PRELIMINARY REPORT OF 050926

last update on Mon Sep 26 10:50:01 GMT 2005

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 - Auxiliary files

Summary of the auxiliary files used from 2005-09-25 00:00:00 to 2005-09-26 10:50:01

PDHS-K					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	28	12	0	1	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	28	12	0	1	0
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	28	12	0	1	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	28	12	0	1	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	25	26	27	11	52
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	25	26	27	11	52
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	25	26	27	11	52
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	25	26	27	11	52

2.3 - Browse Visual Inspection

2.4 - 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:

Polarisation	Start Time
V	20050925 095348
H	20050924 084449

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	-3.441399	0.086143	-0.472660
7	P1	-3.098808	0.035367	0.319544
11	P1	-4.541800	0.143596	0.755177
15	P1	-5.774754	0.069208	-0.520497
19	P1	-3.489903	0.238525	1.034622
22	P1	-4.568305	0.022651	0.206943
26	P1	-4.686869	0.098845	0.569065
30	P1	-6.639447	0.683097	2.142010
3	P1	-15.895535	1.857840	-0.687227
7	P1	-16.452736	5.386144	-2.145762
11	P1	-20.528633	11.705812	5.546953
15	P1	-12.933582	11.347999	-4.271761
19	P1	-14.112659	0.346147	1.365743
22	P1	-17.065195	25.141470	-3.608075
26	P1	-18.217712	21.862272	-1.617390
30	P1	-18.203333	8.734062	0.173981

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.763460	0.100007	-0.225230
7	P2	-22.200758	0.328480	-1.233882
11	P2	-14.734458	3.123948	-4.589902
15	P2	-7.131714	0.123957	-0.285034
19	P2	-9.339746	0.234544	0.691423
22	P2	-17.082640	0.259765	-1.065668
26	P2	-16.364420	0.140485	0.499478
30	P2	-19.141010	0.278409	-1.124382

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.162610	0.004400	-0.030031
7	P3	-8.162610	0.004400	-0.030031
11	P3	-8.162610	0.004400	-0.030031
15	P3	-8.162610	0.004400	-0.030031
19	P3	-8.162610	0.004400	-0.030031
22	P3	-8.162610	0.004400	-0.030031
26	P3	-8.162610	0.004400	-0.030031
30	P3	-8.162610	0.004400	-0.030031

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	-2.942877	0.226906	-0.797265
7	P1	-2.989495	0.083831	-0.093311
11	P1	-3.715114	0.297724	1.312902
15	P1	-3.571642	0.036643	0.237751
19	P1	-3.470124	0.089707	0.535622
22	P1	-5.427024	0.253251	0.992920
26	P1	-6.656056	1.043141	2.464218
30	P1	-5.788982	0.594361	1.723442
3	P1	-11.318732	0.570656	-1.076660
7	P1	-11.778954	21.514553	-3.081306
11	P1	-13.828977	38.873211	-1.860898
15	P1	-13.228452	35.838024	-3.516081
19	P1	-15.318942	0.224701	0.329132
22	P1	-23.857449	6.330217	5.882313
26	P1	-16.449692	6.902251	-4.188096
30	P1	-20.031574	2.064557	0.522560

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.490944	0.065076	-0.359461
7	P2	-22.354805	0.347139	-1.471059
11	P2	-10.237946	1.273810	-3.052467
15	P2	-5.017668	0.050283	0.210148
19	P2	-6.751787	0.126308	0.178292
22	P2	-7.314465	0.252527	-1.231197
26	P2	-23.922293	0.040687	0.100716
30	P2	-22.019329	0.076214	-0.303737

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.006057	0.003560	-0.018738
7	P3	-8.005986	0.003563	-0.018376
11	P3	-8.005954	0.003560	-0.018052
15	P3	-8.005941	0.003567	-0.018449
19	P3	-8.006088	0.003552	-0.018854
22	P3	-8.005884	0.003553	-0.018332
26	P3	-8.005978	0.003559	-0.018698
30	P3	-8.005913	0.003576	-0.018910

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	0.000491547
	stdev	2.03298e-07
MEAN Q	mean	0.000507710
	stdev	2.24031e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.131459
	stdev	0.00101164
STDEV Q	mean	0.131738
	stdev	0.00102368

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005092[456]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20050924_111215_000000532041_00066_18657_6501.N1	1	0
ASA_WSM_1PNPDE20050924_042035_000003362041_00062_18653_0286.N1	0	39
ASA_WSM_1PNPDE20050925_171036_000002382041_00084_18675_0541.N1	0	12

7 - Doppler Analysis

Preliminary report.The data is not yet controled

7.1 - Unbiased Doppler Error for WVS

Evolution of unbiased Doppler error (Real - Expected)

Acsending

Descending

7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler

Acsending

Descending

7.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX


7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)

Acsending

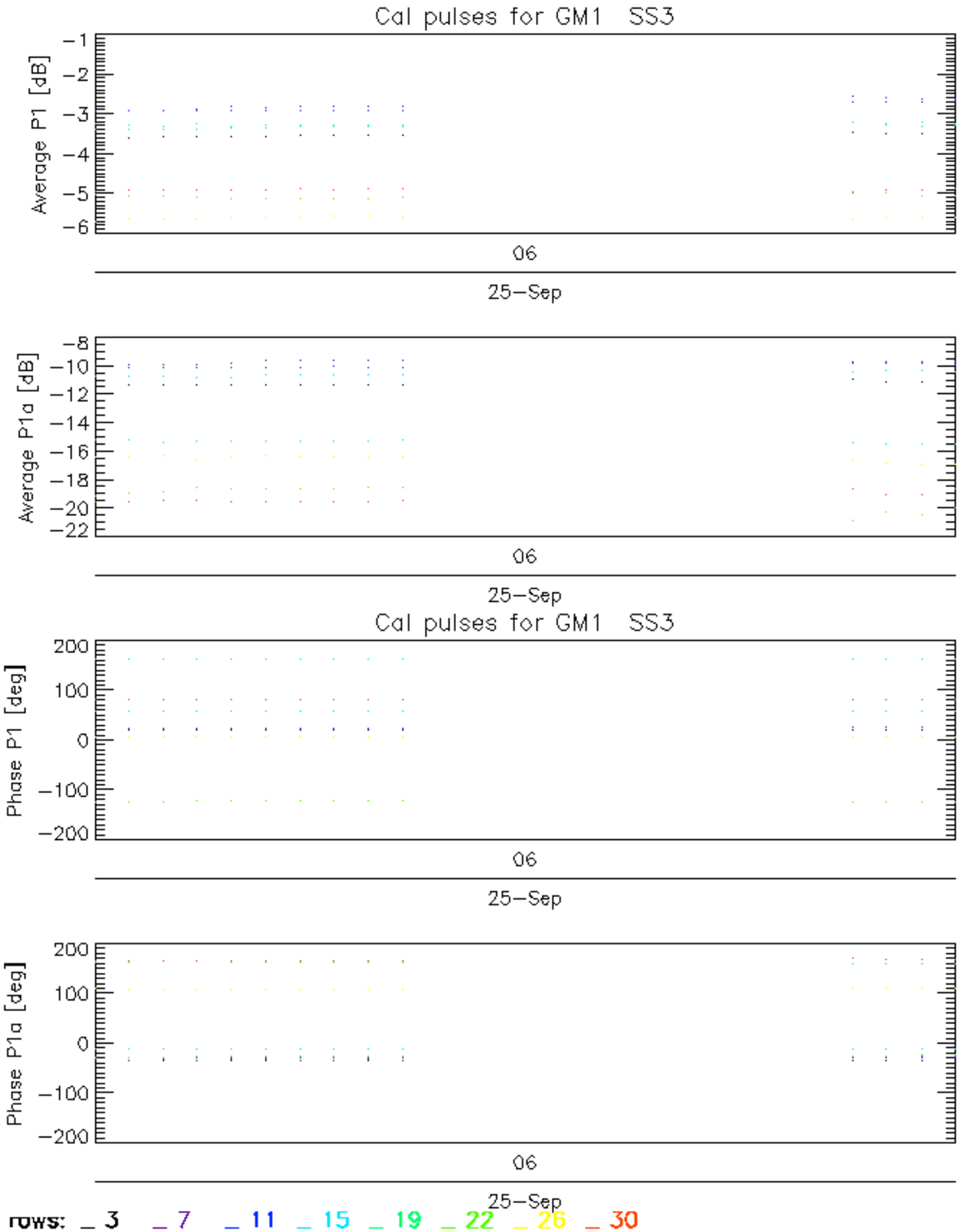

Descending

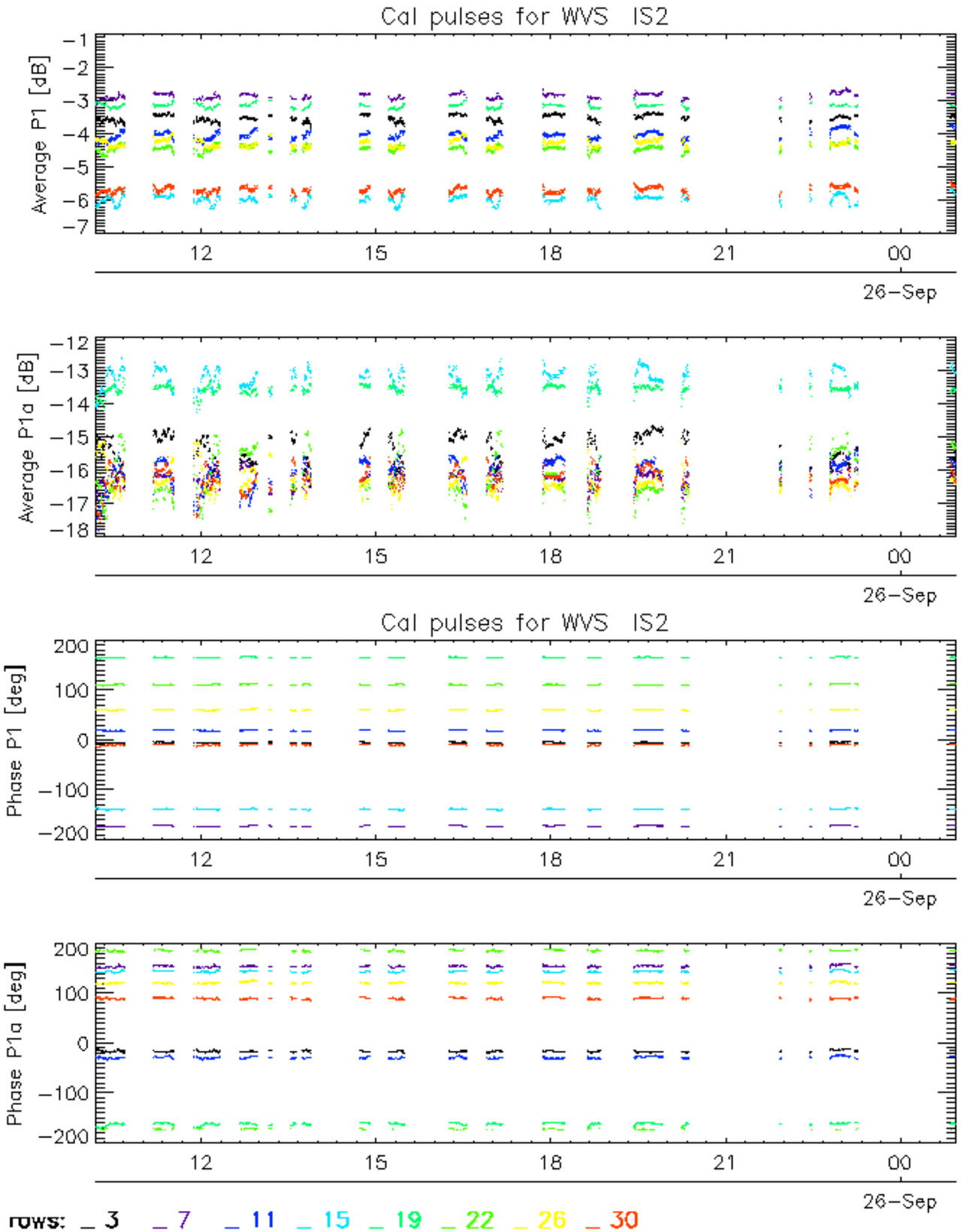
7.5 - Absolute Doppler for GM1

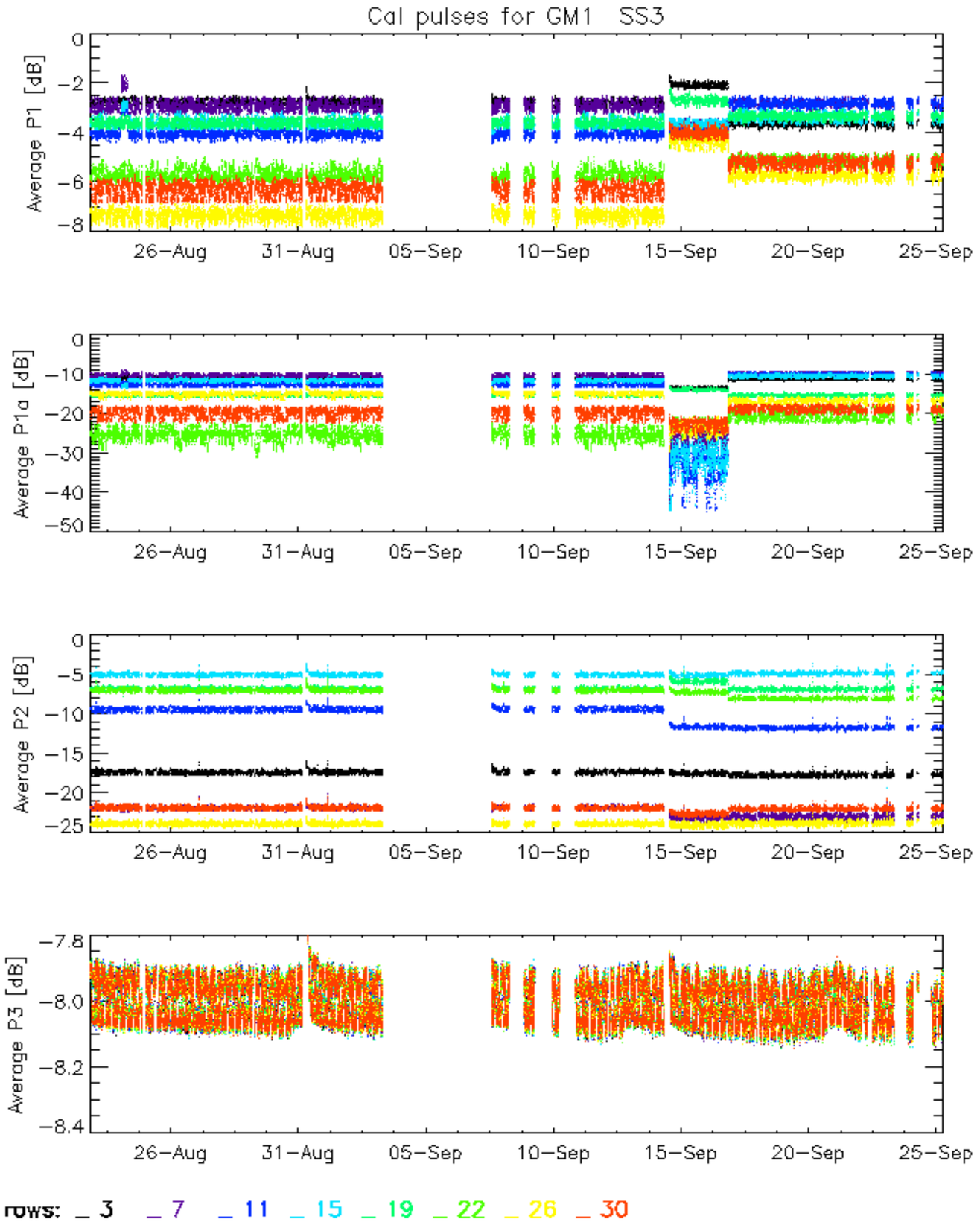
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

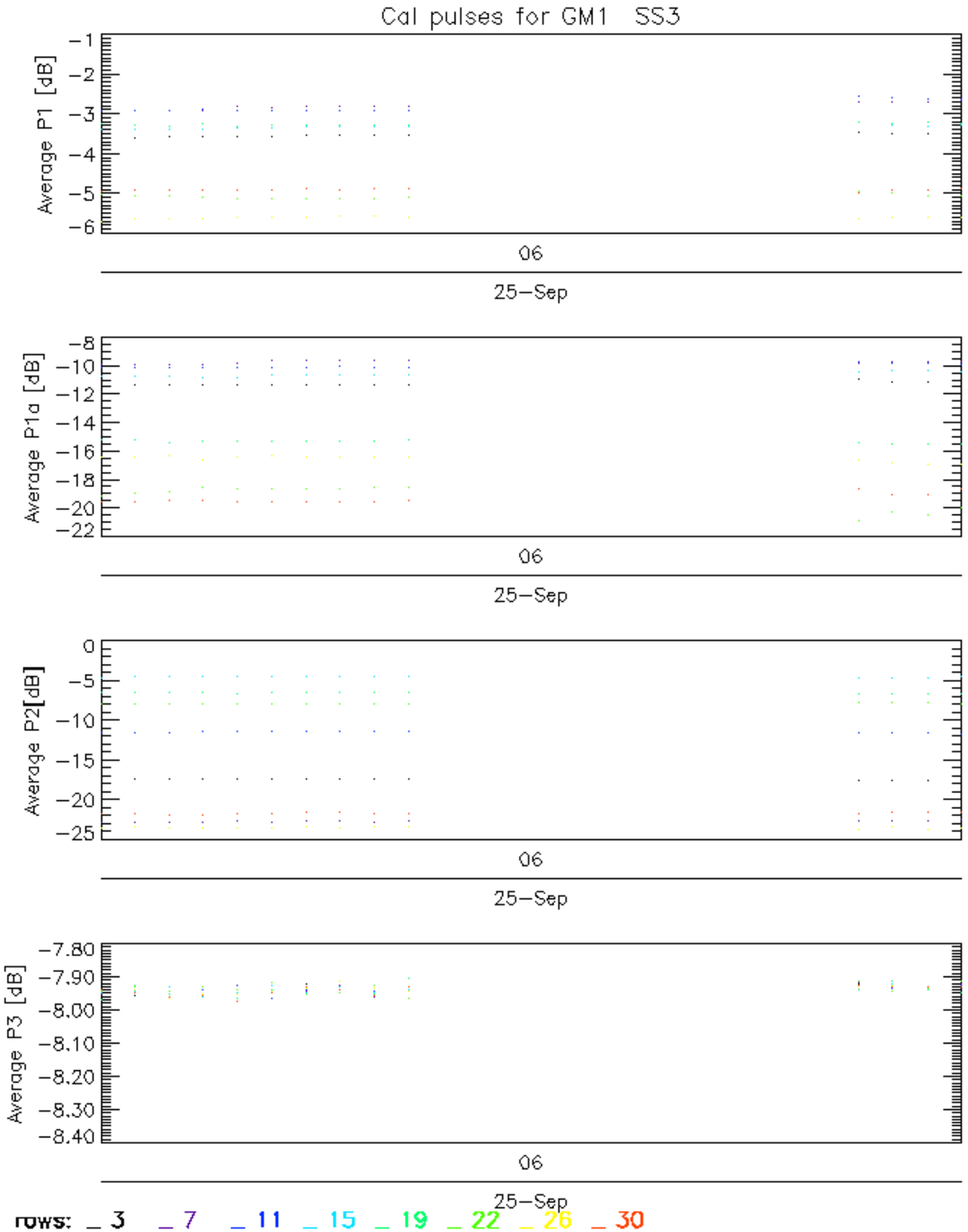
7.6 - Doppler evolution versus ANX for GM1

