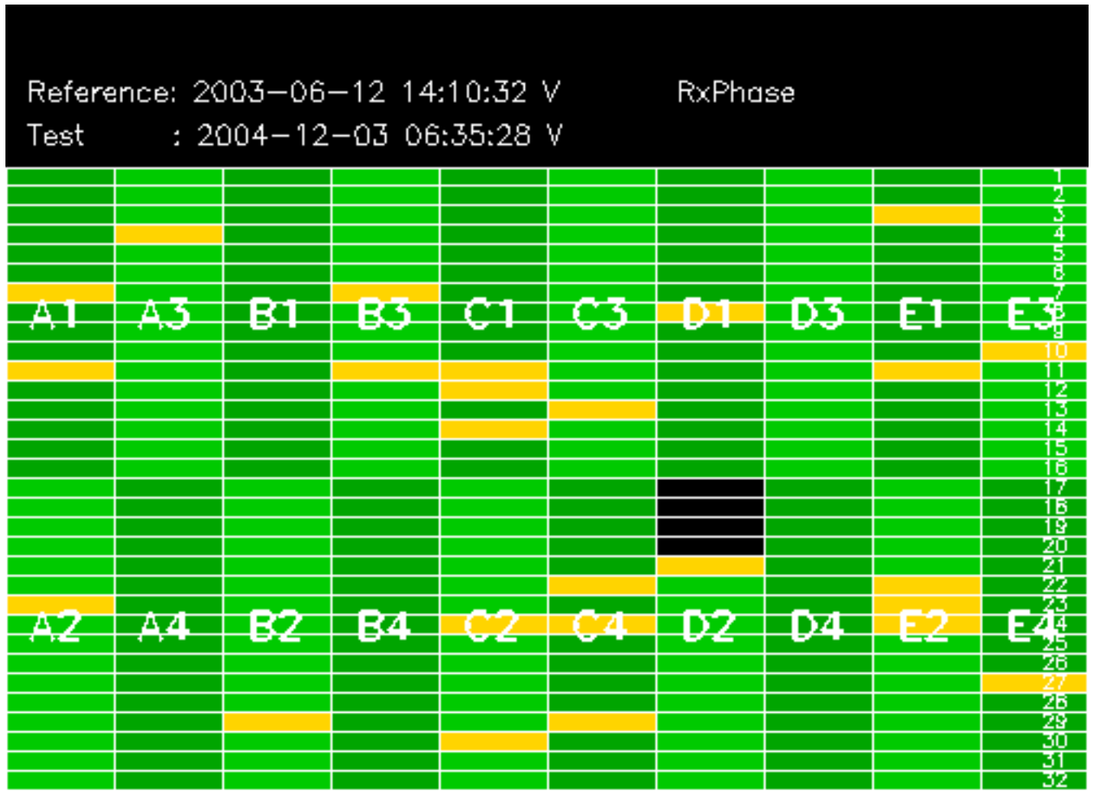
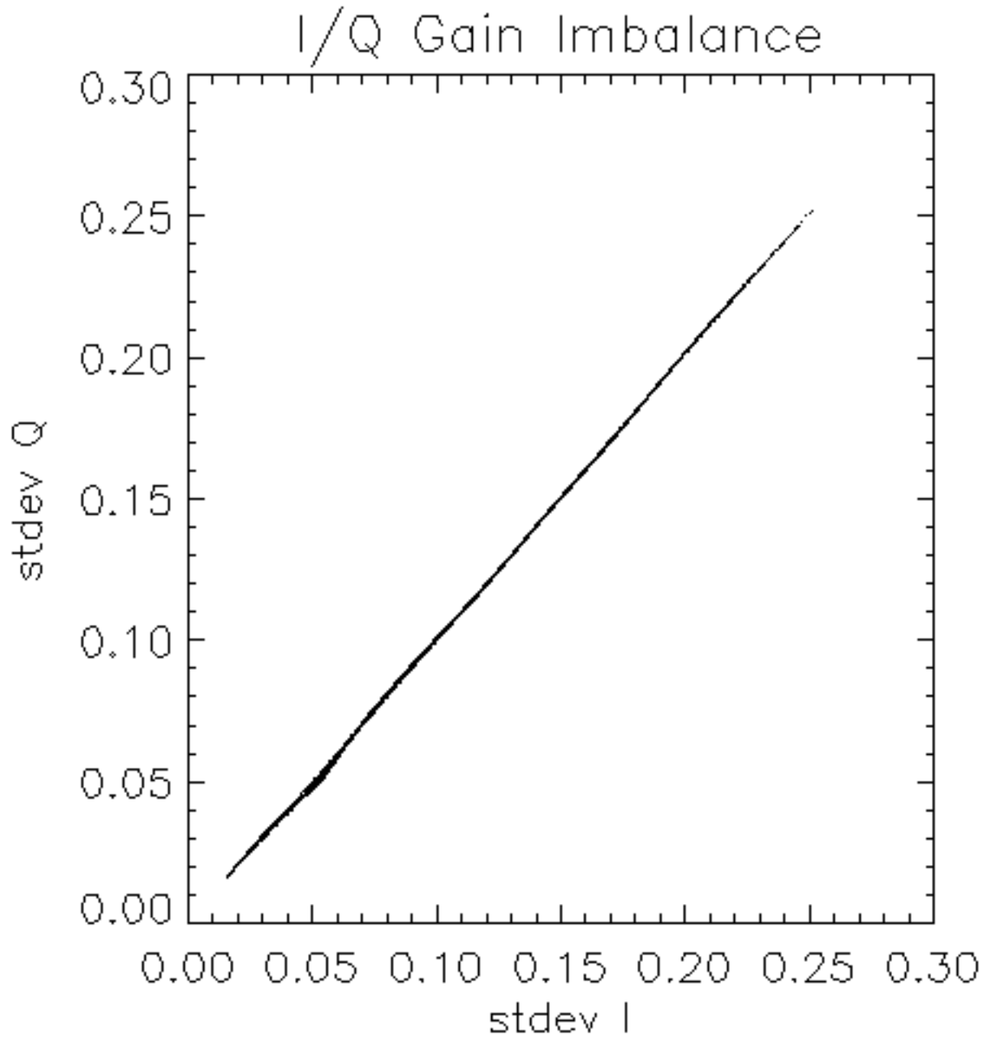
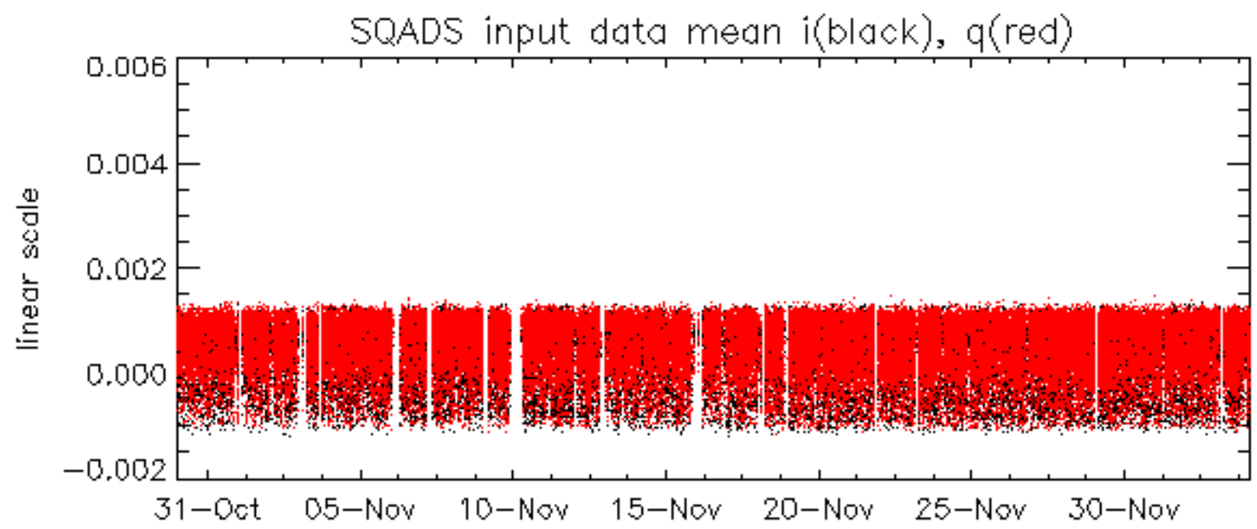

