PRELIMINARY REPORT OF 060713

last update on Thu Jul 13 16:24:37 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 2006-07-12 00:00:00 to 2006-07-13 16:24:37

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

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	41	63	11	6	0
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	41	63	11	6	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	41	63	11	6	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	41	63	11	6	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	40	59	31	15	63
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	40	59	31	15	63
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	40	59	31	15	63
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	40	59	31	15	63

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	20060712 043739
H	20060711 050916

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	-3.929789	0.013220	-0.026870
7	P1	-3.102523	0.009824	-0.019297
11	P1	-4.086589	0.013338	-0.003339
15	P1	-6.174200	0.011720	-0.047404
19	P1	-3.390934	0.009446	-0.049868
22	P1	-4.541411	0.010213	0.011056
26	P1	-3.934449	0.019920	0.028610
30	P1	-5.763433	0.007996	-0.029379
3	P1	-16.510740	0.374375	-0.150293
7	P1	-17.187492	0.099802	-0.086554
11	P1	-16.987572	0.278072	-0.156246
15	P1	-13.119975	0.158494	-0.028189
19	P1	-14.433116	0.047857	-0.160078
22	P1	-16.009130	0.419987	0.175534
26	P1	-15.137383	0.243483	0.109434
30	P1	-17.092430	0.342022	-0.067109

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.001900	0.087947	0.137092
7	P2	-21.929737	0.105525	0.093353
11	P2	-15.806134	0.122505	0.046062
15	P2	-7.134409	0.102598	0.011259
19	P2	-9.136925	0.091394	-0.027197
22	P2	-18.150614	0.085910	-0.015832
26	P2	-16.397181	0.094077	-0.047274
30	P2	-19.529940	0.094660	0.034489

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.175264	0.002922	0.005114
7	P3	-8.175264	0.002922	0.005114
11	P3	-8.175264	0.002922	0.005114
15	P3	-8.175264	0.002922	0.005114
19	P3	-8.175264	0.002922	0.005114
22	P3	-8.175264	0.002922	0.005114
26	P3	-8.175264	0.002922	0.005114
30	P3	-8.175264	0.002922	0.005114

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1


P1a Cyclic statistics

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.792938	0.037087	-0.150865
7	P1	-2.564993	0.007809	-0.008659
11	P1	-2.862061	0.014749	0.000106
15	P1	-3.565377	0.028557	-0.092613
19	P1	-3.415505	0.013509	-0.009455
22	P1	-5.095449	0.020494	0.003673
26	P1	-5.855184	0.016040	0.017464
30	P1	-5.193376	0.026473	-0.061442
3	P1	-11.574273	0.115712	-0.230695
7	P1	-9.977245	0.033956	-0.014445
11	P1	-10.247395	0.059039	0.036103
15	P1	-10.759973	0.142432	-0.095931
19	P1	-15.525373	0.075050	-0.001201
22	P1	-20.924019	1.225463	-0.254344
26	P1	-16.339855	0.381762	0.083333
30	P1	-17.886992	0.409915	-0.107630

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.658276	0.071604	0.181850
7	P2	-22.421818	0.130624	0.117300
11	P2	-11.064027	0.043199	0.095323
15	P2	-4.917748	0.046748	0.032044
19	P2	-6.880595	0.042932	0.009059
22	P2	-8.198355	0.038089	0.048351
26	P2	-24.190582	0.064375	-0.022413
30	P2	-22.022787	0.050619	0.054092

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.016081	0.003746	0.008627
7	P3	-8.016036	0.003741	0.010432
11	P3	-8.015841	0.003759	0.010072
15	P3	-8.015961	0.003743	0.010810
19	P3	-8.016048	0.003745	0.009722
22	P3	-8.016004	0.003747	0.009942
26	P3	-8.015907	0.003747	0.010830
30	P3	-8.015981	0.003733	0.010636

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	0.000571072
	stdev	1.63087e-07
MEAN Q	mean	0.000546135
	stdev	2.11100e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138408
	stdev	0.00108942
STDEV Q	mean	0.138768
	stdev	0.00110765

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006071[123]
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_1PNPDE20060711_003719_000001342049_00202_22801_0613.N1	1	0
ASA_WSM_1PNPDE20060711_012646_000000852049_00203_22802_2476.N1	0	38
ASA_WSM_1PNPDE20060712_005610_000000852049_00217_22816_2627.N1	0	33
ASA_WSM_1PNPDE20060712_015512_000000852049_00218_22817_2628.N1	0	54
ASA_WSM_1PNPDE20060712_041730_000000672049_00219_22818_2642.N1	0	69

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
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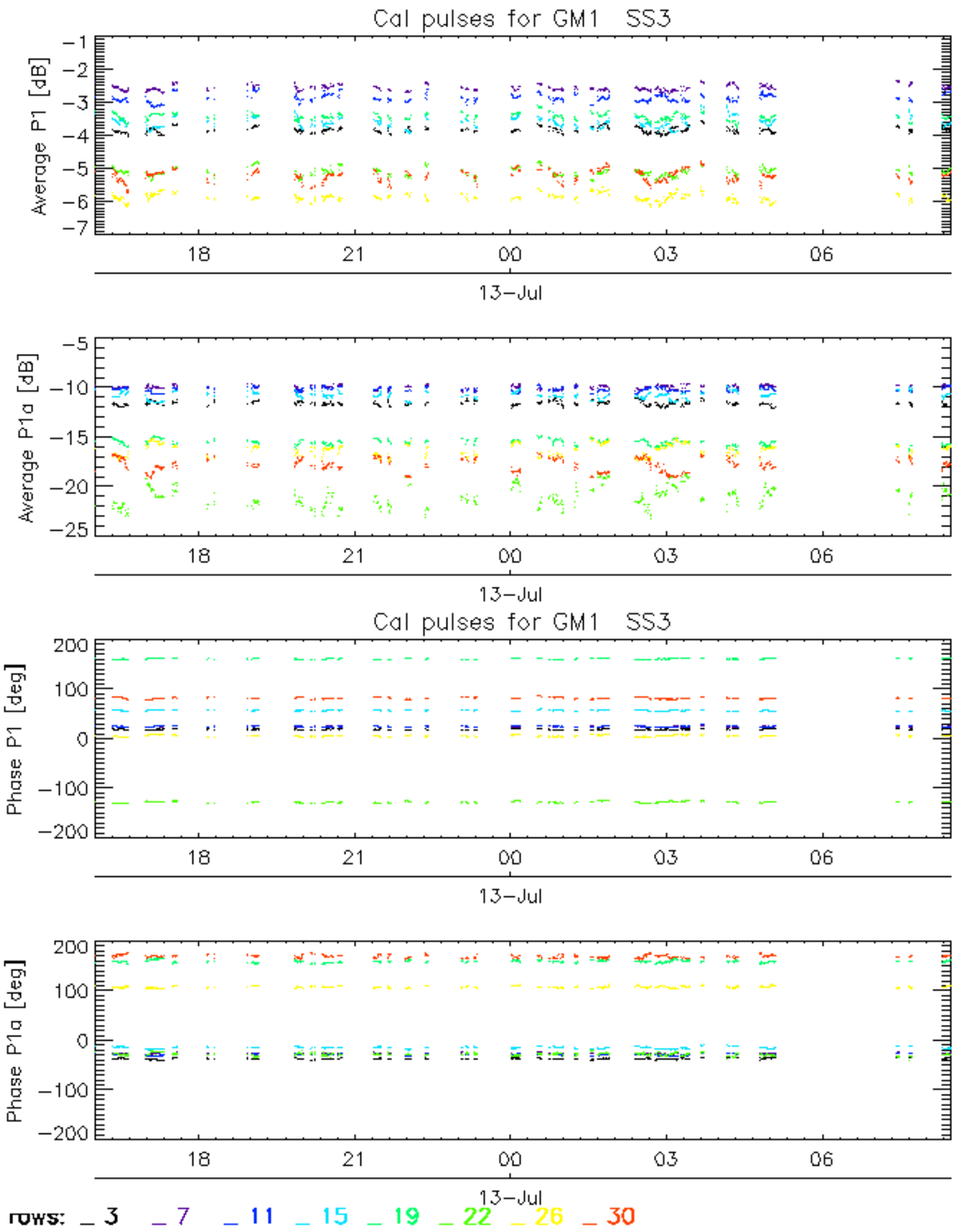
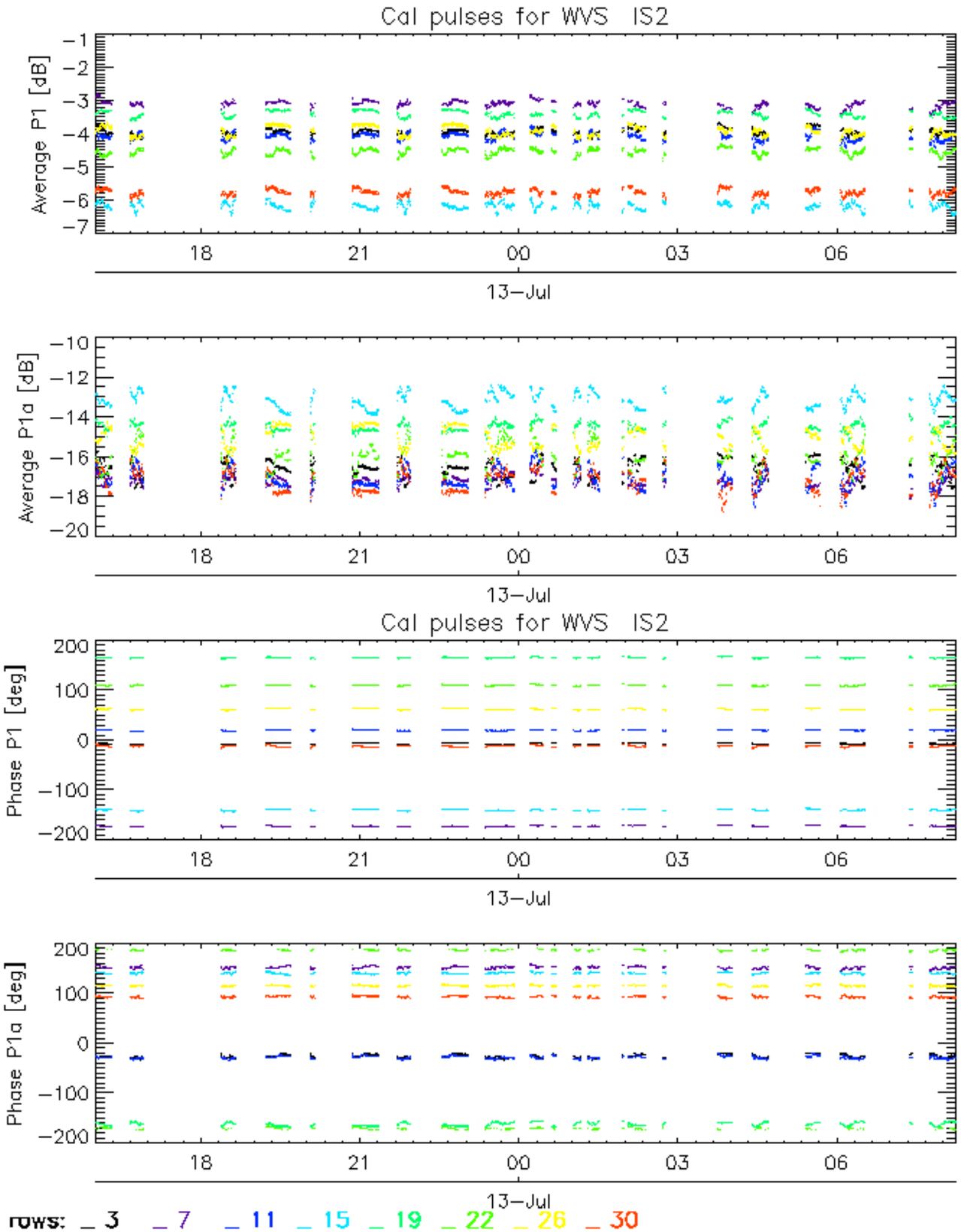
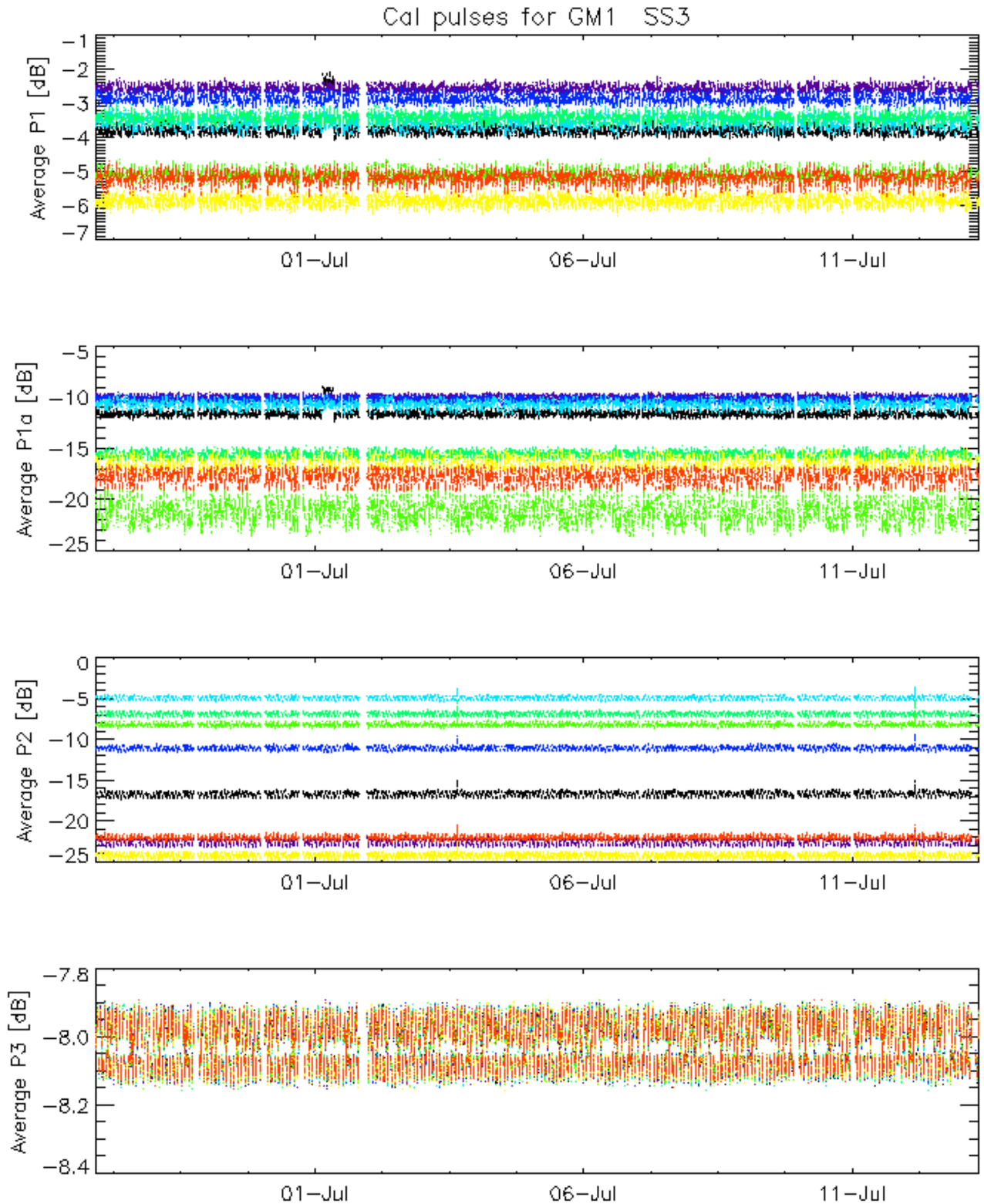
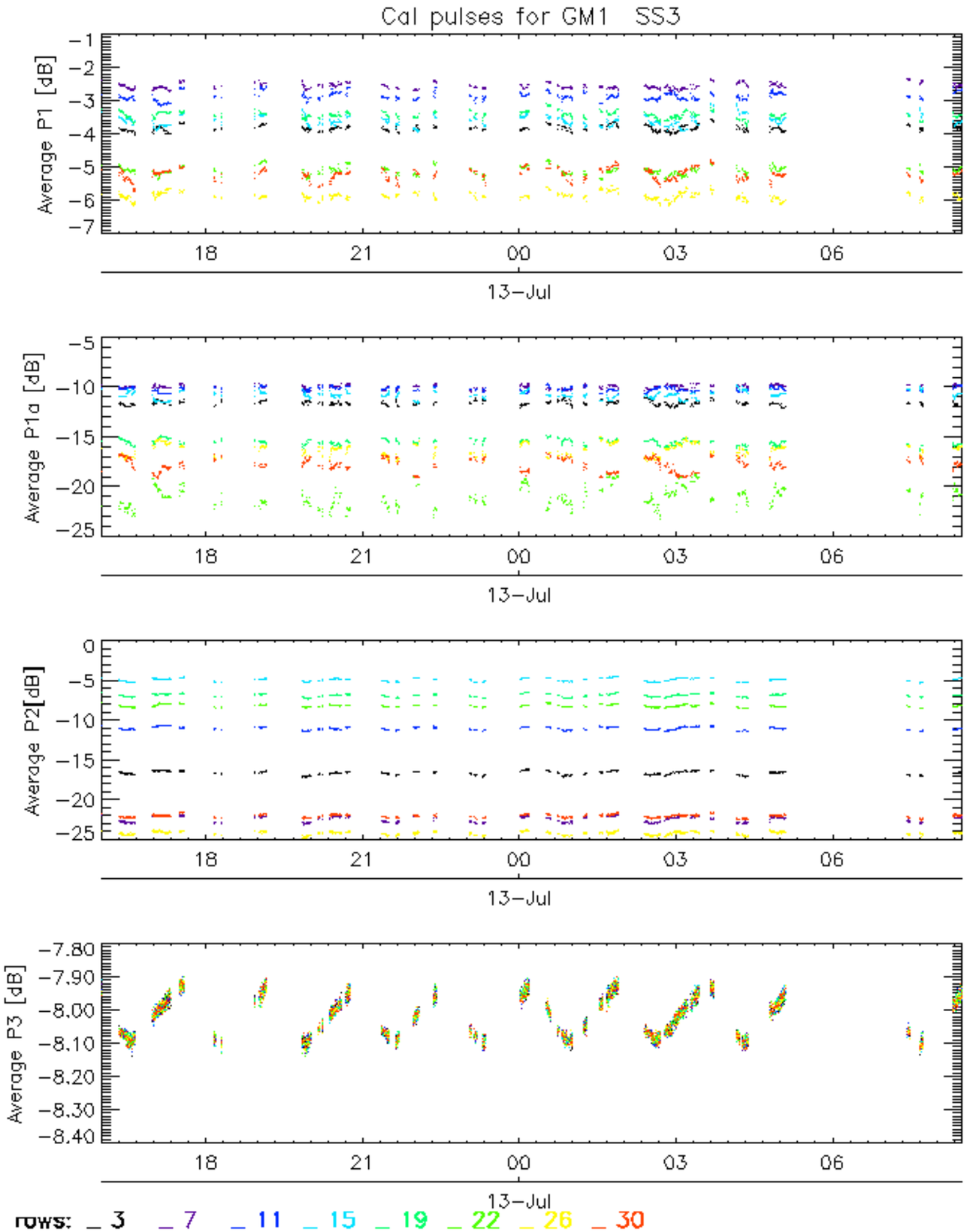
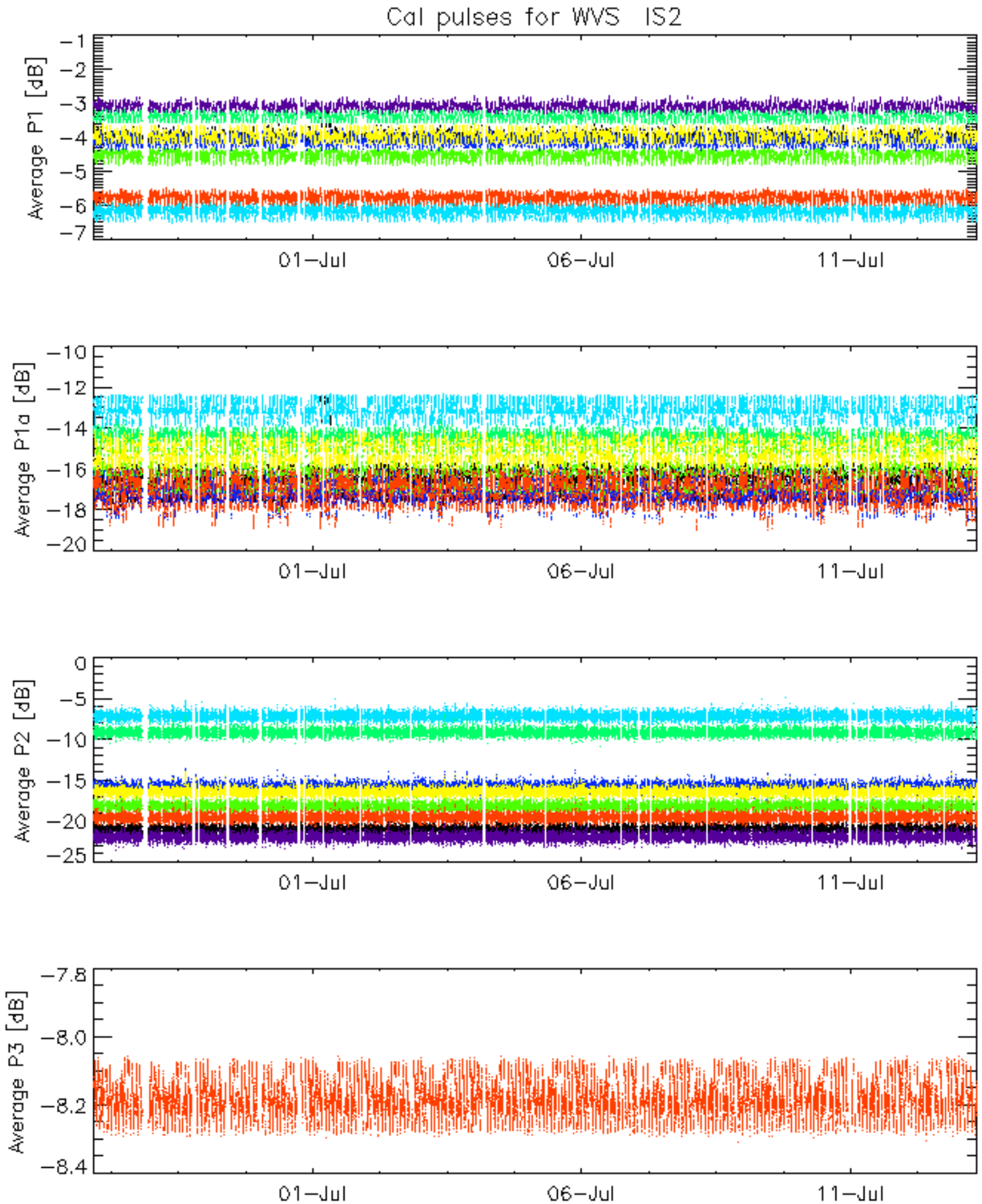
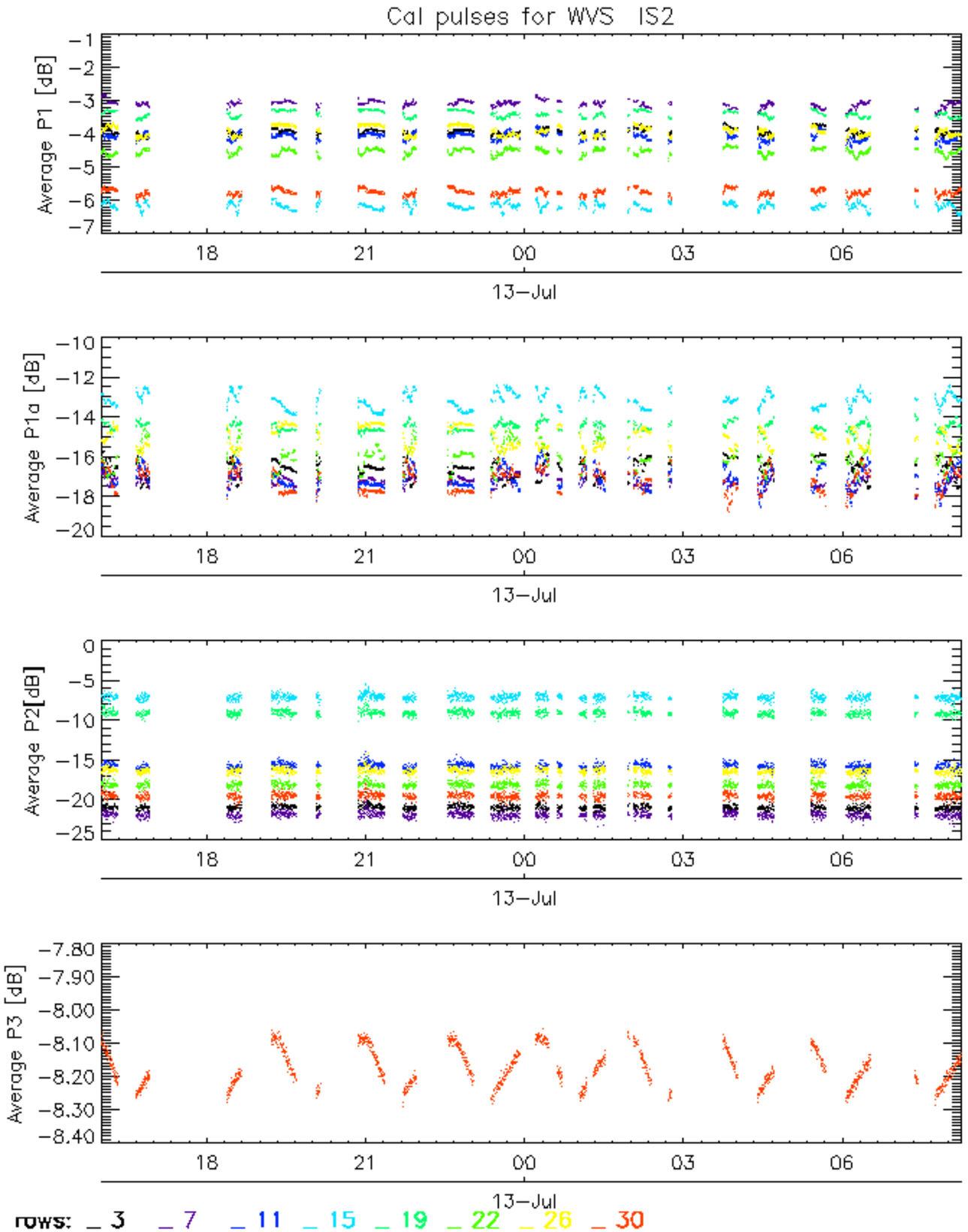

