PRELIMINARY REPORT OF 050606

last update on Mon Jun 6 11:30:11 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 2005-06-05 00:00:00 to 2005-06-06 11:30:11

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

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	30	55	16	2	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	30	55	16	2	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	30	55	16	2	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	30	55	16	2	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	49	61	0	0	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	49	61	0	0	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	49	61	0	0	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	49	61	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	20050604 204911
H	20050605 183658

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	-3.337272	0.007983	0.022918
7	P1	-3.137028	0.015160	-0.045674
11	P1	-4.625793	0.033885	0.044286
15	P1	-5.497683	0.043611	0.041578
19	P1	-3.735395	0.004284	-0.019104
22	P1	-4.585467	0.016019	0.014527
26	P1	-4.855398	0.022374	0.037902
30	P1	-7.136832	0.028334	-0.005109
3	P1	-15.598257	0.114083	0.170565
7	P1	-15.578225	0.116252	-0.147832
11	P1	-21.340643	0.294754	-0.072779
15	P1	-11.324627	0.047129	0.119671
19	P1	-14.397040	0.032582	-0.087059
22	P1	-15.948036	0.325358	0.026850
26	P1	-17.723164	0.397137	-0.129102
30	P1	-17.855246	0.214307	0.029202

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.032120	0.078310	0.063024
7	P2	-22.208723	0.095675	0.025494
11	P2	-13.999272	0.094994	0.183679
15	P2	-7.133306	0.086366	-0.043652
19	P2	-9.625131	0.088907	0.035592
22	P2	-16.886694	0.086970	0.008814
26	P2	-16.505278	0.089940	-0.011029
30	P2	-18.803036	0.076360	0.034911

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.165795	0.002687	0.003888
7	P3	-8.165795	0.002687	0.003888
11	P3	-8.165795	0.002687	0.003888
15	P3	-8.165795	0.002687	0.003888
19	P3	-8.165795	0.002687	0.003888
22	P3	-8.165795	0.002687	0.003888
26	P3	-8.165795	0.002687	0.003888
30	P3	-8.165795	0.002687	0.003888

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	-2.794125	0.013327	-0.029193
7	P1	-2.945667	0.031545	0.057960
11	P1	-3.957368	0.017710	-0.010436
15	P1	-3.530370	0.023303	0.006147
19	P1	-3.631881	0.015930	-0.014233
22	P1	-5.642601	0.045661	0.034770
26	P1	-7.294401	0.039113	0.030319
30	P1	-6.287175	0.046755	-0.021134
3	P1	-10.838017	0.041228	-0.032450
7	P1	-10.376398	0.168226	0.052520
11	P1	-12.546975	0.114078	-0.023251
15	P1	-11.615159	0.082422	0.045654
19	P1	-15.616451	0.063810	0.007931
22	P1	-25.964842	3.248716	-0.564412
26	P1	-15.636524	0.383477	-0.003977
30	P1	-20.214720	1.111889	-0.001392

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.772764	0.040024	0.032048
7	P2	-22.170641	0.041781	0.097143
11	P2	-9.937112	0.057597	0.148698
15	P2	-5.114951	0.044418	-0.051508
19	P2	-6.912297	0.058063	-0.014400
22	P2	-7.107144	0.035896	-0.010411
26	P2	-23.951700	0.037017	-0.037362
30	P2	-21.950426	0.039621	-0.005963

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.998409	0.003754	0.002824
7	P3	-7.998274	0.003751	0.003013
11	P3	-7.998389	0.003753	0.002806
15	P3	-7.998308	0.003742	0.002993
19	P3	-7.998253	0.003755	0.003084
22	P3	-7.998459	0.003740	0.002902
26	P3	-7.998250	0.003754	0.003009
30	P3	-7.998425	0.003765	0.002990

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	0.000451775
	stdev	2.21286e-07
MEAN Q	mean	0.000489792
	stdev	2.31843e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127279
	stdev	0.000992515
STDEV Q	mean	0.127517
	stdev	0.00100322

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005060[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_1PNPDK20050605_123947_000001332037_00482_17069_5947.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

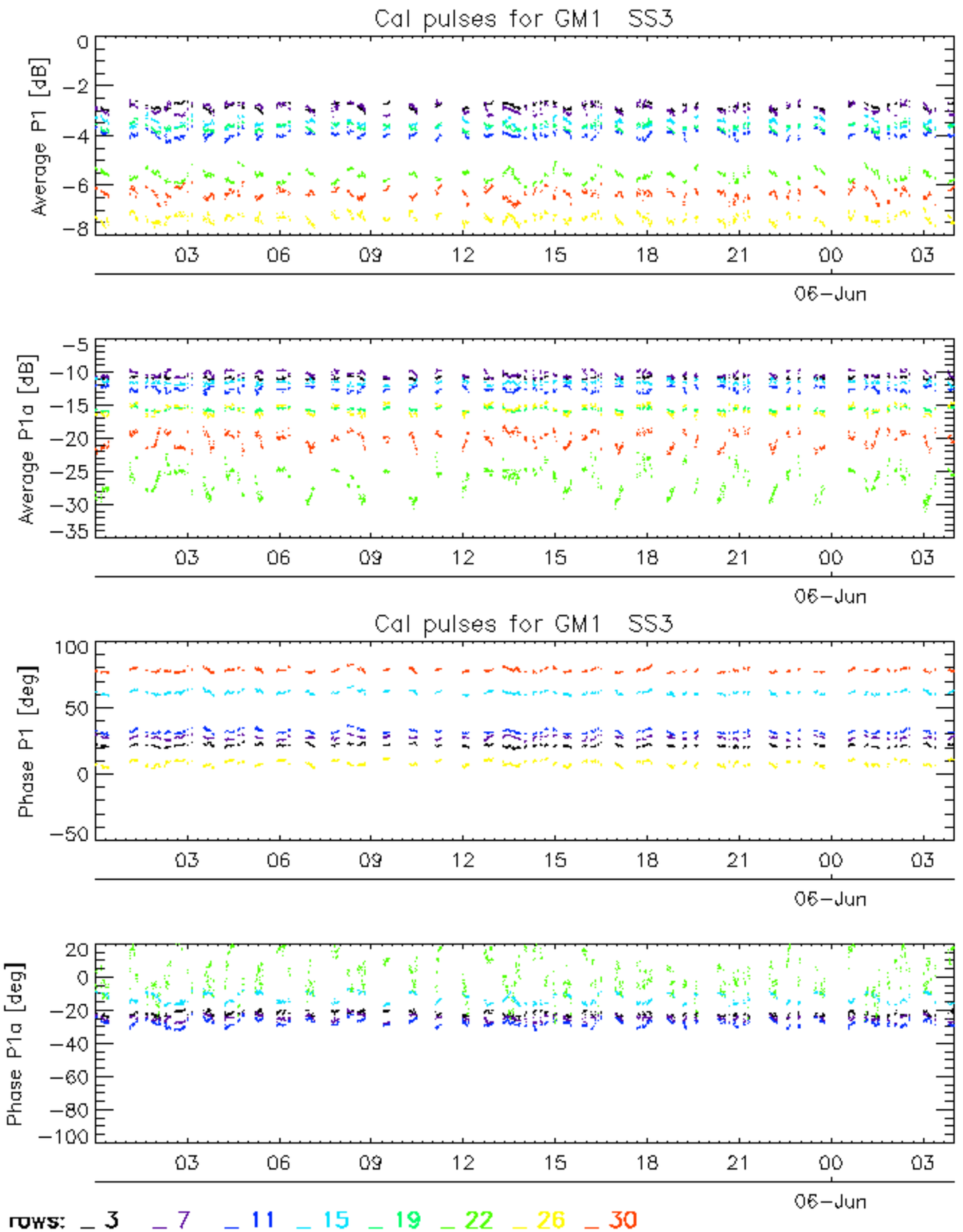
Descending

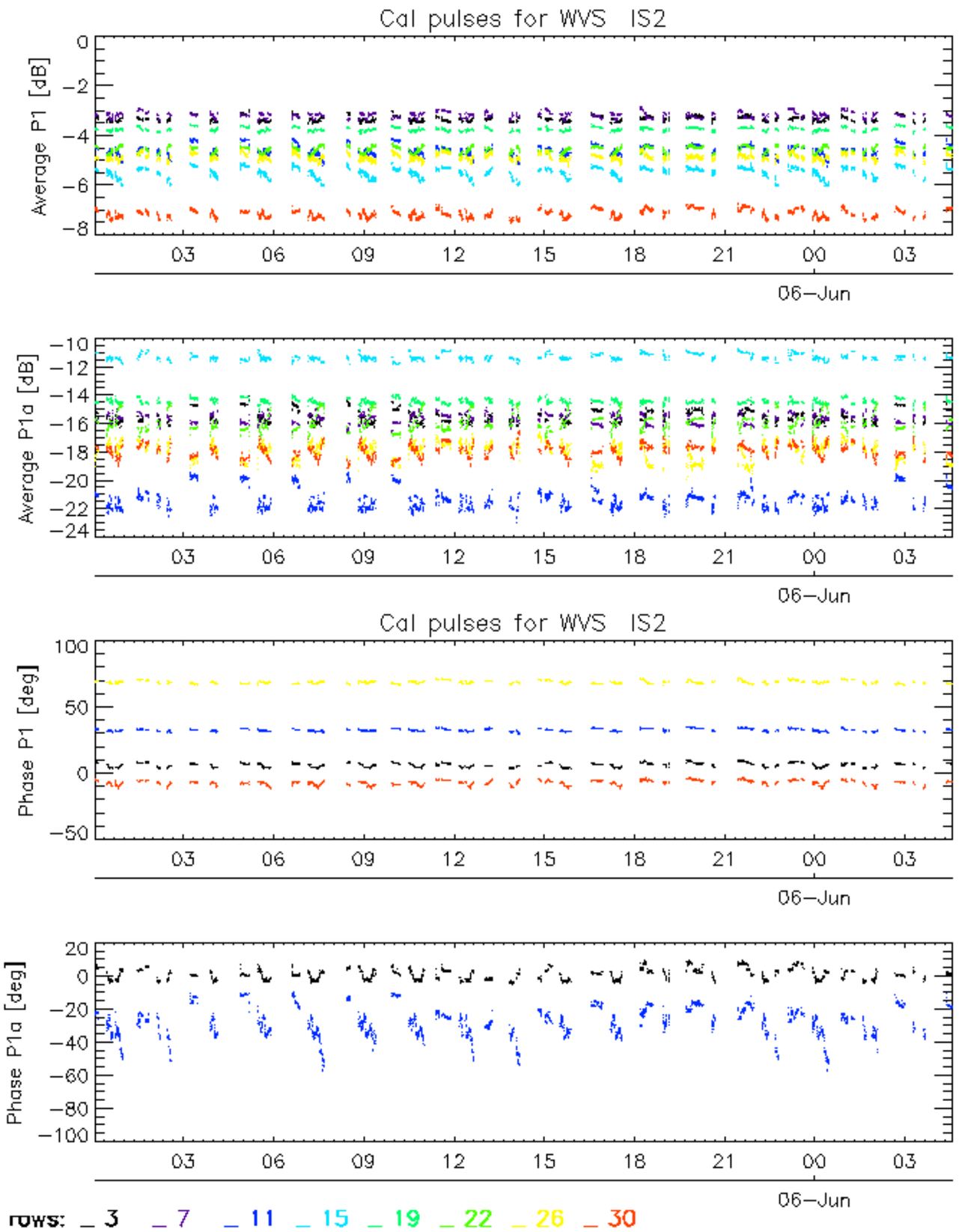
7.5 - Absolute Doppler for GM1

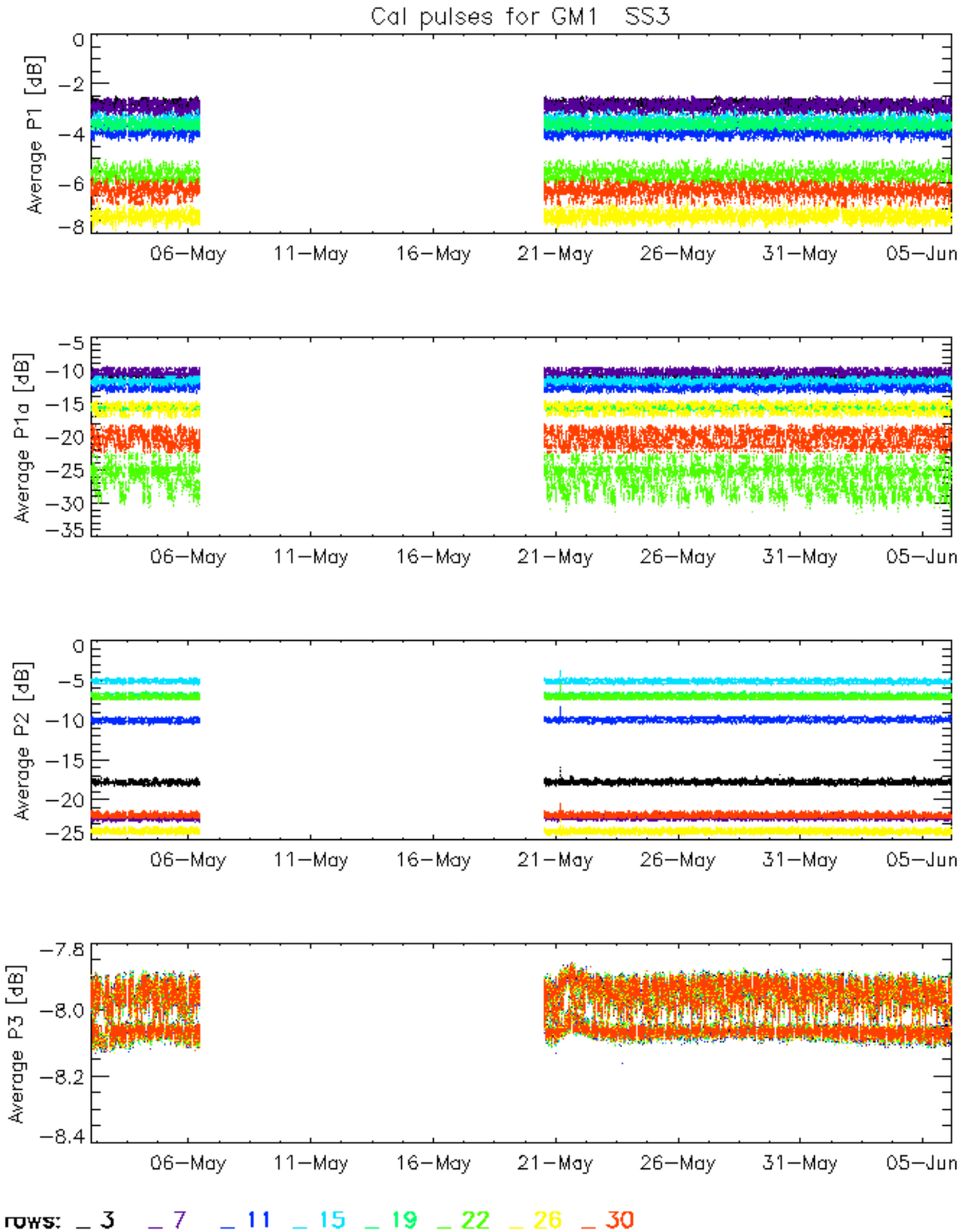
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

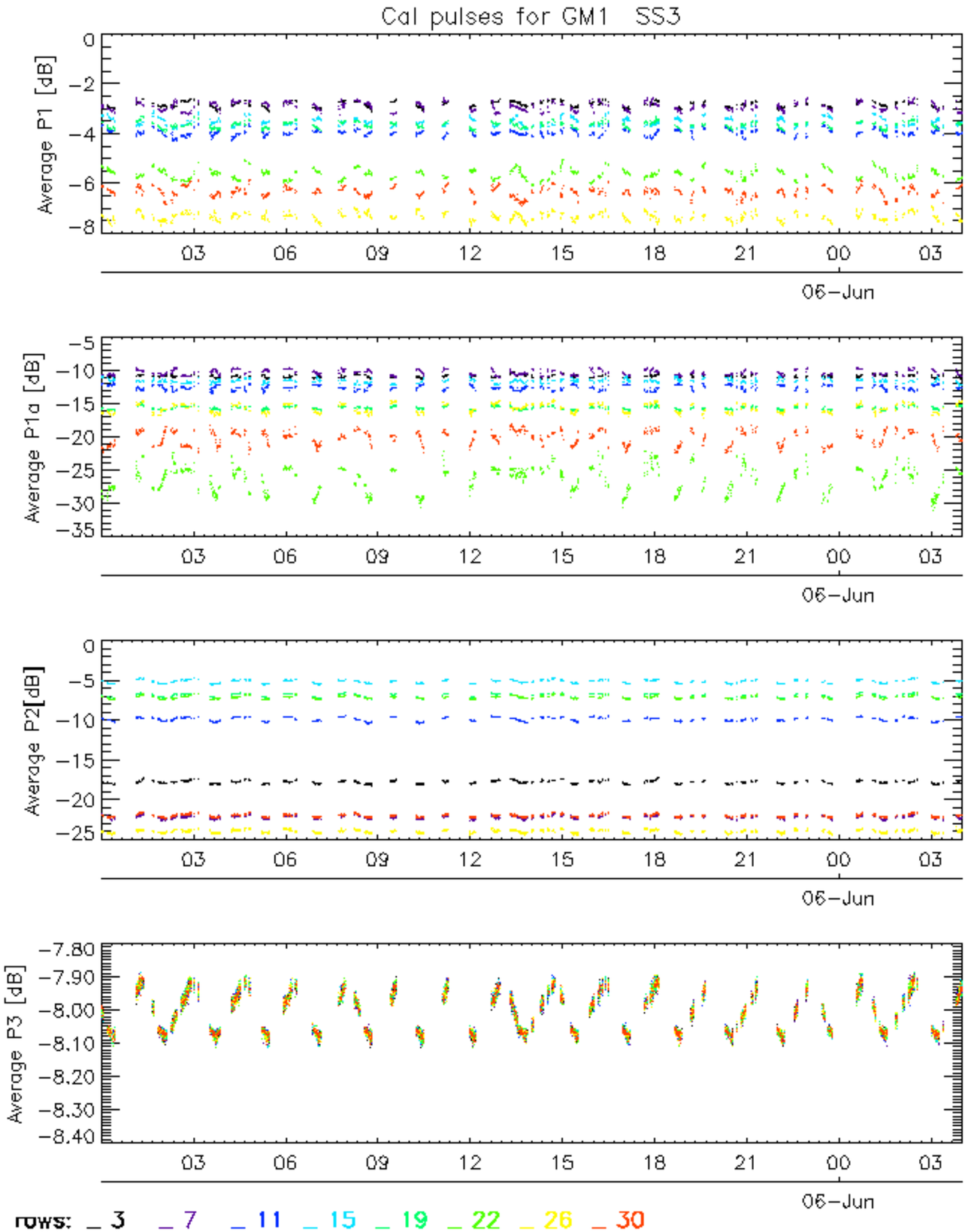
7.6 - Doppler evolution versus ANX for GM1

