

PRELIMINARY REPORT OF 060503

last update on Wed May 3 16:34:28 GMT 2006

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 2006-05-02 00:00:00 to 2006-05-03 16:34:28

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	46	81	7	1	0
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	46	81	7	1	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	46	81	7	1	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	46	81	7	1	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	35	60	26	27	64
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	35	60	26	27	64
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	35	60	26	27	64
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	35	60	26	27	64

2.3 - Browse Visual Inspection

No anomalies observed on available browse products

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	20060501 054046
H	20060502 050910

MSM in V/V 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"/>

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

4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1
<input type="checkbox"/>
<input type="checkbox"/>

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	-3.976044	0.011702	0.016295
7	P1	-3.045542	0.011228	-0.029543
11	P1	-4.081988	0.016144	-0.035854
15	P1	-6.097387	0.013010	-0.009372
19	P1	-3.311847	0.007136	0.028297
22	P1	-4.512504	0.011461	-0.049393
26	P1	-4.060623	0.019397	0.122996
30	P1	-5.736379	0.022279	0.021478
3	P1	-16.715343	0.317441	0.169194
7	P1	-16.919353	0.147798	-0.137792
11	P1	-16.665722	0.324164	-0.379840
15	P1	-13.079692	0.126087	-0.137904
19	P1	-14.107467	0.047707	-0.206786
22	P1	-15.978356	0.489546	-0.433382
26	P1	-15.526158	0.259439	0.491349
30	P1	-16.719398	0.290192	-0.365532

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.305153	0.086244	0.064817
7	P2	-22.215769	0.100488	0.104624
11	P2	-16.067467	0.110510	0.180398
15	P2	-7.164408	0.097340	0.003897
19	P2	-9.148707	0.089774	-0.016998
22	P2	-18.035772	0.088833	-0.101429
26	P2	-16.292858	0.094430	-0.082211
30	P2	-19.610565	0.088308	0.013982

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.190039	0.004705	0.001223
7	P3	-8.190039	0.004705	0.001223
11	P3	-8.190039	0.004705	0.001223
15	P3	-8.190039	0.004705	0.001223
19	P3	-8.190039	0.004705	0.001223
22	P3	-8.190039	0.004705	0.001223
26	P3	-8.190060	0.004706	0.001184
30	P3	-8.190060	0.004706	0.001184

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	-3.748745	0.029890	0.016842
7	P1	-2.679659	0.121057	0.081171
11	P1	-2.891703	0.036350	0.081189
15	P1	-3.523316	0.031932	0.052339
19	P1	-3.380364	0.013103	-0.011488
22	P1	-5.131915	0.023460	0.086544
26	P1	-5.810060	0.025619	-0.038129
30	P1	-5.177870	0.049748	0.008331
3	P1	-11.590906	0.115008	-0.017790
7	P1	-9.977819	0.182067	0.037787
11	P1	-10.238617	0.090195	0.117080
15	P1	-10.712673	0.138534	0.148943
19	P1	-15.437384	0.090014	-0.089884
22	P1	-20.612133	1.250764	-0.453242

26	P1	-16.358404	0.409269	-0.205914
30	P1	-18.288929	0.480760	0.275827

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.969814	0.071008	0.085128
7	P2	-22.500549	0.190497	-0.057018
11	P2	-11.191790	0.052866	-0.004439
15	P2	-4.857381	0.042633	-0.053183
19	P2	-6.853457	0.050883	-0.029632
22	P2	-8.147616	0.056932	-0.046566
26	P2	-24.030836	0.138517	-0.064525
30	P2	-22.048567	0.094483	0.009084

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.023316	0.003673	-0.004952
7	P3	-8.023255	0.003695	-0.004746
11	P3	-8.023474	0.003658	-0.004335
15	P3	-8.023322	0.003682	-0.004621
19	P3	-8.023483	0.003678	-0.004965
22	P3	-8.023484	0.003683	-0.004402
26	P3	-8.023378	0.003671	-0.004119
30	P3	-8.023360	0.003676	-0.004986

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	0.000553391
	stdev	1.80506e-07
MEAN Q	mean	0.000520208
	stdev	2.24296e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.136919
	stdev	0.00117149
STDEV Q	mean	0.137281
	stdev	0.00118932



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2006050[123]

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_1PNPDE20060502_003712_000001362047_00202_21799_3993.N1	1	0
ASA_GM1_1PNPDK20060501_081050_000007372047_00193_21790_2679.N1	0	48
ASA_WSM_1PNPDE20060501_230249_000001222047_00202_21799_7447.N1	0	31
ASA_WSM_1PNPDE20060502_012718_000001282047_00203_21800_7473.N1	0	66
ASA_WSM_1PNPDE20060502_112806_000001832047_00209_21806_7544.N1	0	2



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)



Ascending



Descending

7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler



Ascending



Descending

7.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX



7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)

Ascending

Descending

7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

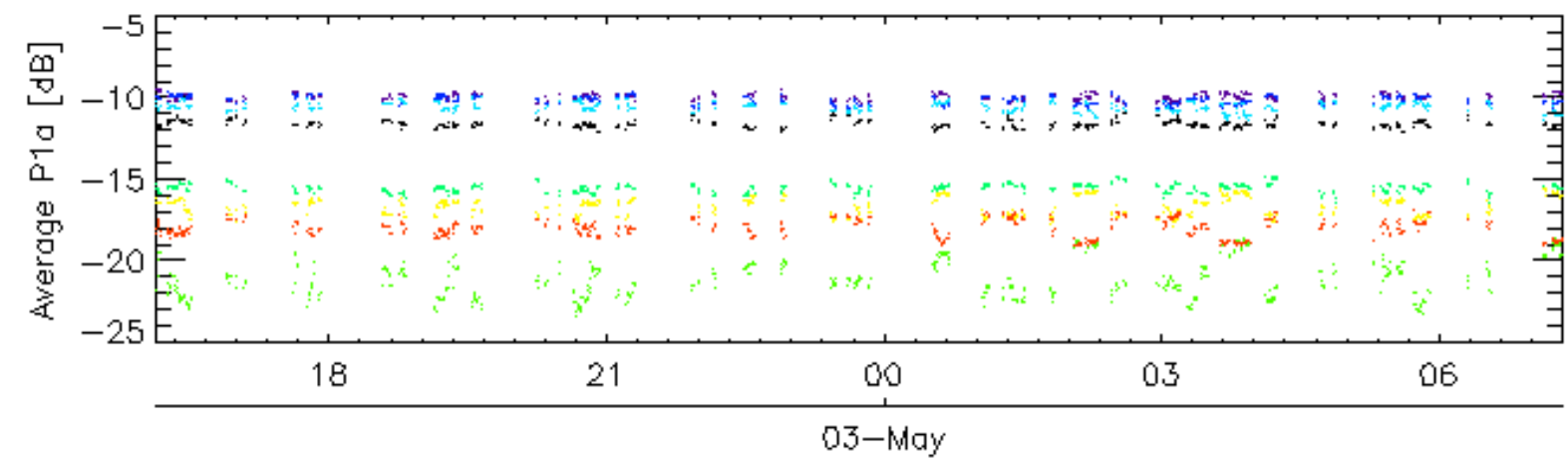
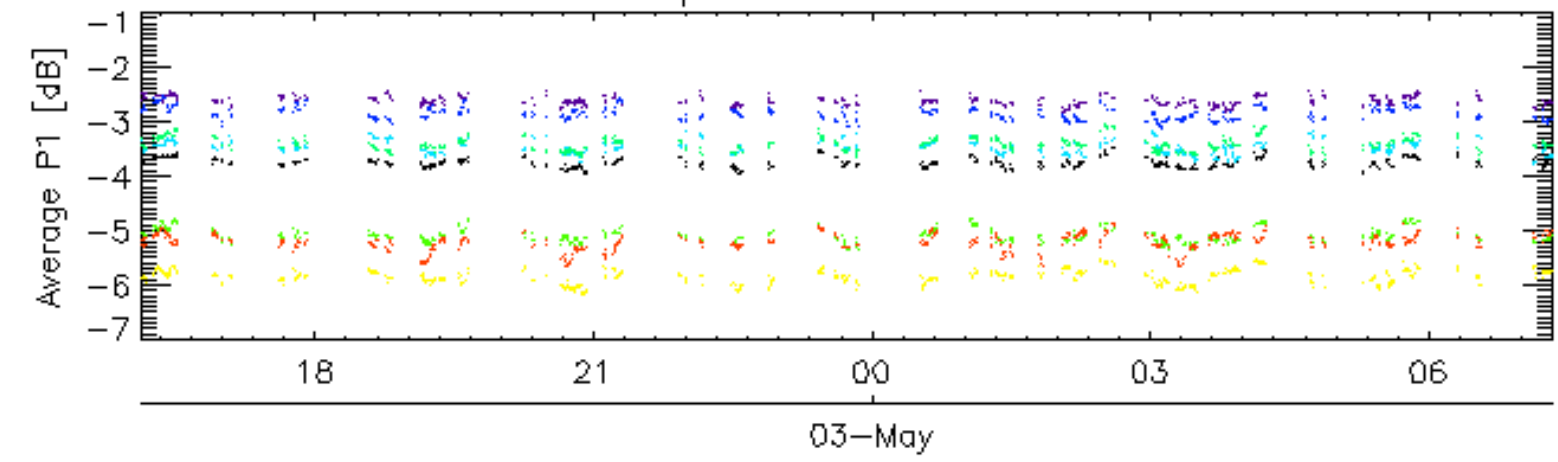
Ascending

