

PRELIMINARY REPORT OF 070203

last update on Sat Feb 3 16:13:14 GMT 2007

Due to an ASAR test acquisition campaign, the daily analysis on WVS products will be based on IS4 instead of IS2 during the following periods:

From orbit 25621 (23-Jan-2007) to 25720 (30-Jan-2007) in HH polarization
From orbit 26122 (27-Feb-2007) to 26221 (06-Mar-2007) in HH polarization
From orbit 25721 (30-Jan-2007) to 25820 (06-Feb-2007) in VV polarization
From orbit 26222 (06-Mar-2007) to 26321 (13-Mar-2007) in VV polarization

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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 2007-02-02 00:00:00 to 2007-02-03 16:13:14

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

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	20070201 074712
H	20070202 181721

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
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

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)
3	P1a	-11.632374	0.060981	1.352395
7	P1a	-10.051219	0.058589	-0.930433
11	P1a	-10.578210	0.079851	-1.421436
15	P1a	-11.179232	0.975350	-8.749740
19	P1a	-15.477183	0.644496	6.879716
22	P1a	-20.702837	5.289577	17.691356
26	P1a	-15.623668	0.405208	-1.157171
30	P1a	-18.972275	4.292058	-17.886136

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-4.427750	0.170859	-4.185784
7	P1	-2.563220	0.009128	-0.459076
11	P1	-3.062267	0.076601	-2.314103
15	P1	-4.104788	0.733501	-7.718744
19	P1	-3.530476	0.056007	1.832098
22	P1	-5.208337	0.090066	-2.446157
26	P1	-5.731699	0.392866	5.496183
30	P1	-5.372979	0.057407	-1.101110

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.250107	0.096824	-0.827694
7	P2	-22.037743	0.147066	1.508876
11	P2	-10.913787	0.107930	1.634136
15	P2	-5.140176	0.095367	0.306500
19	P2	-7.267156	0.081461	0.251113
22	P2	-8.361385	0.078974	-0.389276
26	P2	-24.268717	0.098296	1.512882
30	P2	-21.701874	0.072055	0.039587

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.224777	0.007456	0.017438
7	P3	-8.224777	0.007456	0.017438
11	P3	-8.224777	0.007456	0.017438

15	P3	-8.224777	0.007456	0.017438
19	P3	-8.224777	0.007456	0.017438
22	P3	-8.224777	0.007456	0.017438
26	P3	-8.224777	0.007456	0.017438
30	P3	-8.224777	0.007456	0.017438

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1

✕

P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1a	-11.725379	0.045898	0.473535
7	P1a	-10.006449	0.038969	0.363822
11	P1a	-10.484060	0.057016	0.109375
15	P1a	-10.826220	0.128797	-0.176097
19	P1a	-15.753777	0.060566	-0.314021
22	P1a	-20.964102	1.387539	1.659369
26	P1a	-15.510402	0.249366	0.021303
30	P1a	-18.313028	0.366020	-0.231542

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-4.306520	0.189776	-4.684466
7	P1	-2.438515	0.006318	0.066745
11	P1	-2.843058	0.016127	0.207733
15	P1	-3.766813	0.032135	0.014126
19	P1	-3.549177	0.013449	-0.082054
22	P1	-5.020184	0.023502	0.106122
26	P1	-6.003987	0.021754	-0.219626
30	P1	-5.291505	0.024581	-0.029919

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.290401	0.030816	-0.144425
7	P2	-22.044460	0.047401	-0.308514
11	P2	-10.706816	0.029965	-0.262349
15	P2	-4.845353	0.026815	-0.100254
19	P2	-6.848210	0.026630	-0.181020
22	P2	-8.157795	0.028381	-0.247222
26	P2	-24.263884	0.031303	-0.256021
30	P2	-21.801811	0.034320	0.011753

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.057155	0.002543	-0.024820
7	P3	-8.056997	0.002536	-0.027130
11	P3	-8.057051	0.002544	-0.022423
15	P3	-8.057116	0.002525	-0.025775
19	P3	-8.057004	0.002523	-0.024565
22	P3	-8.057200	0.002538	-0.025239
26	P3	-8.057107	0.002530	-0.025298
30	P3	-8.057025	0.002535	-0.022795

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	0.000688874

	stdev	2.65034e-07
MEAN Q	mean	0.000294805
	stdev	2.04300e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.0570757
	stdev	0.000931222
STDEV Q	mean	0.0566430
	stdev	0.000941751



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007020[123]

The assumption is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
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7 - Doppler Analysis

Preliminary report. The data is not yet controlled

7.1 - Unbiased Doppler Error for WVS

Evolution of unbiased Doppler error (Real - Expected)	
<input type="checkbox"/>	
	Ascending
<input type="checkbox"/>	
	Descending

7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler	
<input type="checkbox"/>	
	Ascending
<input type="checkbox"/>	
	Descending

7.3 - Doppler evolution versus ANX for WVS

7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)	
<input type="checkbox"/>	
	Ascending
<input type="checkbox"/>	
	Descending

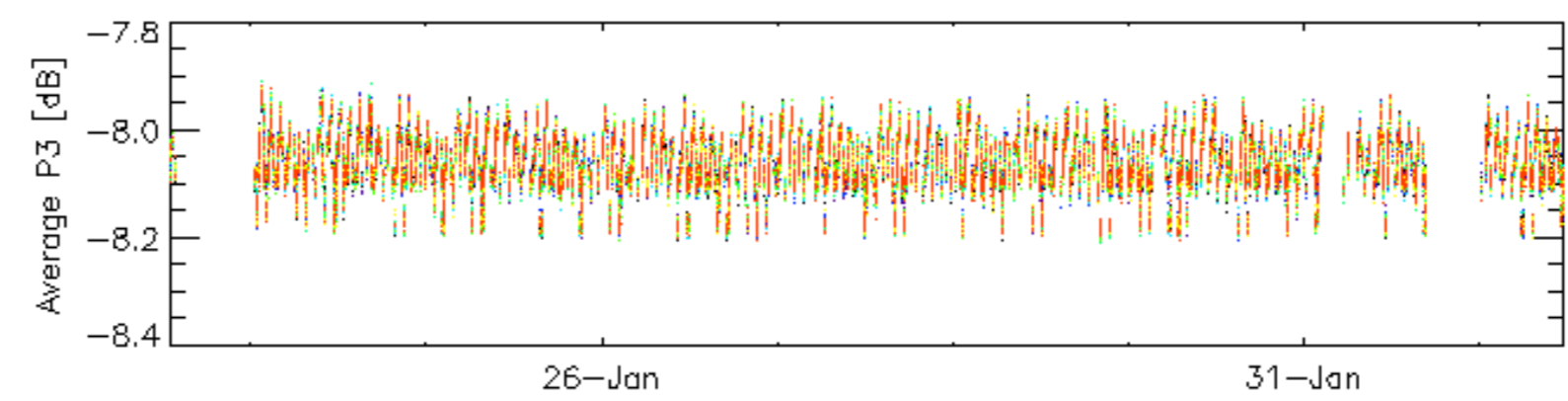
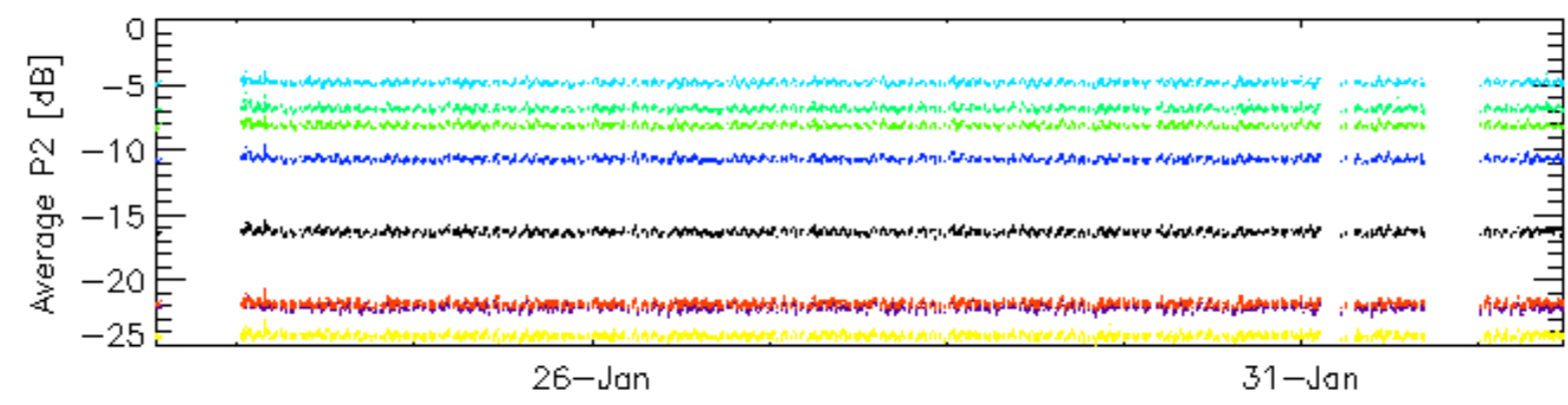
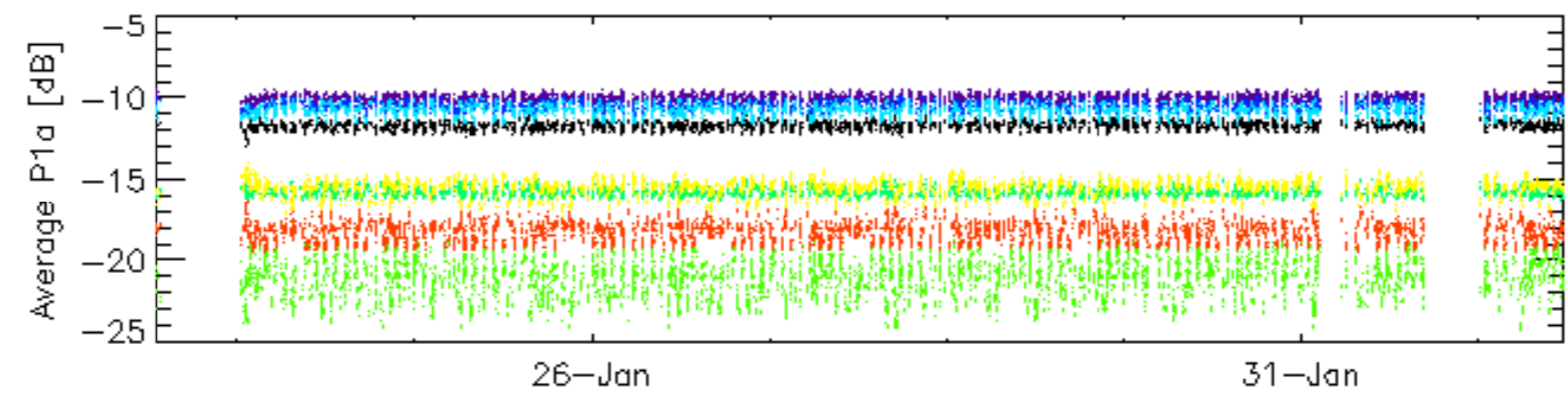
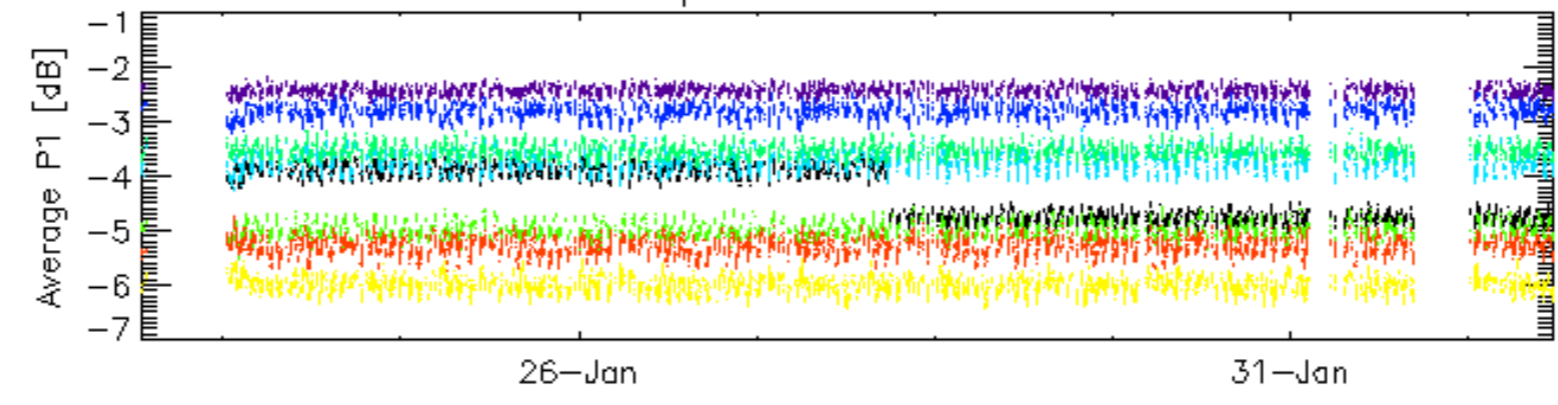
7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler	
<input type="checkbox"/>	

