REPORT OF 040401

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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

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	20040331 193648
H	20040331 193528

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

4.2 - Cyclic statistics

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.598692	0.005719	0.045120
7	P1	-3.307433	0.009755	0.043703
11	P1	-4.636300	0.019255	0.016488
15	P1	-5.000401	0.036902	0.020632
19	P1	-3.352962	0.071010	0.032088
22	P1	-4.540372	0.069647	0.052914
24	P1	-5.082478	0.089890	0.089874
28	P1	-4.588616	0.074172	-0.003980

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.391861	0.079655	-0.013149
7	P2	-22.895065	0.128623	0.020898
11	P2	-15.989477	0.162184	0.080638
15	P2	-7.174525	0.088164	0.041632
19	P2	-9.498372	0.175963	0.038760
22	P2	-17.675018	0.100950	0.062493
24	P2	-21.027006	0.115102	-0.016595
28	P2	-16.599926	0.083045	-0.010001

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.127481	0.003016	0.002453
7	P3	-8.127482	0.003016	0.002459
11	P3	-8.127501	0.003015	0.002541
15	P3	-8.127520	0.003015	0.002652
19	P3	-8.127524	0.003015	0.002684
22	P3	-8.127519	0.003015	0.002653
24	P3	-8.127507	0.003014	0.002606

28	P3	-8.127351	0.003012	0.003111

4.3 - cal pulses monitoring (all rows)

5 - RAW data statistics

No anomalies observed.

5.1 - Input mean I/Q

channel	stat	DSS-B
MEAN I	mean	0.000482819
	stdev	2.32568e-07
MEAN Q	mean	0.000495397
	stdev	2.64099e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128125
	stdev	0.00115172
STDEV Q	mean	0.128369
	stdev	0.00116527

5.3 - Gain imbalance I/Q

6 - Doppler Analysis

6.1 - Unbiased Doppler Error

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

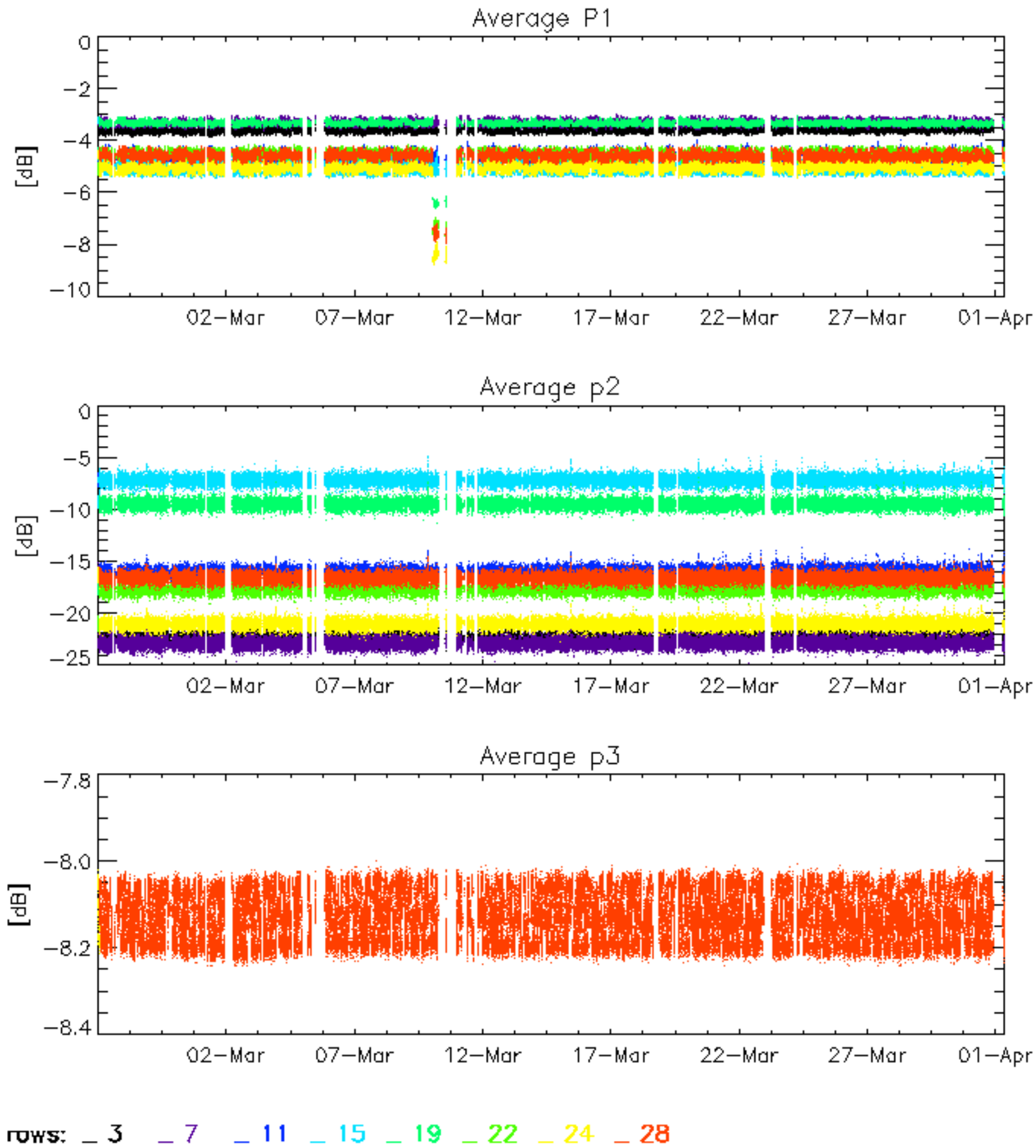
6.2 - Absolute Doppler

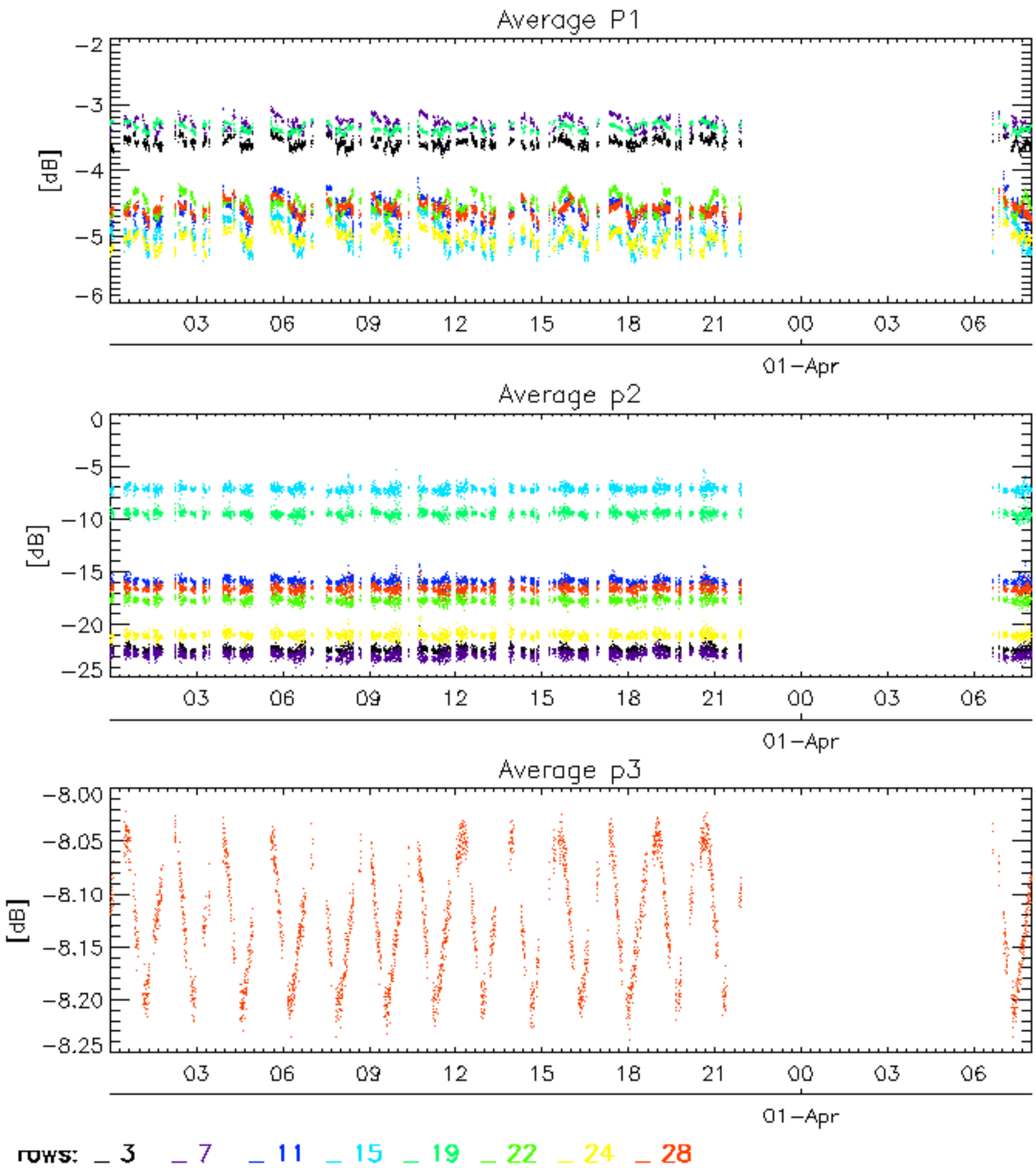
Evolution of Absolute Doppler
Acsending
Descending

6.3 - Doppler evolution versus ANX

Evolution Doppler error versus ANX

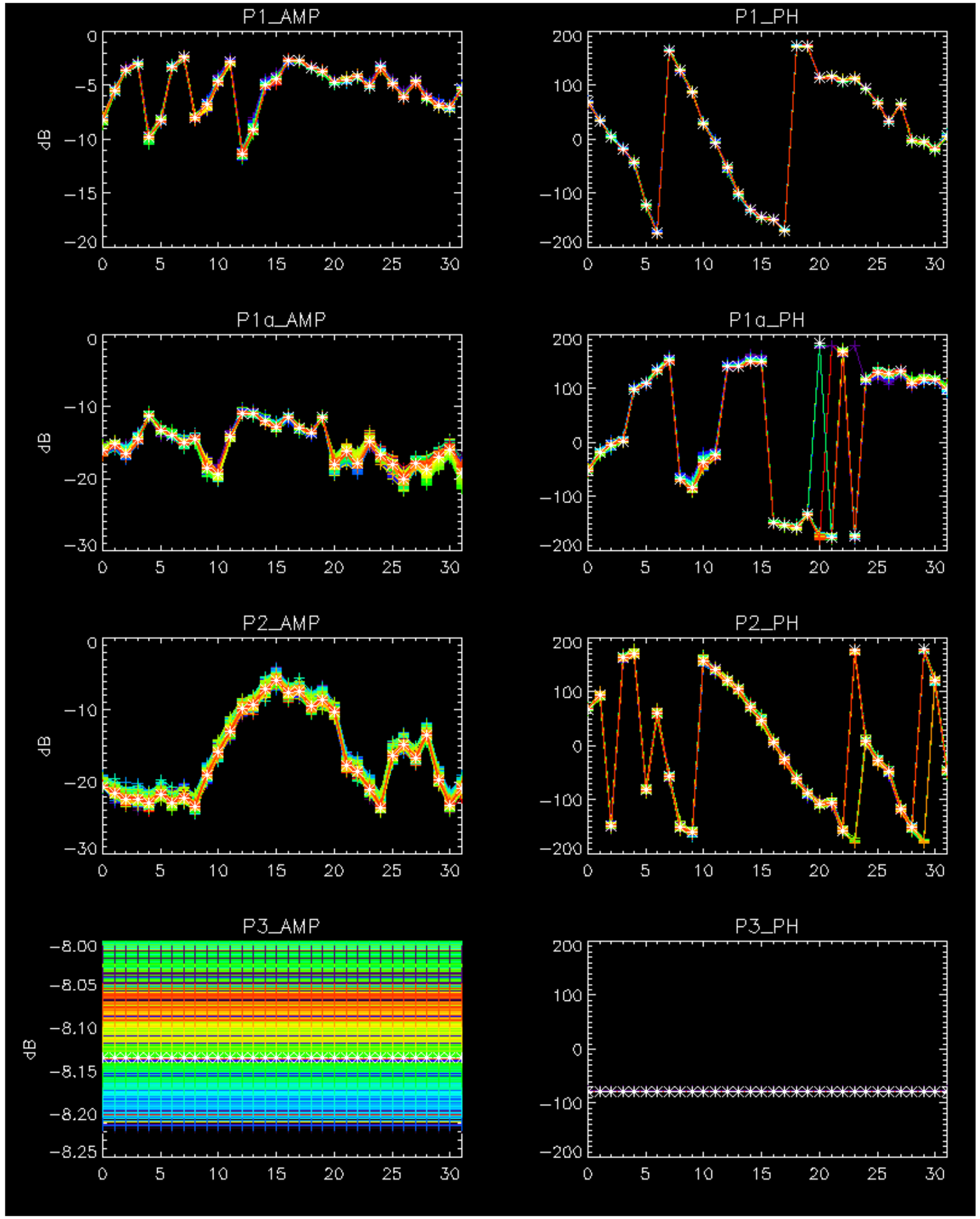
Evolution Doppler error versus ANX


Average P1
[dB]
0
−2
−4
−6
−8
−10
02−Mar
07−Mar
12−Mar
17−Mar
22−Mar
27−Mar
01−Apr
Average p2
[dB]
0
−5
−10
−15
−20
−25
02−Mar
07−Mar
12−Mar
17−Mar
22−Mar
27−Mar
01−Apr
Average p3
[dB]
−7.8
−8.0
−8.2
−8.4
02−Mar
07−Mar
12−Mar
17−Mar
22−Mar
27−Mar
01−Apr
rows: 3 7 11 15 19 22 24 28

