PRELIMINARY REPORT OF 050611

last update on Sat Jun 11 11:18:40 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 2005-06-10 00:00:00 to 2005-06-11 11:18:40

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	27	50	10	5	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	27	50	10	5	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	27	50	10	5	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	27	50	10	5	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	36	45	0	0	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	36	45	0	0	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	36	45	0	0	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	36	45	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	20050610 055517
H	20050609 062654

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	-3.333019	0.008103	0.016936
7	P1	-3.140481	0.015345	-0.046852
11	P1	-4.621455	0.033978	0.031356
15	P1	-5.489832	0.042099	0.010619
19	P1	-3.740639	0.004385	-0.038667
22	P1	-4.587155	0.016297	-0.025165
26	P1	-4.849166	0.022067	0.038546
30	P1	-7.139663	0.026691	0.006338
3	P1	-15.571322	0.118759	0.184541
7	P1	-15.591129	0.117505	-0.146633
11	P1	-21.368536	0.302827	-0.156772
15	P1	-11.300584	0.048915	0.049859
19	P1	-14.411440	0.032475	-0.079139
22	P1	-15.949150	0.320977	0.030732
26	P1	-17.726889	0.407805	-0.051006
30	P1	-17.834234	0.211316	0.039910

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.012470	0.078642	0.106544
7	P2	-22.199121	0.096379	-0.012163
11	P2	-13.956107	0.093009	0.223226
15	P2	-7.137599	0.086959	-0.058499
19	P2	-9.617125	0.088868	0.028590
22	P2	-16.883667	0.087045	0.013701
26	P2	-16.506025	0.089885	-0.018118
30	P2	-18.794350	0.075559	0.044061

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.163840	0.002646	-0.007949
7	P3	-8.163840	0.002646	-0.007949
11	P3	-8.163840	0.002646	-0.007949
15	P3	-8.163840	0.002646	-0.007949
19	P3	-8.163840	0.002646	-0.007949
22	P3	-8.163840	0.002646	-0.007949
26	P3	-8.163840	0.002646	-0.007949
30	P3	-8.163840	0.002646	-0.007949

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	-2.796703	0.013530	-0.038881
7	P1	-2.936299	0.030582	0.050724
11	P1	-3.959287	0.017986	-0.005881
15	P1	-3.530221	0.024108	-0.021119
19	P1	-3.633565	0.016014	-0.023707
22	P1	-5.638064	0.046183	0.014825
26	P1	-7.296252	0.038793	-0.023400
30	P1	-6.292090	0.043747	-0.068333
3	P1	-10.838359	0.041545	-0.027724
7	P1	-10.368951	0.165726	0.071166
11	P1	-12.552537	0.114917	-0.036135
15	P1	-11.610099	0.084212	0.000212
19	P1	-15.614957	0.064030	-0.028304
22	P1	-26.034184	3.338072	-0.619247
26	P1	-15.625867	0.381907	-0.006915
30	P1	-20.197348	1.119507	0.250808

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.759106	0.042103	0.012611
7	P2	-22.147470	0.039267	0.042573
11	P2	-9.900636	0.056567	0.155953
15	P2	-5.121779	0.045420	-0.073473
19	P2	-6.912153	0.057751	-0.059756
22	P2	-7.104666	0.037697	-0.041723
26	P2	-23.955997	0.036774	-0.010180
30	P2	-21.950798	0.039197	-0.072785

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.996251	0.003852	-0.011101
7	P3	-7.996113	0.003850	-0.011084
11	P3	-7.996220	0.003843	-0.011440
15	P3	-7.996164	0.003840	-0.011098
19	P3	-7.996071	0.003850	-0.011296
22	P3	-7.996237	0.003842	-0.010793
26	P3	-7.996247	0.003847	-0.011869
30	P3	-7.996223	0.003850	-0.011545

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	0.000454475
	stdev	2.19968e-07
MEAN Q	mean	0.000493587
	stdev	2.30451e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127533
	stdev	0.000973194
STDEV Q	mean	0.127769
	stdev	0.000983840

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005061[901]
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

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

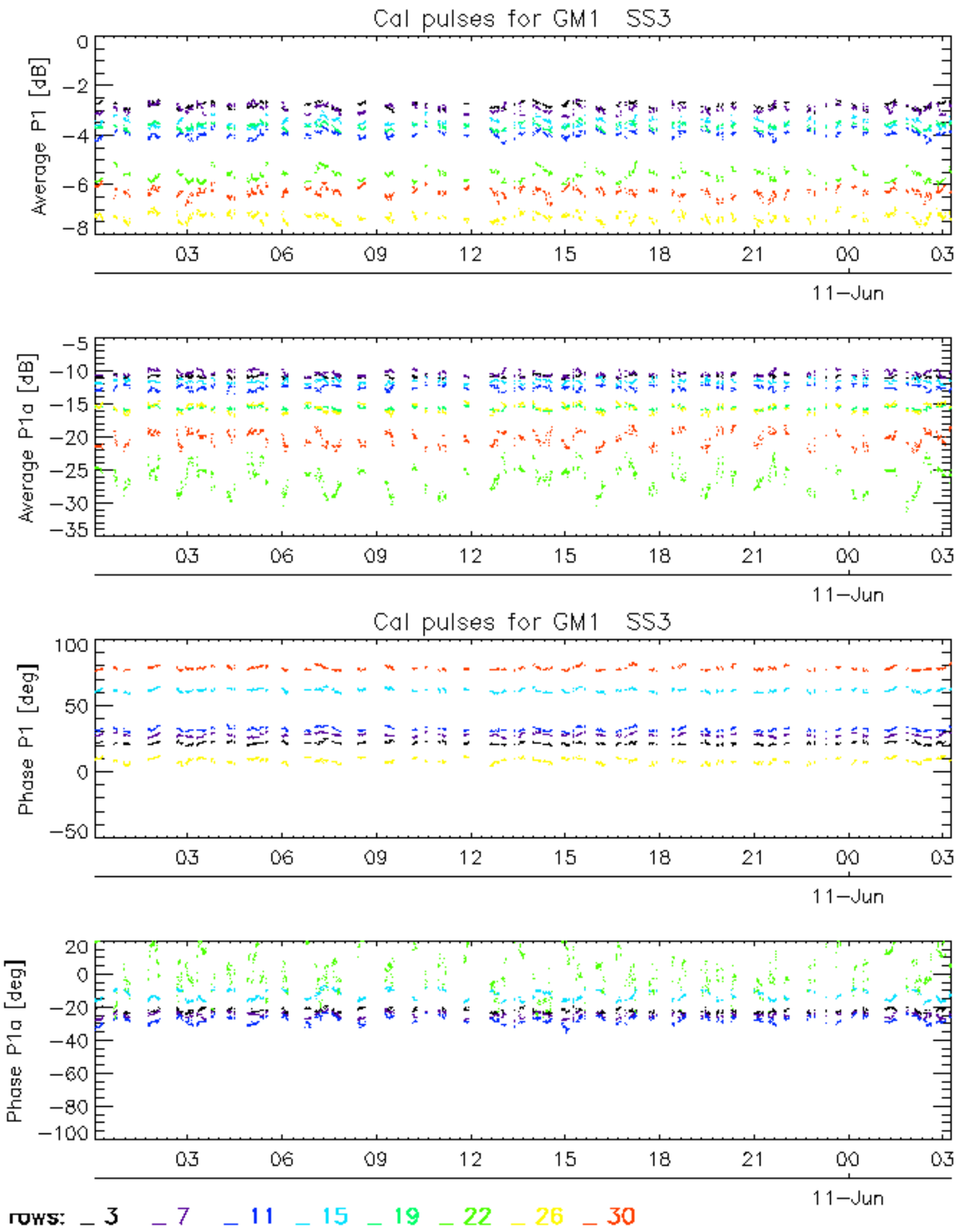
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

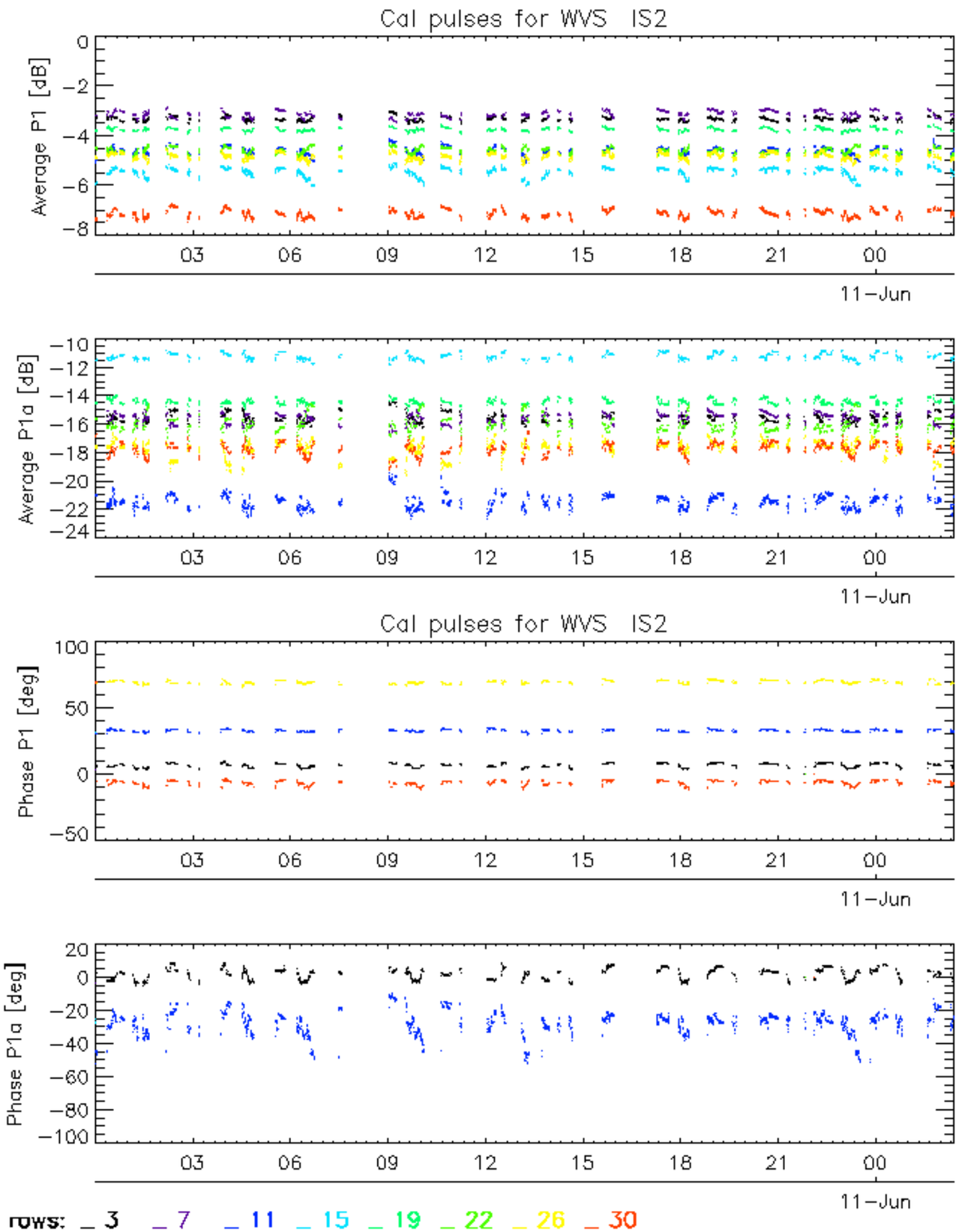
7.5 - Absolute Doppler for GM1

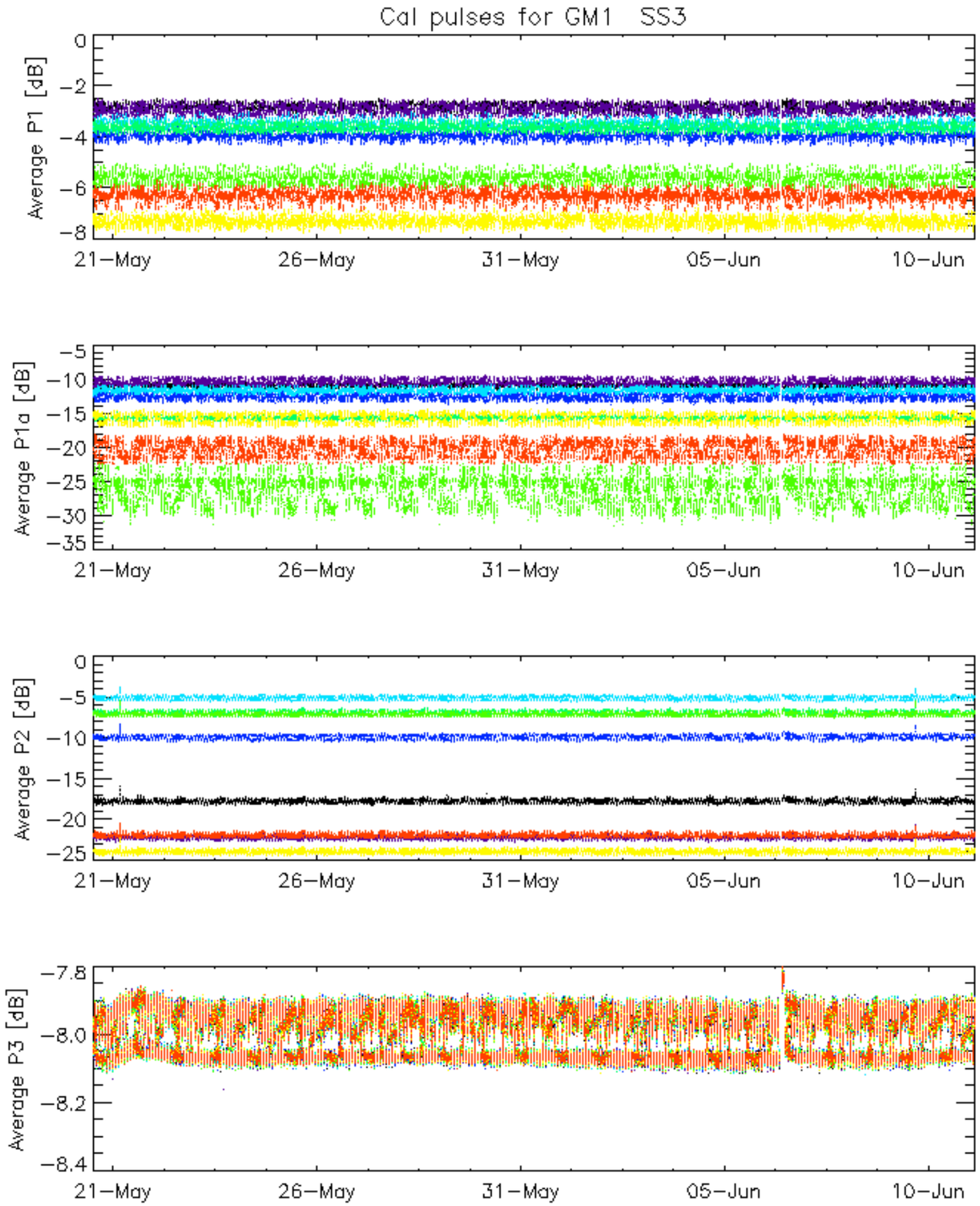
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

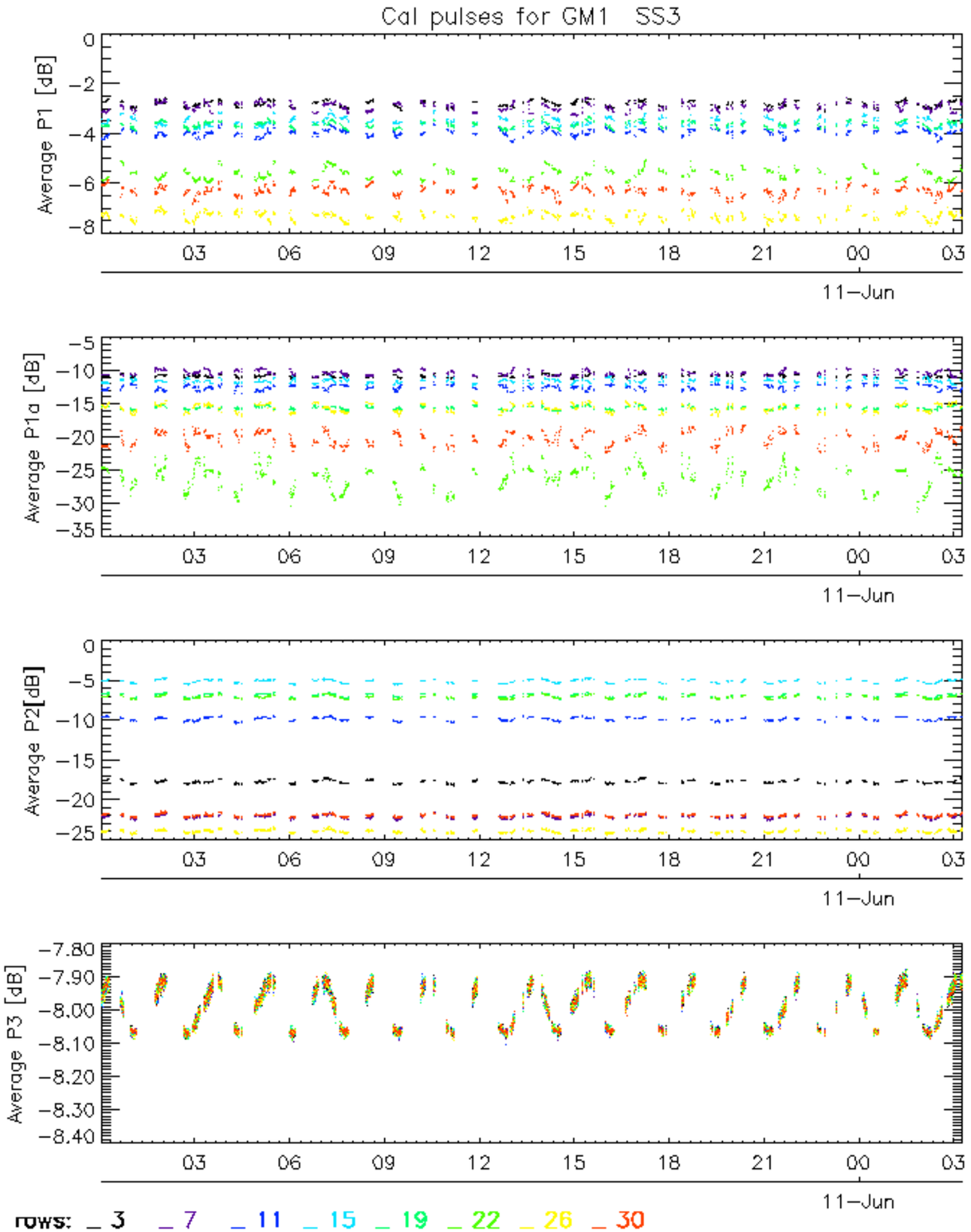
7.6 - Doppler evolution versus ANX for GM1