Ascending
<input type="checkbox"/>
Descending

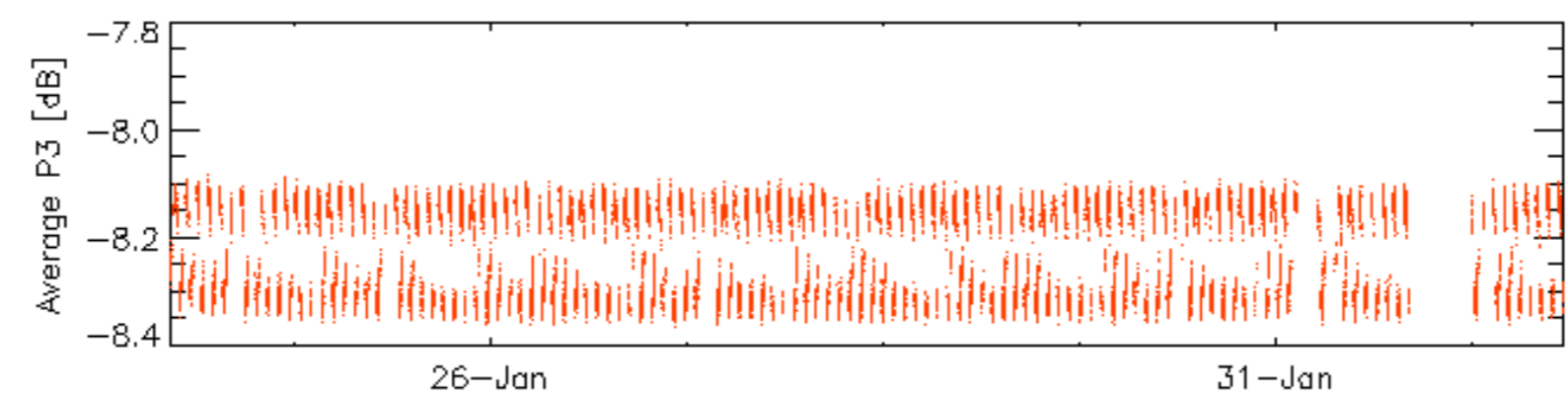
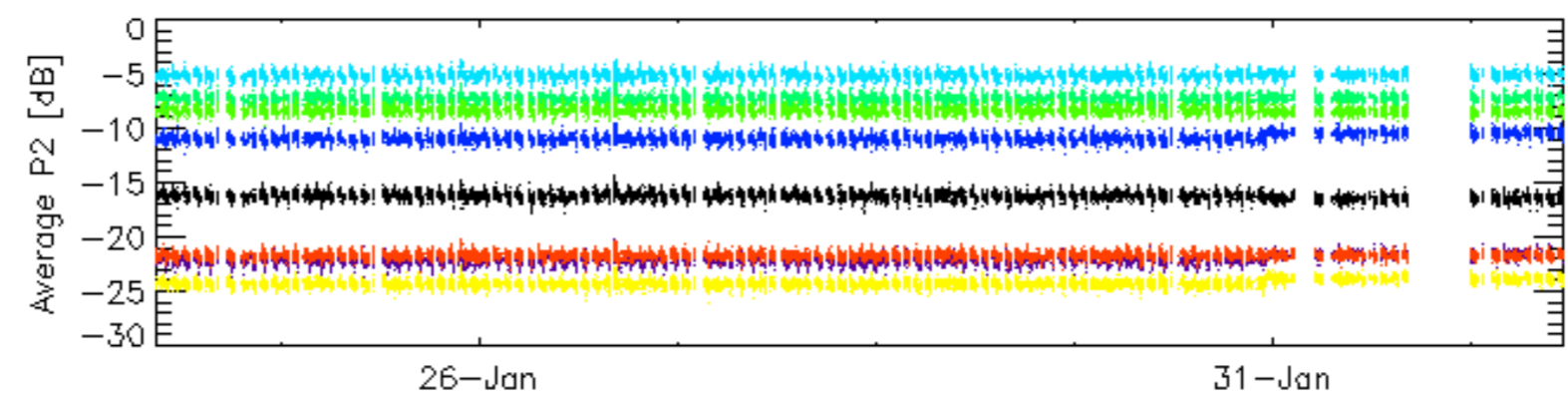
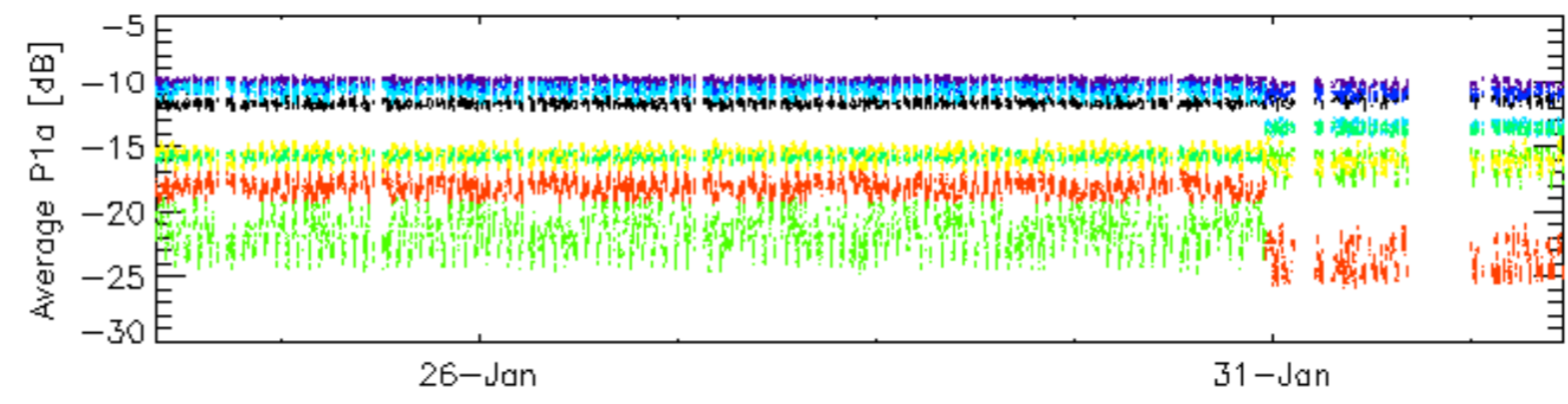
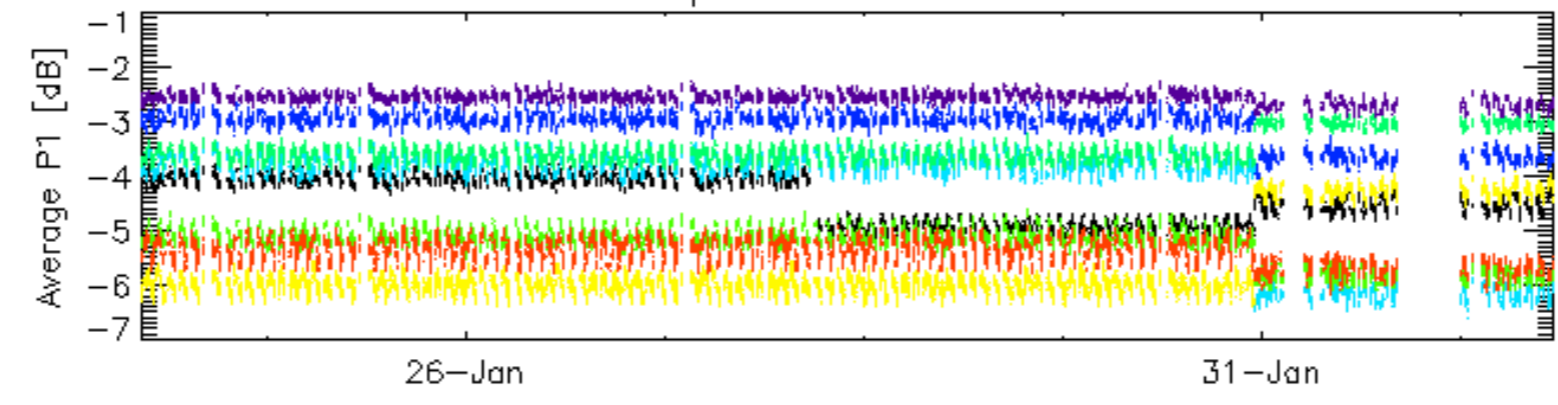
7.6 - Doppler evolution versus ANX for GM1