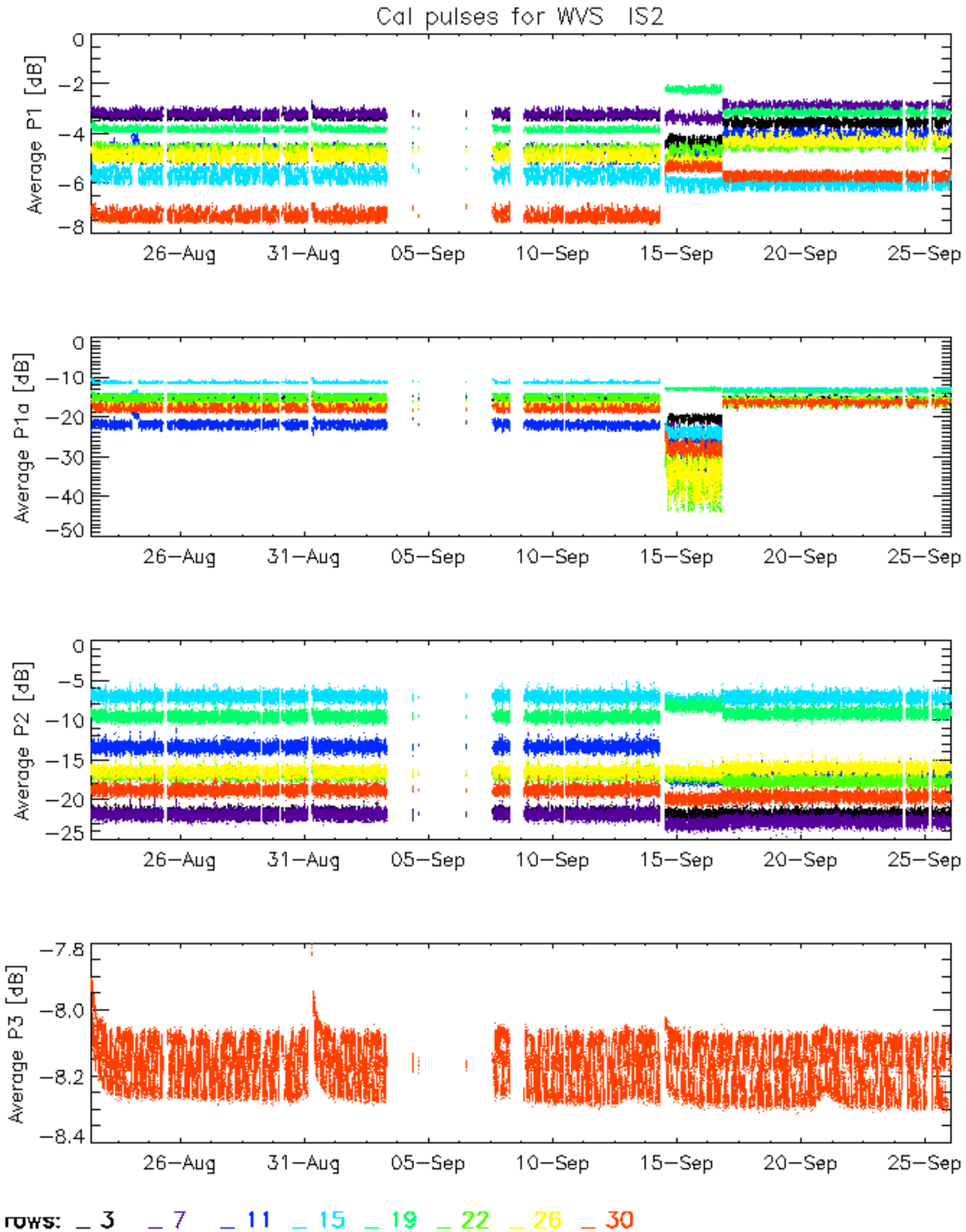
Evolution Doppler error versus ANX
☒

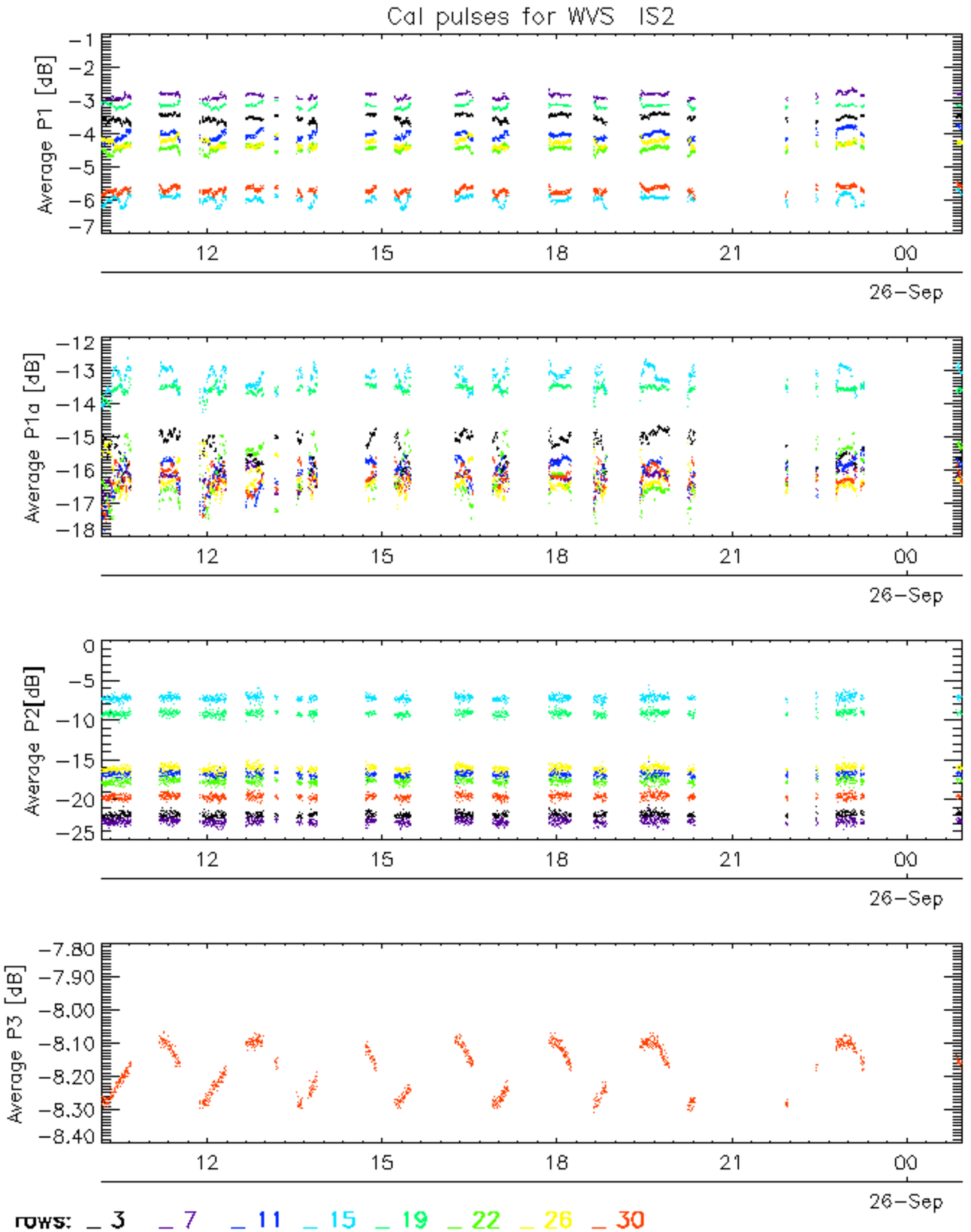

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
06
25−Sep
Average P1a [dB]
−8
−10
−12
−14
−16
−18
−20
−22
06
25−Sep
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
06
25−Sep
Phase P1a [deg]
200
100
0
−100
−200
06
25−Sep
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
12
15
18
21
00
26−Sep
Average P1a [dB]
−12
−13
−14
−15
−16
−17
−18
12
15
18
21
00
26−Sep
Cal pulses for WVS IS2
Phase P1 [deg]
200
100
0
−100
−200
12
15
18
21
00
26−Sep
Phase P1a [deg]
200
100
0
−100
−200
12
15
18
21
00
26−Sep
rows: 3 7 11 15 19 22 26 30

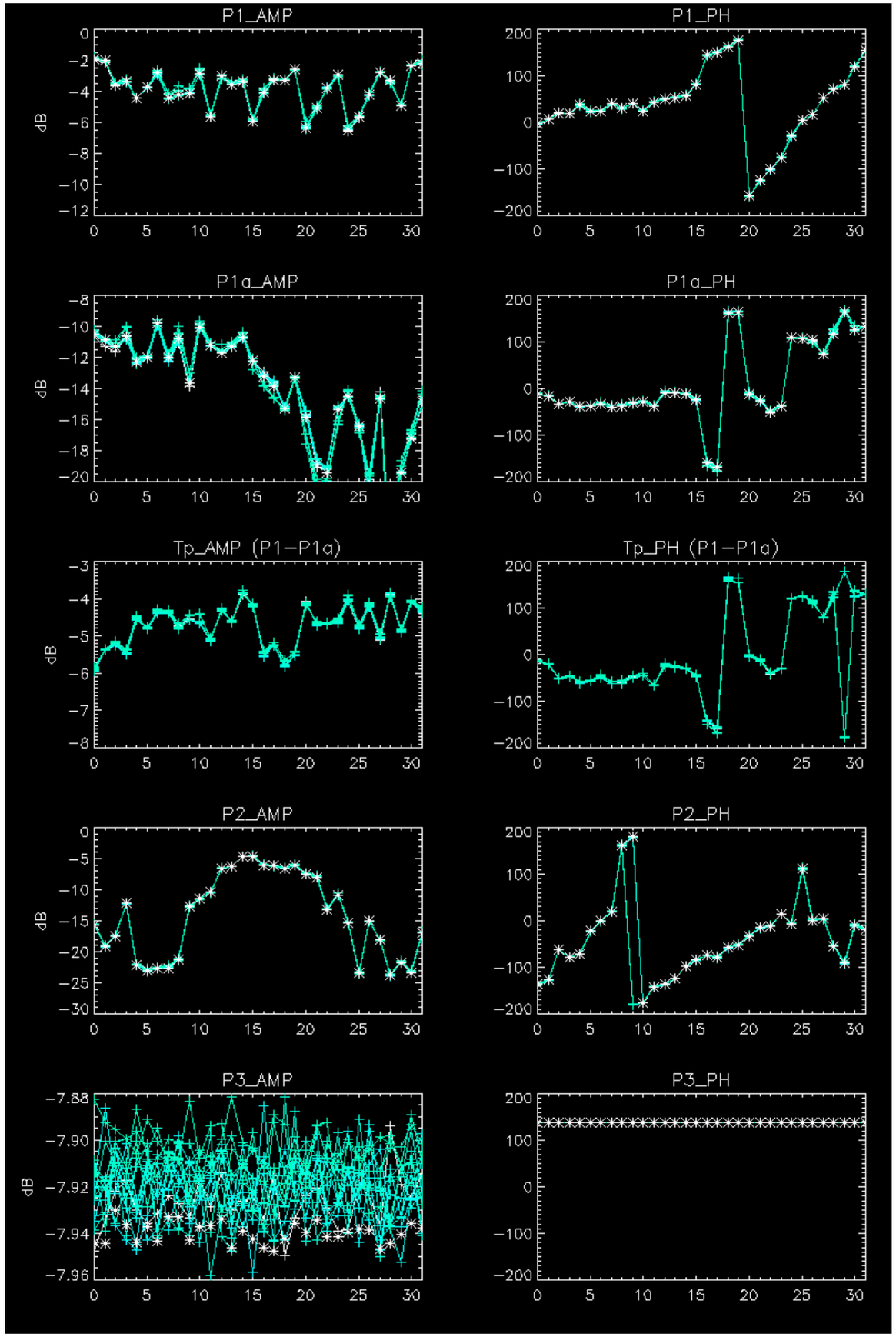

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
0
−10
−20
−30
−40
−50
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
26−Aug
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
25−Sep
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

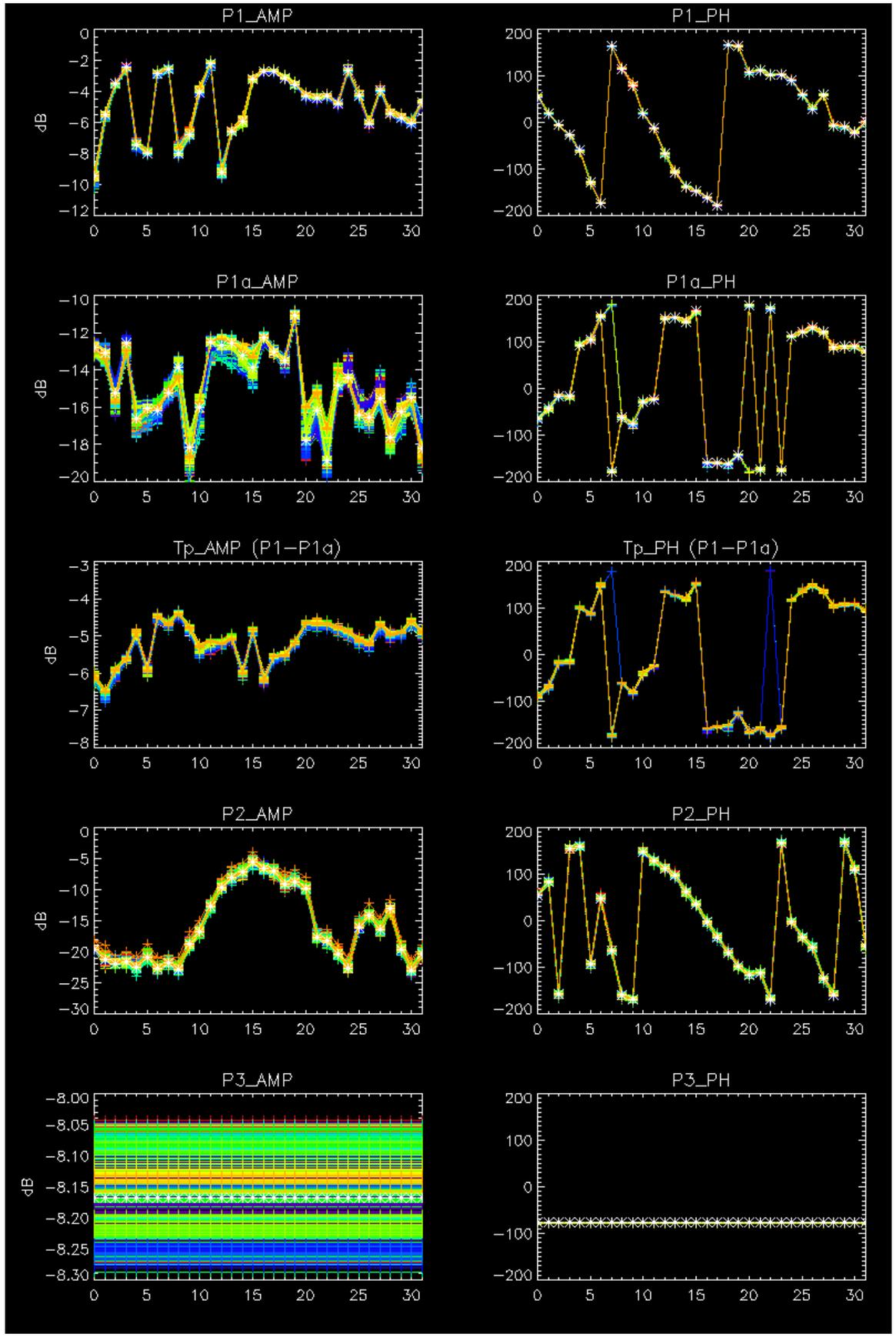

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
06
25−Sep
Average P1a [dB]
−8
−10
−12
−14
−16
−18
−20
−22
06
25−Sep
Average P2[dB]
0
−5
−10
−15
−20
−25
06
25−Sep
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
06
25−Sep
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
26−Aug
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
25−Sep
Average P1a [dB]
0
−10
−20
−30
−40
−50
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 26 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
12
15
18
21
00
26−Sep
Average P1a [dB]
−12
−13
−14
−15
−16
−17
−18
12
15
18
21
00
26−Sep
Average P2[dB]
0
−5
−10
−15
−20
−25
12
15
18
21
00
26−Sep
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
12
15
18
21
00
26−Sep
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

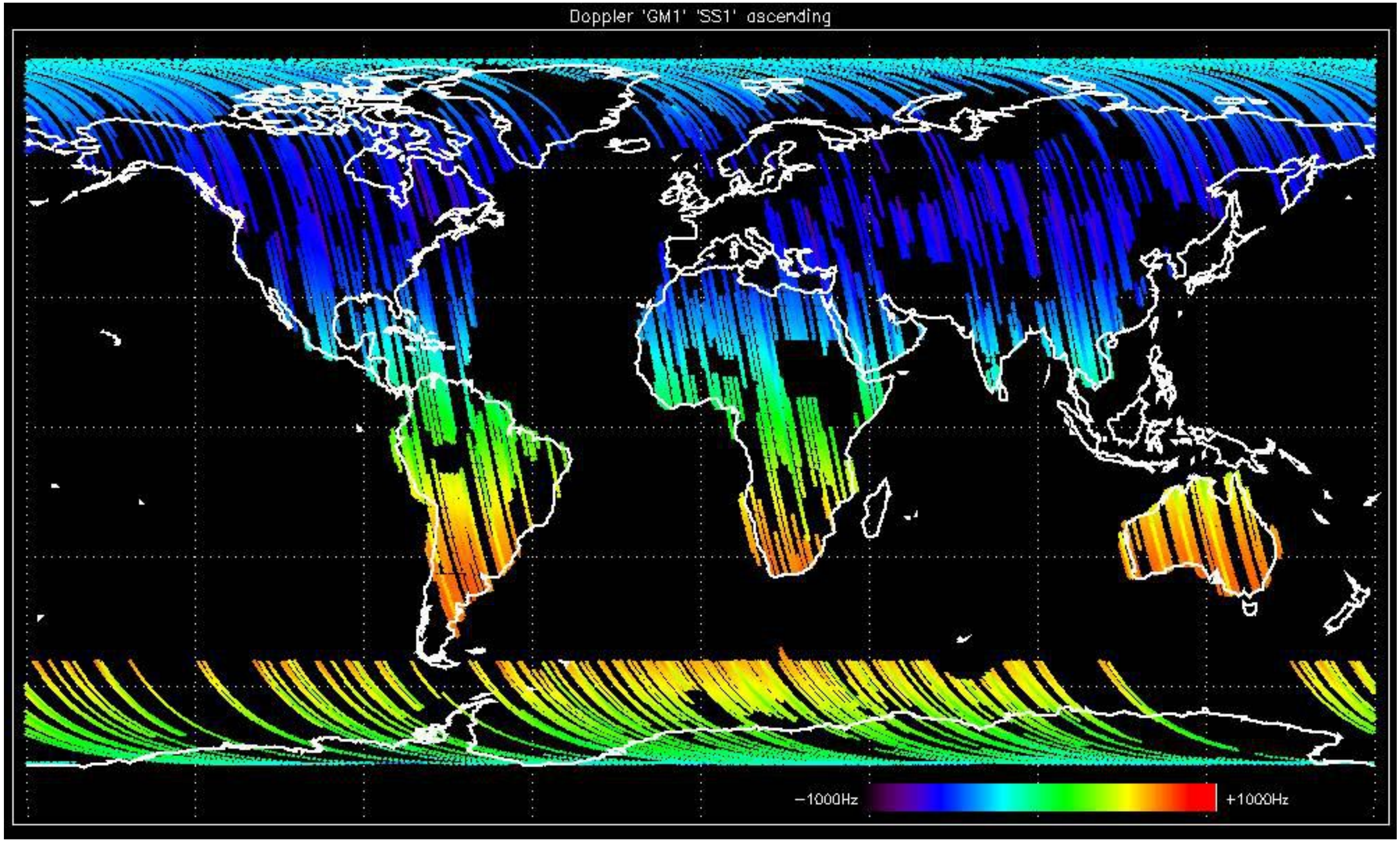
No anomalies observed.

