PRELIMINARY REPORT OF 050615

last update on Wed Jun 15 11:26:54 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 2005-06-14 00:00:00 to 2005-06-15 11:26:54

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	24	40	10	2	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	24	40	10	2	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	24	40	10	2	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	24	40	10	2	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	41	56	0	0	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	41	56	0	0	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	41	56	0	0	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	41	56	0	0	0

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	20050614 085038
H	20050613 092215

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
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4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1
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☒

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	-3.332068	0.008069	0.016311
7	P1	-3.141623	0.015234	-0.037805
11	P1	-4.622421	0.034081	0.013619
15	P1	-5.490374	0.042169	0.004079
19	P1	-3.741975	0.004417	-0.034037
22	P1	-4.586702	0.016376	-0.011840
26	P1	-4.849697	0.021301	0.019708
30	P1	-7.140012	0.027041	0.002313
3	P1	-15.569236	0.118388	0.131088
7	P1	-15.593225	0.116767	-0.106215
11	P1	-21.378050	0.307733	-0.158769
15	P1	-11.294484	0.049774	0.073734
19	P1	-14.415385	0.032780	-0.079014
22	P1	-15.940831	0.321775	0.072683
26	P1	-17.725096	0.390944	-0.026878
30	P1	-17.822390	0.215053	0.107016

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.005562	0.079946	0.111309
7	P2	-22.191479	0.098006	0.043224
11	P2	-13.943664	0.093955	0.220976
15	P2	-7.136224	0.088608	-0.028766
19	P2	-9.615377	0.089362	0.028880
22	P2	-16.882317	0.088318	0.016094
26	P2	-16.504856	0.090878	-0.002699
30	P2	-18.793690	0.076650	0.031065

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.162540	0.002761	0.002764
7	P3	-8.162540	0.002761	0.002764
11	P3	-8.162540	0.002761	0.002764
15	P3	-8.162540	0.002761	0.002764
19	P3	-8.162540	0.002761	0.002764
22	P3	-8.162540	0.002761	0.002764
26	P3	-8.162540	0.002761	0.002764
30	P3	-8.162540	0.002761	0.002764

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	-2.795424	0.013847	-0.016929
7	P1	-2.938034	0.030112	0.019201
11	P1	-3.959810	0.017880	-0.006670
15	P1	-3.529489	0.024279	-0.007926
19	P1	-3.634327	0.015806	-0.020530
22	P1	-5.636718	0.046303	0.018496
26	P1	-7.299229	0.036430	-0.037126
30	P1	-6.291541	0.043628	-0.039012
3	P1	-10.836893	0.042525	-0.008731
7	P1	-10.375472	0.163816	-0.001700
11	P1	-12.551365	0.113592	-0.013374
15	P1	-11.610726	0.085278	-0.004956
19	P1	-15.616161	0.063312	-0.025937
22	P1	-26.045681	3.354162	-0.488606
26	P1	-15.619693	0.382282	0.033027
30	P1	-20.206957	1.124773	0.080975

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.749386	0.044656	0.073416
7	P2	-22.140390	0.039067	0.075112
11	P2	-9.890926	0.057906	0.162512
15	P2	-5.120583	0.045776	-0.040277
19	P2	-6.911182	0.058606	-0.033665
22	P2	-7.100515	0.038841	0.000440
26	P2	-23.958101	0.037198	-0.023391
30	P2	-21.949520	0.039490	-0.039343

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.995015	0.004058	0.000535
7	P3	-7.994902	0.004058	0.000313
11	P3	-7.995053	0.004036	-0.000231
15	P3	-7.994961	0.004036	0.000275
19	P3	-7.994907	0.004052	-0.000058
22	P3	-7.995063	0.004042	0.000370
26	P3	-7.995027	0.004047	-0.000114
30	P3	-7.995018	0.004045	0.000039

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	0.000459554
	stdev	2.16898e-07
MEAN Q	mean	0.000499450
	stdev	2.28311e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127976
	stdev	0.000959419
STDEV Q	mean	0.128213
	stdev	0.000970020

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005061[345]
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_1PNPDK20050614_125657_000001402038_00110_17198_0363.N1	1	0

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

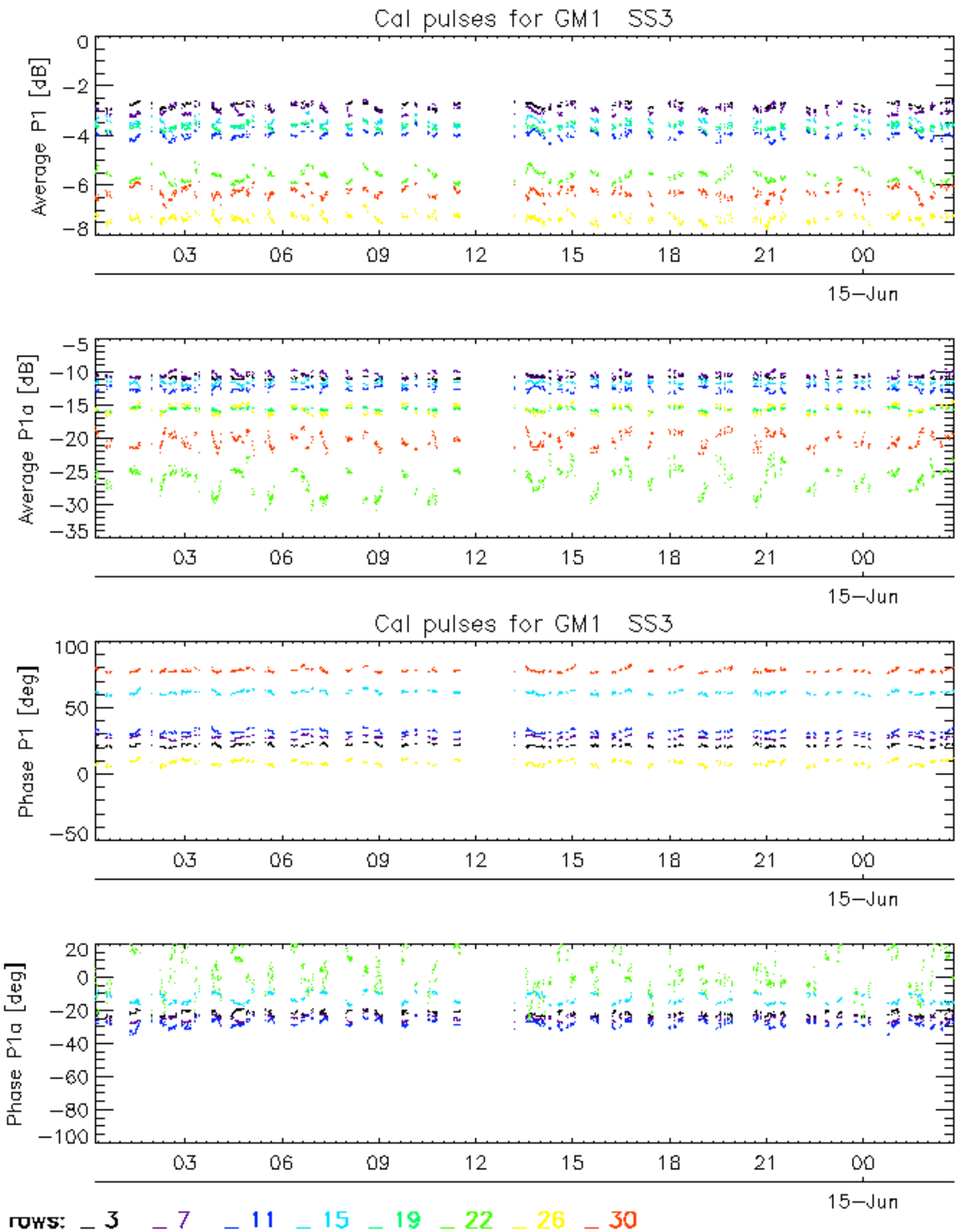
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

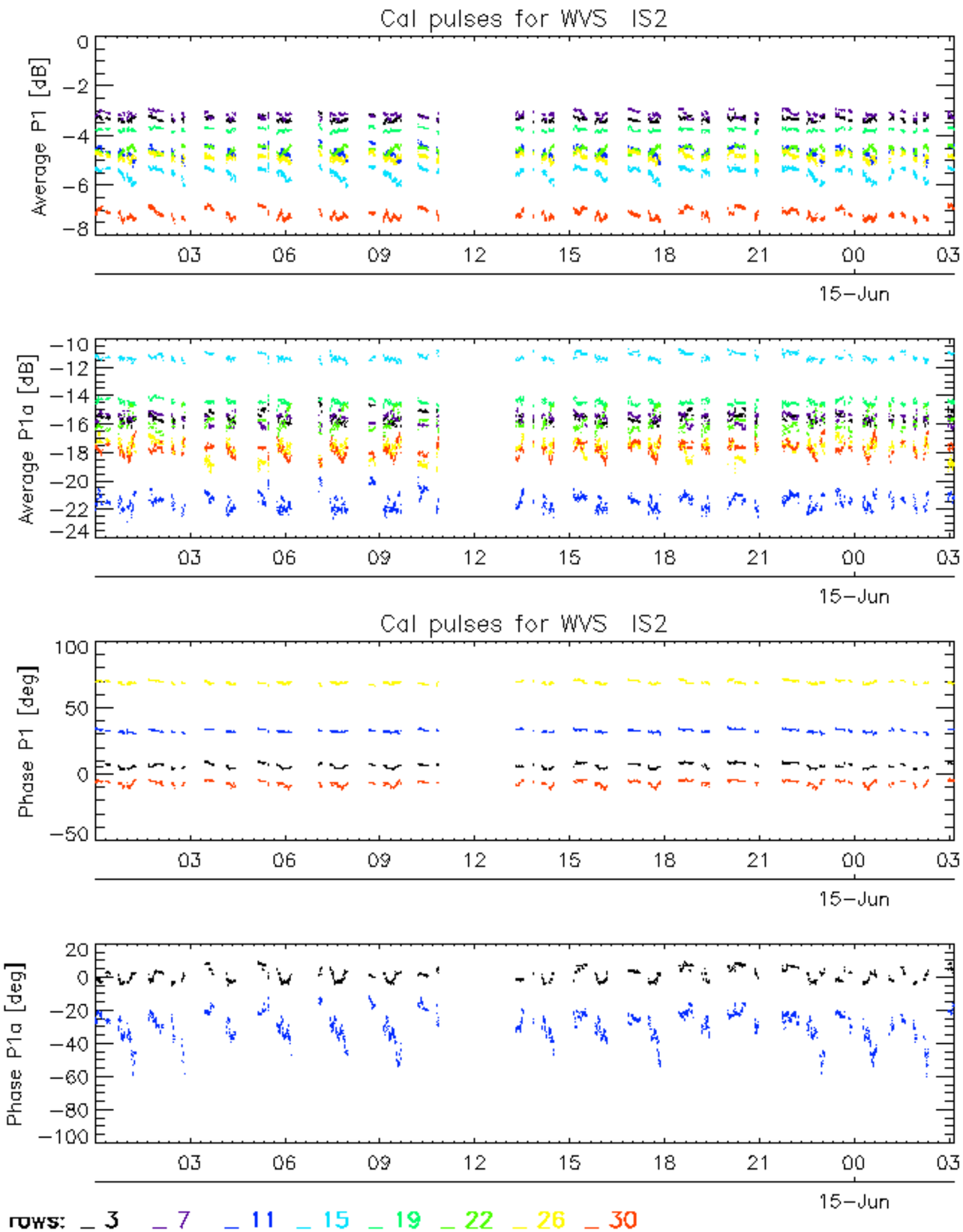
7.5 - Absolute Doppler for GM1

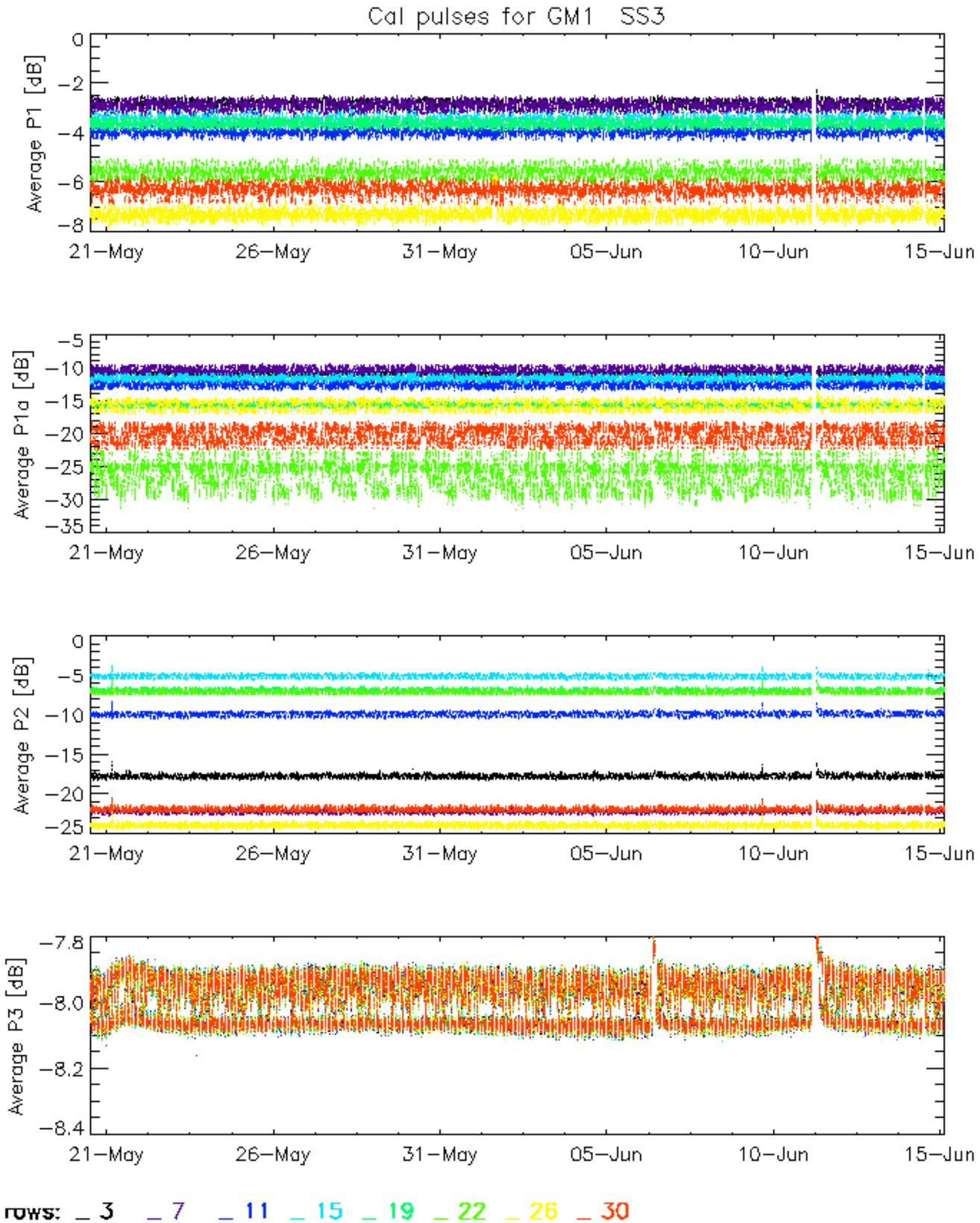
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

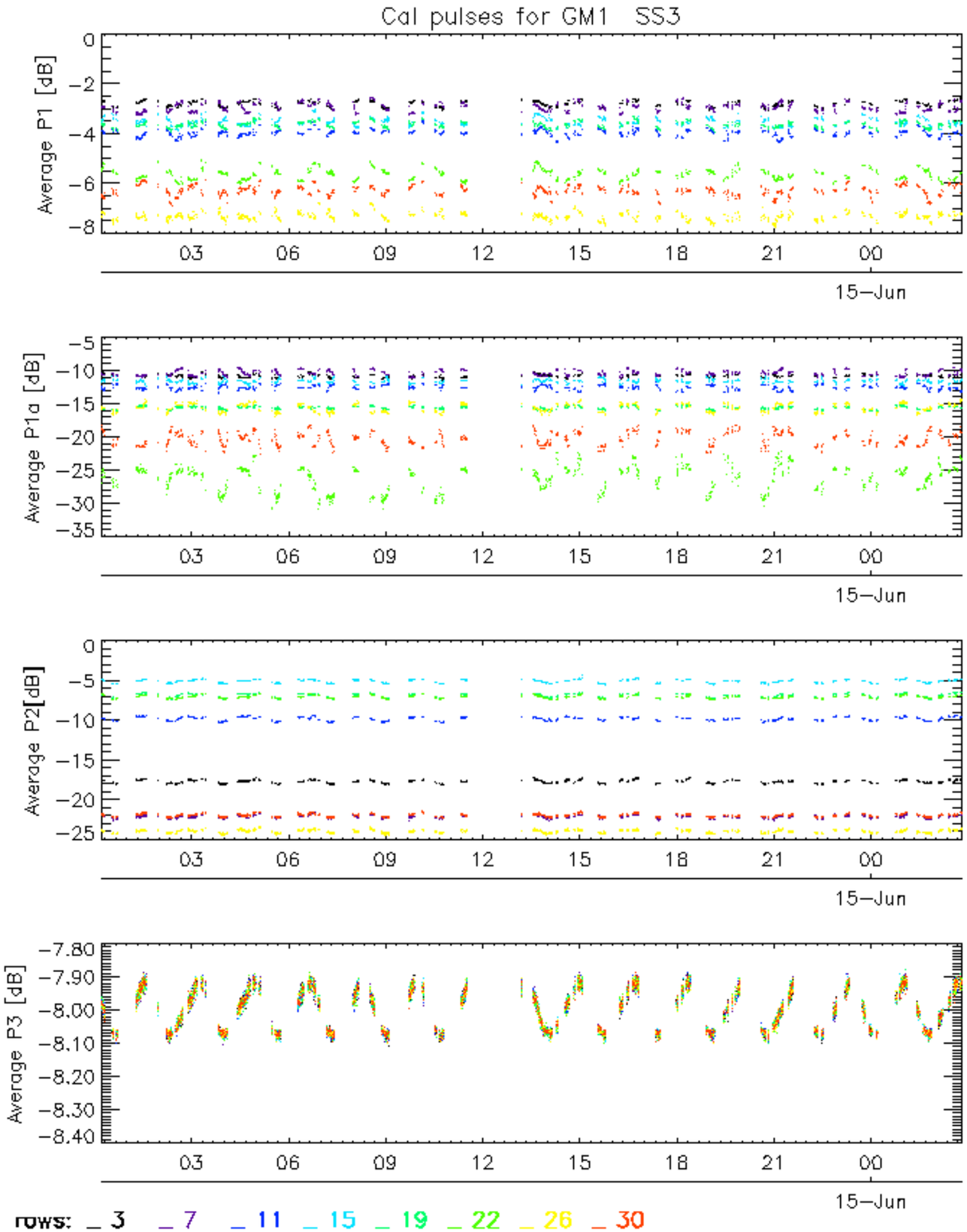
7.6 - Doppler evolution versus ANX for GM1