Cal pulses for GM1 SS3



rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS4

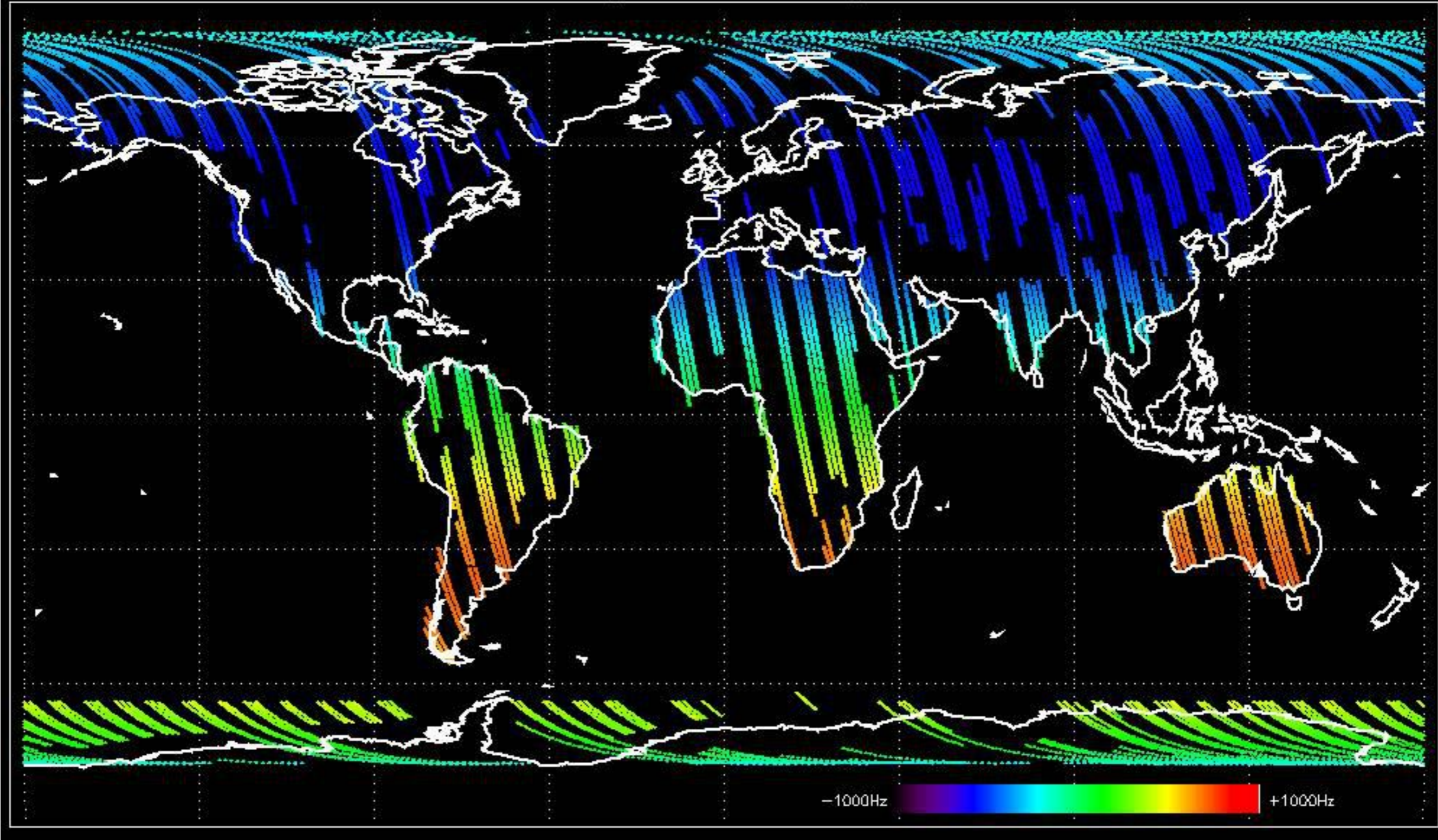


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

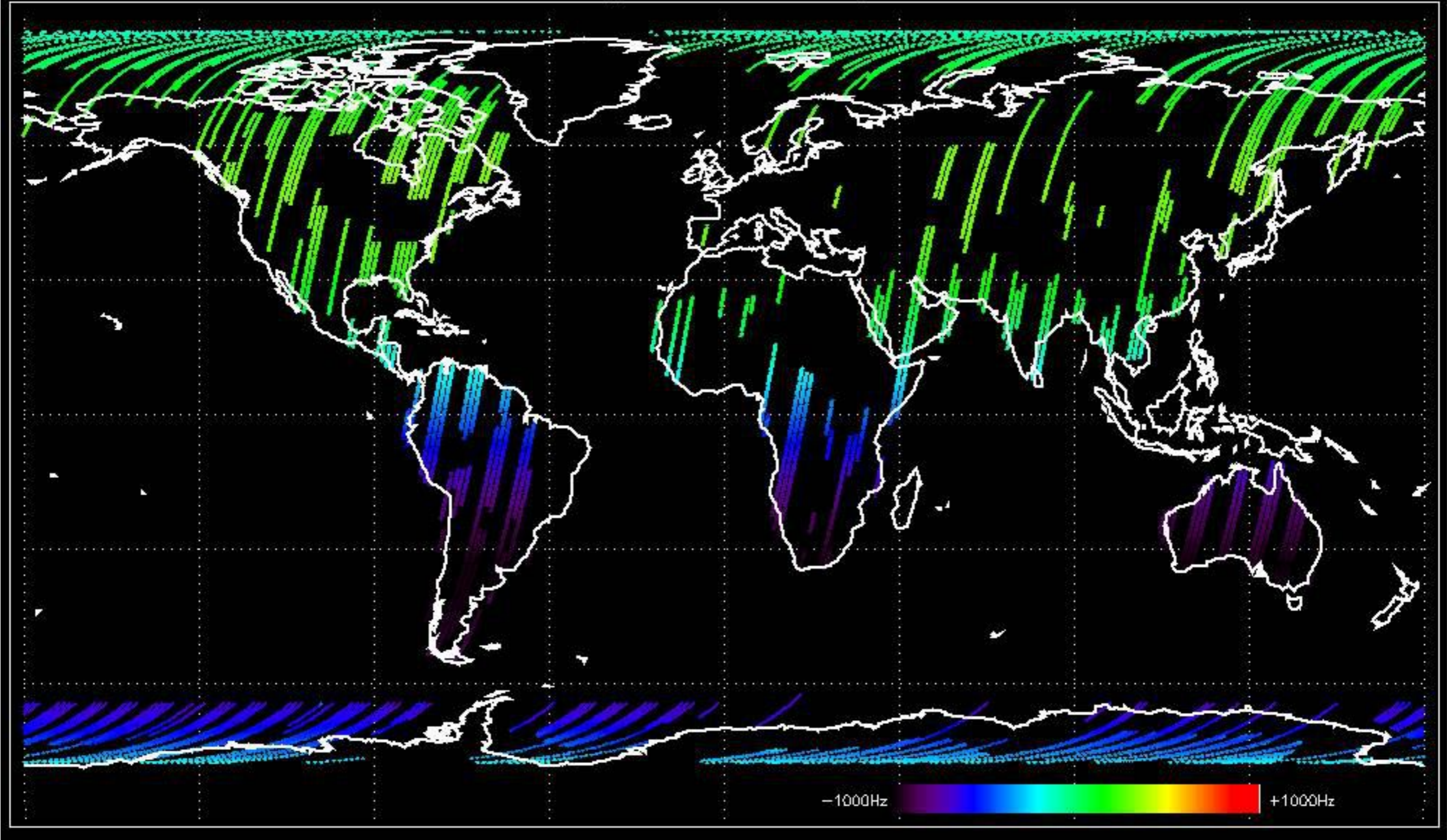
No anomalies observed.

