PRELIMINARY REPORT OF 060530

last update on Tue May 30 16:40:04 GMT 2006

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 2006-05-29 00:00:00 to 2006-05-30 16:40:04

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	24	35	11	0	20
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	24	35	11	0	20
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	24	35	11	0	20
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	24	35	11	0	20

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	18	22	14	12	22
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	18	22	14	12	22
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	18	22	14	12	22
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	18	22	14	12	22

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	20060528 095343
H	20060529 092206

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
☒
☒

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	-3.960453	0.016903	0.051147
7	P1	-3.101697	0.017220	-0.067266
11	P1	-4.107776	0.017776	0.003443
15	P1	-6.131464	0.020194	0.004557
19	P1	-3.317725	0.008391	-0.028619
22	P1	-4.519220	0.011273	0.041276
26	P1	-3.989191	0.018941	0.056743
30	P1	-5.748571	0.008034	0.020421
3	P1	-16.585417	0.260732	0.244238
7	P1	-17.118023	0.185611	-0.225241
11	P1	-16.913979	0.311323	-0.052436
15	P1	-13.214676	0.211648	-0.082005
19	P1	-14.255009	0.046991	-0.082383
22	P1	-16.155436	0.387904	-0.050456
26	P1	-15.277947	0.249774	0.059486
30	P1	-17.008055	0.357396	-0.232752

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.218073	0.081985	0.151446
7	P2	-22.102484	0.099466	0.182983
11	P2	-15.944486	0.111605	0.153005
15	P2	-7.162856	0.093124	0.039072
19	P2	-9.163675	0.085388	0.011676
22	P2	-18.116528	0.082948	-0.064479
26	P2	-16.362047	0.088302	-0.052104
30	P2	-19.584066	0.085689	0.092025

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.186718	0.003904	0.033366
7	P3	-8.186718	0.003904	0.033366
11	P3	-8.186718	0.003904	0.033366
15	P3	-8.186718	0.003904	0.033366
19	P3	-8.186718	0.003904	0.033366
22	P3	-8.186718	0.003904	0.033366
26	P3	-8.186718	0.003904	0.033366
30	P3	-8.186718	0.003904	0.033366

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	-3.773618	0.069507	-0.090510
7	P1	-2.608861	0.034098	0.063563
11	P1	-2.864454	0.024802	-0.000699
15	P1	-3.494002	0.050264	-0.004506
19	P1	-3.394119	0.013680	-0.017902
22	P1	-5.087362	0.019929	0.039481
26	P1	-5.837905	0.014796	-0.020254
30	P1	-5.188267	0.025939	0.011119
3	P1	-11.612903	0.082367	-0.012944
7	P1	-9.959916	0.055869	0.068135
11	P1	-10.195569	0.087077	0.022294
15	P1	-10.617107	0.147902	-0.020117
19	P1	-15.504285	0.073865	-0.069652
22	P1	-20.879576	1.240192	-0.051995
26	P1	-16.483255	0.351822	-0.003186
30	P1	-18.032644	0.388420	0.276600

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.901464	0.062339	0.116570
7	P2	-22.522186	0.120176	0.066008
11	P2	-11.184605	0.041816	0.065326
15	P2	-4.901421	0.043054	-0.018988
19	P2	-6.875118	0.041075	0.008492
22	P2	-8.190575	0.038520	-0.034867
26	P2	-24.100000	0.061009	-0.029918
30	P2	-22.061316	0.049792	-0.003887

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.018964	0.004351	0.032248
7	P3	-8.019067	0.004349	0.031878
11	P3	-8.019052	0.004328	0.031841
15	P3	-8.018885	0.004339	0.031691
19	P3	-8.019078	0.004347	0.031929
22	P3	-8.019076	0.004325	0.031930
26	P3	-8.018948	0.004327	0.031229
30	P3	-8.018994	0.004342	0.031672

4.3 - cal pulses monitoring (all rows)

4.3.1 - Evolution for WVS

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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	0.000529962
	stdev	1.90227e-07
MEAN Q	mean	0.000513037
	stdev	2.28063e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.134361
	stdev	0.00116429
STDEV Q	mean	0.134700
	stdev	0.00118107

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006052[890]
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_1PNPDE20060529_002857_000000512048_00088_22186_6360.N1	1	0
ASA_WSM_1PNPDE20060520_083606_000000852047_00465_22062_9979.N1	0	1
ASA_WSM_1PNPDE20060520_083607_000000852047_00465_22062_9998.N1	0	1
ASA_WSM_1PNPDE20060520_230542_000001222047_00474_22071_0064.N1	0	35

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

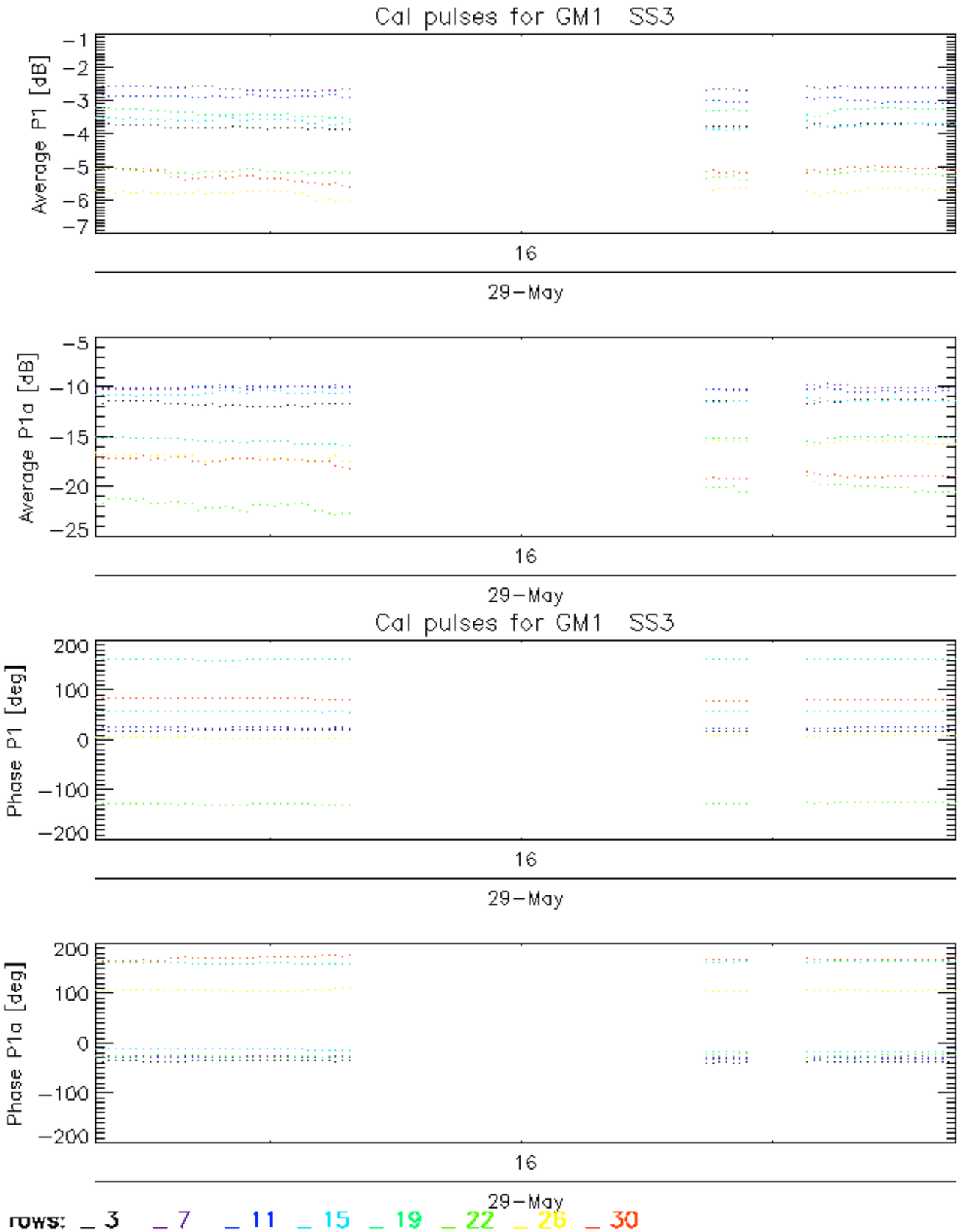
Descending

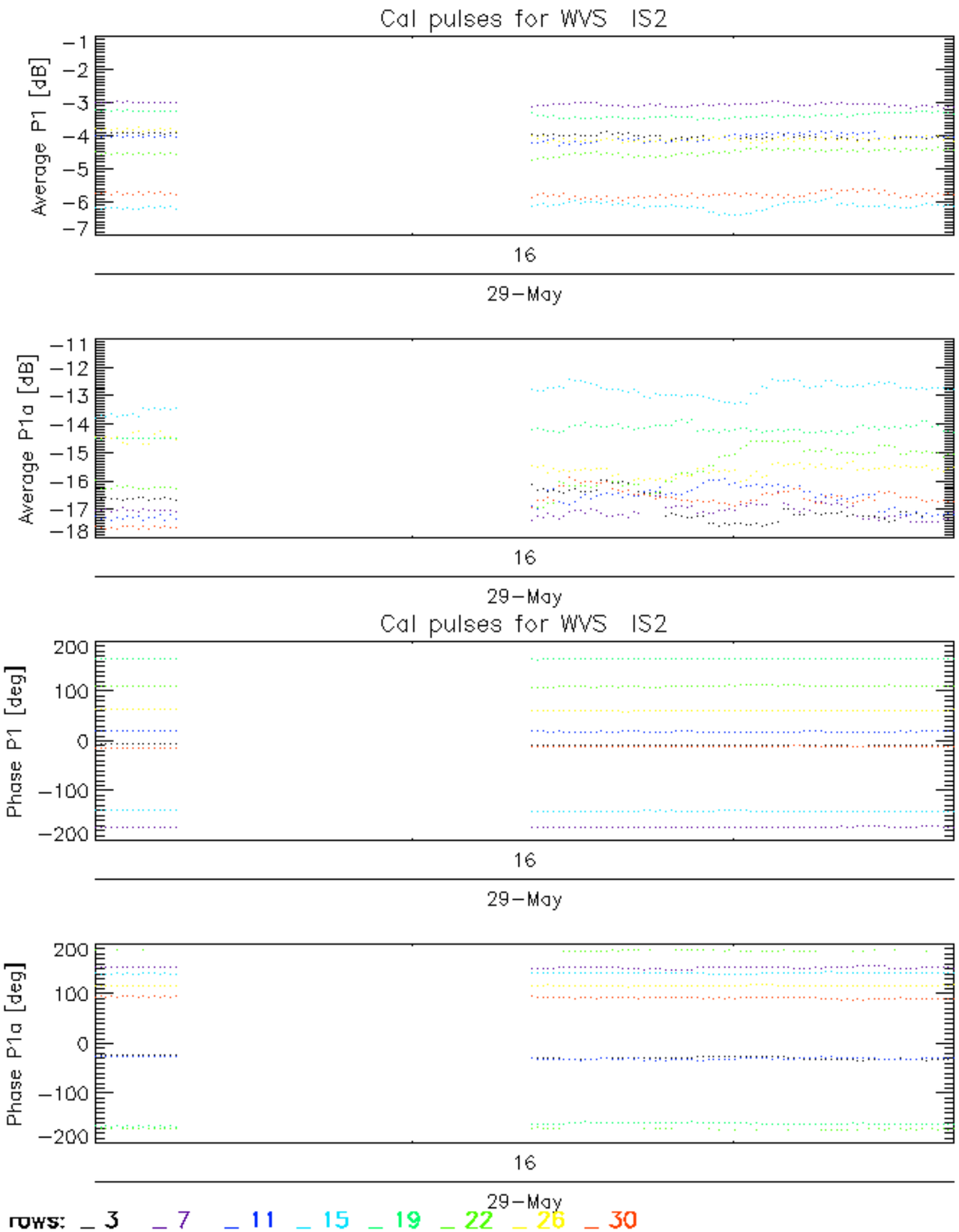
7.5 - Absolute Doppler for GM1

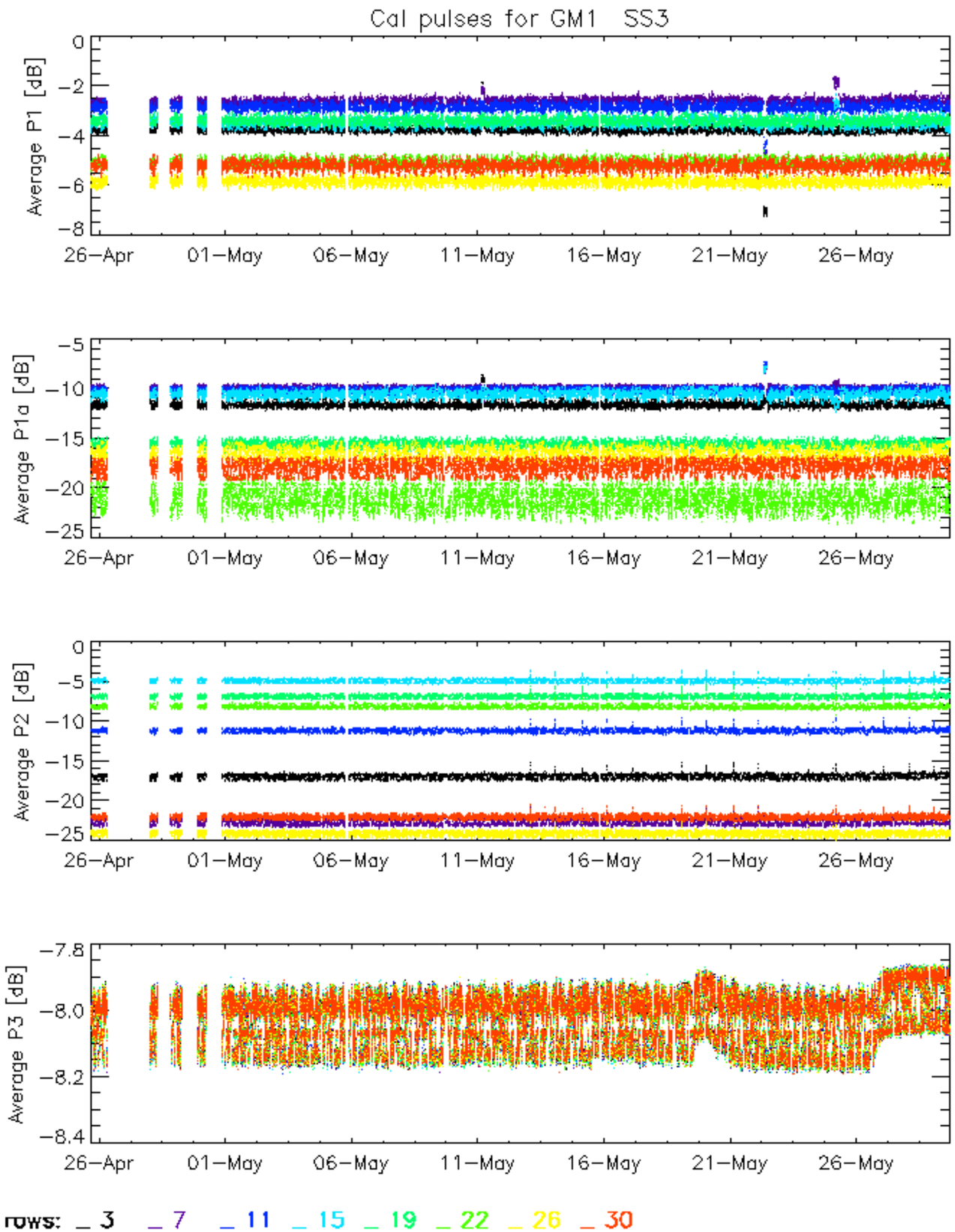
Evolution of Absolute Doppler
Acsending
Descending

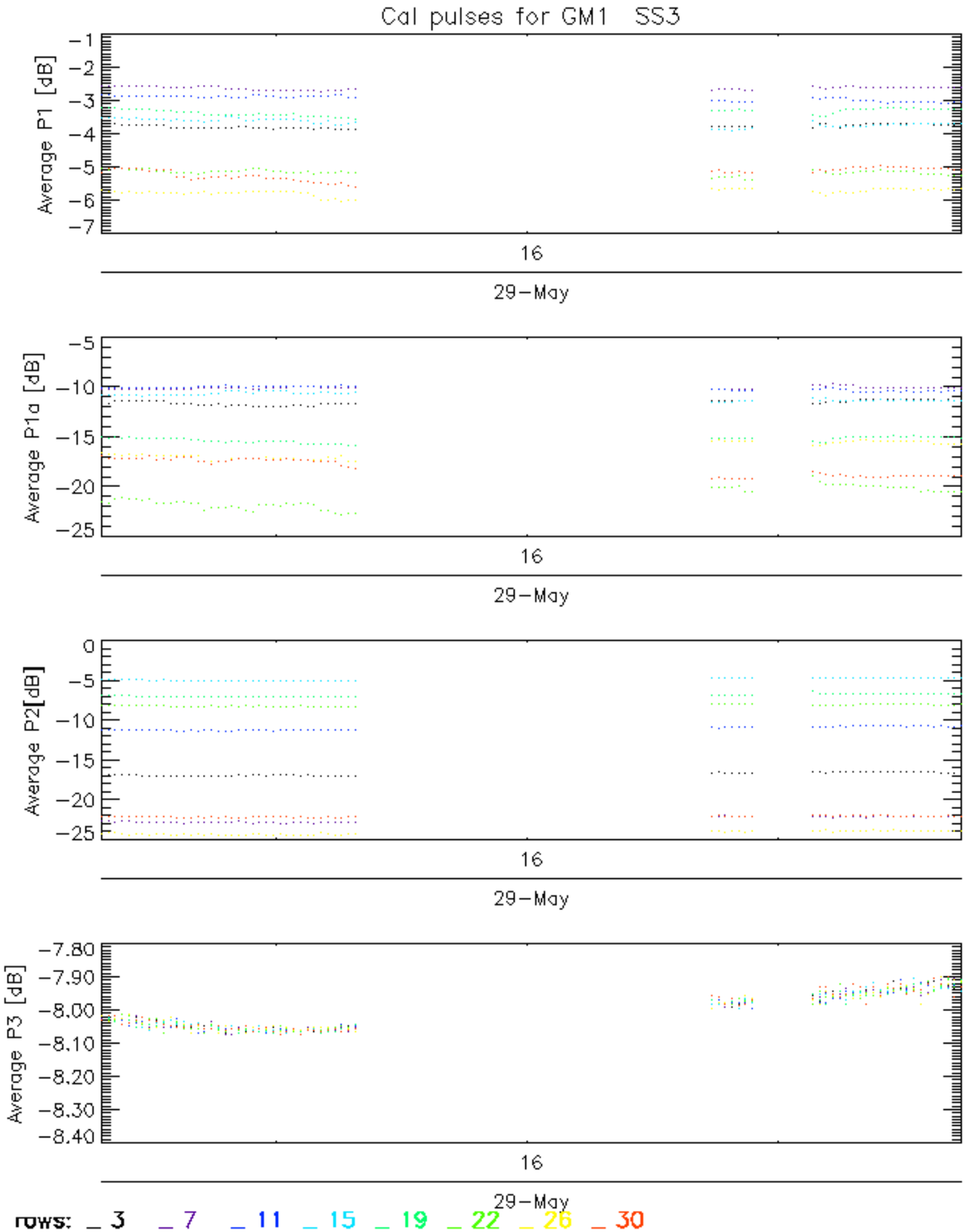
7.6 - Doppler evolution versus ANX for GM1