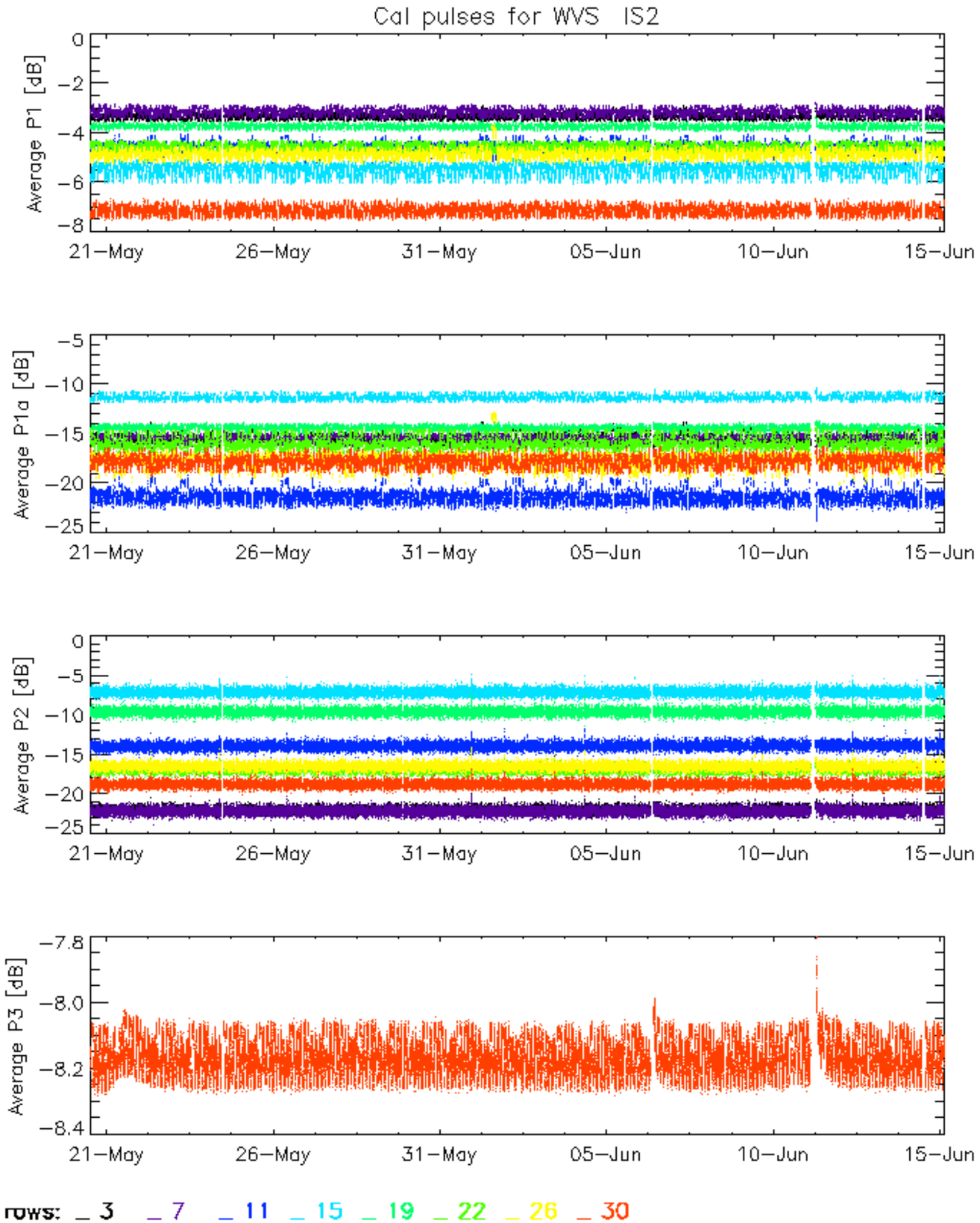
Evolution Doppler error versus ANX
☒

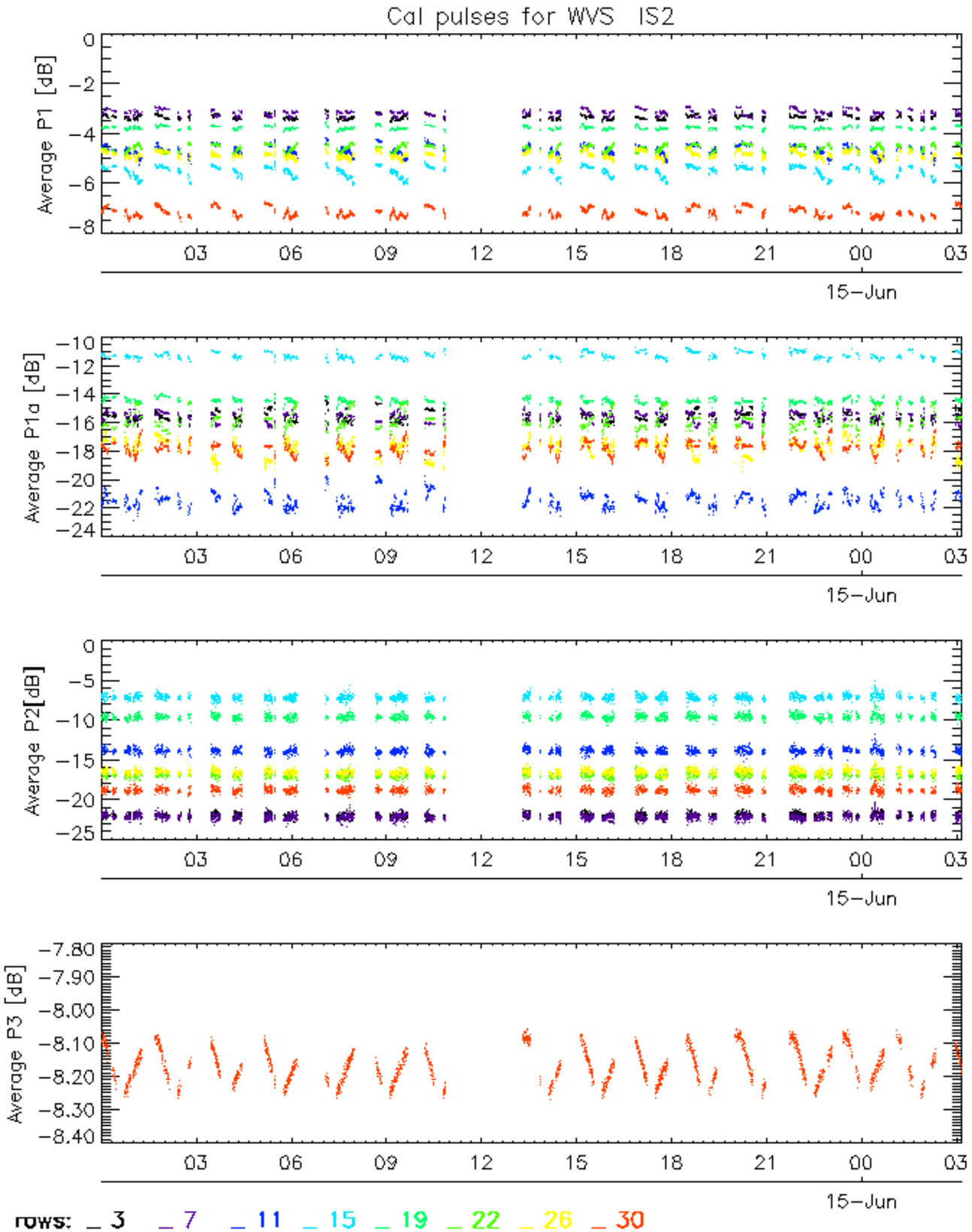

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
15−Jun
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
15−Jun
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
Cal pulses for WVS IS2
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30

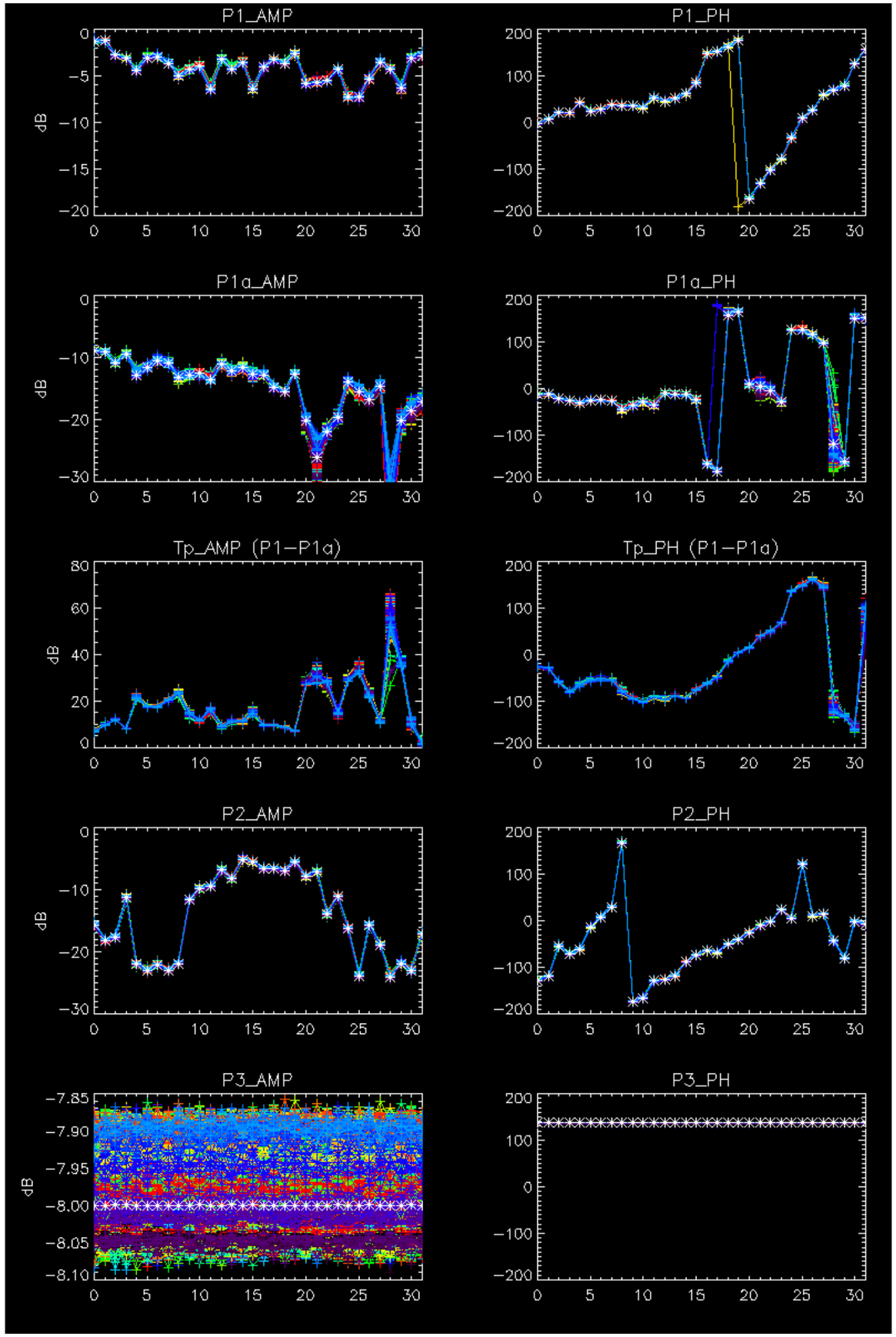

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
21−May
26−May
31−May
05−Jun
10−Jun
15−Jun
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

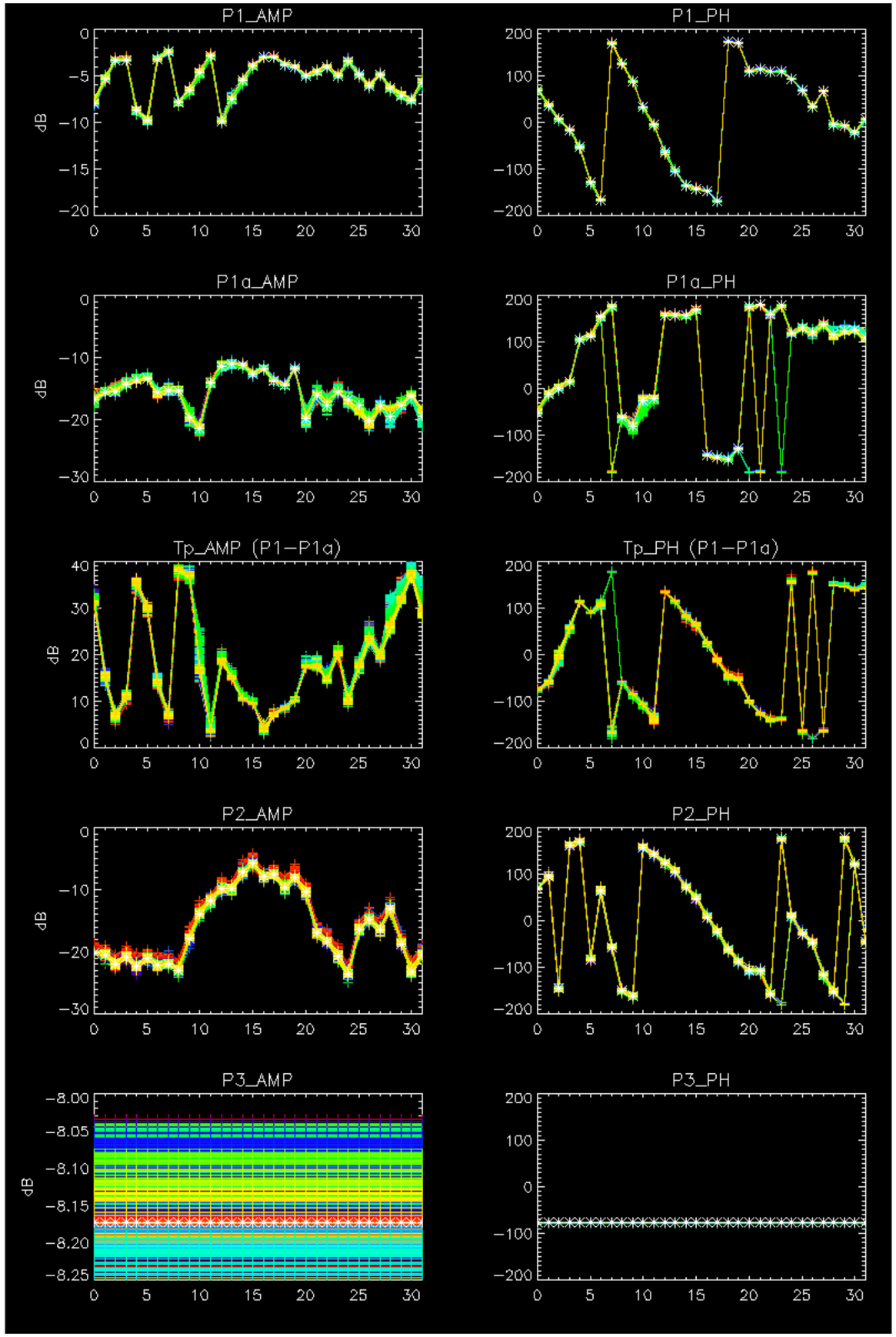

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
15−Jun
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
21−May
26−May
31−May
05−Jun
10−Jun
15−Jun
Average P1a [dB]
−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 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
15−Jun
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
−24
Average P2[dB]
−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 _ 26 _ 30

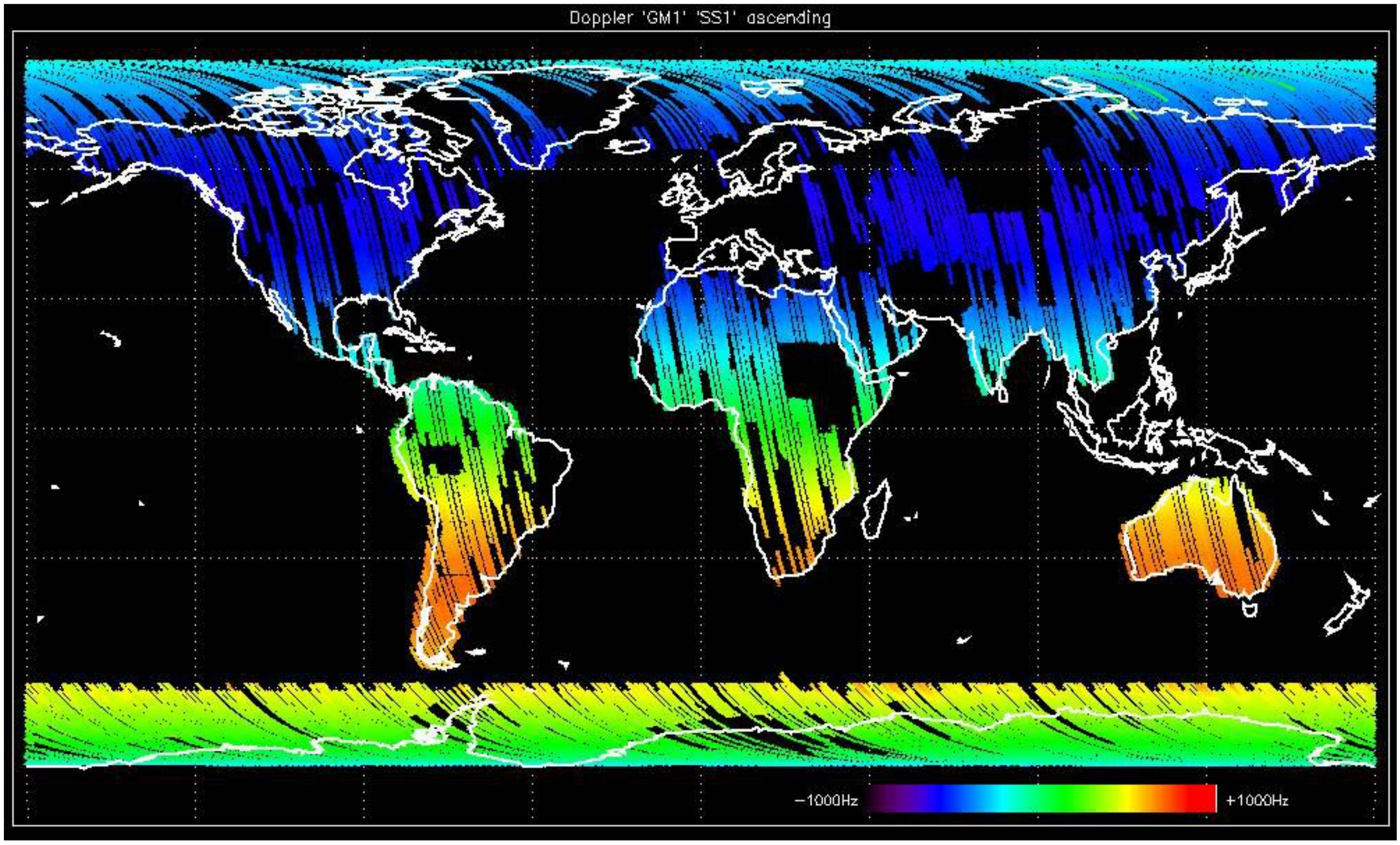
No anomalies observed.

