REPORT OF 040615

last update on Tue Jun 15 13:29:26 GMT 2004

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 - Browse Visual Inspection

No anomalies observed on available browse products

2.3 - Data Analysis

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

3 - Module Stepping Mode

The MS mode provides an internal health check on an individual module basis.
The purpose of this mode is to identify any malfunctionning modules and
to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

- ASA_MS__0PNPDK20040614_202339_000000152027_00400_11977_0153.N1

Polarisation	Start Time
V	20040614 202339
H	20040613 191540

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.

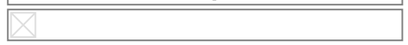
4.1 - Daily statistics

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	-3.523550	0.010743	0.055644
7	P1	-3.322899	0.015565	-0.009990
11	P1	-4.533957	0.037801	0.025124
15	P1	-5.664486	0.079790	-0.134560
19	P1	-3.421924	0.004935	-0.030040
22	P1	-4.560771	0.011064	-0.000163
24	P1	-4.919295	0.015386	0.037929
30	P1	-6.838950	0.023540	-0.014775

3	P1	-16.121138	0.217403	0.115998
7	P1	-13.987650	0.104397	-0.001737
11	P1	-19.805325	0.294435	-0.220250
15	P1	-11.793680	0.045293	0.068731
19	P1	-13.792936	0.034364	-0.063269
22	P1	-16.590300	0.418116	0.042262
24	P1	-14.705078	0.299078	0.044487
30	P1	-17.644194	0.382108	-0.088596

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.433447	0.081589	0.049716
7	P2	-22.878532	0.117962	0.050510
11	P2	-15.672224	0.130388	0.121117
15	P2	-7.202294	0.095498	0.037875
19	P2	-9.570528	0.136088	0.056825
22	P2	-17.579090	0.100419	0.129927
24	P2	-20.894464	0.085936	0.062291
30	P2	-19.465380	0.079441	0.113498

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.144651	0.002050	0.005569
7	P3	-8.144652	0.002050	0.005564
11	P3	-8.144654	0.002050	0.005550
15	P3	-8.144653	0.002050	0.005538
19	P3	-8.144653	0.002050	0.005534
22	P3	-8.144650	0.002051	0.005500
24	P3	-8.144646	0.002051	0.005469
30	P3	-8.144682	0.002049	0.006286

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	-3.148633	0.136786	-0.023980
7	P1	-2.815557	0.076217	0.064822
11	P1	-3.785771	0.021062	-0.020450
15	P1	-4.248406	1.016134	-0.115933
19	P1	-3.350358	0.048451	-0.016136
22	P1	-5.721165	0.045541	0.012543
24	P1	-4.044863	0.081132	-0.022577
30	P1	-6.090760	0.058647	-0.041018
3	P1	-11.034034	0.435206	-0.033230
7	P1	-9.769830	0.259267	0.083839
11	P1	-11.740775	0.160882	-0.117123
15	P1	-11.830727	0.285130	-0.042899
19	P1	-14.986308	0.820174	-0.011999
22	P1	-21.513346	8.988016	0.076731
24	P1	-17.354822	0.287459	-0.020939
30	P1	-21.725815	4.096946	0.070484

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.171354	0.042724	0.002171
7	P2	-22.963072	0.028555	0.071267
11	P2	-11.077851	0.211948	0.146487
15	P2	-5.007510	0.042735	0.004687
19	P2	-6.931409	0.043740	-0.021362
22	P2	-7.703095	0.023232	0.057336
24	P2	-11.084499	0.070202	0.013879
30	P2	-22.424854	0.093668	0.086669

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)

3	P3	-7.984693	0.003308	0.004153
7	P3	-7.984618	0.003301	0.004193
11	P3	-7.984610	0.003302	0.004367
15	P3	-7.984752	0.003293	0.004123
19	P3	-7.984601	0.003309	0.004236
22	P3	-7.984768	0.003289	0.004153
24	P3	-7.984503	0.003320	0.004084
30	P3	-7.984676	0.003299	0.004376

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	0.000472627
	stdev	2.20705e-07
MEAN Q	mean	0.000530684
	stdev	2.42134e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127921
	stdev	0.000991109

STDEV Q	mean	0.128152
	stdev	0.00100184

5.3 - Gain imbalance I/Q

6 - Doppler Analysis

No anomalies observed on Doppler evolution.
Doppler analysis performed over the last 35 days

6.1 - Unbiased Doppler Error for WVS

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

6.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler
Acsending
Descending

6.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX

6.4 - Unbiased Doppler Error for GM1

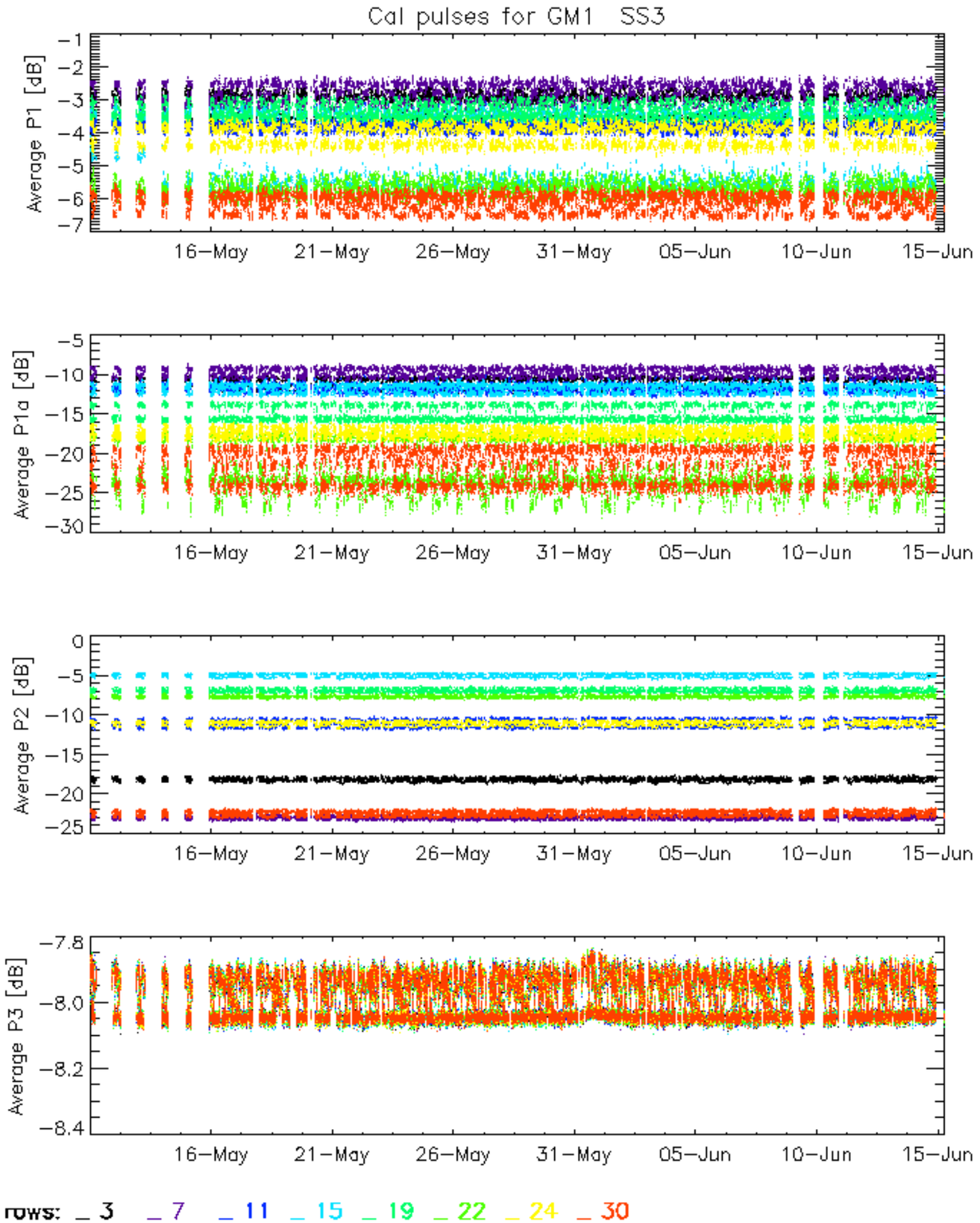
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

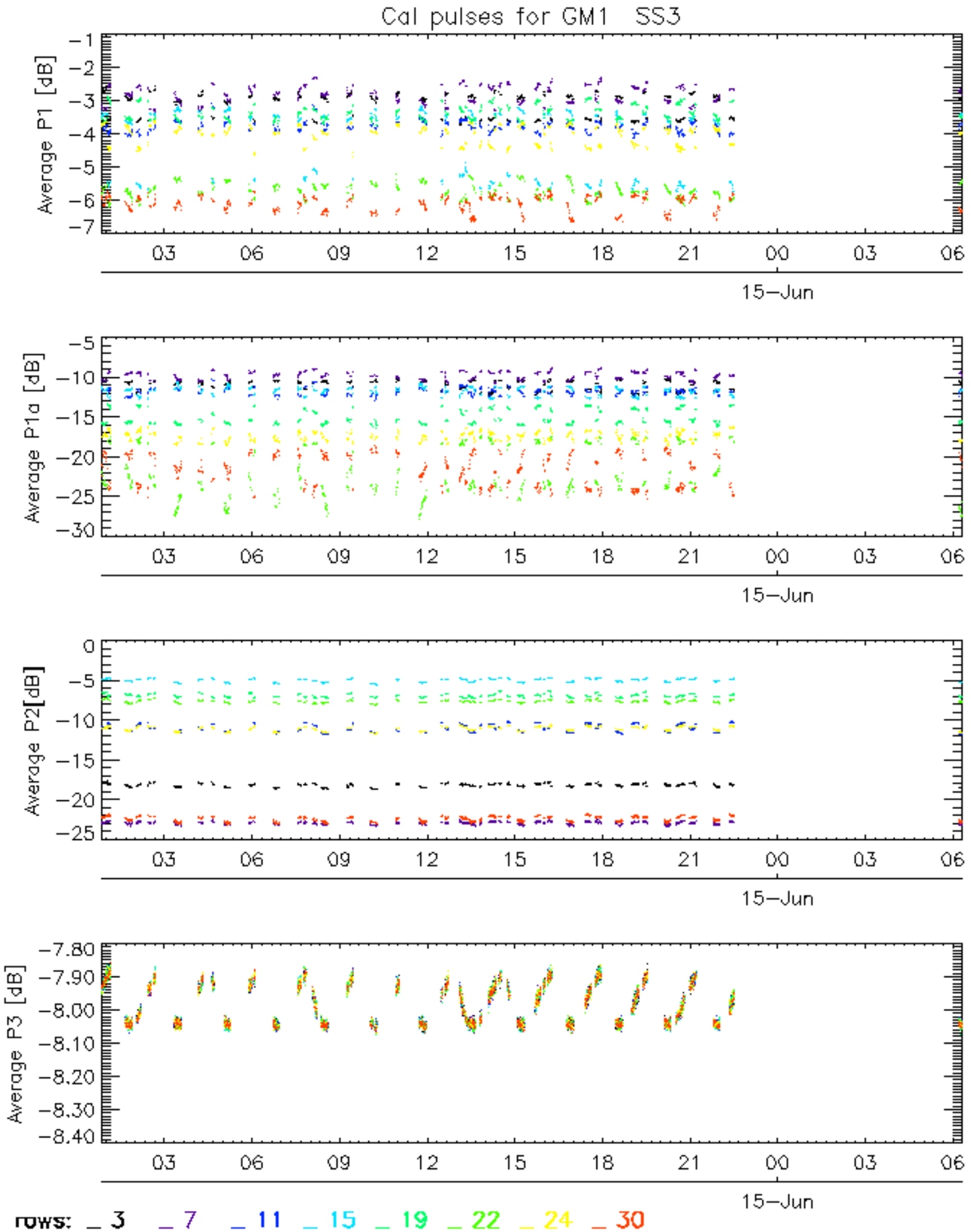
6.5 - Absolute Doppler for GM1

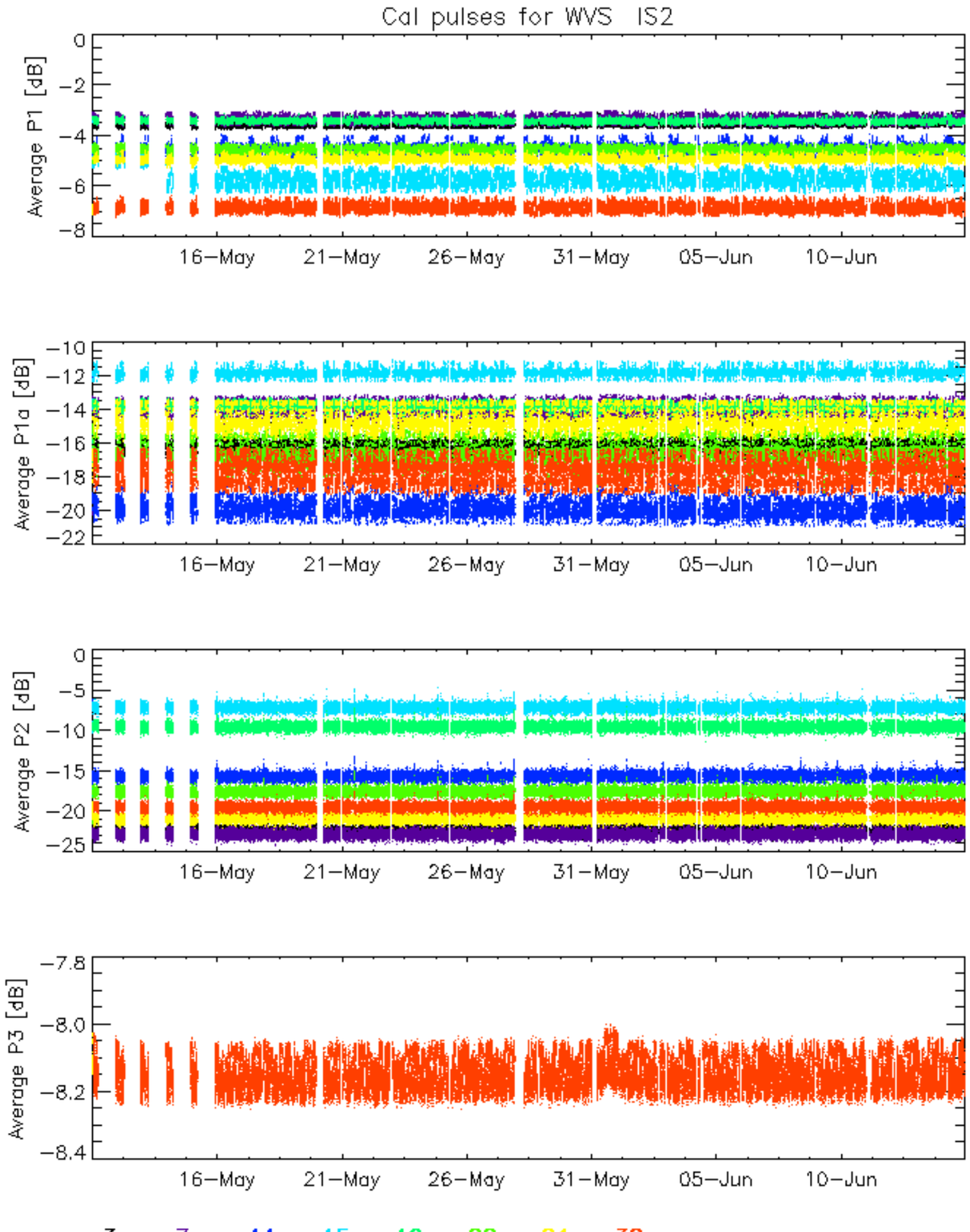
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