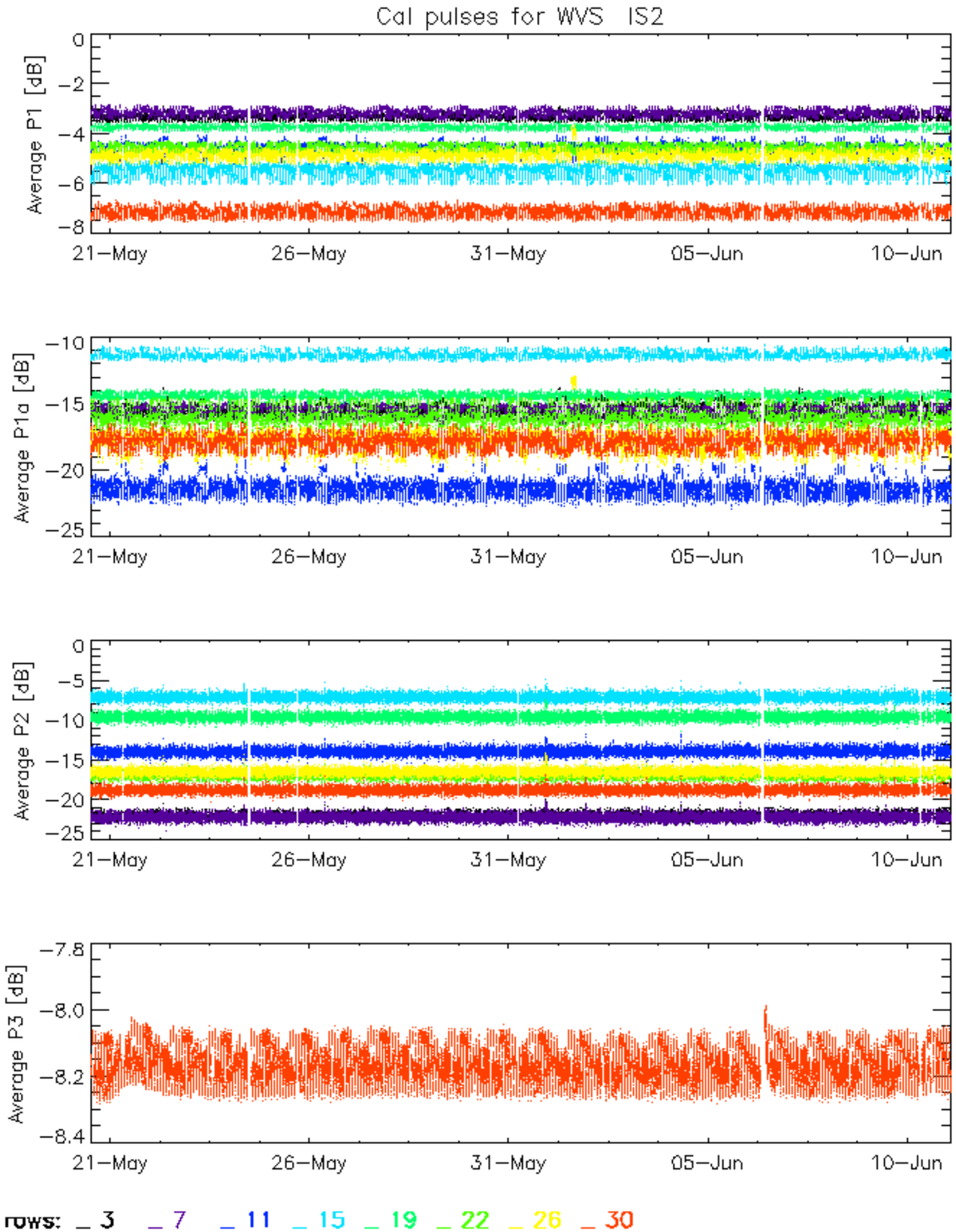
Evolution Doppler error versus ANX
☒

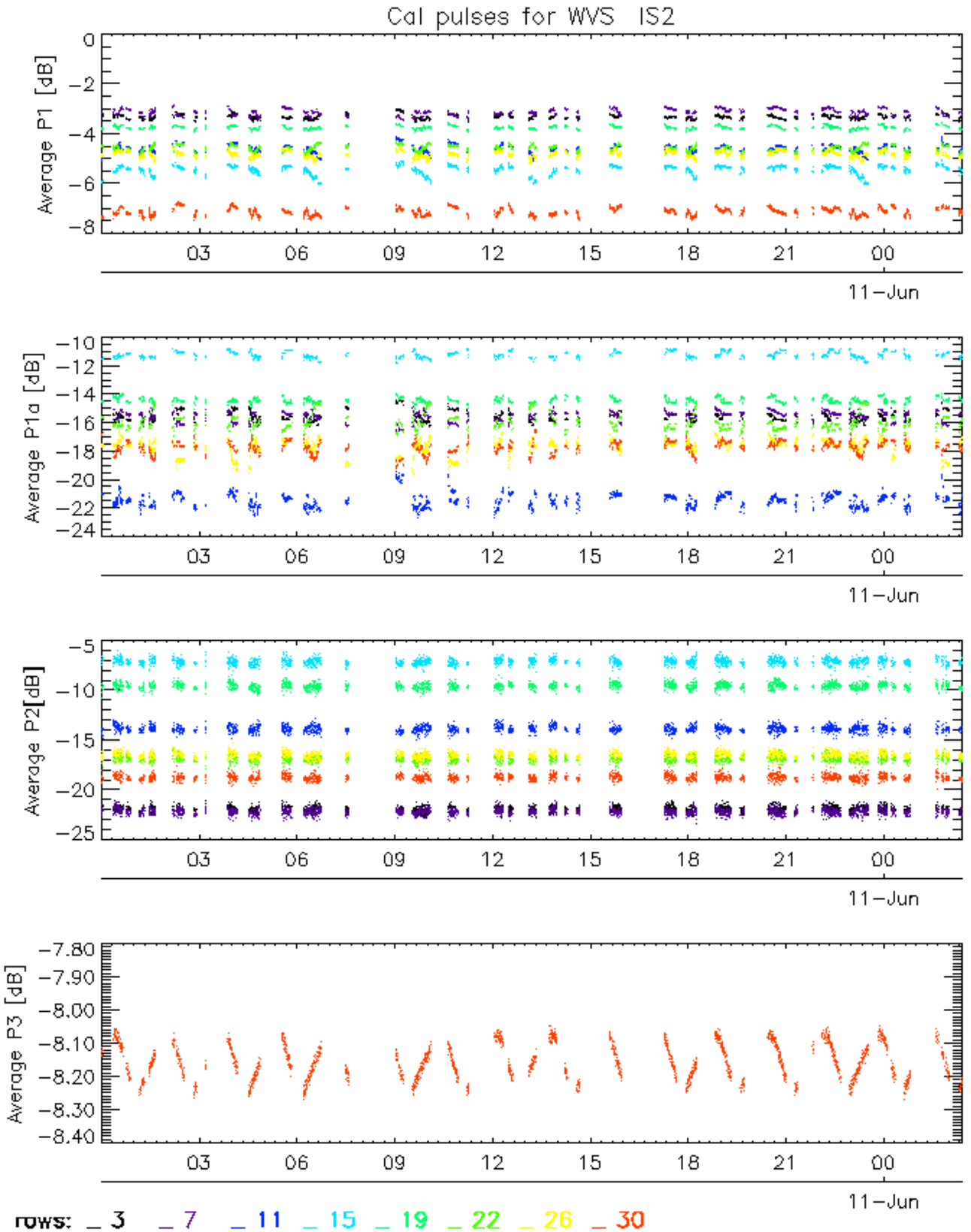

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
11−Jun
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
11−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

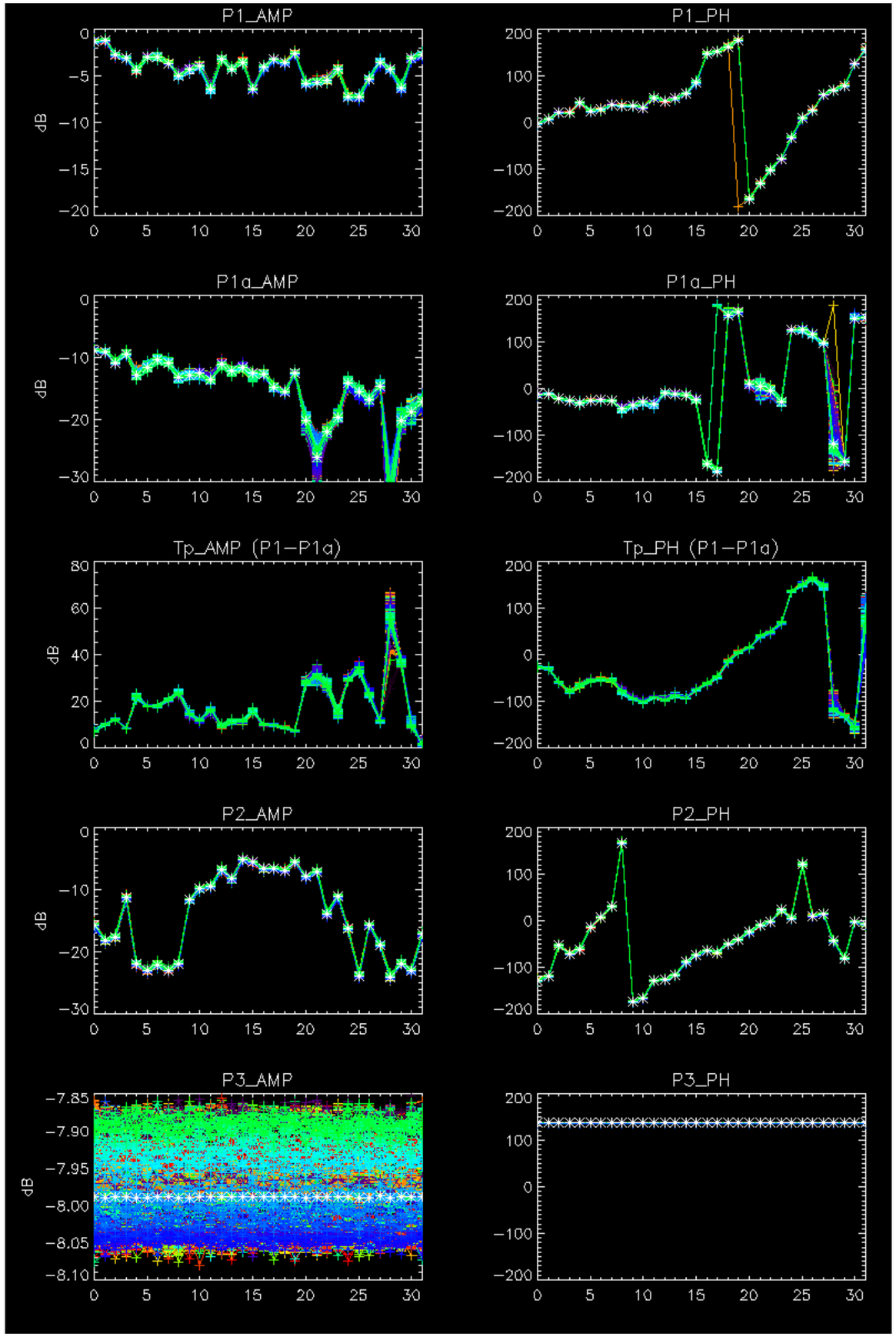

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
21−May
26−May
31−May
05−Jun
10−Jun
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

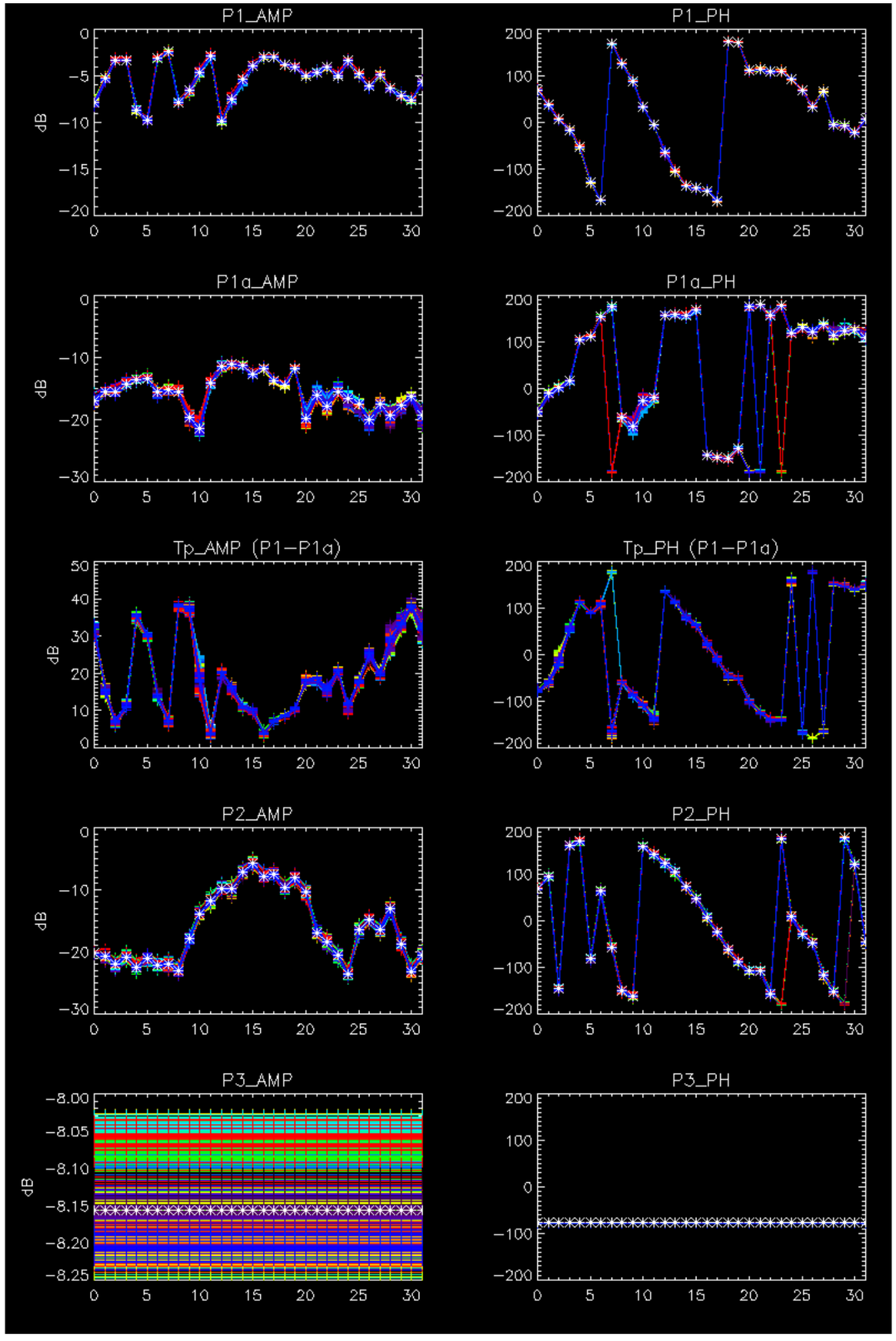

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
11−Jun
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
21−May
26−May
31−May
05−Jun
10−Jun
Average P1a [dB]
−10
−15
−20
−25
Average P2 [dB]
−5
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
11−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

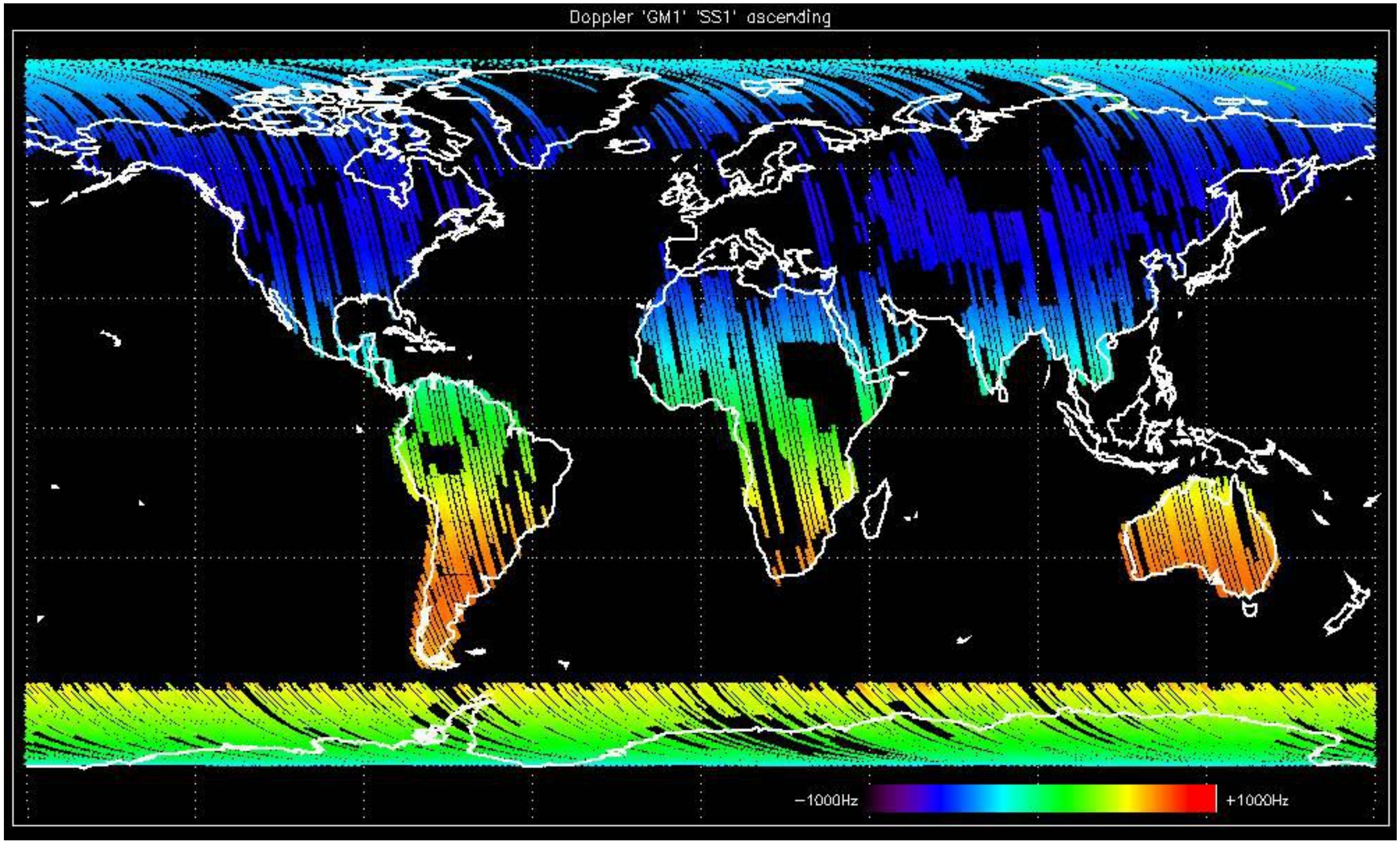
No anomalies observed.

