REPORT OF 041007

last update on Thu Oct 7 13:10:15 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 unavailability for 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__0PNPDK20041006_170204_000000152031_00026_13607_0083.N1

Polarisation	Start Time
V	20041006 170204
H	20041005 173341

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.

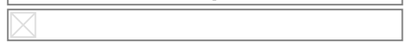
4.1 - Daily statistics

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	-3.470817	0.023670	-0.007361
7	P1	-3.338498	0.022531	0.001338
11	P1	-4.650590	0.037621	0.012096
15	P1	-5.760428	0.081250	0.038968
19	P1	-3.521963	0.079025	0.024171
22	P1	-4.558064	0.109426	0.046689
24	P1	-5.003520	0.122075	0.059420
30	P1	-7.057901	0.146582	0.008864

3	P1	-16.204260	0.398261	0.126869
7	P1	-14.023571	0.061714	-0.033762
11	P1	-20.285311	0.237978	-0.140908
15	P1	-11.760088	0.041368	0.061037
19	P1	-14.054725	1.099501	0.132859
22	P1	-16.004971	0.380905	0.026389
24	P1	-14.459313	0.294700	-0.026810
30	P1	-17.995605	0.607608	-0.184311

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.311184	0.087307	-0.016892
7	P2	-22.594042	0.116702	0.025407
11	P2	-15.176606	0.123721	0.110434
15	P2	-7.061268	0.099735	-0.006620
19	P2	-9.569848	0.128388	0.005050
22	P2	-17.298771	0.106686	0.056742
24	P2	-20.769199	0.088952	-0.040679
30	P2	-19.142433	0.082243	0.079651

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.158393	0.004217	-0.015629
7	P3	-8.158393	0.004217	-0.015631
11	P3	-8.158394	0.004217	-0.015632
15	P3	-8.158392	0.004217	-0.015635
19	P3	-8.158390	0.004217	-0.015639
22	P3	-8.158387	0.004217	-0.015647
24	P3	-8.158384	0.004217	-0.015652
30	P3	-8.158398	0.004225	-0.016465

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	-2.841820	0.050445	0.013457
7	P1	-3.026112	0.104722	0.034960
11	P1	-3.892918	0.067079	-0.013550
15	P1	-3.527080	0.082626	0.047763
19	P1	-3.528772	0.100924	0.024254
22	P1	-5.722770	0.131526	0.070624
24	P1	-3.971863	0.058758	-0.017499
30	P1	-6.212210	0.098240	0.060026
3	P1	-10.894009	0.175576	-0.053687
7	P1	-10.110331	0.174777	0.059077
11	P1	-12.181676	0.124035	-0.094901
15	P1	-11.694759	0.083652	-0.023619
19	P1	-15.727155	2.150822	0.360859
22	P1	-23.378366	1.583541	-0.351059
24	P1	-18.021324	0.367984	-0.327784
30	P1	-20.396082	1.261491	-0.078527

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.983194	0.049113	-0.005078
7	P2	-22.717716	0.068948	0.074024
11	P2	-10.886587	0.059054	0.116480
15	P2	-4.965826	0.028881	-0.017616
19	P2	-6.776320	0.042283	-0.000652
22	P2	-7.405030	0.044788	0.049922
24	P2	-11.069269	0.055749	-0.033550
30	P2	-22.124758	0.042010	0.052712

P3 Cyclic statistics

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

3	P3	-8.007560	0.003465	-0.006682
7	P3	-8.007616	0.003465	-0.006795
11	P3	-8.007673	0.003456	-0.006884
15	P3	-8.007678	0.003458	-0.006599
19	P3	-8.007610	0.003464	-0.006740
22	P3	-8.007608	0.003460	-0.006721
24	P3	-8.007685	0.003481	-0.006595
30	P3	-8.007556	0.003473	-0.006961

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	0.000476244
	stdev	2.16678e-07
MEAN Q	mean	0.000541139
	stdev	2.37055e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127412
	stdev	0.000959362

STDEV Q	mean	0.127638
	stdev	0.000968755

5.3 - Gain imbalance I/Q

6 - Doppler Analysis

No anomaly 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

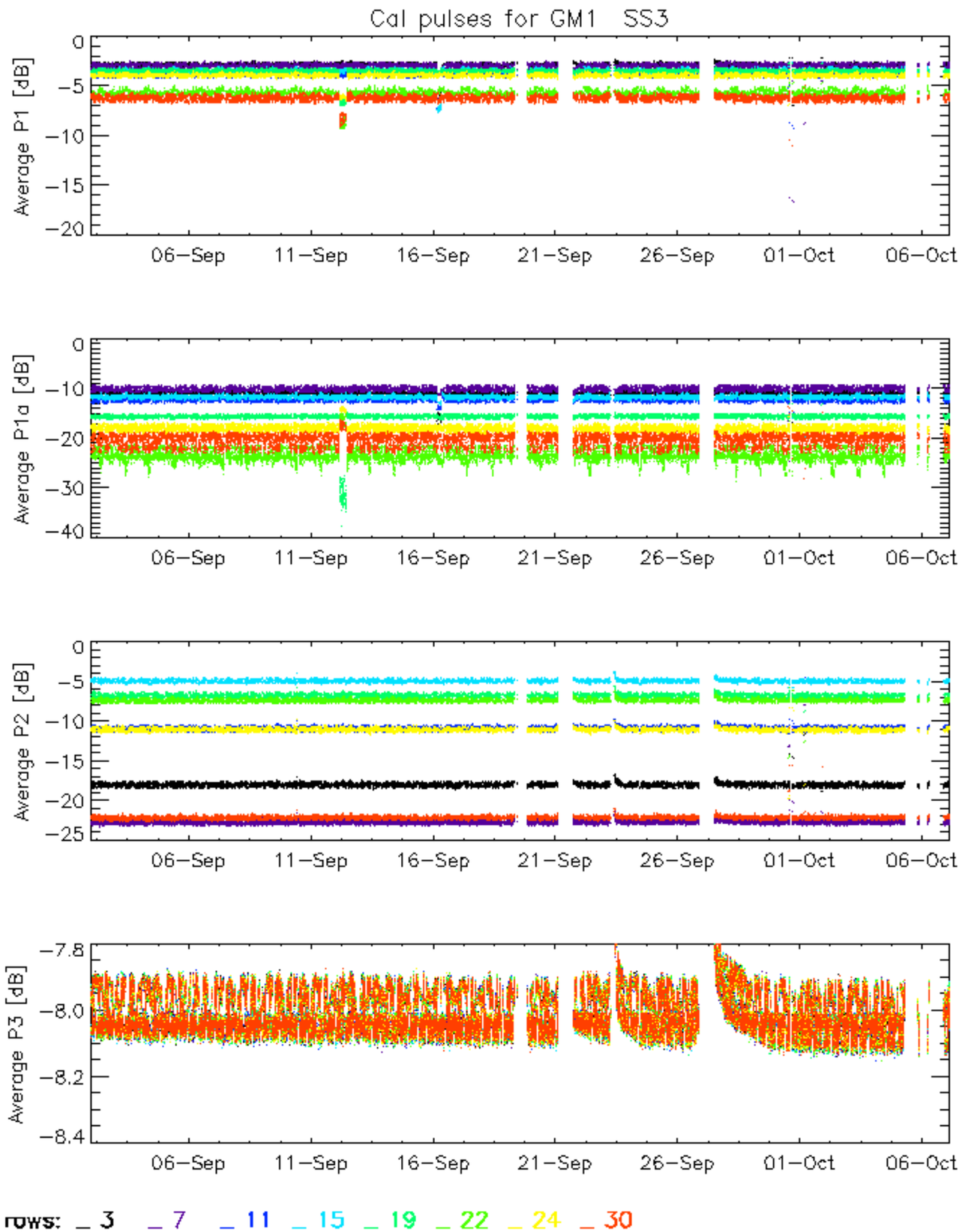
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

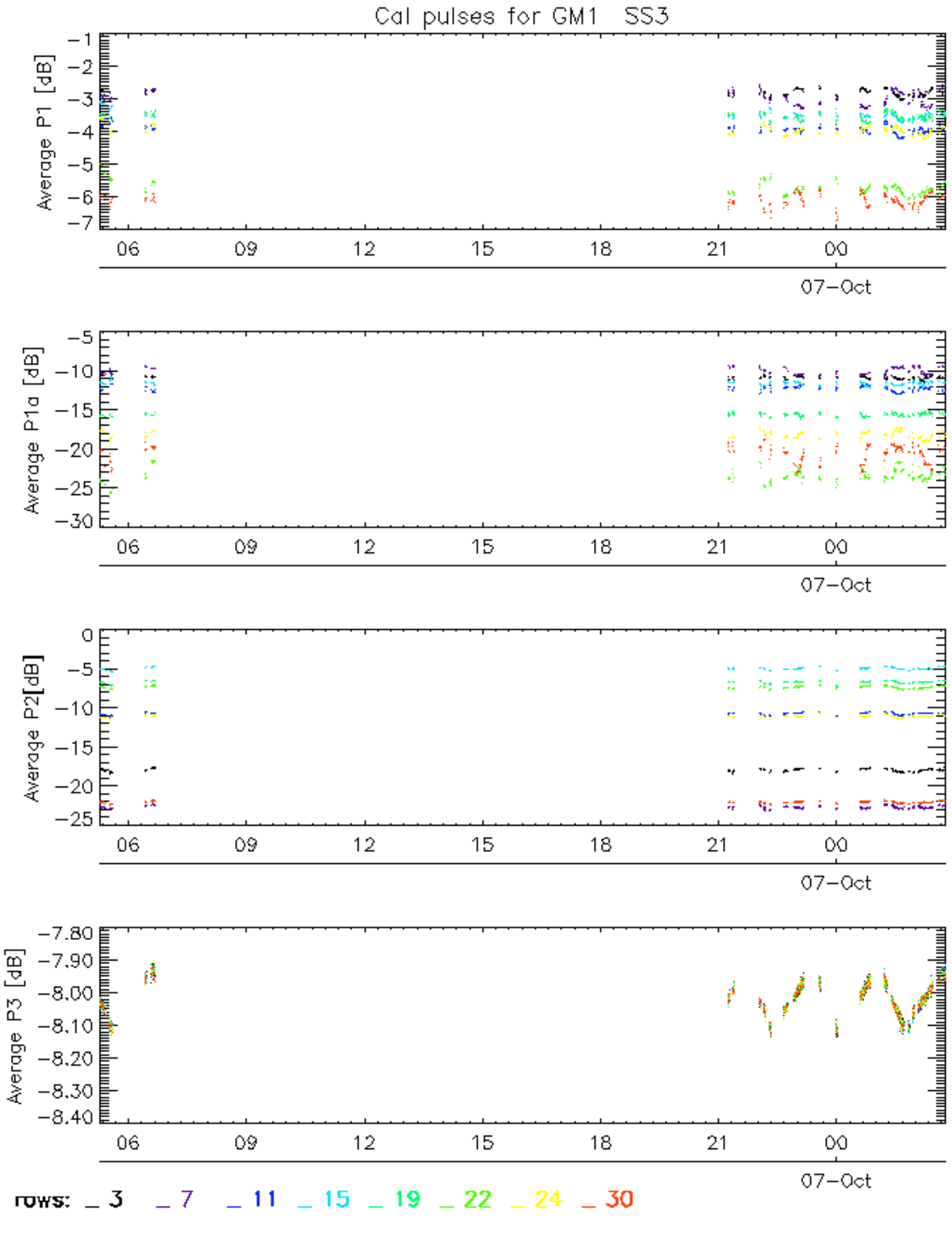
6.5 - Absolute Doppler for GM1

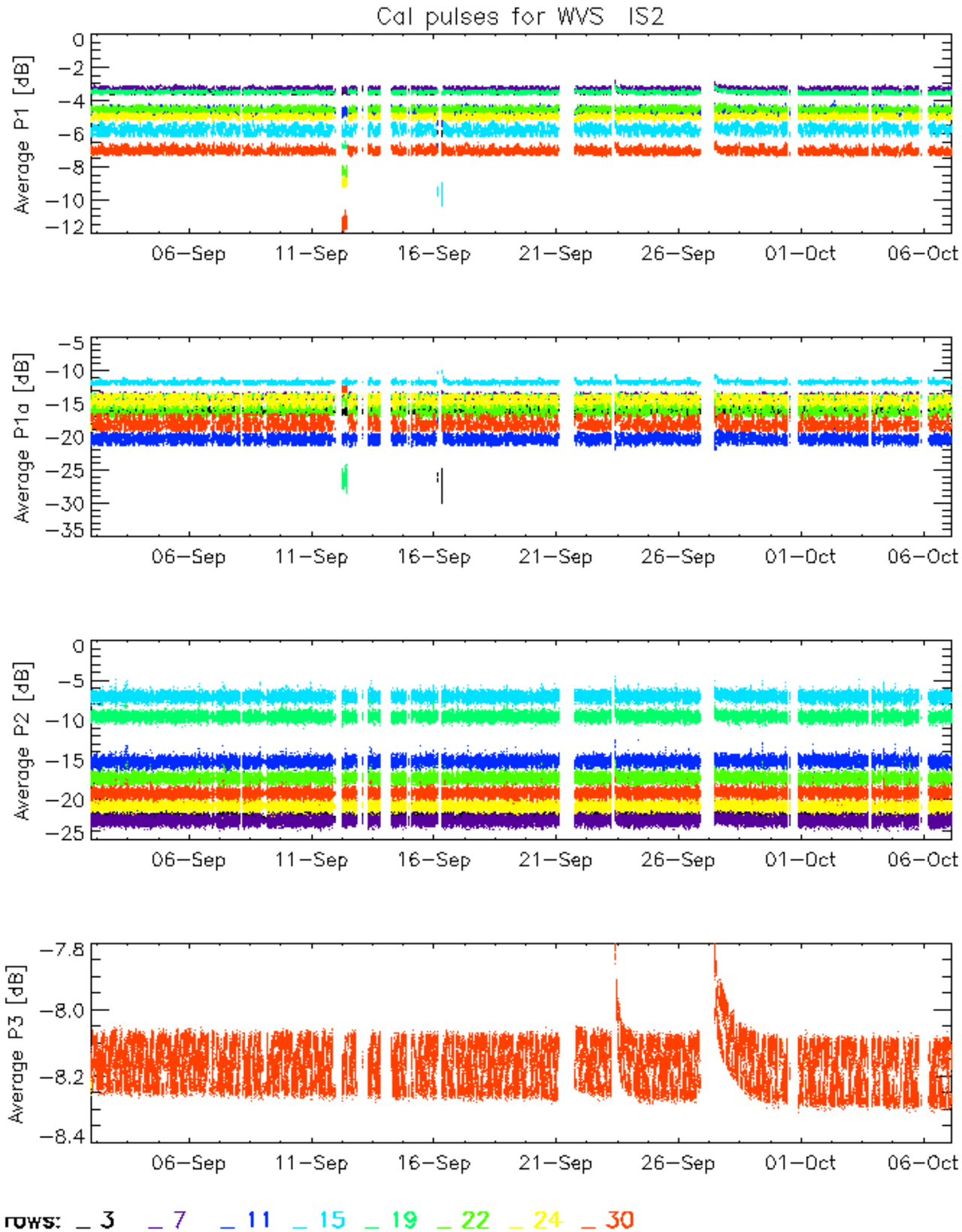
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

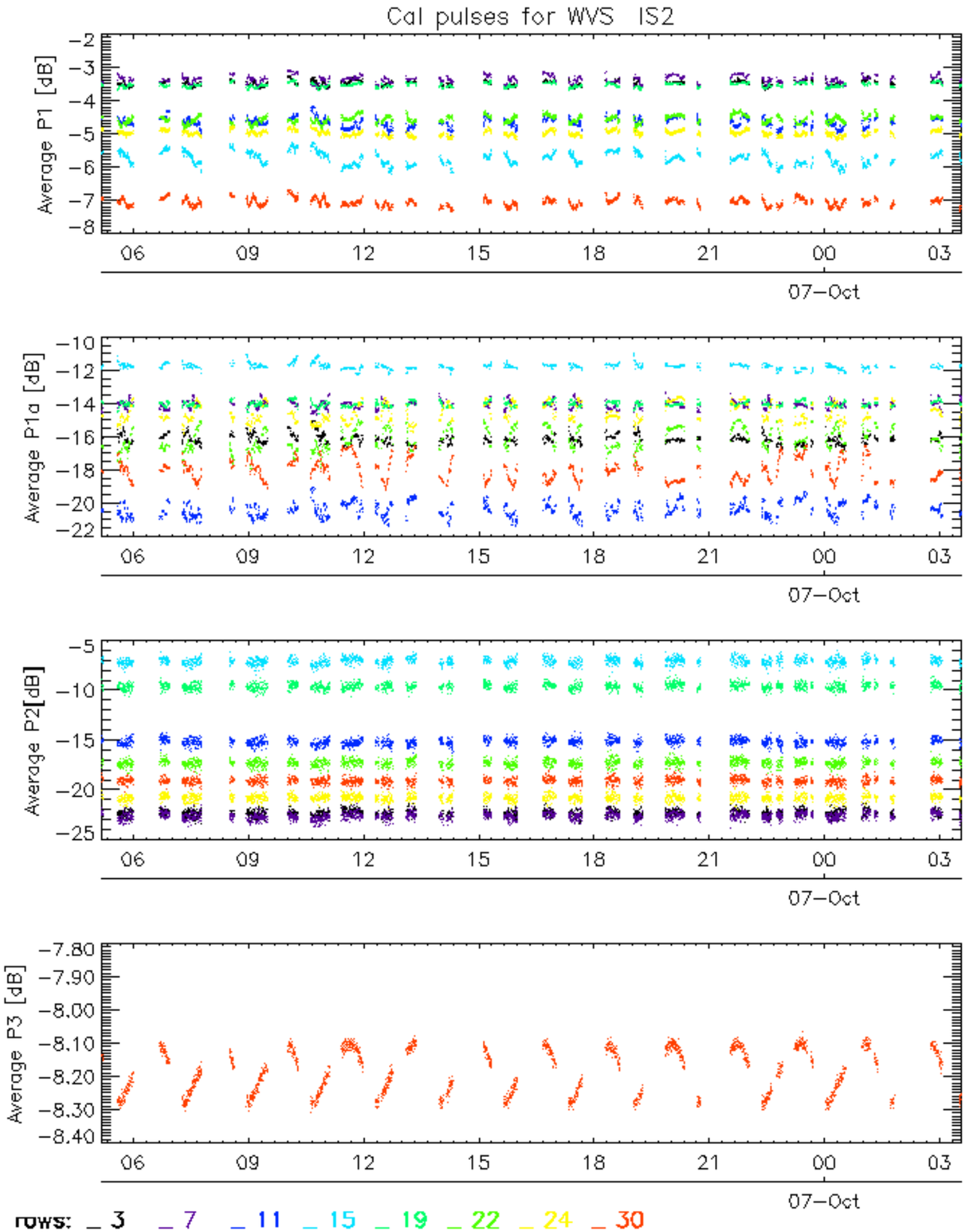
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
☒


