PRELIMINARY REPORT OF 040704

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

last update on Sun Jul 4 12:59:15 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 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	20040703 202730
H	20040702 191831

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.

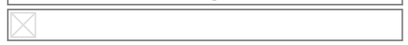
4.1 - Daily statistics

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	-3.497635	0.010006	0.038089
7	P1	-3.328570	0.015391	0.002518
11	P1	-4.542373	0.038465	-0.069623
15	P1	-5.685328	0.058180	-0.061326
19	P1	-3.435139	0.005176	-0.008946
22	P1	-4.558057	0.011495	0.011660
24	P1	-4.917514	0.016258	-0.011745
30	P1	-6.854034	0.023552	-0.048842

3	P1	-16.104322	0.213480	-0.103425
7	P1	-13.990905	0.104856	0.038703
11	P1	-19.898794	0.303866	-0.227286
15	P1	-11.783006	0.044249	-0.009411
19	P1	-13.820669	0.035901	-0.014397
22	P1	-16.504211	0.417881	0.286706
24	P1	-14.665864	0.298856	0.162425
30	P1	-17.692627	0.380183	-0.031737

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.405437	0.082913	0.072219
7	P2	-22.830982	0.123565	0.114501
11	P2	-15.593590	0.138563	0.137684
15	P2	-7.177977	0.097179	0.090881
19	P2	-9.566249	0.148530	0.058633
22	P2	-17.522686	0.105430	0.144164
24	P2	-20.846027	0.087829	0.108820
30	P2	-19.420721	0.079465	0.063818

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.142621	0.001974	-0.001236
7	P3	-8.142620	0.001974	-0.001247
11	P3	-8.142617	0.001974	-0.001260
15	P3	-8.142615	0.001974	-0.001275
19	P3	-8.142611	0.001974	-0.001292
22	P3	-8.142604	0.001975	-0.001332
24	P3	-8.142610	0.001975	-0.001332
30	P3	-8.142639	0.001971	-0.000995

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1

P1a Cyclic statistics

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

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.133947	0.132819	0.048222
7	P1	-2.813254	0.070561	-0.048341
11	P1	-3.802844	0.022564	-0.055395
15	P1	-4.255713	1.003400	-0.017313
19	P1	-3.359730	0.049169	-0.010080
22	P1	-5.724389	0.042931	-0.040670
24	P1	-4.049172	0.078879	-0.014122
30	P1	-6.105664	0.064907	-0.028703
3	P1	-11.012236	0.406247	0.062770
7	P1	-9.769716	0.240745	-0.069948
11	P1	-11.780894	0.168920	-0.051338
15	P1	-11.849292	0.268359	-0.059542
19	P1	-14.999290	0.816563	-0.000878
22	P1	-21.474680	8.696774	0.195737
24	P1	-17.381641	0.295260	-0.014338
30	P1	-21.680307	4.256303	0.010531

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.149864	0.043443	0.079631
7	P2	-22.926334	0.029340	0.080790
11	P2	-11.002462	0.223122	0.167876
15	P2	-4.991270	0.044450	0.066724
19	P2	-6.927106	0.042663	0.023691
22	P2	-7.656769	0.026015	0.129239
24	P2	-11.058526	0.073840	0.101910
30	P2	-22.371868	0.090190	0.136796

P3 Cyclic statistics

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

3	P3	-7.983490	0.003362	-0.002056
7	P3	-7.983490	0.003349	-0.002003
11	P3	-7.983422	0.003356	-0.002026
15	P3	-7.983404	0.003361	-0.001761
19	P3	-7.983333	0.003359	-0.001885
22	P3	-7.983519	0.003349	-0.001933
24	P3	-7.983397	0.003385	-0.002265
30	P3	-7.983407	0.003358	-0.002150

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	0.000499474
	stdev	2.08170e-07
MEAN Q	mean	0.000549596
	stdev	2.36783e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.130210
	stdev	0.00101863

STDEV Q	mean	0.130460
	stdev	0.00103086

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

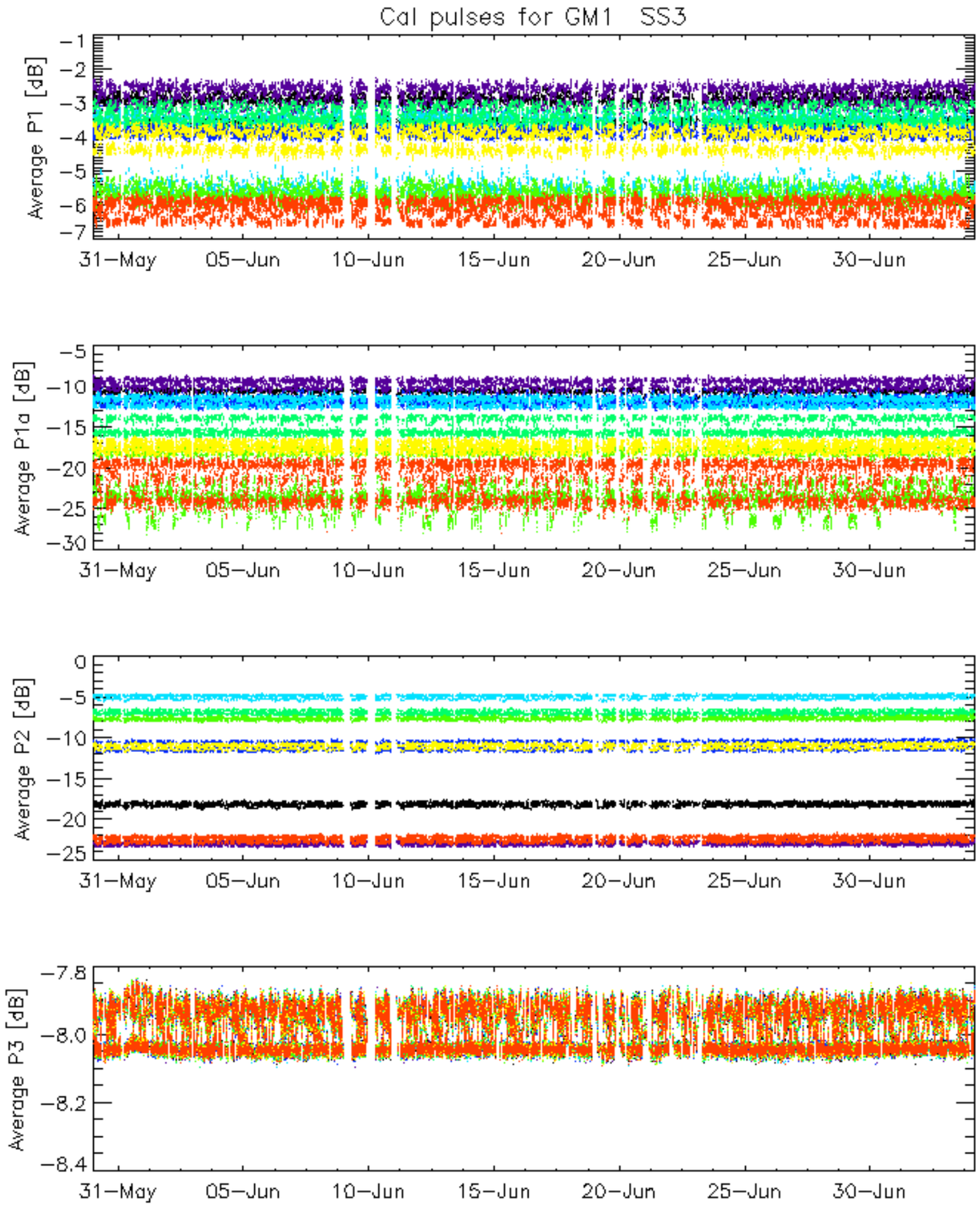
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

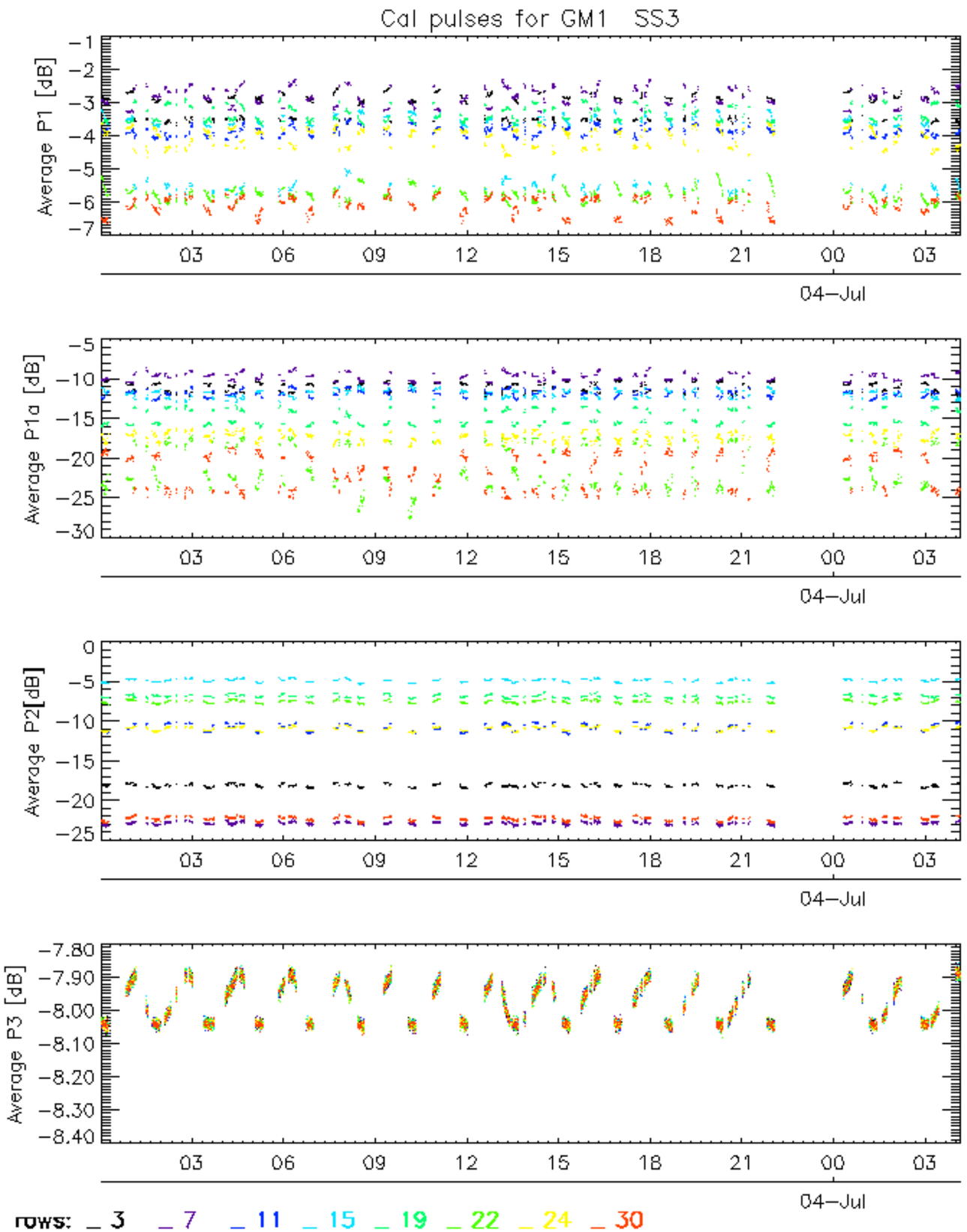
6.5 - Absolute Doppler for GM1

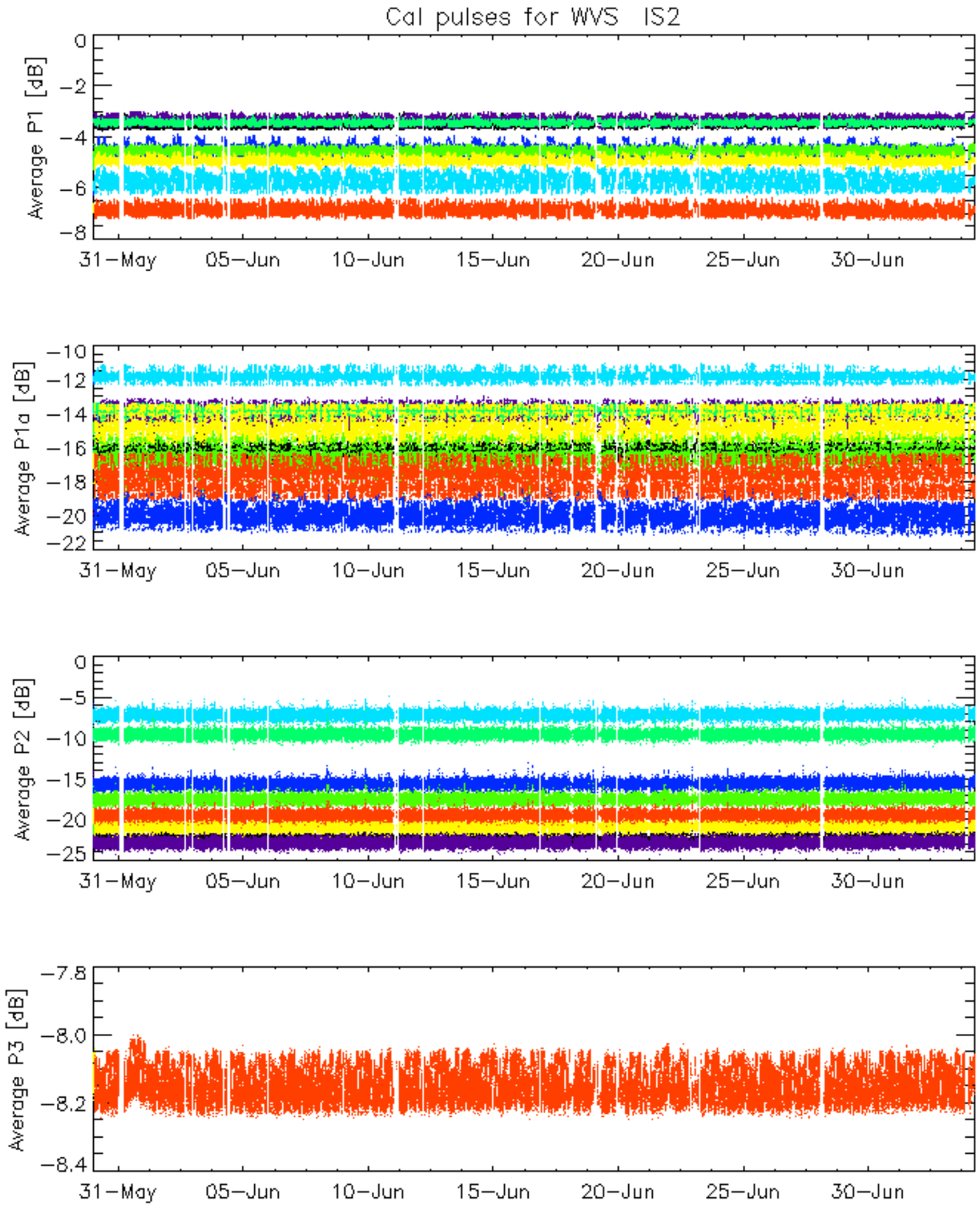
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

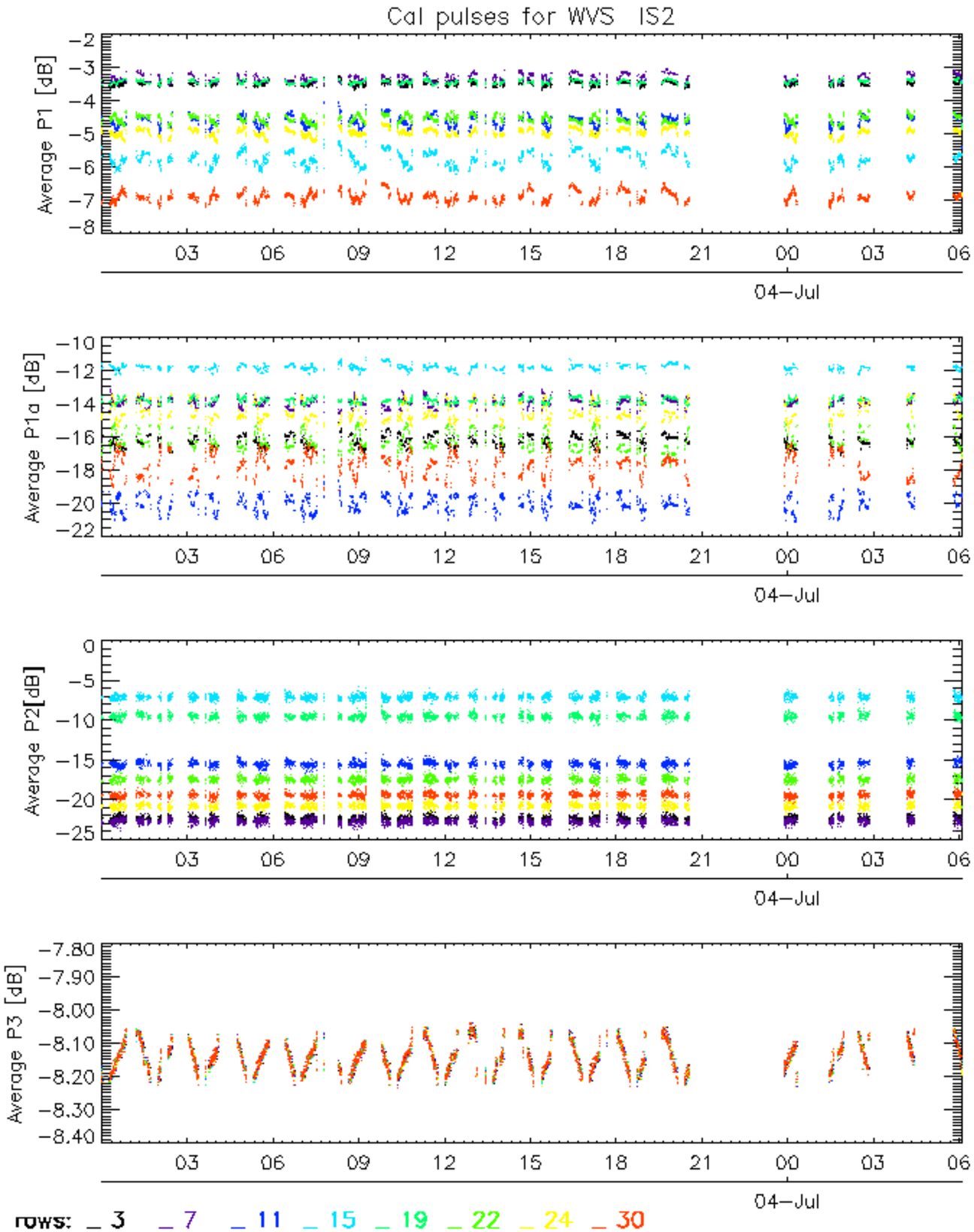
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
☒

