REPORT OF 041203

last update on Fri Dec 3 15:03:06 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 anomalies observed on available browse products

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__0PNPDK20041202_070705_000000152032_00335_14417_0132.N1

Polarisation	Start Time
V	20041201 073843
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	-3.462509	0.006673	0.034462
7	P1	-3.235418	0.031753	0.405703
11	P1	-4.606619	0.017772	-0.017446
15	P1	-5.655150	0.029123	0.000896
19	P1	-3.617522	0.005339	-0.046878
22	P1	-4.580621	0.015862	0.014463
26	P1	-4.880037	0.061142	-0.154662

30	P1	-7.083077	0.014619	-0.033458
3	P1	-15.986822	0.113194	0.088890
7	P1	-14.735512	0.627747	-2.194206
11	P1	-20.705002	0.214808	-0.119491
15	P1	-11.650495	0.039341	0.065051
19	P1	-14.093879	0.029617	-0.093054
22	P1	-16.188074	0.425289	0.141929
26	P1	-17.697412	0.738336	-0.416875
30	P1	-17.934355	0.286903	0.107732

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.371845	0.088009	0.019984
7	P2	-22.612320	0.139372	-0.011604
11	P2	-15.025867	0.130076	0.109395
15	P2	-7.161589	0.110852	-0.029177
19	P2	-9.715945	0.131865	0.005429
22	P2	-17.223942	0.103091	0.057504
26	P2	-16.512465	0.110788	-0.002121
30	P2	-19.031647	0.083480	0.068605

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.204597	0.006812	-0.002684
7	P3	-8.204598	0.006812	-0.002673
11	P3	-8.204598	0.006812	-0.002679
15	P3	-8.204600	0.006812	-0.002673
19	P3	-8.204600	0.006812	-0.002679
22	P3	-8.204603	0.006812	-0.002679
26	P3	-8.204605	0.006812	-0.002680
30	P3	-8.204561	0.006806	-0.003232

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	-2.805936	0.011070	-0.016357
7	P1	-2.957181	0.021640	-0.012469
11	P1	-3.904395	0.022607	-0.043107
15	P1	-3.485682	0.027301	-0.008210
19	P1	-3.591992	0.012540	-0.016690
22	P1	-5.602118	0.068015	0.015957
26	P1	-6.434309	0.087301	-0.221985
30	P1	-6.276091	0.041610	-0.039957
3	P1	-10.604975	0.052776	-0.031172
7	P1	-10.101177	0.130969	-0.053133
11	P1	-12.383000	0.115498	-0.108533
15	P1	-11.727240	0.063523	-0.035806
19	P1	-15.622887	0.051962	-0.006157
22	P1	-24.062290	2.147352	-0.233495
26	P1	-15.114162	0.469688	-0.085166
30	P1	-20.241564	1.001234	0.184265

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.056210	0.039613	-0.002413
7	P2	-22.668467	0.029761	0.017947
11	P2	-10.821718	0.035812	0.142387
15	P2	-5.056787	0.027459	-0.031624
19	P2	-6.965805	0.035020	-0.016112
22	P2	-7.343825	0.028936	0.033418
26	P2	-23.950352	0.020943	-0.014563
30	P2	-22.082327	0.018897	0.031426

P3 Cyclic statistics

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

3	P3	-8.043057	0.003286	0.004792
7	P3	-8.042977	0.003299	0.004416
11	P3	-8.043069	0.003290	0.004332
15	P3	-8.042914	0.003294	0.004790
19	P3	-8.043047	0.003296	0.004524
22	P3	-8.043048	0.003292	0.004766
26	P3	-8.043048	0.003283	0.004632
30	P3	-8.042977	0.003295	0.004838

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	0.000443708
	stdev	2.37924e-07
MEAN Q	mean	0.000506192
	stdev	2.52052e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.125345
	stdev	0.000981370

STDEV Q	mean	0.125575
	stdev	0.000989847

5.3 - Gain imbalance I/Q

6 - Doppler Analysis

No anomnalies observed in DOppler evolution.
Doppler analysis performed over the last 35 days.

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

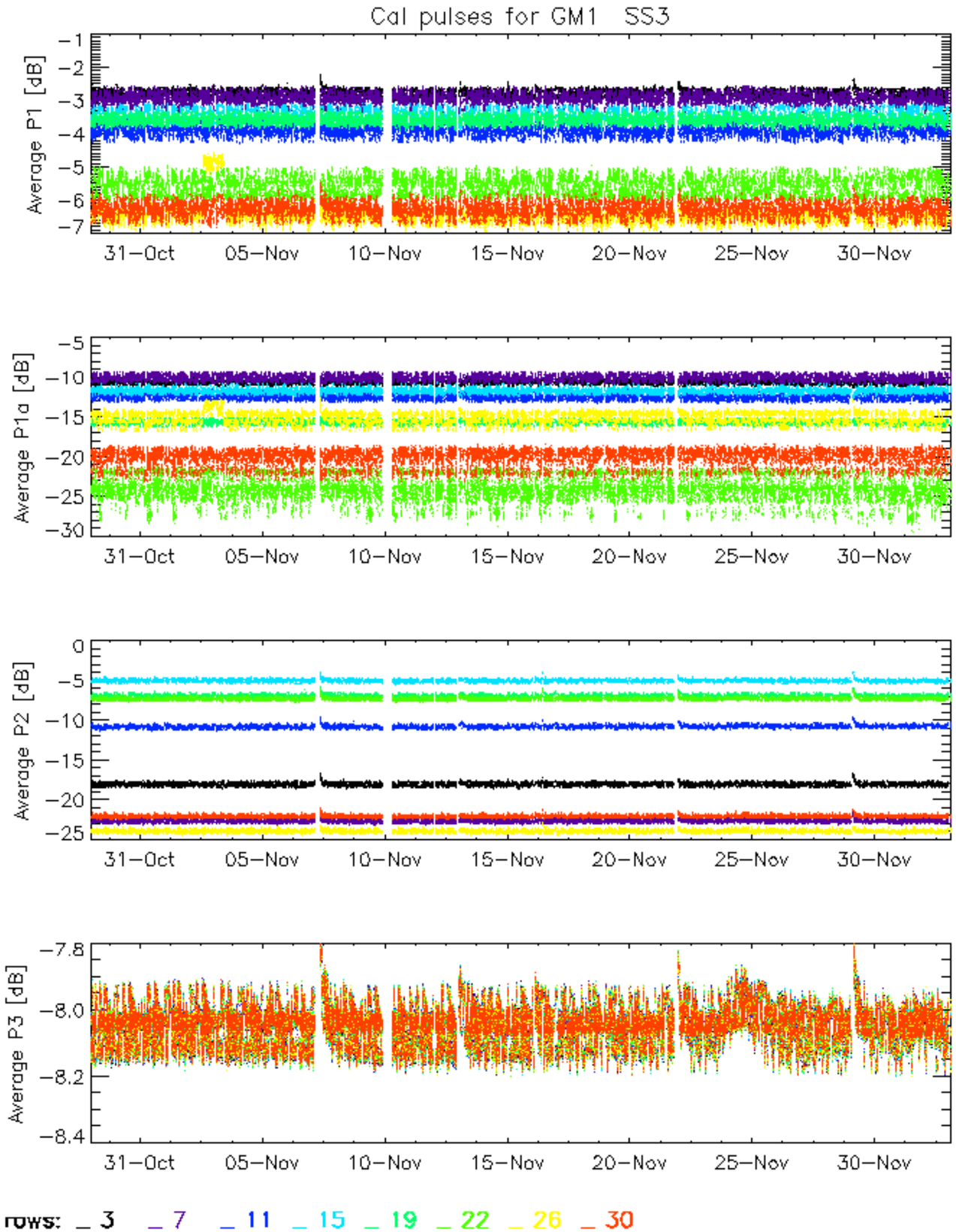
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

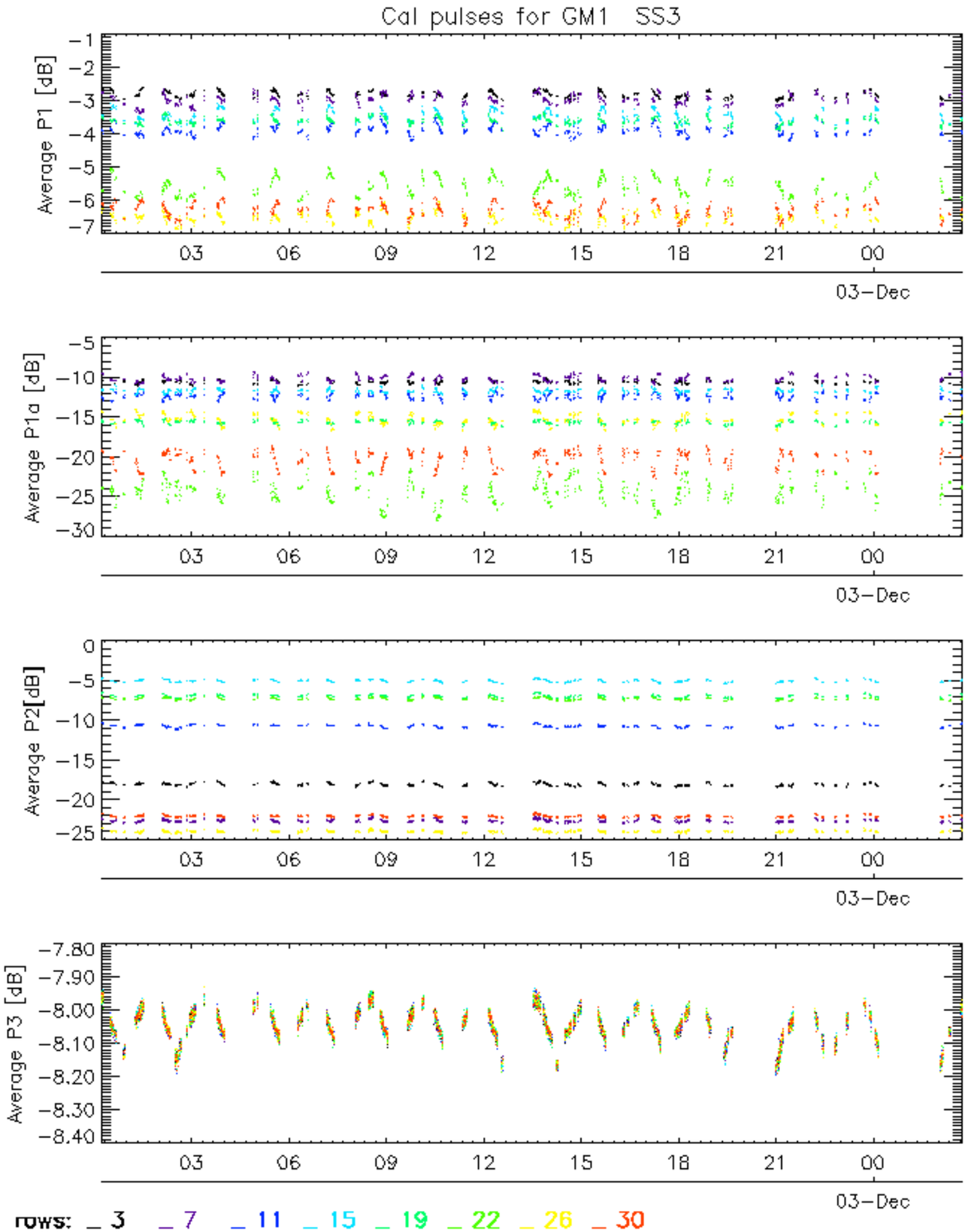
6.5 - Absolute Doppler for GM1

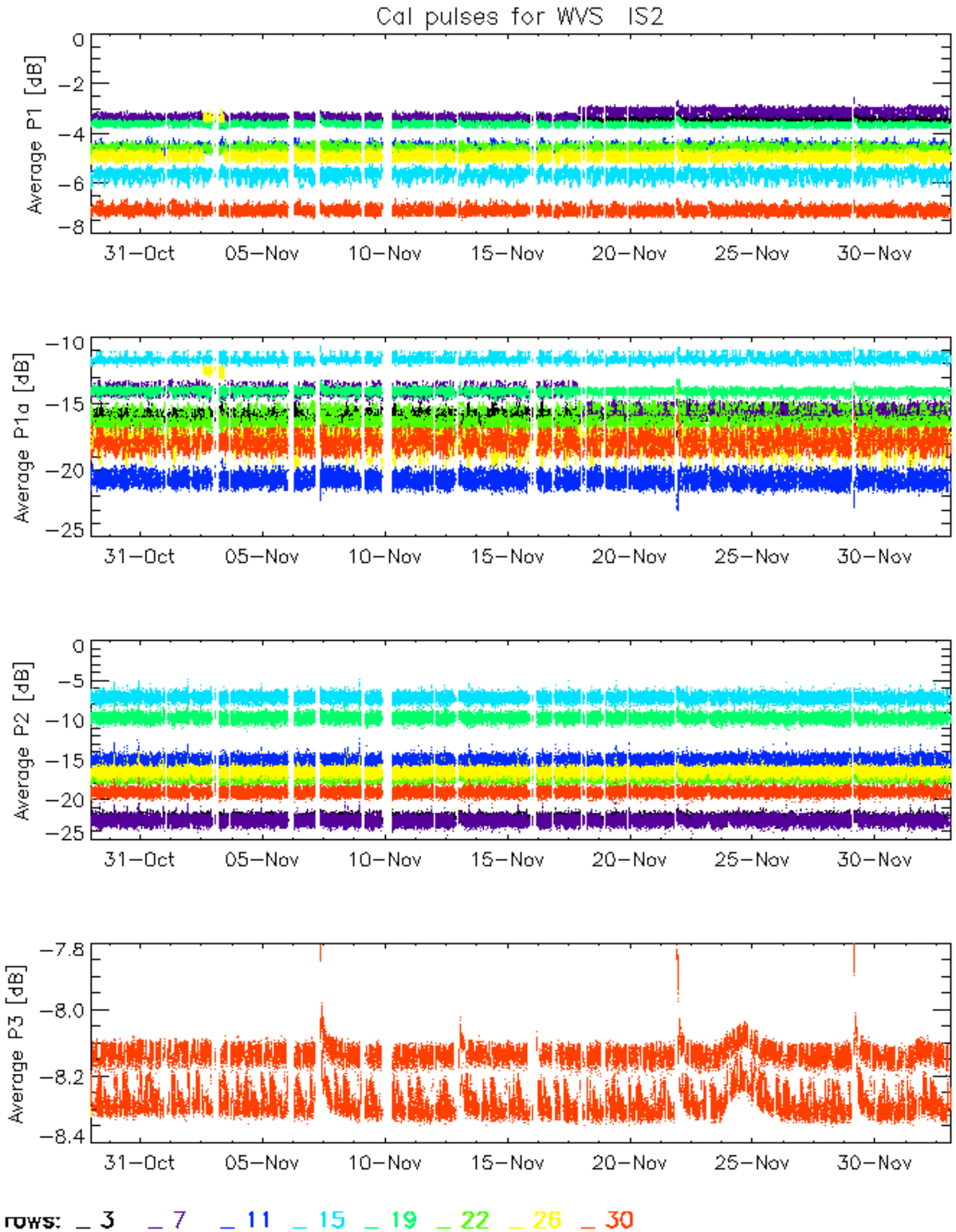
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

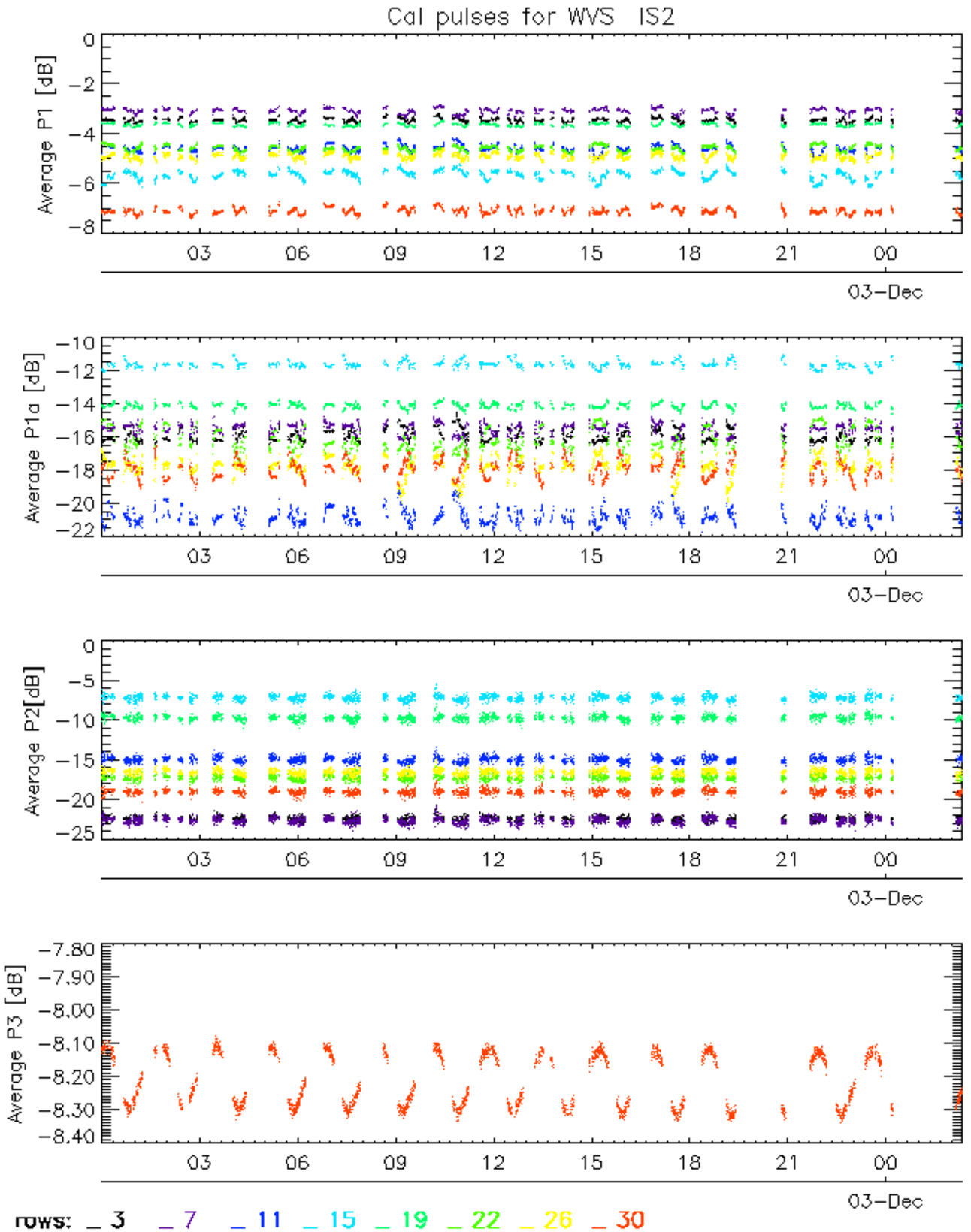
6.6 - Doppler evolution versus ANX for GM1

