REPORT OF 041201

last update on Wed Dec 1 13:35:17 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__0PNPDK20041130_081020_000000152032_00307_14389_0130.N1

Polarisation	Start Time
V	20041129 084157
H	20041130 081020

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	-3.463850	0.006648	0.035559
7	P1	-3.252234	0.031386	0.387998
11	P1	-4.606710	0.018132	-0.019574
15	P1	-5.658117	0.029289	0.003721
19	P1	-3.614208	0.005271	-0.047580
22	P1	-4.579364	0.015983	0.014022
26	P1	-4.878978	0.061123	-0.132504

30	P1	-7.081715	0.014618	-0.036119
3	P1	-15.995457	0.111726	0.079844
7	P1	-14.645573	0.609245	-2.100348
11	P1	-20.694069	0.212845	-0.136228
15	P1	-11.656127	0.039734	0.071438
19	P1	-14.089236	0.028620	-0.093390
22	P1	-16.183420	0.425555	0.140209
26	P1	-17.697781	0.735405	-0.340410
30	P1	-17.940323	0.288104	0.112756

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.371658	0.088535	0.020582
7	P2	-22.611120	0.139178	-0.010973
11	P2	-15.033405	0.129929	0.109442
15	P2	-7.158473	0.110526	-0.026894
19	P2	-9.714207	0.132257	0.006039
22	P2	-17.226648	0.103598	0.061844
26	P2	-16.511318	0.111710	-0.002438
30	P2	-19.036579	0.083867	0.059764

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.203701	0.006763	-0.002852
7	P3	-8.203698	0.006763	-0.002855
11	P3	-8.203697	0.006763	-0.002858
15	P3	-8.203691	0.006763	-0.002885
19	P3	-8.203688	0.006764	-0.002898
22	P3	-8.203687	0.006764	-0.002895
26	P3	-8.203685	0.006764	-0.002902
30	P3	-8.203760	0.006761	-0.002797

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	-2.805500	0.011145	-0.007049
7	P1	-2.954477	0.021550	-0.024473
11	P1	-3.904282	0.022775	-0.044086
15	P1	-3.486528	0.027459	-0.014408
19	P1	-3.591185	0.012513	-0.008542
22	P1	-5.604962	0.067446	-0.001185
26	P1	-6.432663	0.086720	-0.193260
30	P1	-6.274050	0.041429	-0.031952
3	P1	-10.603313	0.052331	-0.033975
7	P1	-10.092427	0.131419	-0.064673
11	P1	-12.382045	0.115908	-0.103692
15	P1	-11.724892	0.064556	-0.045447
19	P1	-15.621868	0.052157	0.004429
22	P1	-24.028912	2.121800	-0.129105
26	P1	-15.112325	0.471088	0.012013
30	P1	-20.237658	0.999143	0.181375

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.057114	0.040440	0.015100
7	P2	-22.670033	0.030235	0.021319
11	P2	-10.828654	0.036569	0.147877
15	P2	-5.055416	0.027792	-0.015058
19	P2	-6.963059	0.035412	-0.009053
22	P2	-7.348099	0.029330	0.049672
26	P2	-23.947617	0.021439	-0.011574
30	P2	-22.084406	0.019128	0.040090

P3 Cyclic statistics

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

3	P3	-8.043243	0.003336	0.007146
7	P3	-8.043178	0.003346	0.006829
11	P3	-8.043259	0.003337	0.006765
15	P3	-8.043089	0.003344	0.007312
19	P3	-8.043200	0.003344	0.007150
22	P3	-8.043260	0.003341	0.007282
26	P3	-8.043248	0.003332	0.006959
30	P3	-8.043146	0.003346	0.007179

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	0.000446453
	stdev	2.36245e-07
MEAN Q	mean	0.000508397
	stdev	2.51913e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.125428
	stdev	0.000982244

STDEV Q	mean	0.125658
	stdev	0.000990548

5.3 - Gain imbalance I/Q

6 - Doppler Analysis

No anomalies 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

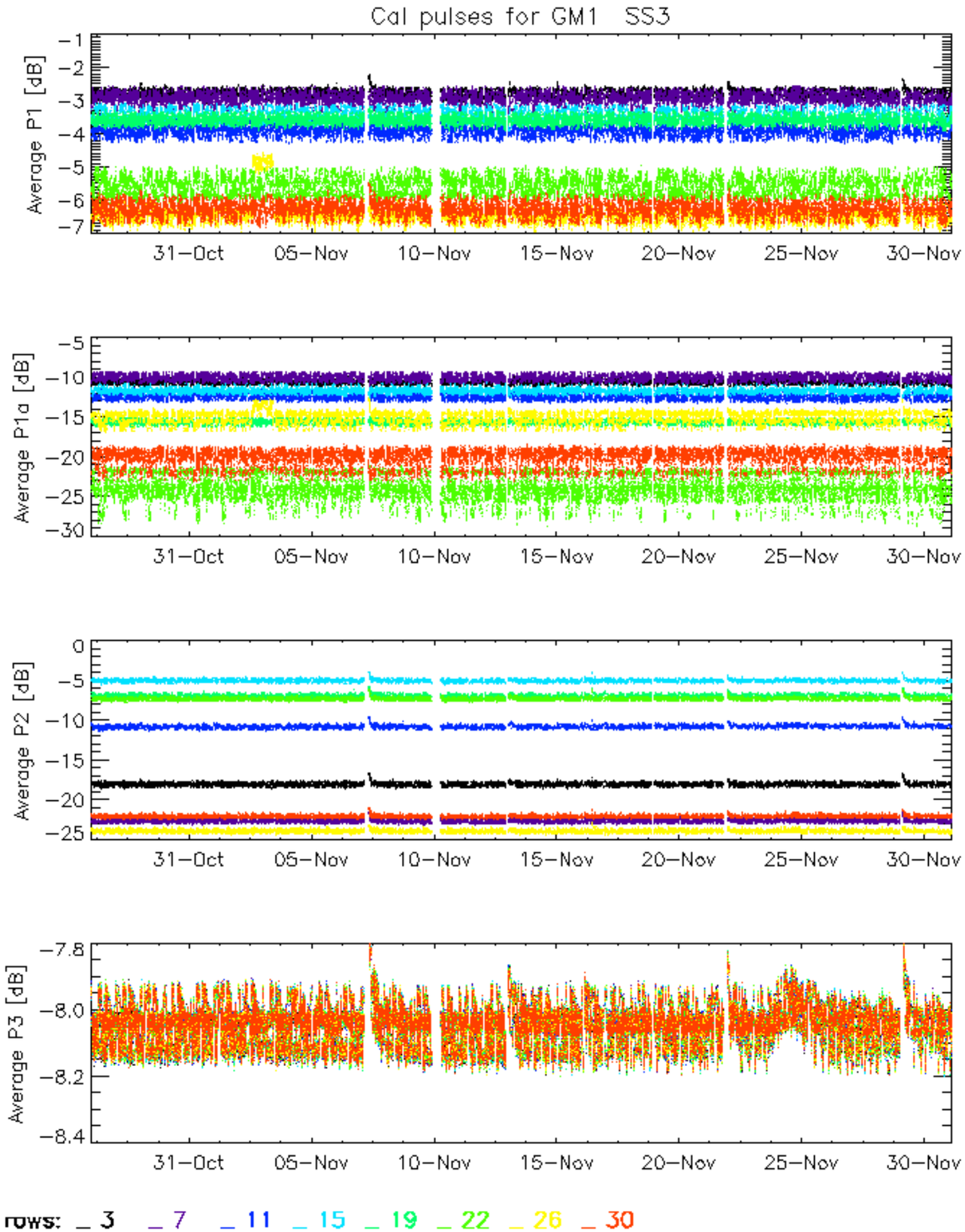
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

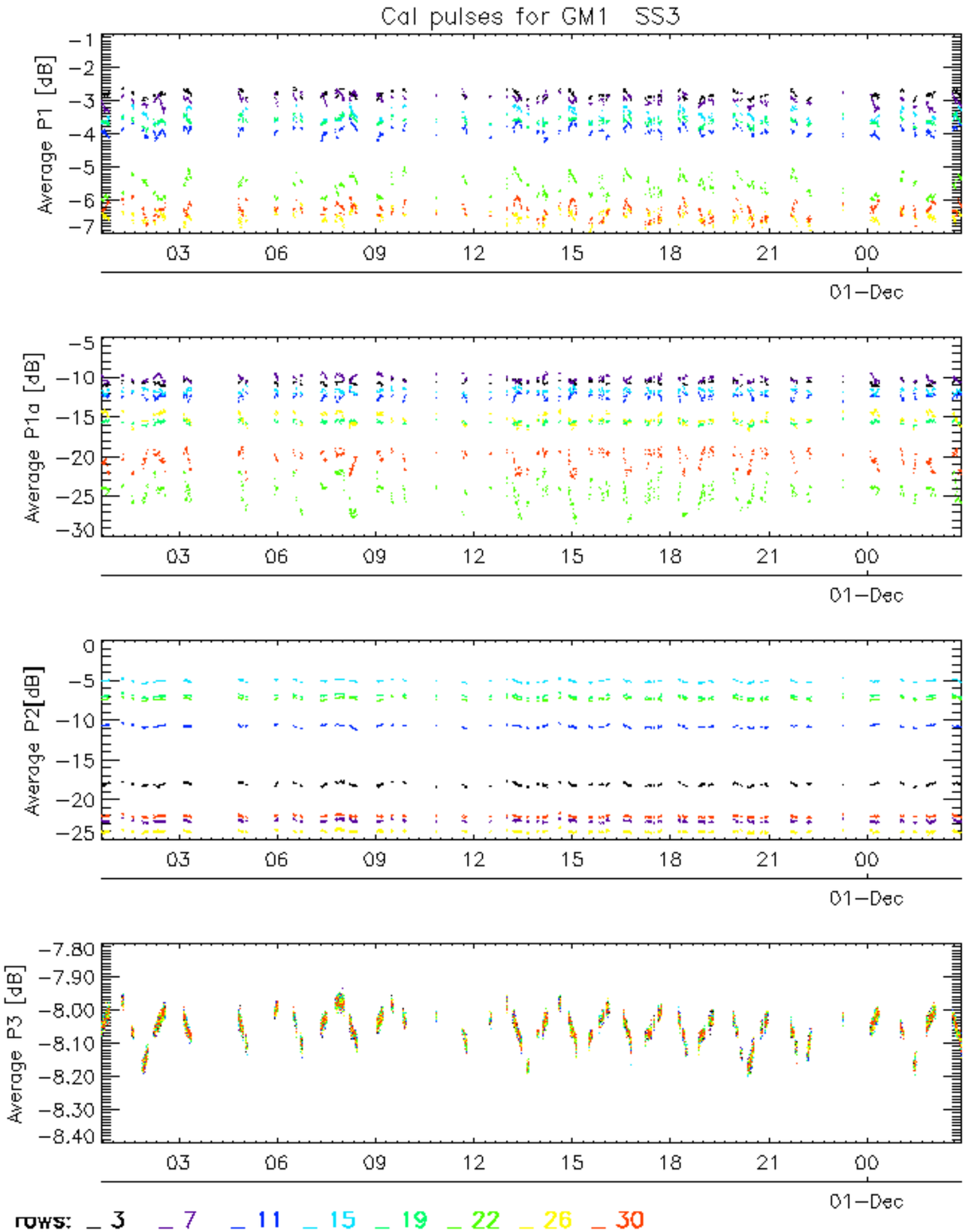
6.5 - Absolute Doppler for GM1

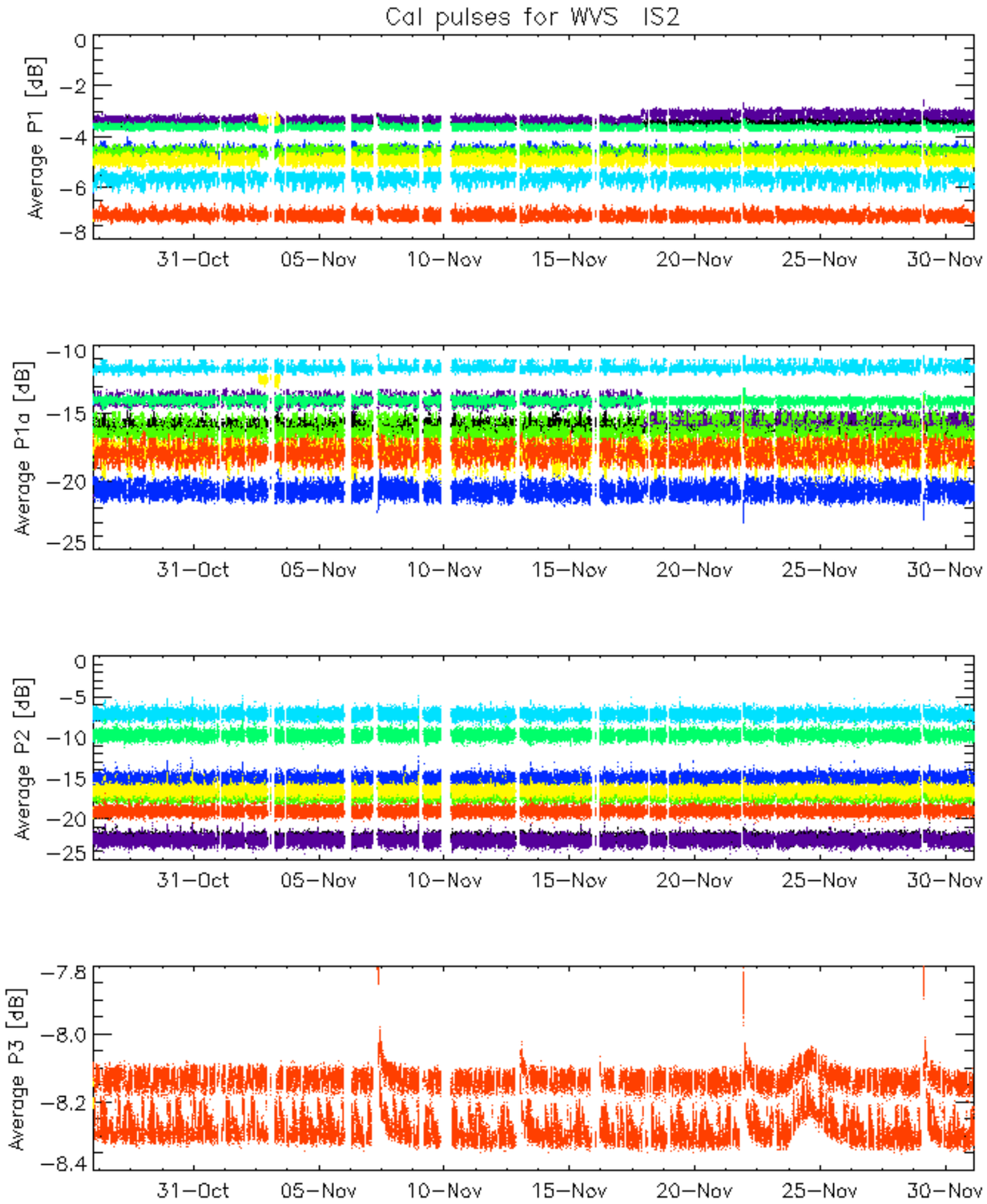
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

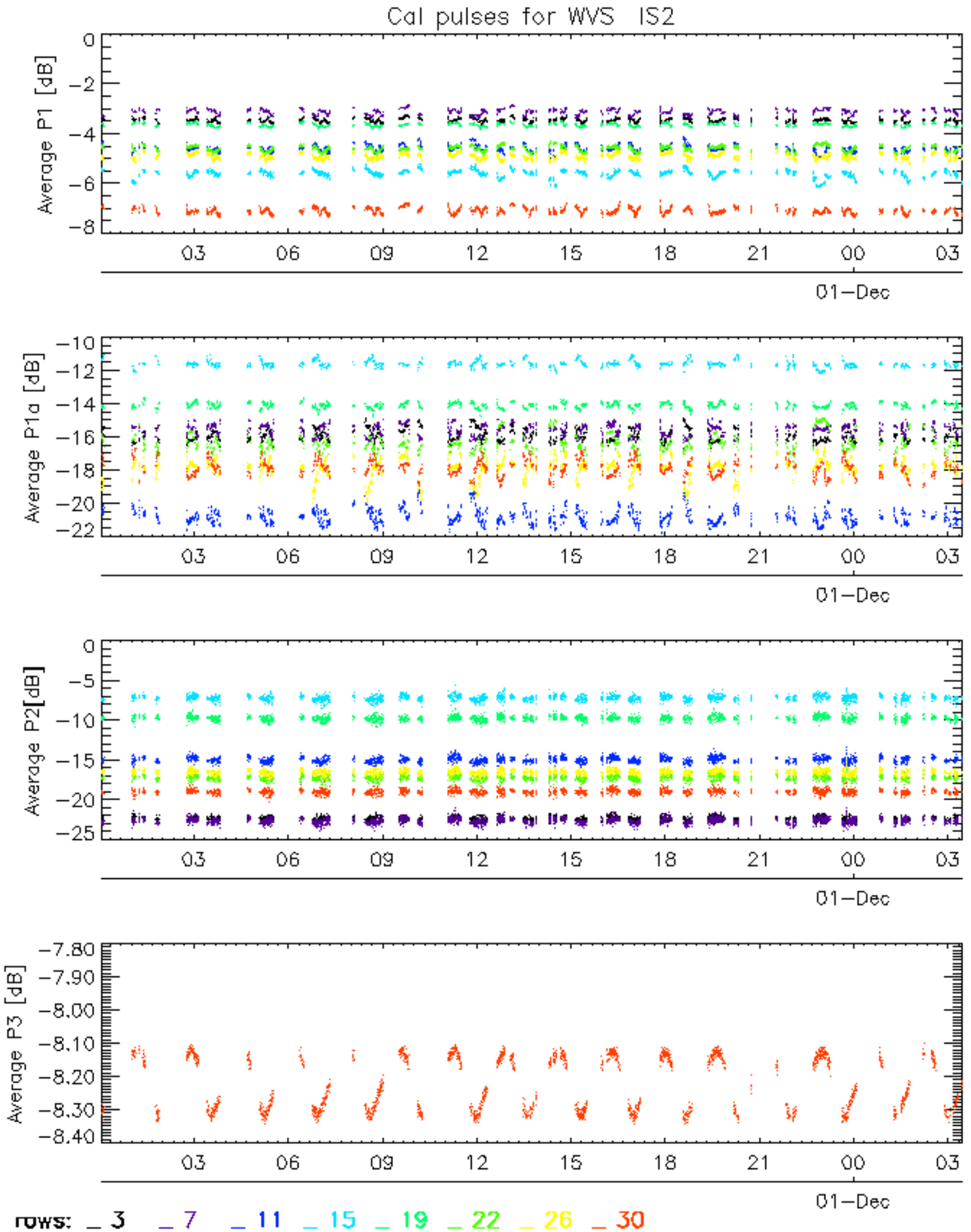
6.6 - Doppler evolution versus ANX for GM1