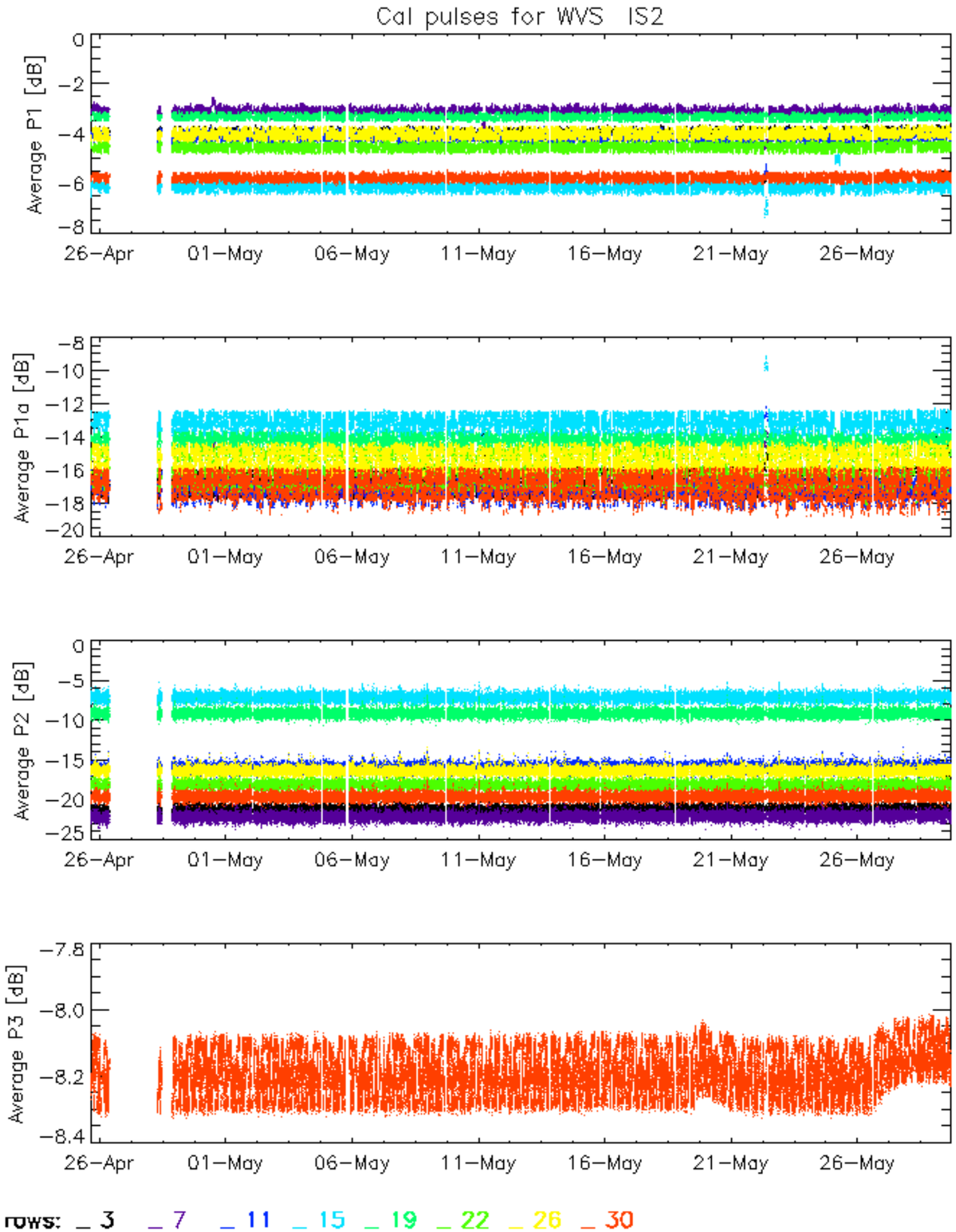
Evolution Doppler error versus ANX

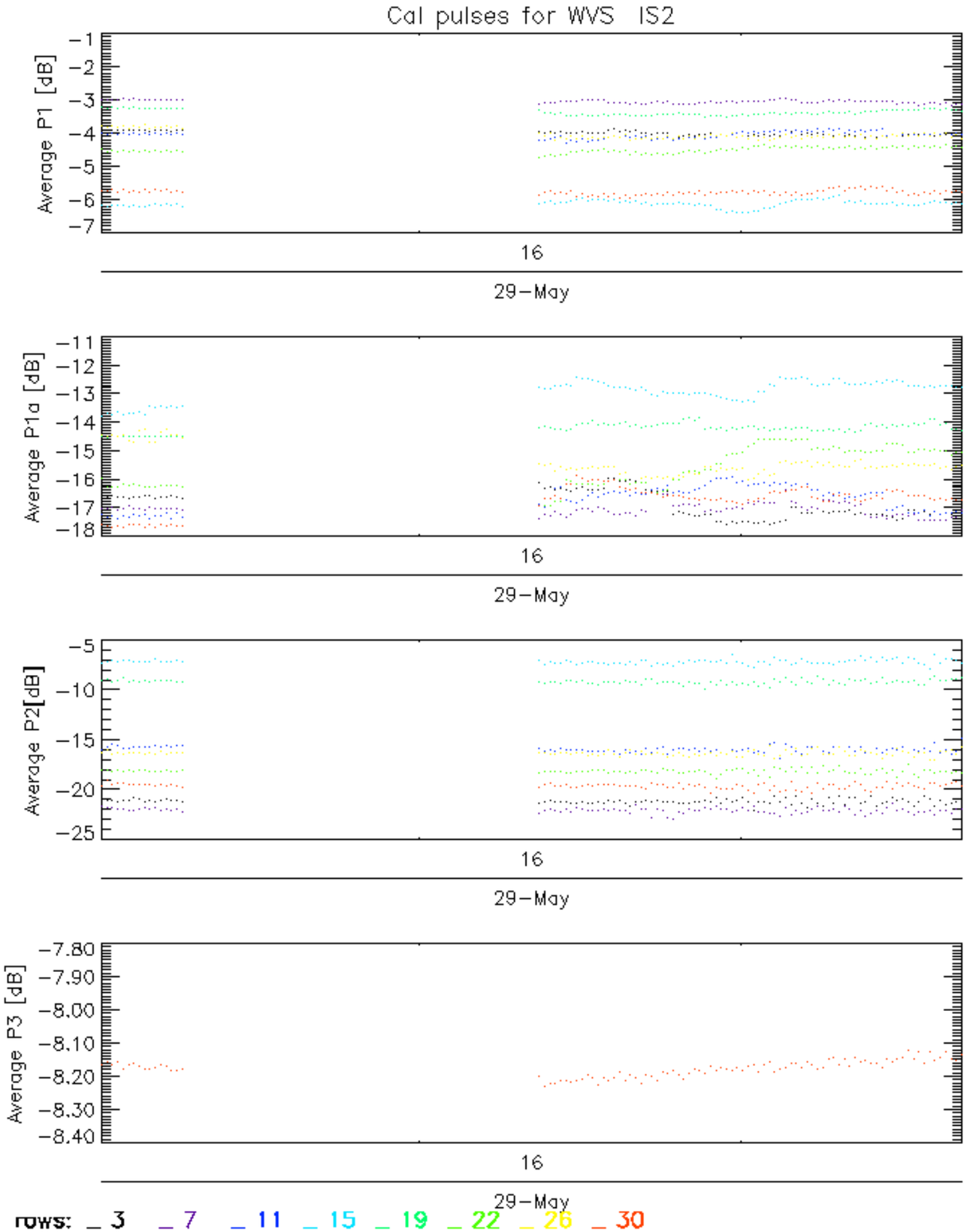

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
16
29−May
Average P1a [dB]
−5
−10
−15
−20
−25
16
29−May
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
16
29−May
Phase P1a [deg]
200
100
0
−100
−200
16
29−May
rows: 3 7 11 15 19 22 26 30


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

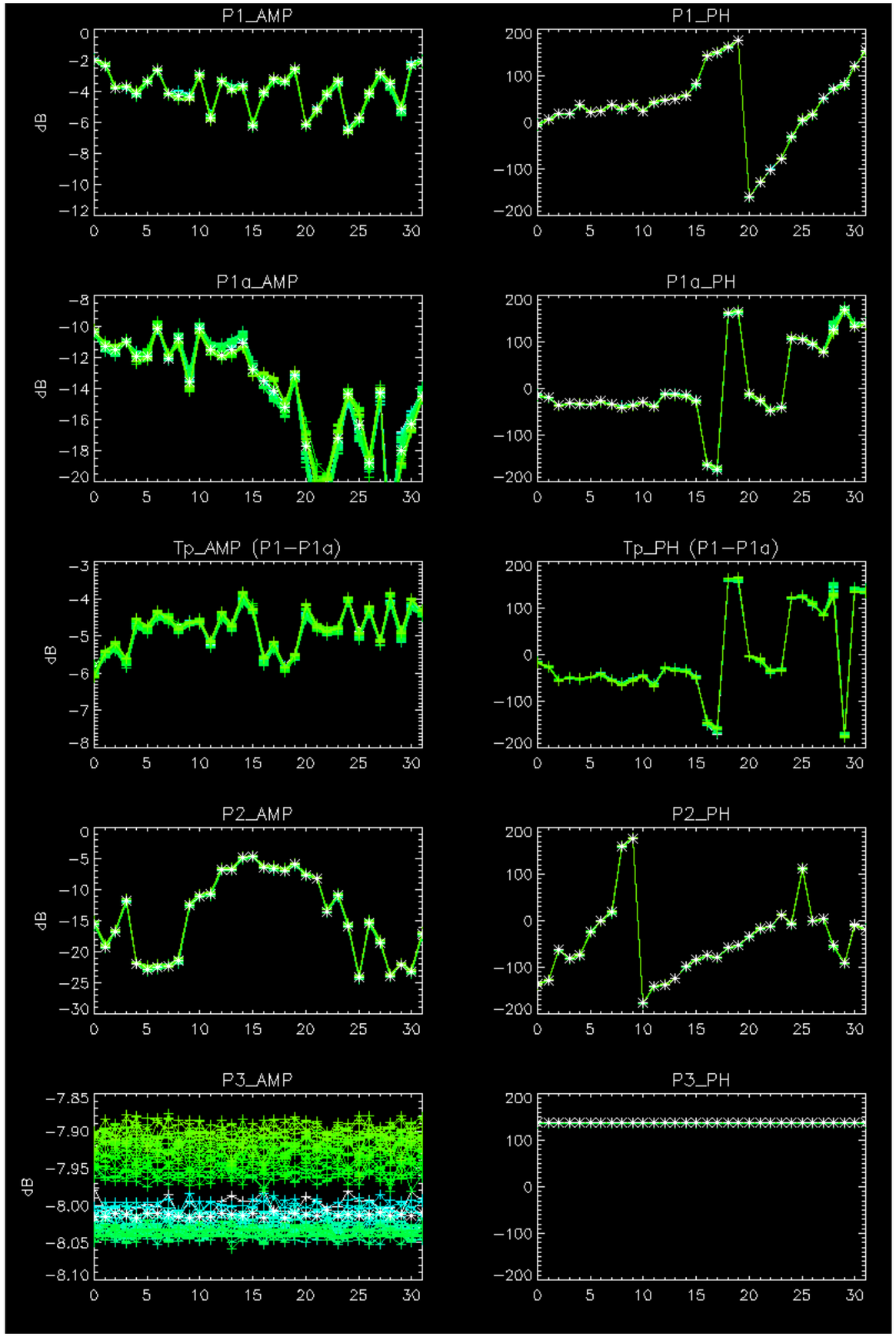

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
Average P1a [dB]
−5
−10
−15
−20
−25
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
26−Apr
01−May
06−May
11−May
16−May
21−May
26−May
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

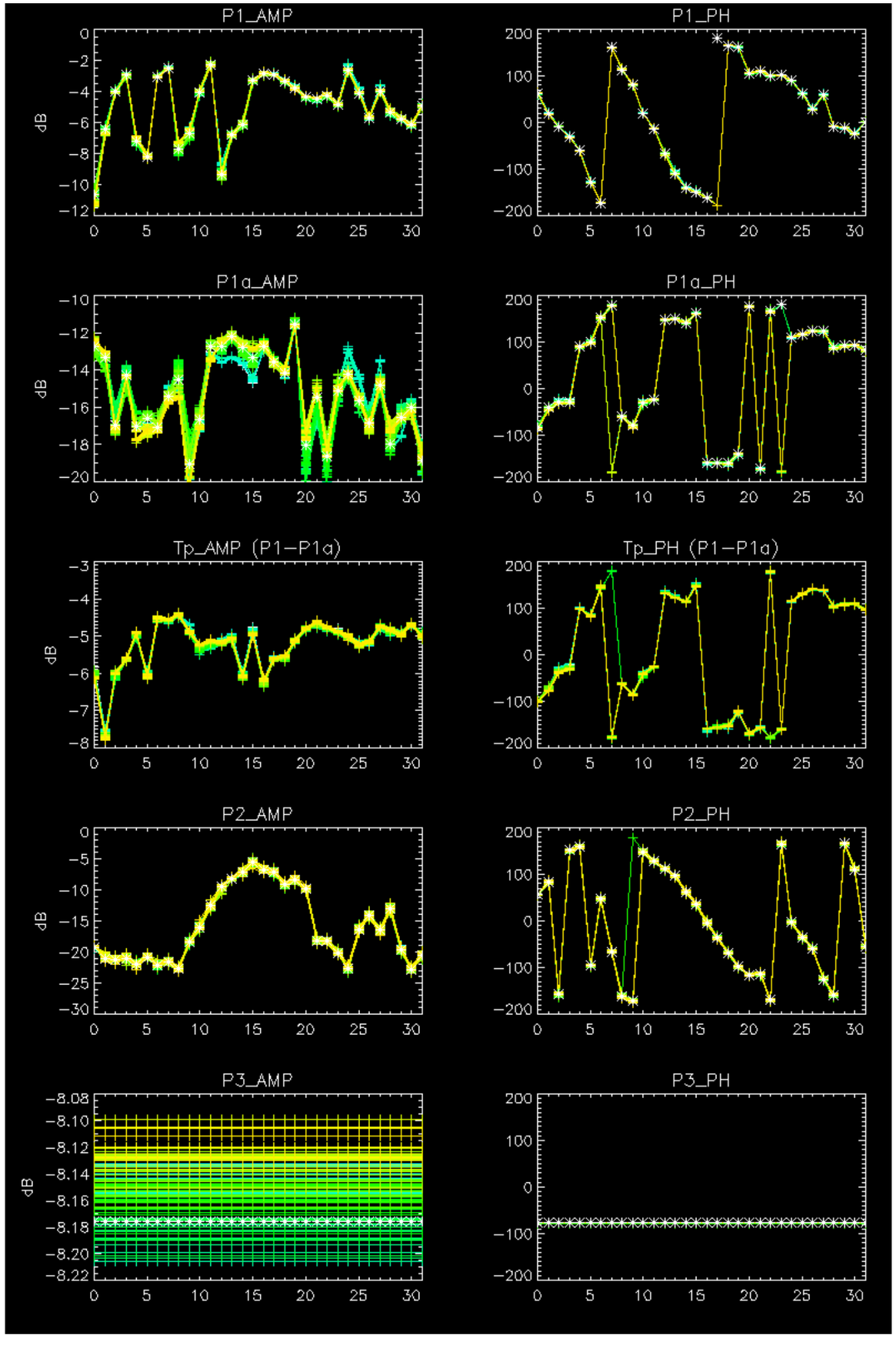

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
16
29−May
Average P1a [dB]
−5
−10
−15
−20
−25
16
29−May
Average P2[dB]
0
−5
−10
−15
−20
−25
16
29−May
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
16
29−May
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
26−Apr
01−May
06−May
11−May
16−May
21−May
26−May
Average P1a [dB]
−8
−10
−12
−14
−16
−18
−20
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
16
29−May
Average P1a [dB]
−11
−12
−13
−14
−15
−16
−17
−18
16
29−May
Average P2[dB]
−5
−10
−15
−20
−25
16
29−May
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
16
29−May
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

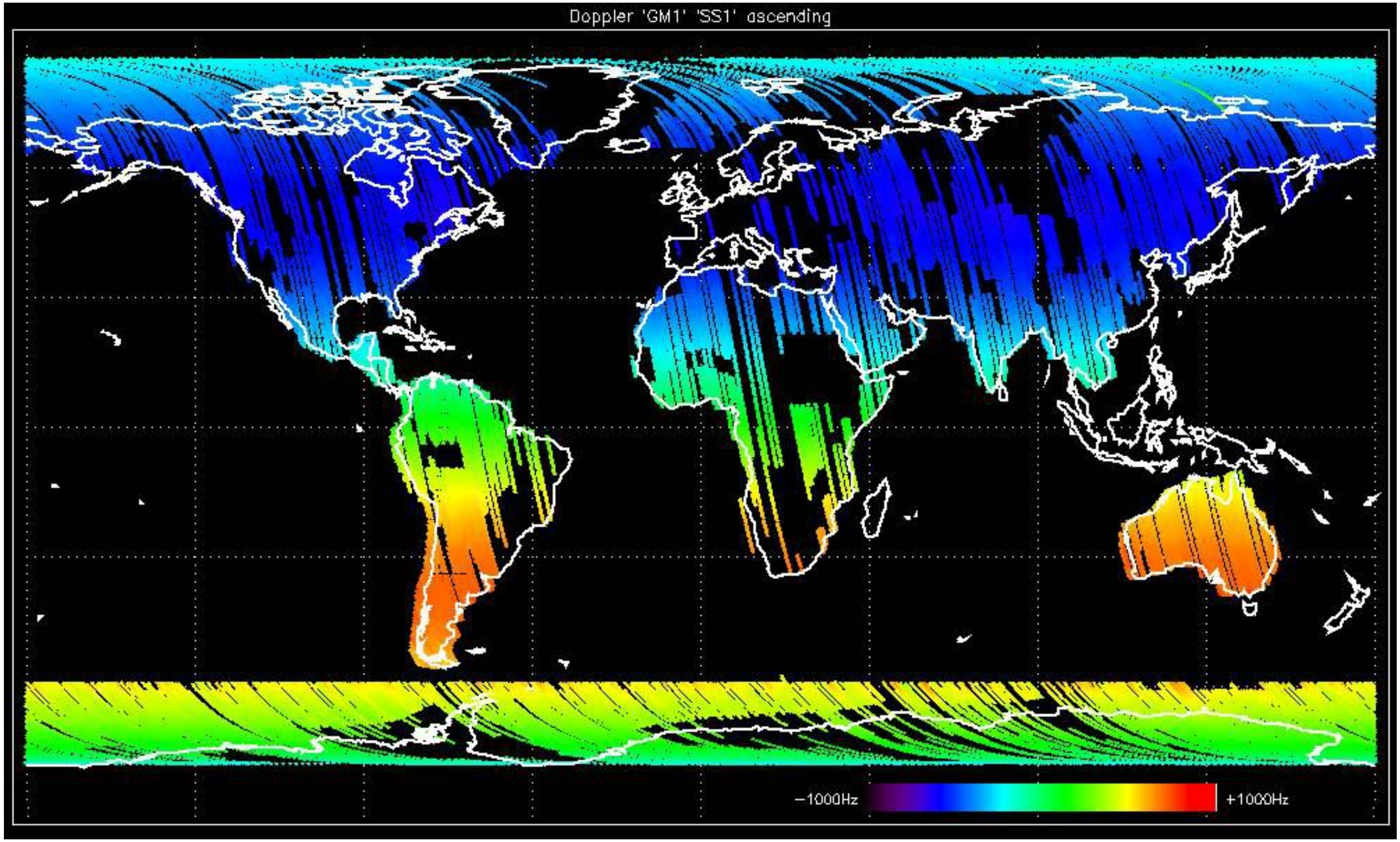
No anomalies observed.