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

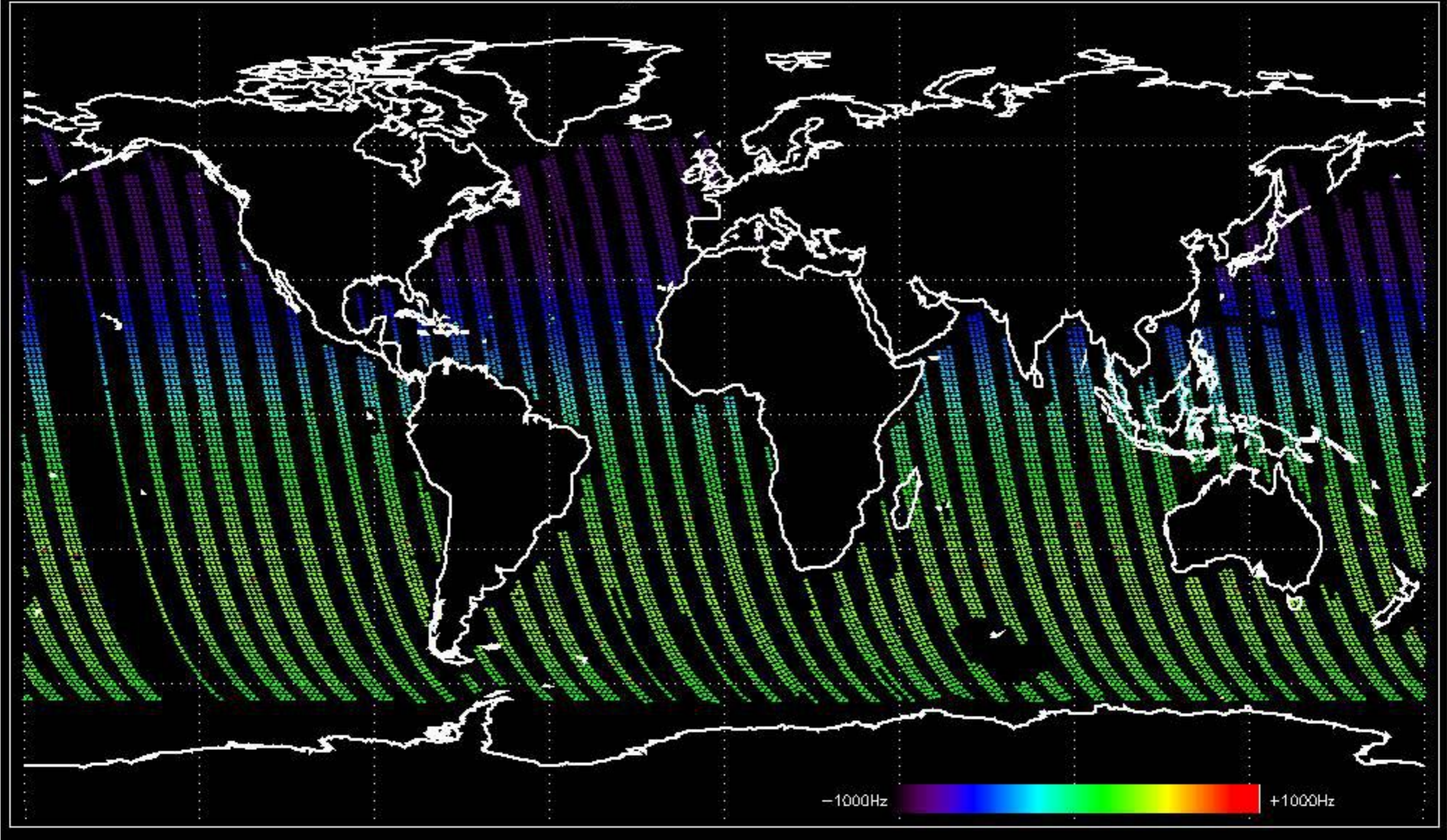
Doppler 'GM1' 'SS1' ascending



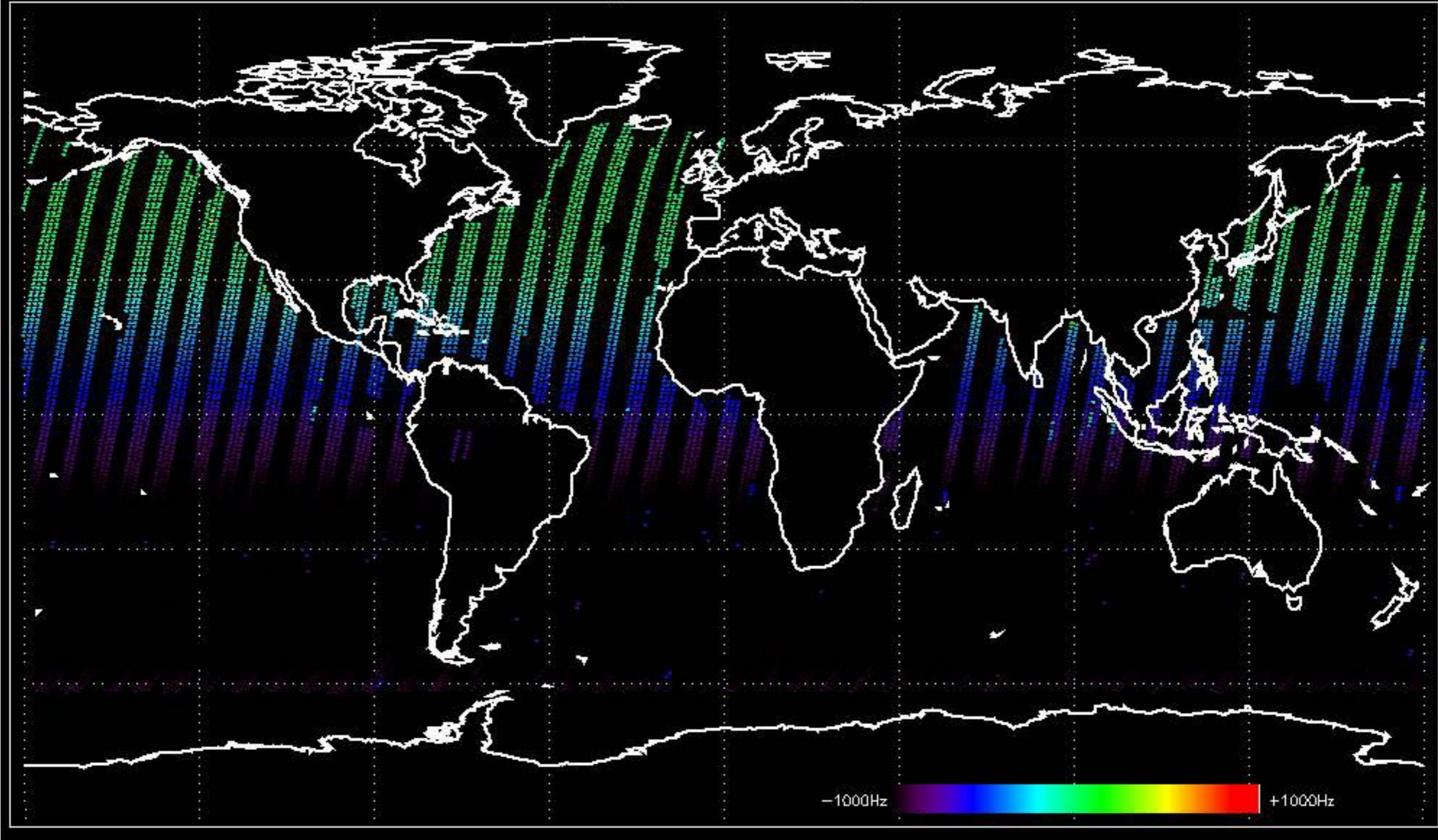
Doppler 'GM1' 'SS1' descending



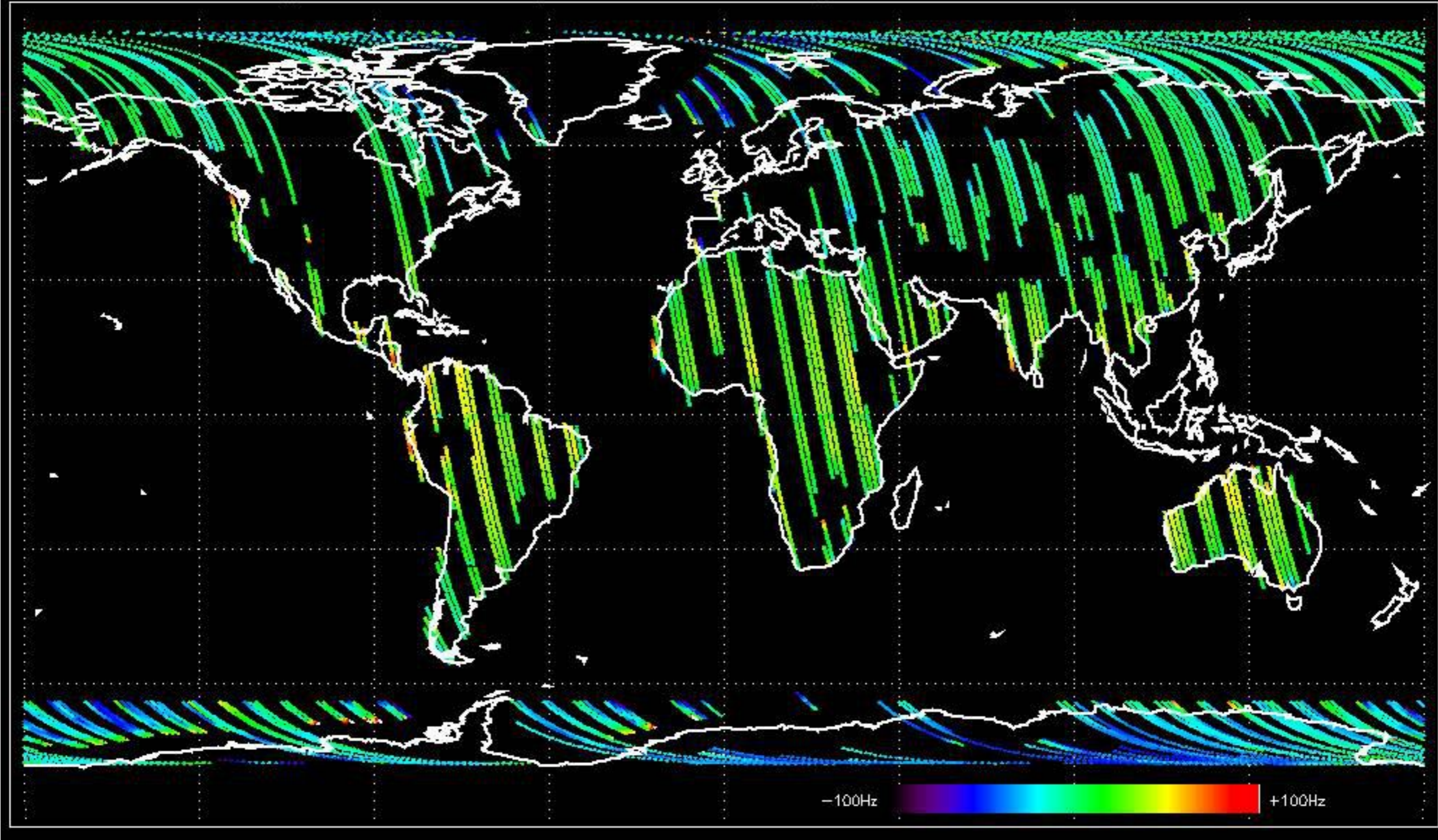
Doppler 'WVS' 'IS4' ascending



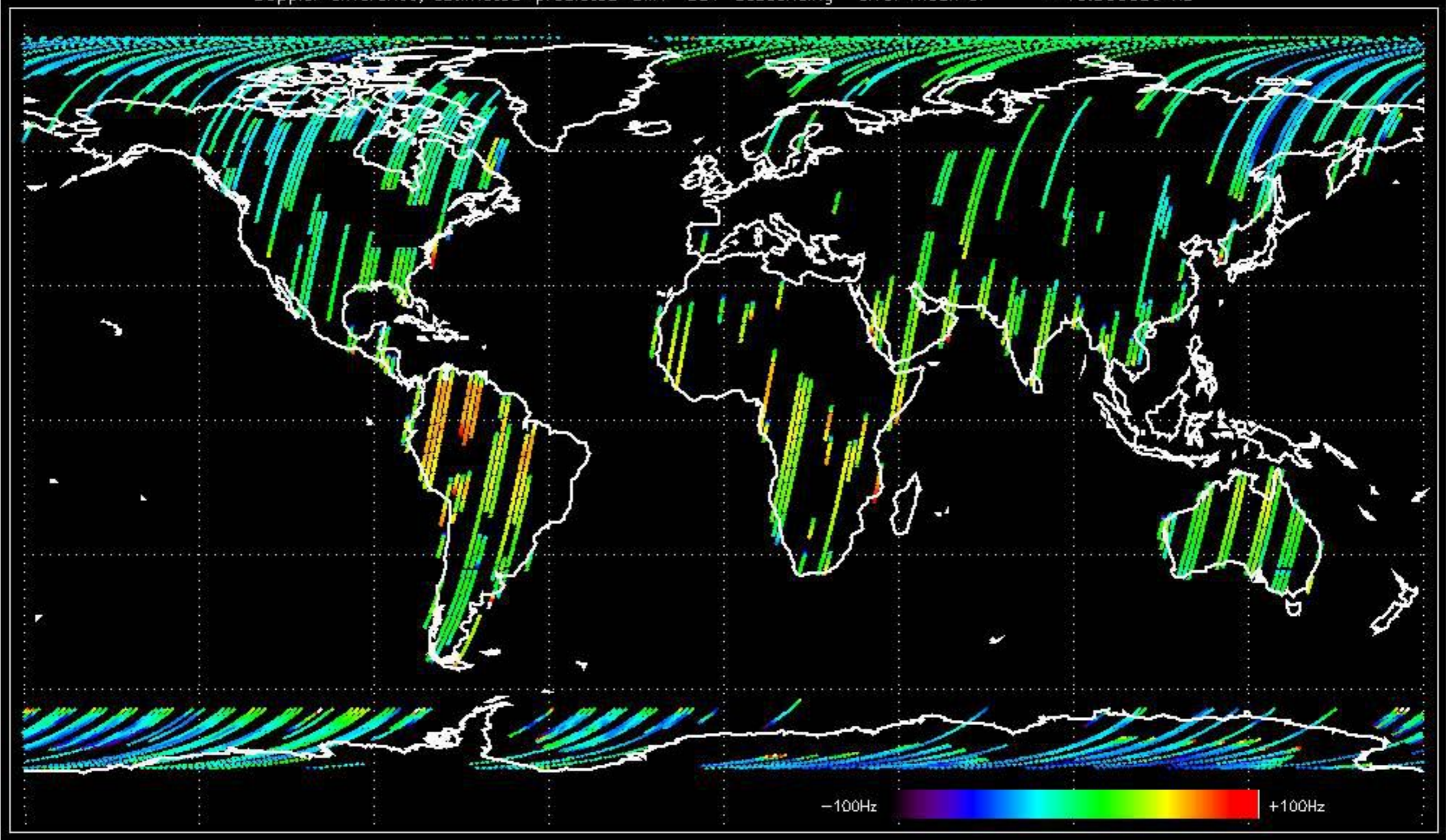
Doppler 'WVS' 'IS4' descending



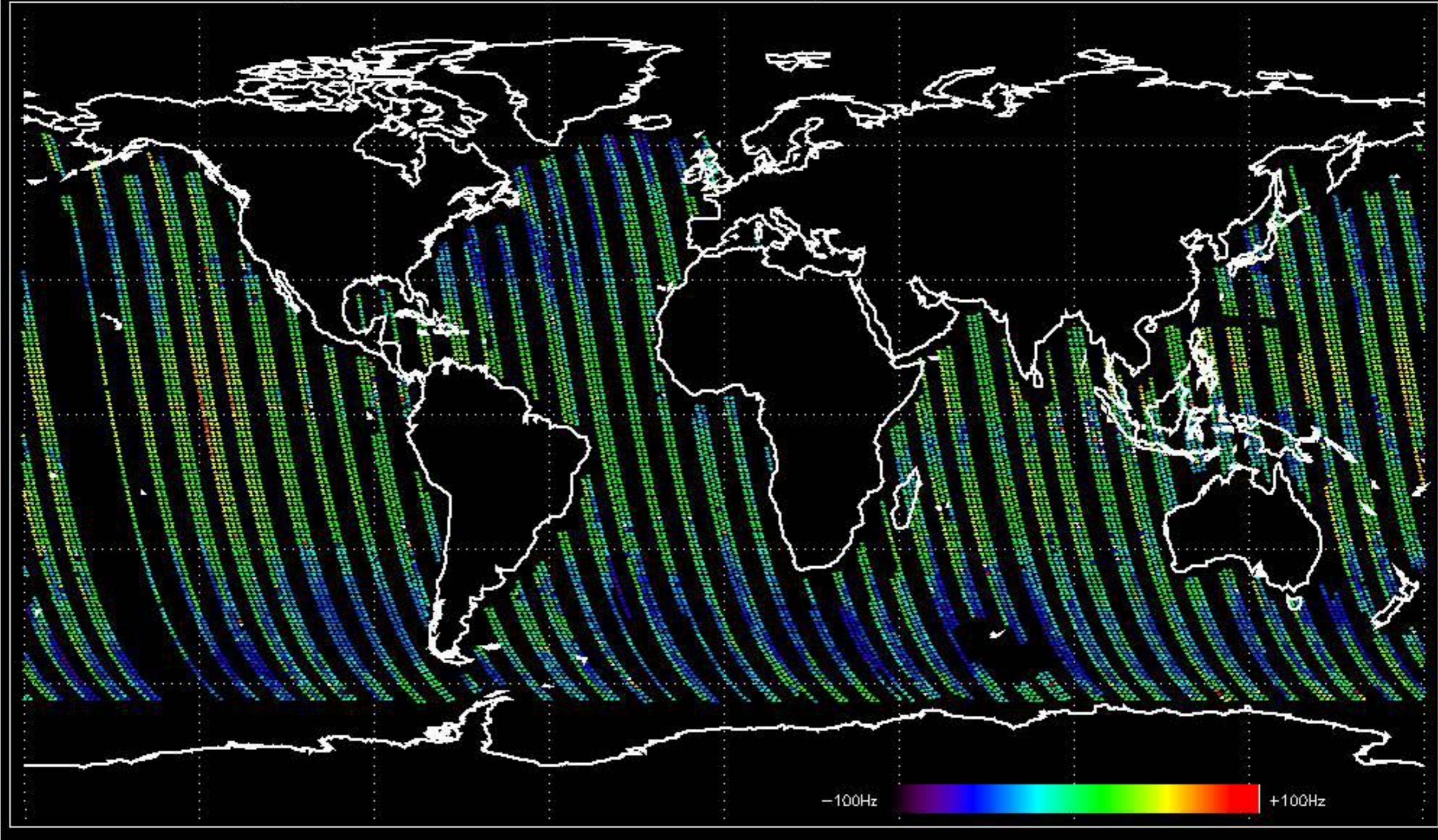
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -16.825830 Hz



