PRELIMINARY REPORT OF 050730

last update on Sat Jul 30 11:01:10 GMT 2005

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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 2005-07-29 00:00:00 to 2005-07-30 11:01:10

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

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	30	48	11	3	1
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	30	48	11	3	1
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	30	48	11	3	1
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	30	48	11	3	1

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	40	48	32	13	55
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	40	48	32	13	55
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	40	48	32	13	55
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	40	48	32	13	55

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	20050729 033427
H	20050728 040604

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	-3.316013	0.006511	0.016002
7	P1	-3.136847	0.015028	-0.005456
11	P1	-4.689890	0.032686	-0.045696
15	P1	-5.558674	0.048102	-0.039301
19	P1	-3.793401	0.046373	0.005522
22	P1	-4.638905	0.142058	-0.086597
26	P1	-4.864329	0.167085	-0.035375
30	P1	-7.244879	0.252565	-0.085044
3	P1	-15.568358	0.078589	0.032949
7	P1	-15.527284	0.105278	0.031725
11	P1	-21.648214	0.259742	-0.261215
15	P1	-11.290669	0.041868	-0.016851
19	P1	-14.498916	0.264139	0.042420
22	P1	-15.759793	0.358044	0.093248
26	P1	-17.434477	0.233245	0.224037
30	P1	-17.724606	0.503277	0.041704

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.858967	0.083503	0.066452
7	P2	-22.024574	0.103984	0.108274
11	P2	-13.664976	0.106338	0.236809
15	P2	-7.086045	0.092995	0.034548
19	P2	-9.591847	0.095246	0.015537
22	P2	-16.853630	0.096117	0.016408
26	P2	-16.504721	0.098127	-0.010134
30	P2	-18.791485	0.085141	-0.007991

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.156018	0.002731	0.004577
7	P3	-8.156018	0.002731	0.004577
11	P3	-8.156018	0.002731	0.004577
15	P3	-8.156018	0.002731	0.004577
19	P3	-8.156018	0.002731	0.004577
22	P3	-8.156018	0.002731	0.004577
26	P3	-8.156018	0.002731	0.004577
30	P3	-8.156018	0.002731	0.004577

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	-2.783485	0.013615	-0.001816
7	P1	-2.952347	0.031182	0.033456
11	P1	-3.996908	0.016442	-0.017698
15	P1	-3.573382	0.023007	-0.045602
19	P1	-3.664234	0.114464	0.091751
22	P1	-5.694580	0.161255	-0.026711
26	P1	-7.414014	0.323990	-0.056369
30	P1	-6.339703	0.148908	-0.047550
3	P1	-10.838291	0.040453	-0.077500
7	P1	-10.451503	0.153590	0.019154
11	P1	-12.615944	0.109165	-0.086105
15	P1	-11.613485	0.071494	0.026870
19	P1	-15.643127	1.322965	0.346919
22	P1	-25.712639	3.793887	0.352956
26	P1	-15.378917	0.436203	0.199704
30	P1	-20.086309	1.332786	0.298772

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.602068	0.046259	0.091769
7	P2	-22.045443	0.040947	0.062221
11	P2	-9.685077	0.062670	0.175662
15	P2	-5.121685	0.046213	0.028122
19	P2	-6.901413	0.064631	0.025988
22	P2	-7.077184	0.039466	0.034757
26	P2	-23.971233	0.044015	-0.008083
30	P2	-21.952560	0.043867	0.015666

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.997661	0.004209	0.003043
7	P3	-7.997551	0.004203	0.003339
11	P3	-7.997499	0.004206	0.003354
15	P3	-7.997686	0.004209	0.003421
19	P3	-7.997722	0.004210	0.003308
22	P3	-7.997687	0.004192	0.003476
26	P3	-7.997717	0.004199	0.003278
30	P3	-7.997566	0.004198	0.003546

4.3 - cal pulses monitoring (all rows)

4.3.1 - Evolution for WVS

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4.3.2 - Evolution for GM1

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5 - RAW data statistics

No anomalies observed.

5.1 - Input mean I/Q

channel	stat	DSS-B
MEAN I	mean	0.000473322
	stdev	2.13834e-07
MEAN Q	mean	0.000500446
	stdev	2.32234e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128516
	stdev	0.00100228
STDEV Q	mean	0.128768
	stdev	0.00101330

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005072[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_1PNPDE20050729_155123_000001082039_00254_17843_0901.N1	1	0
ASA_IMM_1PNPDK20050729_124304_000000872039_00253_17842_0531.N1	1	0
ASA_WVS_1PNPDE20050720_030923_000000002039_00118_17707_0049.N1	1	0
ASA_WSM_1PNPDE20050720_062911_000001462039_00120_17709_0357.N1	0	21
ASA_WSM_1PNPDE20050728_162647_000000672039_00241_17830_1643.N1	0	44
ASA_WSM_1PNPDE20050729_041008_000000672039_00248_17837_1724.N1	0	75
ASA_WSM_1PNPDE20050729_223602_000003542039_00259_17848_1871.N1	0	54

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

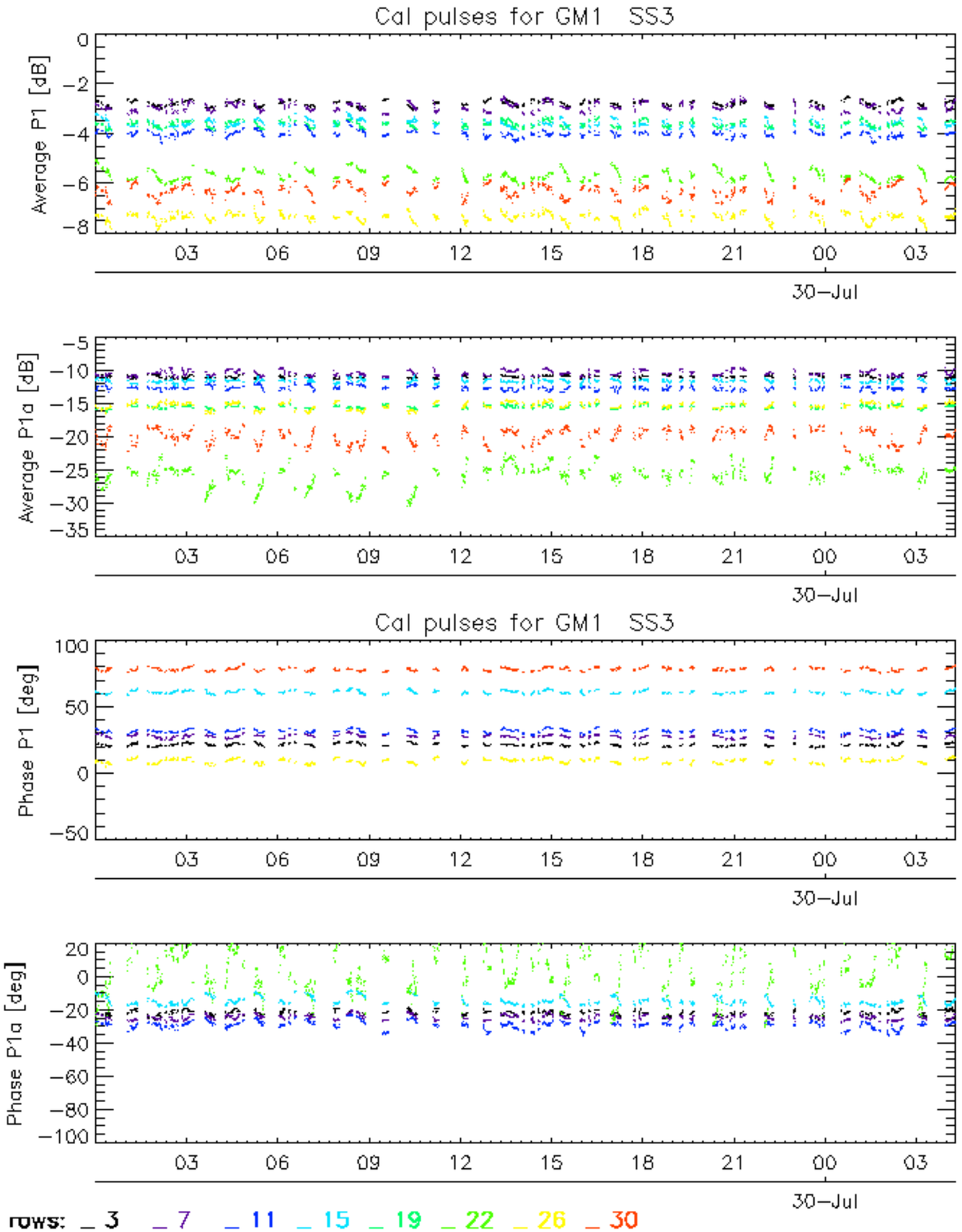
Evolution of Absolute Doppler

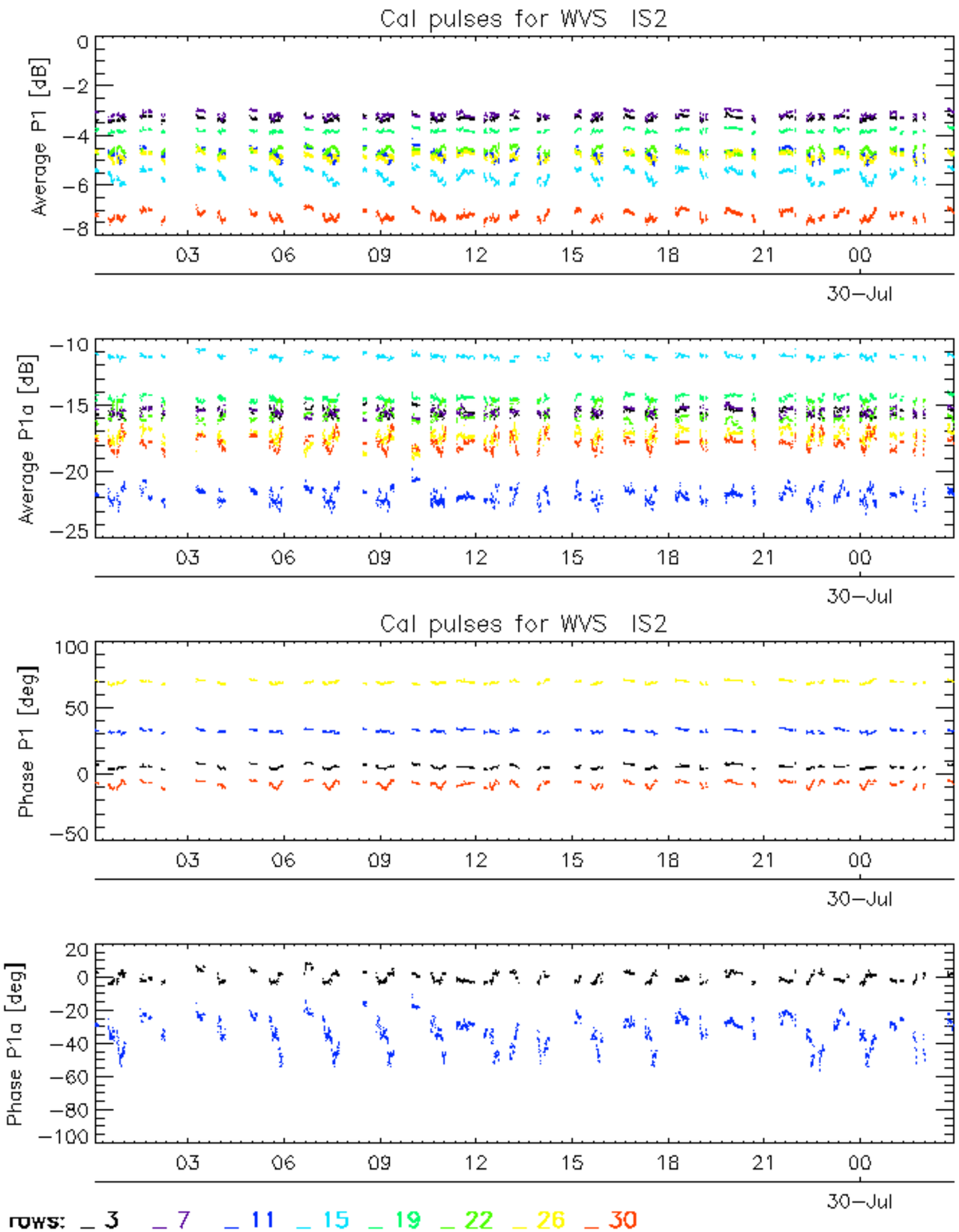
Acsending

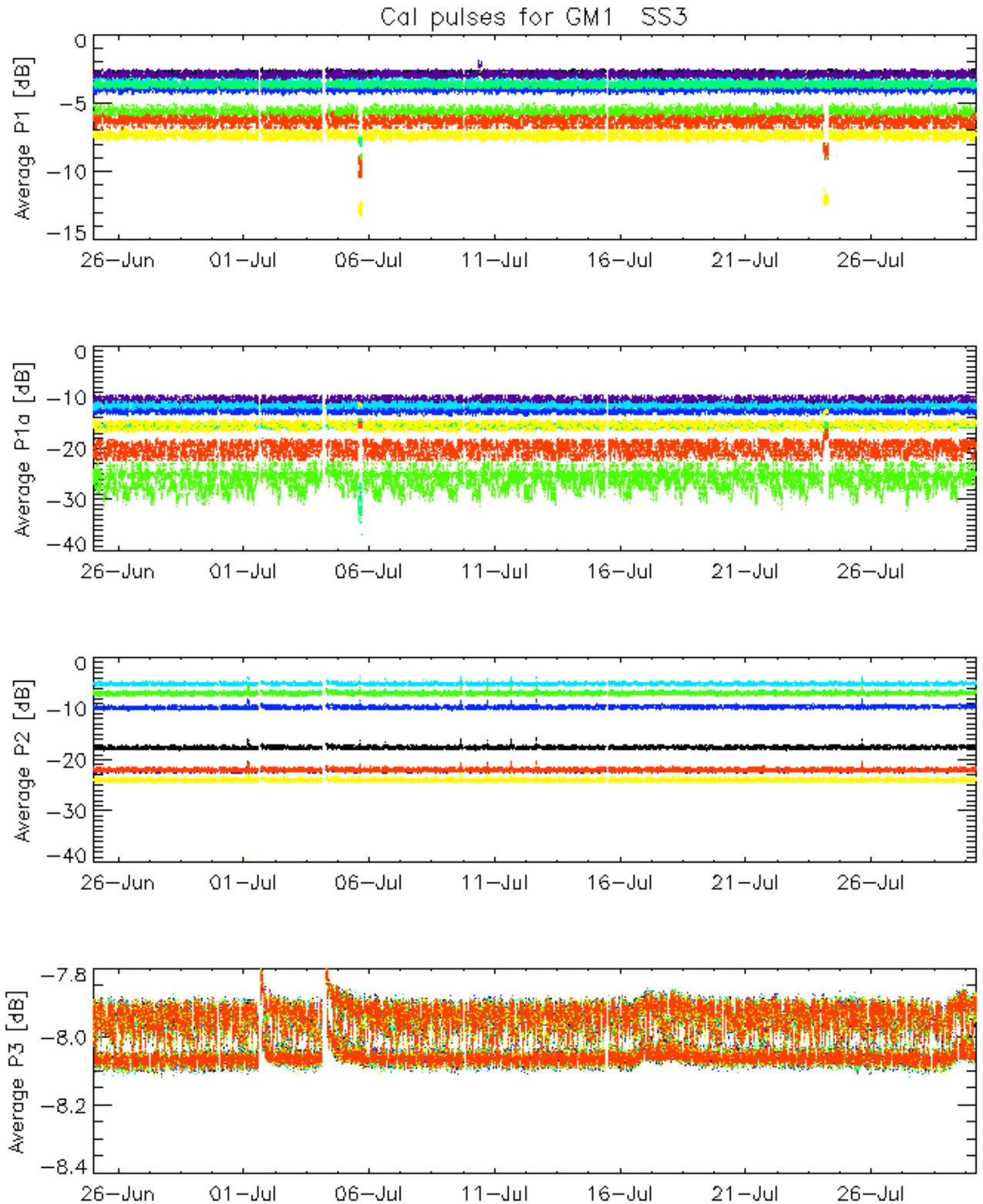
Descending

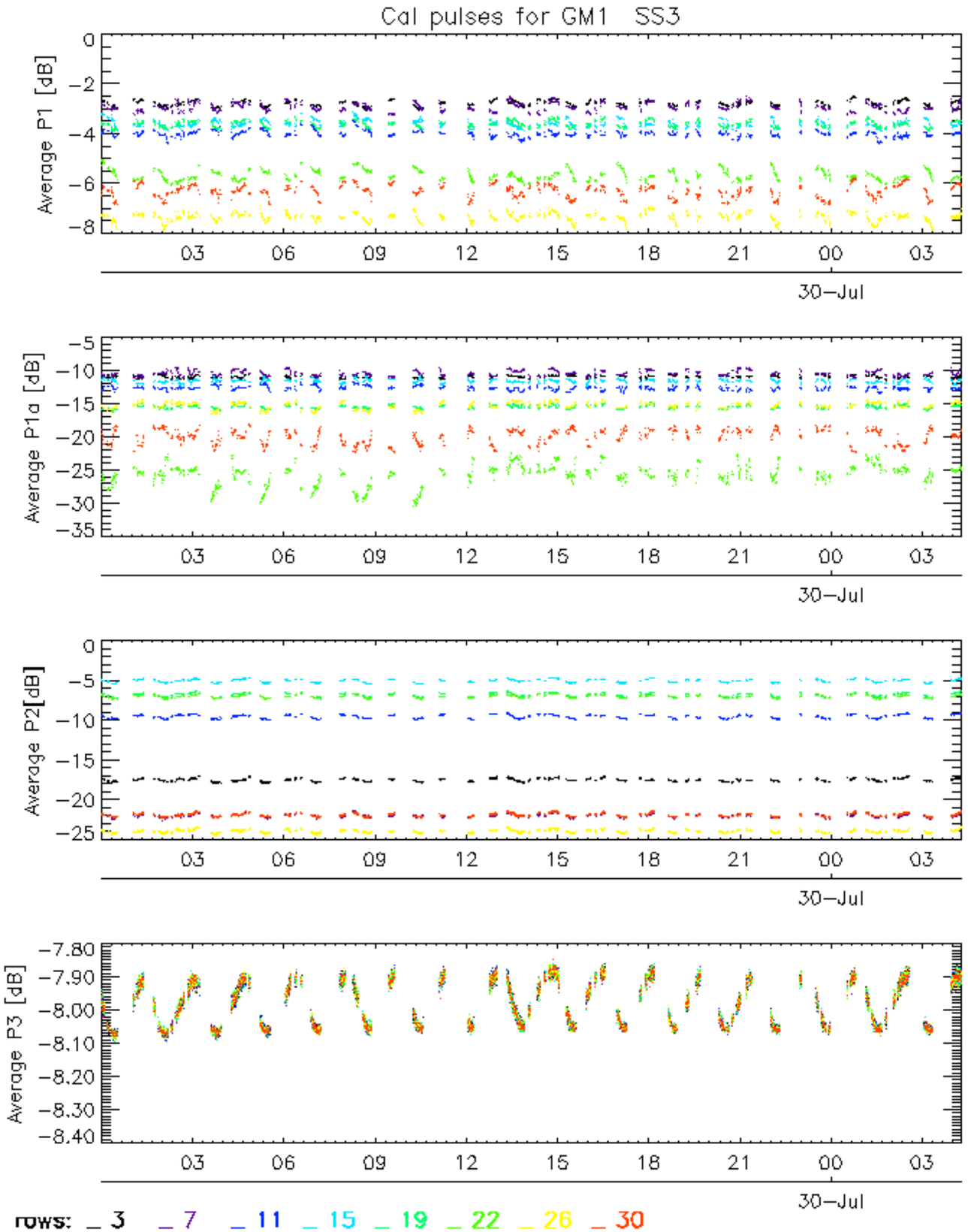
7.6 - Doppler evolution versus ANX for GM1

