PRELIMINARY REPORT OF 061028

last update on Sat Oct 28 11:10:14 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 2006-10-27 00:00:00 to 2006-10-28 11:10:14

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	8	26	6	2	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	8	26	6	2	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	8	26	6	2	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	8	26	6	2	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	10	17	14	3	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	10	17	14	3	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	10	17	14	3	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	10	17	14	3	0

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	20061027 033423
H	20061026 040600

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
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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	-3.951419	0.009978	-0.019989
7	P1	-3.091383	0.014646	-0.059651
11	P1	-4.101612	0.024525	-0.041132
15	P1	-6.221197	0.015464	-0.076905
19	P1	-3.583988	0.073342	-0.147863
22	P1	-4.641826	0.144193	-0.186624
26	P1	-4.005380	0.139164	-0.088069
30	P1	-5.884240	0.256709	-0.158381
3	P1	-16.595844	0.215333	0.124741
7	P1	-17.135580	0.160318	-0.067420
11	P1	-17.039135	0.408366	-0.185975
15	P1	-12.890146	0.109527	-0.195743
19	P1	-14.763126	0.397739	-0.412096
22	P1	-15.649553	0.490579	-0.135480
26	P1	-15.088532	0.257305	0.026795
30	P1	-17.036583	0.654929	-0.339058

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.830414	0.088024	-0.031454
7	P2	-21.758781	0.097175	0.060782
11	P2	-15.711571	0.109674	0.078433
15	P2	-7.078467	0.108869	-0.035885
19	P2	-9.135510	0.101270	-0.058480
22	P2	-18.154810	0.095770	-0.085734
26	P2	-16.444702	0.105953	-0.092965
30	P2	-19.465658	0.093085	-0.020039

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.205308	0.007091	-0.037373
7	P3	-8.205308	0.007091	-0.037373
11	P3	-8.205308	0.007091	-0.037373
15	P3	-8.205308	0.007091	-0.037373
19	P3	-8.205308	0.007091	-0.037373
22	P3	-8.205308	0.007091	-0.037373
26	P3	-8.205207	0.007102	-0.037473
30	P3	-8.205934	0.007131	-0.038736

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	-3.935820	0.271397	0.158829
7	P1	-2.677018	1.746463	0.672480
11	P1	-2.924140	0.209878	0.282734
15	P1	-3.711645	0.183206	0.297575
19	P1	-3.528216	0.222200	-0.467931
22	P1	-5.081078	0.160658	-0.223660
26	P1	-6.008202	0.427048	-0.683036
30	P1	-5.297053	0.272795	-0.533312
3	P1	-11.780448	0.659776	0.447933
7	P1	-10.221168	2.205172	0.887113
11	P1	-10.478228	0.573745	0.690594
15	P1	-10.956229	0.737363	1.042572
19	P1	-15.801053	4.069586	-2.099904
22	P1	-21.019991	1.739884	-1.011744
26	P1	-15.863968	0.506818	-0.778658
30	P1	-18.030565	0.612479	0.641570

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.342249	0.379239	-0.539429
7	P2	-21.940548	2.247997	-1.320564
11	P2	-10.839032	0.327199	-0.460277
15	P2	-4.897585	0.037220	-0.285370
19	P2	-6.876830	0.076574	-0.243293
22	P2	-8.273331	0.688495	0.108366
26	P2	-24.077784	1.757795	-0.957170
30	P2	-21.832872	0.882254	-0.521391

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.061702	0.003077	-0.080385
7	P3	-8.061589	0.003055	-0.079939
11	P3	-8.061432	0.003046	-0.079793
15	P3	-8.061584	0.003051	-0.079307
19	P3	-8.061573	0.003041	-0.079778
22	P3	-8.061319	0.003045	-0.079748
26	P3	-8.061197	0.003024	-0.084111
30	P3	-8.061255	0.003030	-0.082839

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	0.000563110
	stdev	1.65264e-07
MEAN Q	mean	0.000522009
	stdev	2.15861e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138480
	stdev	0.00112172
STDEV Q	mean	0.138857
	stdev	0.00113977

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2006102[678]
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

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

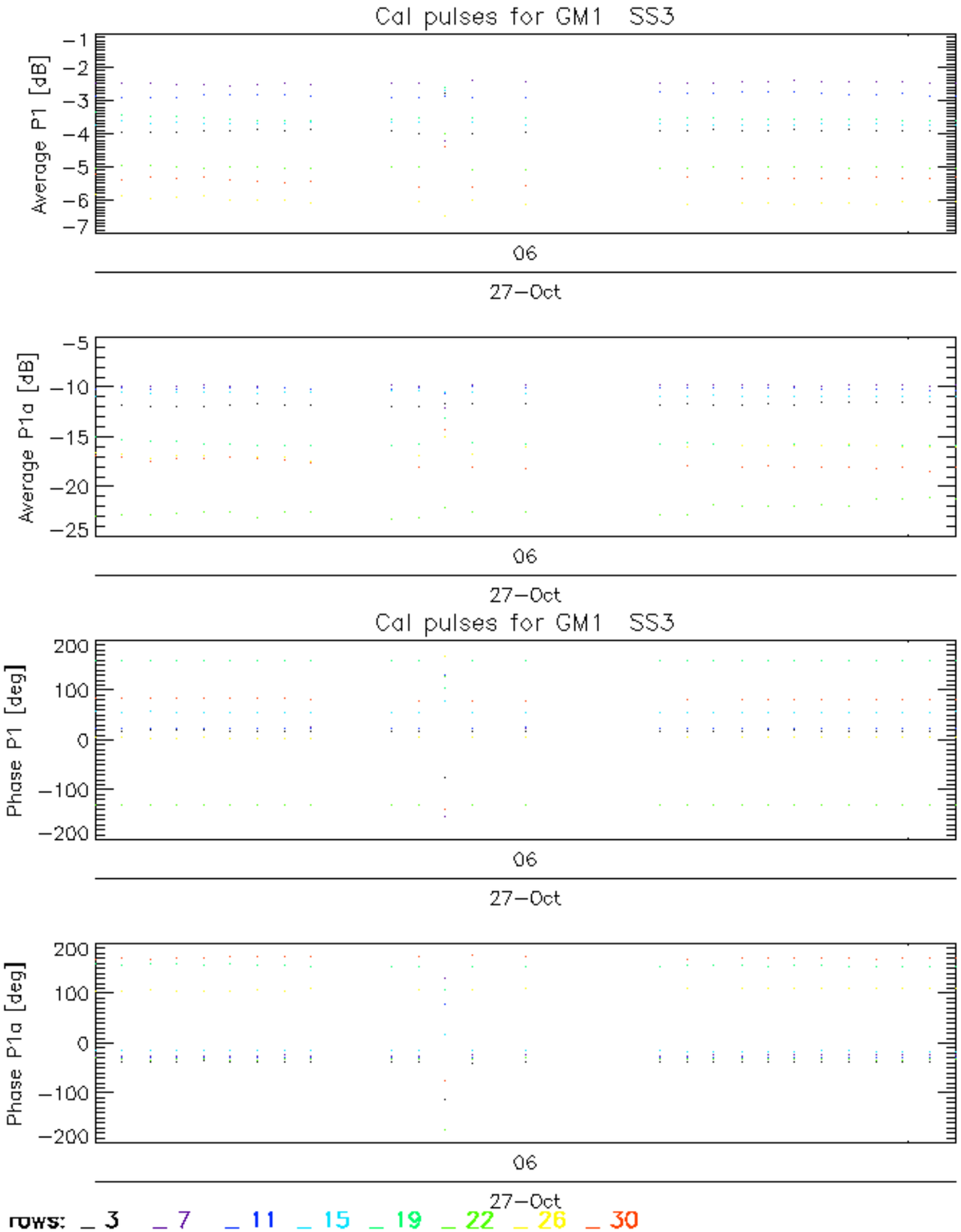
7.4 - Unbiased Doppler Error for GM1

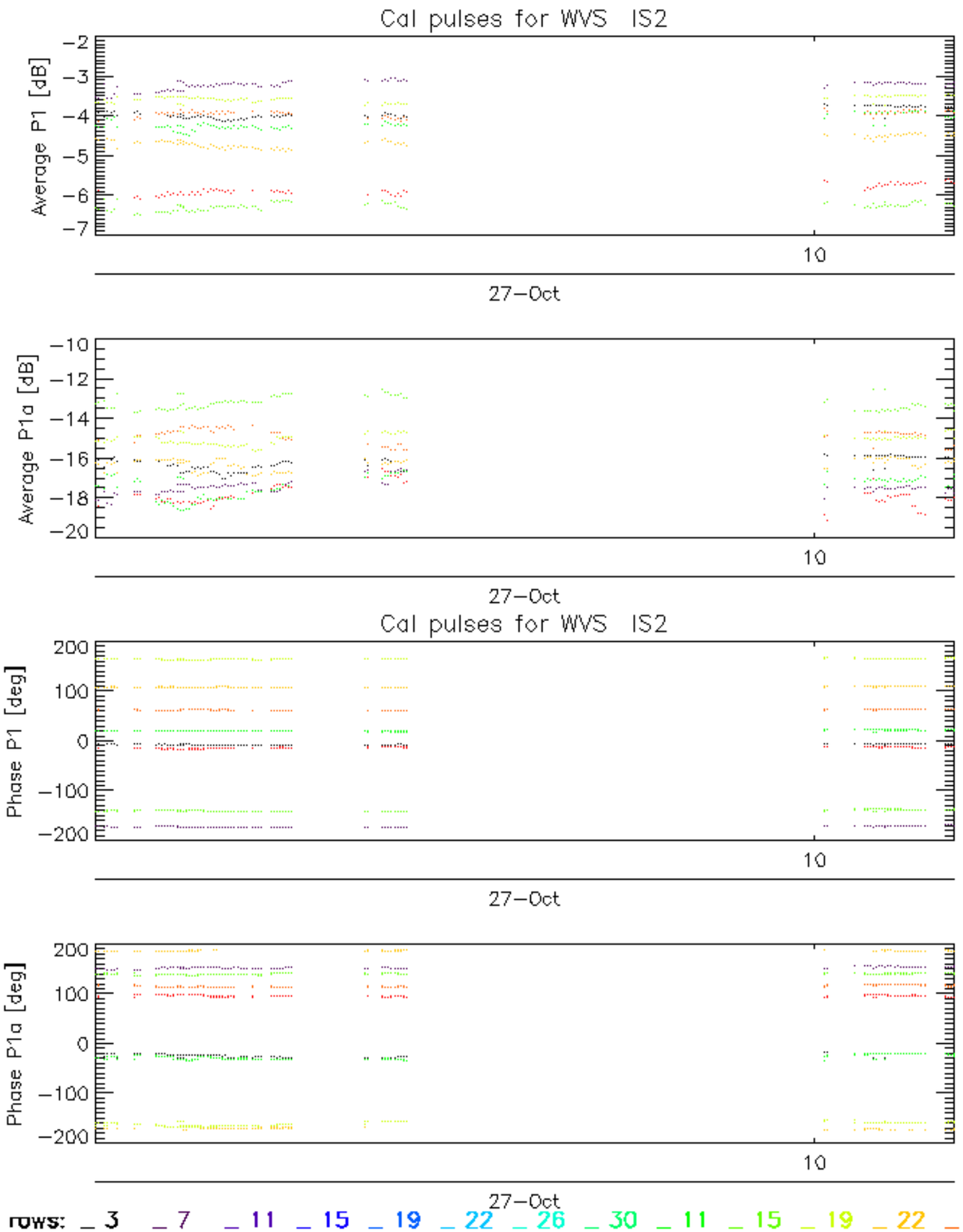
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

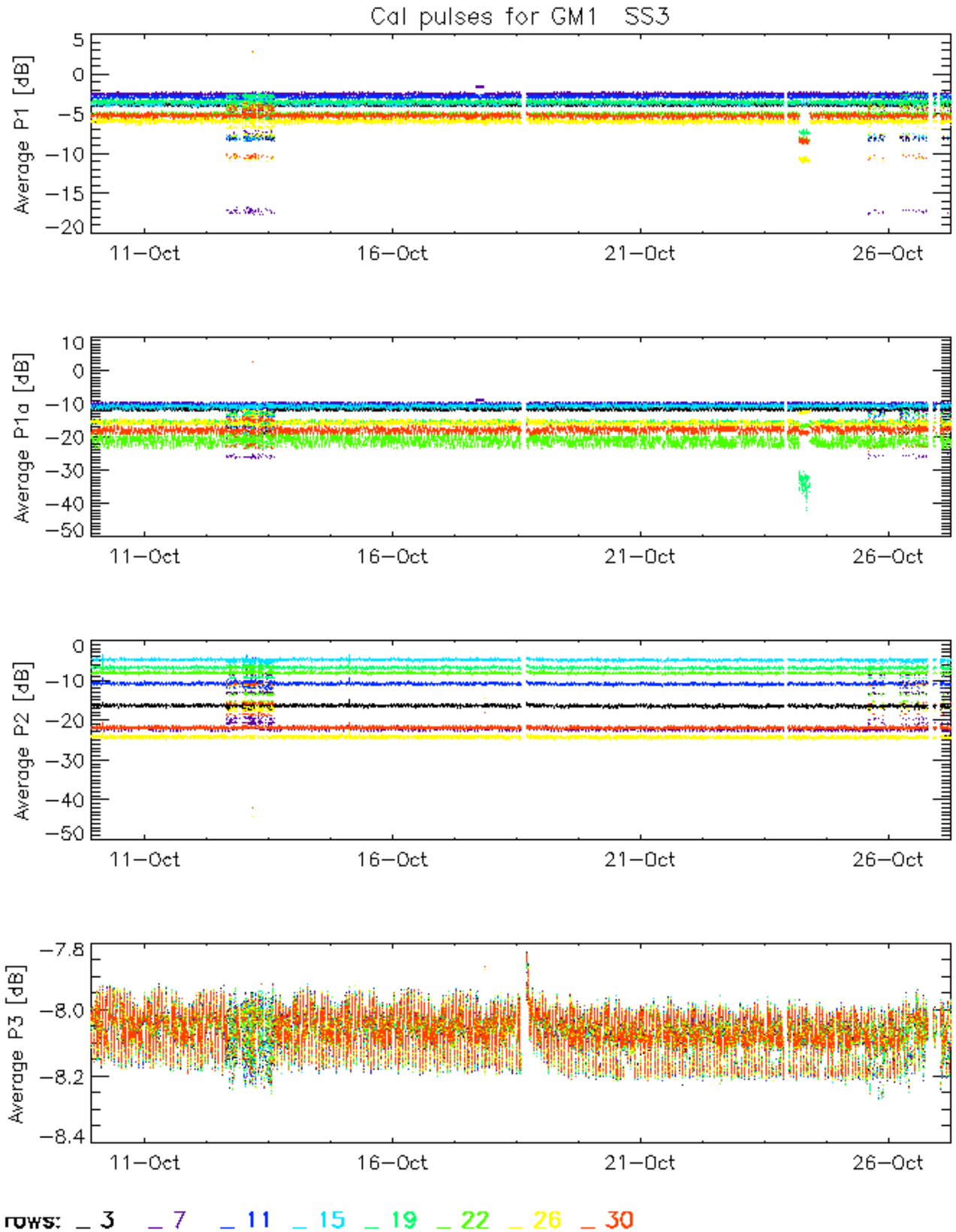
7.5 - Absolute Doppler for GM1

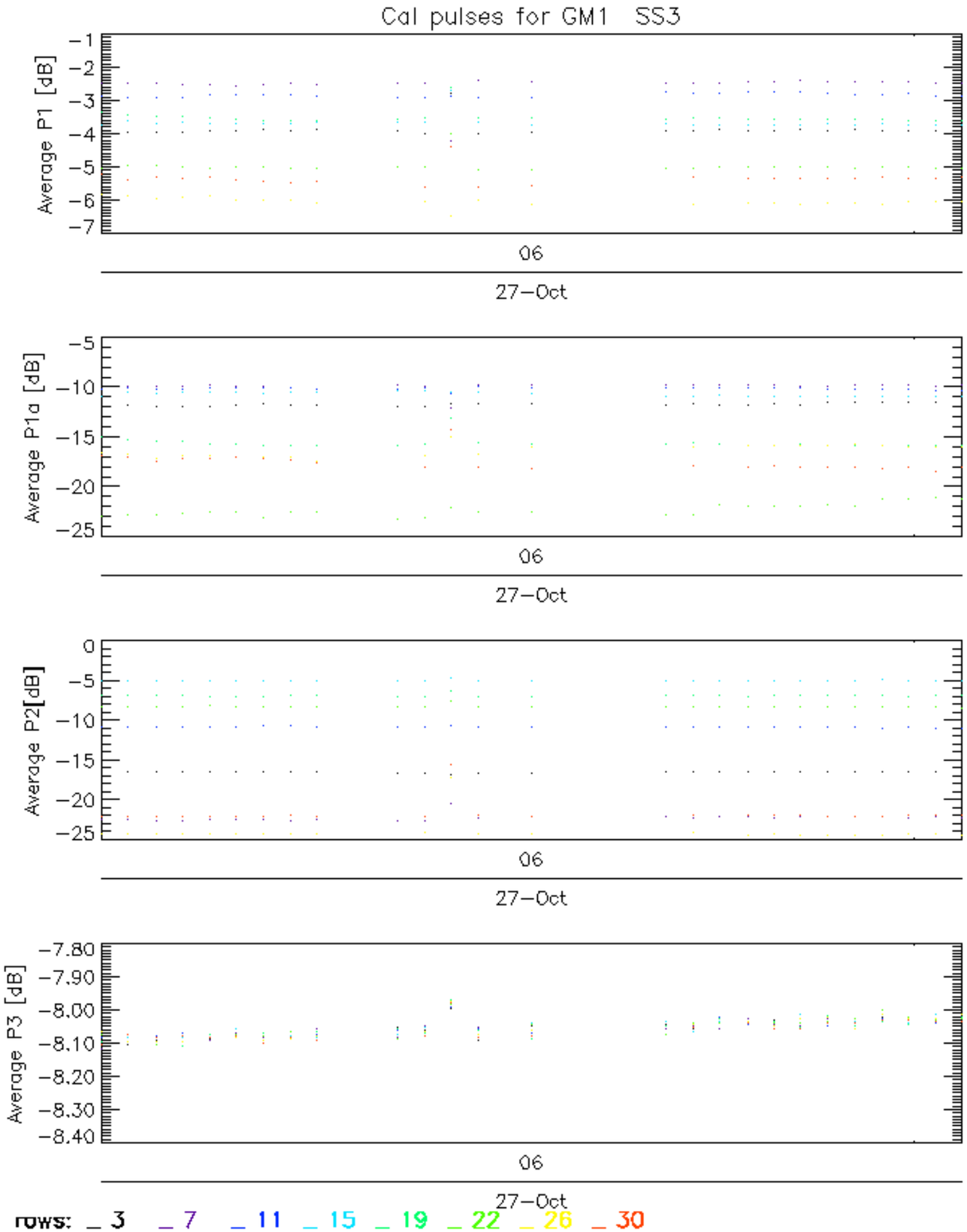
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