Descending

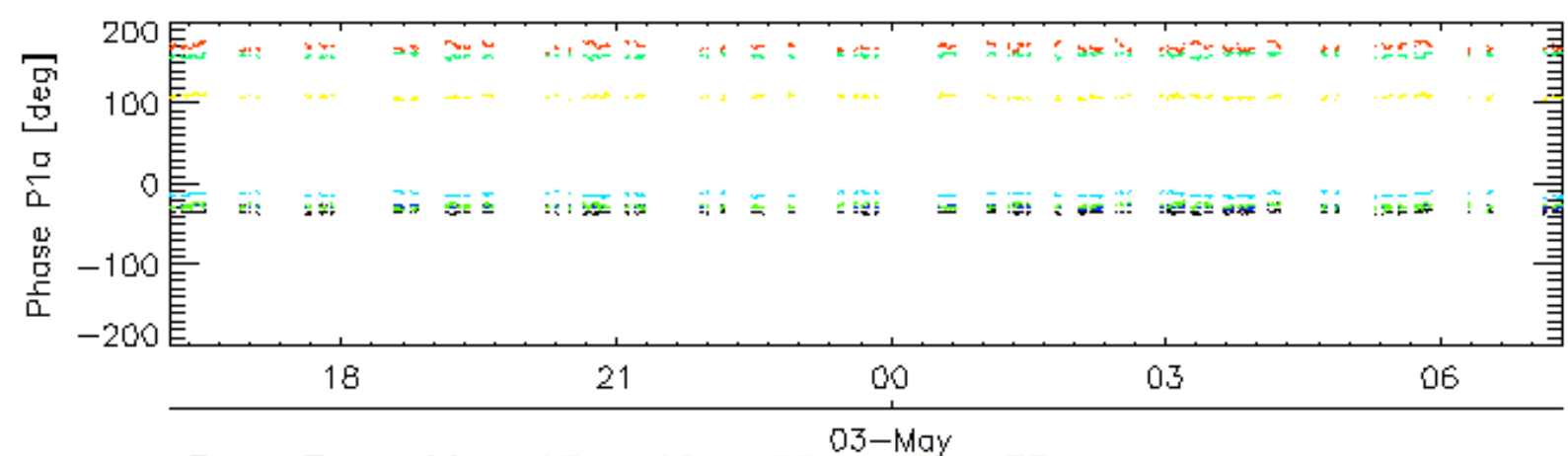
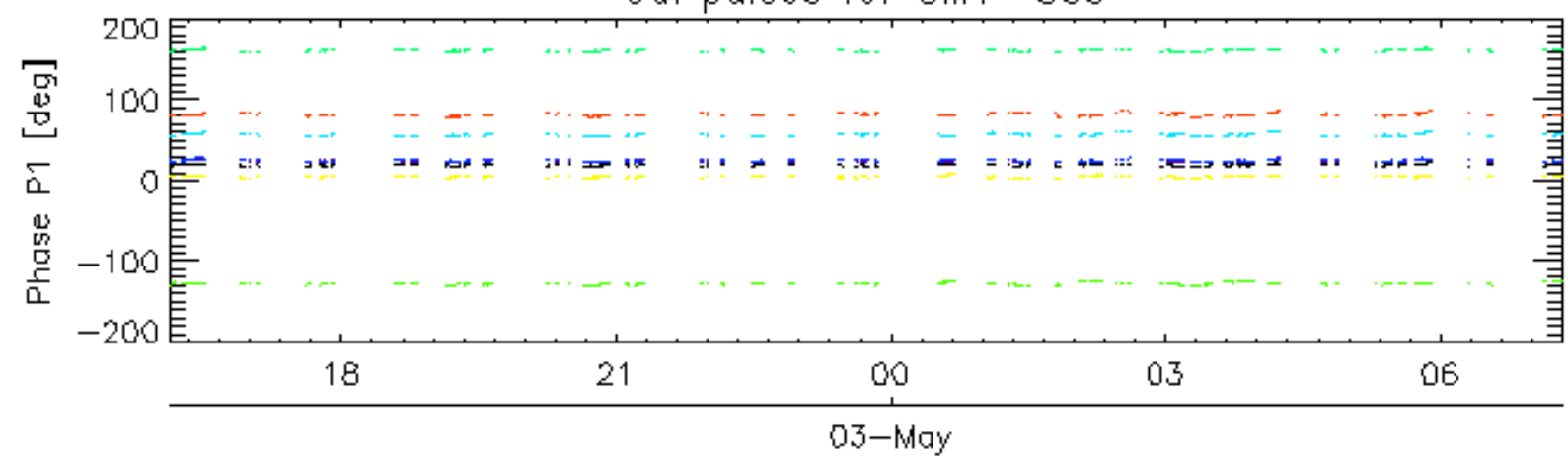
7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

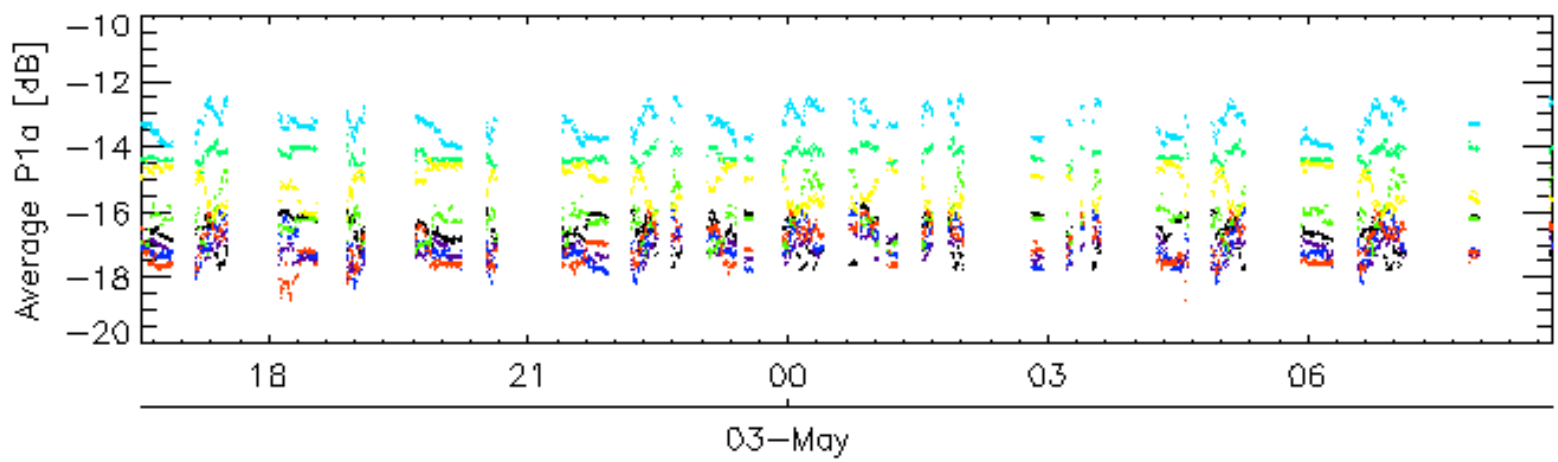
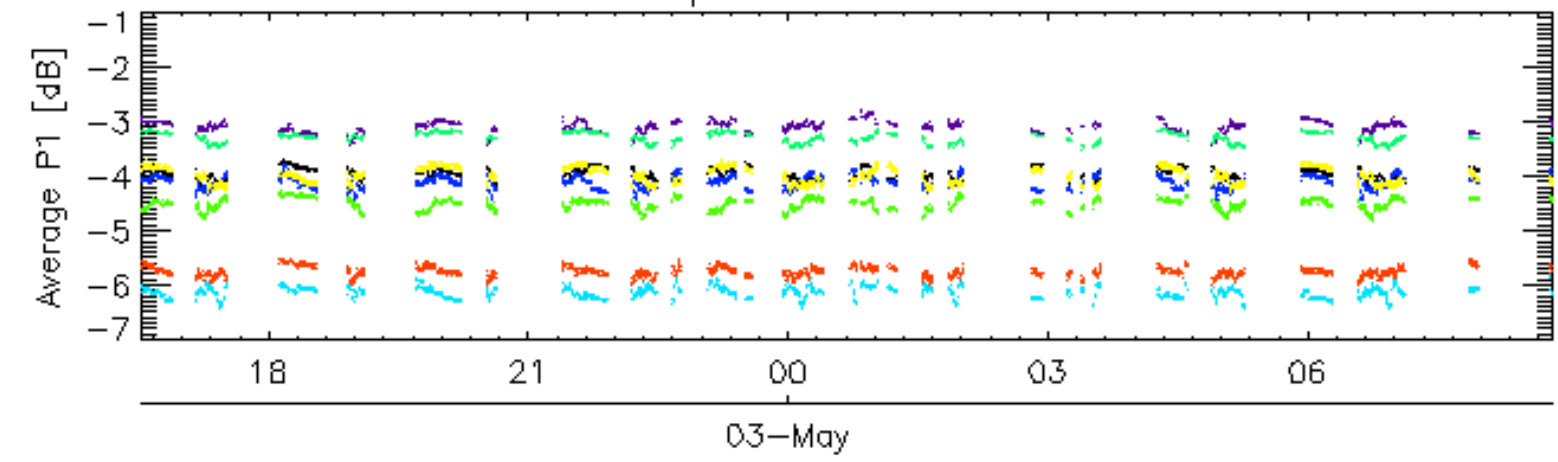


