REPORT OF 030908

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1 - Introduction

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

2 - Summary

2.1 - Instrument Unavailability

Due to payload problems ASAR was off from 04-SEP-2003 22:52:52 to 04-SEP-2003 11:27:24

Sub-system	Start	Stop	Planned
ASAR	YYYY-MM-DD hh:mm:ss	YYYY-MM-DD hh:mm:ss	---

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

No anomalies observed on available MS products:
- ASA_MS__0PNPDK20030907_192121_000000152019_00385_07954_0049.N1
- ASA_MS__0PNPDK20030907_192301_000000152019_00385_07954_0050.N1

The drift in phase for TR module 3 on Tile B3 has decreased to a stable configuration as shown in the figure below.

Polarisation	Start Time
V	20030907 192301
H	20030907 192121

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 on calibration pulses.

4.1 - Daily statistics

row	stat	AveP1	AveP2	AveP3
3	mean	-3.74452	-22.4214	-8.08772
	stdev	0.00639604	0.0535828	0.00330946
10	mean	-6.75736	-19.2472	-8.08772
	stdev	0.0604923	0.0582019	0.00330946

4.2 - Cyclic statistics

row	stat	AveP1	AveP2	AveP3
3	mean	-3.80504	-22.5328	-8.10753
	stdev	0.00577217	0.0604527	0.00237131
10	mean	-6.89780	-19.3284	-8.10753
	stdev	0.0241856	0.0596519	0.00237131

4.3 - cal pulses monitoring (all rows)

5 - RAW data statistics

No anomalies observed.
Stable values of I/Q statistics from the last 35 days.

5.1 - Input mean I/Q

channel	stat	DSS-B
MEAN I	mean	0.000416648
	stdev	3.26848e-07
MEAN Q	mean	0.000292574

stdev	3.23367e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.114551
	stdev	0.00148520
STDEV Q	mean	0.114738
	stdev	0.00150612

5.3 - Gain imbalance I/Q

6 - Wave Doppler Analysis

No anomalies observed Doppler evolution.
Doppler analysis performed over the last 60 days.
Data Gap over South-Africa/Madagascar is due to MS acquisition.

6.1 - Unbiased Doppler Error

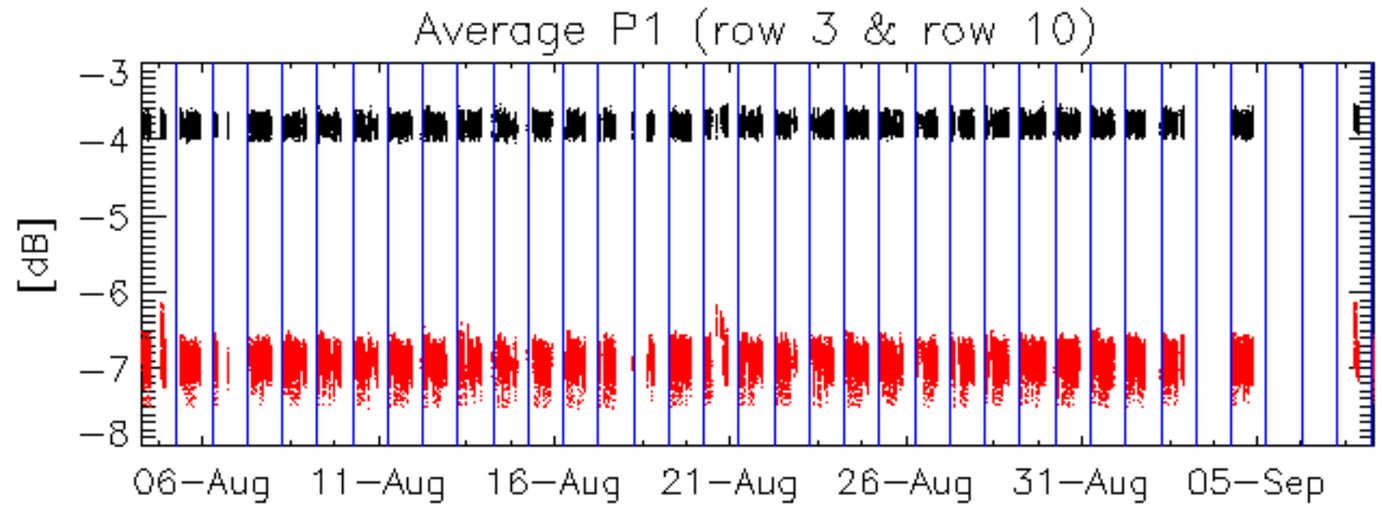
Evolution of unbiased Doppler error (Real - Expected)
Acsending
Descending

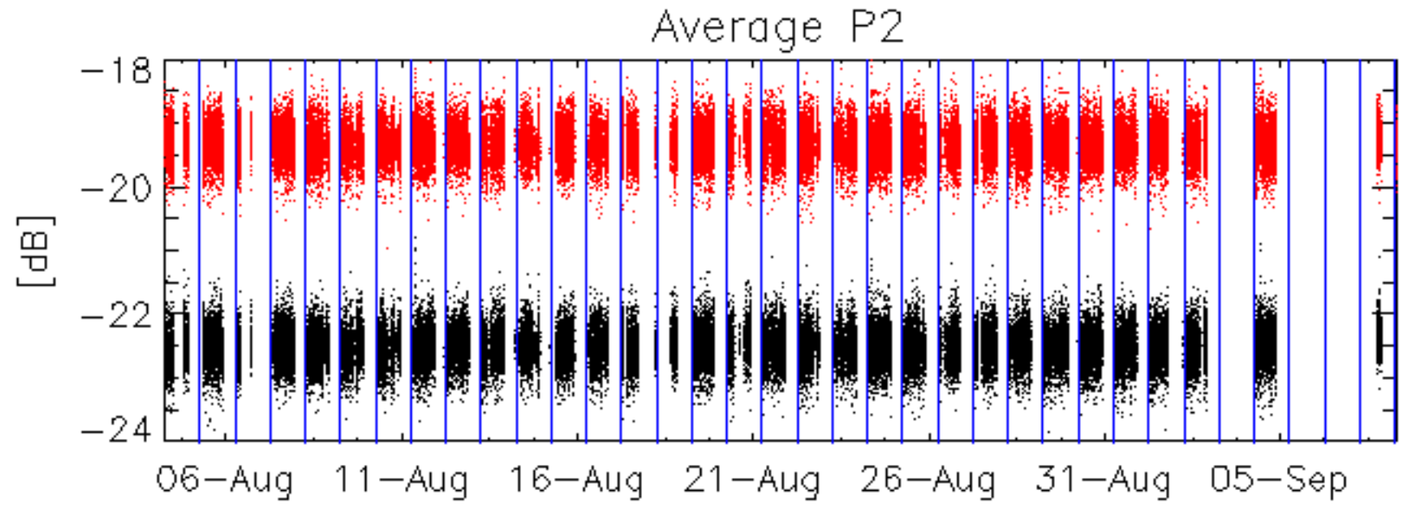
6.2 - Absolute Doppler

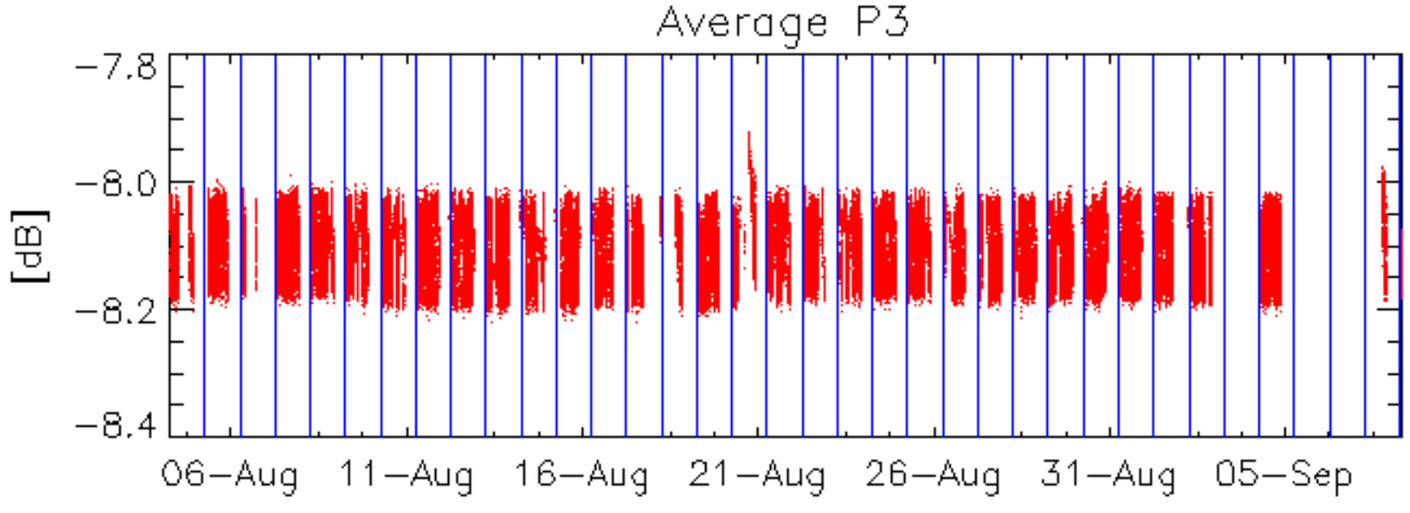
Evolution of Absolute Doppler
Acsending
Descending