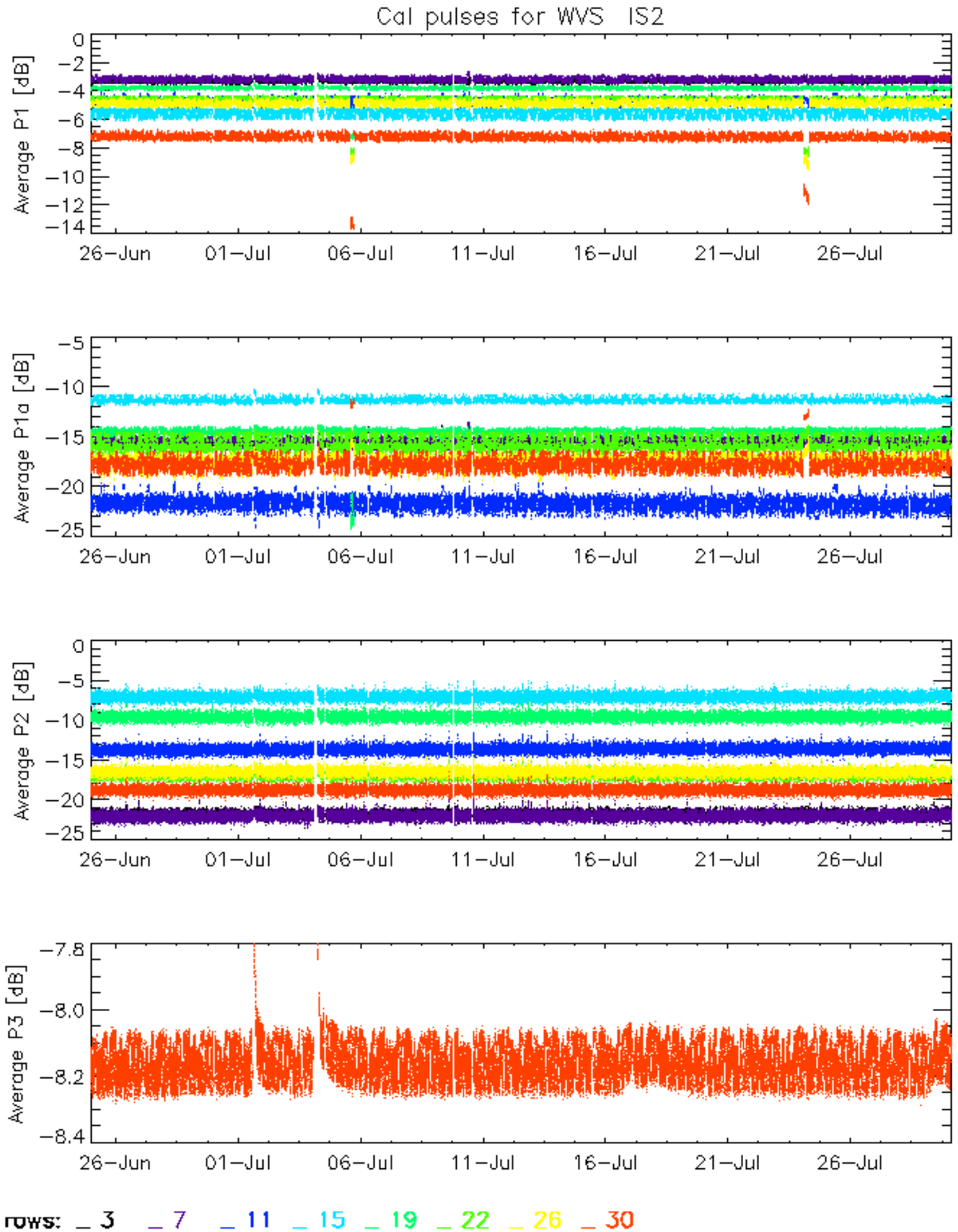
Evolution Doppler error versus ANX

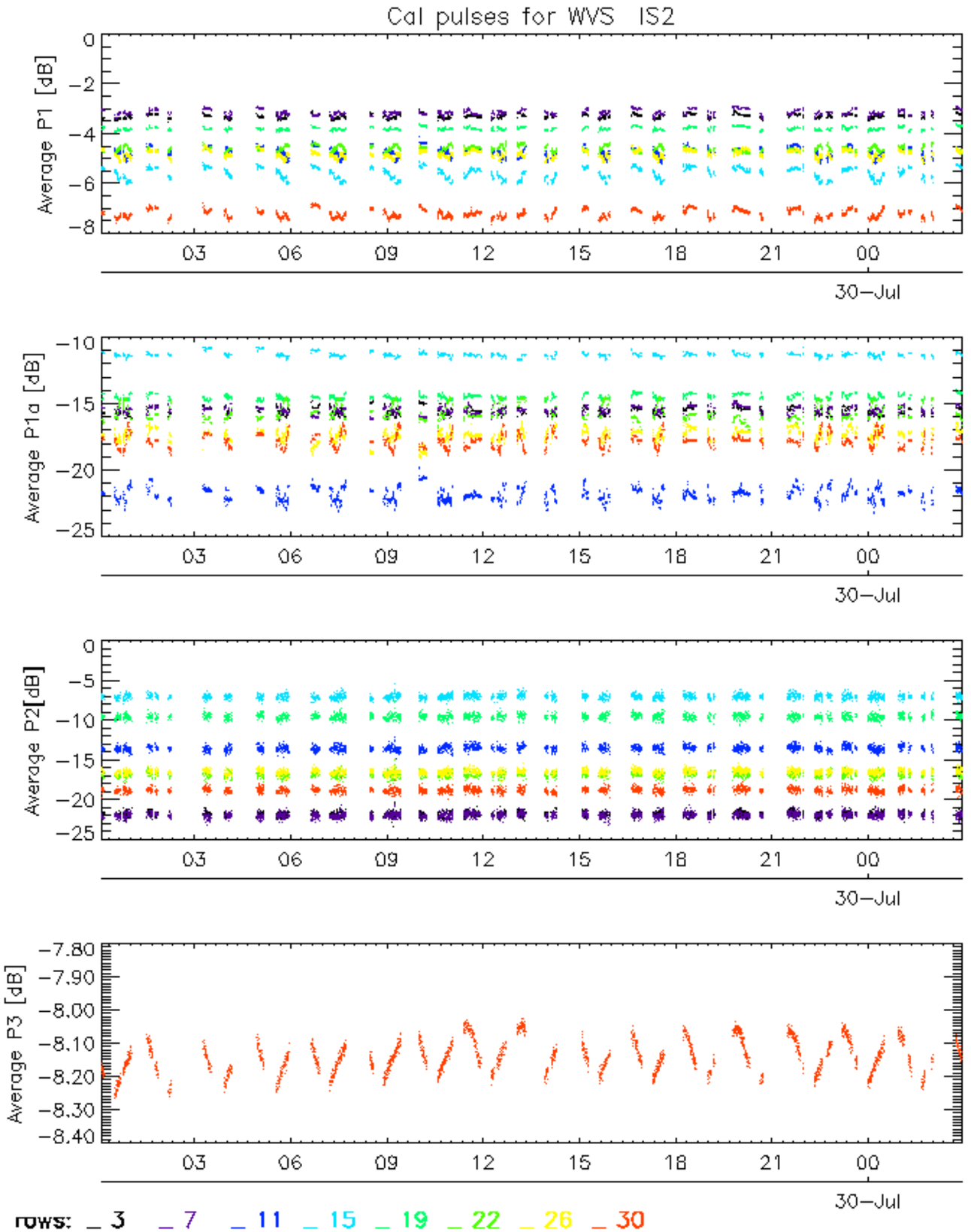


Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
30−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Cal pulses for GM1 SS3
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30


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

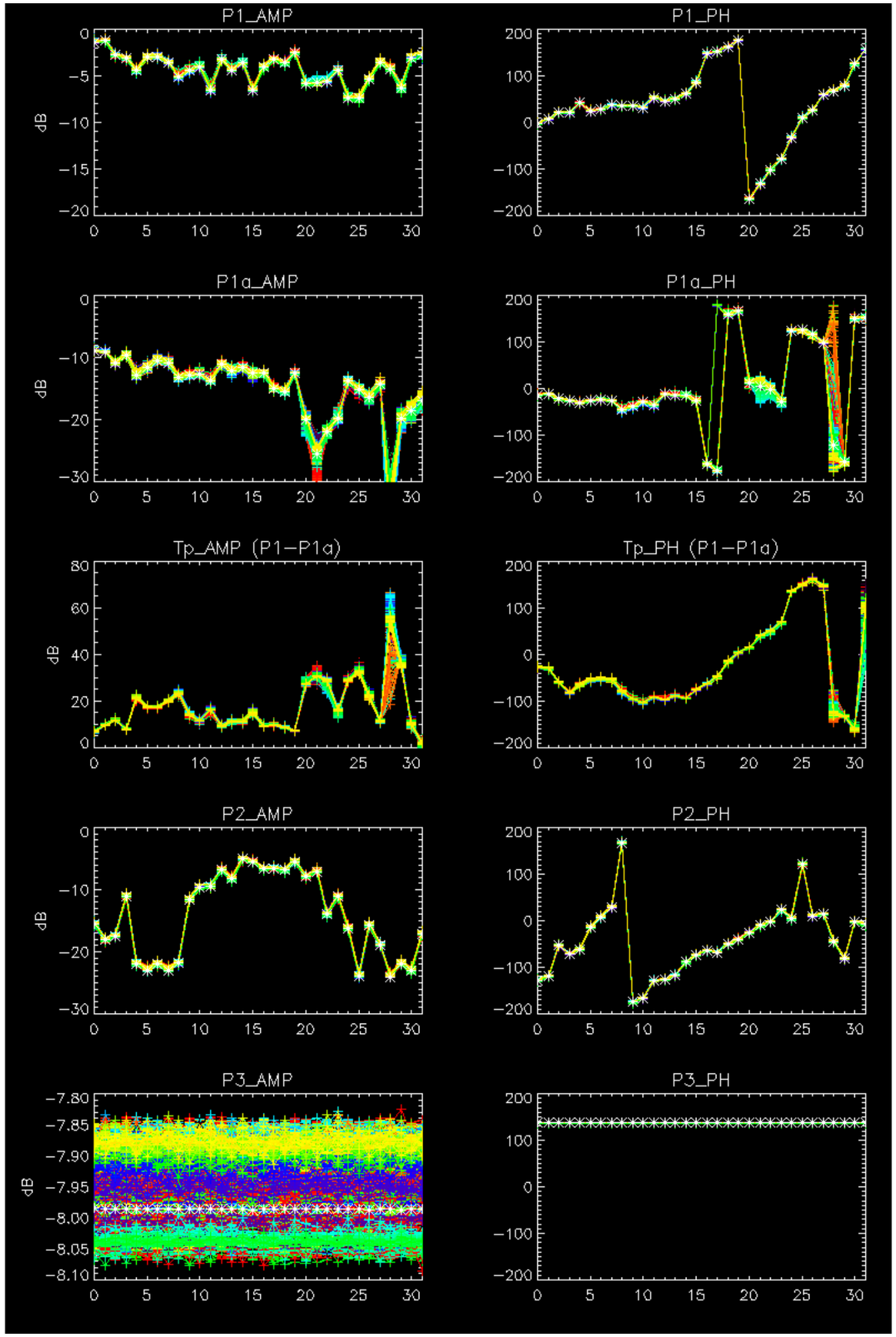

Cal pulses for GM1 SS3
Average P1 [dB]
0
−5
−10
−15
Average P1a [dB]
0
−10
−20
−30
−40
Average P2 [dB]
0
−10
−20
−30
−40
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
26−Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

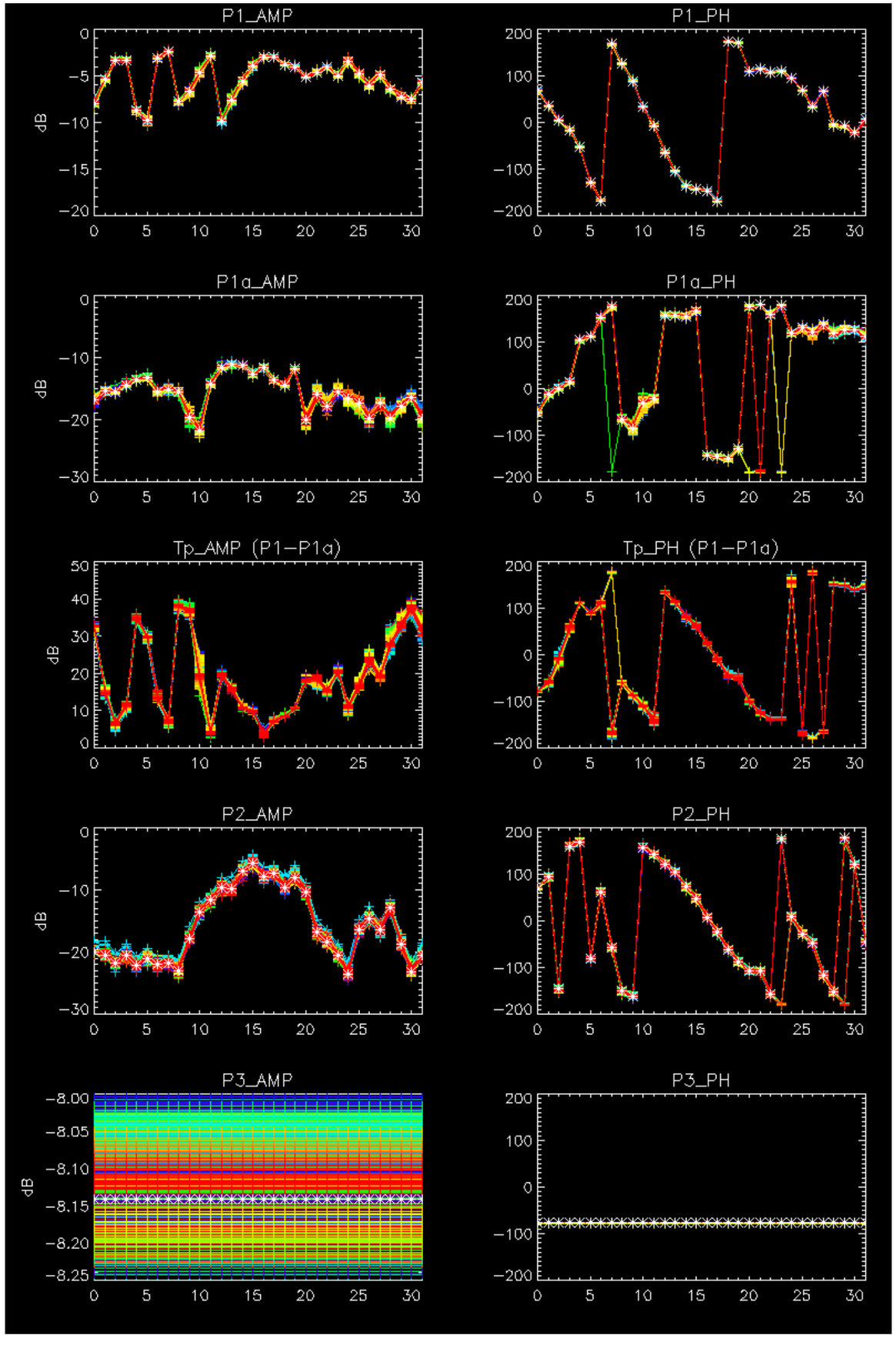

Cal pulses for GM1 SS3
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
03
30−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
−30
−35
Average P2[dB]
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
−12
−14
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
26−Jul
Average P1a [dB]
−5
−10
−15
−20
−25
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 WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
03
06
09
12
15
18
21
00
30−Jul
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

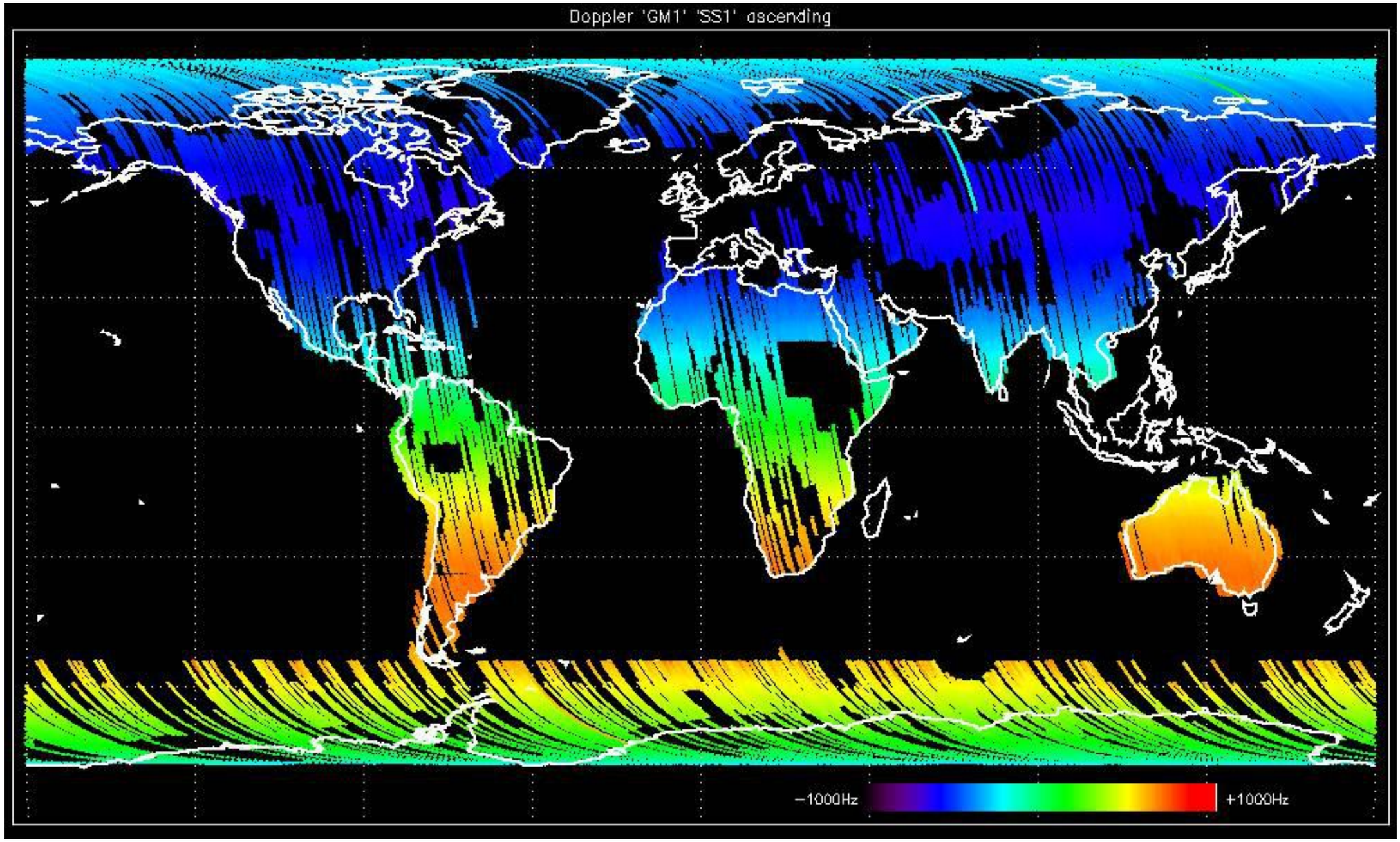
No anomalies observed.