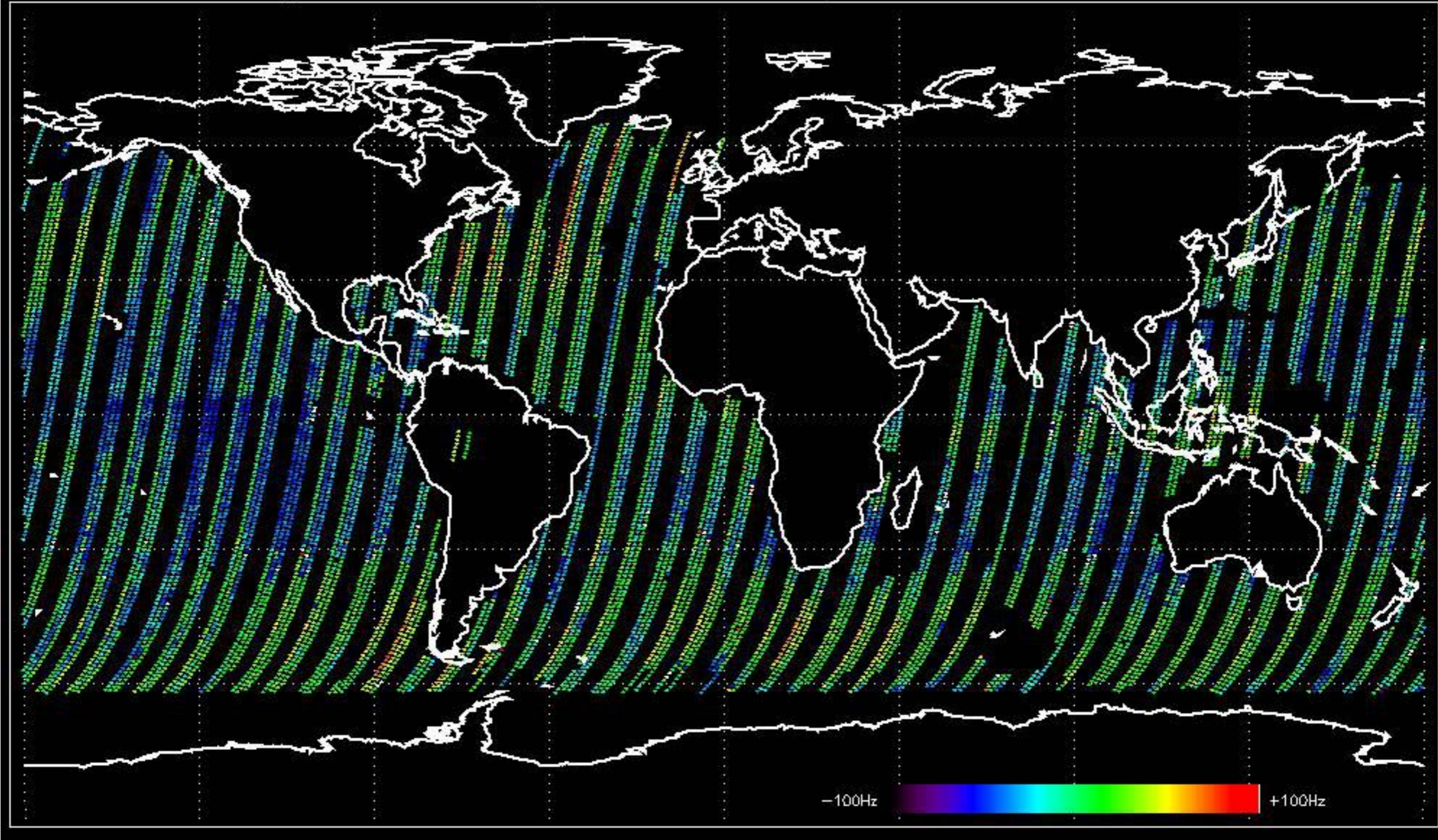
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -18.500606 Hz



Doppler difference, estimated-predicted 'WVS' 'IS4' ascending -error mean of -24.957375 Hz

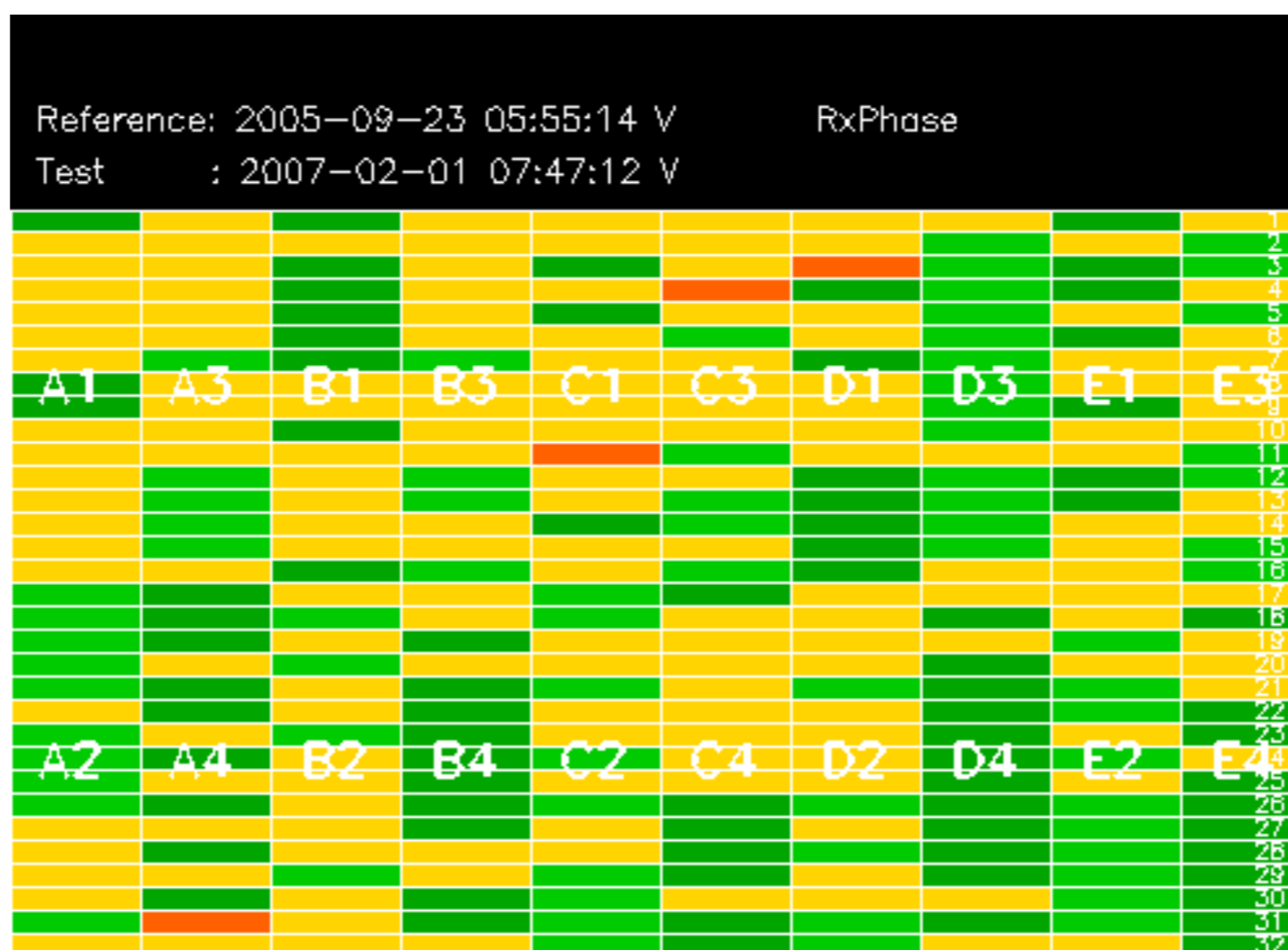


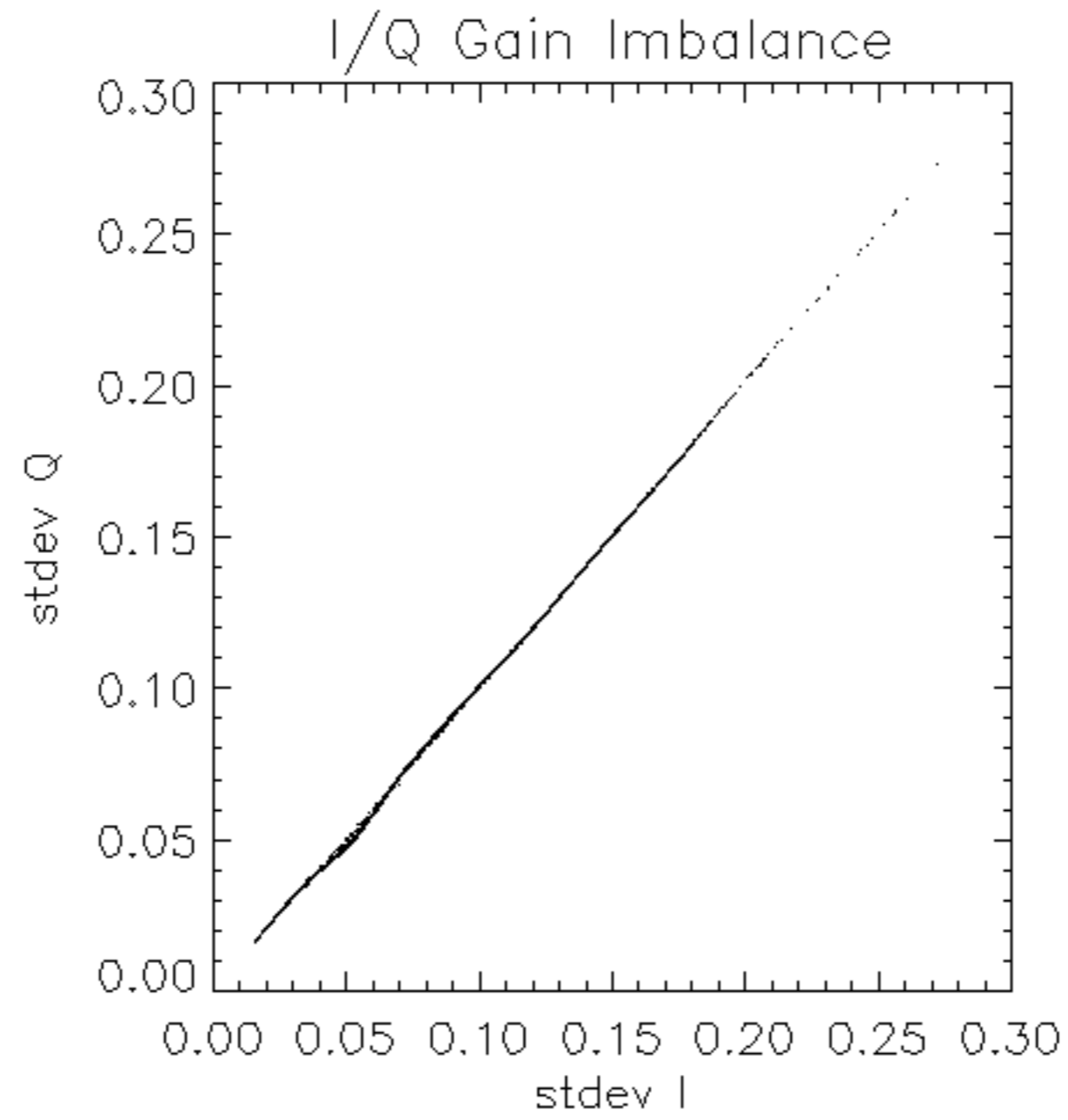
Doppler difference, estimated-predicted 'WVS' 'IS4' descending -error mean of -32.442955 Hz