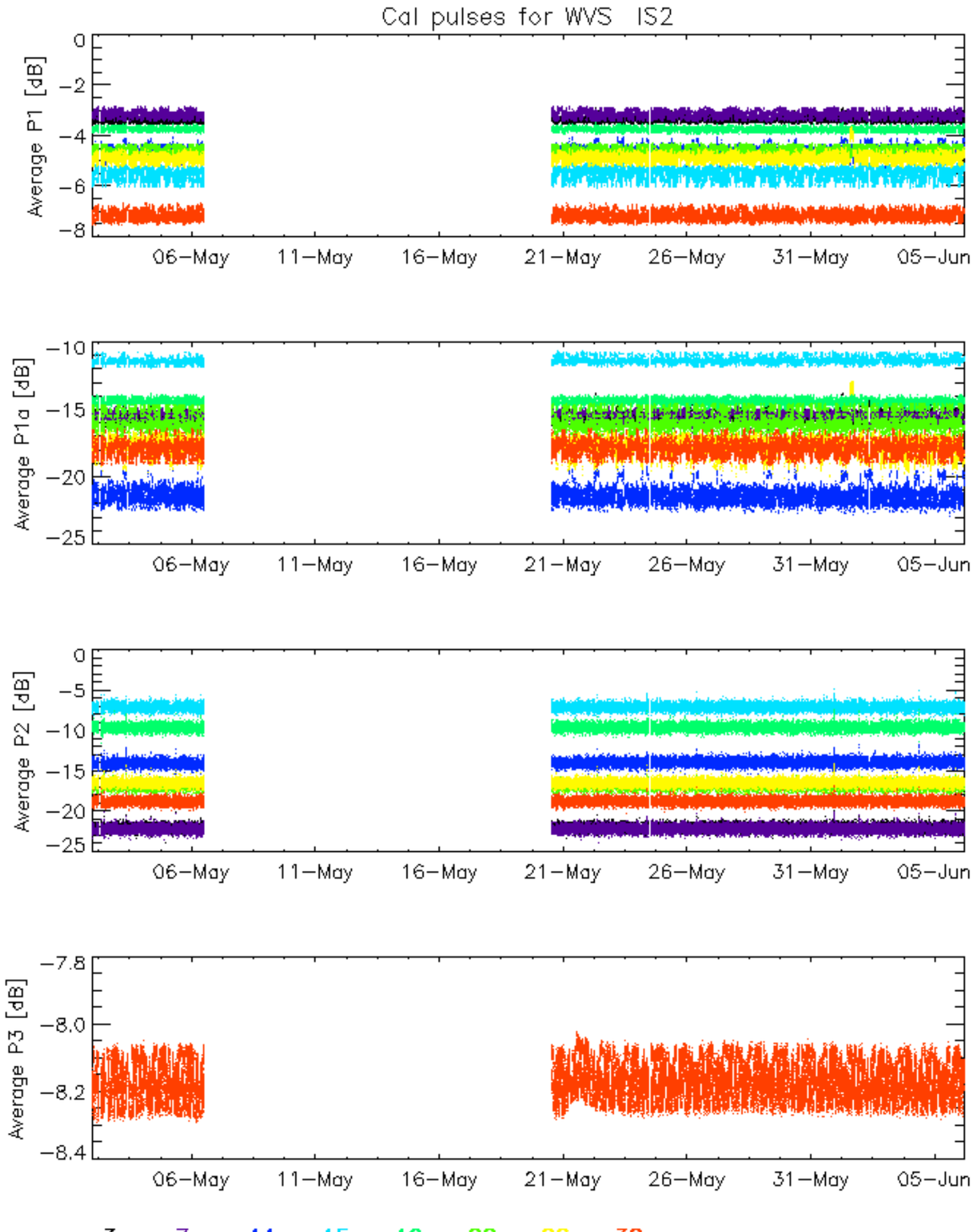
Evolution Doppler error versus ANX
☒

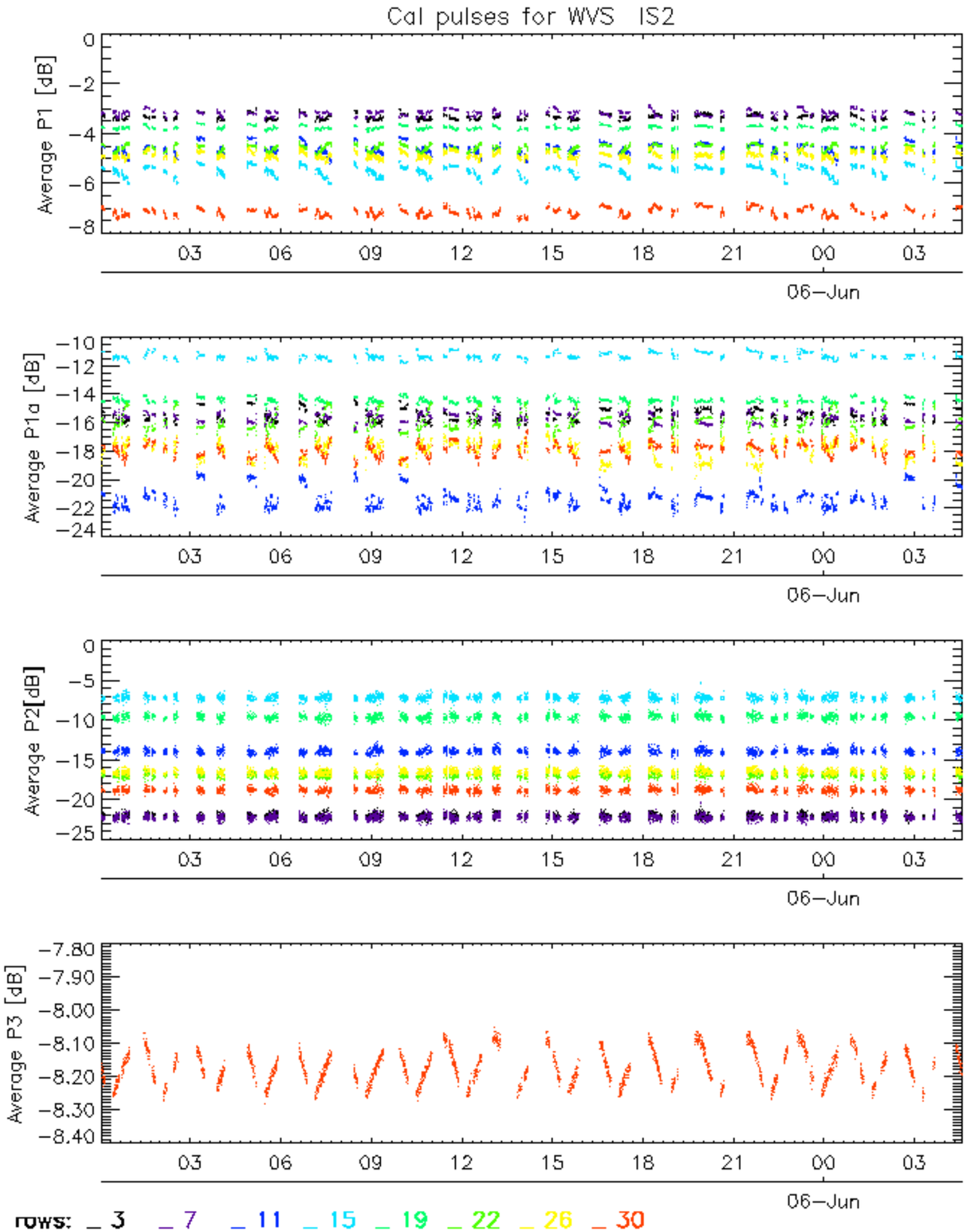

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
06−Jun
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30


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

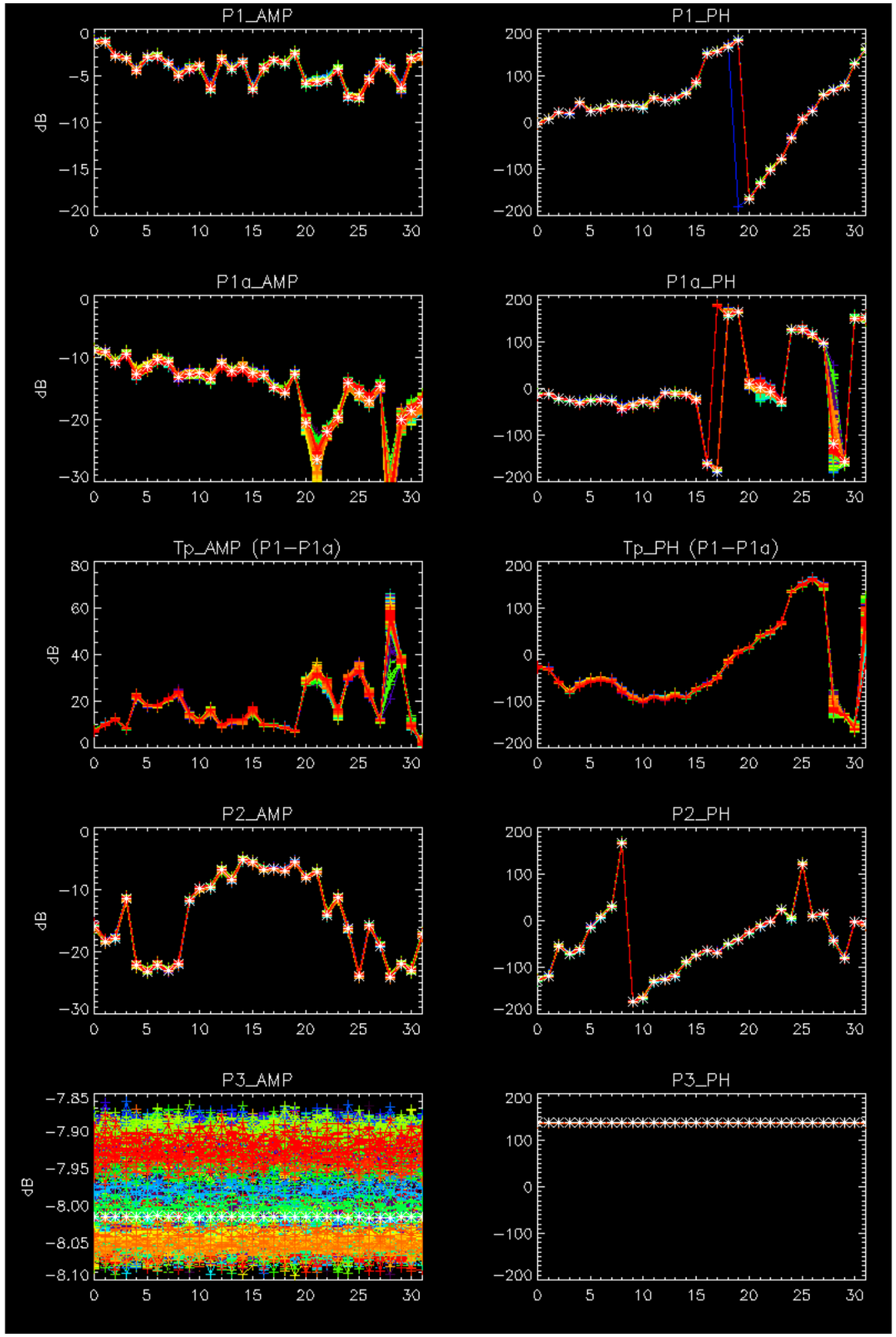

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
06−May
11−May
16−May
21−May
26−May
31−May
05−Jun
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

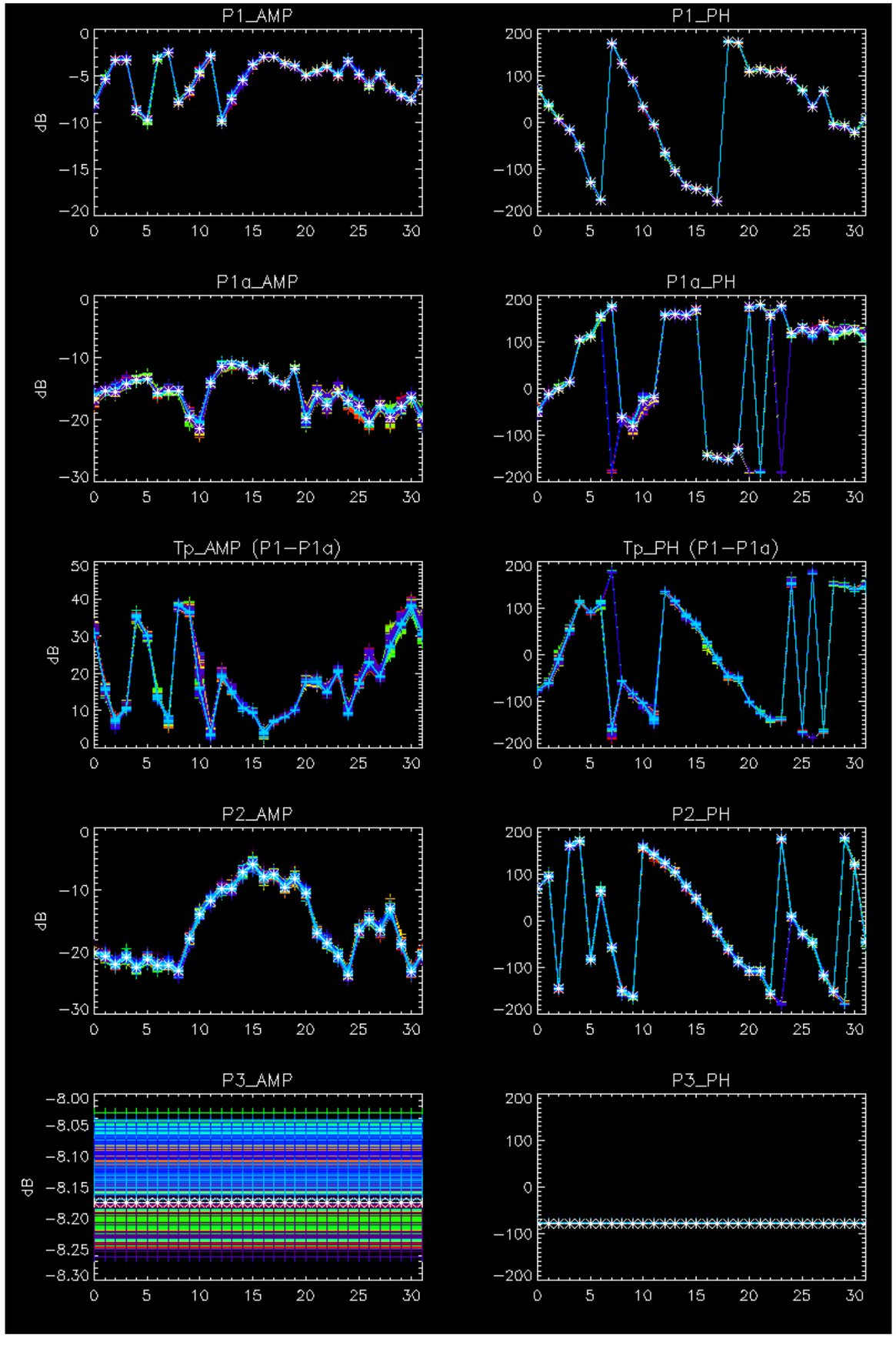

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
06−Jun
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
06−May
11−May
16−May
21−May
26−May
31−May
05−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
03
06−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

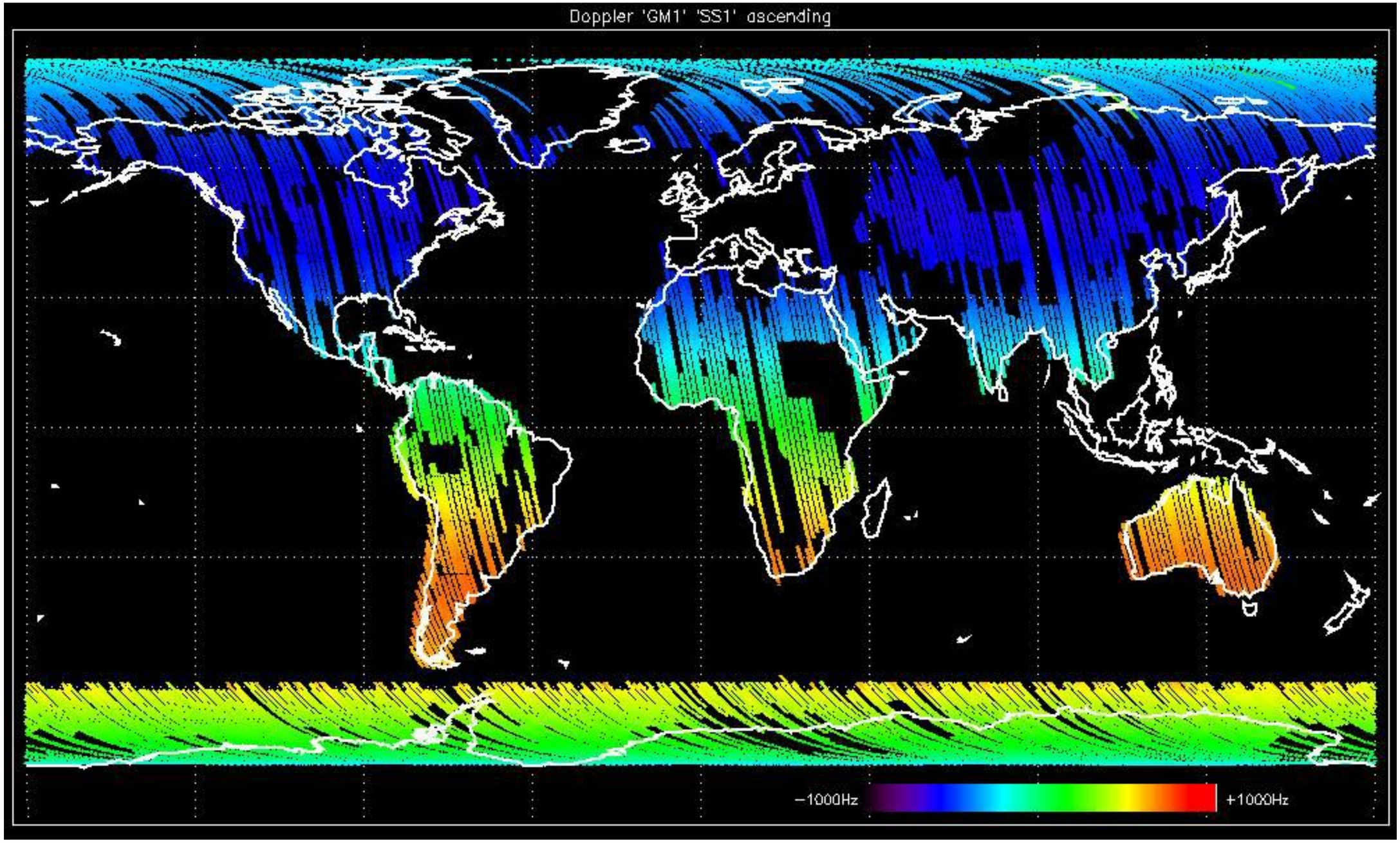
No anomalies observed.

