PRELIMINARY REPORT OF 050519

last update on Thu May 19 11:44:16 GMT 2005

1 - Introduction

2 - Summary

2.1 - Instrument Unavailability

No unavailabilities during the reported period.

2.2 - Auxiliary files

Summary of the auxiliary files used from 2005-05-18 00:00:00 to 2005-05-19 11:44:16

PDHS-K					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	0	0	11	2	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	0	0	11	2	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	0	0	11	2	0

ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	0	0	11	2	0

PDHS-E					
AUXILIARY FILE	**WVS**	**GM1**	**IMM**	**APM**	**WSM**
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	0	0	22	6	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	0	0	22	6	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	0	0	22	6	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	0	0	22	6	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	20050506 055519
H	20050505 062656

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 IMM

Evolution of cal pulses for IMM

4.1.2 - Evolution for WSM

Evolution of cal pulses for WSM

4.2 - Cyclic statistics

4.2.1 - Evolution for IMM

Evolution of cal pulses for IMM

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	-3.065545	0.013690	0.051936
7	P1	-2.916662	0.031499	-0.038411
11	P1	-4.440153	0.100888	-0.050161
15	P1	-5.361447	0.099491	0.073348
19	P1	-3.444166	0.018131	0.018960
22	P1	-4.189949	0.029727	-0.092592
26	P1	-4.500908	0.033204	0.091734
30	P1	-6.709214	0.018510	0.081089
3	P1	-15.583189	0.192652	0.095548
7	P1	-15.353473	0.111094	0.033078
11	P1	-20.971607	0.738611	-0.136591
15	P1	-11.217598	0.143599	0.269949
19	P1	-13.929667	0.123550	0.076114
22	P1	-15.409127	0.450780	-0.228034
26	P1	-17.174913	0.432233	0.274478
30	P1	-17.739929	0.594338	0.535548

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.635048	0.124980	0.059727
7	P2	-21.813316	0.035108	0.184264
11	P2	-13.672456	0.673699	0.048272
15	P2	-6.278358	0.379186	0.032263
19	P2	-8.698391	0.345395	0.048905
22	P2	-16.273102	0.202907	0.098449
26	P2	-15.853155	0.208629	0.109769
30	P2	-18.395197	0.012730	0.022590

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.920626	0.001570	0.020627
7	P3	-7.920518	0.001575	0.020501
11	P3	-7.920498	0.001582	0.020044
15	P3	-7.920610	0.001574	0.020957

19	P3	-7.920555	0.001573	0.020797
22	P3	-7.920686	0.001571	0.020420
26	P3	-7.920599	0.001584	0.020836
30	P3	-7.920648	0.001577	0.020639

4.2.2 - Evolution for WSM

Evolution of cal pulses for WSM
☒

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	-2.933923	0.106591	0.020955
7	P1	-2.528610	0.206376	-0.093958
11	P1	-3.851878	0.044428	-0.097188
15	P1	-4.210314	1.021176	-0.109753
19	P1	-3.368918	0.037535	-0.010434
22	P1	-5.542177	0.062843	-0.088074
26	P1	-6.066500	1.036633	0.013122
30	P1	-6.121148	0.093631	-0.004680
3	P1	-10.803653	0.210420	-0.167279
7	P1	-9.621466	0.466370	-0.143724
11	P1	-12.057423	0.274808	-0.047435
15	P1	-11.908354	0.380096	-0.295308
19	P1	-14.901692	0.645360	-0.026271
22	P1	-22.203819	11.814237	-0.422647
26	P1	-16.708755	3.748221	0.831797
30	P1	-20.724913	3.742873	0.293845

P2 Cyclic statistics

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

3	P2	-17.429592	0.115566	0.145386
7	P2	-21.994810	0.148342	0.163343
11	P2	-9.628233	0.221800	0.216150
15	P2	-4.888969	0.087863	0.141873
19	P2	-6.816584	0.064560	0.132441
22	P2	-6.862897	0.071009	0.245513
26	P2	-23.497574	0.213369	-0.016801
30	P2	-21.621923	0.168784	0.106813

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.959550	0.003755	0.002581
7	P3	-7.959554	0.003759	0.001989
11	P3	-7.959503	0.003754	0.002447
15	P3	-7.959538	0.003752	0.002386
19	P3	-7.959575	0.003750	0.002351
22	P3	-7.959547	0.003758	0.002265
26	P3	-7.959535	0.003761	0.002355
30	P3	-7.959518	0.003758	0.002220

4.3 - cal pulses monitoring (all rows)

4.3.1 - Evolution for IMM

☒

4.3.2 - Evolution for WSM

5 - RAW data statistics

No anomalies observed.

5.1 - Input mean I/Q

channel	stat	DSS-B
MEAN I	mean	0.000444660

	stdev	2.29632e-07
MEAN Q	mean	0.000469720
	stdev	2.40865e-07

5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.126119
	stdev	0.00104779
STDEV Q	mean	0.126361
	stdev	0.00105817

5.3 - Gain imbalance I/Q

6 - Telemetry analysis

Summary of analysis for the last 3 days 2005051[789]
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_1PNPDE20050517_003632_000002312037_00202_16789_1758.N1	1	0

7 - Doppler Analysis

7.1 - Unbiased Doppler Error for IMM

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

7.2 - Absolute Doppler for IMM

Evolution of Absolute Doppler
☒
Acsending
☒
Descending

7.3 - Doppler evolution versus ANX for IMM

Evolution Doppler error versus ANX
☒

7.4 - Unbiased Doppler Error for WSM

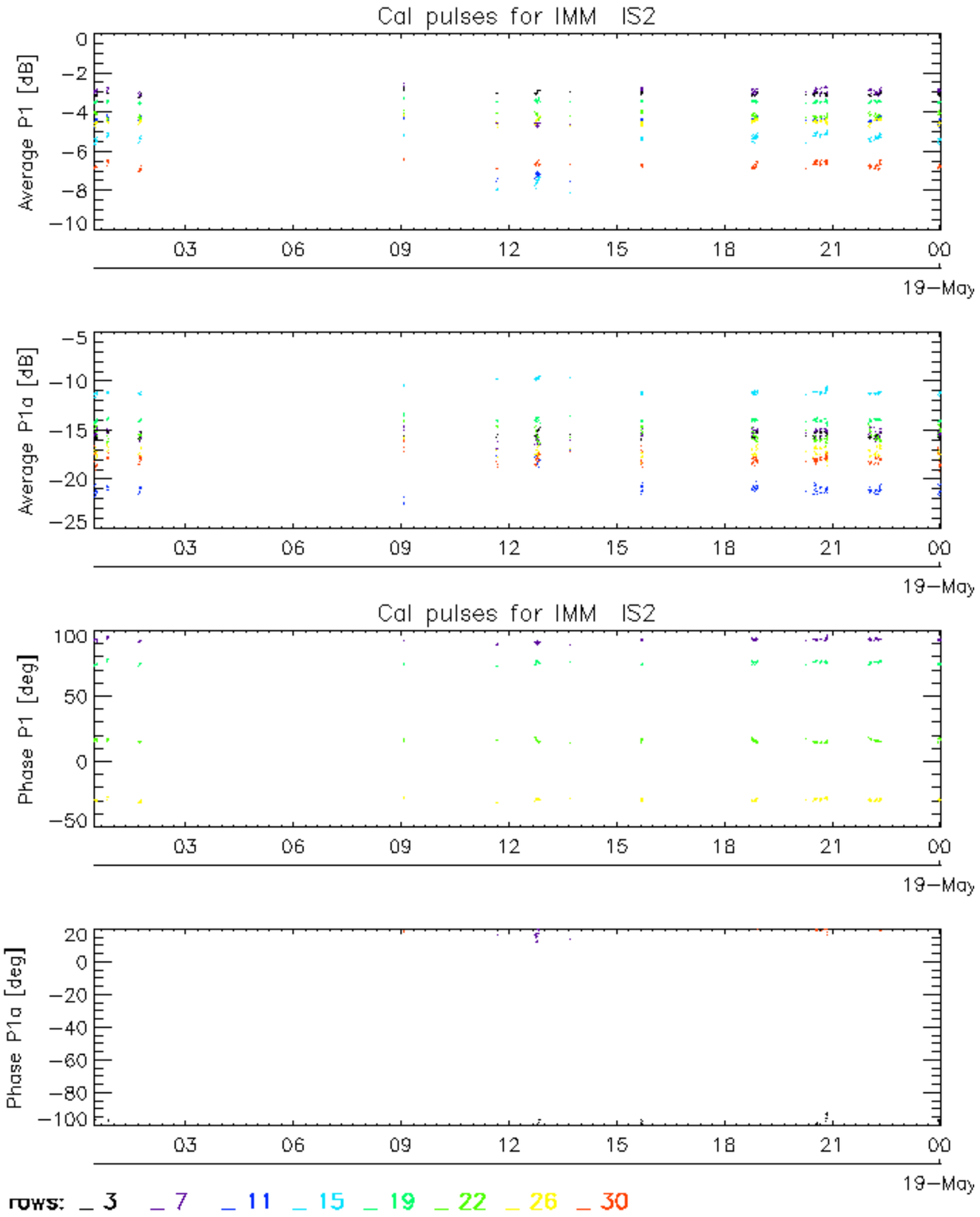
Evolution of unbiased Doppler error (Real - Expected)
☒
Acsending
☒
Descending

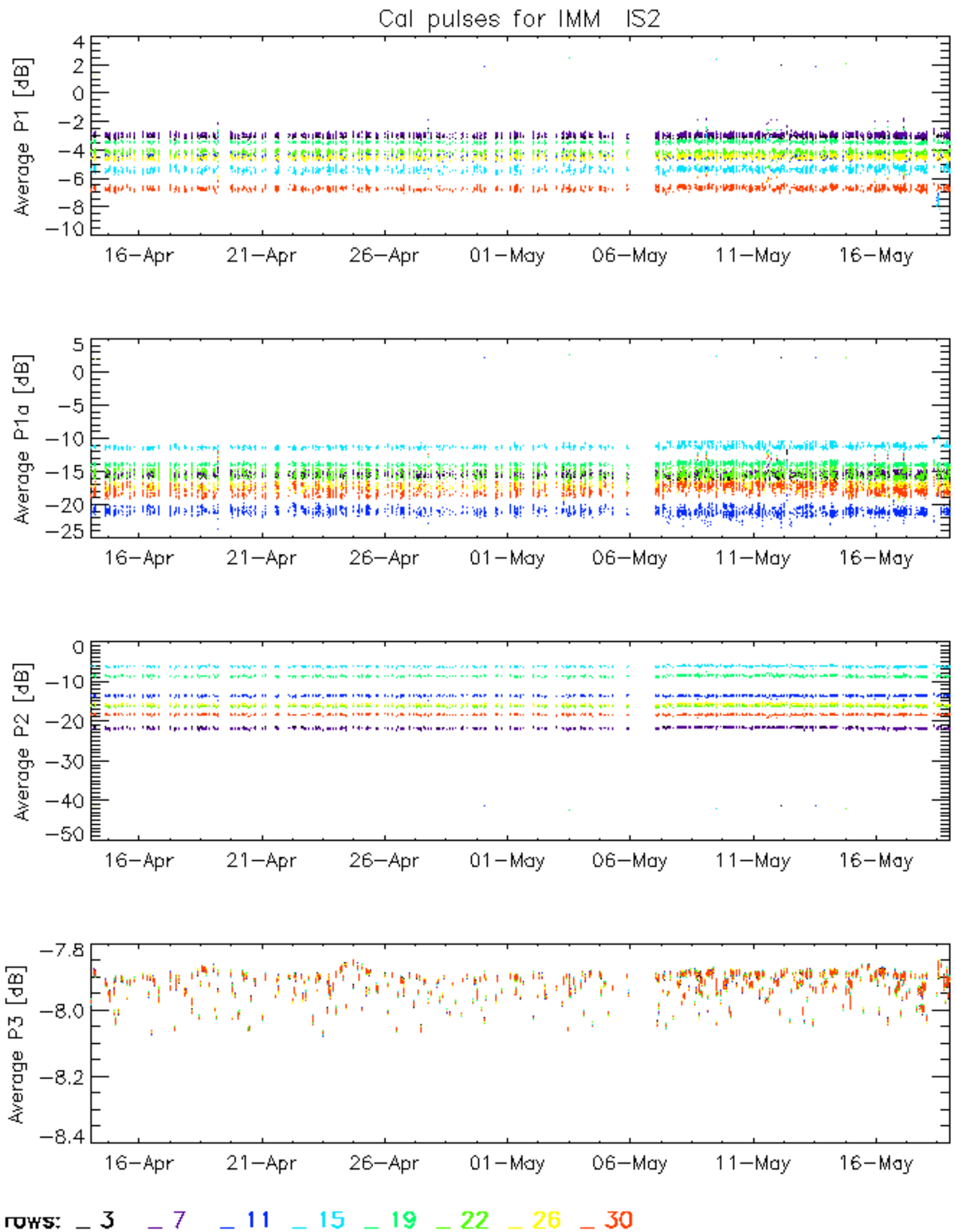
7.5 - Absolute Doppler for WSM

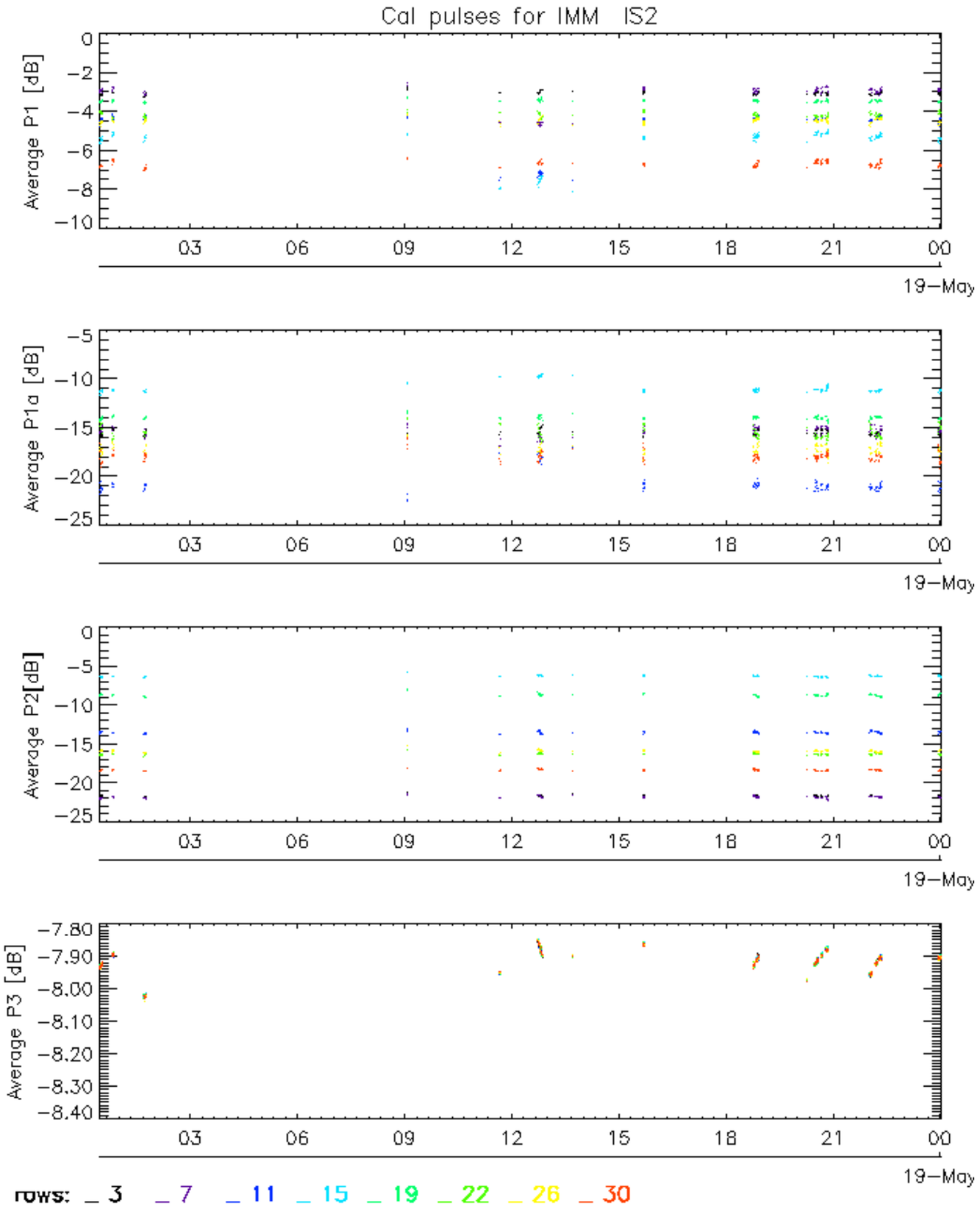
Evolution of Absolute Doppler
☒
Acsending
☒
Descending