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

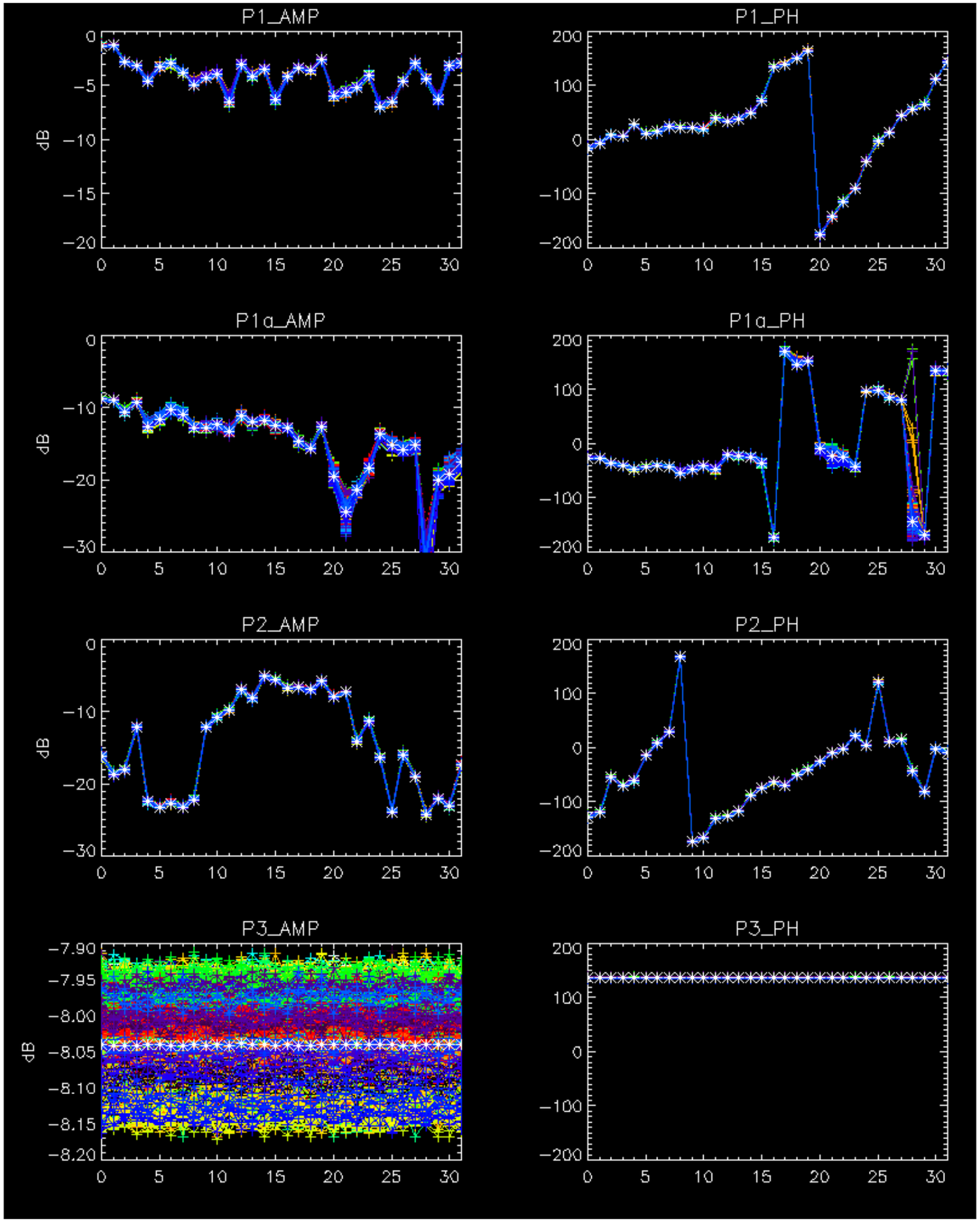

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
21
00
03−Dec
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
03−Dec
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06
09
12
15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

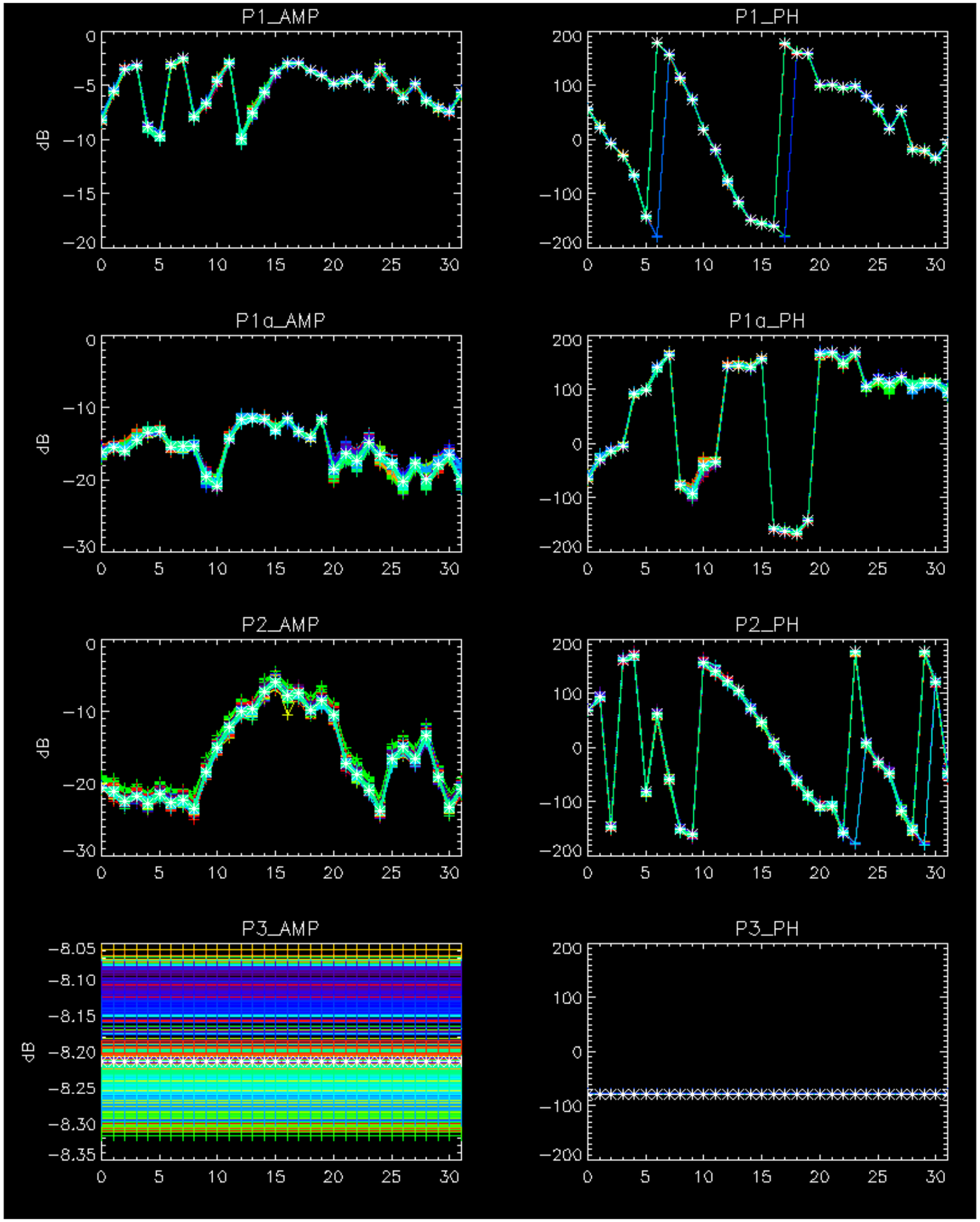

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
31−Oct
05−Nov
10−Nov
15−Nov
20−Nov
25−Nov
30−Nov
Average P1a [dB]
−10
−15
−20
−25
Average P2 [dB]
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


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

No anomalies observed on available browse products

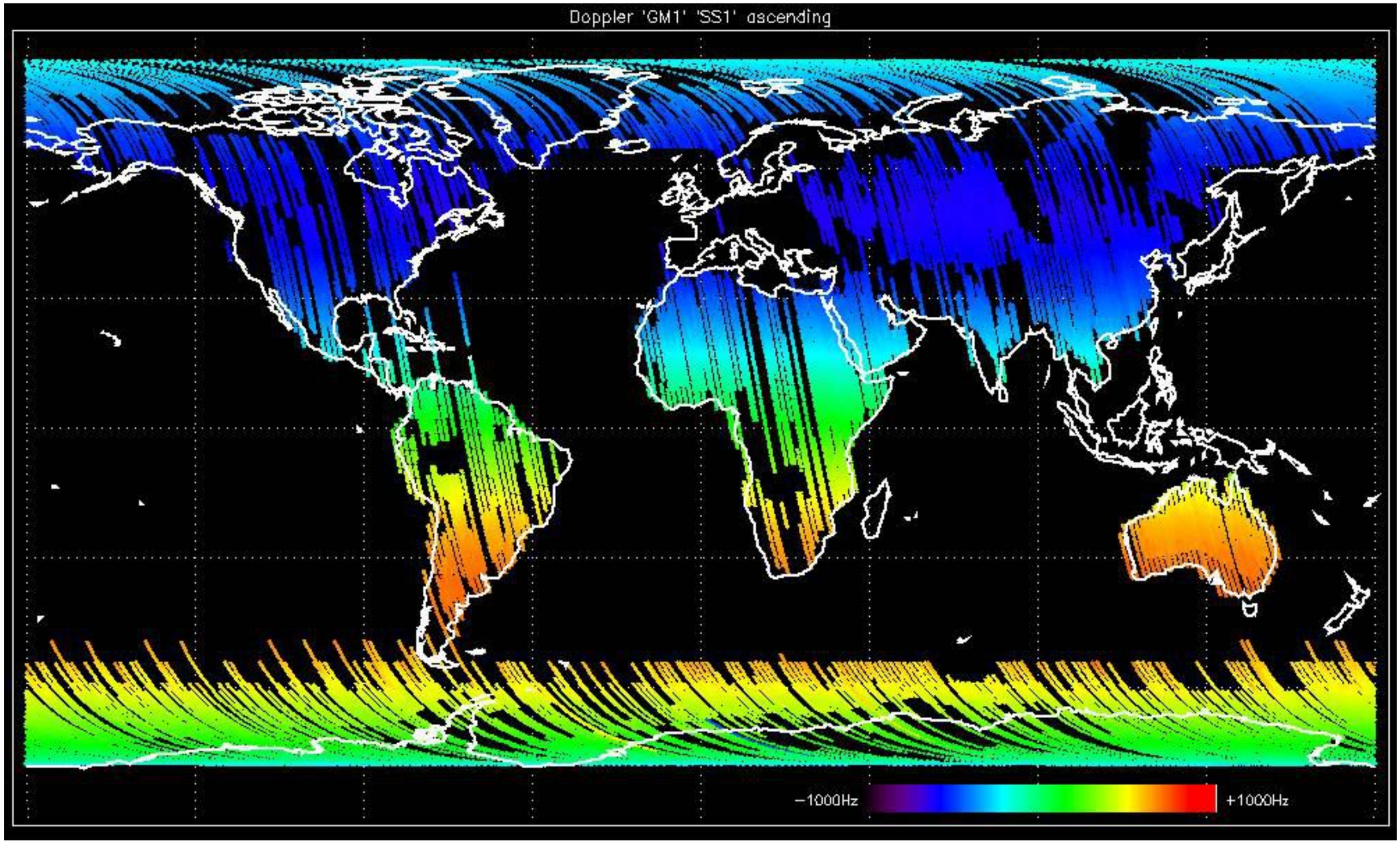
No anomalies observed.

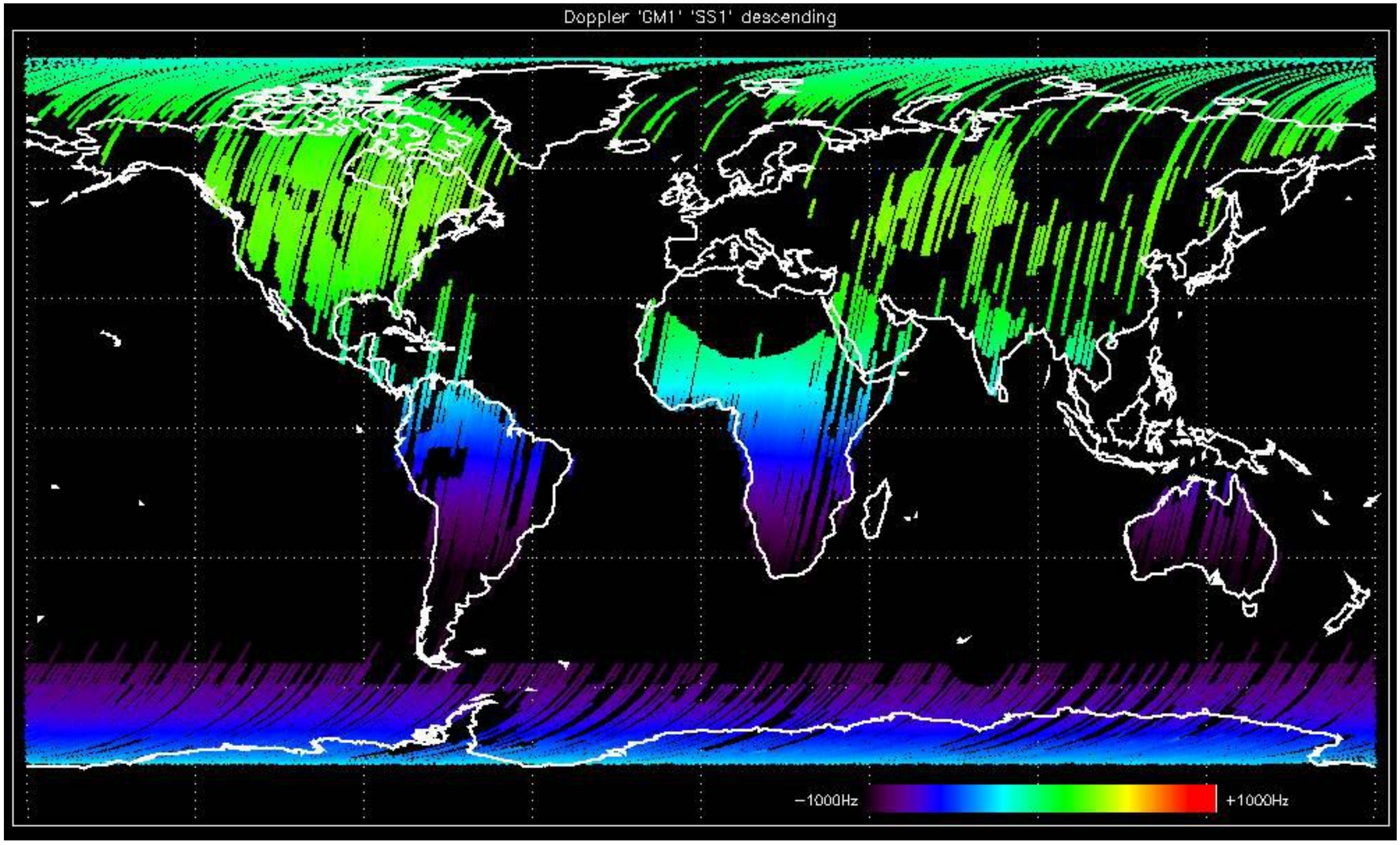

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.90
−7.95
−8.00
−8.05
−8.10
−8.15
−8.20
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