Cal pulses for GM1 SS3

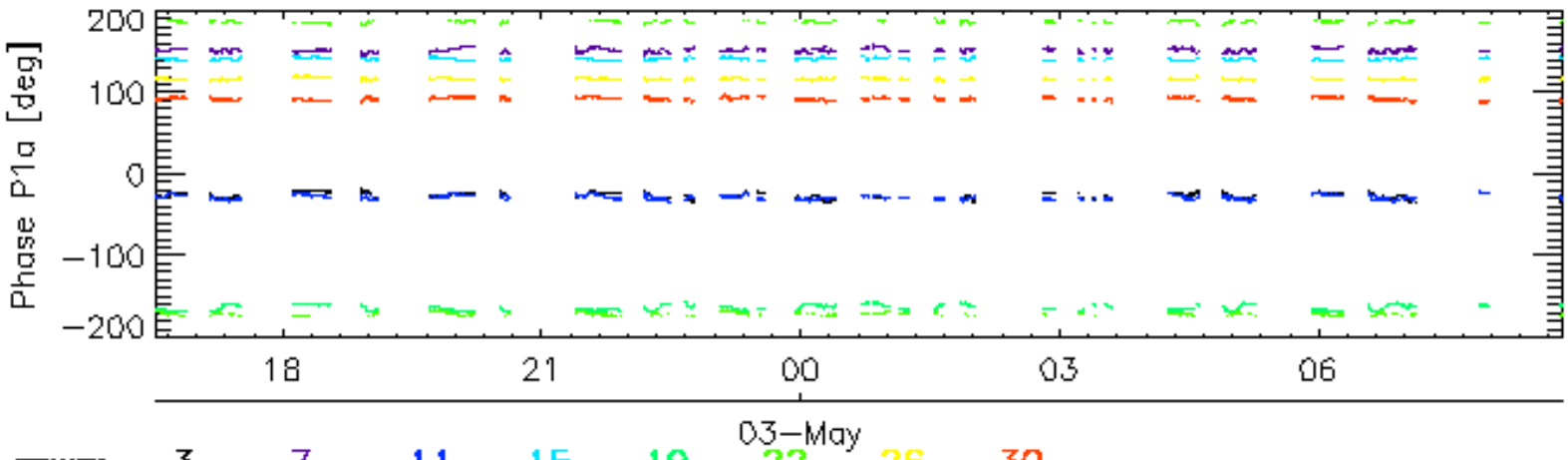
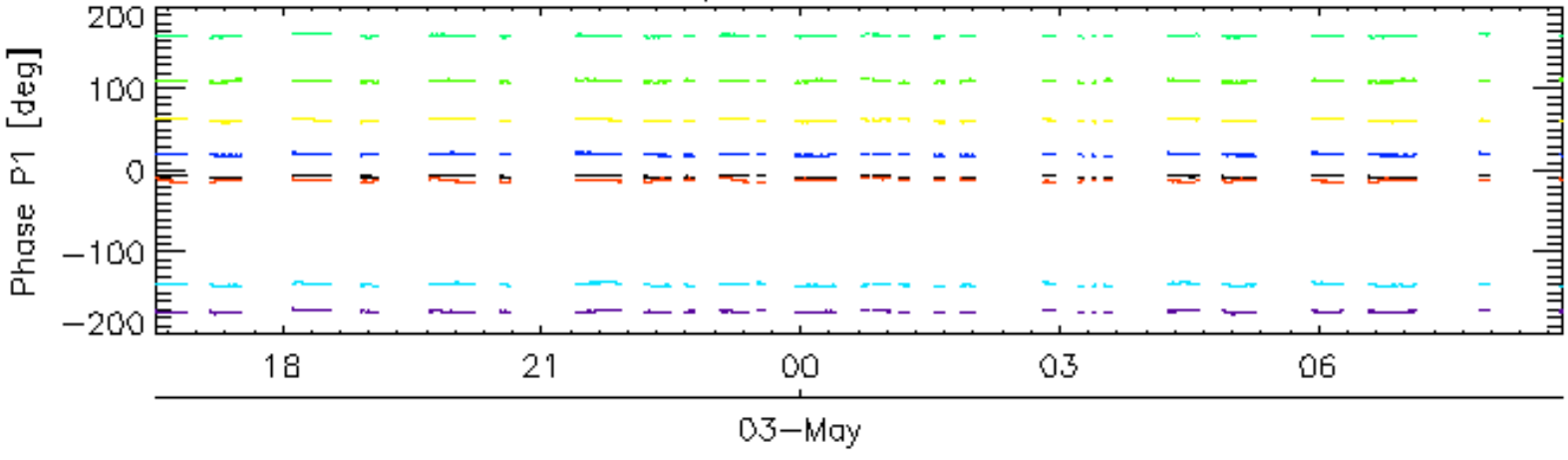


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

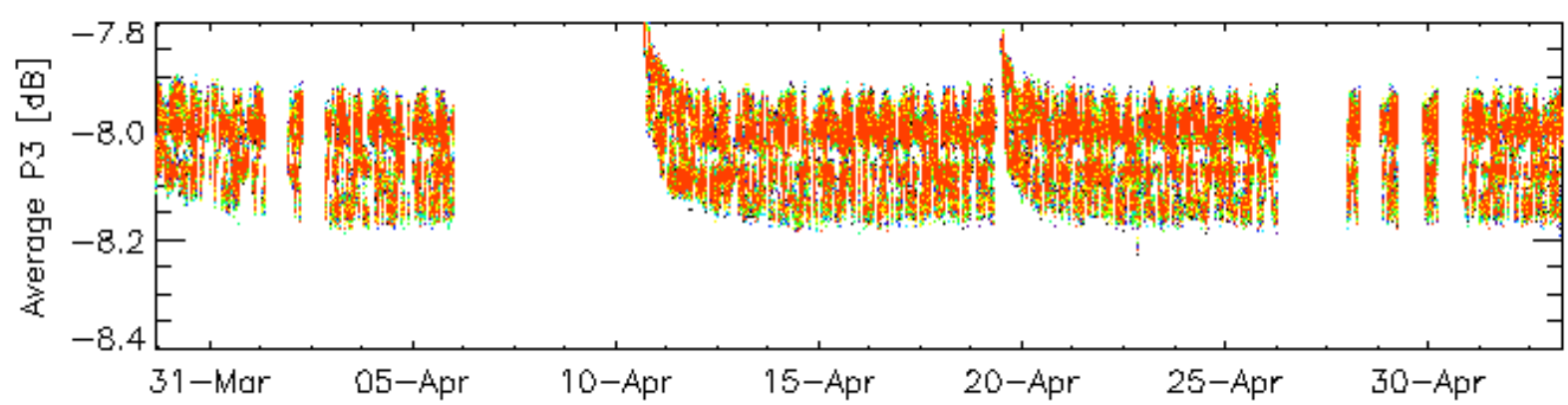
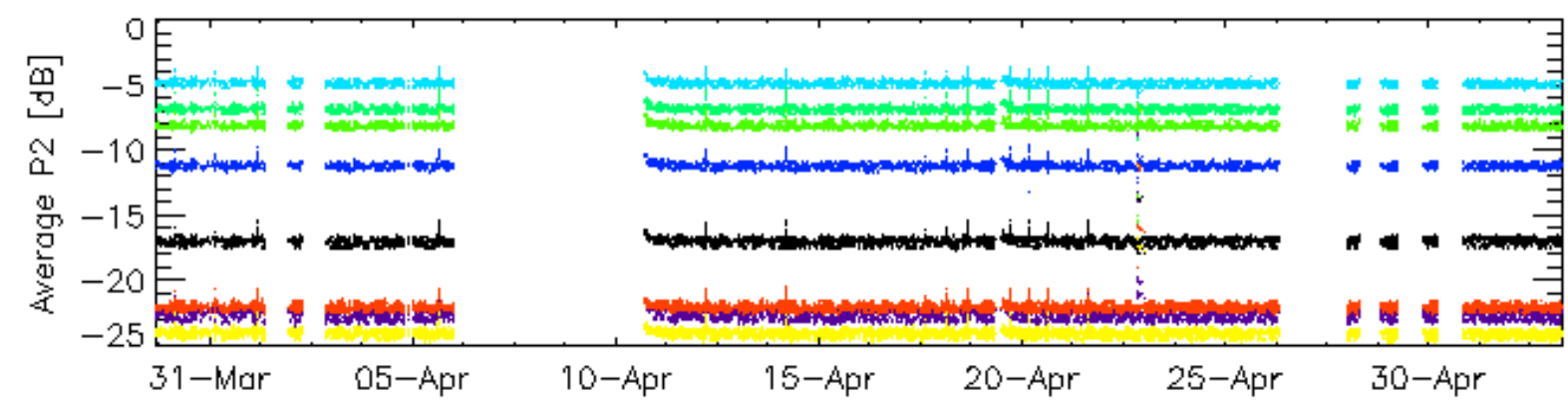
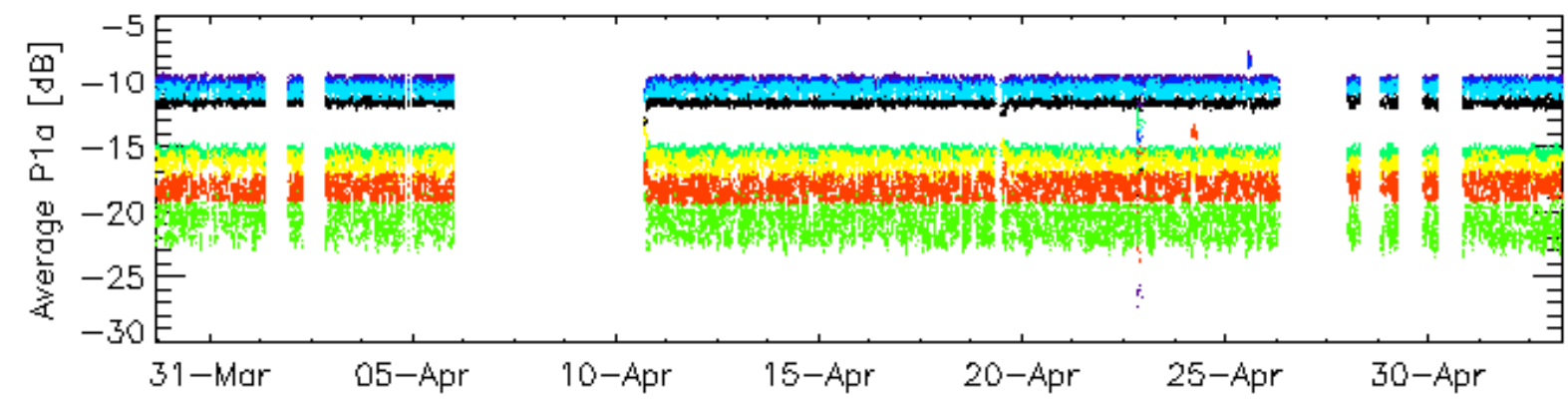
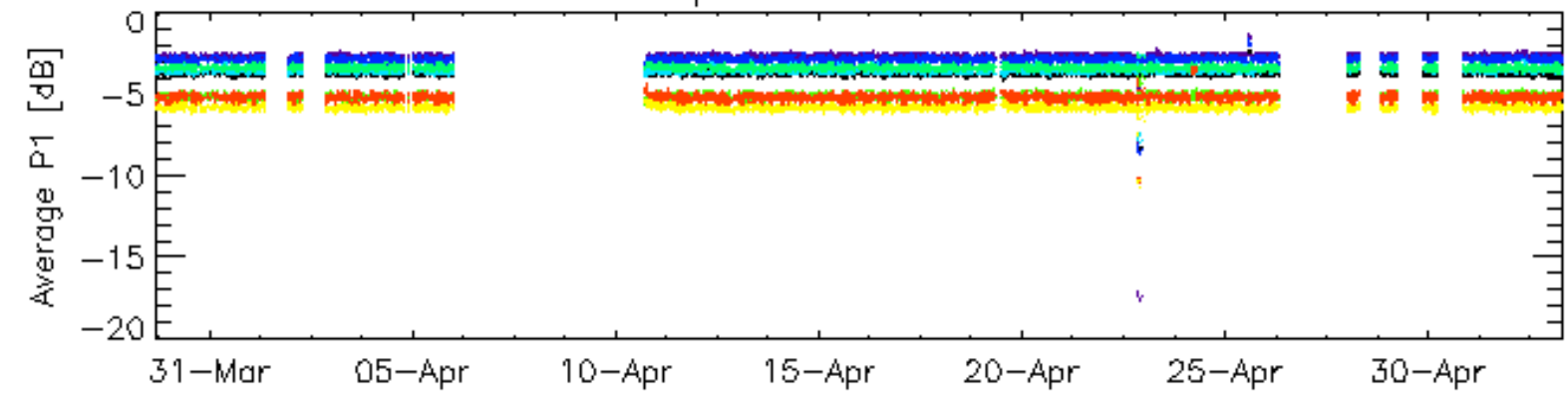


