

PRELIMINARY REPORT OF 050429

last update on Fri Apr 29 10:50:01 GMT 2005

1. [Introduction](#)
2. [Summary](#)
 - [Instrument Unavailability](#)
 - [Auxiliary files used](#)
 - [Browse Visual Inspection](#)
 - [Module Stepping Results](#)
 - [Data Analysis](#)
3. [Module Stepping](#)
4. [Internal Calibration pulses](#)
 - [Daily statistics](#)
 - [Cyclic statistics](#)
 - [cal pulses monitoring \(all rows\)](#)
5. [Raw Data Statistics](#)
 - [raw data mean I and Q](#)
 - [raw data stdev I and Q](#)
 - [raw gain imbalance](#)
6. [TLM analysis](#)
7. [Wave Doppler analysis](#)
 - [Unbiased Doppler Error for WVS](#)
 - [Absolute Doppler for WVS](#)
 - [Doppler evolution versus ANX for WVS](#)
 - [Unbiased Doppler Error for GM1](#)
 - [Absolute Doppler for GM1](#)
 - [Doppler evolution versus ANX for GM1](#)

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 2005-04-28 00:00:00 to 2005-04-29 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	14	35	1	11	6
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	14	35	1	11	6
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	14	35	1	11	6
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	14	35	1	11	6

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	43	56	4	7	5
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	43	56	4	7	5
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	43	56	4	7	5
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	43	56	4	7	5

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	20050428 100815
H	20050427 071840

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	-3.347840	0.006754	0.015436
7	P1	-3.115783	0.011360	0.032323
11	P1	-4.671668	0.026756	0.031277
15	P1	-5.590586	0.043170	0.121413
19	P1	-3.710074	0.004096	-0.024470
22	P1	-4.566854	0.012142	-0.066725
26	P1	-4.898880	0.020040	0.053166
30	P1	-7.165504	0.026234	0.083497
3	P1	-15.792076	0.079052	0.232368
7	P1	-15.528861	0.082257	0.120816
11	P1	-21.194265	0.241658	-0.171693
15	P1	-11.487295	0.030701	0.132049
19	P1	-14.319629	0.030783	-0.020625
22	P1	-15.848019	0.319868	-0.249135
26	P1	-17.628685	0.178466	0.066593
30	P1	-17.886921	0.318362	0.109505

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.044617	0.083368	0.002925
7	P2	-22.219933	0.103708	-0.014468
11	P2	-14.193830	0.111873	0.172863
15	P2	-7.070761	0.093393	-0.050431
19	P2	-9.650117	0.095849	-0.007259
22	P2	-16.881313	0.098217	-0.000895
26	P2	-16.465290	0.097237	-0.047753
30	P2	-18.824831	0.086830	0.013896

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.166663	0.004220	0.004435
7	P3	-8.166663	0.004220	0.004435
11	P3	-8.166662	0.004220	0.004436
15	P3	-8.166662	0.004220	0.004436
19	P3	-8.166662	0.004220	0.004436
22	P3	-8.166662	0.004220	0.004436
26	P3	-8.166662	0.004220	0.004436
30	P3	-8.166663	0.004220	0.004436

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	-2.748357	0.011926	-0.046751
7	P1	-3.011414	0.031036	0.035102
11	P1	-3.983775	0.016426	0.045301
15	P1	-3.544170	0.021492	0.079970
19	P1	-3.621487	0.014568	-0.027863
22	P1	-5.688205	0.046672	0.114236
26	P1	-7.309221	0.025251	-0.031633
30	P1	-6.277162	0.062362	0.004782
3	P1	-10.751181	0.044753	-0.021271
7	P1	-10.389632	0.148654	-0.132900
11	P1	-12.559090	0.096552	0.008501
15	P1	-11.687371	0.070007	0.181698
19	P1	-15.606592	0.059117	-0.049168
22	P1	-25.004080	1.717042	-0.949046
26	P1	-15.603439	0.267083	-0.252522
30	P1	-20.169724	1.242206	-0.207491

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.750477	0.039097	-0.020070
7	P2	-22.293385	0.047040	0.049016
11	P2	-10.064856	0.058615	0.083196
15	P2	-5.045003	0.037141	-0.108096
19	P2	-6.875114	0.052332	-0.069009
22	P2	-7.089086	0.038545	-0.043775
26	P2	-23.886637	0.038301	-0.080332
30	P2	-21.914608	0.043335	-0.070820

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.002943	0.003631	-0.001165
7	P3	-8.003065	0.003619	-0.001100
11	P3	-8.002967	0.003616	-0.000600
15	P3	-8.003120	0.003624	-0.001118
19	P3	-8.003072	0.003618	-0.000854
22	P3	-8.003098	0.003607	-0.001013
26	P3	-8.003084	0.003618	-0.000934
30	P3	-8.002933	0.003627	-0.000869

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	0.000479852
	stdev	2.15232e-07
MEAN Q	mean	0.000493569
	stdev	2.33589e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129358
	stdev	0.00104139
STDEV Q	mean	0.129618
	stdev	0.00105305



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2005042[789]

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
ASA_GM1_1PNPDK20050428_175348_000005732036_00442_16528_9621.N1	0	9



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

Evolution Doppler error versus ANX	
<input type="checkbox"/>	

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

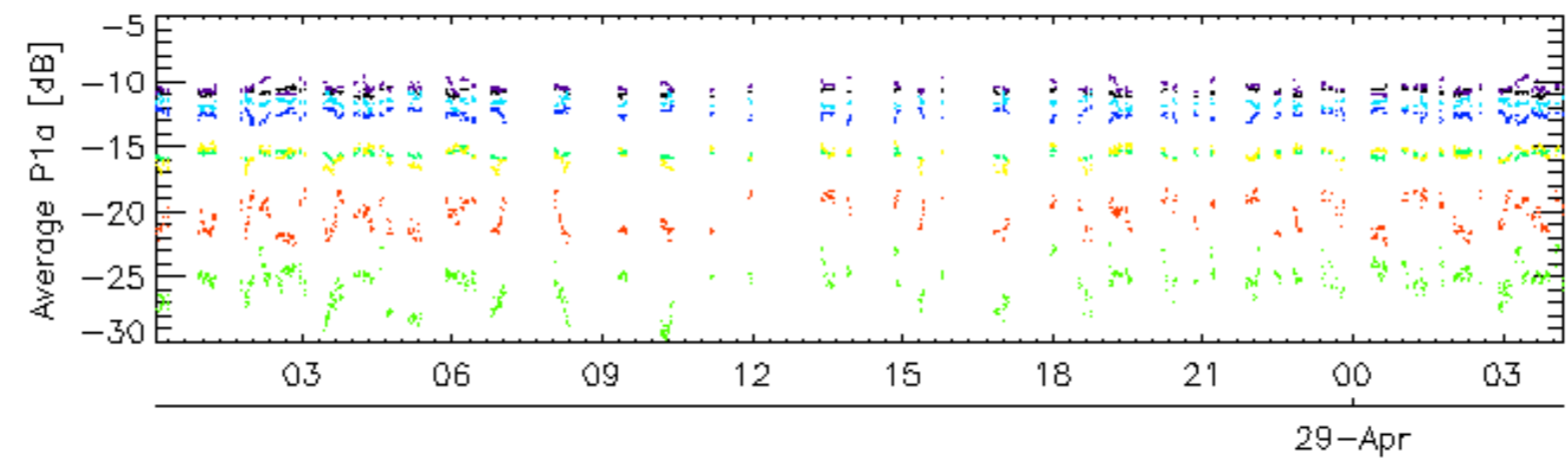
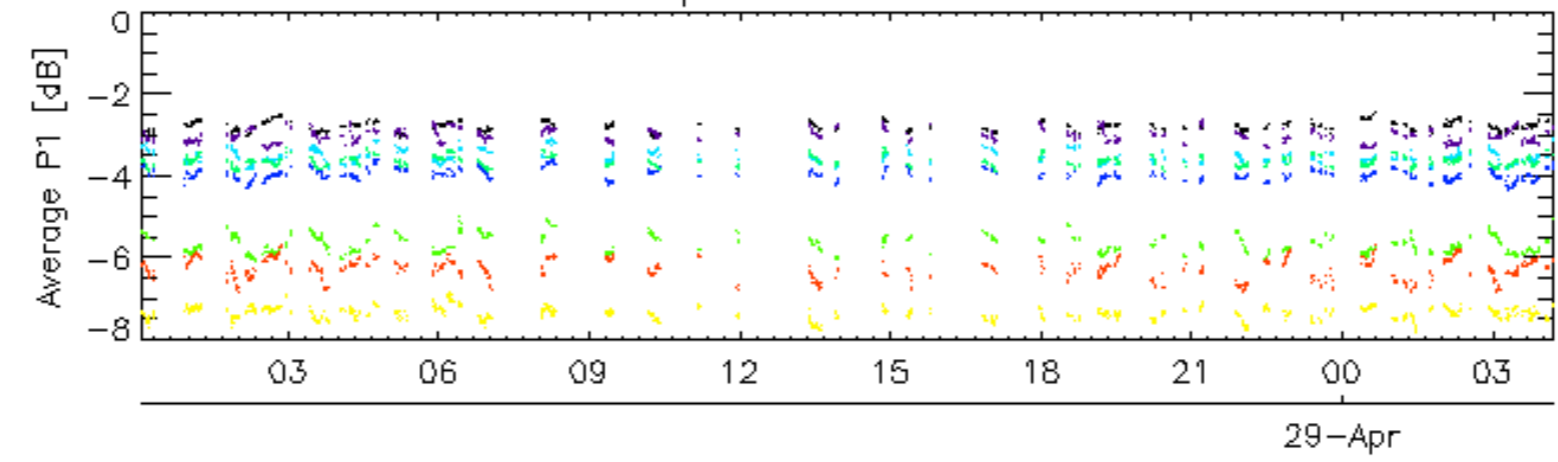
Ascending

Descending

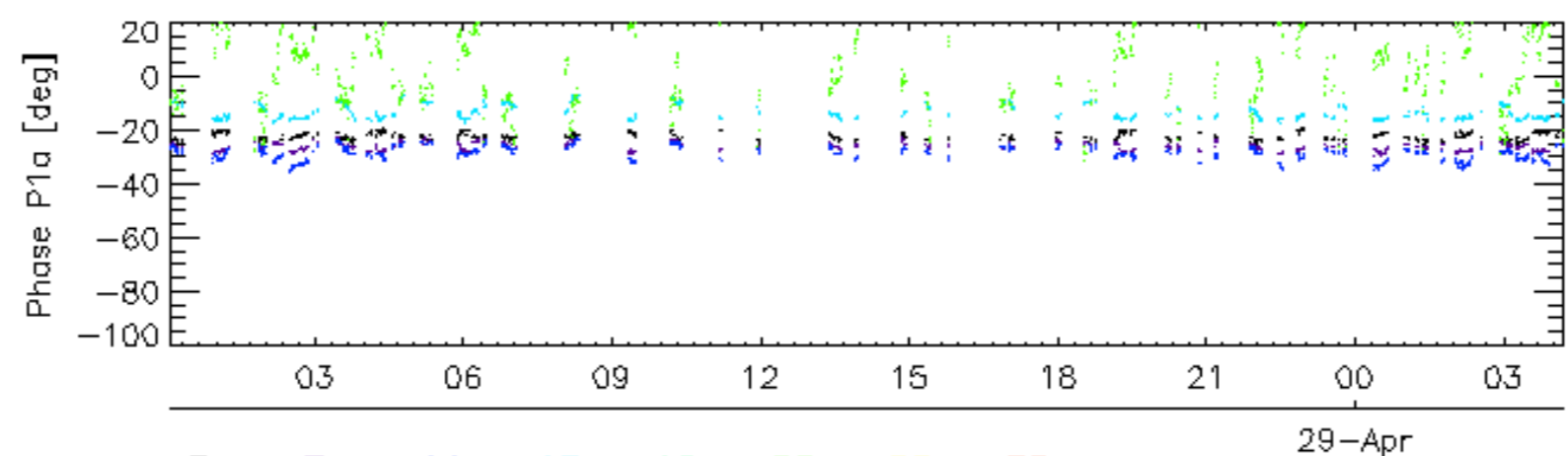
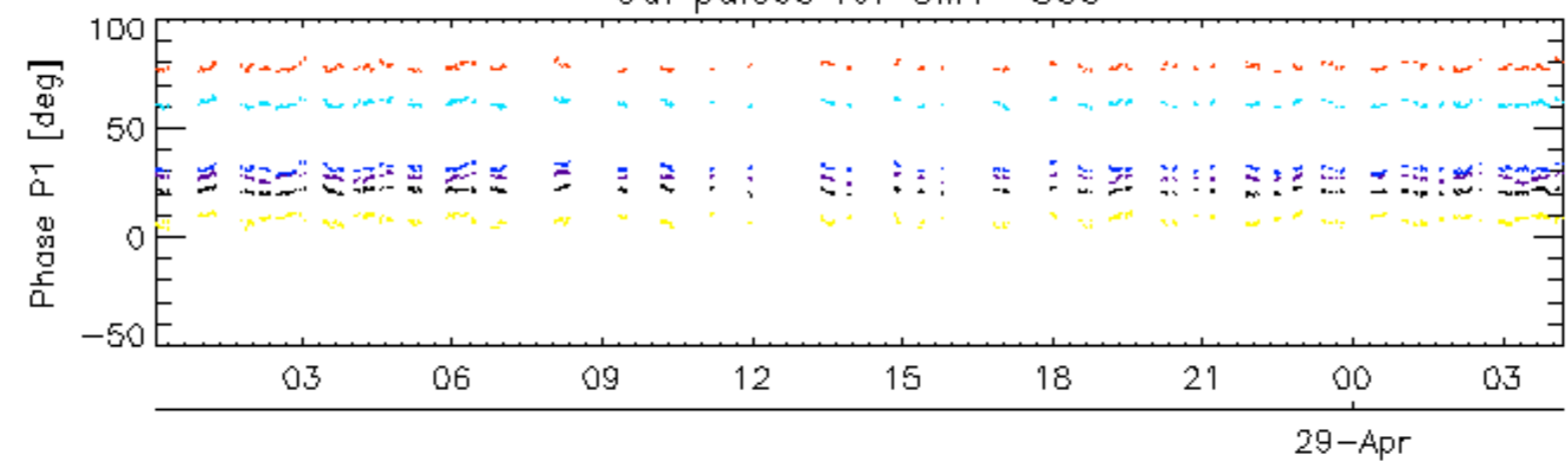
7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

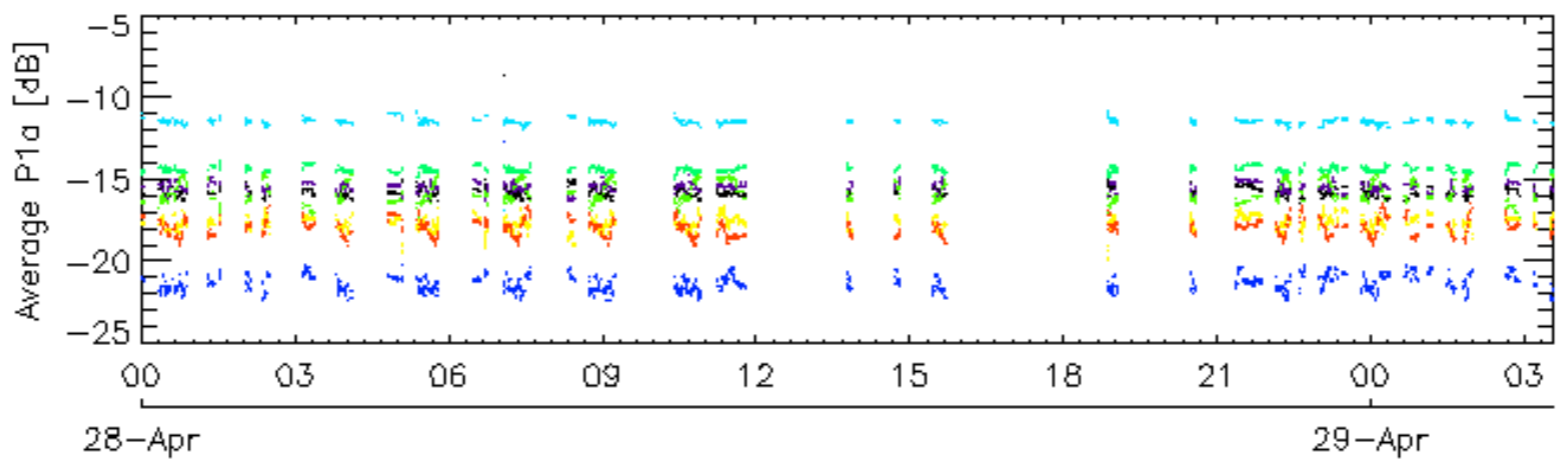
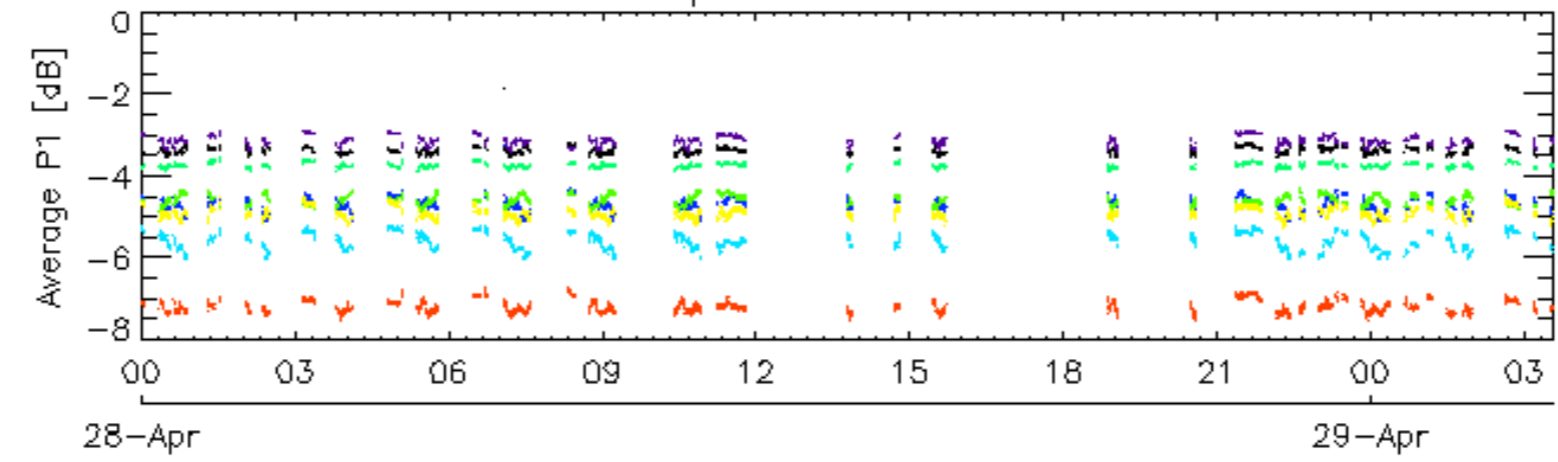


