REPORT OF 040815

last update on Tue Aug 17 15:16:23 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

-Power drop in Tx in H and V pol affecting the 8 first rows of the D1 tile.

anomaly starts on 14-AUG-2004 04:36 stop on 17-AUG-2004 10:57 UTC

-Stable raw data statistics.
-Nominal Doppler behavior.

3 - Module Stepping Mode

The MS data of the 14-AUG has been acquired before the anomaly start.
Therefore no anomaly is visible on it

Polarisation	Start Time
V	20040811 043740
H	20040814 030248

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

-Power drop in Tx in H and V pol affecting the 8 first rows of the D1 tile.
anomaly starts on 14-AUG-2004 04:36 stop on 17-AUG-2004 10:57 UTC

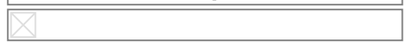
4.1 - Daily statistics

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	-3.485683	0.053160	-0.005800
7	P1	-3.332555	0.050327	0.004391
11	P1	-4.644274	0.117369	-0.101582
15	P1	-5.750790	0.128156	-0.091624
19	P1	-3.454647	0.005154	0.002649
22	P1	-4.555659	0.011076	0.051216
24	P1	-4.958023	0.019080	0.015804
30	P1	-6.912770	0.024970	-0.071748

3	P1	-16.149033	0.845216	0.513244
7	P1	-14.004513	0.167633	-0.170178
11	P1	-20.076376	0.395407	-0.215561
15	P1	-11.791539	0.176048	-0.096288
19	P1	-13.867182	0.033716	-0.006330
22	P1	-16.275663	0.339873	0.193326
24	P1	-14.584455	0.282940	0.181161
30	P1	-17.708071	0.429972	-0.204994

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.311068	0.079324	0.056276
7	P2	-22.667397	0.126026	0.111622
11	P2	-15.399497	0.154495	0.112671
15	P2	-7.084219	0.091189	0.107183
19	P2	-9.559746	0.175543	0.117460
22	P2	-17.382353	0.109867	0.146107
24	P2	-20.750387	0.084096	0.002475
30	P2	-19.310572	0.078654	0.139561

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.140731	0.002399	0.017422
7	P3	-8.140738	0.002400	0.017496
11	P3	-8.140730	0.002399	0.017458
15	P3	-8.140724	0.002399	0.017405
19	P3	-8.140718	0.002399	0.017368
22	P3	-8.140714	0.002399	0.017326
24	P3	-8.140714	0.002399	0.017301
30	P3	-8.140655	0.002396	0.017319

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	-2.813874	0.220922	0.363284
7	P1	-3.013810	0.246009	0.049847
11	P1	-3.865998	0.185387	-0.052414
15	P1	-3.589698	0.272268	0.323028
19	P1	-3.466195	0.022053	-0.055628
22	P1	-5.668325	0.046751	-0.027153
24	P1	-3.879206	0.031535	0.027138
30	P1	-6.175229	0.074360	0.042188
3	P1	-10.571667	0.747048	0.634491
7	P1	-10.090955	0.240059	-0.068029
11	P1	-12.064865	0.195486	-0.161670
15	P1	-11.652727	0.199459	0.108433
19	P1	-15.570939	0.172233	-0.288010
22	P1	-23.137436	2.050233	-1.128969
24	P1	-17.711946	0.267531	-0.519828
30	P1	-20.419369	1.697329	0.240556

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.983175	0.087178	0.056169
7	P2	-22.775692	0.258137	0.031481
11	P2	-11.026188	0.119444	0.019727
15	P2	-4.949030	0.041788	0.032263
19	P2	-6.779190	0.061433	0.125199
22	P2	-7.477053	0.110410	0.153900
24	P2	-11.039808	0.145596	0.058601
30	P2	-22.233883	0.114300	0.061230

P3 Cyclic statistics

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

3	P3	-7.983570	0.003922	0.004344
7	P3	-7.983652	0.003925	0.004549
11	P3	-7.983638	0.003919	0.003979
15	P3	-7.983544	0.003925	0.004110
19	P3	-7.983606	0.003927	0.004202
22	P3	-7.983645	0.003917	0.004410
24	P3	-7.983639	0.003942	0.004360
30	P3	-7.983650	0.003915	0.004593

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	0.000496649
	stdev	2.12003e-07
MEAN Q	mean	0.000538991
	stdev	2.43663e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129379
	stdev	0.00103169

STDEV Q	mean	0.129626
	stdev	0.00104387

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

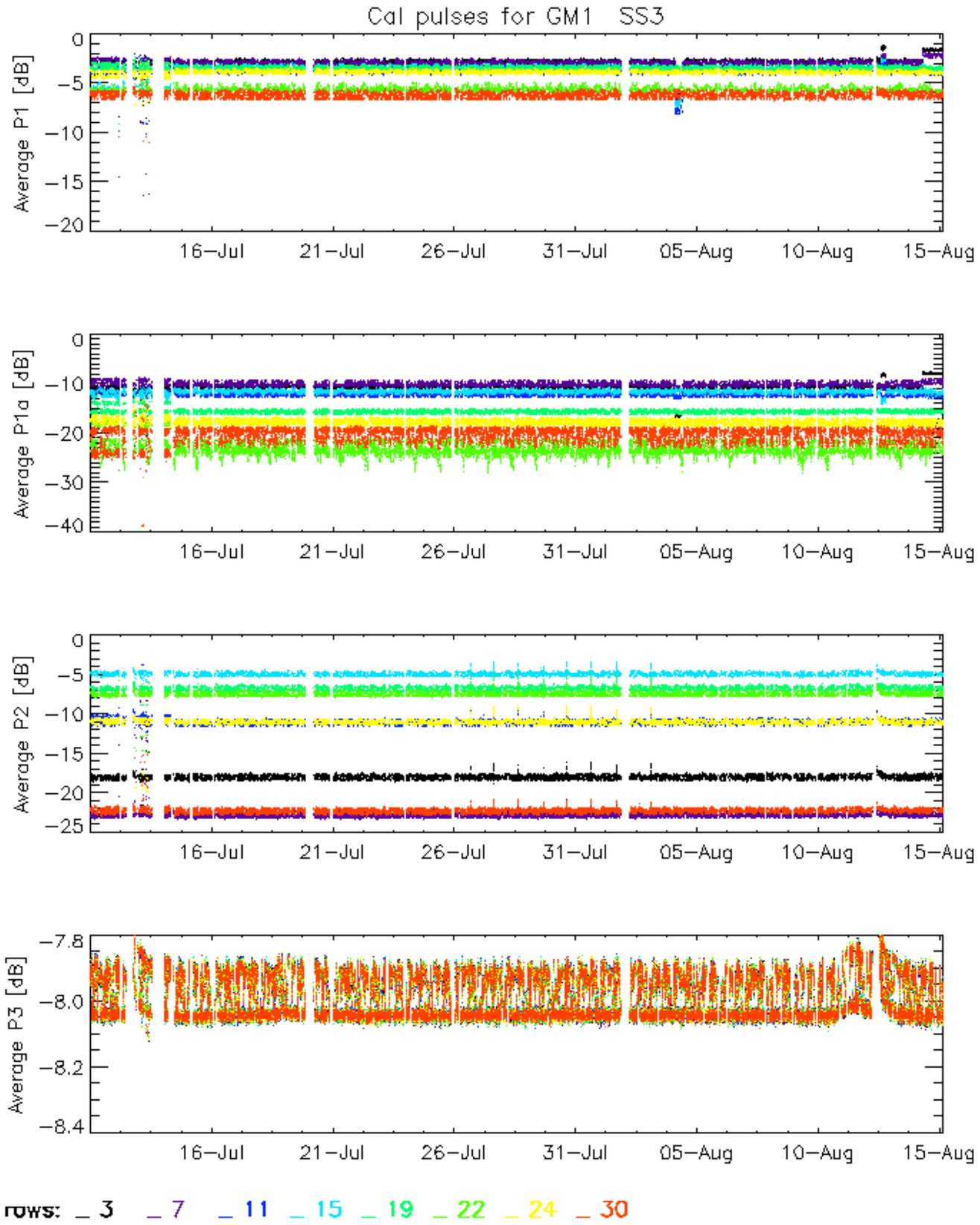
Evolution of Absolute Doppler

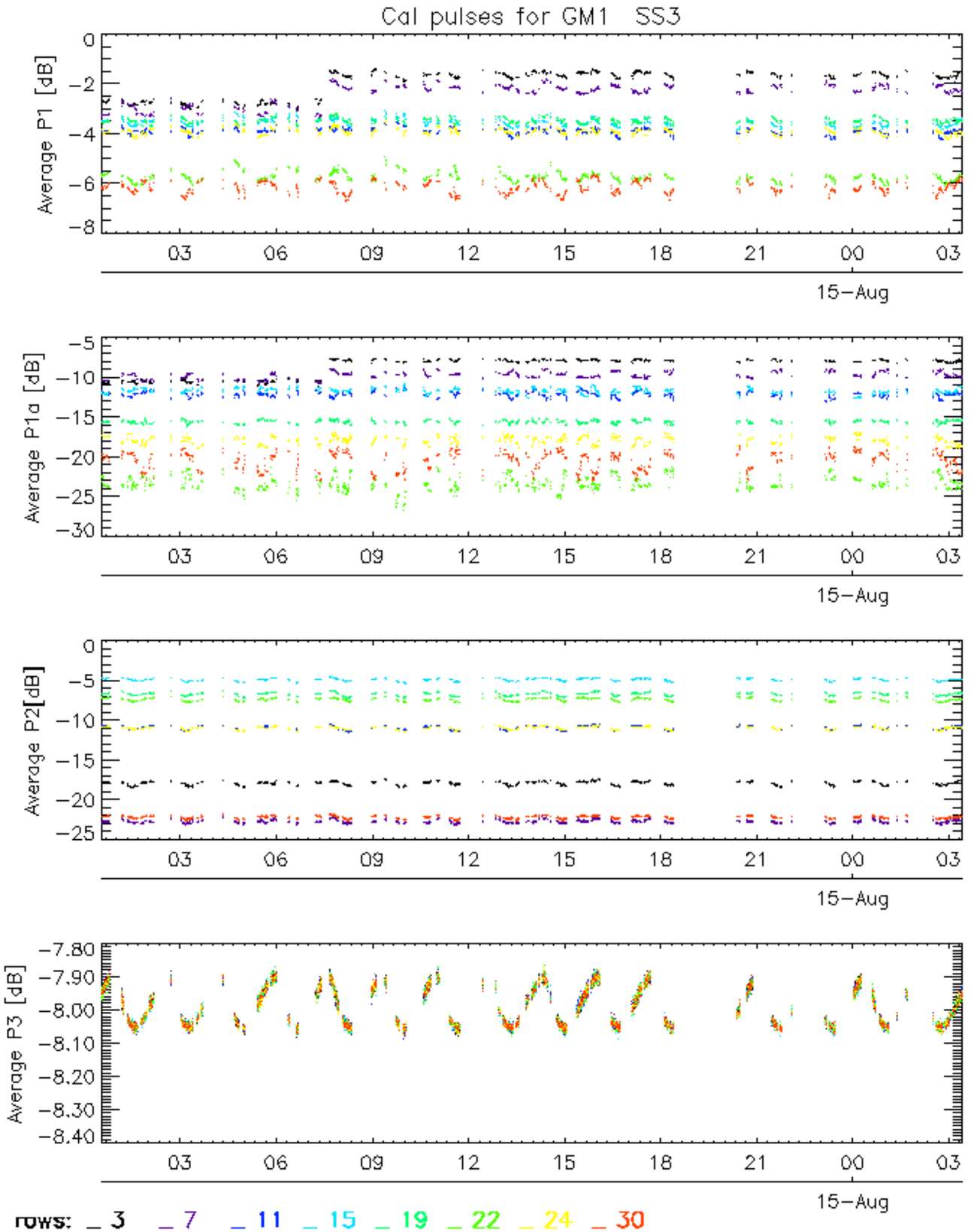
Acsending

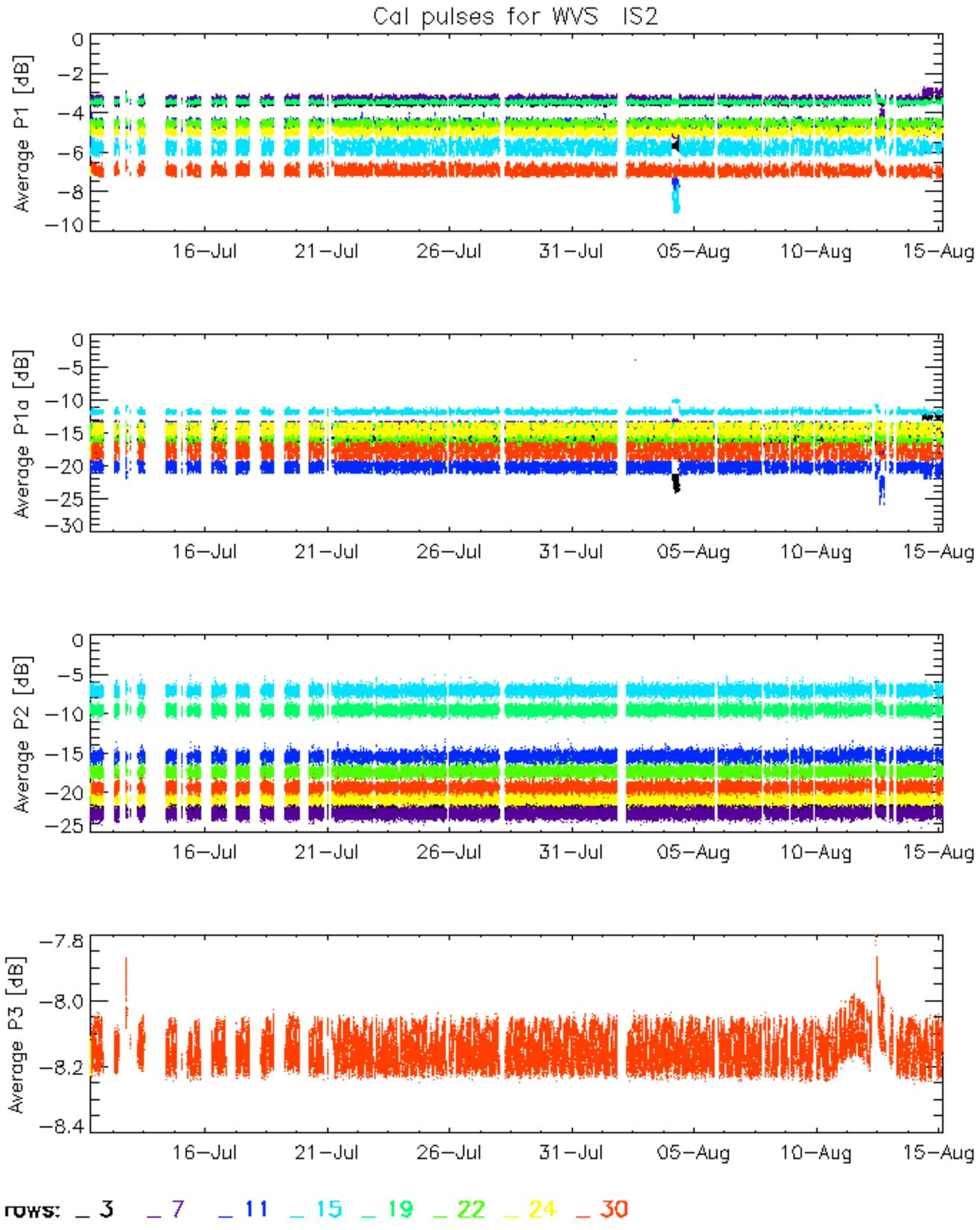
Descending

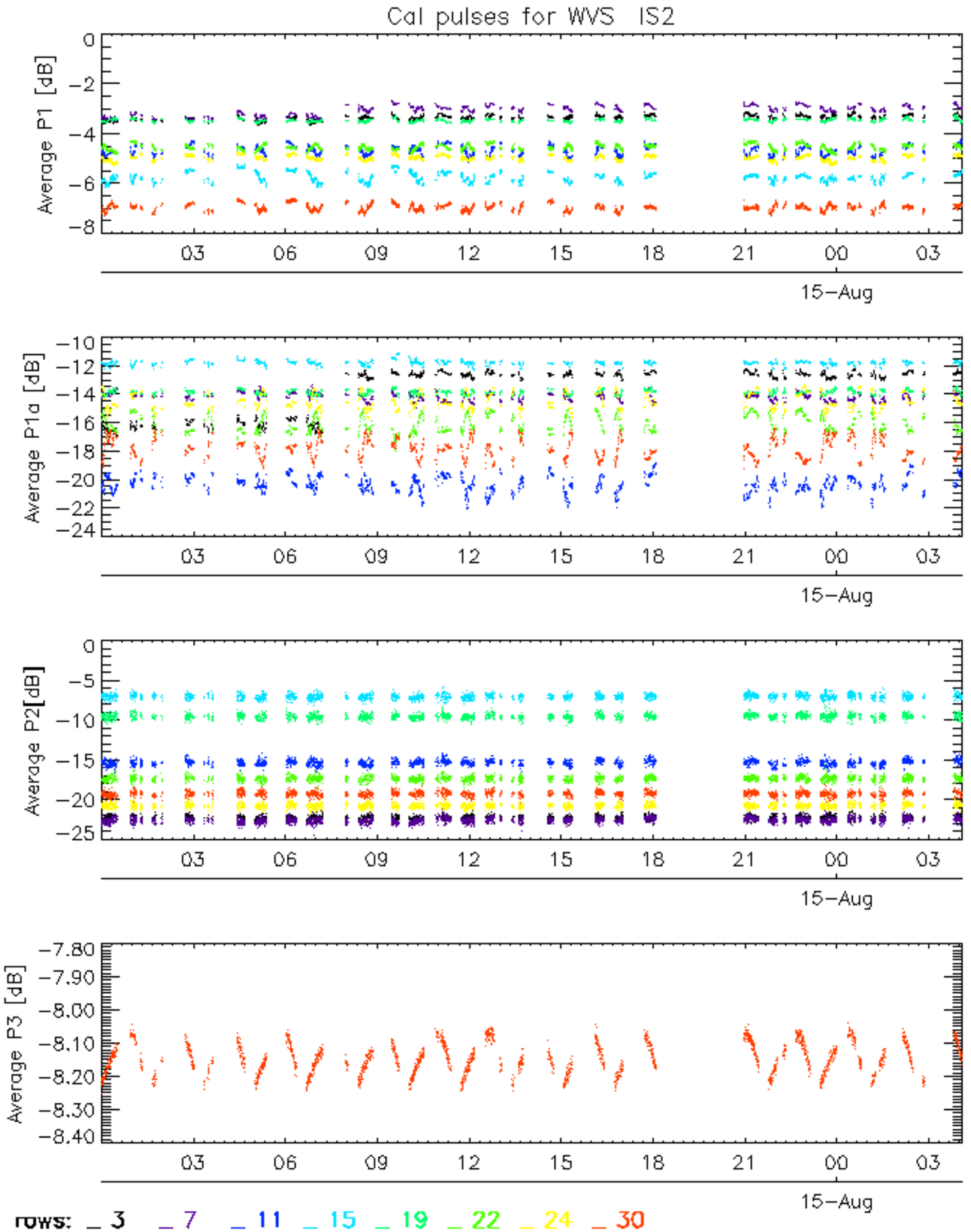
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

