PRELIMINARY REPORT OF 050807

last update on Sun Aug 7 10:50:01 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 2005-08-06 00:00:00 to 2005-08-07 10:50:01

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

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	29	55	17	6	14
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	29	55	17	6	14
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	29	55	17	6	14
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	29	55	17	6	14

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	34	44	40	12	65
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	34	44	40	12	65
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	34	44	40	12	65
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	34	44	40	12	65

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	20050805 063530
H	20050806 060353

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	-3.322062	0.031125	-0.048021
7	P1	-3.155441	0.030882	-0.095680
11	P1	-4.708839	0.032541	-0.032844
15	P1	-5.587202	0.051942	-0.082836
19	P1	-3.792910	0.004146	-0.045856
22	P1	-4.642238	0.113639	-0.016015
26	P1	-4.853862	0.147495	0.031033
30	P1	-7.245886	0.149166	-0.001716
3	P1	-15.555747	0.075394	0.082047
7	P1	-15.507297	0.161047	0.093527
11	P1	-21.725574	0.257593	-0.186831
15	P1	-11.288099	0.078529	0.053813
19	P1	-14.484185	0.036433	-0.032667
22	P1	-15.711411	0.347307	0.138057
26	P1	-17.359056	0.199076	0.282311
30	P1	-17.753336	0.429221	-0.133242

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.824297	0.083787	0.097147
7	P2	-21.982929	0.101629	0.131769
11	P2	-13.580405	0.106704	0.223889
15	P2	-7.071010	0.092645	0.038001
19	P2	-9.588295	0.095764	-0.013227
22	P2	-16.840372	0.097453	0.056318
26	P2	-16.506742	0.099397	-0.008904
30	P2	-18.794941	0.087677	-0.031510

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.156348	0.002498	-0.001294
7	P3	-8.156348	0.002498	-0.001294
11	P3	-8.156348	0.002498	-0.001294
15	P3	-8.156348	0.002498	-0.001294
19	P3	-8.156348	0.002498	-0.001294
22	P3	-8.156348	0.002498	-0.001294
26	P3	-8.156348	0.002498	-0.001294
30	P3	-8.156348	0.002498	-0.001294

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	-2.808156	0.108893	-0.163081
7	P1	-2.973620	0.064515	-0.105347
11	P1	-4.007723	0.015719	-0.048019
15	P1	-3.611553	0.068197	-0.177930
19	P1	-3.630368	0.016198	0.041255
22	P1	-5.694334	0.112558	-0.070177
26	P1	-7.399151	0.202901	0.034649
30	P1	-6.331800	0.104331	0.053654
3	P1	-10.880341	0.053425	-0.288058
7	P1	-10.460622	0.171538	0.010033
11	P1	-12.640167	0.102245	-0.075100
15	P1	-11.596838	0.103607	0.082389
19	P1	-15.510165	0.069850	0.169156
22	P1	-25.617691	2.978638	0.571397
26	P1	-15.313202	0.325003	0.300844
30	P1	-20.040457	1.257473	0.056153

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.560869	0.043619	0.170355
7	P2	-22.026911	0.039897	0.069263
11	P2	-9.616913	0.062763	0.230821
15	P2	-5.107204	0.042673	0.076406
19	P2	-6.888973	0.063190	0.082081
22	P2	-7.060761	0.037359	0.075795
26	P2	-23.967375	0.037748	0.032841
30	P2	-21.948130	0.043333	0.042333

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.997675	0.004091	0.009001
7	P3	-7.997550	0.004087	0.009183
11	P3	-7.997513	0.004095	0.008806
15	P3	-7.997495	0.004089	0.009402
19	P3	-7.997584	0.004088	0.009538
22	P3	-7.997568	0.004081	0.009361
26	P3	-7.997587	0.004074	0.009136
30	P3	-7.997486	0.004074	0.009030

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	0.000470267
	stdev	2.16888e-07
MEAN Q	mean	0.000499592
	stdev	2.31633e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128929
	stdev	0.000985031
STDEV Q	mean	0.129189
	stdev	0.000995641

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005080[567]
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_1PNPDK20050806_103106_000000672039_00366_17955_1061.N1	0	7
ASA_GM1_1PNPDE20050806_214130_000002412039_00373_17962_1339.N1	0	119
ASA_WSM_1PNPDE20050806_022236_000000672039_00361_17950_3234.N1	0	60
ASA_WSM_1PNPDK20050805_191219_000000852039_00357_17946_1331.N1	0	19
ASA_WSM_1PNPDK20050806_082234_000000852039_00365_17954_1352.N1	0	29

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)

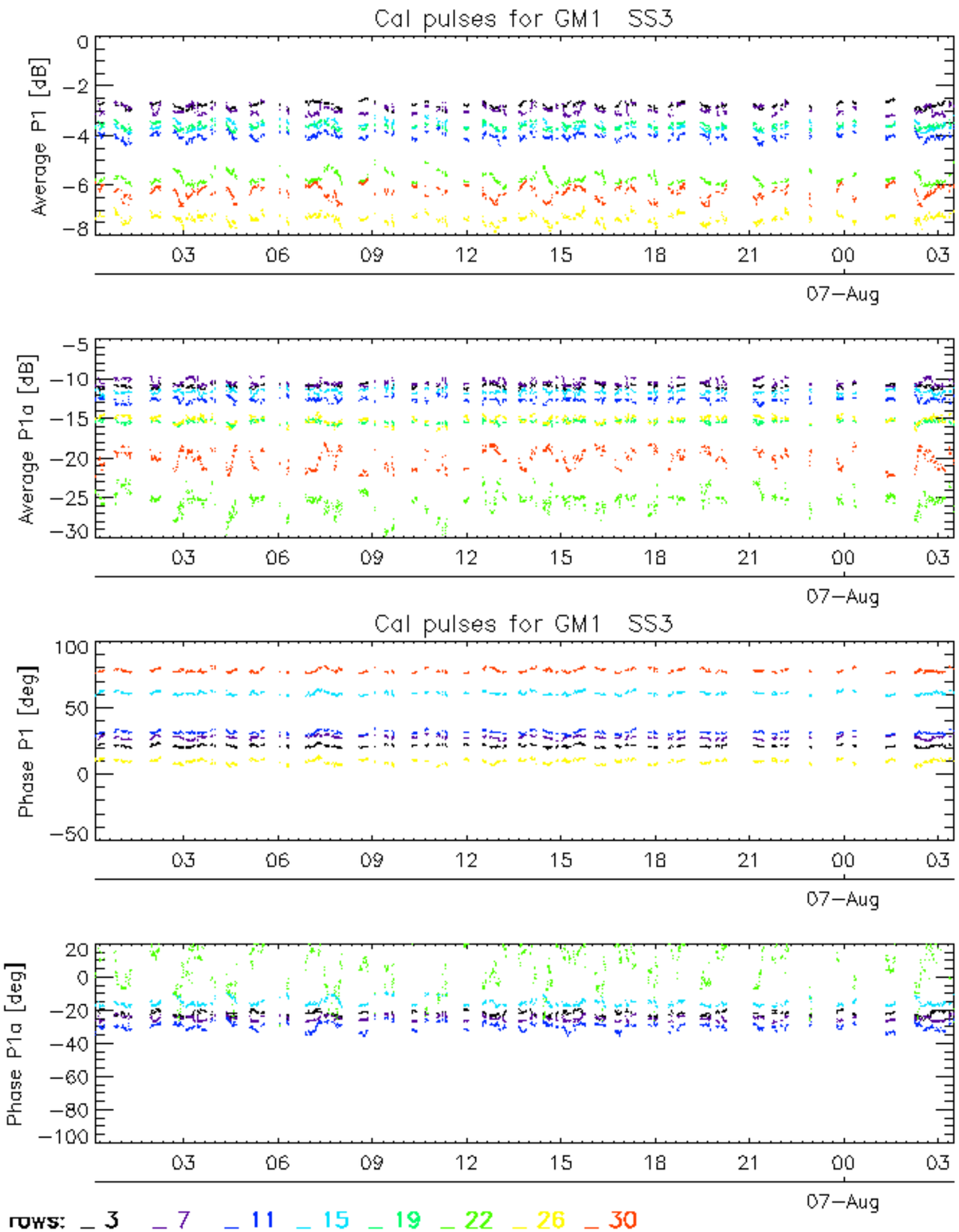

Acsending
☒
Descending

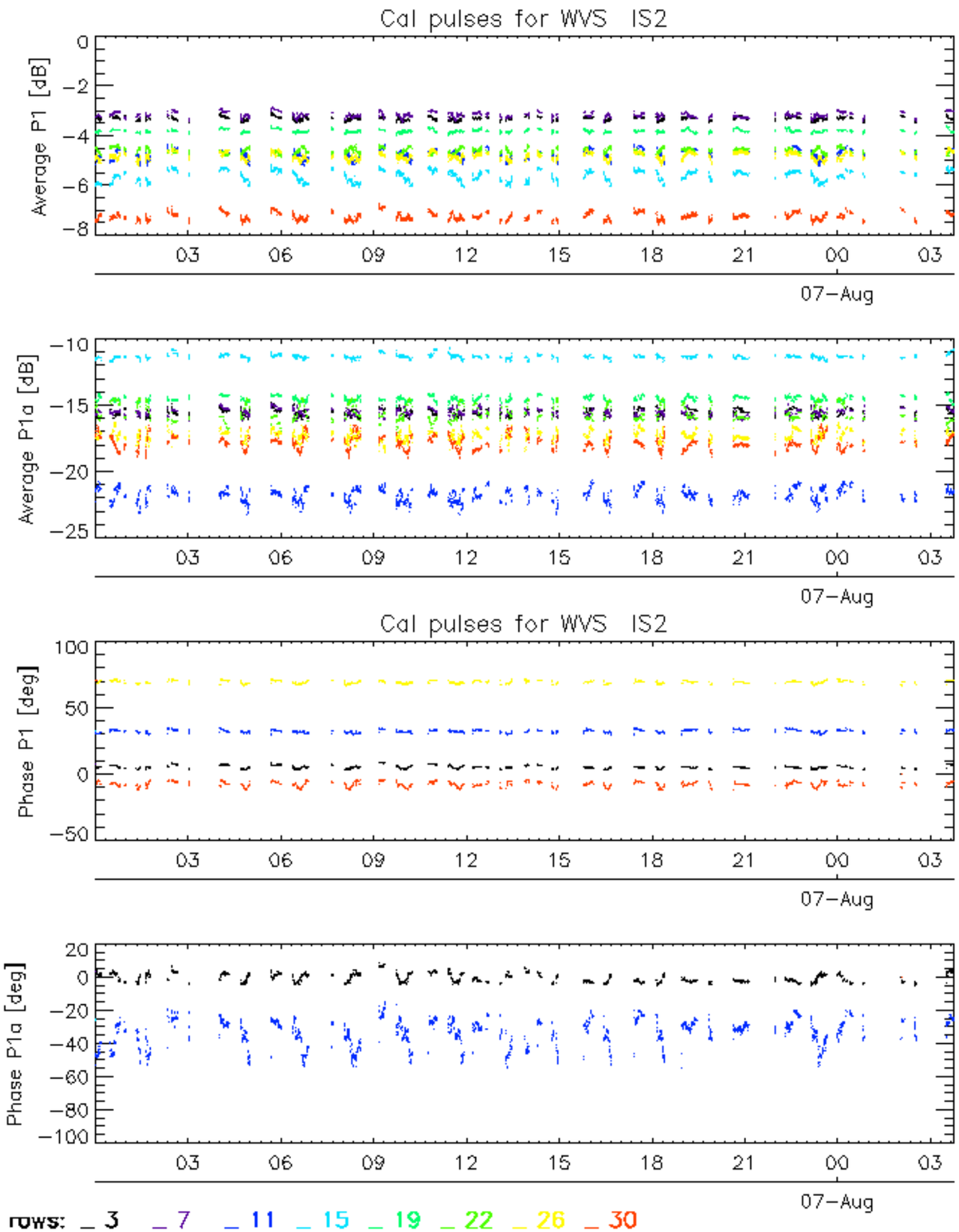
7.5 - Absolute Doppler for GM1

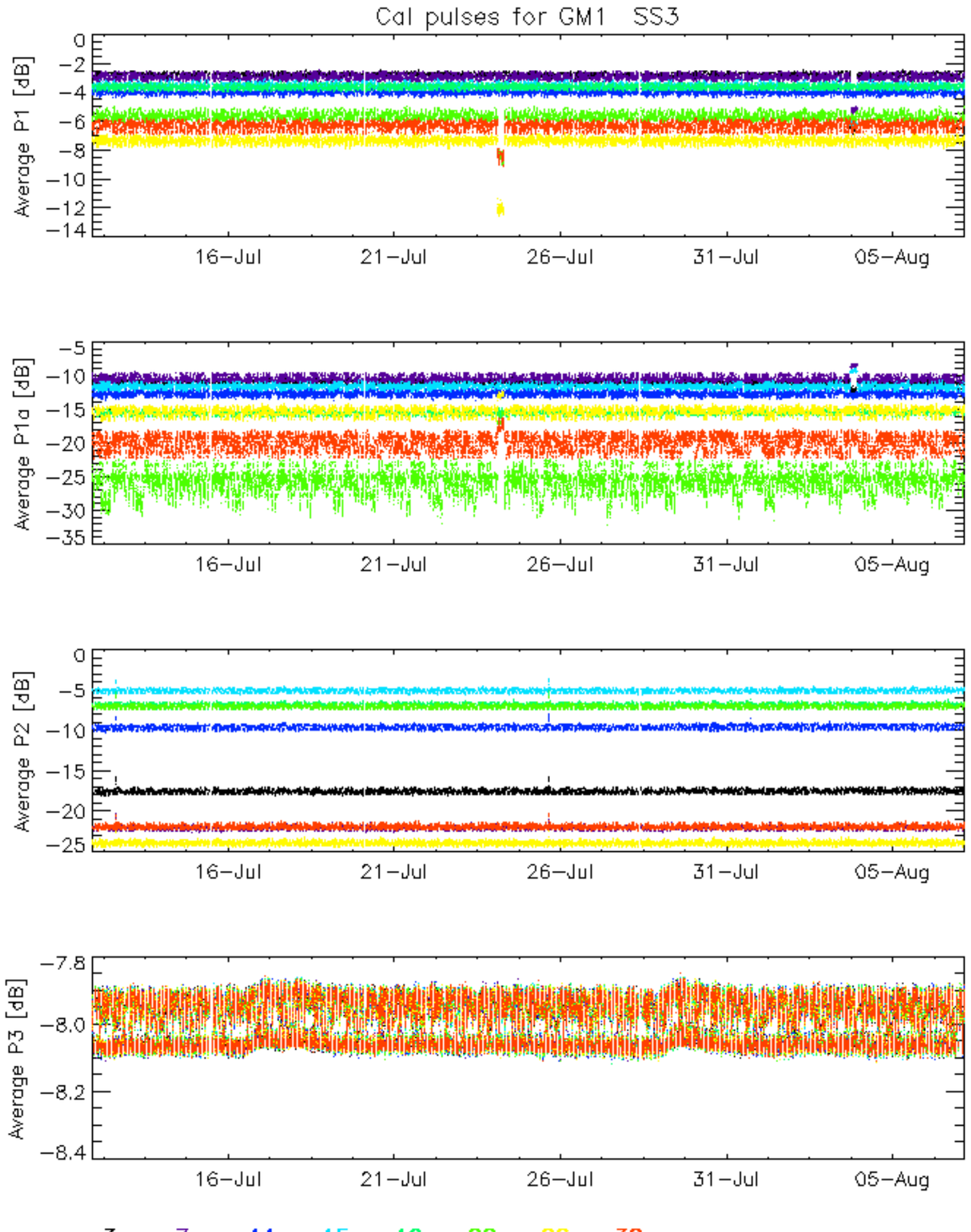
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

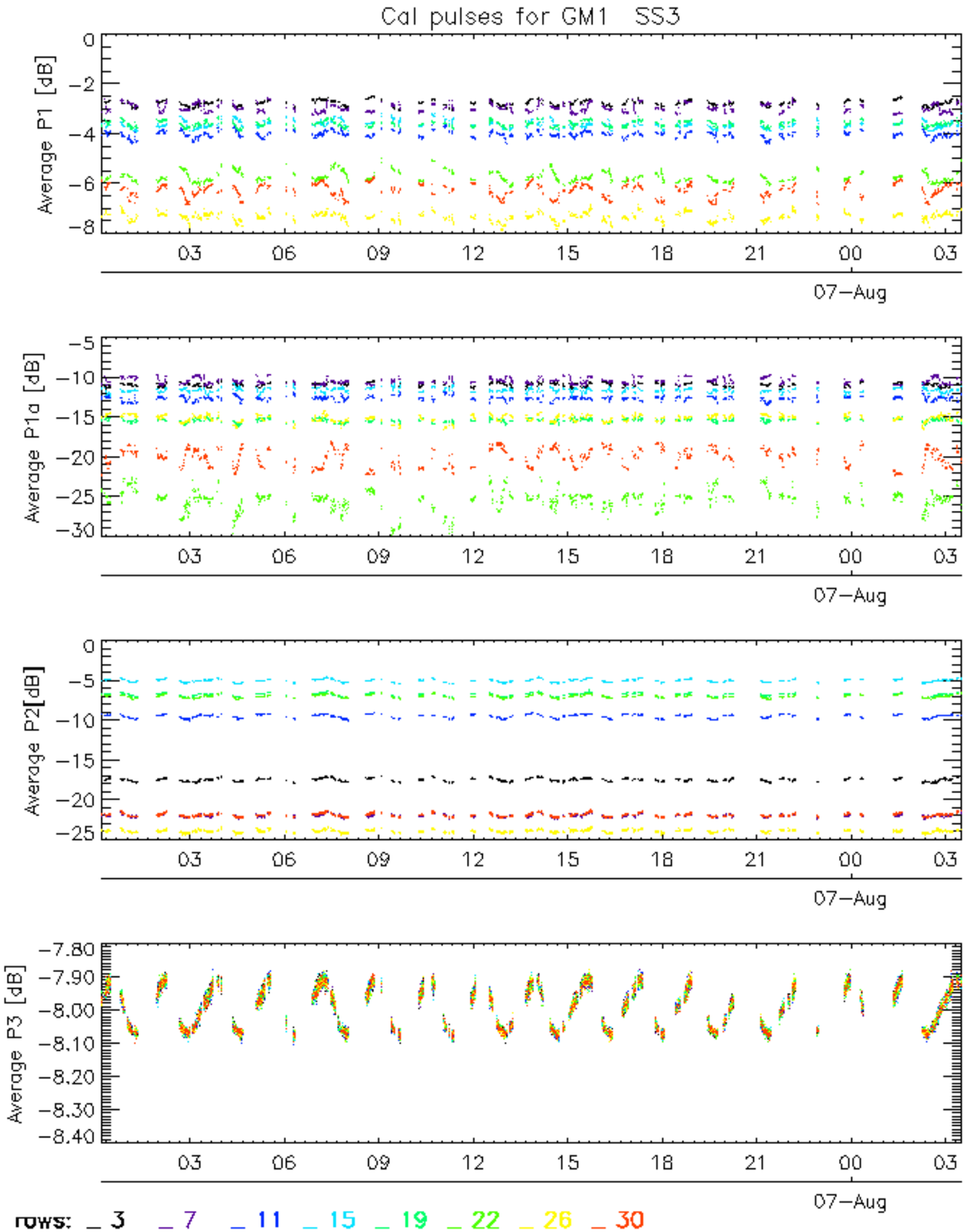
7.6 - Doppler evolution versus ANX for GM1