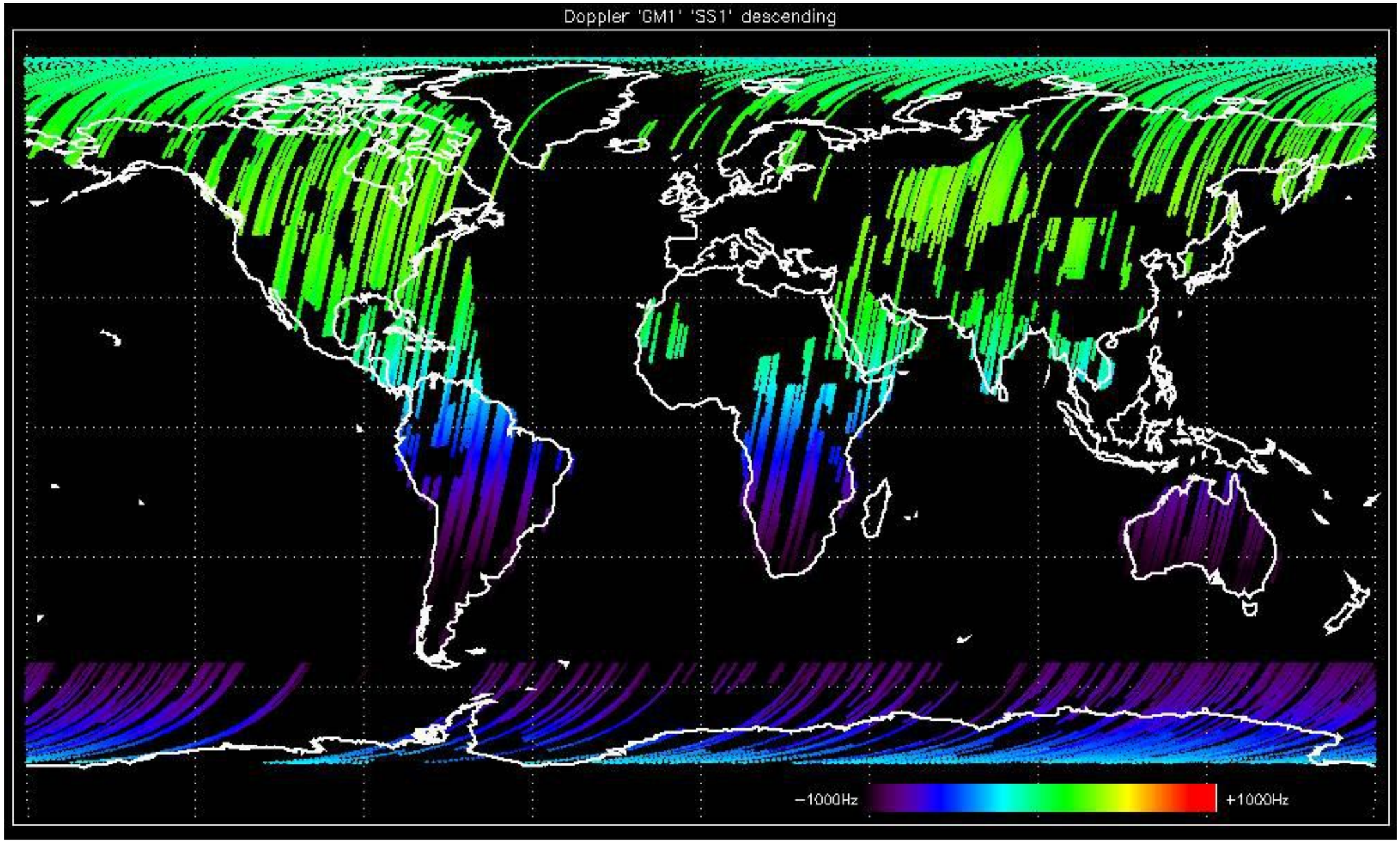

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

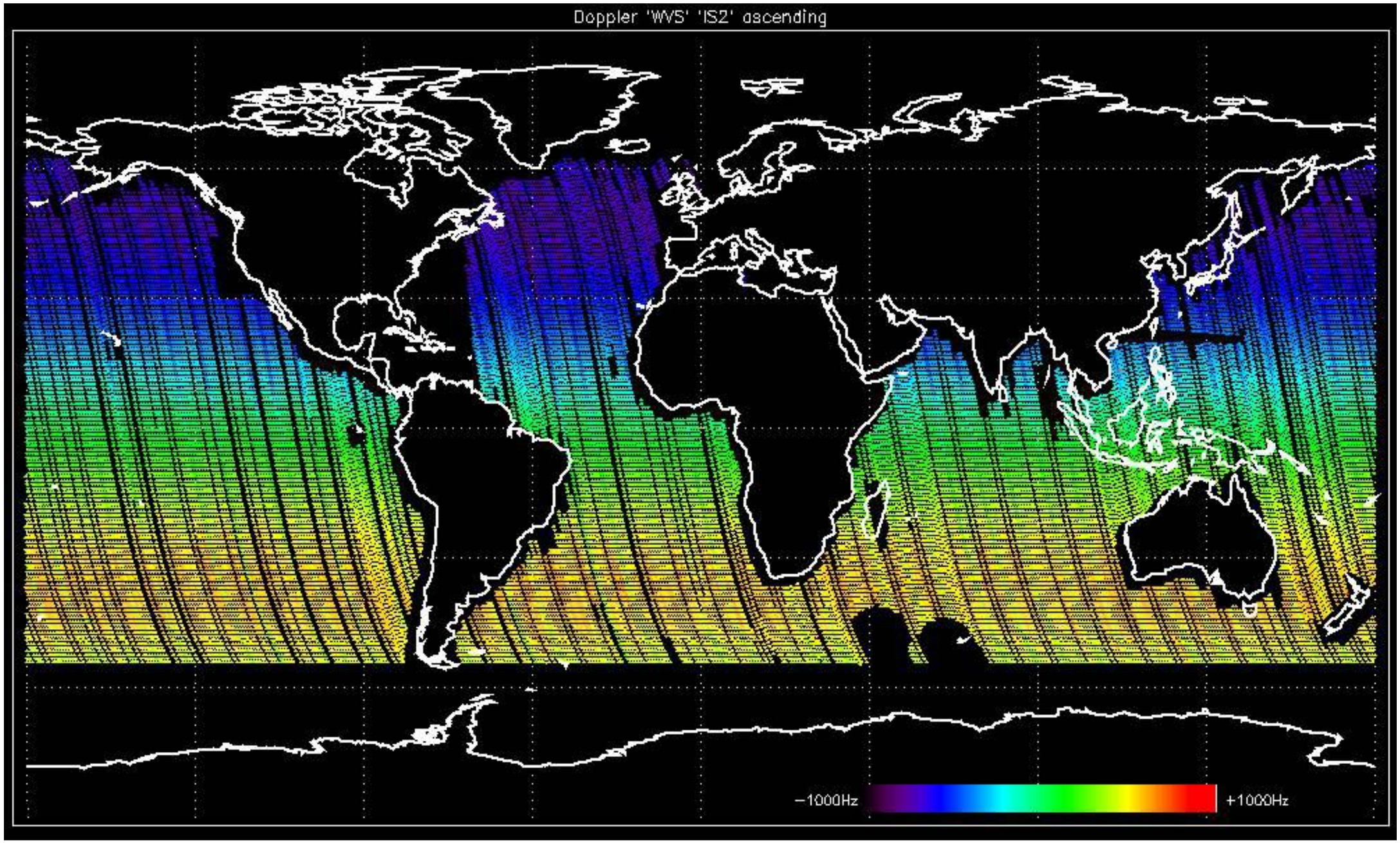

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

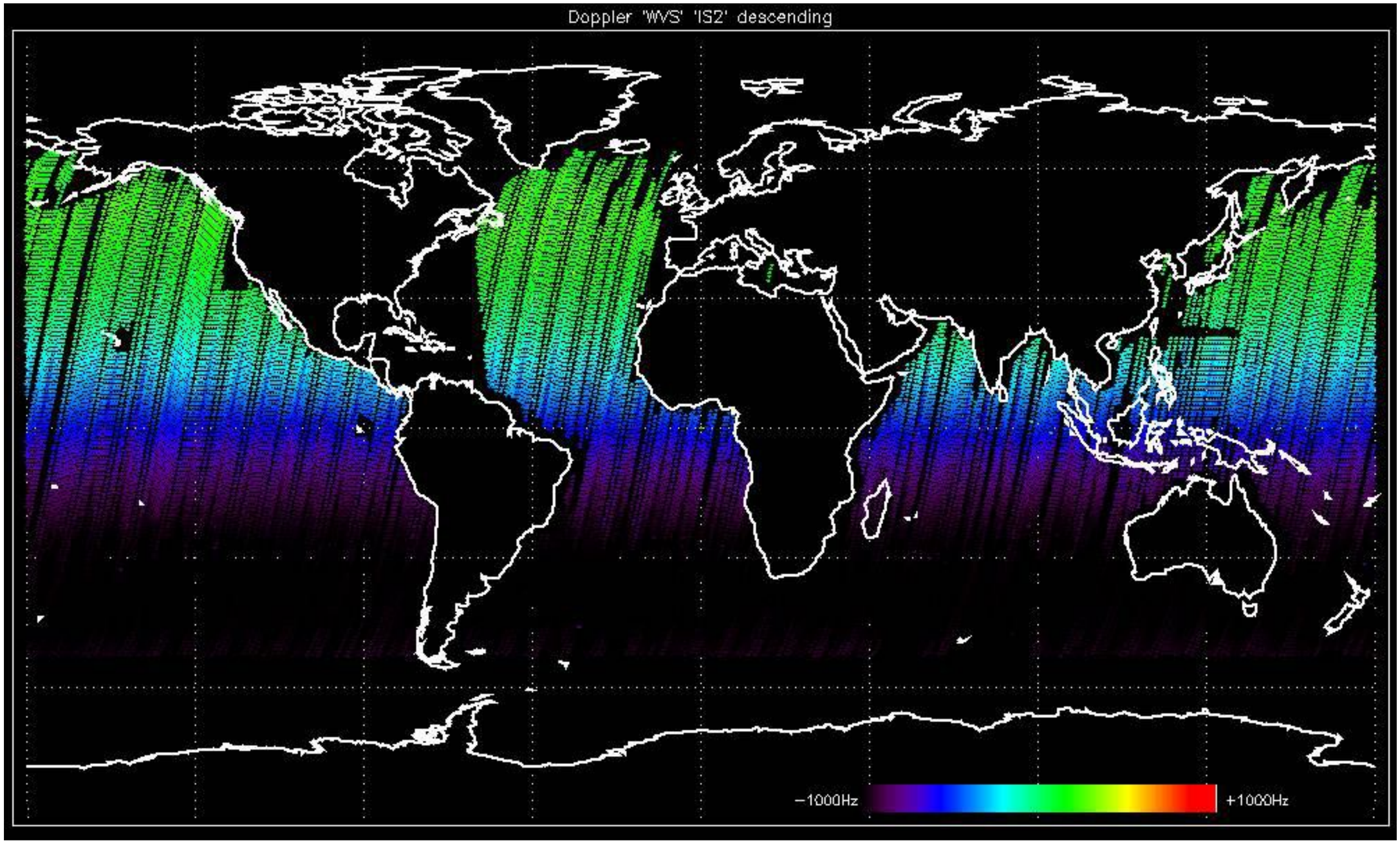
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

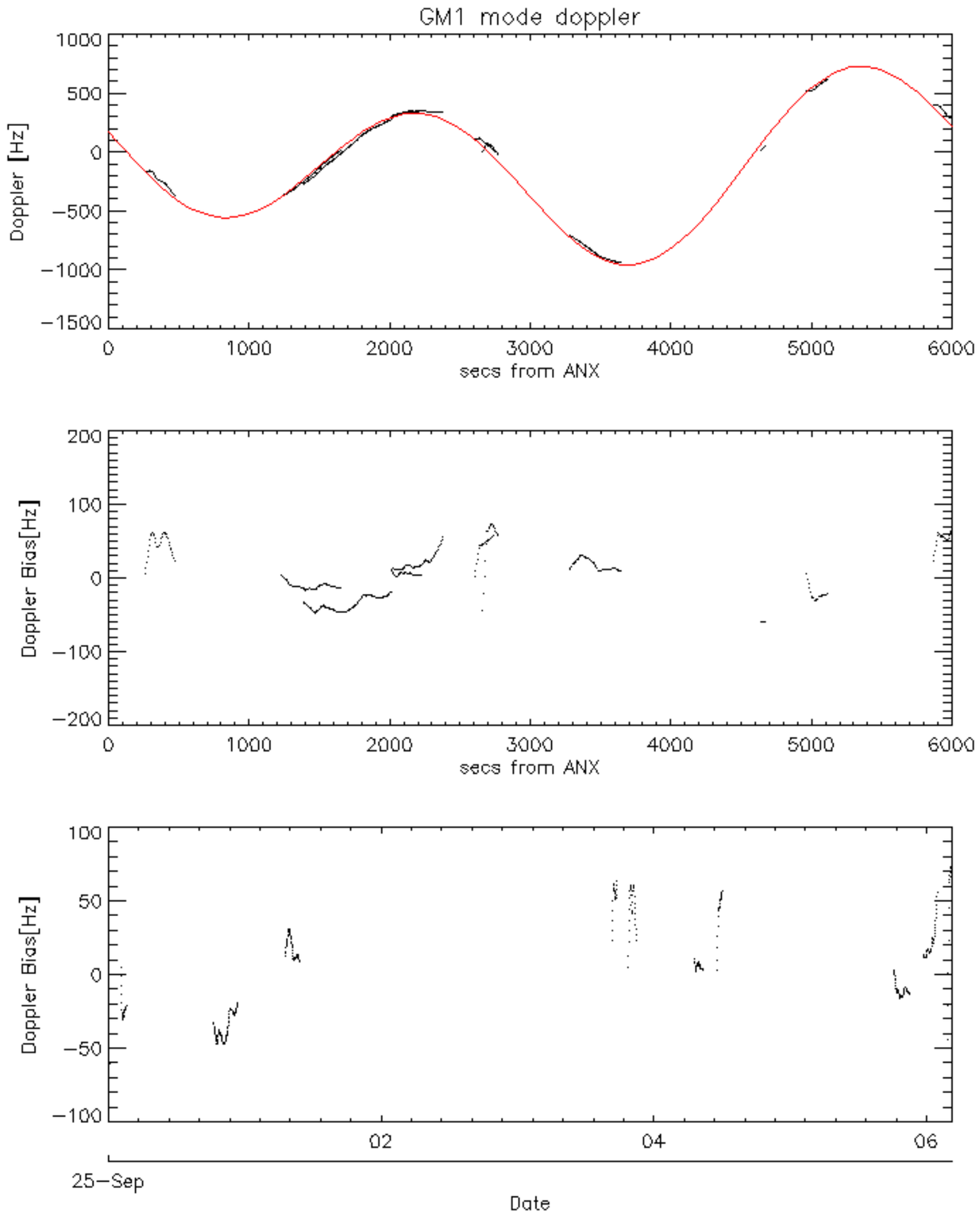
Preliminary report.The data is not yet controled