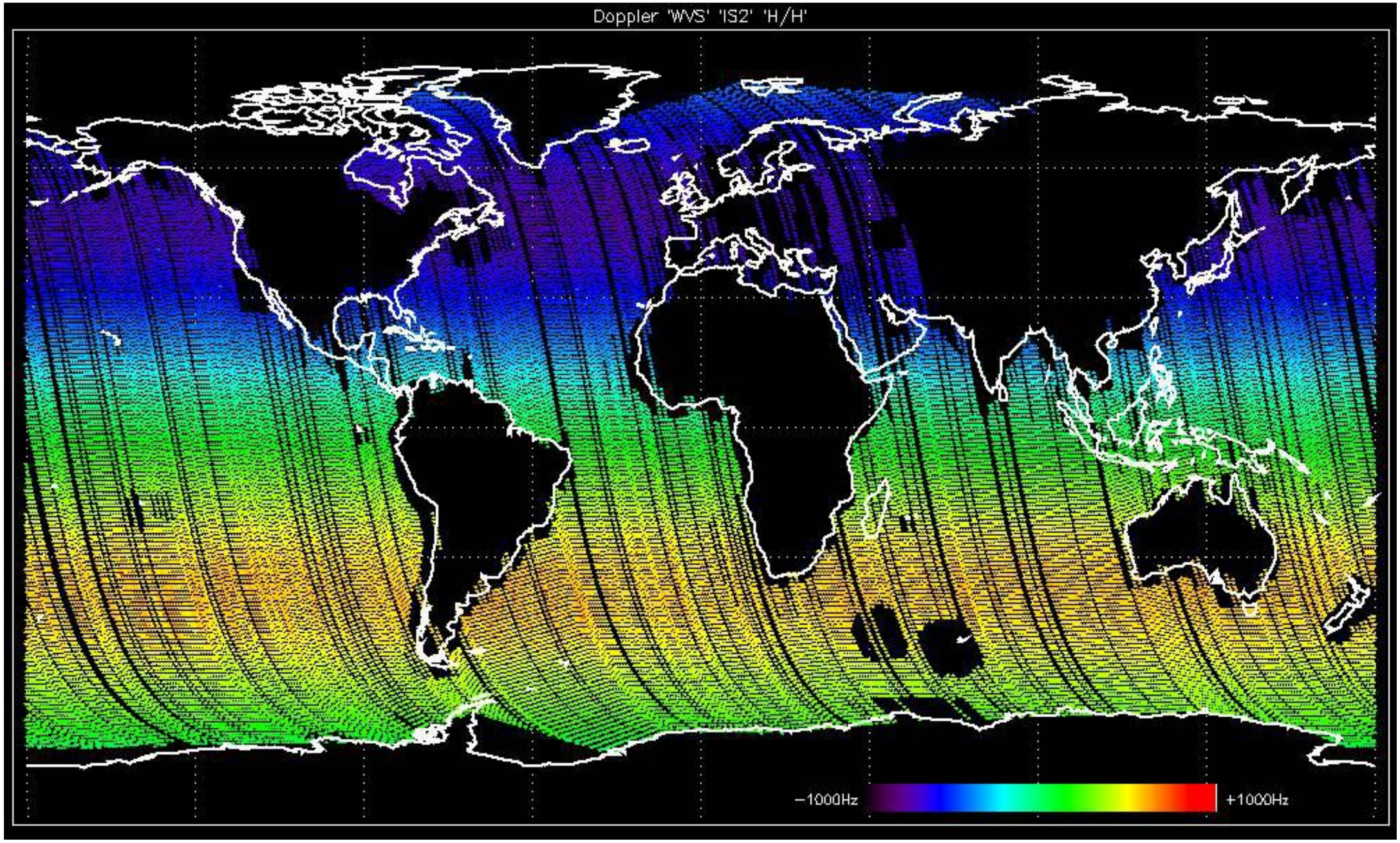

Average P1
[dB]
−2
−3
−4
−5
−6
03
06
09
12
15
18
21
00
03
06
01−Apr
Average p2
[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
00
03
06
01−Apr
Average p3
[dB]
−8.00
−8.05
−8.10
−8.15
−8.20
−8.25
03
06
09
12
15
18
21
00
03
06
01−Apr
rows: 3 7 11 15 19 22 24 28

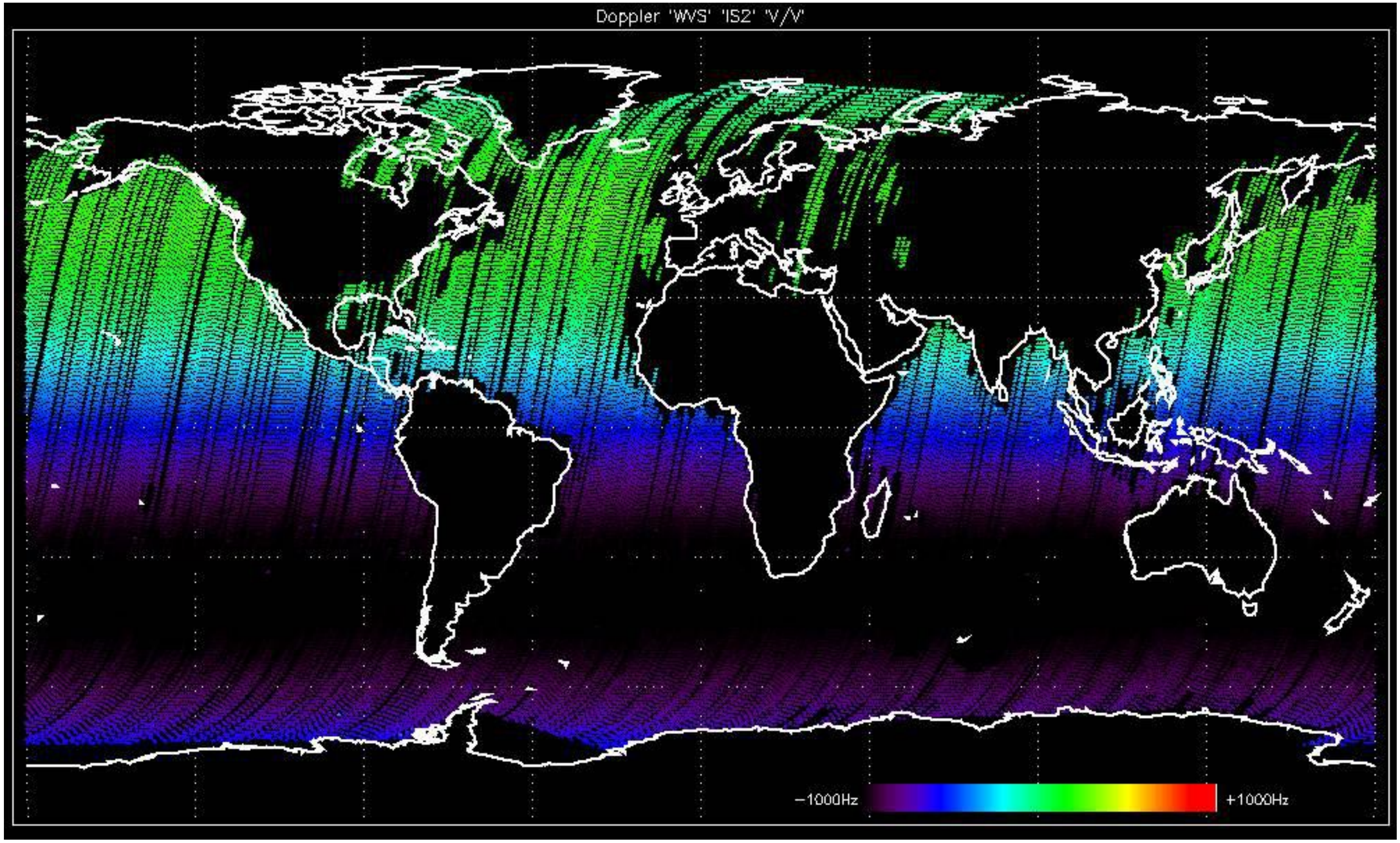
No anomalies observed on available browse products

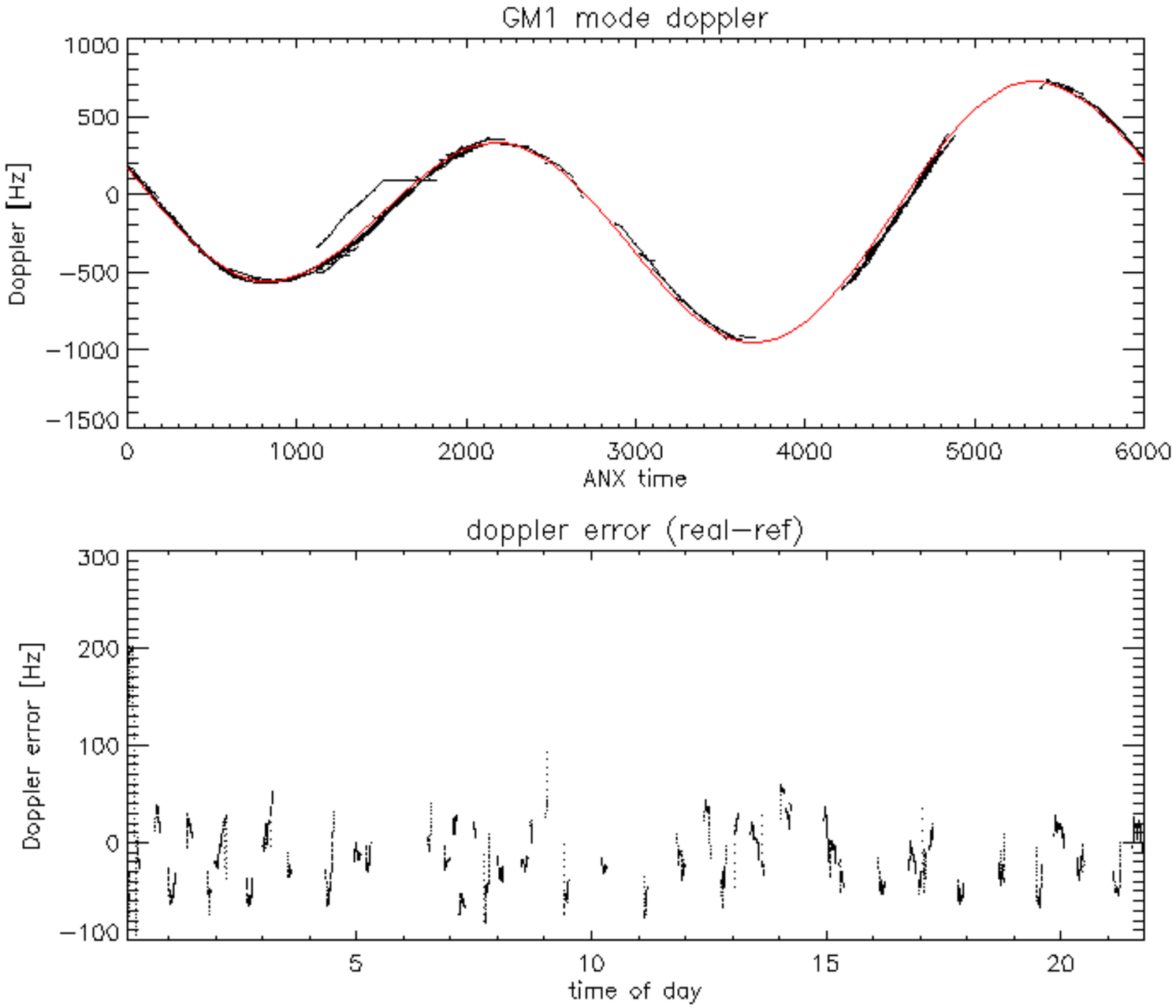
No anomalies observed.