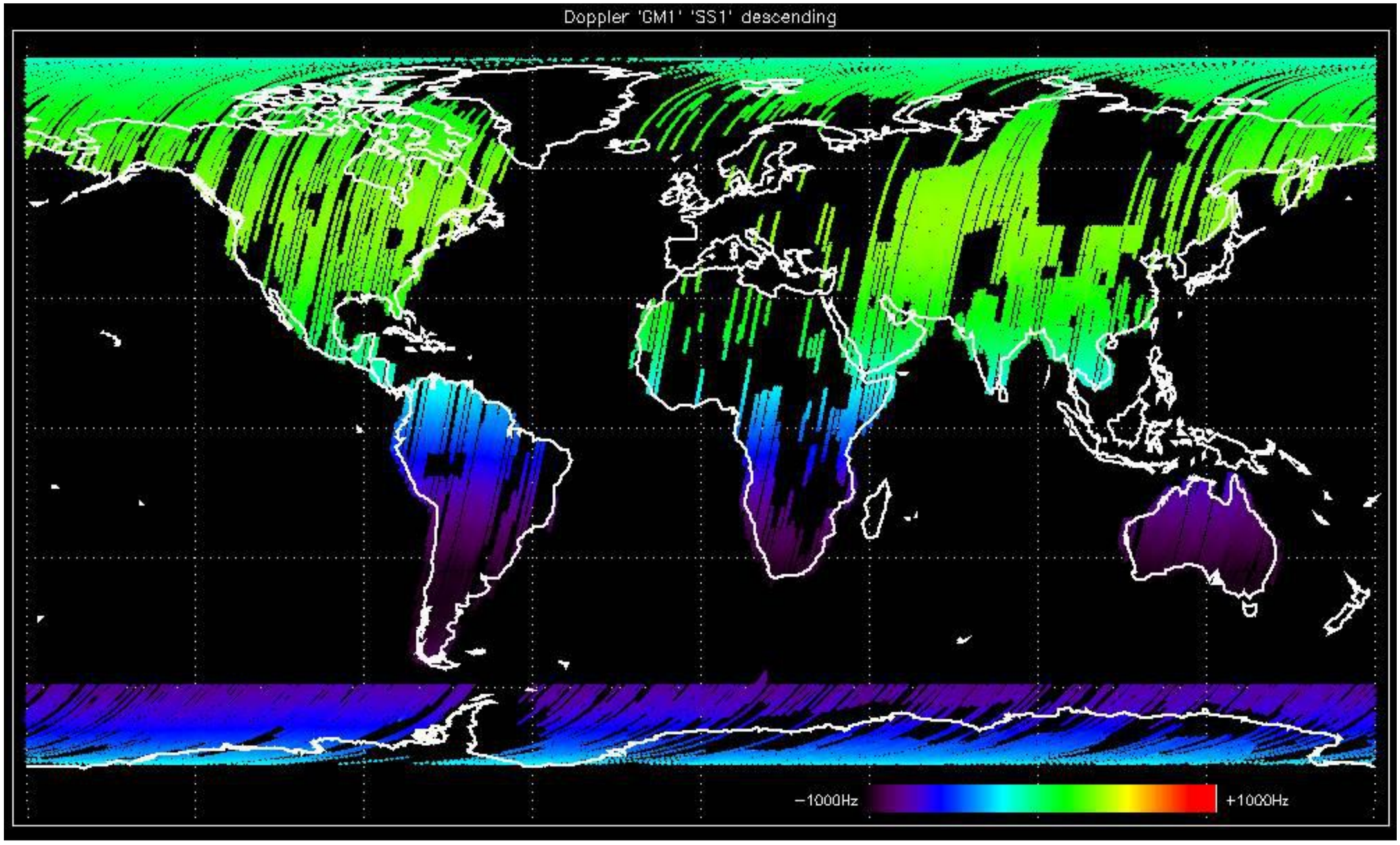

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

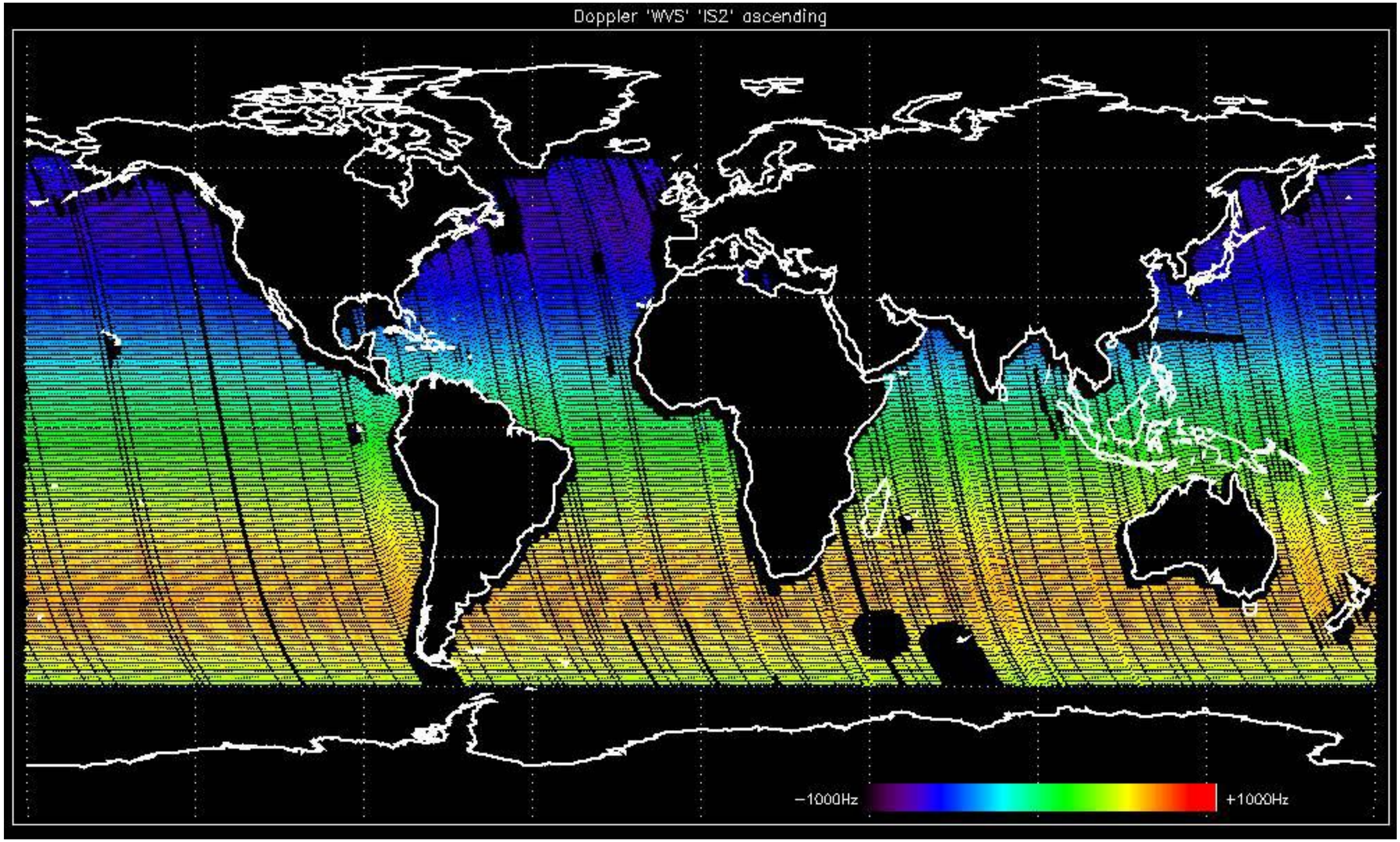

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

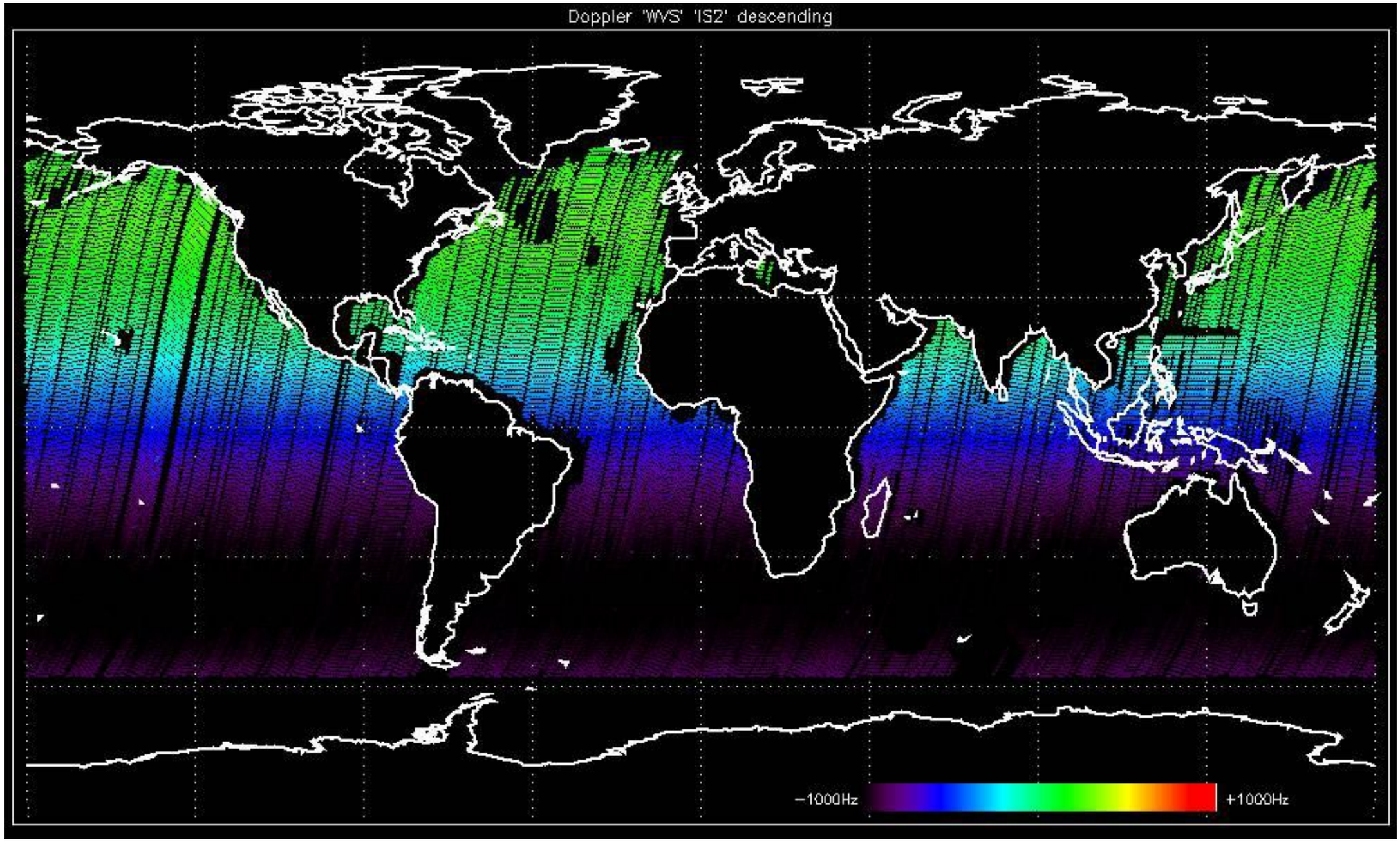
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

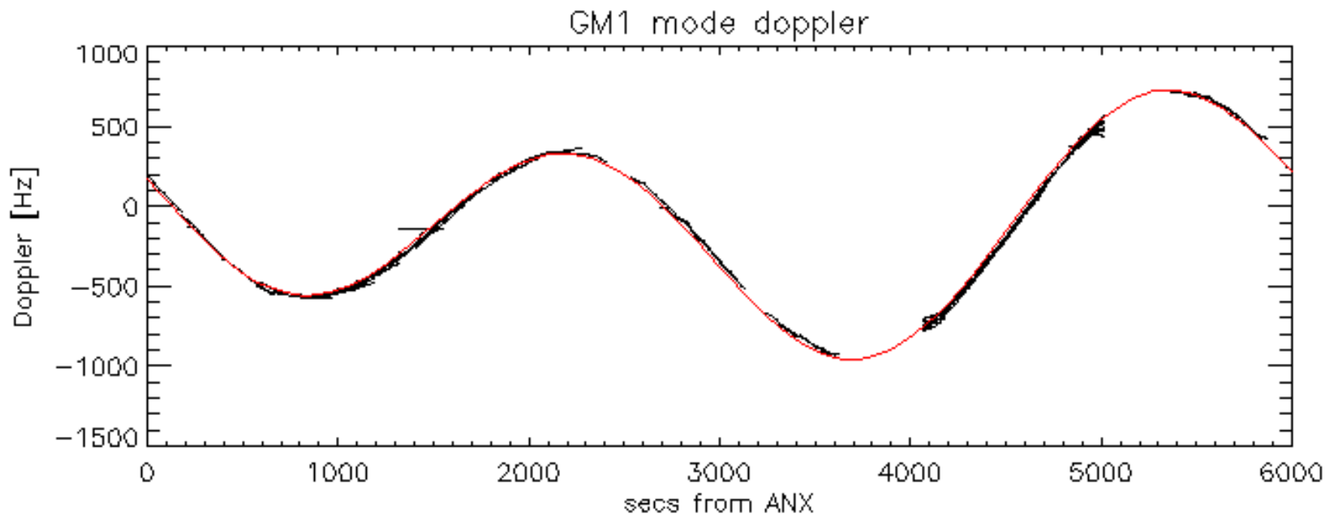
Preliminary report.The data is not yet controled

