PRELIMINARY REPORT OF 040713

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

last update on Tue Jul 13 13:11:50 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

-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	20040711 193547
H	20040712 190410

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	-3.490736	0.008634	0.028210
7	P1	-3.327047	0.014583	0.010858
11	P1	-4.560462	0.036731	-0.097474
15	P1	-5.696903	0.057770	-0.098933
19	P1	-3.438148	0.004838	-0.002489
22	P1	-4.557064	0.011483	0.012177

24	P1	-4.925414	0.017469	-0.030785
30	P1	-6.863142	0.024334	-0.052191
3	P1	-16.132004	0.190547	-0.194915
7	P1	-13.982719	0.100176	0.066808
11	P1	-19.939686	0.288950	-0.218516
15	P1	-11.782782	0.046031	-0.020048
19	P1	-13.828753	0.034078	0.014104
22	P1	-16.438700	0.406642	0.368240
24	P1	-14.640418	0.293806	0.185519
30	P1	-17.688055	0.388708	-0.010310

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.385397	0.082325	0.095666
7	P2	-22.802418	0.124757	0.139574
11	P2	-15.556985	0.141482	0.141702
15	P2	-7.159617	0.096300	0.115511
19	P2	-9.562957	0.154582	0.057649
22	P2	-17.493269	0.107027	0.168022
24	P2	-20.821684	0.087310	0.136418
30	P2	-19.407457	0.078593	0.051409

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.142858	0.001960	0.004800
7	P3	-8.142854	0.001960	0.004785
11	P3	-8.142851	0.001959	0.004757
15	P3	-8.142847	0.001959	0.004745
19	P3	-8.142841	0.001959	0.004723
22	P3	-8.142838	0.001959	0.004707
24	P3	-8.142836	0.001959	0.004694
30	P3	-8.142576	0.001979	0.005851

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	-3.124063	0.130915	0.066791
7	P1	-2.825090	0.070953	-0.056735
11	P1	-3.819880	0.022946	-0.080768
15	P1	-4.268586	0.996592	-0.029143
19	P1	-3.357366	0.050653	0.012400
22	P1	-5.733632	0.043837	-0.035165
24	P1	-4.049618	0.077476	0.023193
30	P1	-6.114704	0.069505	-0.019003
3	P1	-10.998585	0.379607	0.073021
7	P1	-9.787580	0.239794	-0.072833
11	P1	-11.803124	0.167131	-0.093012
15	P1	-11.871572	0.268301	-0.088022
19	P1	-14.988721	0.826647	0.035109
22	P1	-21.383945	8.287302	0.470815
24	P1	-17.360258	0.312102	0.110856
30	P1	-21.666468	4.372208	0.168832

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.125381	0.042604	0.116723
7	P2	-22.900406	0.030844	0.100627
11	P2	-10.949594	0.230645	0.210554
15	P2	-4.970707	0.043981	0.102836
19	P2	-6.918439	0.040772	0.064129
22	P2	-7.618218	0.029404	0.163424
24	P2	-11.028529	0.074273	0.137242
30	P2	-22.331501	0.085556	0.174855

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.982463	0.003471	0.008539
7	P3	-7.982474	0.003466	0.008255
11	P3	-7.982385	0.003472	0.008385
15	P3	-7.982347	0.003476	0.008562
19	P3	-7.982352	0.003477	0.008554
22	P3	-7.982454	0.003460	0.008815
24	P3	-7.982387	0.003500	0.008745
30	P3	-7.982397	0.003474	0.008510

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	0.000498342
	stdev	2.10582e-07
MEAN Q	mean	0.000546611
	stdev	2.39572e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129886
	stdev	0.00103094
STDEV Q	mean	0.130139
	stdev	0.00104283

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

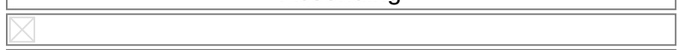
Descending

6.3 - Doppler evolution versus ANX for WVS

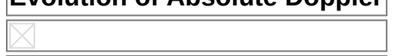
Evolution Doppler error versus ANX


6.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)

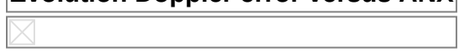
Acsending

Descending

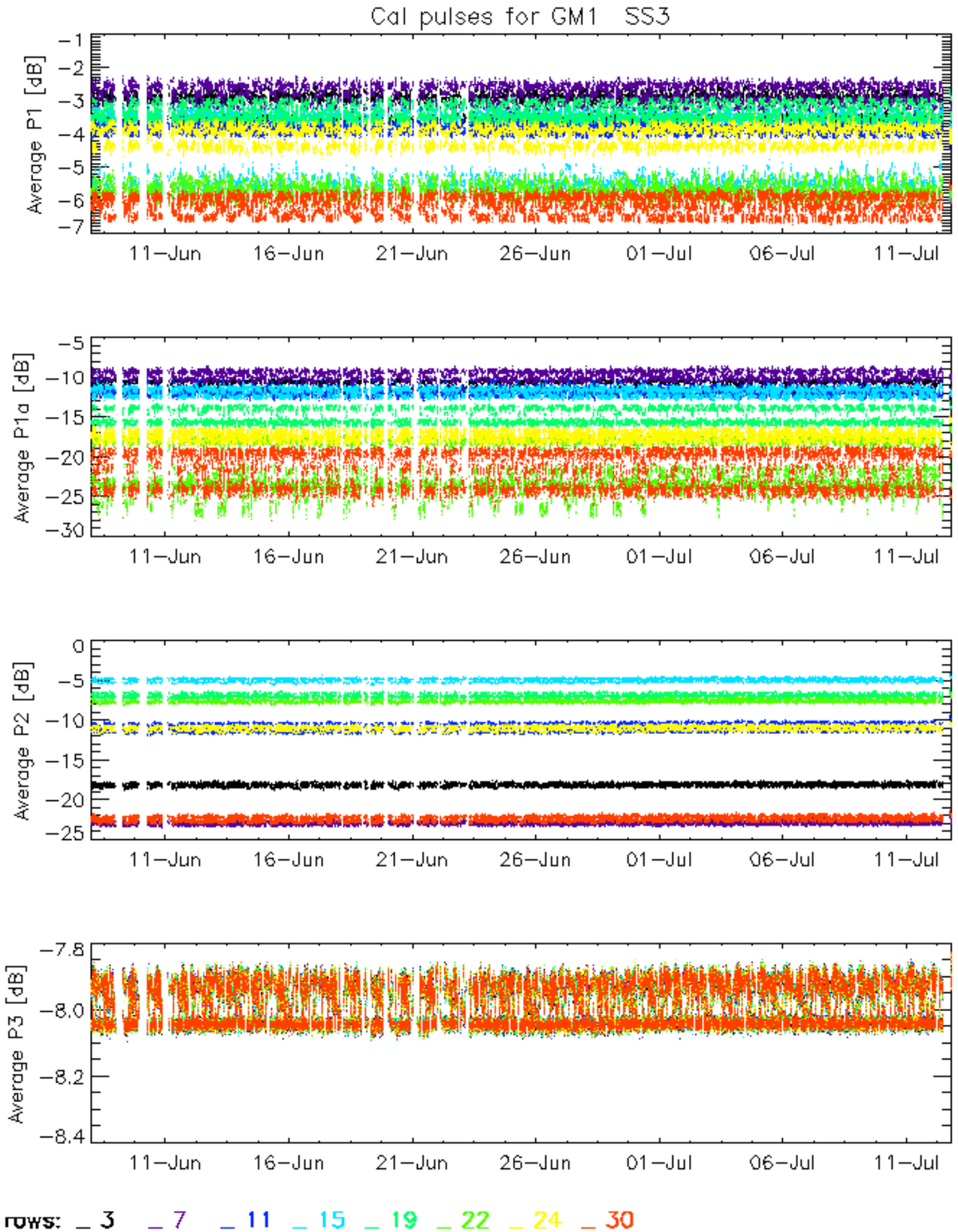
6.5 - Absolute Doppler for GM1

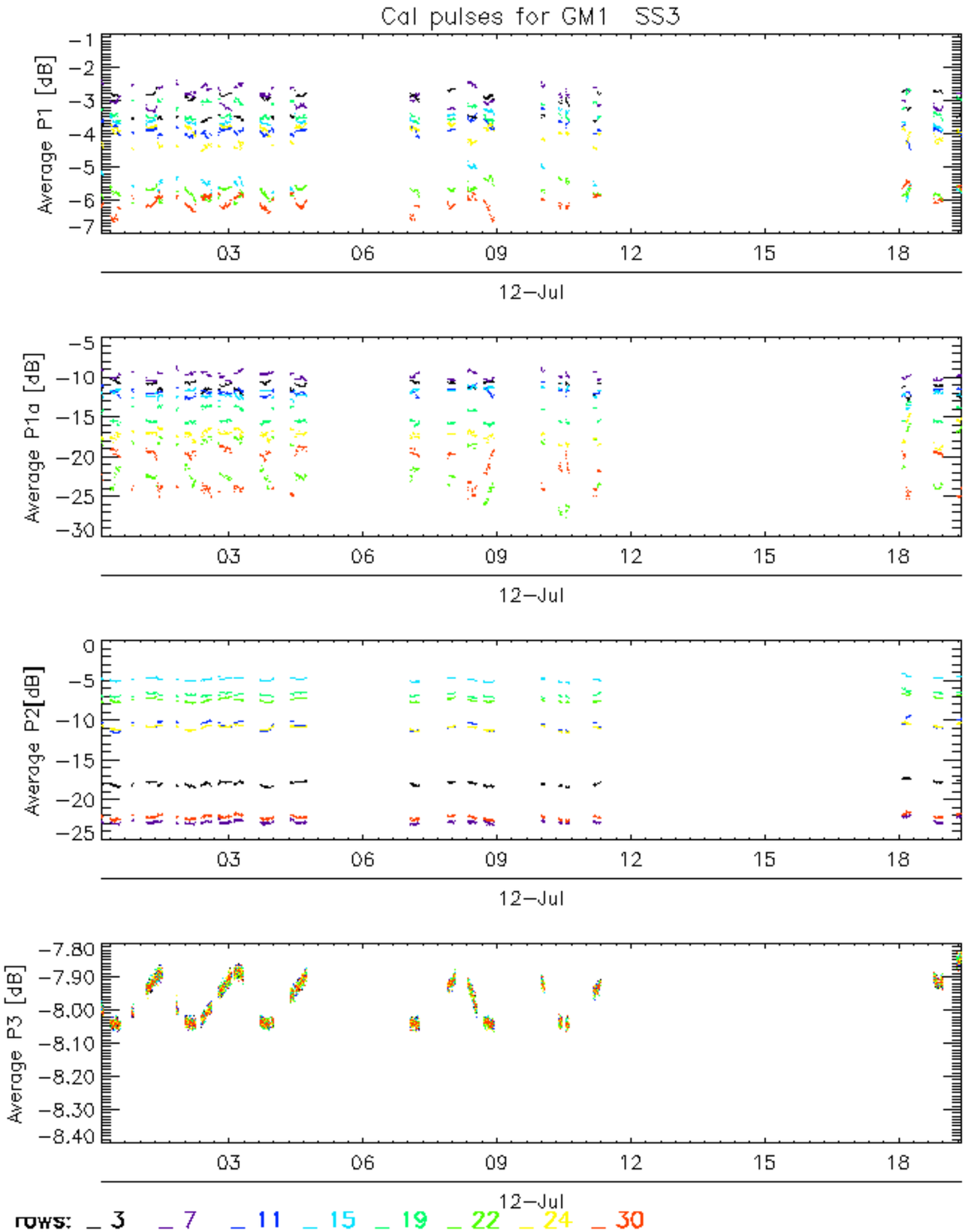
Evolution of Absolute Doppler

Acsending

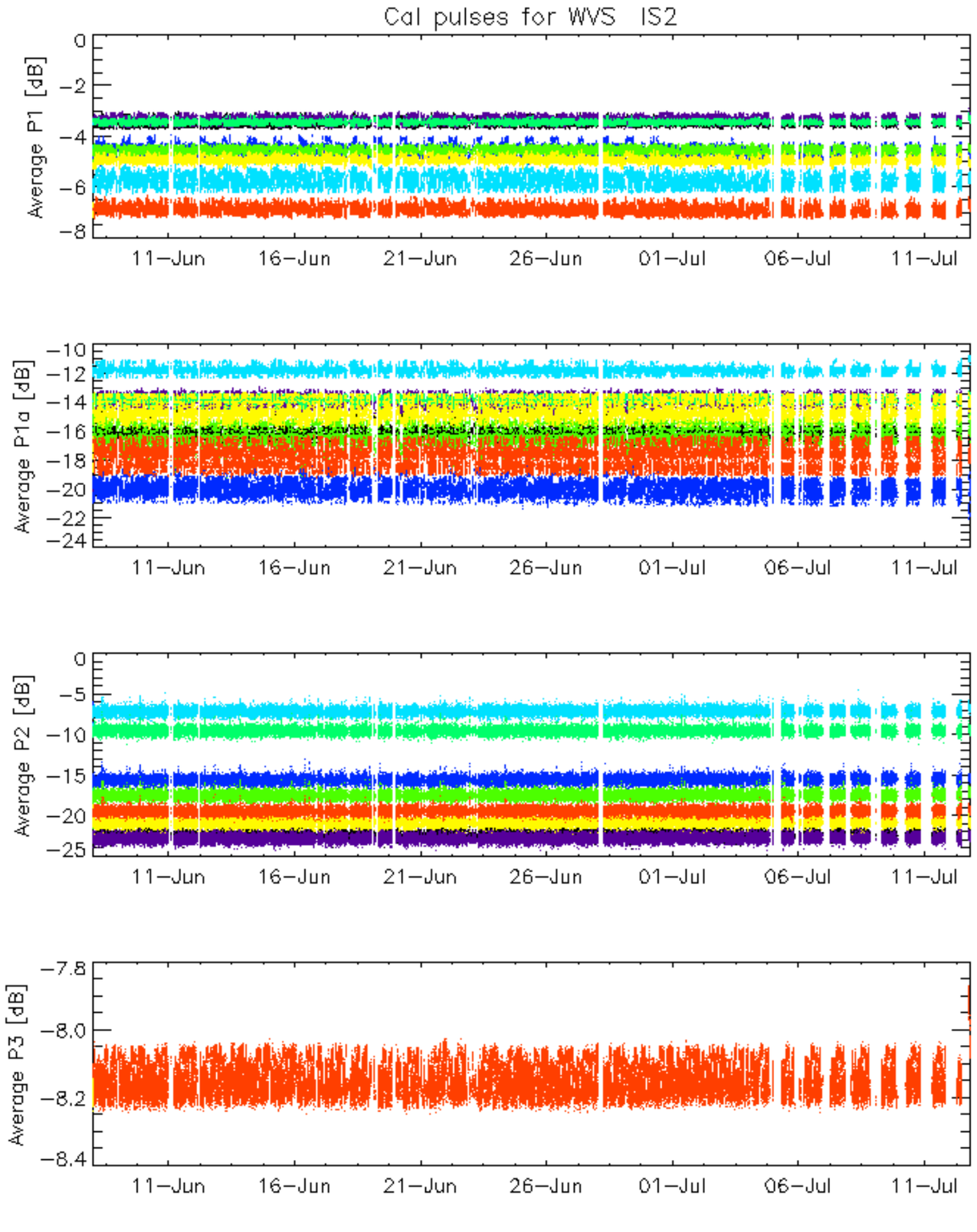
Descending

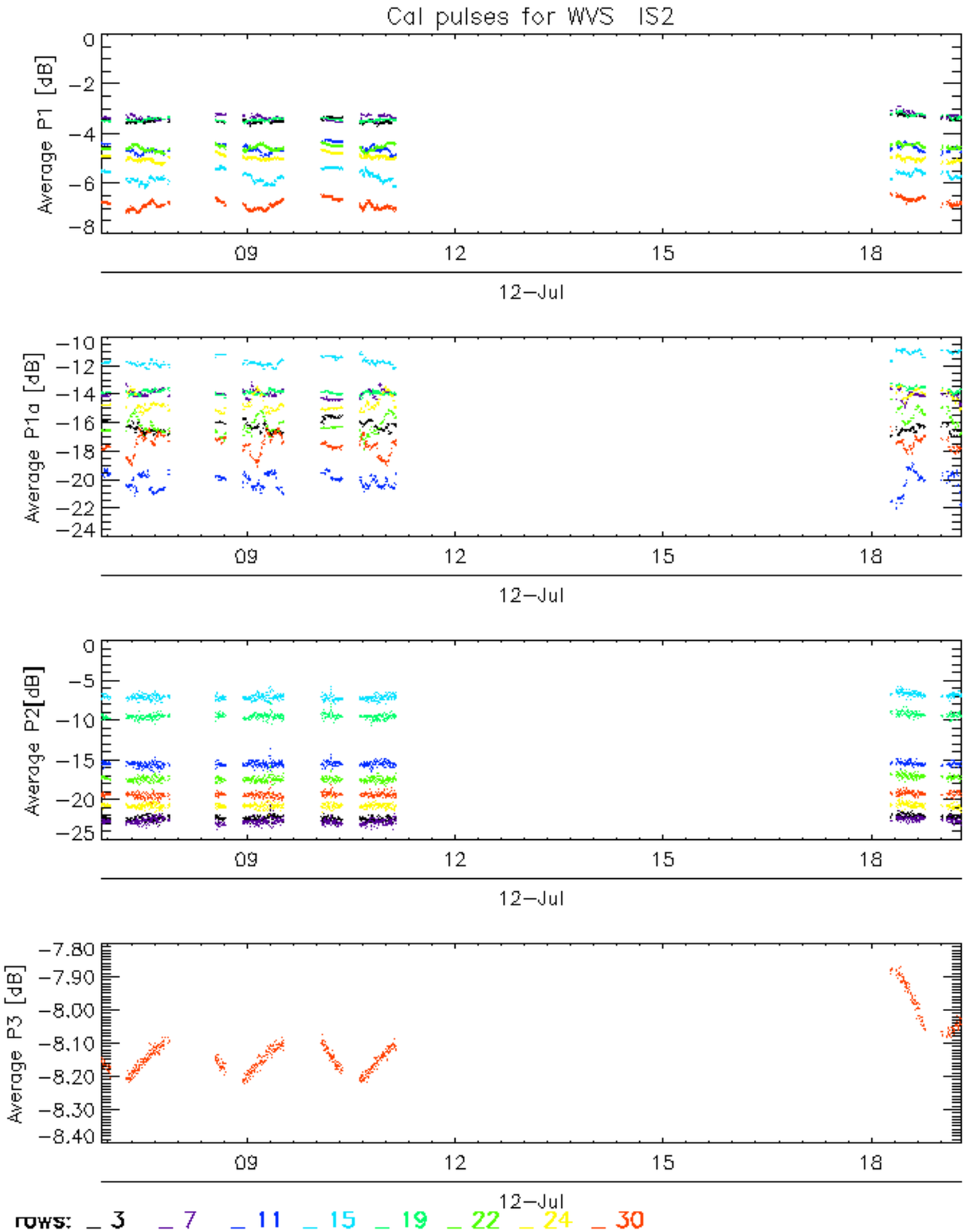
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX



Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
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

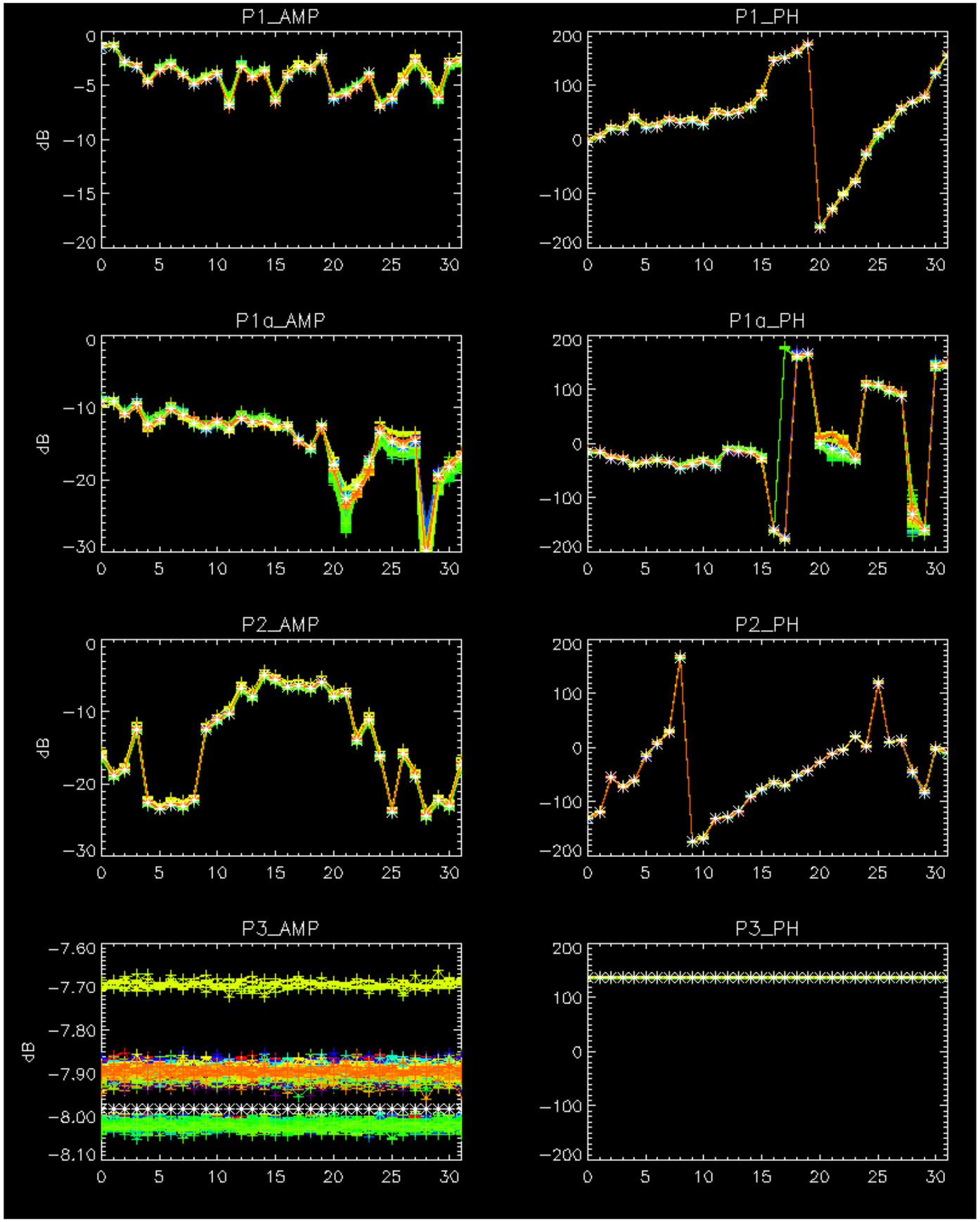

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
12−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
−30
03
06
09
12
15
18
12−Jul
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
12−Jul
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06
09
12
15
18
12−Jul
rows: _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

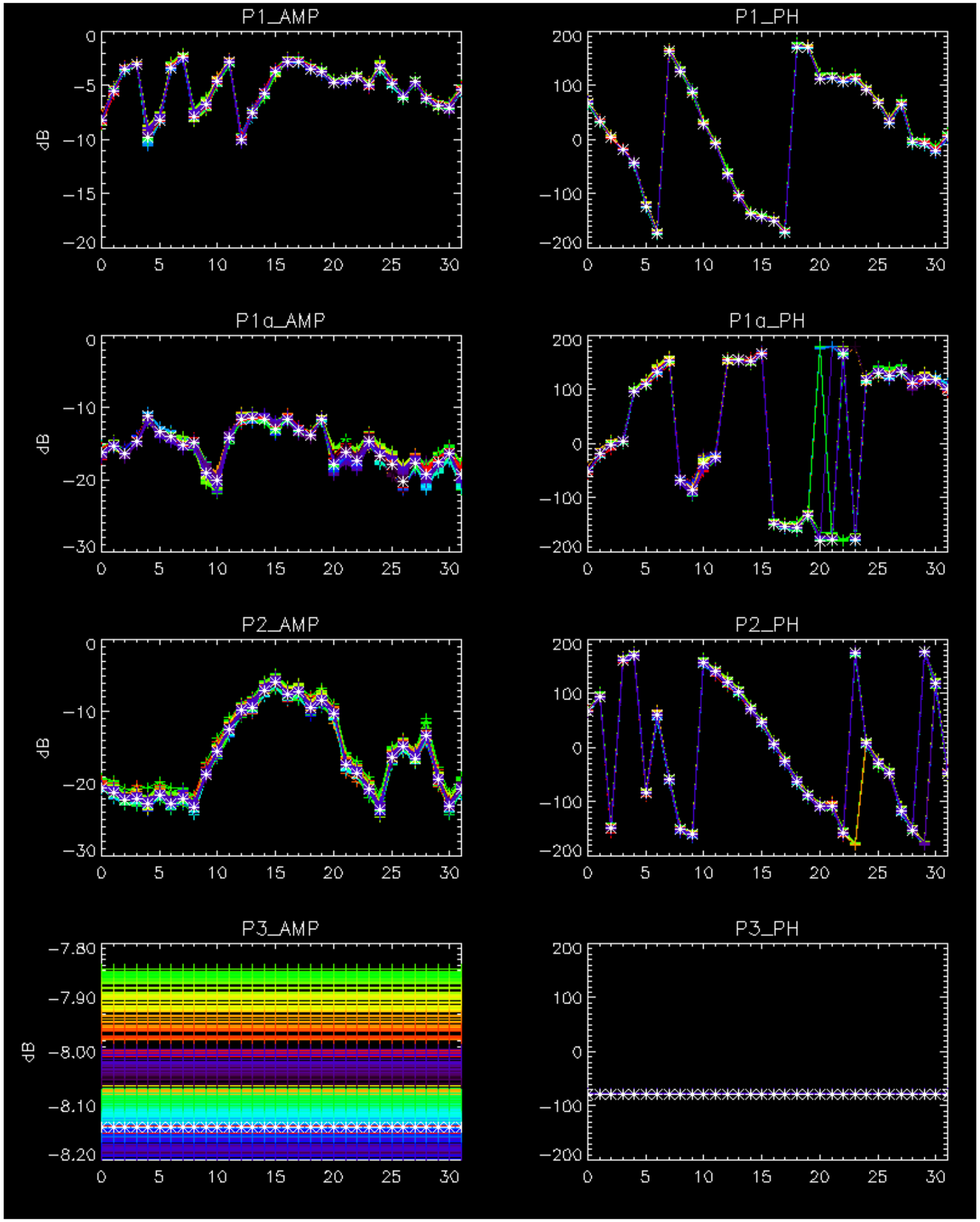

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
Average P2 [dB]
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30


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

No anomalies observed on available browse products

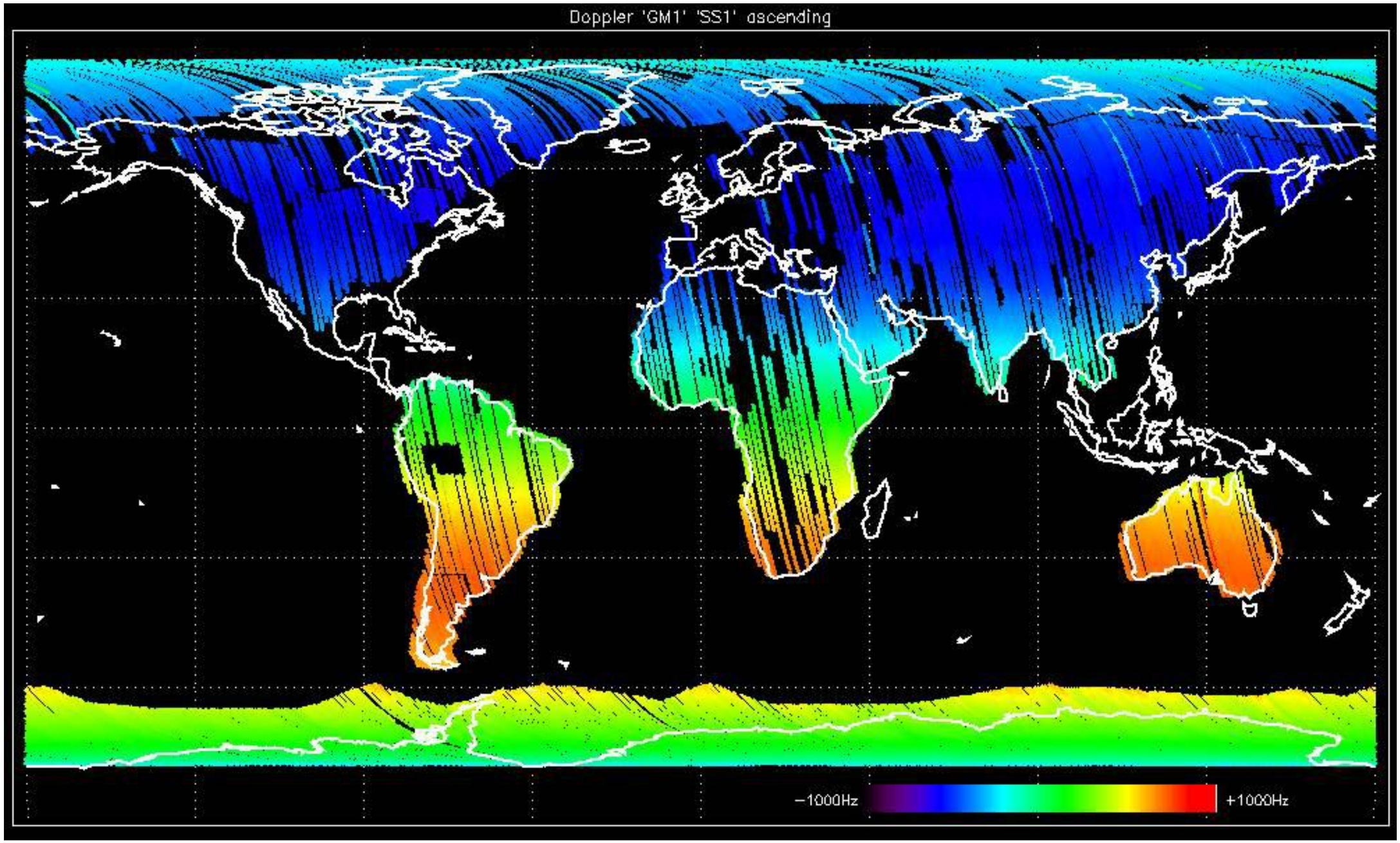
No anomalies observed.

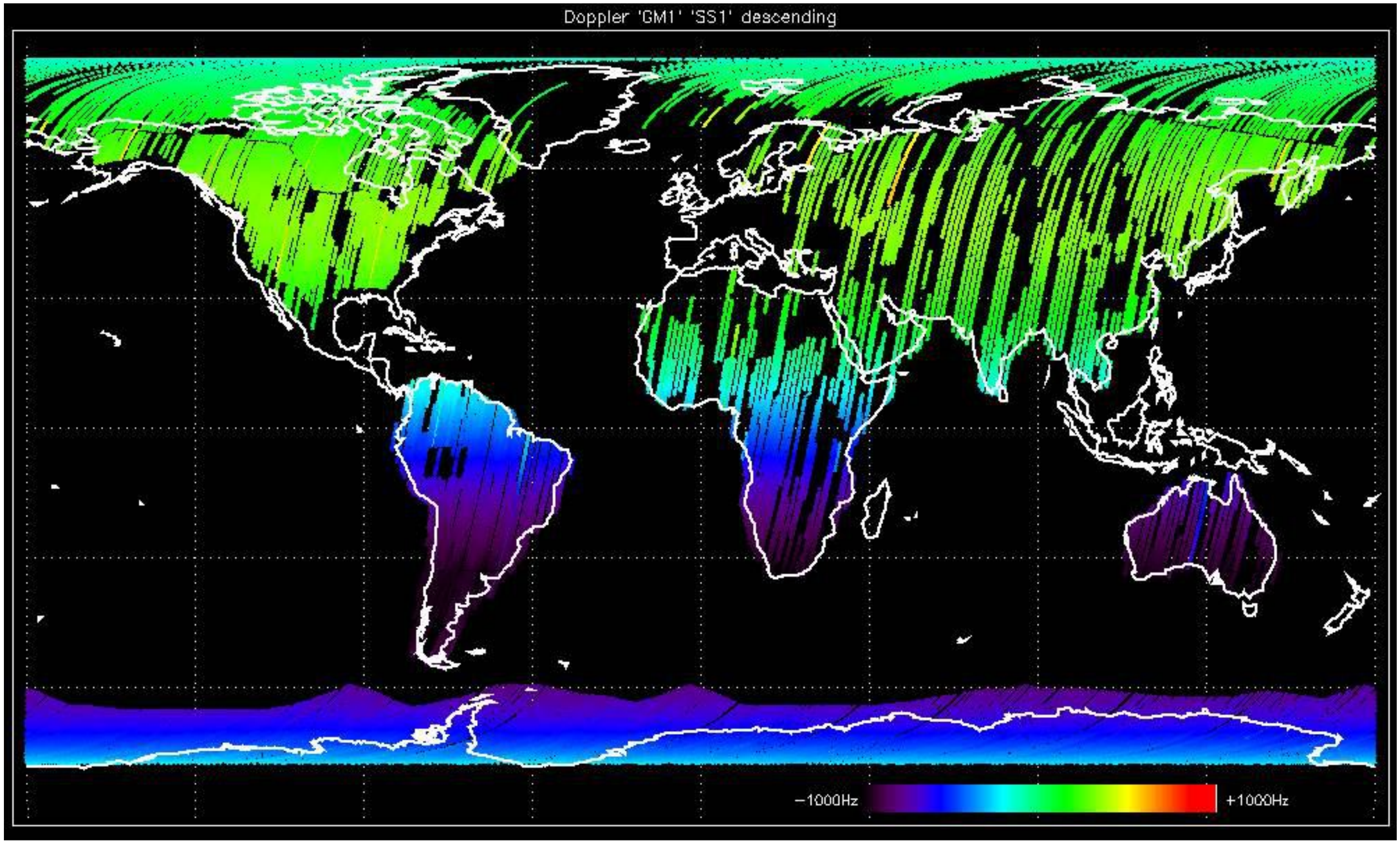

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.60
−7.70
−7.80
−7.90
−8.00
−8.10
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

