PRELIMINARY REPORT OF 040804

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

last update on Wed Aug 4 13:01:53 GMT 2004

1 - Introduction

This report is based on the analysis of wave mode level-1 cross spectra (ASA_WVS_1P), global monitoring products (ASA_GM1_1P), which are the available few hours after the acquisition, on the browse (BP) products and
on the Module Stepping (MS) product.

2 - Summary

2.1 - Instrument Unavailability

No unavailabilities during the reported period.

2.2 - Browse Visual Inspection

No anomalies observed on available browse products

2.3 - Data Analysis

-Anomaly detected on internal calibration pulses due to temperature problems:
-> P1 and P1a (probably rows 3 to 19) cal. pulses are affected by a drop of around 2dB.
-> Anomaly detected on 04-AUG-2004 around 03:00:00
Details after analysis of MS data from 04-AUG-2004

-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__0PNPDK20040803_085037_000000152029_00107_12686_0040.N1

Polarisation	Start Time
V	20040803 085037
H	20040802 092214

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
☒	☒
☒	☒
☒	☒
☒	☒

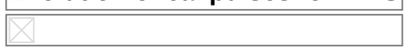
4 - Internal calibration Results

-Anomaly detected on internal calibration pulses due to temperature problems:
-> P1 and P1a (rows 3 to 19) cal. pulses are affected by a drop of around 2dB.
-> Anomaly detected on 04-AUG-2004 around 03:00:00
Details after analysis of MS data from 04-AUG-2004

4.1 - Daily statistics

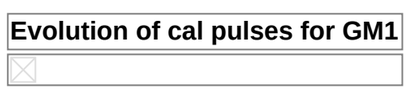
4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS



4.1.2 - Evolution for GM1

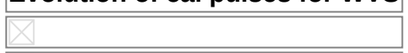
Evolution of cal pulses for GM1



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	-3.481249	0.017728	-0.005912
7	P1	-3.322765	0.021527	-0.014292
11	P1	-4.615959	0.051737	-0.039235
15	P1	-5.734048	0.074017	-0.034843
19	P1	-3.449160	0.004660	-0.016537
22	P1	-4.563167	0.010879	-0.007356
24	P1	-4.953222	0.018284	0.007265
30	P1	-6.894931	0.026001	-0.038042
3	P1	-16.215292	0.205736	-0.023503
7	P1	-13.961518	0.078698	-0.005731
11	P1	-20.043919	0.276004	-0.124485
15	P1	-11.785149	0.049926	0.043890
19	P1	-13.847764	0.032987	-0.042758
22	P1	-16.314106	0.336883	-0.042217
24	P1	-14.598707	0.267482	-0.005645
30	P1	-17.665180	0.420464	-0.036309

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.328512	0.078659	0.052332
7	P2	-22.707520	0.119305	0.066841
11	P2	-15.450561	0.144157	0.094295
15	P2	-7.104571	0.088927	0.055725
19	P2	-9.561168	0.162043	0.050551
22	P2	-17.413197	0.105429	0.119139
24	P2	-20.760536	0.082478	0.013623
30	P2	-19.352175	0.077969	0.113271

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.142972	0.001905	-0.004098
7	P3	-8.142962	0.001905	-0.004123
11	P3	-8.142961	0.001905	-0.004139
15	P3	-8.142956	0.001904	-0.004159
19	P3	-8.142949	0.001904	-0.004176
22	P3	-8.142948	0.001904	-0.004191
24	P3	-8.142947	0.001905	-0.004206
30	P3	-8.143031	0.001904	-0.004625

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	-2.949693	0.148077	0.363513
7	P1	-2.961798	0.173754	-0.316572
11	P1	-3.851935	0.095586	-0.064689
15	P1	-3.849515	0.645368	1.057005
19	P1	-3.424061	0.037979	-0.185703
22	P1	-5.688049	0.050692	0.142233
24	P1	-3.932843	0.059676	0.270715
30	P1	-6.164459	0.078880	-0.083623
3	P1	-10.766611	0.446346	0.490042
7	P1	-9.989973	0.273540	-0.432685
11	P1	-11.963939	0.211596	-0.312943
15	P1	-11.734427	0.246660	0.475279
19	P1	-15.345963	0.523571	-0.941100
22	P1	-22.397482	4.942963	-3.111278
24	P1	-17.522432	0.311220	-0.634588
30	P1	-20.838783	3.202834	1.801141

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.027973	0.079861	0.137125
7	P2	-22.818674	0.240611	0.075340
11	P2	-10.985799	0.178905	-0.254603
15	P2	-4.949072	0.042807	-0.037753

19	P2	-6.833946	0.057028	0.171128
22	P2	-7.522107	0.100915	0.150724
24	P2	-11.024475	0.147335	-0.076262
30	P2	-22.261566	0.122499	0.019398

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.983225	0.003629	-0.016027
7	P3	-7.983273	0.003628	-0.015987
11	P3	-7.983239	0.003630	-0.016078
15	P3	-7.983131	0.003632	-0.016012
19	P3	-7.983189	0.003637	-0.016324
22	P3	-7.983266	0.003615	-0.016282
24	P3	-7.983120	0.003648	-0.016218
30	P3	-7.983257	0.003623	-0.016045

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	0.000487044
	stdev	2.17819e-07
MEAN Q	mean	0.000527275
	stdev	2.49789e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128543
	stdev	0.00105149
STDEV Q	mean	0.128792
	stdev	0.00106297