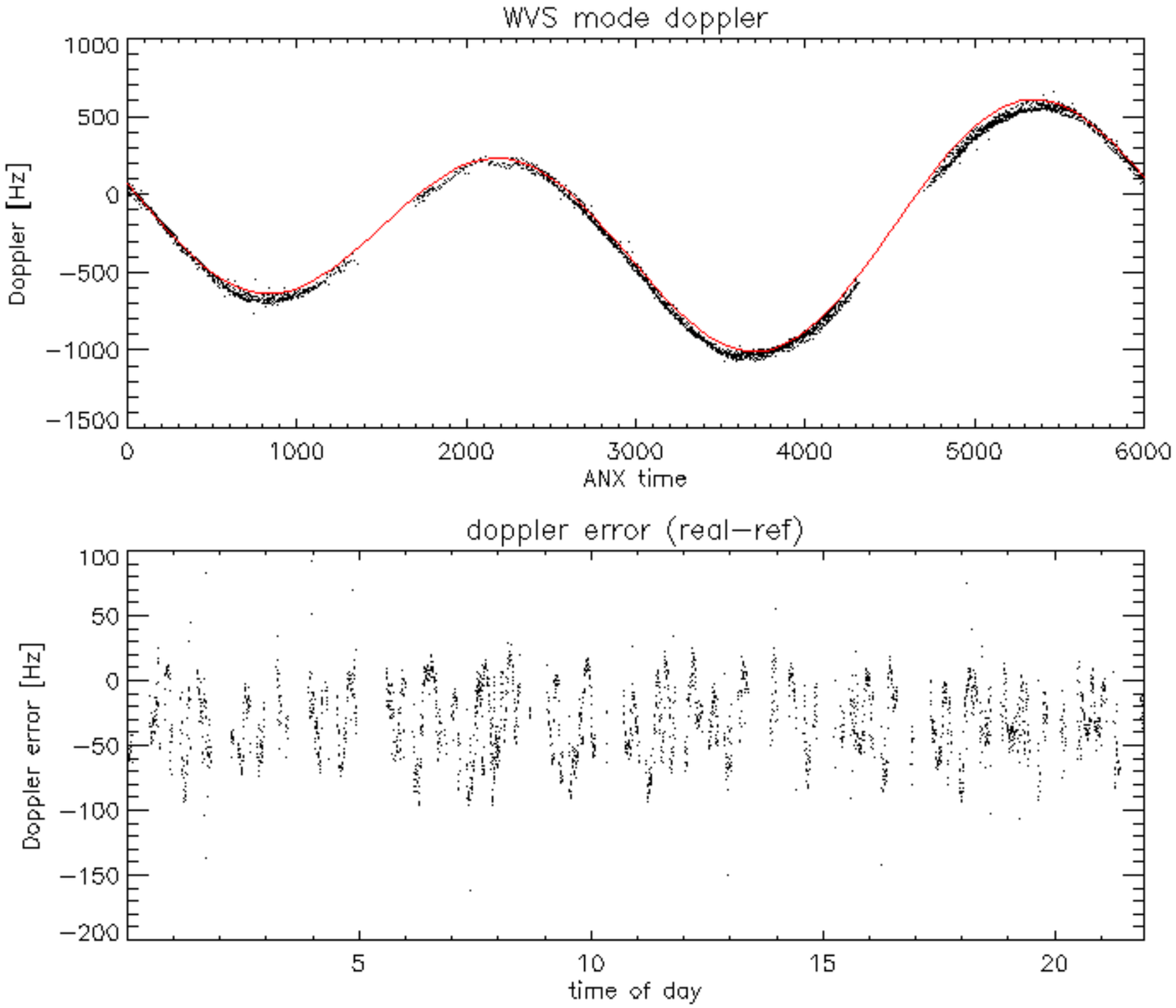

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

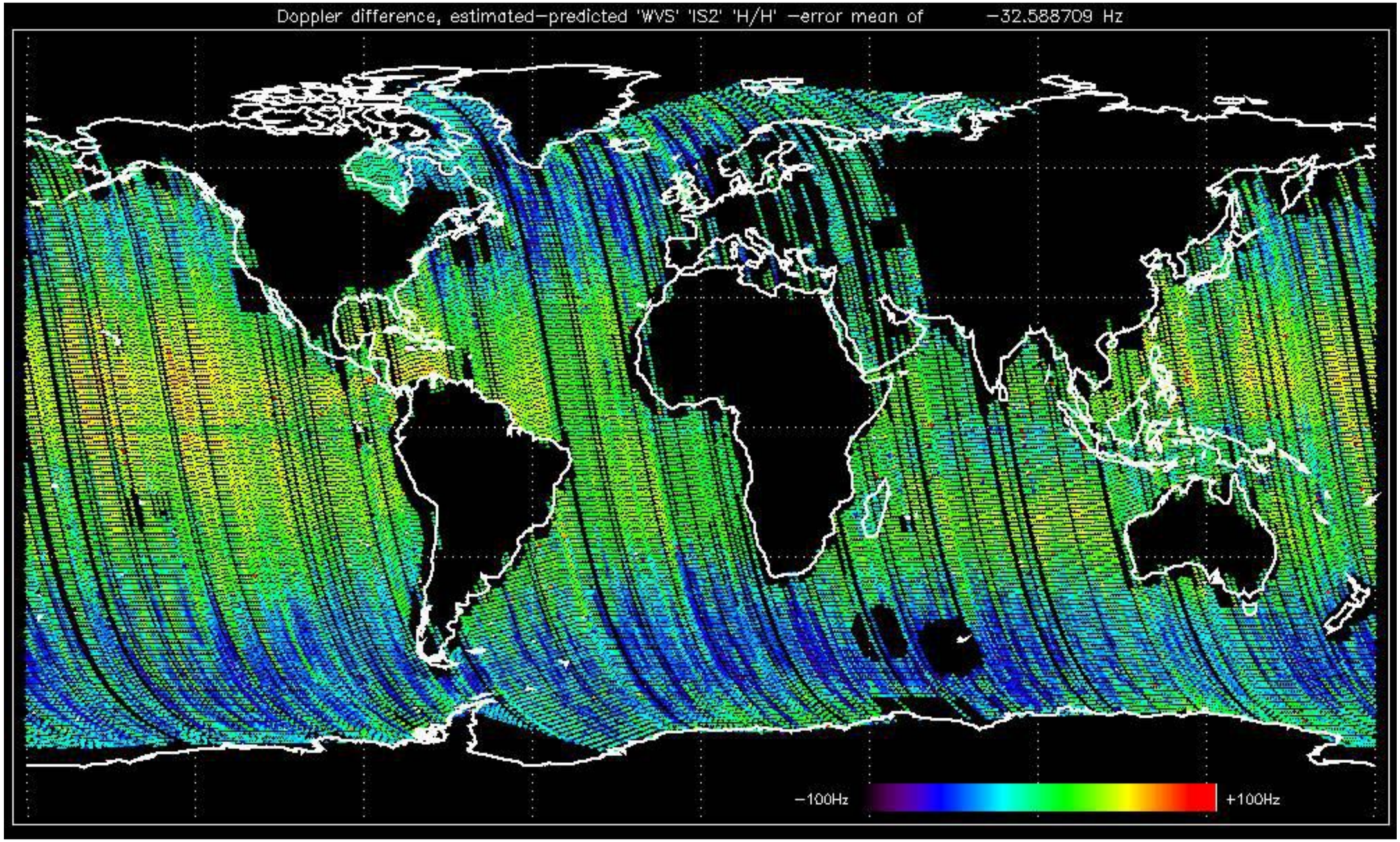
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

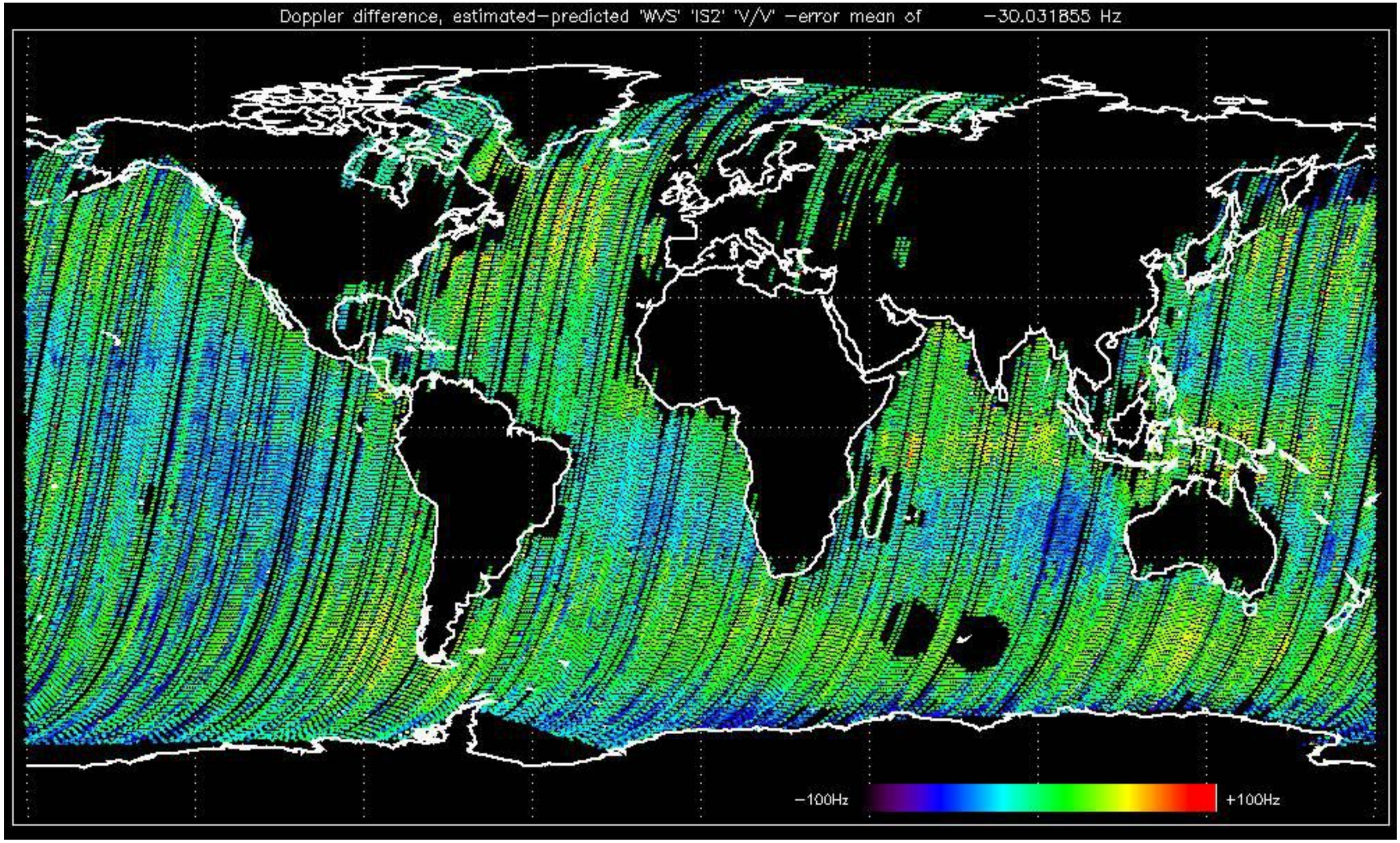

Doppler 'WVS' 'IS2' 'H/H'
−1000Hz
+1000Hz


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


GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
ANX time
doppler error (real−ref)
Doppler error [Hz]
300
200
100
0
−100
5
10
15
20
time of day