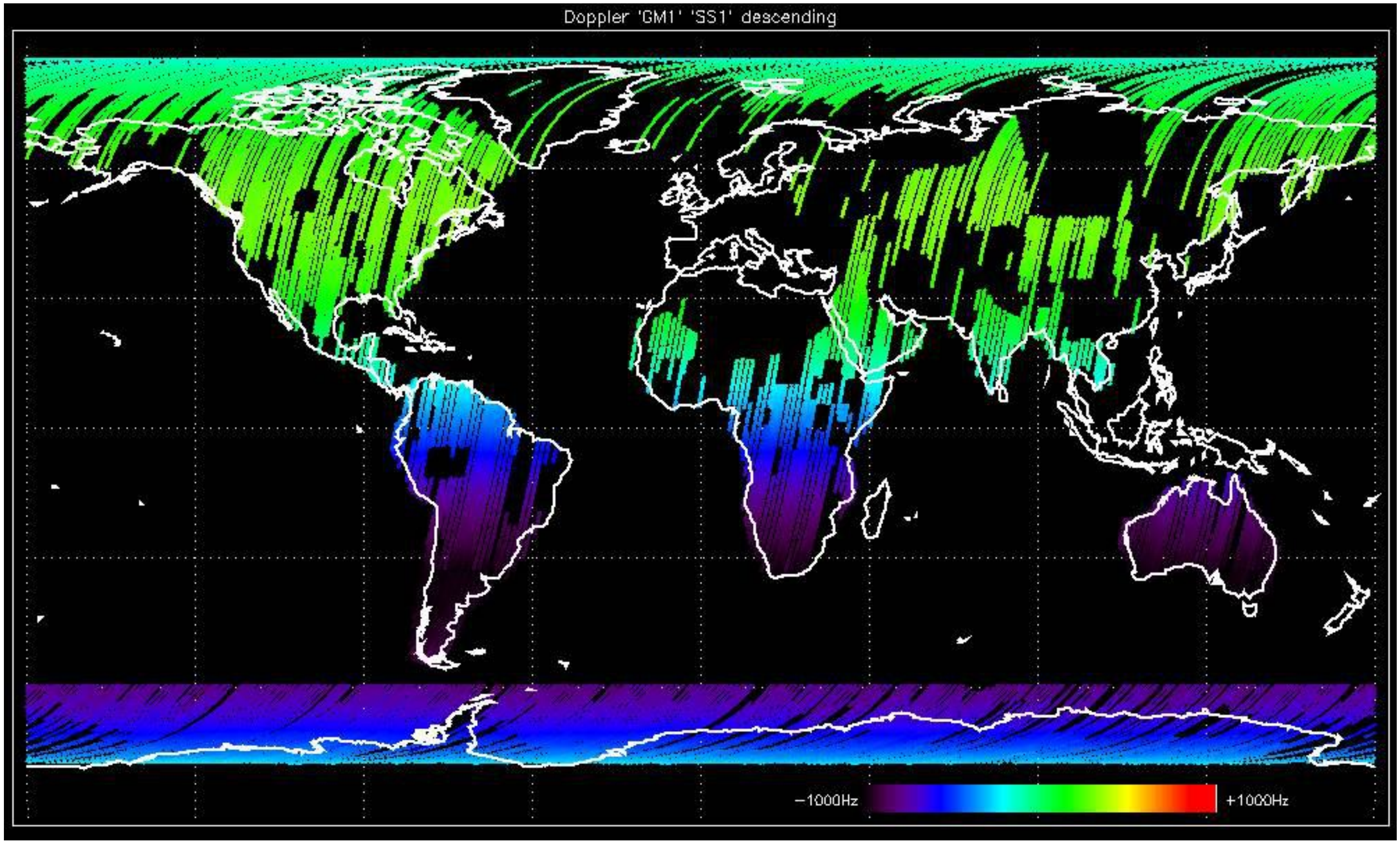

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

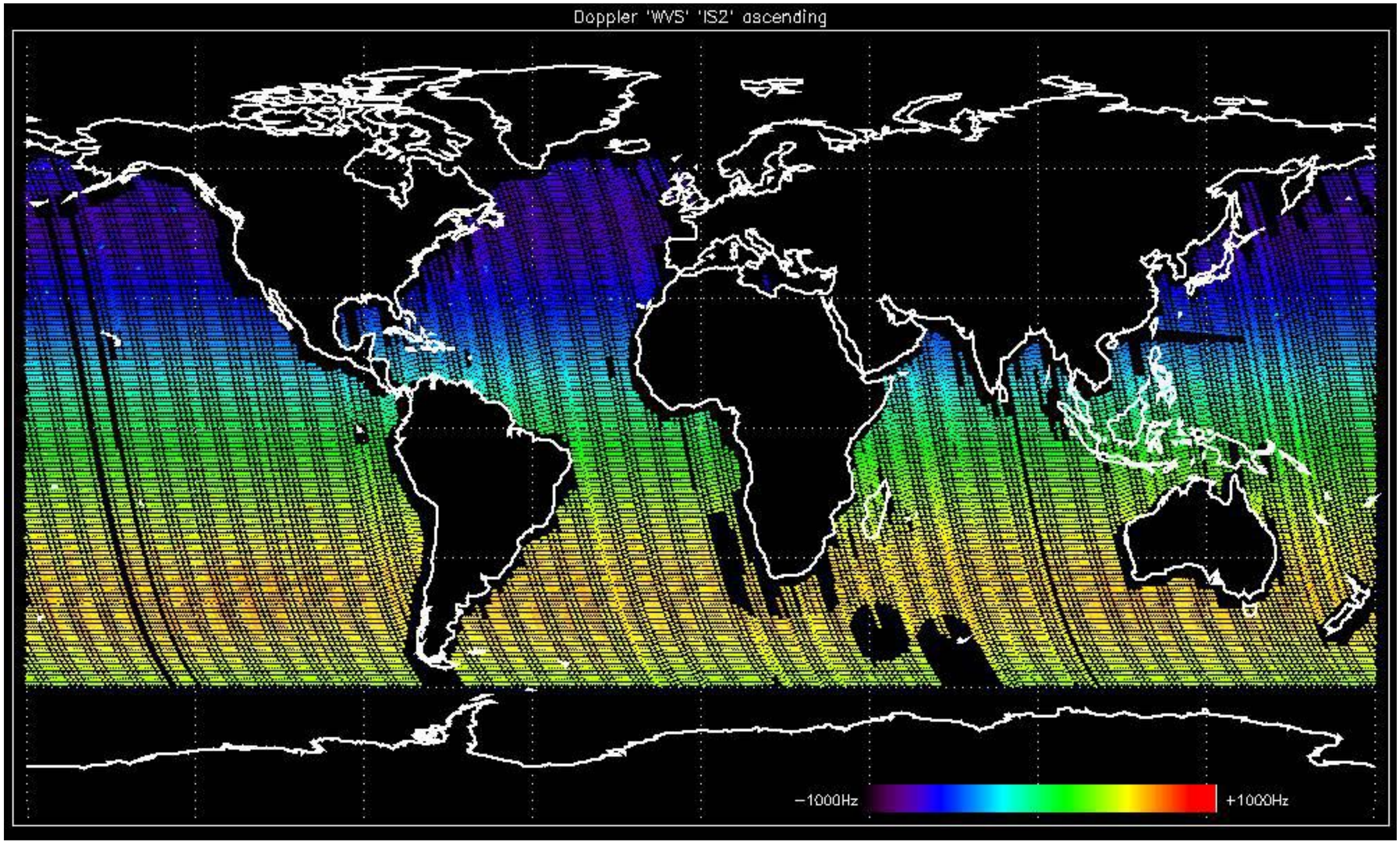

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

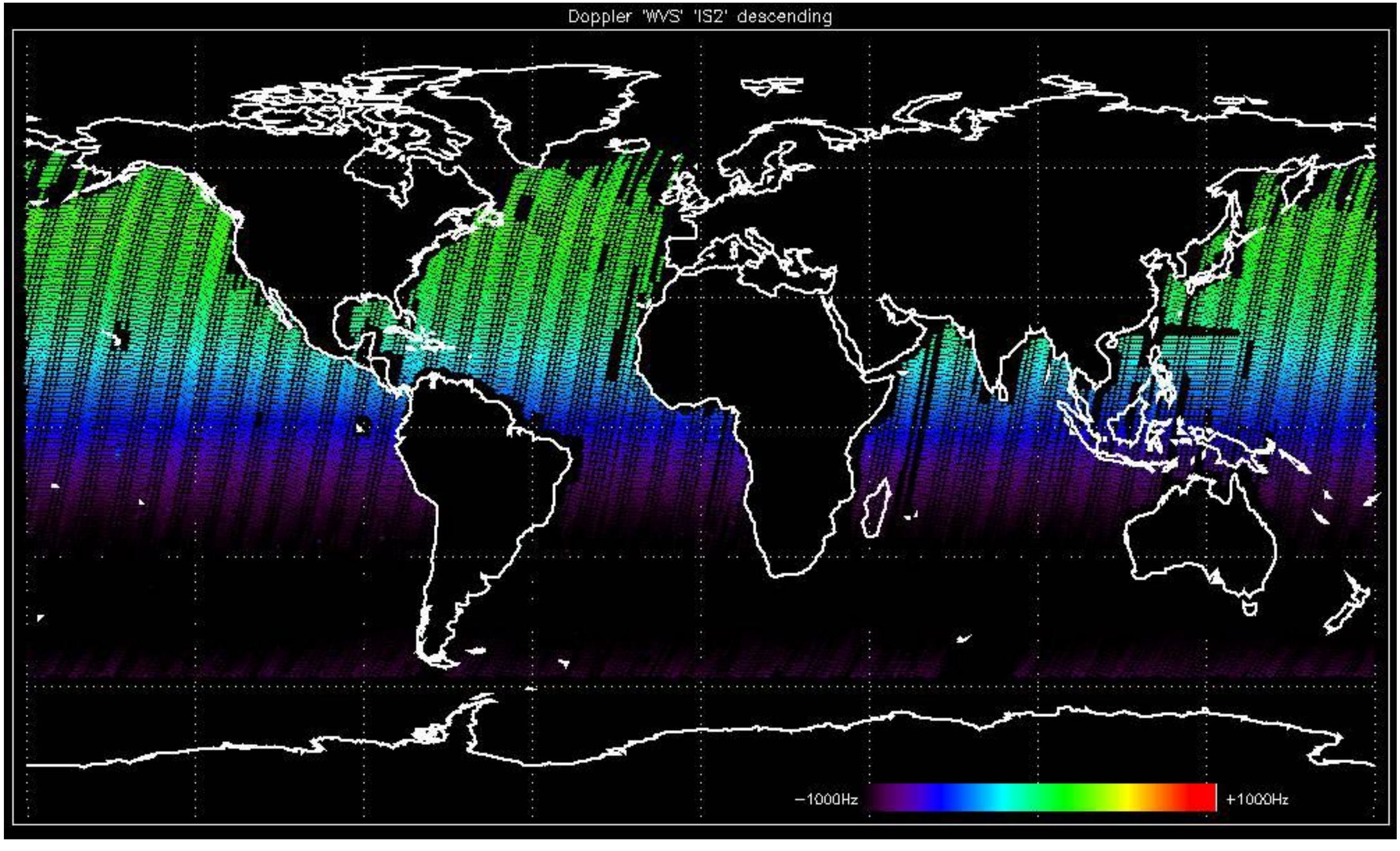
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

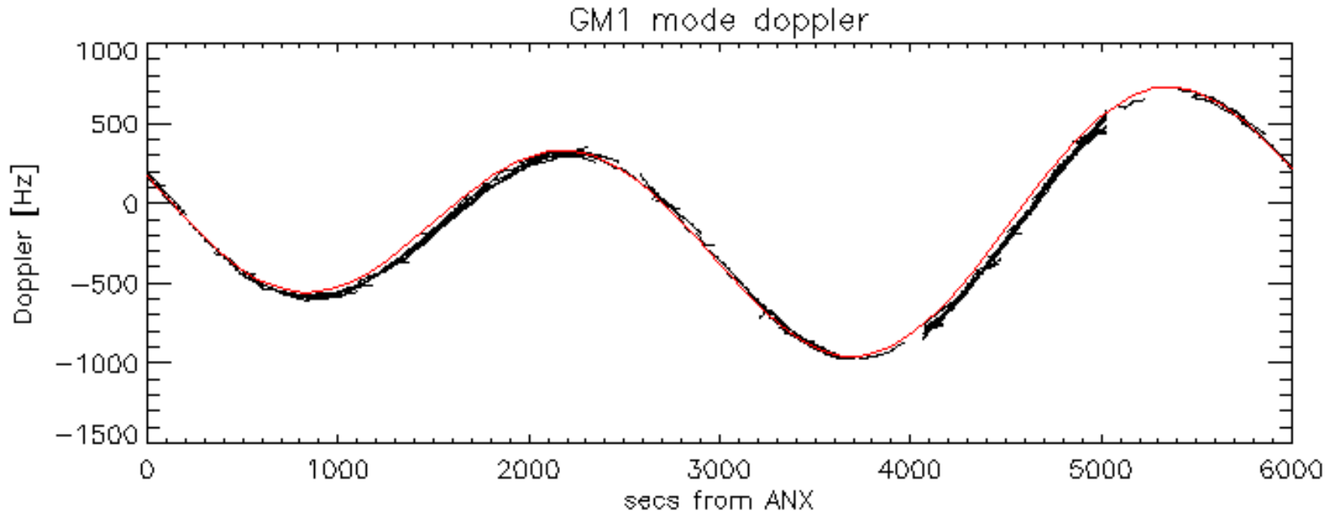
Preliminary report.The data is not yet controled