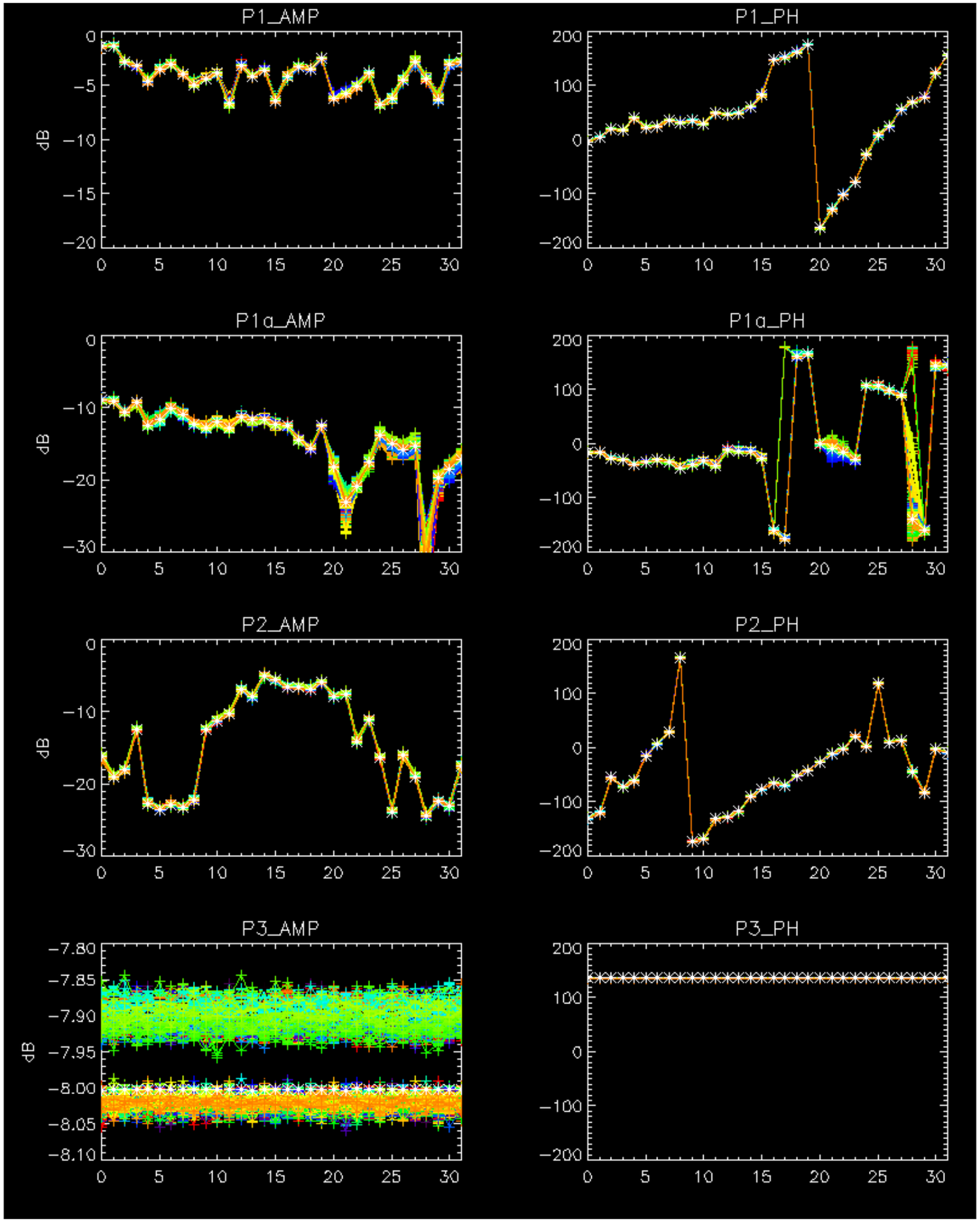

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
31−May
05−Jun
10−Jun
15−Jun
20−Jun
25−Jun
30−Jun
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

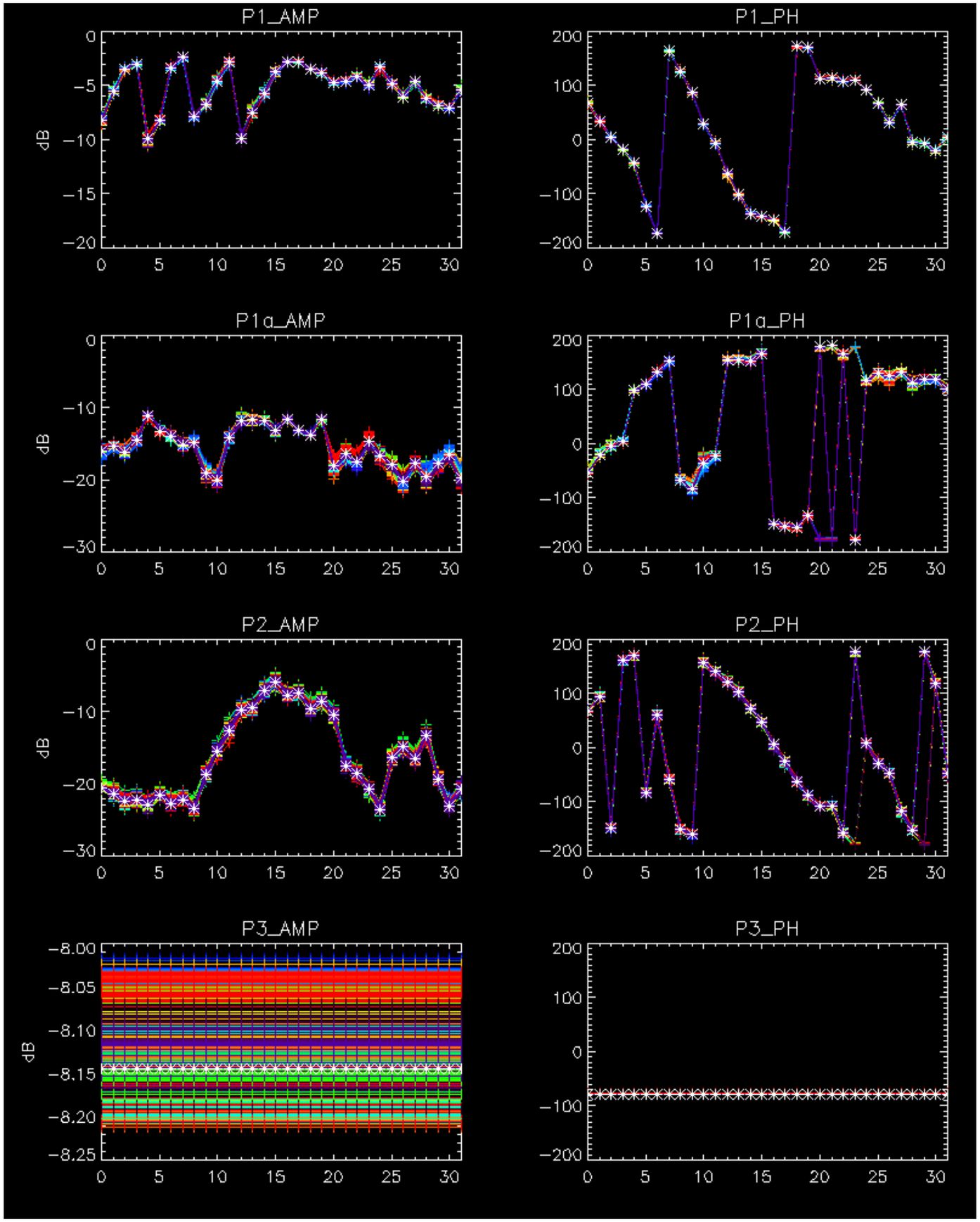

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
04–Jul
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
21
00
03
04–Jul
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
03
04–Jul
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06
09
12
15
18
21
00
03
04–Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30


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


Cal pulses for WVS IS2
Average P1 [dB]
−2
−3
−4
−5
−6
−7
−8
03
06
09
12
15
18
21
00
03
06
04−Jul
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
Average P2[dB]
0
−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 _ 24 _ 30

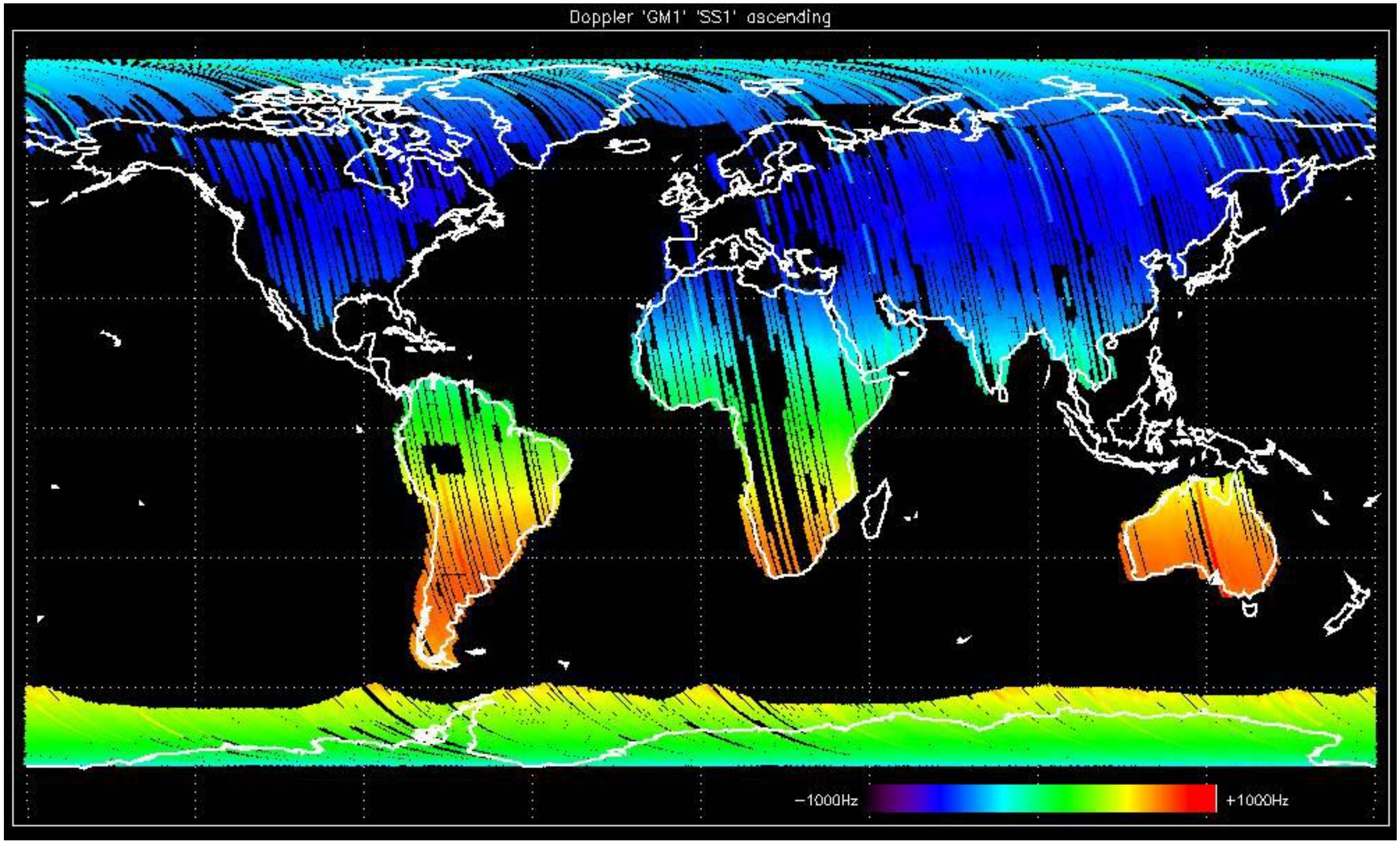
No anomalies observed.

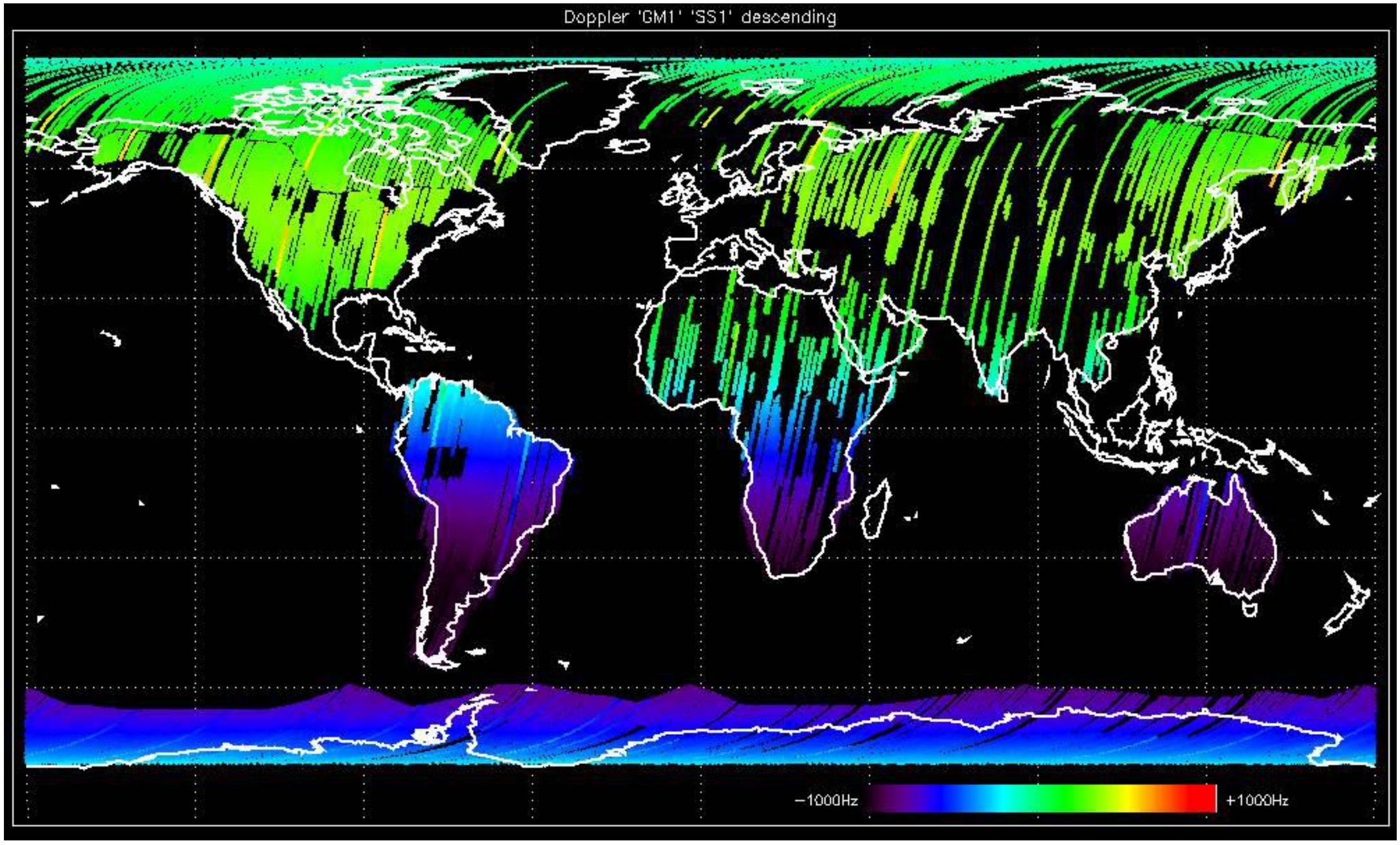

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.80
−7.85
−7.90
−7.95
−8.00
−8.05
−8.10
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