5.3 - Gain imbalance I/Q

6 - Doppler Analysis

No anomalies observed.
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

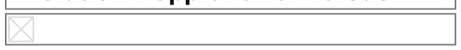
6.5 - Absolute Doppler for GM1

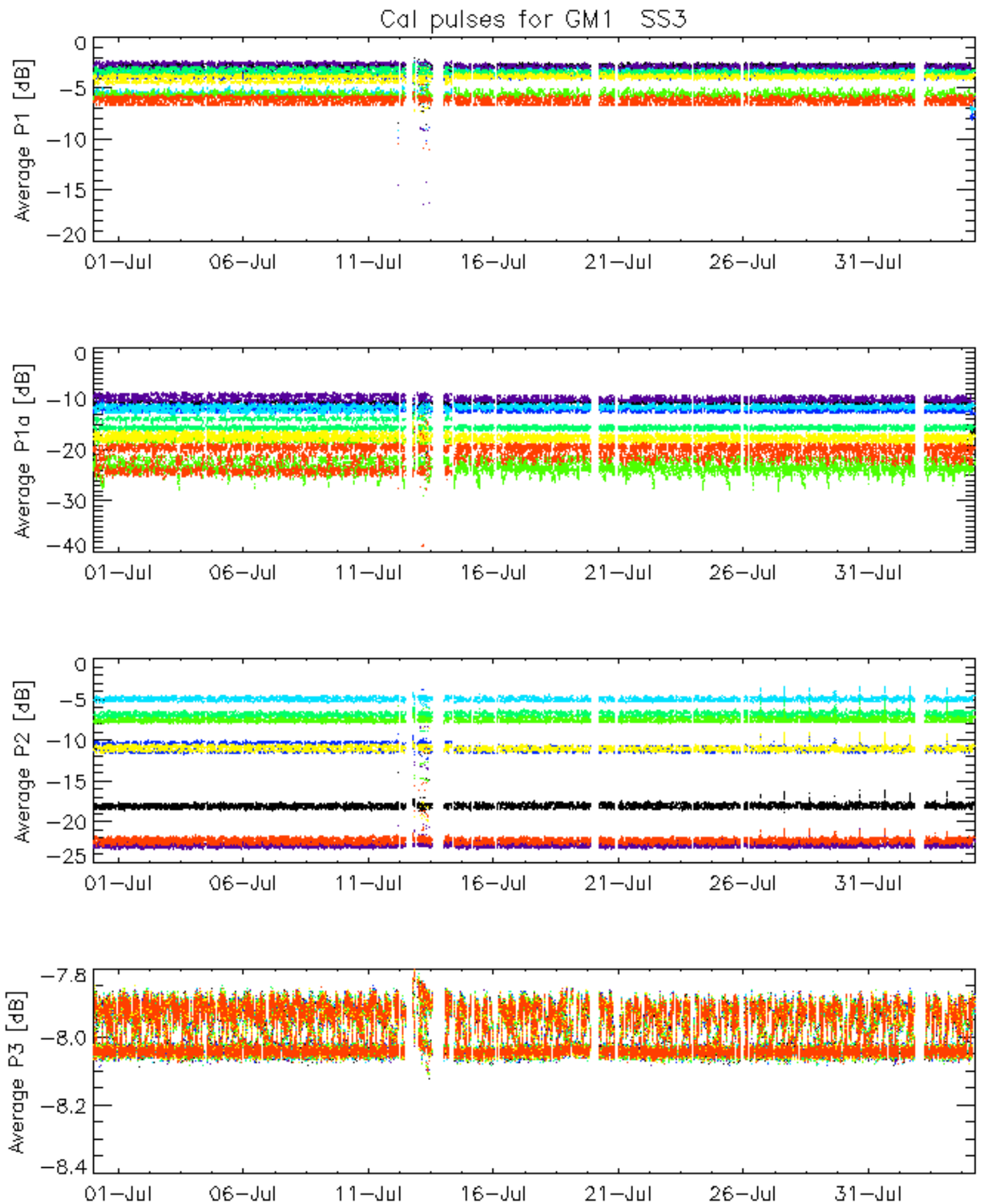
Evolution of Absolute Doppler

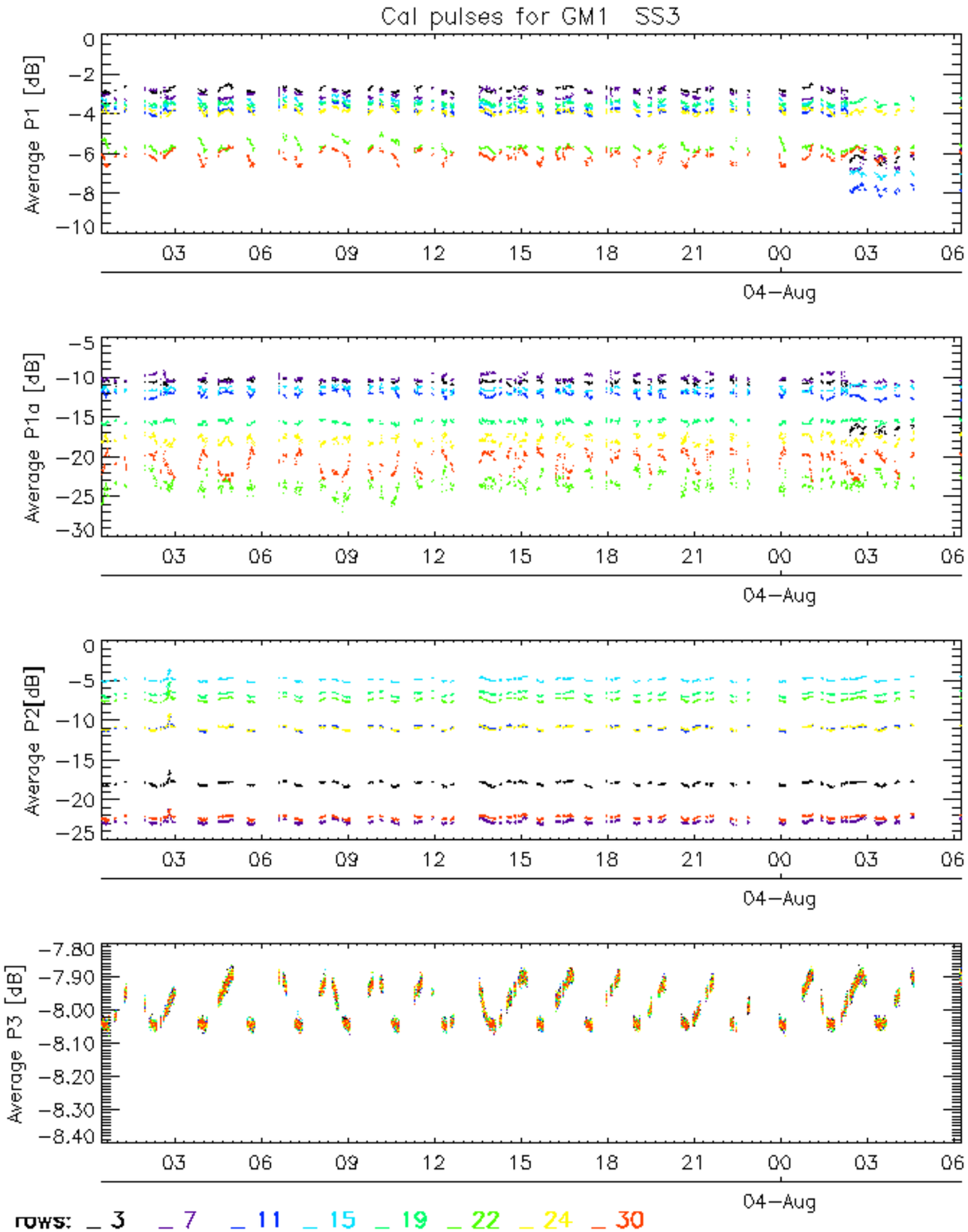
Acsending

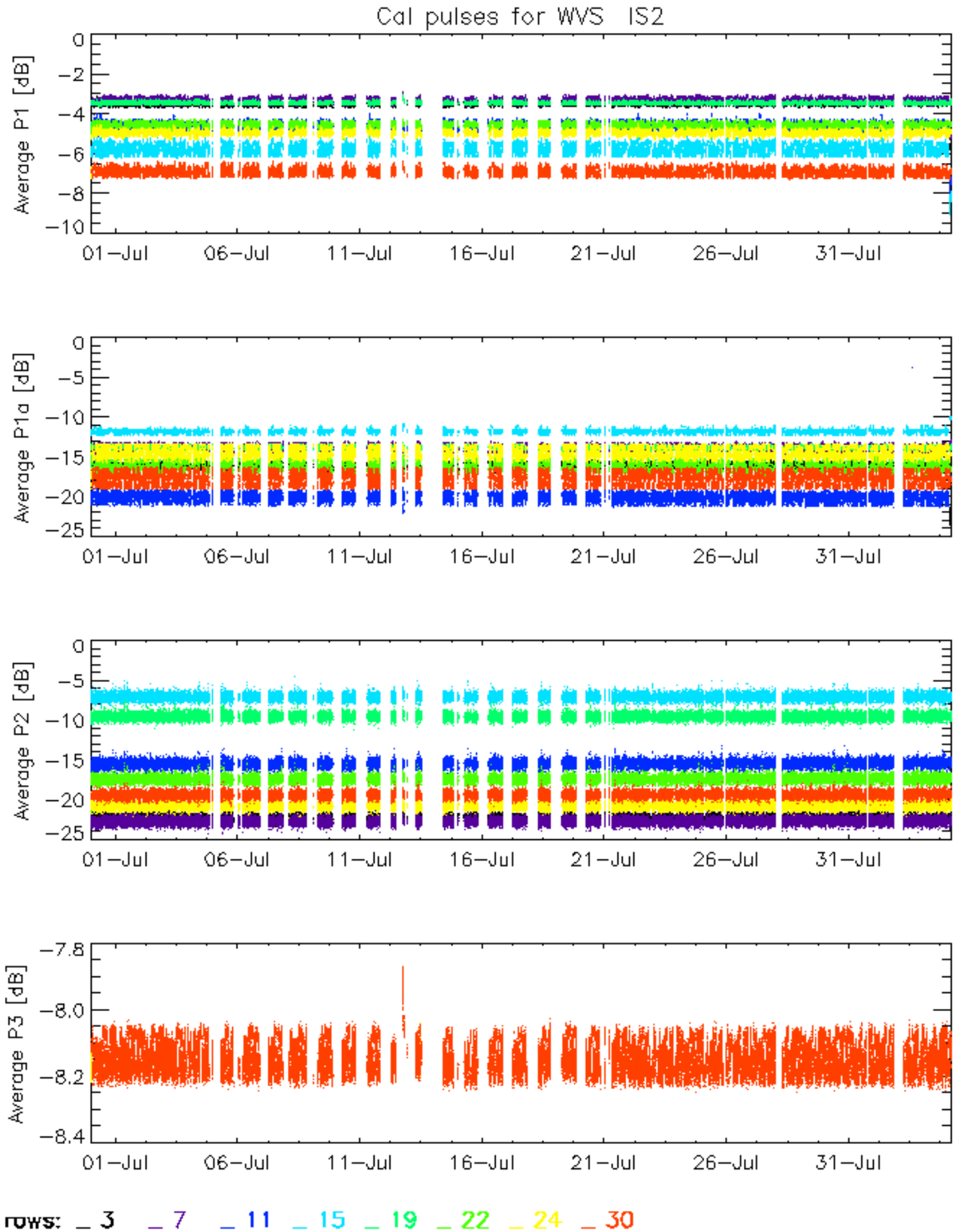
Descending

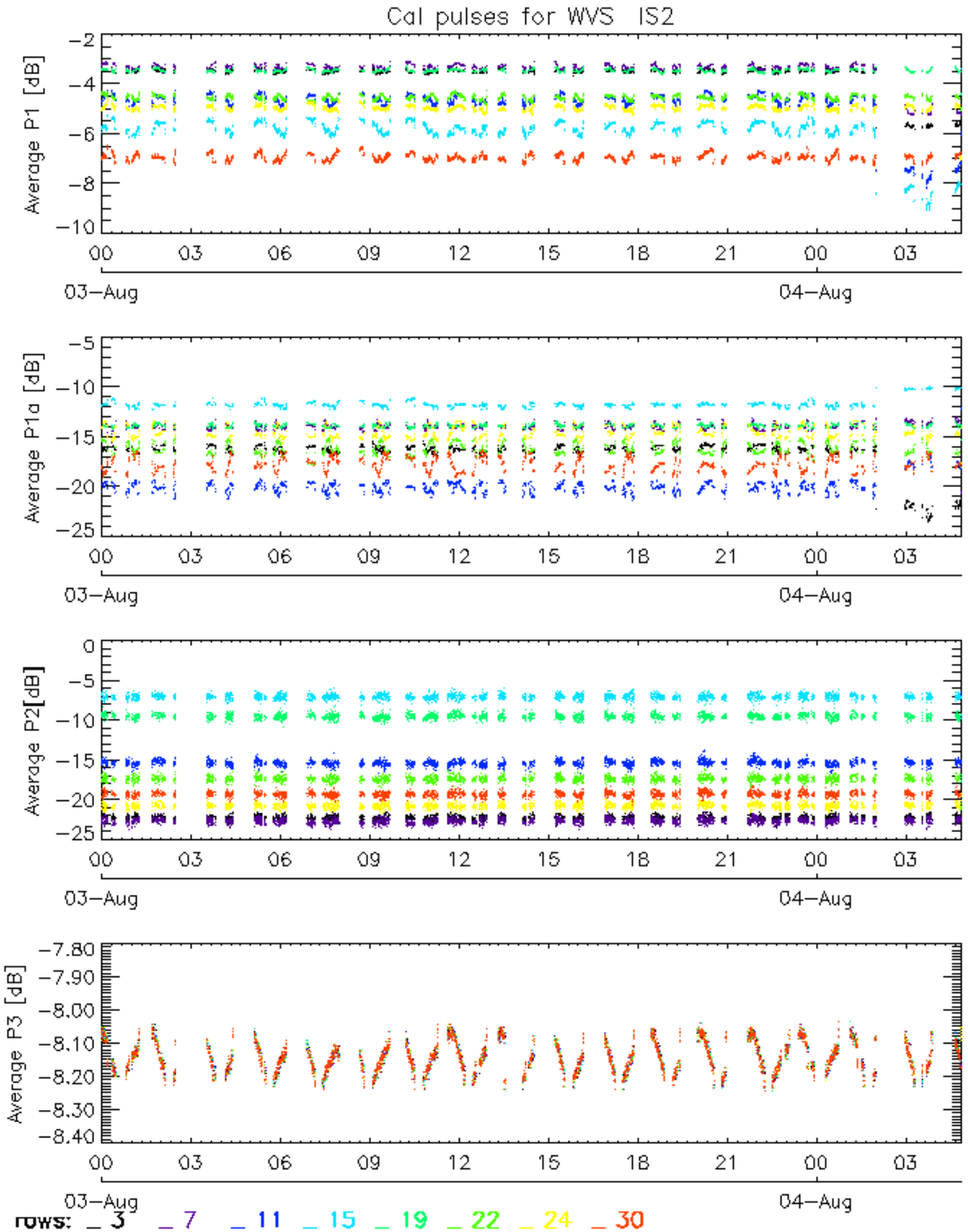
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX



Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
−20
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
26−Jul
31−Jul
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
rows: 3 7 11 15 19 22 24 30

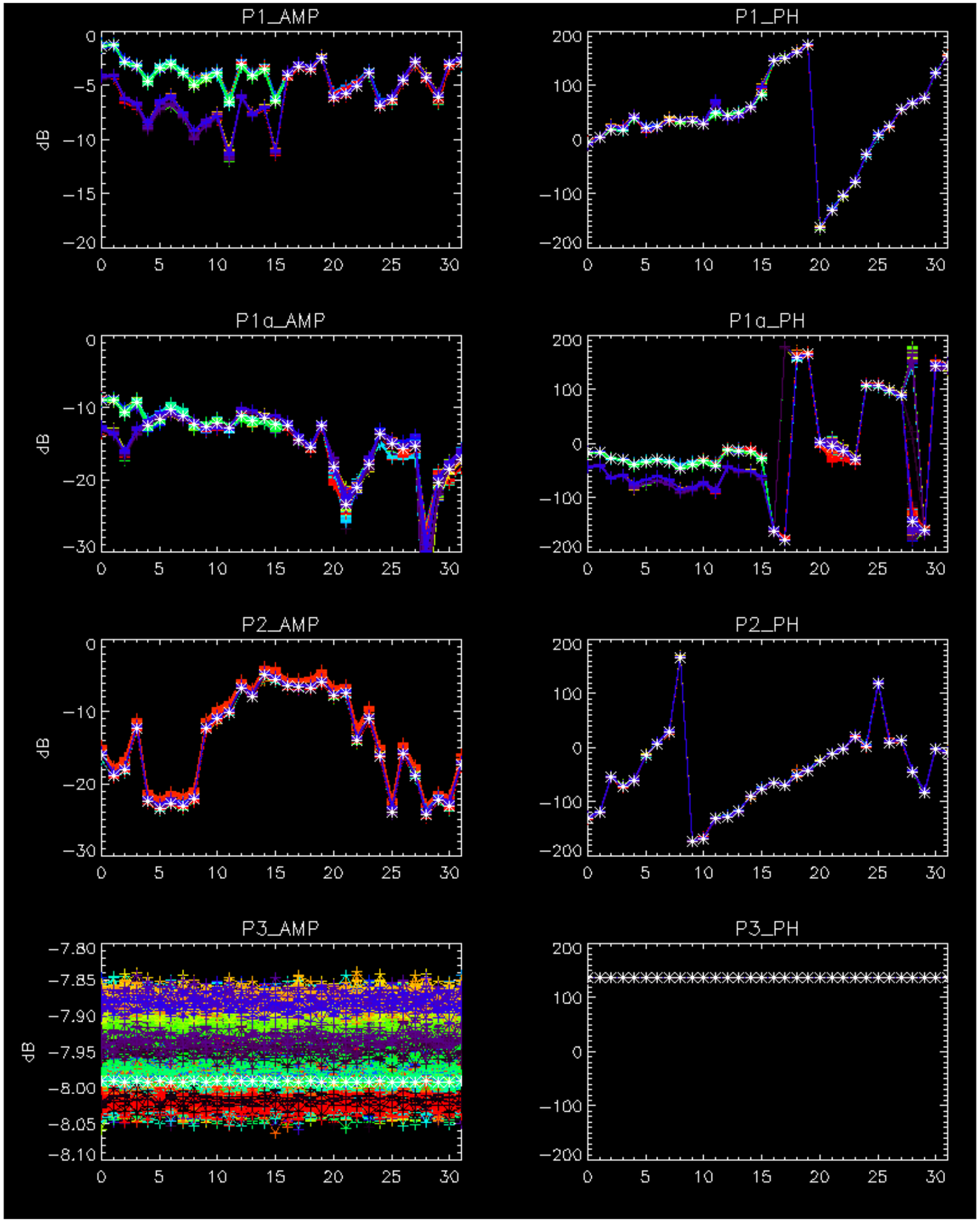

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
−10
03
06
09
12
15
18
21
00
03
06
04−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

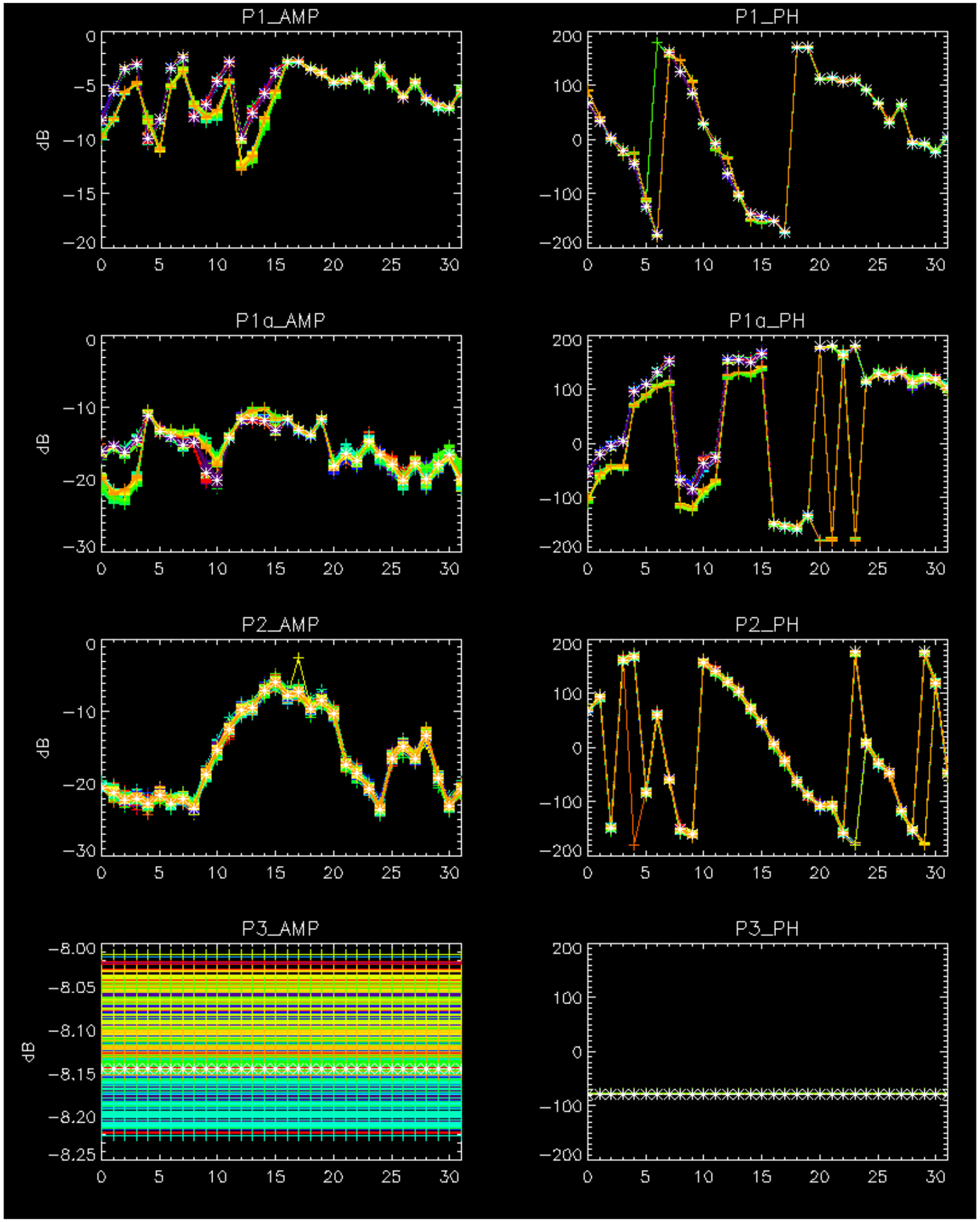

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
26−Jul
31−Jul
Average P1a [dB]
0
−5
−10
−15
−20
−25
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−2
−4
−6
−8
−10
00
03
06
09
12
15
18
21
00
03
03−Aug
04−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
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 on available browse products

-Anomaly detected on internal calibration pulses due to temperature problems:
-> P1 and P1a (rows 3 to 19) cal. pulses are affected by a drop of around 2dB.
-> Anomaly detected on 04-AUG-2004 around 03:00:00
Details after analysis of MS data from 04-AUG-2004


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

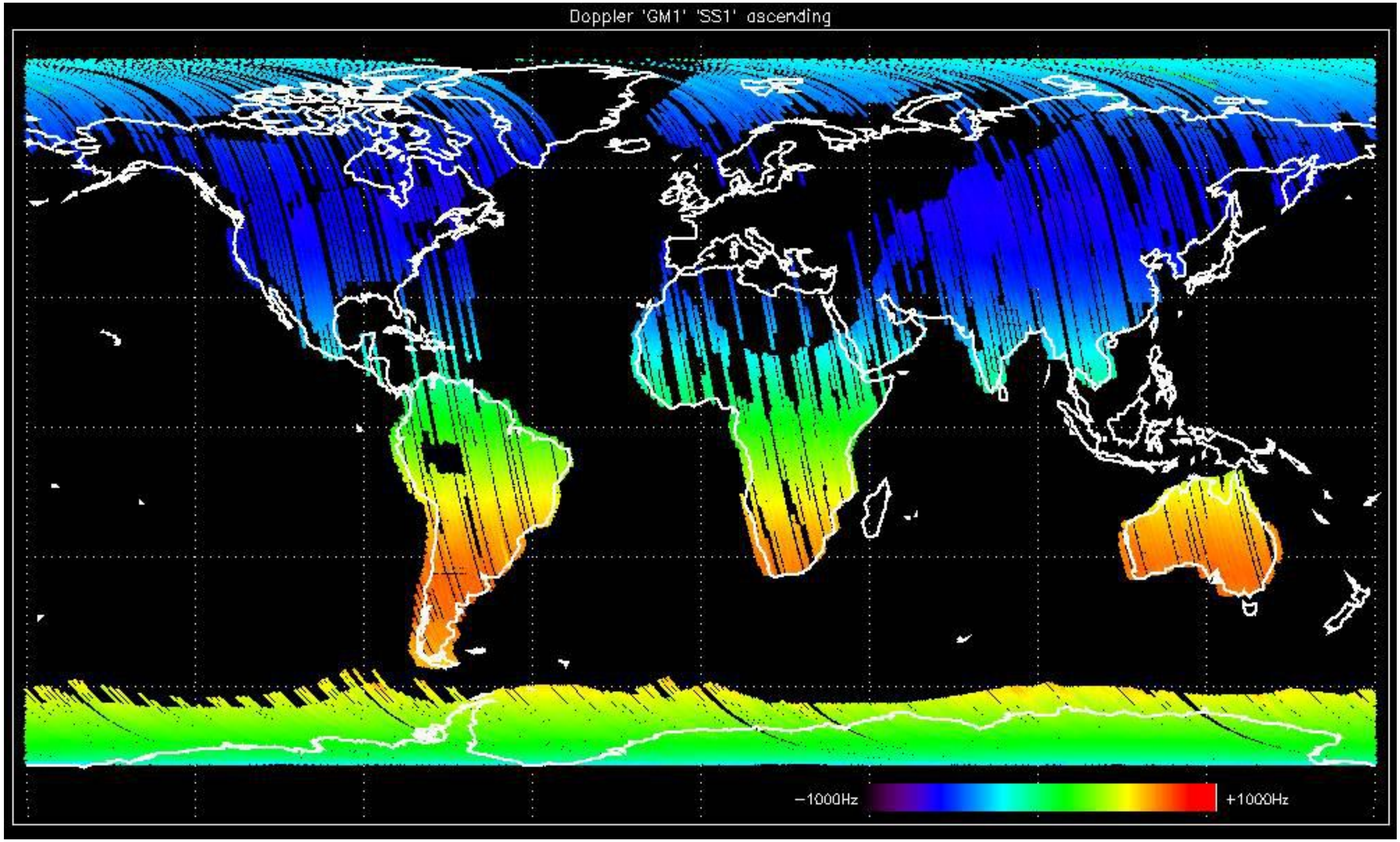

P1_AMP
P1_PH
P1a_AMP
P1a_PH
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