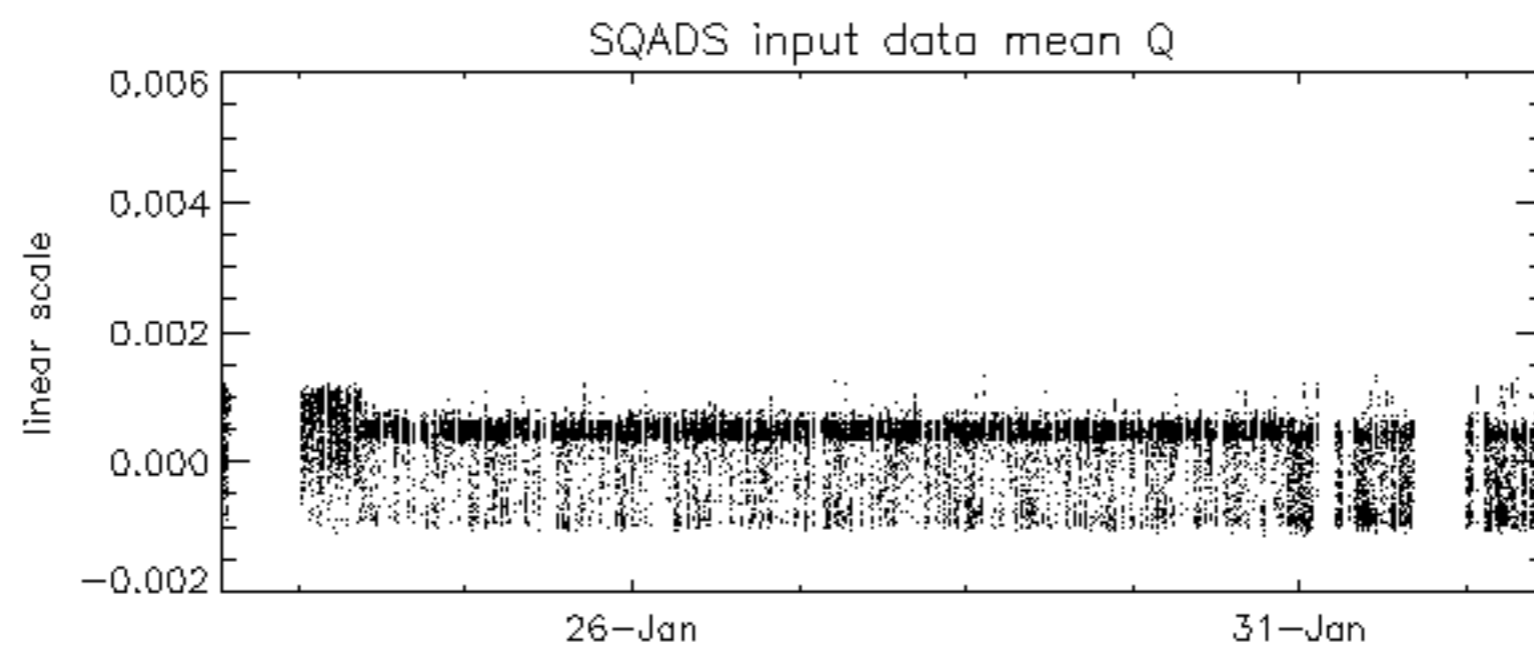
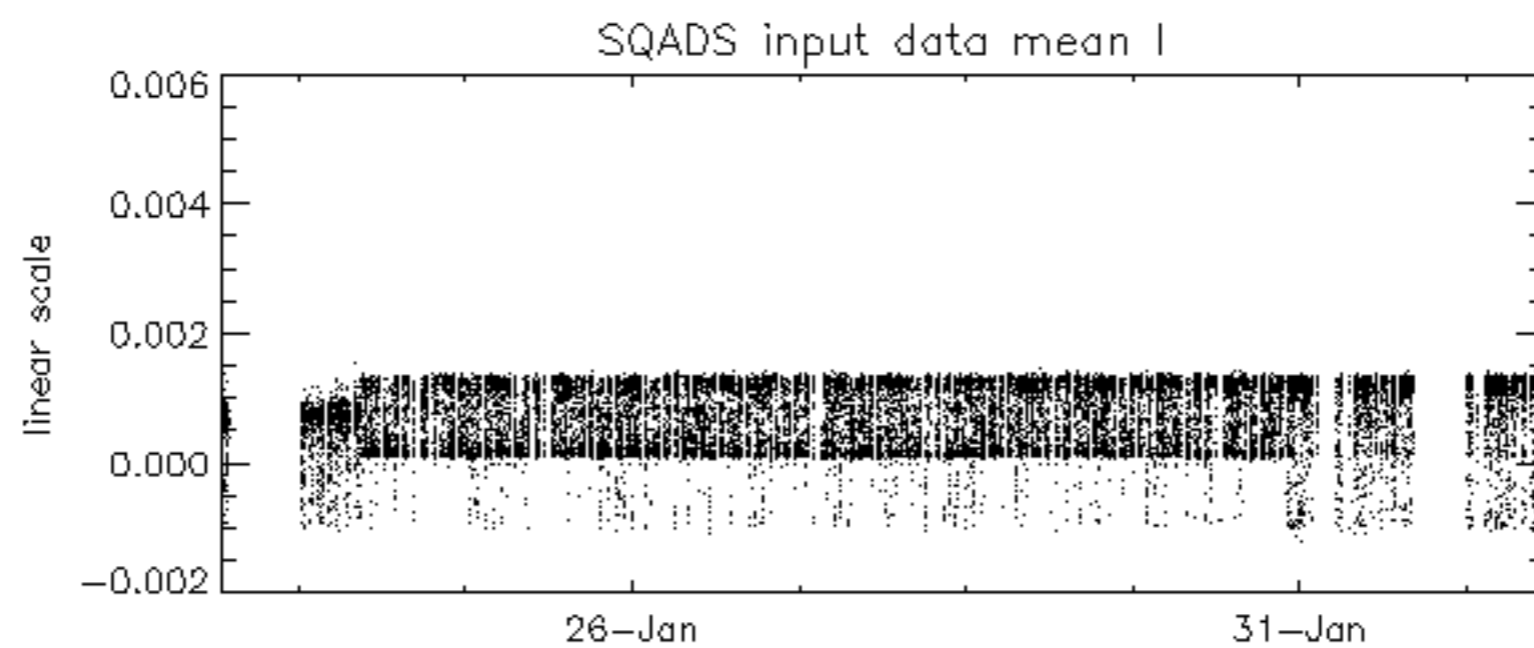
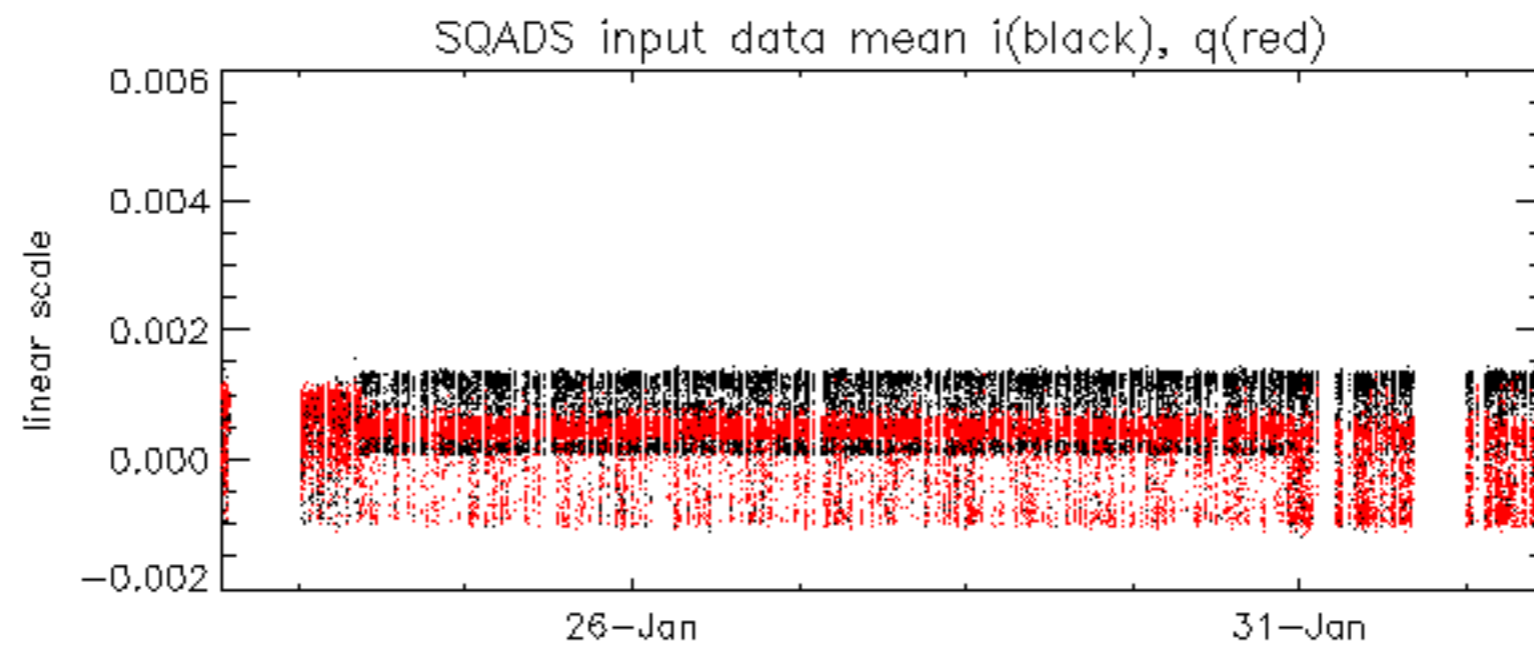