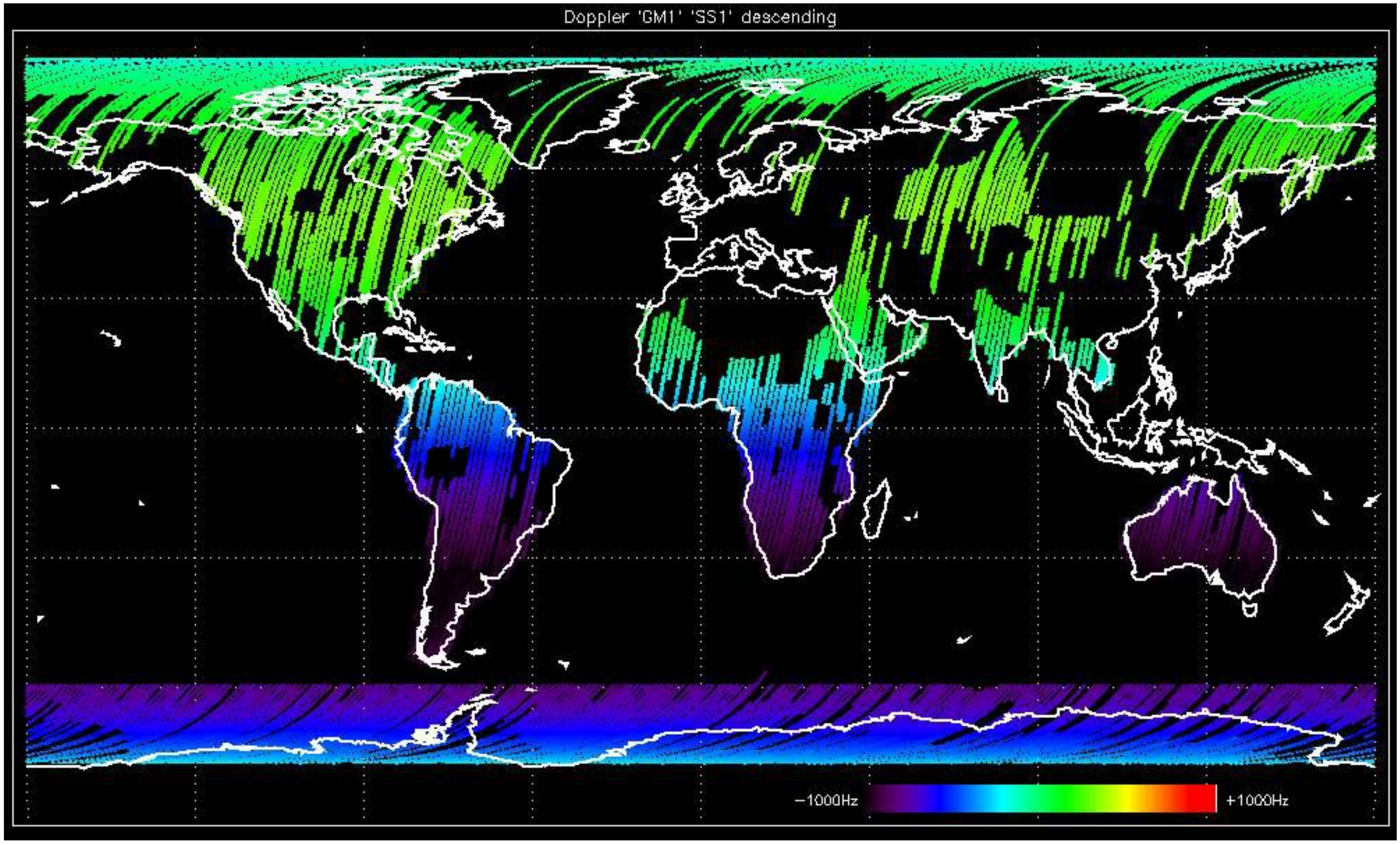

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

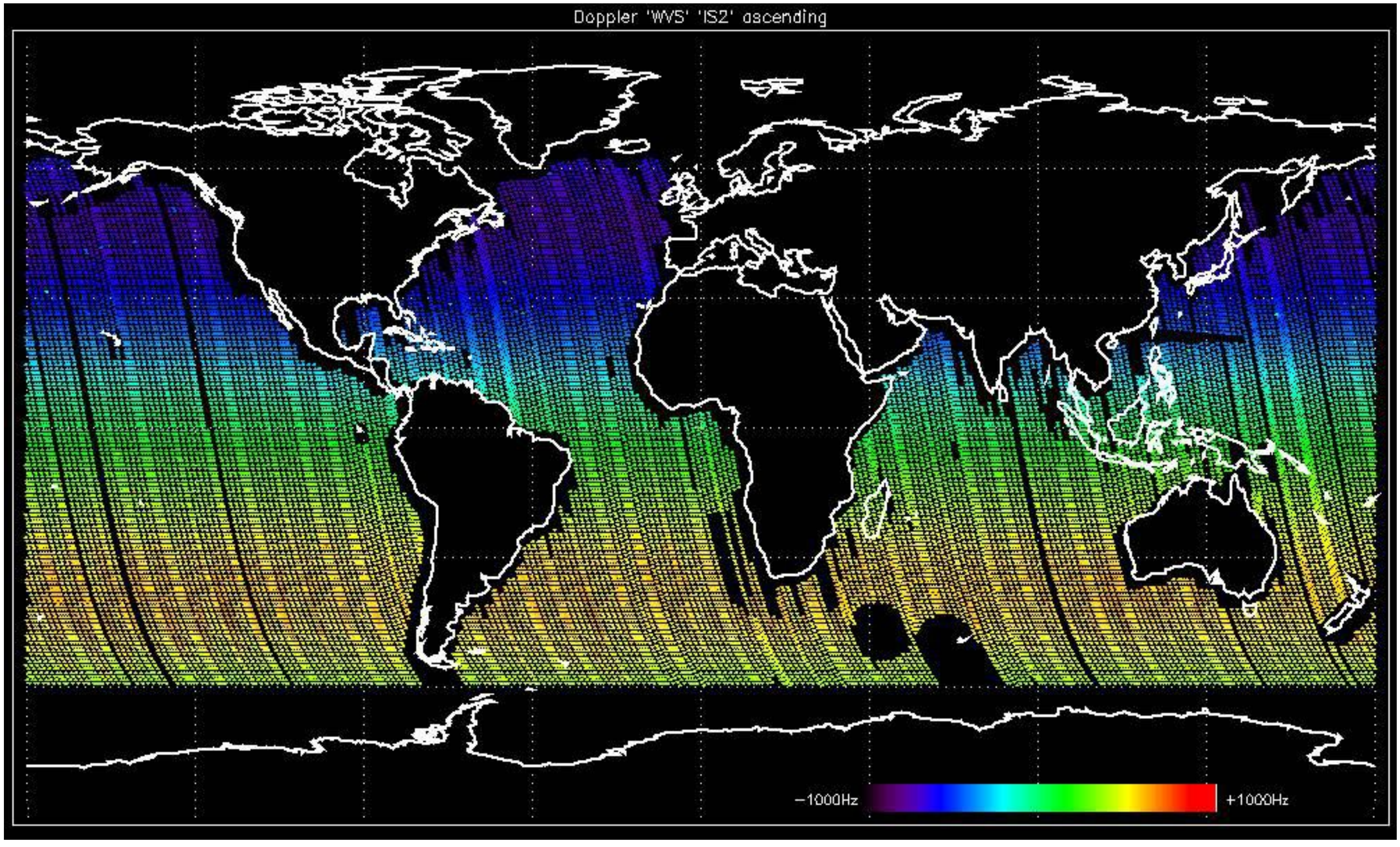

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

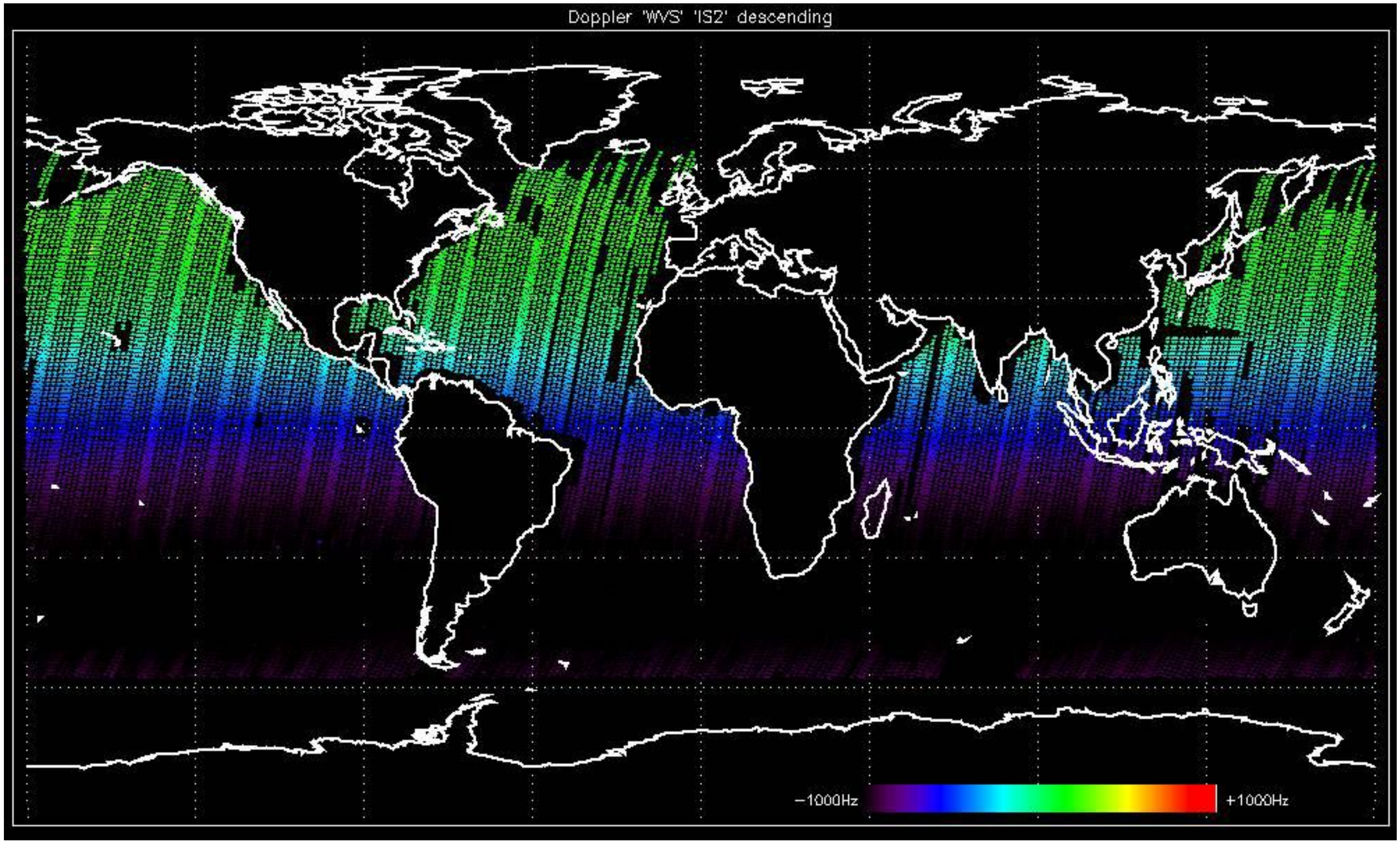
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

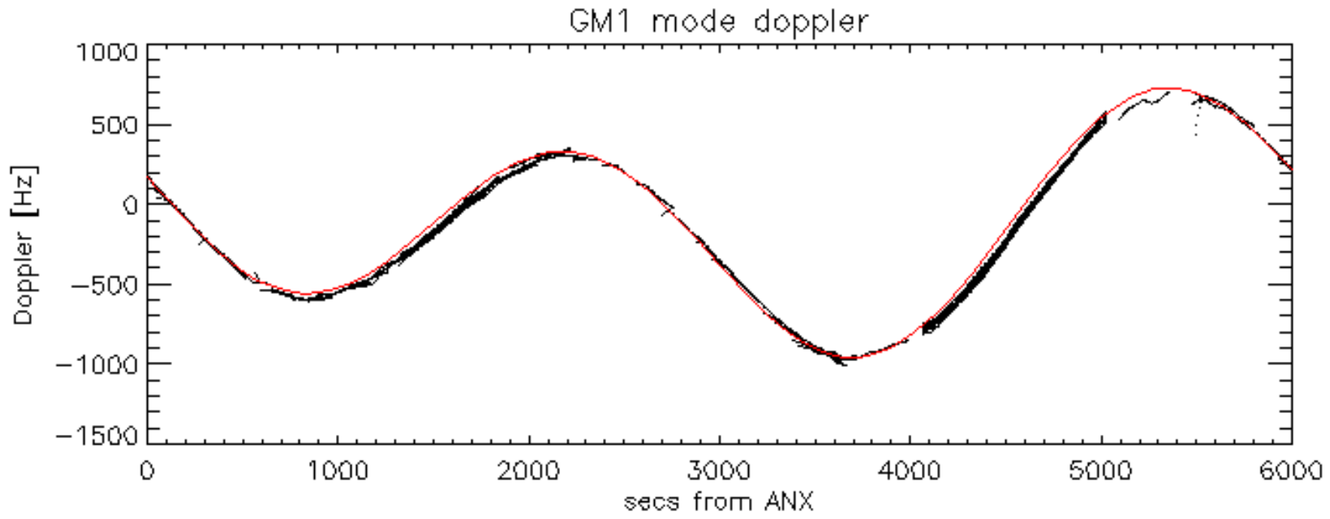
Preliminary report.The data is not yet controled