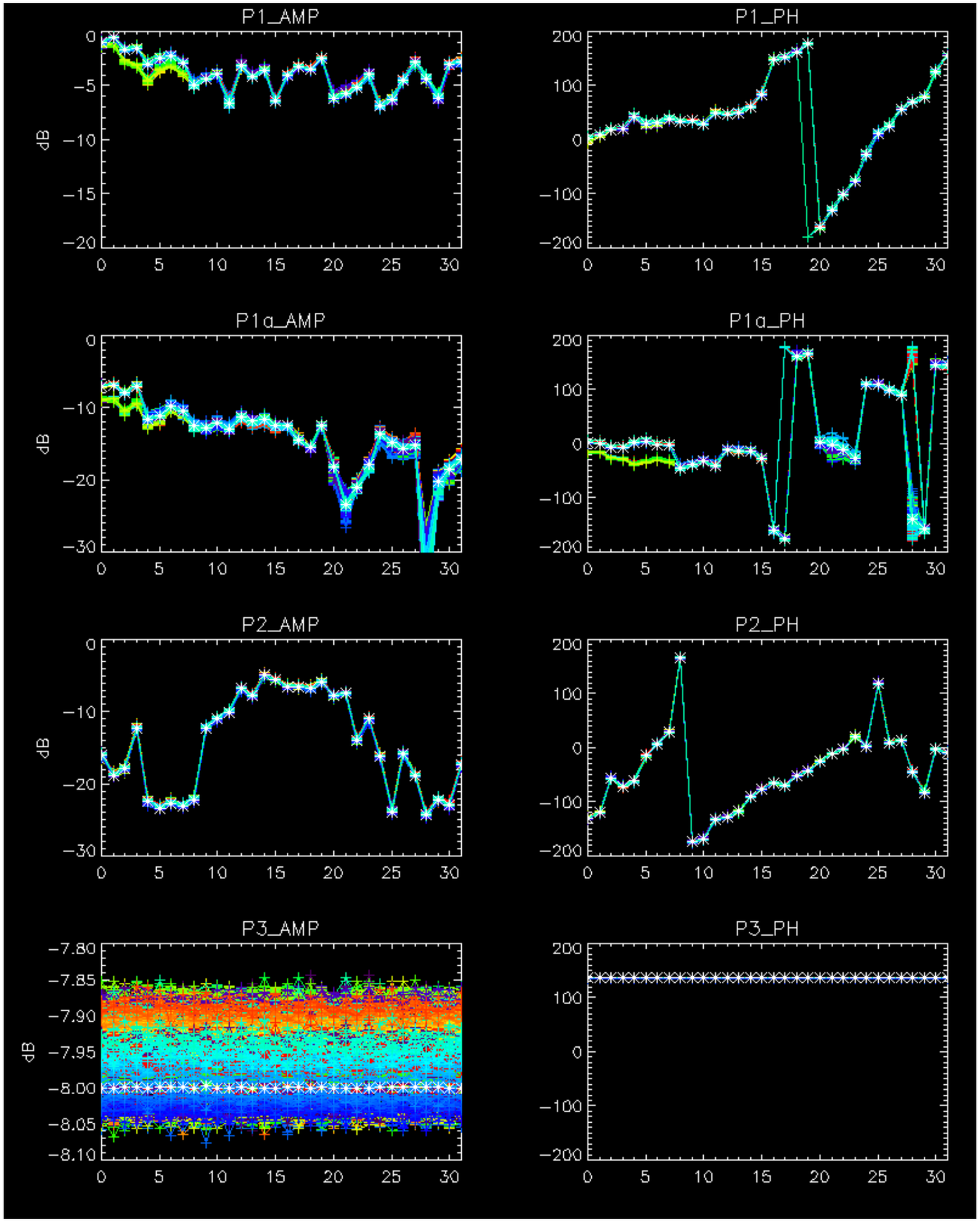


Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
−20
Average P1a [dB]
0
−10
−20
−30
−40
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

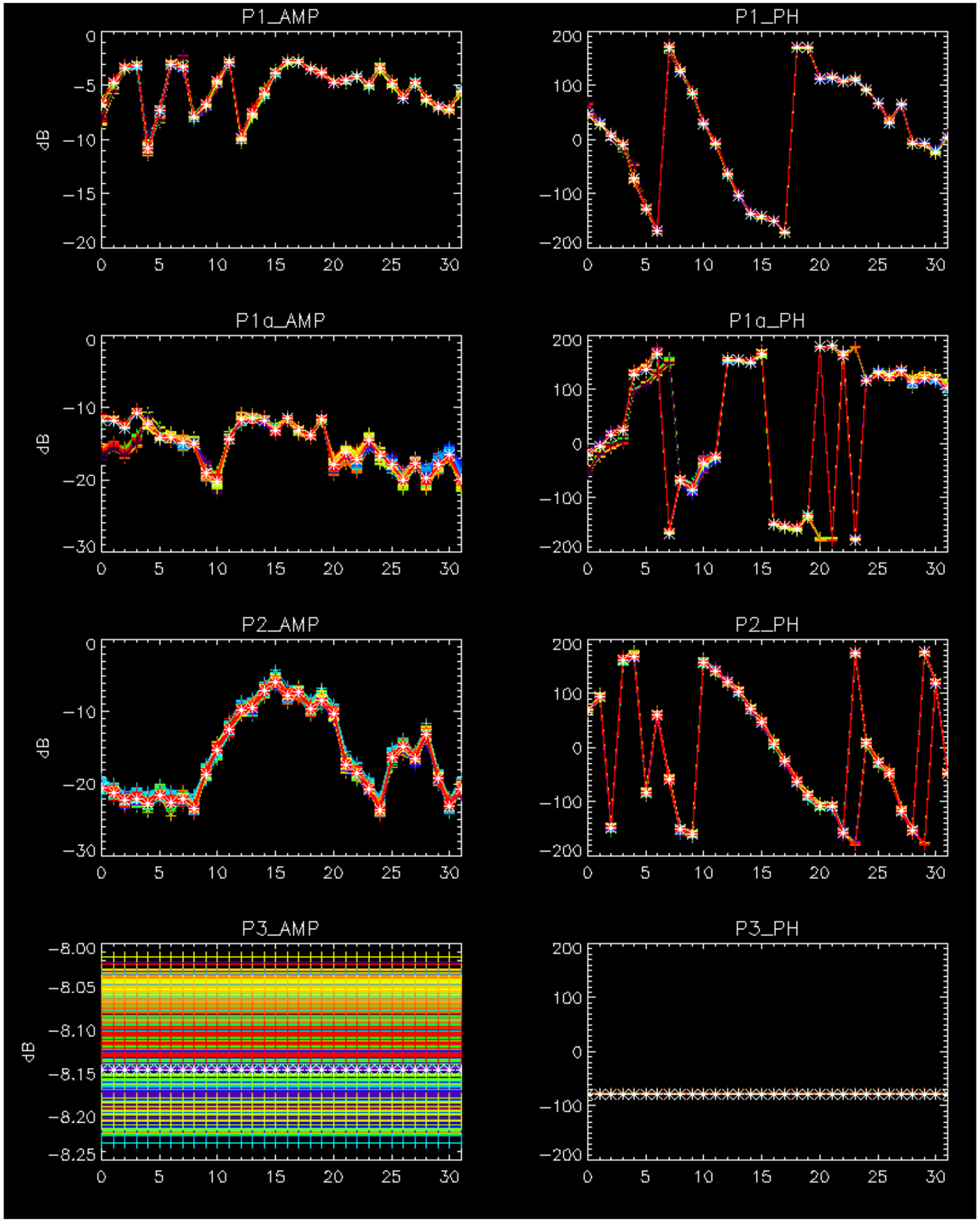

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
15−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug
Average P1a [dB]
0
−5
−10
−15
−20
−25
−30
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]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
15−Aug
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
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 24 30

-Power drop in Tx in H and V pol affecting the 8 first rows of the D1 tile.
anomaly starts on 14-AUG-2004 04:36 stop on 17-AUG-2004 10:57 UTC

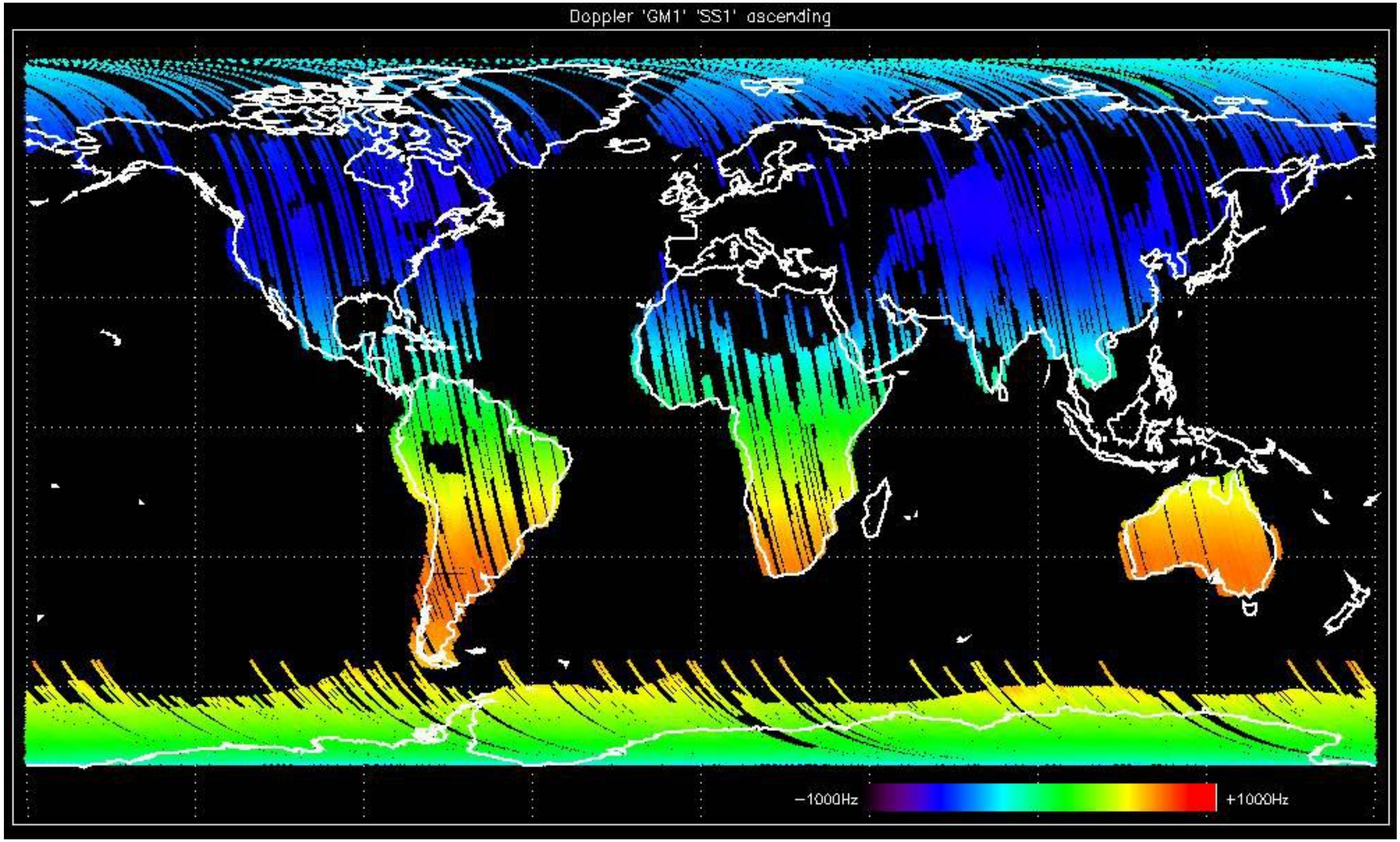

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.80
−7.85
−7.90
−7.95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

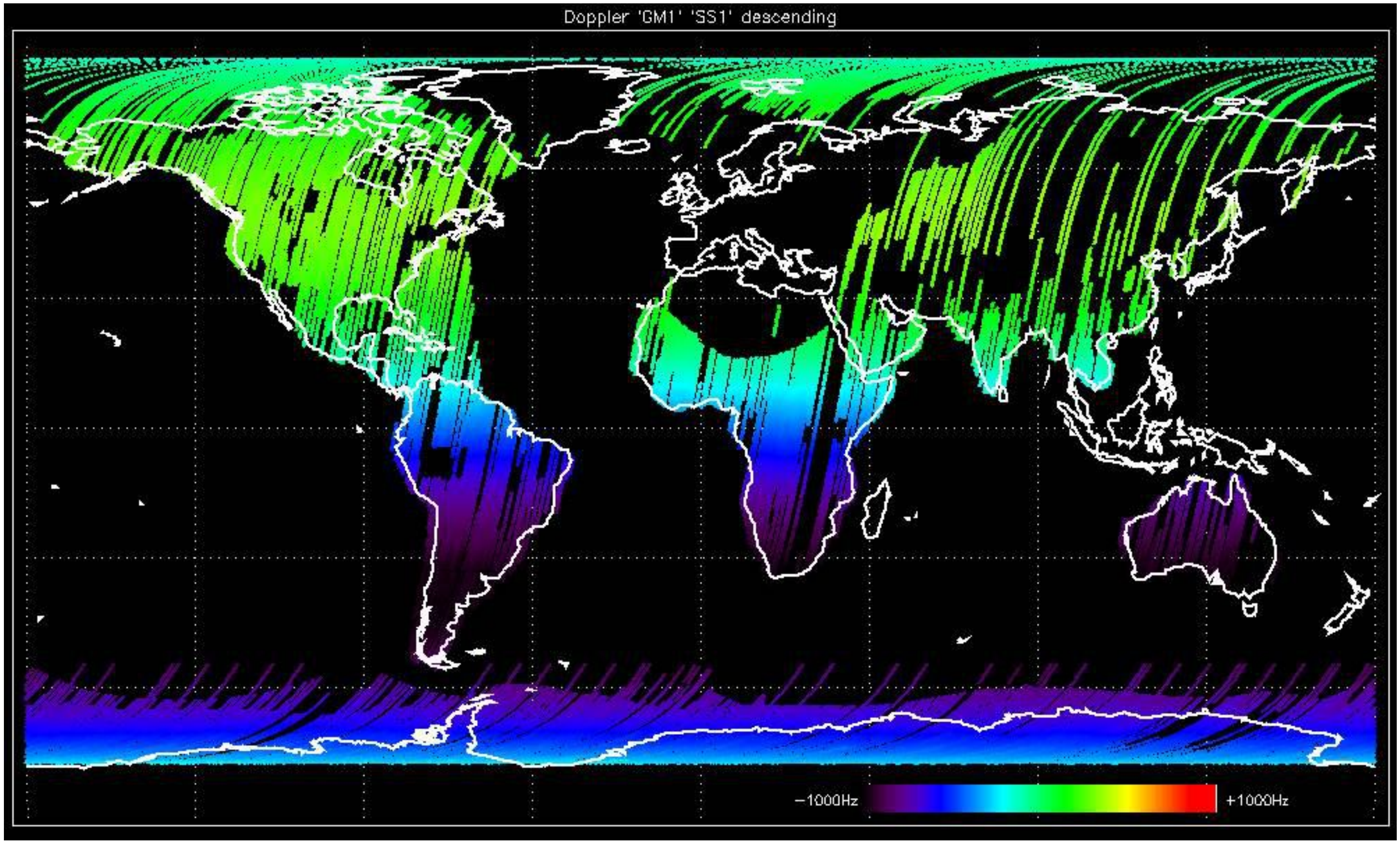

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15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