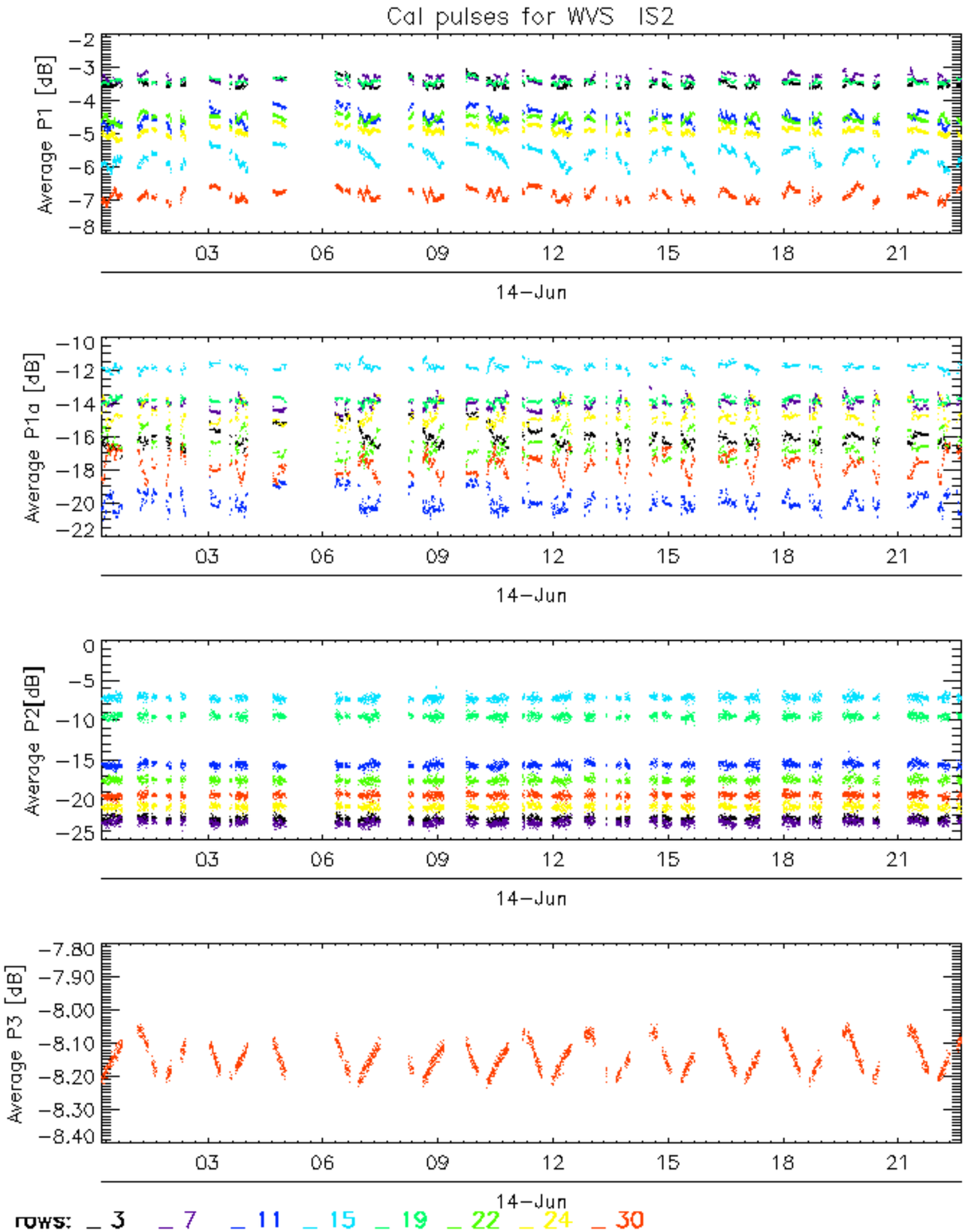
6.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
☒


Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
16−May
21−May
26−May
31−May
05−Jun
10−Jun
15−Jun
Average P1a [dB]
−5
−10
−15
−20
−25
−30
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 _ 24 _ 30

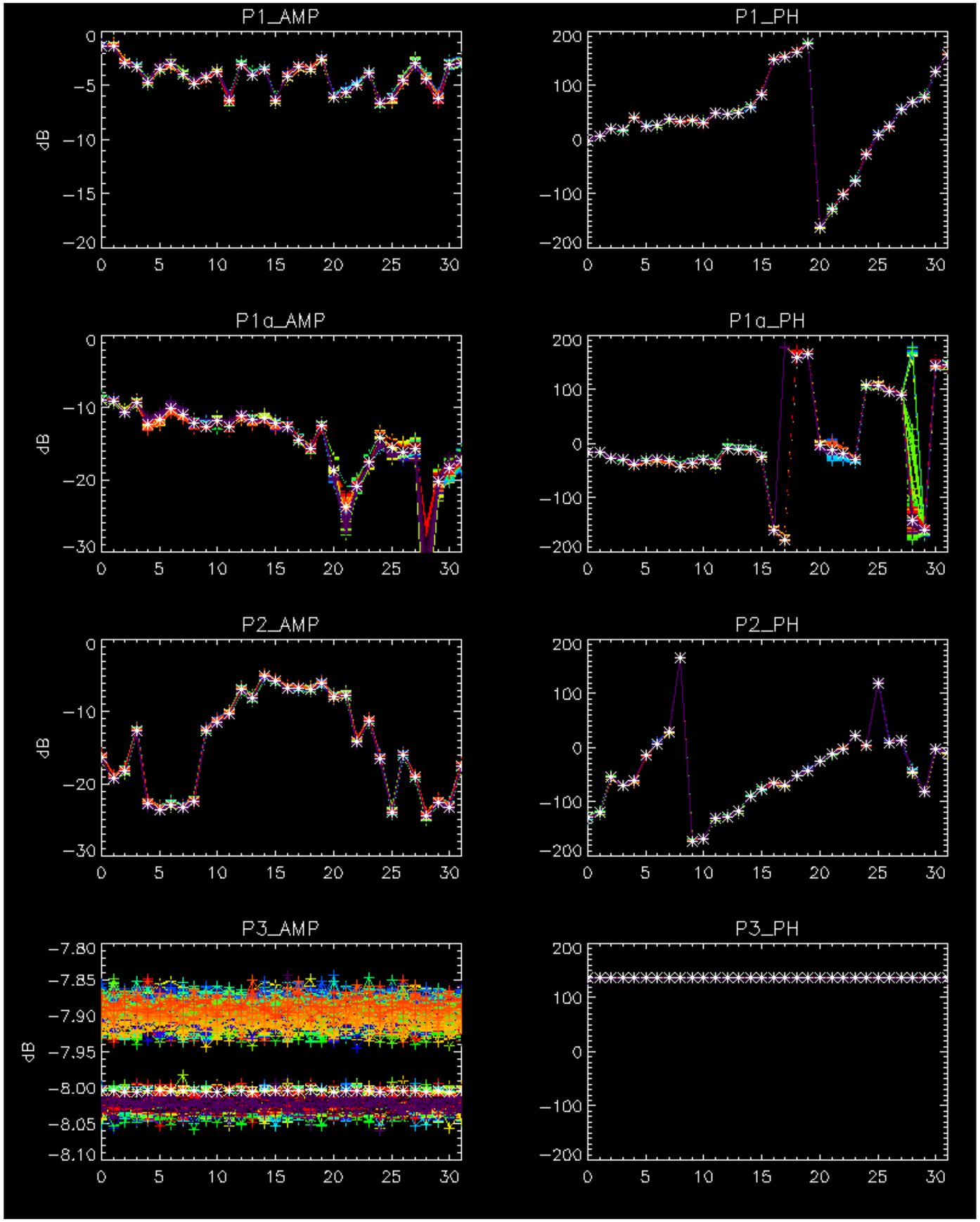

Cal pulses for GM1 SS3
Average P1 [dB]
−1
−2
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
03
06
15−Jun
Average P1a [dB]
−5
−10
−15
−20
−25
−30
Average P2[dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

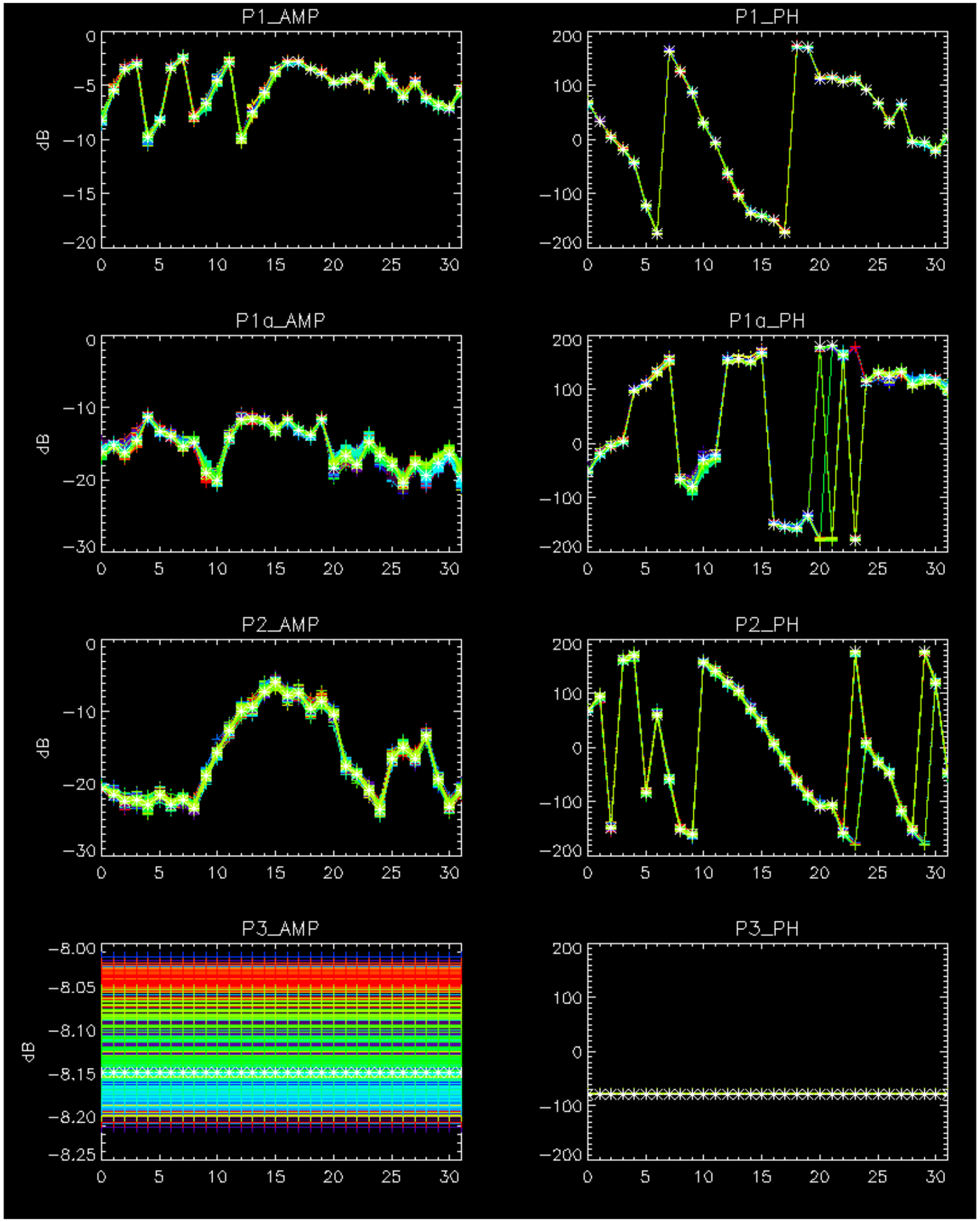

Cal pulses for WVS IS2
Average P1 [dB]
0
−2
−4
−6
−8
16−May
21−May
26−May
31−May
05−Jun
10−Jun
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
Average P2 [dB]
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30


Cal pulses for WVS IS2
Average P1 [dB]
−2
−3
−4
−5
−6
−7
−8
03
06
09
12
15
18
21
14−Jun
Average P1a [dB]
−10
−12
−14
−16
−18
−20
−22
03
06
09
12
15
18
21
14−Jun
Average P2[dB]
0
−5
−10
−15
−20
−25
03
06
09
12
15
18
21
14−Jun
Average P3 [dB]
−7.80
−7.90
−8.00
−8.10
−8.20
−8.30
−8.40
03
06
09
12
15
18
21
14−Jun
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

No anomalies observed on available browse products

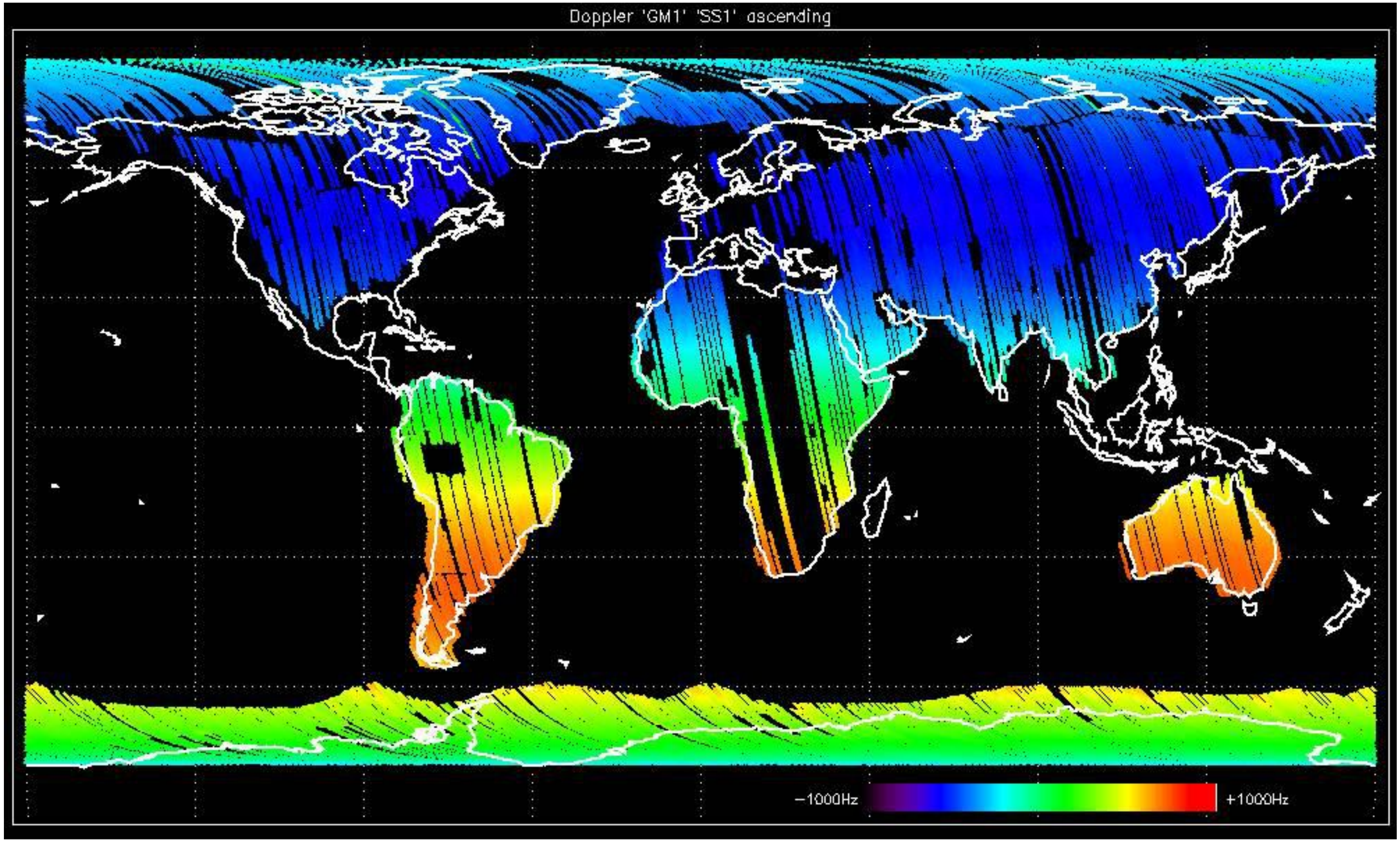
No anomalies observed.