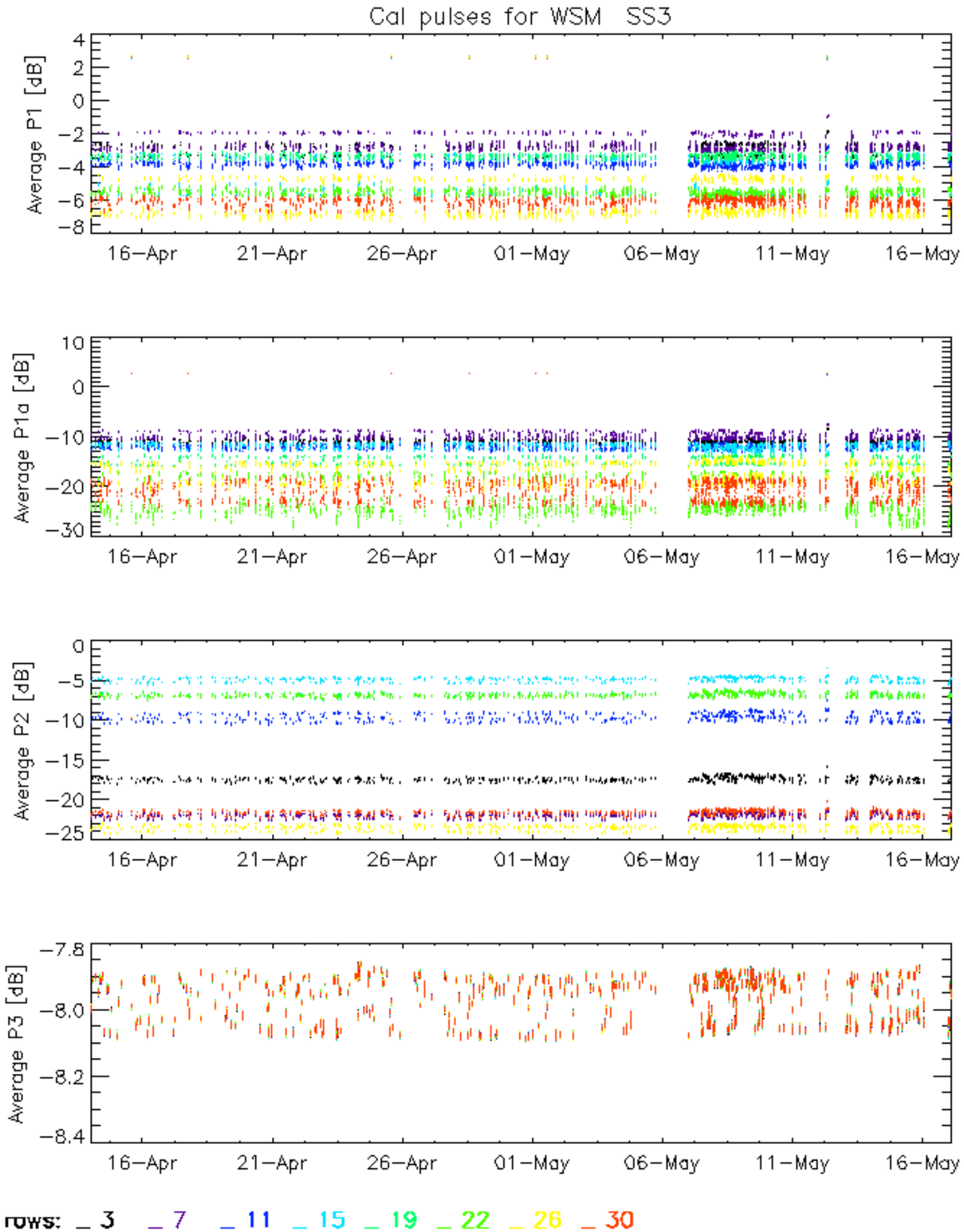
7.6 - Doppler evolution versus ANX for WSM

Evolution Doppler error versus ANX
☒

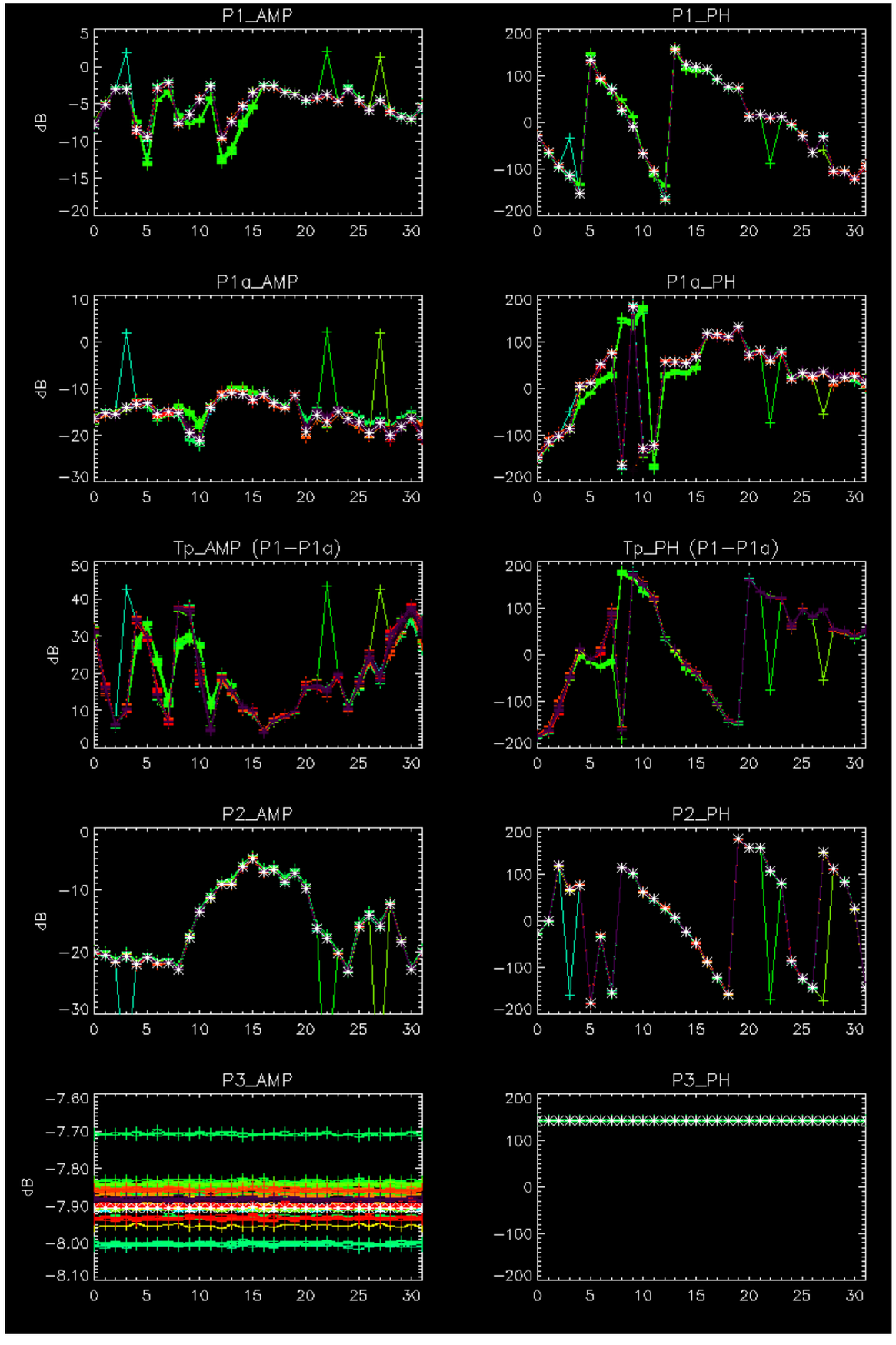

Cal pulses for IMM IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
03
06
09
12
15
18
21
00
19−May
Average P1a [dB]
−5
−10
−15
−20
−25
Cal pulses for IMM IS2
Phase P1 [deg]
100
50
0
−50
Phase P1a [deg]
20
0
−20
−40
−60
−80
−100
rows: 3 7 11 15 19 22 26 30


Cal pulses for IMM IS2
Average P1 [dB]
4
2
0
−2
−4
−6
−8
−10
16−Apr
21−Apr
26−Apr
01−May
06−May
11−May
16−May
Average P1a [dB]
5
0
−5
−10
−15
−20
−25
Average P2 [dB]
0
−10
−20
−30
−40
−50
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Cal pulses for IMM IS2
Average P1 [dB]
0
−2
−4
−6
−8
−10
03
06
09
12
15
18
21
00
19−May
Average P1a [dB]
−5
−10
−15
−20
−25
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

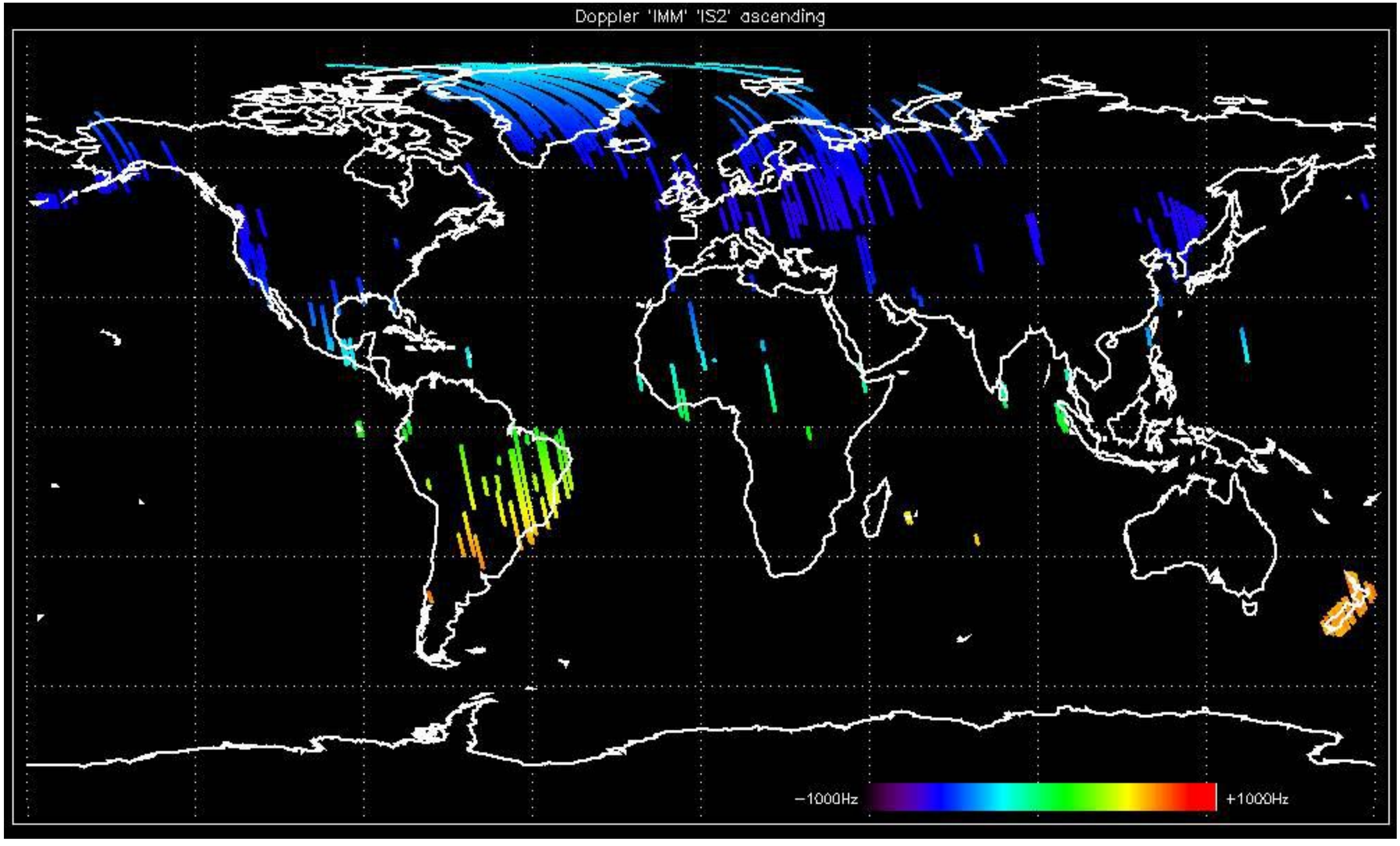

Cal pulses for WSM SS3
Average P1 [dB]
4
2
0
−2
−4
−6
−8
16−Apr
21−Apr
26−Apr
01−May
06−May
11−May
16−May
Average P1a [dB]
10
0
−10
−20
−30
Average P2 [dB]
0
−5
−10
−15
−20
−25
Average P3 [dB]
−7.8
−8.0
−8.2
−8.4
rows: 3 7 11 15 19 22 26 30

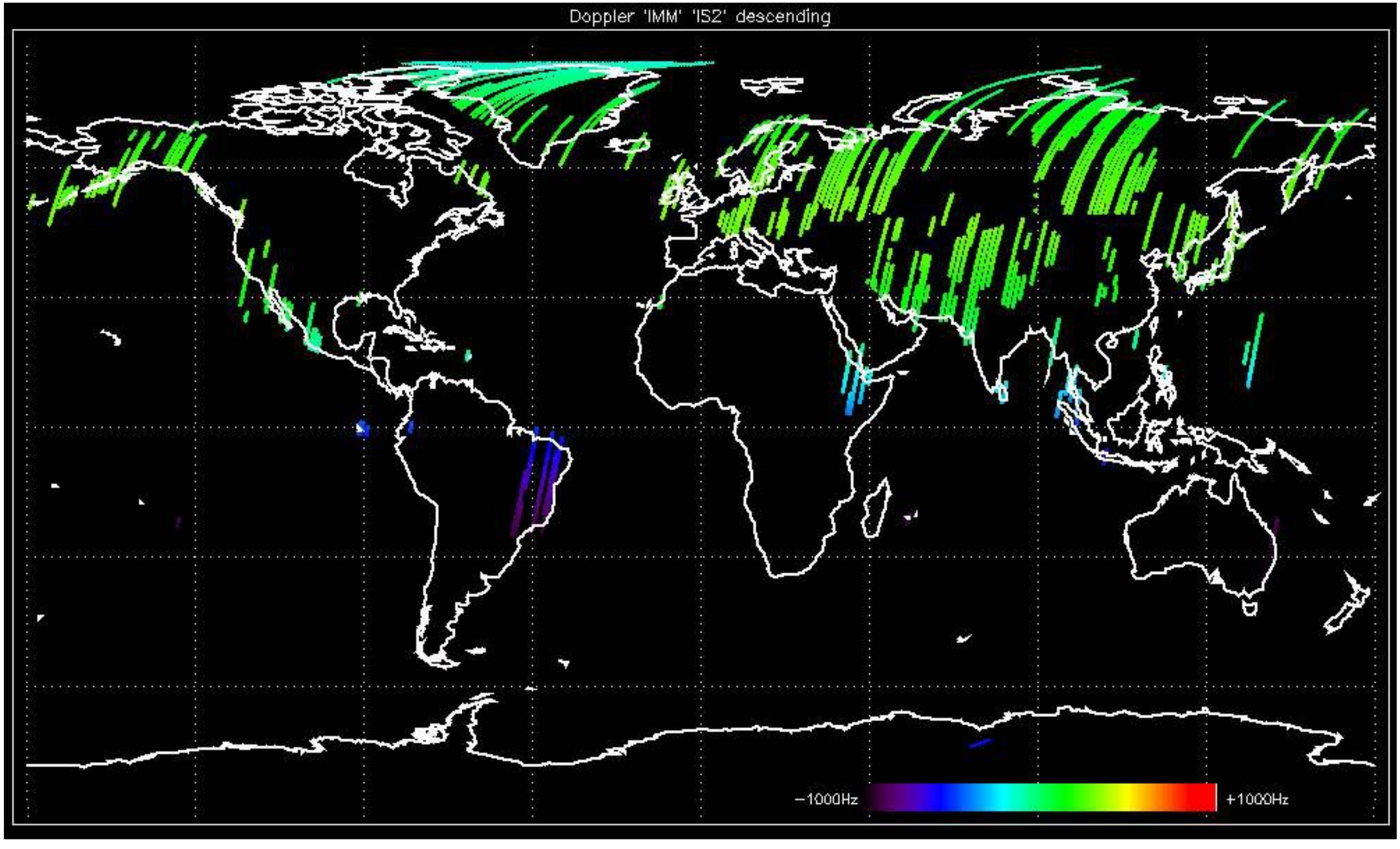
No anomalies observed.