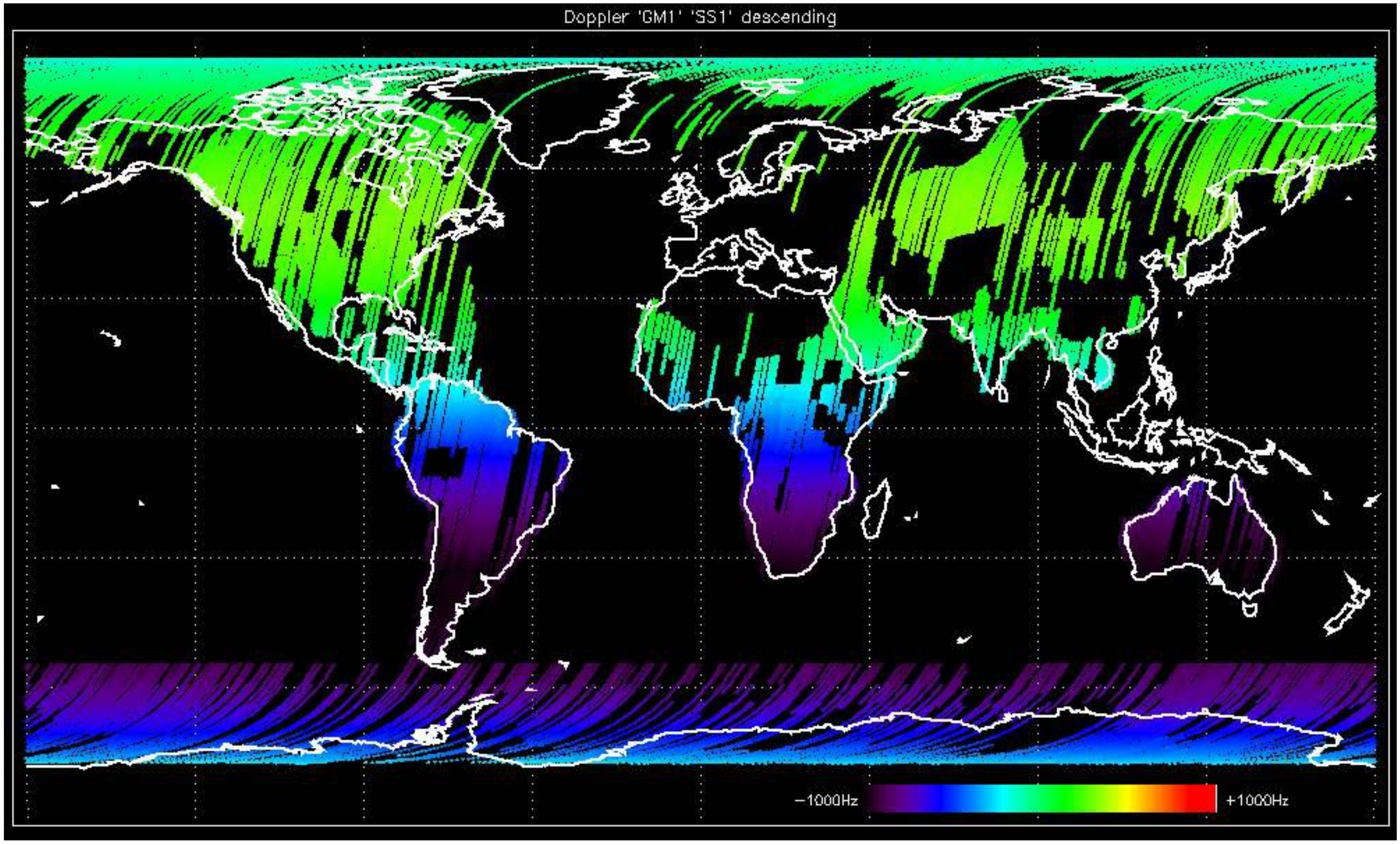

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

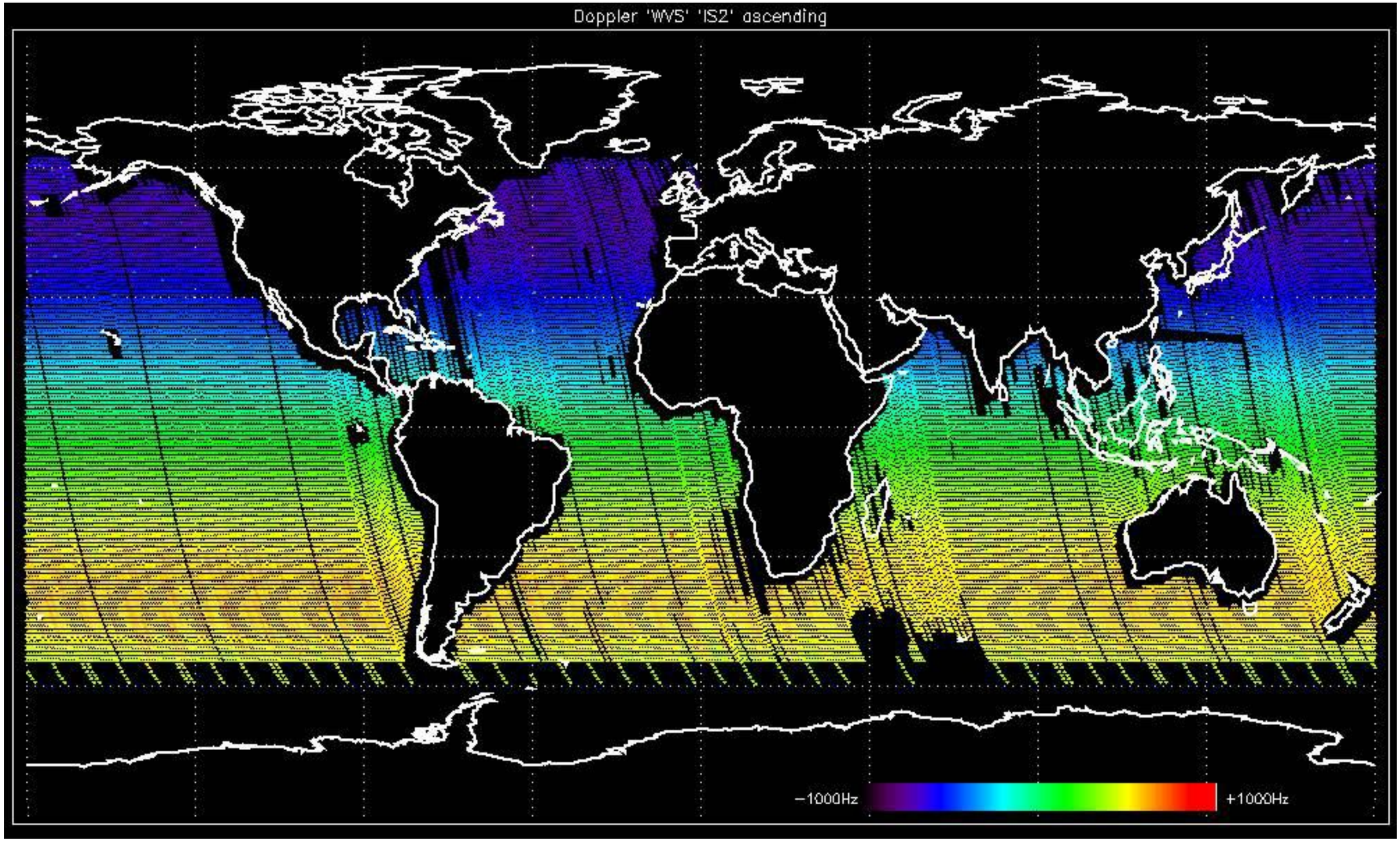

P1_AMP
P1_PH
P1a_AMP
P1a_PH
Tp_AMP (P1−P1a)
Tp_PH (P1−P1a)
P2_AMP
P2_PH
P3_AMP
P3_PH
dB

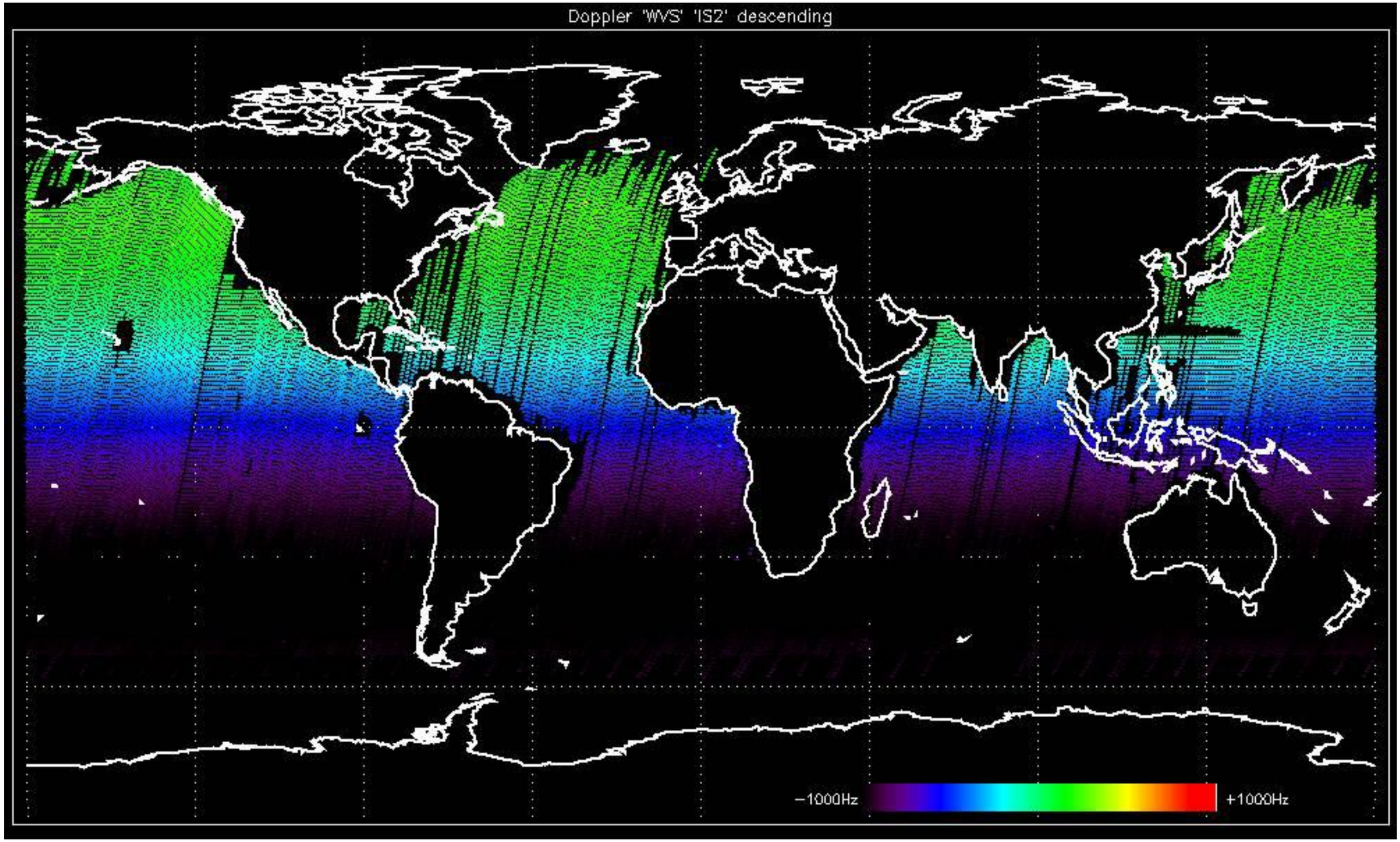
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

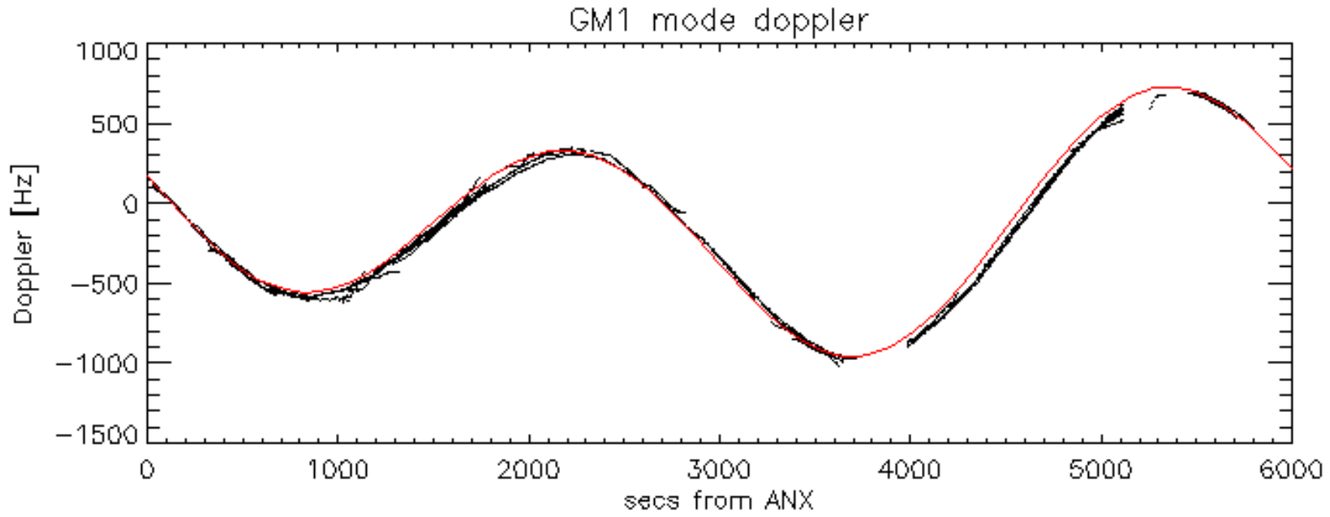
Preliminary report.The data is not yet controled