Cal pulses for GM1 SS3

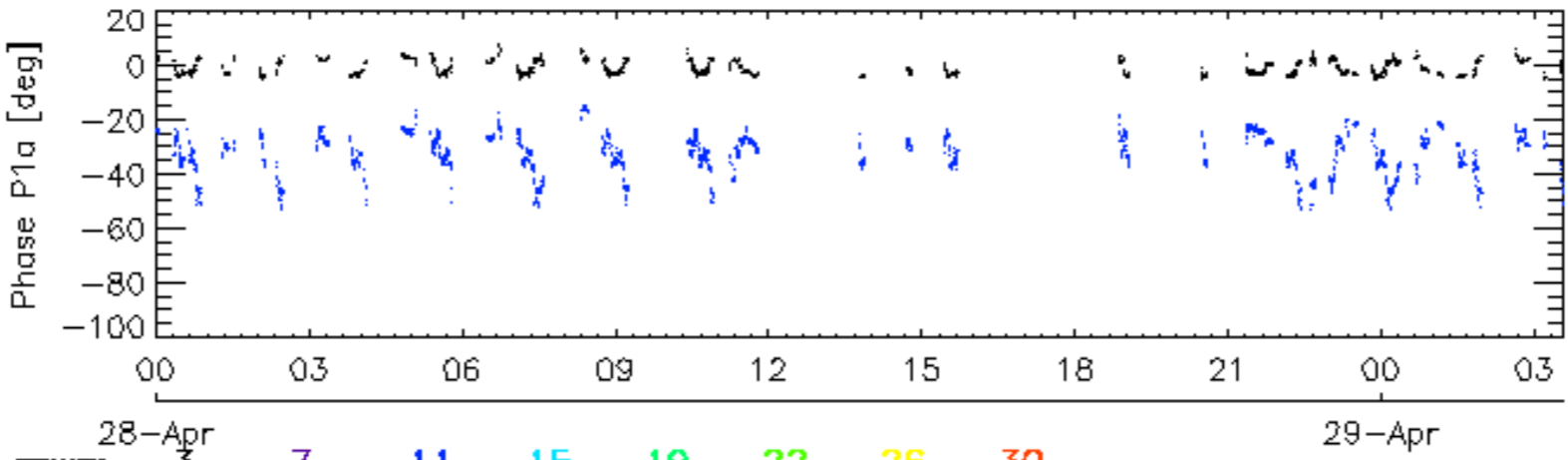
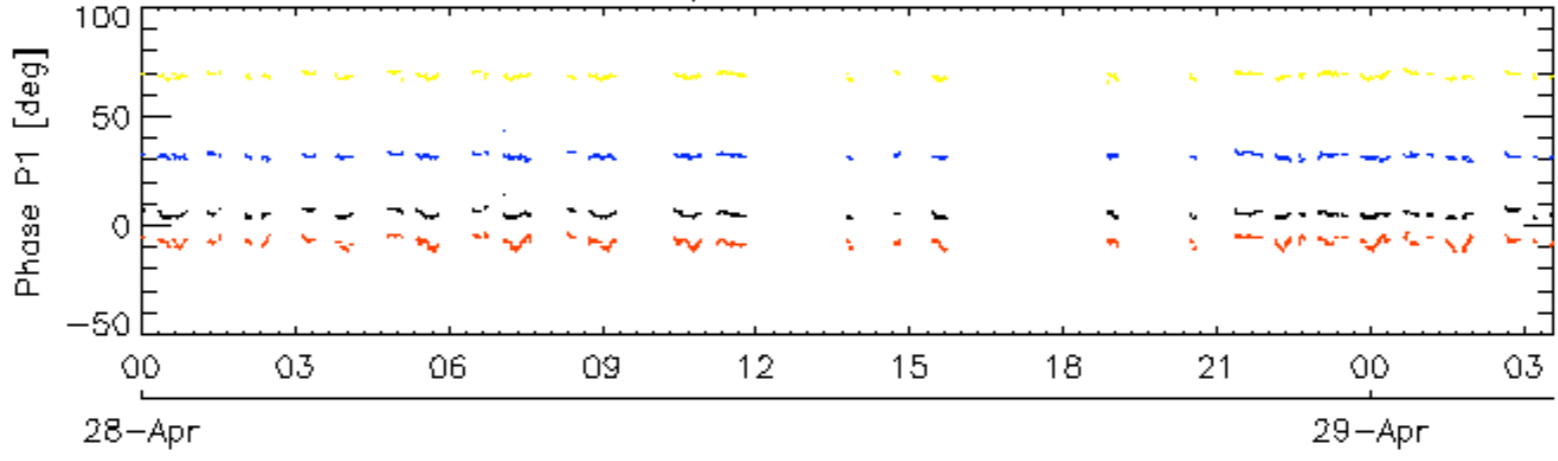


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

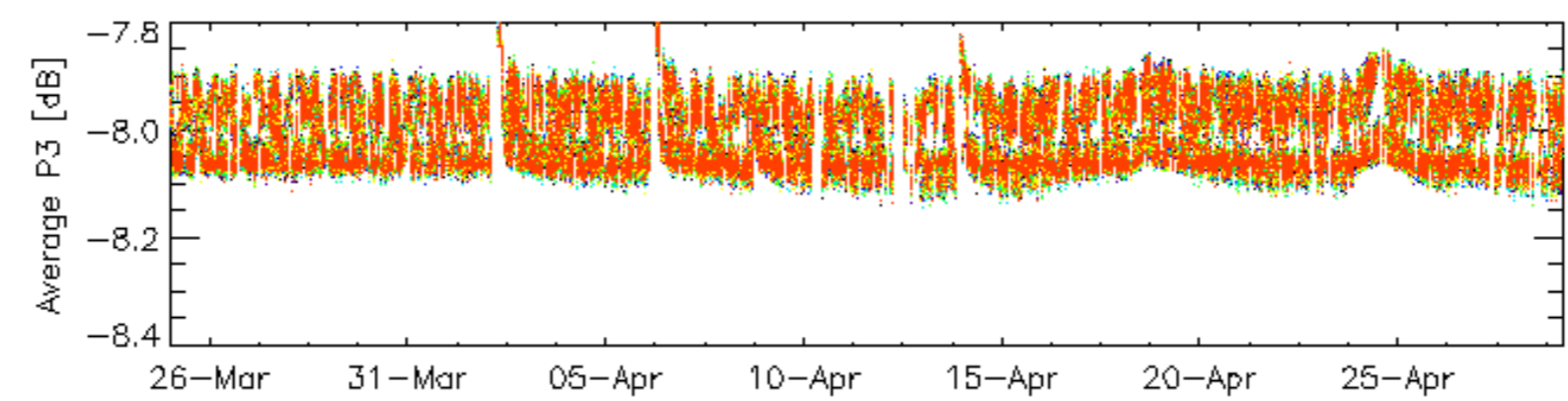
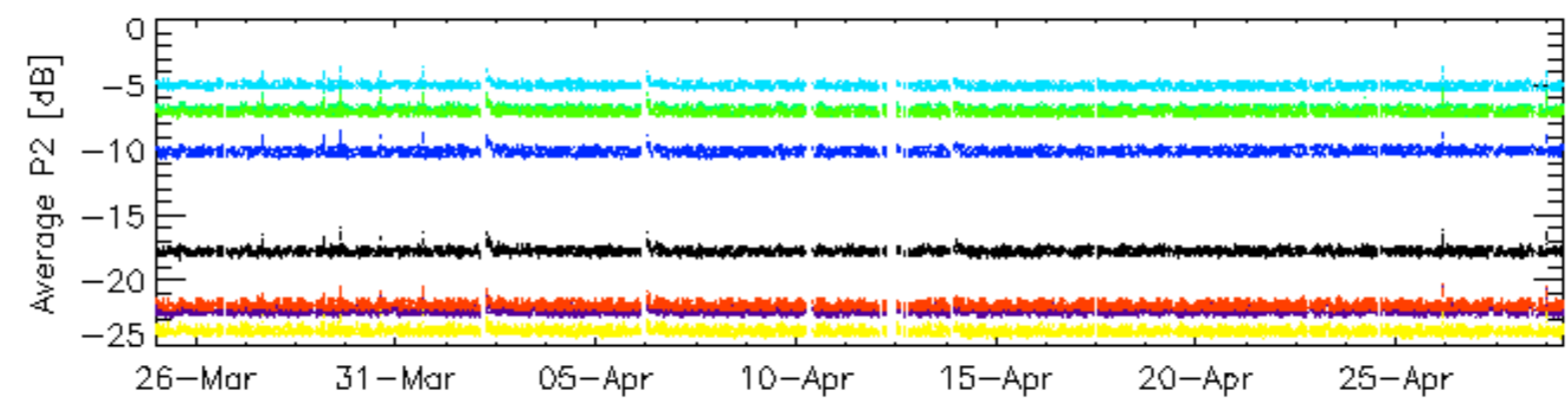
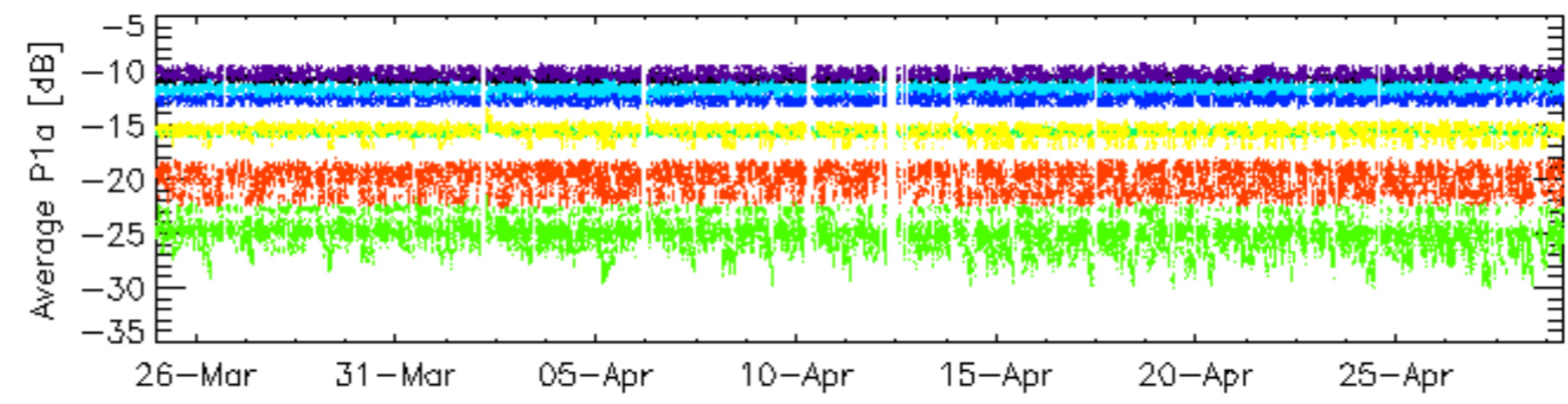
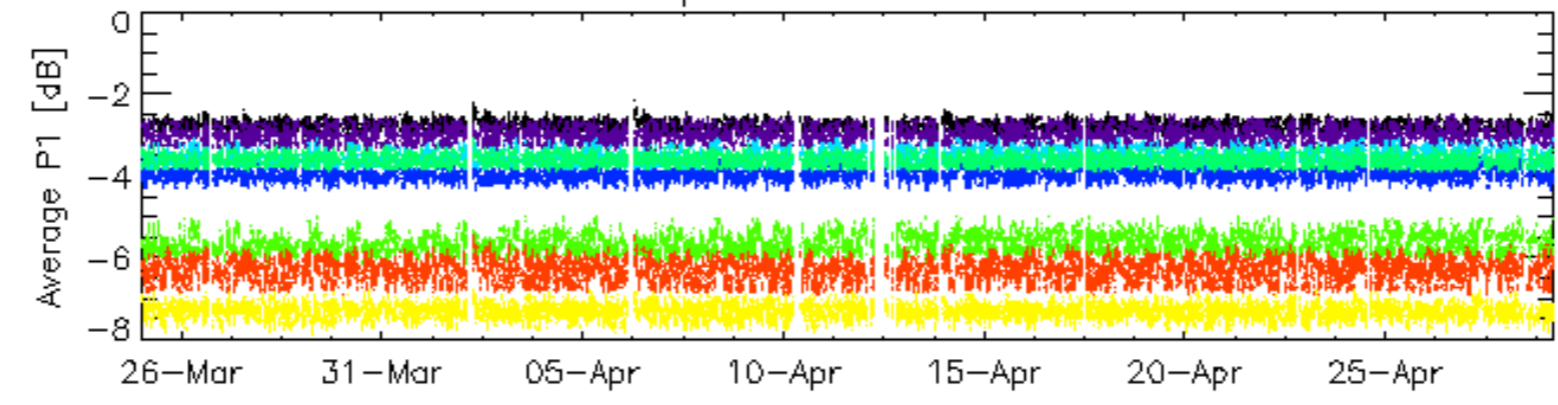


Cal pulses for WVS IS2



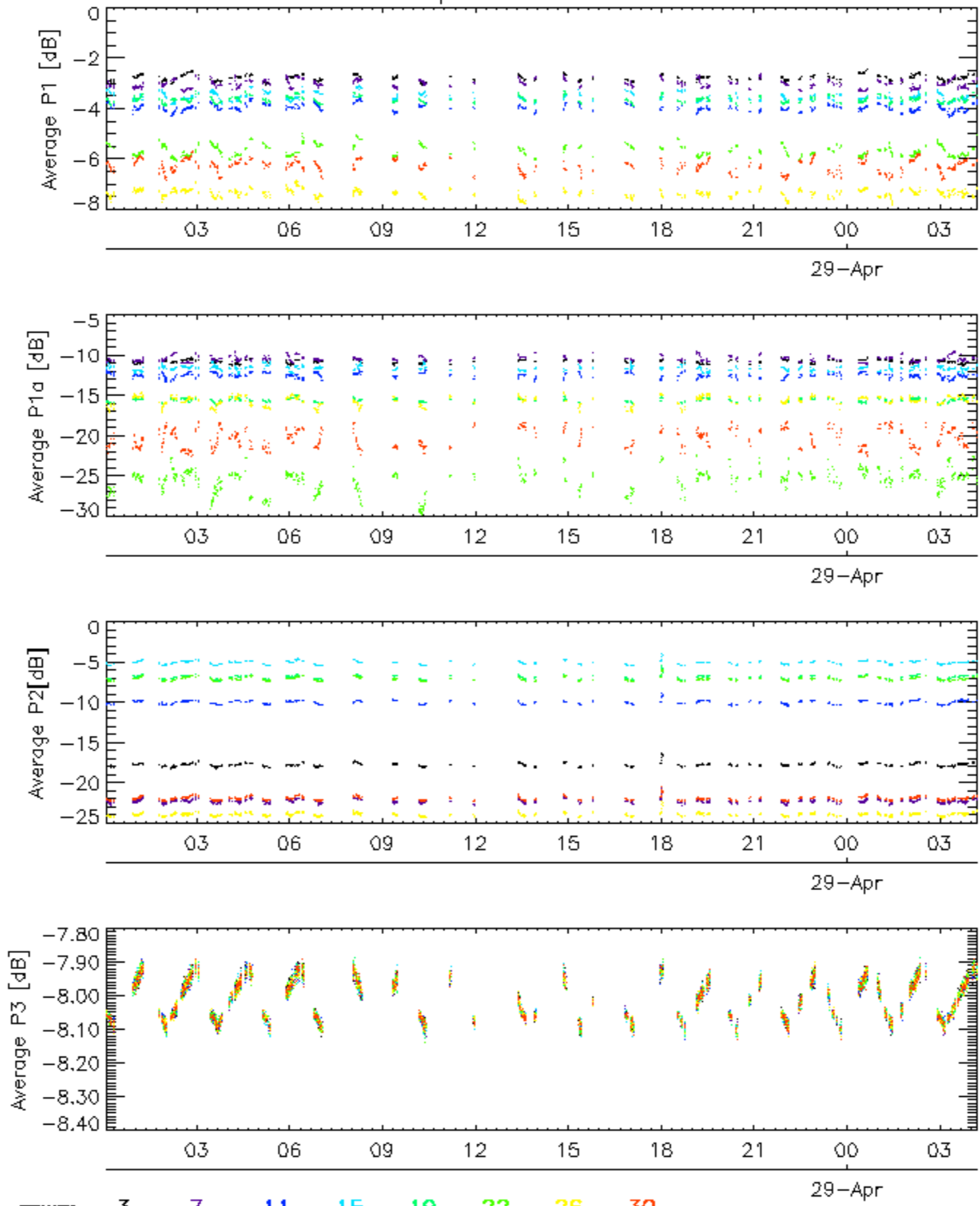
rows: - 3 - 7 - 11 - 15 - 19 - 22 - 26 - 30