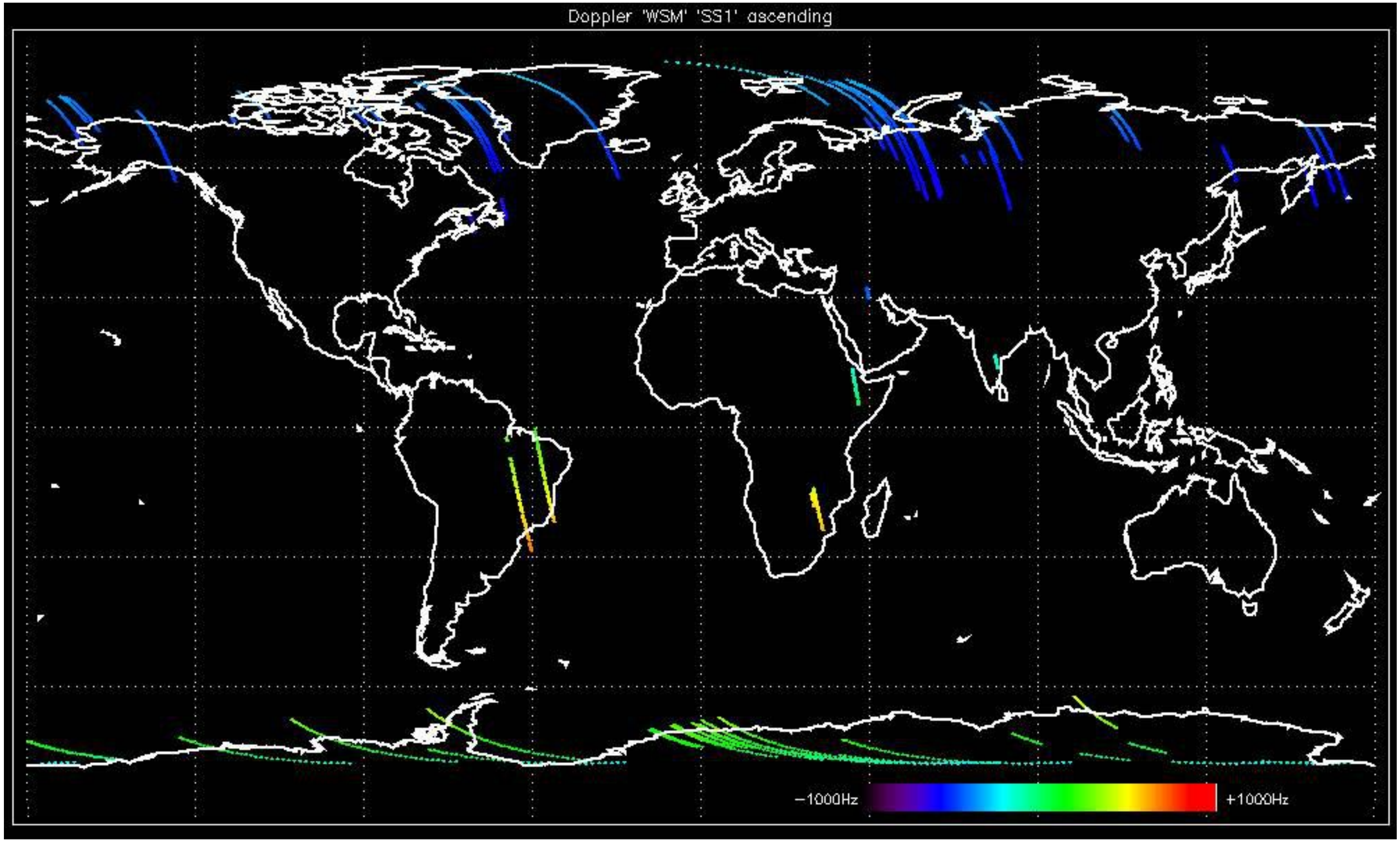

P1_AMP
dB
P1_PH
P1a_AMP
dB
P1a_PH
Tp_AMP (P1−P1a)
dB
Tp_PH (P1−P1a)
P2_AMP
dB
P2_PH
P3_AMP
dB
P3_PH

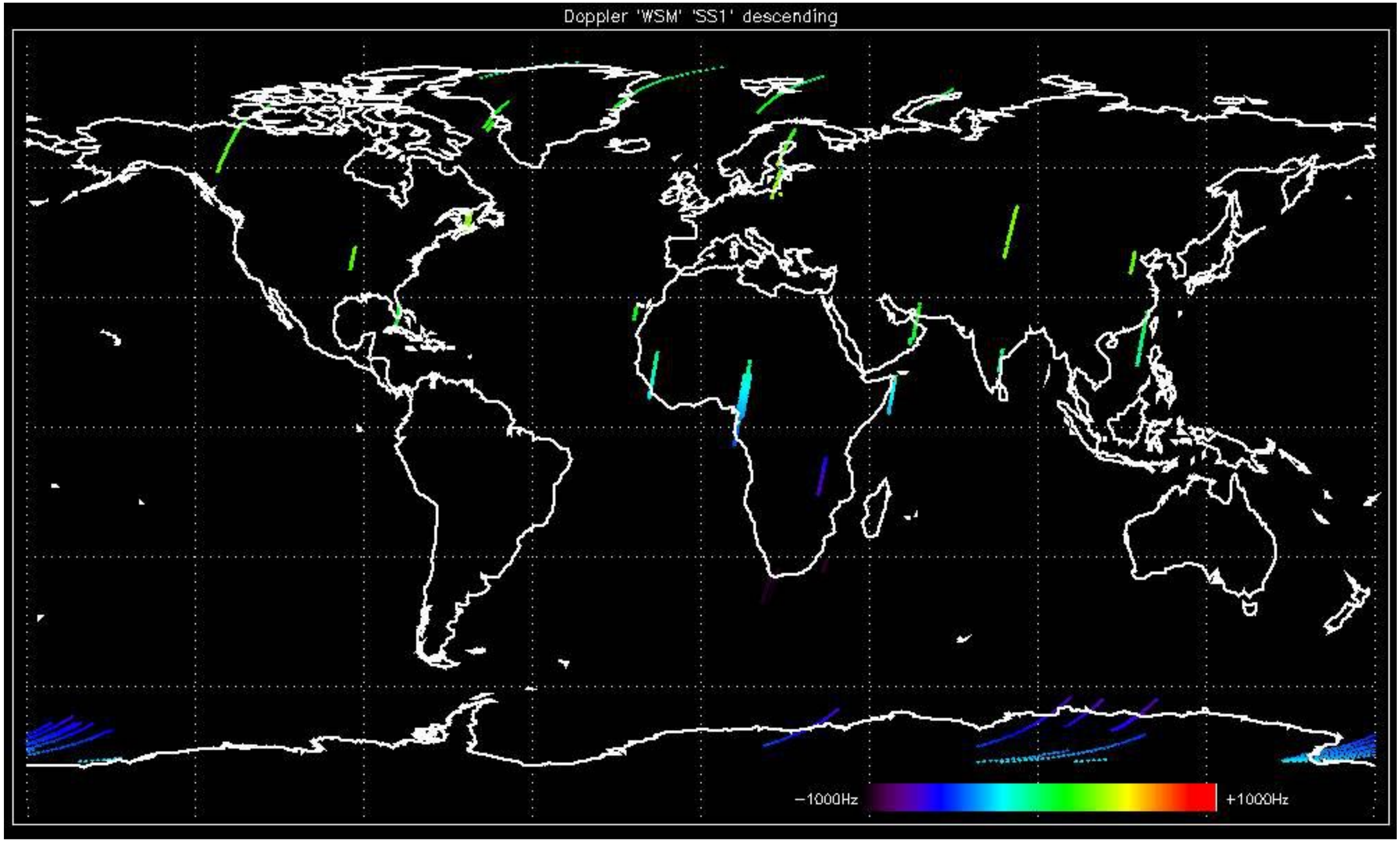
-Stable wave internal calibration pulses gain and phase.
-Stable raw data statistics.
-Nominal Doppler behavior.

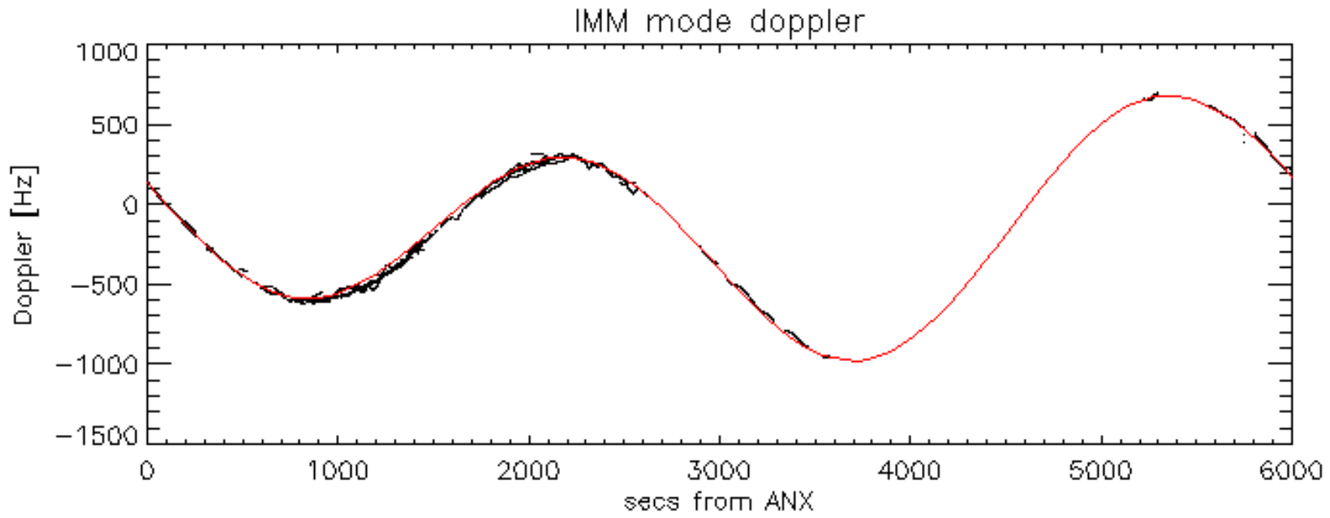
Preliminary report.The data is not yet controled