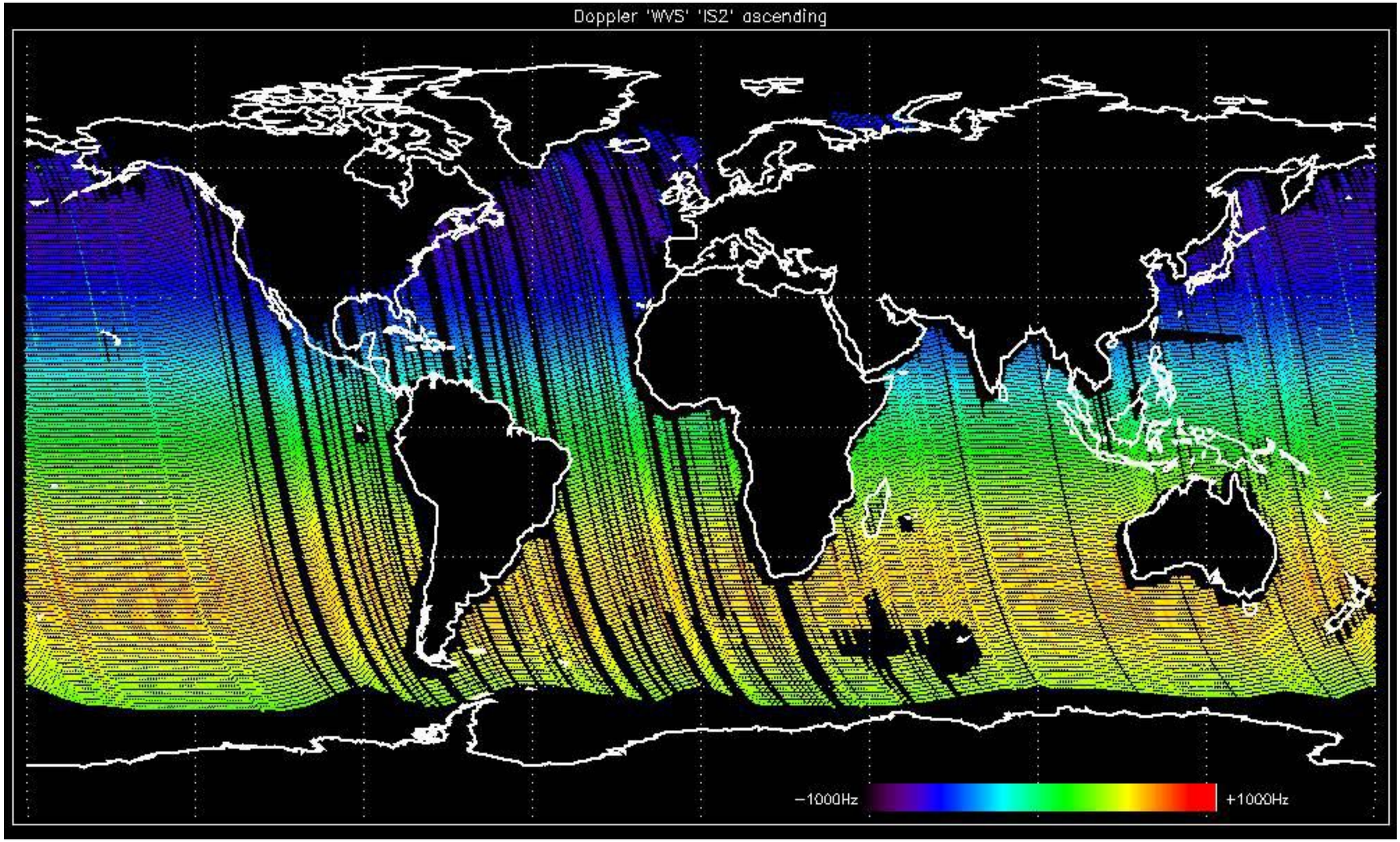

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.80
−7.90
−8.00
−8.10
−8.20
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

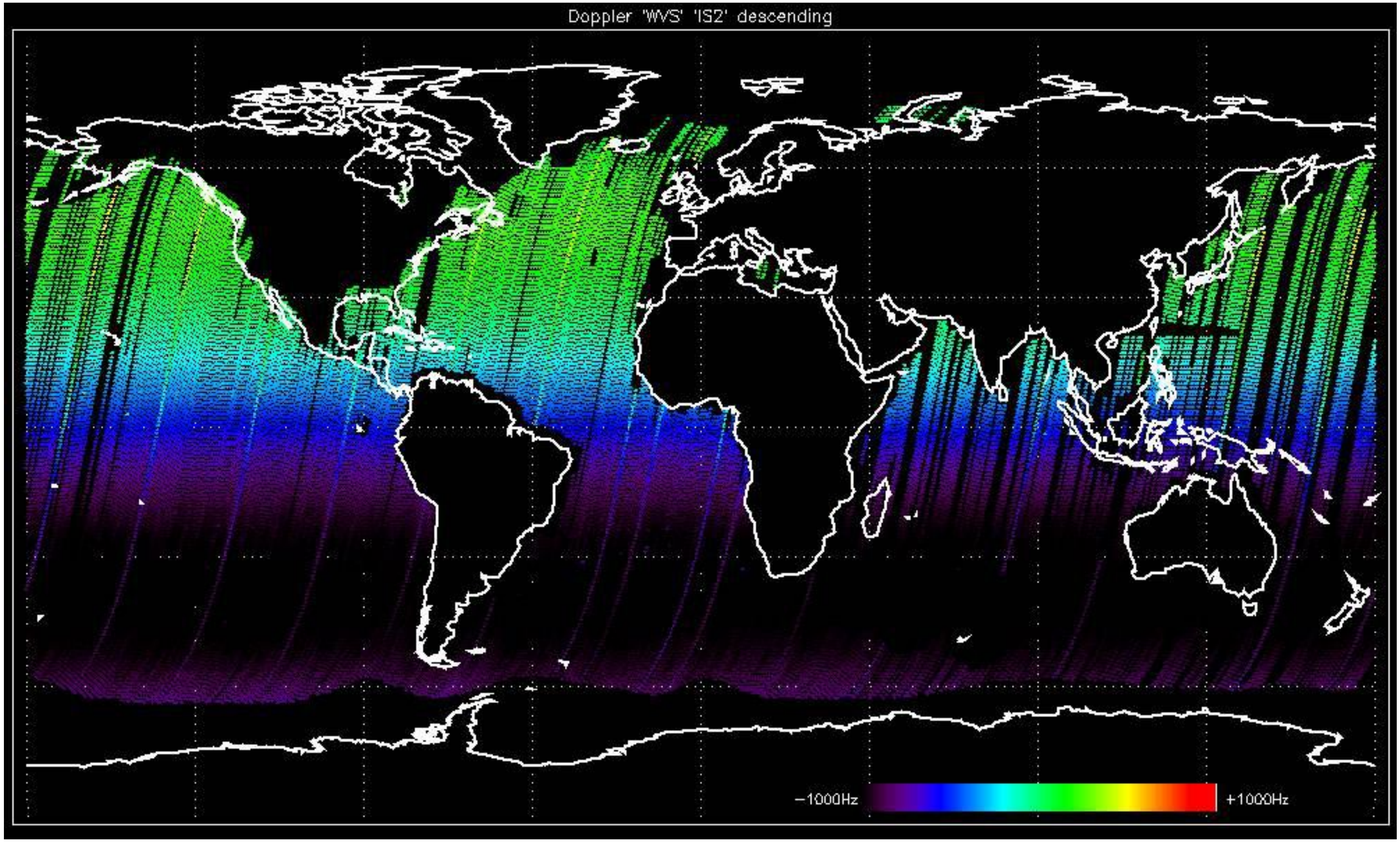
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

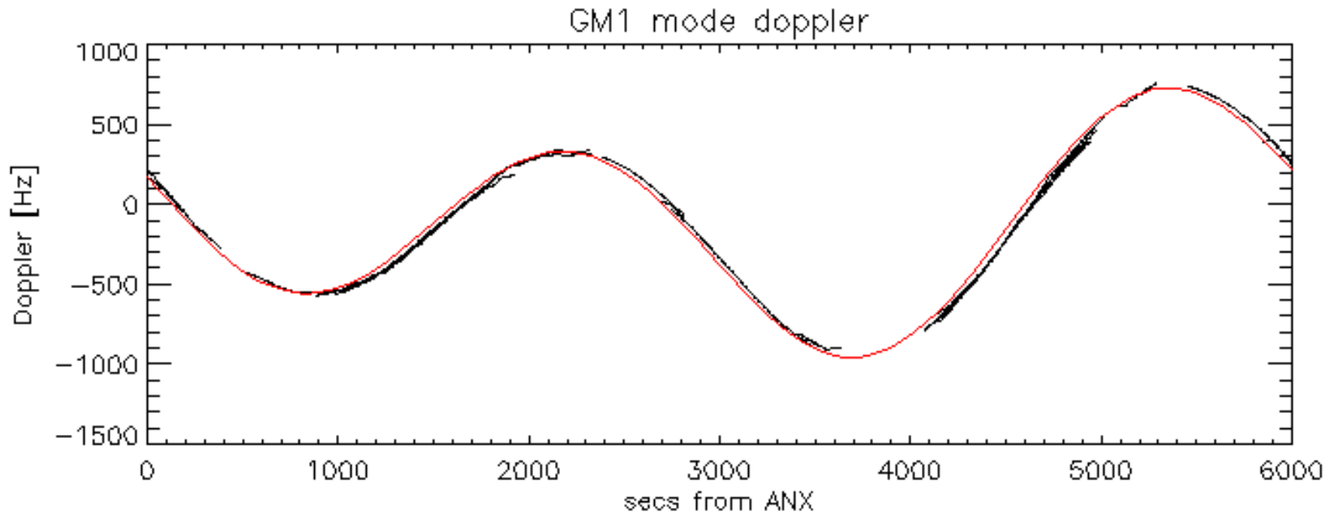
Preliminary report.The data is not yet controled