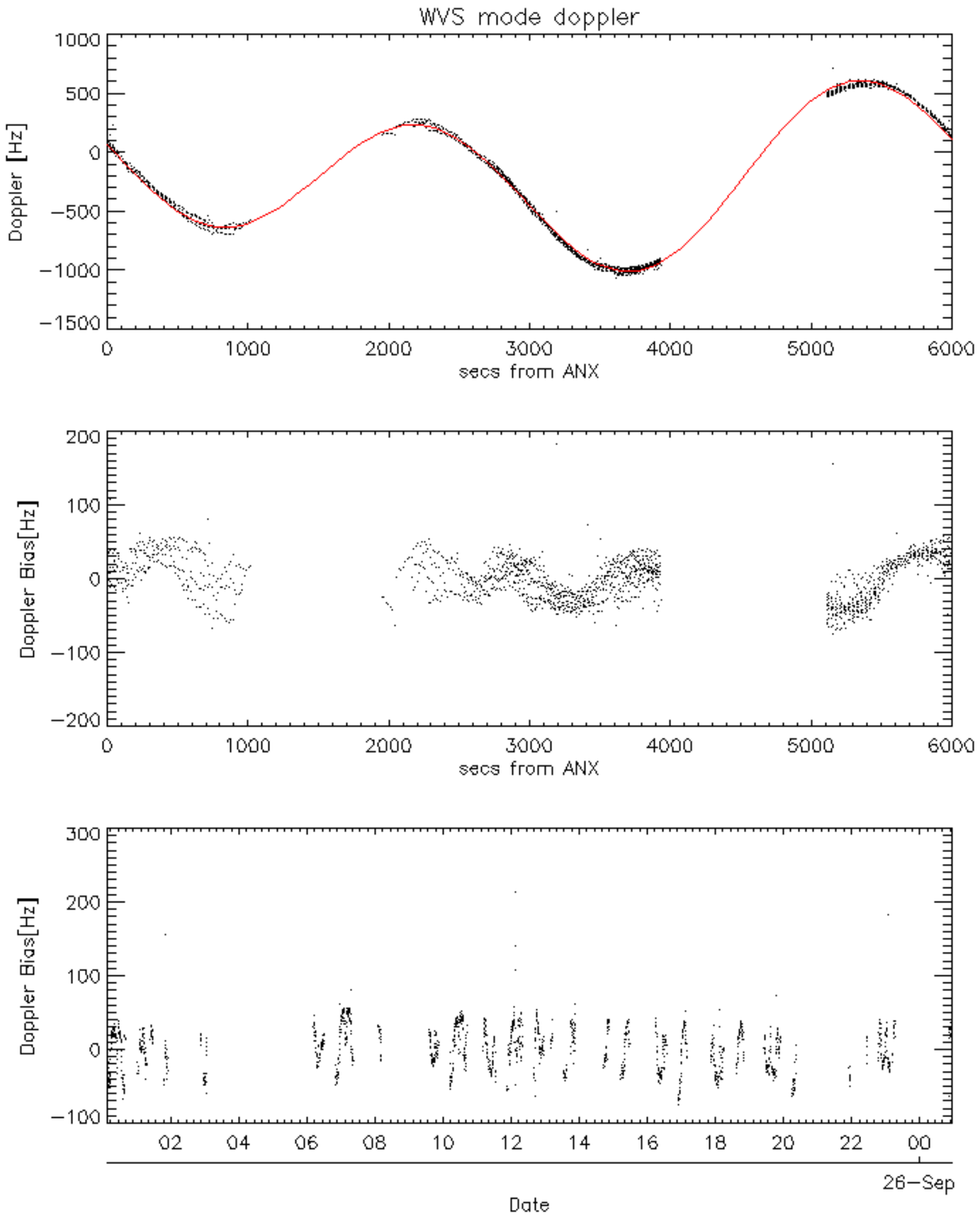

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

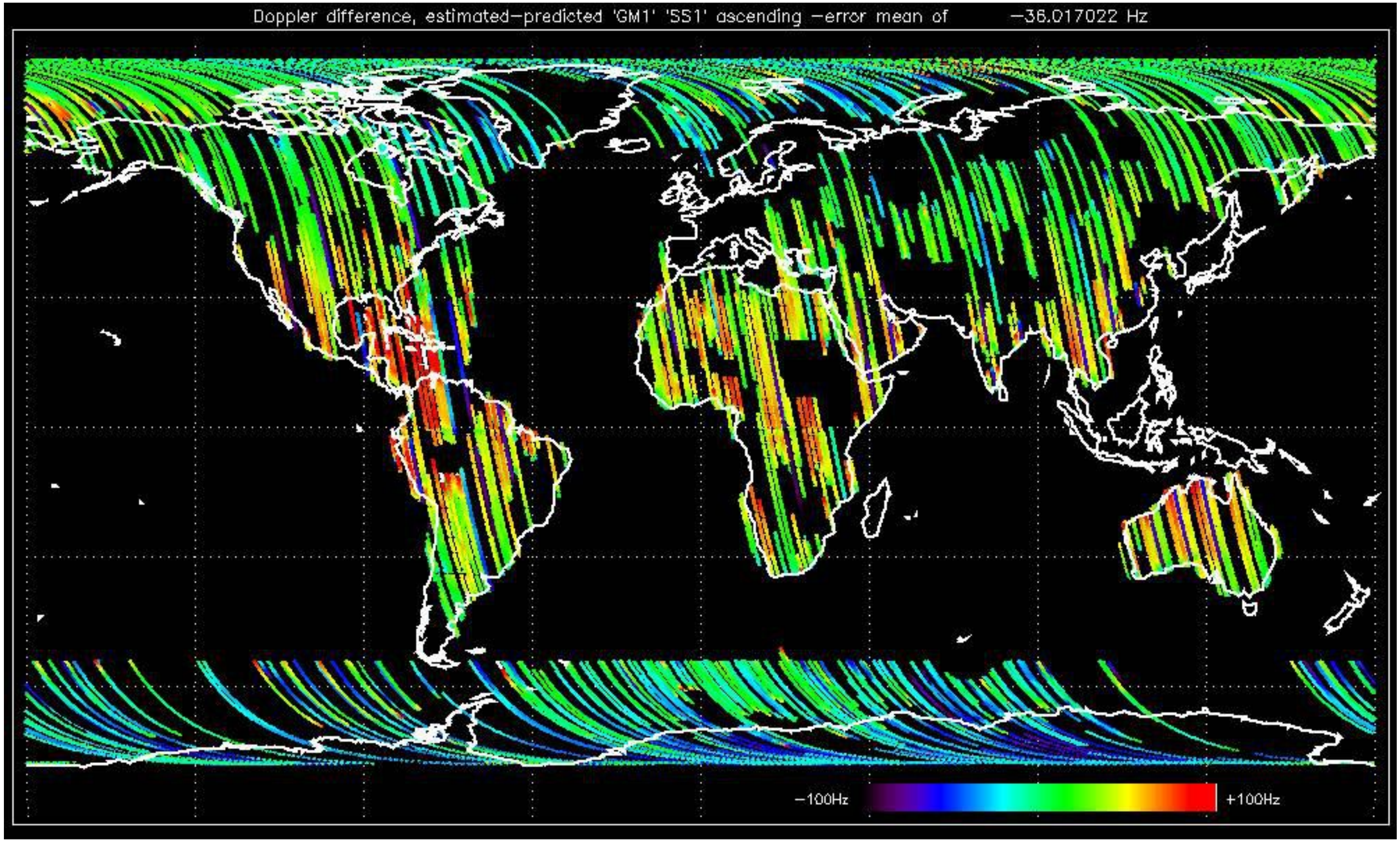

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

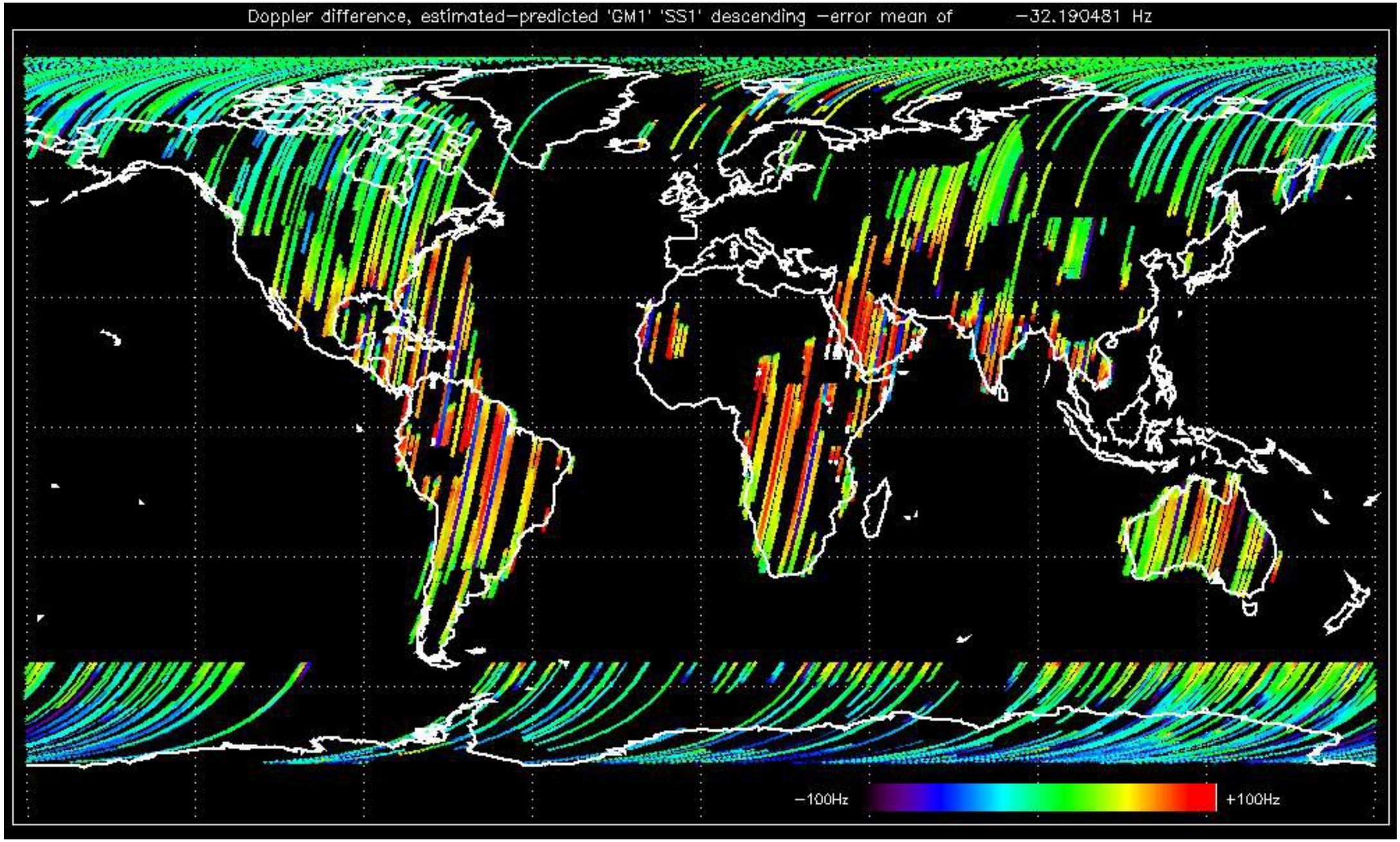

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

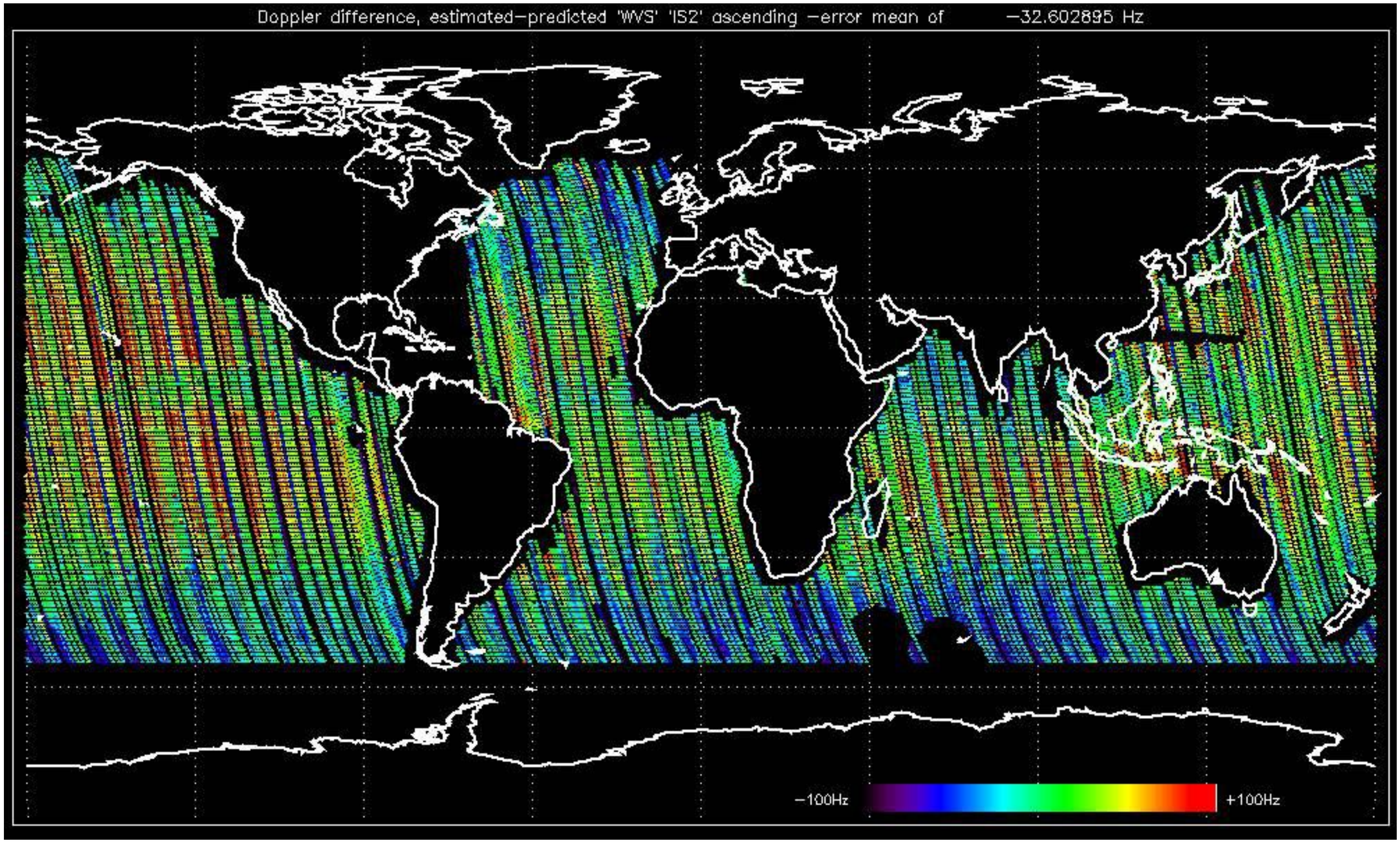

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

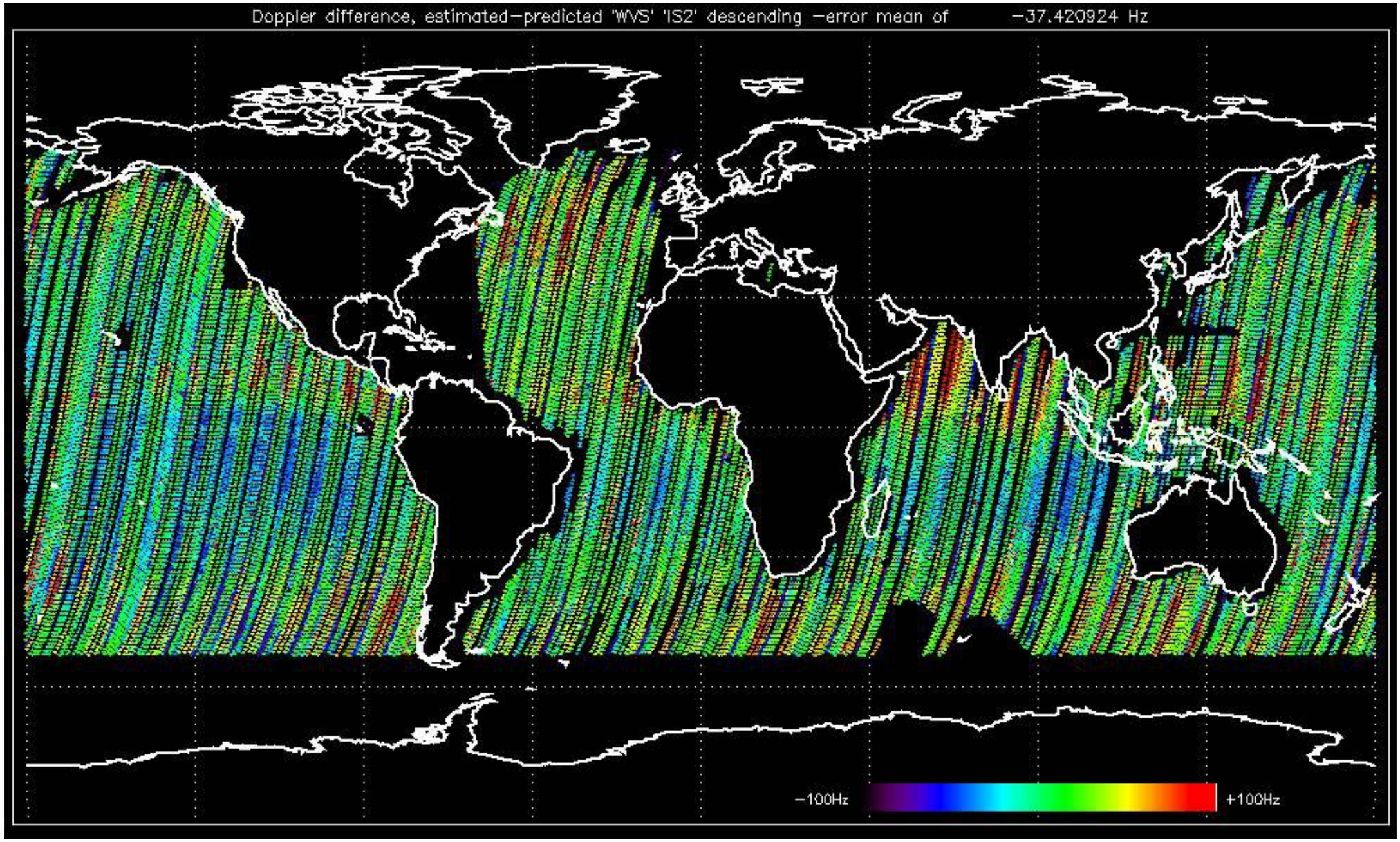

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX
Doppler Bias[Hz]
100
50
0
−50
−100
02
04
06
25−Sep
Date


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
02
04
06
08
10
12
14
16
18
20
22
00
26−Sep
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −36.017022 Hz
−100Hz
+100Hz