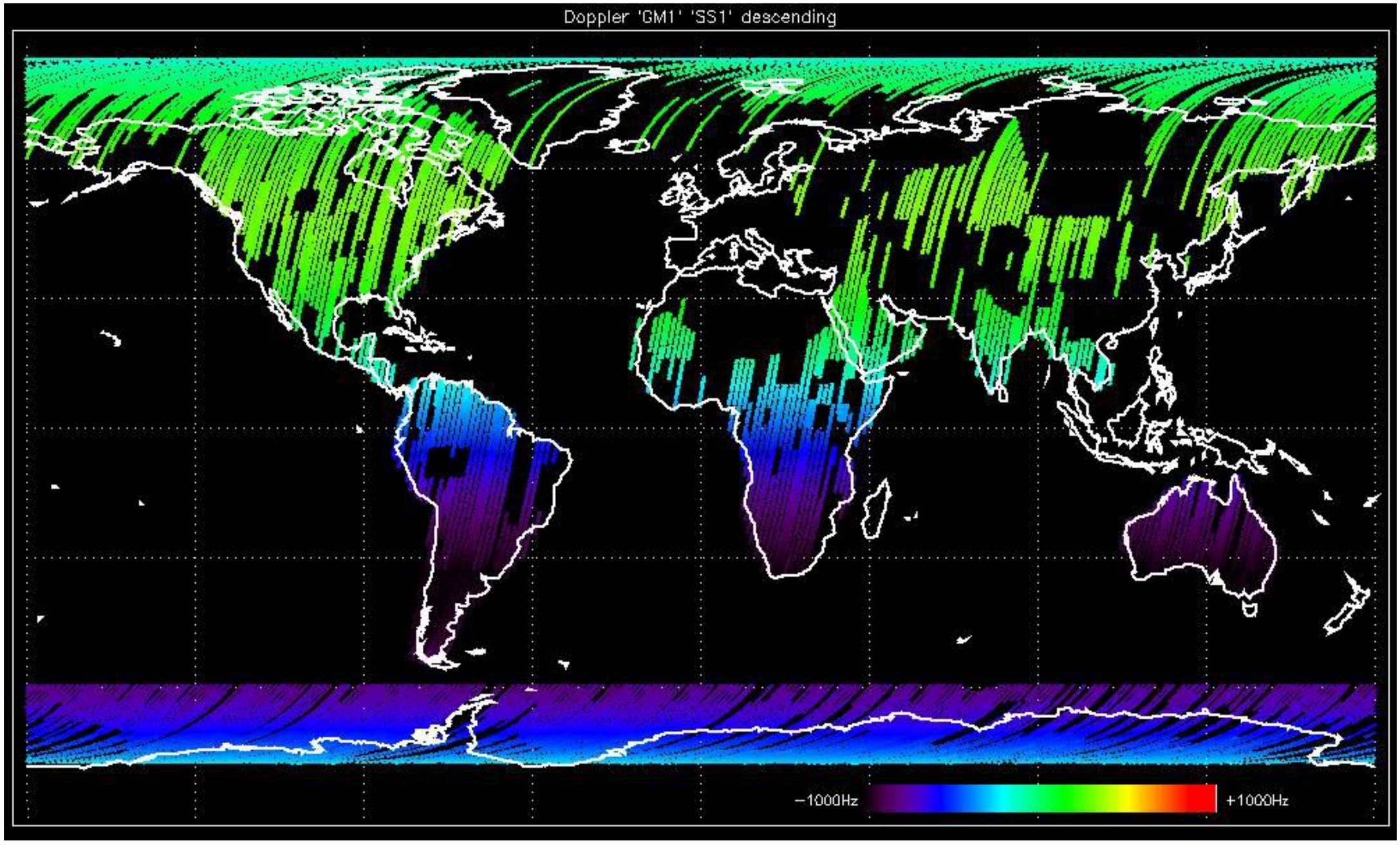

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

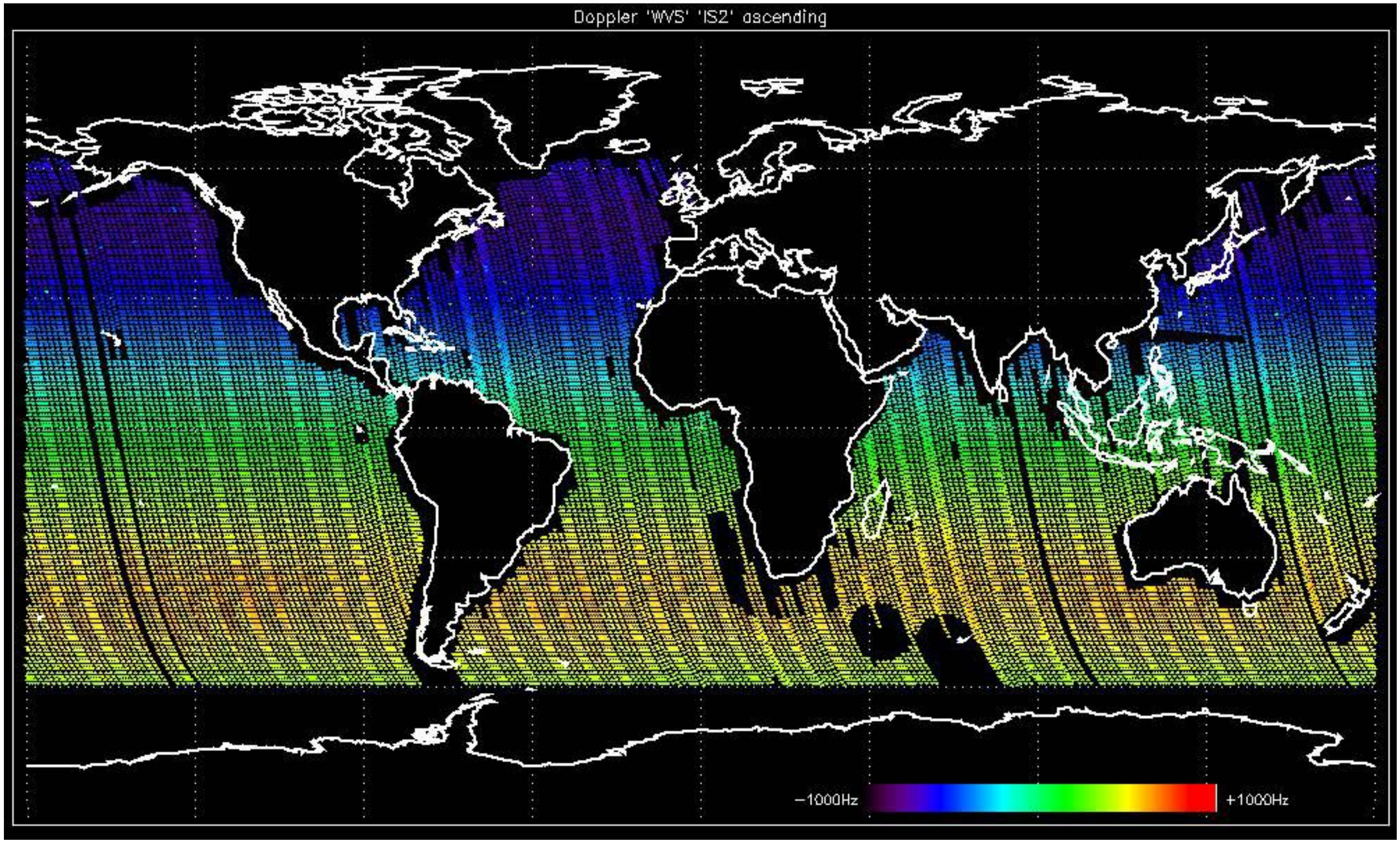

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

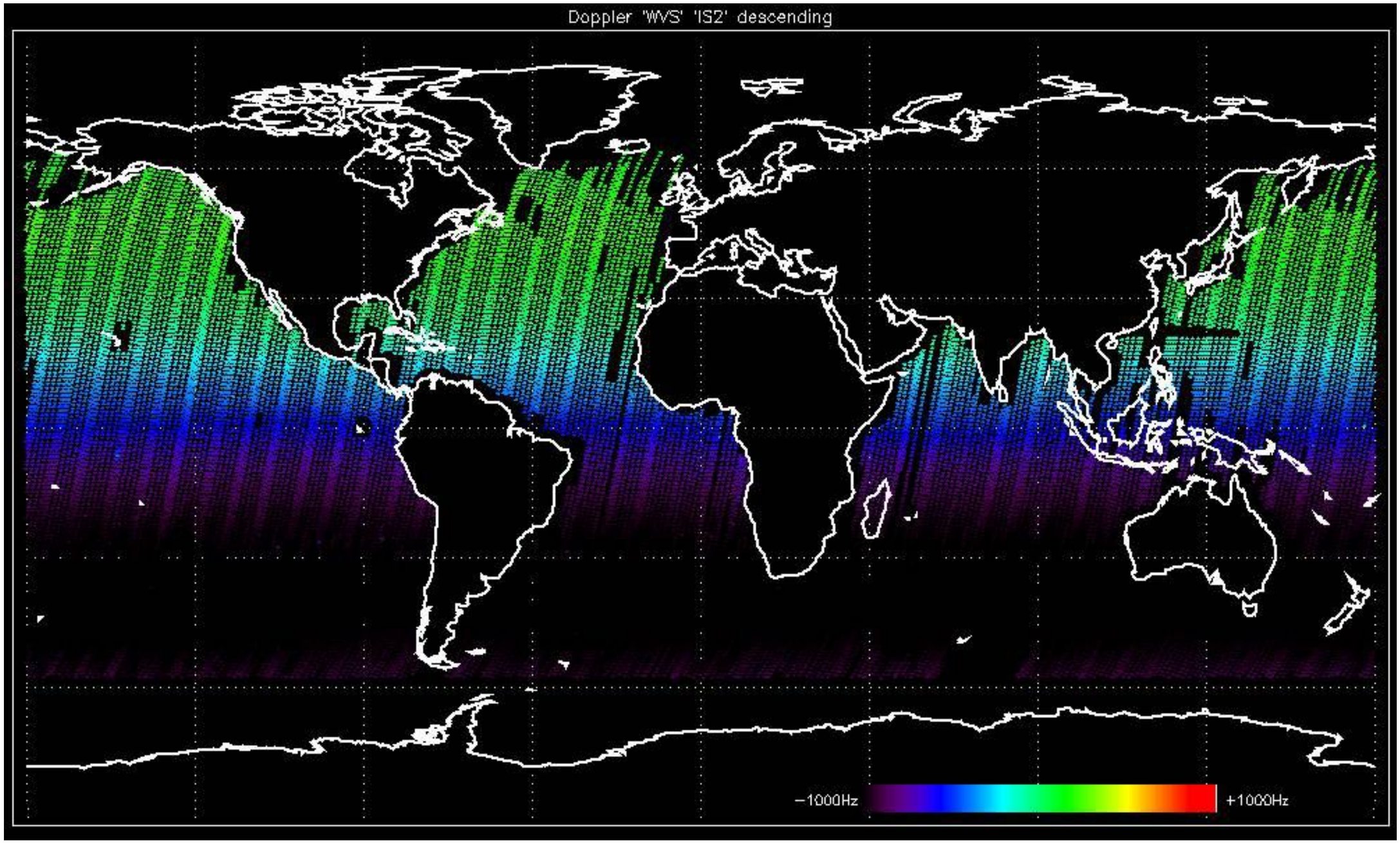
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

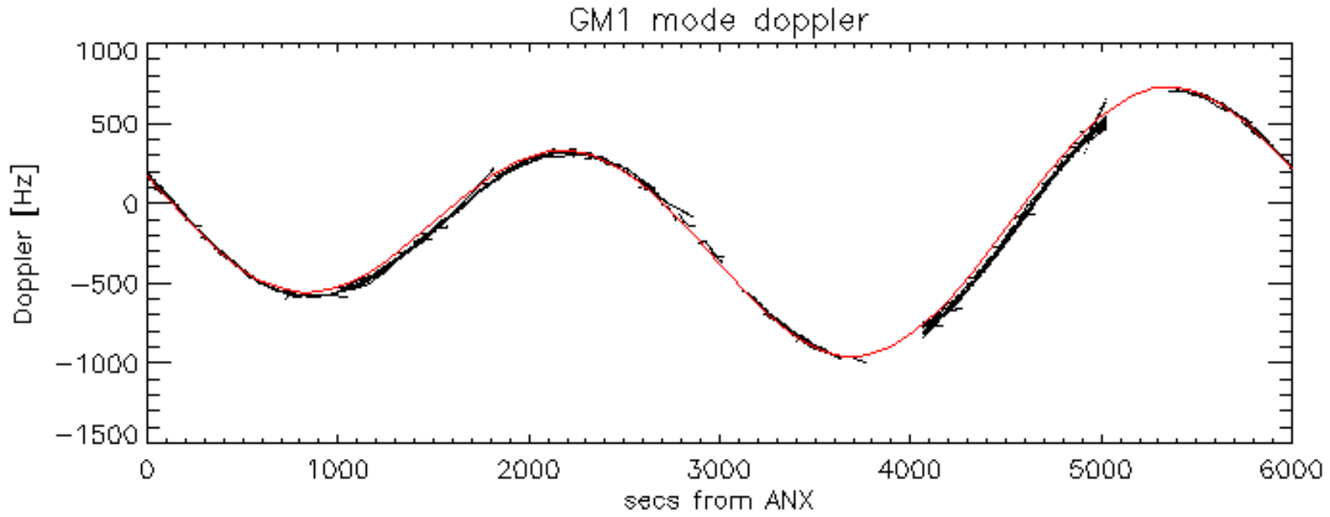
Preliminary report.The data is not yet controled