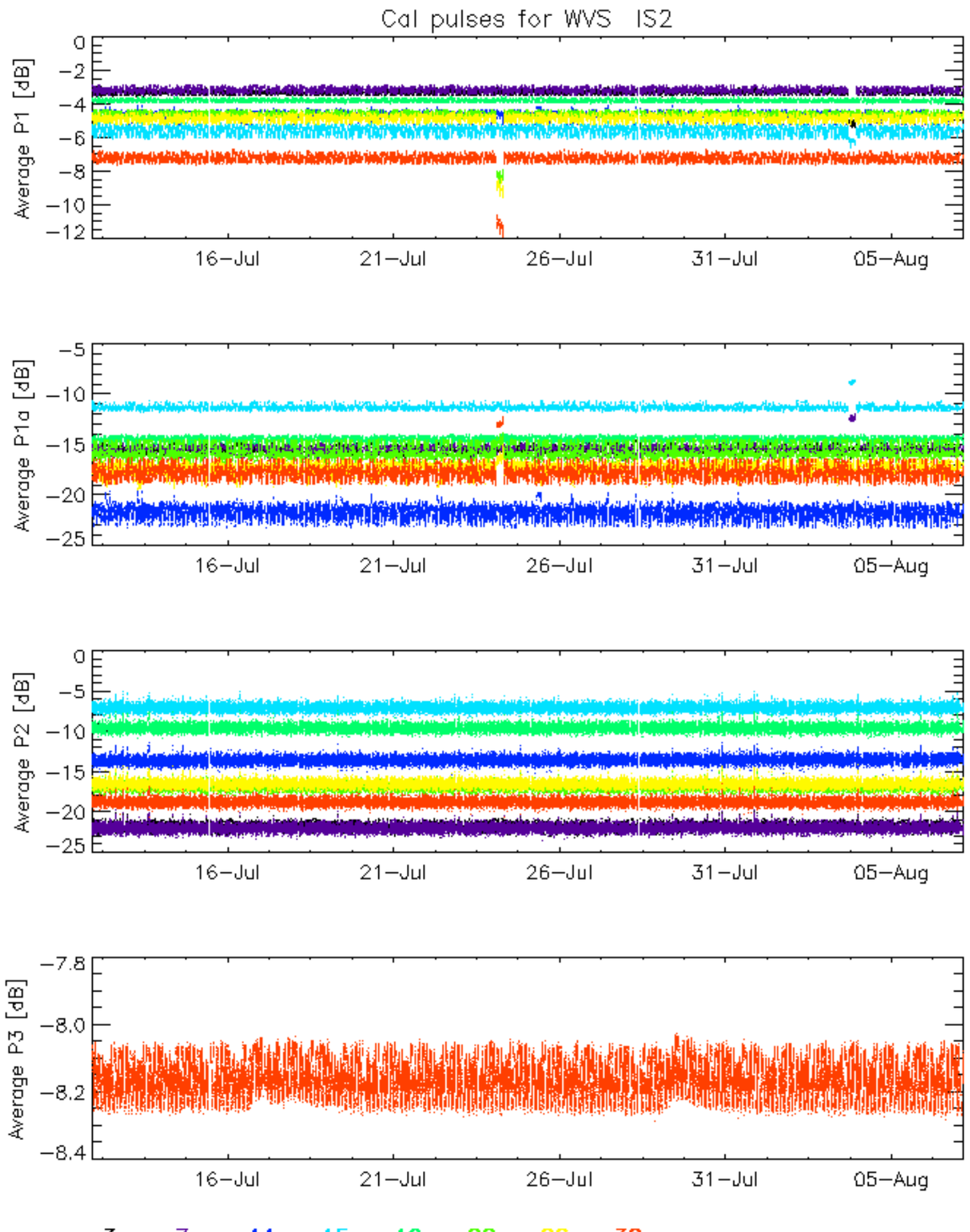
Evolution Doppler error versus ANX
☒

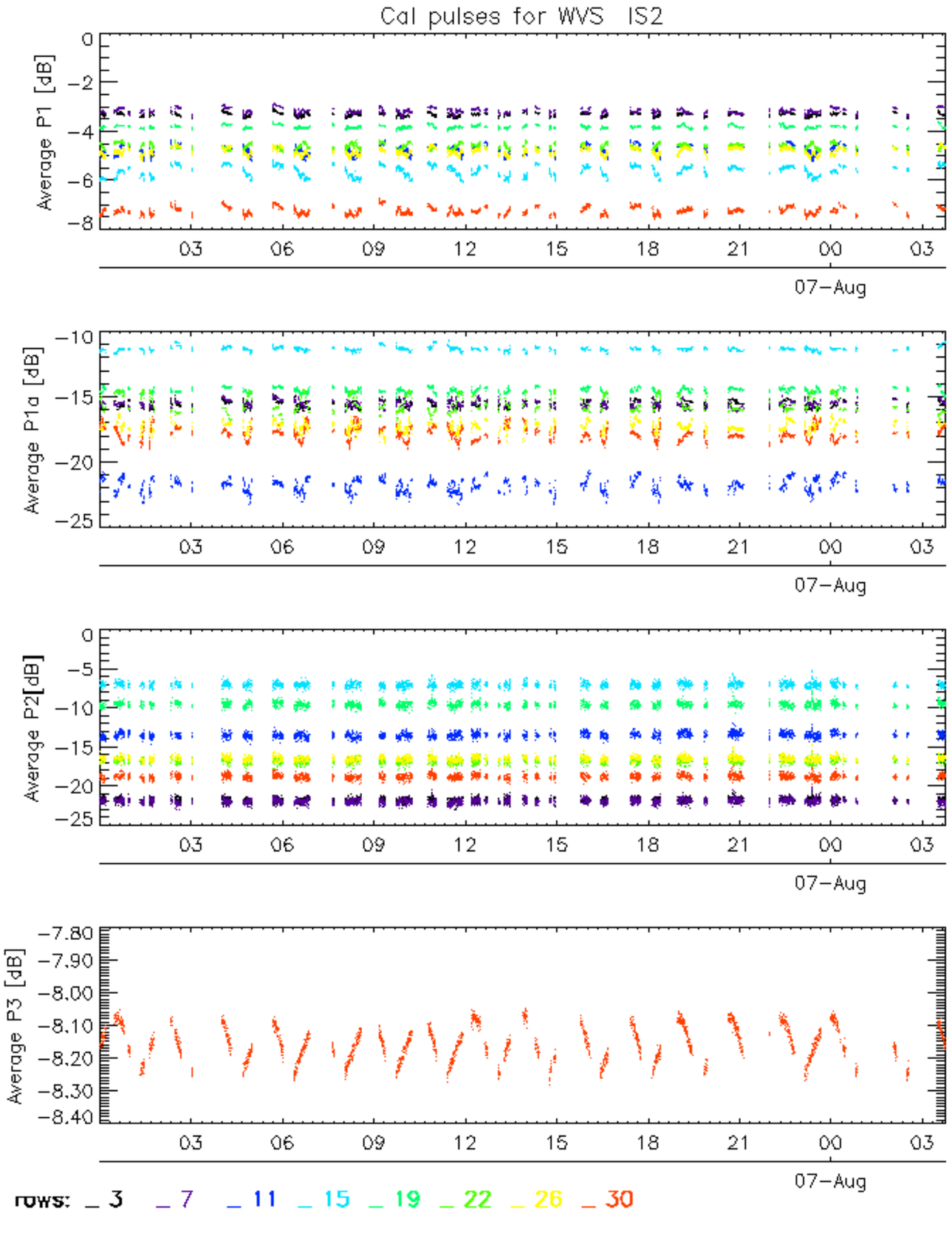

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
07−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
07−Aug
Average P1a [dB]
−10
−15
−20
−25
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

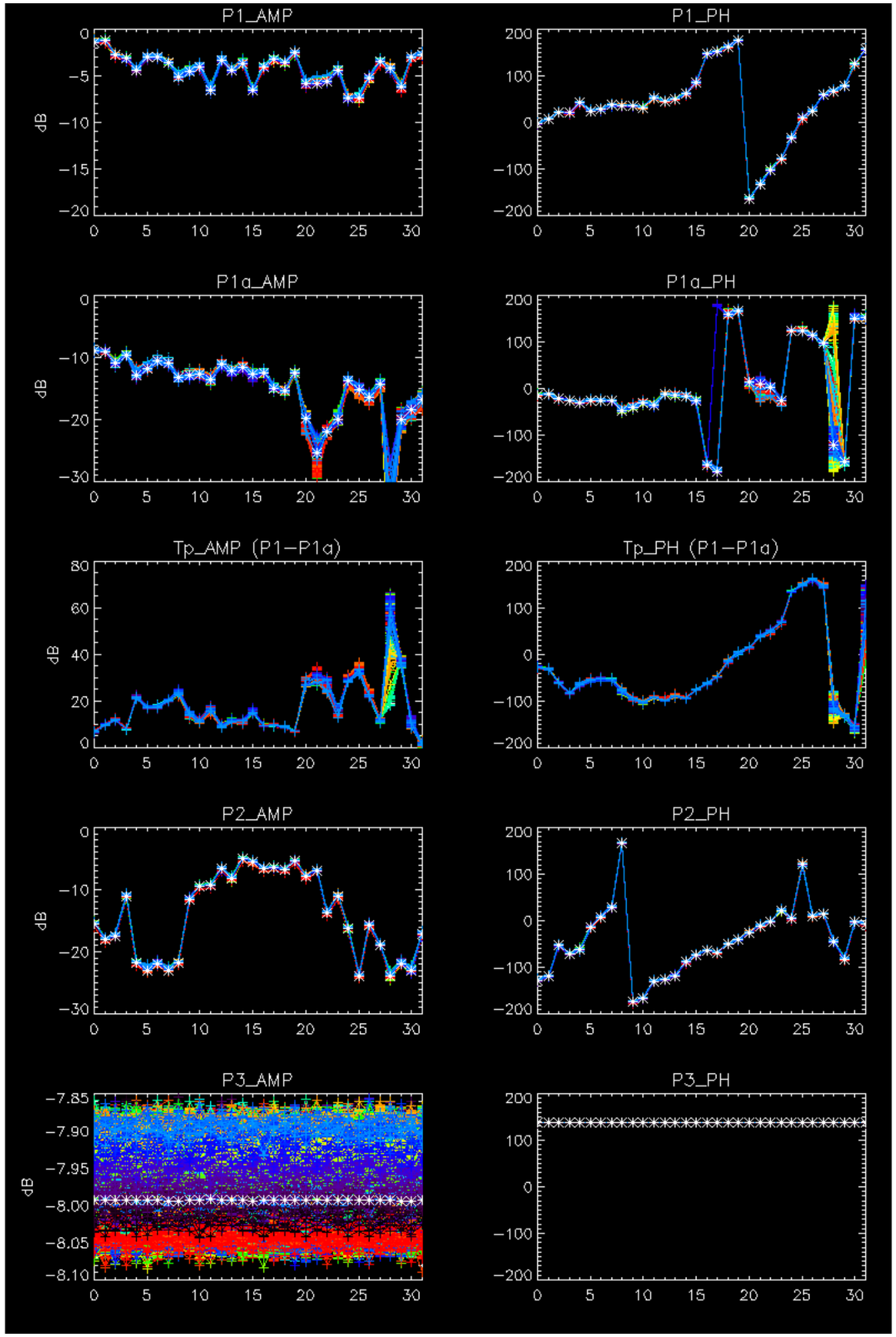

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
−14
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: 3 7 11 15 19 22 26 30

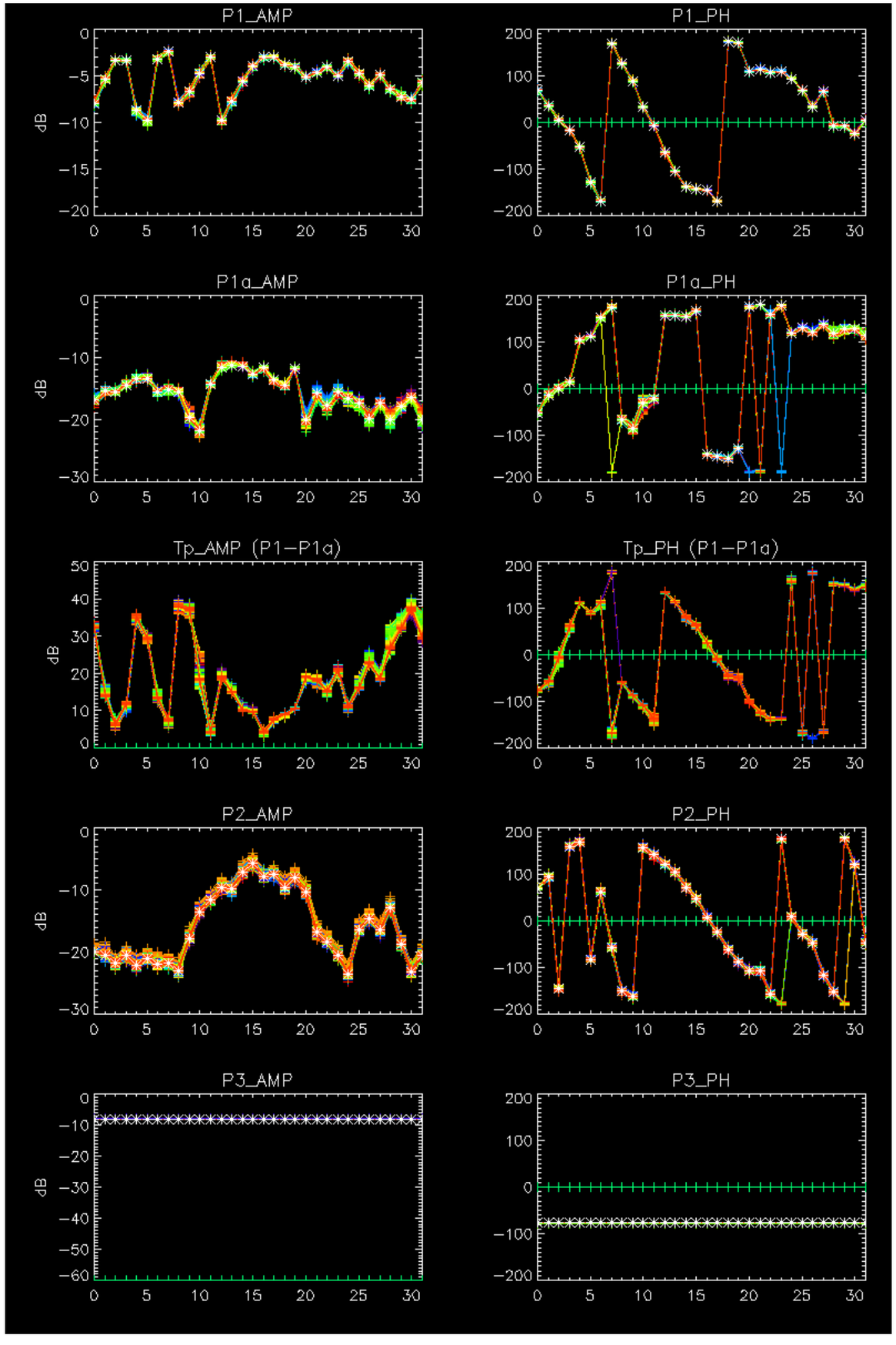

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
07−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug
Average P1a [dB]
−5
−10
−15
−20
−25
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug
Average P2 [dB]
0
−5
−10
−15
−20
−25
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug
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
07−Aug
Average P1a [dB]
−10
−15
−20
−25
Average P2[dB]
−5
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

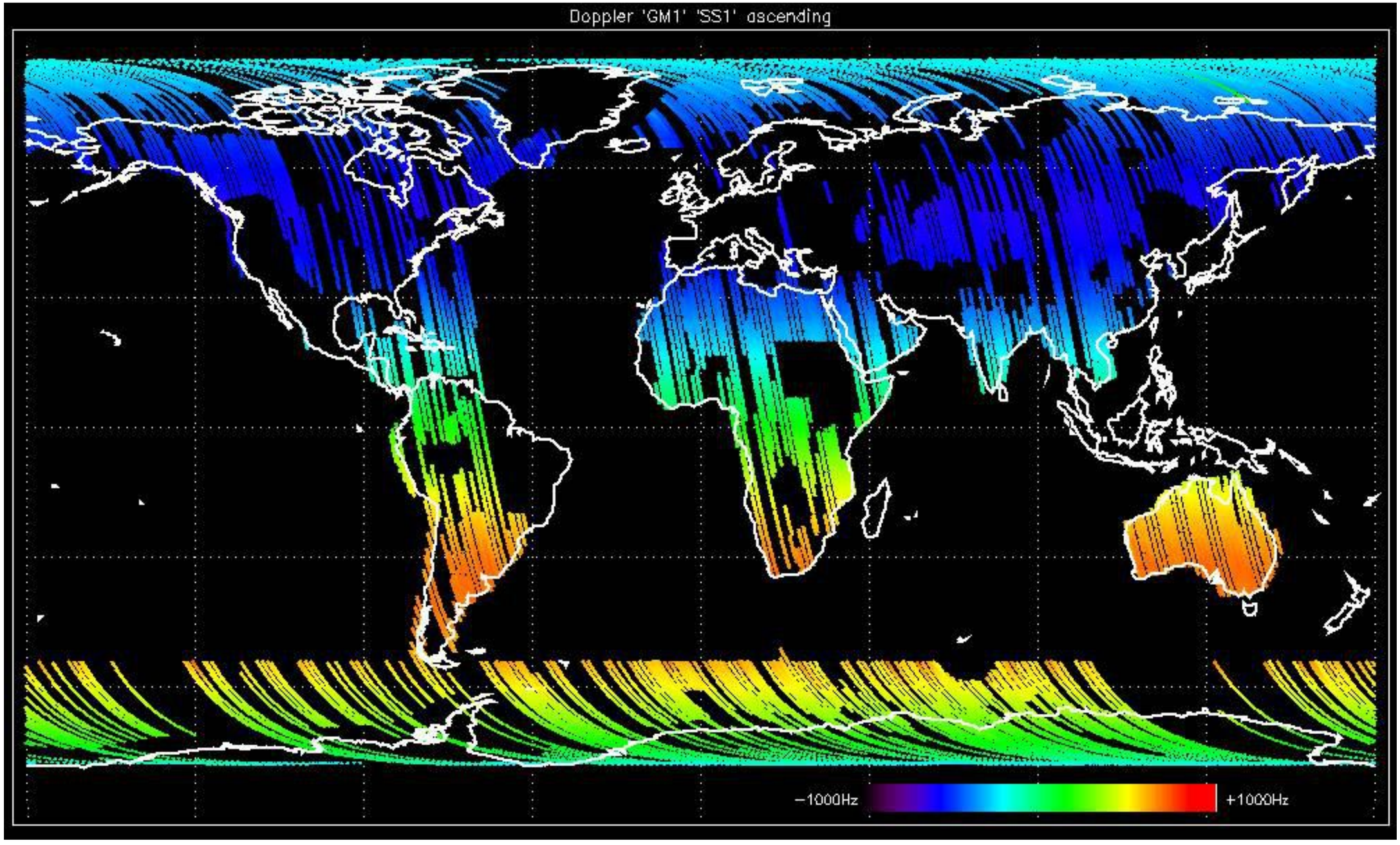
No anomalies observed.

