PRELIMINARY REPORT OF 040719

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

last update on Mon Jul 19 13:03:18 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	20040717 060310
H	20040716 063447

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.

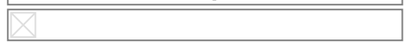
4.1 - Daily statistics

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	-3.485693	0.007755	0.015013
7	P1	-3.328821	0.014211	0.013610
11	P1	-4.569904	0.035943	-0.109246
15	P1	-5.703226	0.057368	-0.097717
19	P1	-3.440339	0.004856	-0.006663
22	P1	-4.556561	0.011321	-0.000697
24	P1	-4.929676	0.018227	-0.045586
30	P1	-6.870528	0.024822	-0.059270

3	P1	-16.144281	0.177002	-0.223968
7	P1	-13.983791	0.099402	0.072779
11	P1	-19.963665	0.285742	-0.225421
15	P1	-11.784616	0.045381	0.002262
19	P1	-13.833507	0.034132	-0.002048
22	P1	-16.402487	0.387428	0.328091
24	P1	-14.628442	0.287161	0.144957
30	P1	-17.691912	0.394153	0.093074

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.374863	0.081331	0.103265
7	P2	-22.782444	0.124571	0.154140
11	P2	-15.533497	0.144022	0.144237
15	P2	-7.149821	0.094557	0.128415
19	P2	-9.564603	0.159064	0.055043
22	P2	-17.478086	0.106701	0.162993
24	P2	-20.804272	0.085360	0.127534
30	P2	-19.398567	0.077792	0.060137

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.143030	0.001929	0.000932
7	P3	-8.143030	0.001929	0.000917
11	P3	-8.143028	0.001929	0.000894
15	P3	-8.143023	0.001929	0.000869
19	P3	-8.143019	0.001929	0.000855
22	P3	-8.143016	0.001929	0.000838
24	P3	-8.143016	0.001929	0.000823
30	P3	-8.142980	0.001927	0.000618

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	-3.090711	0.142347	0.202619
7	P1	-2.855518	0.136920	-0.180703
11	P1	-3.826643	0.032097	-0.072248
15	P1	-4.194544	0.955583	0.396425
19	P1	-3.367854	0.051111	-0.045495
22	P1	-5.727320	0.046504	0.032067
24	P1	-4.030253	0.082329	0.131244
30	P1	-6.122860	0.077369	-0.062796
3	P1	-10.959514	0.441399	0.225280
7	P1	-9.833767	0.321949	-0.257273
11	P1	-11.842169	0.244324	-0.269618
15	P1	-11.860680	0.316267	0.053417
19	P1	-15.049930	0.812079	-0.318171
22	P1	-21.536835	7.724705	-0.652335
24	P1	-17.382605	0.325452	-0.016672
30	P1	-21.515388	4.390155	0.940110

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.098595	0.074105	0.187042
7	P2	-22.866137	0.240342	0.214483
11	P2	-10.945215	0.245680	0.093194
15	P2	-4.962587	0.043532	0.087568
19	P2	-6.901000	0.045159	0.124451
22	P2	-7.601731	0.091289	0.159770
24	P2	-11.029696	0.159593	0.056203
30	P2	-22.303818	0.144002	0.202601

P3 Cyclic statistics

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

3	P3	-7.981803	0.003584	0.009060
7	P3	-7.981824	0.003572	0.008960
11	P3	-7.981766	0.003584	0.009043
15	P3	-7.981764	0.003592	0.009030
19	P3	-7.981718	0.003595	0.009144
22	P3	-7.981815	0.003576	0.009150
24	P3	-7.981787	0.003618	0.008920
30	P3	-7.981822	0.003584	0.008713

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	0.000498218
	stdev	2.10857e-07
MEAN Q	mean	0.000543984
	stdev	2.40041e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129753
	stdev	0.00105141

STDEV Q	mean	0.130007
	stdev	0.00106357

5.3 - Gain imbalance I/Q

6 - Doppler Analysis

No anomalies observed 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

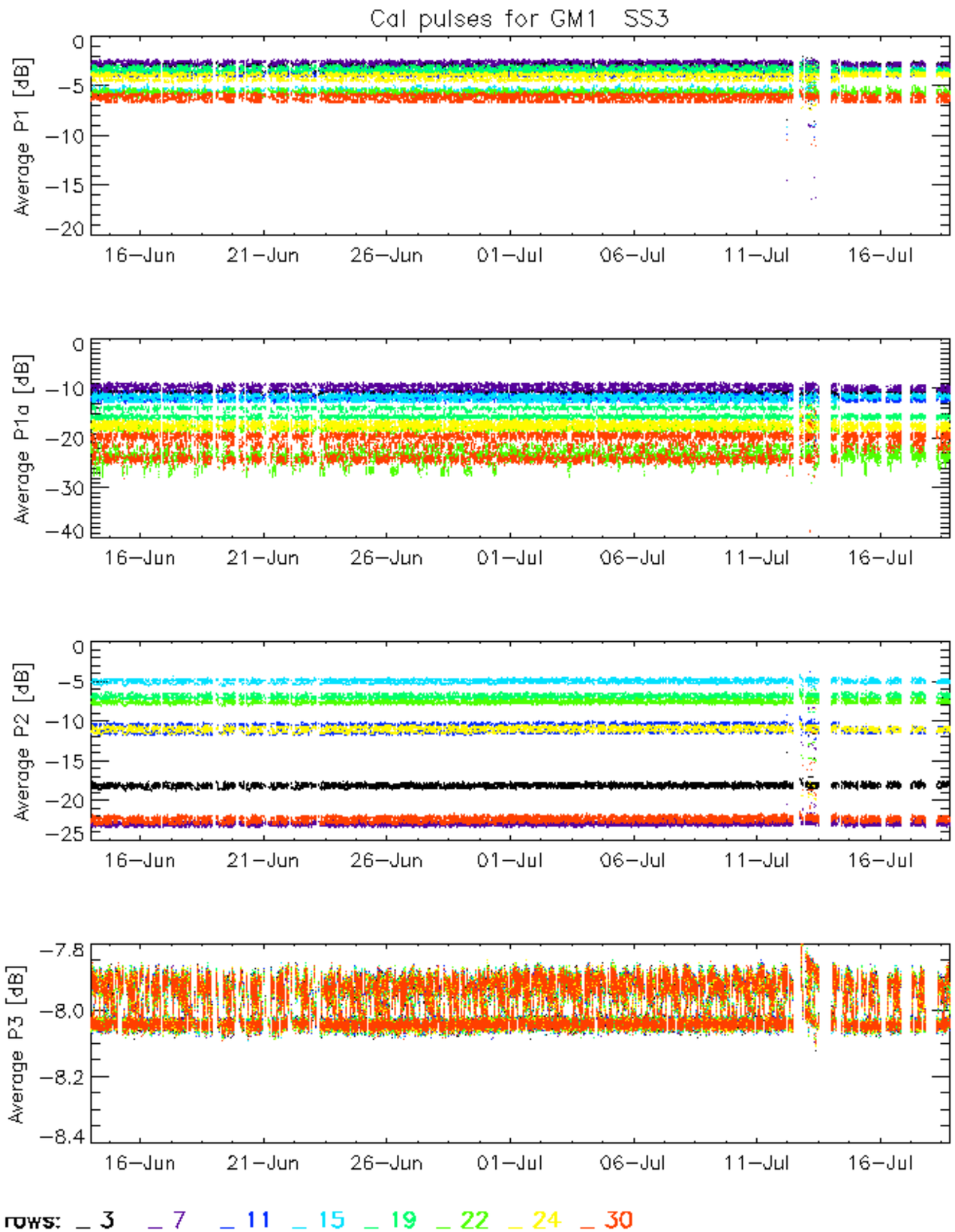
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

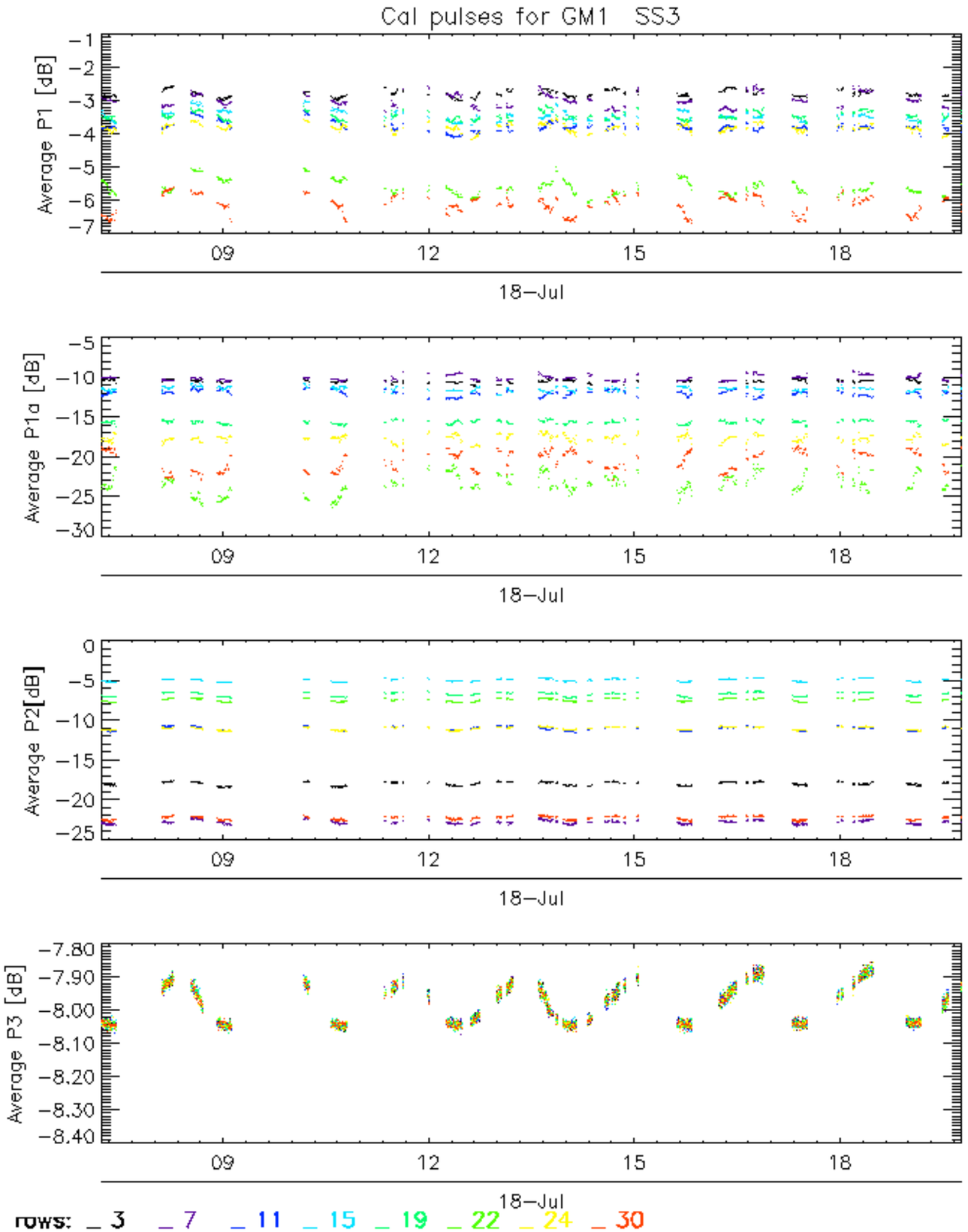
6.5 - Absolute Doppler for GM1

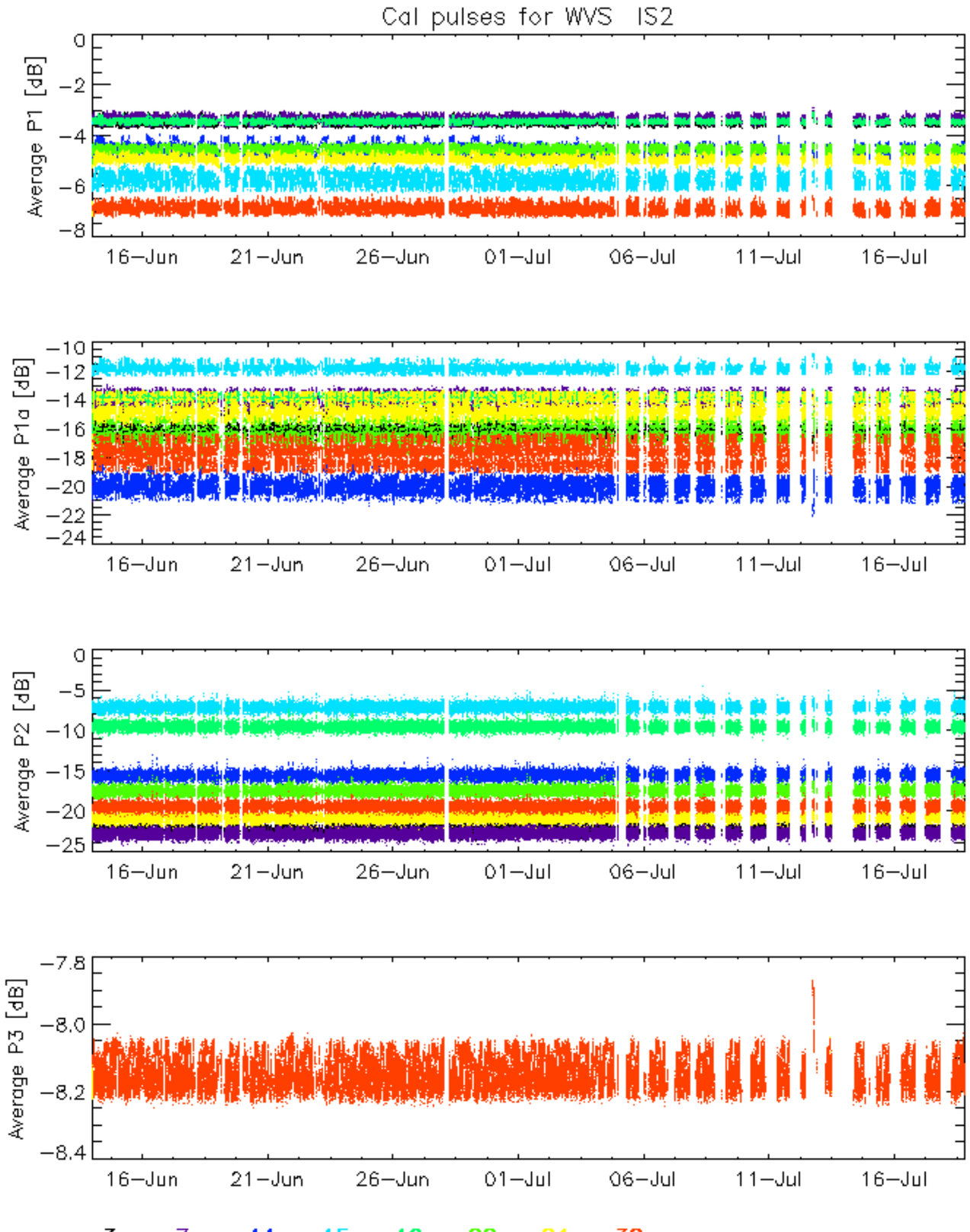
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

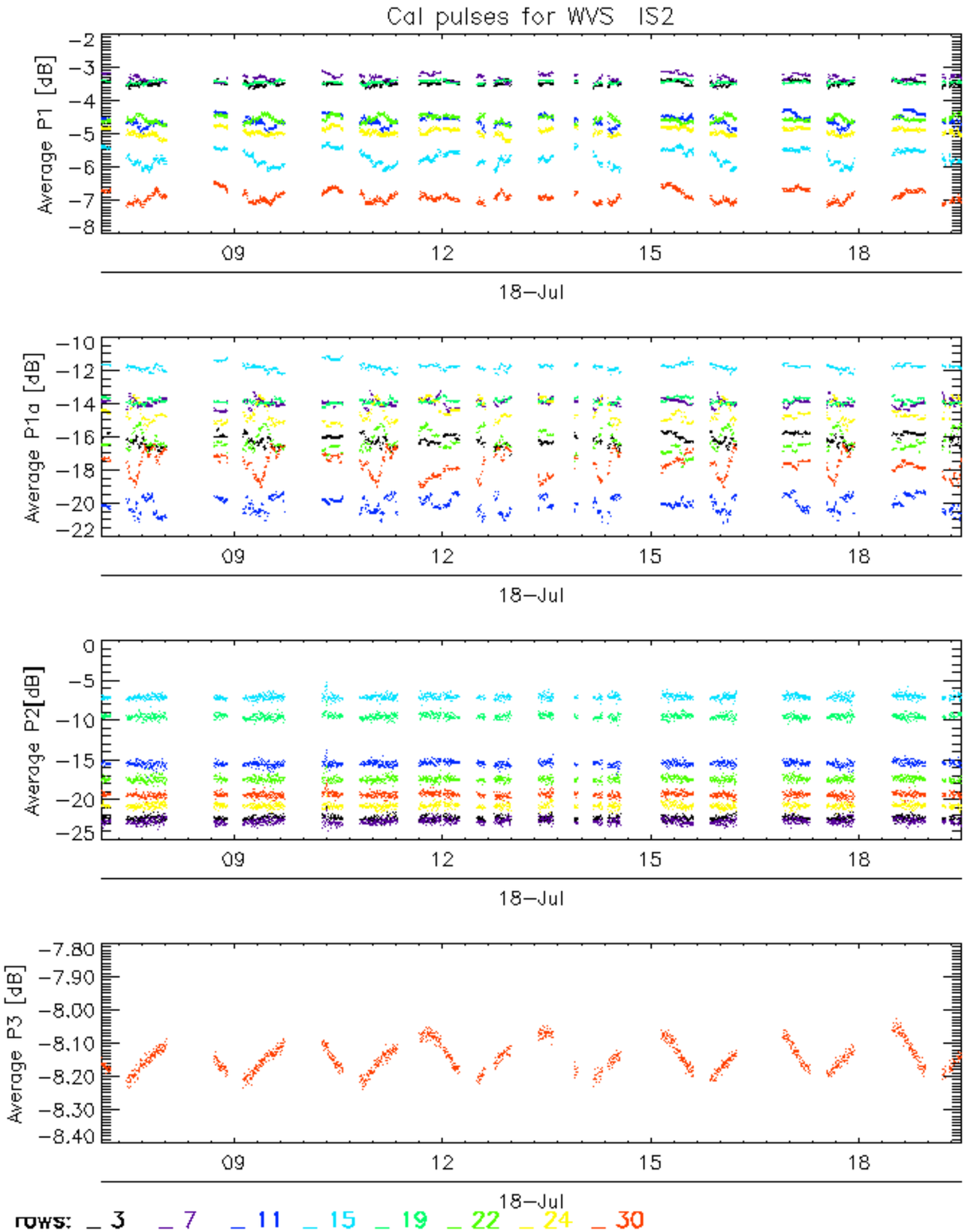
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
☒