Cal pulses for GM1 SS3



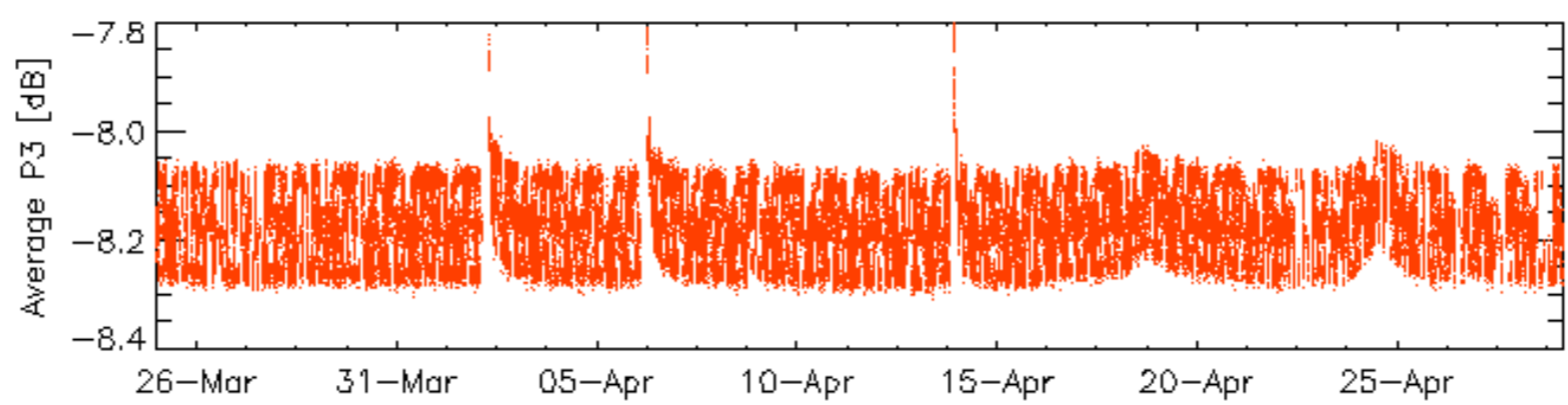
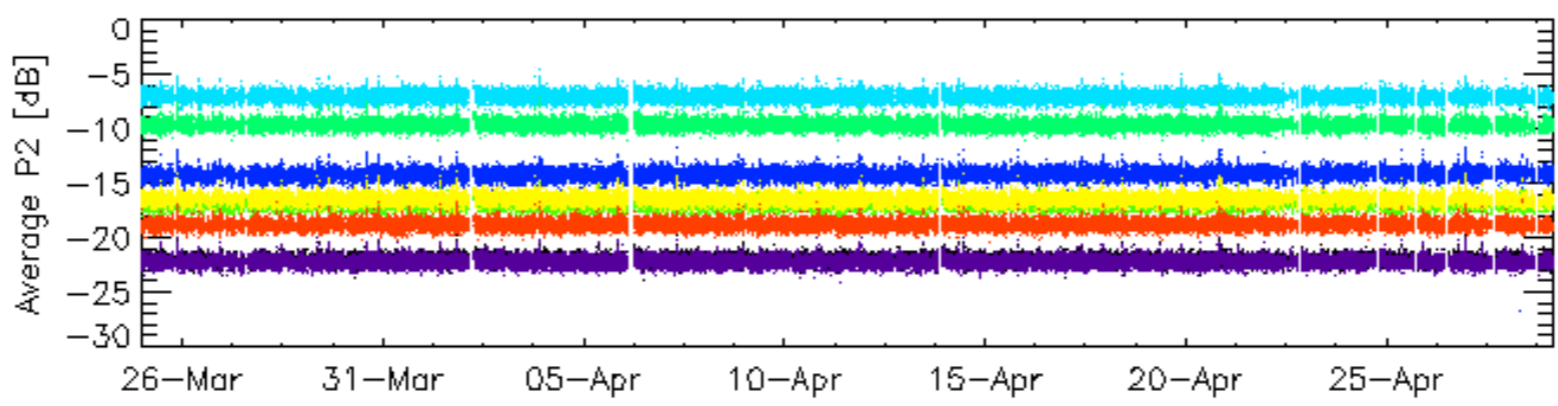
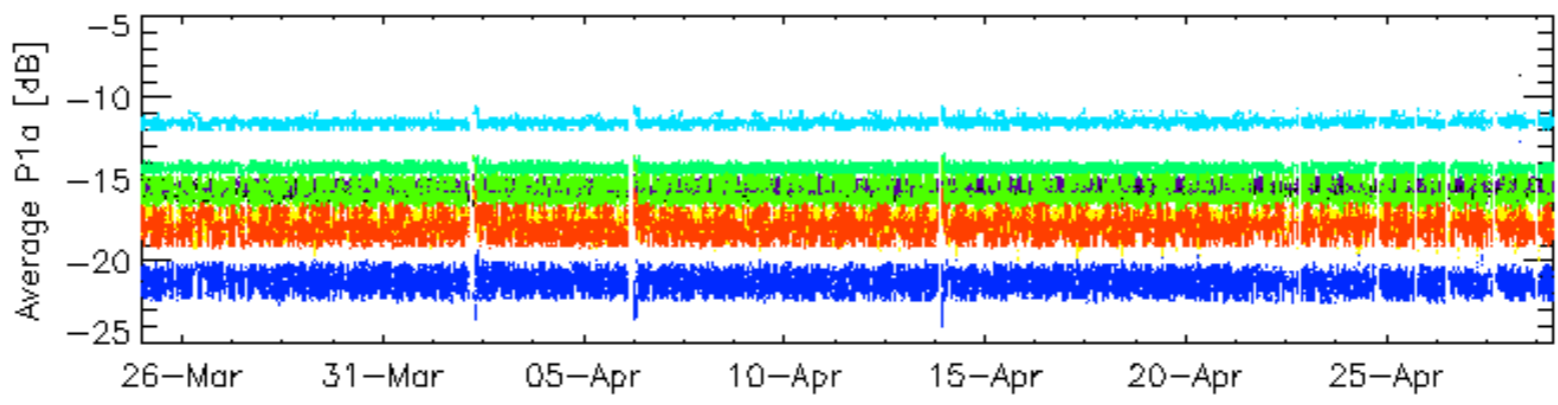
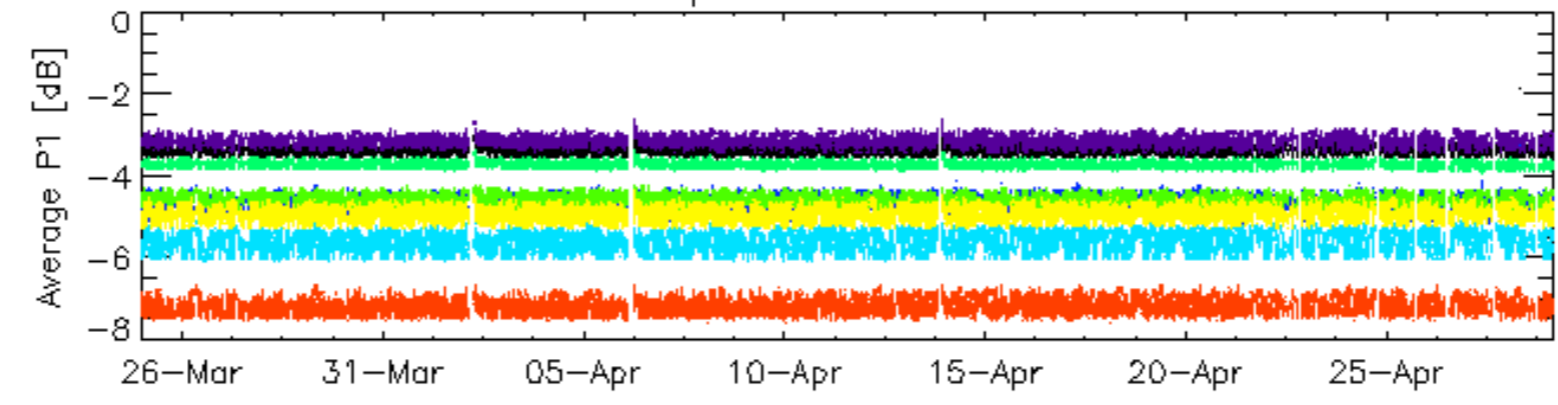
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3



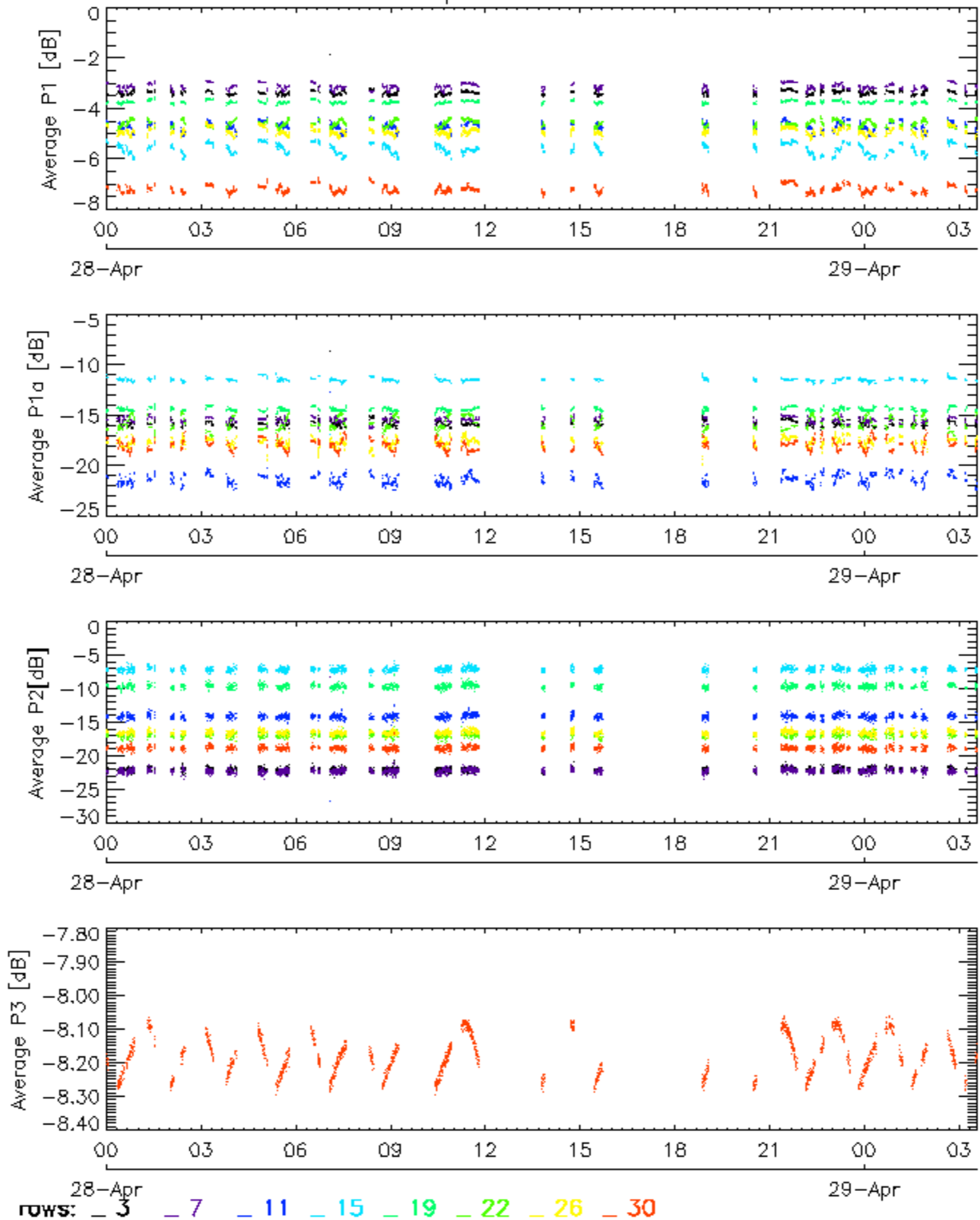
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

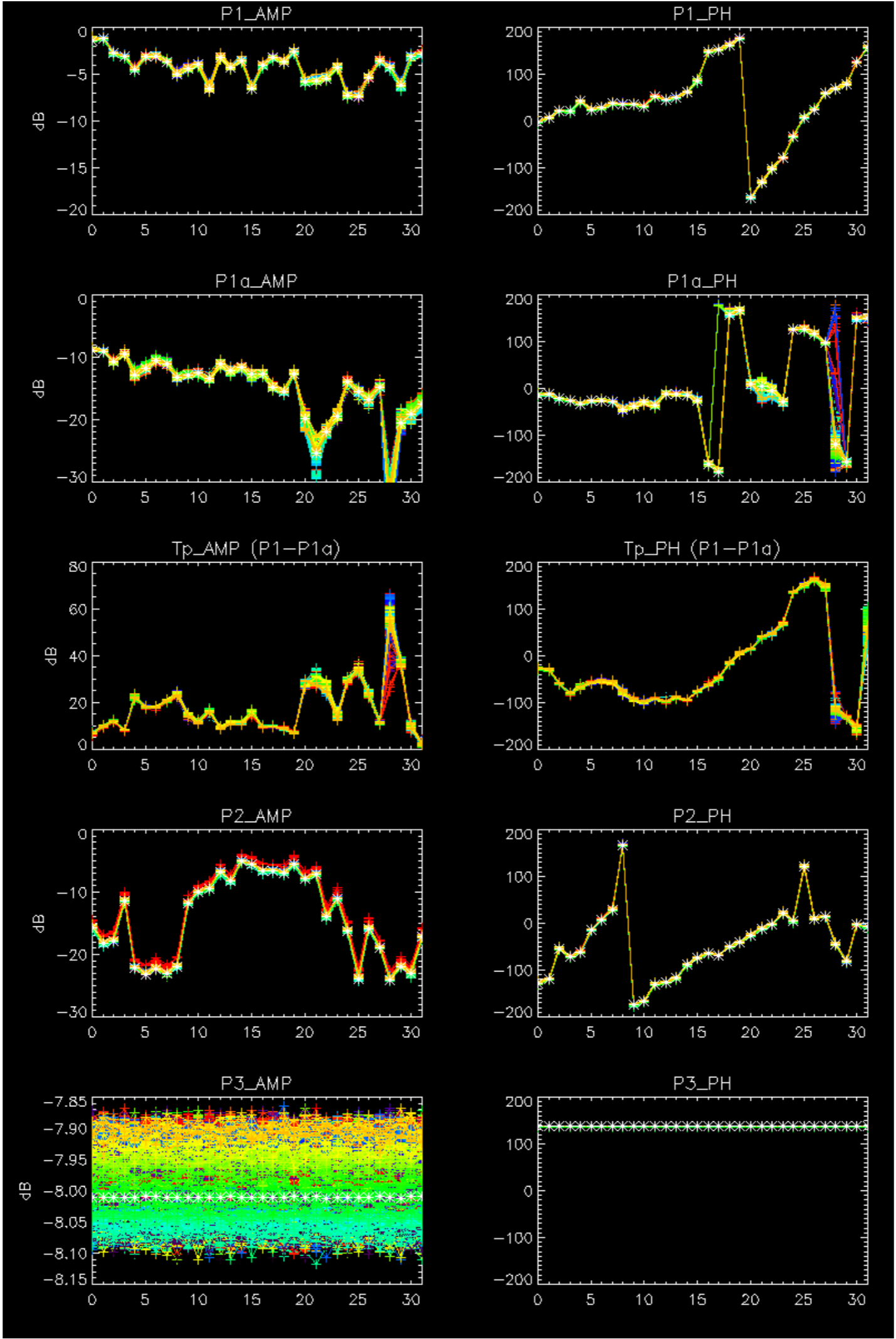


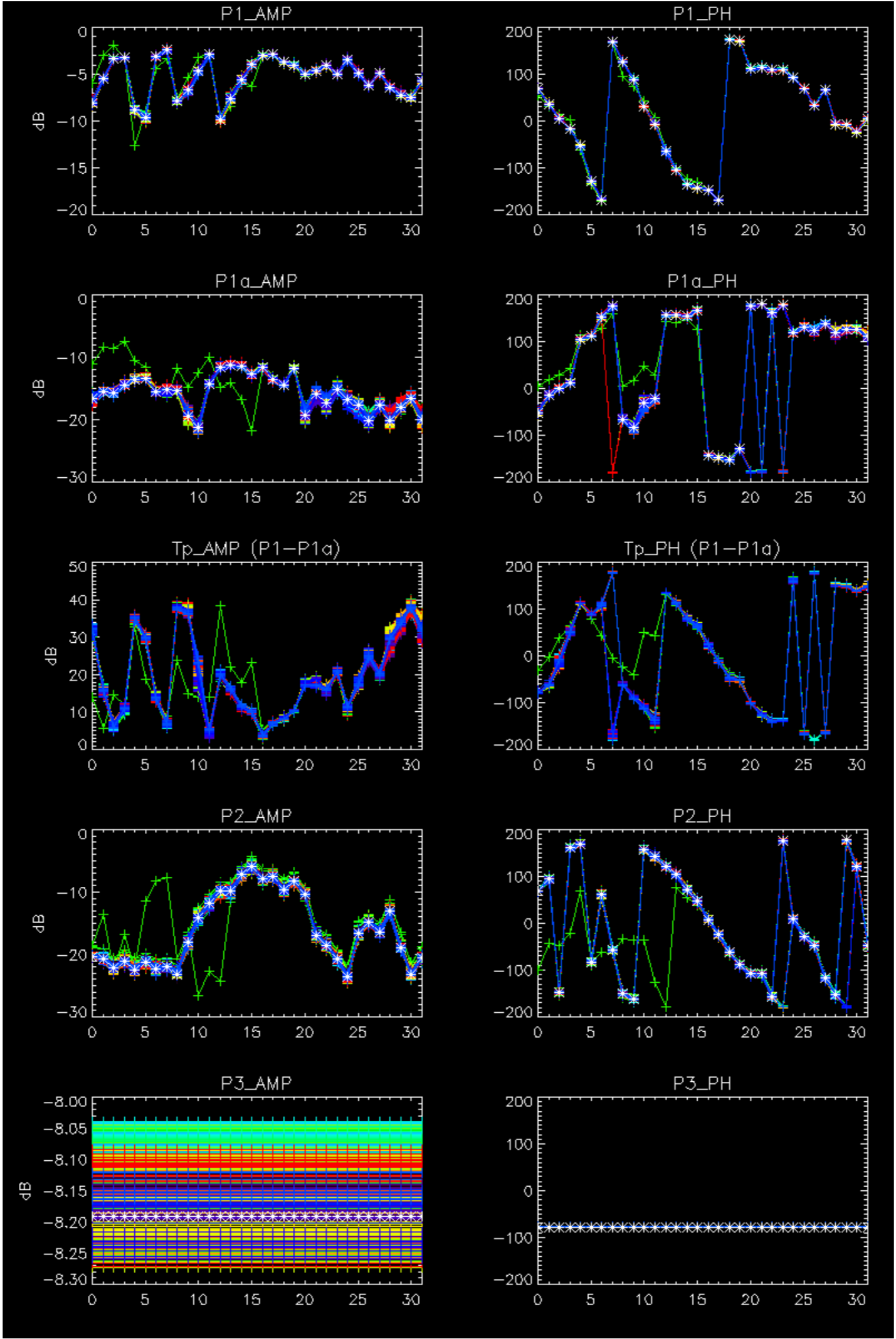
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