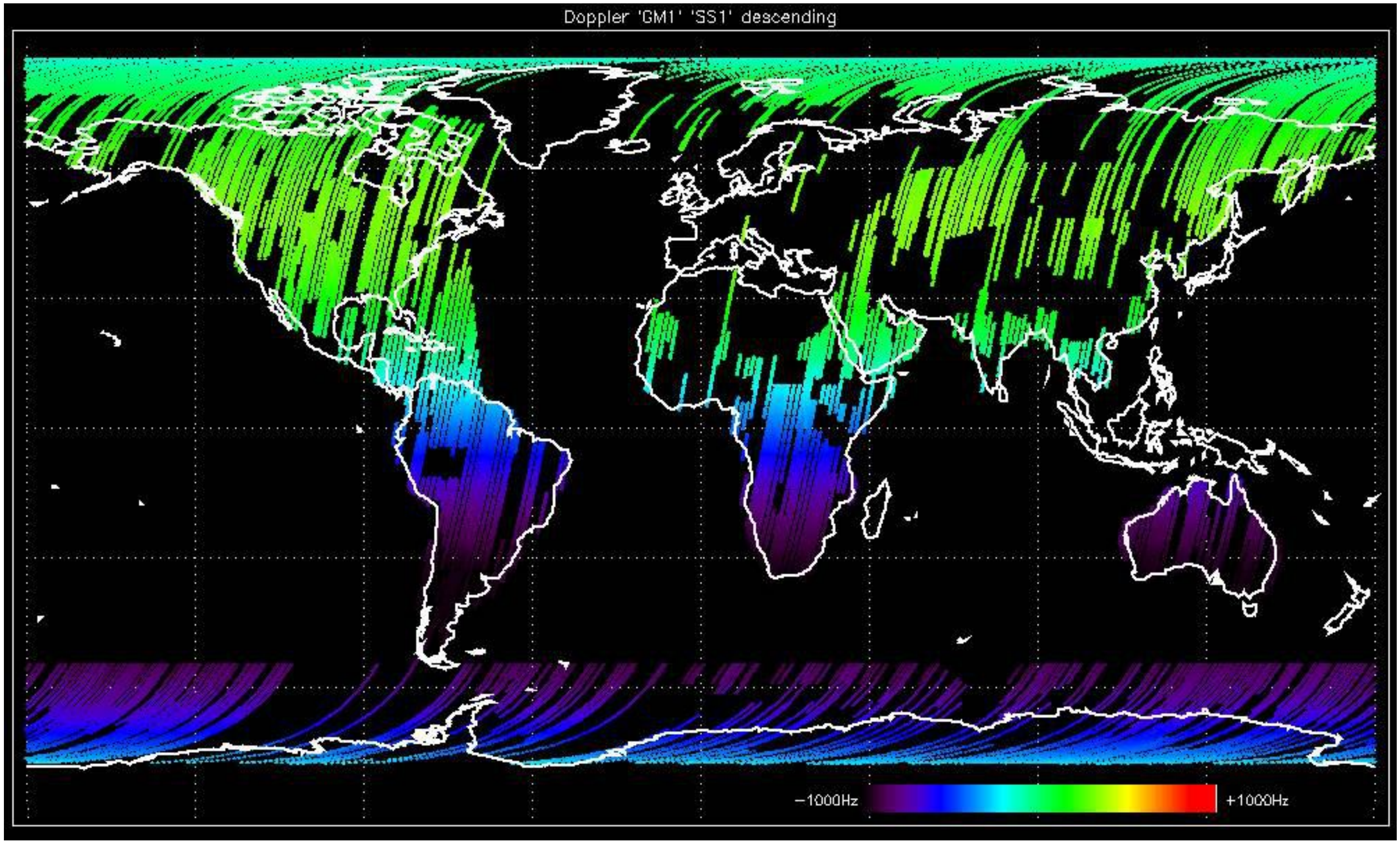

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

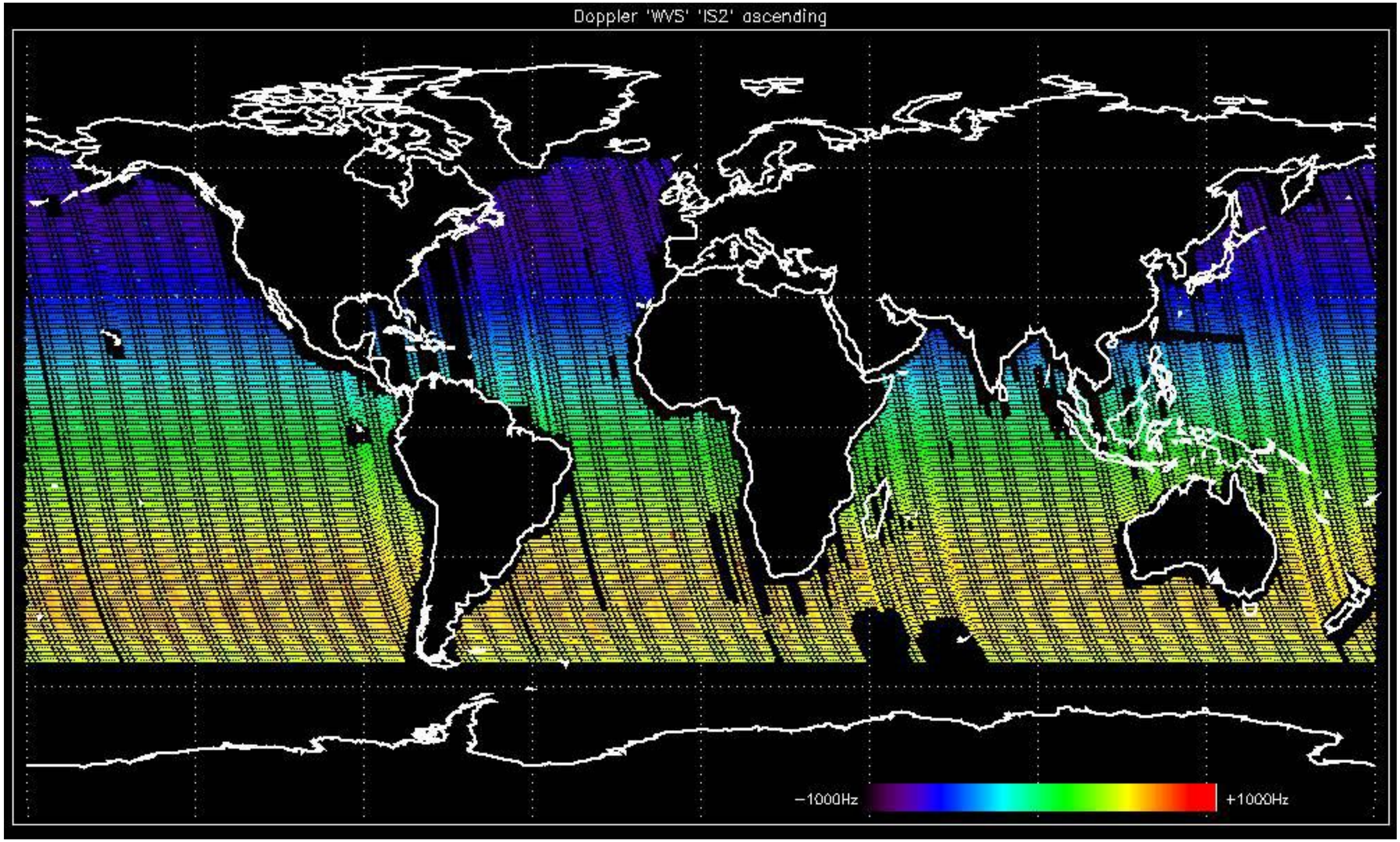

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

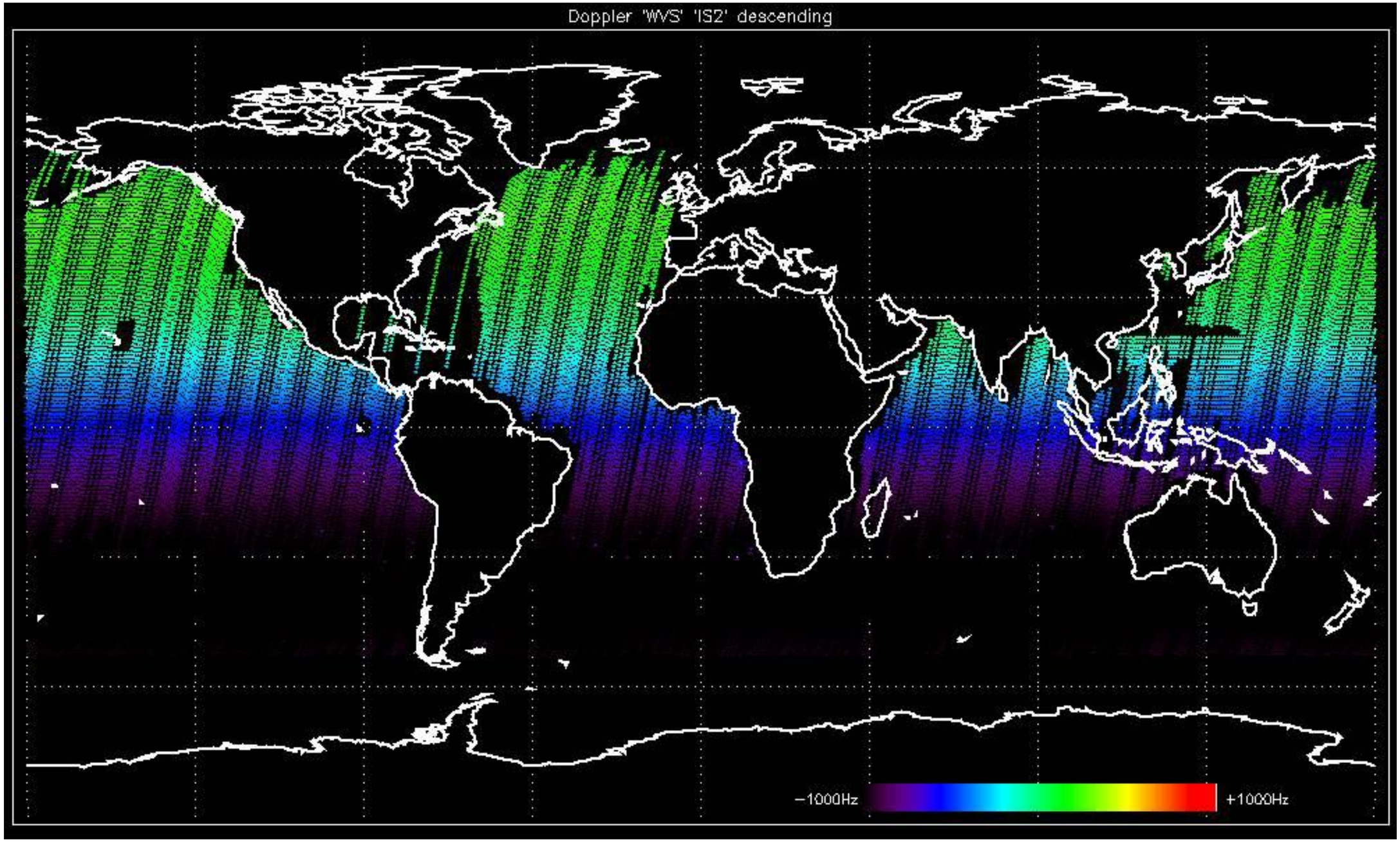
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

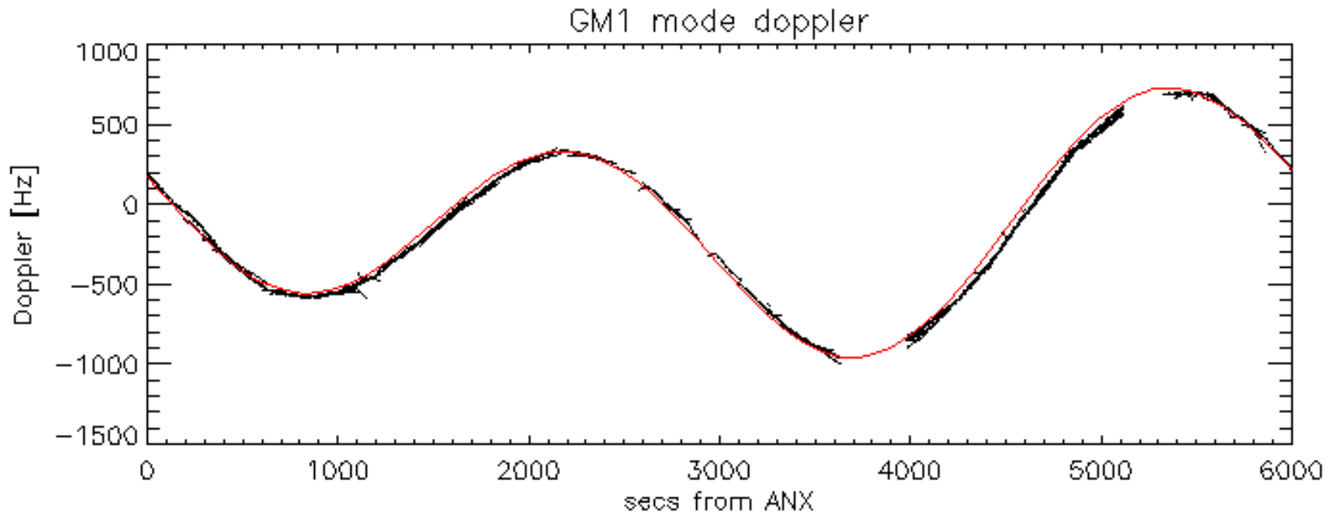
Preliminary report.The data is not yet controled