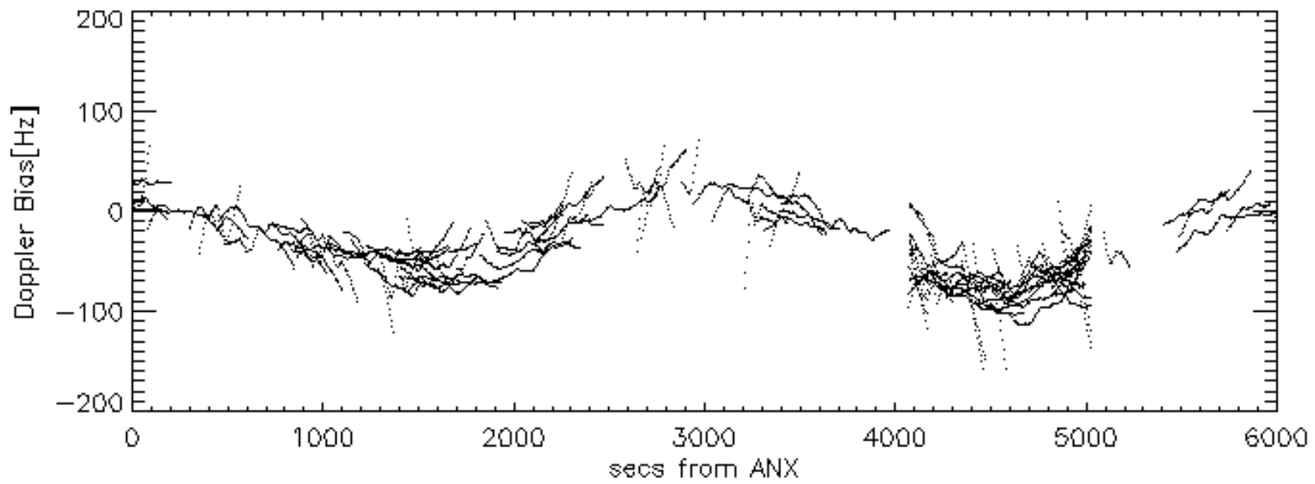

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

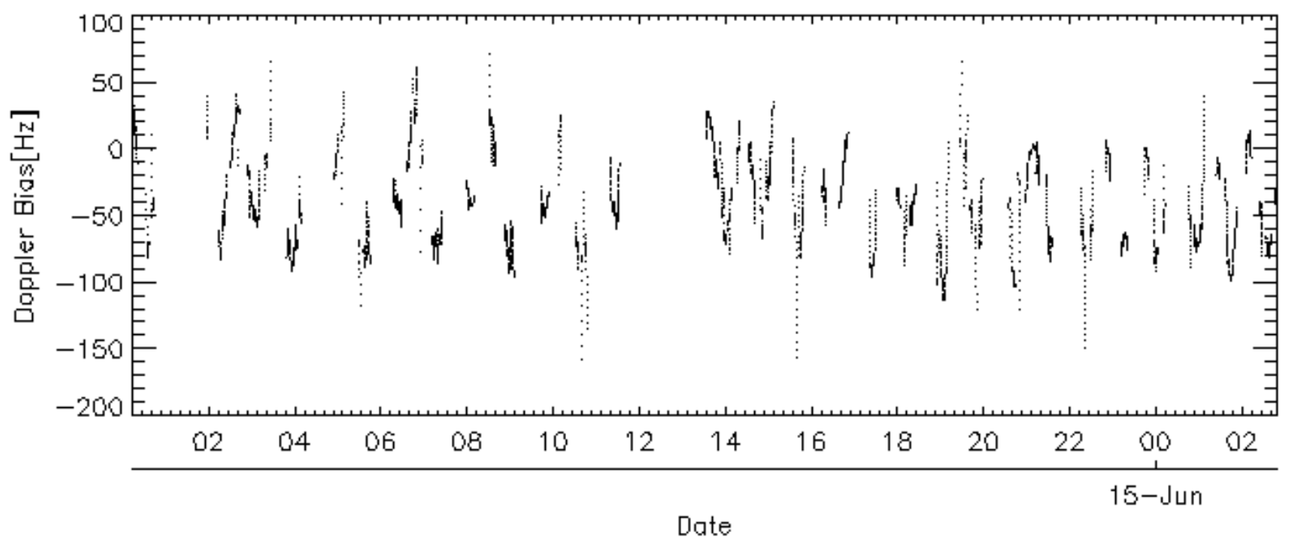

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

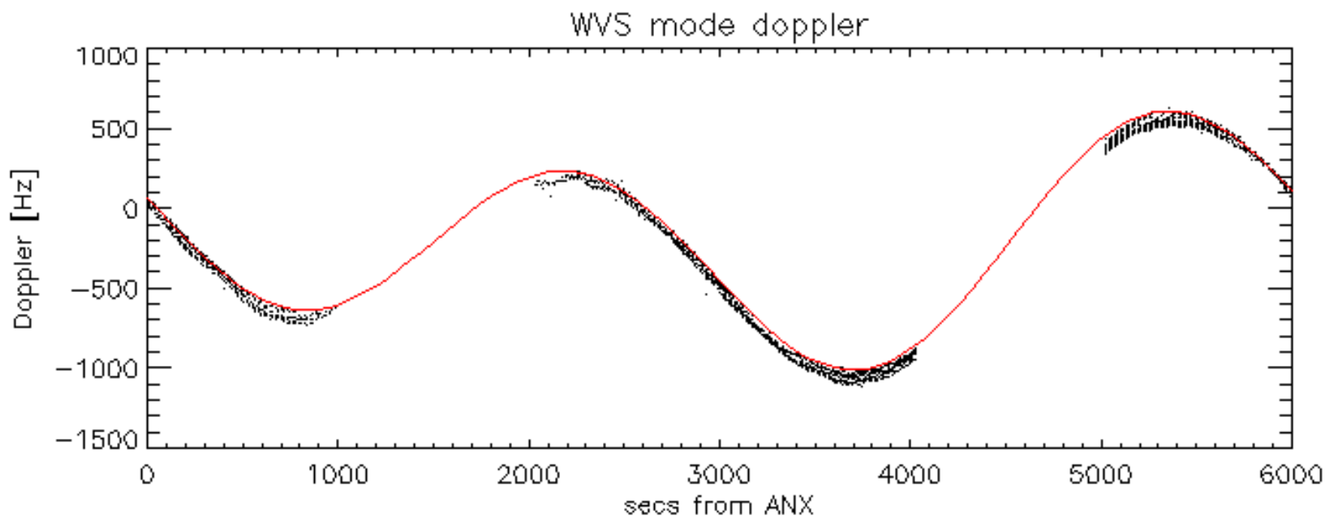

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

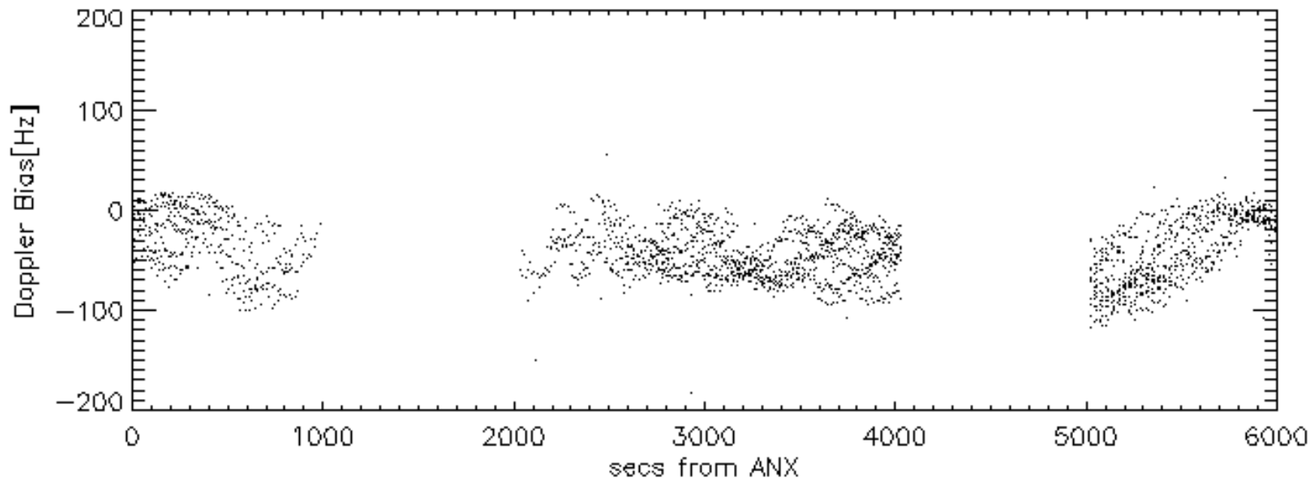

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

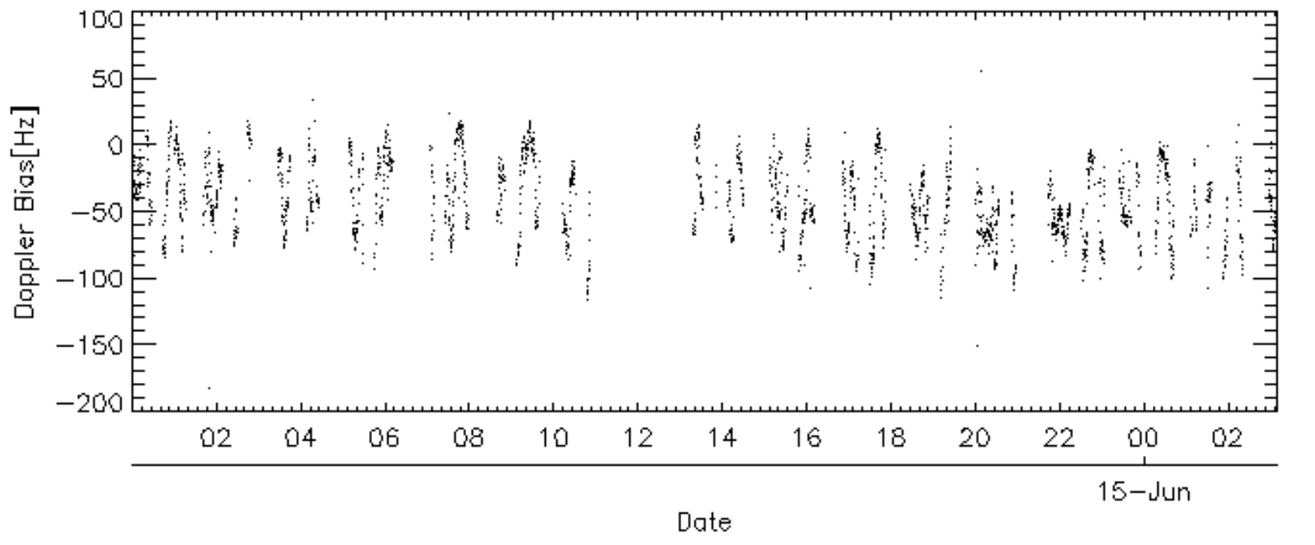

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

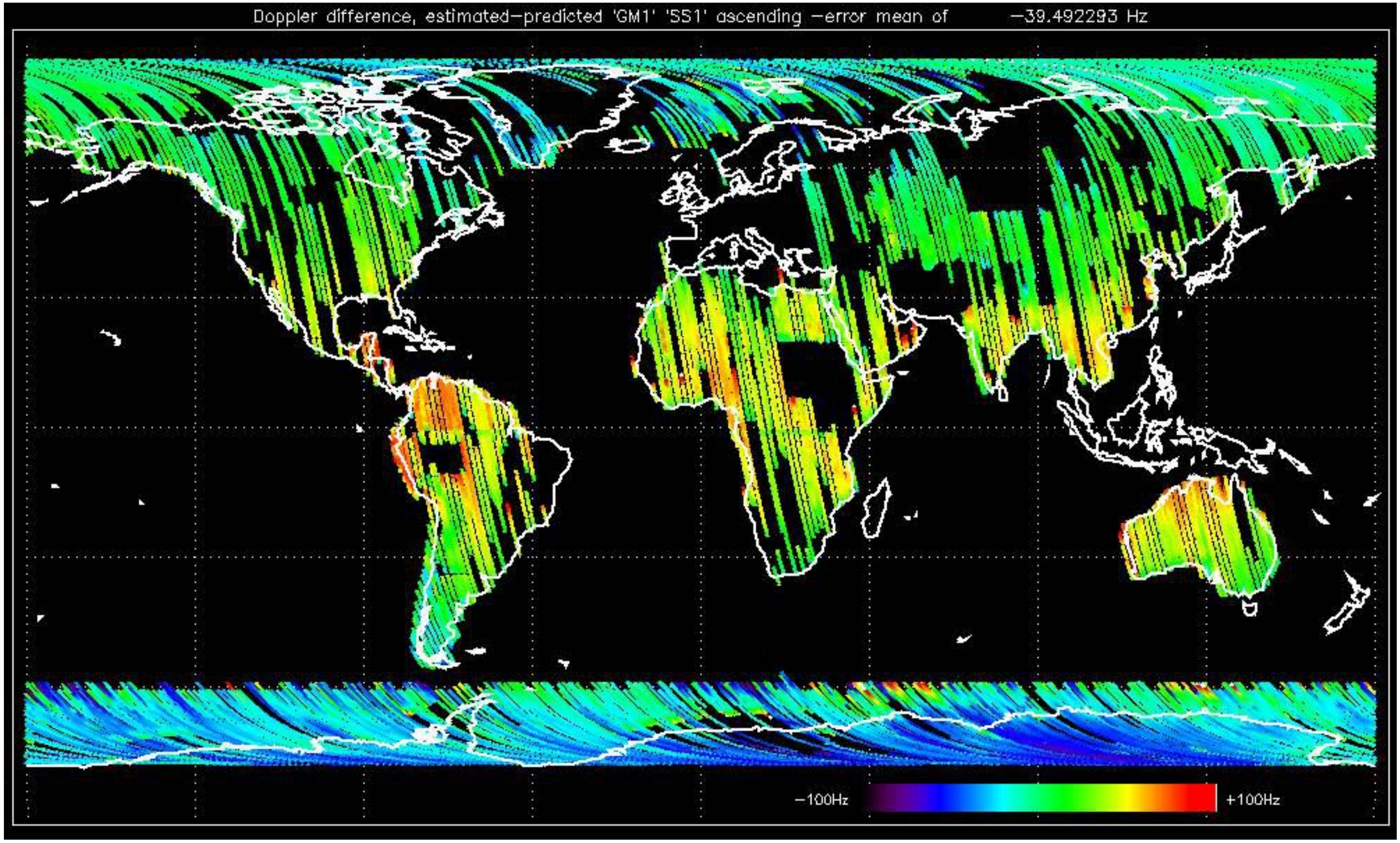

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

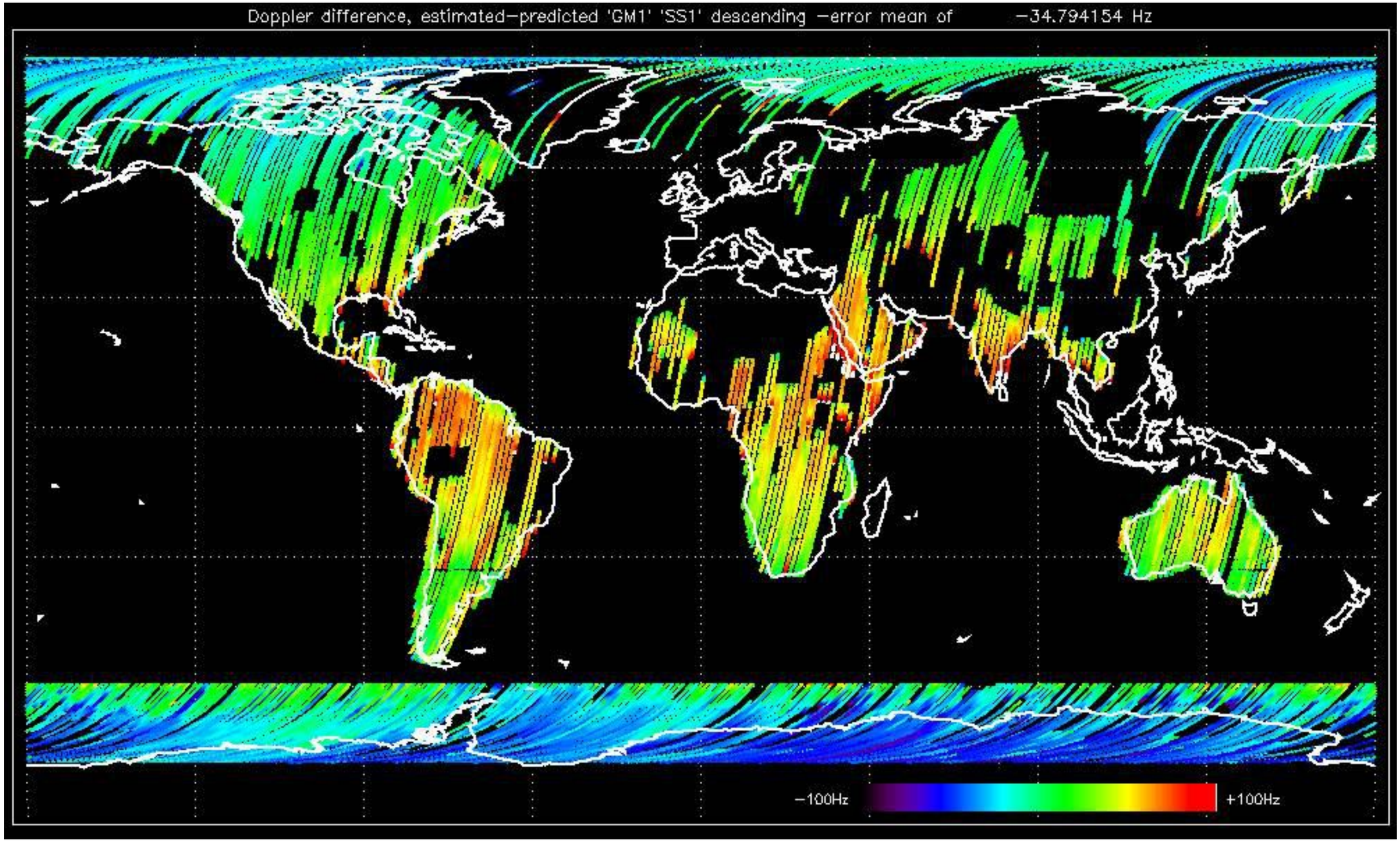

Doppler Bias[Hz]
100
50
0
−50
−100
−150
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
15−Jun
Date