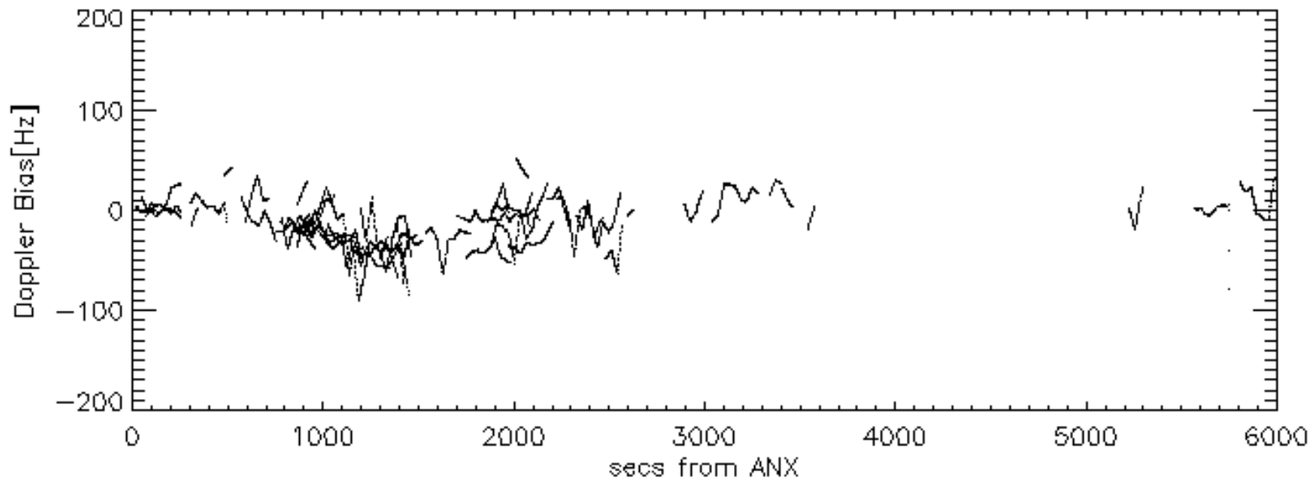

Doppler 'IMM' 'IS2' ascending
−1000Hz
+1000Hz

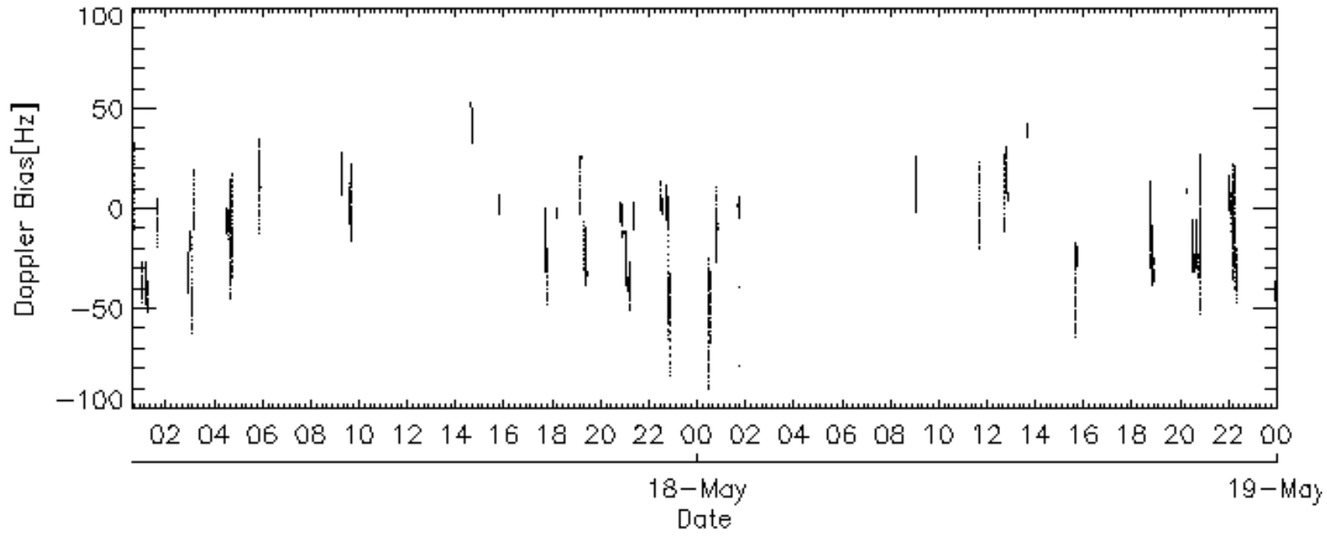

Doppler 'IMM' 'IS2' descending
−1000Hz
+1000Hz

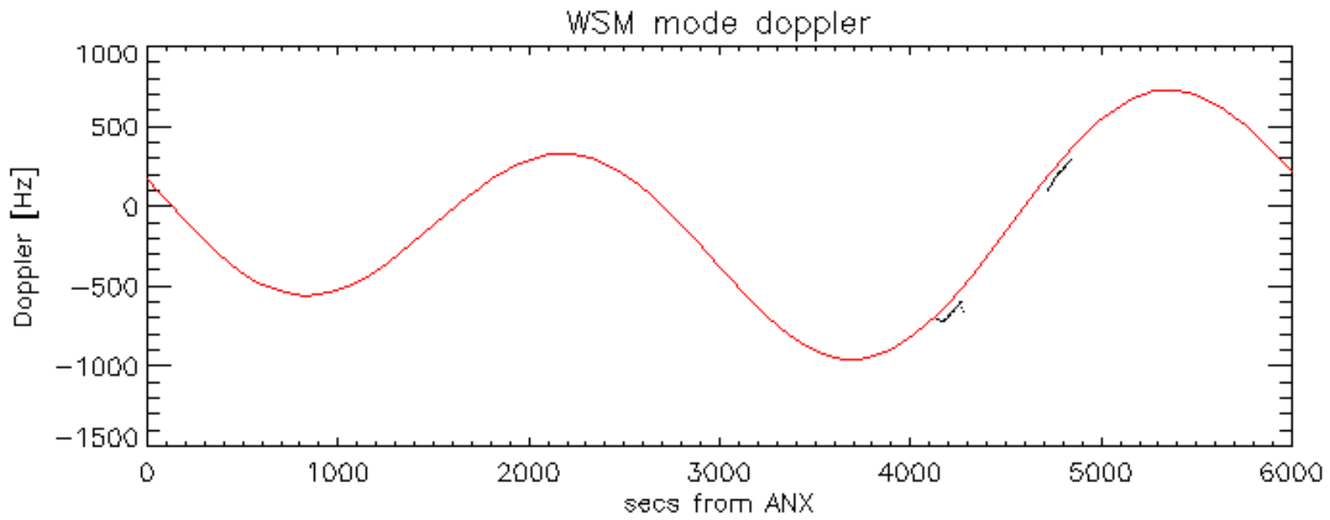

Doppler 'WSM' 'SS1' ascending
−1000Hz
+1000Hz

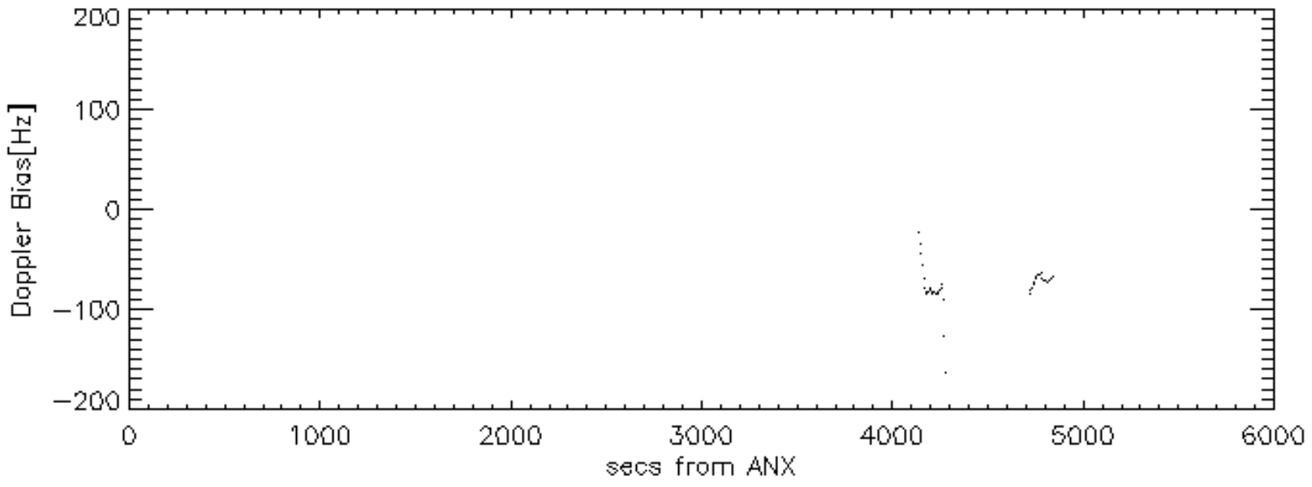

Doppler 'WSM' 'SS1' descending
−1000Hz
+1000Hz

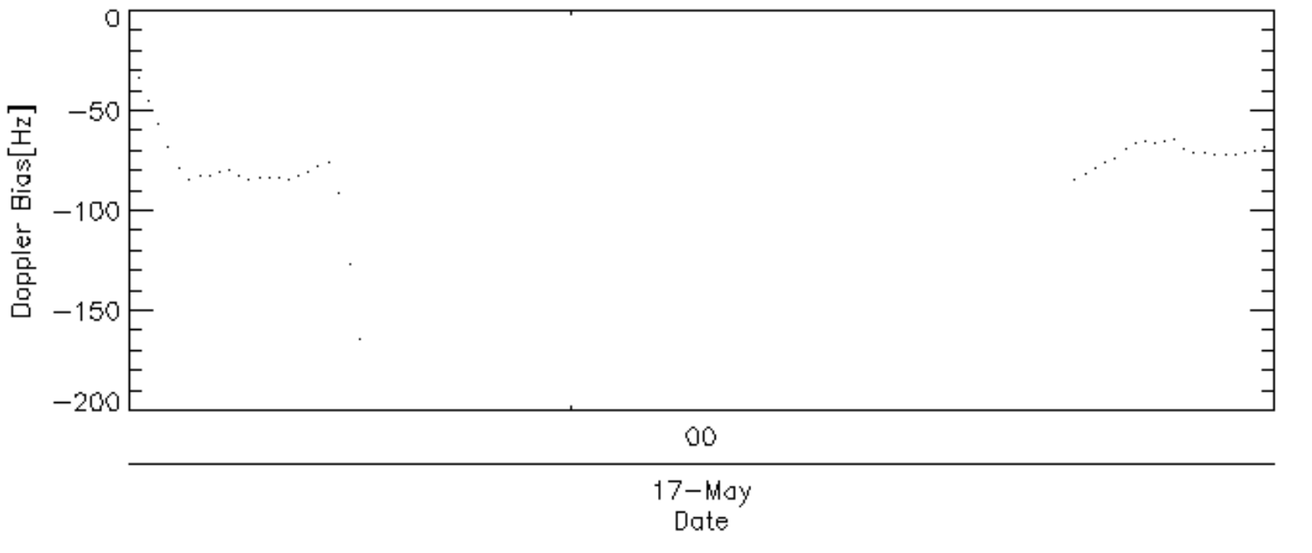

IMM mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

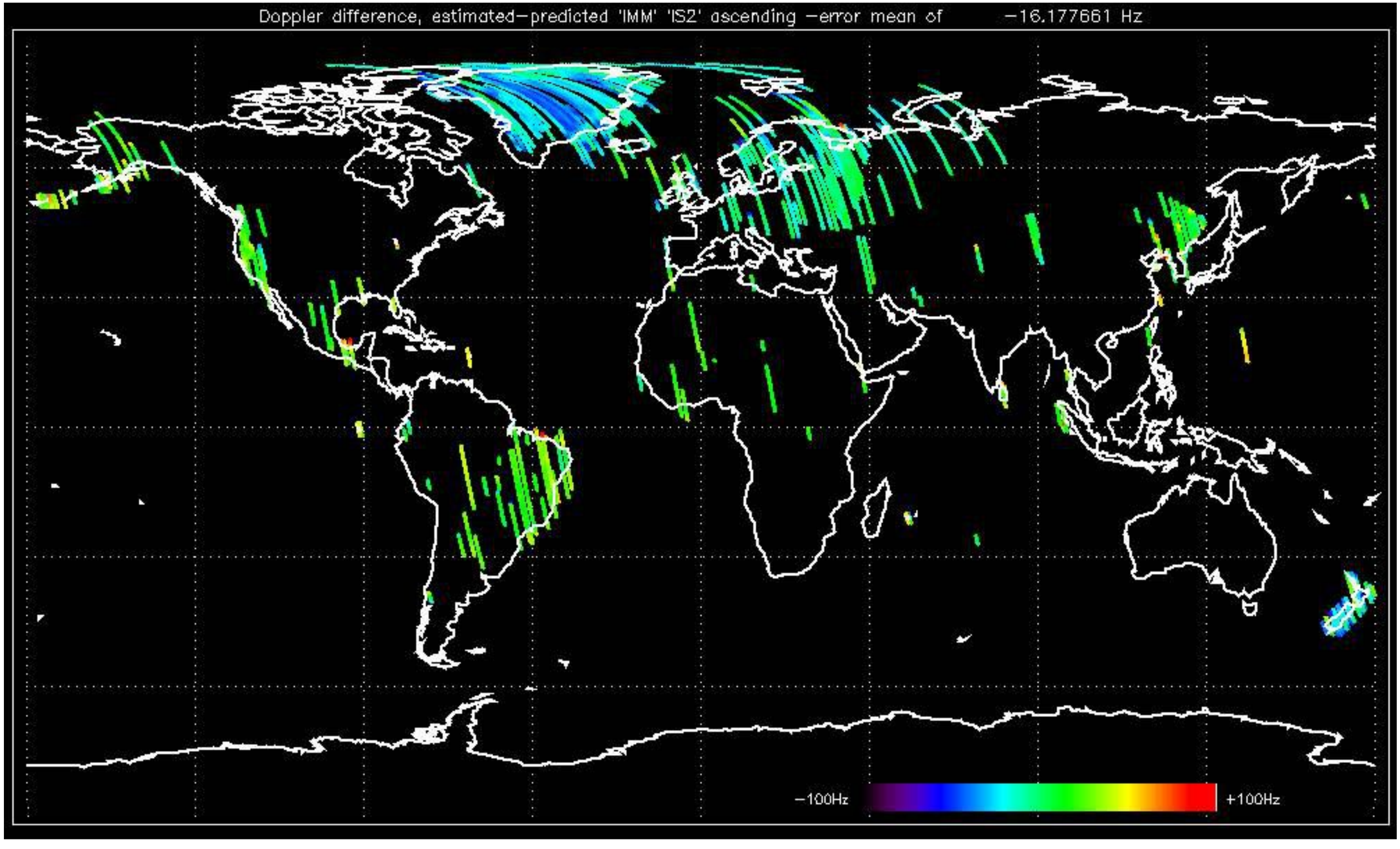

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX

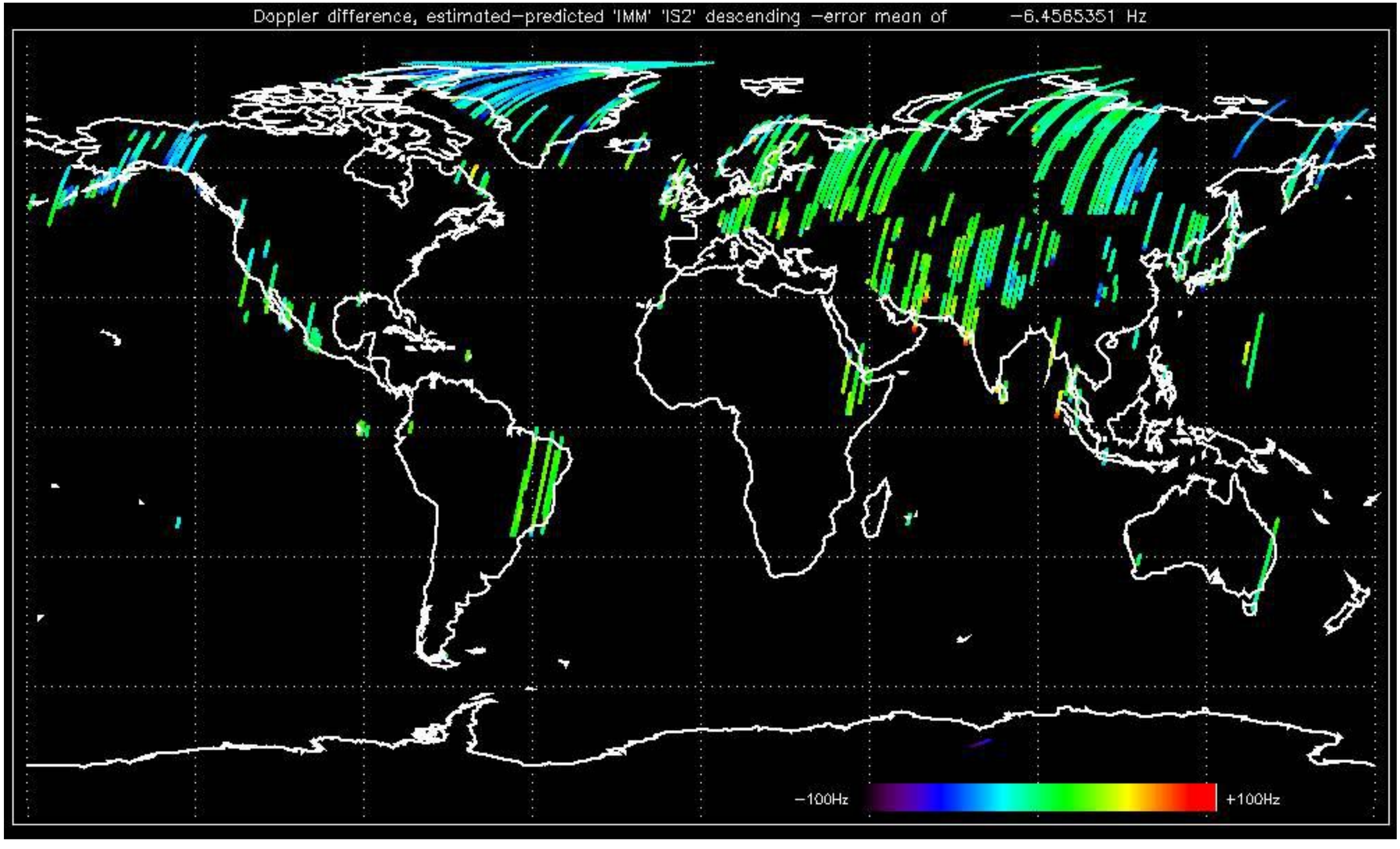

Doppler Bias[Hz]
100
50
0
−50
−100
02 04 06 08 10 12 14 16 18 20 22 00 02 04 06 08 10 12 14 16 18 20 22 00
18−May
19−May
Date

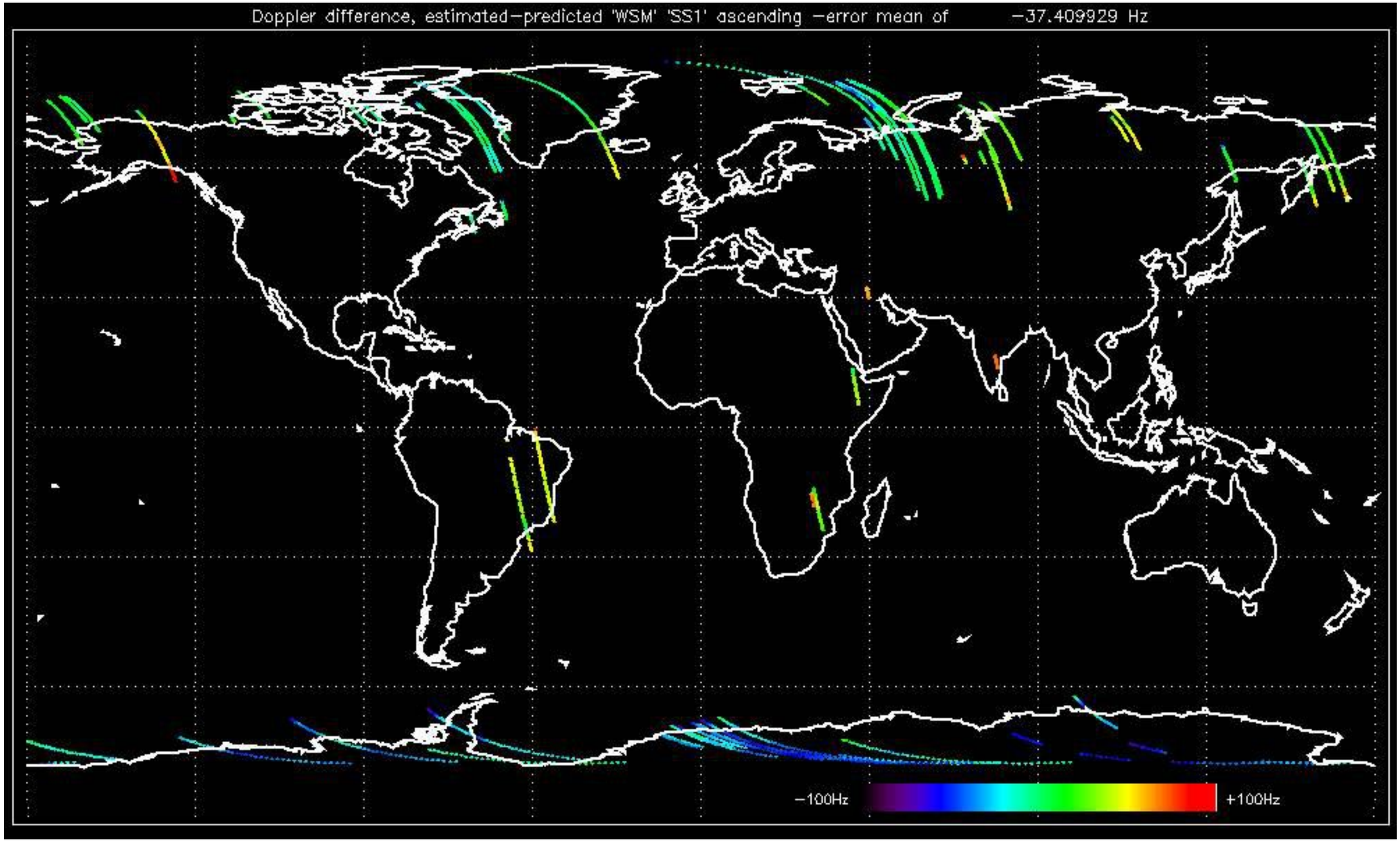

WSM mode doppler
Doppler [Hz]
1000
500
0
−500
−1000
−1500
0
1000
2000
3000
4000
5000
6000
secs from ANX

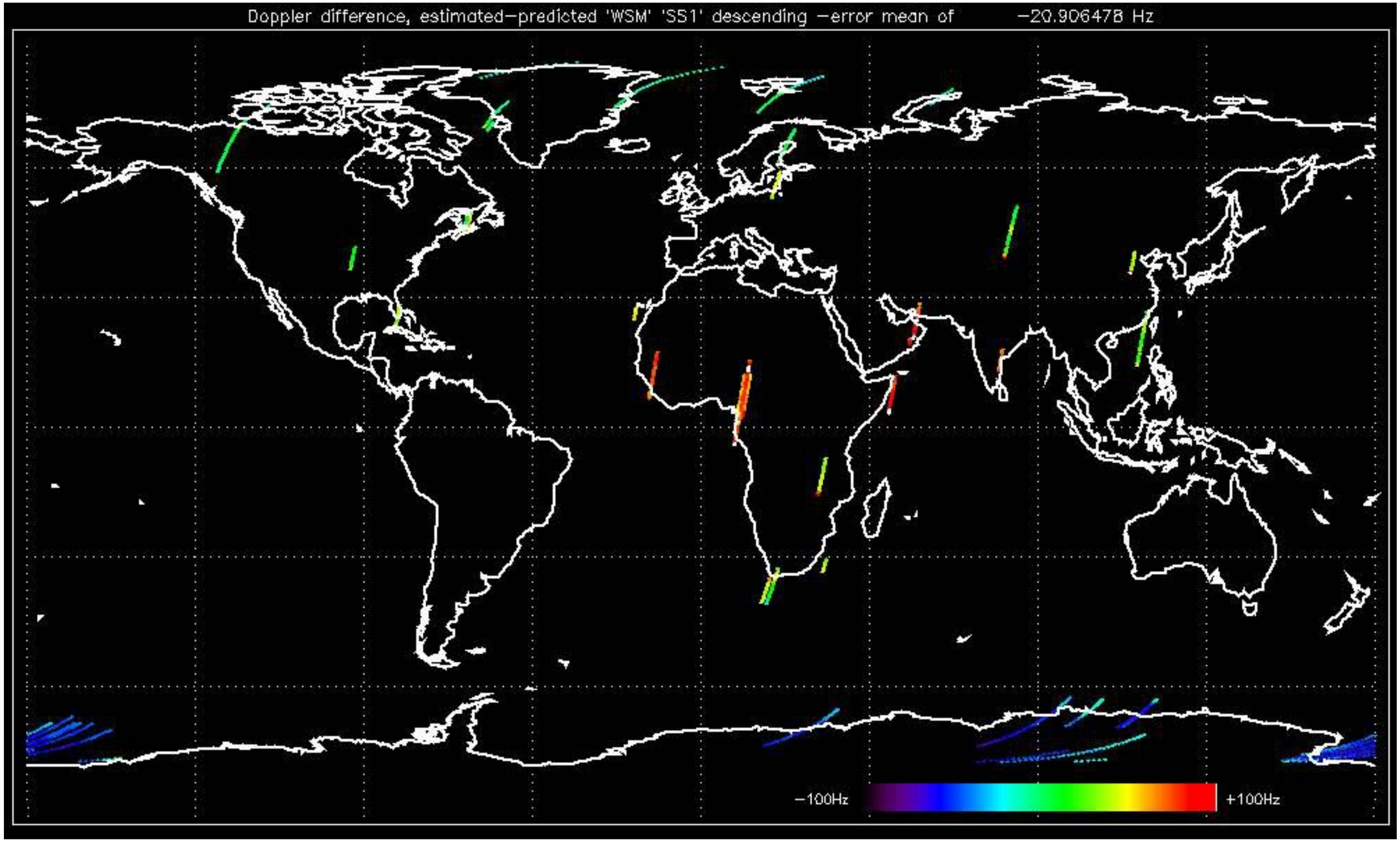

Doppler Bias[Hz]
200
100
0
−100
−200
0
1000
2000
3000
4000
5000
6000
secs from ANX


Doppler Bias[Hz]
0
−50
−100
−150
−200
00
17−May
Date


Doppler difference, estimated−predicted 'IMM' 'IS2' ascending −error mean of −16.177661 Hz
−100Hz
+100Hz