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-12-02 07:07:05 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

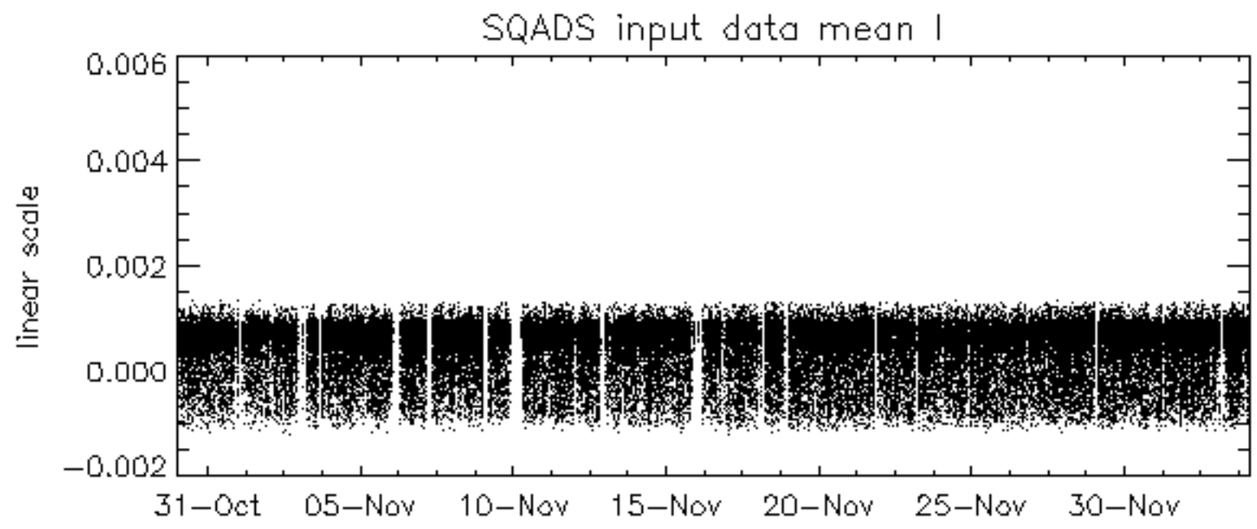

Reference: 2003-06-12 14:08:52 H
Test : 2004-12-02 07:07:05 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

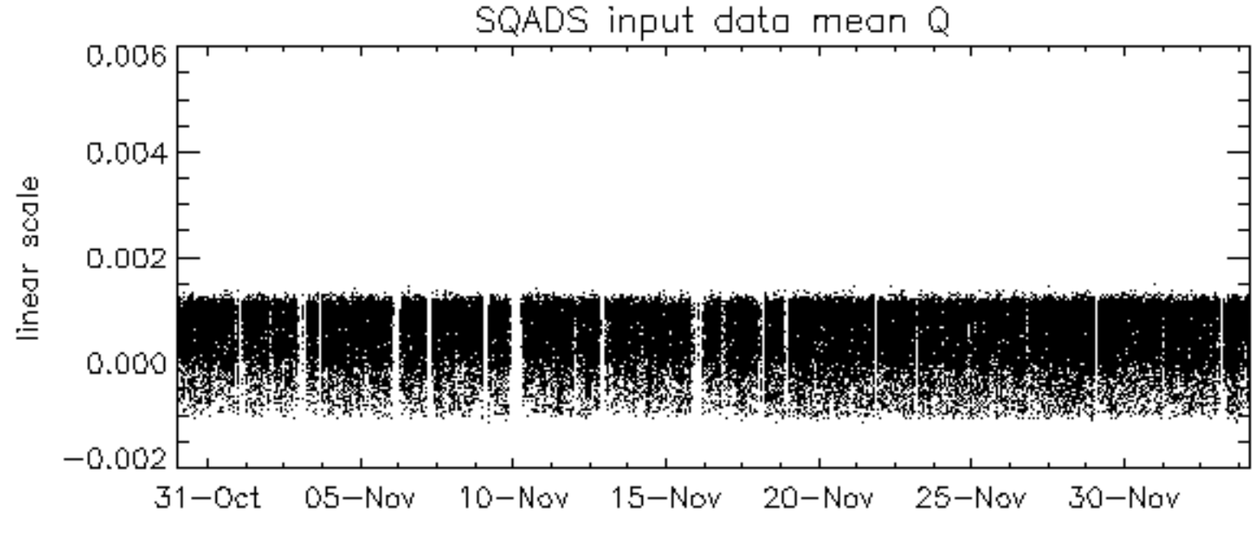

Reference: 2001-02-09 14:08:23 V
Test : 2004-12-03 06:35:28 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