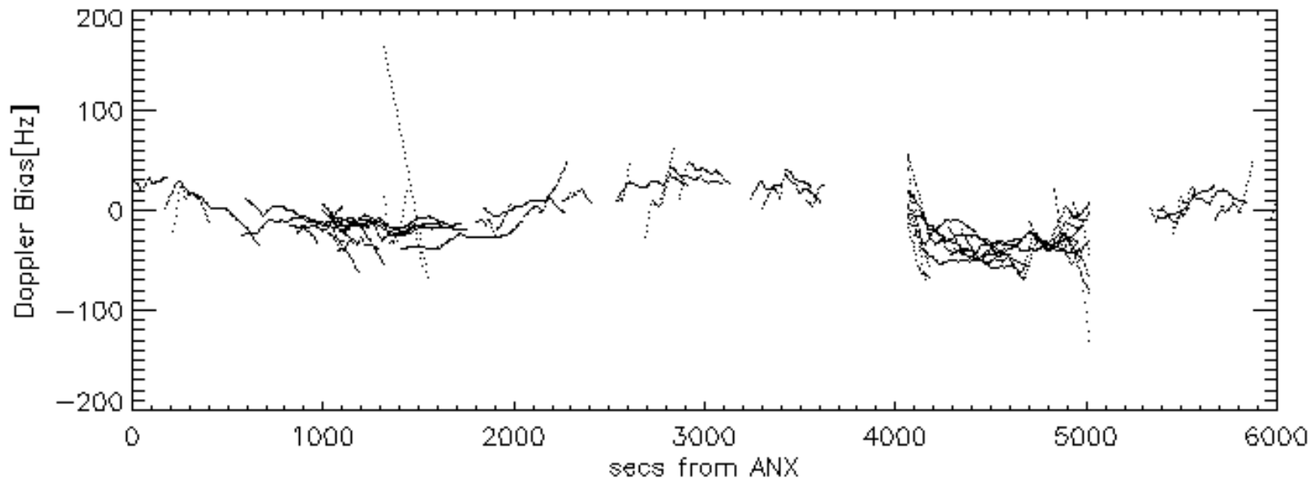

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

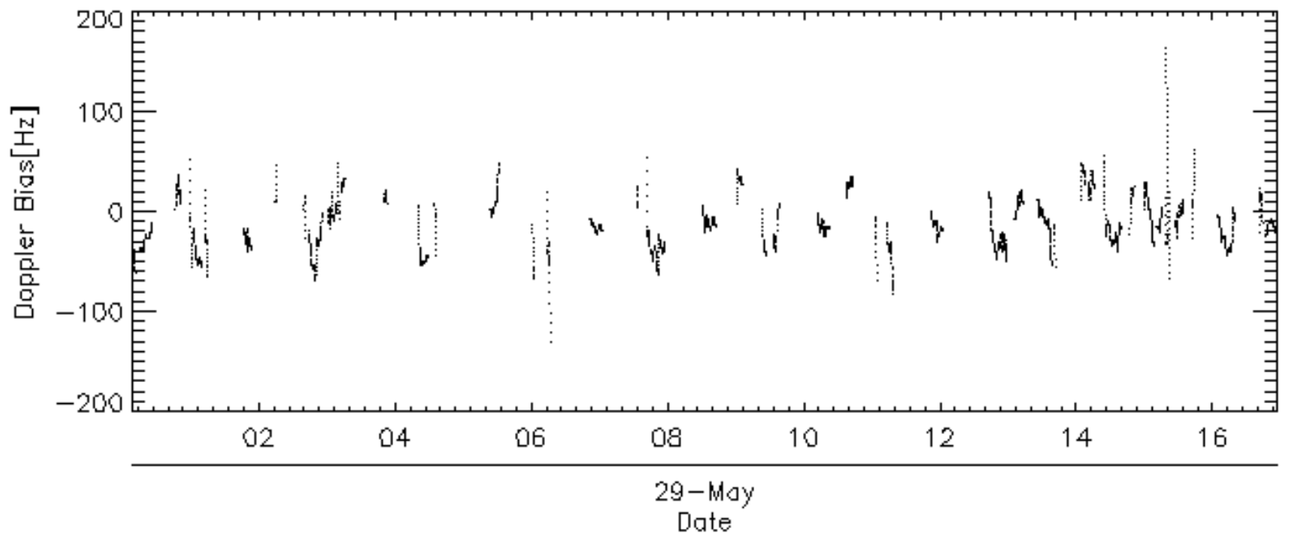

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

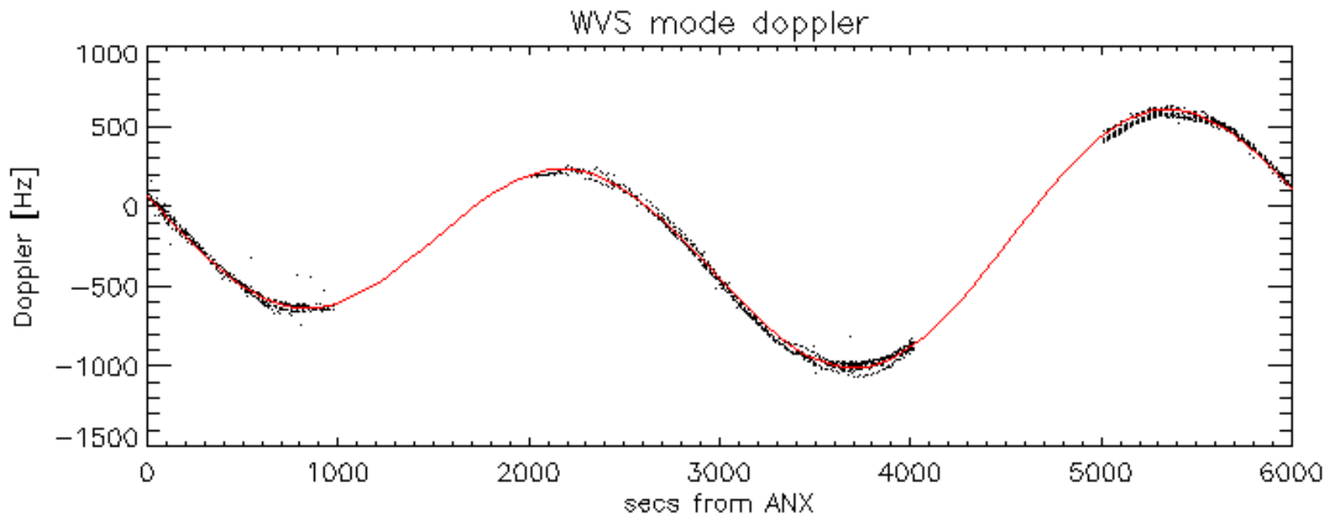

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

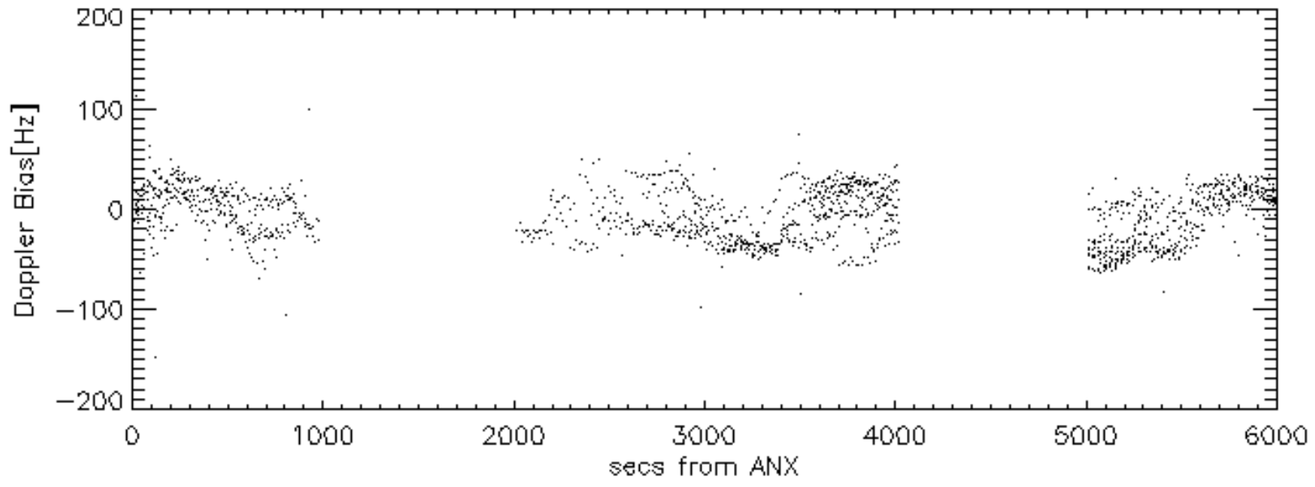

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

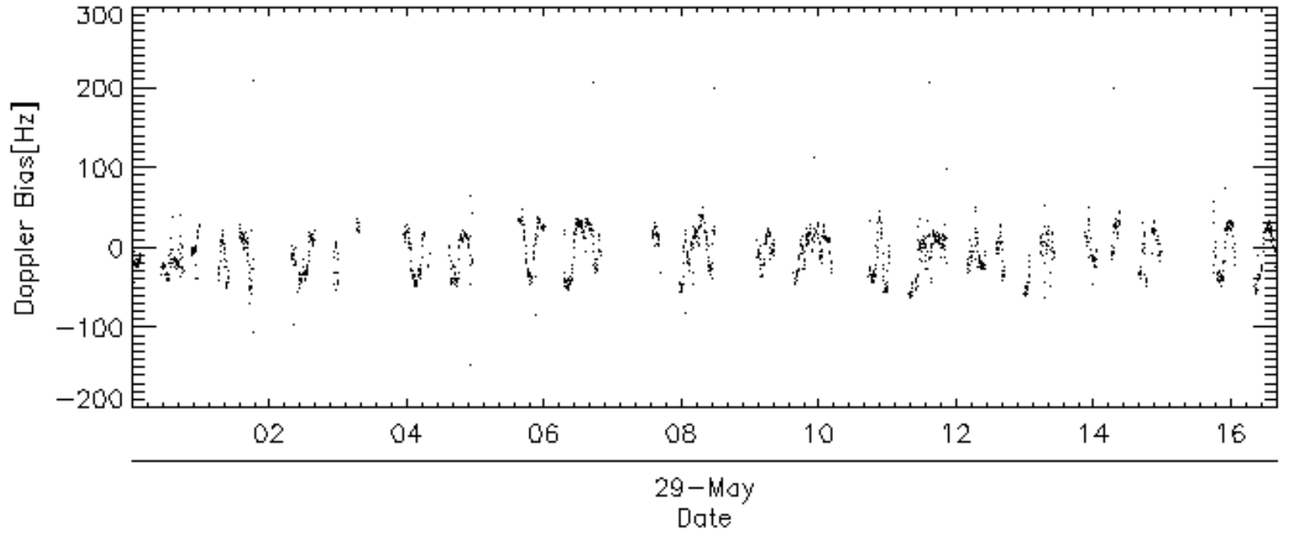

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

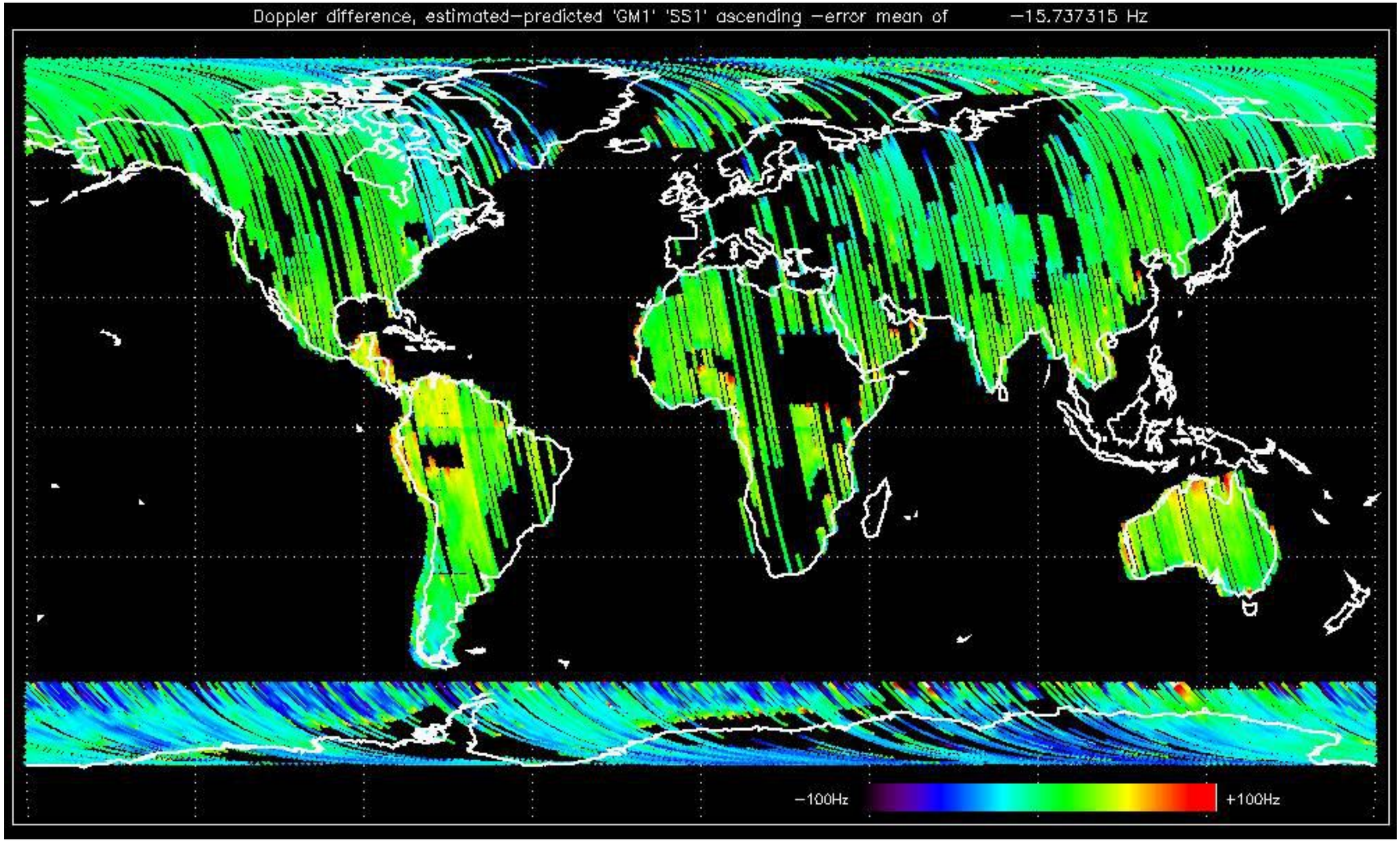

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

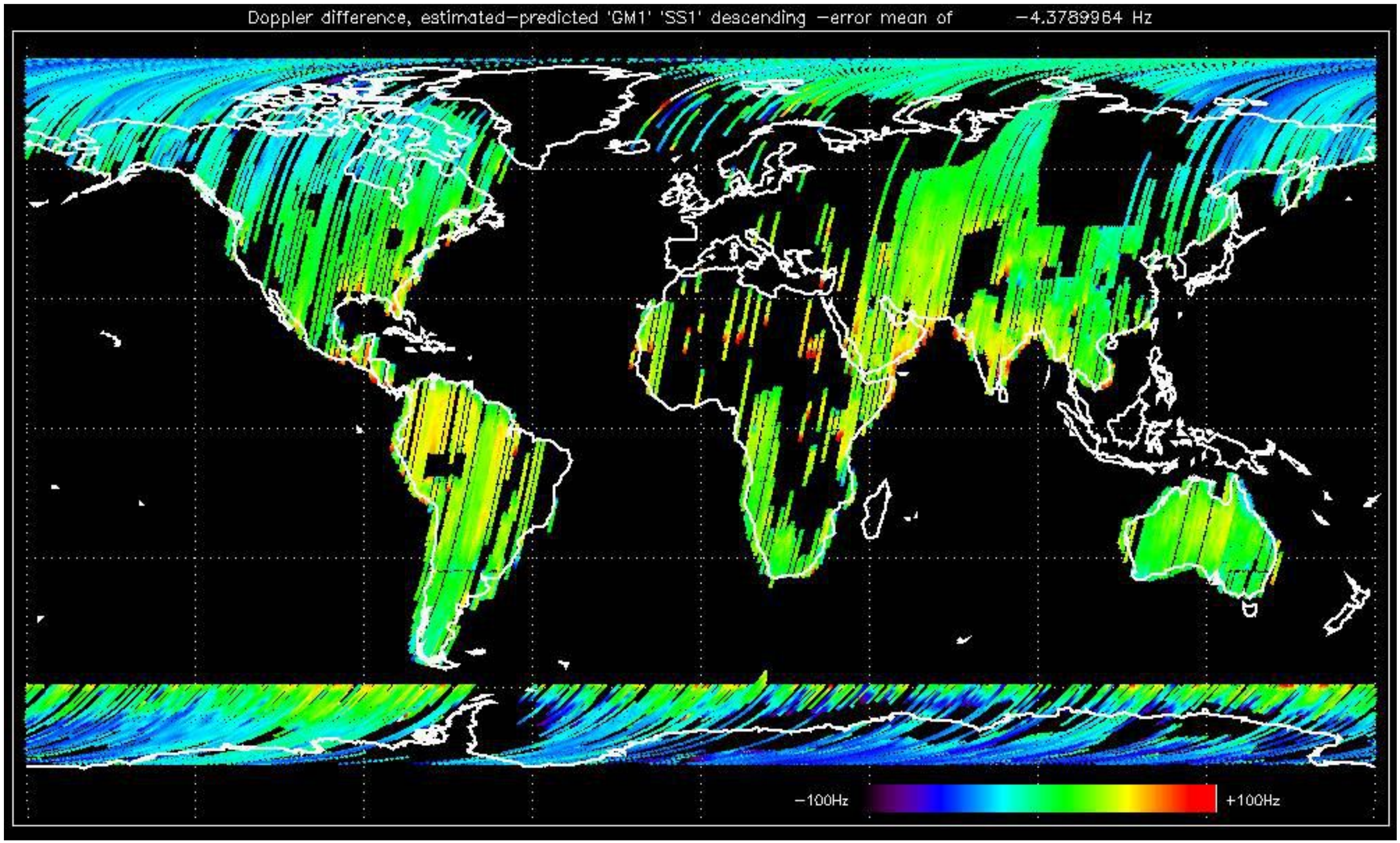

Doppler Bias[Hz]
200
100
0
−100
−200
02
04
06
08
10
12
14
16
29−May
Date

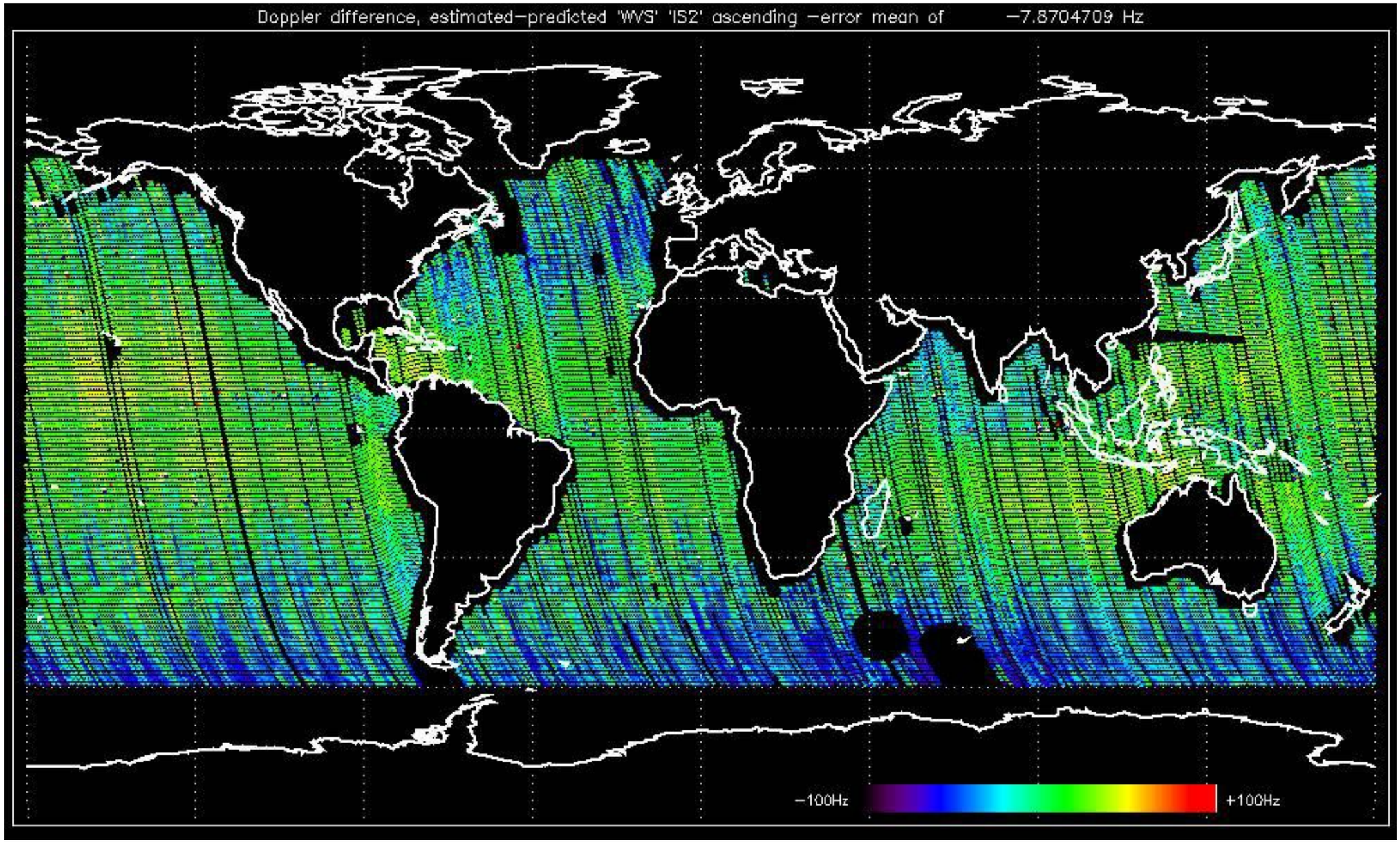

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

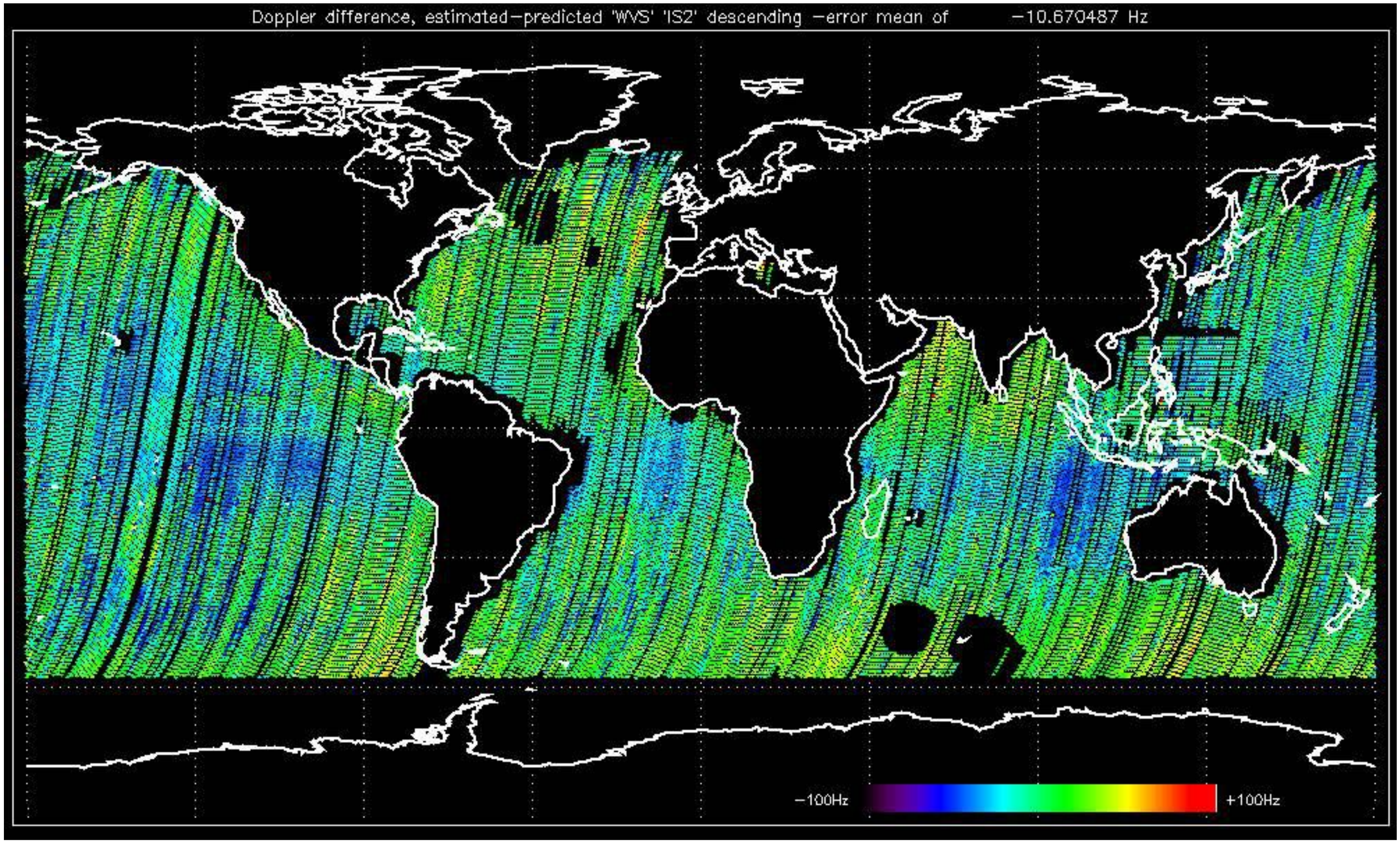

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


Doppler Bias[Hz]
300
200
100
0
−100
−200
02
04
06
08
10
12
14
16
29−May
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −15.737315 Hz
−100Hz
+100Hz