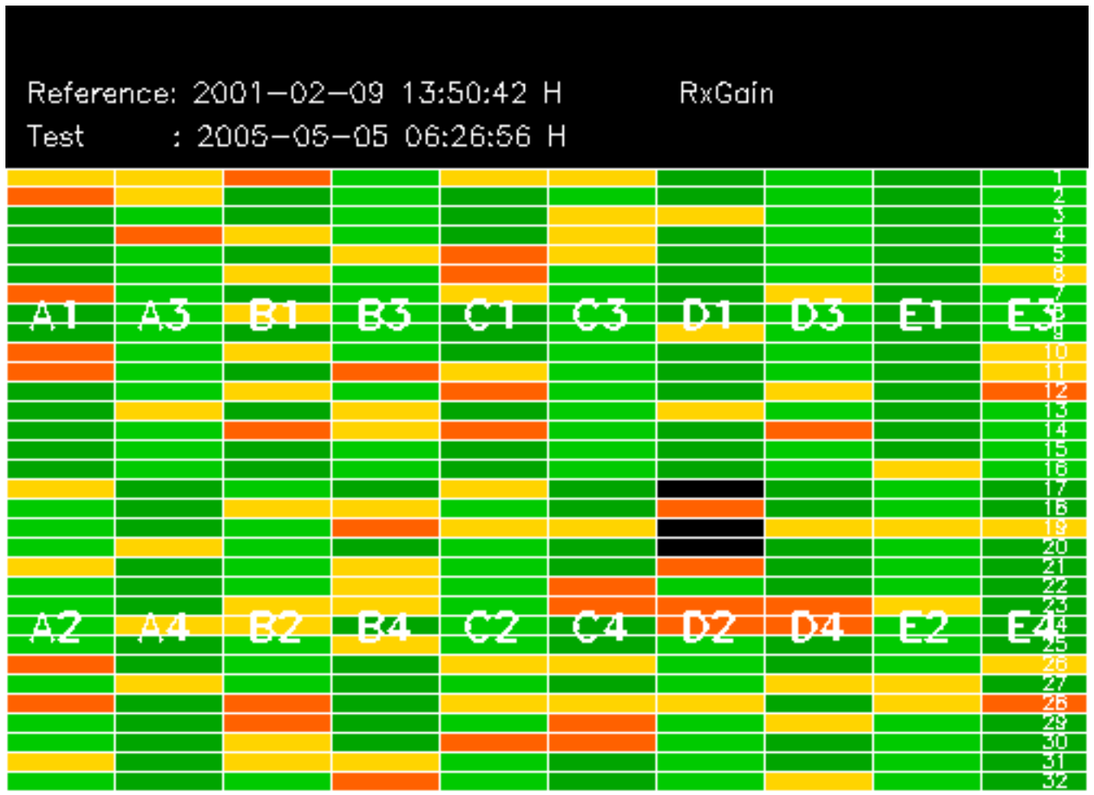

Doppler difference, estimated−predicted 'IMM' 'IS2' descending −error mean of −6.4565351 Hz
−100Hz
+100Hz

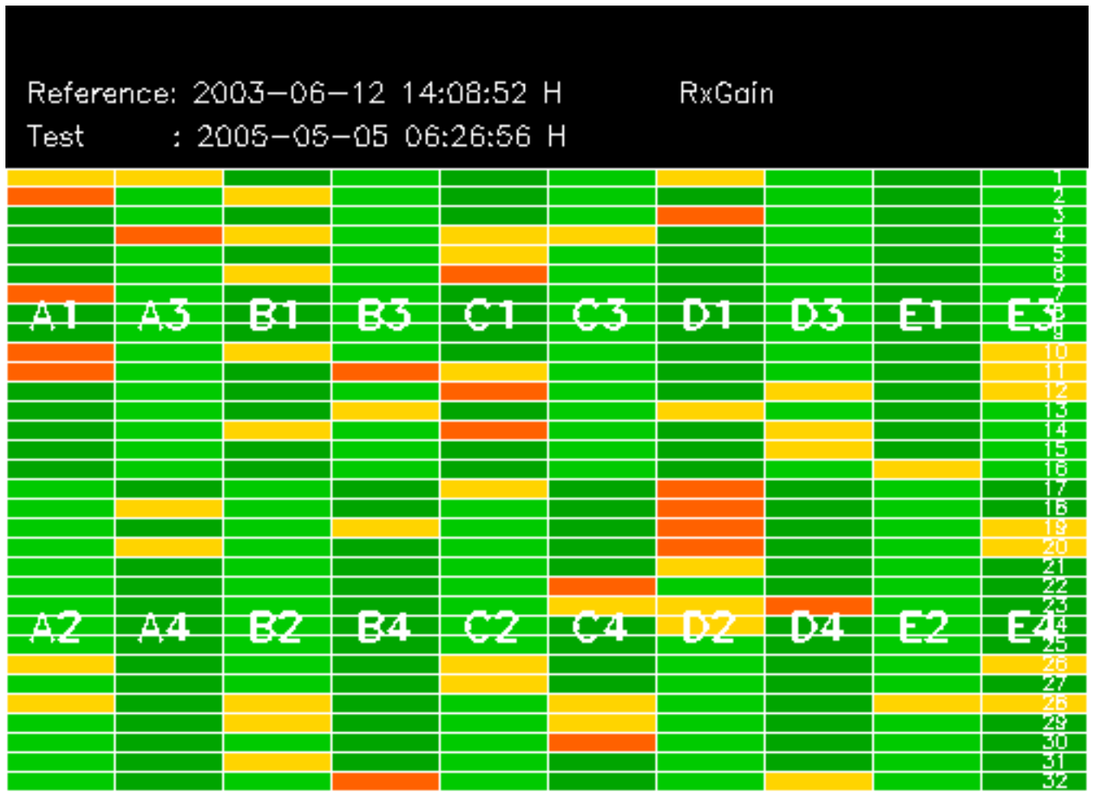

Doppler difference, estimated−predicted 'WSM' 'SS1' ascending −error mean of −37.409929 Hz
−100Hz
+100Hz

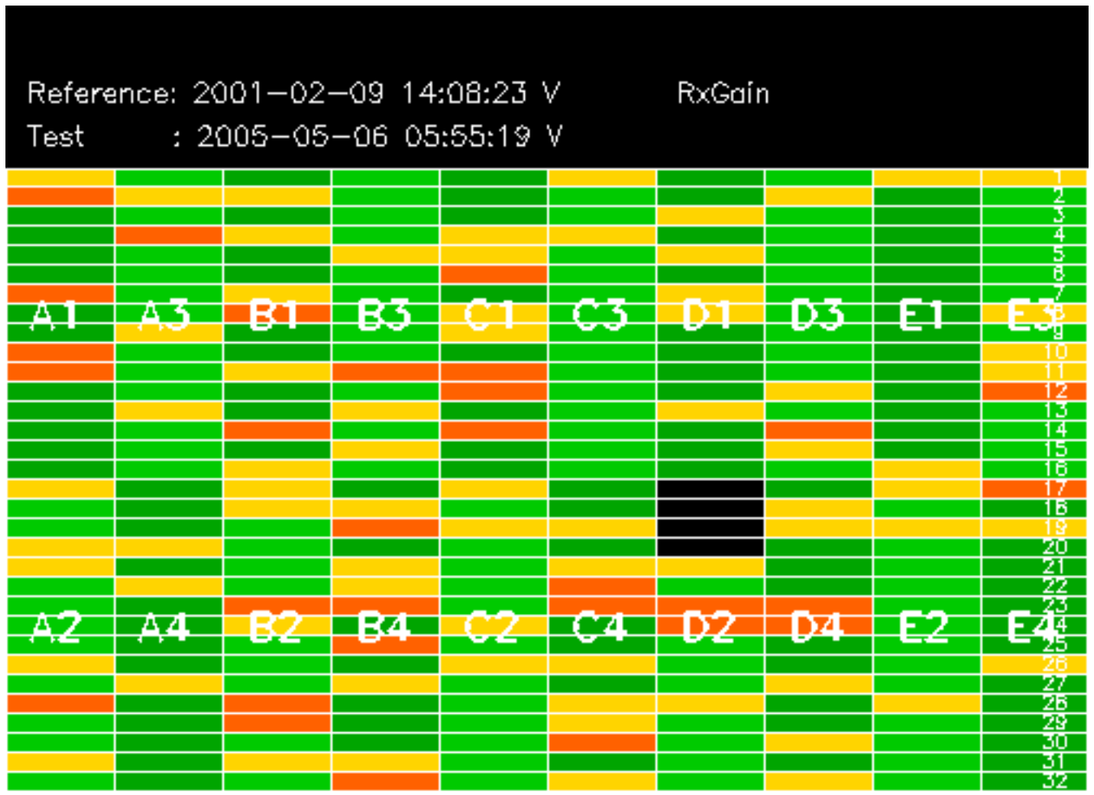

Doppler difference, estimated−predicted 'WSM' 'SS1' descending −error mean of −20.906478 Hz
−100Hz
+100Hz

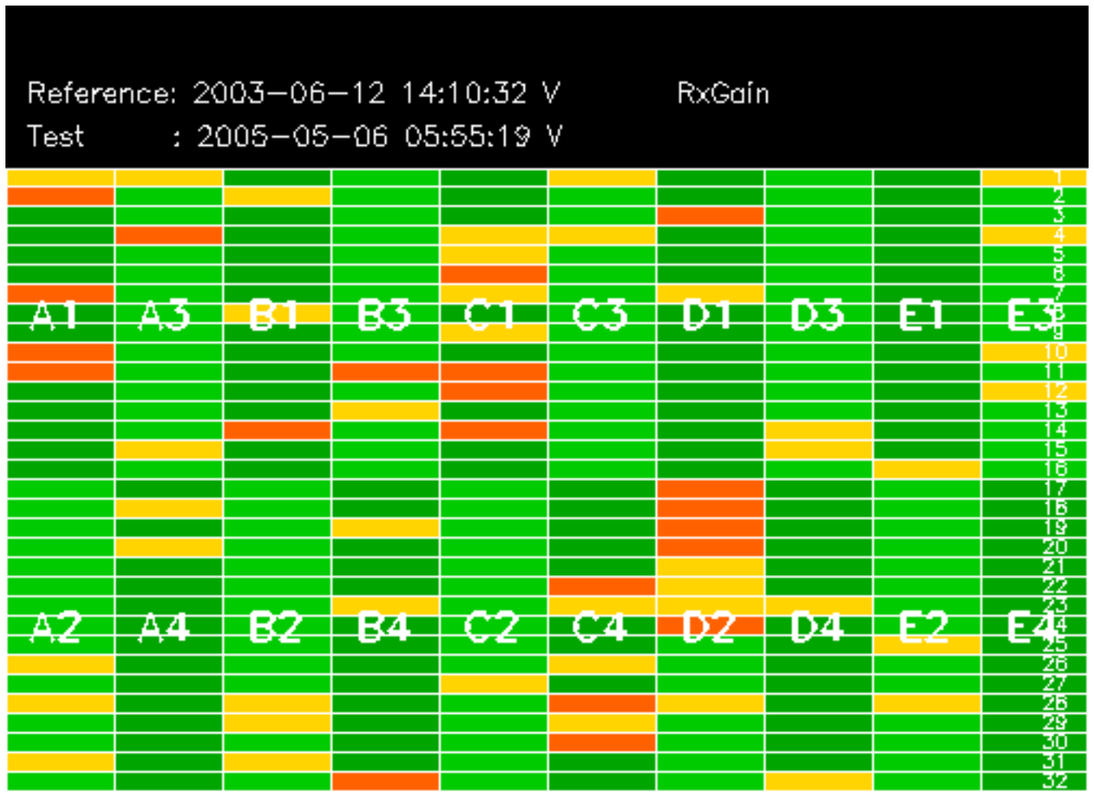
No anomalies observed on available MS products:

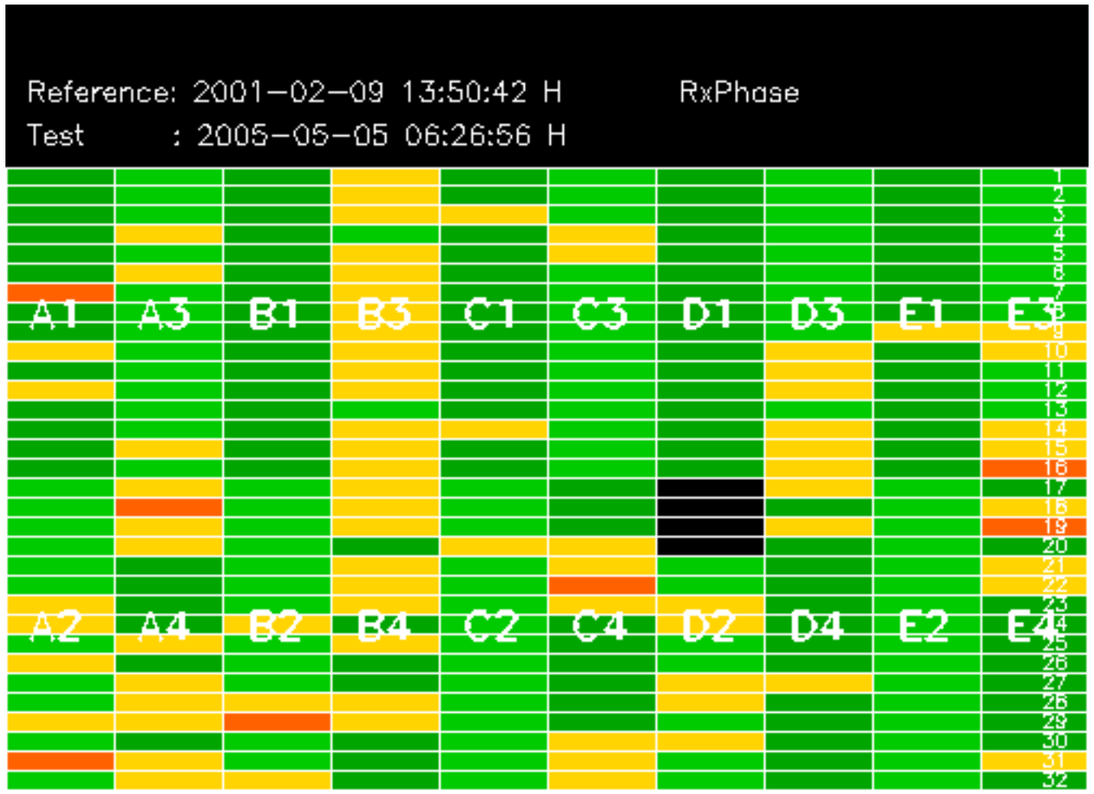
No anomalies observed.

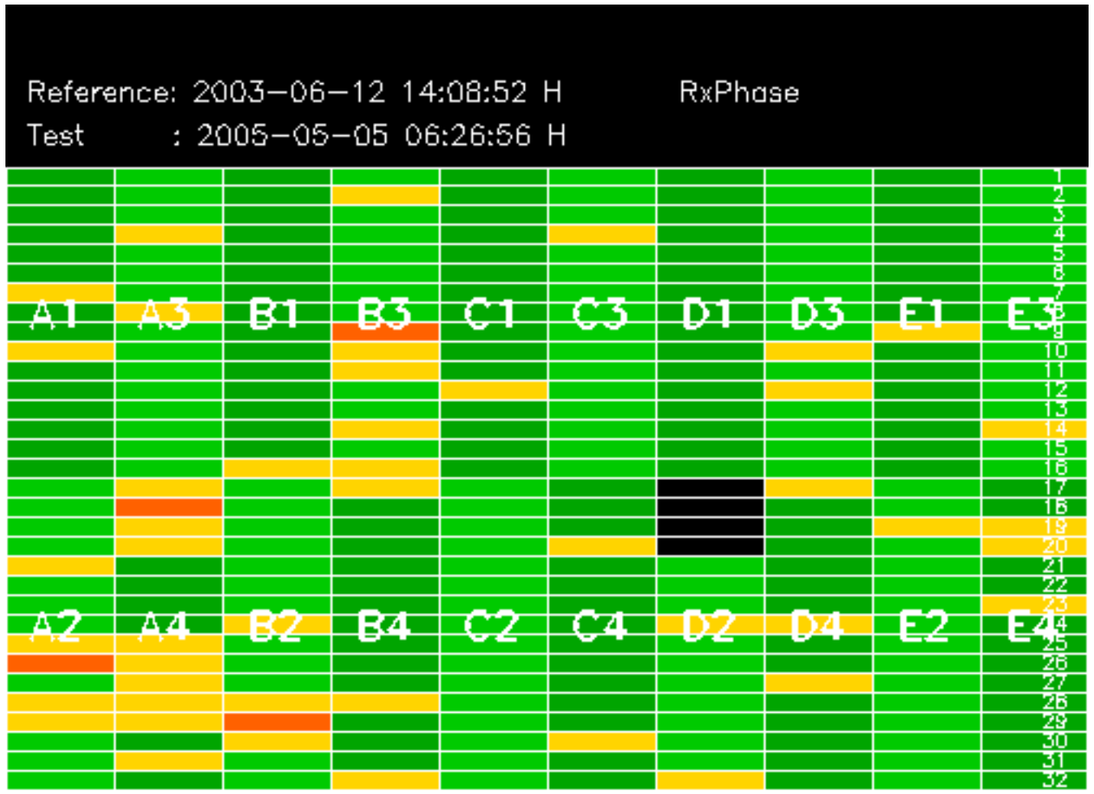

Reference: 2001-02-09 13:50:42 H
Test : 2005-05-05 06:26:56 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

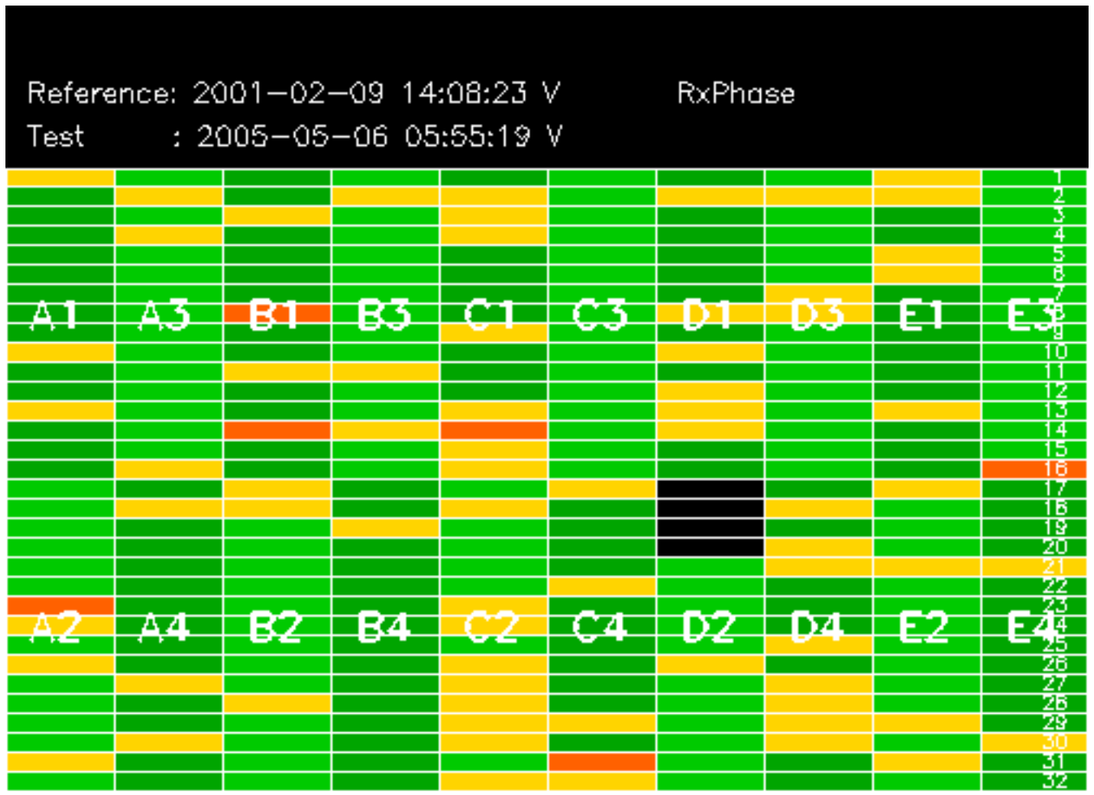

Reference: 2003-06-12 14:08:52 H
Test : 2005-05-05 06:26:56 H
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2005-05-06 05:55:19 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
19
20
21
22
23
24
25
26
27
28
29
30
31
32