Cal pulses for WVS IS2



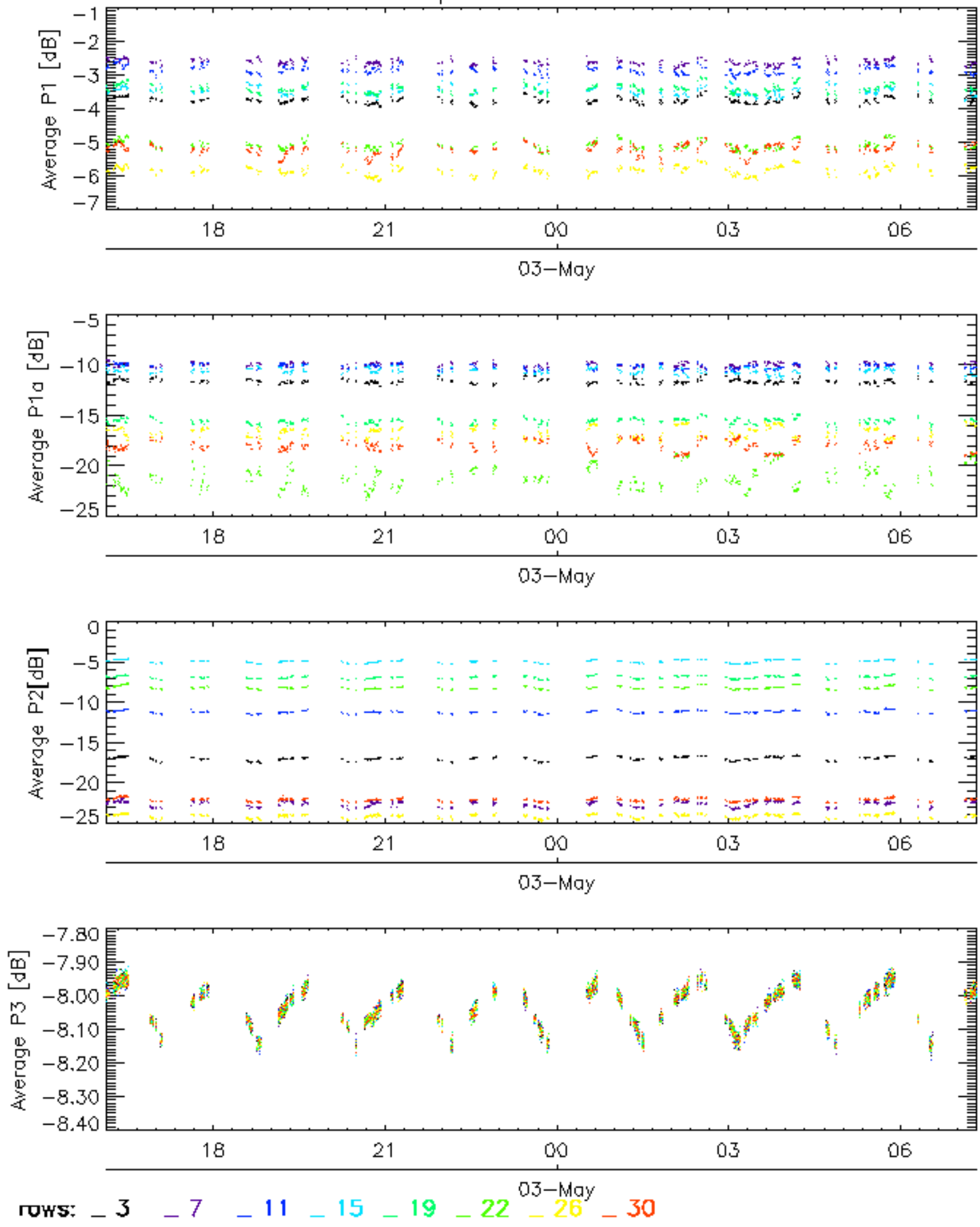
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

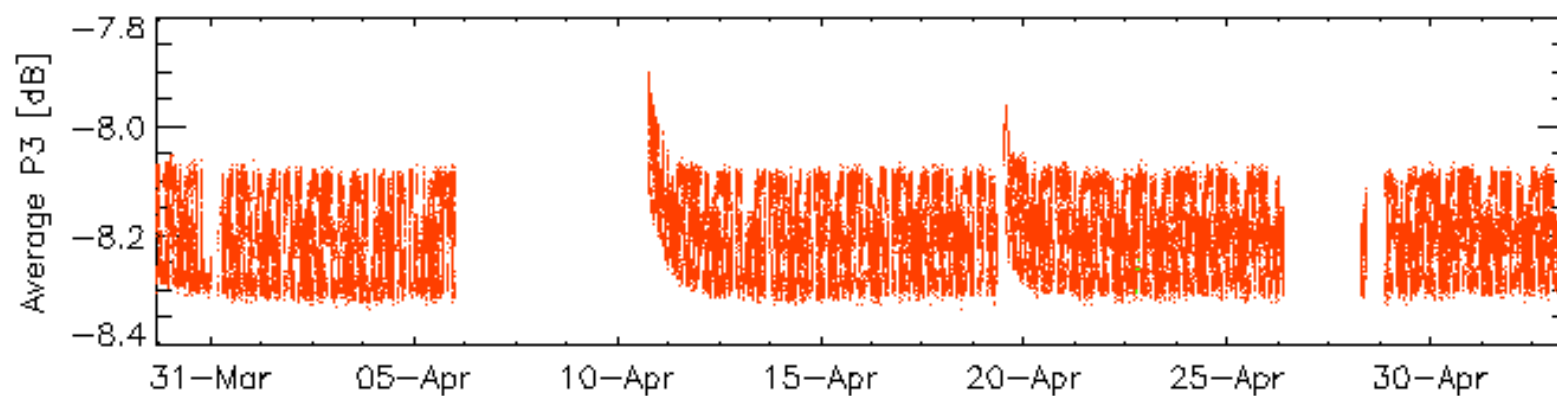
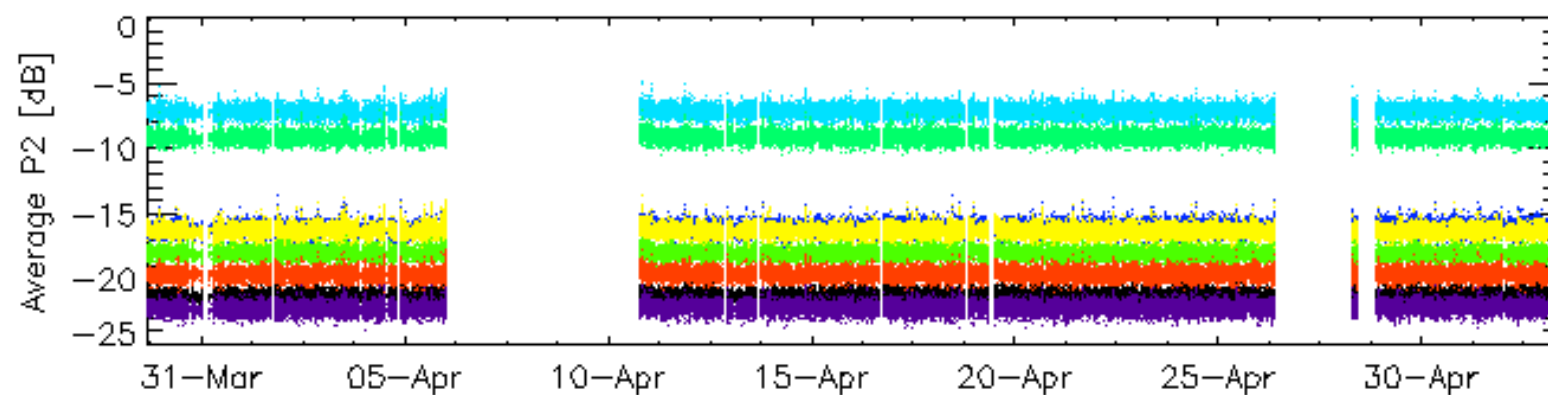
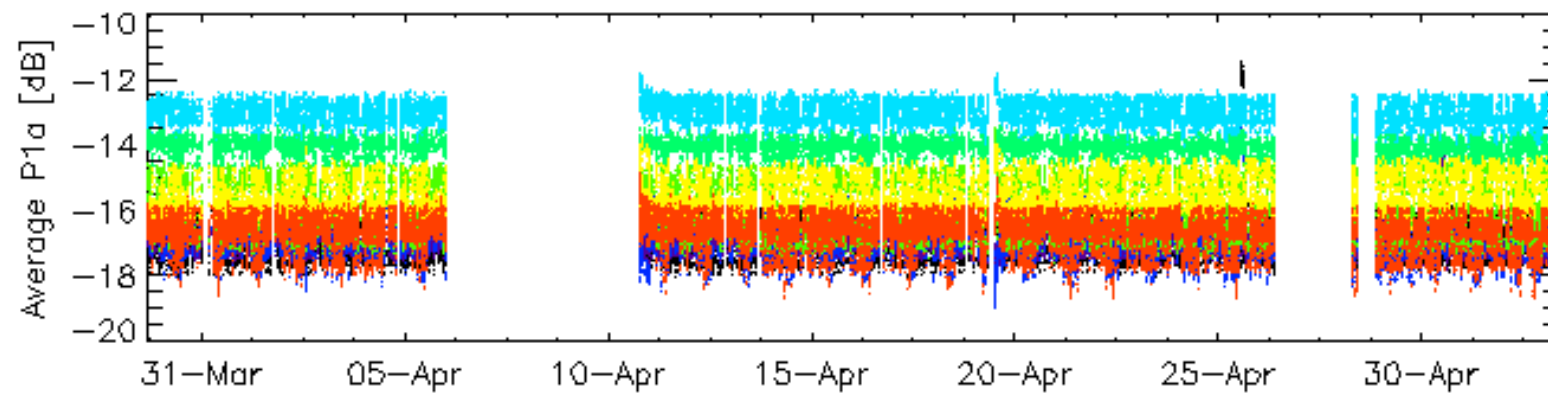
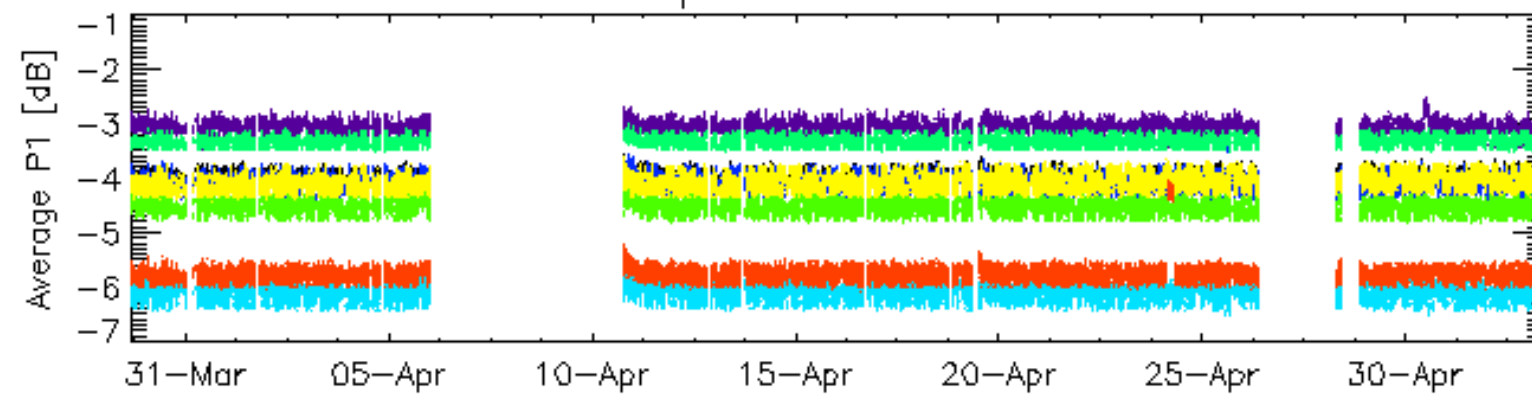