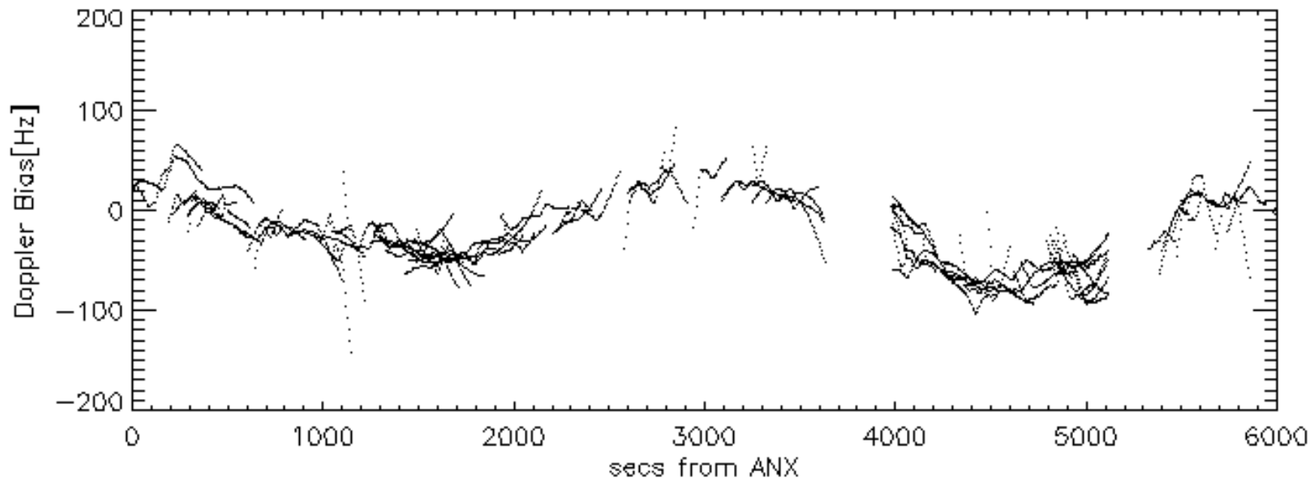

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

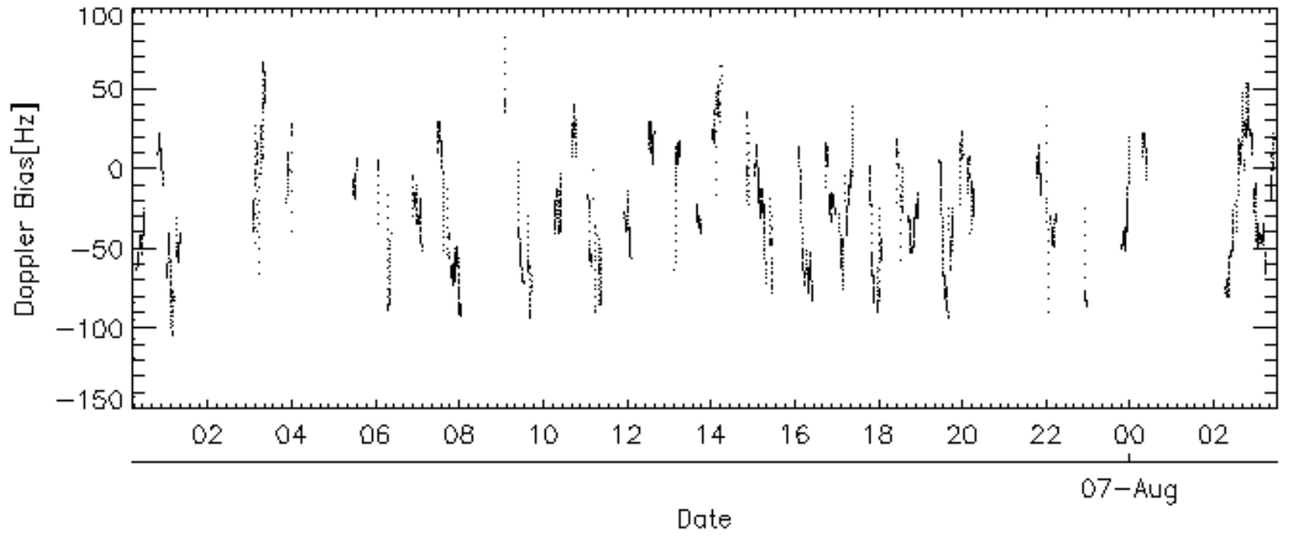

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

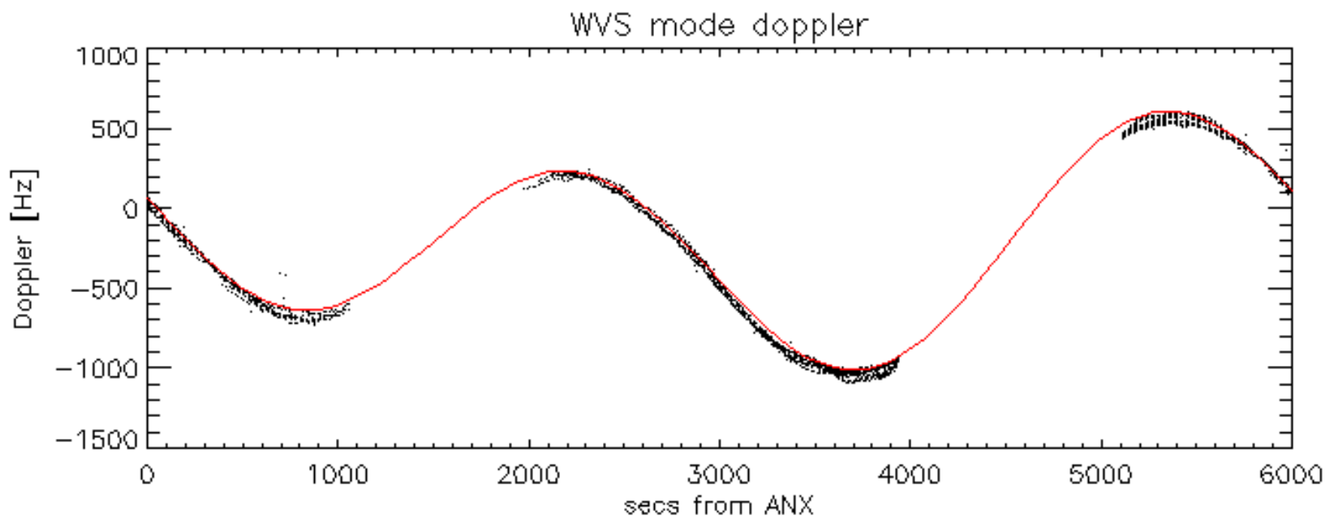

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

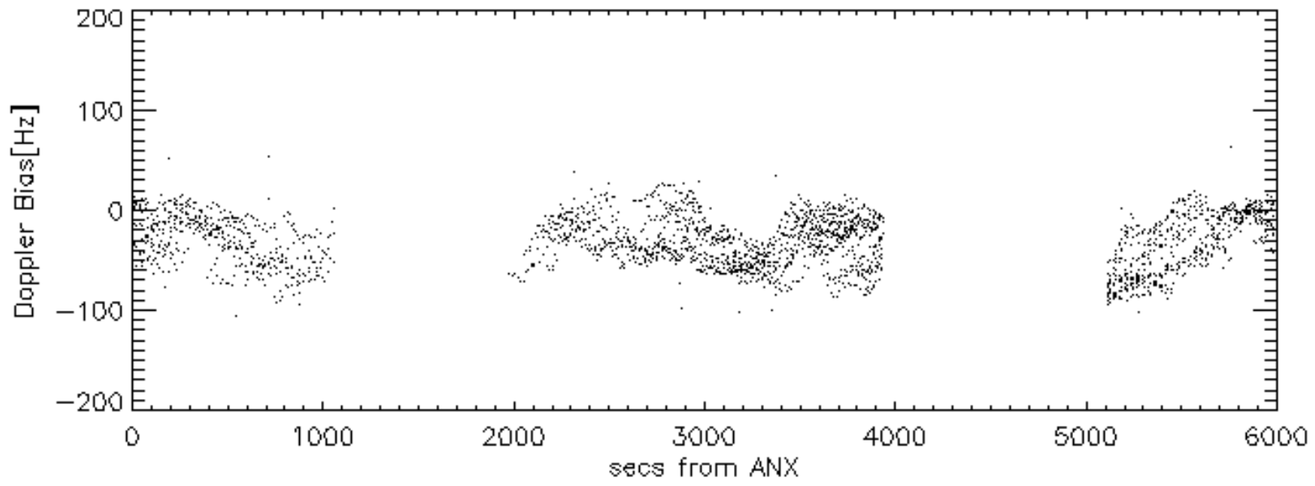

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

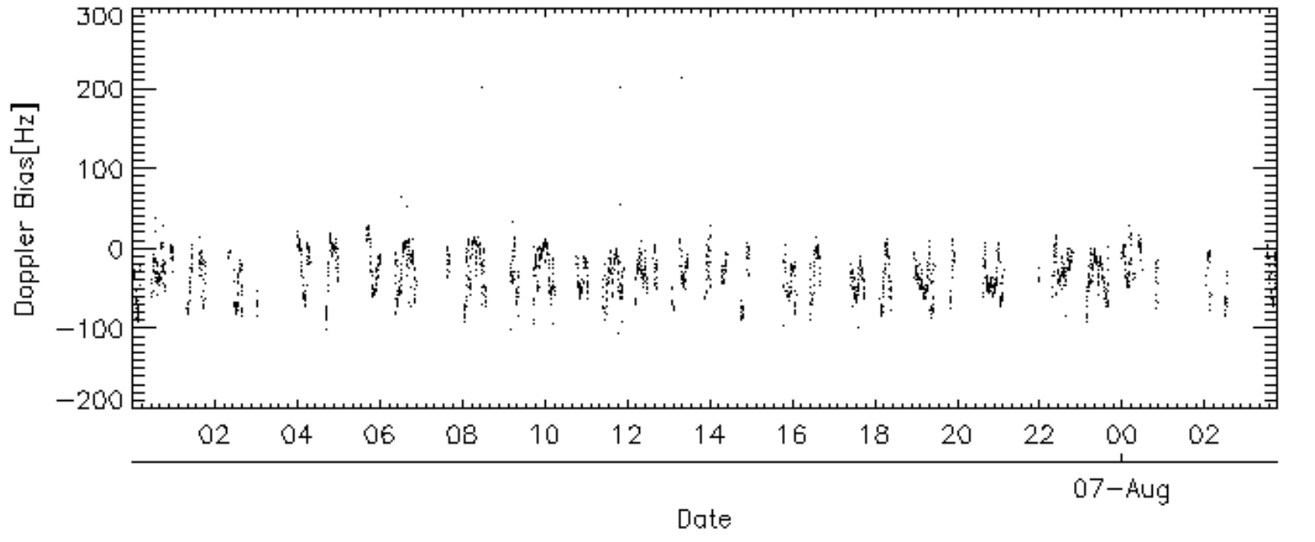

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

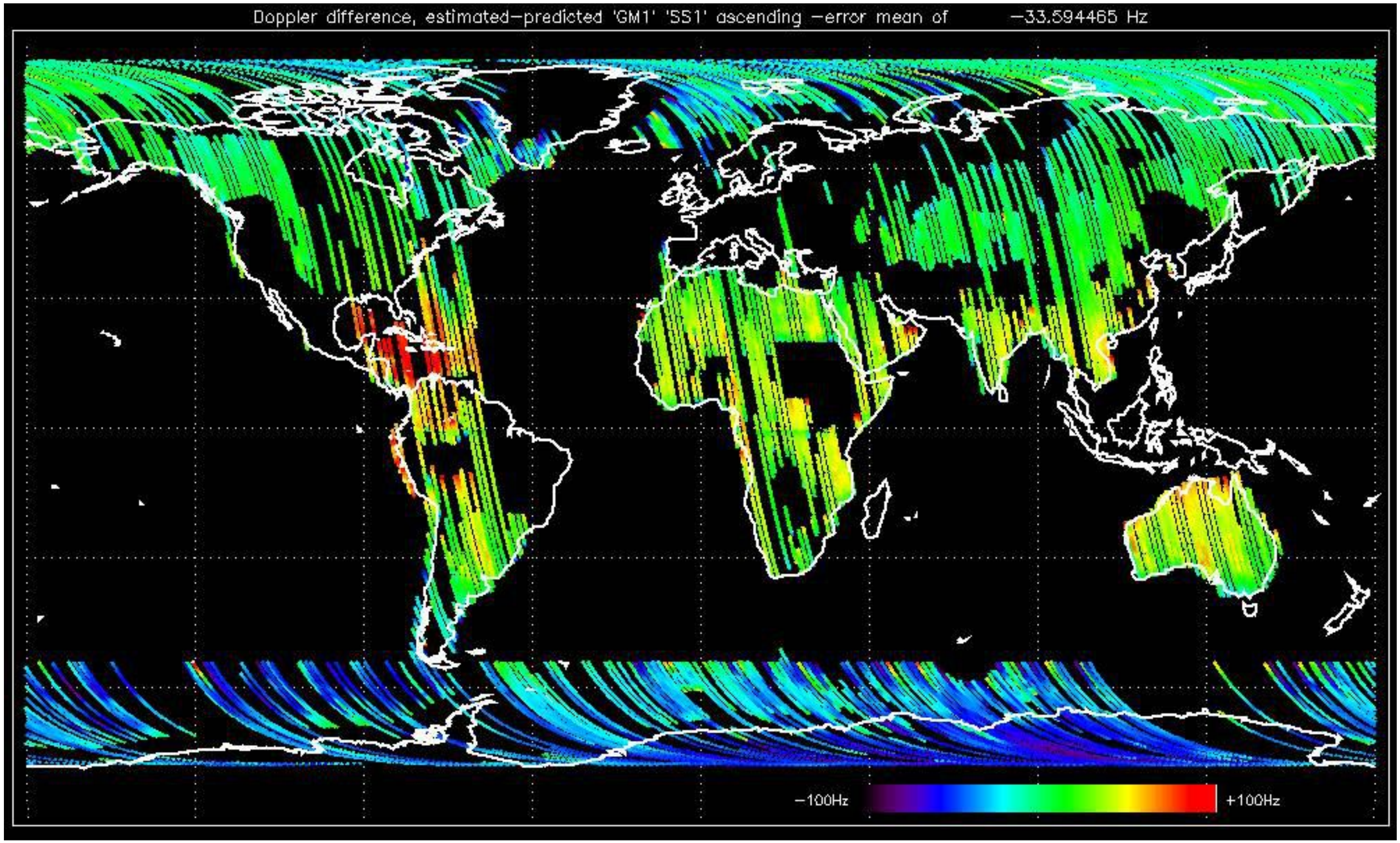

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

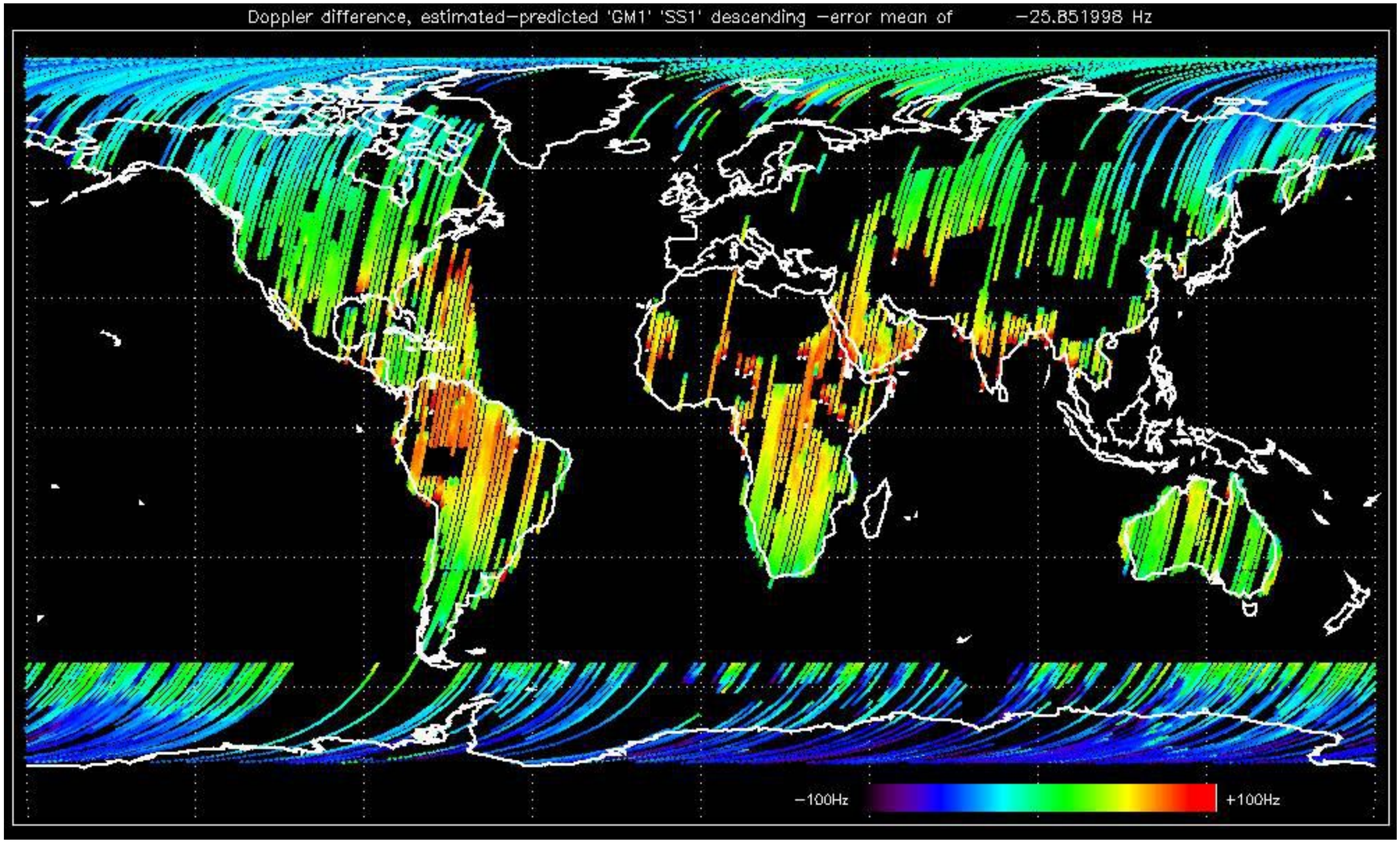

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
07−Aug
Date

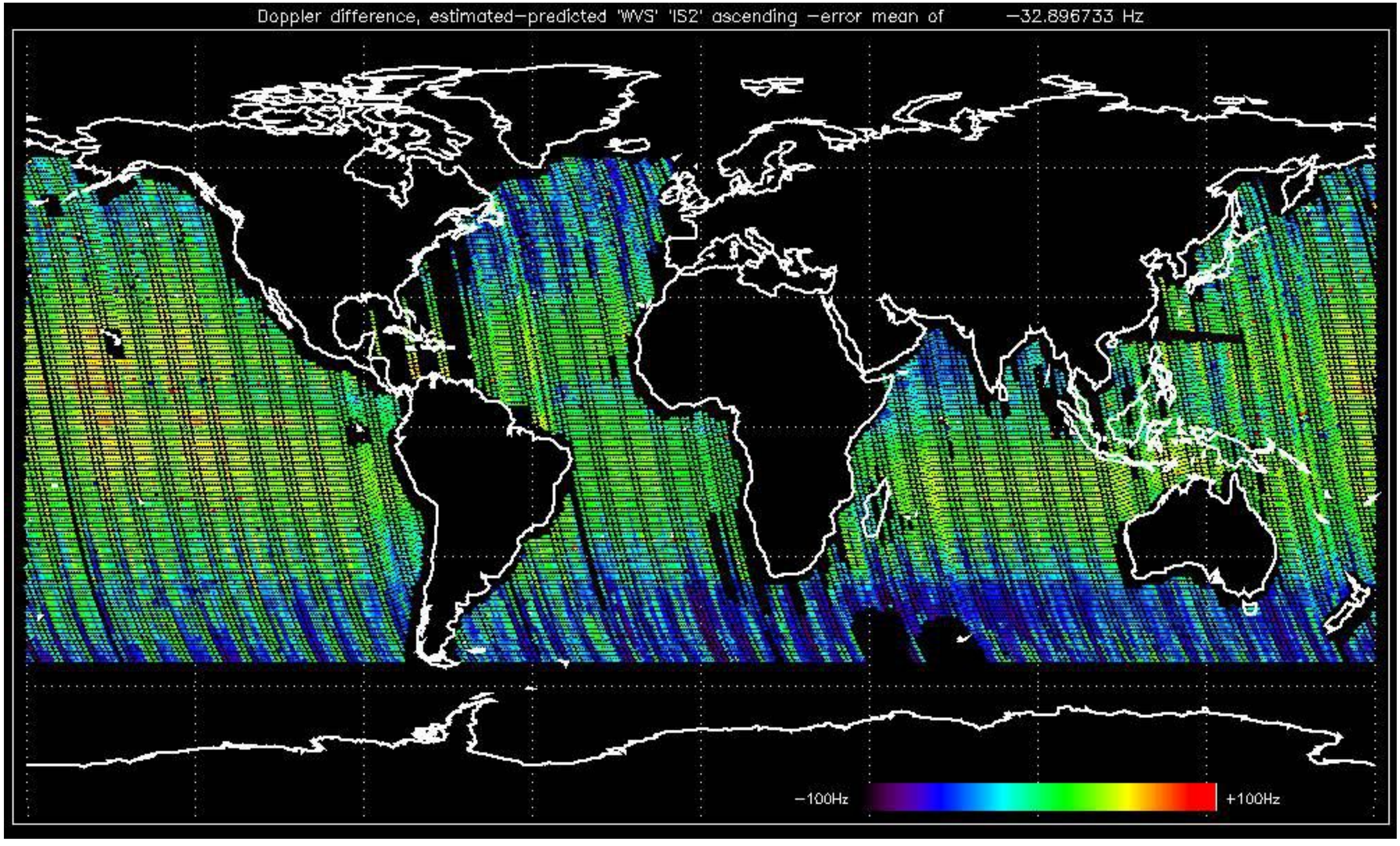

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

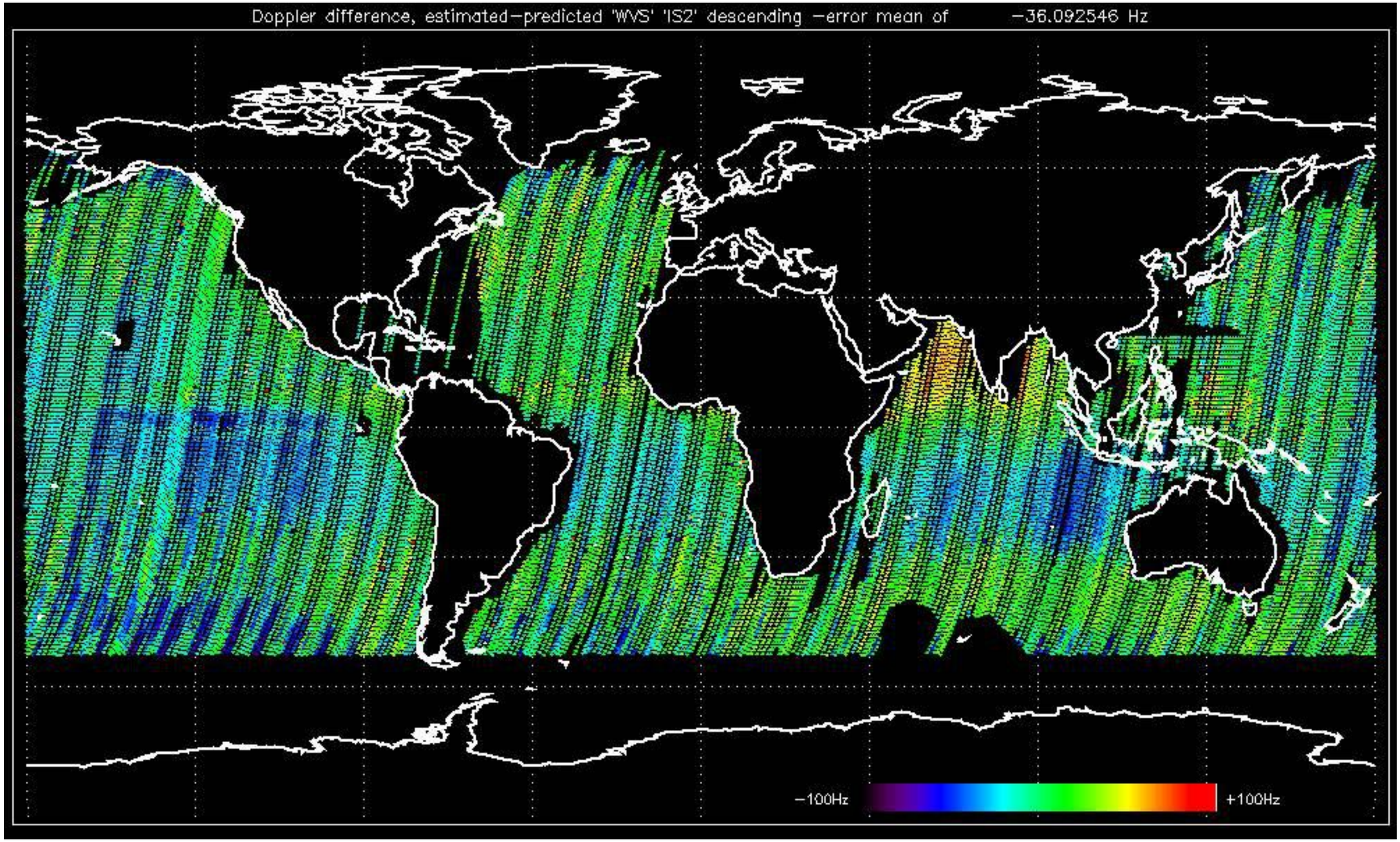

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −33.594465 Hz
−100Hz
+100Hz

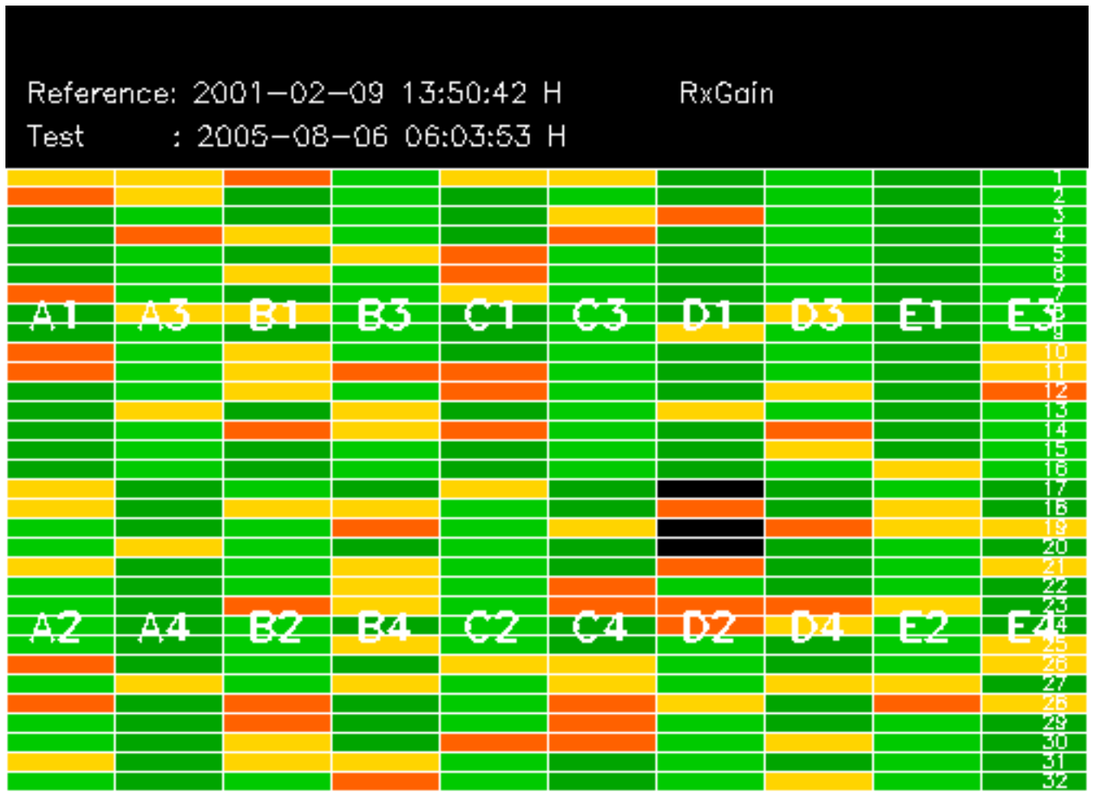

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -25.851998 Hz
-100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −32.896733 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −36.092546 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2005-08-06 06:03:53 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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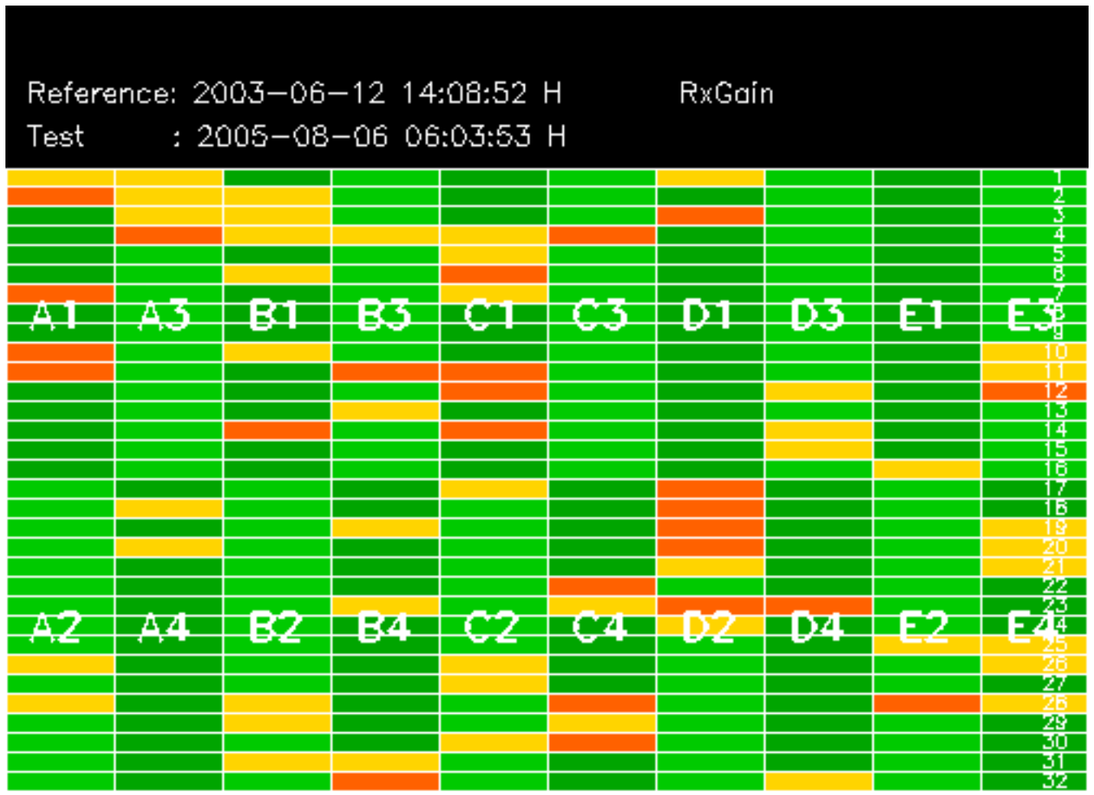
Reference: 2003-06-12 14:08:52 H
Test : 2005-08-06 06:03:53 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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31