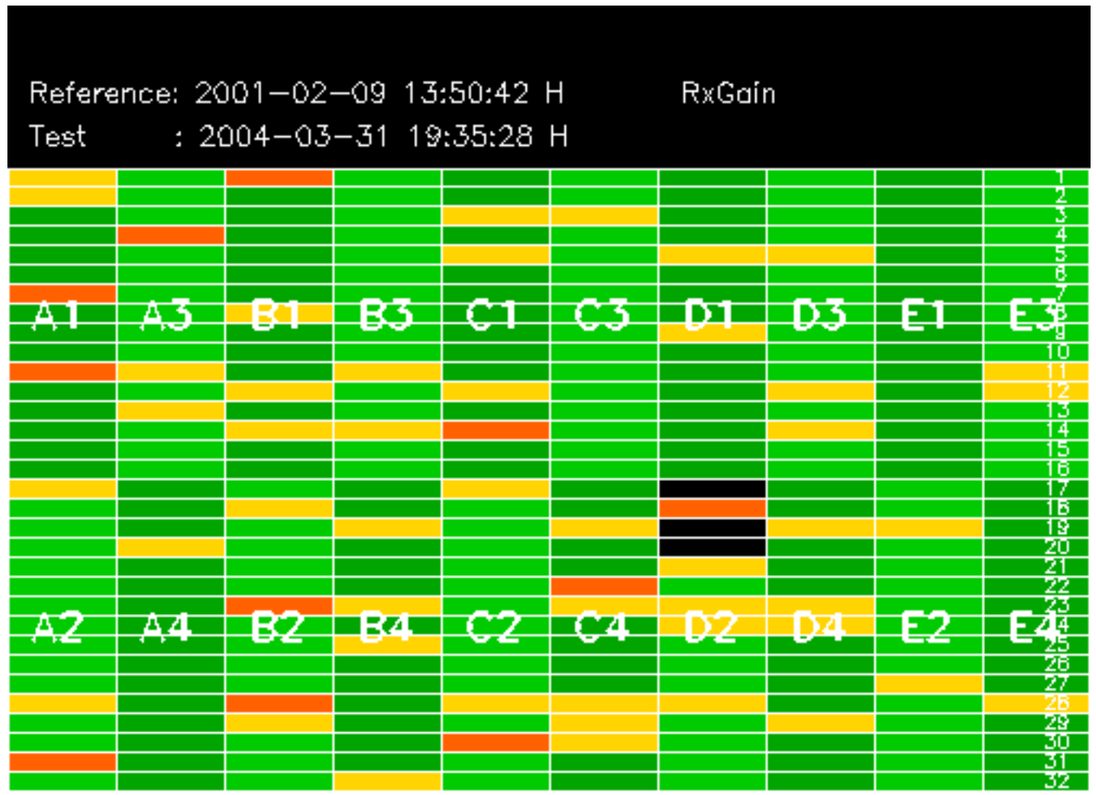

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
ANX time
doppler error (real−ref)
Doppler error [Hz]
100
50
0
−50
−100
−150
−200
5
10
15
20
time of day

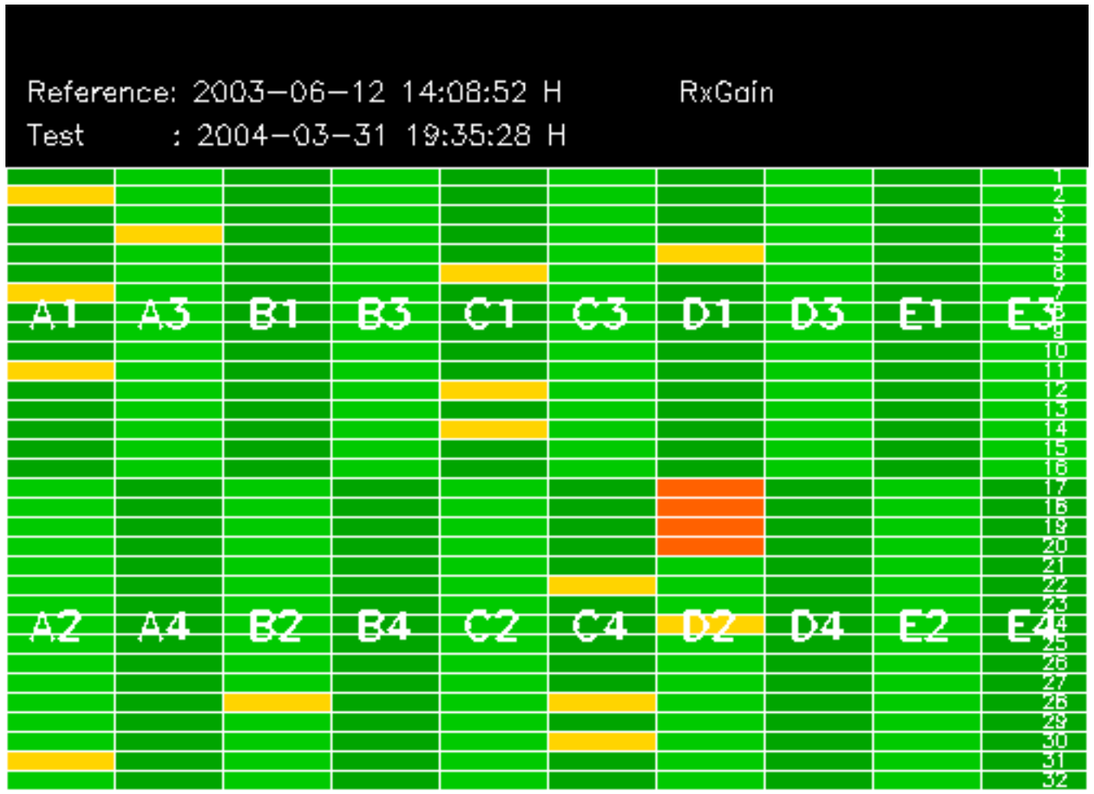

Doppler difference, estimated-predicted 'WVS' 'IS2' 'H/H' -error mean of -32.588709 Hz
-100Hz
+100Hz

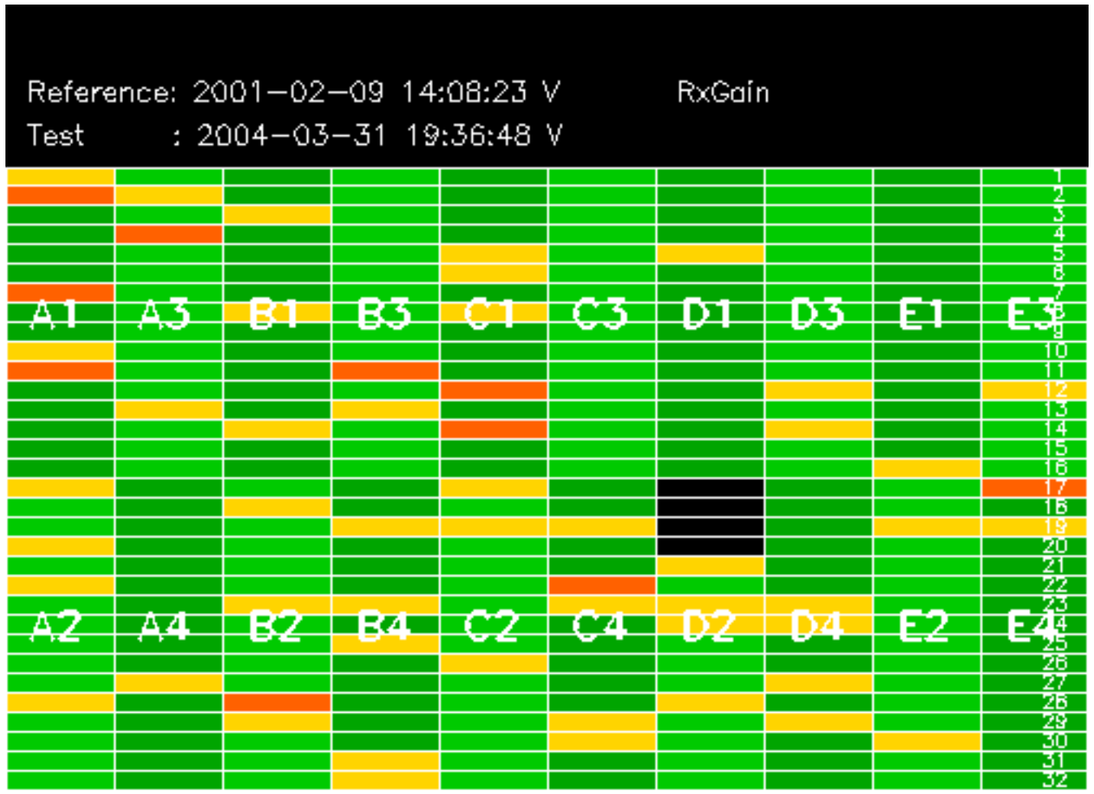

Doppler difference, estimated−predicted 'WVS' 'IS2' 'V/V' −error mean of −30.031855 Hz
−100Hz
+100Hz

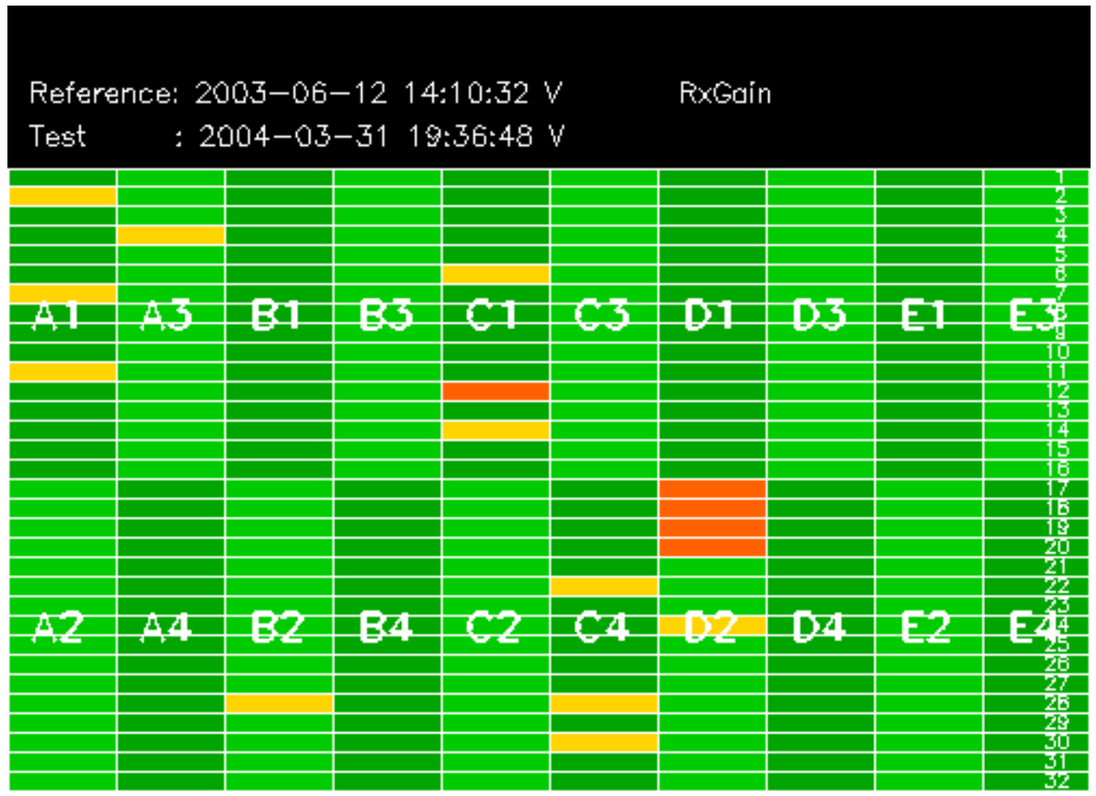
The MS mode provides an internal health check on an individual module basis.
The purpose of this mode is to identify to identify any malfunctionning modules and to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

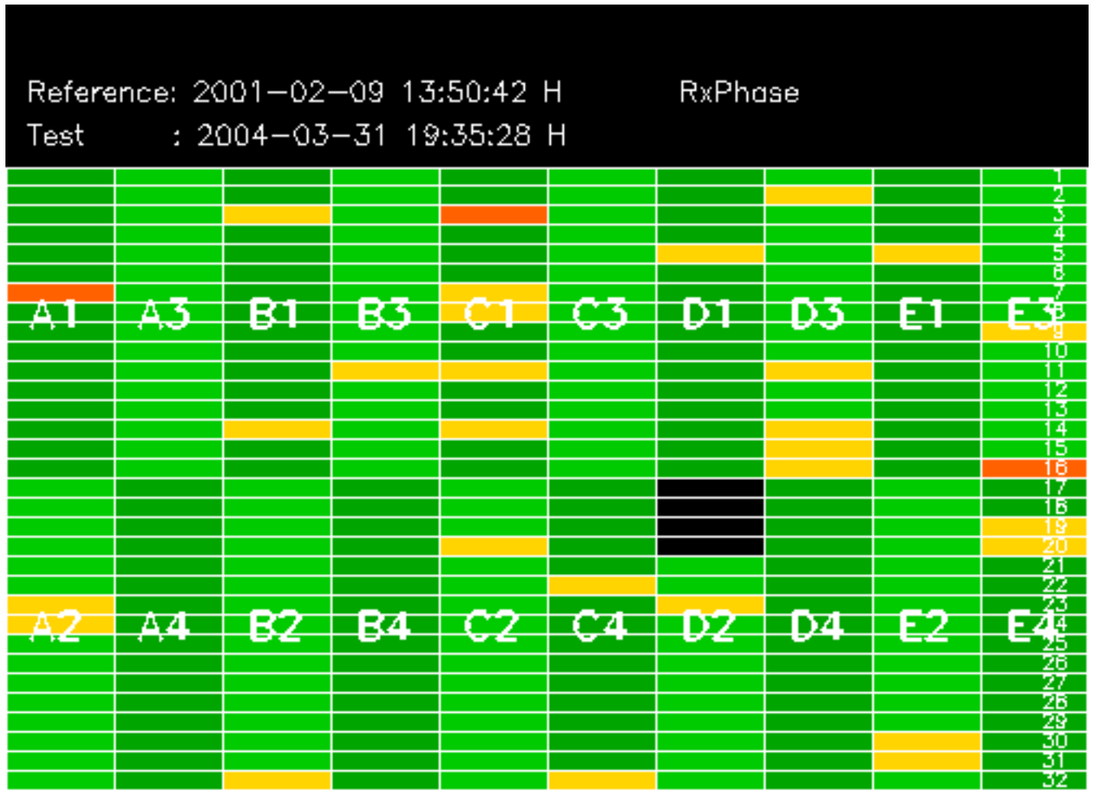
No anomalies observed.