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

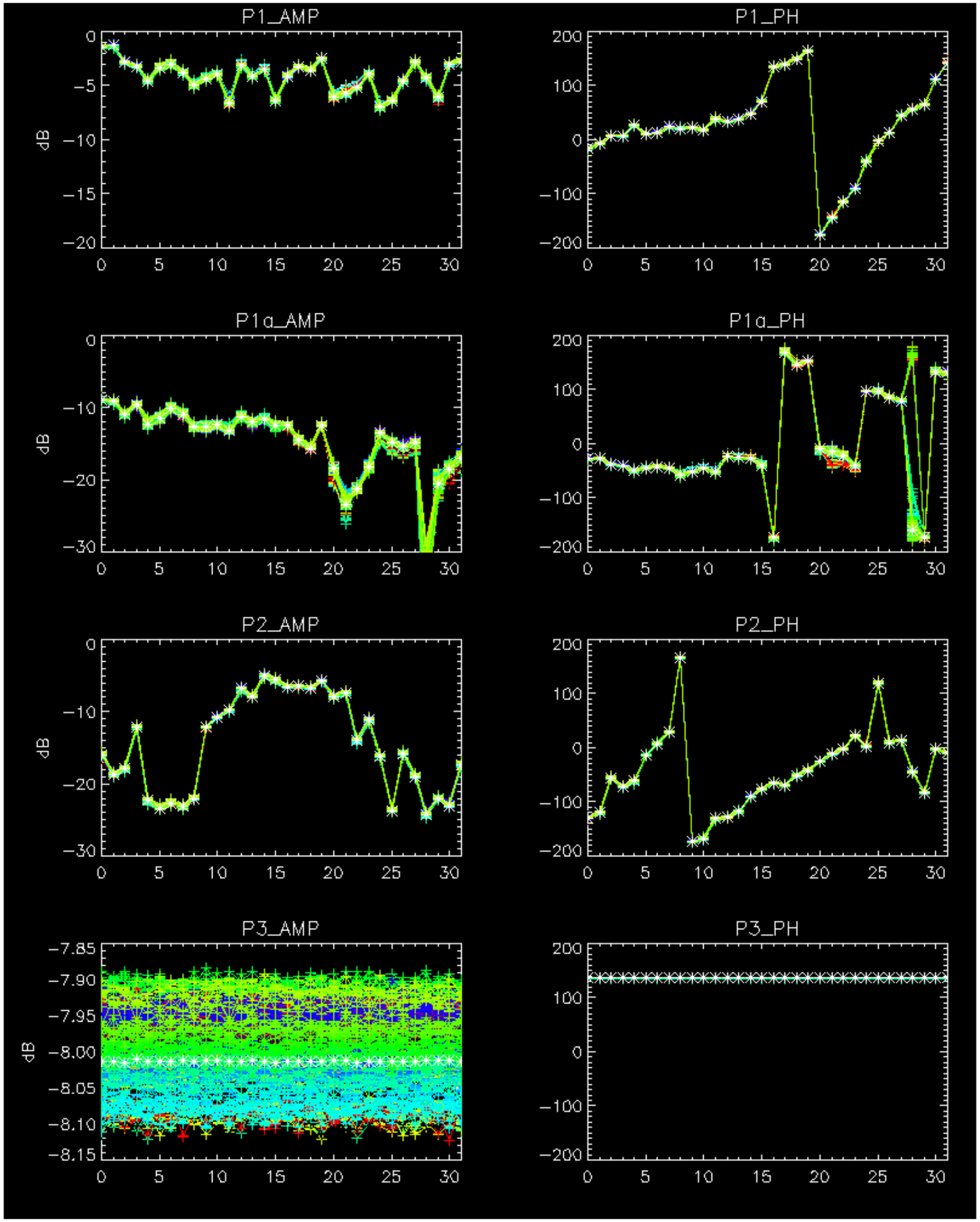

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
06
09
12
15
18
21
00
07−Oct
Average P1a [dB]
−5
−10
−15
−20
−25
−30
06
09
12
15
18
21
00
07−Oct
Average P2[dB]
0
−5
−10
−15
−20
−25
06
09
12
15
18
21
00
07−Oct
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
06
09
12
15
18
21
00
07−Oct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

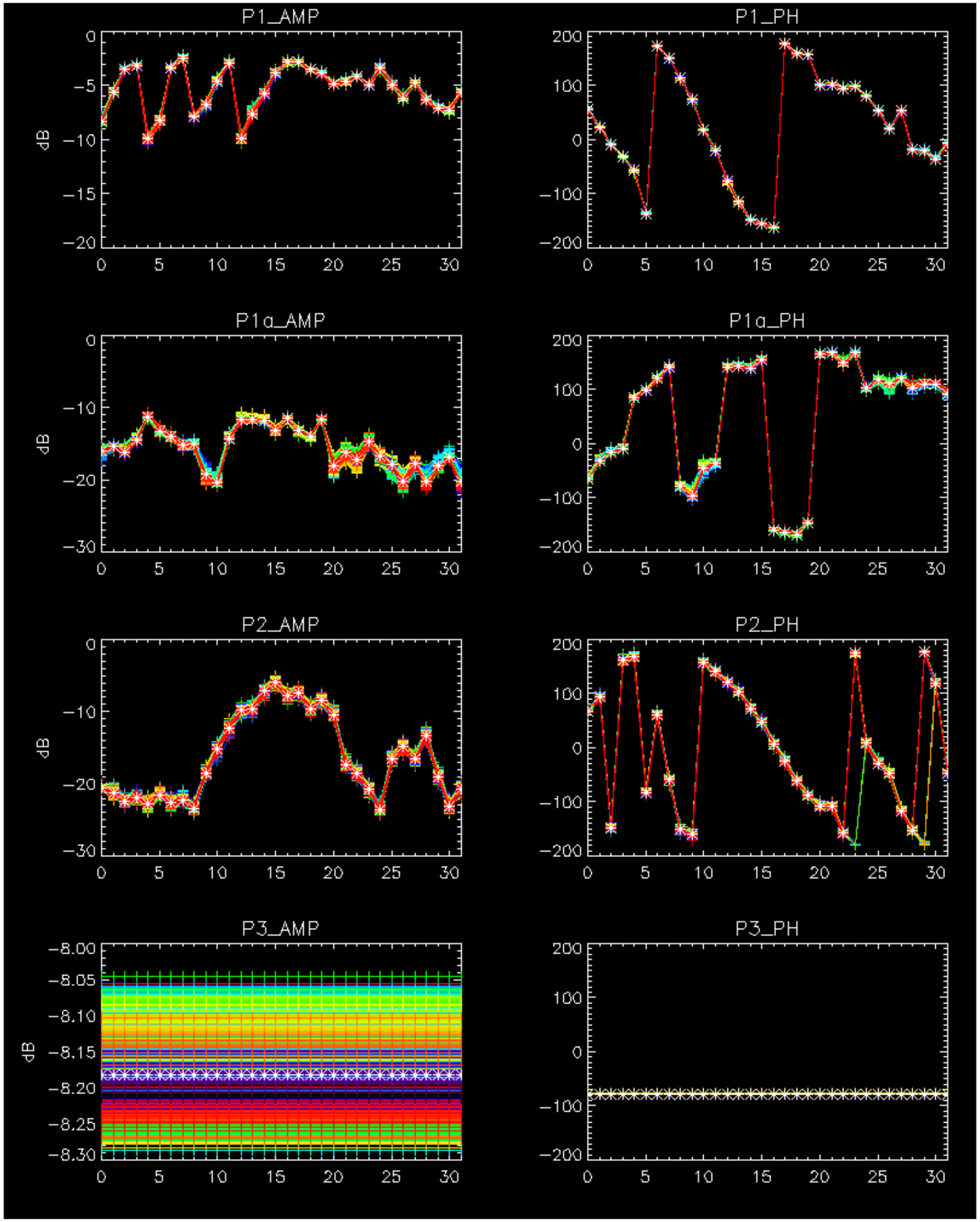

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
06−Sep
11−Sep
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30


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

No anomalies observed on available browse products

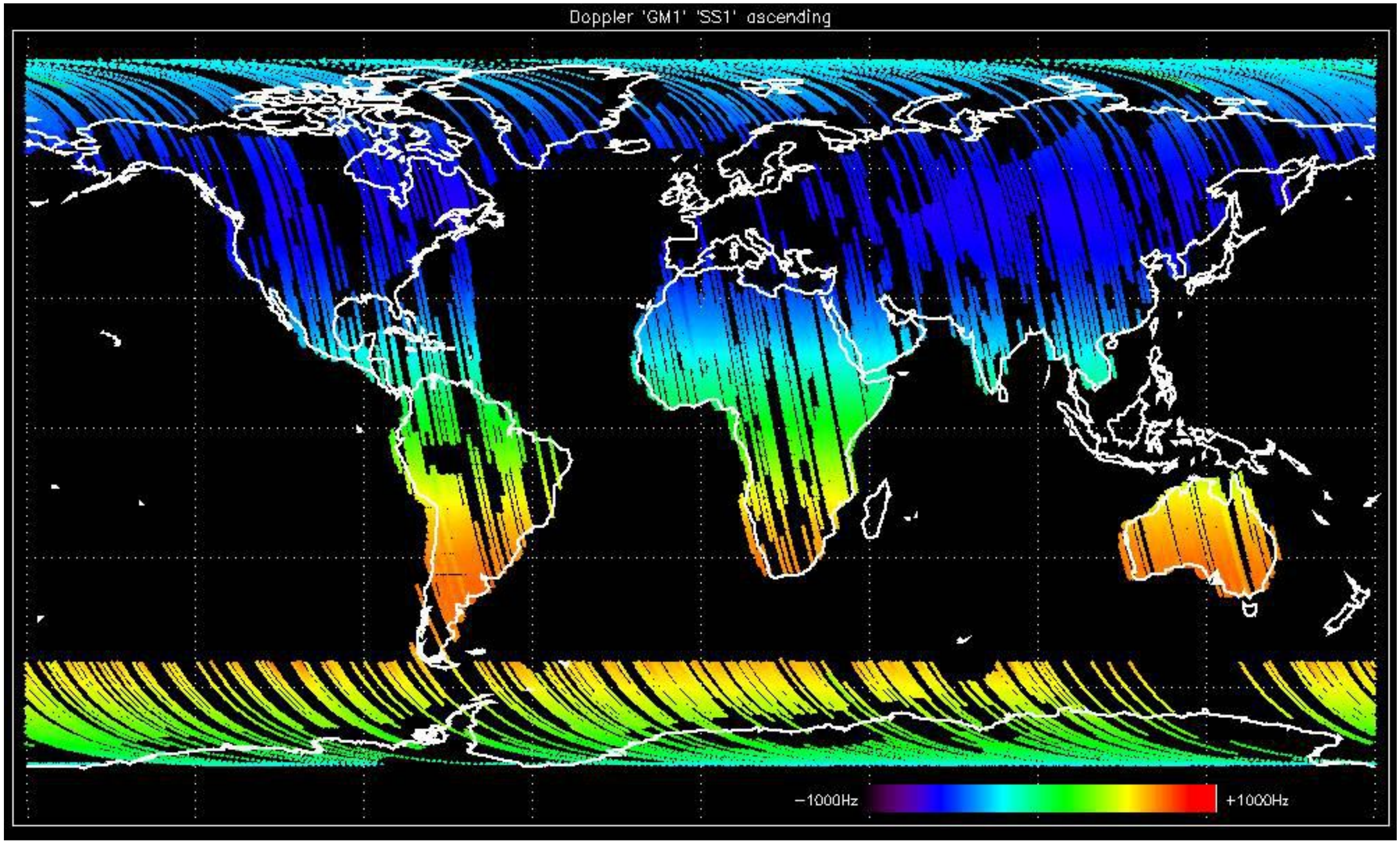
No anomalies observed.

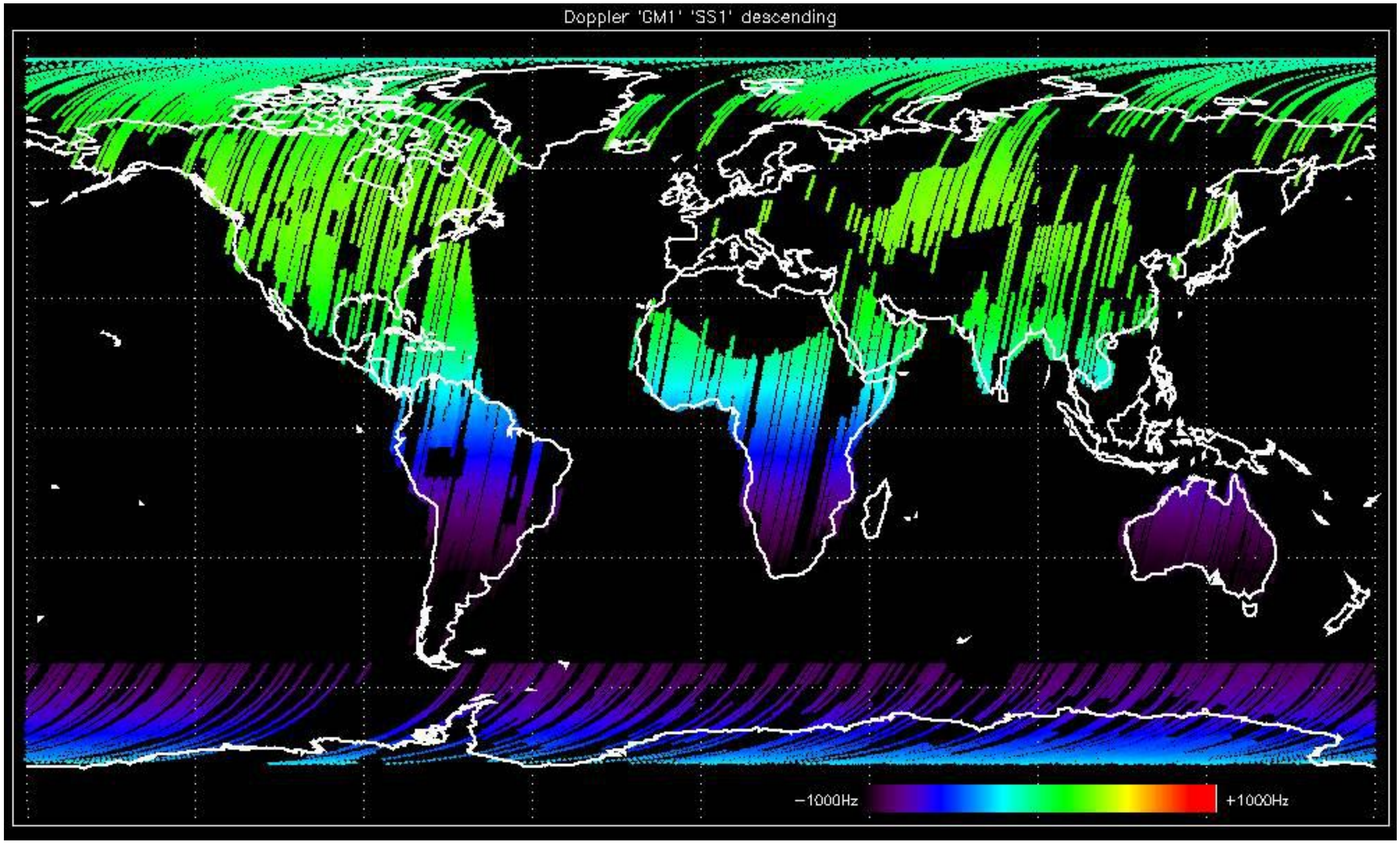

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.85
−7.90
−7.95
−8.00
−8.05
−8.10
−8.15
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