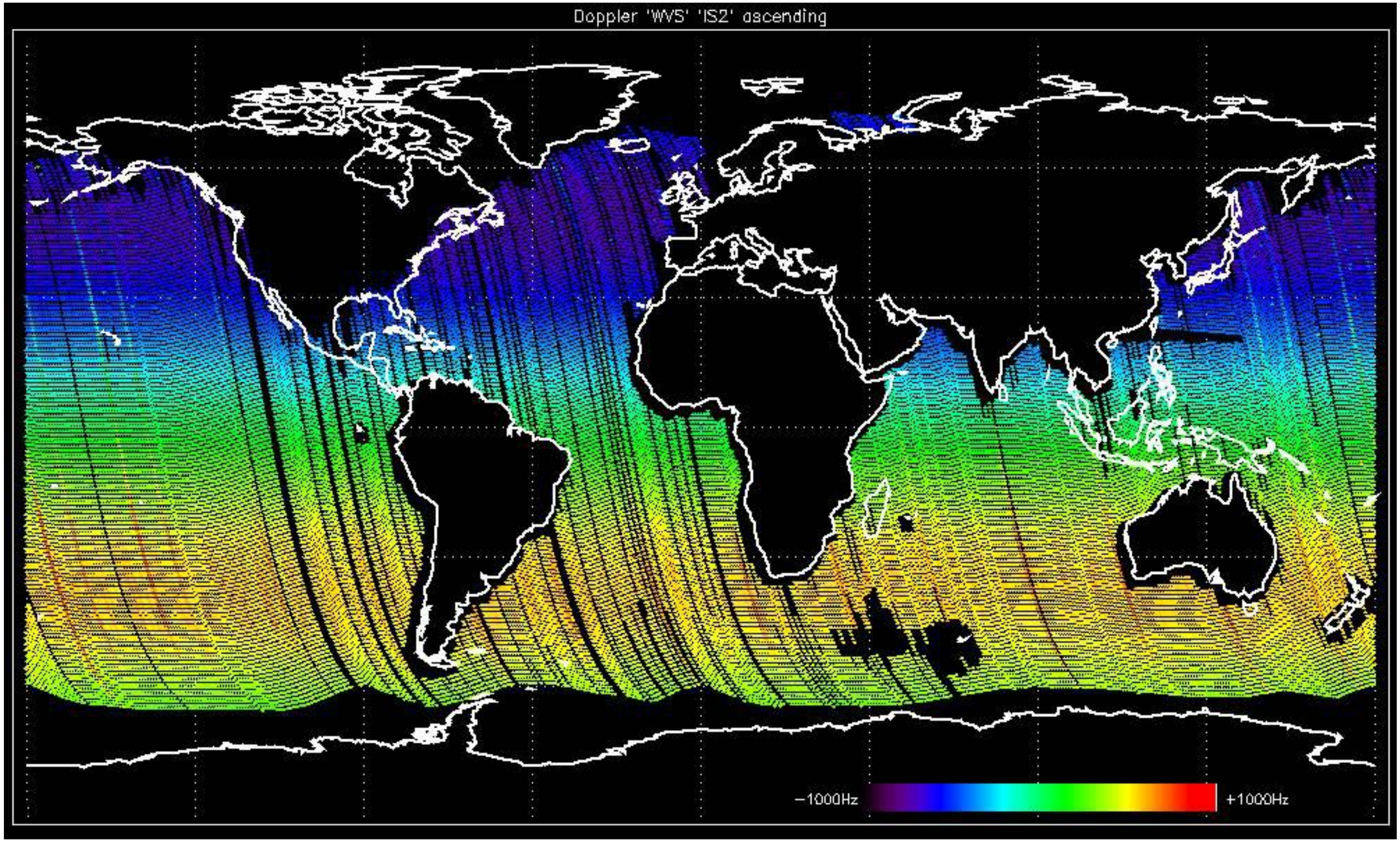

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15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

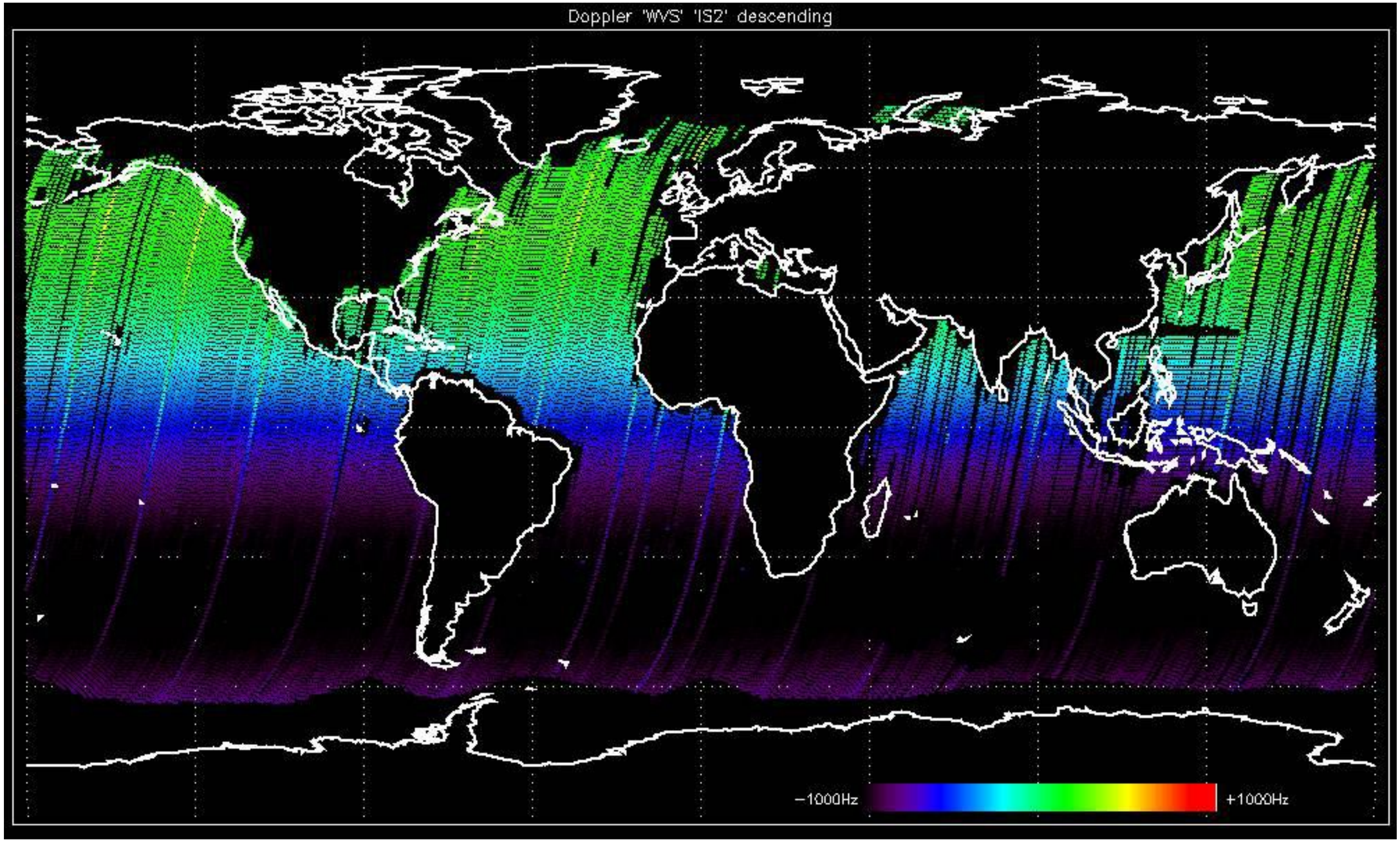
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

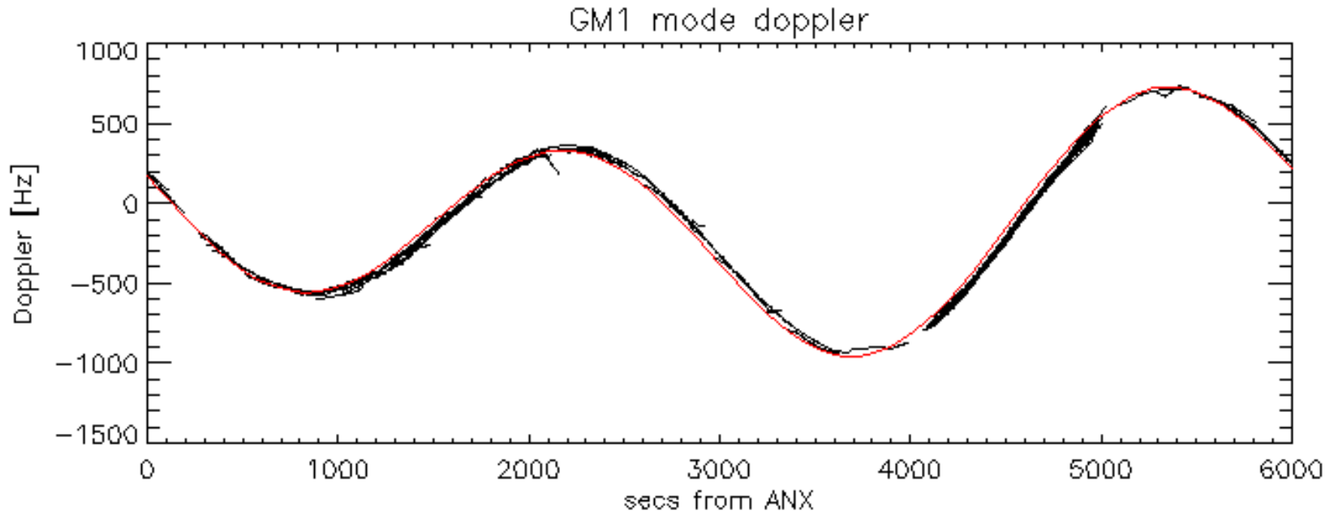
Preliminary report.The data is not yet controled