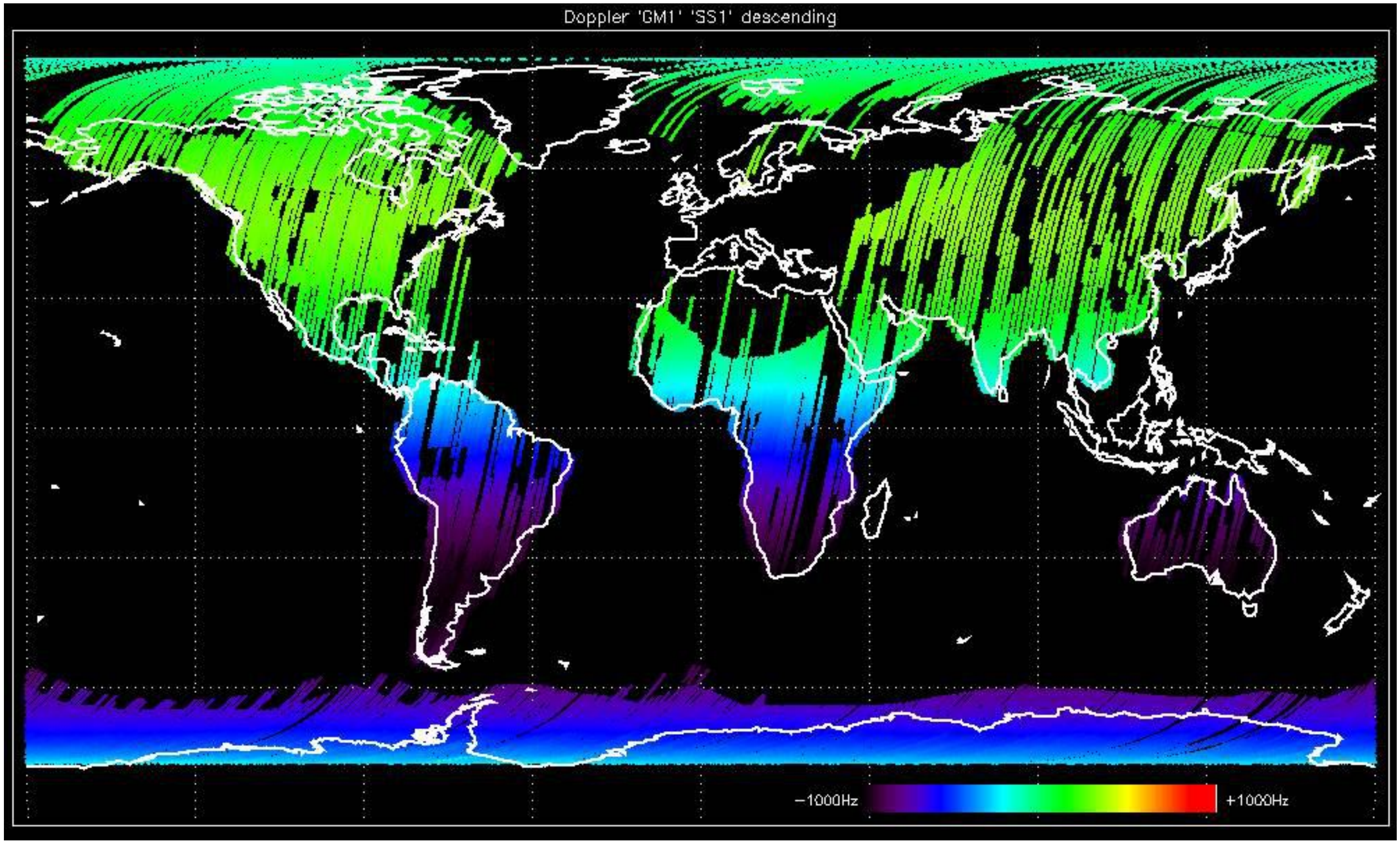
-Anomaly detected on internal calibration pulses due to temperature problems:
  -> P1 and P1a (probably rows 3 to 19) cal. pulses are affected by a drop of around 2dB.
  -> Anomaly detected on 04-AUG-2004 around 03:00:00
     Details after analysis of MS data from 04-AUG-2004

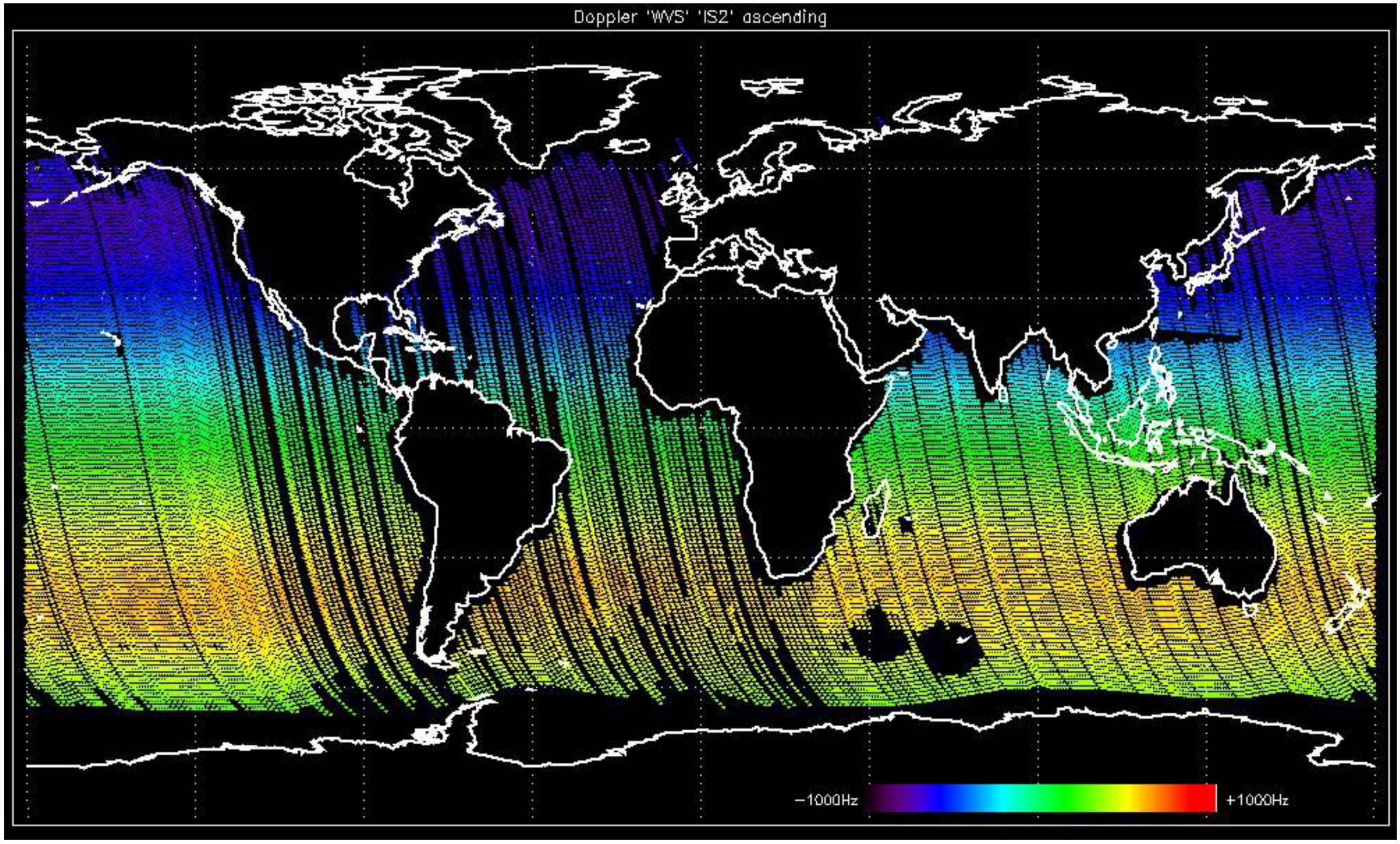
-Stable raw data statistics.

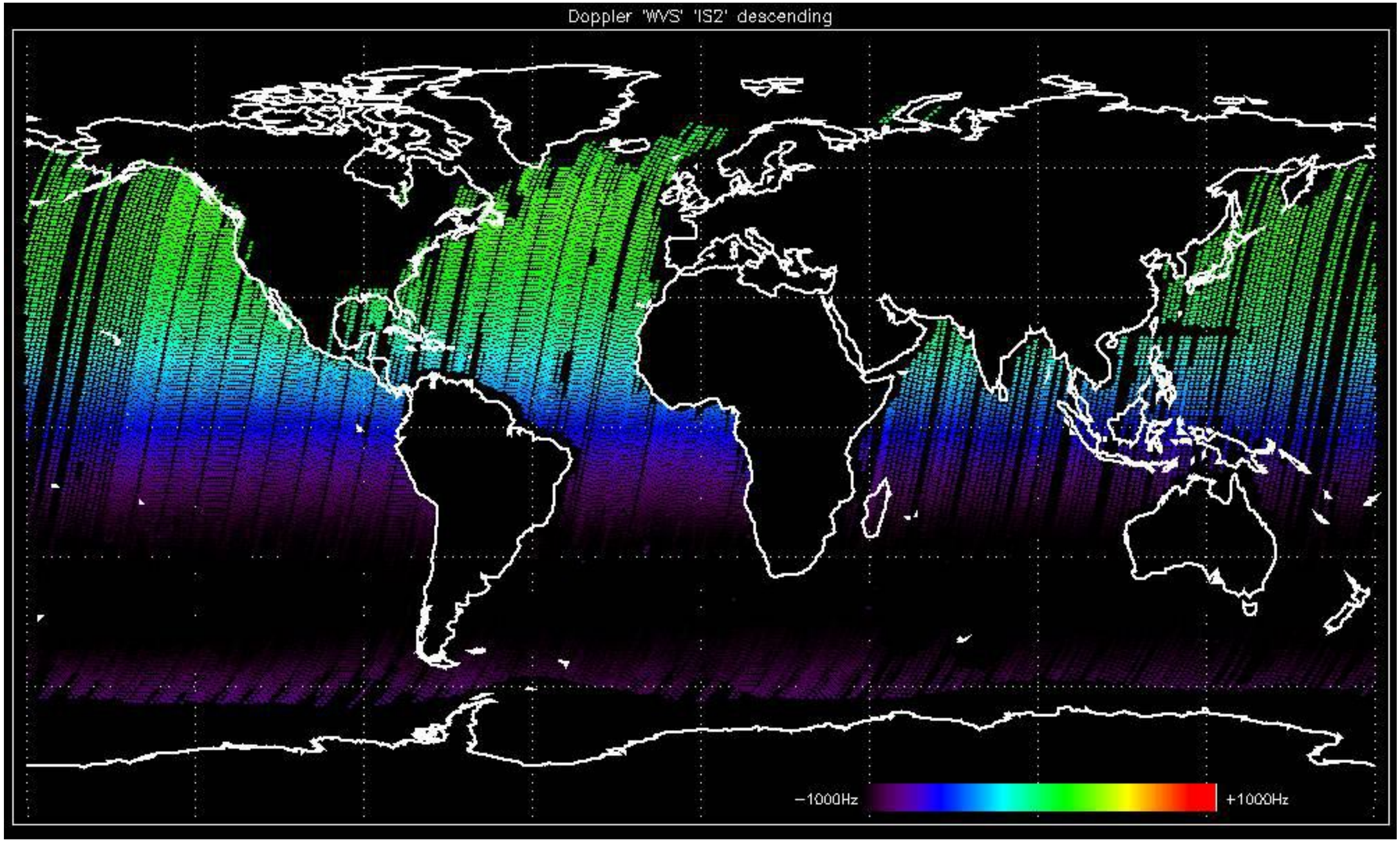
-Nominal Doppler behavior.

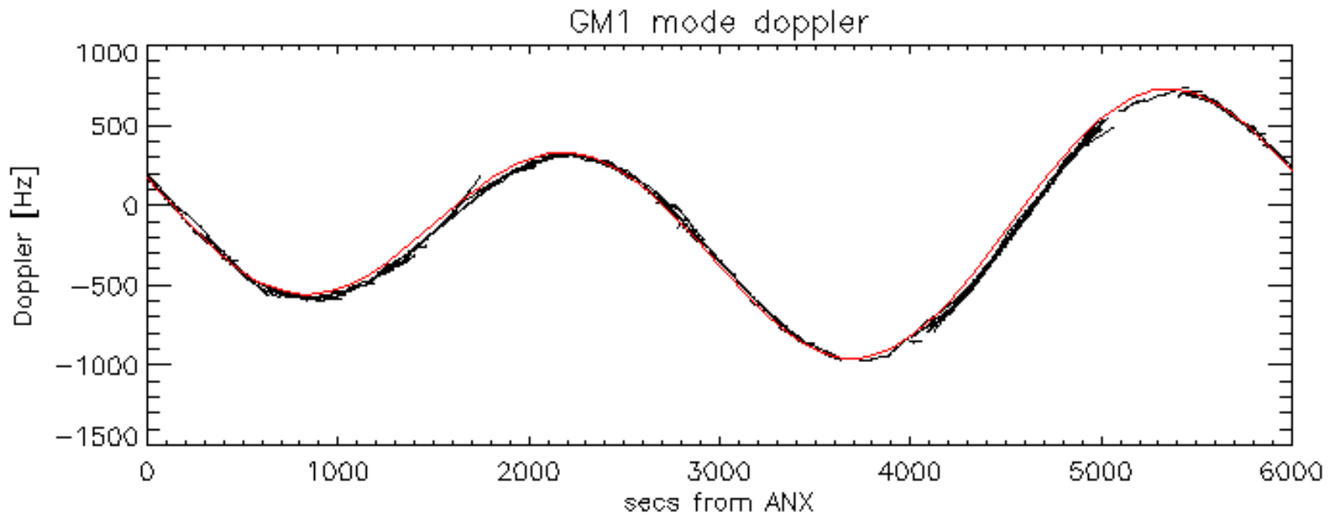
No anomalies observed.
Analysis performed over the last 35 days.