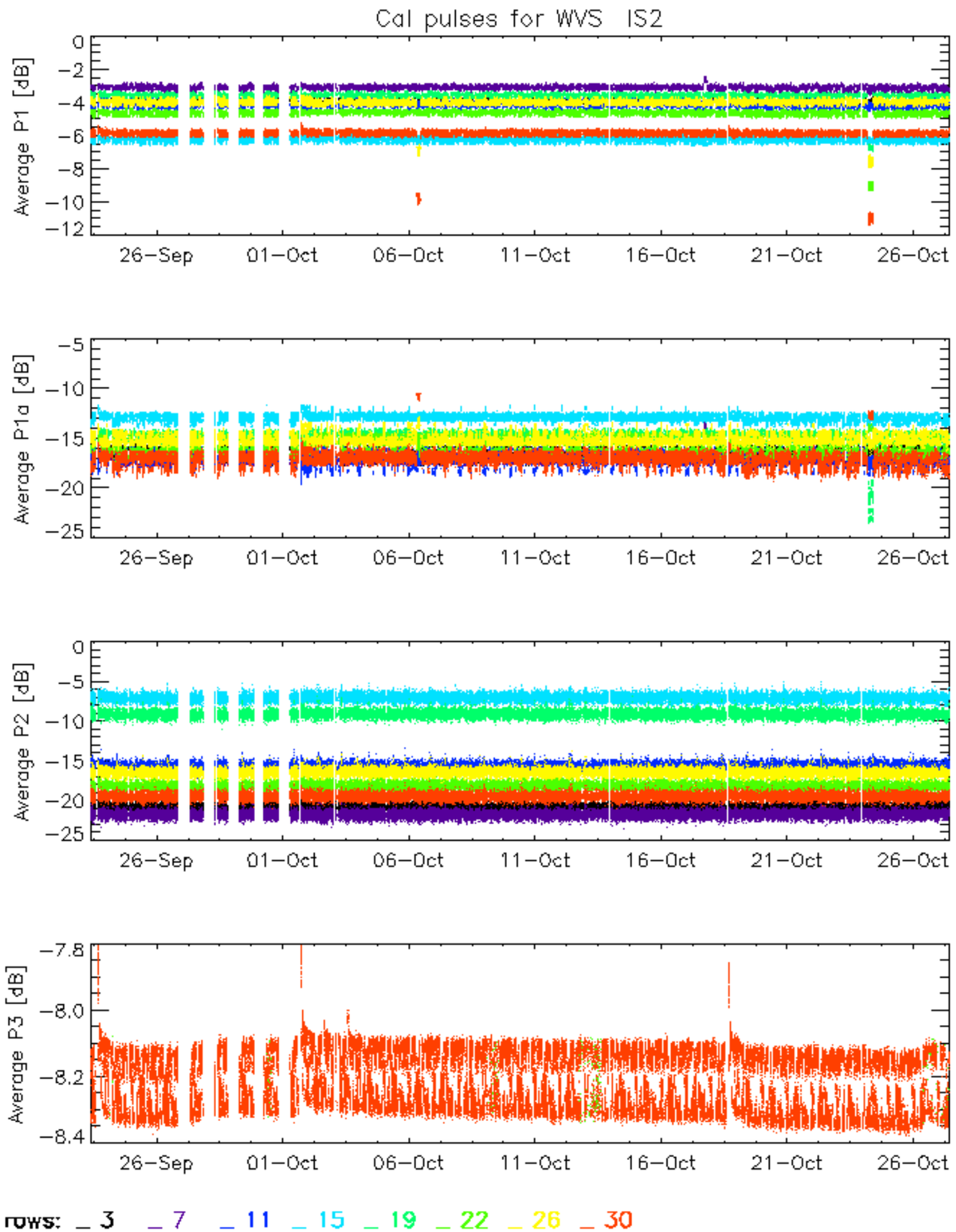
7.6 - Doppler evolution versus ANX for GM1

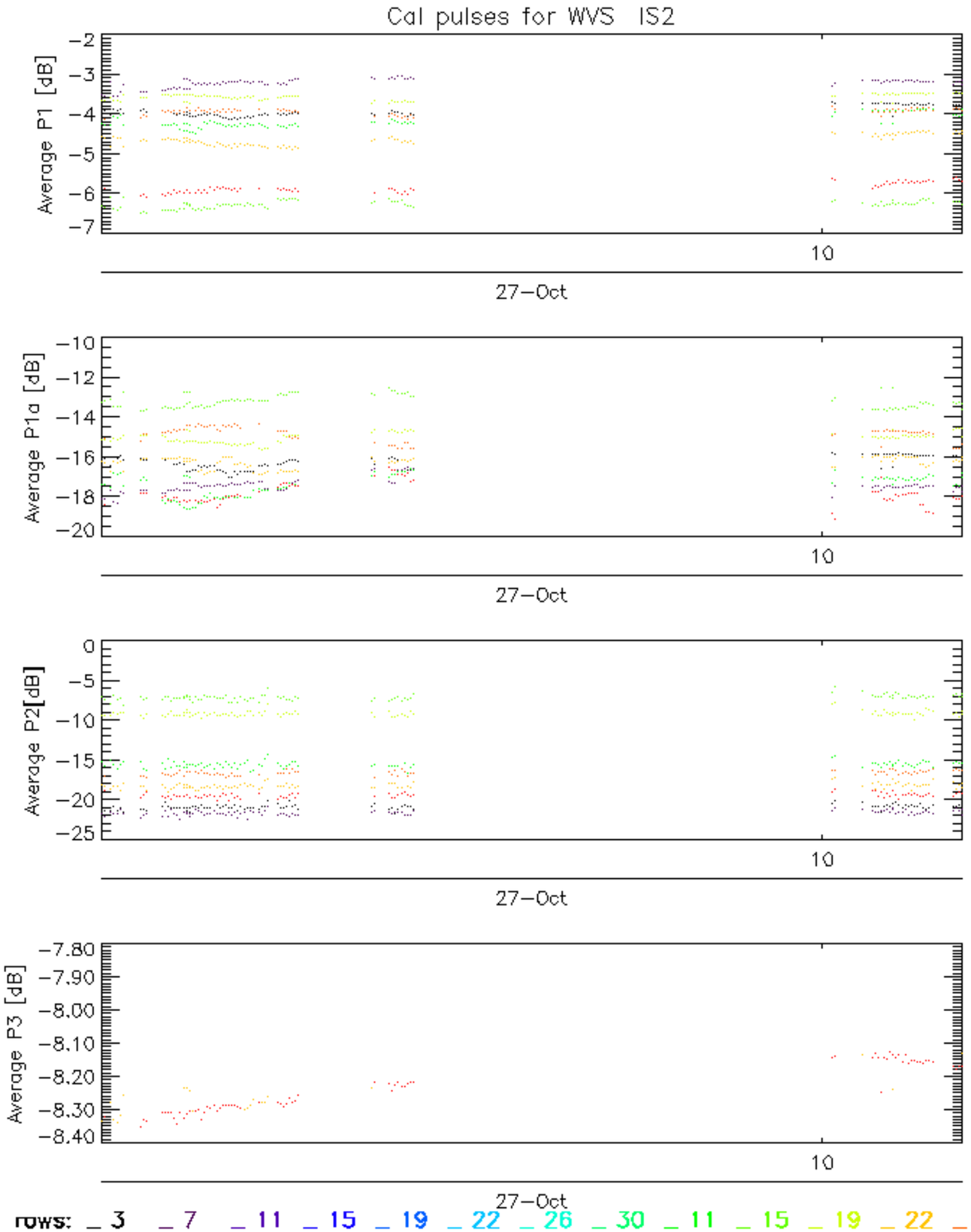

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
06
27−Oct
Average P1a [dB]
−5
−10
−15
−20
−25
06
27−Oct
Cal pulses for GM1 SS3
Phase P1 [deg]
200
100
0
−100
−200
06
27−Oct
Phase P1a [deg]
200
100
0
−100
−200
06
27−Oct
rows: 3 7 11 15 19 22 26 30


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

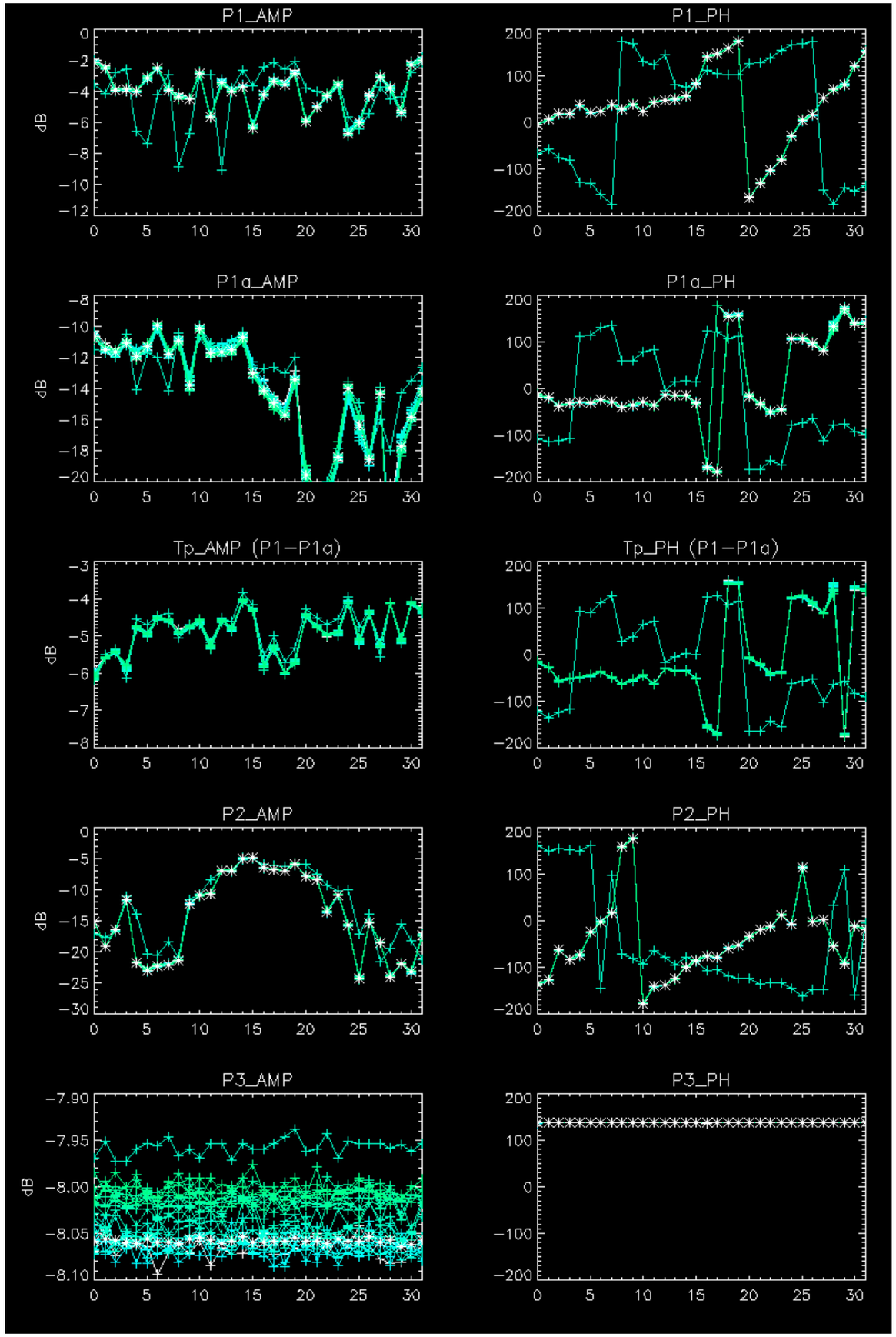

Cal pulses for GM1 SS3
Average P1 [dB]
5
0
−5
−10
−15
−20
11−Oct
16−Oct
21−Oct
26−Oct
Average P1a [dB]
10
0
−10
−20
−30
−40
−50
Average P2 [dB]
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: 3 7 11 15 19 22 26 30

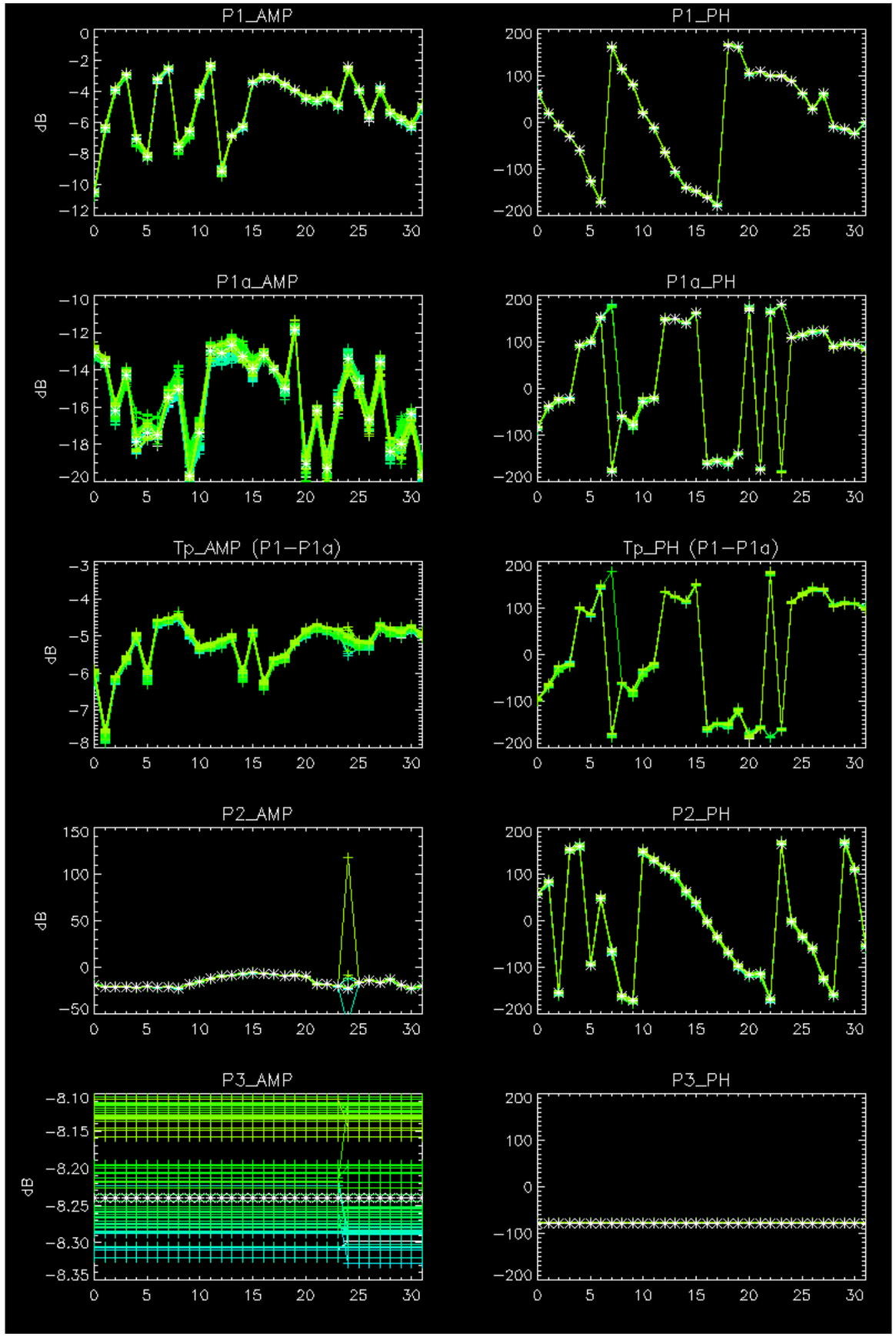

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
06
27−Oct
Average P1a [dB]
−5
−10
−15
−20
−25
06
27−Oct
Average P2[dB]
0
−5
−10
−15
−20
−25
06
27−Oct
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
06
27−Oct
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


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

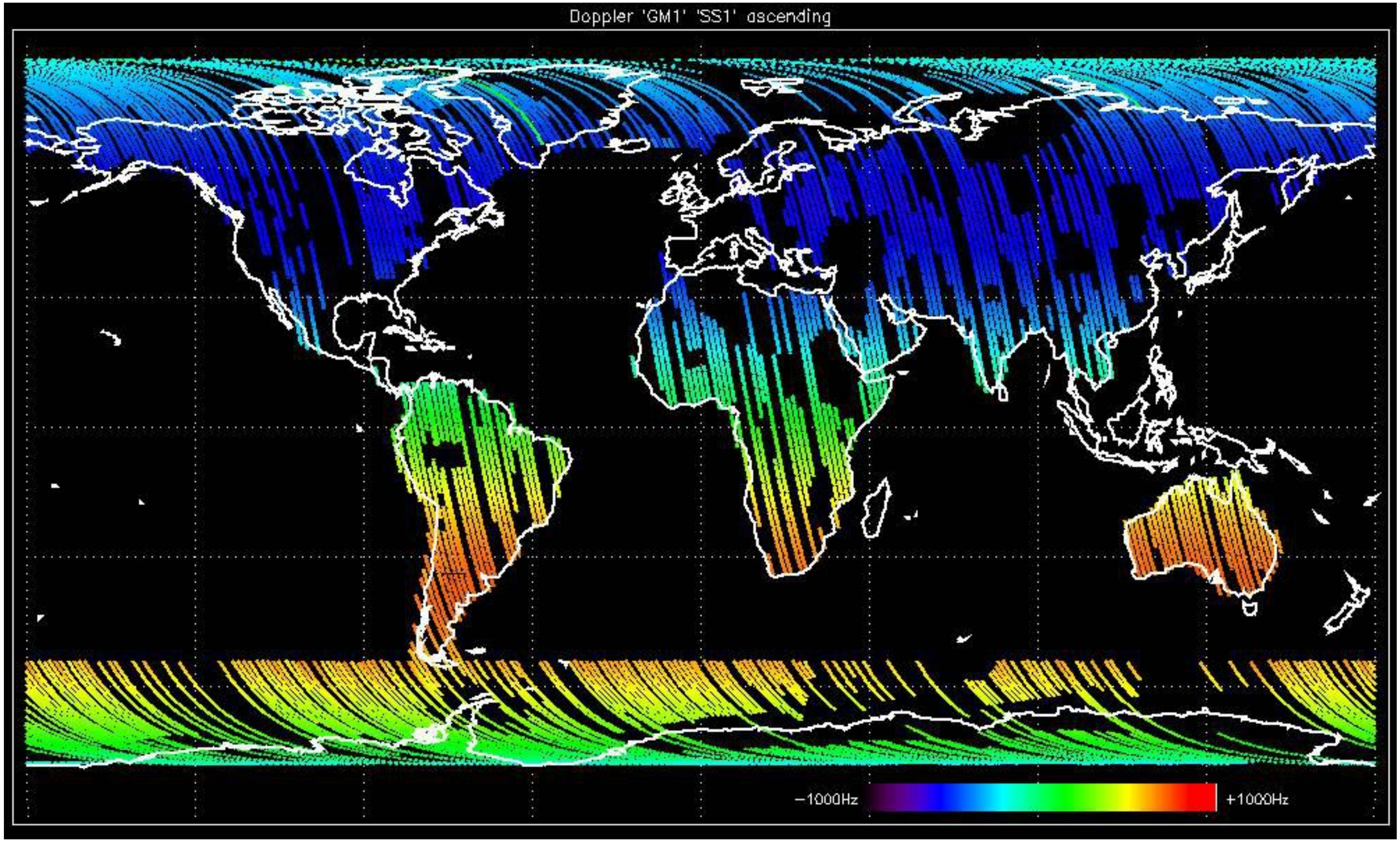
No anomalies observed.