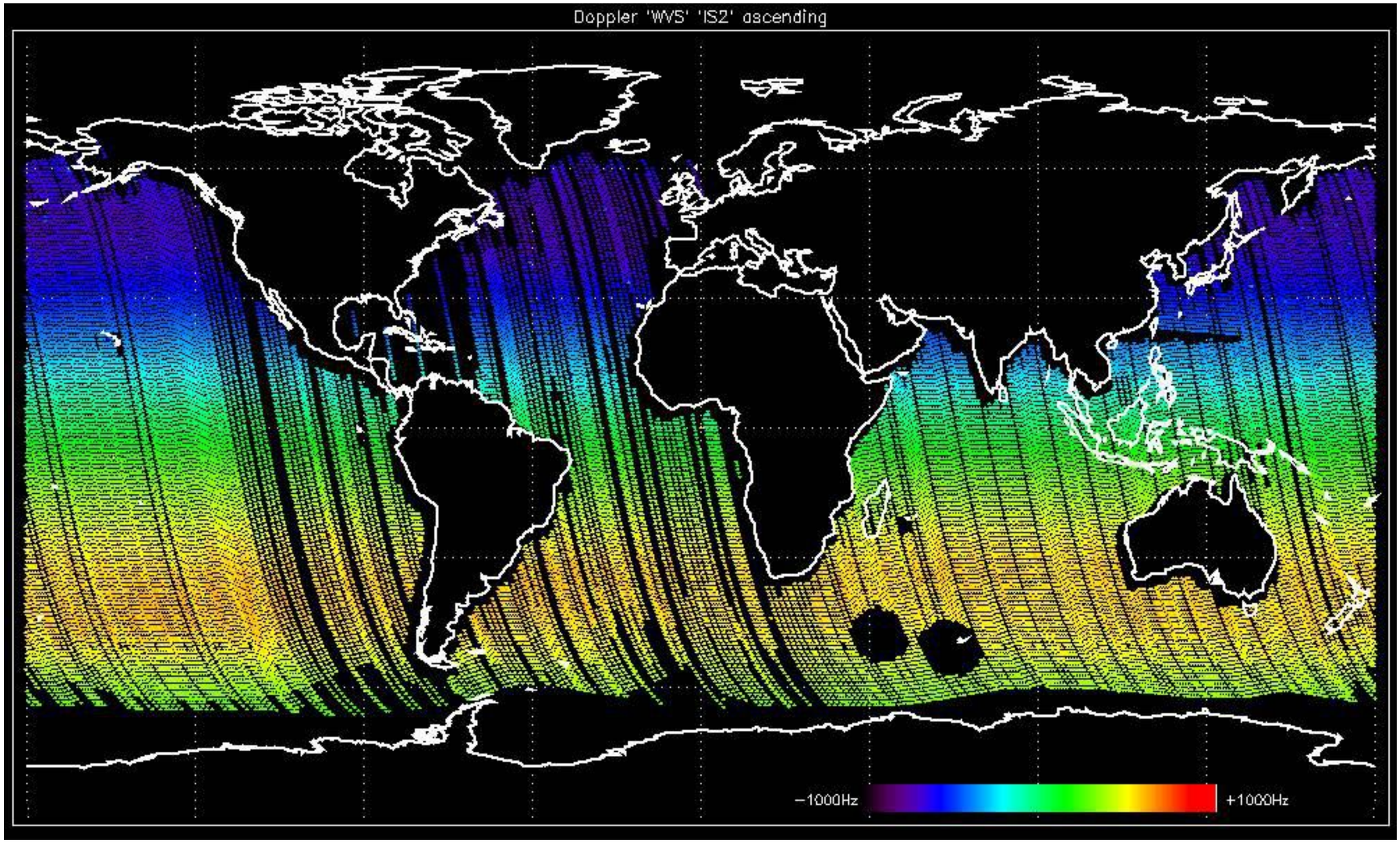
-Power drop in Tx in H and V pol affecting the 8 first rows of the D1 tile.
anomaly starts on 14-AUG-2004 04:36 stop on 17-AUG-2004 10:57 UTC

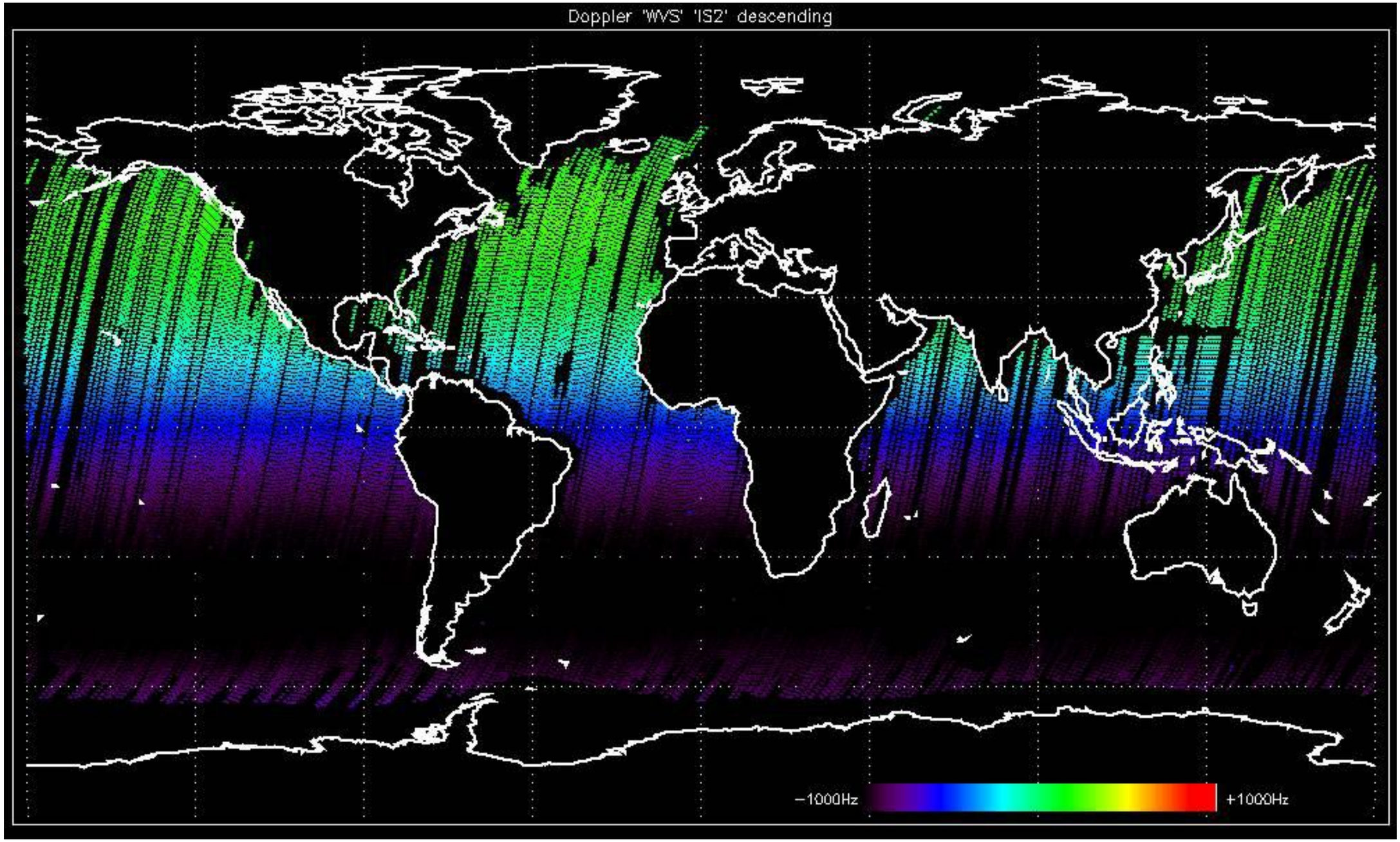
-Stable raw data statistics.
-Nominal Doppler behavior.

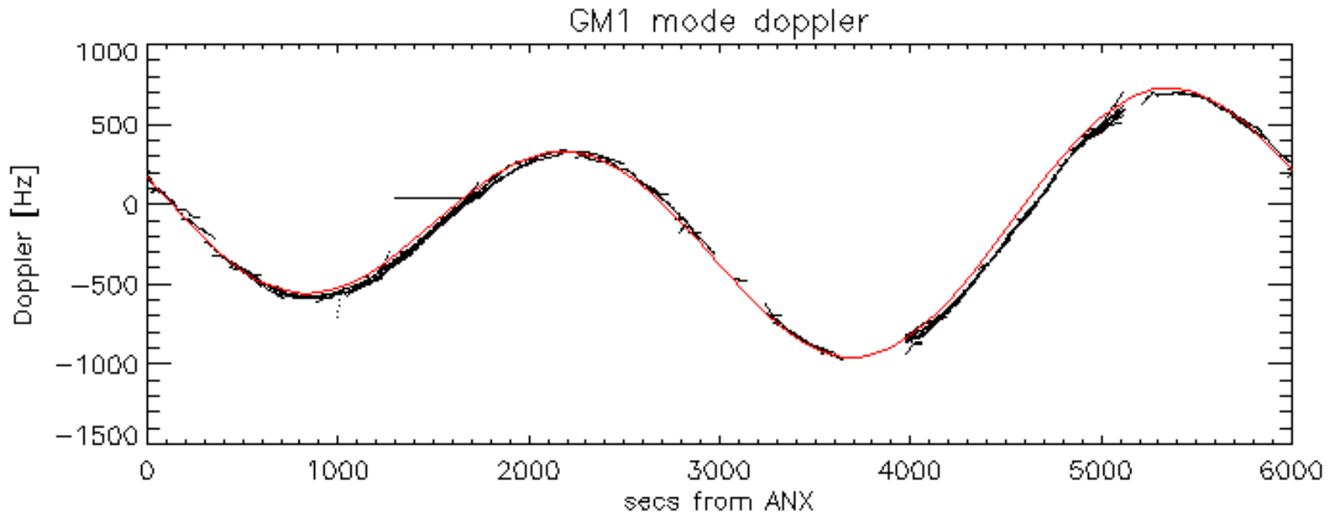
Preliminary report.The data is not yet controled