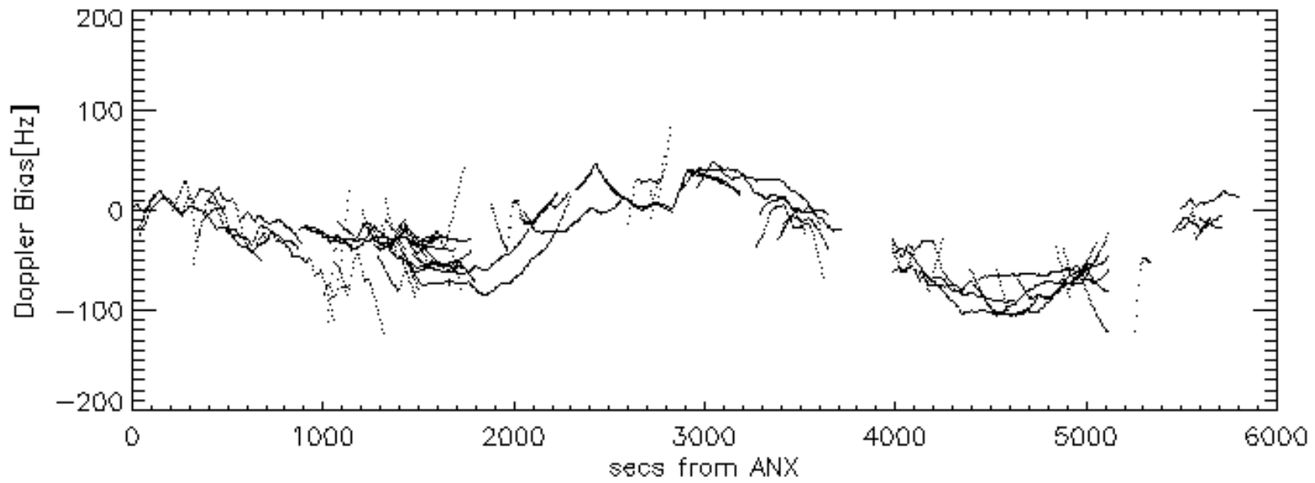

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

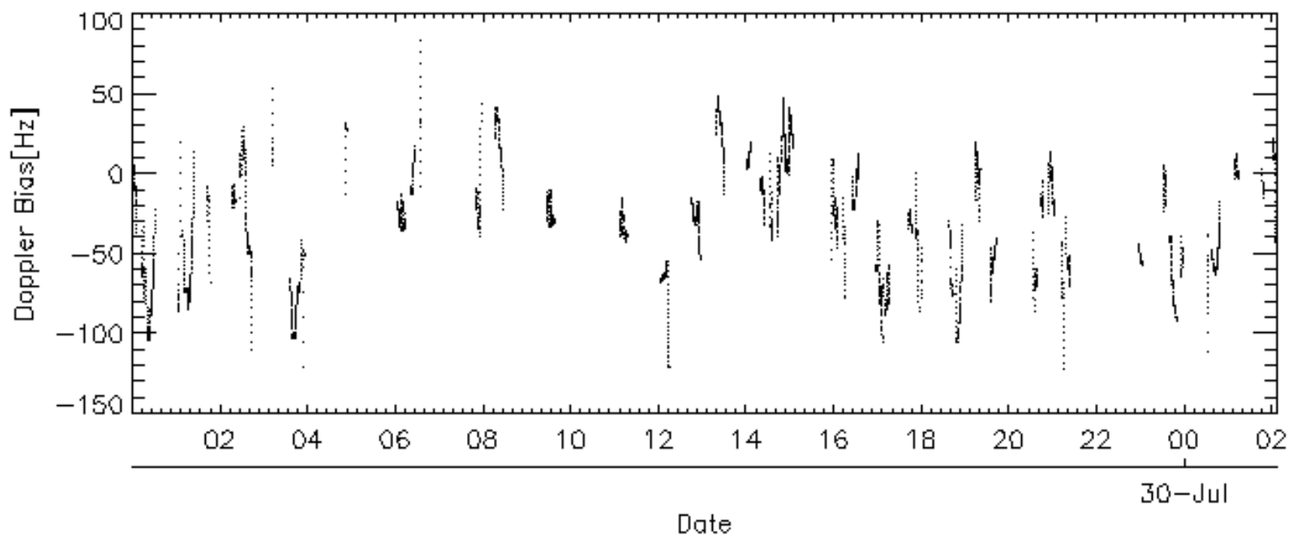

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

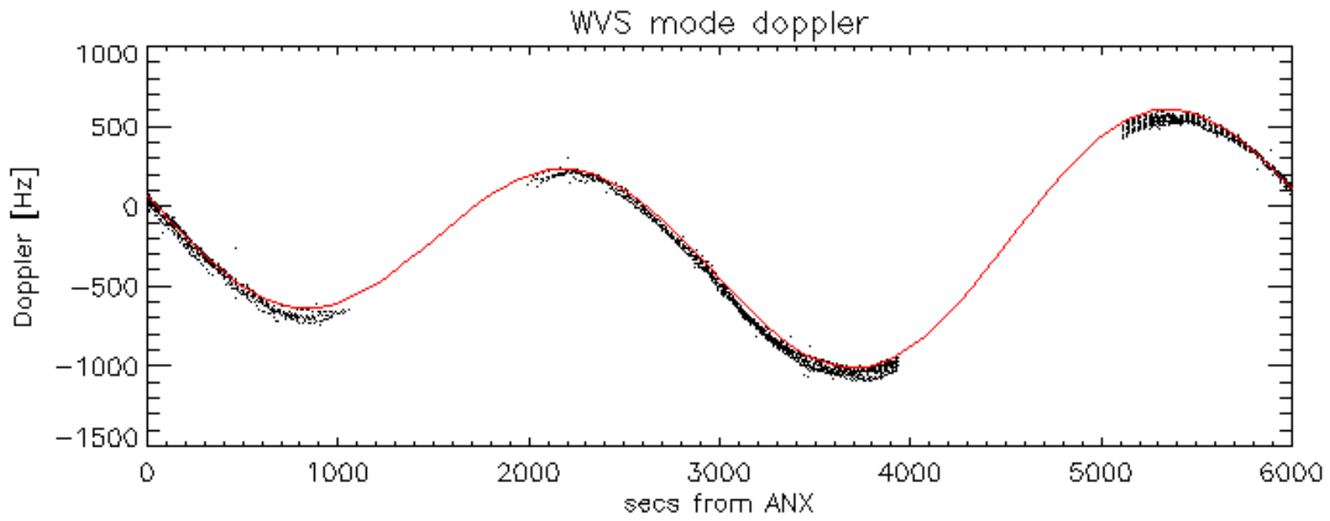

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

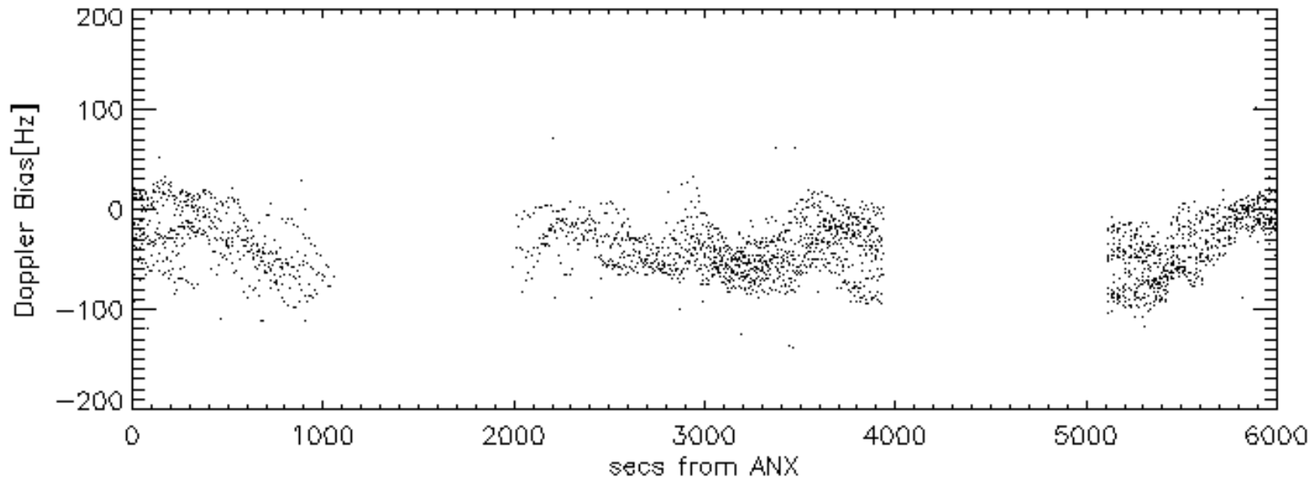

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

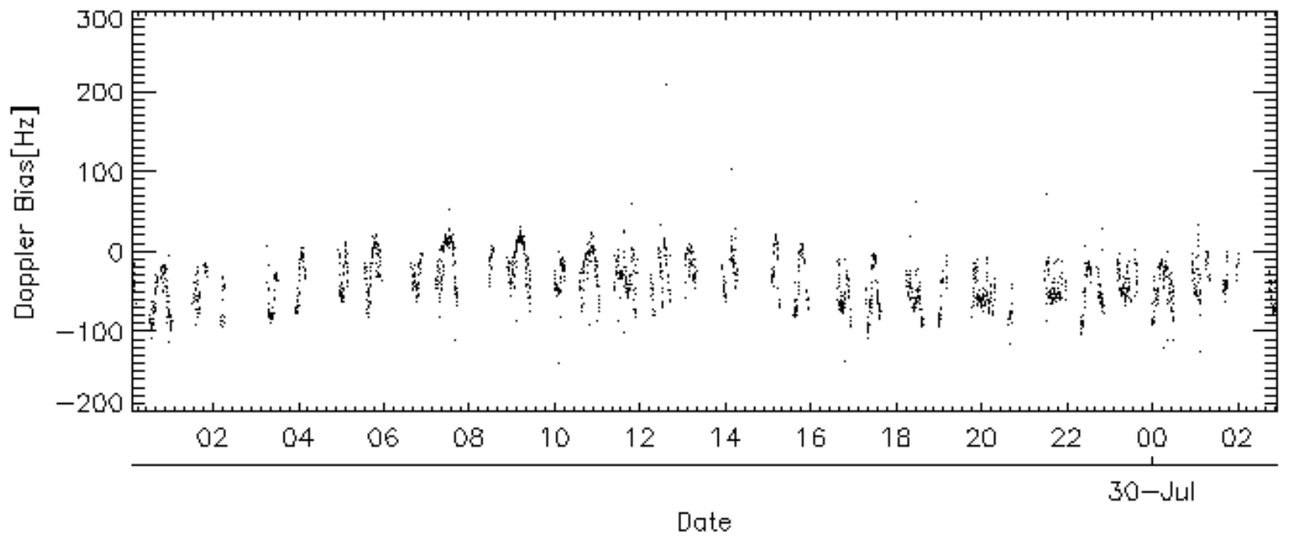

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

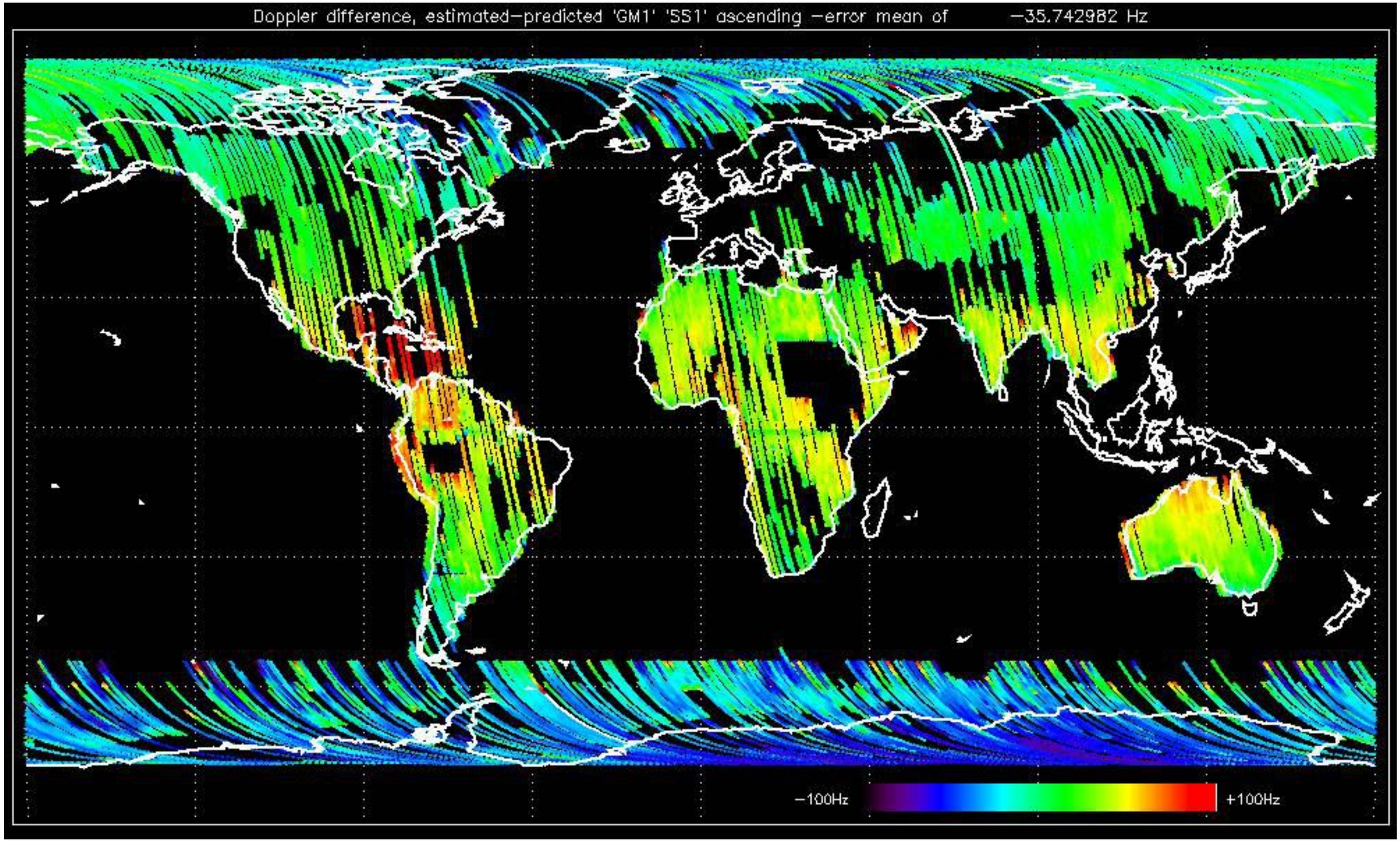

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

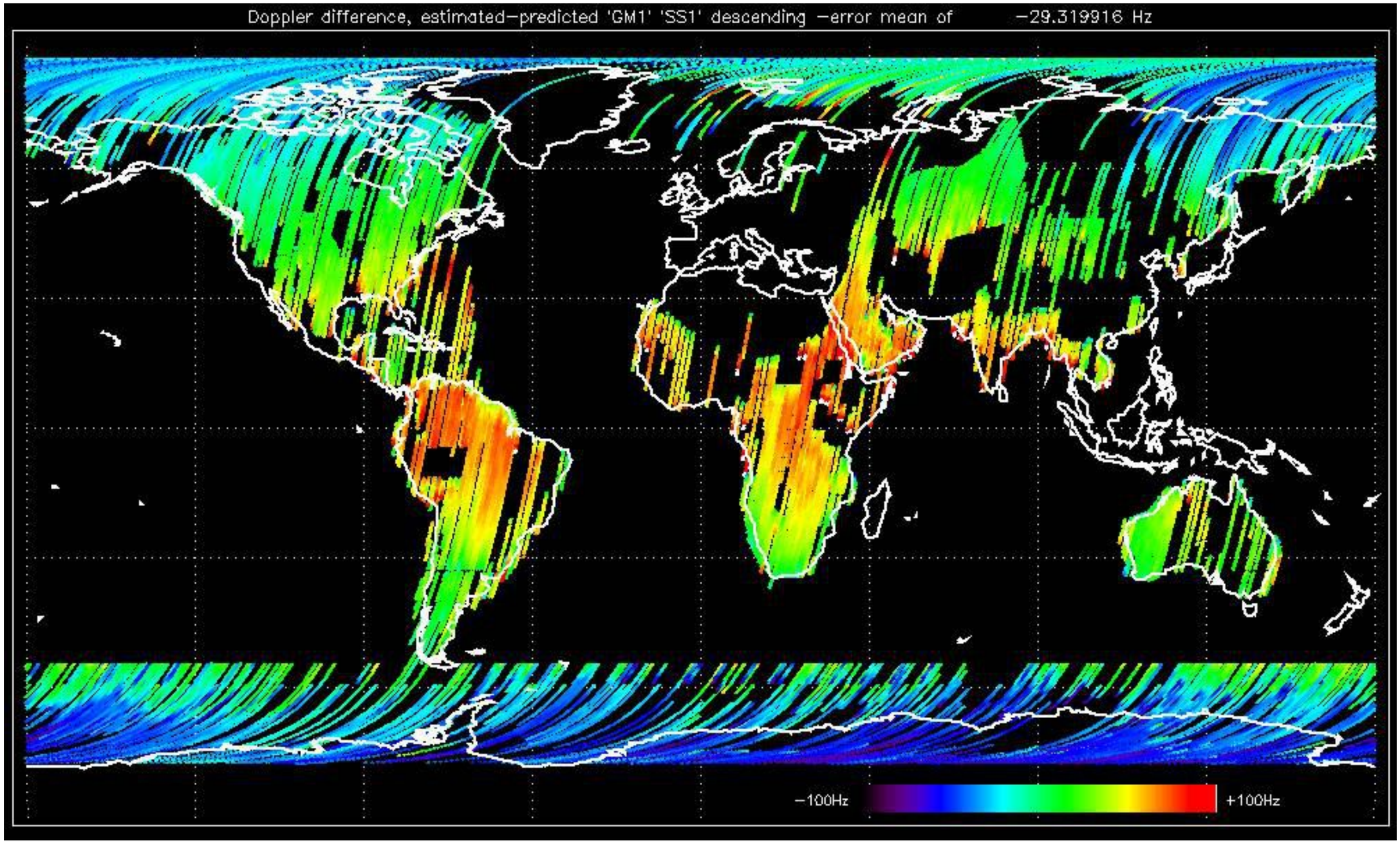

Doppler Bias[Hz]
100
50
0
−50
−100
−150
02
04
06
08
10
12
14
16
18
20
22
00
02
30−Jul
Date