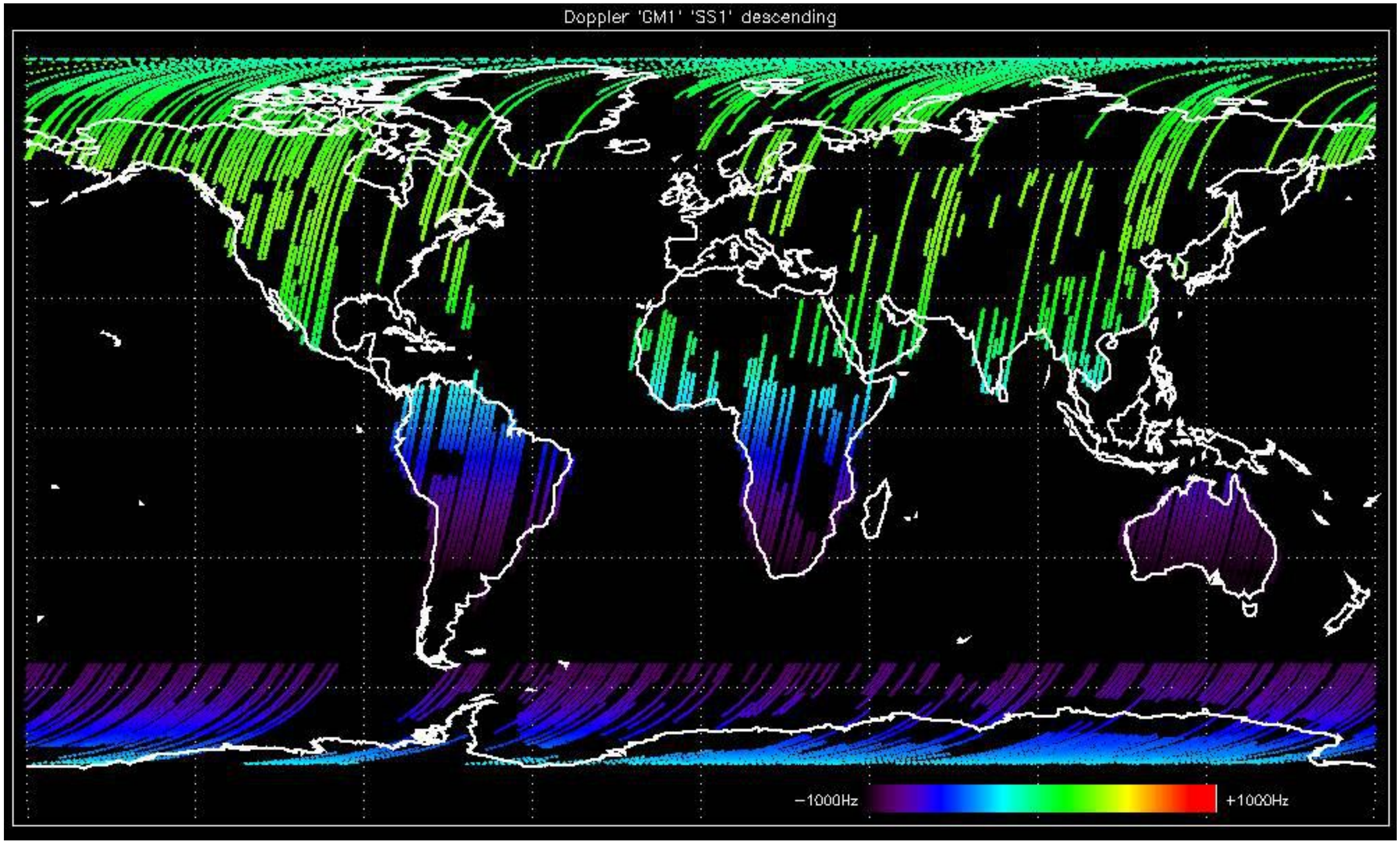

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

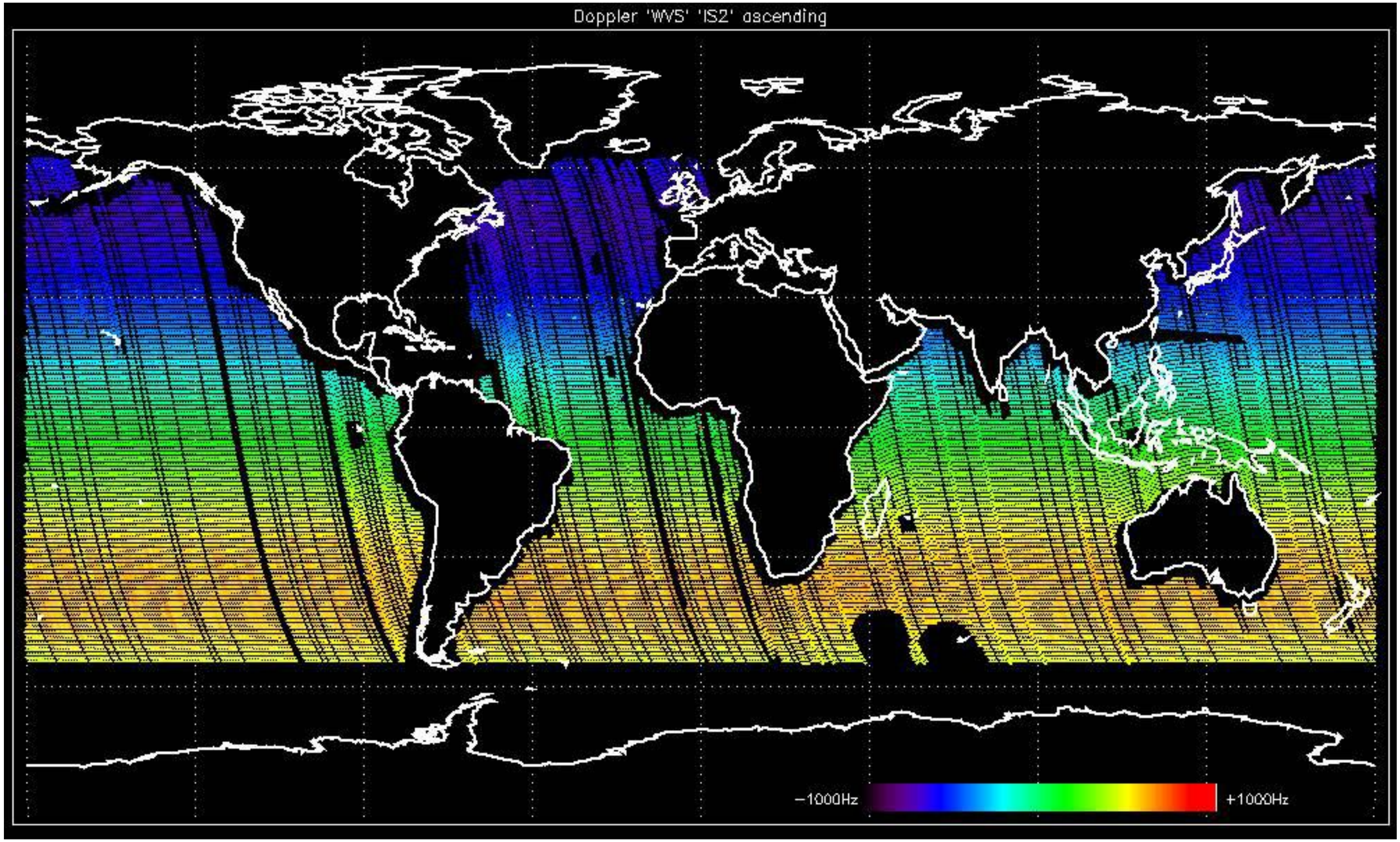

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

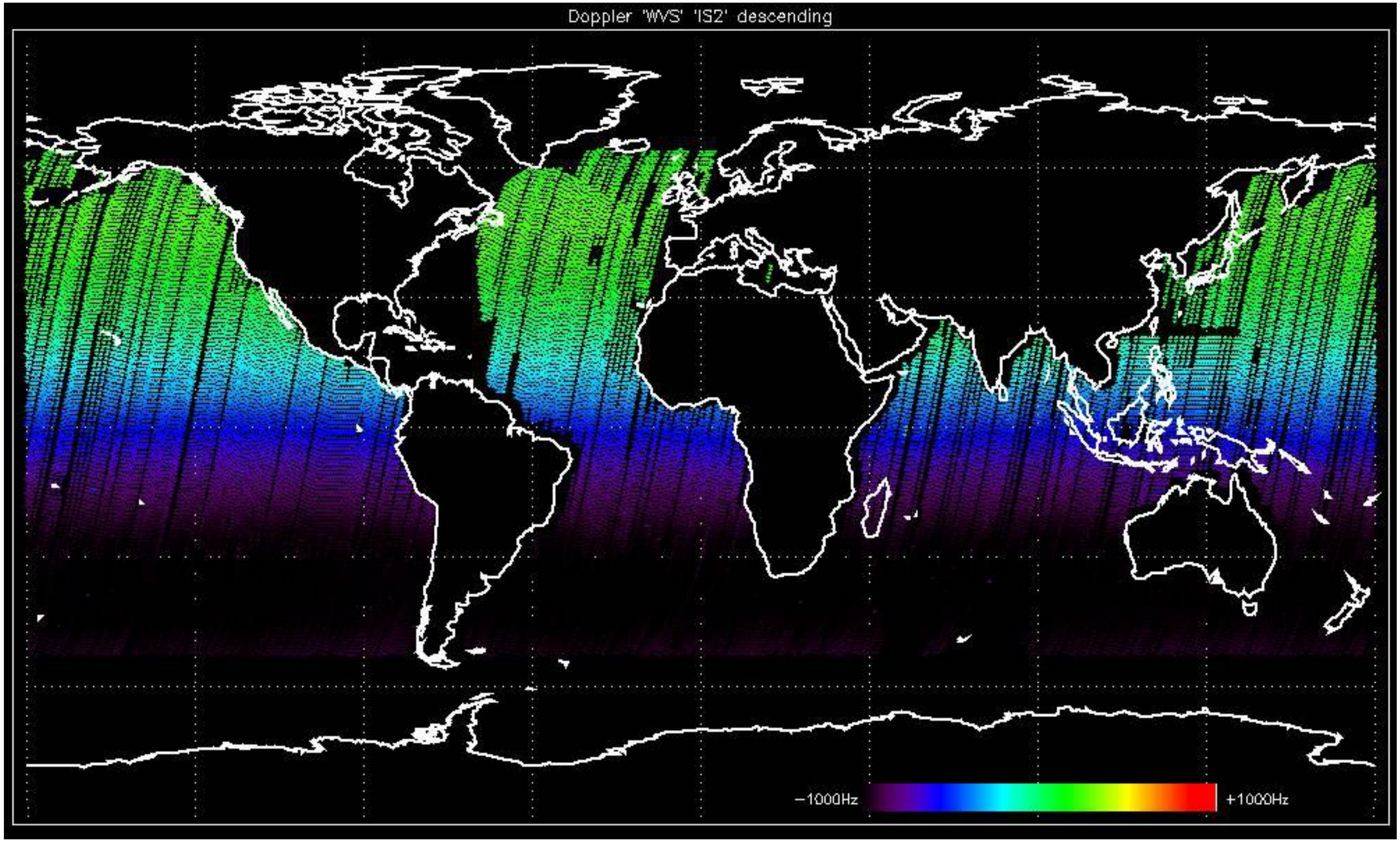
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

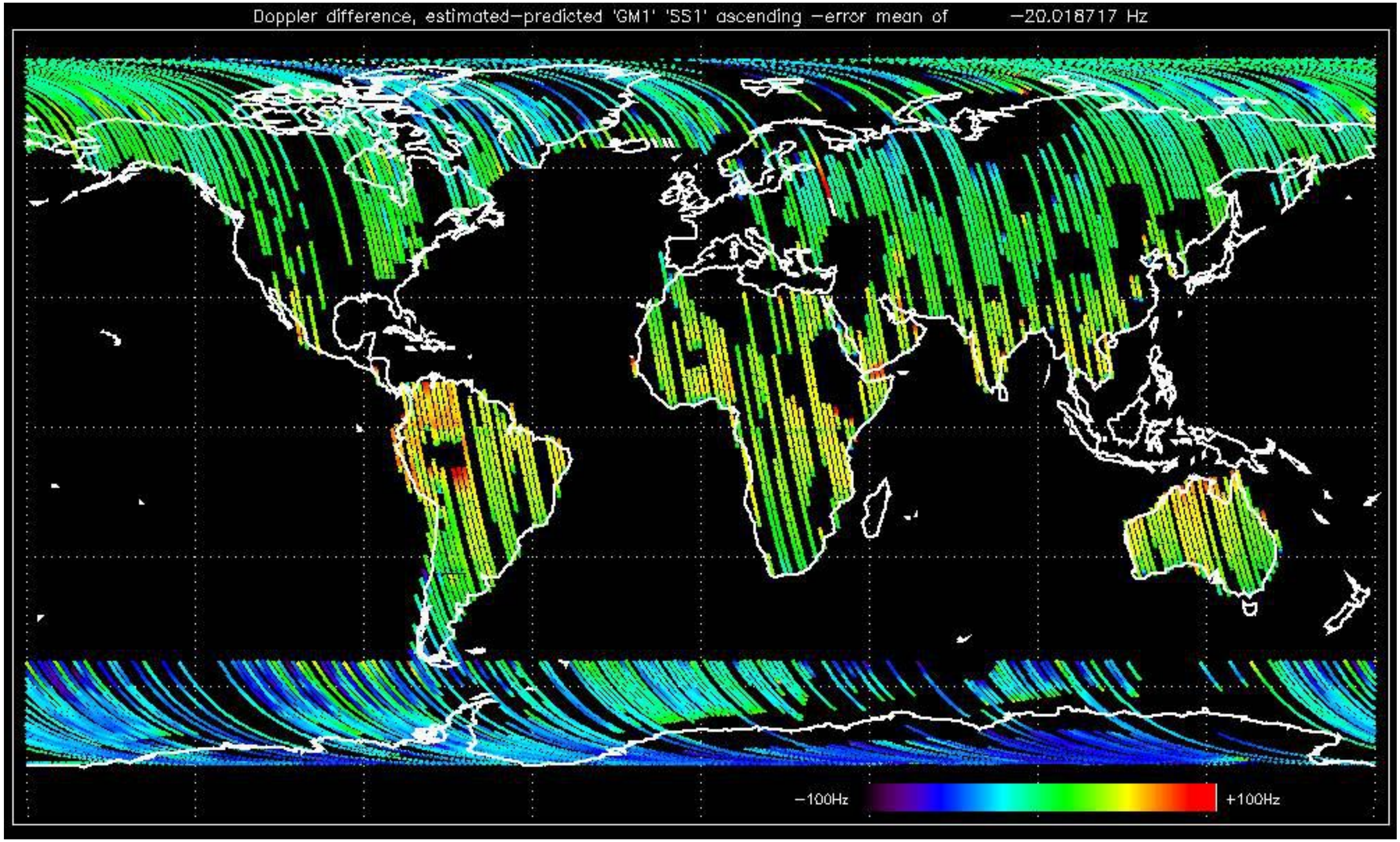
Preliminary report.The data is not yet controled