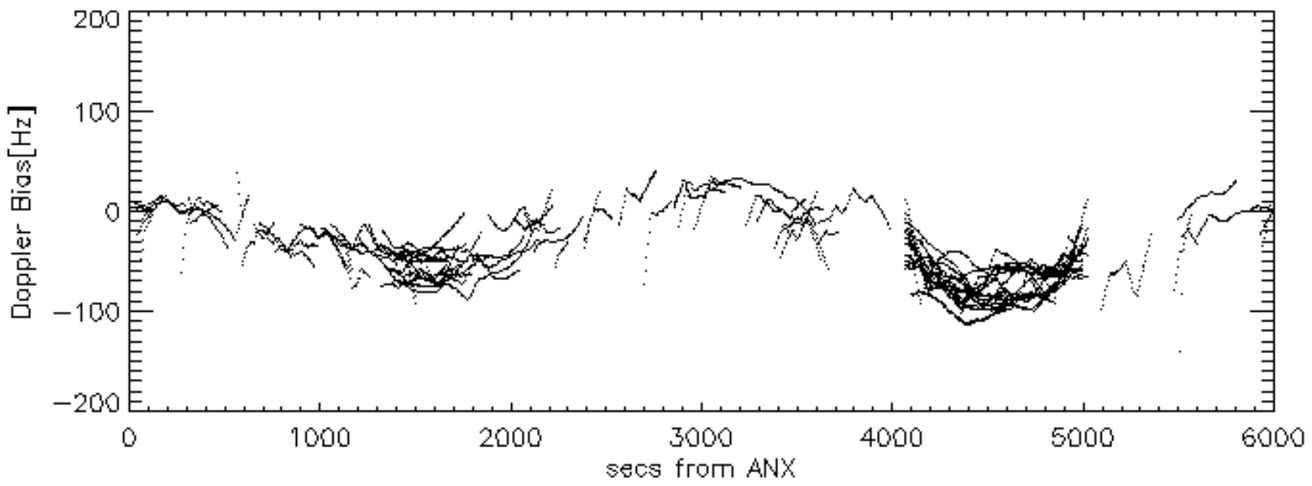

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

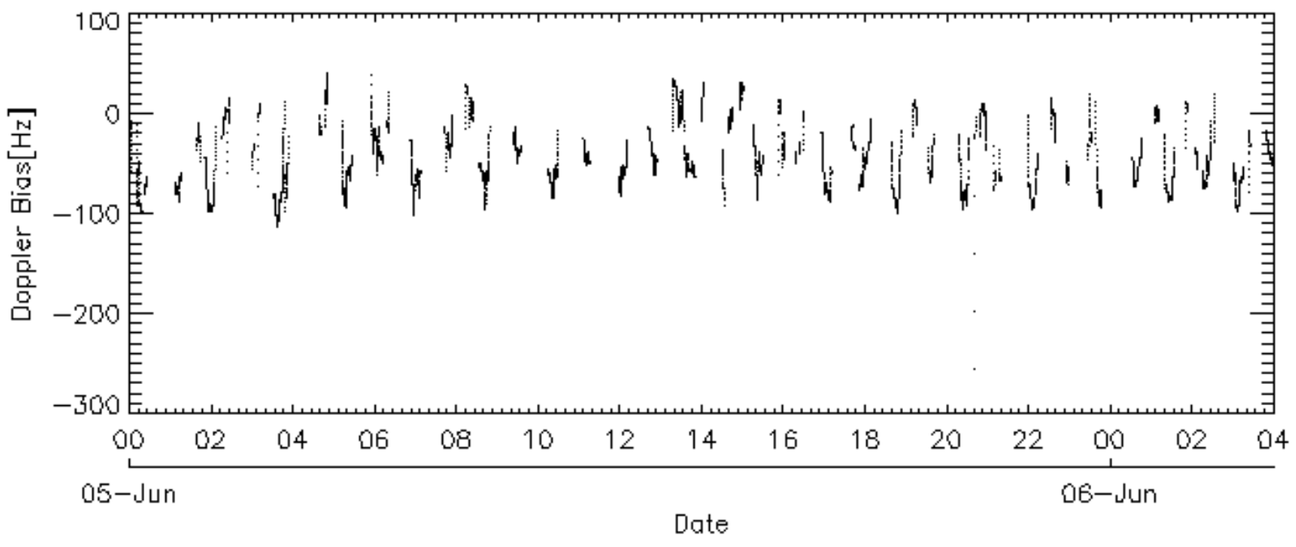

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

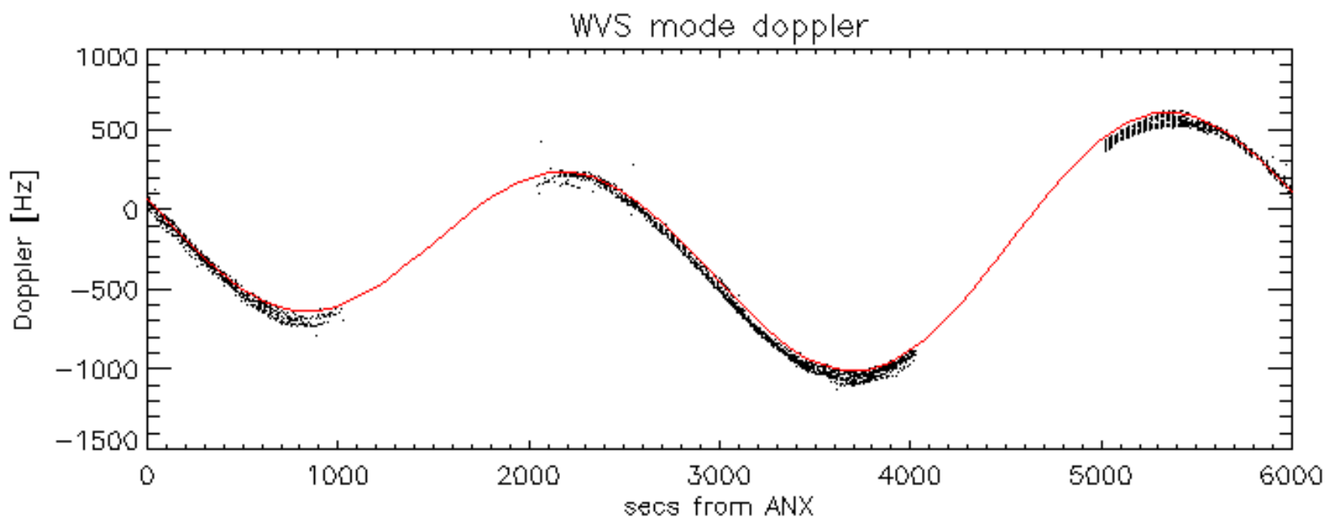

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

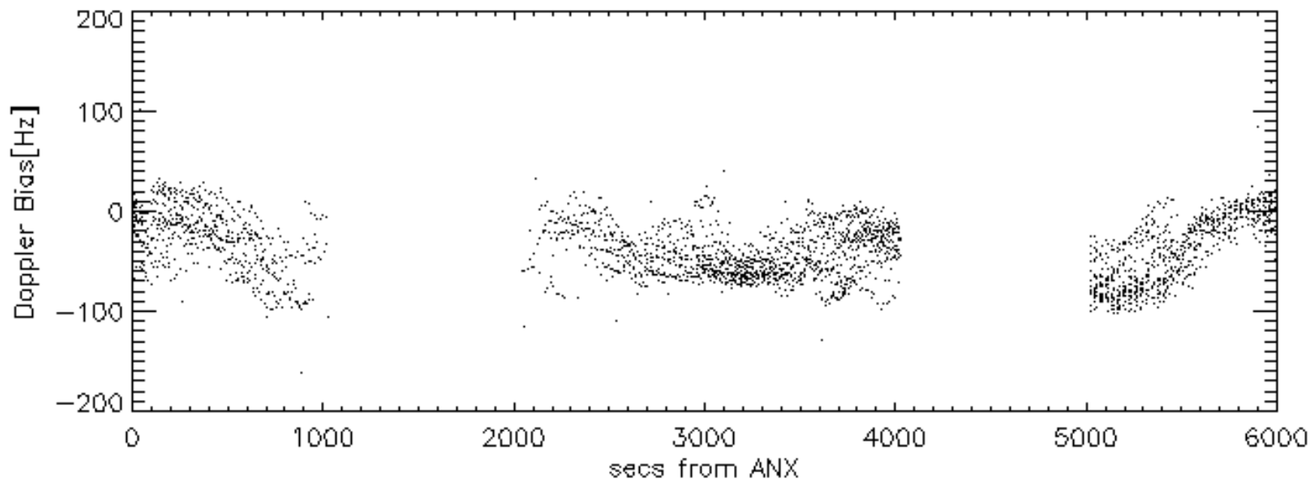

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

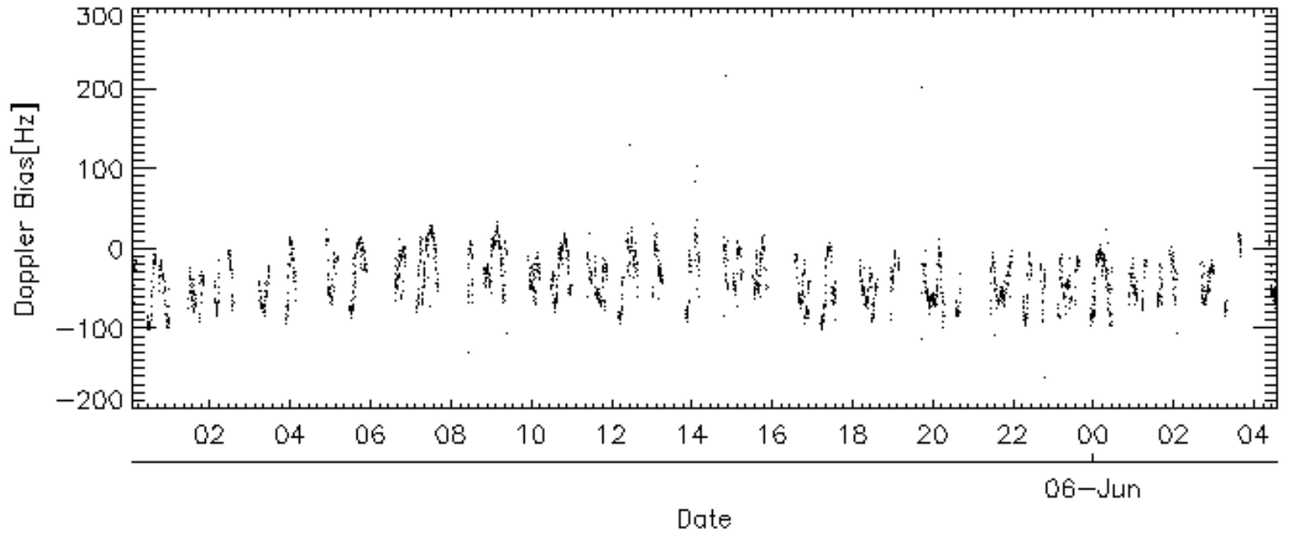

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

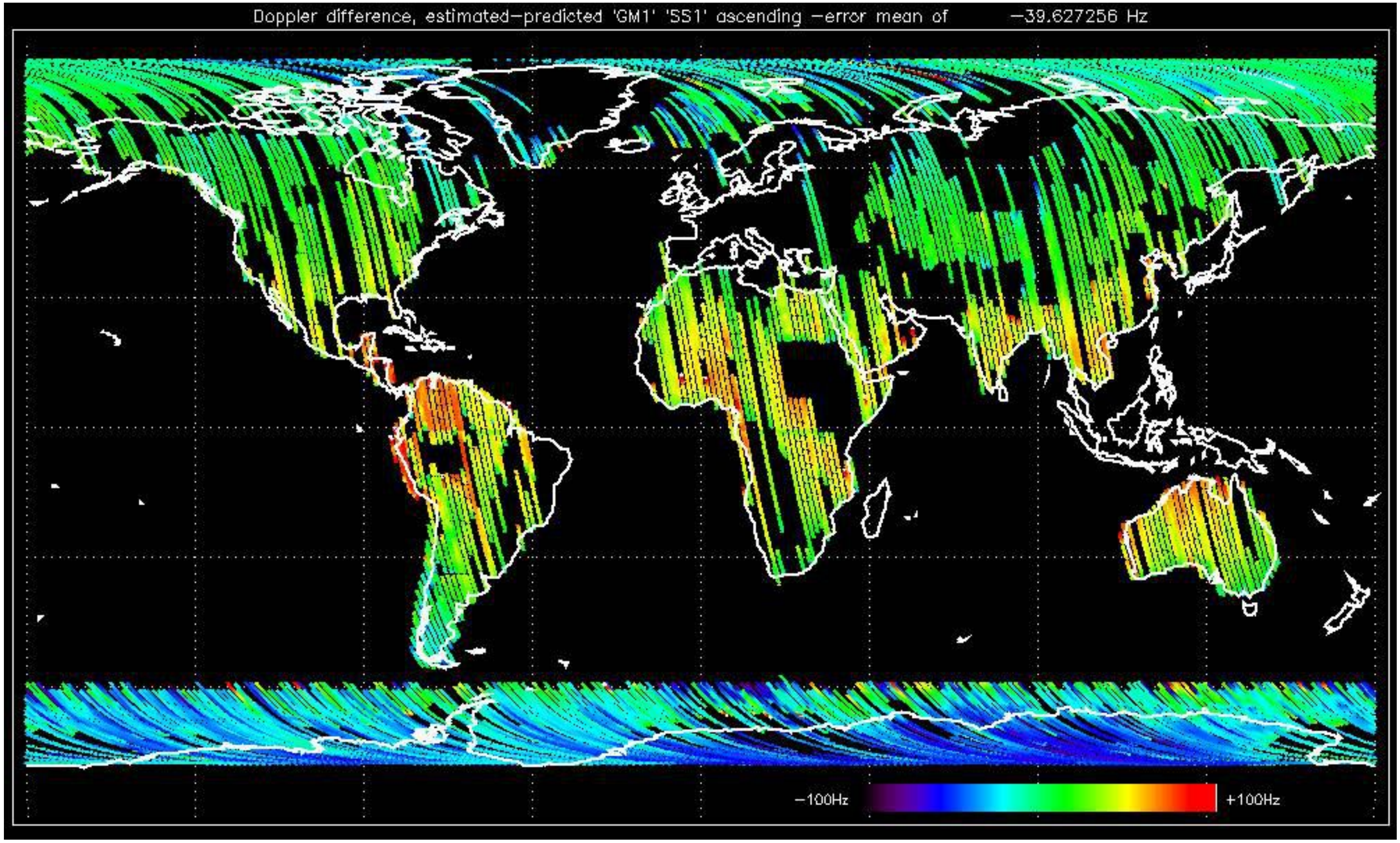

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

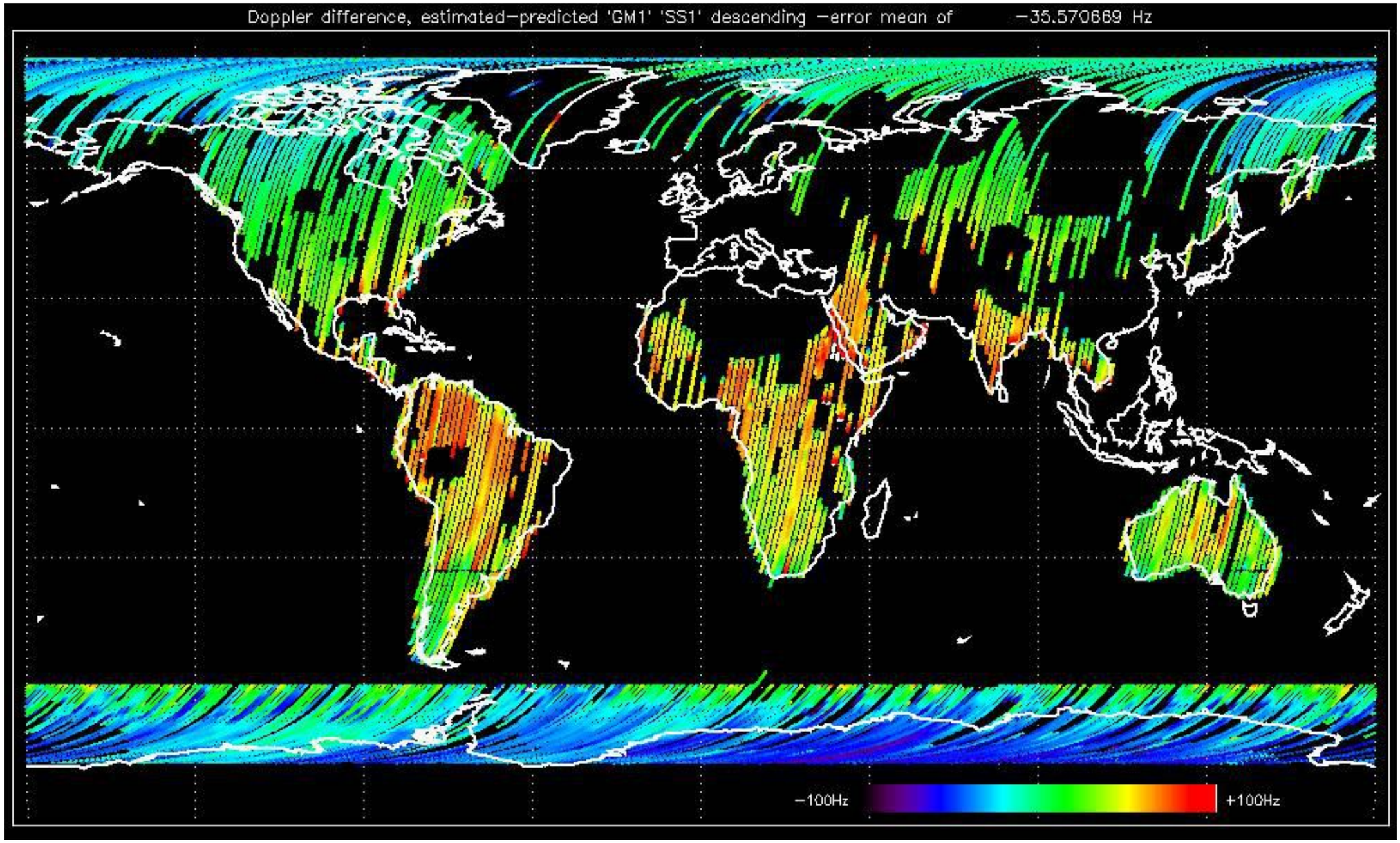

Doppler Bias[Hz]
100
0
−100
−200
−300
00
02
04
06
08
10
12
14
16
18
20
22
00
02
04
05−Jun
06−Jun
Date