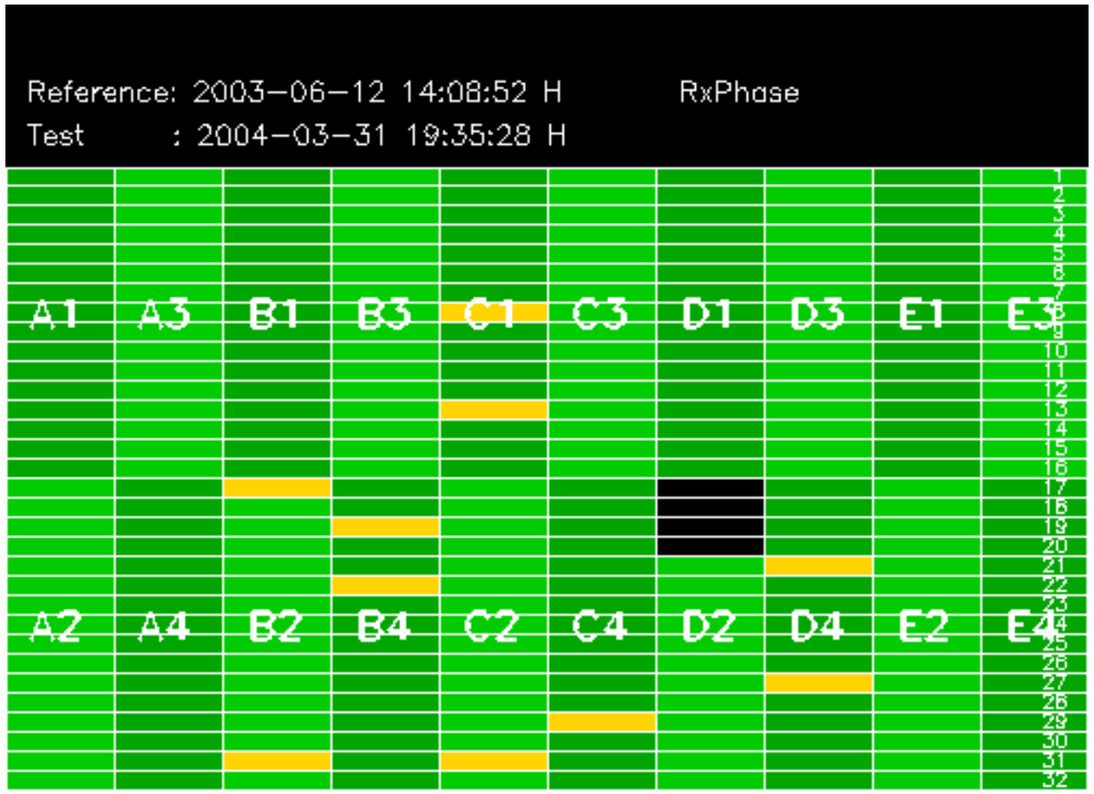

Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2004-03-31 19:35:28 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

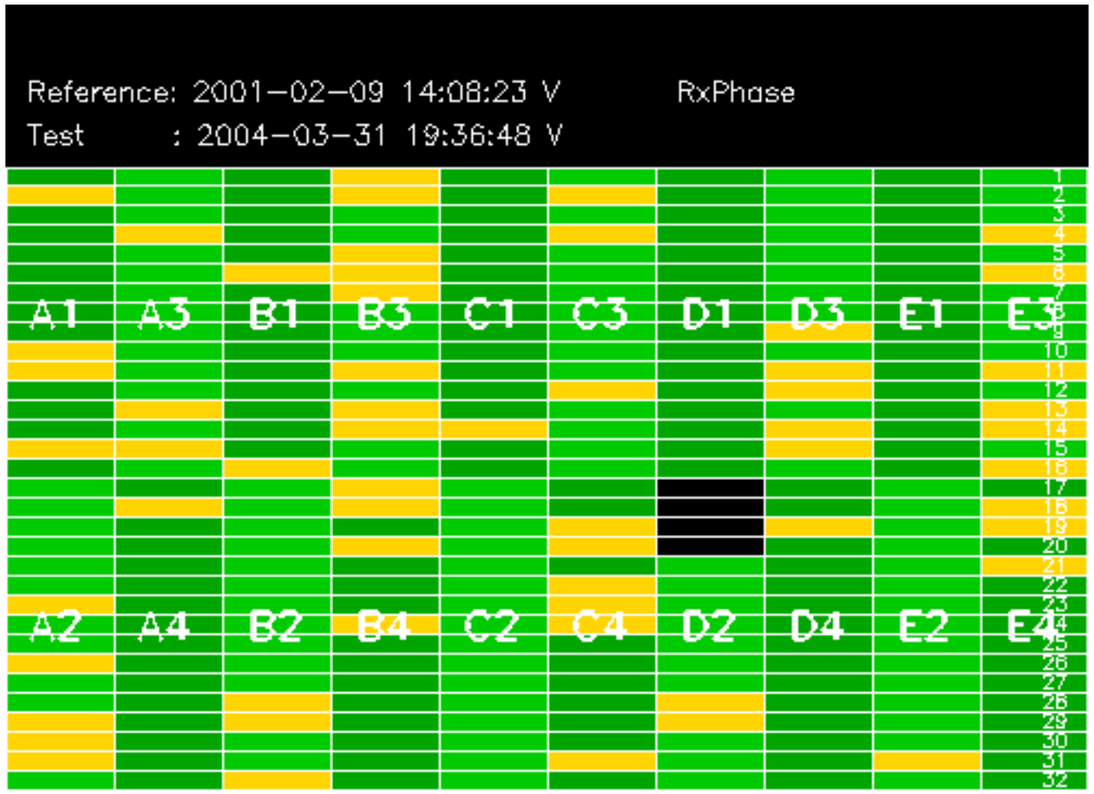

Reference: 2003-06-12 14:08:52 H
RxGain
Test : 2004-03-31 19:35:28 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

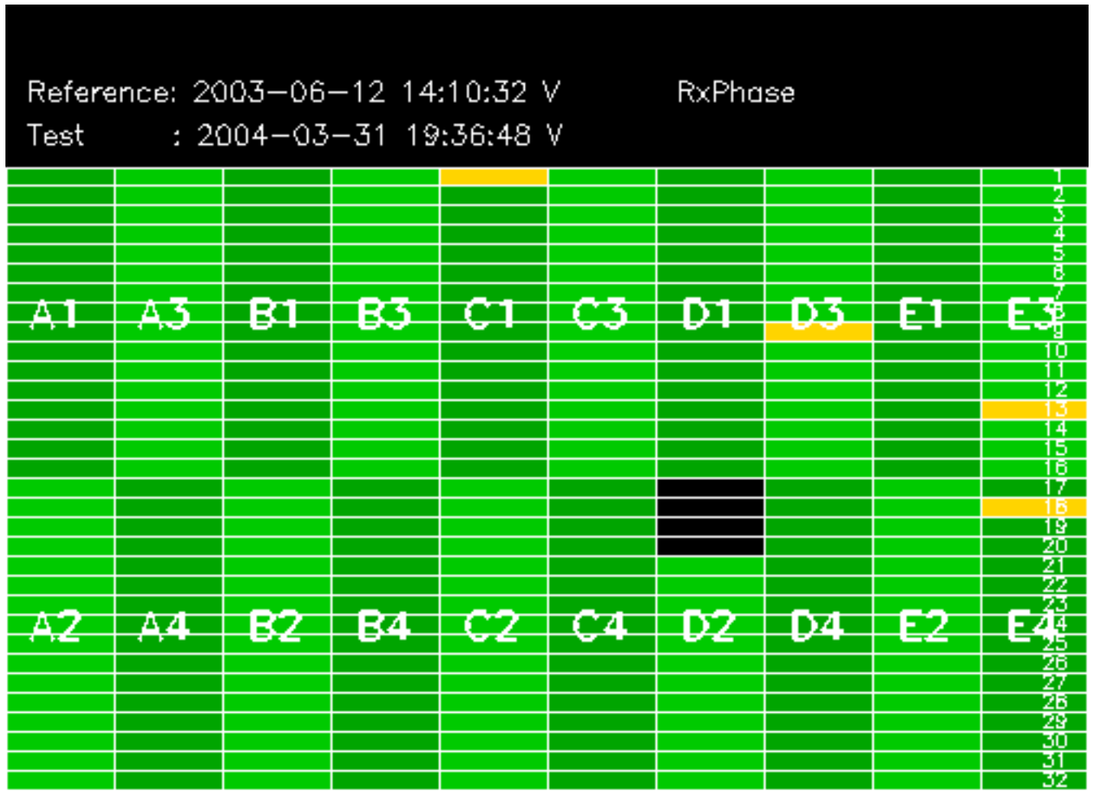

Reference: 2001-02-09 14:08:23 V
RxGain
Test : 2004-03-31 19:36:48 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

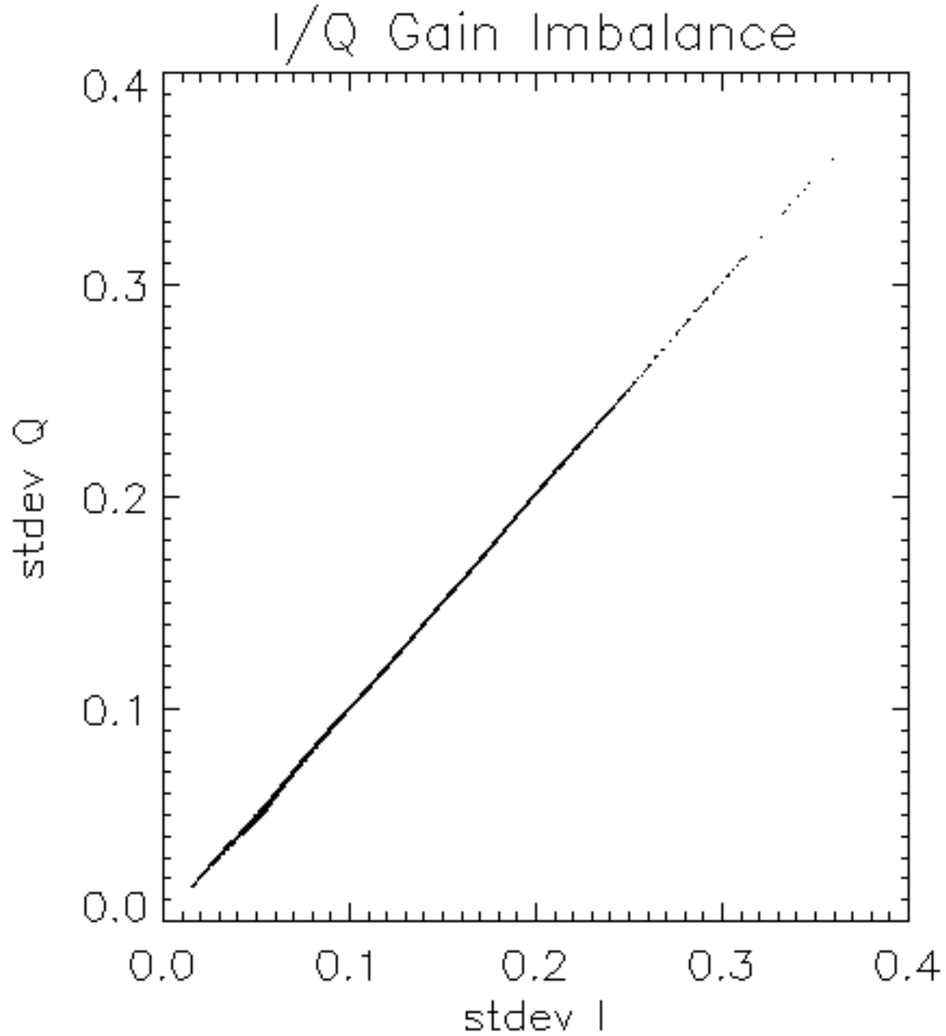

Reference: 2003-06-12 14:10:32 V
RxGain
Test : 2004-03-31 19:36:48 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