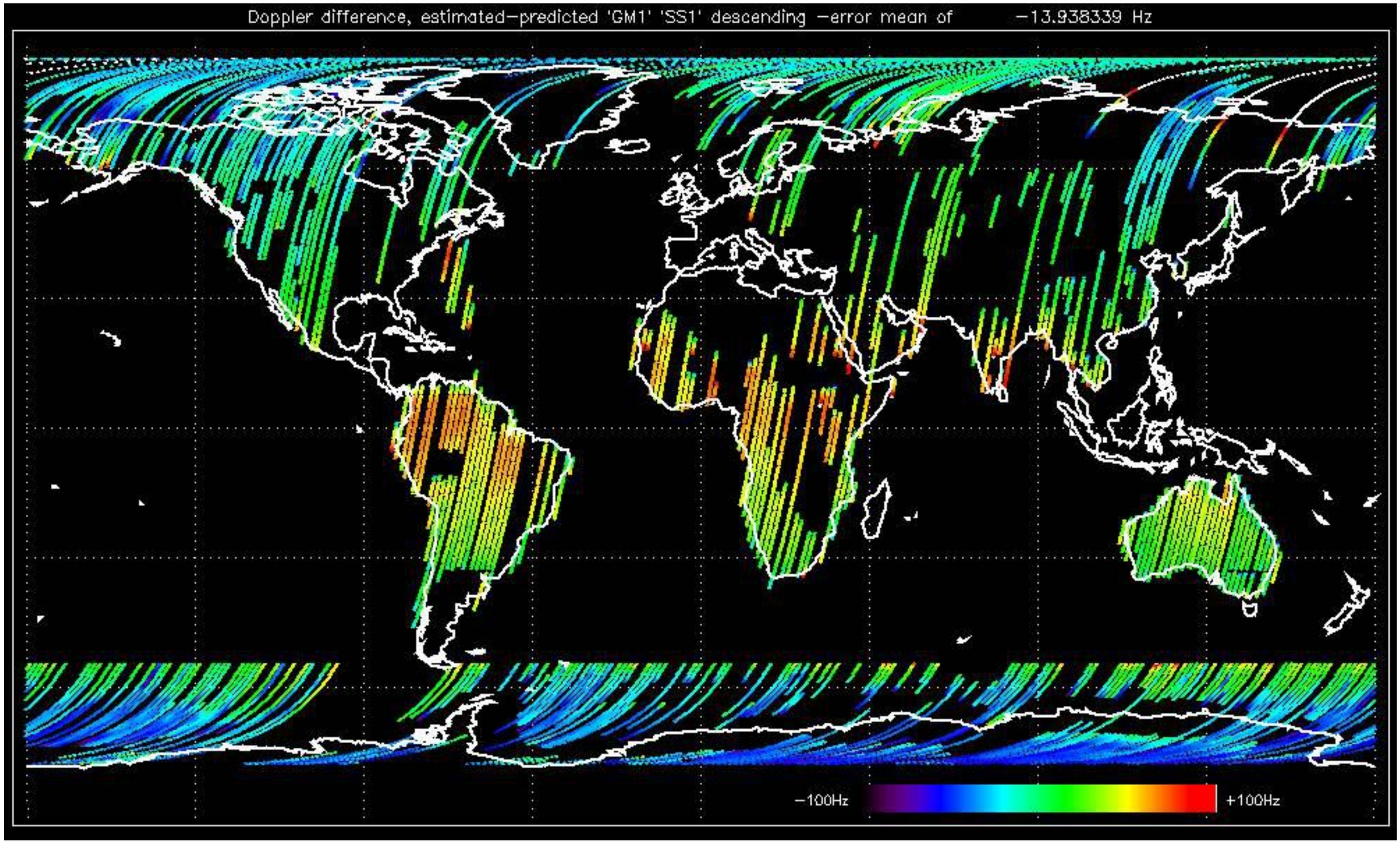

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

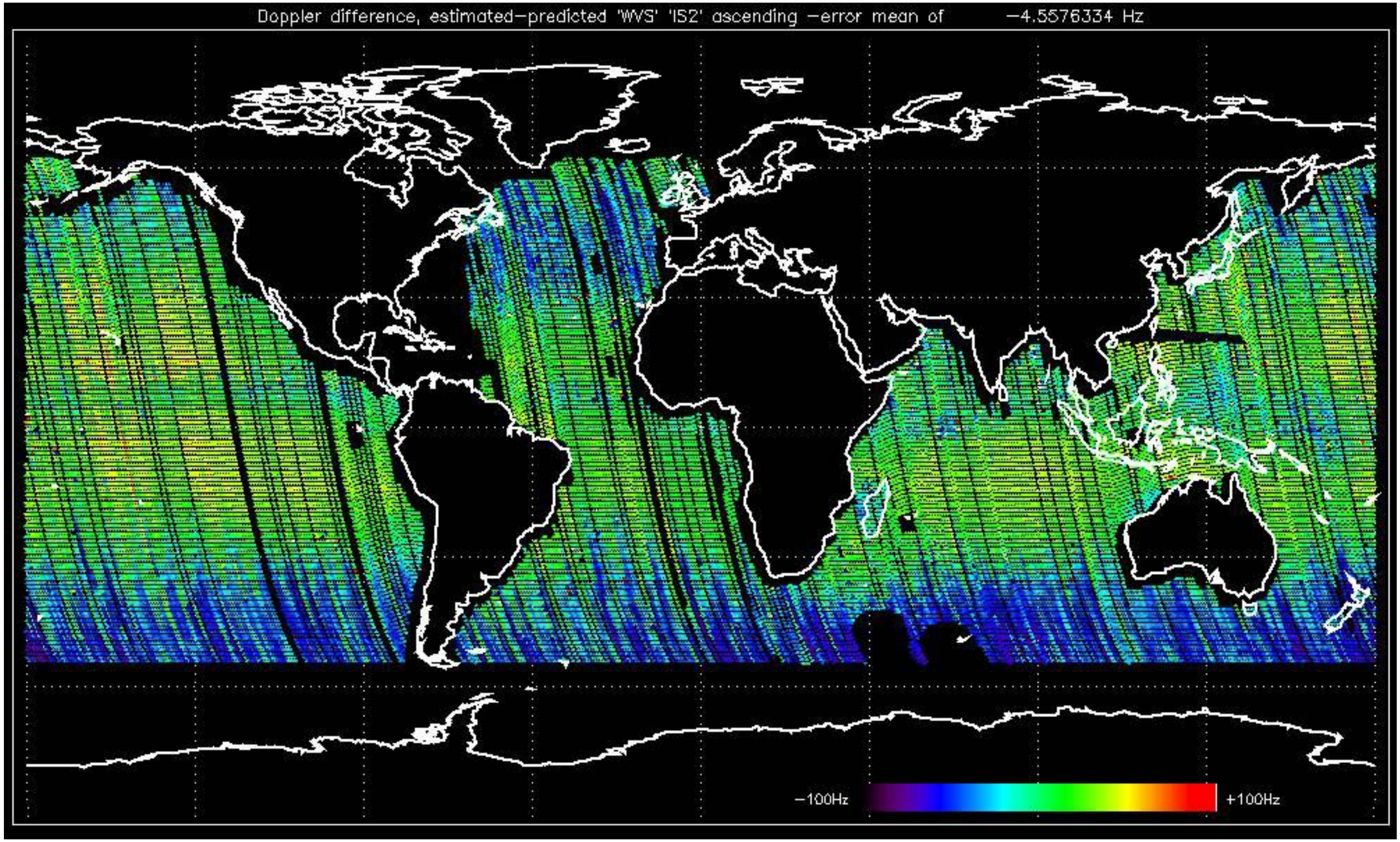

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

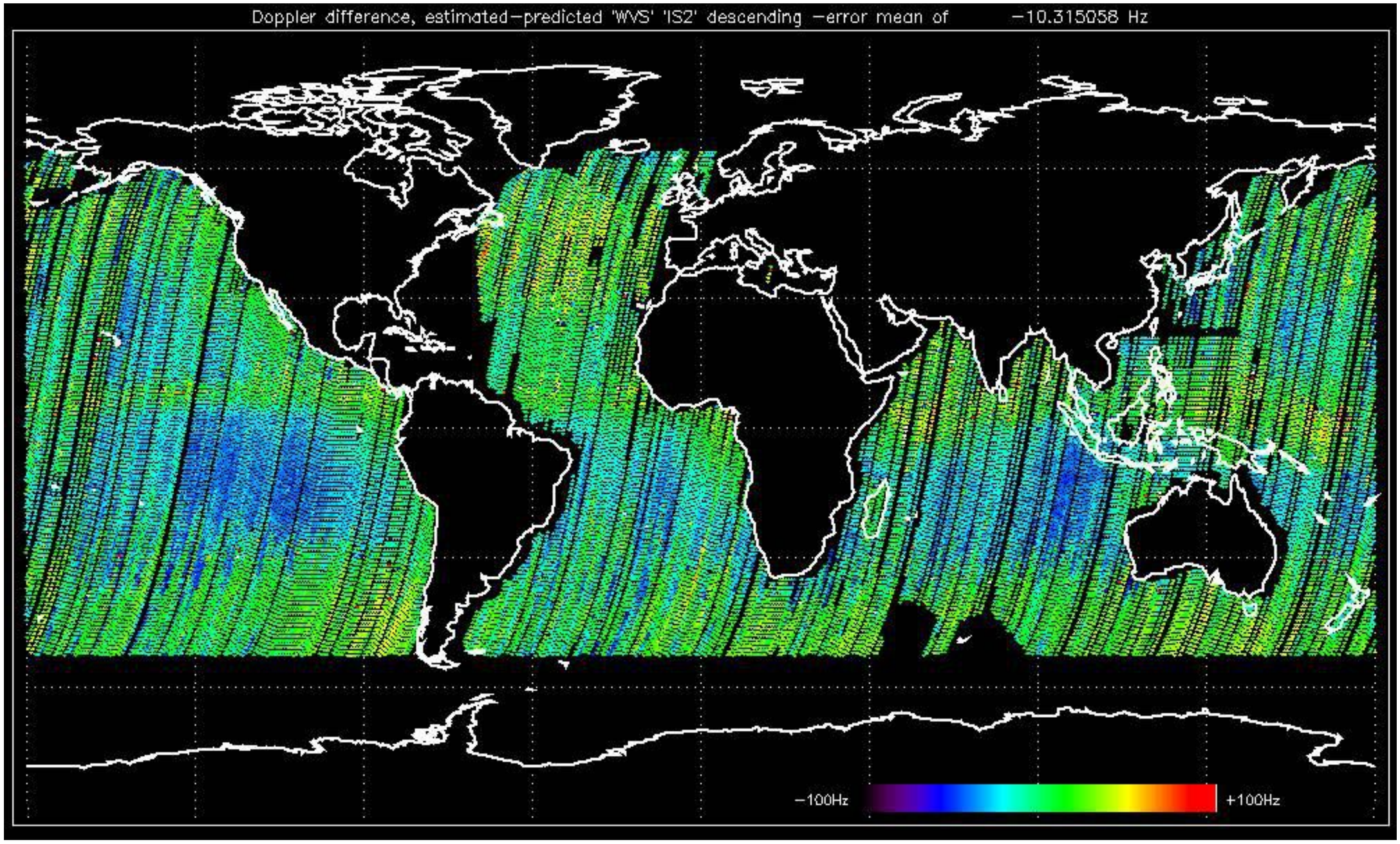

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz


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


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −20.018717 Hz
−100Hz
+100Hz

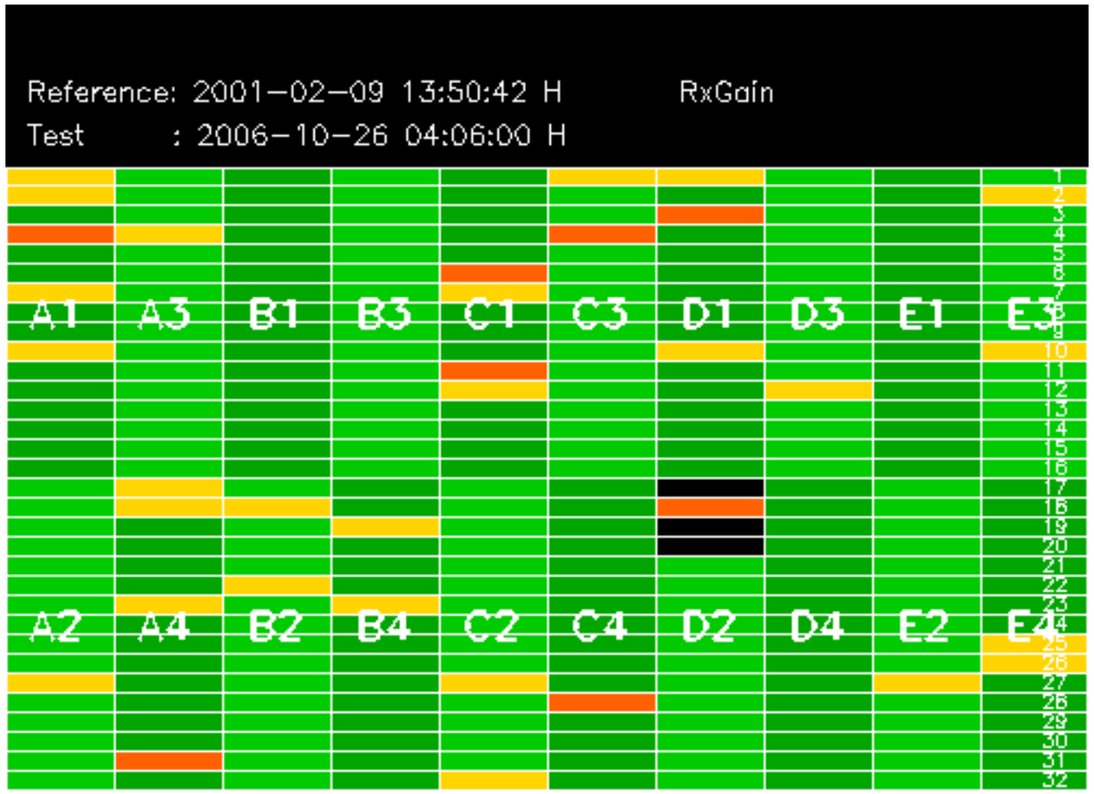

Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −13.938339 Hz
−100Hz
+100Hz

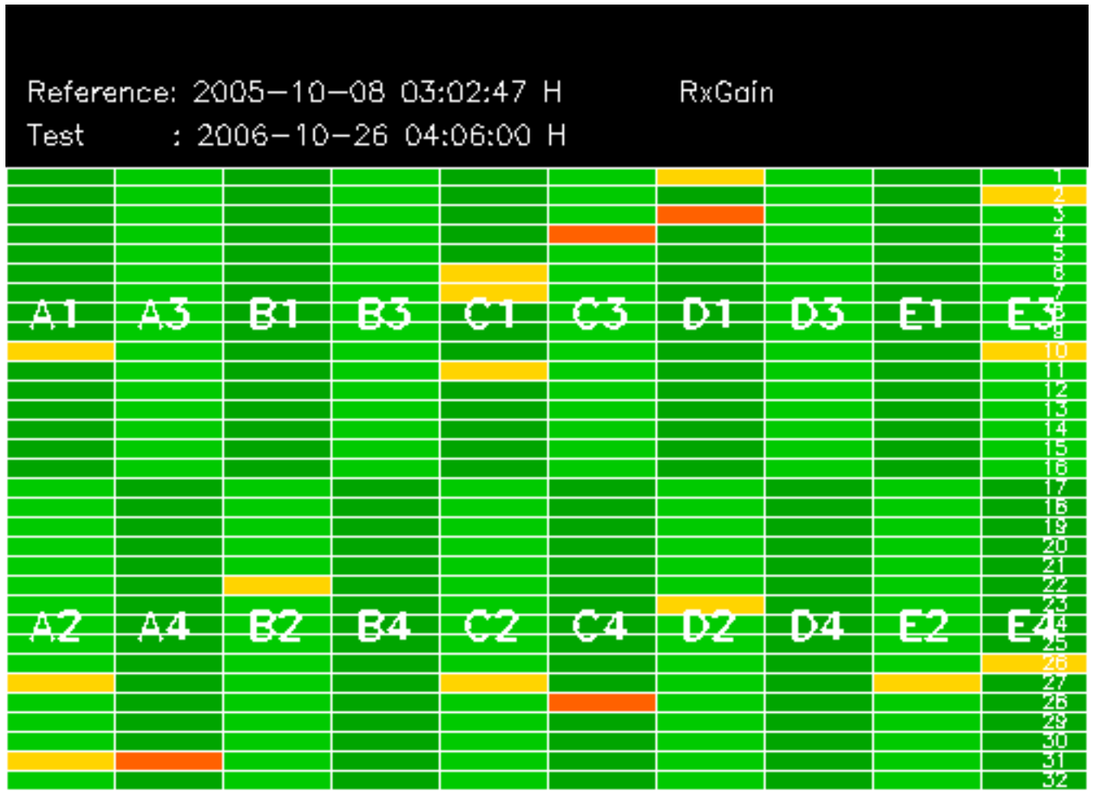

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −4.5576334 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −10.315058 Hz
−100Hz
+100Hz

No anomalies observed on available MS products:

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
RxGain
Test : 2006-10-26 04:06:00 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 : 2006-10-26 04:06:00 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
6
7
8
9
10
11
12
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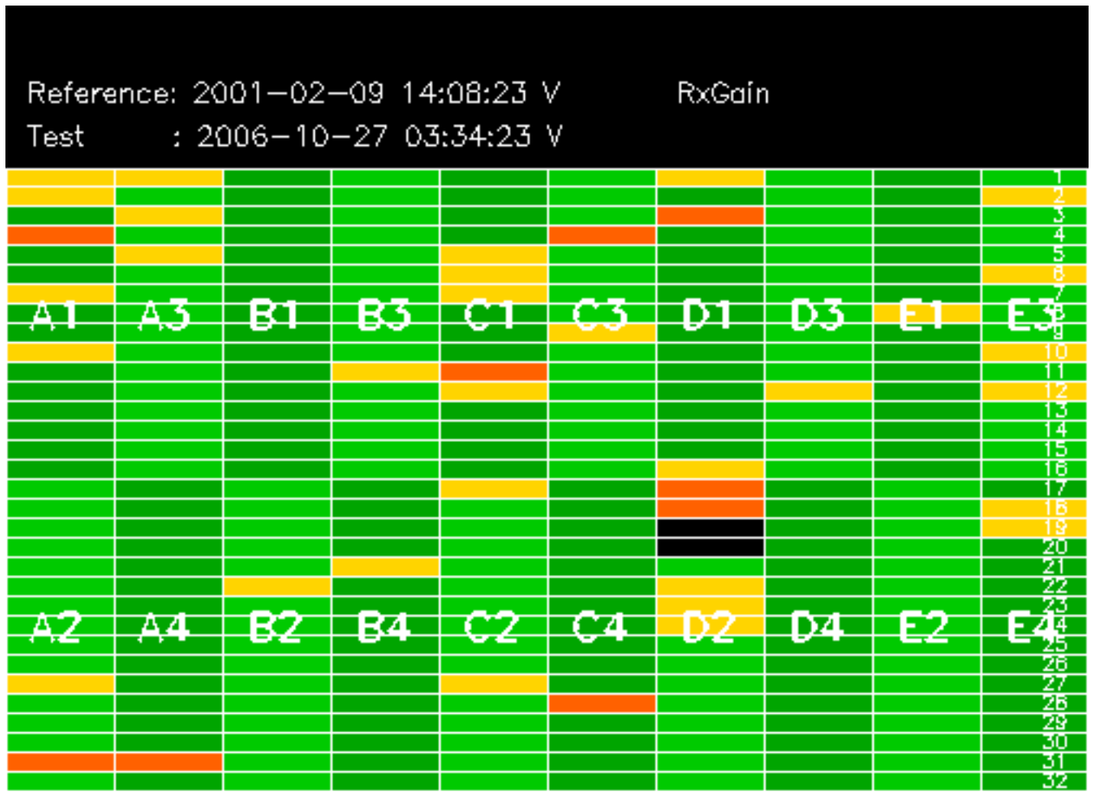
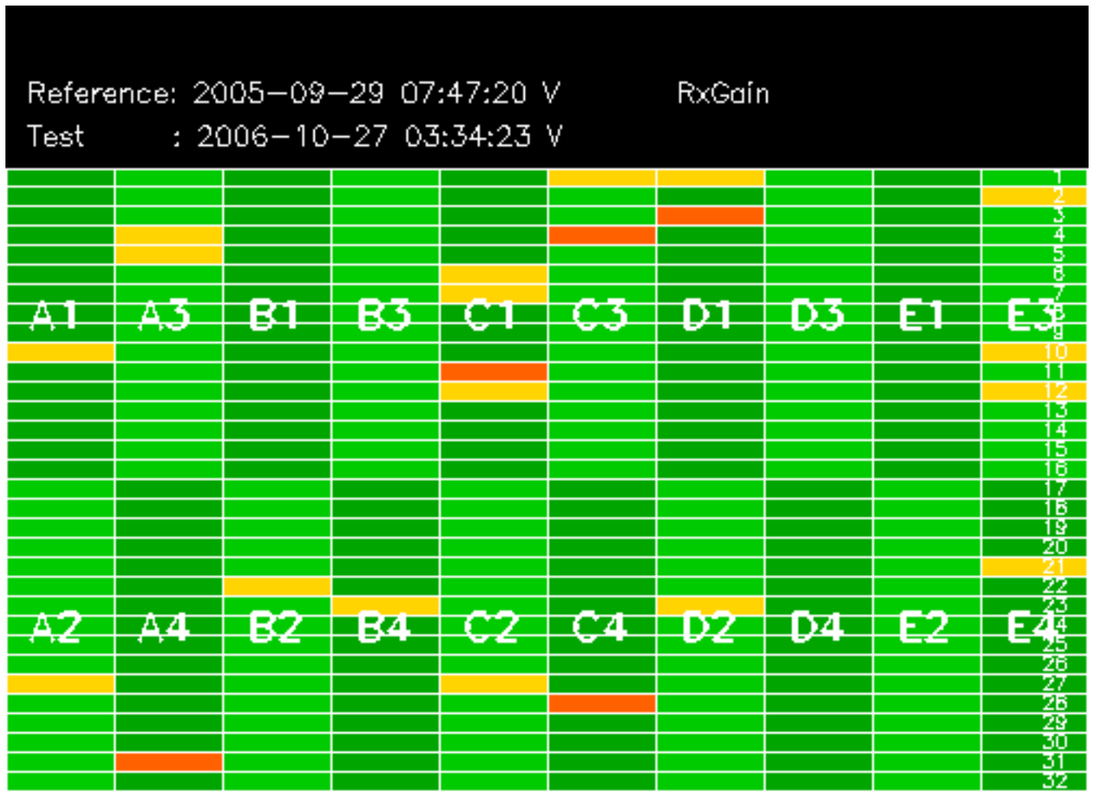
26
27
28
29
30
31
32


Reference: 2001-02-09 14:08:23 V
Test : 2006-10-27 03:34:23 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 : 2006-10-27 03:34:23 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
12
13
14
15
16
17
18
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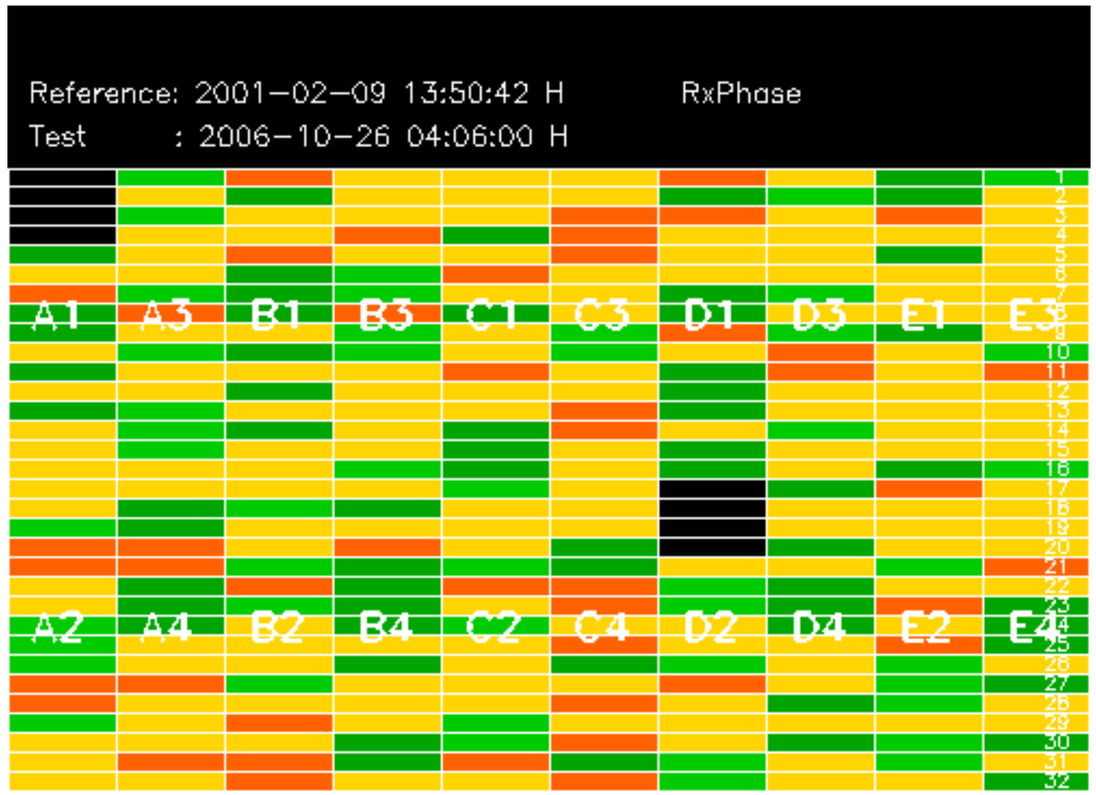
21
22
23
24
25
26
27
28
29
30
31
32


Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2006-10-26 04:06:00 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: 2005-10-08 03:02:47 H
RxPhase
Test : 2006-10-26 04:06:00 H
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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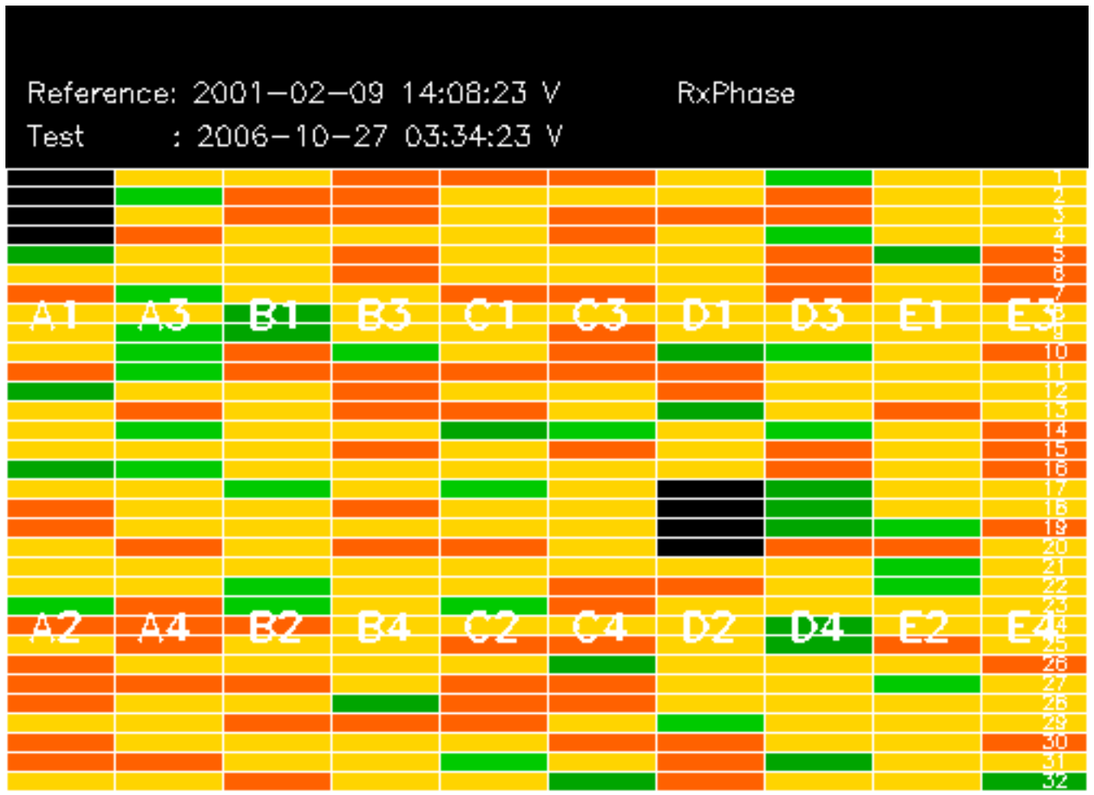
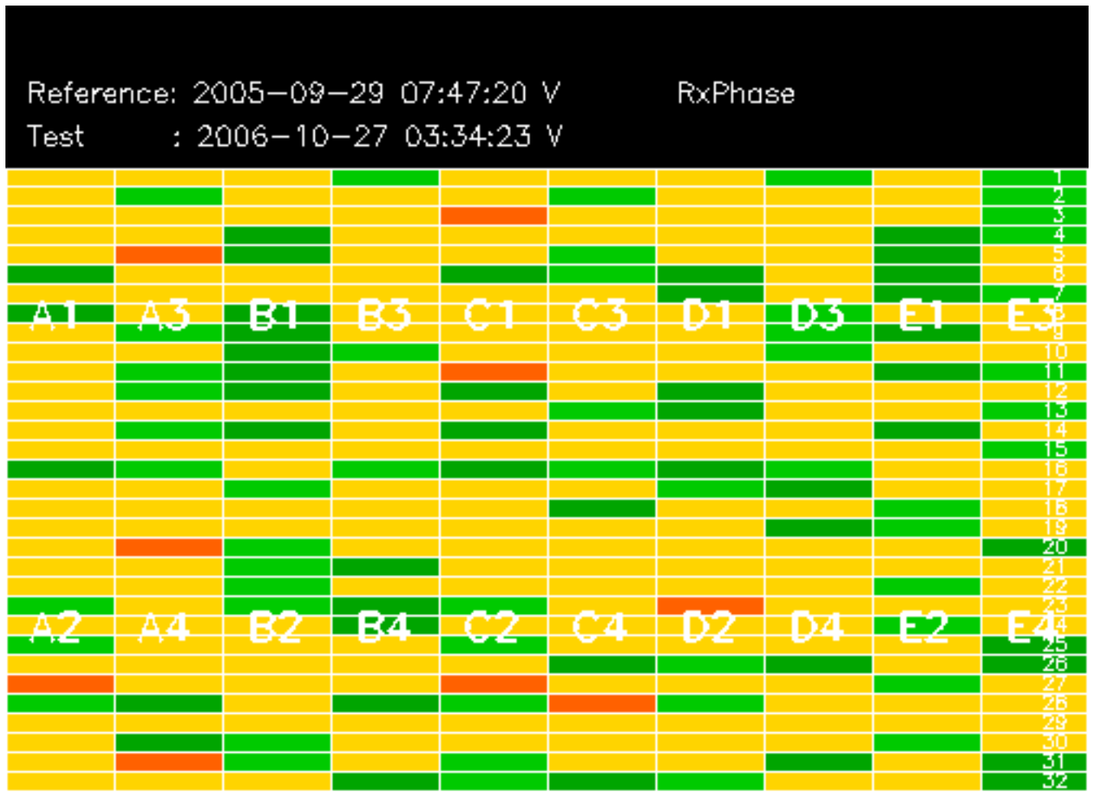