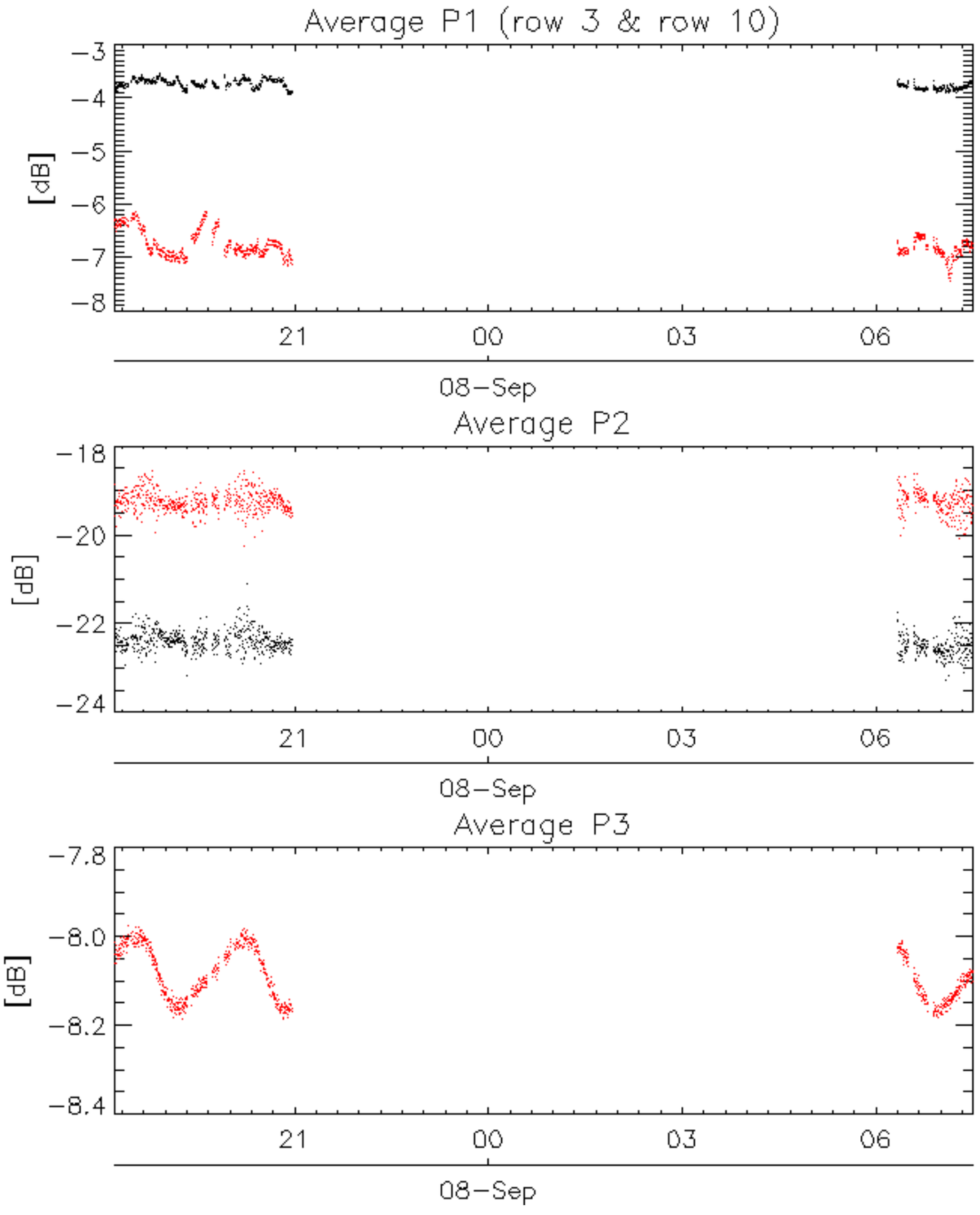
6.3 - Doppler evolution versus ANX

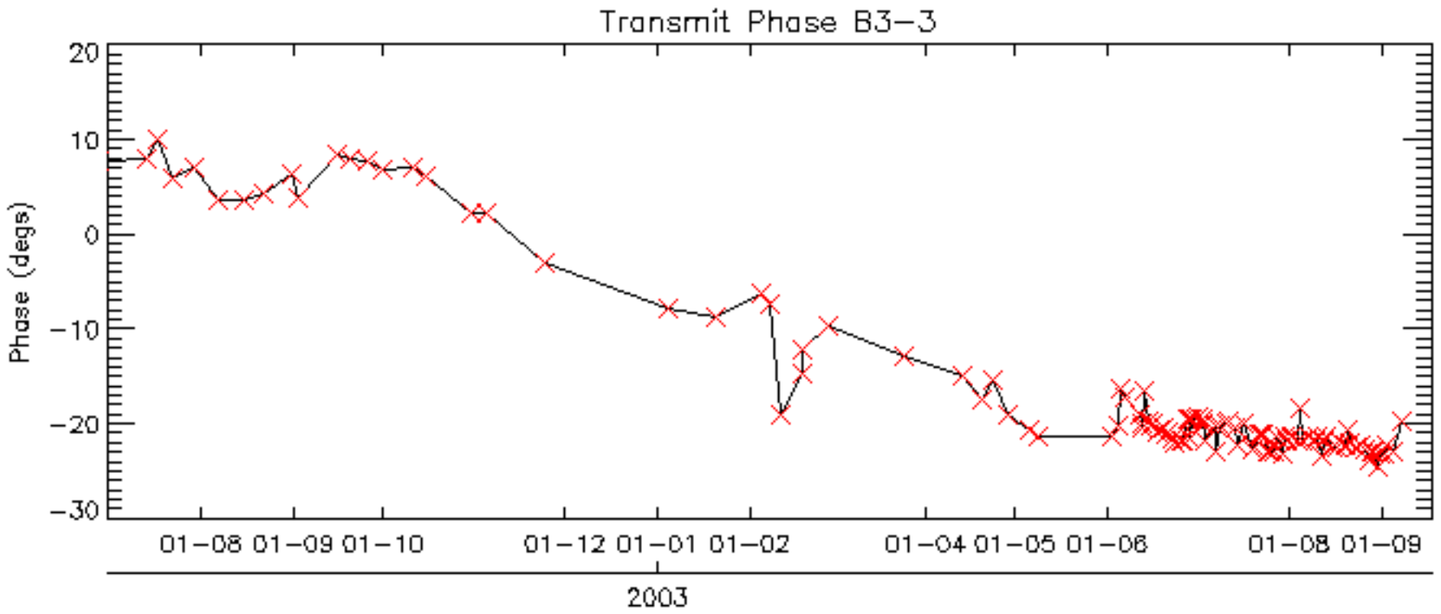
Evolution Doppler error versus ANX


Average P1 (row 3 & row 10)
[dB]
−3
−4
−5
−6
−7
−8
06−Aug
11−Aug
16−Aug
21−Aug
26−Aug
31−Aug
05−Sep


Average P2
[dB]
−18
−20
−22
−24
06−Aug
11−Aug
16−Aug
21−Aug
26−Aug
31−Aug
05−Sep

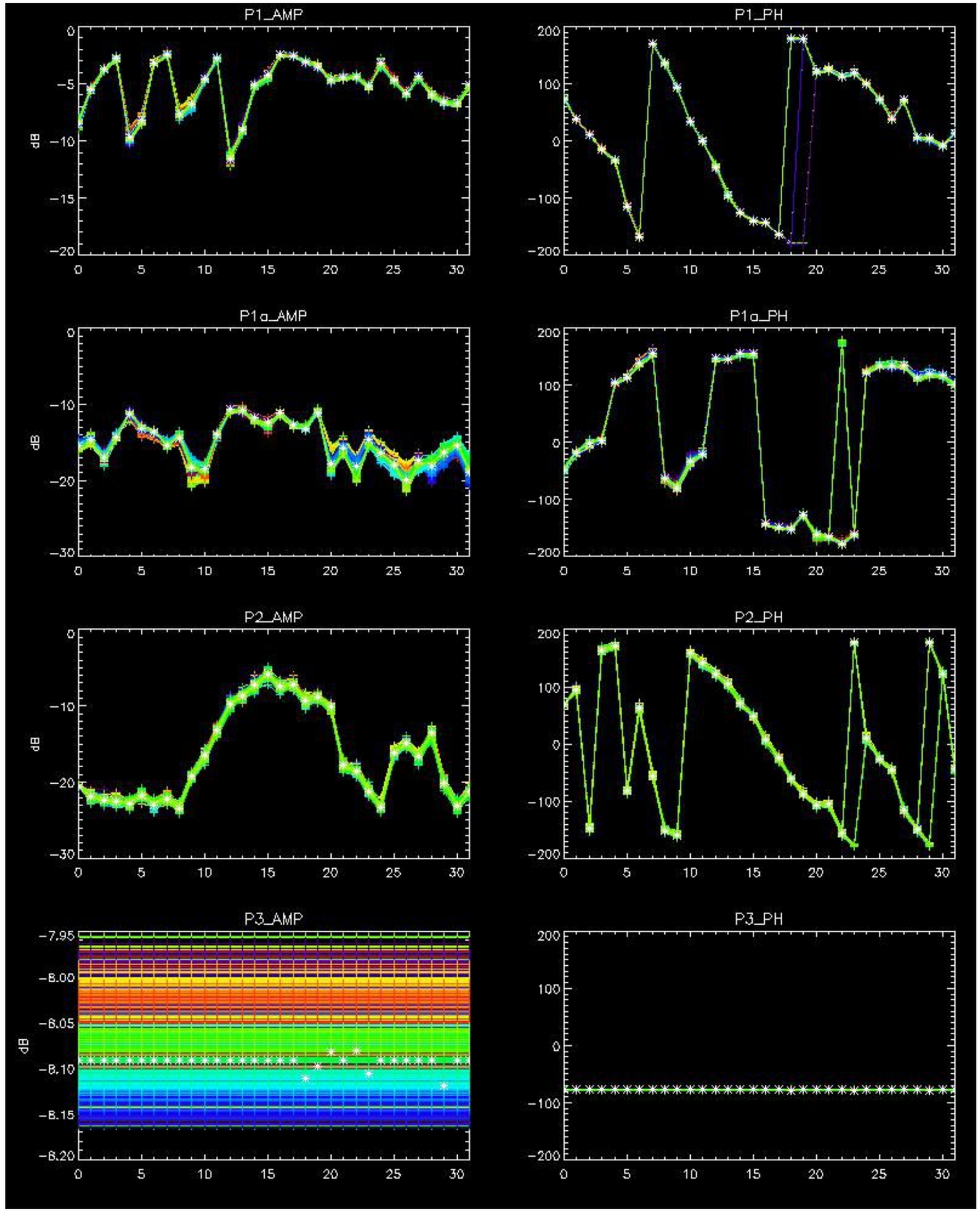

Average P3
[dB]
−7.8
−8.0
−8.2
−8.4
06−Aug
11−Aug
16−Aug
21−Aug
26−Aug
31−Aug
05−Sep


Average P1 (row 3 & row 10)
[dB]
−3
−4
−5
−6
−7
−8
21
00
03
06
08−Sep
Average P2
[dB]
−18
−20
−22
−24
21
00
03
06
08−Sep
Average P3
[dB]
−7.8
−8.0
−8.2
−8.4
21
00
03
06
08−Sep


Transmit Phase B3–3
Phase (degs)
20
10
0
−10
−20
−30
01–08 01–09 01–10
01–12 01–01 01–02
01–04 01–05 01–06
01–08 01–09
2003

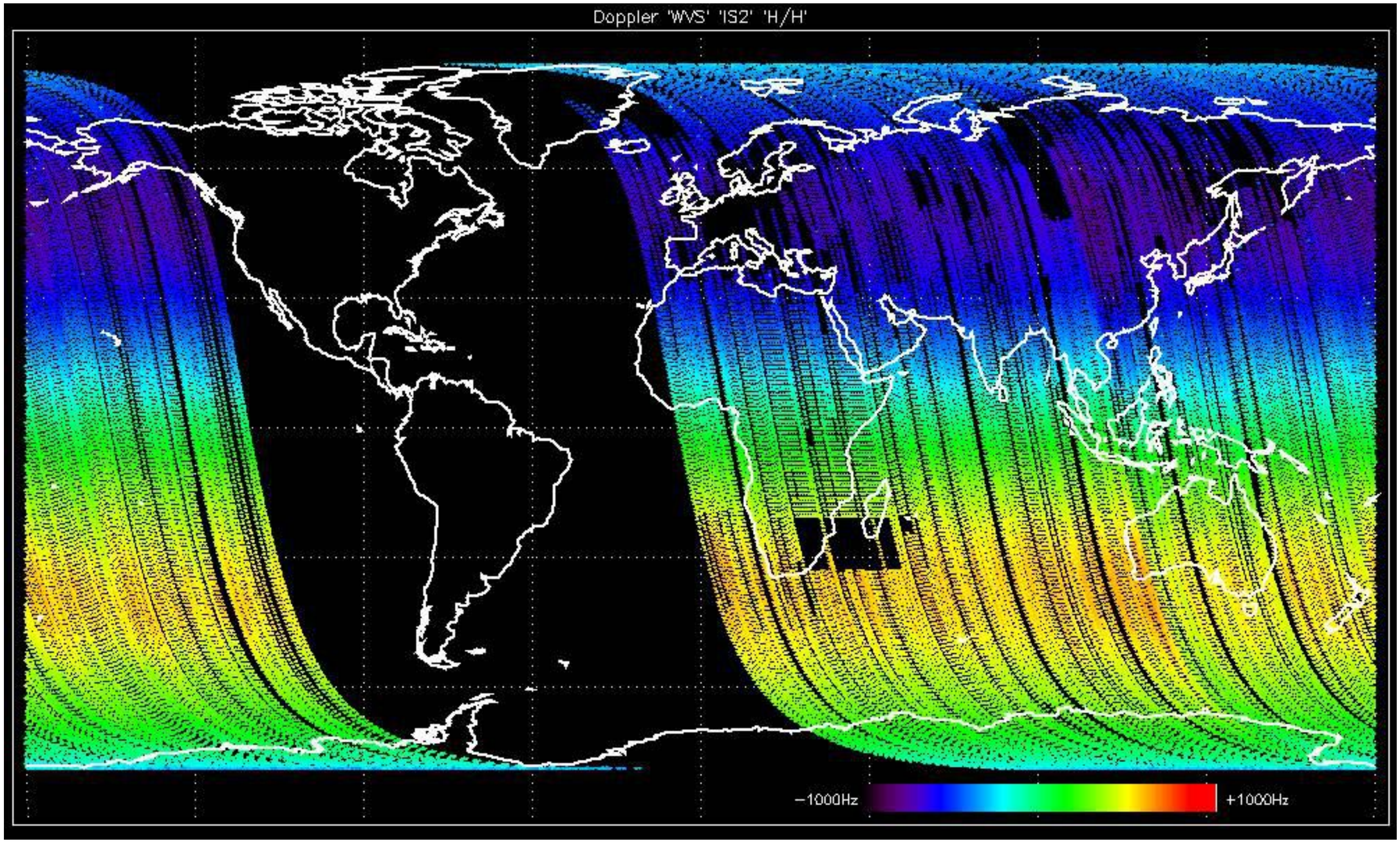
No anomalies observed on available browse products

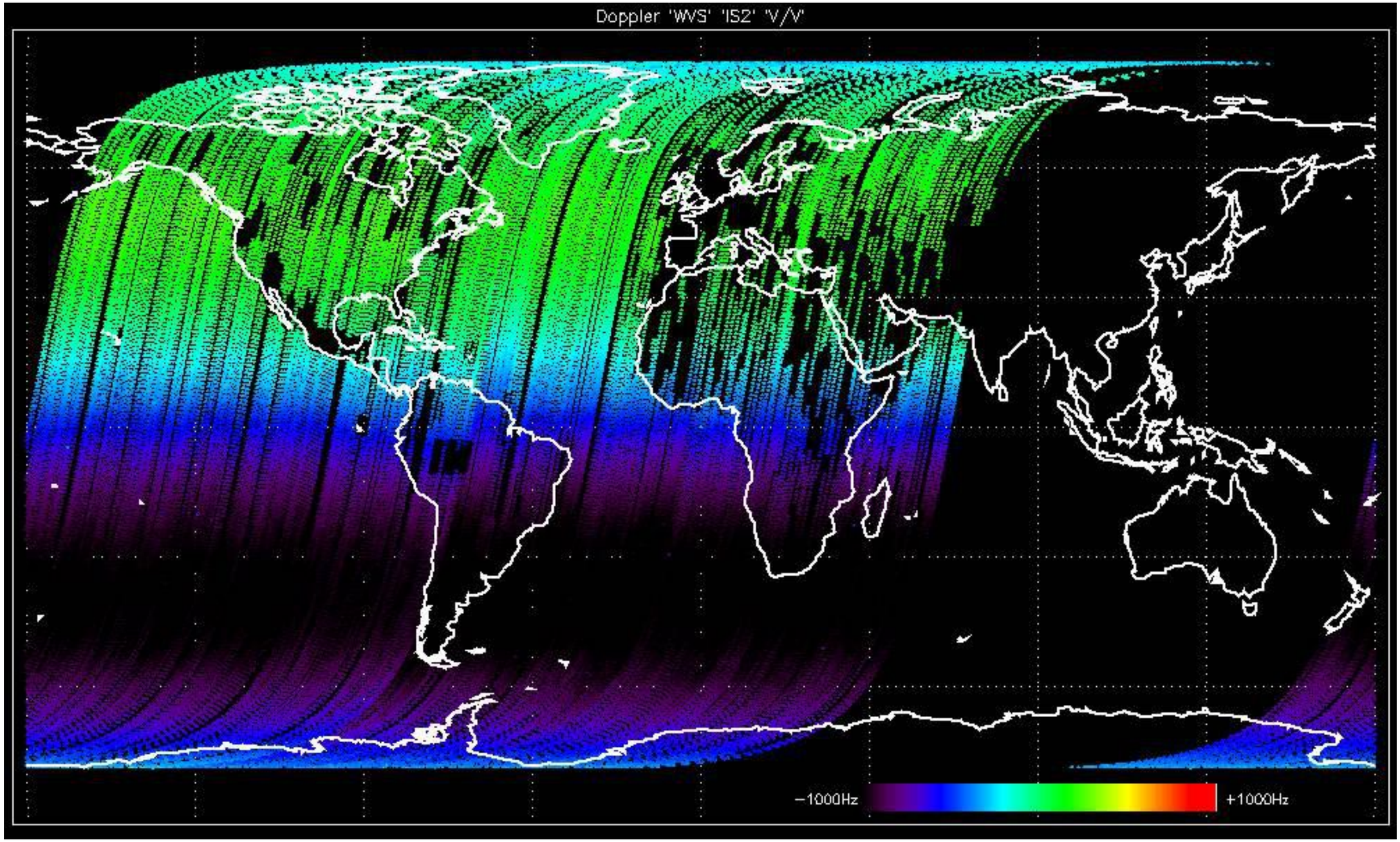
No anomalies observed on calibration pulses.