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

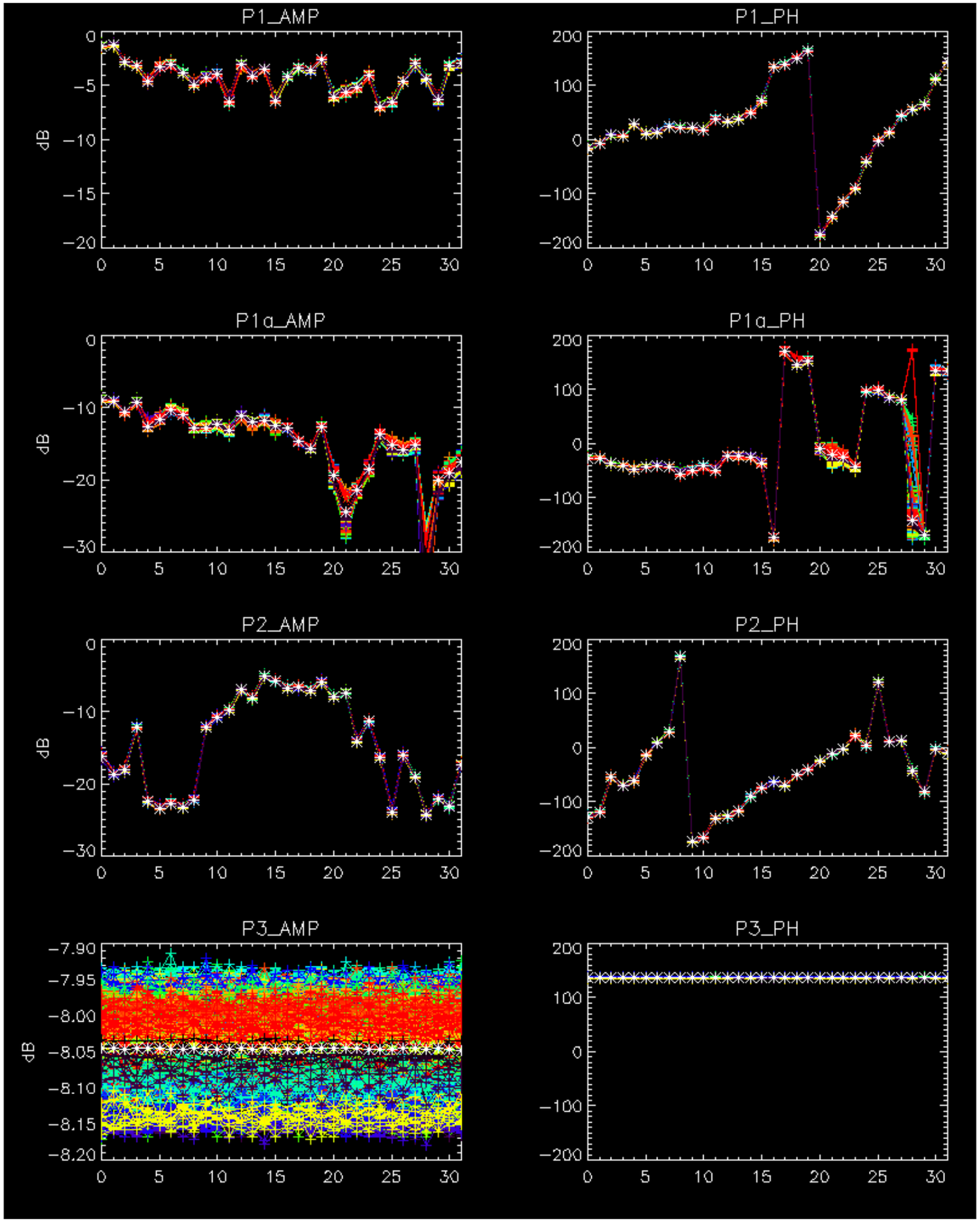

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
01−Dec
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
21
00
01−Dec
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
01−Dec
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06
09
12
15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

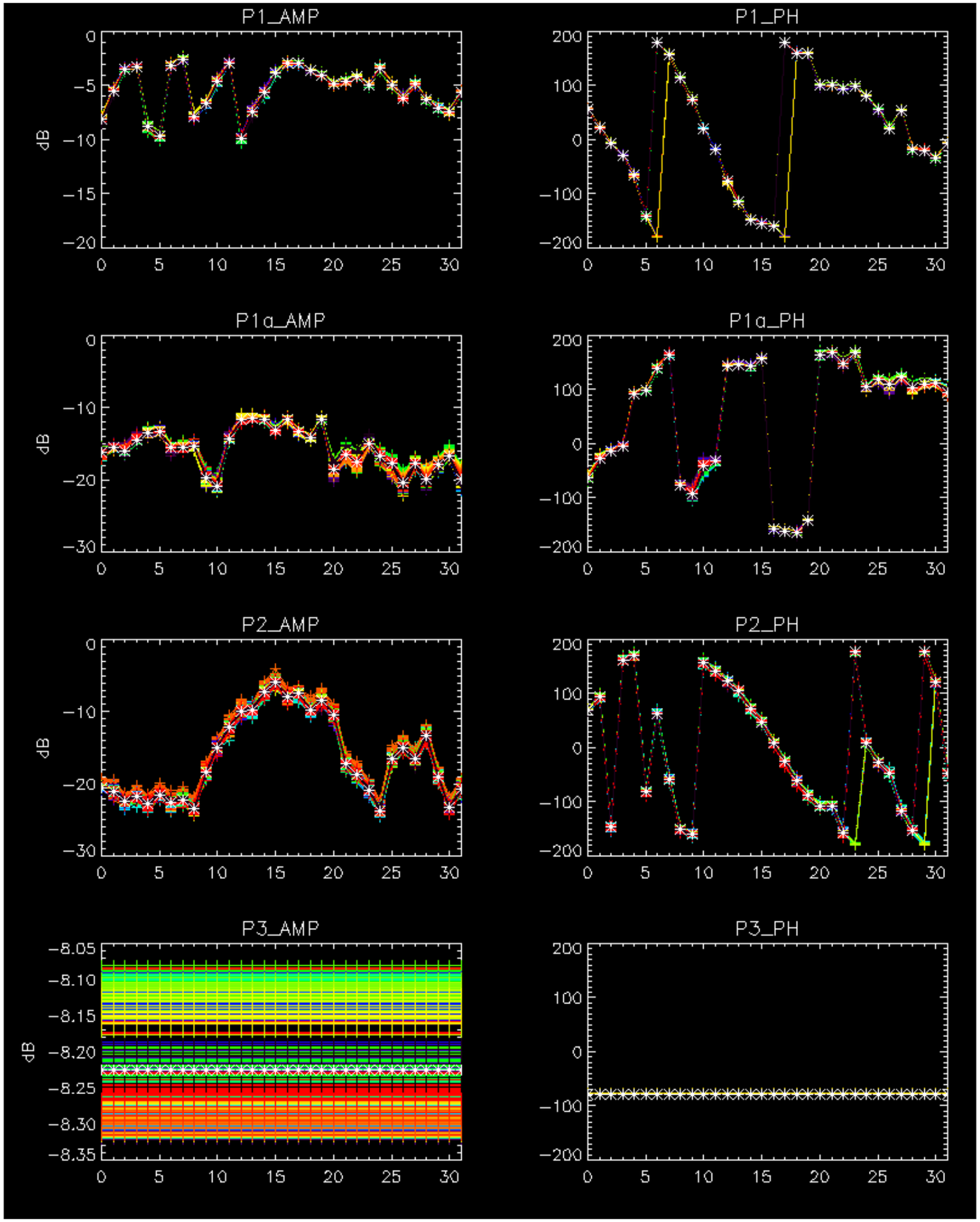

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
31−Oct
05−Nov
10−Nov
15−Nov
20−Nov
25−Nov
30−Nov
Average P1a [dB]
−10
−15
−20
−25
Average P2 [dB]
−5
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
01−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 on available browse products

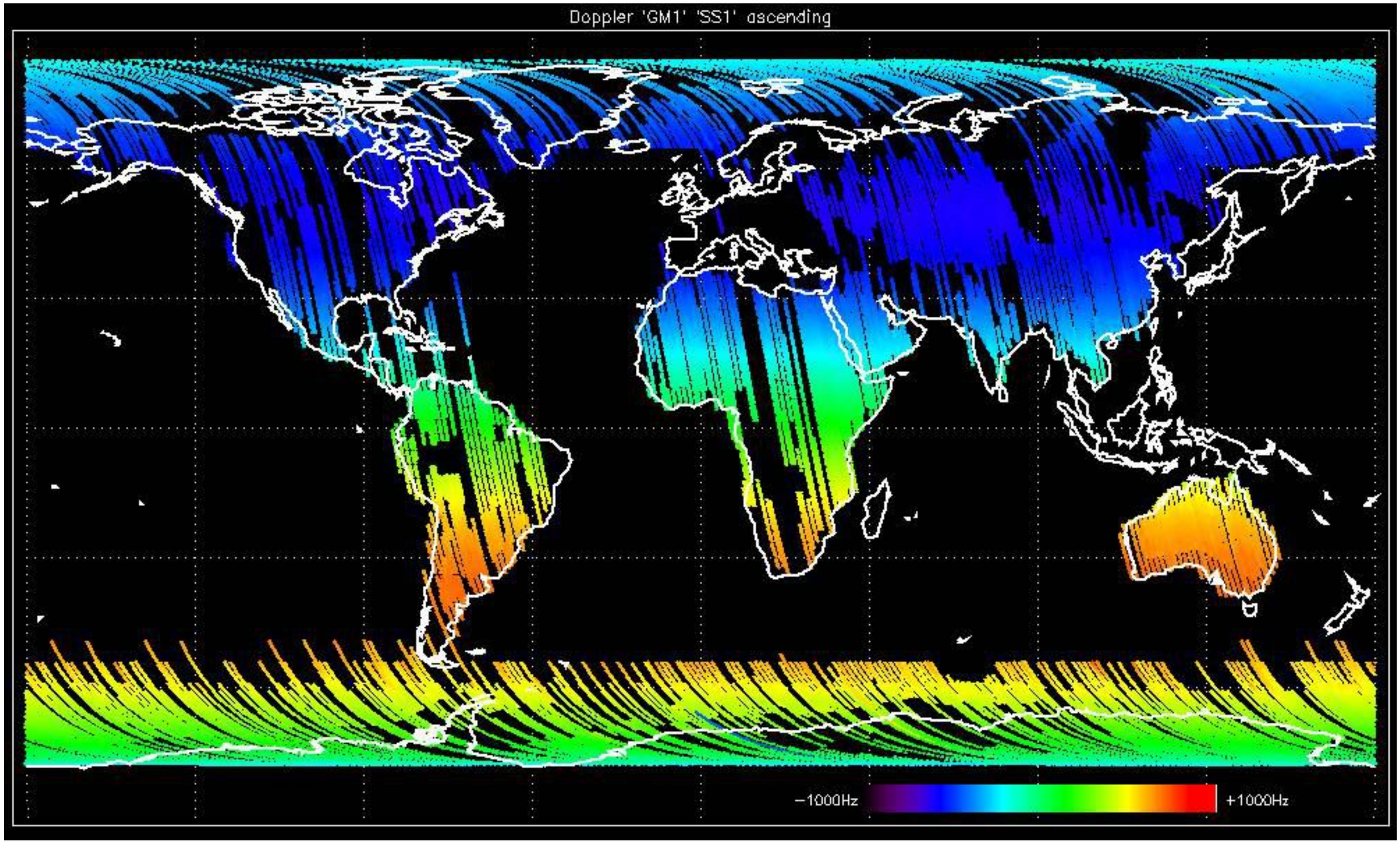
No anomalies observed.

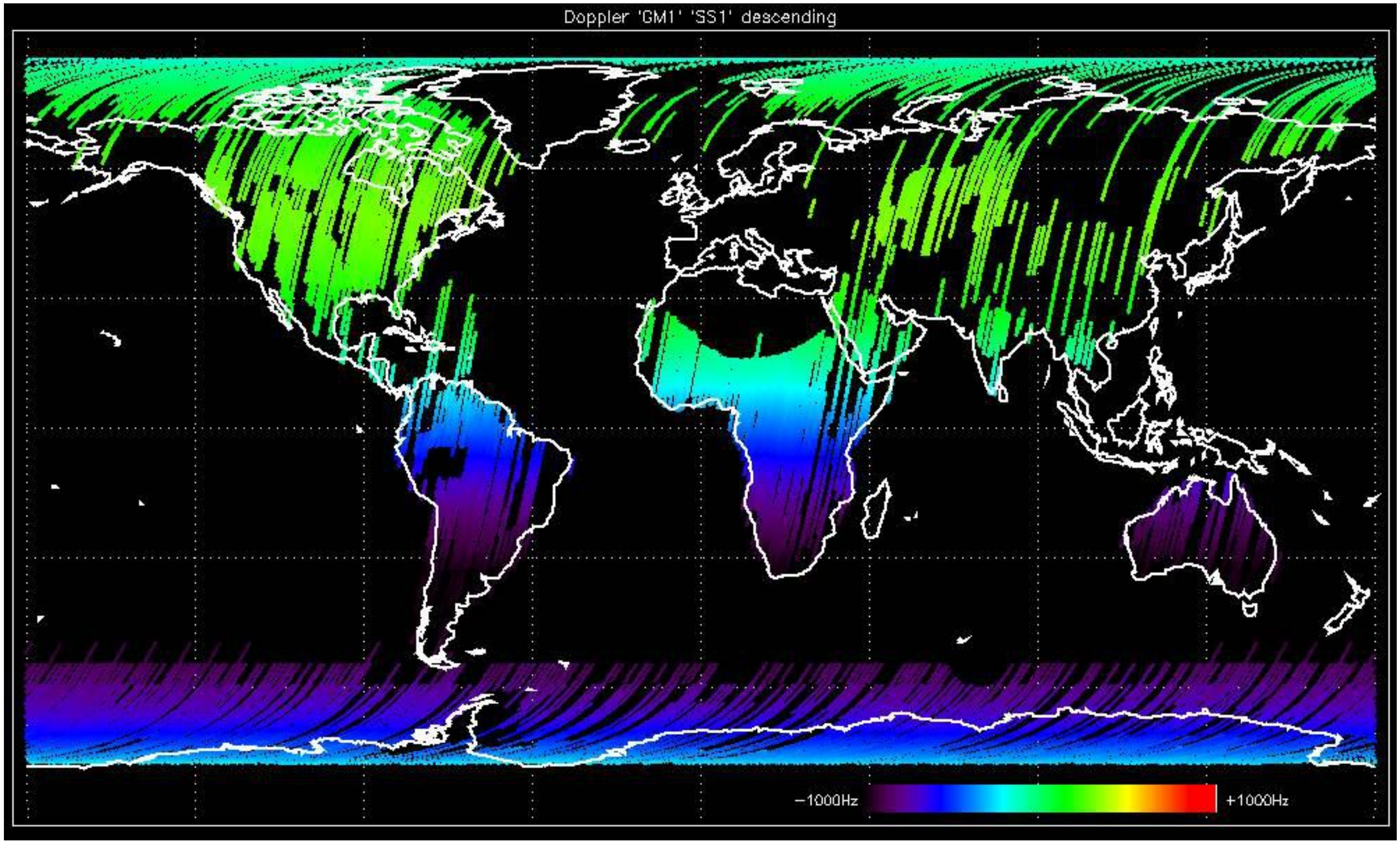

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.90
−7.95
−8.00
−8.05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