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

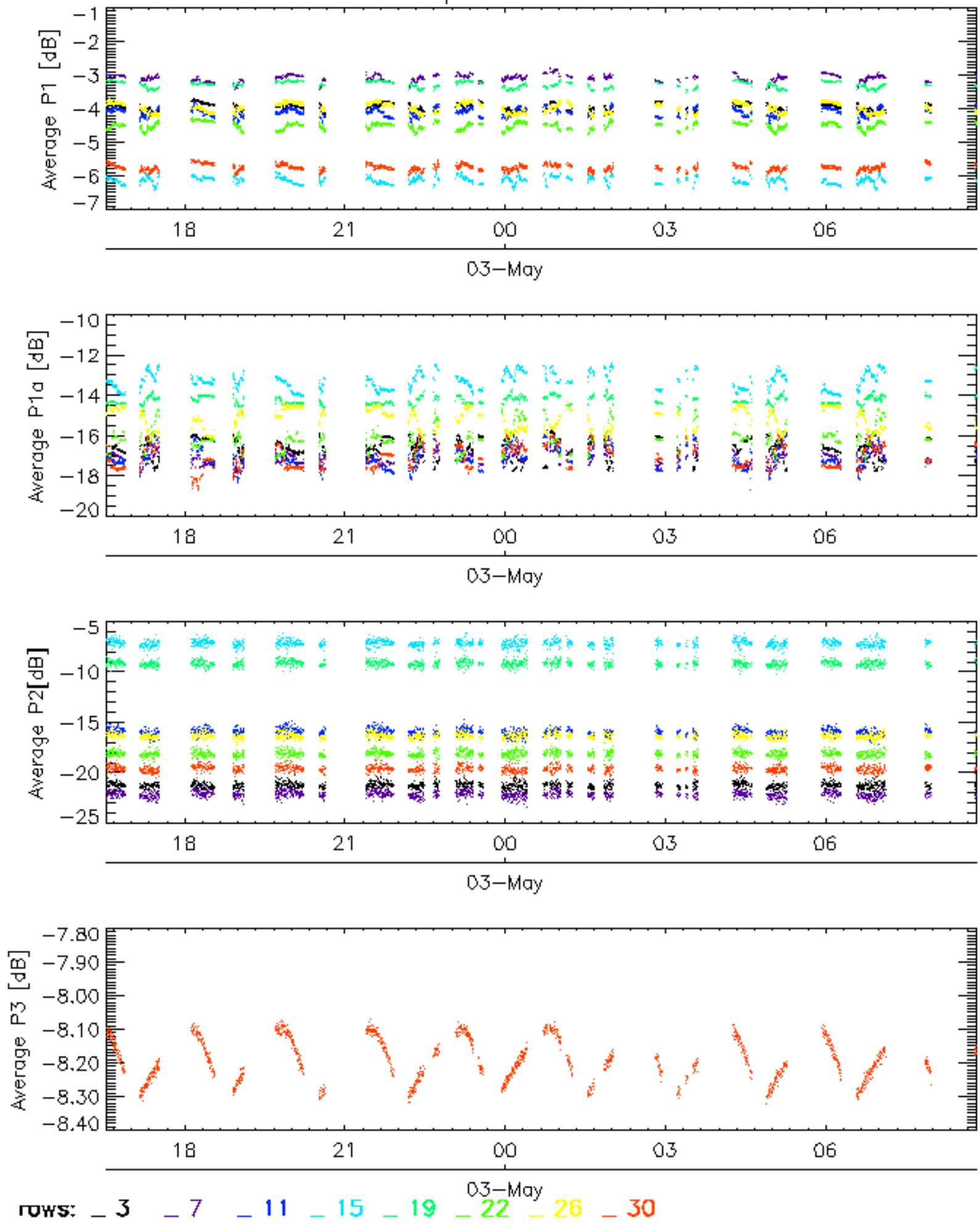


Cal pulses for WVS IS2



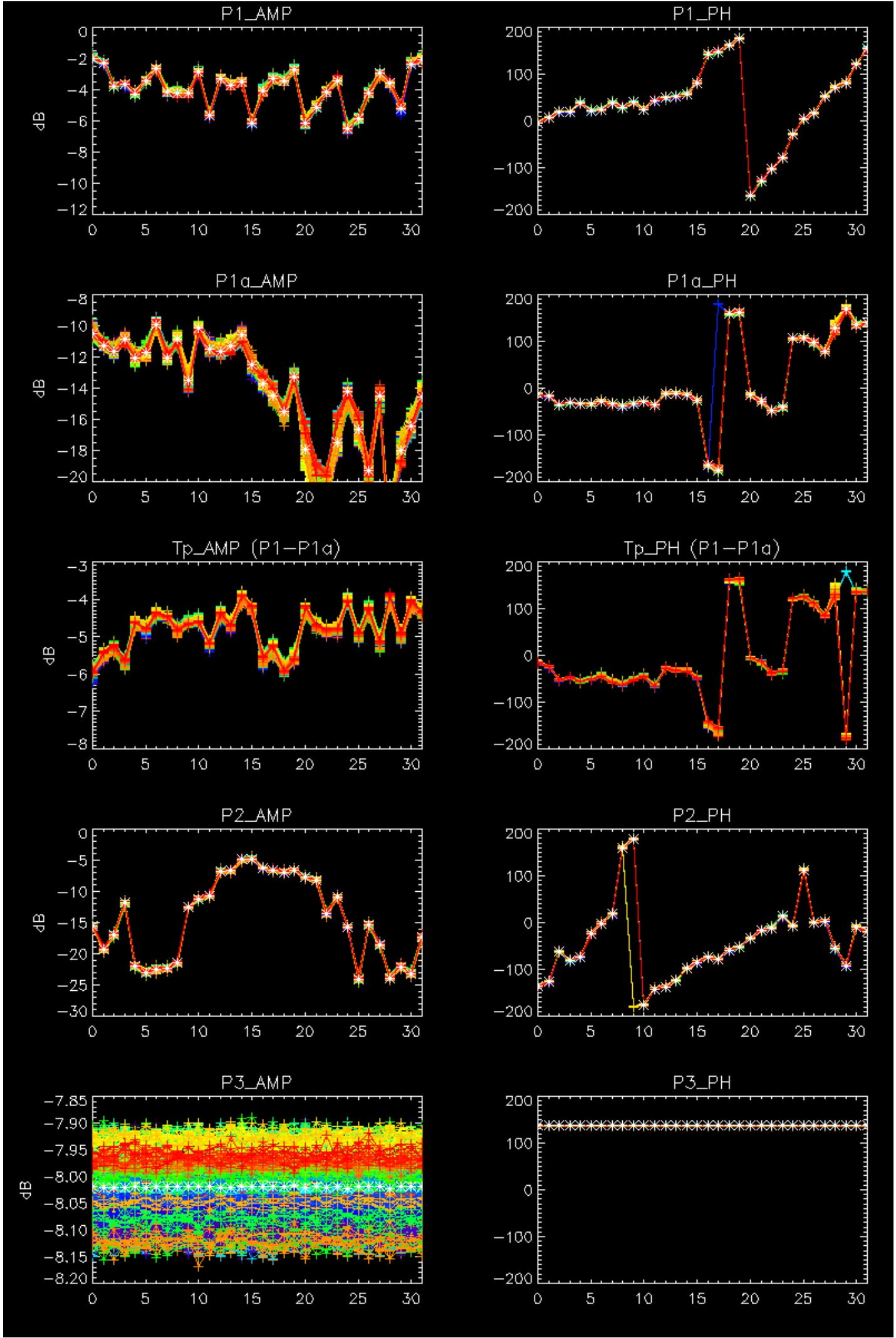
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