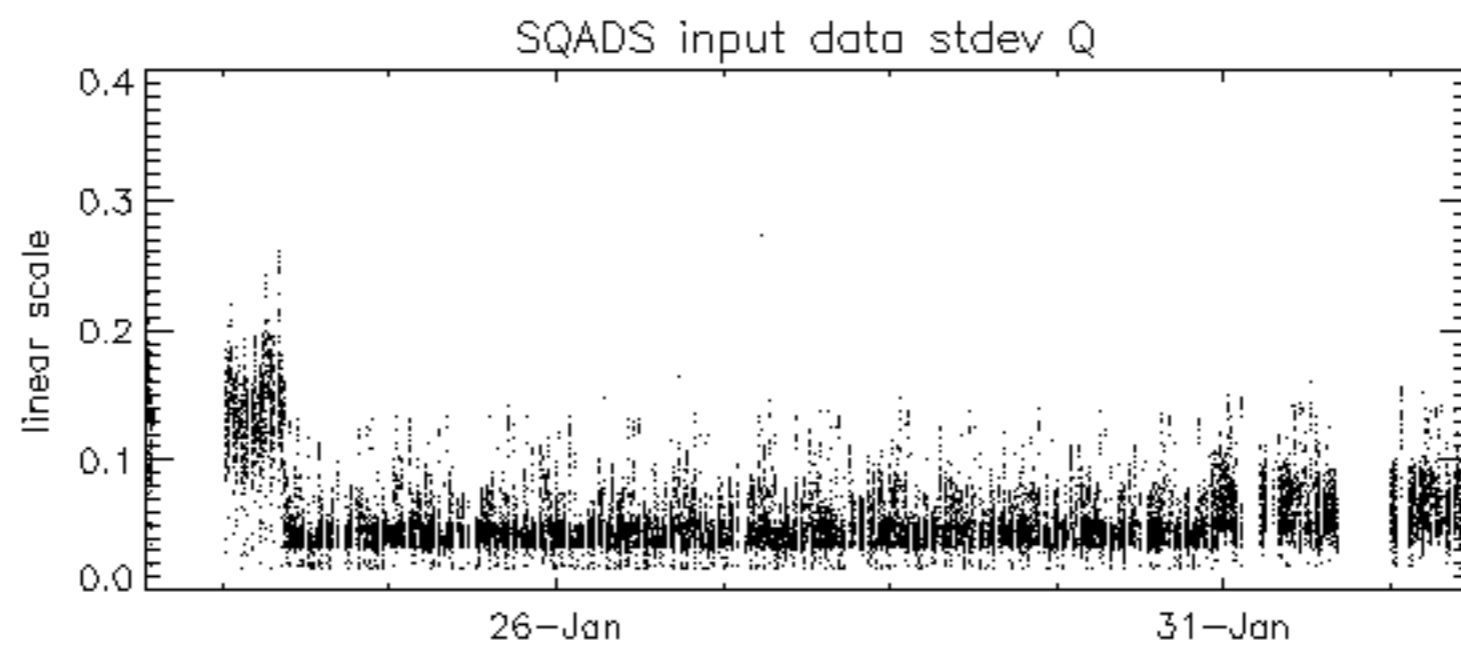
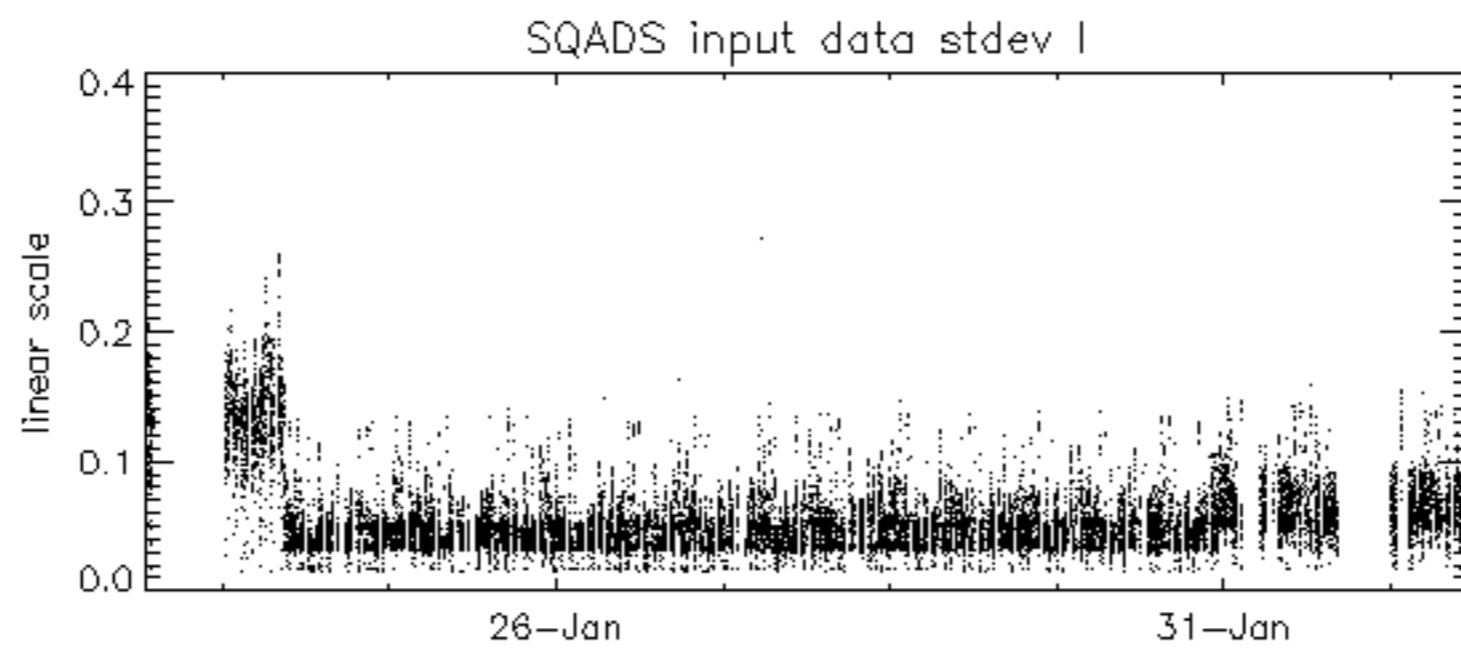
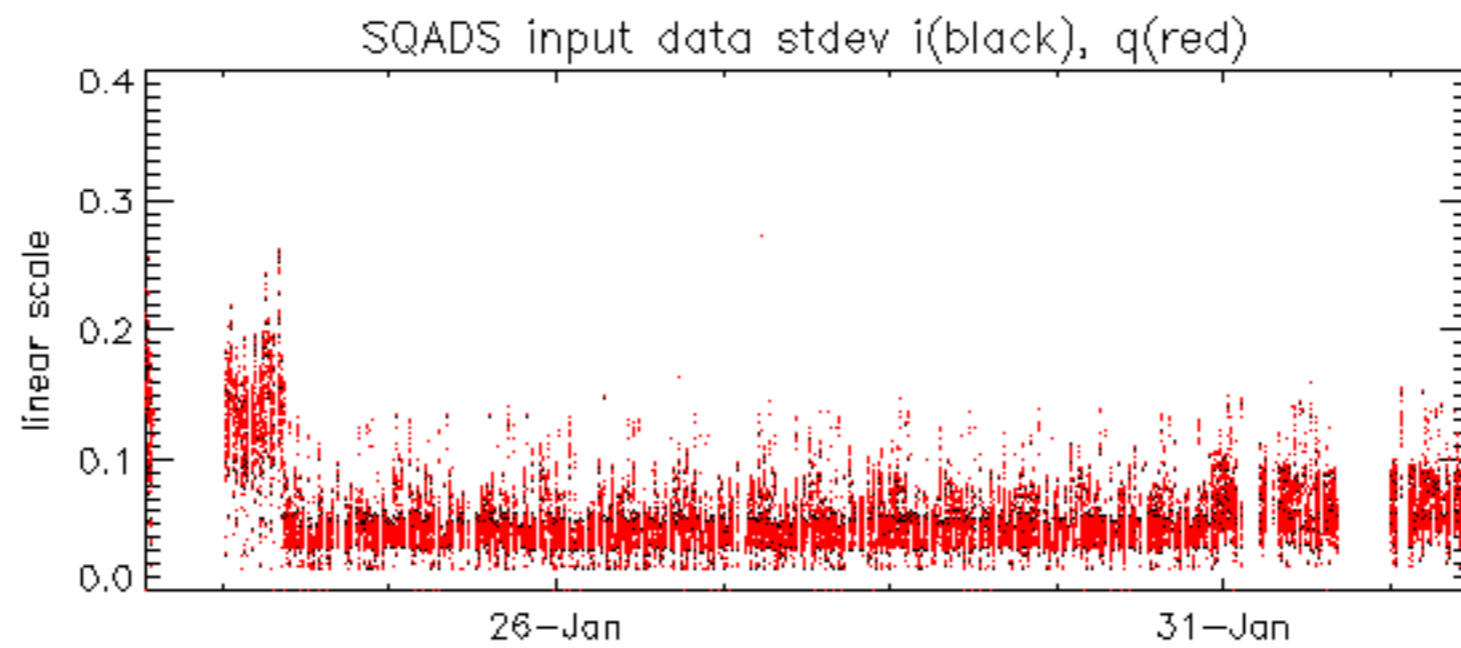
No anomalies observed on available MS products:

No anomalies observed.