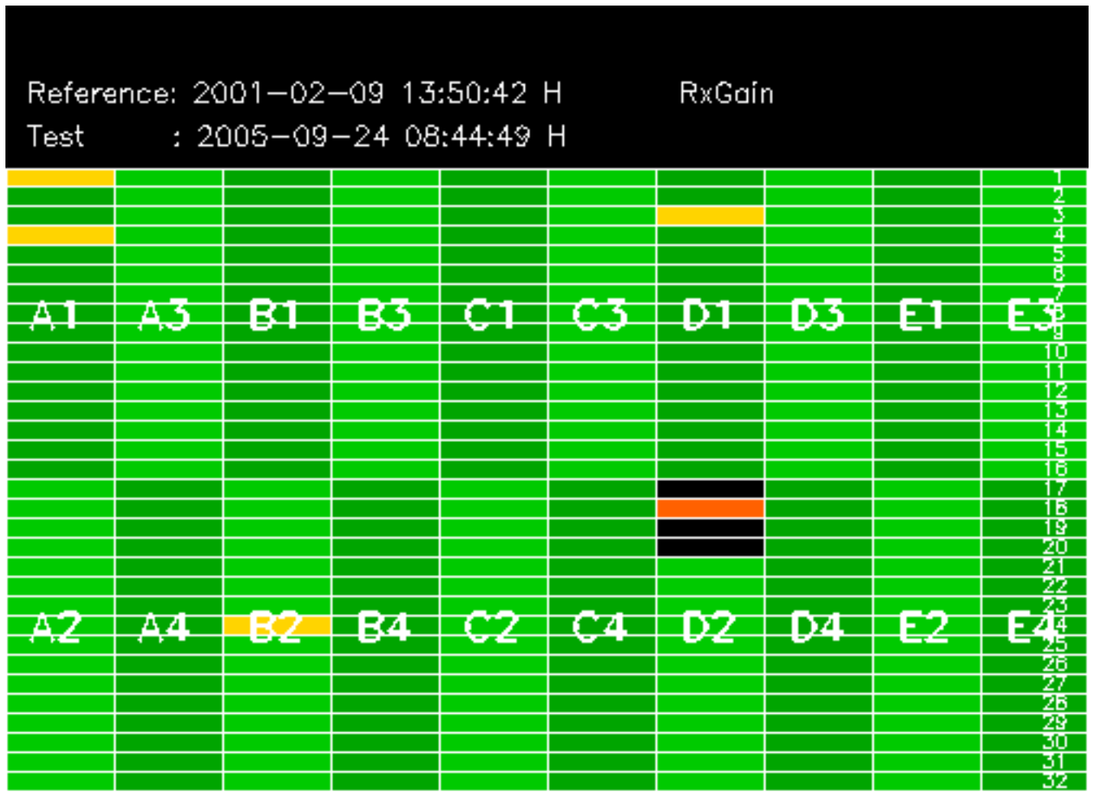

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -32.190481 Hz
-100Hz
+100Hz

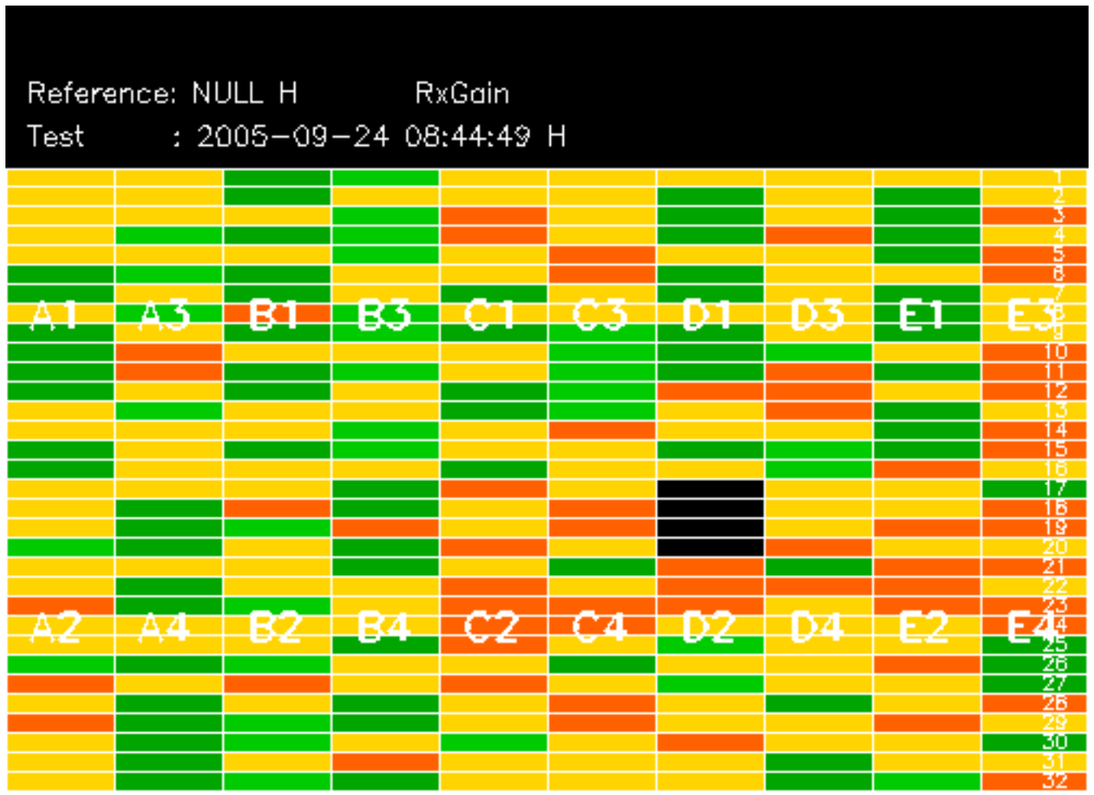

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −32.602895 Hz
−100Hz
+100Hz

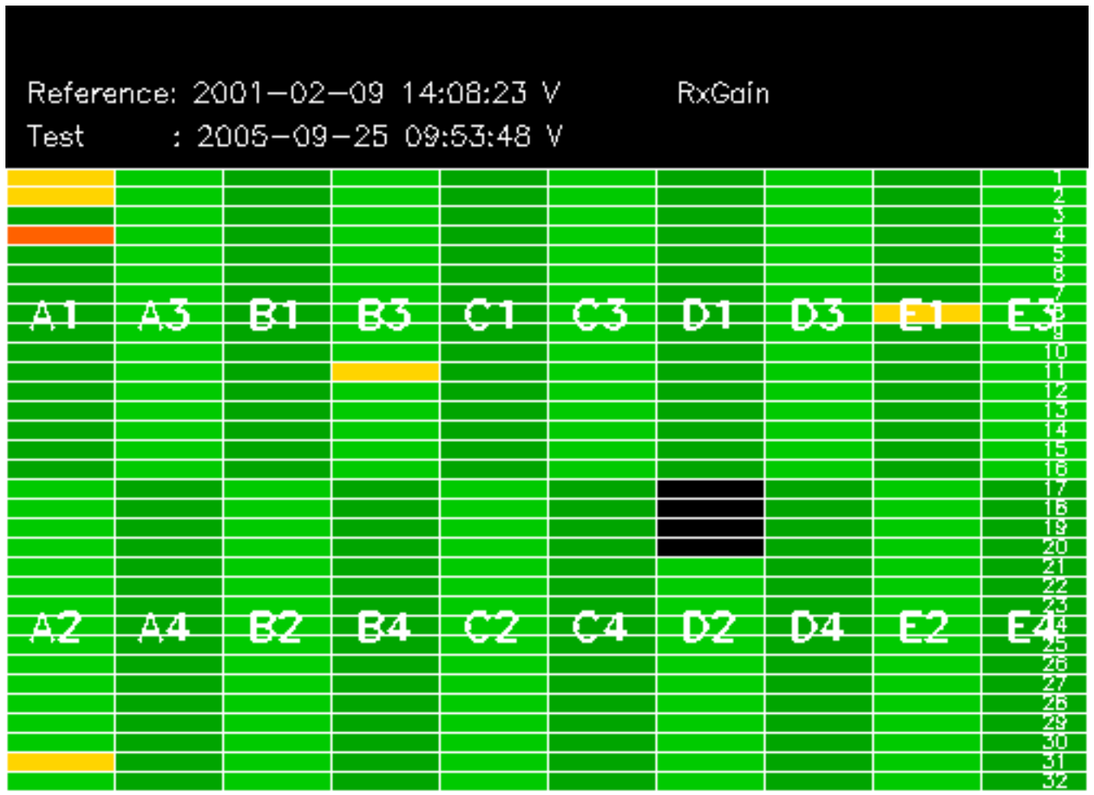

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −37.420924 Hz
−100Hz
+100Hz

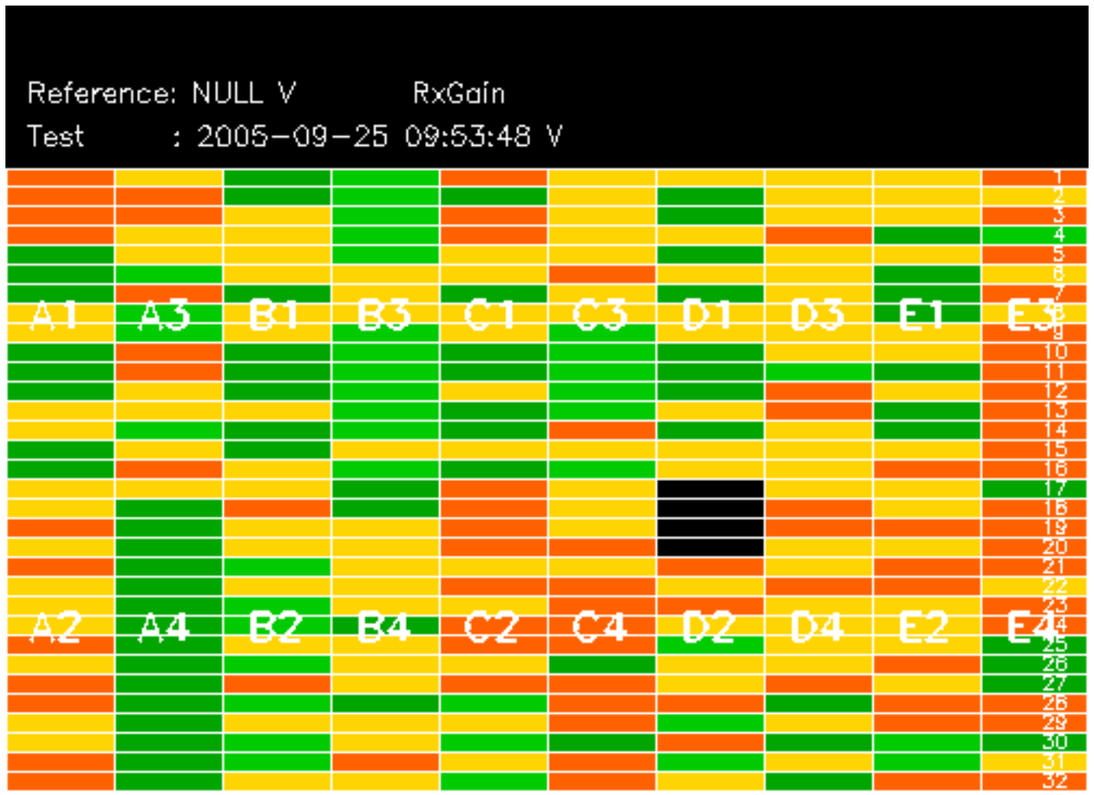
No anomalies observed on available MS products:

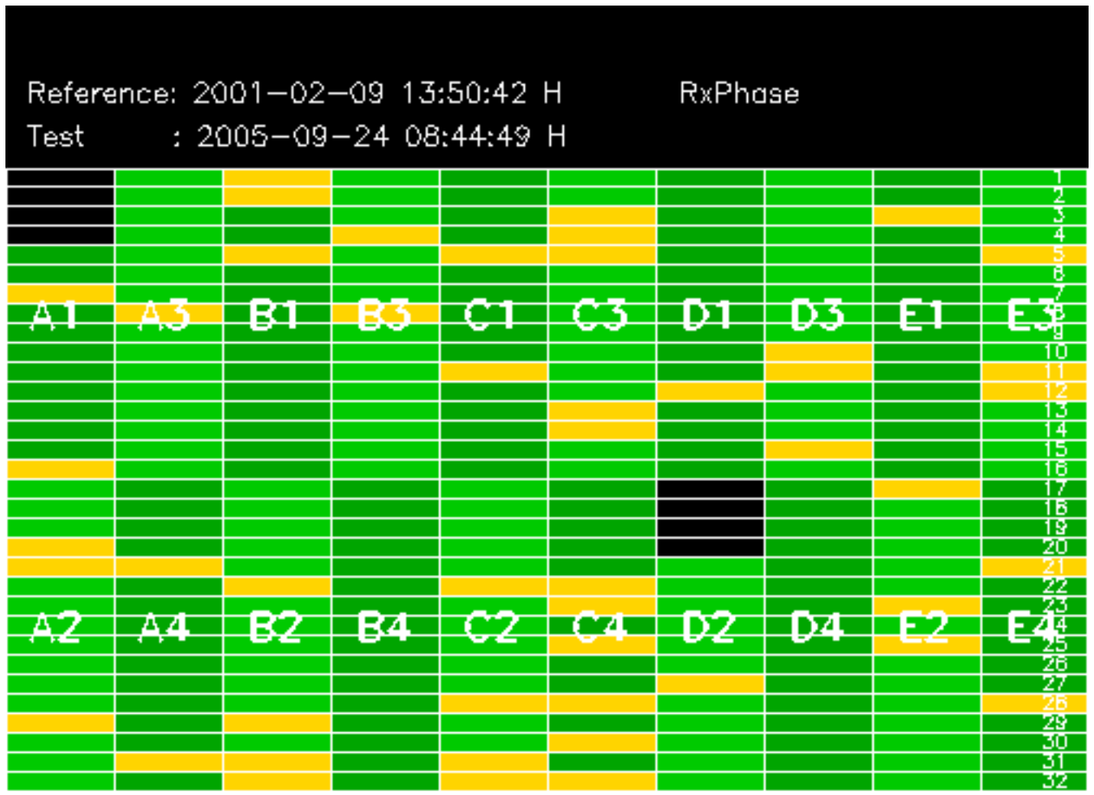
No anomalies observed.

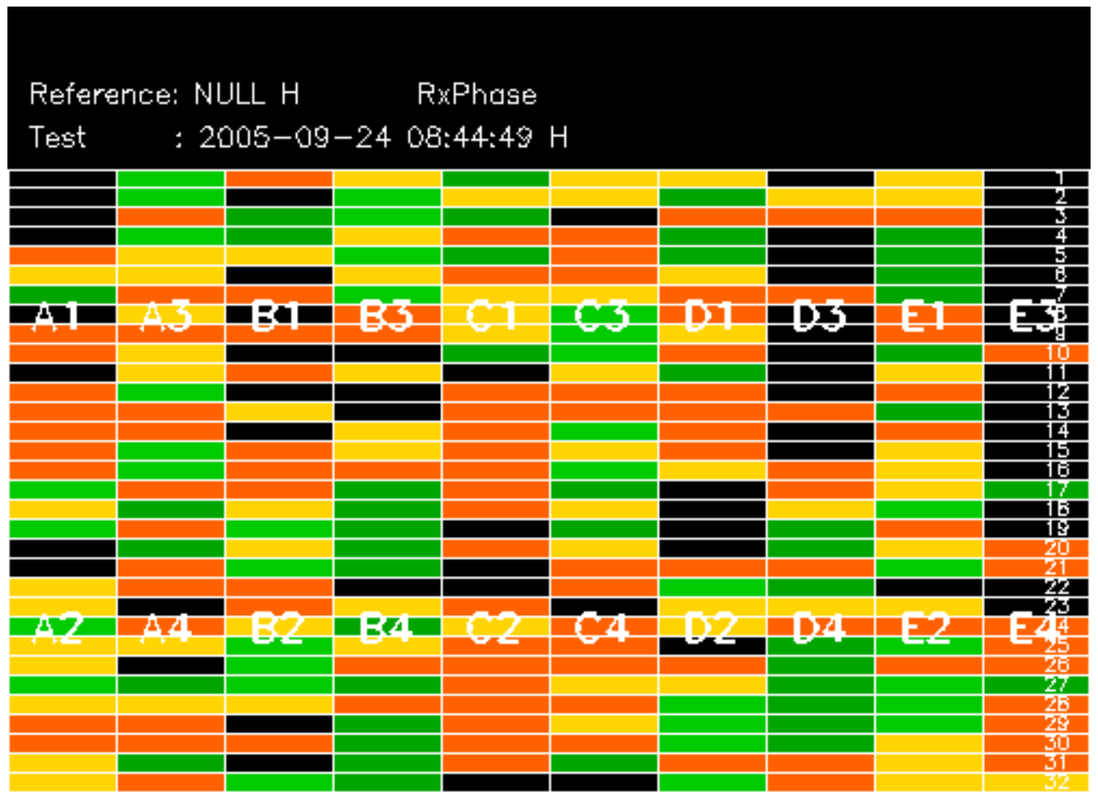

Reference: 2001-02-09 13:50:42 H
Test : 2005-09-24 08:44:49 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

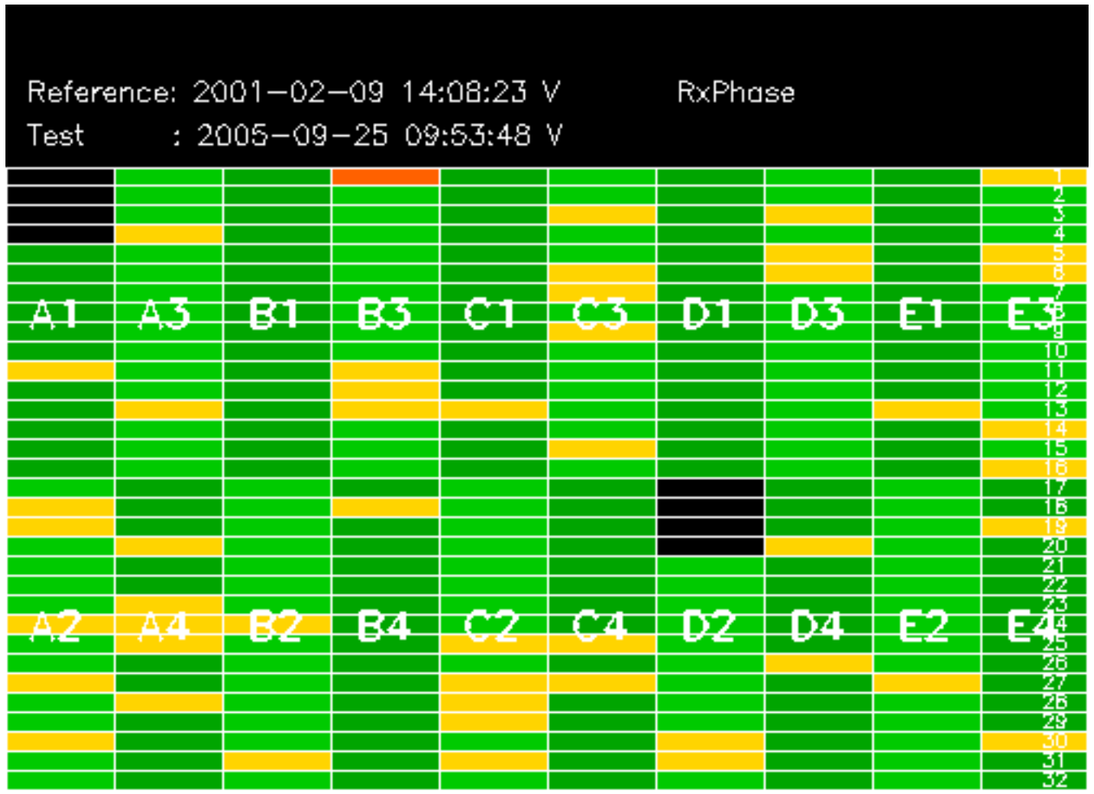

Reference: NULL H RxGain
Test : 2005-09-24 08:44:49 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

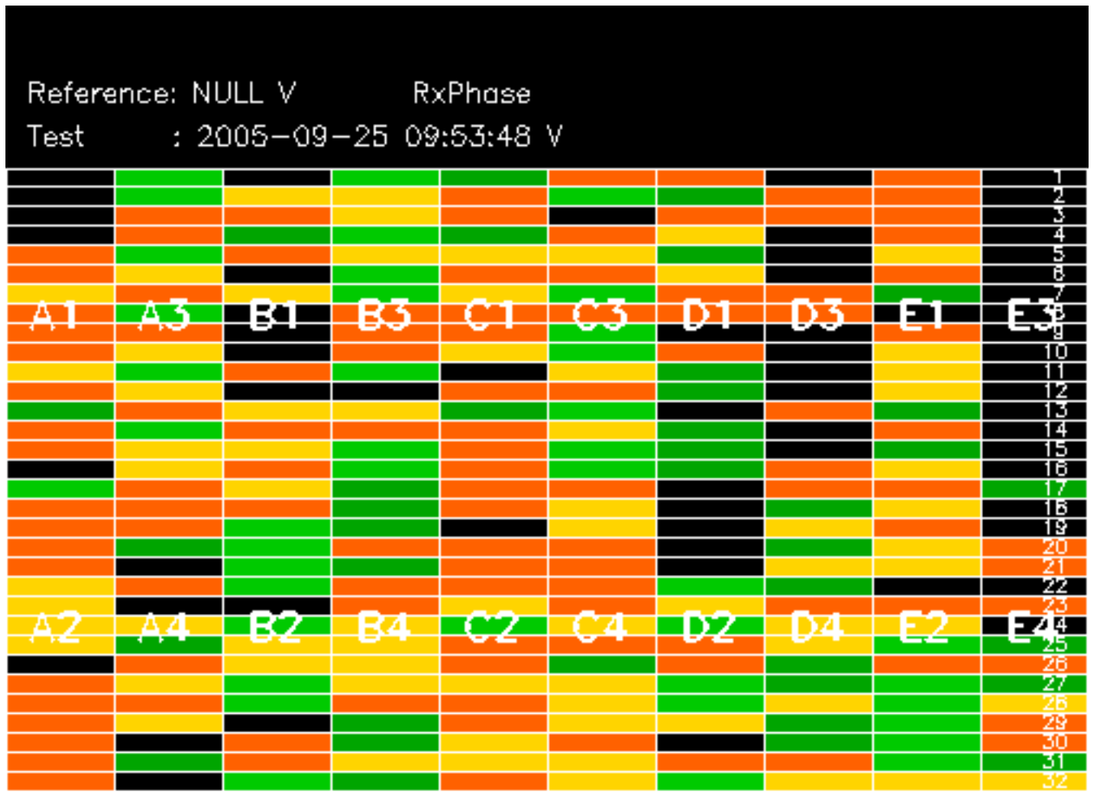

Reference: 2001-02-09 14:08:23 V
Test : 2005-09-25 09:53:48 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

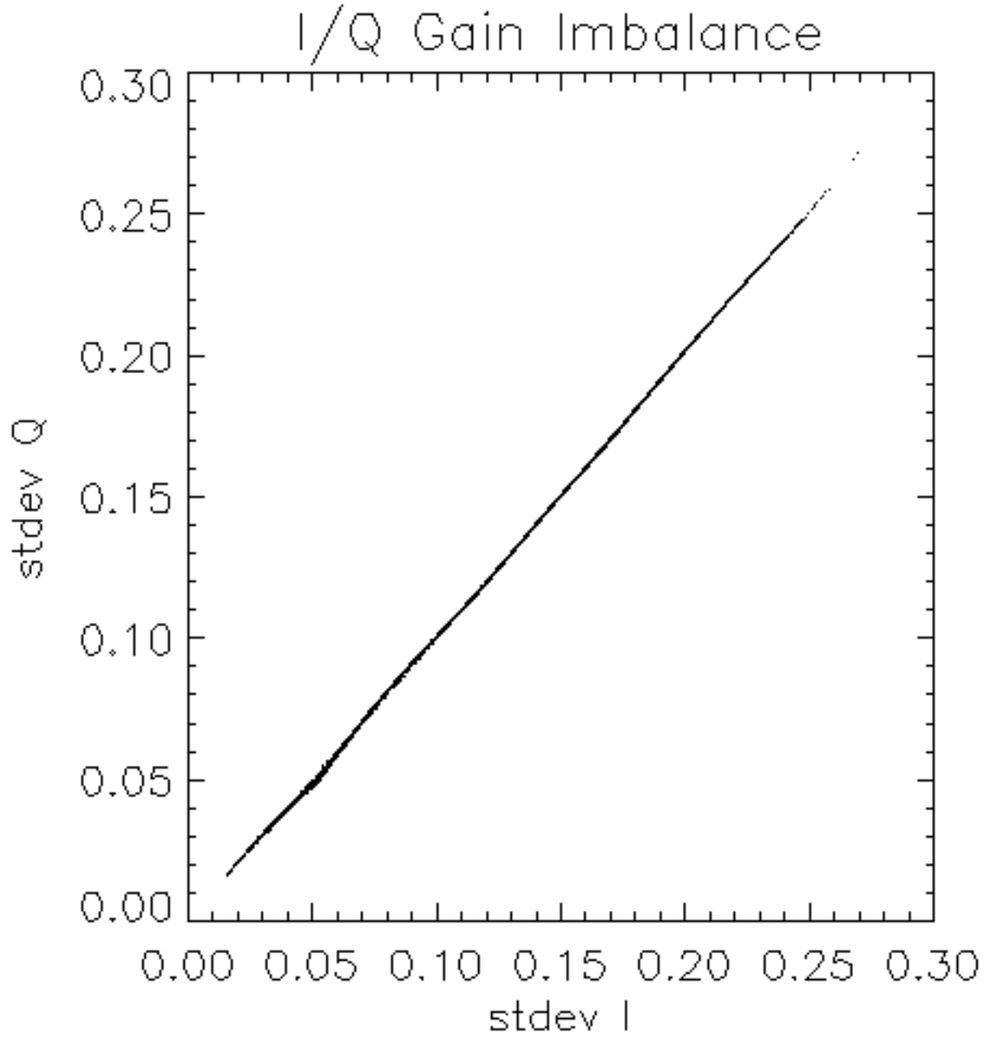

Reference: NULL V RxGain
Test : 2005-09-25 09:53:48 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