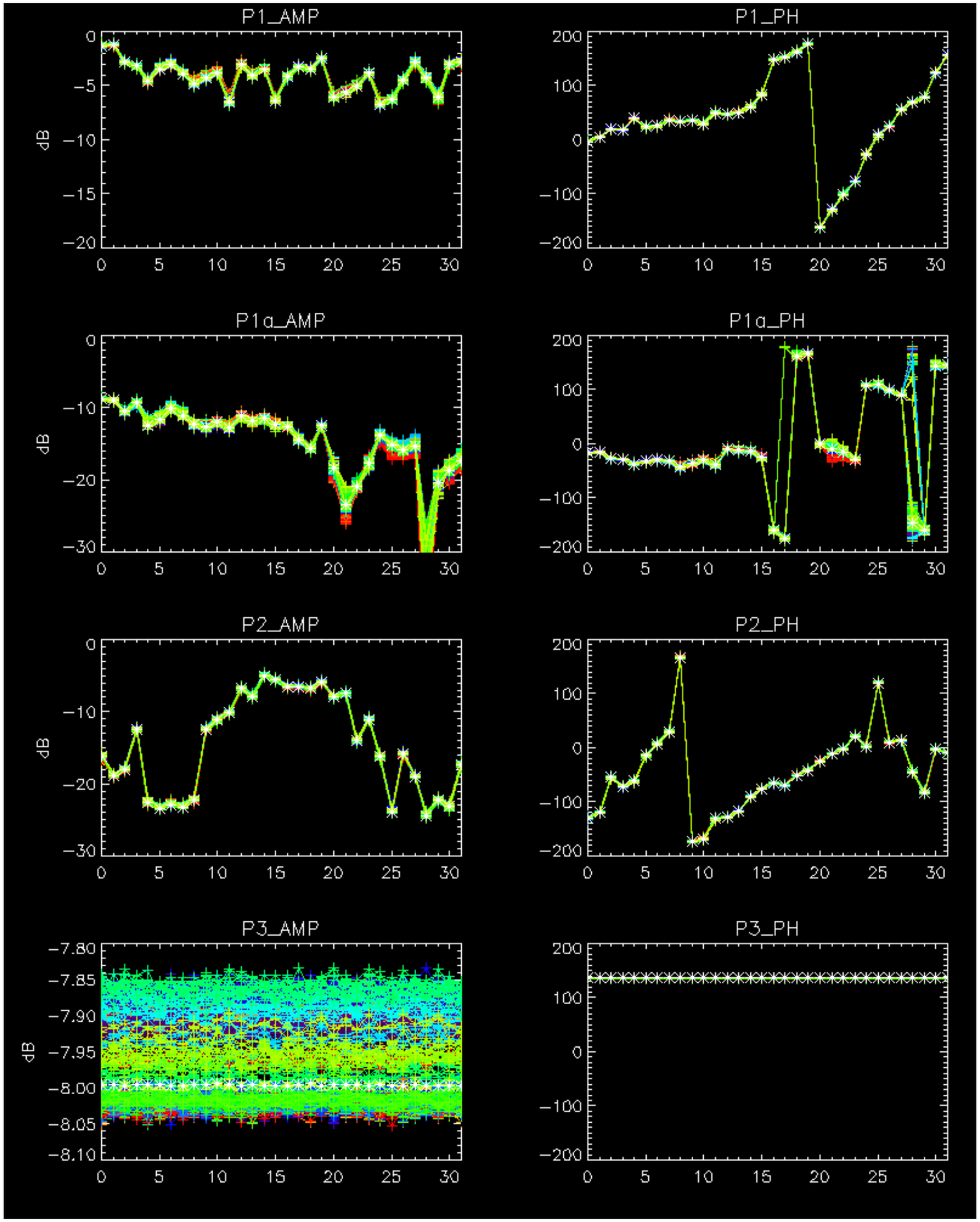

Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
−20
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
Average P1a [dB]
0
−10
−20
−30
−40
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
Average P2 [dB]
0
−5
−10
−15
−20
−25
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
Average P3 [dB]
−7.8
−8.0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

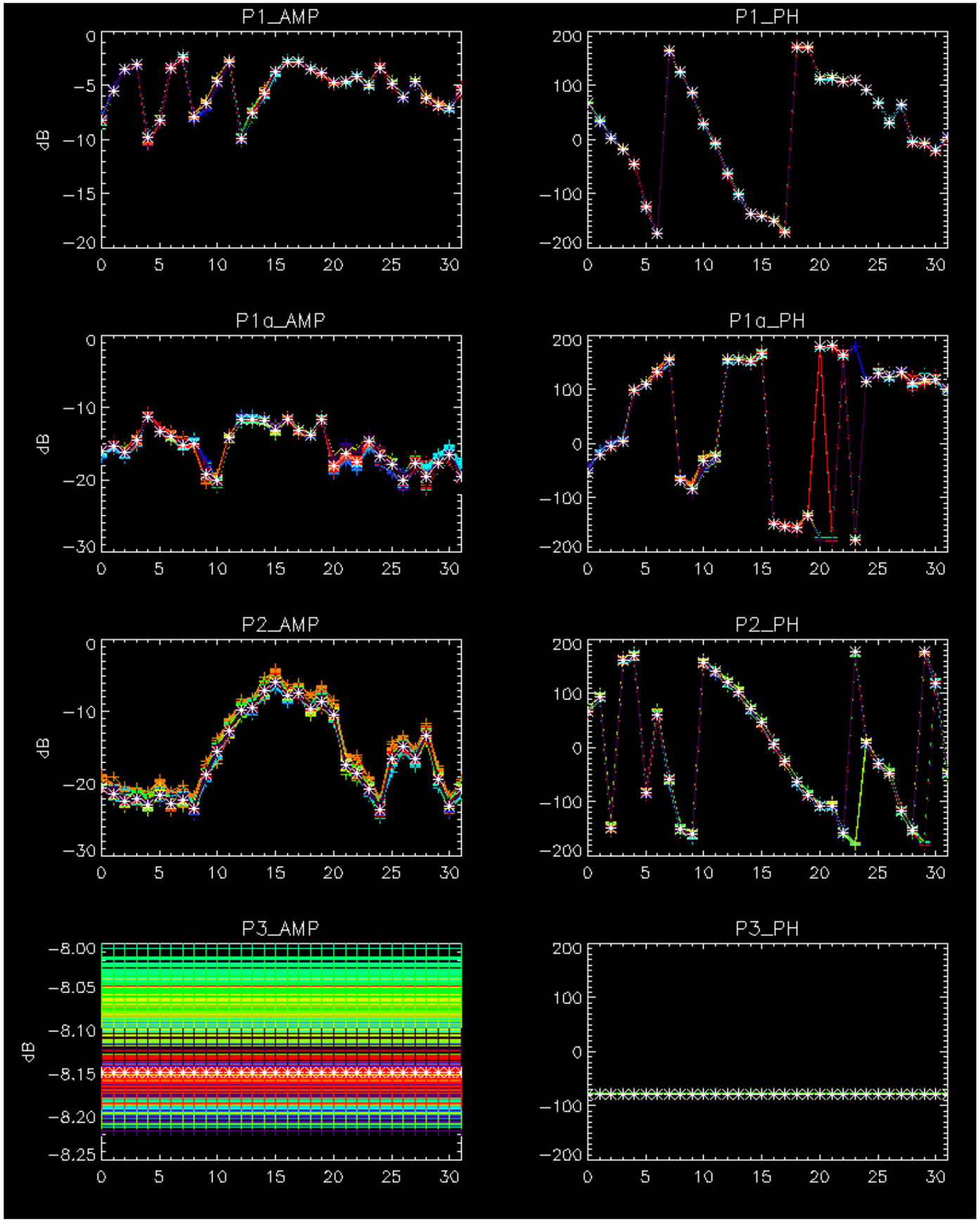

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
09
12
15
18
18−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
−30
09
12
15
18
18−Jul
Average P2[dB]
0
−5
−10
−15
−20
−25
09
12
15
18
18−Jul
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
09
12
15
18
18−Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _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


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
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 WVS IS2
Average P1 [dB]
−2
−3
−4
−5
−6
−7
−8
09
12
15
18
18−Jul
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
09
12
15
18
18−Jul
Average P2[dB]
0
−5
−10
−15
−20
−25
09
12
15
18
18−Jul
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
09
12
15
18
18−Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

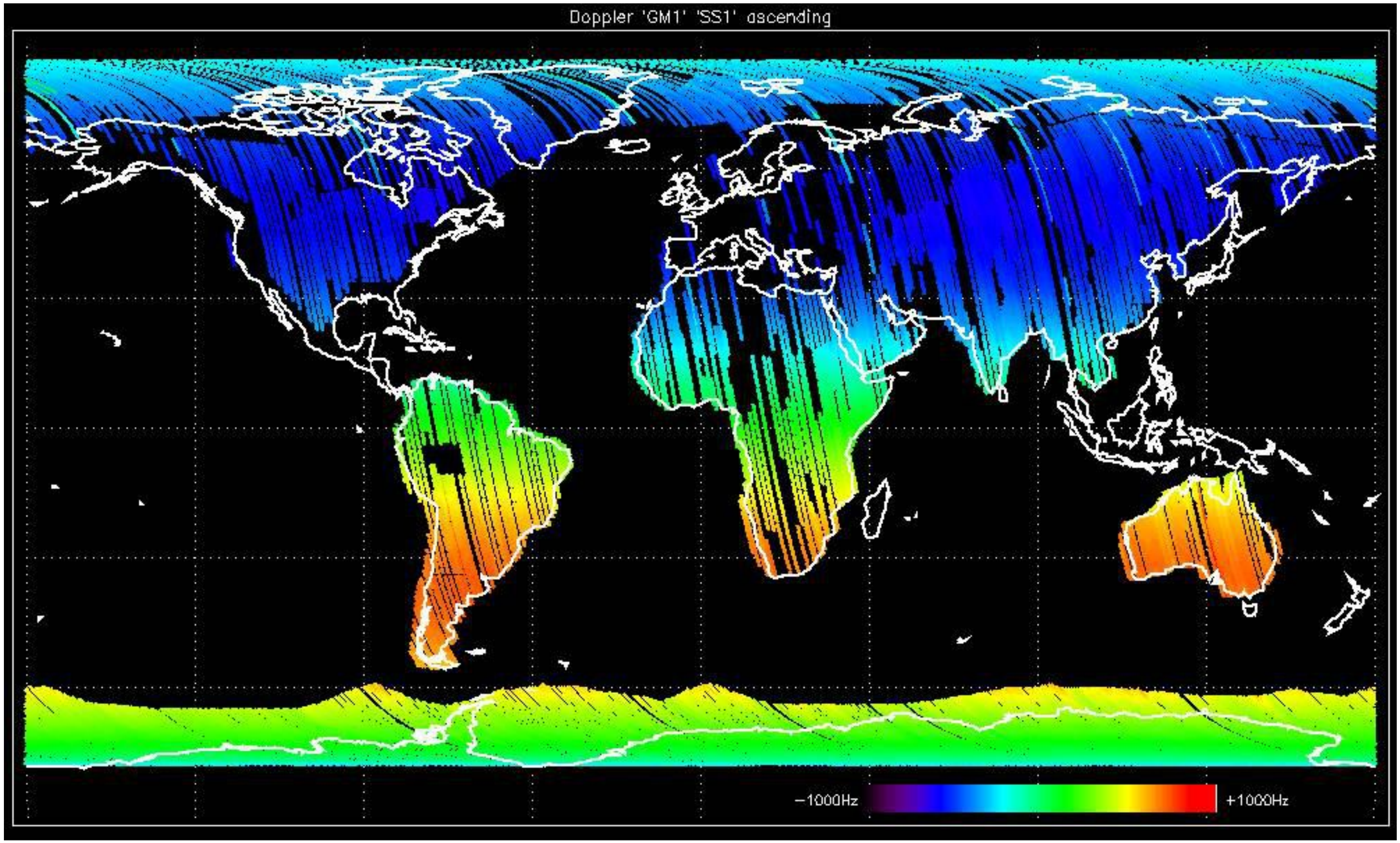
No anomalies observed.

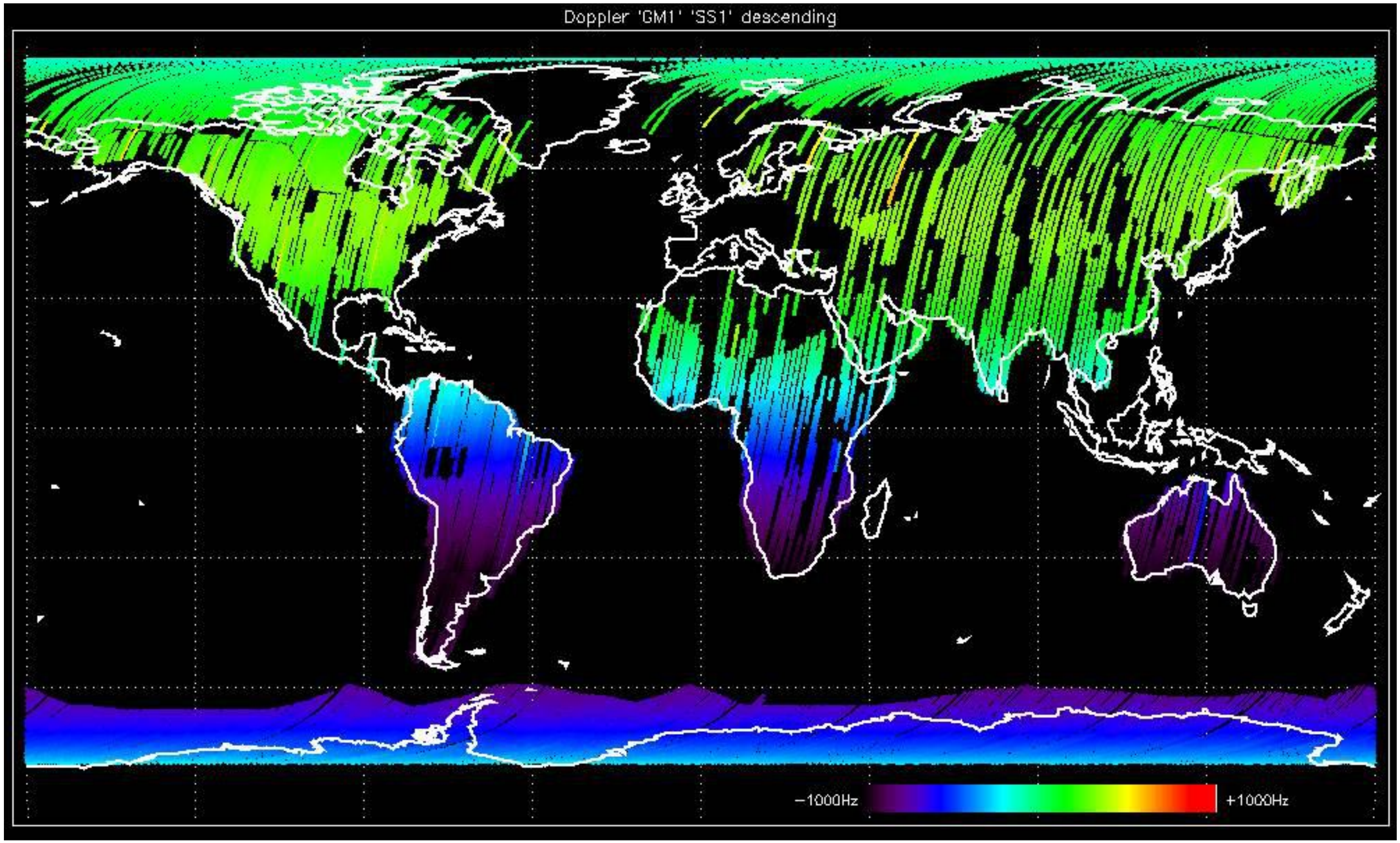

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.80
−7.85
−7.90
−7.95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

