PRELIMINARY REPORT OF 060710

last update on Mon Jul 10 16:49:37 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 2006-07-09 00:00:00 to 2006-07-10 16:49:37

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	41	74	9	8	0
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	41	74	9	8	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	41	74	9	8	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	41	74	9	8	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	30	55	26	16	65
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	30	55	26	16	65
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	30	55	26	16	65
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	30	55	26	16	65

2.3 - Browse Visual Inspection

No anomalies observed on available browse products

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	20060708 064407
H	20060709 061230

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	-3.939592	0.046404	-0.001815
7	P1	-3.128605	0.012018	0.071844
11	P1	-4.097945	0.015613	0.033128
15	P1	-6.168463	0.011435	-0.019228
19	P1	-3.377055	0.008876	-0.034405
22	P1	-4.533665	0.010907	-0.027660
26	P1	-3.953189	0.018436	0.057593
30	P1	-5.761696	0.008293	-0.007557
3	P1	-16.534456	0.626608	-0.026110
7	P1	-17.230497	0.108560	0.112171
11	P1	-16.983313	0.276702	-0.019454
15	P1	-13.164927	0.156978	0.099199
19	P1	-14.400702	0.048552	-0.091173
22	P1	-16.104288	0.387324	0.246460
26	P1	-15.167568	0.228525	0.092742
30	P1	-17.137630	0.382042	0.135570

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.063711	0.087139	0.175576
7	P2	-21.969530	0.103438	0.119265
11	P2	-15.823584	0.117316	0.066131
15	P2	-7.151052	0.099593	0.049319
19	P2	-9.158658	0.090509	0.070749
22	P2	-18.168356	0.085589	0.047891
26	P2	-16.411871	0.091741	0.041618
30	P2	-19.548336	0.091734	0.048178

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.184834	0.003375	0.026065
7	P3	-8.184834	0.003375	0.026065
11	P3	-8.184834	0.003375	0.026065
15	P3	-8.184834	0.003375	0.026065
19	P3	-8.184834	0.003375	0.026065
22	P3	-8.184834	0.003375	0.026065
26	P3	-8.184834	0.003375	0.026065
30	P3	-8.184834	0.003375	0.026065

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	-3.810449	0.063434	0.011706
7	P1	-2.571405	0.008269	0.027179
11	P1	-2.858287	0.013724	-0.008469
15	P1	-3.541904	0.027956	-0.072429
19	P1	-3.417106	0.013912	0.006687
22	P1	-5.088090	0.020002	-0.019888
26	P1	-5.862741	0.015673	0.016034
30	P1	-5.195478	0.025836	0.015200
3	P1	-11.617996	0.169596	0.067728
7	P1	-9.980402	0.033156	0.019669
11	P1	-10.241363	0.059031	-0.009556
15	P1	-10.718461	0.135591	-0.132649
19	P1	-15.539286	0.075646	0.052426
22	P1	-20.950005	1.180562	0.101342

26	P1	-16.408463	0.351517	0.216292
30	P1	-17.870436	0.383665	-0.029428

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.723482	0.075052	0.211213
7	P2	-22.450413	0.131824	0.096972
11	P2	-11.097453	0.046608	0.115081
15	P2	-4.925166	0.048157	0.025161
19	P2	-6.884450	0.050114	0.023485
22	P2	-8.207885	0.041291	0.029807
26	P2	-24.179020	0.067960	-0.030383
30	P2	-22.041069	0.054648	0.066311

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.021547	0.004126	0.021130
7	P3	-8.021683	0.004114	0.021469
11	P3	-8.021585	0.004139	0.021582
15	P3	-8.021513	0.004130	0.021394
19	P3	-8.021539	0.004133	0.021237
22	P3	-8.021686	0.004116	0.021726
26	P3	-8.021705	0.004125	0.021551
30	P3	-8.021592	0.004106	0.021638

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	0.000573138
	stdev	1.62370e-07
MEAN Q	mean	0.000540451
	stdev	2.12346e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138542
	stdev	0.00111335
STDEV Q	mean	0.138907
	stdev	0.00113141

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006070[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_1PNPDE20060709_004101_000000622049_00174_22773_0517.N1	1	0
ASA_WSM_1PNPDE20060708_112314_000001522049_00166_22765_1970.N1	0	76

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

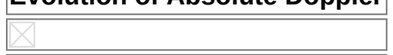
Evolution of unbiased Doppler error (Real - Expected)

Acsending

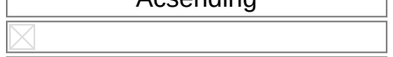
Descending

7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler



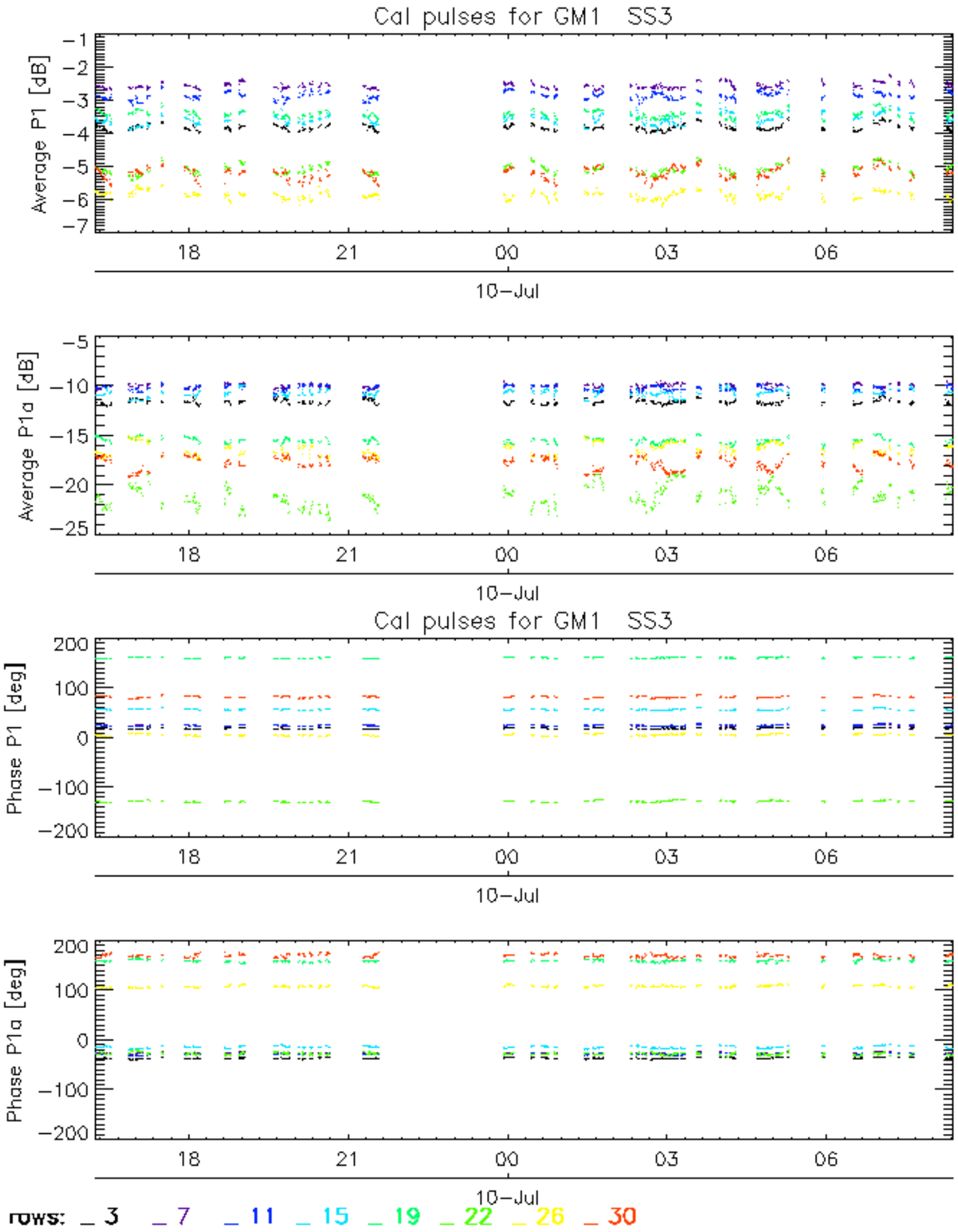
Acsending

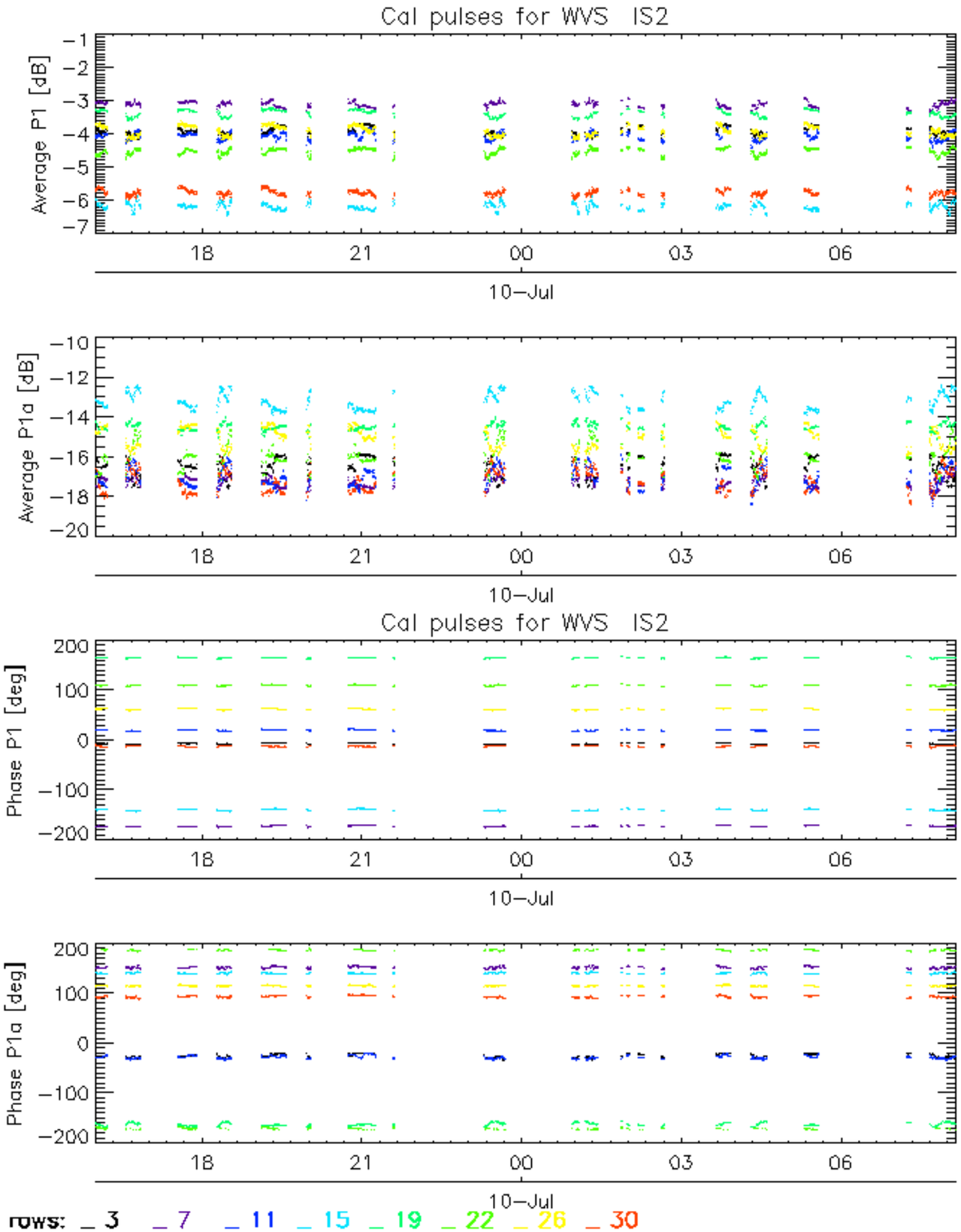


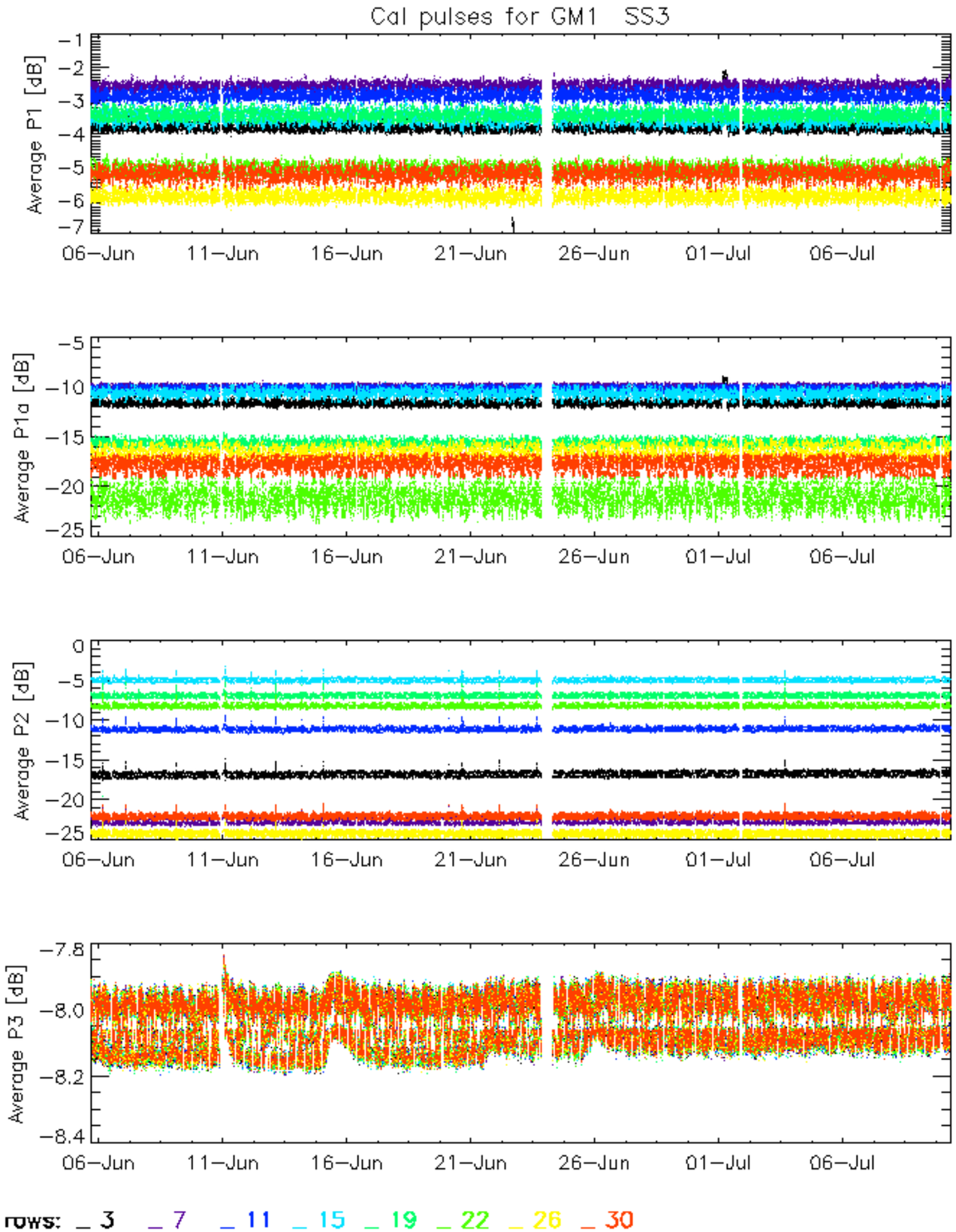
Descending

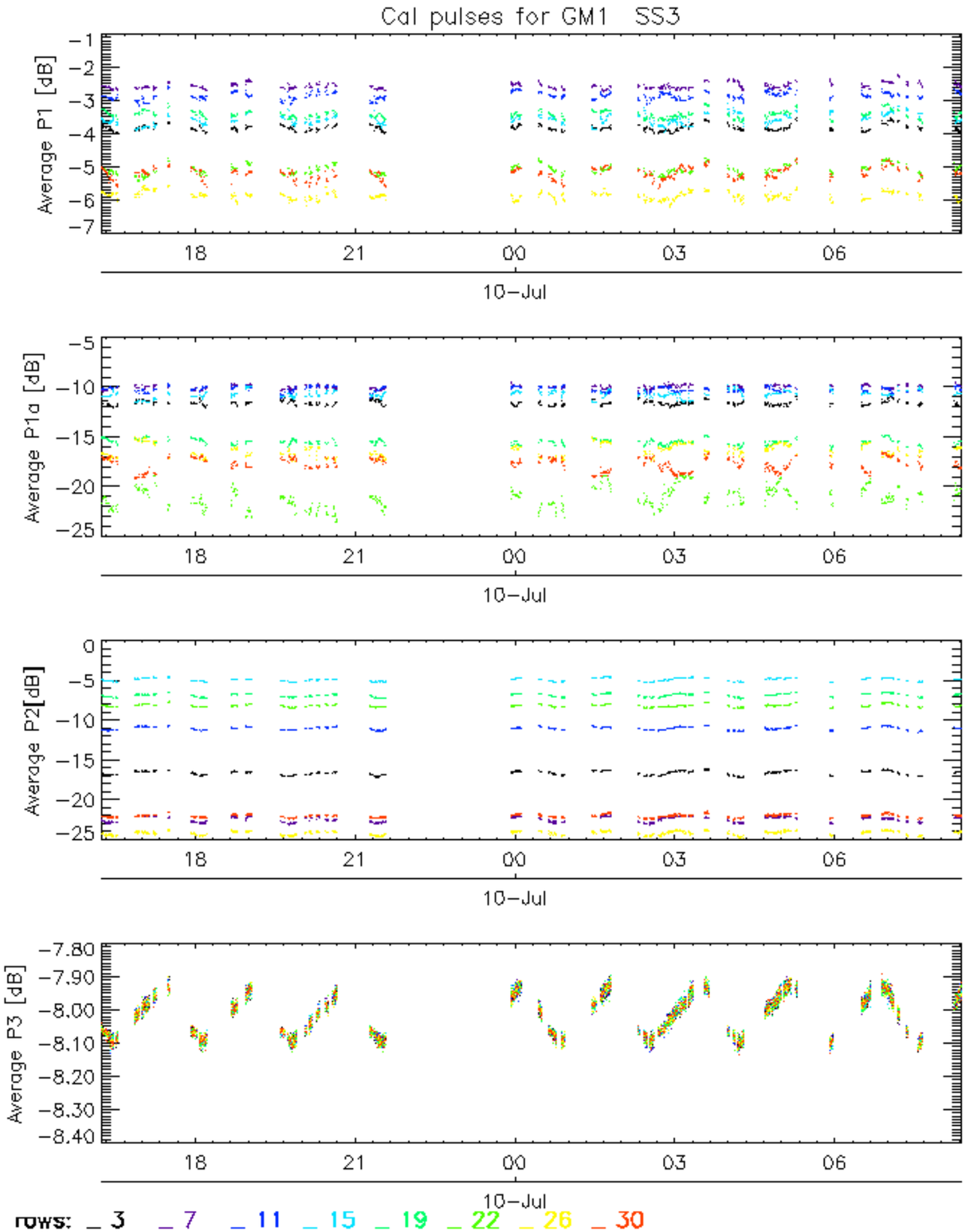
7.6 - Doppler evolution versus ANX for GM1