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
13−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
18
21
00
03
06
13−Jul
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
18
21
00
03
06
13−Jul
Phase P1a [deg]
200
100
0
−100
−200
18
21
00
03
06
13−Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
13−Jul
Average P1a [dB]
−10
−12
−14
−16
−18
−20
18
21
00
03
06
13−Jul
Cal pulses for WVS IS2
Phase P1 [deg]
200
100
0
−100
−200
18
21
00
03
06
13−Jul
Phase P1a [deg]
200
100
0
−100
−200
18
21
00
03
06
13−Jul
rows: 3 7 11 15 19 22 26 30

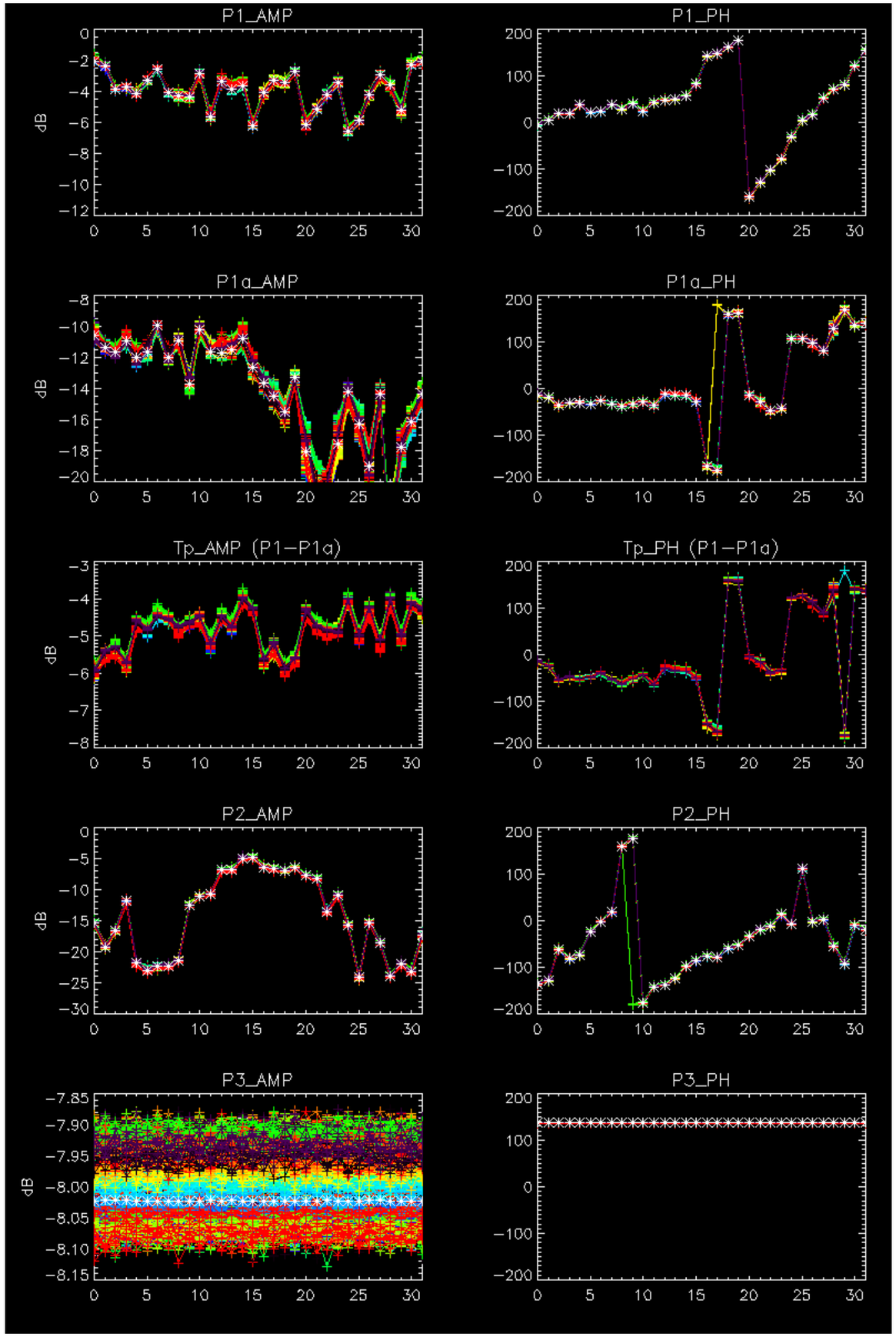

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
01−Jul
06−Jul
11−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
01−Jul
06−Jul
11−Jul
Average P2 [dB]
0
−5
−10
−15
−20
−25
01−Jul
06−Jul
11−Jul
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
01−Jul
06−Jul
11−Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

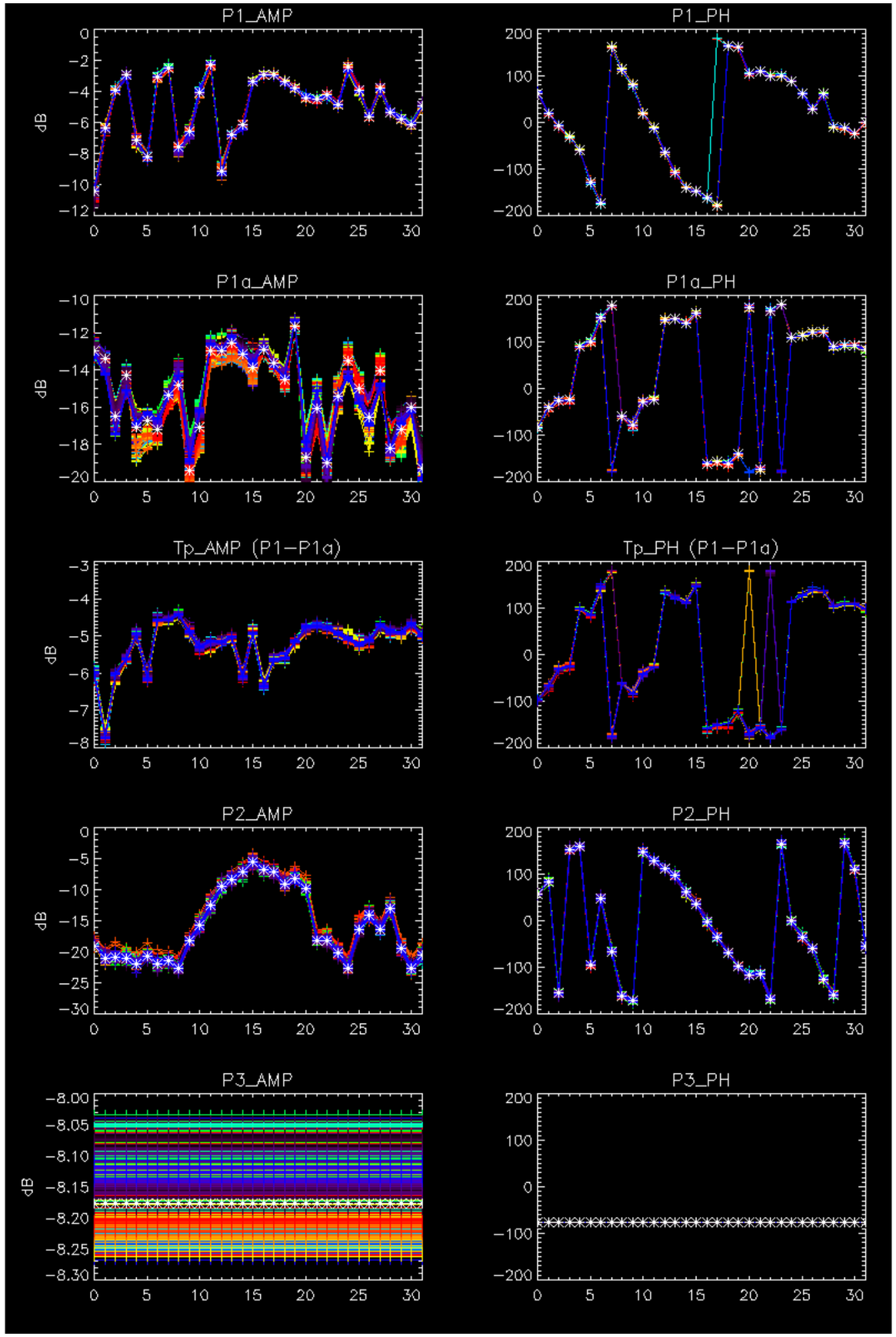

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
13−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
18
21
00
03
06
13−Jul
Average P2[dB]
0
−5
−10
−15
−20
−25
18
21
00
03
06
13−Jul
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
18
21
00
03
06
13−Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
01−Jul
06−Jul
11−Jul
Average P1a [dB]
−10
−12
−14
−16
−18
−20
01−Jul
06−Jul
11−Jul
Average P2 [dB]
0
−5
−10
−15
−20
−25
01−Jul
06−Jul
11−Jul
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
01−Jul
06−Jul
11−Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
13−Jul
Average P1a [dB]
−10
−12
−14
−16
−18
−20
18
21
00
03
06
13−Jul
Average P2[dB]
0
−5
−10
−15
−20
−25
18
21
00
03
06
13−Jul
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
18
21
00
03
06
13−Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

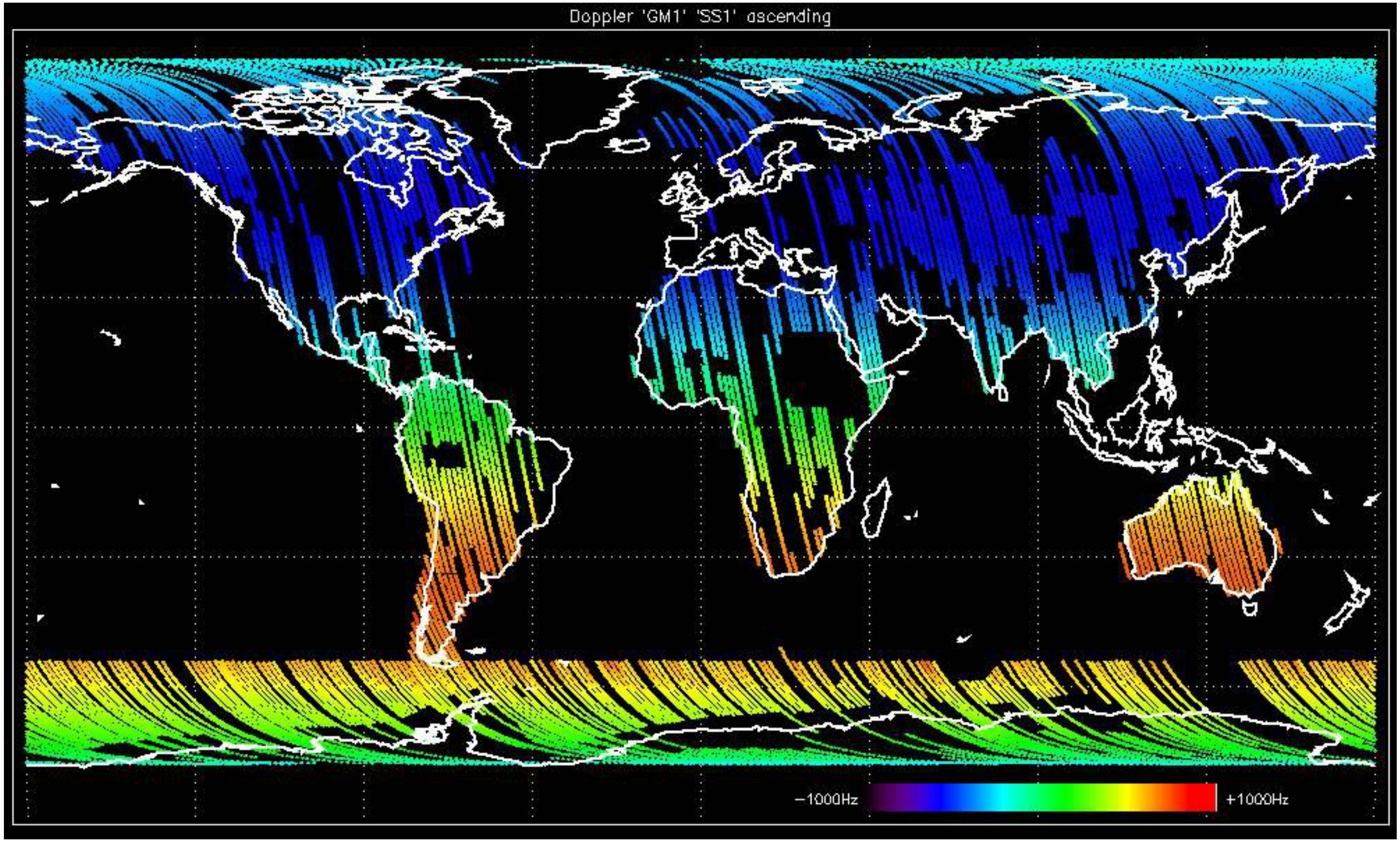
No anomalies observed.