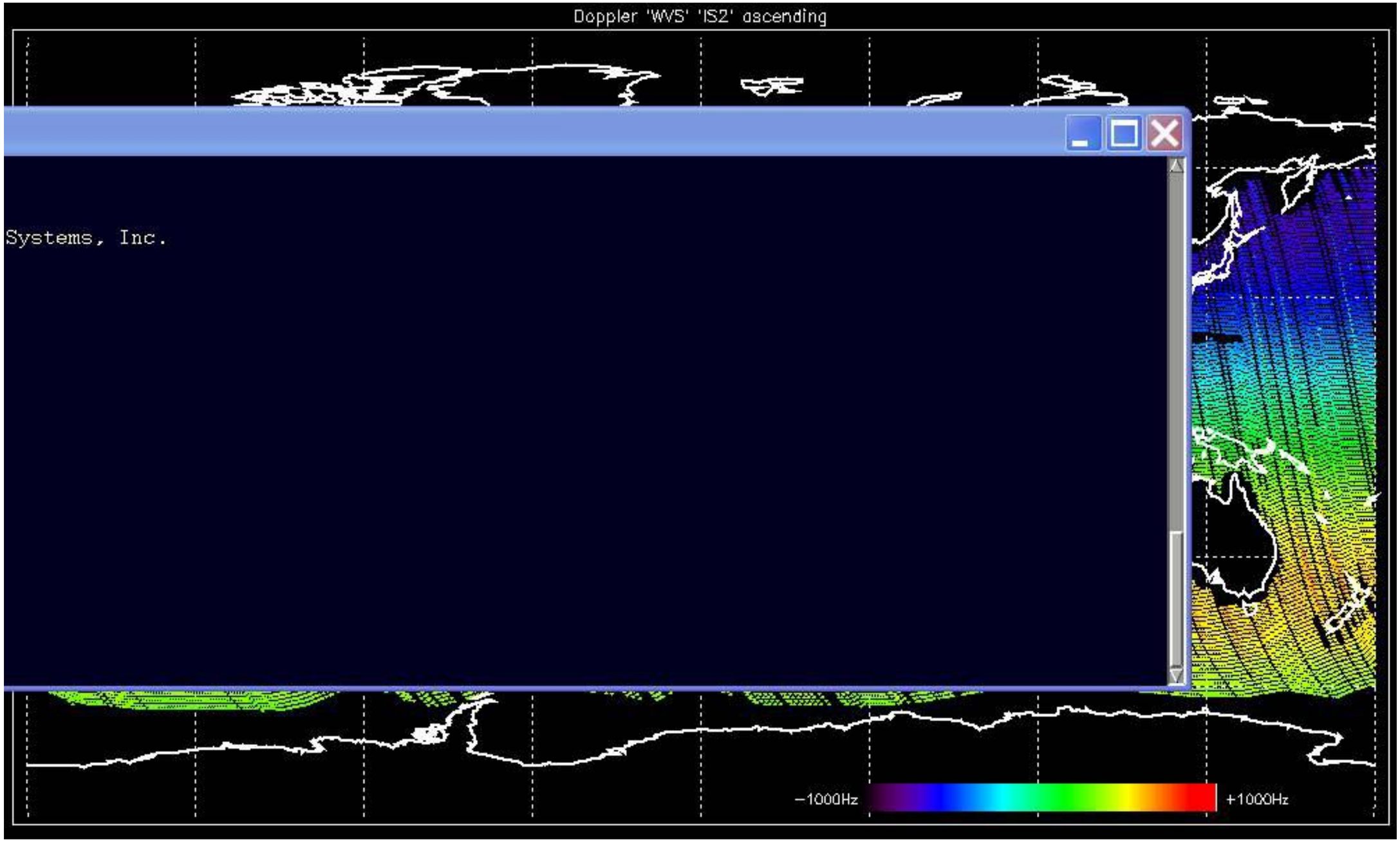

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15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

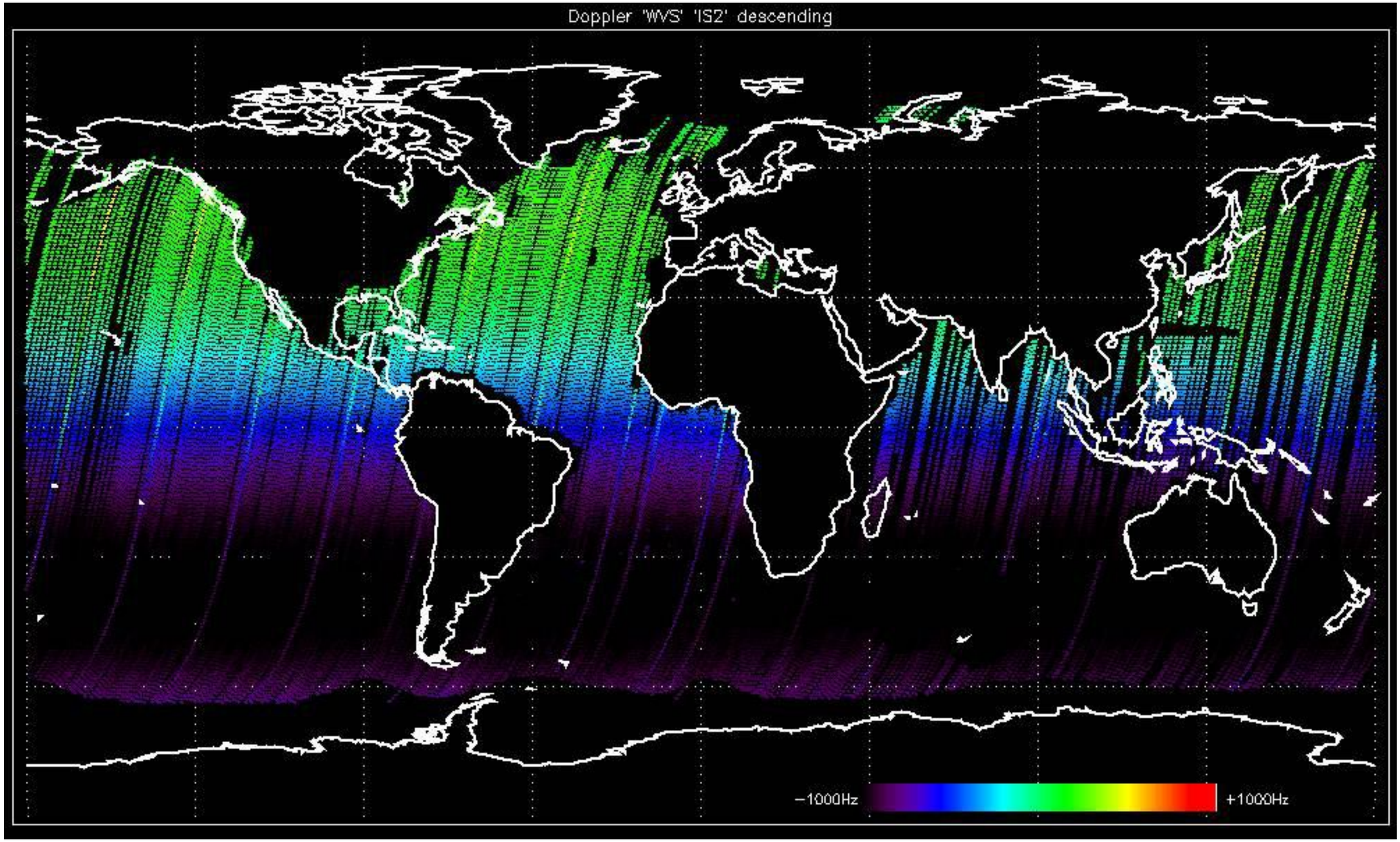
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

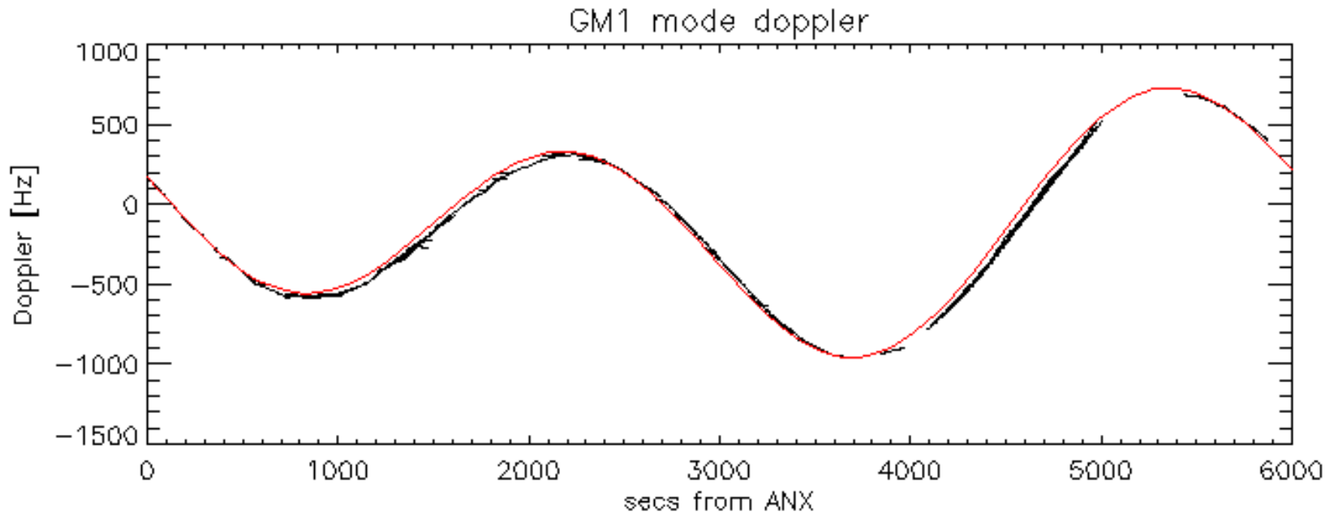
No anomalies observed Doppler evolution.
Doppler analysis performed over the last 35 days