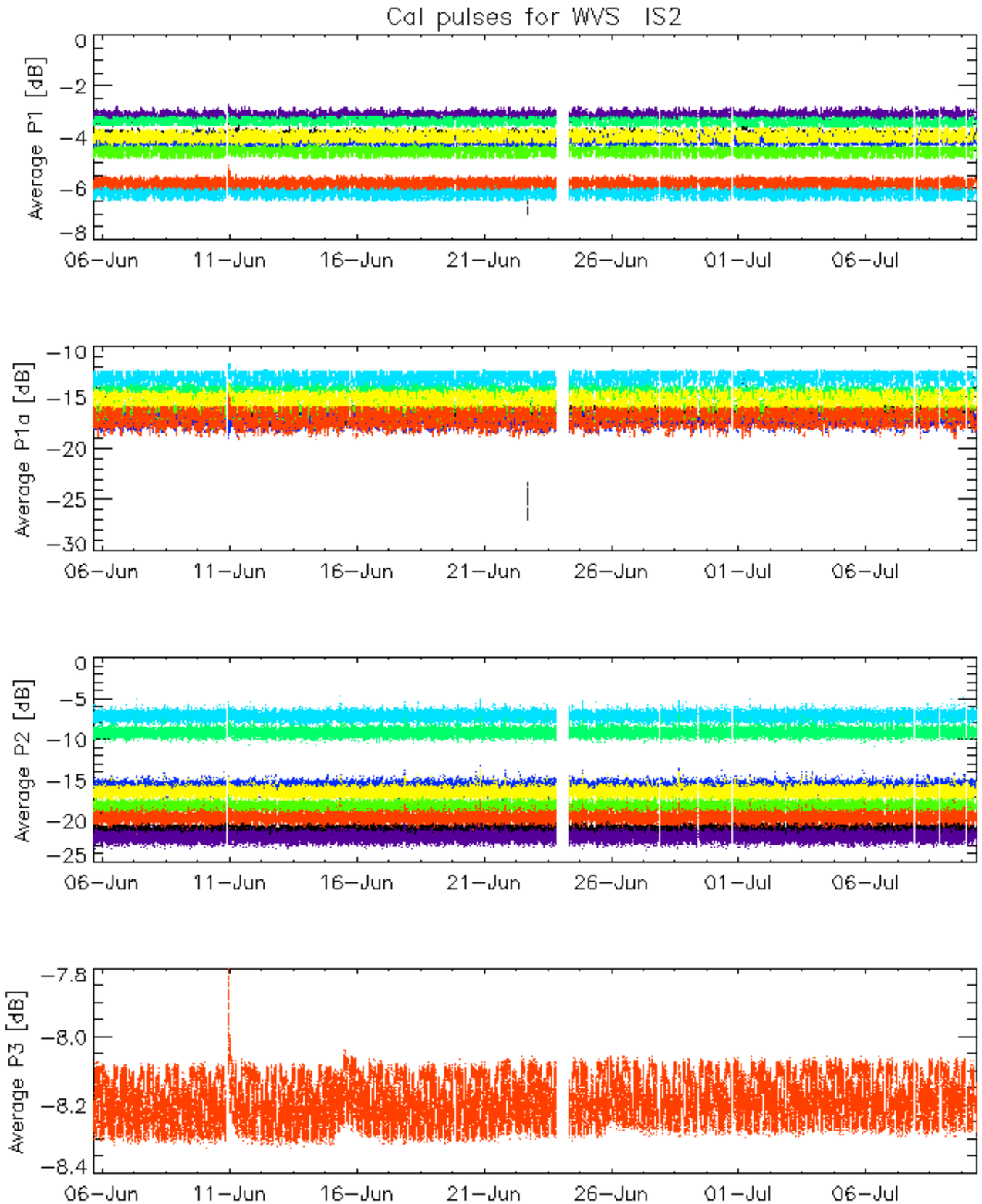
Evolution Doppler error versus ANX

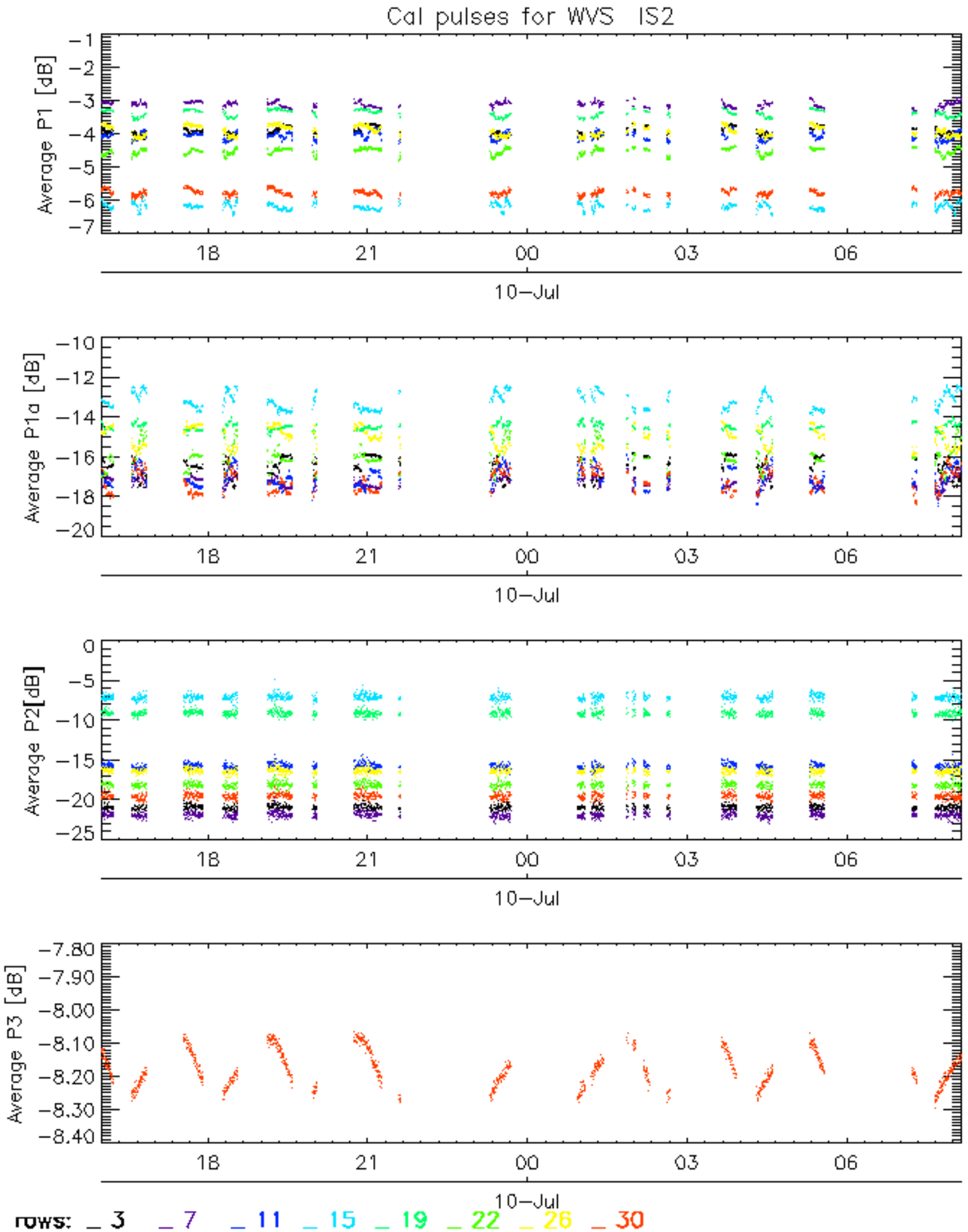

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
10−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
18
21
00
03
06
10−Jul
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
18
21
00
03
06
10−Jul
Phase P1a [deg]
200
100
0
−100
−200
18
21
00
03
06
10−Jul
rows: _ 3 _ 7 _ 11 _ 15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


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

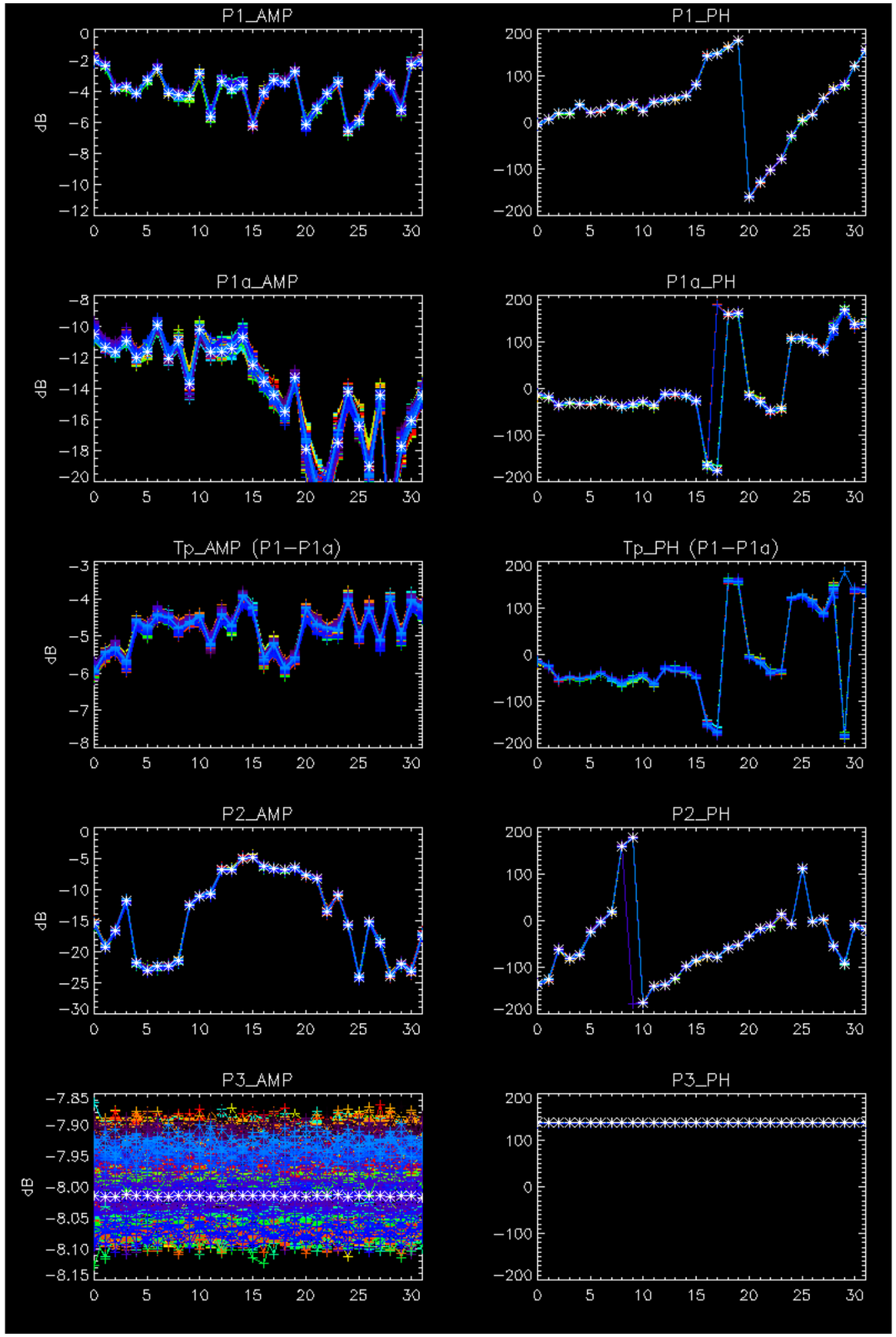

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
18
21
00
03
06
10−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
18
21
00
03
06
10−Jul
Average P2[dB]
0
−5
−10
−15
−20
−25
18
21
00
03
06
10−Jul
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
18
21
00
03
06
10−Jul
rows: _ 3 _ 7 _ 11 _ 15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

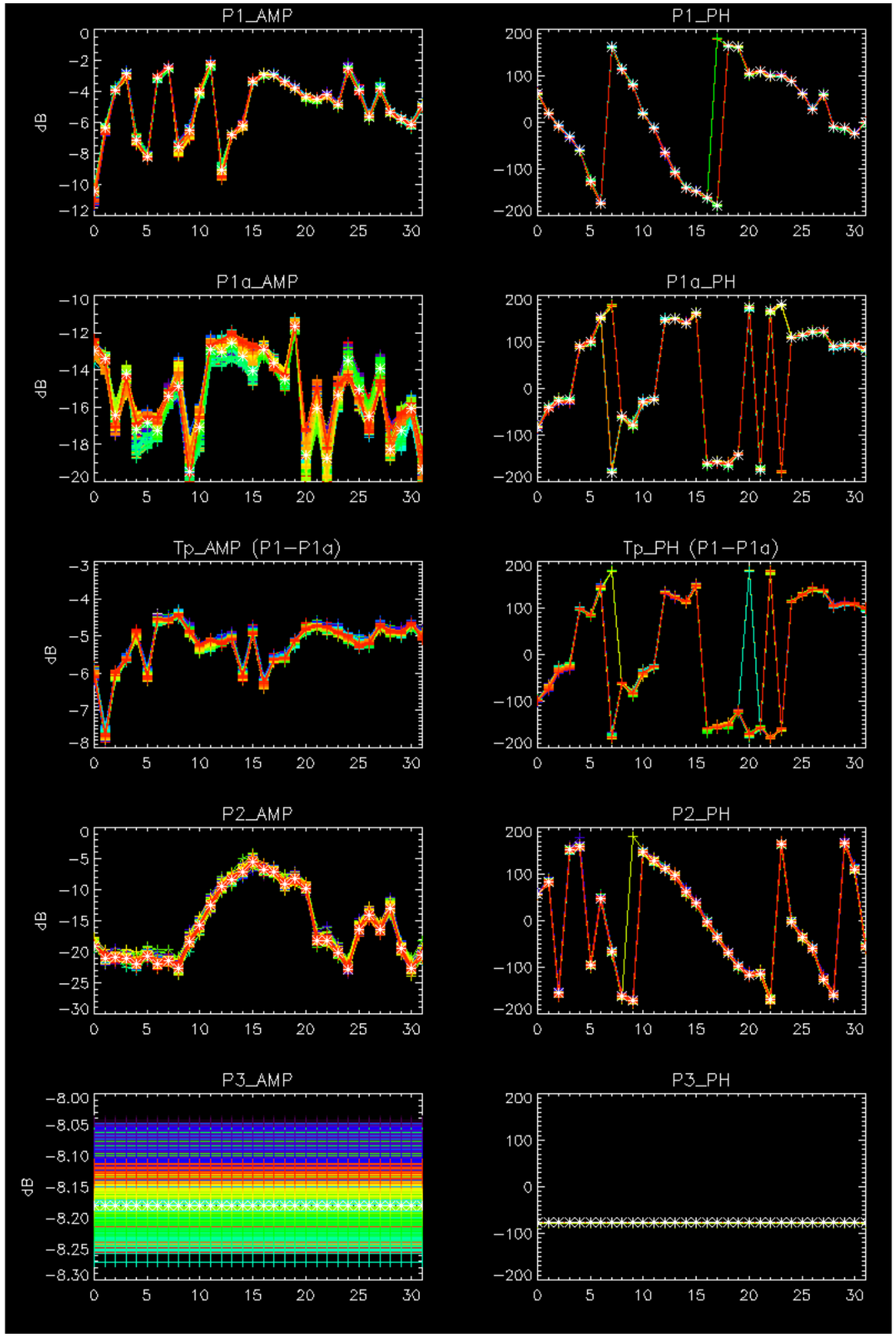

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
06−Jun
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul
Average P1a [dB]
−10
−15
−20
−25
−30
Average P2 [dB]
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


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

No anomalies observed on available browse products

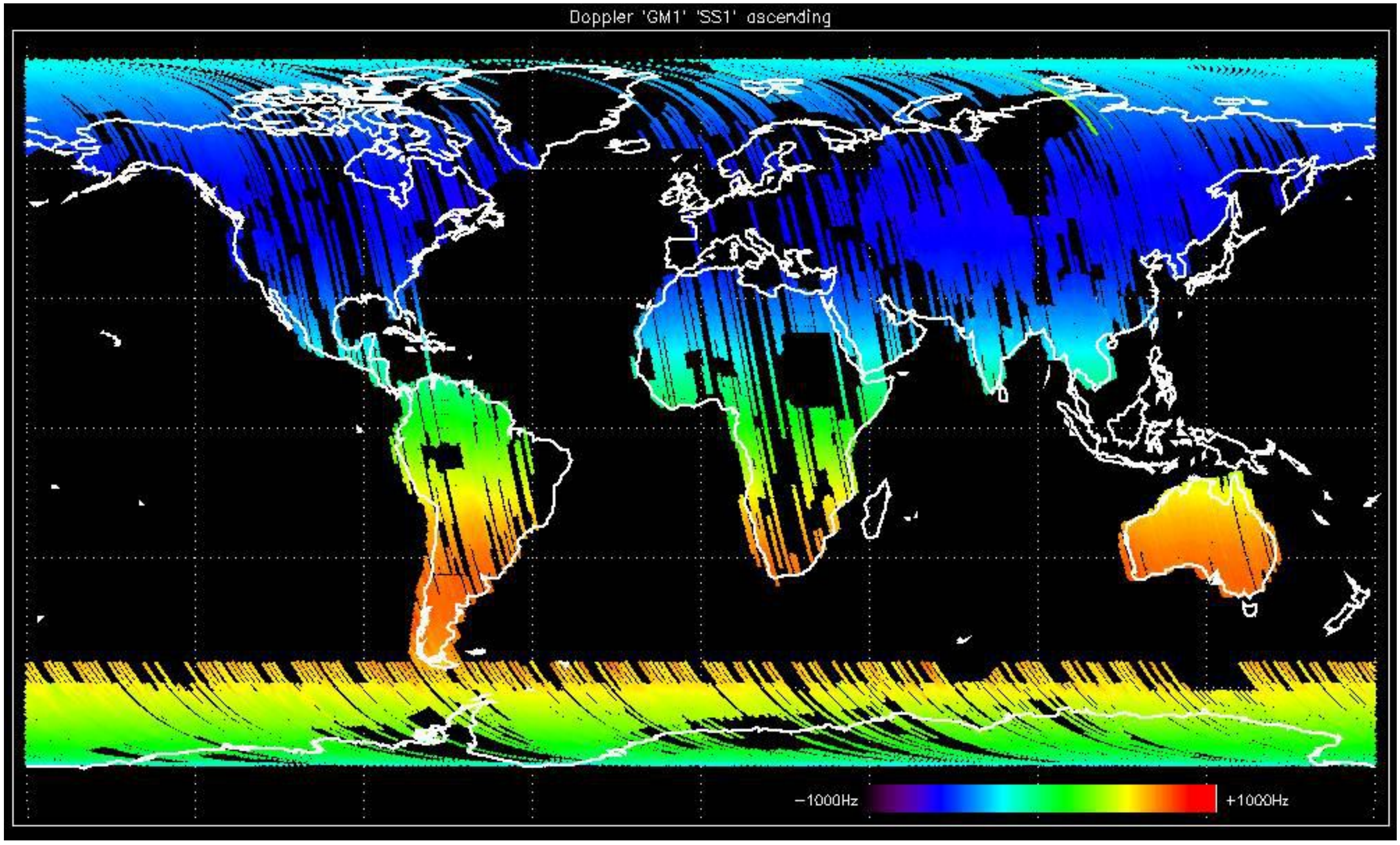
No anomalies observed.