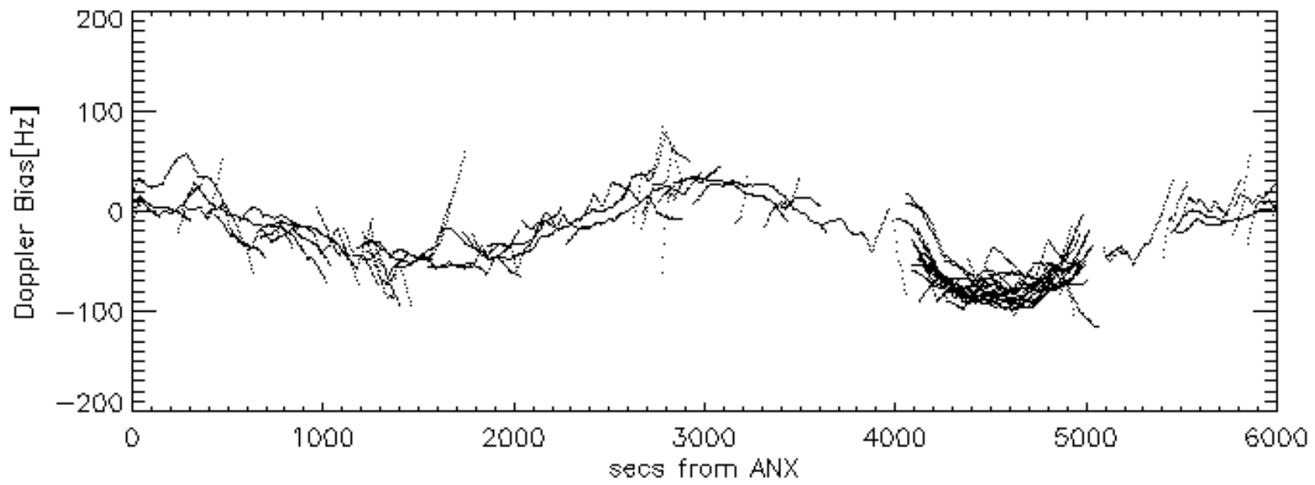

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

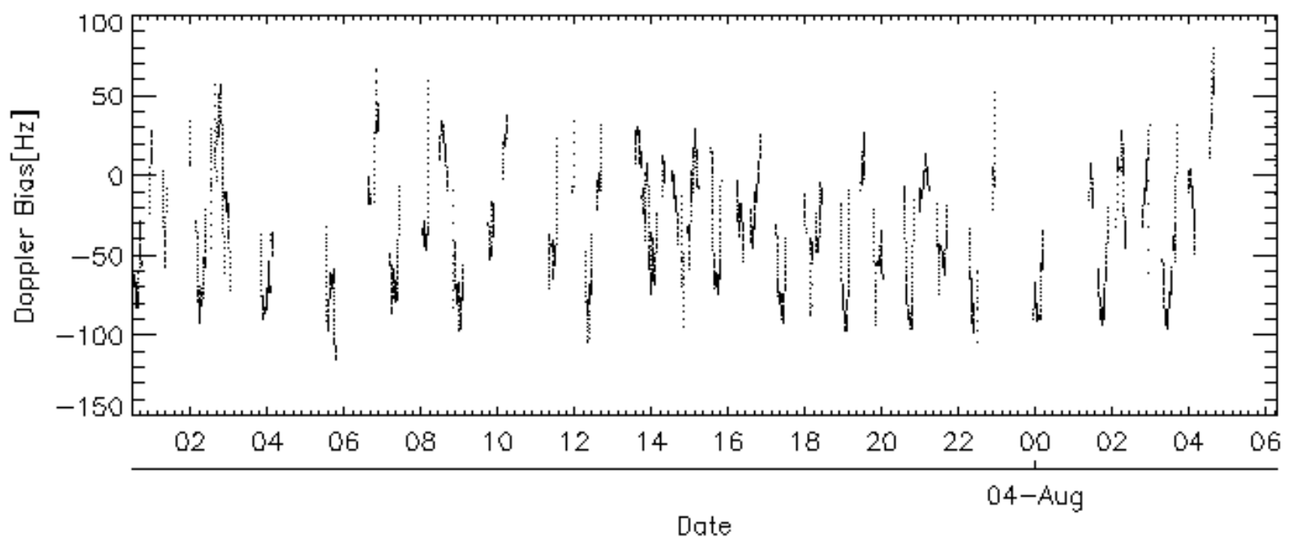

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

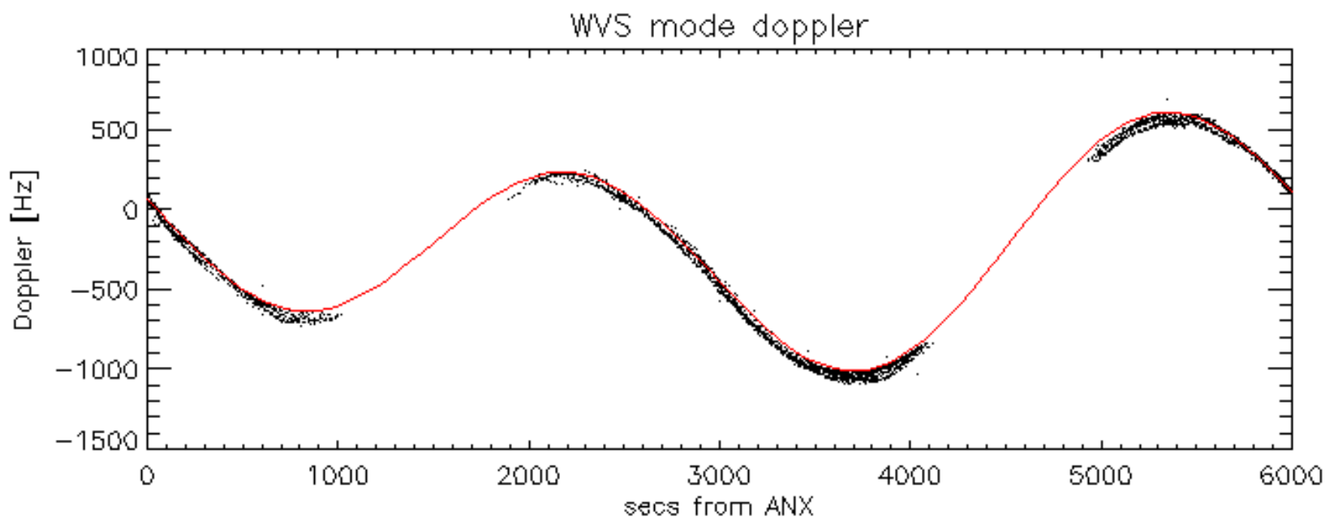

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

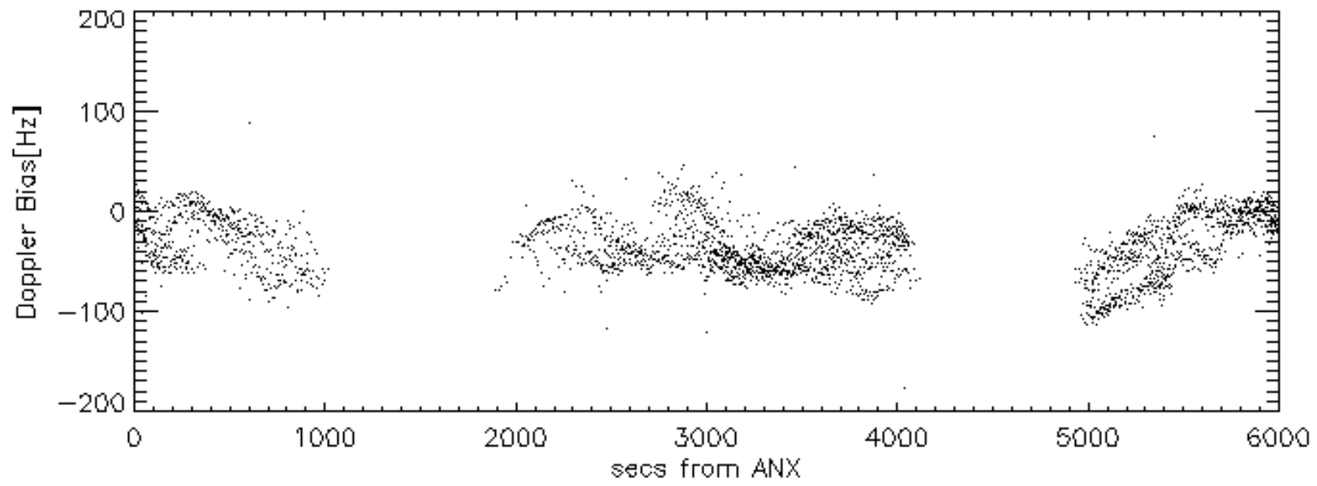

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

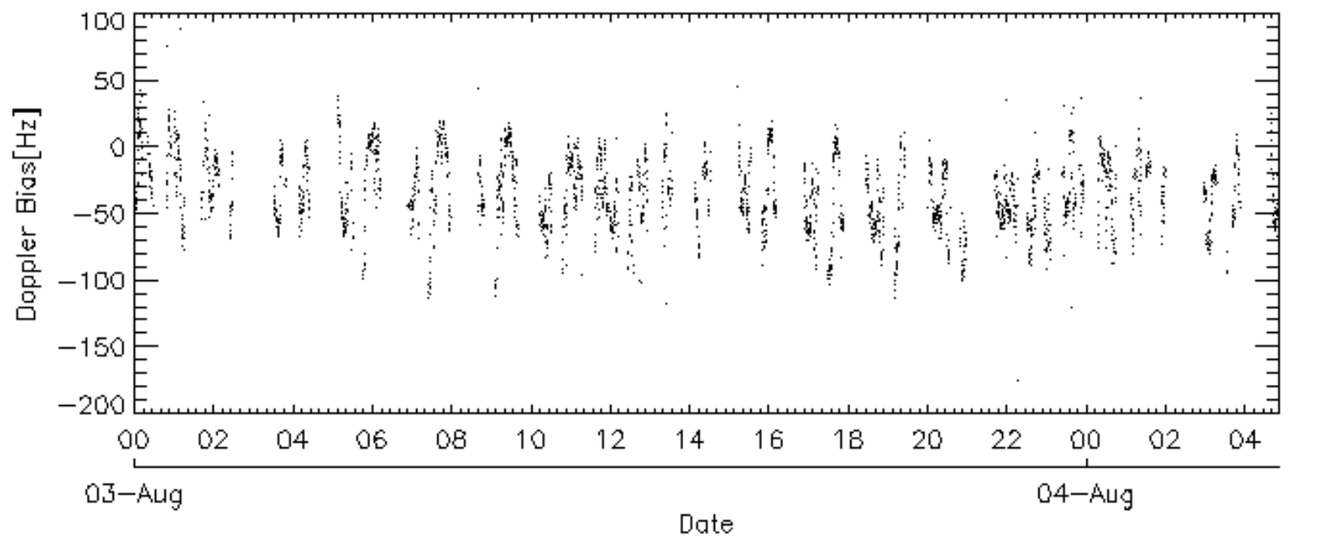

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

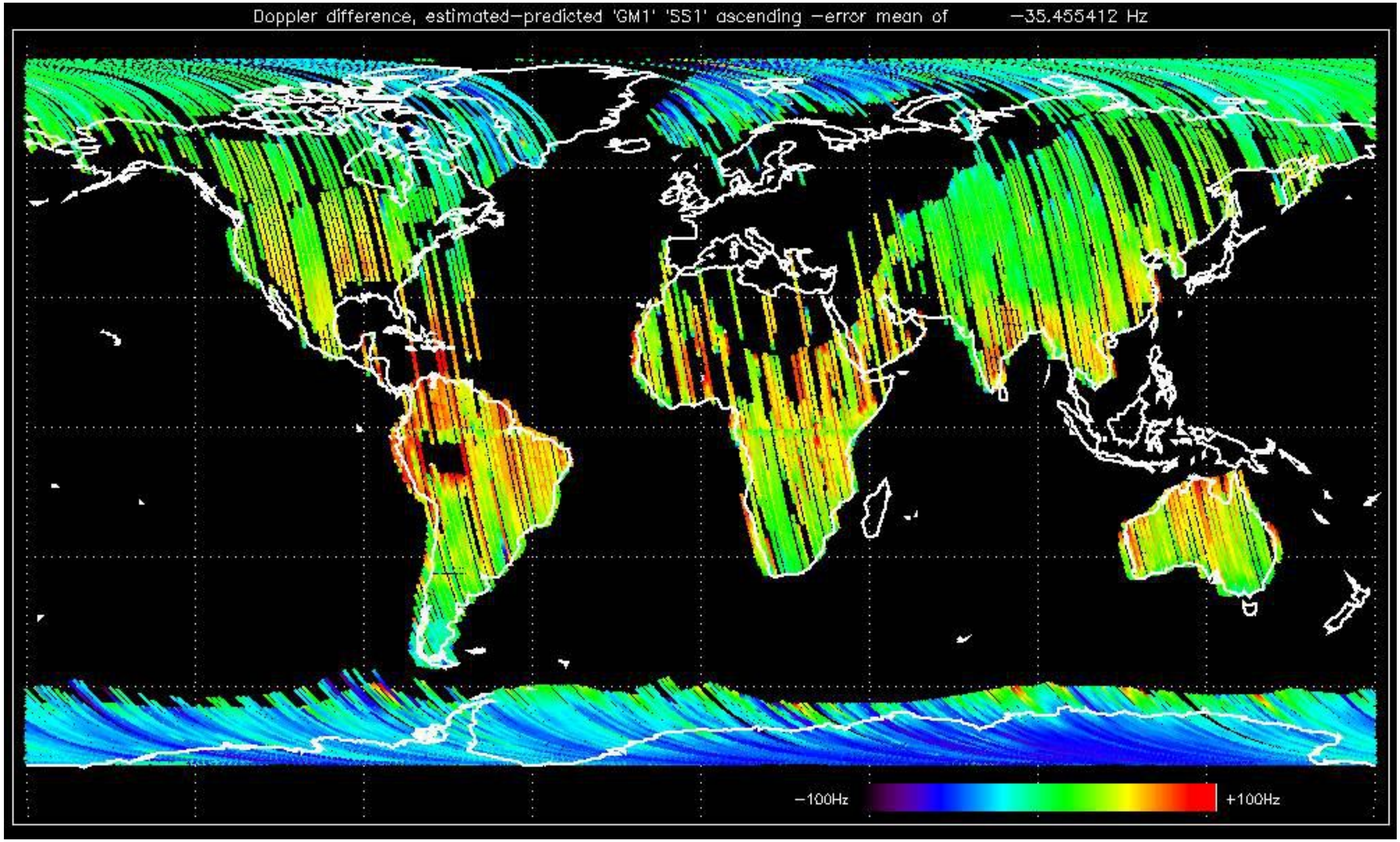

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

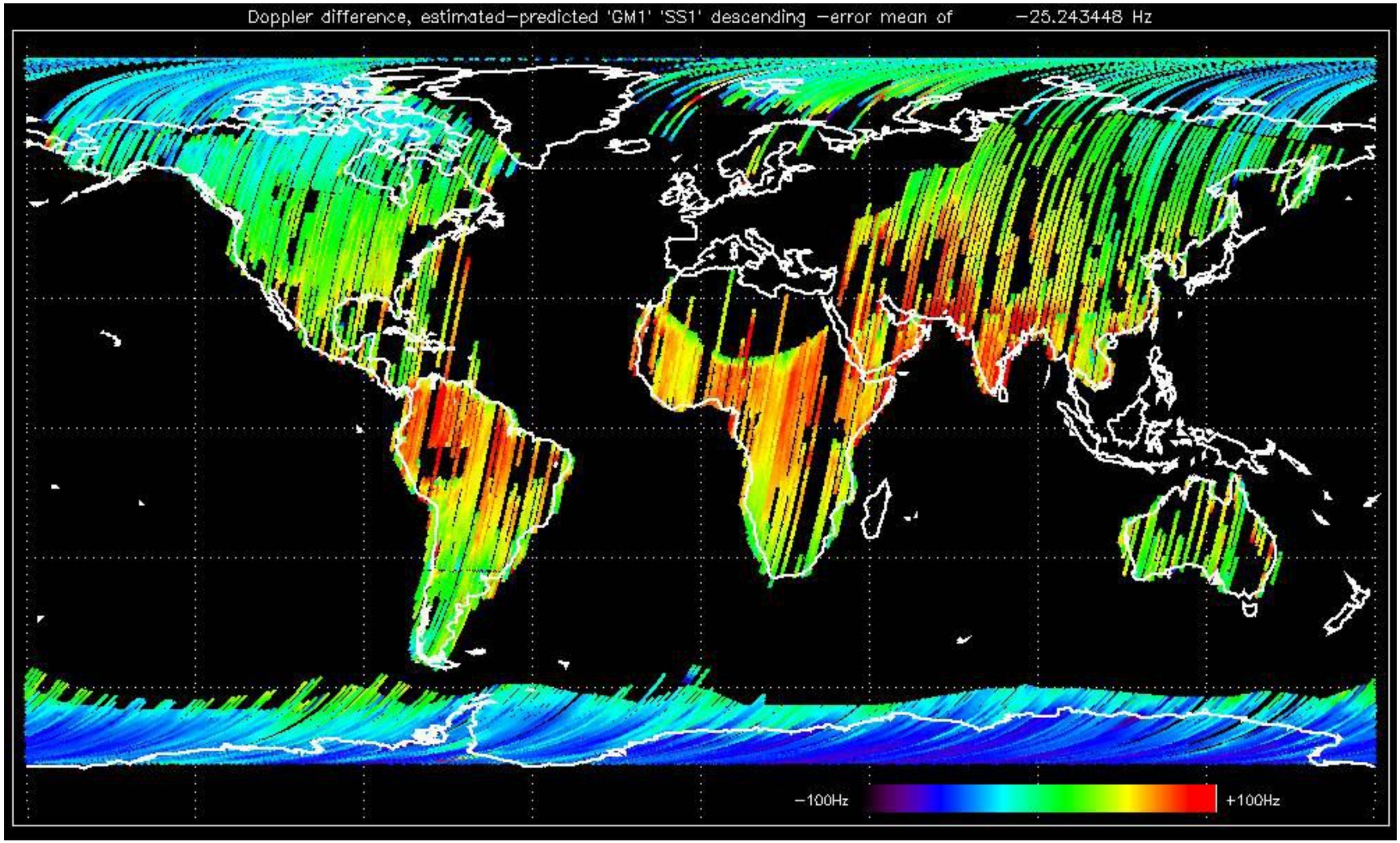

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
04−Aug
Date

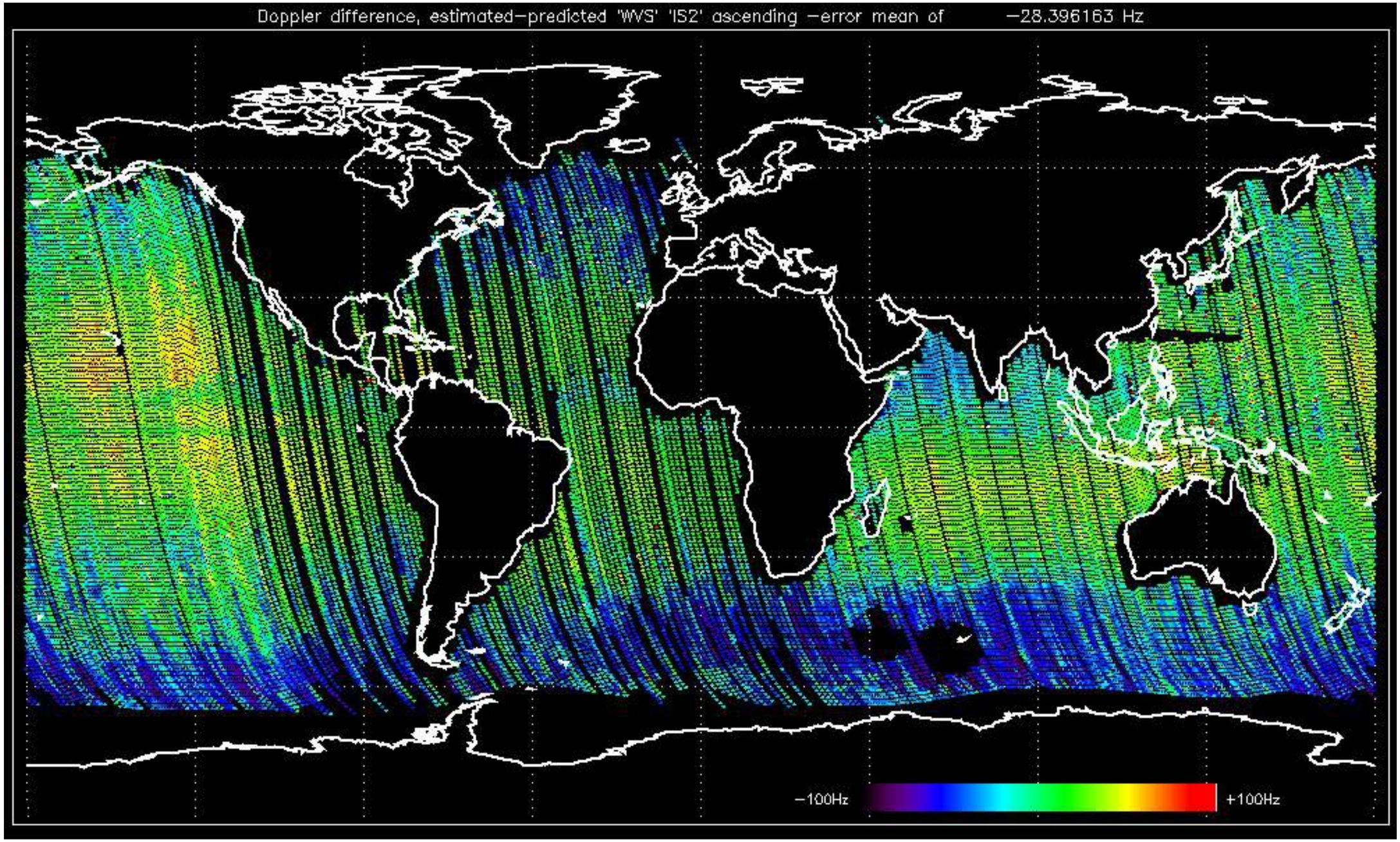

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

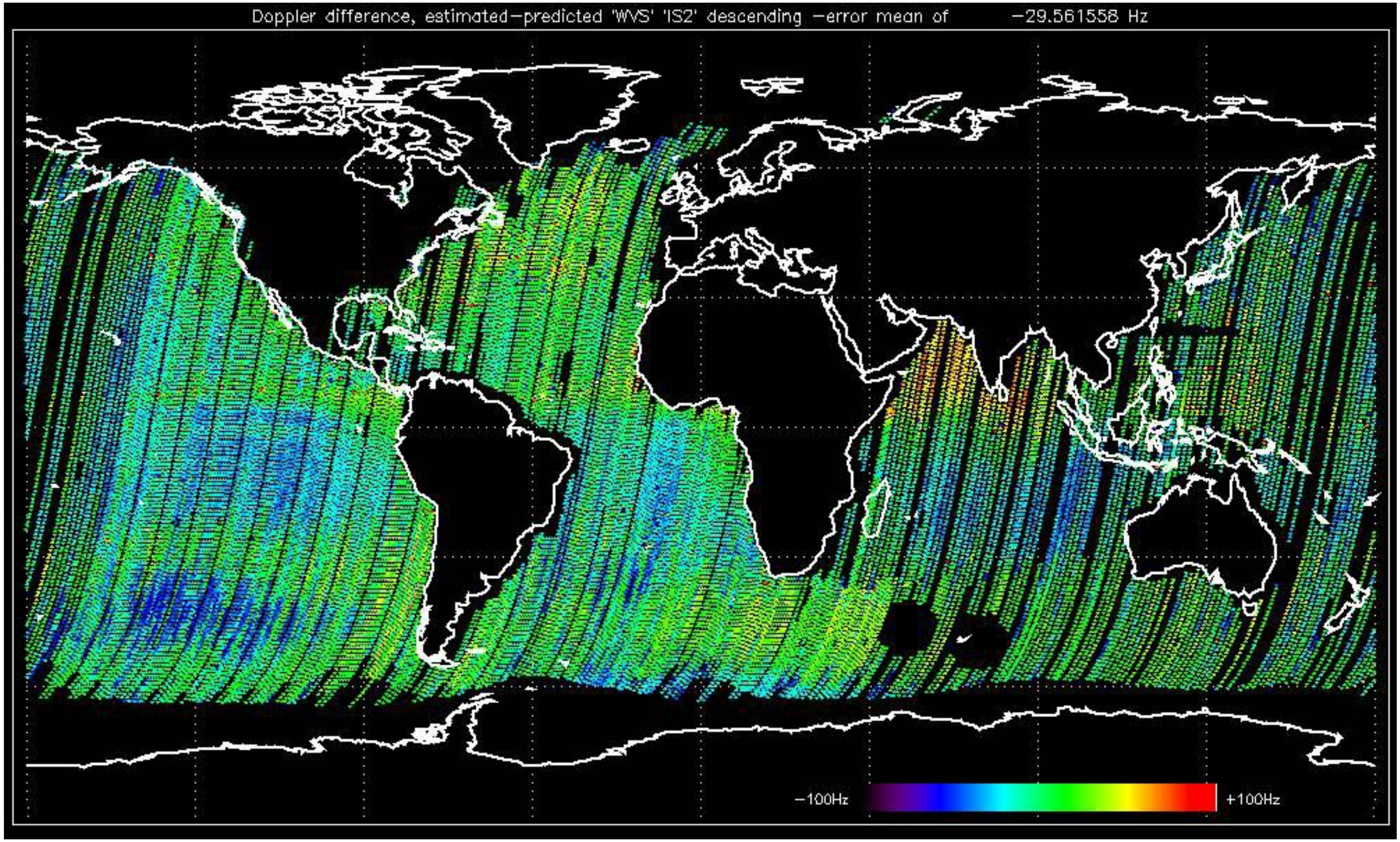

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


Doppler Bias[Hz]
100
50
0
−50
−100
−150
−200
00
02
04
06
08
10
12
14
16
18
20
22
00
02
04
03−Aug
04−Aug