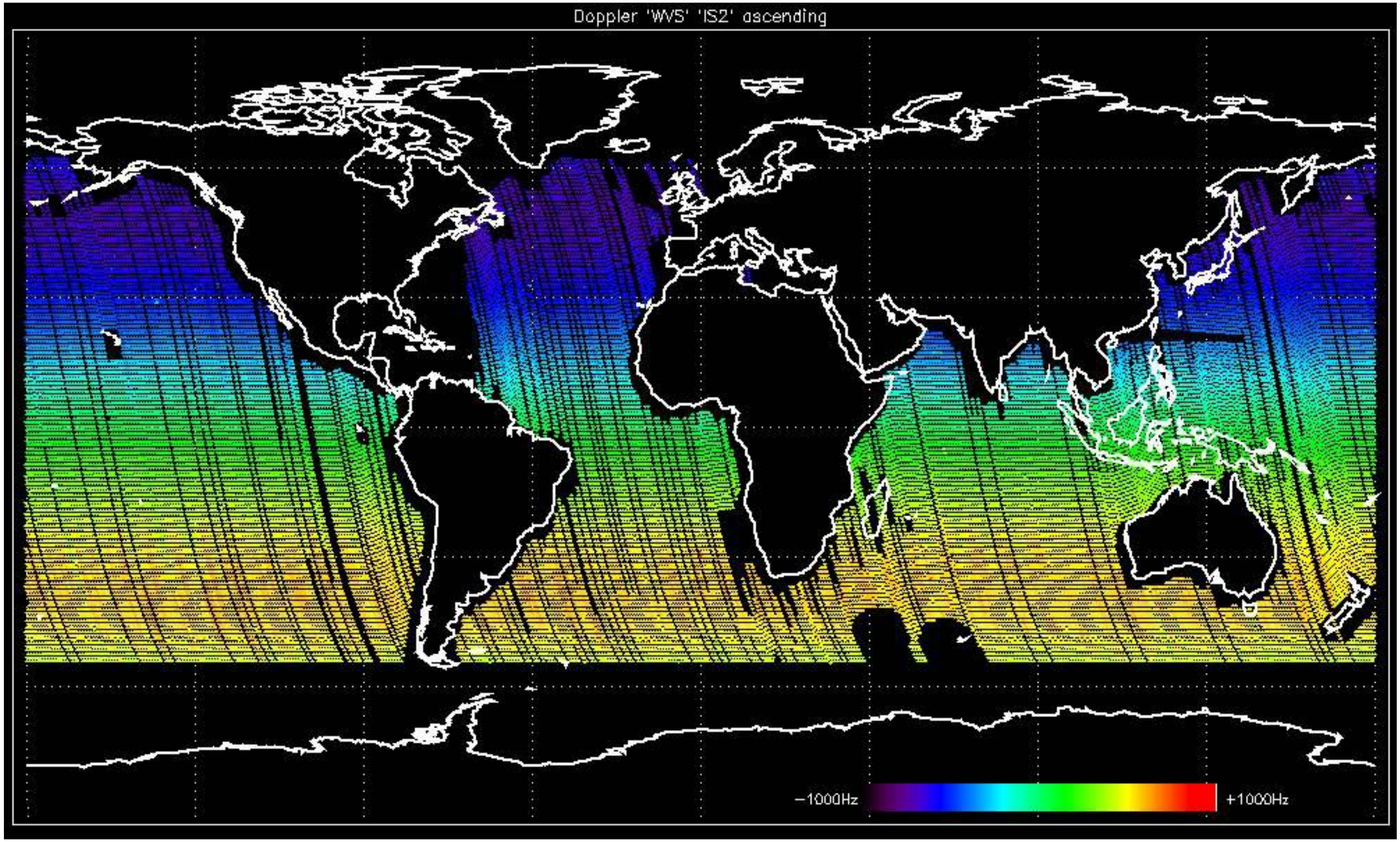

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15
−8.20
−8.25
−8.30
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

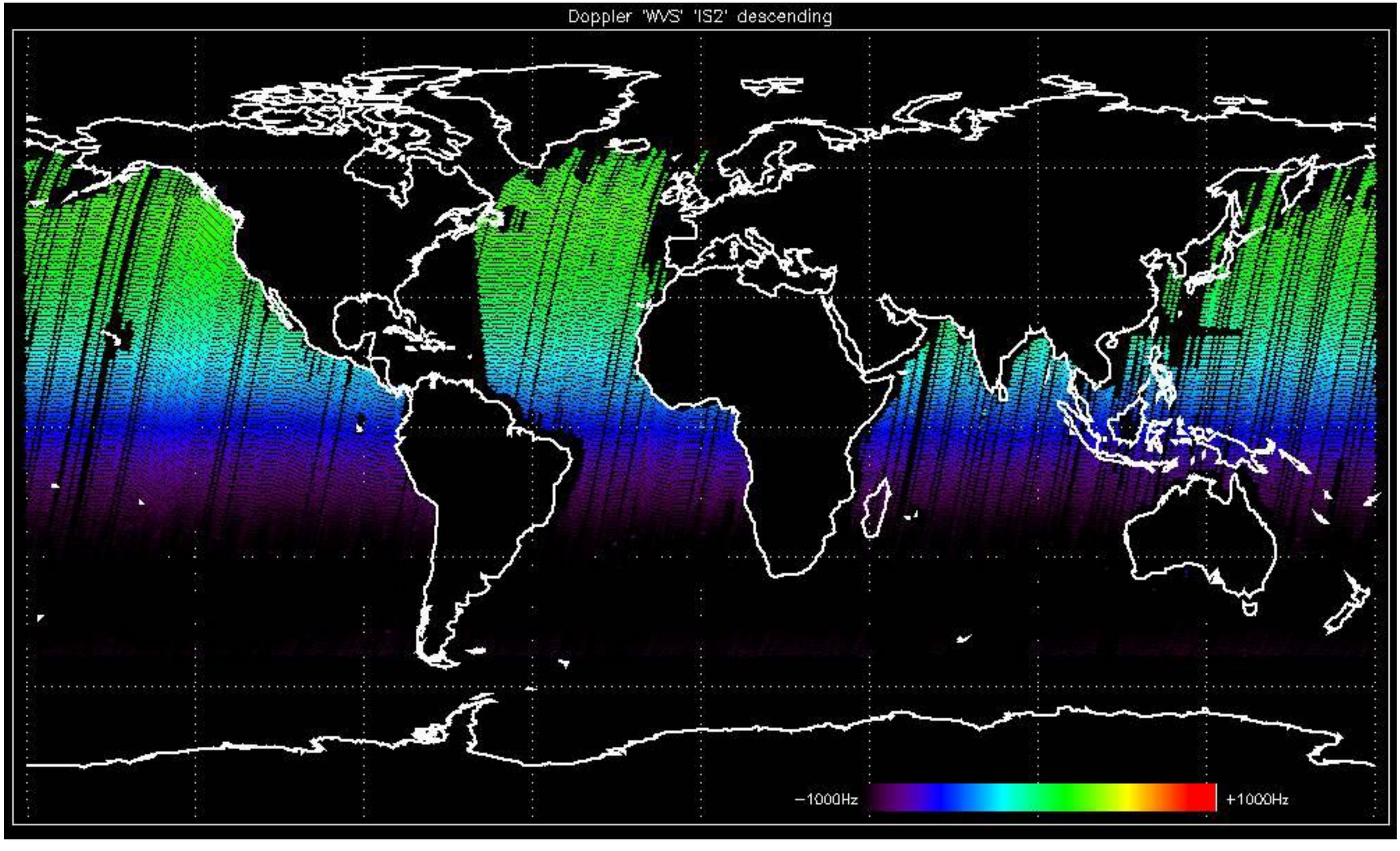
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

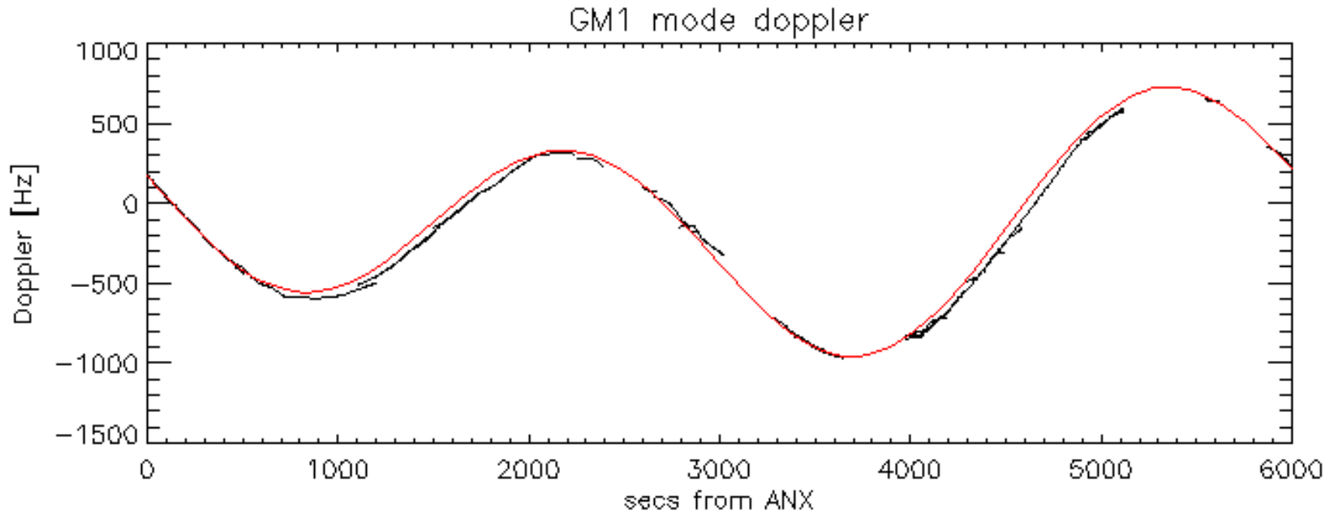
No anomaly observed in Doppler evolution.
Doppler analysis performed over the last 35 days.