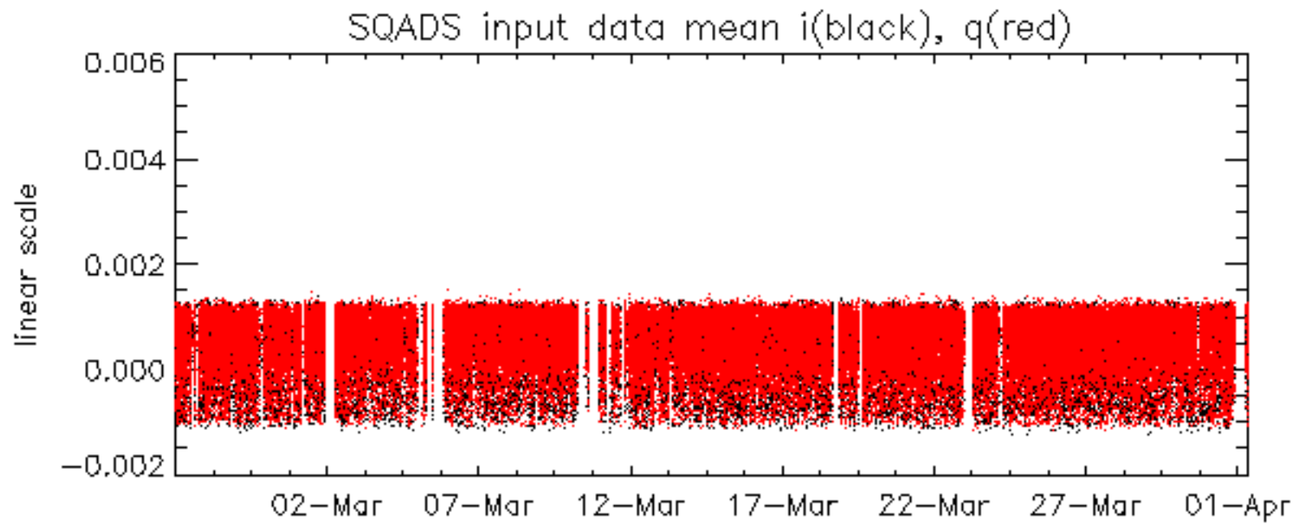

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-03-31 19:35:28 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

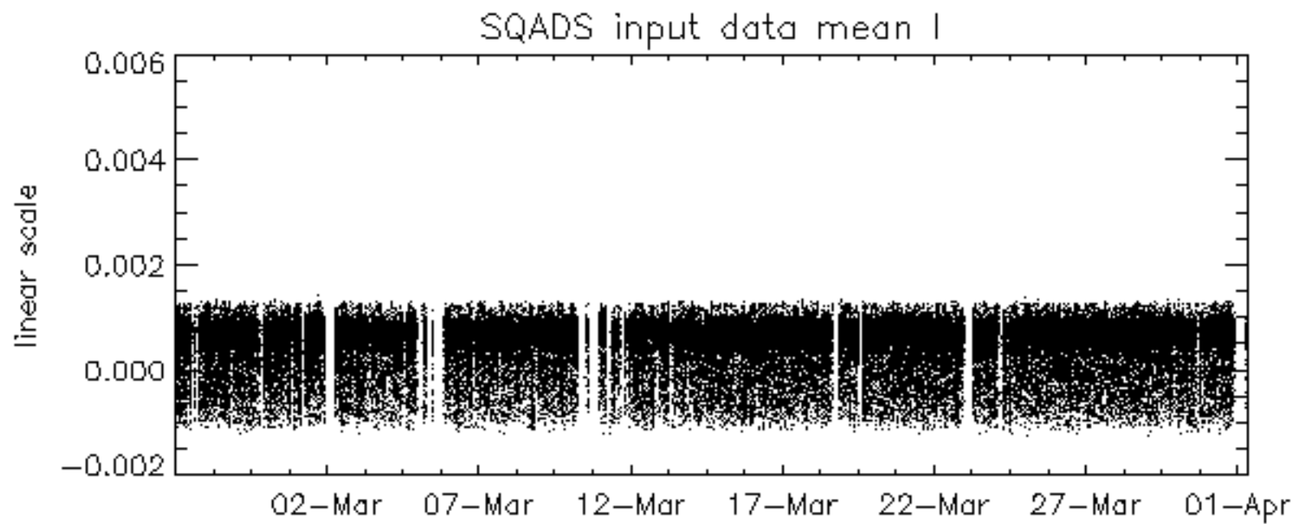

Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2004-03-31 19:35:28 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

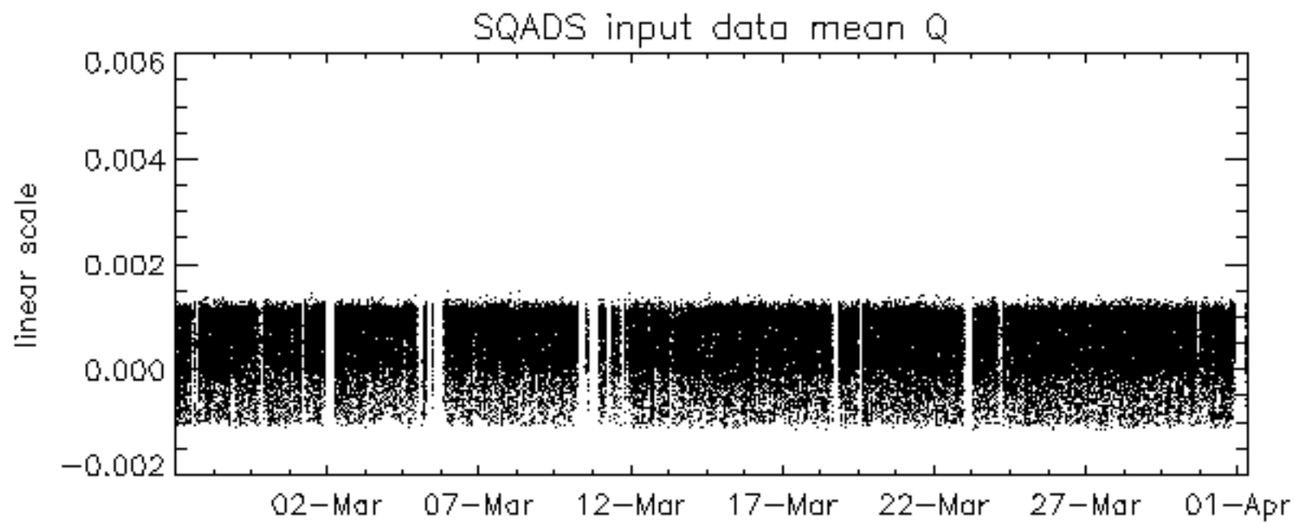

Reference: 2001-02-09 14:08:23 V
RxPhase
Test : 2004-03-31 19:36:48 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

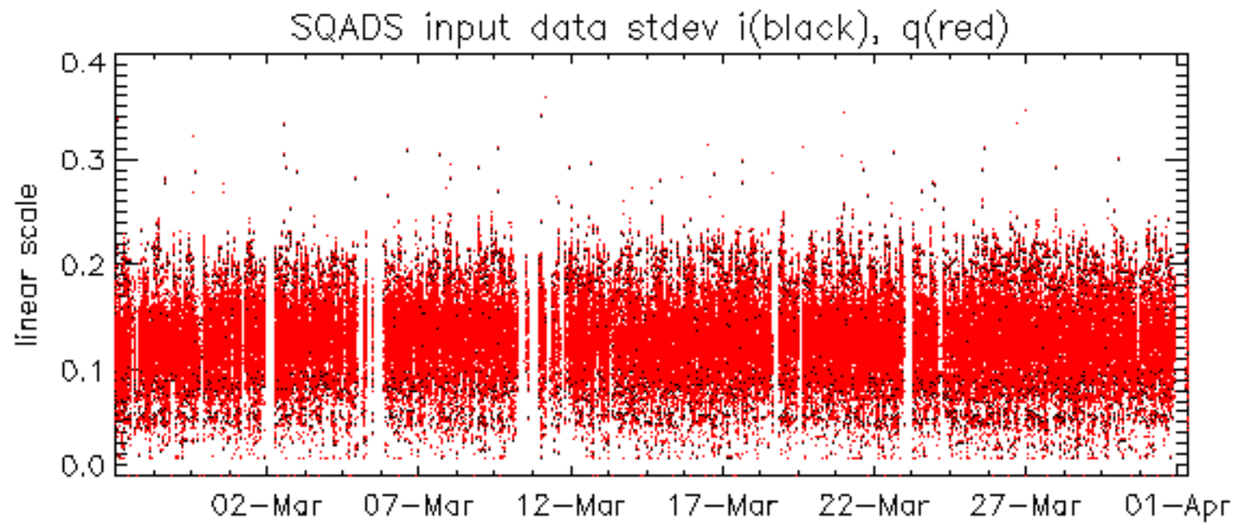

Reference: 2003-06-12 14:10:32 V
RxPhase
Test : 2004-03-31 19:36:48 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

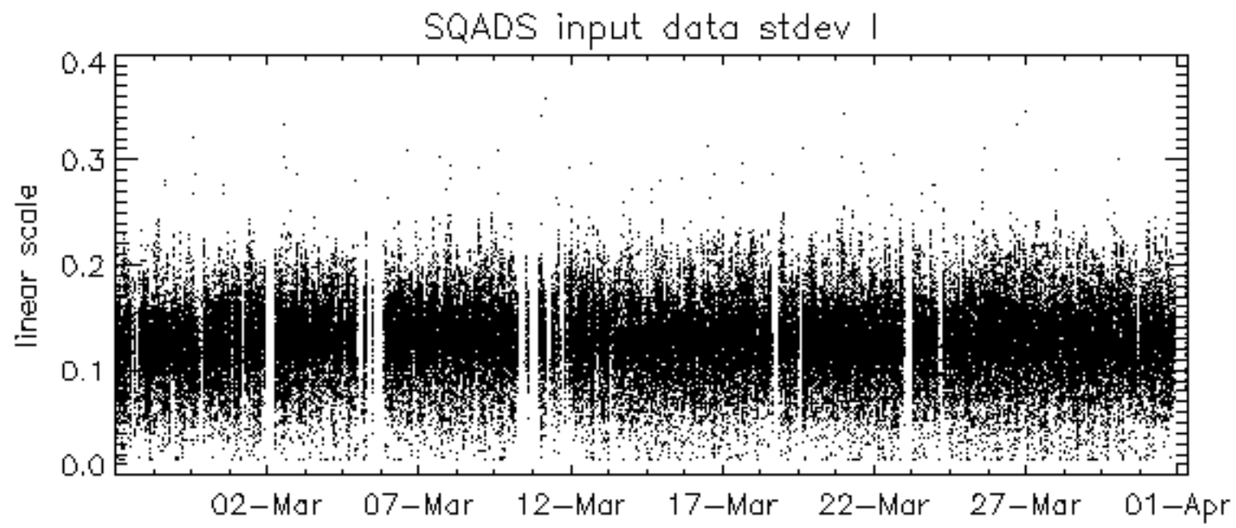

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

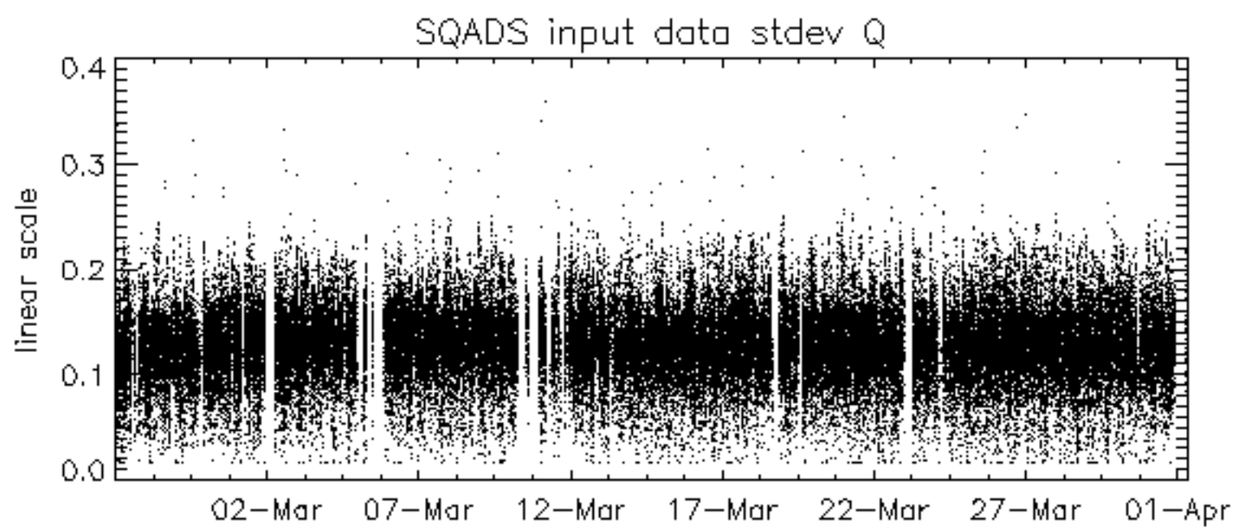

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
02−Mar
07−Mar
12−Mar
17−Mar
22−Mar
27−Mar
01−Apr