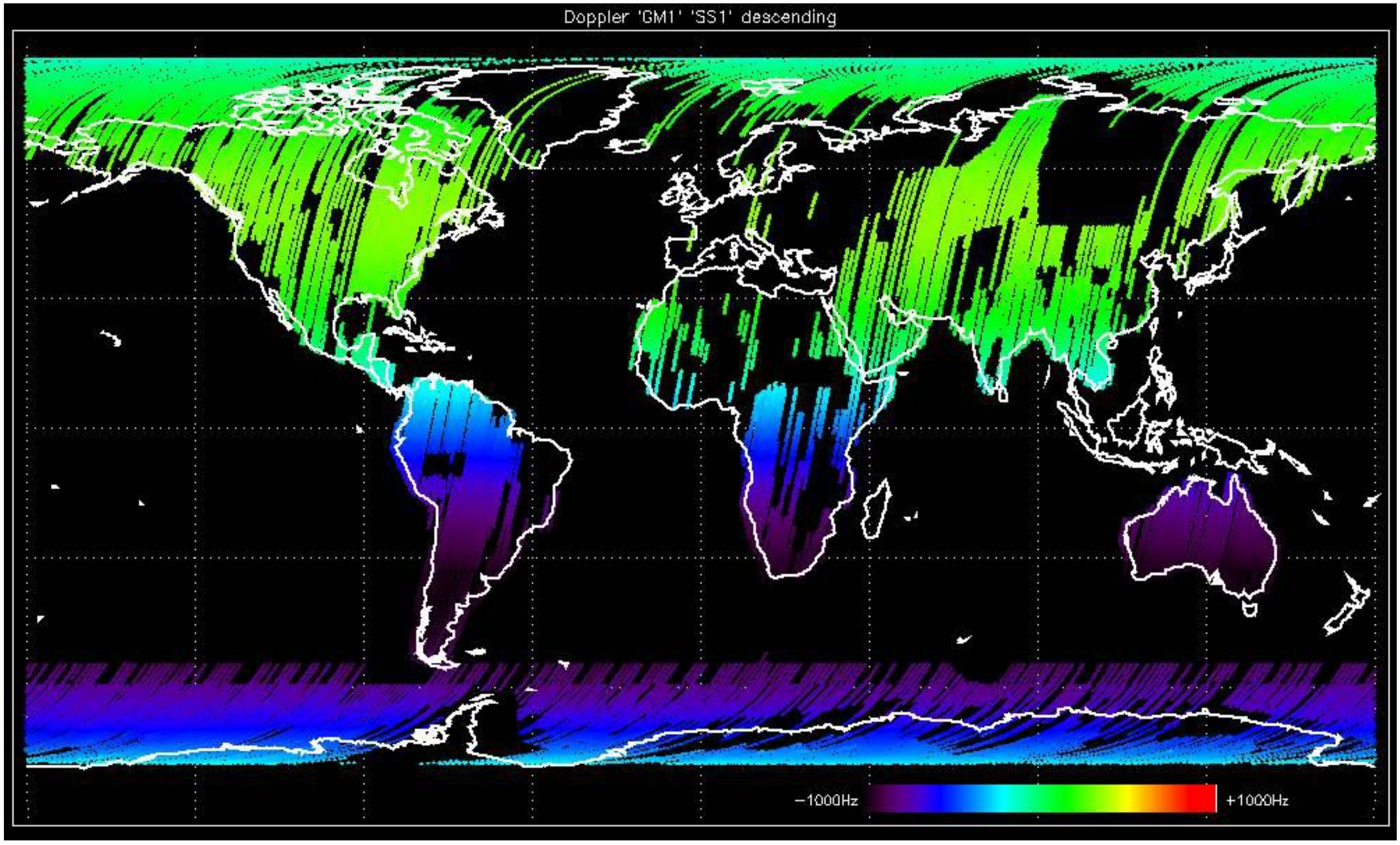

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

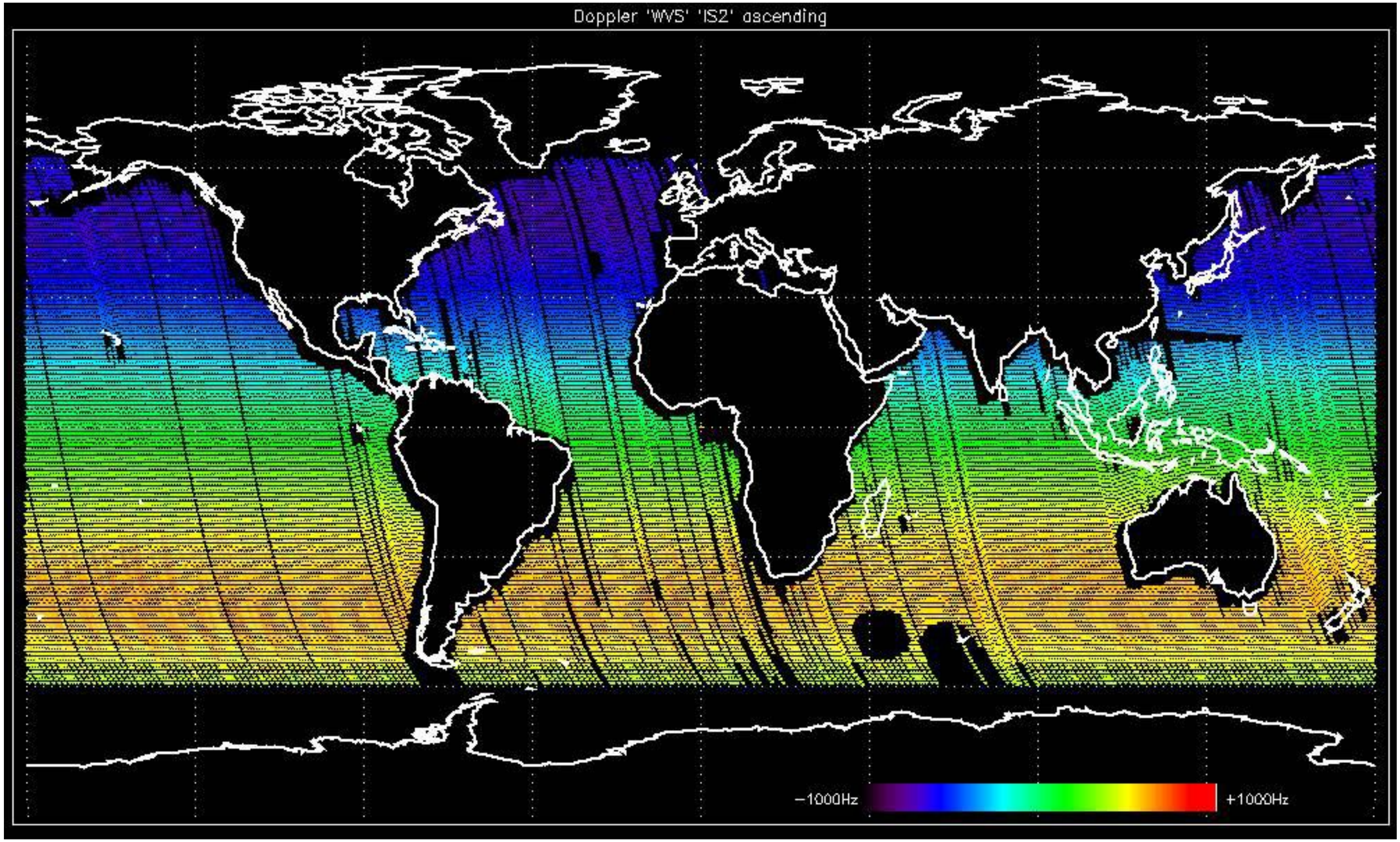

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

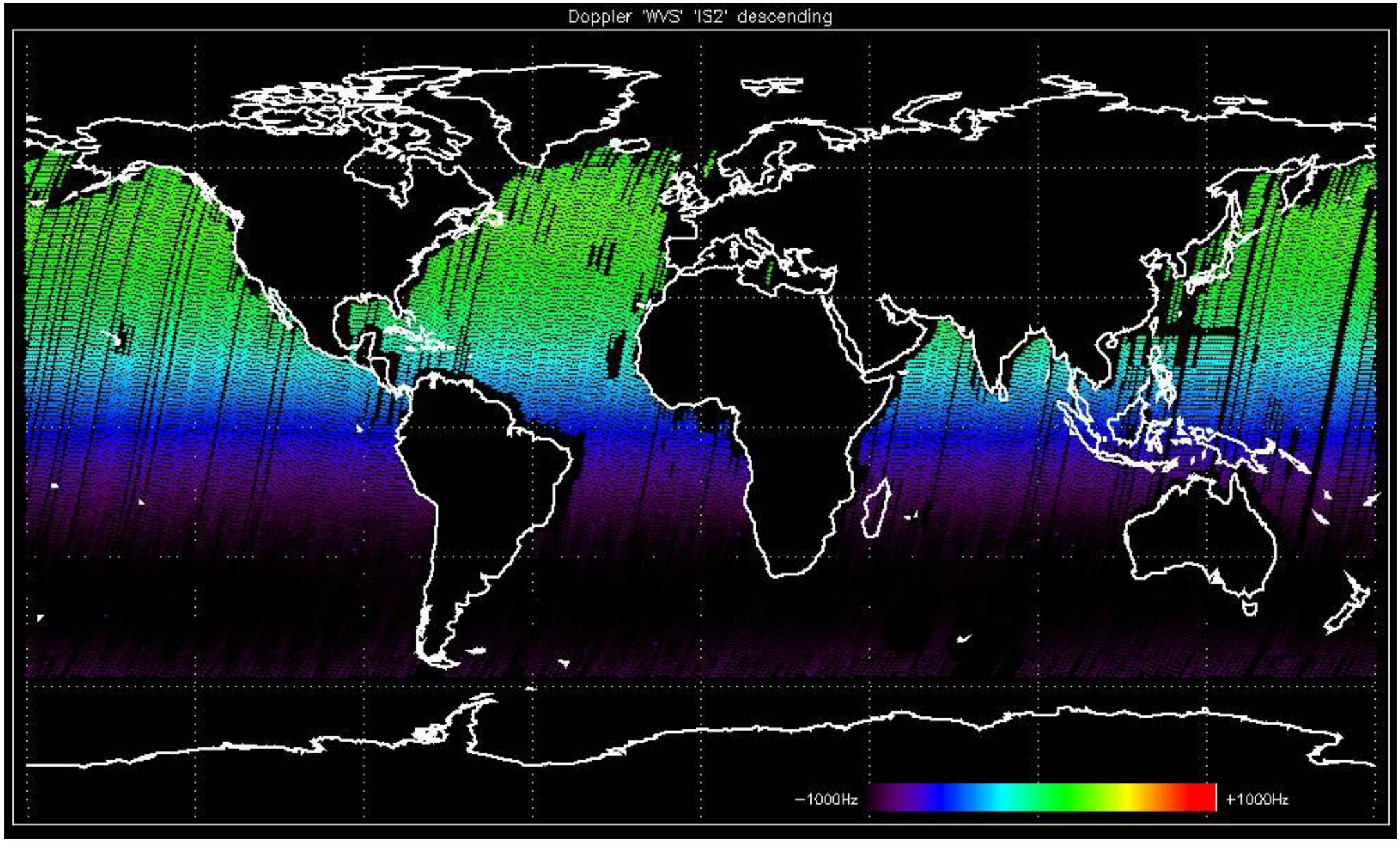
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

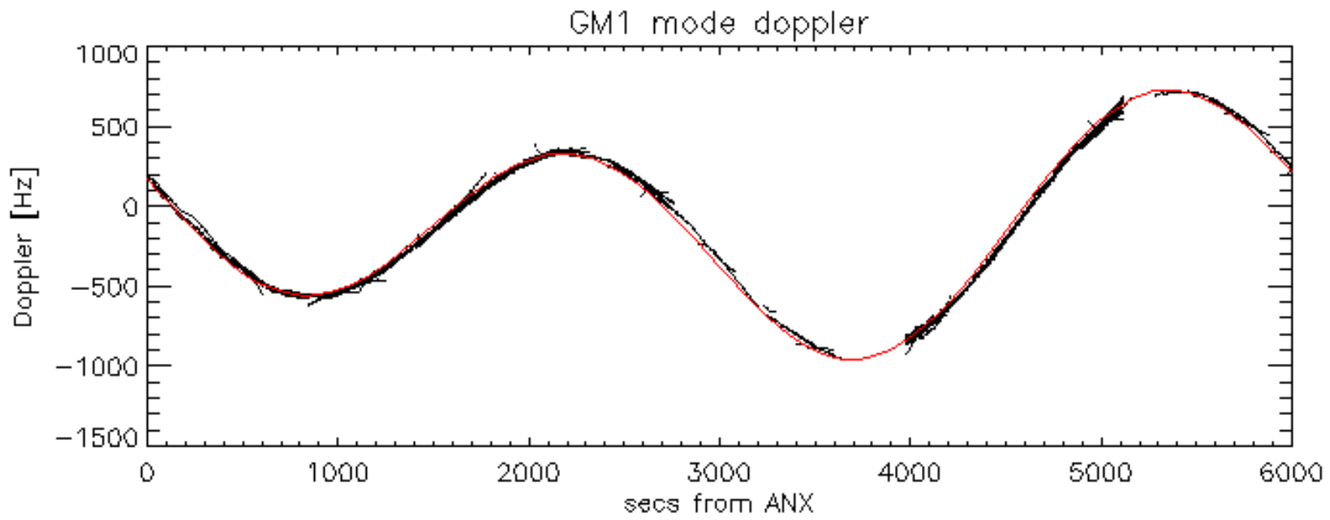
Preliminary report.The data is not yet controled