Reference: 2001-02-09 14:08:23 V
Test : 2006-10-27 03:34:23 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-10-27 03:34:23 V
RxPhase
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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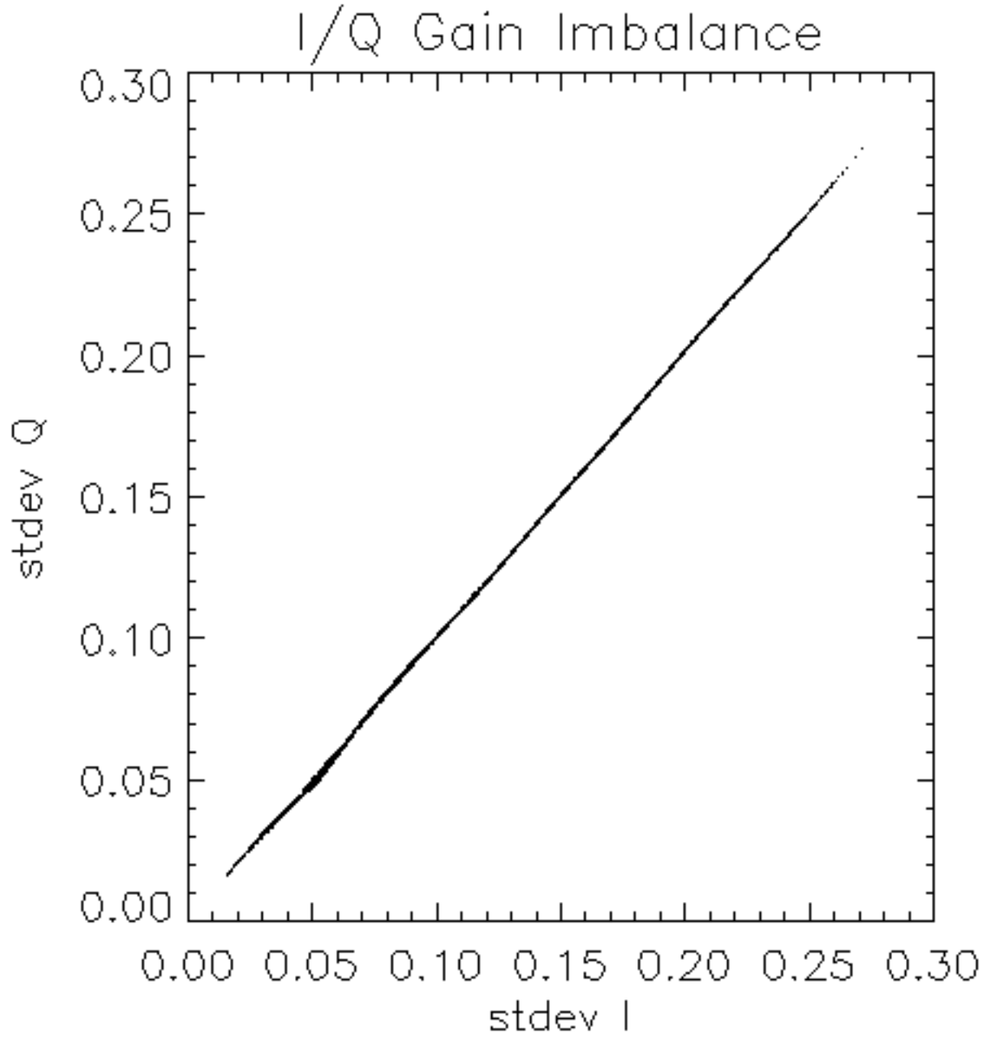
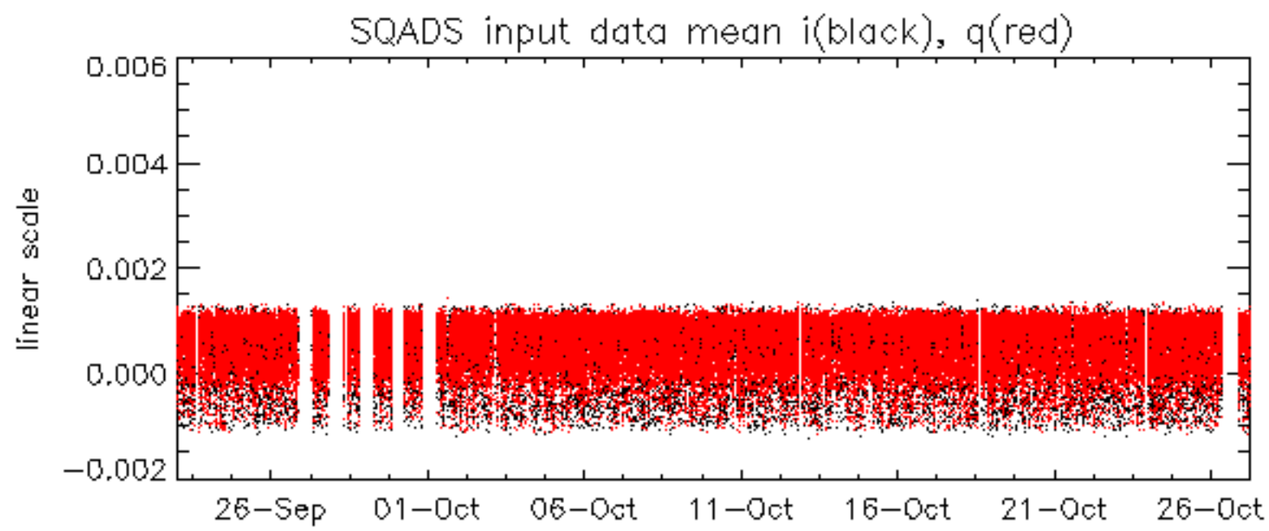
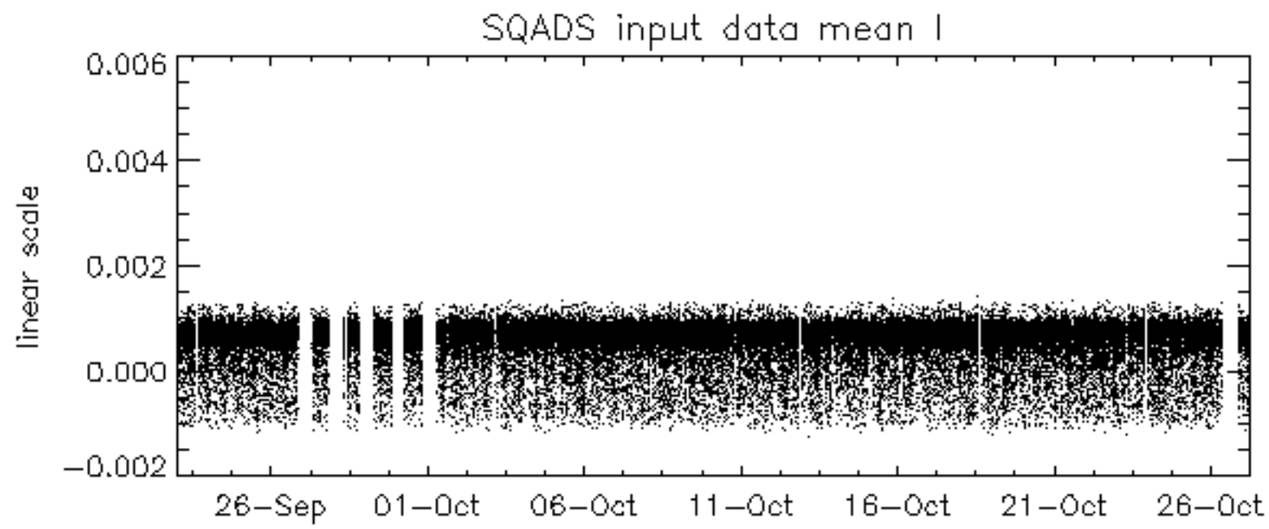
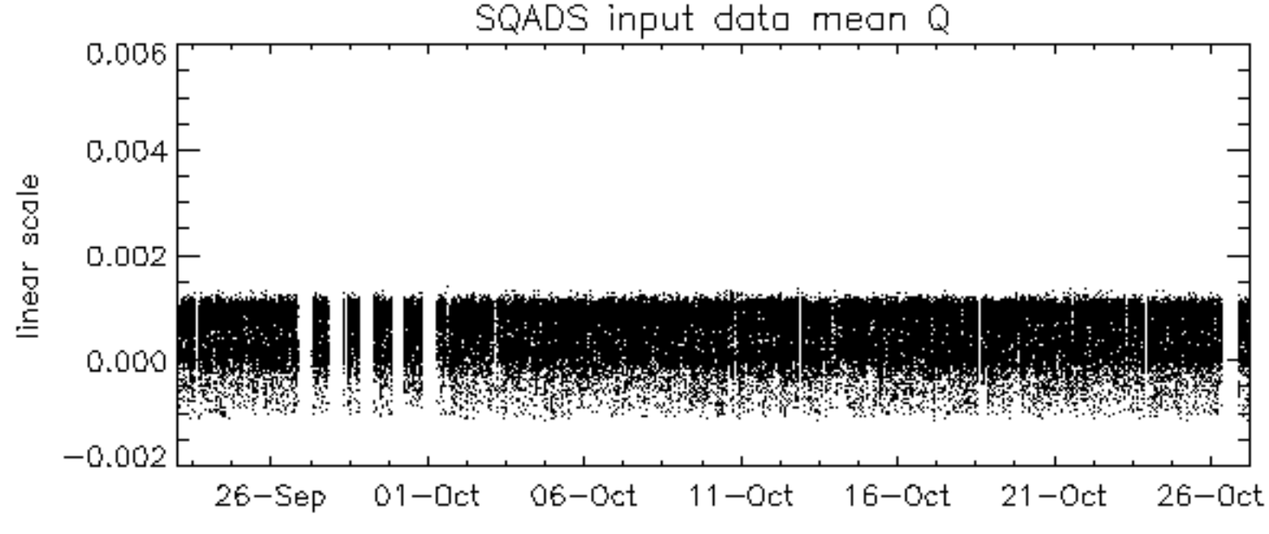
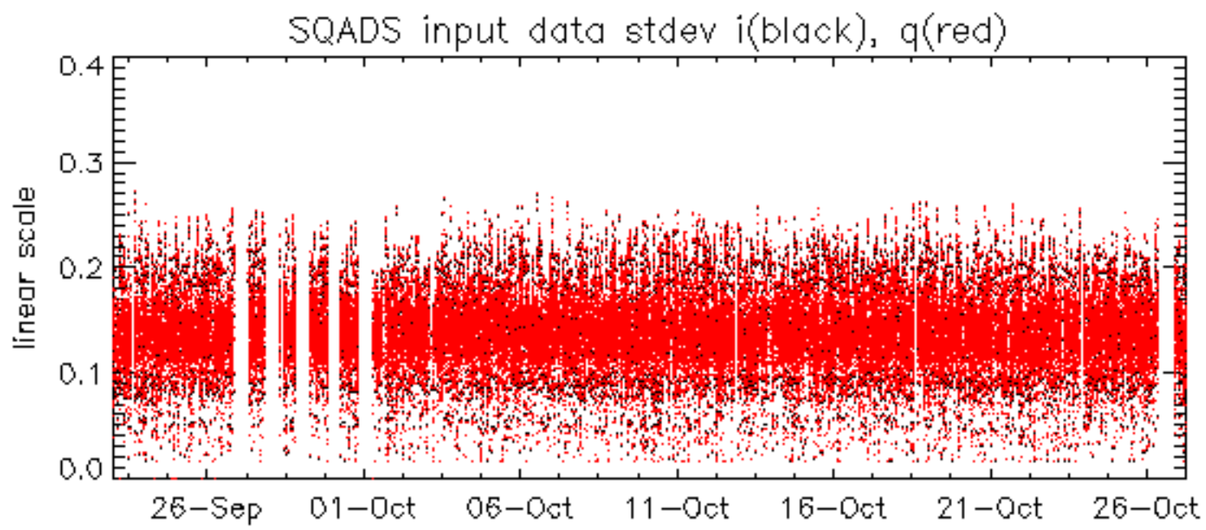
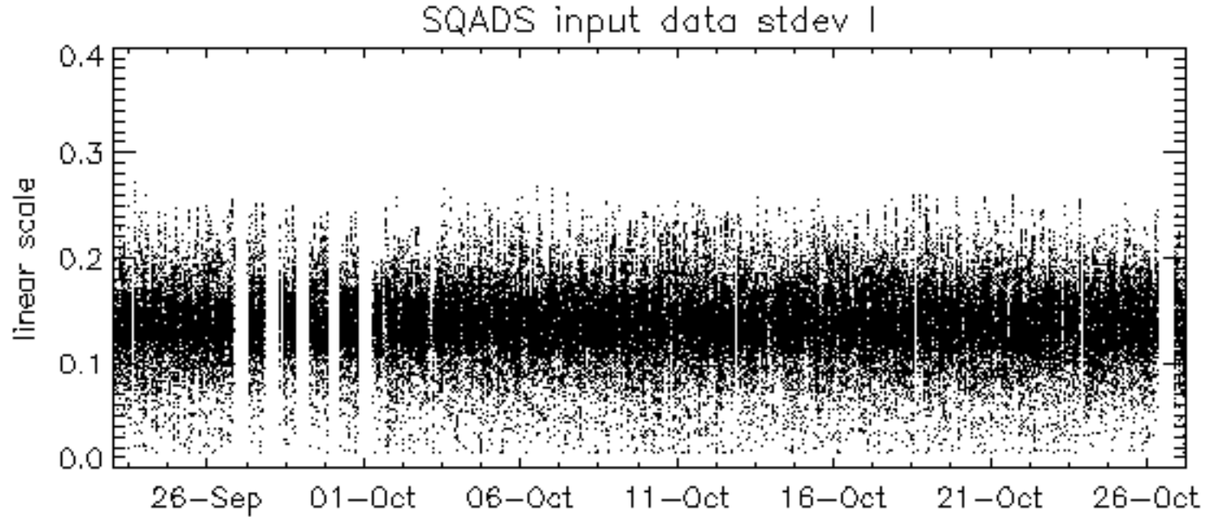

I/Q Gain Imbalance
0.30
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00 0.05 0.10 0.15 0.20 0.25 0.30
stdev I

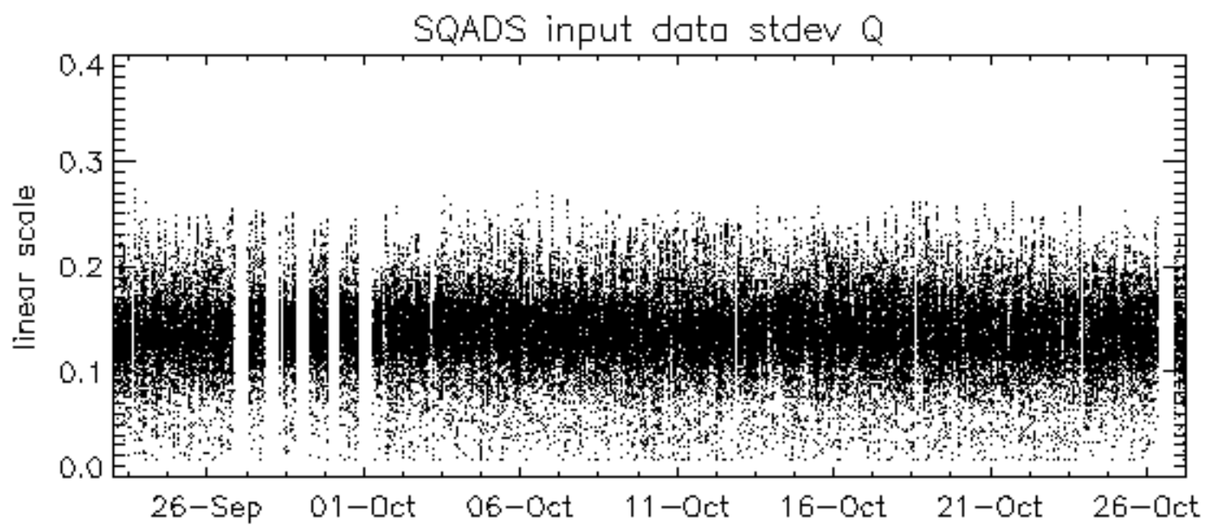

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Sep
01−Oct
06−Oct
11−Oct
16−Oct
21−Oct
26−Oct

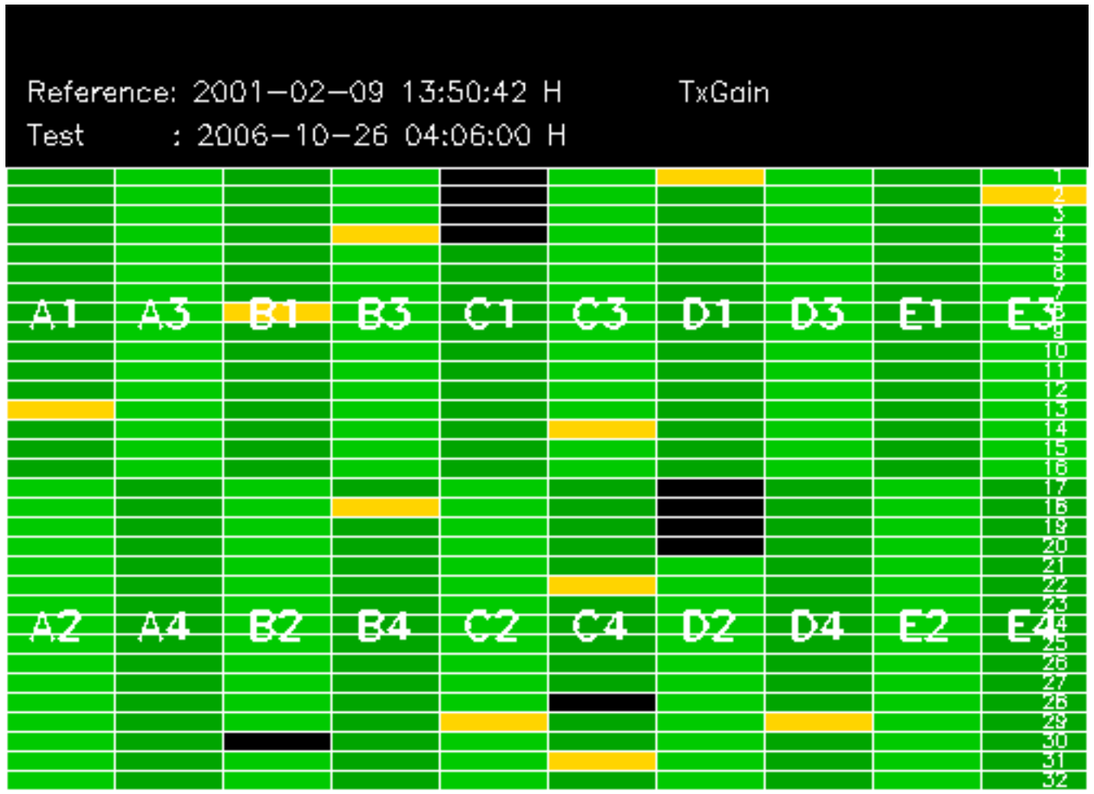

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
26−Sep
01−Oct
06−Oct
11−Oct
16−Oct
21−Oct
26−Oct


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


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


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


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


Reference: 2001-02-09 13:50:42 H
Test : 2006-10-26 04:06:00 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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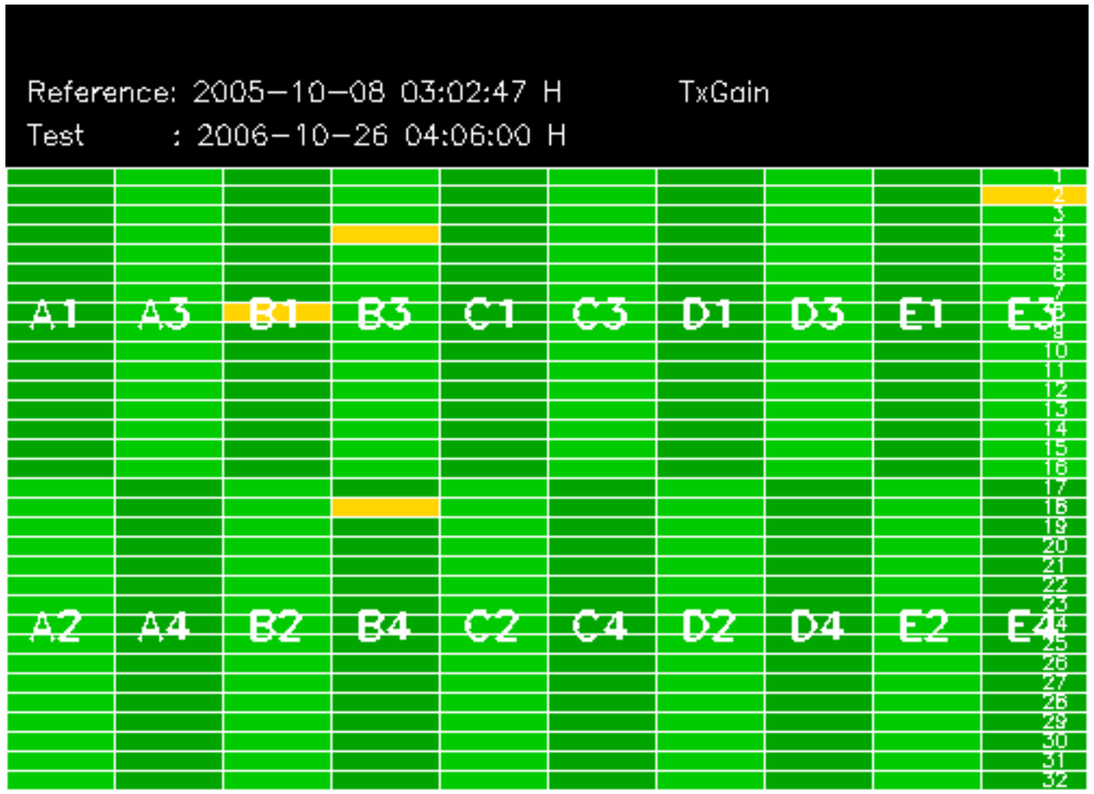
Reference: 2005-10-08 03:02:47 H
Test : 2006-10-26 04:06:00 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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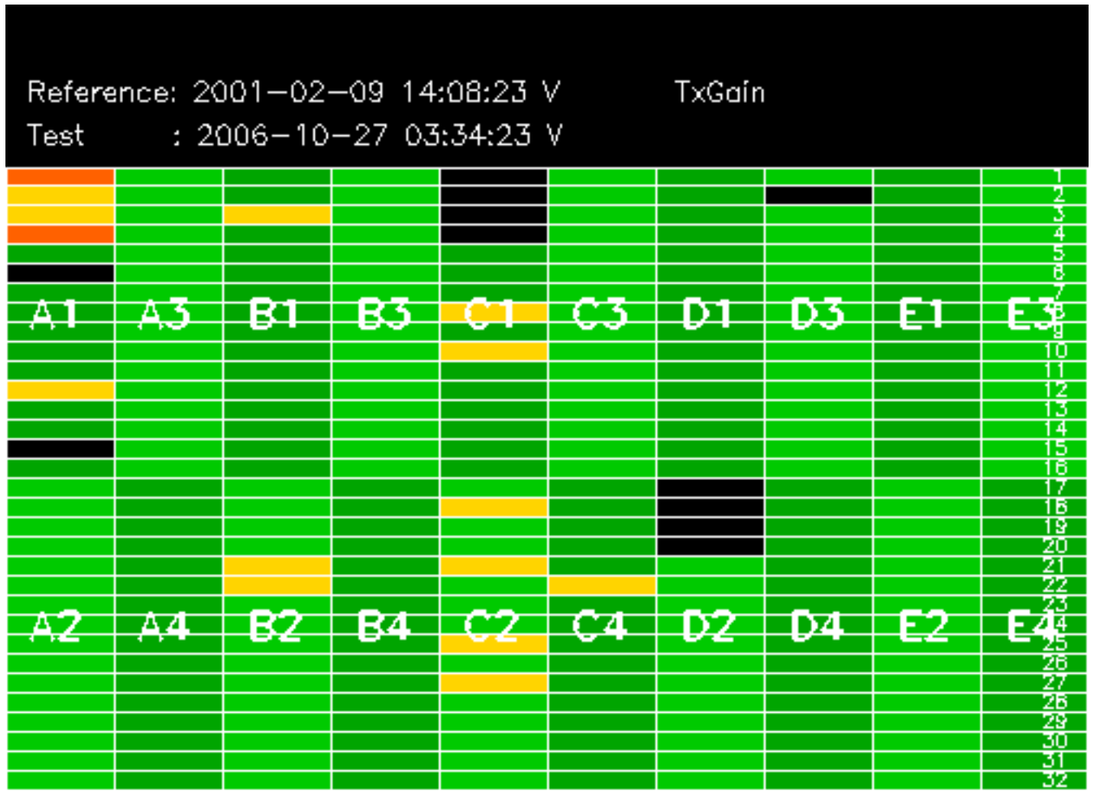
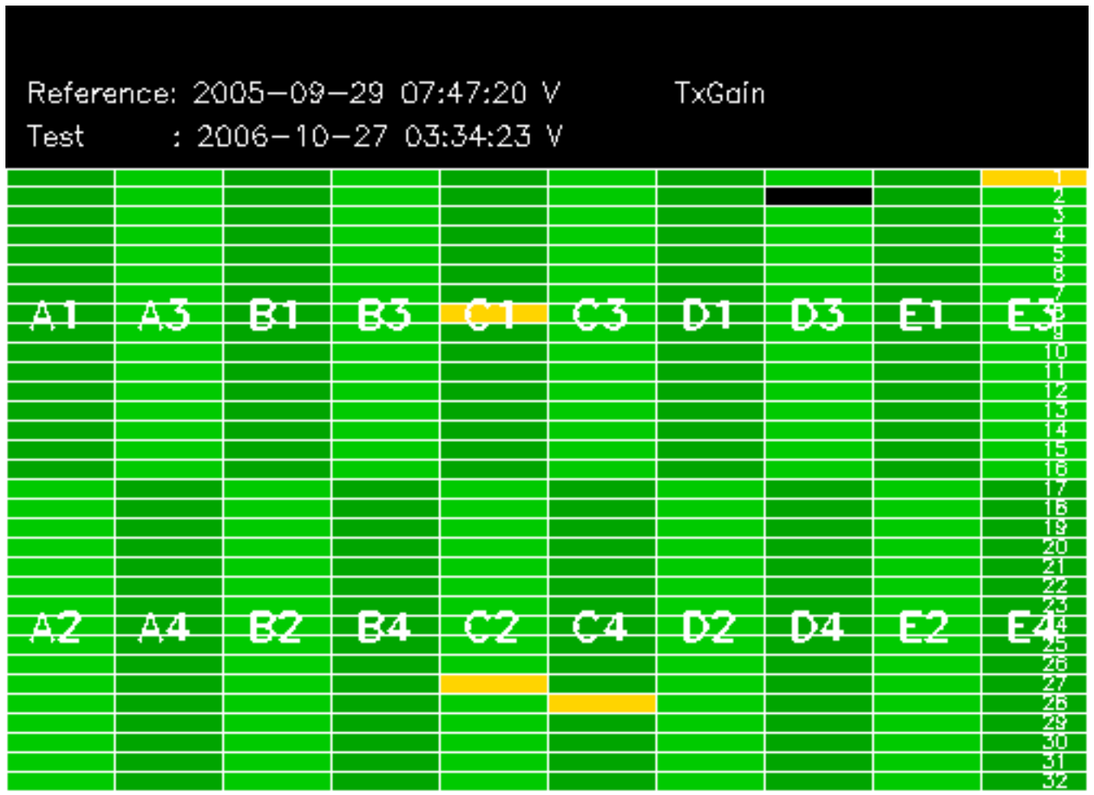