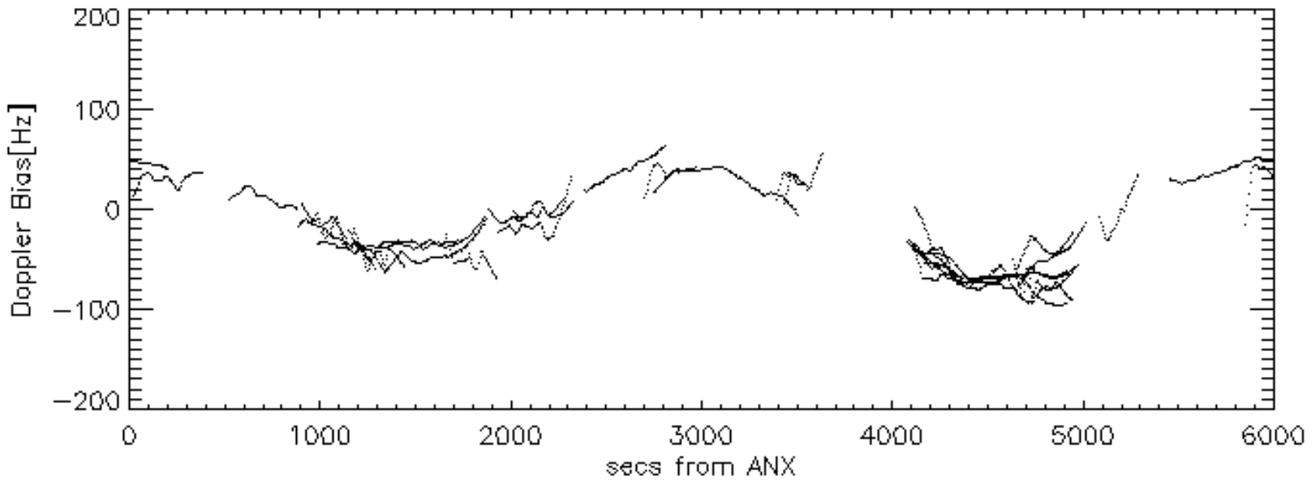

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

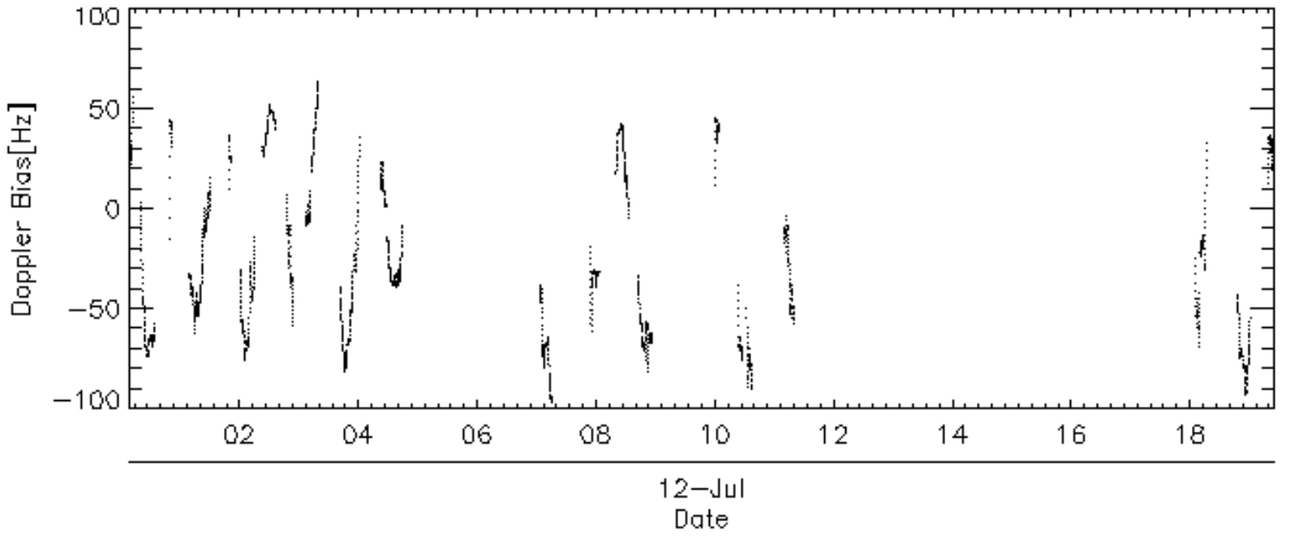

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

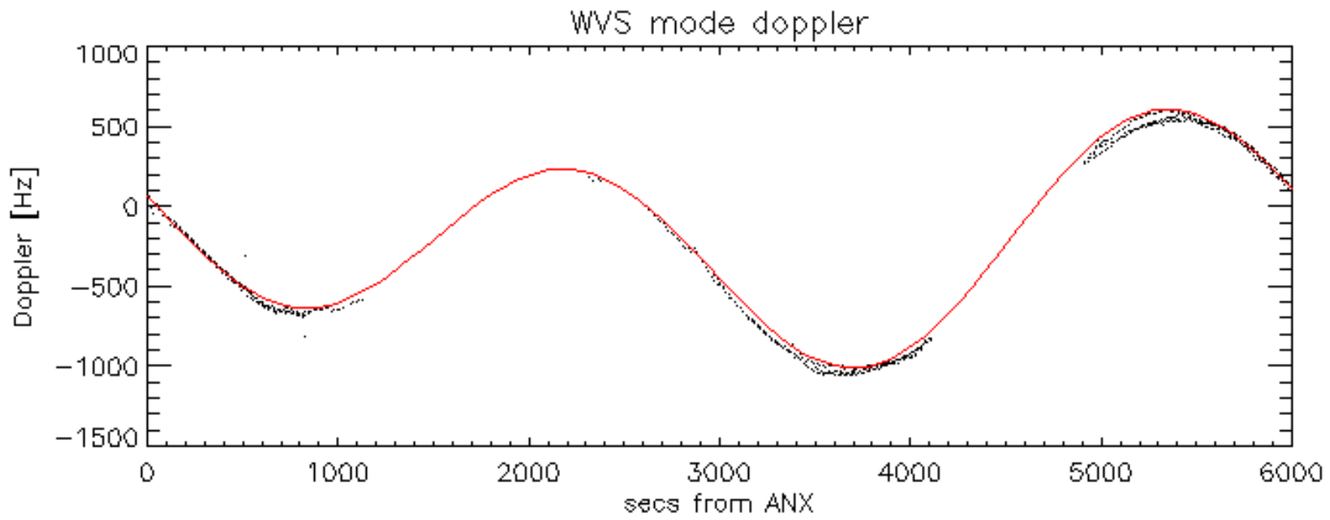

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

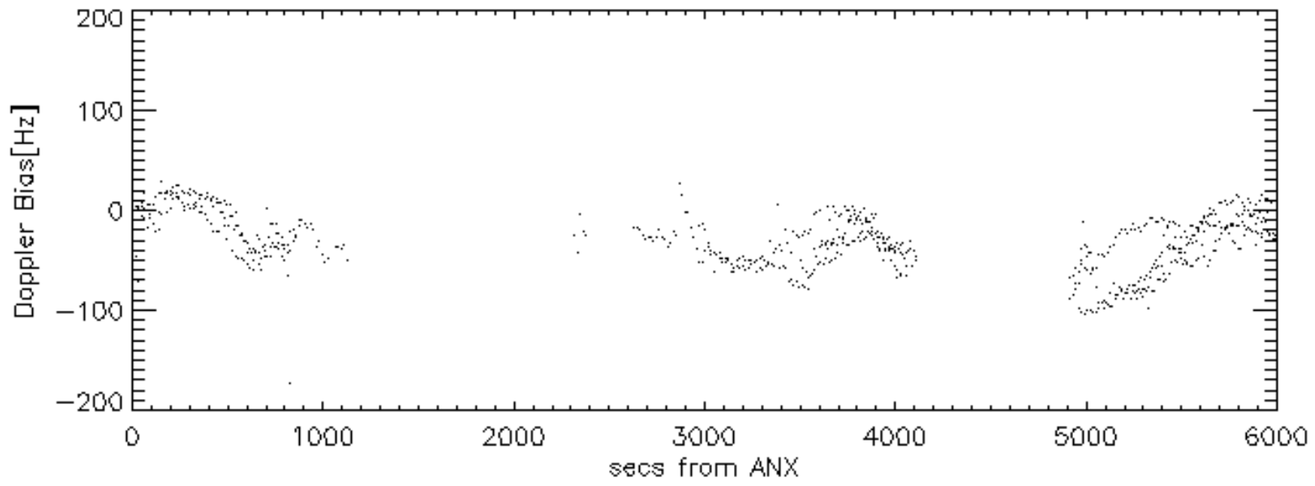

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

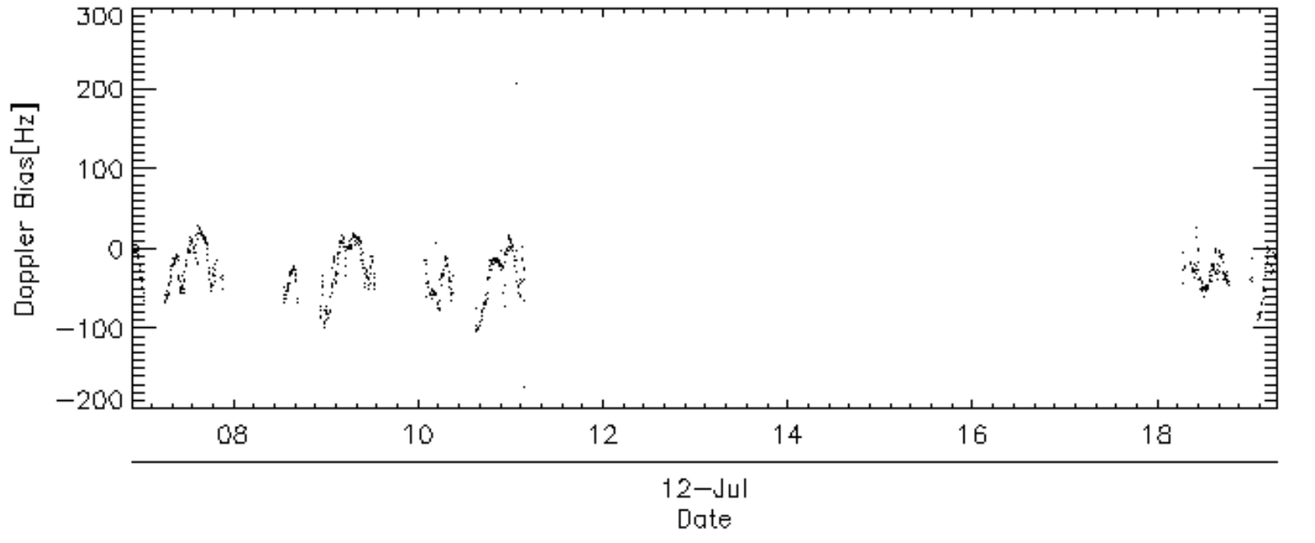

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

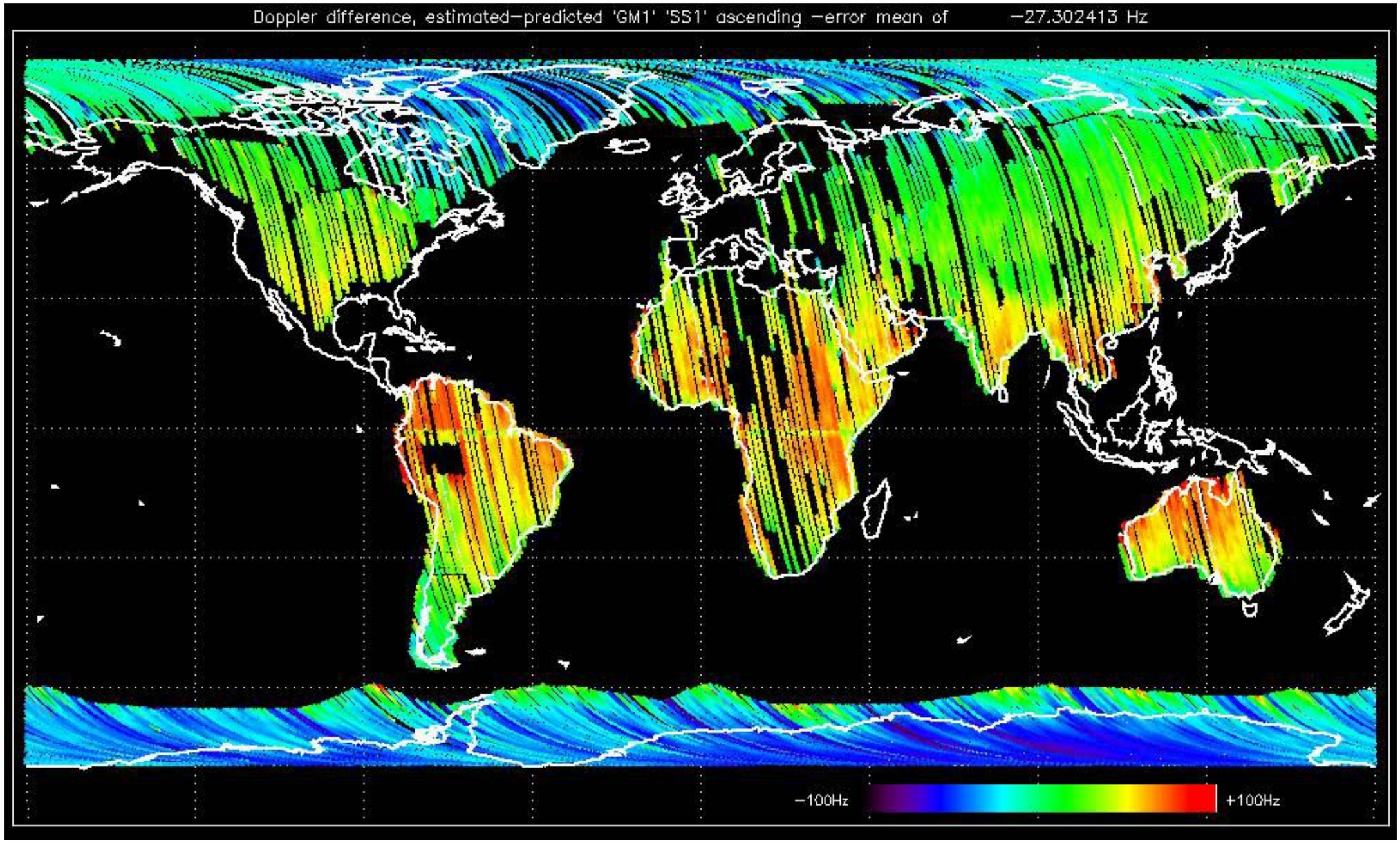

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

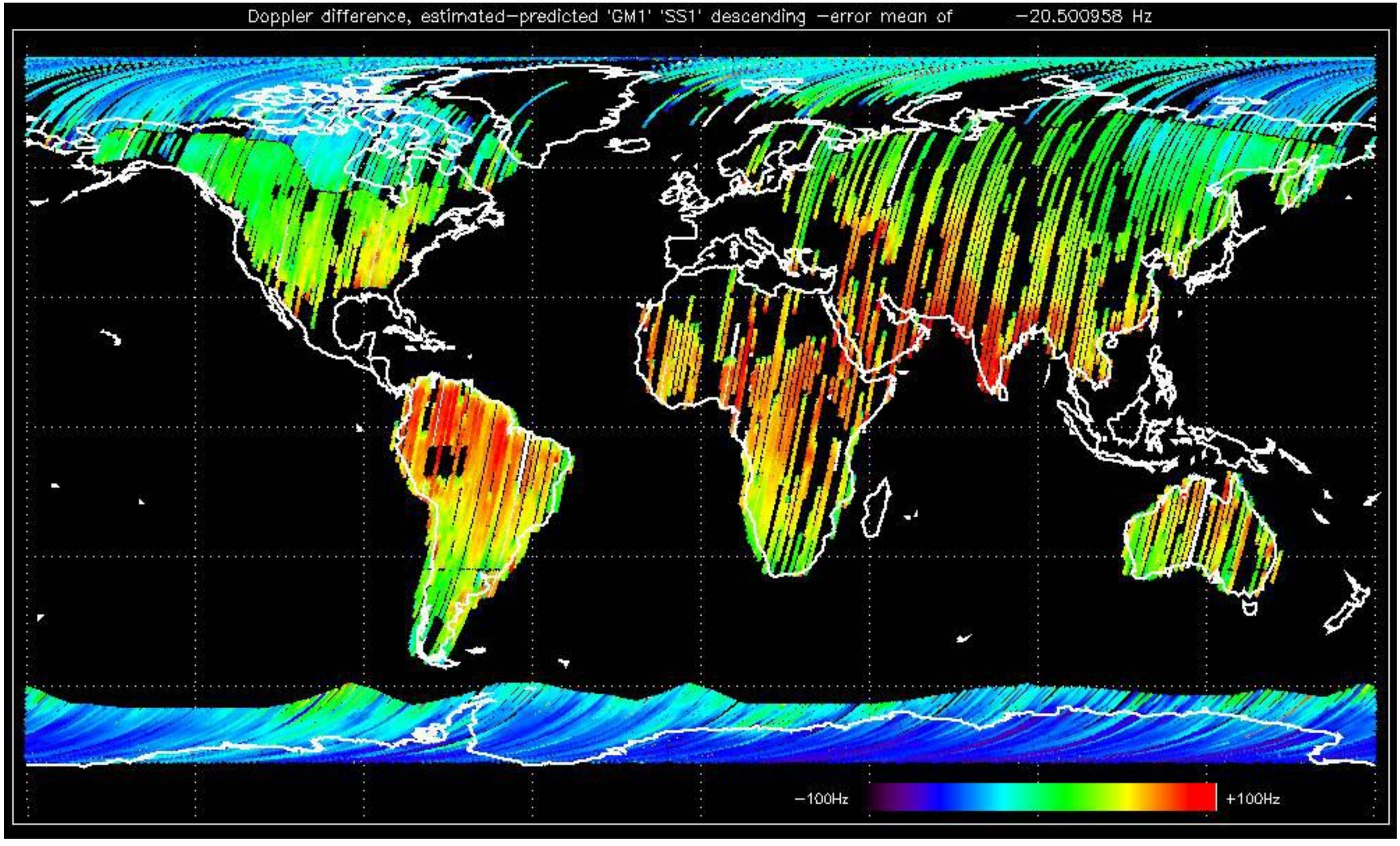

Doppler Bias[Hz]
100
50
0
−50
−100
02
04
06
08
10
12
14
16
18
12−Jul
Date

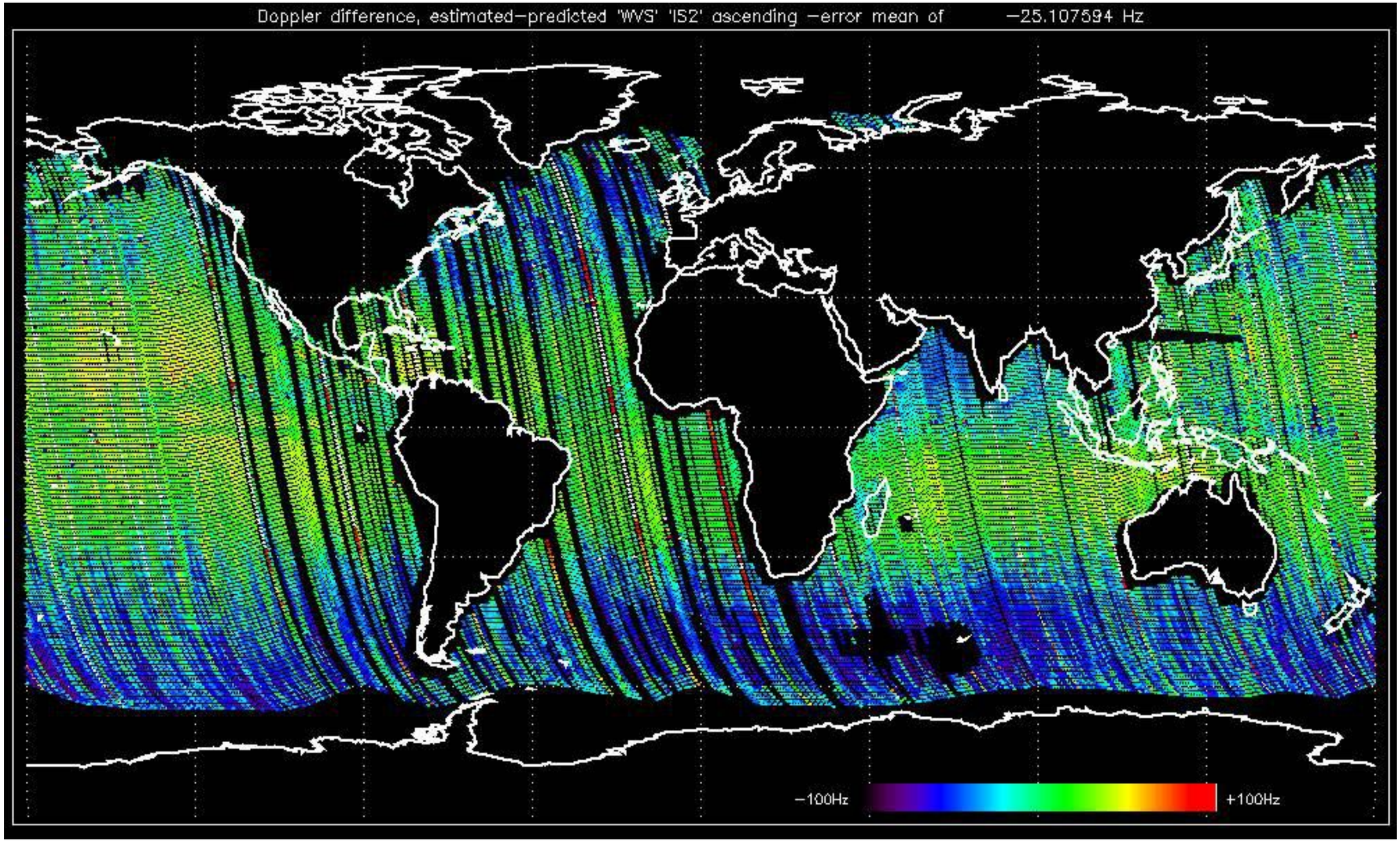

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