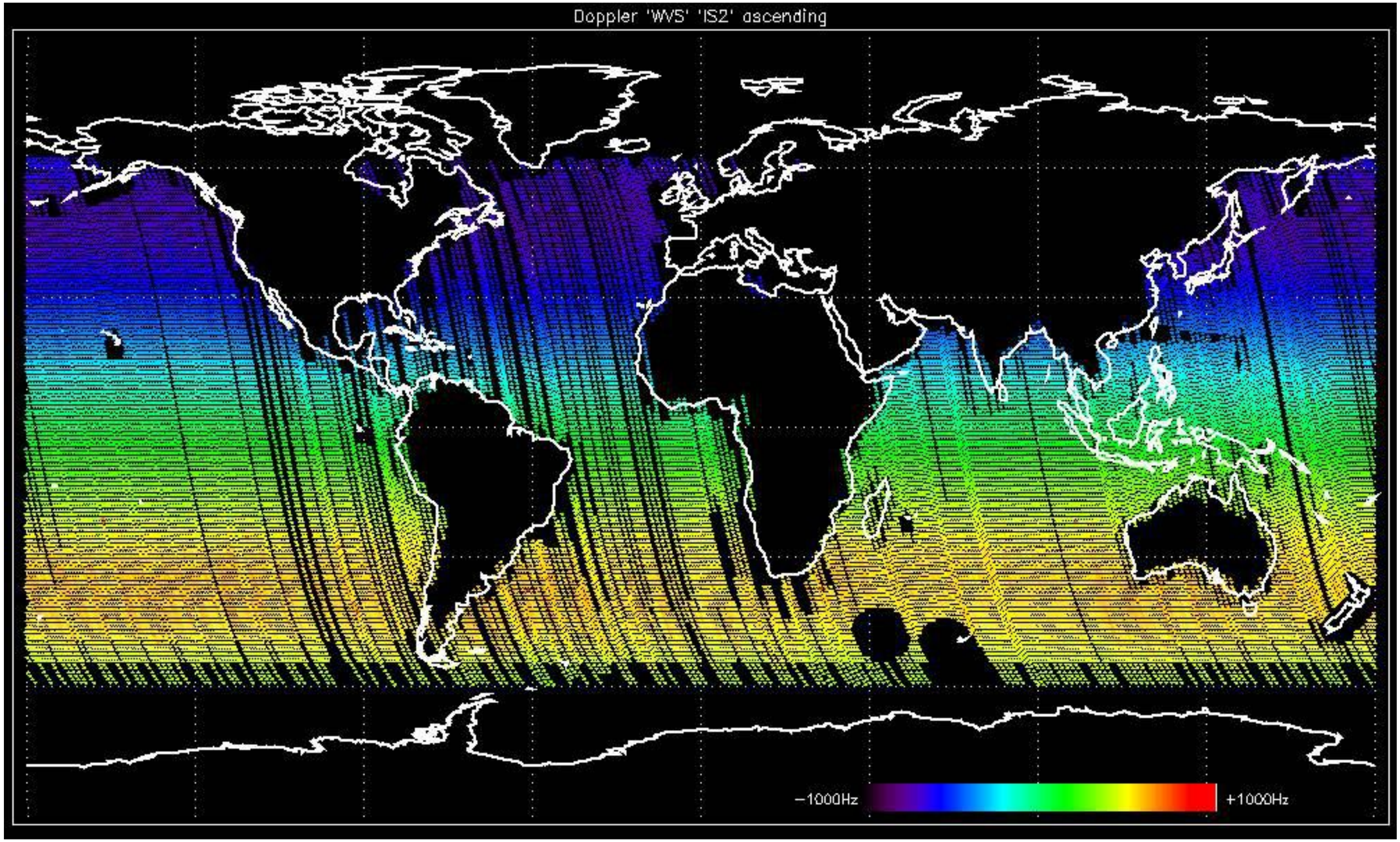

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.05
−8.10
−8.15
−8.20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

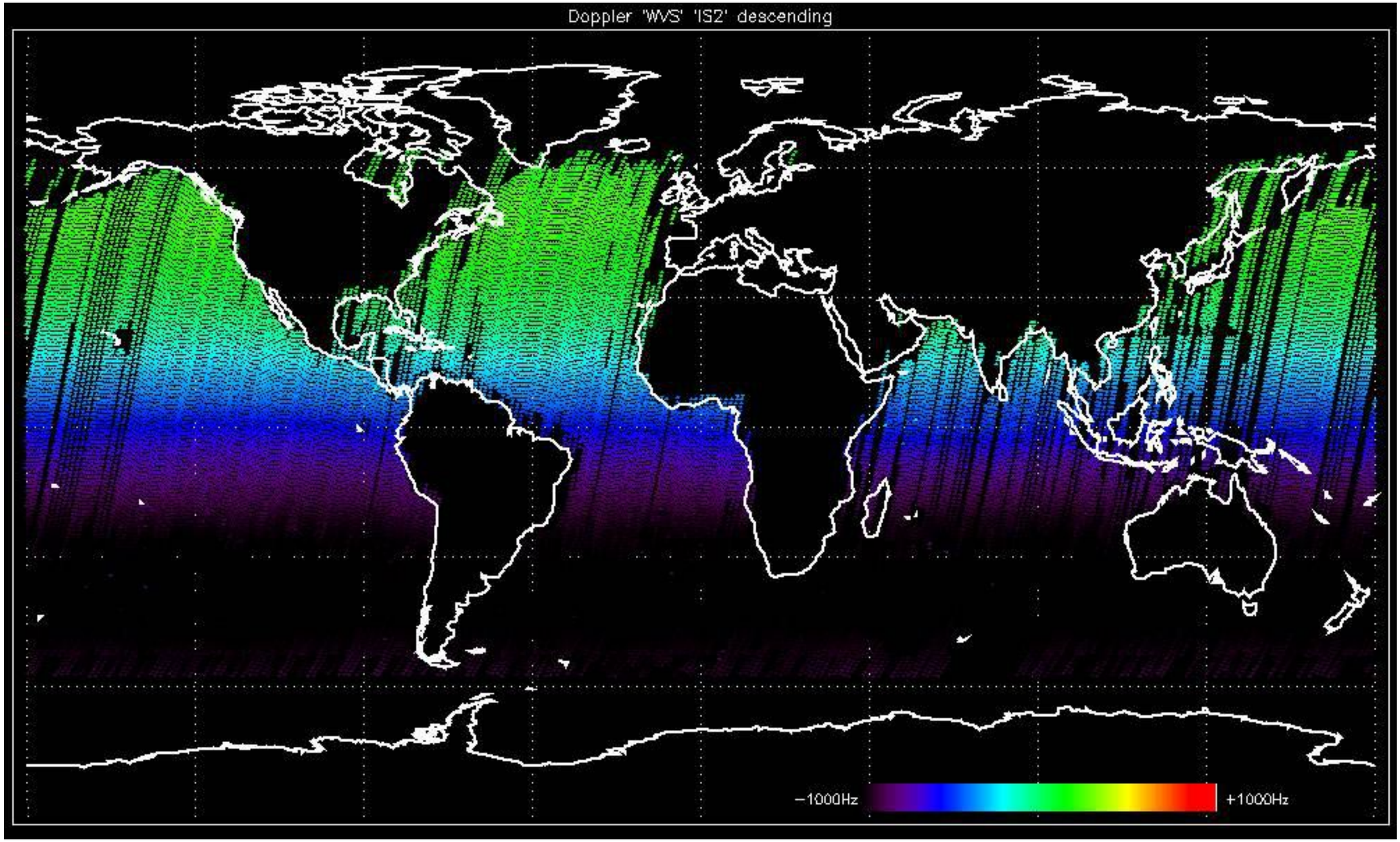
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

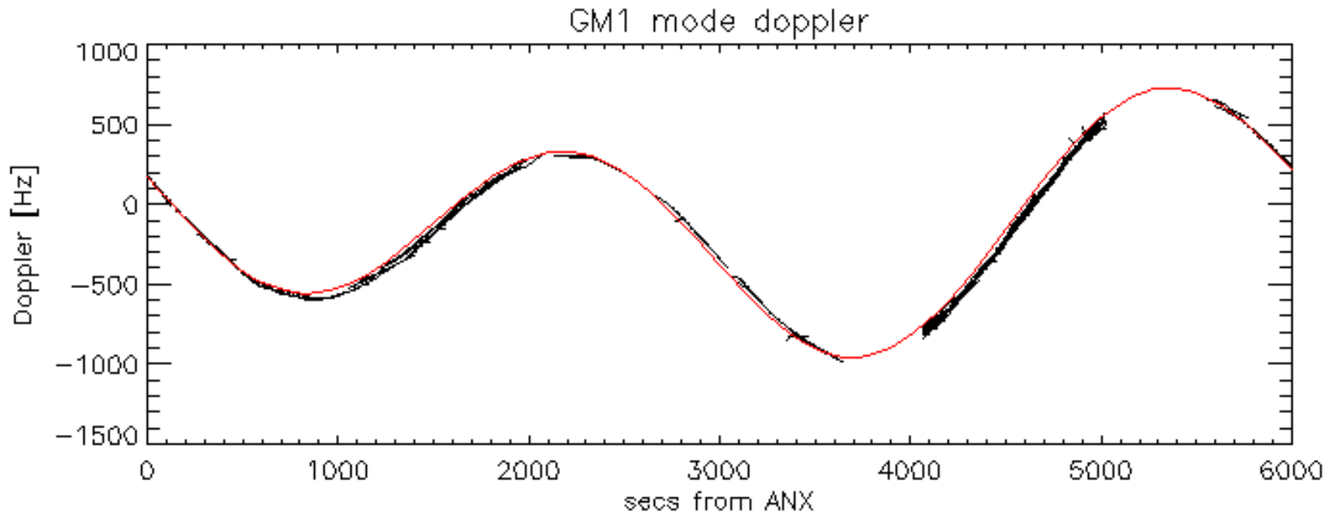
No anomalies observed in DOppler evolution.
Doppler analysis performed over the last 35 days.