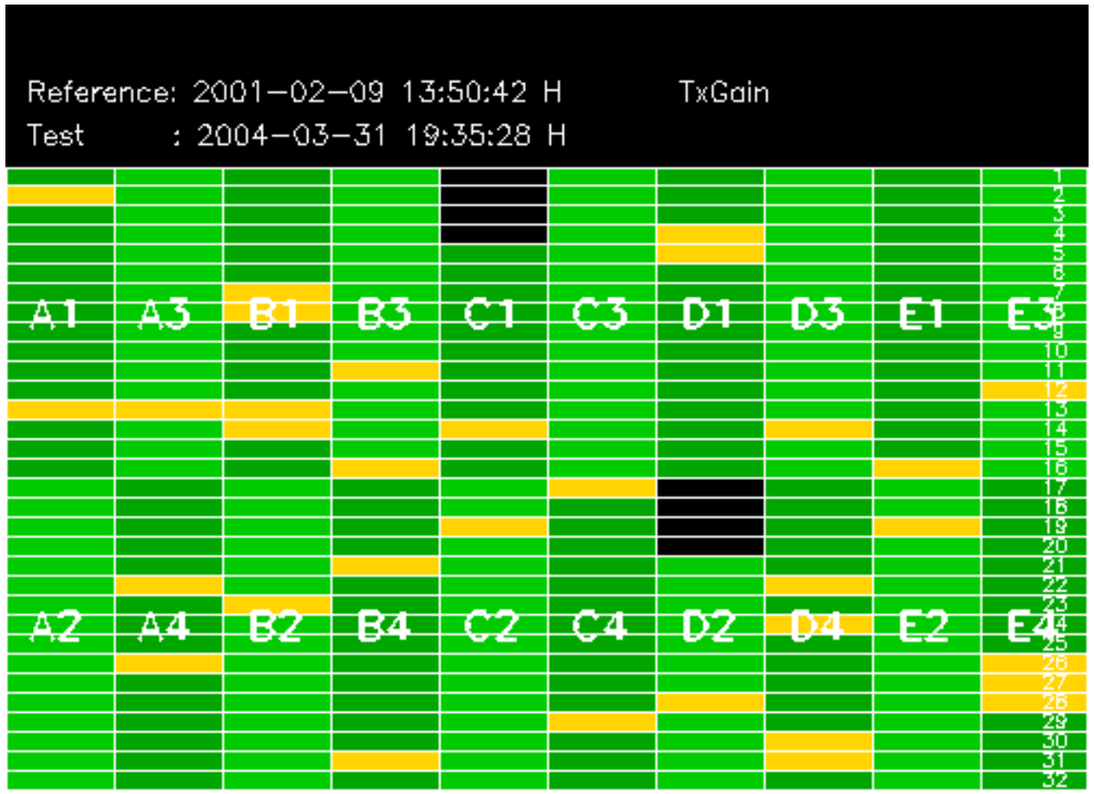

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
02−Mar
07−Mar
12−Mar
17−Mar
22−Mar
27−Mar
01−Apr

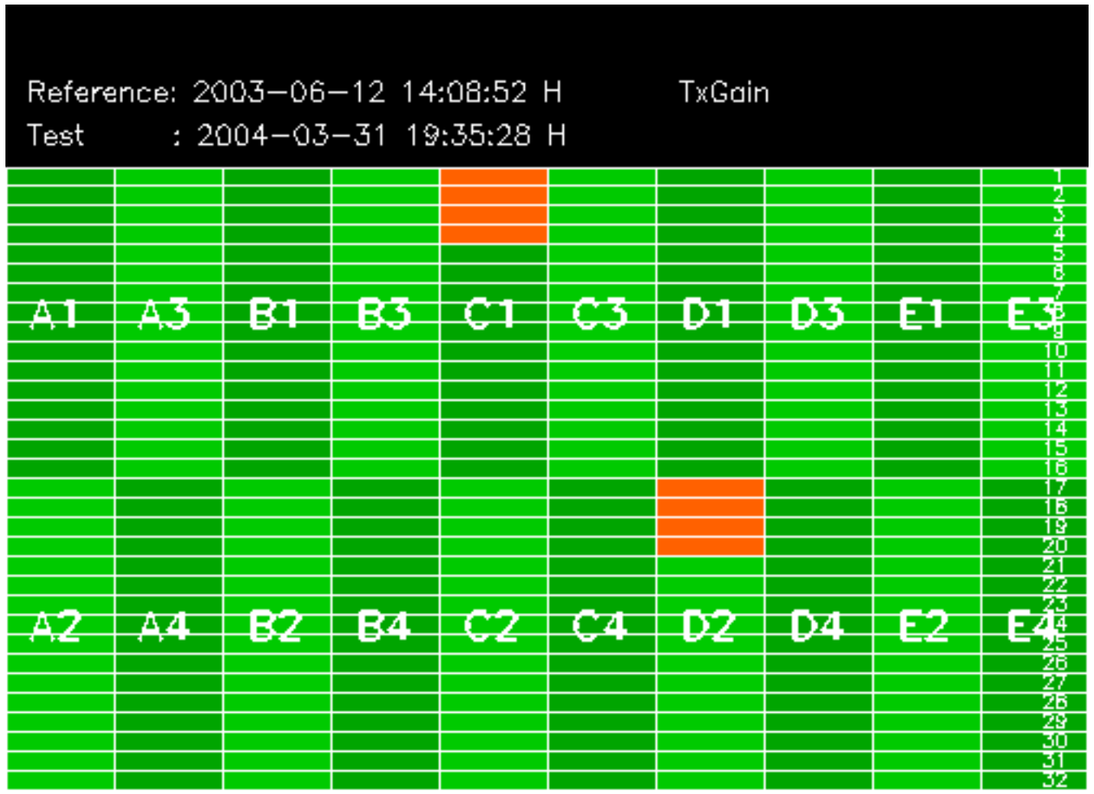

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
02−Mar
07−Mar
12−Mar
17−Mar
22−Mar
27−Mar
01−Apr

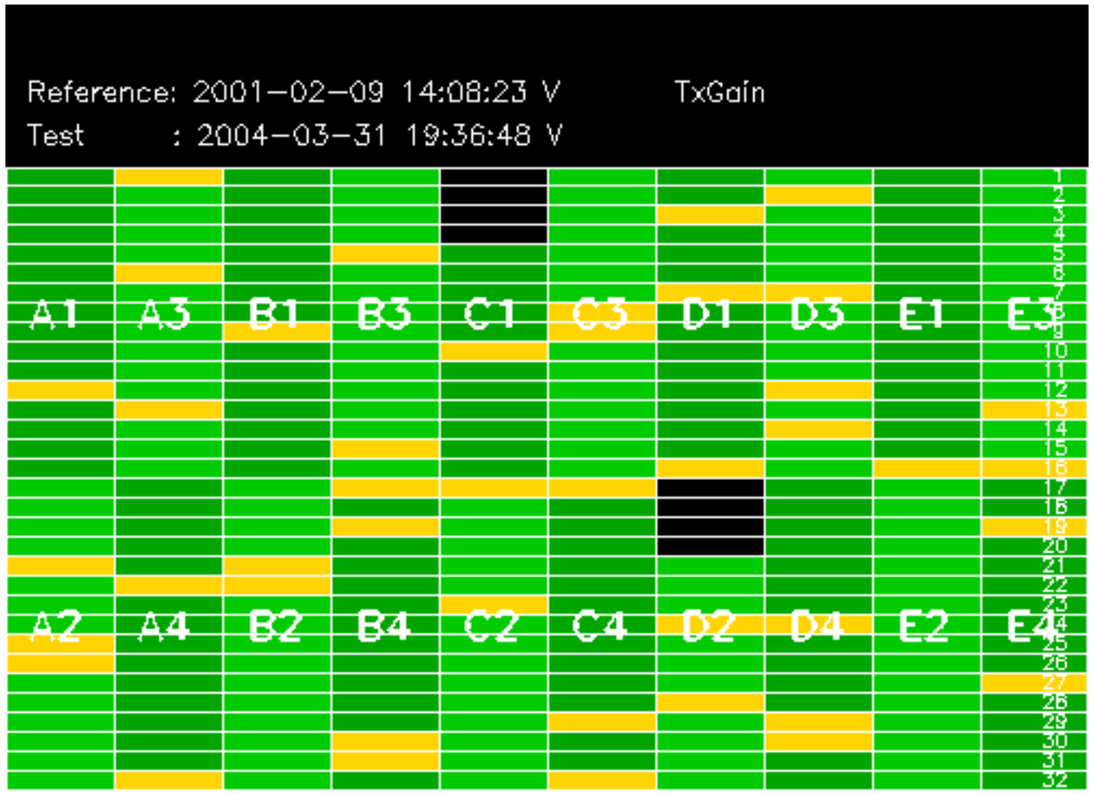

SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
02−Mar
07−Mar
12−Mar
17−Mar
22−Mar
27−Mar
01−Apr

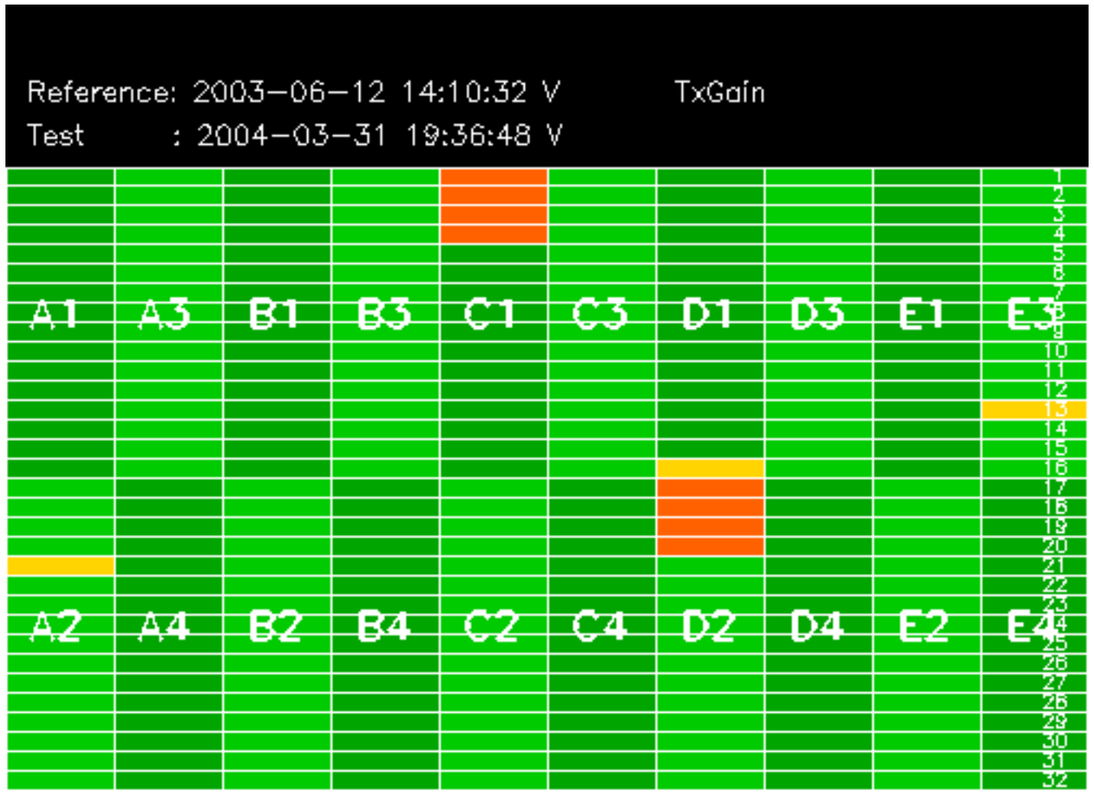

SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
02−Mar
07−Mar
12−Mar
17−Mar
22−Mar
27−Mar
01−Apr