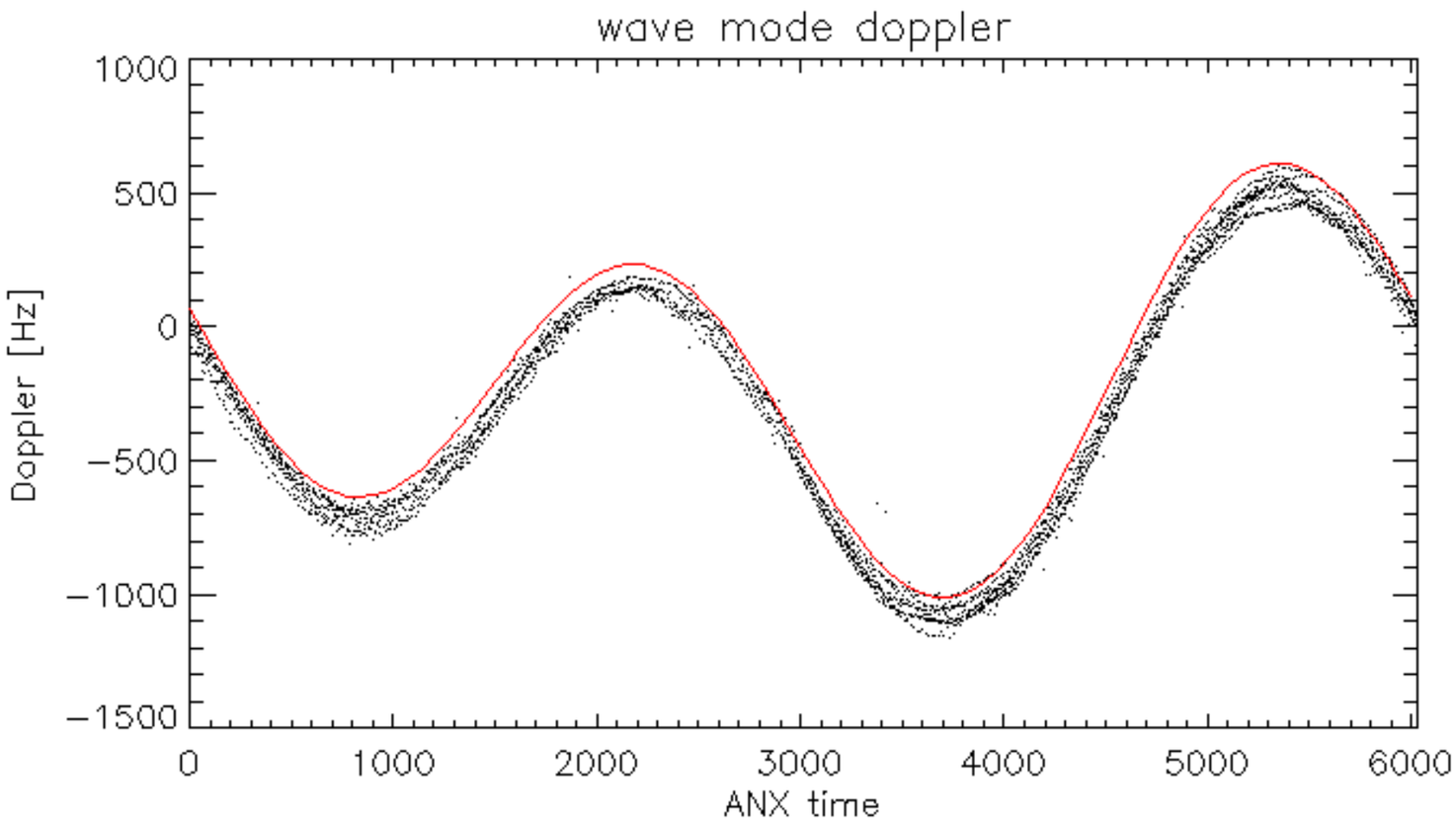

P1_AMP
P1_PH
P1a_AMP
P1a_PH
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

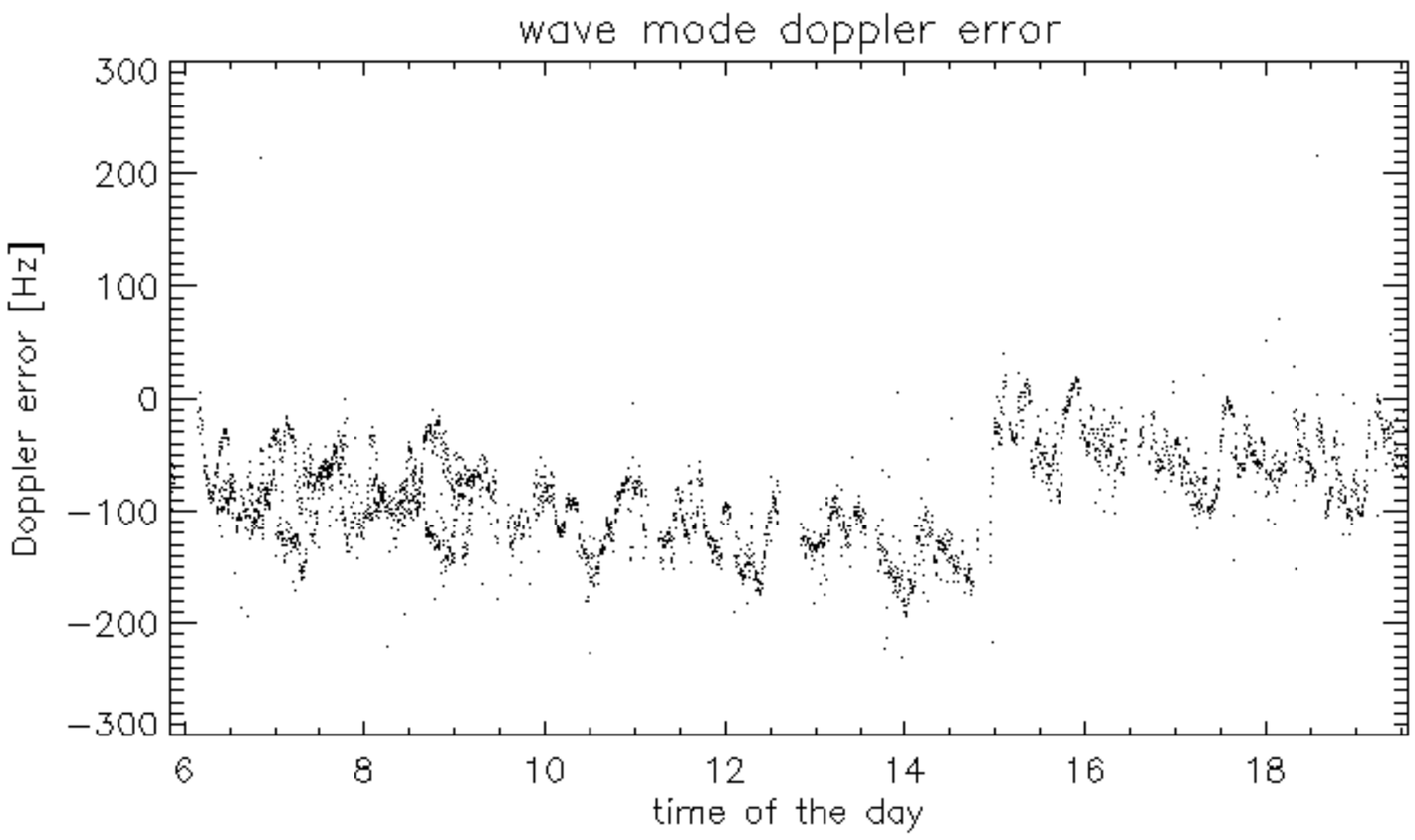
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

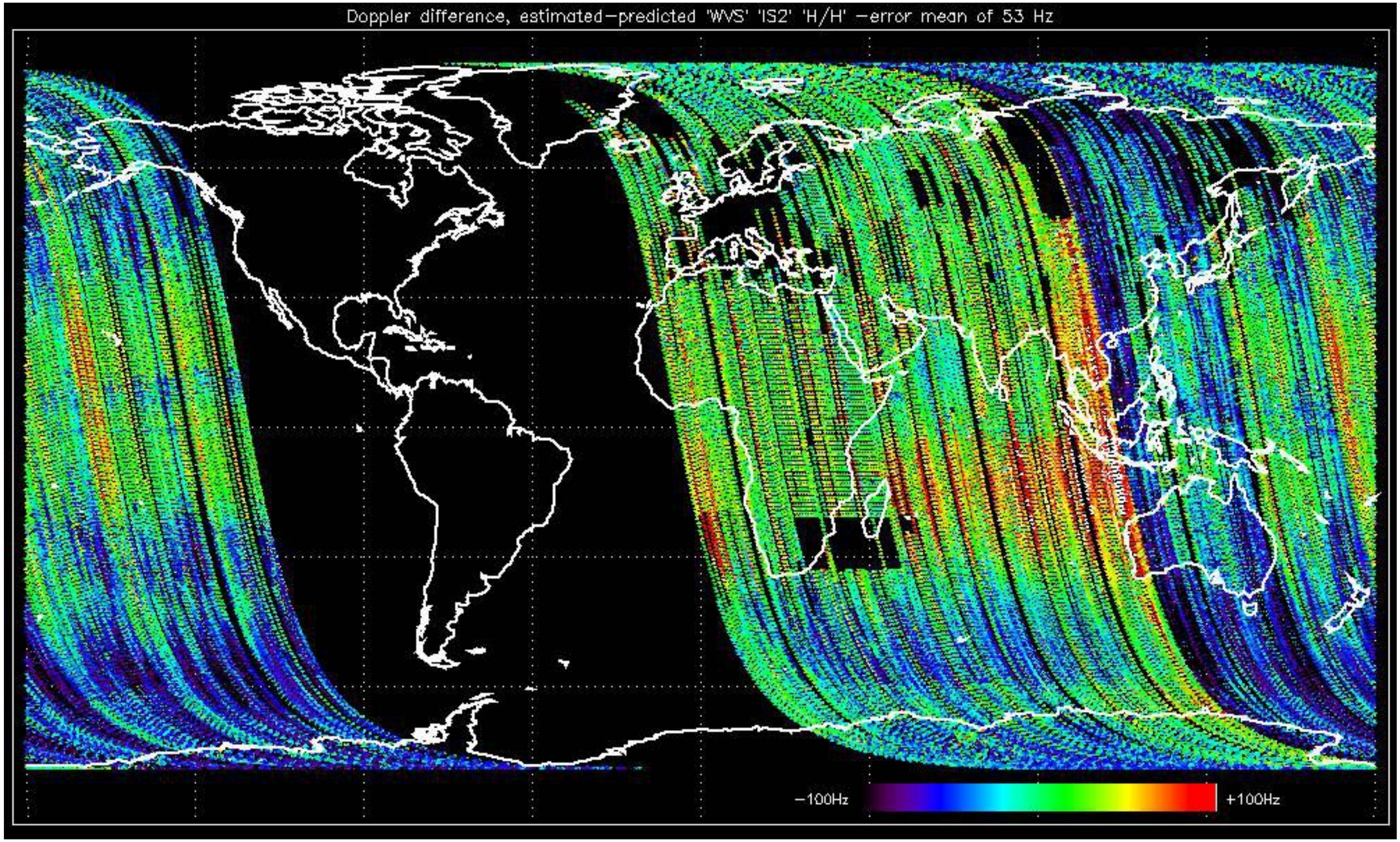
No anomalies observed Doppler evolution.
Doppler analysis performed over the last 60 days.
Data Gap over South-Africa/Madagascar is due to MS acquisition.