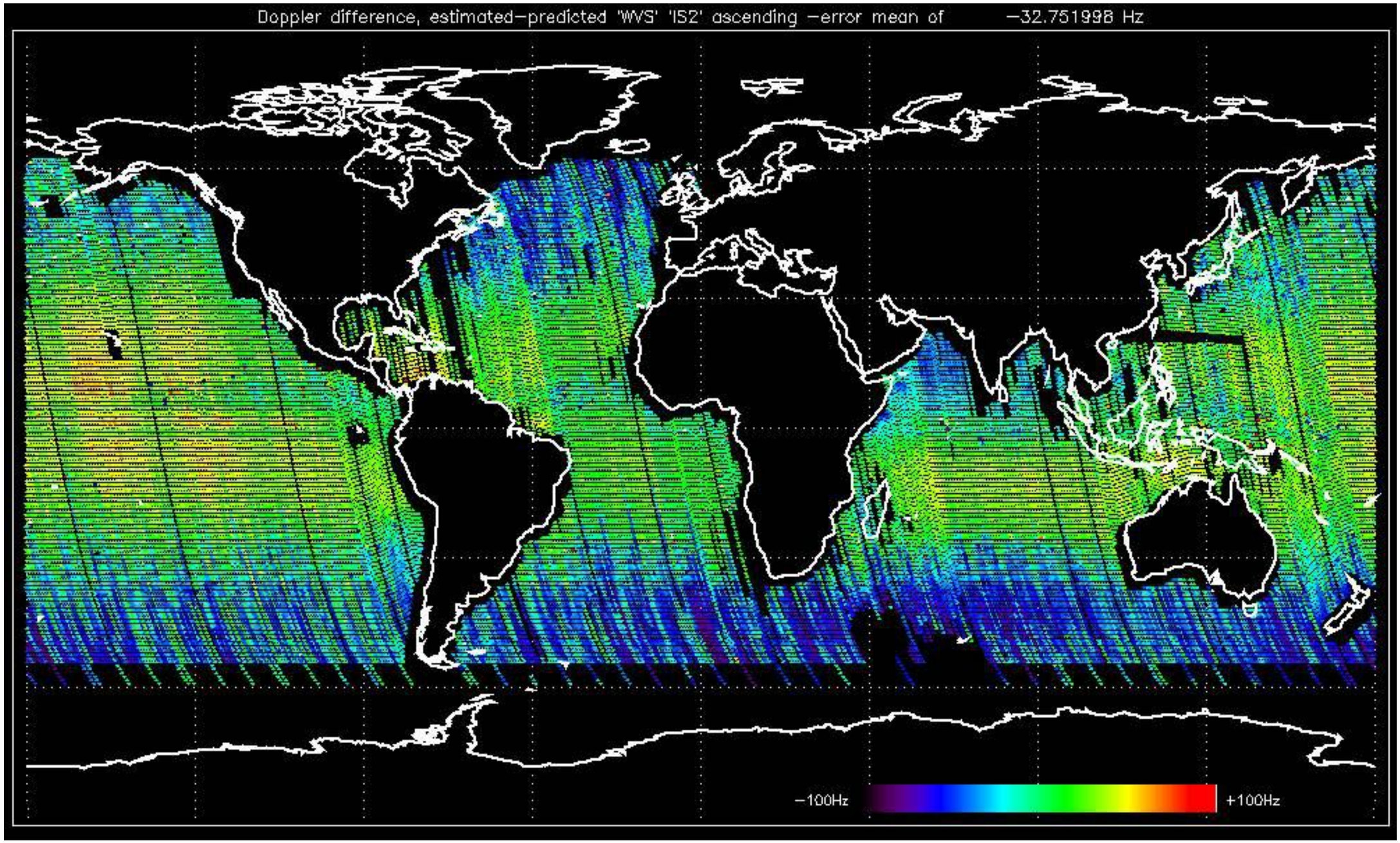

WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

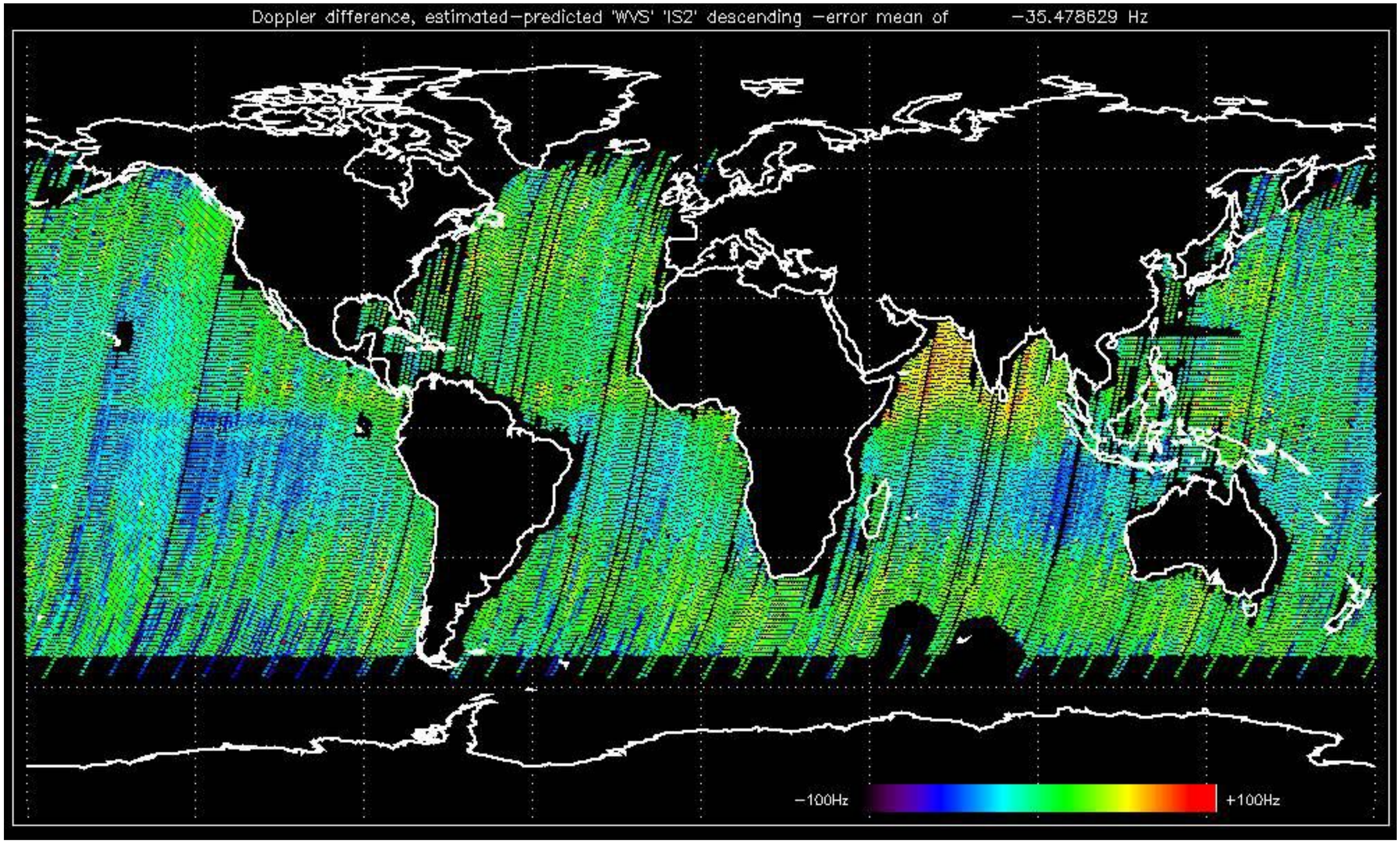

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −35.742982 Hz
−100Hz
+100Hz

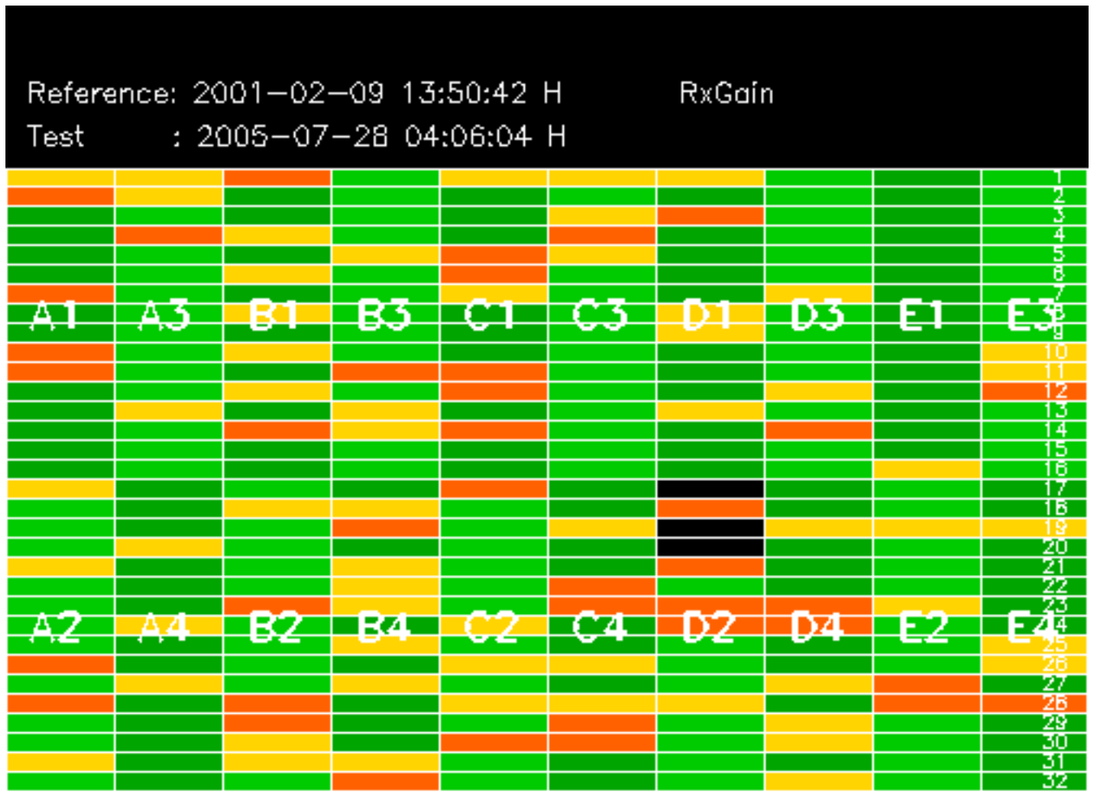

Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -29.319916 Hz
-100Hz
+100Hz

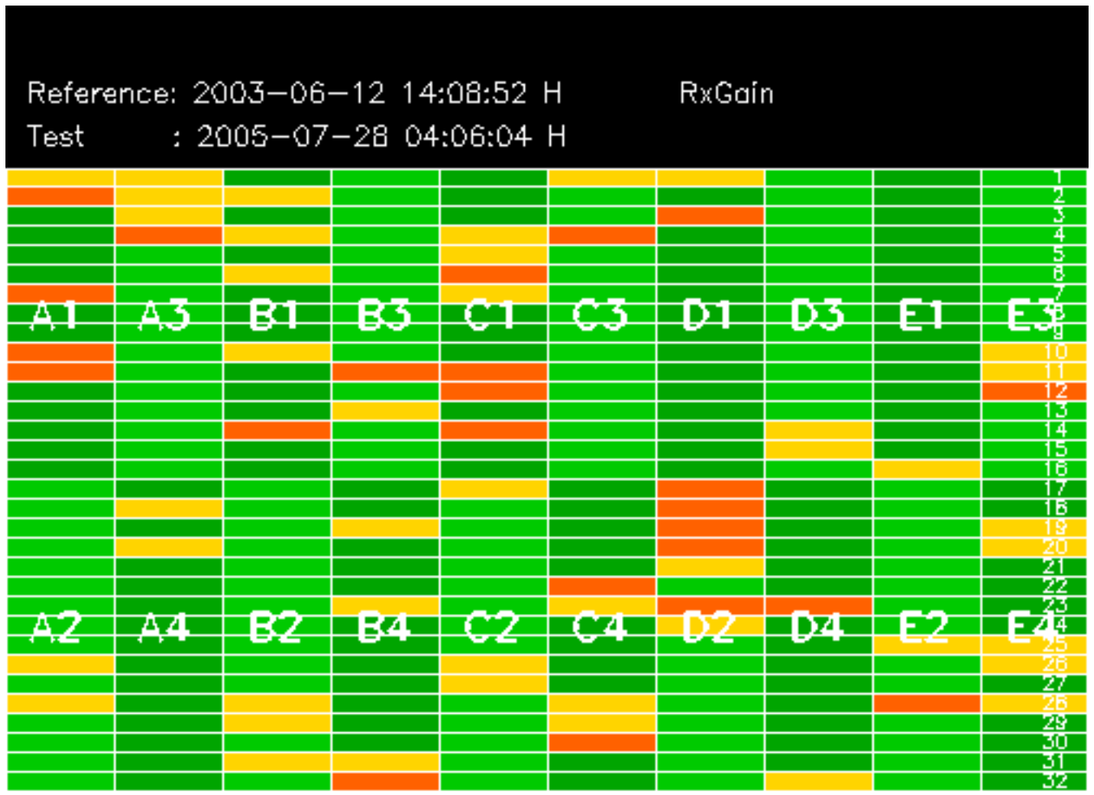

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −32.751998 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −35.478629 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2005-07-28 04:06:04 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 : 2005-07-28 04:06:04 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
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8
9
10
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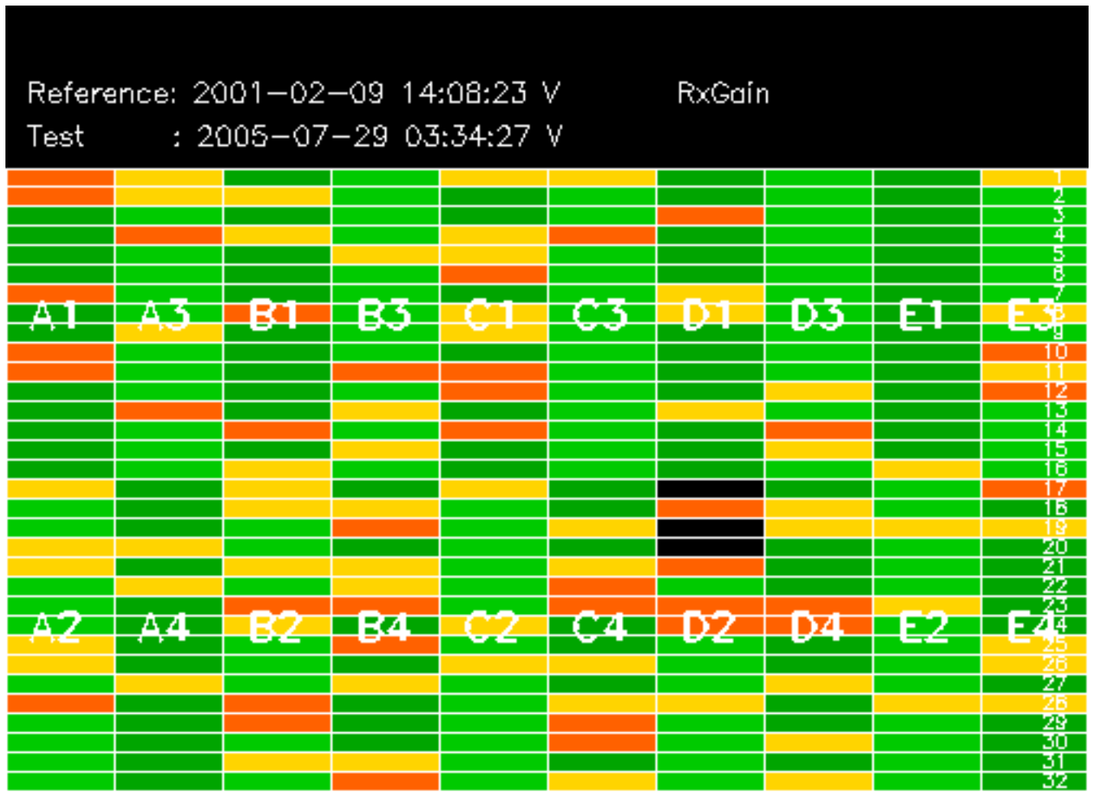
Reference: 2001-02-09 14:08:23 V
Test : 2005-07-29 03:34:27 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
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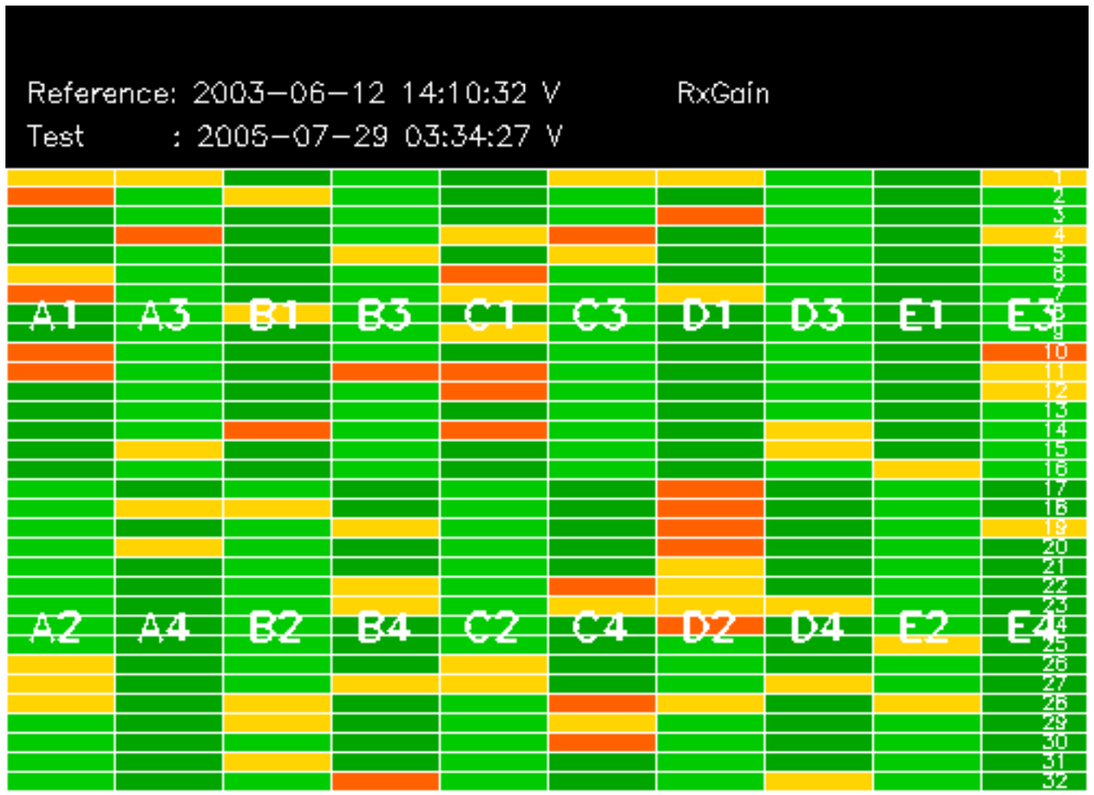
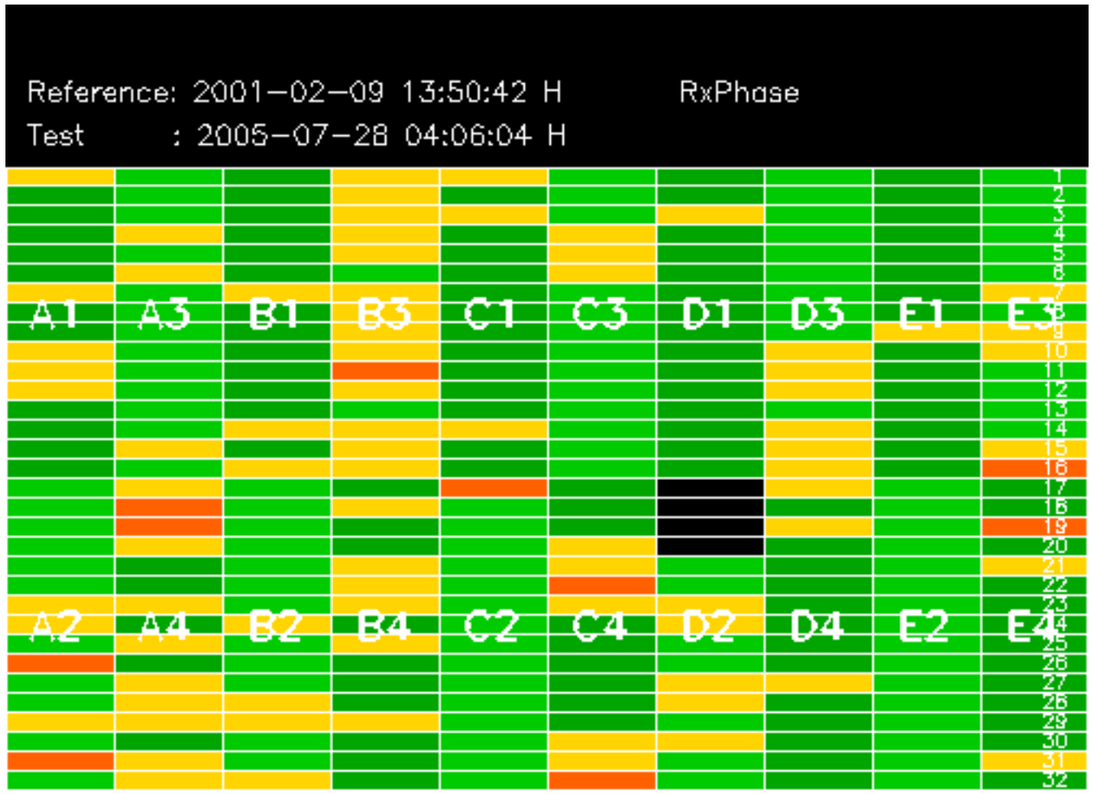