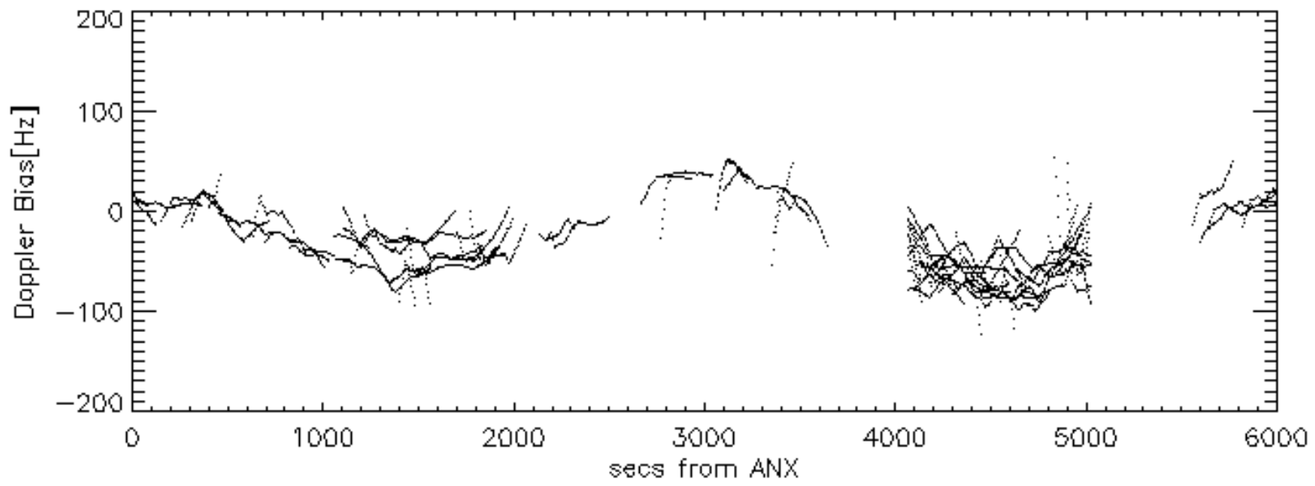

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

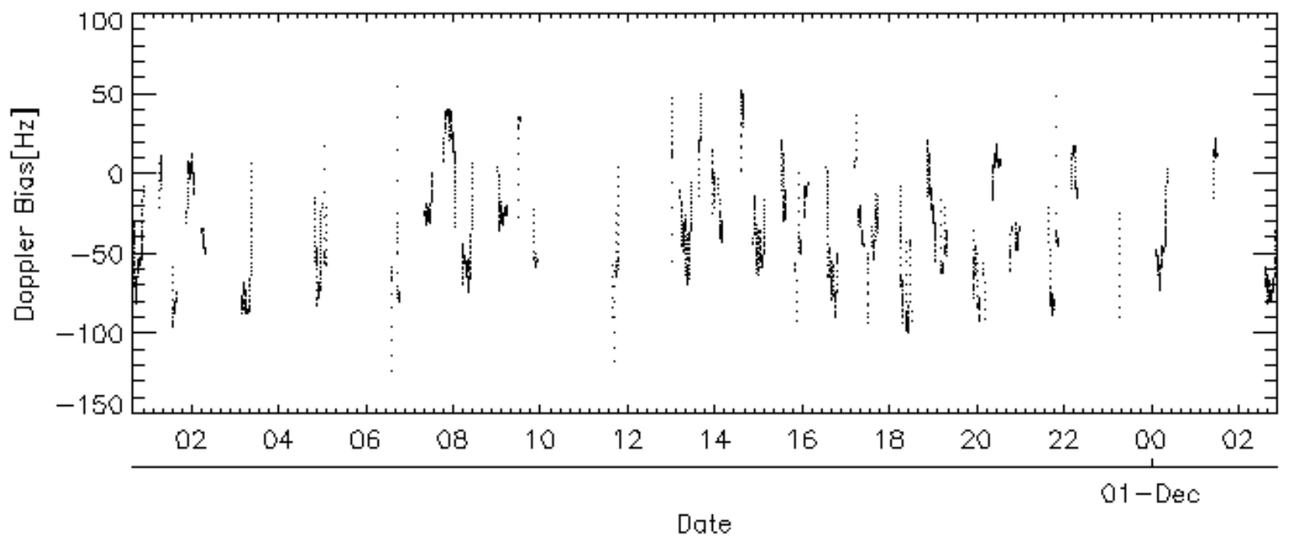

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

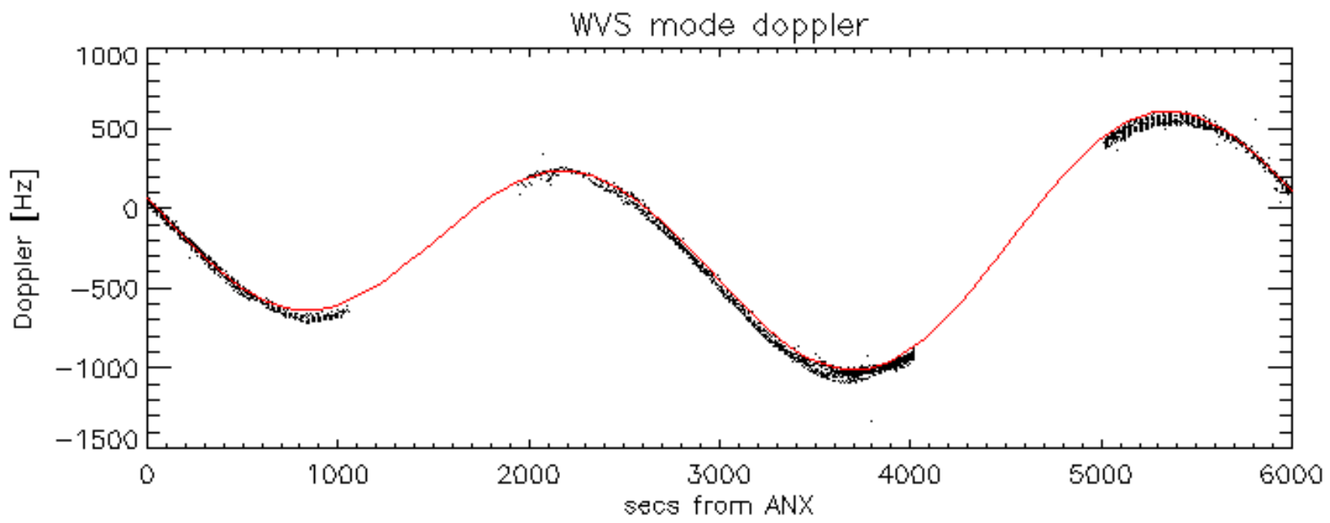

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

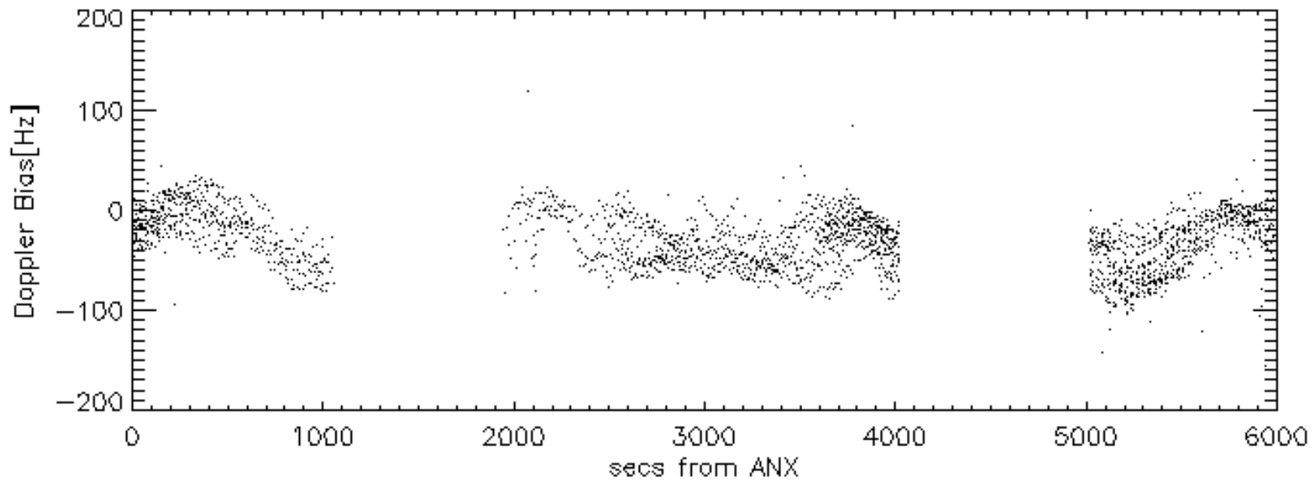

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

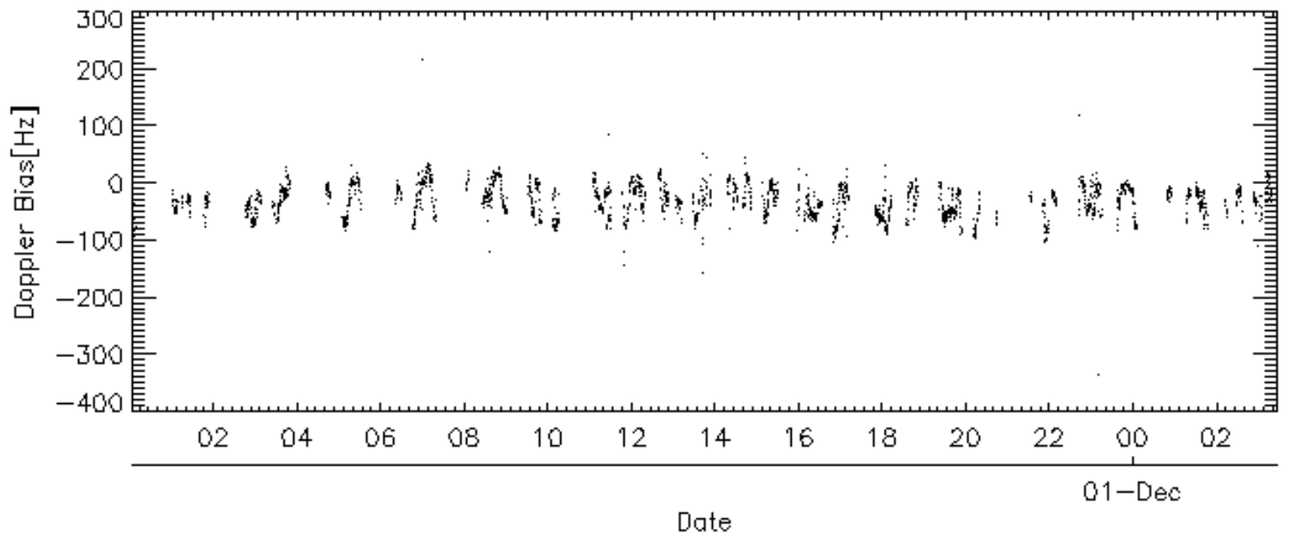

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

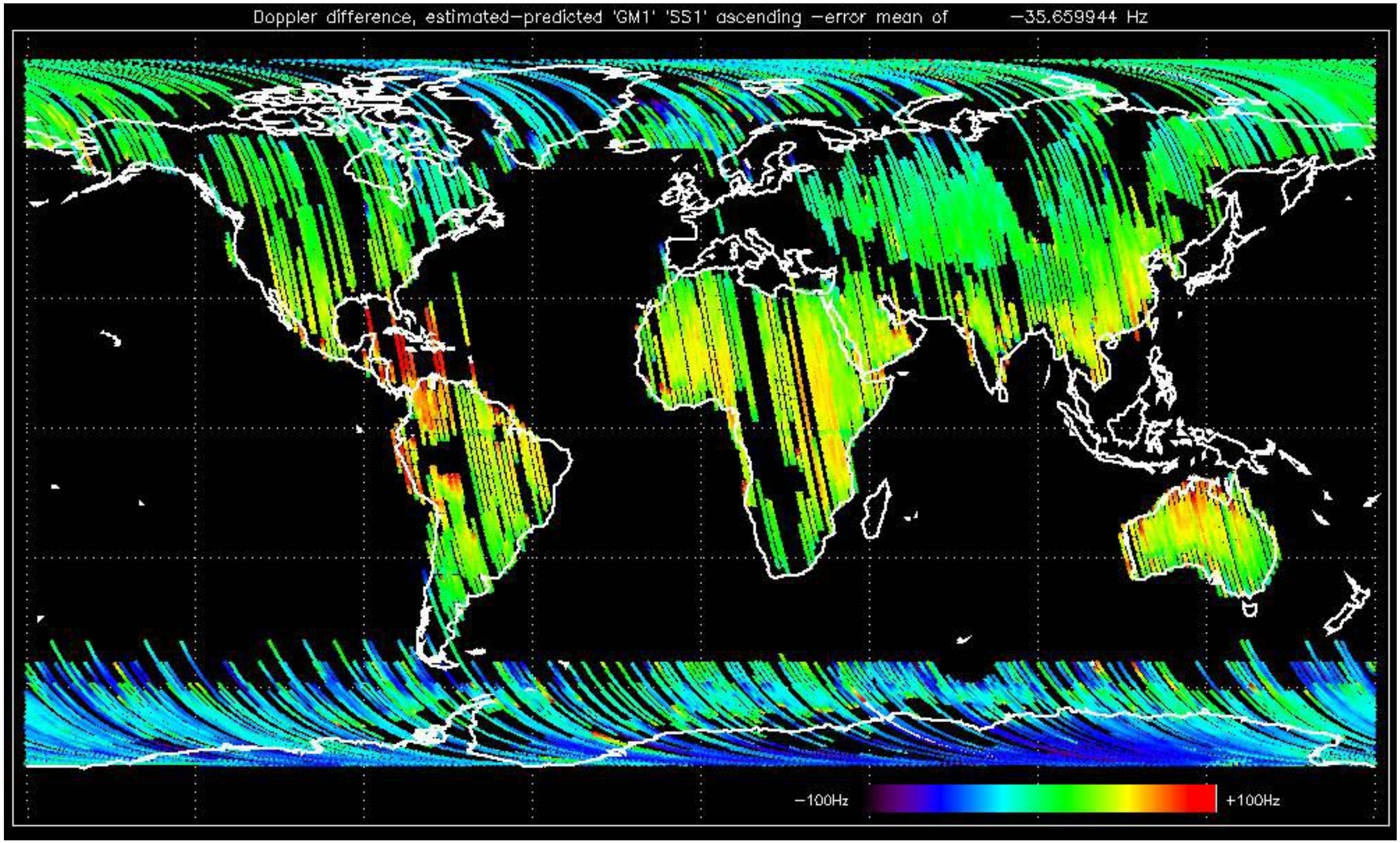

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

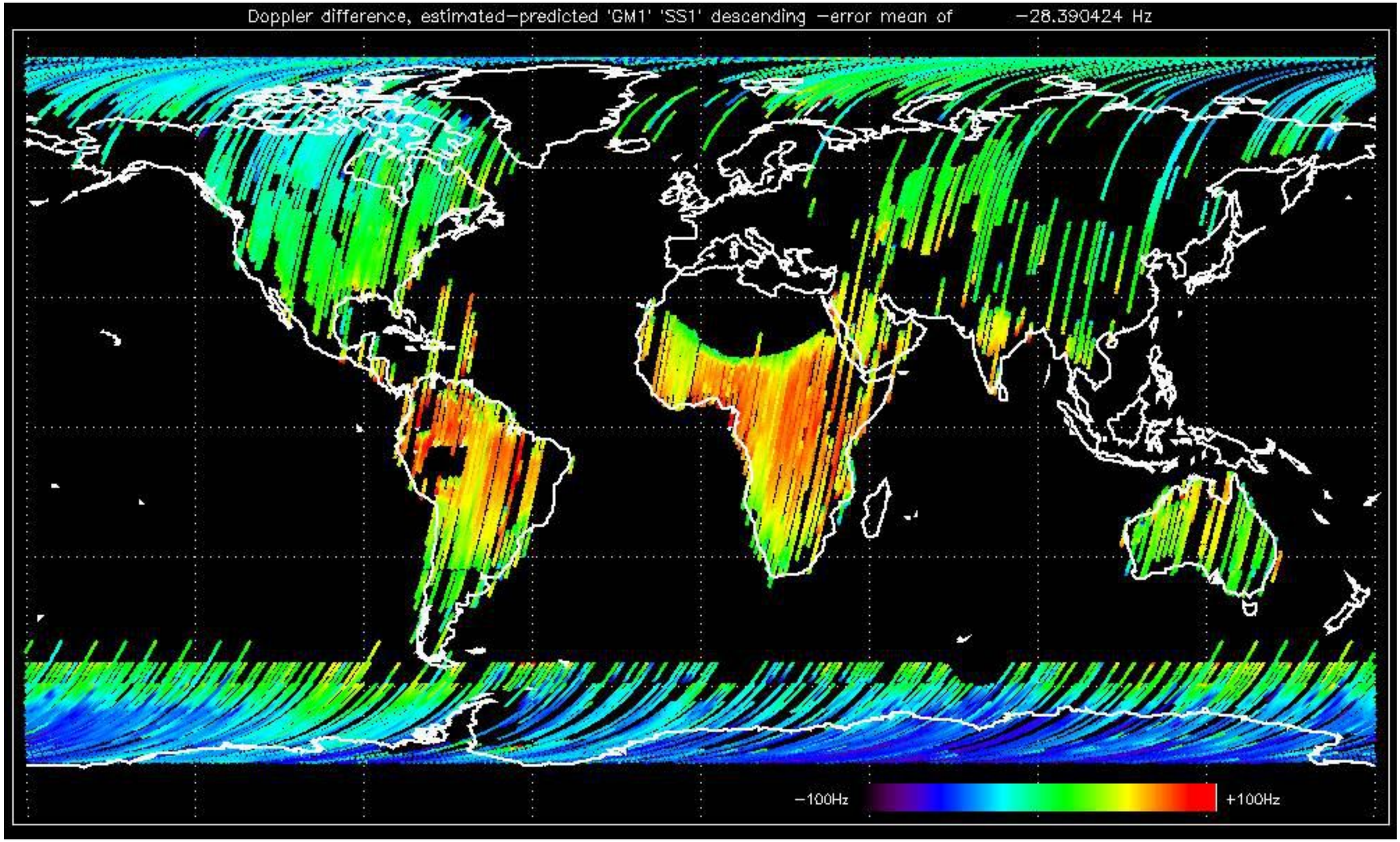

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
01−Dec
Date

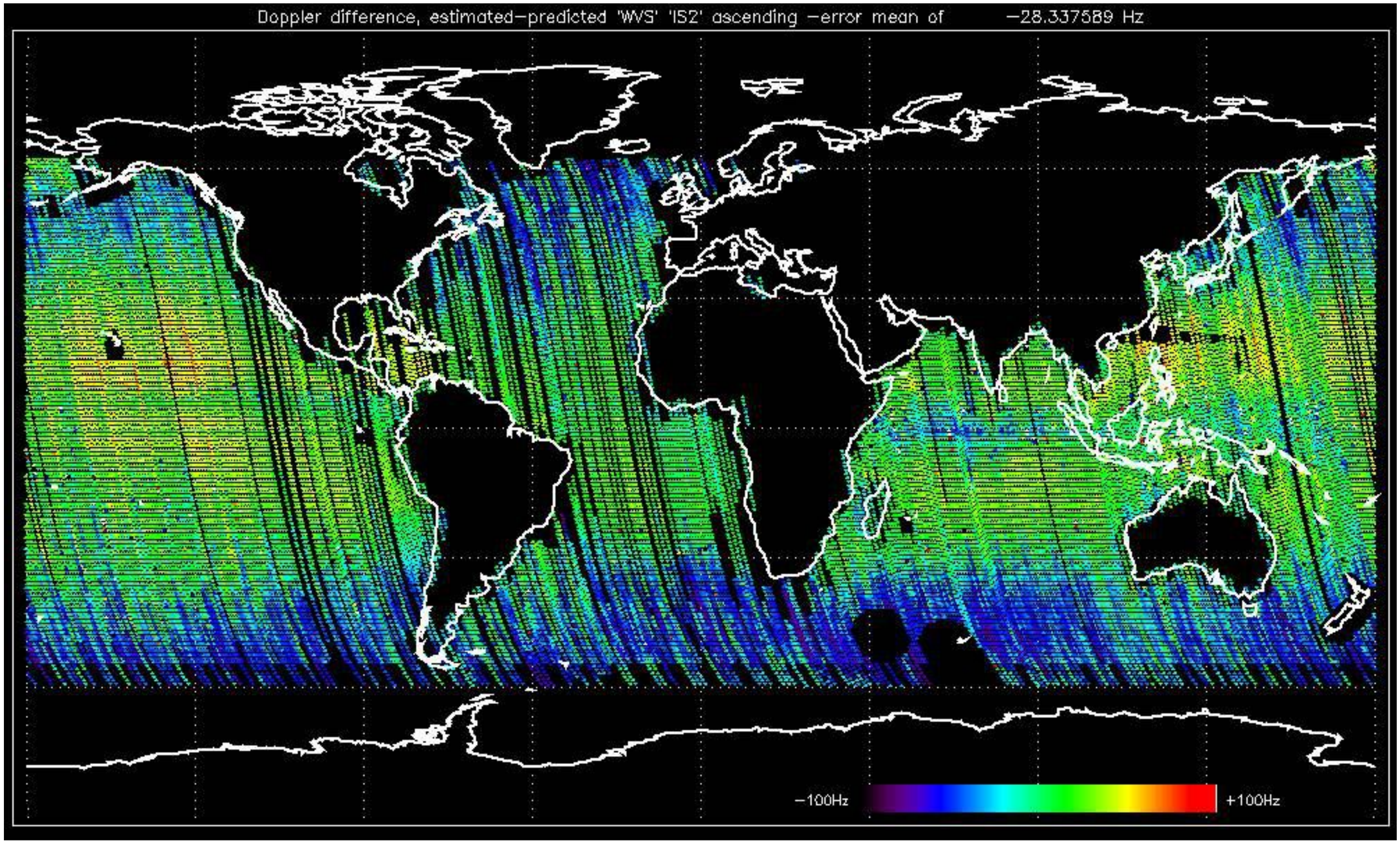

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

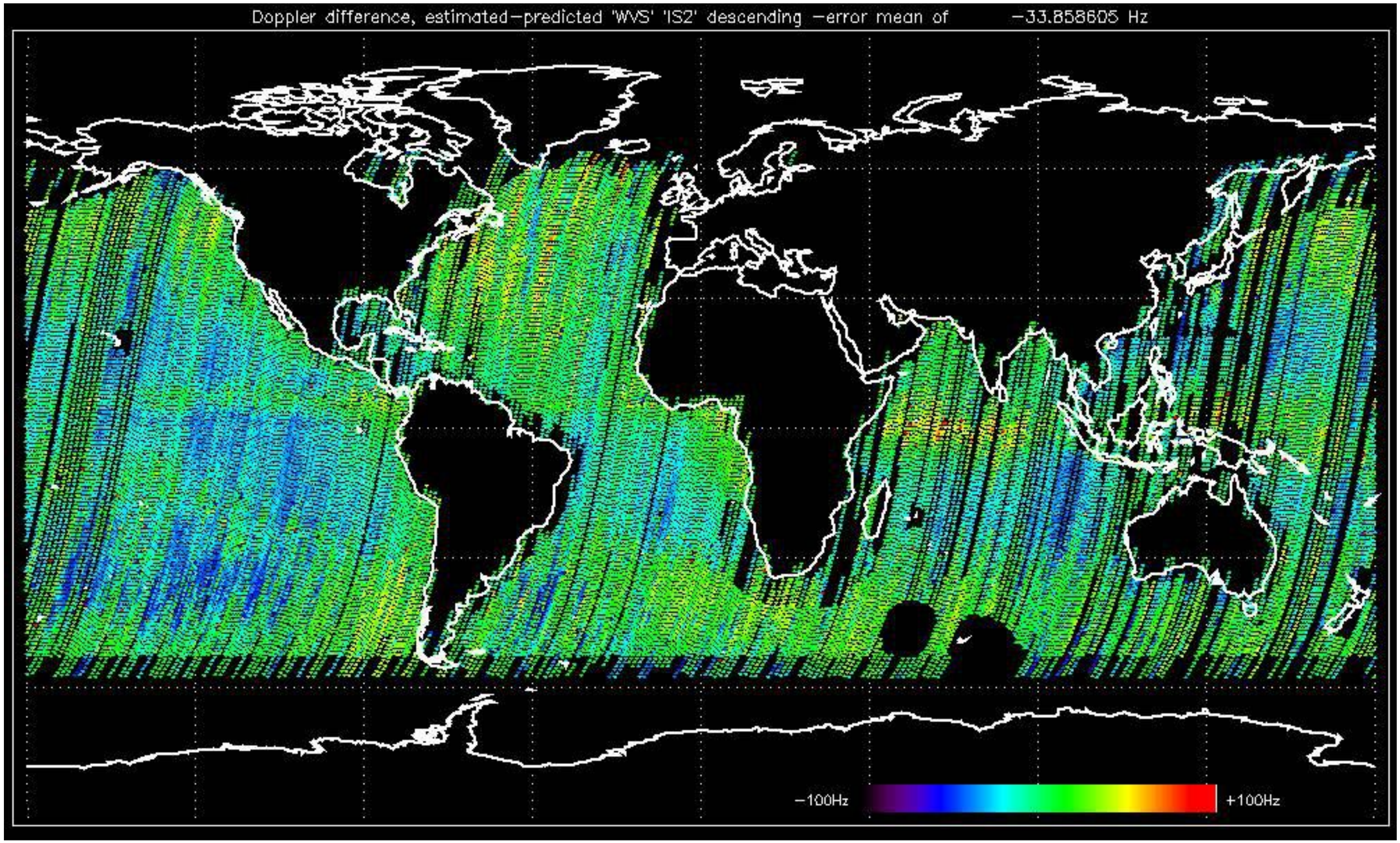

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −35.659944 Hz
−100Hz
+100Hz


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -28.390424 Hz
-100Hz
+100Hz

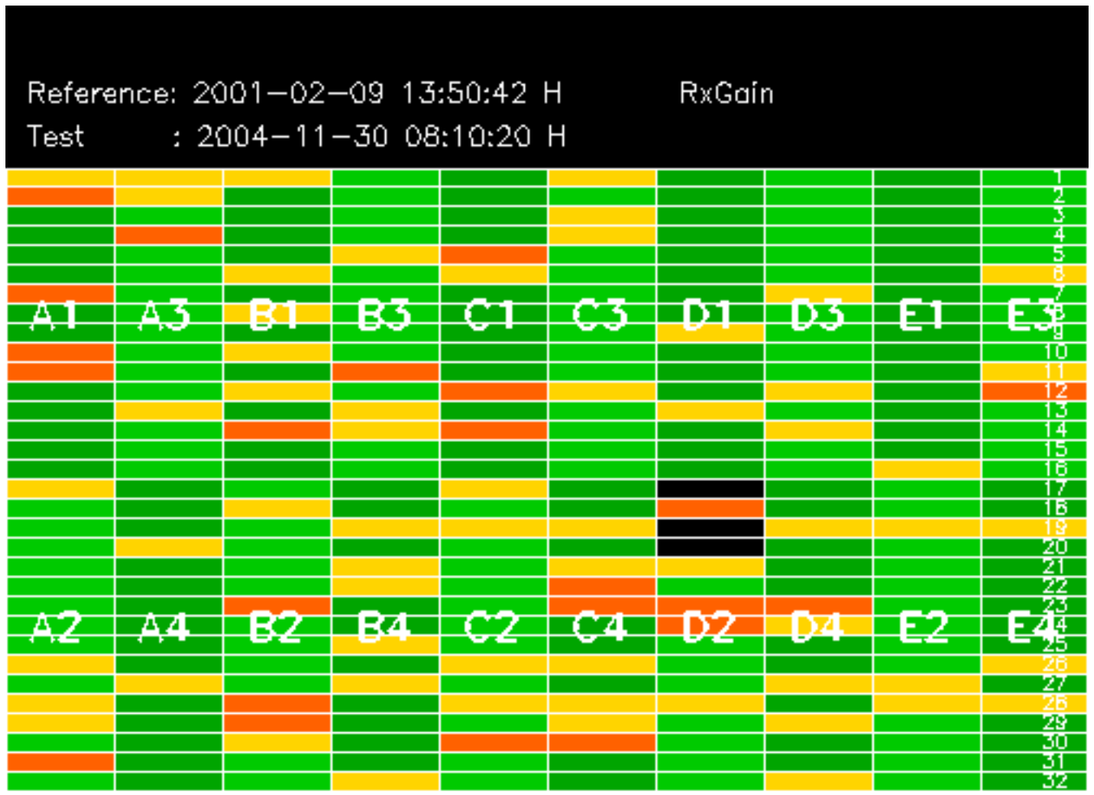

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −28.337589 Hz
−100Hz
+100Hz

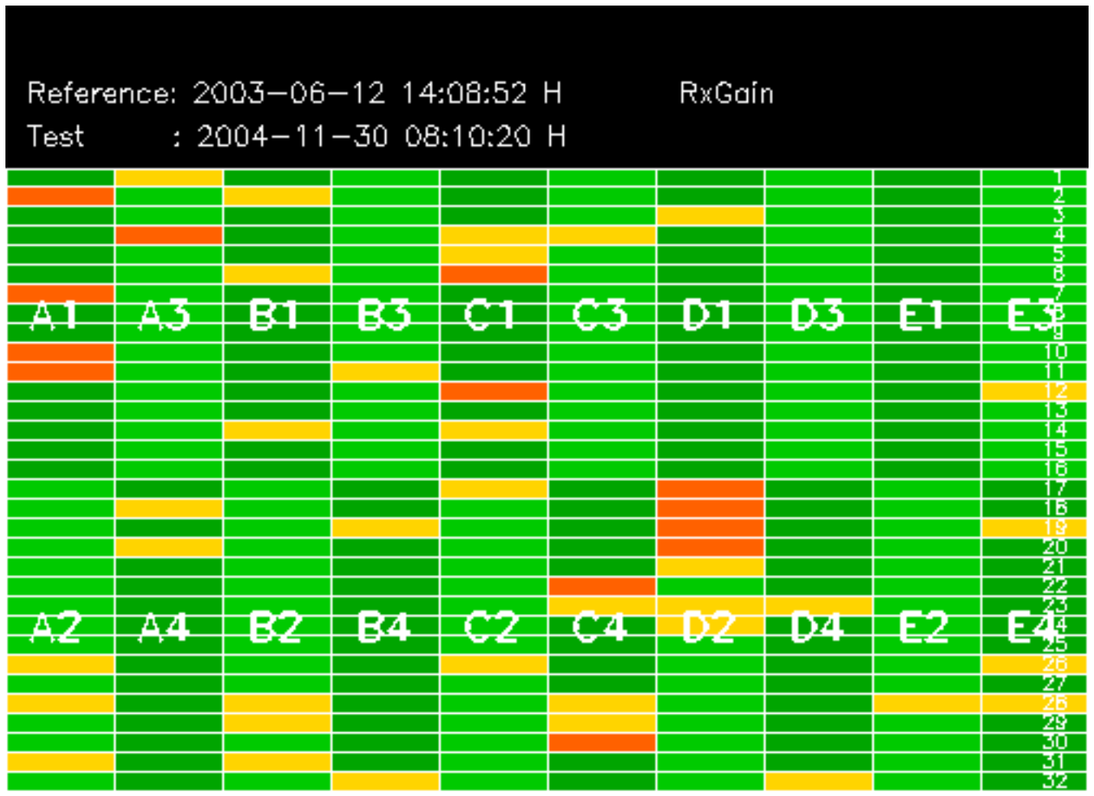

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −33.858605 Hz