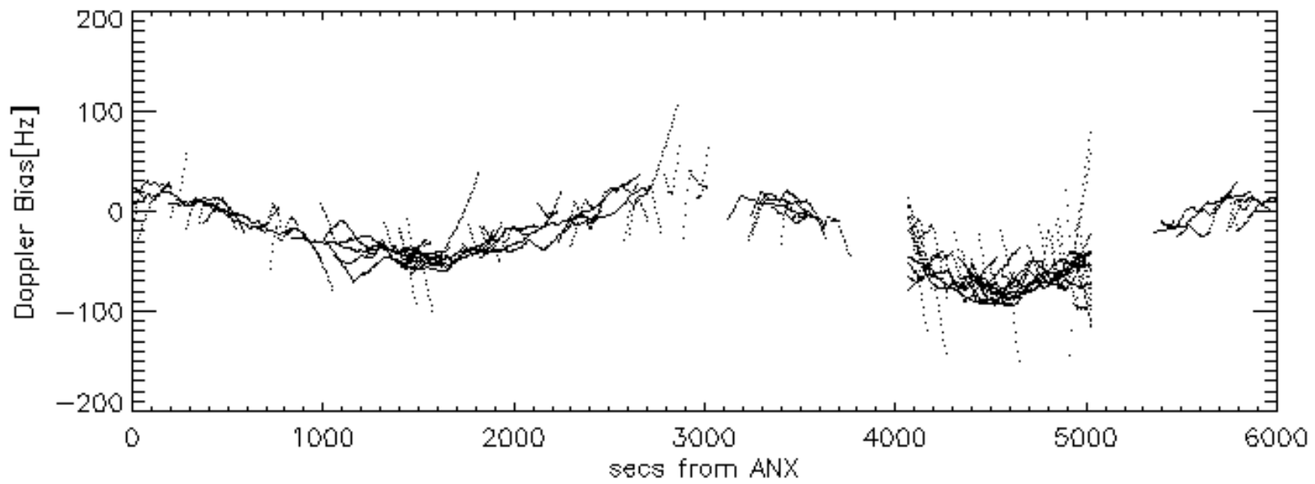

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

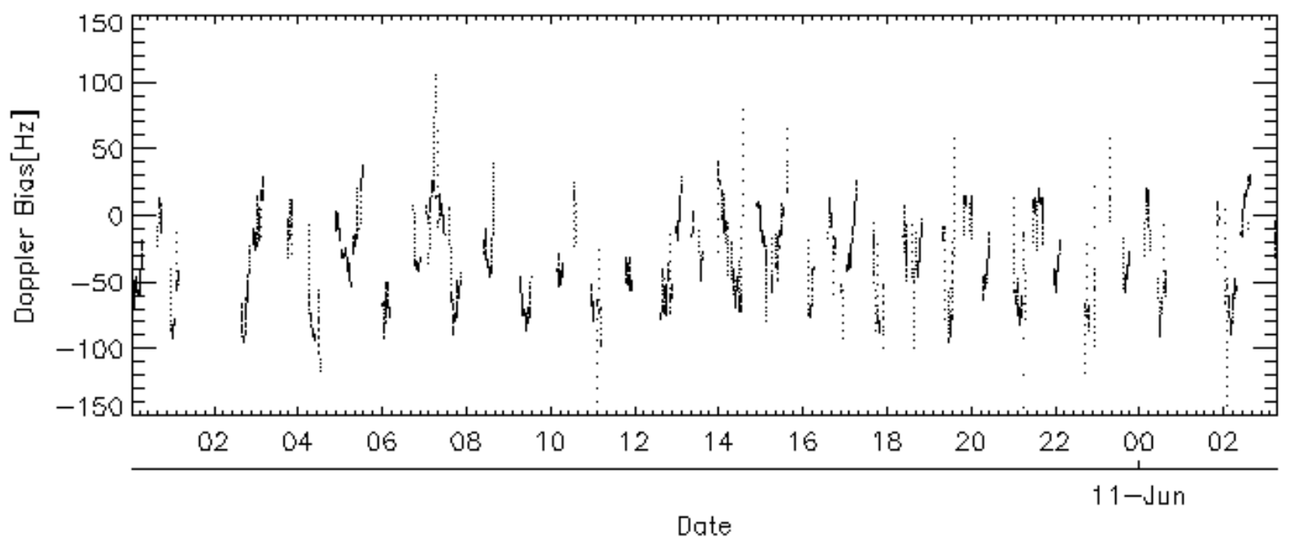

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

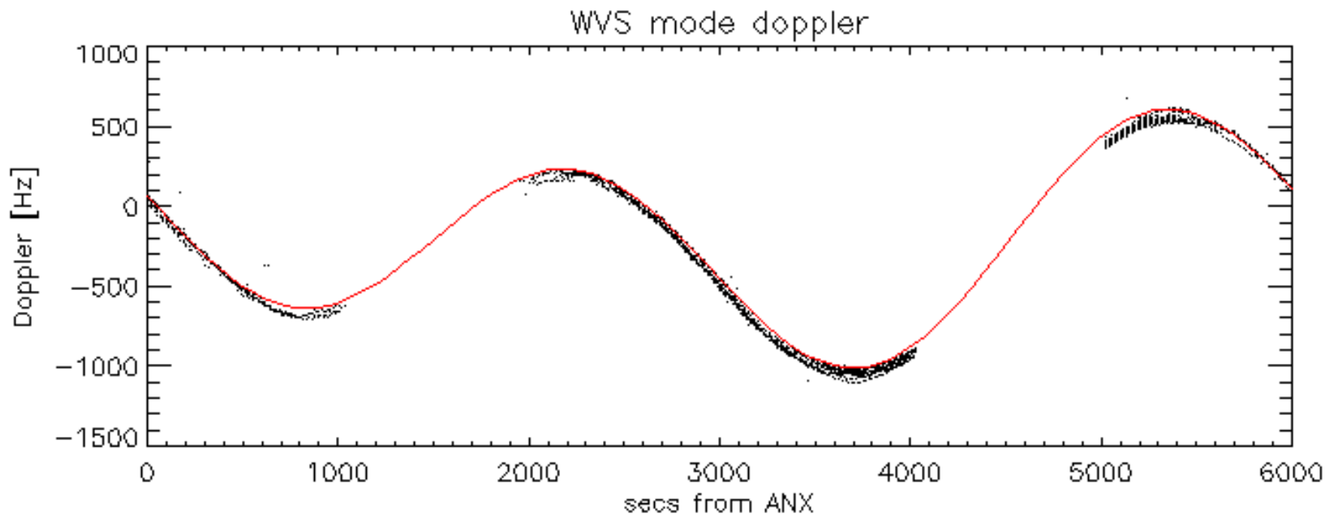

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

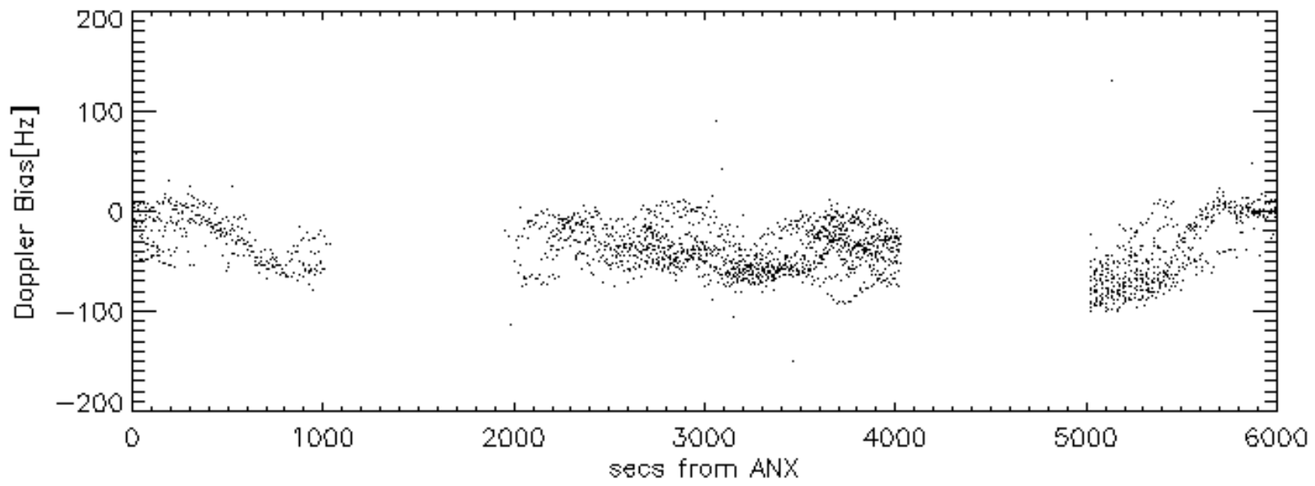

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

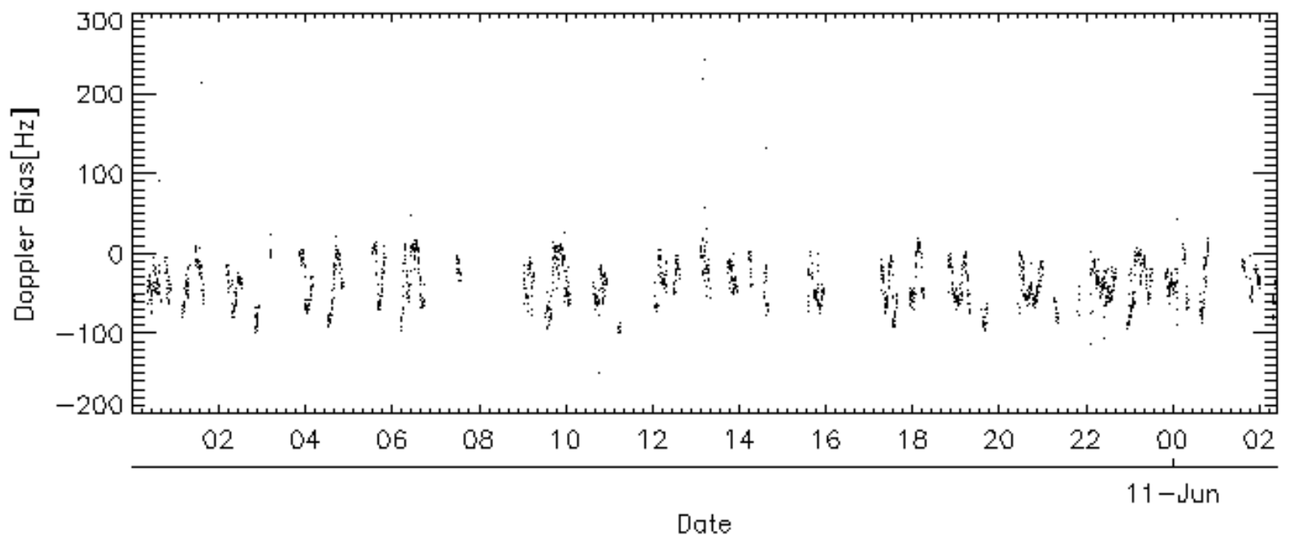

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

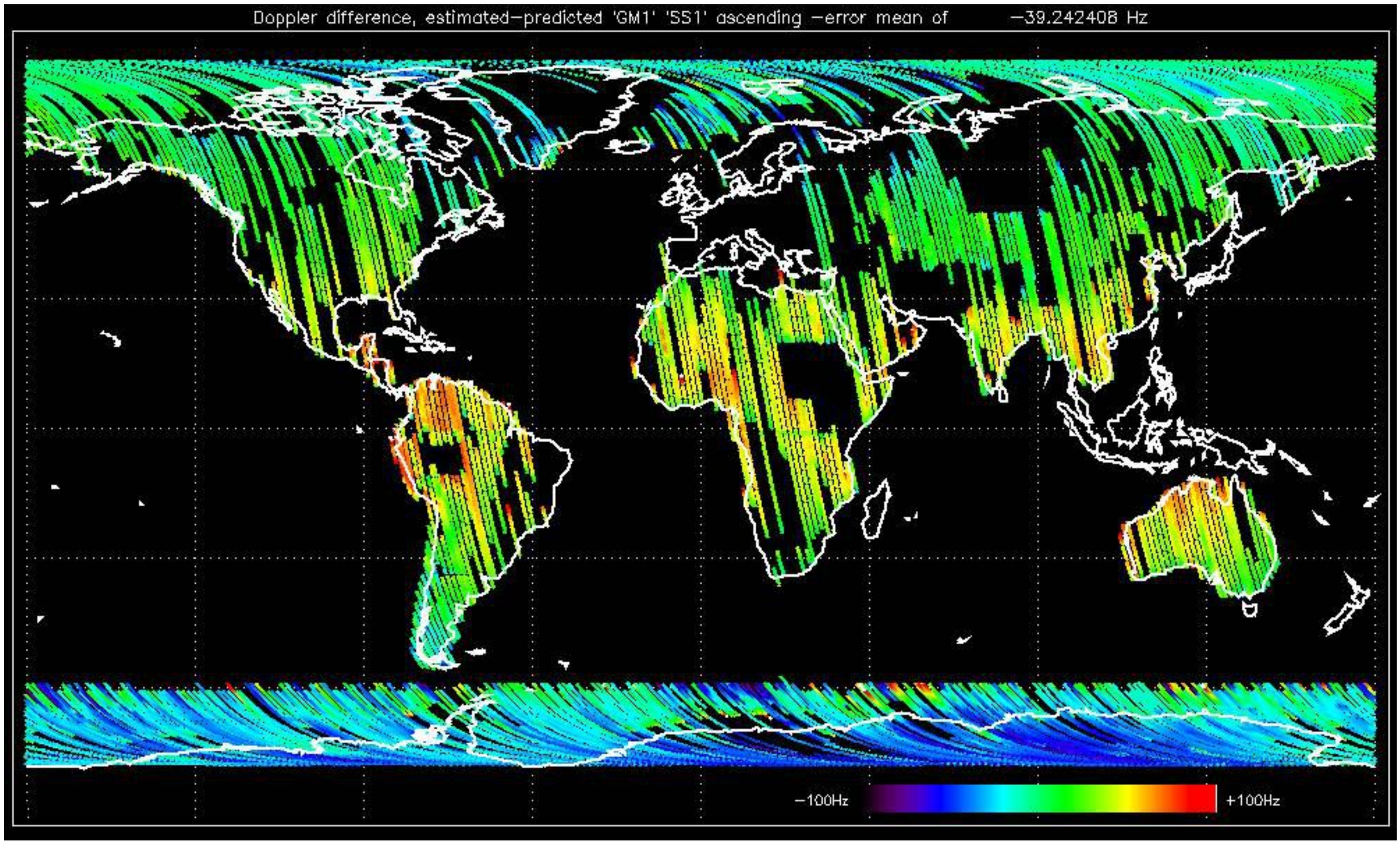

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

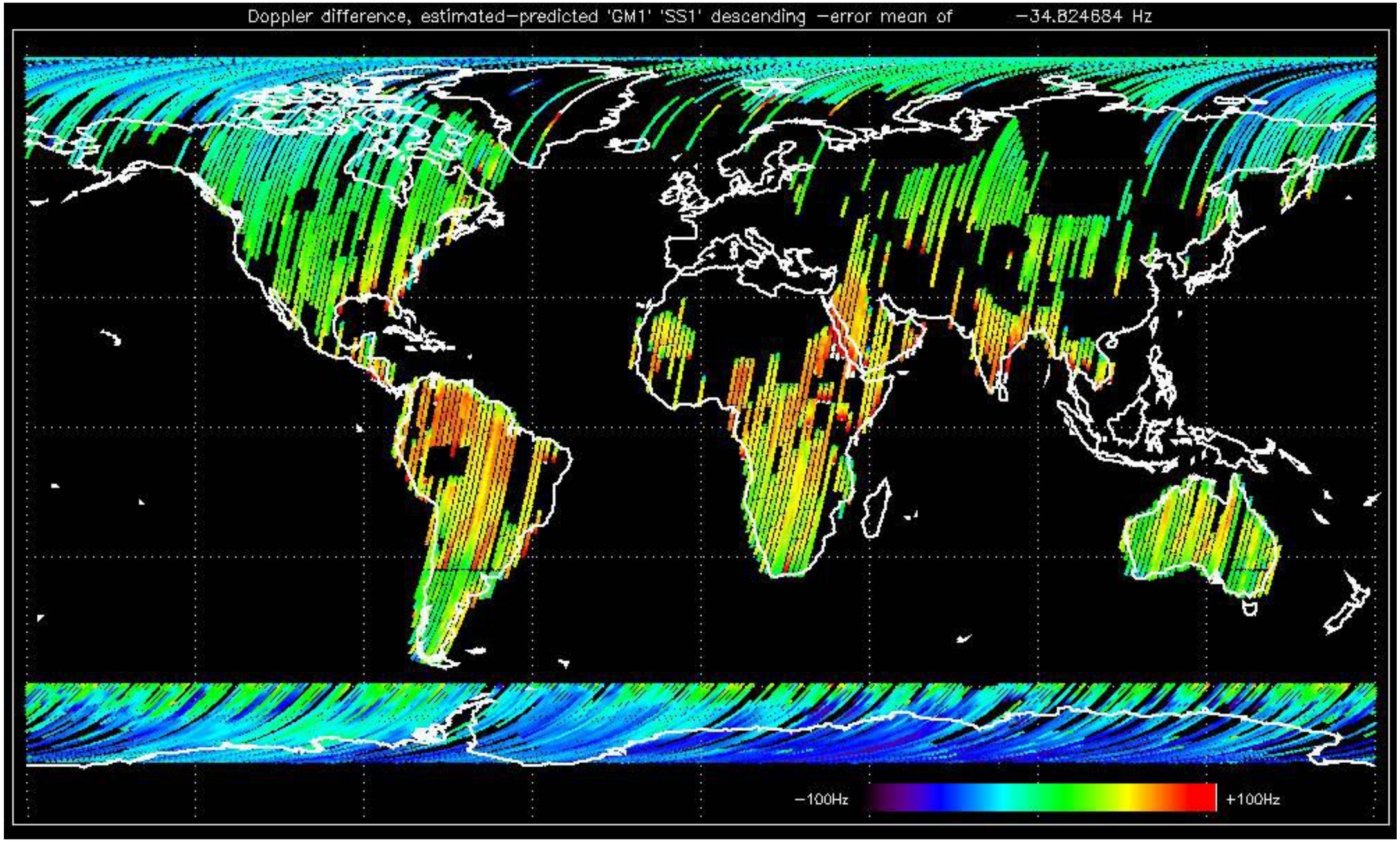

Doppler Bias[Hz]
150
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
11−Jun
Date