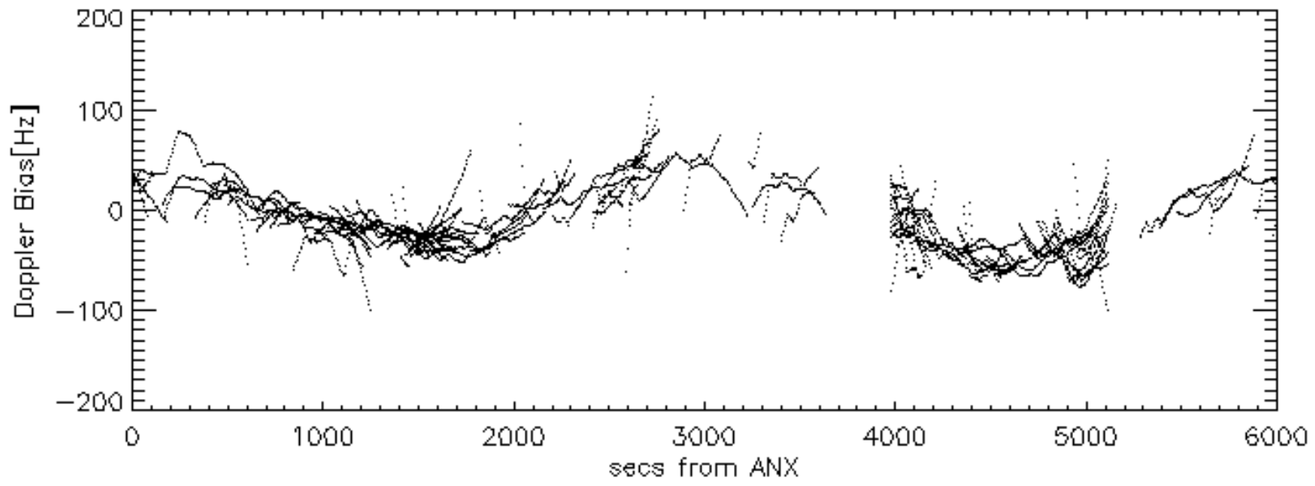

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

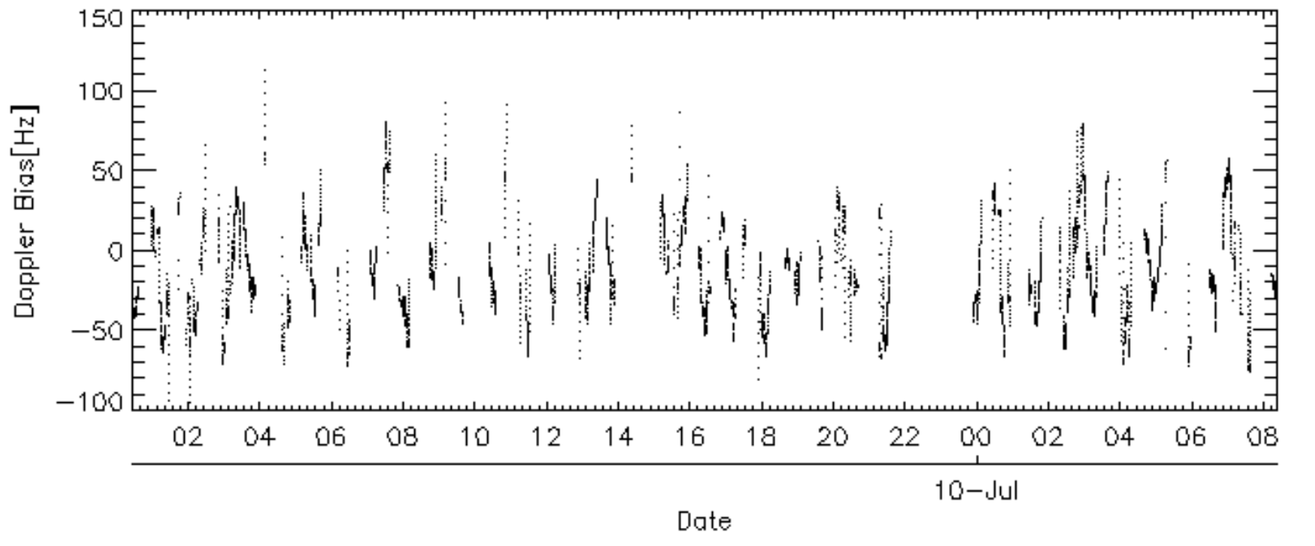

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

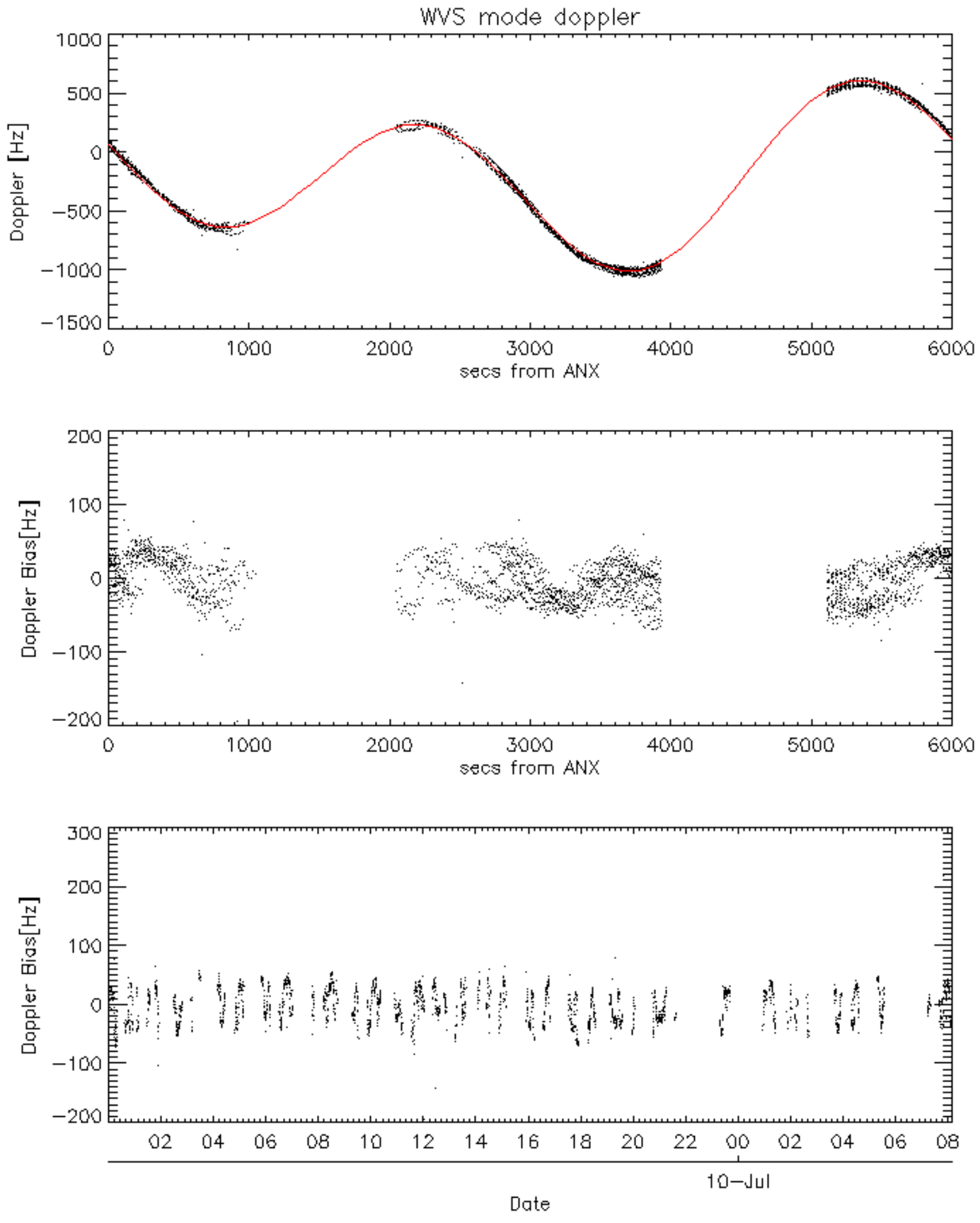

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

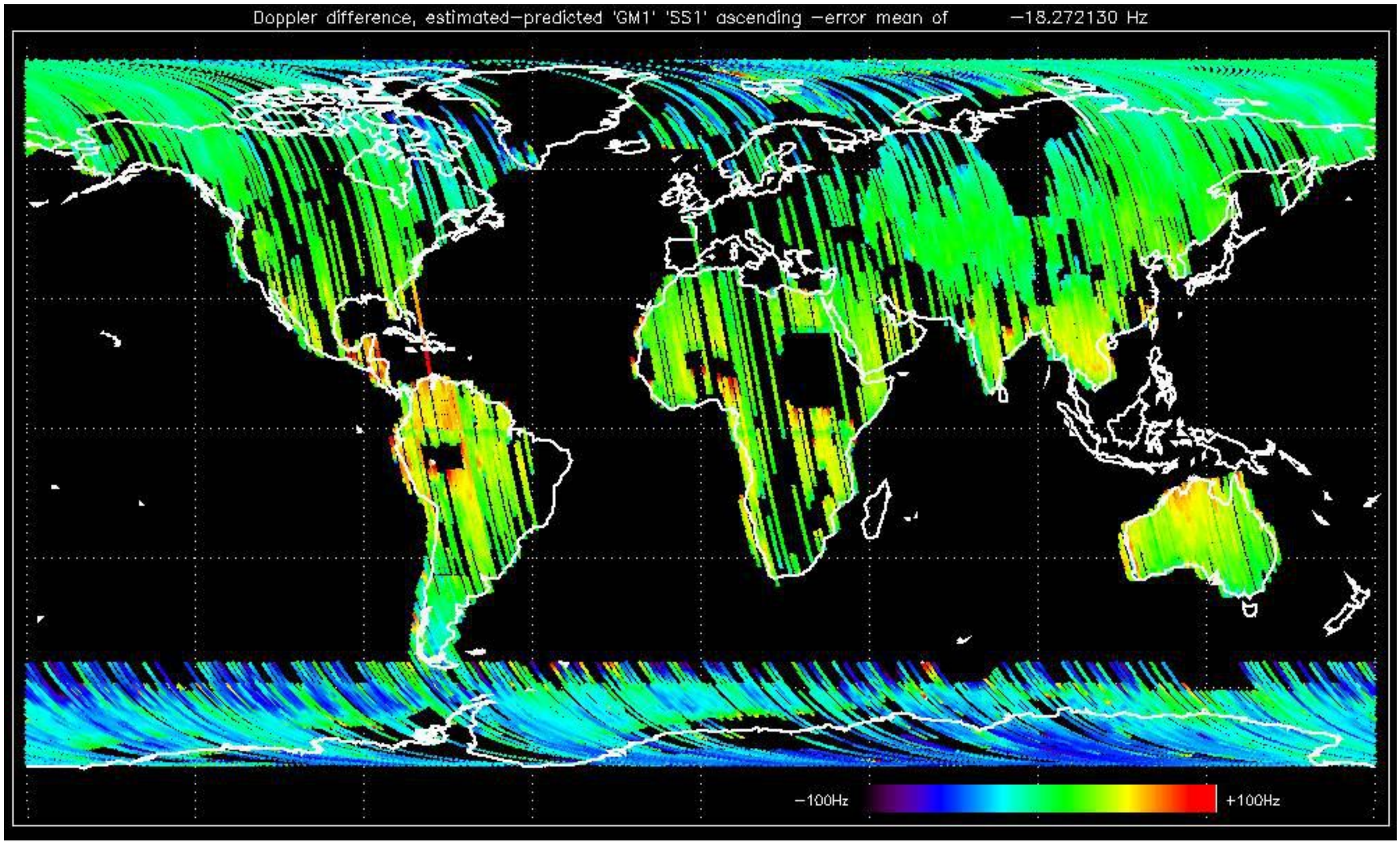

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

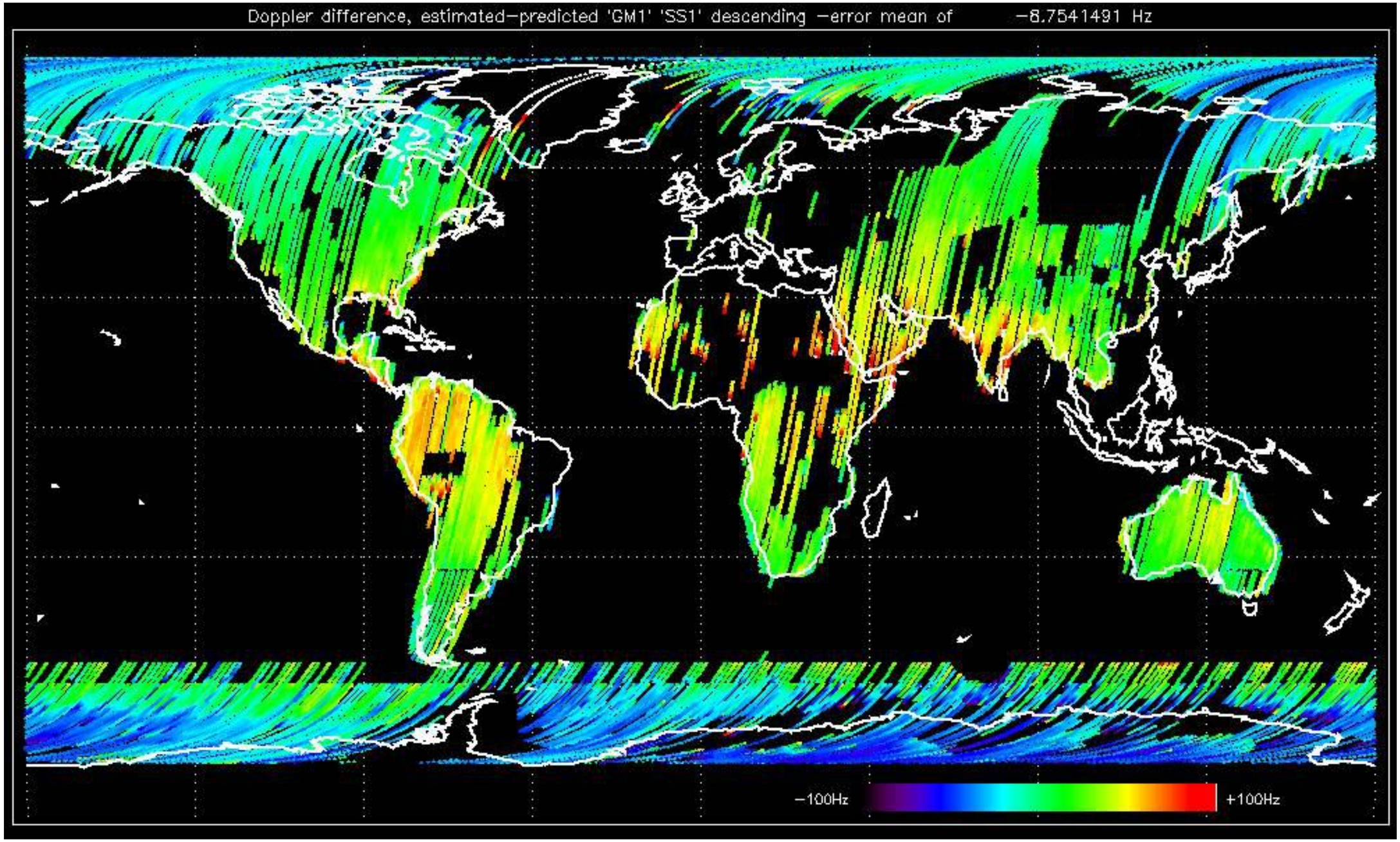

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

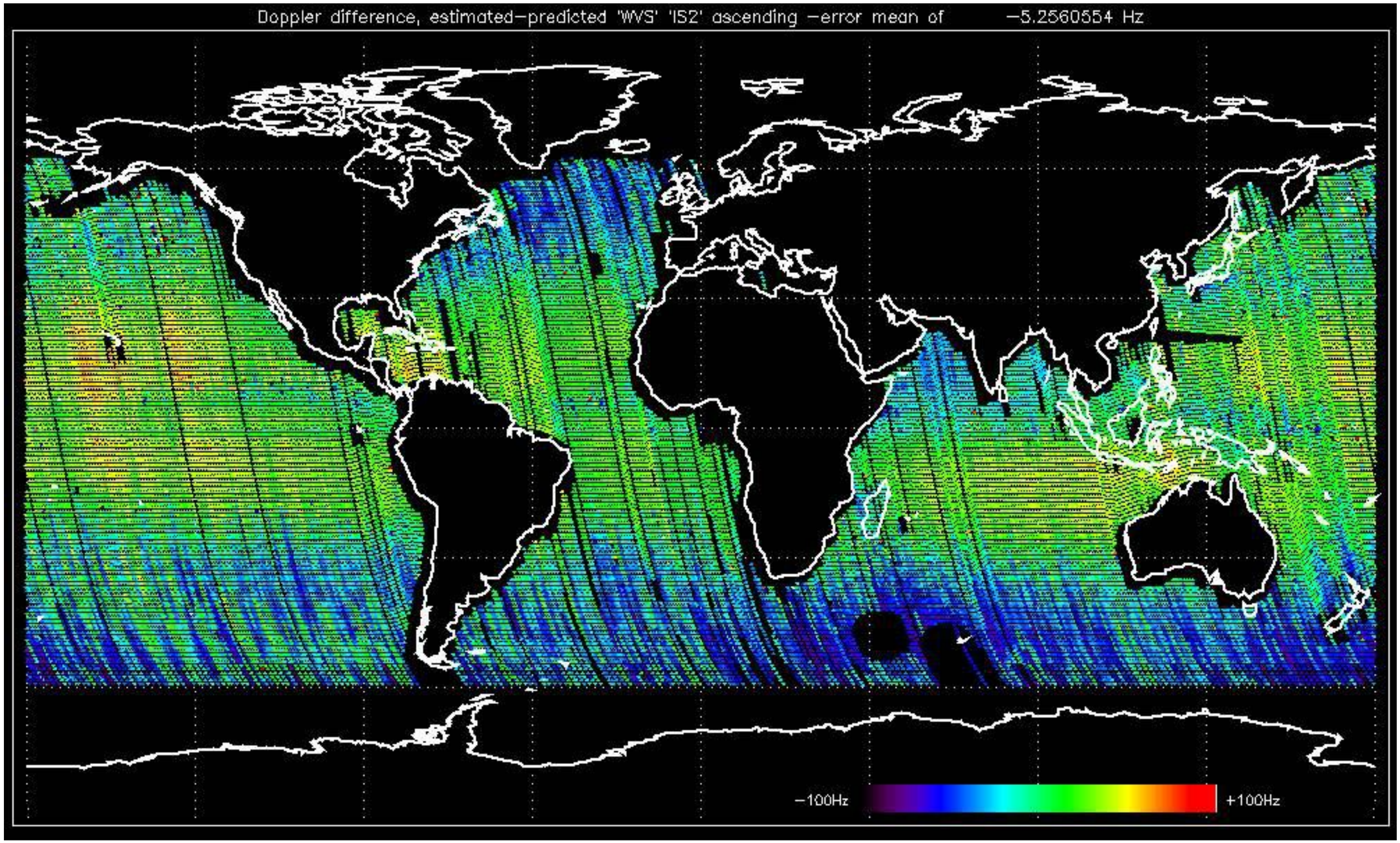

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

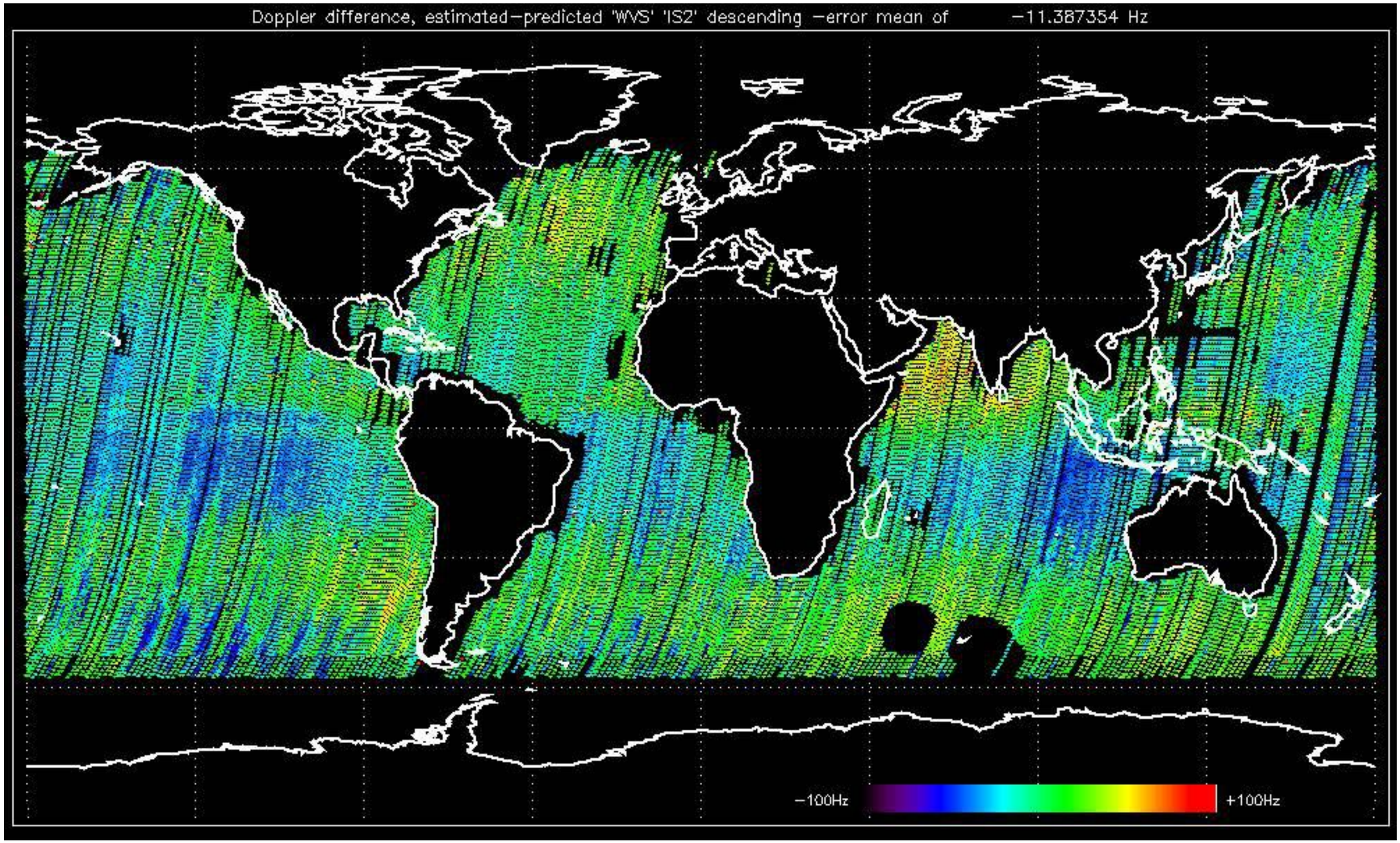

Doppler Bias[Hz]
150
100
50
0
−50
−100
02
04
06
08
10
12
14
16
18
20
22
00
02
04
06
08
10−Jul
Date