Reference: 2003-06-12 14:10:32 V
Test : 2005-07-29 03:34:27 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-07-28 04:06:04 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 : 2005-07-28 04:06:04 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
6
7
8
9
10
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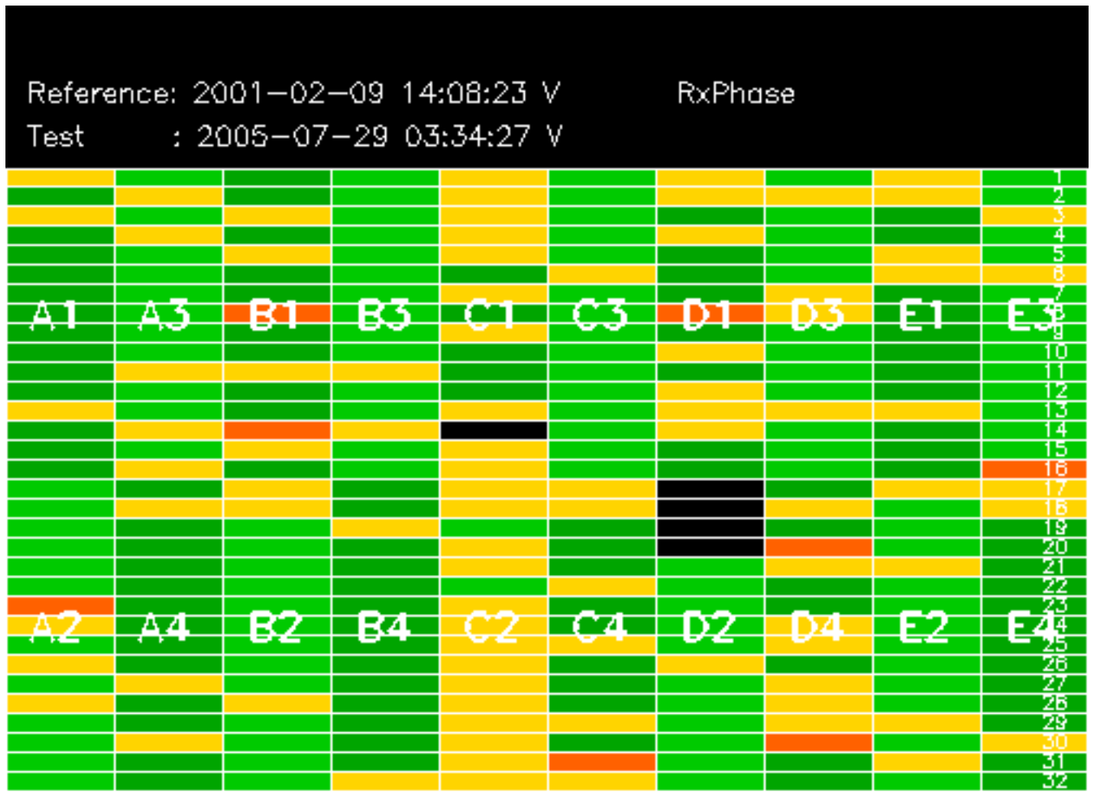
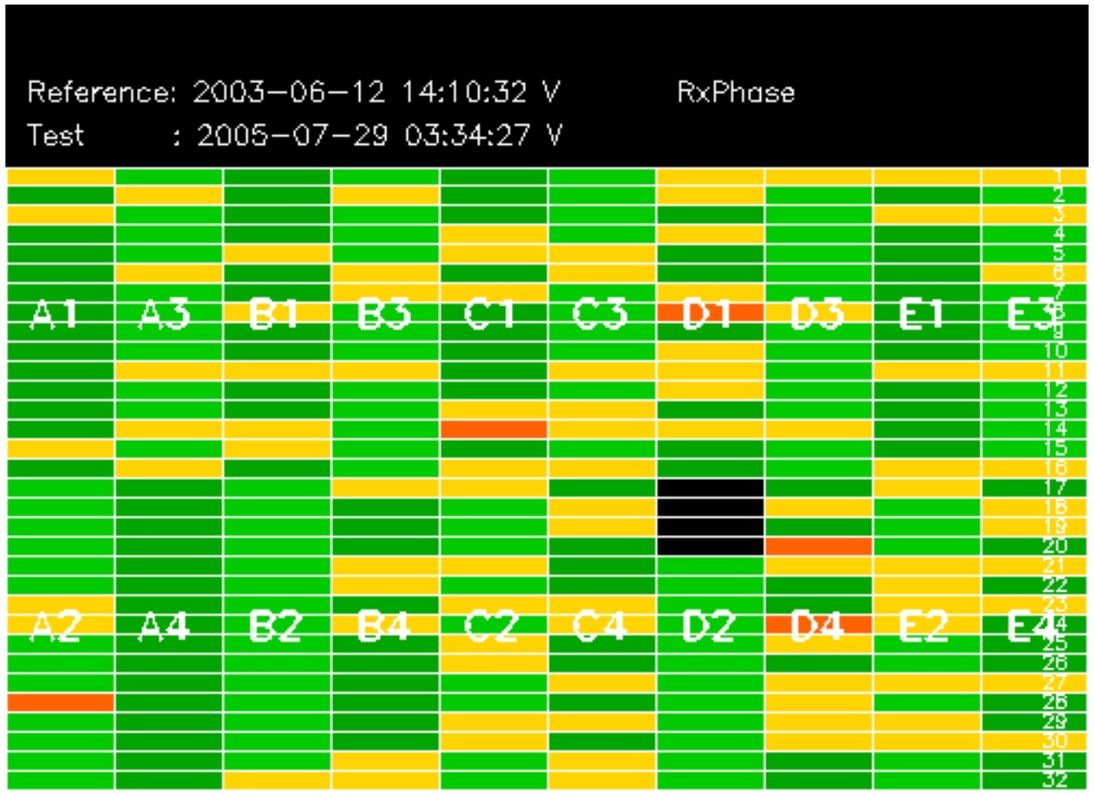
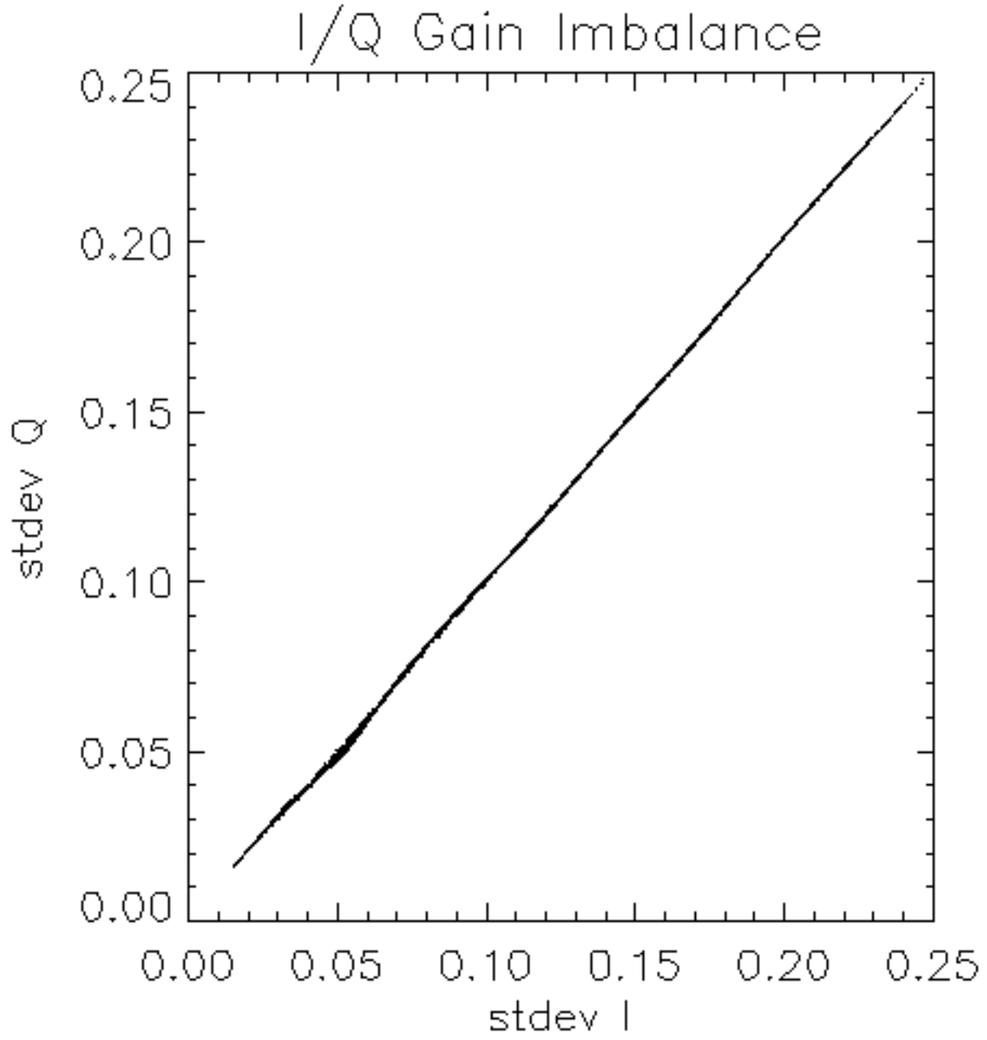
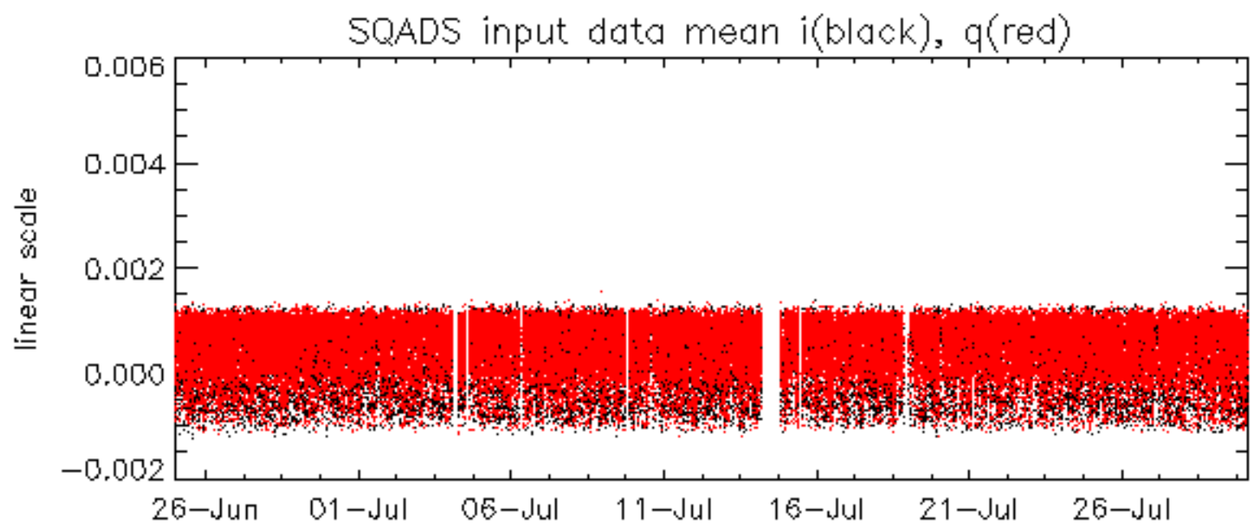
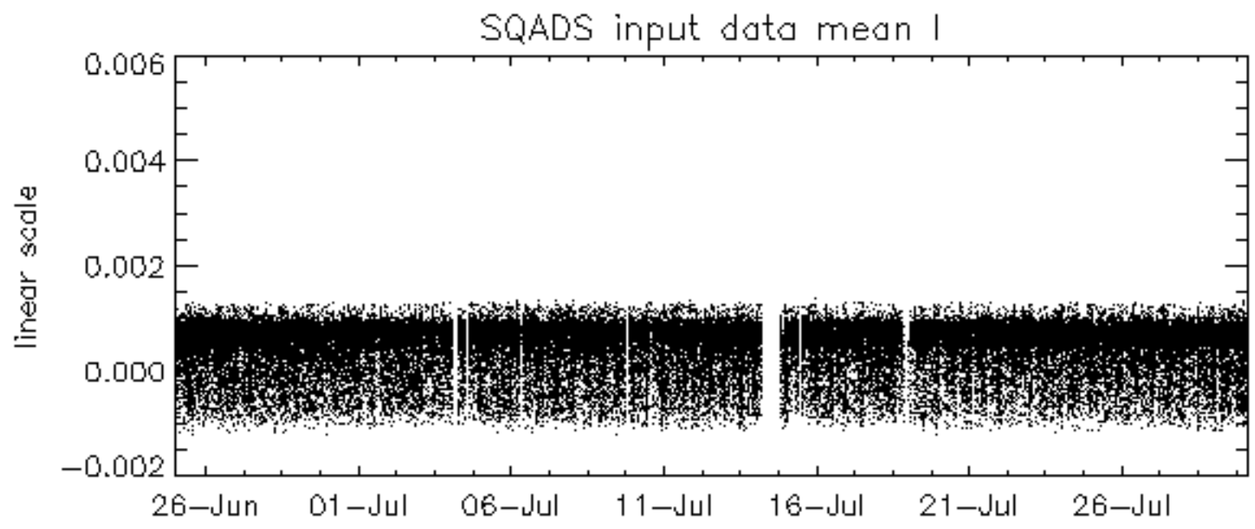
32

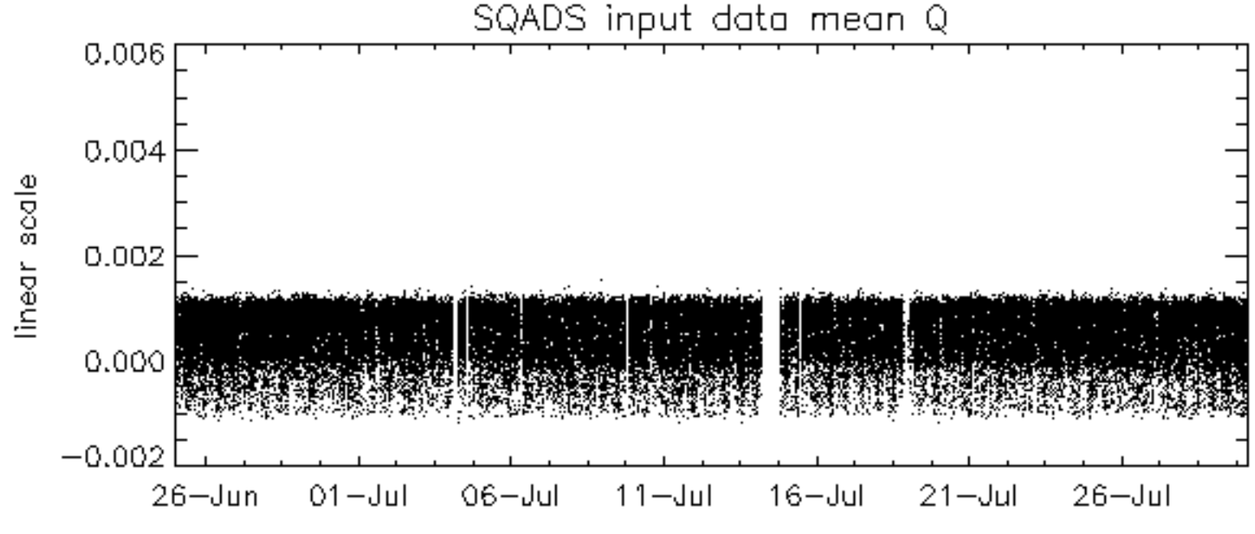

Reference: 2001-02-09 14:08:23 V
Test : 2005-07-29 03:34:27 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

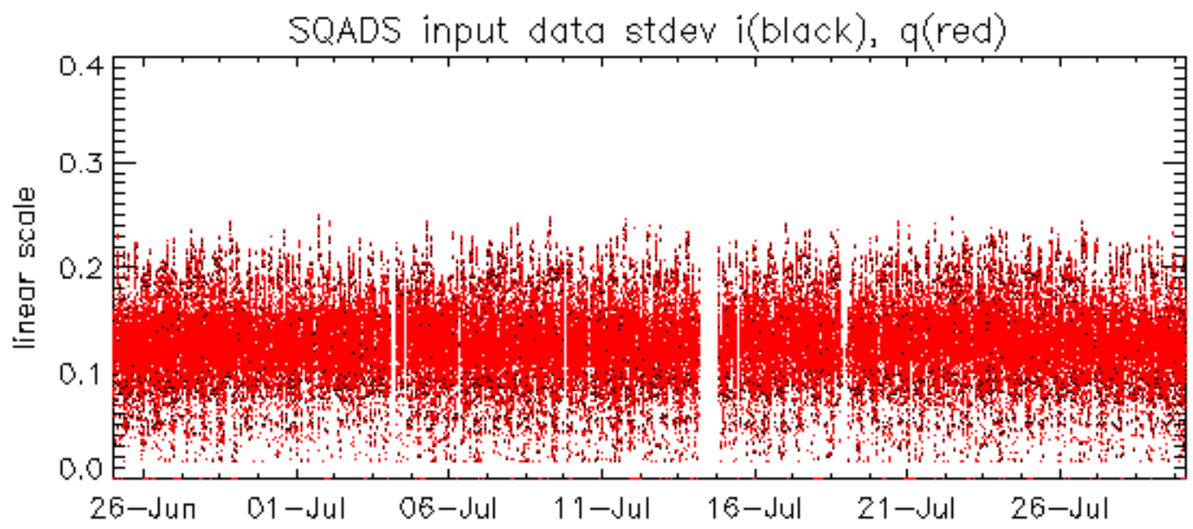

Reference: 2003-06-12 14:10:32 V
Test : 2005-07-29 03:34:27 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

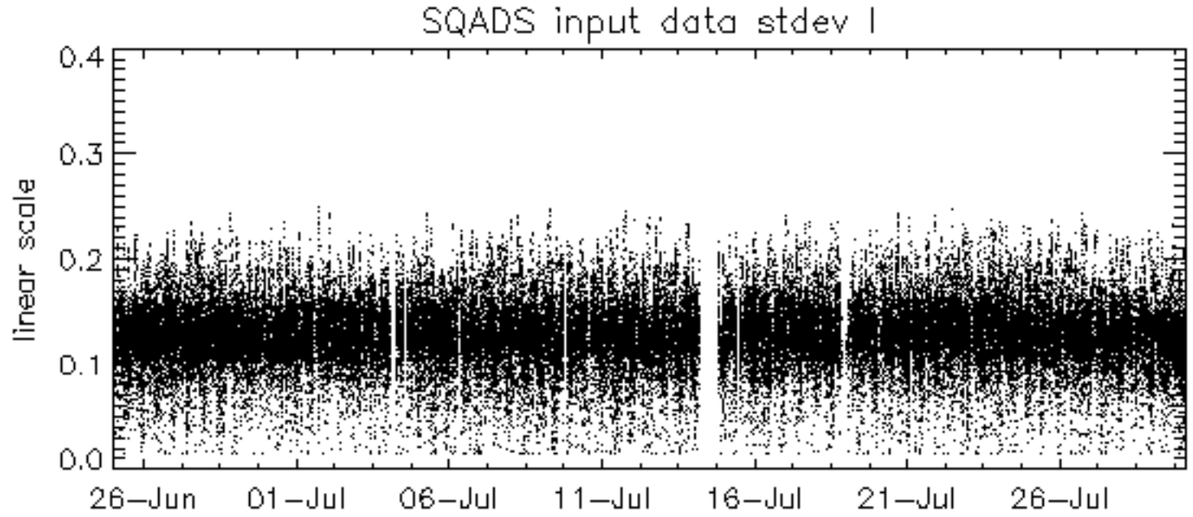

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

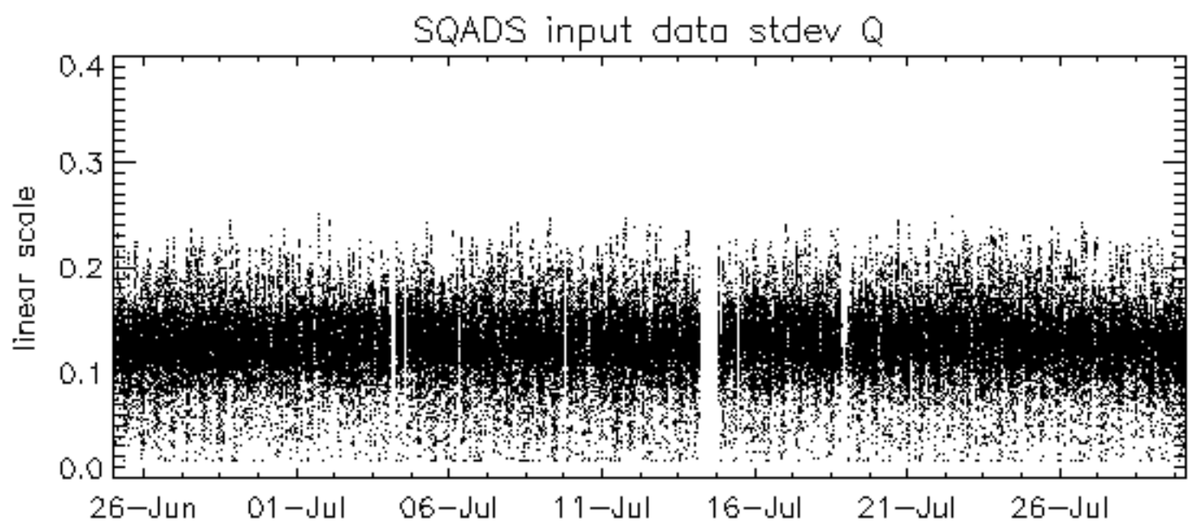

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
26−Jul

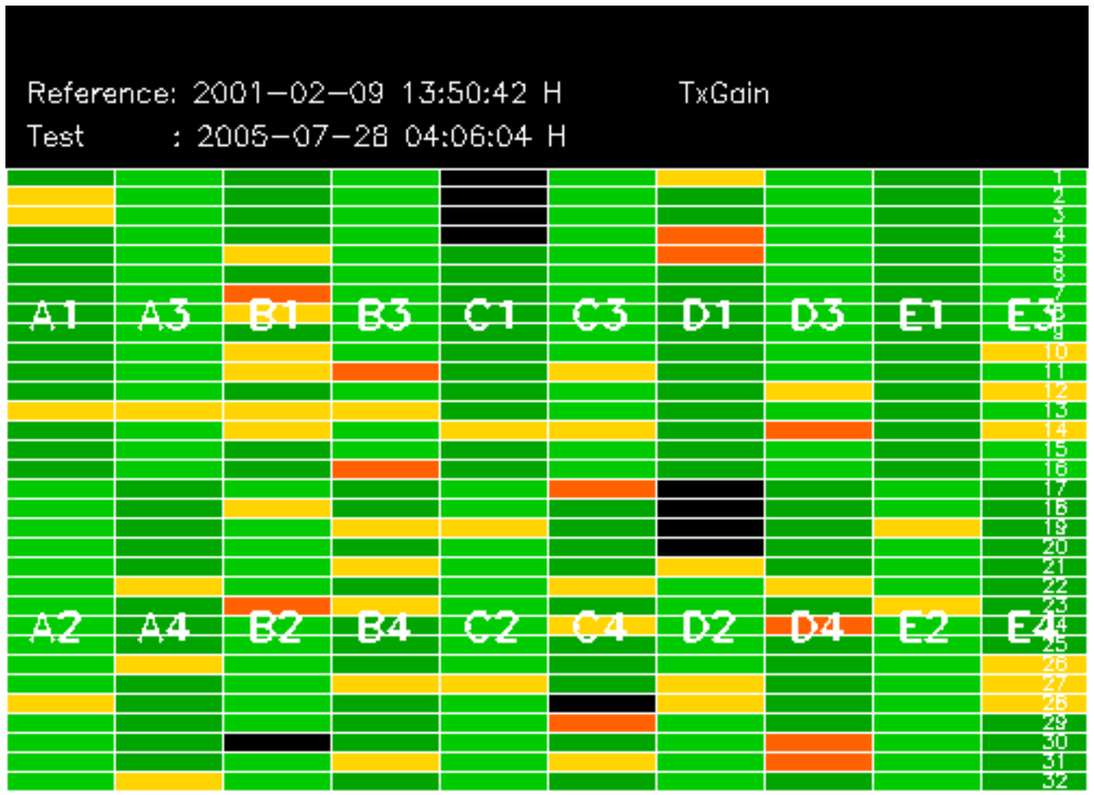

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Jun
01−Jul
06−Jul
11−Jul
16−Jul
21−Jul
26−Jul