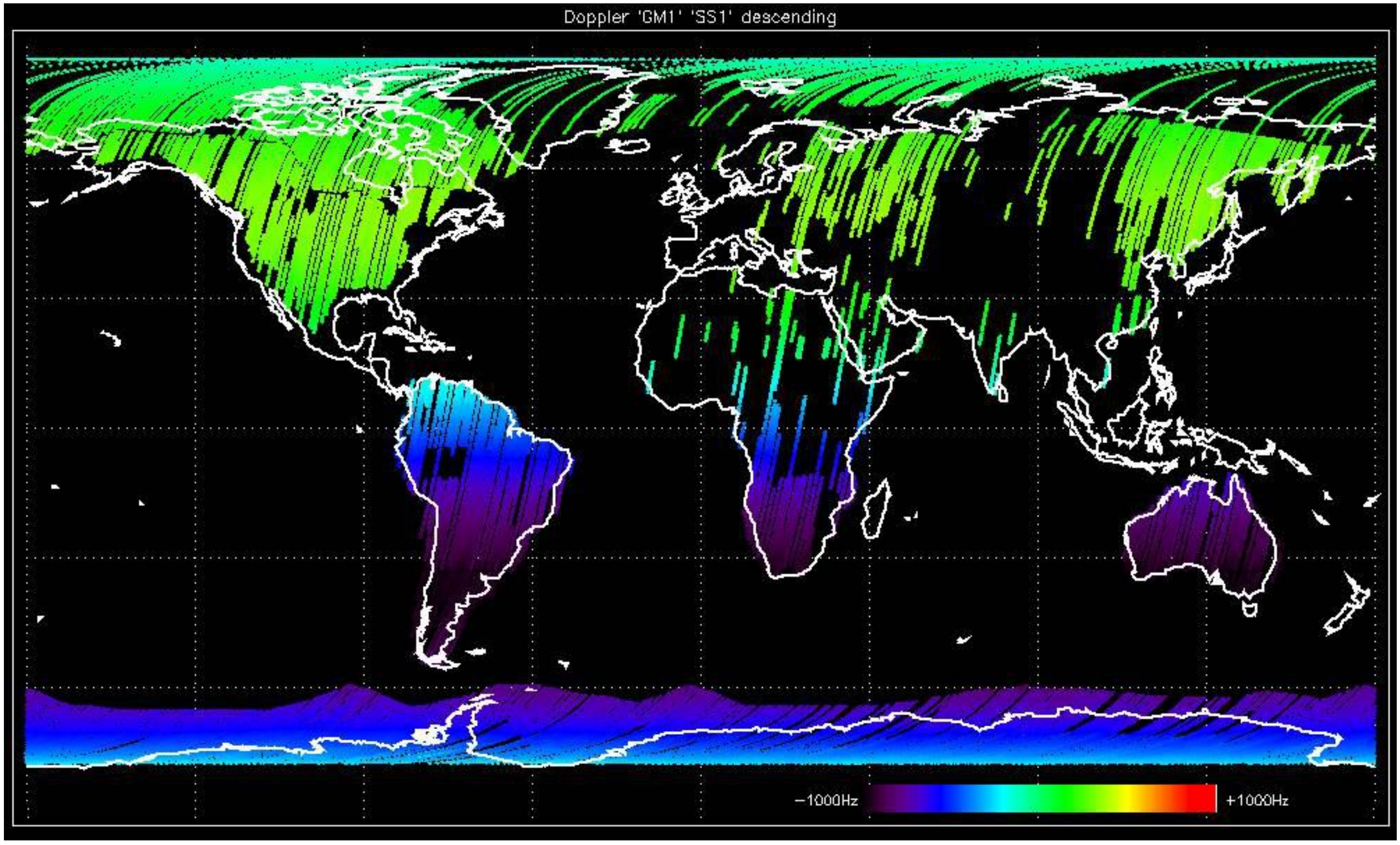

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−7.80
−7.85
−7.90
−7.95
−8.00
−8.05
−8.10
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

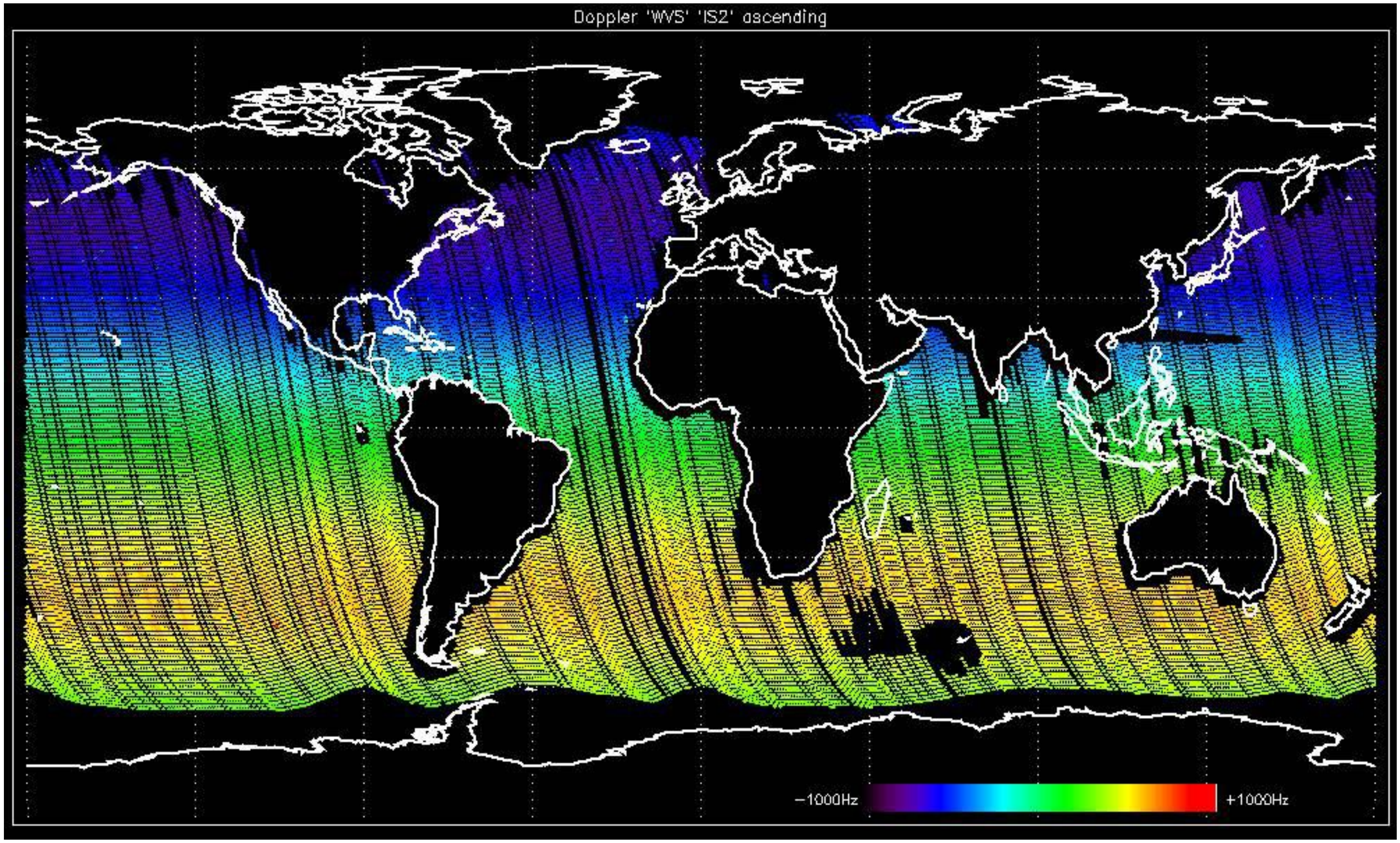

P1_AMP
dB
0
−5
−10
−15
−20
0 5 10 15 20 25 30
P1_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P1a_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P1a_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P2_AMP
dB
0
−10
−20
−30
0 5 10 15 20 25 30
P2_PH
200
100
0
−100
−200
0 5 10 15 20 25 30
P3_AMP
dB
−8.00
−8.05
−8.10
−8.15
−8.20
−8.25
0 5 10 15 20 25 30
P3_PH
200
100
0
−100
−200
0 5 10 15 20 25 30

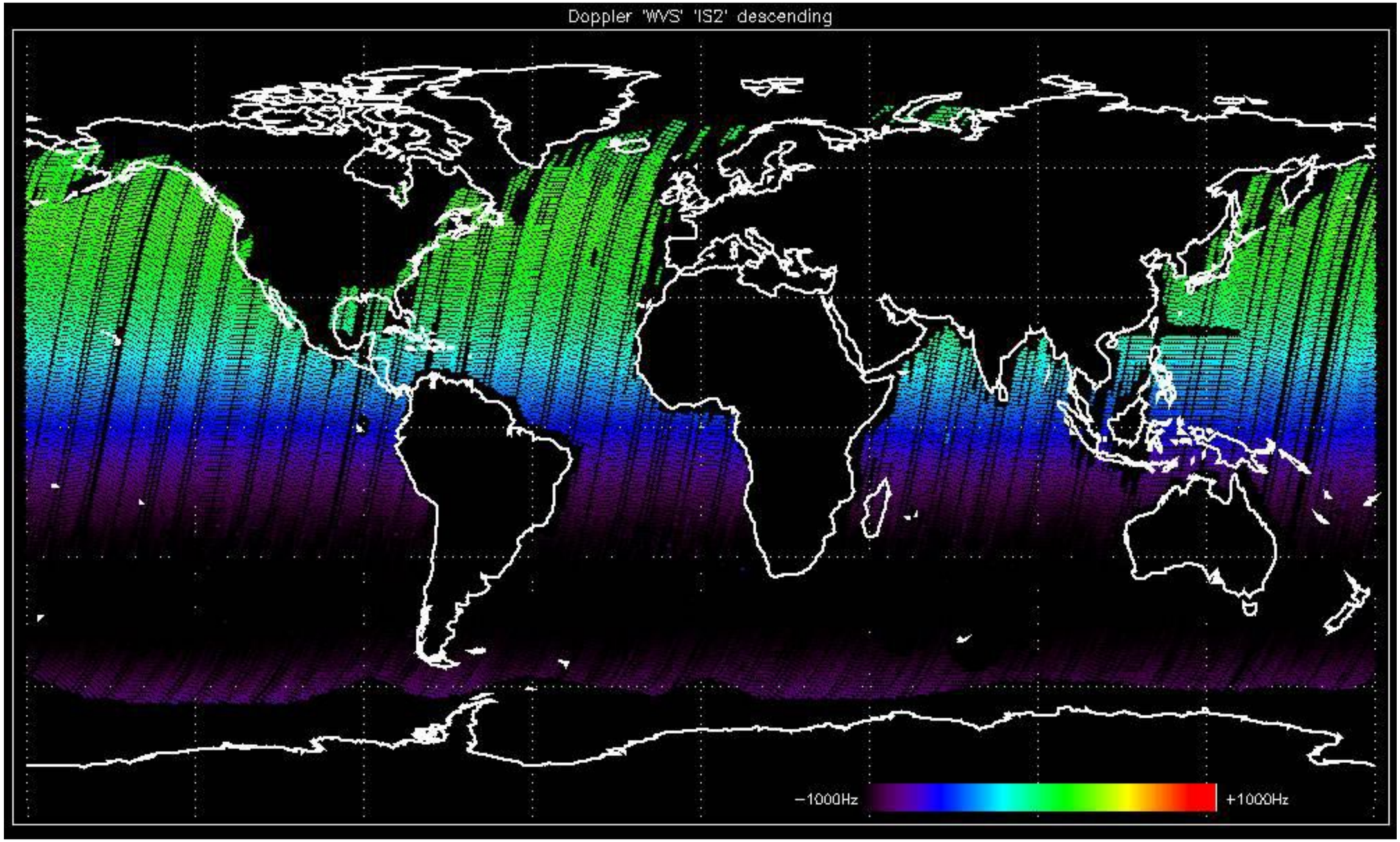
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

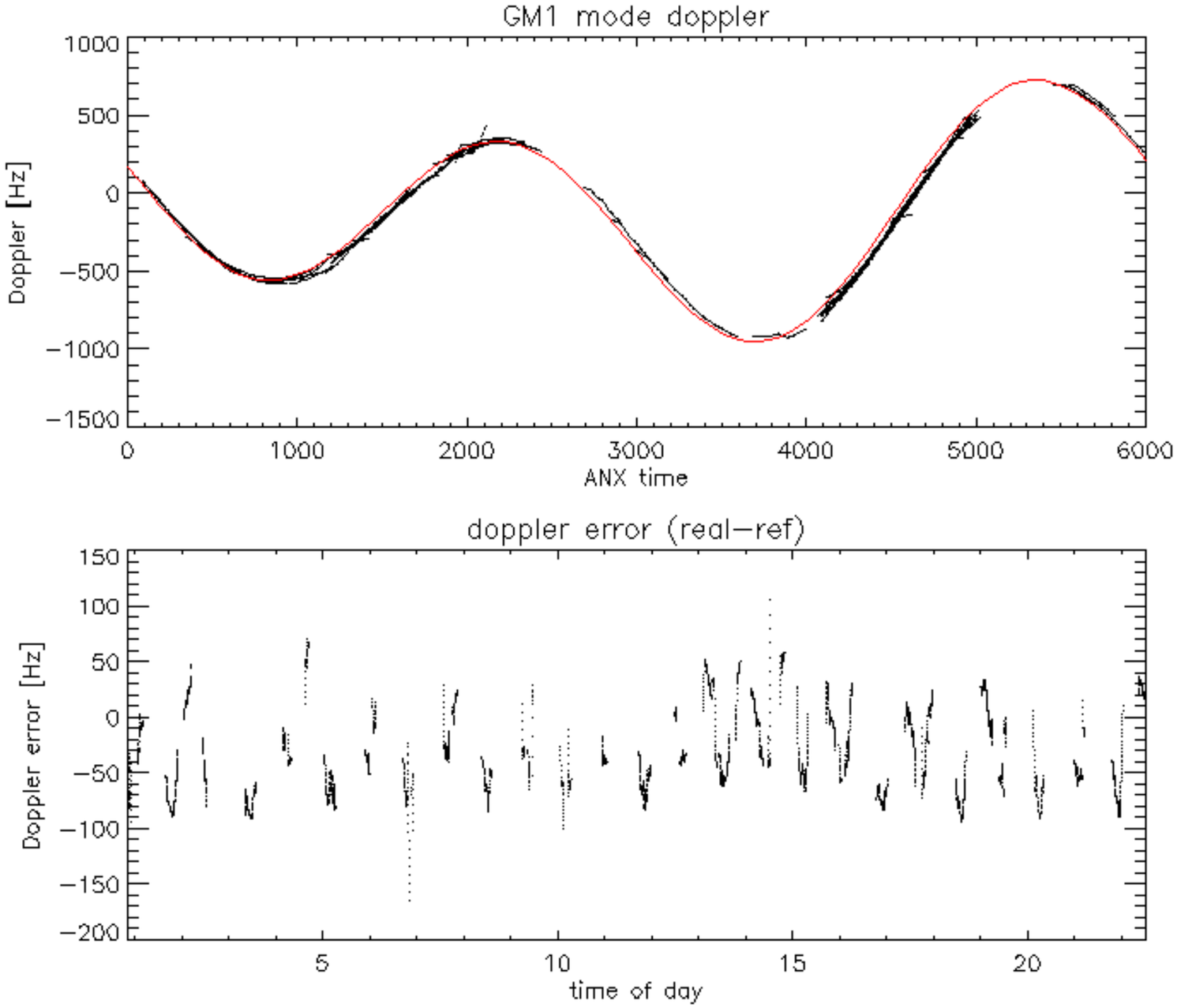
No anomalies observed on Doppler evolution.
Doppler analysis performed over the last 35 days