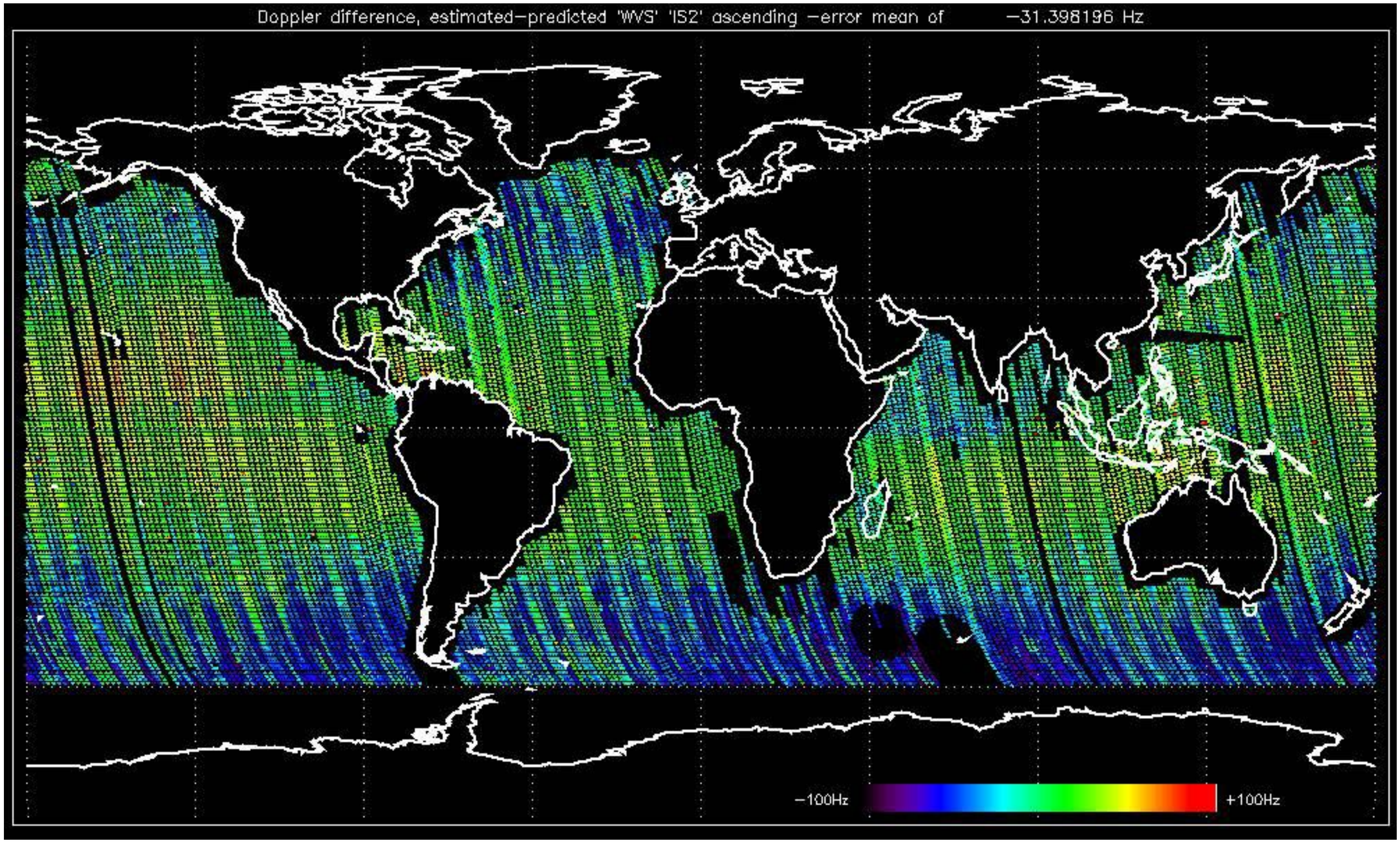

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

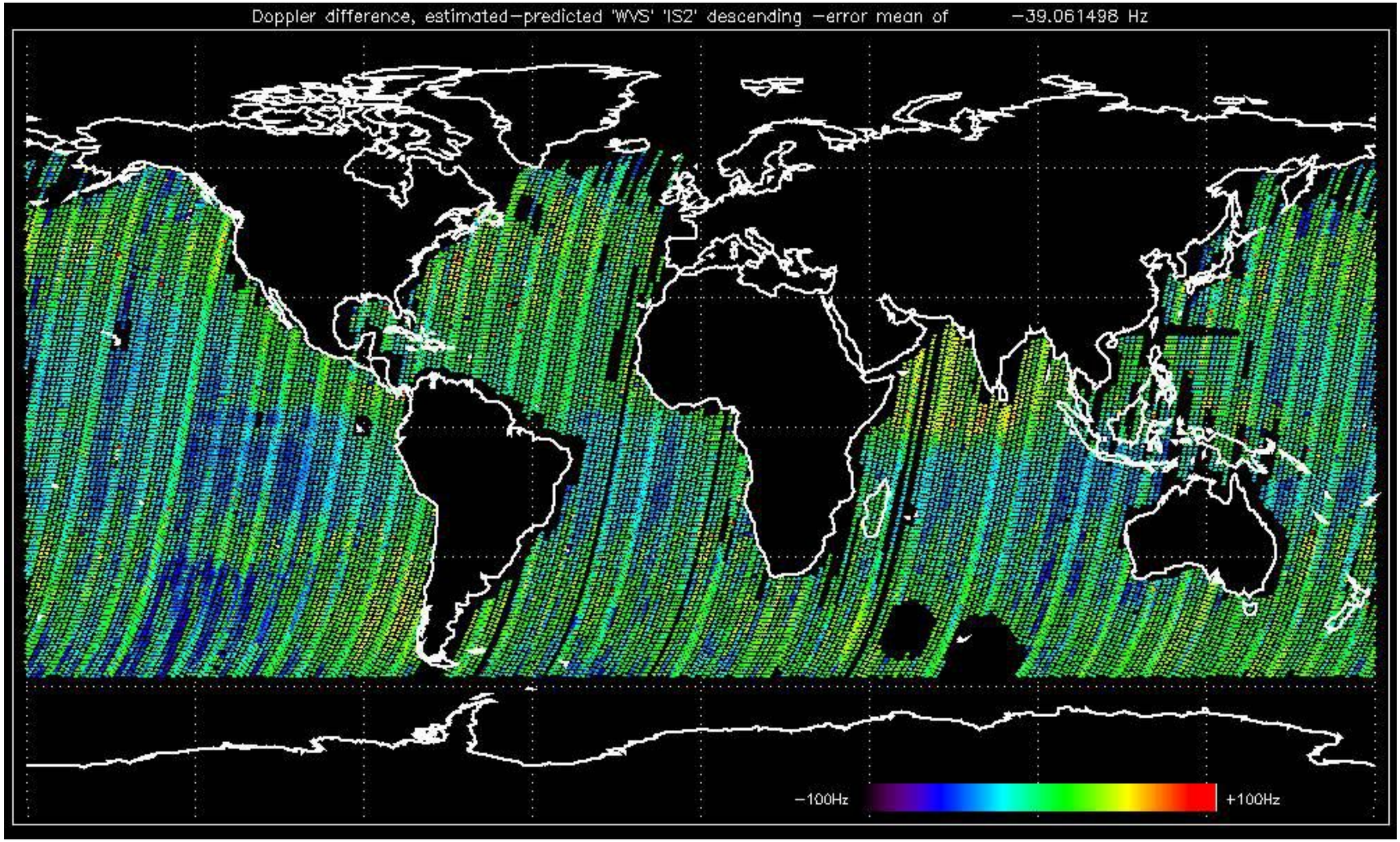

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


Doppler Bias[Hz]
300
200
100
0
−100
−200
02
04
06
08
10
12
14
16
18
20
22
00
02
11−Jun
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −39.242408 Hz
−100Hz
+100Hz

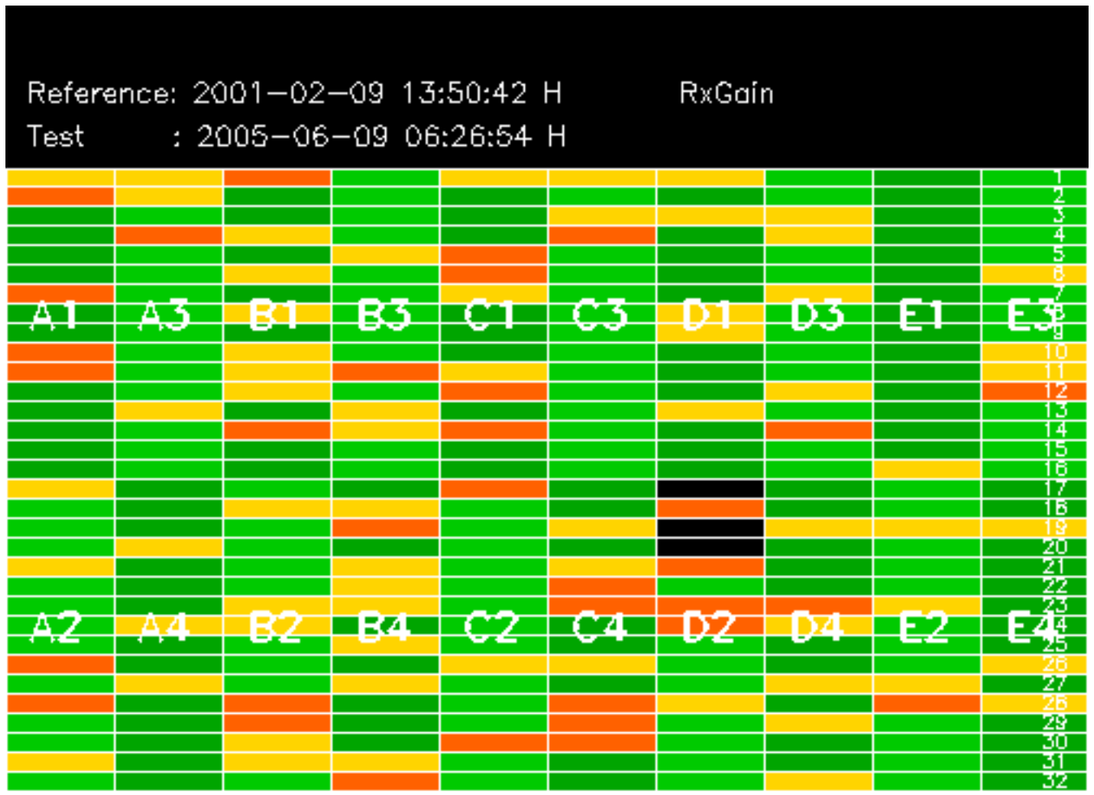

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −34.824684 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −31.398196 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −39.061498 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2005-06-09 06:26:54 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
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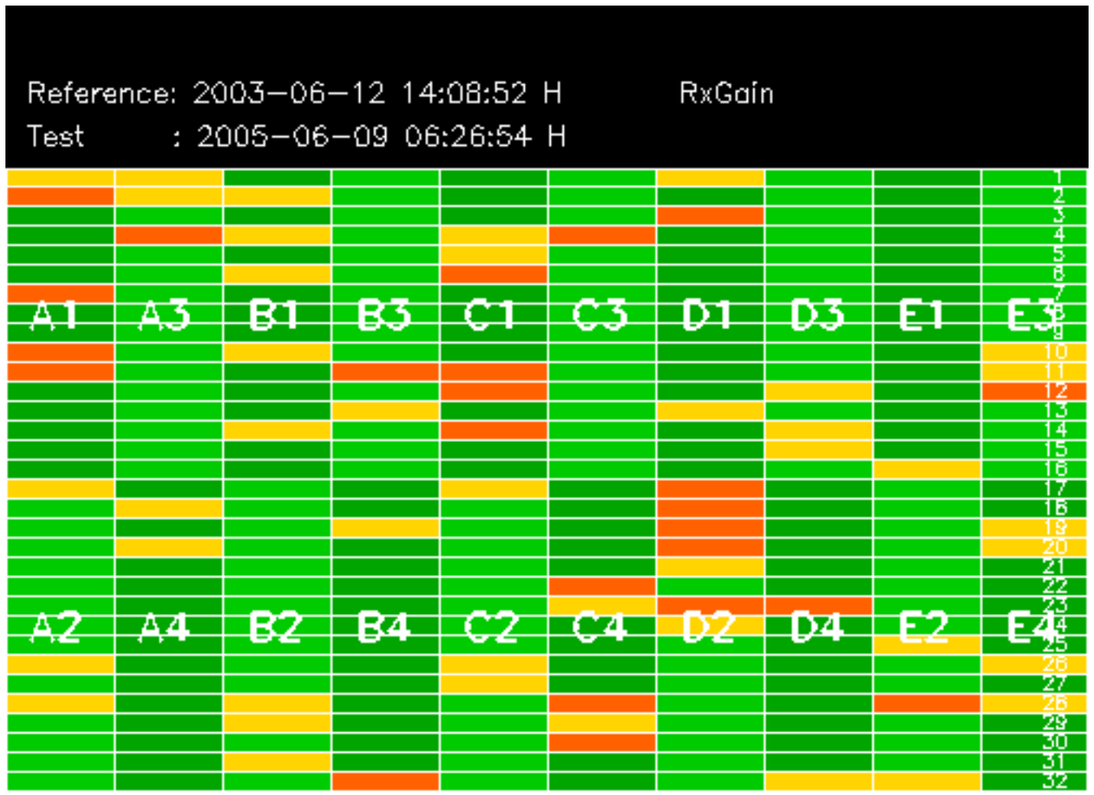
Reference: 2003-06-12 14:08:52 H
Test : 2005-06-09 06:26:54 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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19
20
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24
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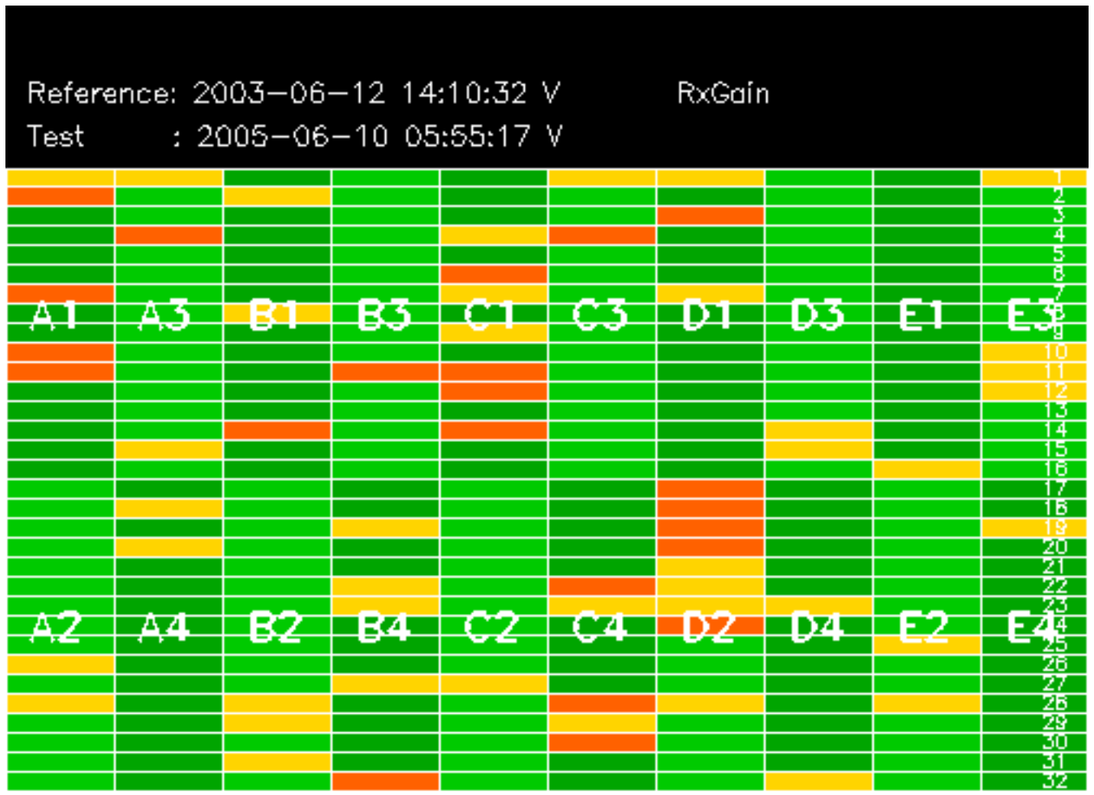
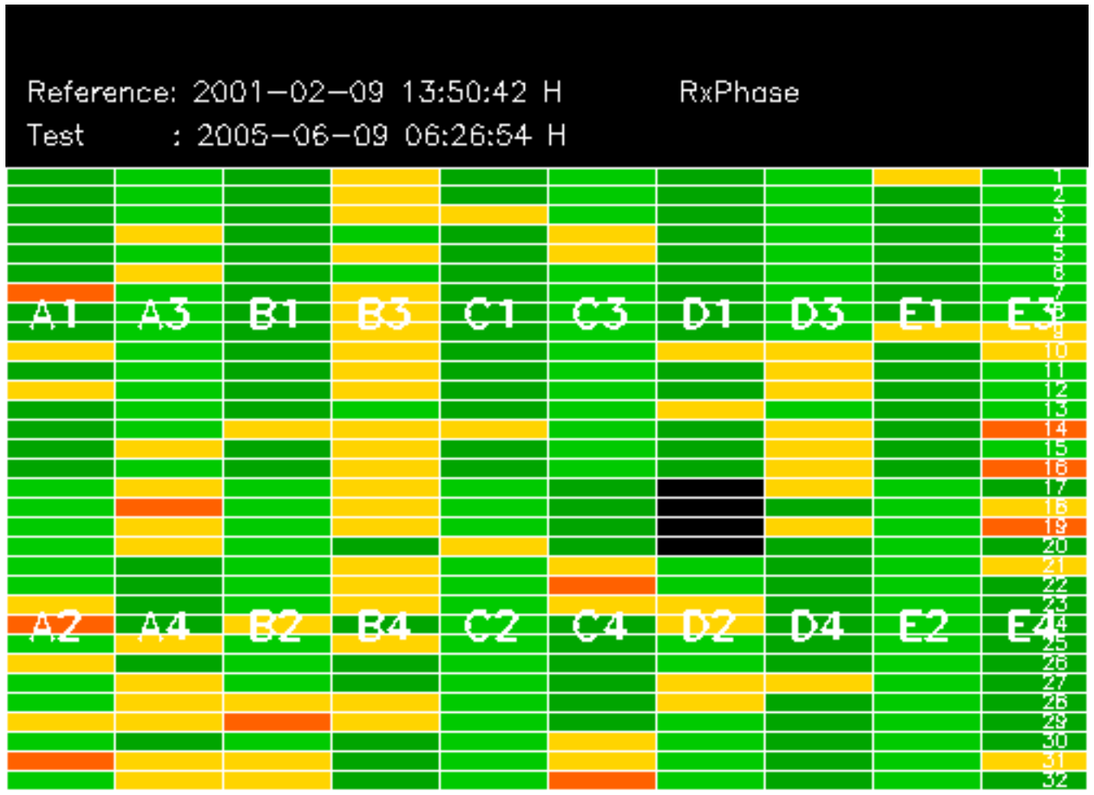
26
27
28
29
30
31
32


Reference: 2001-02-09 14:08:23 V
RxGain
Test : 2005-06-10 05:55:17 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 : 2005-06-10 05:55:17 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 : 2005-06-09 06:26:54 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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27
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29
30
31
32


Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2005-06-09 06:26:54 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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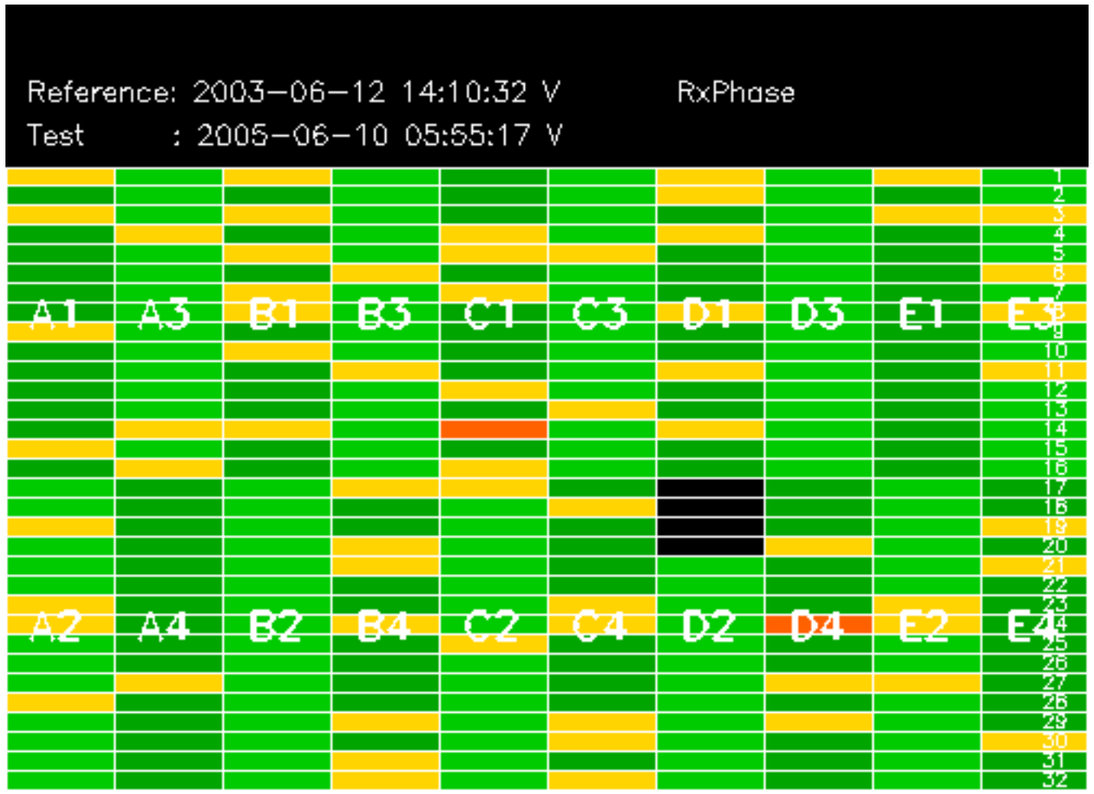
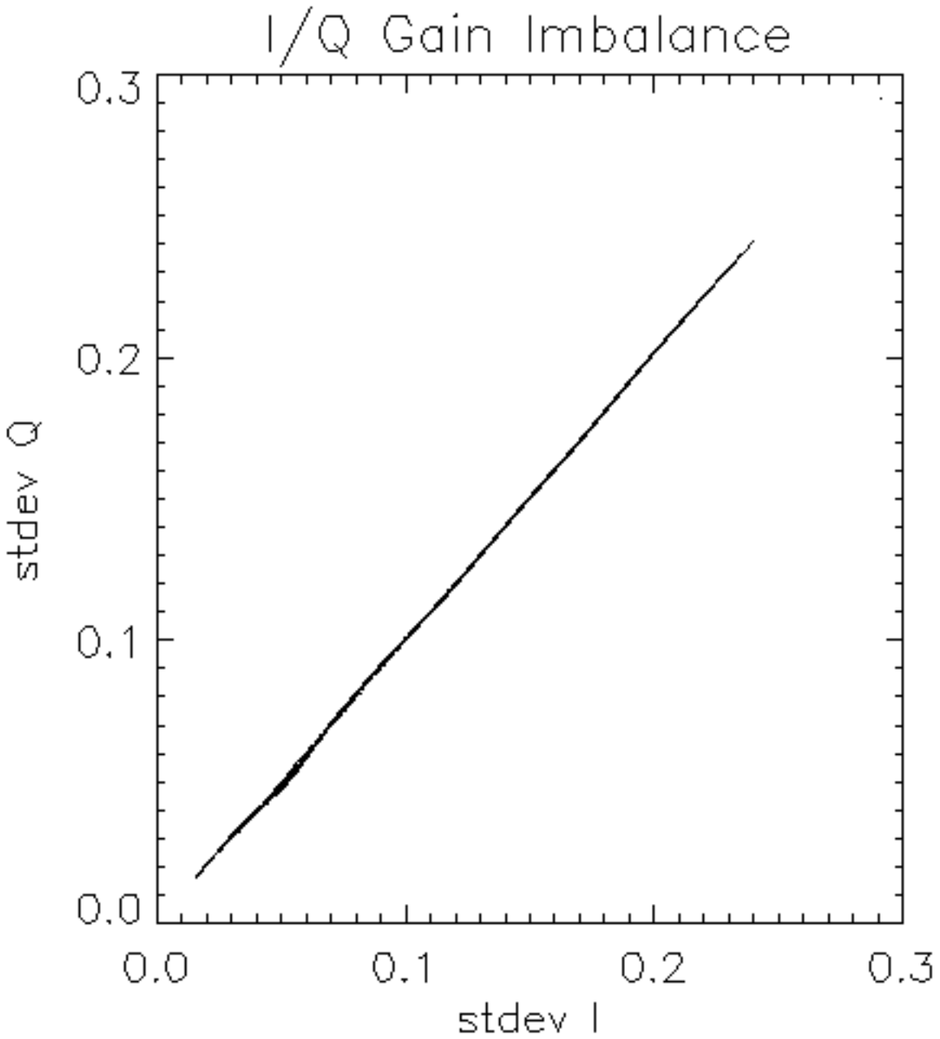
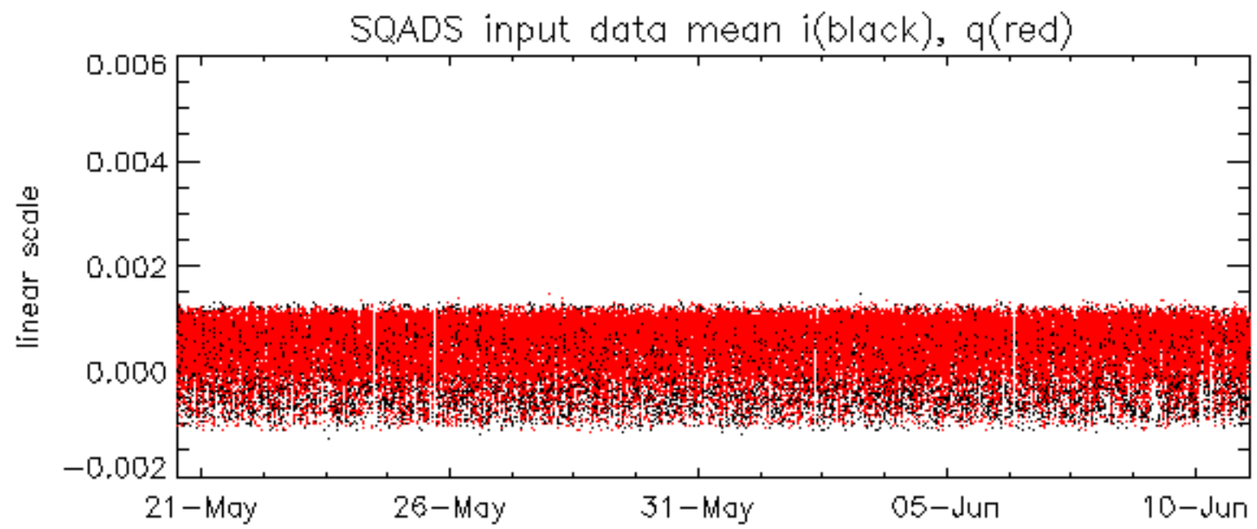
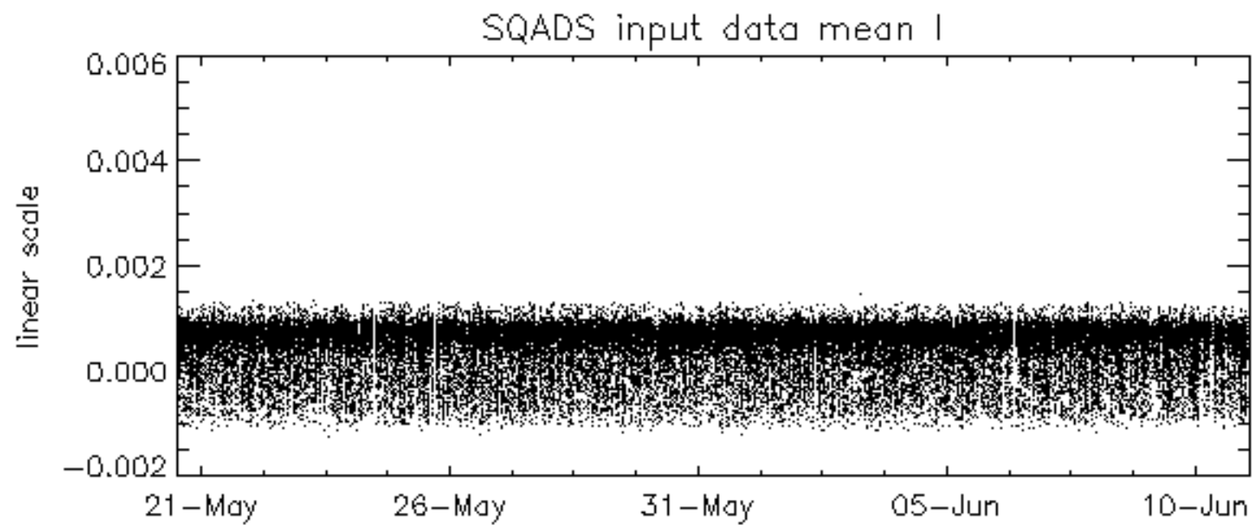
31
32

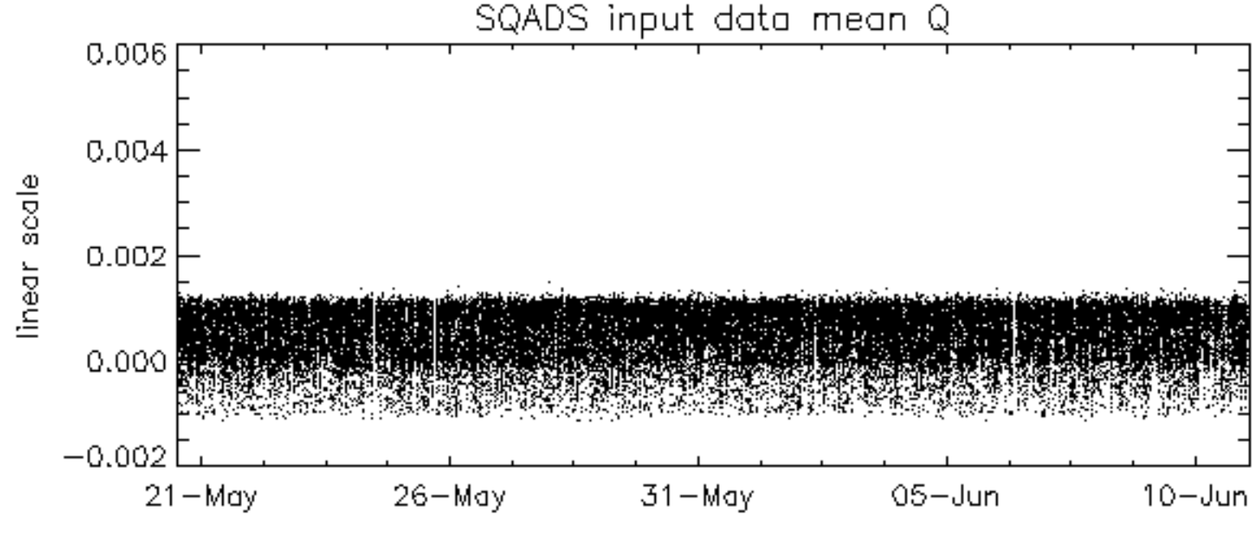

Reference: 2001-02-09 14:08:23 V
RxPhase
Test : 2005-06-10 05:55:17 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

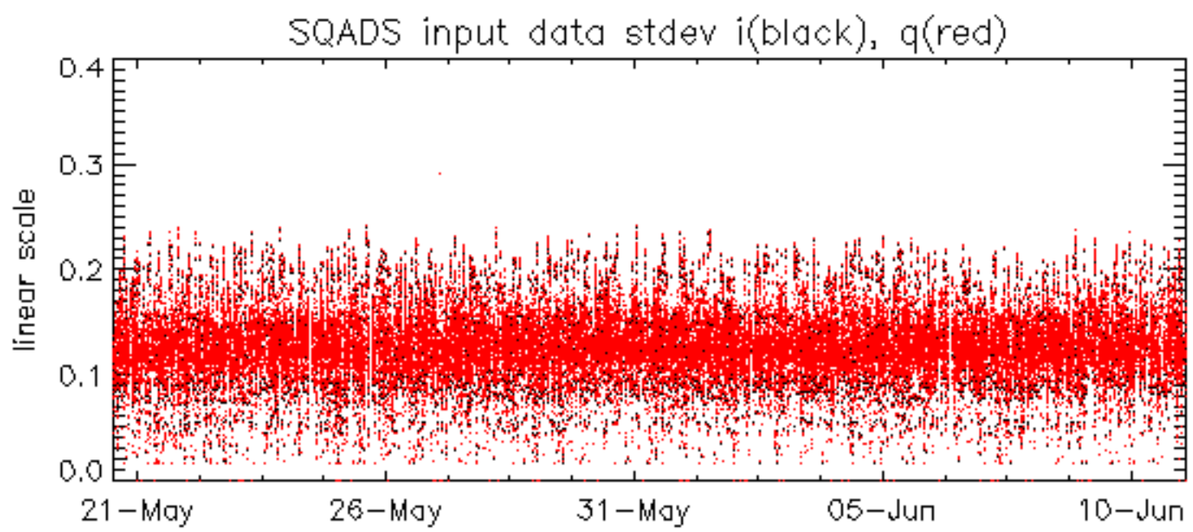

Reference: 2003-06-12 14:10:32 V
Test : 2005-06-10 05:55:17 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

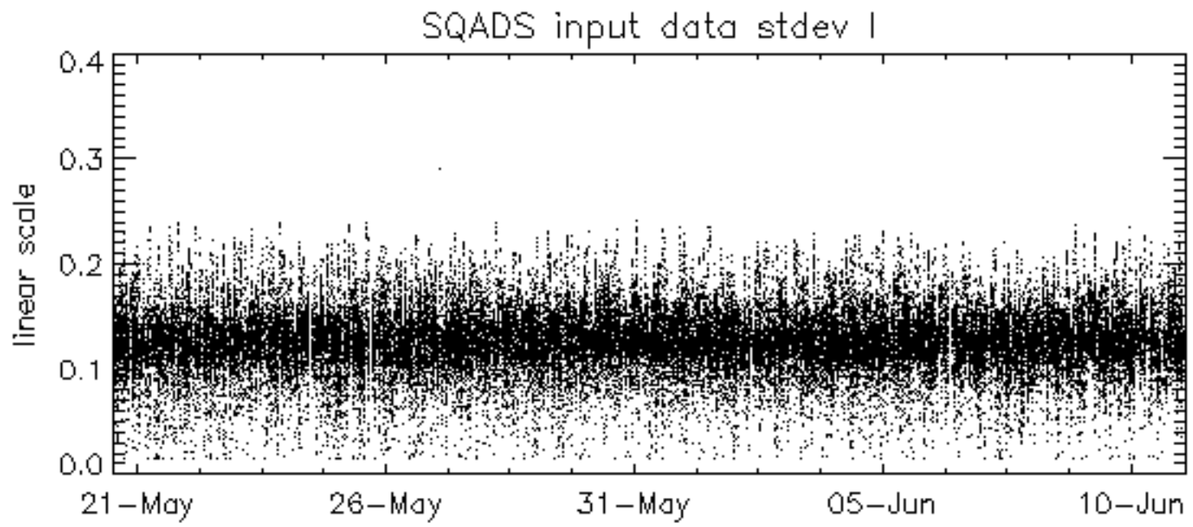

I/Q Gain Imbalance
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
stdev I

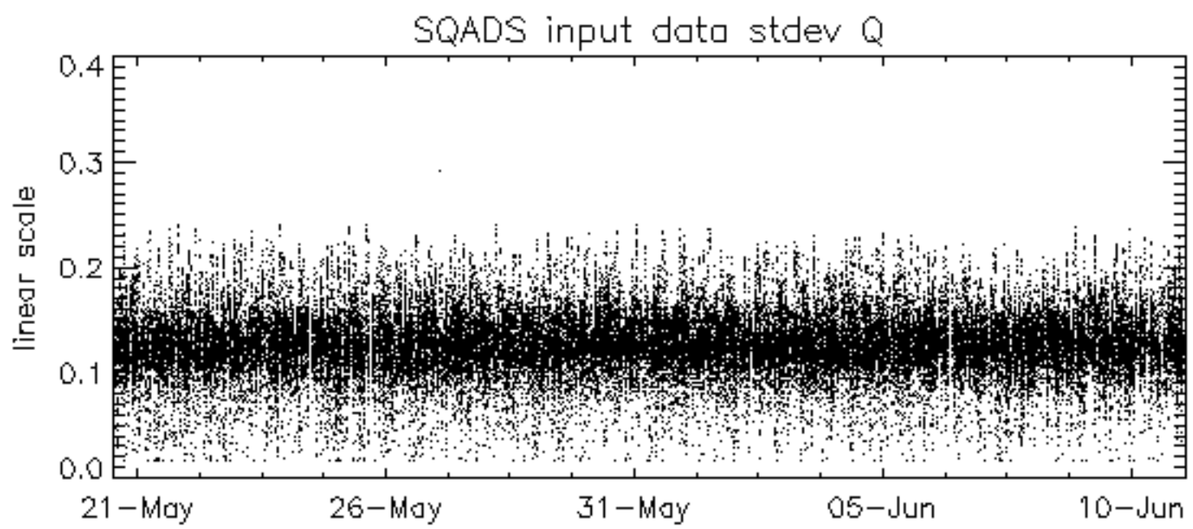

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
21−May
26−May
31−May
05−Jun
10−Jun