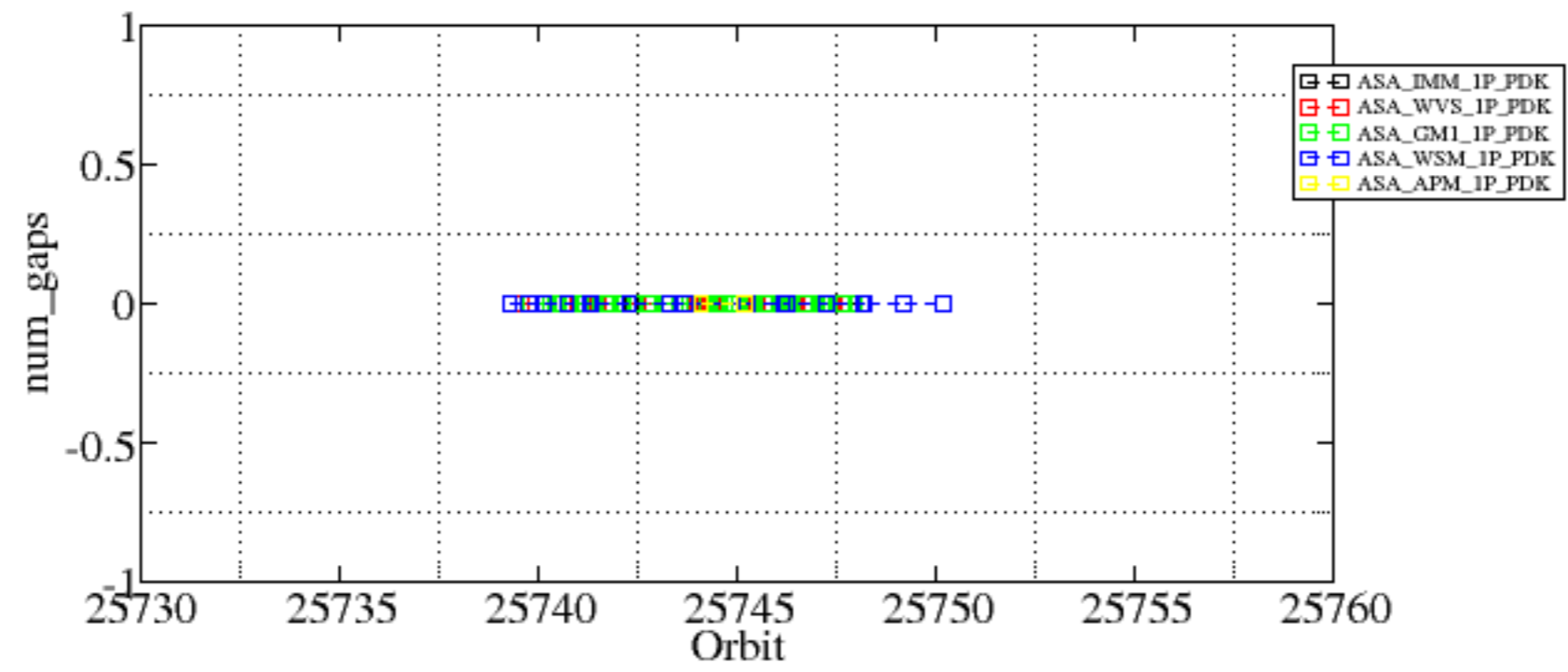


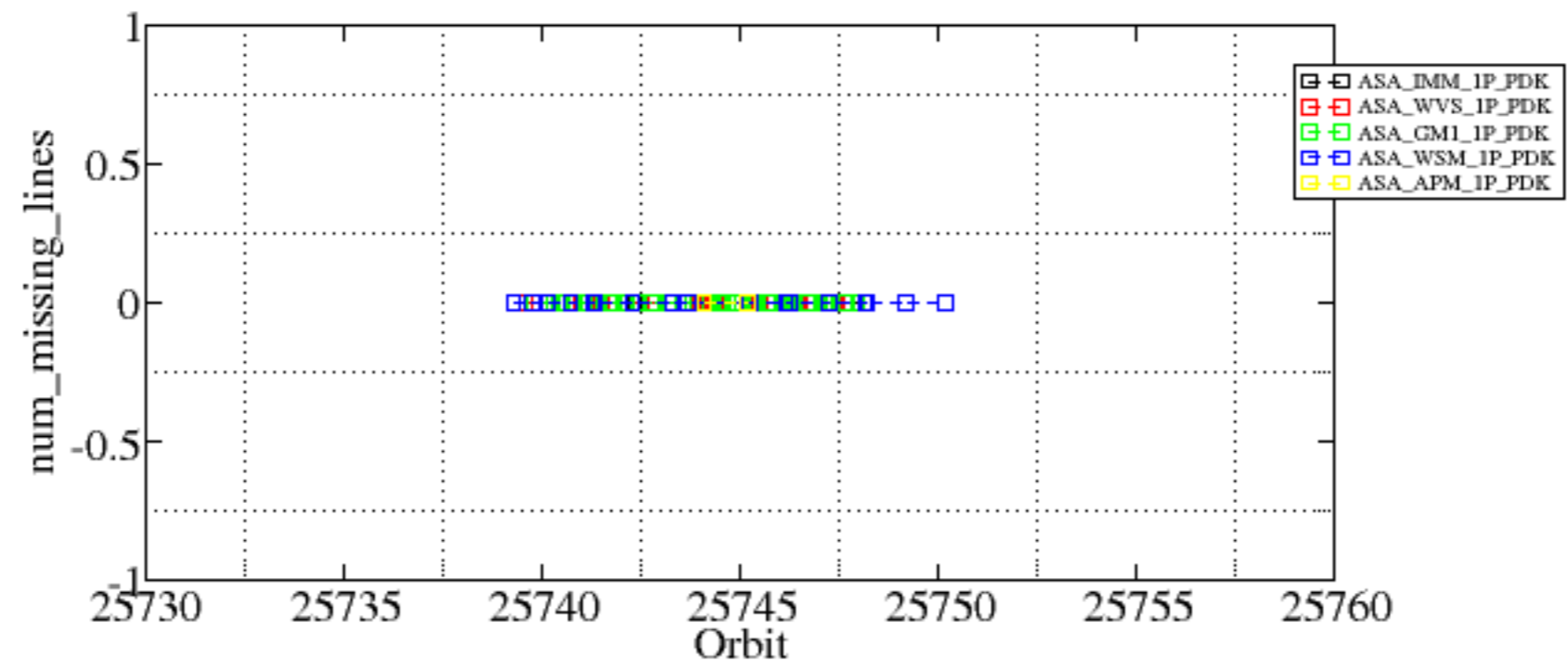


Summary of analysis for the last 3 days 2007020[123]

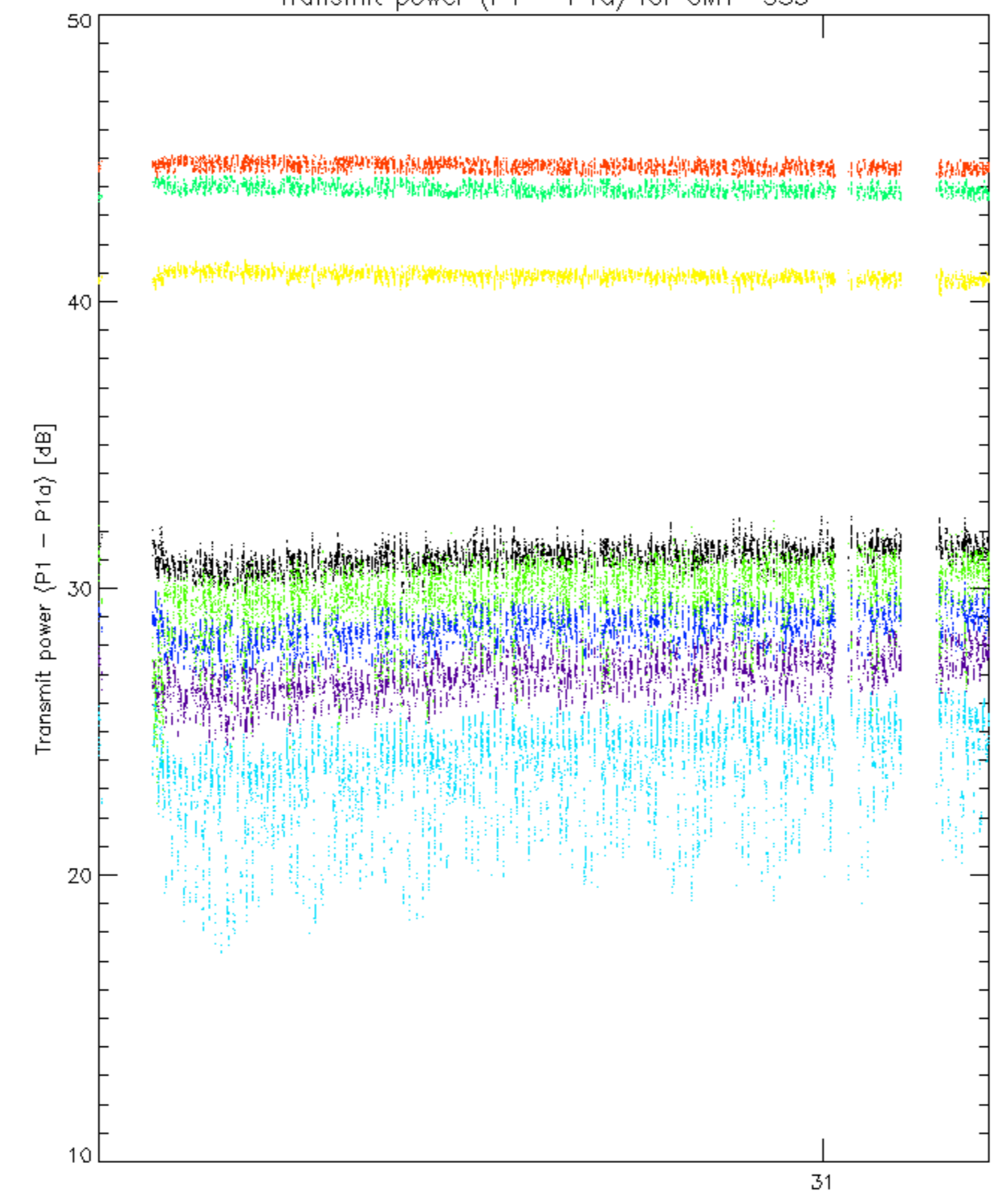
The assumption is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

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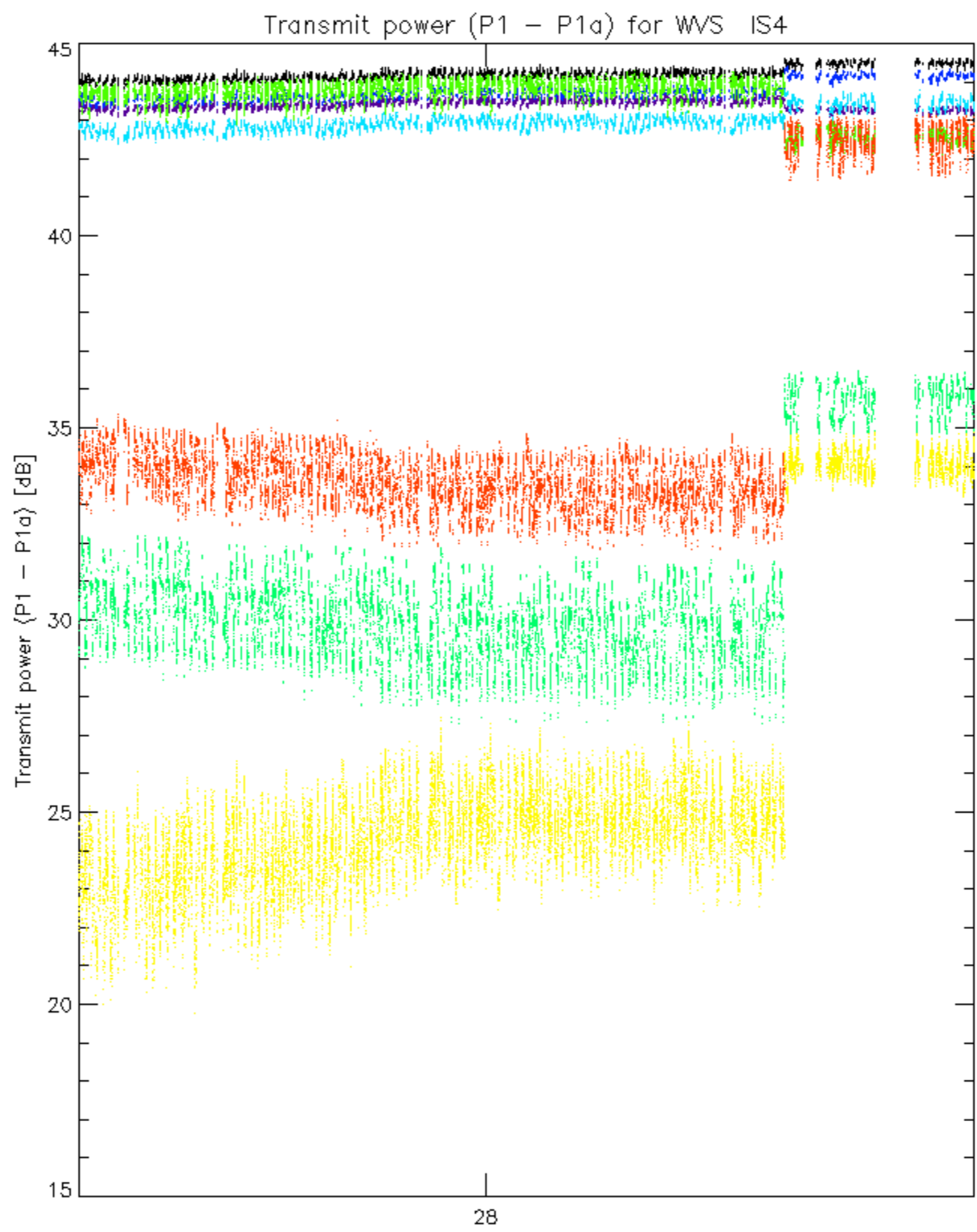





Transmit power (P1 - P1a) for GM1 SS3



rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

No unavailabilities during the reported period.