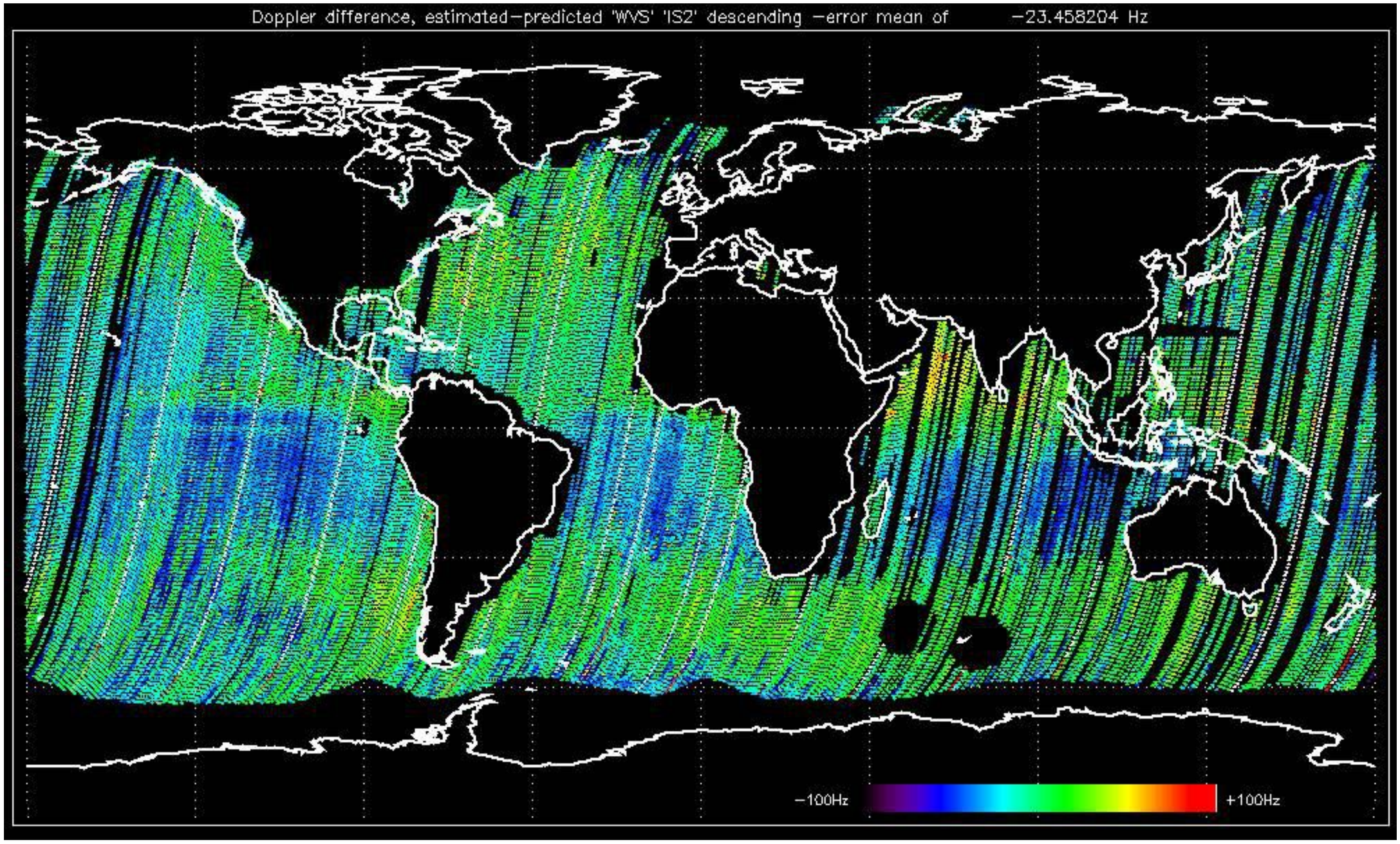

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −27.302413 Hz
−100Hz
+100Hz

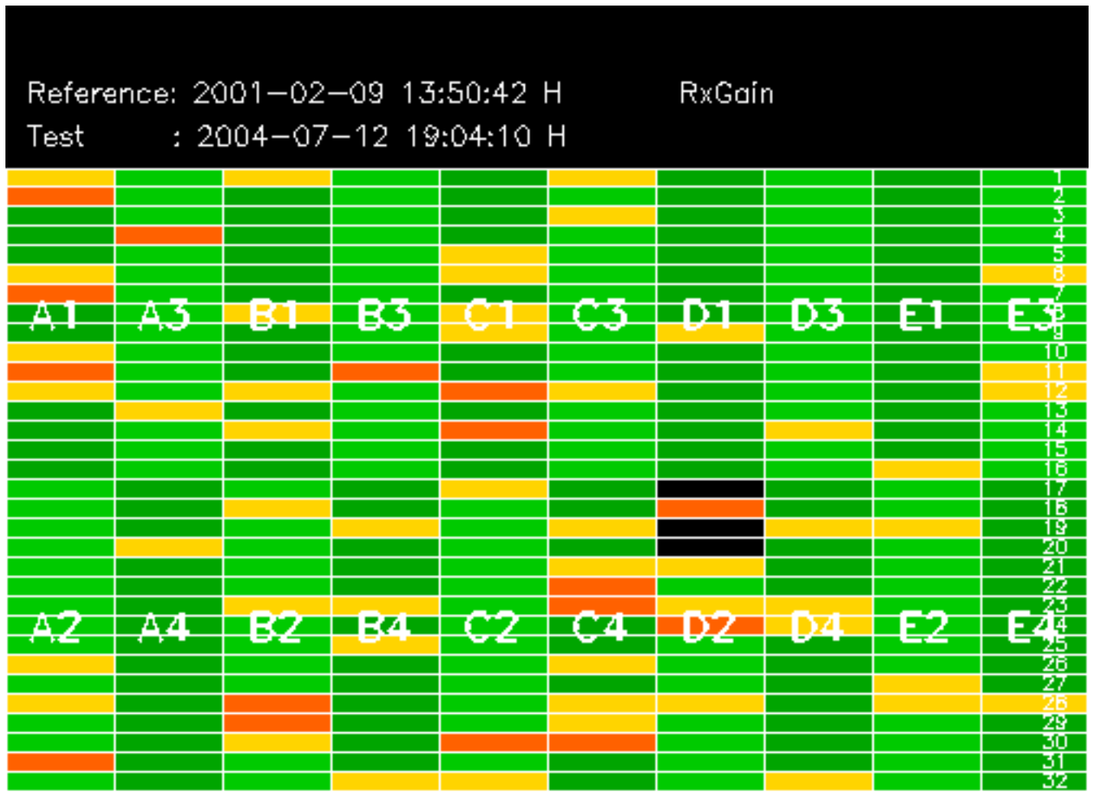

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -20.500958 Hz
-100Hz
+100Hz

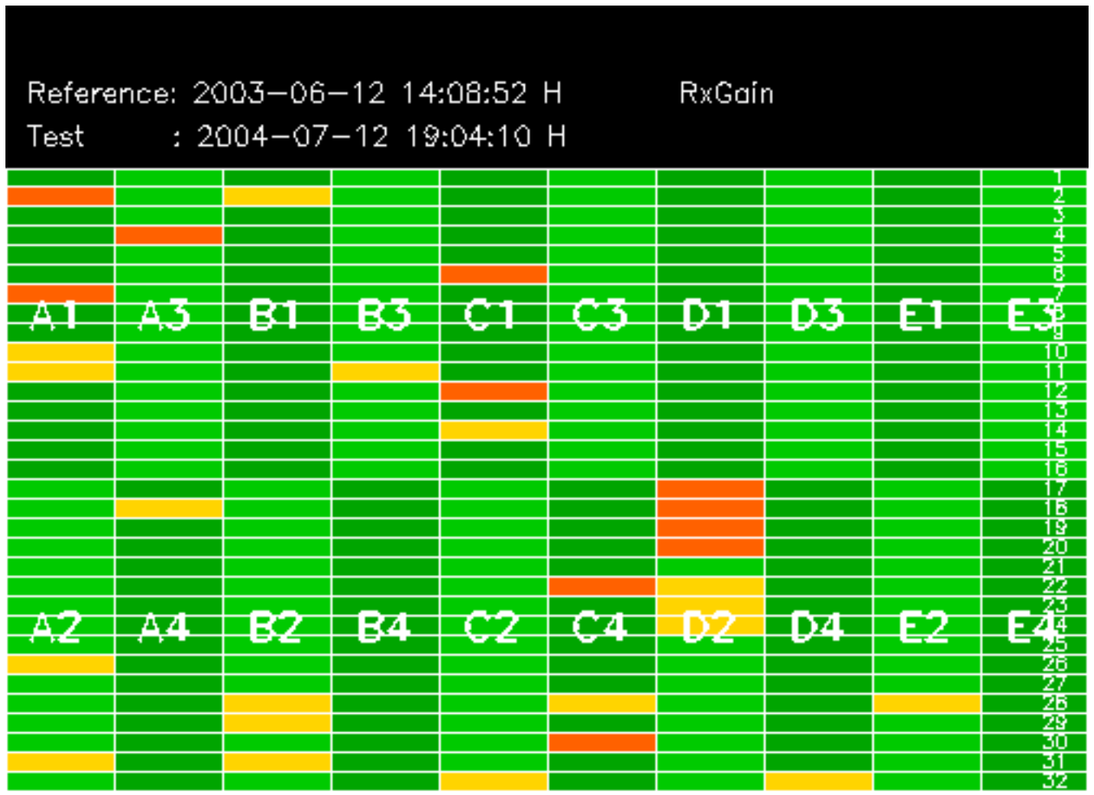

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −25.107594 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −23.458204 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
Test : 2004-07-12 19:04:10 H
RxGain
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 : 2004-07-12 19:04:10 H
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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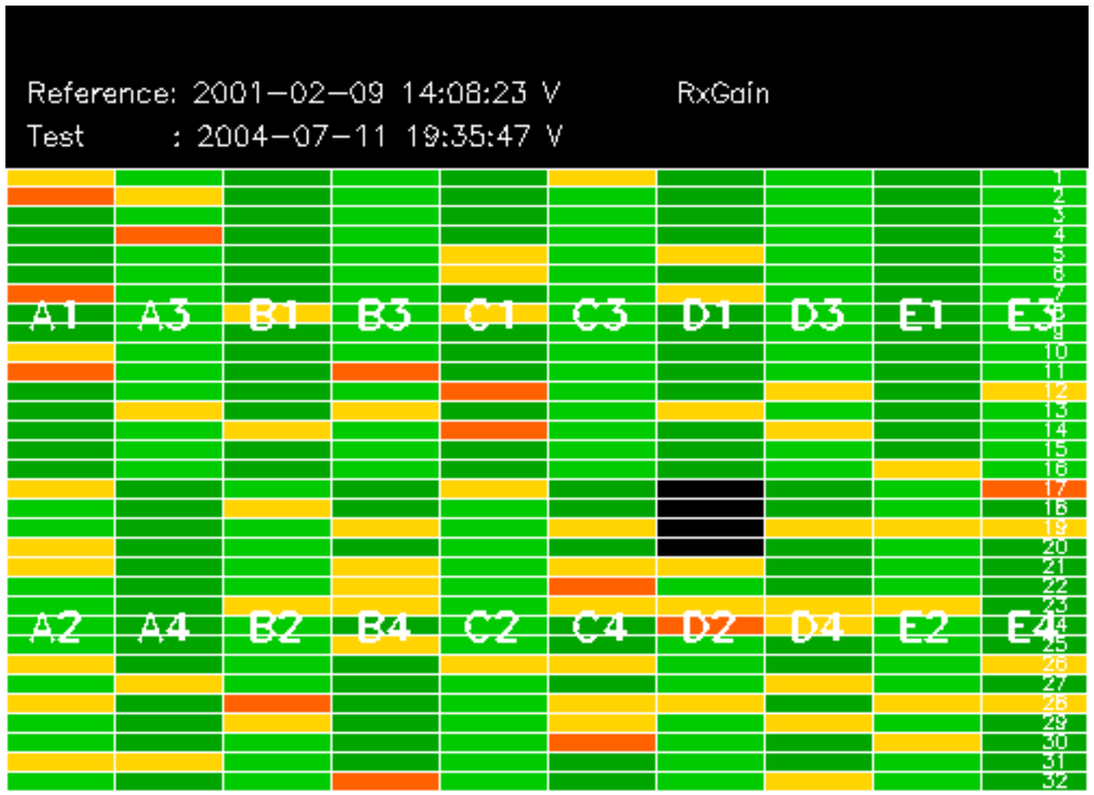
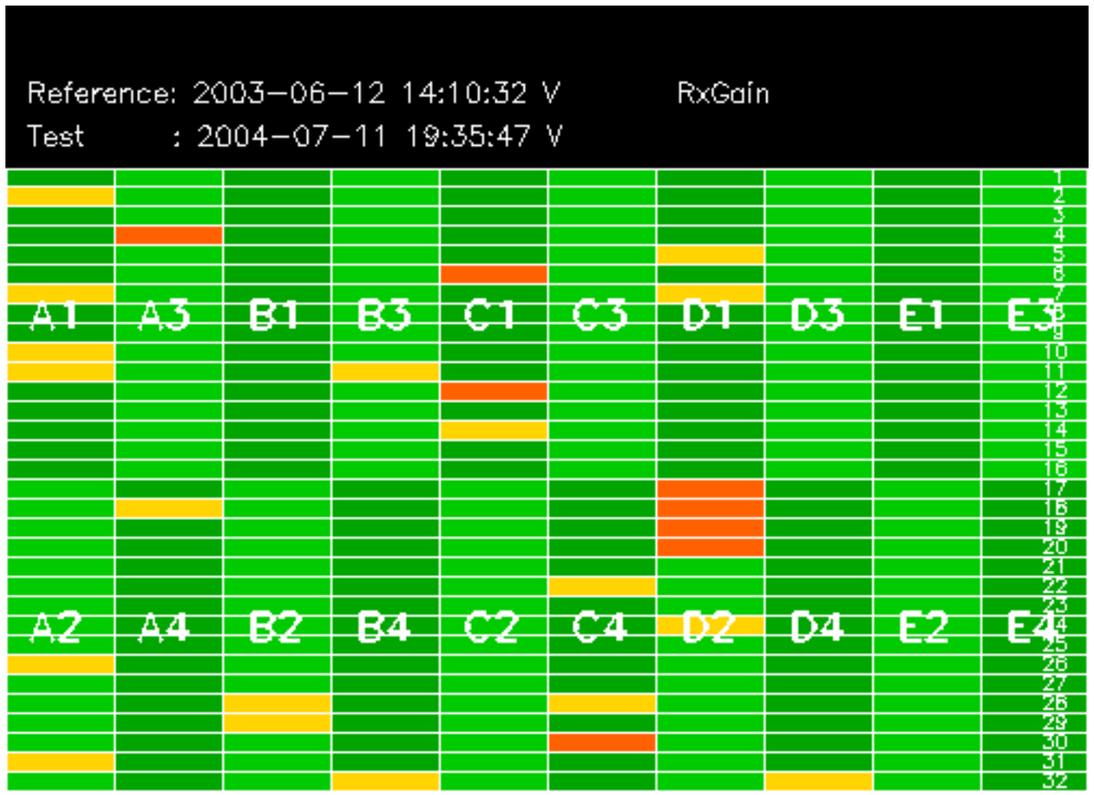