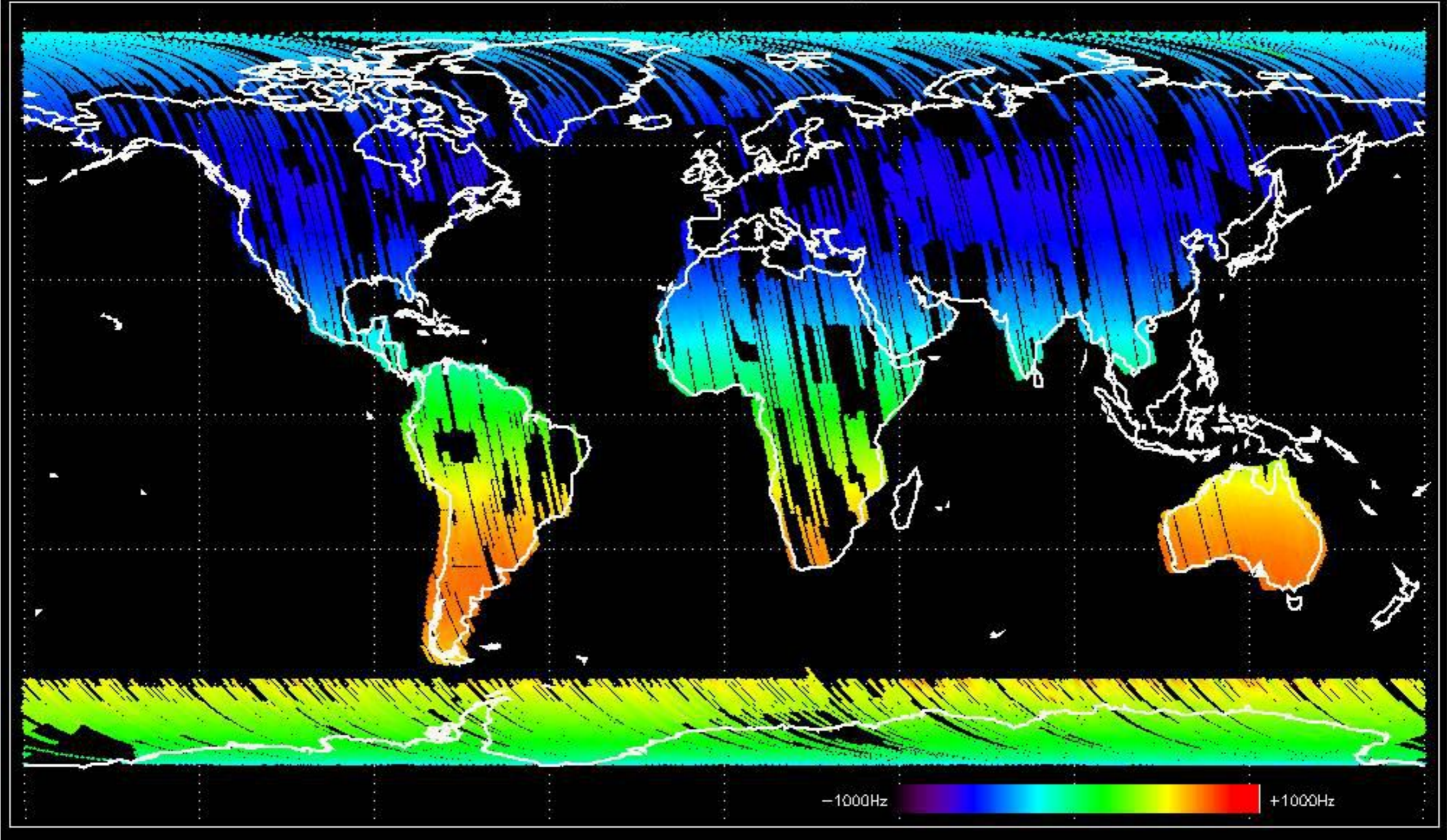
No anomalies observed.