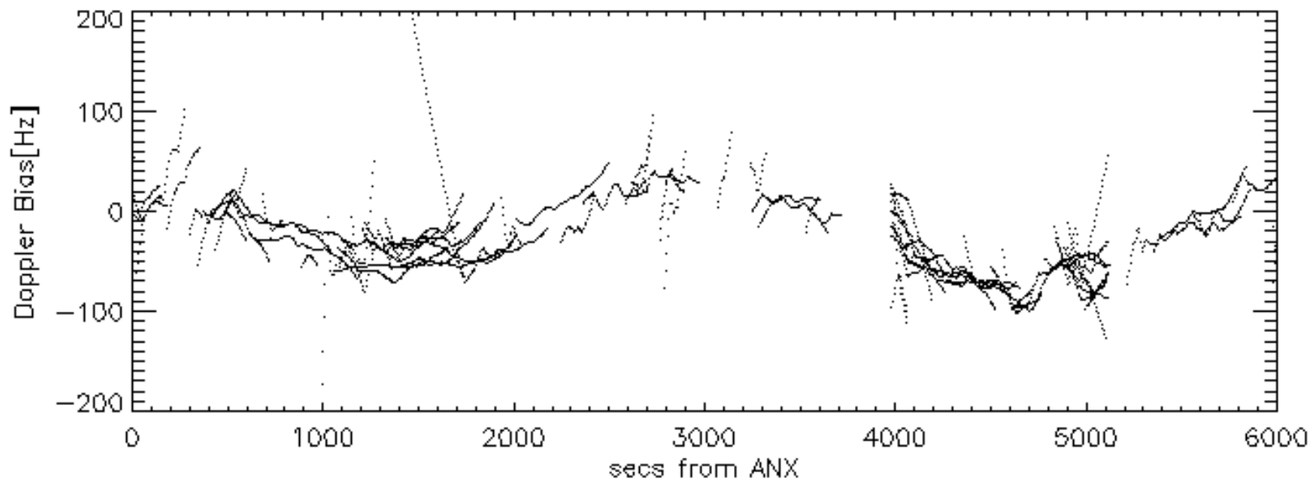

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

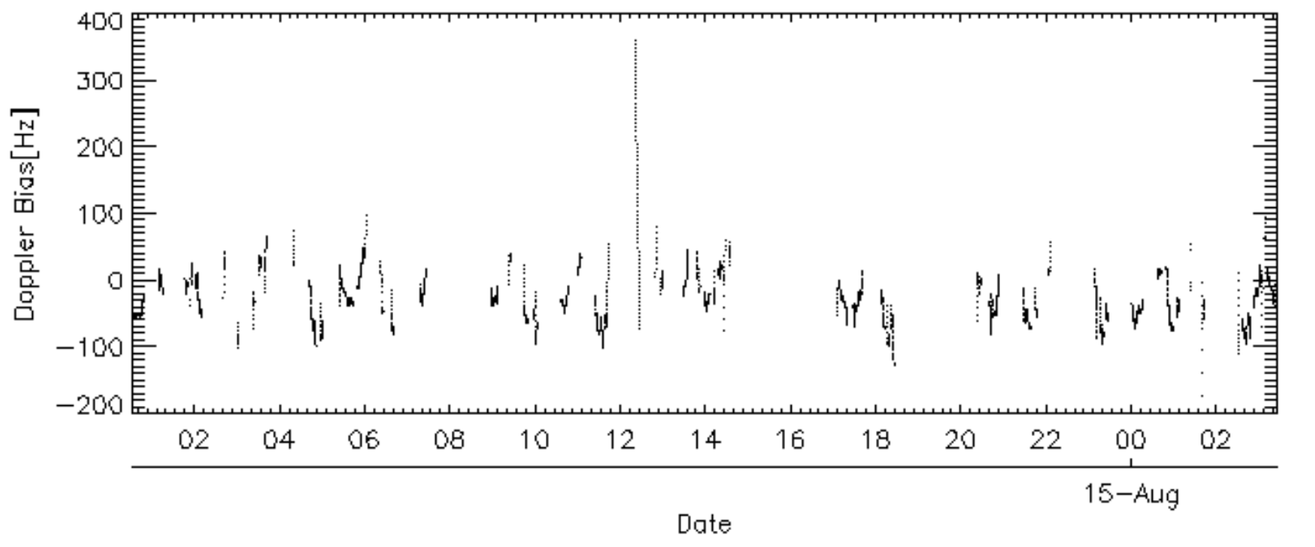

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

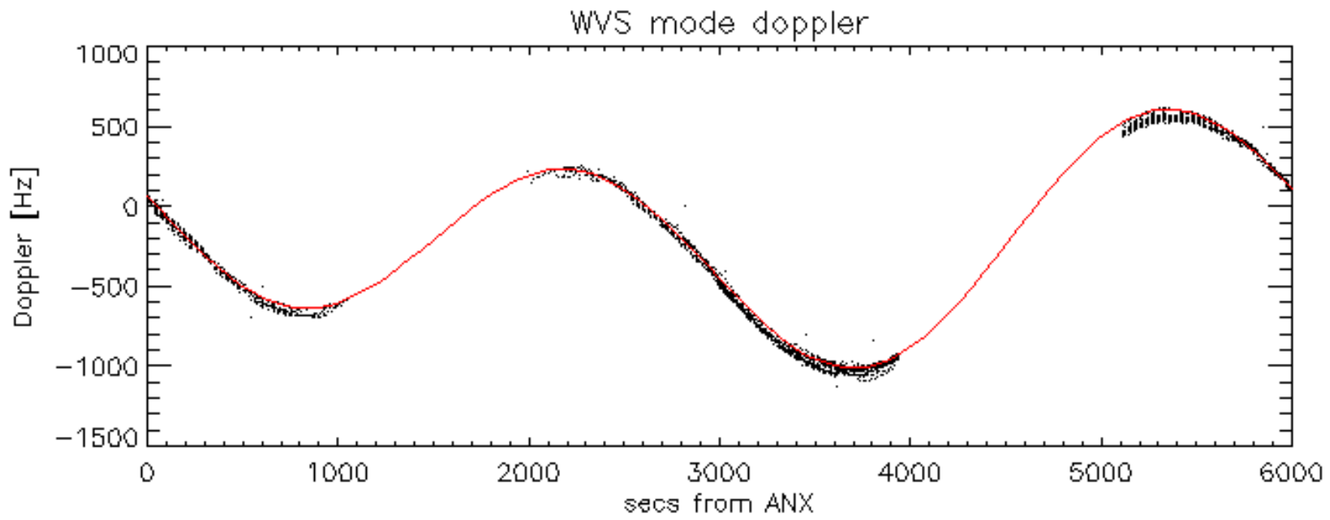

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

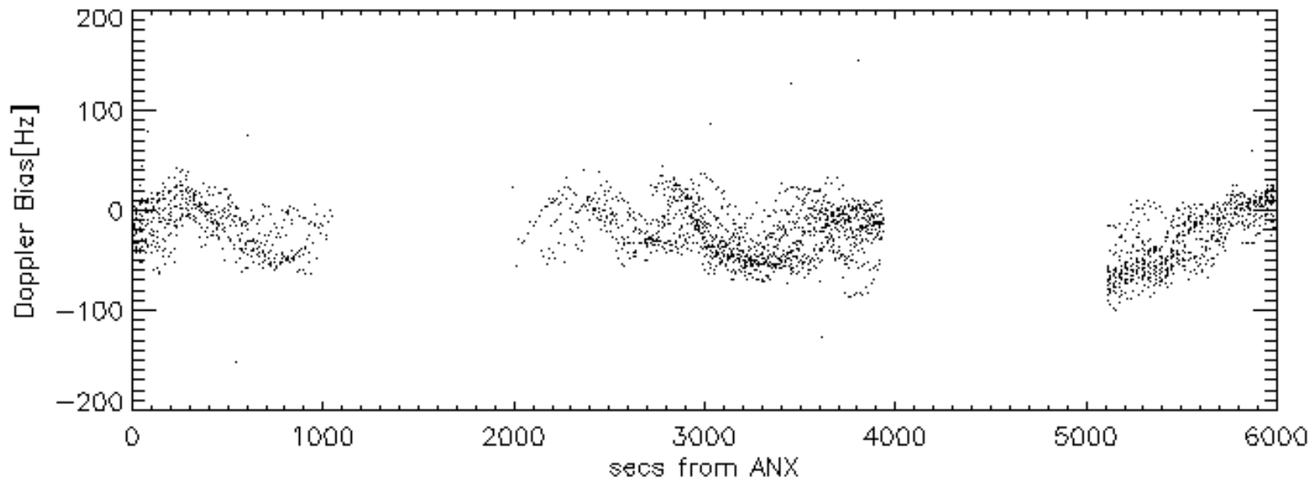

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

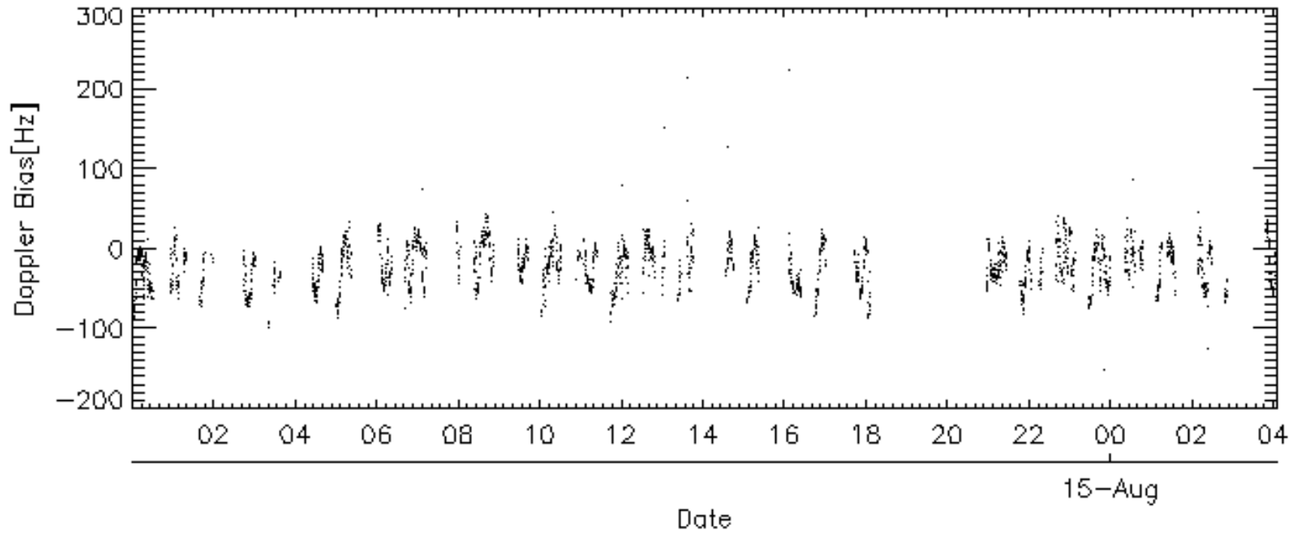

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

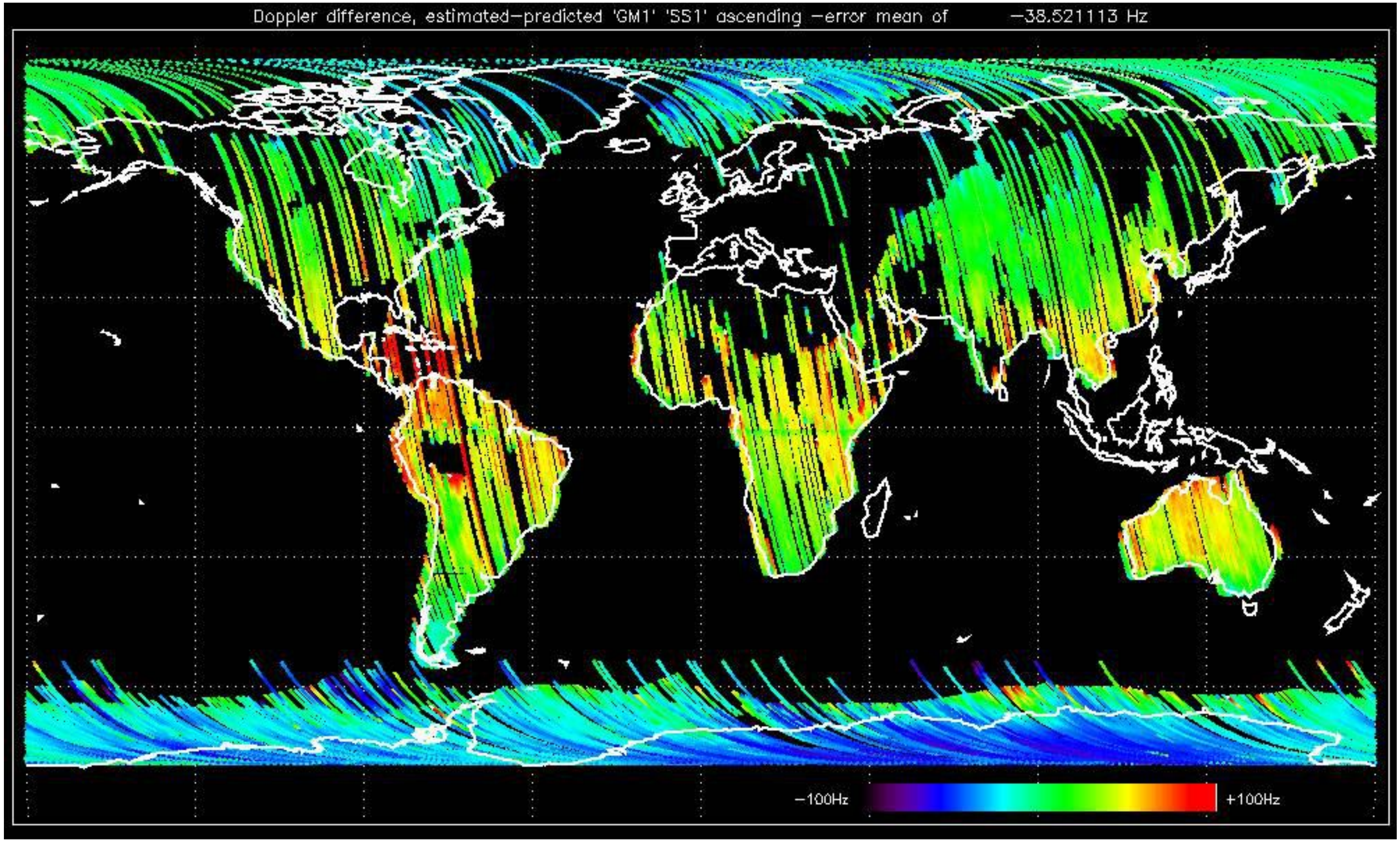

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

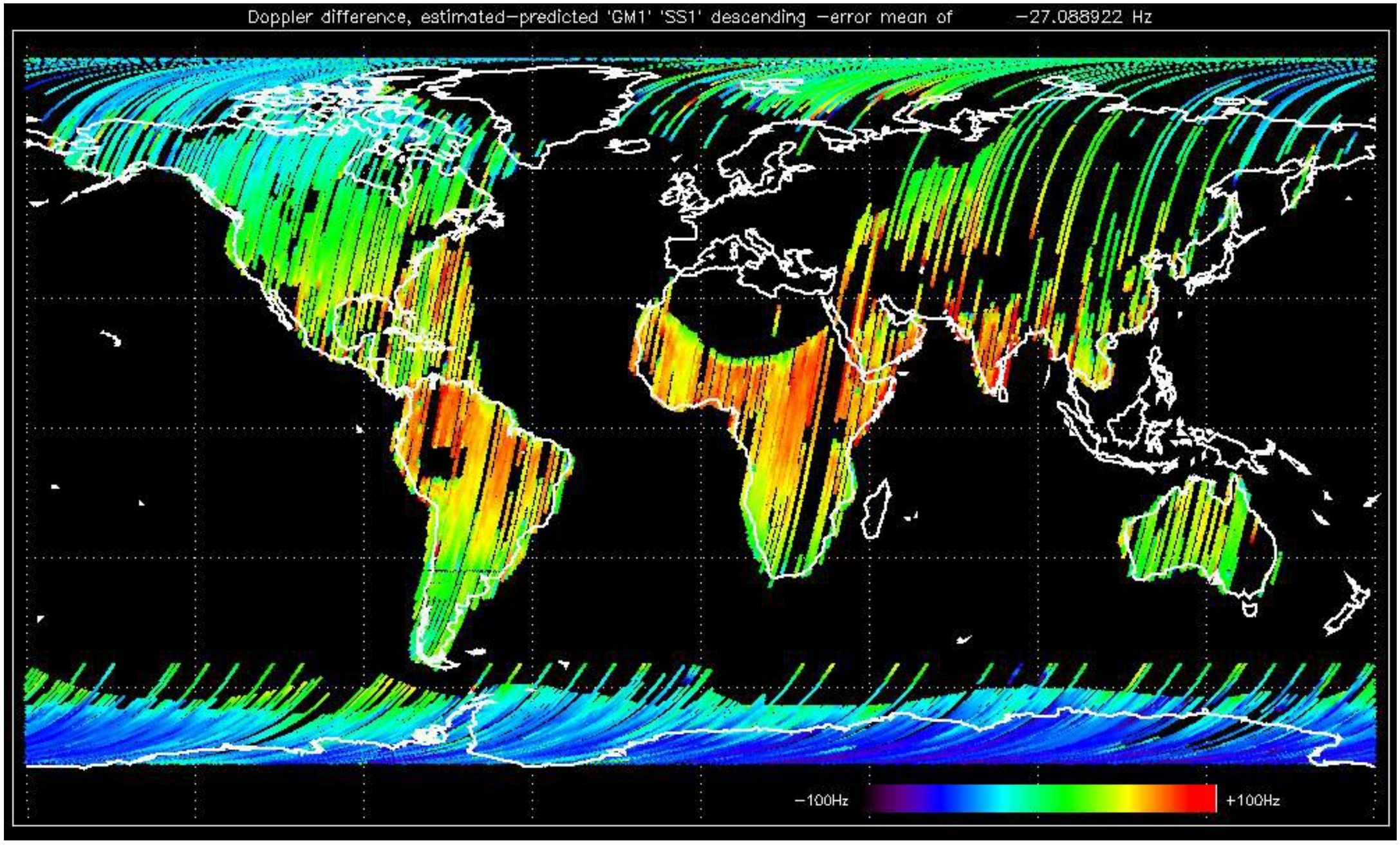

Doppler Bias[Hz]
400
300
200
100
0
−100
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
15−Aug
Date

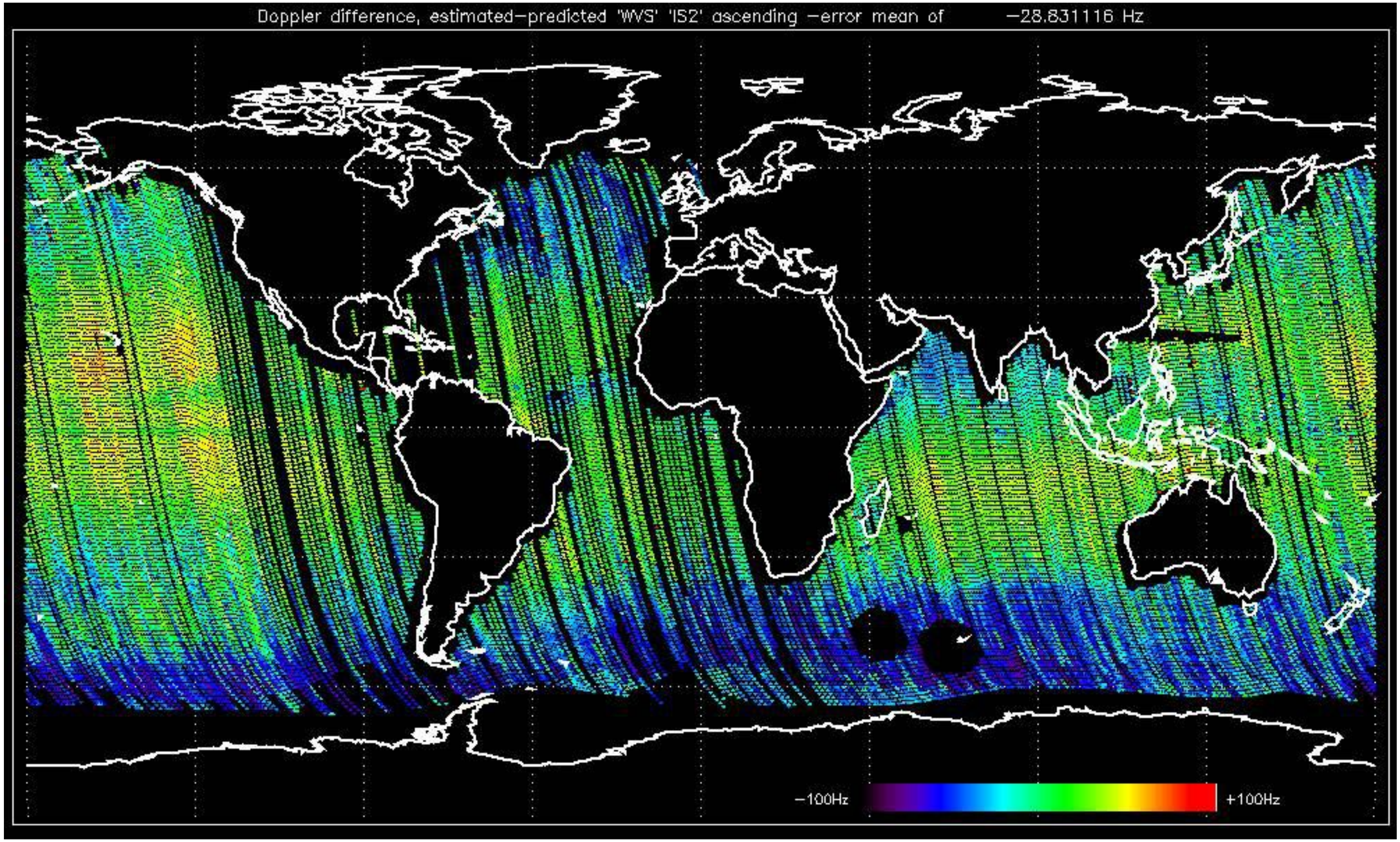

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

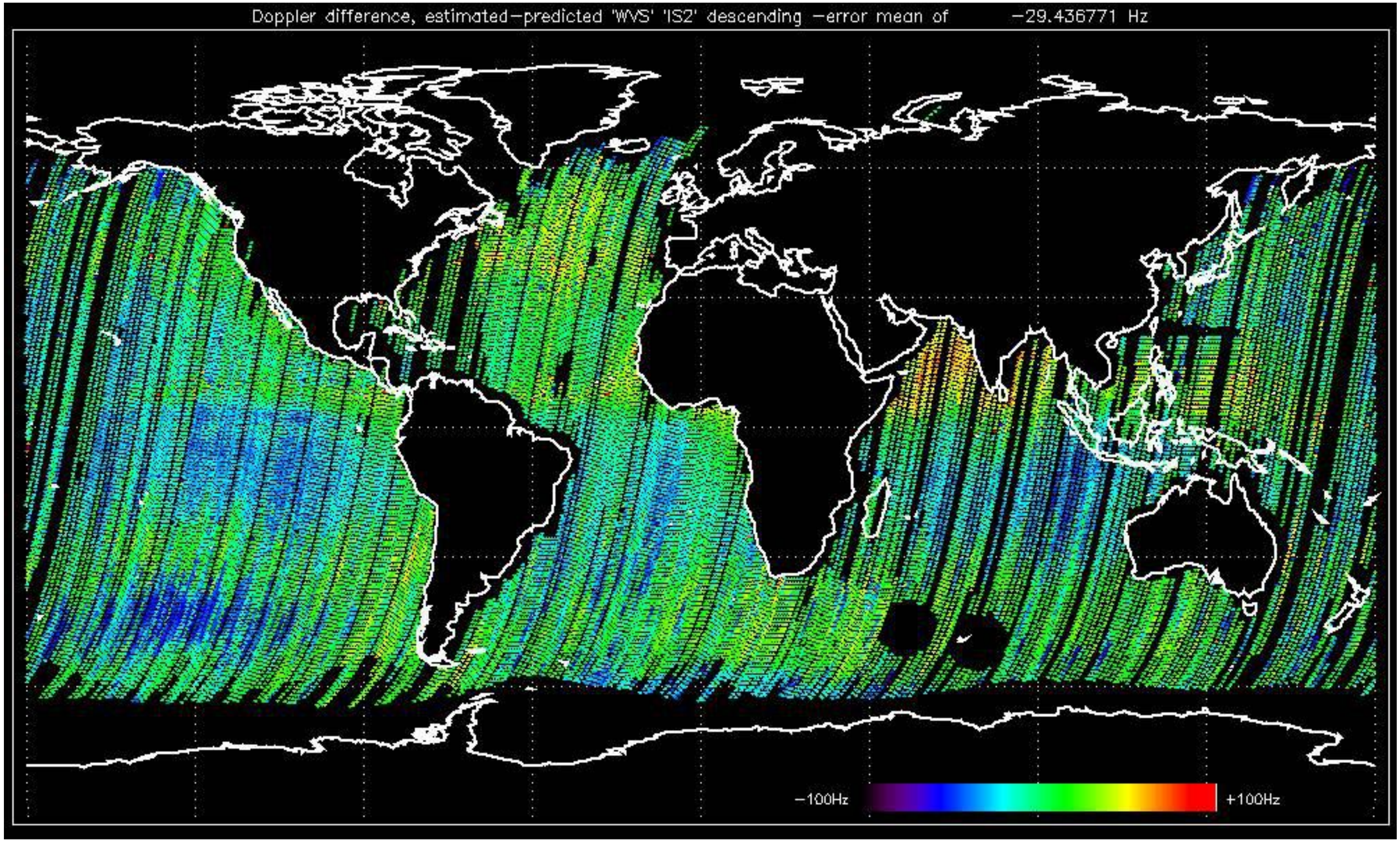

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −38.521113 Hz
−100Hz
+100Hz

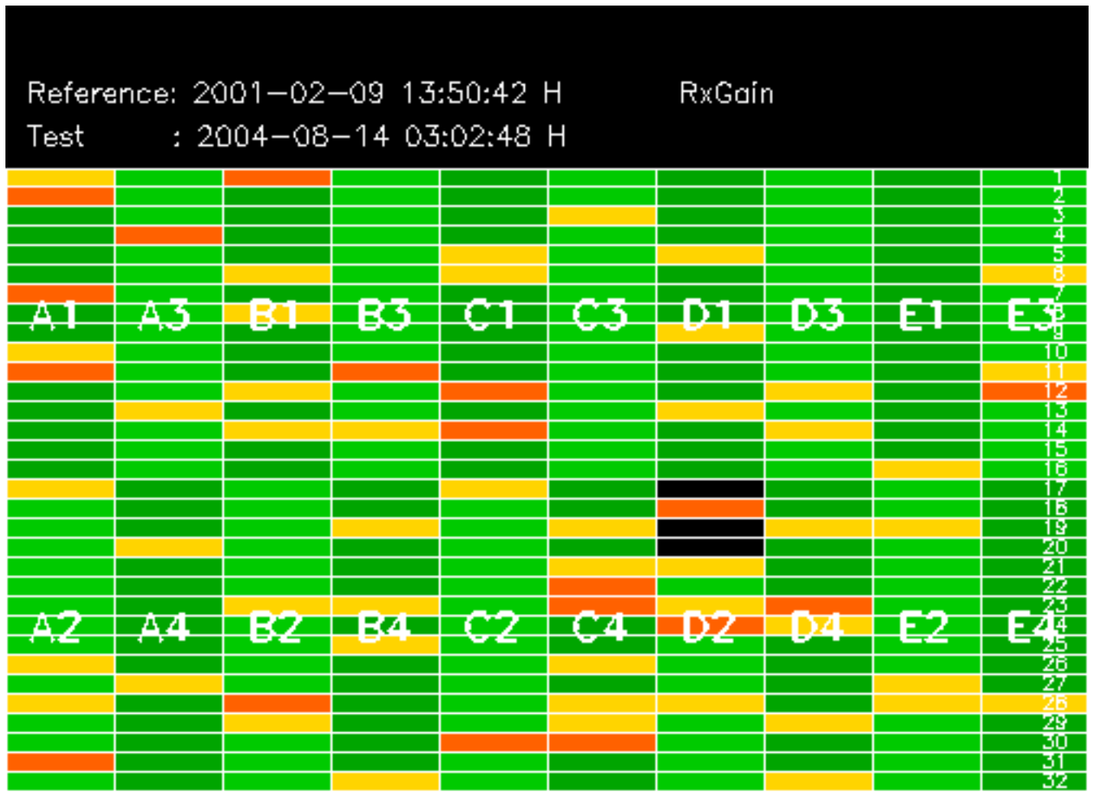

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -27.088922 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −28.831116 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −29.436771 Hz
−100Hz
+100Hz