Reference: 2001-02-09 14:08:23 V
Test : 2004-07-11 19:35:47 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-07-11 19:35:47 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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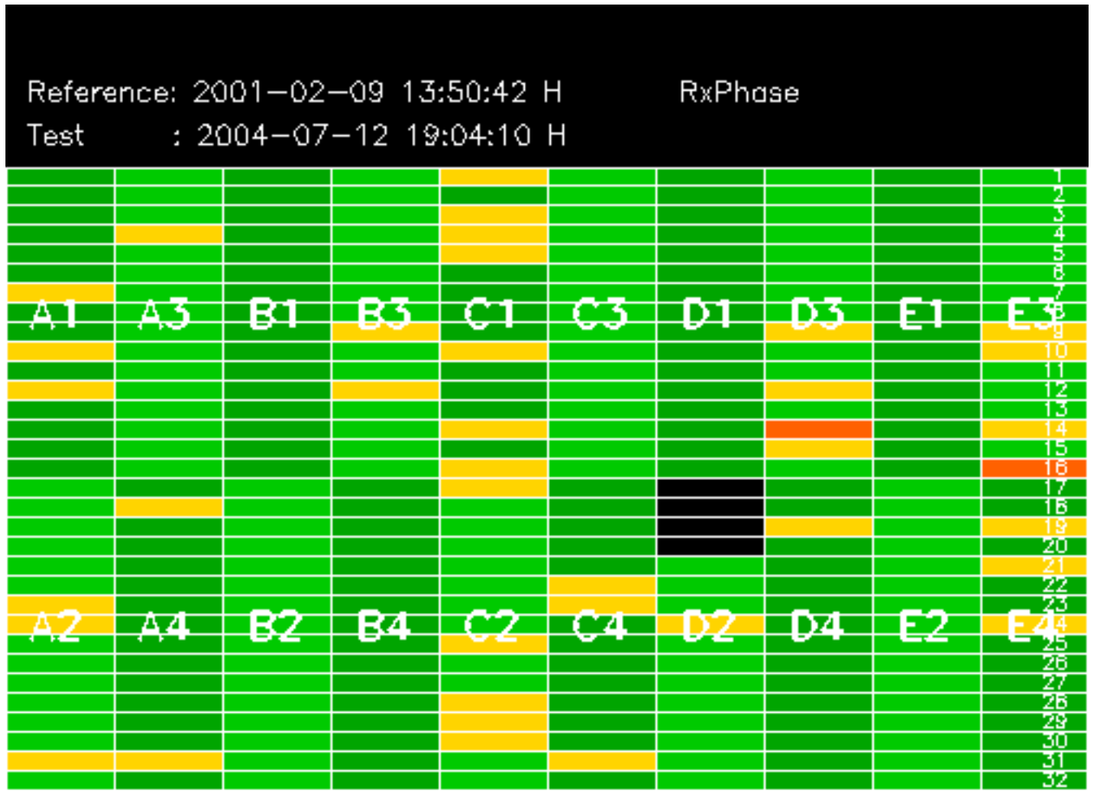
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-07-12 19:04:10 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2004-07-12 19:04:10 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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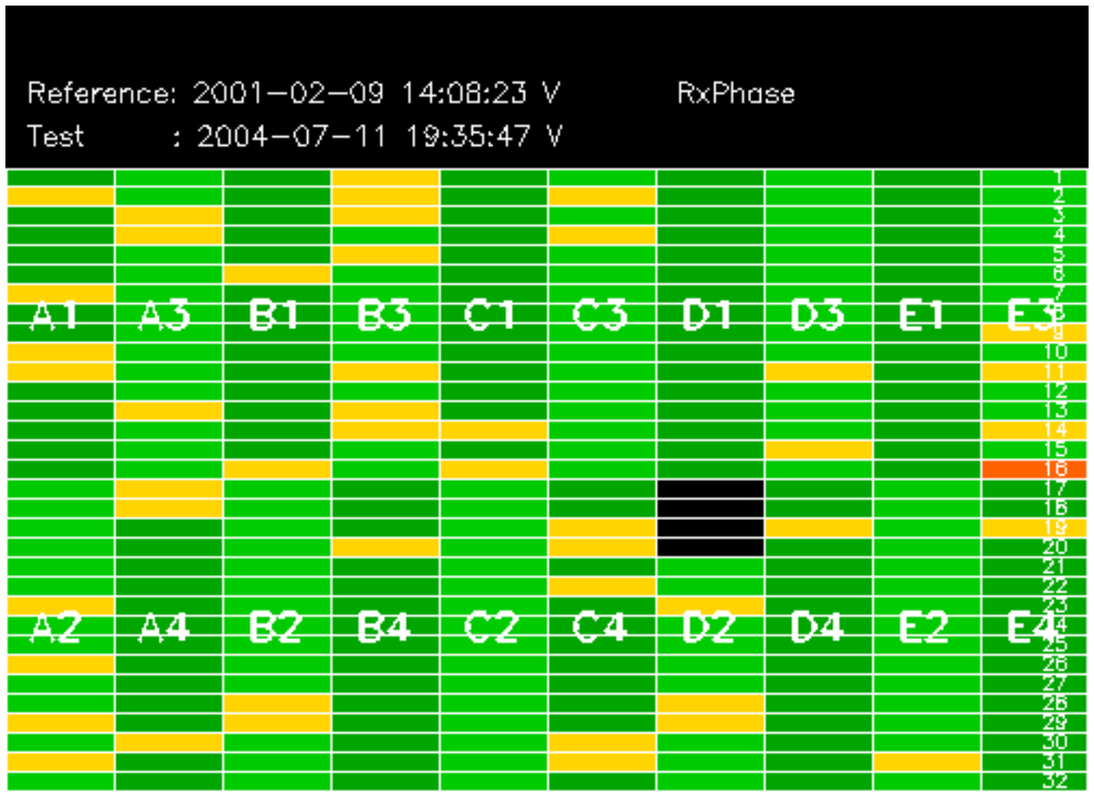
Reference: 2001-02-09 14:08:23 V
Test : 2004-07-11 19:35:47 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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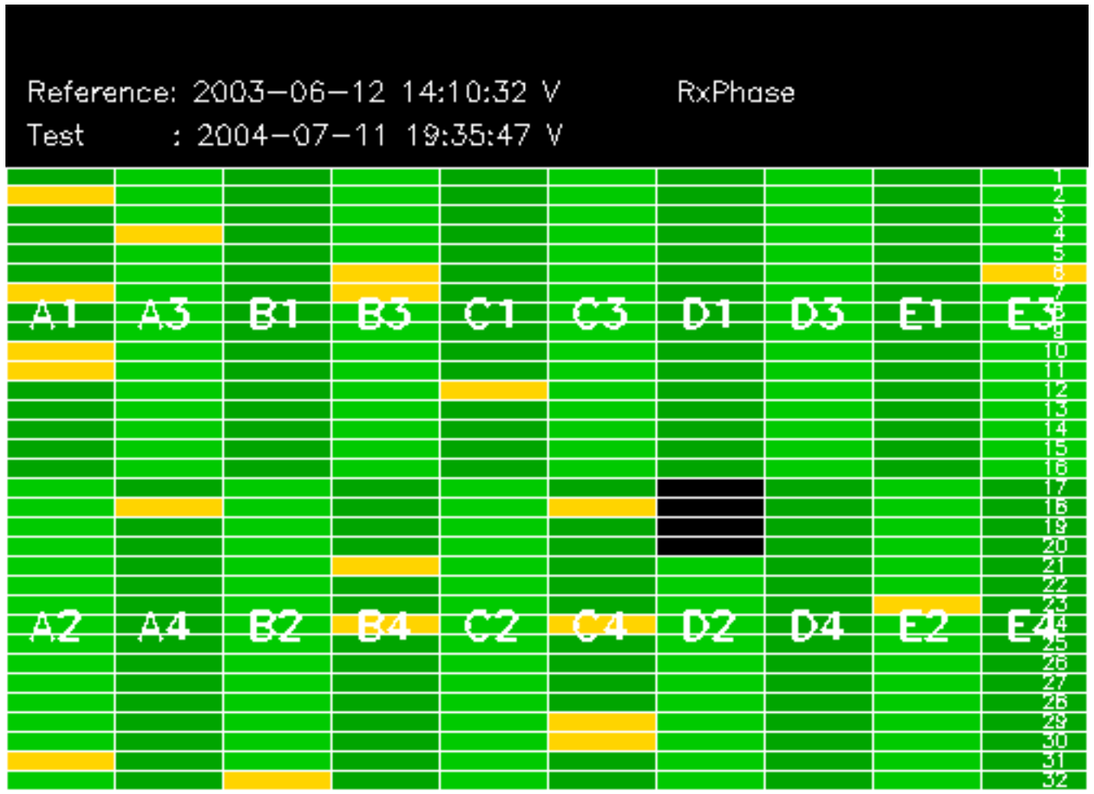
Reference: 2003-06-12 14:10:32 V
Test : 2004-07-11 19:35:47 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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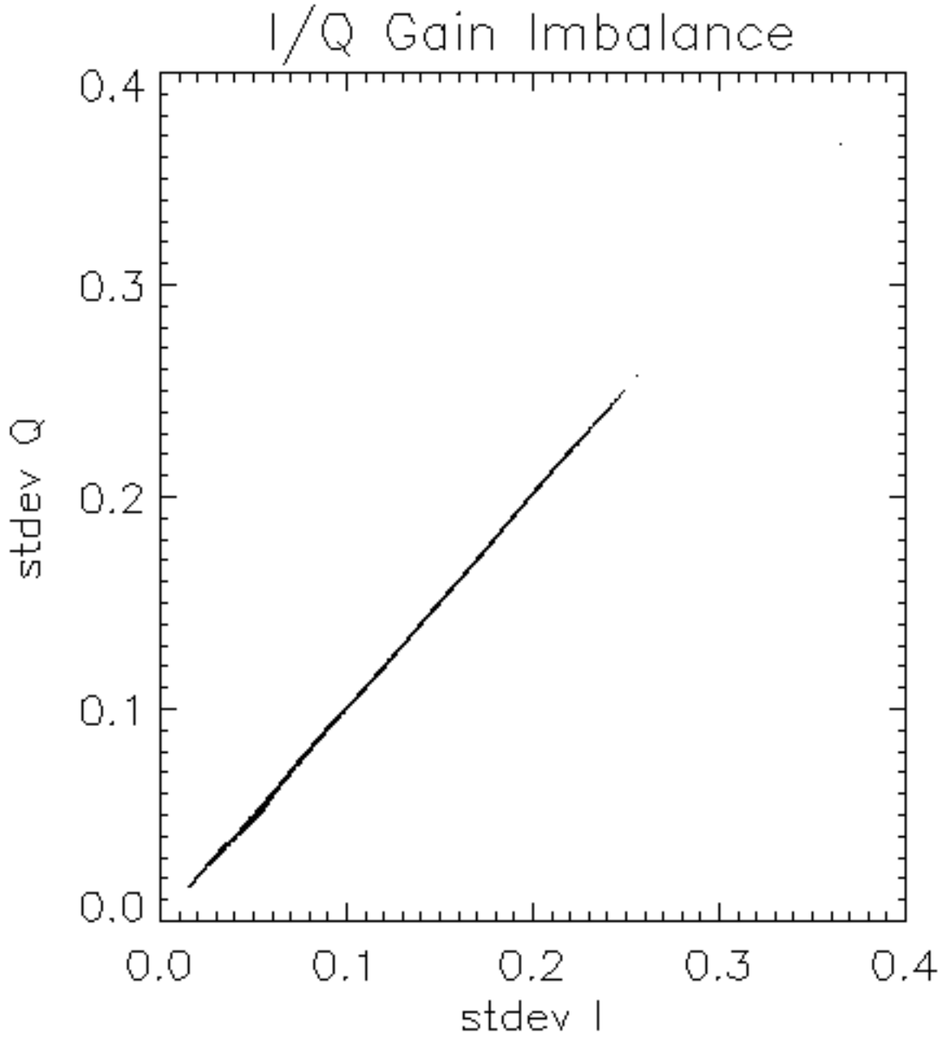
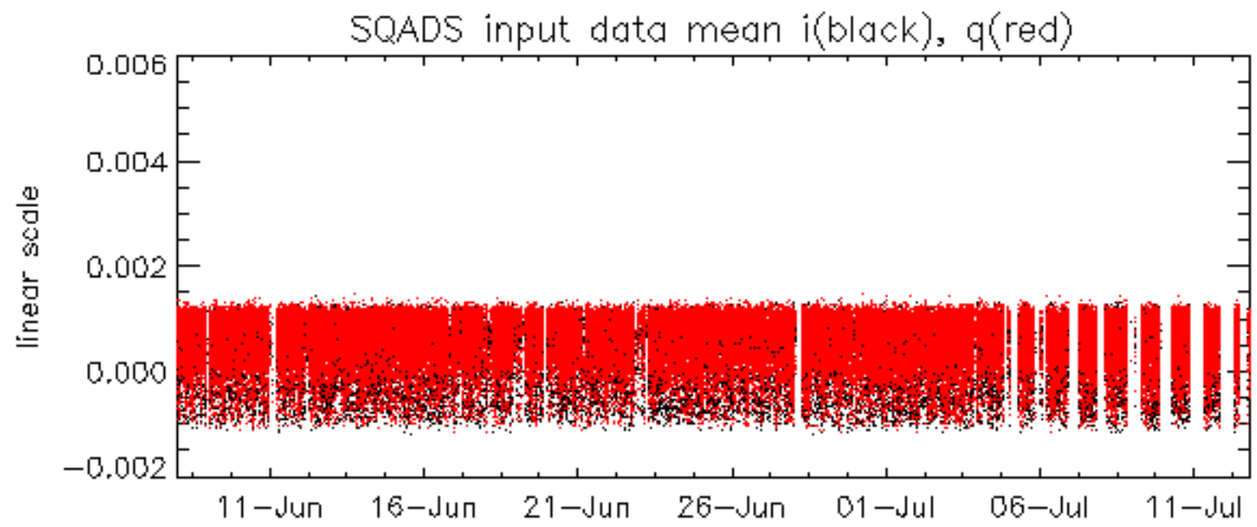
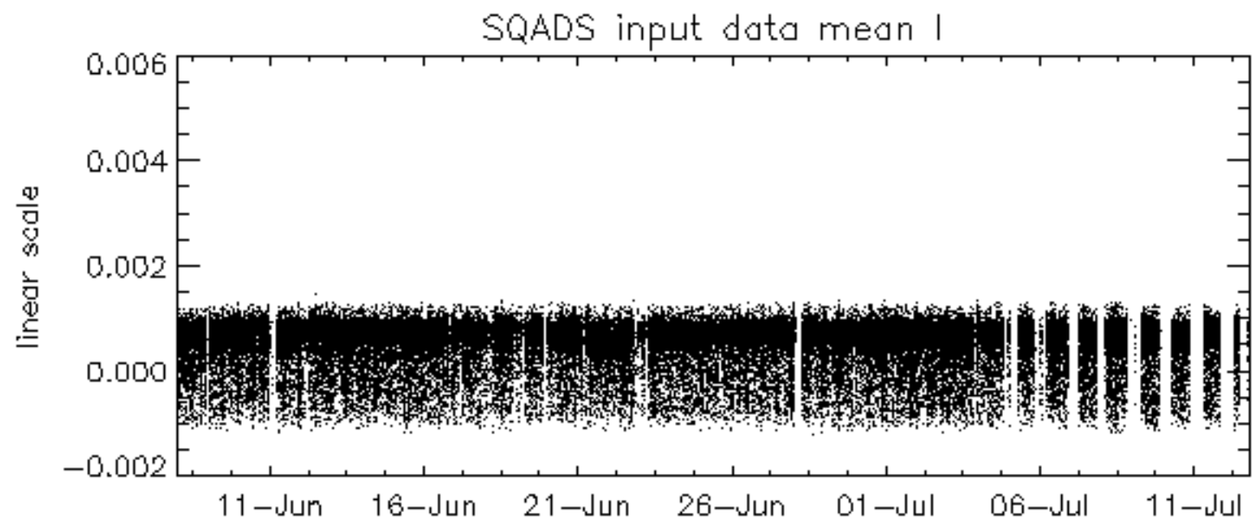
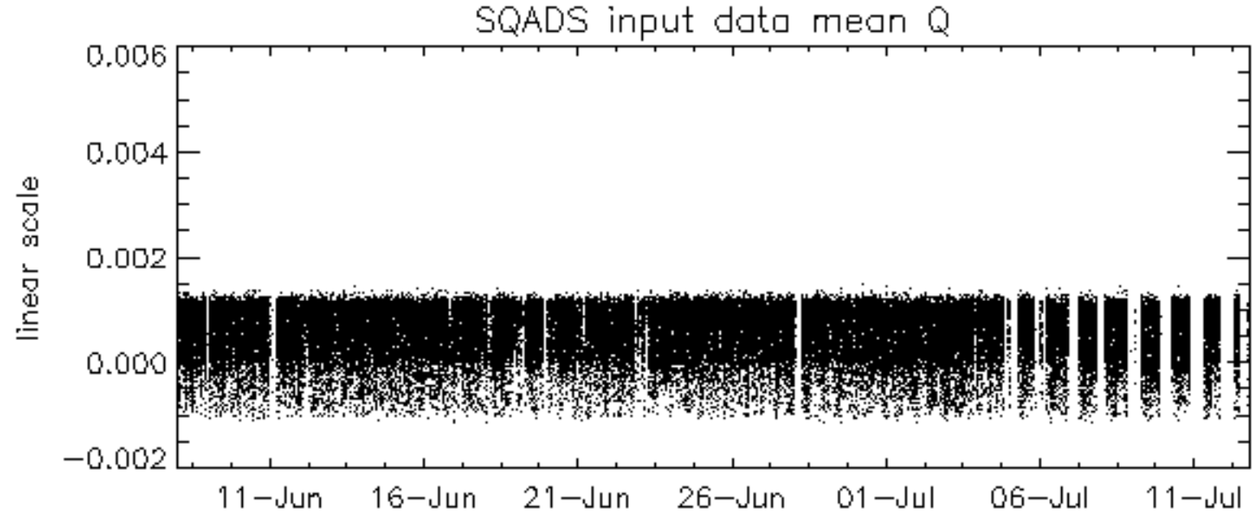
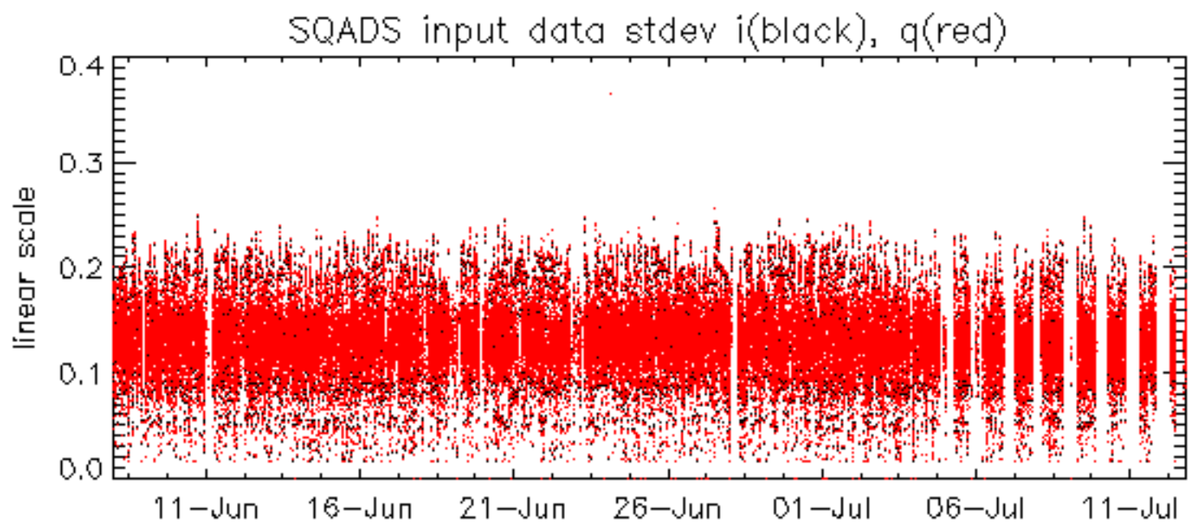
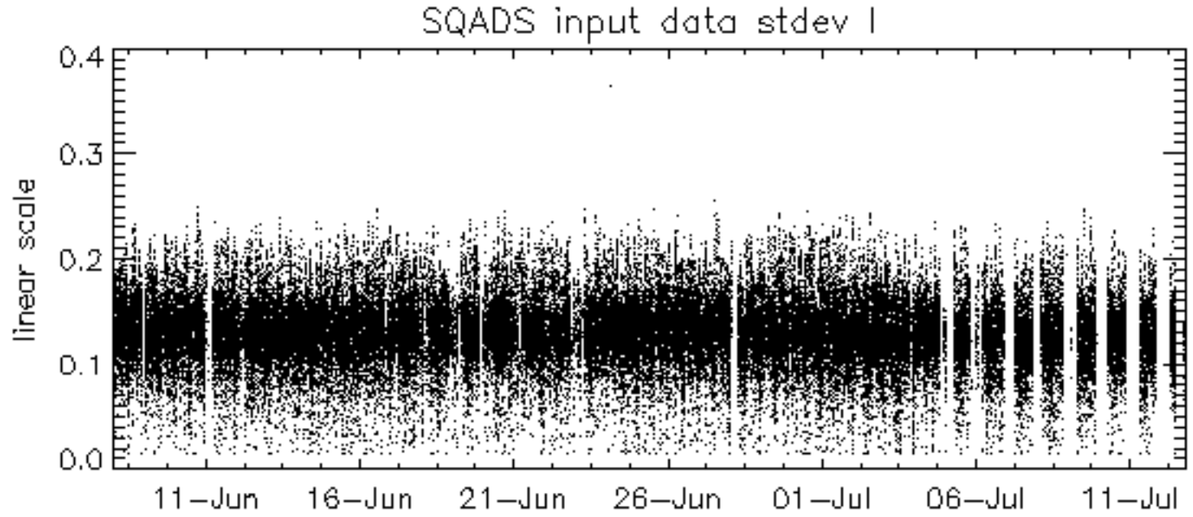