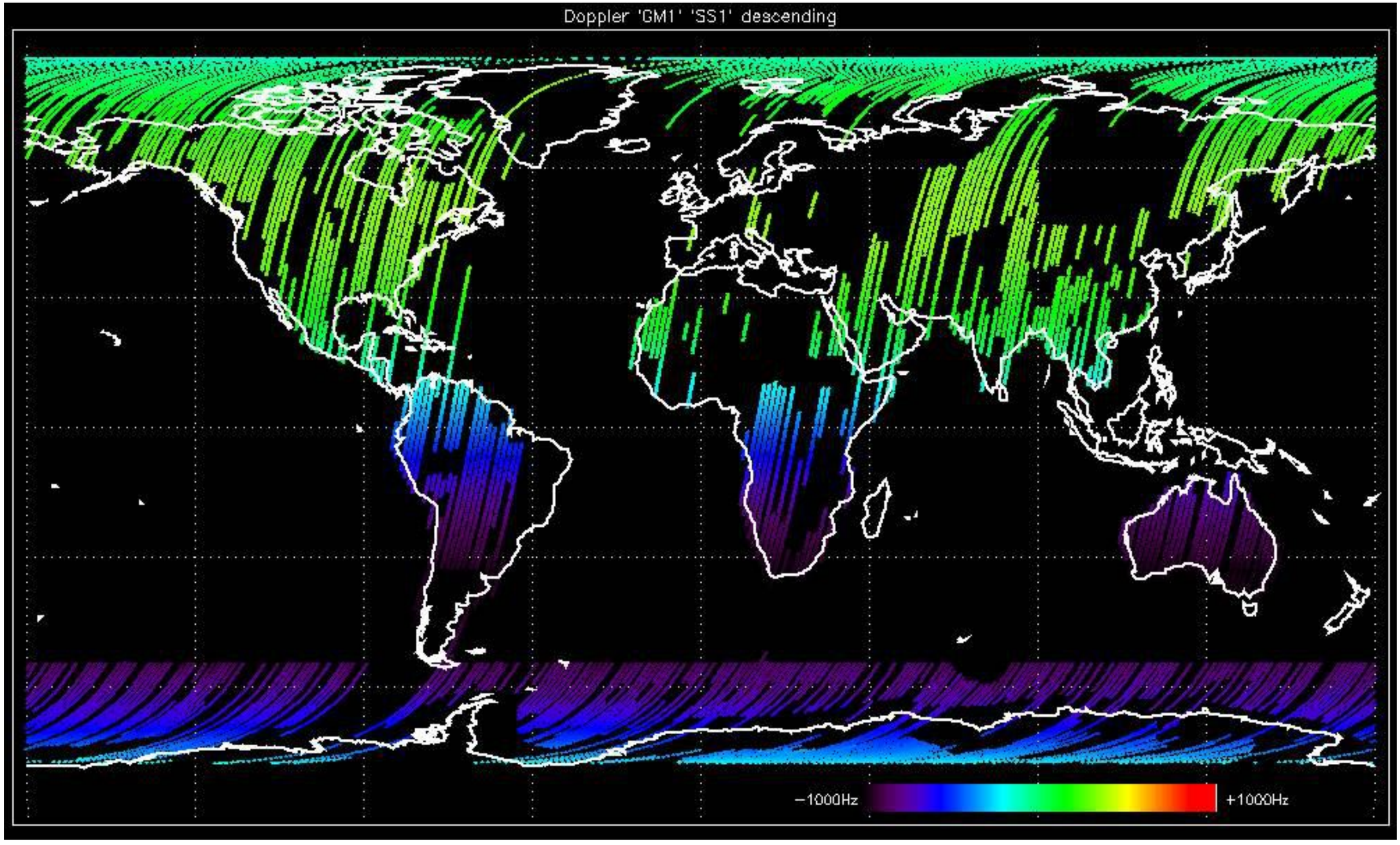

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

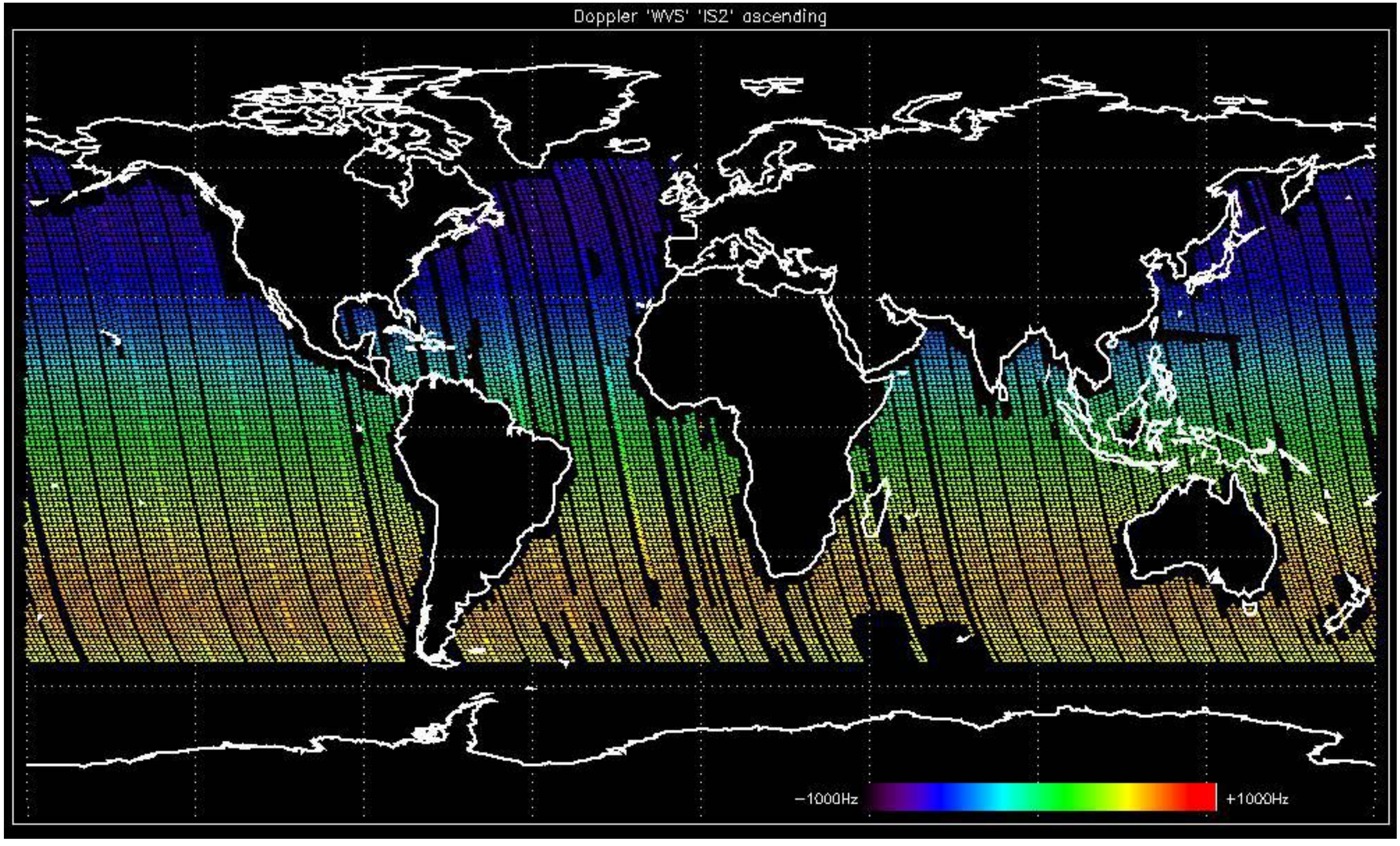

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

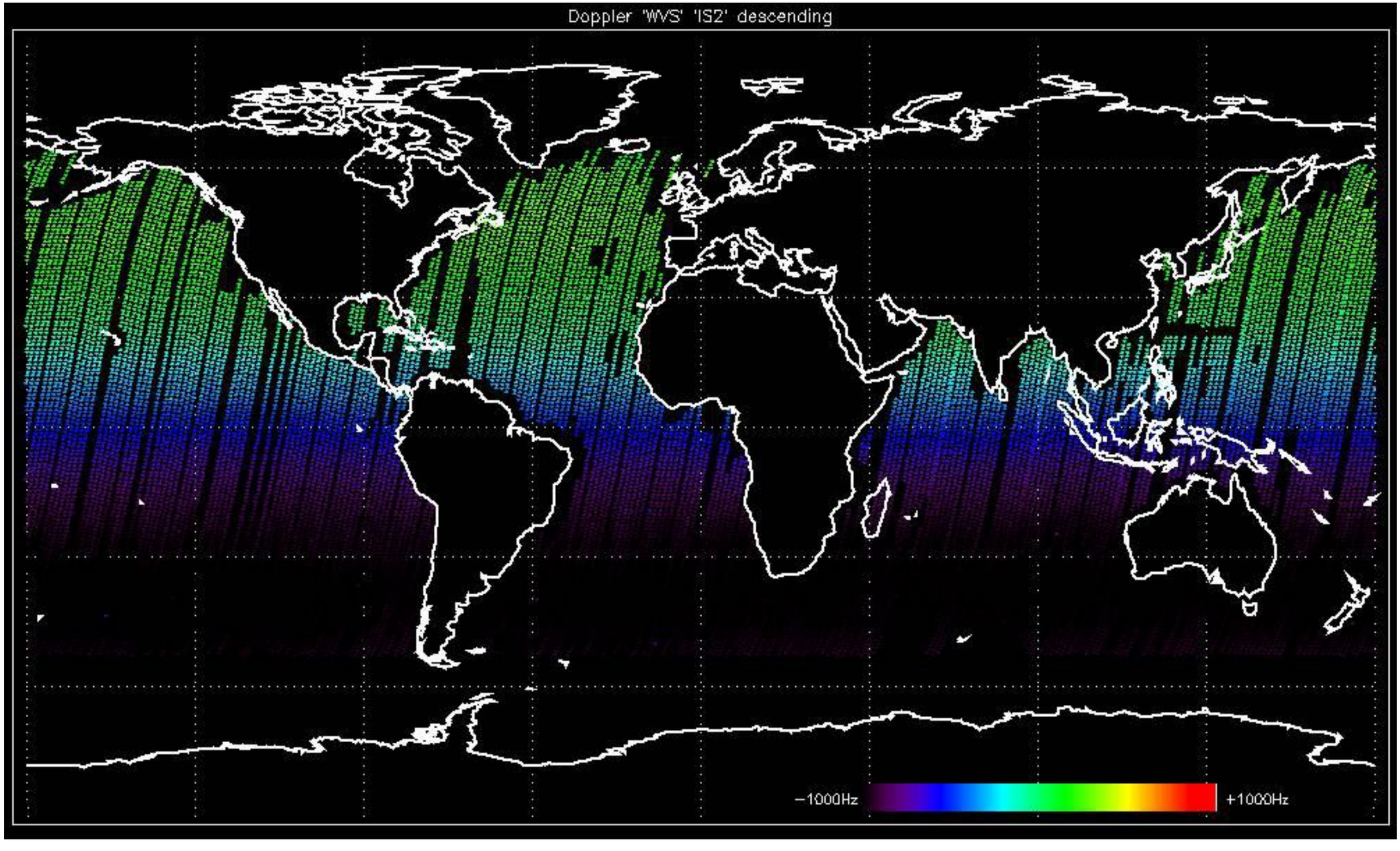
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

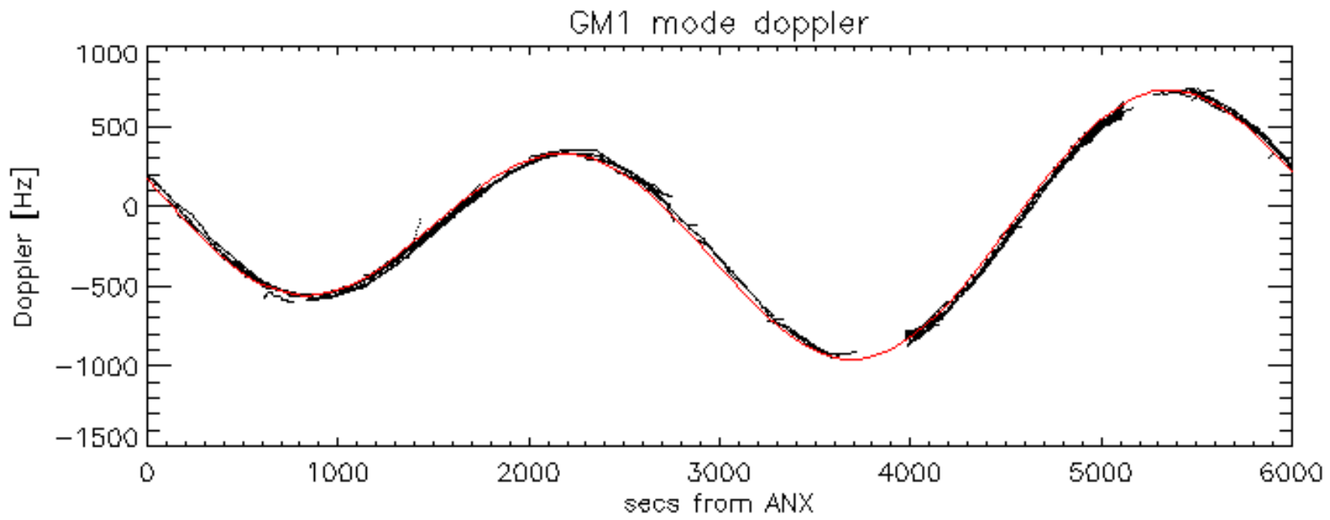
Preliminary report.The data is not yet controled