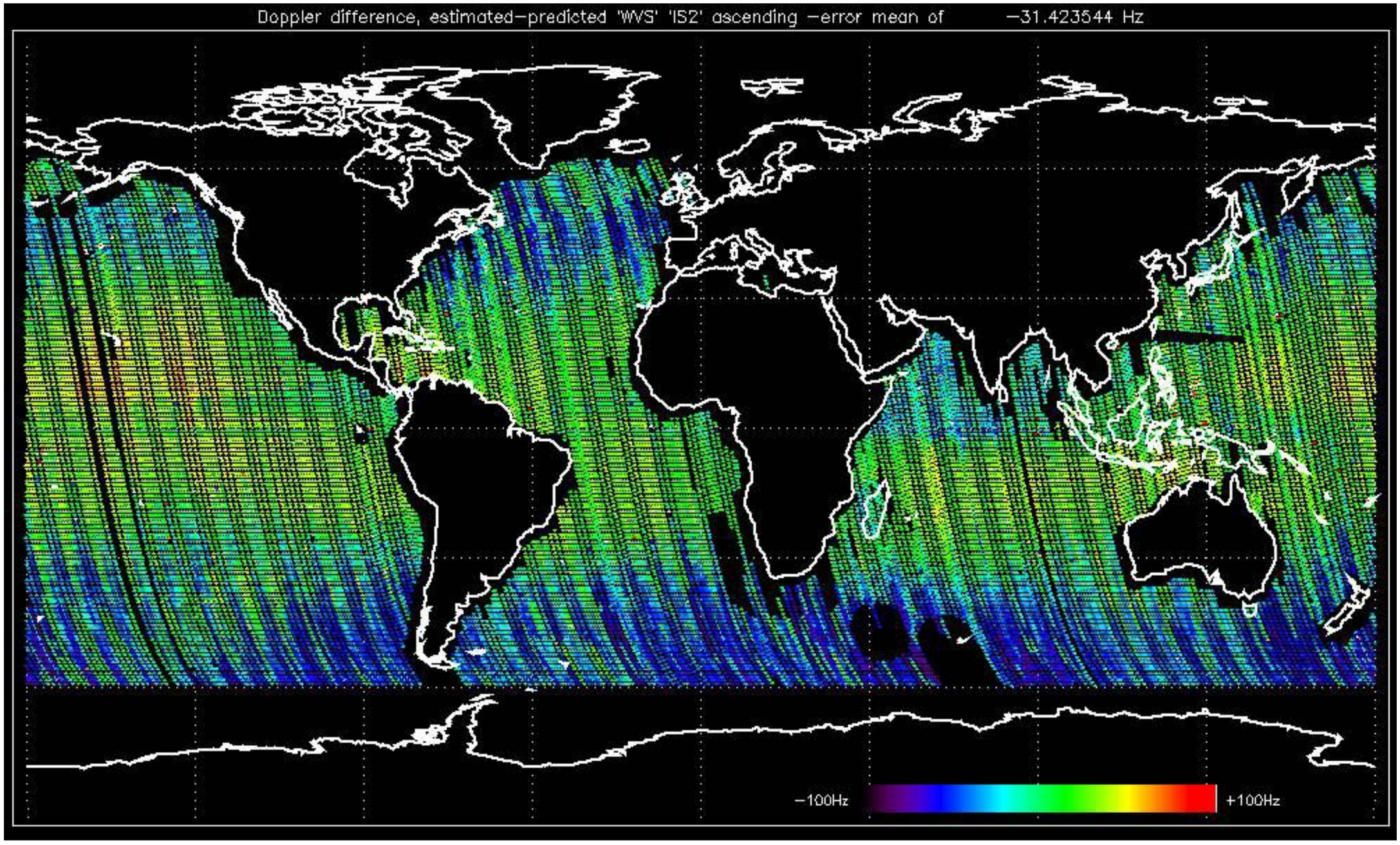

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

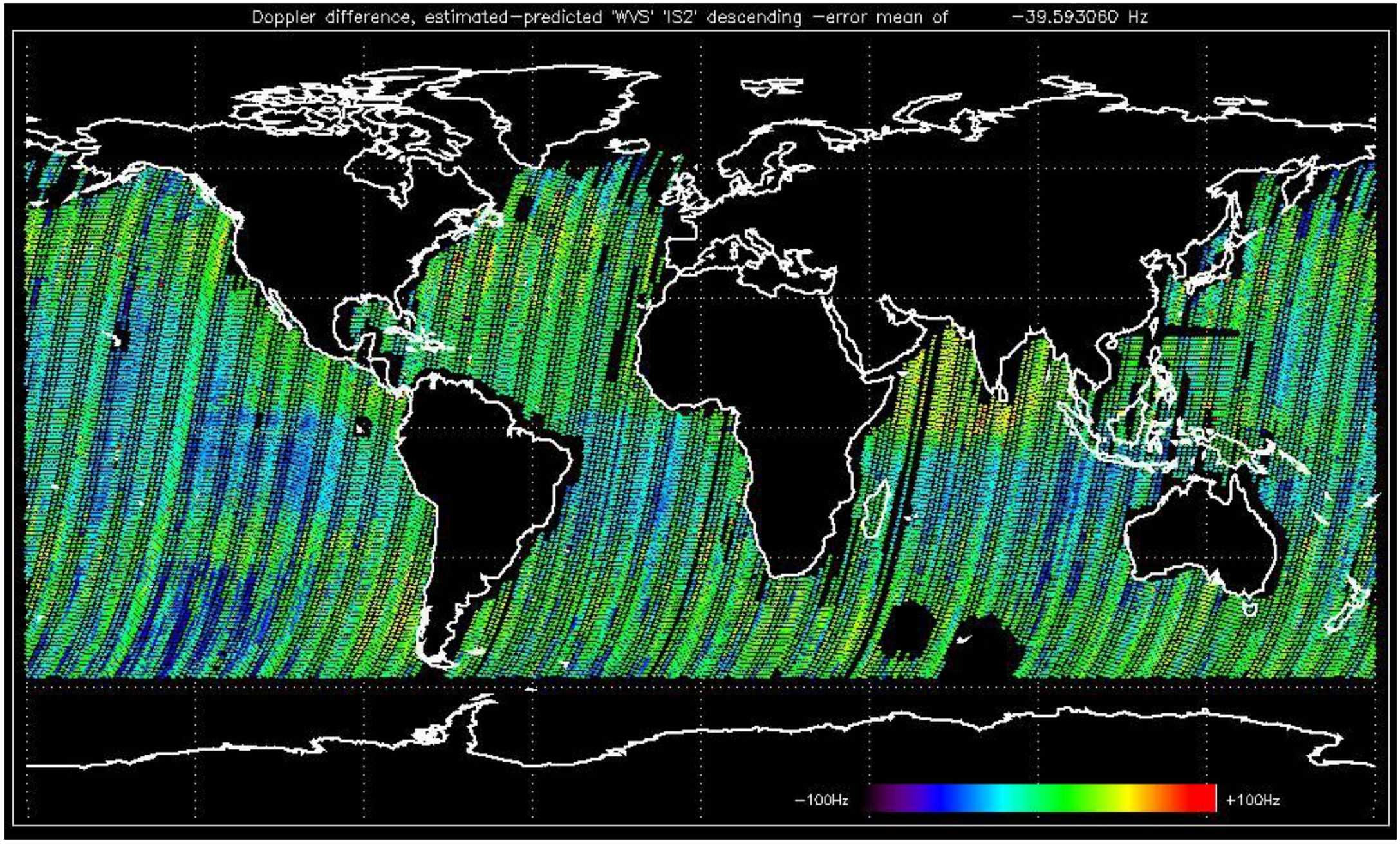

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −39.492293 Hz
−100Hz
+100Hz

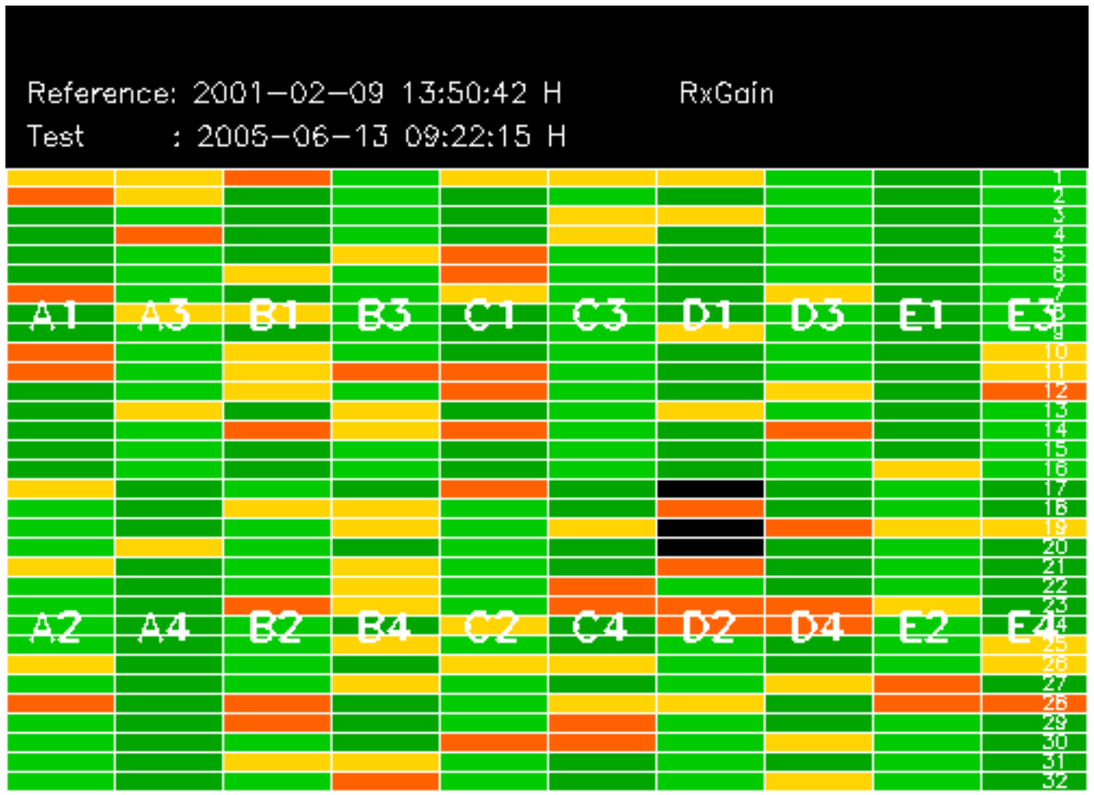

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -34.794154 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −31.423544 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −39.593060 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2005-06-13 09:22:15 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
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8
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31
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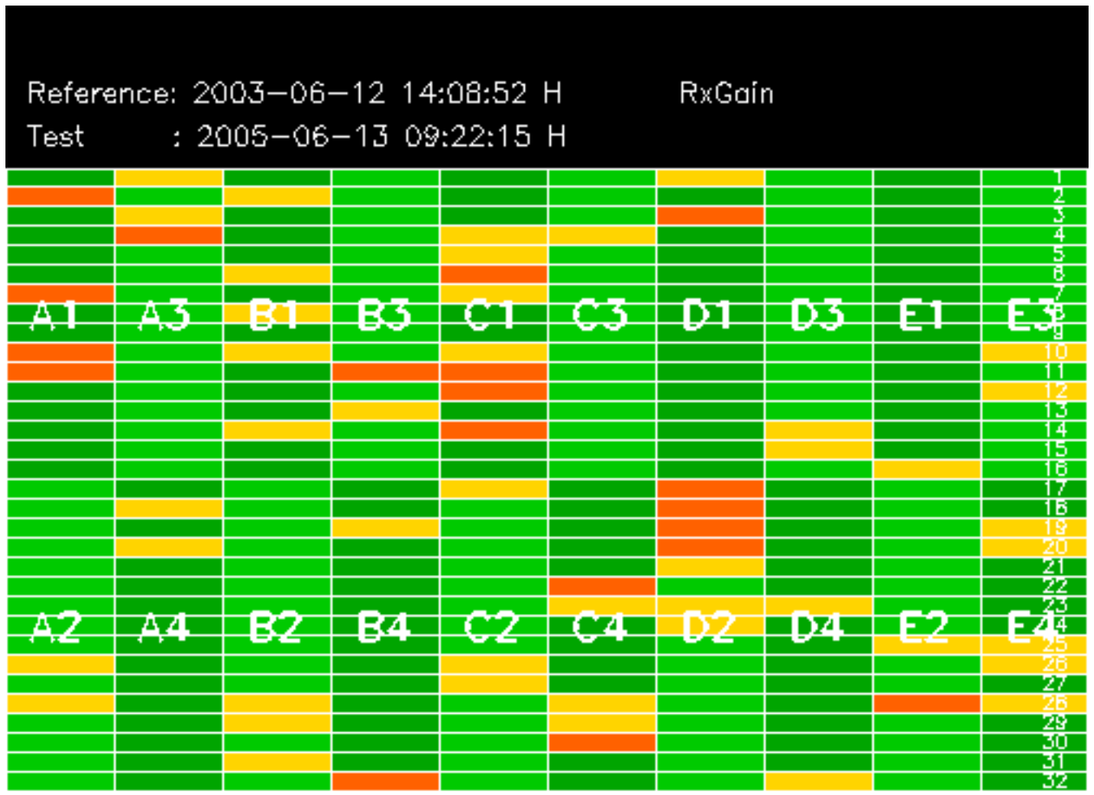
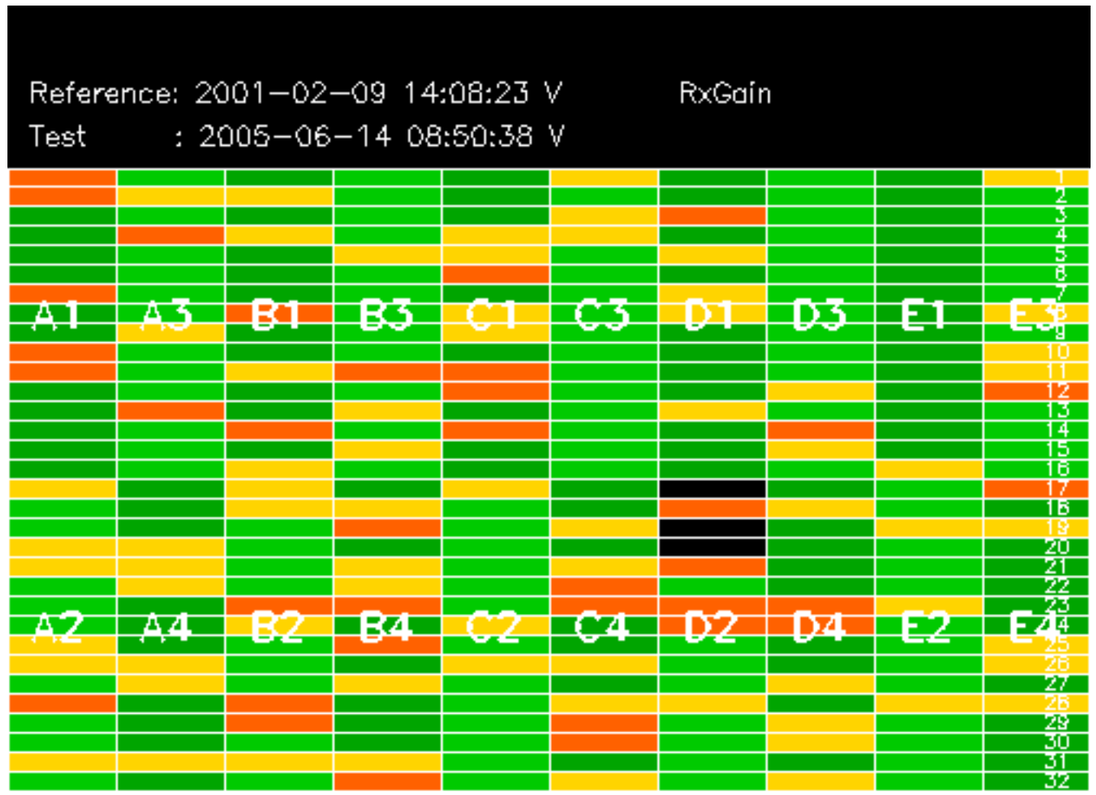
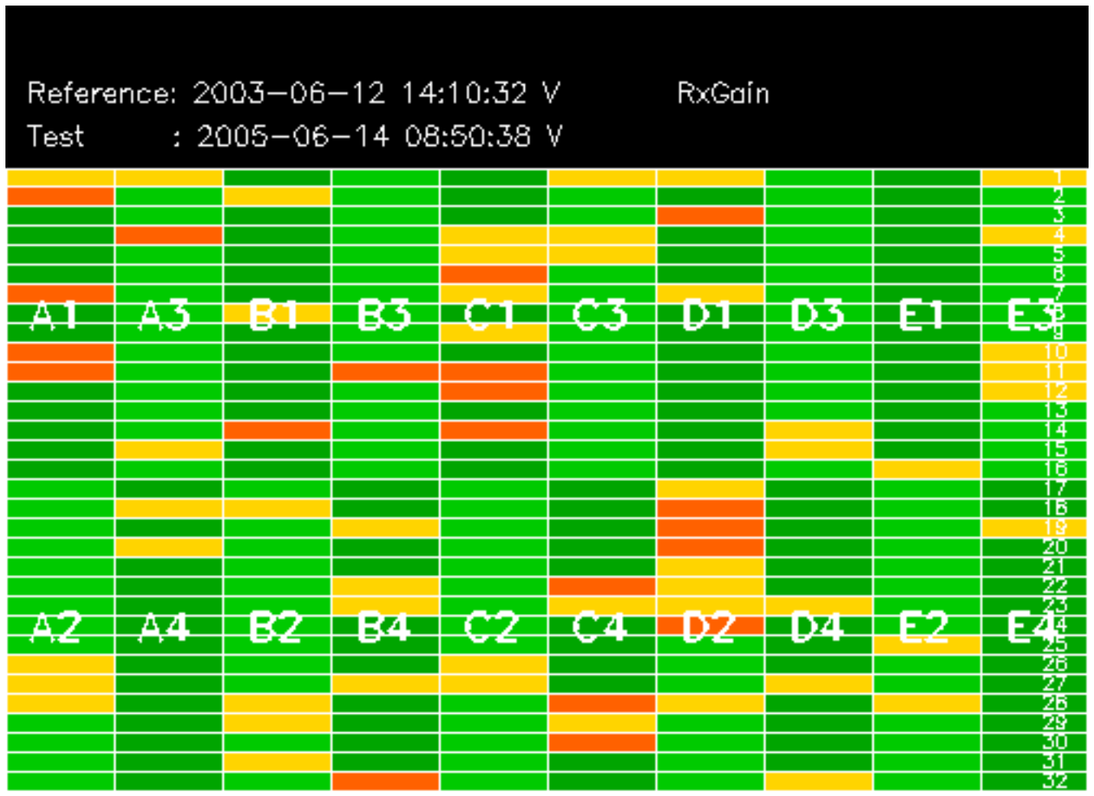
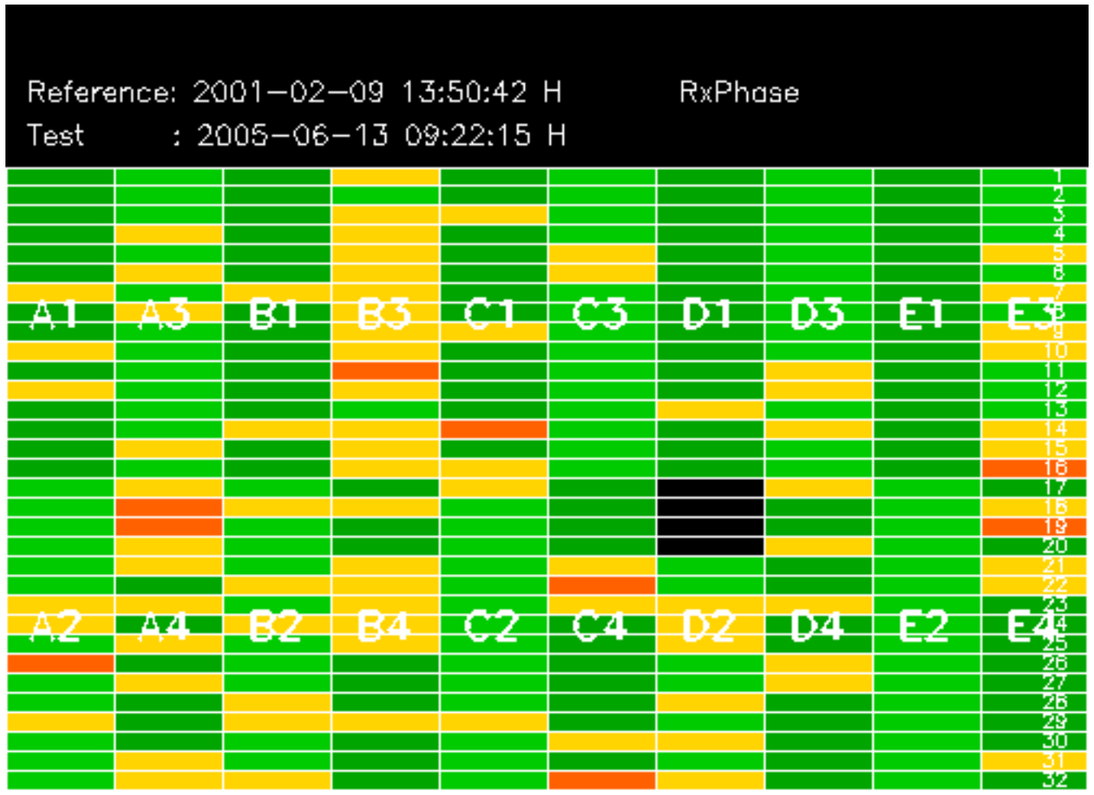
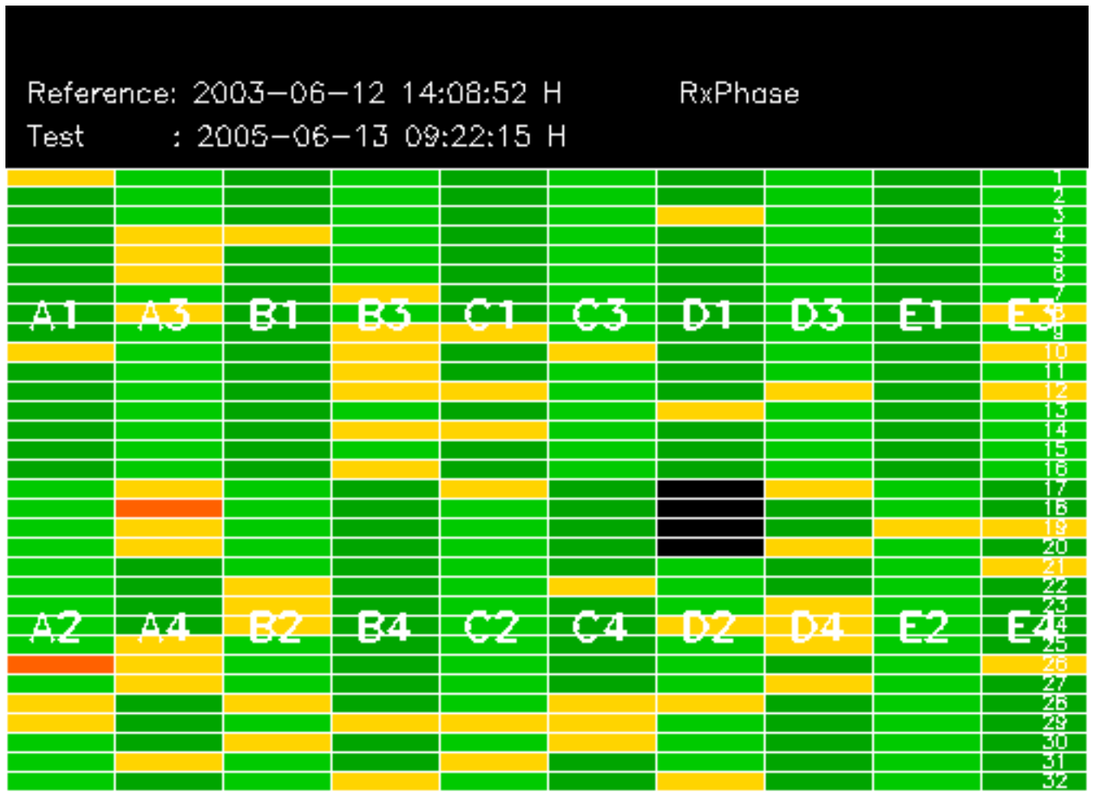