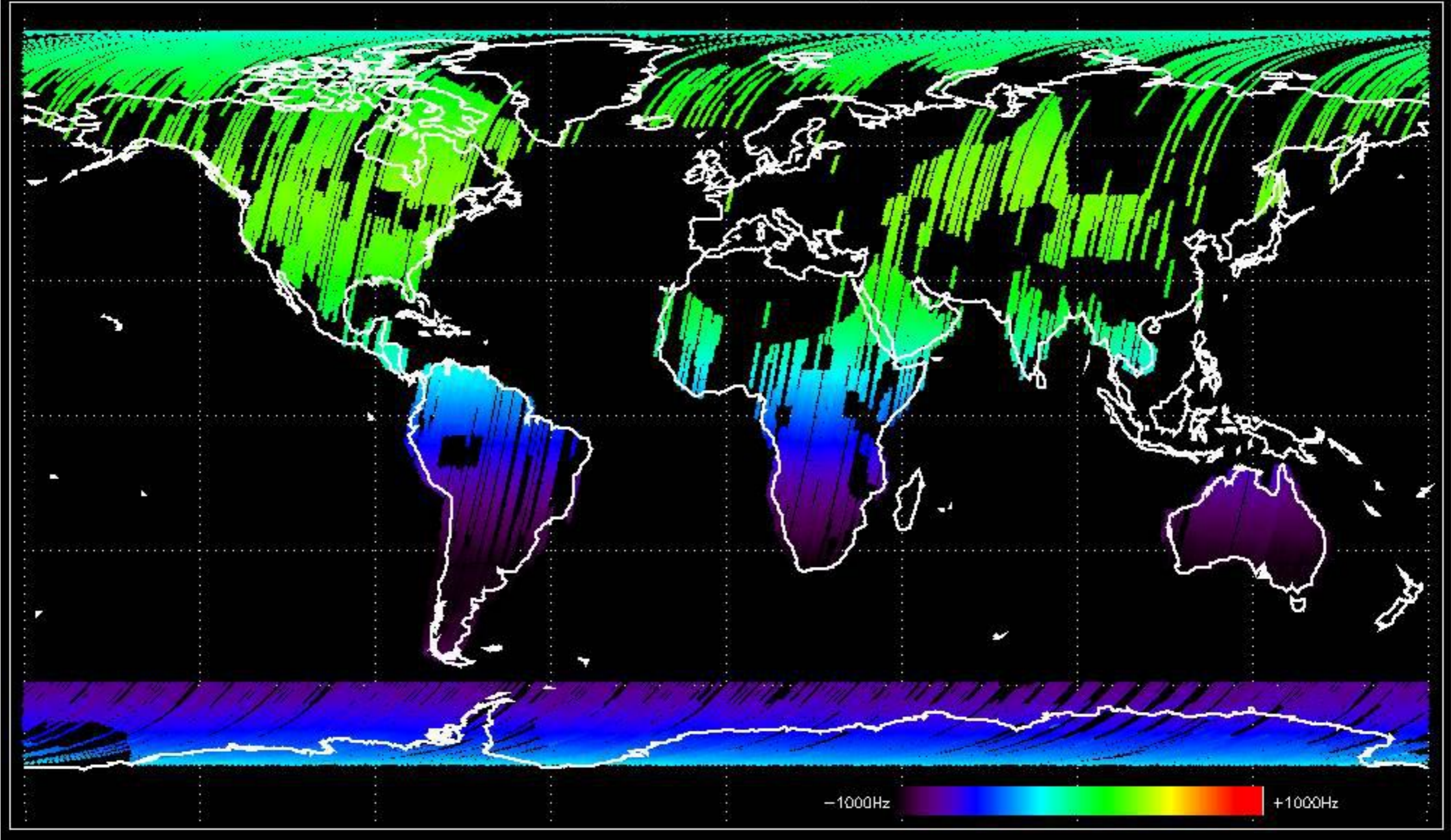


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

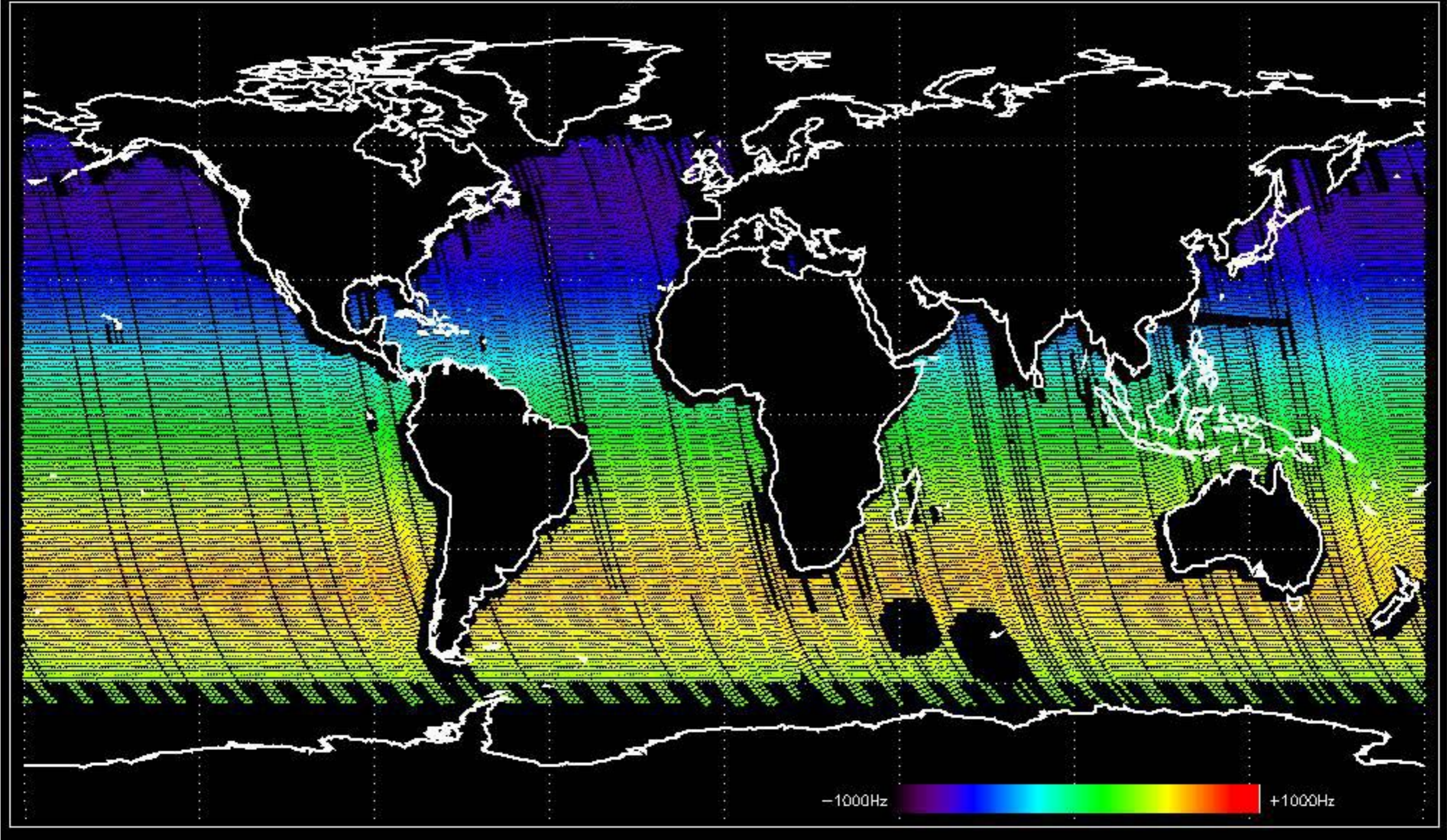
Doppler 'GM1' 'SS1' ascending



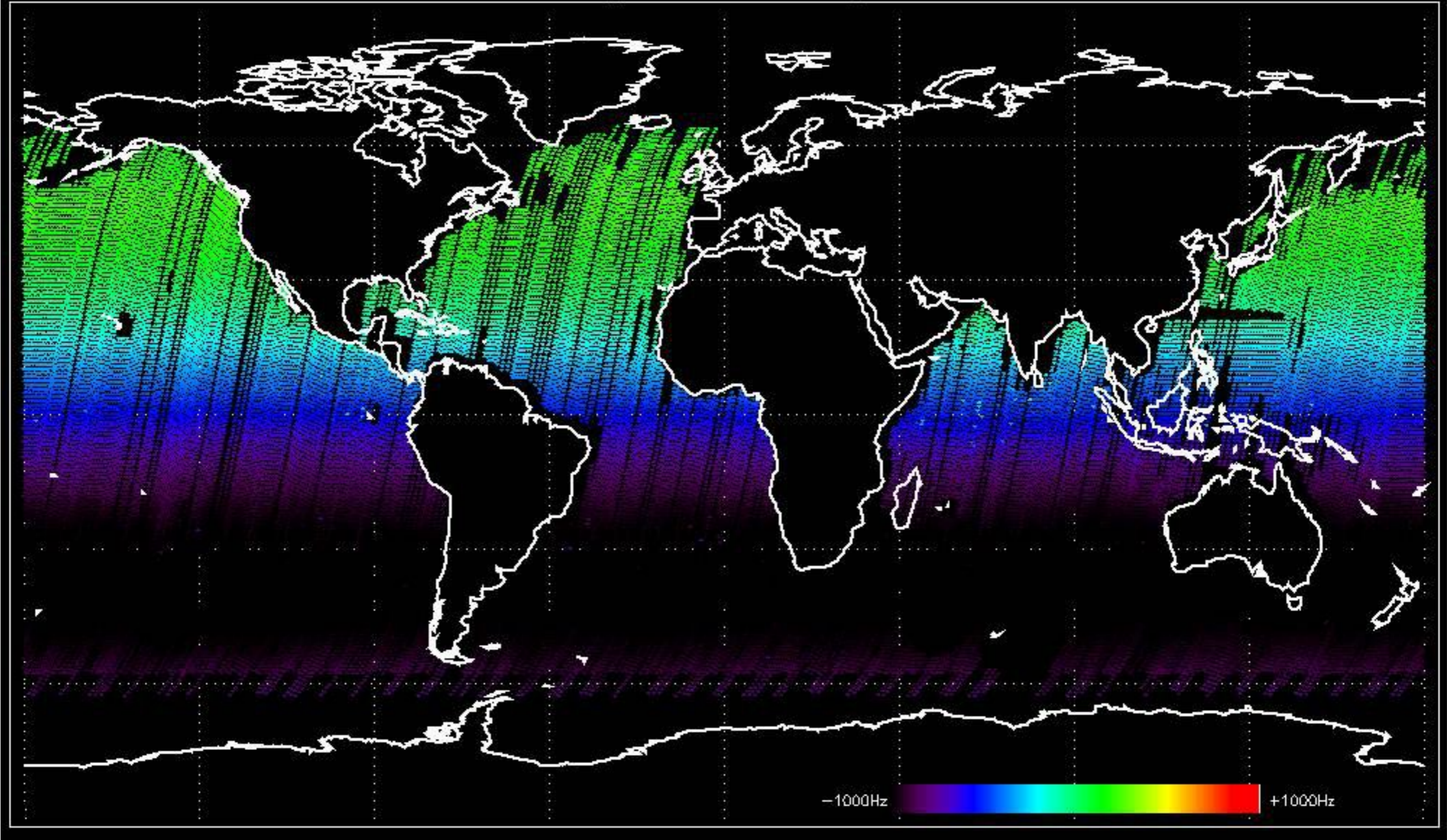
Doppler 'GM1' 'SS1' descending



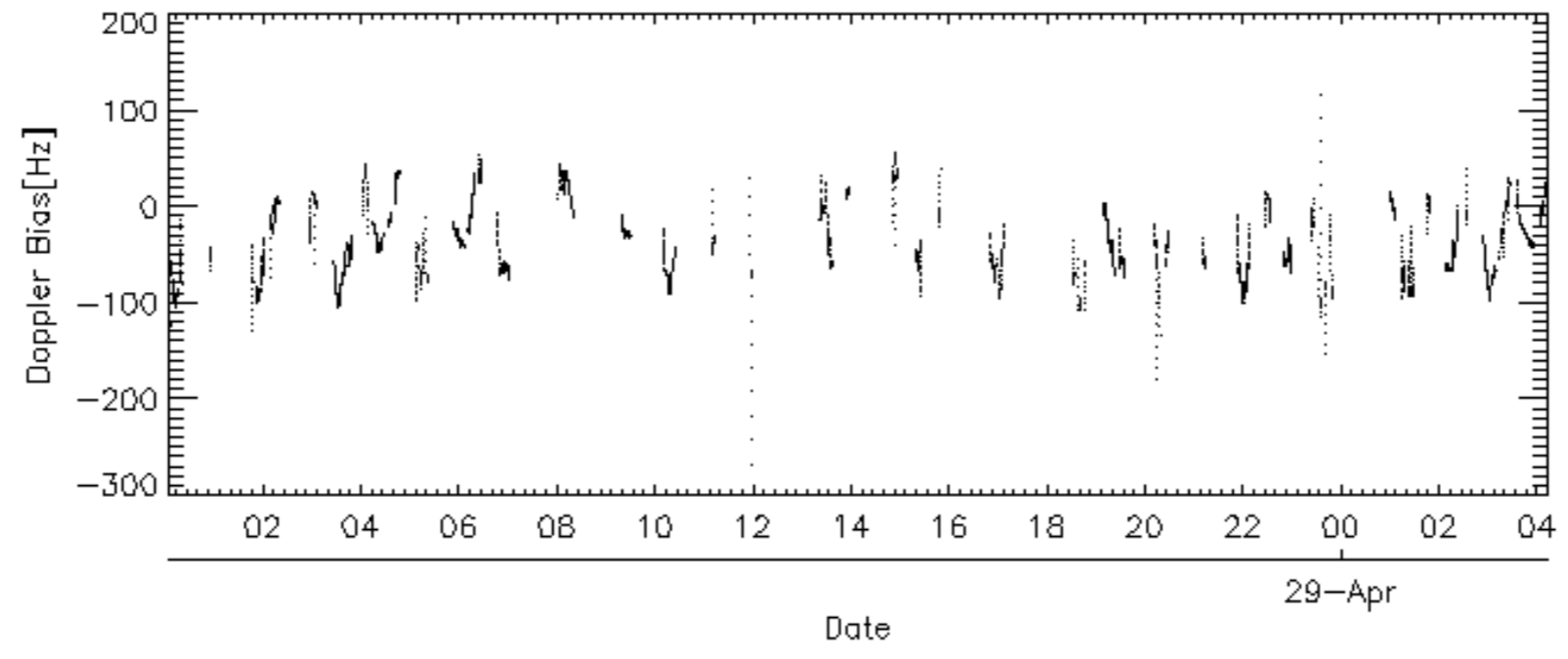
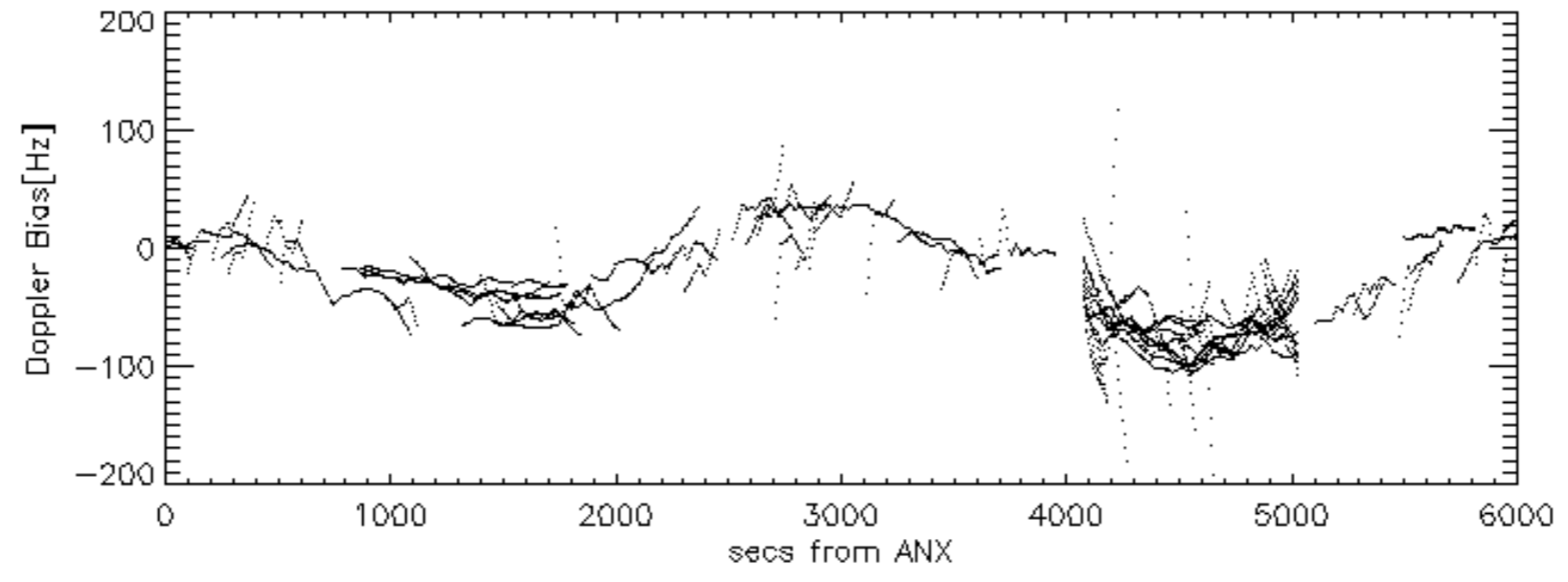
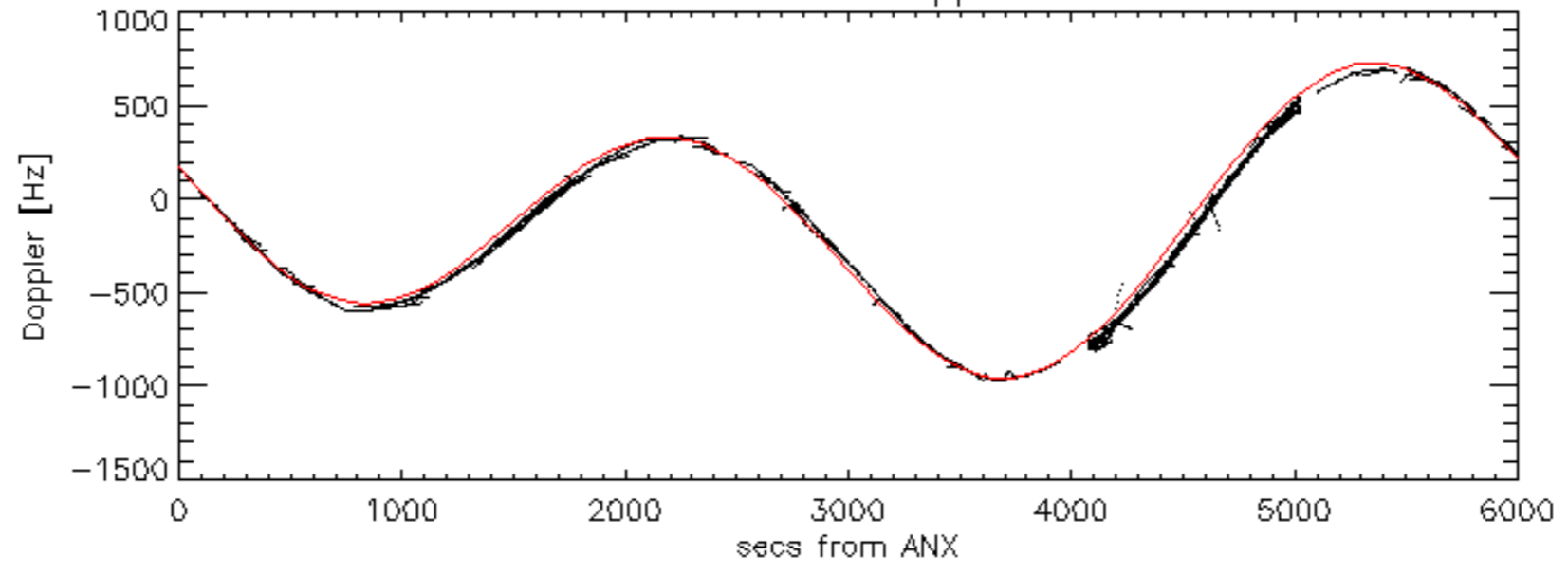
Doppler 'WVS' 'IS2' ascending

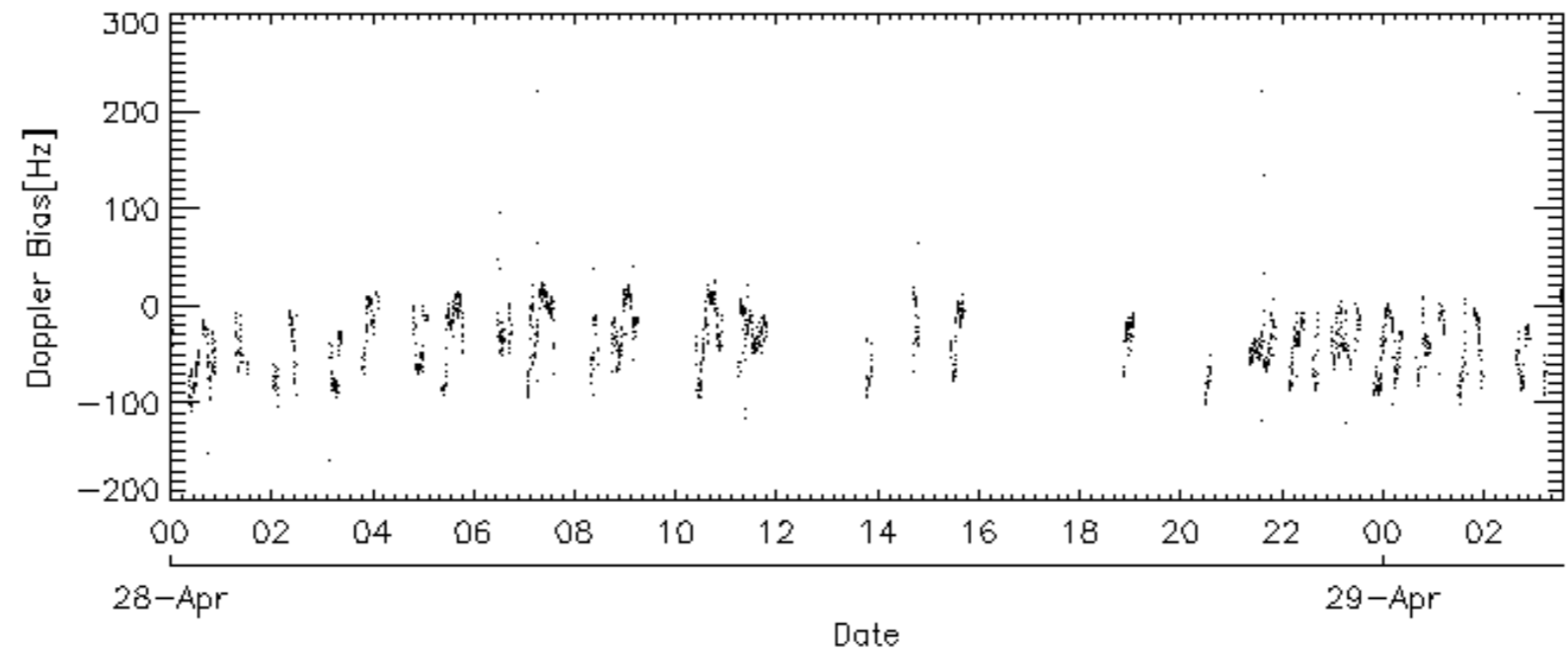
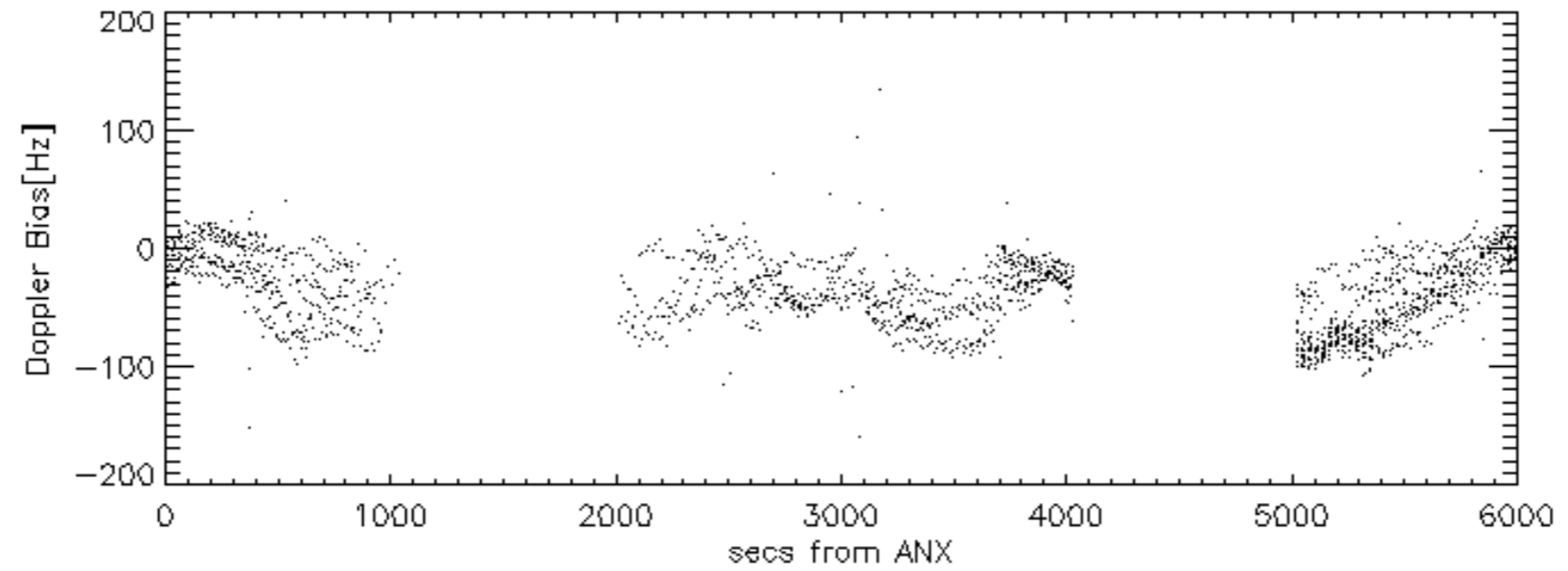
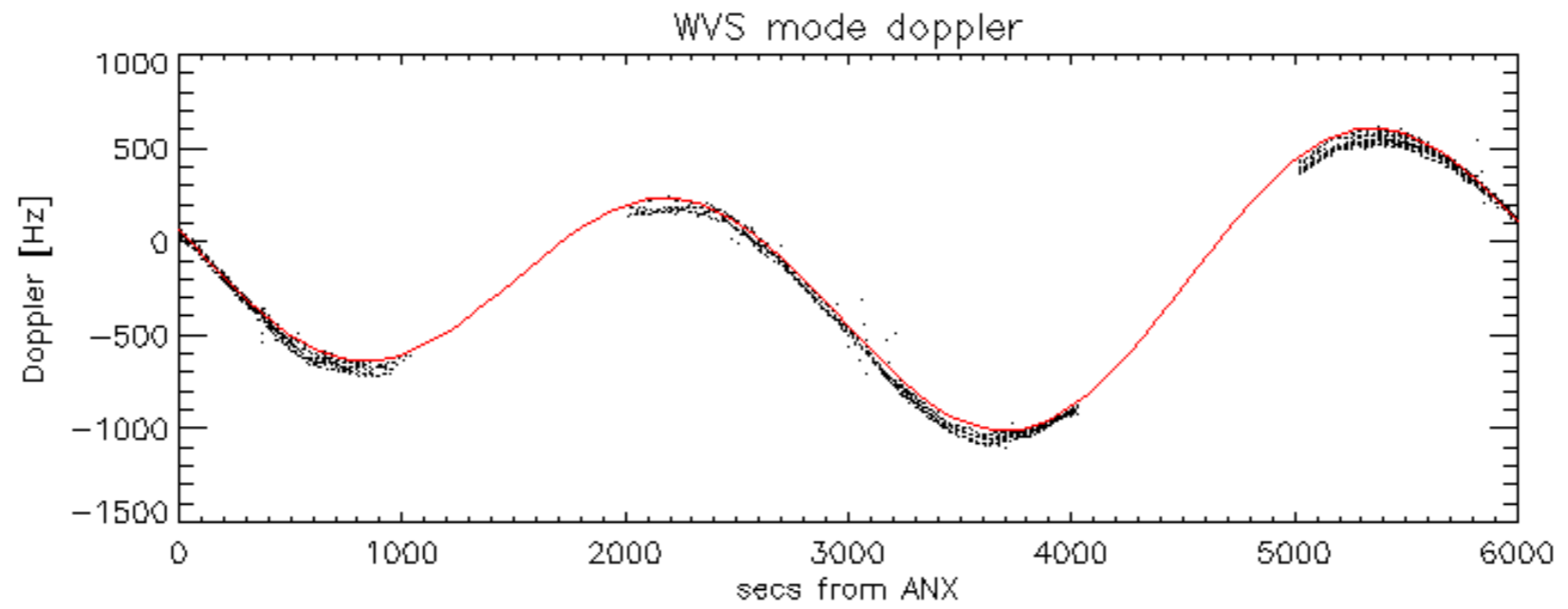