−100Hz
+100Hz

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__0PNPDK20041130_081020_000000152032_00307_14389_0130.N1

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2004-11-30 08:10:20 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 : 2004-11-30 08:10:20 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
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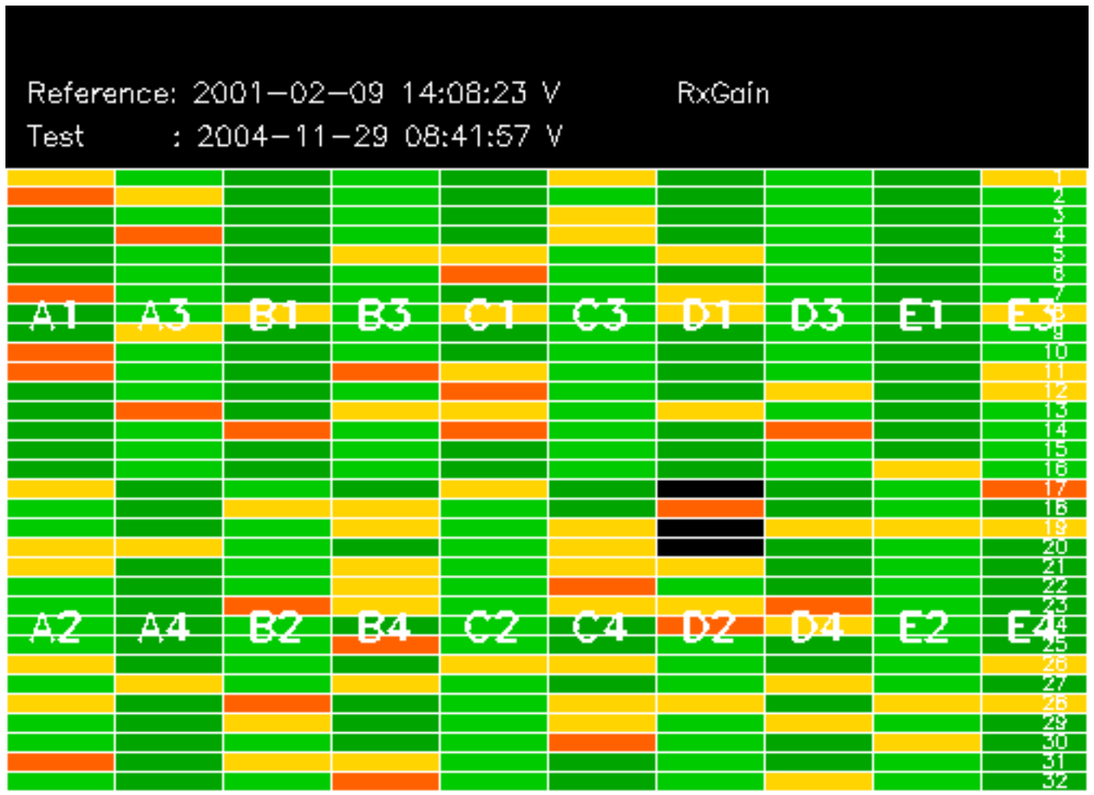
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2004-11-29 08:41:57 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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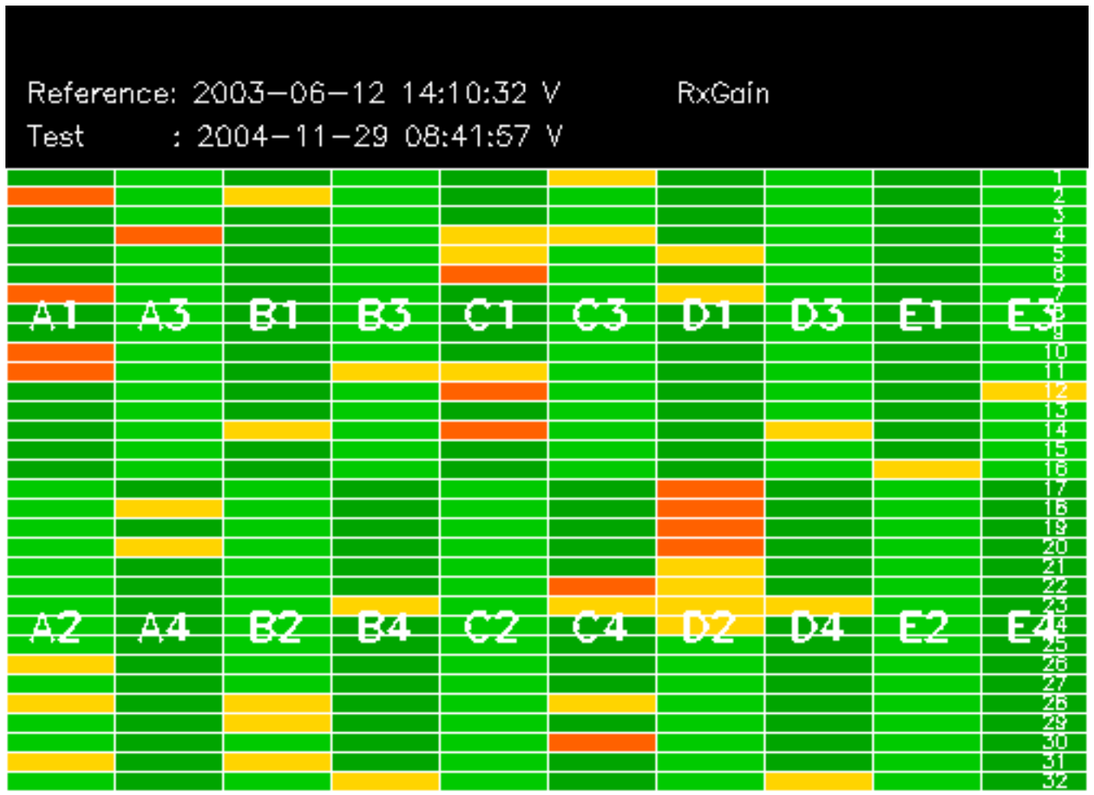
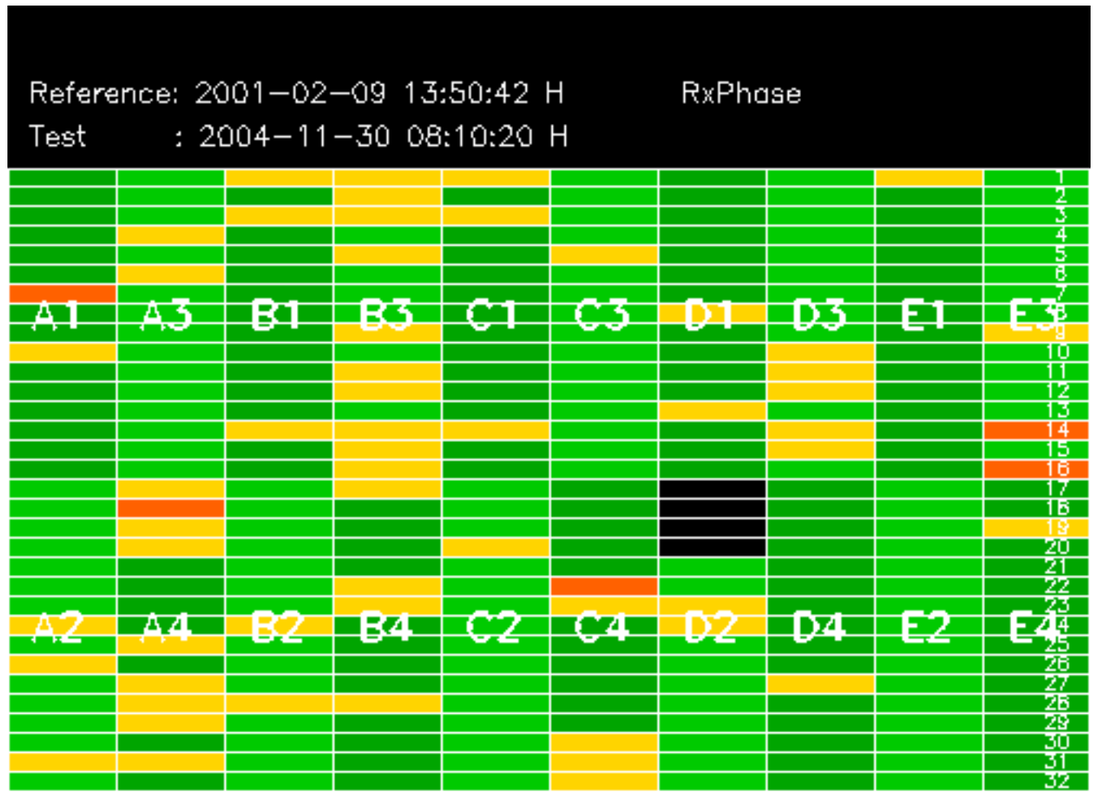

Reference: 2003-06-12 14:10:32 V
Test : 2004-11-29 08:41:57 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-11-30 08:10:20 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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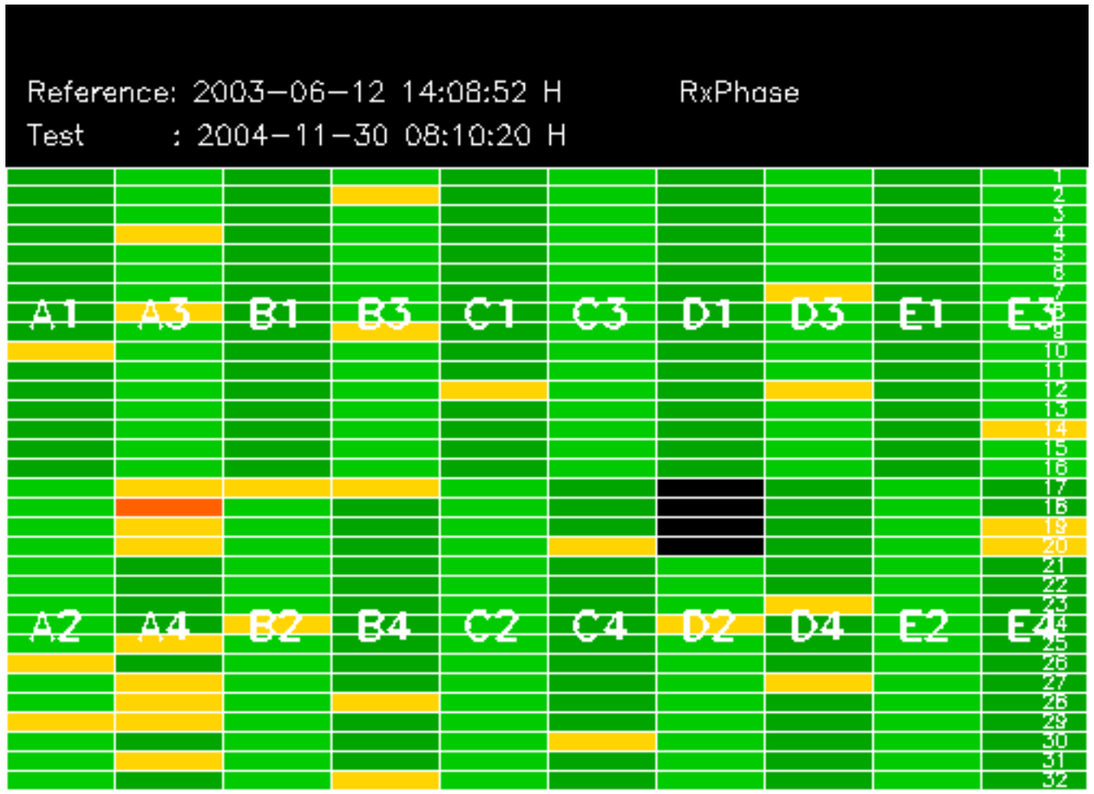
Reference: 2003-06-12 14:08:52 H
Test : 2004-11-30 08:10:20 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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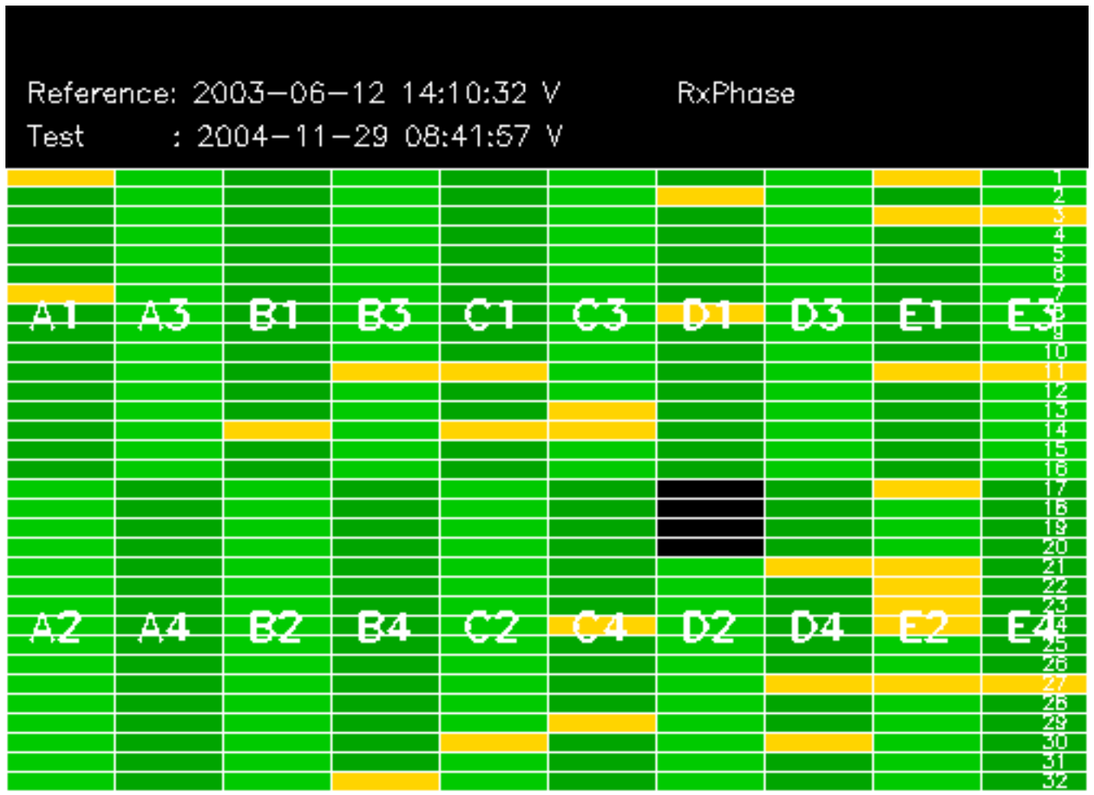
31
32