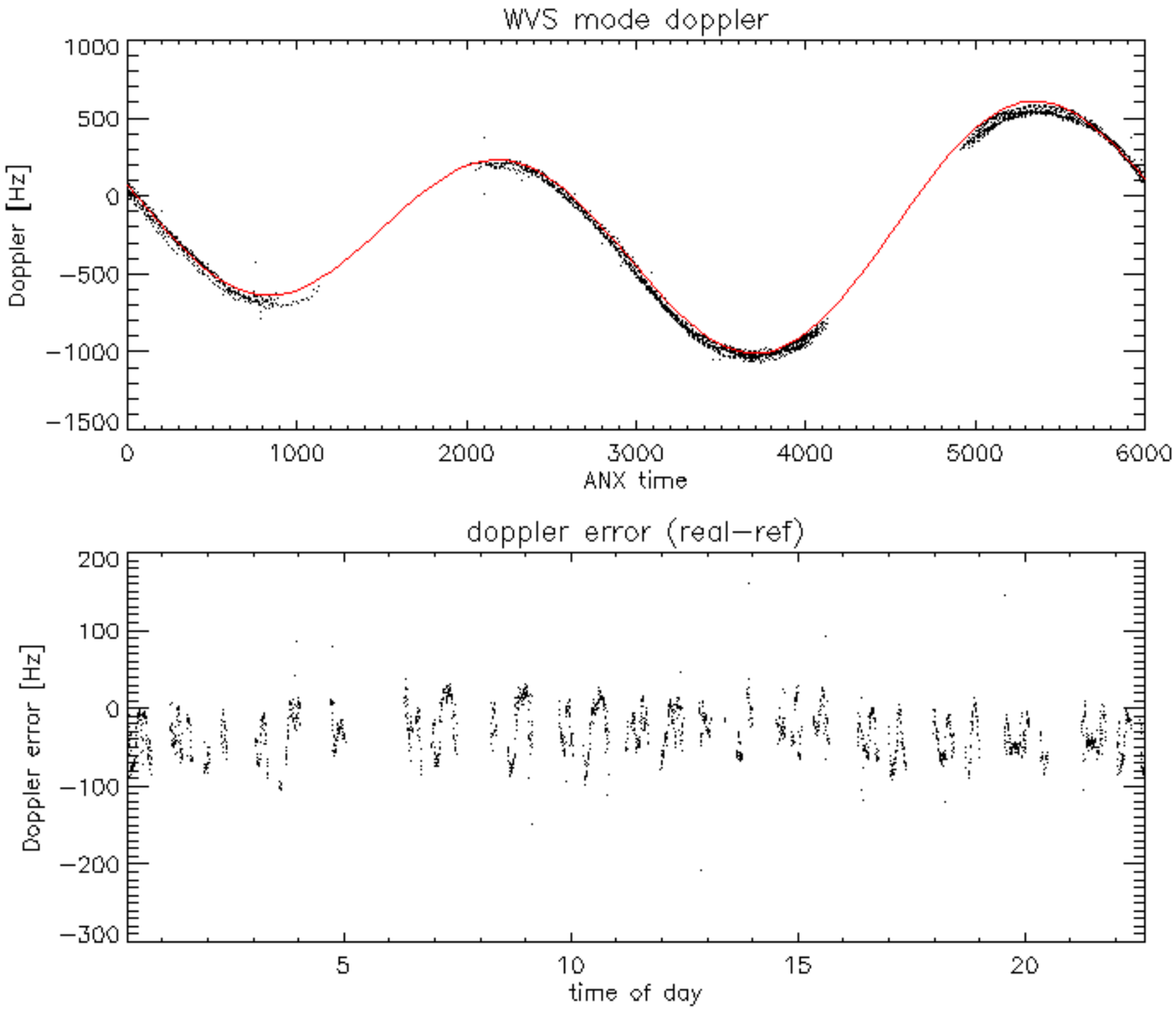

Doppler 'GM1' 'SS1' ascending
−1000Hz
+1000Hz

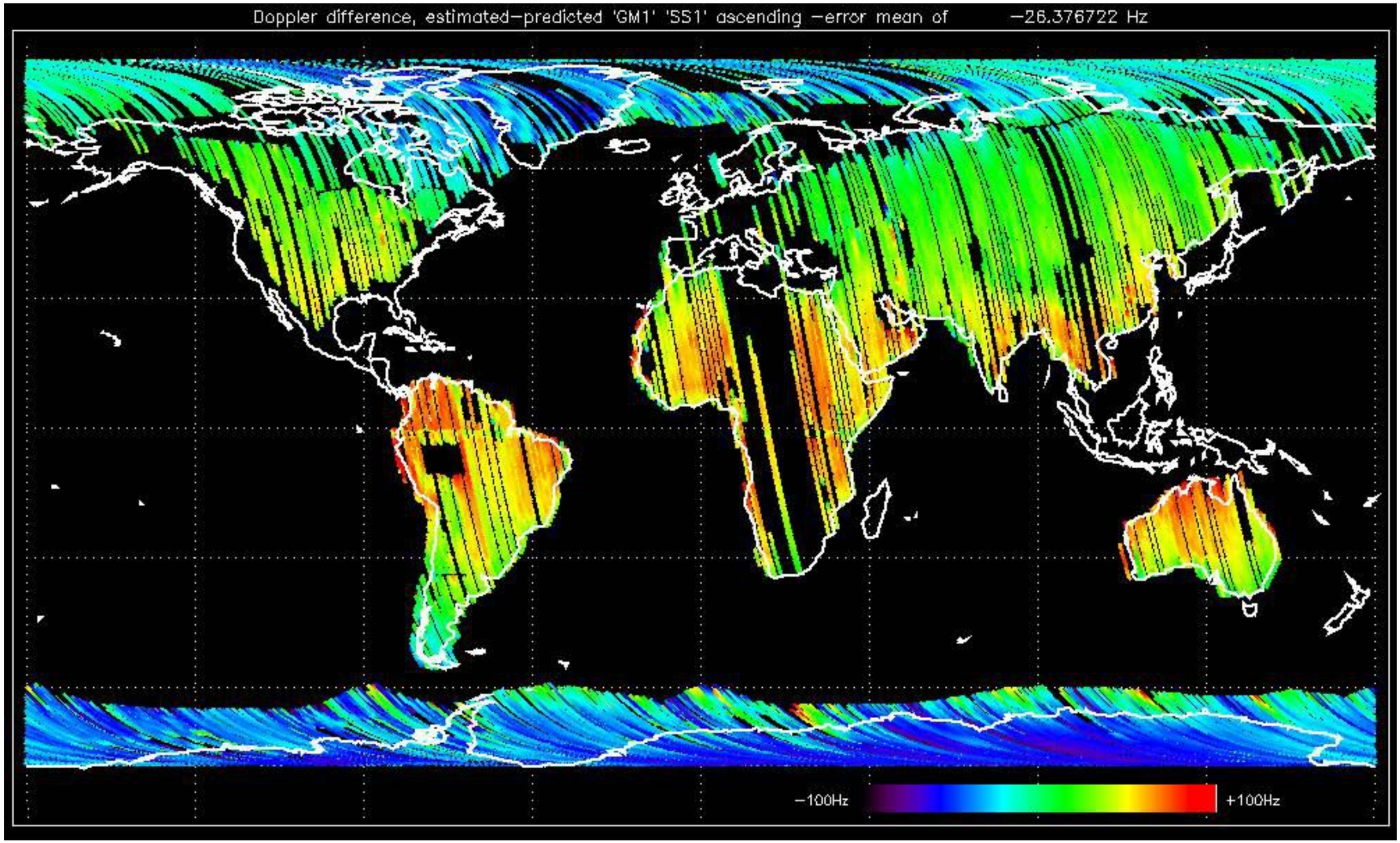

Doppler 'GM1' 'SS1' descending
−1000Hz
+1000Hz

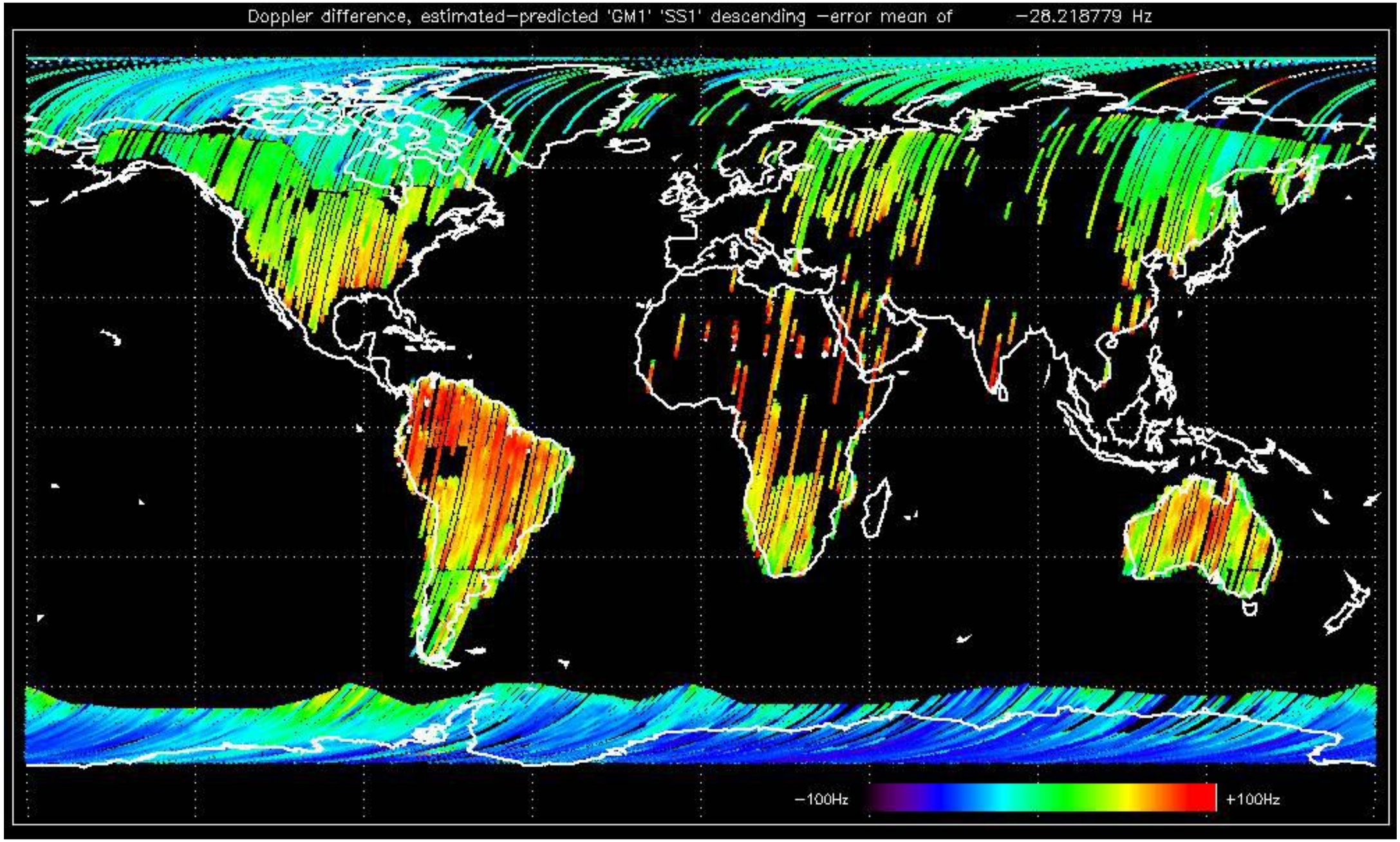

Doppler 'WVS' 'IS2' ascending
−1000Hz
+1000Hz

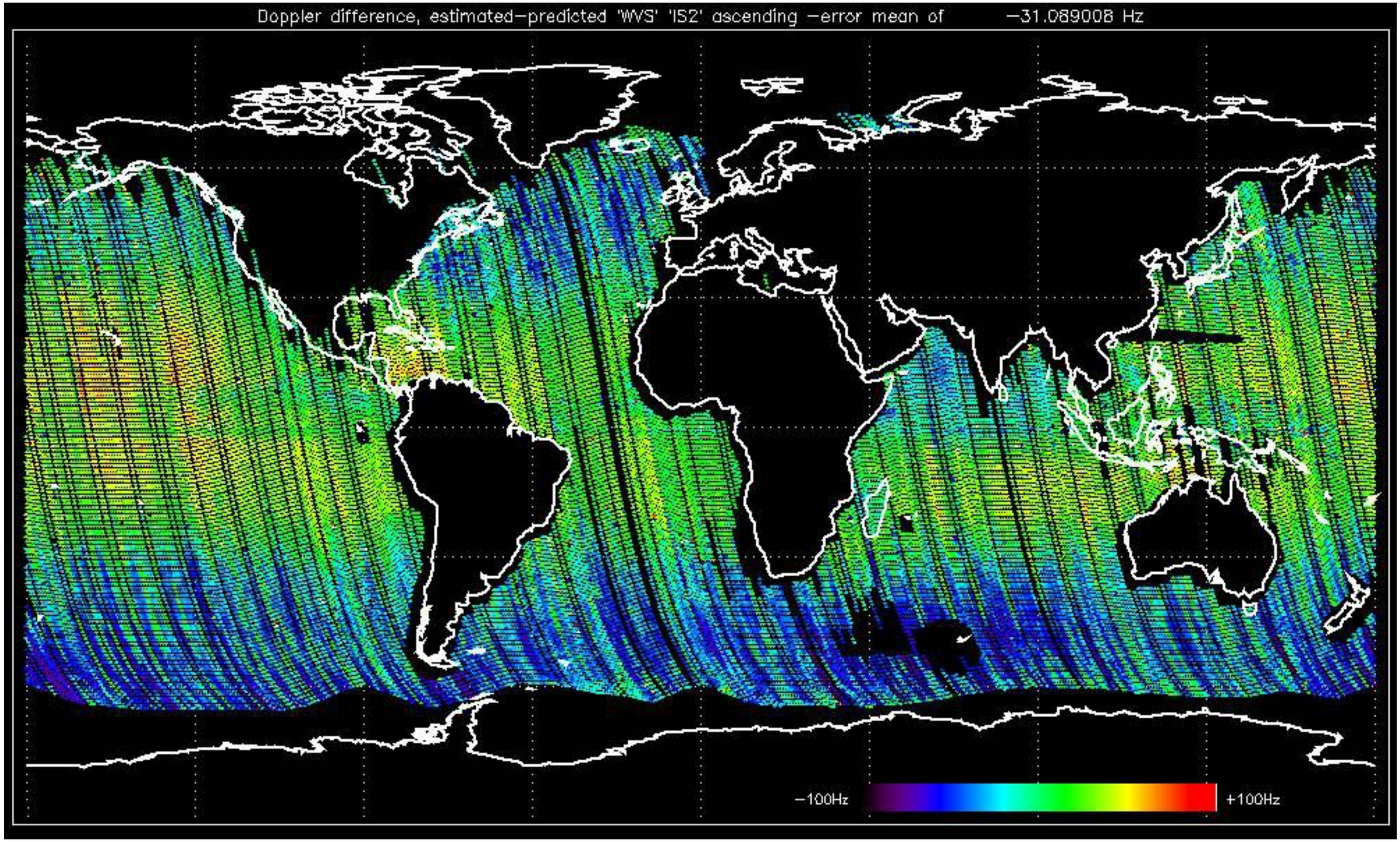

Doppler 'WVS' 'IS2' descending
−1000Hz
+1000Hz

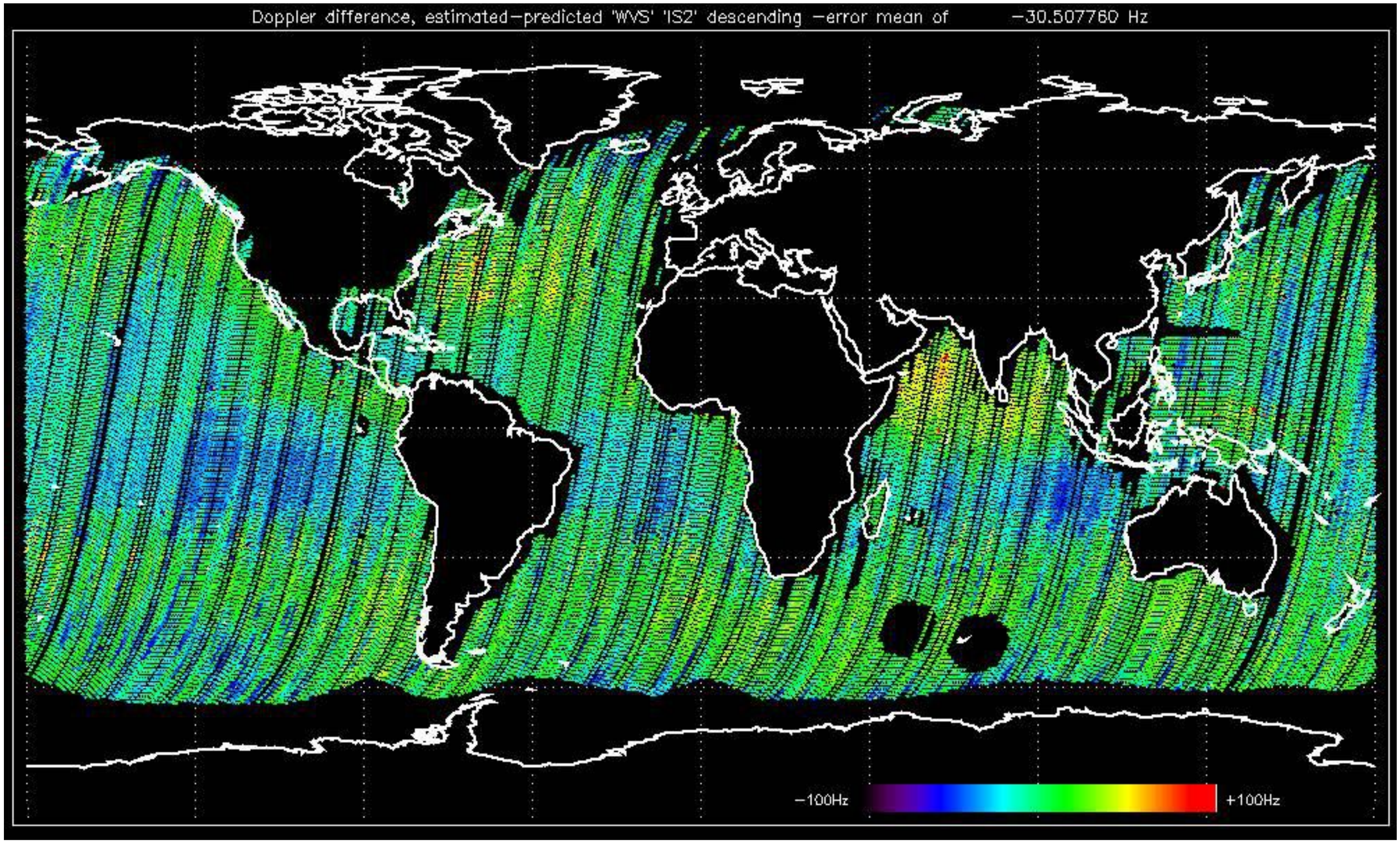

GM1 mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
ANX time
doppler error (real−ref)
Doppler error [Hz]
150
100
50
0
−50
−100
−150
−200
5
10
15
20
time of day


WVS mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
ANX time
doppler error (real−ref)
Doppler error [Hz]
200
100
0
−100
−200
−300
5
10
15
20
time of day


Doppler difference, estimated−predicted 'GM1' 'SS1' ascending −error mean of −26.376722 Hz
−100Hz
+100Hz


Doppler difference, estimated−predicted 'GM1' 'SS1' descending −error mean of −28.218779 Hz
−100Hz
+100Hz