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −35.455412 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −25.243448 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −28.396163 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −29.561558 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__0PNPDK20040803_085037_000000152029_00107_12686_0040.N1

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2004-08-02 09:22:14 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
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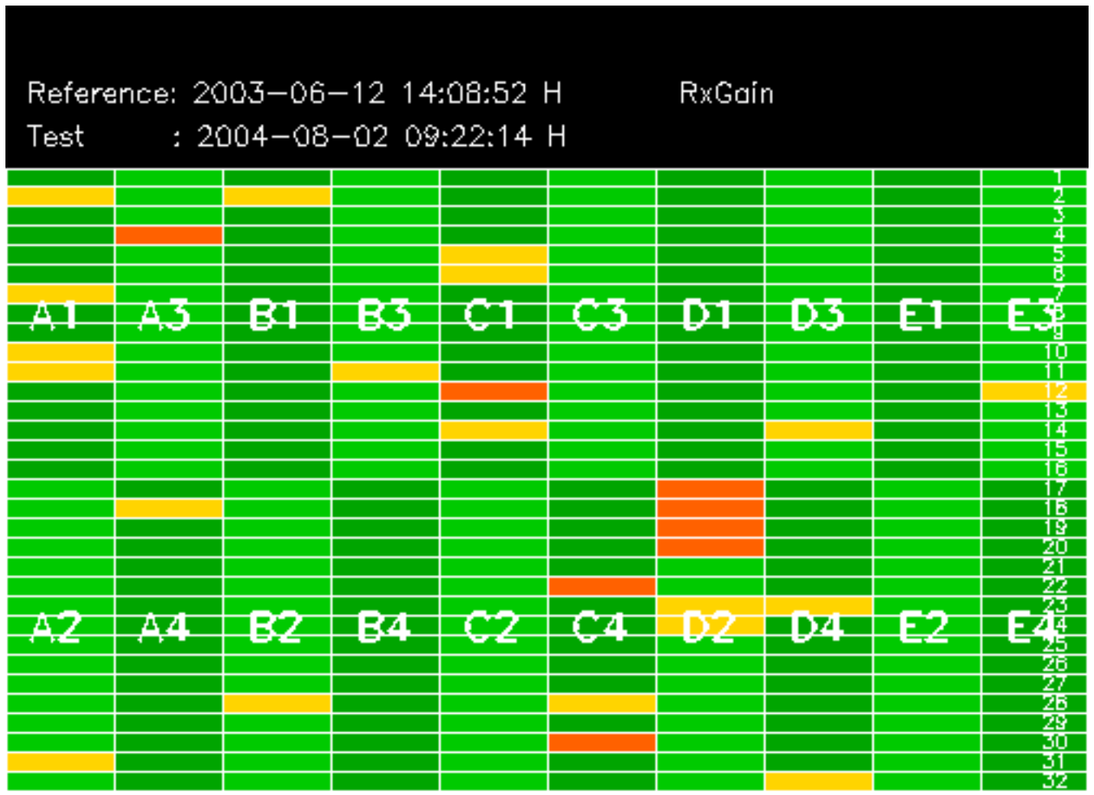
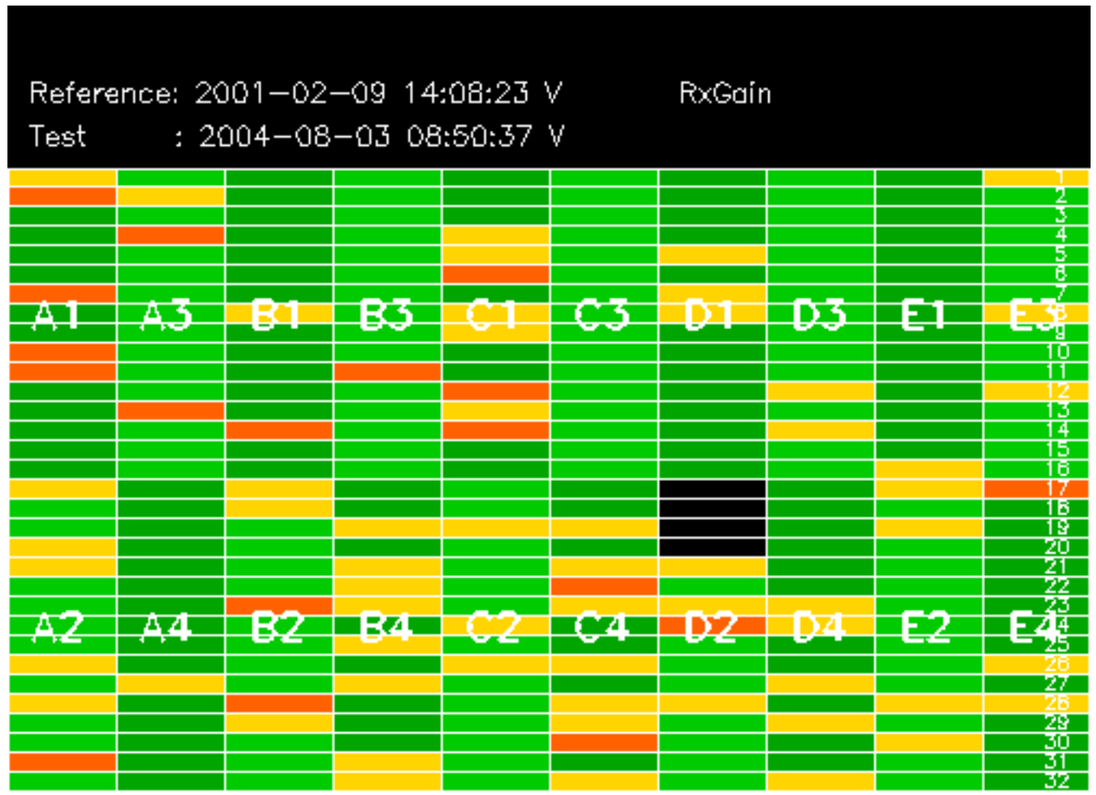

Reference: 2003-06-12 14:08:52 H
Test : 2004-08-02 09:22:14 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-08-03 08:50:37 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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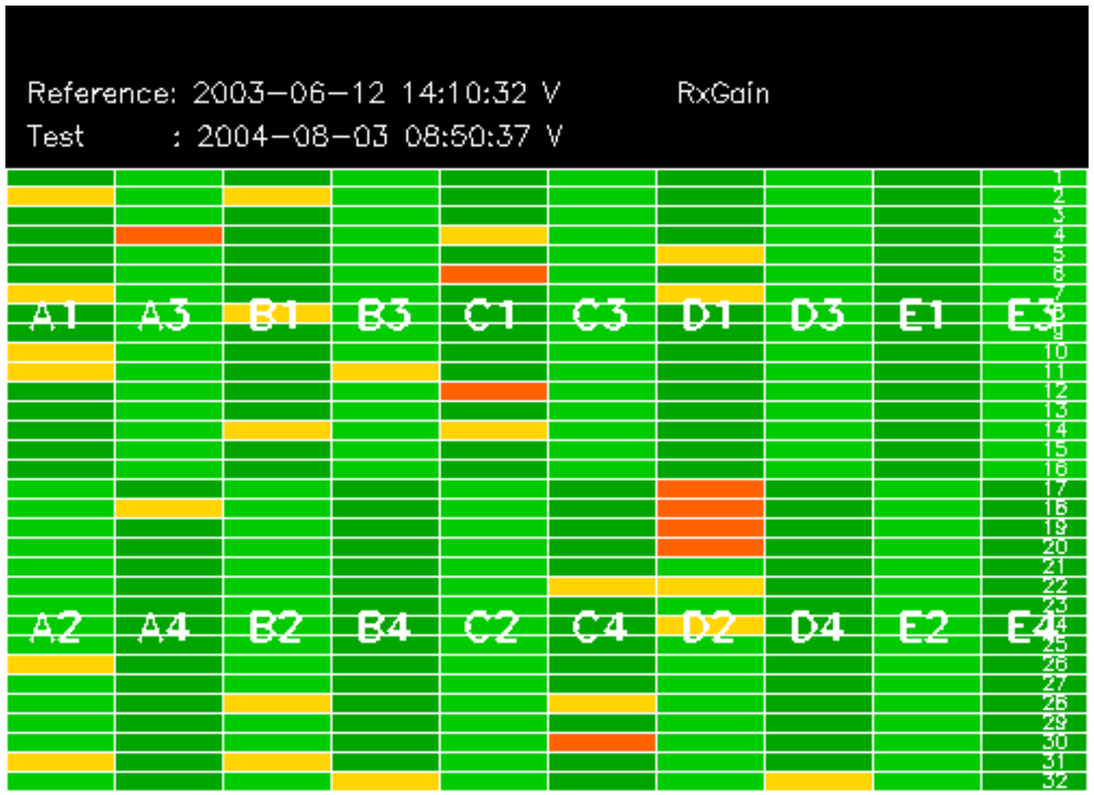
Reference: 2003-06-12 14:10:32 V
Test : 2004-08-03 08:50:37 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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32