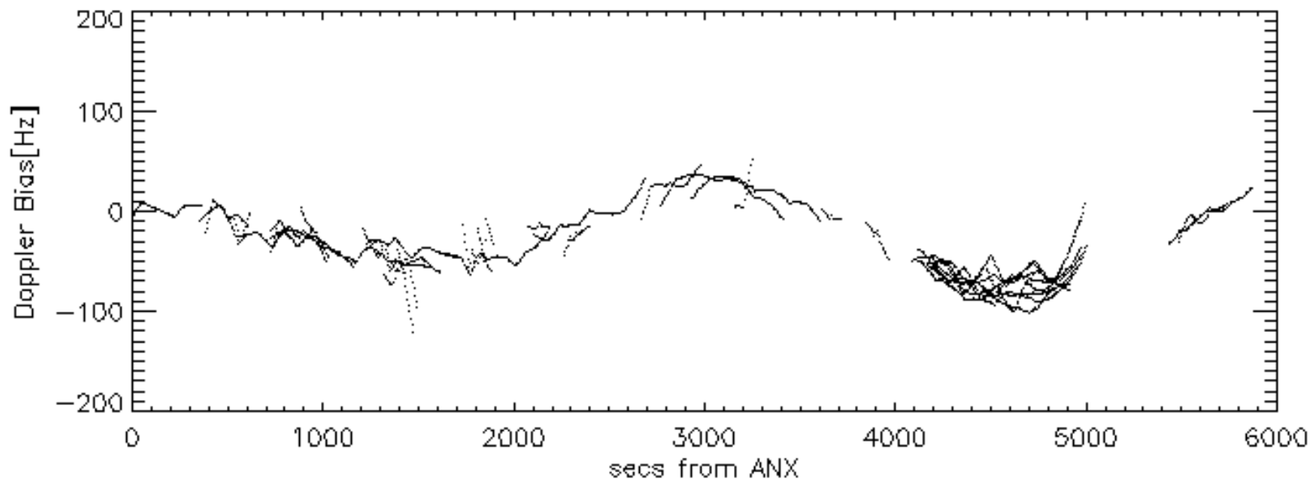

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

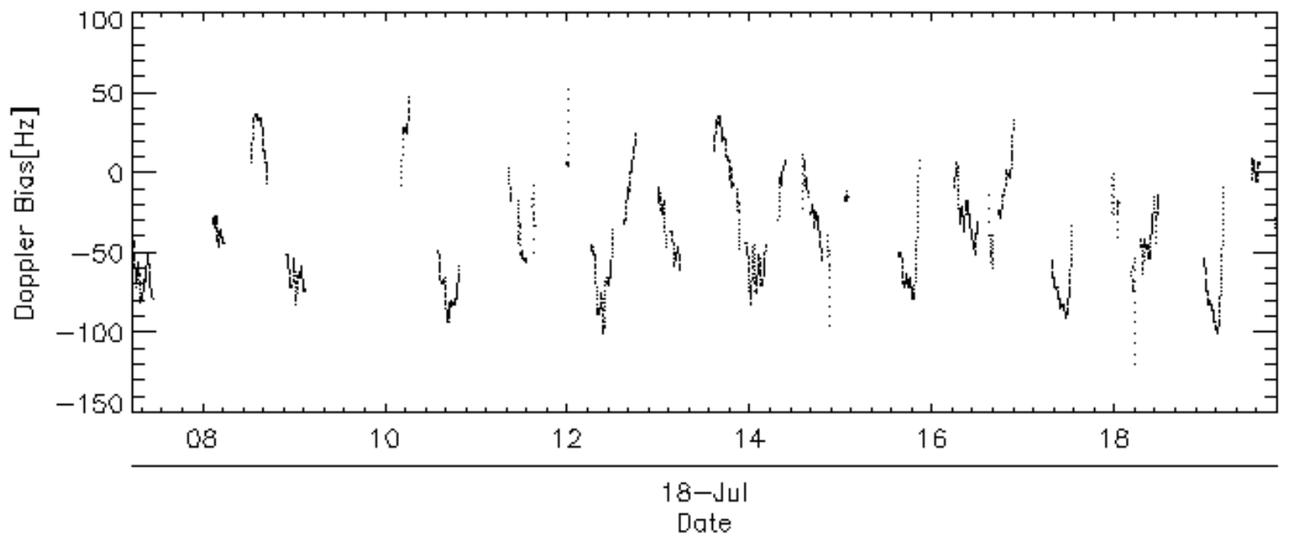

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

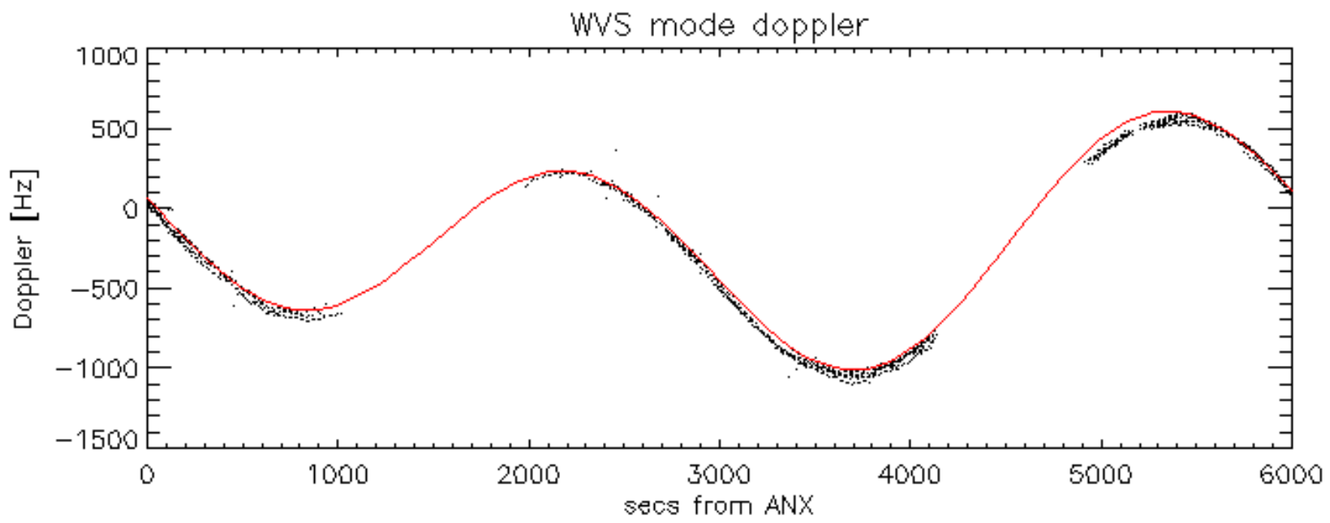

Doppler 'WVS' 'IS2' ascending
Systems, Inc.
−1000Hz
+1000Hz

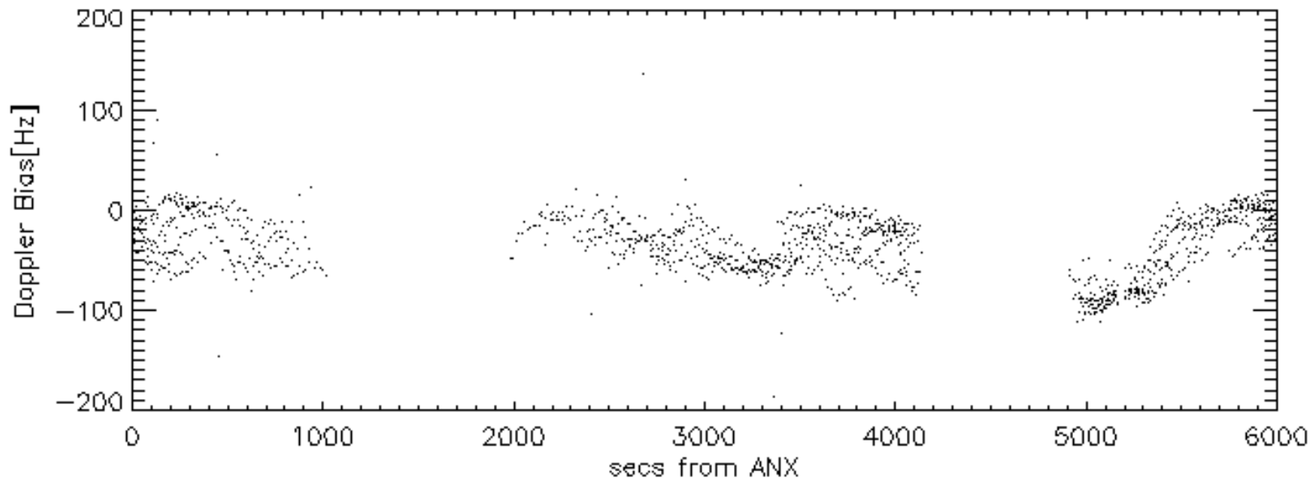

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

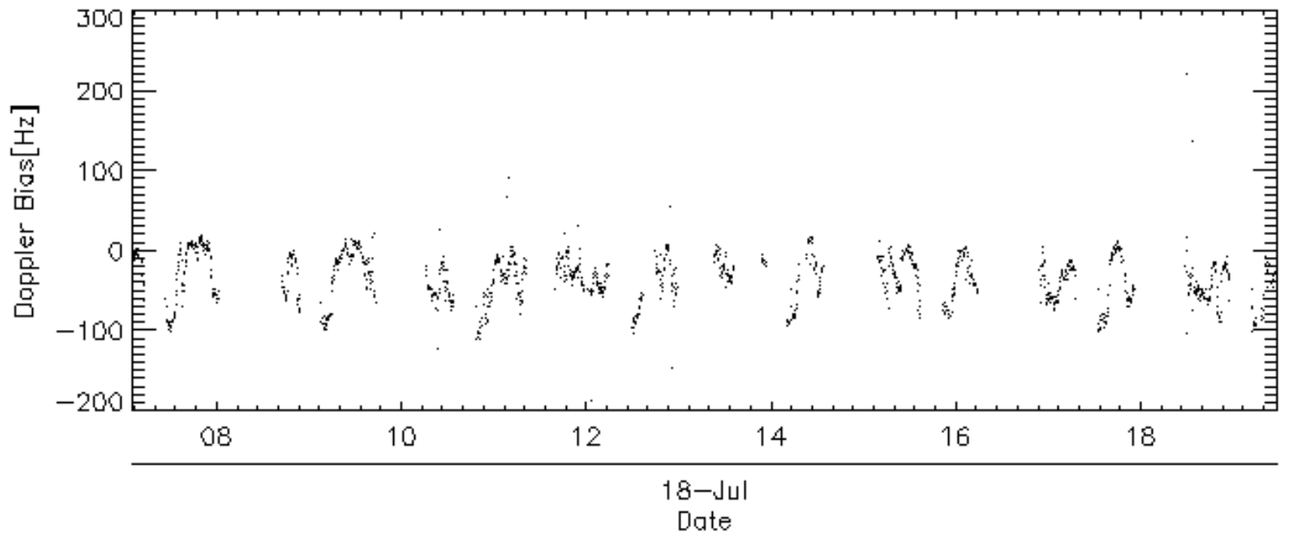

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

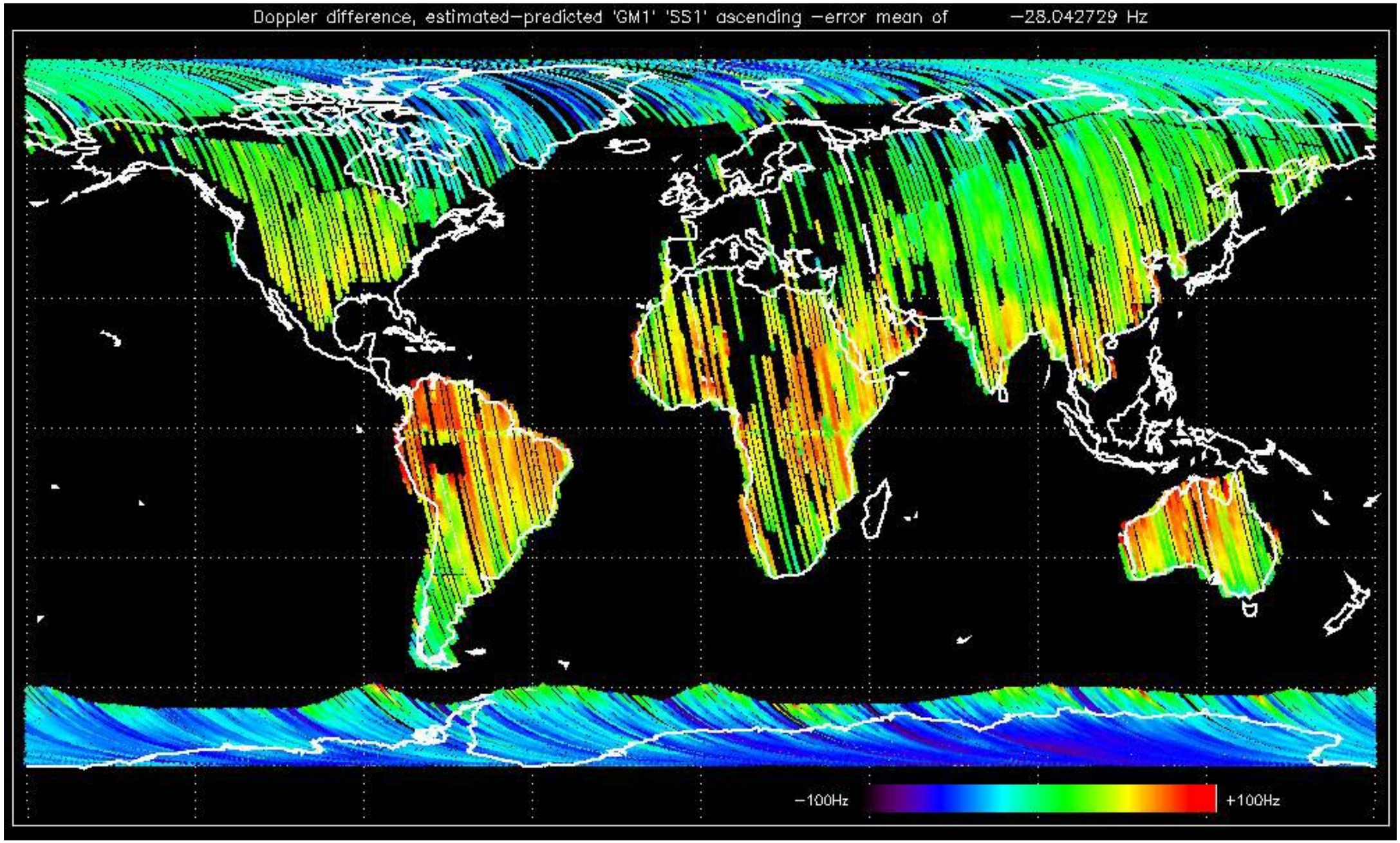

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

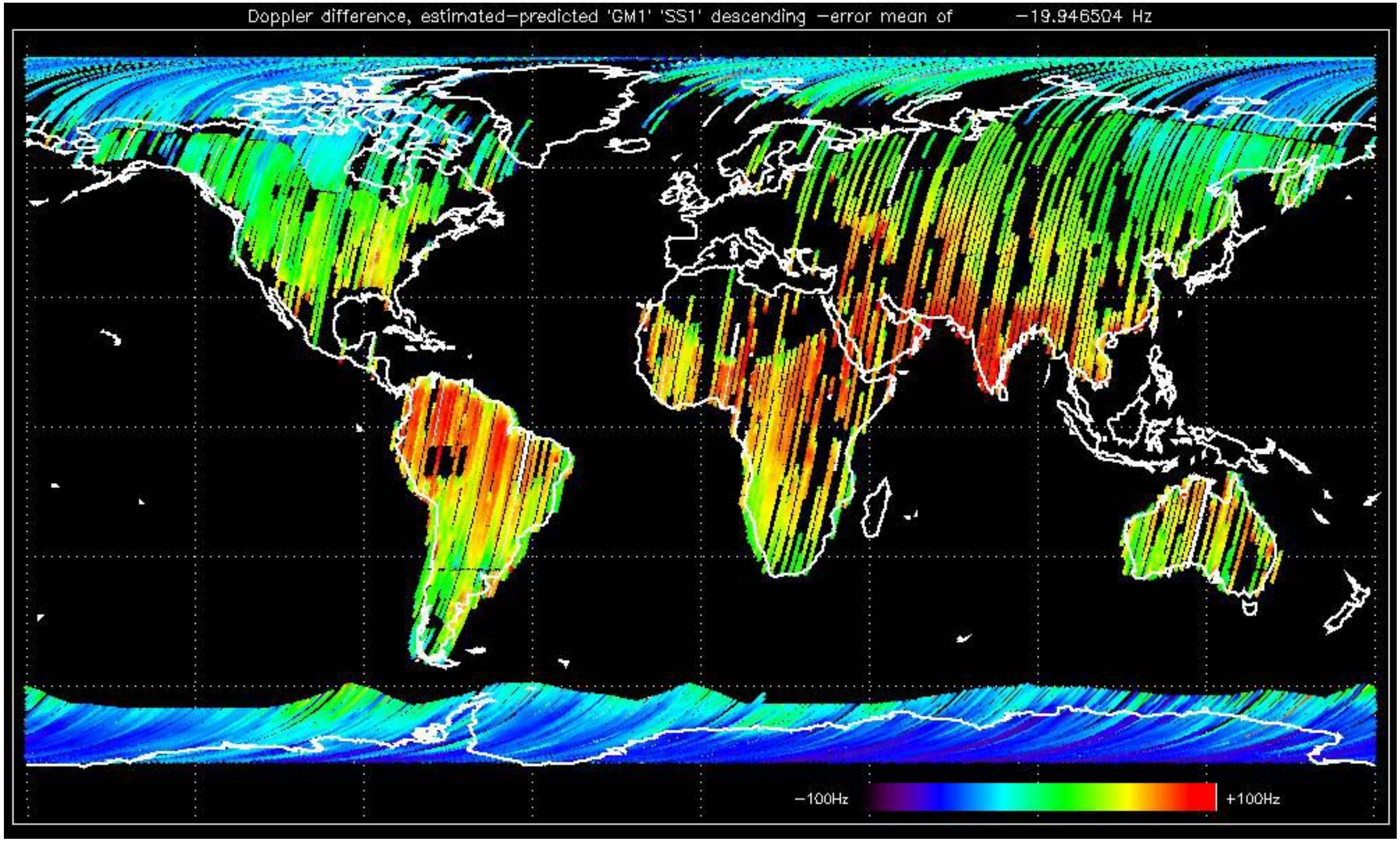

Doppler Bias[Hz]
100
50
0
−50
−100
−150
08
10
12
14
16
18
18−Jul
Date

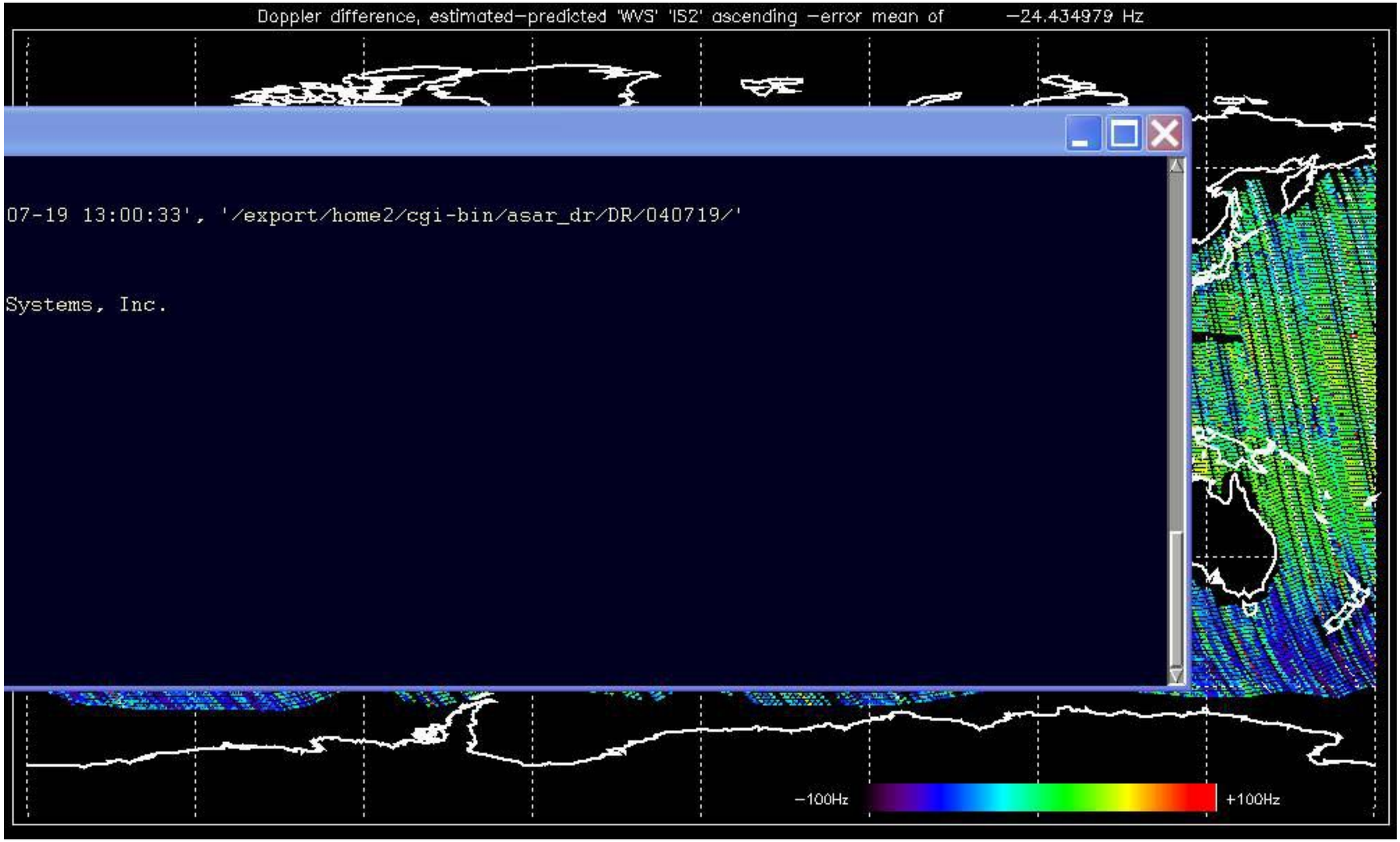

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

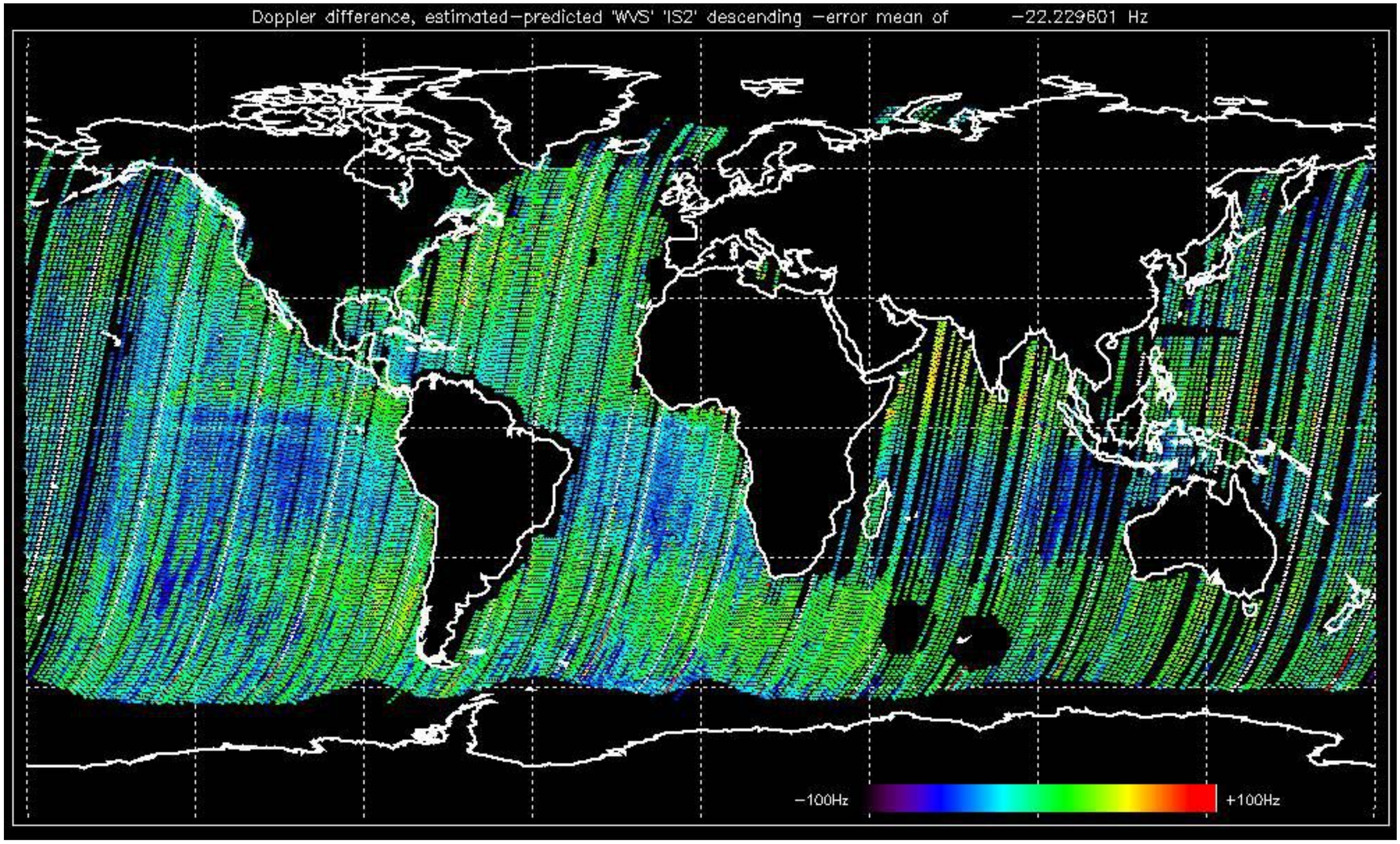

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


Doppler Bias[Hz]
300
200
100
0
−100
−200
08
10
12
14
16
18
18−Jul
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −28.042729 Hz
−100Hz
+100Hz