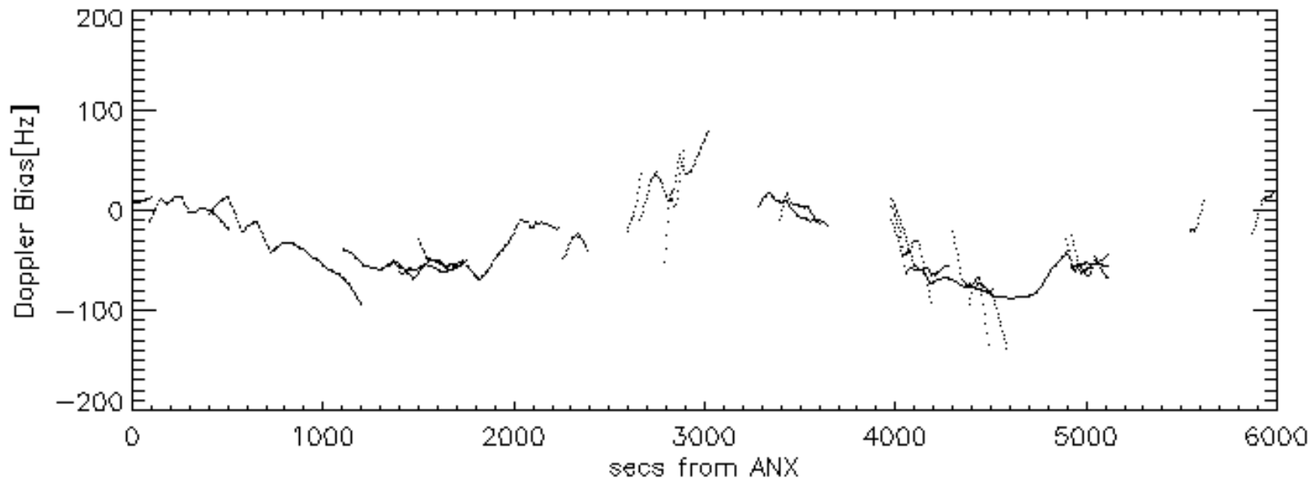

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

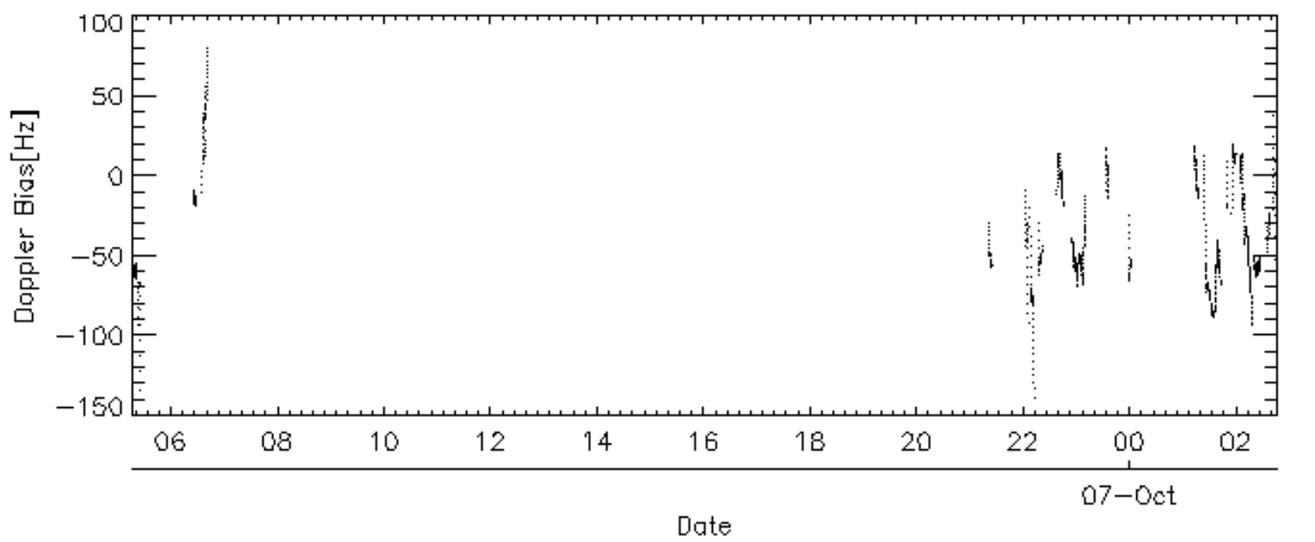

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

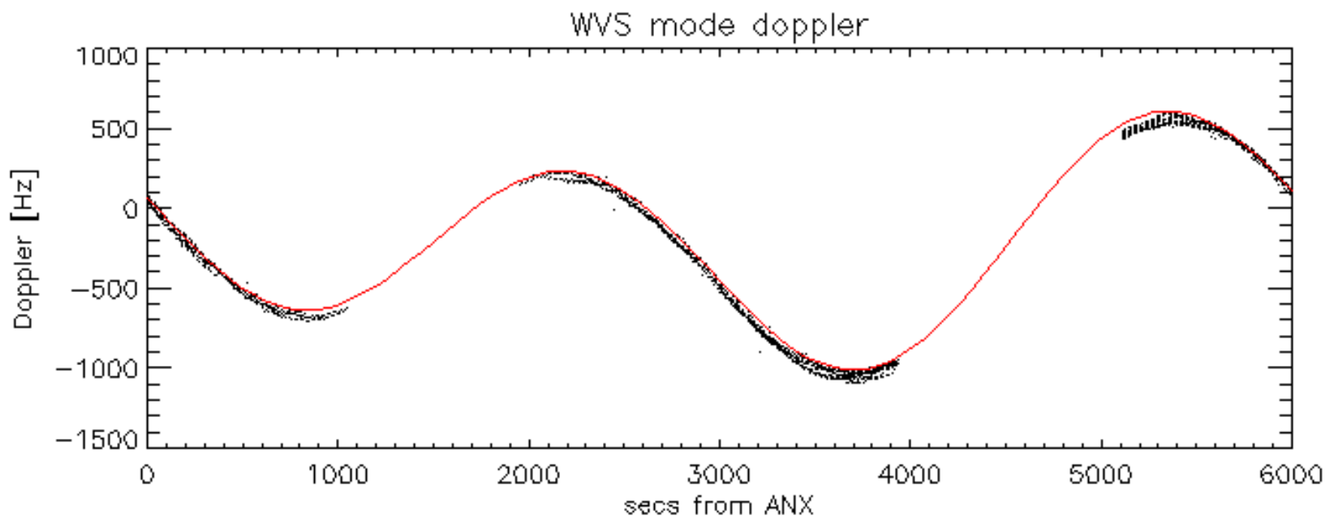

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

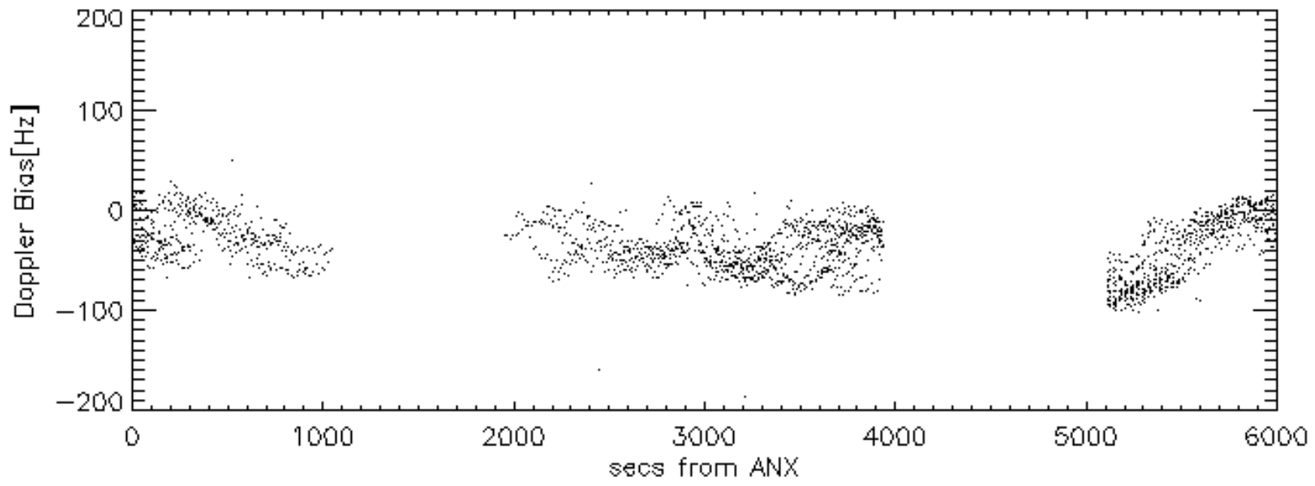

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

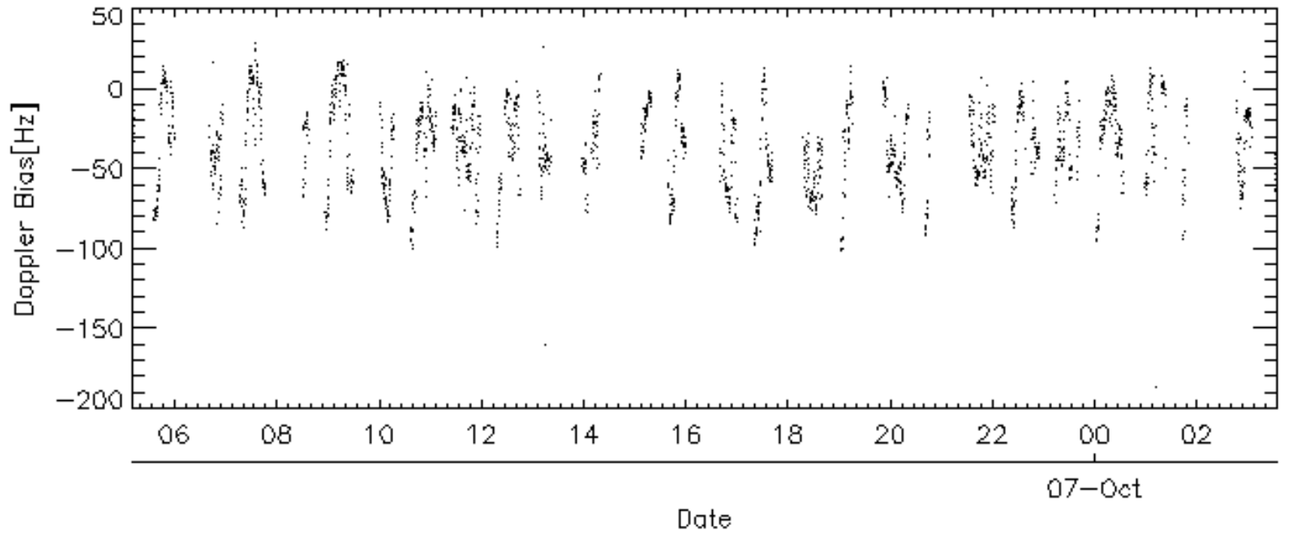

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

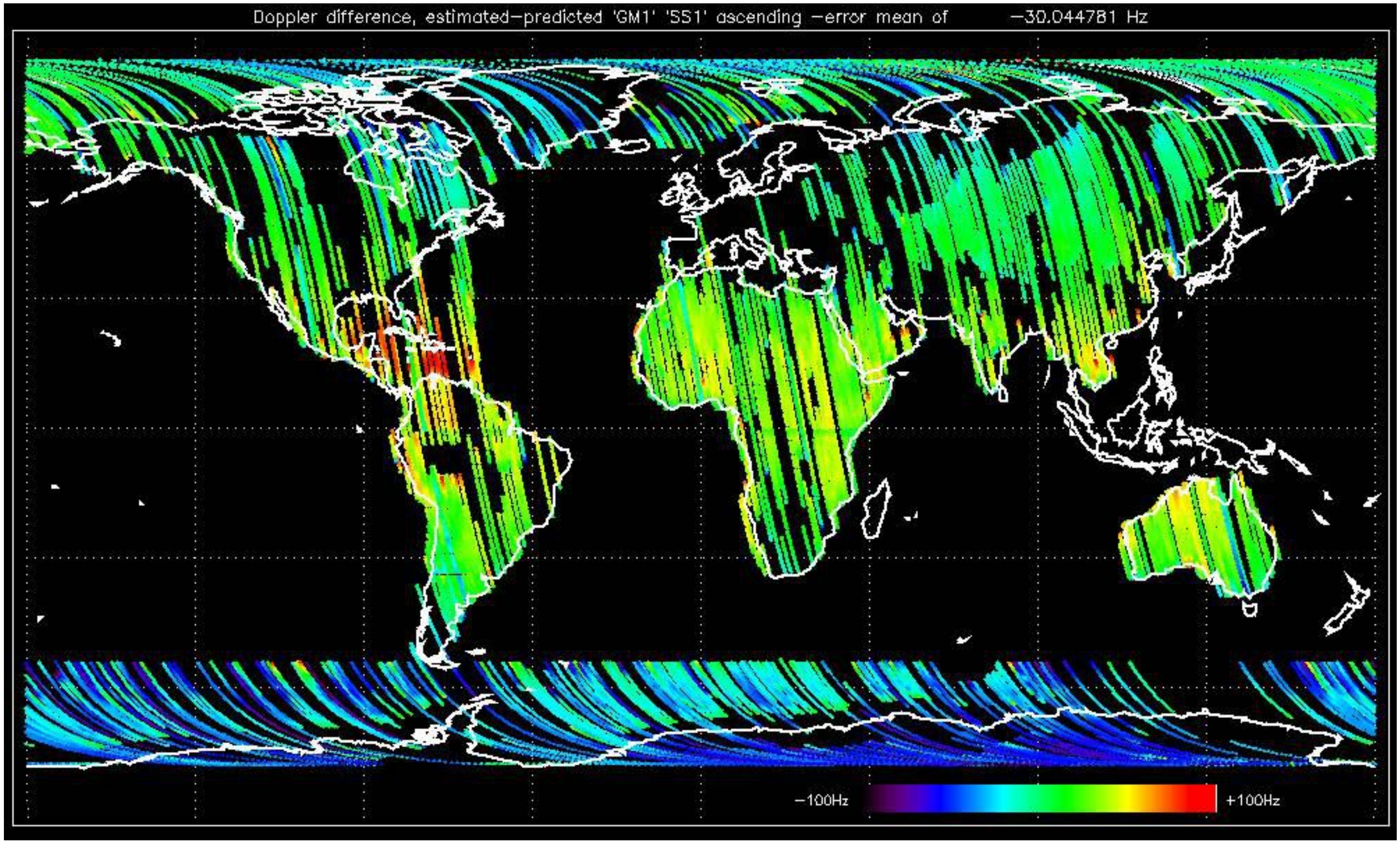

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

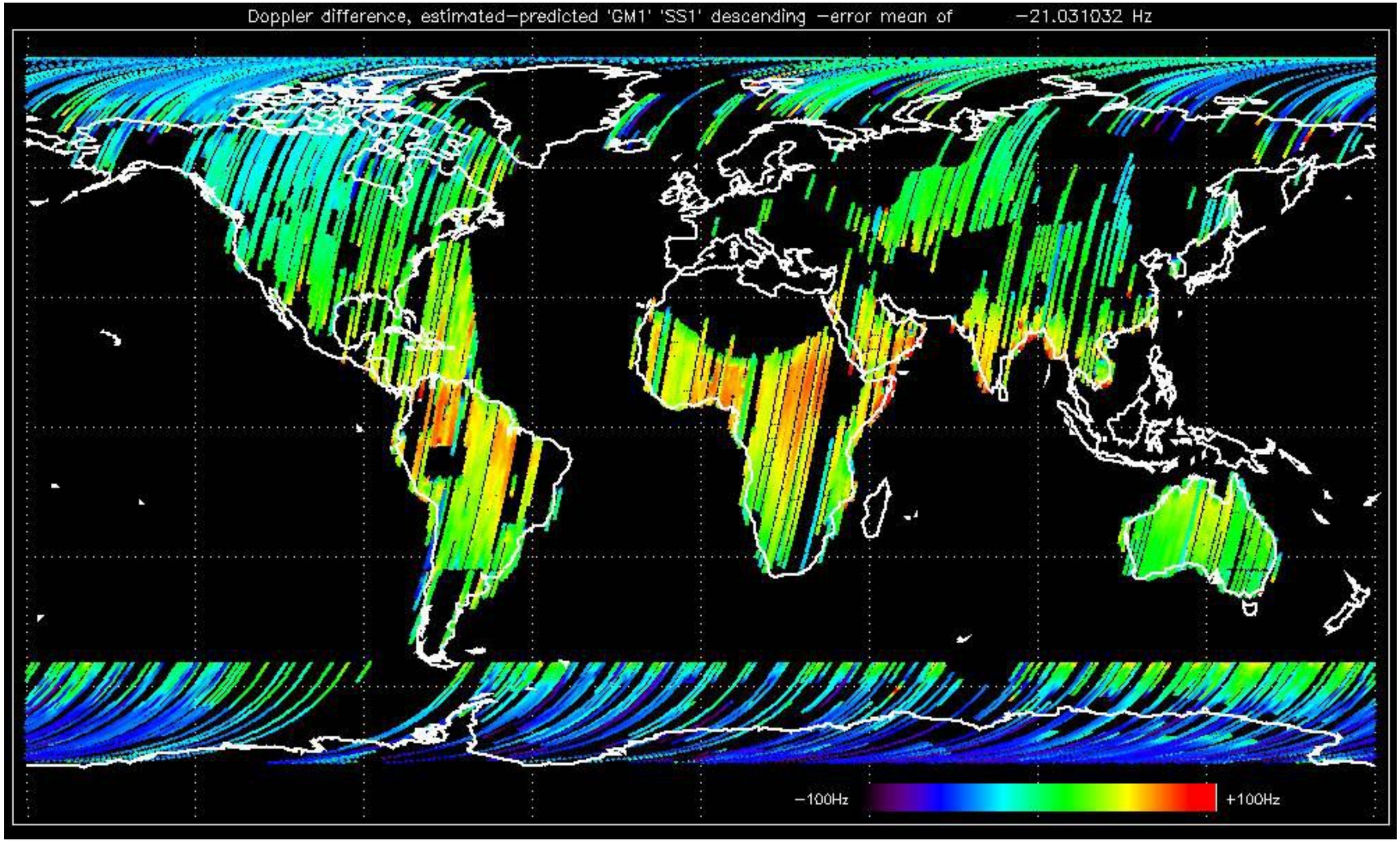

Doppler Bias[Hz]
100
50
0
−50
−100
−150
06
08
10
12
14
16
18
20
22
00
02
07−Oct
Date

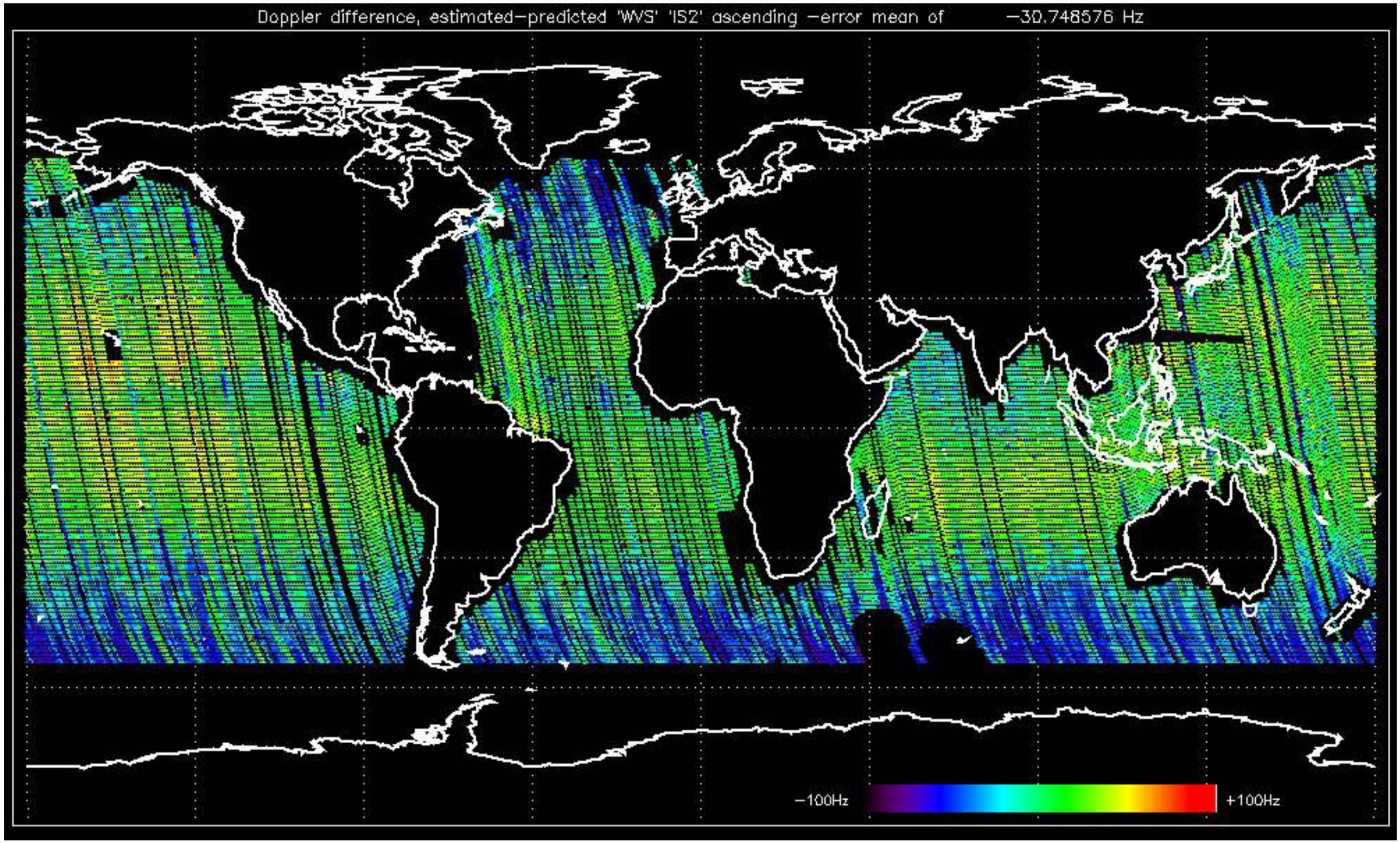

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

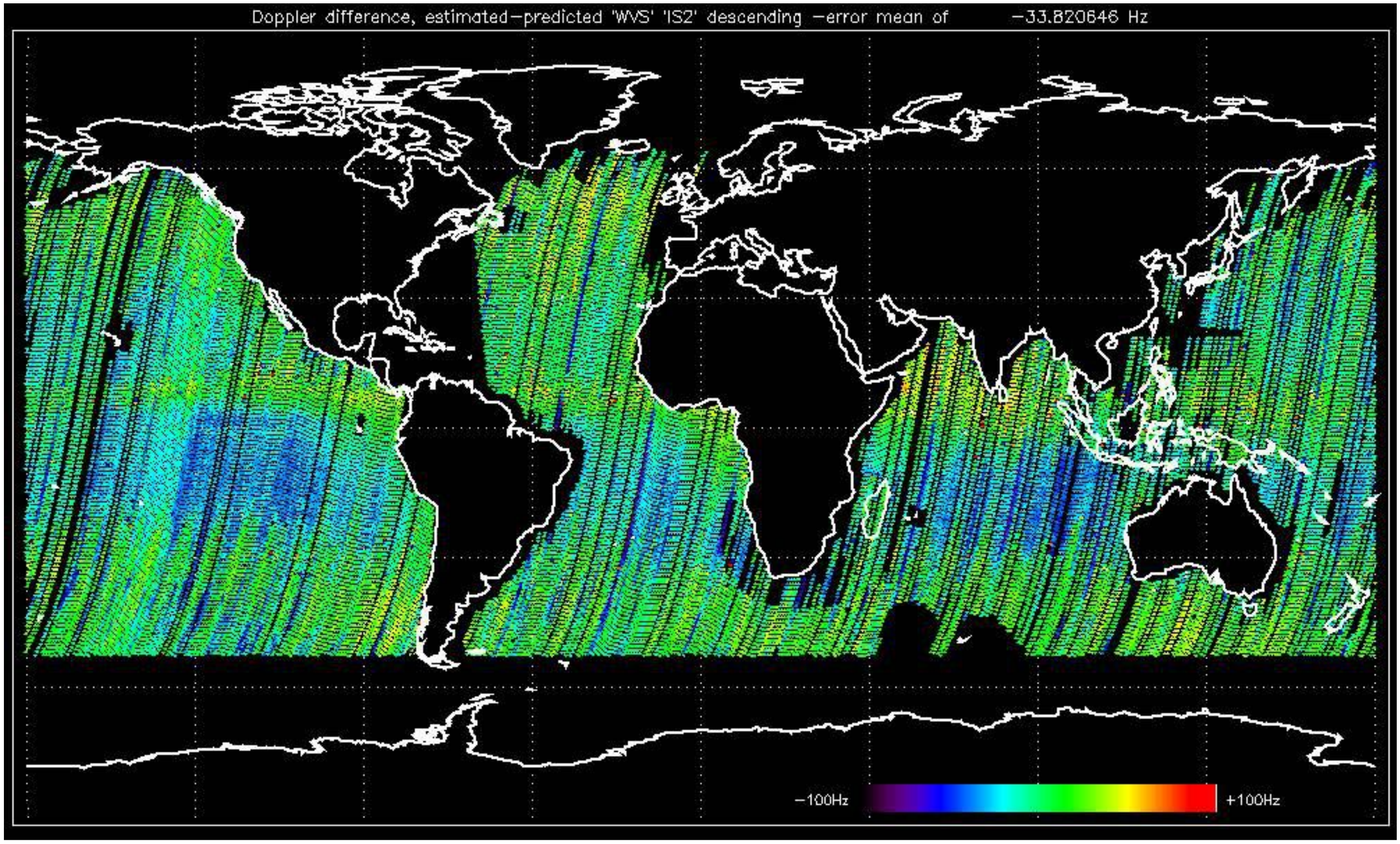

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


Doppler Bias[Hz]
50
0
−50
−100
−150
−200
06
08
10
12
14
16
18
20
22
00
02
07−Oct
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −30.044781 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −21.031032 Hz
−100Hz
+100Hz

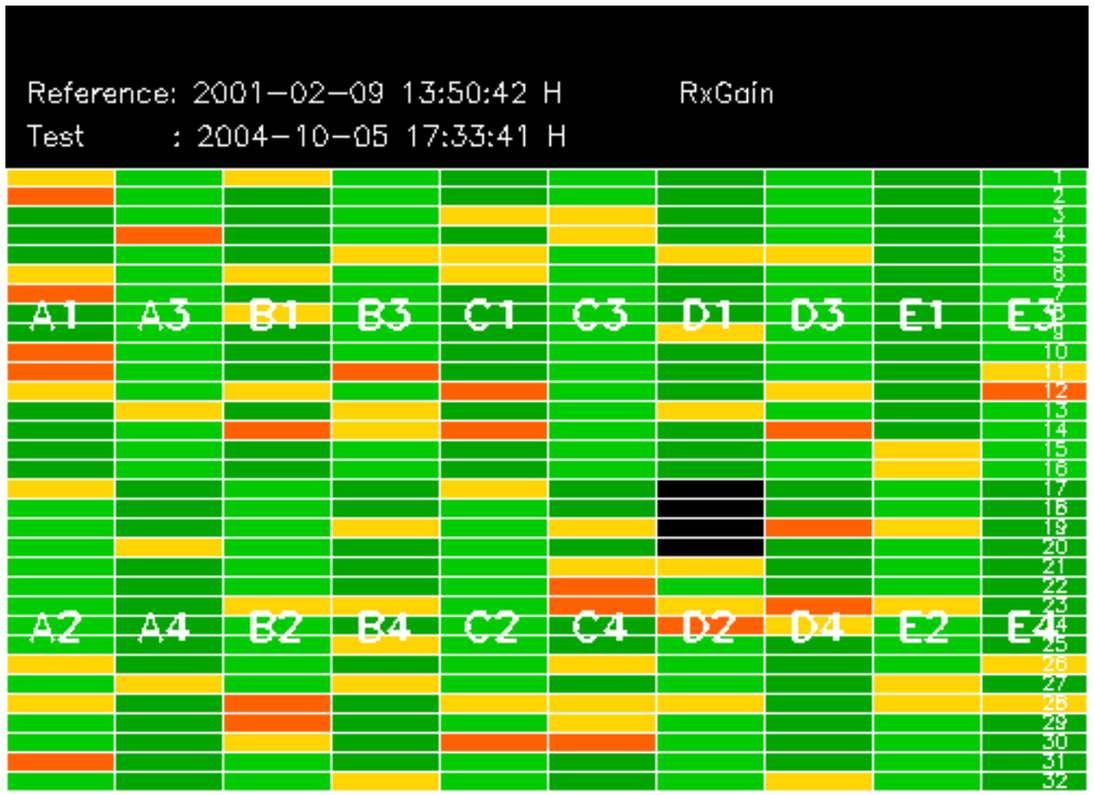

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −30.748576 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −33.820646 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__0PNPDK20041006_170204_000000152031_00026_13607_0083.N1