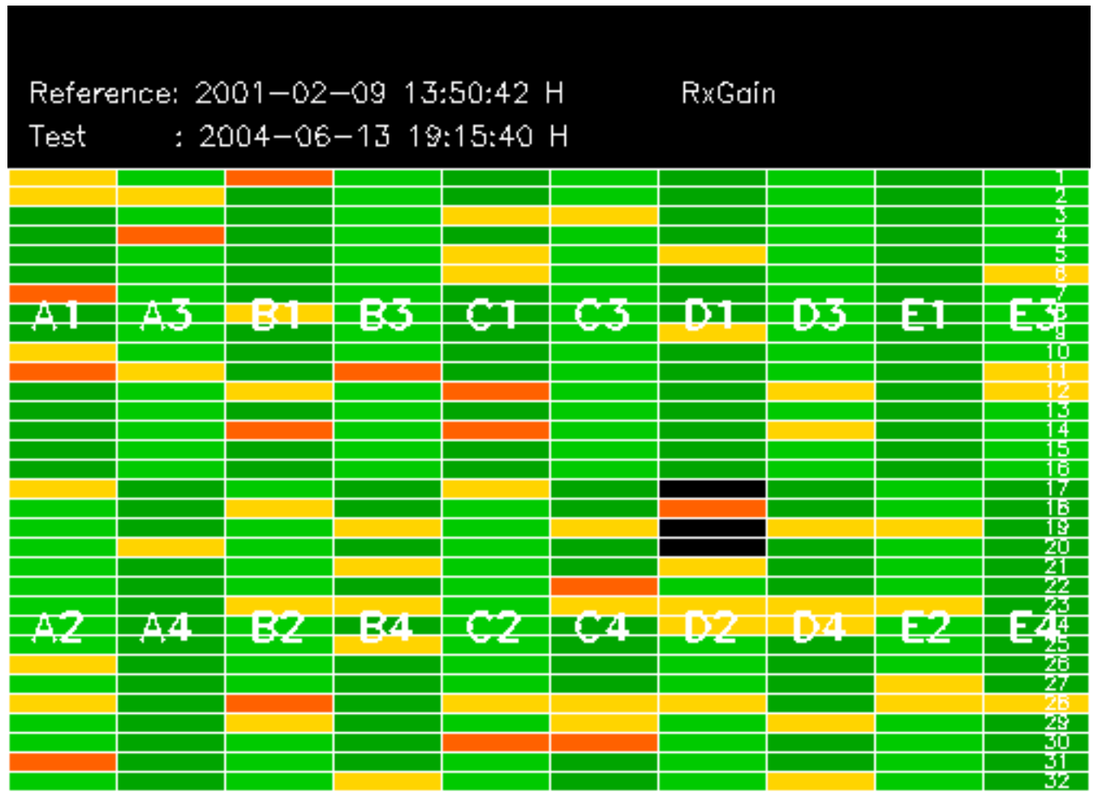

Doppler difference, estimated−predicted 'WVS' 'IS2' ascending −error mean of −31.089008 Hz
−100Hz
+100Hz

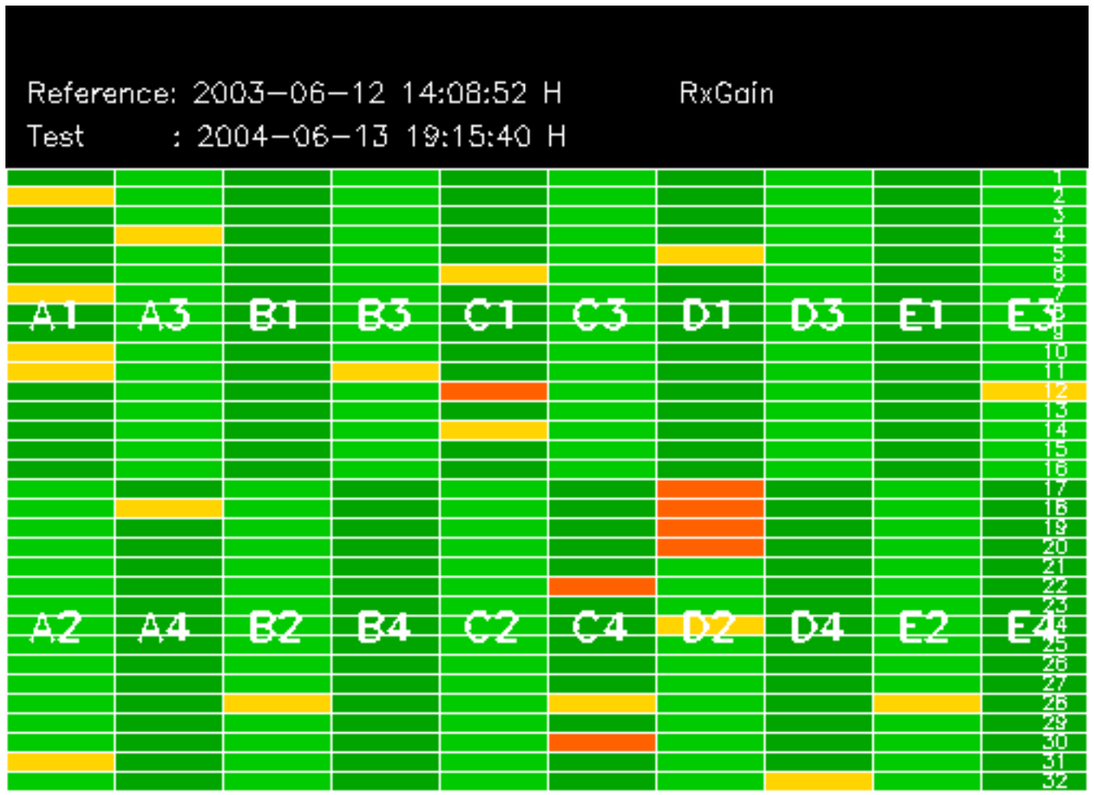

Doppler difference, estimated−predicted 'WVS' 'IS2' descending −error mean of −30.507760 Hz
−100Hz
+100Hz

The MS mode provides an internal health check on an individual module basis.
The purpose of this mode is to identify any malfunctionning modules and
to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

- ASA_MS__0PNPDK20040614_202339_000000152027_00400_11977_0153.N1

No anomalies observed.


Reference: 2001-02-09 13:50:42 H
Test : 2004-06-13 19:15:40 H
RxGain
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 : 2004-06-13 19:15:40 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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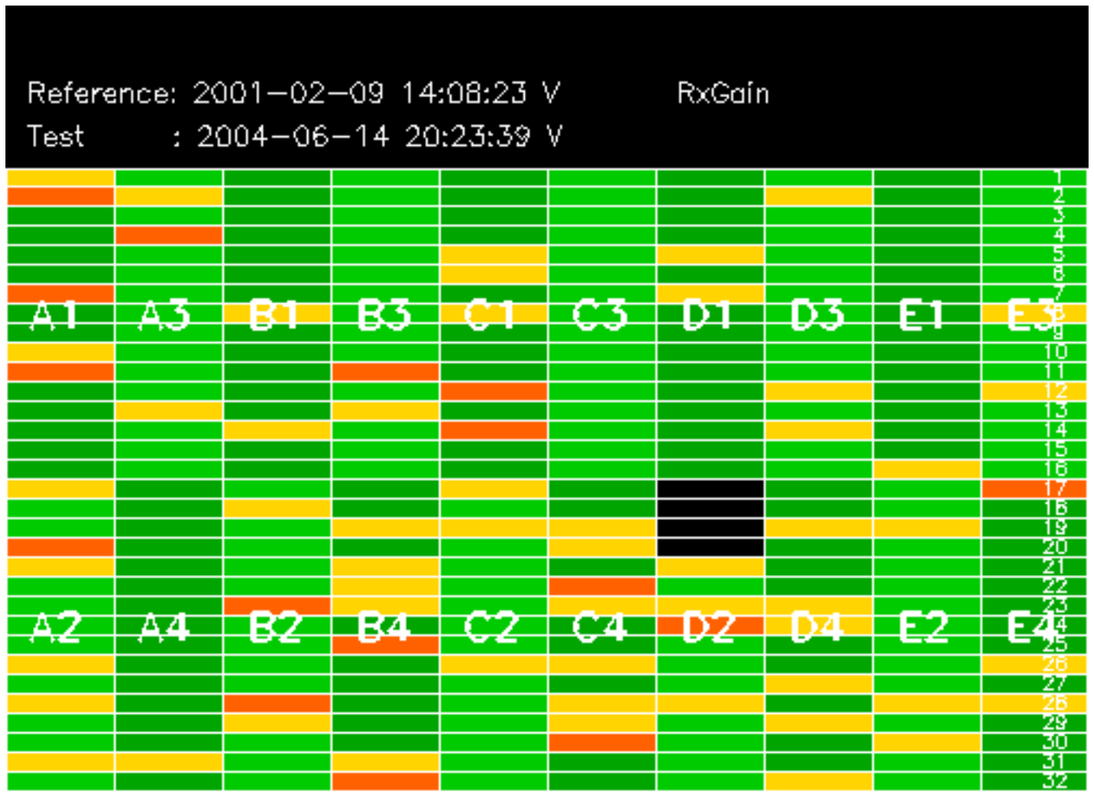
Reference: 2001-02-09 14:08:23 V
Test : 2004-06-14 20:23:39 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
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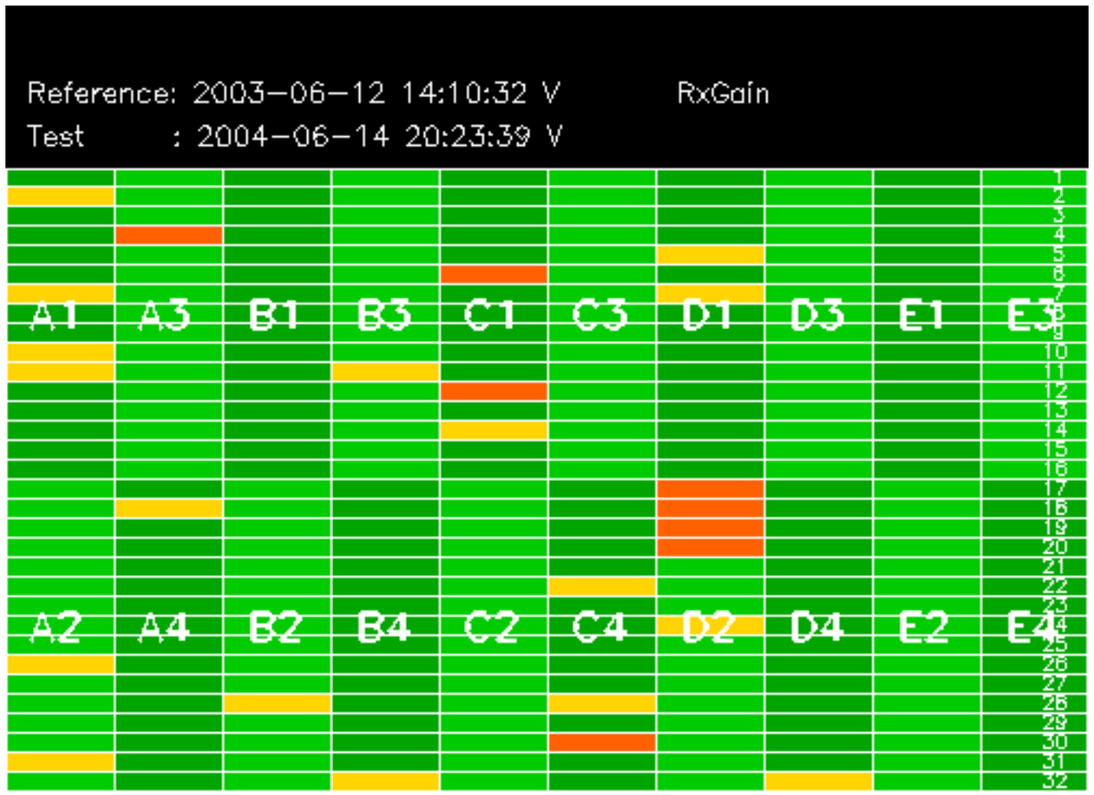
Reference: 2003-06-12 14:10:32 V
Test : 2004-06-14 20:23:39 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
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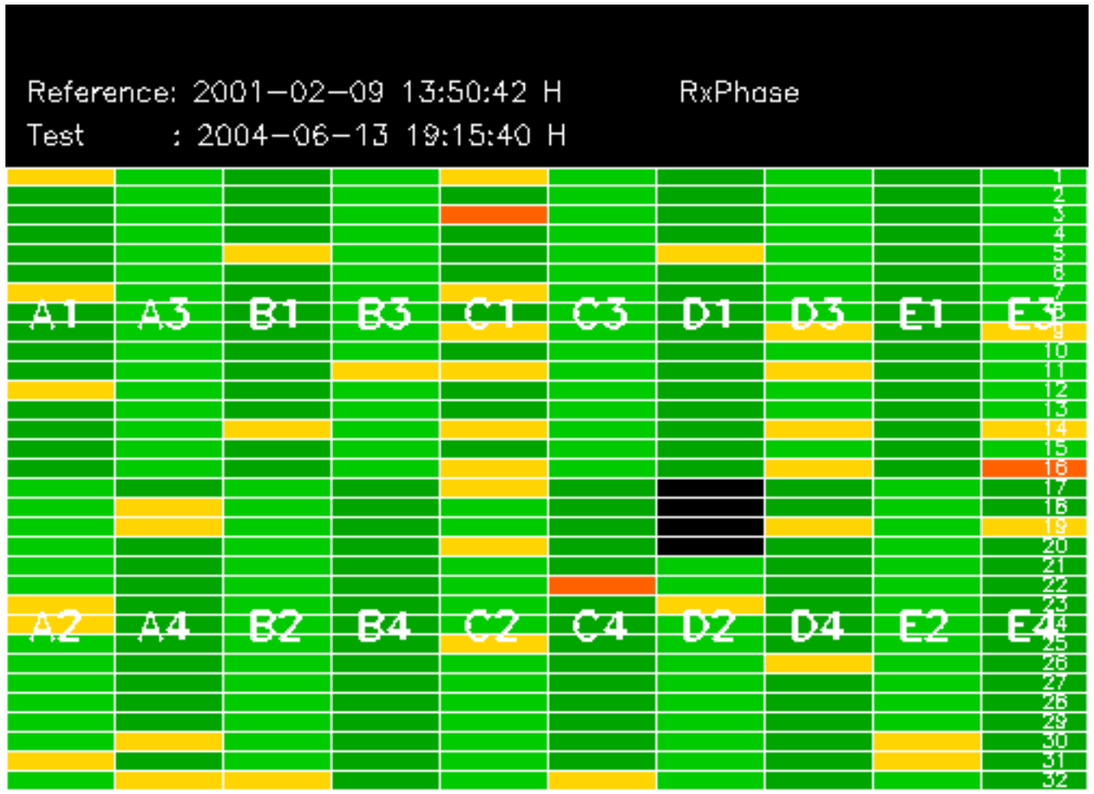
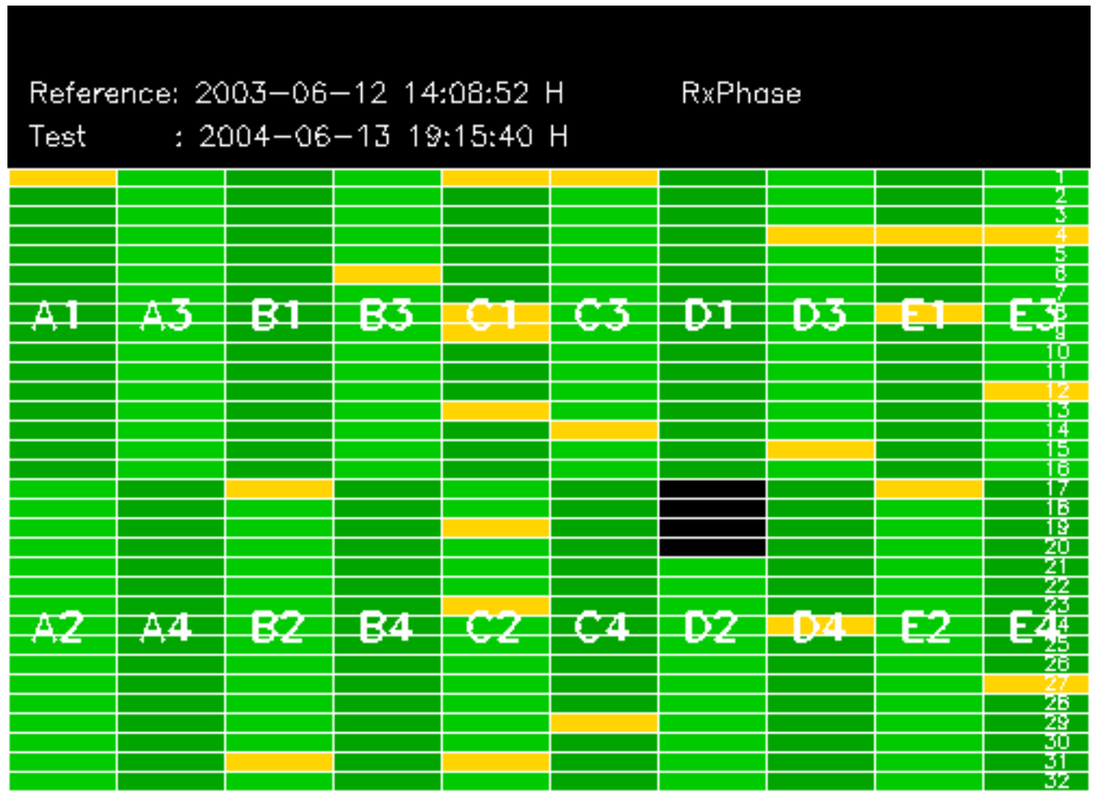
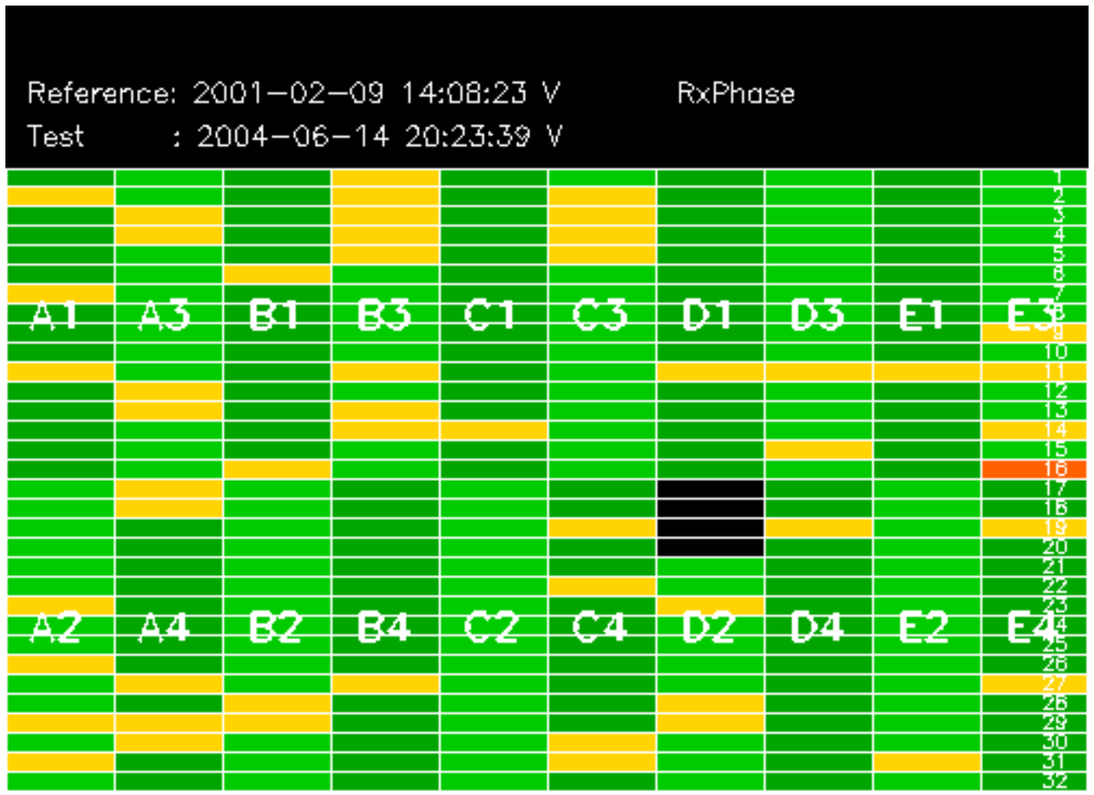