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

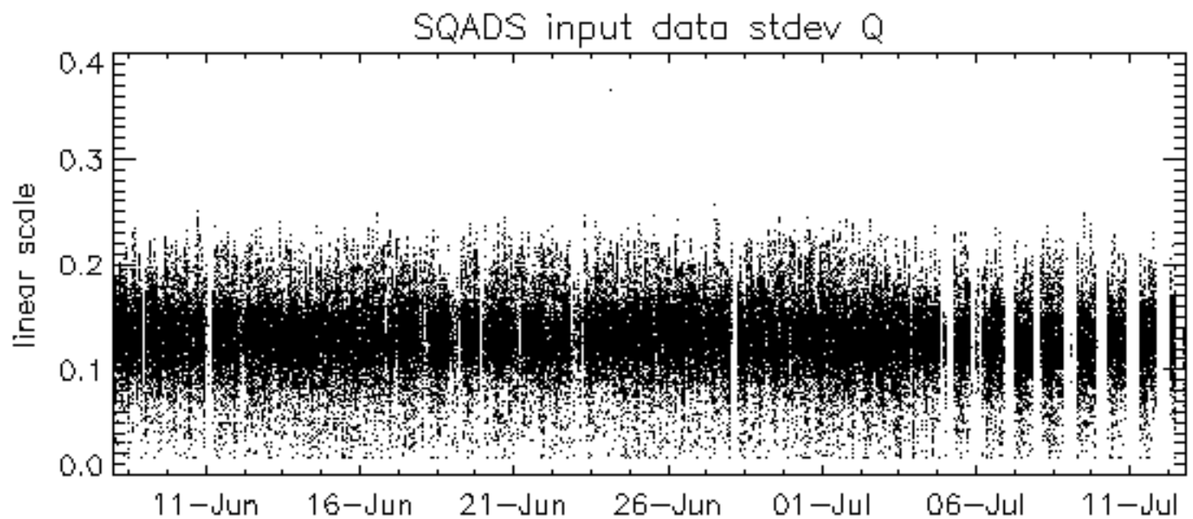

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul

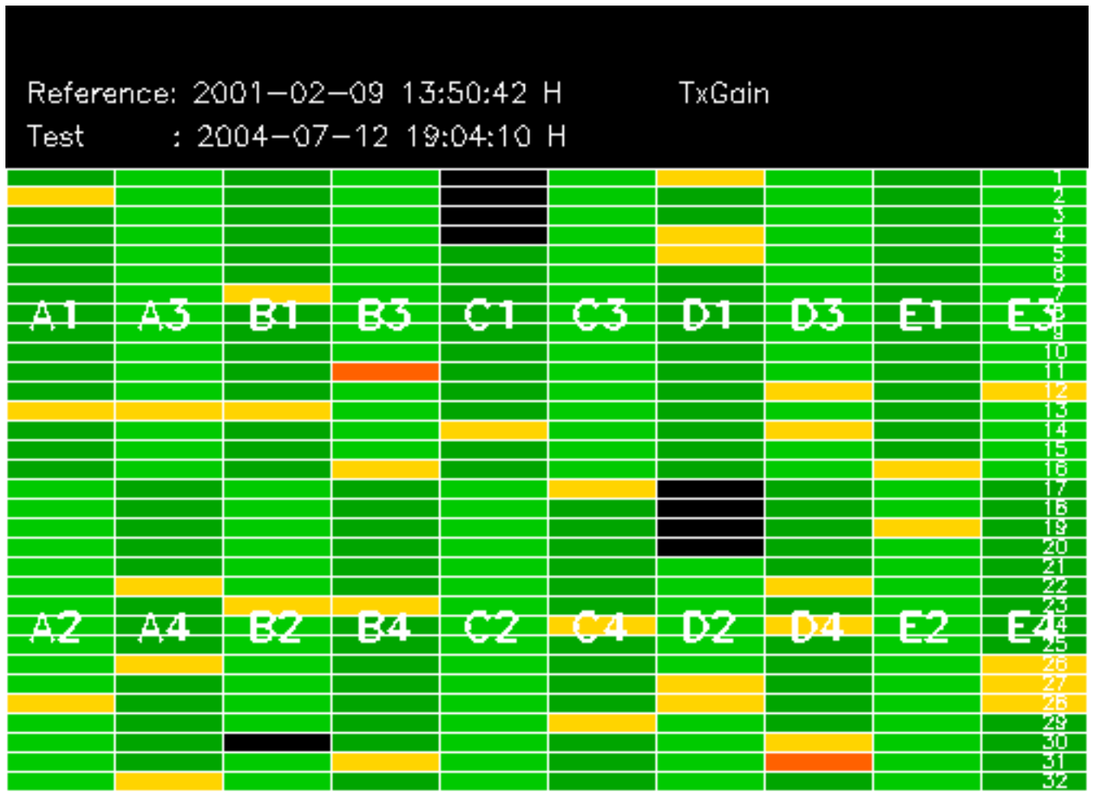

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul

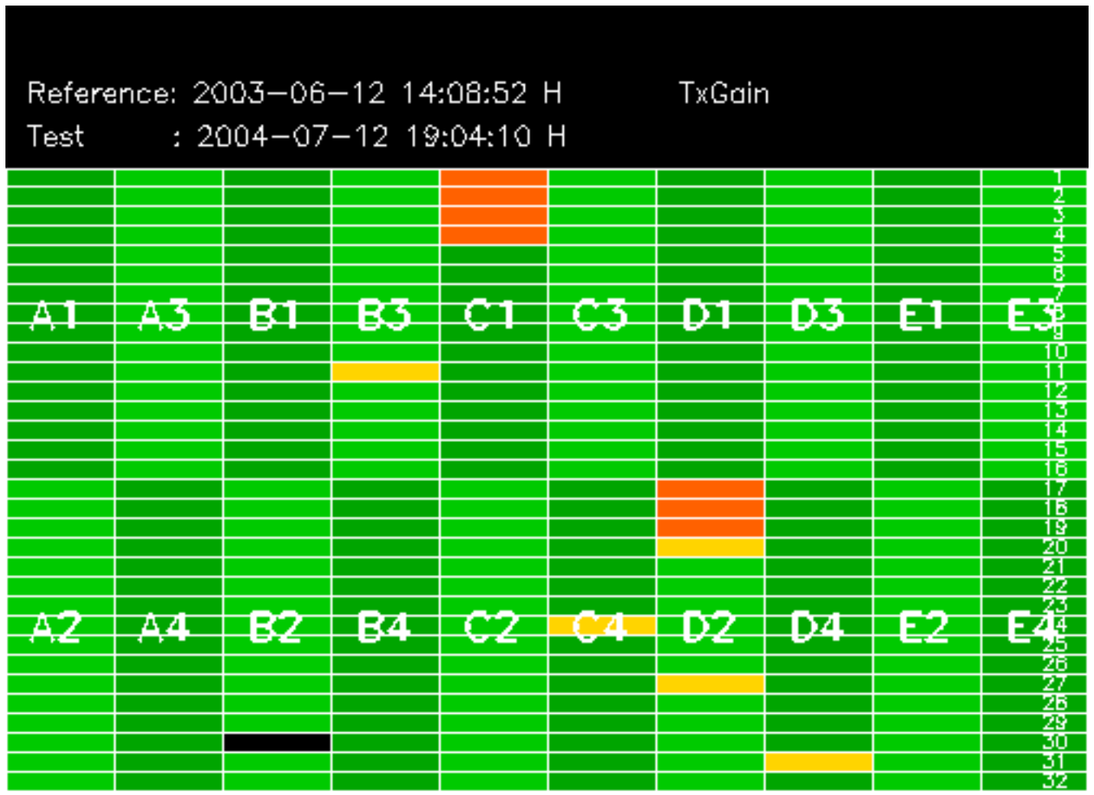

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
11−Jul


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2004-07-12 19:04:10 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 : 2004-07-12 19:04:10 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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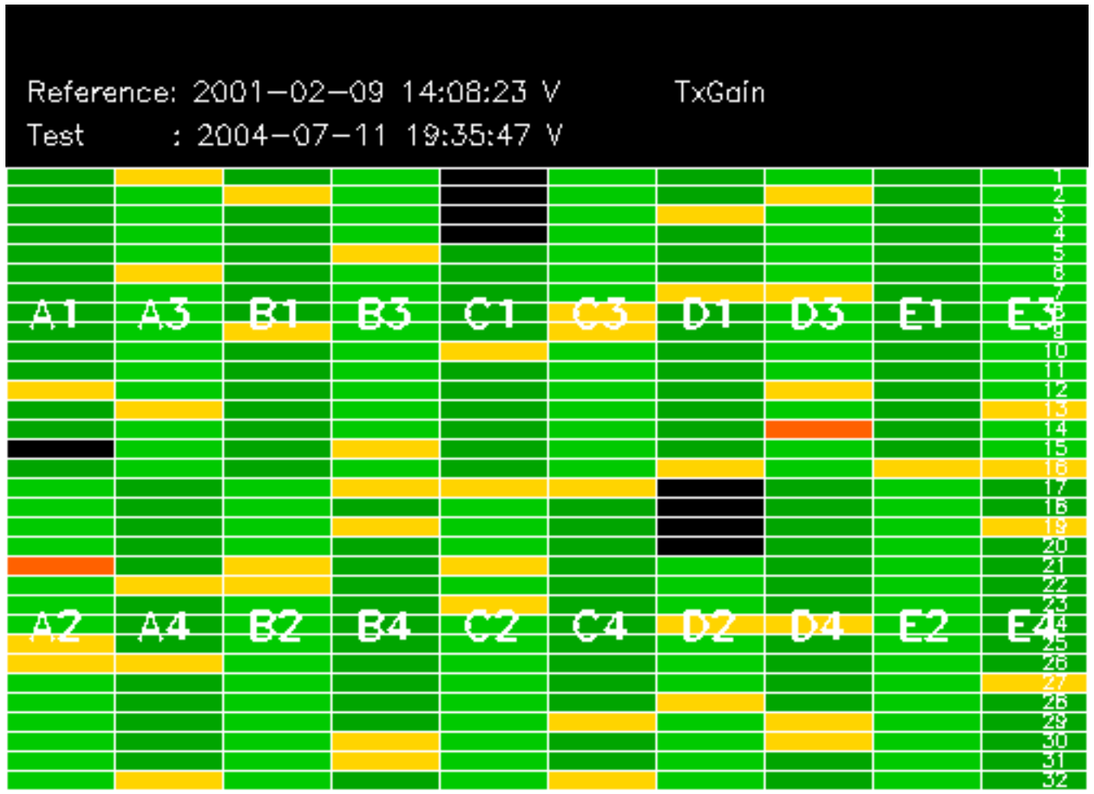
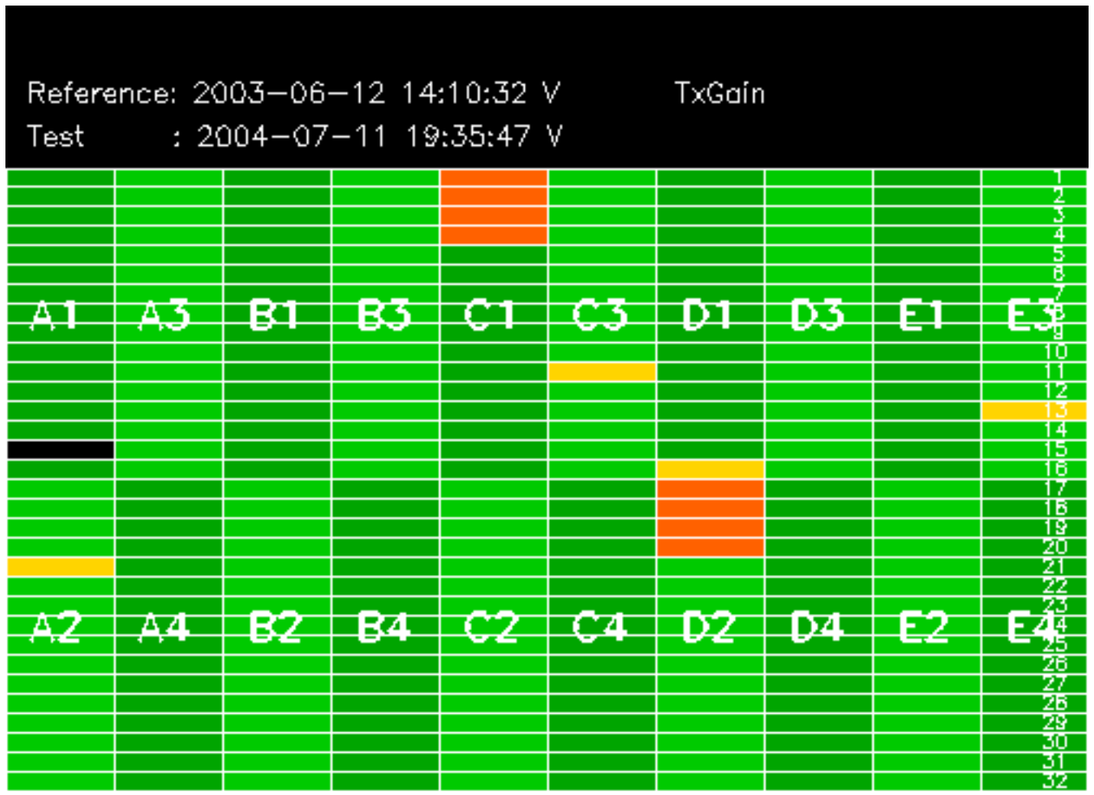
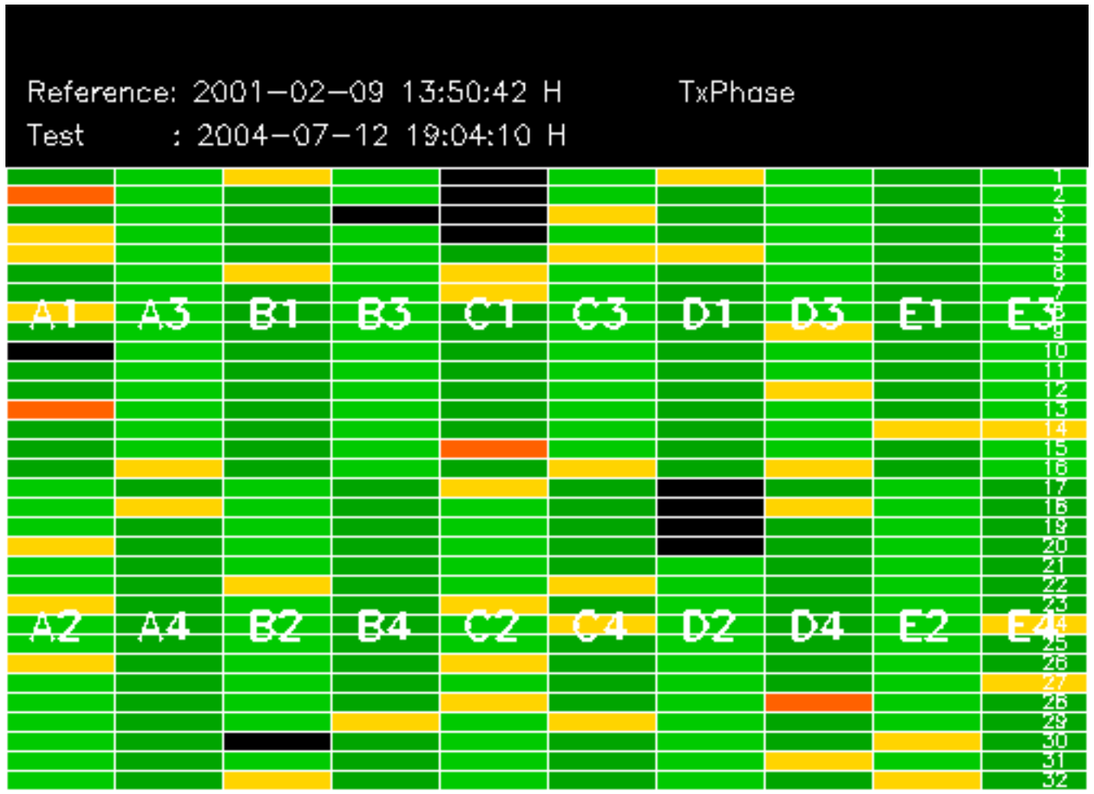