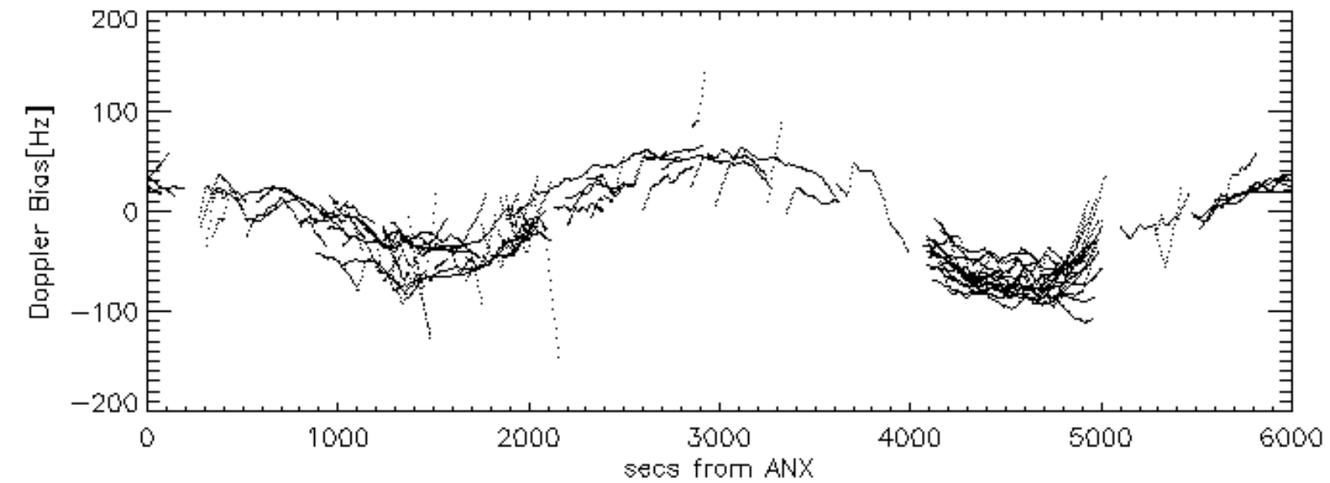

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

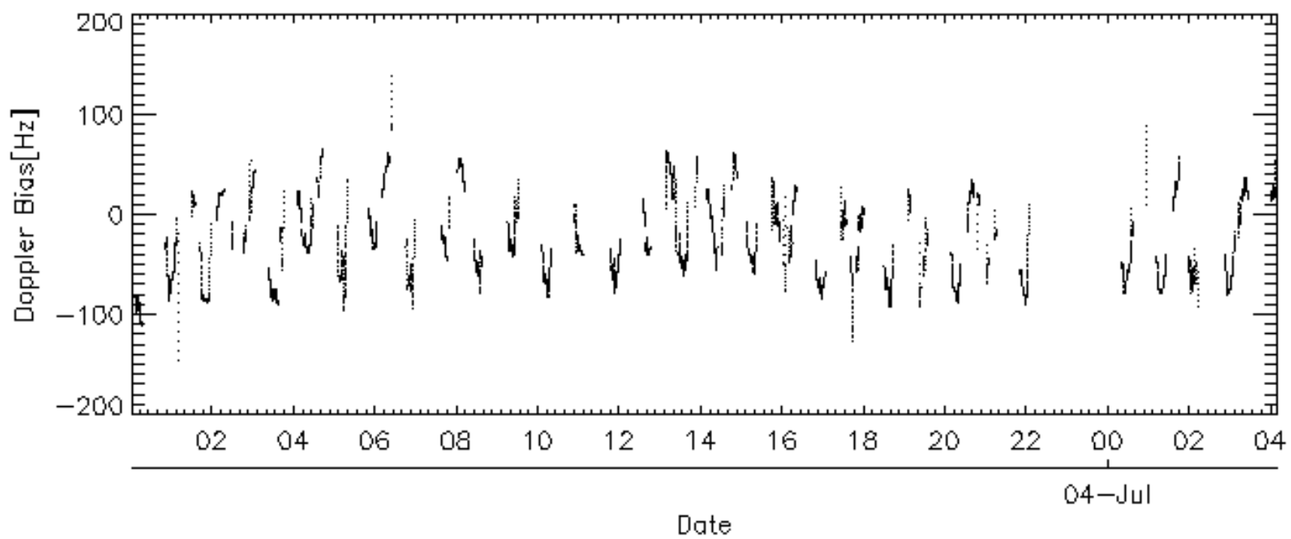

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

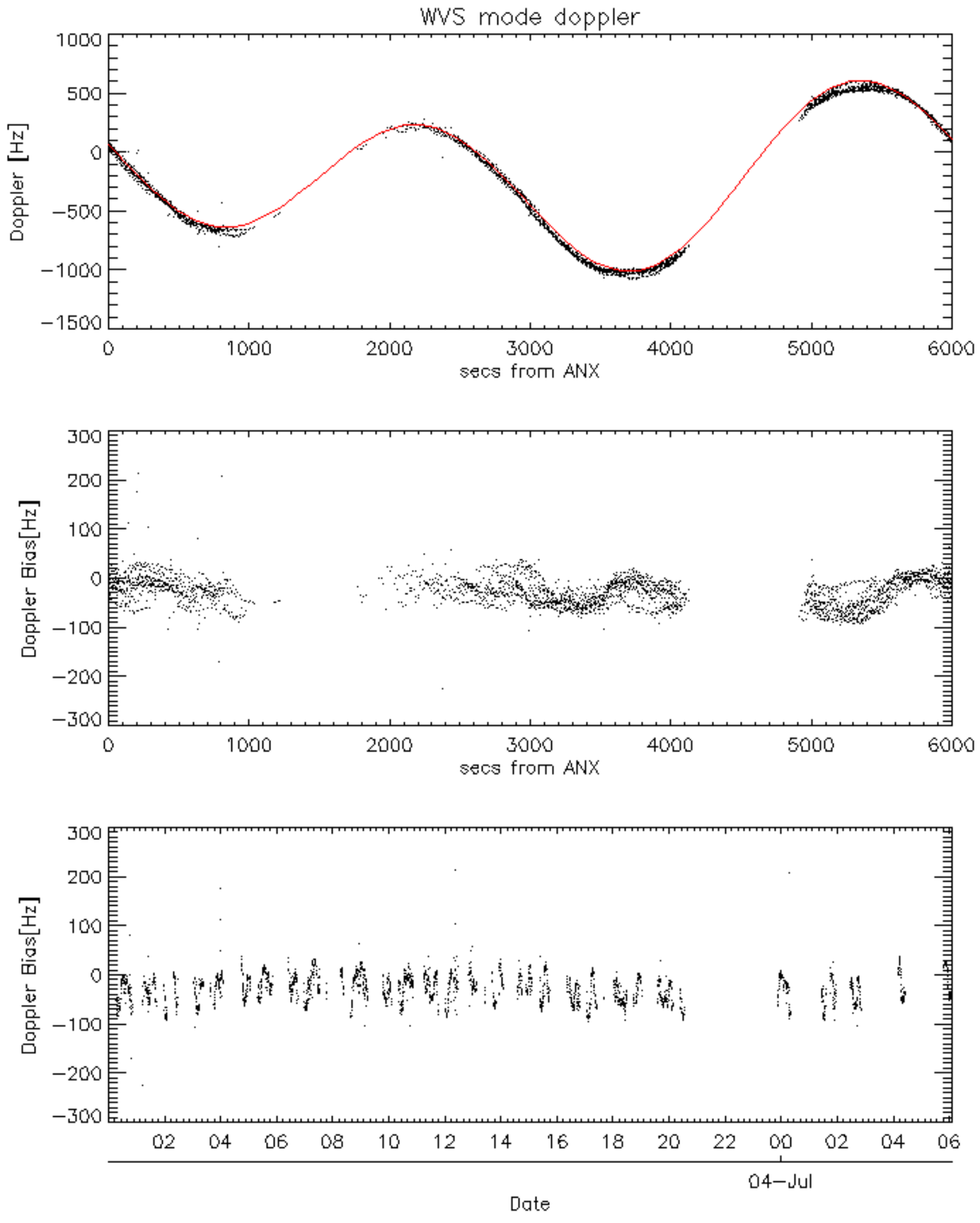

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

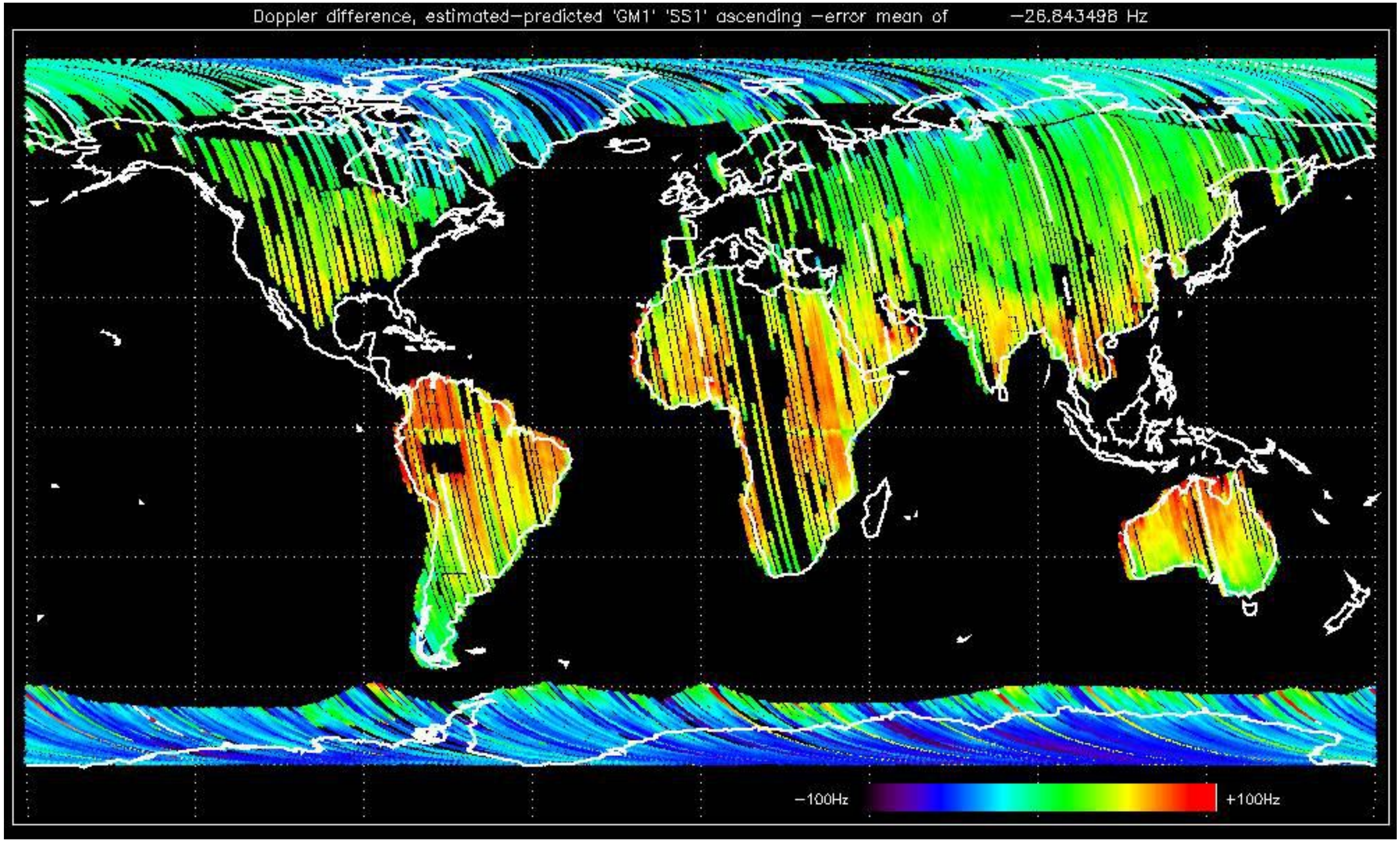

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

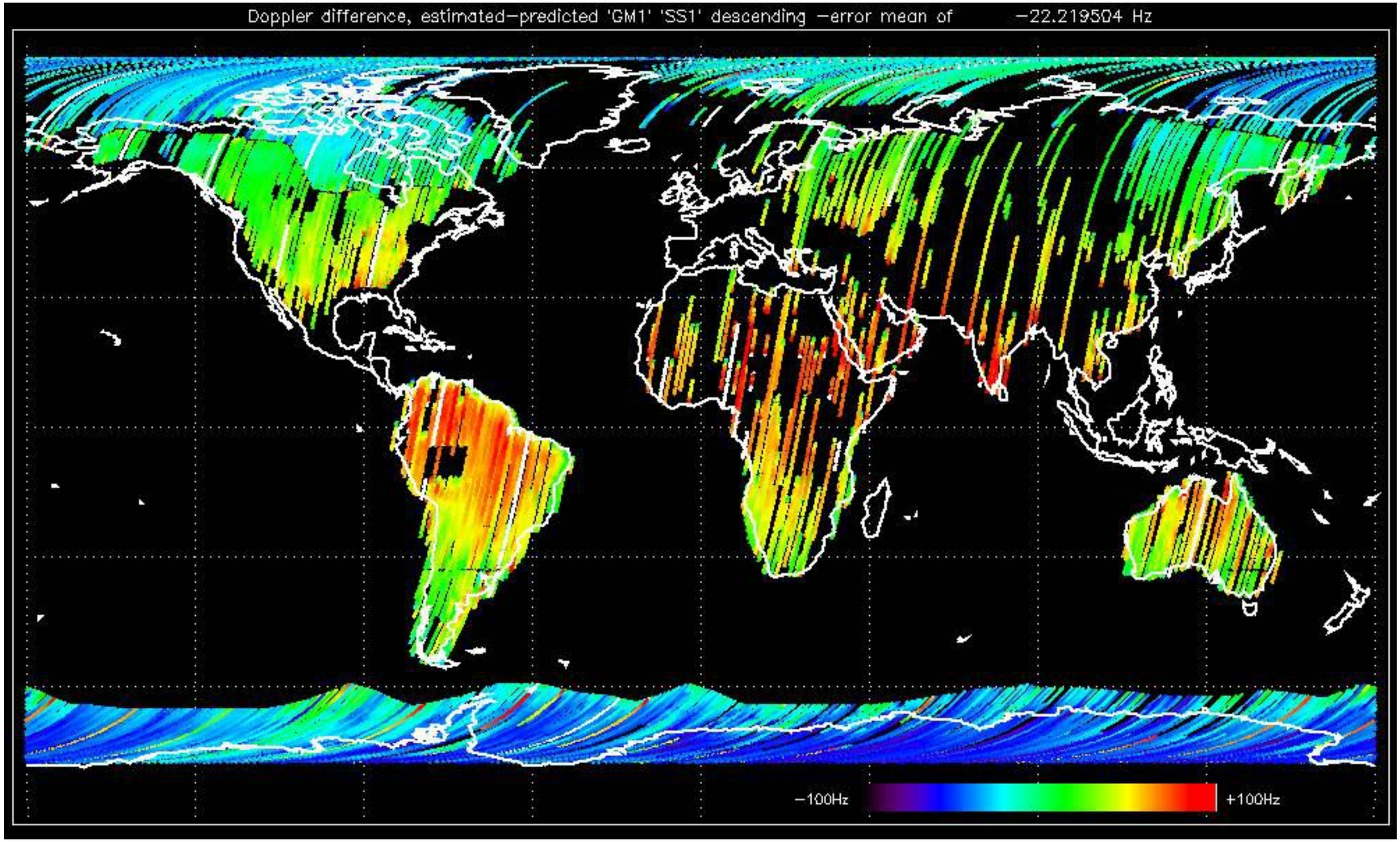

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

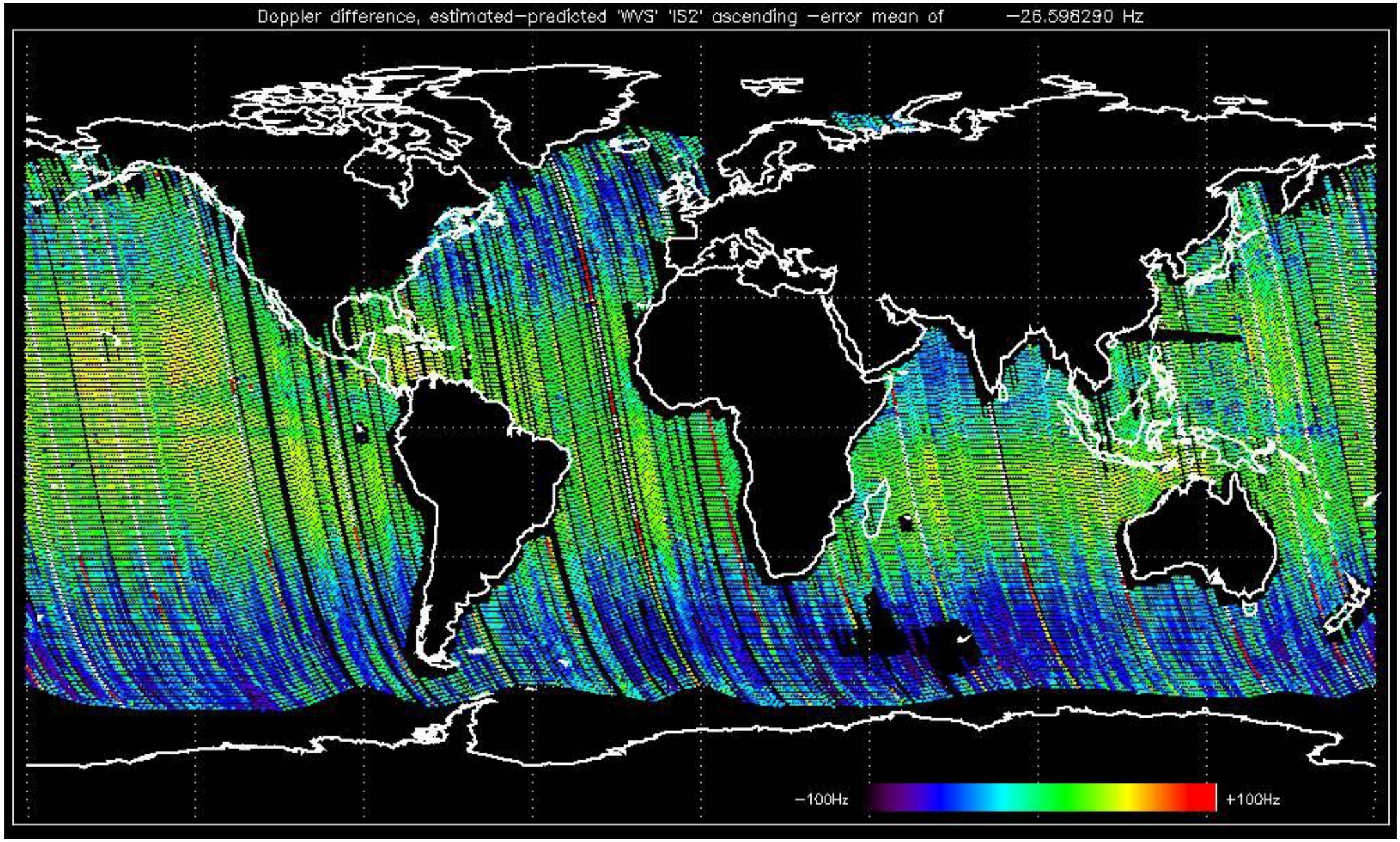

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

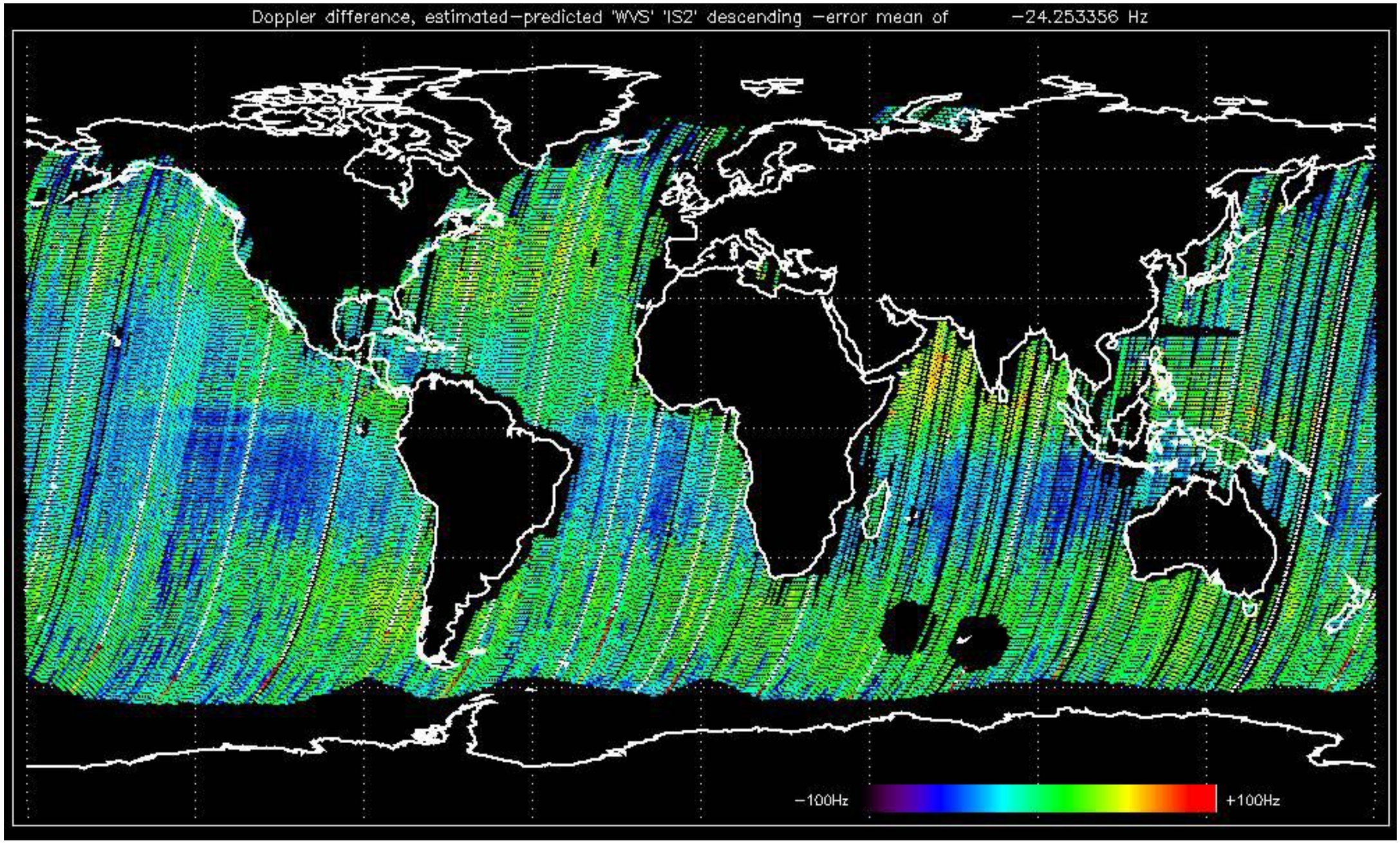

Doppler Bias[Hz]
200
100
0
−100
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
04
04−Jul
Date


WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
300
200
100
0
−100
−200
−300
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
300
200
100
0
−100
−200
−300
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
04−Jul
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −26.843498 Hz
−100Hz
+100Hz