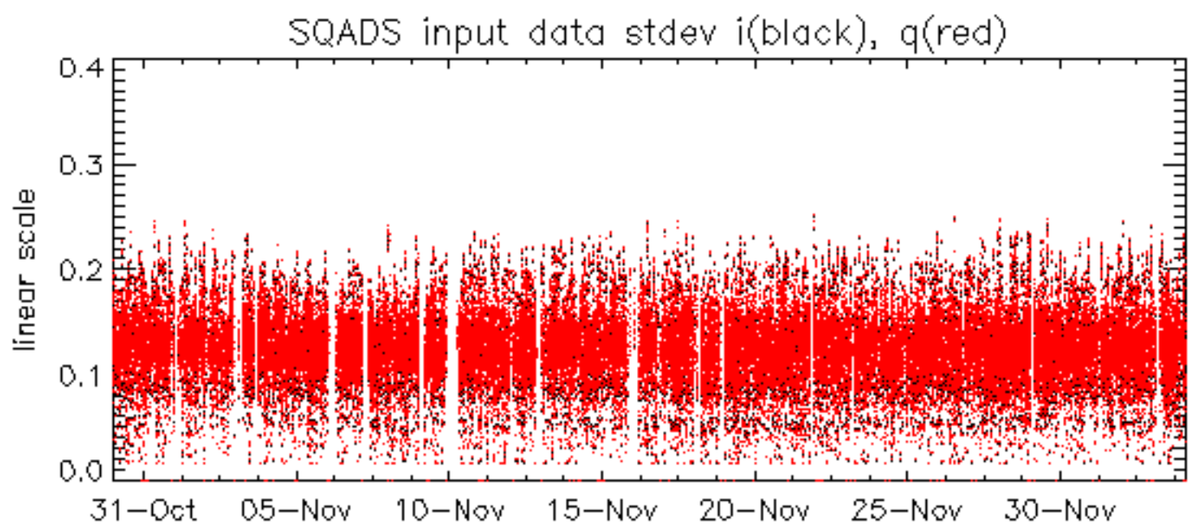

Reference: 2003-06-12 14:10:32 V
Test : 2004-12-03 06:35:28 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

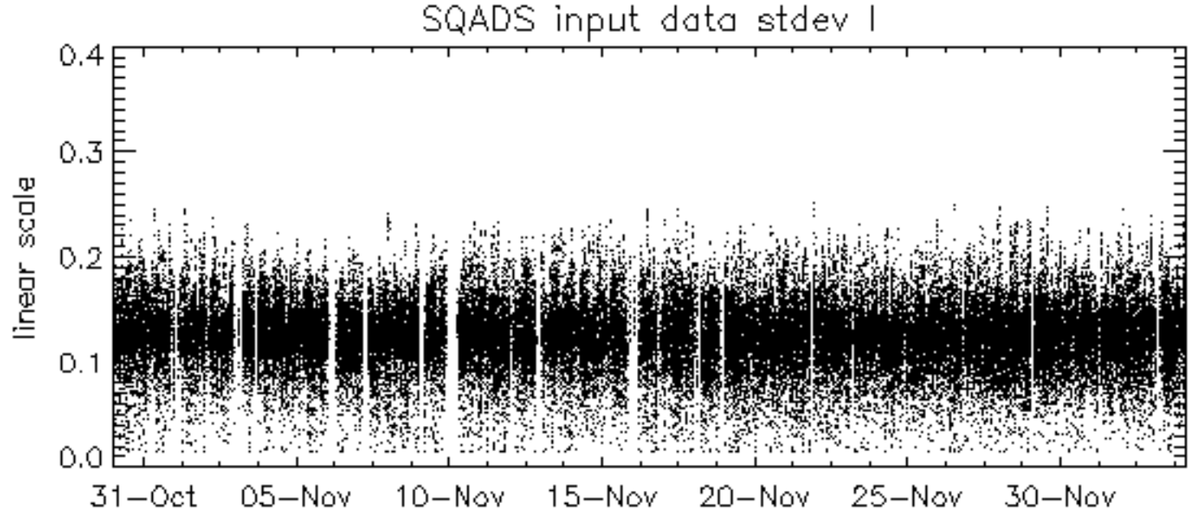

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

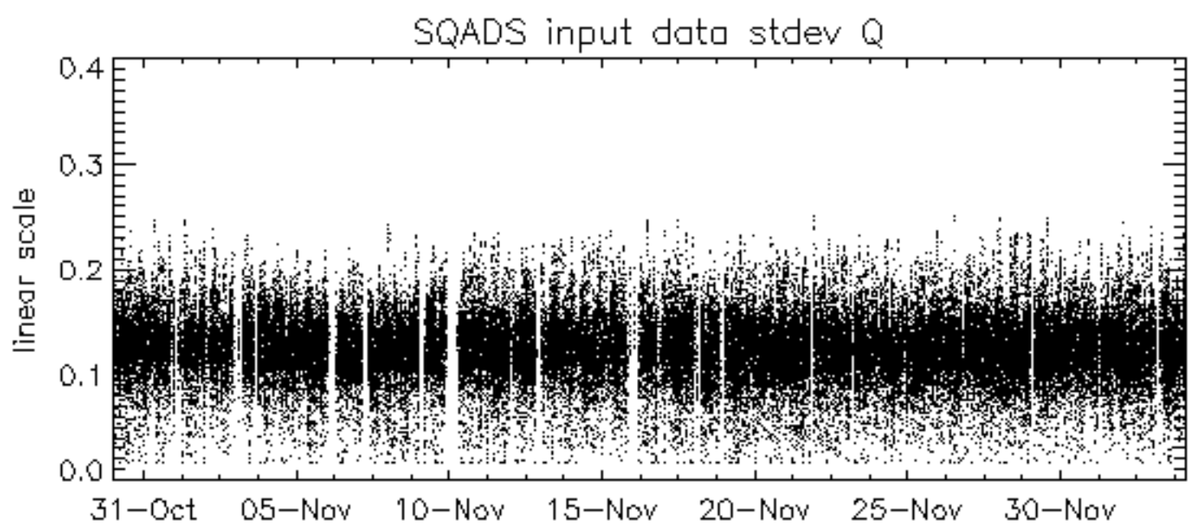

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Oct
05−Nov
10−Nov
15−Nov
20−Nov
25−Nov
30−Nov