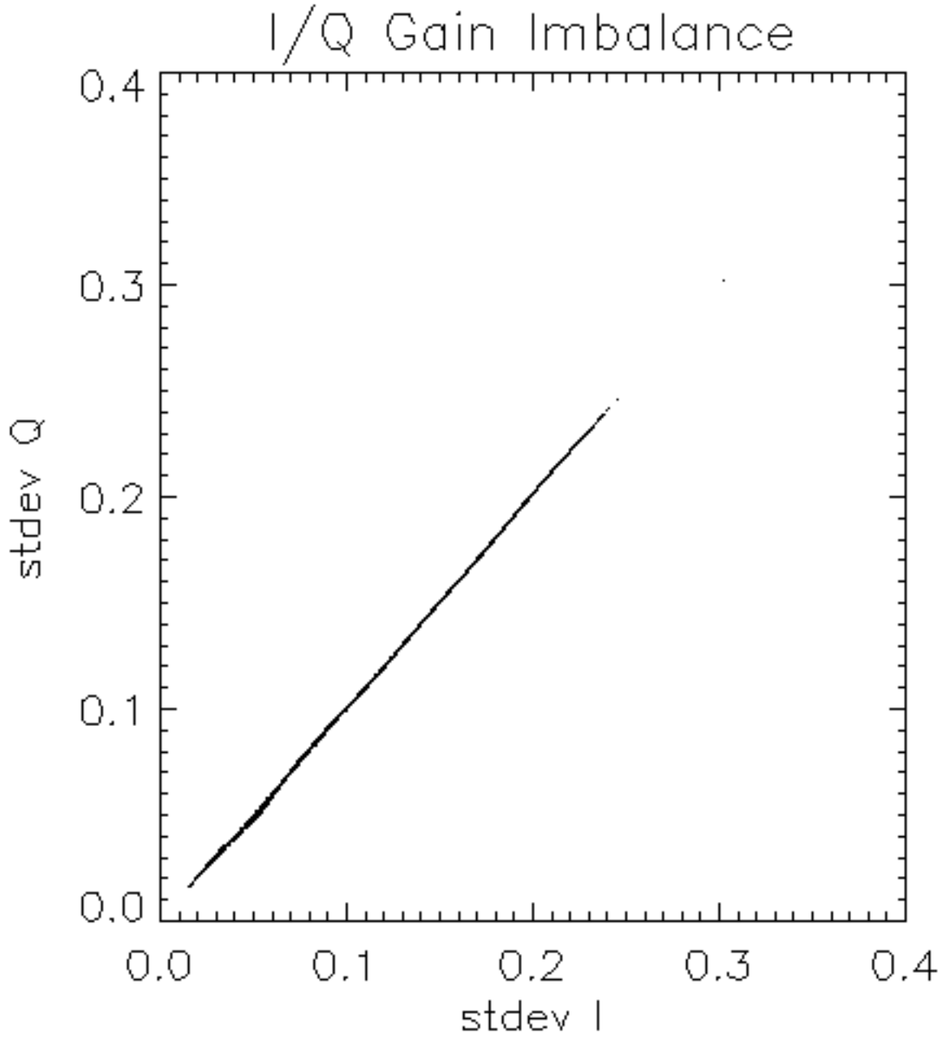

Reference: 2003-06-12 14:10:32 V
Test : 2005-05-06 05:55:19 V
RxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

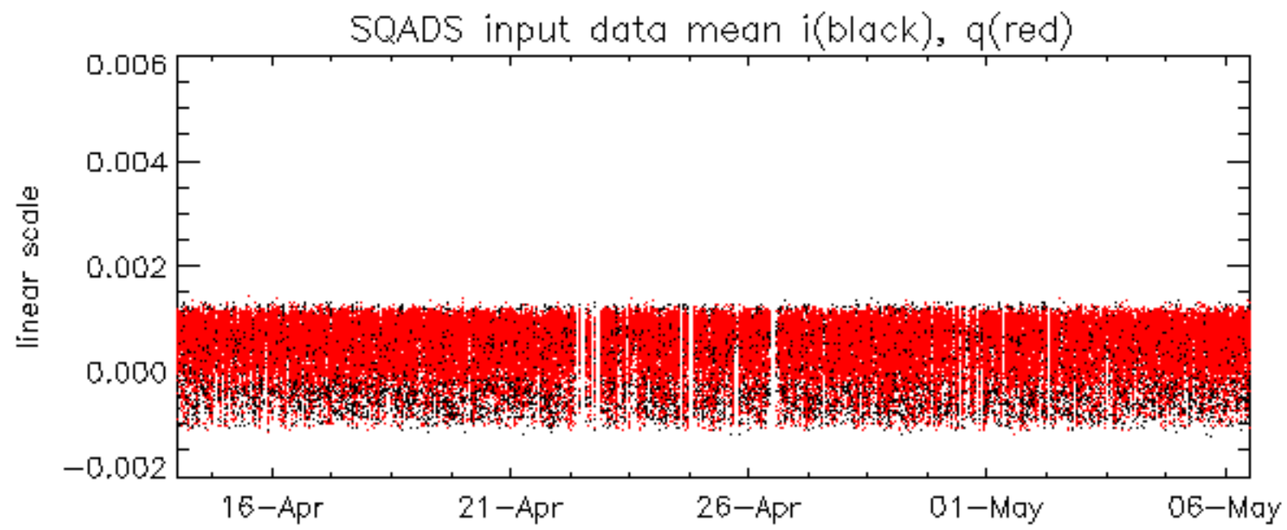

Reference: 2001-02-09 13:50:42 H
RxPhase
Test : 2005-05-05 06:26:56 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

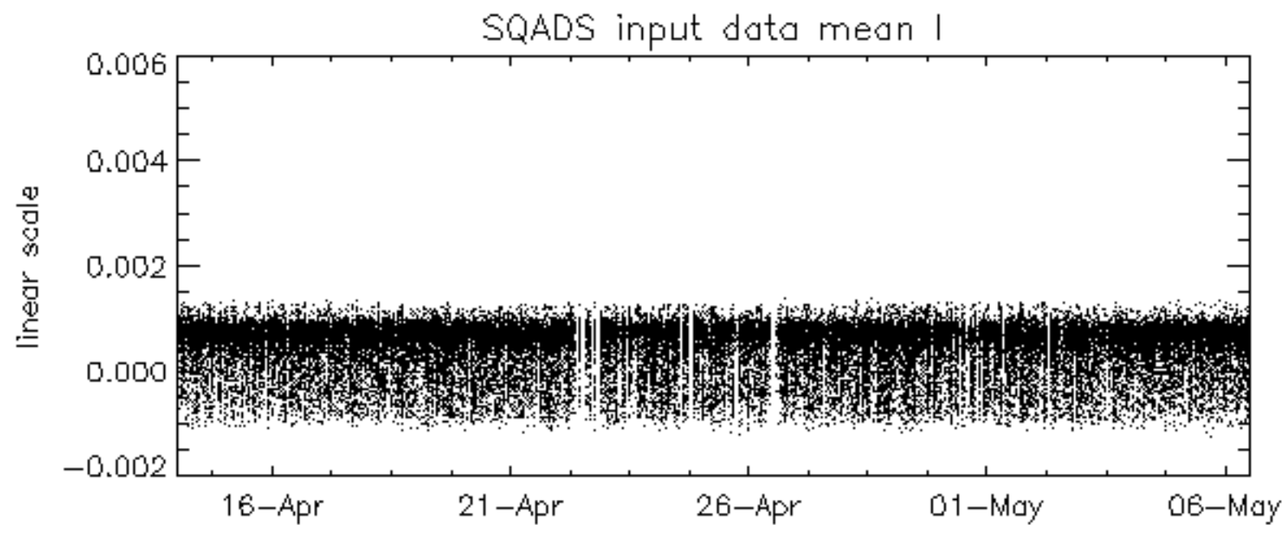

Reference: 2003-06-12 14:08:52 H
RxPhase
Test : 2005-05-05 06:26:56 H
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

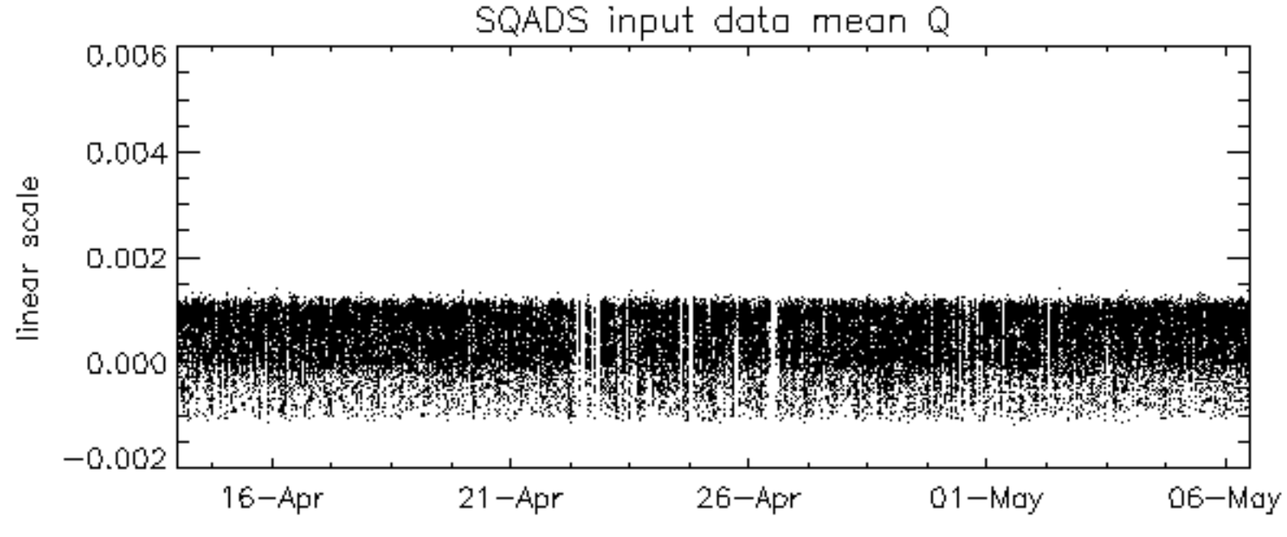

Reference: 2001-02-09 14:08:23 V
Test : 2005-05-06 05:55:19 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

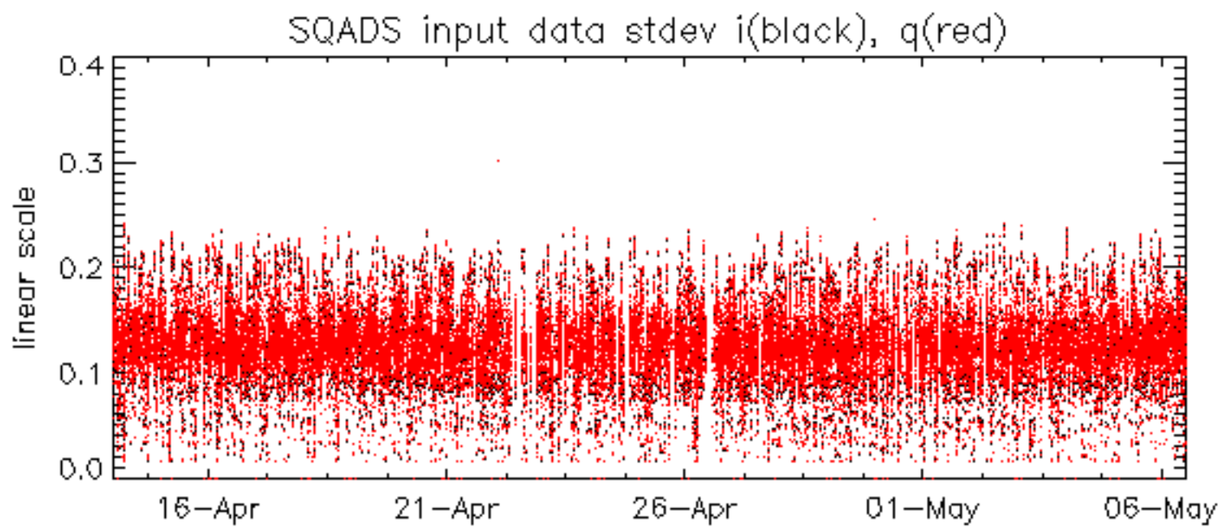

Reference: 2003-06-12 14:10:32 V
Test : 2005-05-06 05:55:19 V
RxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4

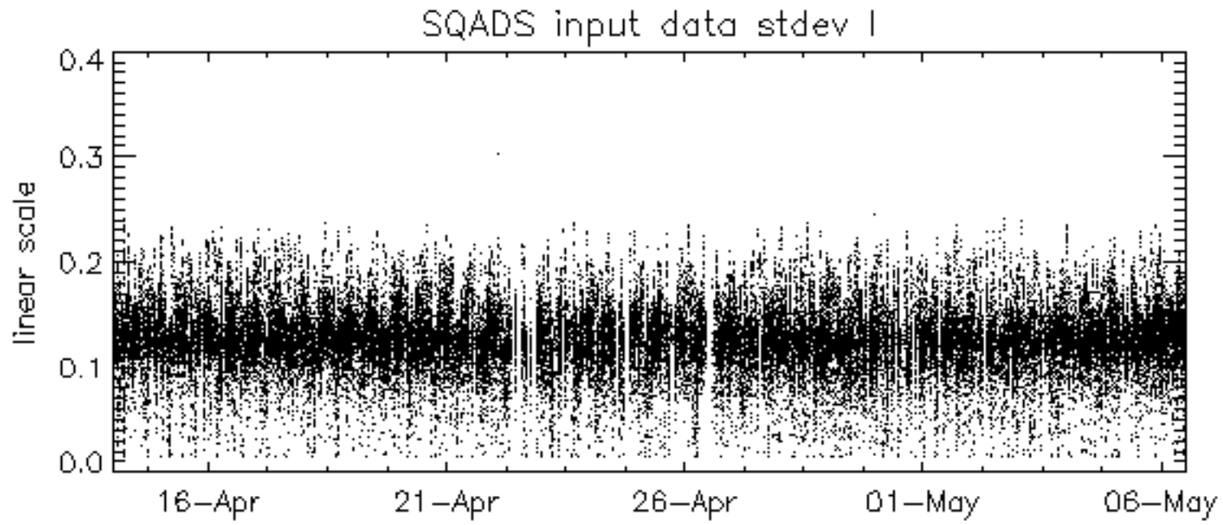

I/Q Gain Imbalance
0.4
0.3
0.2
0.1
0.0
stdev Q
0.0
0.1
0.2
0.3
0.4
stdev I

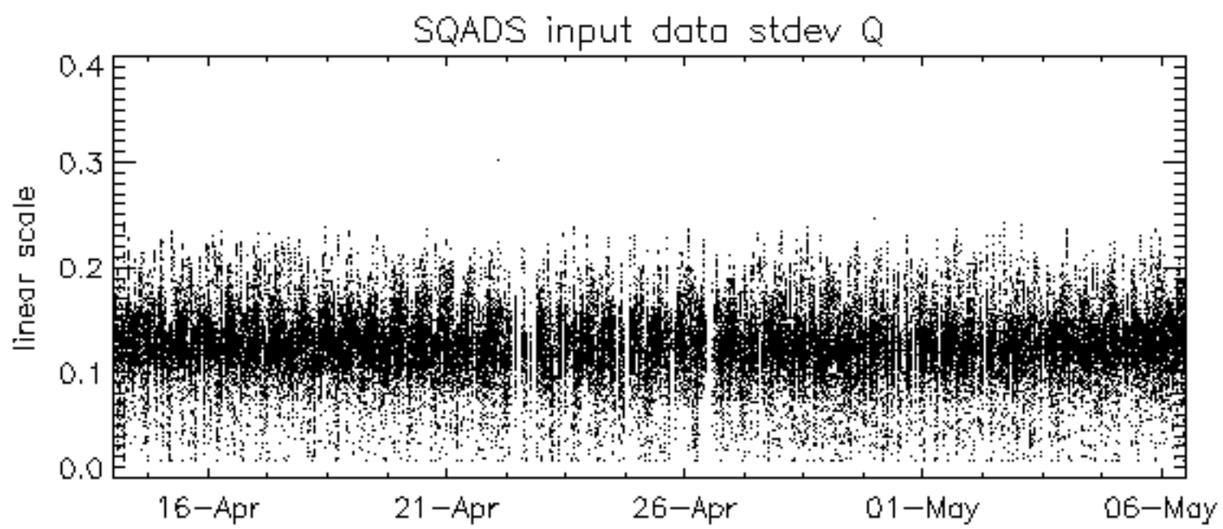

SQADS input data mean i(black), q(red)
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Apr
21−Apr
26−Apr
01−May
06−May