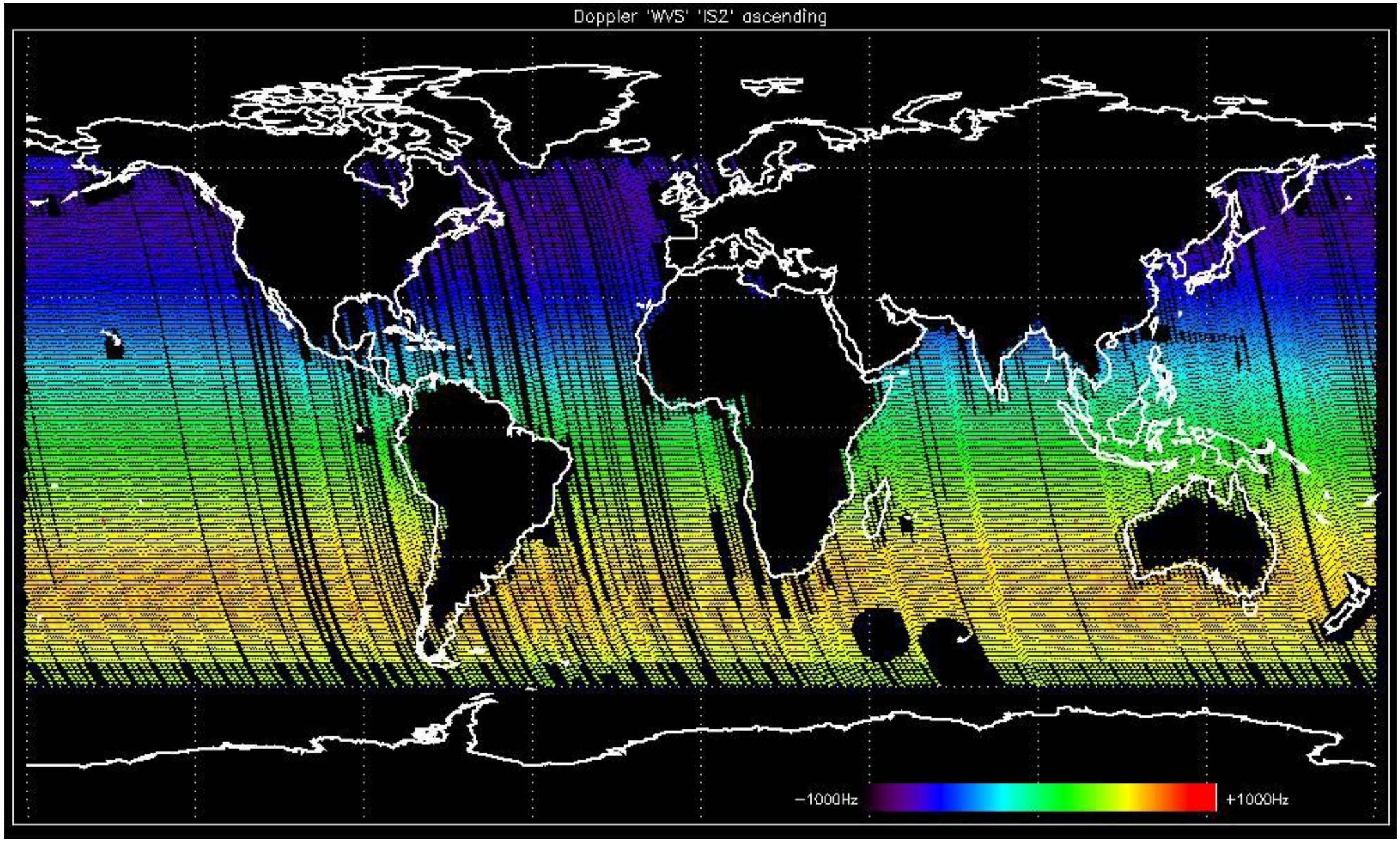

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.05
−8.10
−8.15
−8.20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

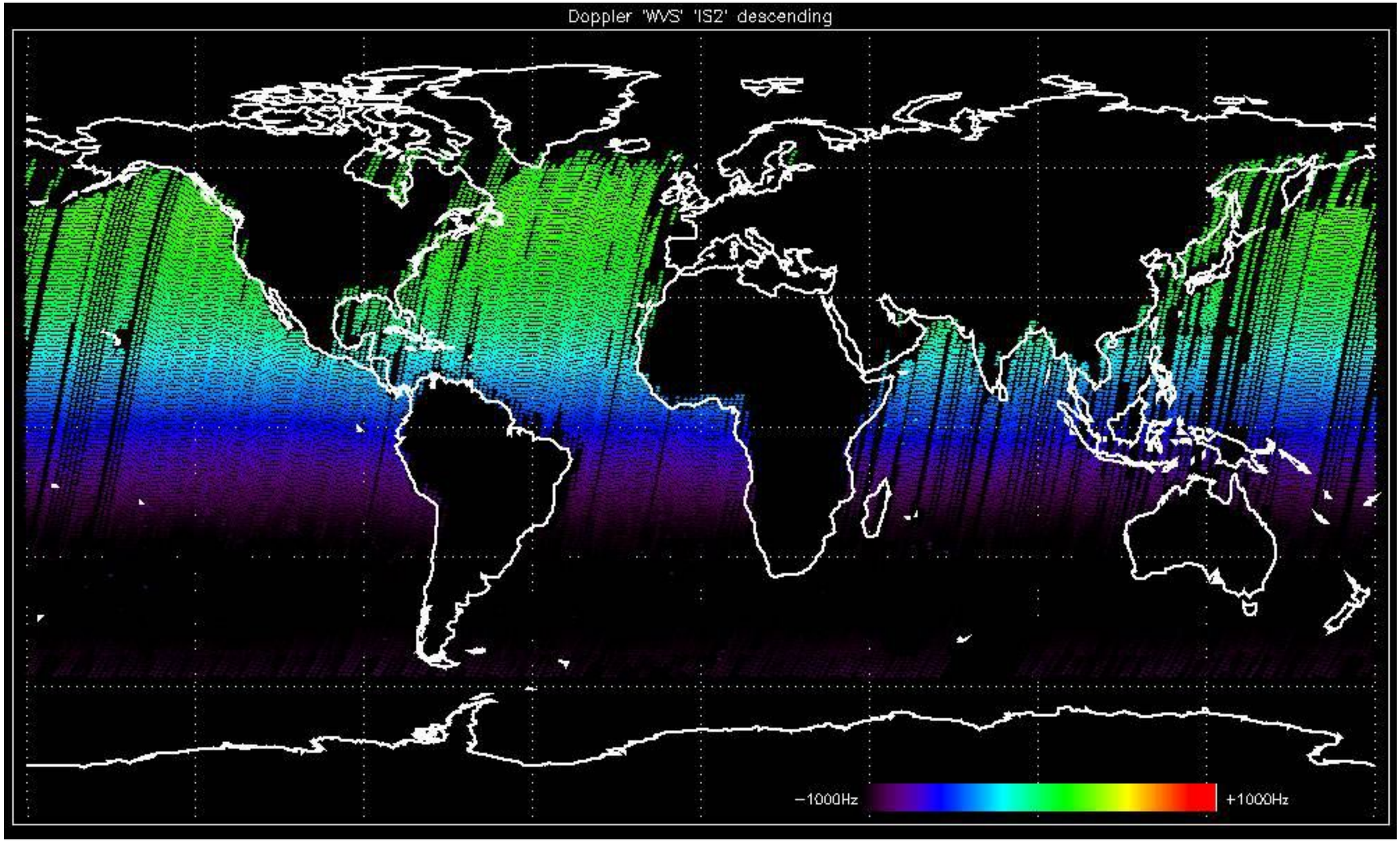
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

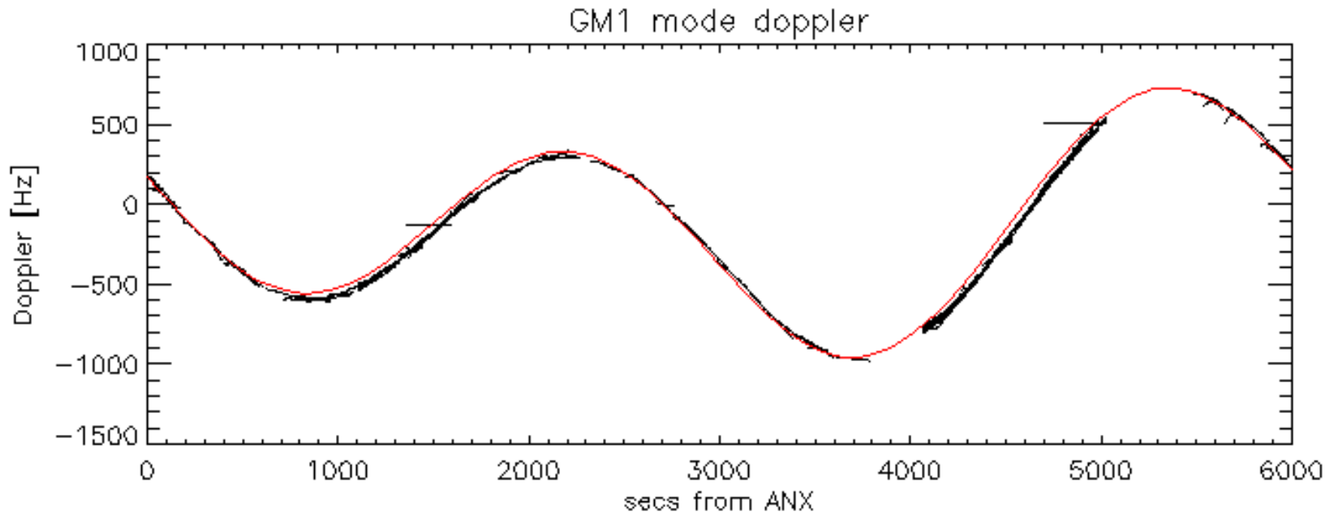
No anomnalies observed in DOppler evolution.
Doppler analysis performed over the last 35 days.