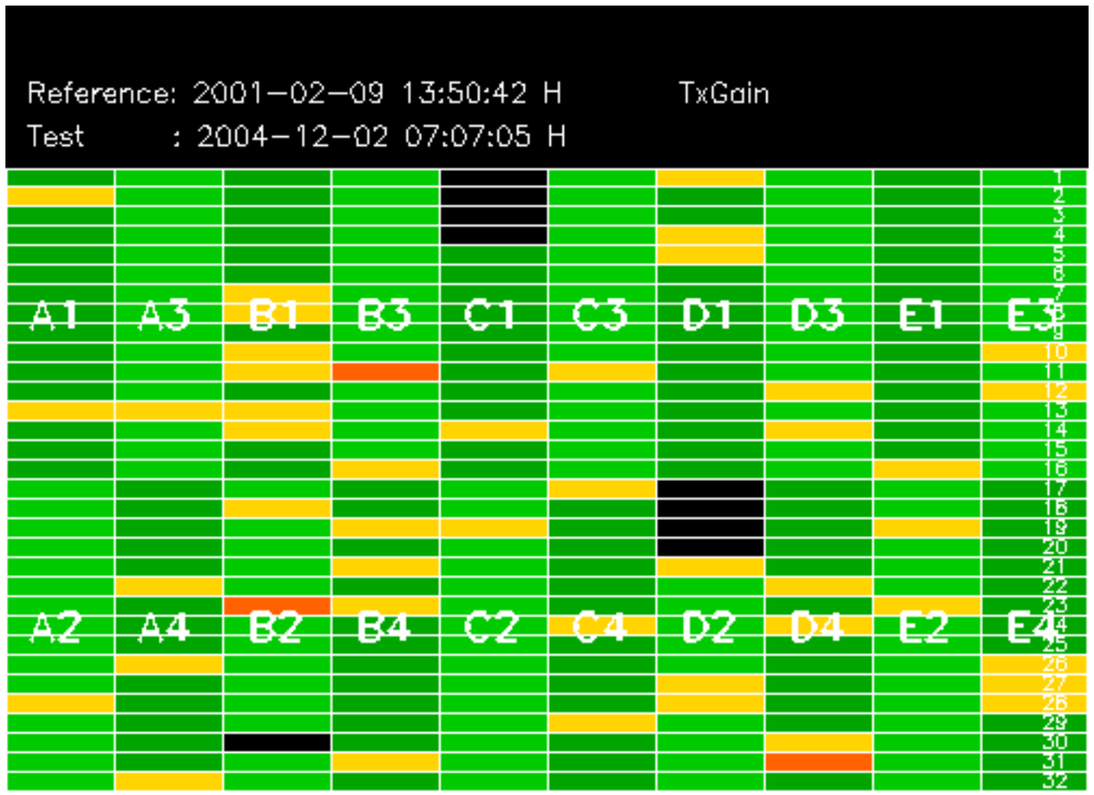

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Oct
05−Nov
10−Nov
15−Nov
20−Nov
25−Nov
30−Nov

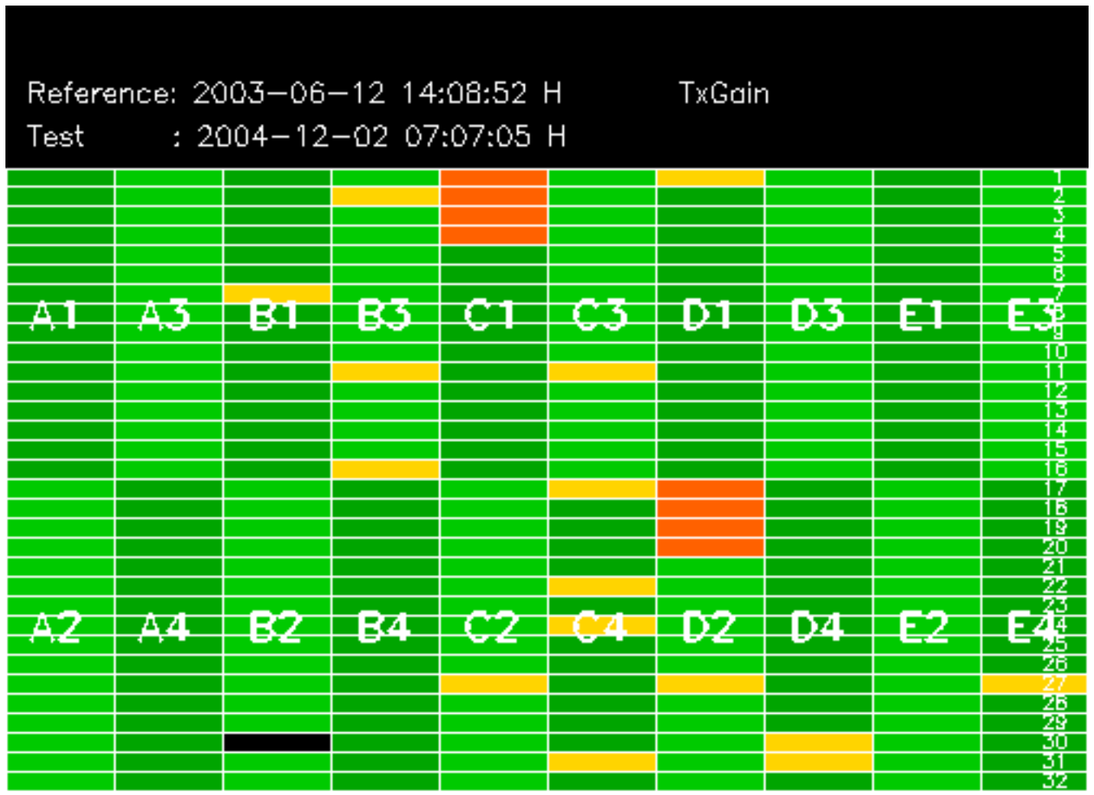

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Oct
05−Nov
10−Nov
15−Nov
20−Nov
25−Nov
30−Nov


SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
31−Oct
05−Nov
10−Nov
15−Nov
20−Nov
25−Nov
30−Nov


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
31−Oct
05−Nov
10−Nov
15−Nov
20−Nov
25−Nov
30−Nov


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
31−Oct
05−Nov
10−Nov
15−Nov
20−Nov
25−Nov
30−Nov