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2004-10-05 17:33:41 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
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20
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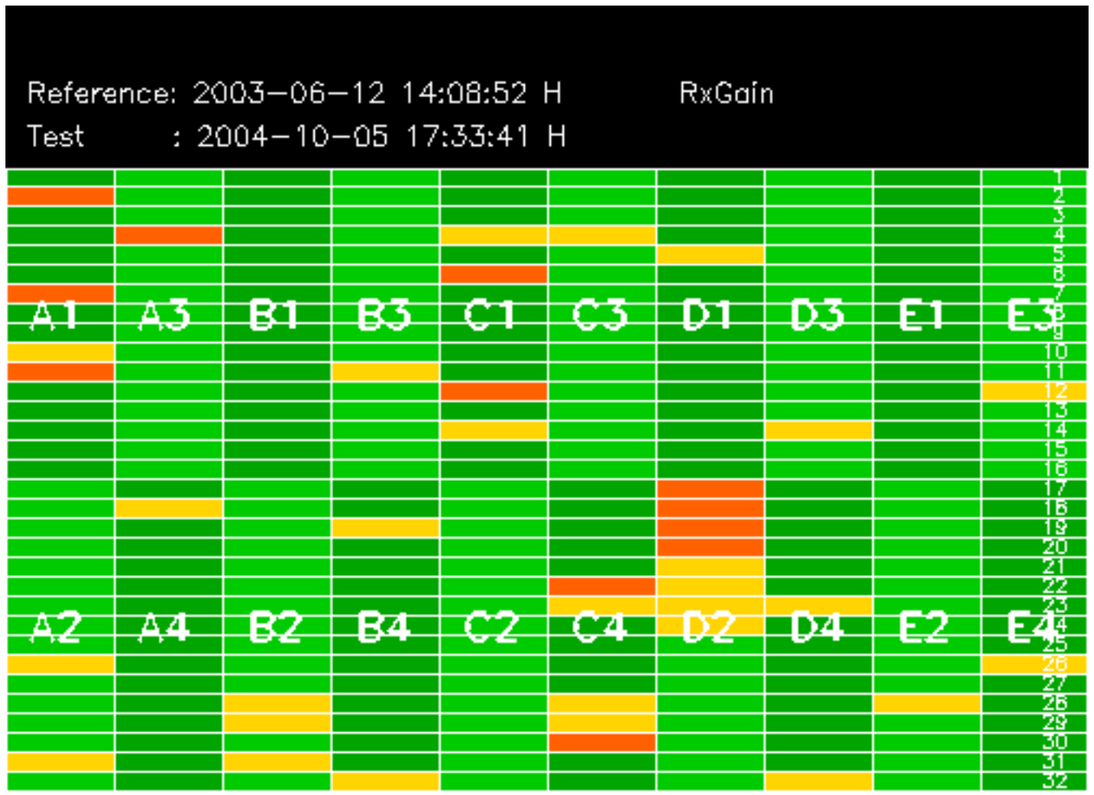
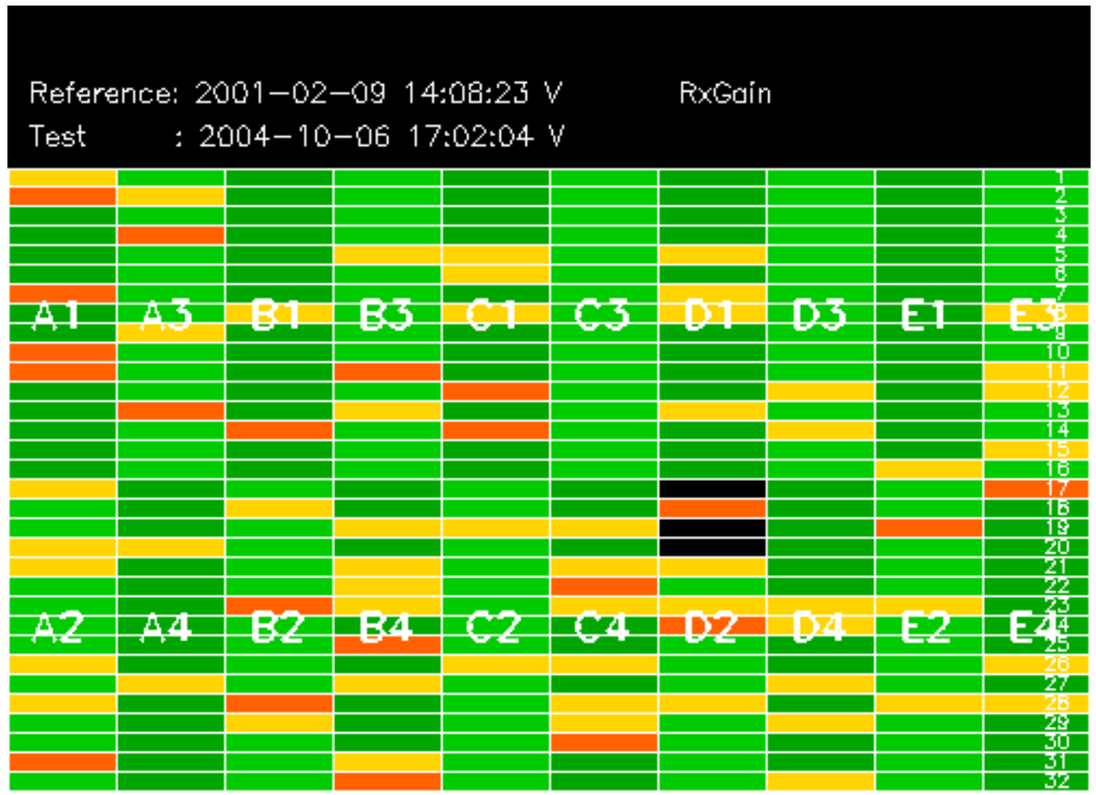