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2004-06-13 19:15:40 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2003-06-12 14:08:52 H
Test : 2004-06-13 19:15:40 H
RxPhase
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 : 2004-06-14 20:23:39 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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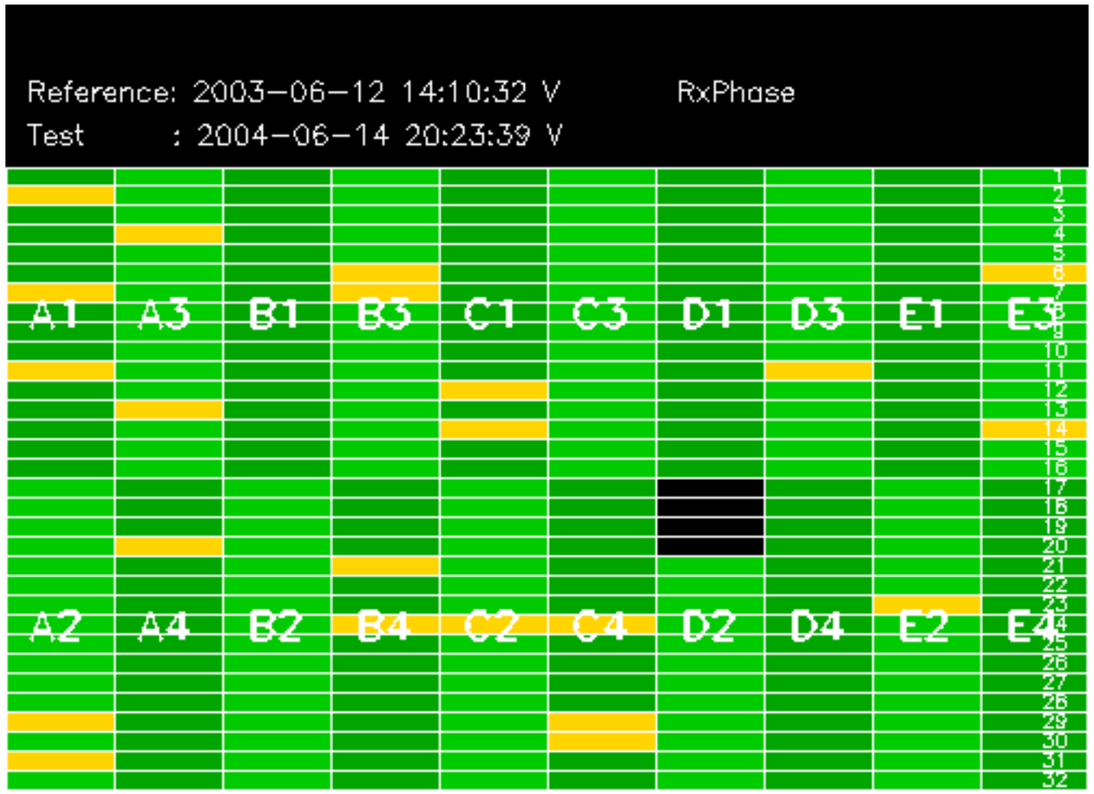
Reference: 2003-06-12 14:10:32 V
Test : 2004-06-14 20:23:39 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
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9
10
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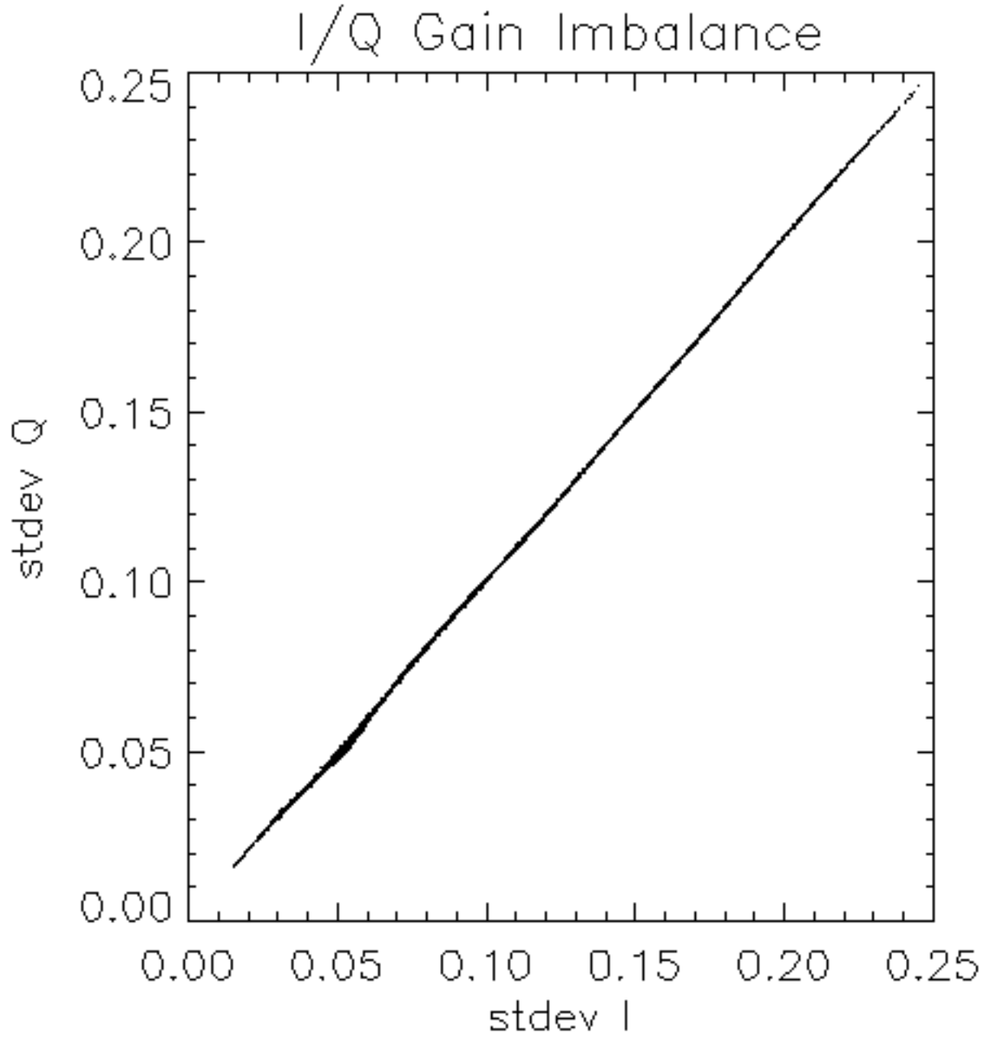
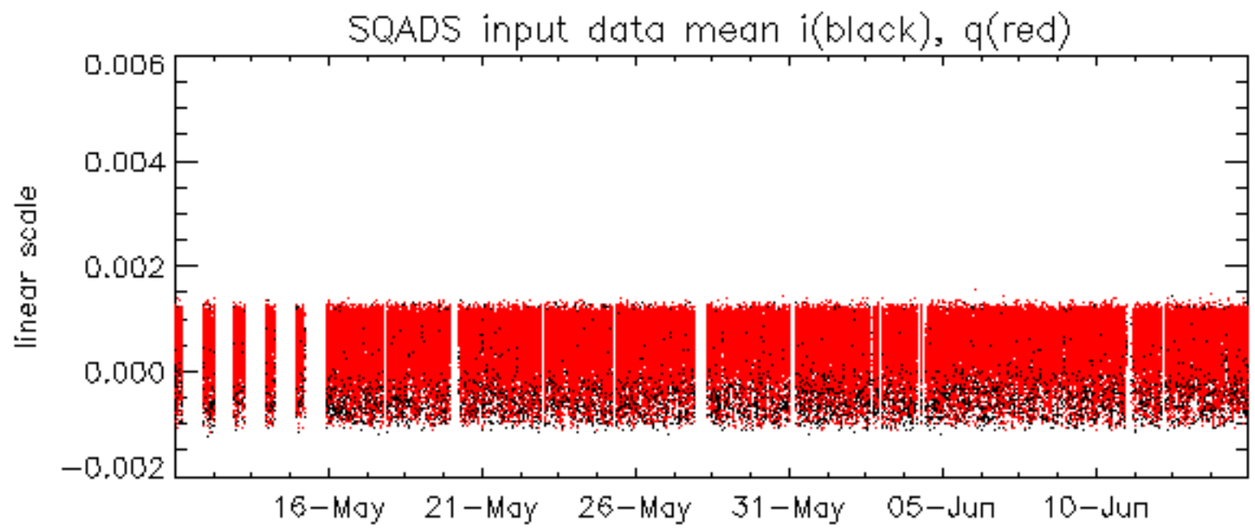
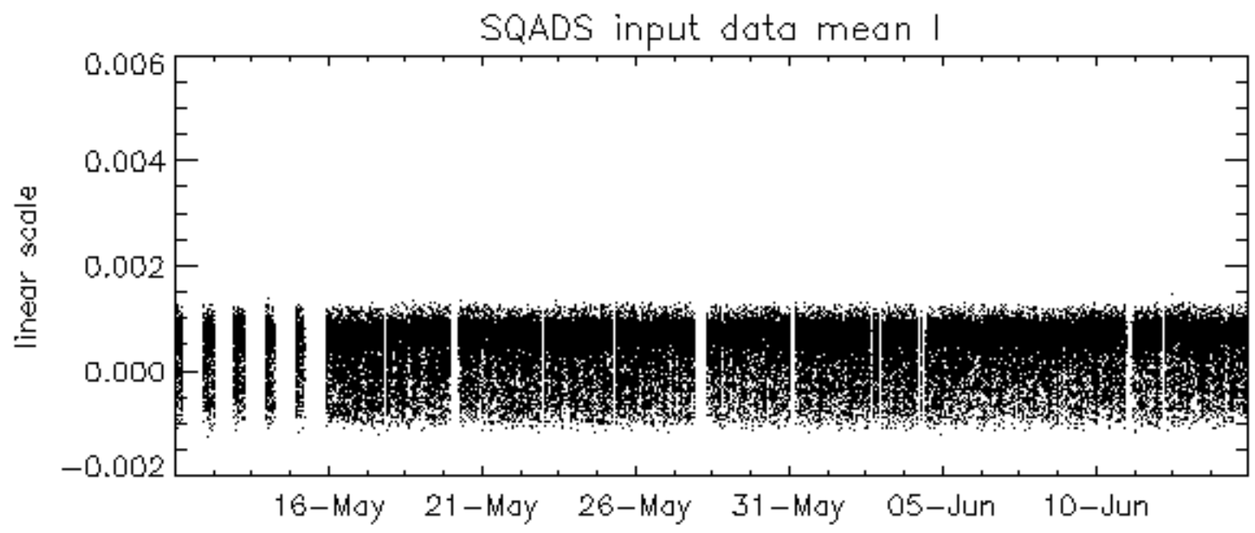
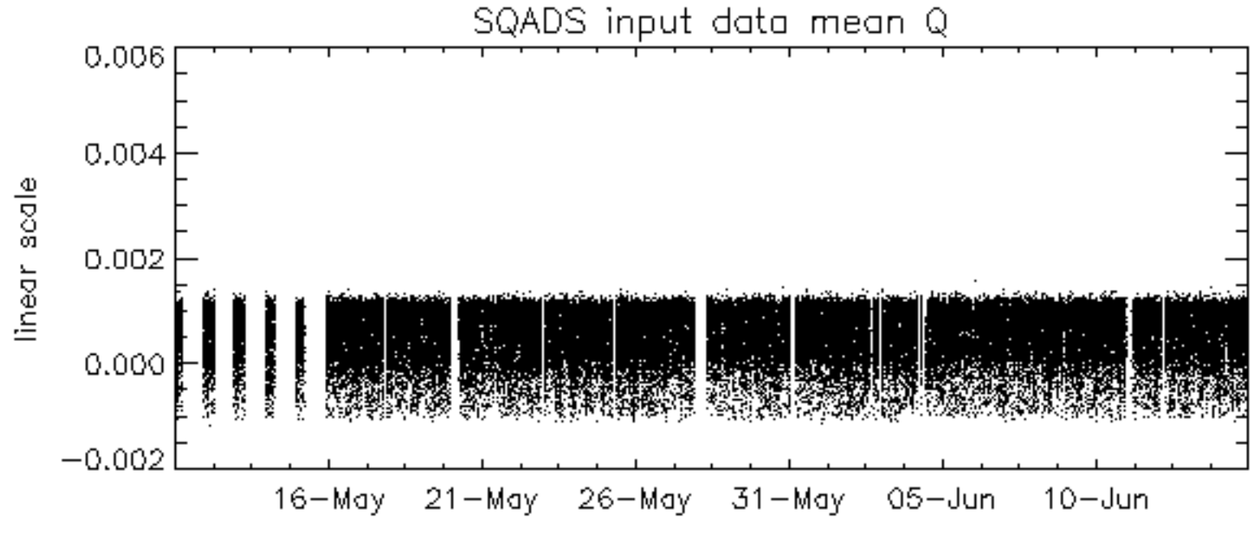
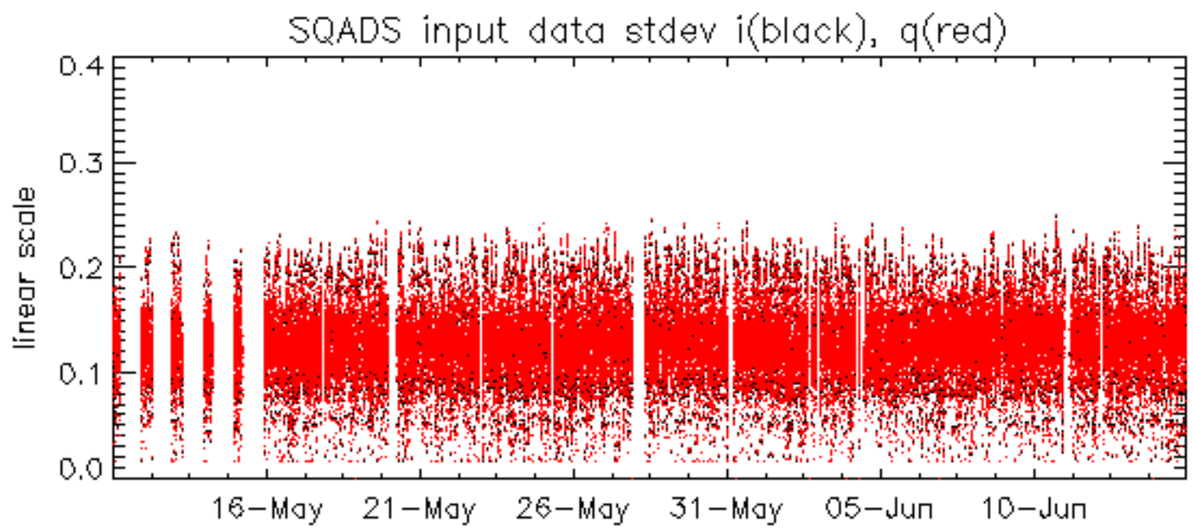
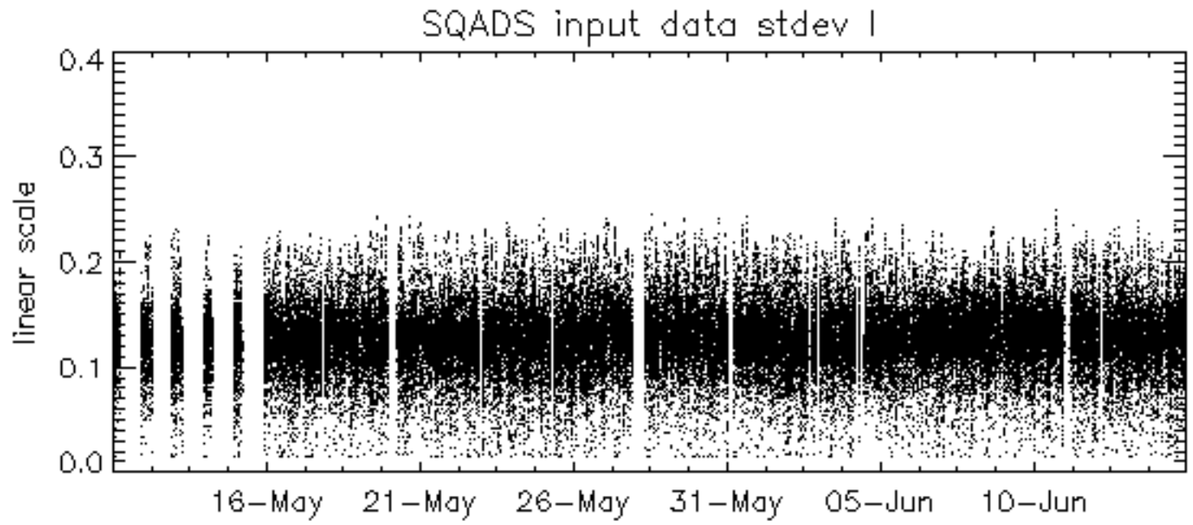