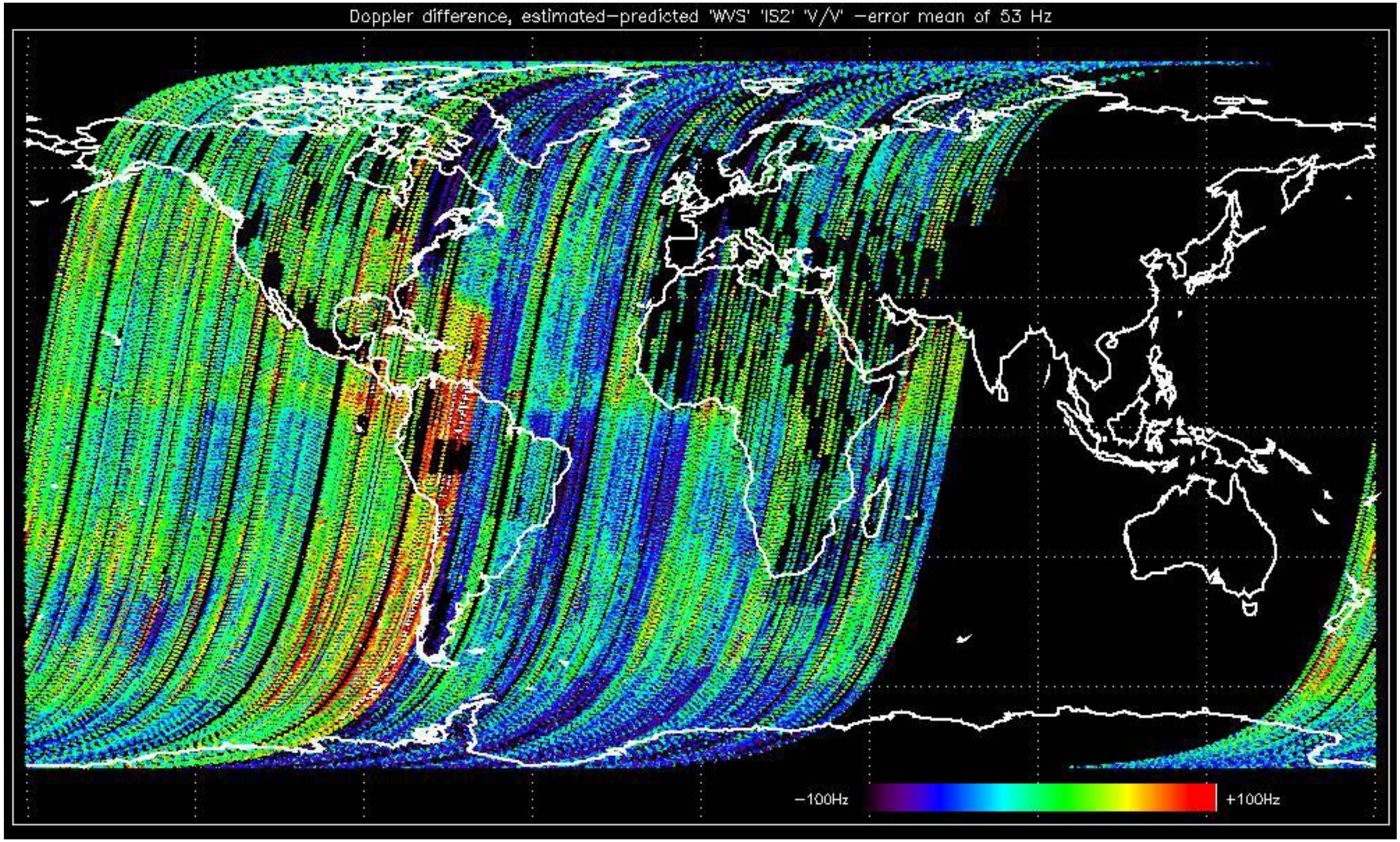

Doppler 'WVS' 'IS2' 'H/H'
−1000Hz
+1000Hz


Doppler 'WVS' 'IS2' 'V/V'
−1000Hz
+1000Hz


wave mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
ANX time


wave mode doppler error
Doppler error [Hz]
300
200
100
0
−100
−200
−300
6
8
10
12
14
16
18
time of the day

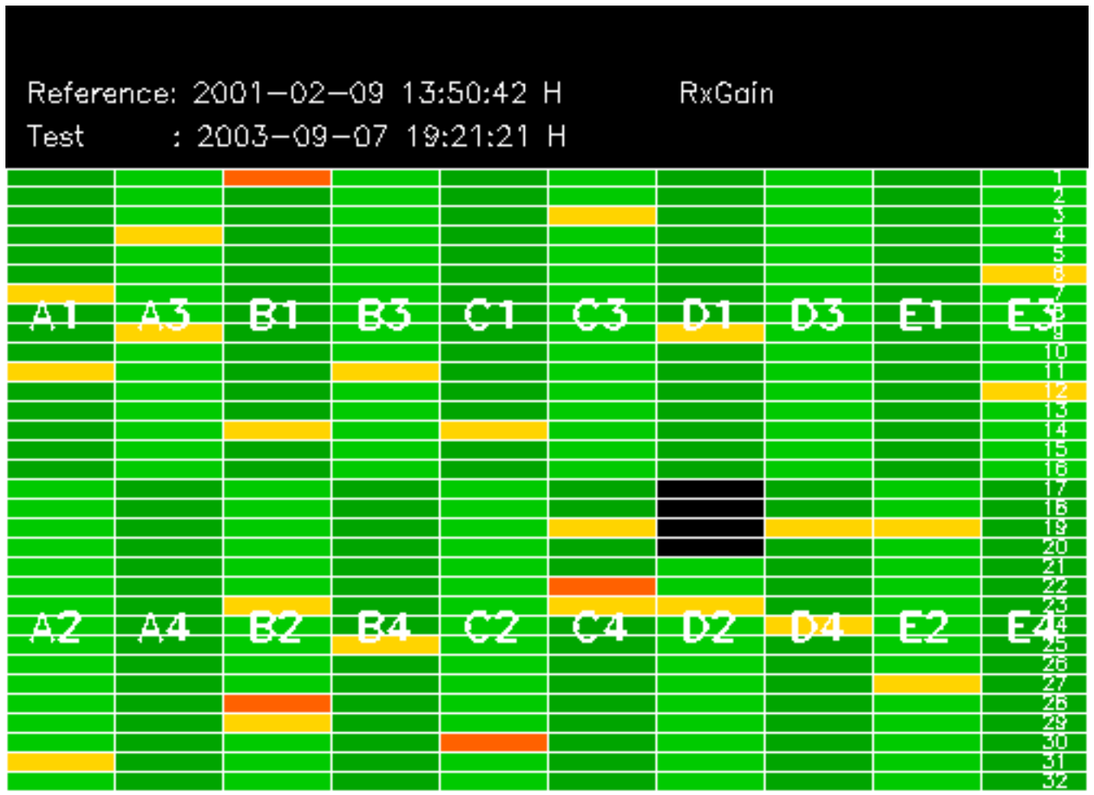

Doppler difference, estimated−predicted 'WVS' 'IS2' 'H/H' −error mean of 53 Hz
−100Hz
+100Hz

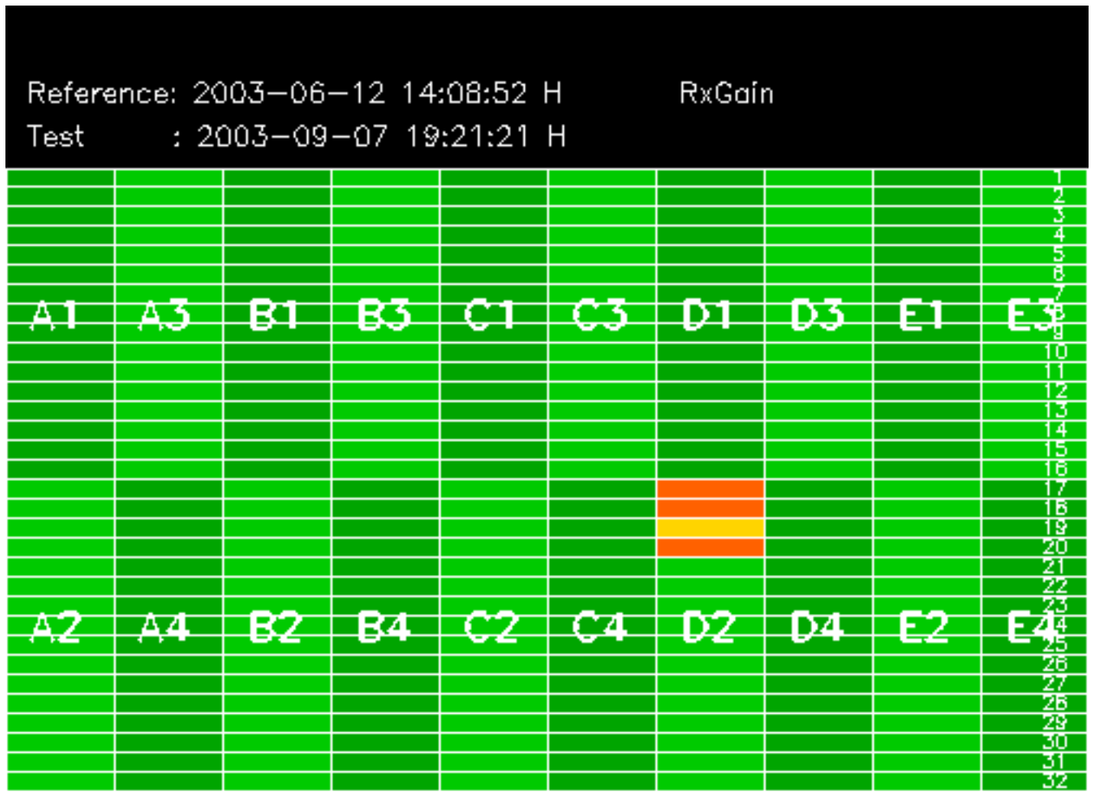

Doppler difference, estimated−predicted 'WVS' 'IS2' 'V/V' −error mean of 53 Hz
−100Hz
+100Hz

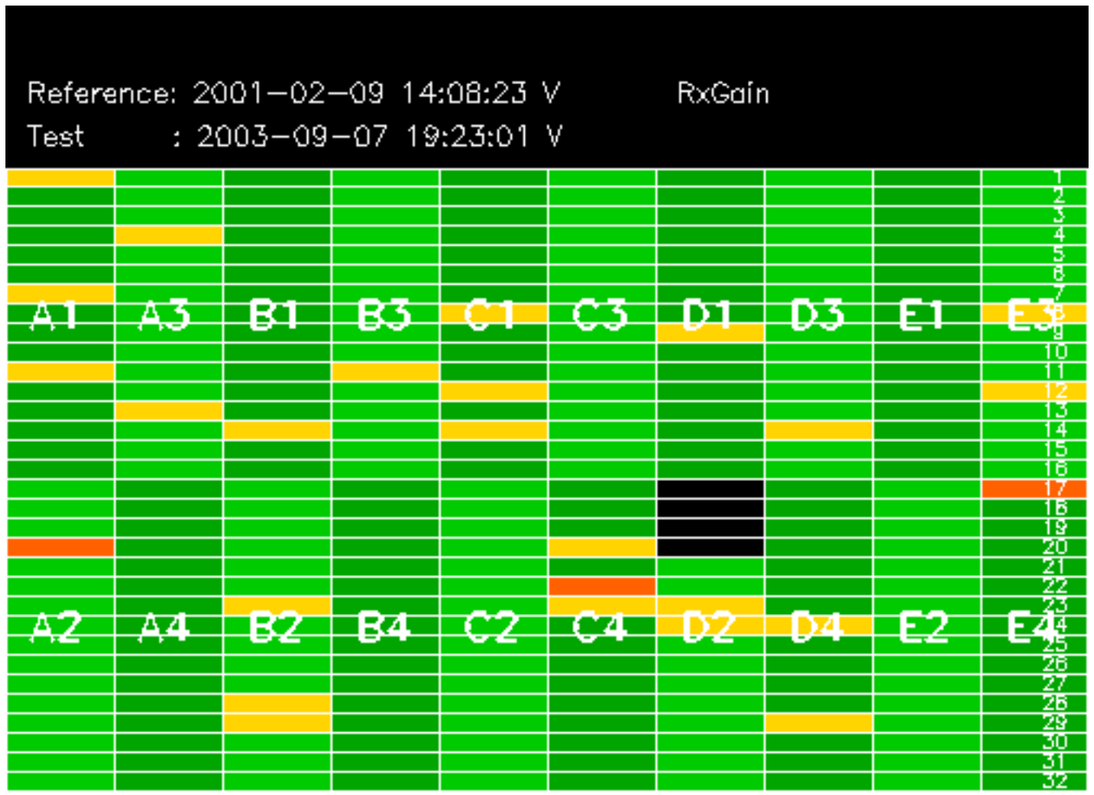
No anomalies observed on available MS products:
- ASA_MS__0PNPDK20030907_192121_000000152019_00385_07954_0049.N1
- ASA_MS__0PNPDK20030907_192301_000000152019_00385_07954_0050.N1

The drift in phase for TR module 3 on Tile B3 has decreased to a stable configuration as shown in the figure below.