Reference: 2003-06-12 14:08:52 H
Test : 2004-10-05 17:33:41 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
RxGain
Test : 2004-10-06 17:02:04 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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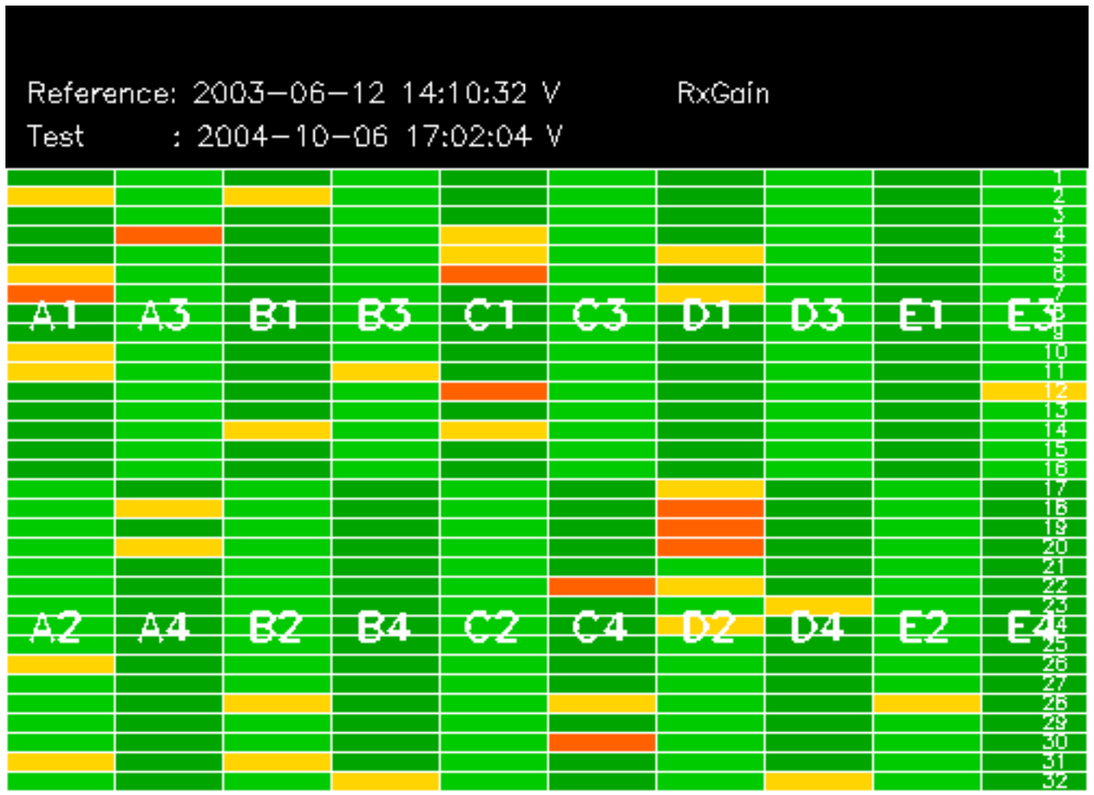
Reference: 2003-06-12 14:10:32 V
Test : 2004-10-06 17:02:04 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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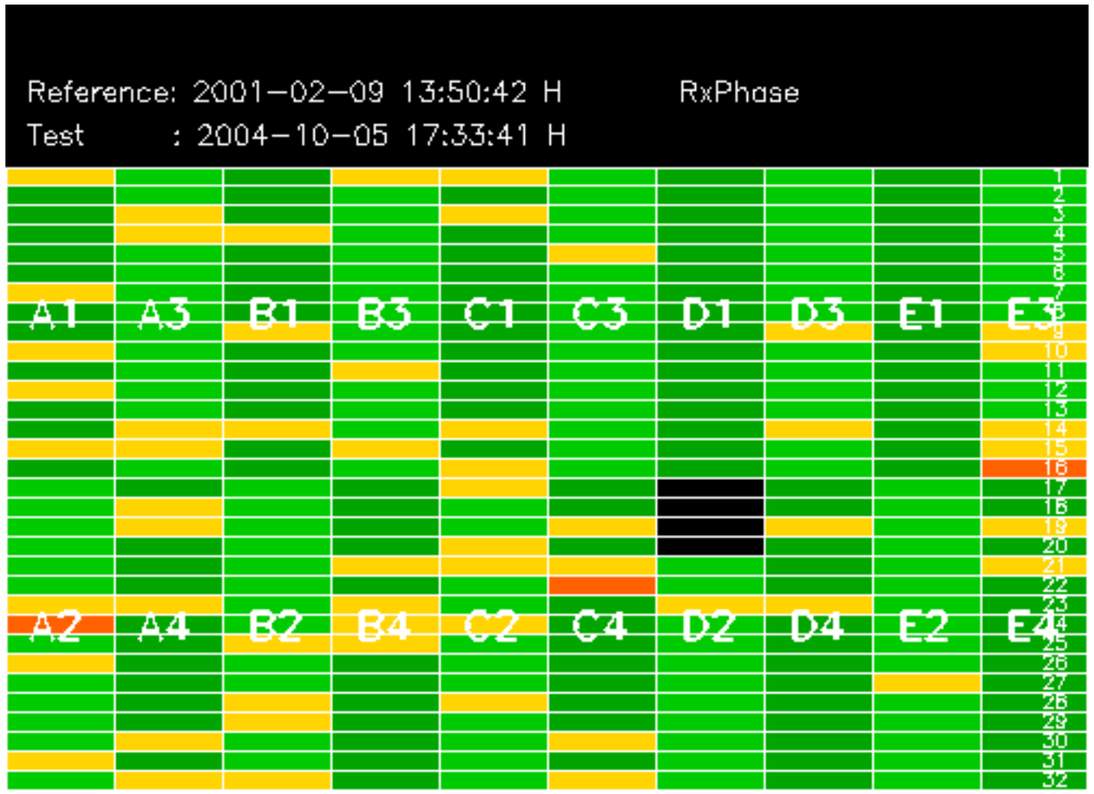
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-10-05 17:33:41 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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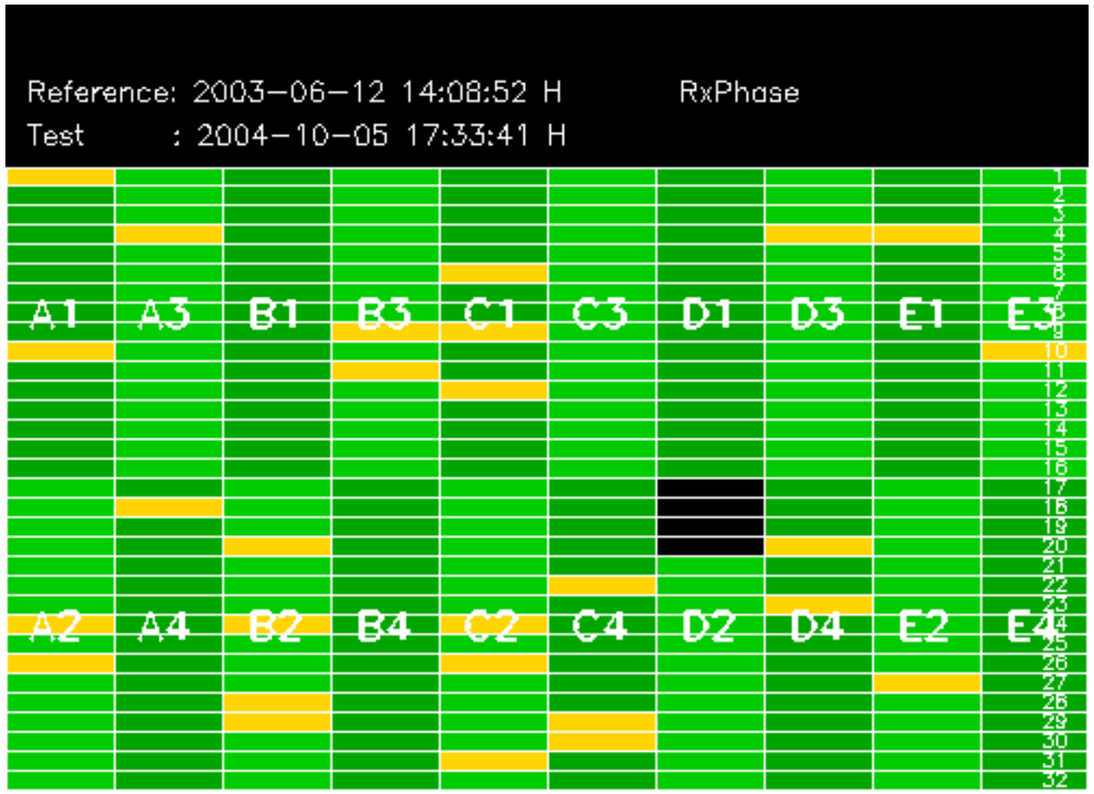
Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2004-10-05 17:33:41 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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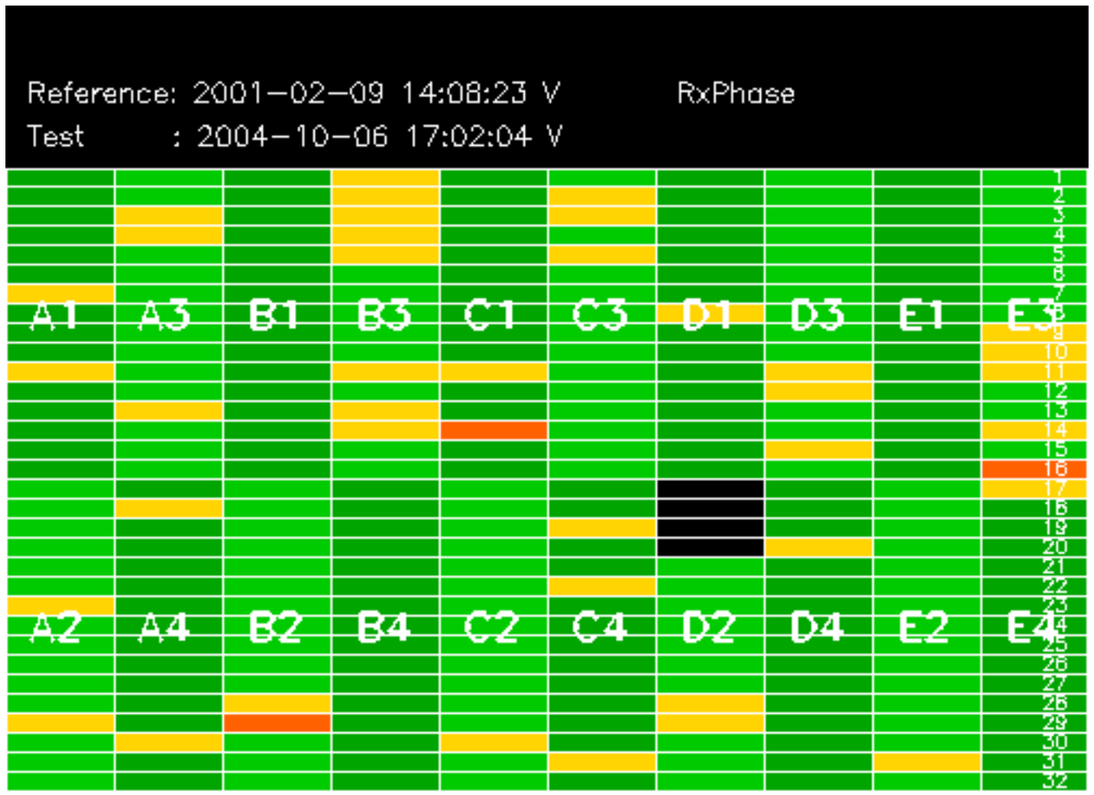
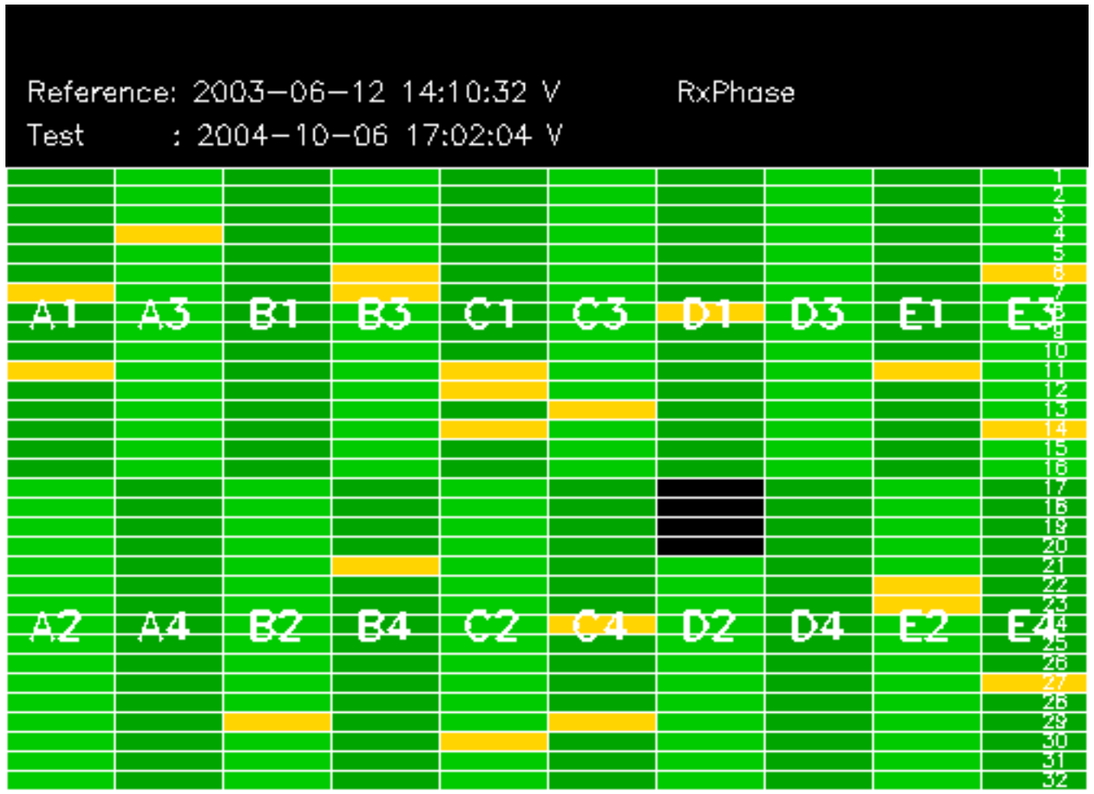
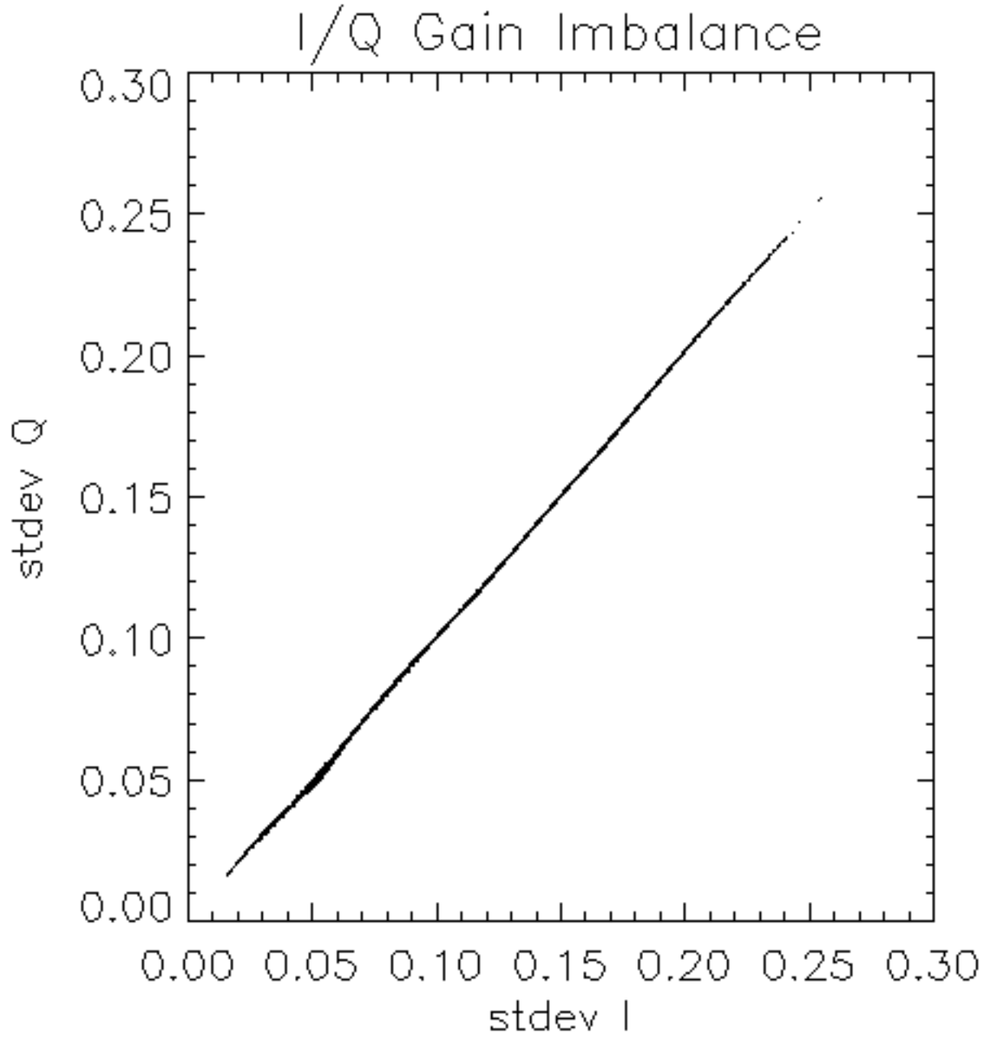
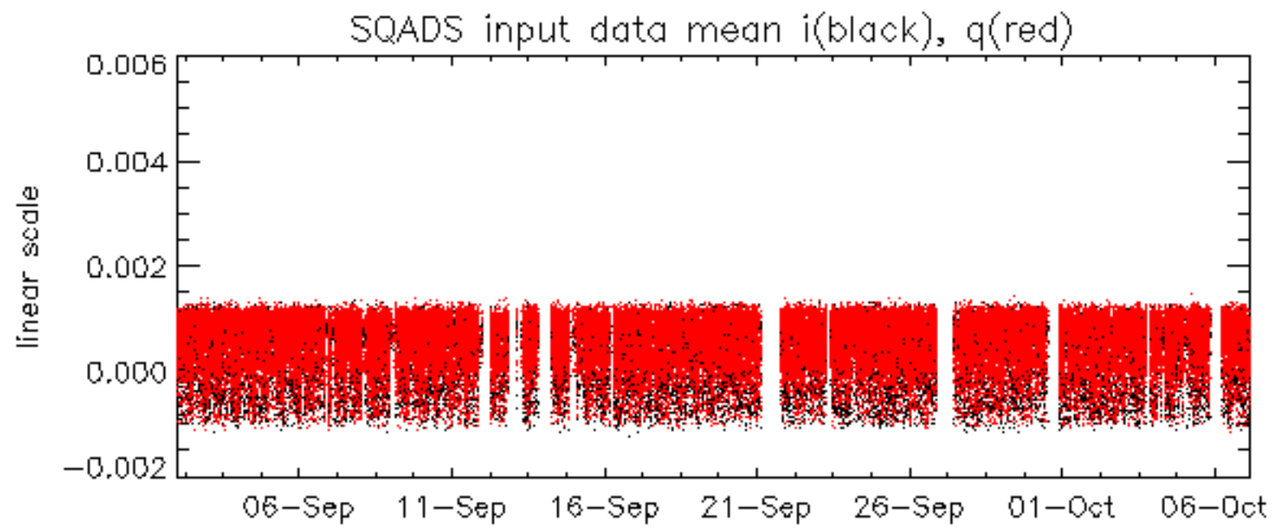
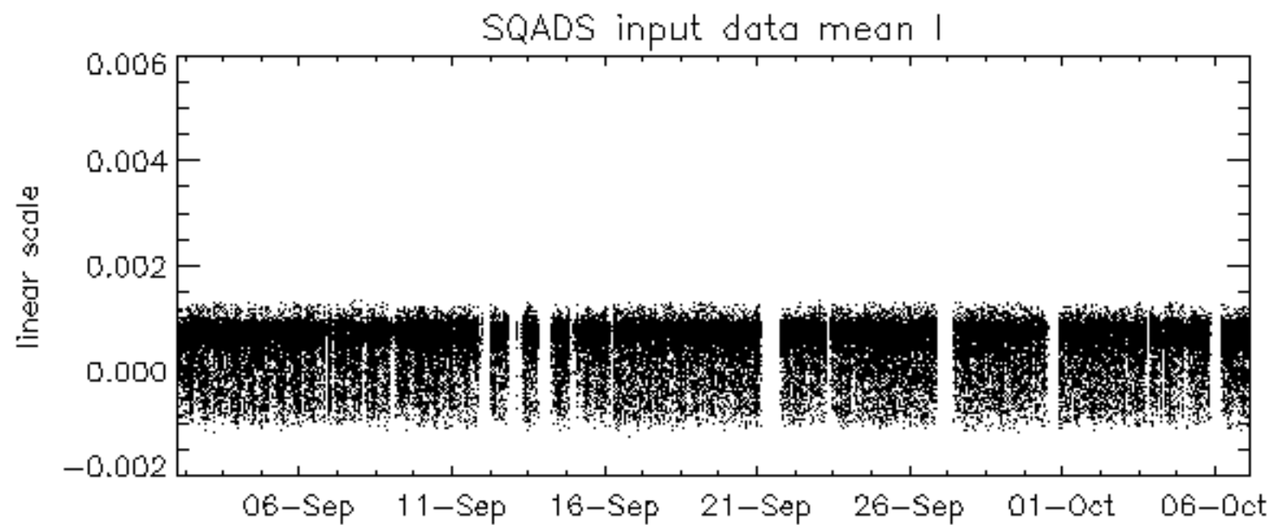
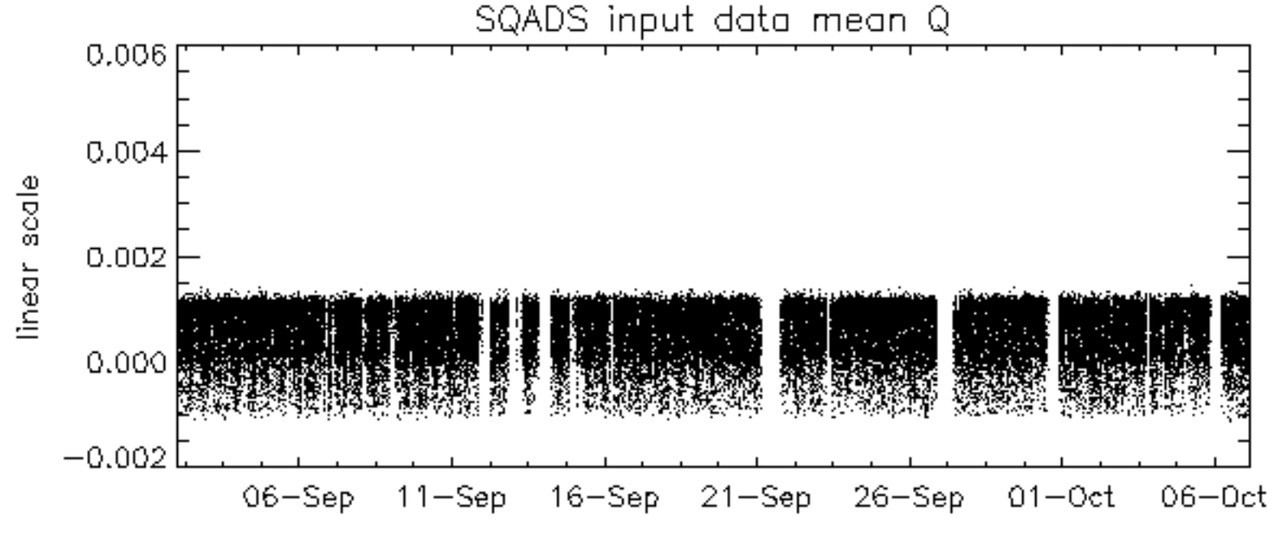

Reference: 2001-02-09 14:08:23 V
Test : 2004-10-06 17:02:04 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

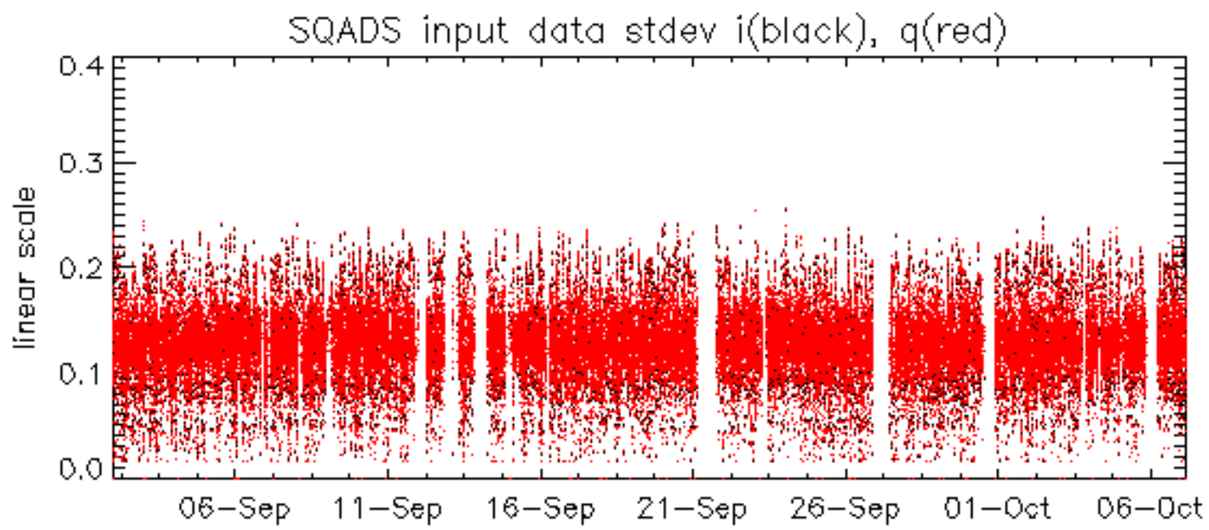

Reference: 2003-06-12 14:10:32 V
Test : 2004-10-06 17:02:04 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

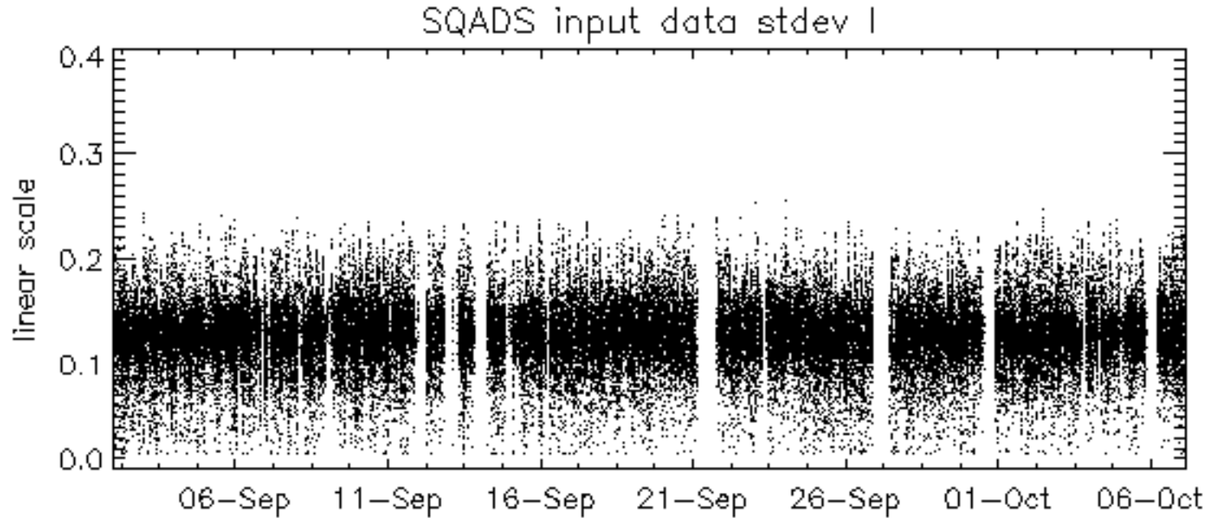

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

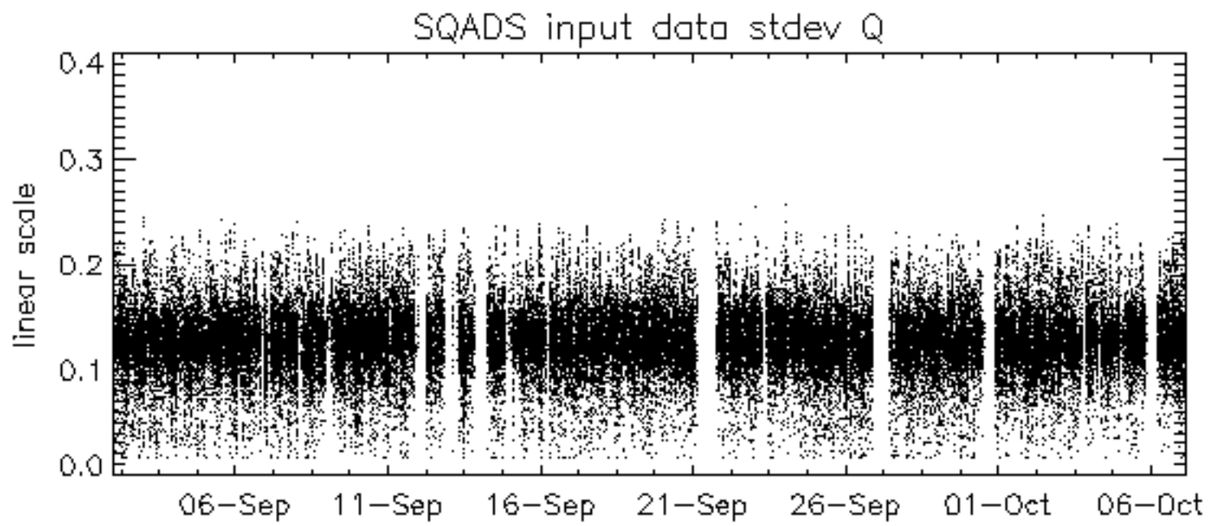

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Sep
11−Sep
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct

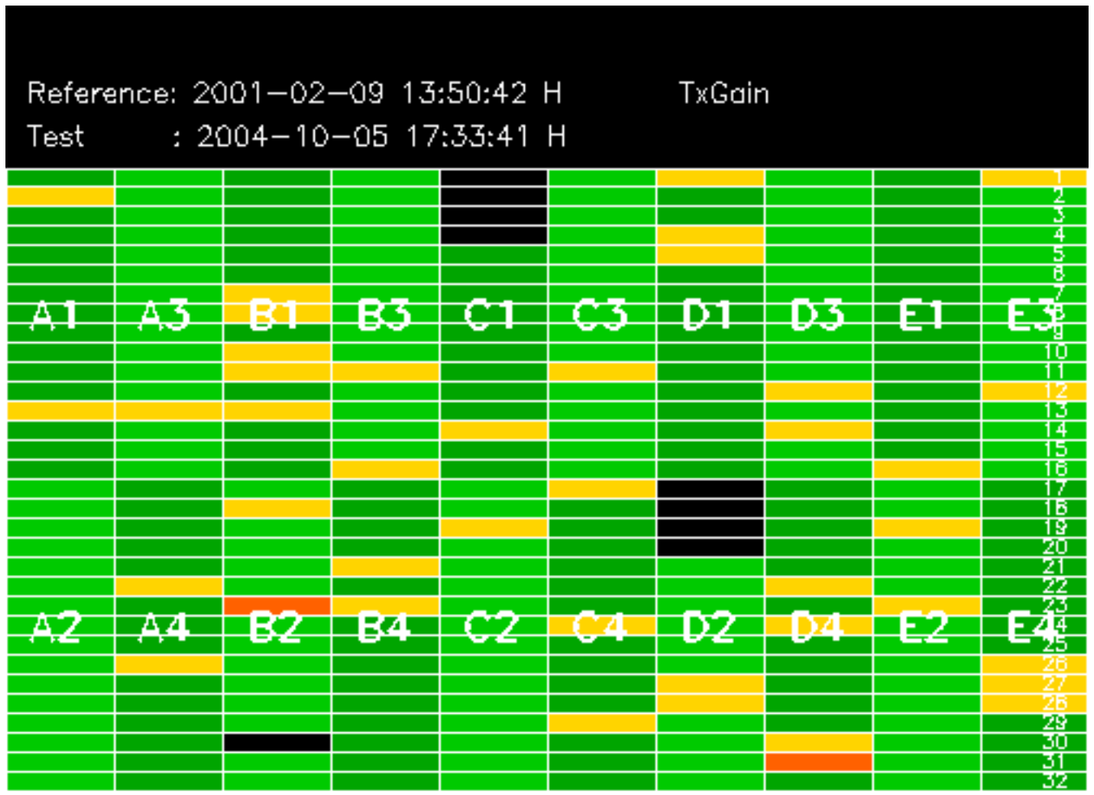

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Sep
11−Sep
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct


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


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


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
06−Sep
11−Sep
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
06−Sep
11−Sep
16−Sep
21−Sep
26−Sep
01−Oct
06−Oct


Reference: 2001-02-09 13:50:42 H
Test : 2004-10-05 17:33:41 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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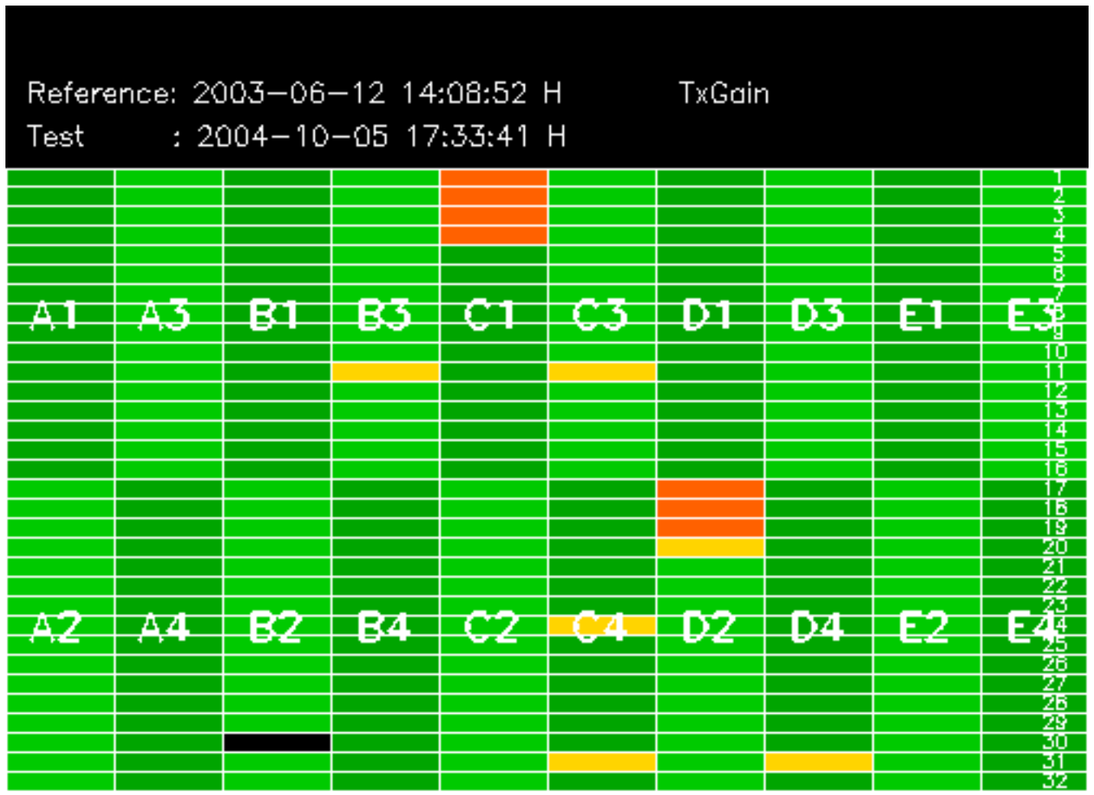
Reference: 2003-06-12 14:08:52 H
Test : 2004-10-05 17:33:41 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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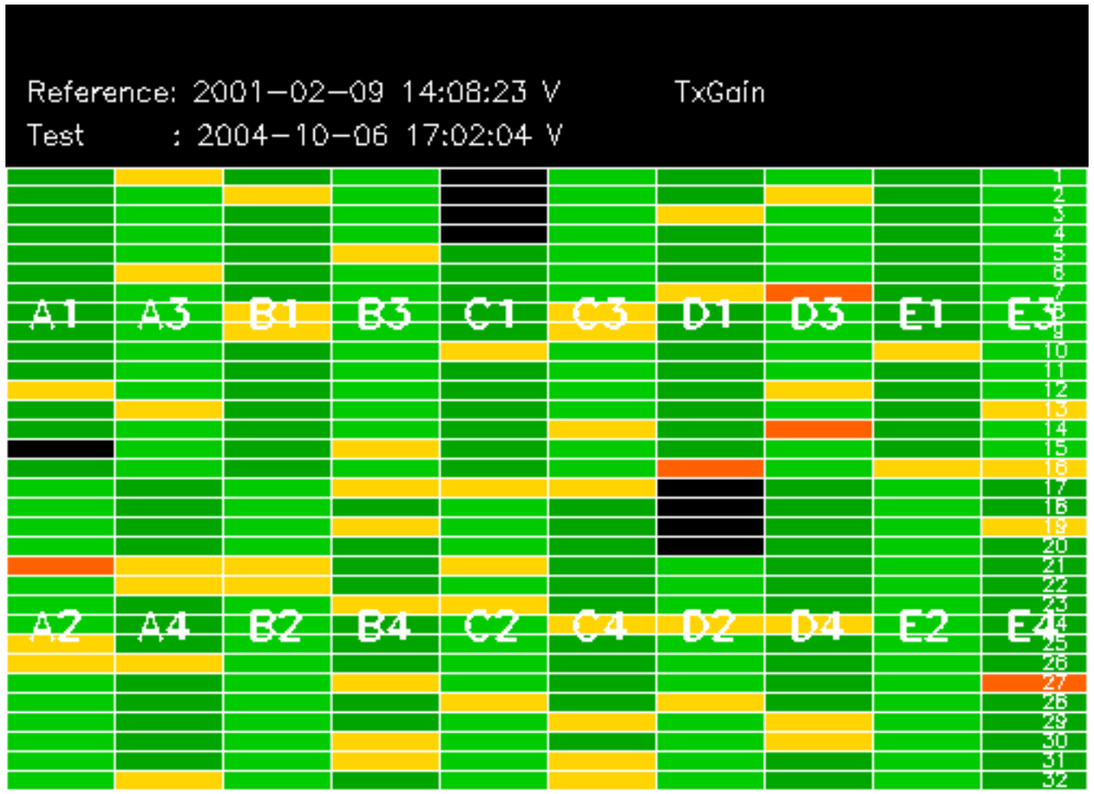
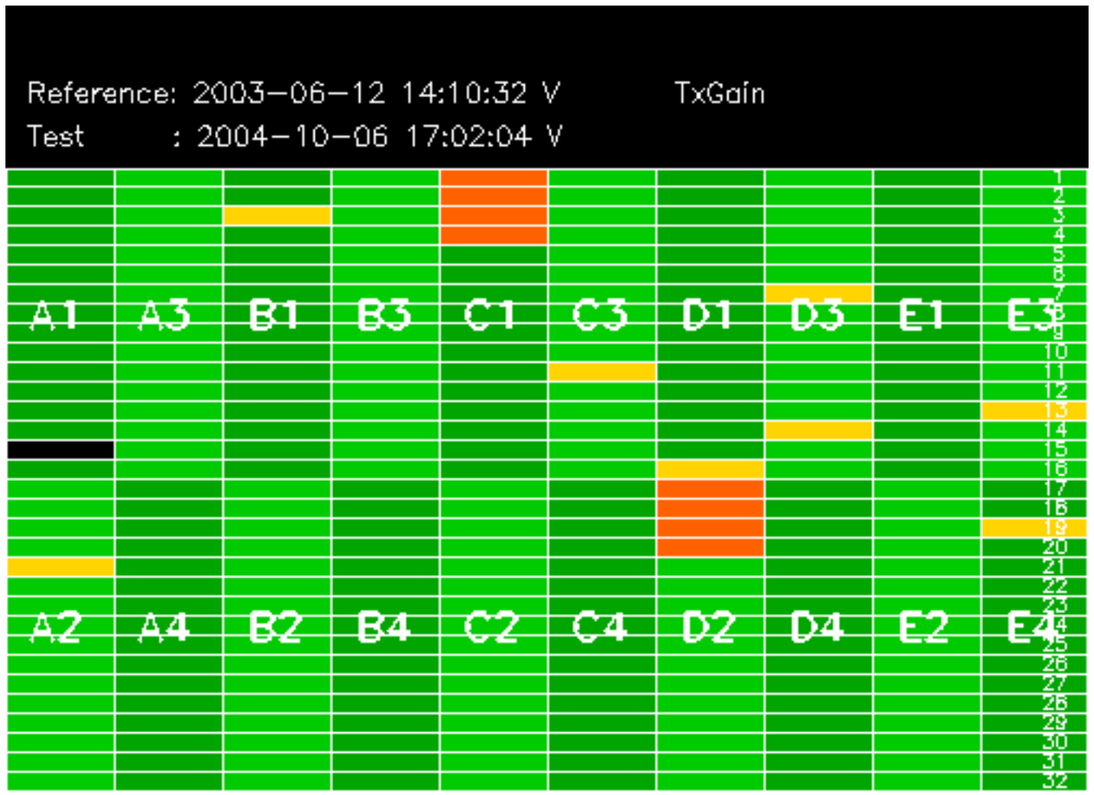