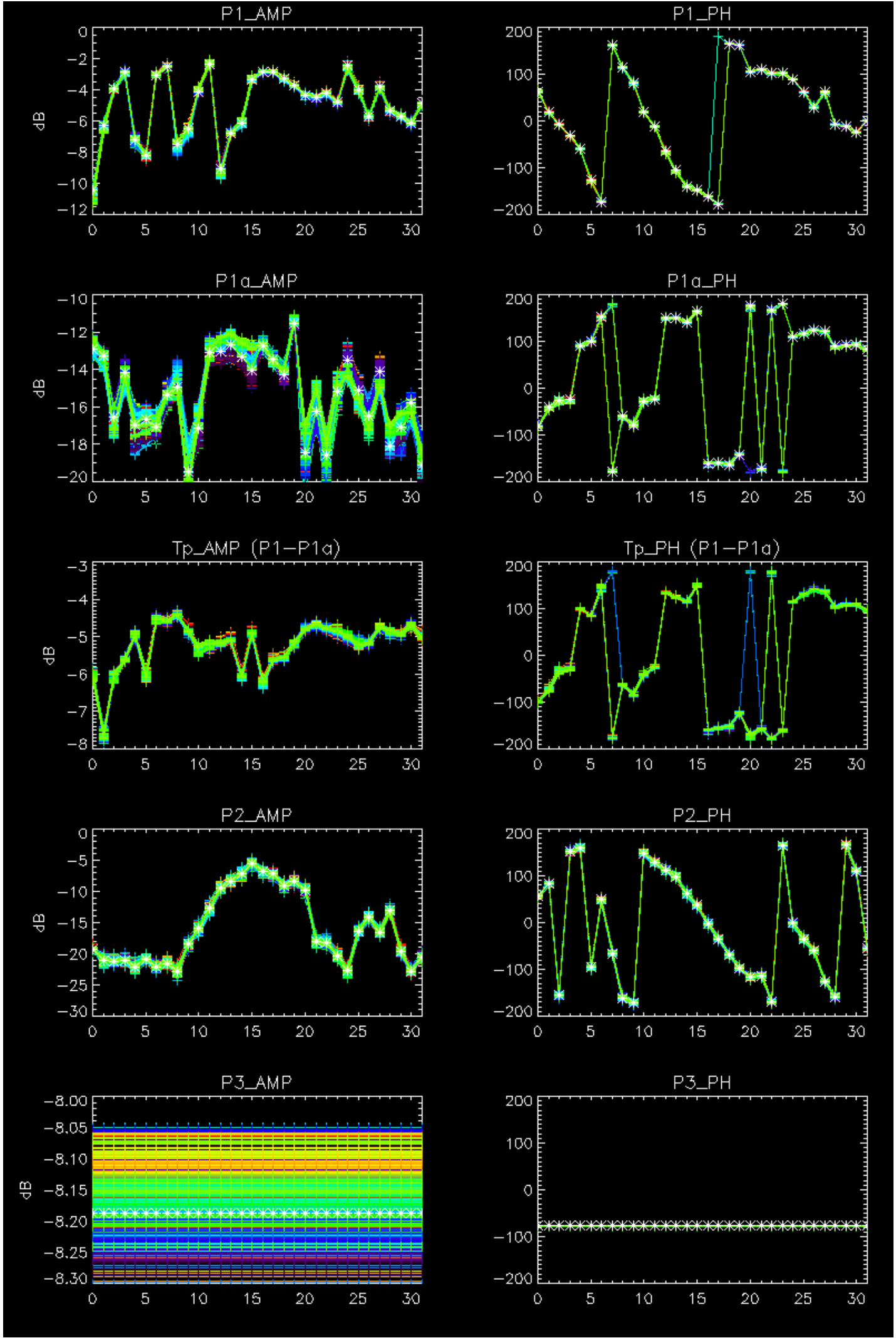
Cal pulses for WVS IS2



No anomalies observed on available browse products

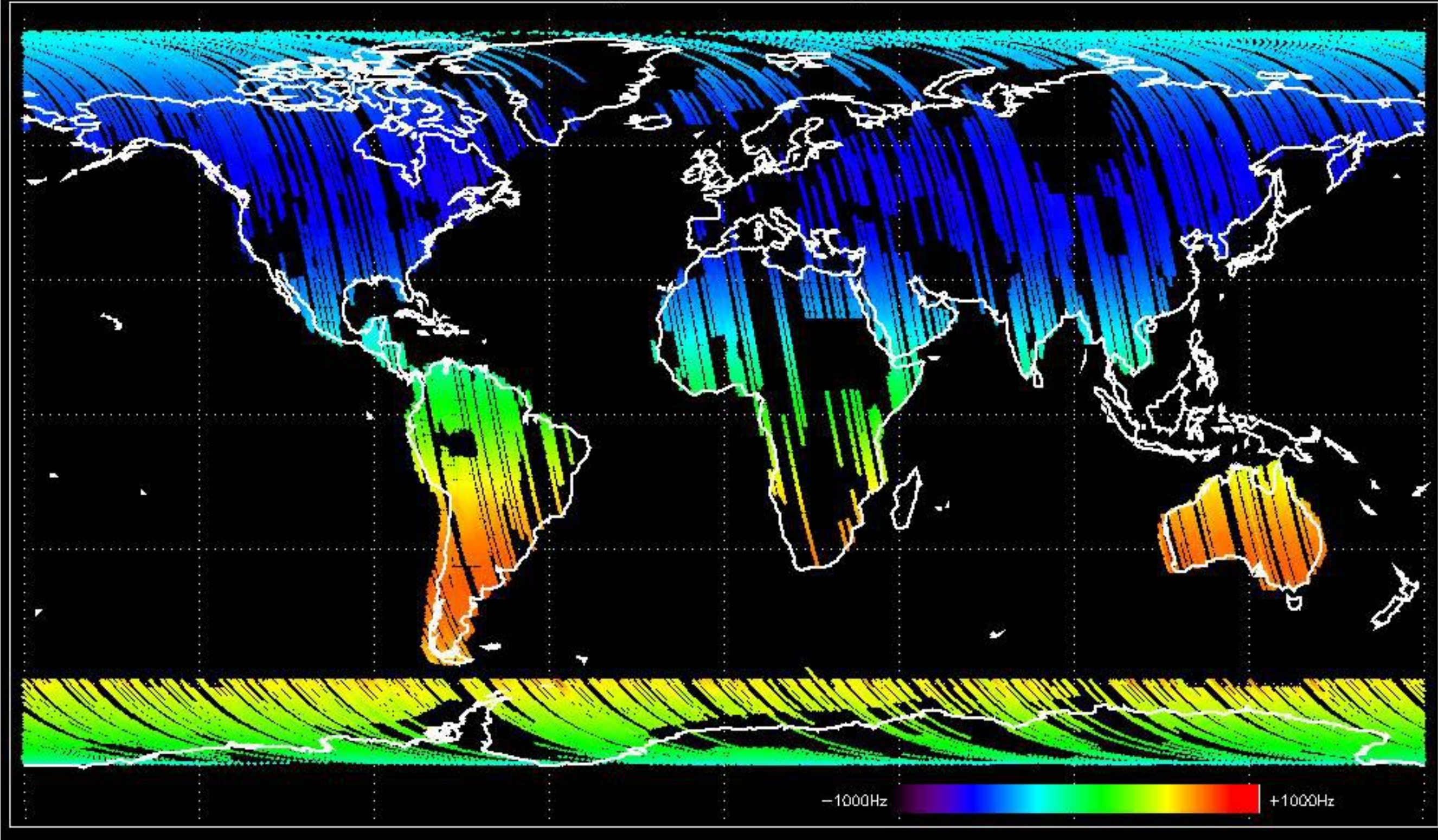
No anomalies observed.