No anomalies observed.
Stable values of I/Q statistics from the last 35 days.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2003-09-07 19:21:21 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2003-09-07 19:21:21 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
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2003-09-07 19:23:01 V
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
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14
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16
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18
19
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22
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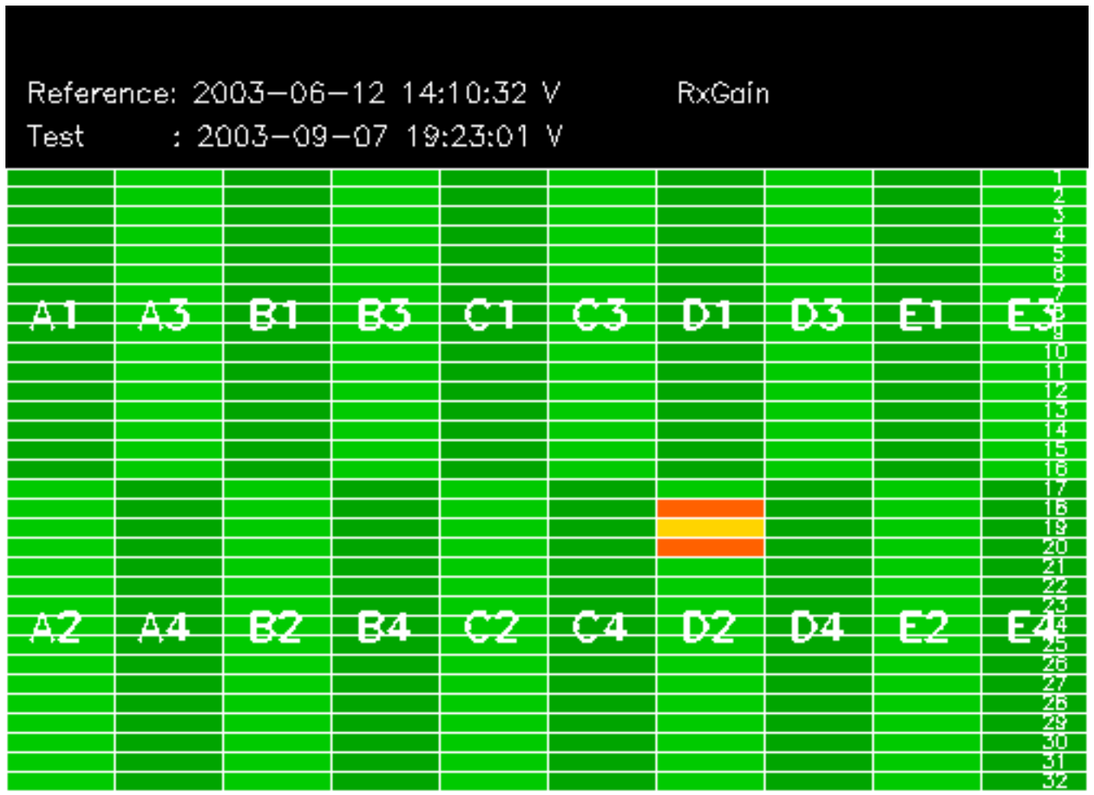
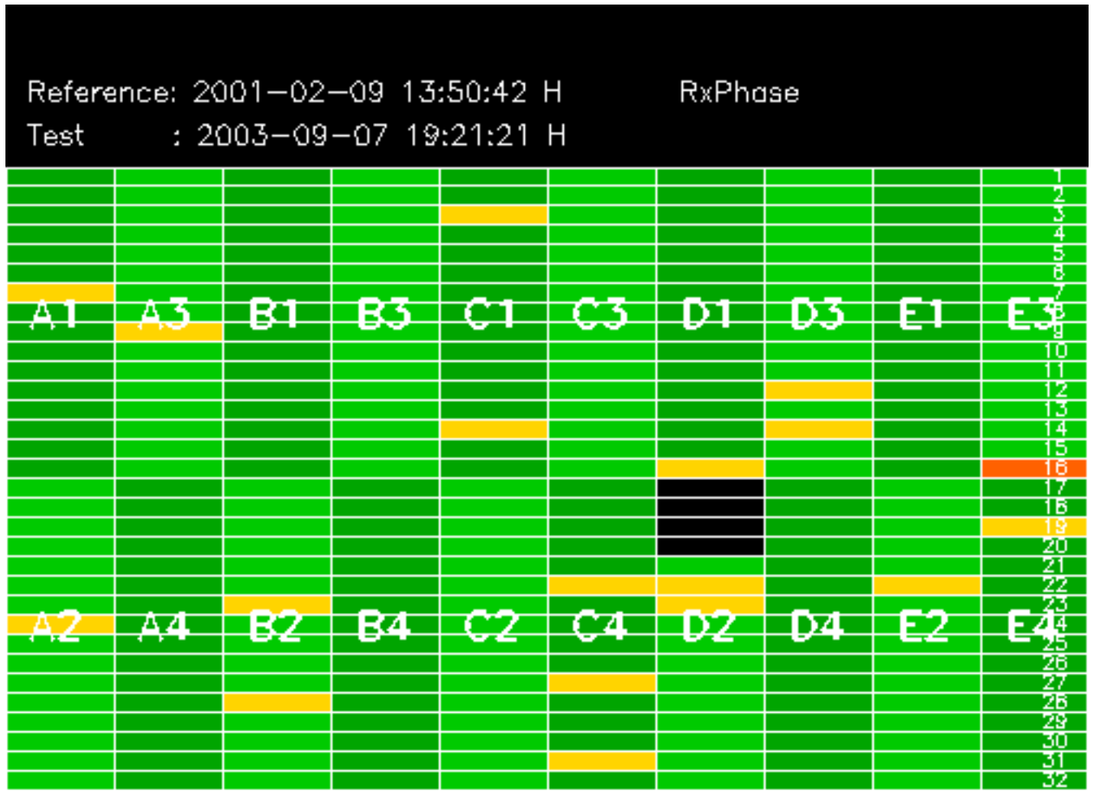
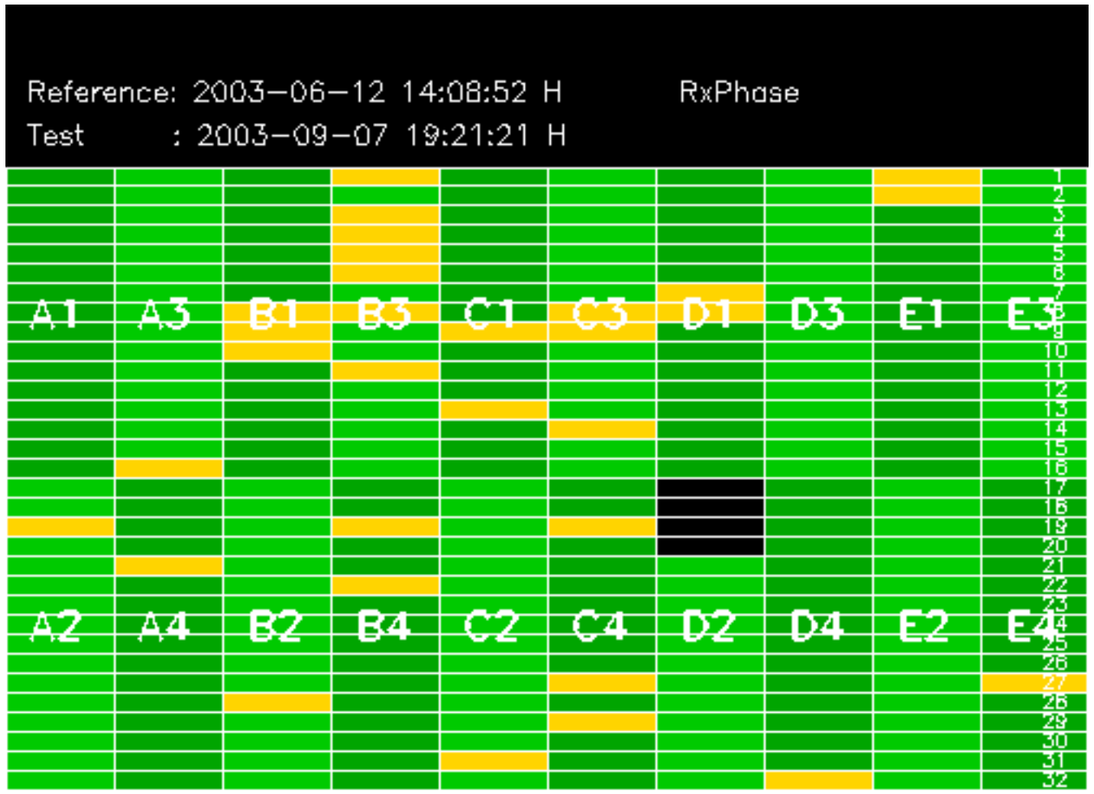
24
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:10:32 V
Test : 2003-09-07 19:23:01 V
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