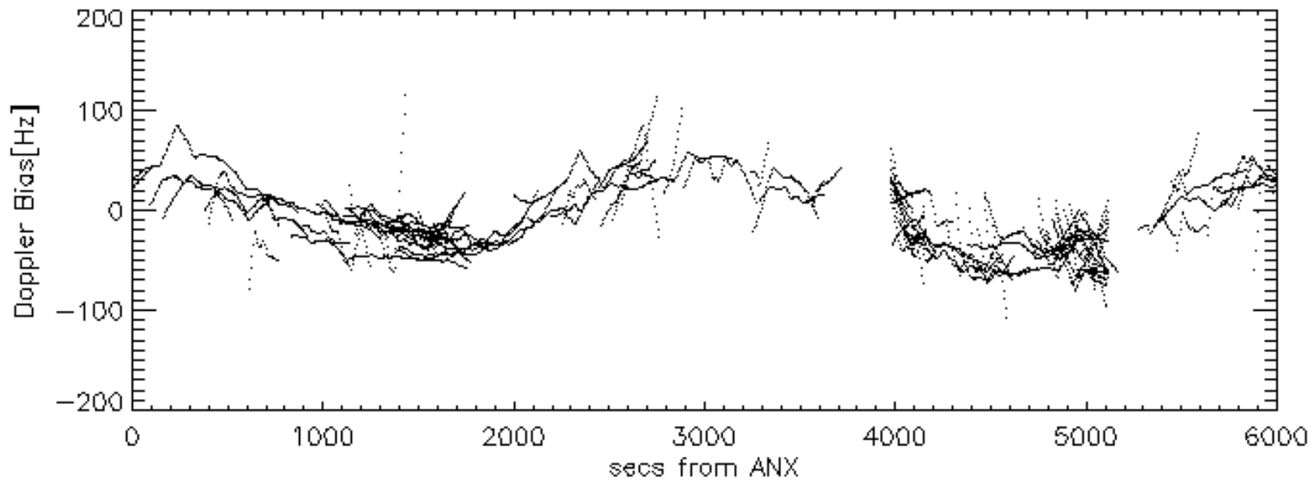

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

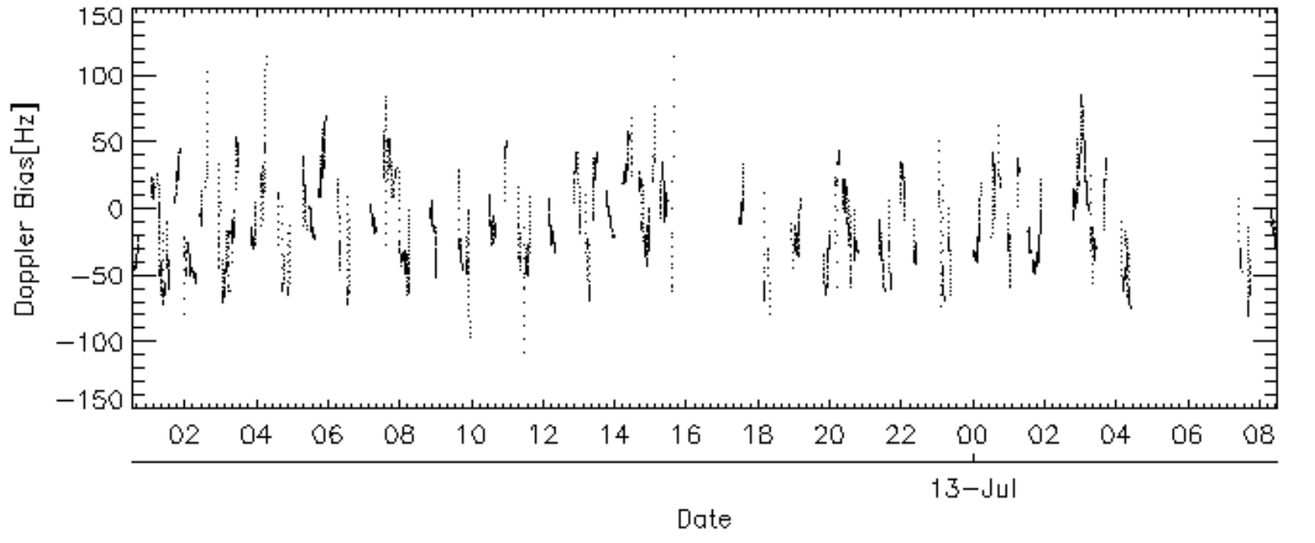

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

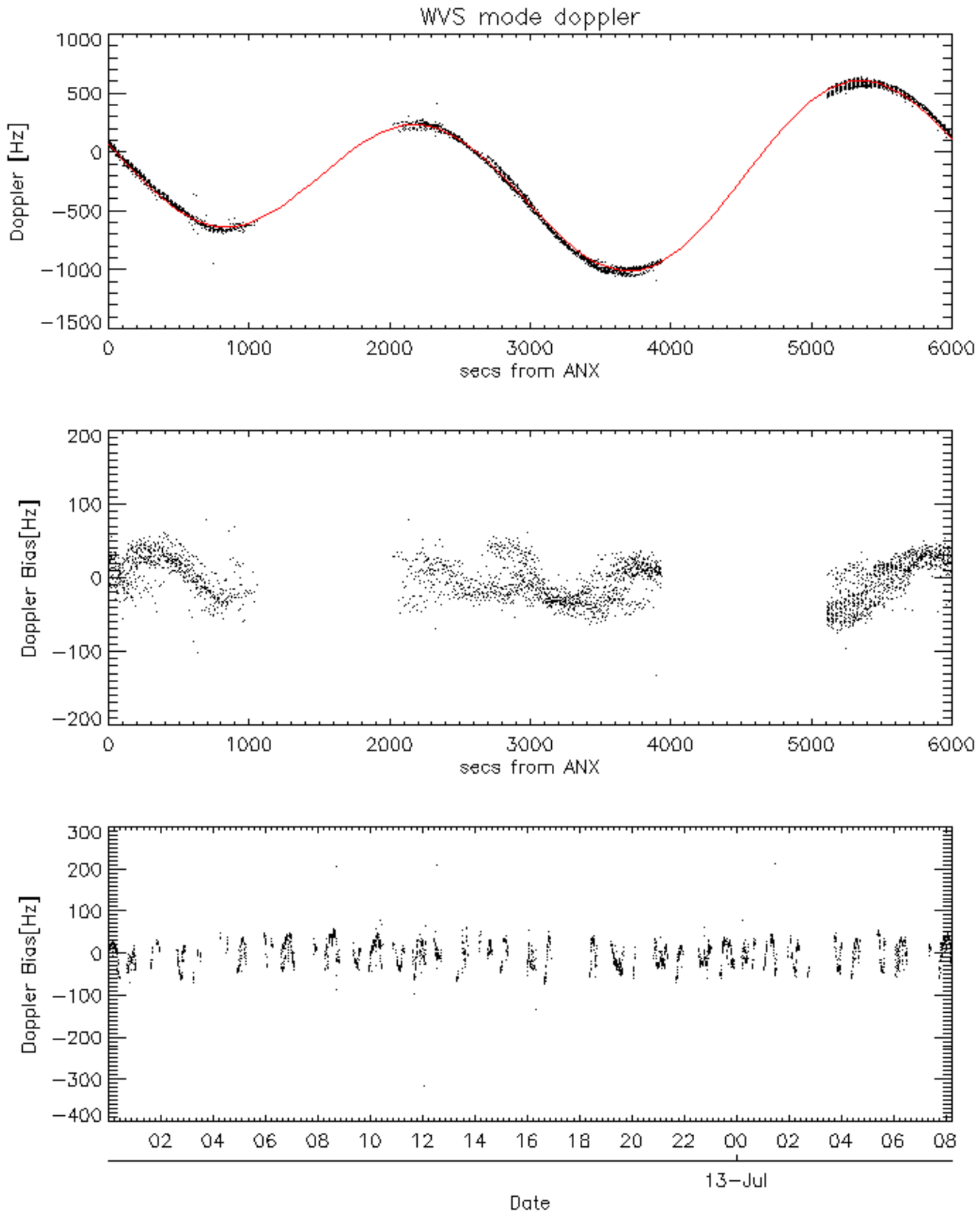

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

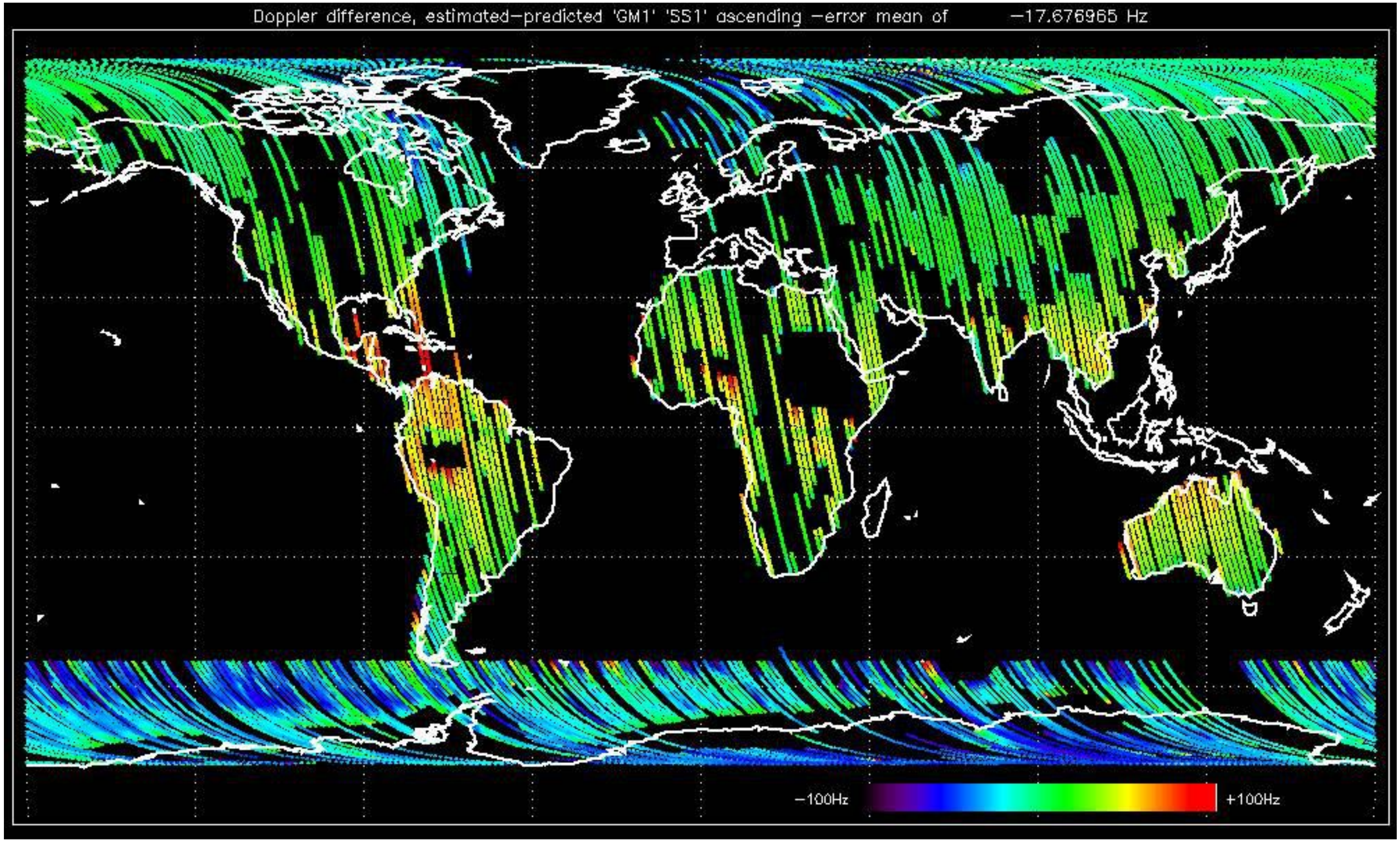

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

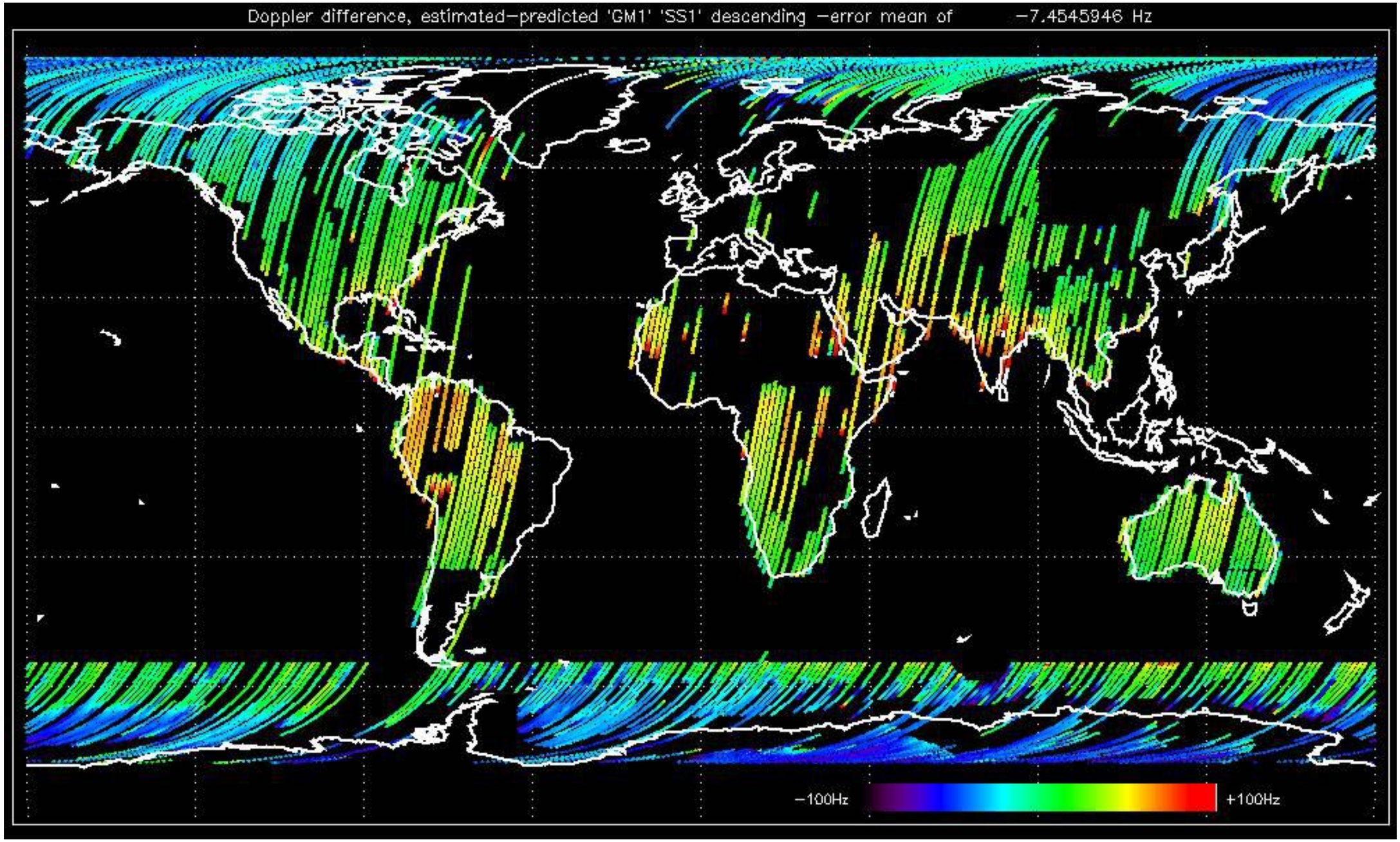

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

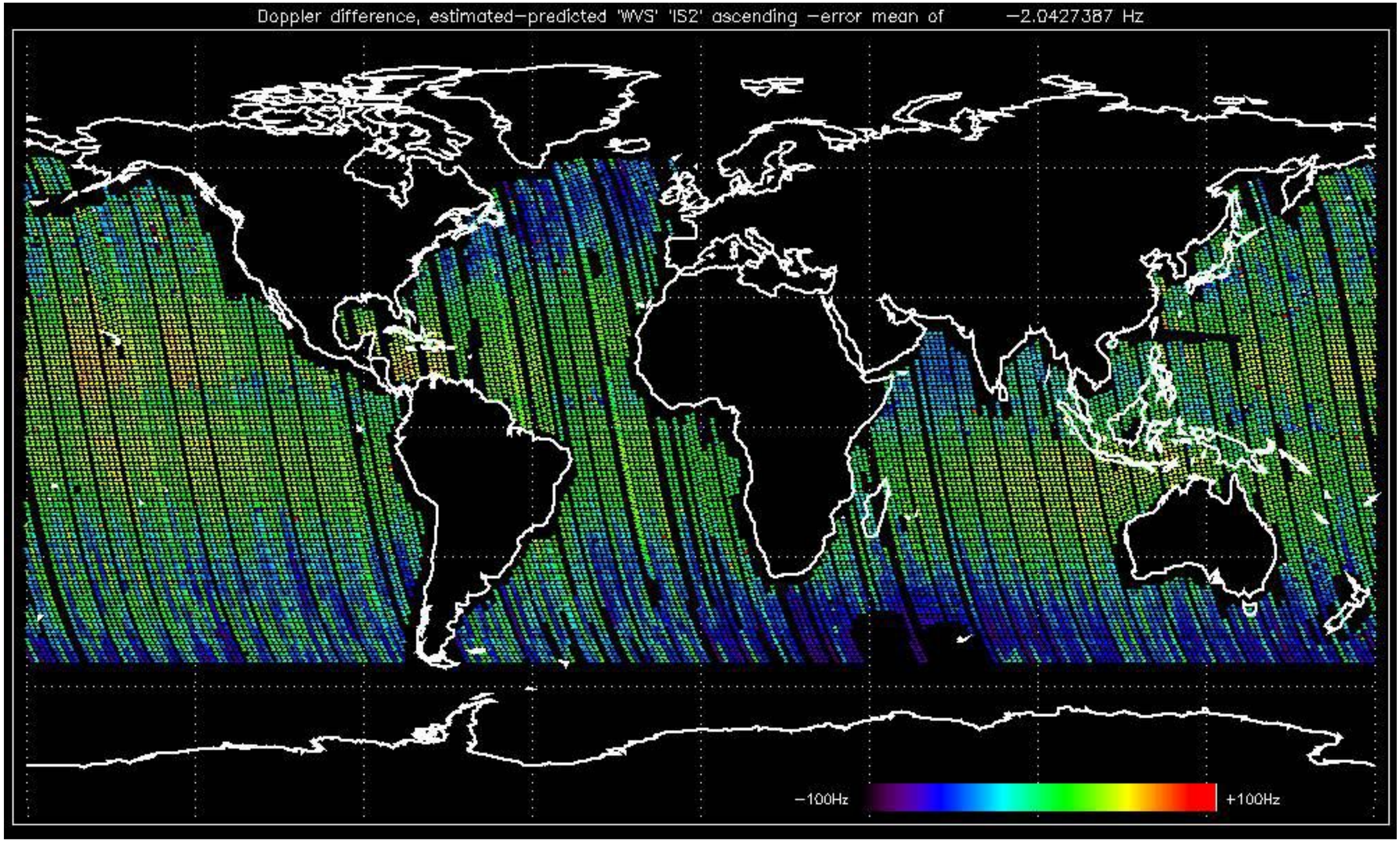

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

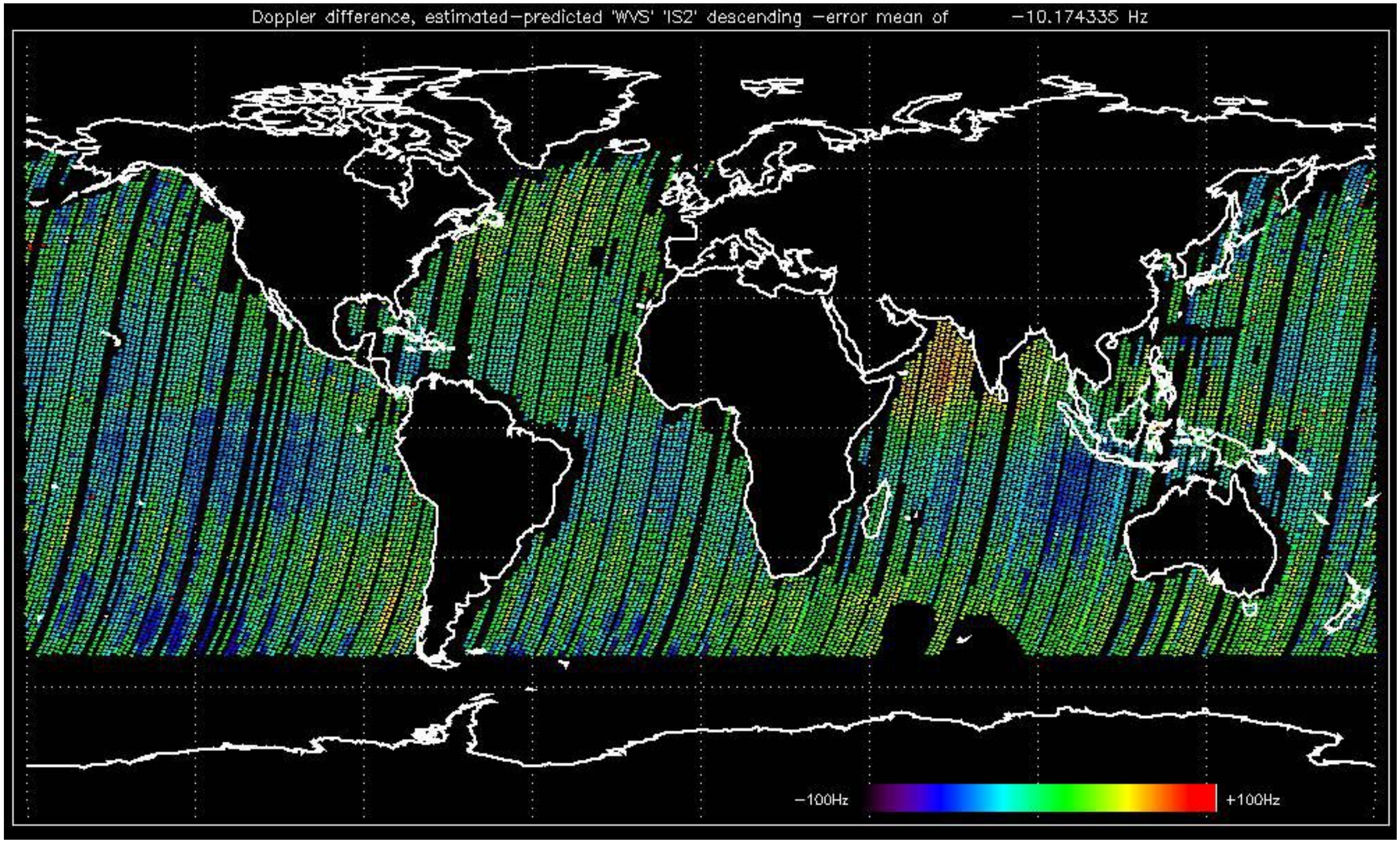

Doppler Bias[Hz]
150
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
08
13−Jul
Date


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
−300
−400
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
08
13−Jul
Date