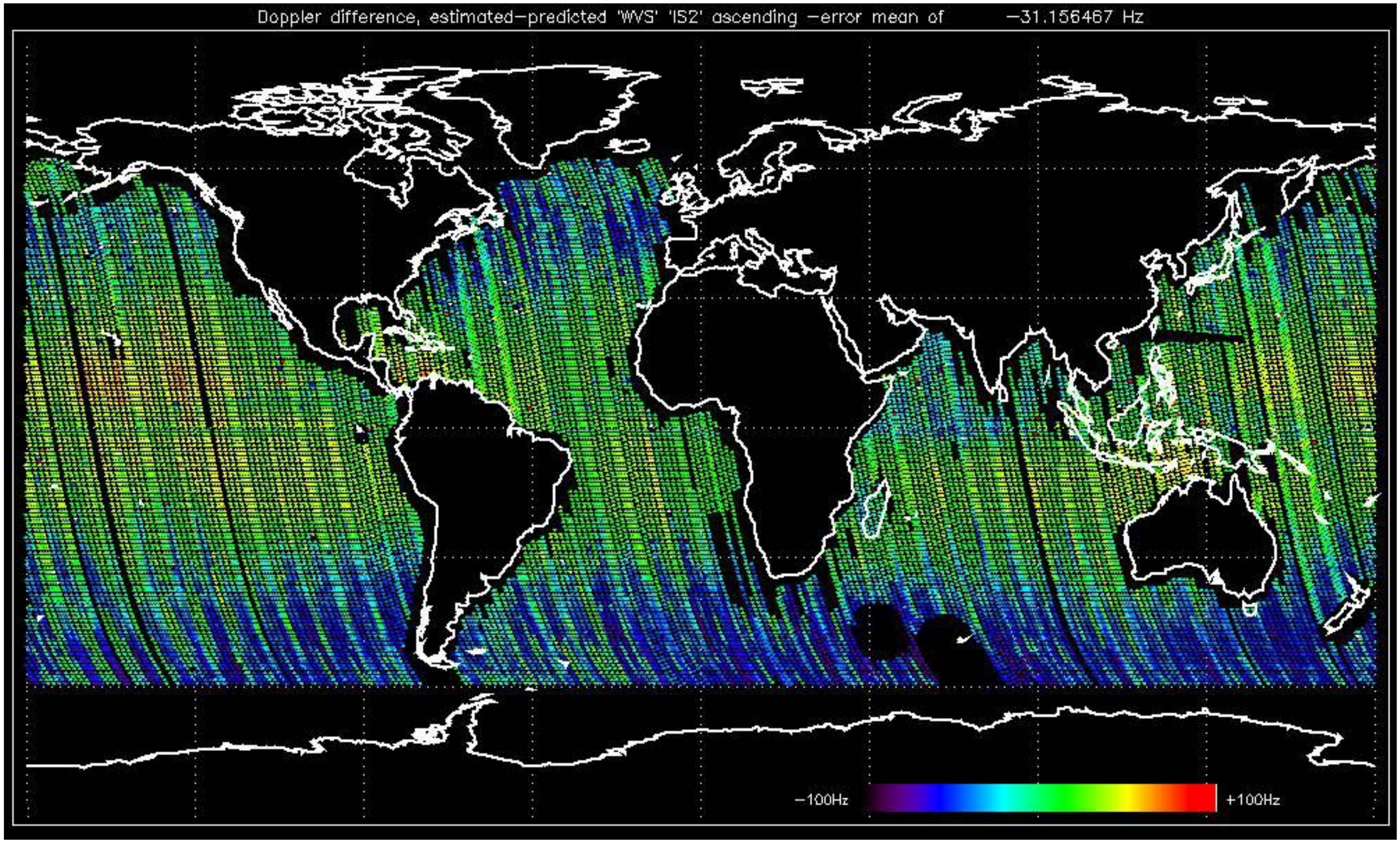

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

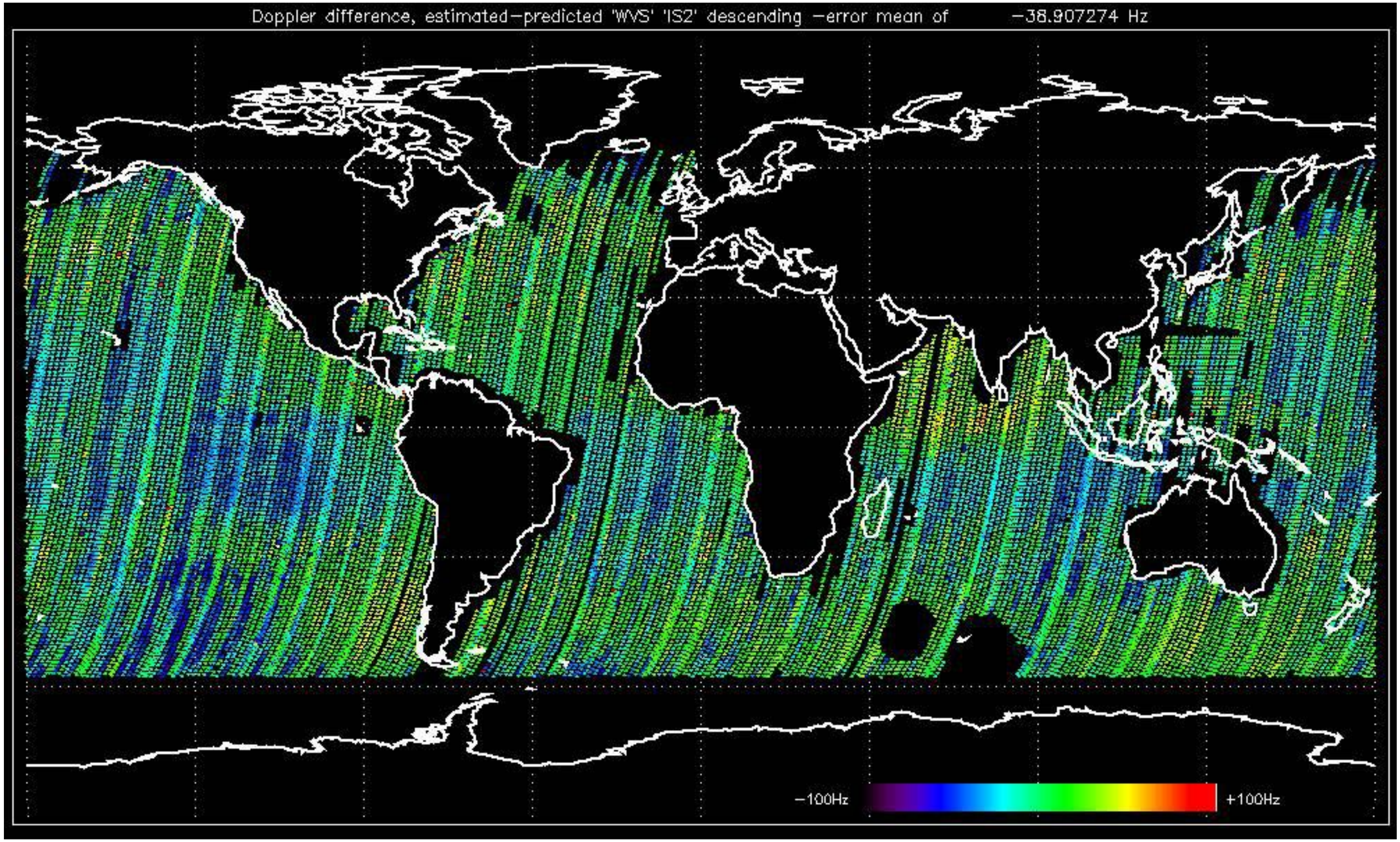

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −39.627256 Hz
−100Hz
+100Hz

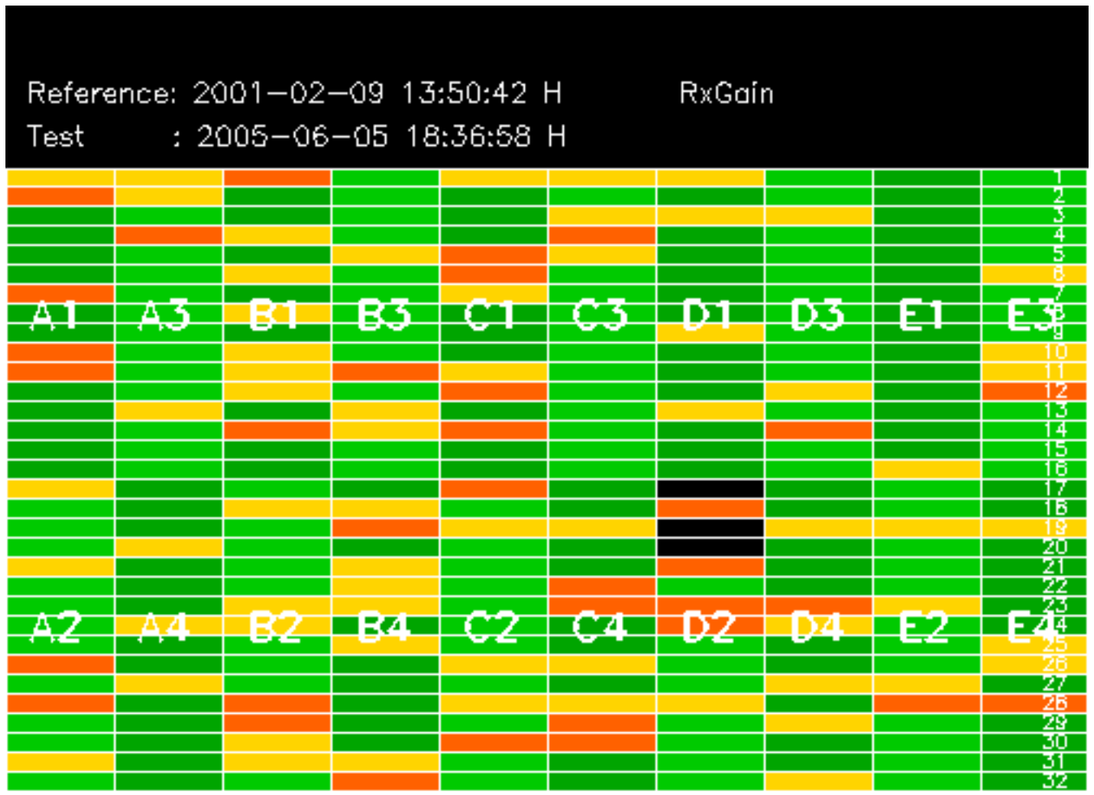

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −35.570669 Hz
−100Hz
+100Hz

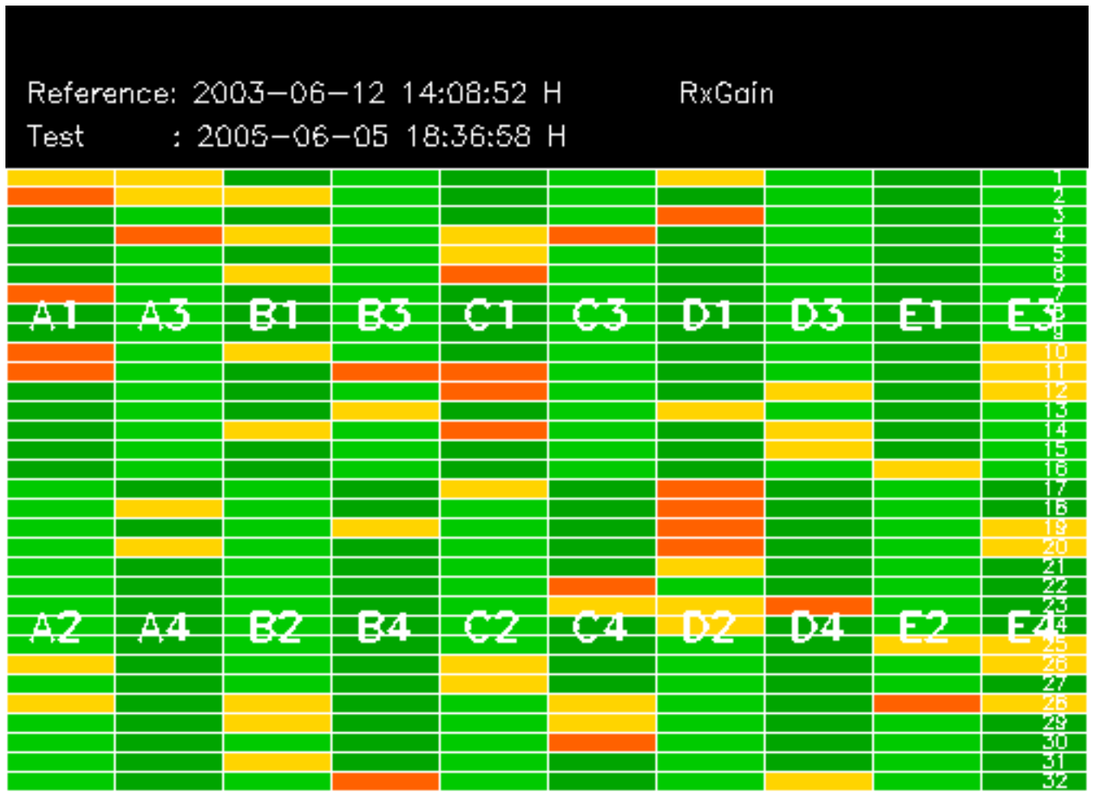

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −31.156467 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −38.907274 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2005-06-05 18:36:58 H
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 14:08:52 H
Test : 2005-06-05 18:36:58 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
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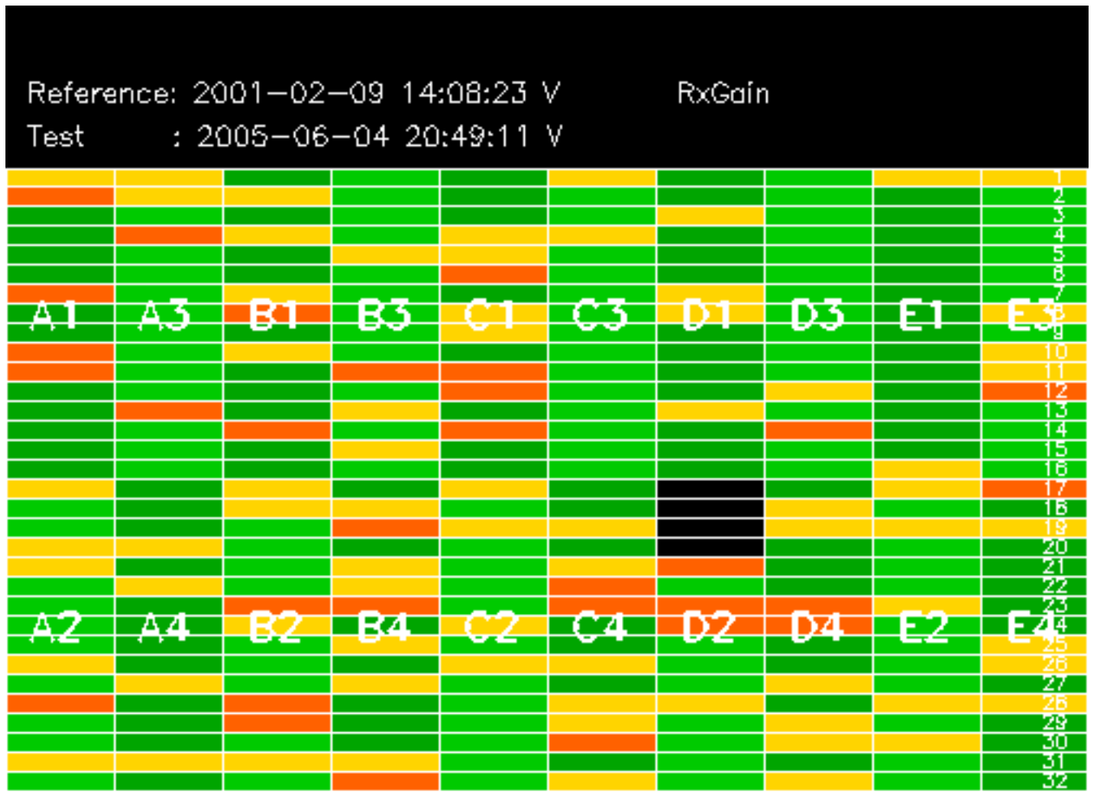
Reference: 2001-02-09 14:08:23 V
Test : 2005-06-04 20:49:11 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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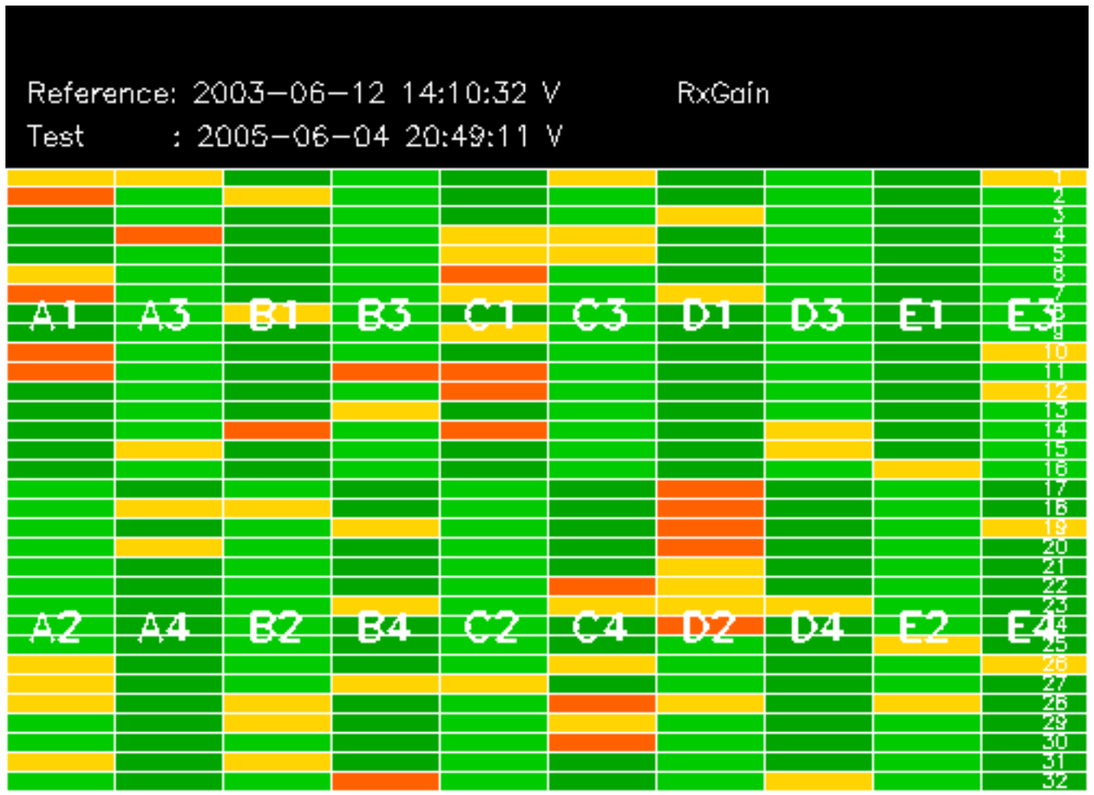
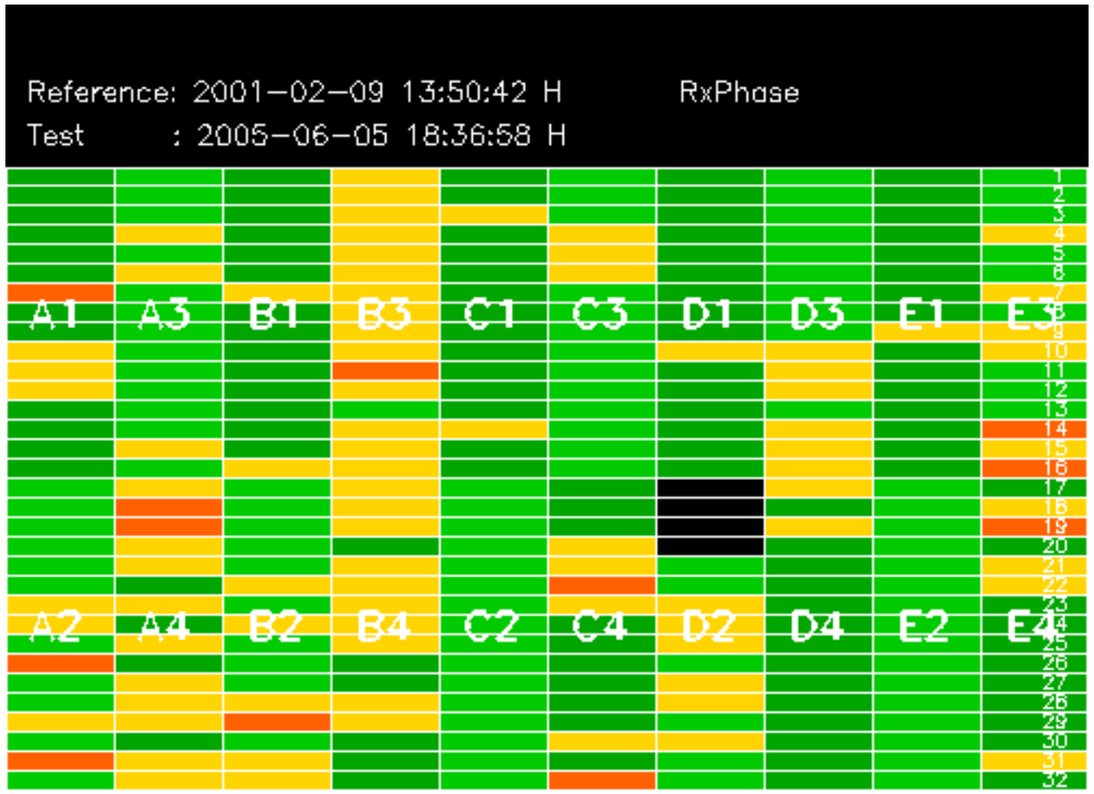