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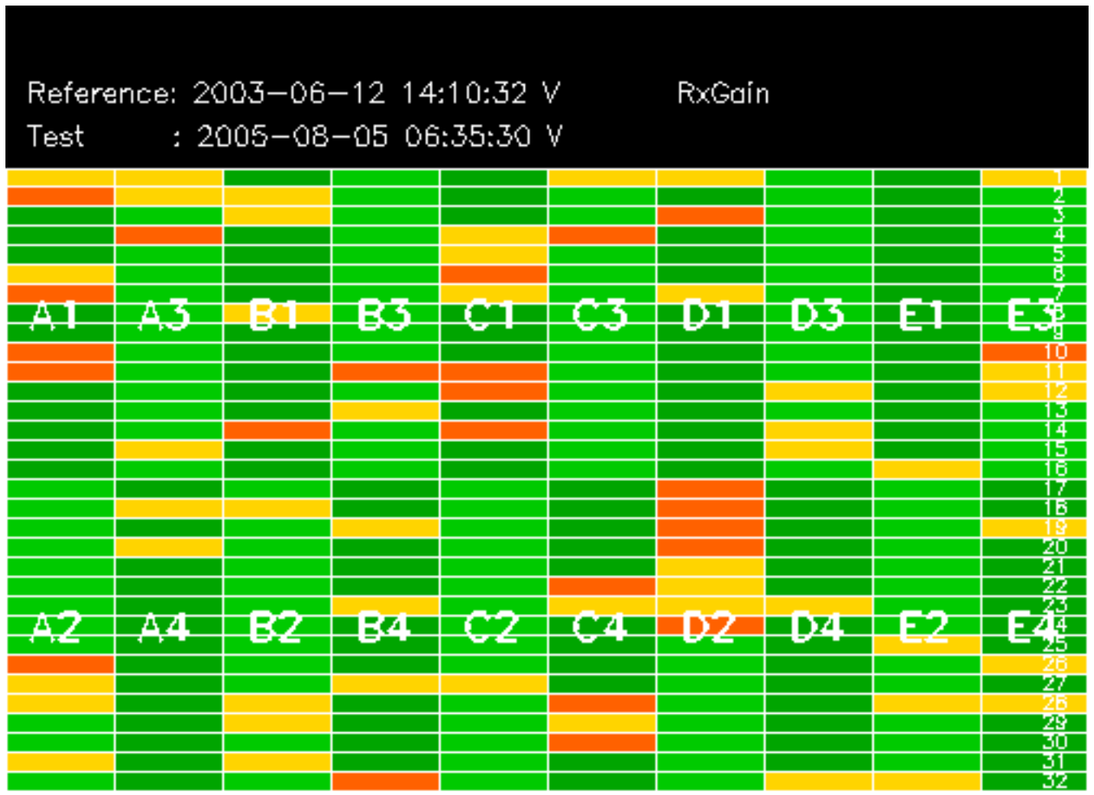
Reference: 2001-02-09 14:08:23 V
RxGain
Test : 2005-08-05 06:35:30 V
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-08-05 06:35:30 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
4
5
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9
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31
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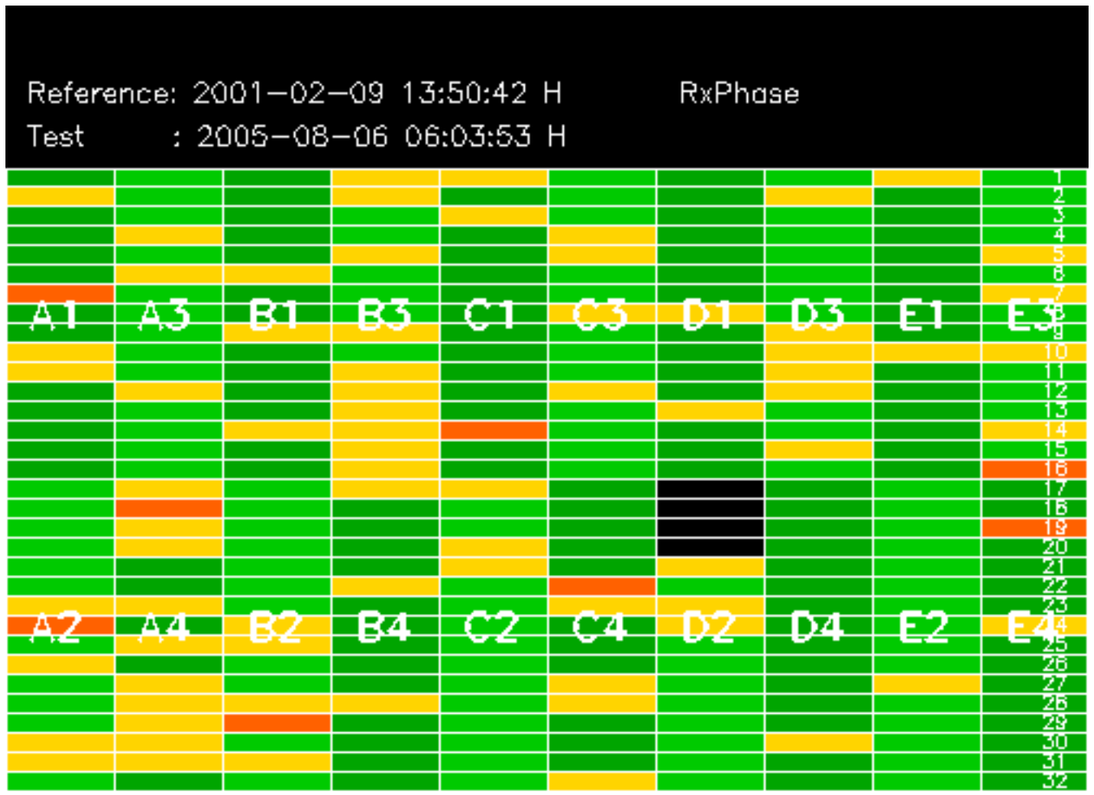
Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-08-06 06:03:53 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2005-08-06 06:03:53 H
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
5
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8
9
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11
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21
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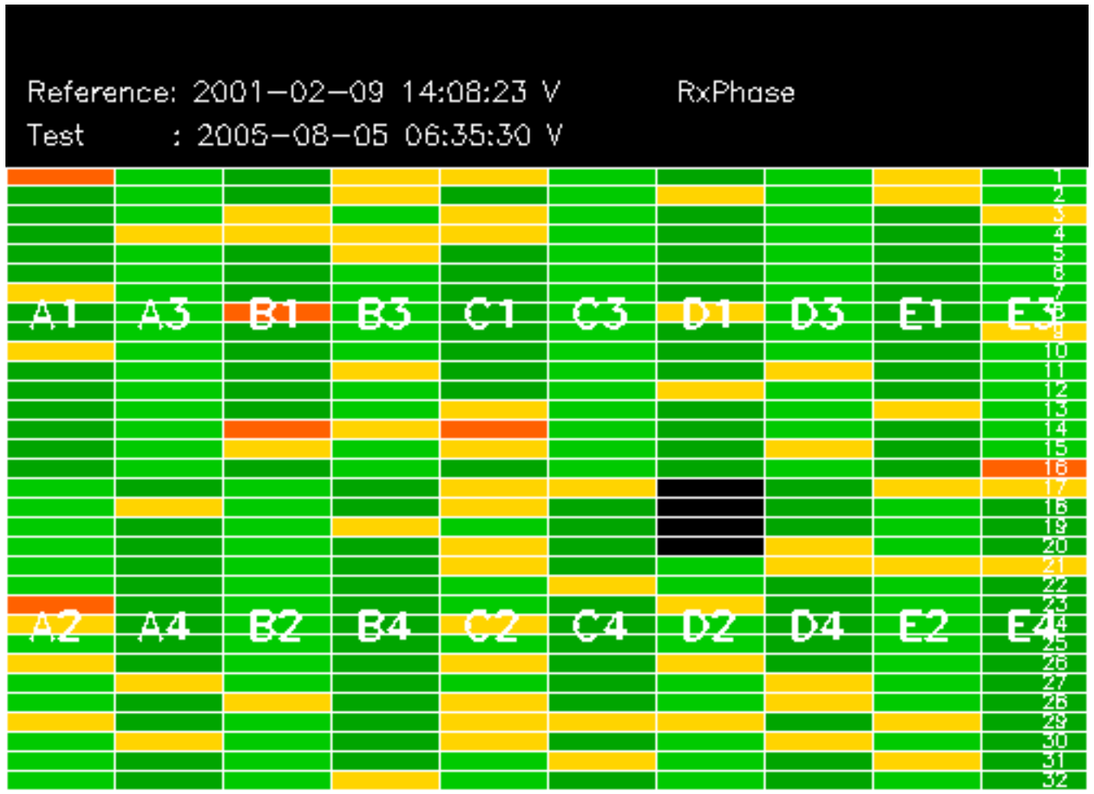
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2005-08-05 06:35:30 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
5
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8
9
10
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19
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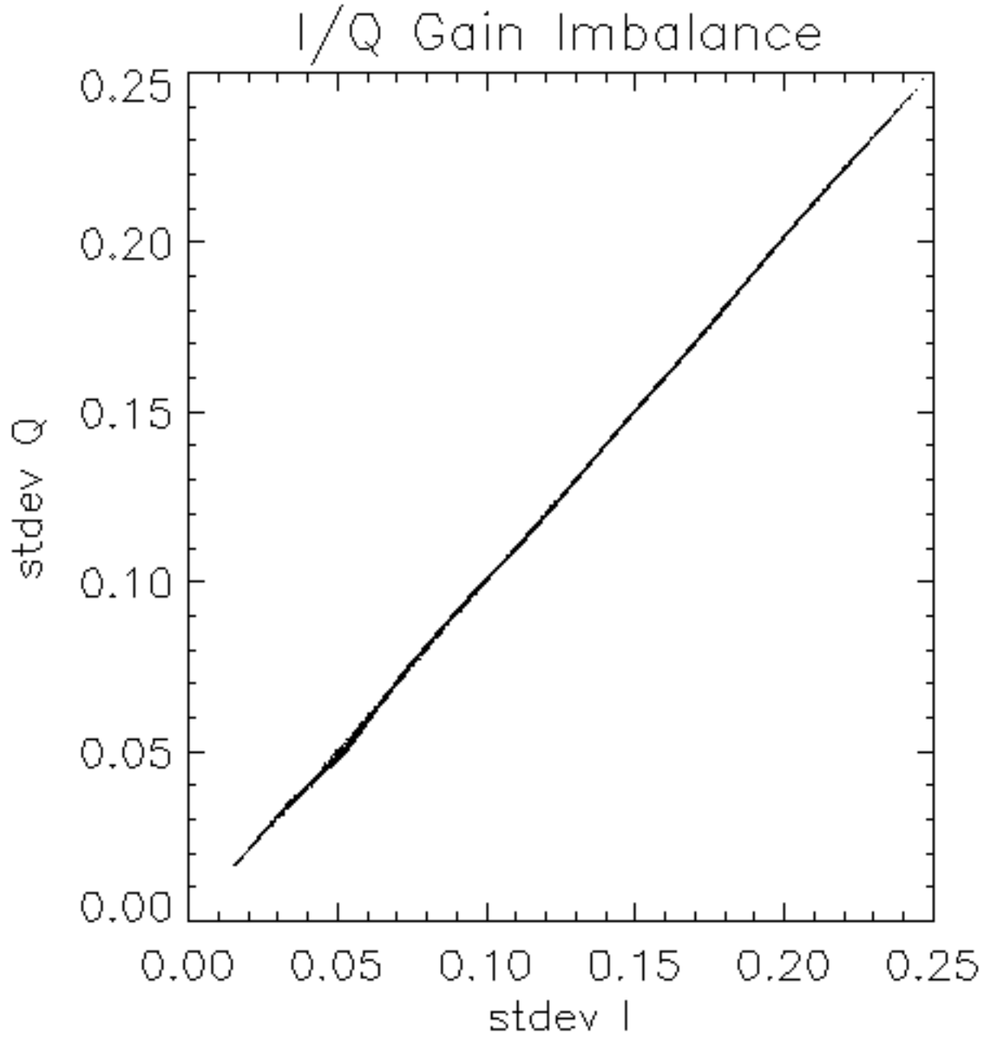
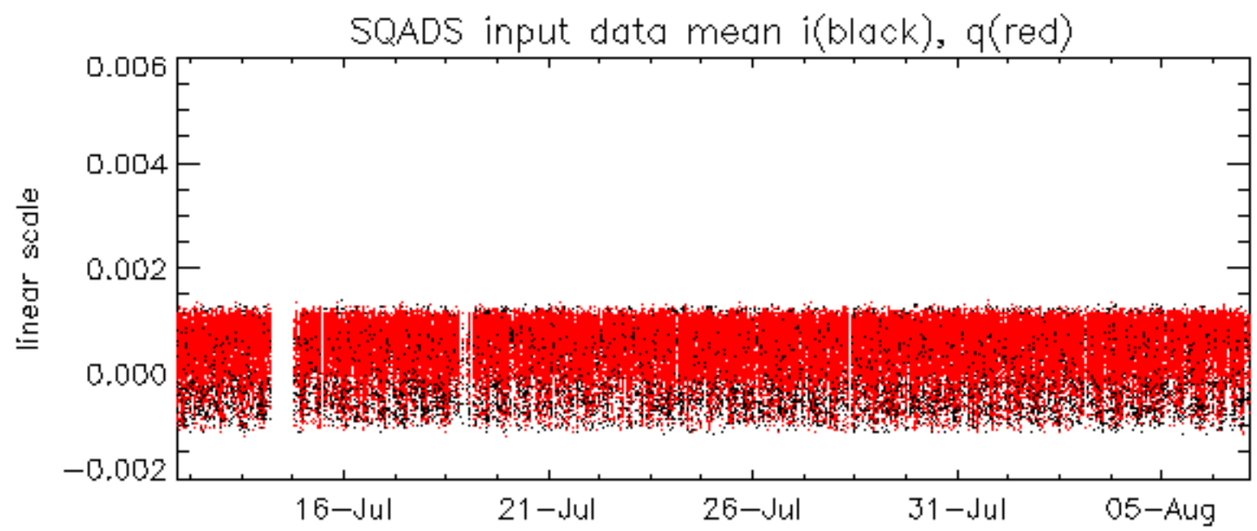
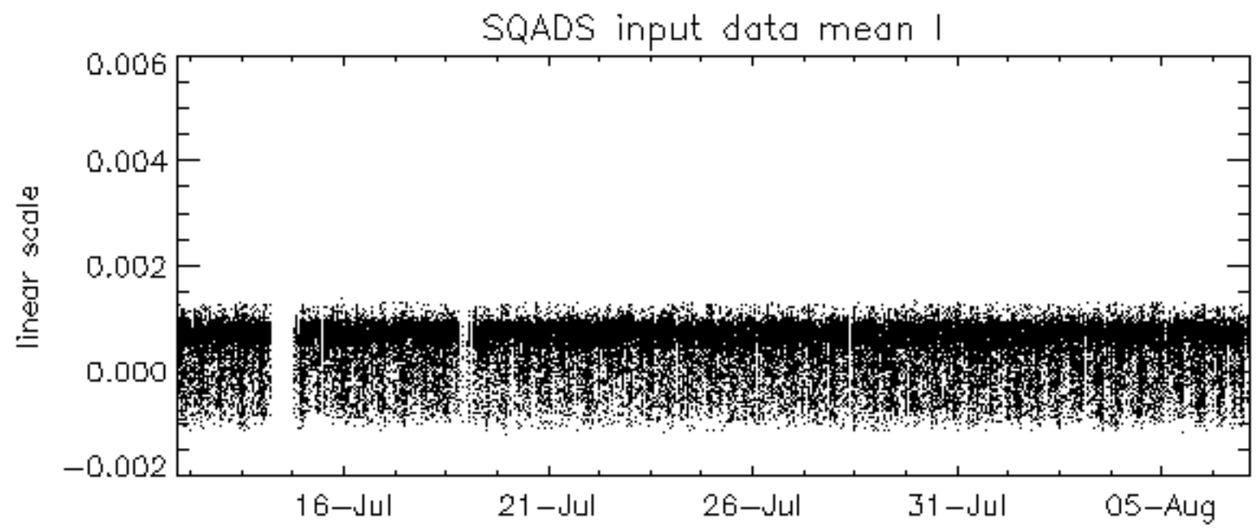
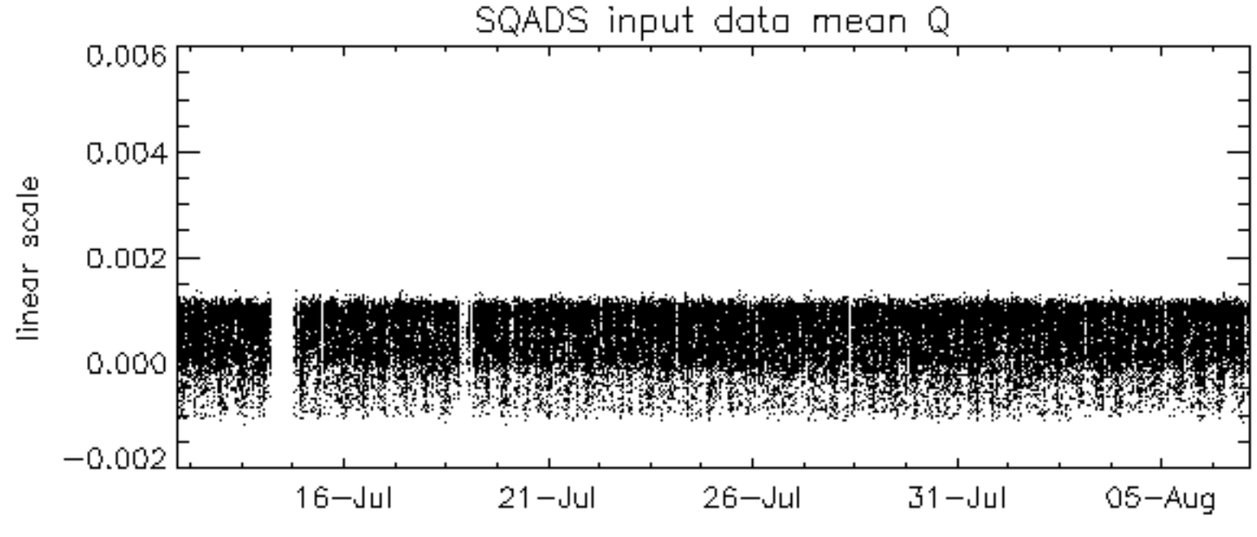
22
23
24
25
26
27
28
29
30
31
32