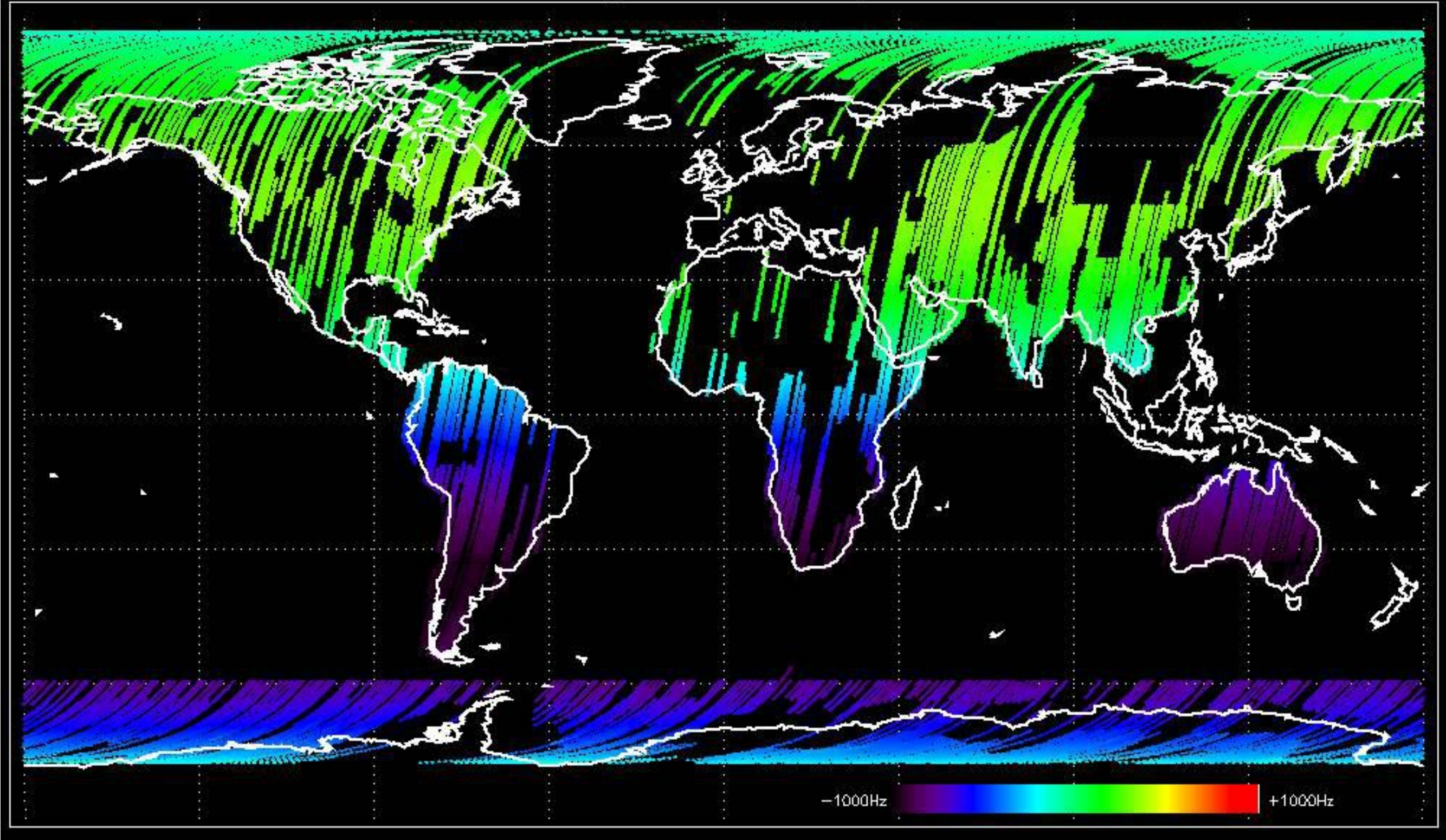


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

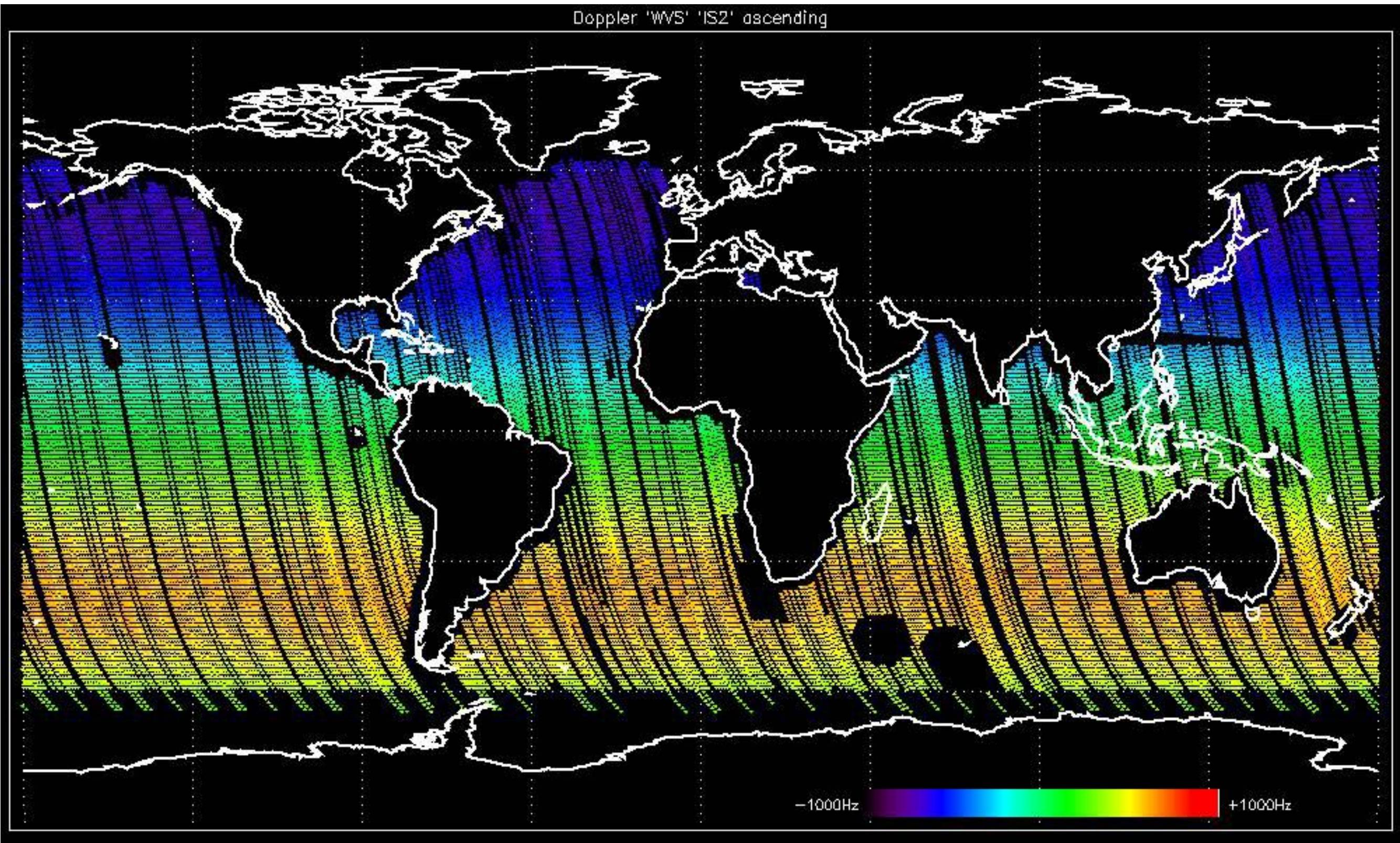
Doppler 'GM1' 'SS1' ascending