Reference: 2001-02-09 14:08:23 V
RxPhase
Test : 2004-11-29 08:41:57 V
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 : 2004-11-29 08:41:57 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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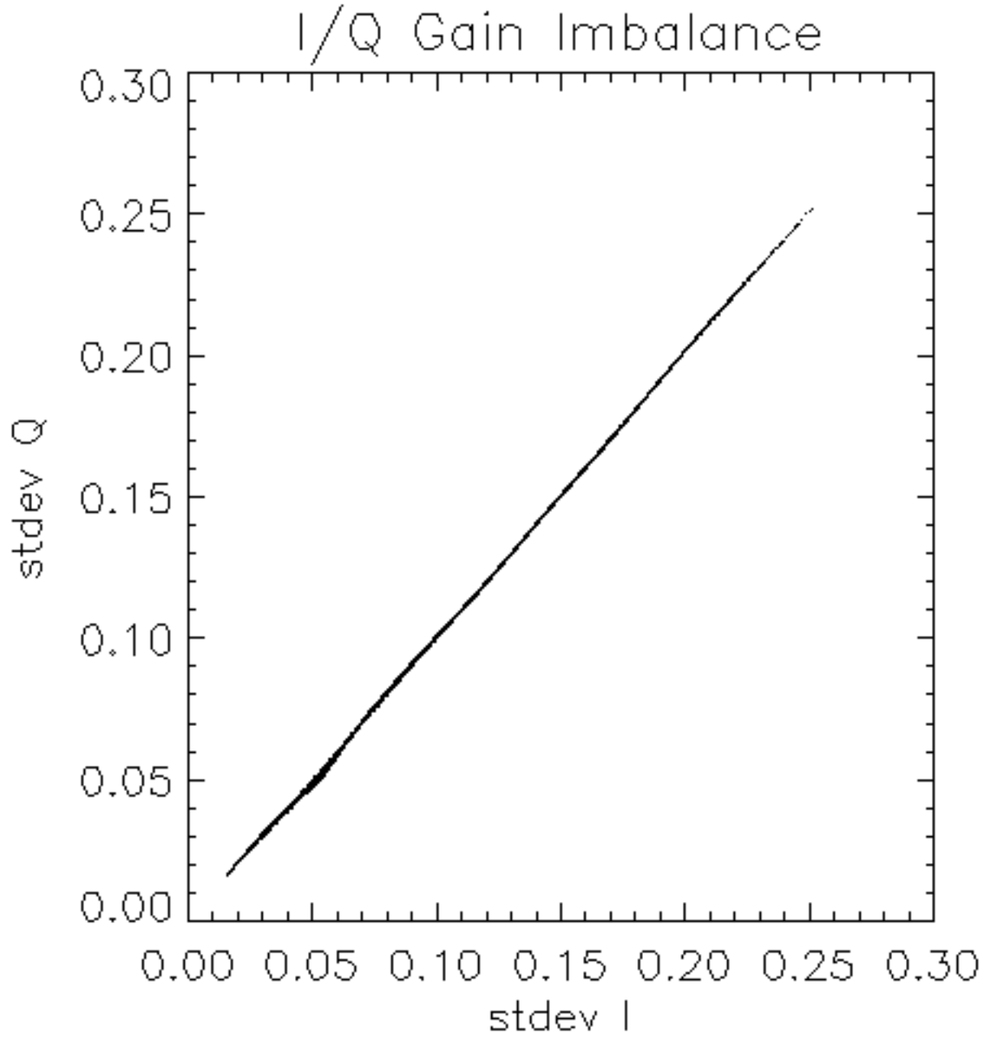
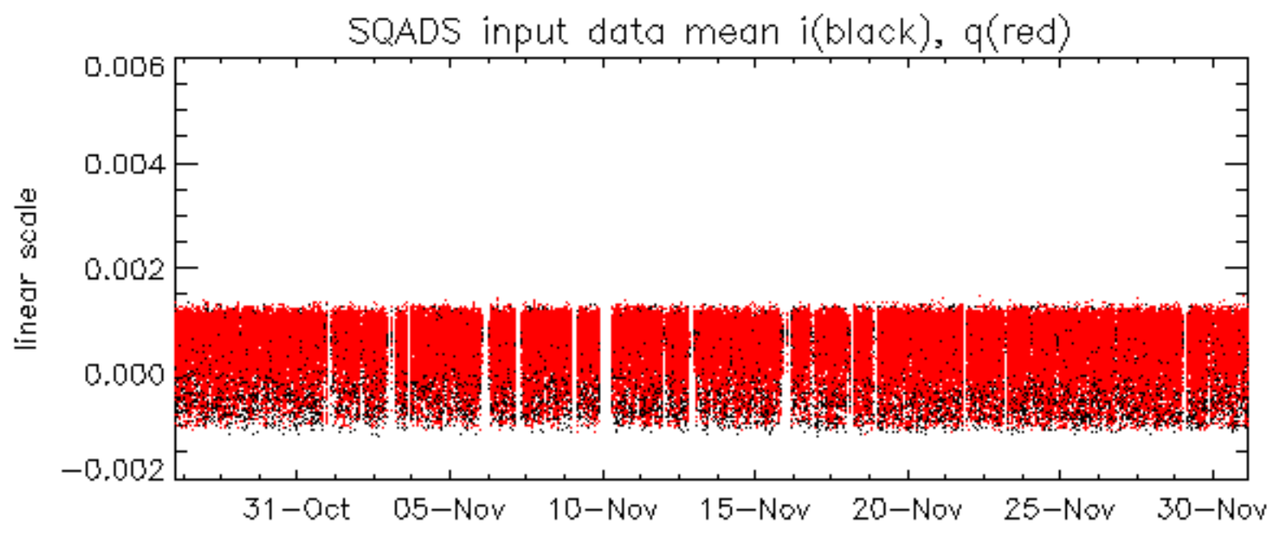
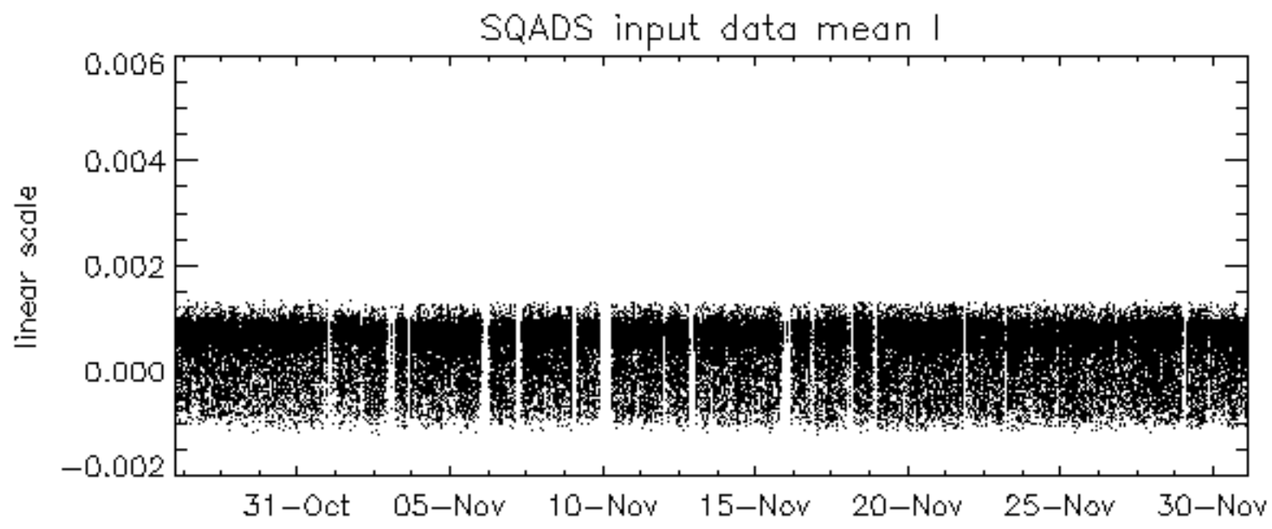
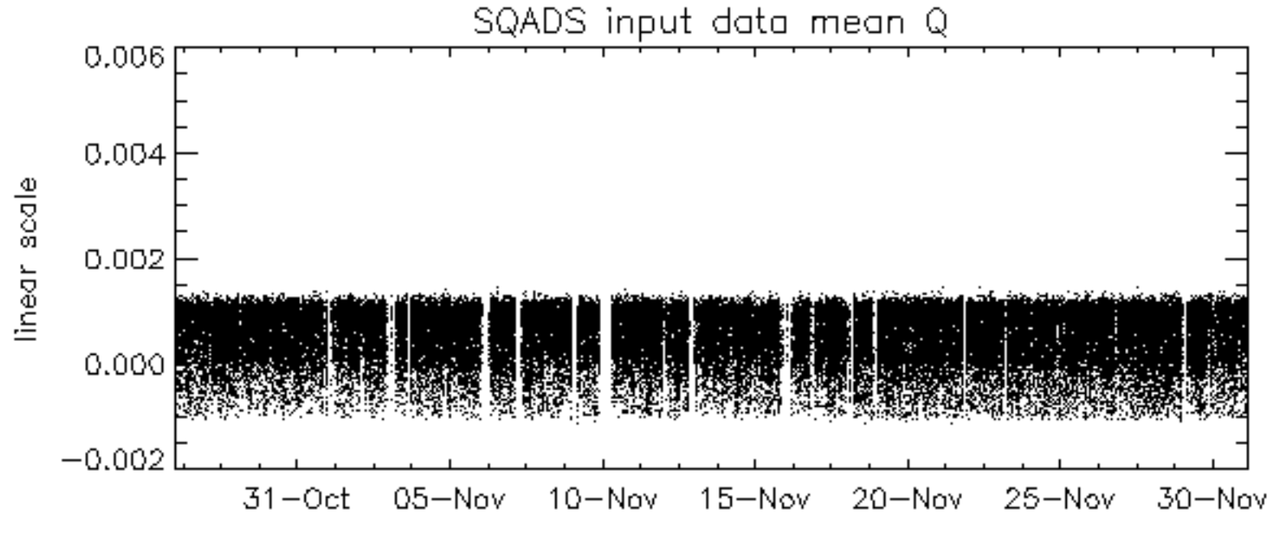
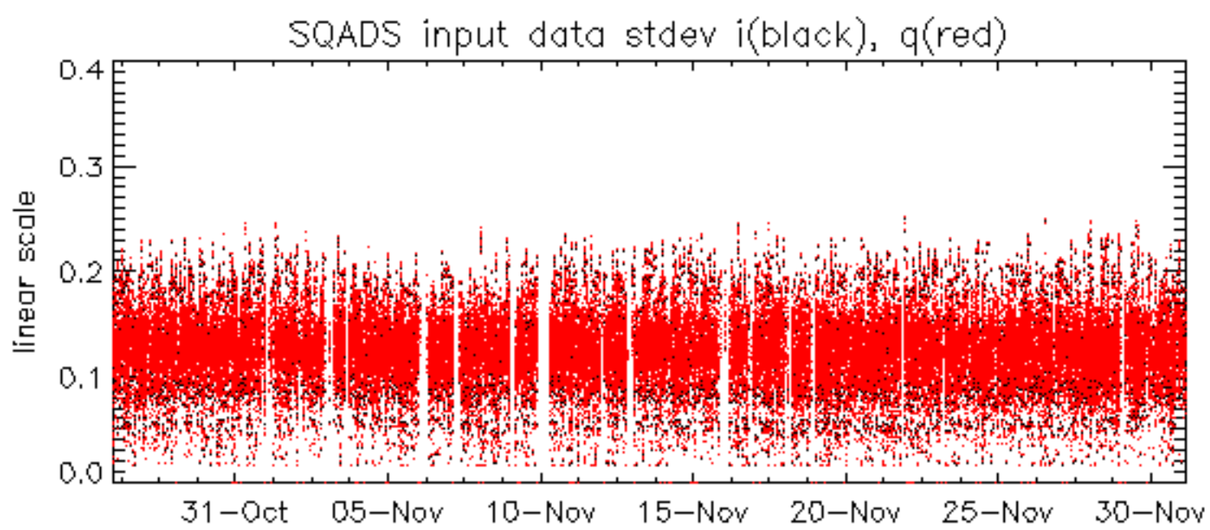
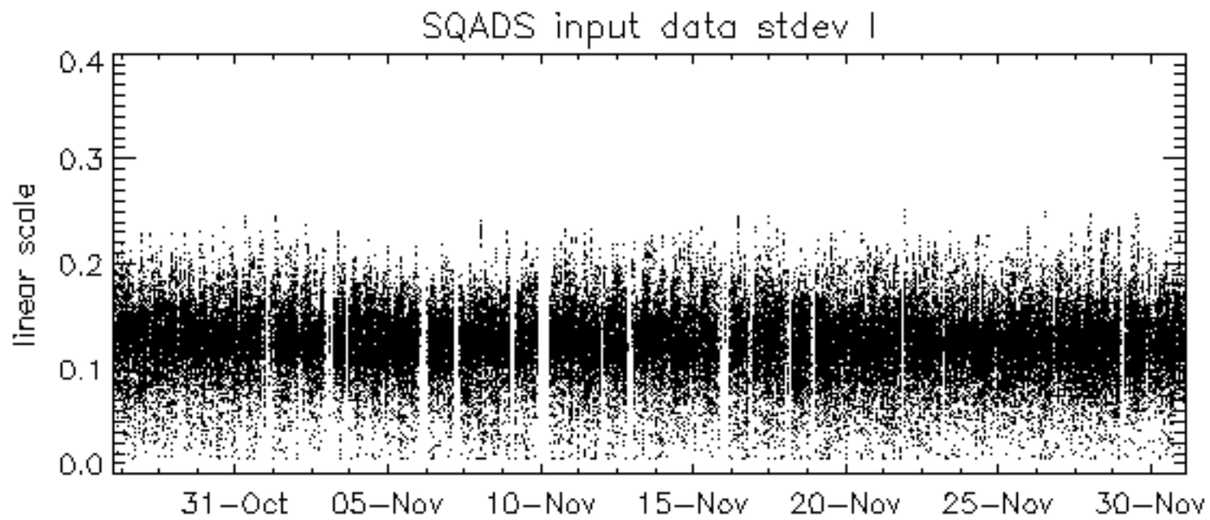

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

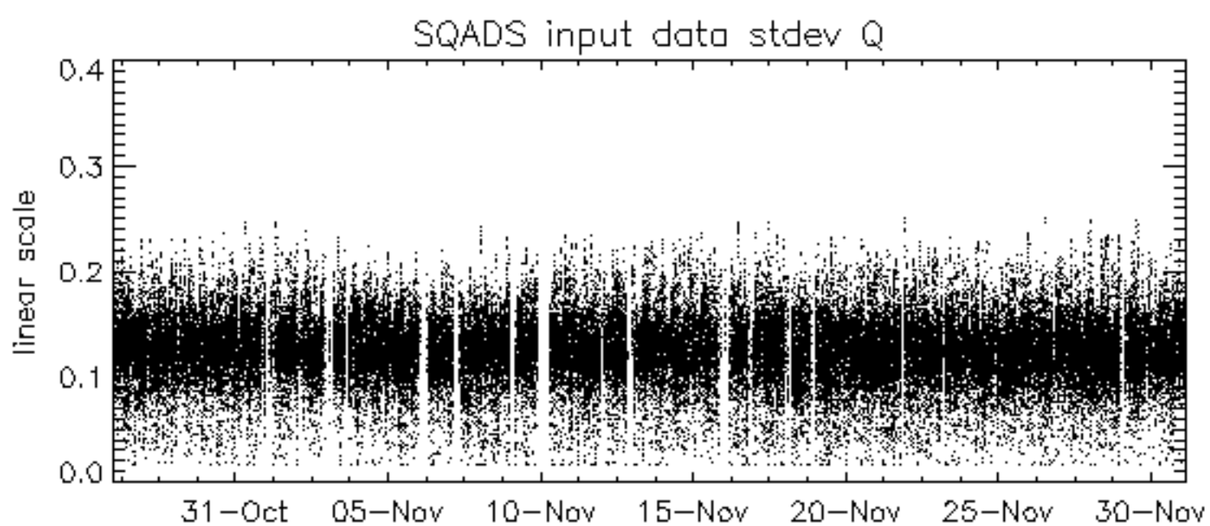

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Oct
05−Nov
10−Nov
15−Nov
20−Nov
25−Nov
30−Nov