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −17.676965 Hz
−100Hz
+100Hz

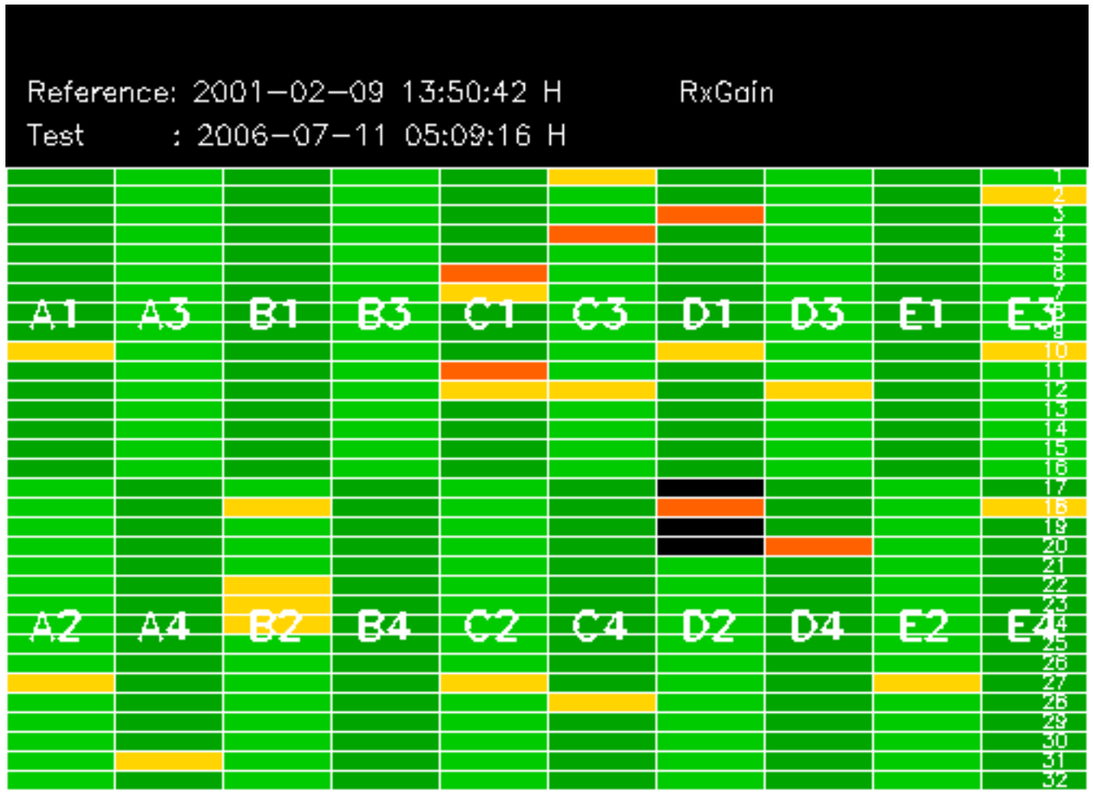

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -7.4545946 Hz
-100Hz
+100Hz

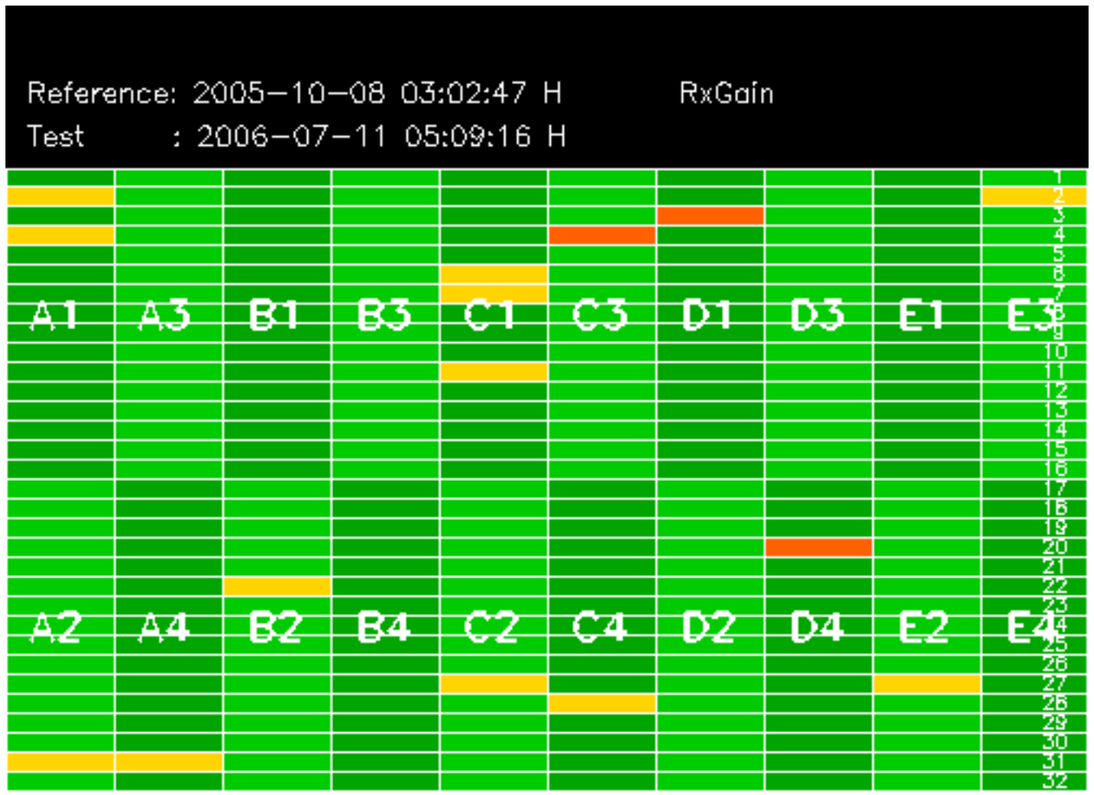

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −2.0427387 Hz
−100Hz
+100Hz

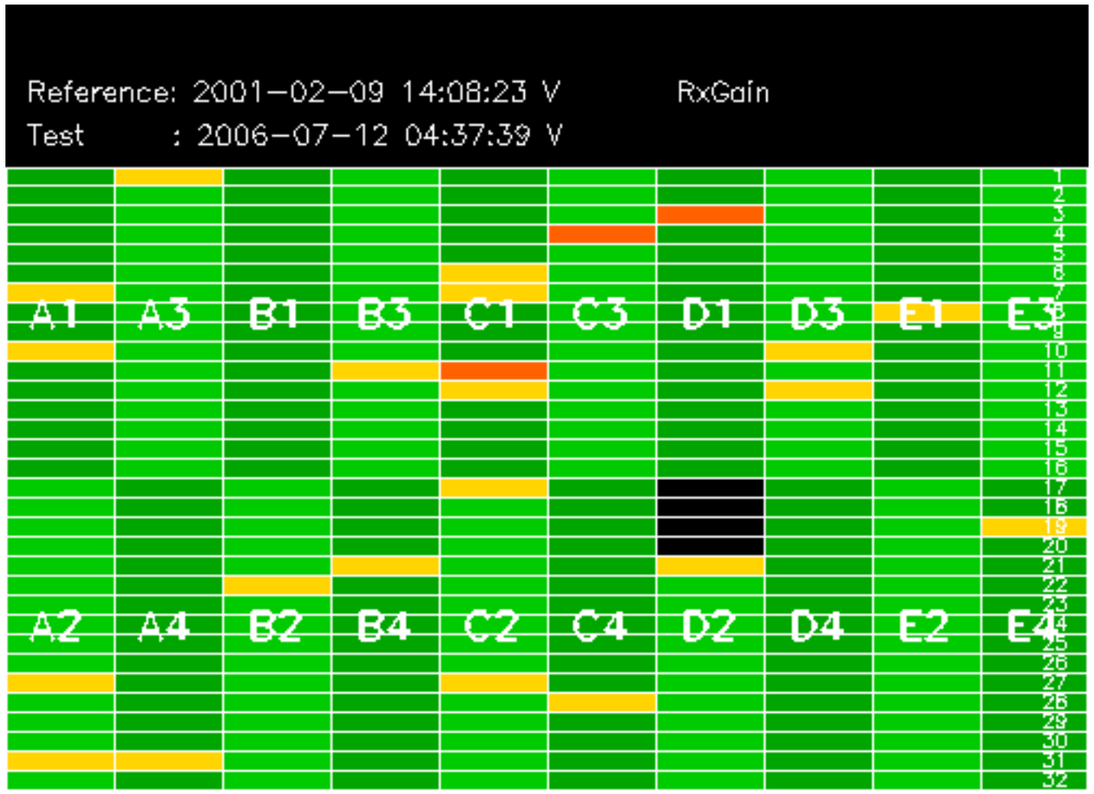

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −10.174335 Hz
−100Hz
+100Hz

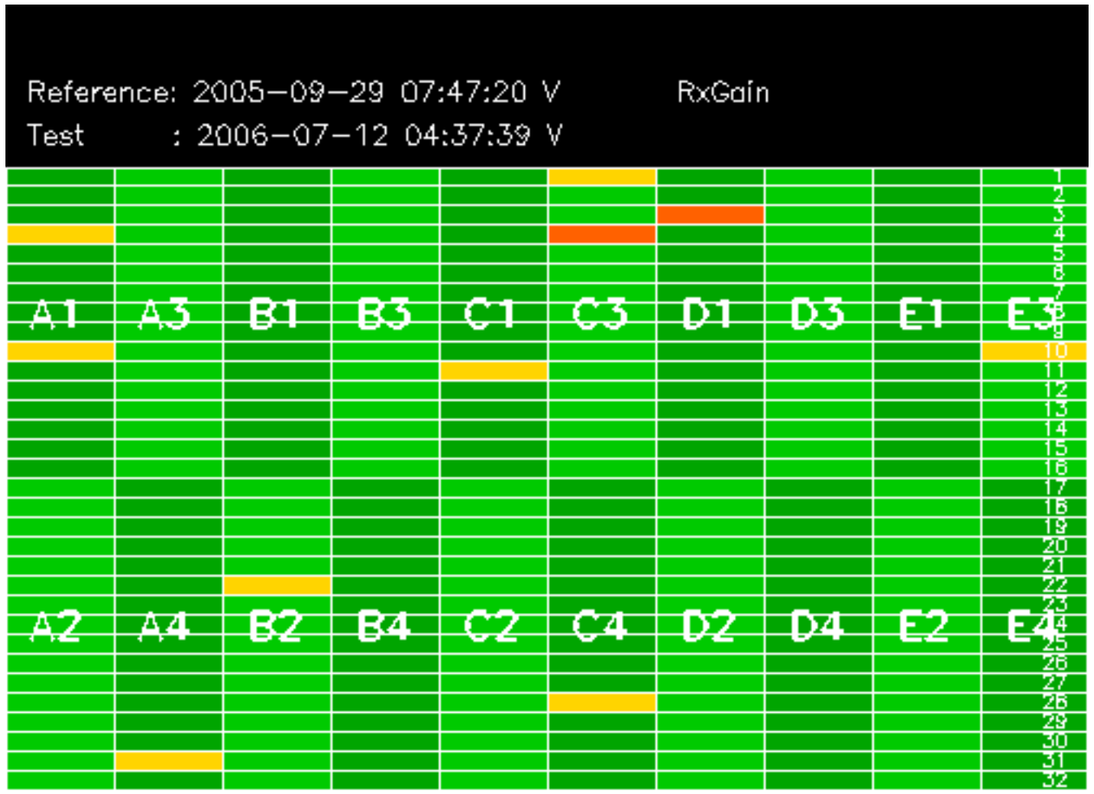
No anomalies observed on available MS products:

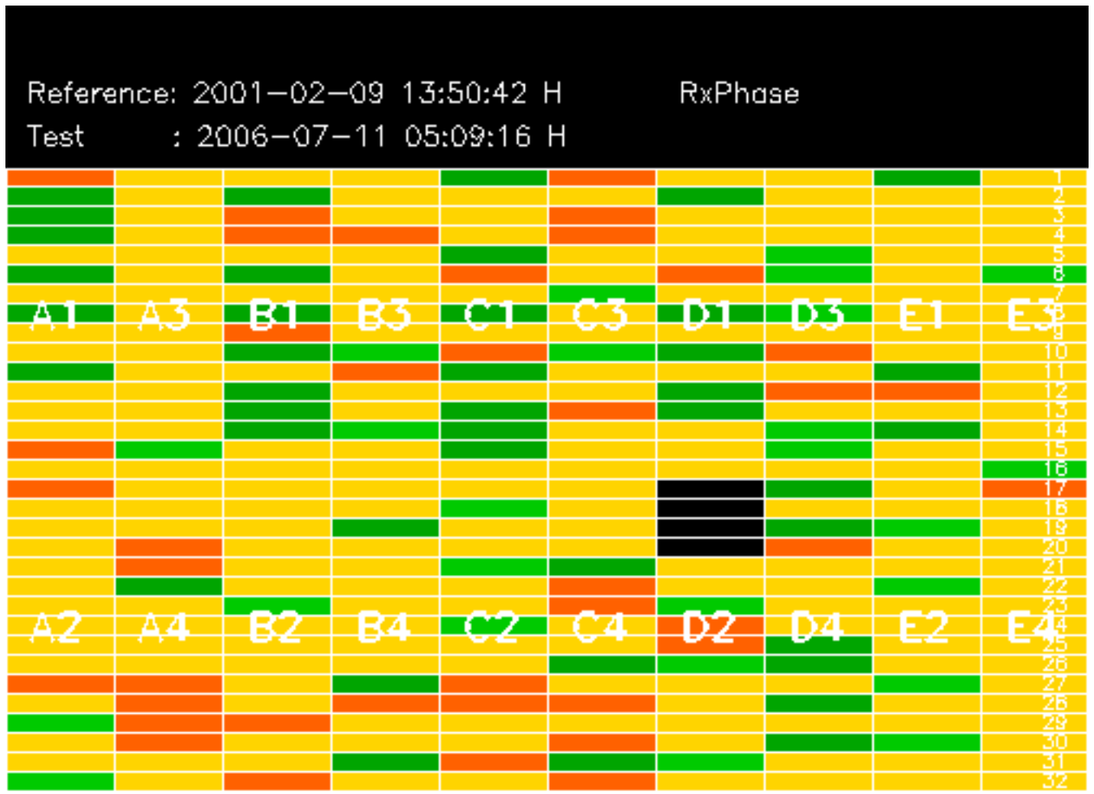
No anomalies observed.

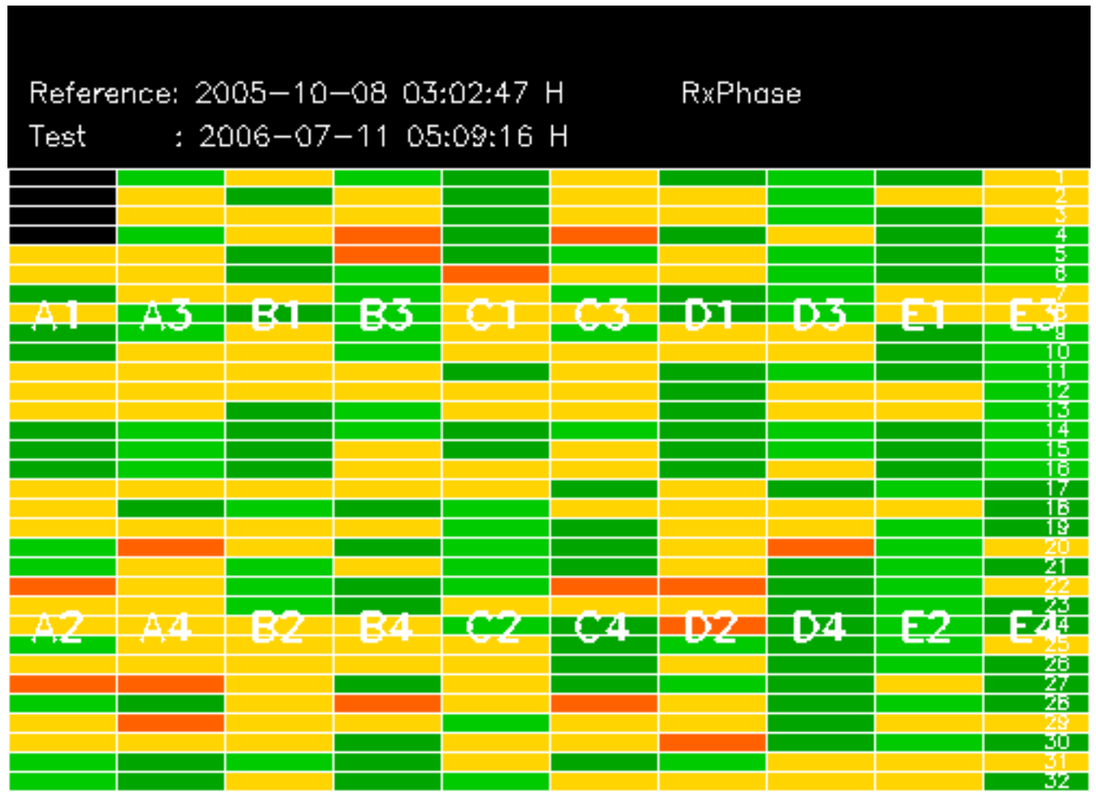

Reference: 2001-02-09 13:50:42 H
Test : 2006-07-11 05:09:16 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-10-08 03:02:47 H
Test : 2006-07-11 05:09:16 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 : 2006-07-12 04:37:39 V
RxGain
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 : 2006-07-12 04:37:39 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 : 2006-07-11 05:09:16 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-10-08 03:02:47 H
RxPhase
Test : 2006-07-11 05:09:16 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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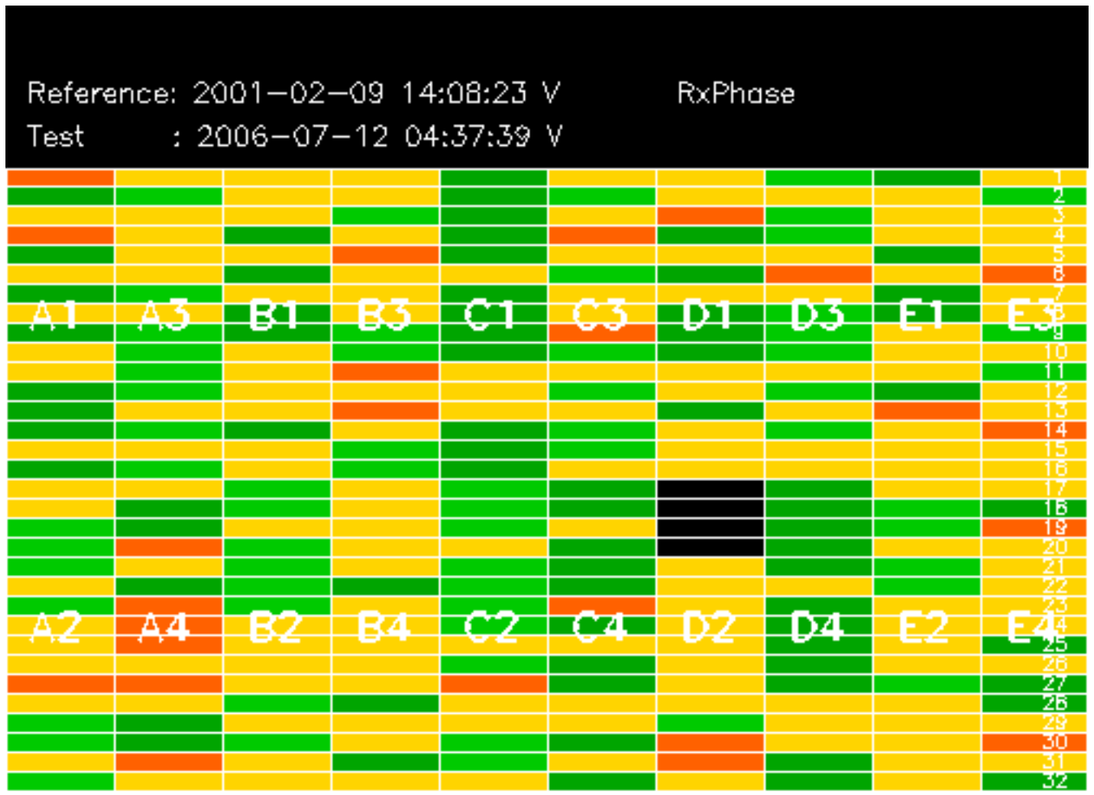
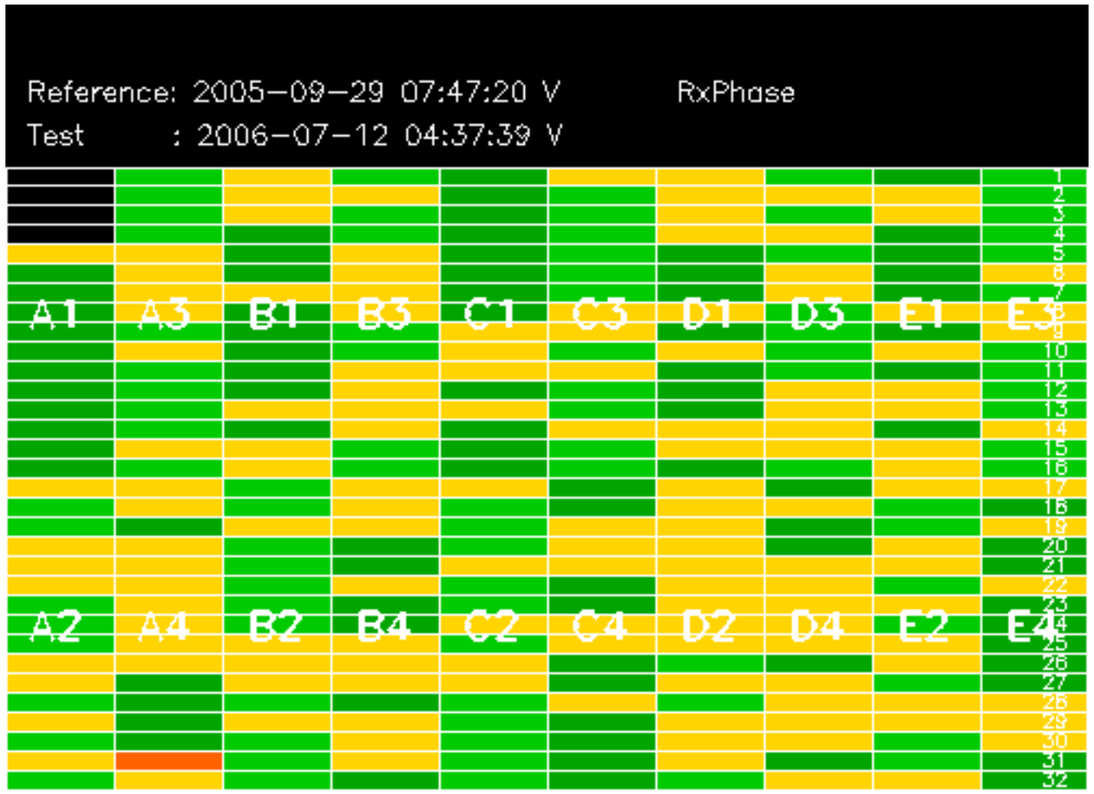