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-08-02 09:22:14 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
RxPhase
Test : 2004-08-02 09:22:14 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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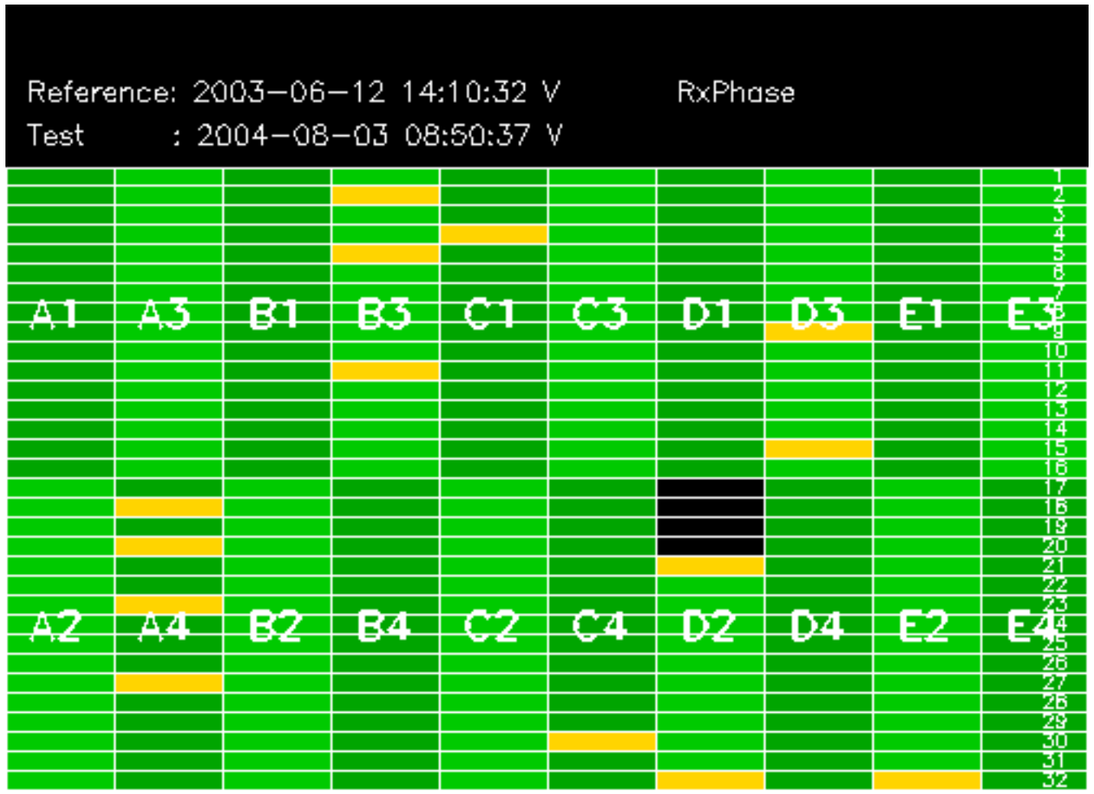
Reference: 2001-02-09 14:08:23 V
Test : 2004-08-03 08:50:37 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-08-03 08:50:37 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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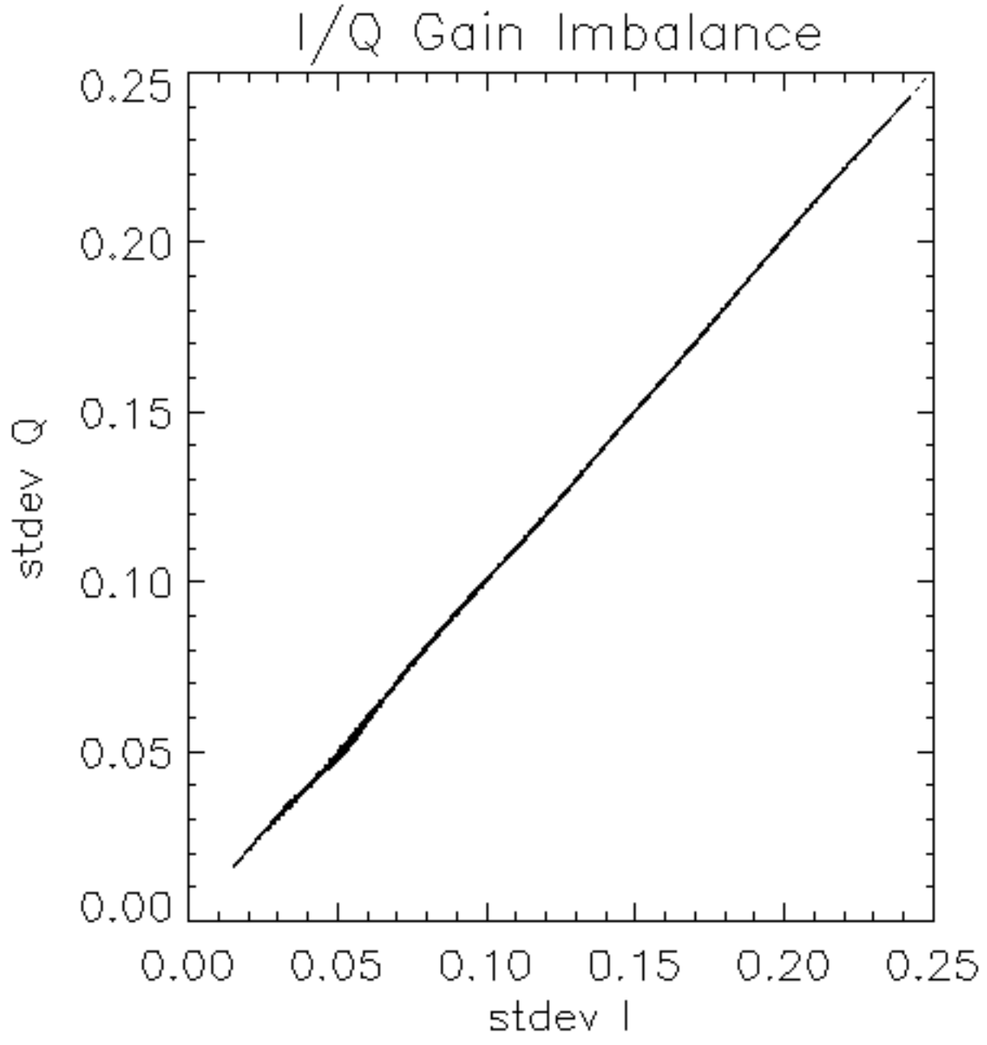
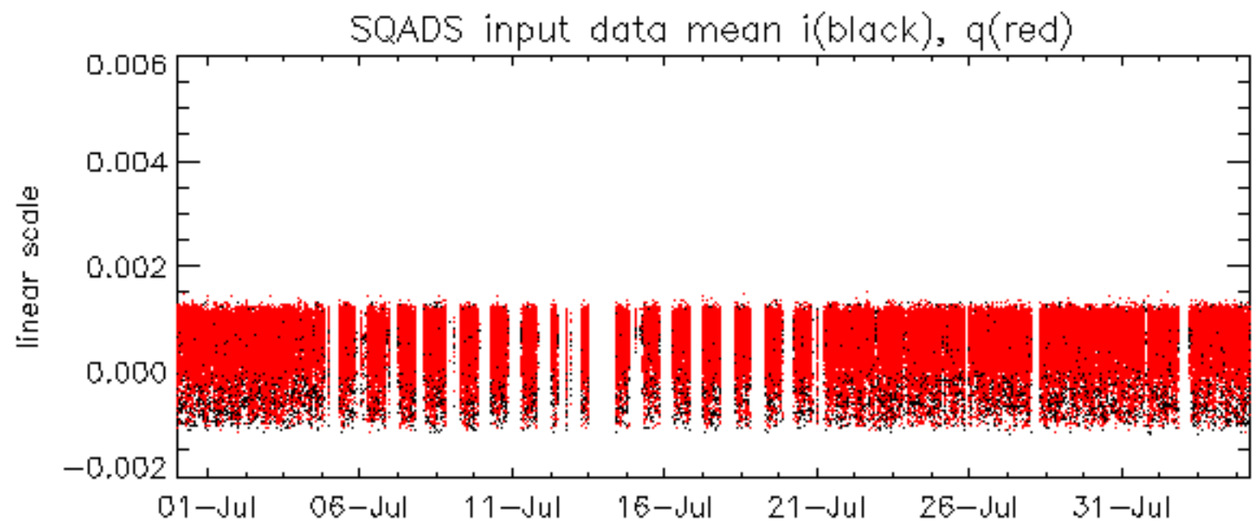
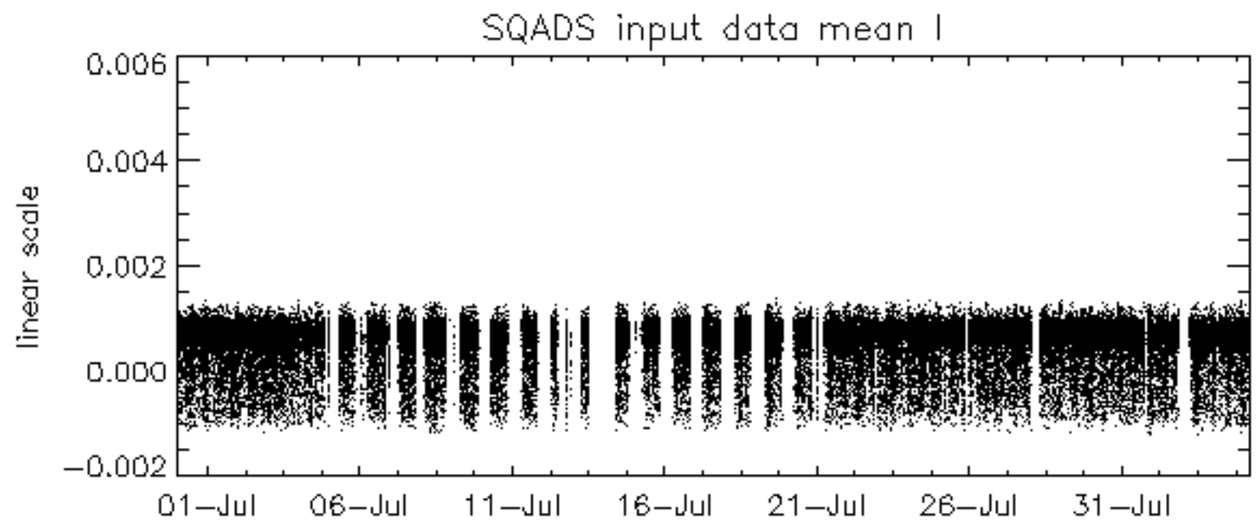
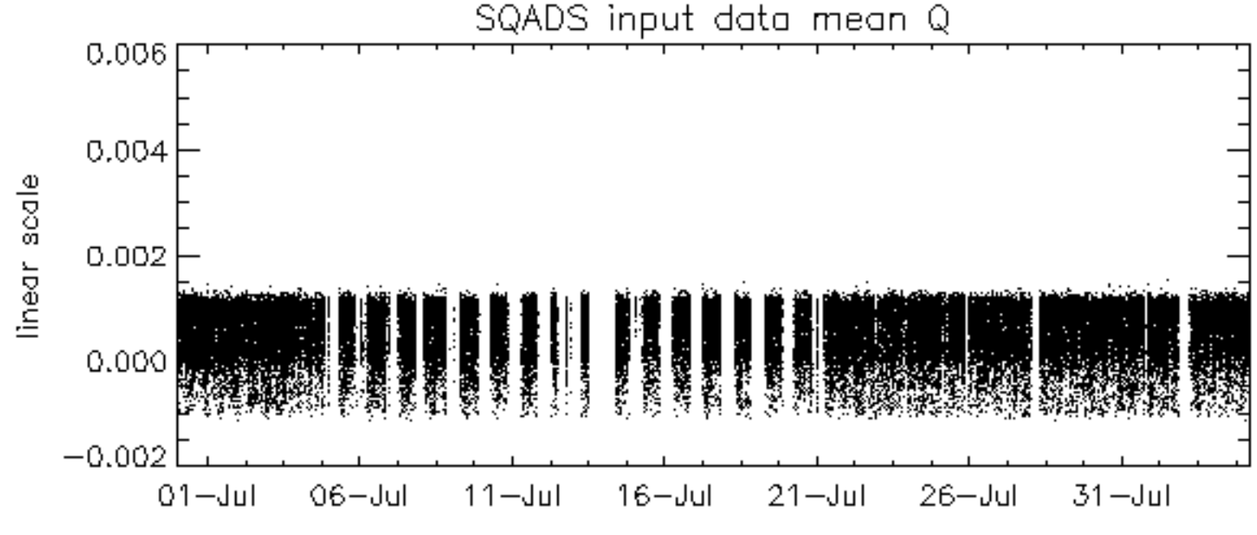
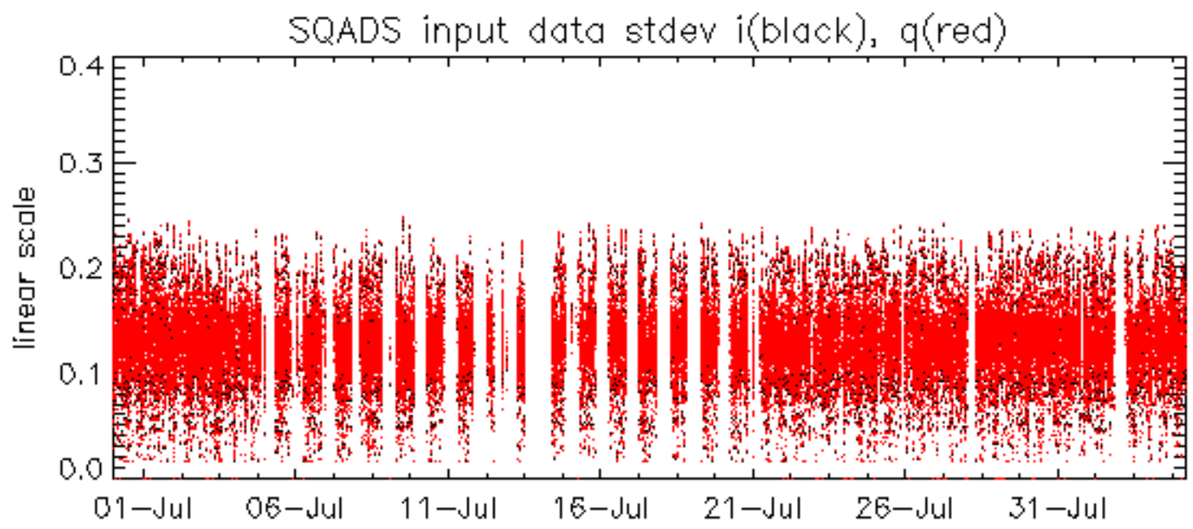
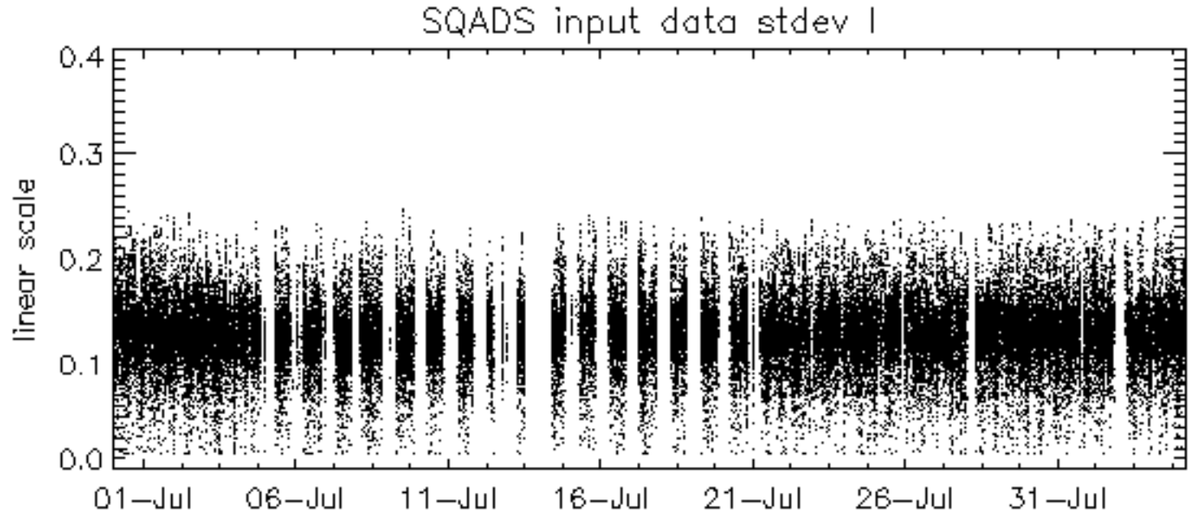