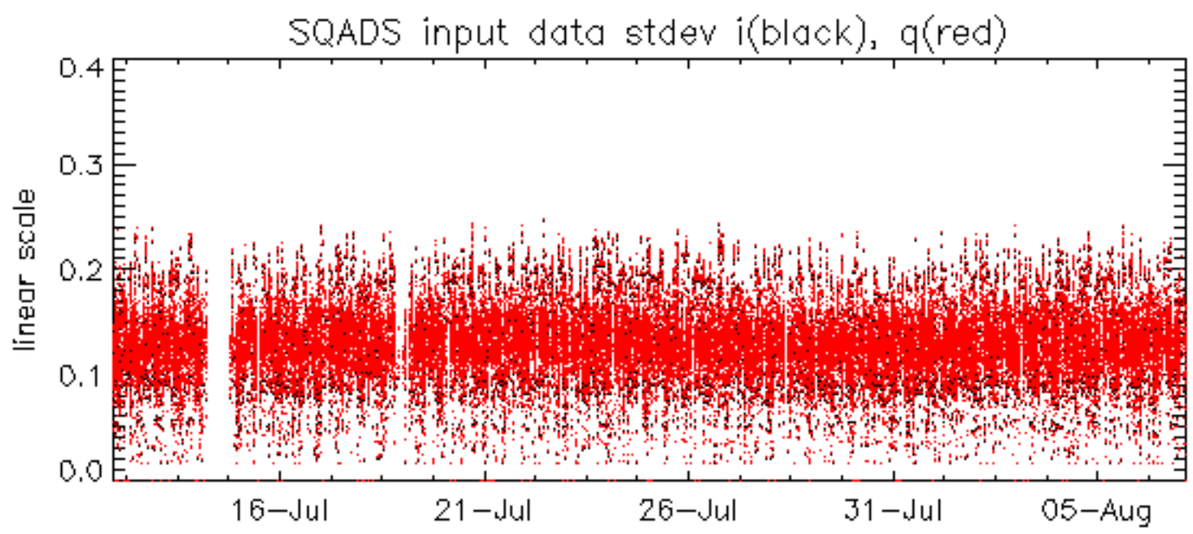

Reference: 2003-06-12 14:10:32 V
Test : 2005-08-05 06:35:30 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

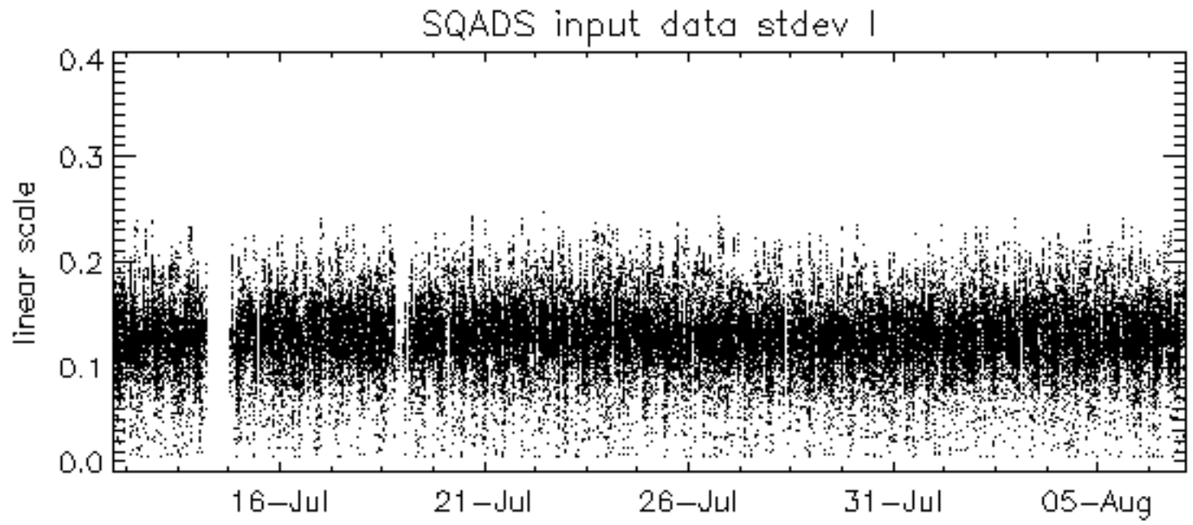

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

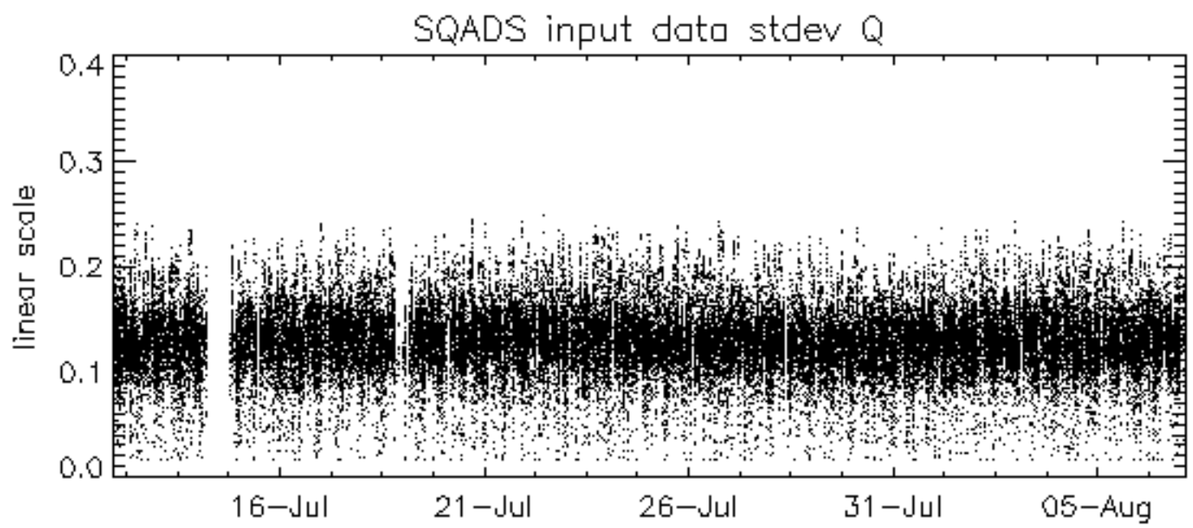

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug

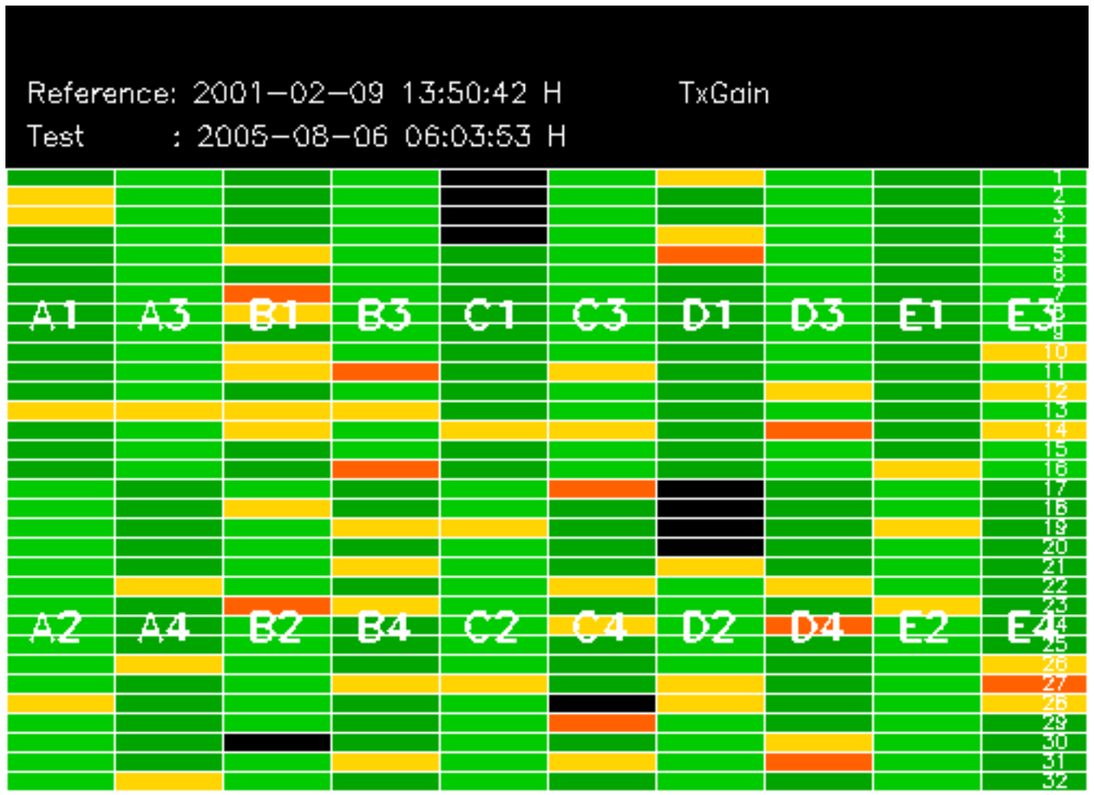

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug


SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug


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


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
16−Jul
21−Jul
26−Jul
31−Jul
05−Aug