The MS data of the 14-AUG has been acquired before the anomaly start.
Therefore no anomaly is visible on it

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2004-08-14 03:02:48 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
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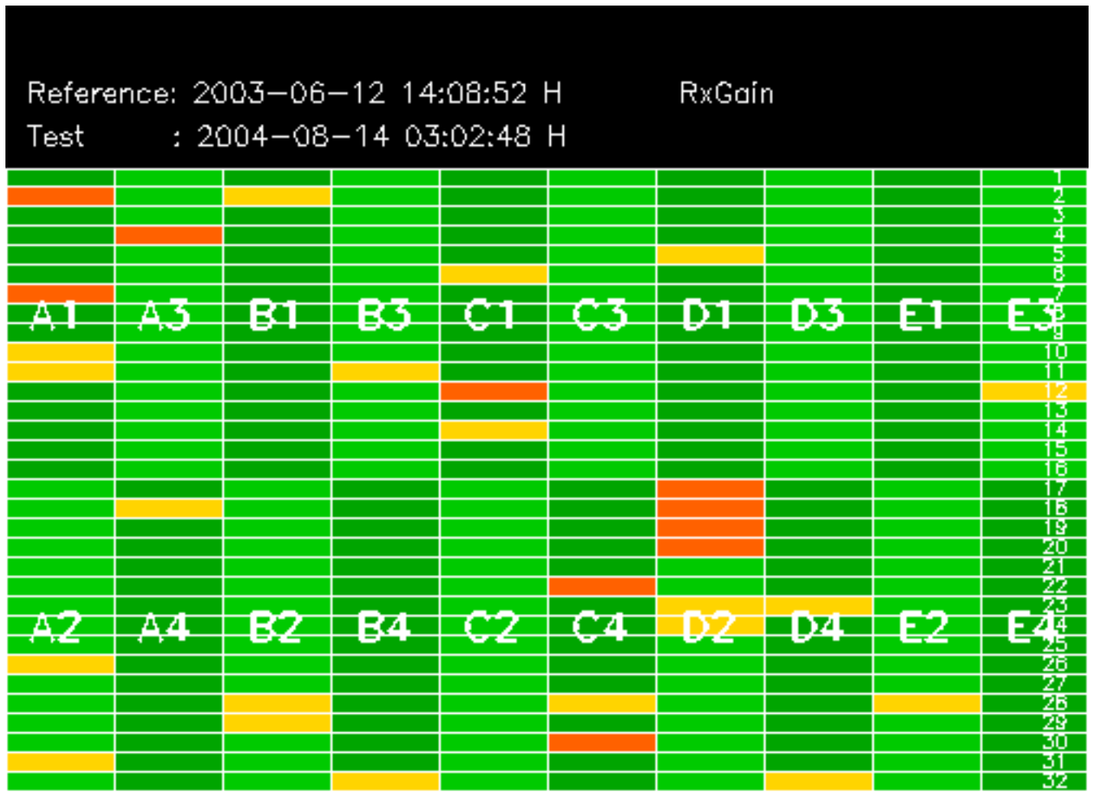
32


Reference: 2003-06-12 14:08:52 H
Test : 2004-08-14 03:02:48 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
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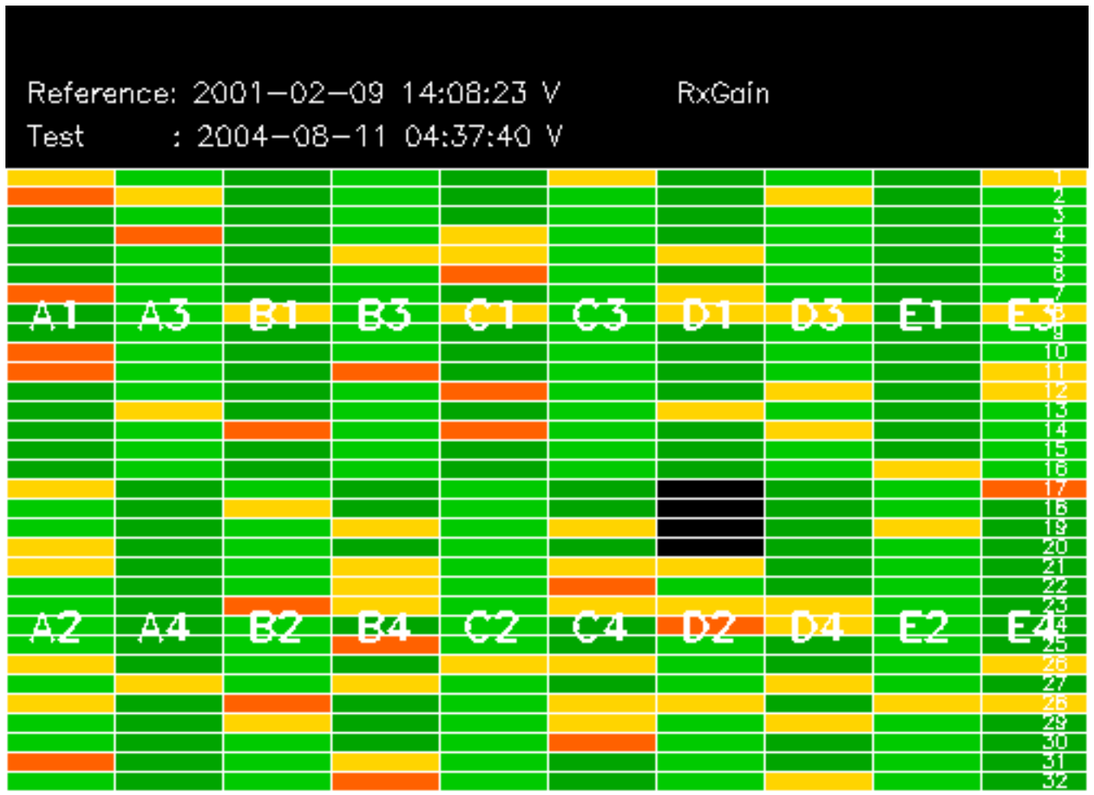
Reference: 2001-02-09 14:08:23 V
Test : 2004-08-11 04:37:40 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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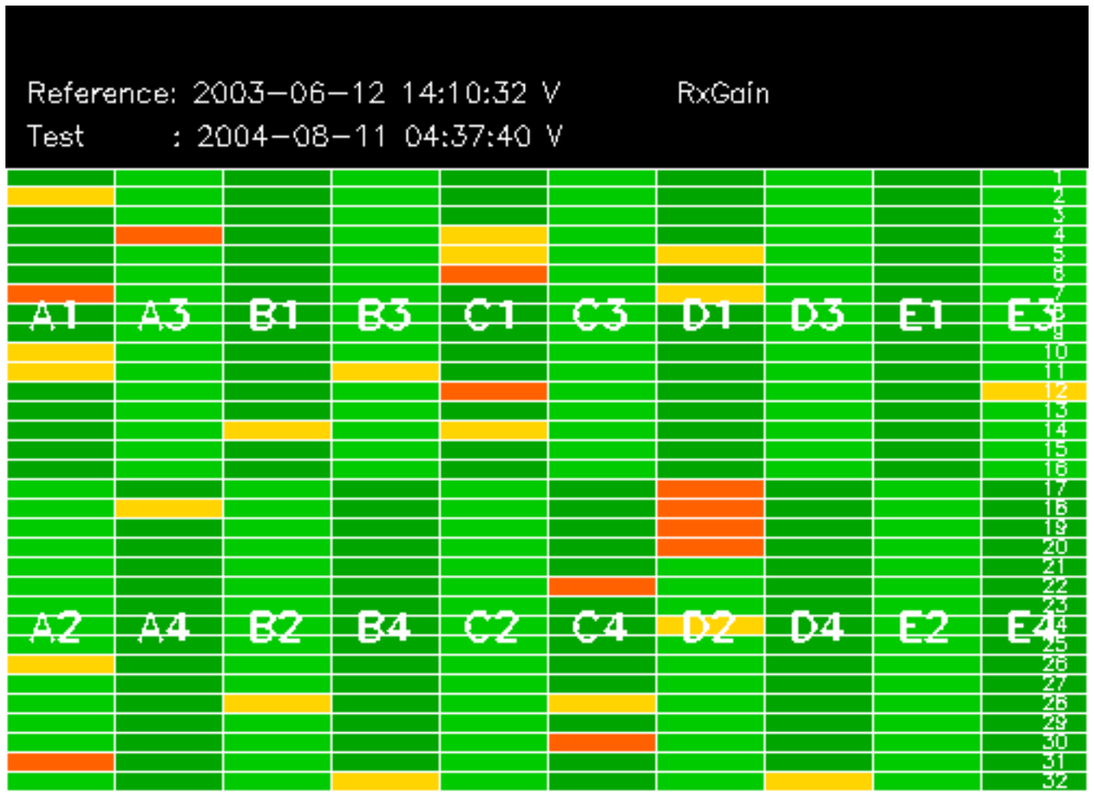
Reference: 2003-06-12 14:10:32 V
Test : 2004-08-11 04:37:40 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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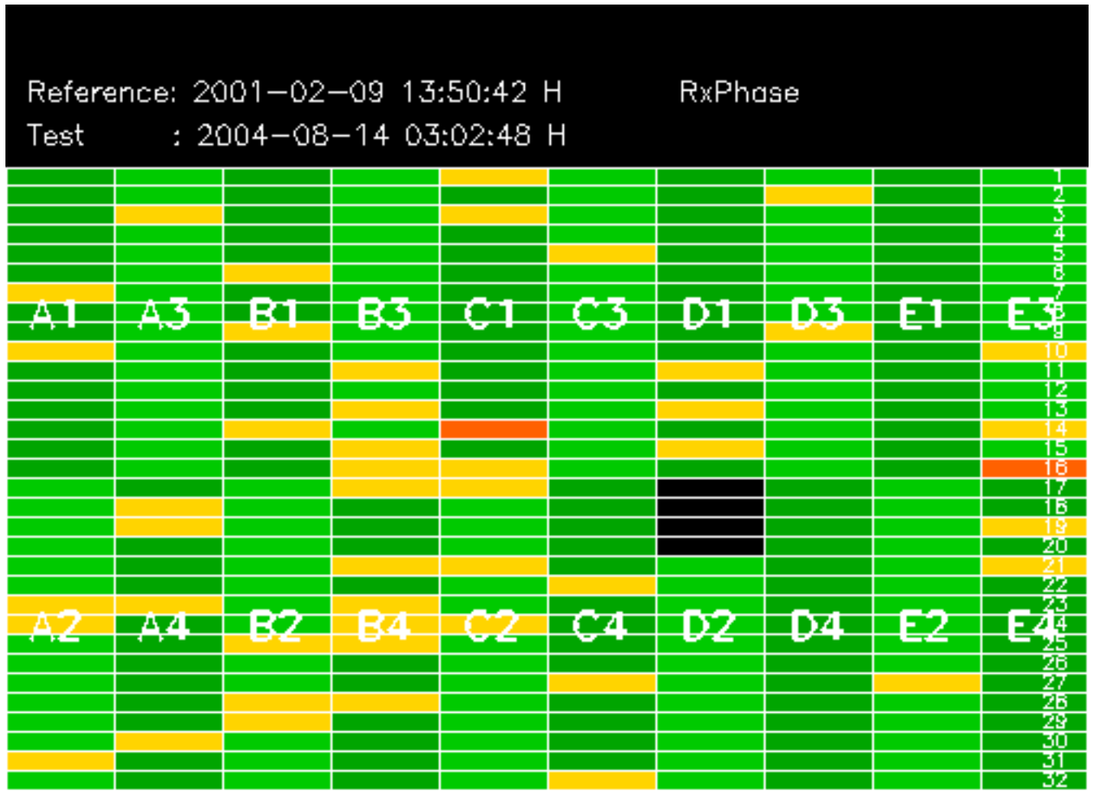
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-08-14 03:02:48 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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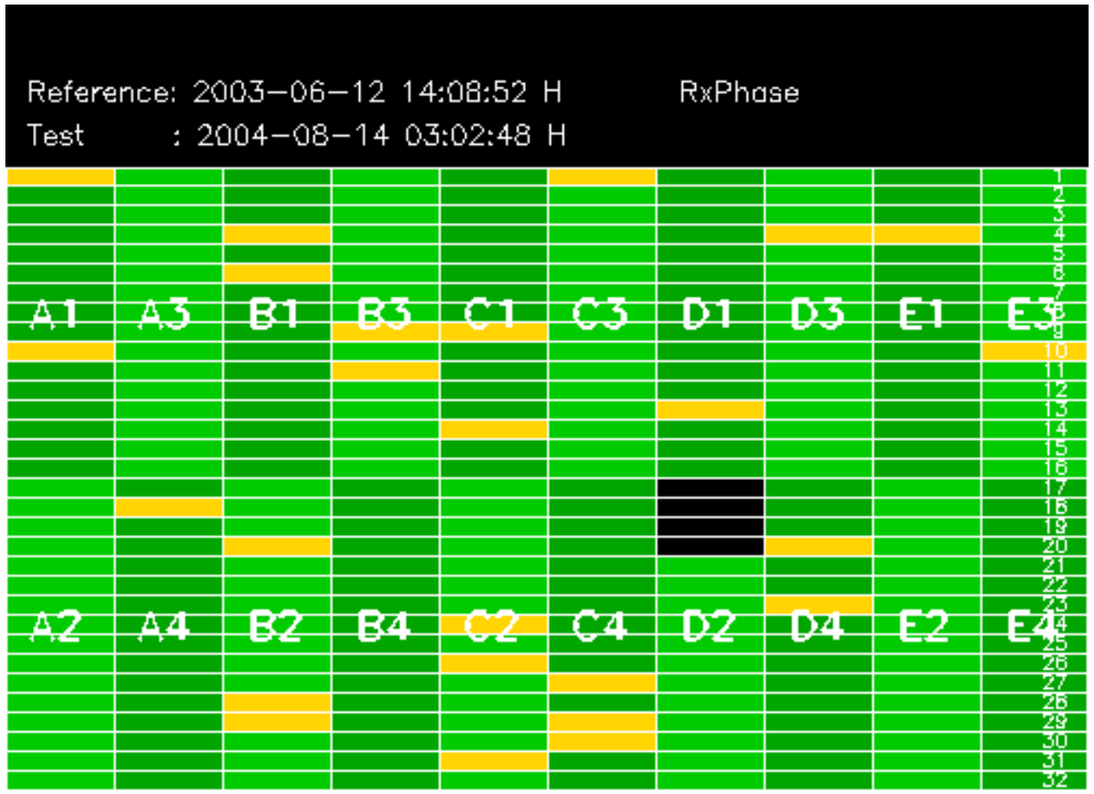
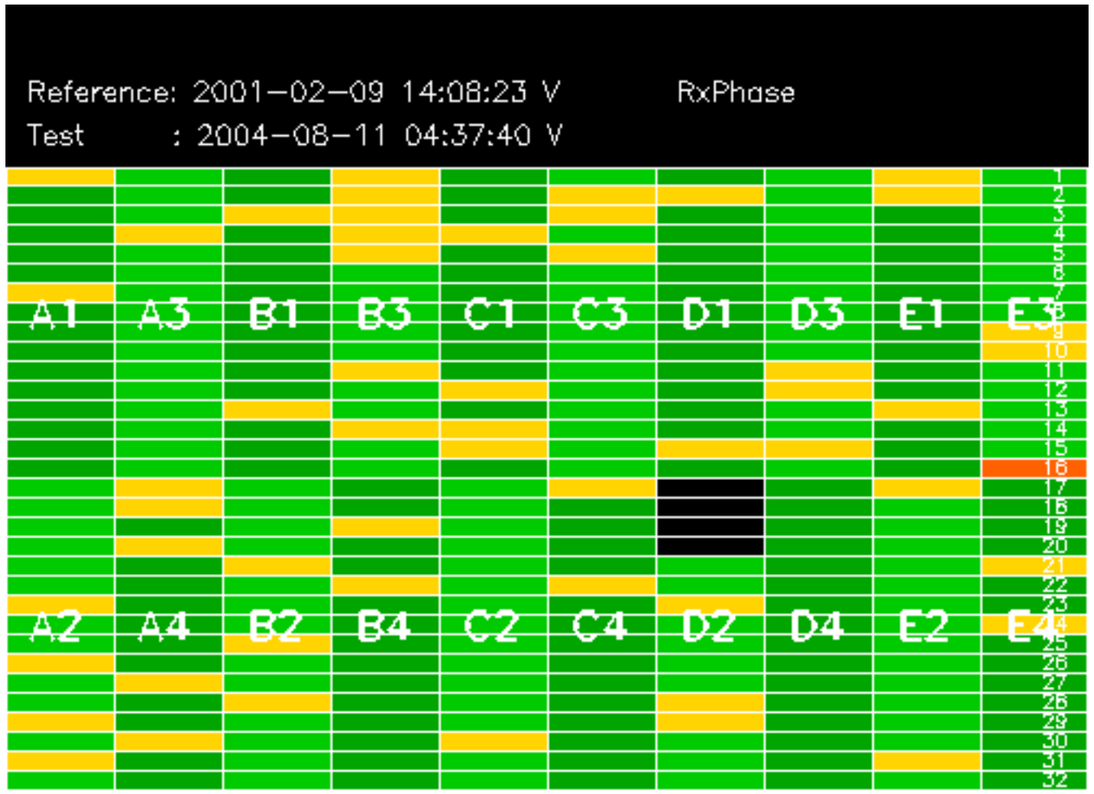

Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2004-08-14 03:02:48 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-08-11 04:37:40 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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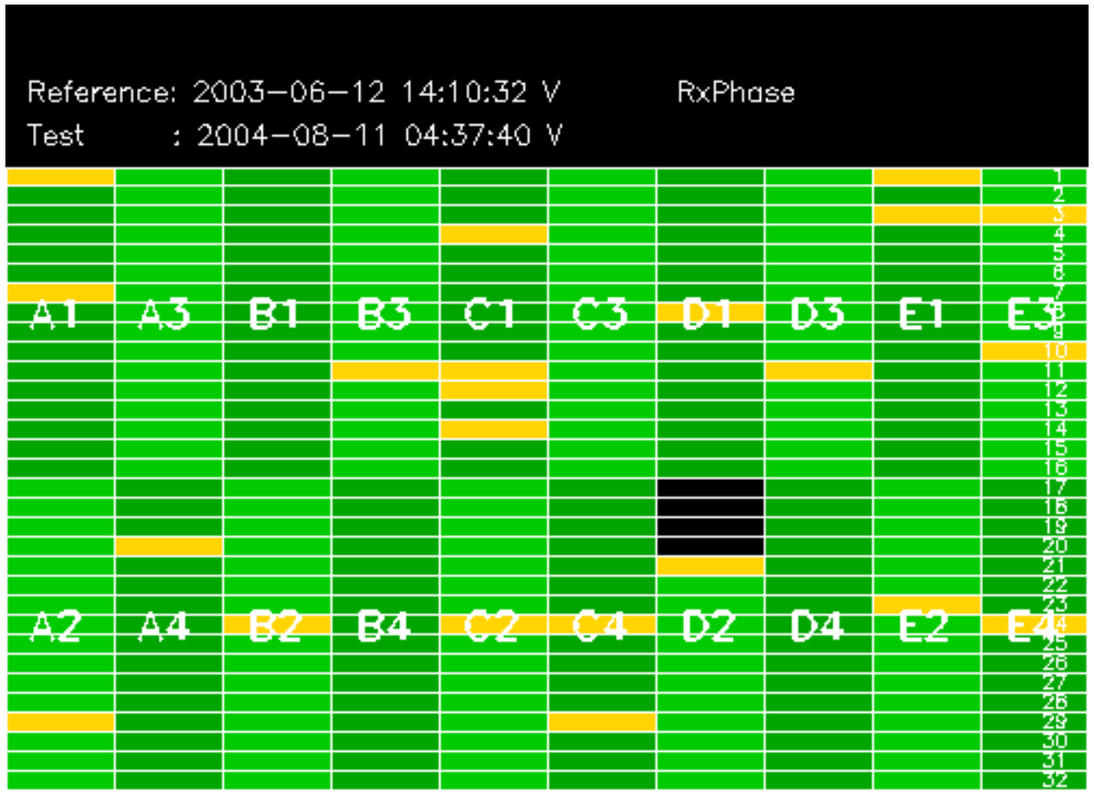
Reference: 2003-06-12 14:10:32 V
Test : 2004-08-11 04:37:40 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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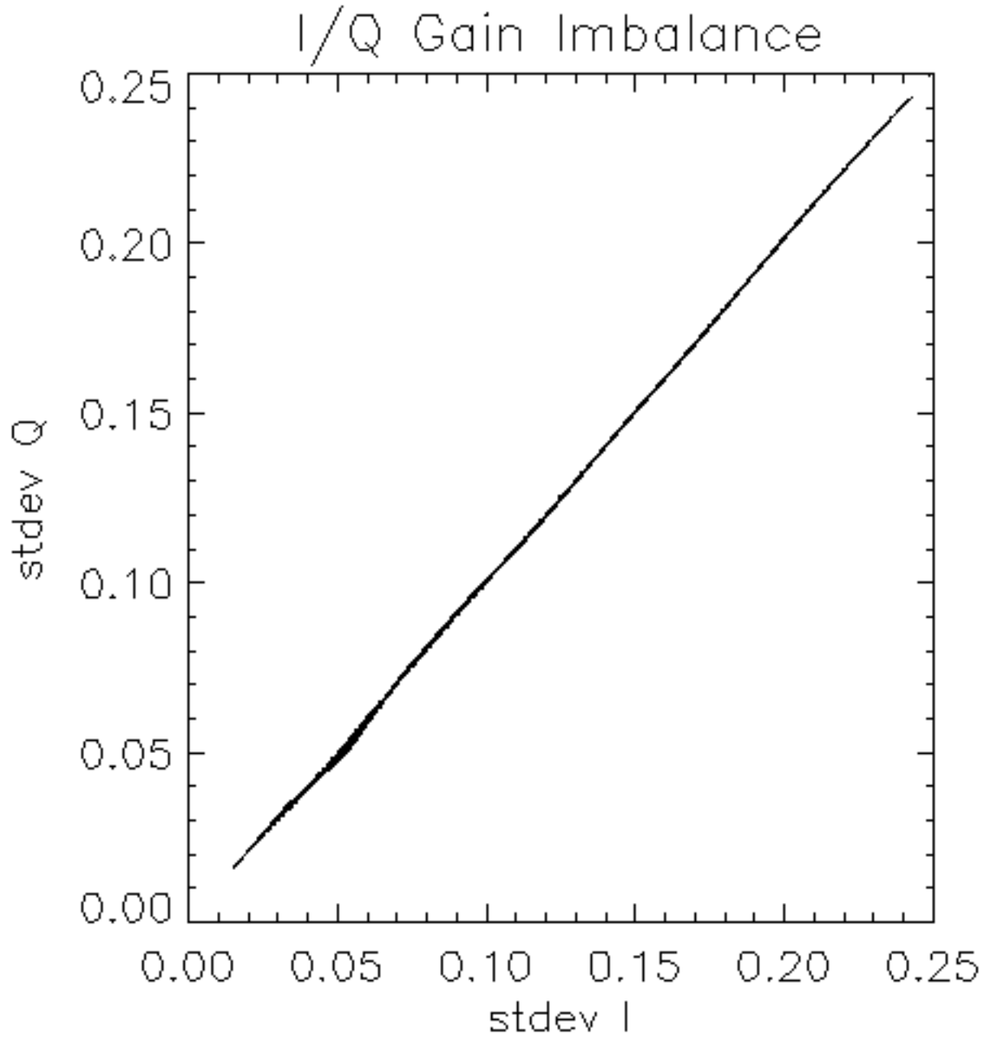
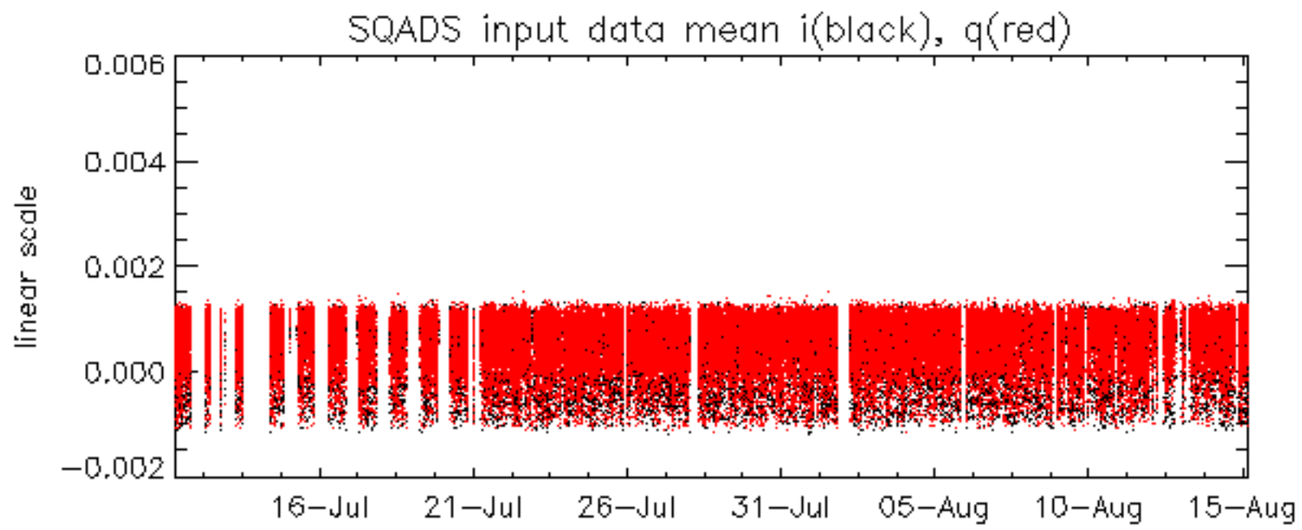
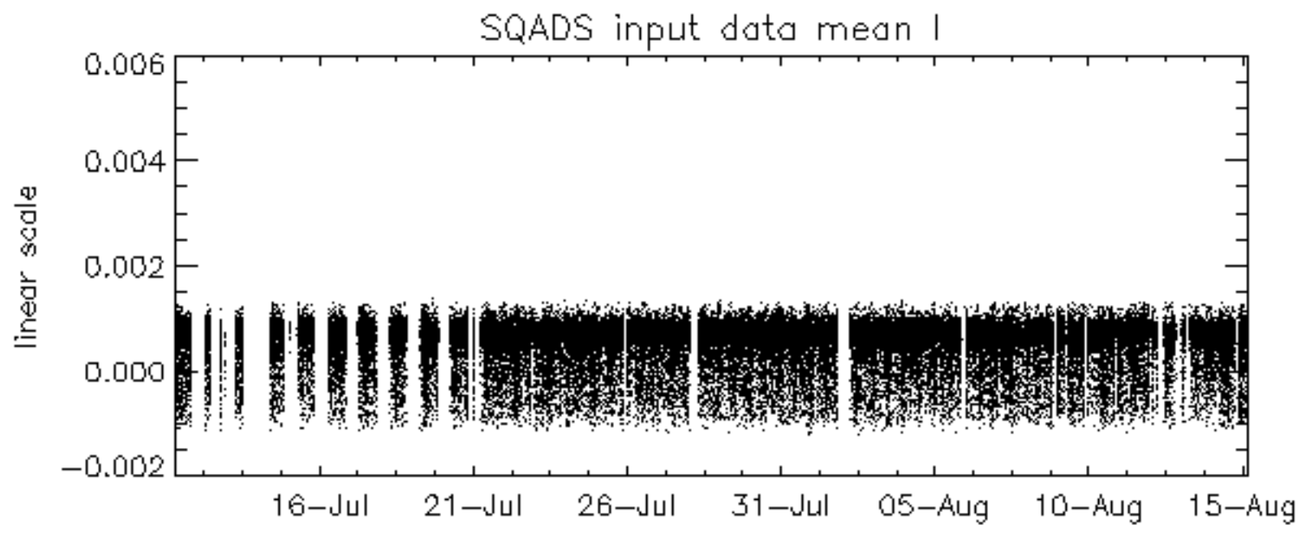
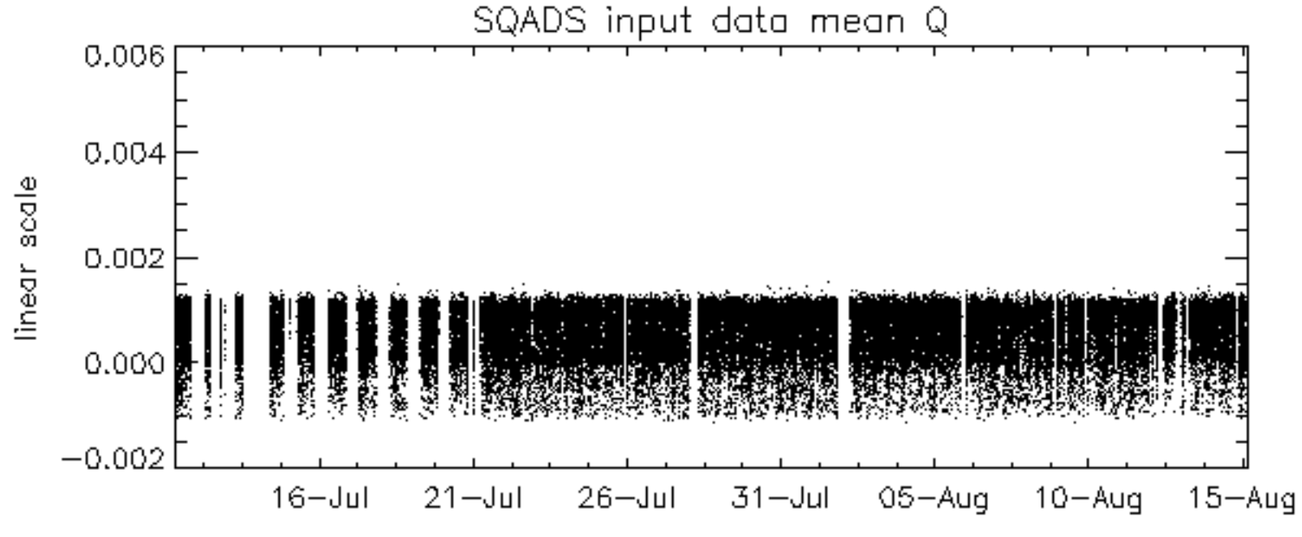
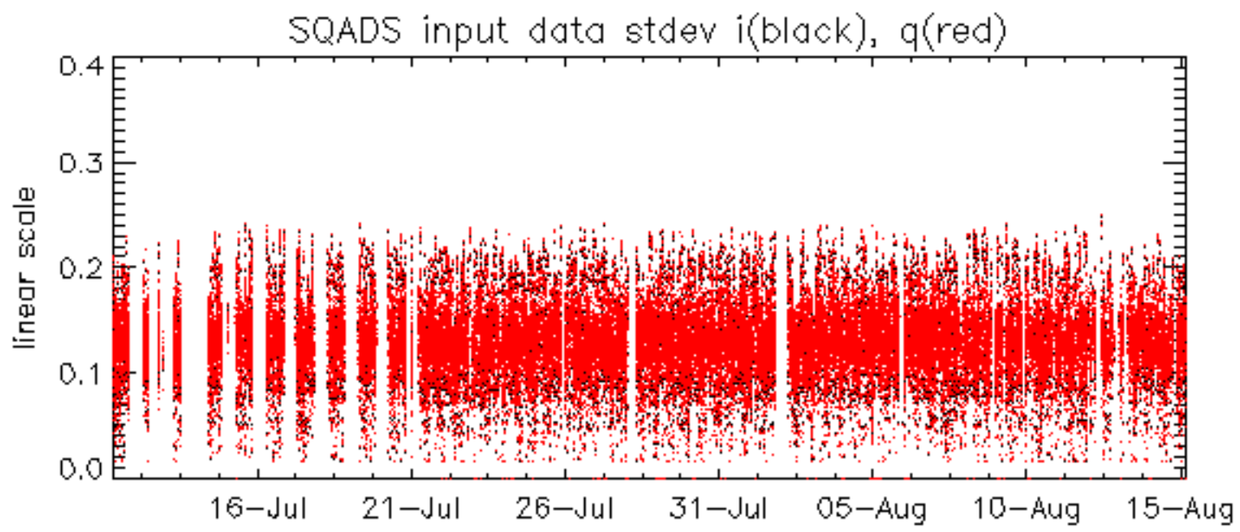
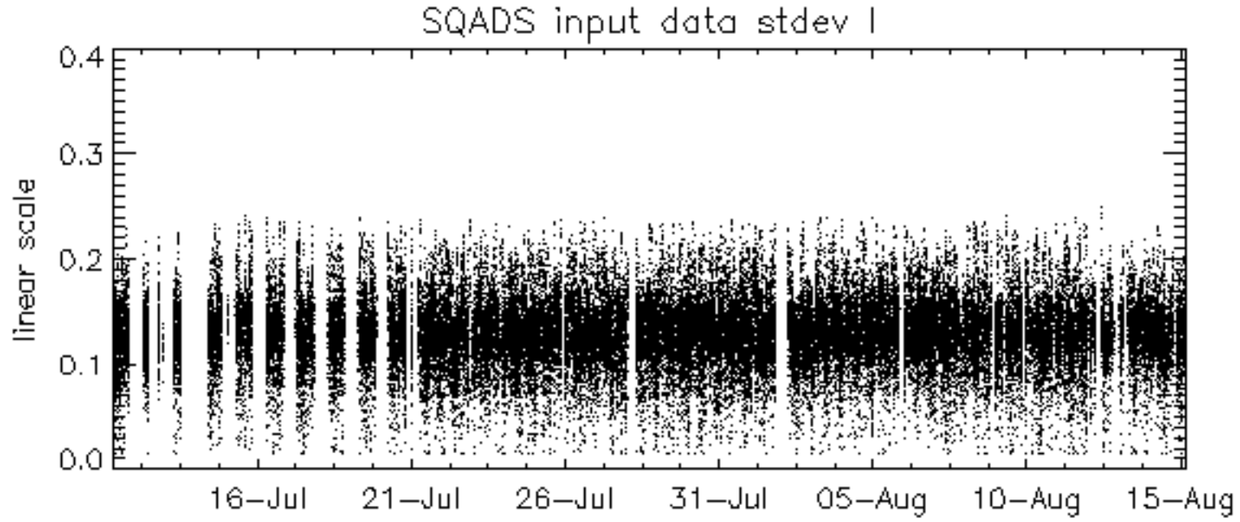