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2003-09-07 19:21:21 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 : 2003-09-07 19:21:21 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
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17
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22
23
24
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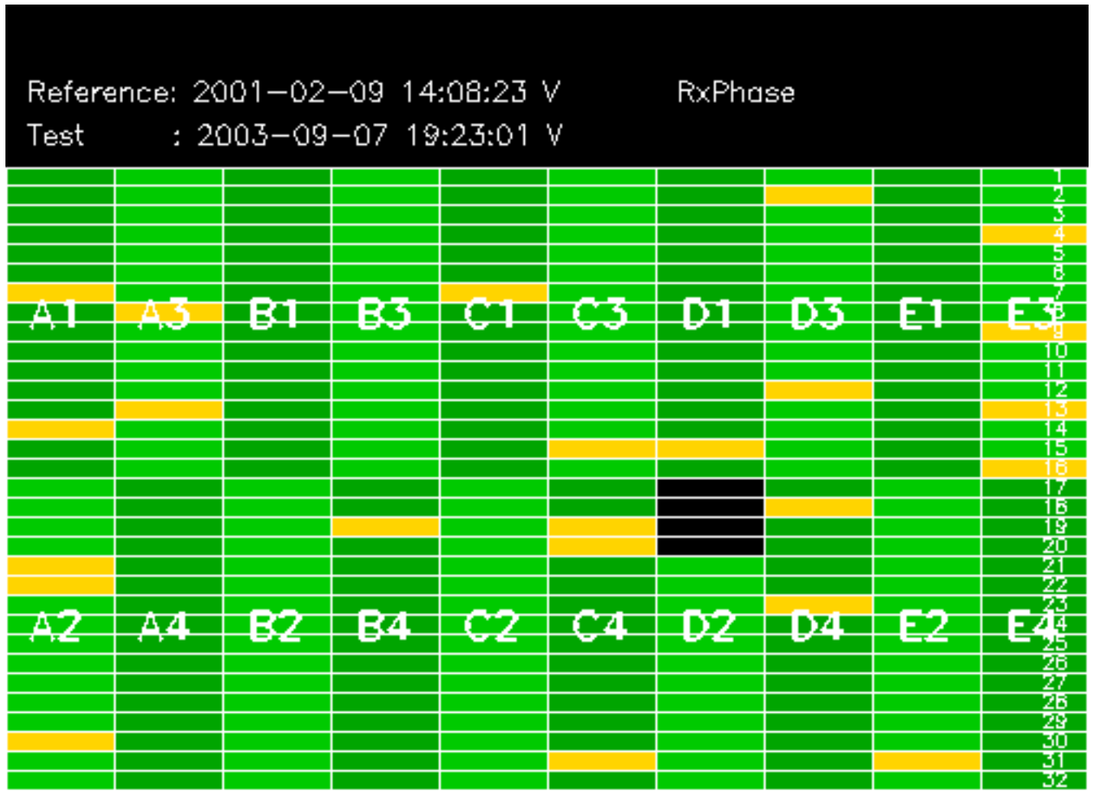
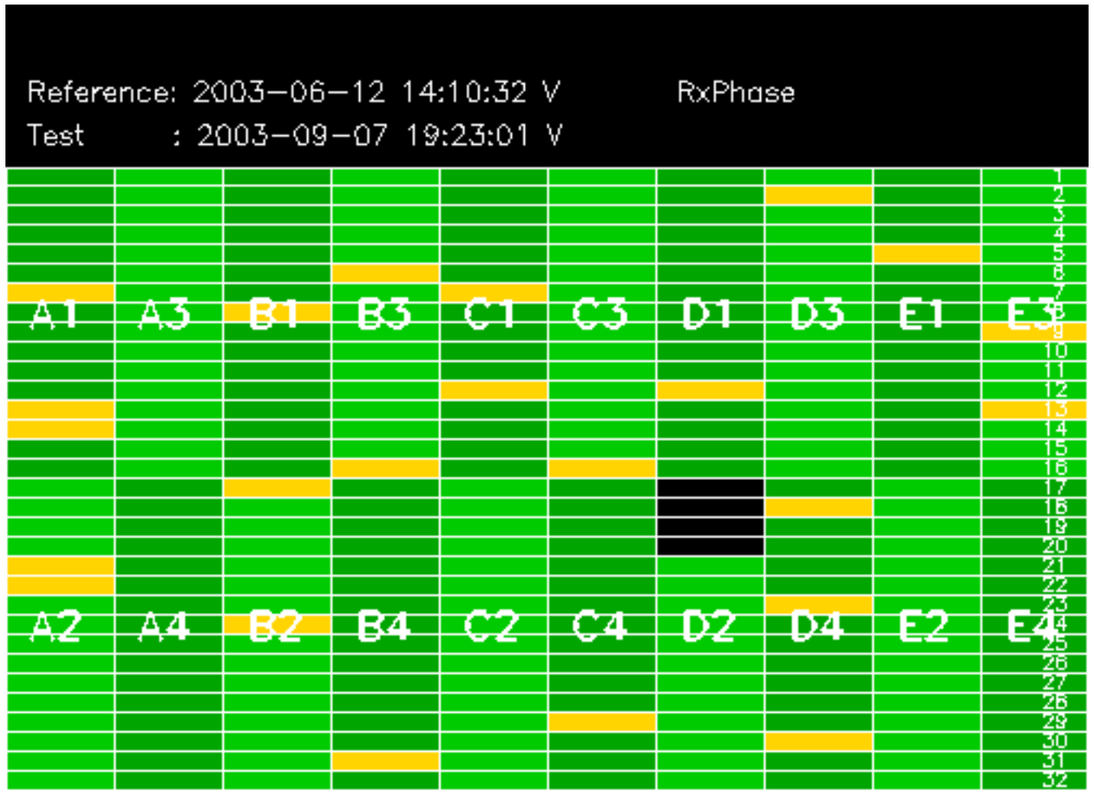
26
27
28
29
30
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2003-09-07 19:23:01 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 : 2003-09-07 19:23:01 V
RxPhase
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
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9
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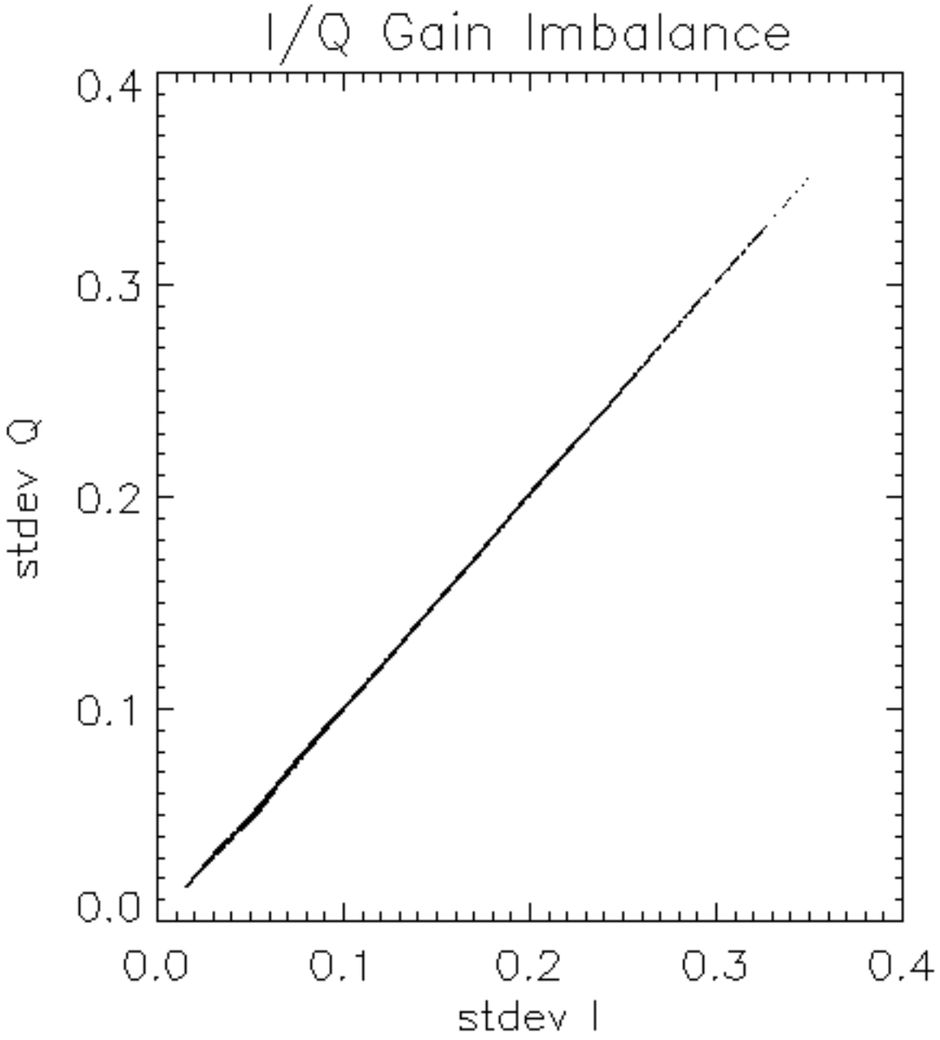
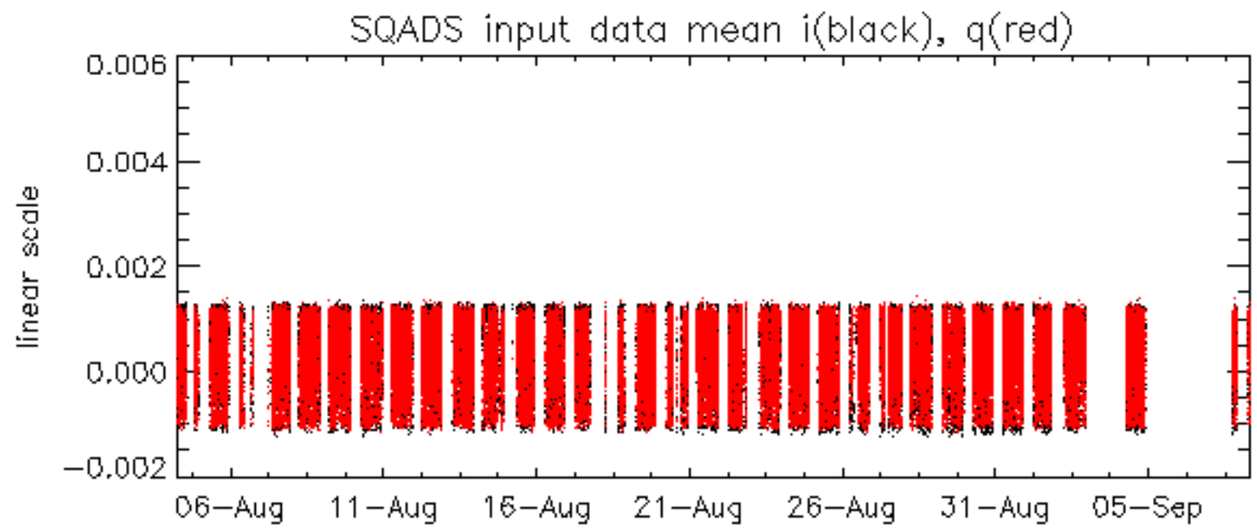
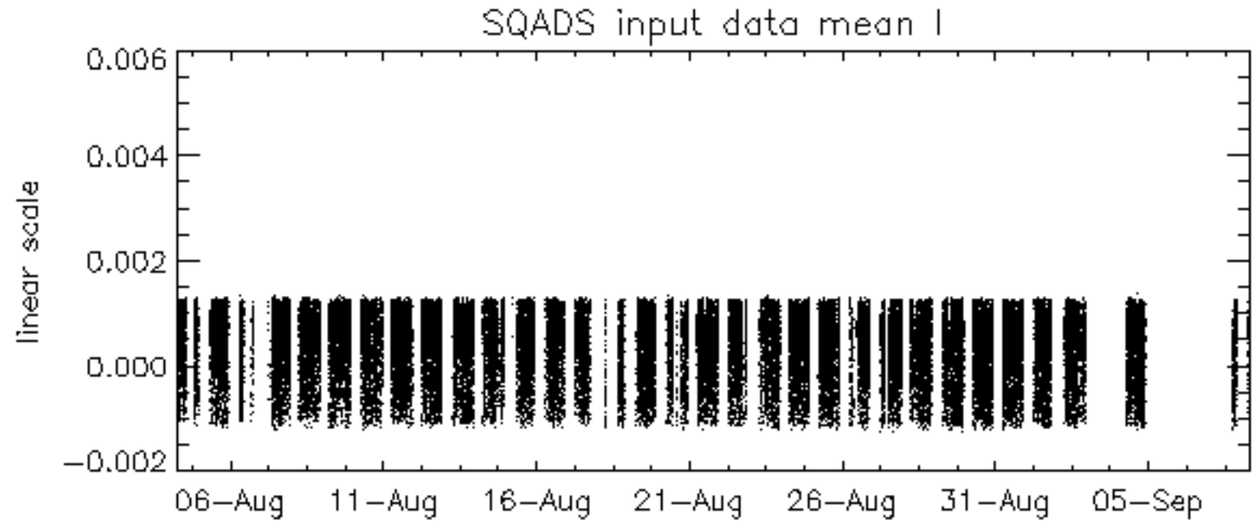
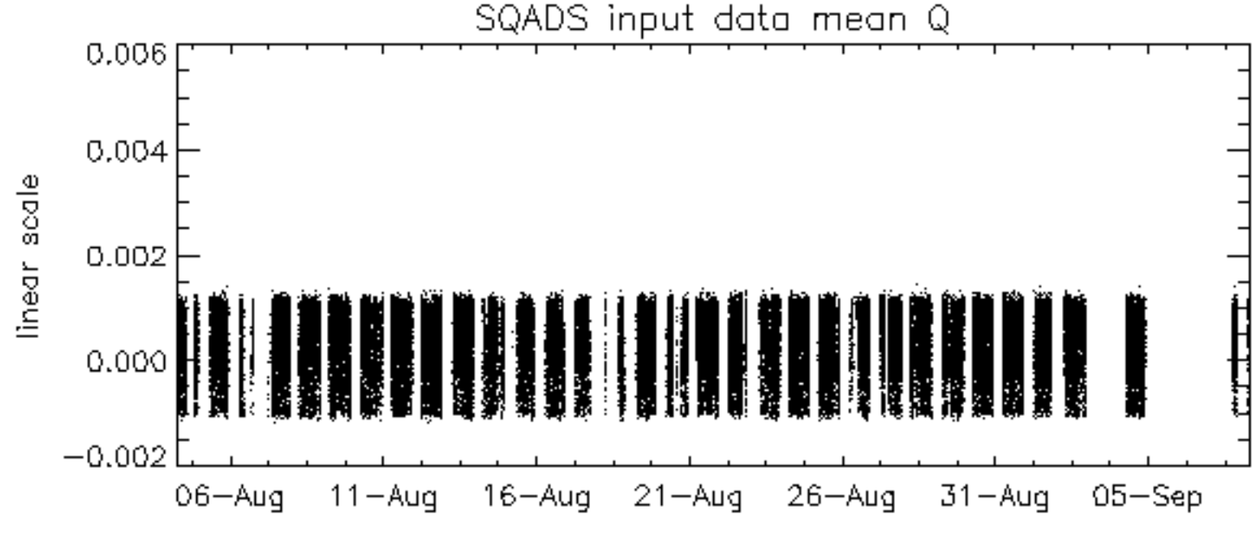
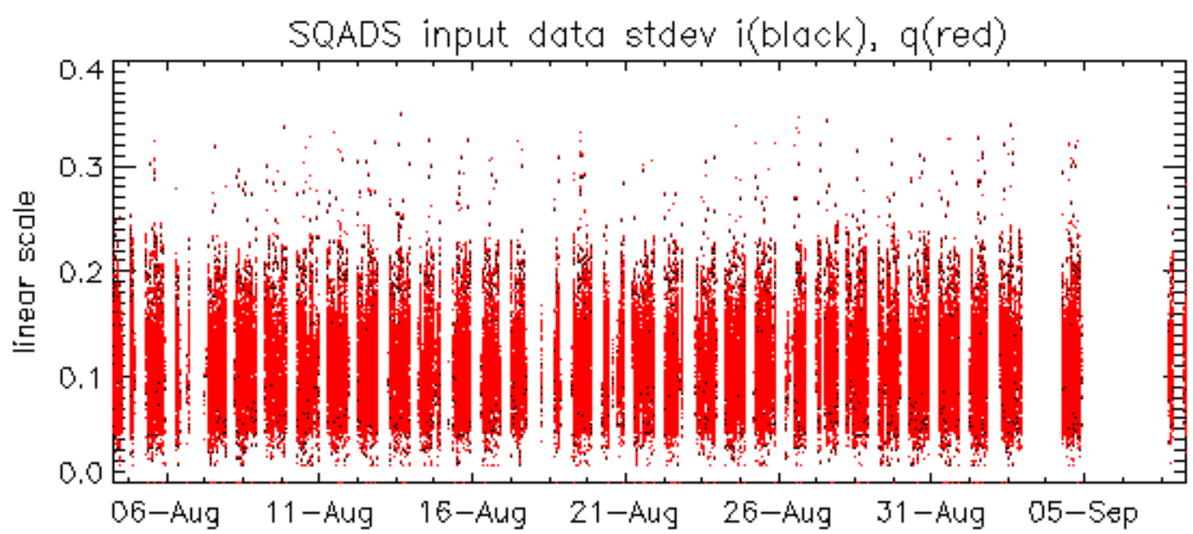
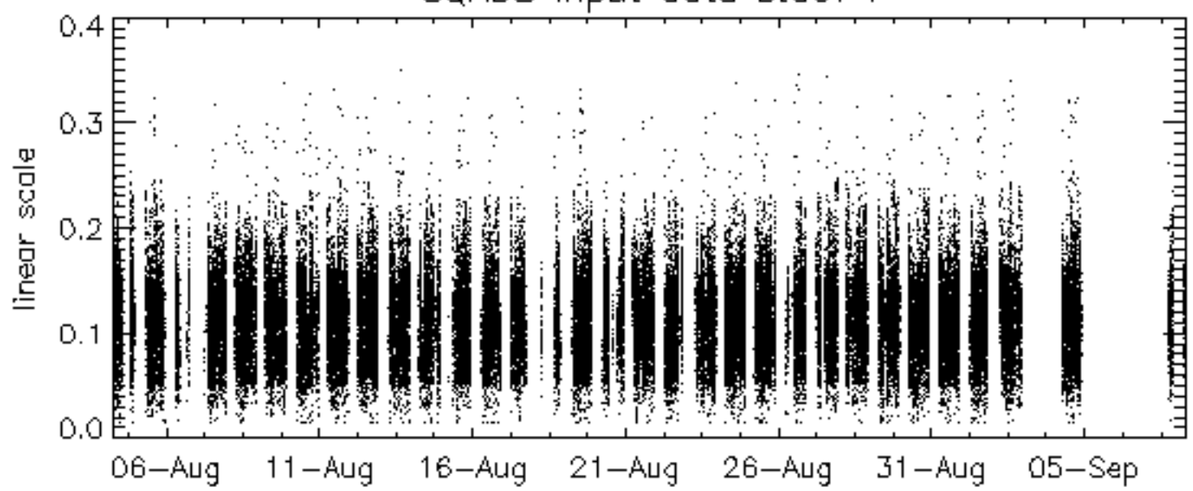