Reference: 2001-02-09 14:08:23 V
Test : 2006-10-27 03:34:23 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2005-09-29 07:47:20 V
Test : 2006-10-27 03:34:23 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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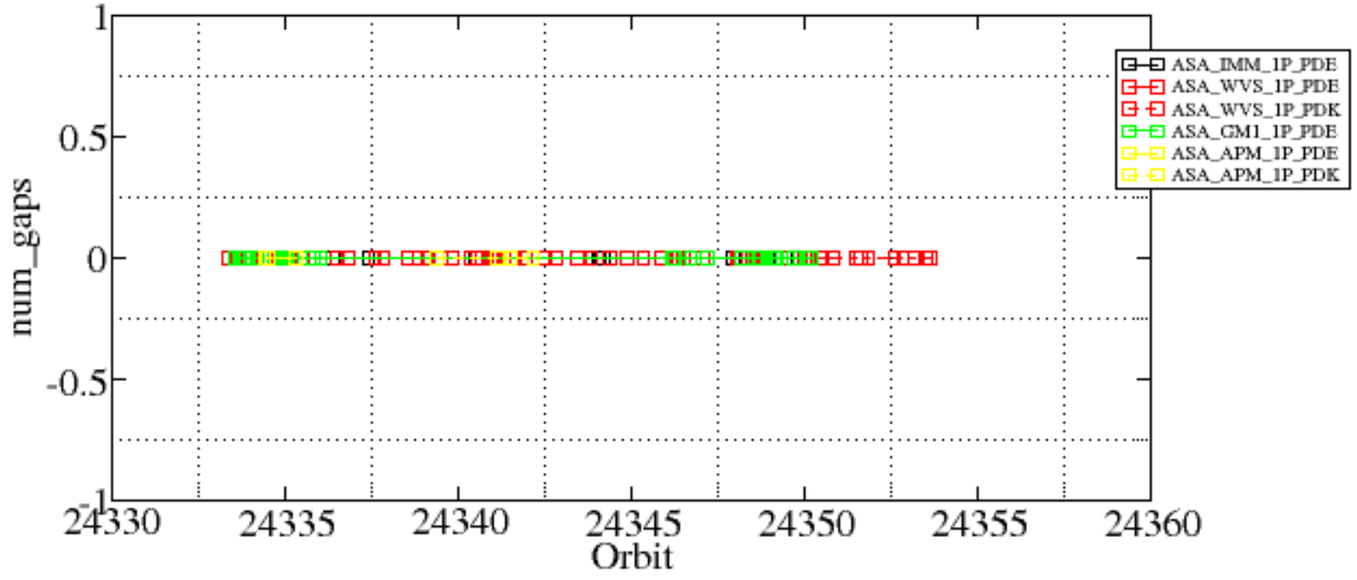
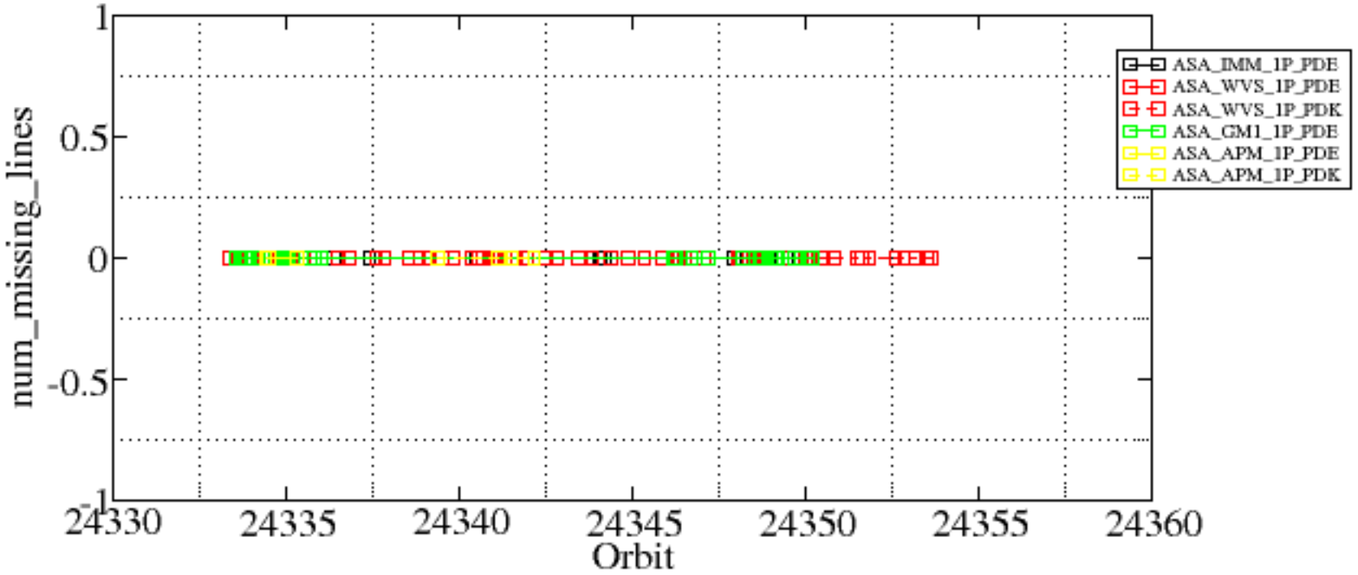
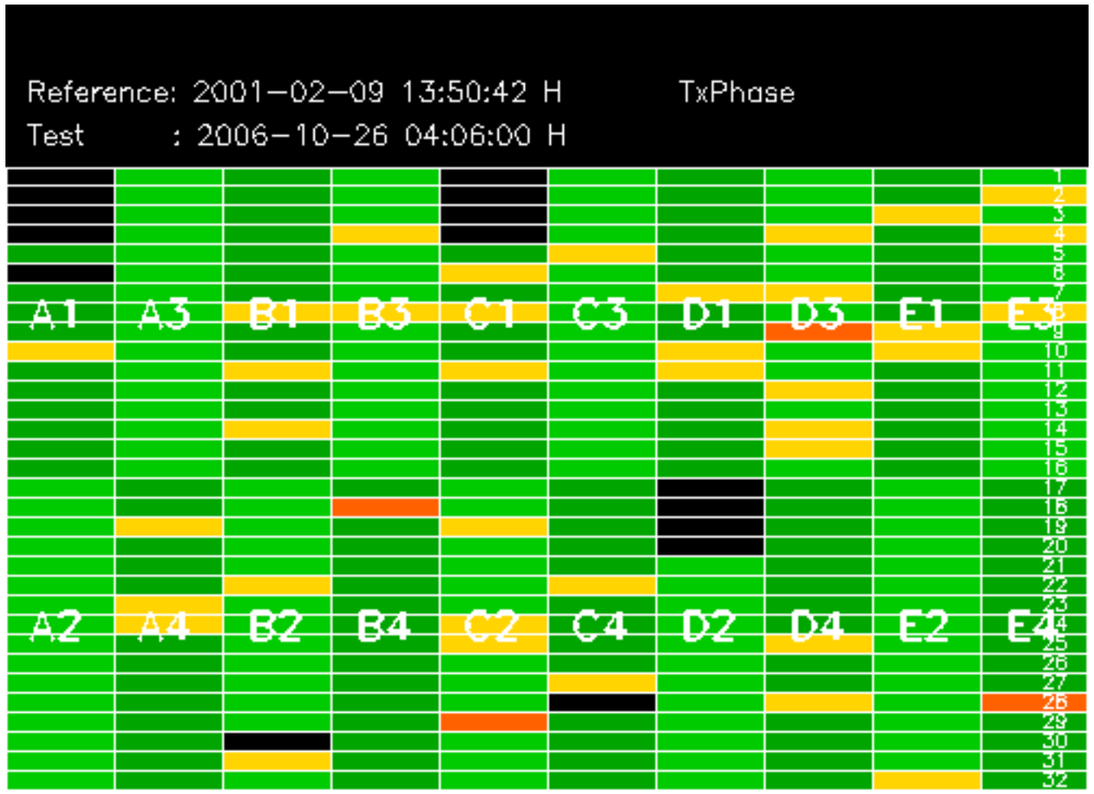
Summary of analysis for the last 3 days 2006102[678]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
</table>


num_gaps
1
0.5
0
-0.5
-1
24330
24335
24340
24345
24350
24355
24360
Orbit
ASA_IMM_1P_PDE
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_APM_1P_PDE
ASA_APM_1P_PDK


num_missing_lines
1
0.5
0
-0.5
-1
24330
24335
24340
24345
24350
24355
24360
Orbit
ASA_IMM_1P_PDE
ASA_WVS_1P_PDE
ASA_WVS_1P_PDK
ASA_GM1_1P_PDE
ASA_APM_1P_PDE
ASA_APM_1P_PDK