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

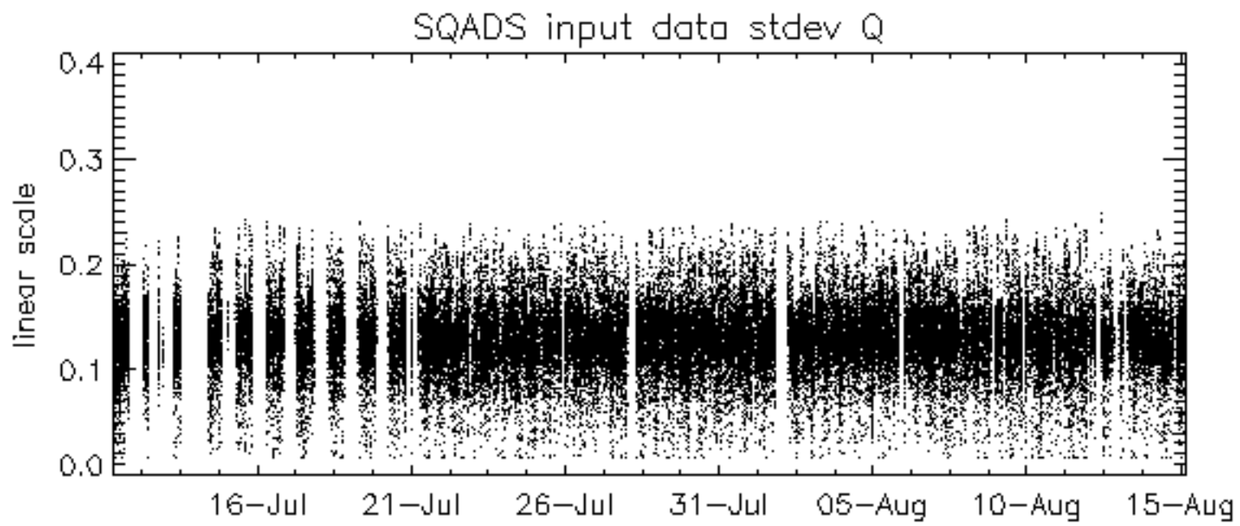

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug

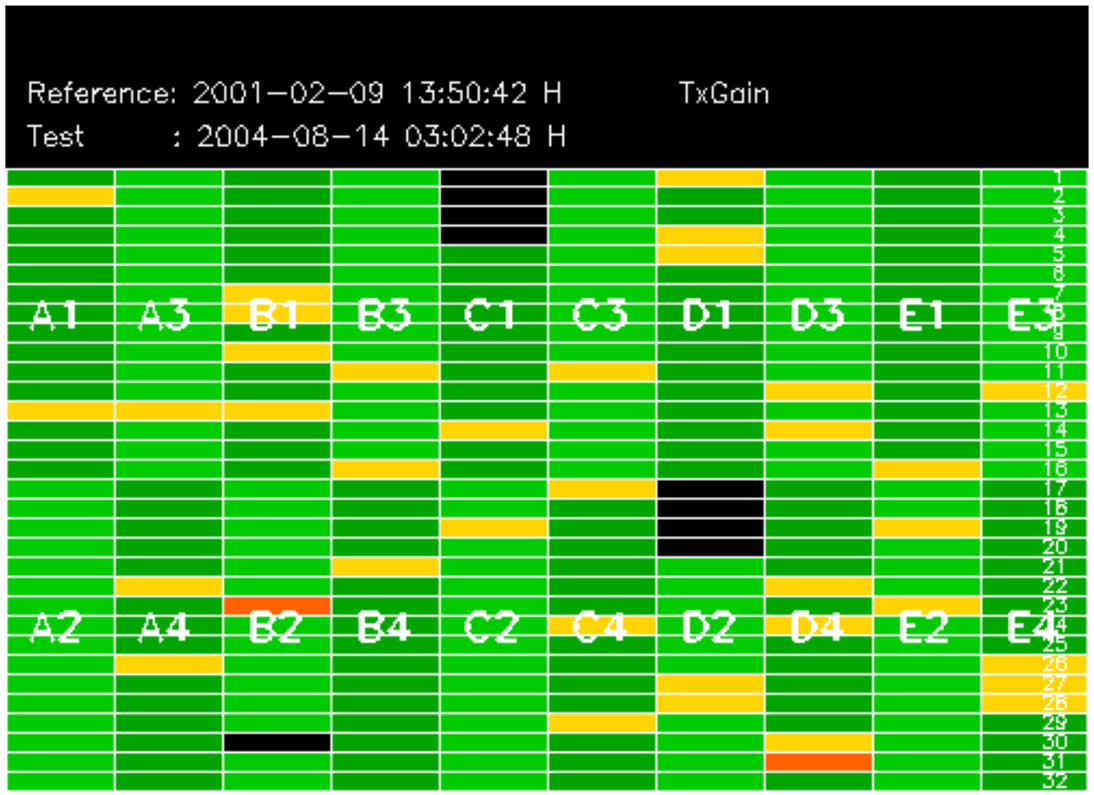

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug

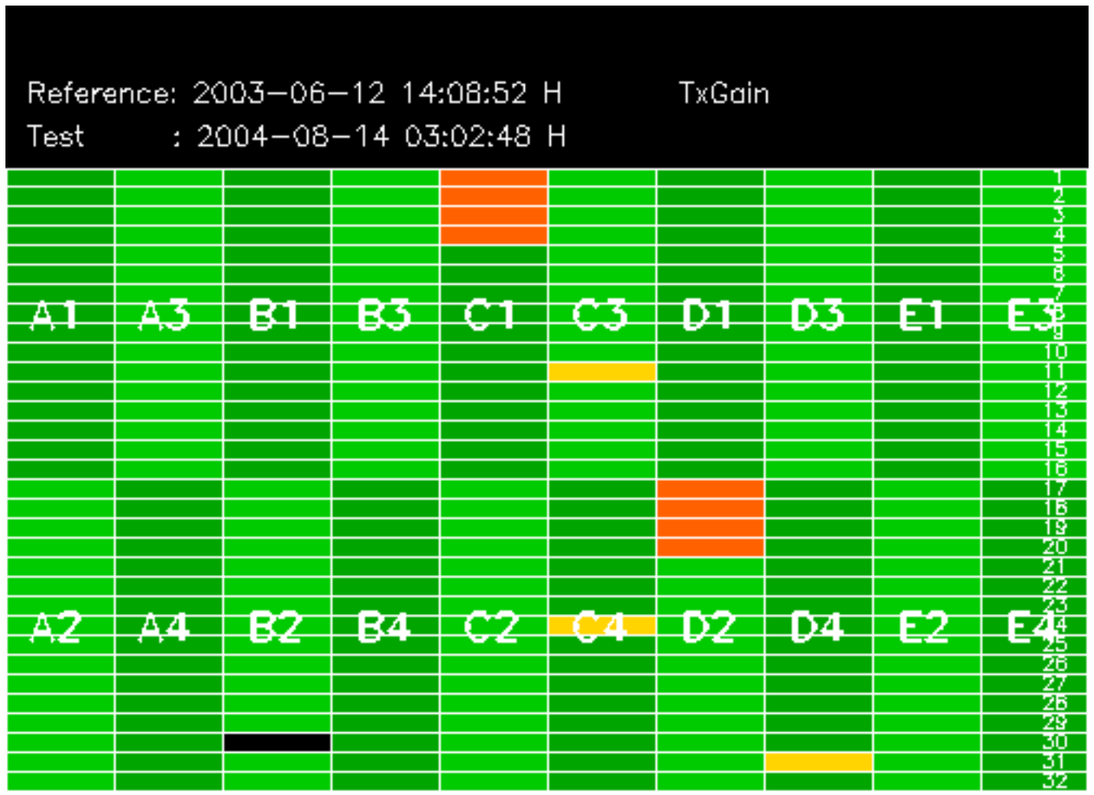

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug
10−Aug
15−Aug


SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
16–Jul
21–Jul
26–Jul
31–Jul
05–Aug
10–Aug
15–Aug


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
16–Jul
21–Jul
26–Jul
31–Jul
05–Aug
10–Aug
15–Aug


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
16–Jul
21–Jul
26–Jul
31–Jul
05–Aug
10–Aug
15–Aug


Reference: 2001-02-09 13:50:42 H
Test : 2004-08-14 03:02:48 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 : 2004-08-14 03:02:48 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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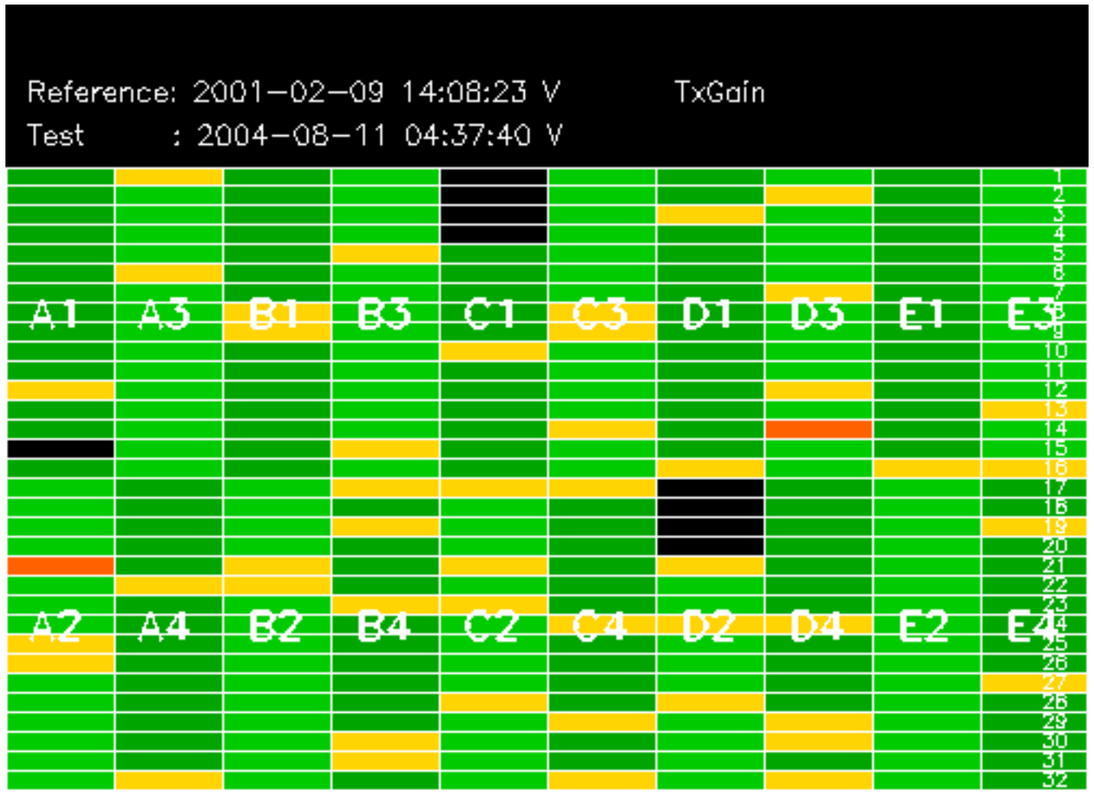
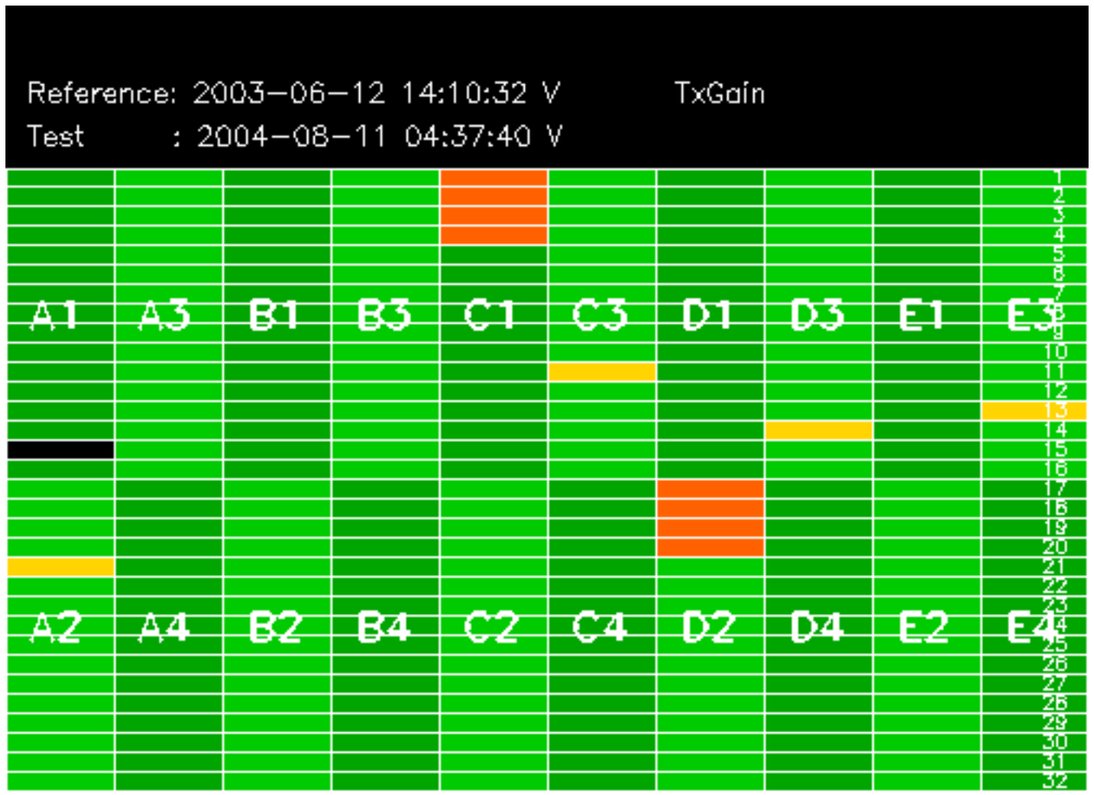

Reference: 2001-02-09 14:08:23 V
Test : 2004-08-11 04:37:40 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-08-11 04:37:40 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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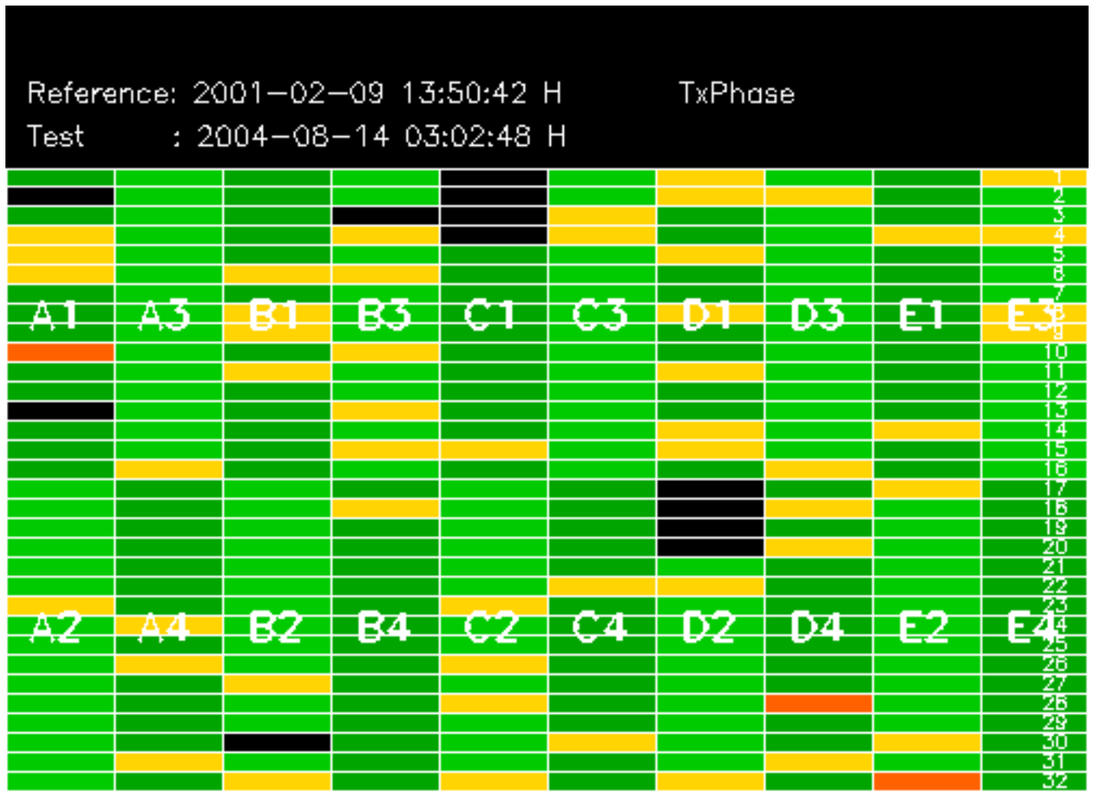
Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-08-14 03:02:48 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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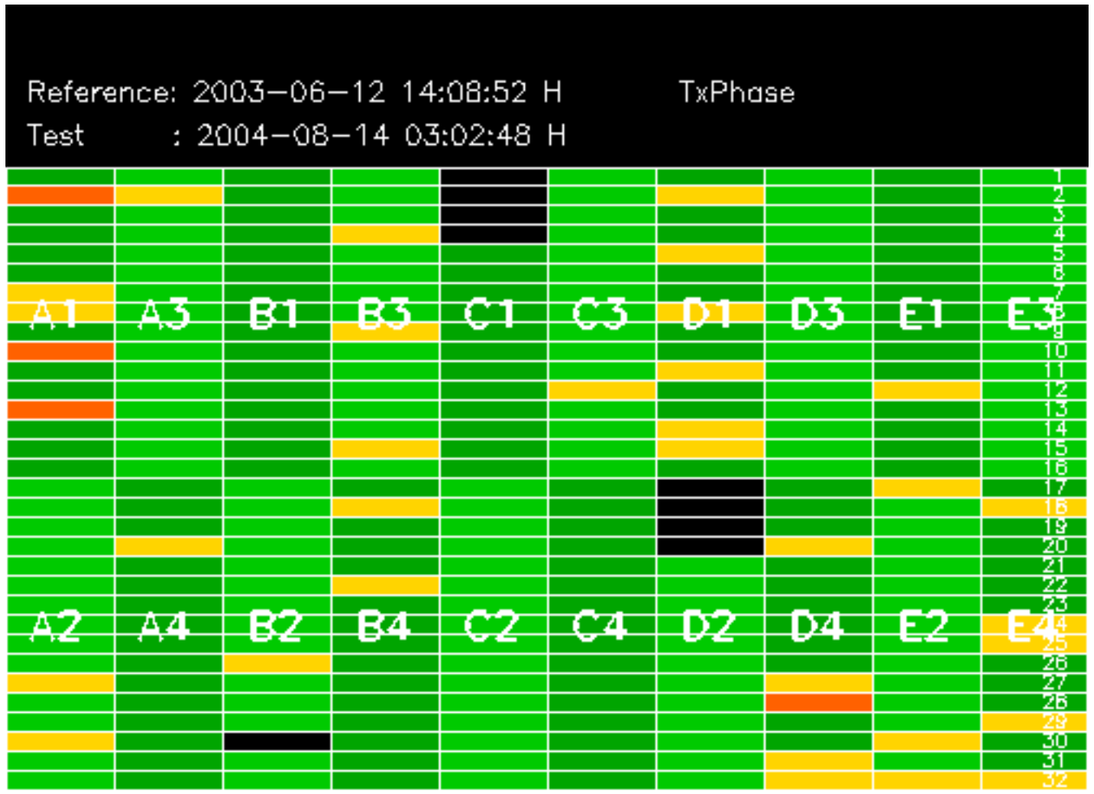
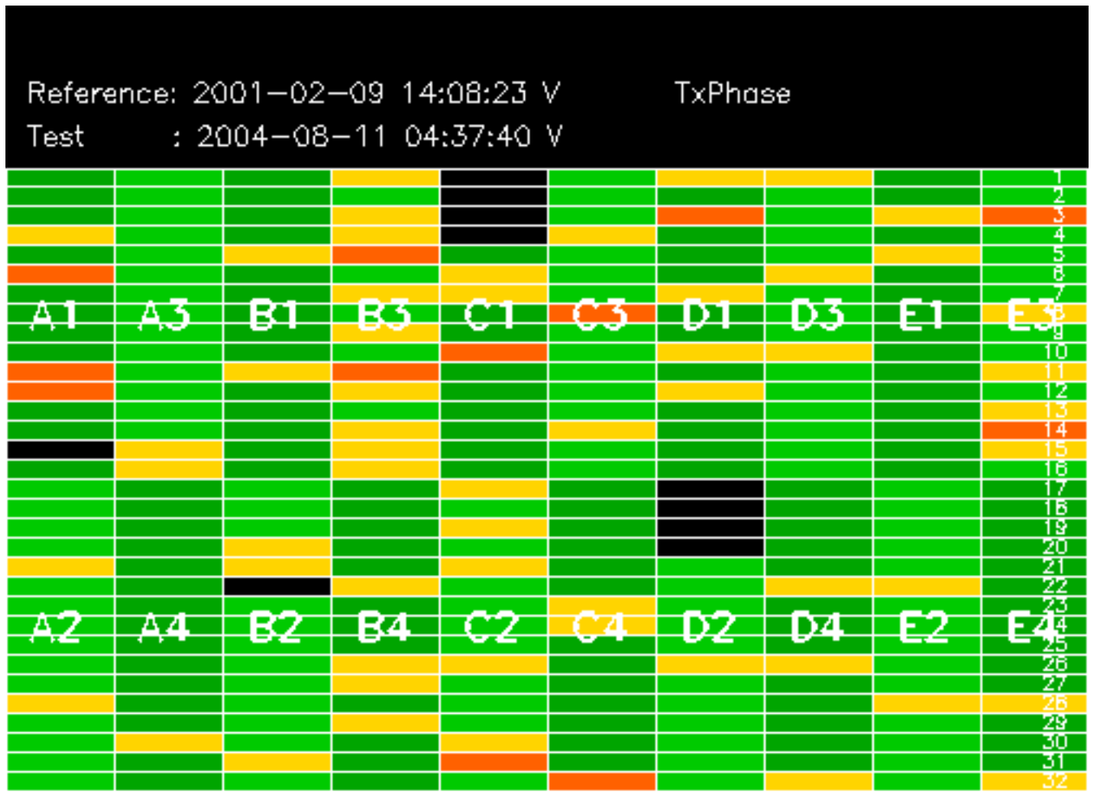