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

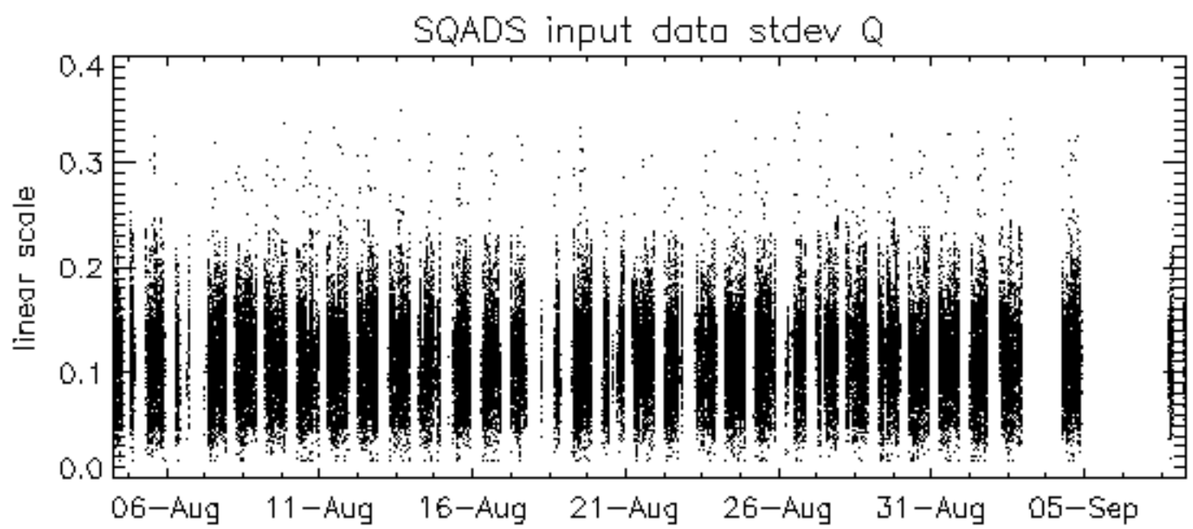

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Aug
11−Aug
16−Aug
21−Aug
26−Aug
31−Aug
05−Sep

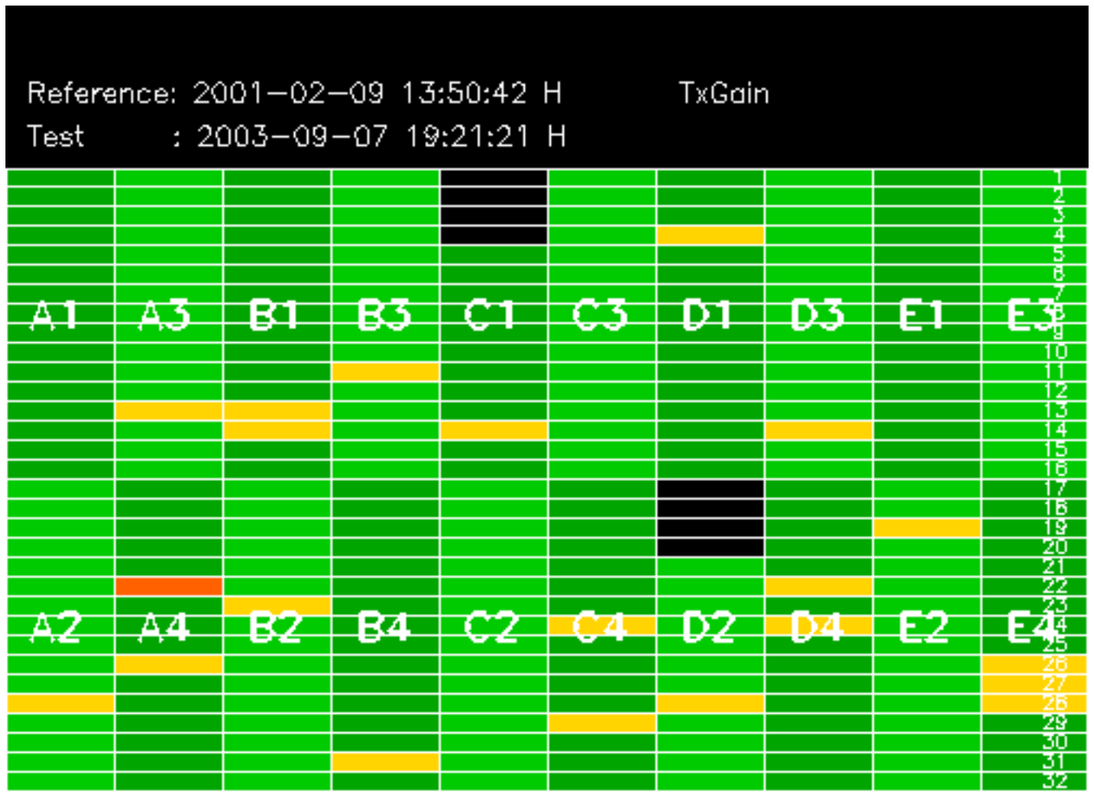

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Aug
11−Aug
16−Aug
21−Aug
26−Aug
31−Aug
05−Sep


SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Aug
11−Aug
16−Aug
21−Aug
26−Aug
31−Aug
05−Sep


SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
06−Aug
11−Aug
16−Aug
21−Aug
26−Aug
31−Aug
05−Sep


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
06−Aug
11−Aug
16−Aug
21−Aug
26−Aug
31−Aug
05−Sep


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
06−Aug
11−Aug
16−Aug
21−Aug
26−Aug
31−Aug
05−Sep