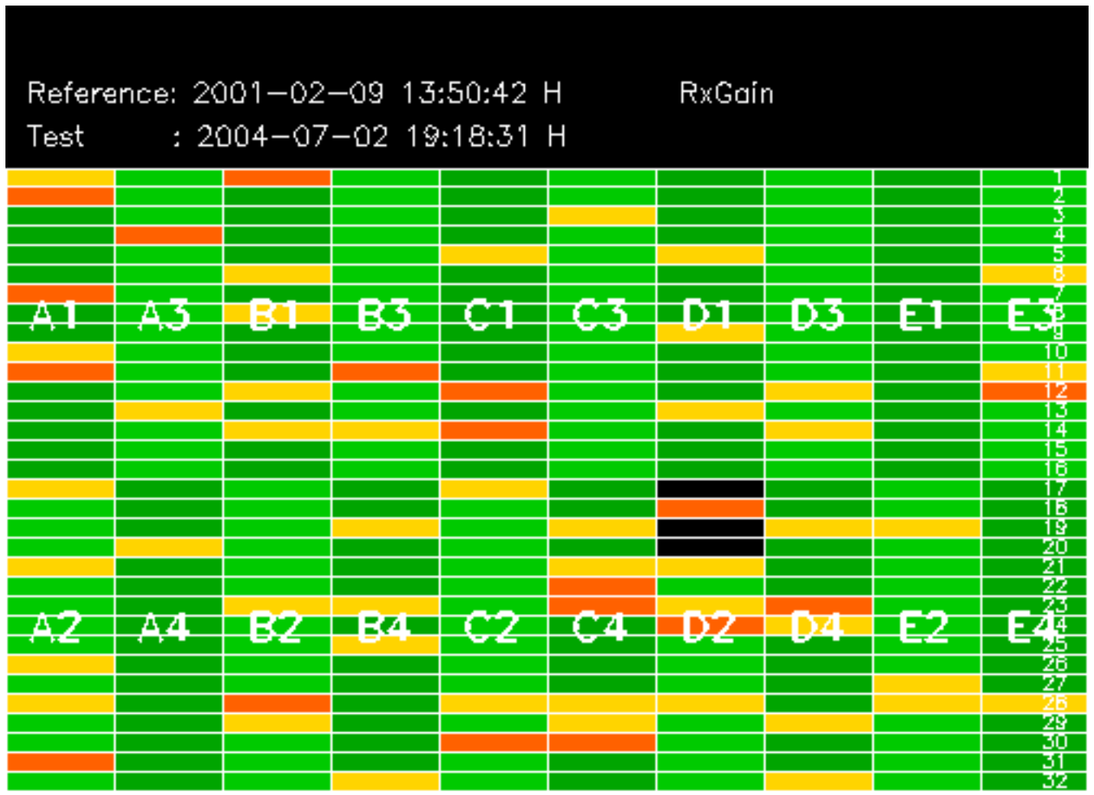

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −22.219504 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −26.598290 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −24.253356 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 : 2004-07-02 19:18:31 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
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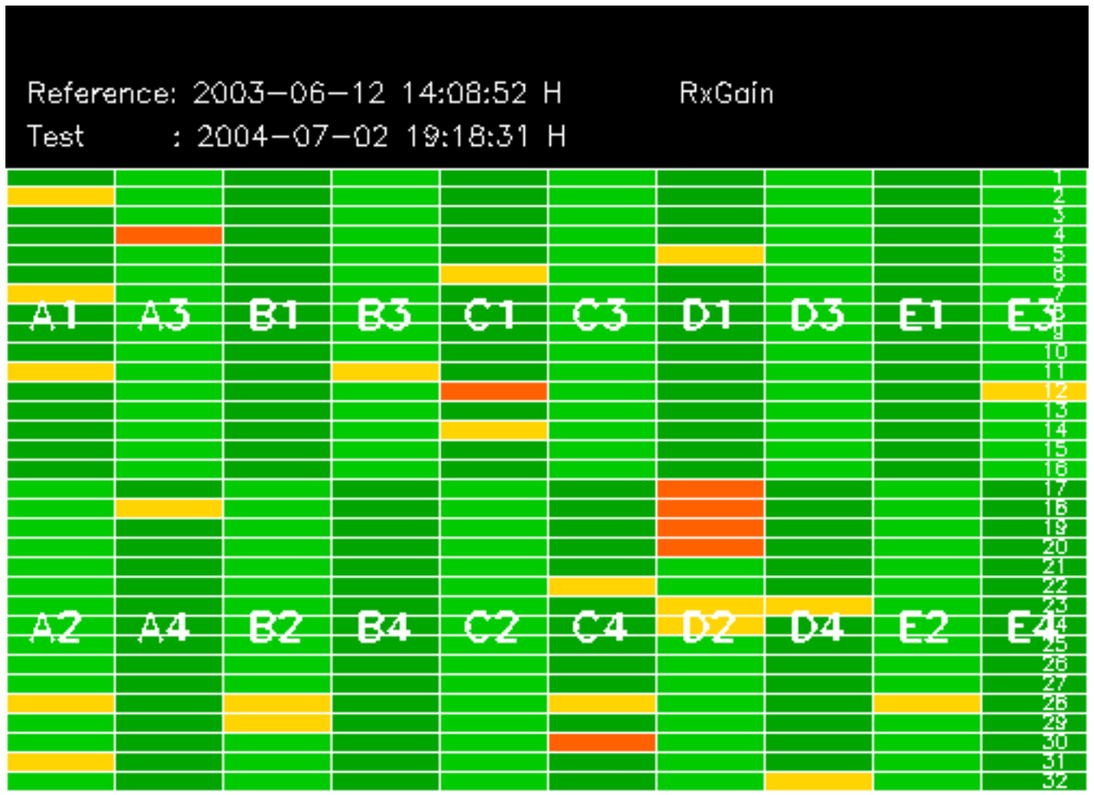
32


Reference: 2003-06-12 14:08:52 H
Test : 2004-07-02 19:18:31 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
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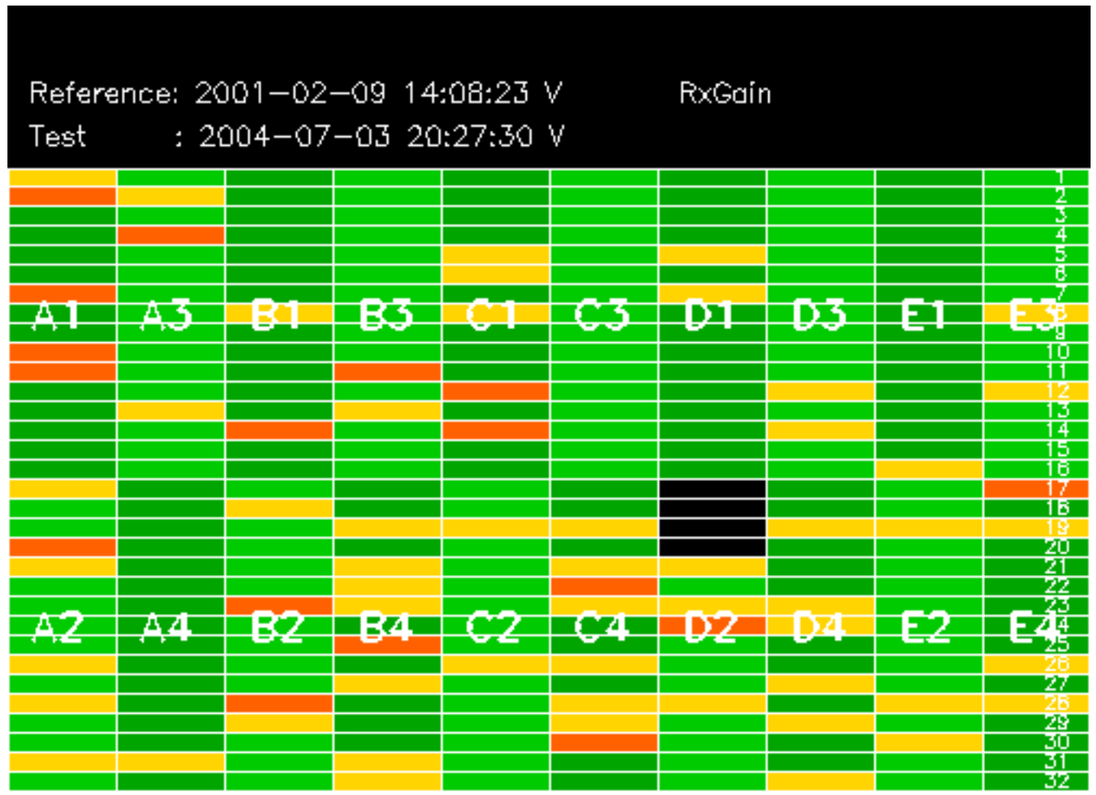
23
24
25
26
27
28
29
30
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2004-07-03 20:27:30 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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31
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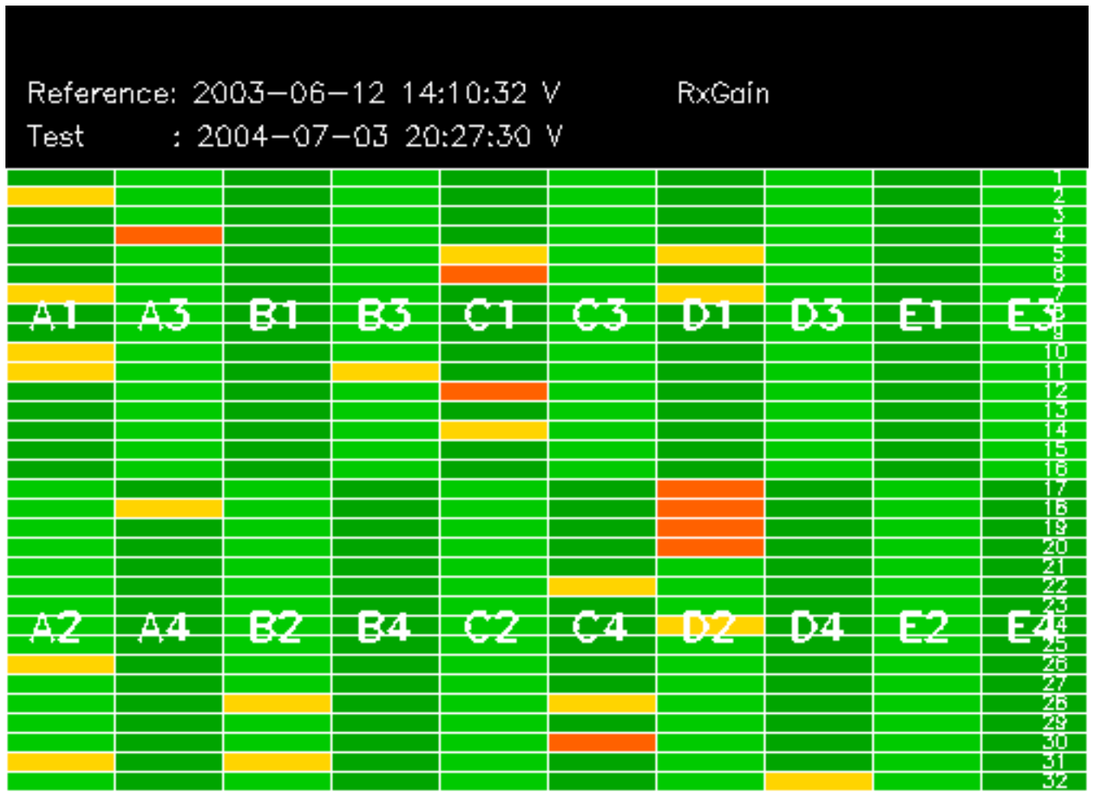
Reference: 2003-06-12 14:10:32 V
Test : 2004-07-03 20:27:30 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
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31
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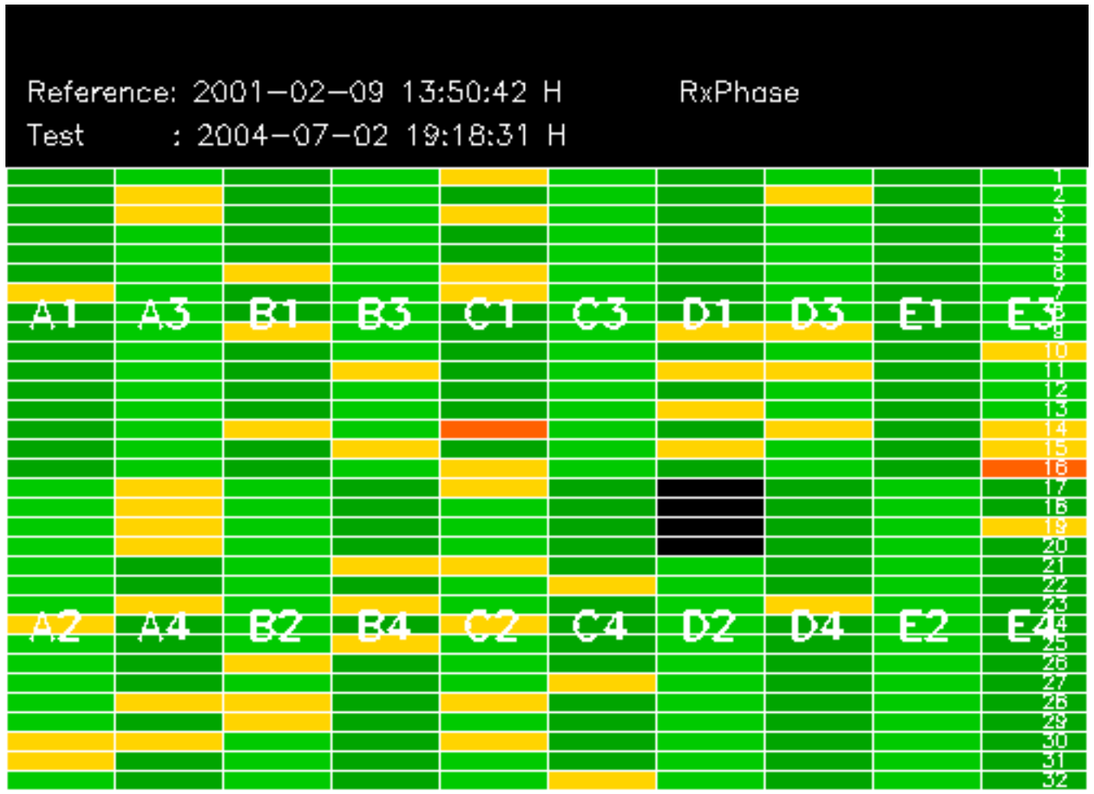
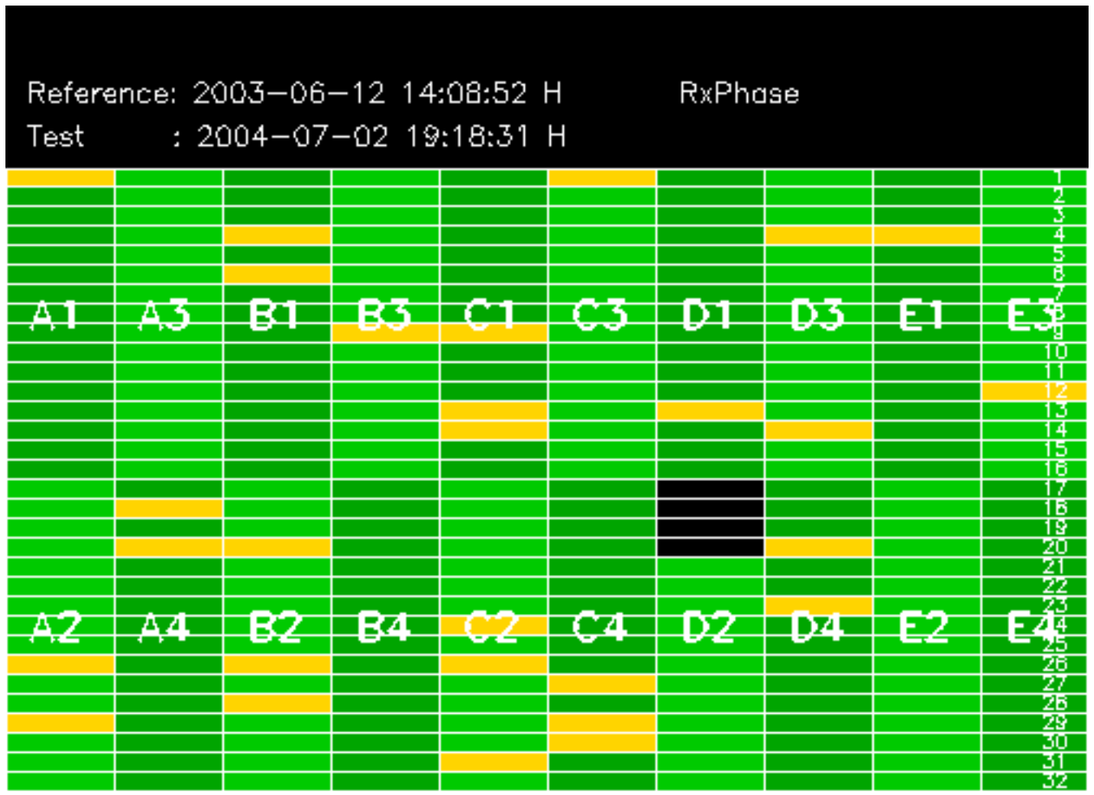
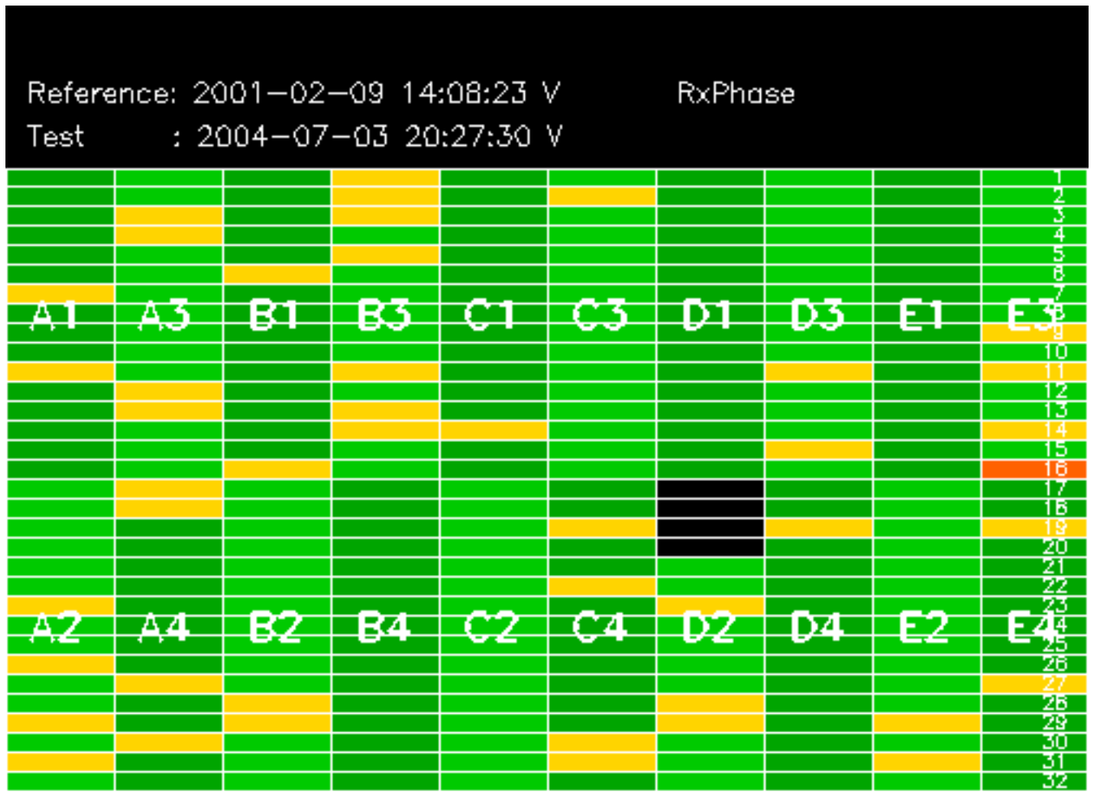