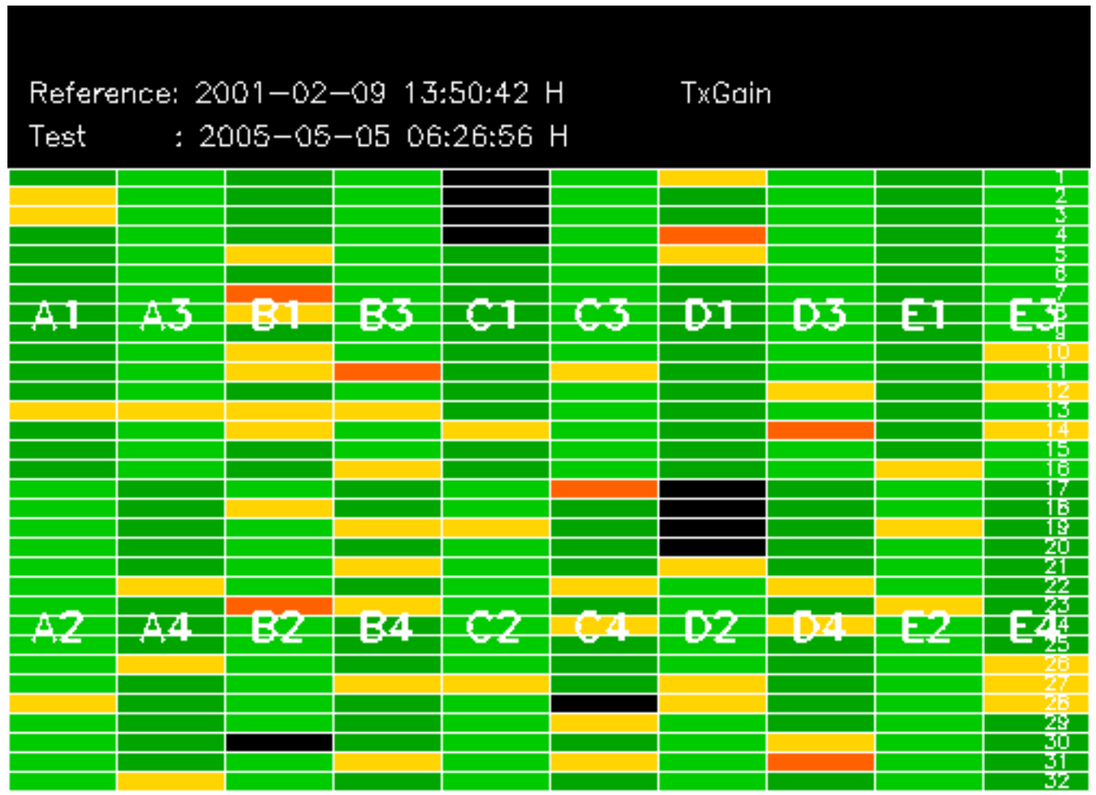

SQADS input data mean I
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Apr
21−Apr
26−Apr
01−May
06−May

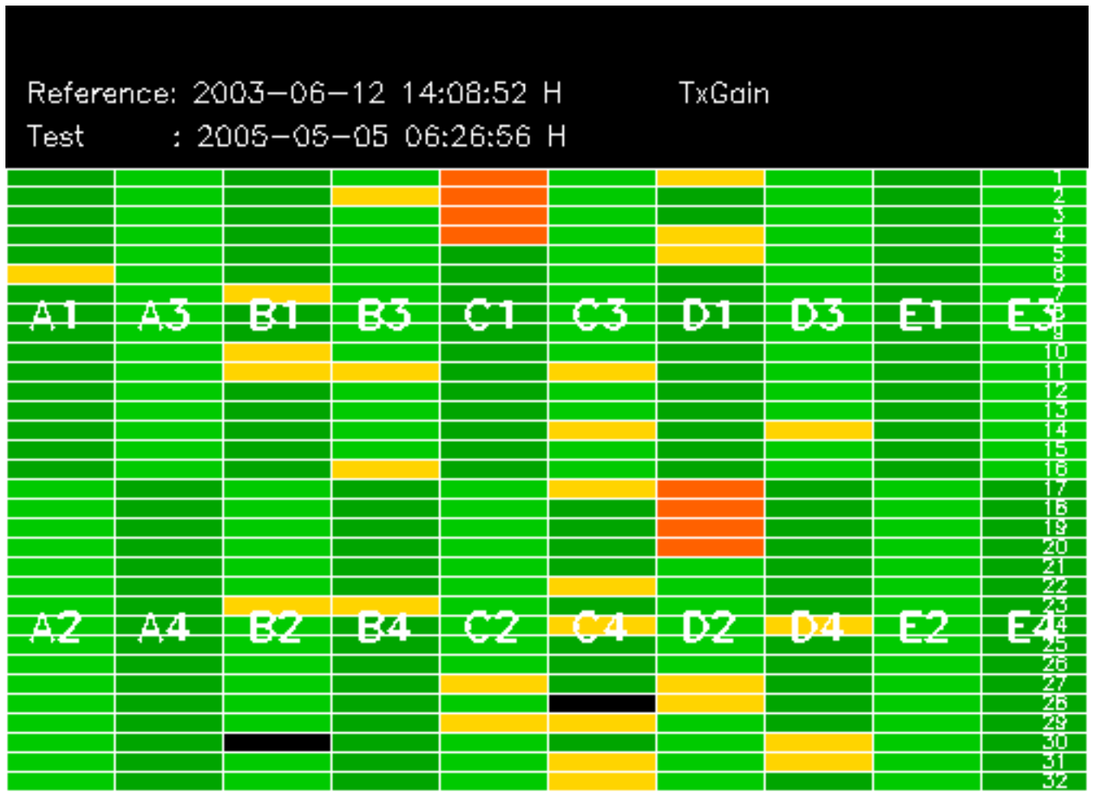

SQADS input data mean Q
linear scale
0.006
0.004
0.002
0.000
−0.002
16−Apr
21−Apr
26−Apr
01−May
06−May


SQADS input data stdev i(black), q(red)
linear scale
0.4
0.3
0.2
0.1
0.0
16-Apr
21-Apr
26-Apr
01-May
06-May


SQADS input data stdev I
linear scale
0.4
0.3
0.2
0.1
0.0
16-Apr
21-Apr
26-Apr
01-May
06-May


SQADS input data stdev Q
linear scale
0.4
0.3
0.2
0.1
0.0
16-Apr
21-Apr
26-Apr
01-May
06-May

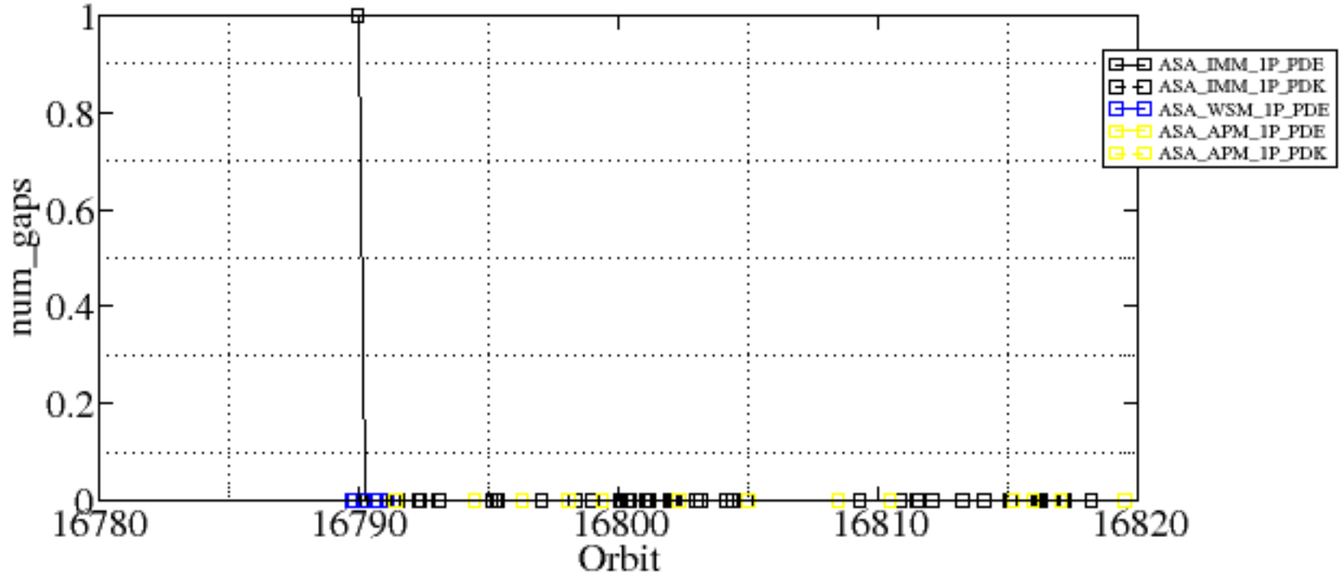

Reference: 2001-02-09 13:50:42 H
Test : 2005-05-05 06:26:56 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

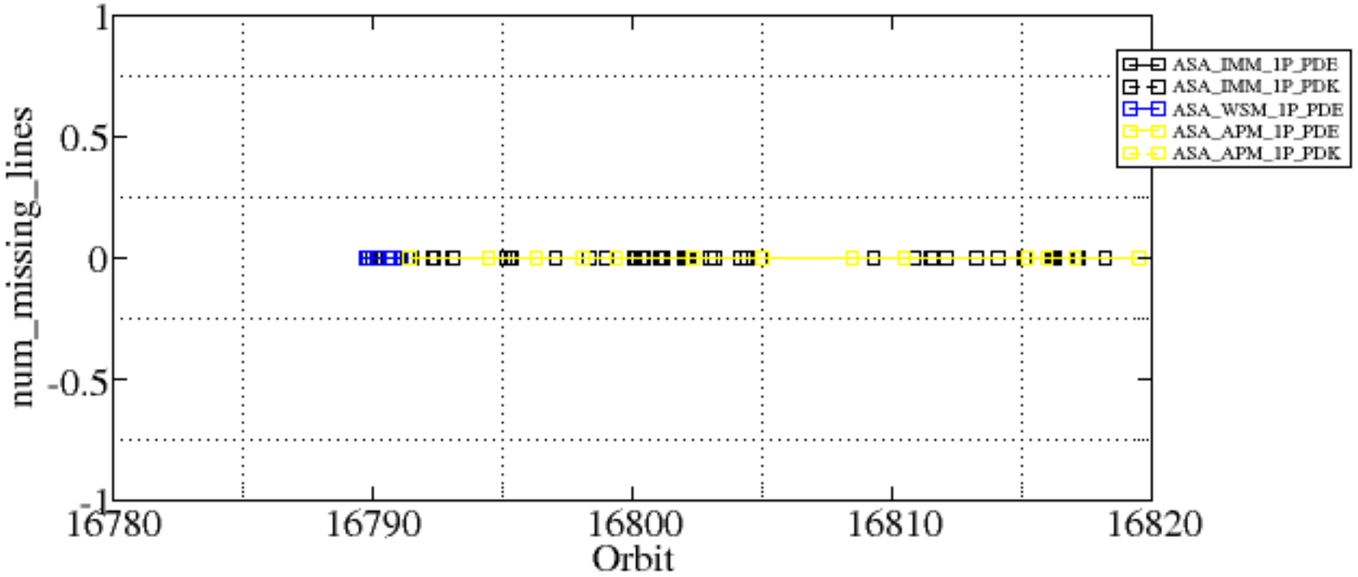

Reference: 2003-06-12 14:08:52 H
Test : 2005-05-05 06:26:56 H
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

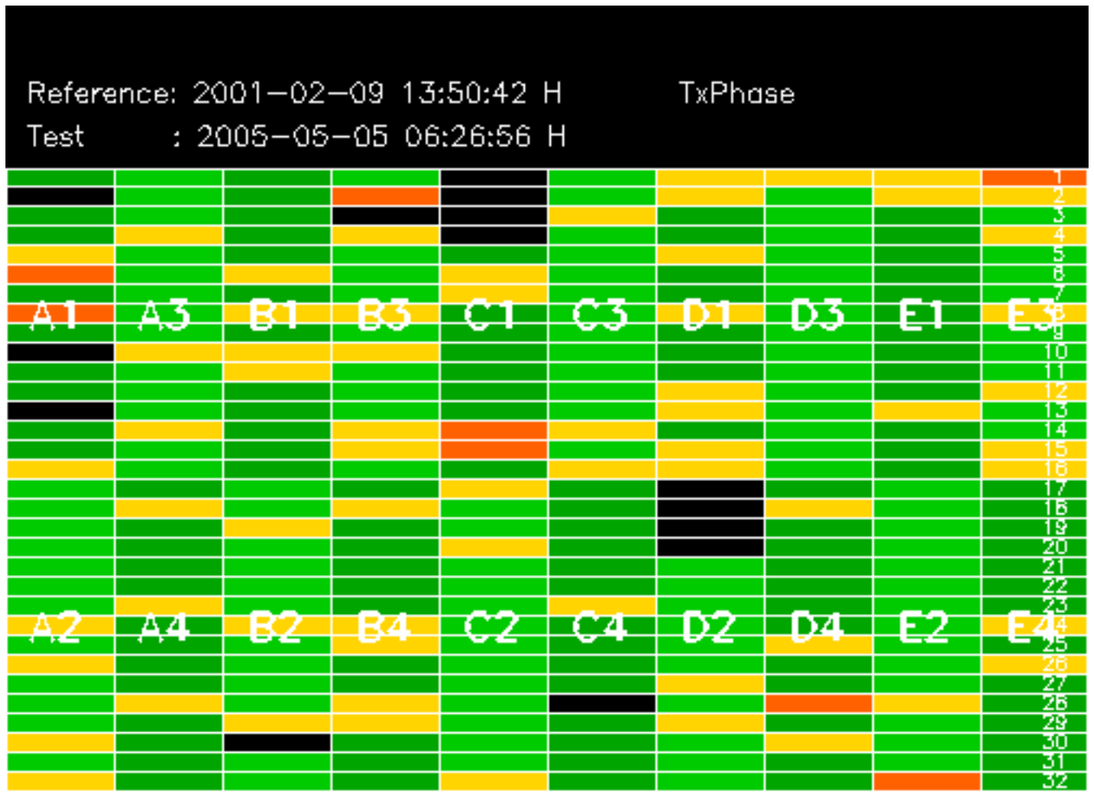

Reference: 2001-02-09 14:08:23 V
Test : 2005-05-06 05:55:19 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

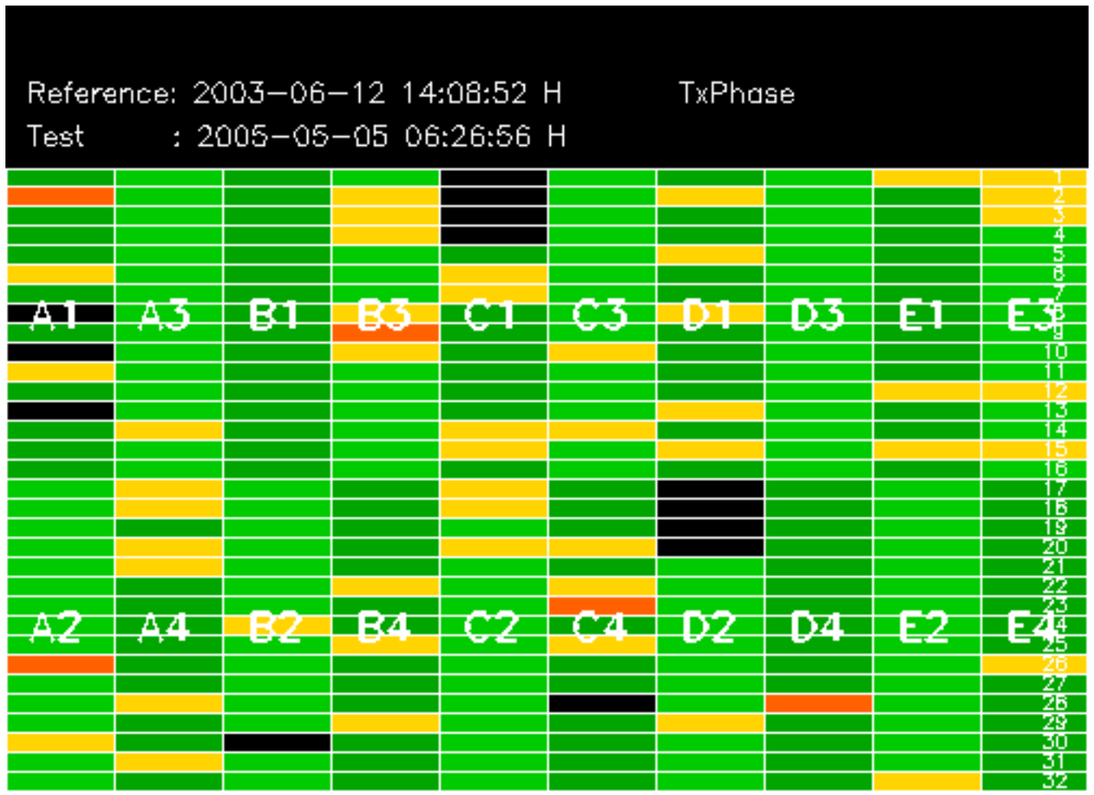

Reference: 2003-06-12 14:10:32 V
Test : 2005-05-06 05:55:19 V
TxGain
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