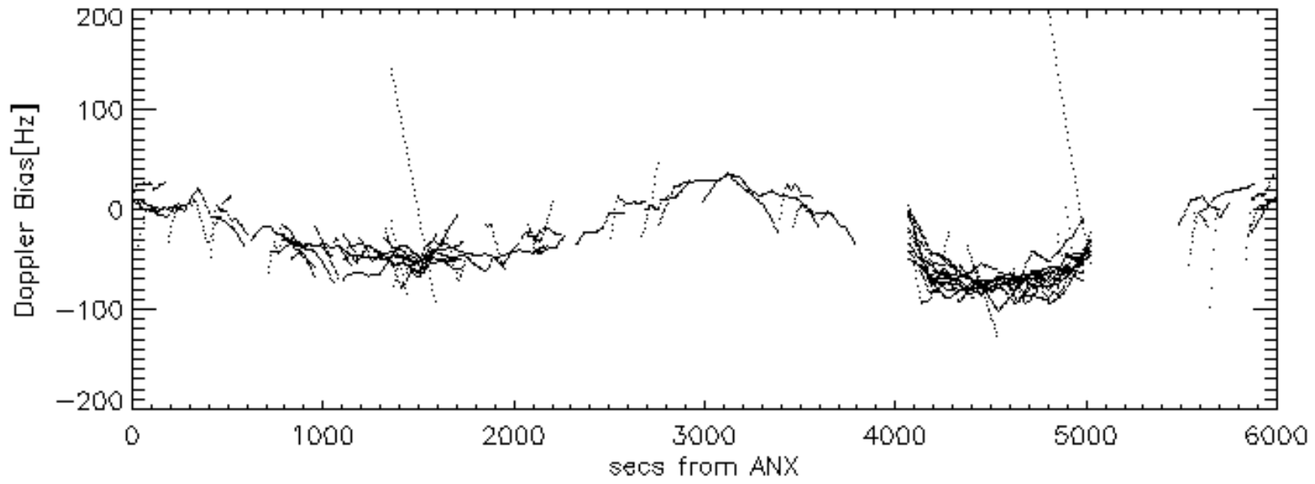

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

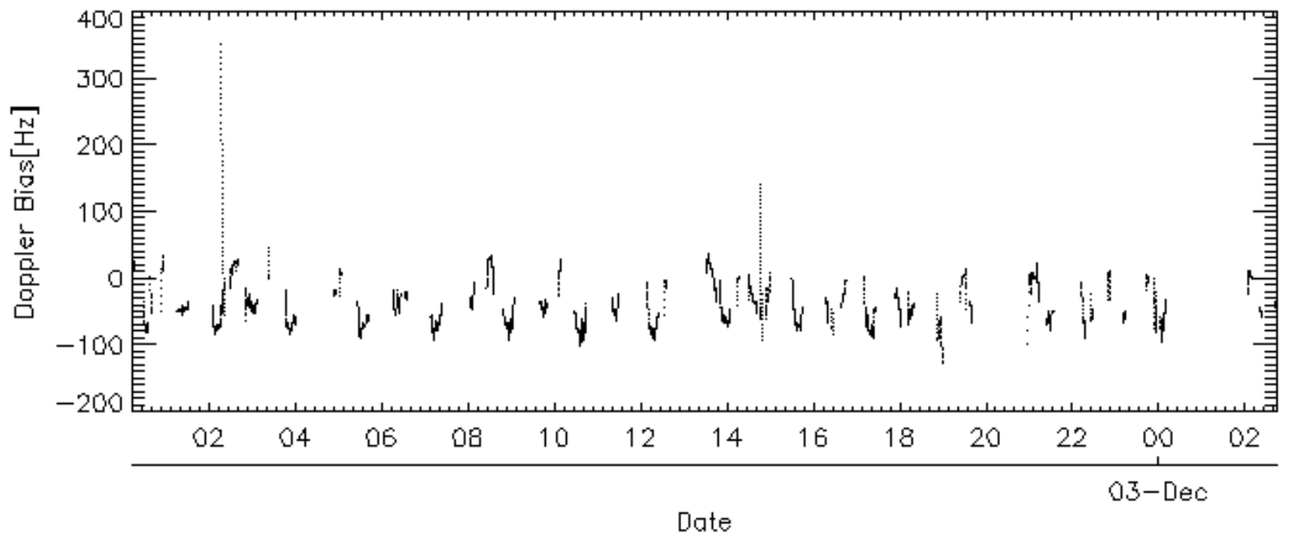

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

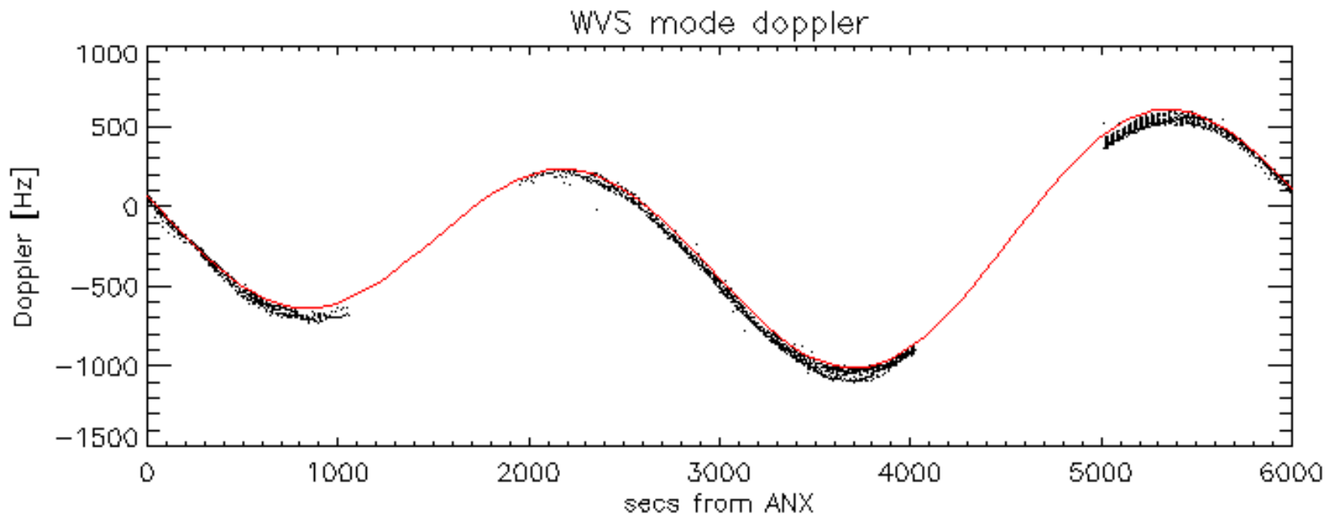

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

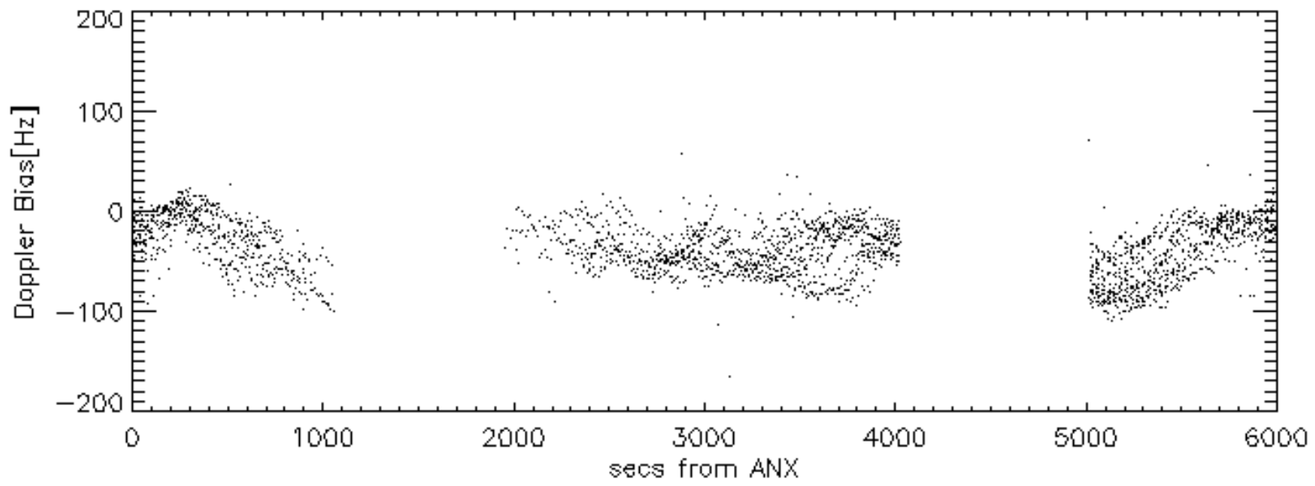

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

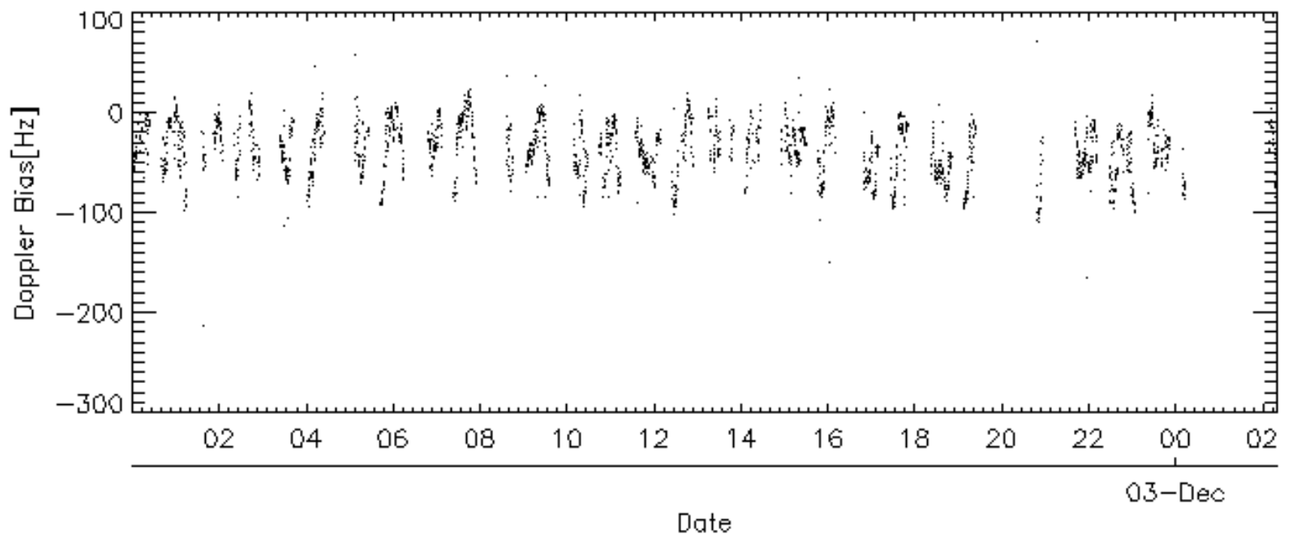

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

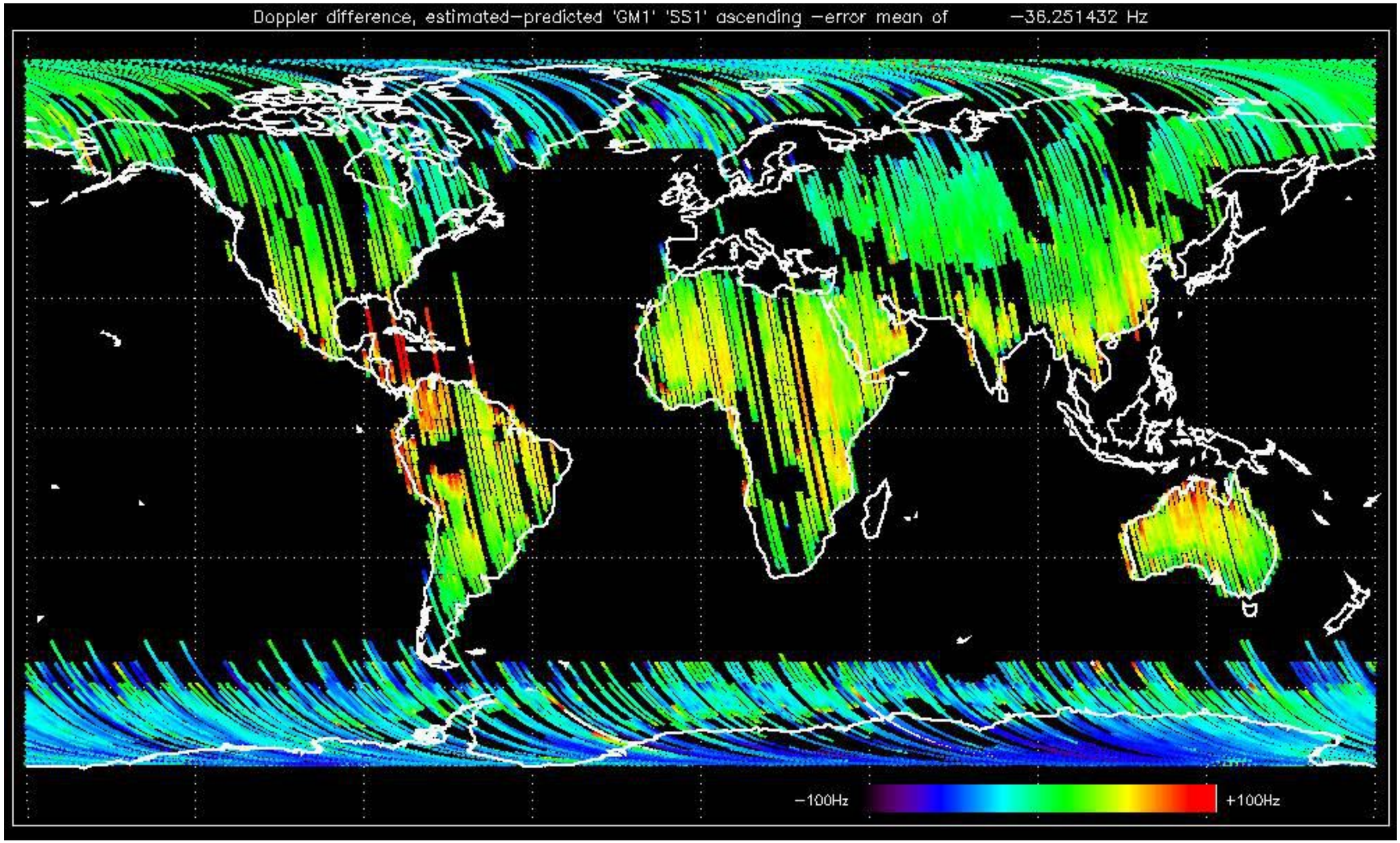

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

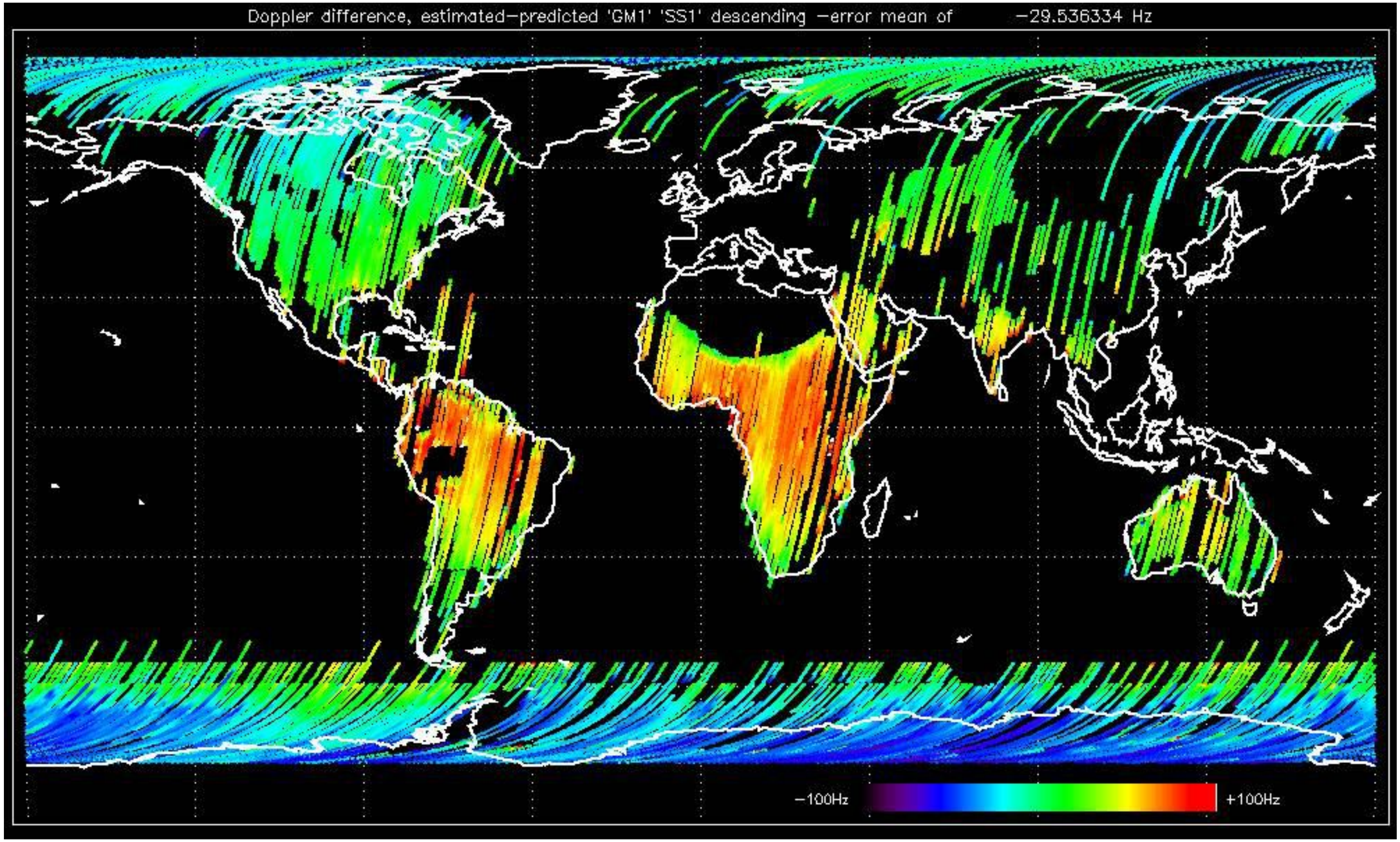

Doppler Bias[Hz]
400
300
200
100
0
−100
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
03−Dec
Date

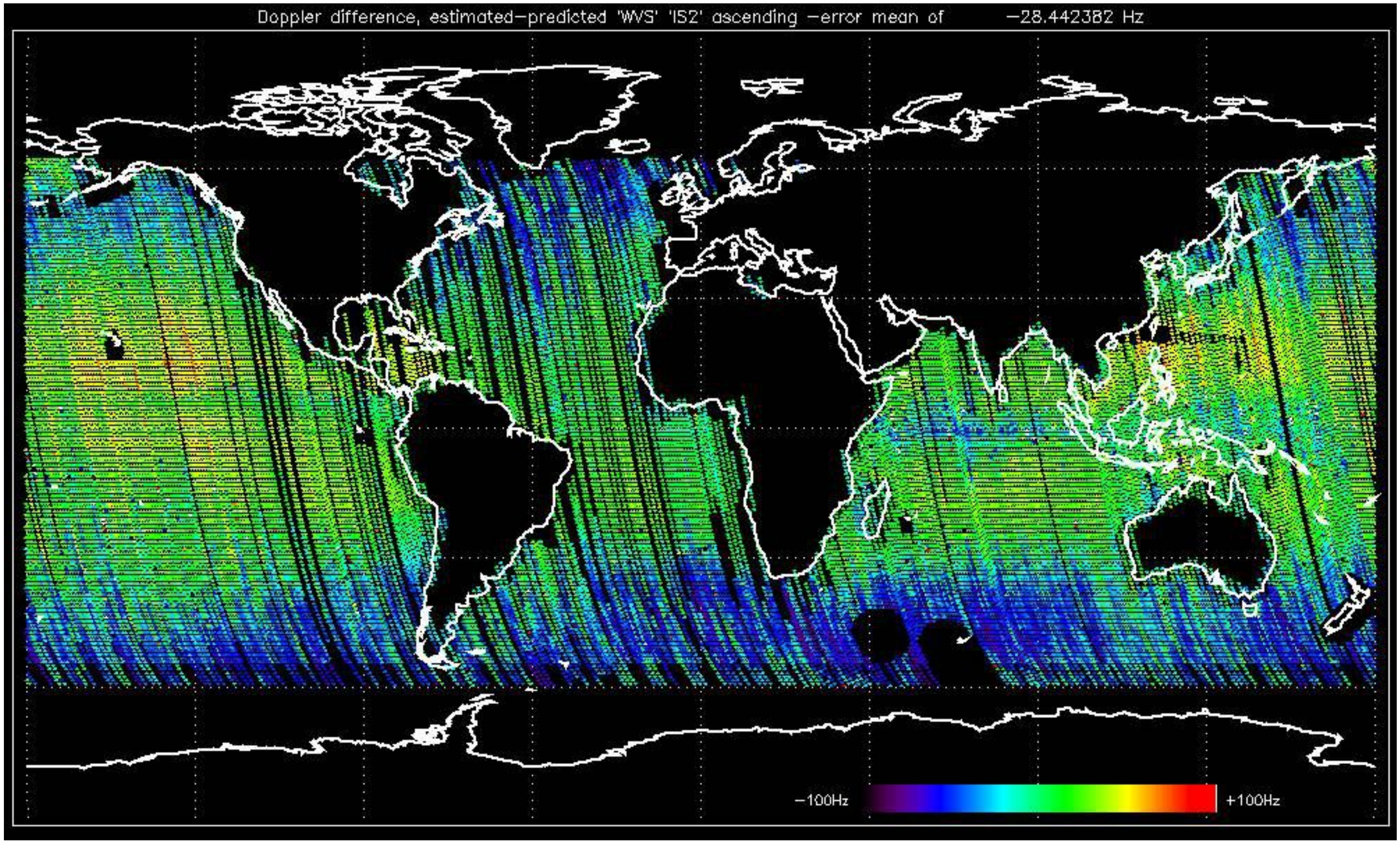

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

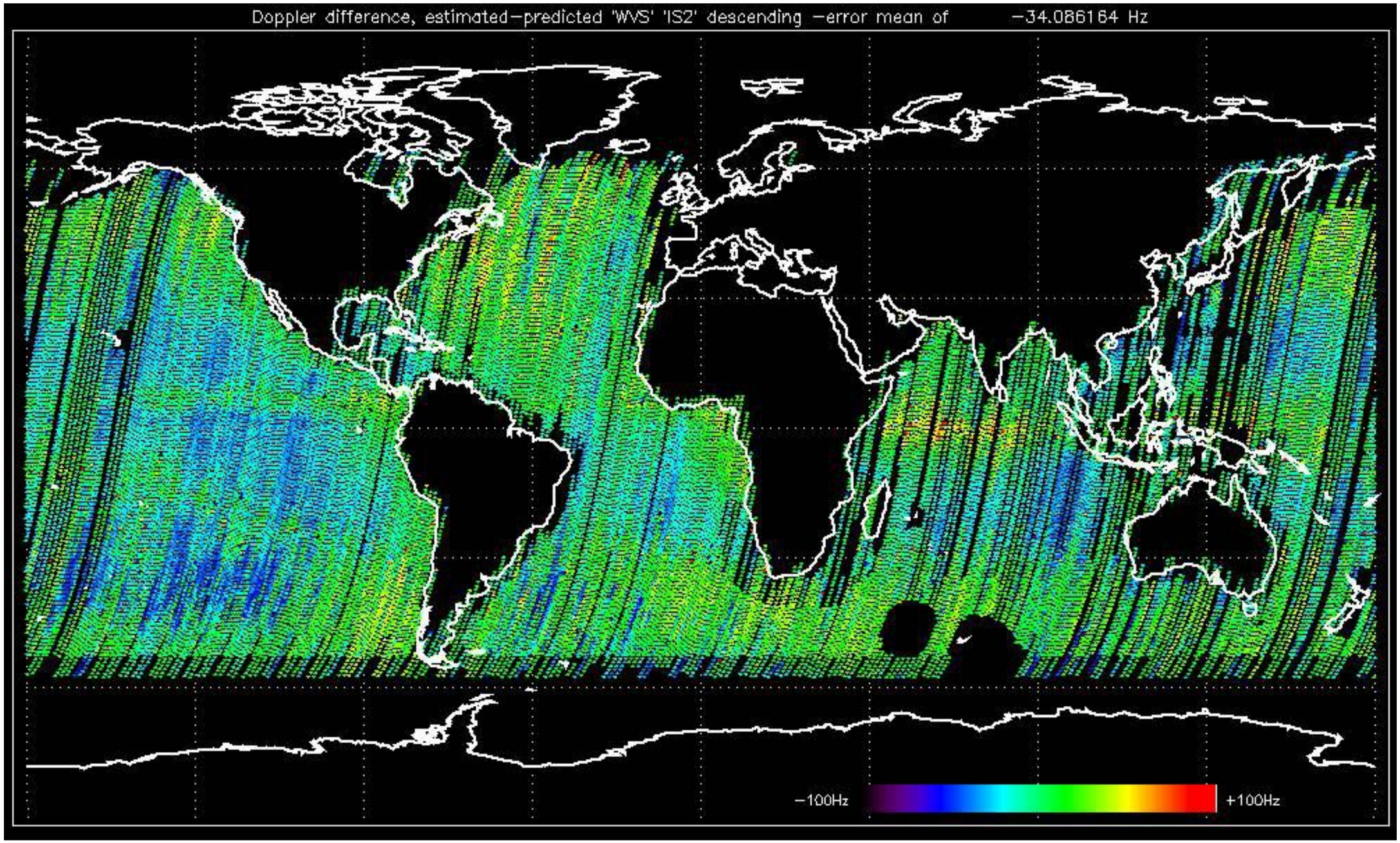

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −36.251432 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −29.536334 Hz
−100Hz
+100Hz