Reference: 2001-02-09 14:08:23 V
Test : 2006-07-12 04:37:39 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
RxPhase
Test : 2006-07-12 04:37:39 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
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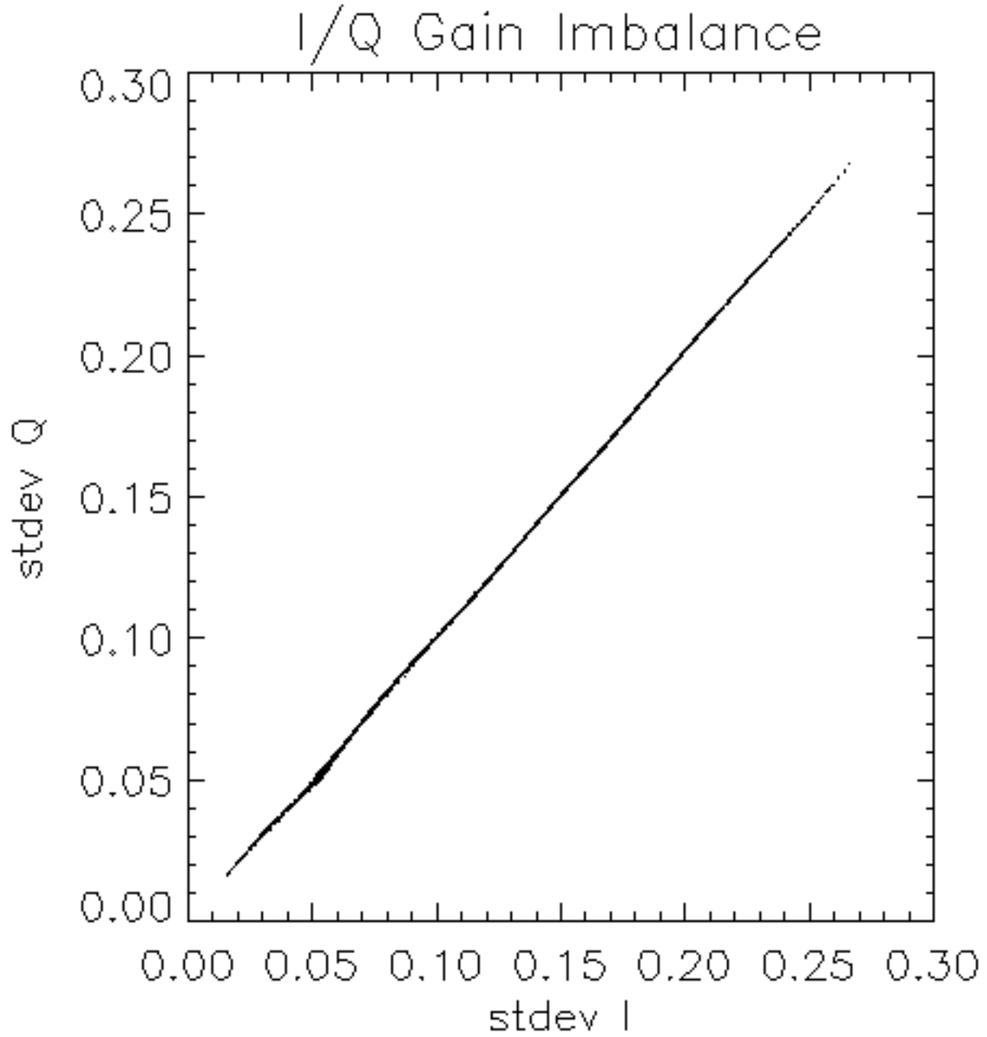
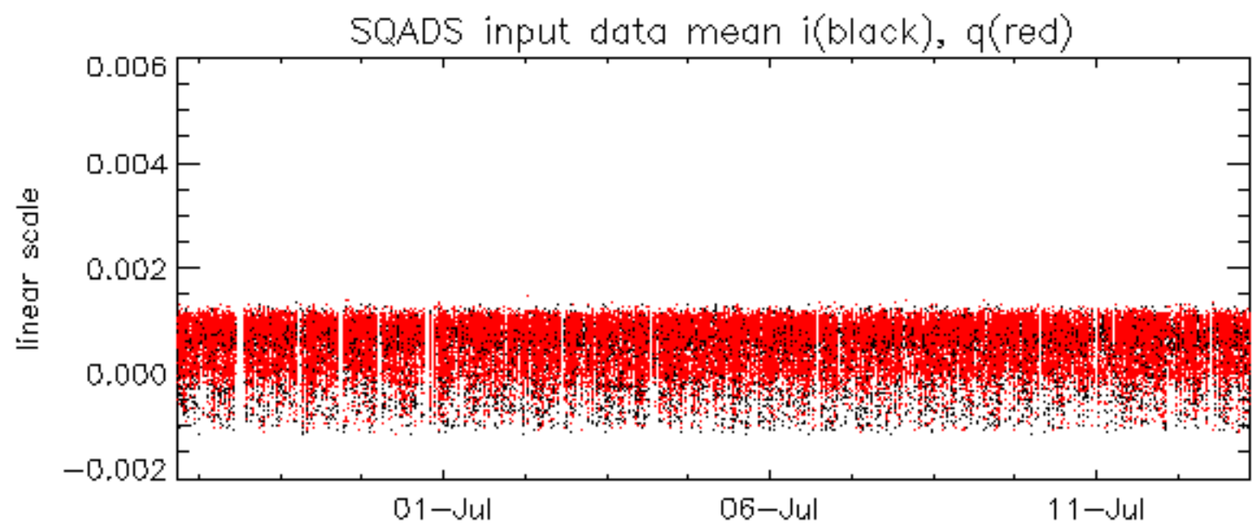
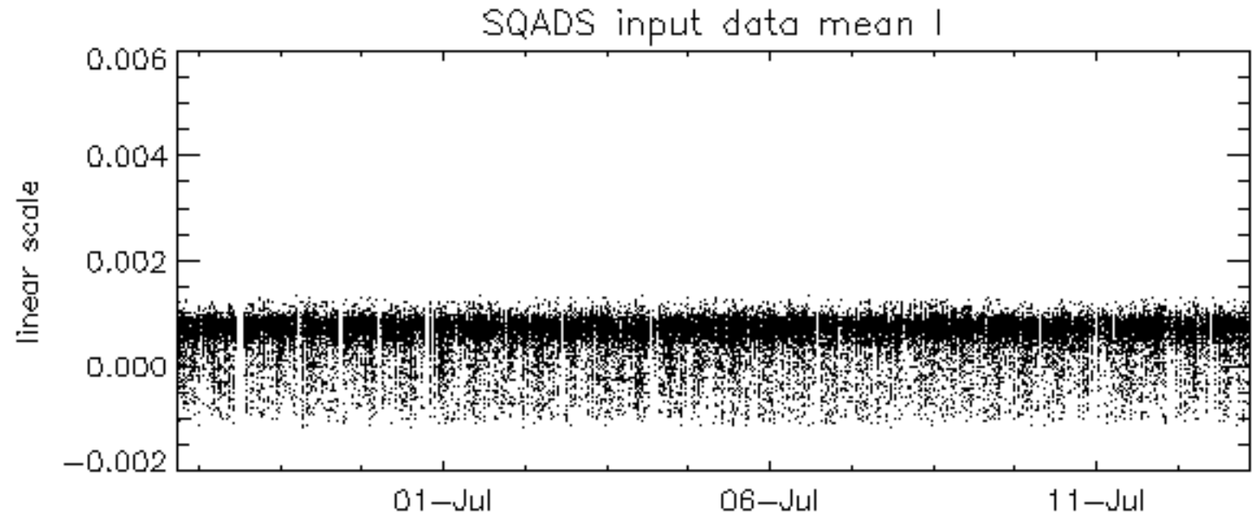
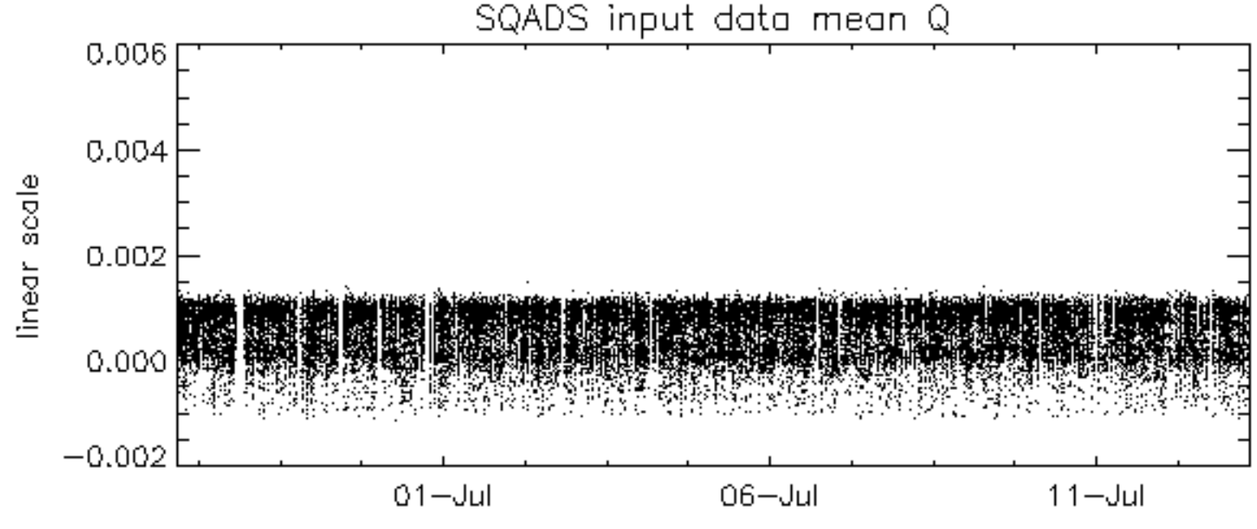
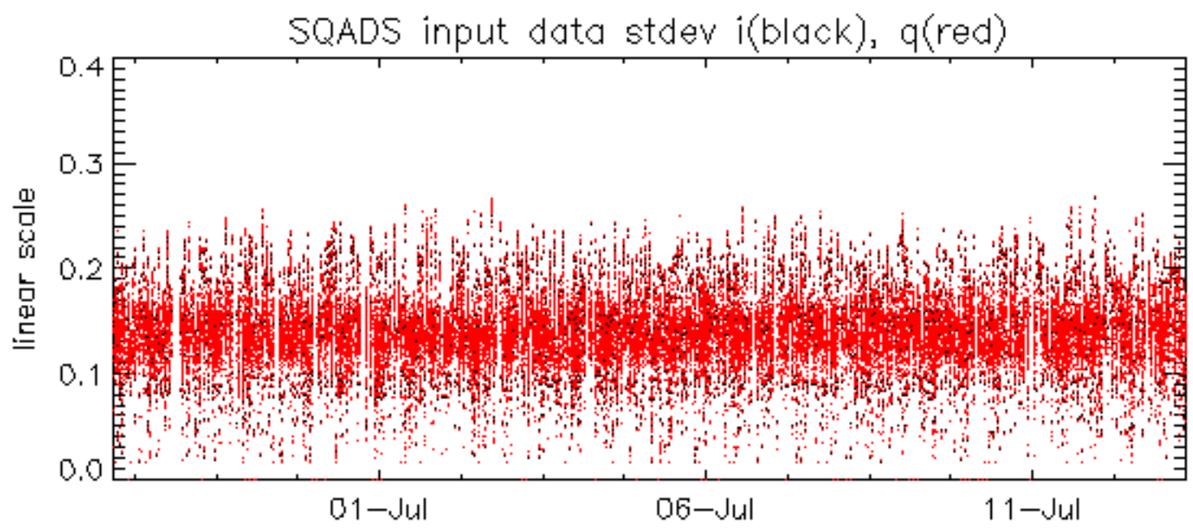
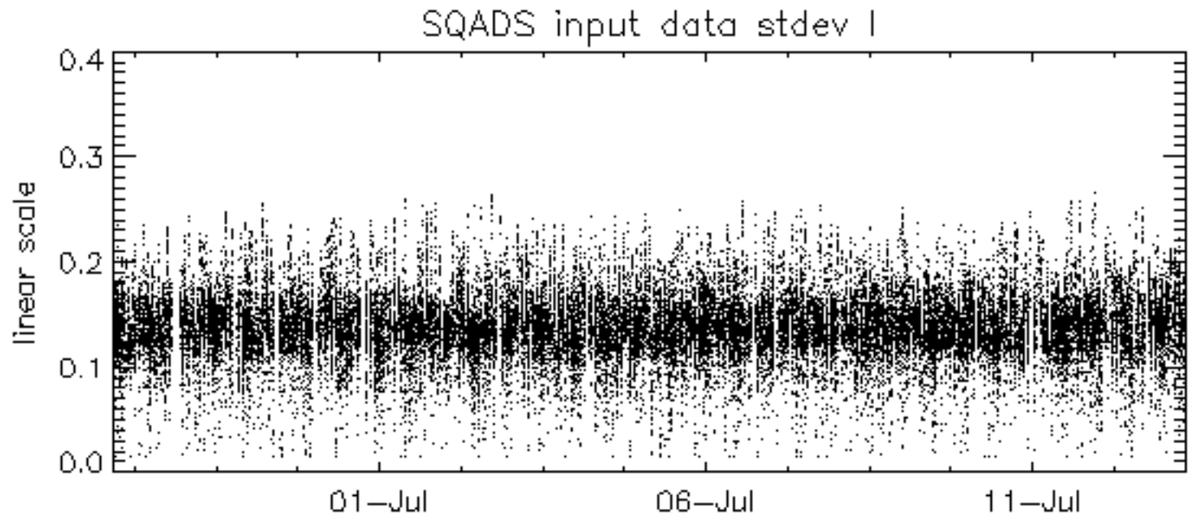