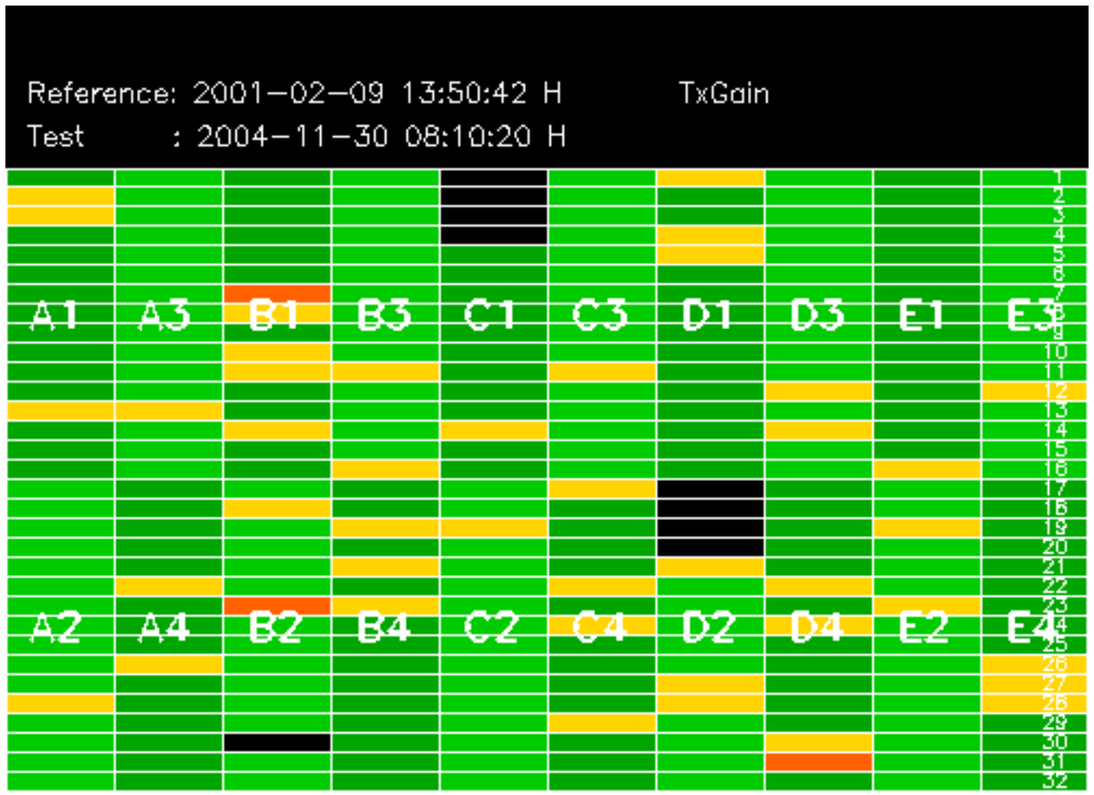

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
31−Oct
05−Nov
10−Nov
15−Nov
20−Nov
25−Nov
30−Nov


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 : 2004-11-30 08:10:20 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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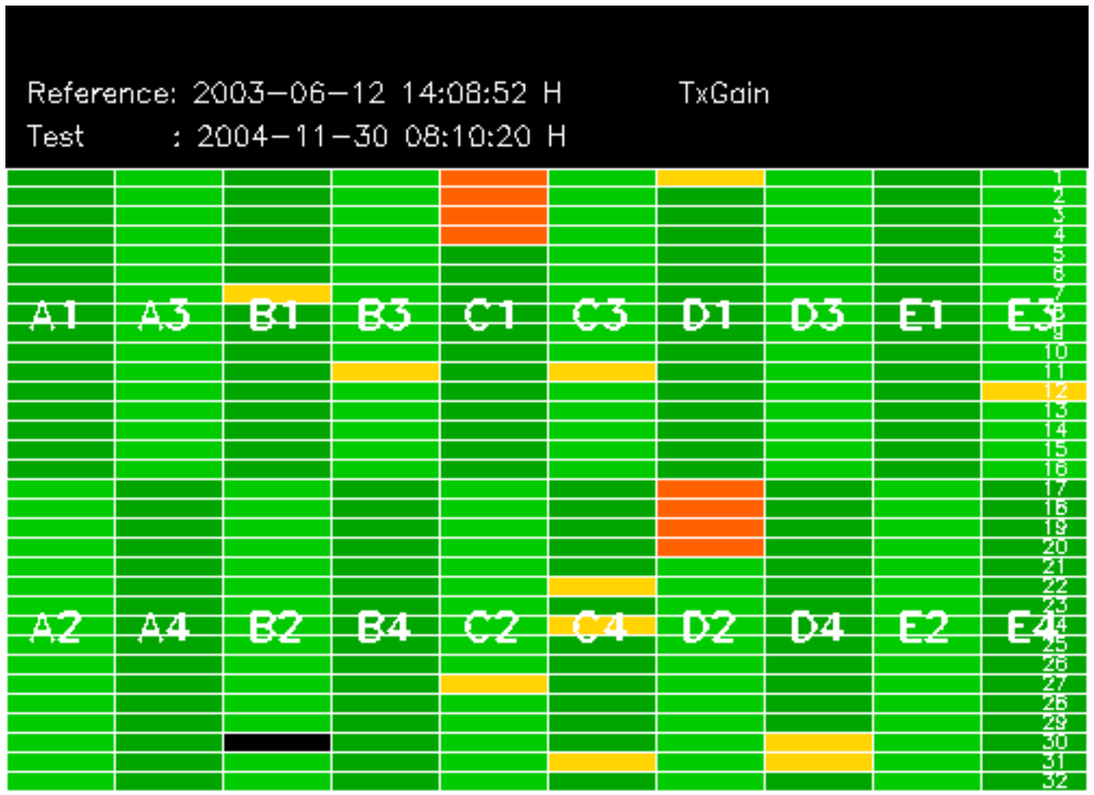
Reference: 2003-06-12 14:08:52 H
Test : 2004-11-30 08:10:20 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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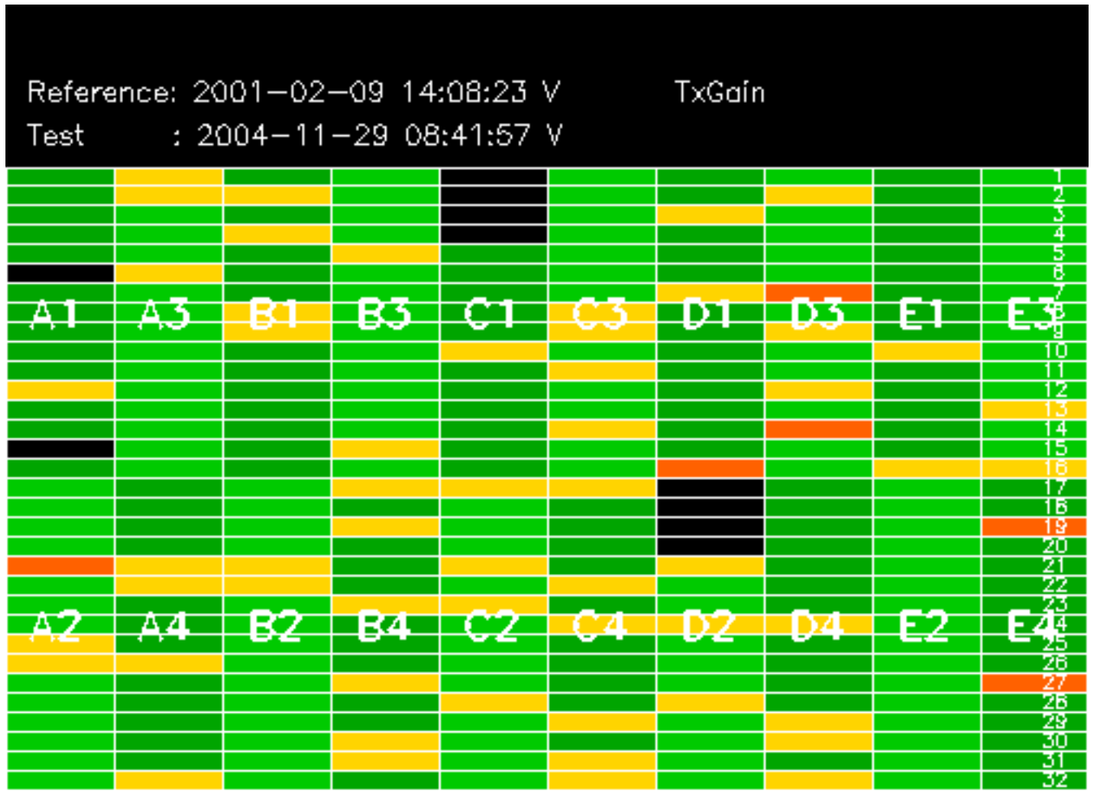
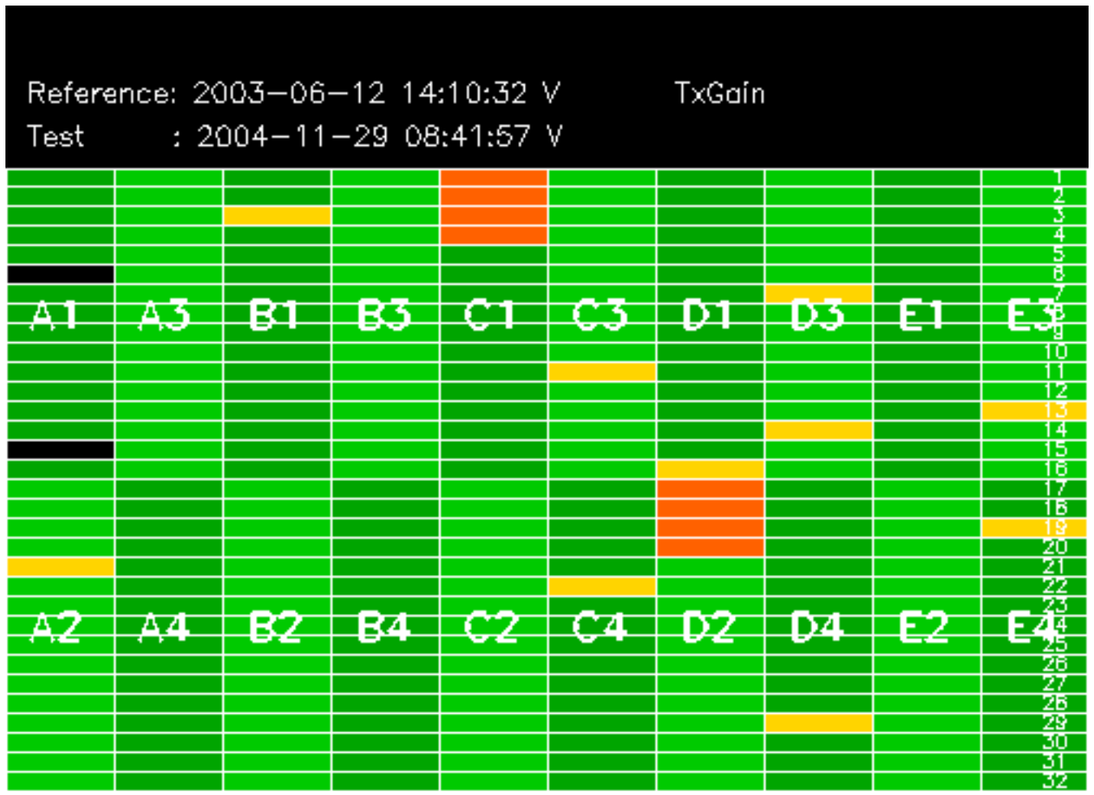
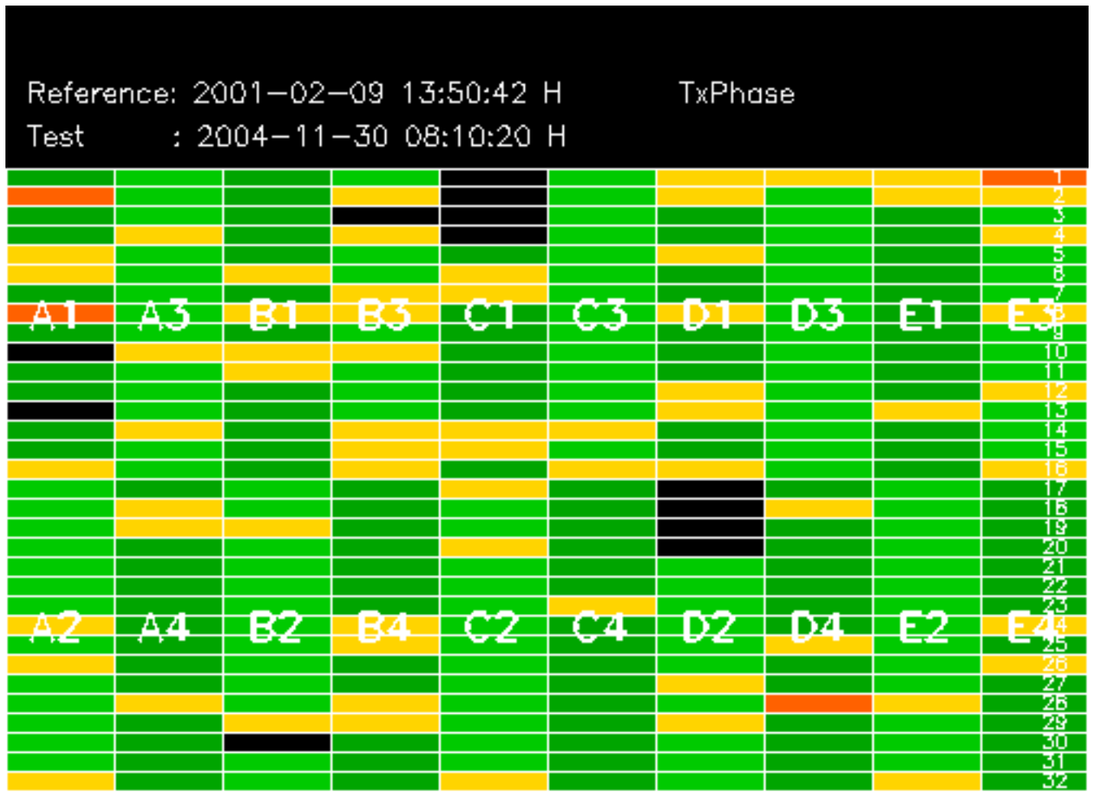
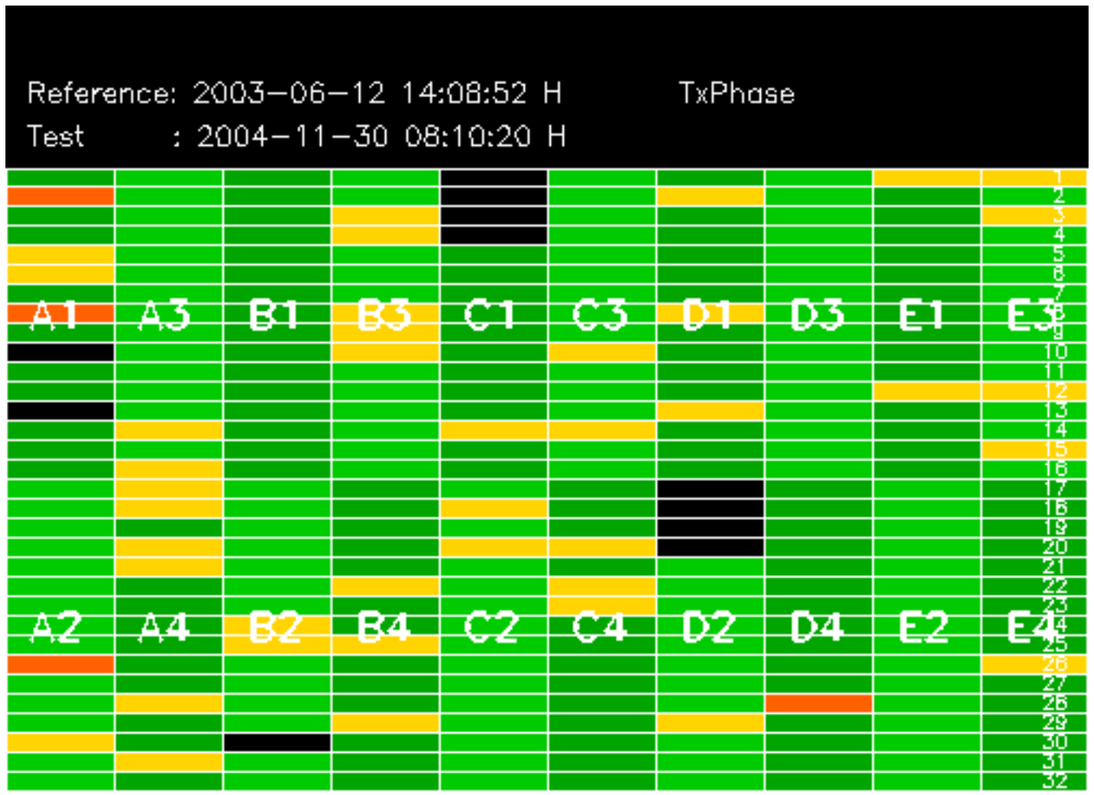