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −18.272130 Hz
−100Hz
+100Hz

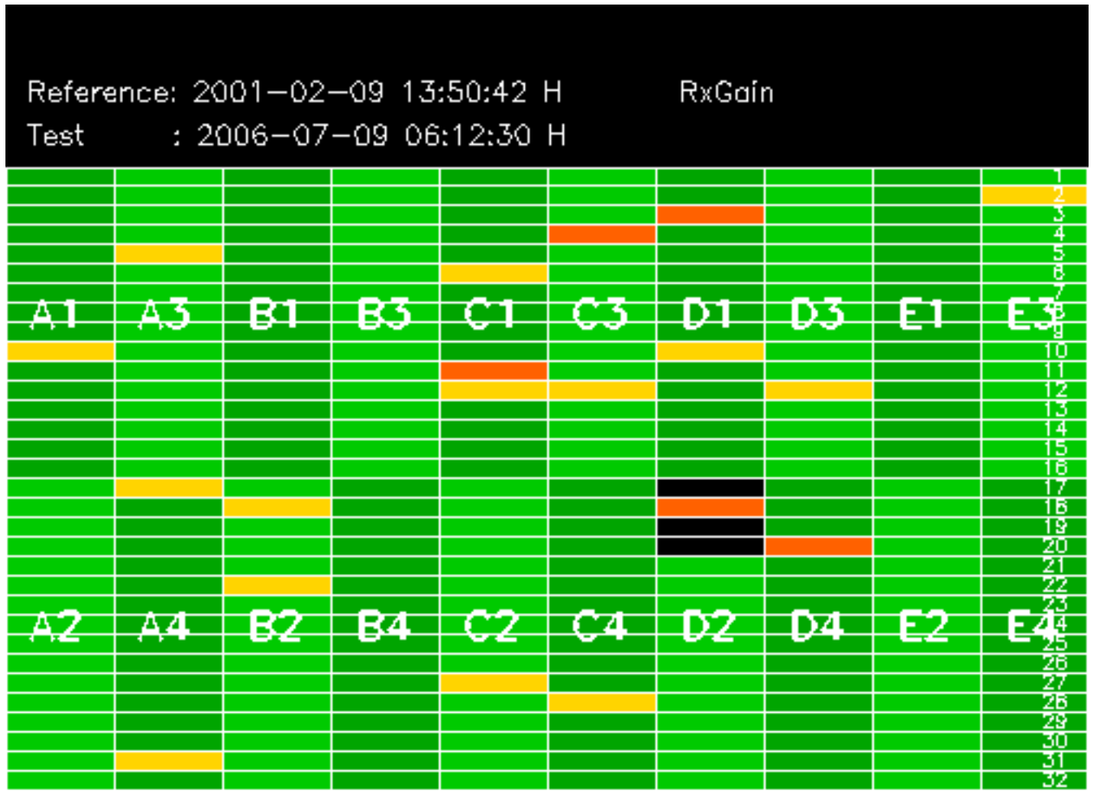

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −8.7541491 Hz
−100Hz
+100Hz

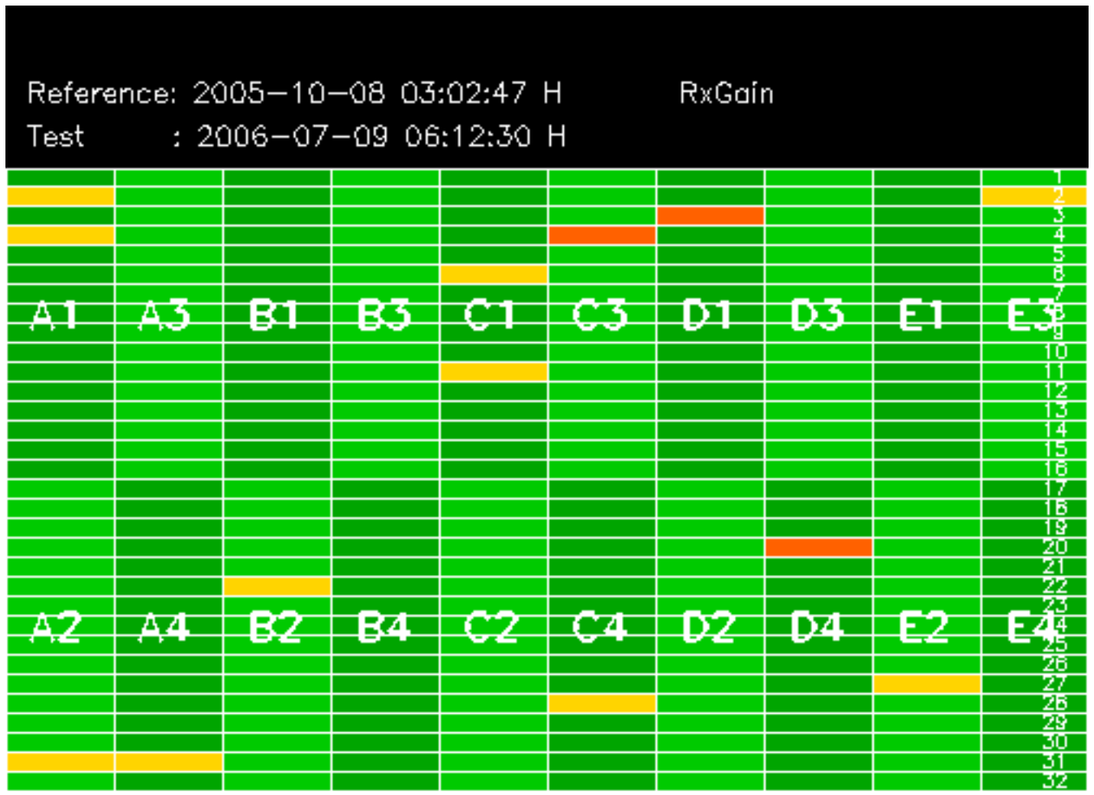

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −5.2560554 Hz
−100Hz
+100Hz

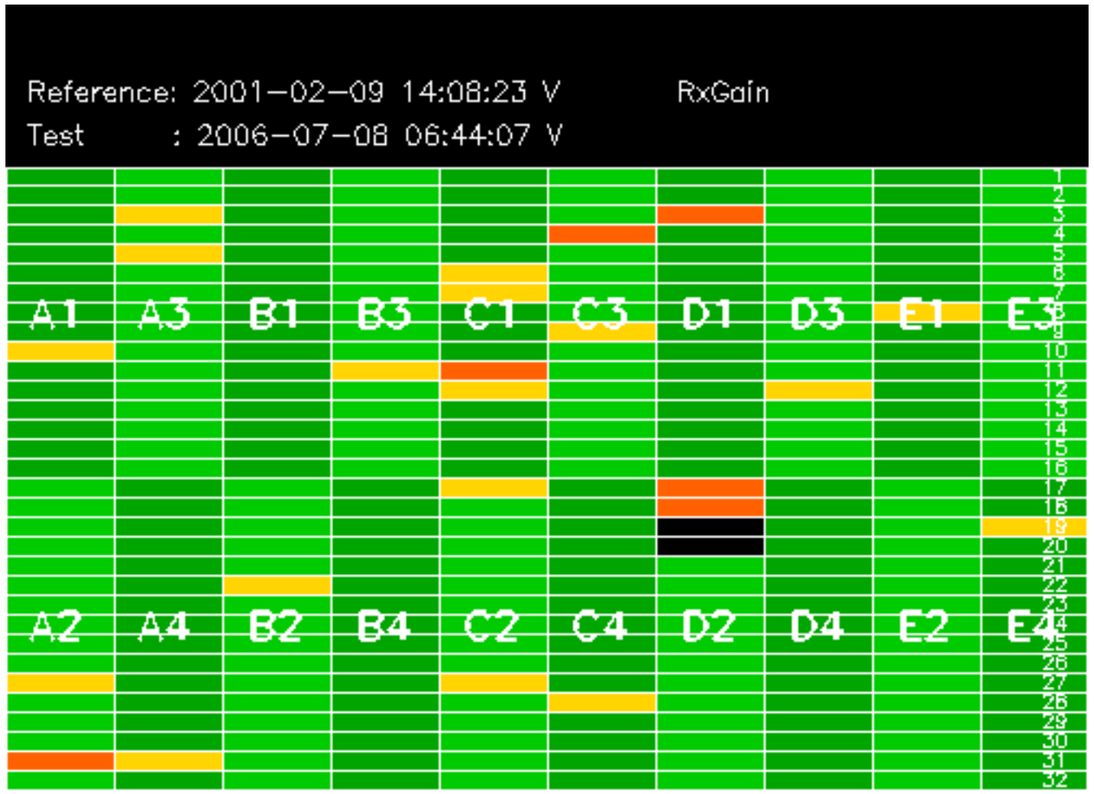

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −11.387354 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2006-07-09 06:12:30 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
Test : 2006-07-09 06:12:30 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 : 2006-07-08 06:44:07 V
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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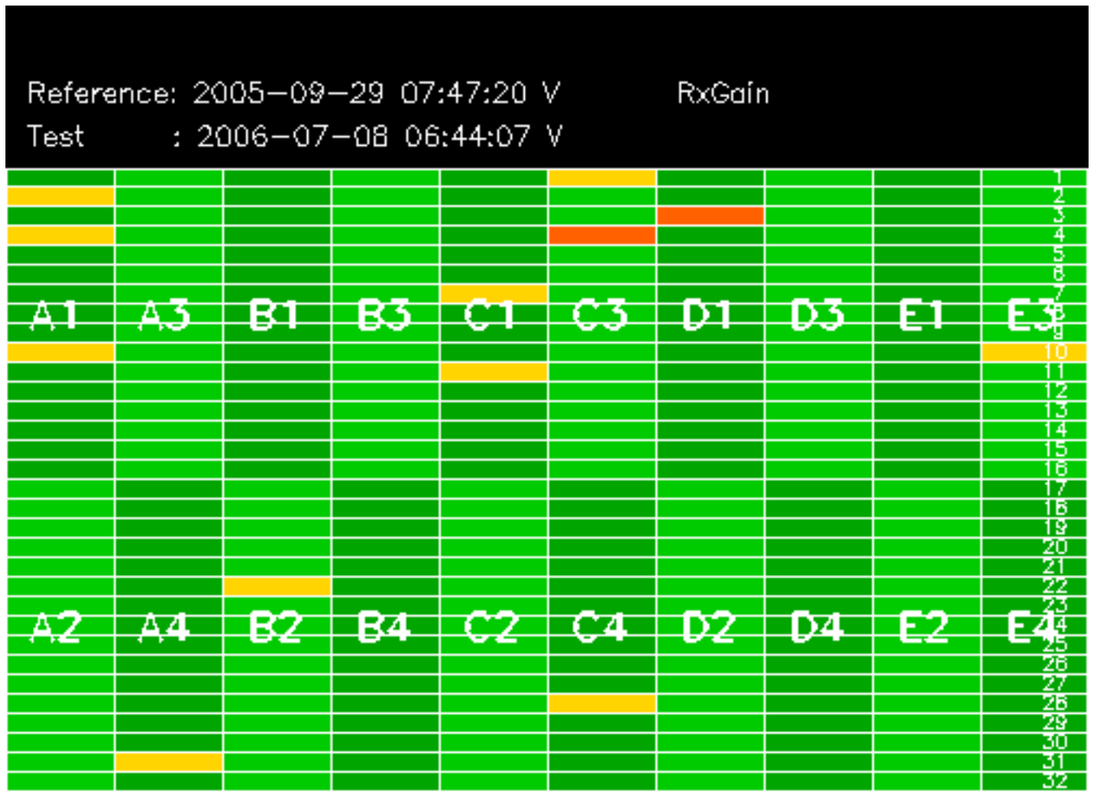
Reference: 2005-09-29 07:47:20 V
Test : 2006-07-08 06:44:07 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
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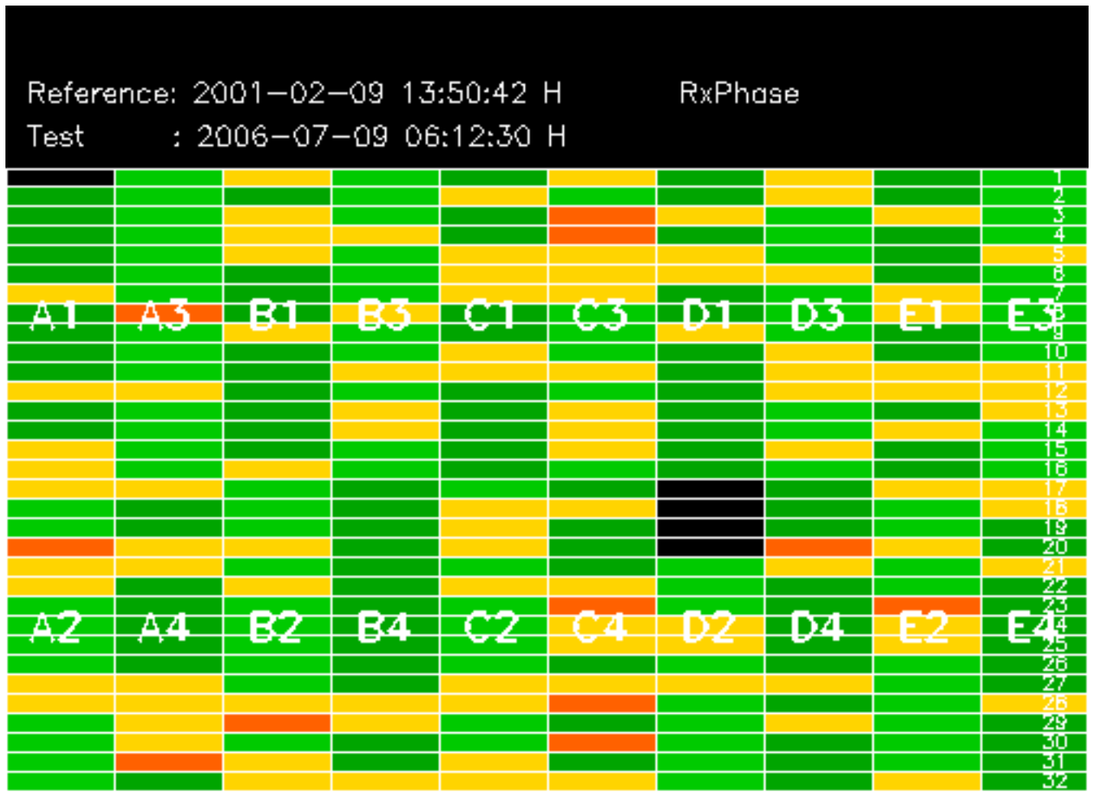
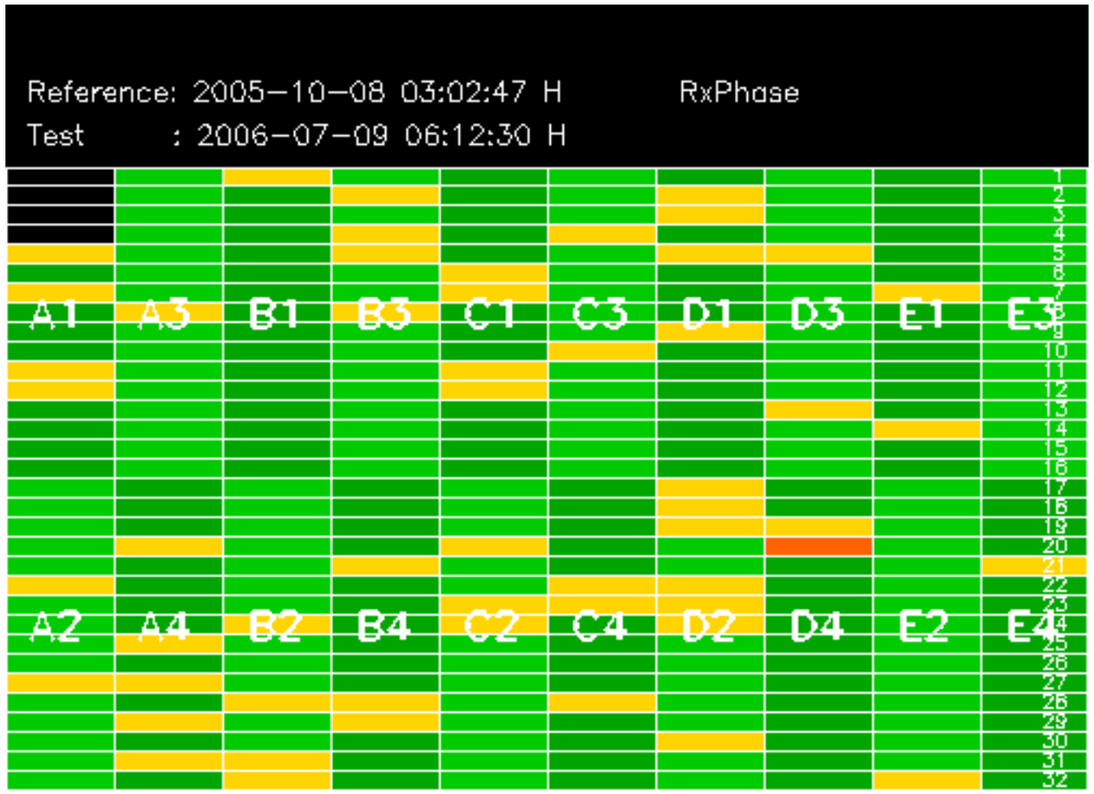