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-07-02 19:18:31 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-07-02 19:18:31 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 : 2004-07-03 20:27:30 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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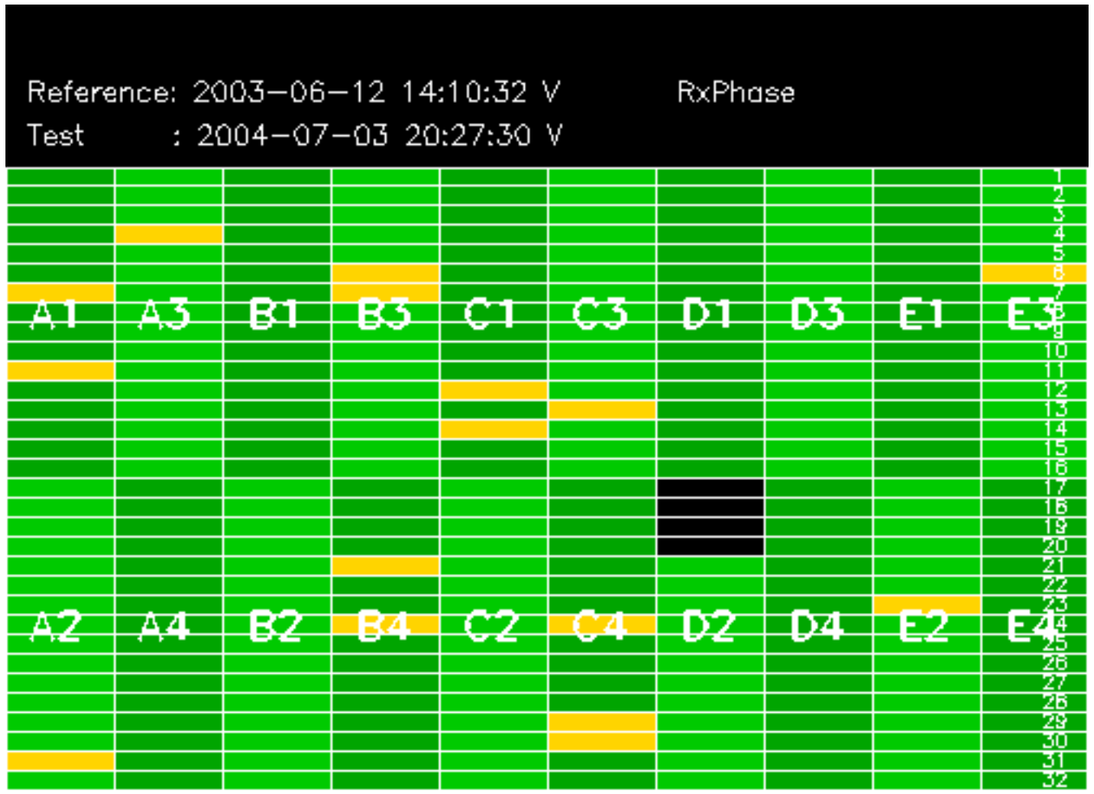
Reference: 2003-06-12 14:10:32 V
Test : 2004-07-03 20:27:30 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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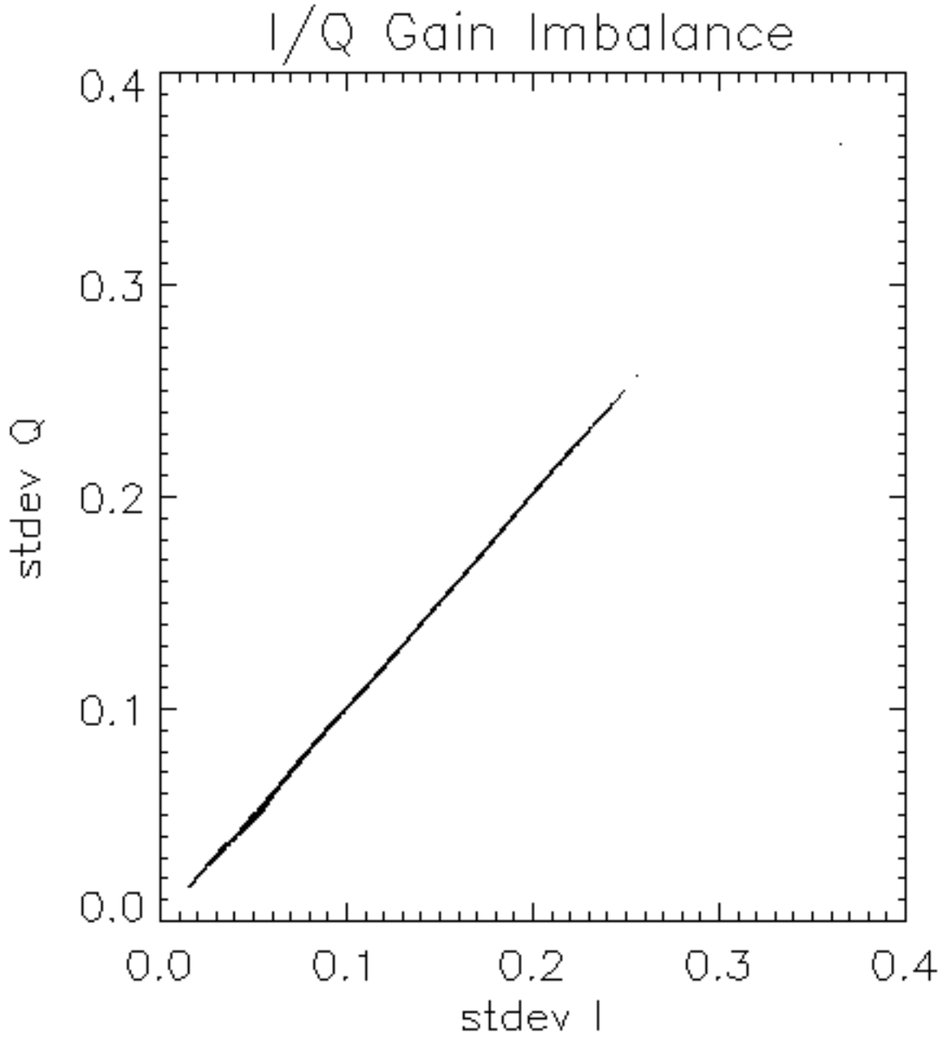
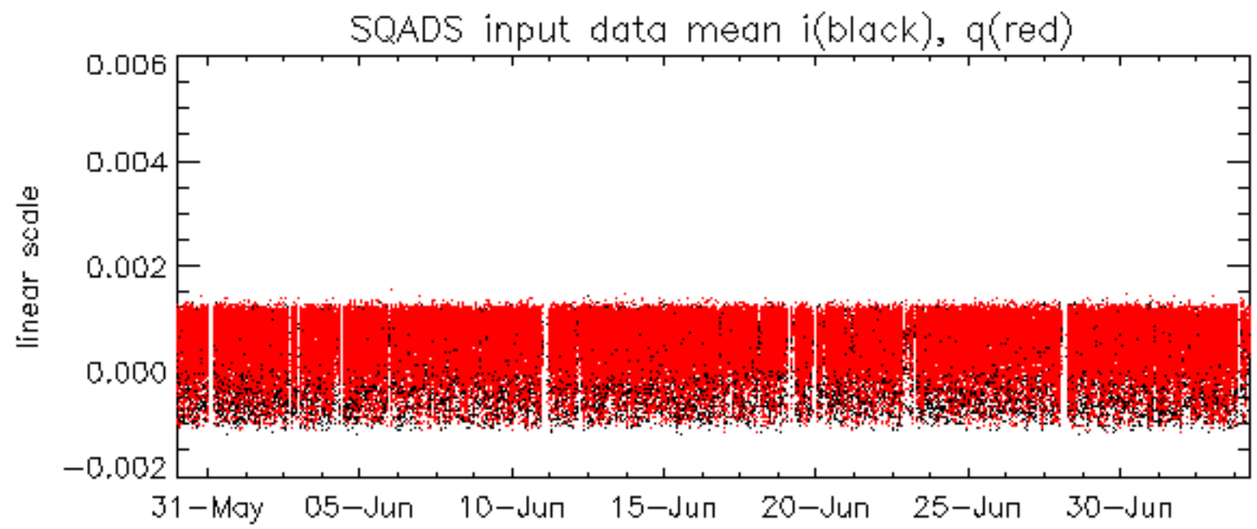
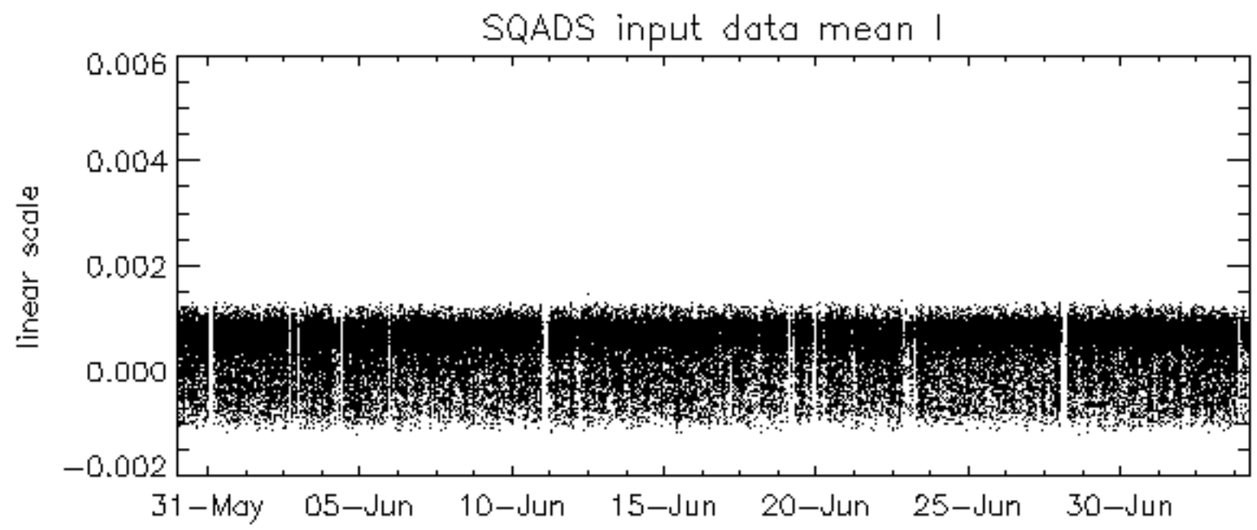
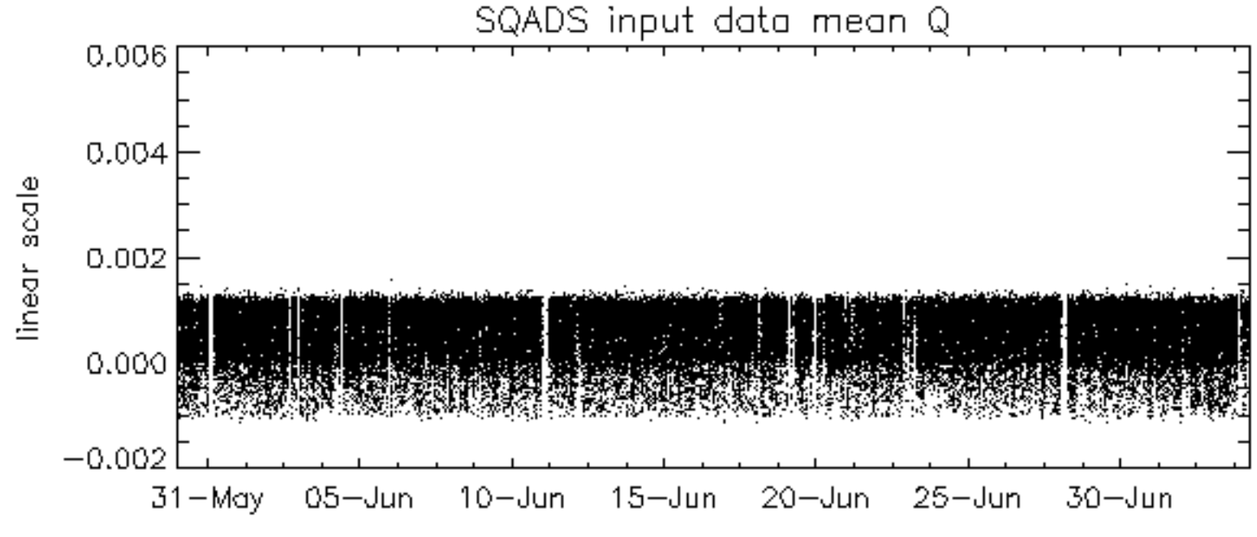
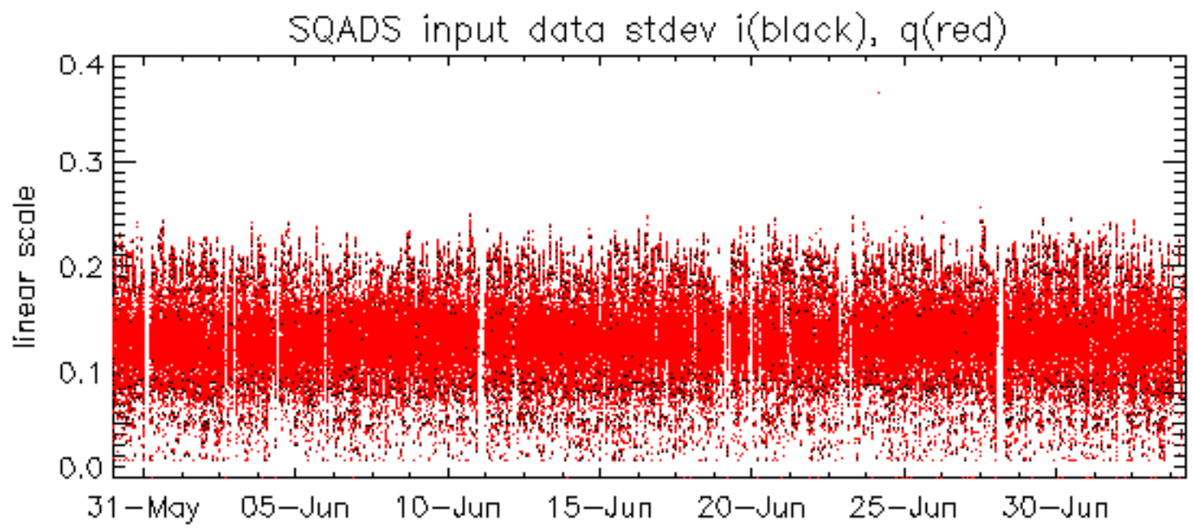
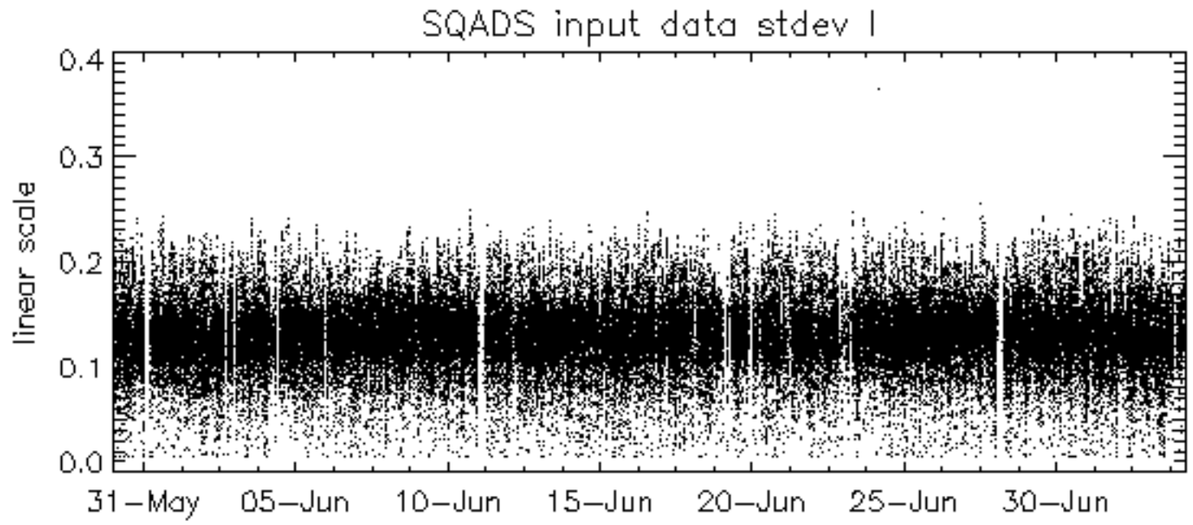

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

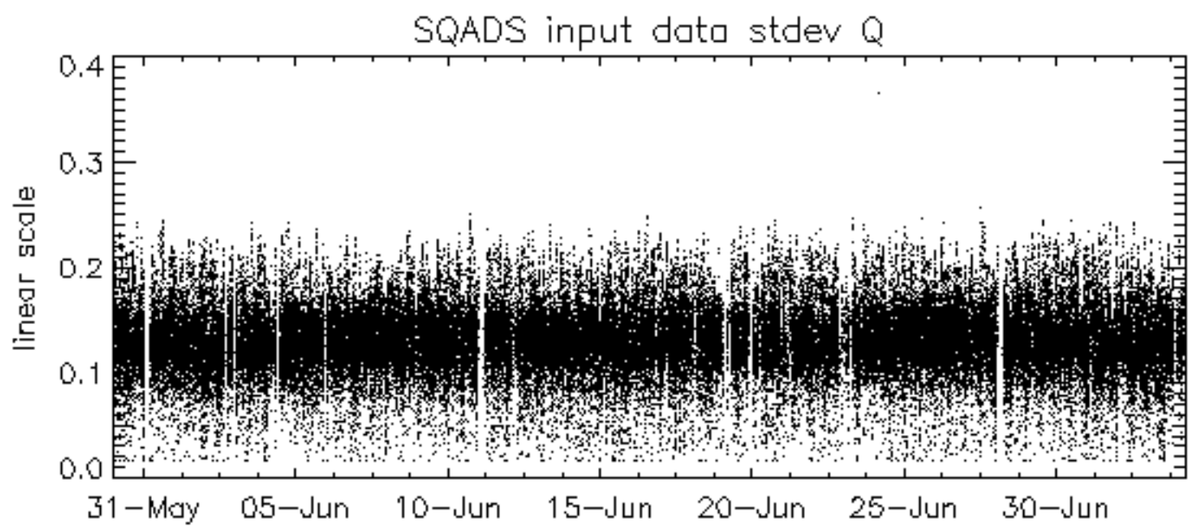

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
31−May
05−Jun
10−Jun
15−Jun
20−Jun
25−Jun
30−Jun