Reference: 2003-06-12 14:08:52 H
Test : 2004-08-14 03:02:48 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2004-08-11 04:37:40 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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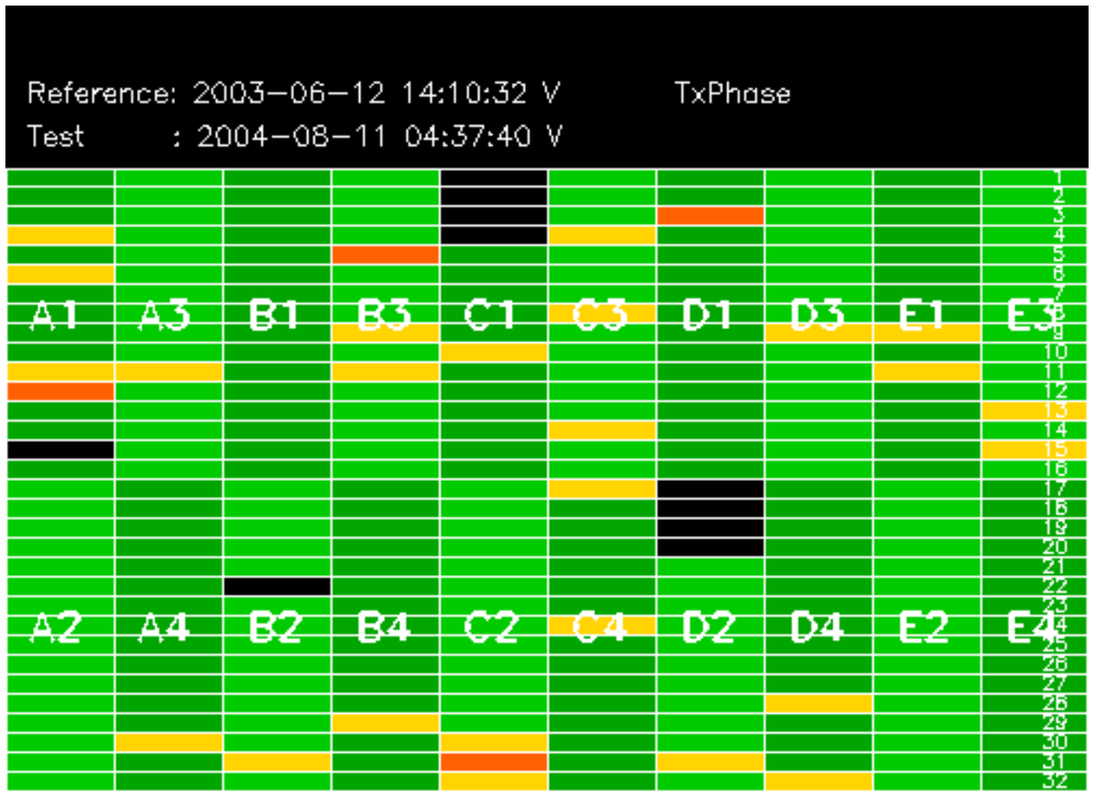
Reference: 2003-06-12 14:10:32 V
Test : 2004-08-11 04:37:40 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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E2
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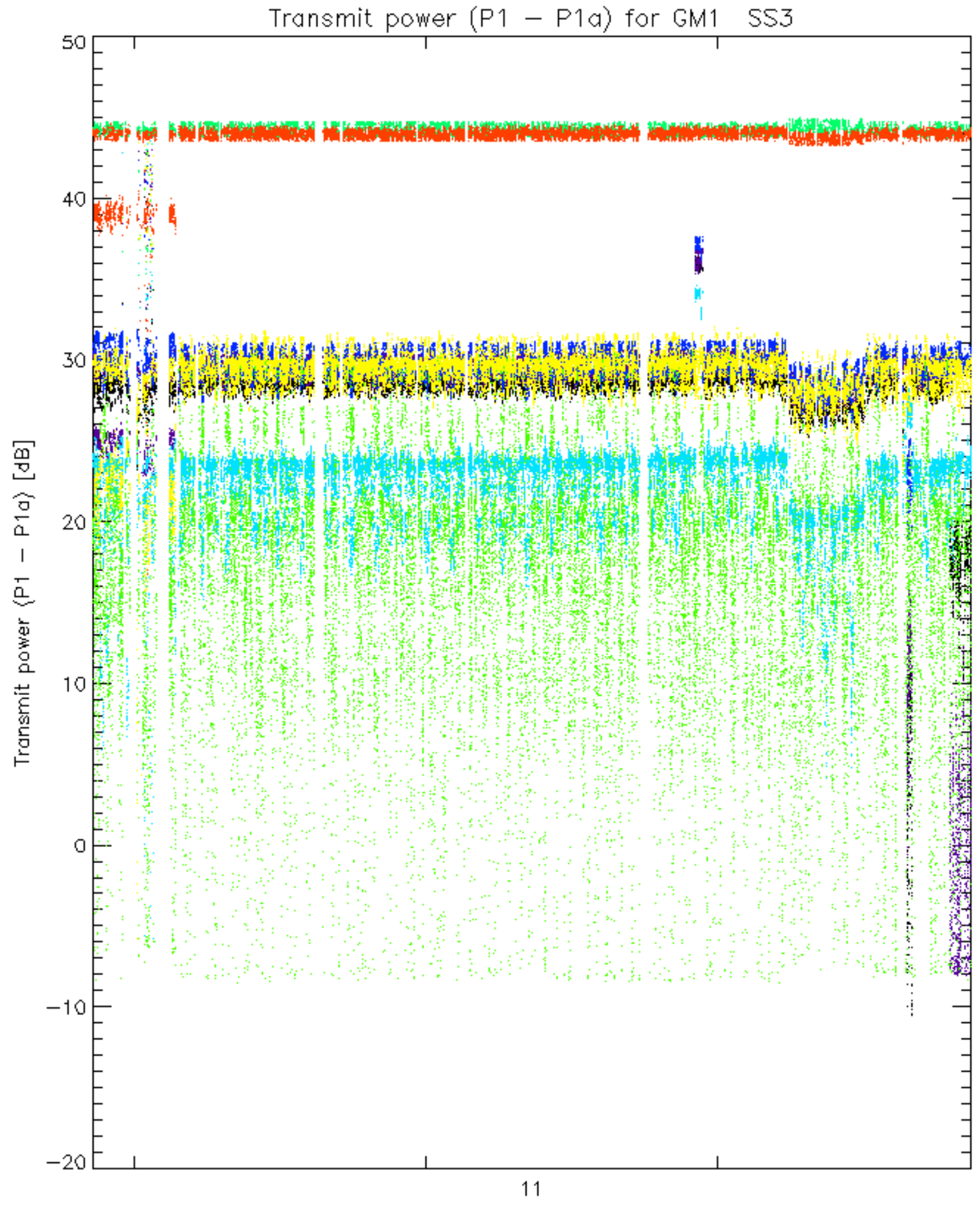
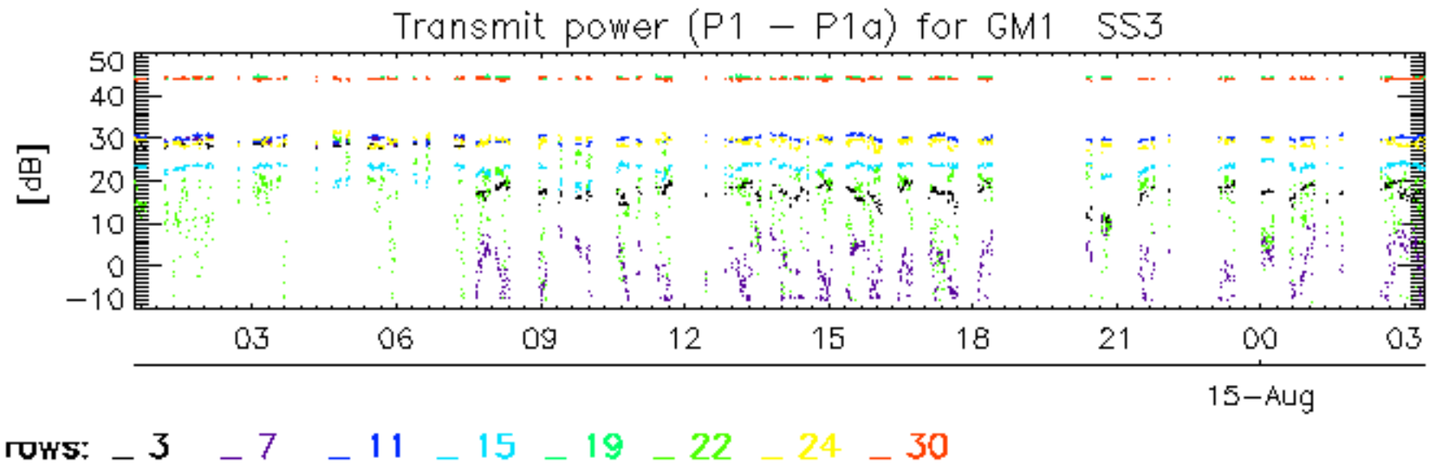
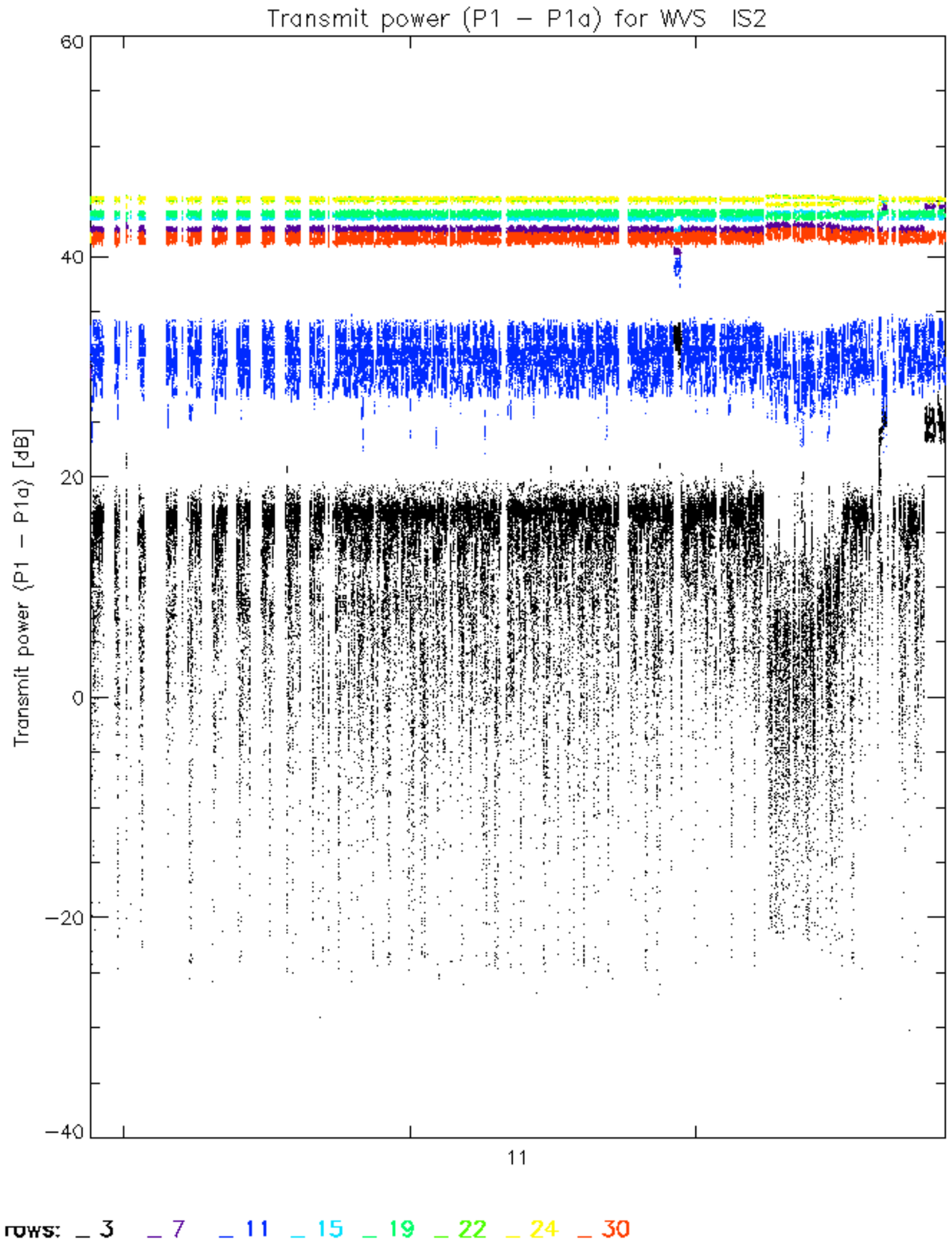
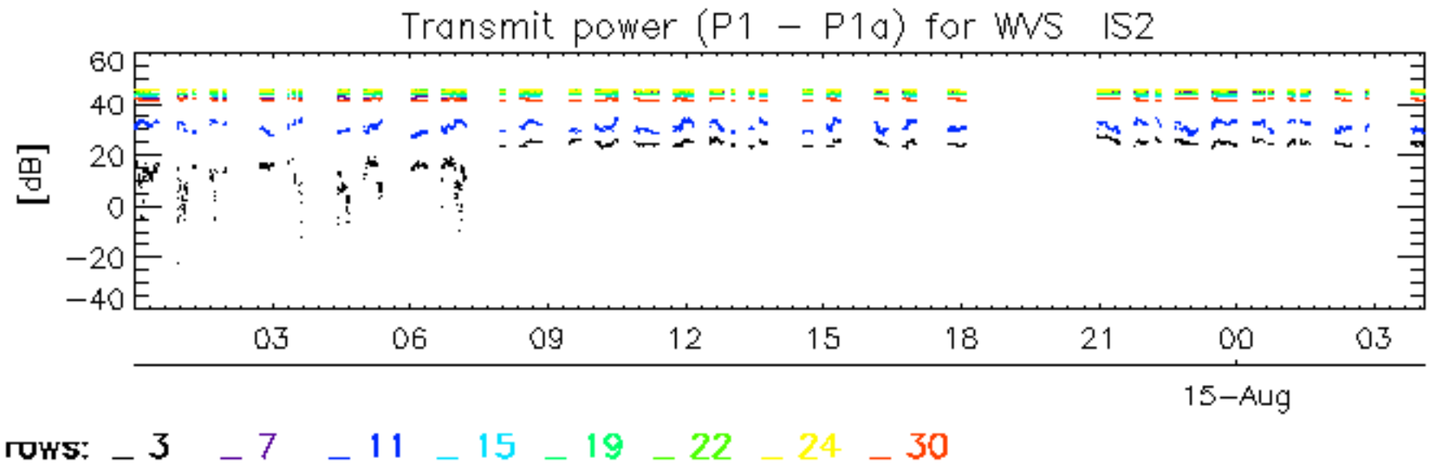

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
−20
11
rows: 3 7 11 15 19 22 24 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
50
40
30
20
10
0
−10
03
06
09
12
15
18
21
00
03
15–Aug
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
11
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
15–Aug
rows: 3 7 11 15 19 22 24 30

No unavailabilities during the reported period.