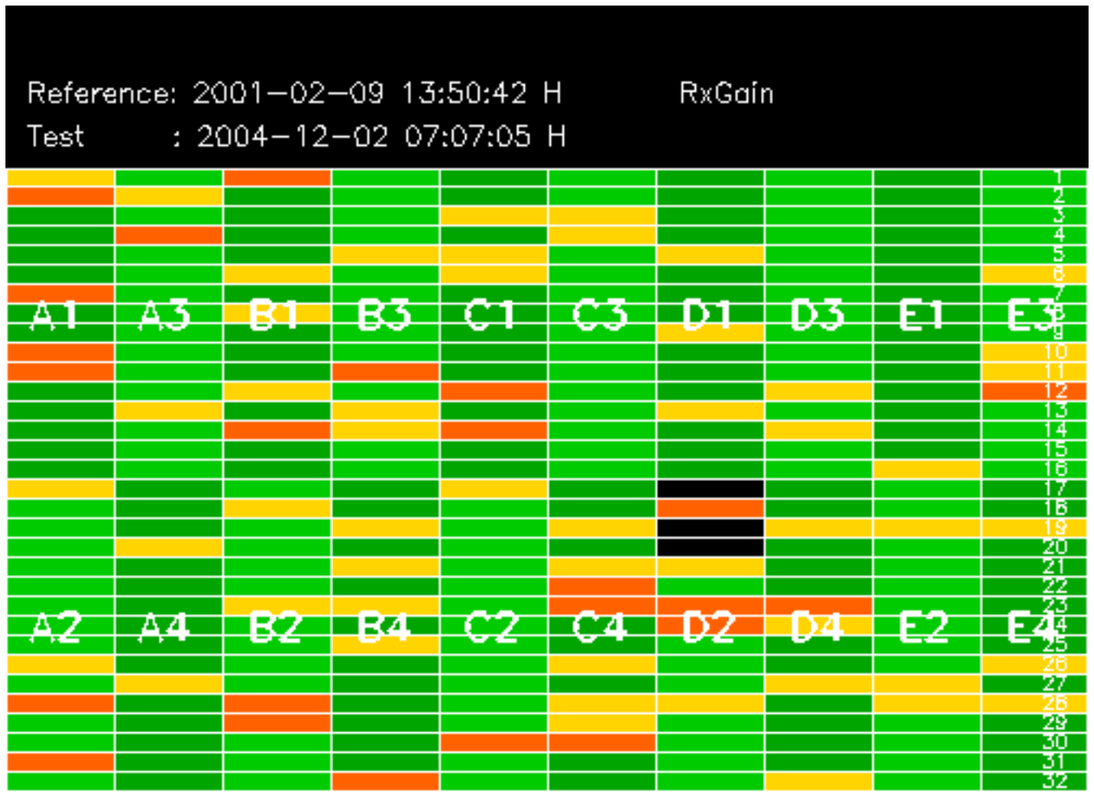

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −28.442382 Hz
−100Hz
+100Hz

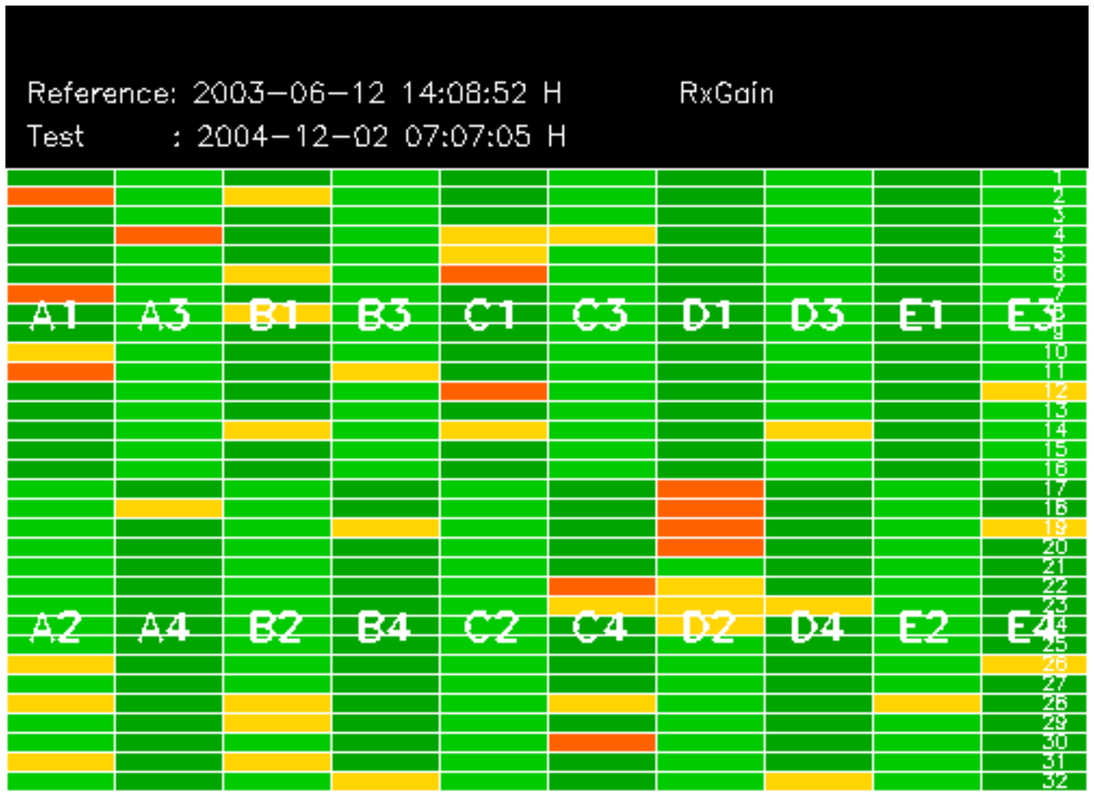

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −34.086164 Hz
−100Hz
+100Hz

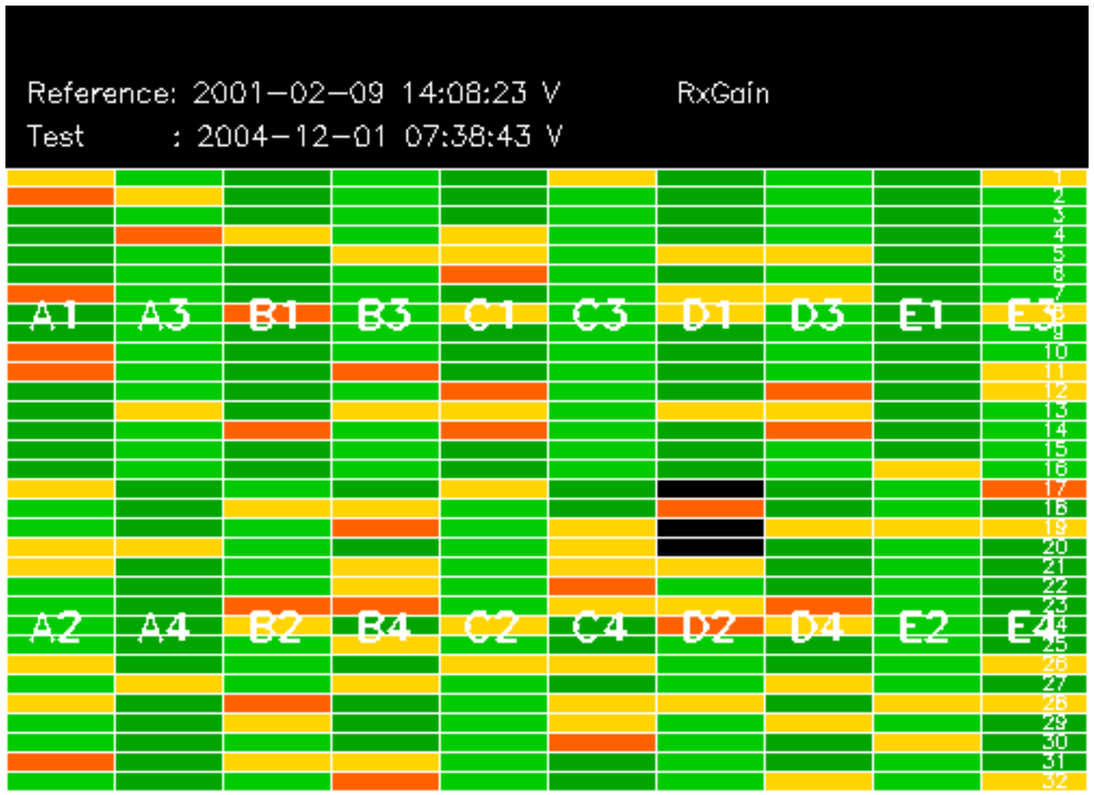
The MS mode provides an internal health check on an individual module basis.
The purpose of this mode is to identify any malfunctionning modules and
to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

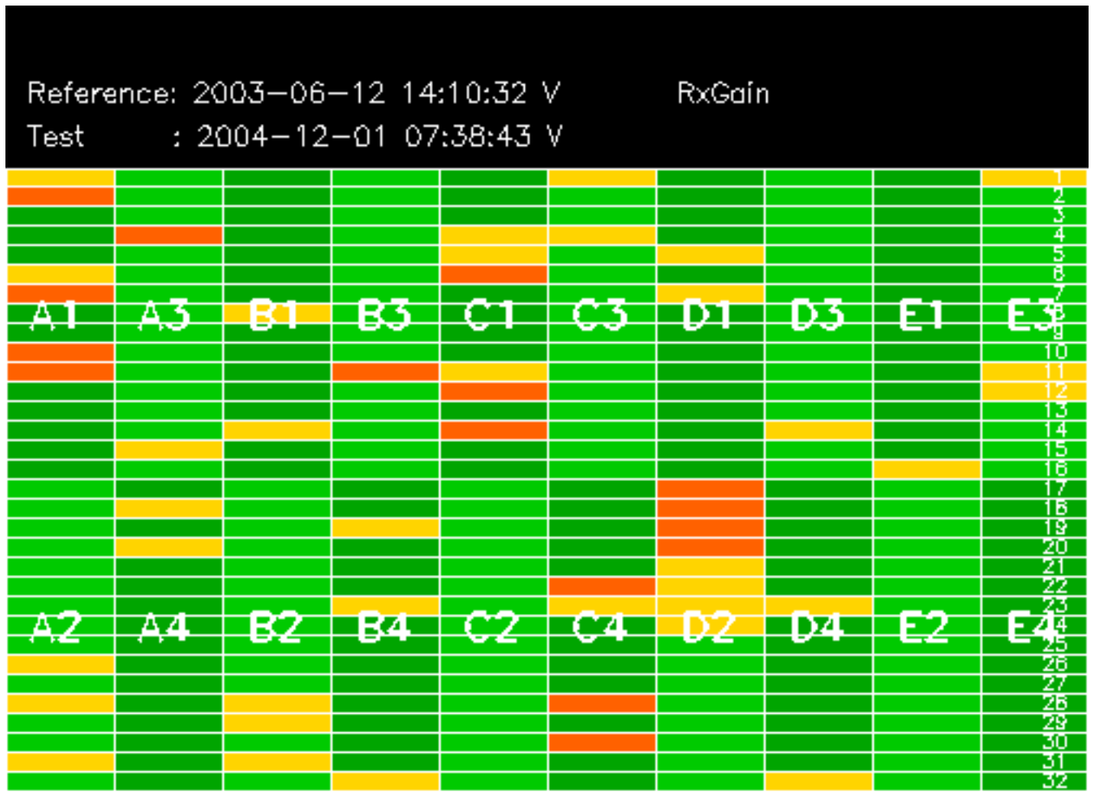
- ASA_MS__0PNPDK20041202_070705_000000152032_00335_14417_0132.N1