Reference: 2001-02-09 13:50:42 H
Test : 2003-09-07 19:21:21 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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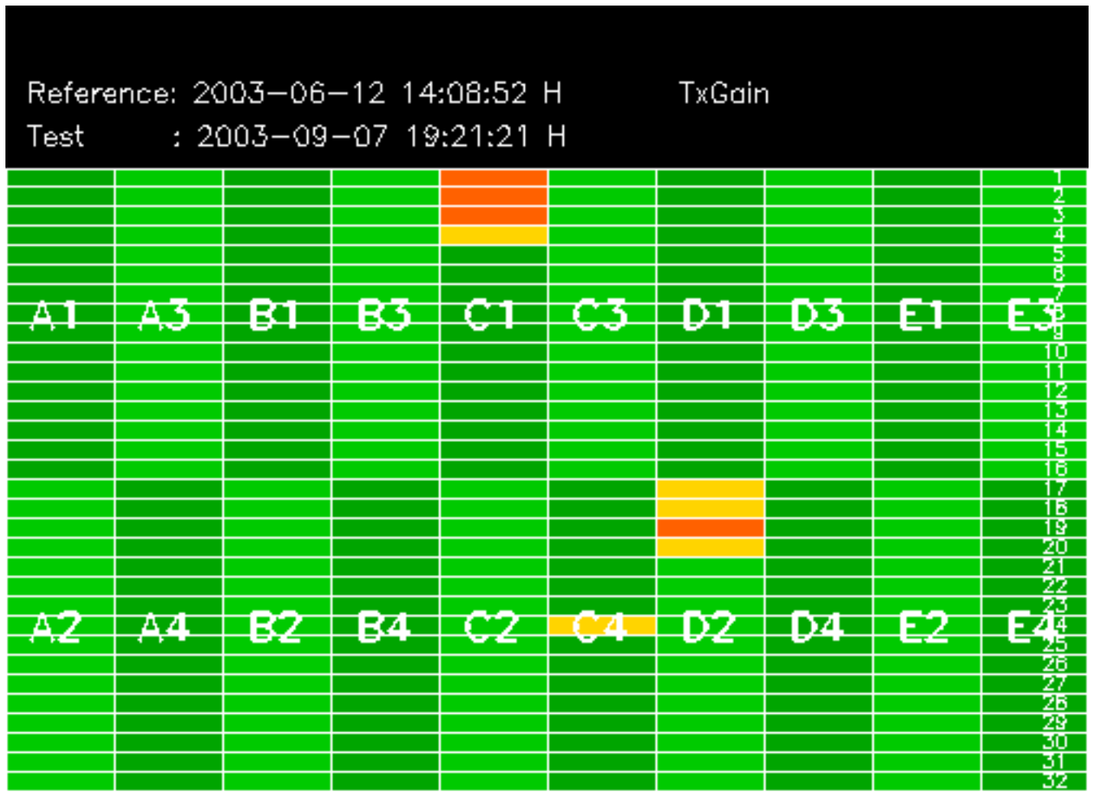
Reference: 2003-06-12 14:08:52 H
Test : 2003-09-07 19:21:21 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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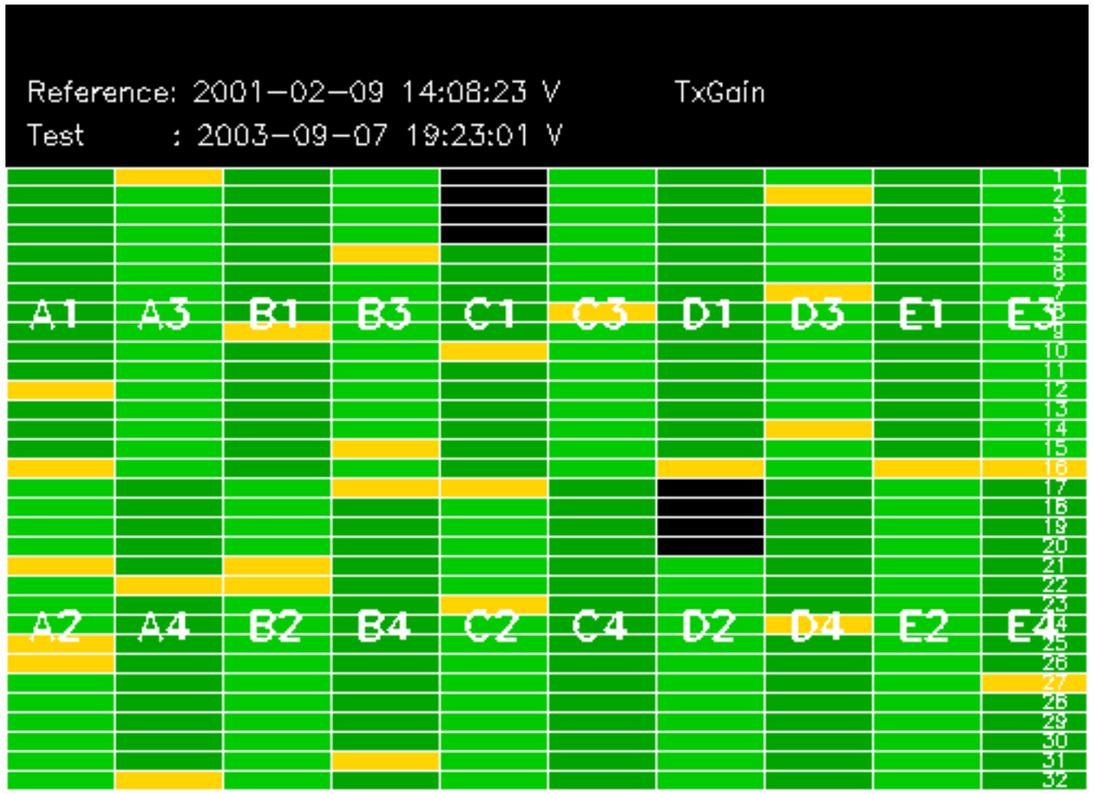
Reference: 2001-02-09 14:08:23 V
Test : 2003-09-07 19:23:01 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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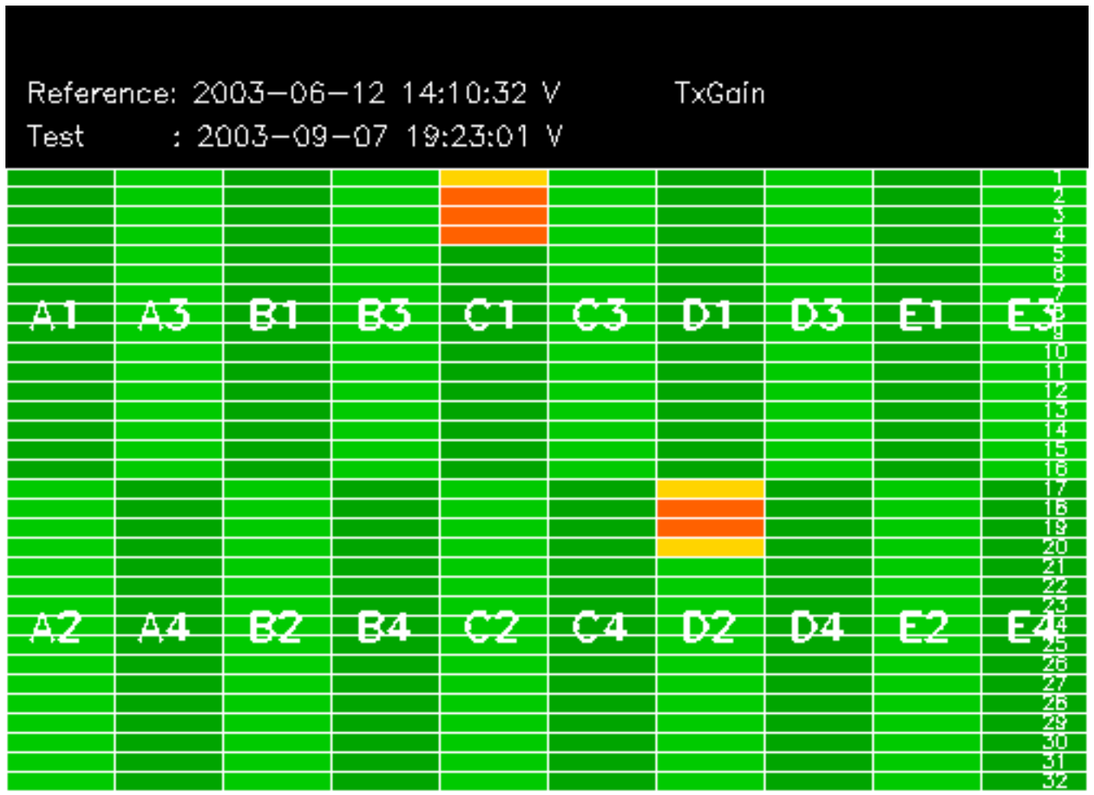
Reference: 2003-06-12 14:10:32 V
Test : 2003-09-07 19:23:01 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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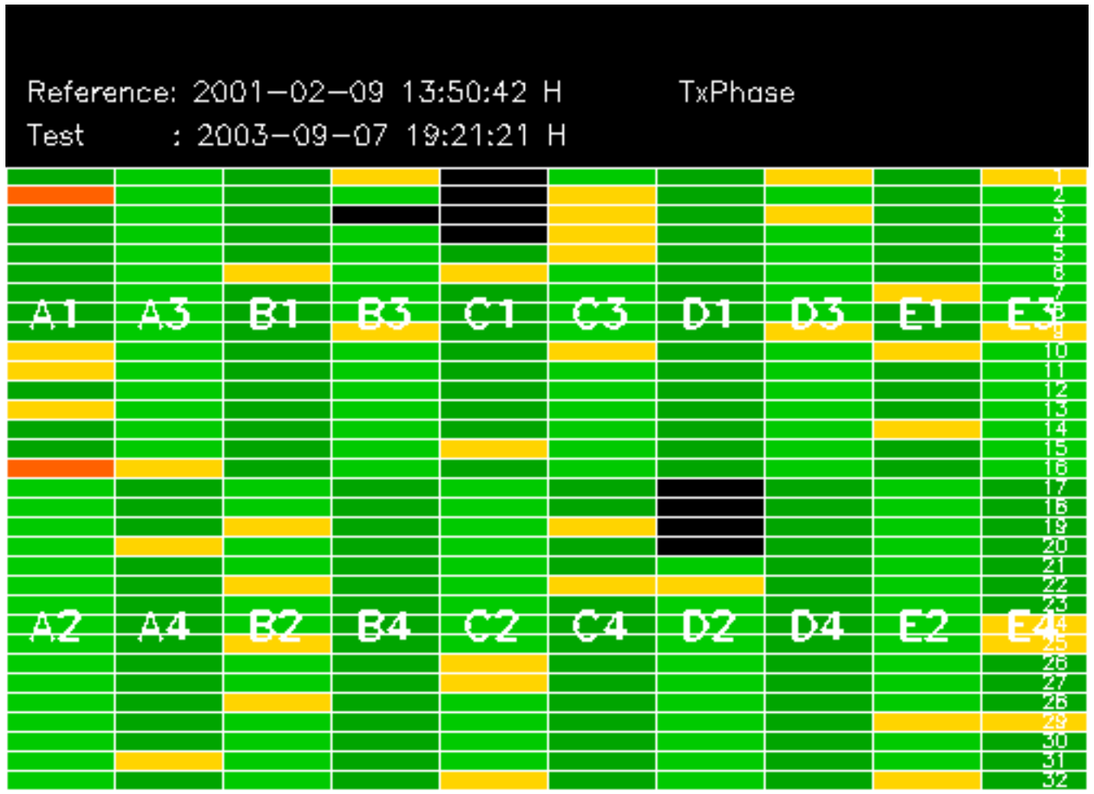
Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2003-09-07 19:21:21 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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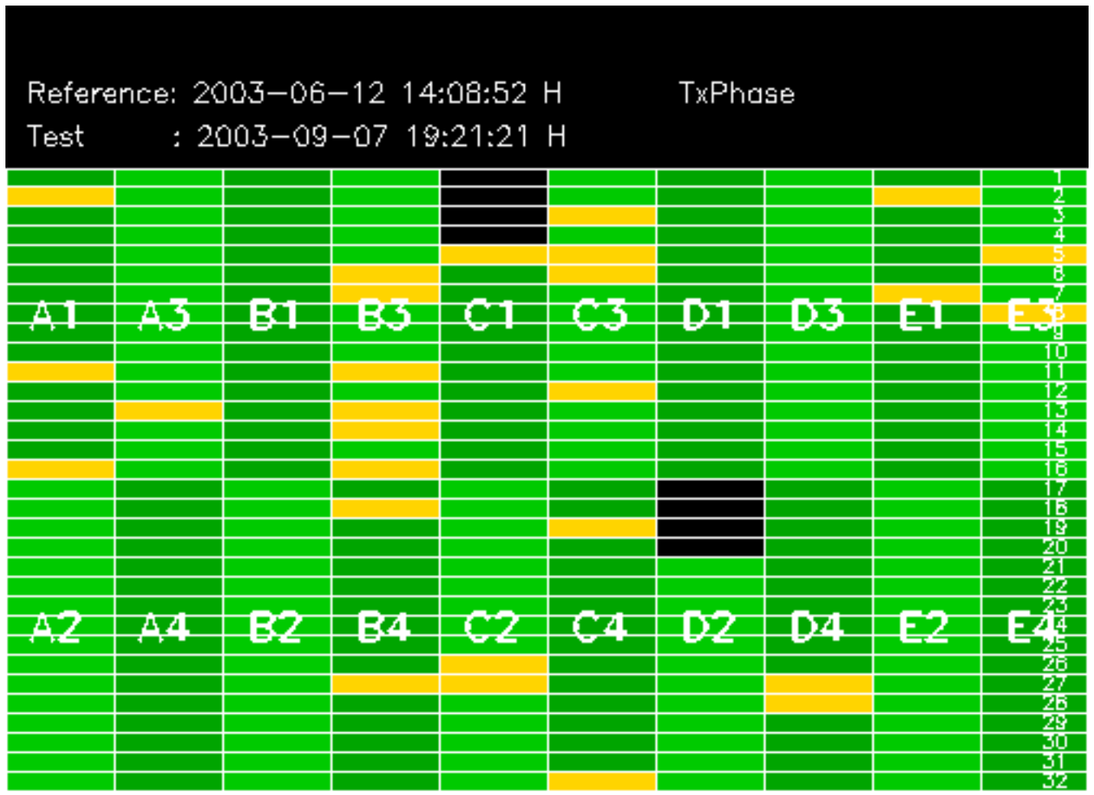
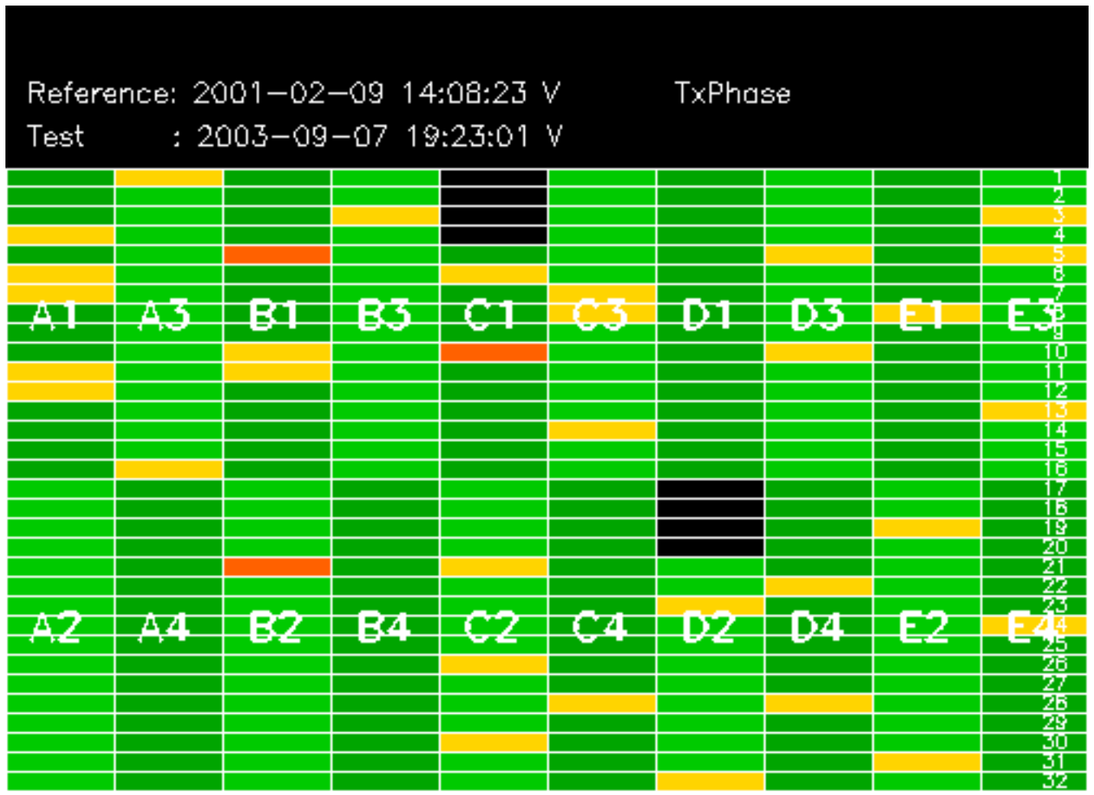
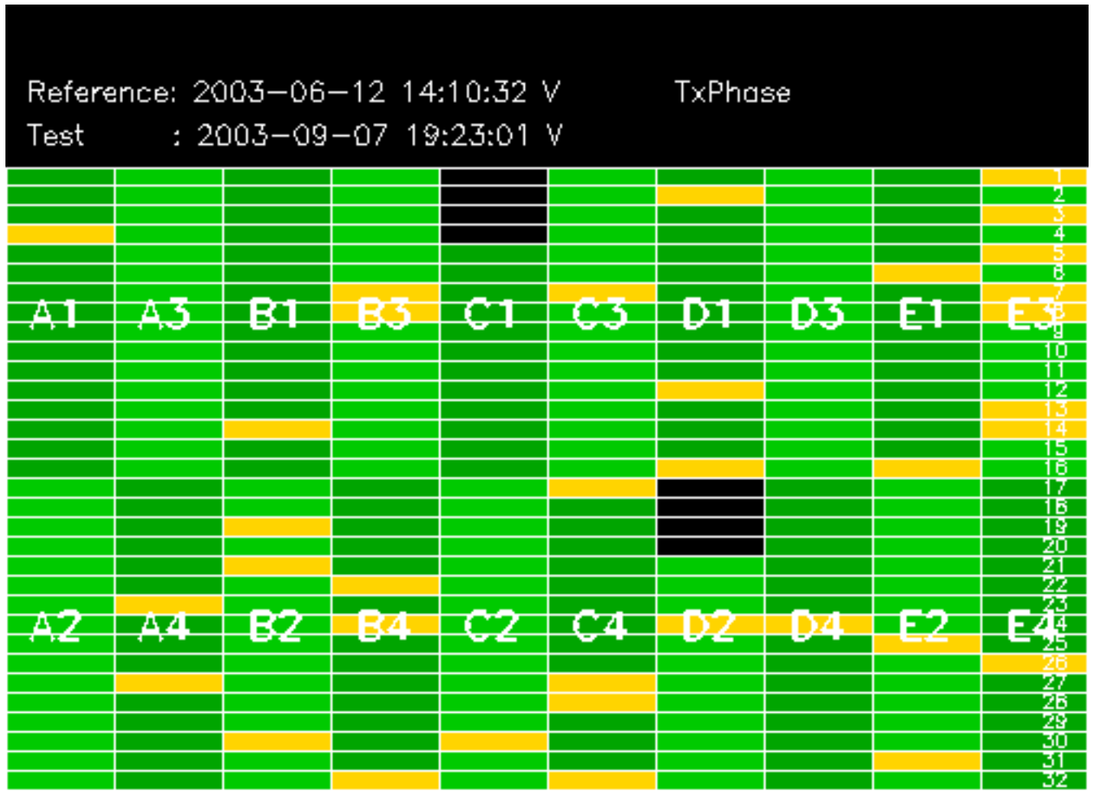

Reference: 2003-06-12 14:08:52 H
Test : 2003-09-07 19:21:21 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2003-09-07 19:23:01 V
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 : 2003-09-07 19:23:01 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

Due to payload problems ASAR was off from 04-SEP-2003 22:52:52 to 04-SEP-2003 11:27:24