Reference: 2001-02-09 14:08:23 V
Test : 2004-11-29 08:41:57 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-11-29 08:41:57 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 : 2004-11-30 08:10:20 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 : 2004-11-30 08:10:20 H
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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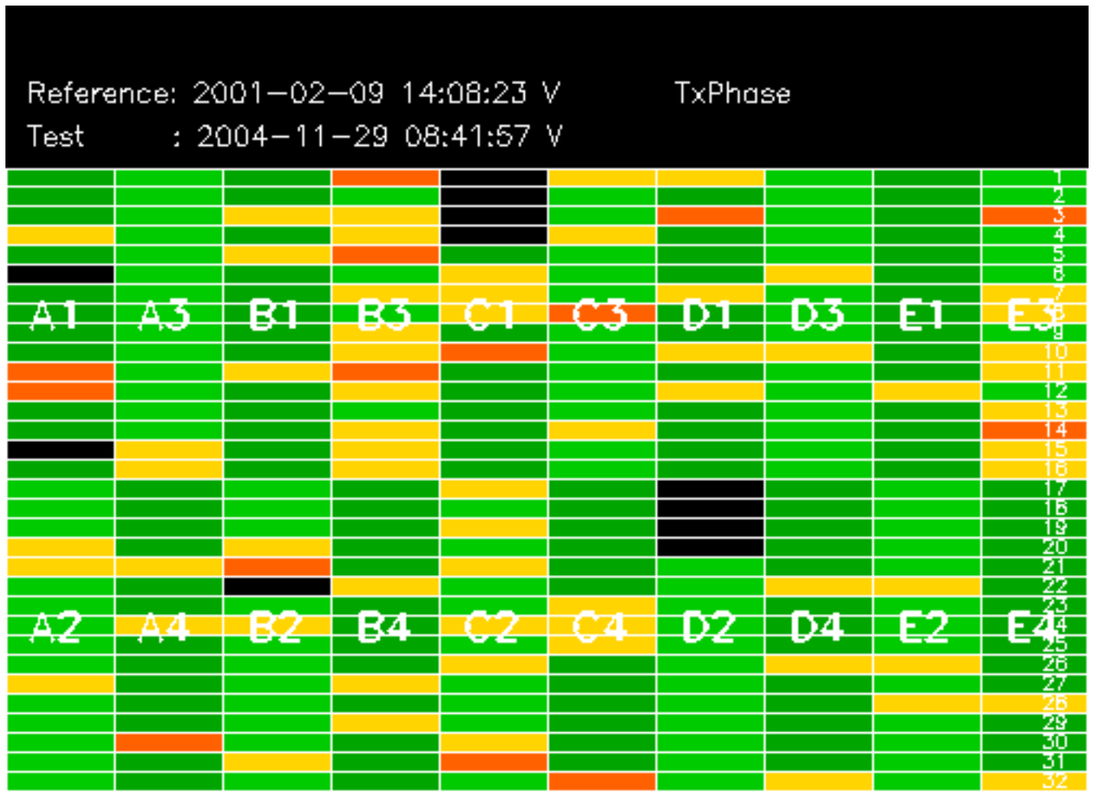
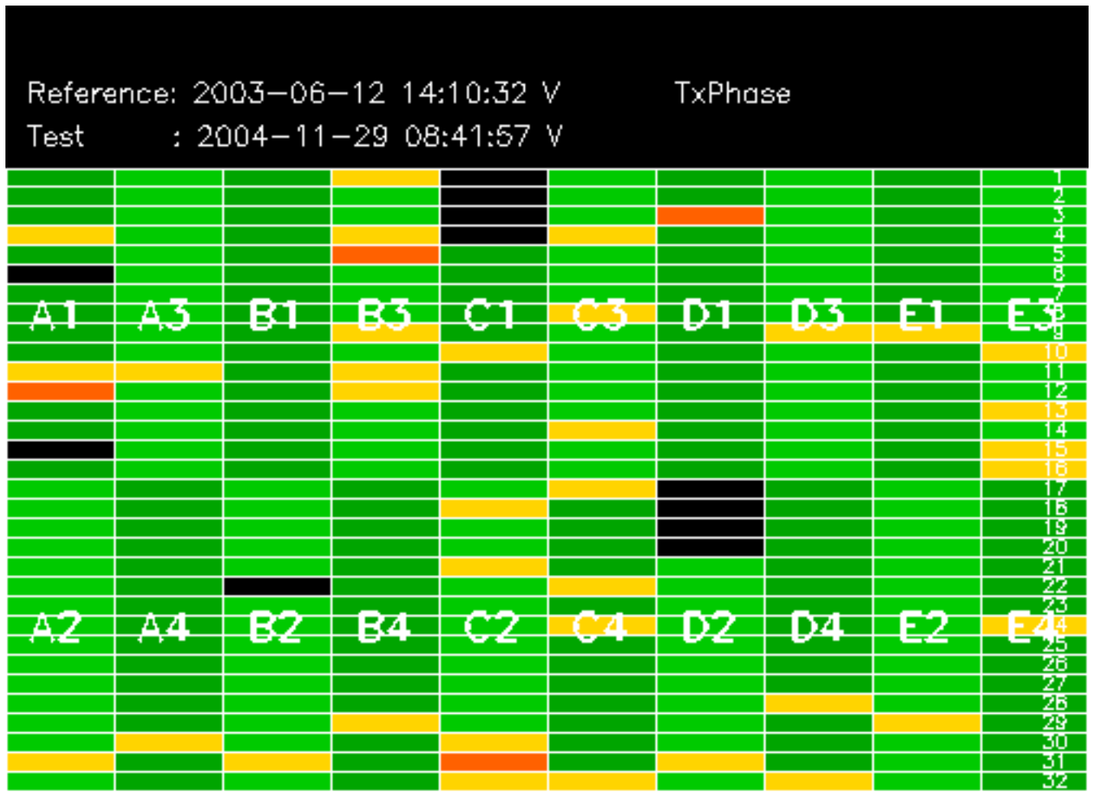

Reference: 2001-02-09 14:08:23 V
Test : 2004-11-29 08:41:57 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-11-29 08:41:57 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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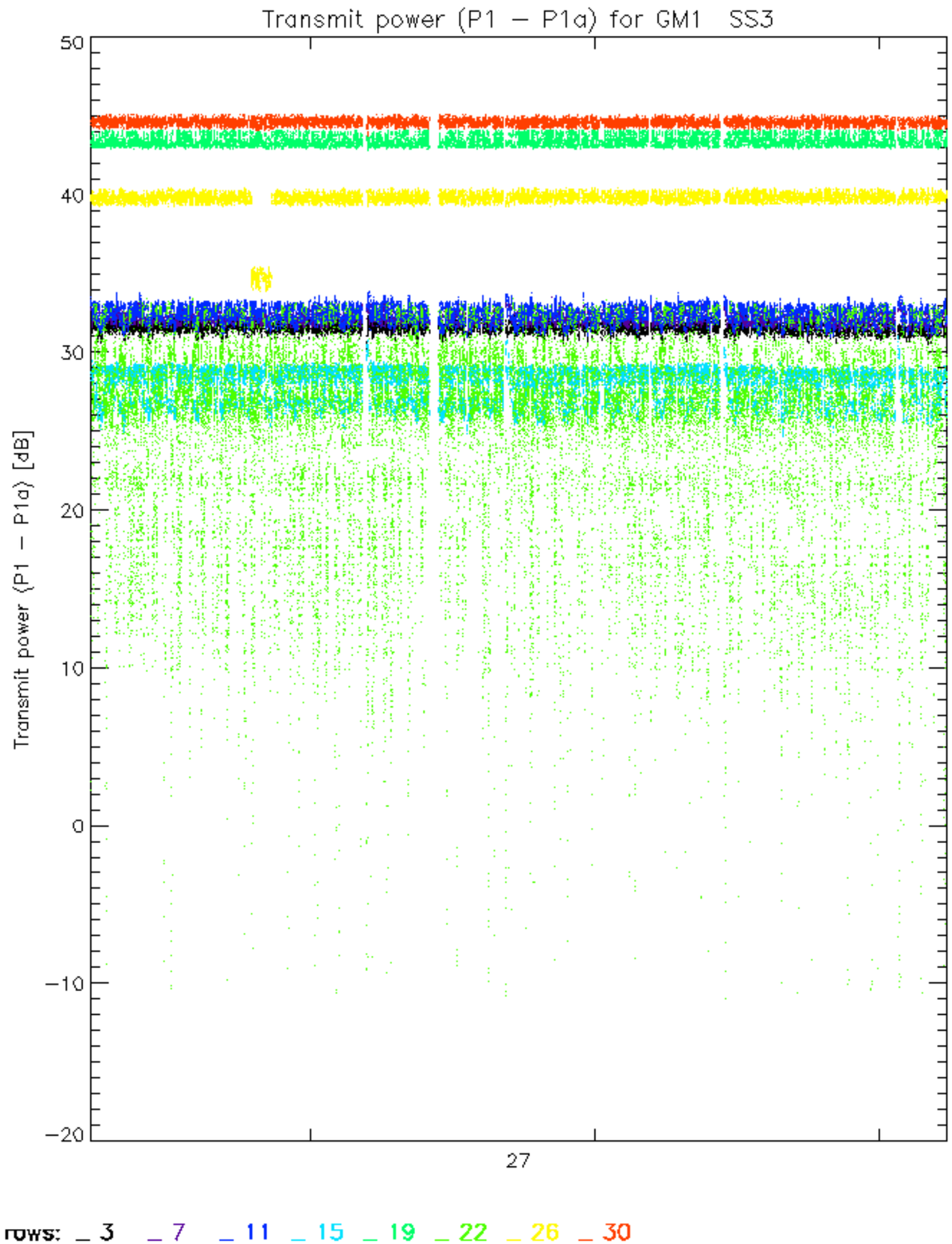
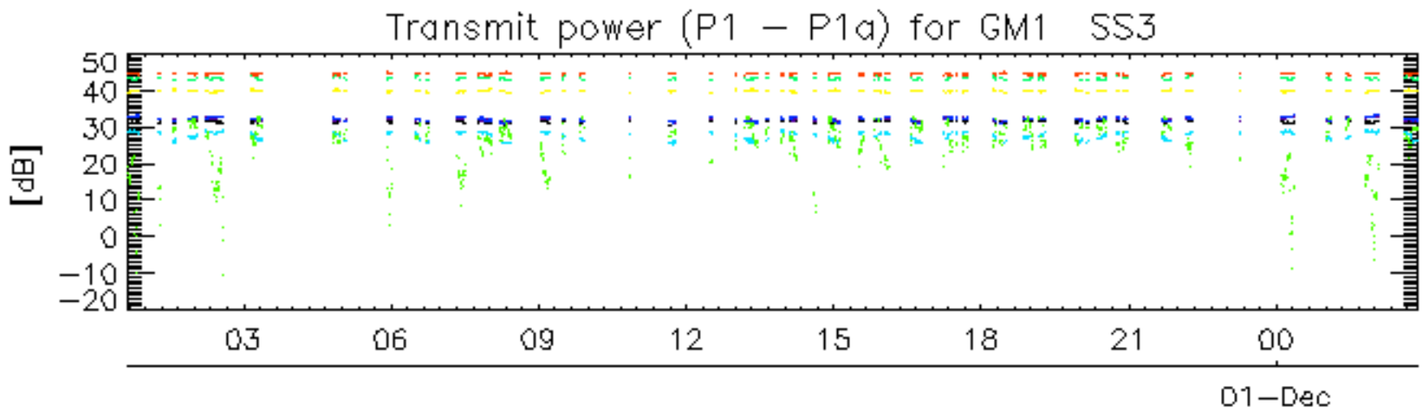
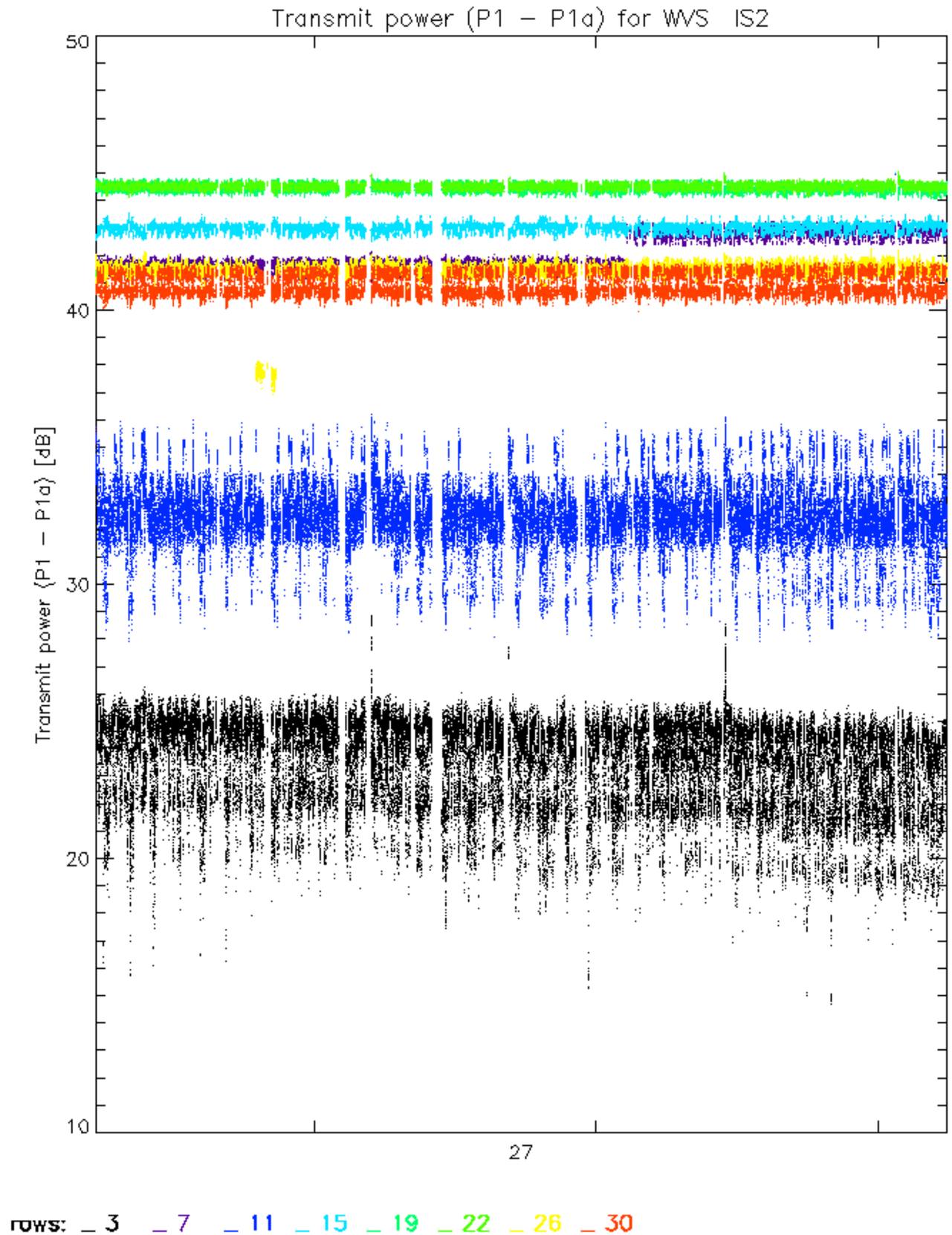
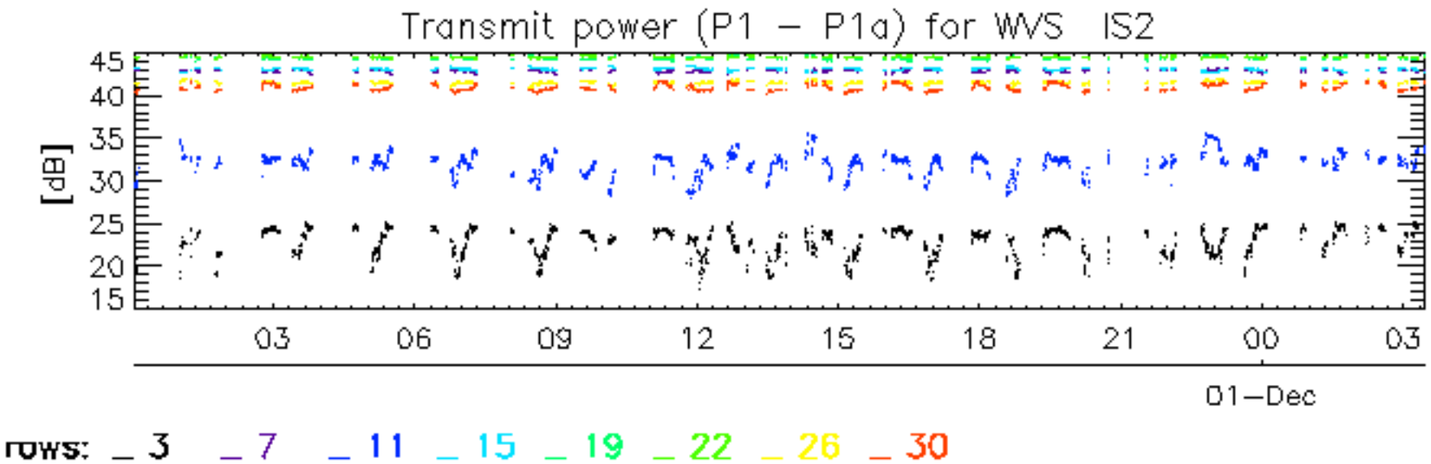

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
−20
27
rows: 3 7 11 15 19 22 26 30


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


Transmit power (P1 – P1a) for WVS IS2
50
40
30
20
10
Transmit power (P1 – P1a) [dB]
27
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
03
01–Dec
rows: 3
7
11
15
19
22
26
30

No unavailabilities during the reported period.