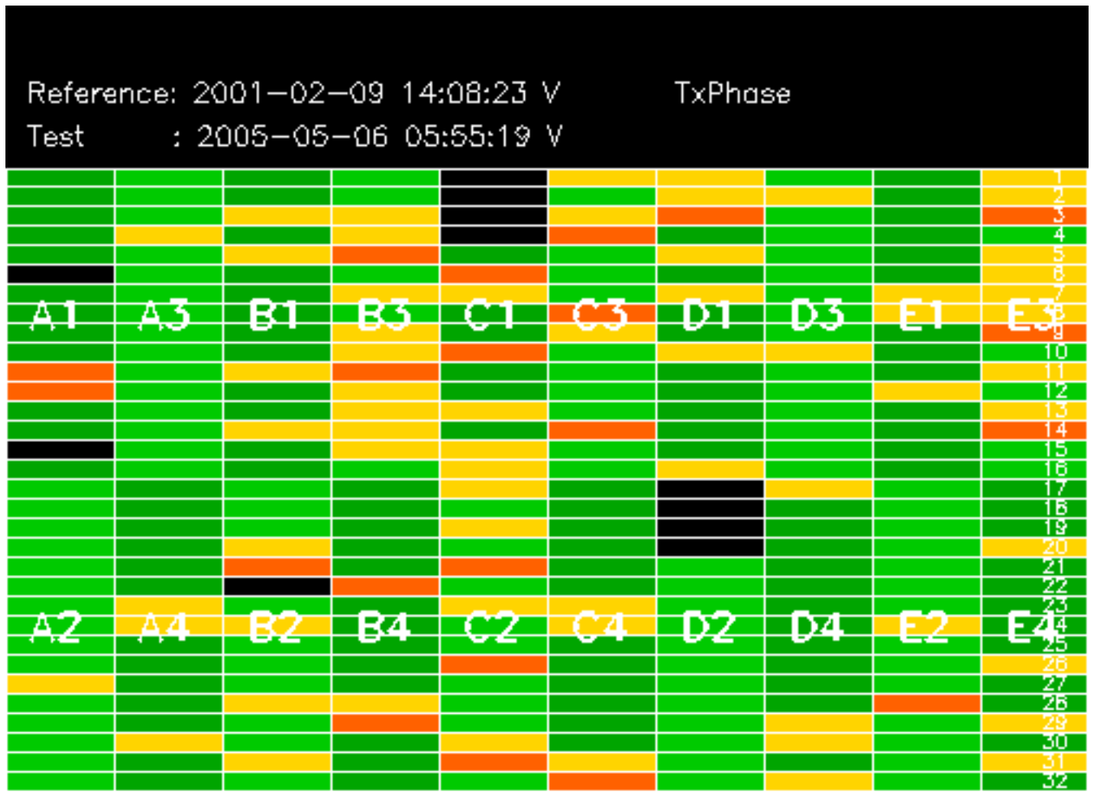
Summary of analysis for the last 3 days 2005051[789]
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems
<table border=1>
<tr> <th>Filename </th><th> num_gaps</th><th>num_missing_lines</th></tr>
<tr> <td>ASA_IMM_1PNPDE20050517_003632_000002312037_00202_16789_1758.N1 </td> <td>1 </td> <td>0 </td></tr>
</table>

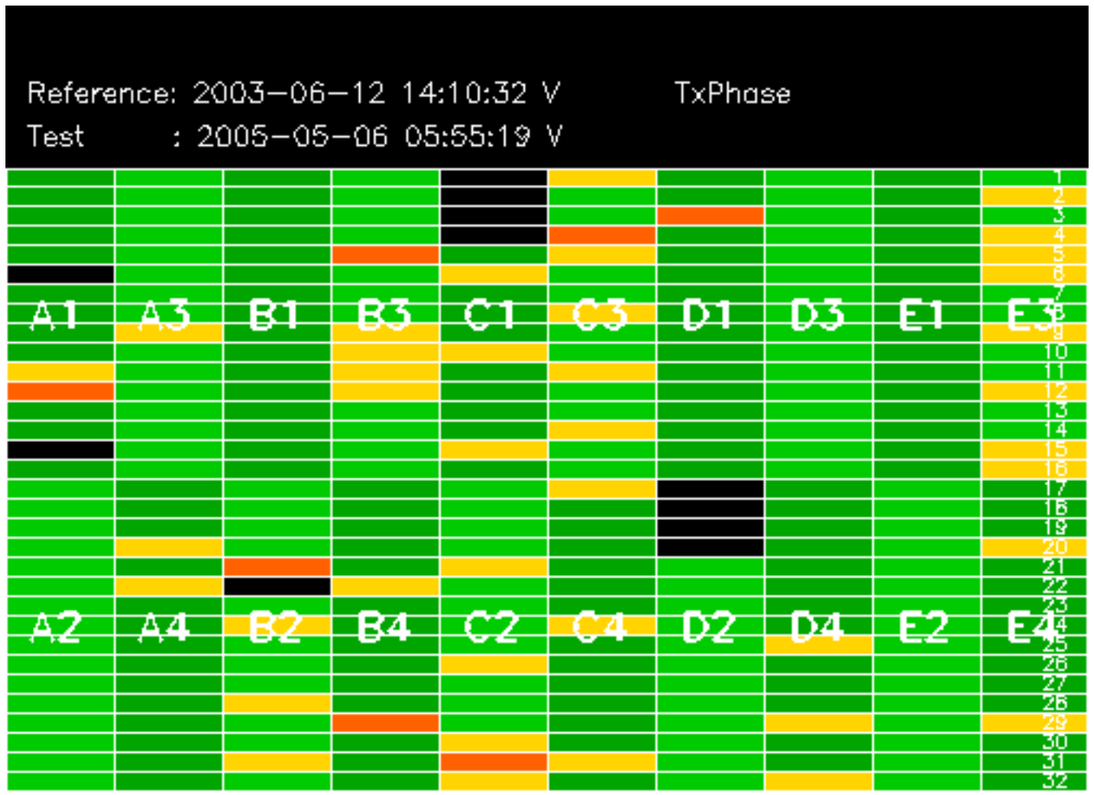

num_gaps
Orbit
1
0.8
0.6
0.4
0.2
0
16780
16790
16800
16810
16820
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WSM_1P_PDE
ASA_APM_1P_PDE
ASA_APM_1P_PDK

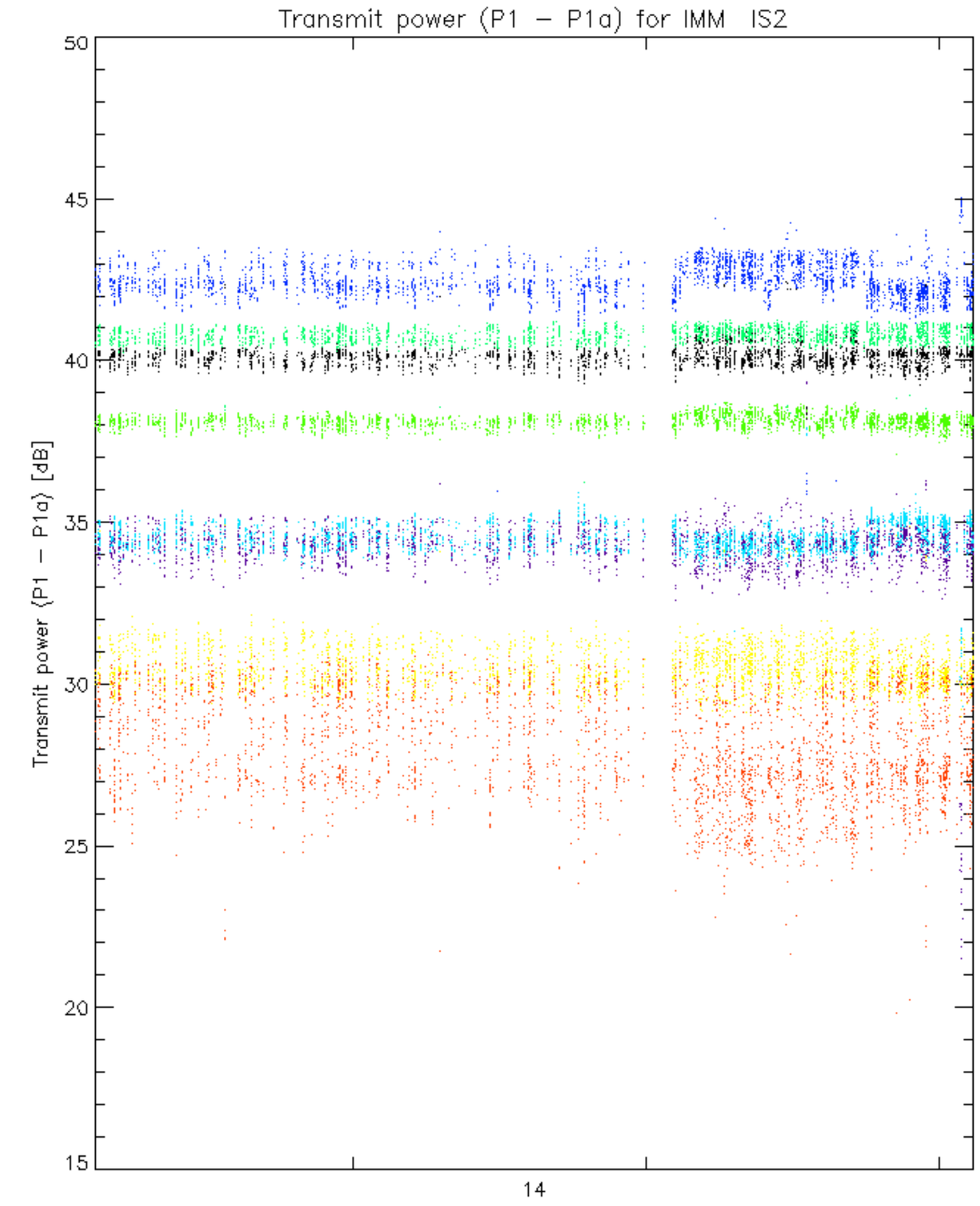

num_missing_lines
1
0.5
0
-0.5
-1
16780
16790
16800
16810
16820
Orbit
ASA_IMM_1P_PDE
ASA_IMM_1P_PDK
ASA_WSM_1P_PDE
ASA_APM_1P_PDE
ASA_APM_1P_PDK

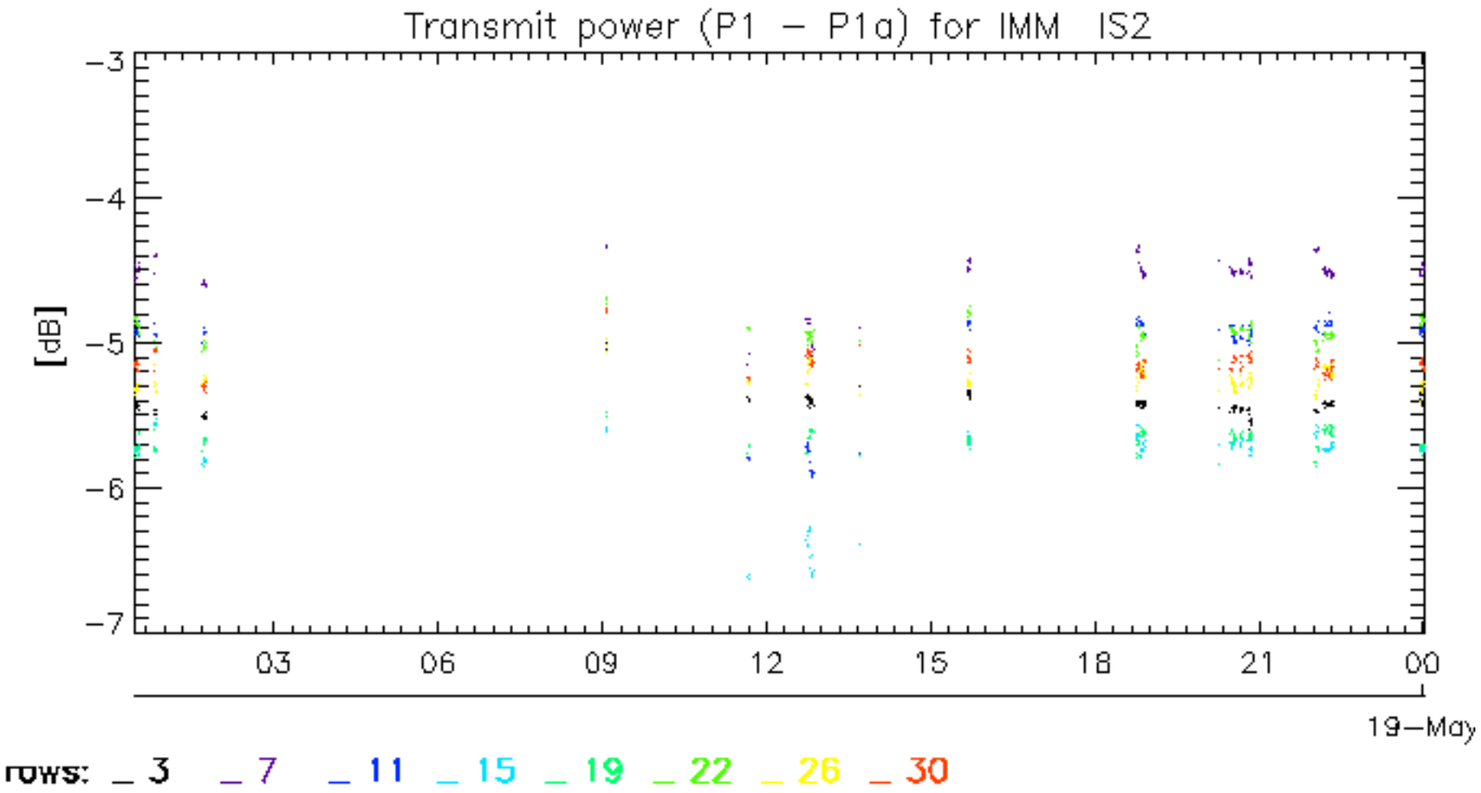

Reference: 2001-02-09 13:50:42 H
Test : 2005-05-05 06:26:56 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

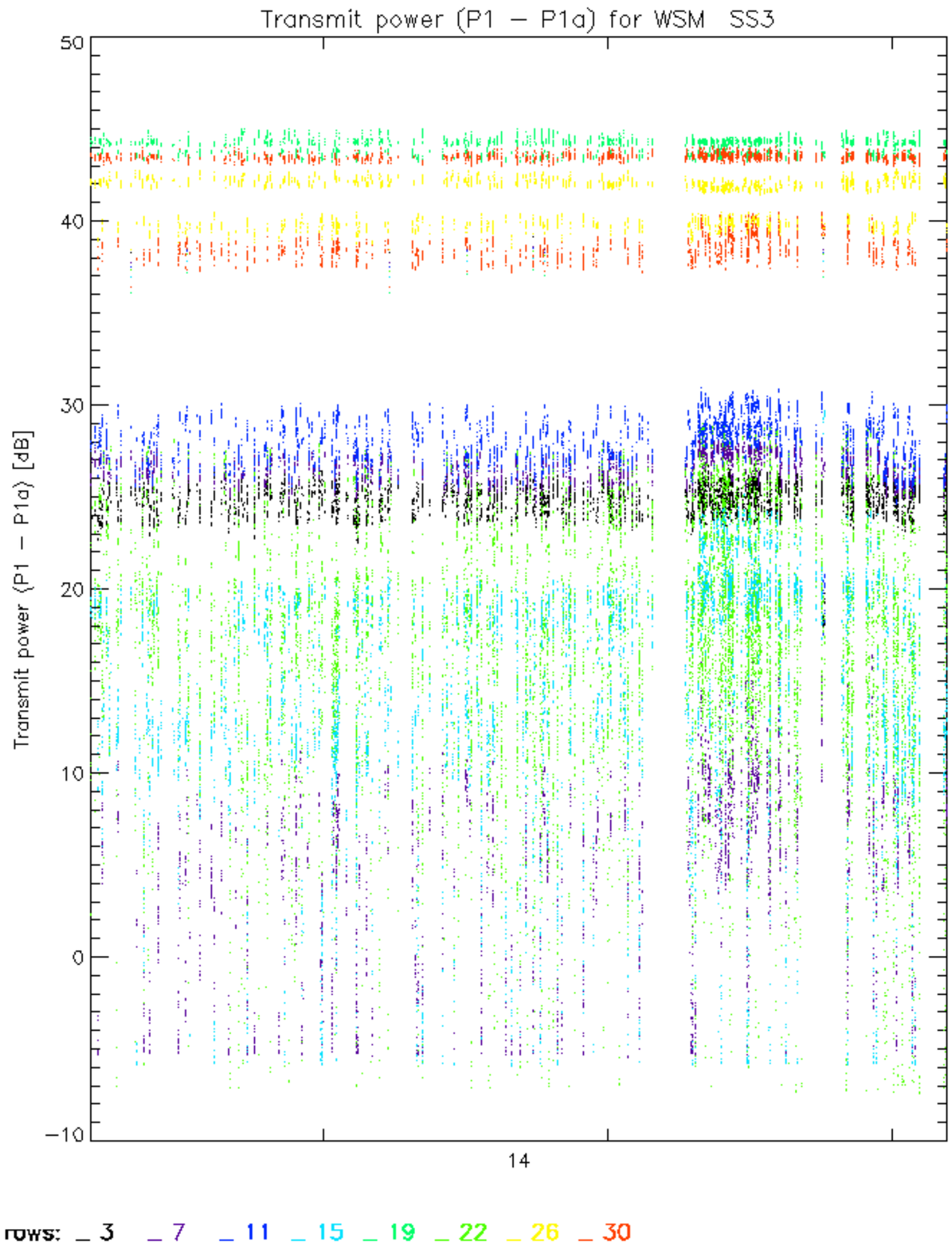

Reference: 2003-06-12 14:08:52 H
Test : 2005-05-05 06:26:56 H
TxPhase
A1
A3
B1
B3
C1
C3
D1
D3
E1
E3
A2
A4
B2
B4
C2
C4
D2
D4
E2
E4


Reference: 2001-02-09 14:08:23 V
Test : 2005-05-06 05:55:19 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 : 2005-05-06 05:55:19 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 IMM IS2
Transmit power (P1 – P1a) [dB]
50
45
40
35
30
25
20
15
14
rows: 3 7 11 15 19 22 26 30


Transmit power (P1 – P1a) for IMM IS2
[dB]
−3
−4
−5
−6
−7
03
06
09
12
15
18
21
00
19–May
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30


Transmit power (P1 – P1a) for WSM SS3
Transmit power (P1 – P1a) [dB]
50
40
30
20
10
0
−10
14
rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.