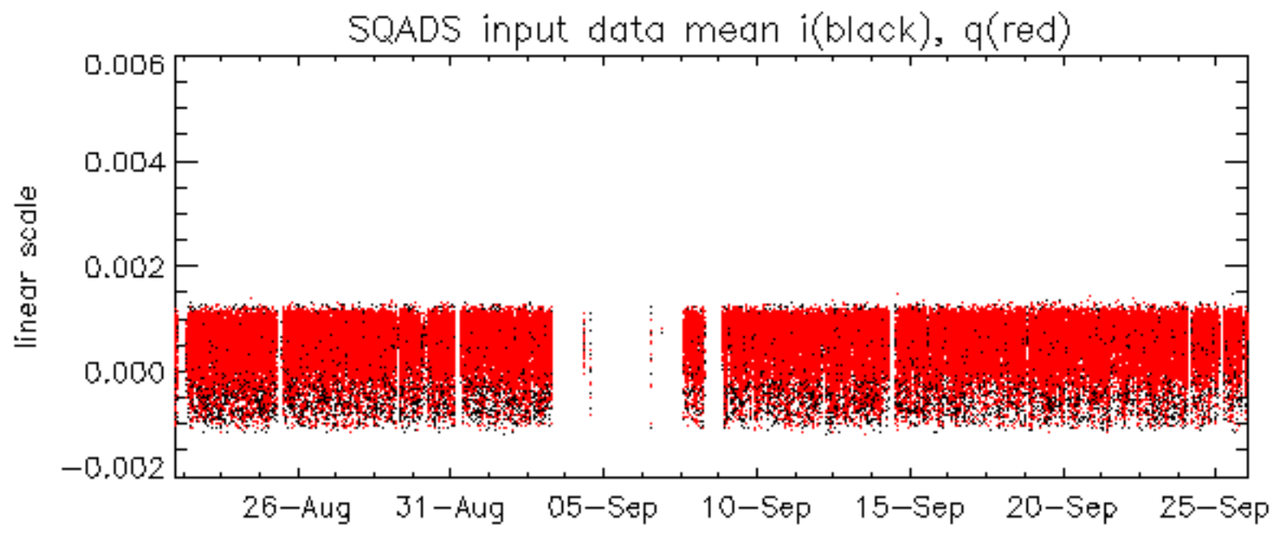

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-09-24 08:44:49 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

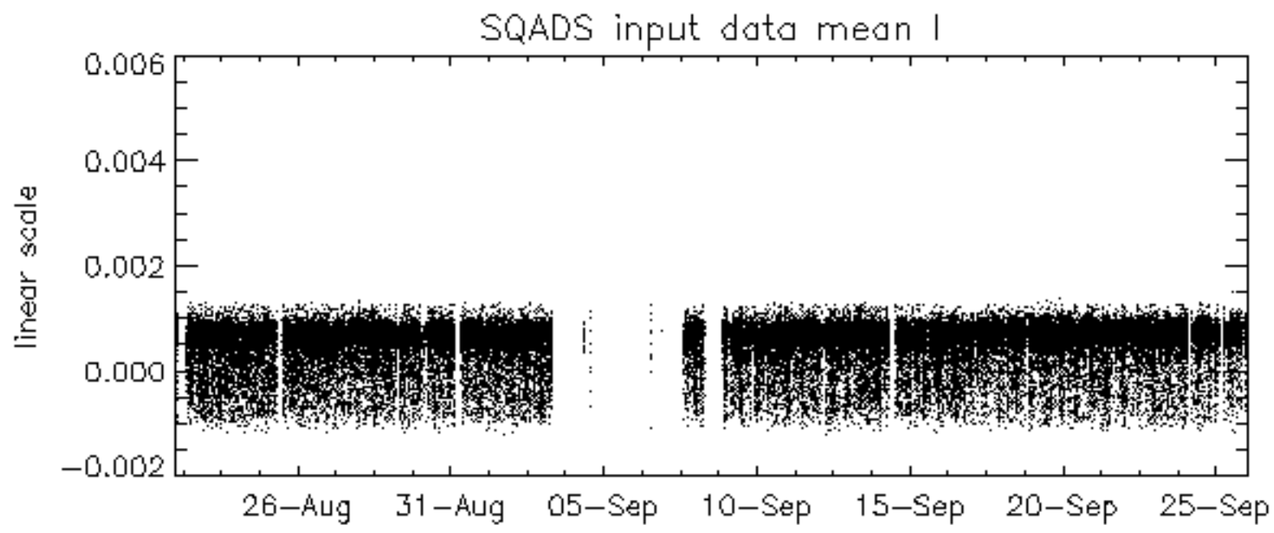

Reference: NULL H RxPhase
Test : 2005-09-24 08:44:49 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

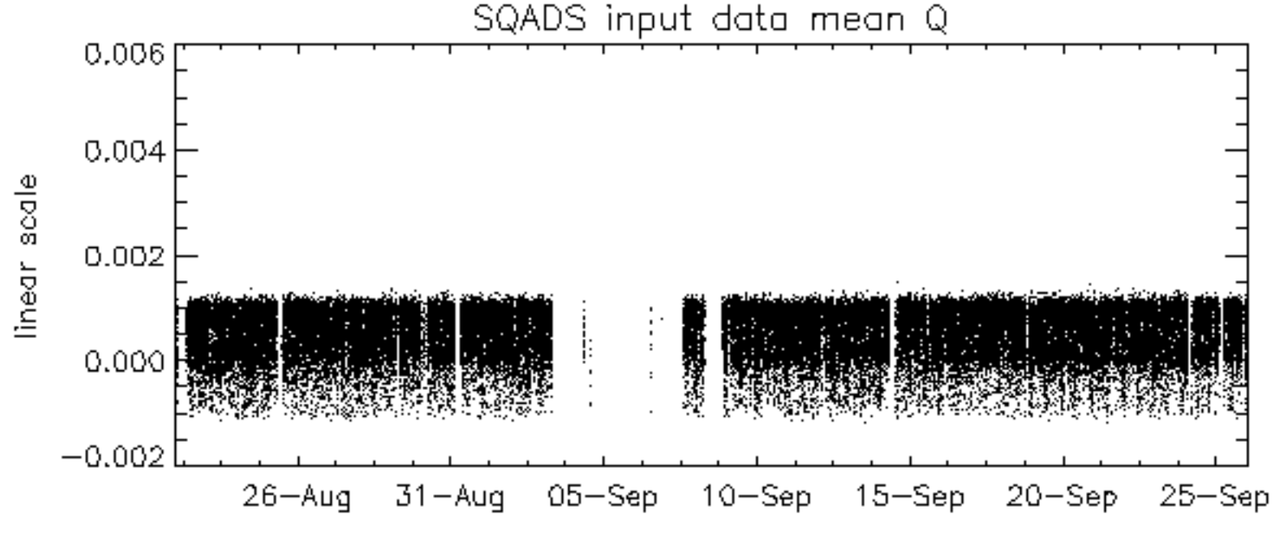

Reference: 2001-02-09 14:08:23 V
Test : 2005-09-25 09:53:48 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

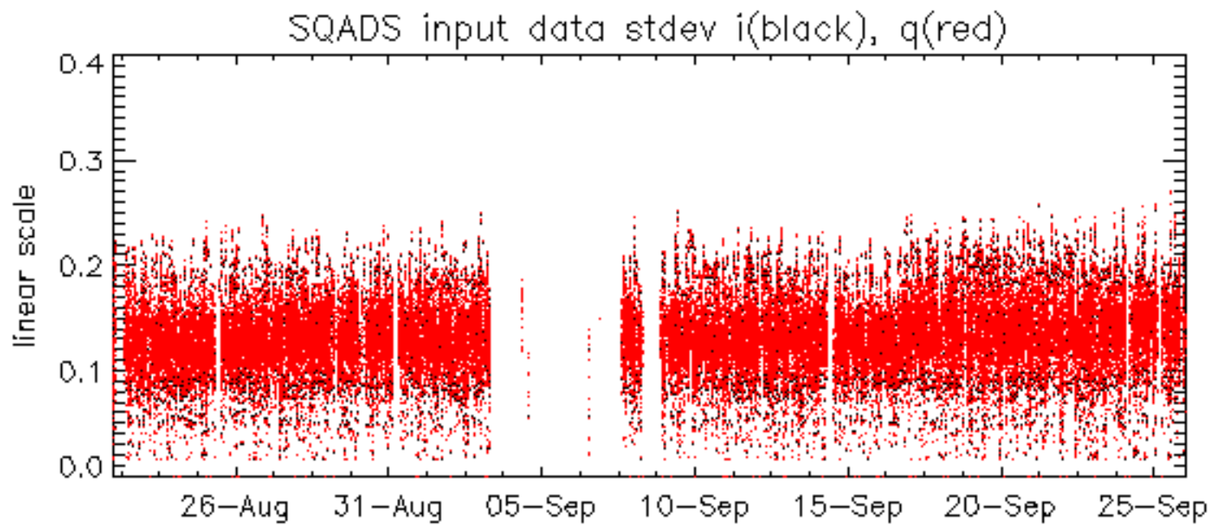

Reference: NULL V RxPhase
Test : 2005-09-25 09:53:48 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

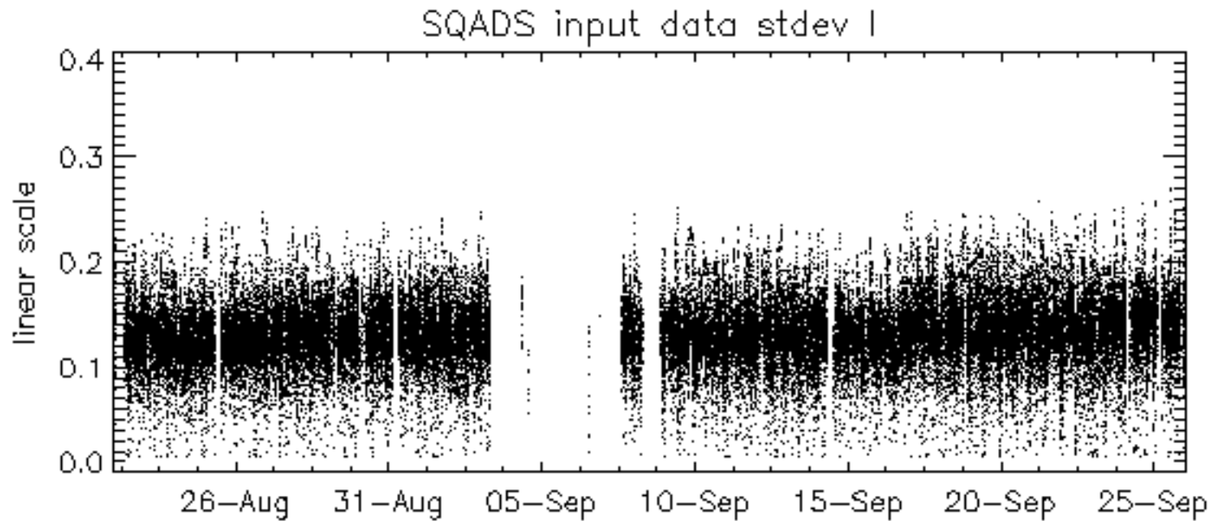

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

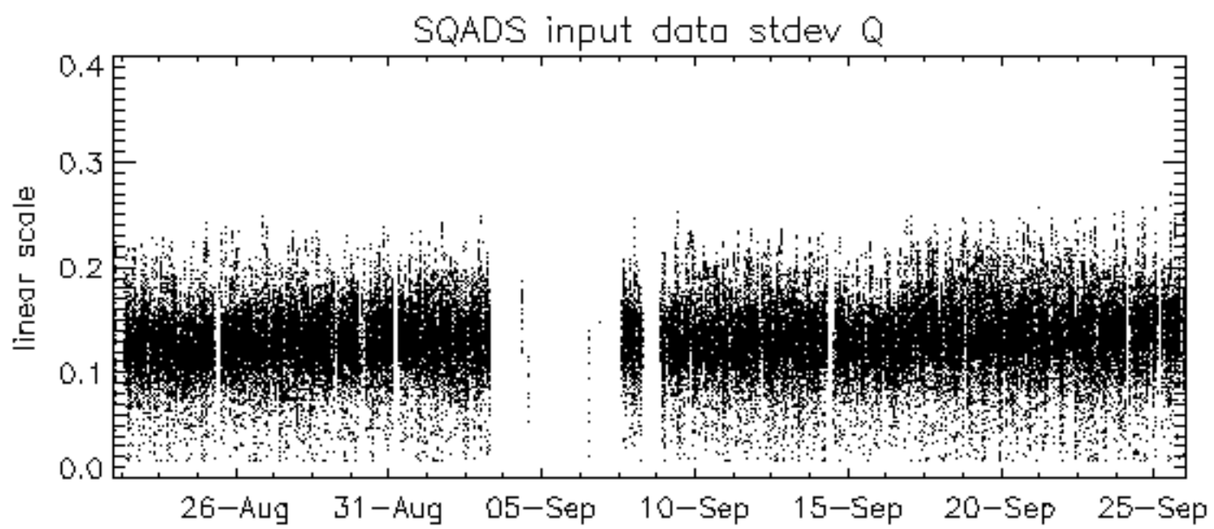

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Aug
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
25−Sep

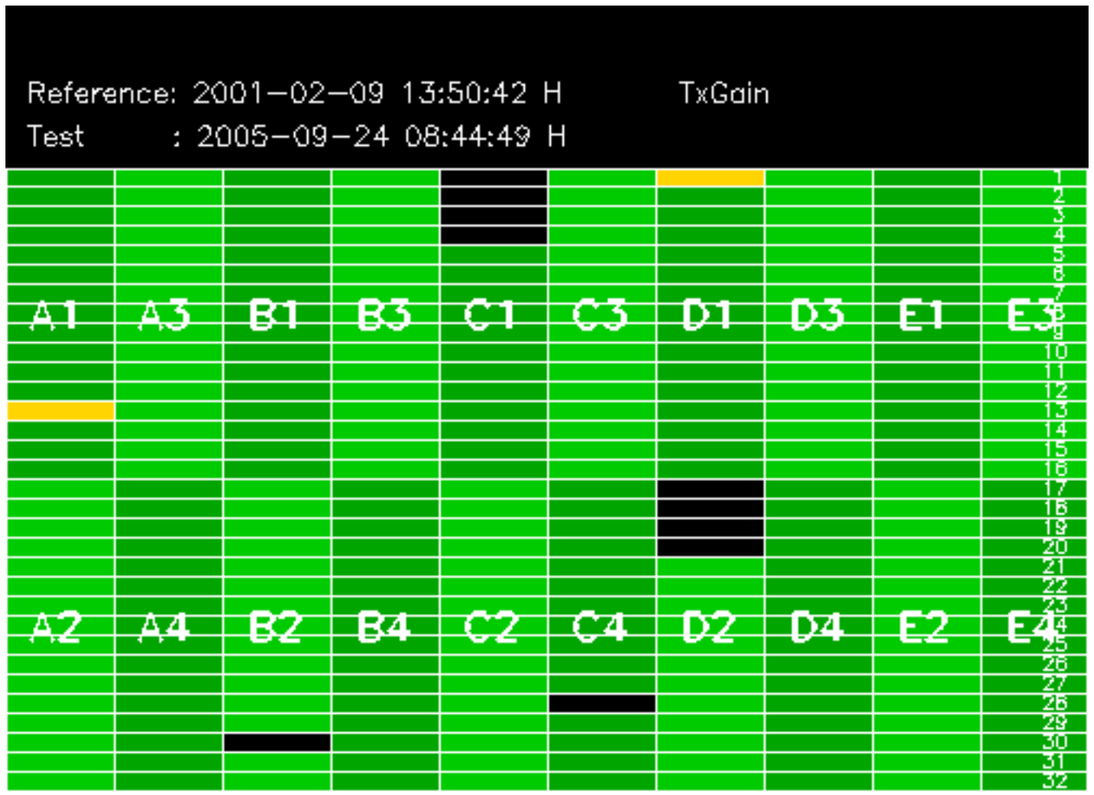

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Aug
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
25−Sep

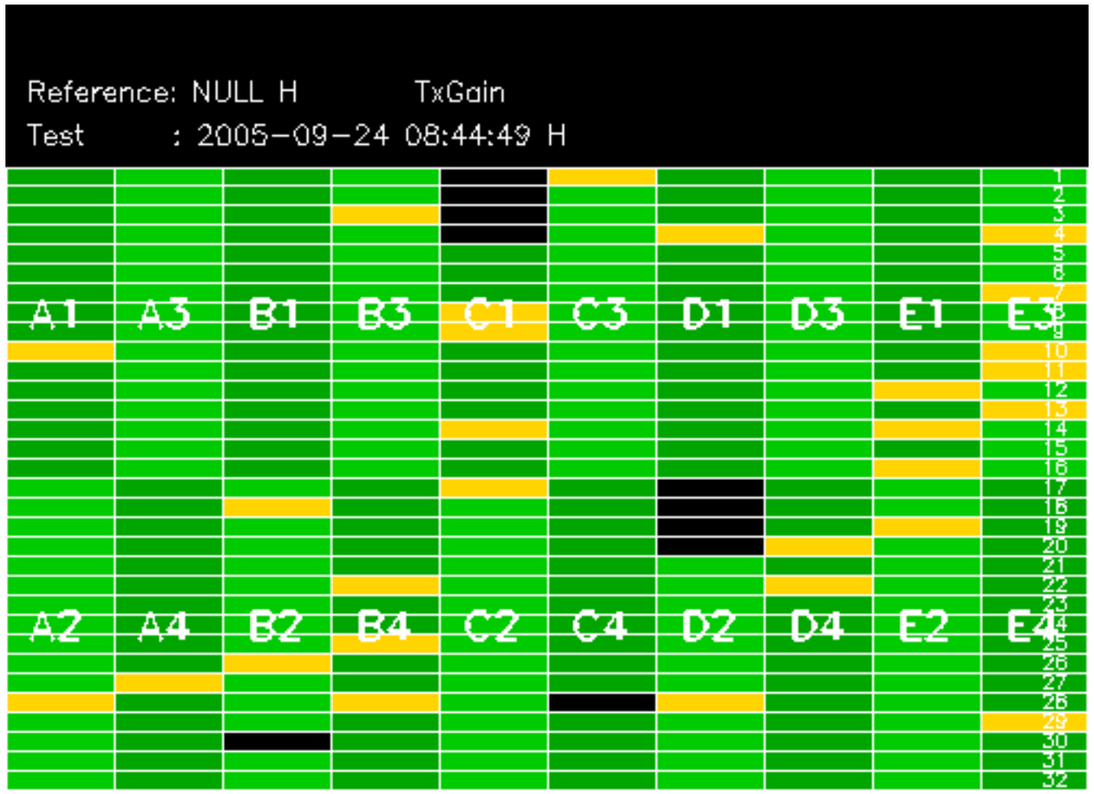

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Aug
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
25−Sep