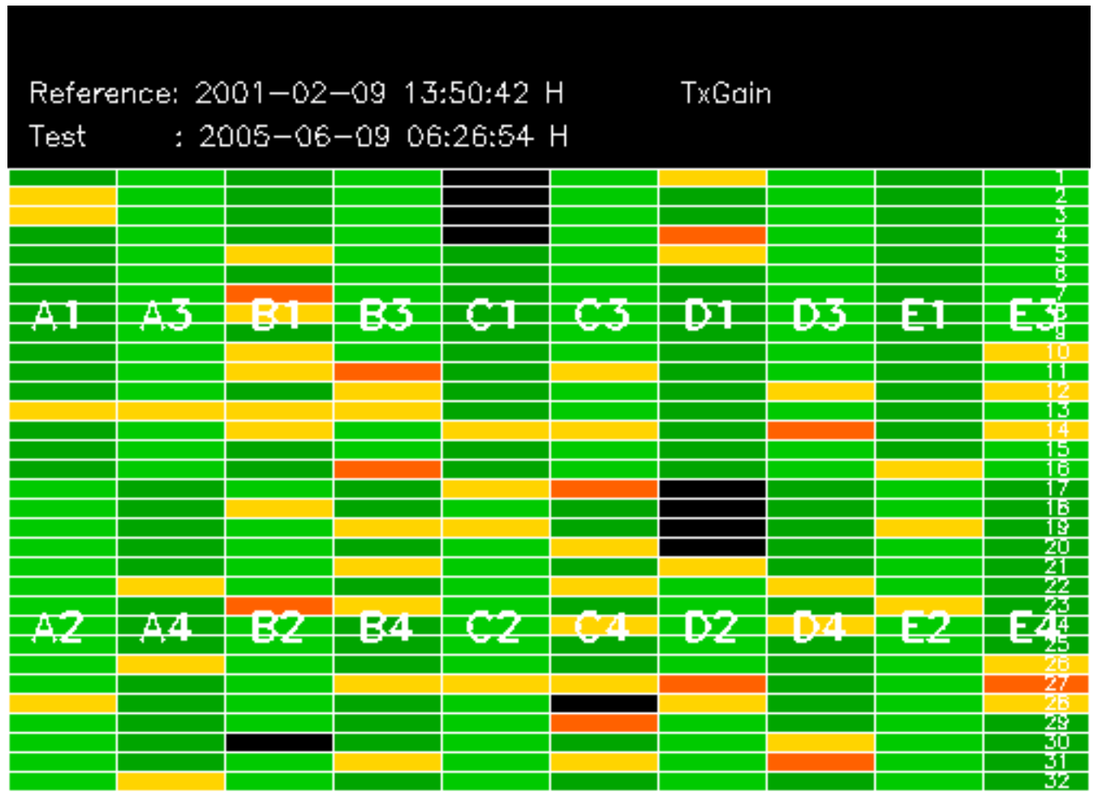

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
21−May
26−May
31−May
05−Jun
10−Jun


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2005-06-09 06:26:54 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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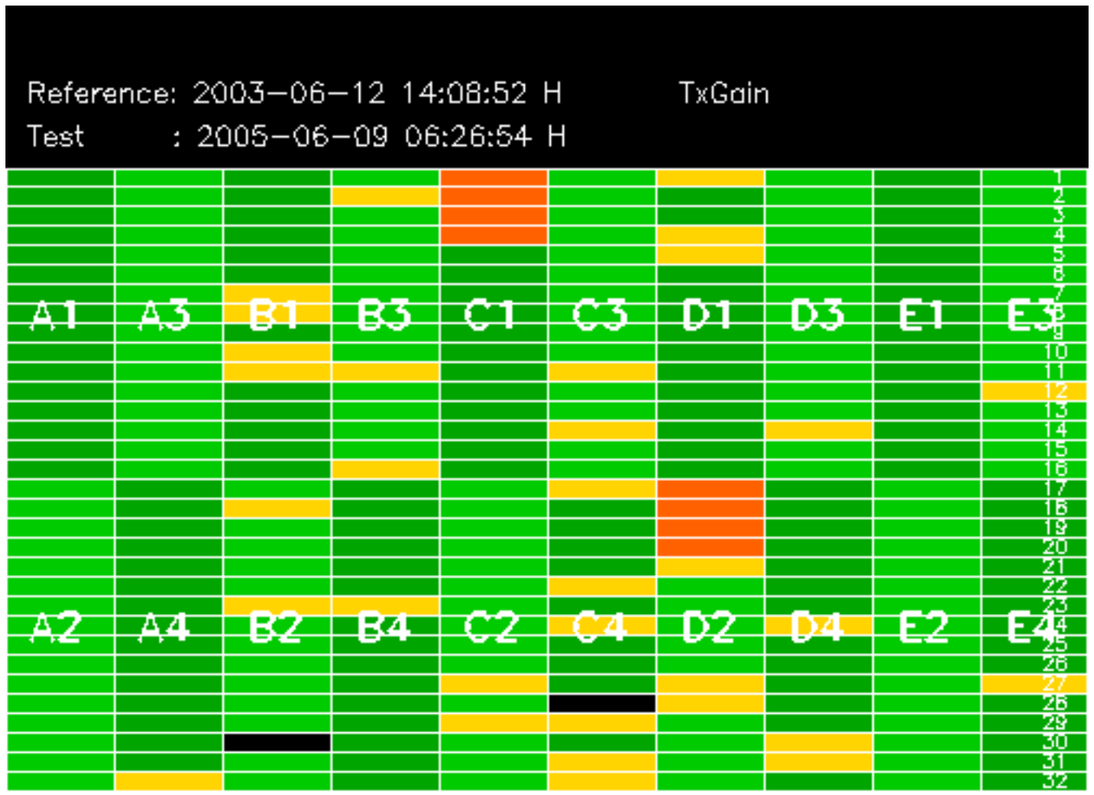
Reference: 2003-06-12 14:08:52 H
Test : 2005-06-09 06:26:54 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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26
27
28
29
30
31
32


Reference: 2001-02-09 14:08:23 V
TxGain
Test : 2005-06-10 05:55:17 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 : 2005-06-10 05:55:17 V
TxGain
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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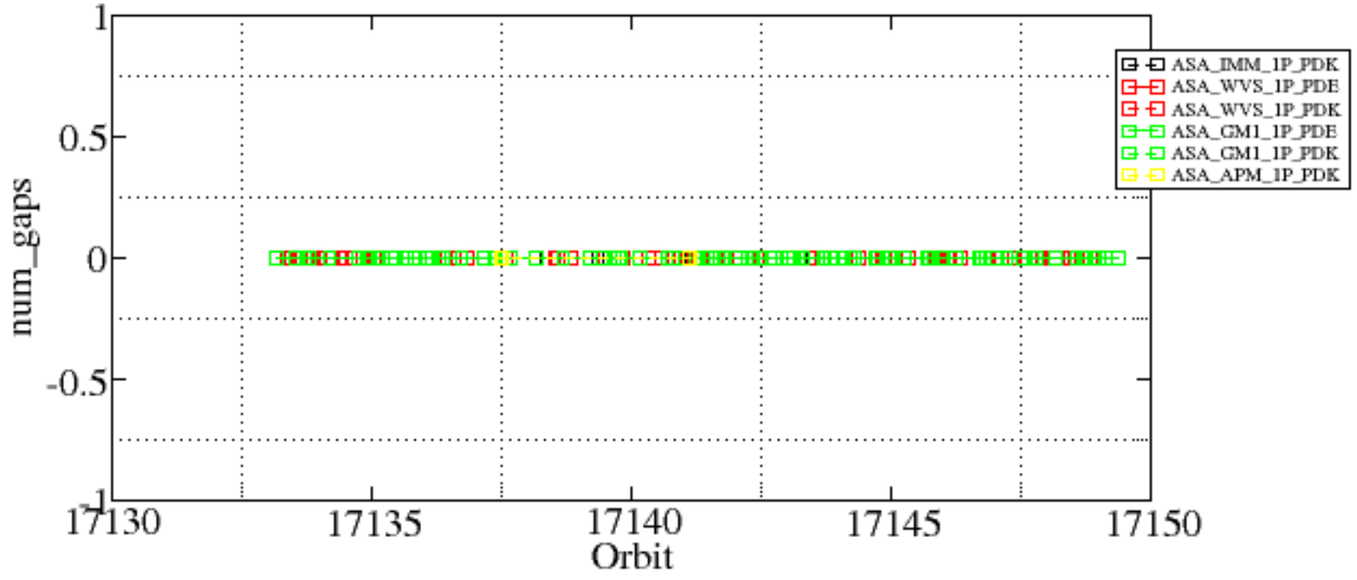
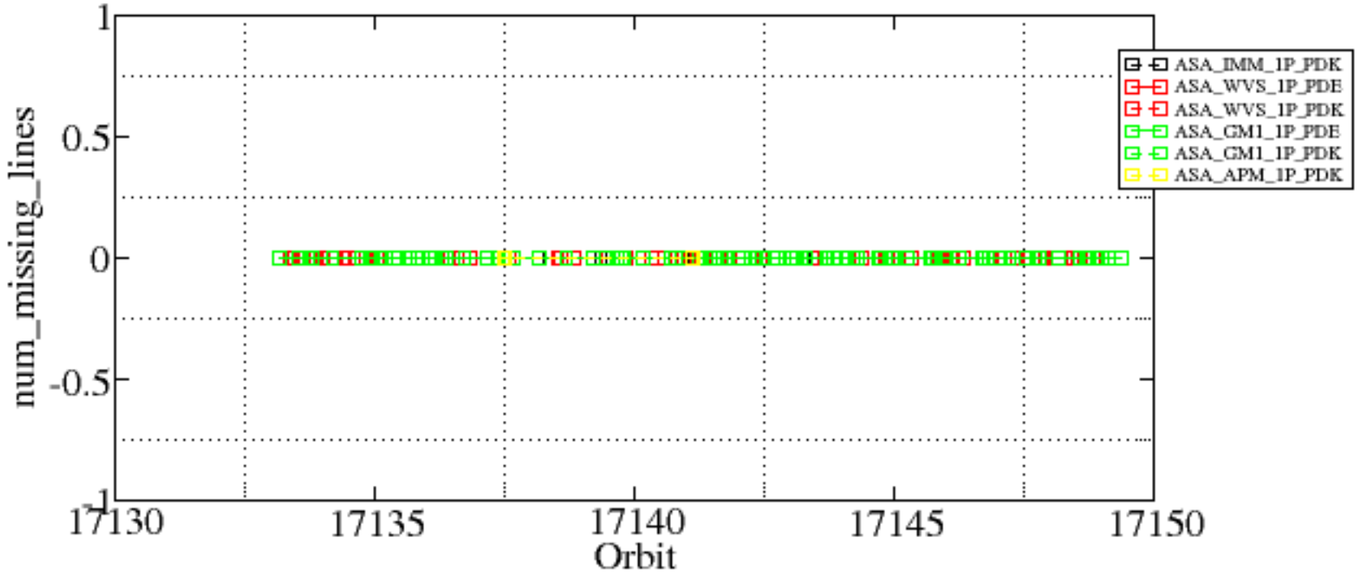
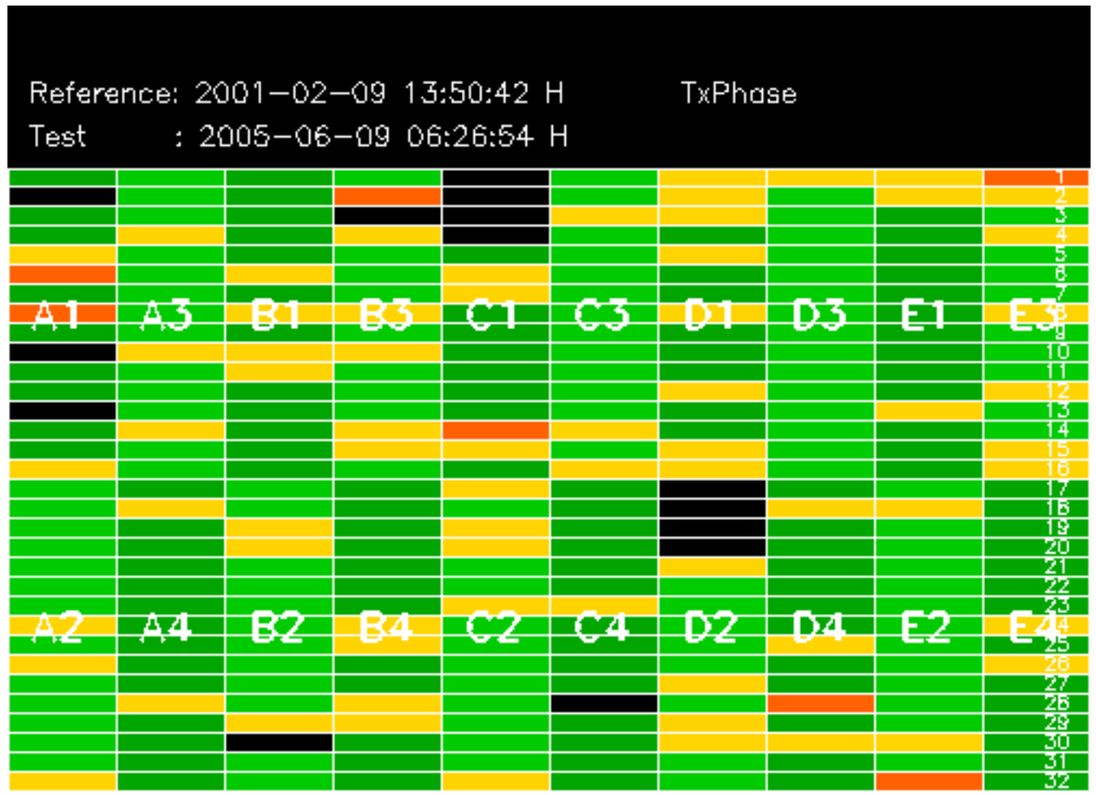
Summary of analysis for the last 3 days 2005061[901]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
17130
17135
17140
17145
17150
Orbit
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_APM_1P_PDK