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-07-09 06:12:30 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-10-08 03:02:47 H
RxPhase
Test : 2006-07-09 06:12:30 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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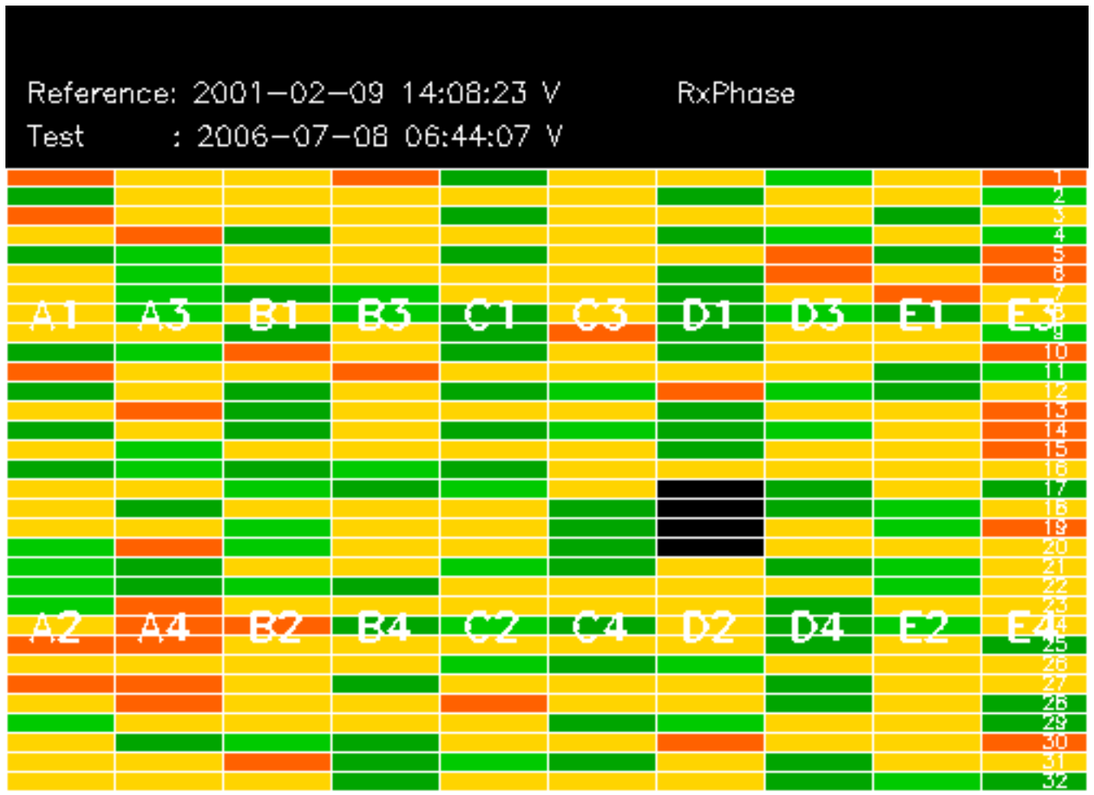
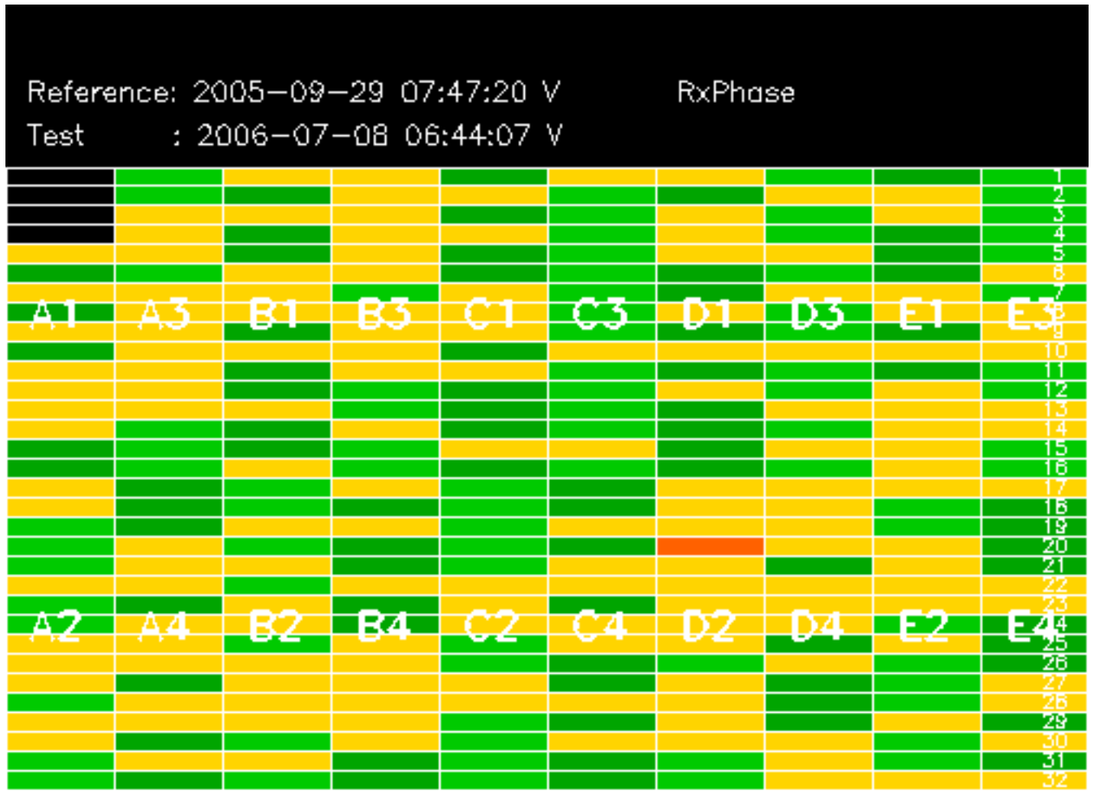
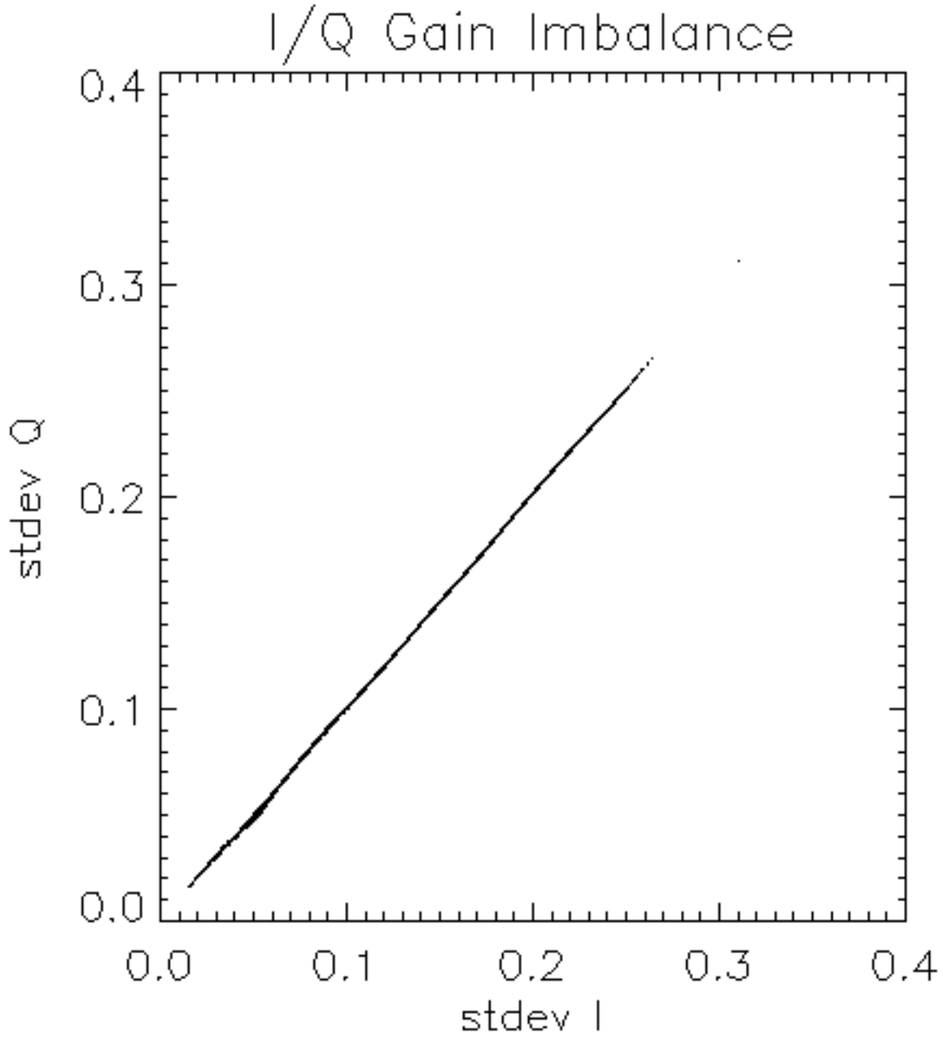
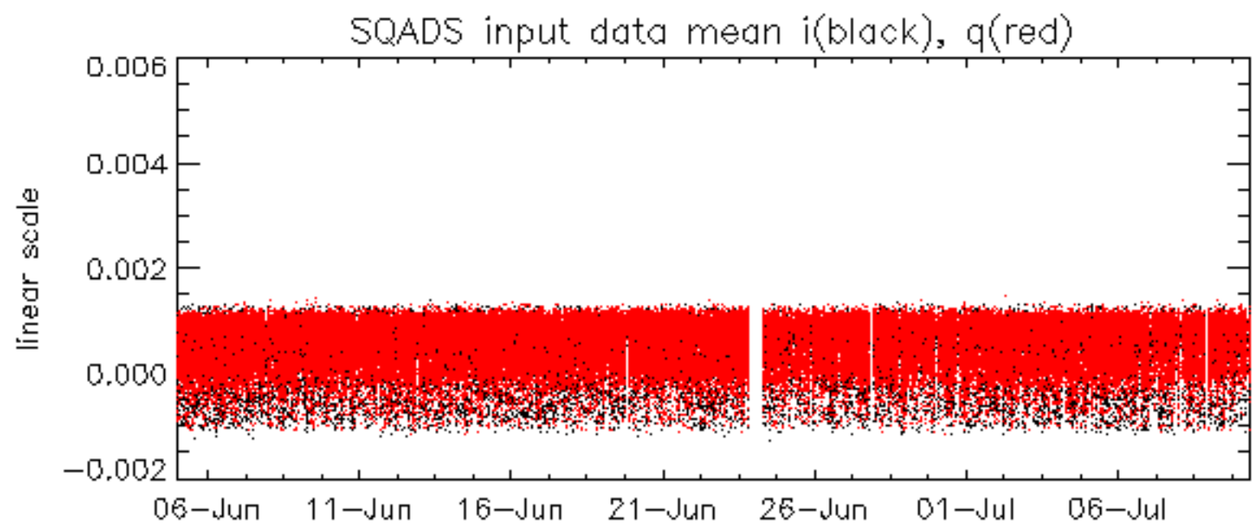
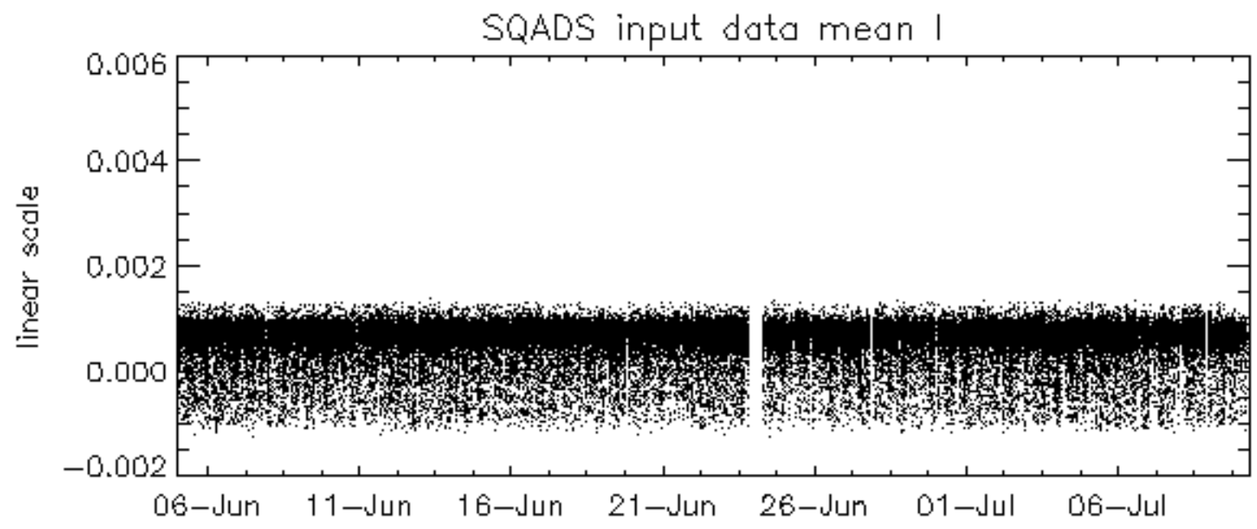
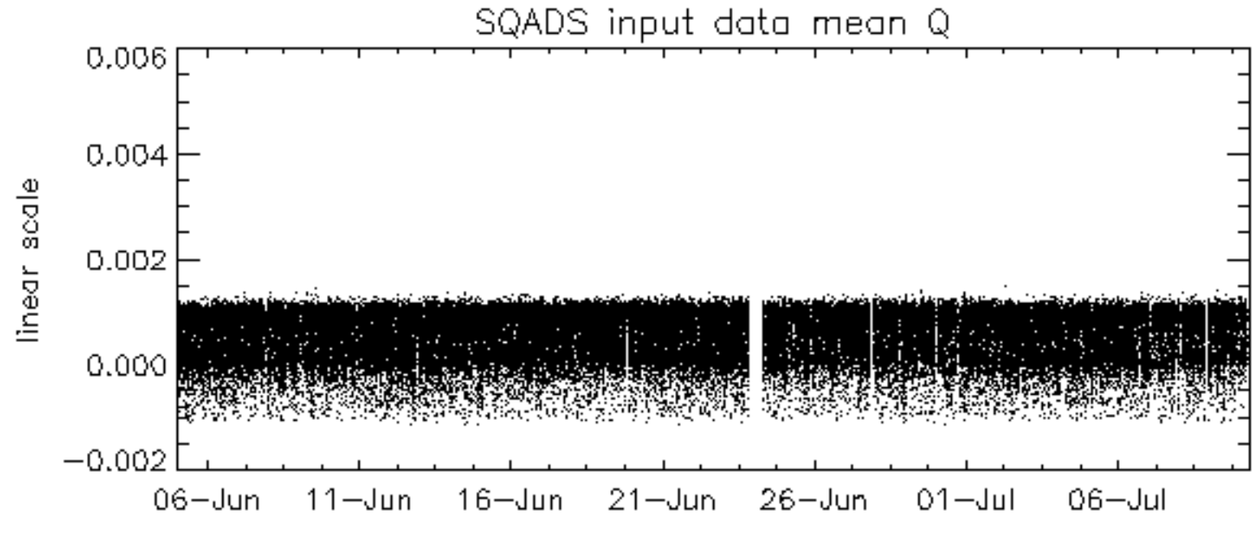

Reference: 2001-02-09 14:08:23 V
Test : 2006-07-08 06:44:07 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

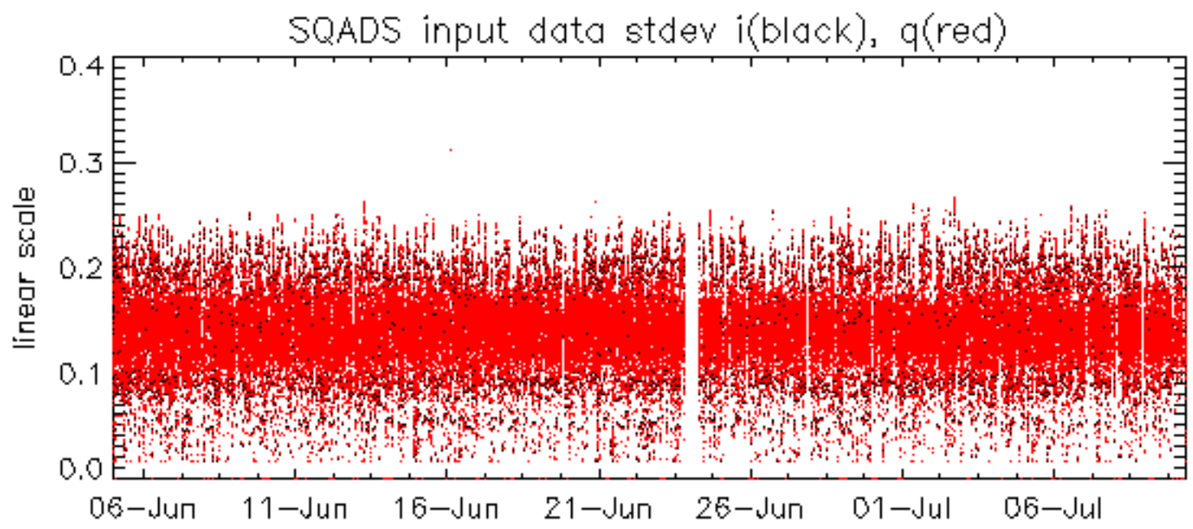

Reference: 2005-09-29 07:47:20 V
RxPhase
Test : 2006-07-08 06:44:07 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

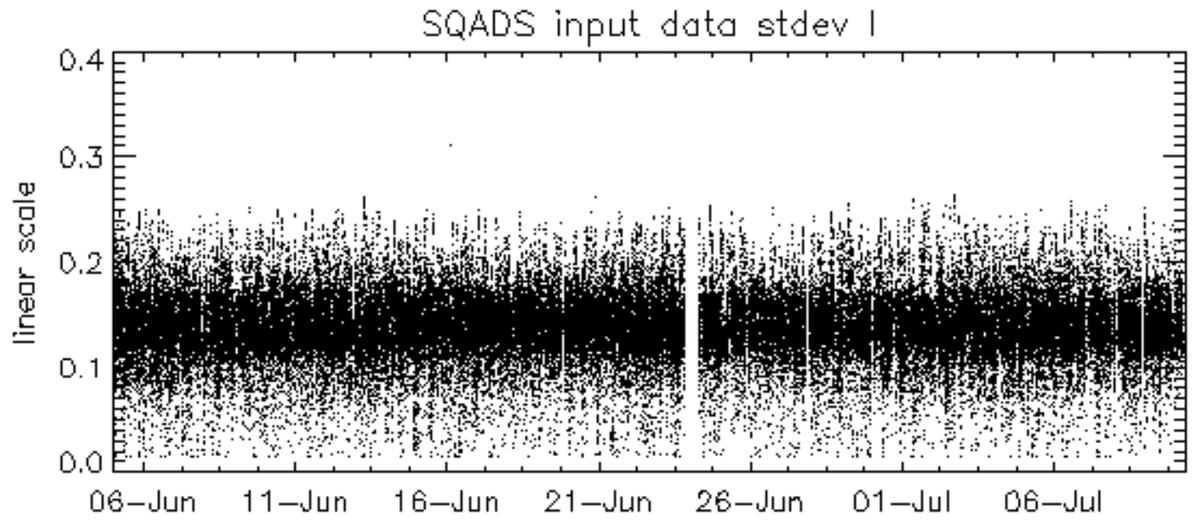

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

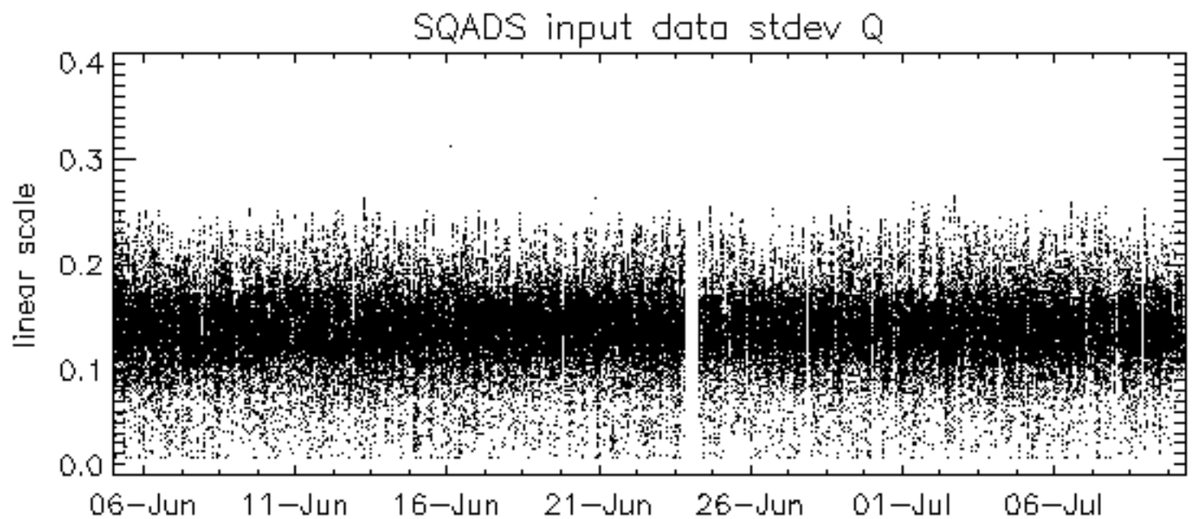

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Jun
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul

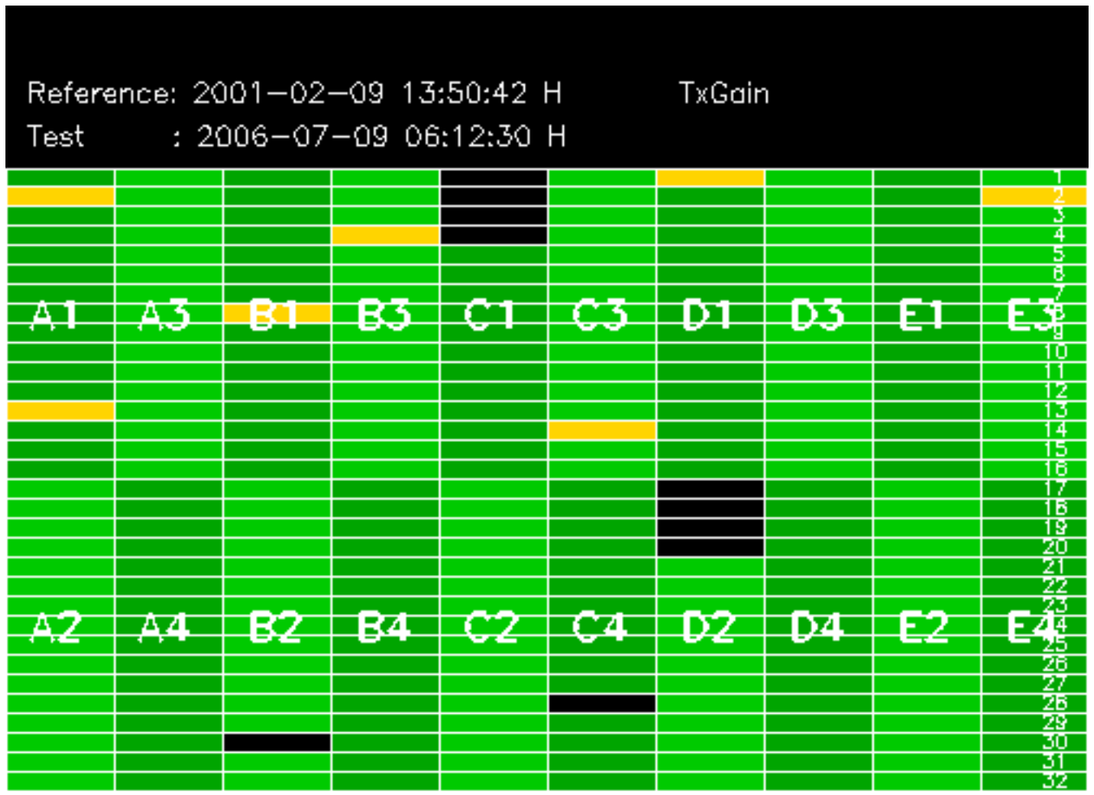

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
06−Jun
11−Jun
16−Jun
21−Jun
26−Jun
01−Jul
06−Jul