Reference: 2003-06-12 14:08:52 H
Test : 2005-06-13 09:22:15 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2005-06-14 08:50:38 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

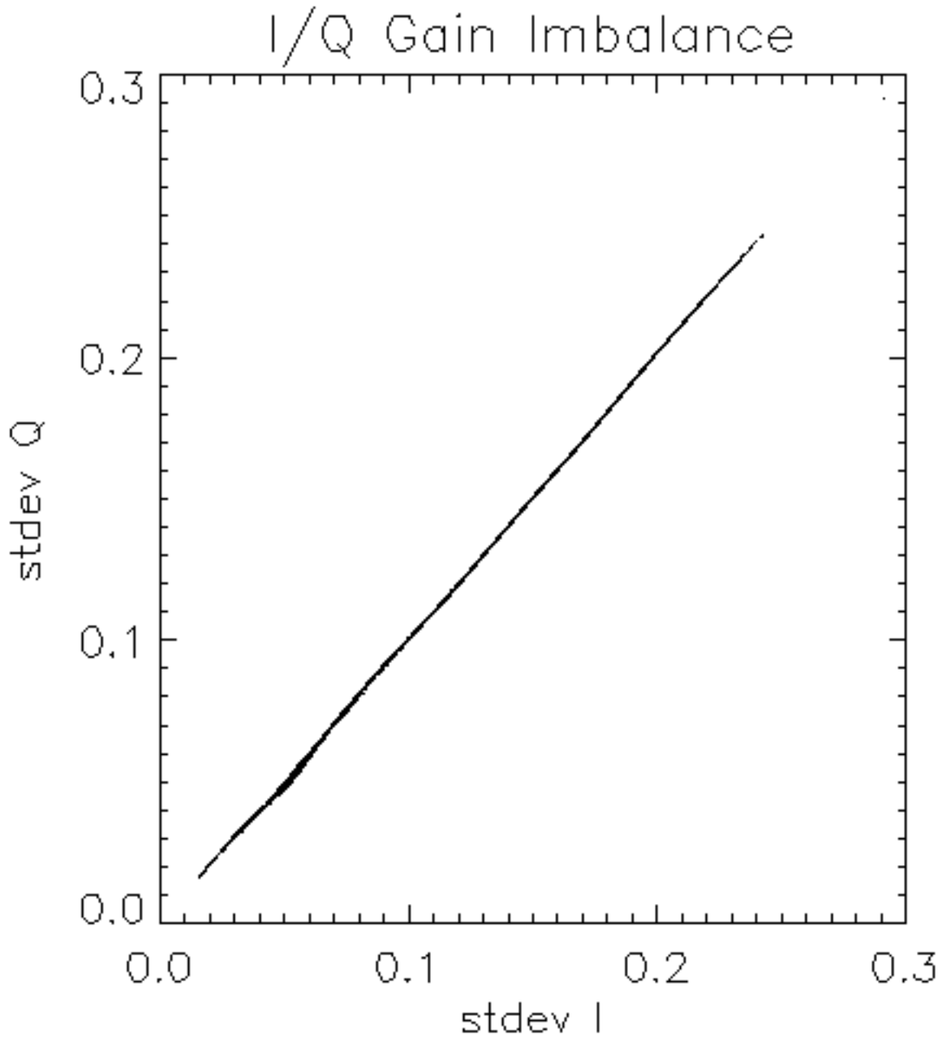

Reference: 2003-06-12 14:10:32 V
Test : 2005-06-14 08:50:38 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

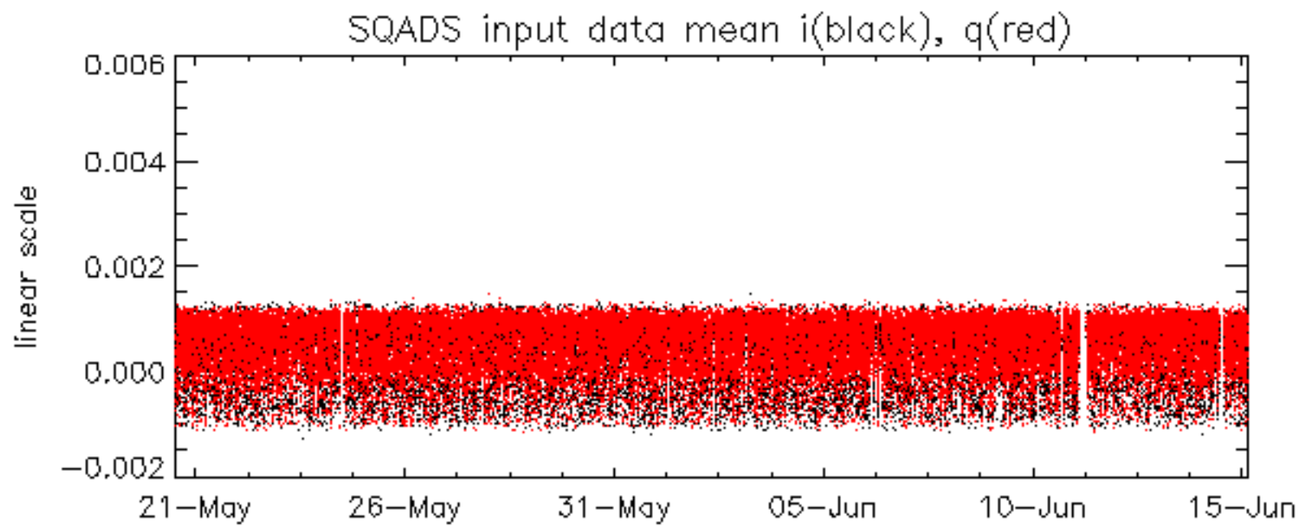

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-06-13 09:22:15 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

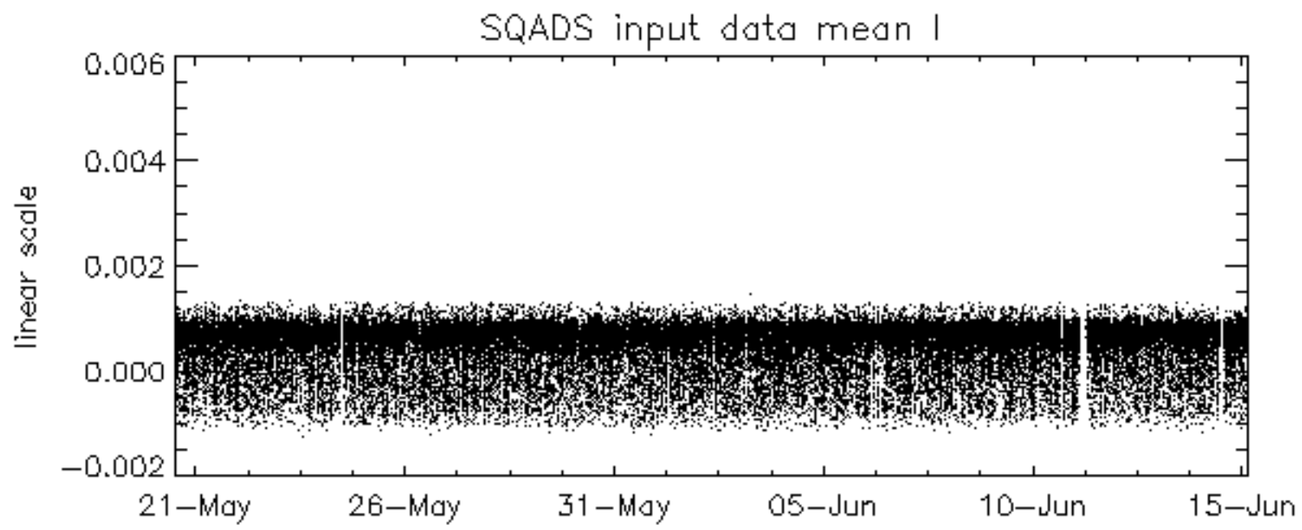

Reference: 2003-06-12 14:08:52 H
Test : 2005-06-13 09:22:15 H
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

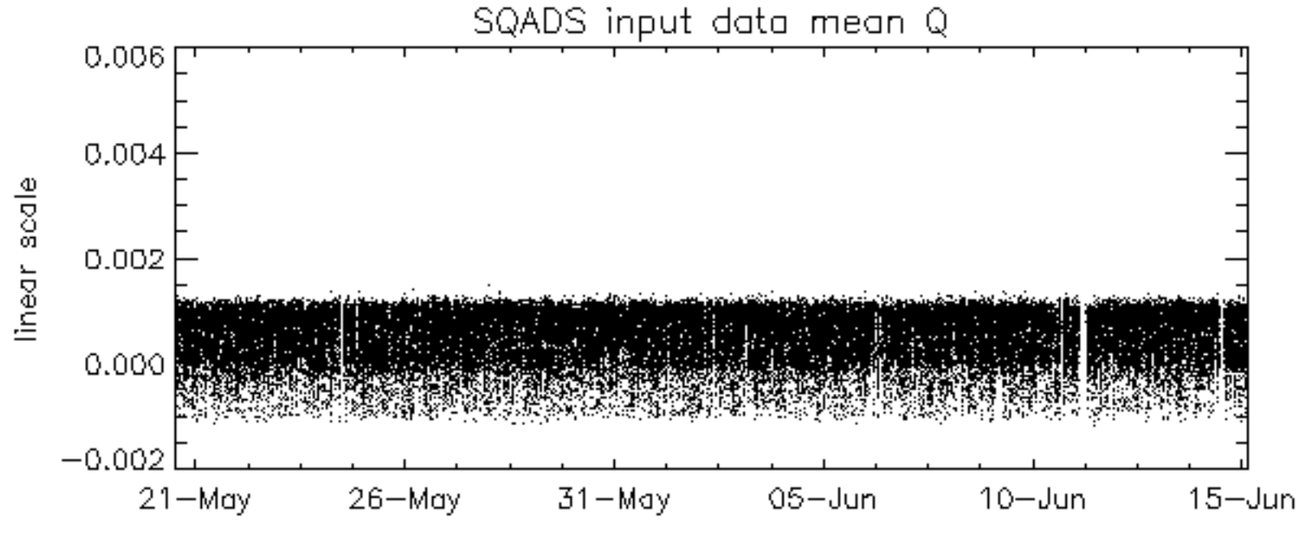

Reference: 2001-02-09 14:08:23 V
Test : 2005-06-14 08:50:38 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

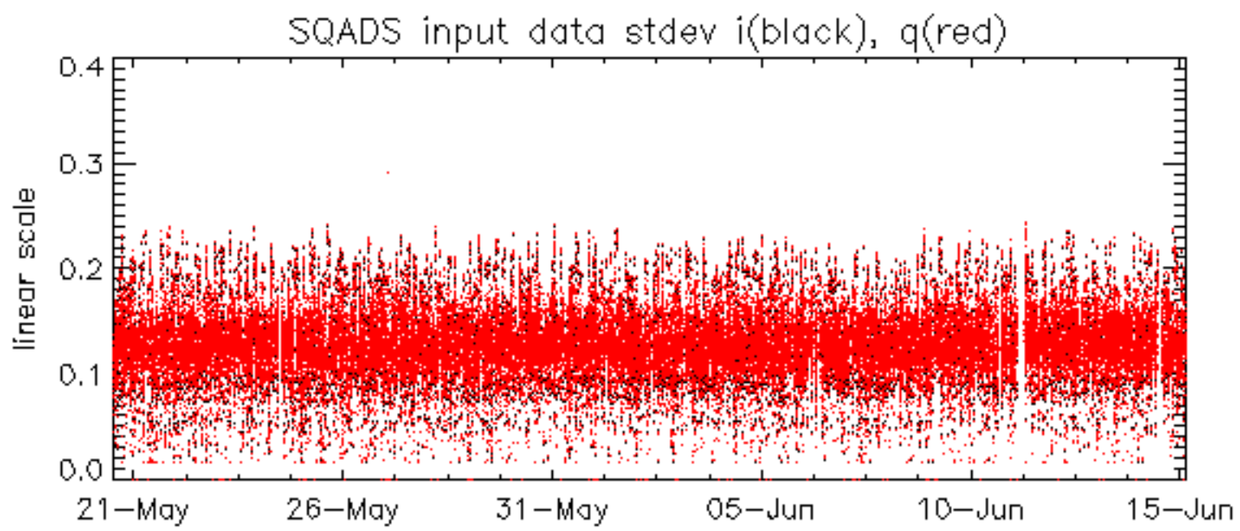

Reference: 2003-06-12 14:10:32 V
Test : 2005-06-14 08:50:38 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

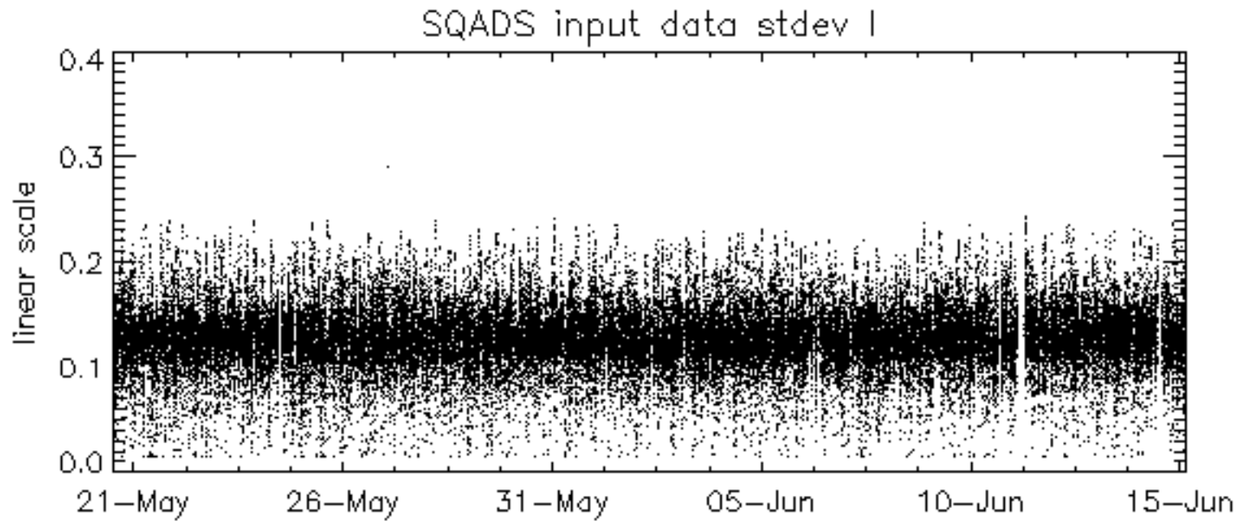

I/Q Gain Imbalance
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
stdev I

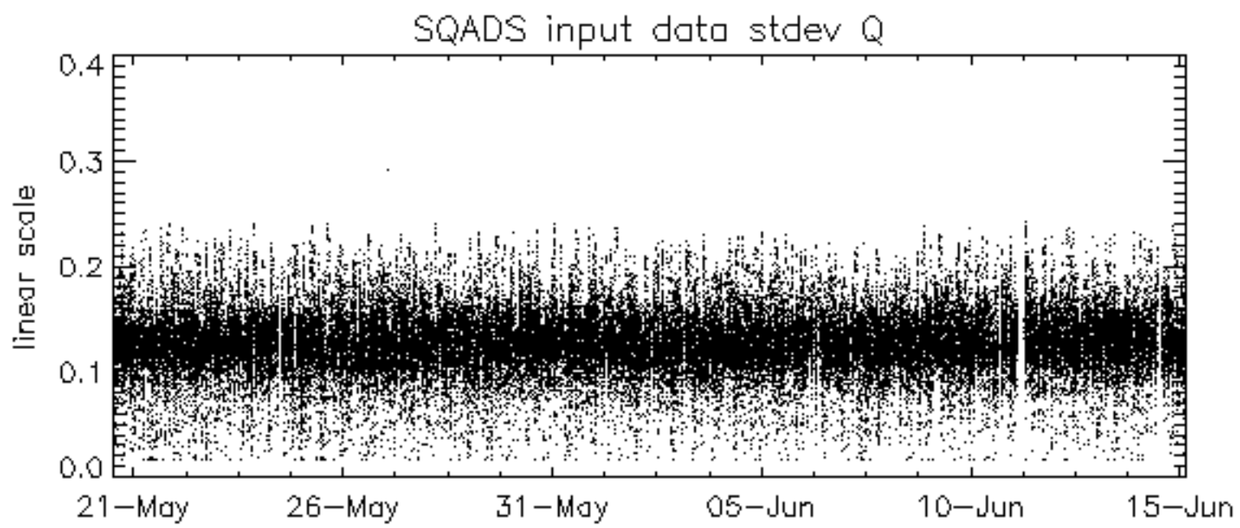

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−May
26−May
31−May
05−Jun
10−Jun
15−Jun