I/Q Gain Imbalance
0.25
0.20
0.15
0.10
0.05
0.00
stdev Q
0.00
0.05
0.10
0.15
0.20
0.25
stdev I

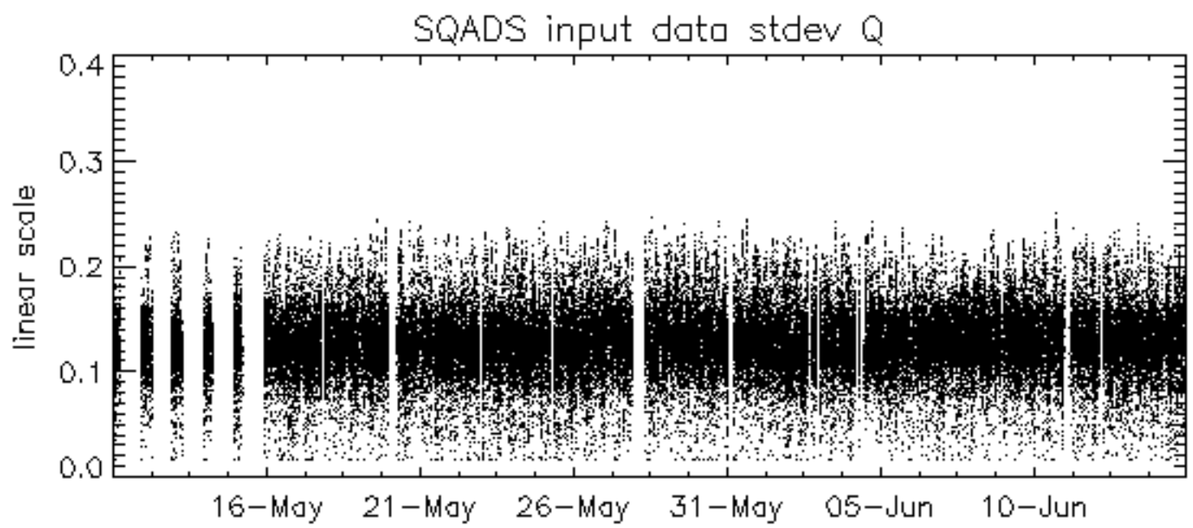

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
16−May
21−May
26−May
31−May
05−Jun
10−Jun

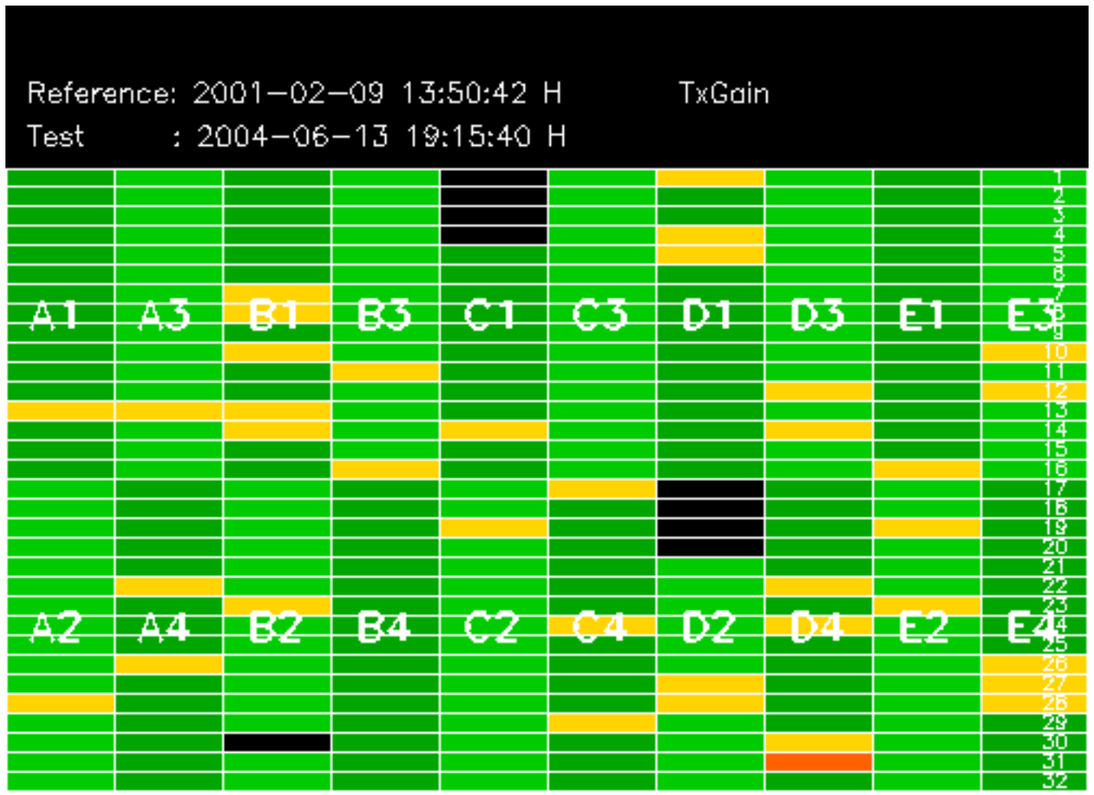

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
16−May
21−May
26−May
31−May
05−Jun
10−Jun

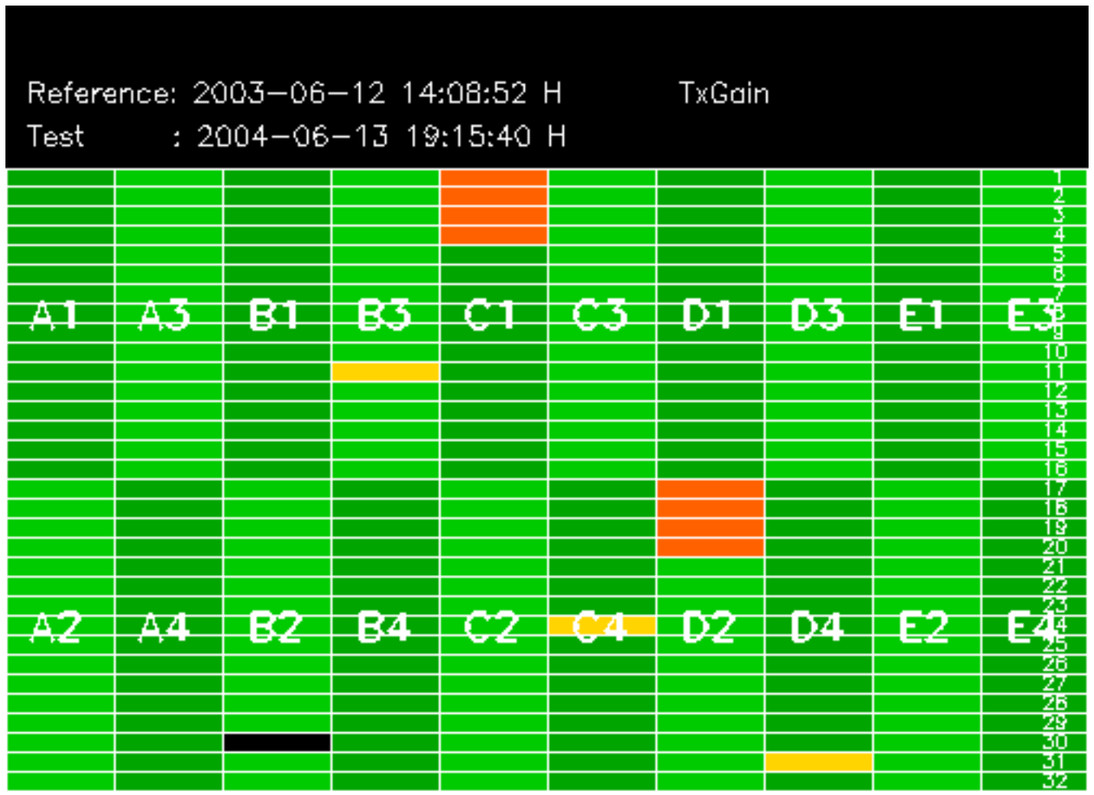

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
16−May
21−May
26−May
31−May
05−Jun
10−Jun


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


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
16−May
21−May
26−May
31−May
05−Jun
10−Jun


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
16−May
21−May
26−May
31−May
05−Jun
10−Jun


Reference: 2001-02-09 13:50:42 H
Test : 2004-06-13 19:15:40 H
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 14:08:52 H
Test : 2004-06-13 19:15:40 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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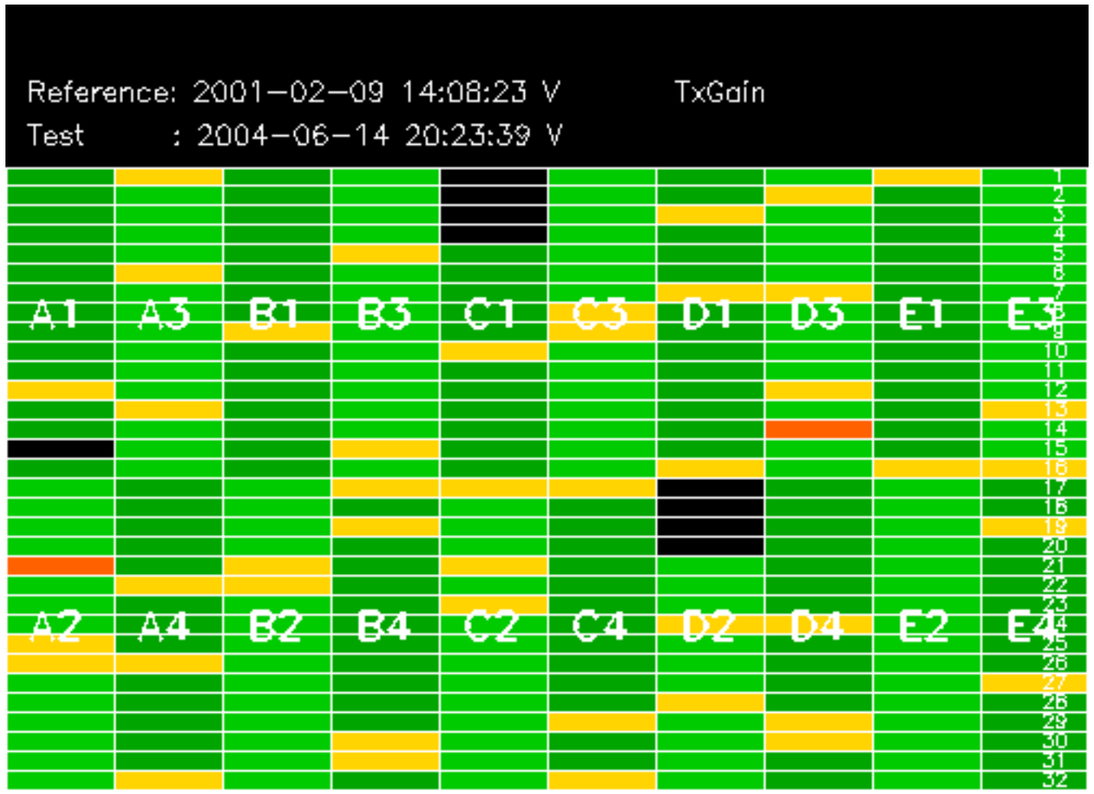
Reference: 2001-02-09 14:08:23 V
Test : 2004-06-14 20:23:39 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
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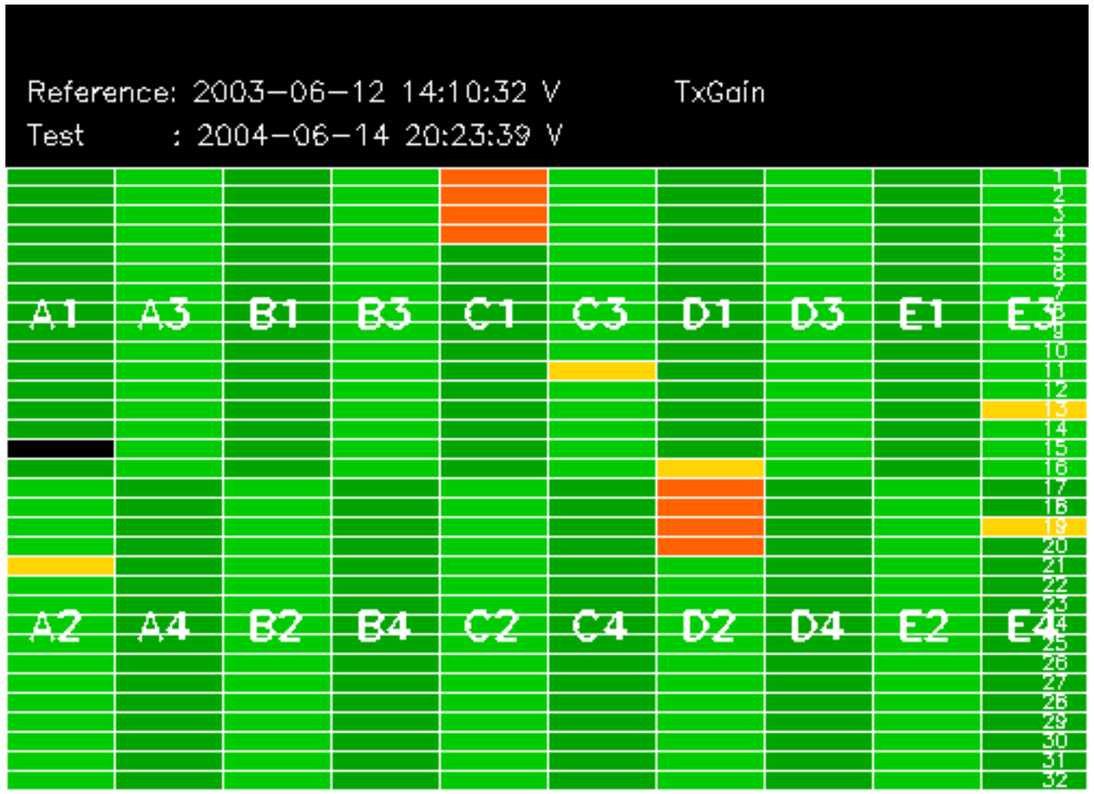
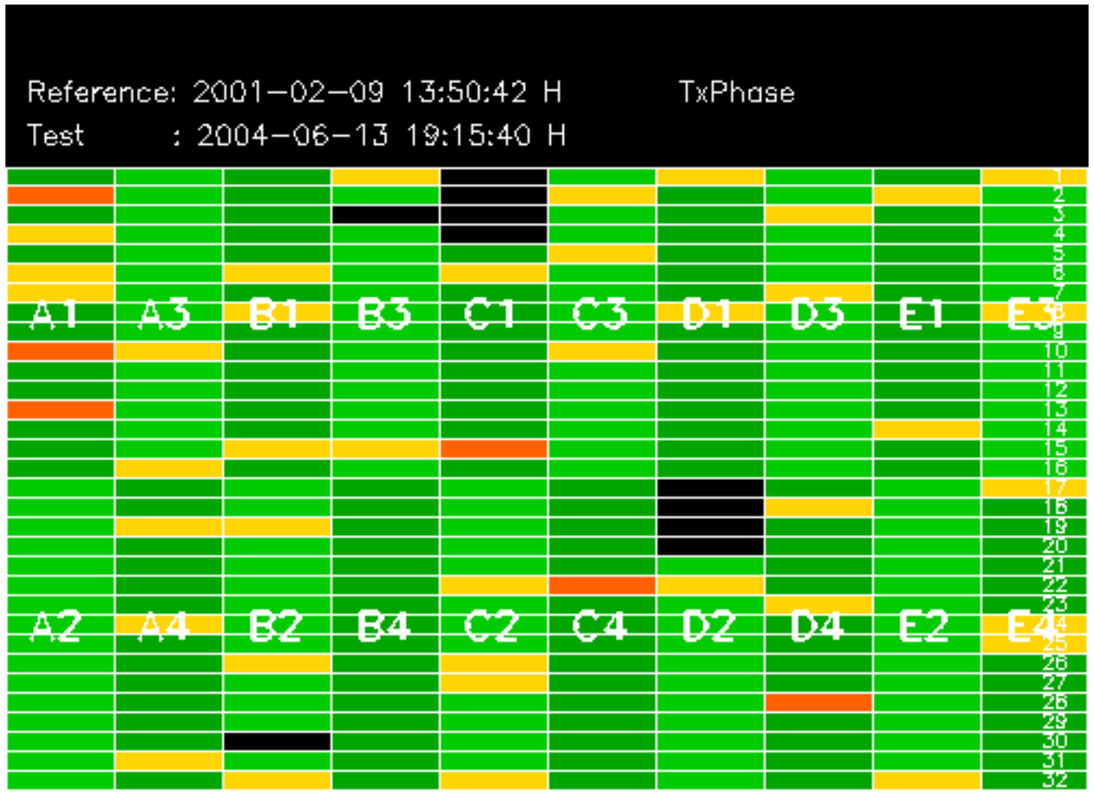