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2005-07-28 04:06:04 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
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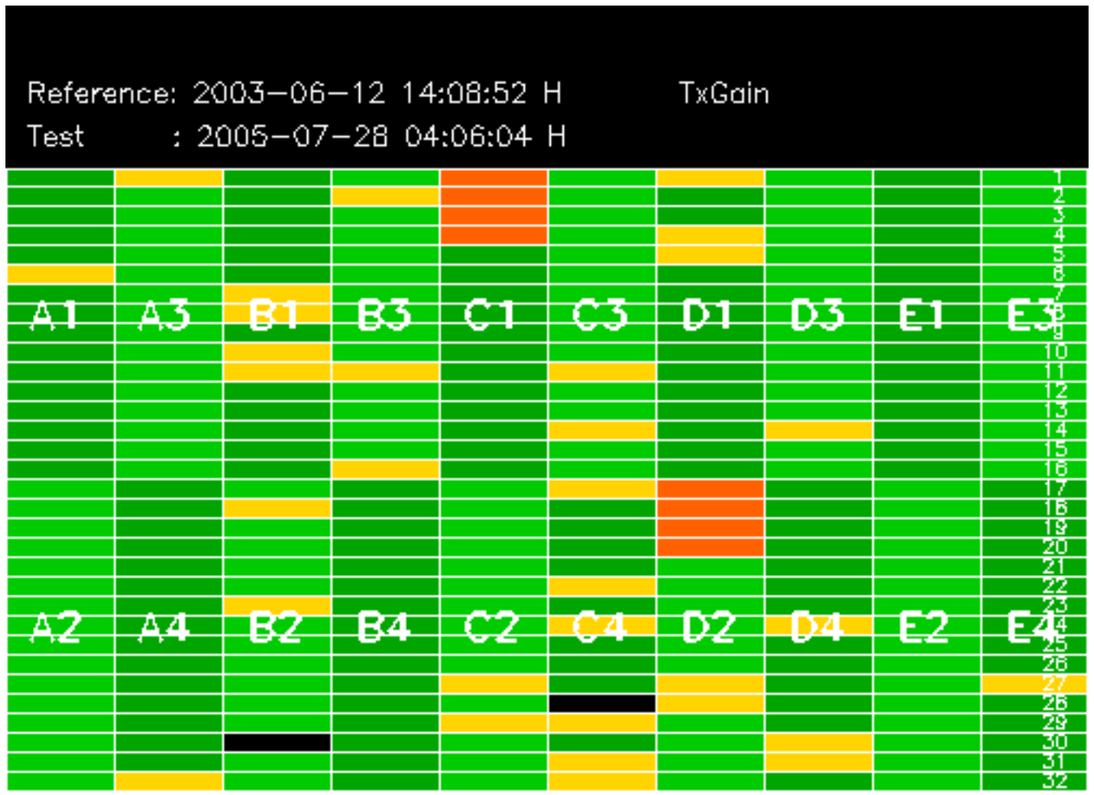
32


Reference: 2003-06-12 14:08:52 H
Test : 2005-07-28 04:06:04 H
TxGain
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 : 2005-07-29 03:34:27 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
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7
8
9
10
11
12
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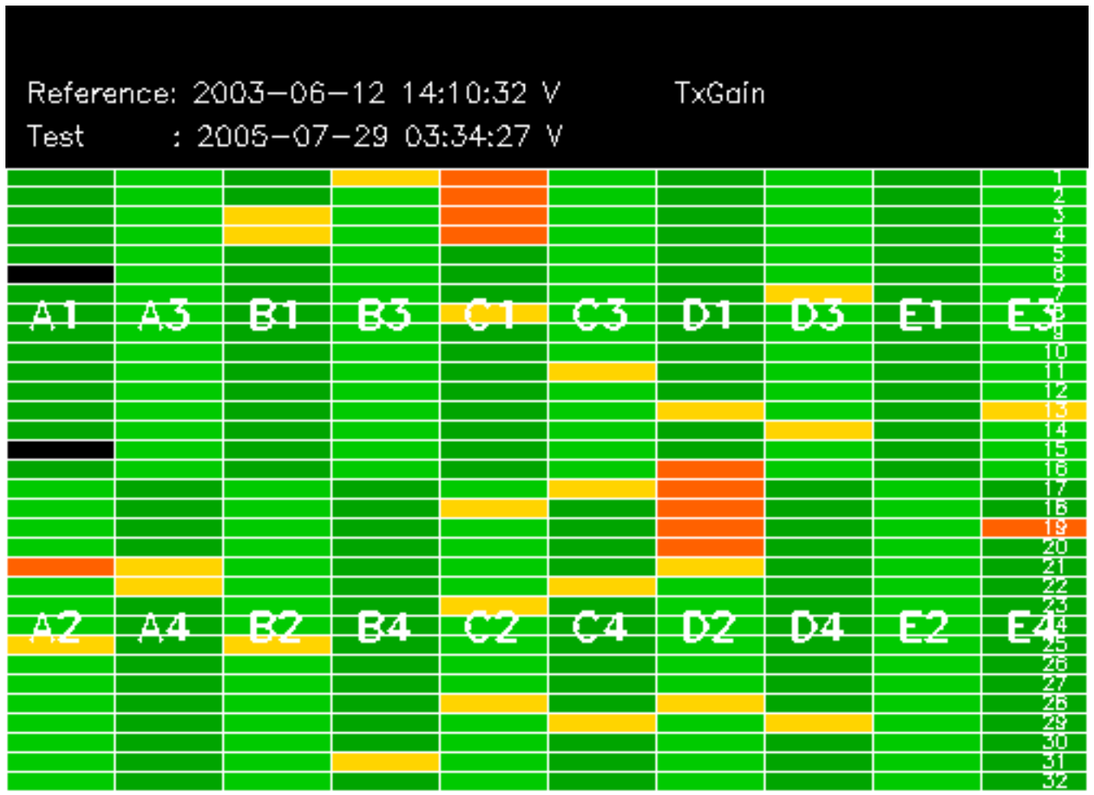
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32


Reference: 2003-06-12 14:10:32 V
Test : 2005-07-29 03:34:27 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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4
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8
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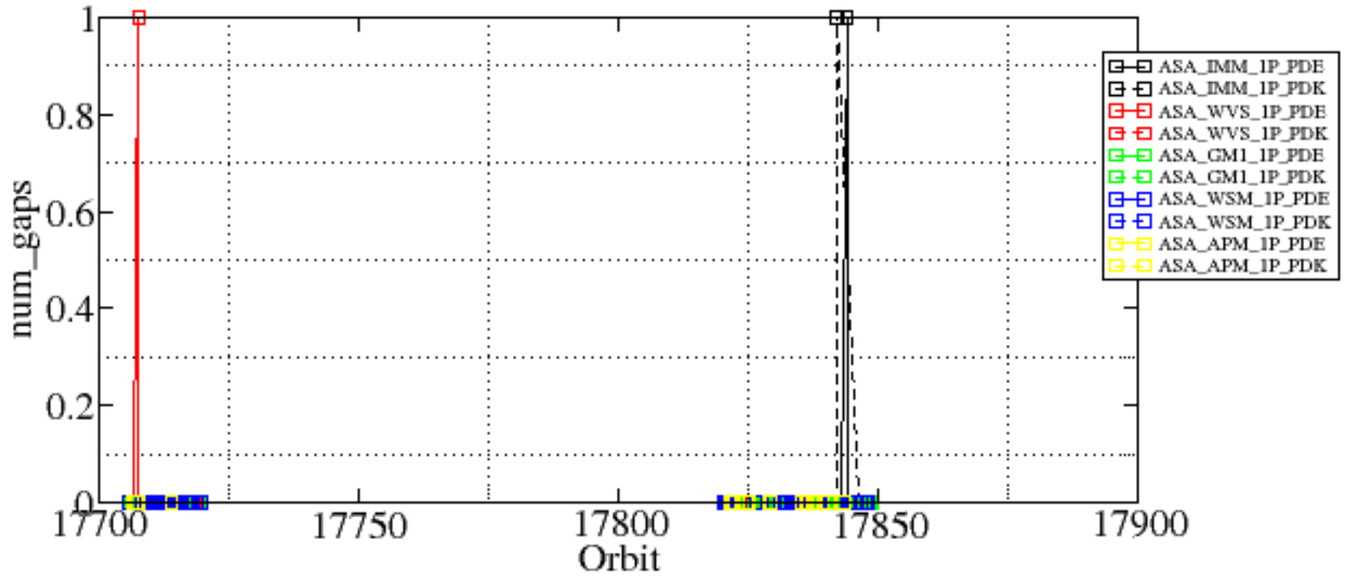
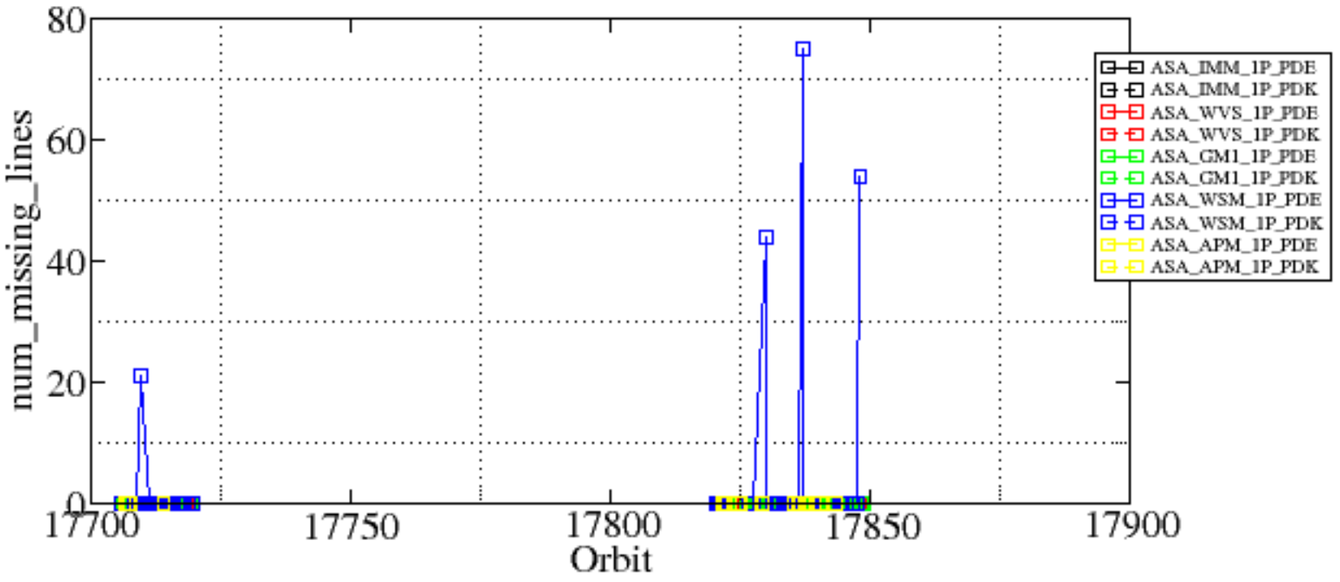
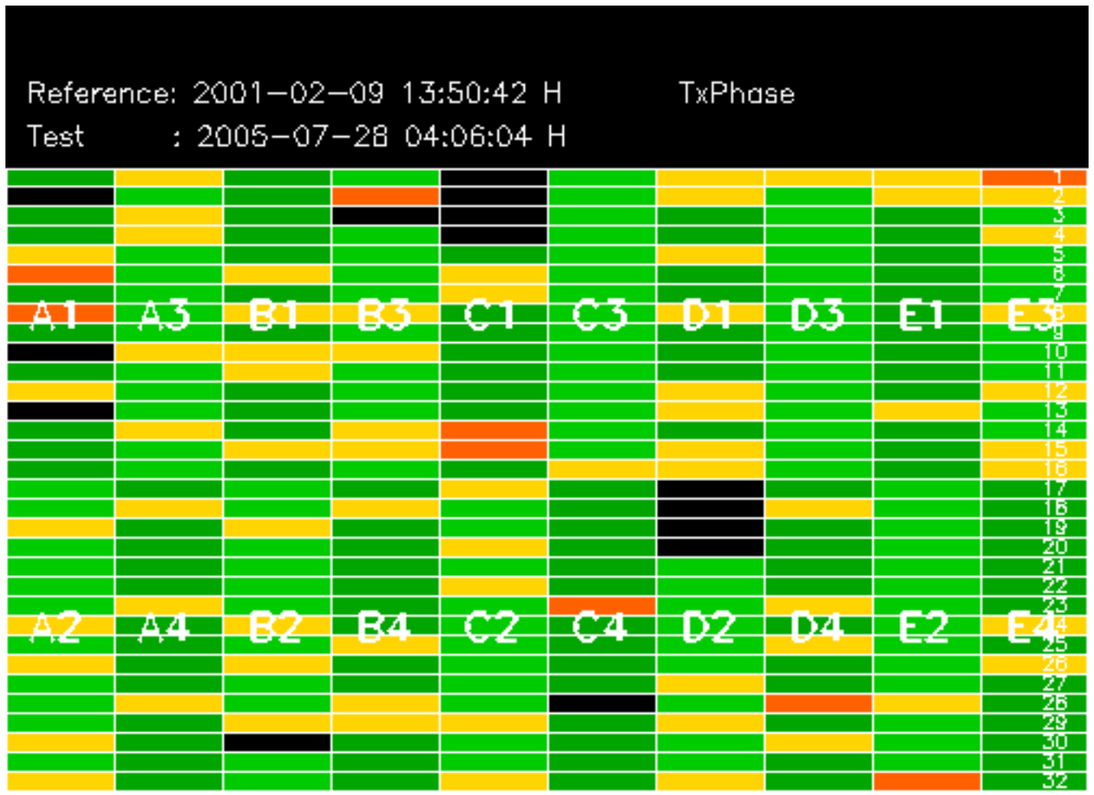
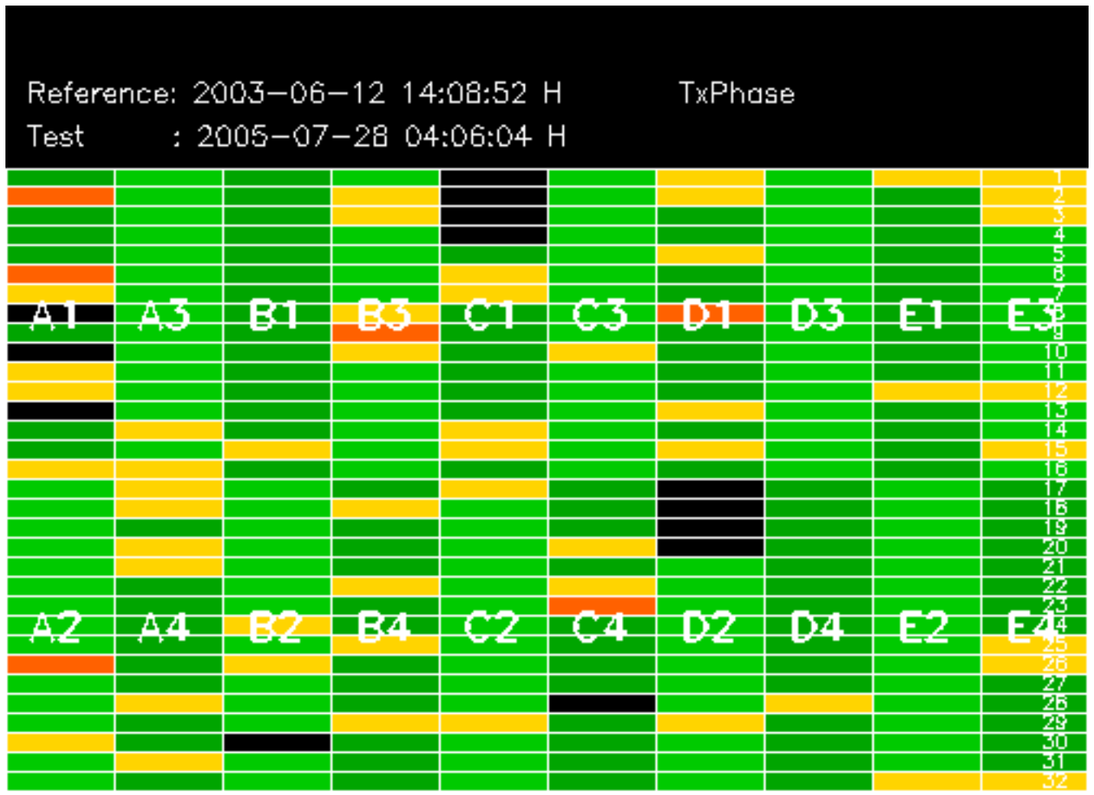
32

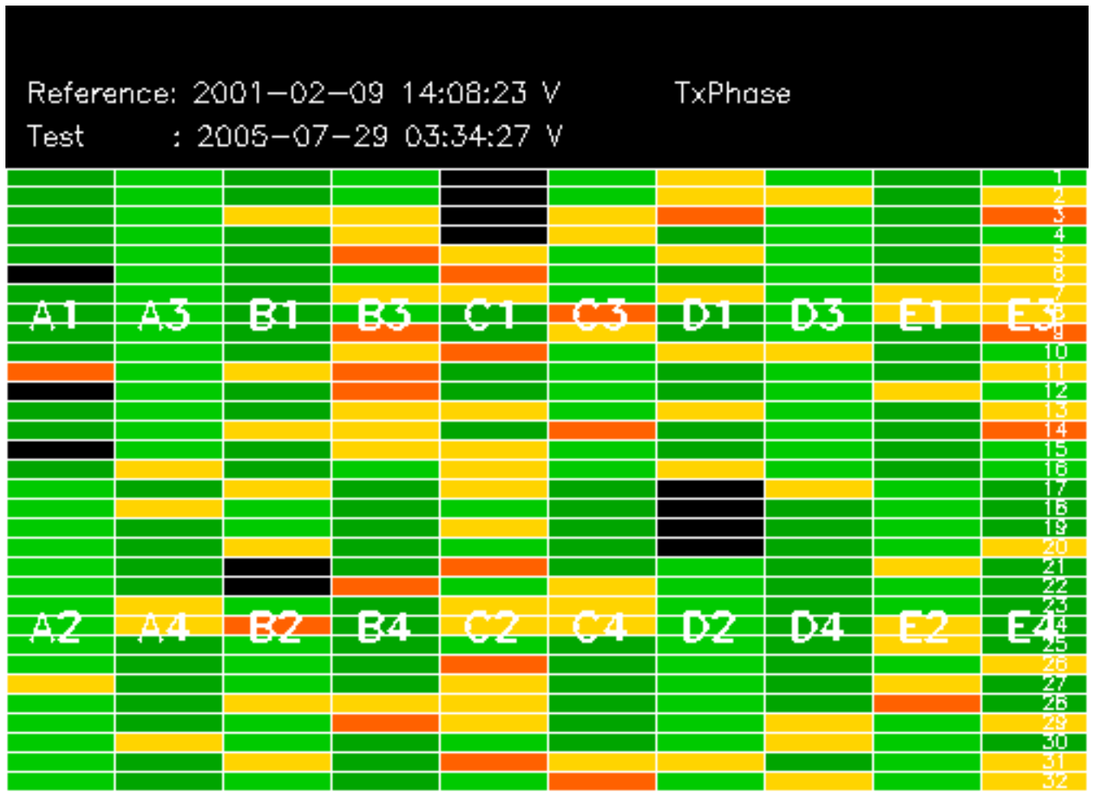
Summary of analysis for the last 3 days 2005072[890]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_IMM_1PNPDE20050729_155123_000001082039_00254_17843_0901.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_IMM_1PNPDK20050729_124304_000000872039_00253_17842_0531.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_WVS_1PNPDE20050720_030923_000000002039_00118_17707_0049.N1 </td> <td>1 </td> <td>0 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20050720_062911_000001462039_00120_17709_0357.N1 </td> <td>0 </td> <td>21 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20050728_162647_000000672039_00241_17830_1643.N1 </td> <td>0 </td> <td>44 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20050729_041008_000000672039_00248_17837_1724.N1 </td> <td>0 </td> <td>75 </td></tr>
<tr> <td>ASA_WSM_1PNPDE20050729_223602_000003542039_00259_17848_1871.N1 </td> <td>0 </td> <td>54 </td></tr>
</table>