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 : 2004-12-01 07:38:43 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-12-01 07:38:43 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
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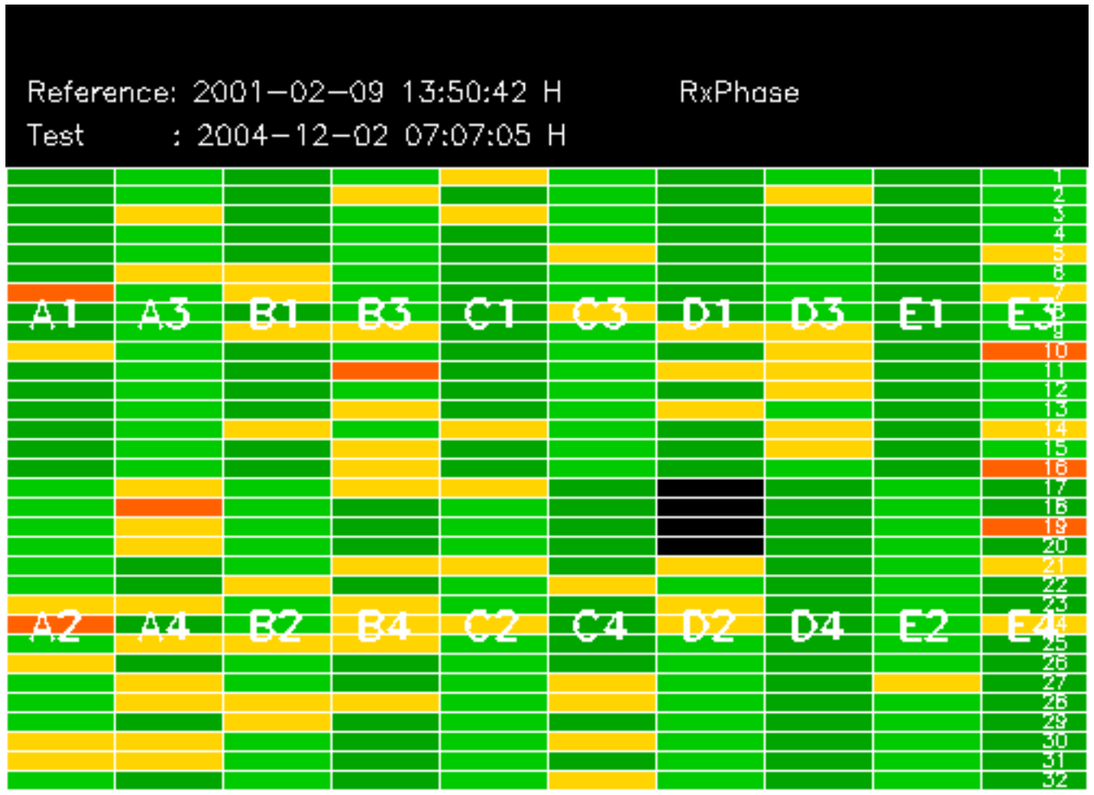
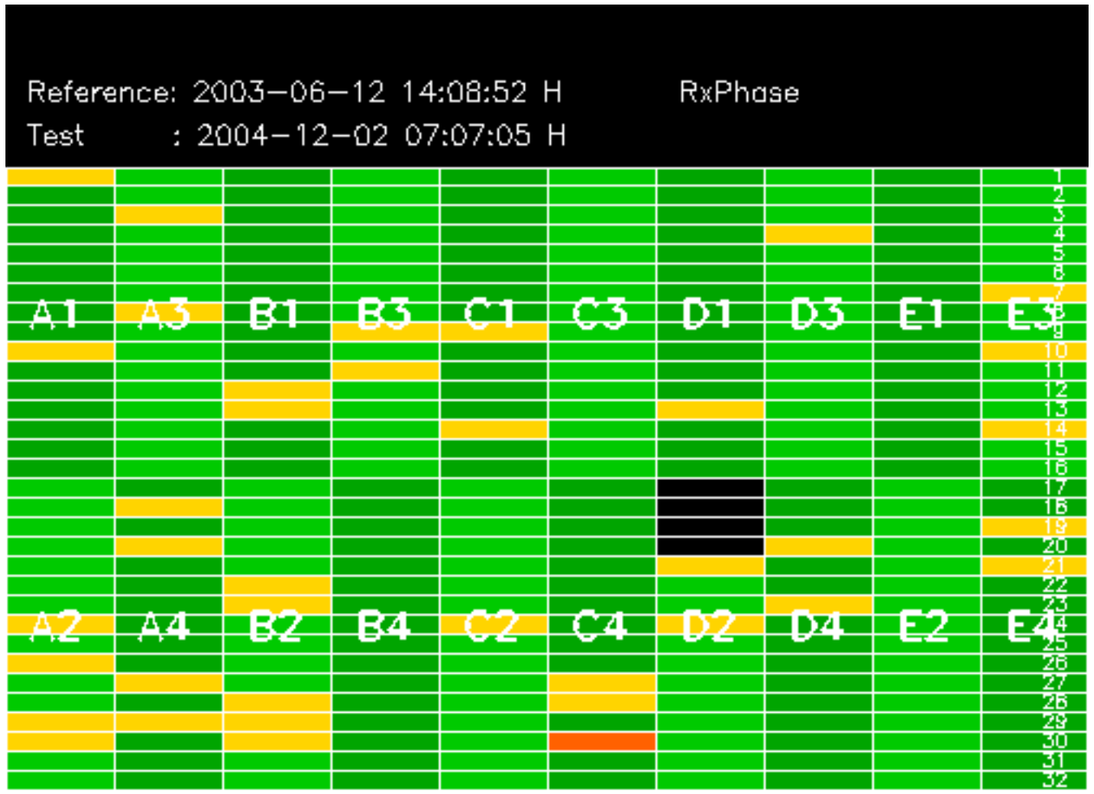
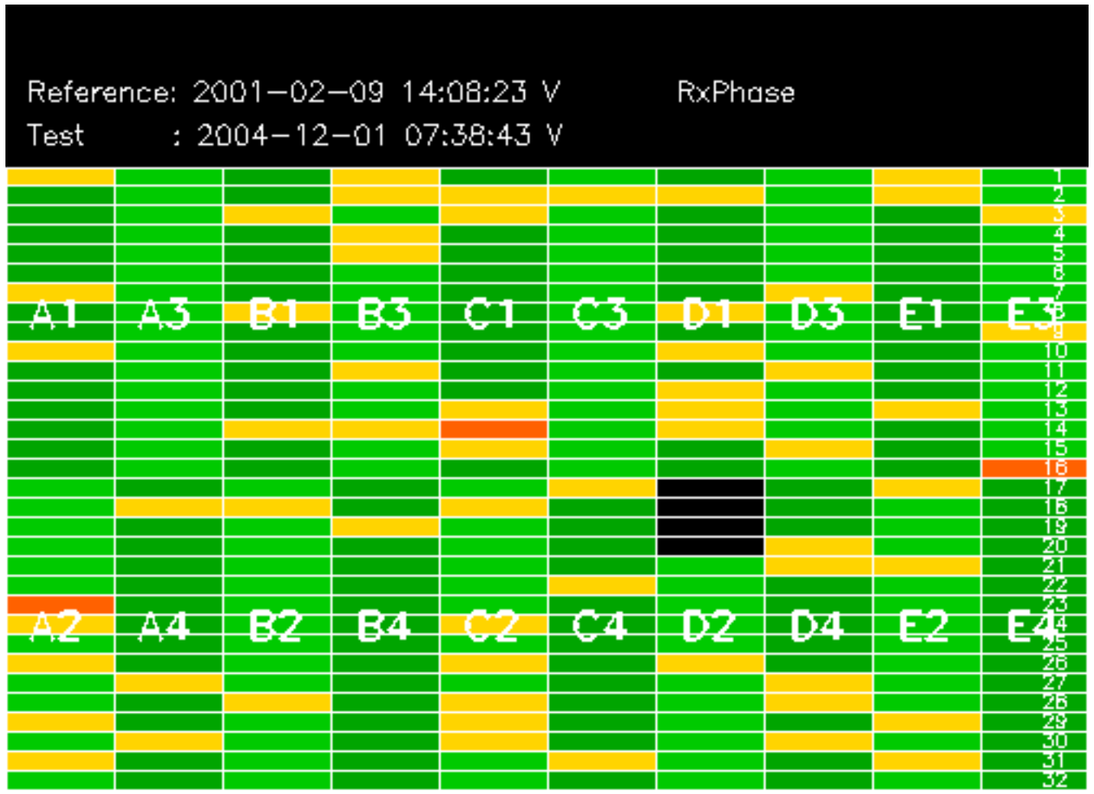
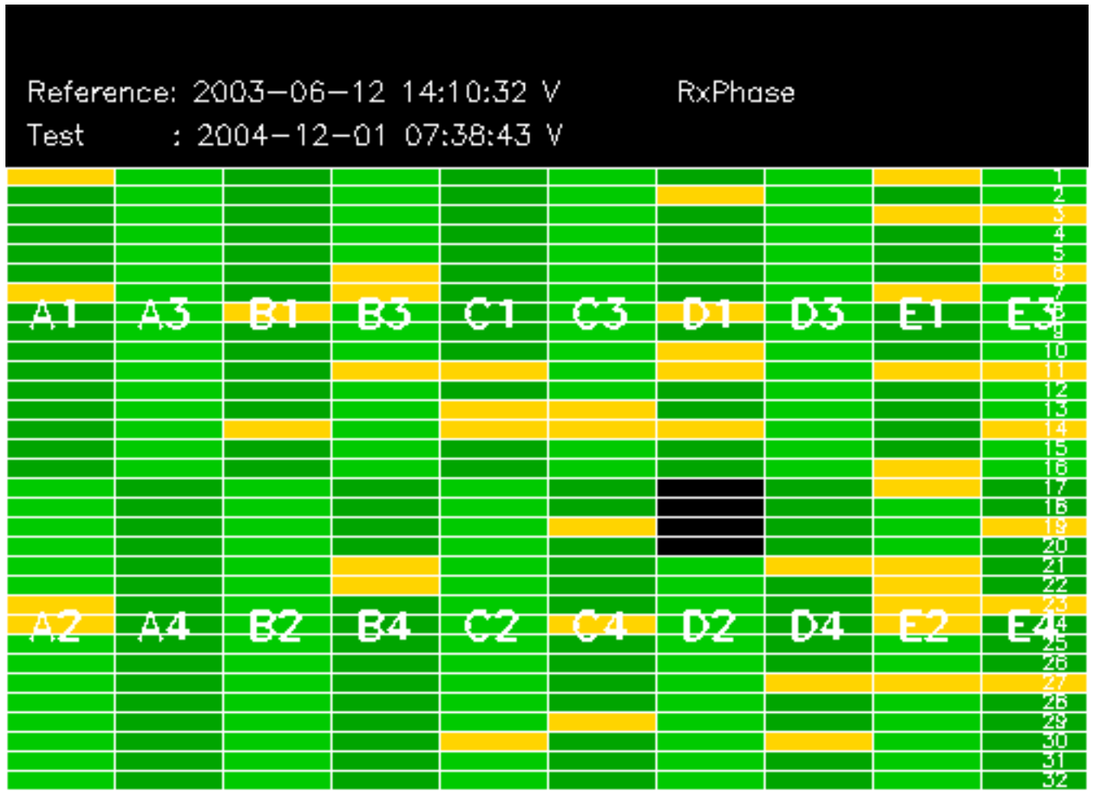
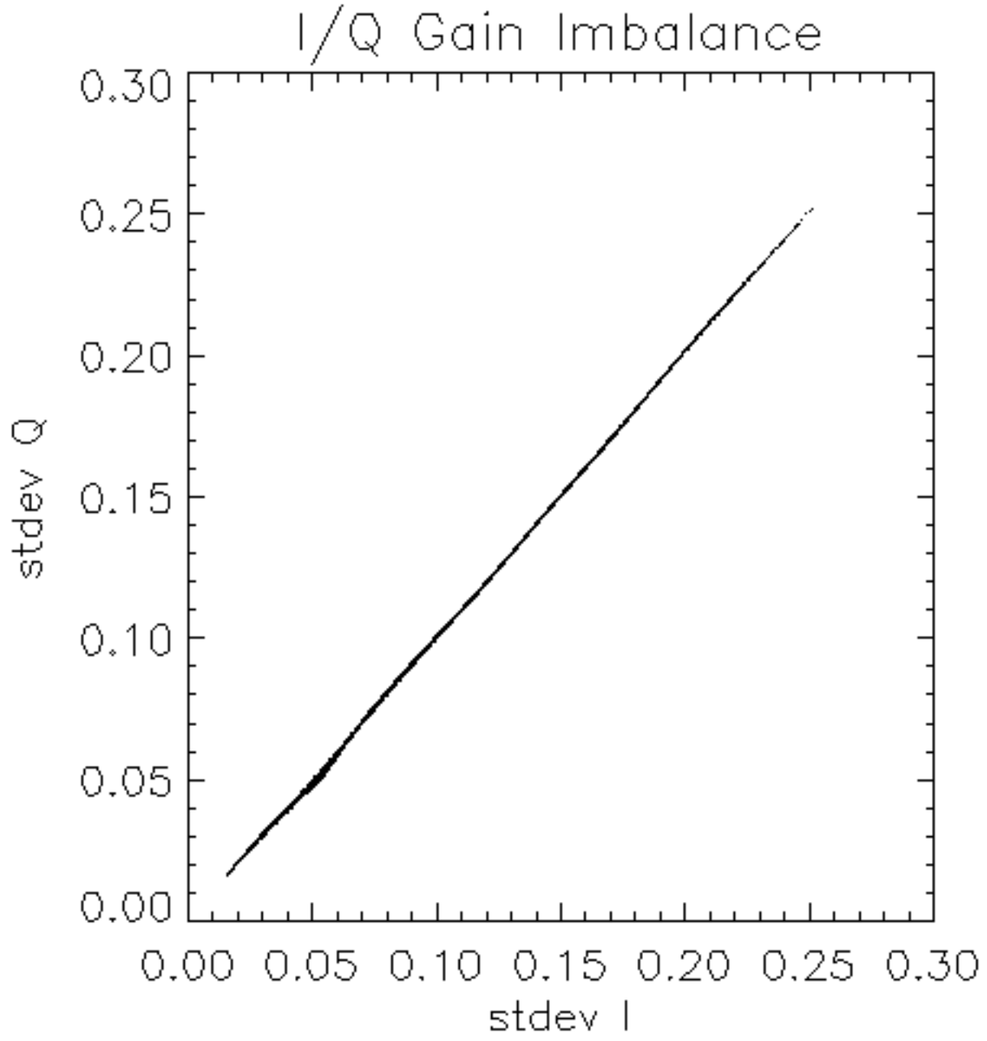
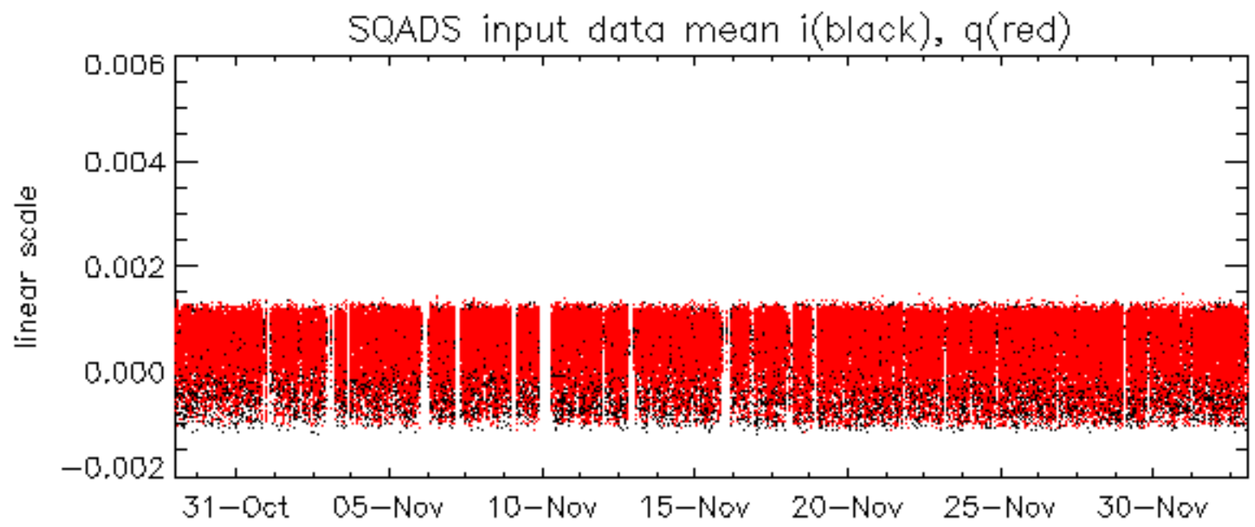

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-12-02 07:07:05 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

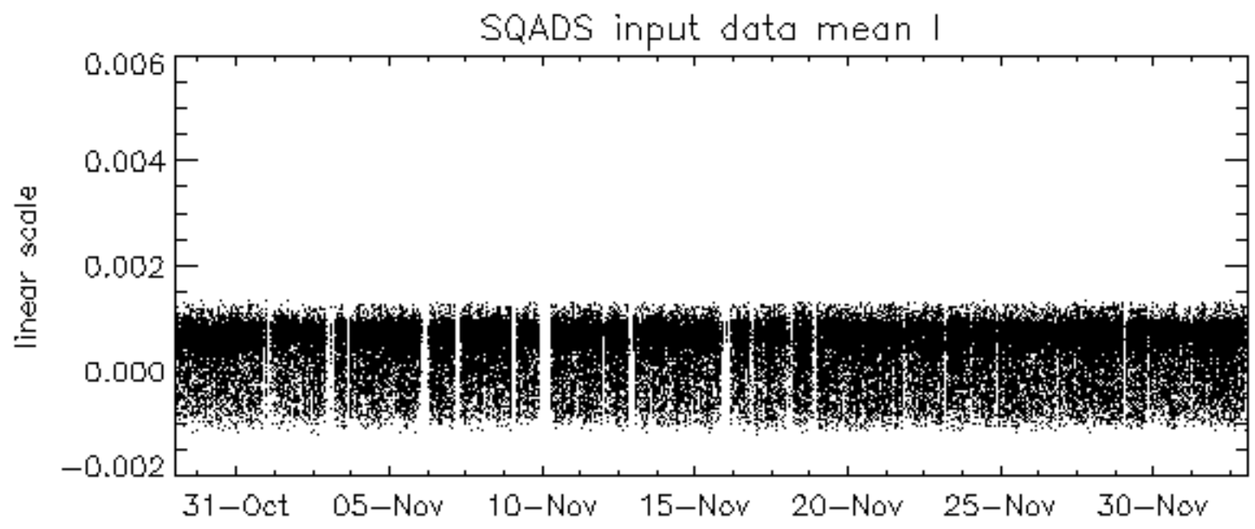

Reference: 2003-06-12 14:08:52 H
Test : 2004-12-02 07:07:05 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

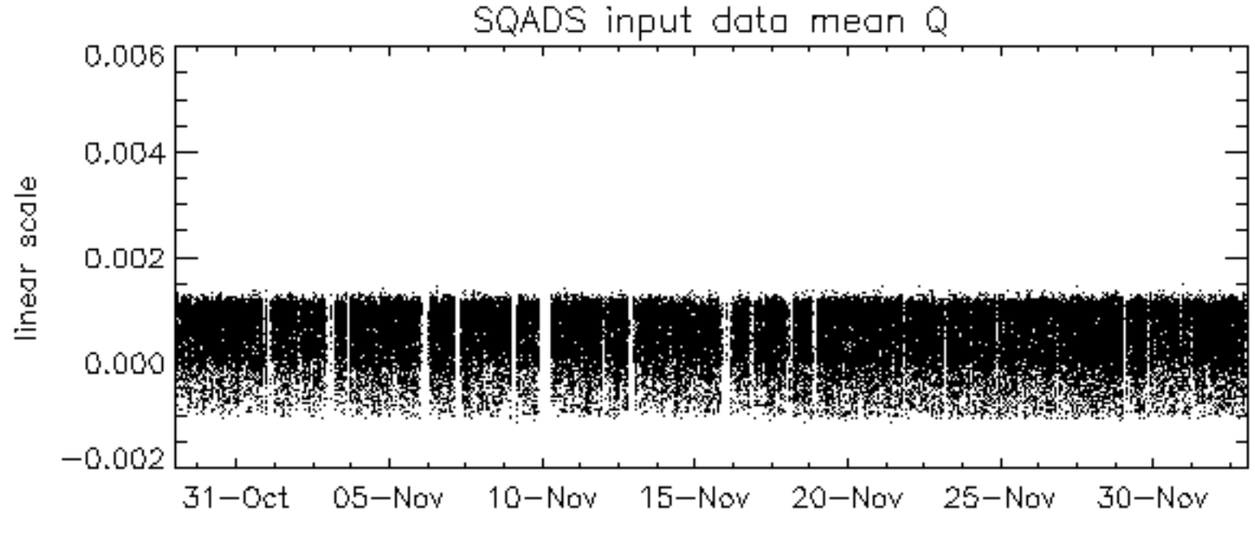

Reference: 2001-02-09 14:08:23 V
Test : 2004-12-01 07:38:43 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

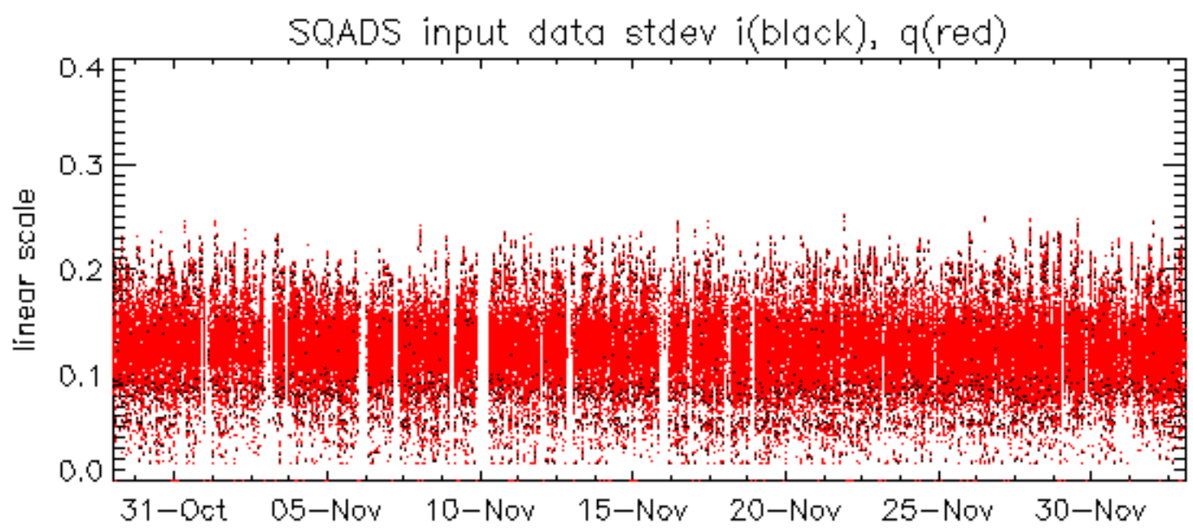

Reference: 2003-06-12 14:10:32 V
Test : 2004-12-01 07:38:43 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

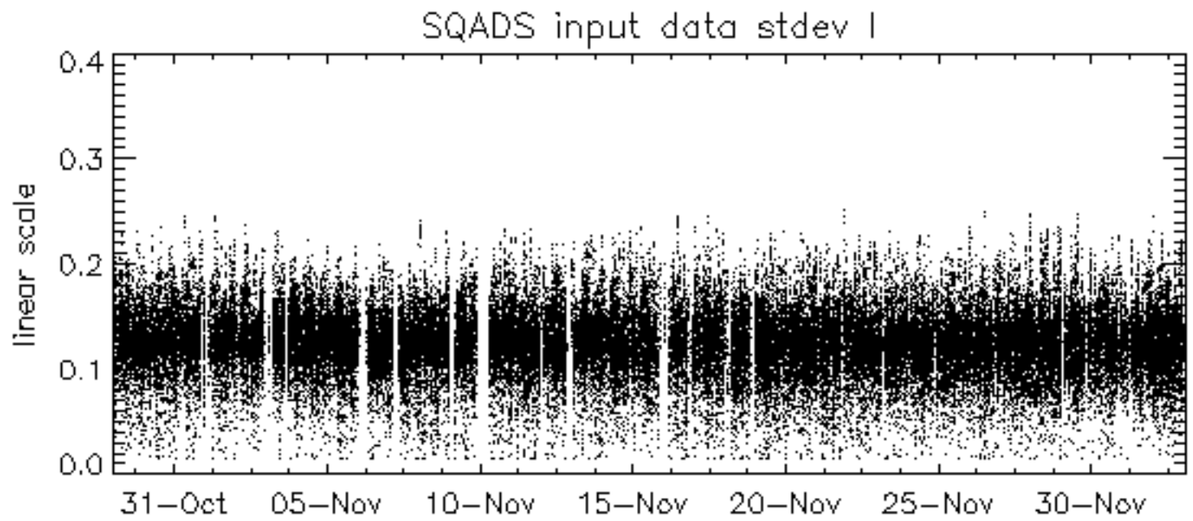

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

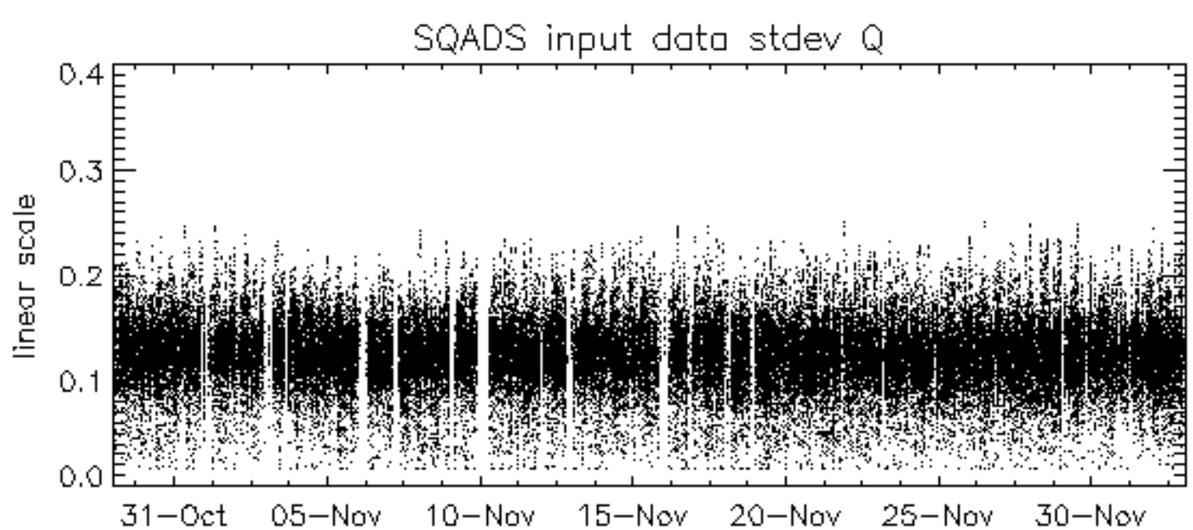

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Oct
05−Nov
10−Nov
15−Nov
20−Nov
25−Nov
30−Nov