Reference: 2001-02-09 13:50:42 H
Test : 2005-08-06 06:03:53 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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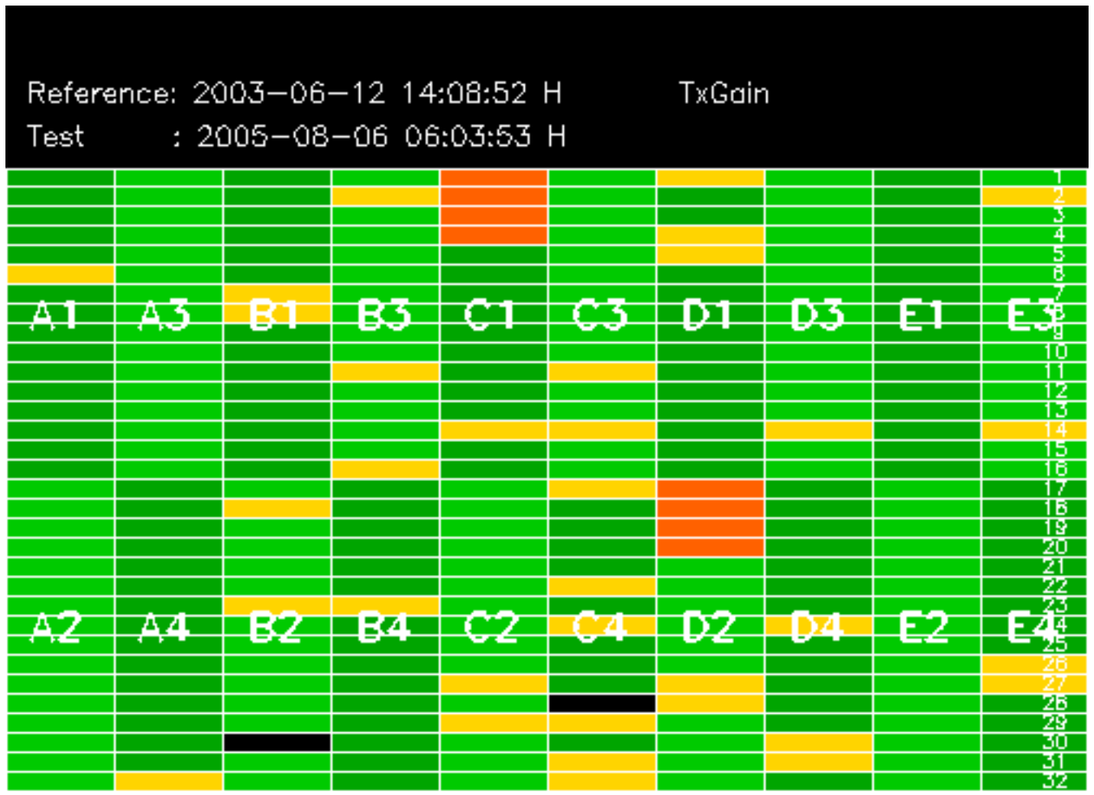
Reference: 2003-06-12 14:08:52 H
Test : 2005-08-06 06:03:53 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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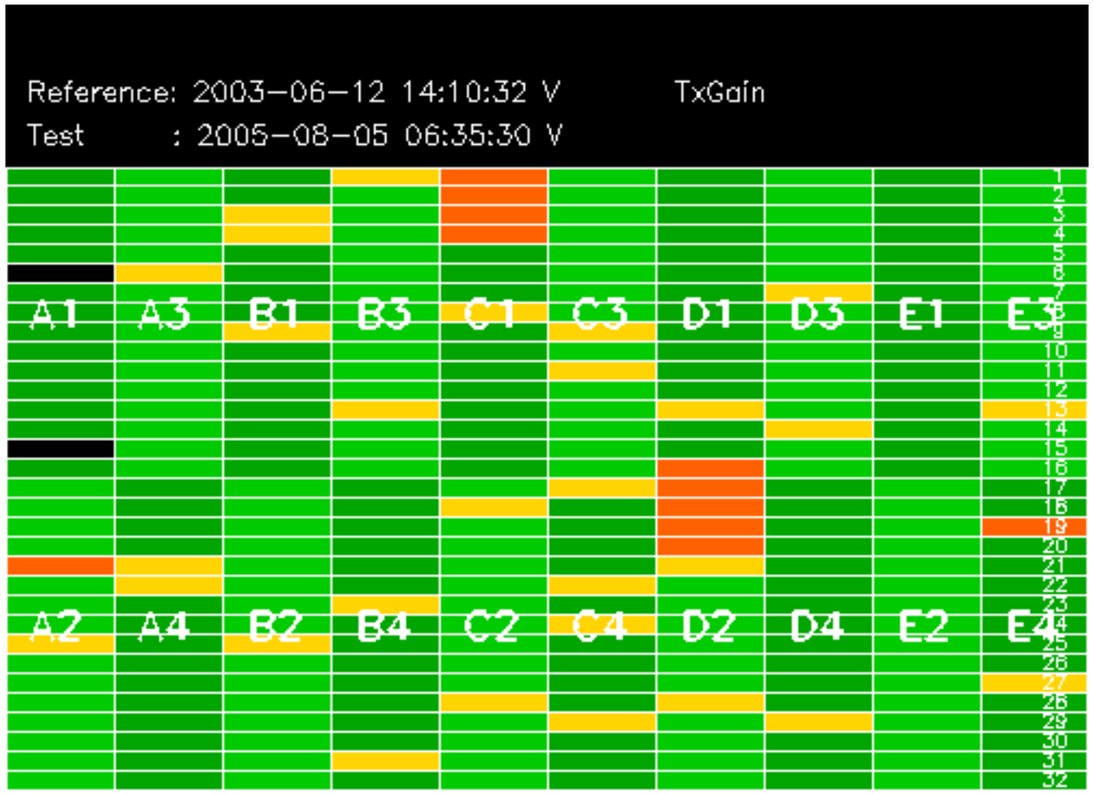
Reference: 2001-02-09 14:08:23 V
Test : 2005-08-05 06:35:30 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-08-05 06:35:30 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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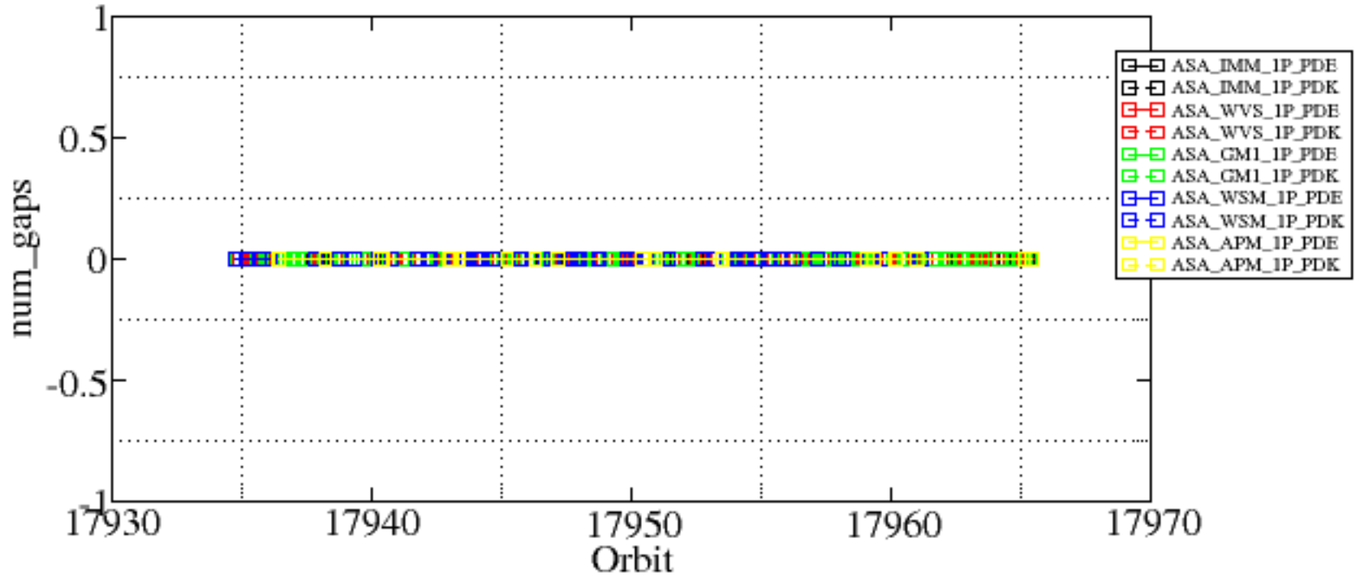
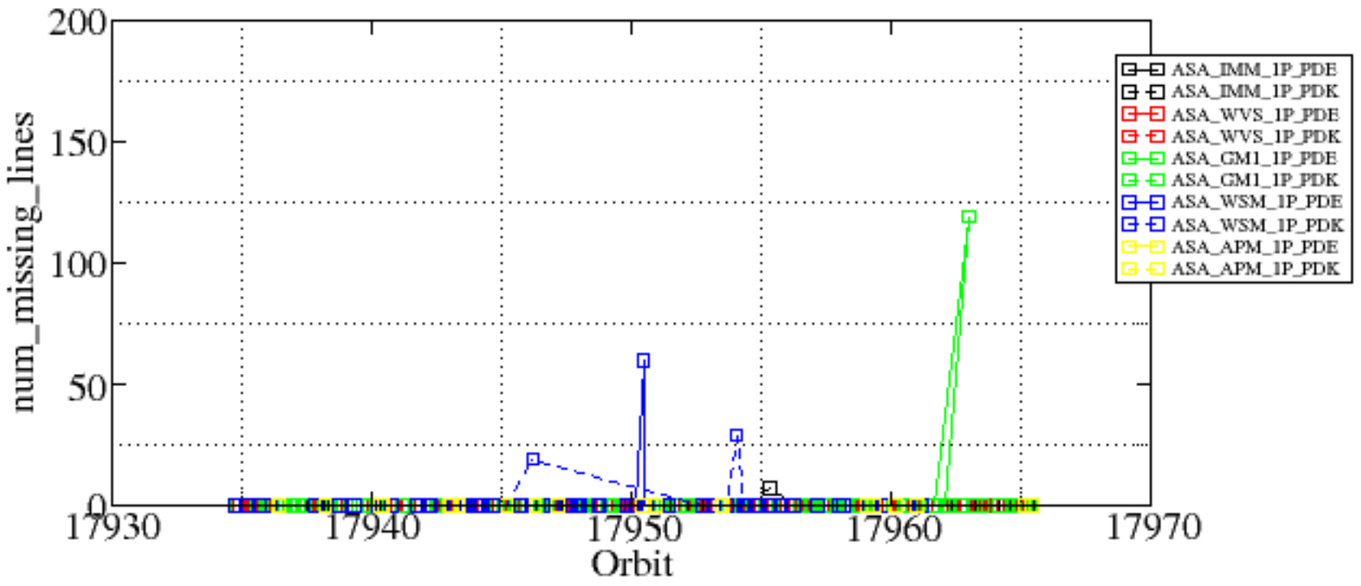
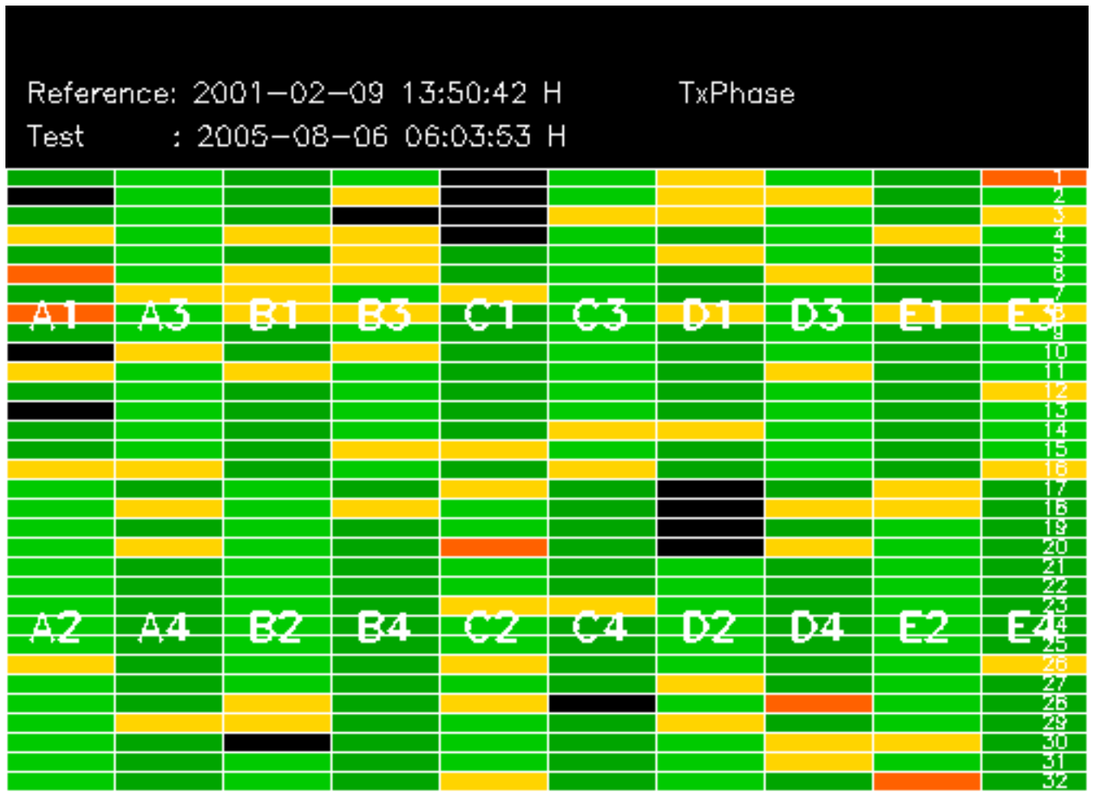
Summary of analysis for the last 3 days 2005080[567]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDK20050806_103106_000000672039_00366_17955_1061.N1	0	7
ASA_GM1_1PNPDE20050806_214130_000002412039_00373_17962_1339.N1	0	119
ASA_WSM_1PNPDE20050806_022236_000000672039_00361_17950_3234.N1	0	60
ASA_WSM_1PNPDK20050805_191219_000000852039_00357_17946_1331.N1	0	19
ASA_WSM_1PNPDK20050806_082234_000000852039_00365_17954_1352.N1	0	29


num_gaps
1
0.5
0
-0.5
-1
17930
17940
17950
17960
17970
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
200
150
100
50
0
17930
17940
17950
17960
17970
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
TxPhase
Test : 2005-08-06 06:03:53 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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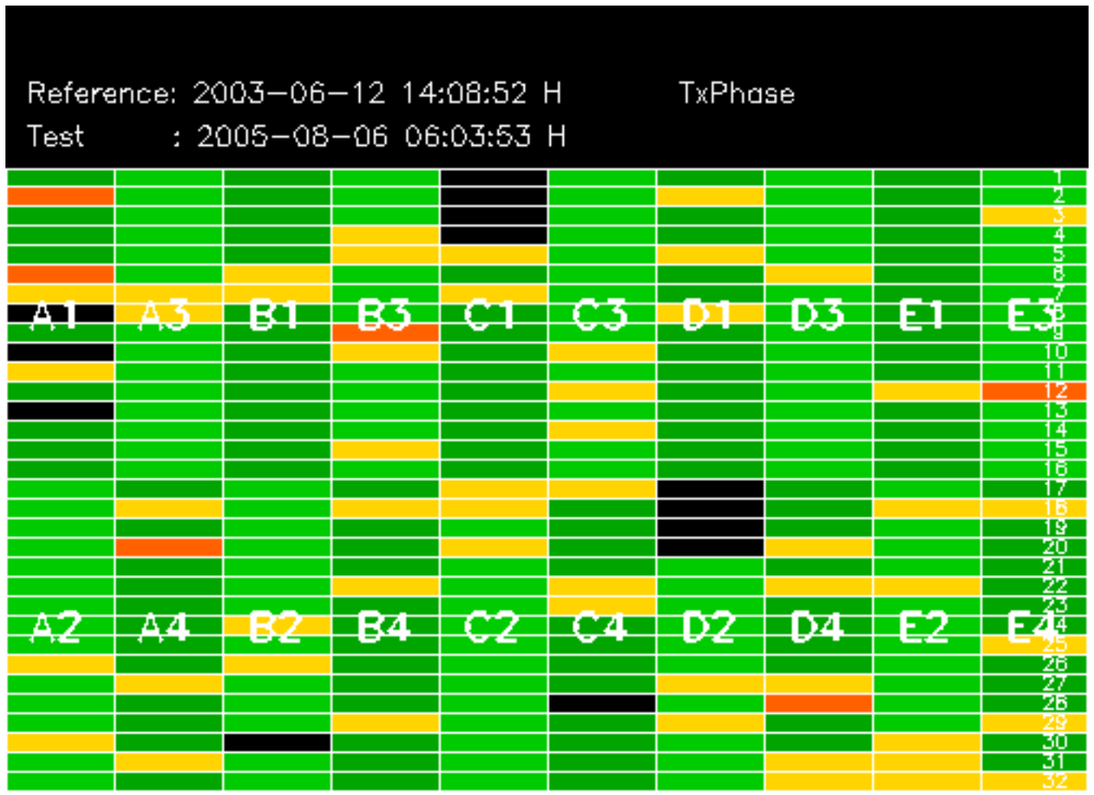
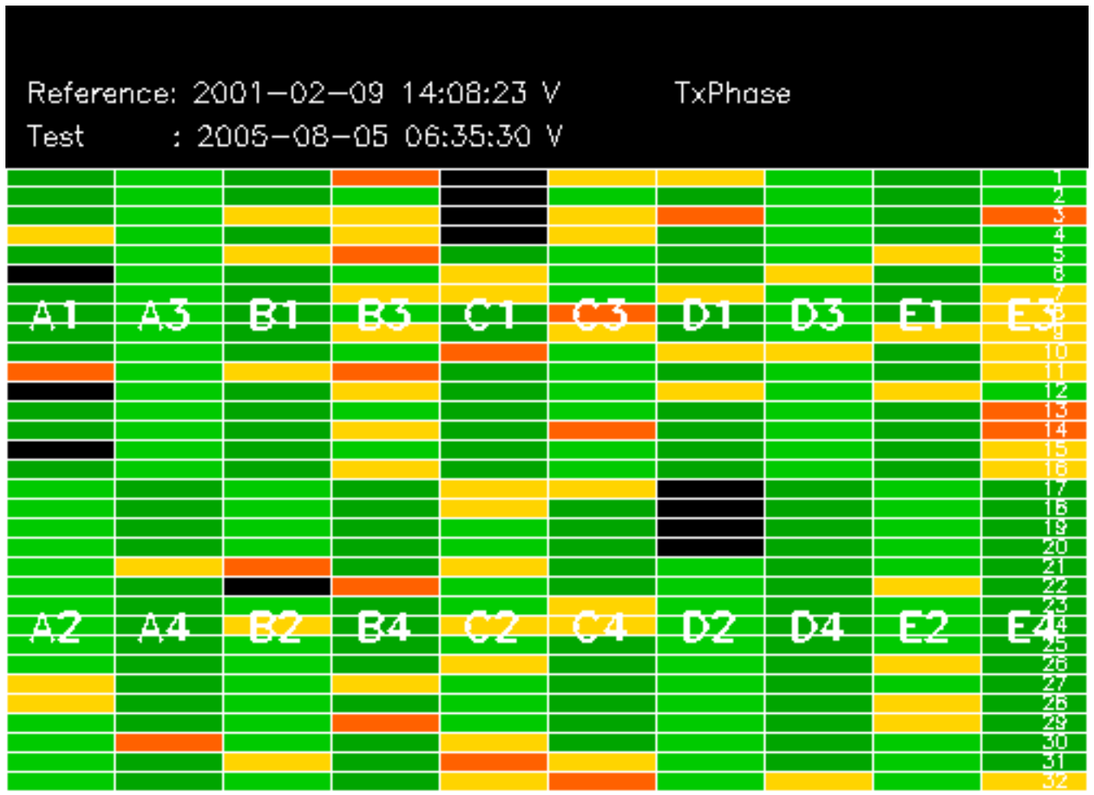
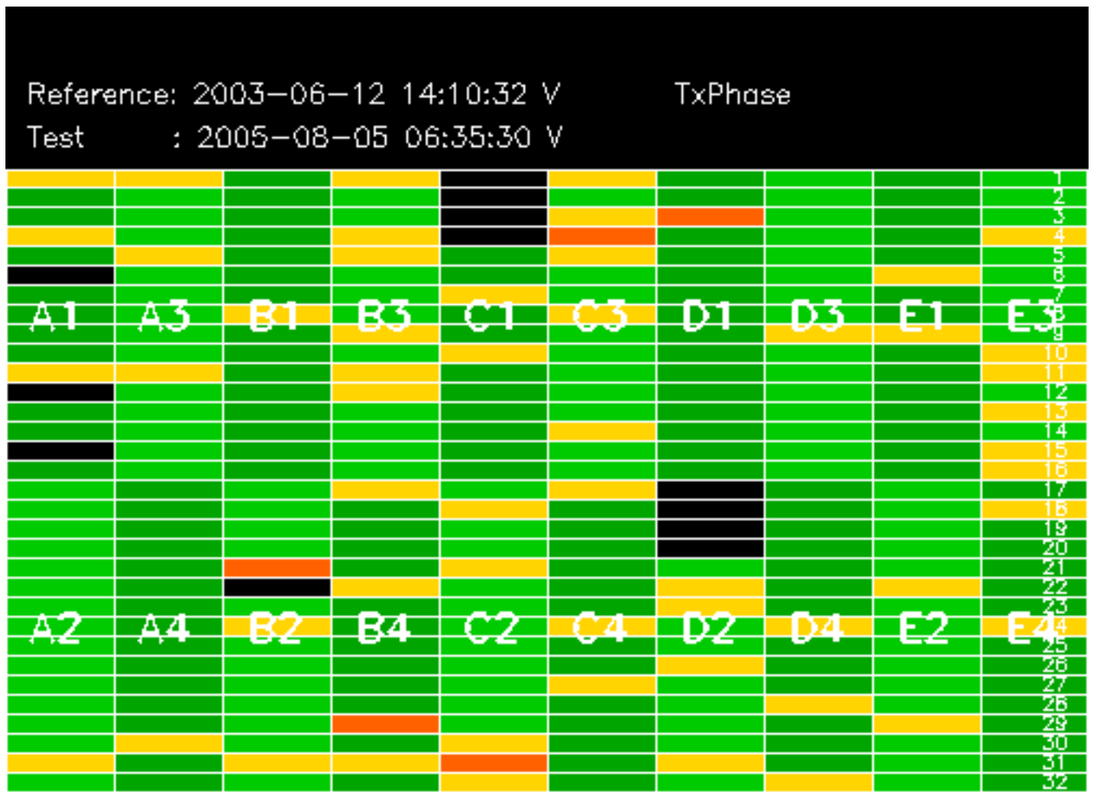