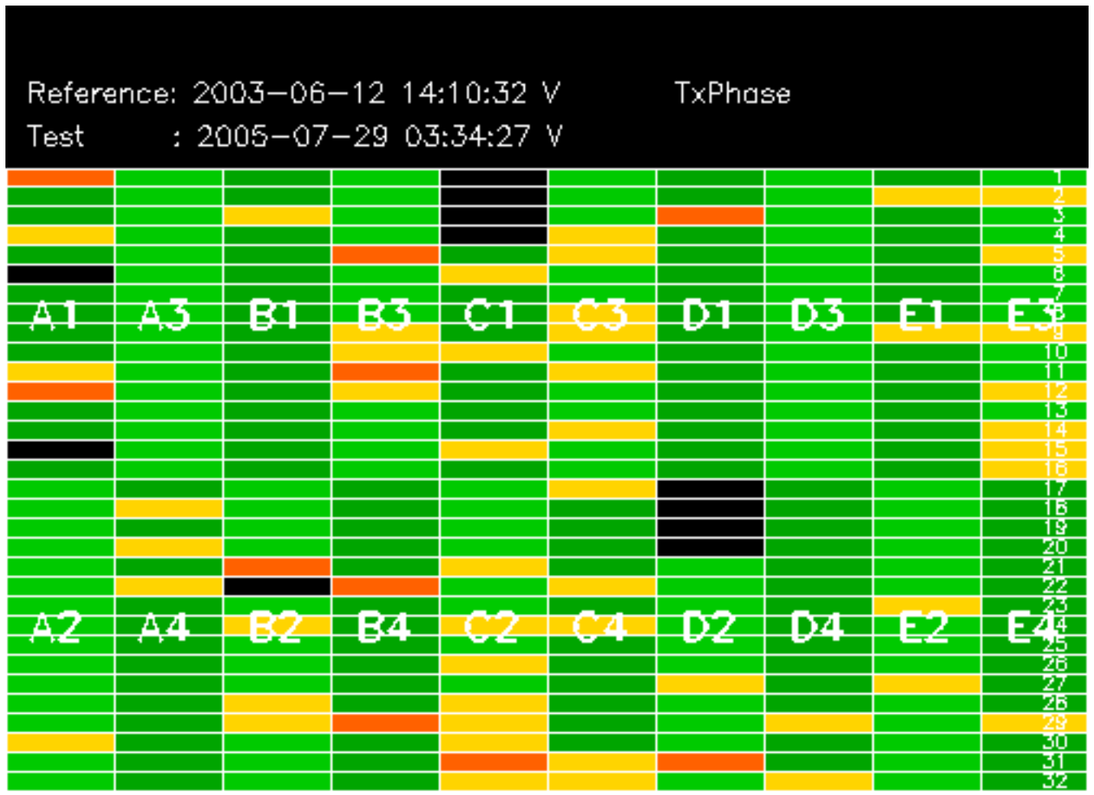

num_gaps
Orbit
1
0.8
0.6
0.4
0.2
0
17700
17750
17800
17850
17900
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK

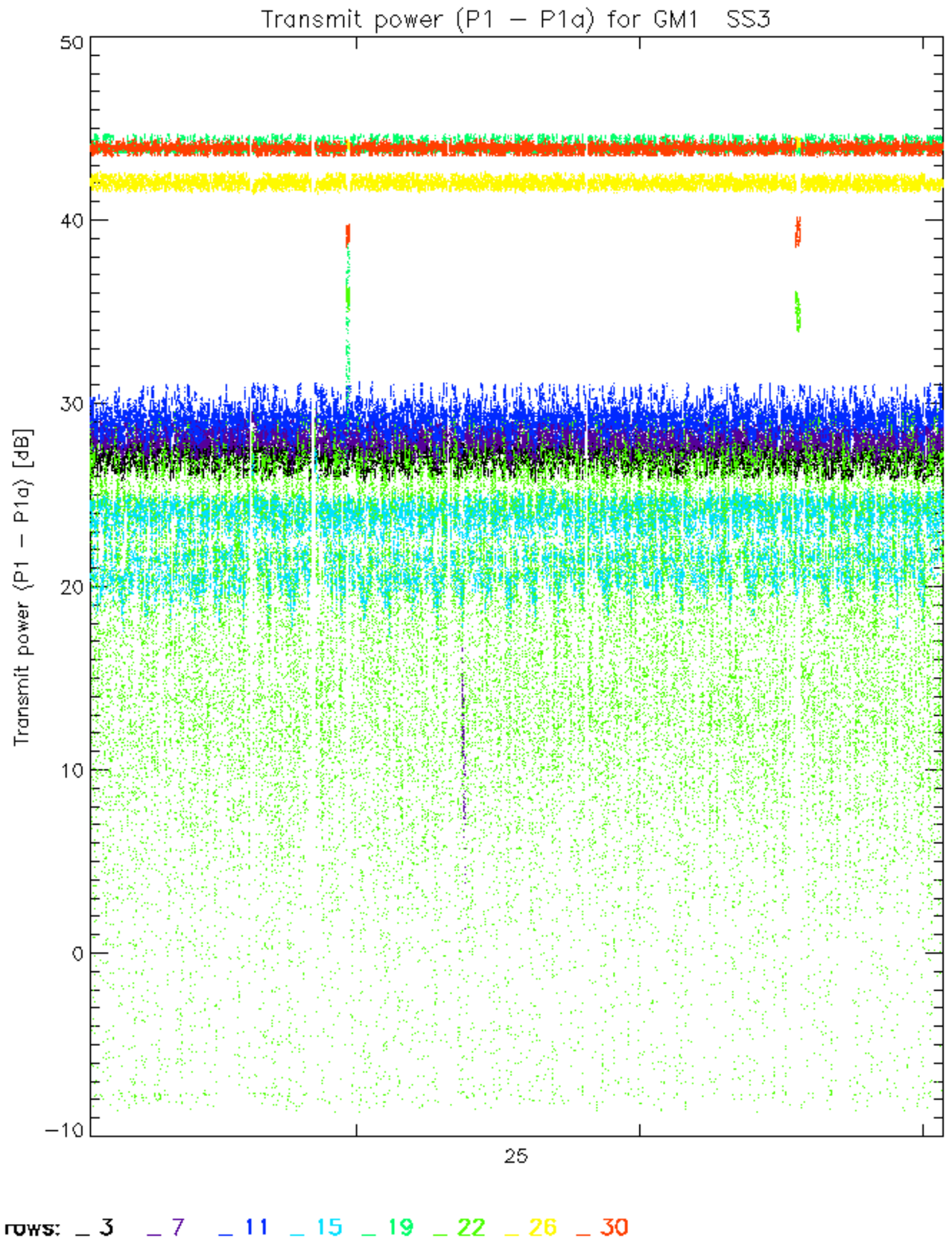

num_missing_lines
80
60
40
20
0
17700
17750
17800
17850
17900
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_GM1_1P_PDK
ASA_WSM_1P_PDE
ASA_WSM_1P_PDK
ASA_APM_1P_PDE
ASA_APM_1P_PDK

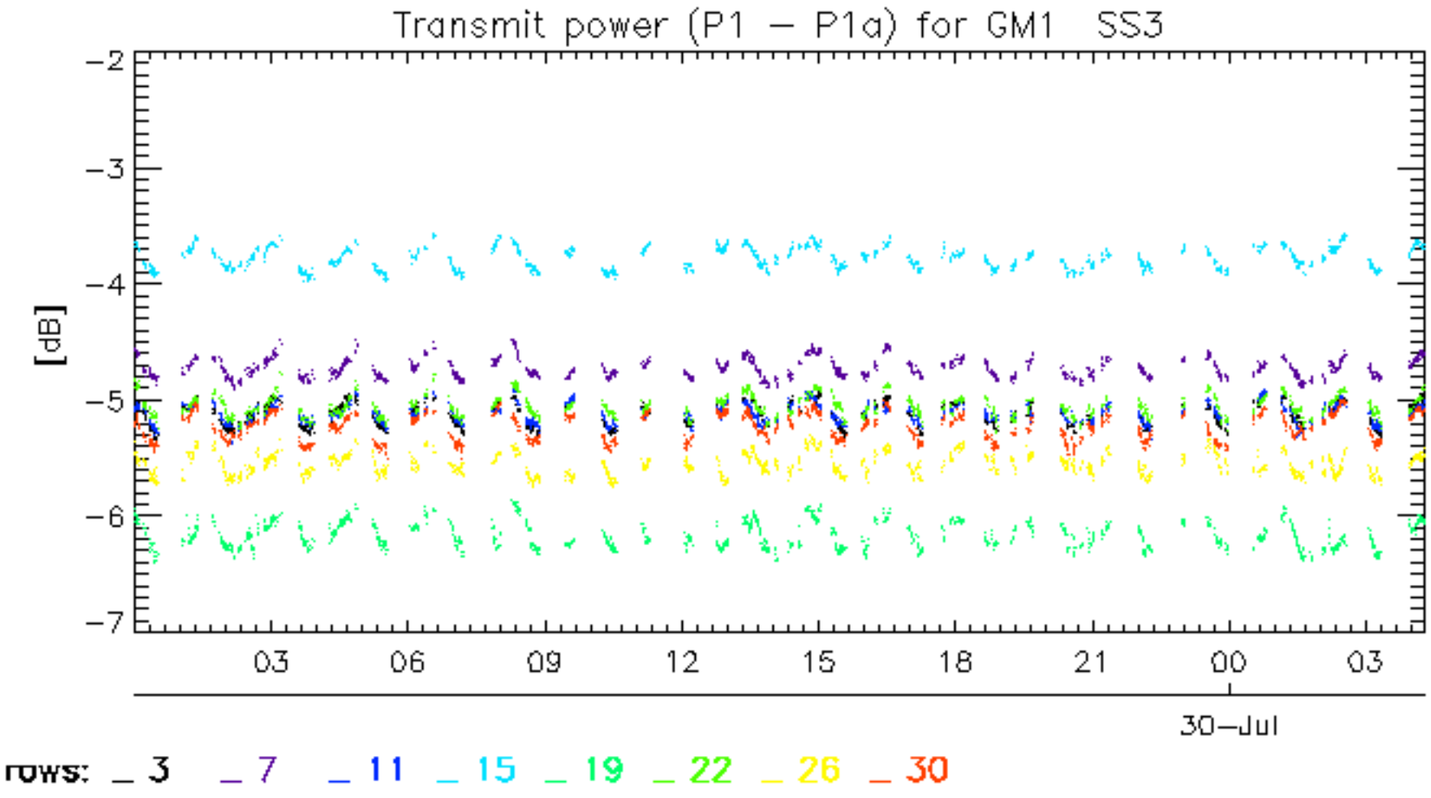

Reference: 2001-02-09 13:50:42 H
Test : 2005-07-28 04:06:04 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

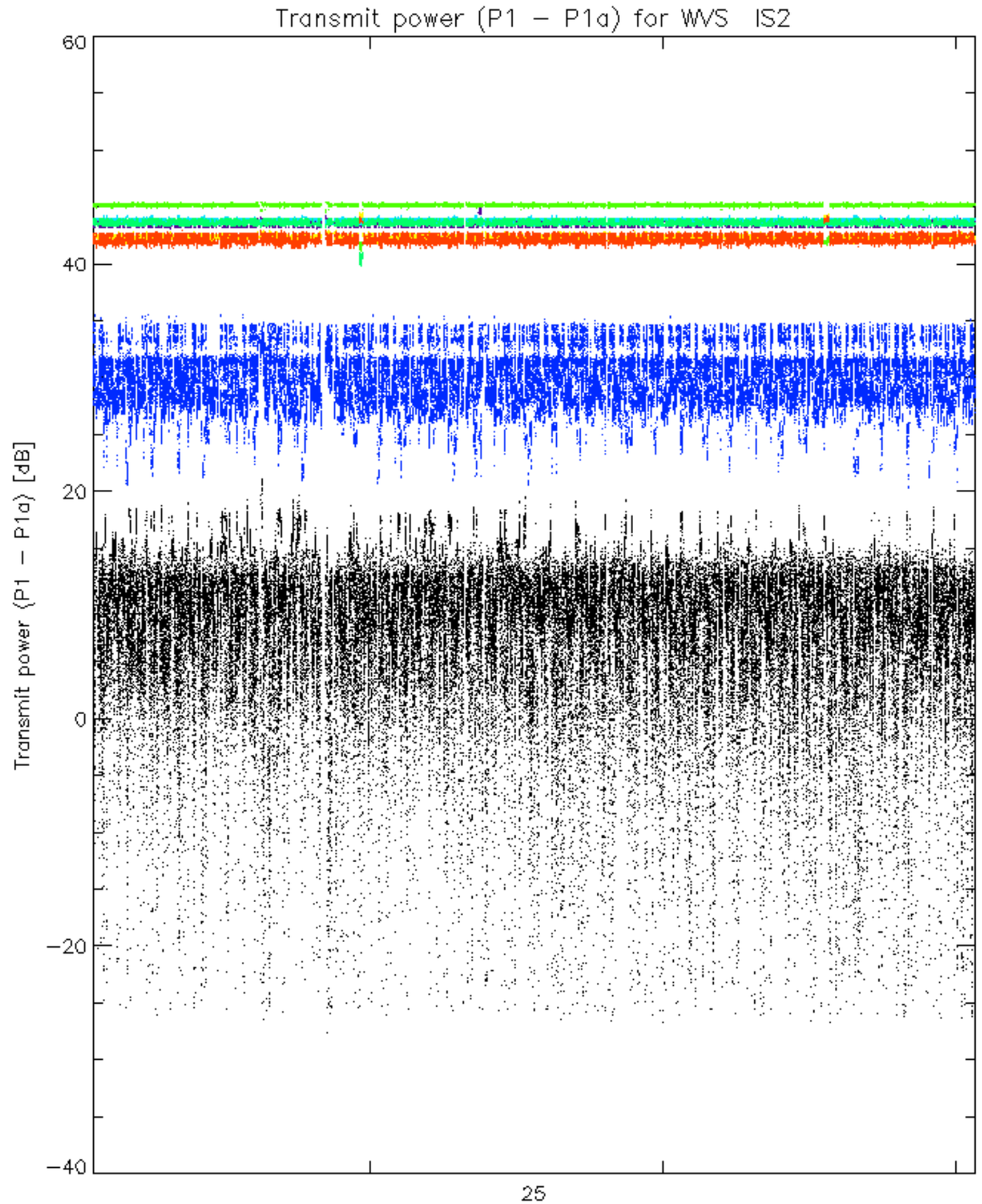

Reference: 2003-06-12 14:08:52 H
Test : 2005-07-28 04:06:04 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

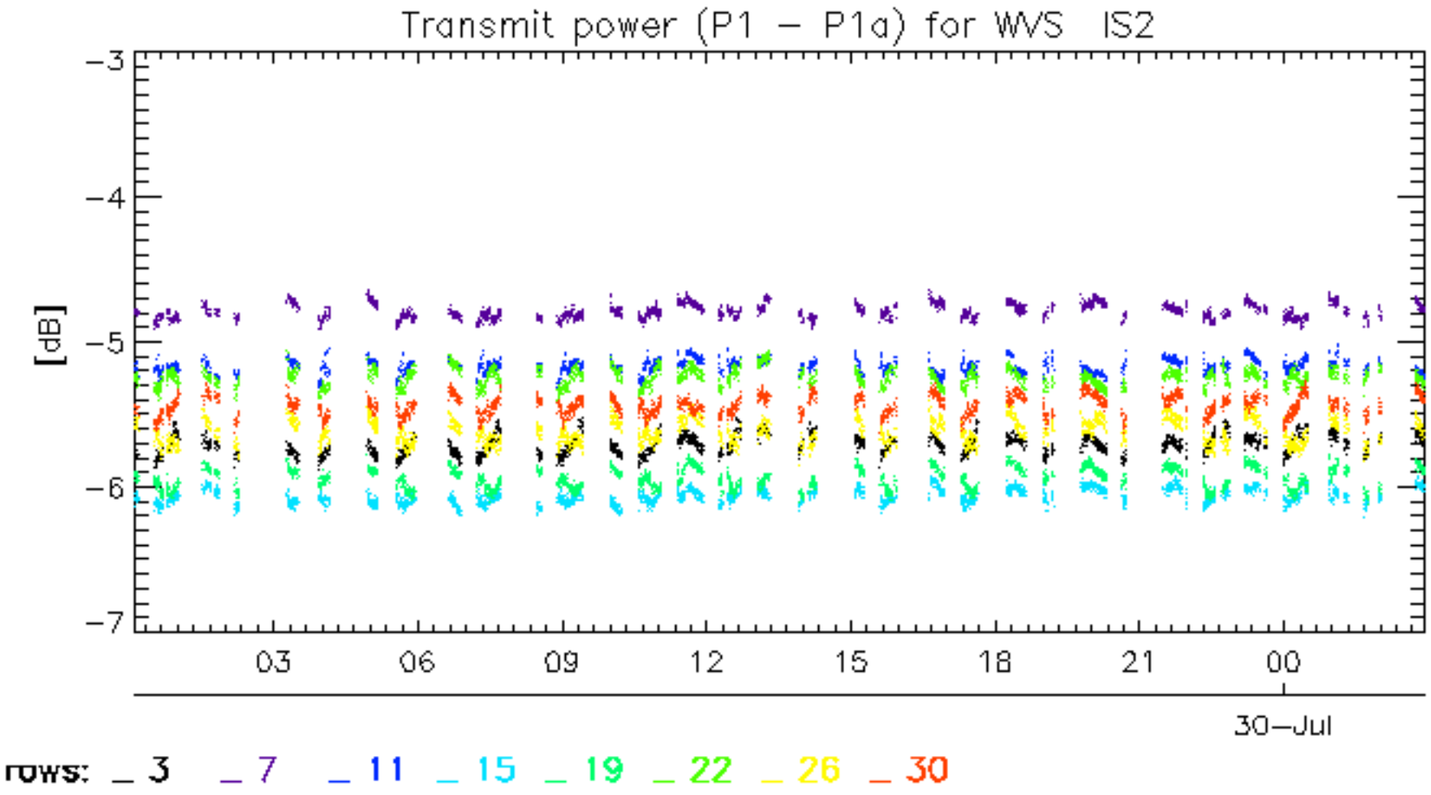

Reference: 2001-02-09 14:08:23 V
Test : 2005-07-29 03:34:27 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:10:32 V
Test : 2005-07-29 03:34:27 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
[dB]
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
30–Jul
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
[dB]
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
30–Jul
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.