Reference: 2003-06-12 14:10:32 V
Test : 2005-06-04 20:49:11 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-06-05 18:36:58 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 : 2005-06-05 18:36:58 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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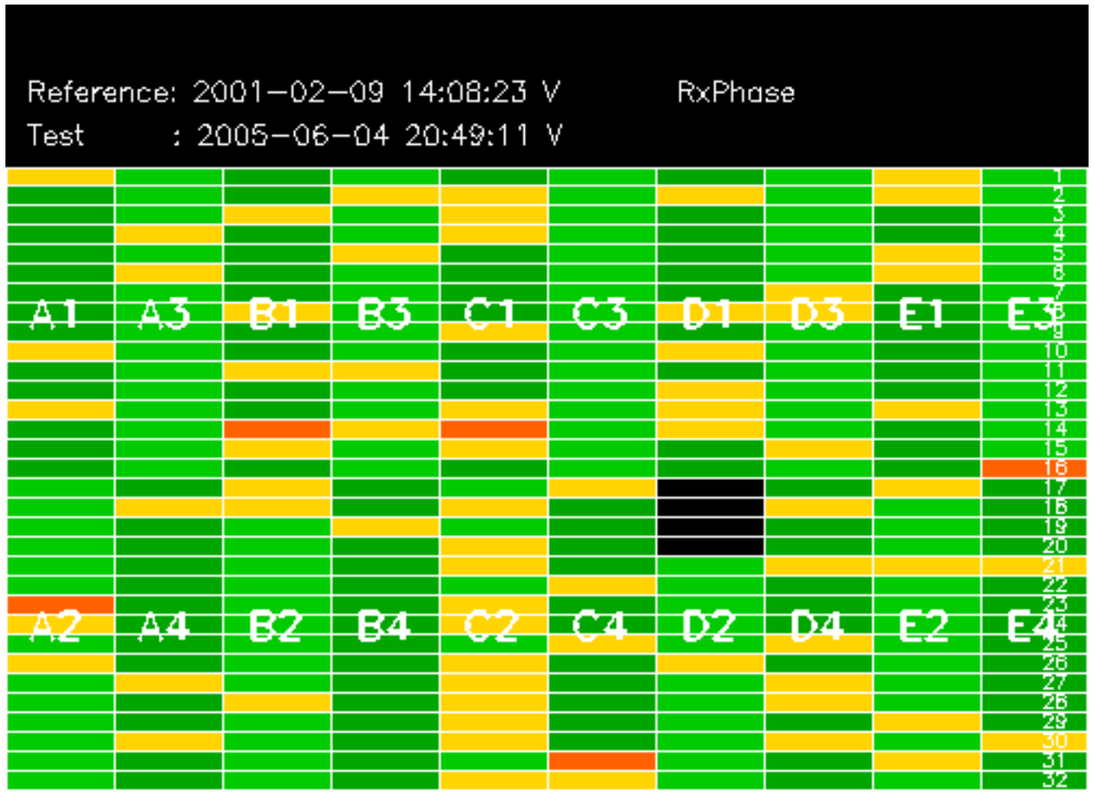
Reference: 2001-02-09 14:08:23 V
Test : 2005-06-04 20:49:11 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
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8
9
10
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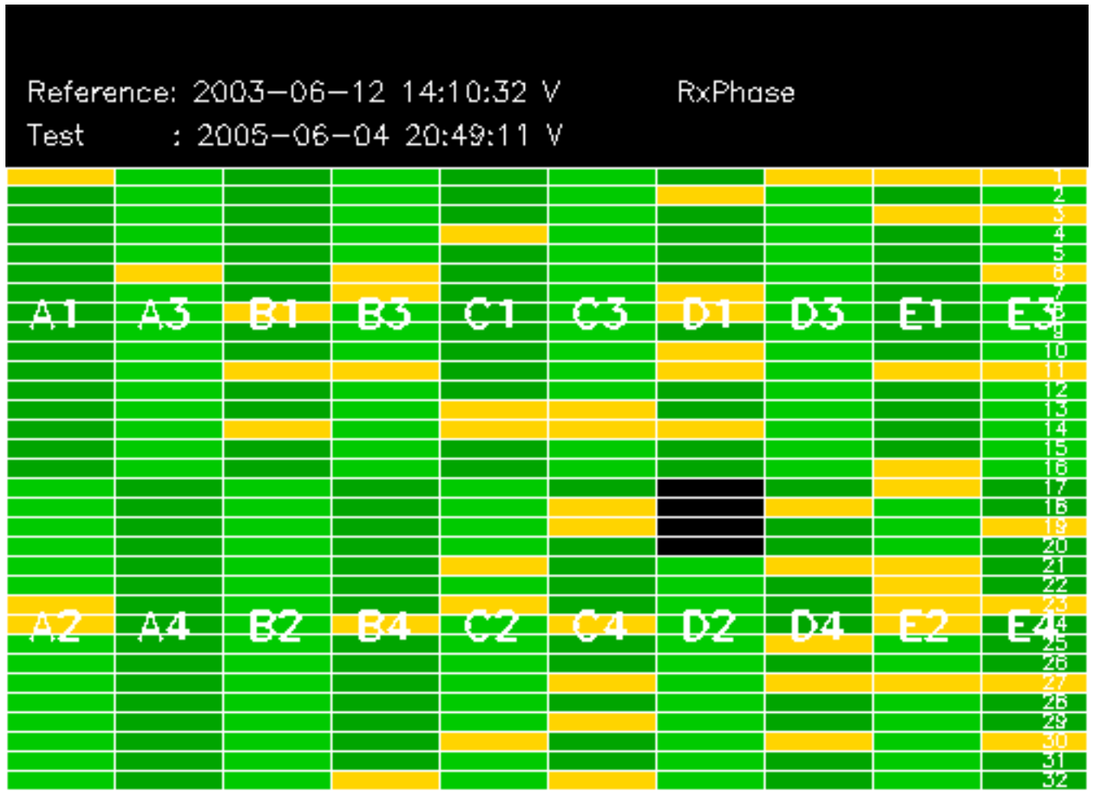
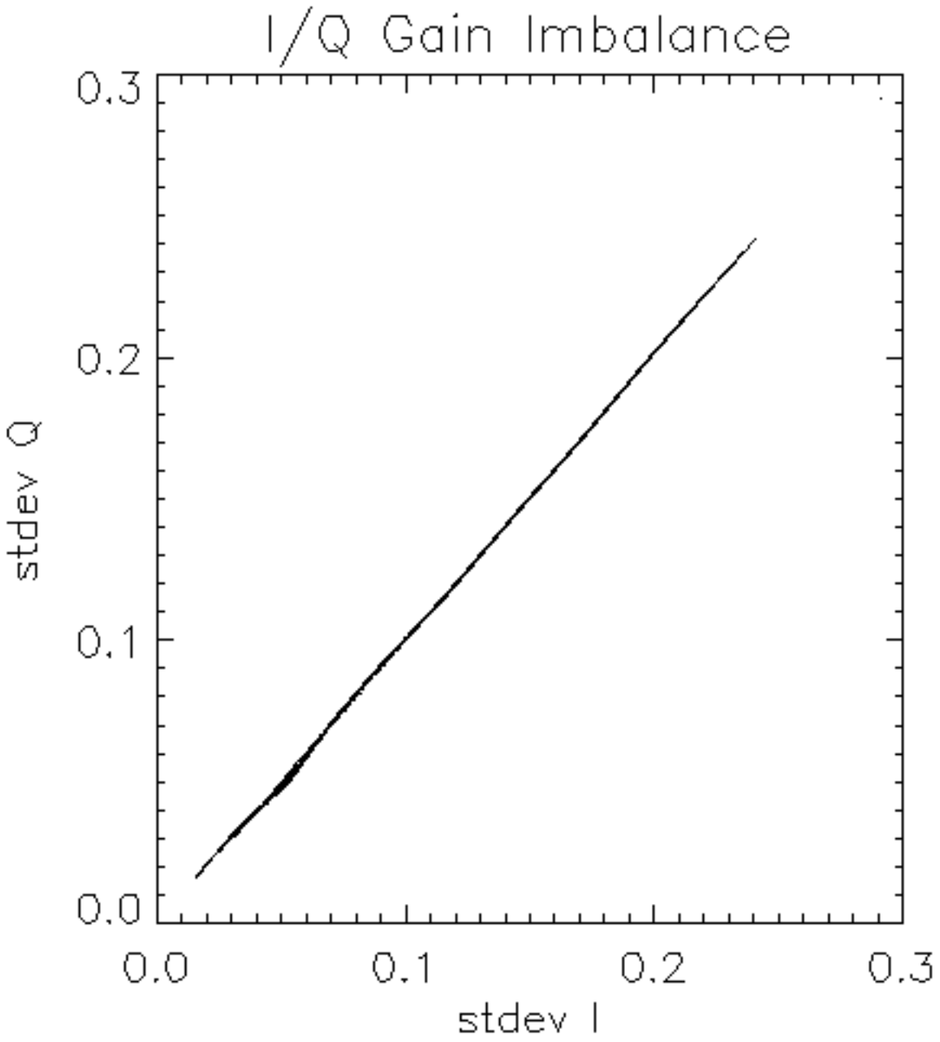
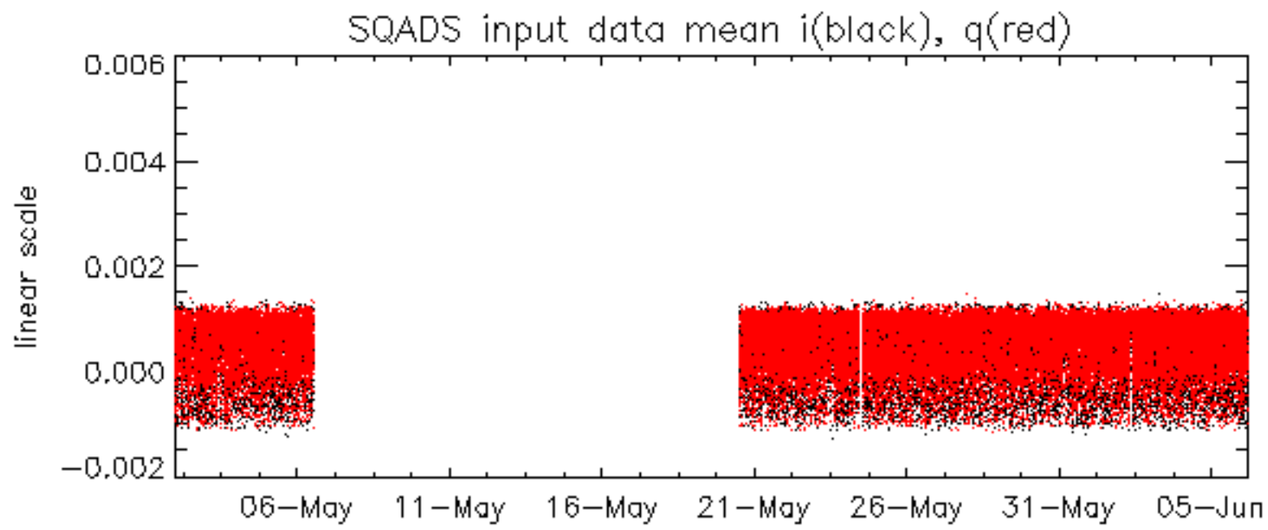
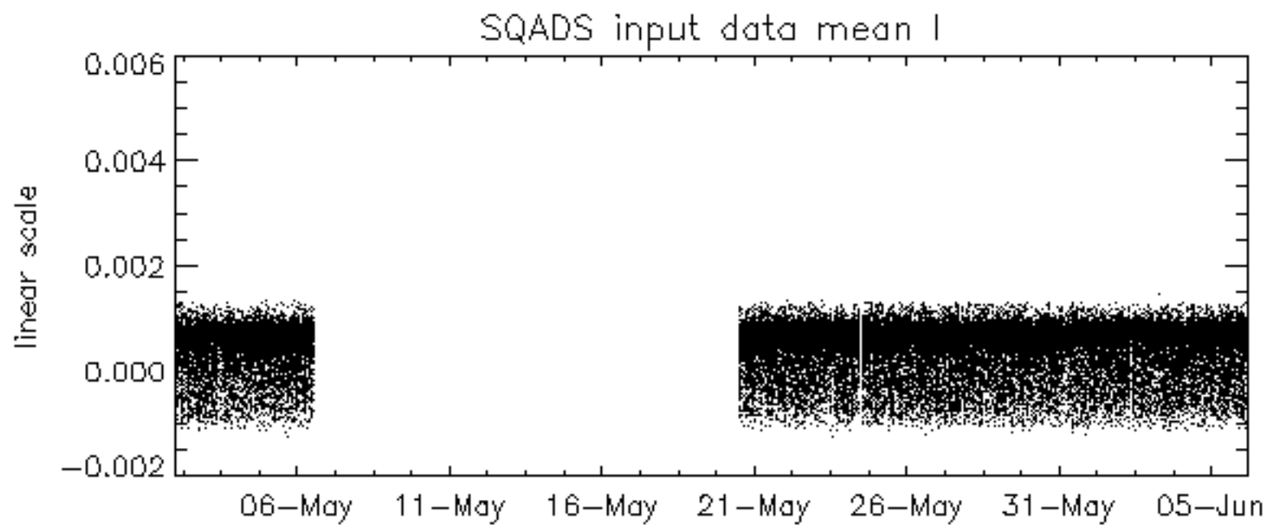
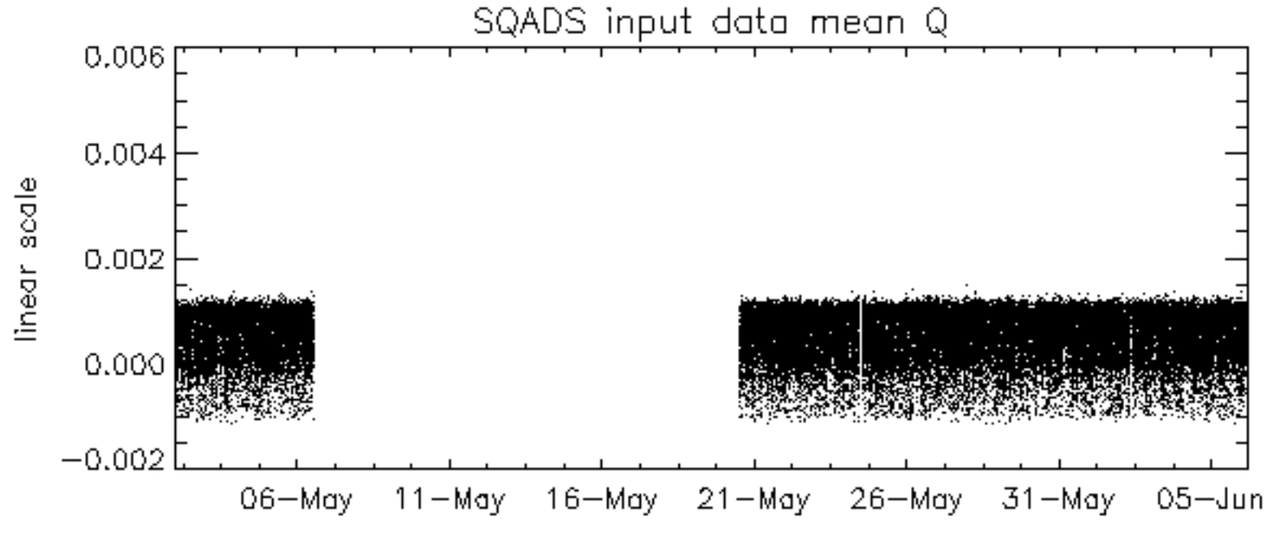
31
32

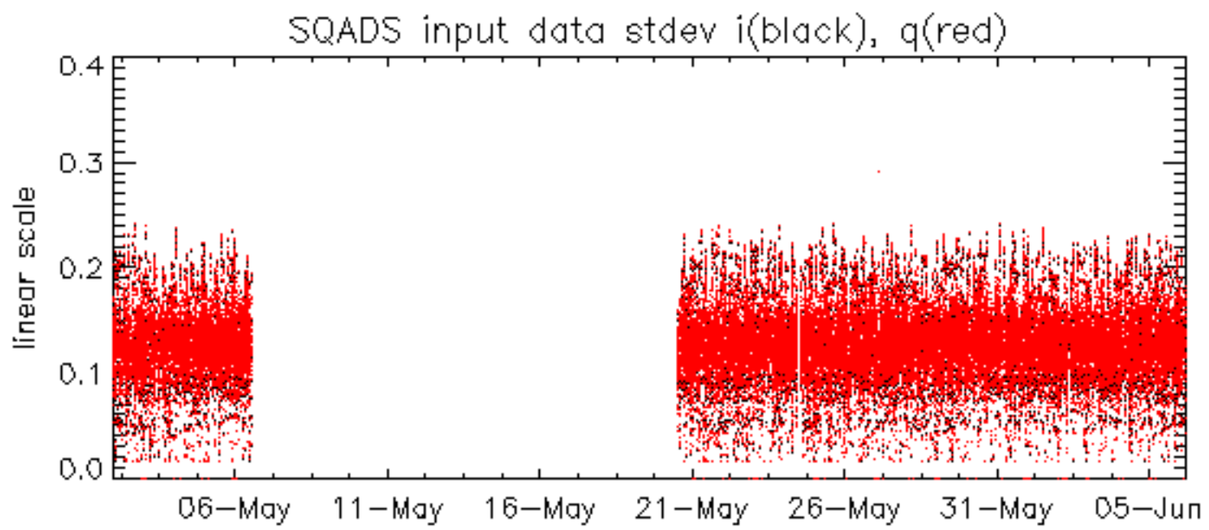

Reference: 2003-06-12 14:10:32 V
Test : 2005-06-04 20:49:11 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

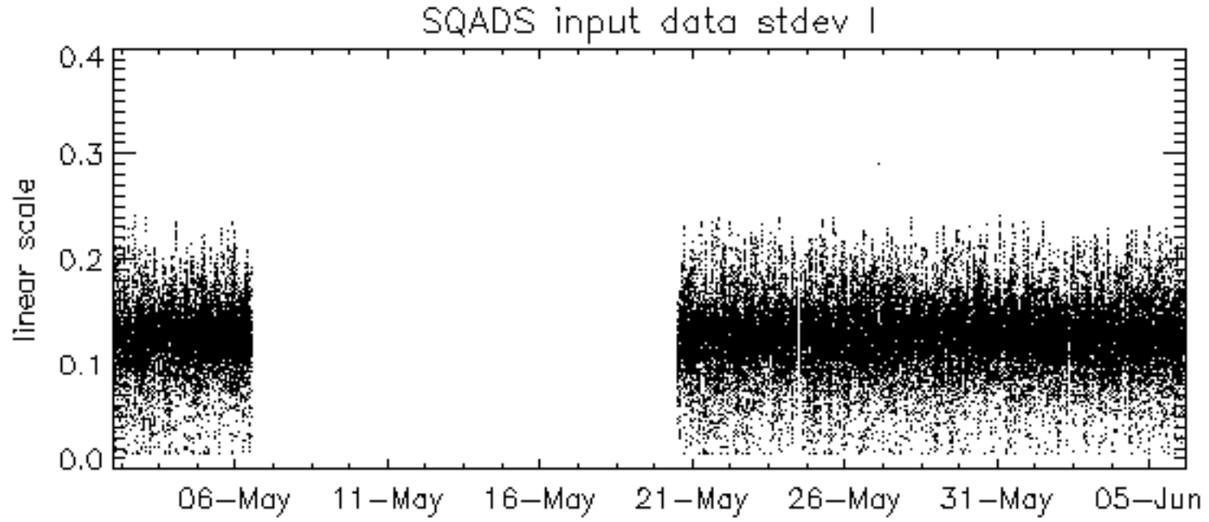

I/Q Gain Imbalance
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
stdev I

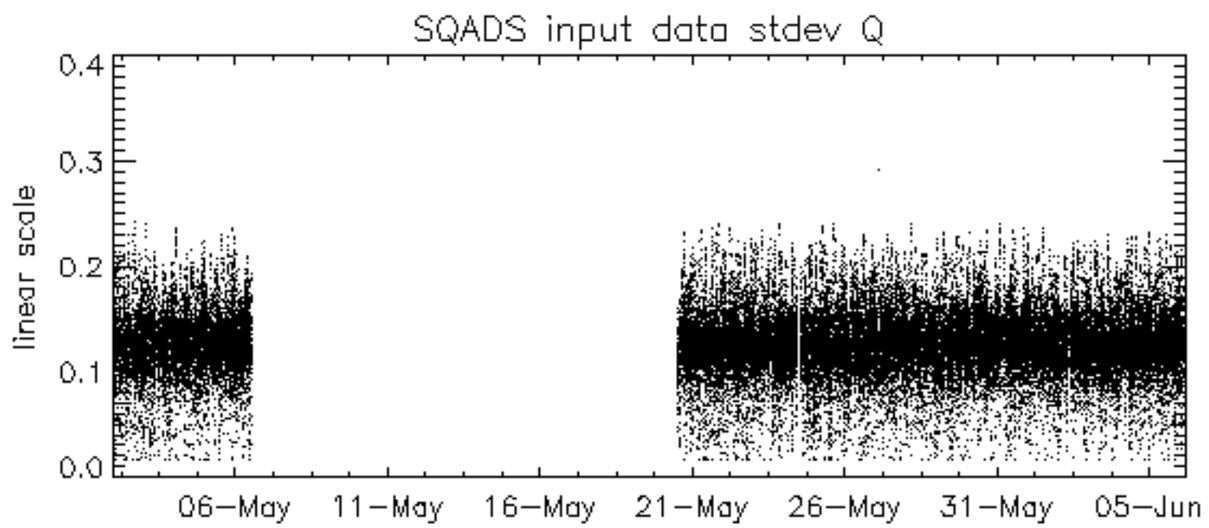

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
06−May
11−May
16−May
21−May
26−May
31−May
05−Jun

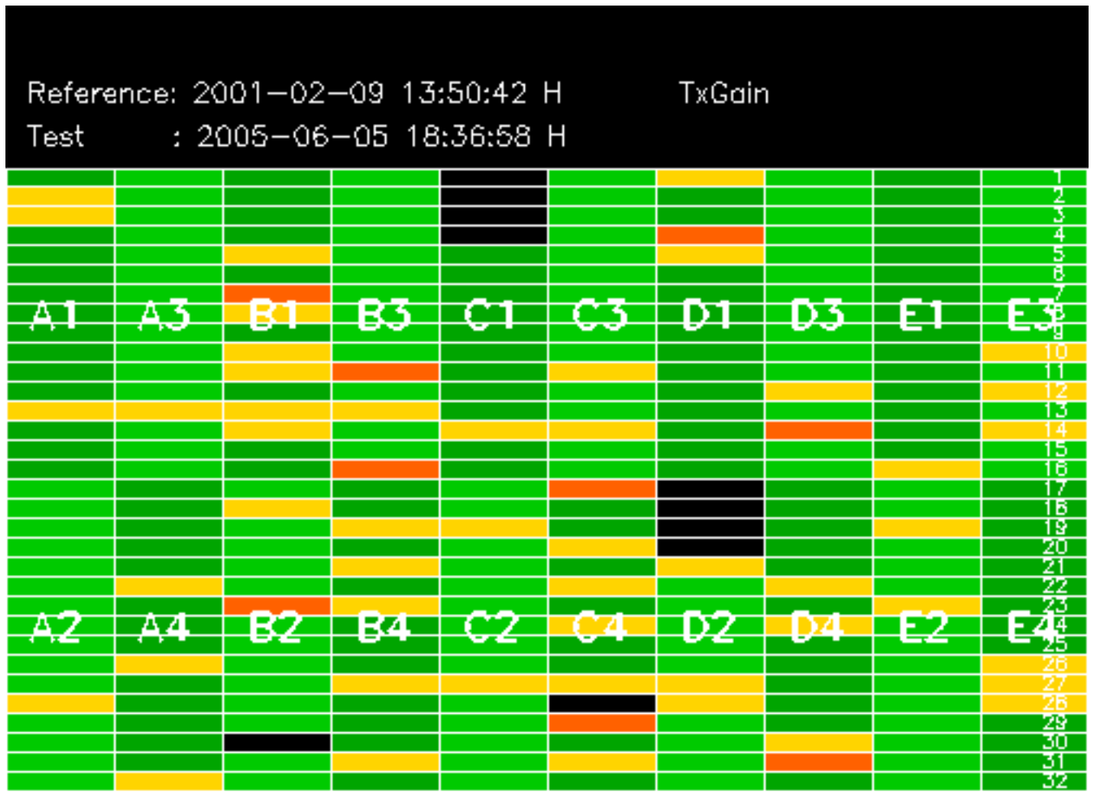

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
06−May
11−May
16−May
21−May
26−May
31−May
05−Jun