num_missing_lines
1
0.5
0
-0.5
-1
17130
17135
17140
17145
17150
Orbit
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
Test : 2005-06-09 06:26:54 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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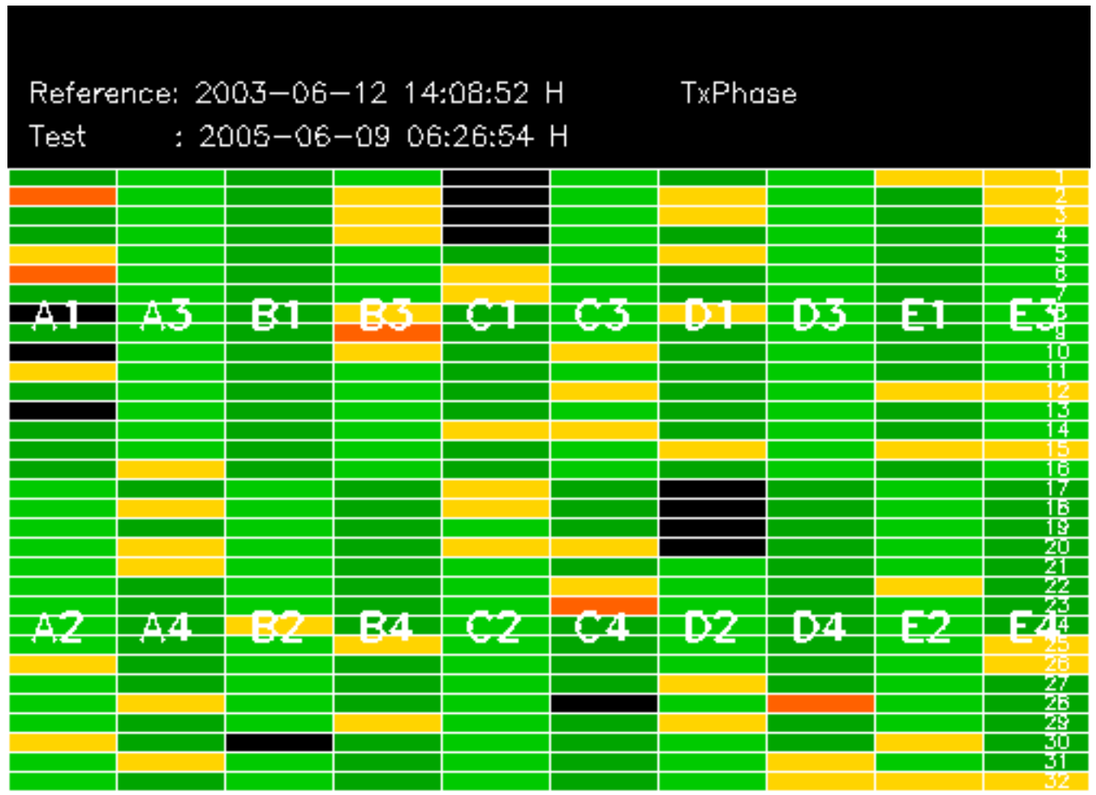
Reference: 2003-06-12 14:08:52 H
TxPhase
Test : 2005-06-09 06:26:54 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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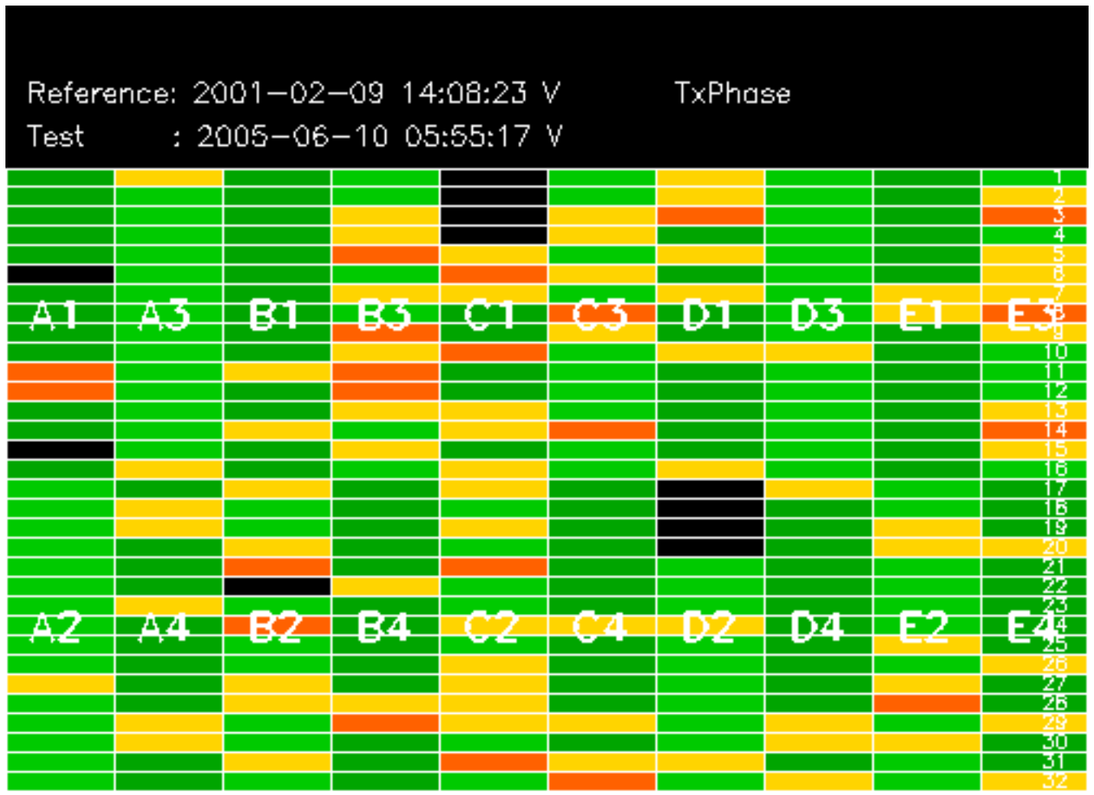
Reference: 2001-02-09 14:08:23 V
Test : 2005-06-10 05:55:17 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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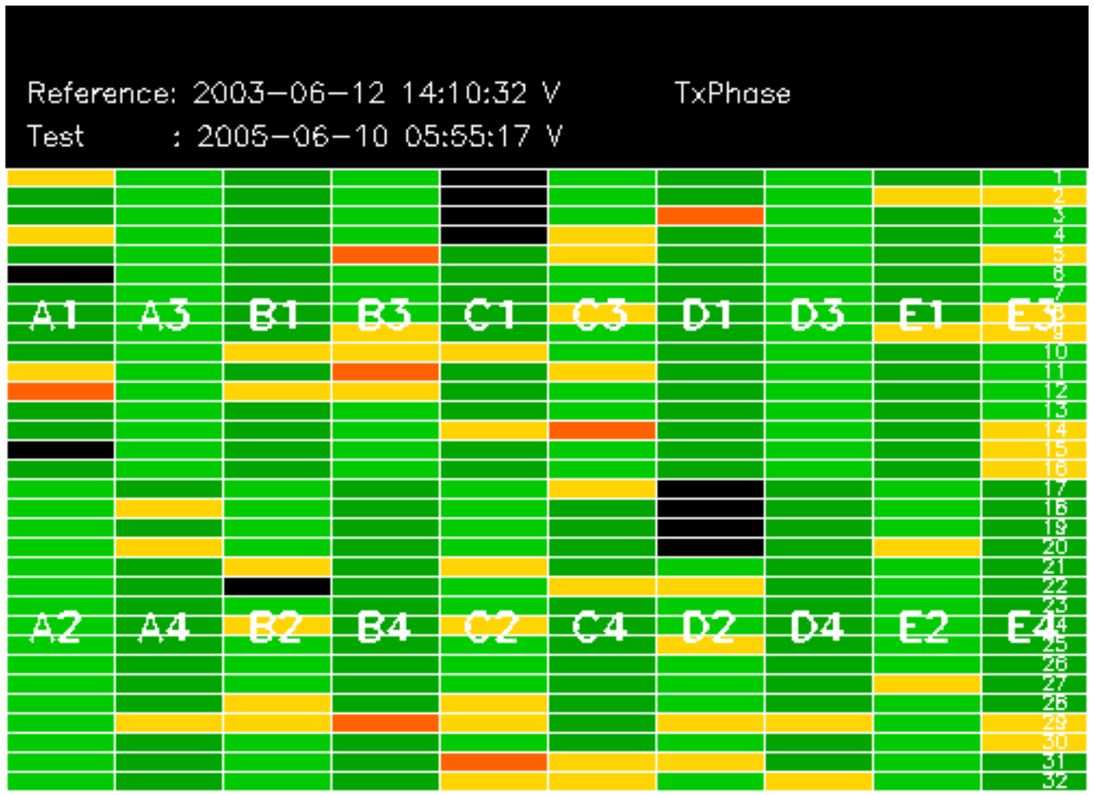
Reference: 2003-06-12 14:10:32 V
Test : 2005-06-10 05:55:17 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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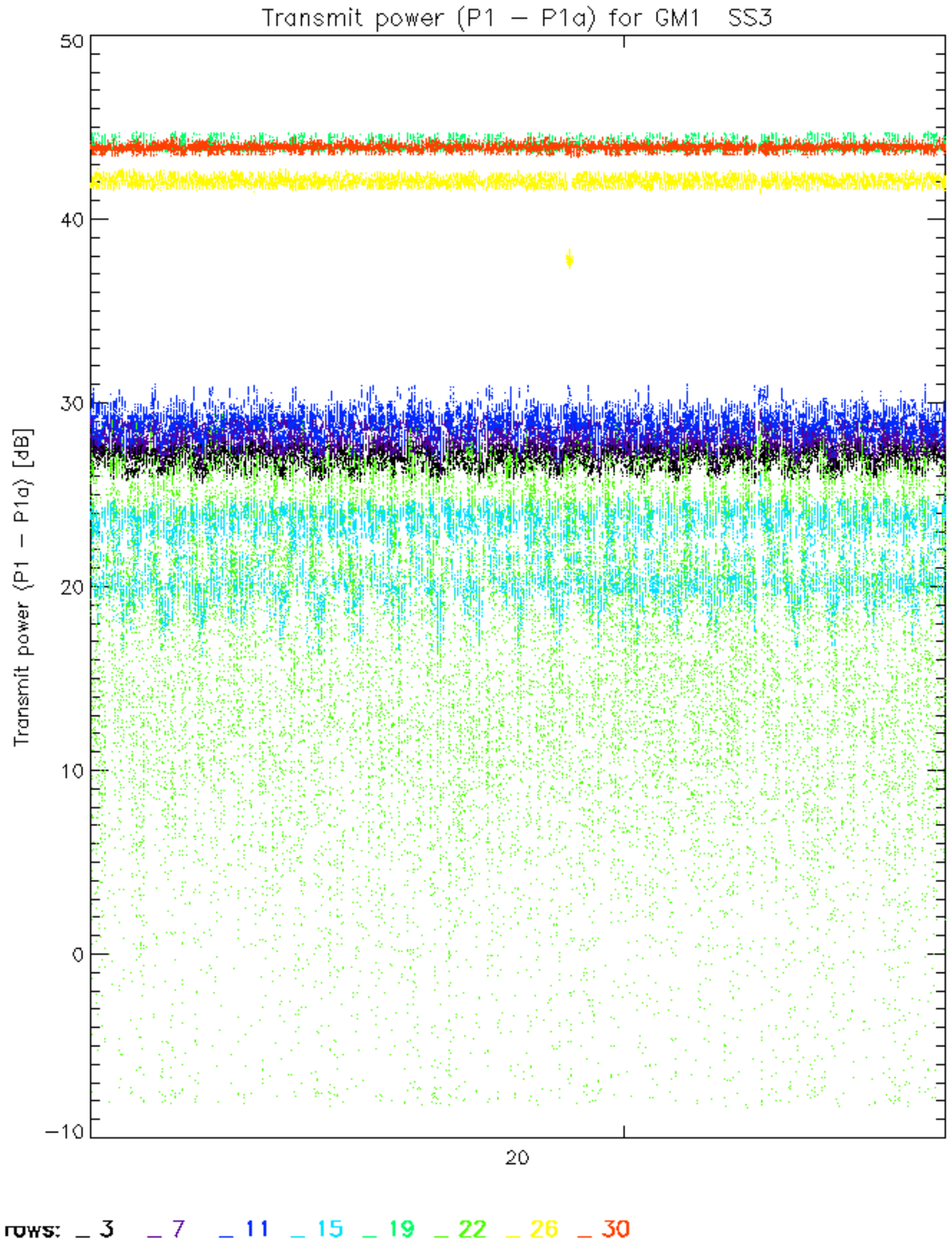
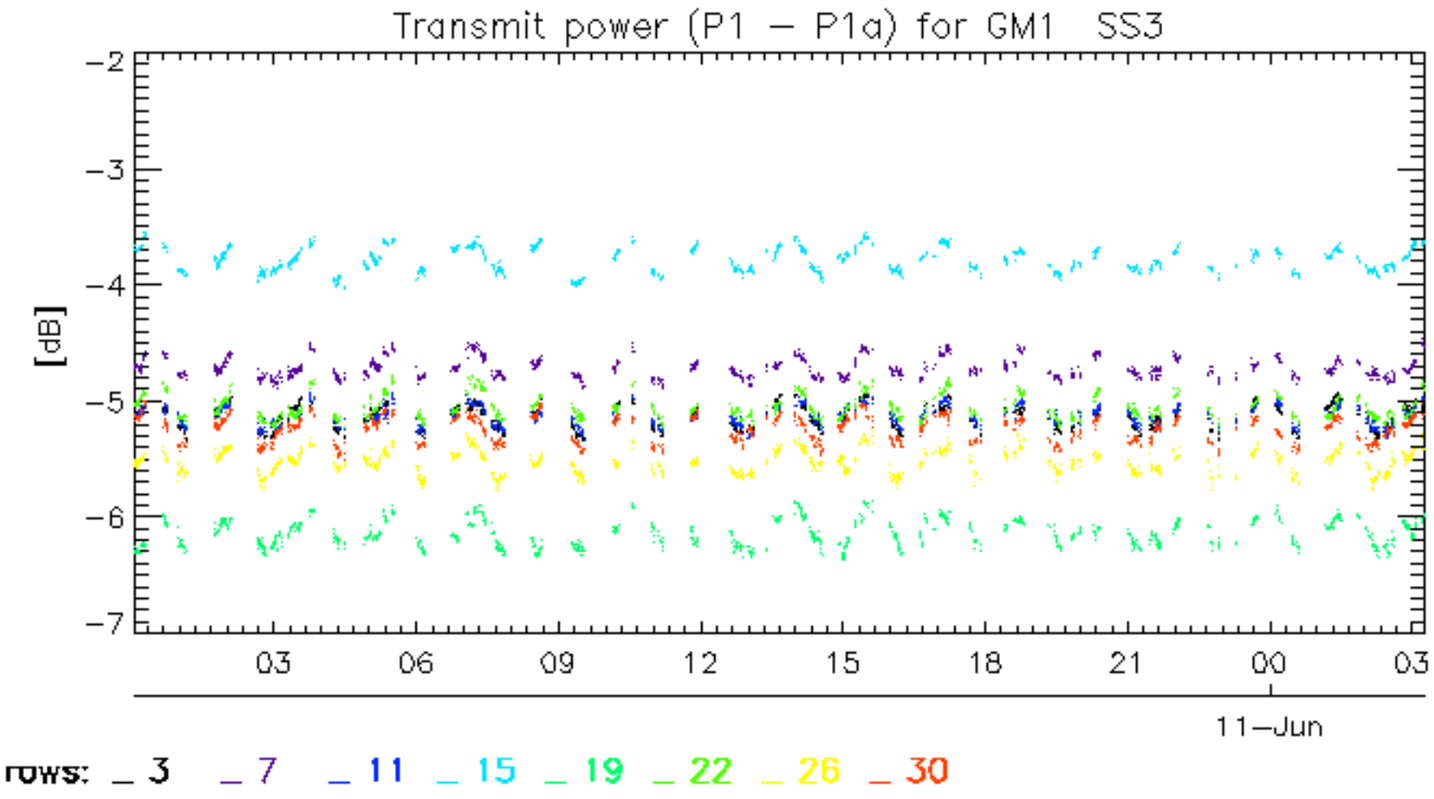
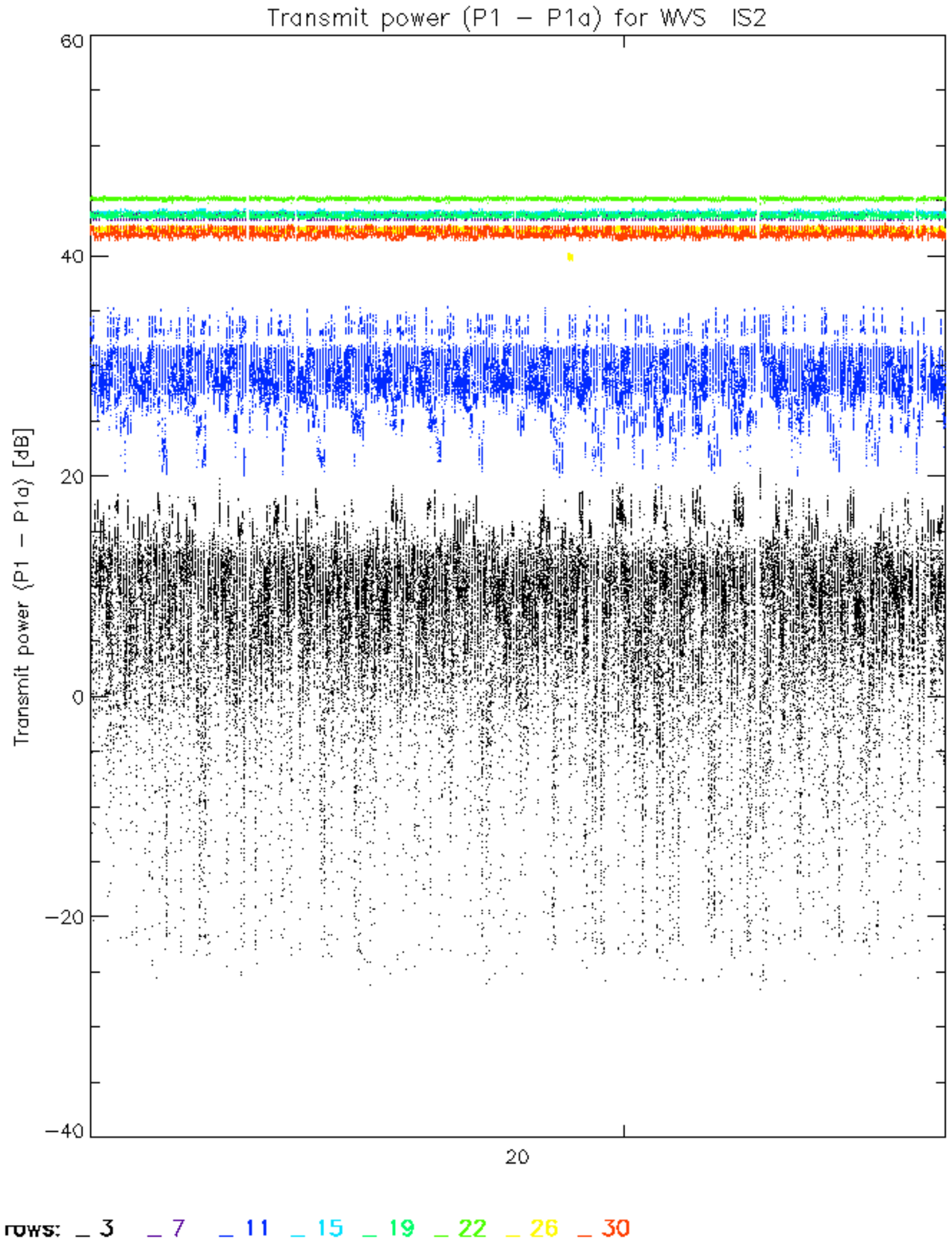
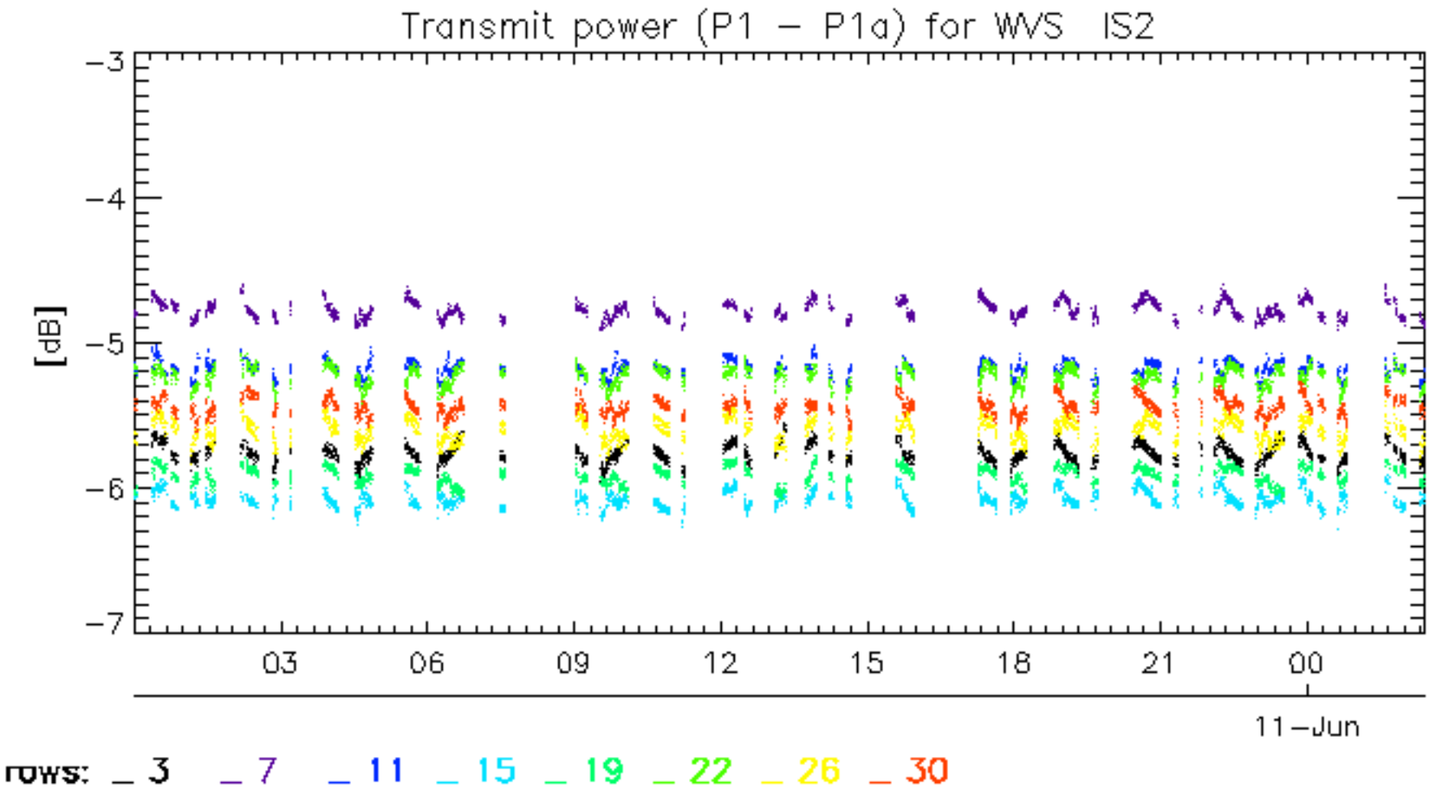
32


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
03
11–Jun
rows: 3 7 11 15 19 22 26 30


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

No unavailabilities during the reported period.