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2006-07-09 06:12:30 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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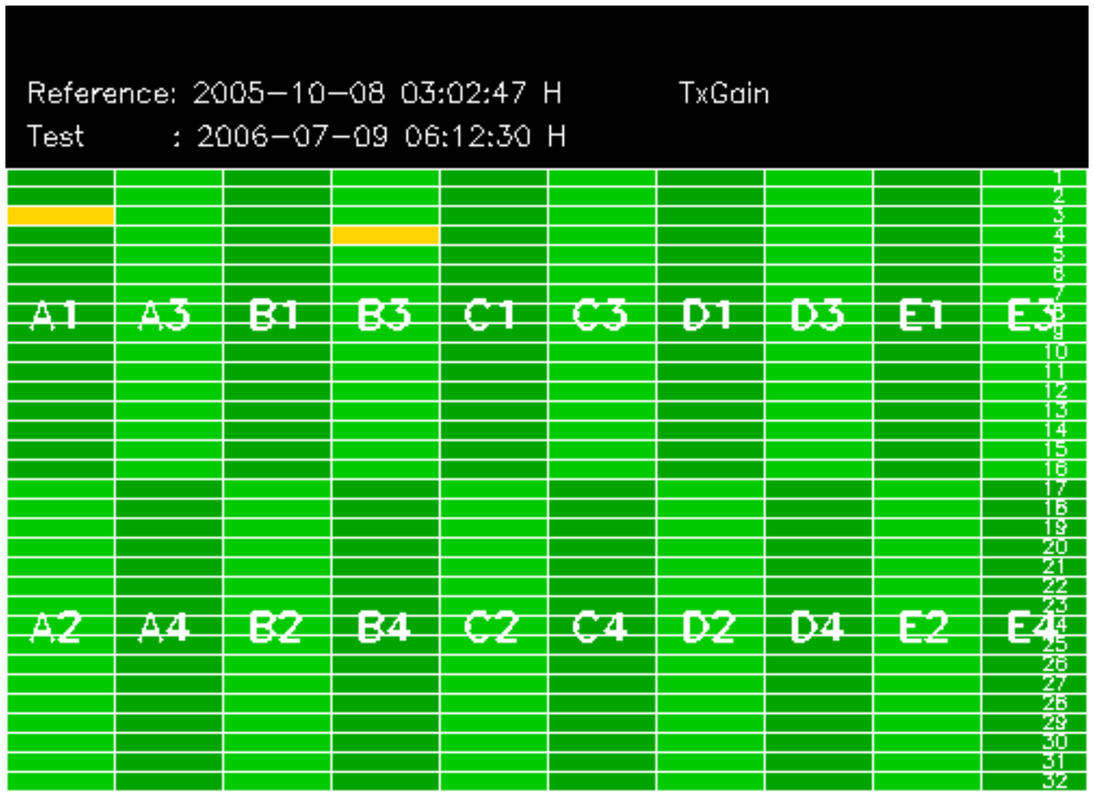
Reference: 2005-10-08 03:02:47 H
Test : 2006-07-09 06:12:30 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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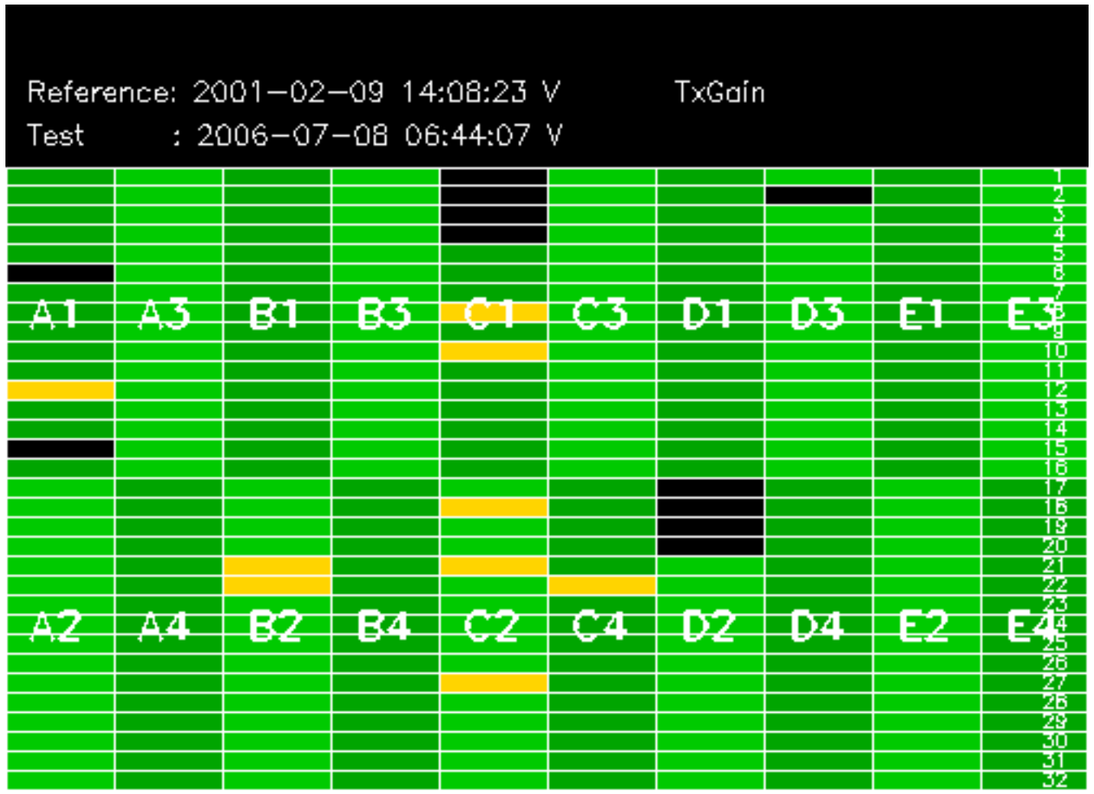
26
27
28
29
30
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2006-07-08 06:44:07 V
TxGain
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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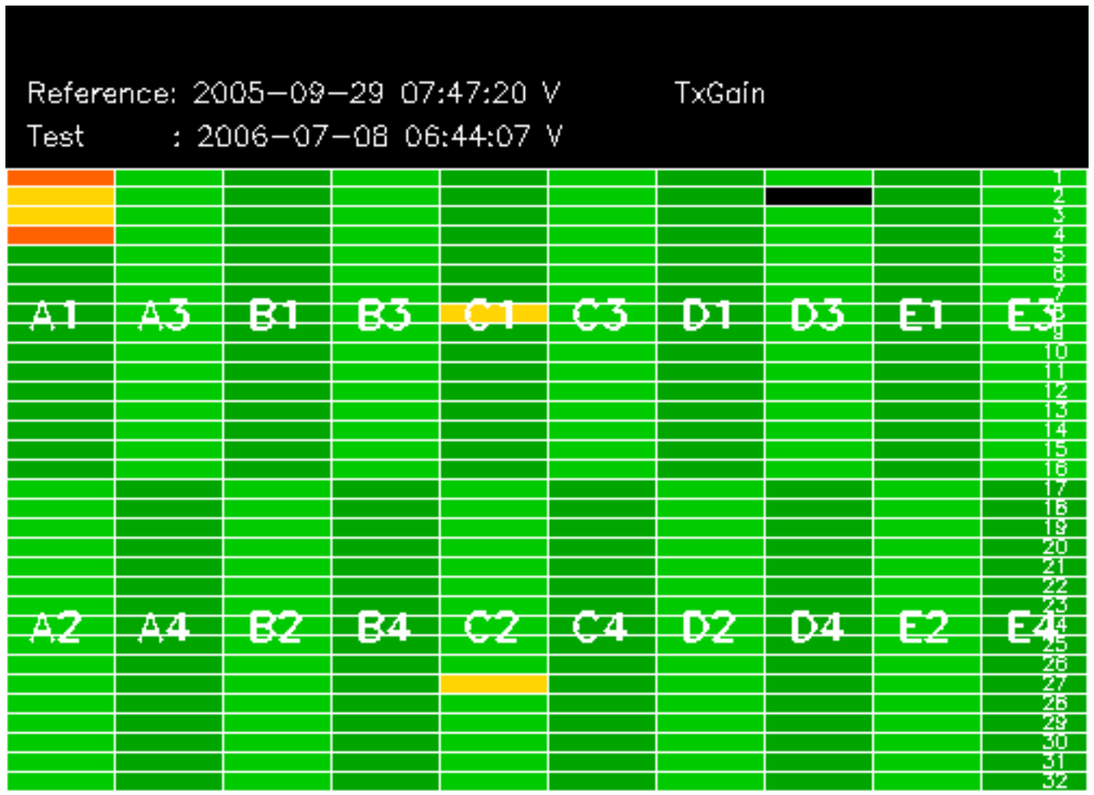
Reference: 2005-09-29 07:47:20 V
Test : 2006-07-08 06:44:07 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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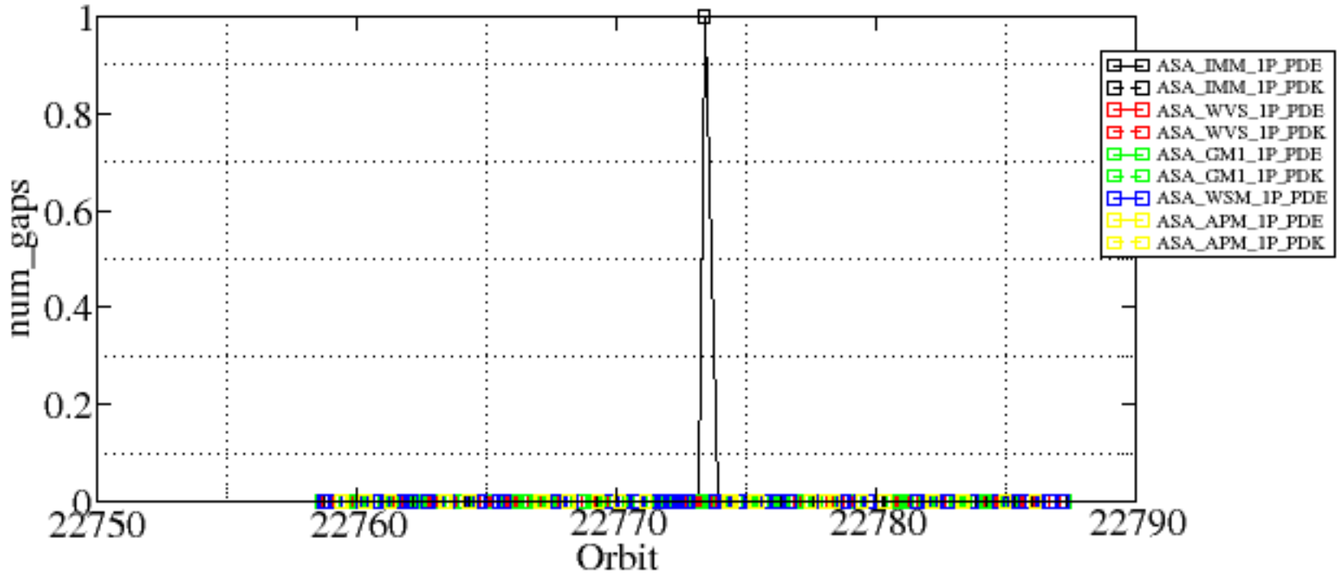
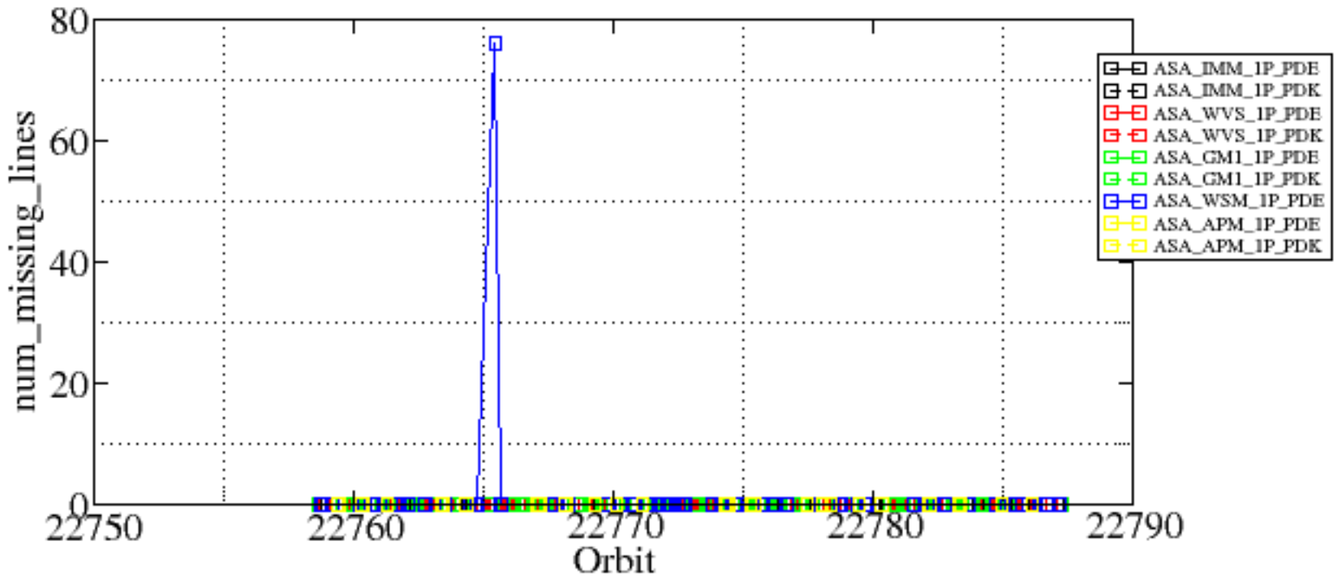
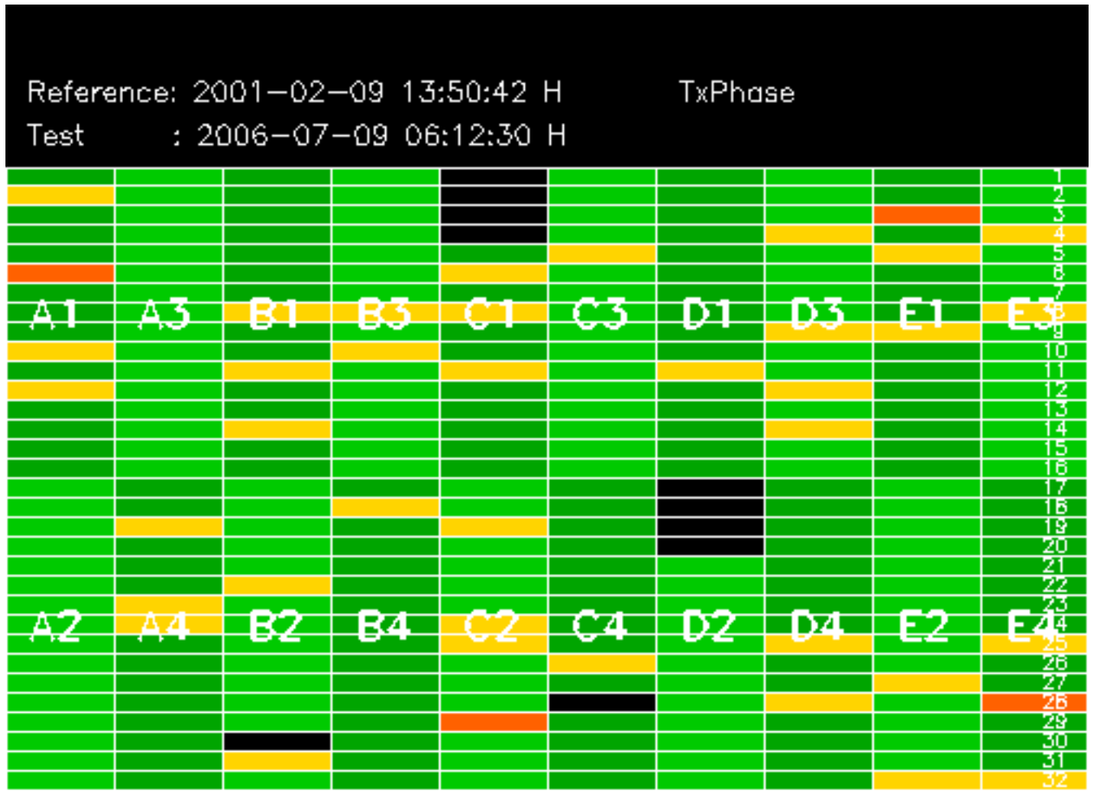
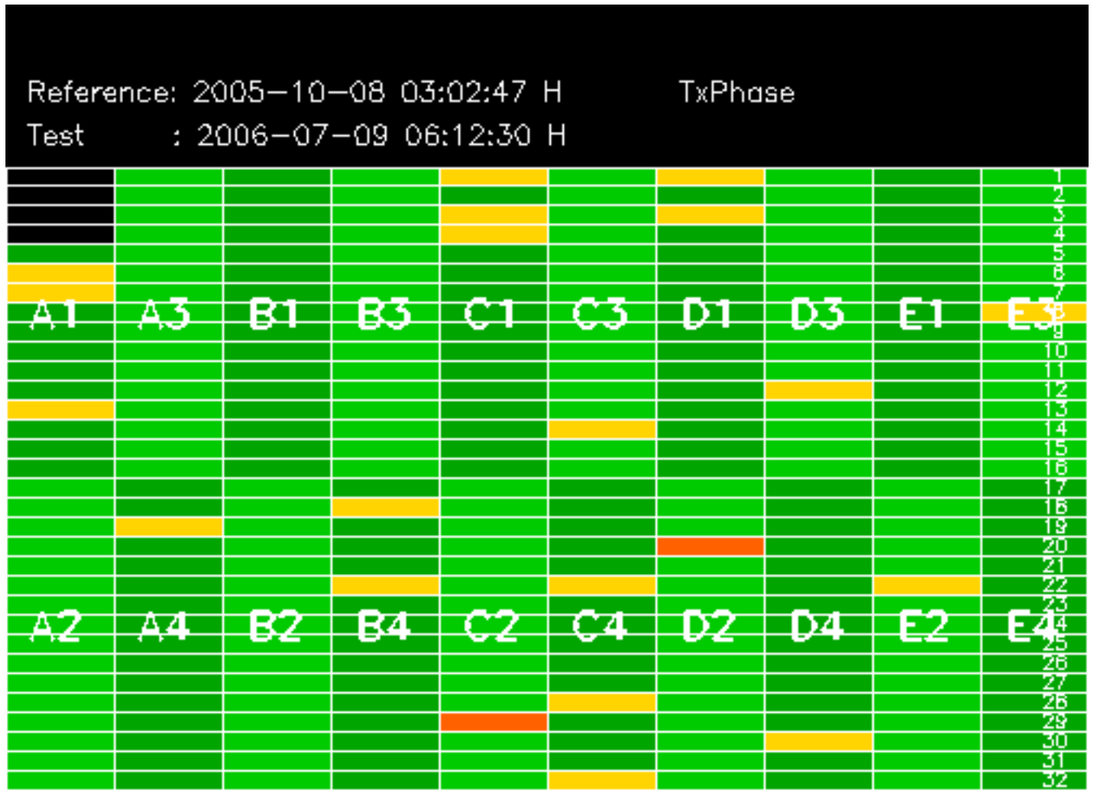
Summary of analysis for the last 3 days 2006070[890]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_IMM_1PNPDE20060709_004101_000000622049_00174_22773_0517.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20060708_112314_000001522049_00166_22765_1970.N1 </td> <td>0 </td> <td>76 </td></tr>
</table>


num_gaps
1
0.8
0.6
0.4
0.2
0
22750
22760
22770
22780
22790
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_APM_1P_PDE
ASA_APM_1P_PDK