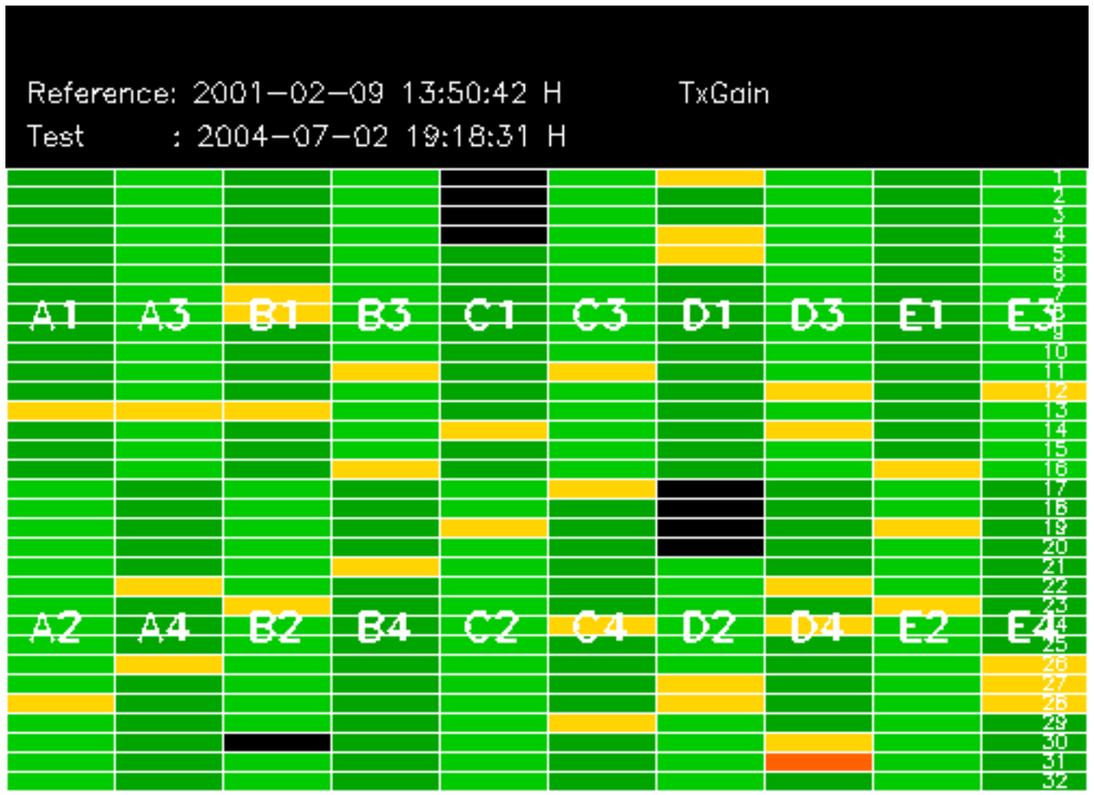

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
31−May
05−Jun
10−Jun
15−Jun
20−Jun
25−Jun
30−Jun

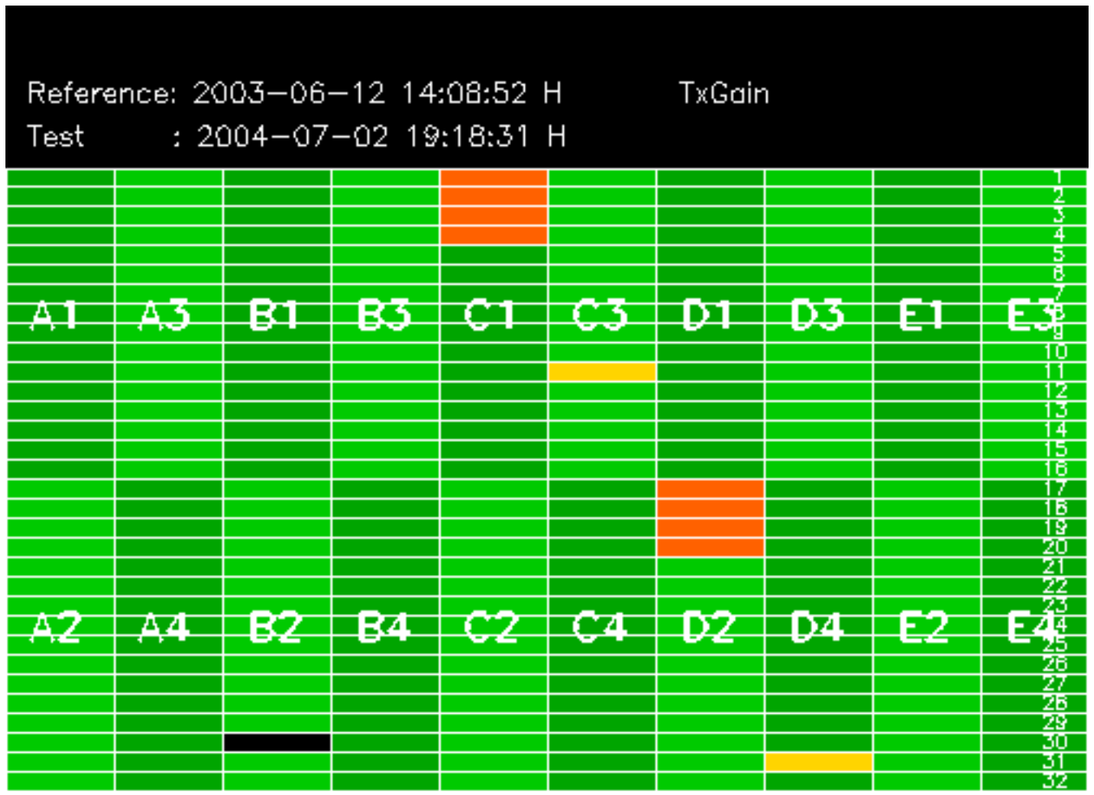

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
31−May
05−Jun
10−Jun
15−Jun
20−Jun
25−Jun
30−Jun


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2004-07-02 19:18:31 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-07-02 19:18:31 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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31
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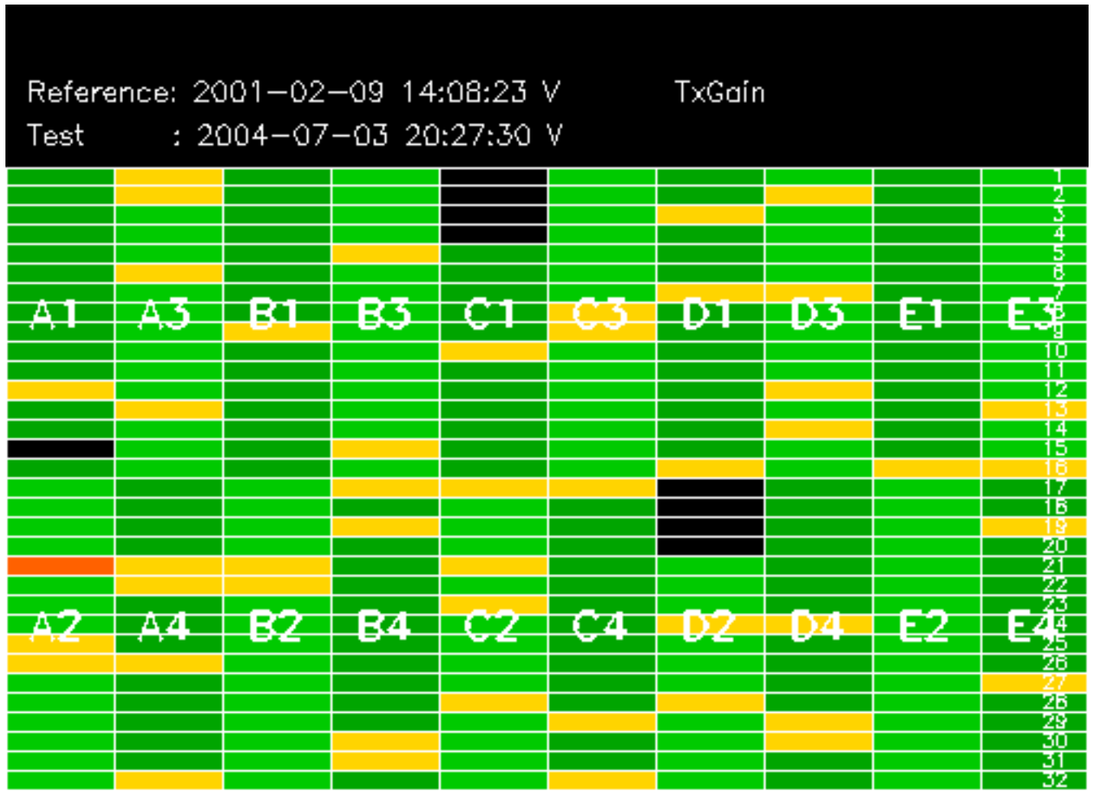
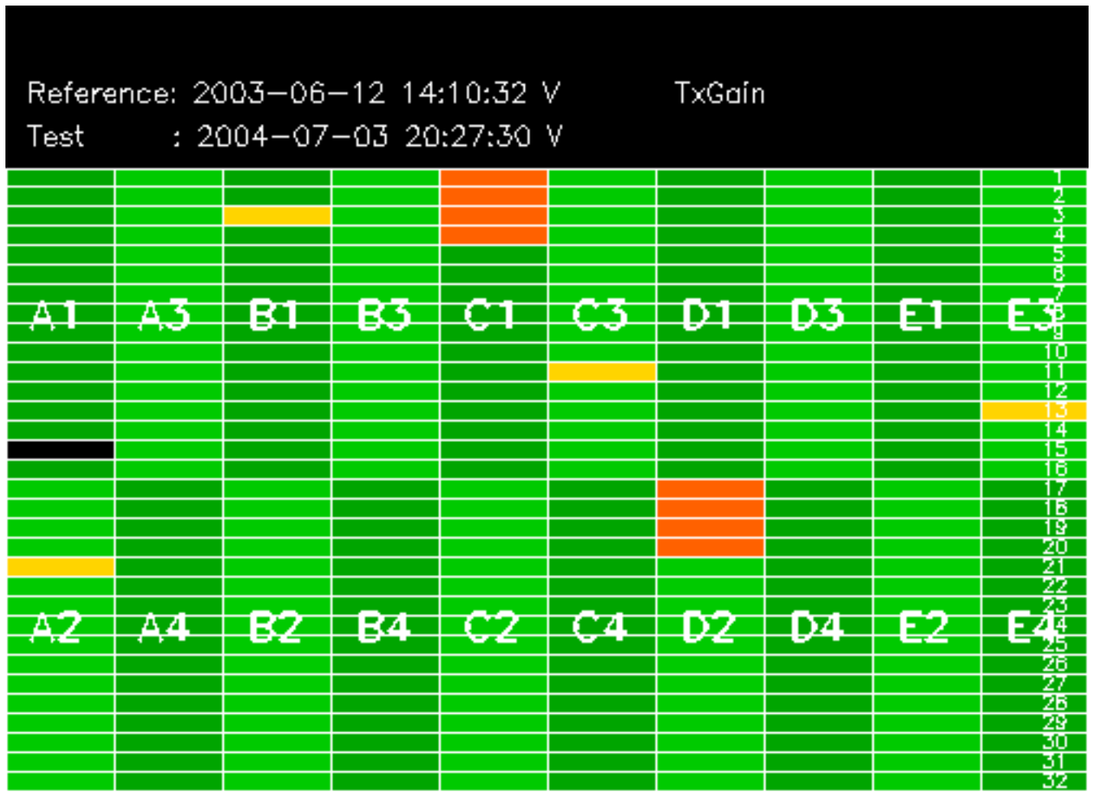