Reference: 2003-06-12 14:10:32 V
Test : 2004-06-14 20:23:39 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 13:50:42 H
TxPhase
Test : 2004-06-13 19:15:40 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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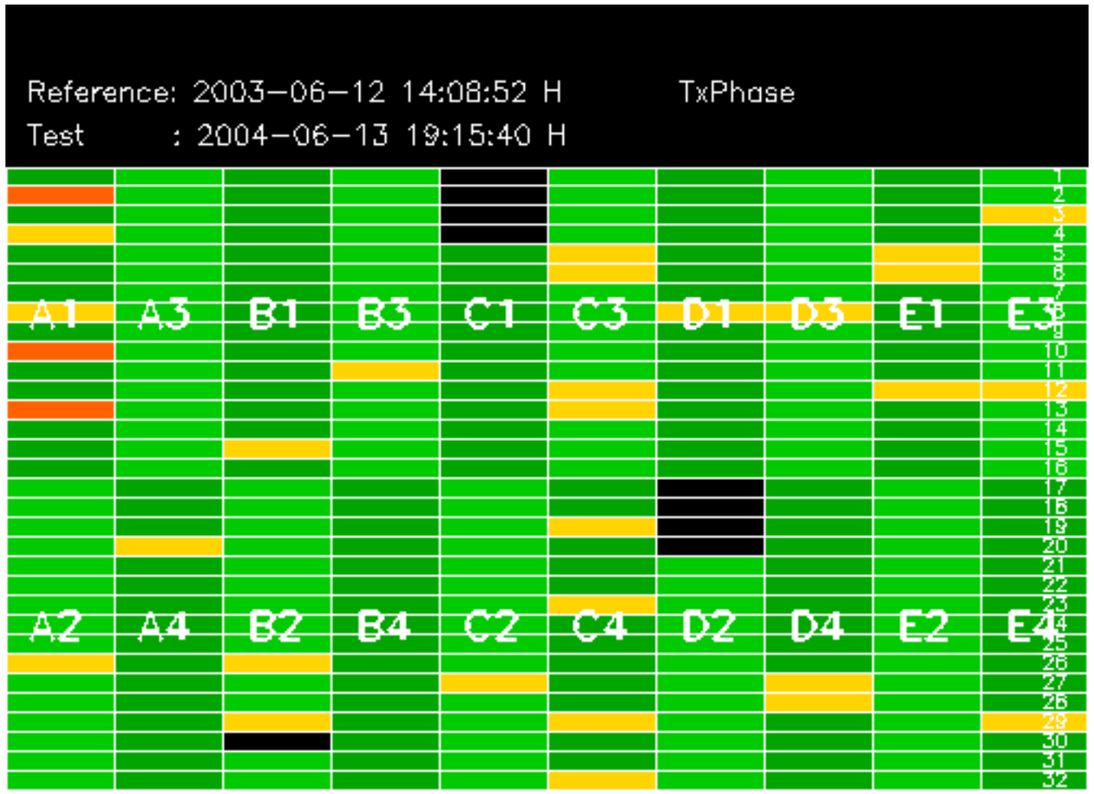
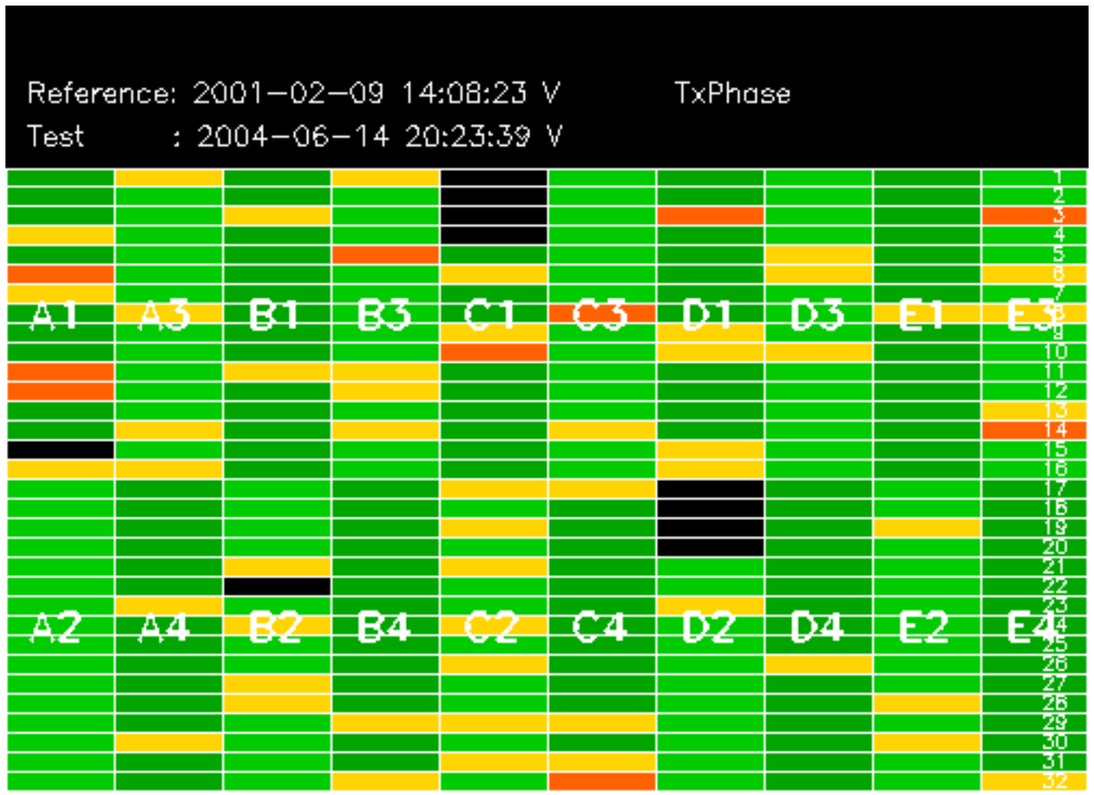
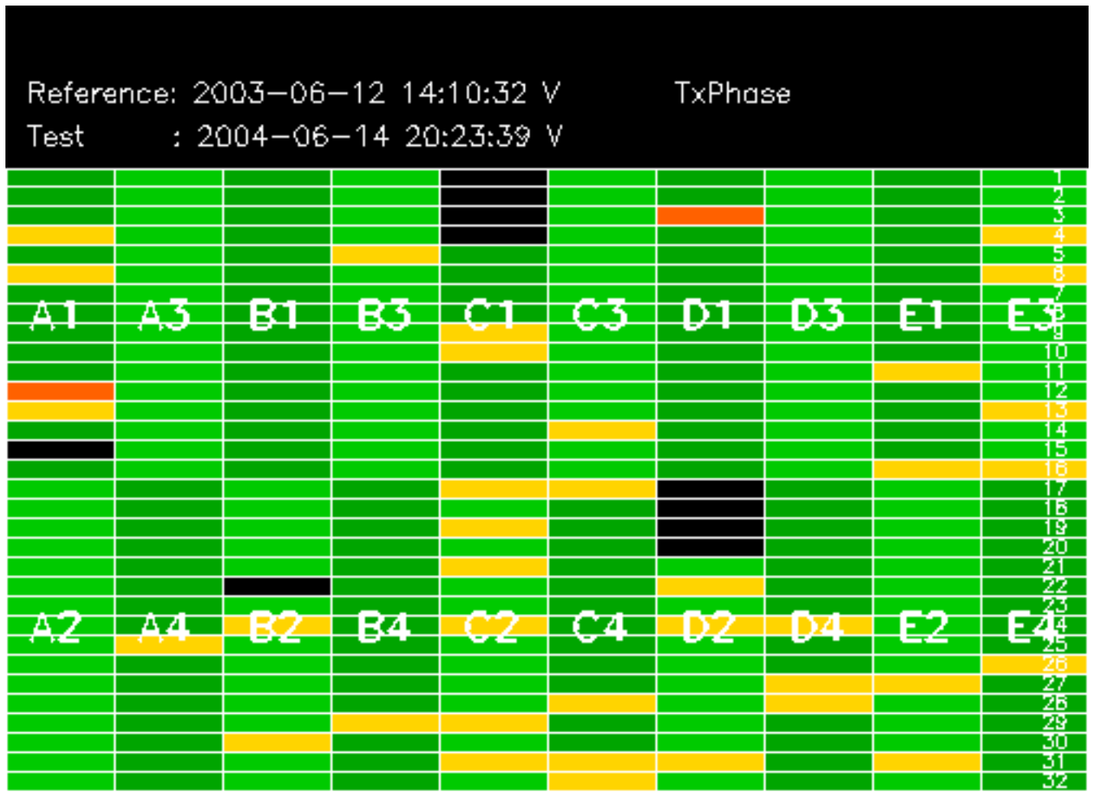
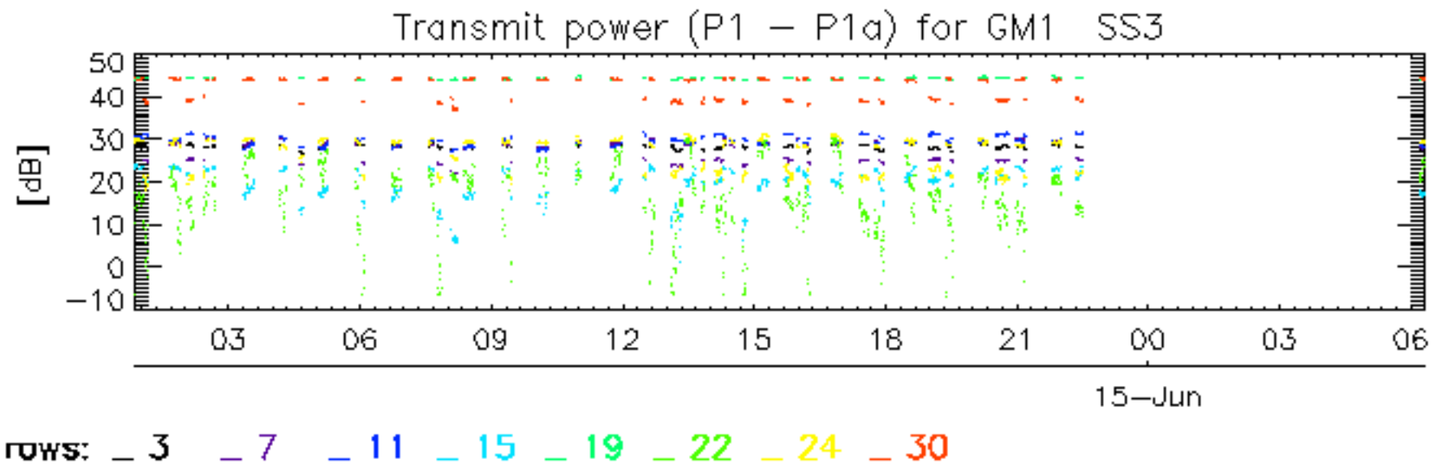
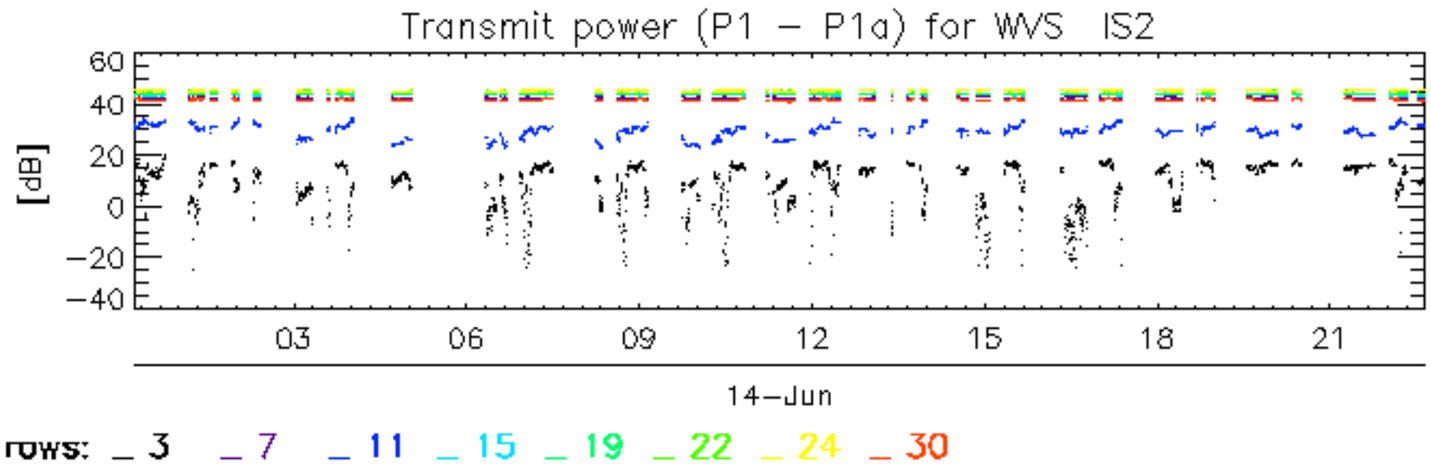

Reference: 2003-06-12 14:08:52 H
Test : 2004-06-13 19:15:40 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2004-06-14 20:23:39 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 : 2004-06-14 20:23:39 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
[dB]
50
40
30
20
10
0
−10
03
06
09
12
15
18
21
00
03
06
15–Jun
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30


Transmit power (P1 – P1a) for WVS IS2
[dB]
60
40
20
0
−20
−40
03
06
09
12
15
18
21
14–Jun
rows: 3 7 11 15 19 22 24 30

No unavailabilities during the reported period.