Doppler 'WVS' 'IS2' descending

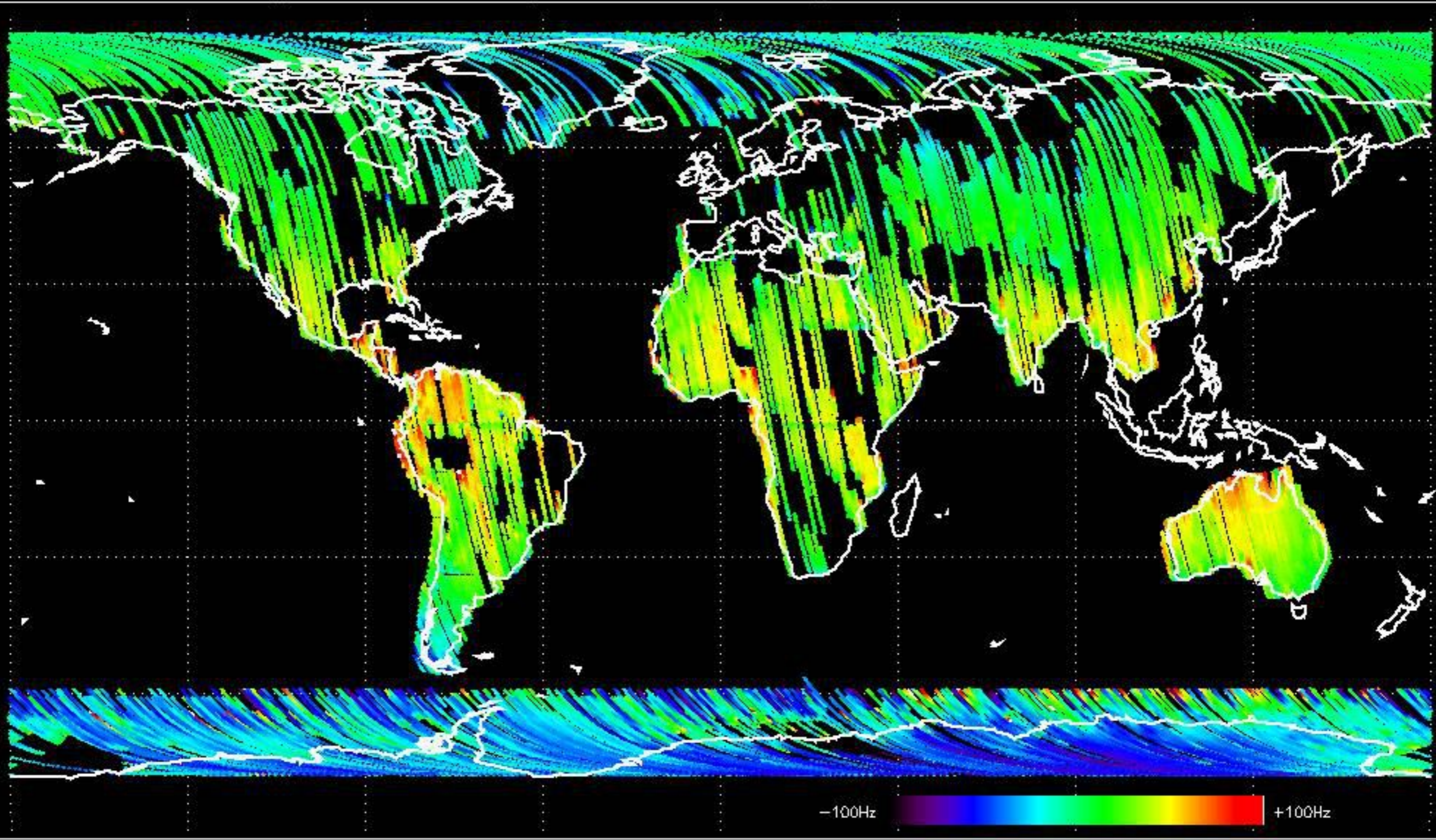


GM1 mode doppler

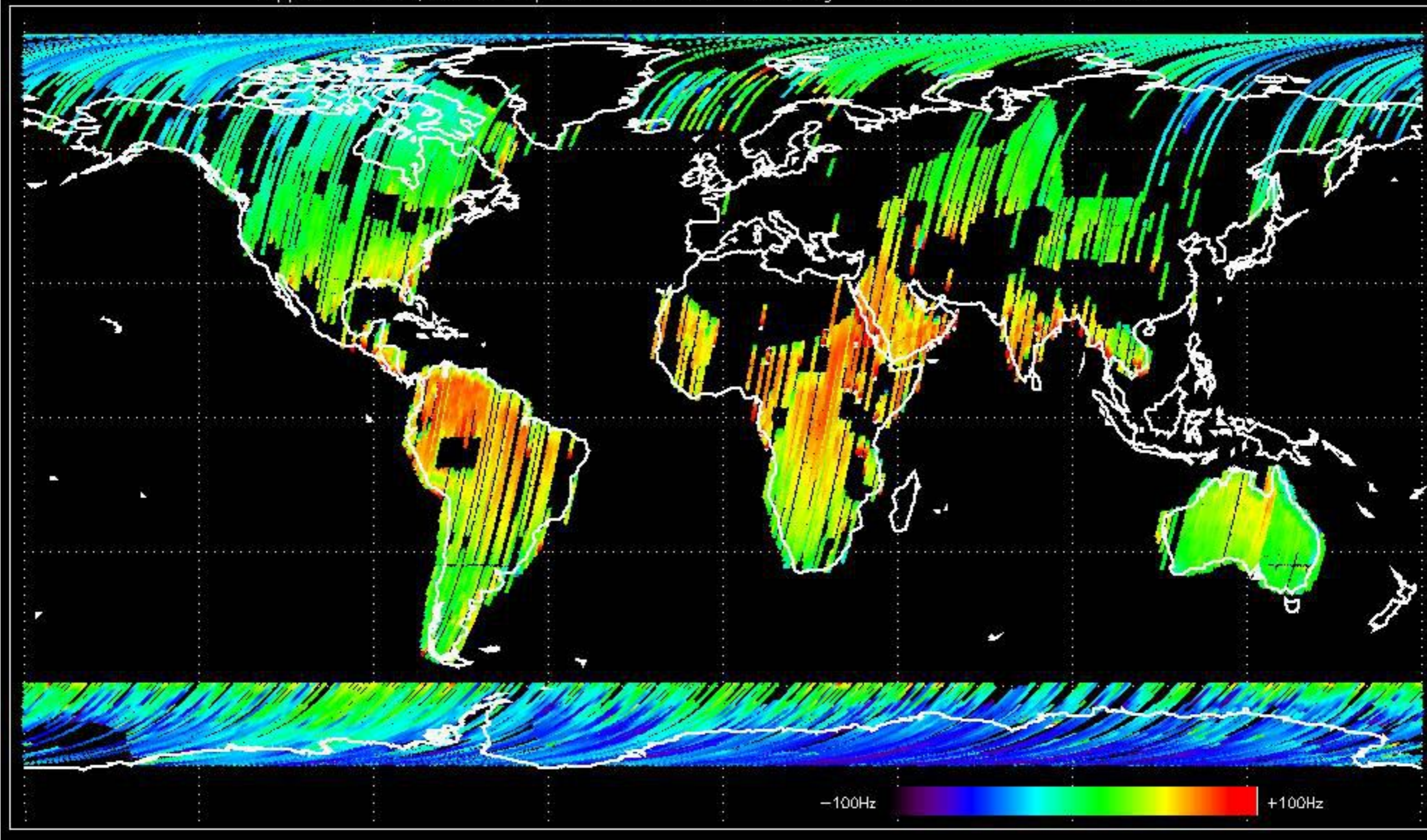




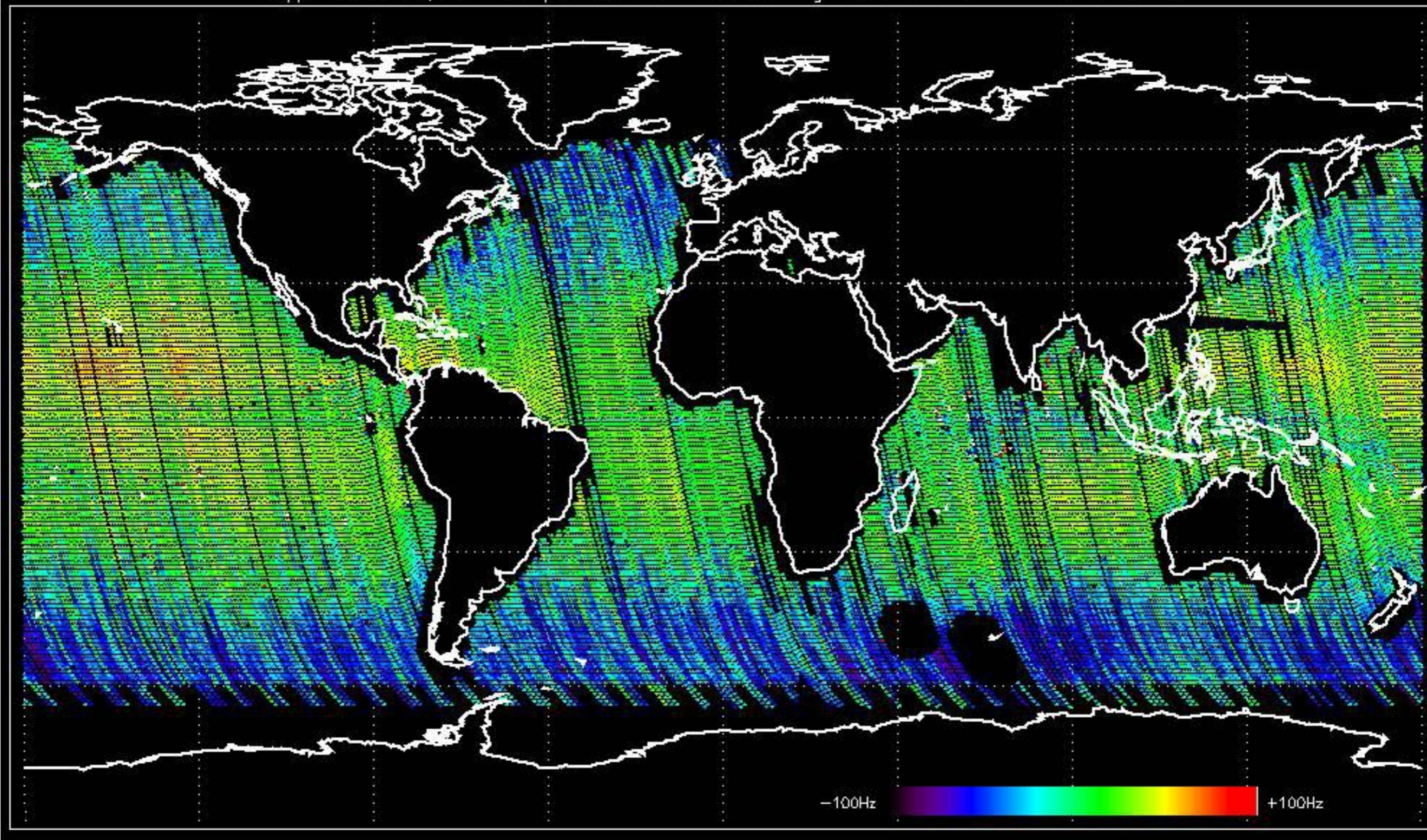
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -37.887884 Hz



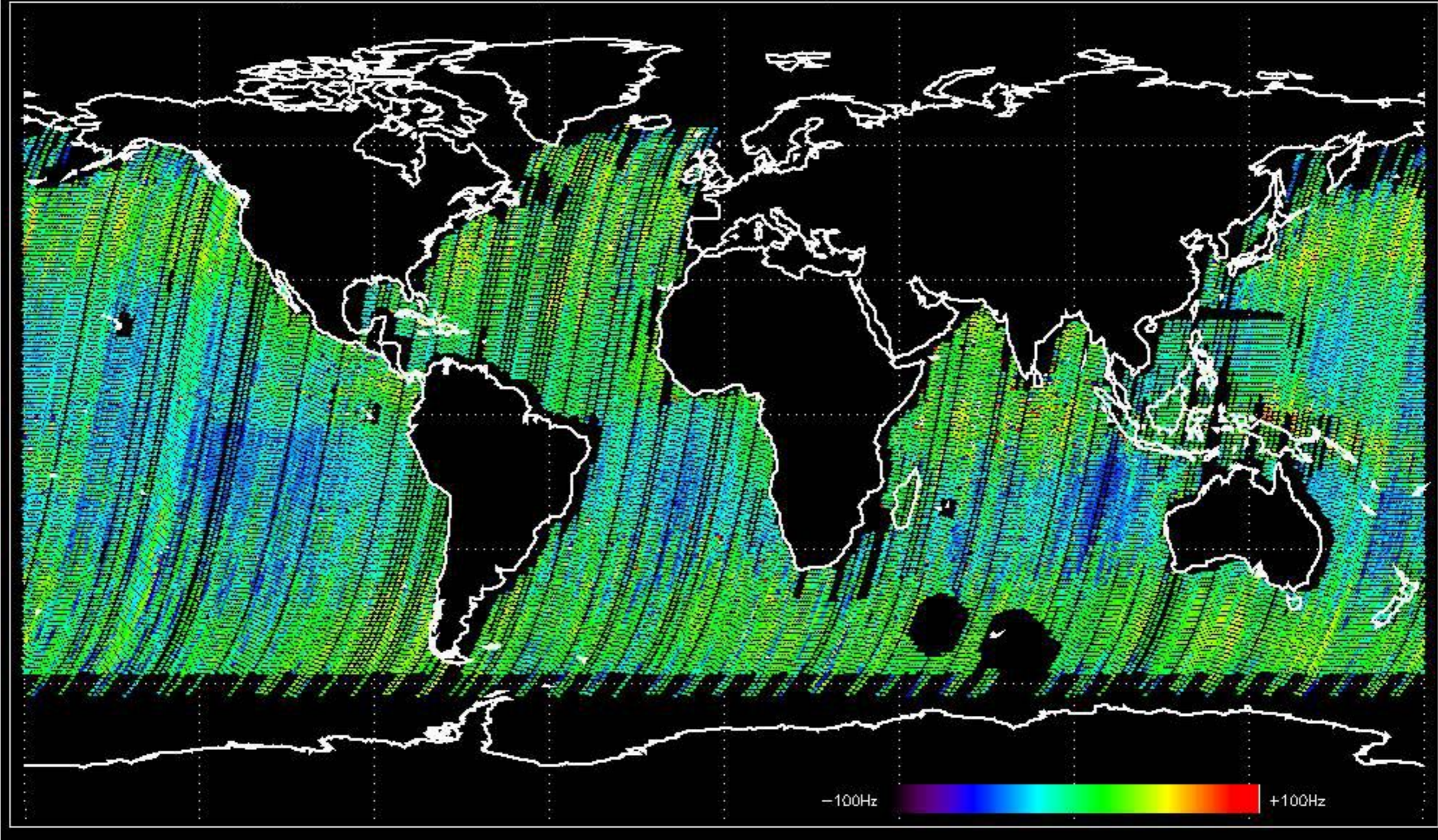
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -29.936143 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -33.939345 Hz