Reference: 2001-02-09 14:08:23 V
Test : 2004-07-03 20:27:30 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-07-03 20:27:30 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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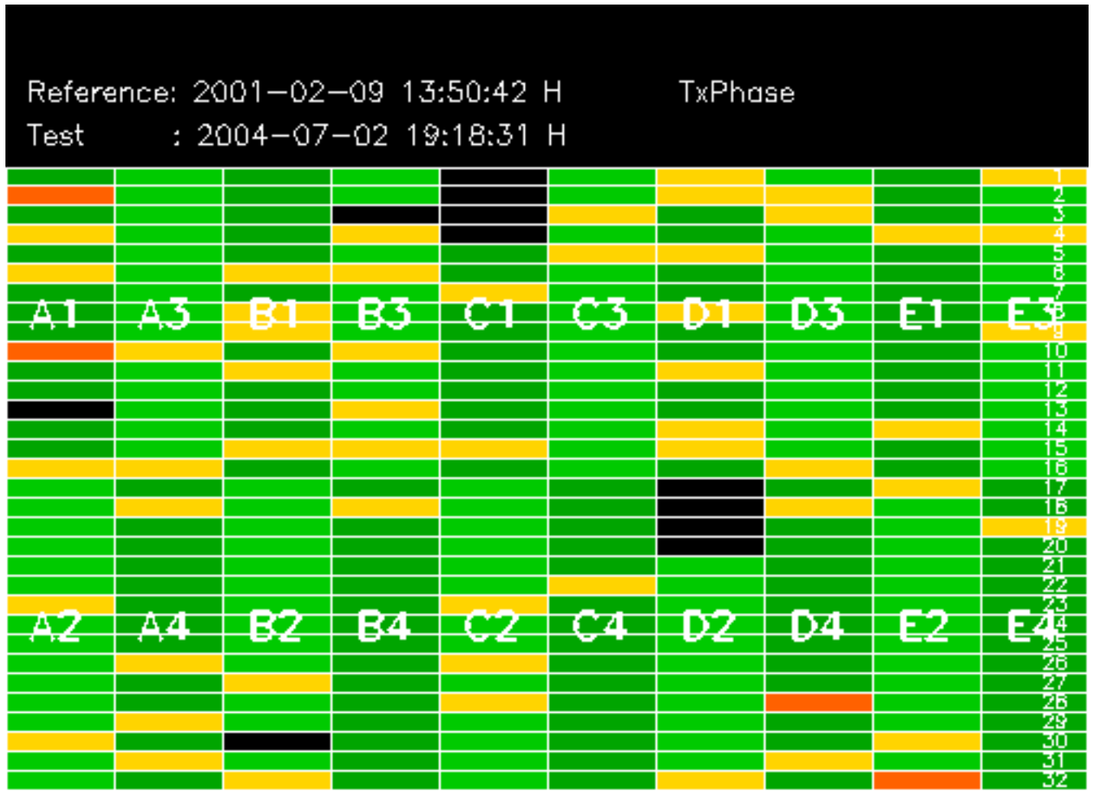
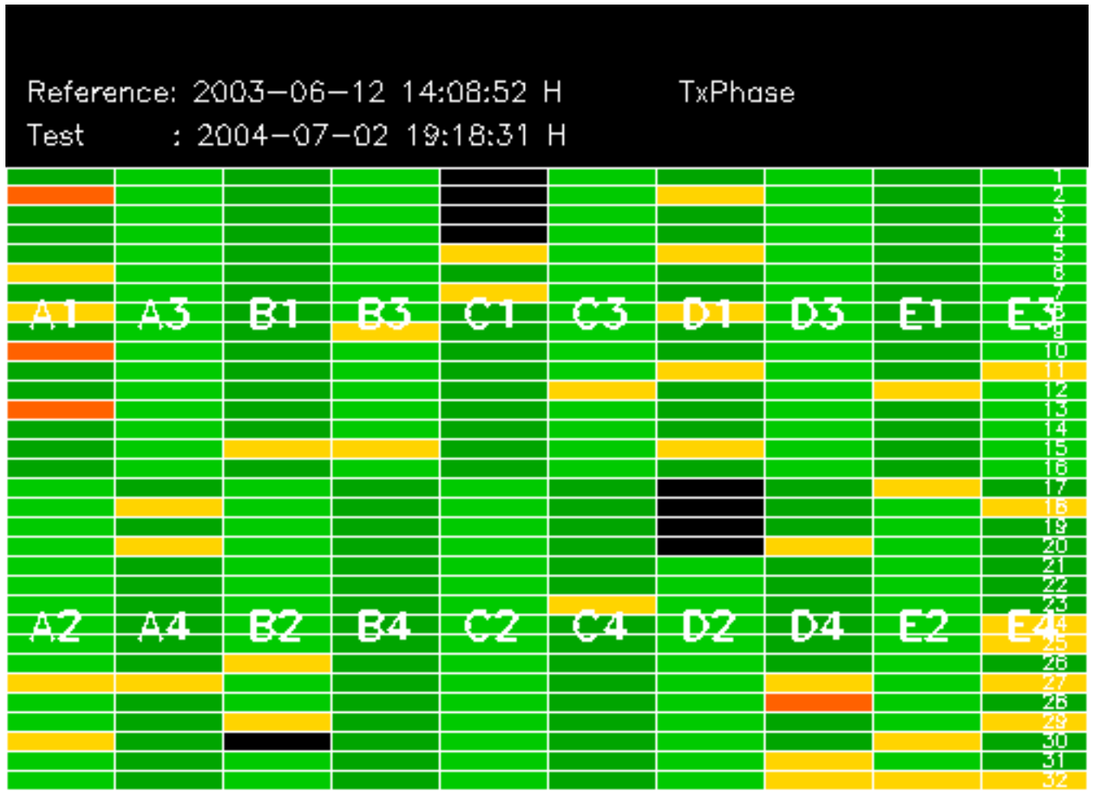
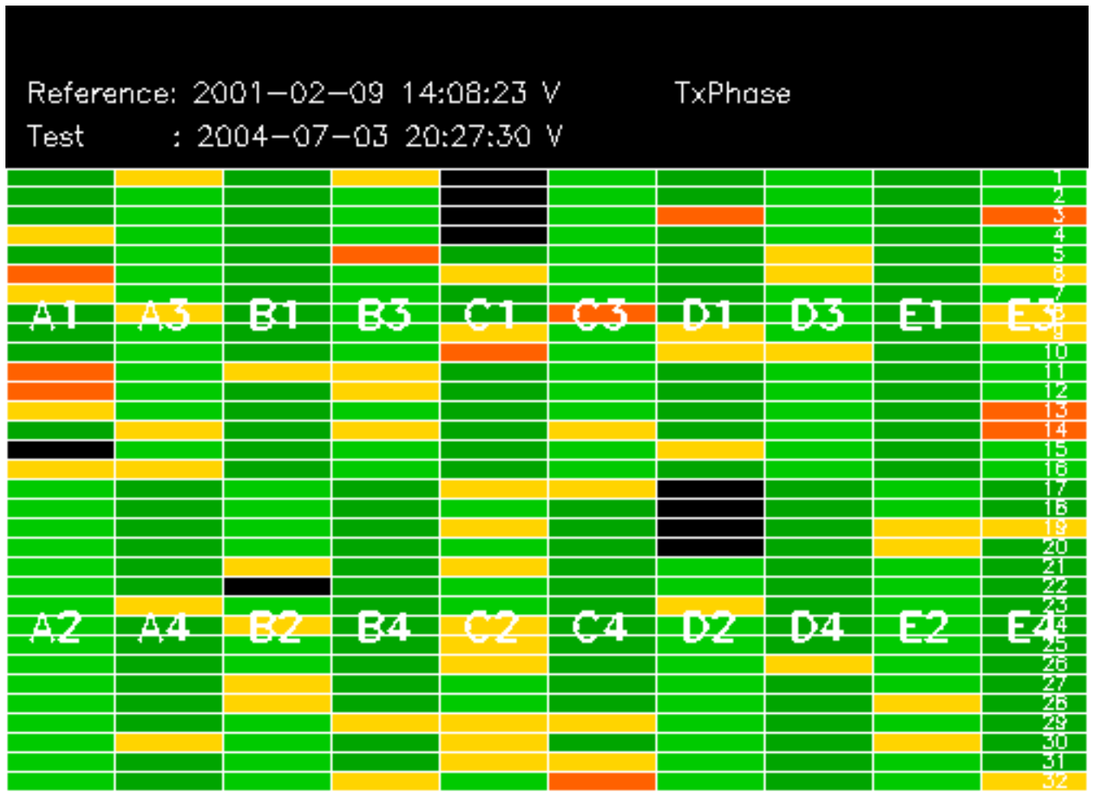
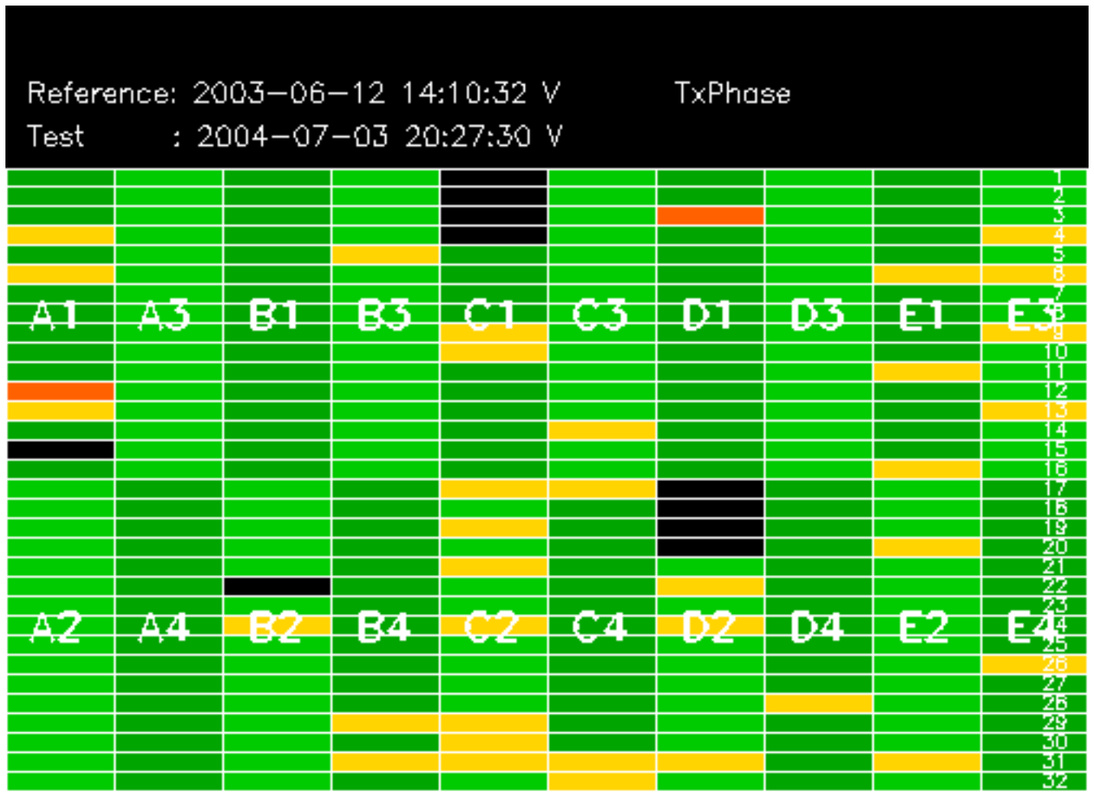
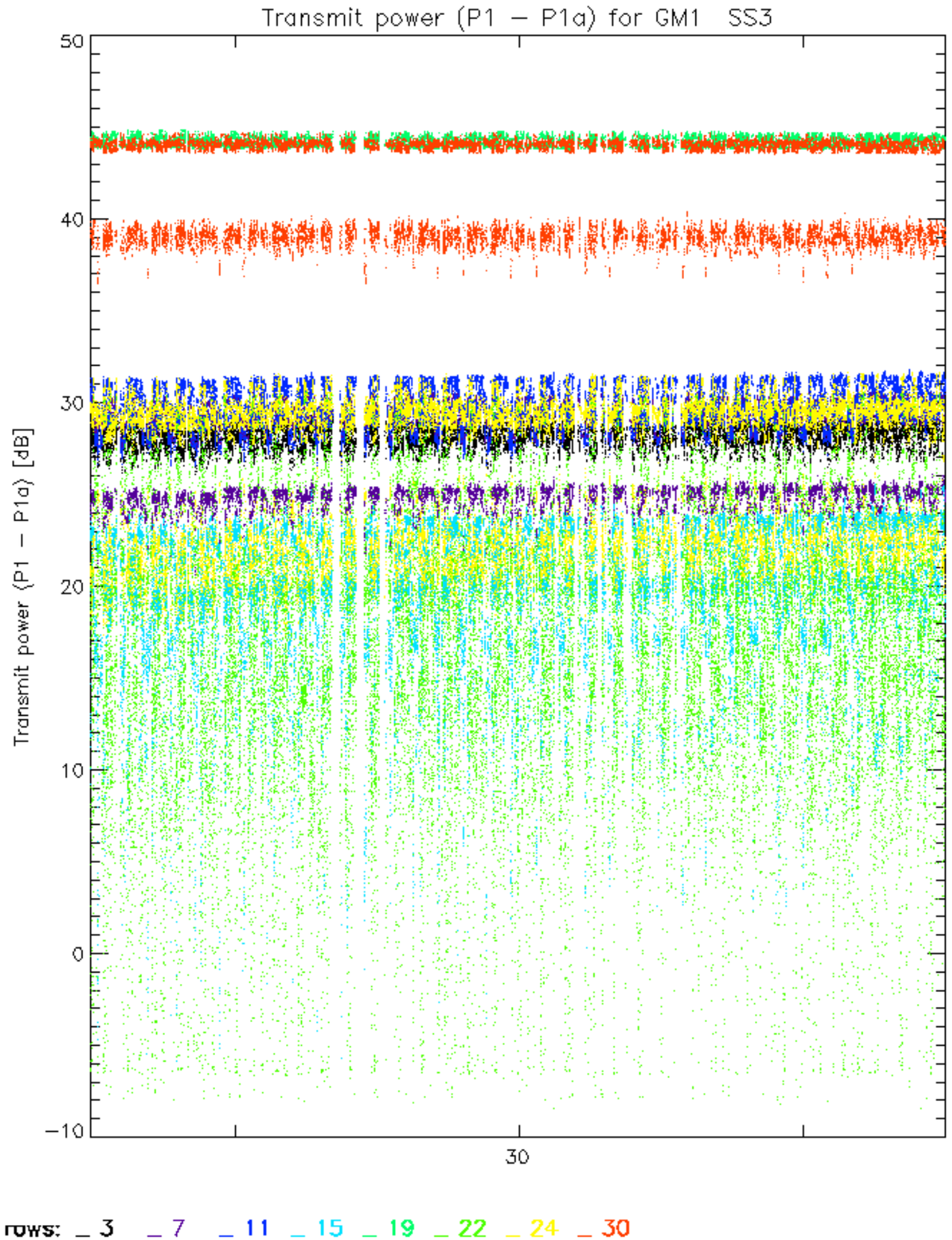
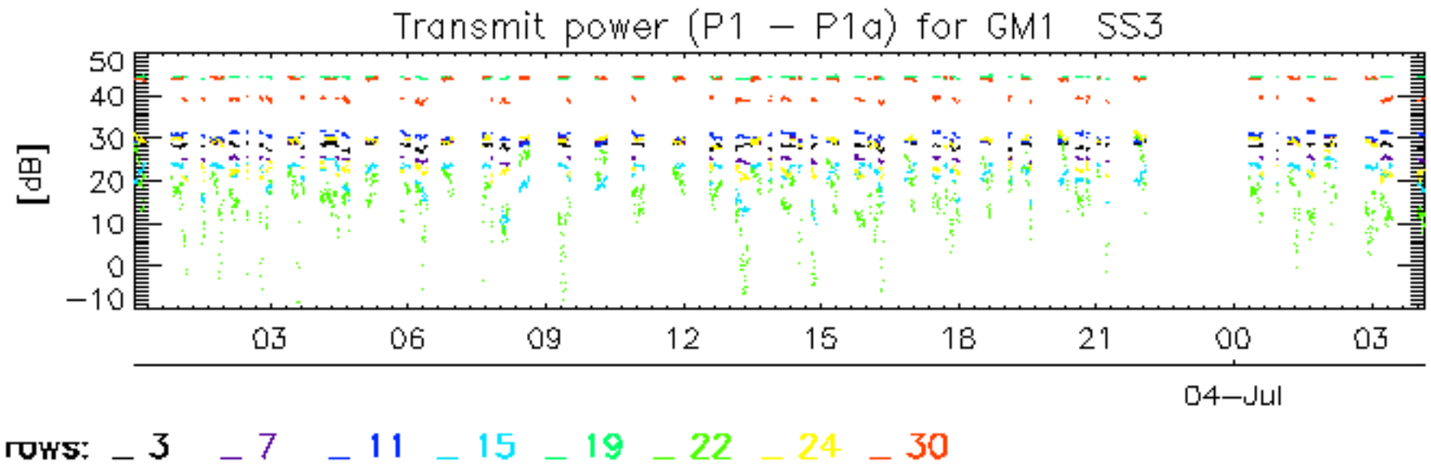

Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-07-02 19:18:31 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

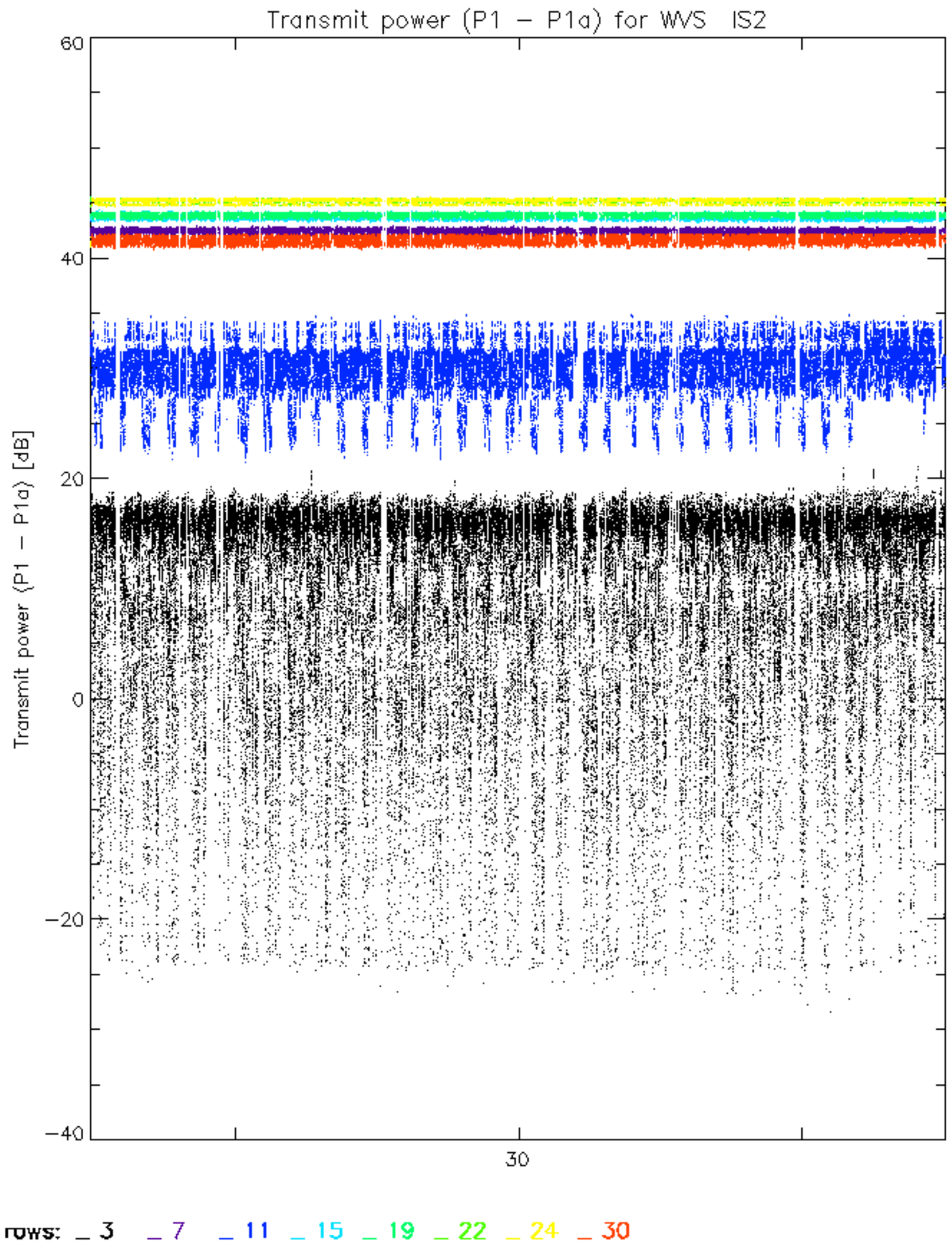

Reference: 2003-06-12 14:08:52 H
TxPhase
Test : 2004-07-02 19:18:31 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

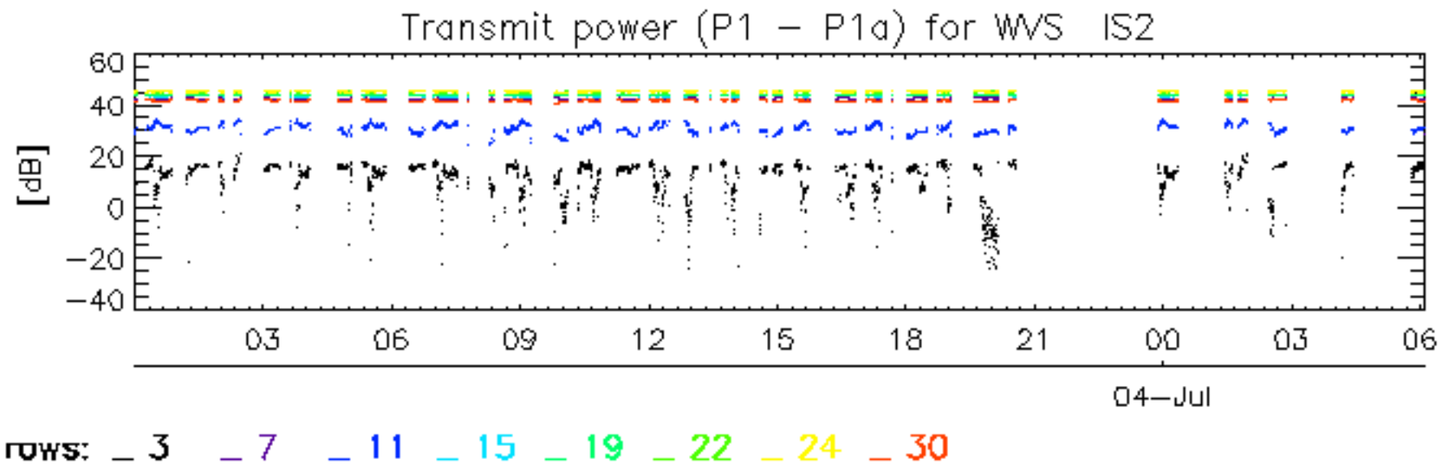

Reference: 2001-02-09 14:08:23 V
Test : 2004-07-03 20:27:30 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-07-03 20:27:30 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


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


Transmit power (P1 – P1a) for WVS IS2
[dB]
60
40
20
0
−20
−40
03
06
09
12
15
18
21
00
03
06
04–Jul
rows: 3 7 11 15 19 22 24 30

No unavailabilities during the reported period.