Reference: 2001-02-09 14:08:23 V
Test : 2004-10-06 17:02:04 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-10-06 17:02:04 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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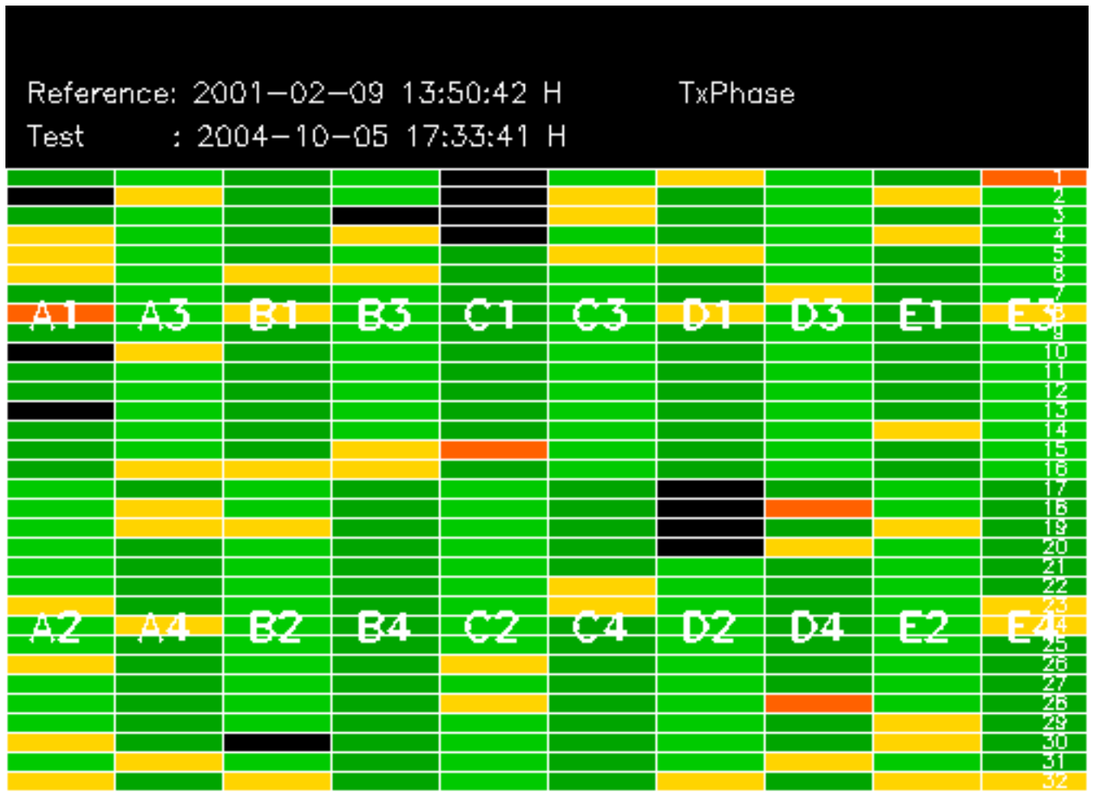
Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-10-05 17:33:41 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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E4
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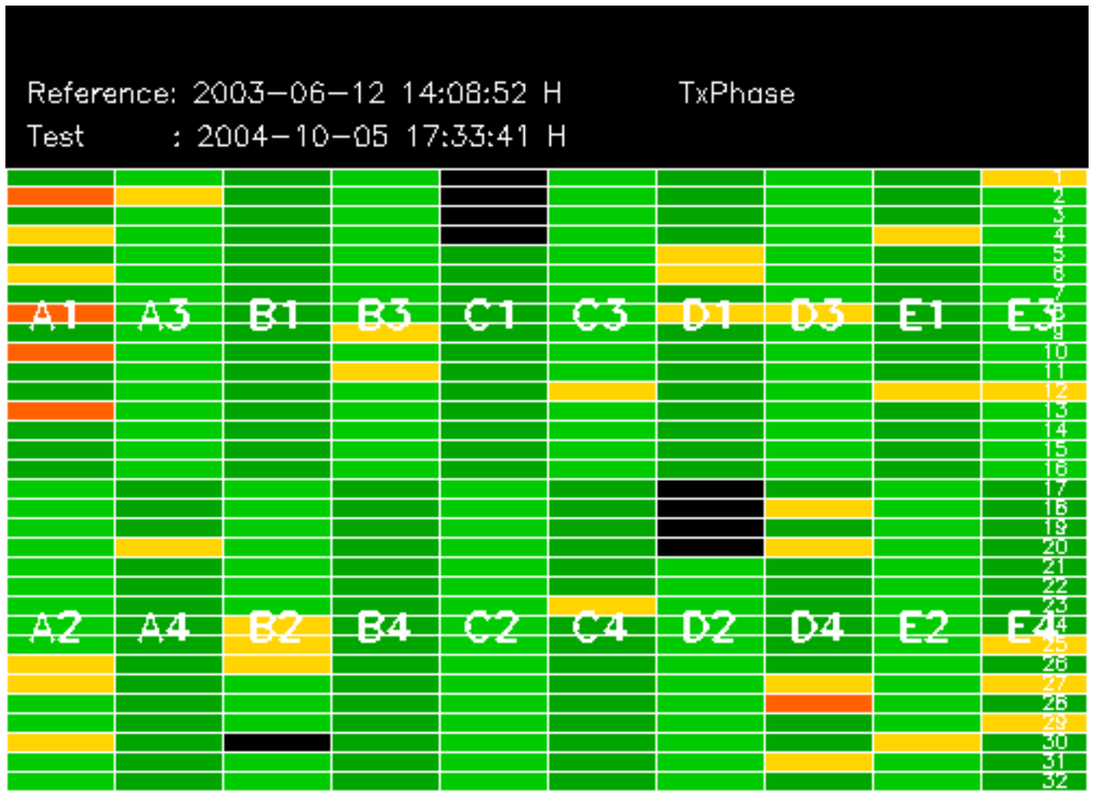
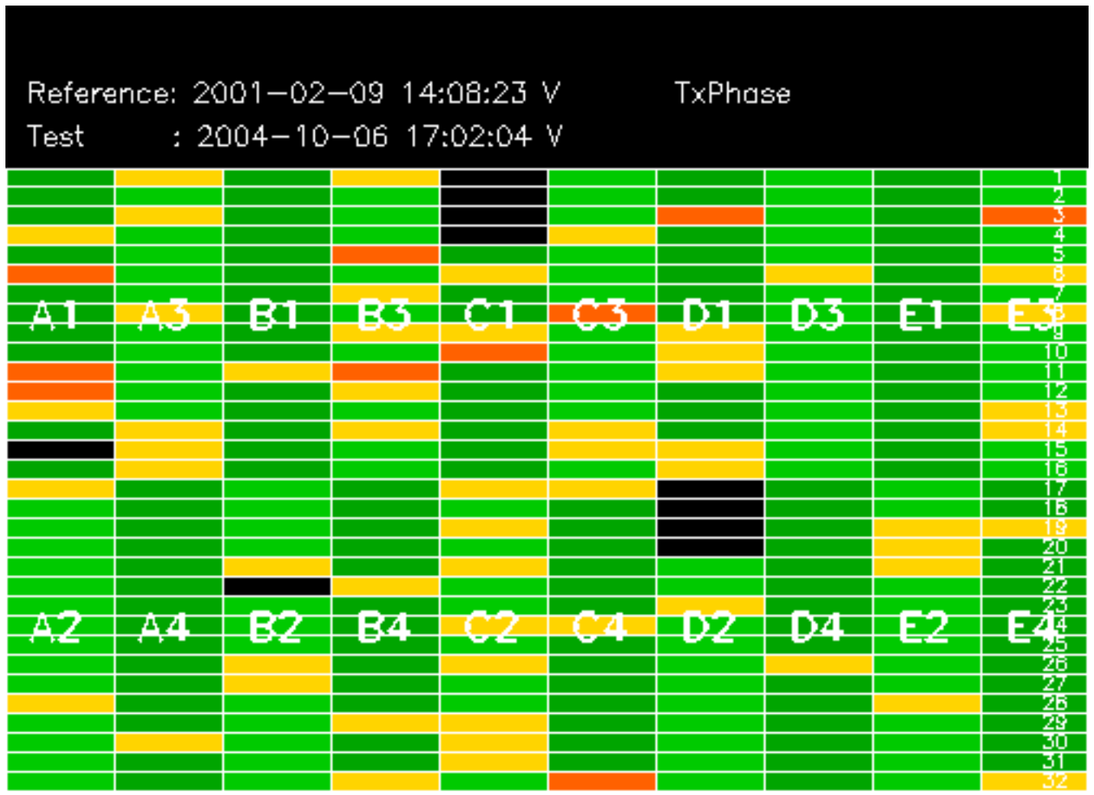
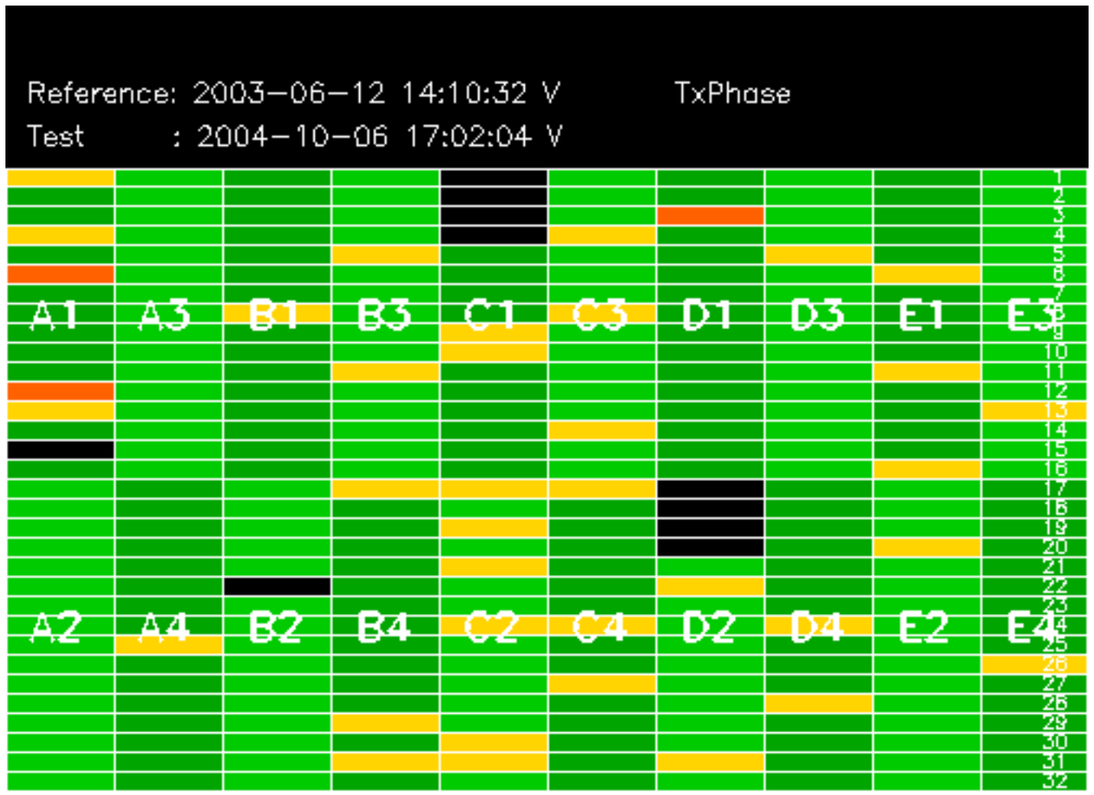

Reference: 2003-06-12 14:08:52 H
Test : 2004-10-05 17:33:41 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2004-10-06 17:02:04 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 : 2004-10-06 17:02:04 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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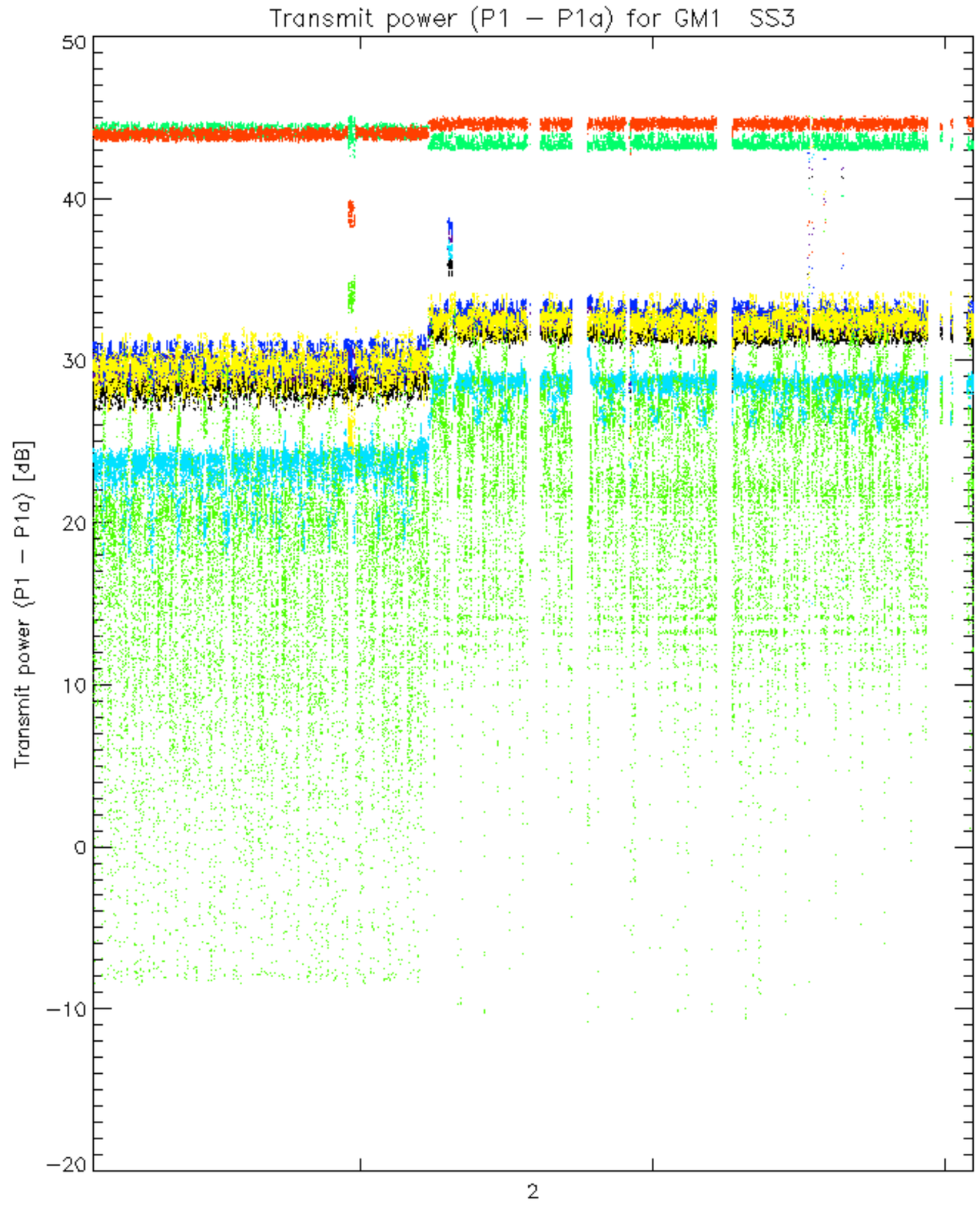
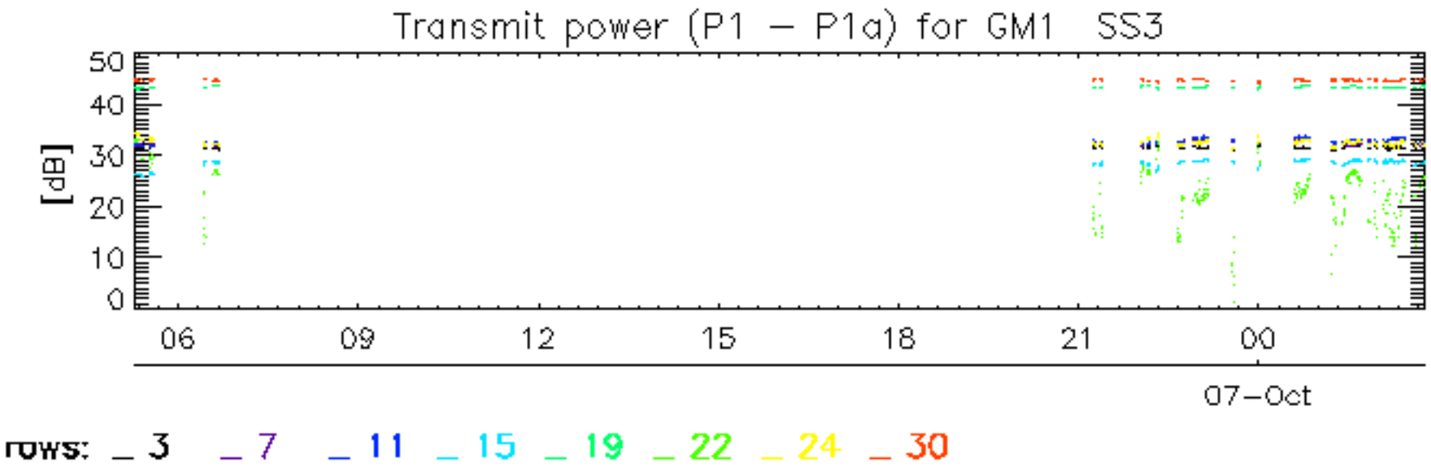
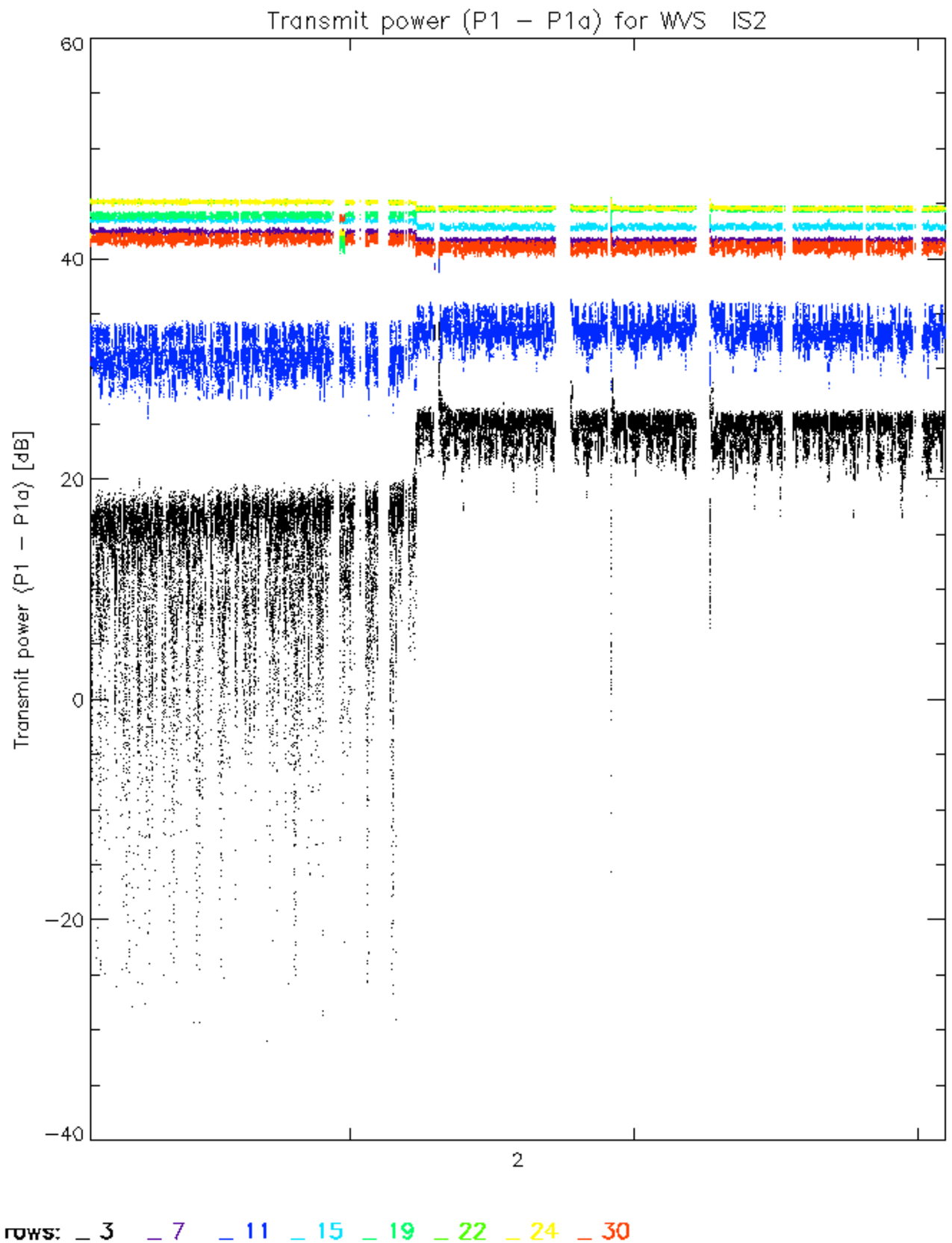
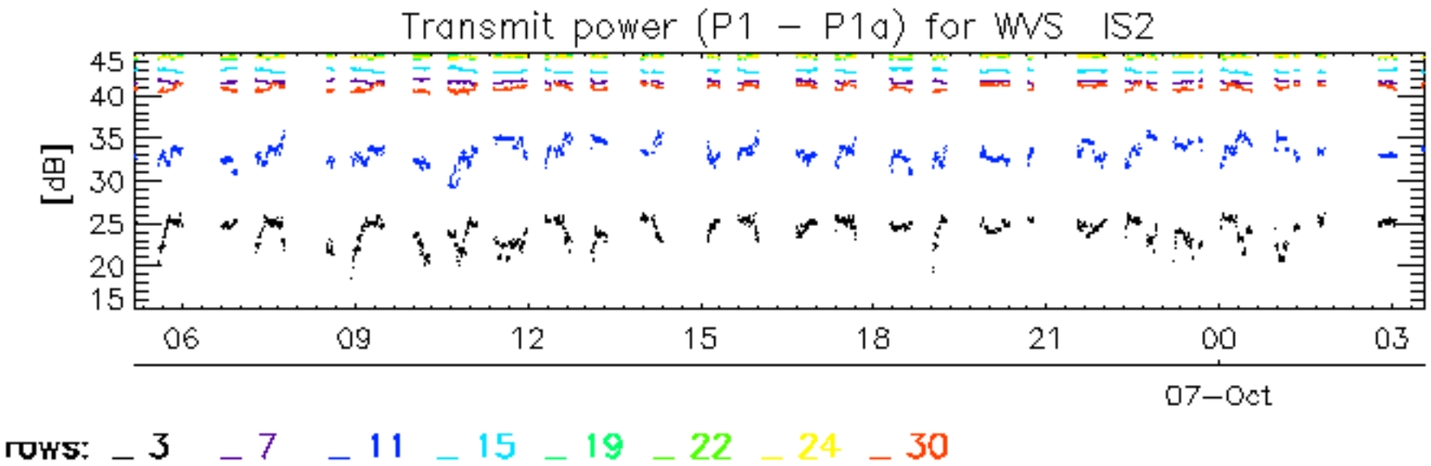

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
−20
2
rows: 3 7 11 15 19 22 24 30


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


Transmit power (P1 − P1a) for WVS IS2
Transmit power (P1 − P1a) [dB]
60
40
20
0
−20
−40
2
rows: 3 7 11 15 19 22 24 30


Transmit power (P1 – P1a) for WVS IS2
[dB]
45
40
35
30
25
20
15
06
09
12
15
18
21
00
03
07–Oct
rows: 3 7 11 15 19 22 24 30

No unavailability for the reported period.