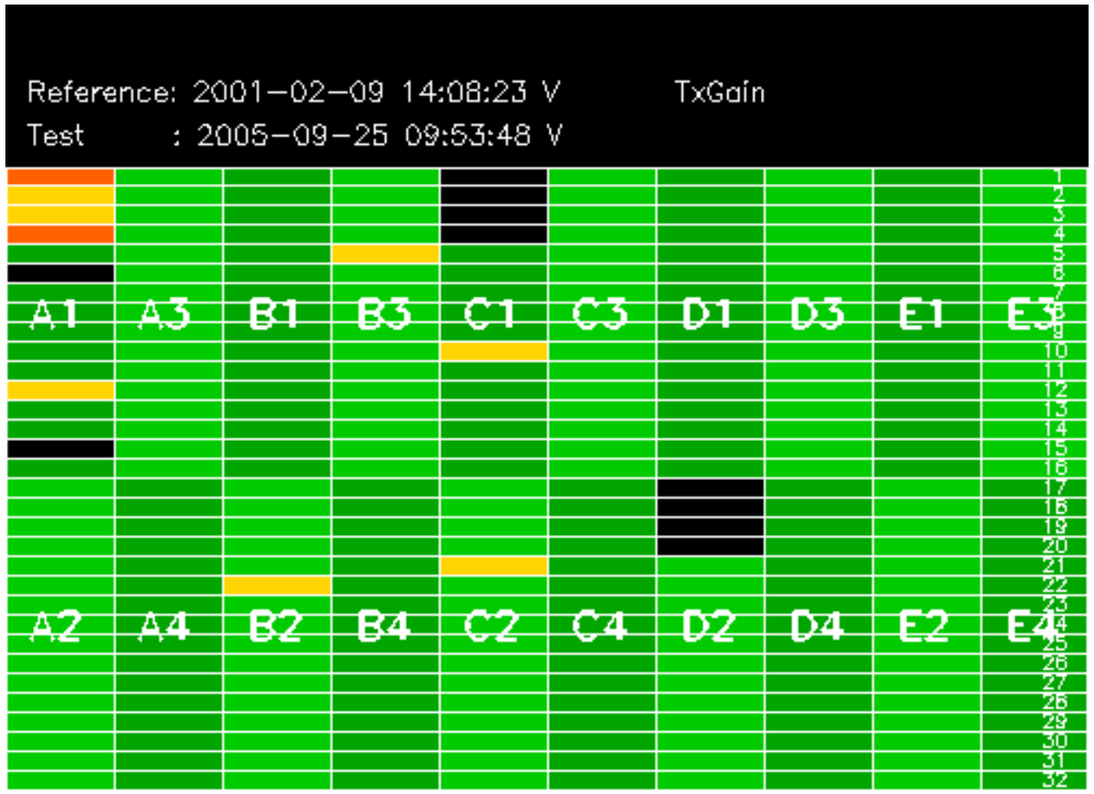

SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
26−Aug
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
25−Sep

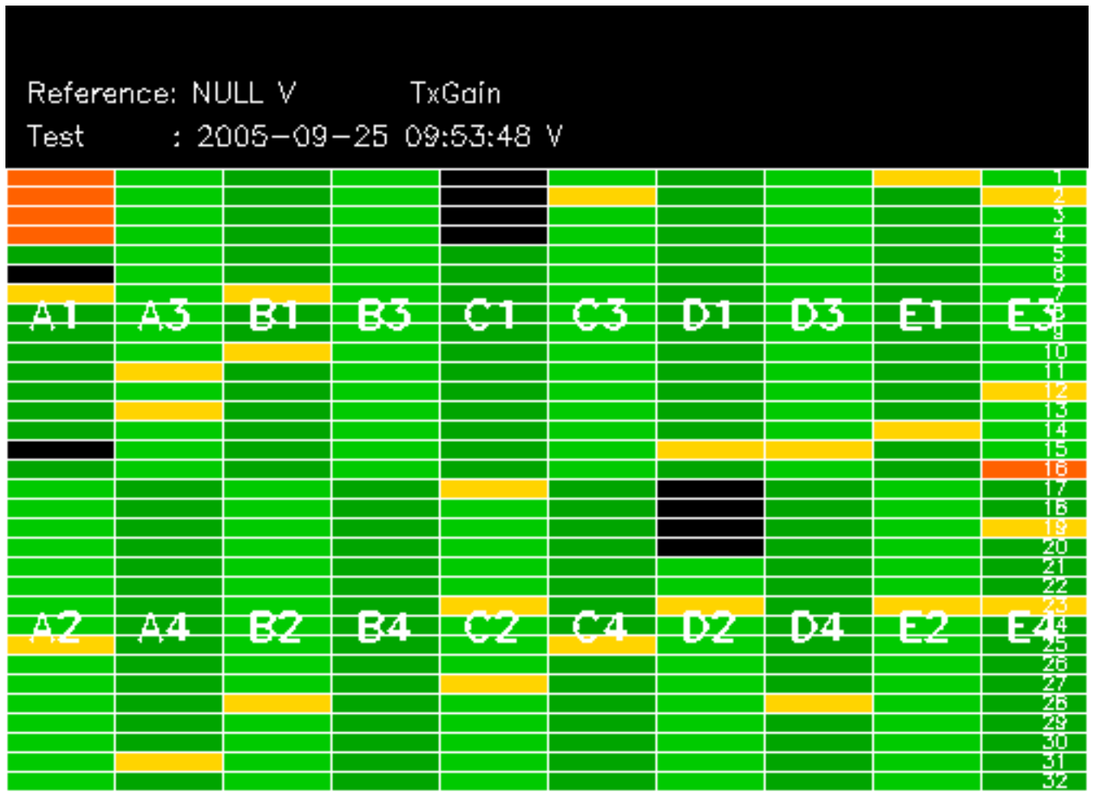

SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
26−Aug
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
25−Sep


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
26−Aug
31−Aug
05−Sep
10−Sep
15−Sep
20−Sep
25−Sep

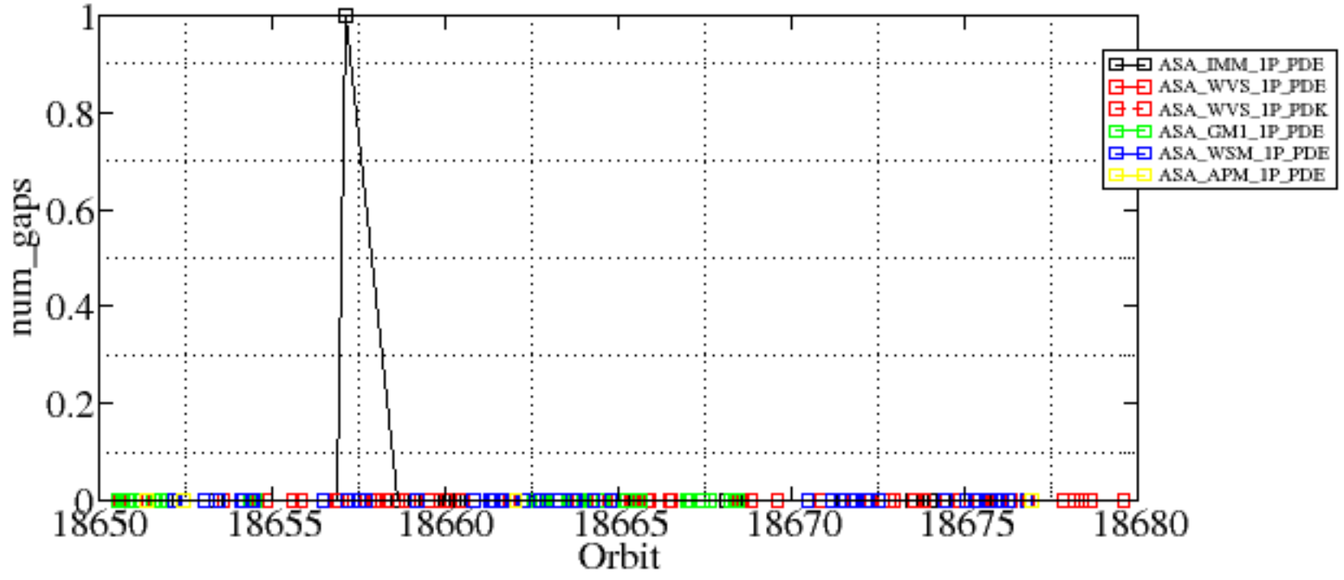

Reference: 2001-02-09 13:50:42 H
Test : 2005-09-24 08:44:49 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

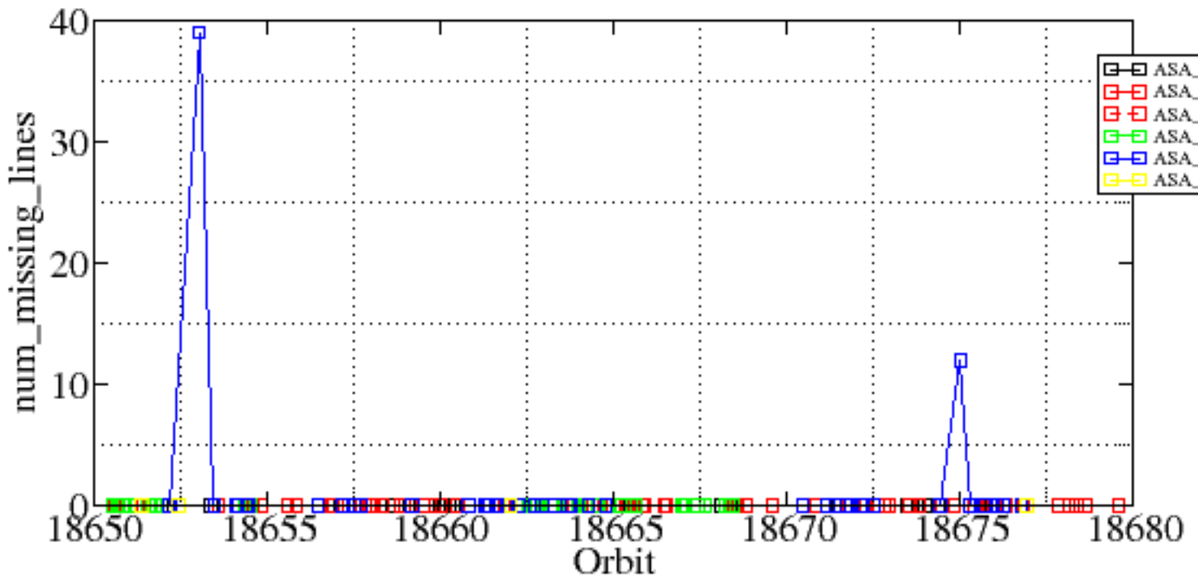

Reference: NULL H TxGain
Test : 2005-09-24 08:44:49 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

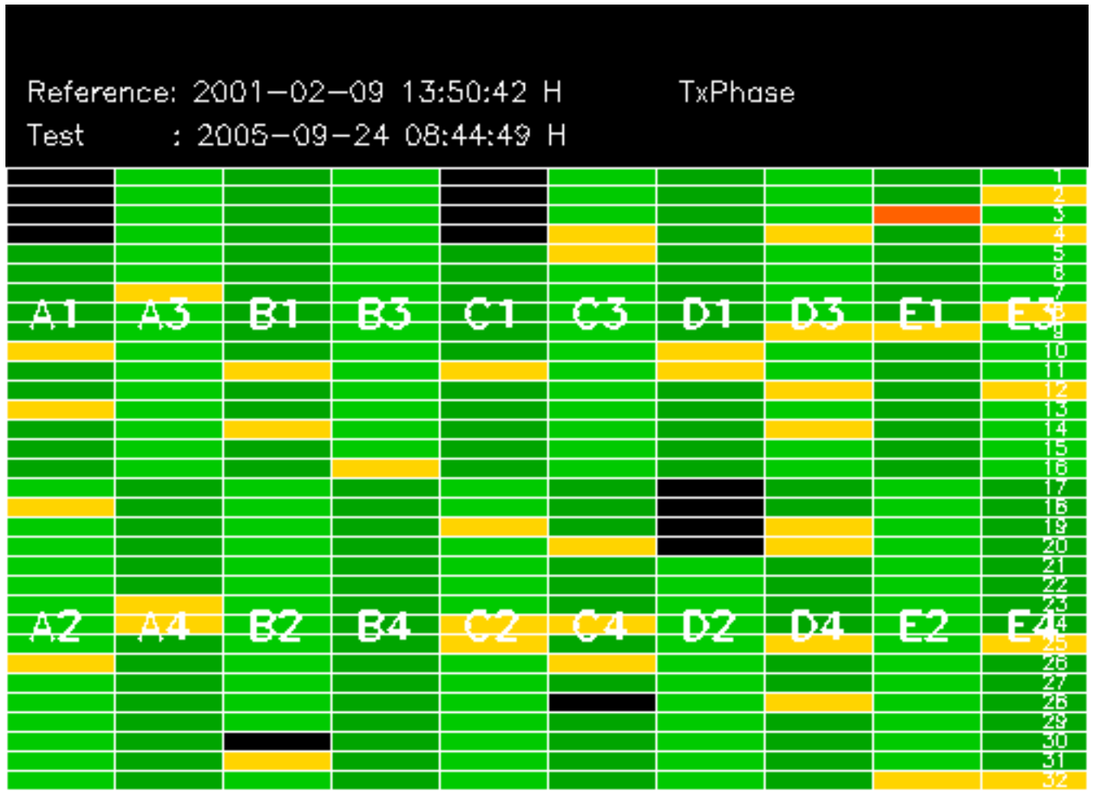

Reference: 2001-02-09 14:08:23 V
Test : 2005-09-25 09:53:48 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

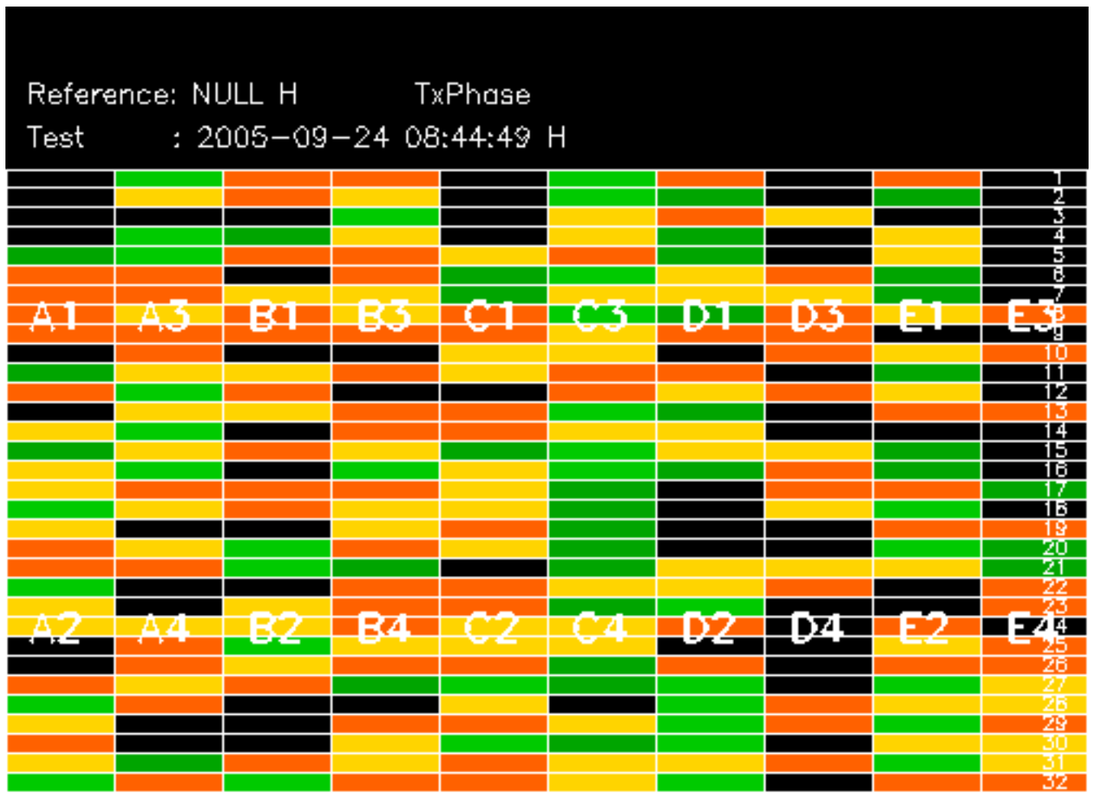

Reference: NULL V TxGain
Test : 2005-09-25 09:53:48 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

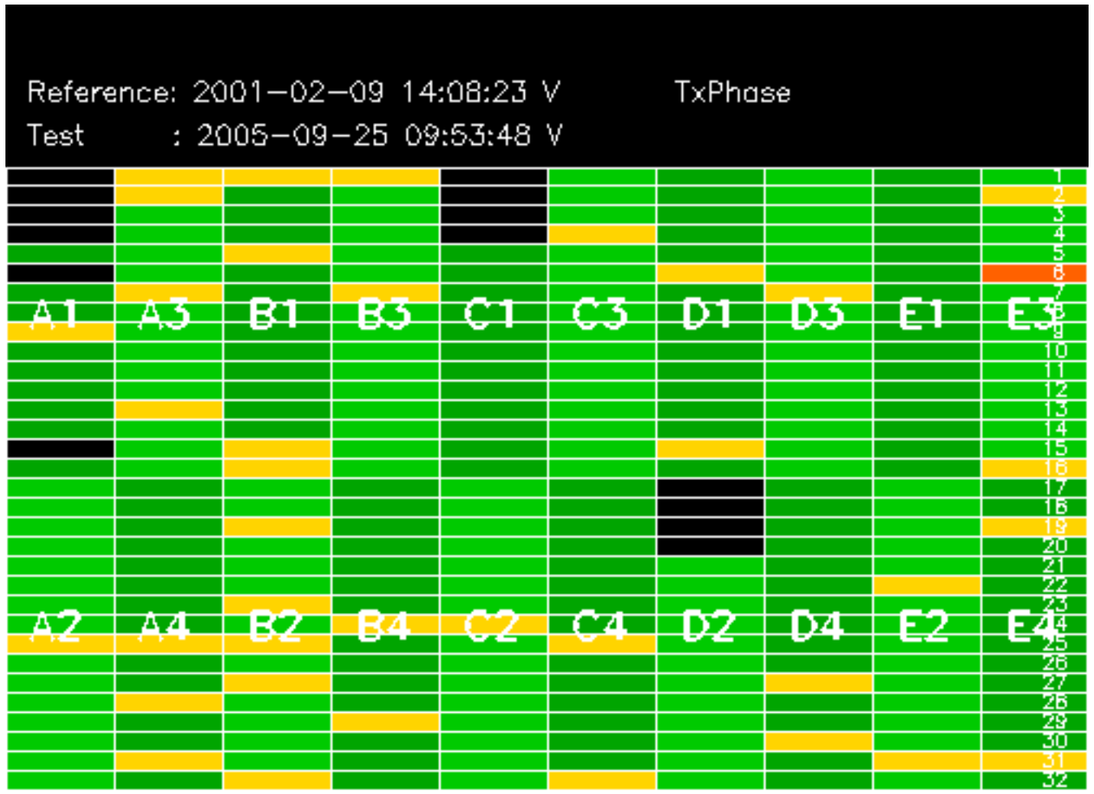
Summary of analysis for the last 3 days 2005092[456]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_IMM_1PNPDE20050924_111215_000000532041_00066_18657_6501.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20050924_042035_000003362041_00062_18653_0286.N1 </td> <td>0 </td> <td>39 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20050925_171036_000002382041_00084_18675_0541.N1 </td> <td>0 </td> <td>12 </td></tr>
</table>