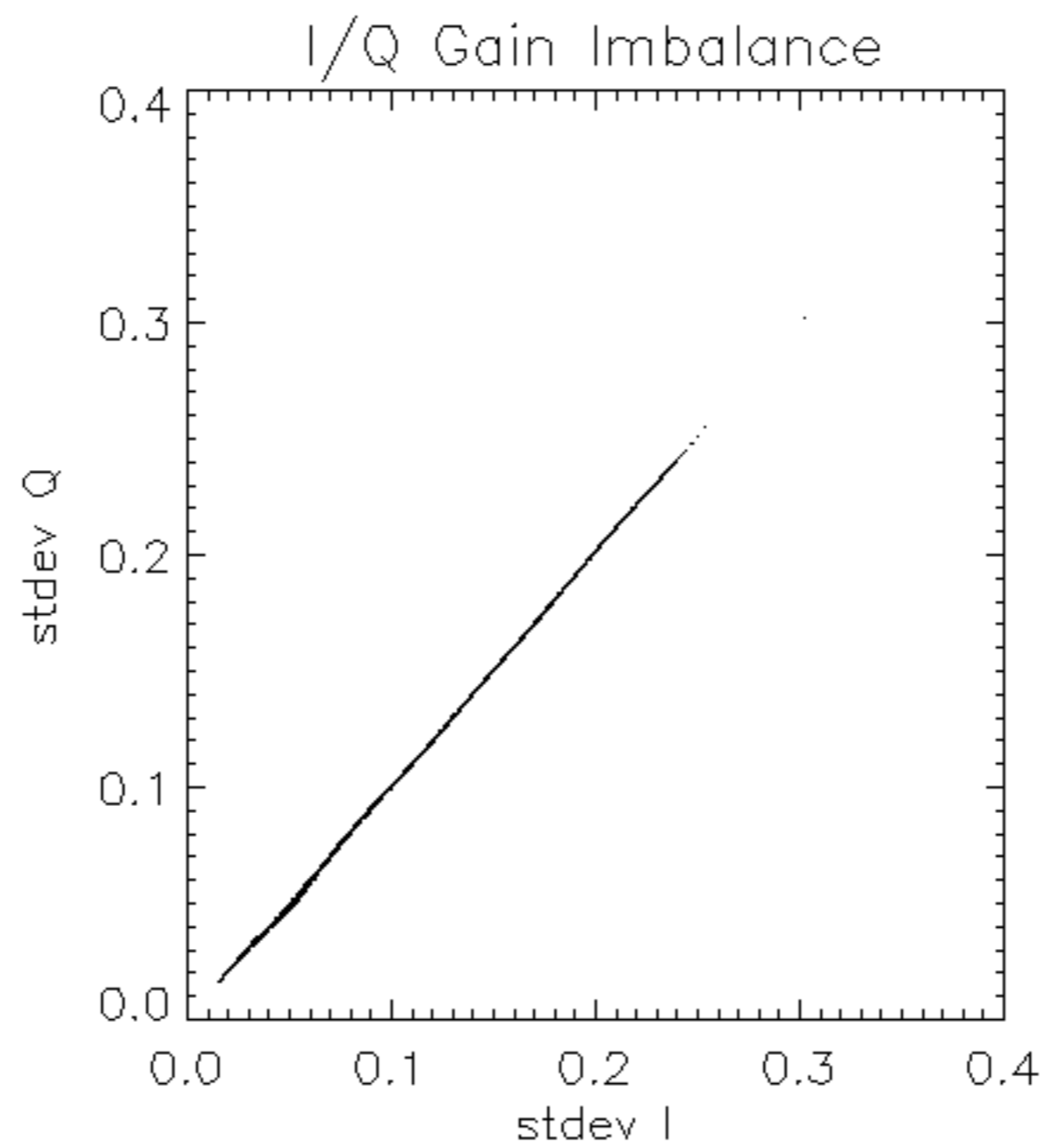


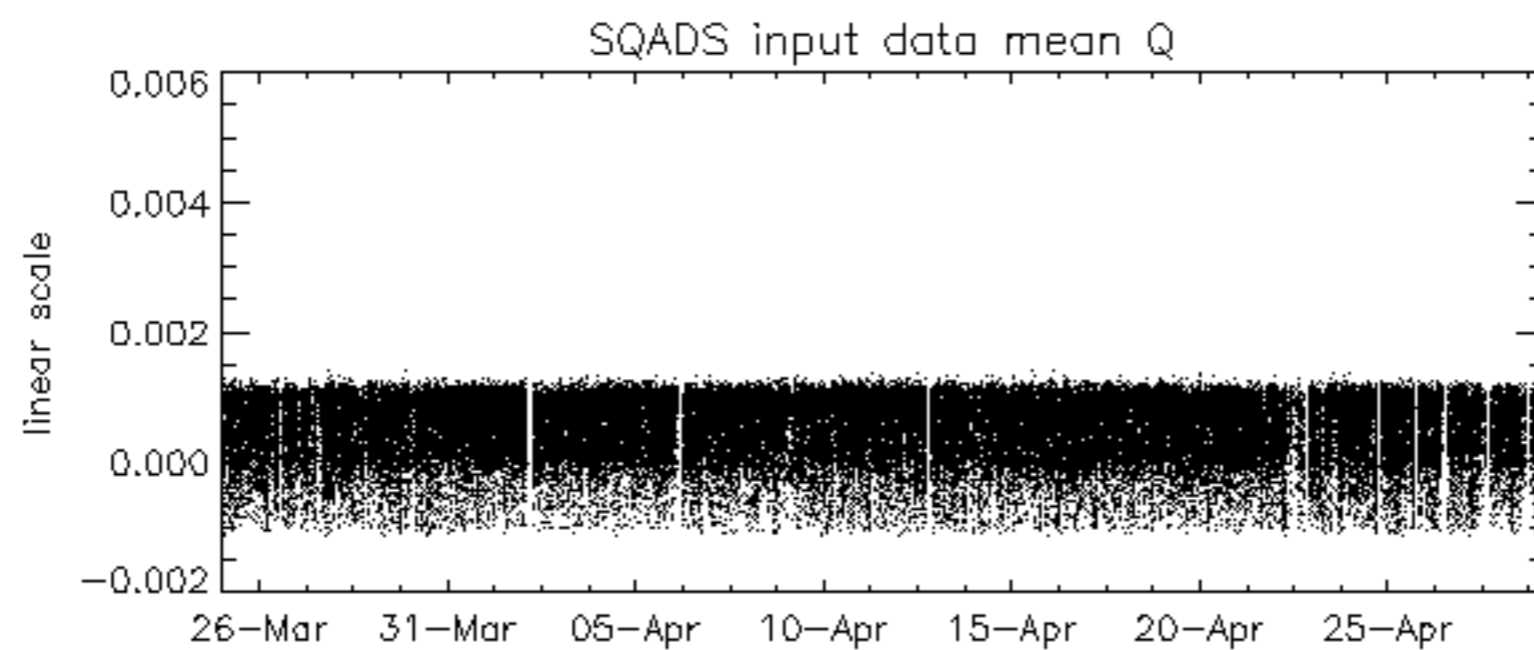
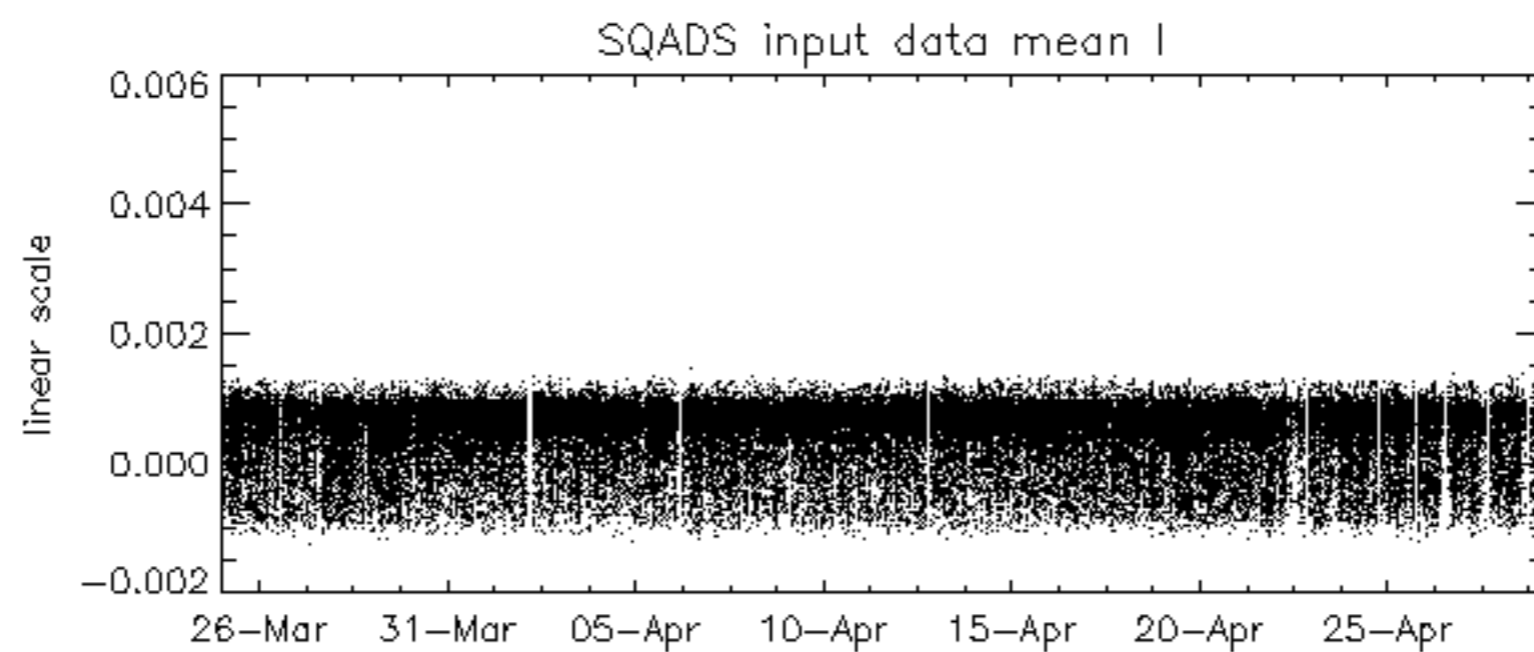
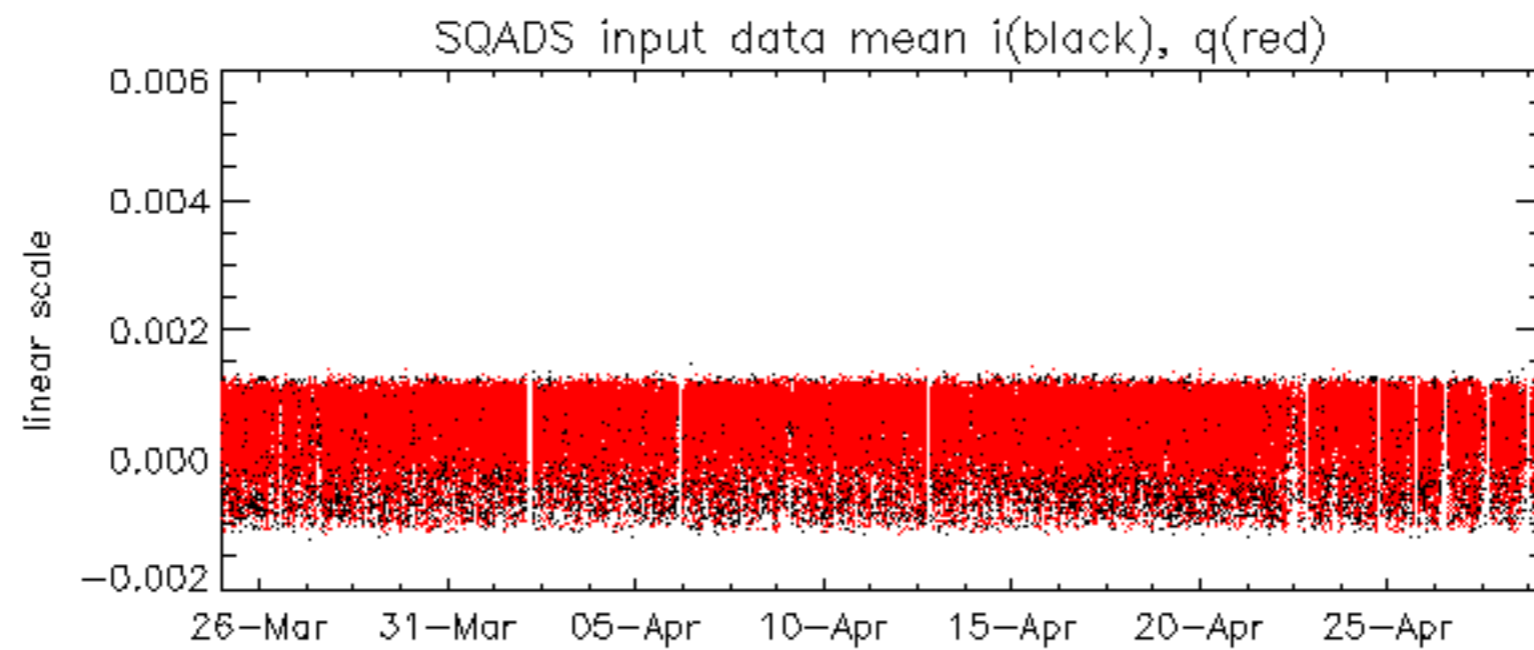
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -36.274852 Hz

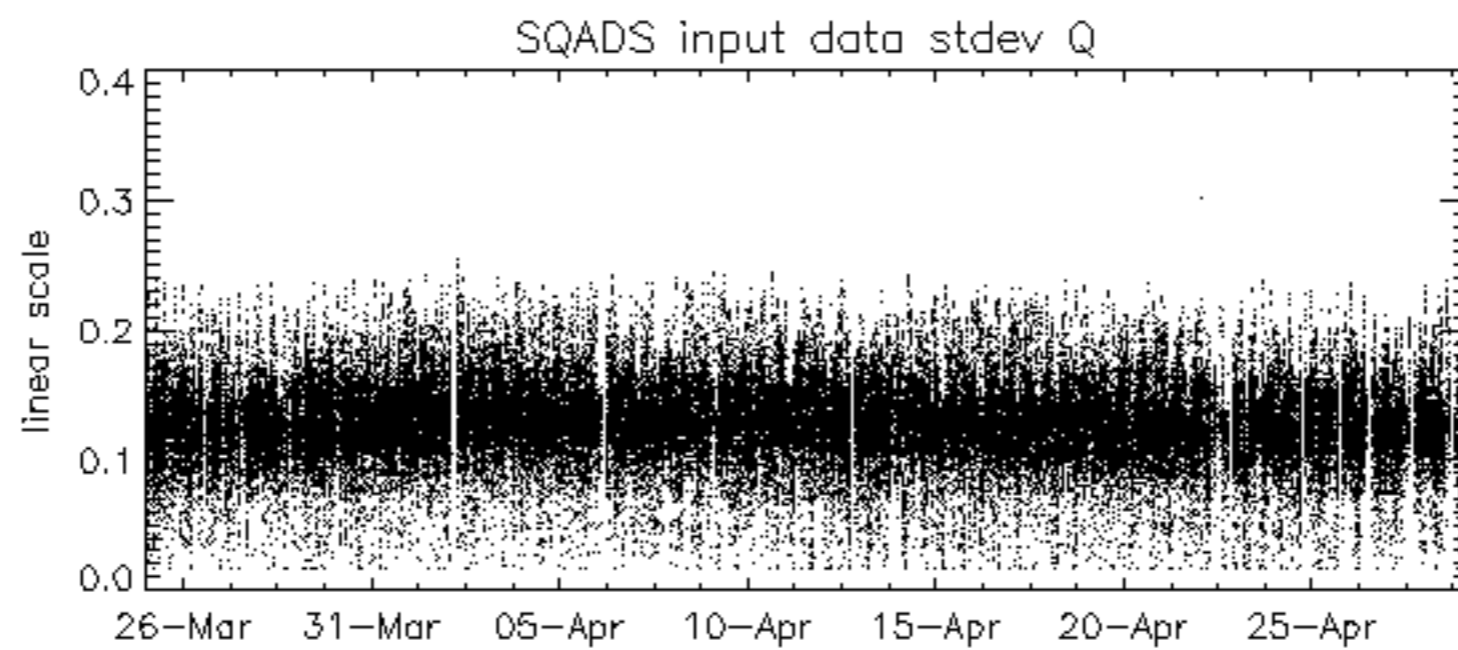
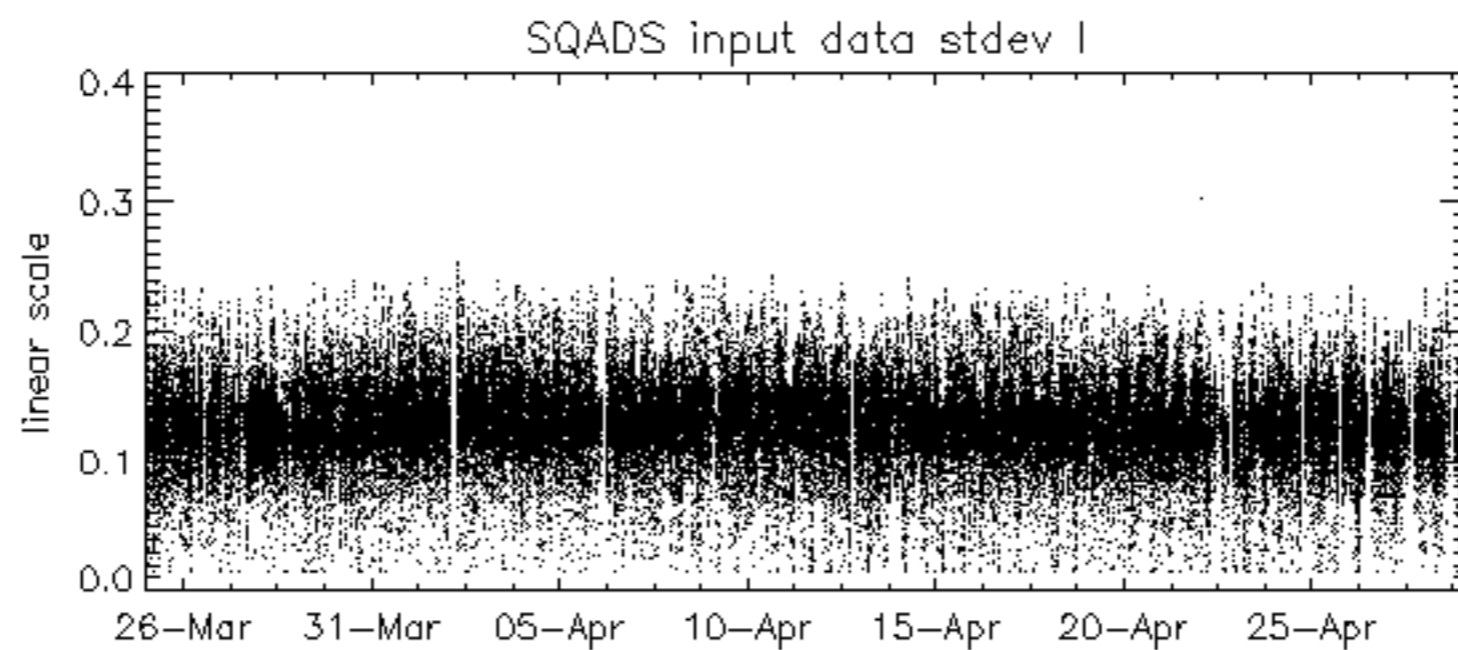
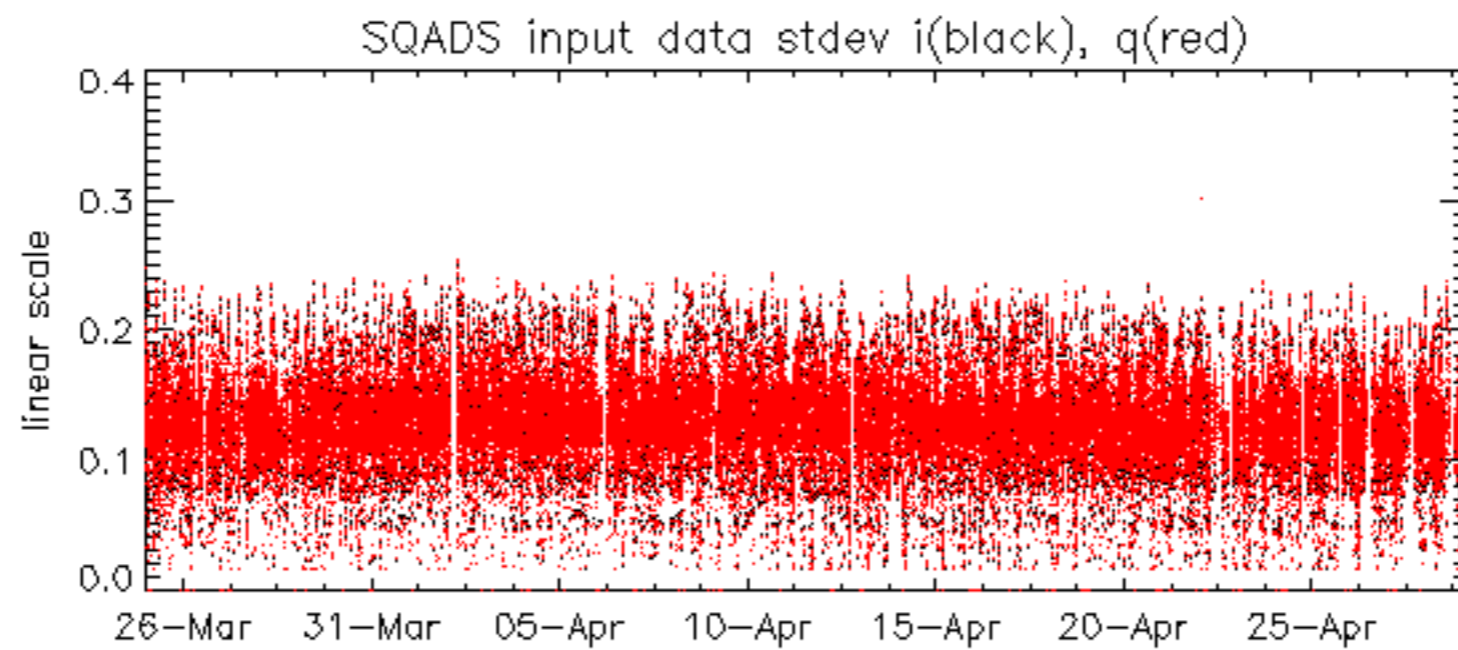


No anomalies observed on available MS products:

No anomalies observed.