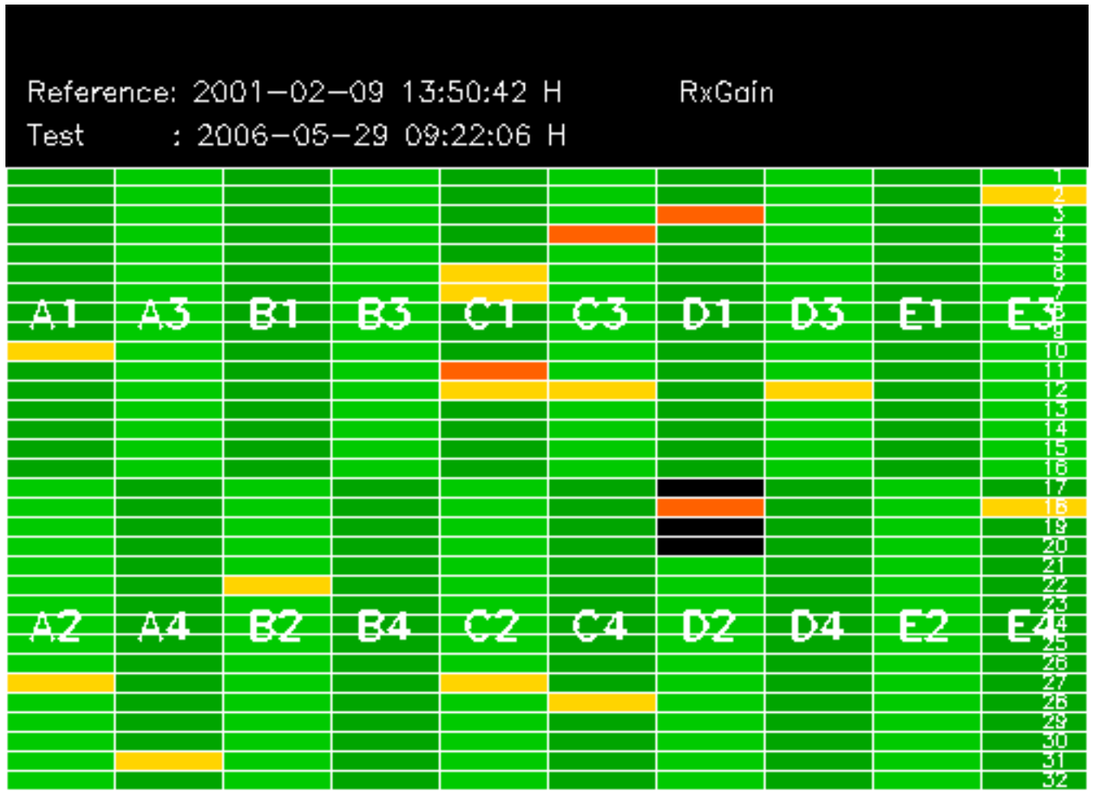

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −4.3789964 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −7.8704709 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −10.670487 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2006-05-29 09:22:06 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
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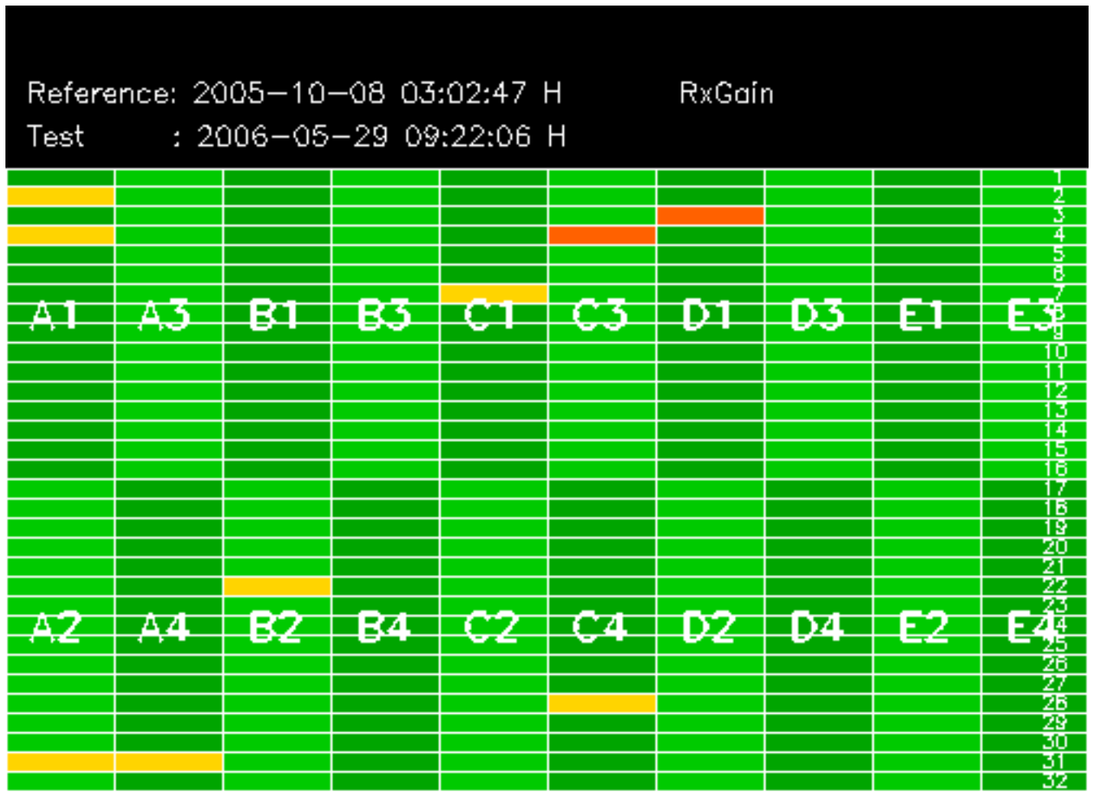
Reference: 2005-10-08 03:02:47 H
Test : 2006-05-29 09:22:06 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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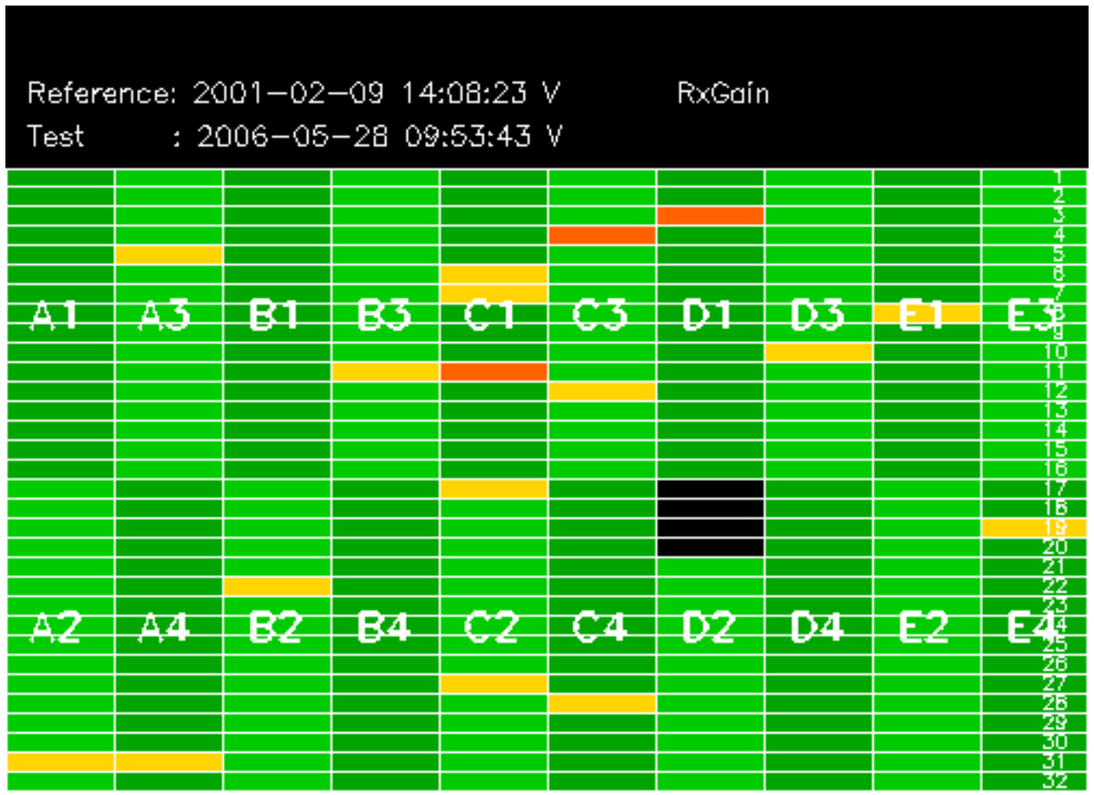
Reference: 2001-02-09 14:08:23 V
Test : 2006-05-28 09:53:43 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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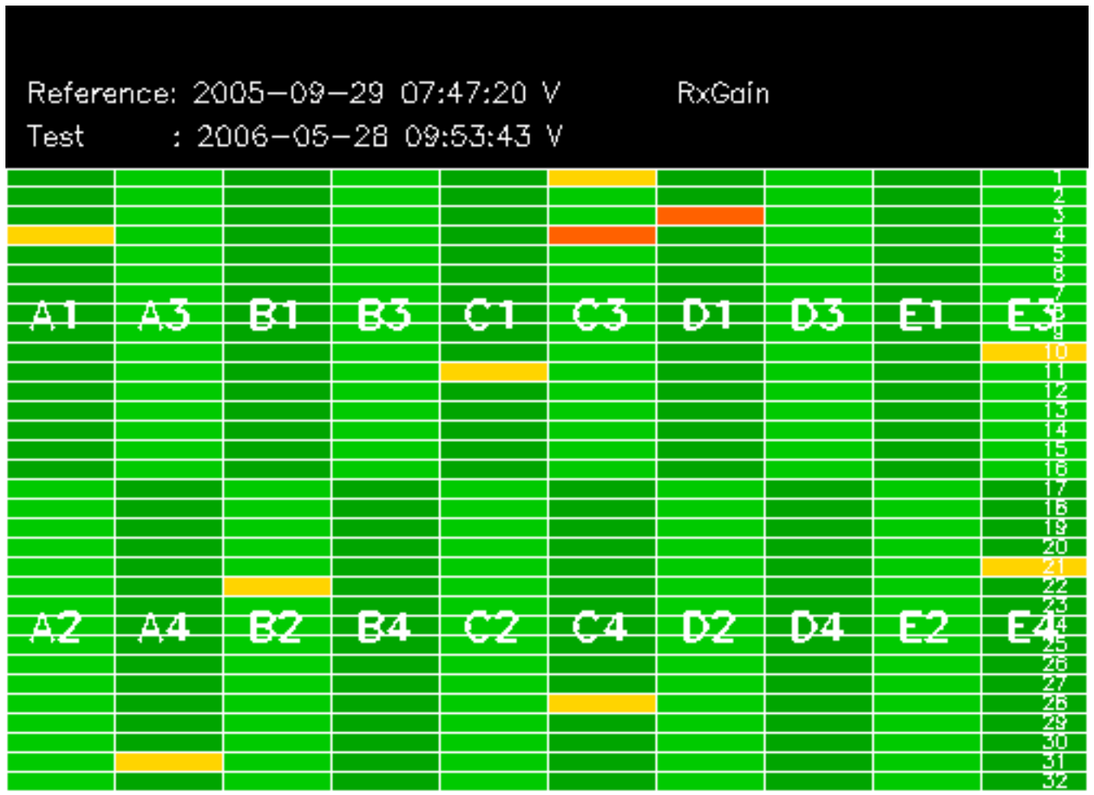
Reference: 2005-09-29 07:47:20 V
Test : 2006-05-28 09:53:43 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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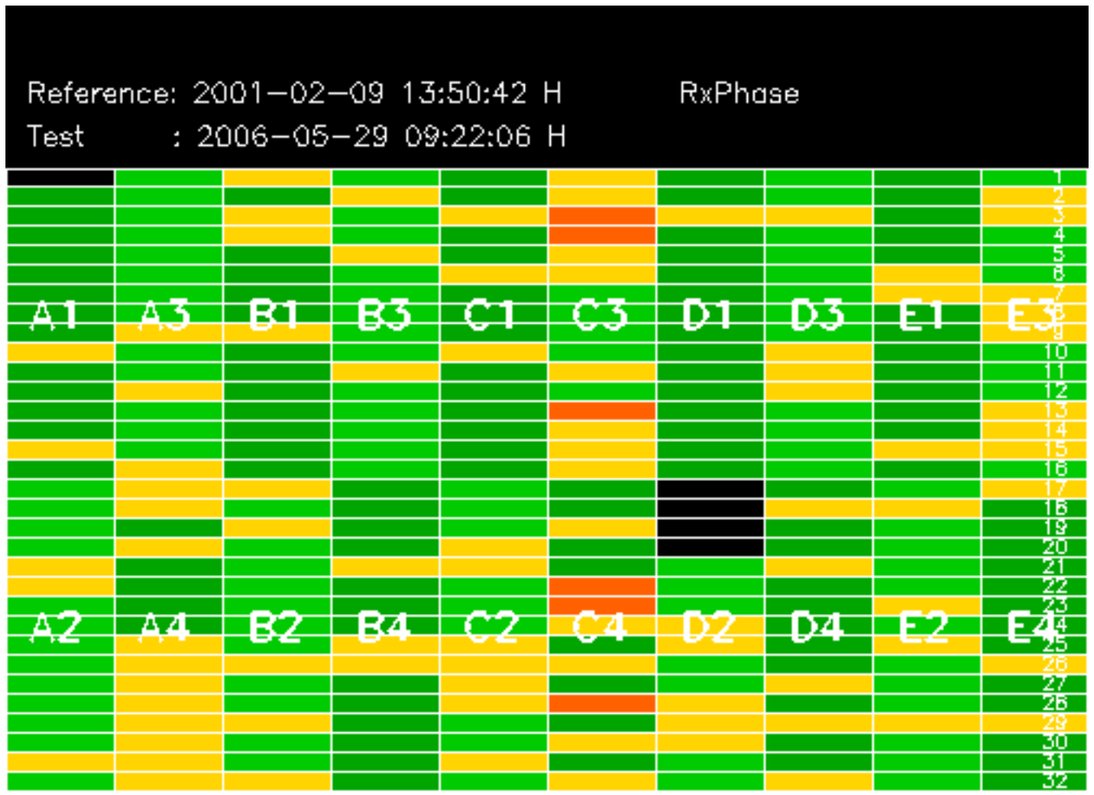
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-05-29 09:22:06 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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31
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Reference: 2005-10-08 03:02:47 H
RxPhase
Test : 2006-05-29 09:22:06 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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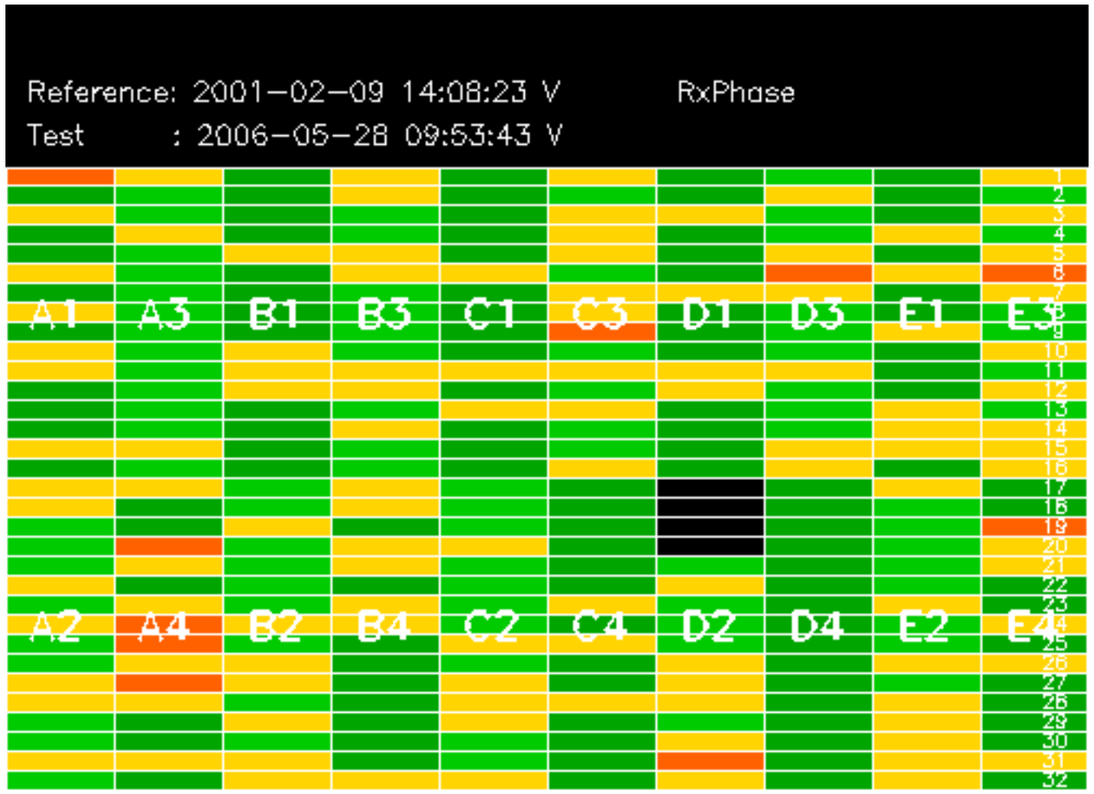
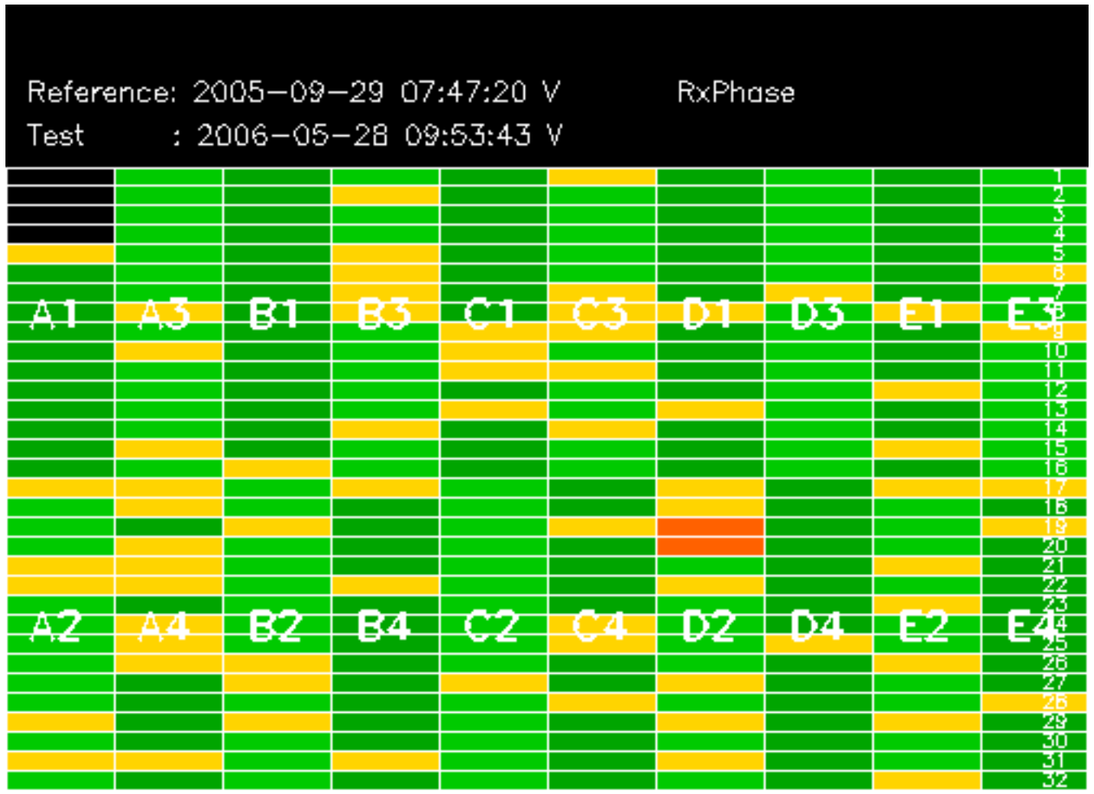
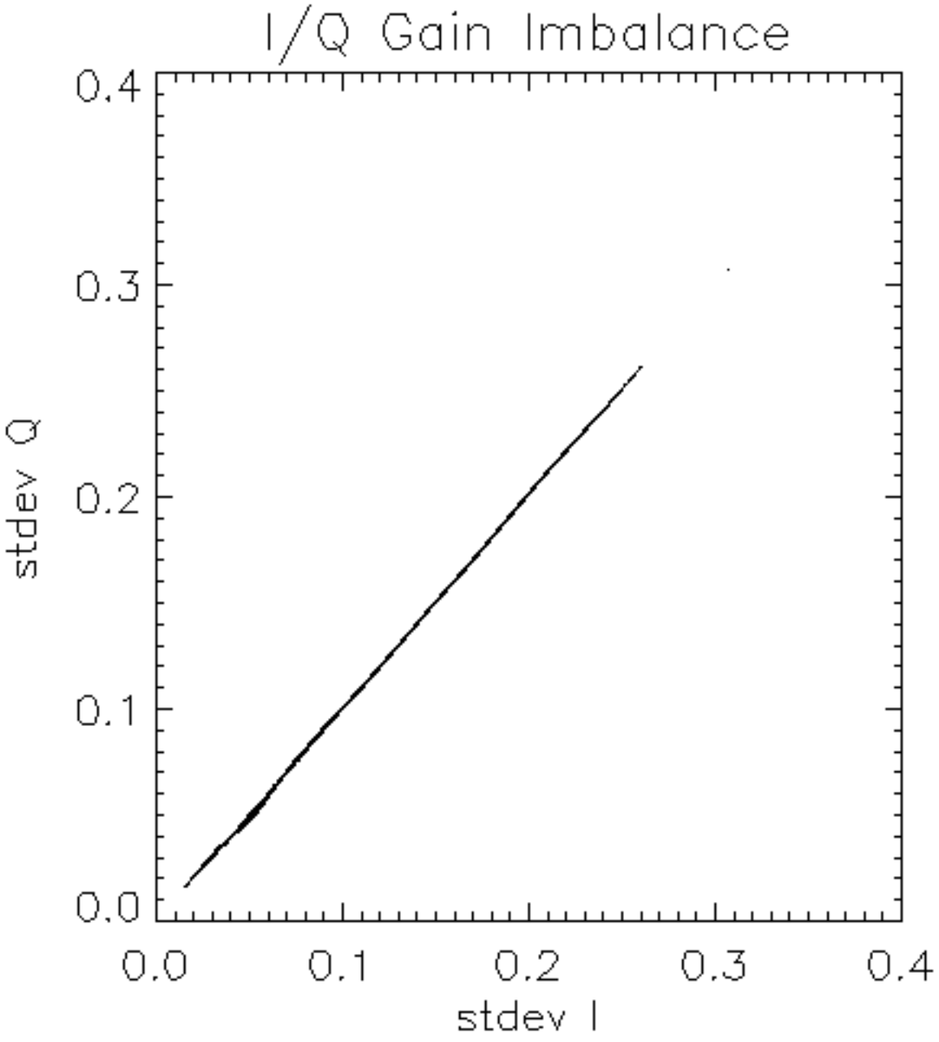
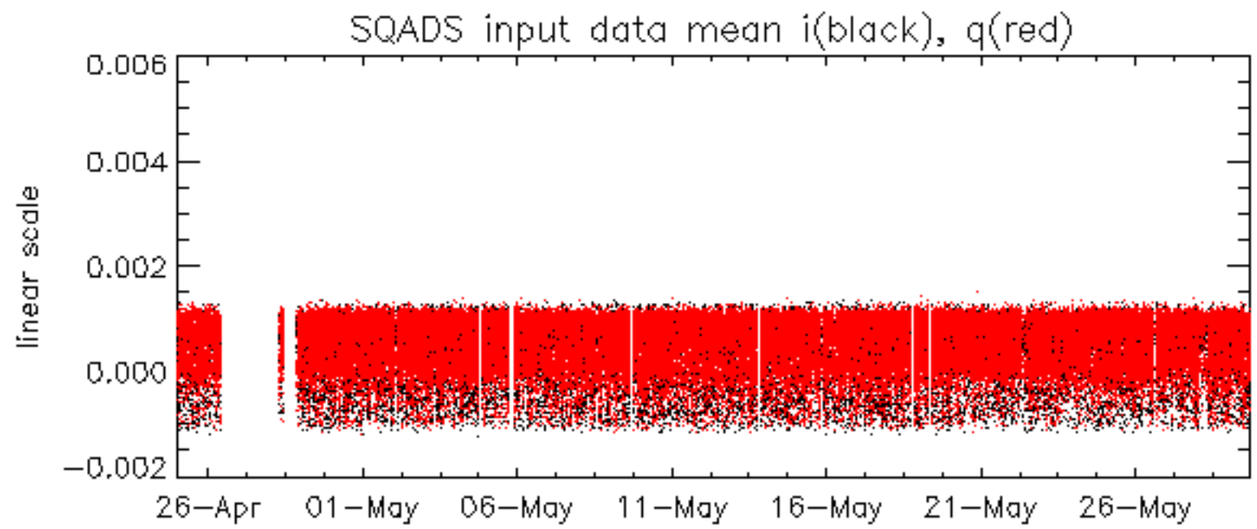
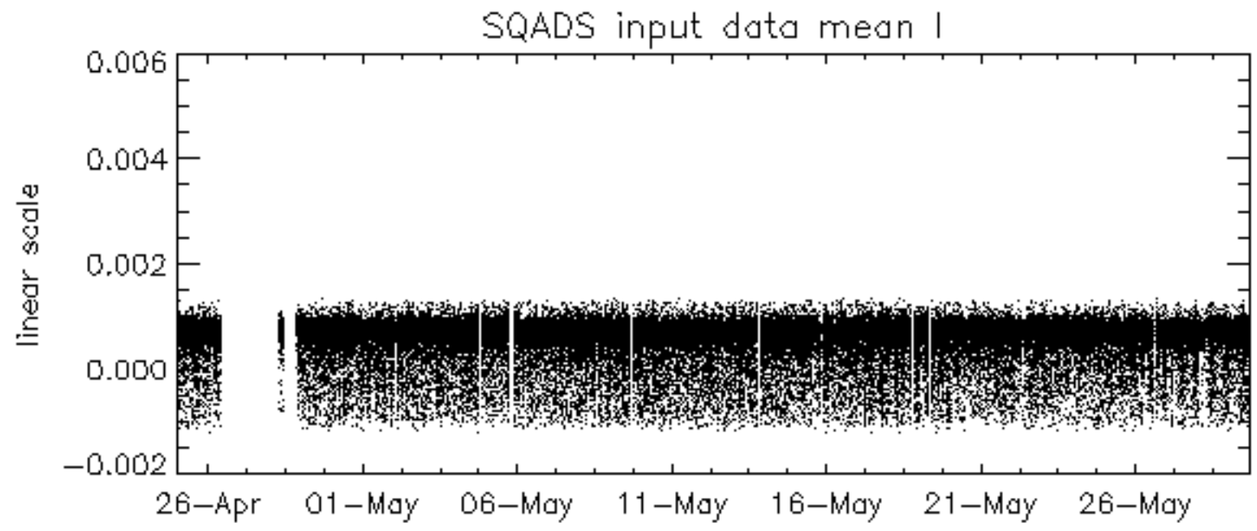
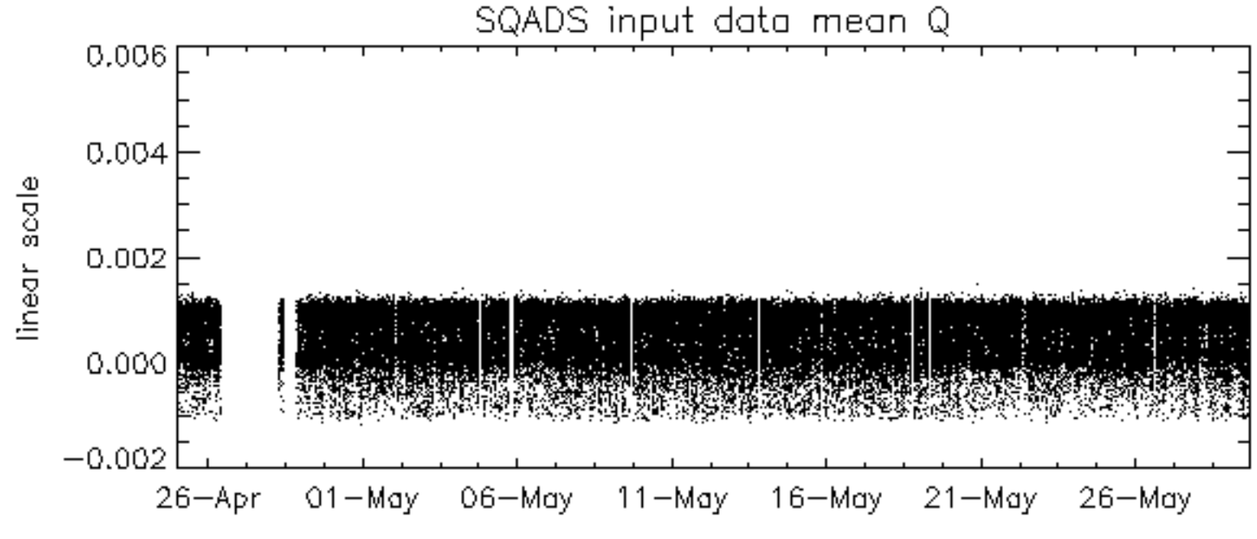