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

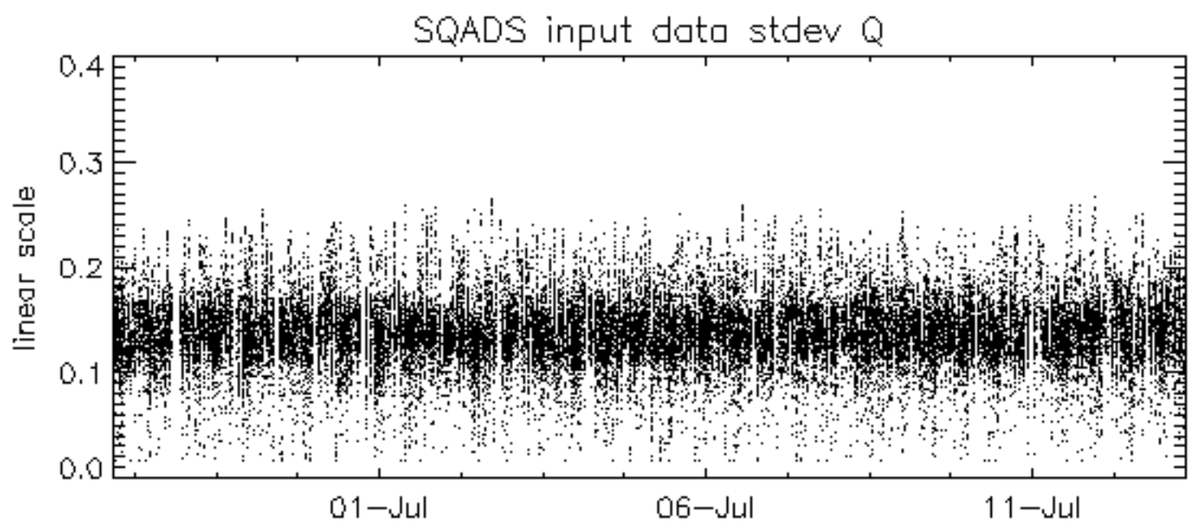

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Jul
06−Jul
11−Jul

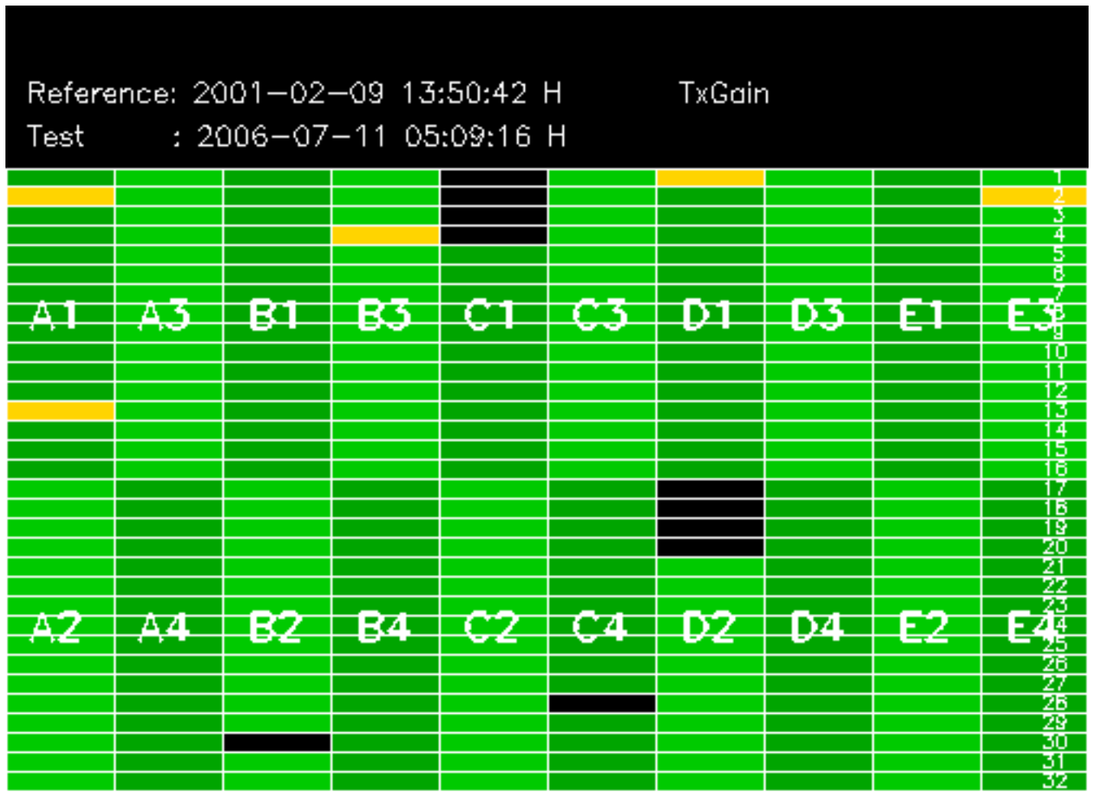

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Jul
06−Jul
11−Jul


SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
01−Jul
06−Jul
11−Jul


SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
01–Jul
06–Jul
11–Jul


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
01–Jul
06–Jul
11–Jul


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
01–Jul
06–Jul
11–Jul


Reference: 2001-02-09 13:50:42 H
Test : 2006-07-11 05:09:16 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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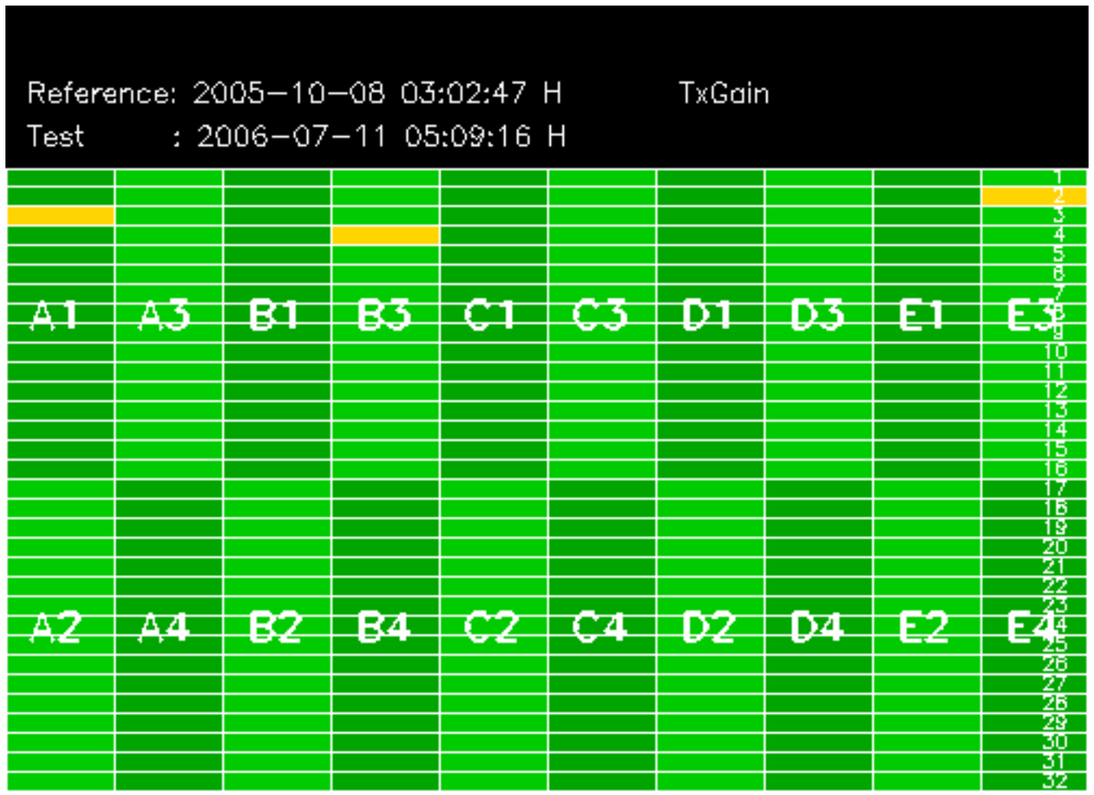
Reference: 2005-10-08 03:02:47 H
Test : 2006-07-11 05:09:16 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
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D4
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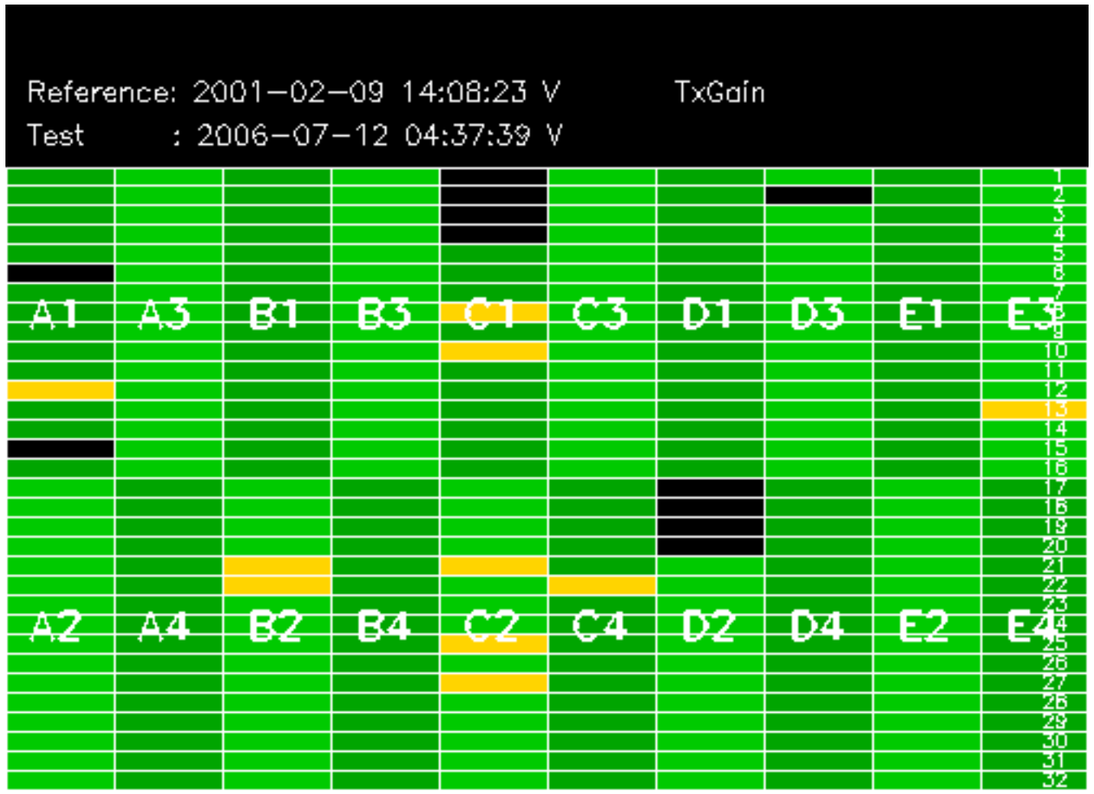
Reference: 2001-02-09 14:08:23 V
Test : 2006-07-12 04:37:39 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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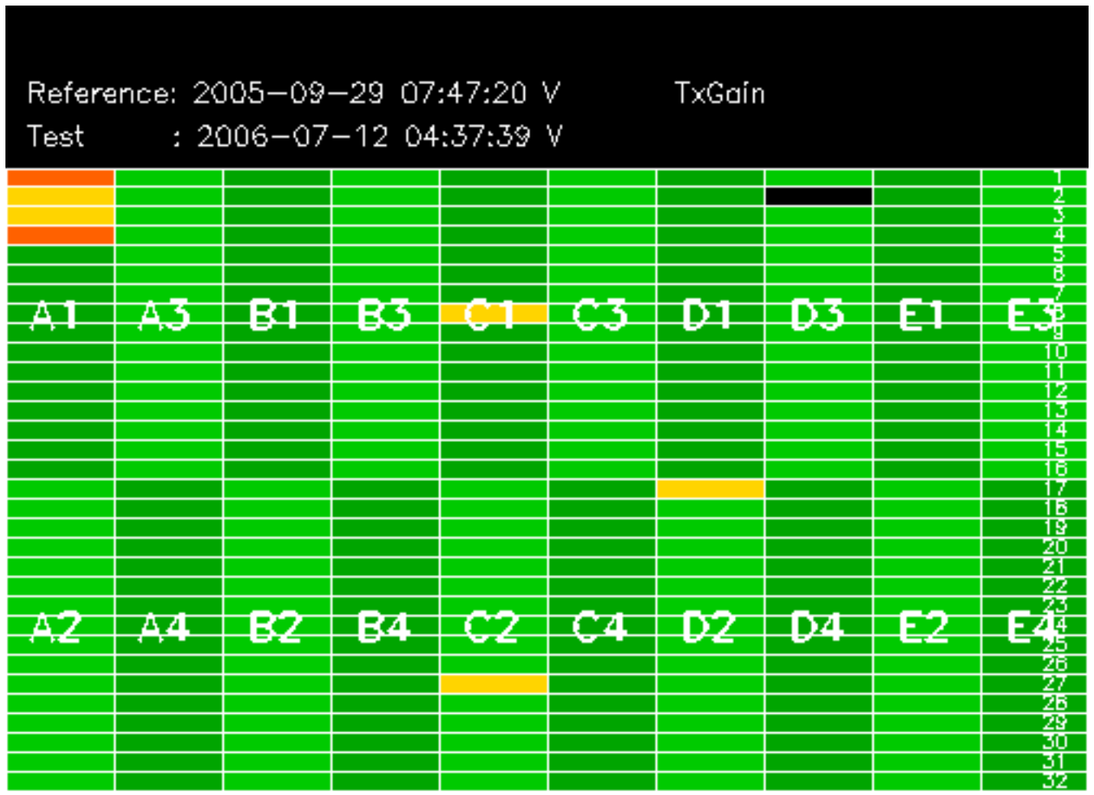
Reference: 2005-09-29 07:47:20 V
Test : 2006-07-12 04:37:39 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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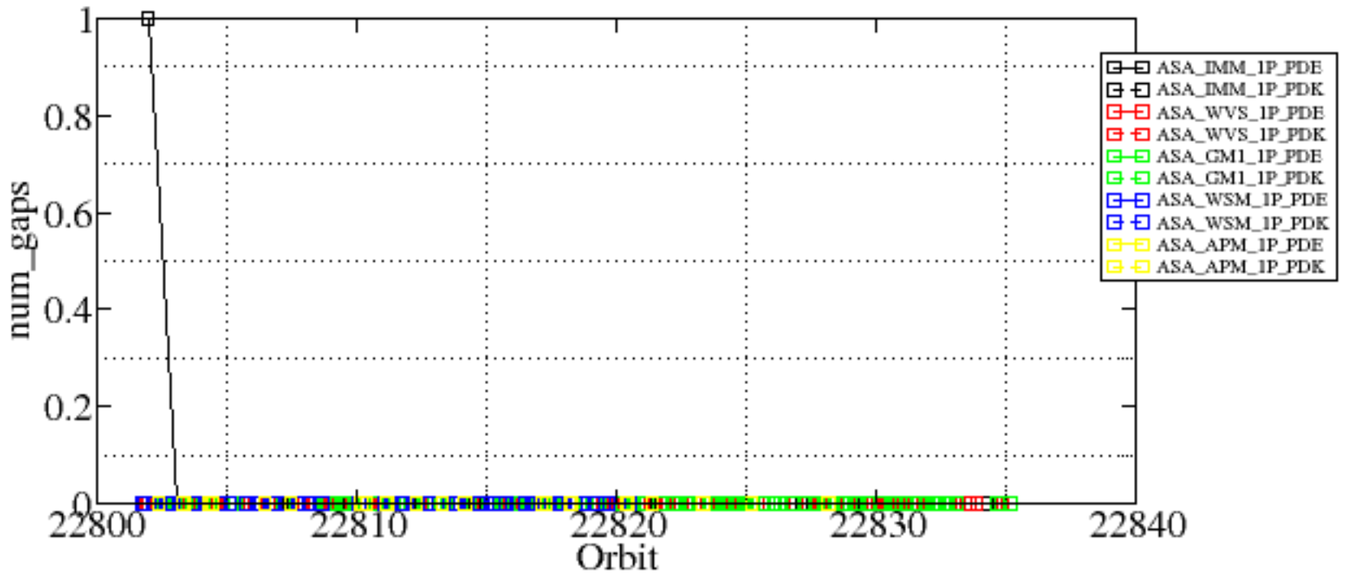
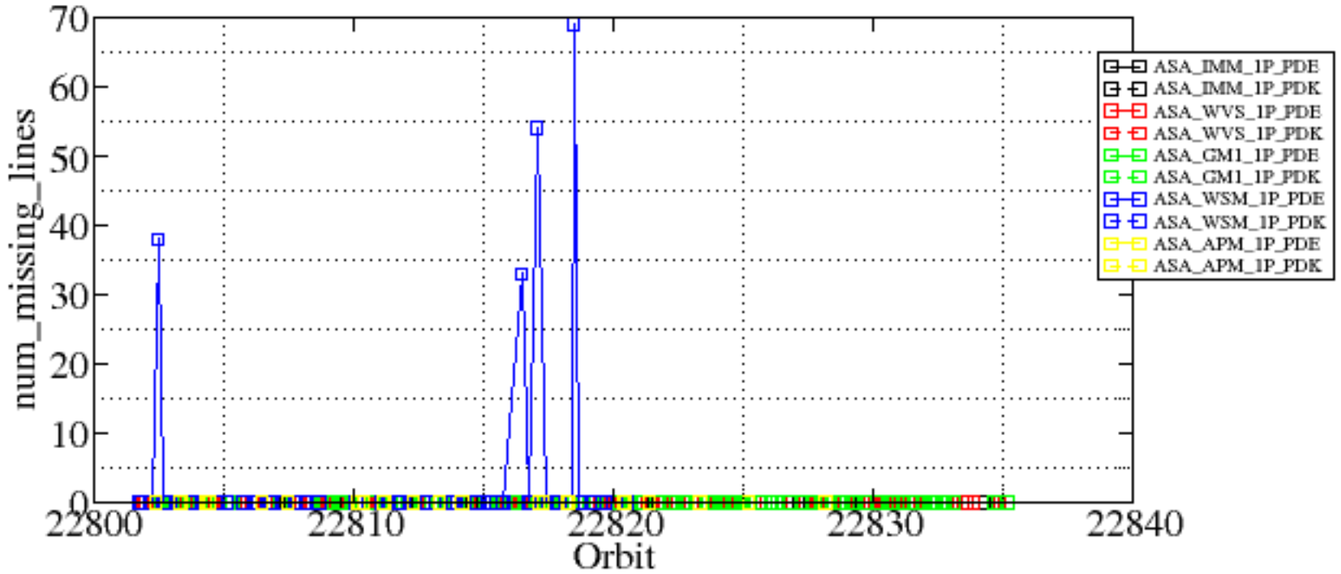
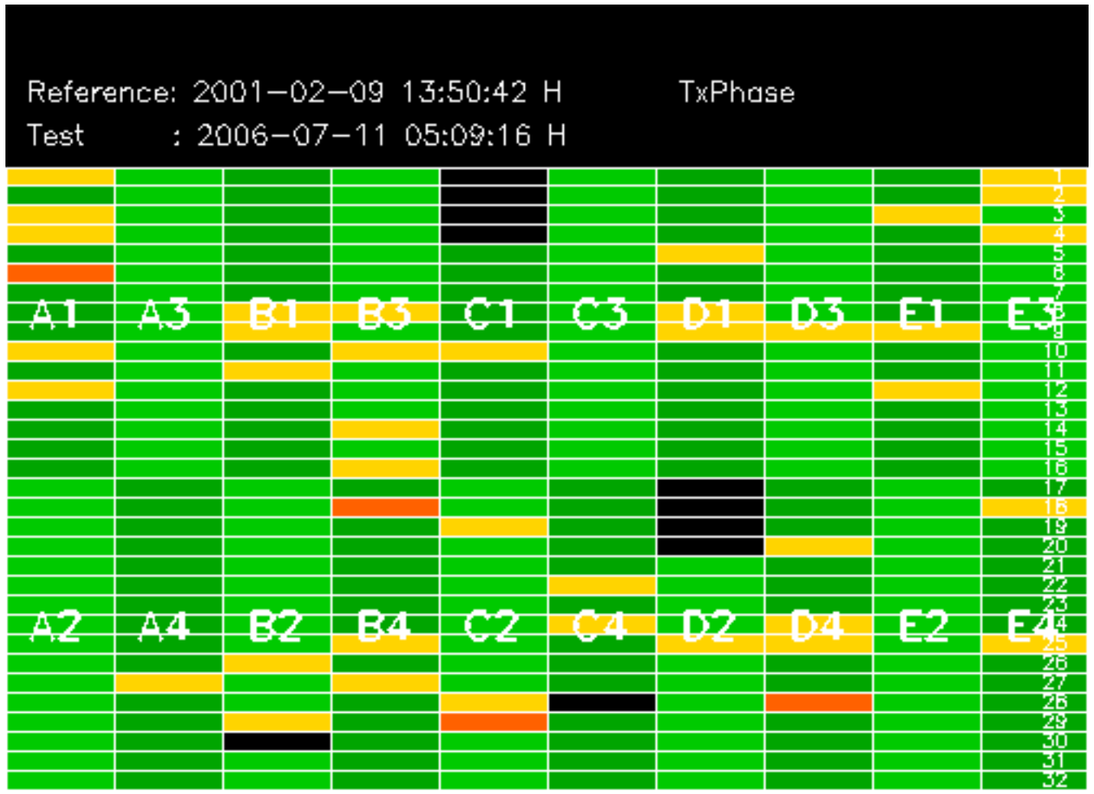
Summary of analysis for the last 3 days 2006071[123]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

<table border=1>
<tr> <th>Filename</th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_IMM_1PNPDE20060711_003719_000001342049_00202_22801_0613.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20060711_012646_000000852049_00203_22802_2476.N1 </td> <td>0 </td> <td>38 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20060712_005610_000000852049_00217_22816_2627.N1 </td> <td>0 </td> <td>33 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20060712_015512_000000852049_00218_22817_2628.N1 </td> <td>0 </td> <td>54 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20060712_041730_000000672049_00219_22818_2642.N1 </td> <td>0 </td> <td>69 </td></tr>
</table>


num_gaps
1
0.8
0.6
0.4
0.2
0
22800
22810
22820
22830
22840
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
ASA_APM_1P_PDK