num_missing_lines
80
60
40
20
0
22750
22760
22770
22780
22790
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_APM_1P_PDE
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2006-07-09 06:12:30 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
Test : 2006-07-09 06:12:30 H
TxPhase
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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E4
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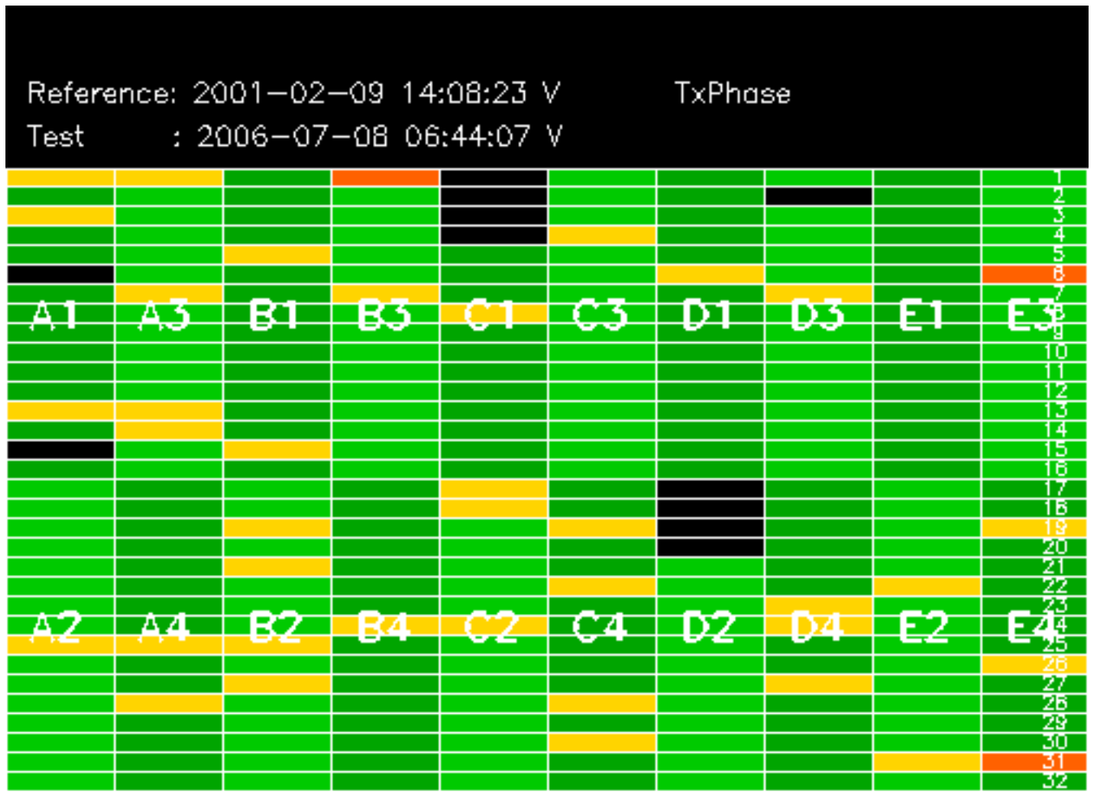
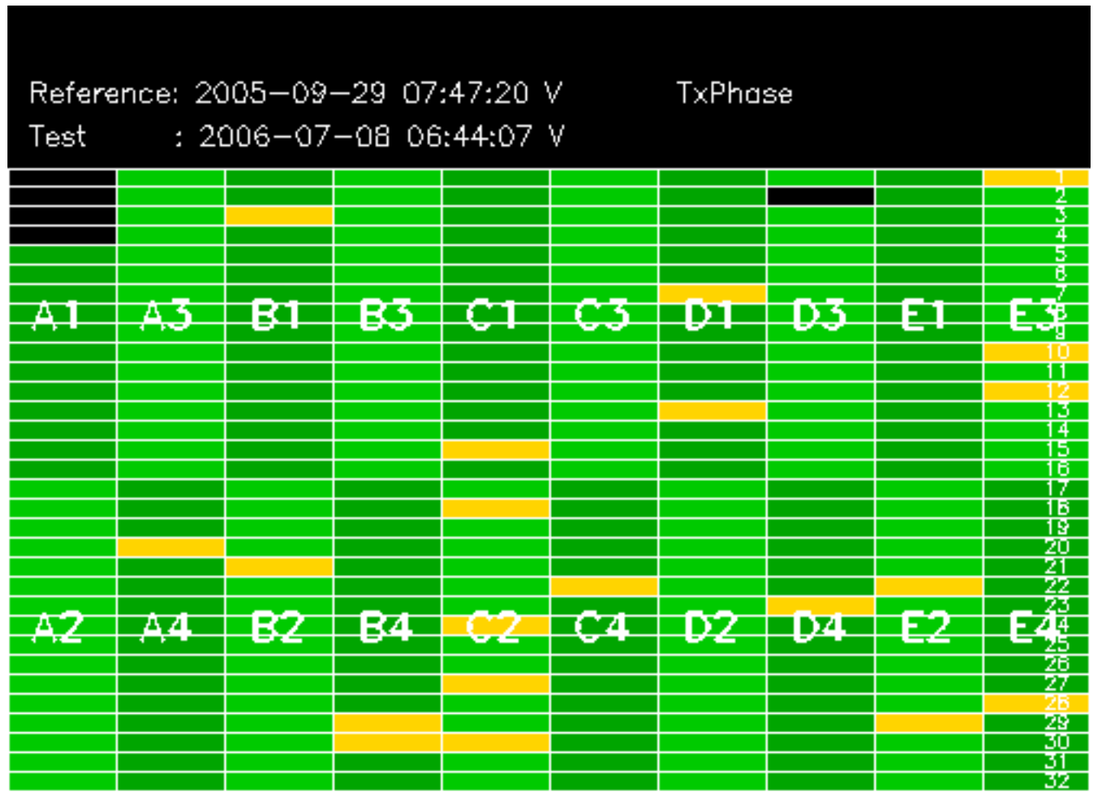

Reference: 2001-02-09 14:08:23 V
Test : 2006-07-08 06:44:07 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-07-08 06:44:07 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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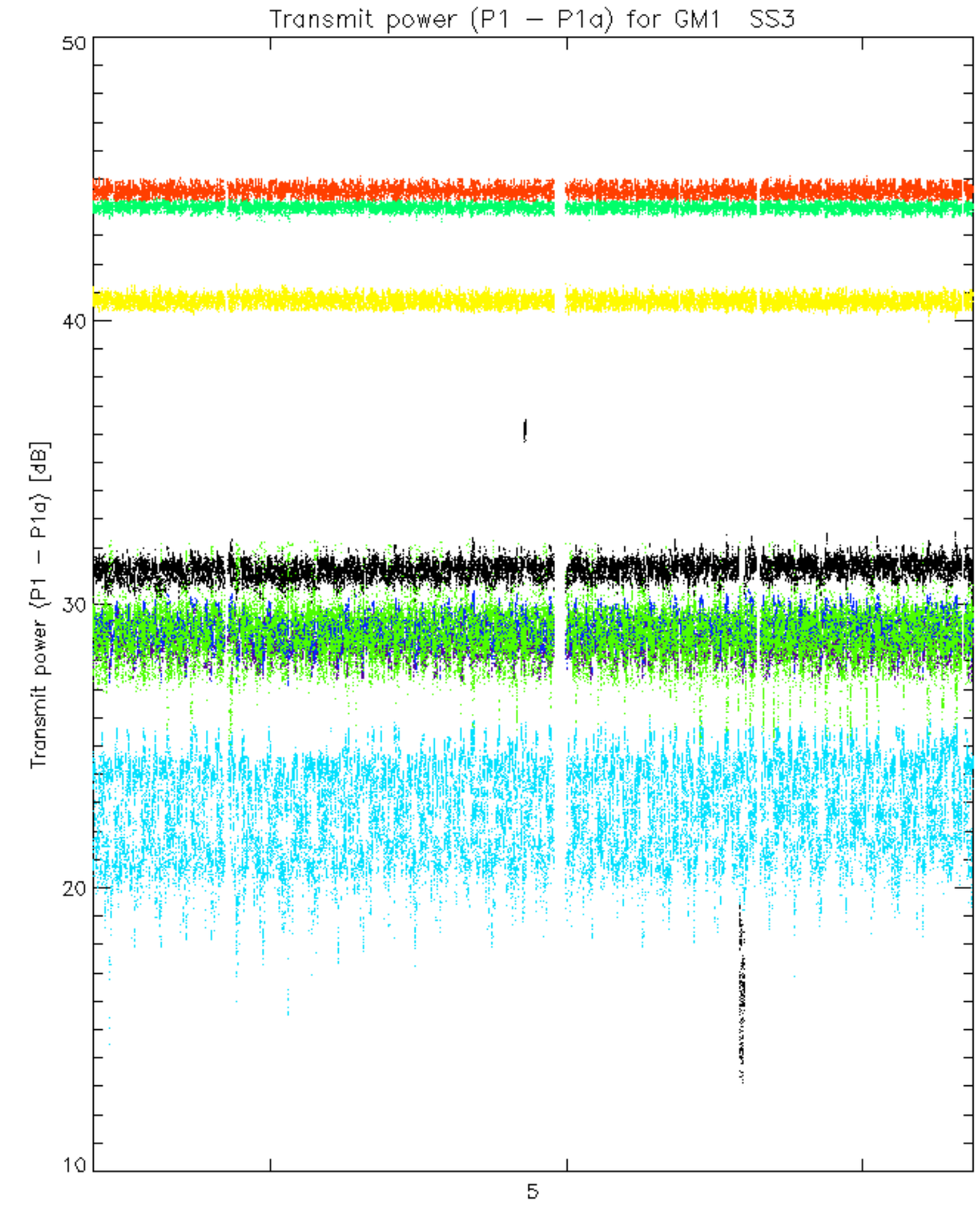
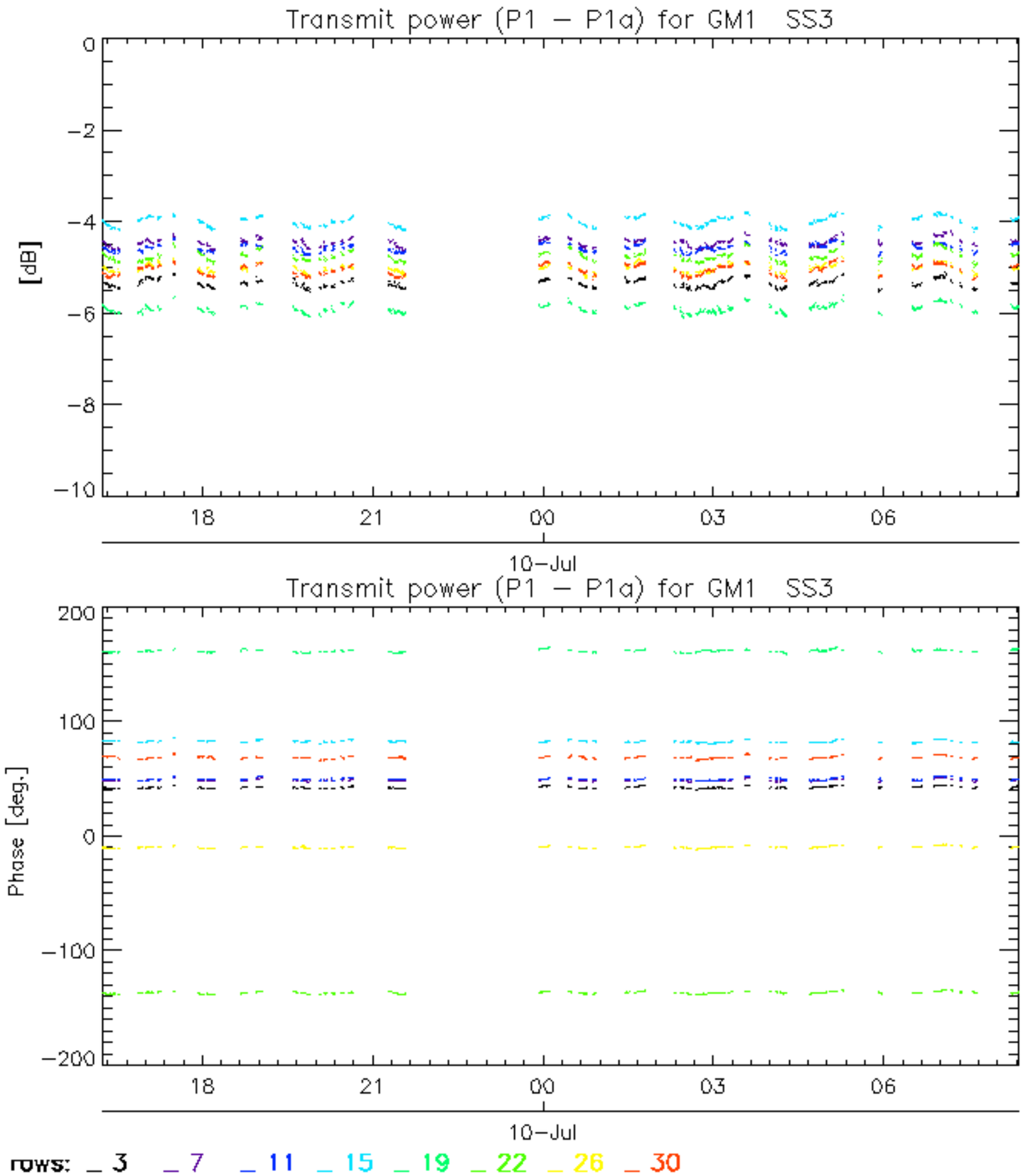
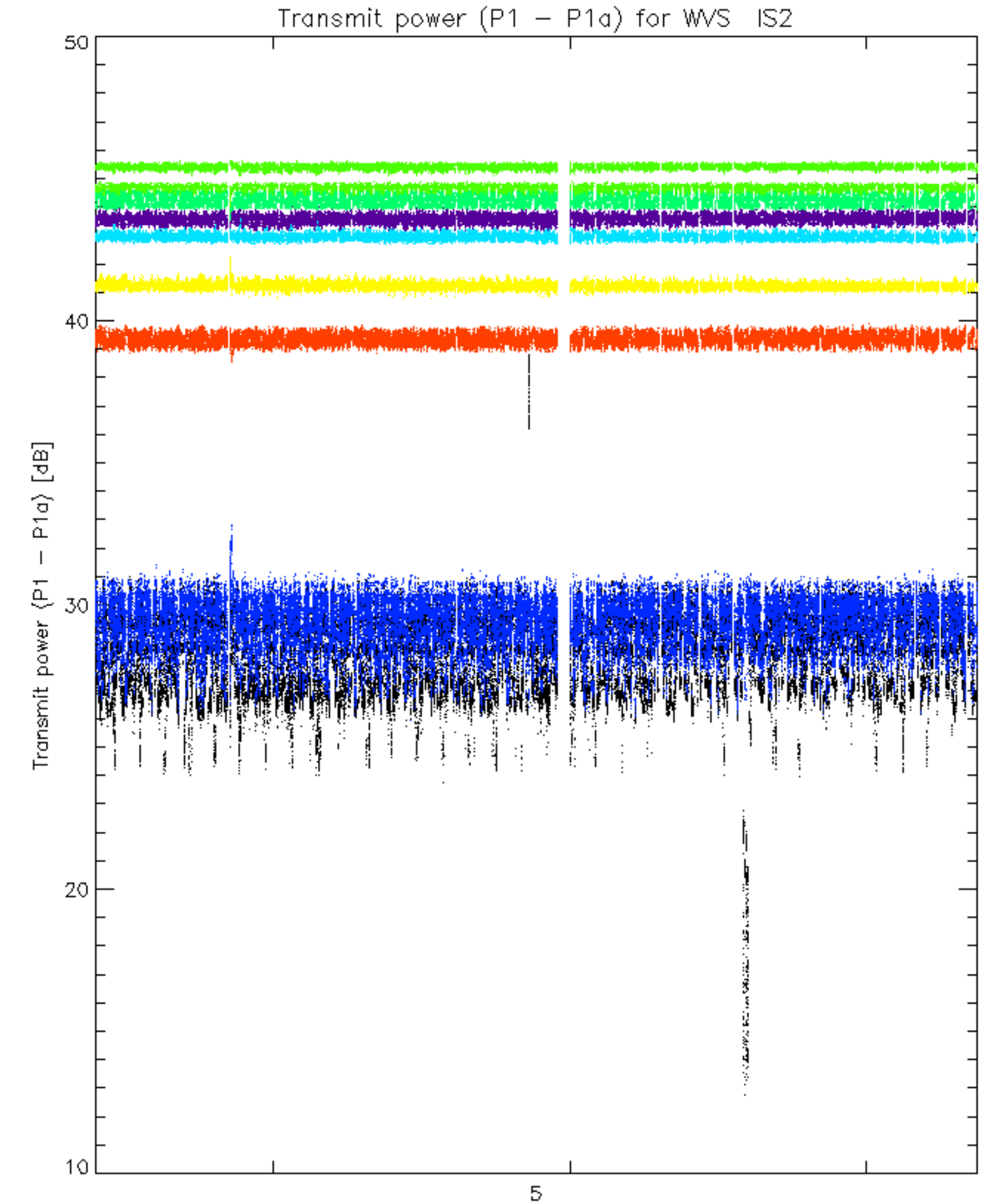
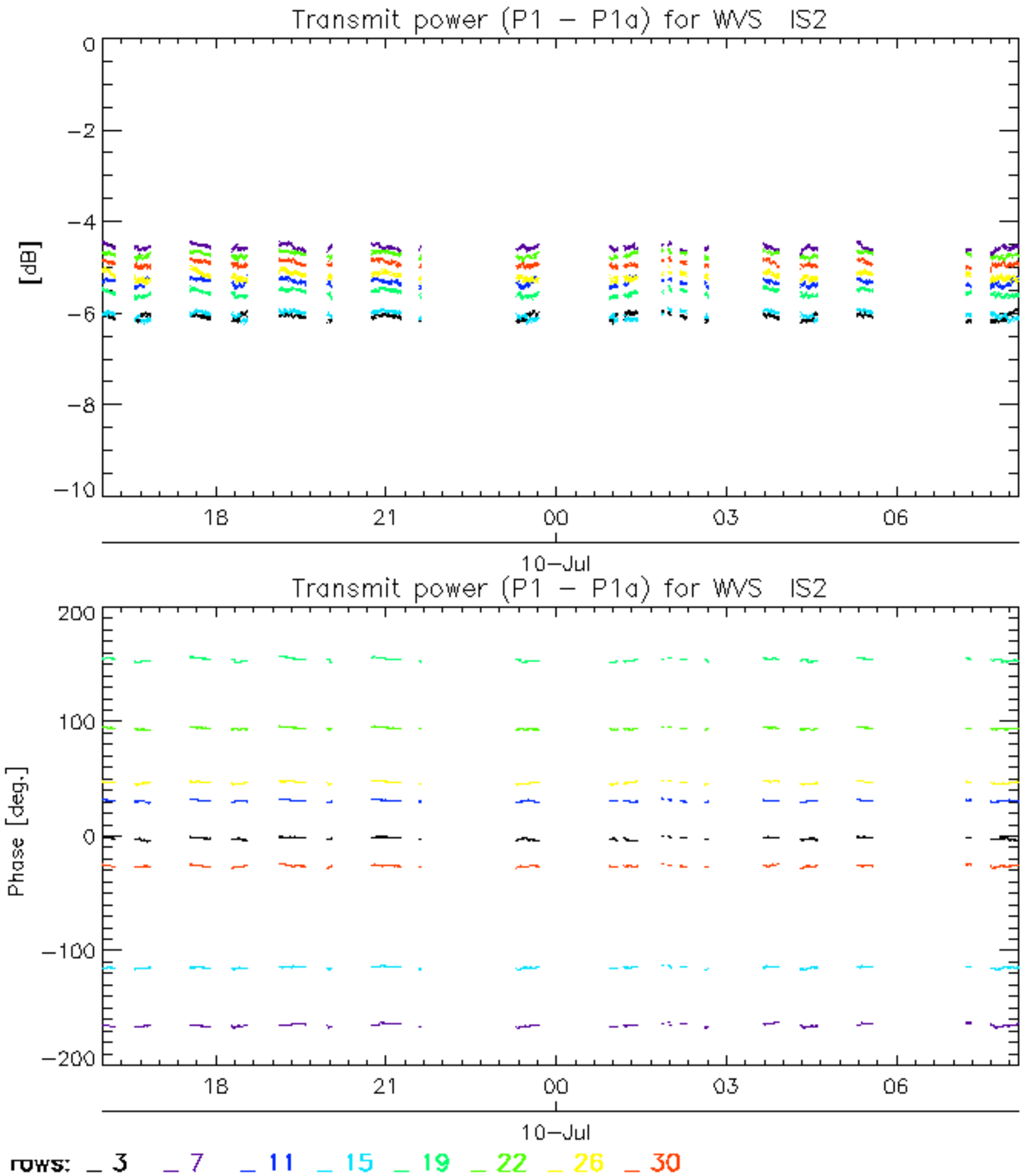

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
5
rows: 3 7 11 15 19 22 26 30


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


Transmit power (P1 – P1a) for WVS IS2
50
40
30
20
10
5
Transmit power (P1 – P1a) [dB]
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
10–Jul
Transmit power (P1 – P1a) for WVS IS2
200
100
0
−100
−200
Phase [deg.]
18
21
00
03
06
10–Jul
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.