Reference: 2001-02-09 13:50:42 H
Test : 2004-12-02 07:07:05 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 : 2004-12-02 07:07:05 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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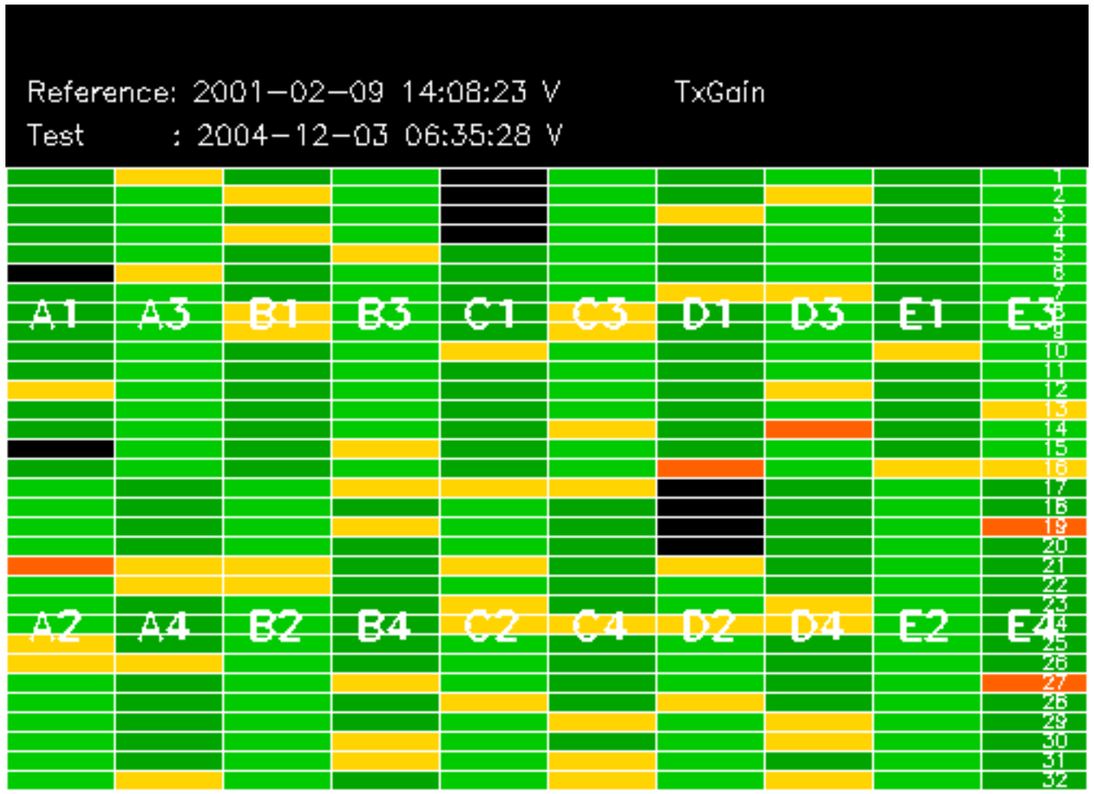
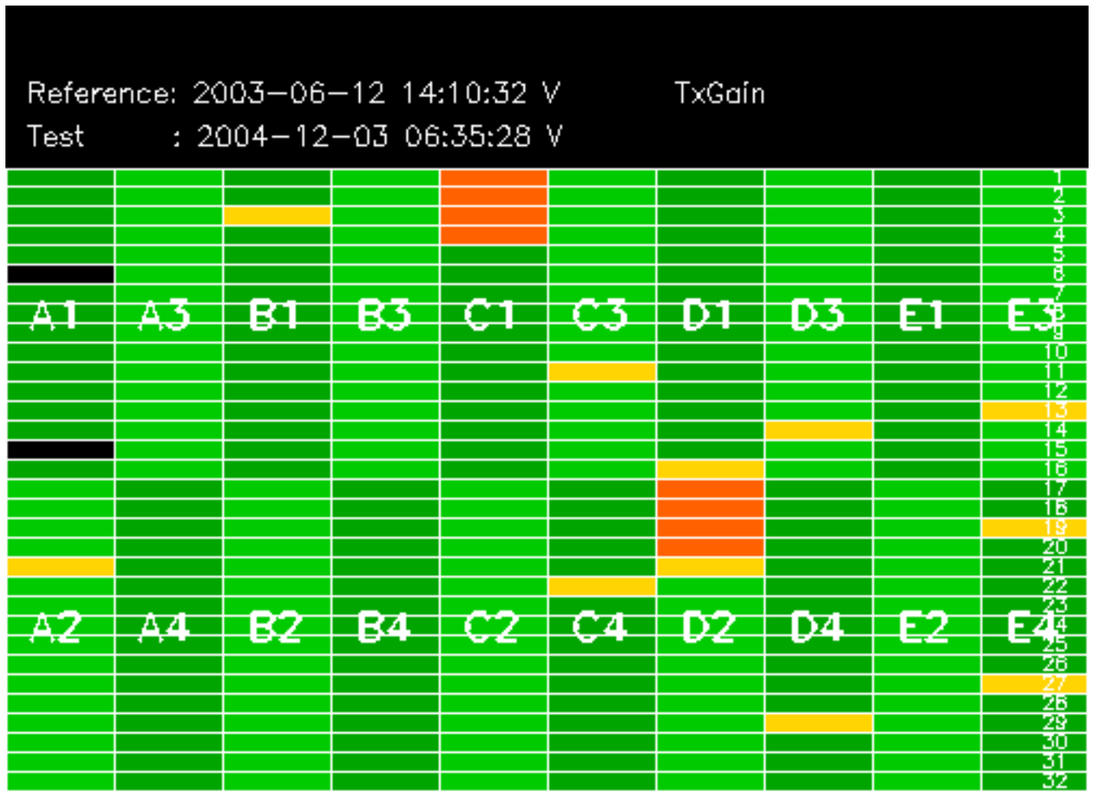
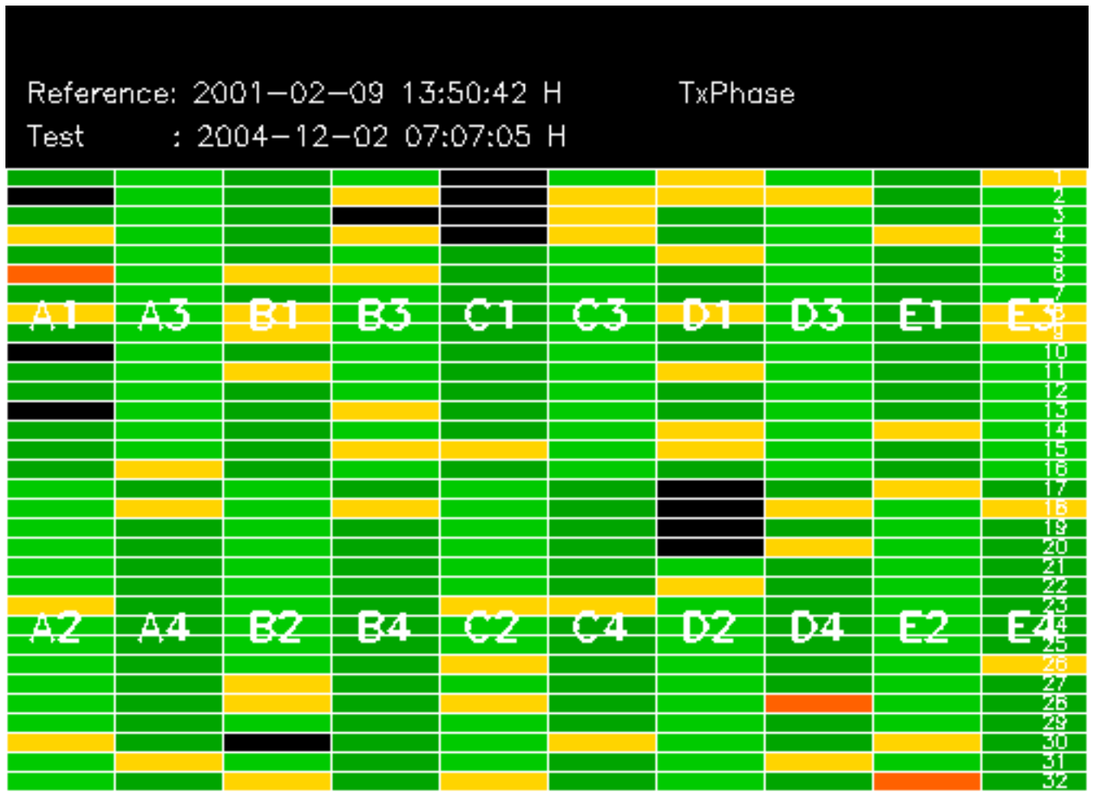