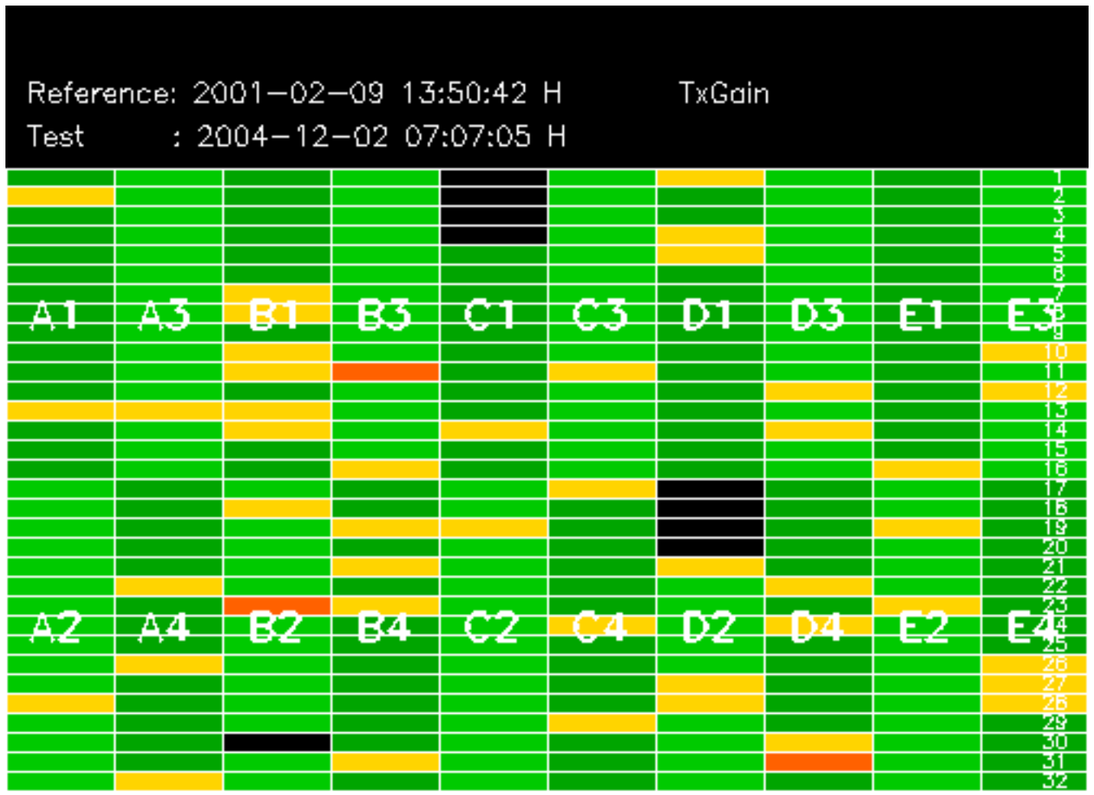

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Oct
05−Nov
10−Nov
15−Nov
20−Nov
25−Nov
30−Nov

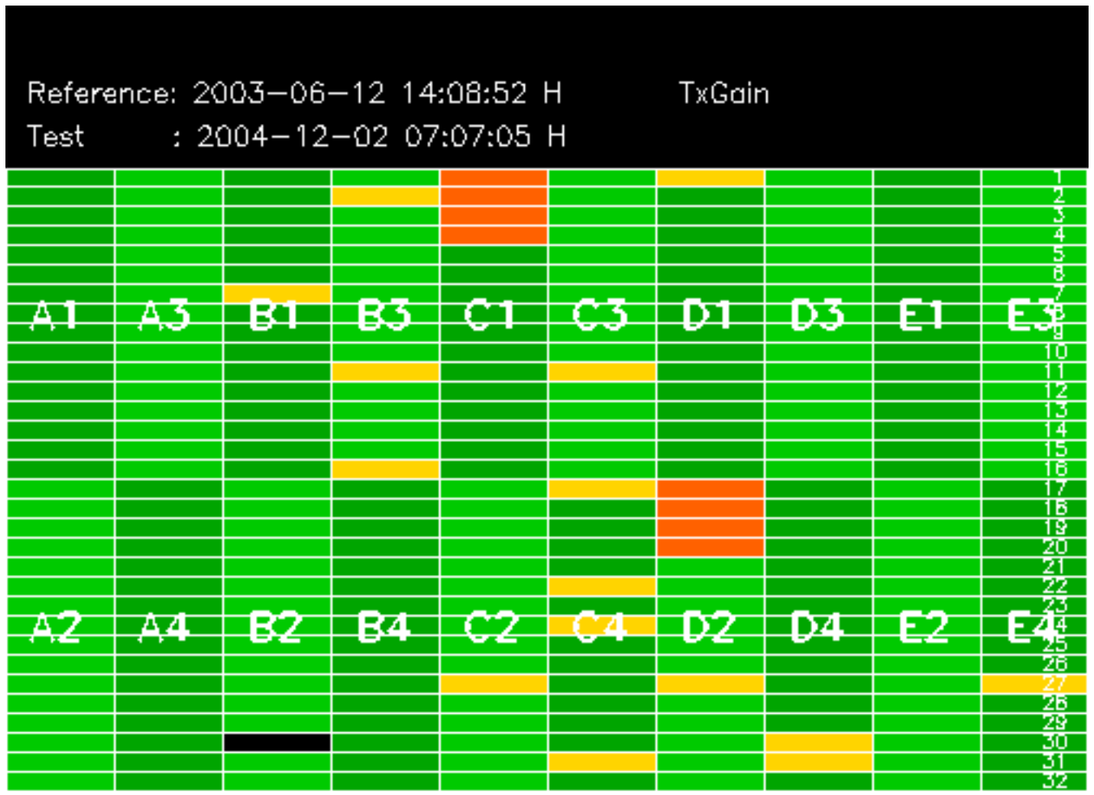

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Oct
05−Nov
10−Nov
15−Nov
20−Nov
25−Nov
30−Nov


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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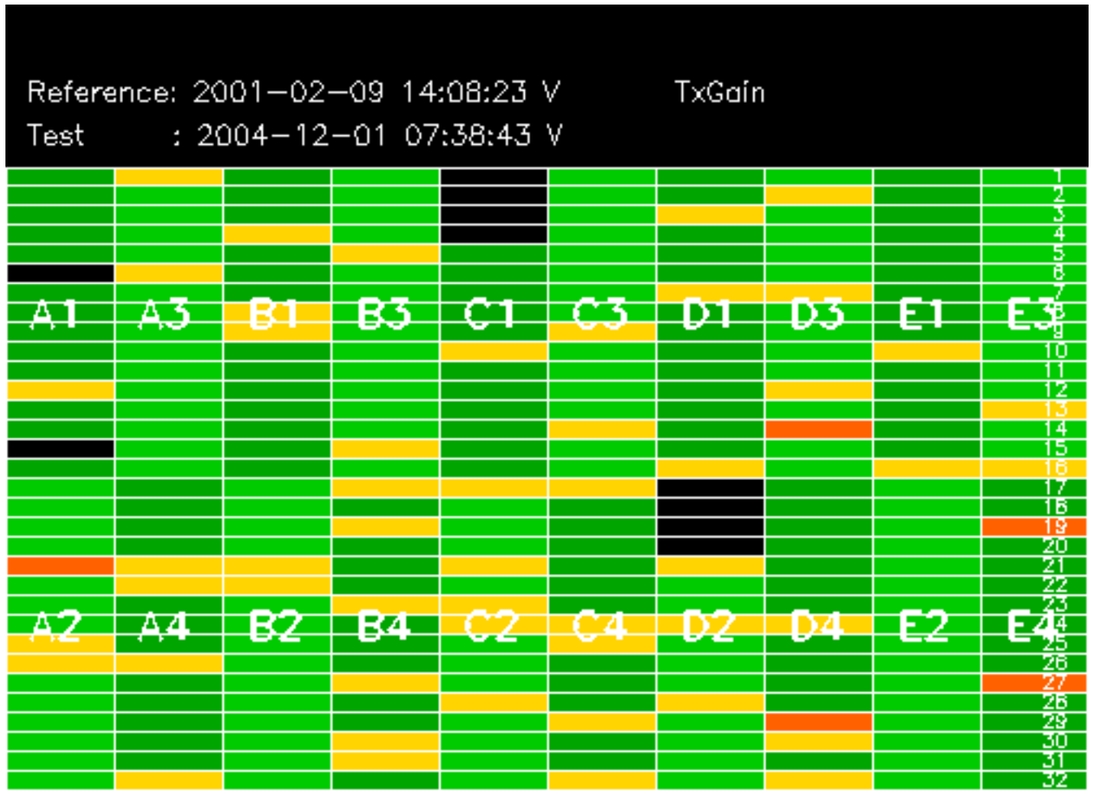
Reference: 2001-02-09 14:08:23 V
Test : 2004-12-01 07:38:43 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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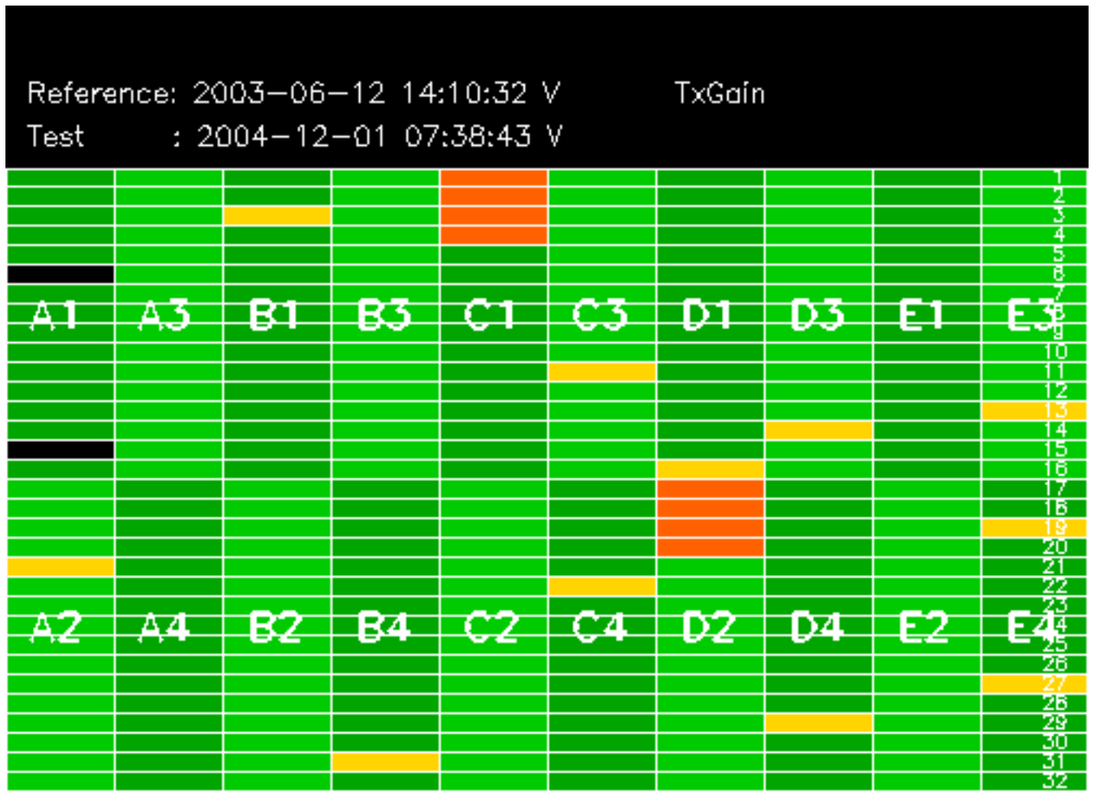
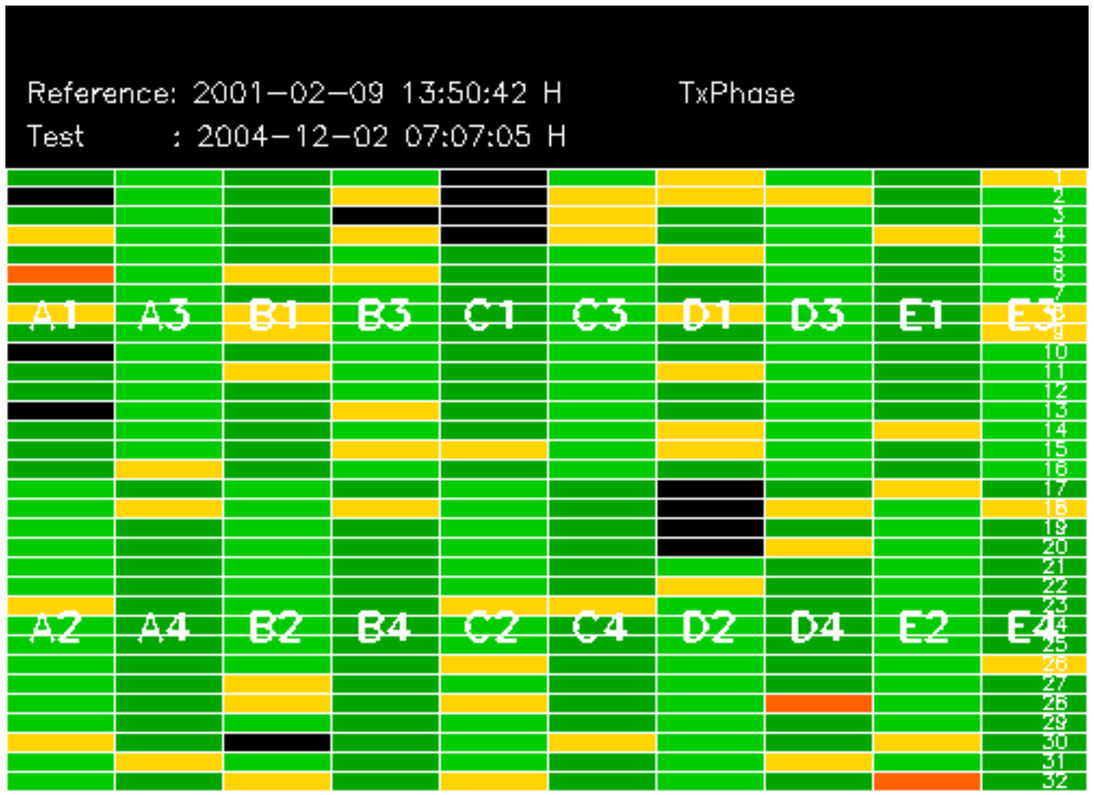