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

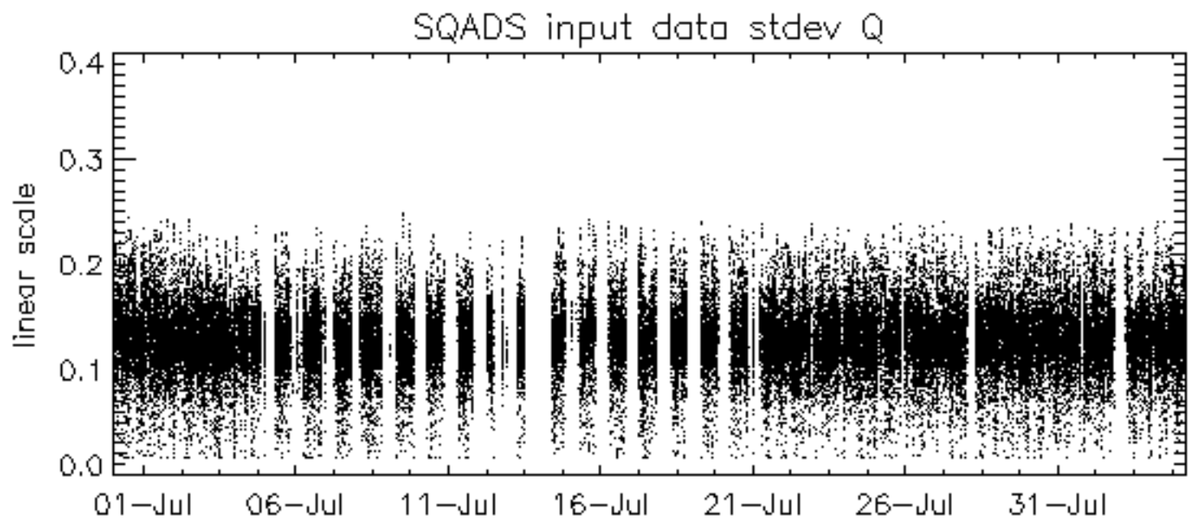

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
26−Jul
31−Jul

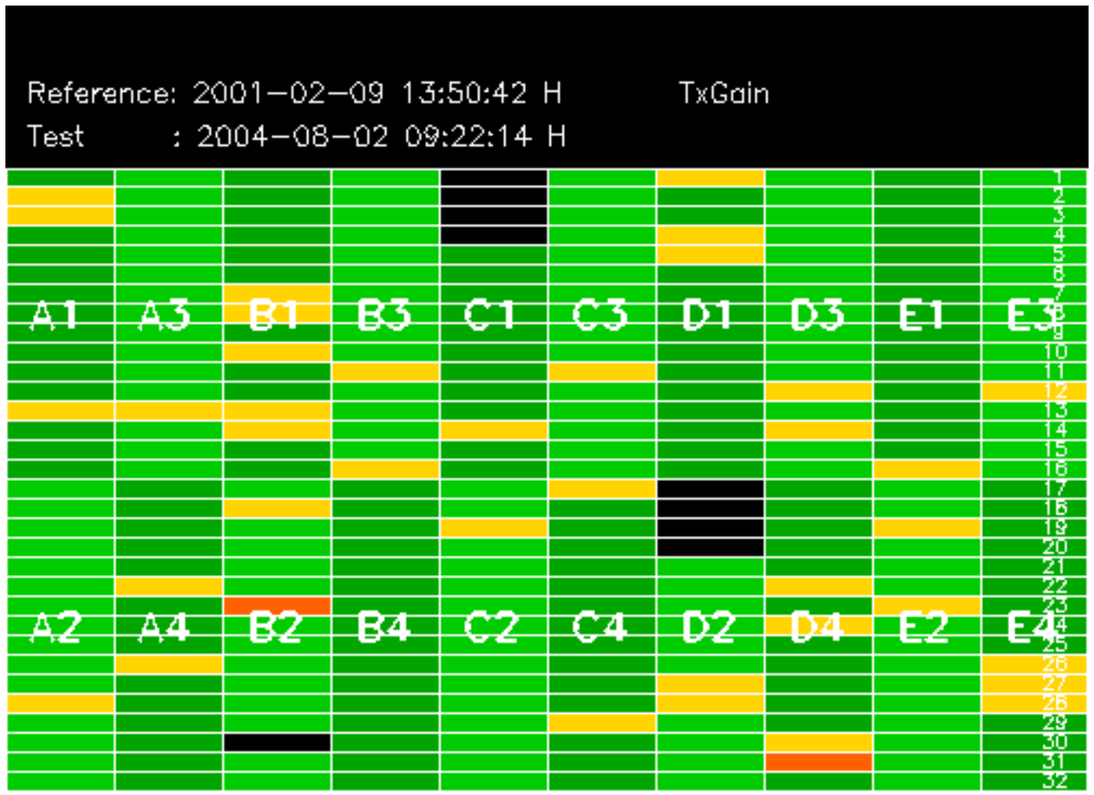

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
26−Jul
31−Jul

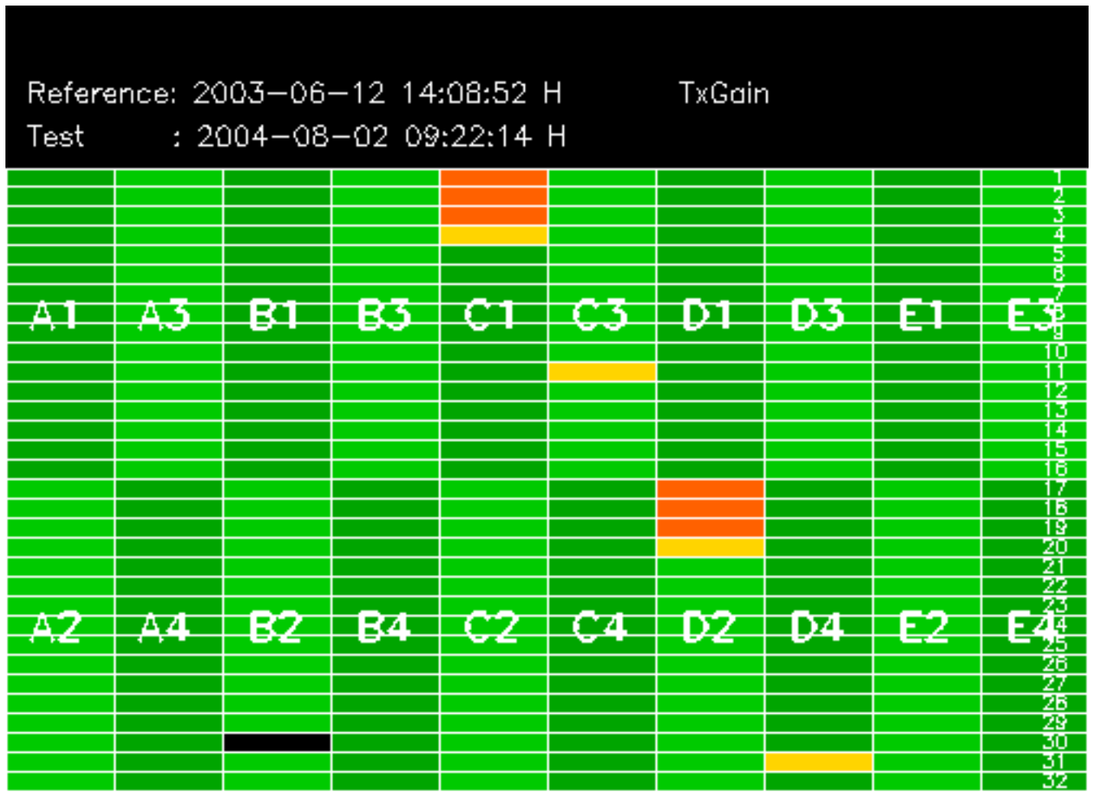

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
26−Jul
31−Jul


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2004-08-02 09:22:14 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 : 2004-08-02 09:22:14 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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Reference: 2001-02-09 14:08:23 V
Test : 2004-08-03 08:50:37 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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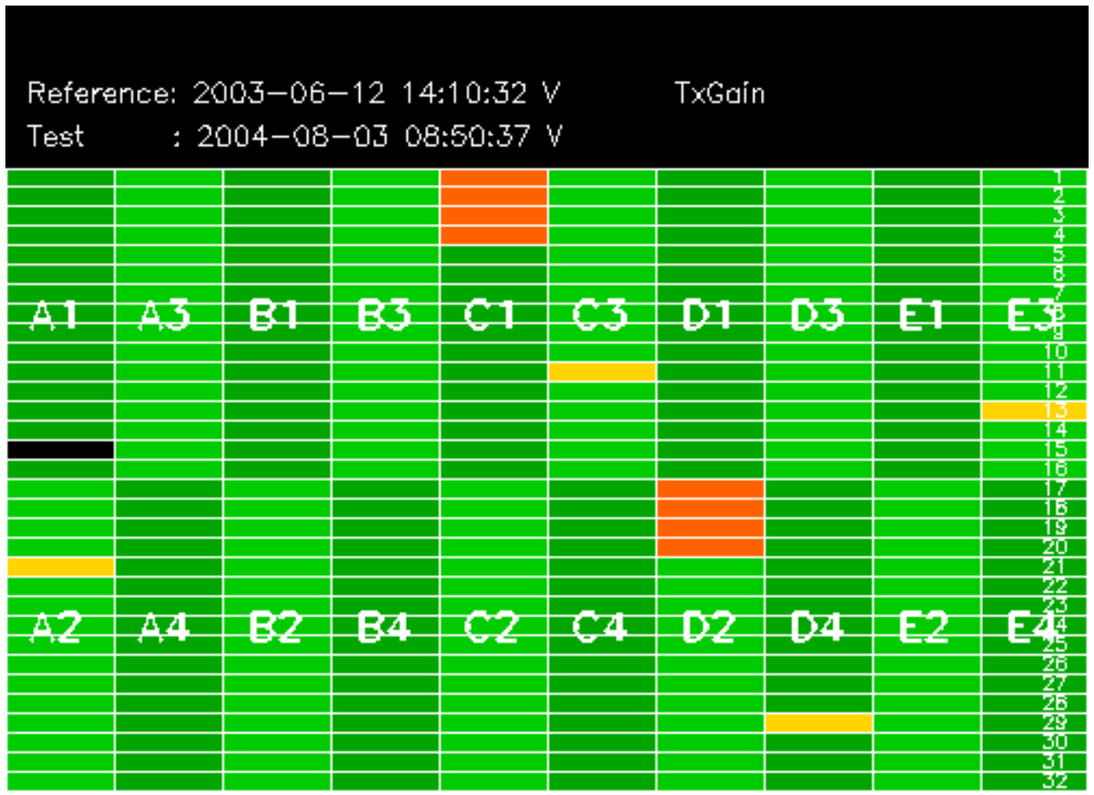
Reference: 2003-06-12 14:10:32 V
Test : 2004-08-03 08:50:37 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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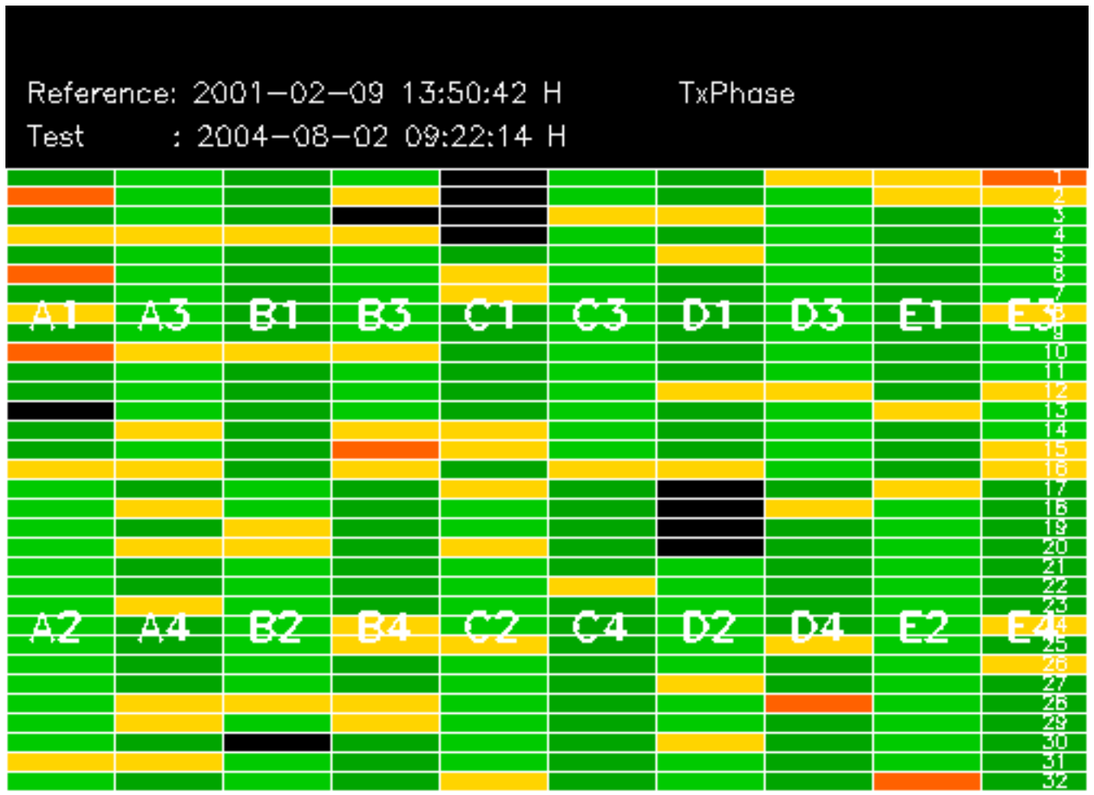
Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-08-02 09:22:14 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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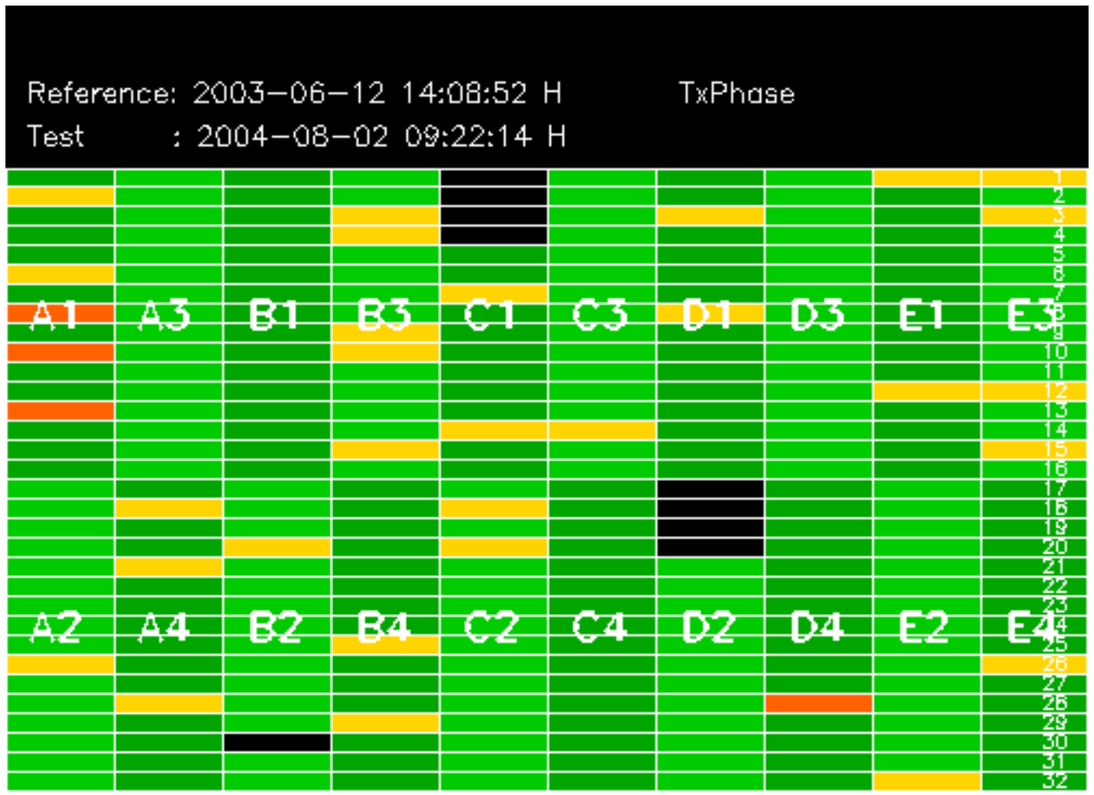
Reference: 2003-06-12 14:08:52 H
Test : 2004-08-02 09:22:14 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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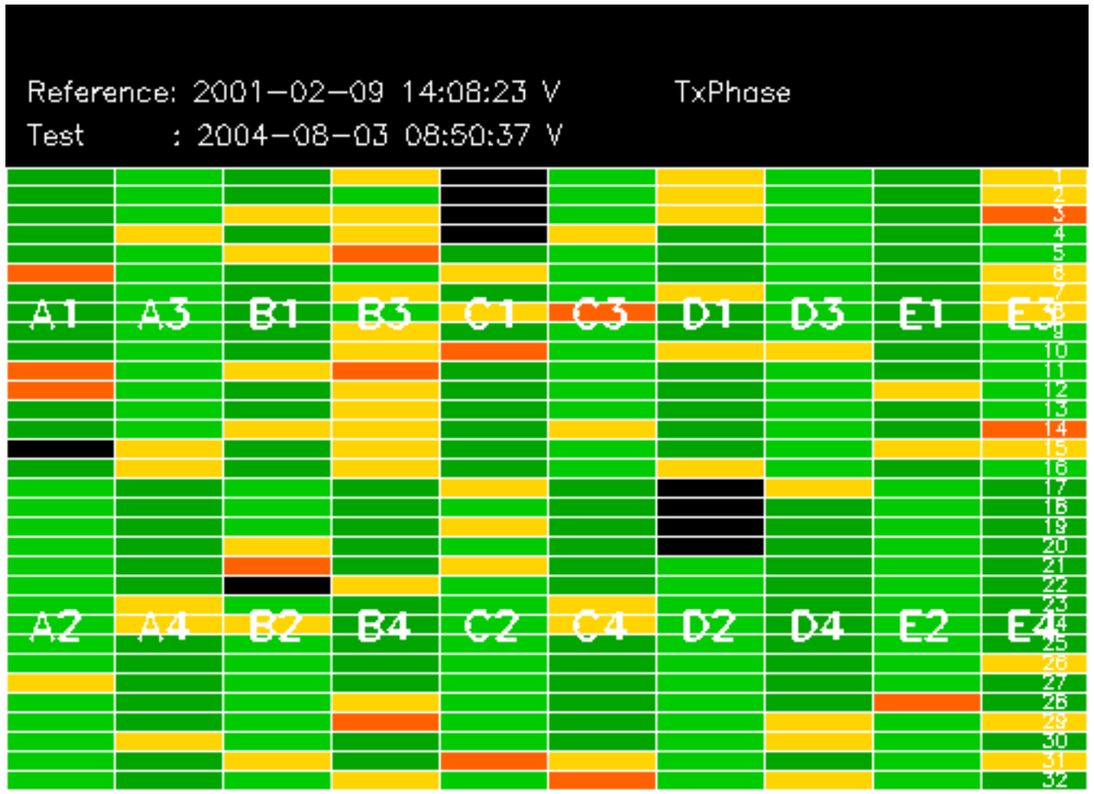
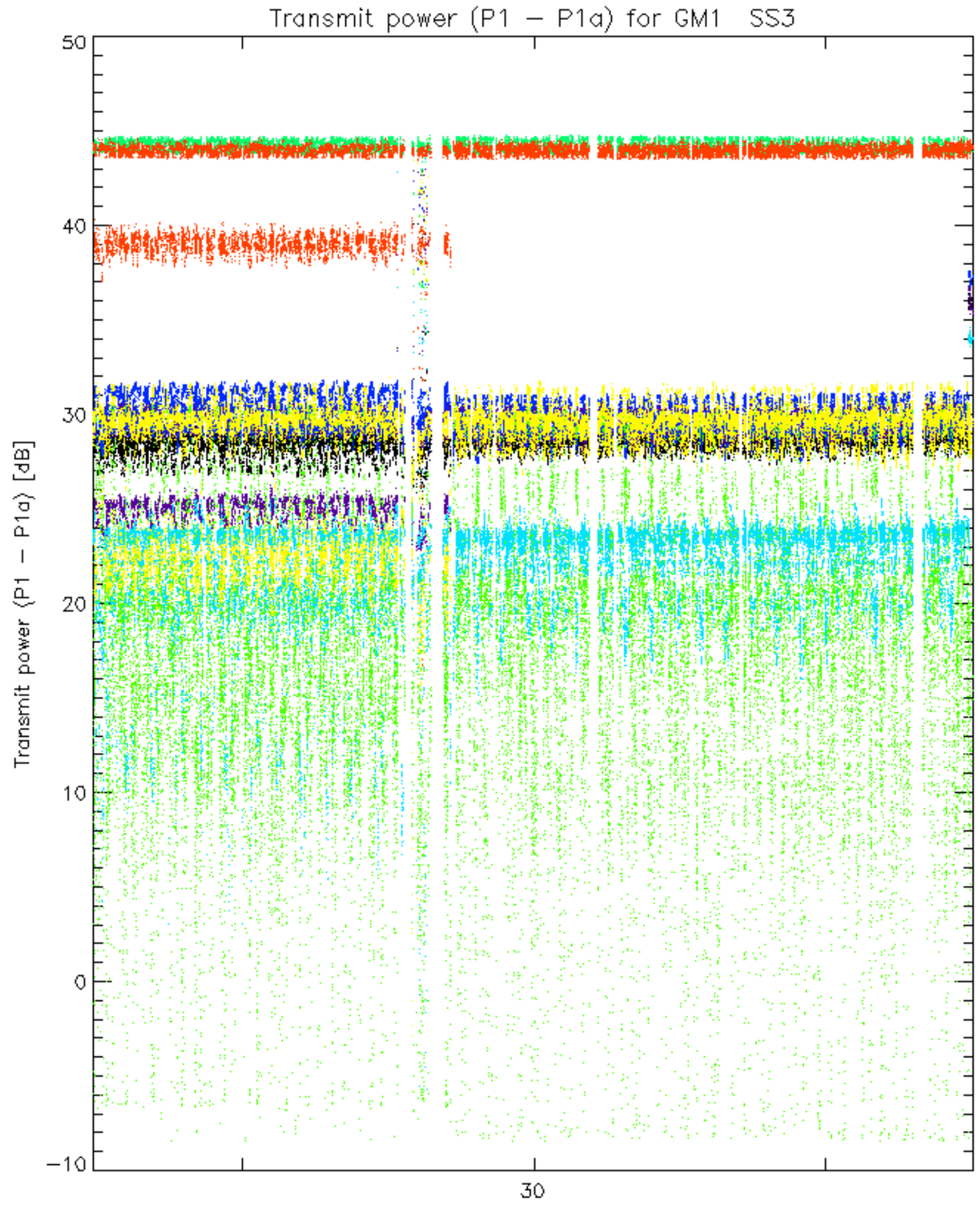
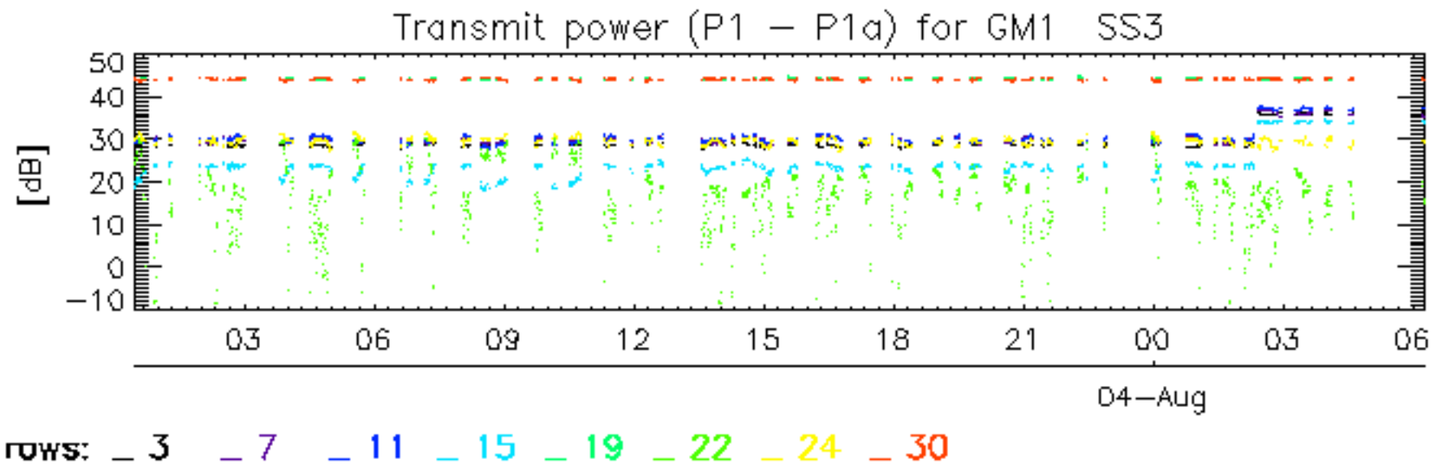
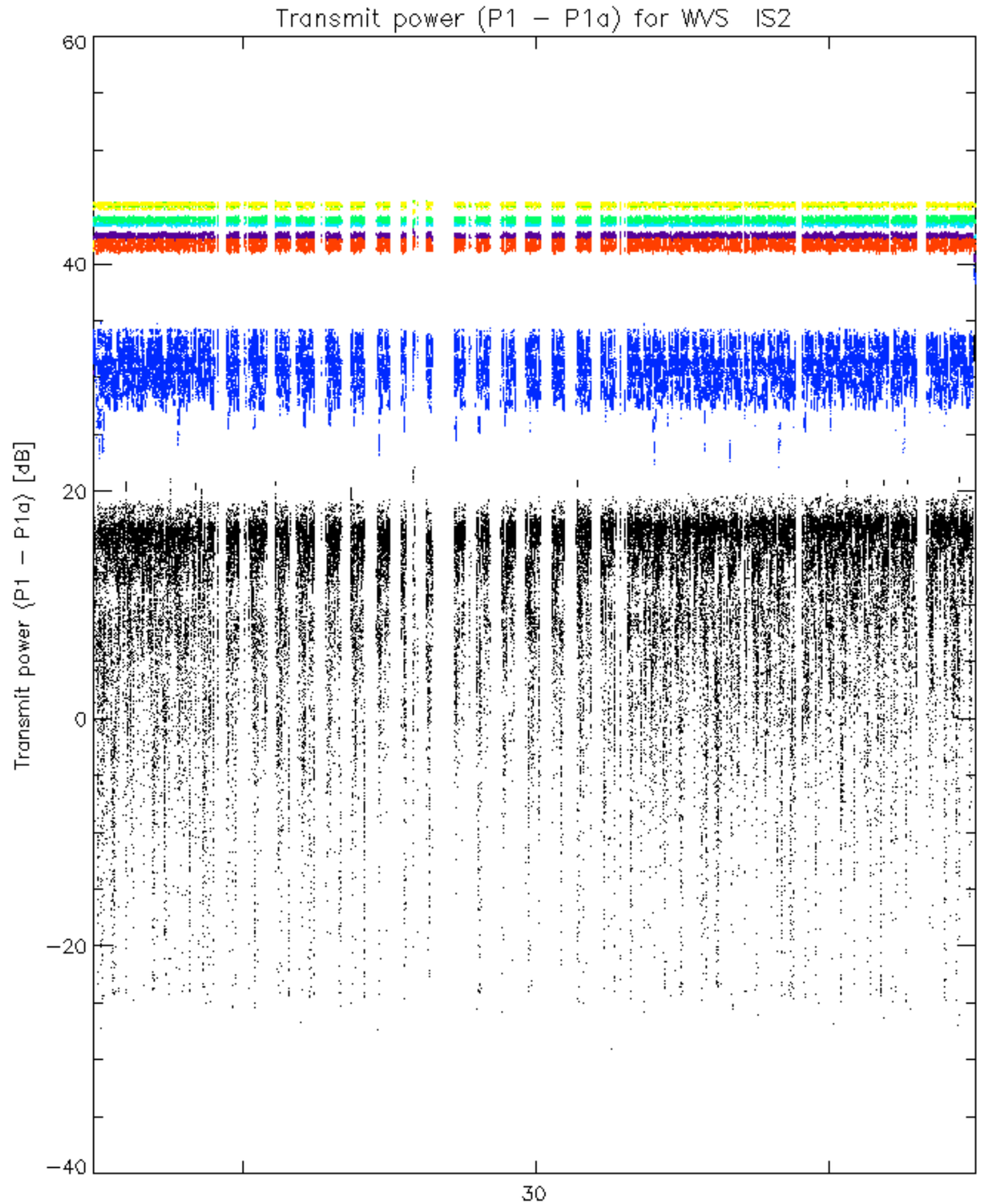
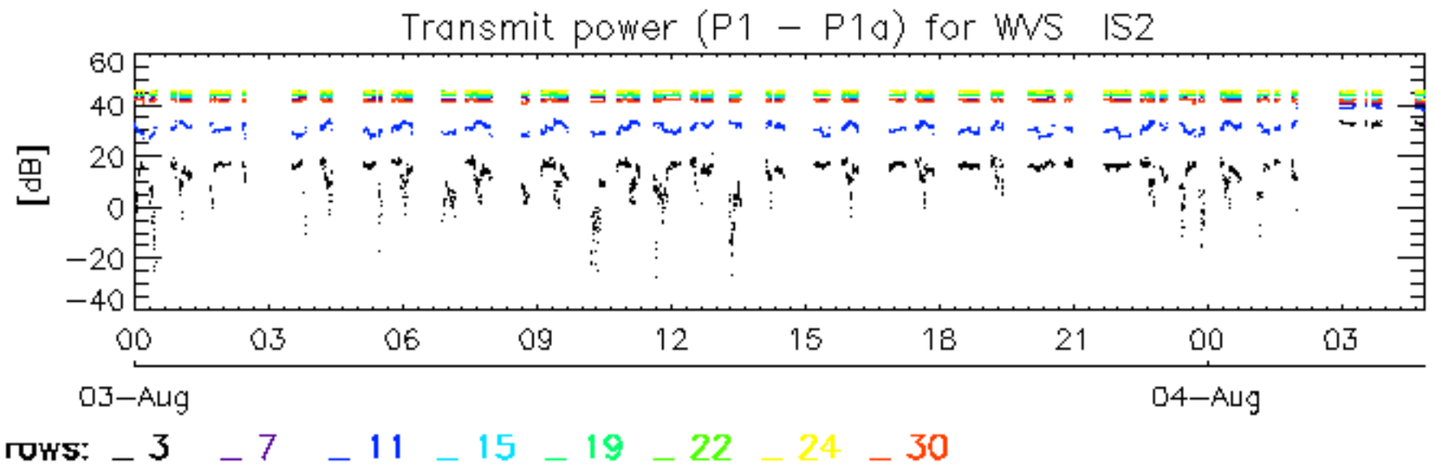

Reference: 2001-02-09 14:08:23 V
Test : 2004-08-03 08:50:37 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-08-03 08:50:37 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
06
04–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
30
rows: 3 7 11 15 19 22 24 30


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

No unavailabilities during the reported period.