Reference: 2001-02-09 14:08:23 V
Test : 2004-12-03 06:35:28 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-12-03 06:35:28 V
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 13:50:42 H
TxPhase
Test : 2004-12-02 07:07:05 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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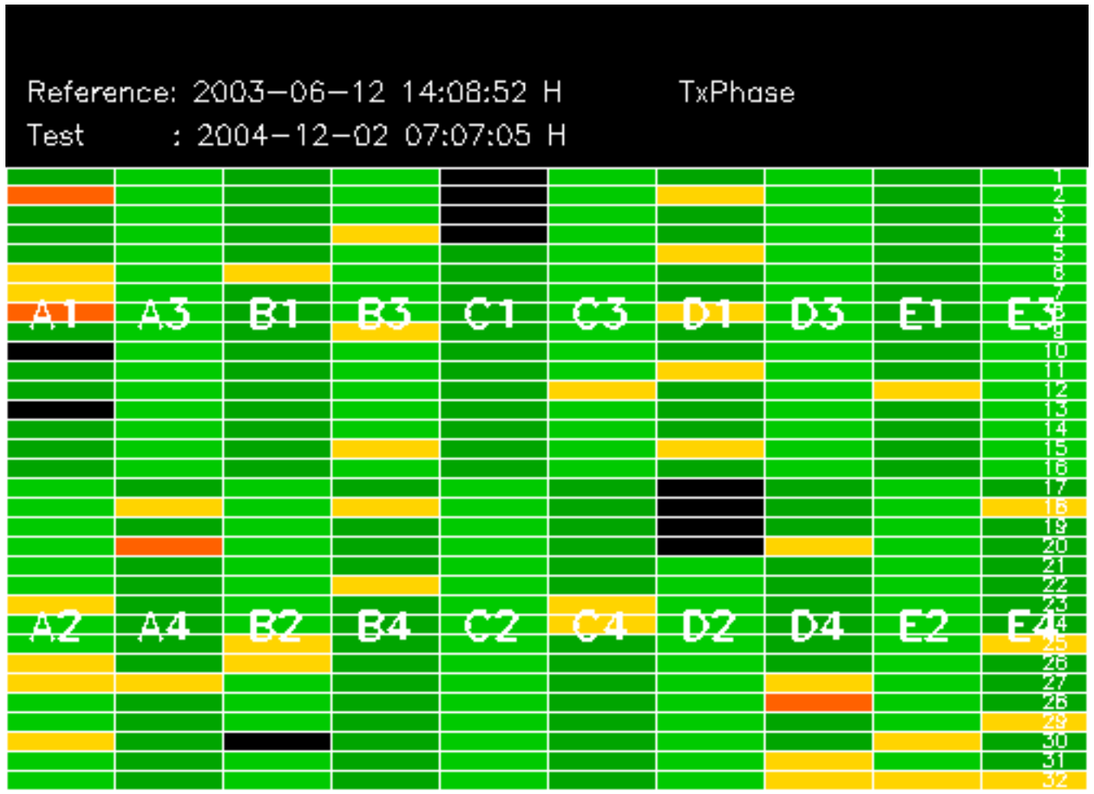
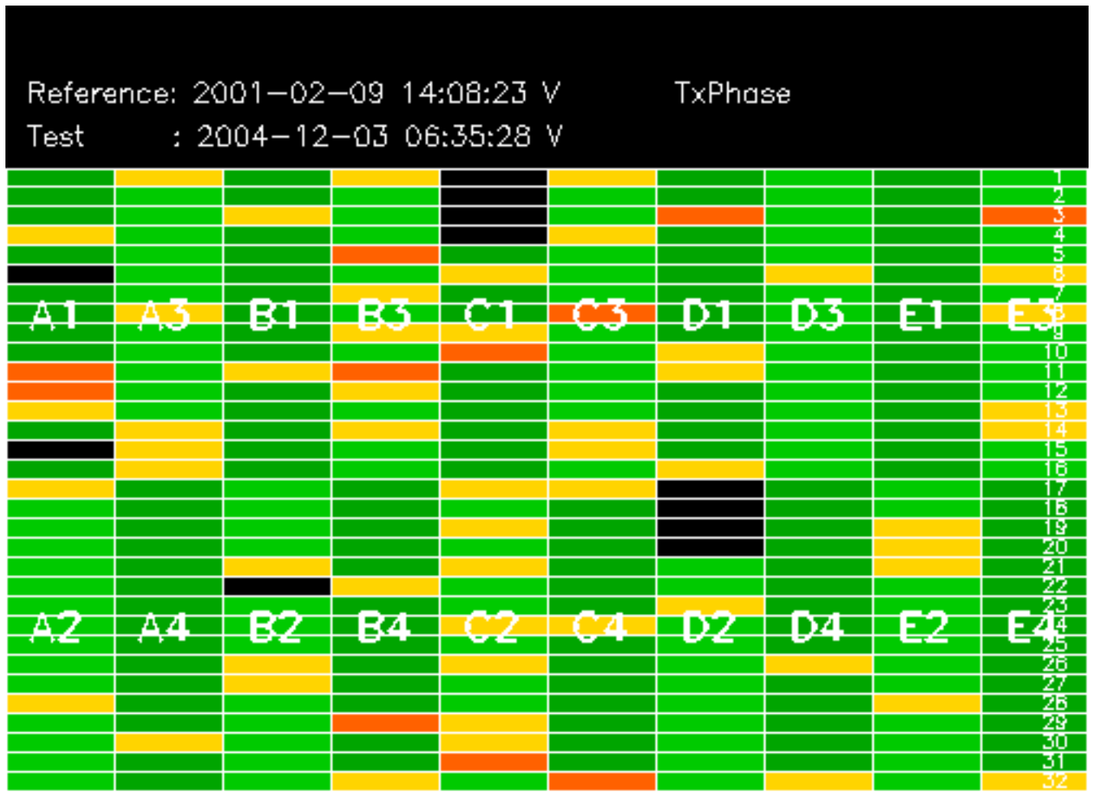
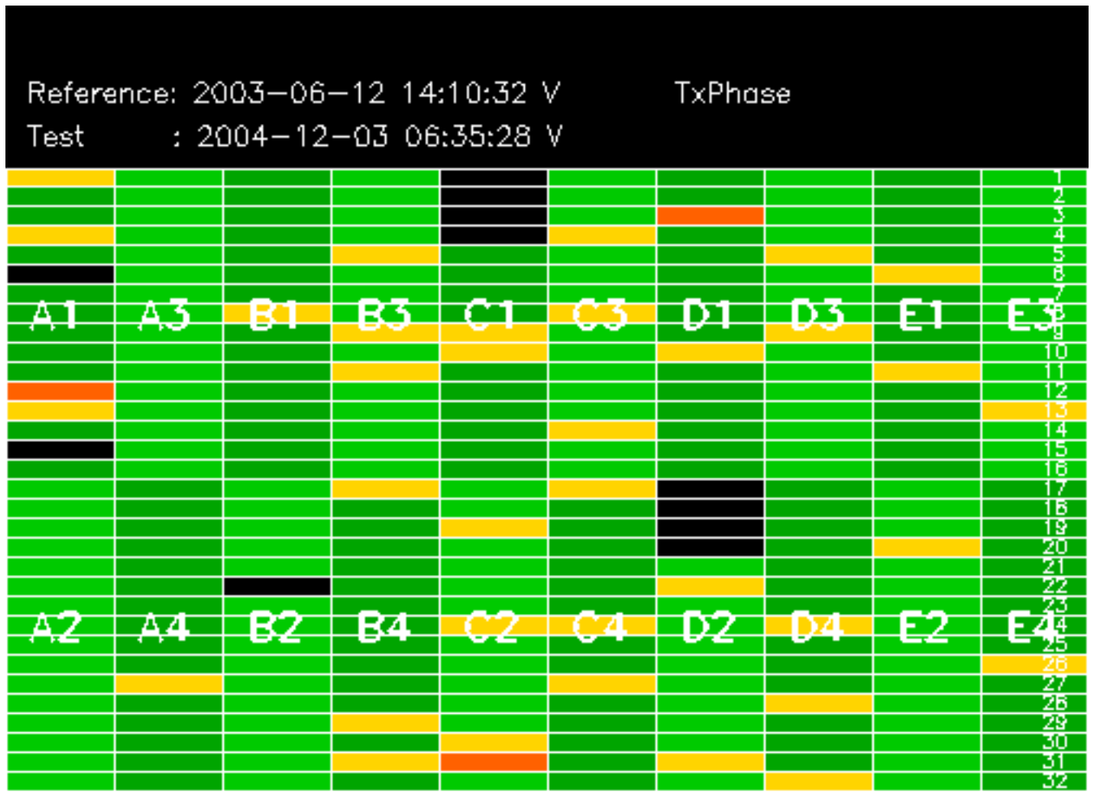