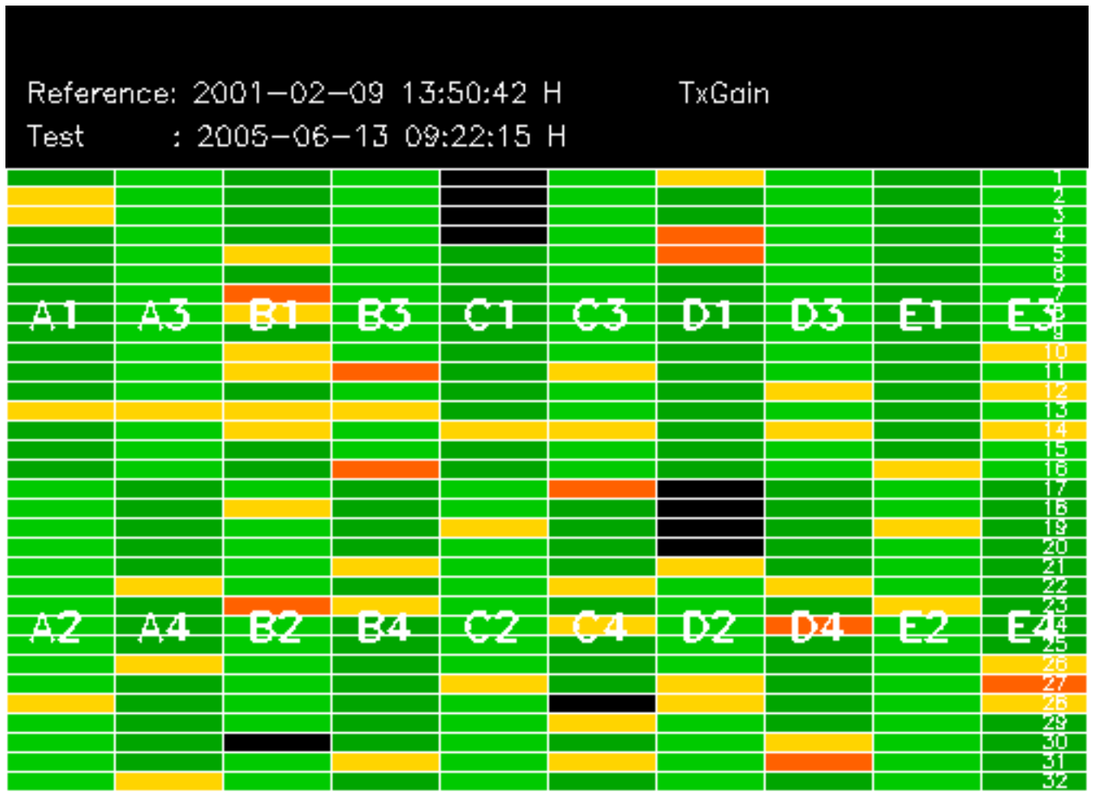

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−May
26−May
31−May
05−Jun
10−Jun
15−Jun


SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
21−May
26−May
31−May
05−Jun
10−Jun
15−Jun


SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
21−May
26−May
31−May
05−Jun
10−Jun
15−Jun


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
21−May
26−May
31−May
05−Jun
10−Jun
15−Jun


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
21−May
26−May
31−May
05−Jun
10−Jun
15−Jun


Reference: 2001-02-09 13:50:42 H
TxGain
Test : 2005-06-13 09:22:15 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
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8
9
10
11
12
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14
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16
17
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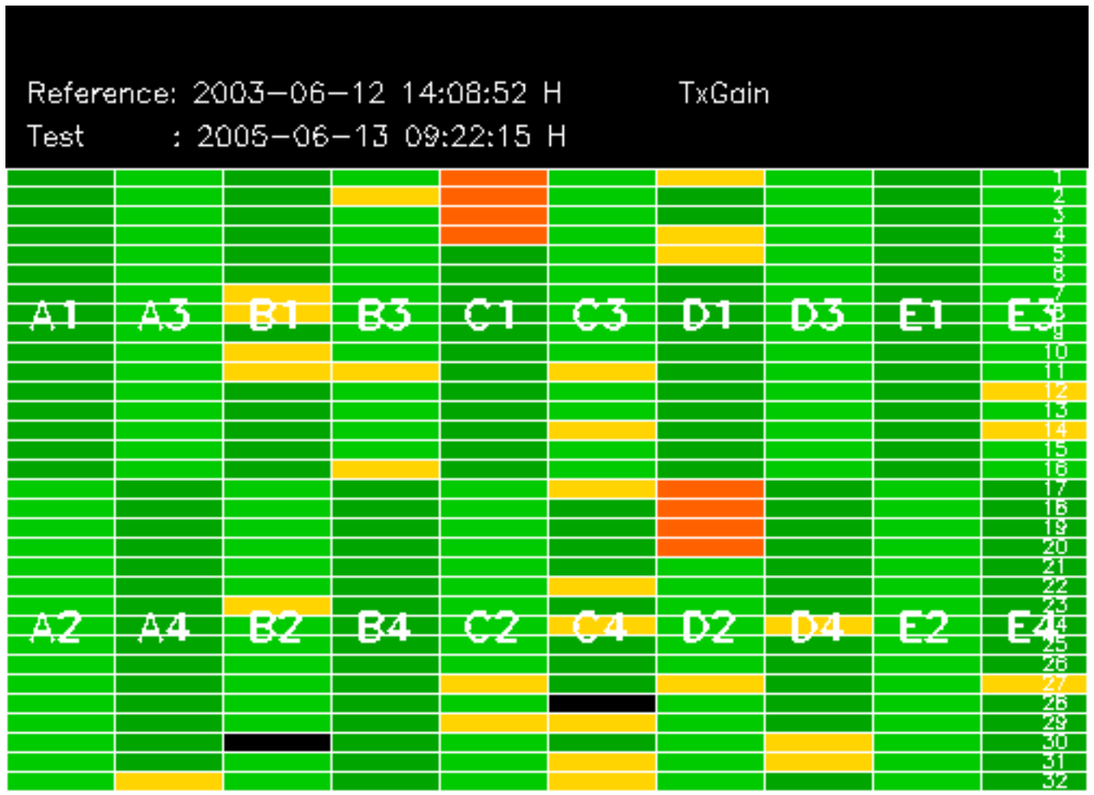
26
27
28
29
30
31
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-06-13 09:22:15 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
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8
9
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12
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24
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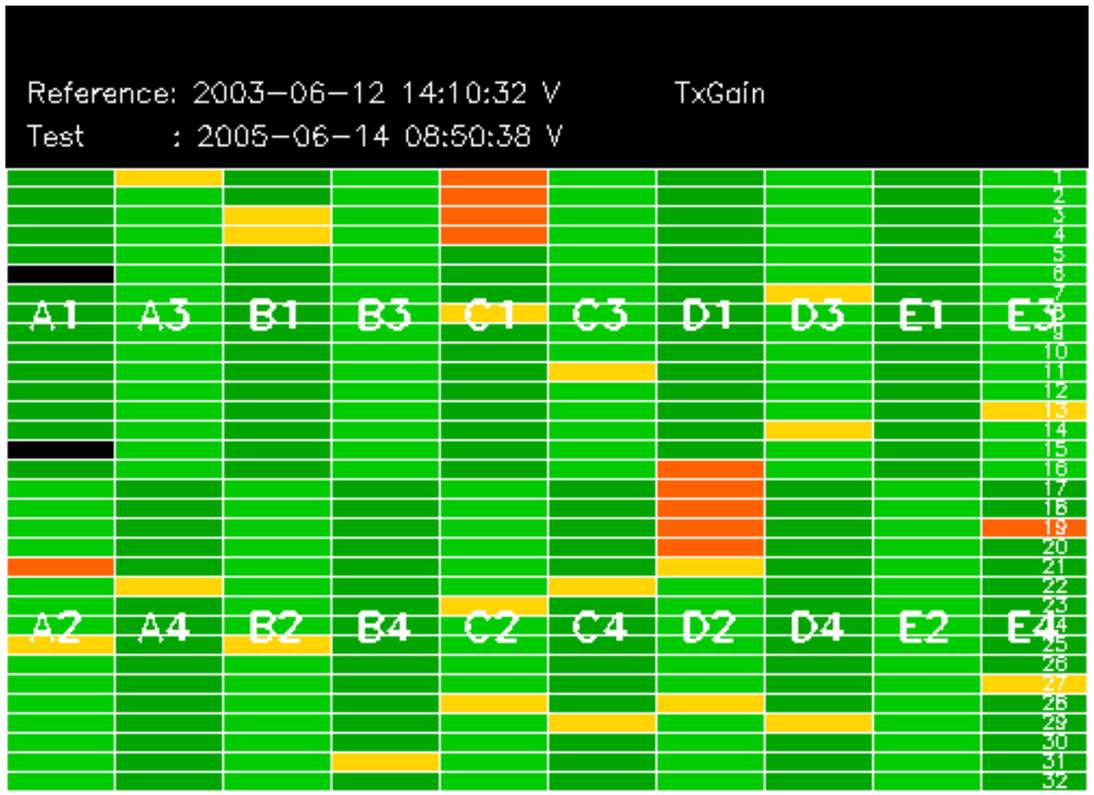
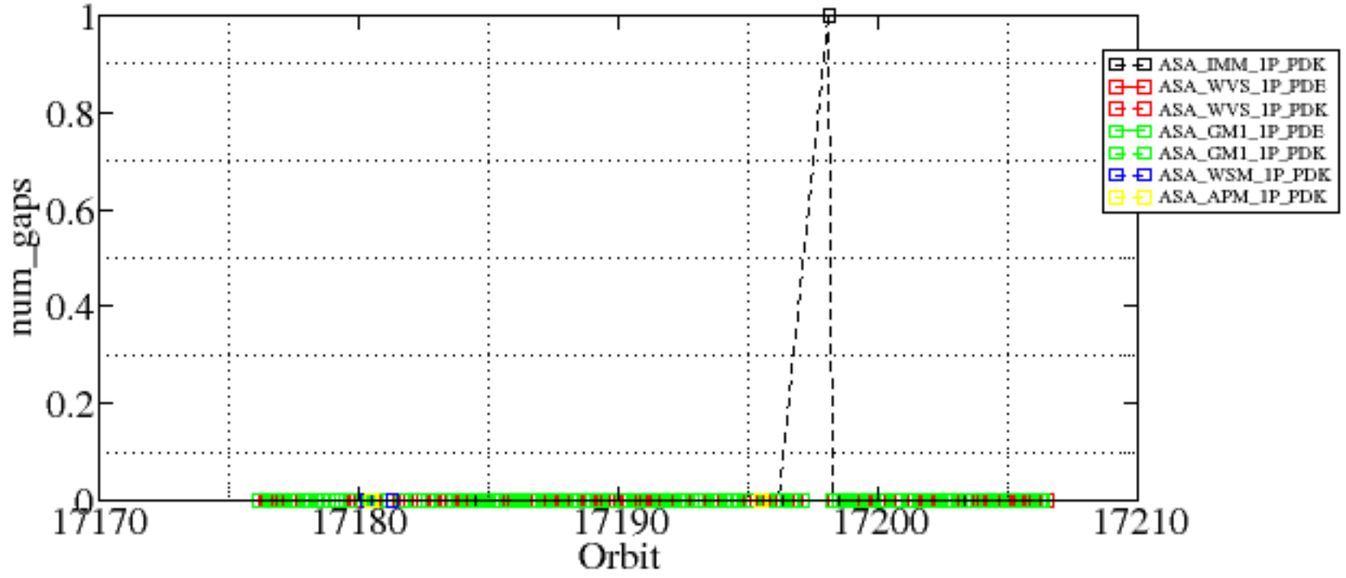
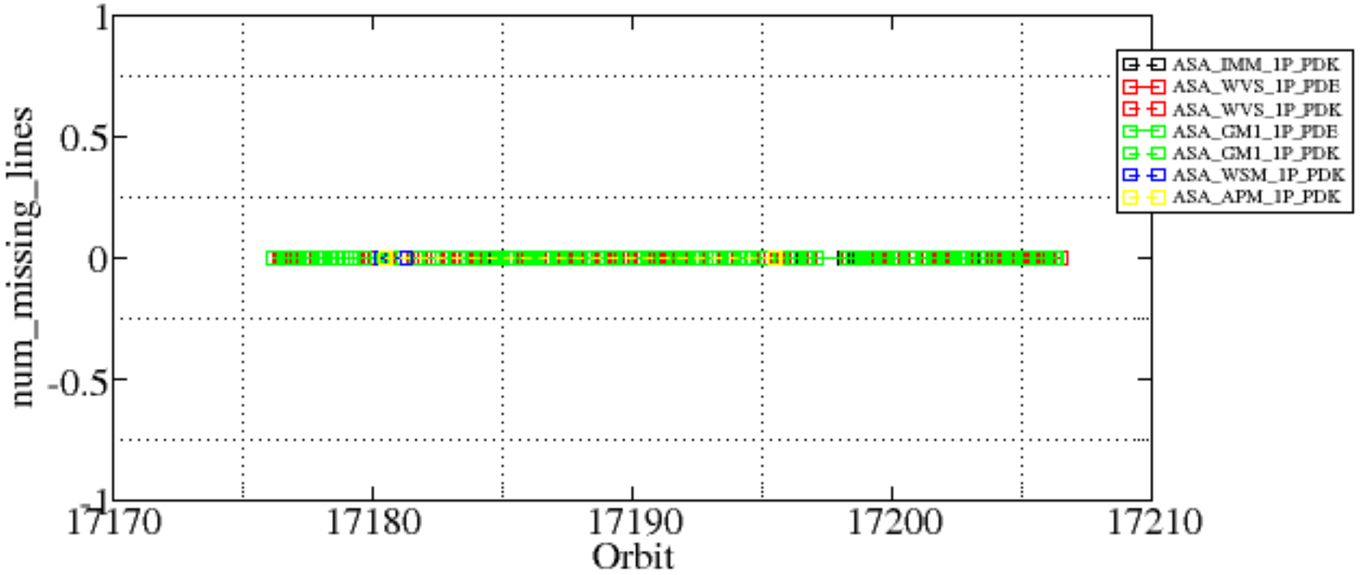
26
27
28
29
30
31
32

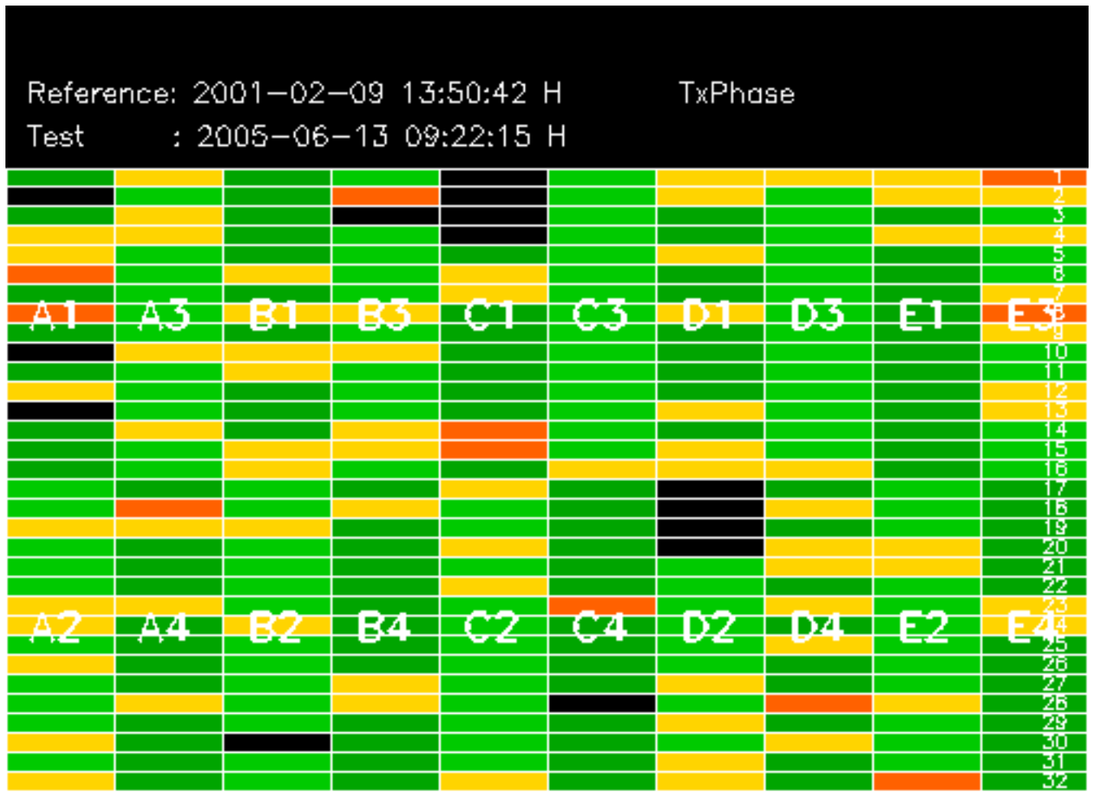

Reference: 2001-02-09 14:08:23 V
Test : 2005-06-14 08:50:38 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-06-14 08:50:38 V
TxGain
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 2005061[345]
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_1PNPDK20050614_125657_000001402038_00110_17198_0363.N1 </td> <td>1 </td> <td>0 </td></tr>
</table>


num_gaps
1
0.8
0.6
0.4
0.2
0
17170
17180
17190
17200
17210
Orbit
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDK
ASA_APM_1P_PDK