Reference: 2003-06-12 14:08:52 H
Test : 2005-08-06 06:03:53 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2005-08-05 06:35:30 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 : 2005-08-05 06:35:30 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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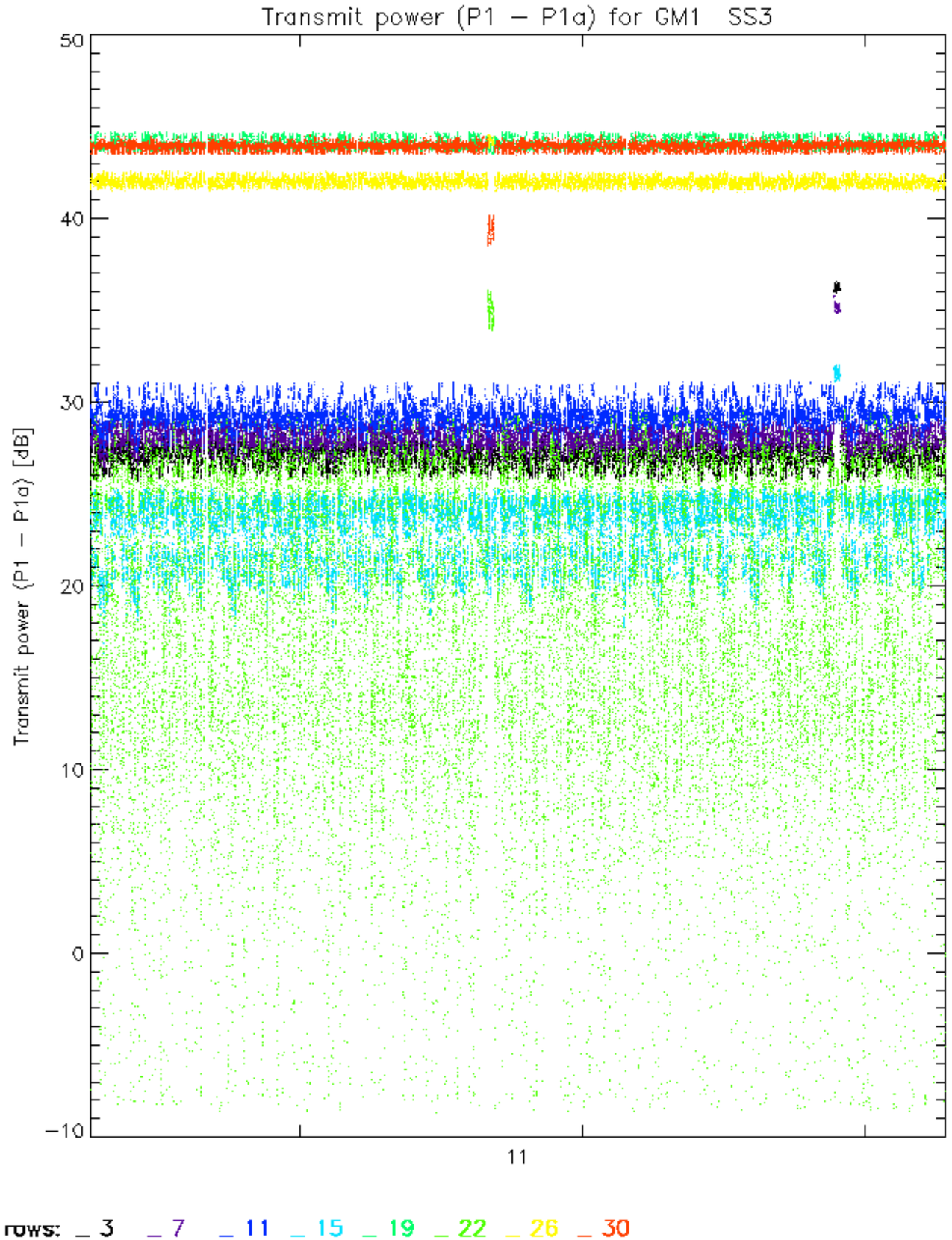
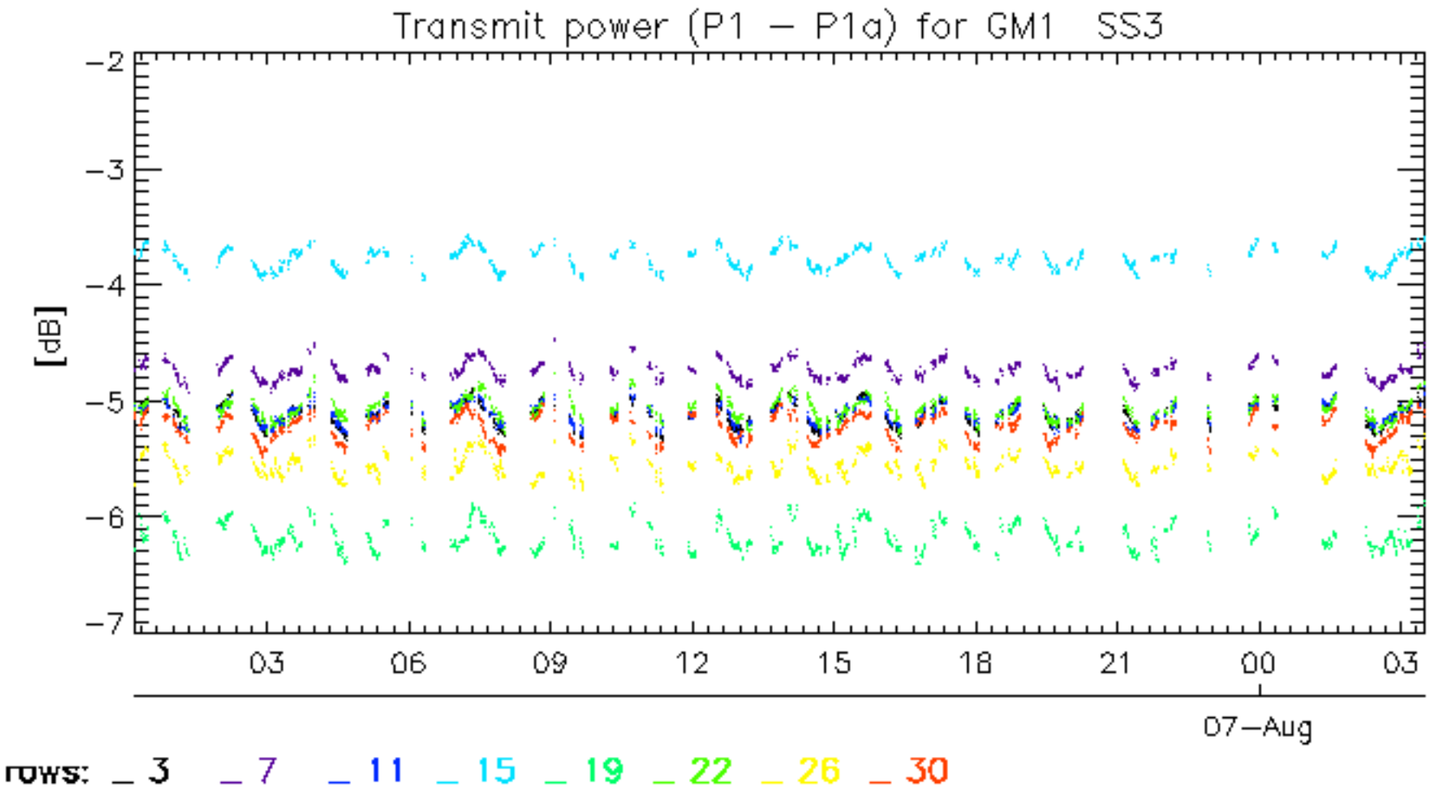
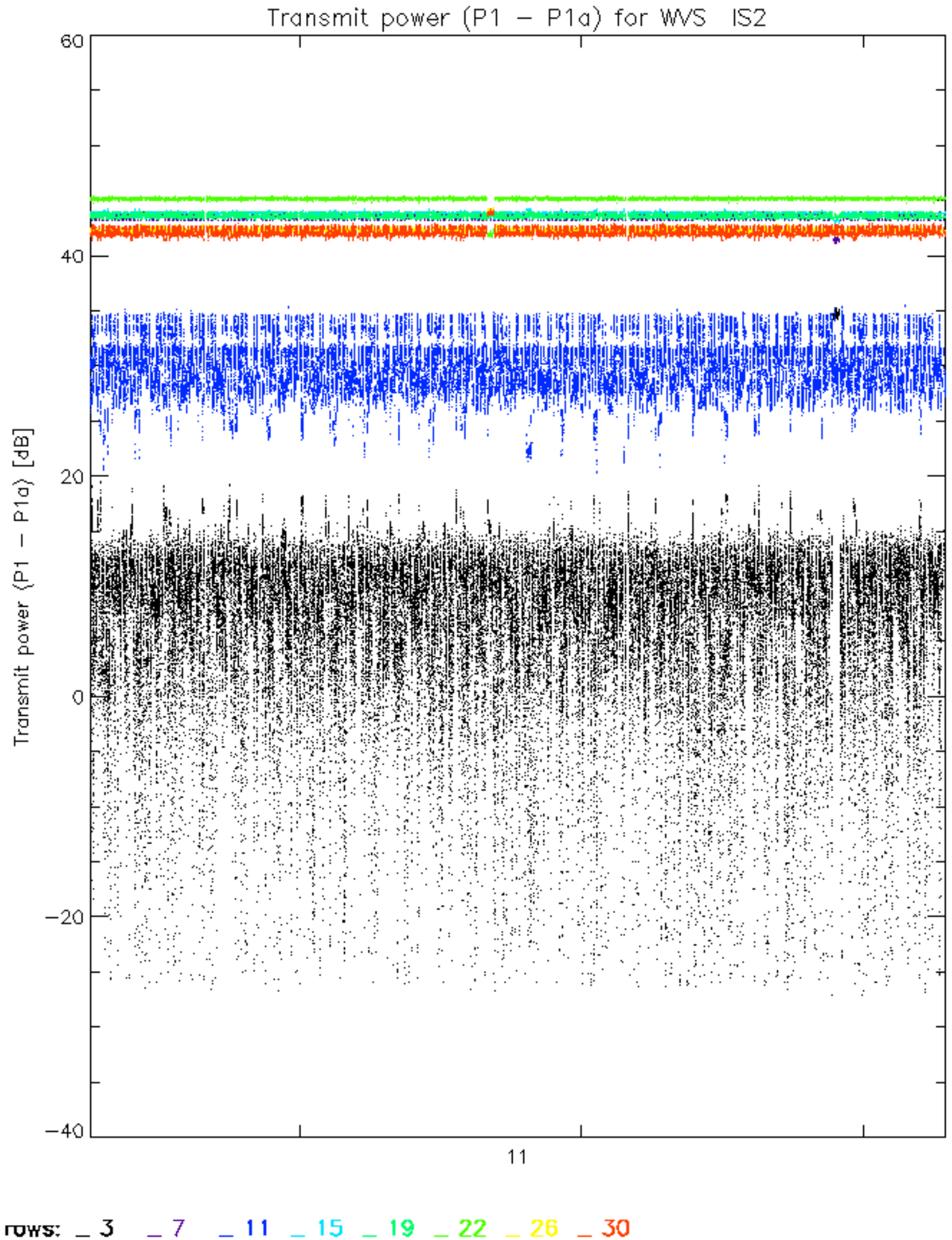
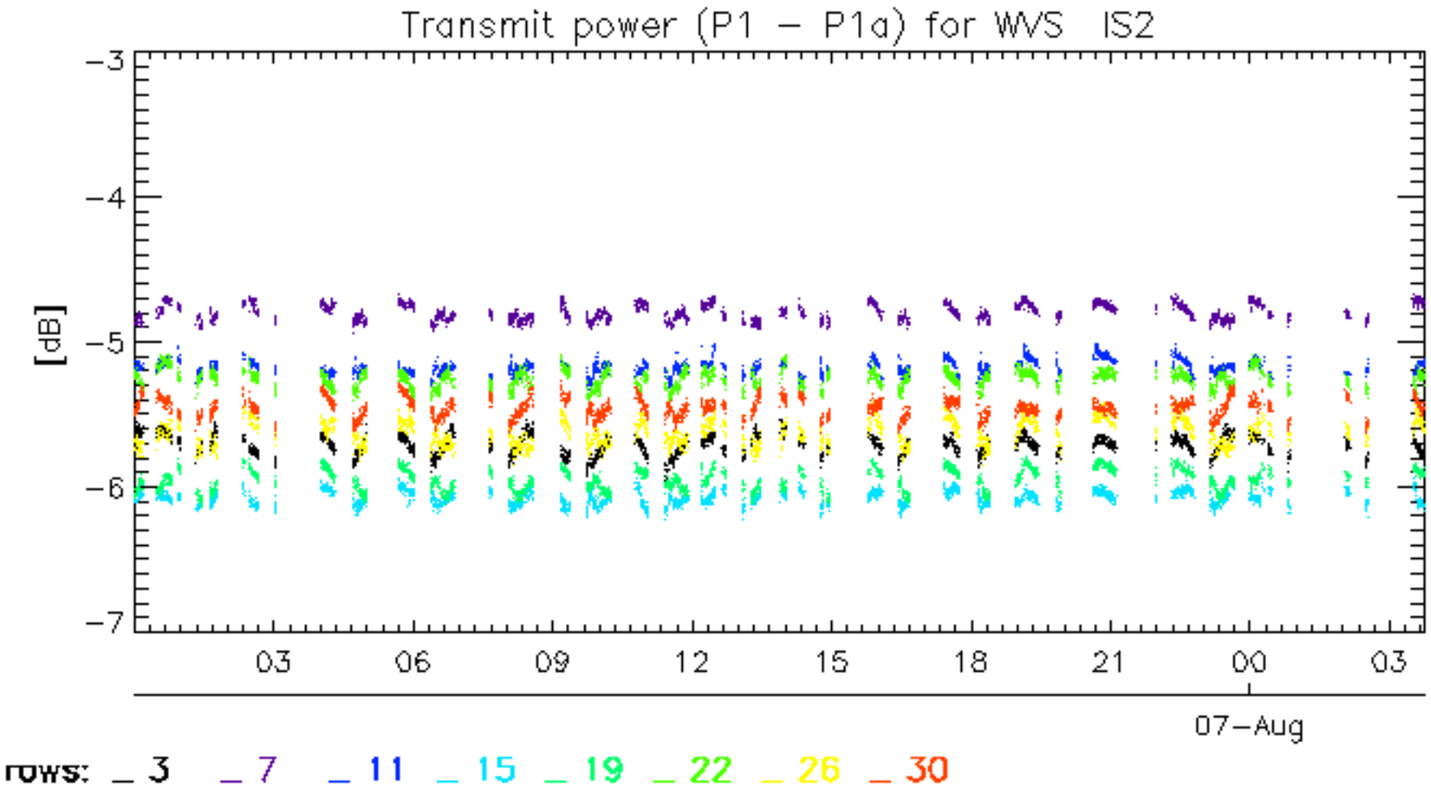

Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
11
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for GM1 SS3
[dB]
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
07–Aug
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]
11
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
07–Aug
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

No unavailabilities during the reported period.