Reference: 2003-06-12 14:08:52 H
Test : 2004-12-02 07:07:05 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-12-03 06:35:28 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 : 2004-12-03 06:35:28 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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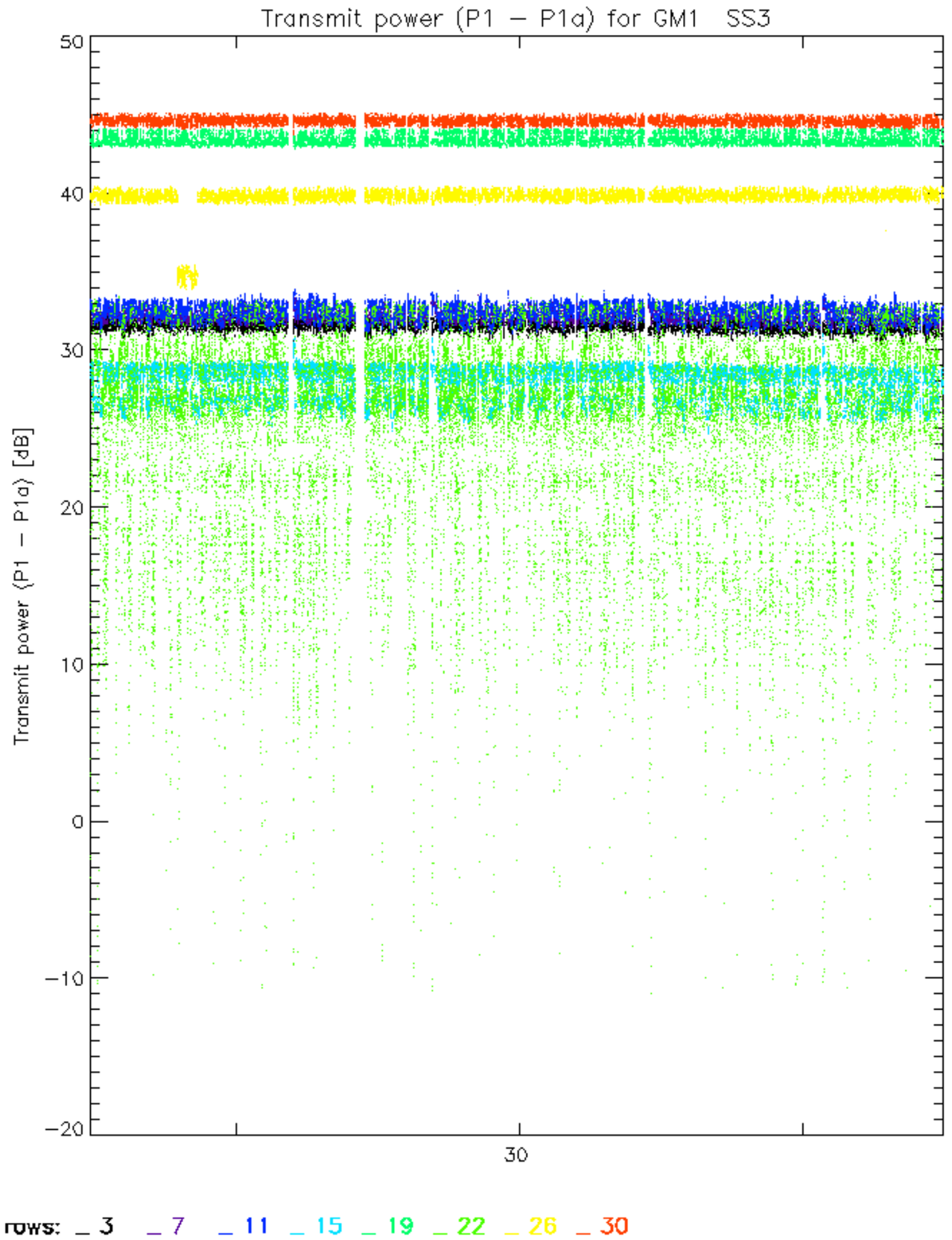
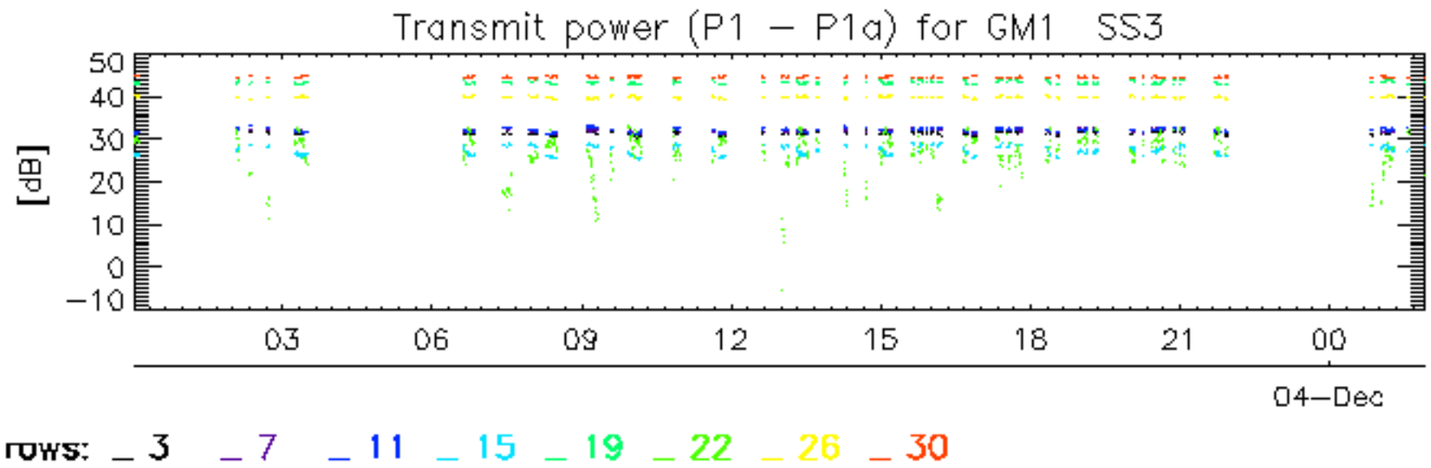
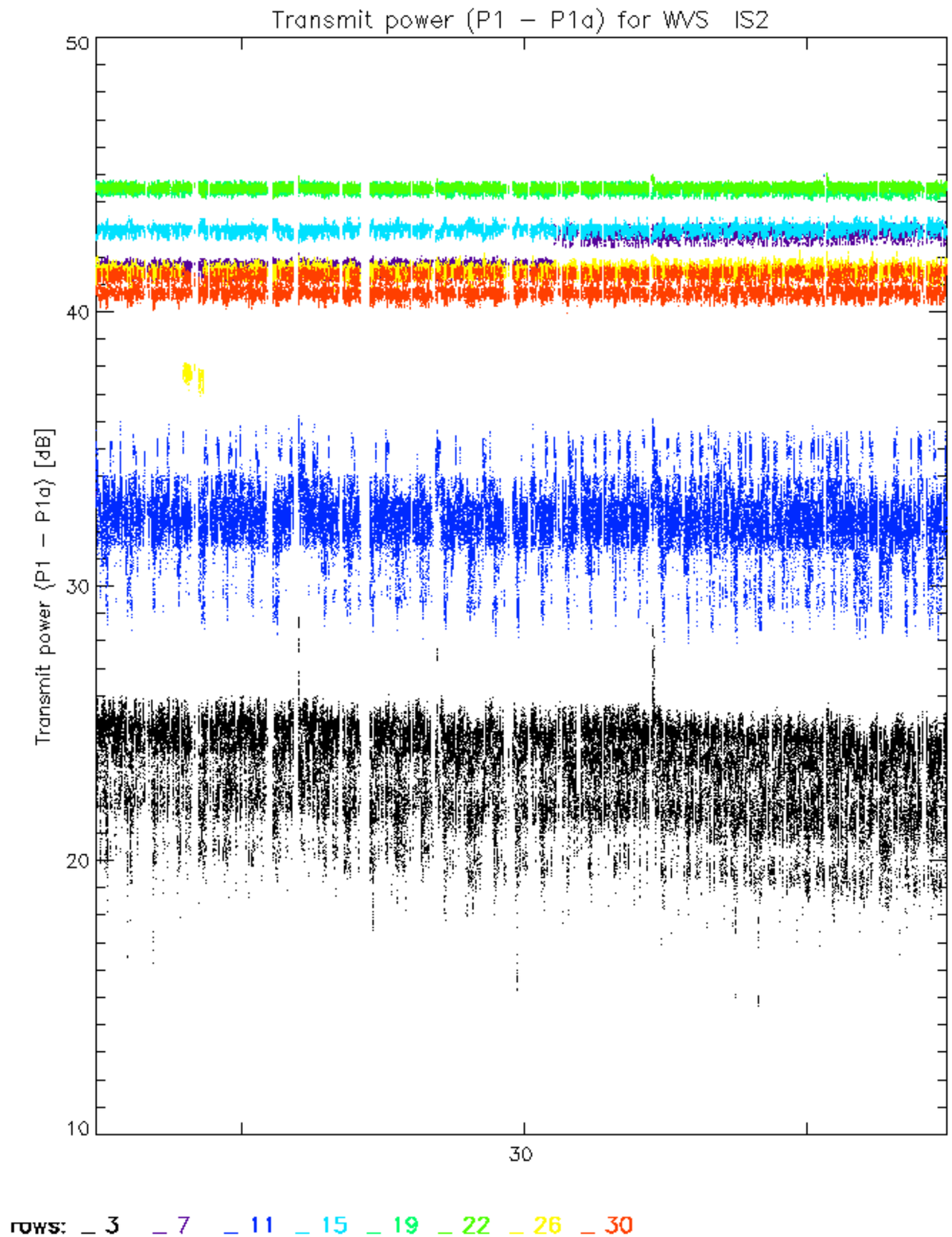
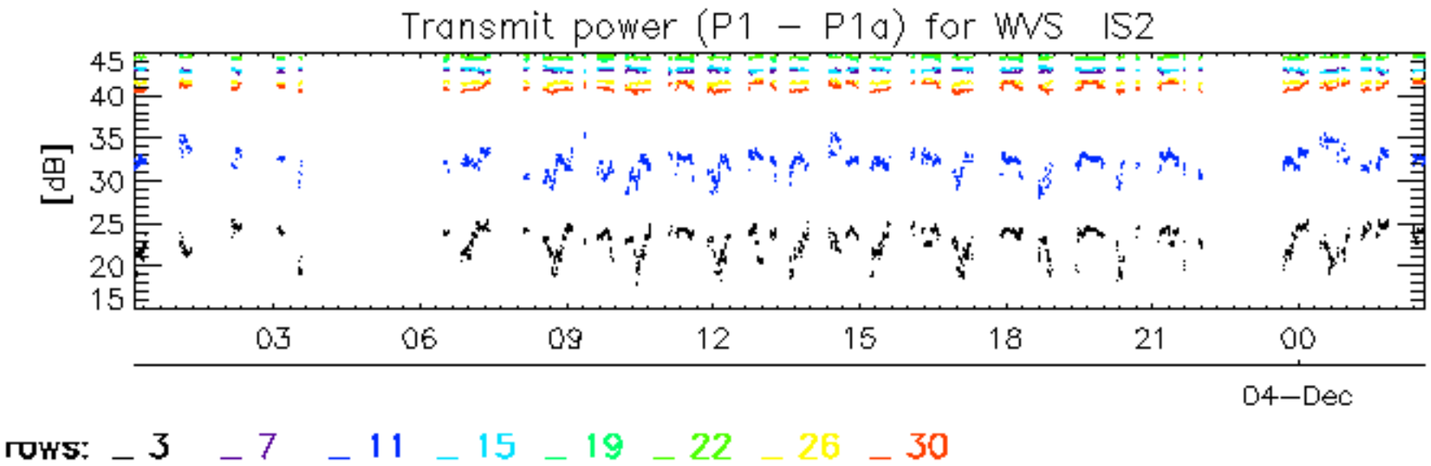

Transmit power (P1 – P1a) for GM1 SS3
Transmit power ⟨P1 – P1a⟩ [dB]
50
40
30
20
10
0
−10
−20
30
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


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


Transmit power (P1 – P1a) for WVS IS2
50
40
30
20
10
30
Transmit power ⟨P1 – P1a⟩ [dB]
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Transmit power (P1 – P1a) for WVS IS2
[dB]
45
40
35
30
25
20
15
03
06
09
12
15
18
21
00
04–Dec
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.