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2006-10-26 04:06:00 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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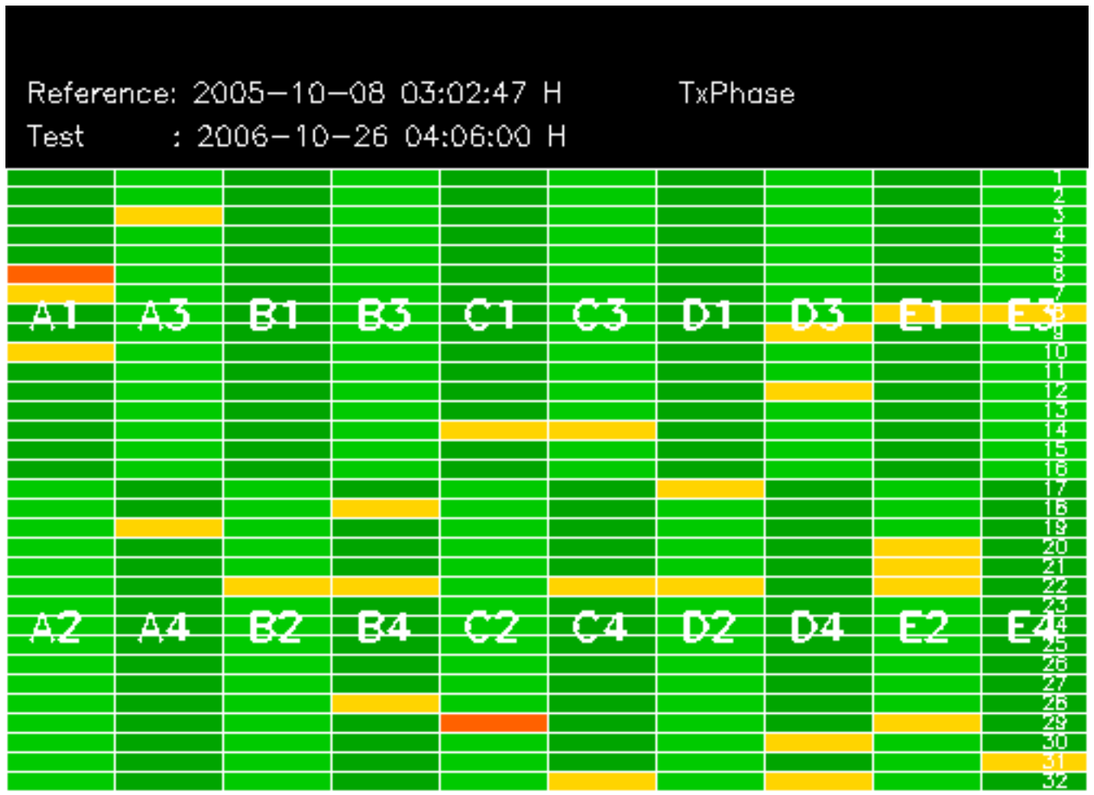
Reference: 2005-10-08 03:02:47 H
Test : 2006-10-26 04:06:00 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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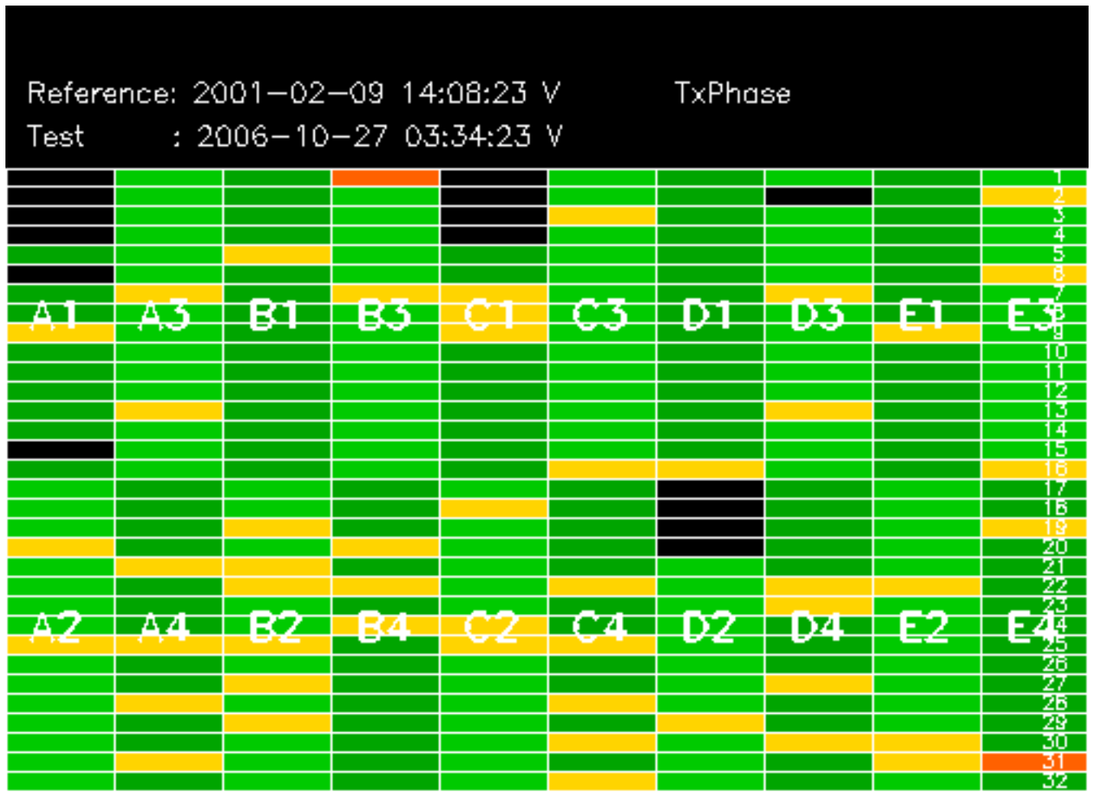
Reference: 2001-02-09 14:08:23 V
Test : 2006-10-27 03:34:23 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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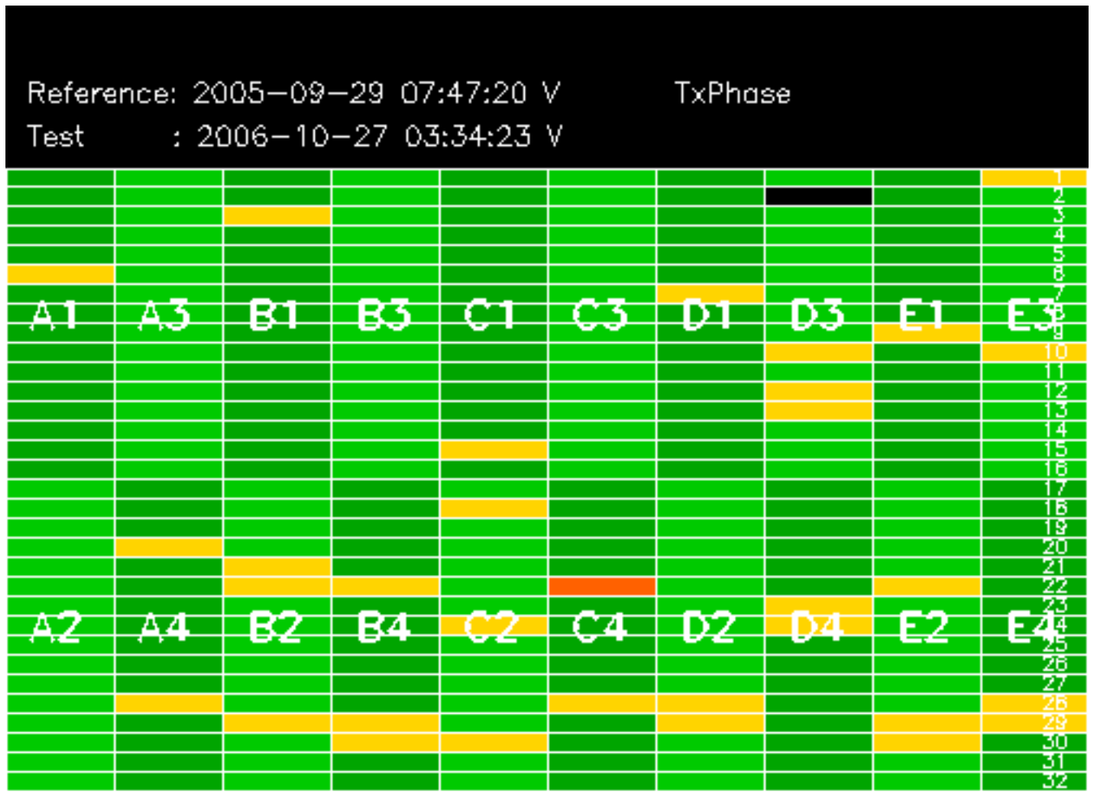
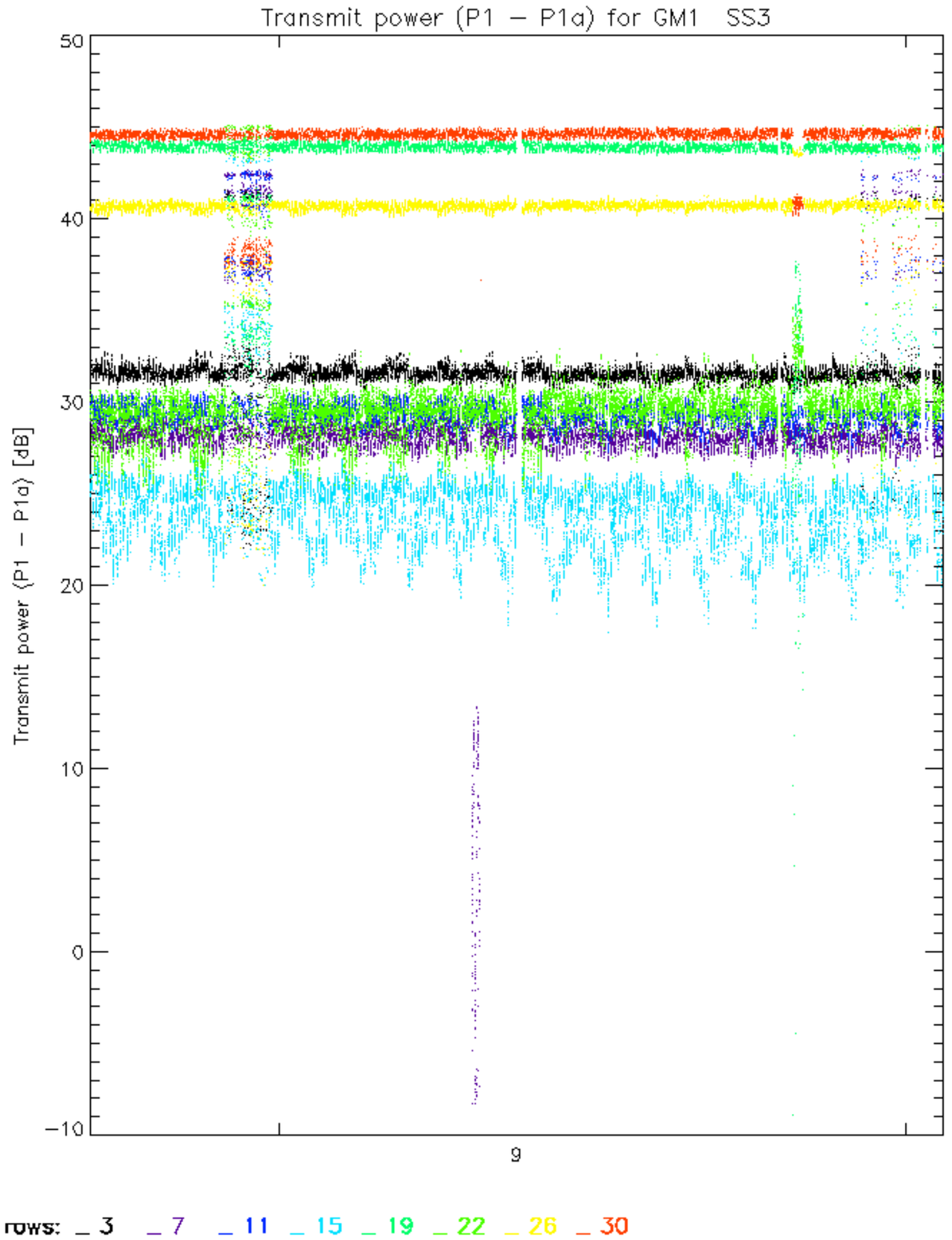
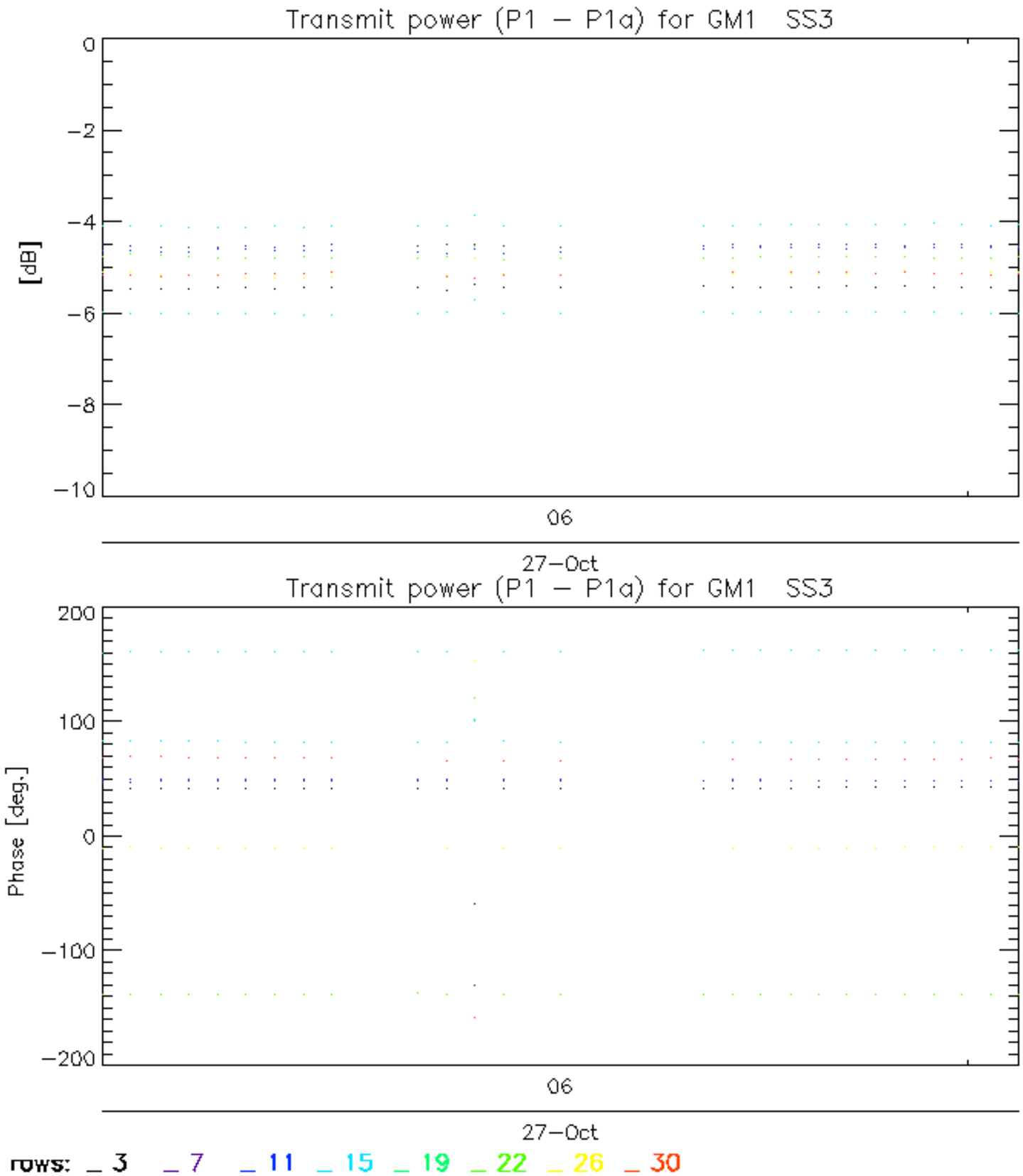
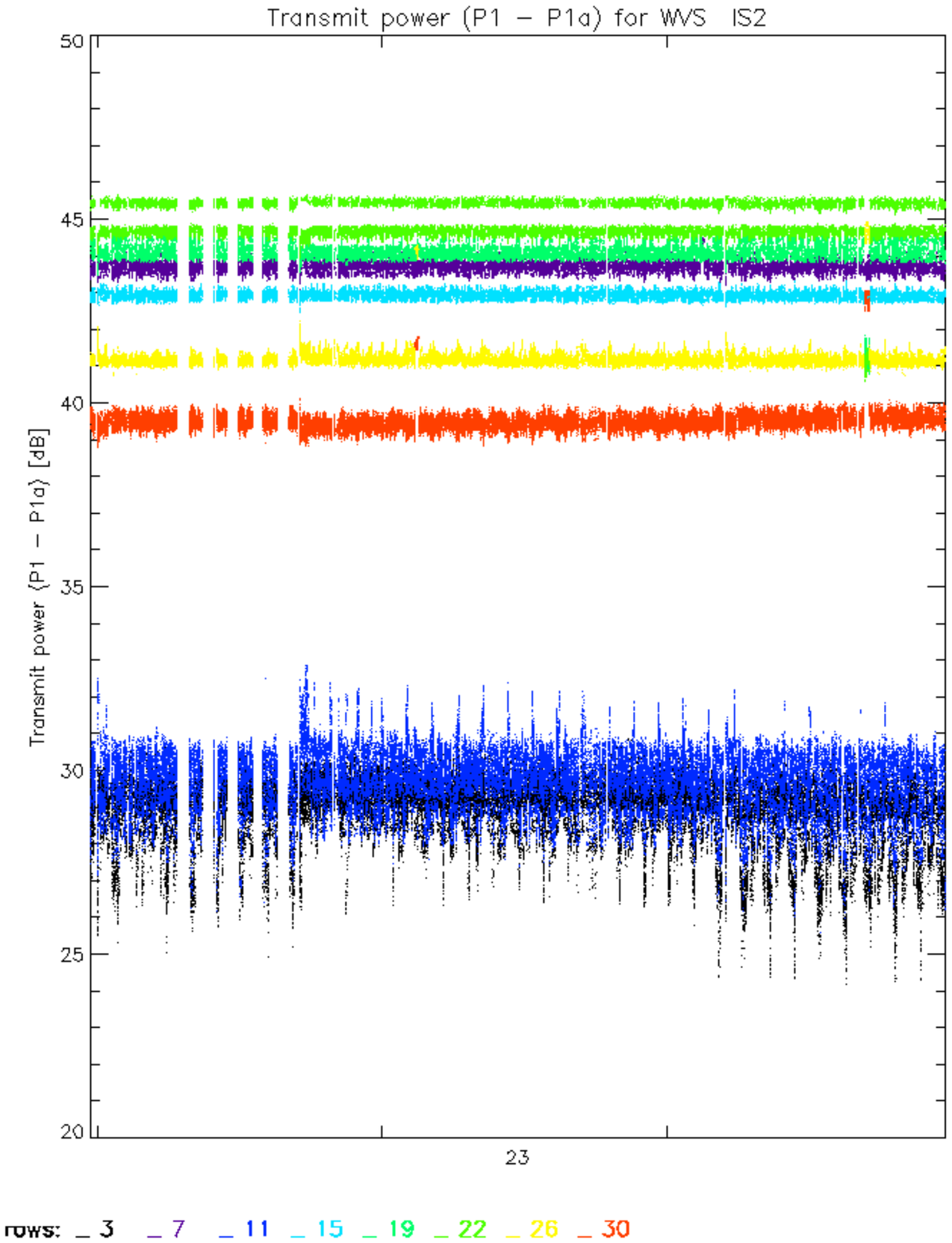
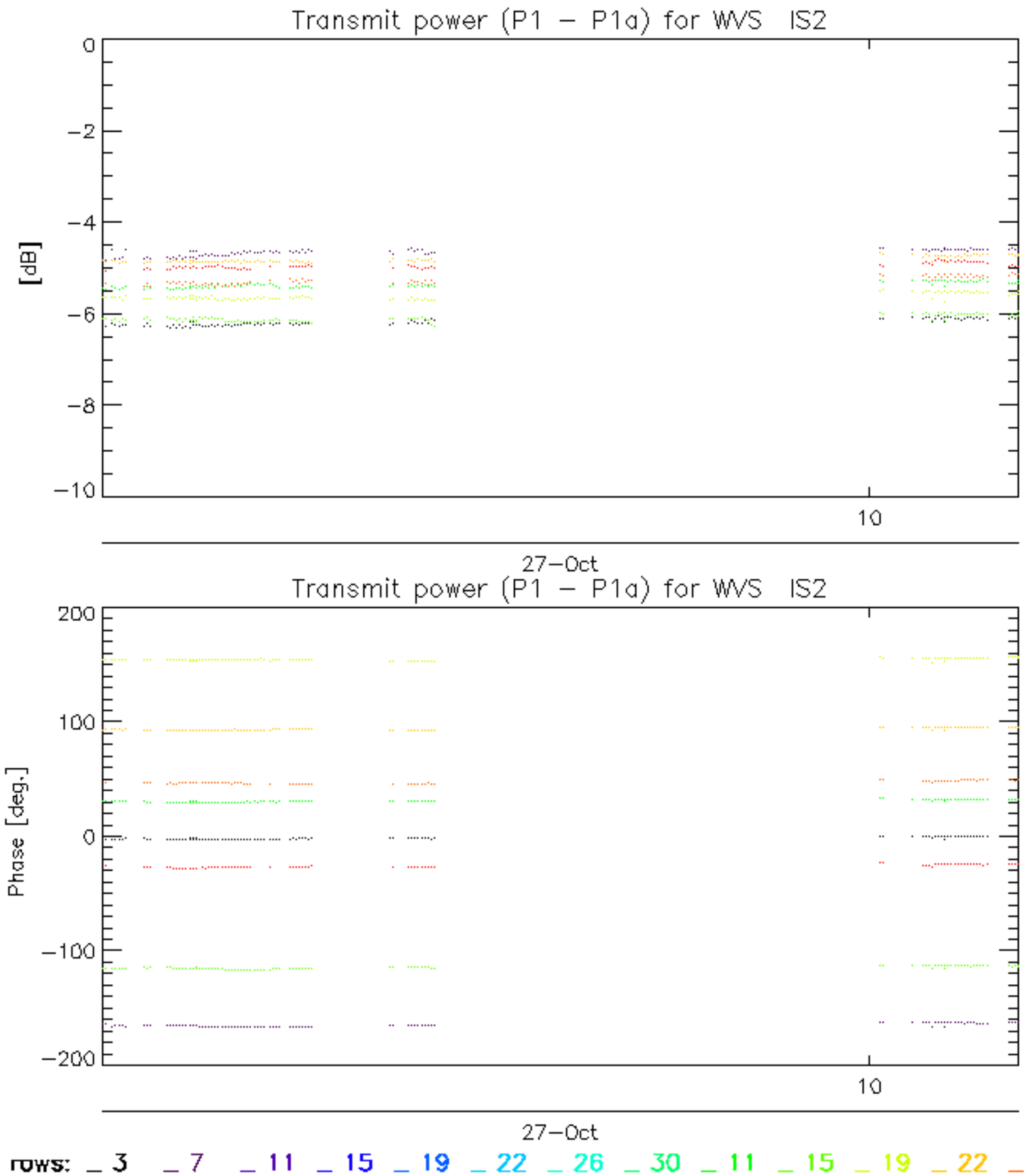

Reference: 2005-09-29 07:47:20 V
Test : 2006-10-27 03:34:23 V
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Transmit power (P1 – P1a) for GM1 SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
9
rows: 3 7 11 15 19 22 26 30


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


Transmit power (P1 – P1a) for WVS IS2
Transmit power (P1 – P1a) [dB]
50
45
40
35
30
25
20
23
rows: 3 7 11 15 19 22 26 30


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

No unavailabilities during the reported period.