Reference: 2001-02-09 14:08:23 V
Test : 2006-05-28 09:53:43 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

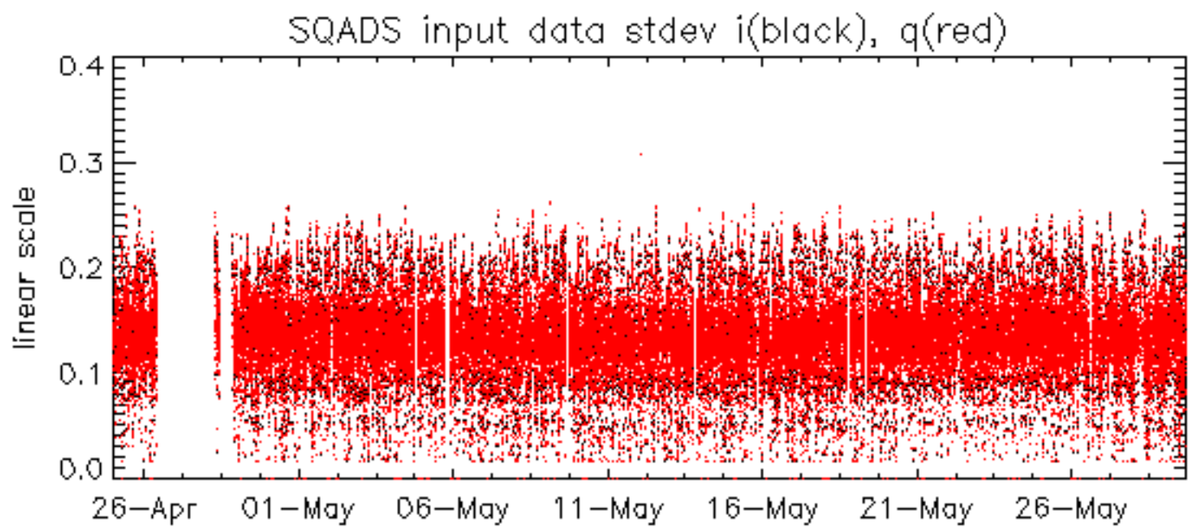

Reference: 2005-09-29 07:47:20 V
Test : 2006-05-28 09:53:43 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

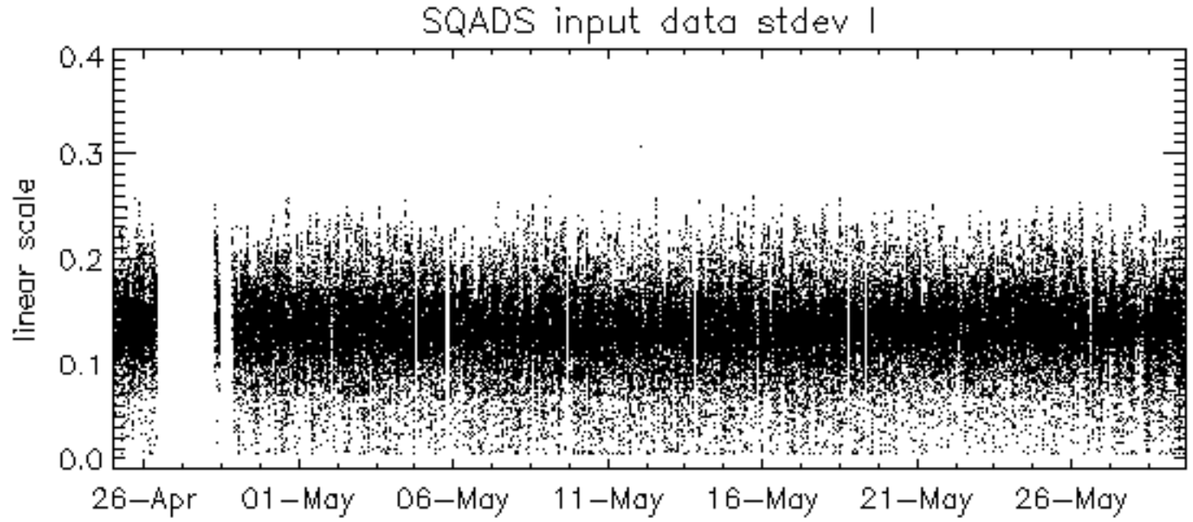

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

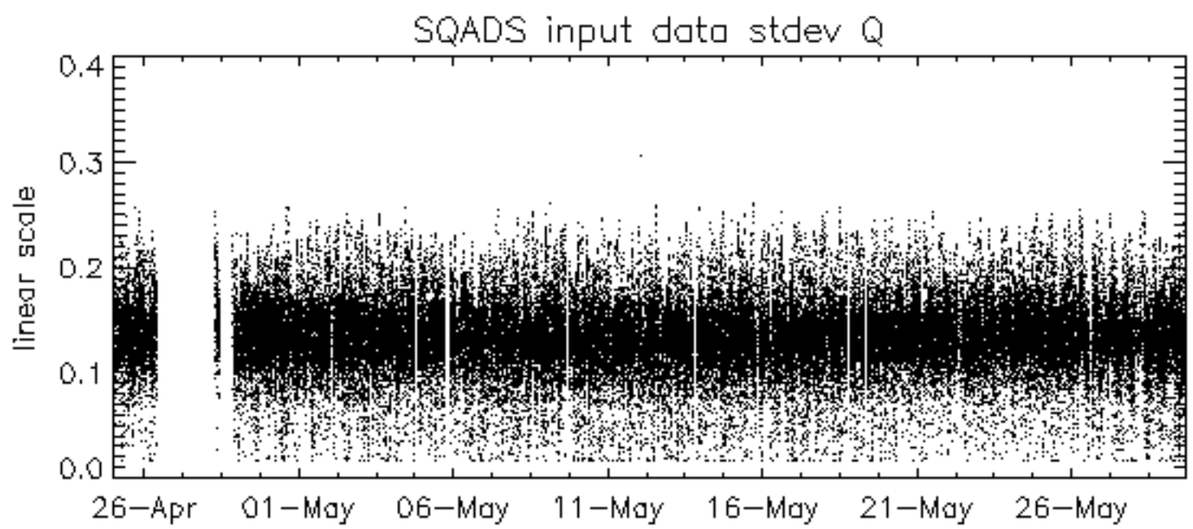

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Apr
01−May
06−May
11−May
16−May
21−May
26−May

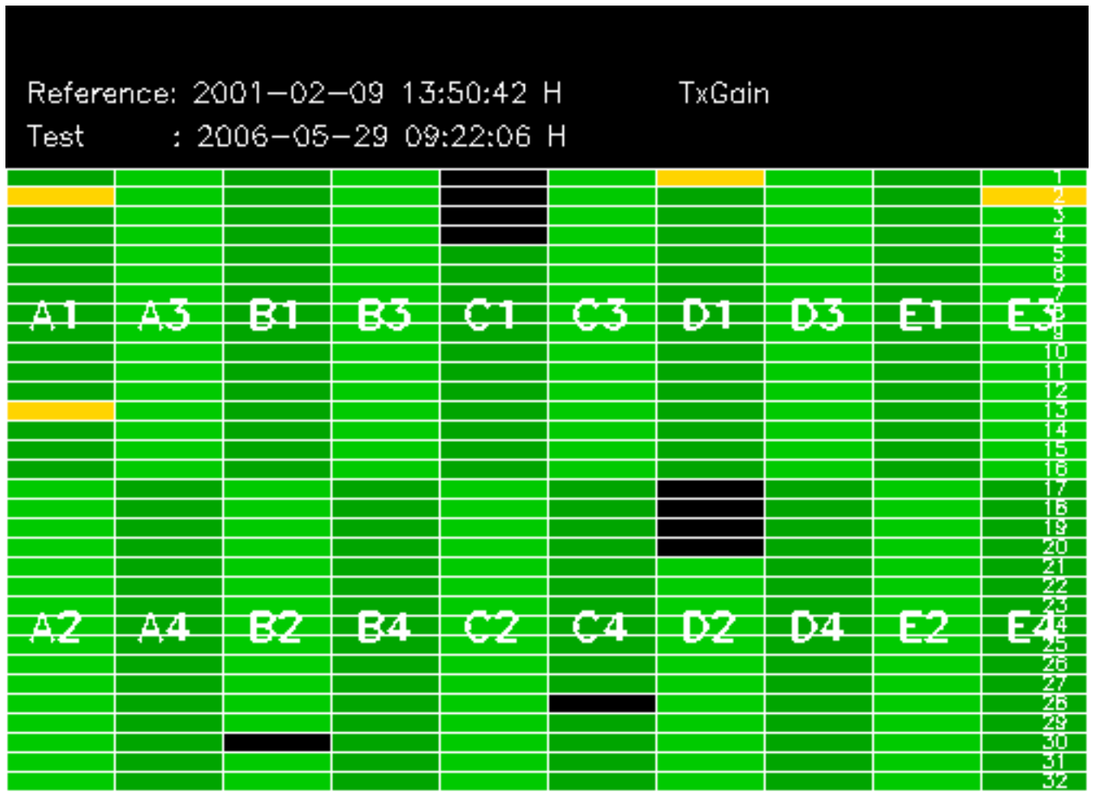

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Apr
01−May
06−May
11−May
16−May
21−May
26−May


SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Apr
01−May
06−May
11−May
16−May
21−May
26−May


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


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
26−Apr
01−May
06−May
11−May
16−May
21−May
26−May


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
26−Apr
01−May
06−May
11−May
16−May
21−May
26−May


Reference: 2001-02-09 13:50:42 H
Test : 2006-05-29 09:22:06 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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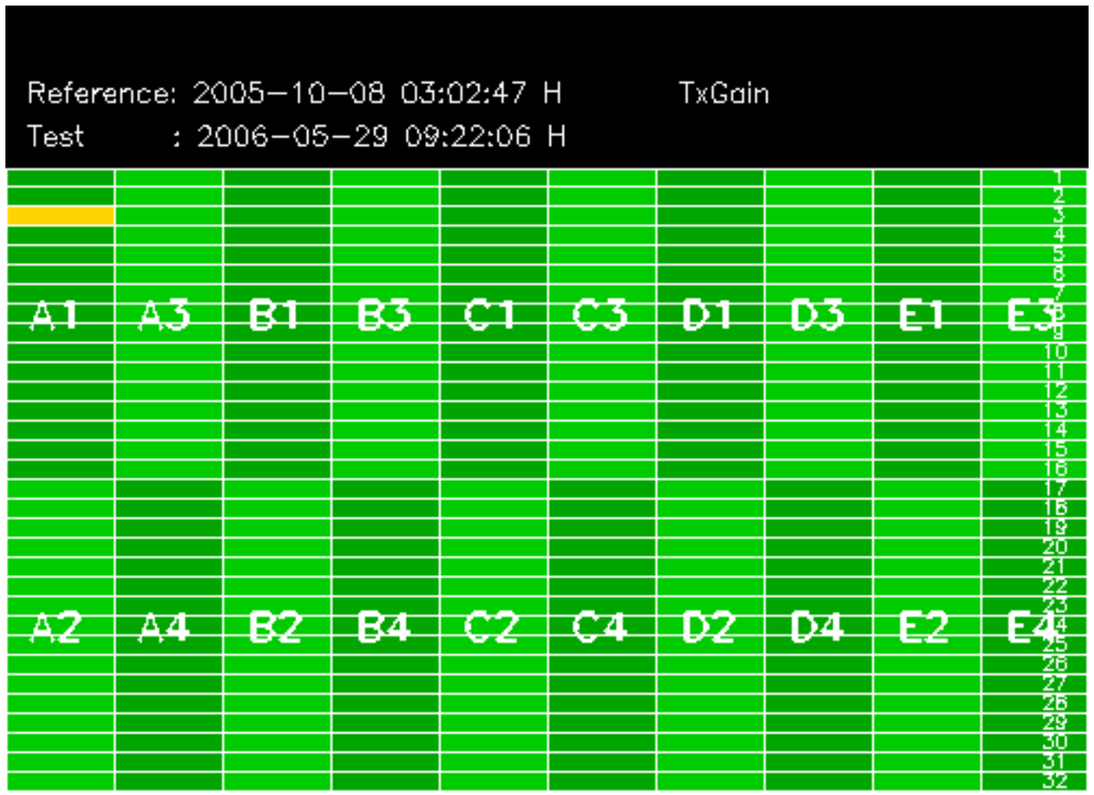
32


Reference: 2005-10-08 03:02:47 H
Test : 2006-05-29 09:22:06 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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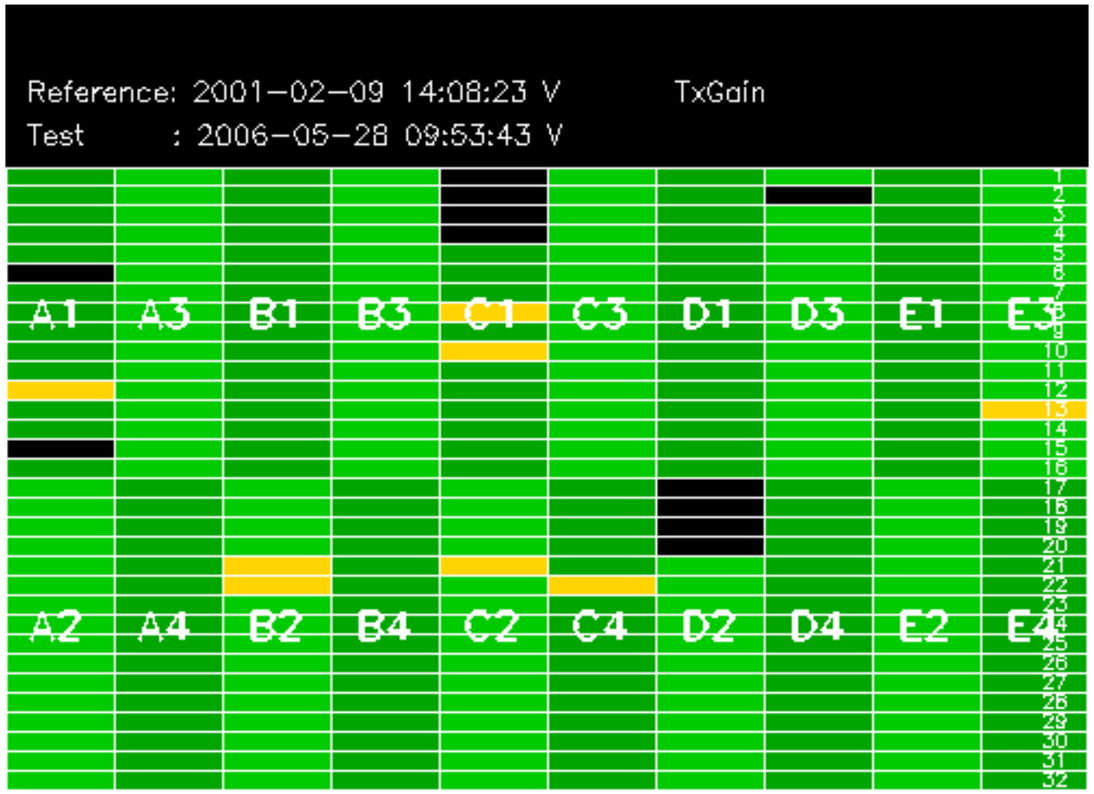
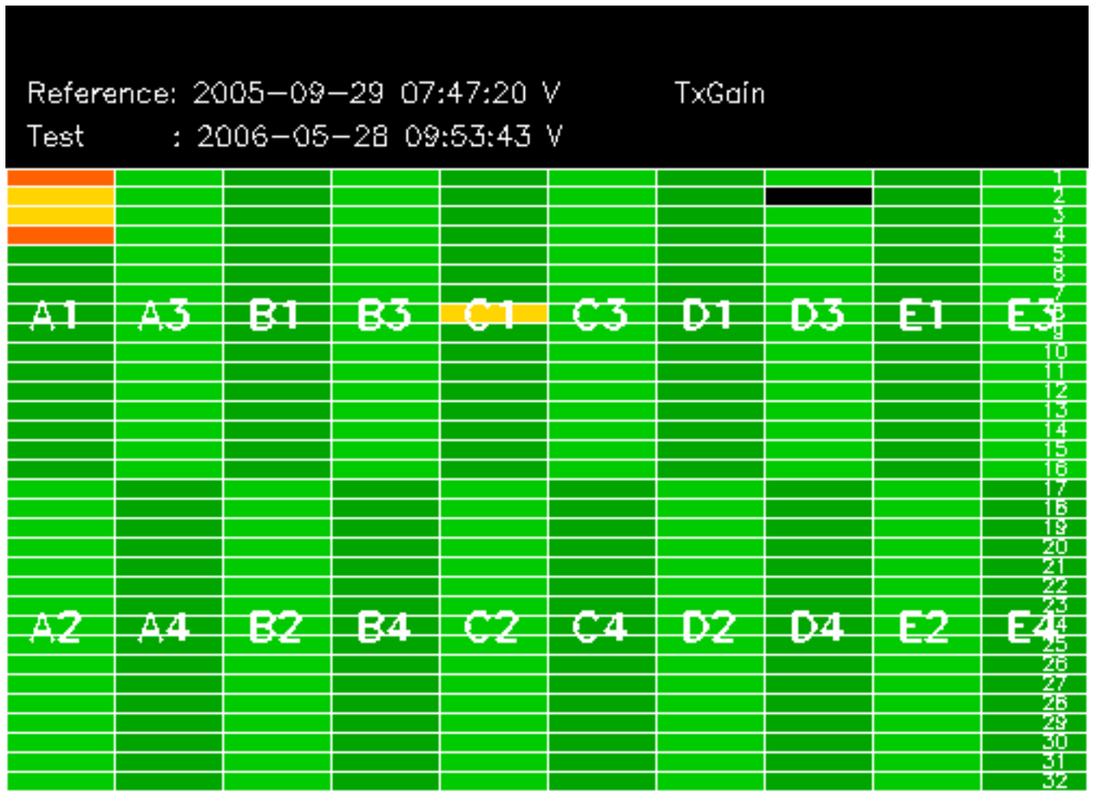

Reference: 2001-02-09 14:08:23 V
Test : 2006-05-28 09:53:43 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-05-28 09:53:43 V
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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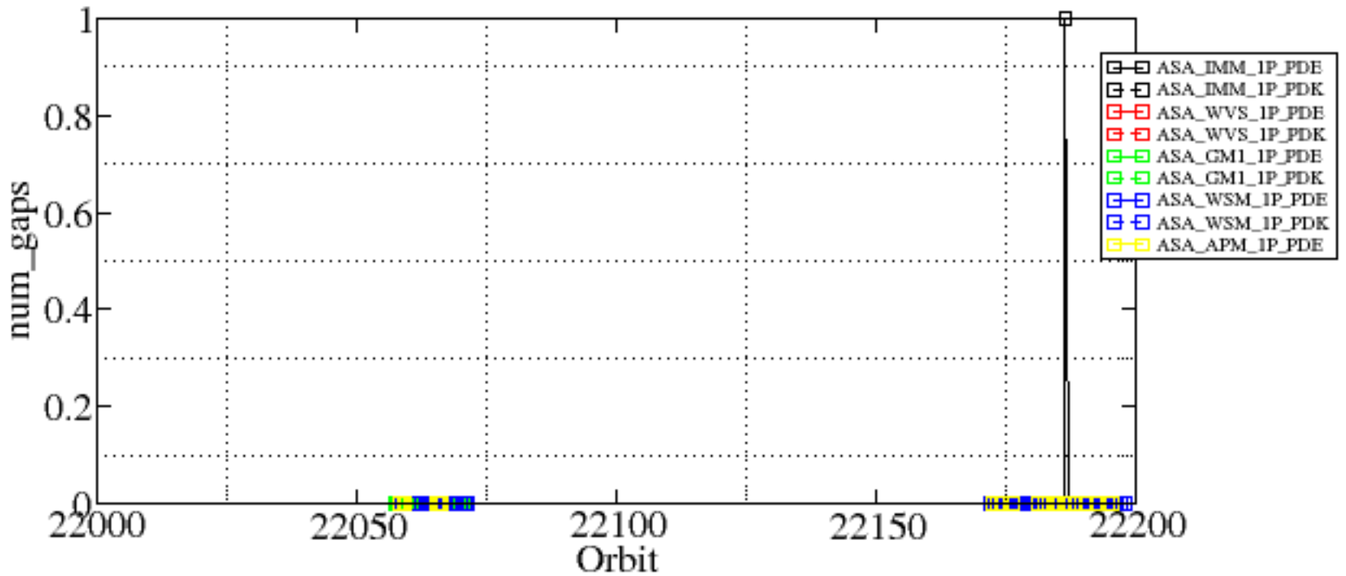
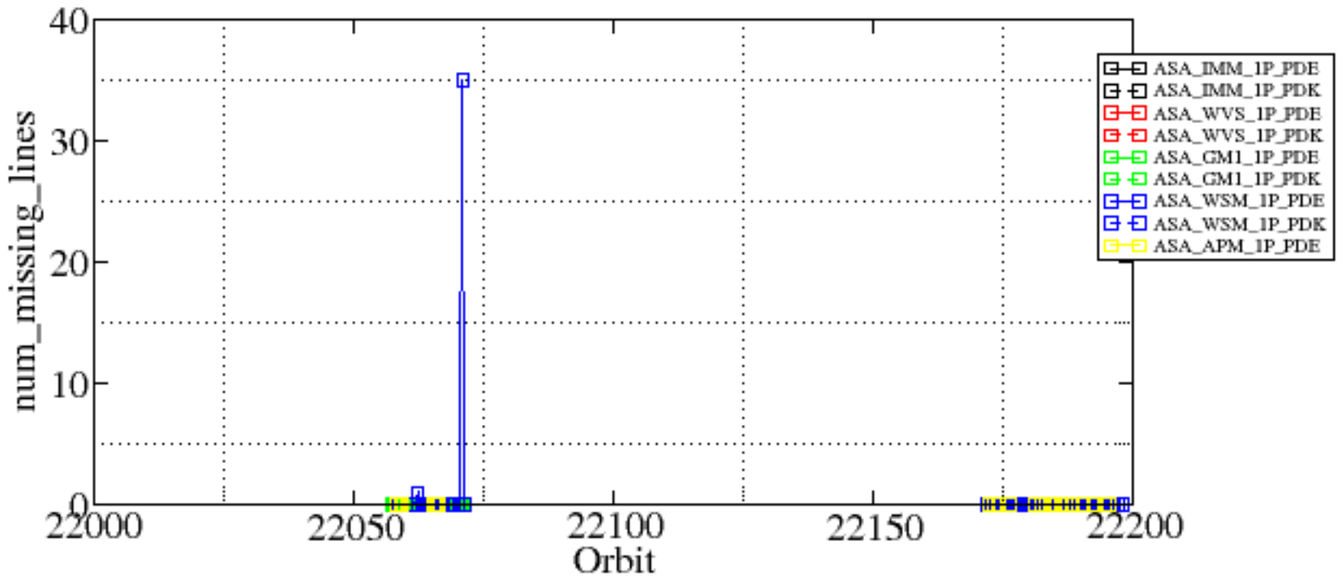
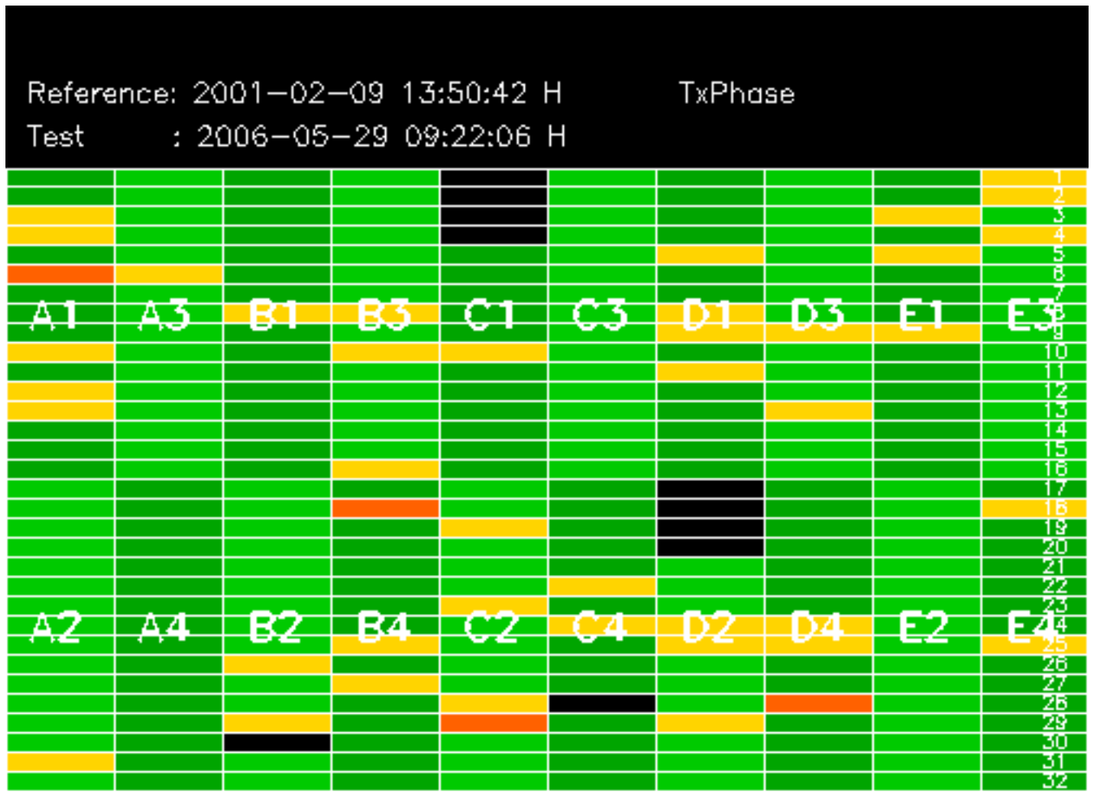
Summary of analysis for the last 3 days 2006052[890]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_IMM_1PNPDE20060529_002857_000000512048_00088_22186_6360.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20060520_083606_000000852047_00465_22062_9979.N1 </td> <td>0 </td> <td>1 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20060520_083607_000000852047_00465_22062_9998.N1 </td> <td>0 </td> <td>1 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20060520_230542_000001222047_00474_22071_0064.N1 </td> <td>0 </td> <td>35 </td></tr>
</table>


num_gaps
1
0.8
0.6
0.4
0.2
0
22000
22050
22100
22150
22200
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE


num_missing_lines
40
30
20
10
0
22000
22050
22100
22150
22200
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE


Reference: 2001-02-09 13:50:42 H
Test : 2006-05-29 09:22:06 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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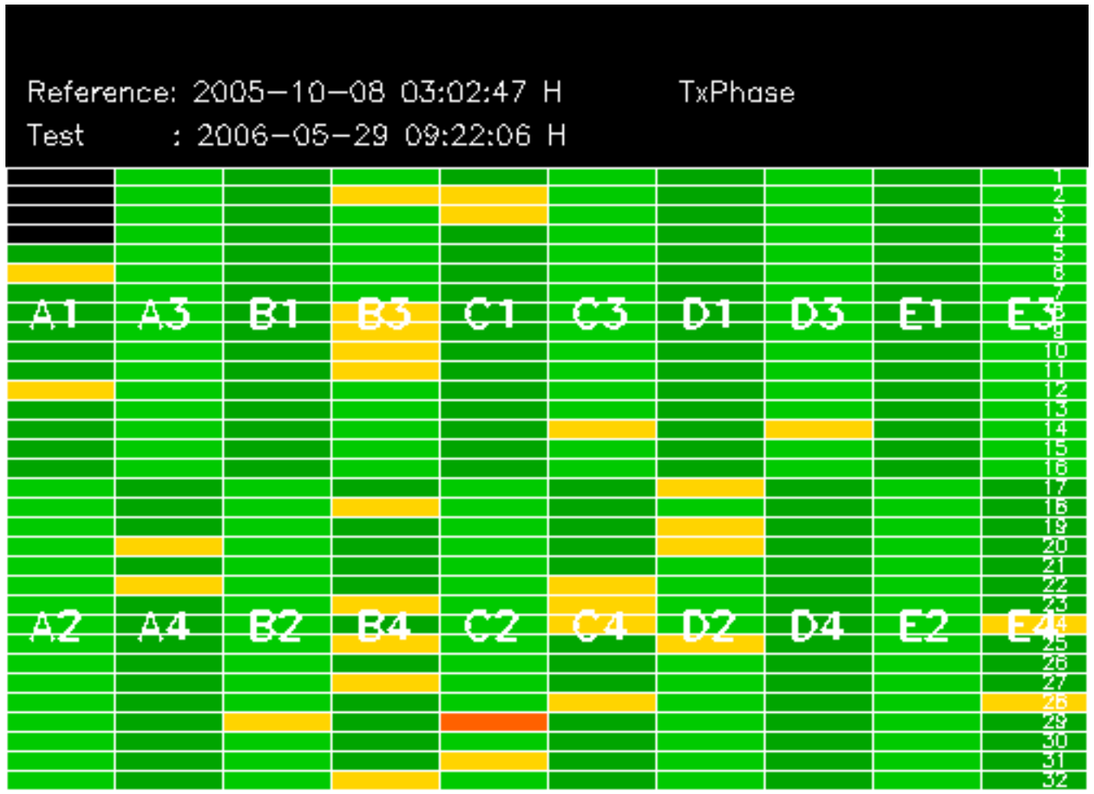
Reference: 2005-10-08 03:02:47 H
Test : 2006-05-29 09:22:06 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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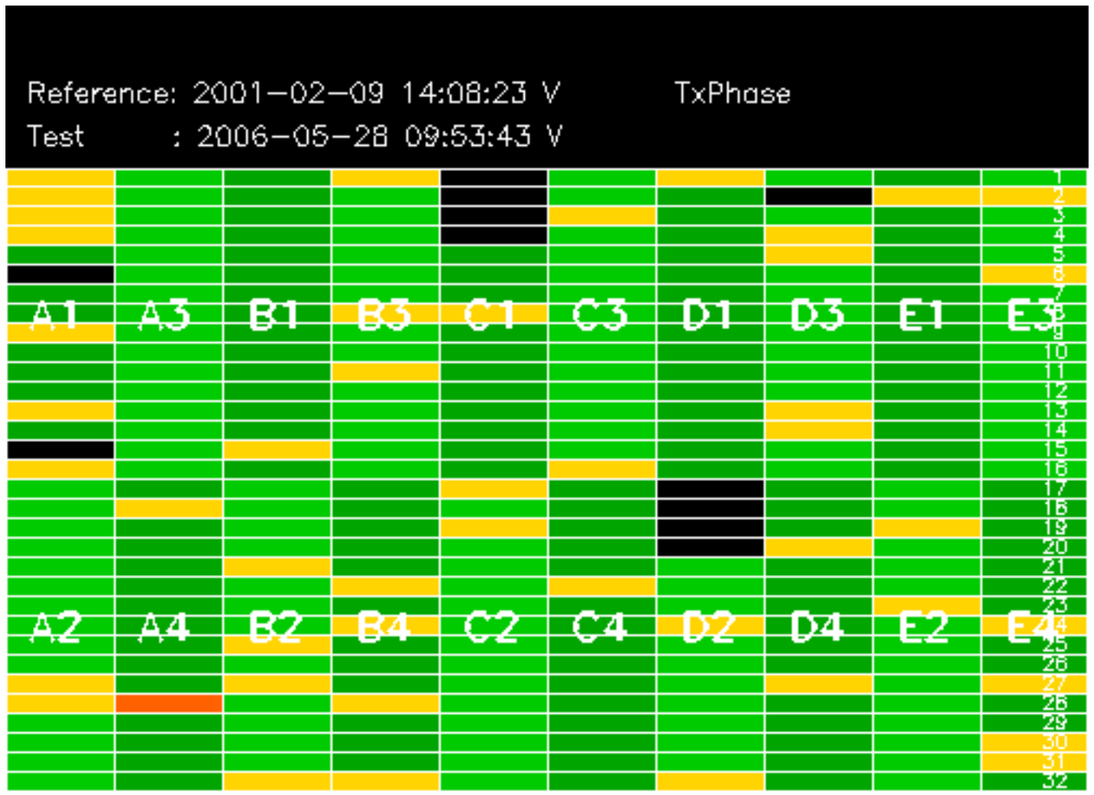
Reference: 2001-02-09 14:08:23 V
Test : 2006-05-28 09:53:43 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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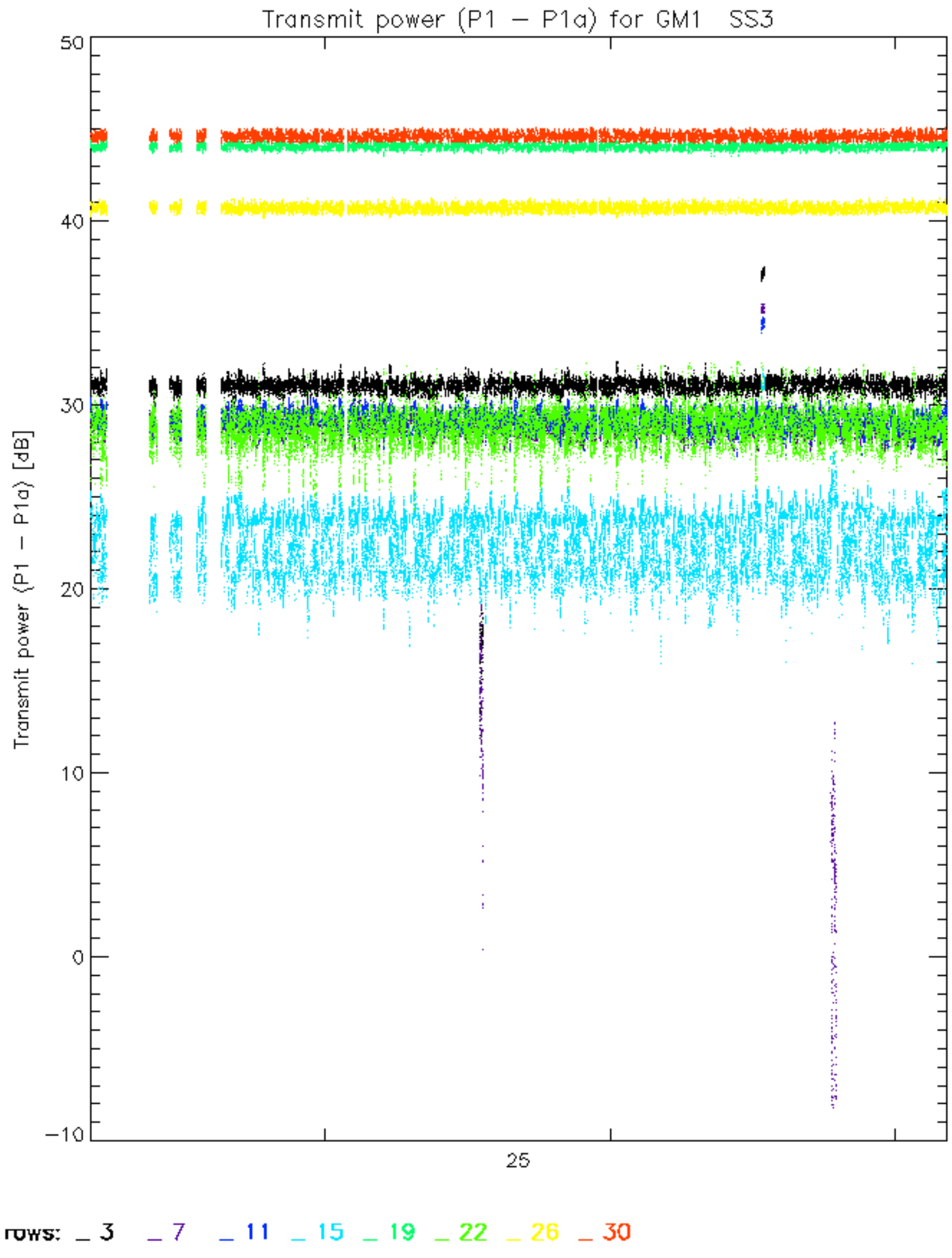
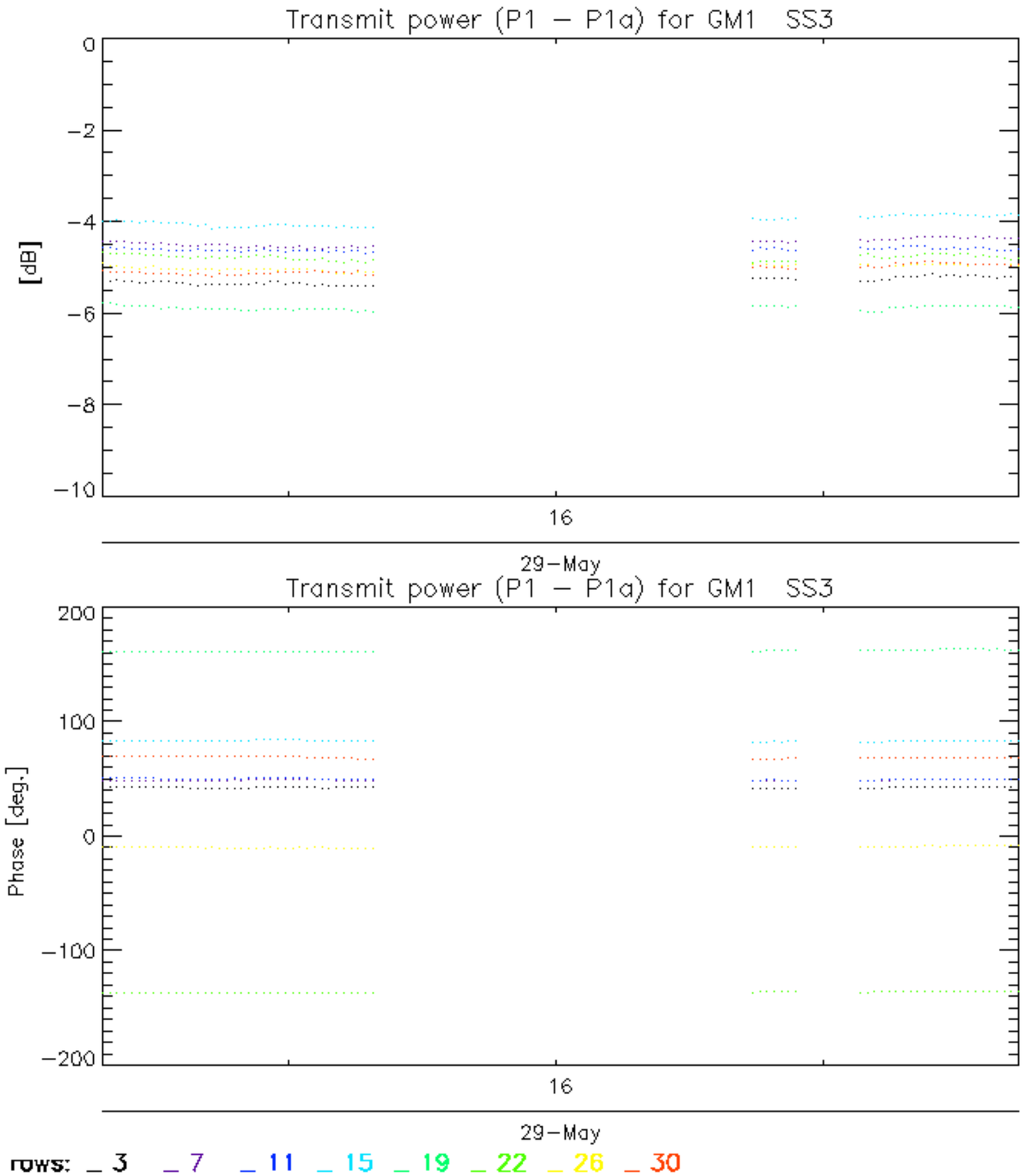
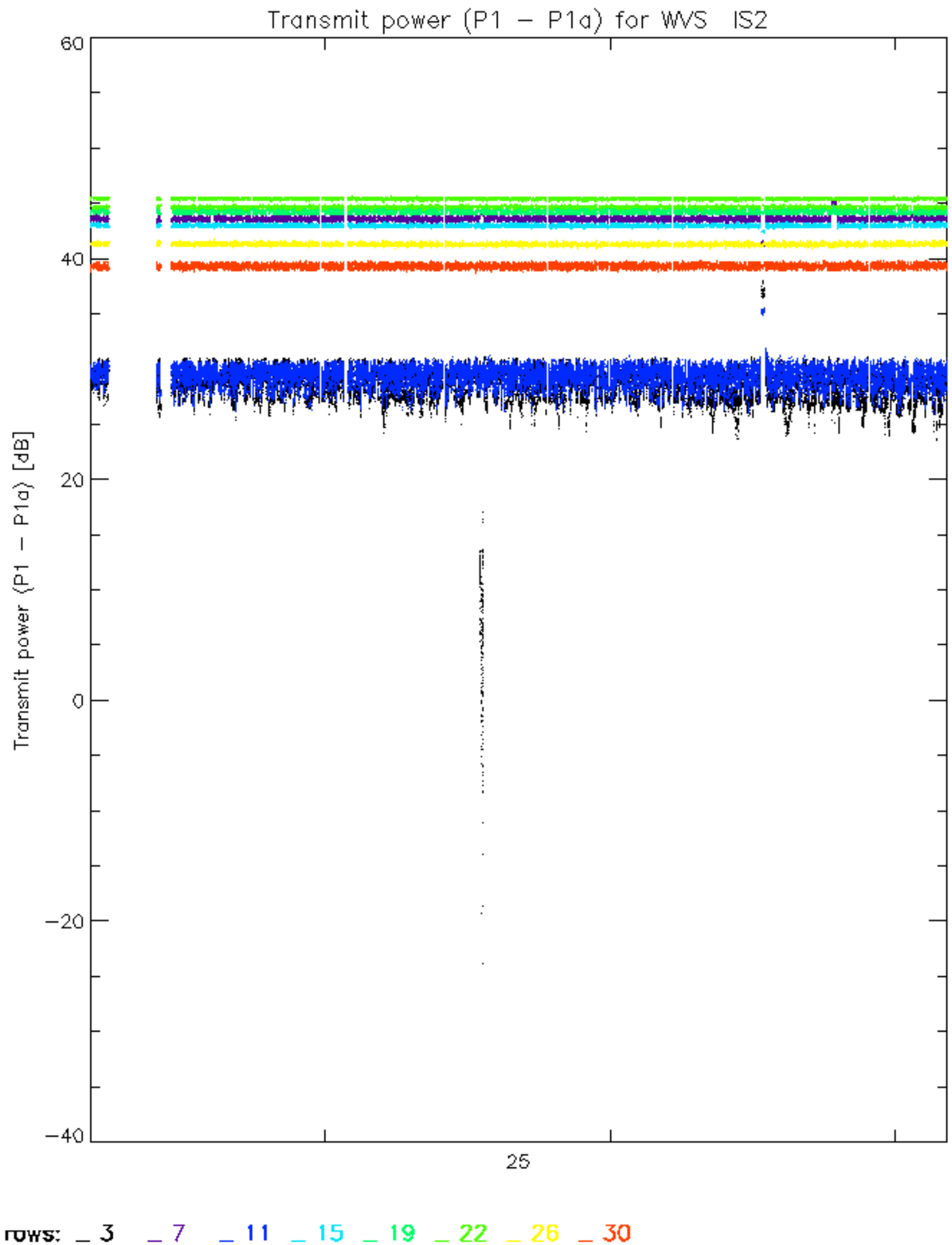
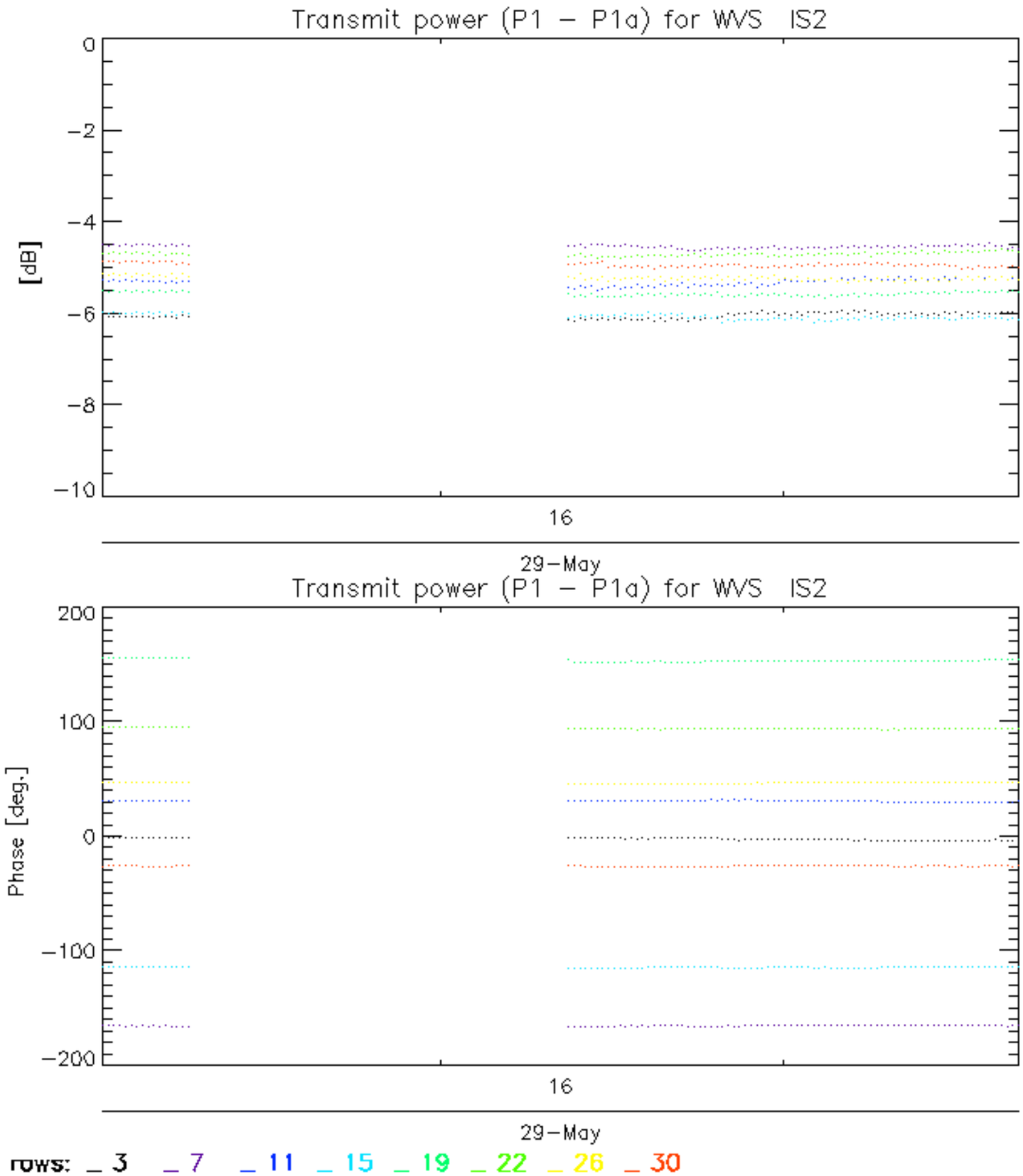
Reference: 2005-09-29 07:47:20 V
Test : 2006-05-28 09:53:43 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
25
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
0
−2
−4
−6
−8
−10
[dB]
16
29−May
Transmit power (P1 – P1a) for GM1 SS3
200
100
0
−100
−200
Phase [deg.]
16
29−May
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
25
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
0
−2
−4
−6
−8
−10
[dB]
16
29−May
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
16
29−May
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.