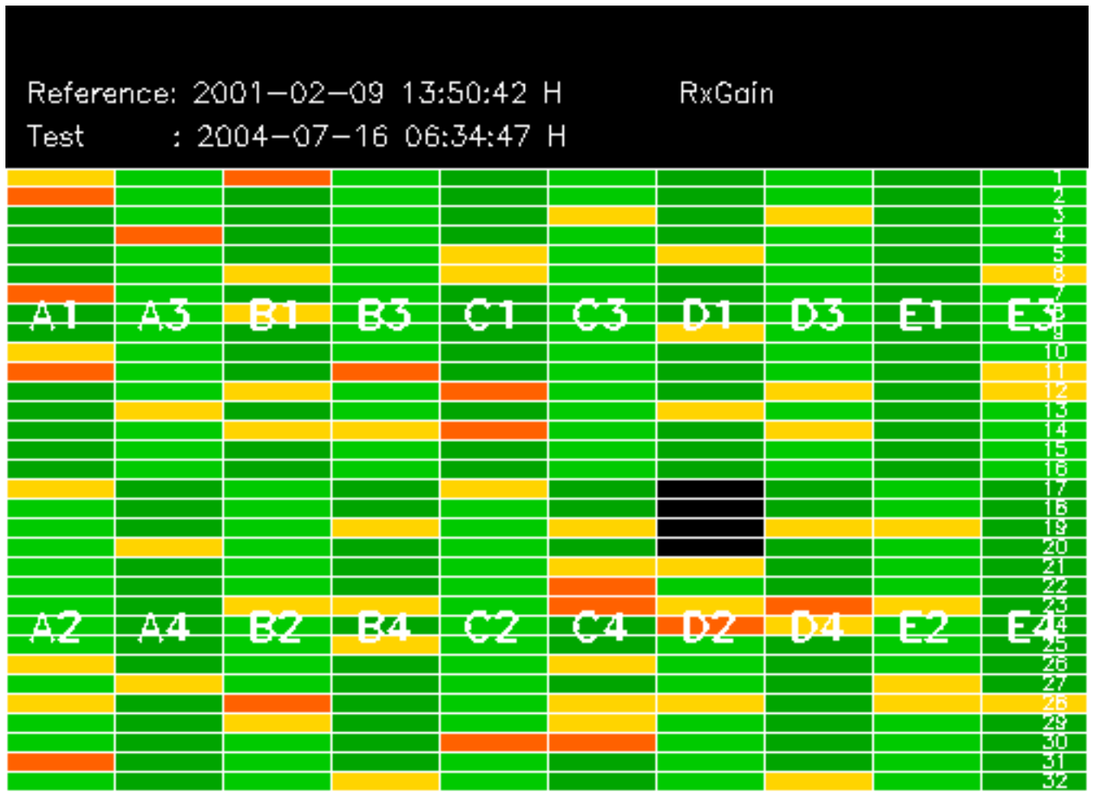

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −19.946504 Hz
−100Hz
+100Hz

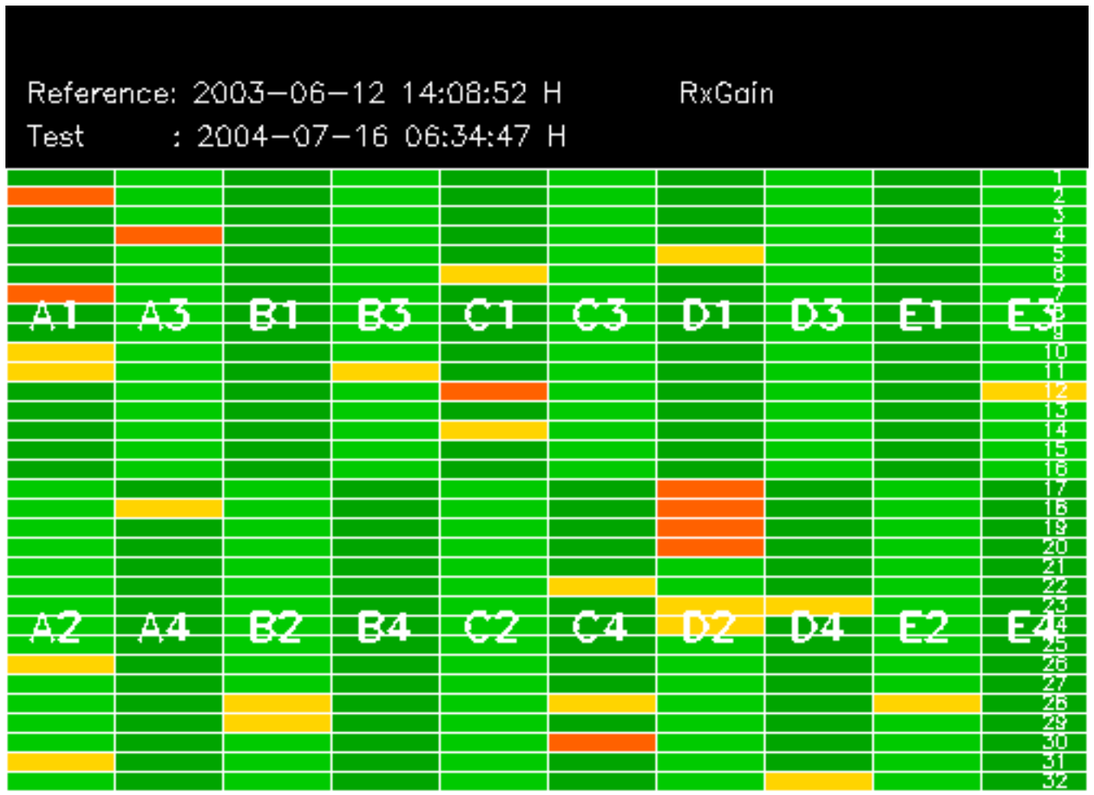

Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -24.434979 Hz
07-19 13:00:33', '/export/home2/cgi-bin/asar_dr/DR/040719/'
Systems, Inc.
-100Hz
+100Hz

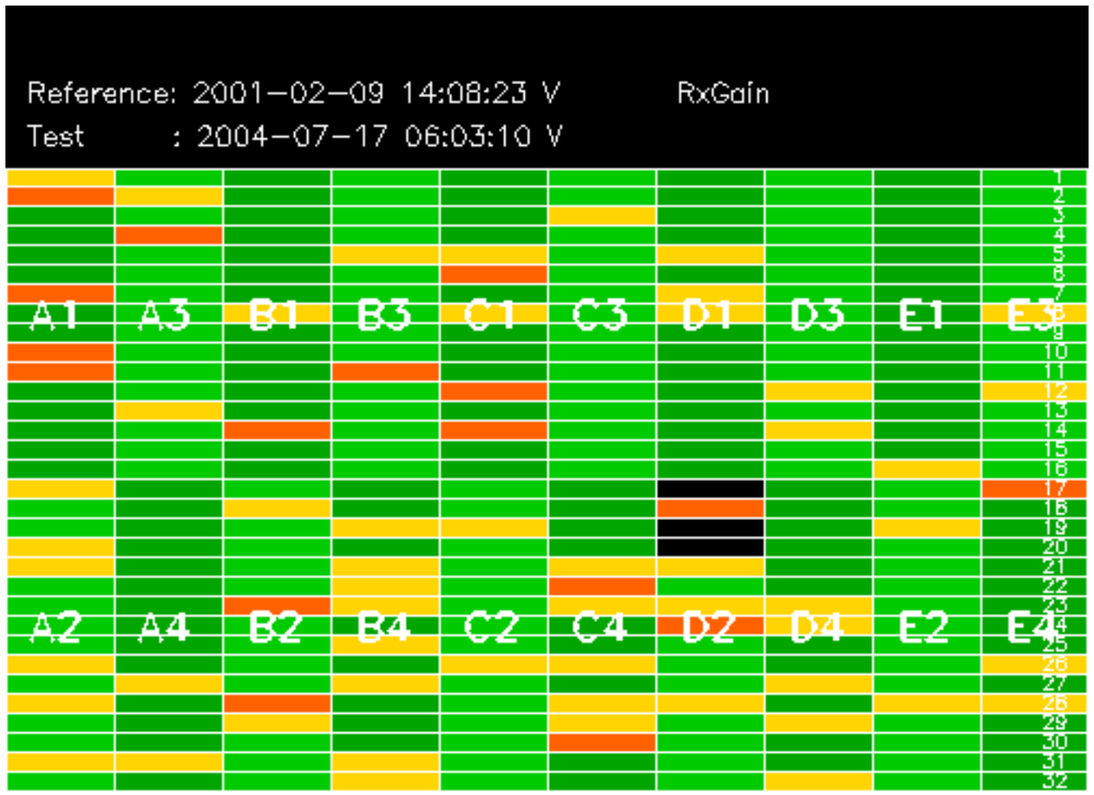

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −22.229601 Hz
−100Hz
+100Hz

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 : 2004-07-16 06:34:47 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 : 2004-07-16 06:34:47 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 : 2004-07-17 06:03:10 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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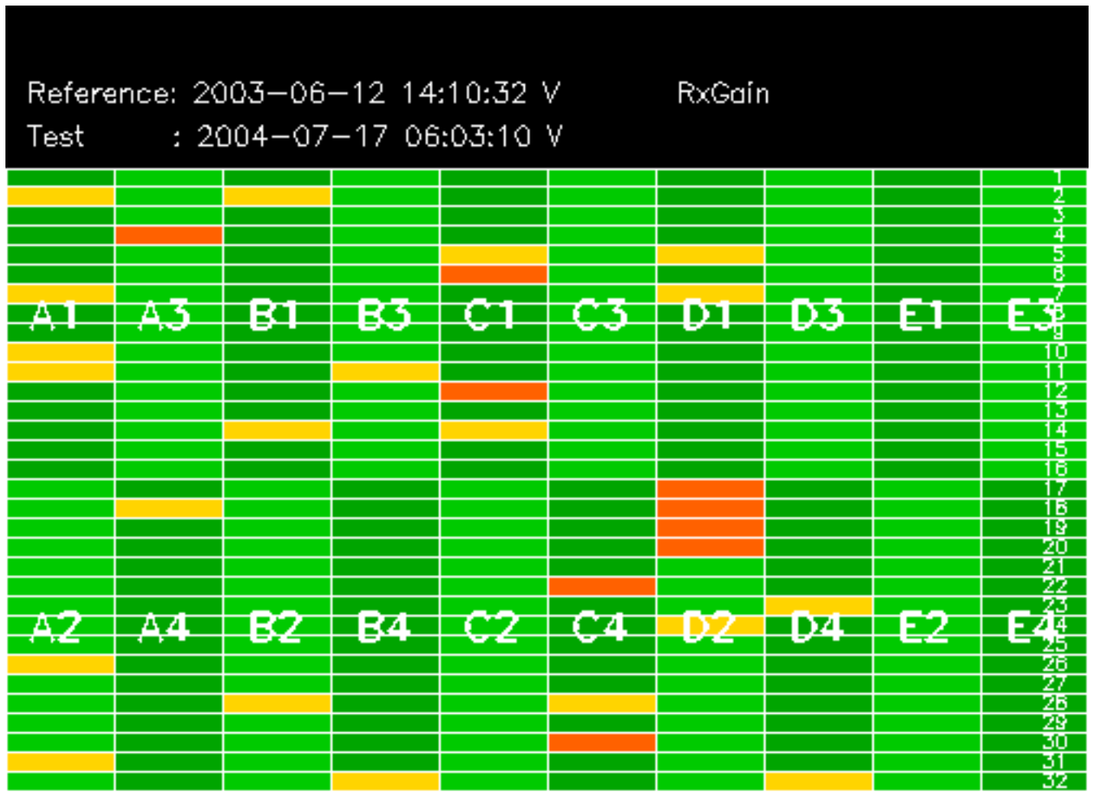
Reference: 2003-06-12 14:10:32 V
Test : 2004-07-17 06:03:10 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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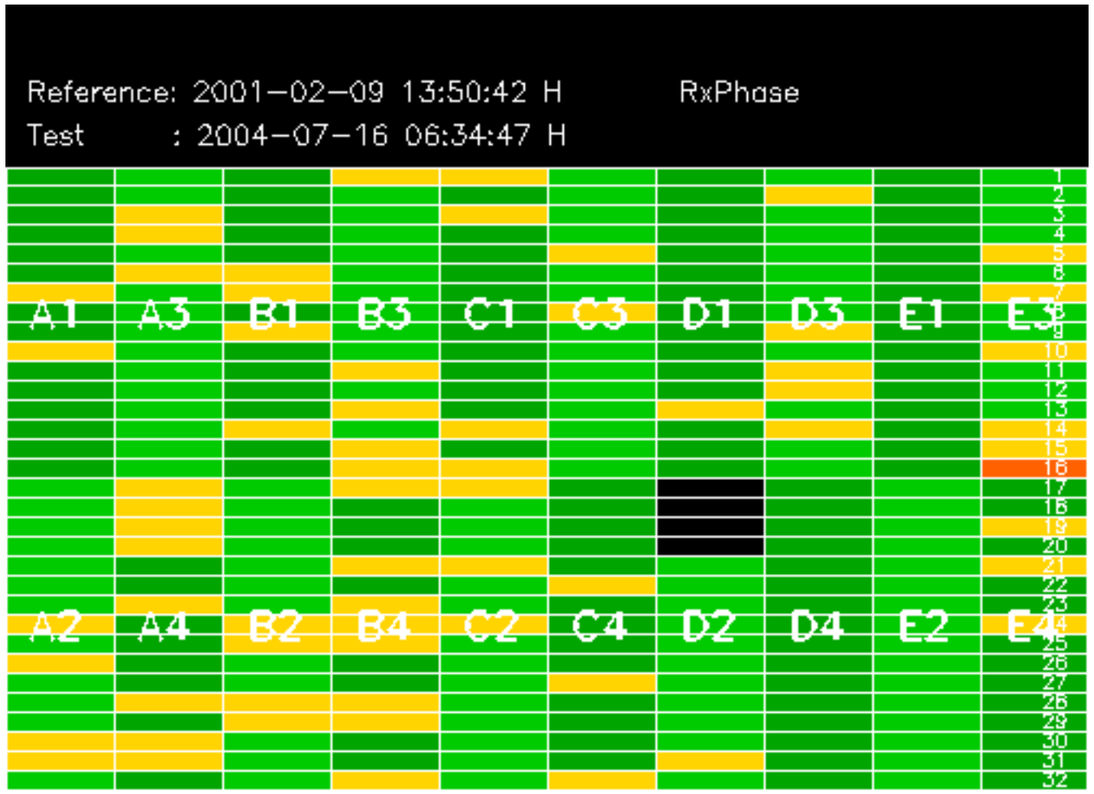
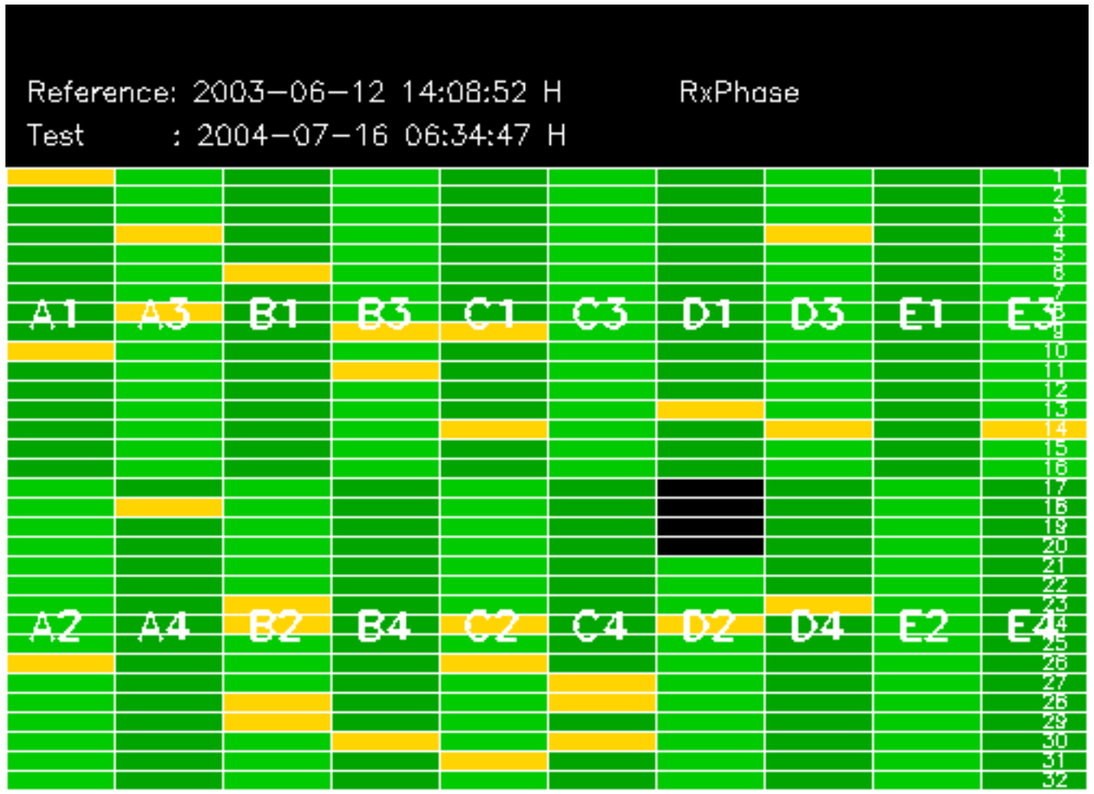