num_missing_lines
1
0.5
0
-0.5
-1
17170
17180
17190
17200
17210
Orbit
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDK
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2005-06-13 09:22:15 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
Test : 2005-06-13 09:22:15 H
TxPhase
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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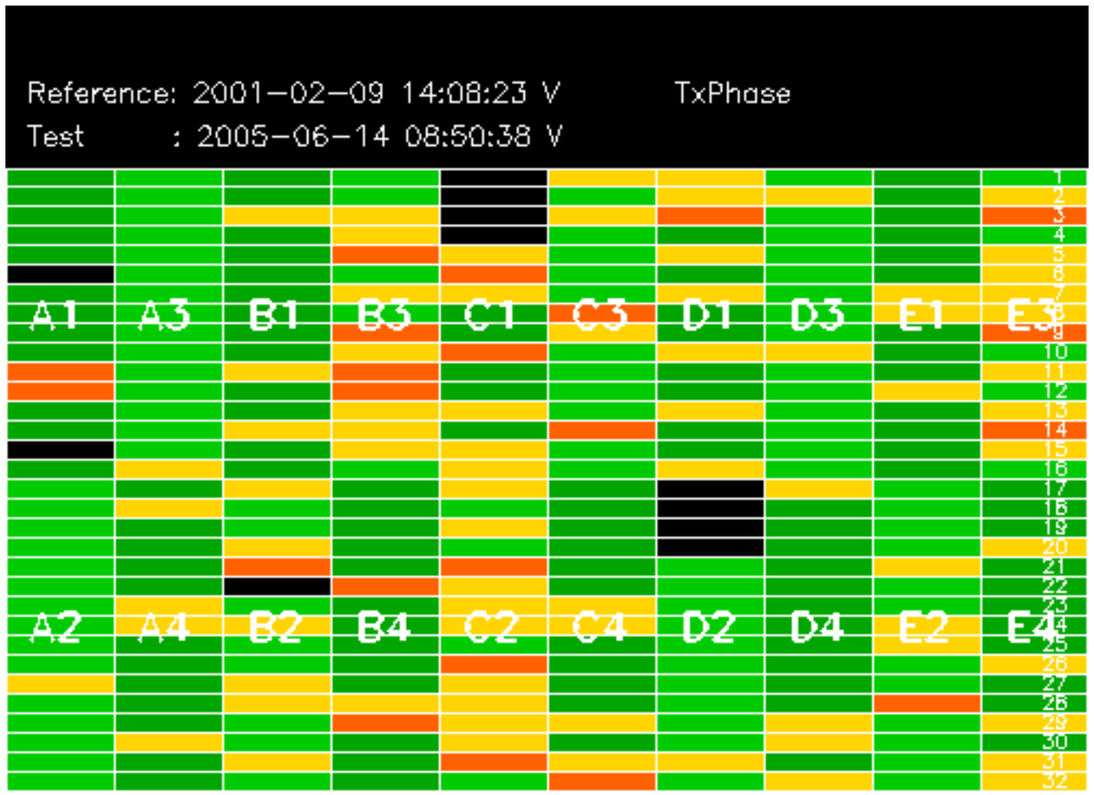
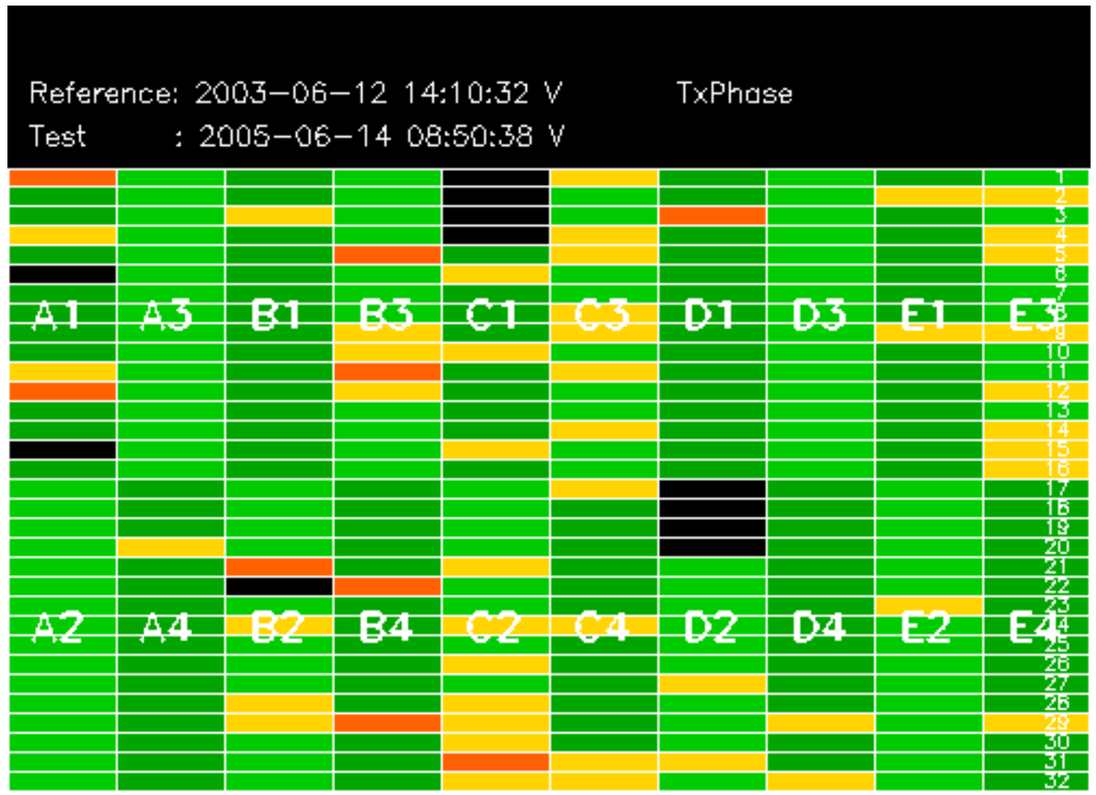
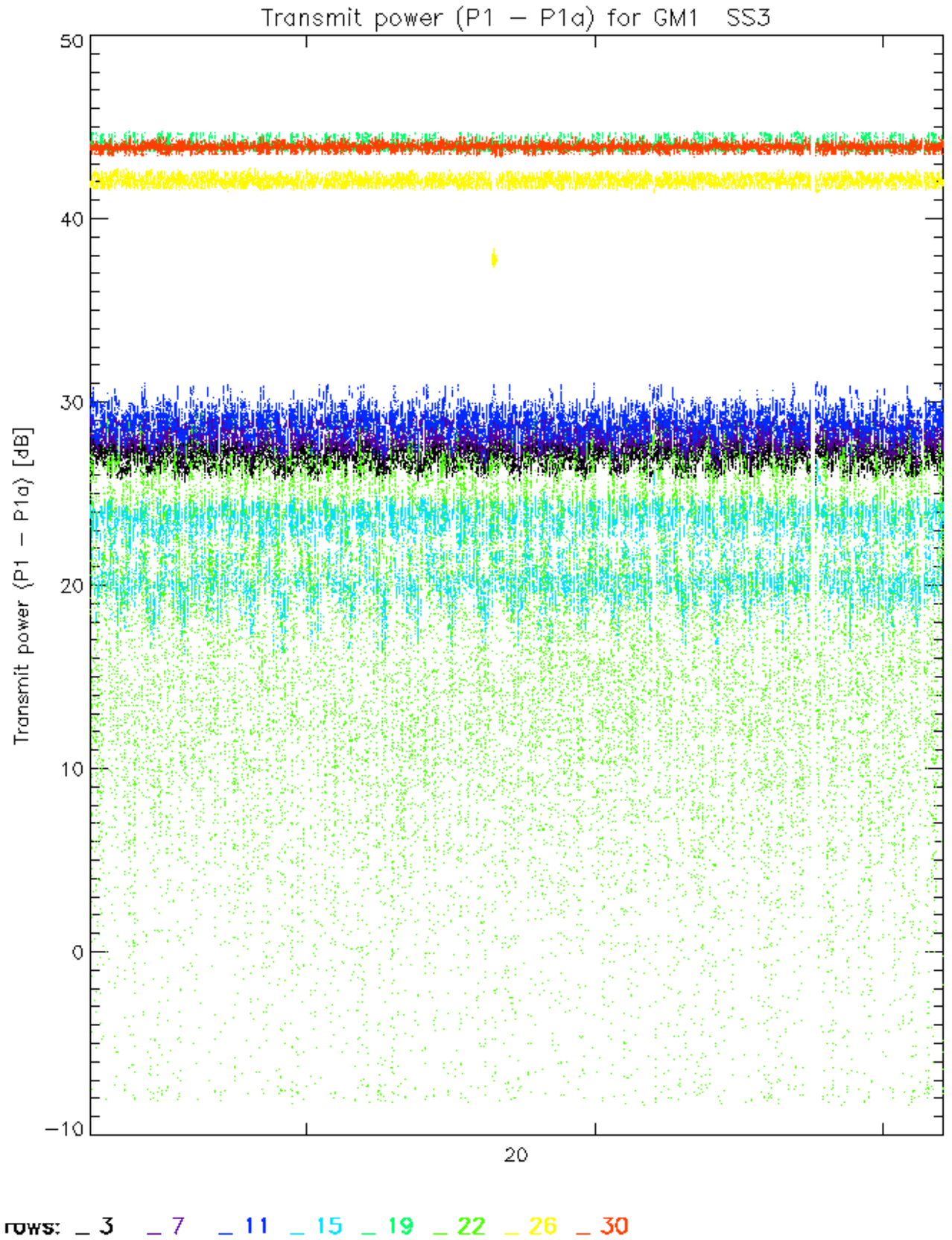
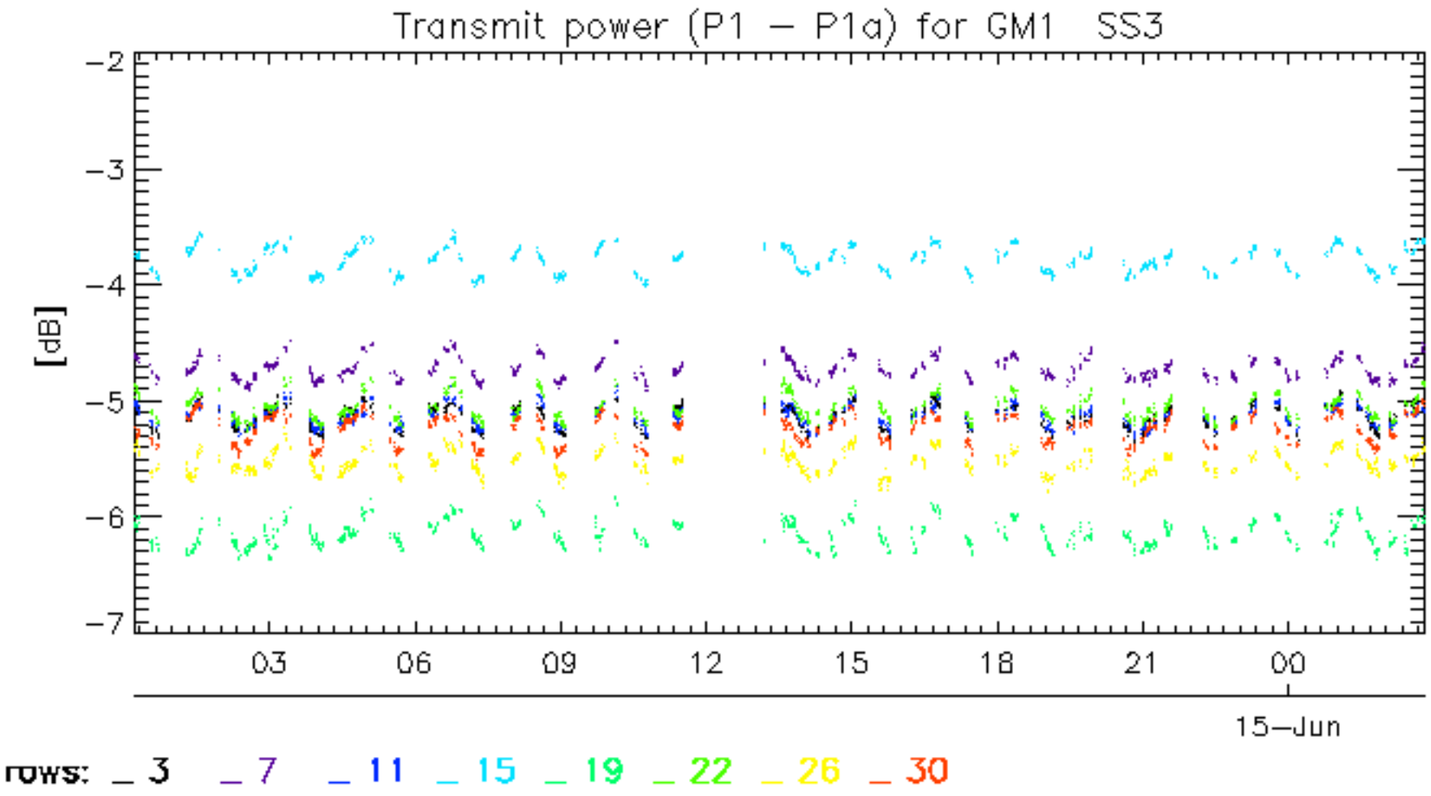
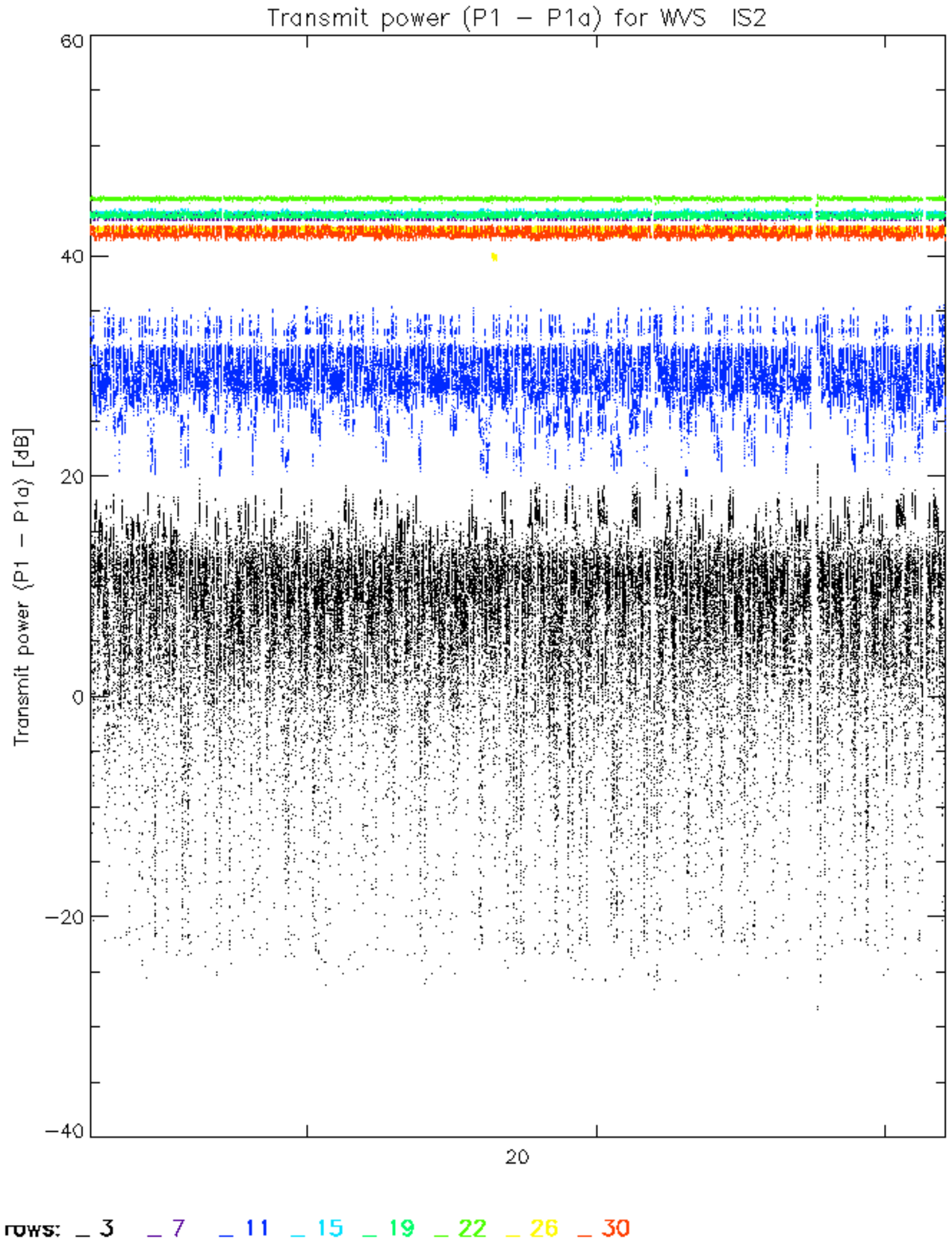
26
27
28
29
30
31
32

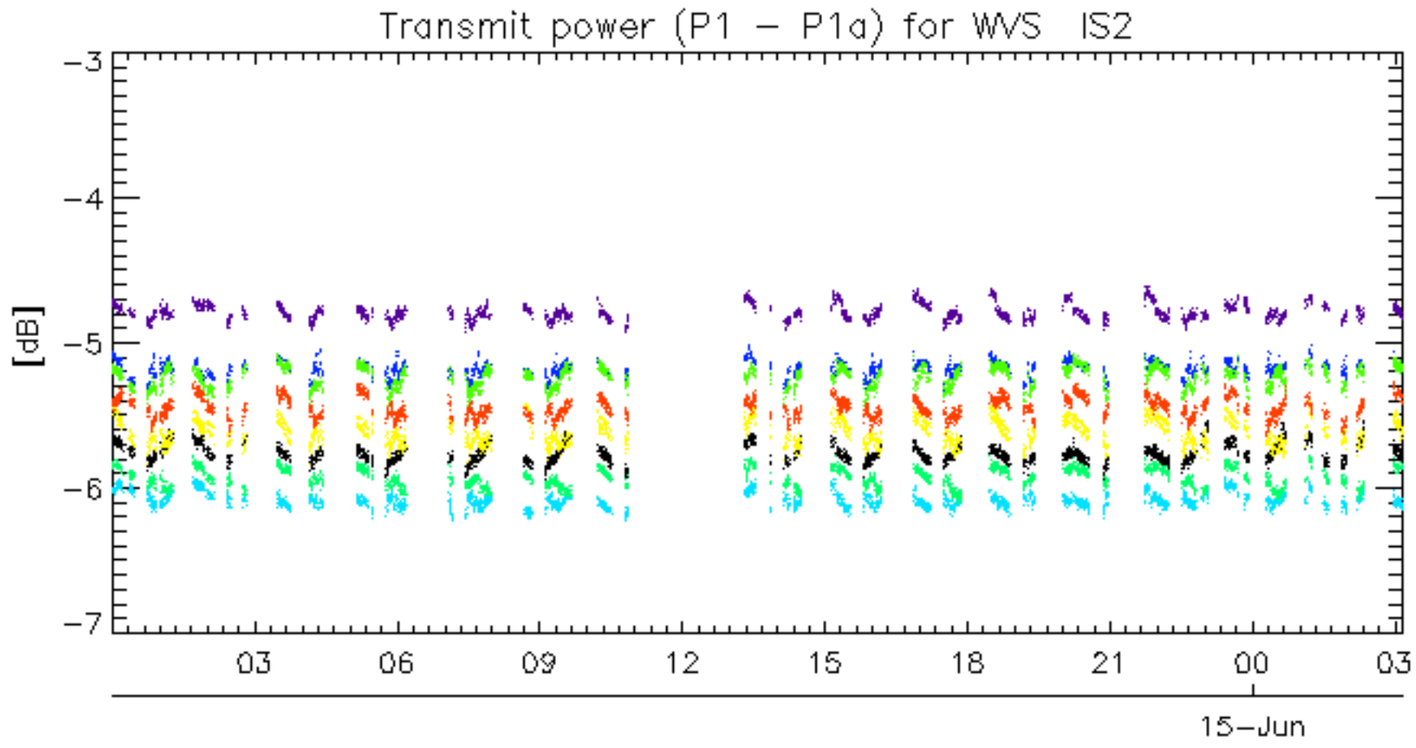

Reference: 2001-02-09 14:08:23 V
TxPhase
Test : 2005-06-14 08:50:38 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-06-14 08:50:38 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
20
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
15–Jun
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
20
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
[dB]
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
15–Jun
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.