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2005-06-05 18:36:58 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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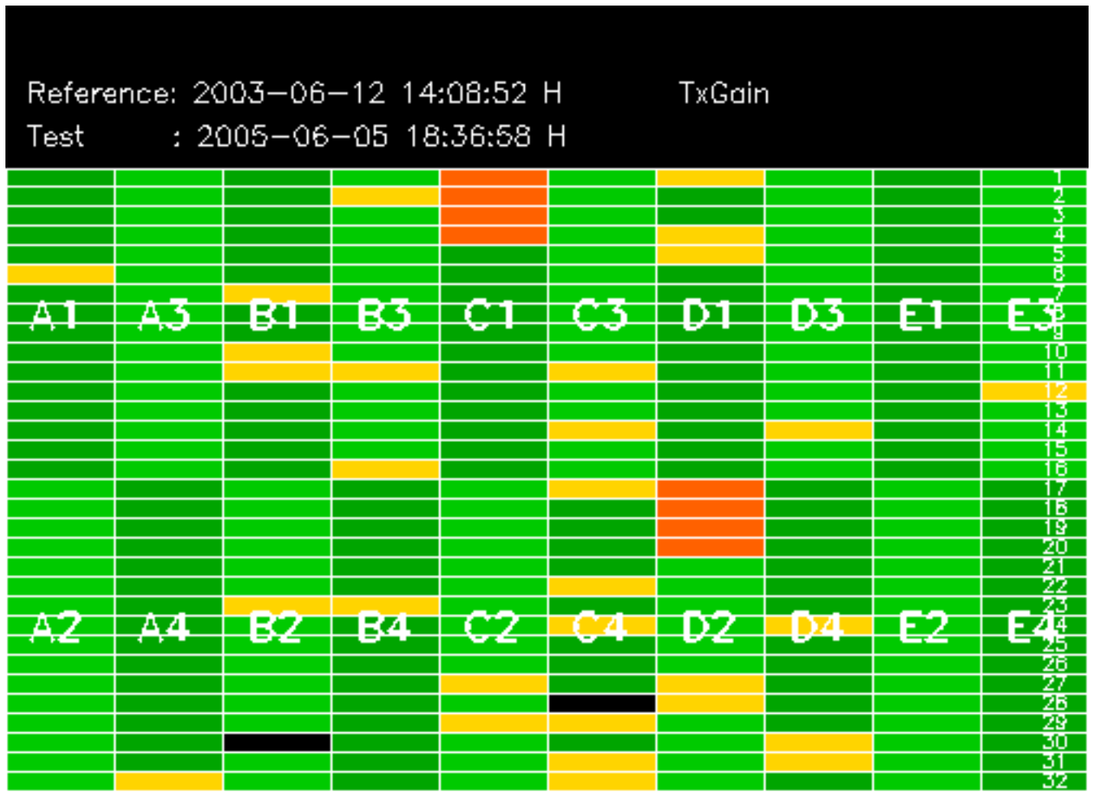
Reference: 2003-06-12 14:08:52 H
Test : 2005-06-05 18:36:58 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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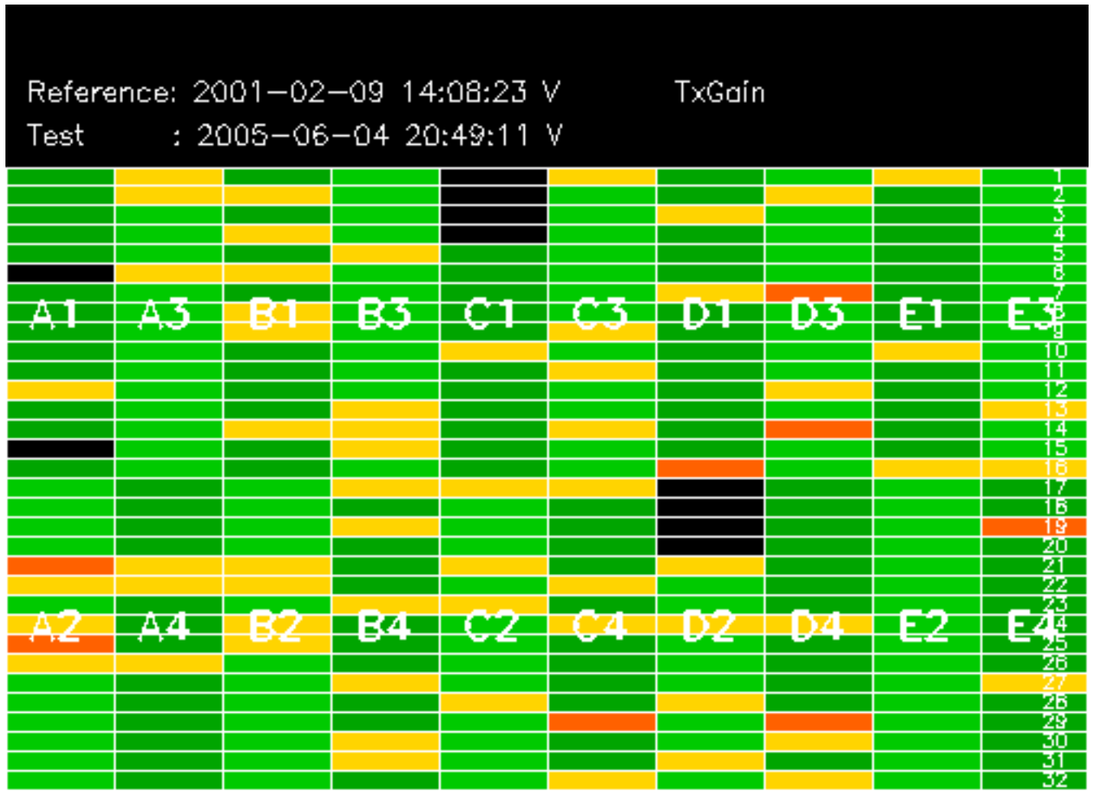
Reference: 2001-02-09 14:08:23 V
Test : 2005-06-04 20:49:11 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
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8
9
10
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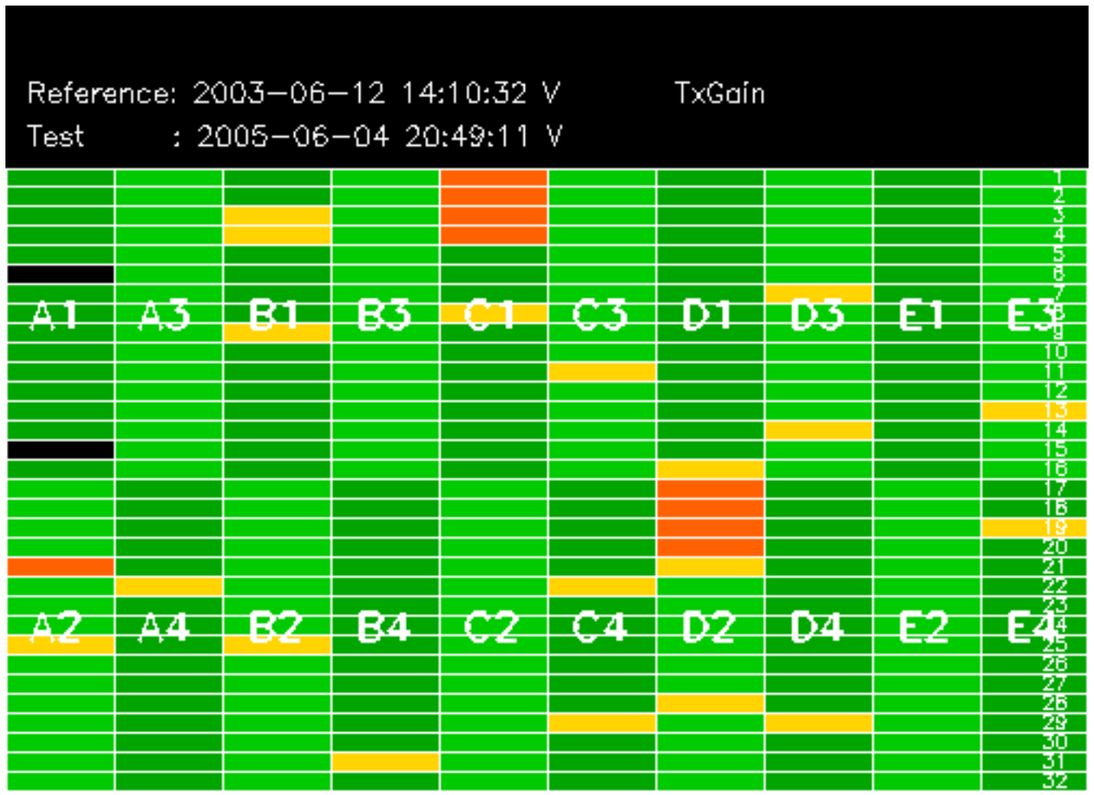
32


Reference: 2003-06-12 14:10:32 V
Test : 2005-06-04 20:49:11 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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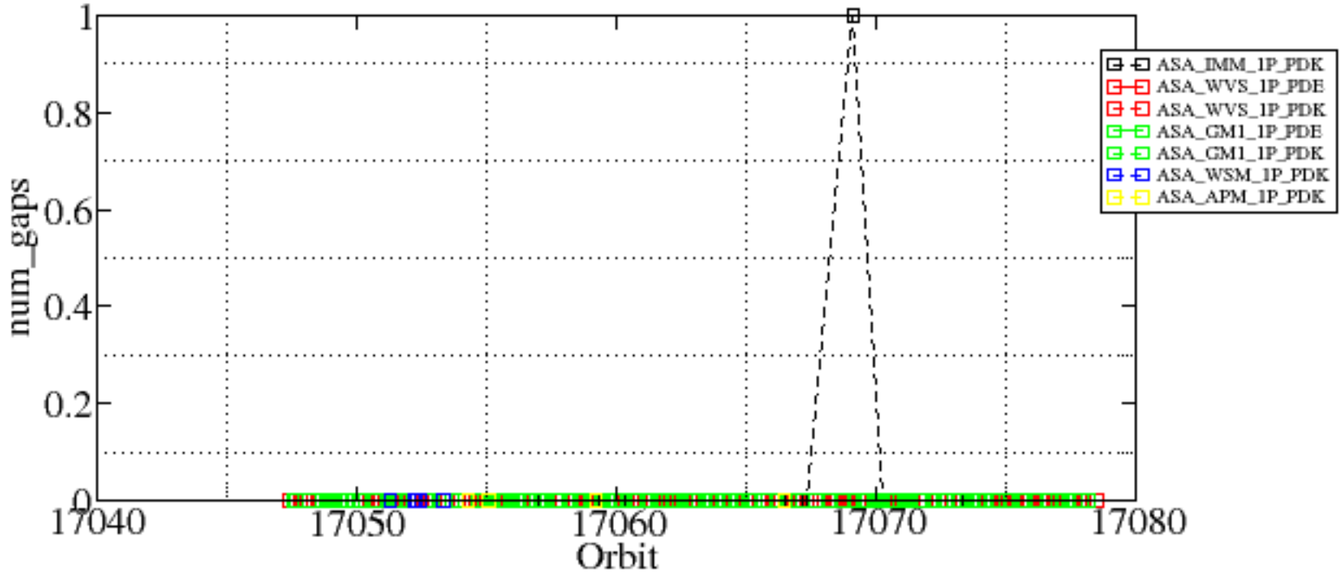
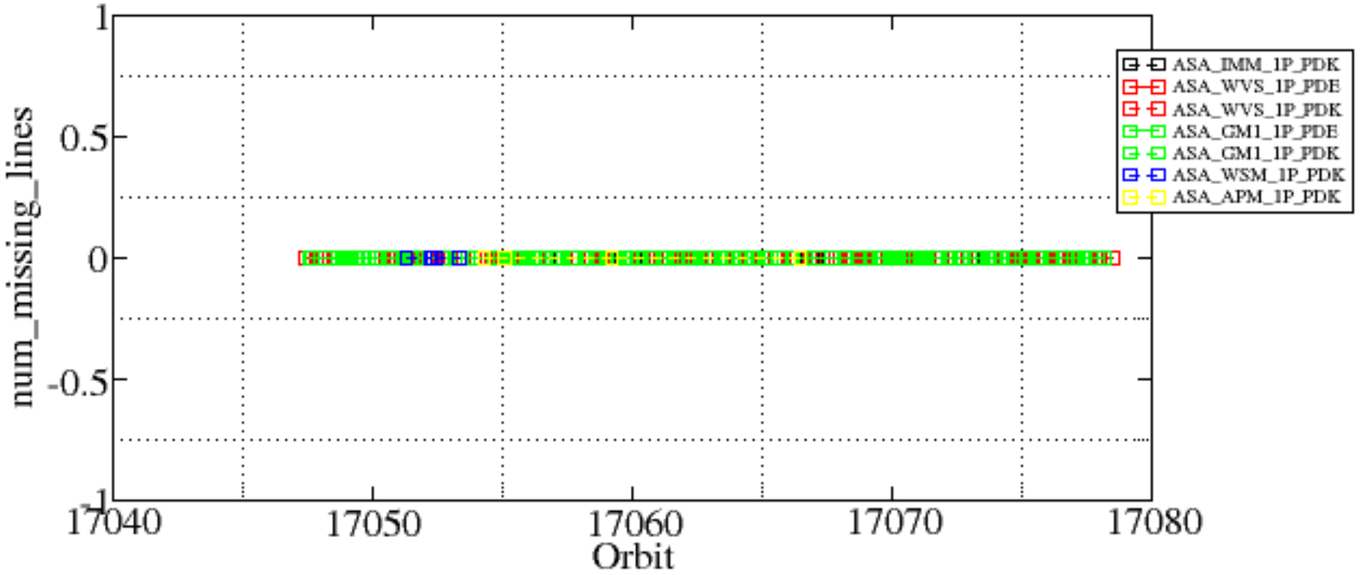
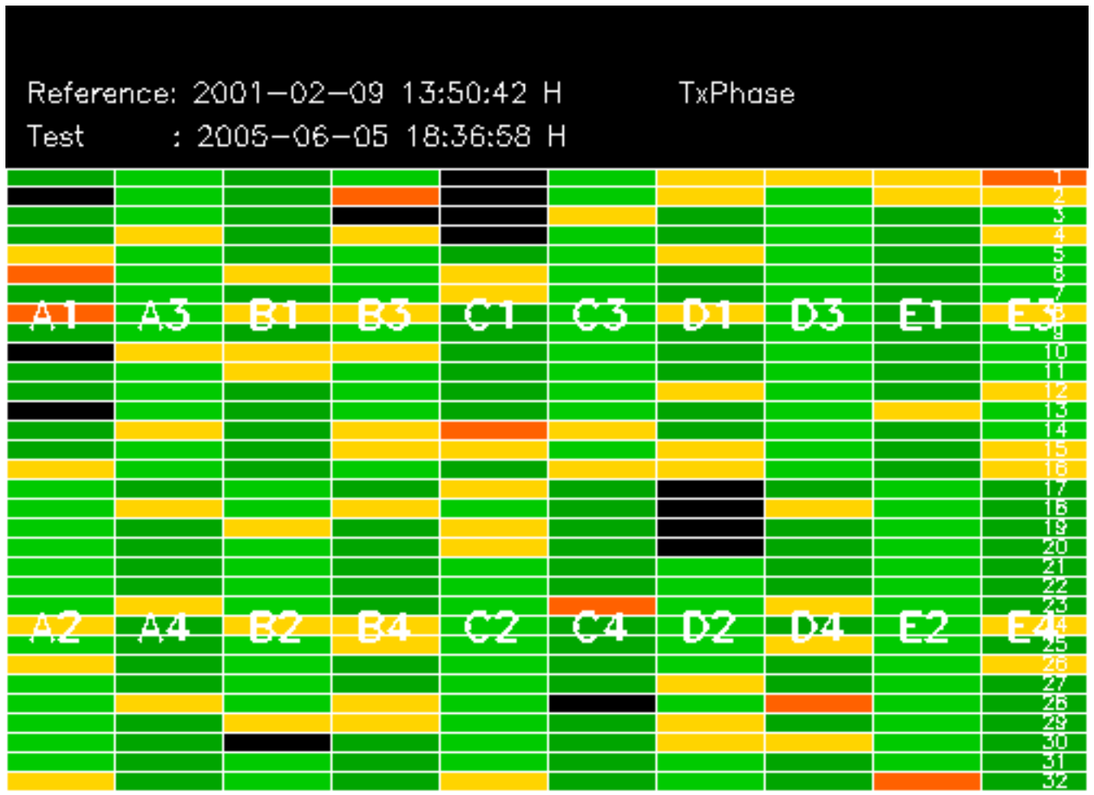
Summary of analysis for the last 3 days 2005060[456]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_IMM_1PNPDK20050605_123947_000001332037_00482_17069_5947.N1 </td> <td>1 </td> <td>0 </td></tr>
</table>