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-07-16 06:34:47 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-07-16 06:34:47 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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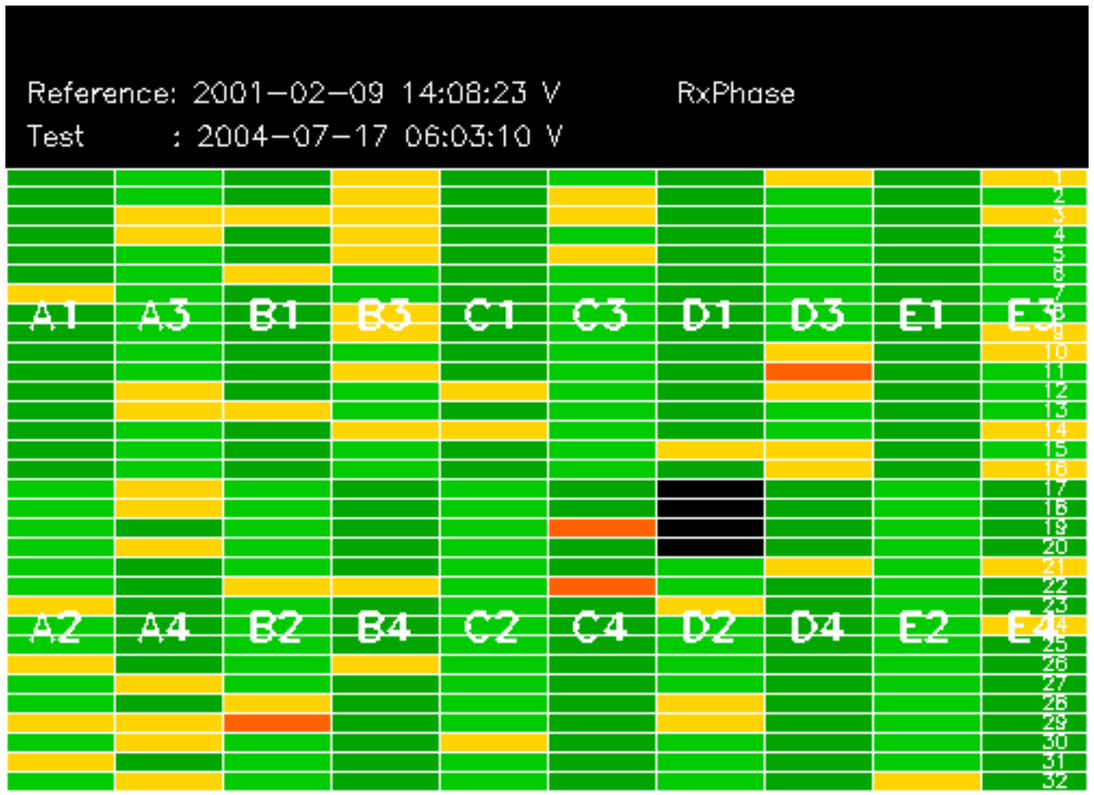
Reference: 2001-02-09 14:08:23 V
Test : 2004-07-17 06:03:10 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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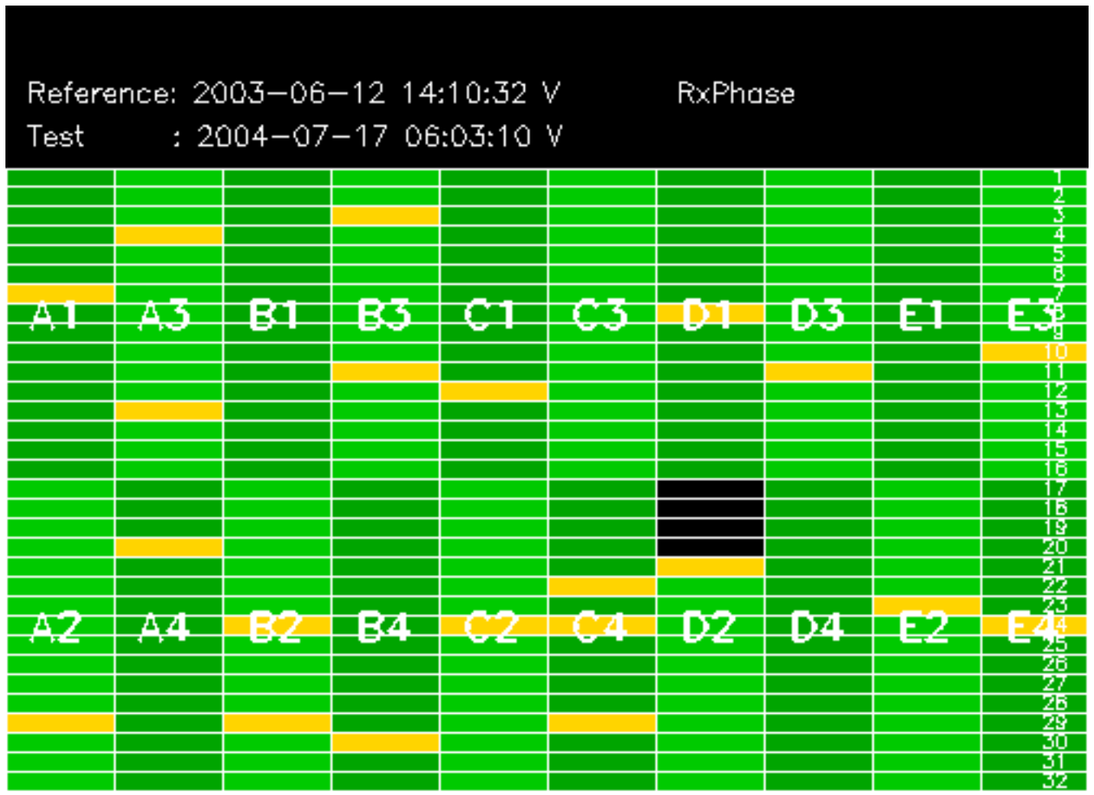
Reference: 2003-06-12 14:10:32 V
Test : 2004-07-17 06:03:10 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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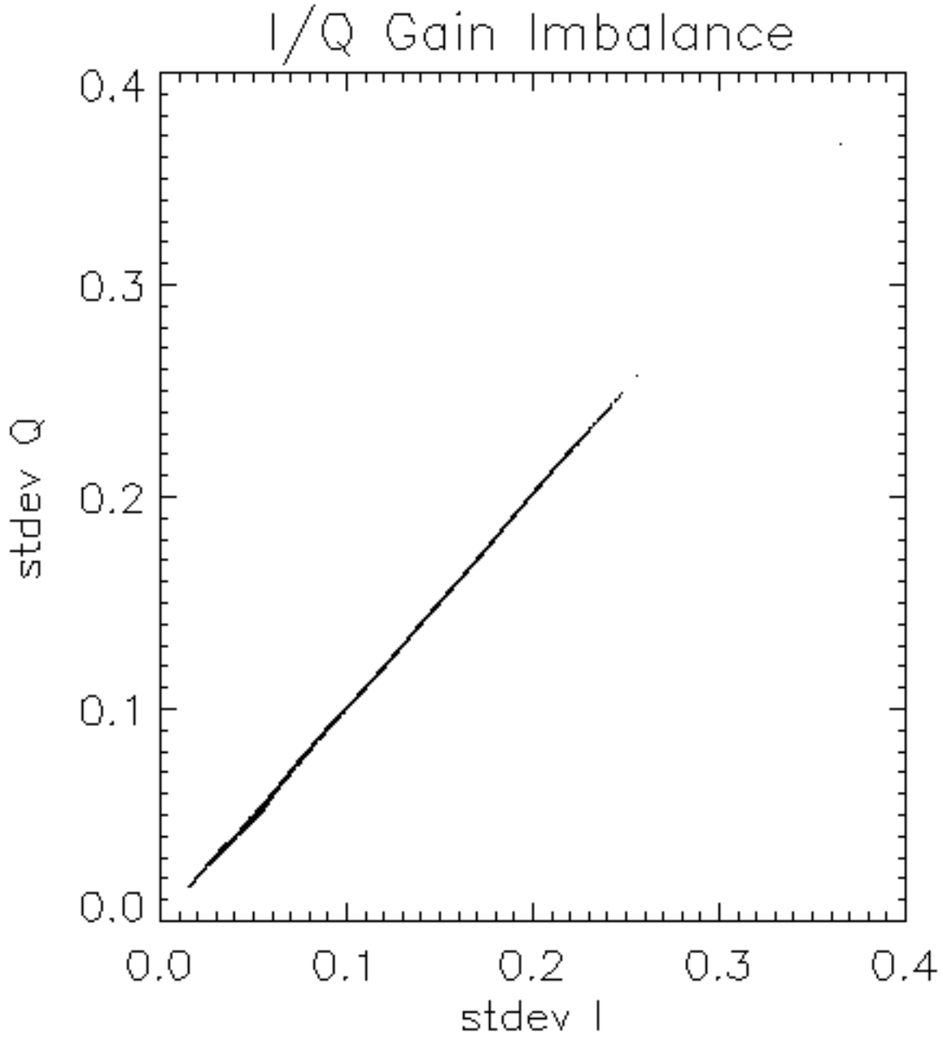
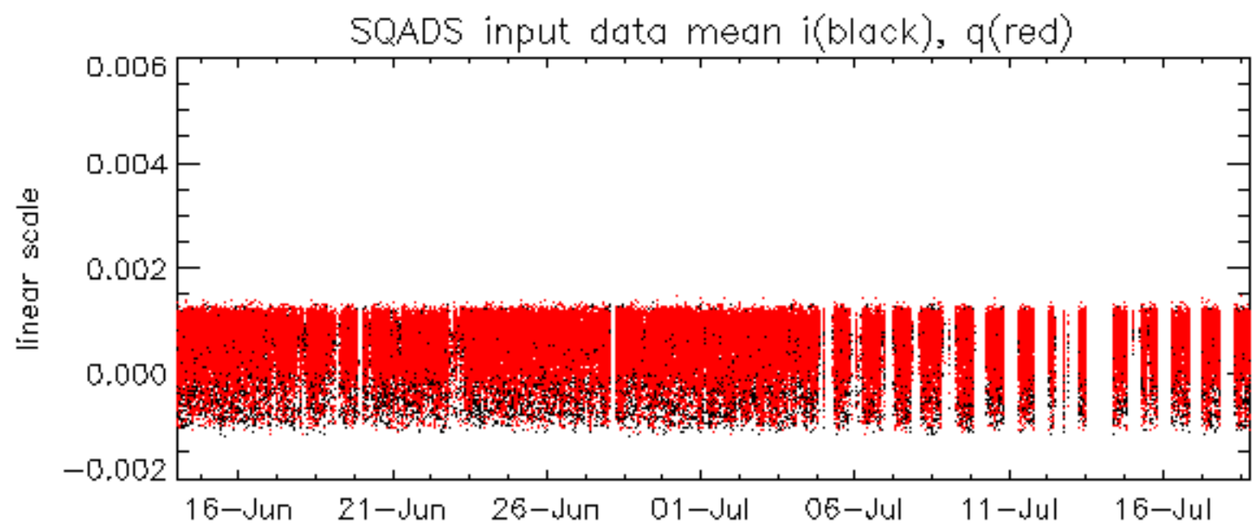
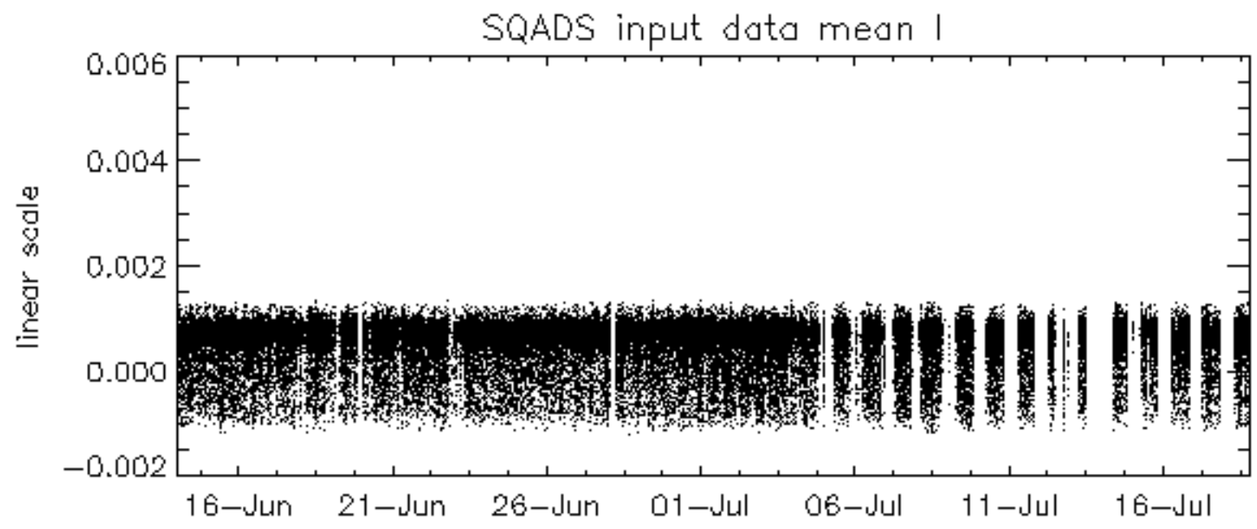
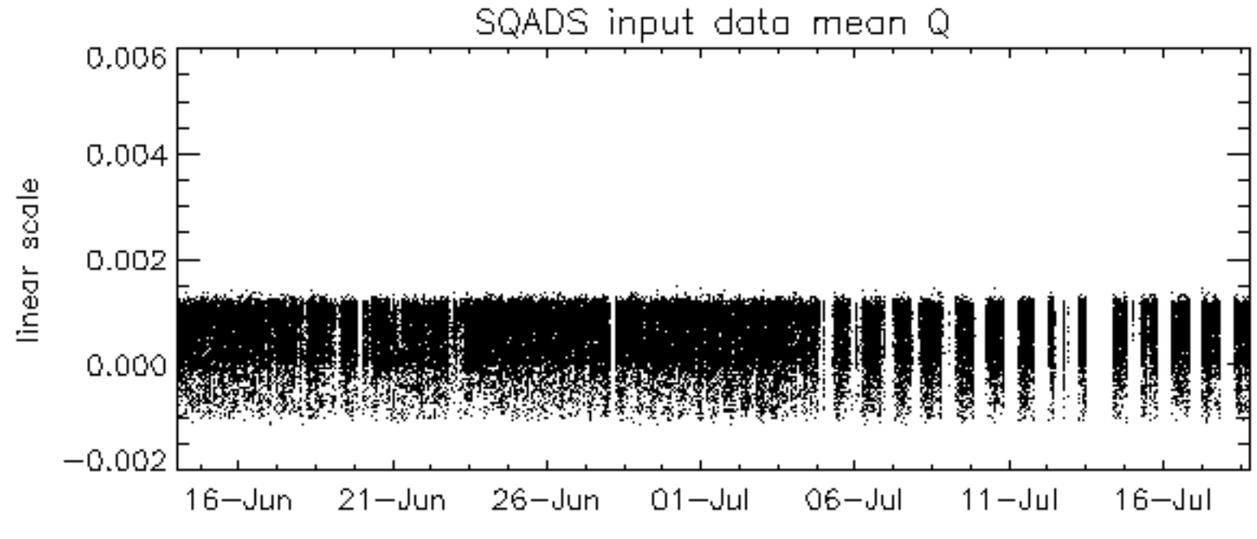
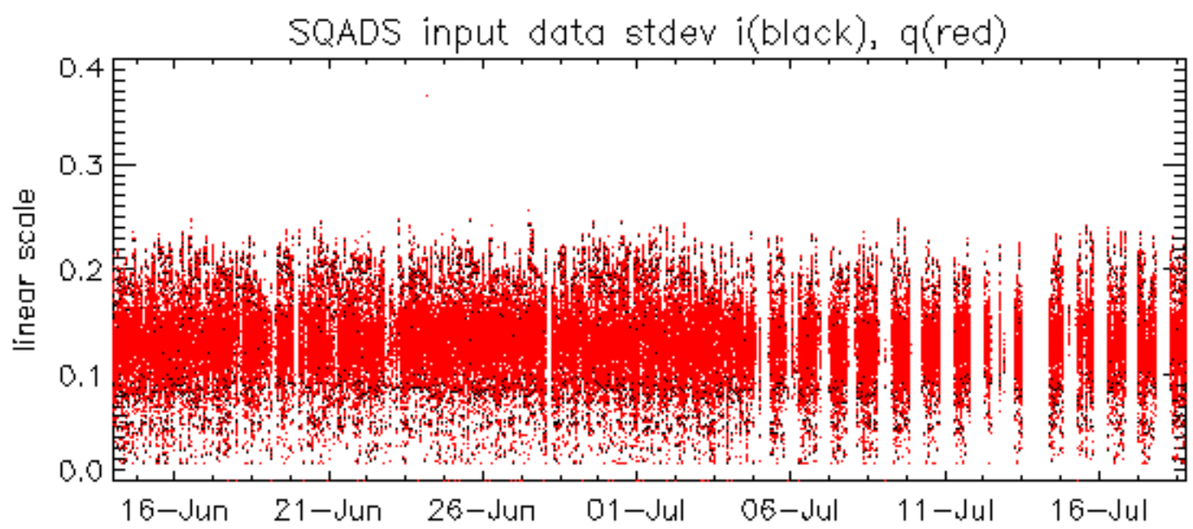
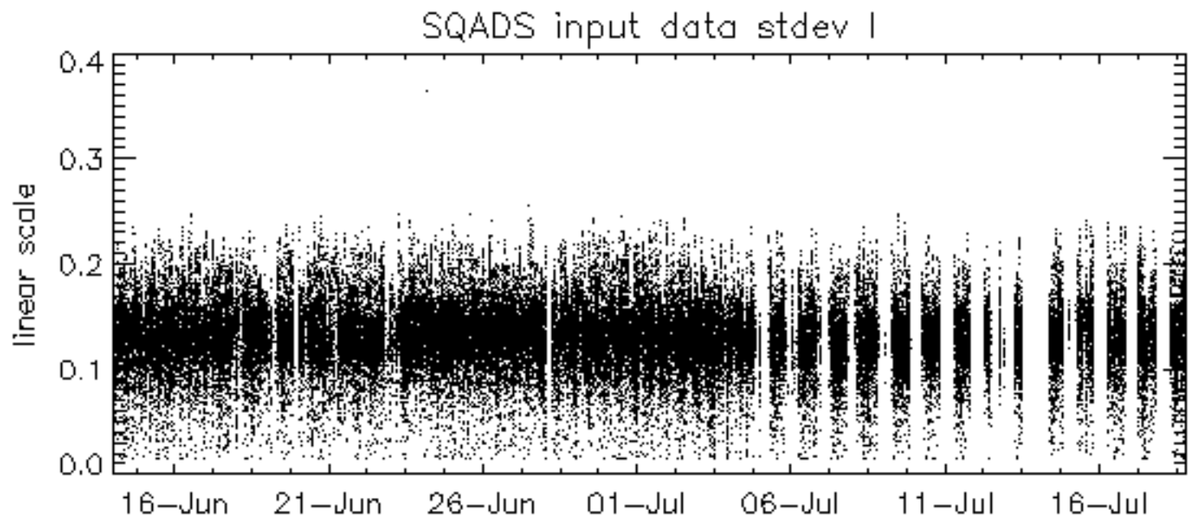