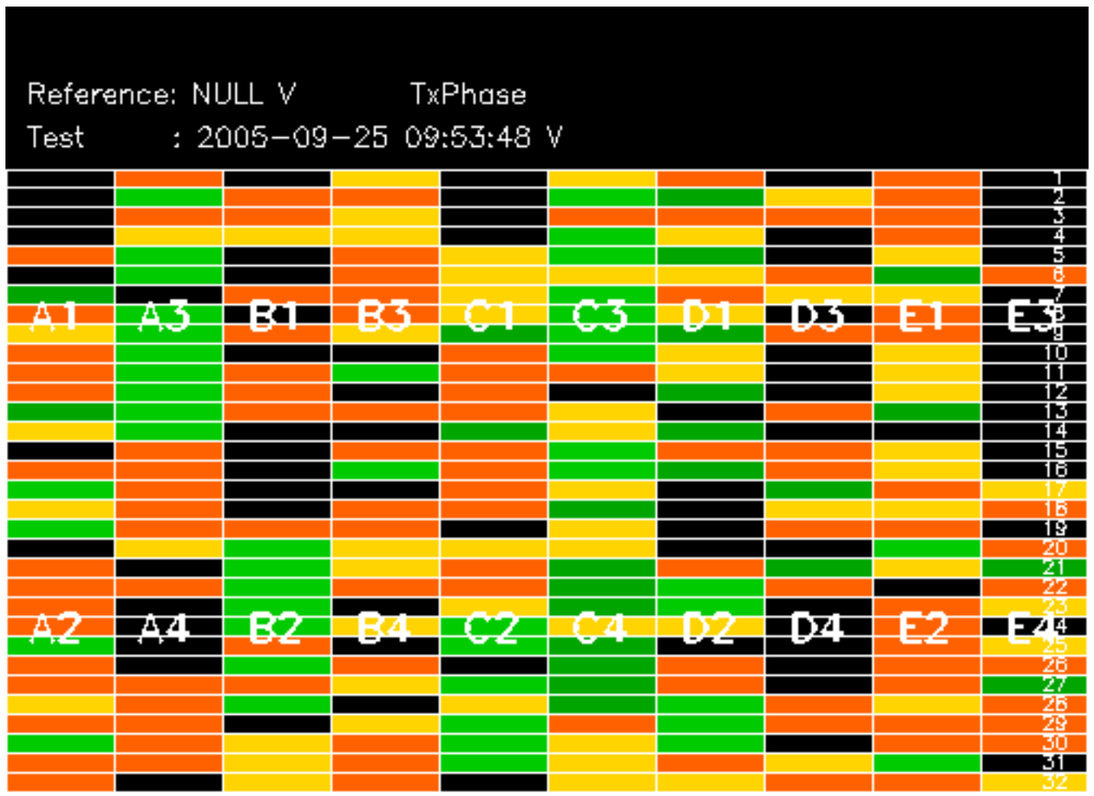

num_gaps
Orbit
1
0.8
0.6
0.4
0.2
0
18650
18655
18660
18665
18670
18675
18680
ASA_IMM_1P_PDE
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_WSM_1P_PDE
ASA_APM_1P_PDE

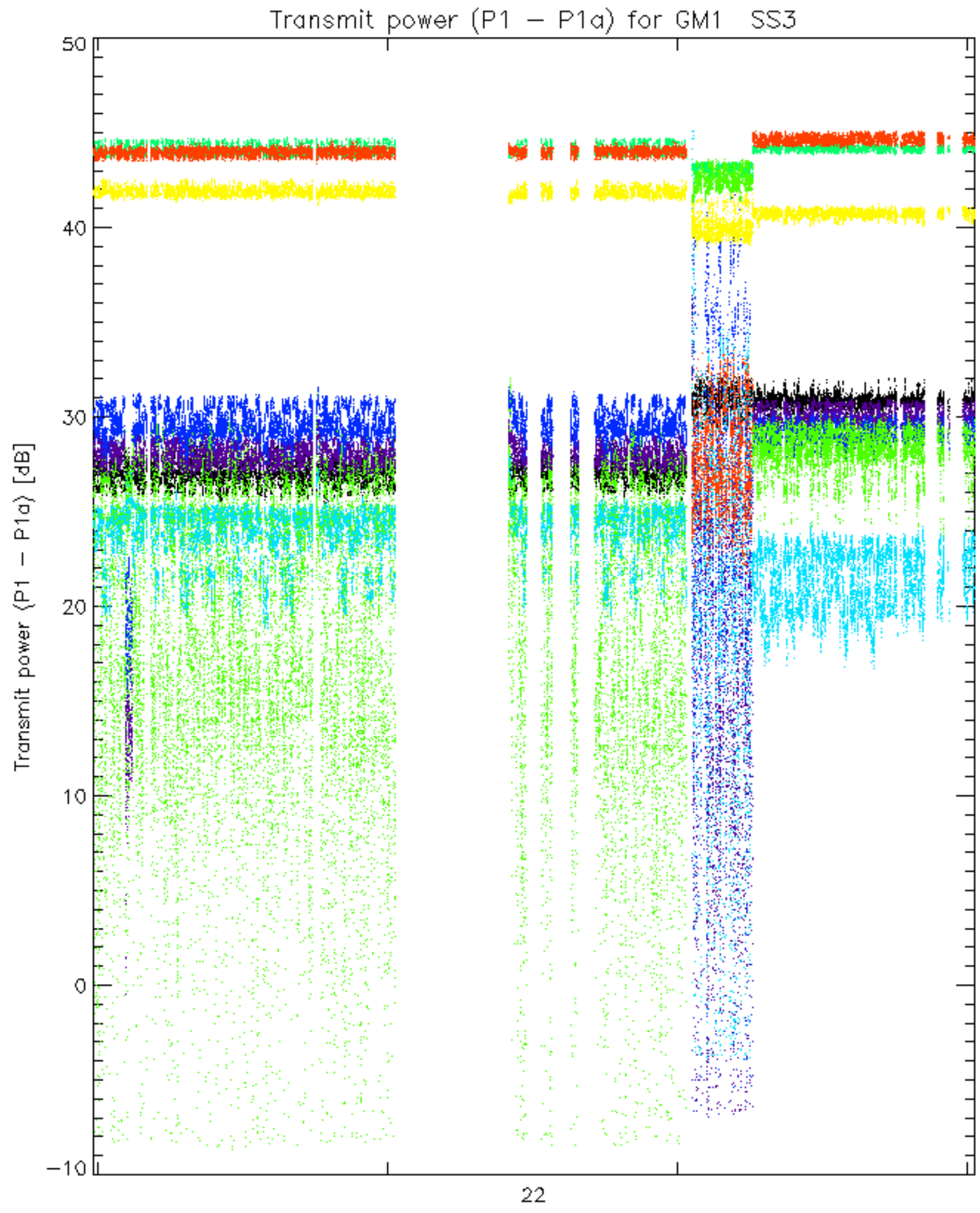

num_missing_lines
40
30
20
10
0
18650
18655
18660
18665
18670
18675
18680
Orbit
ASA_IMM_1P_PDE
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_WSM_1P_PDE
ASA_APM_1P_PDE

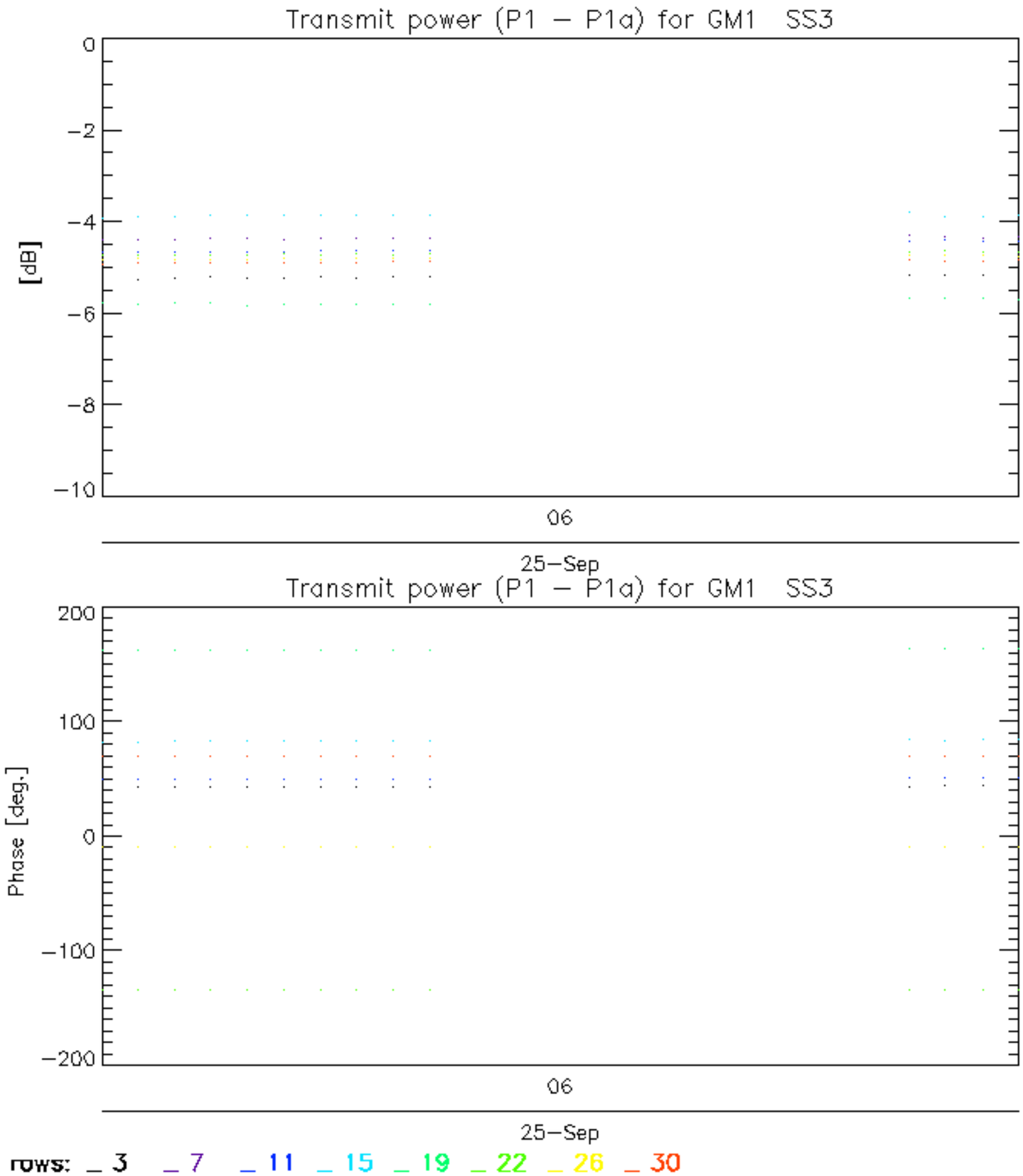

Reference: 2001-02-09 13:50:42 H
Test : 2005-09-24 08:44:49 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

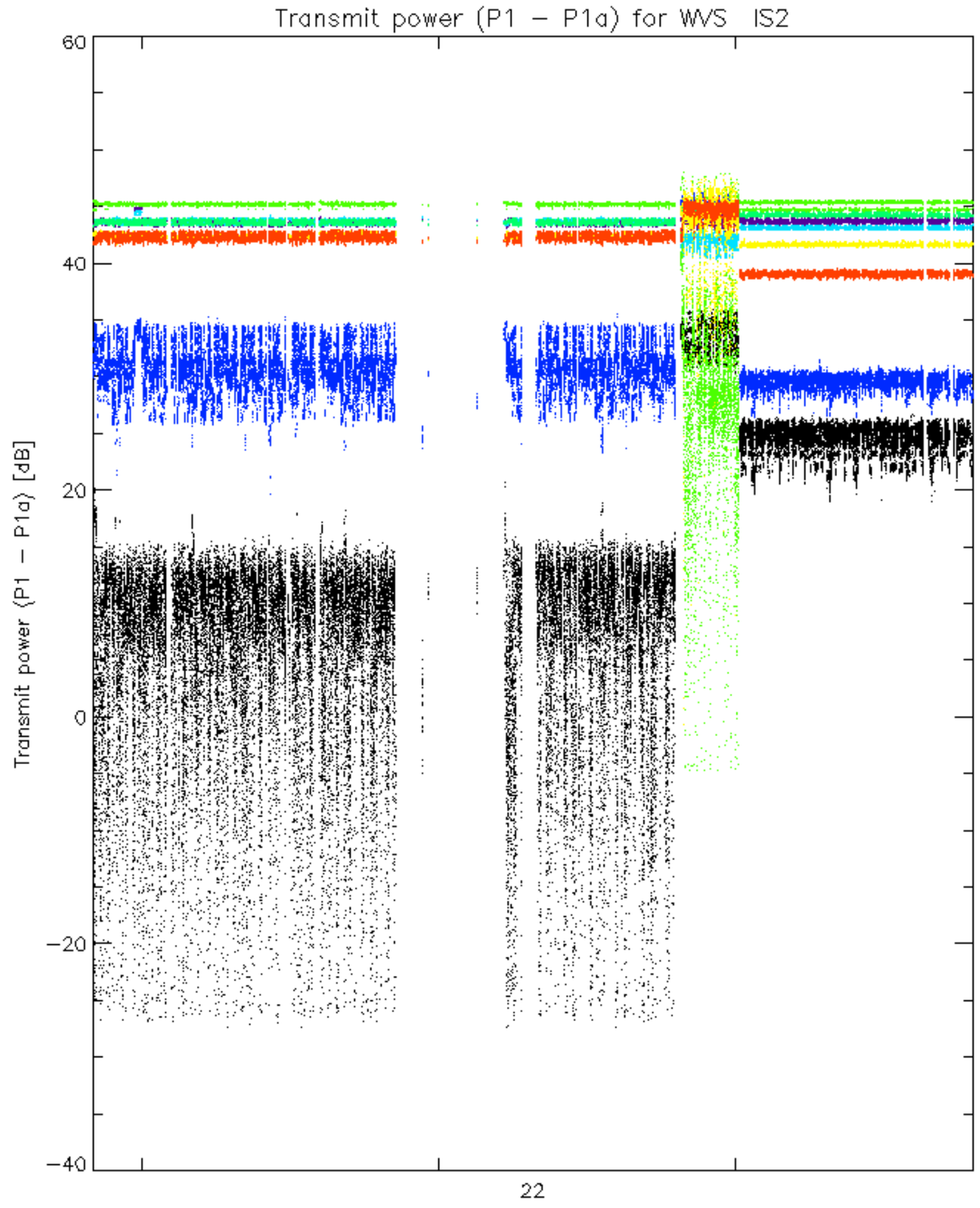

Reference: NULL H TxPhase
Test : 2005-09-24 08:44:49 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

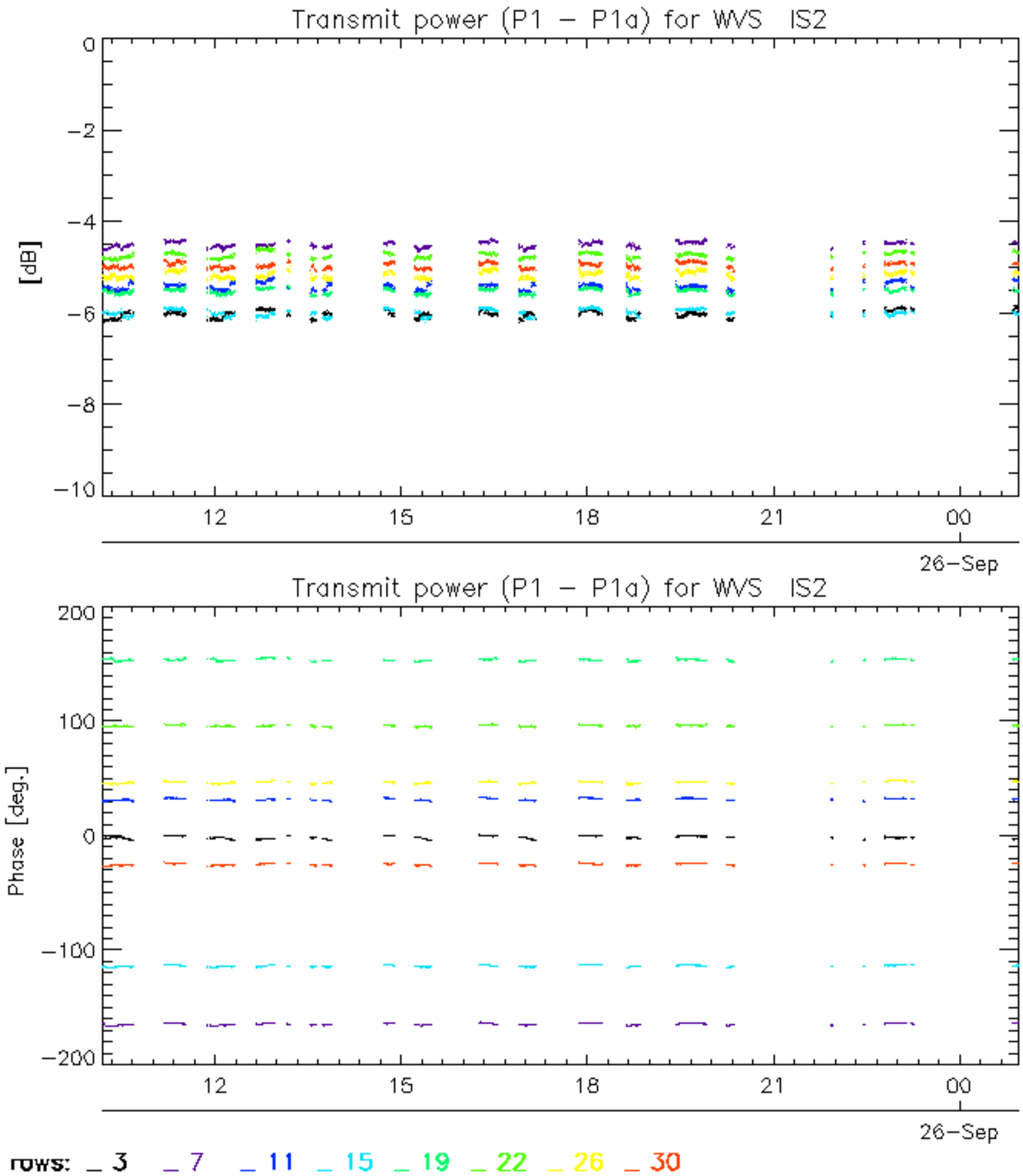

Reference: 2001-02-09 14:08:23 V
Test : 2005-09-25 09:53:48 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32


Reference: NULL V TxPhase
Test : 2005-09-25 09:53:48 V
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
22
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
0
−2
−4
−6
−8
−10
[dB]
06
25−Sep
Transmit power (P1 – P1a) for GM1 SS3
200
100
0
−100
−200
Phase [deg.]
06
25−Sep
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 − P1a) for WVS IS2
Transmit power ⟨P1 − P1a⟩ [dB]
60
40
20
0
−20
−40
22
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
0
−2
−4
−6
−8
−10
[dB]
12
15
18
21
00
26−Sep
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
12
15
18
21
00
26−Sep
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.