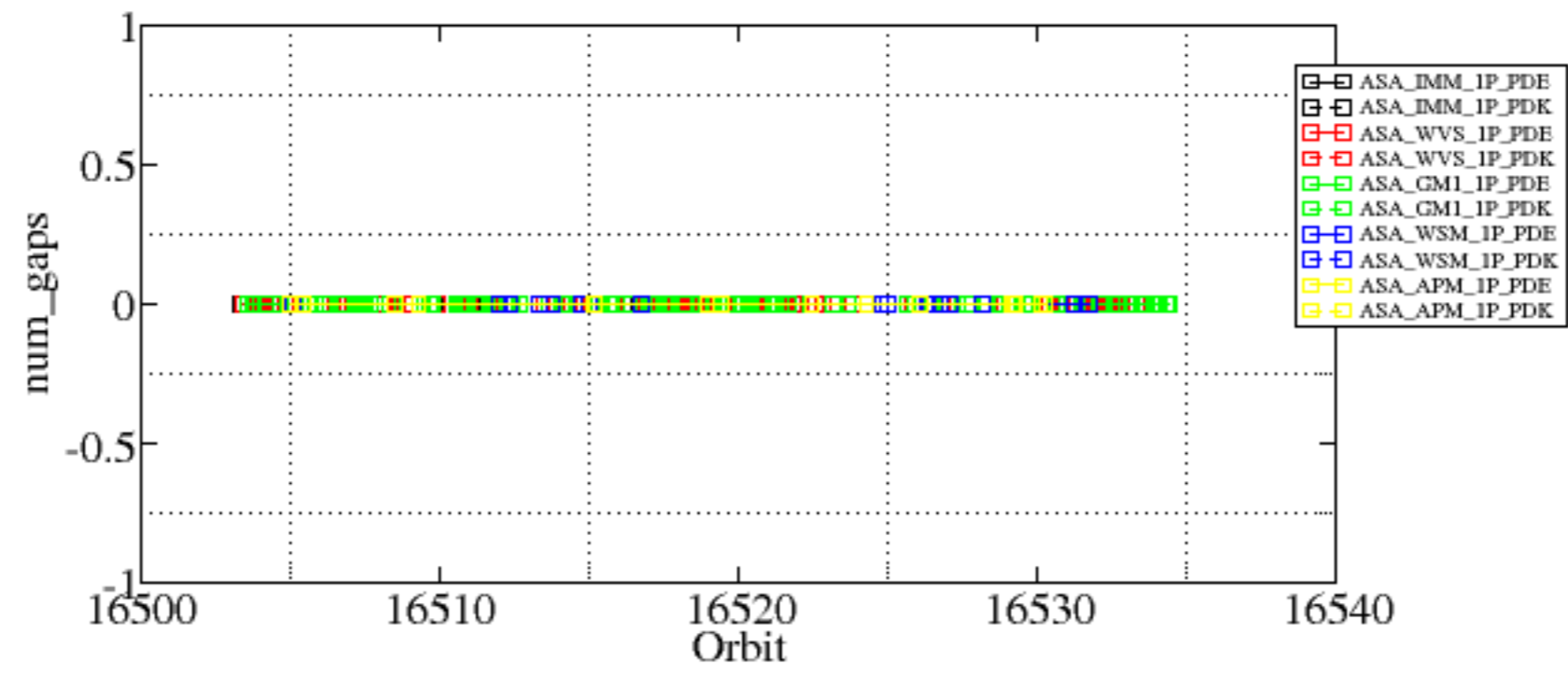


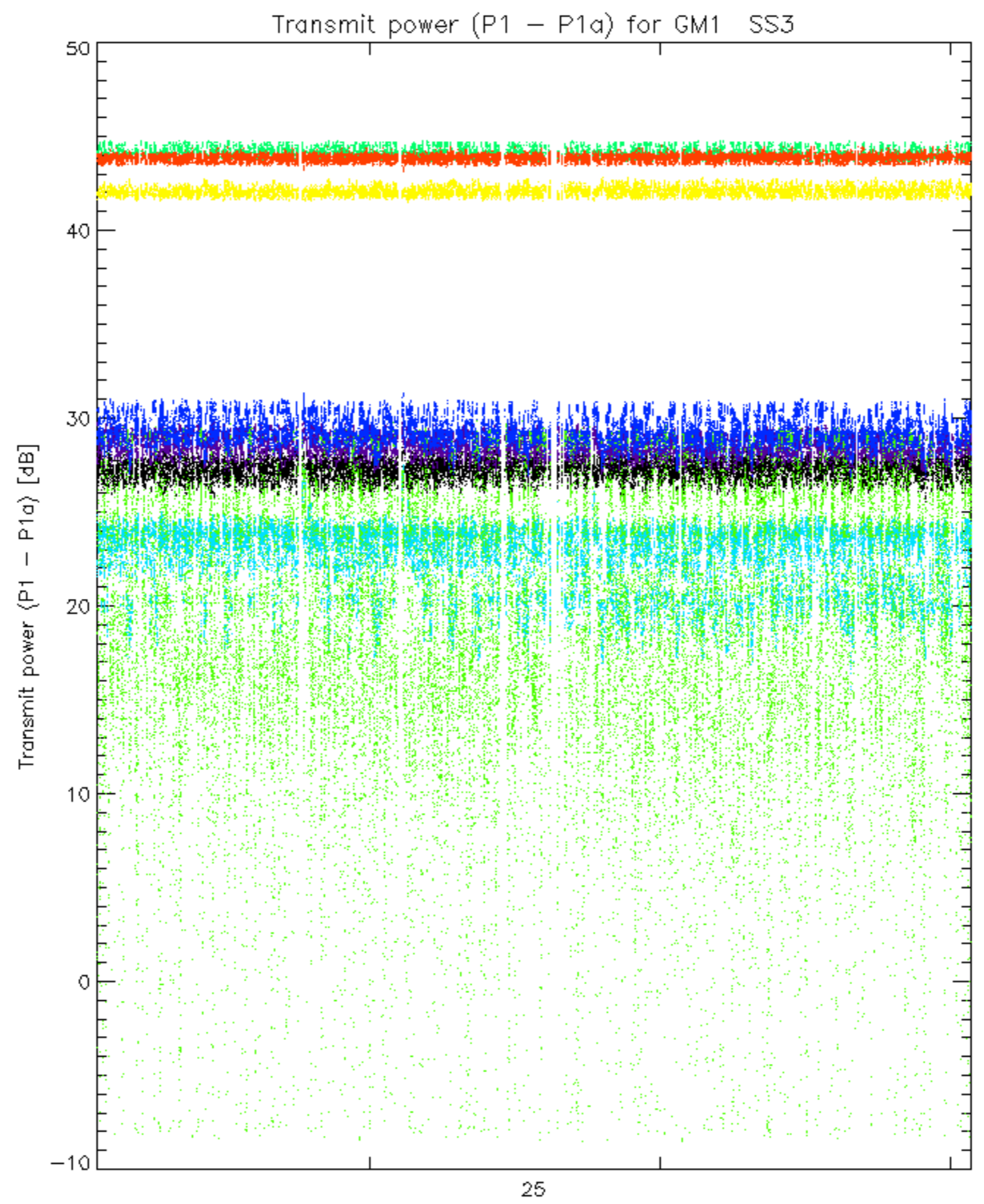


Summary of analysis for the last 3 days 2005042[789]

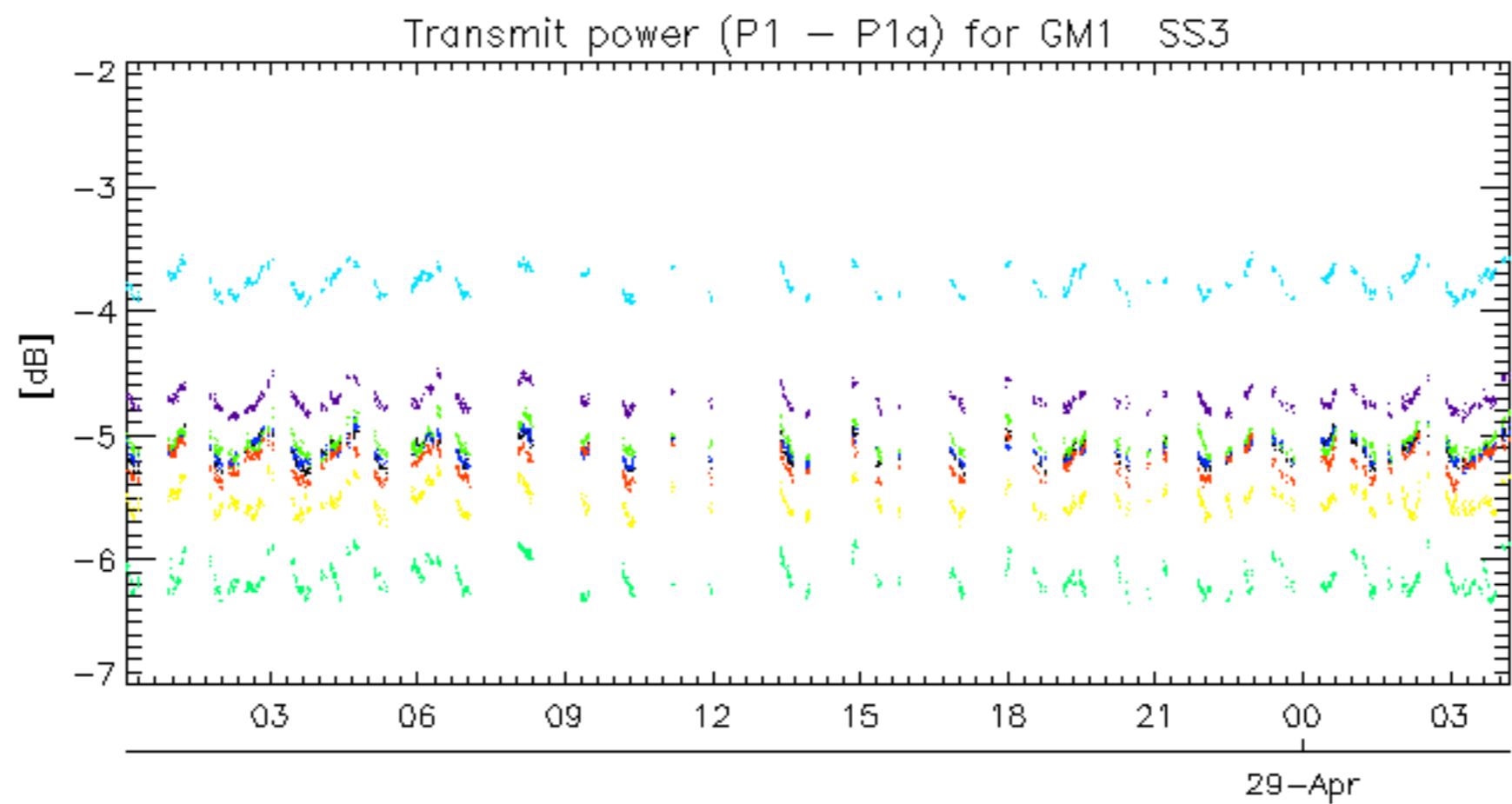
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_GM1_1PNPDK20050428_175348_000005732036_00442_16528_9621.N1	0	9

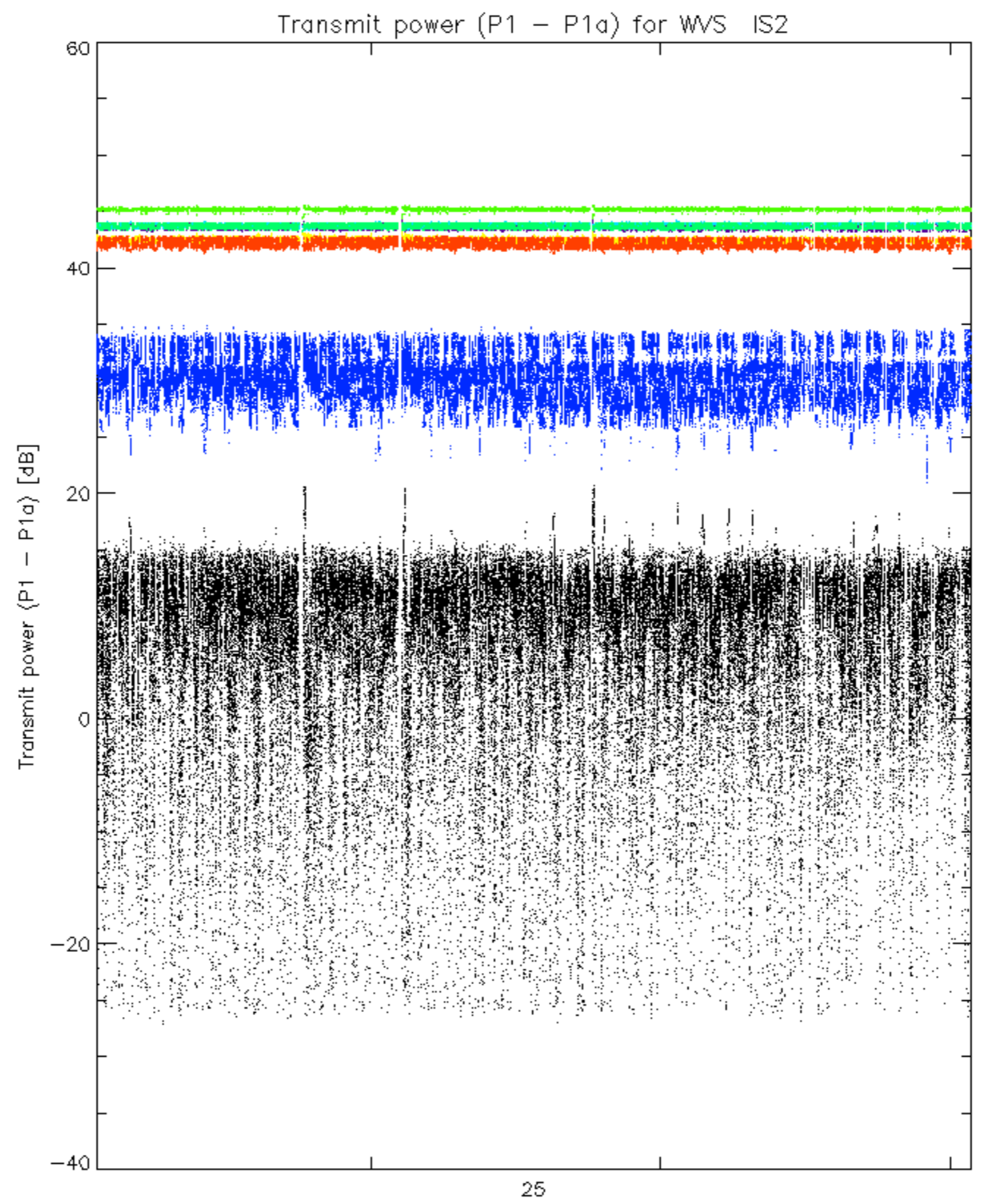




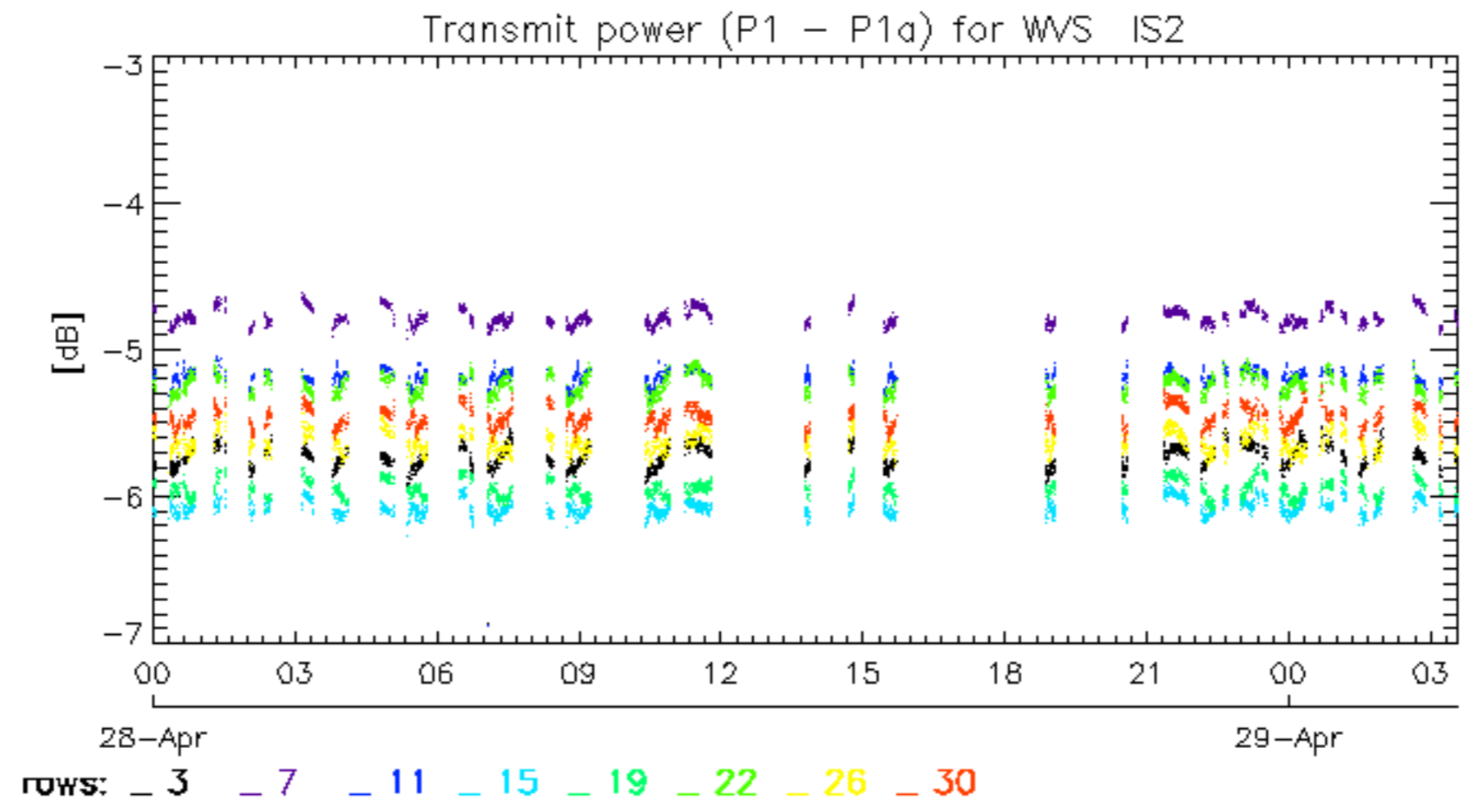
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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



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



No unavailabilities during the reported period.