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

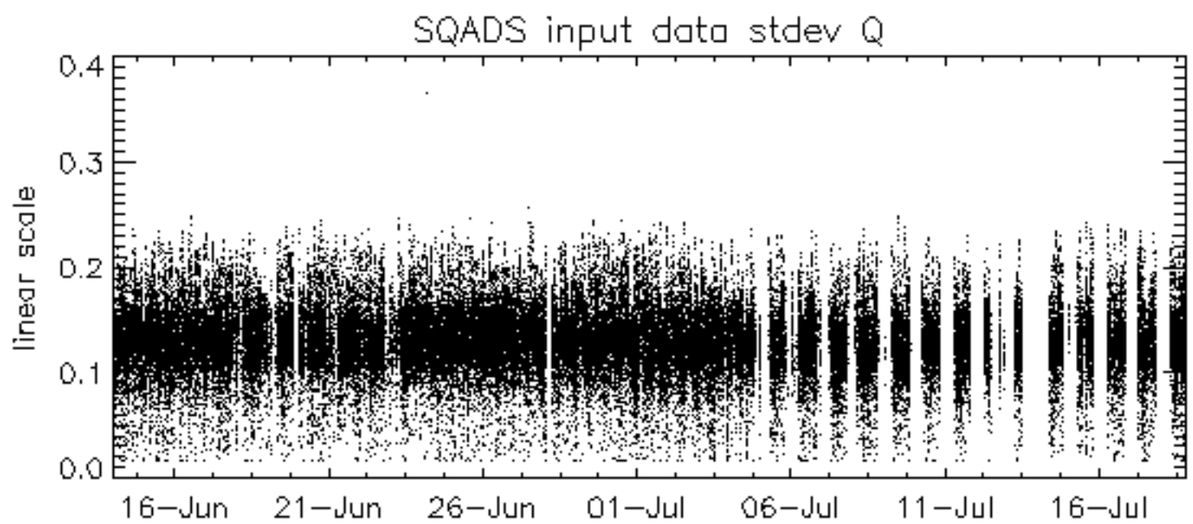

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul

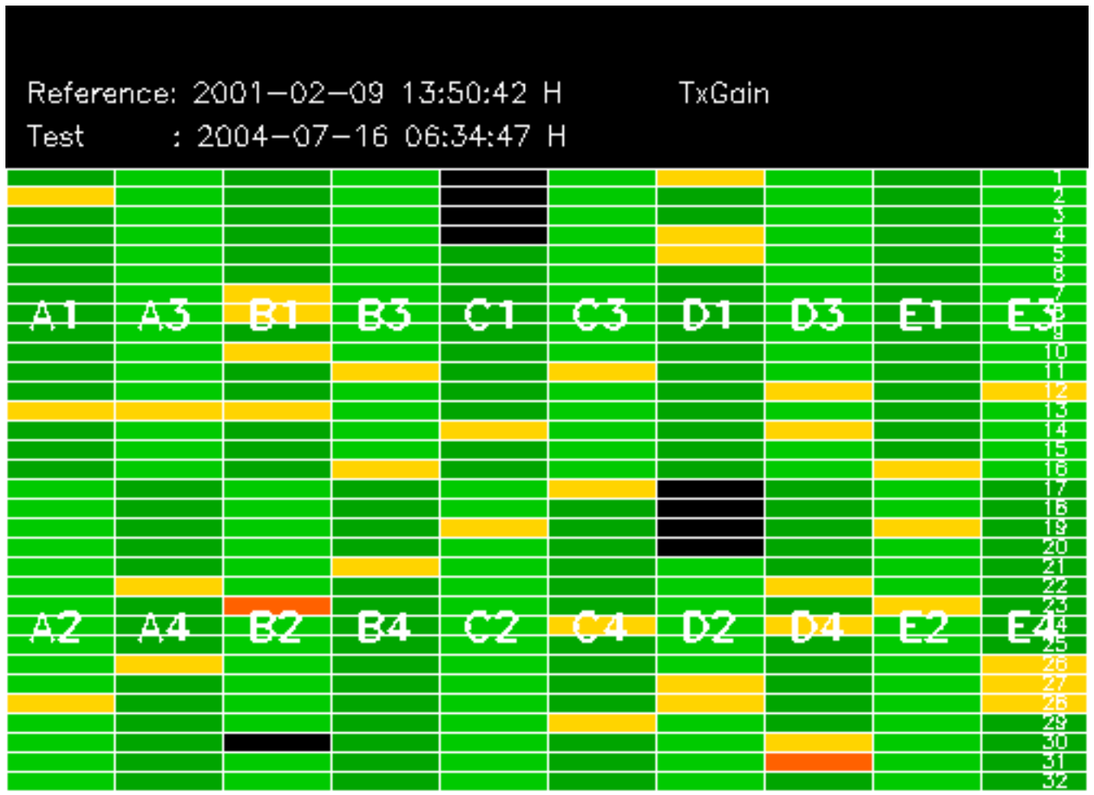

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul

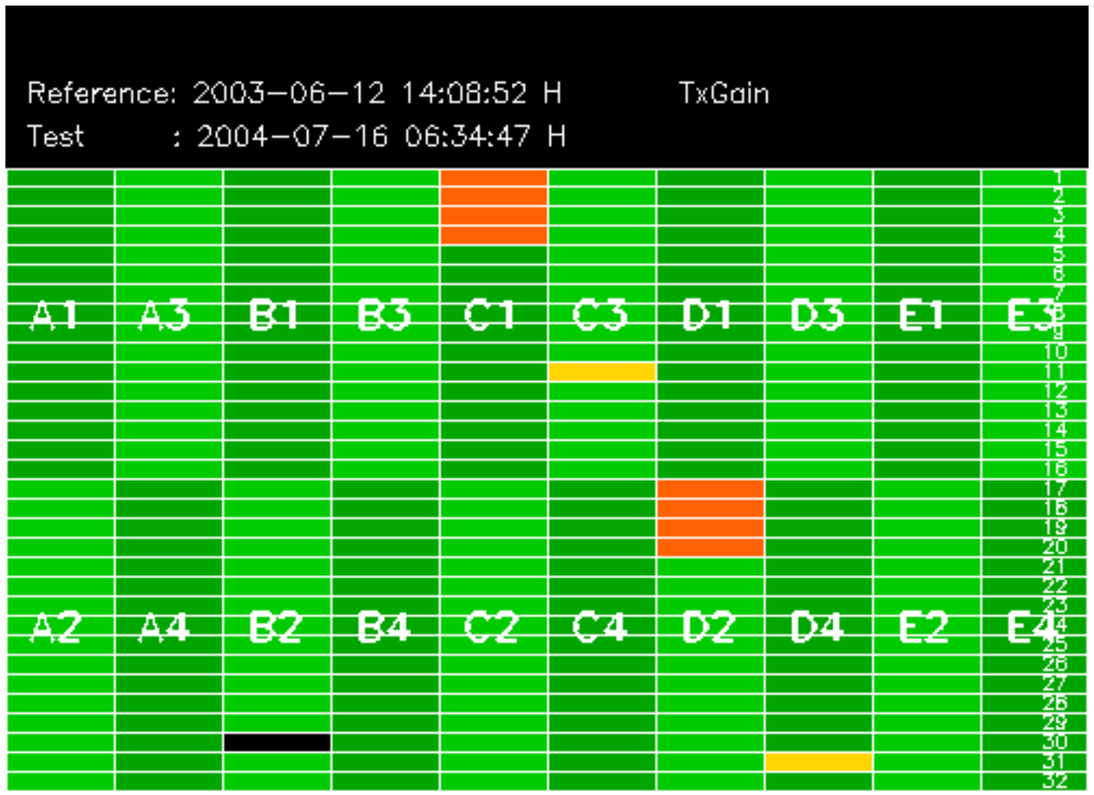

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul


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


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
16–Jun
21–Jun
26–Jun
01–Jul
06–Jul
11–Jul
16–Jul


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
16–Jun
21–Jun
26–Jun
01–Jul
06–Jul
11–Jul
16–Jul


Reference: 2001-02-09 13:50:42 H
Test : 2004-07-16 06:34:47 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 : 2004-07-16 06:34:47 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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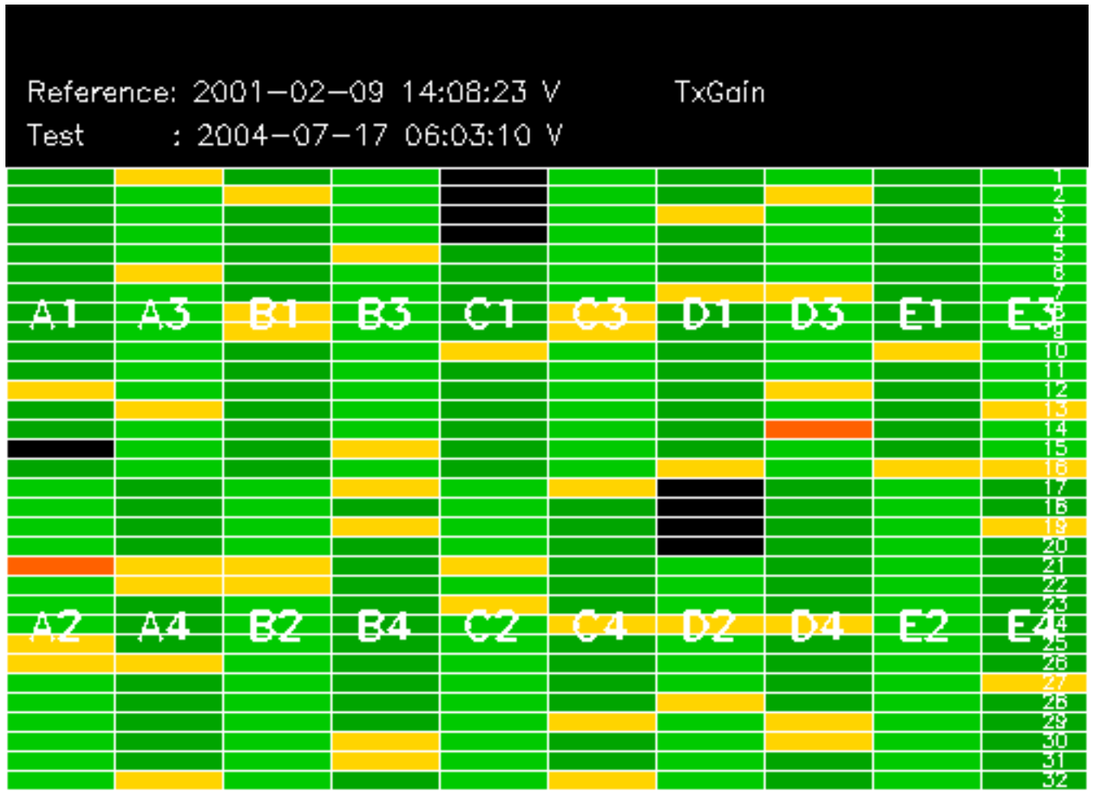
Reference: 2001-02-09 14:08:23 V
Test : 2004-07-17 06:03:10 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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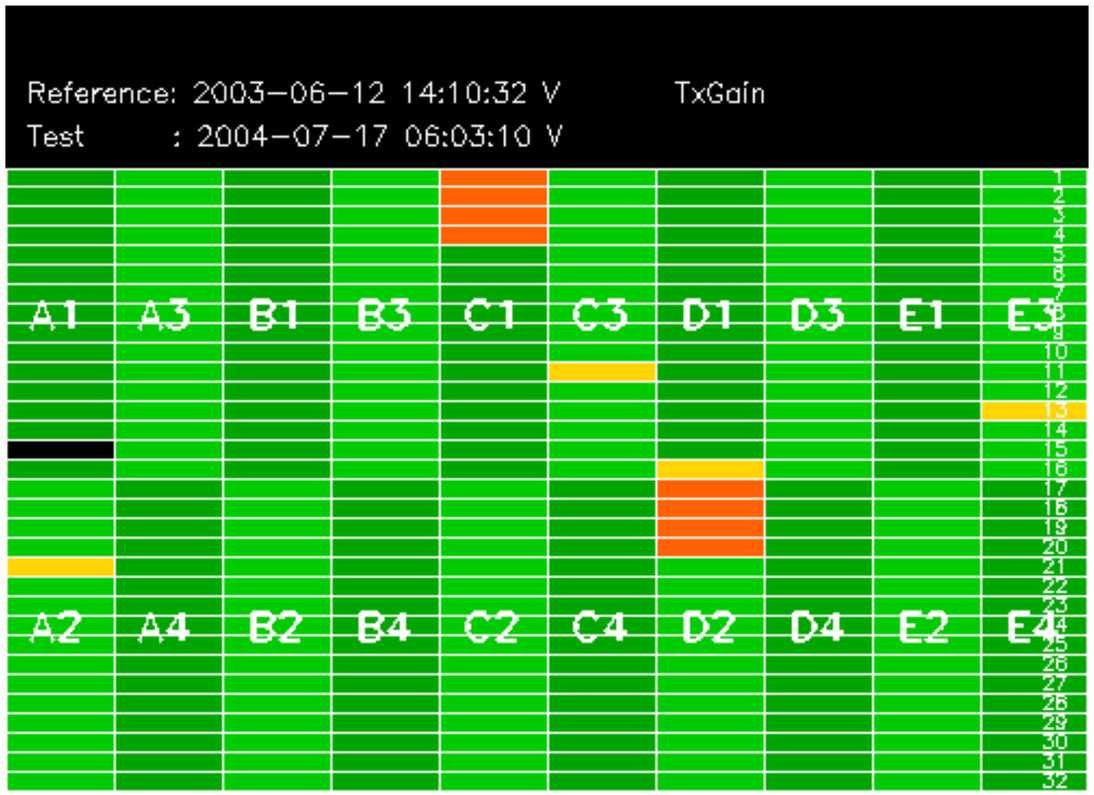
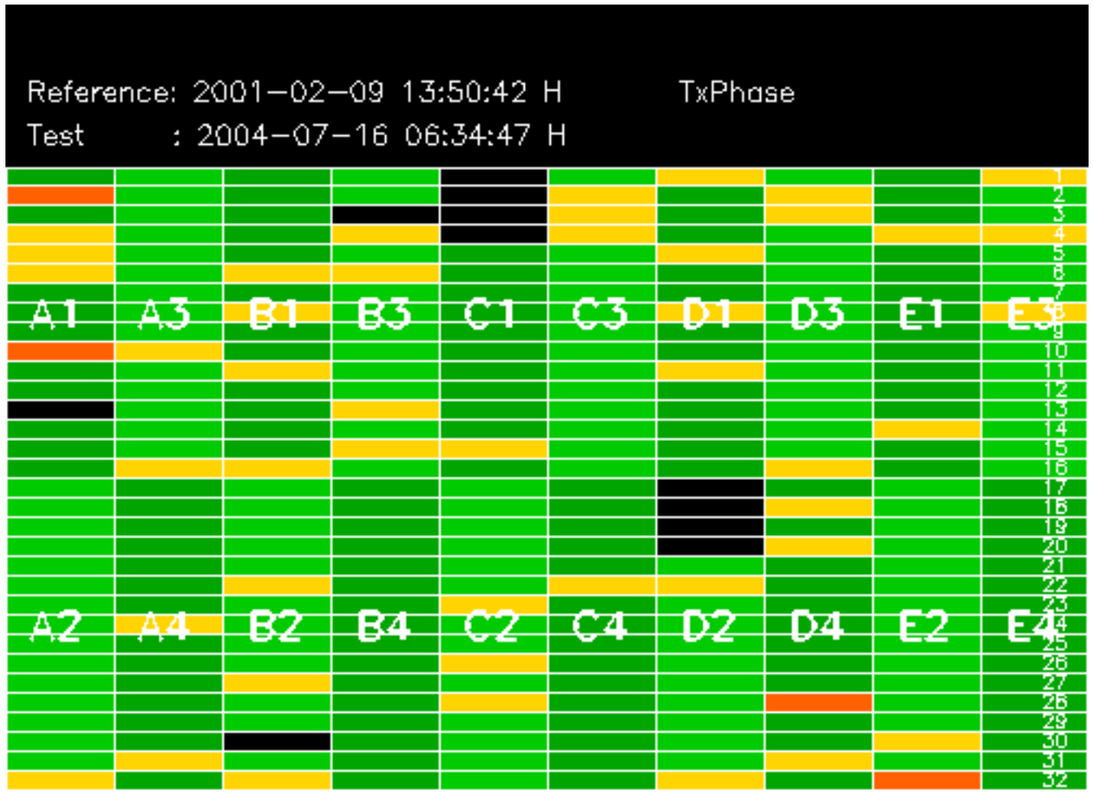