Reference: 2001-02-09 14:08:23 V
Test : 2004-07-11 19:35:47 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-07-11 19:35:47 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
TxPhase
Test : 2004-07-12 19:04:10 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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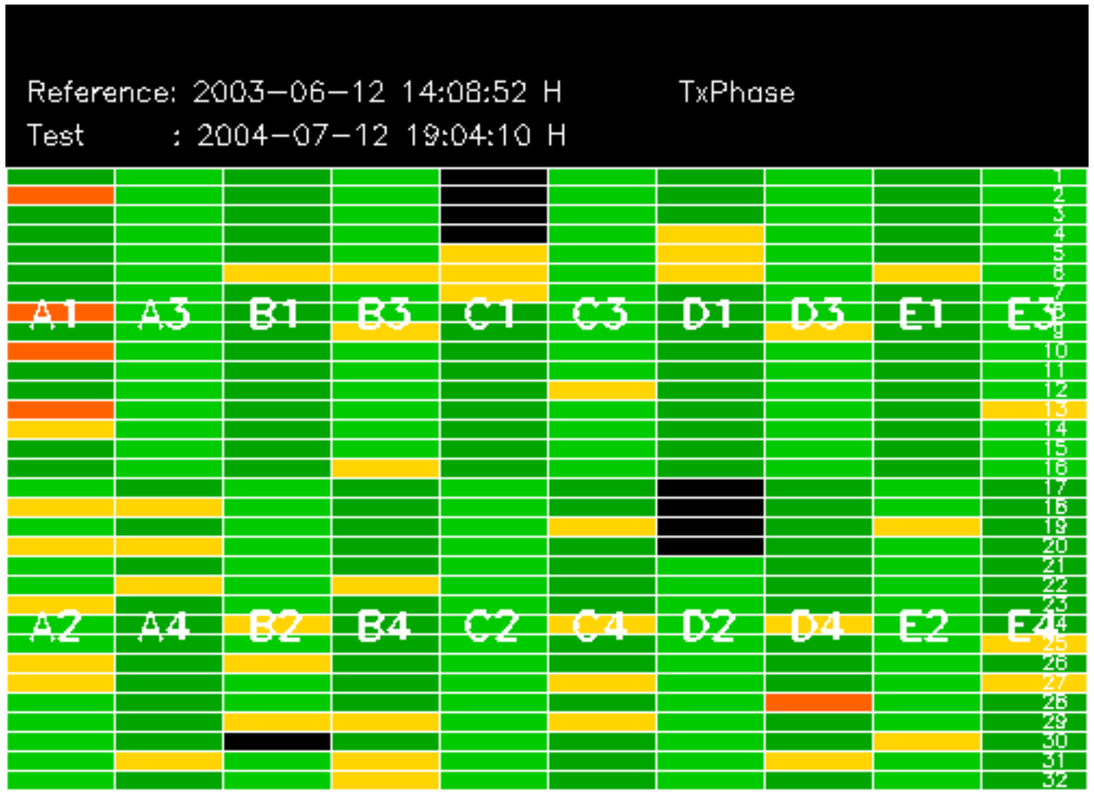
Reference: 2003-06-12 14:08:52 H
Test : 2004-07-12 19:04:10 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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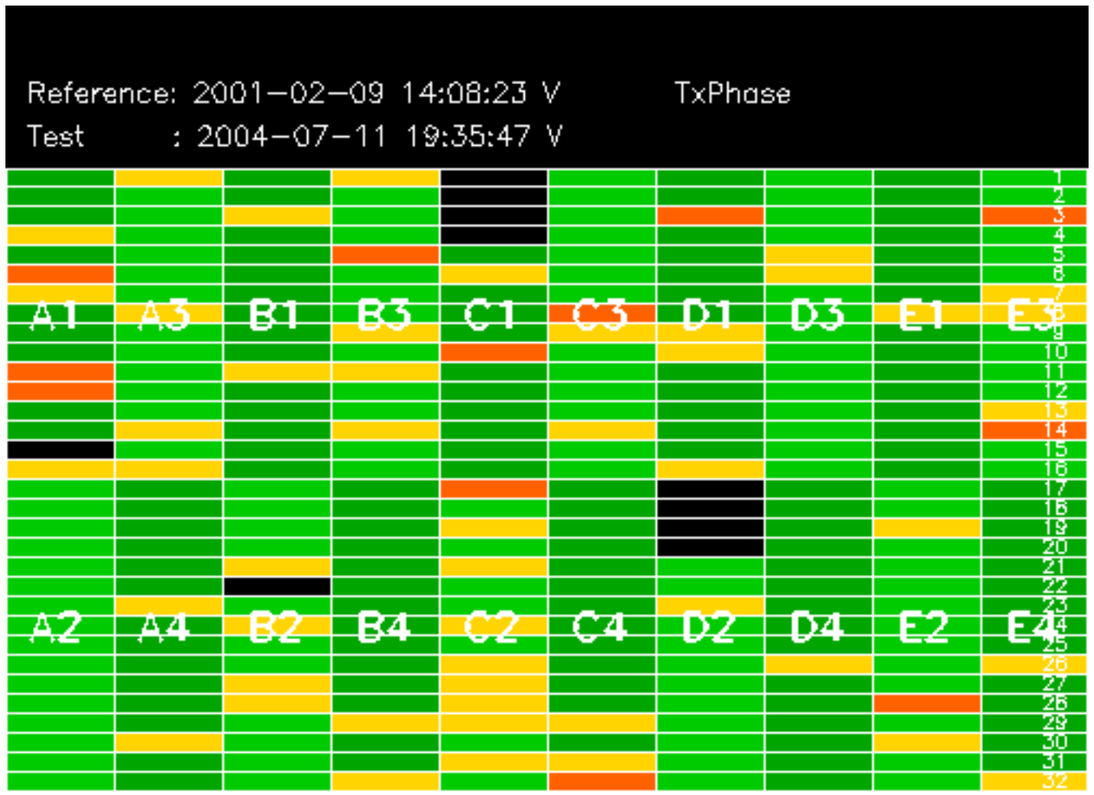
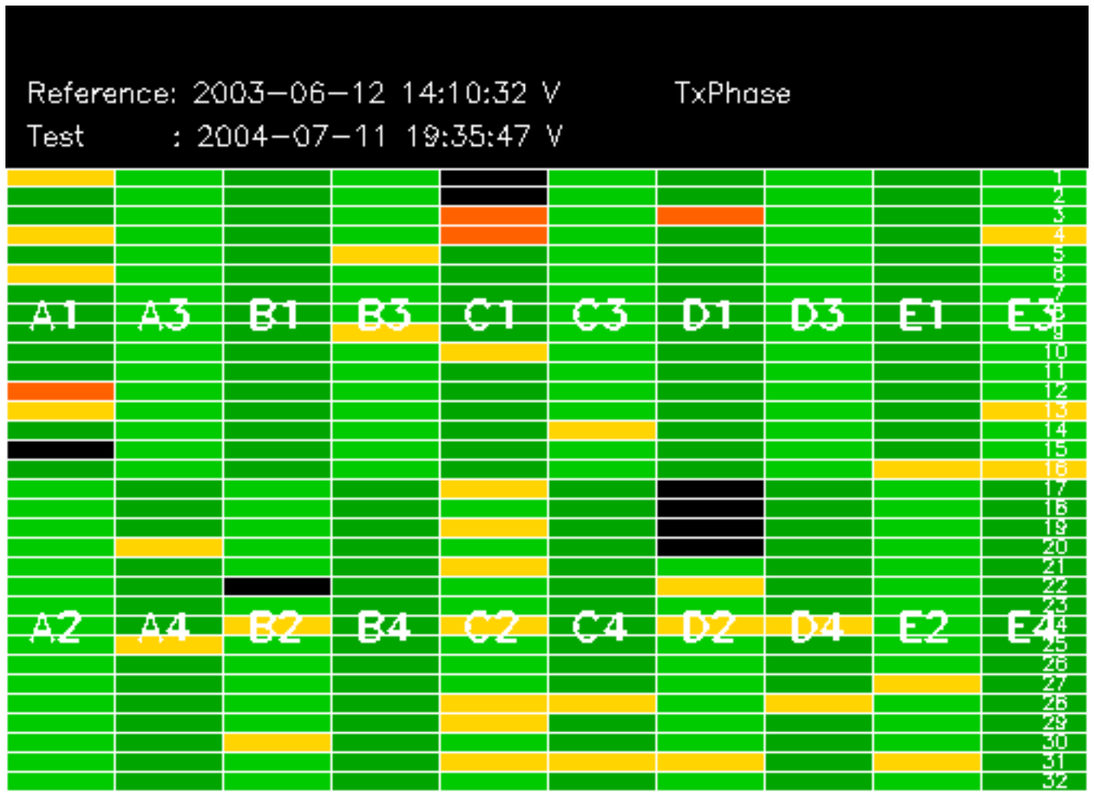
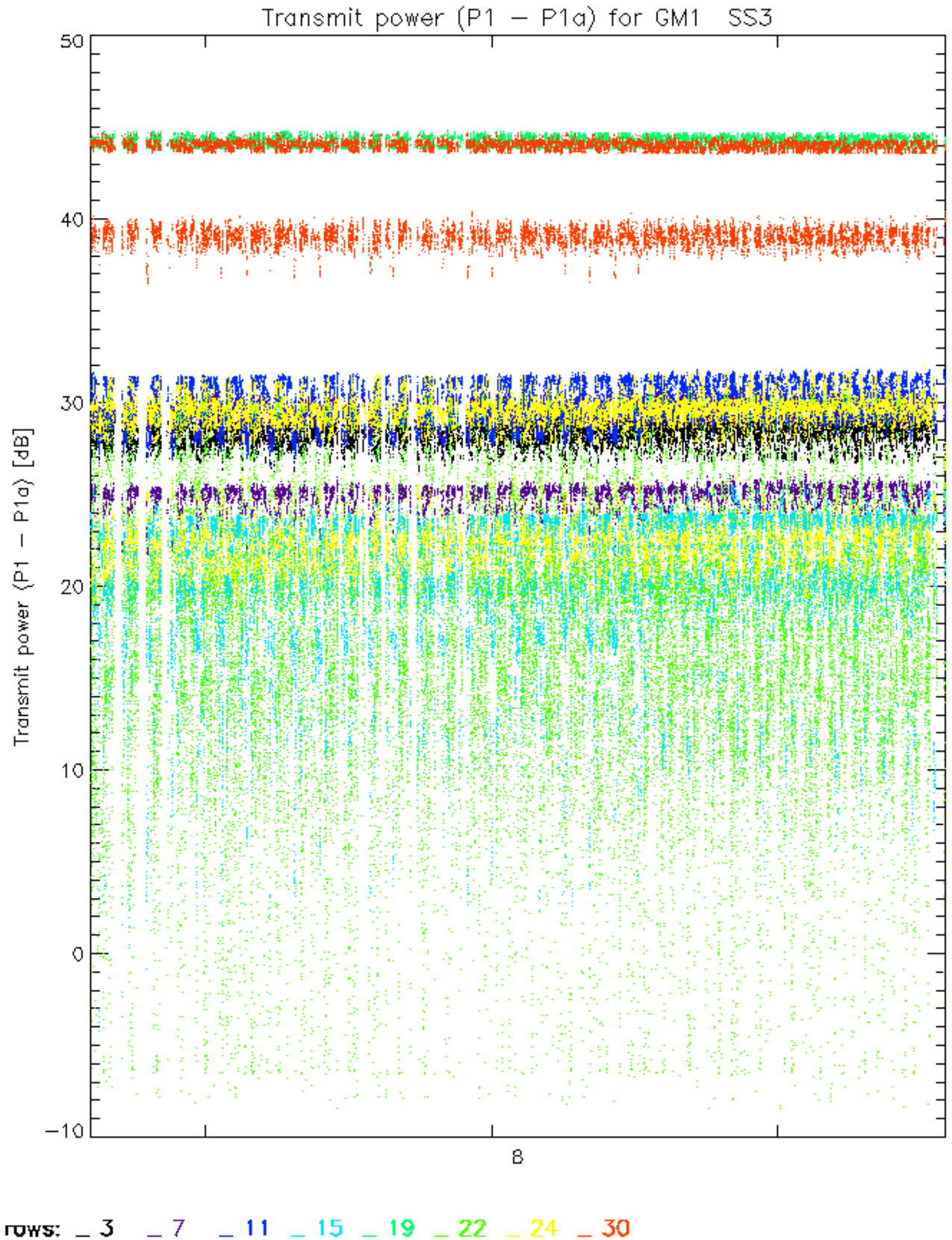
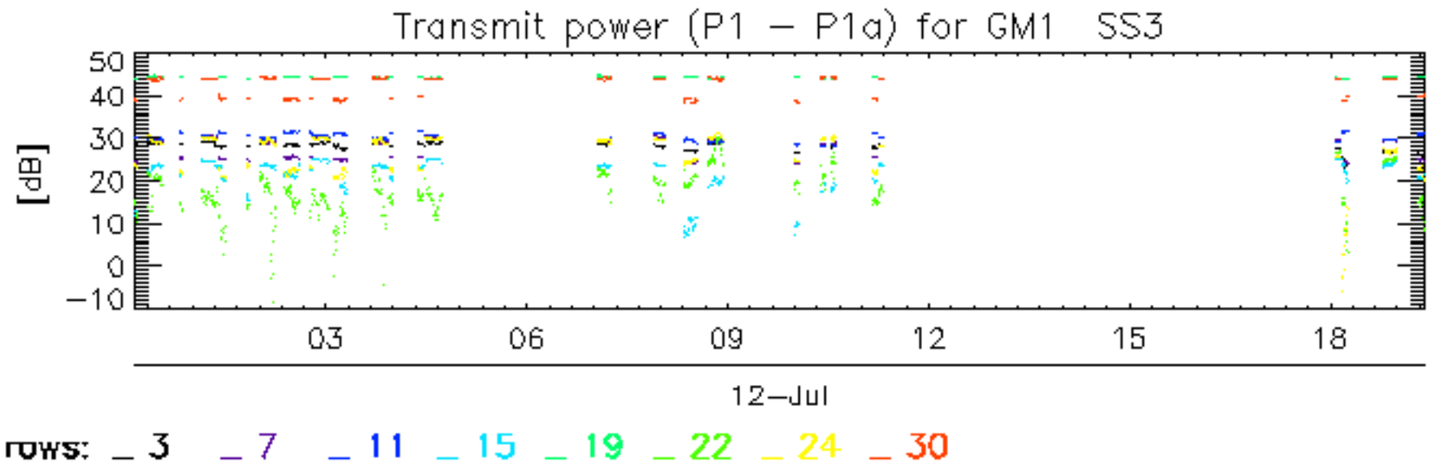
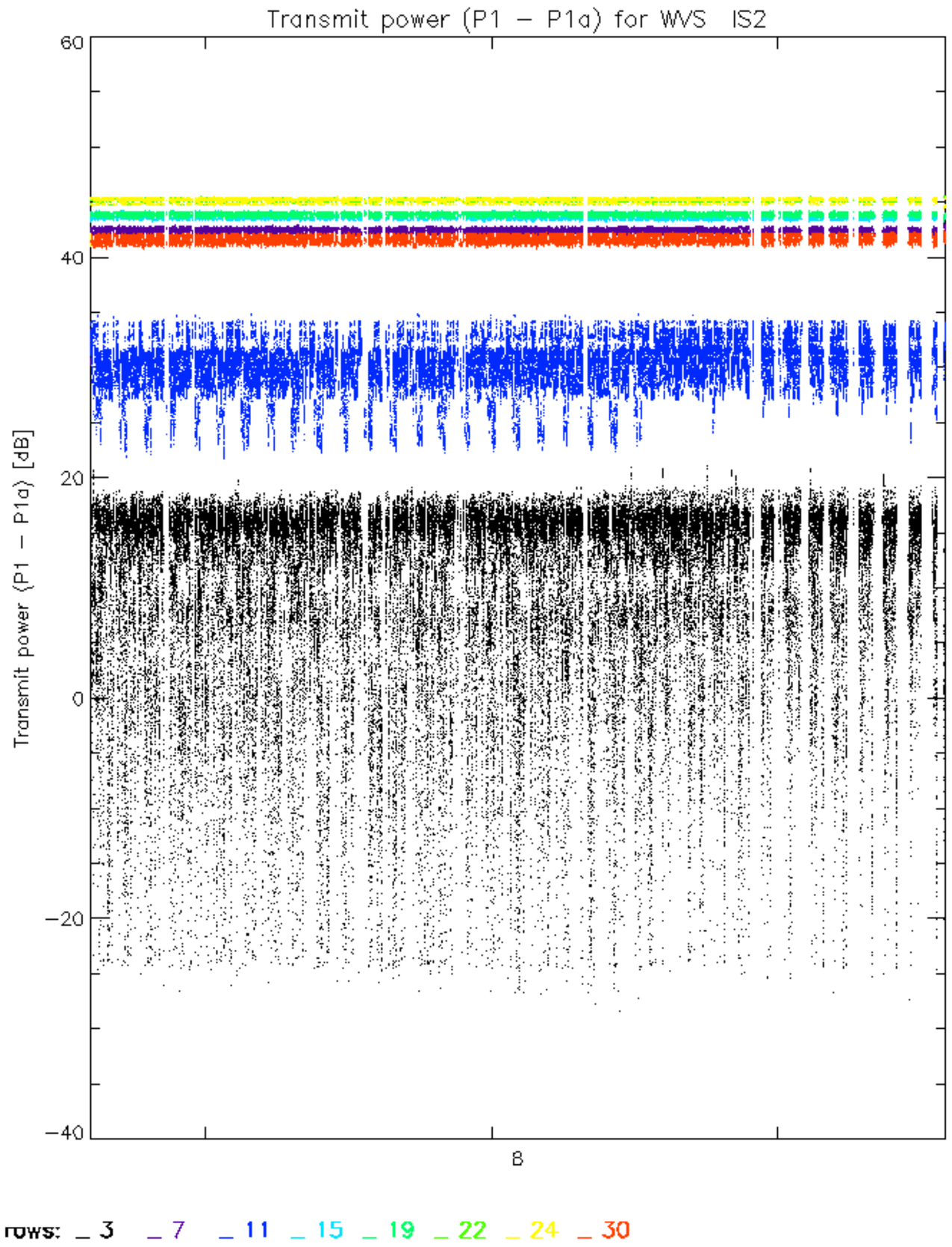
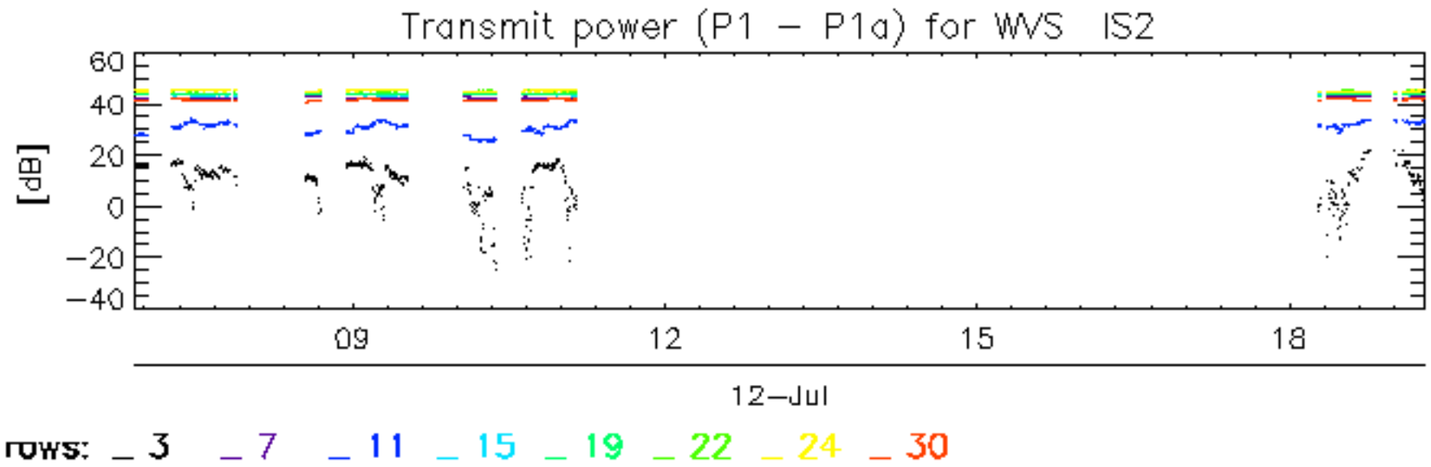

Reference: 2001-02-09 14:08:23 V
Test : 2004-07-11 19:35:47 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2004-07-11 19:35:47 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
8
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
12–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
8
rows: 3 7 11 15 19 22 24 30


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

No unavailabilities during the reported period.