num_gaps
1
0.8
0.6
0.4
0.2
0
17040
17050
17060
17070
17080
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
17040
17050
17060
17070
17080
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 : 2005-06-05 18:36:58 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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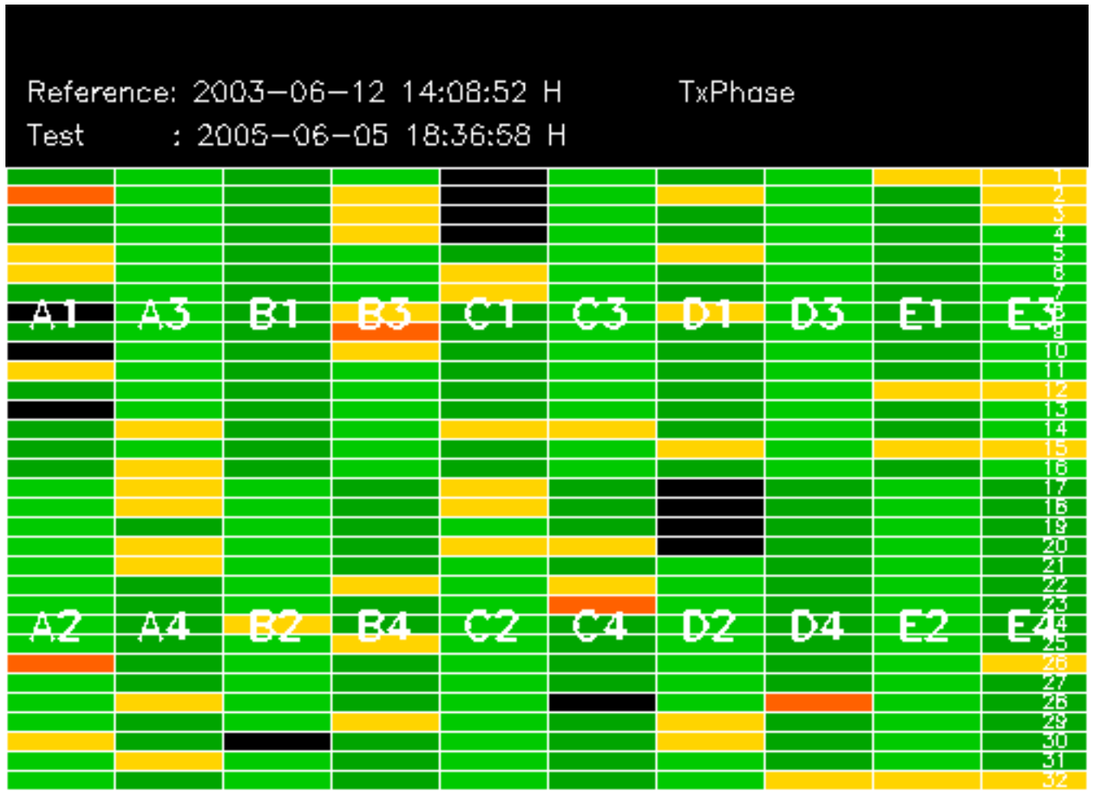
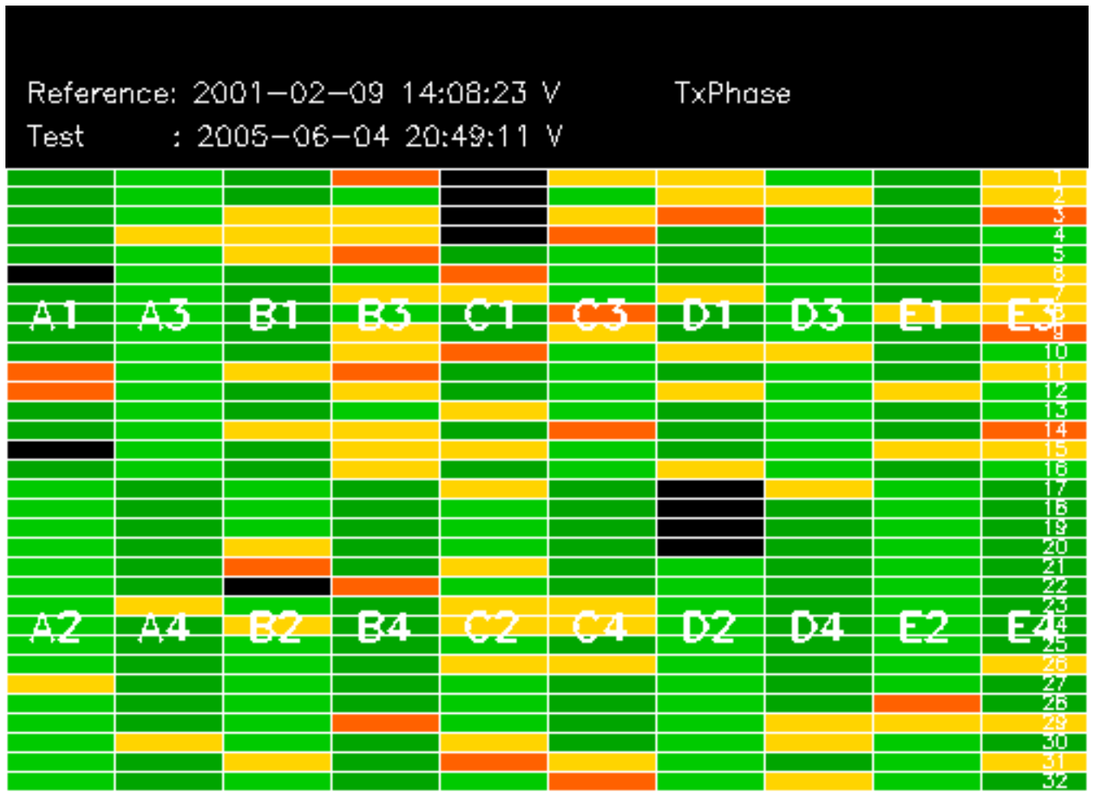
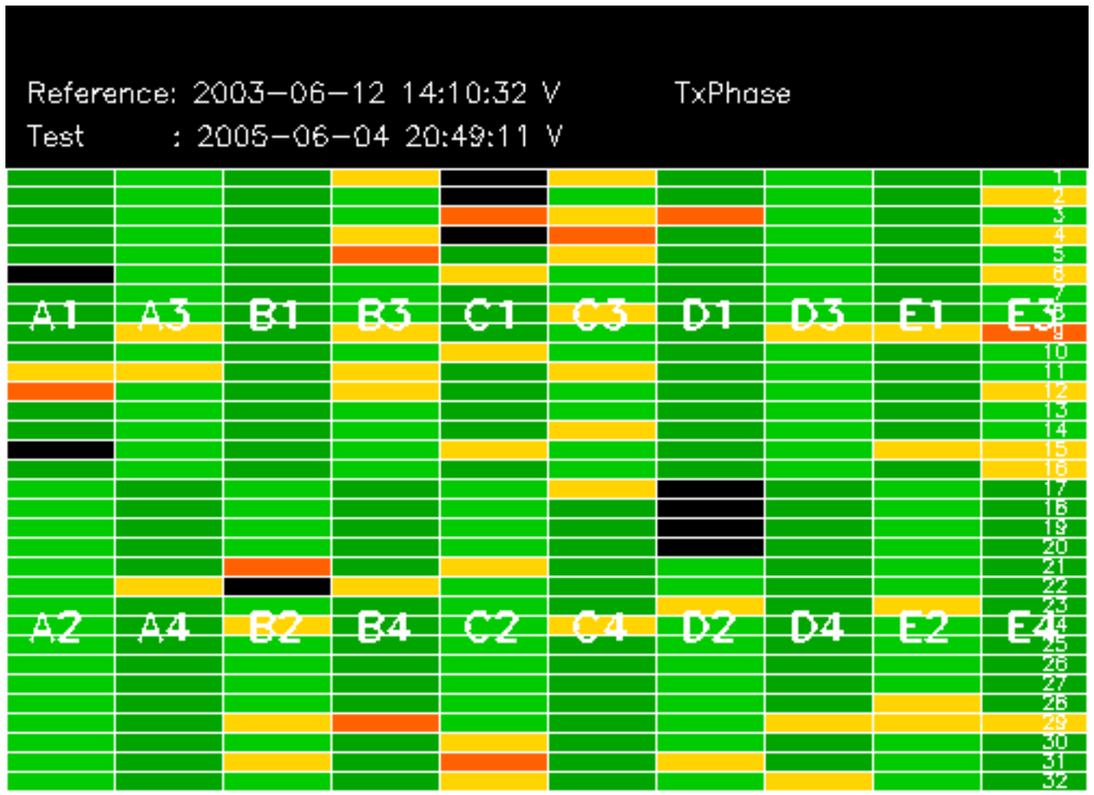
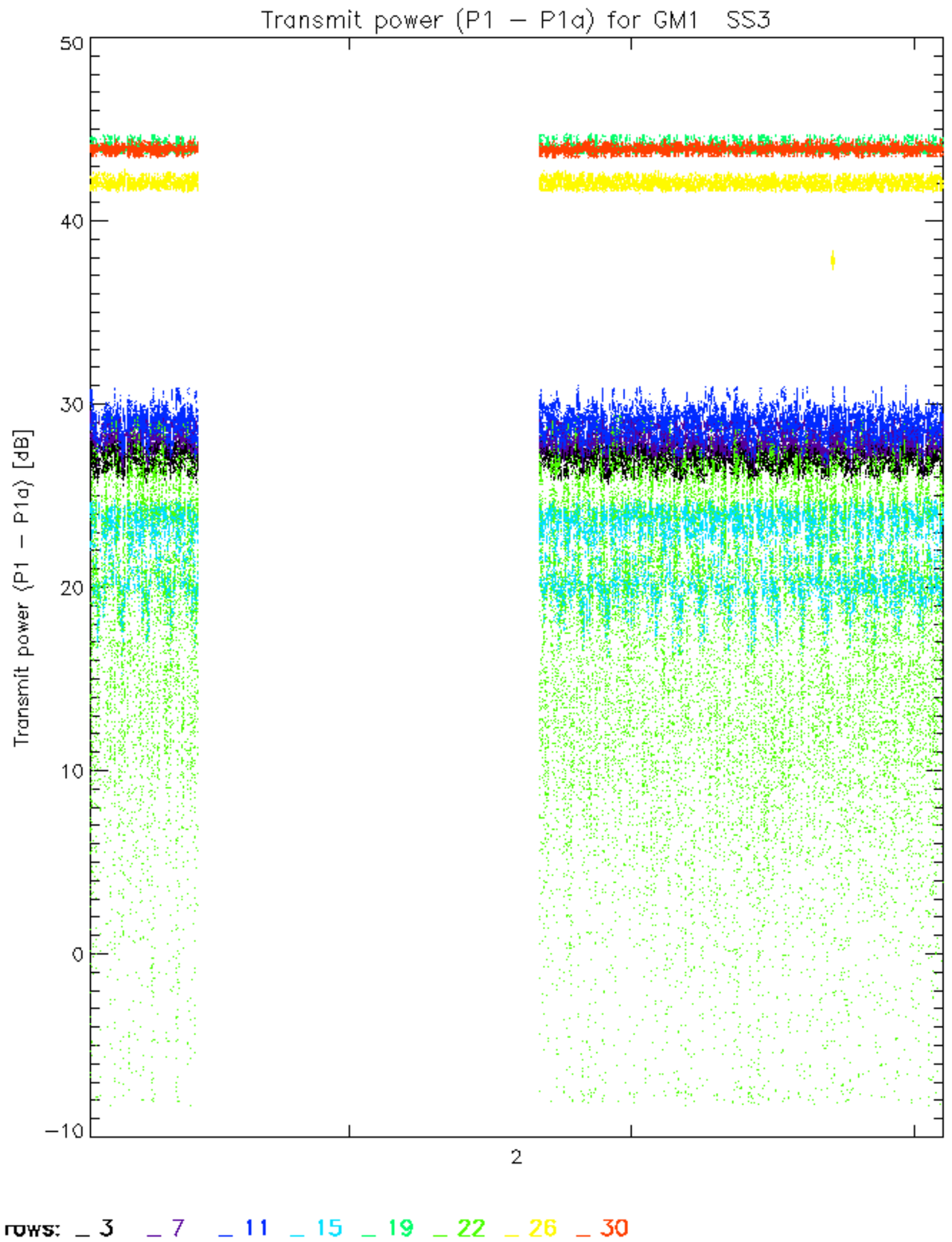
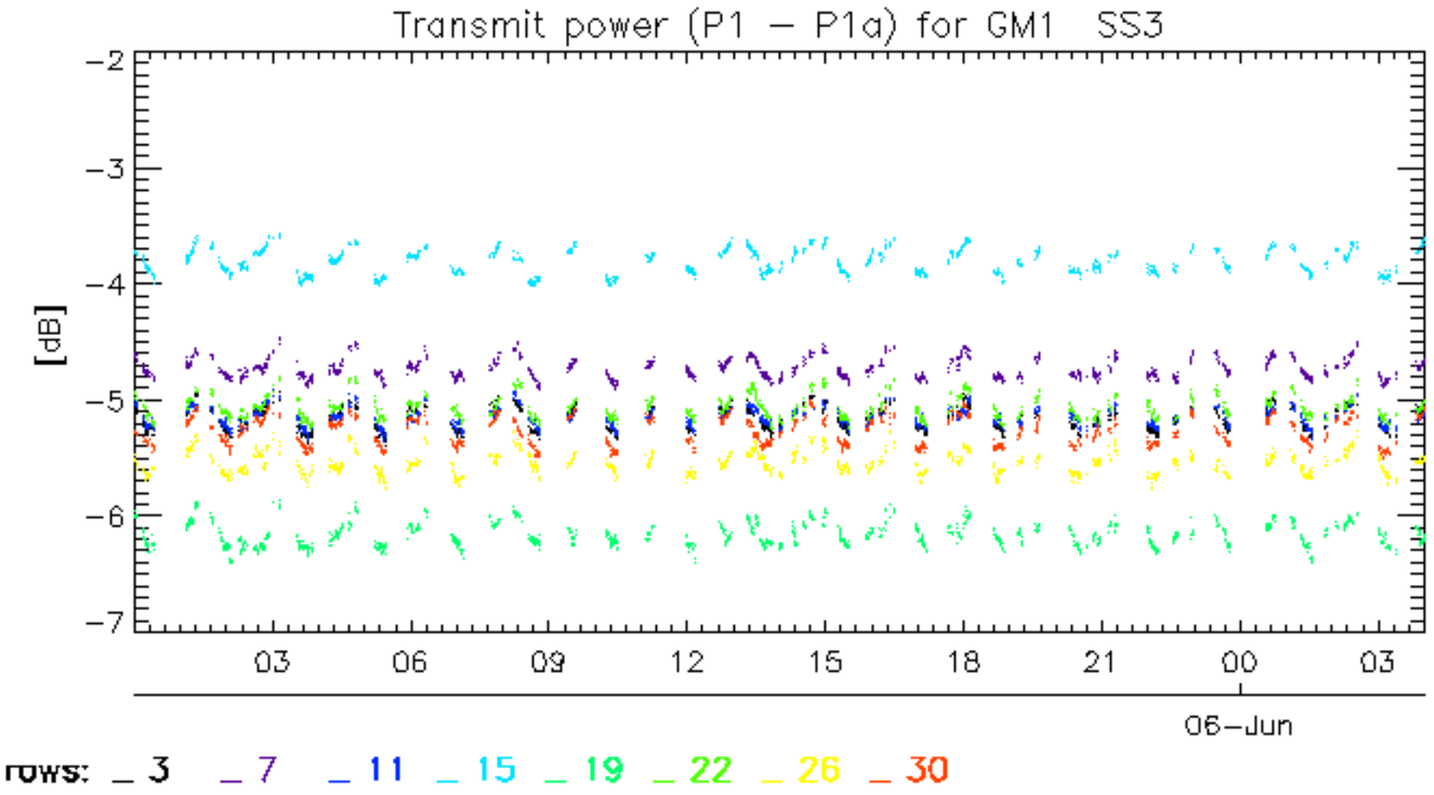
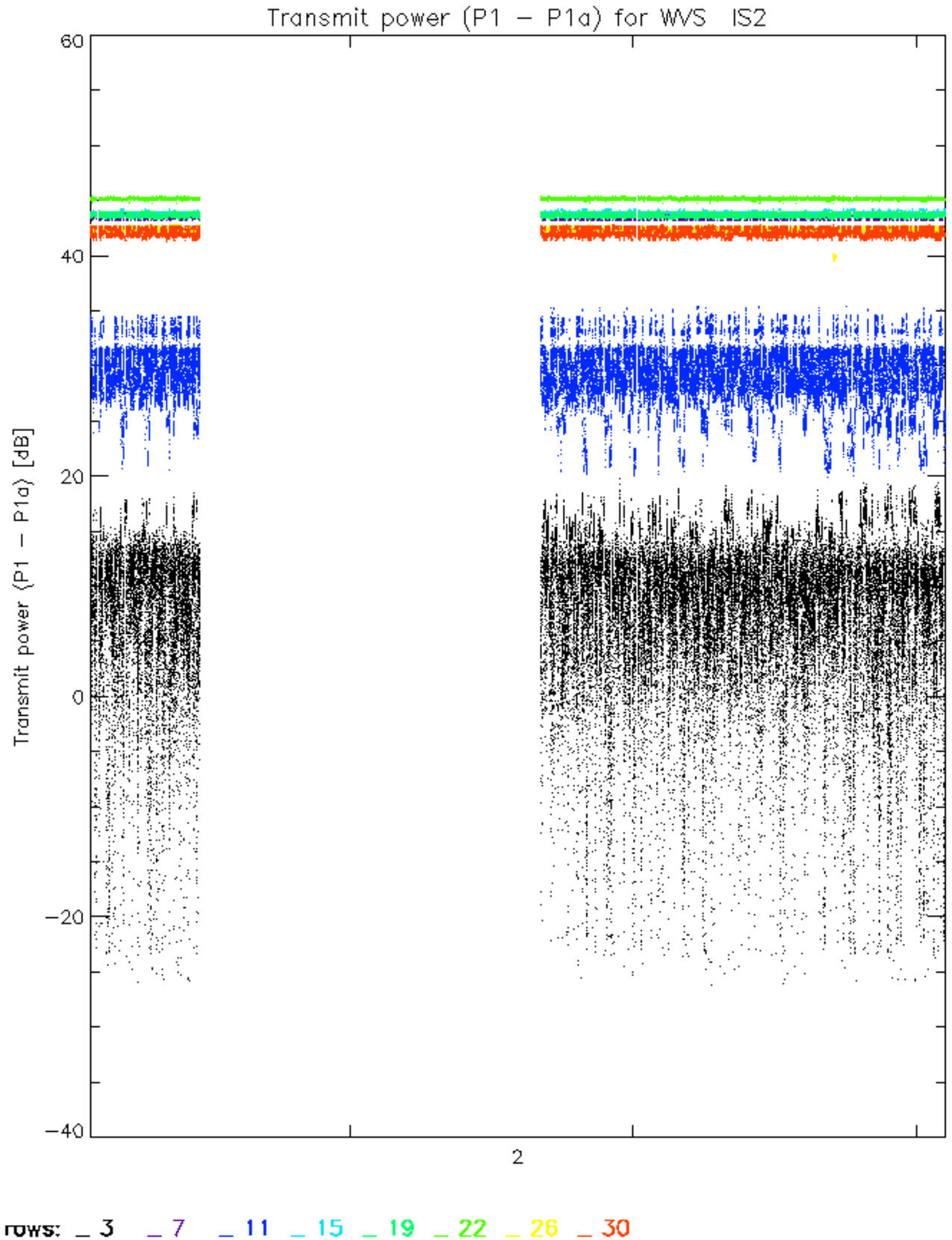

Reference: 2003-06-12 14:08:52 H
Test : 2005-06-05 18:36:58 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

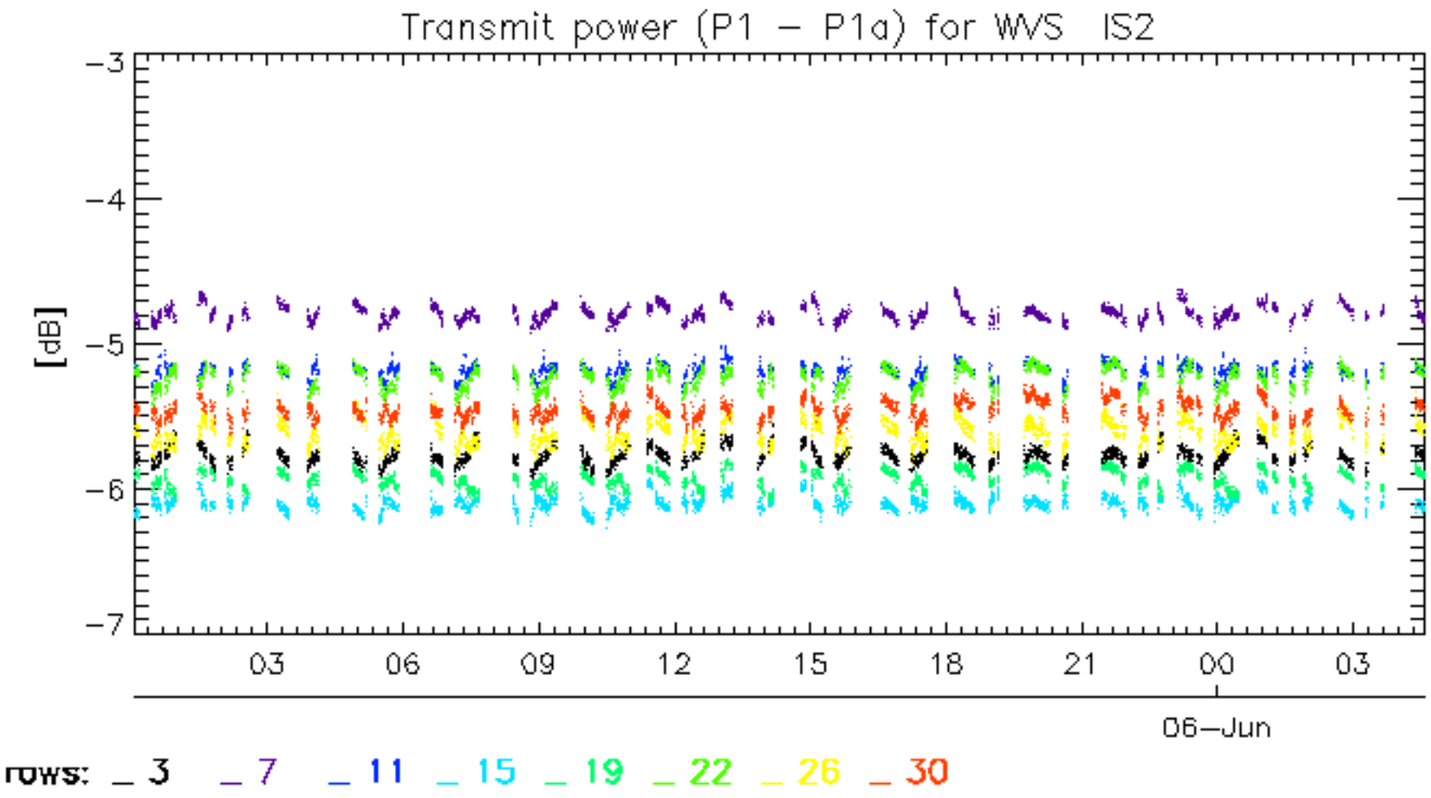

Reference: 2001-02-09 14:08:23 V
Test : 2005-06-04 20:49:11 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-06-04 20:49:11 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
2
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
06–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]
2
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
06–Jun
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

No unavailabilities during the reported period.