Reference: 2003-06-12 14:10:32 V
Test : 2004-07-17 06:03:10 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
Test : 2004-07-16 06:34:47 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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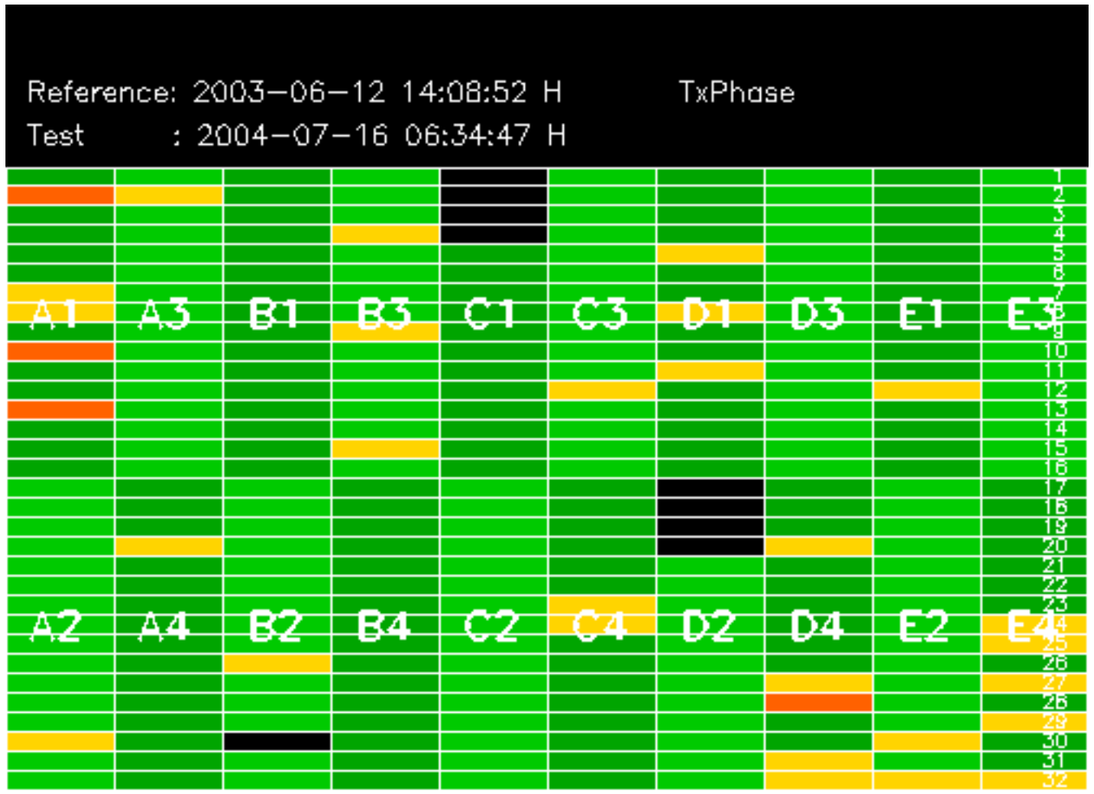
Reference: 2003-06-12 14:08:52 H
Test : 2004-07-16 06:34:47 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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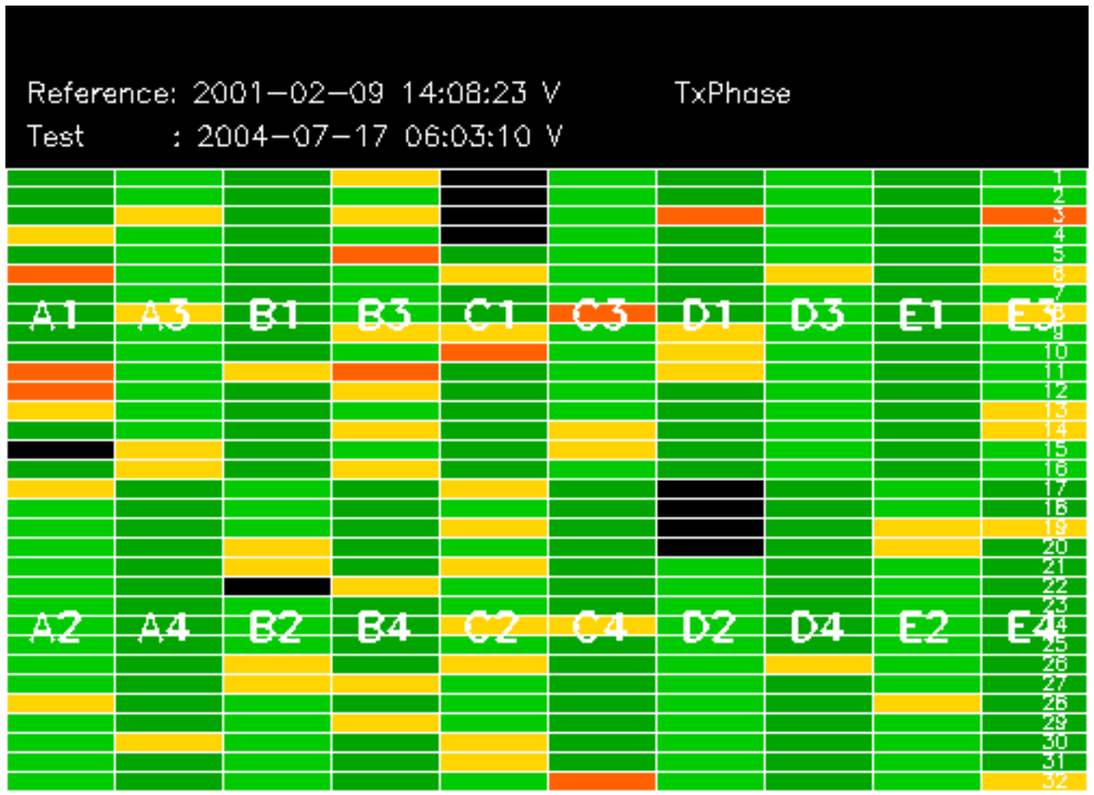
Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2004-07-17 06:03:10 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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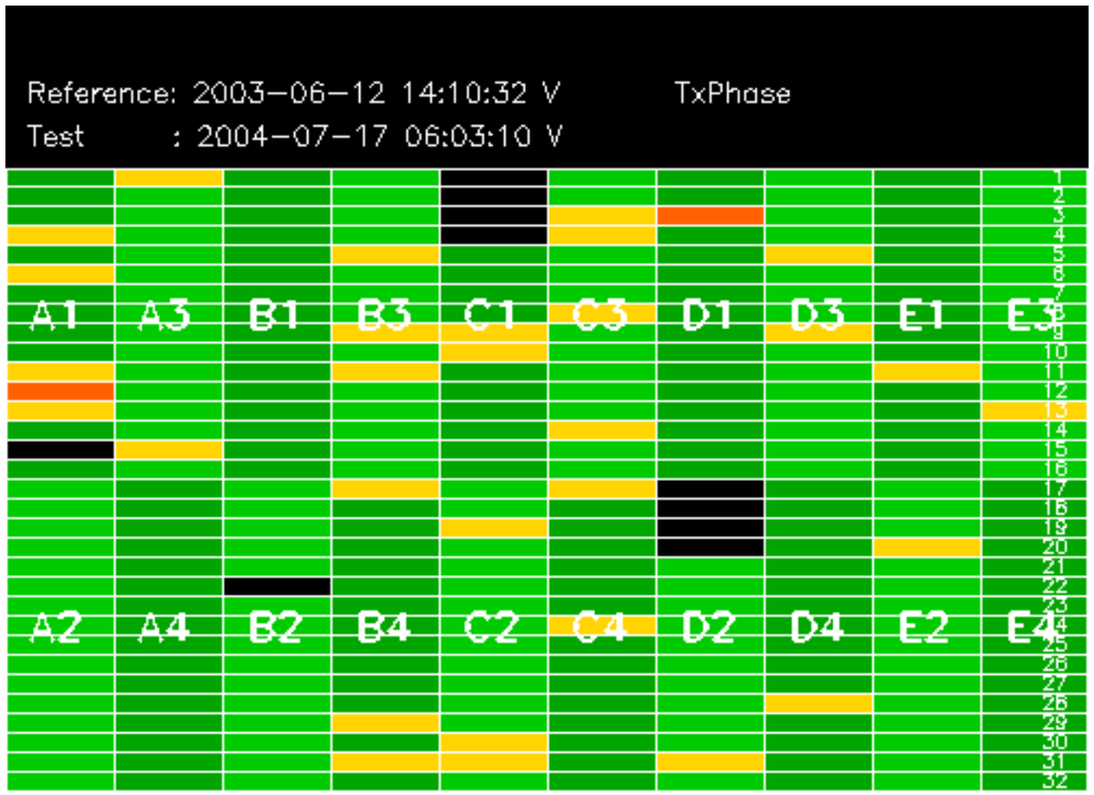
Reference: 2003-06-12 14:10:32 V
Test : 2004-07-17 06:03:10 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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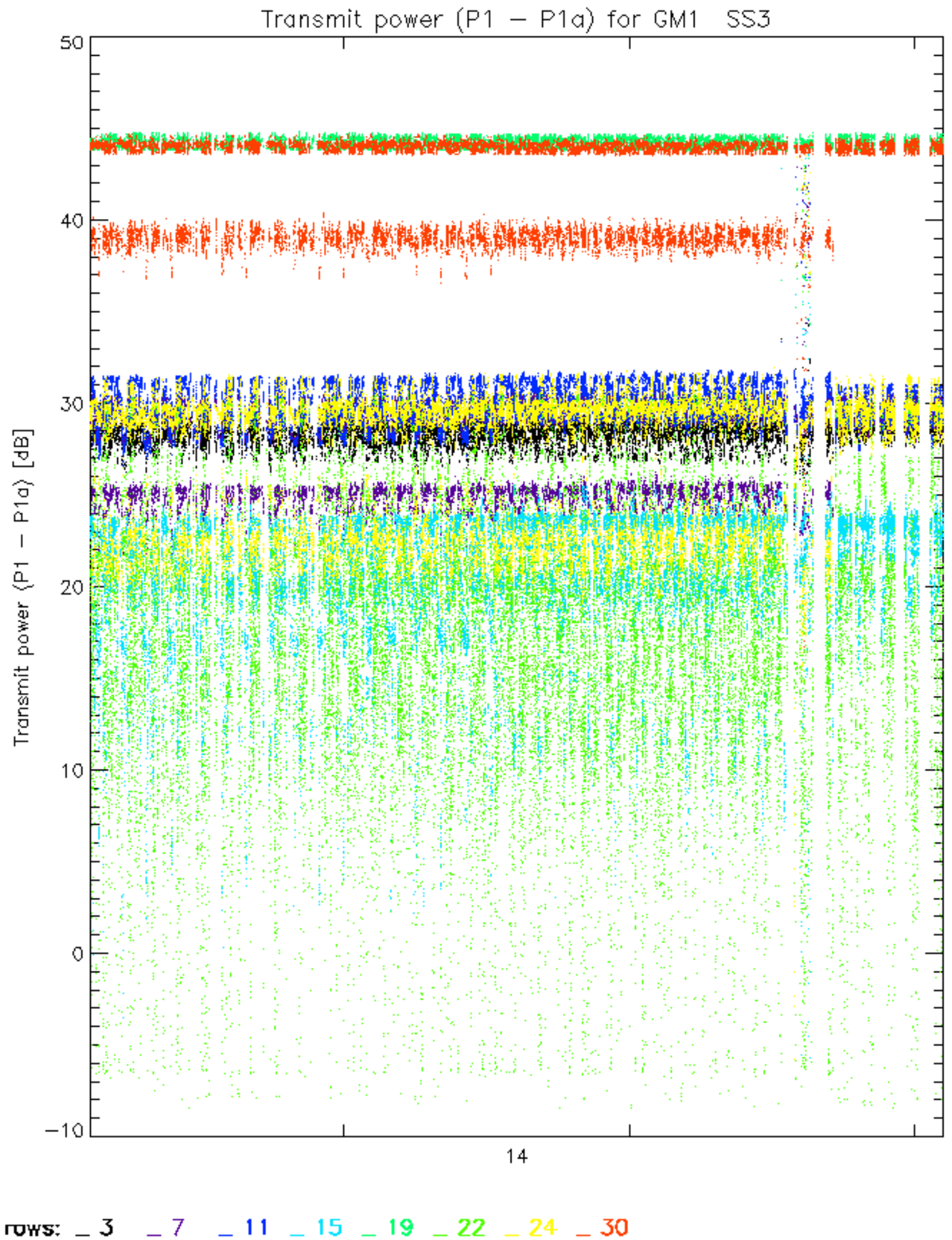
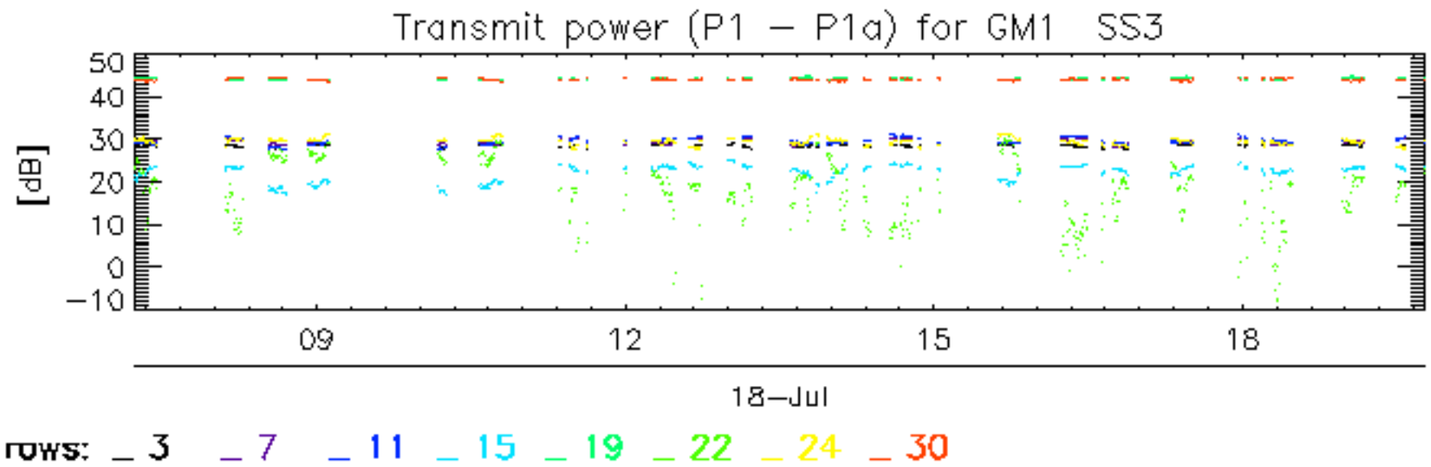
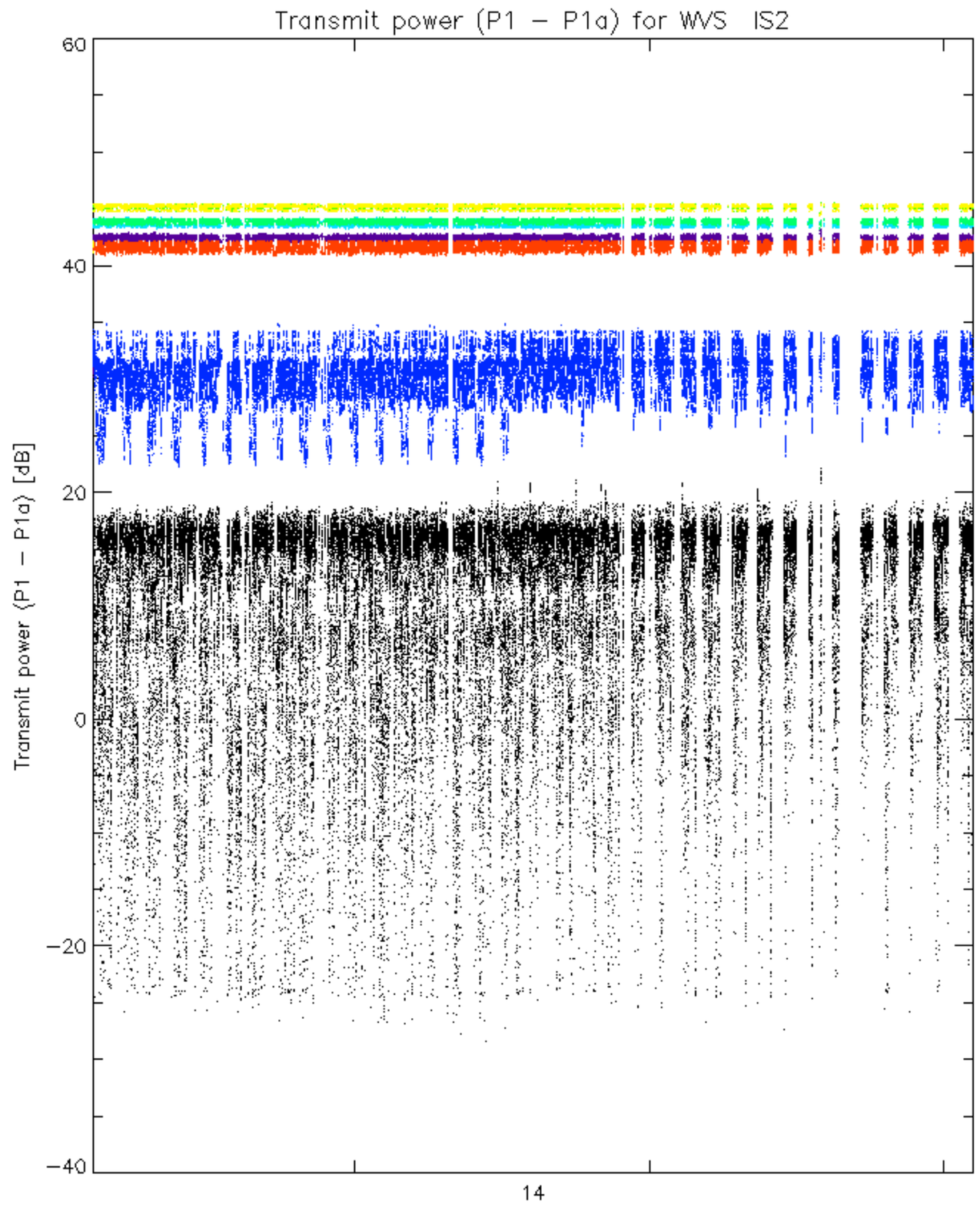
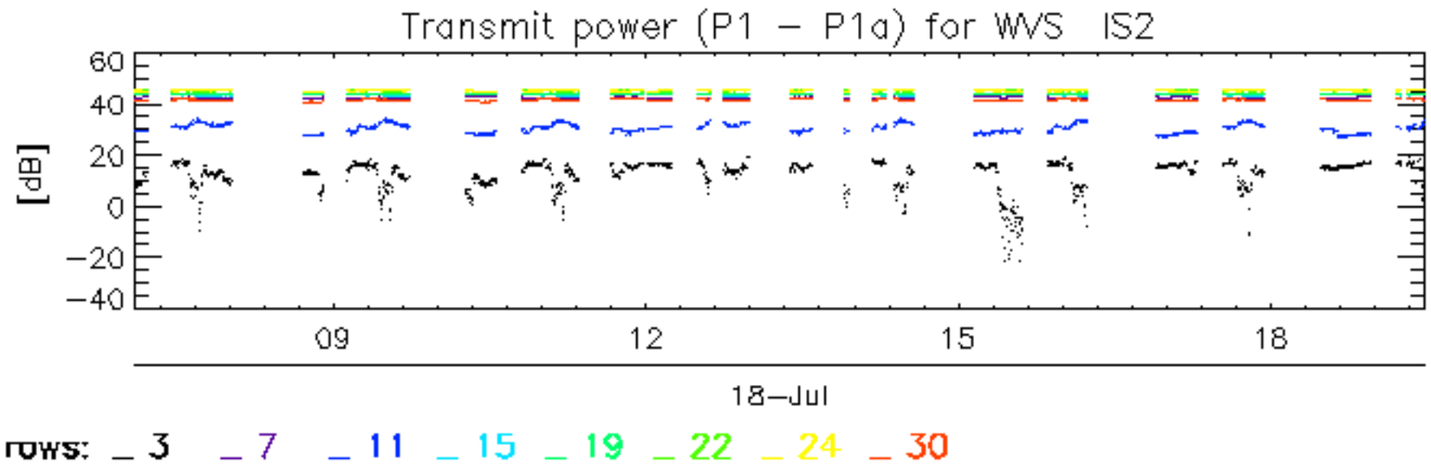

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
14
rows: 3 7 11 15 19 22 24 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
50
40
30
20
10
0
−10
09
12
15
18
18–Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30


Transmit power (P1 – P1a) for WVS IS2
60
40
20
0
−20
−40
Transmit power ⟨P1 – P1a⟩ [dB]
14
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30


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

No unavailabilities during the reported period.