num_missing_lines
70
60
50
40
30
20
10
0
22800
22810
22820
22830
22840
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
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
Test : 2006-07-11 05:09:16 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
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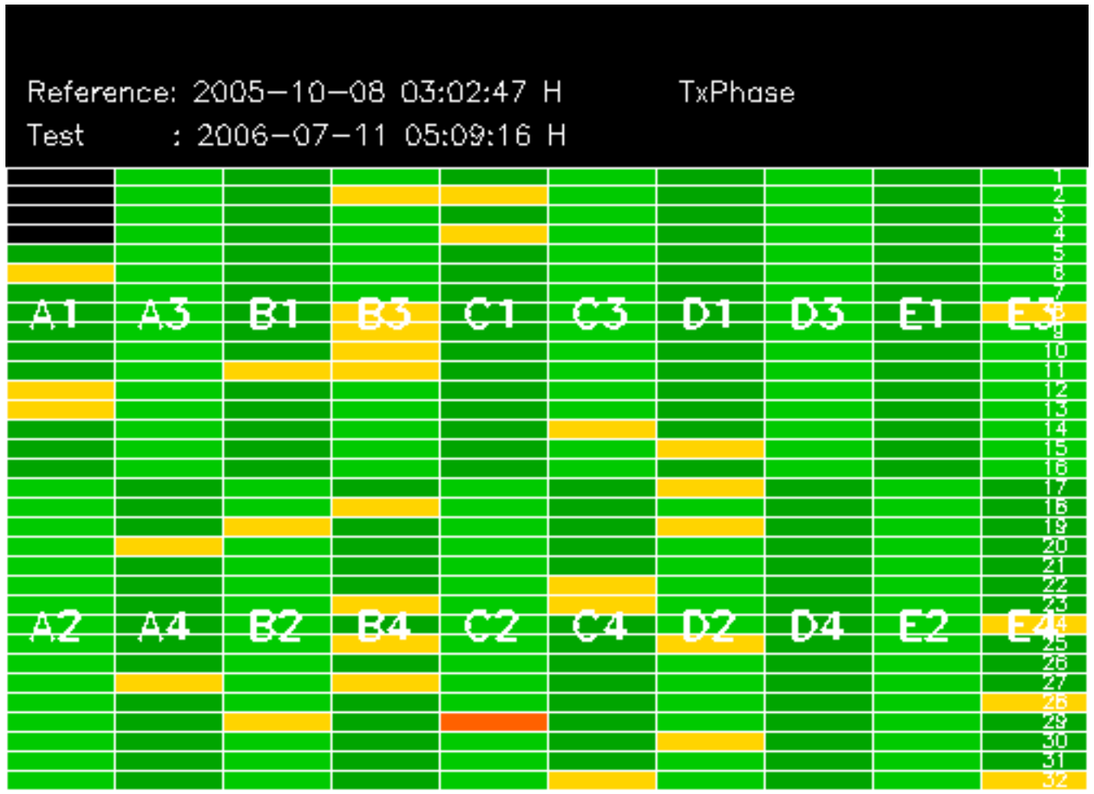
Reference: 2005-10-08 03:02:47 H
TxPhase
Test : 2006-07-11 05:09:16 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
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D4
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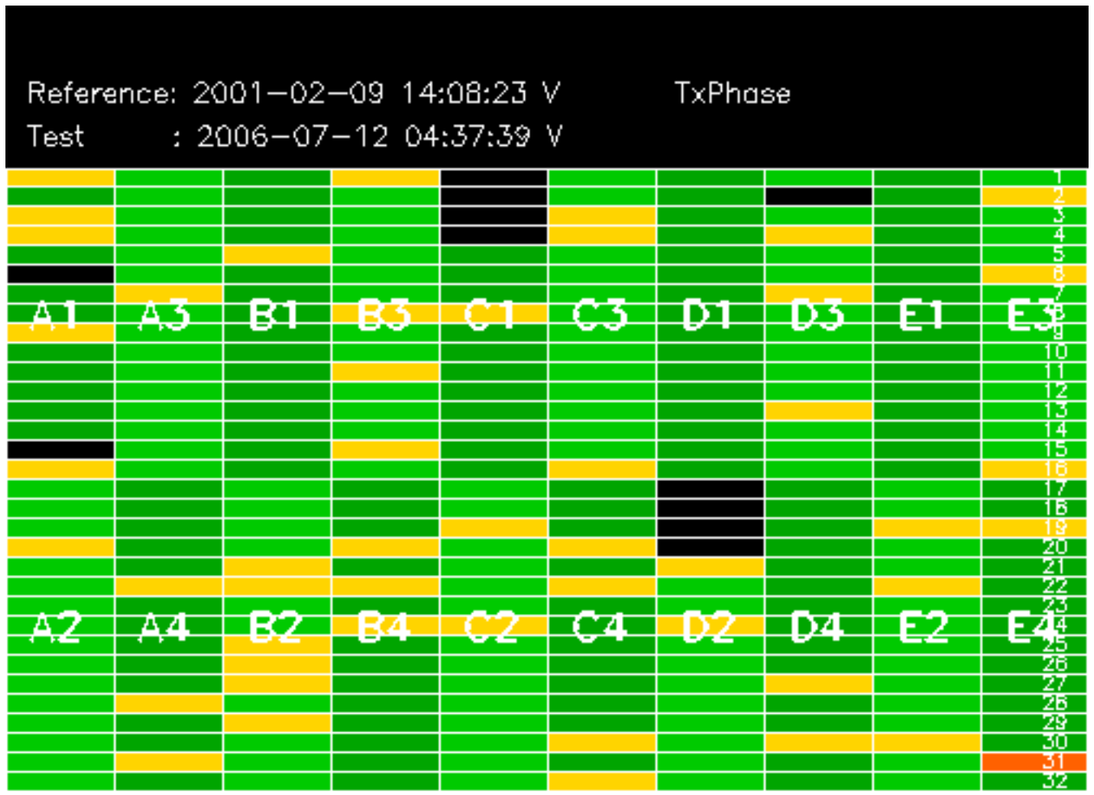
Reference: 2001-02-09 14:08:23 V
Test : 2006-07-12 04:37:39 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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E4
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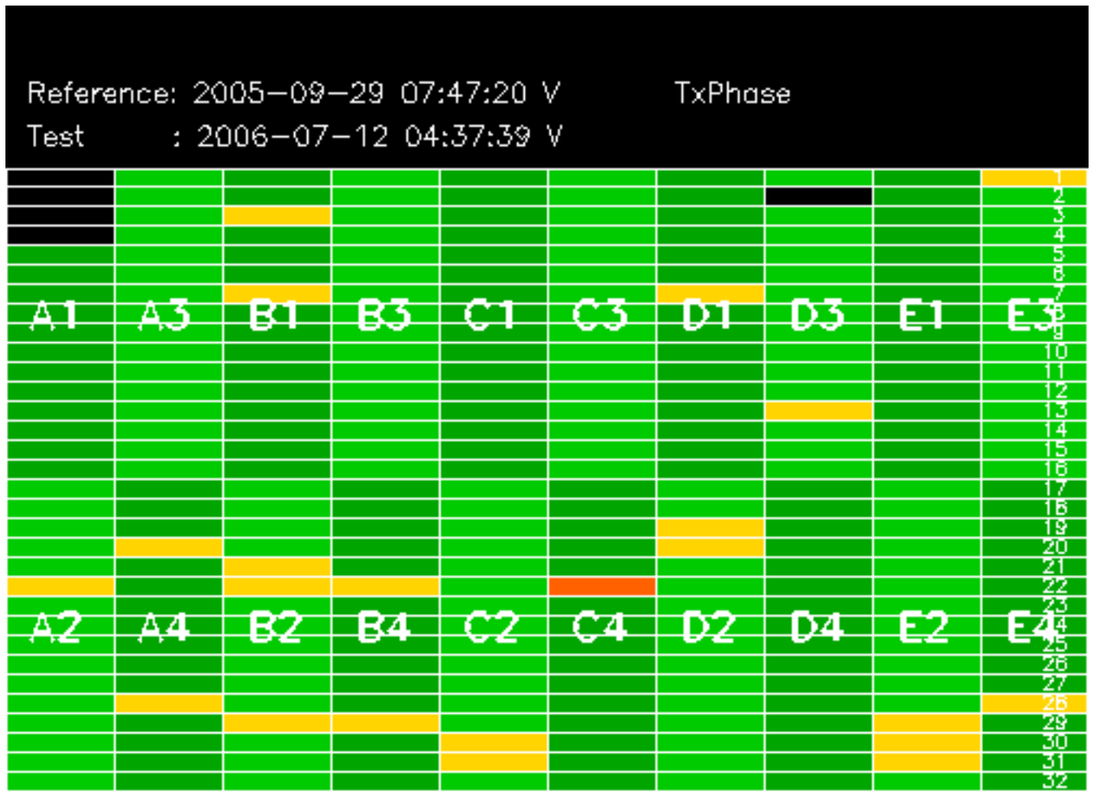
Reference: 2005-09-29 07:47:20 V
TxPhase
Test : 2006-07-12 04:37:39 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
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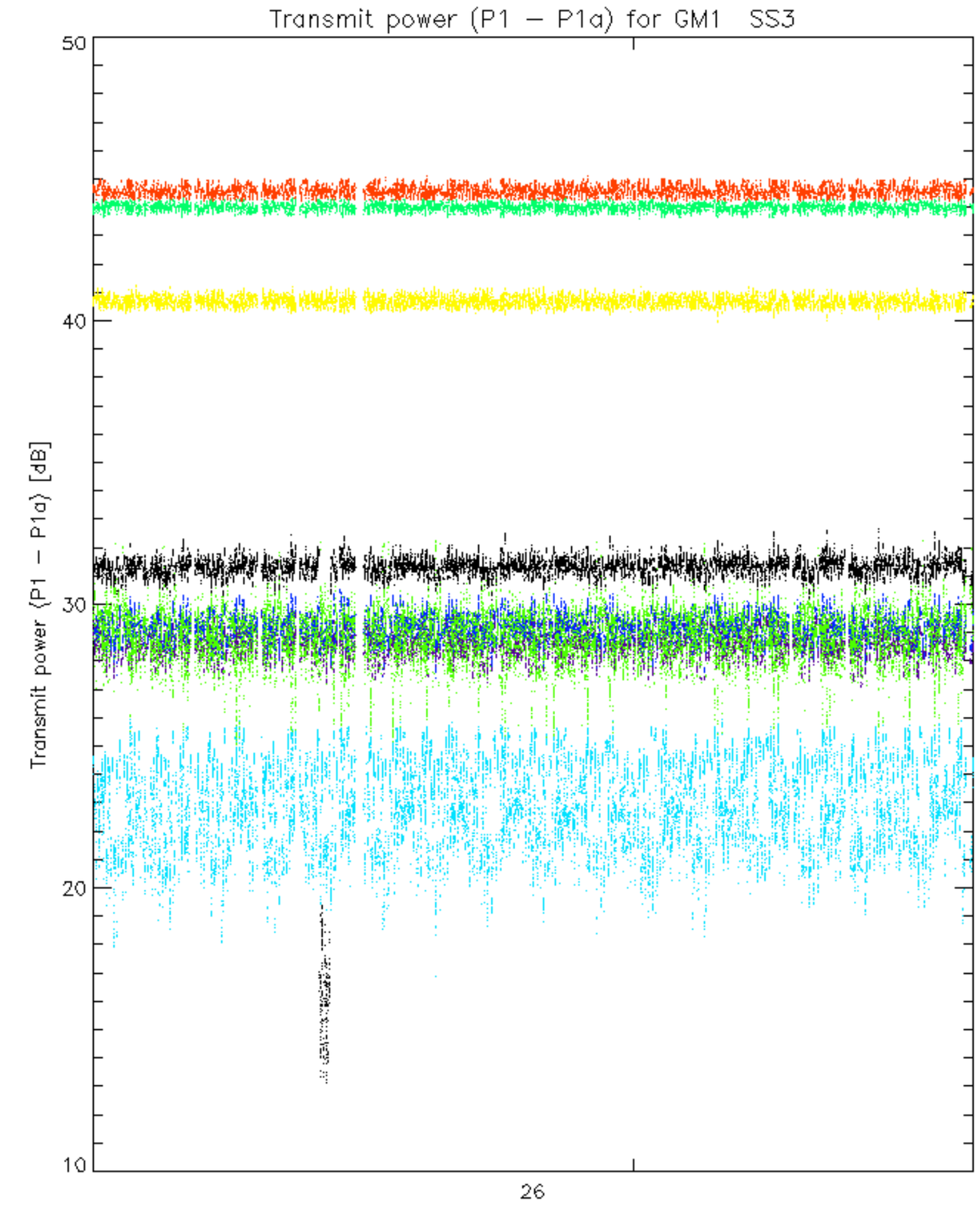
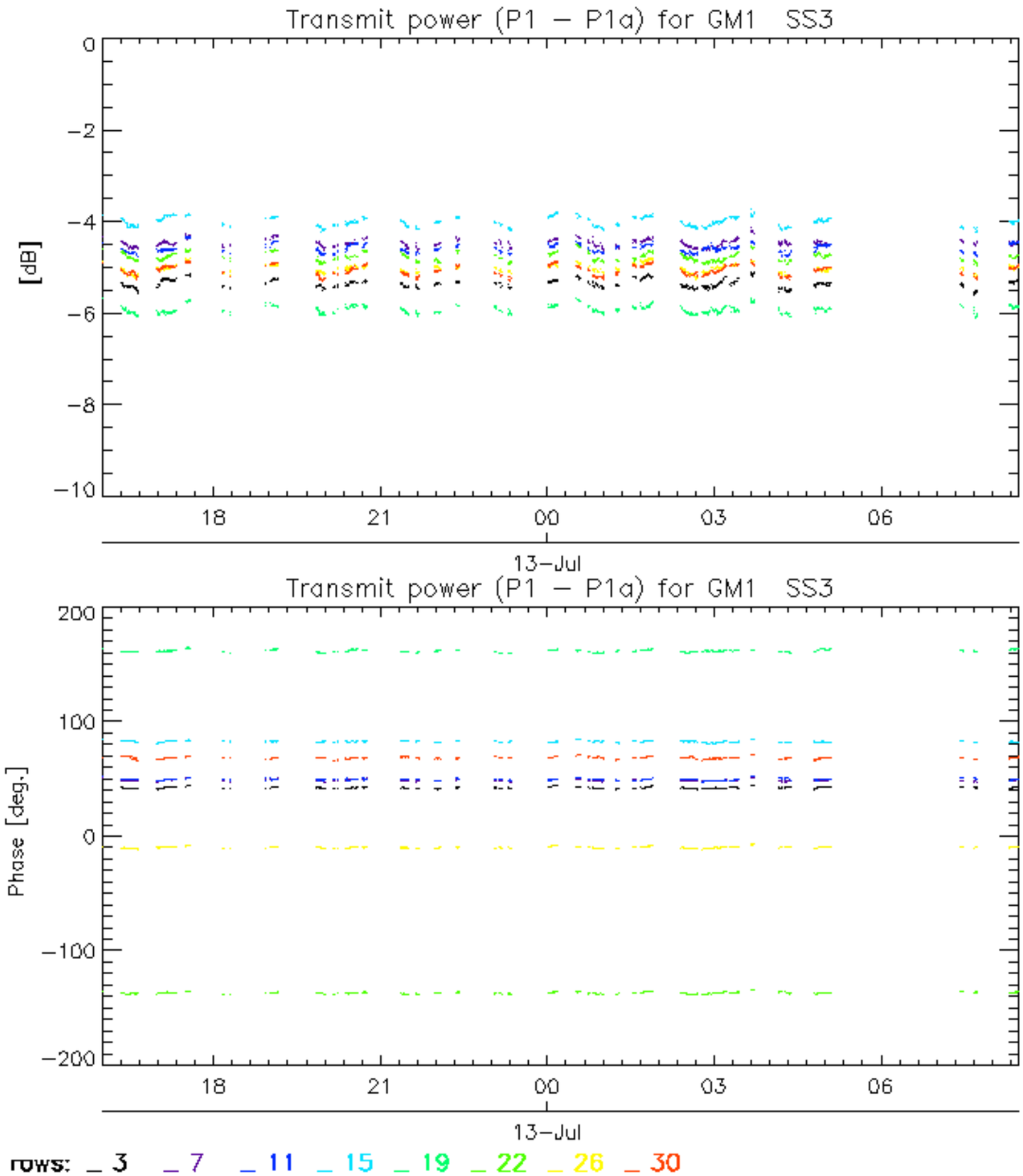
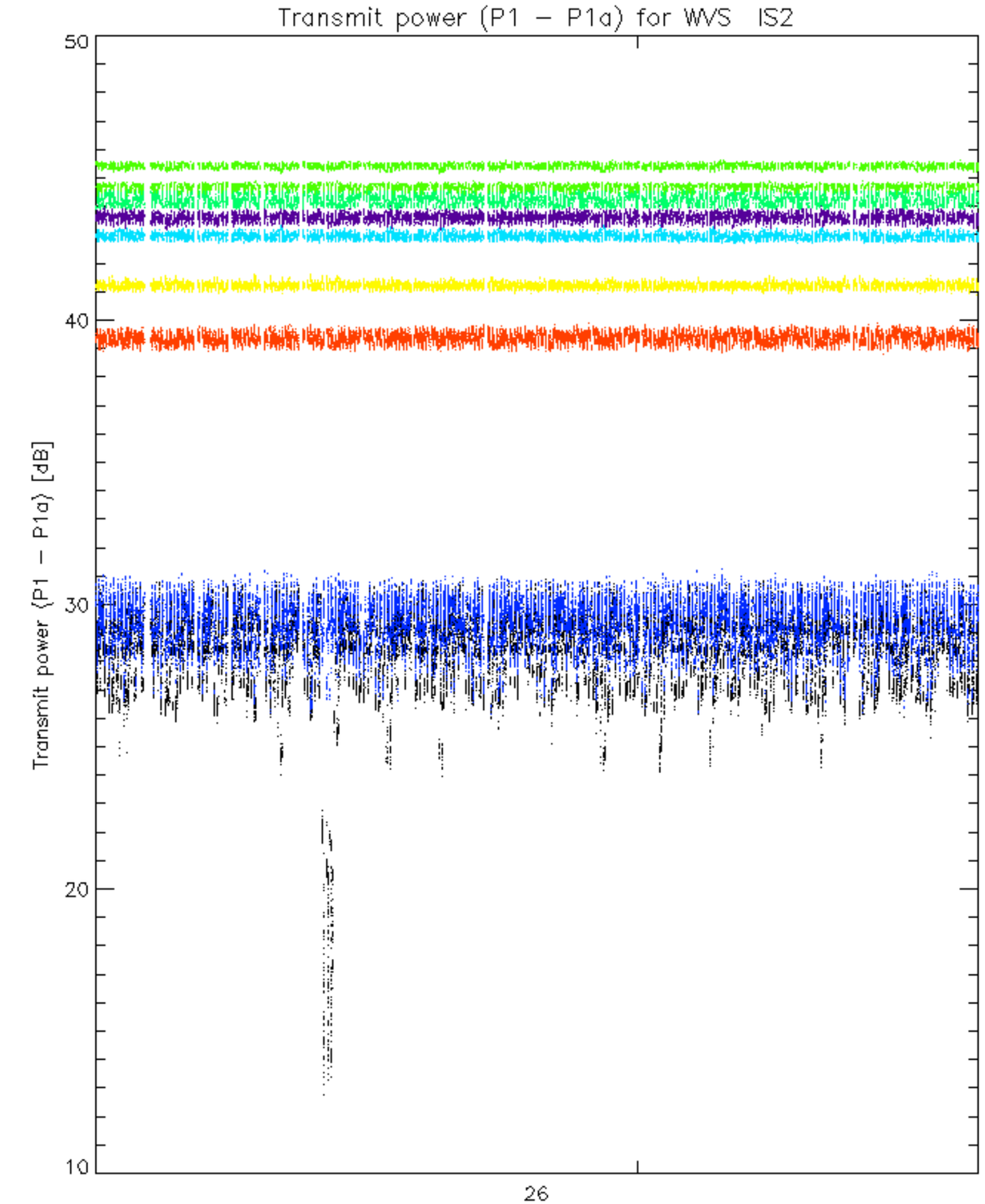
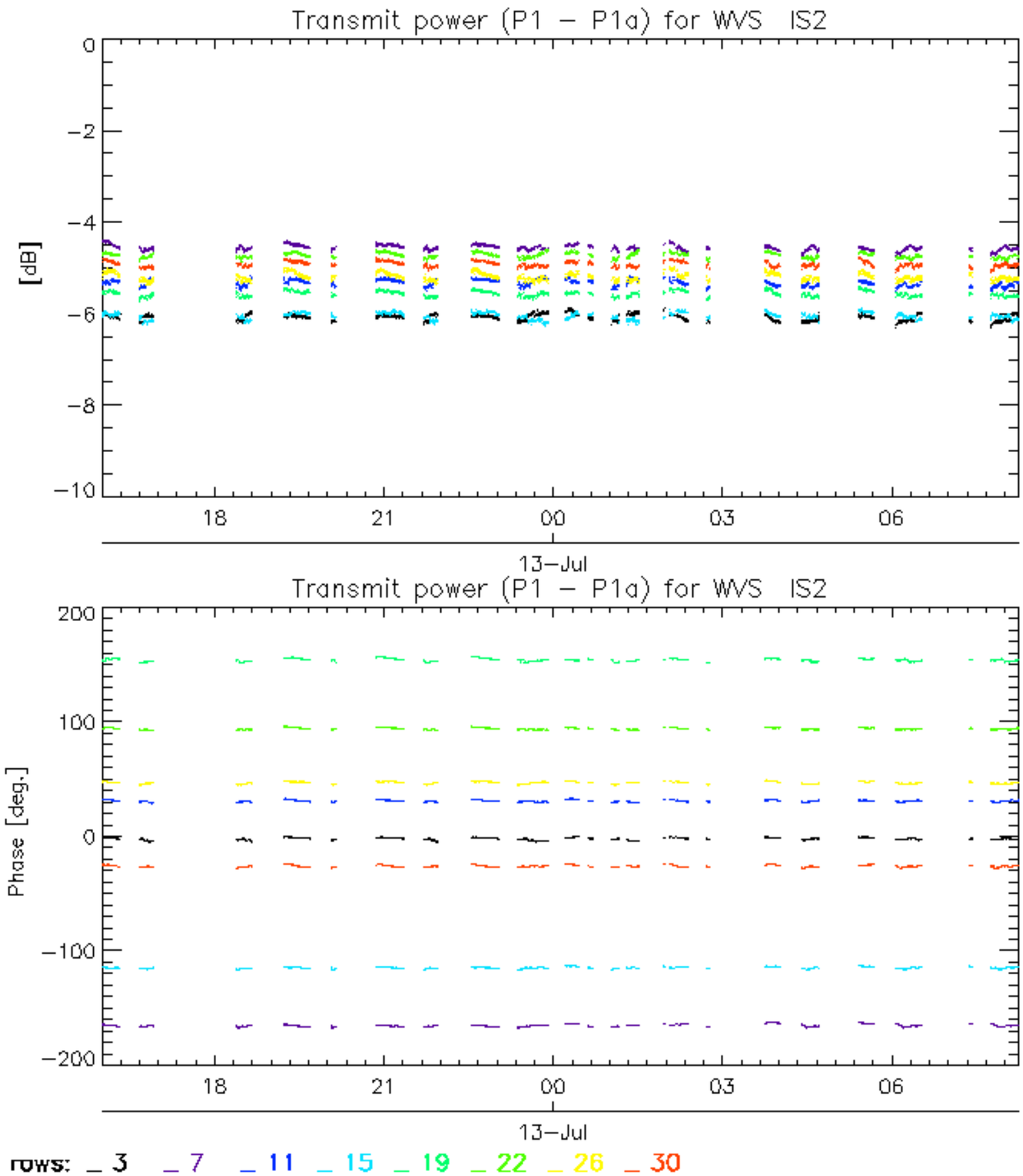

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
26
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
0
−2
−4
−6
−8
−10
[dB]
18
21
00
03
06
13–Jul
Transmit power (P1 – P1a) for GM1 SS3
200
100
0
−100
−200
Phase [deg.]
18
21
00
03
06
13–Jul
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
50
40
30
20
10
Transmit power (P1 – P1a) [dB]
26
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for WVS IS2
0
−2
−4
−6
−8
−10
[dB]
18
21
00
03
06
13–Jul
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
18
21
00
03
06
13–Jul
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.