Reference: 2003-06-12 14:10:32 V
Test : 2004-12-01 07:38:43 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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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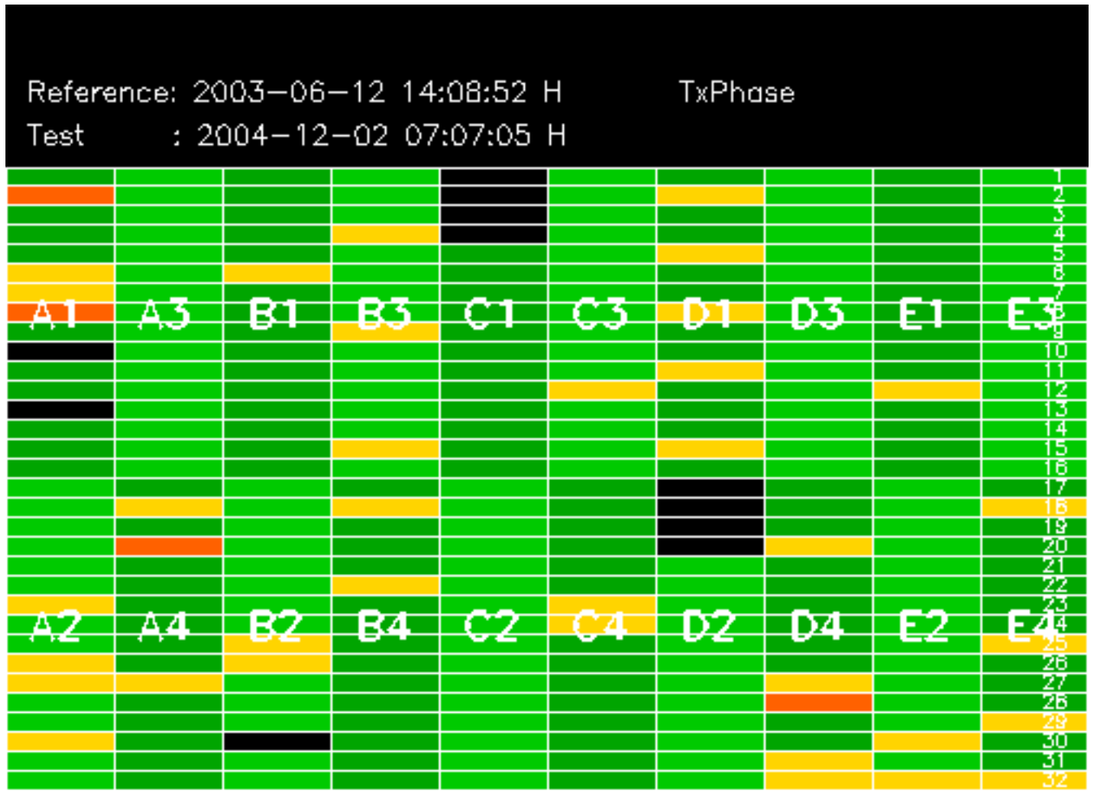
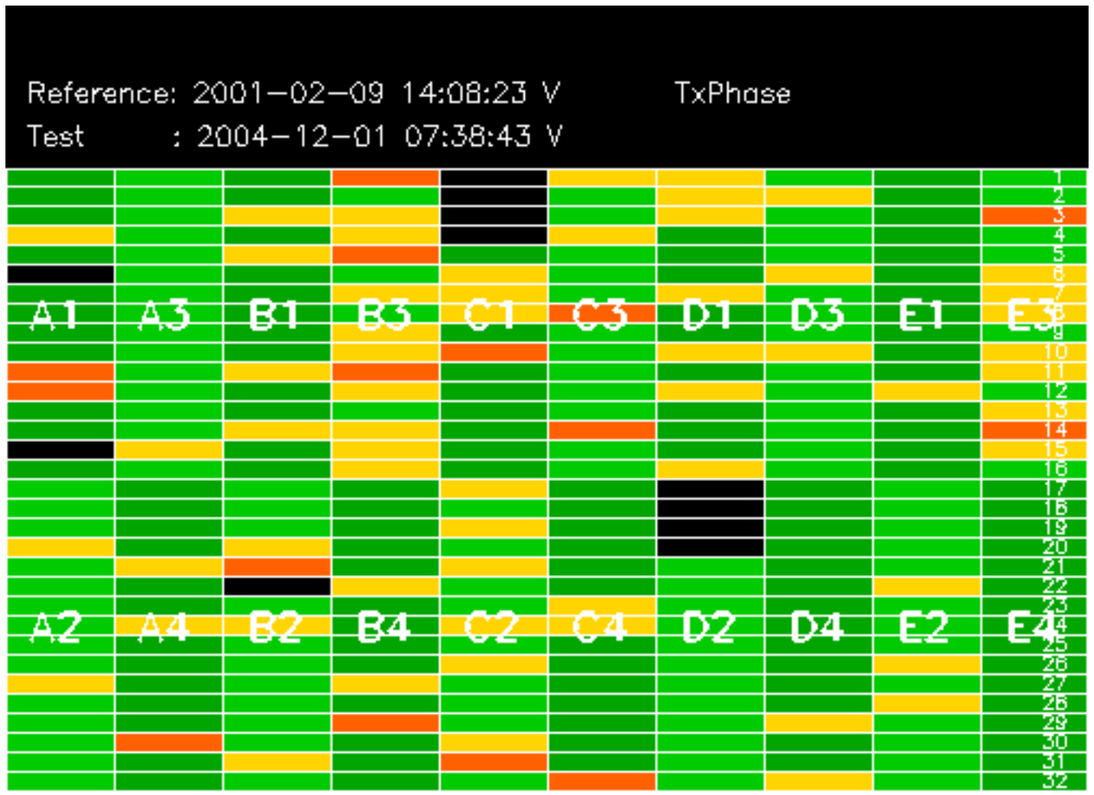
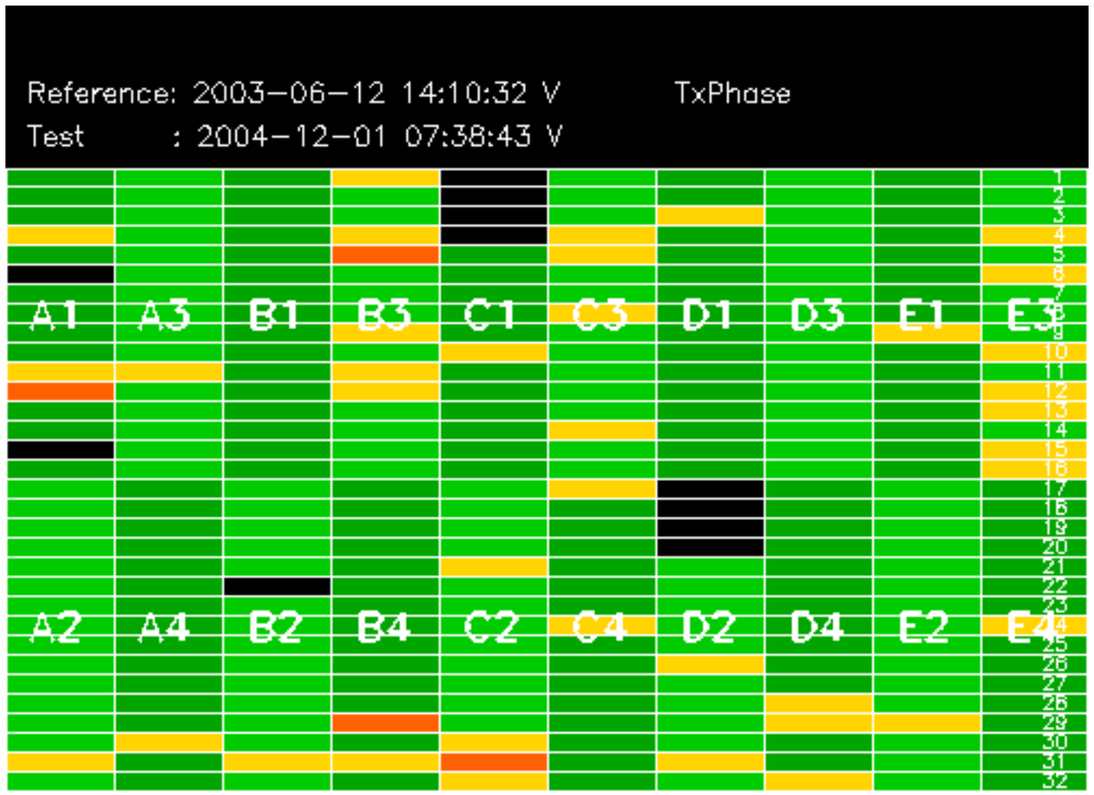

Reference: 2003-06-12 14:08:52 H
Test : 2004-12-02 07:07:05 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-12-01 07:38:43 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 : 2004-12-01 07:38:43 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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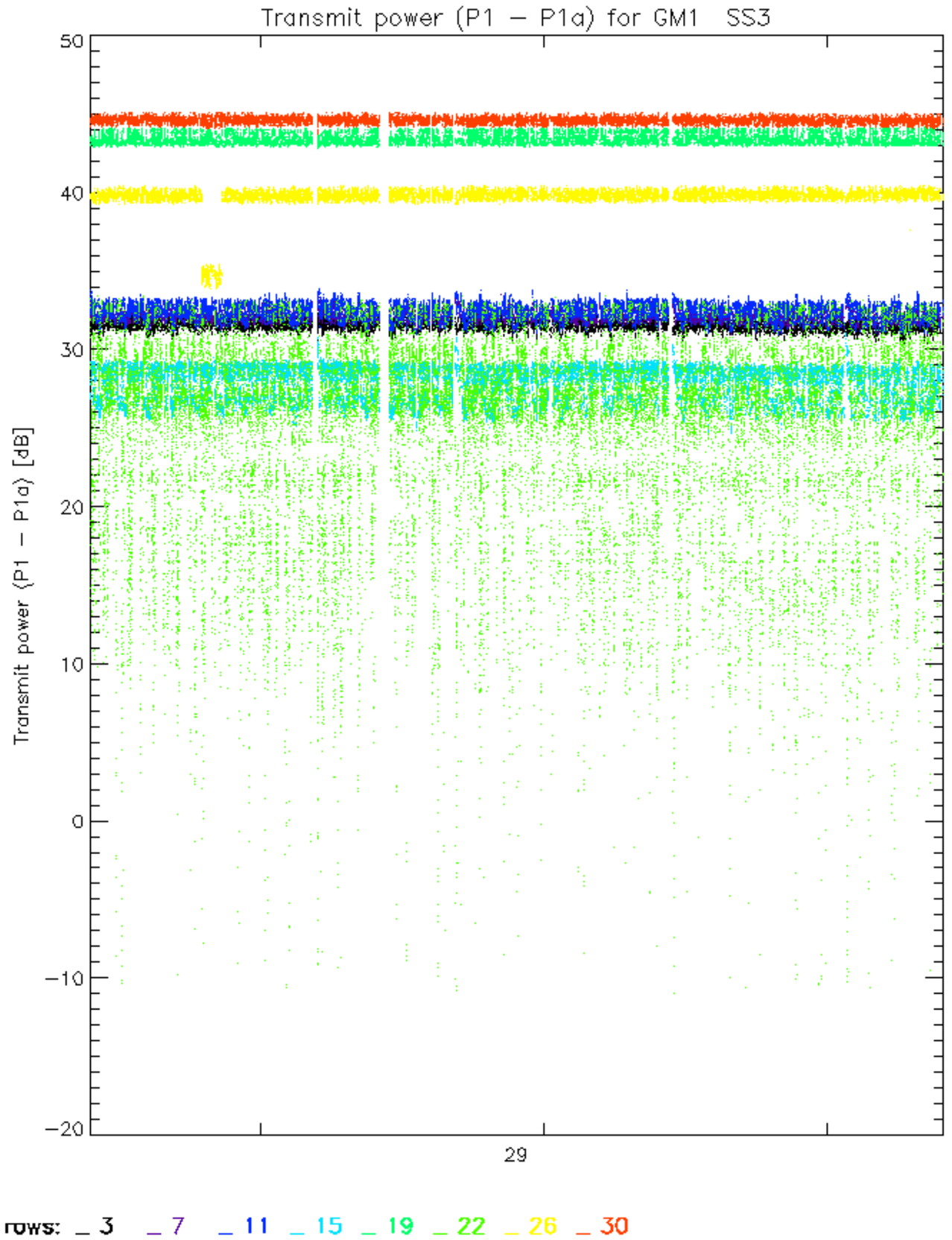
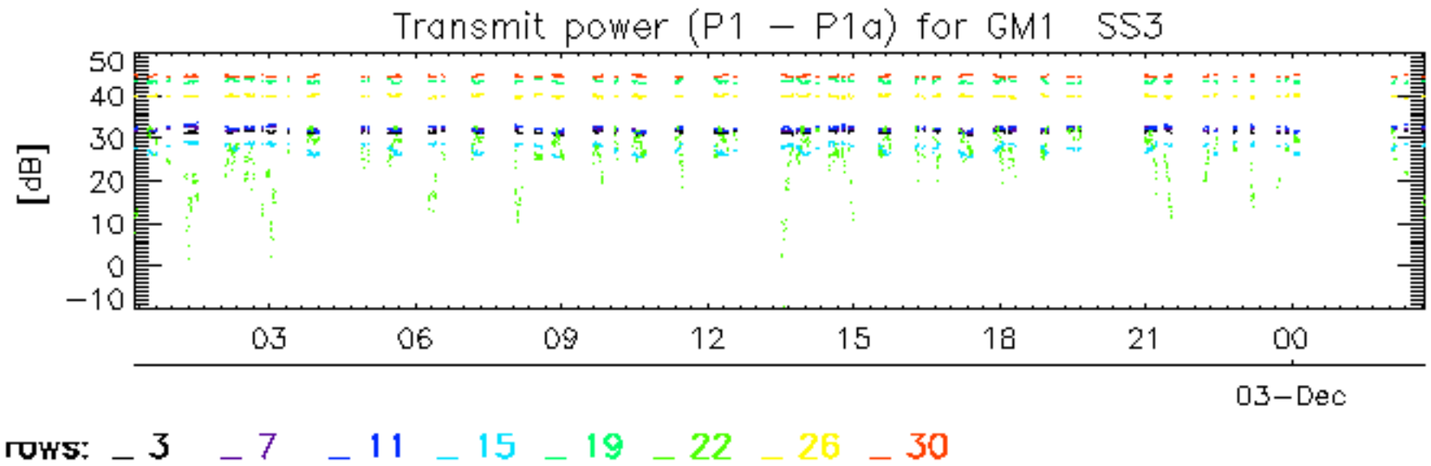
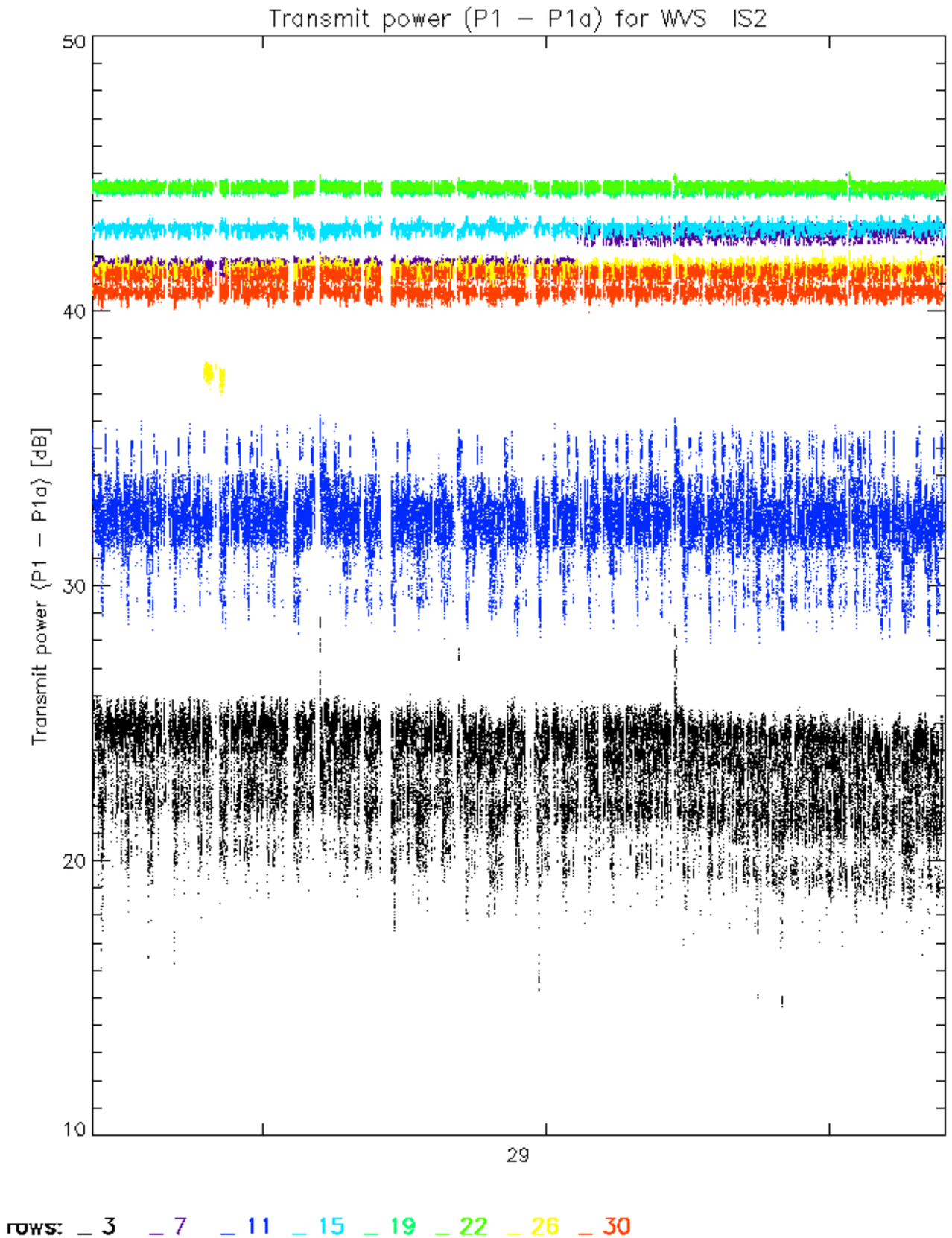
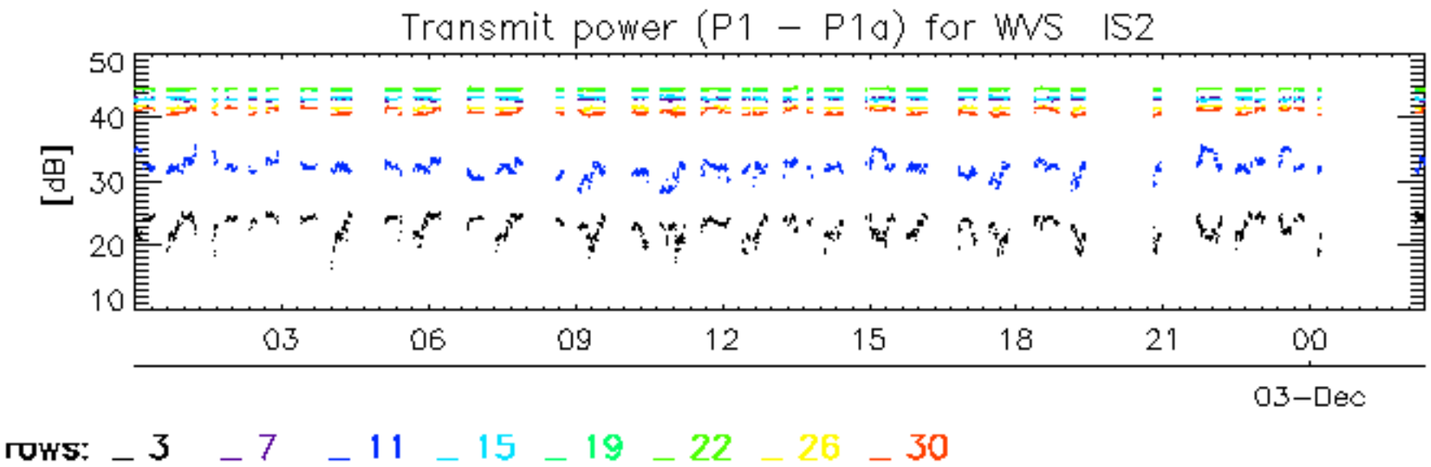

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
−20
29
rows: 3 7 11 15 19 22 26 30


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


Transmit power (P1 – P1a) for WVS IS2
Transmit power ⟨P1 – P1a⟩ [dB]
50
40
30
20
10
29
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
[dB]
50
40
30
20
10
03
06
09
12
15
18
21
00
03–Dec
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

No unavailabilities during the reported period.