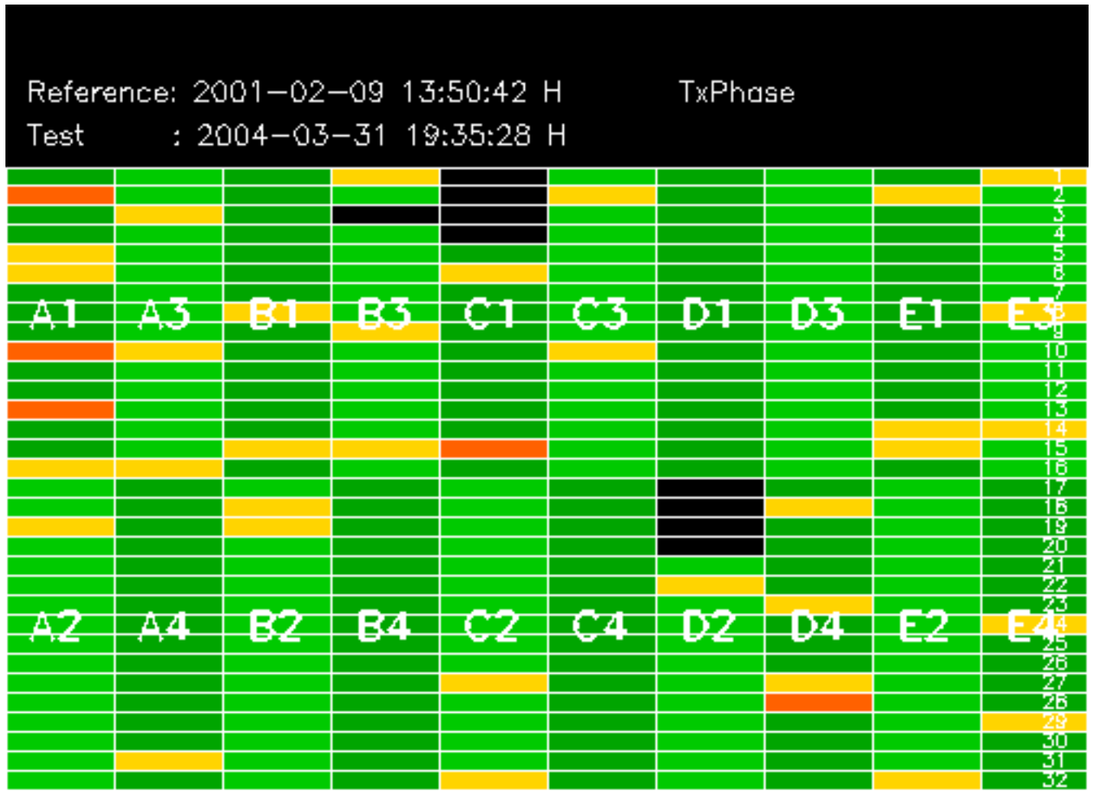

SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
02−Mar
07−Mar
12−Mar
17−Mar
22−Mar
27−Mar
01−Apr

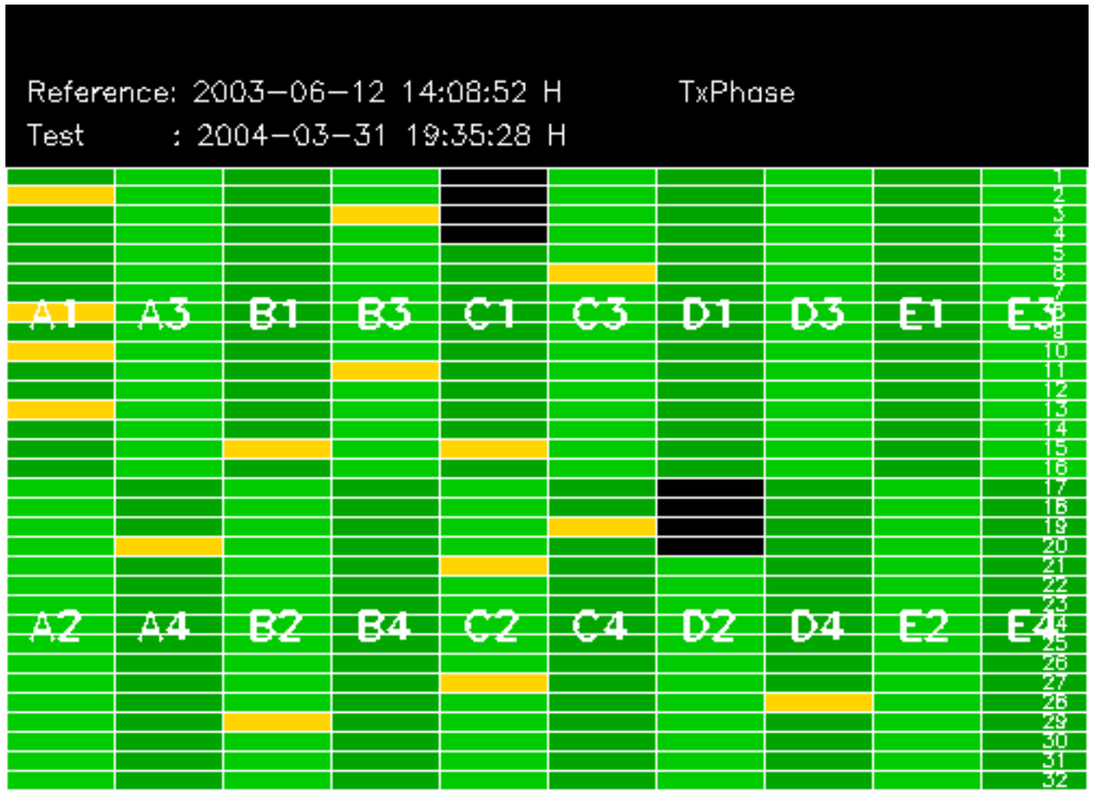

Reference: 2001-02-09 13:50:42 H
TxGain
Test : 2004-03-31 19:35:28 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

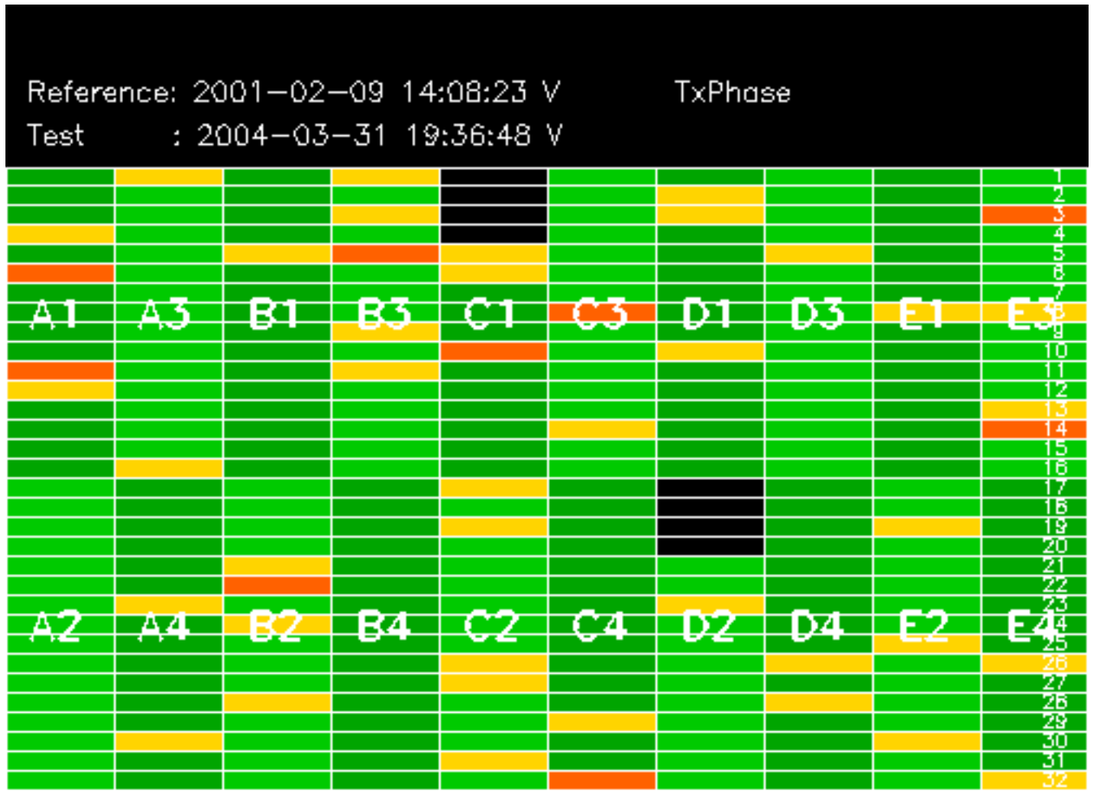

Reference: 2003-06-12 14:08:52 H
TxGain
Test : 2004-03-31 19:35:28 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

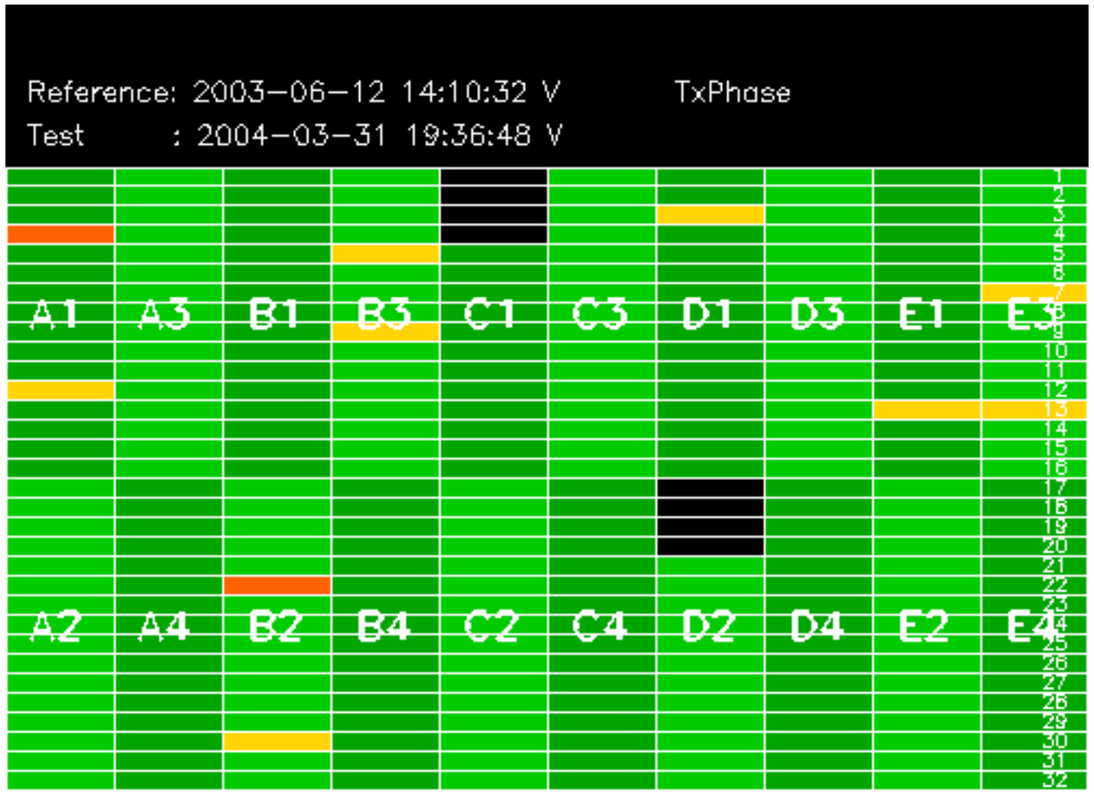

Reference: 2001-02-09 14:08:23 V
TxGain
Test : 2004-03-31 19:36:48 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
TxGain
Test : 2004-03-31 19:36:48 V
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 : 2004-03-31 19:35:28 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
TxPhase
Test : 2004-03-31 19:35:28 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
TxPhase
Test : 2004-03-31 19:36:48 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
TxPhase
Test : 2004-03-31 19:36:48 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

No unavailabilities during the reported period.