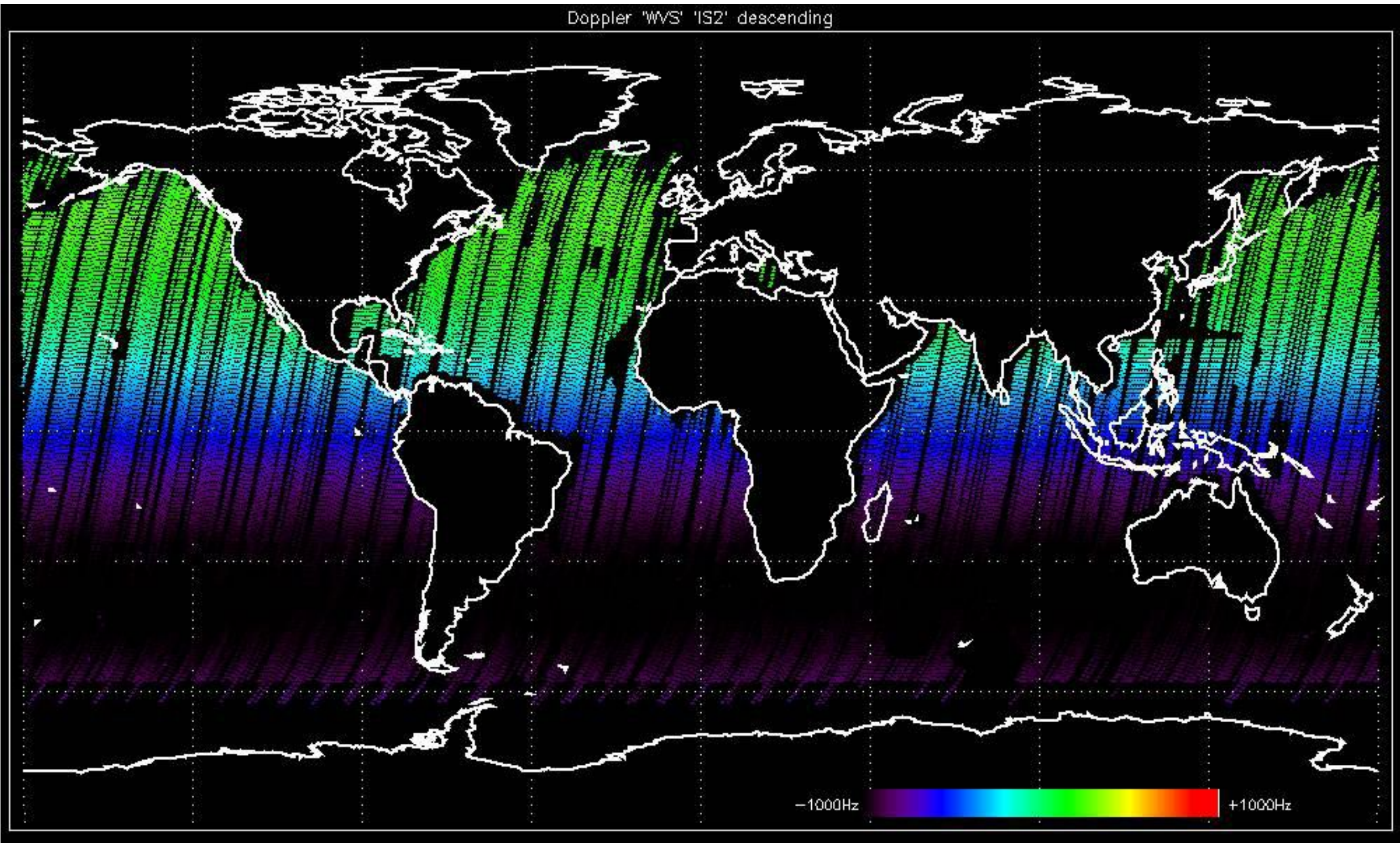
Doppler 'GM1' 'SS1' descending

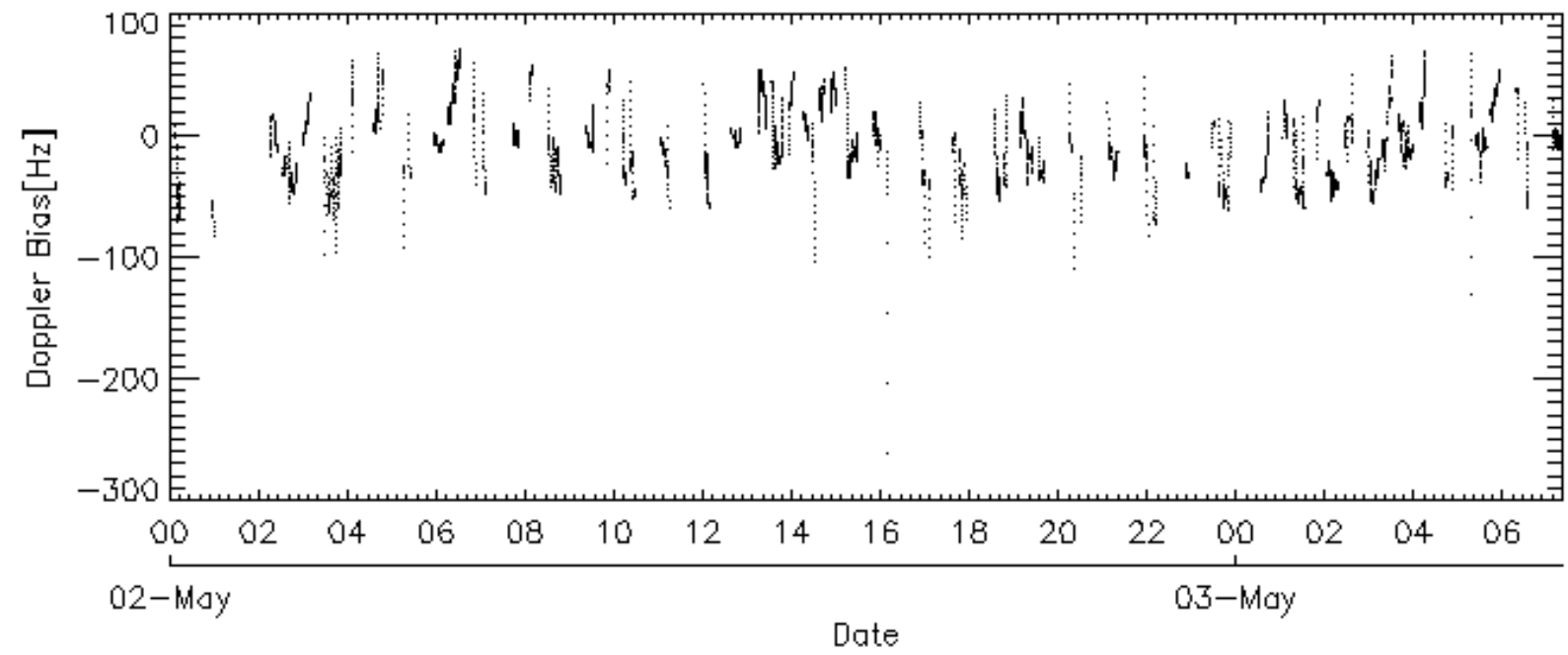
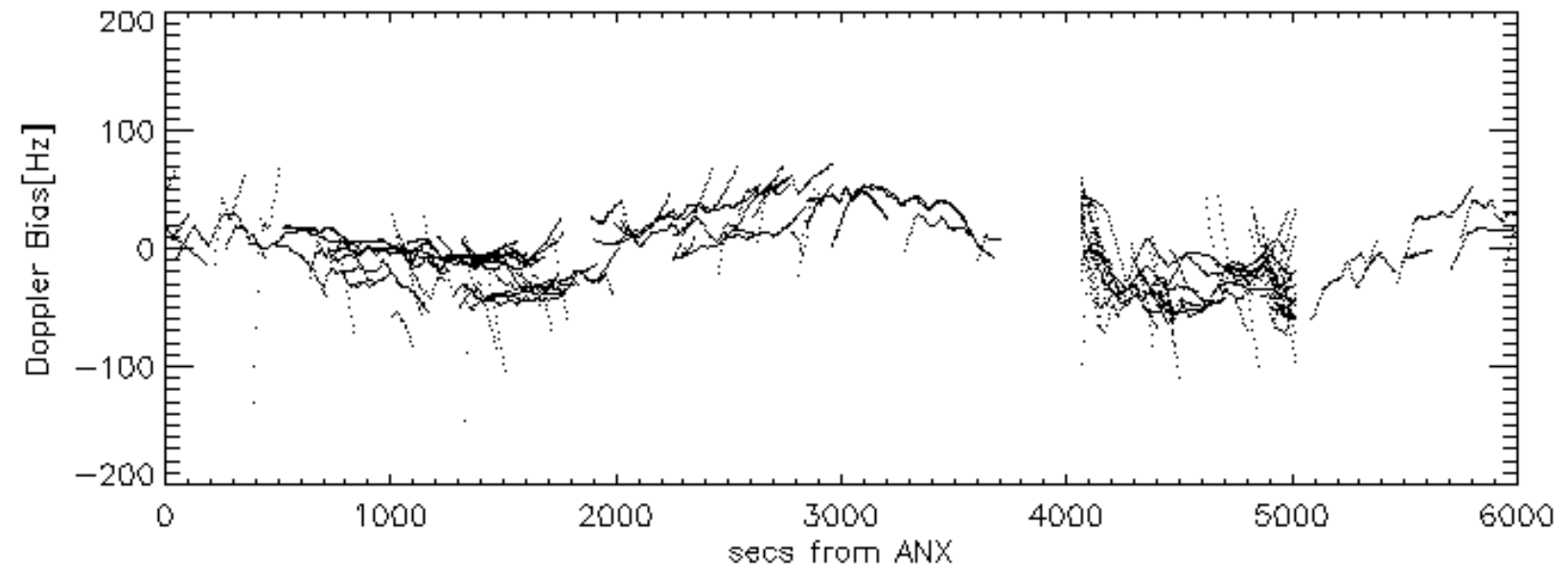
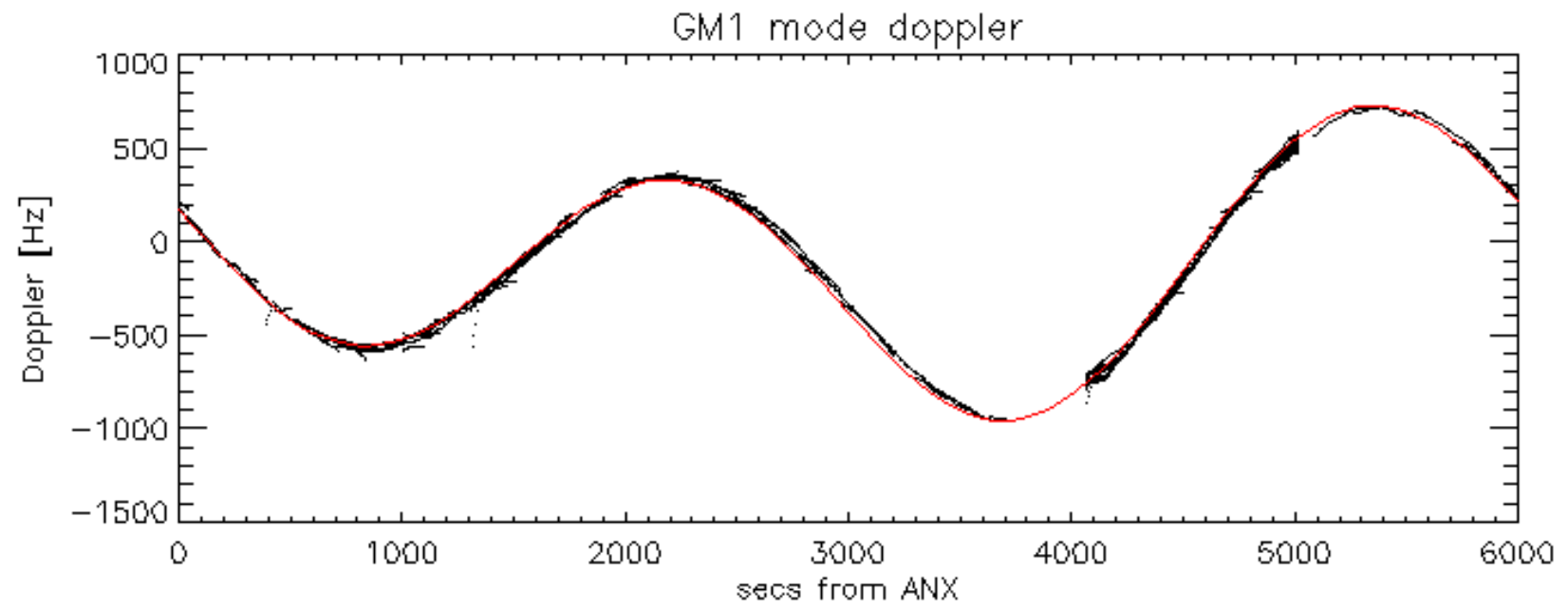


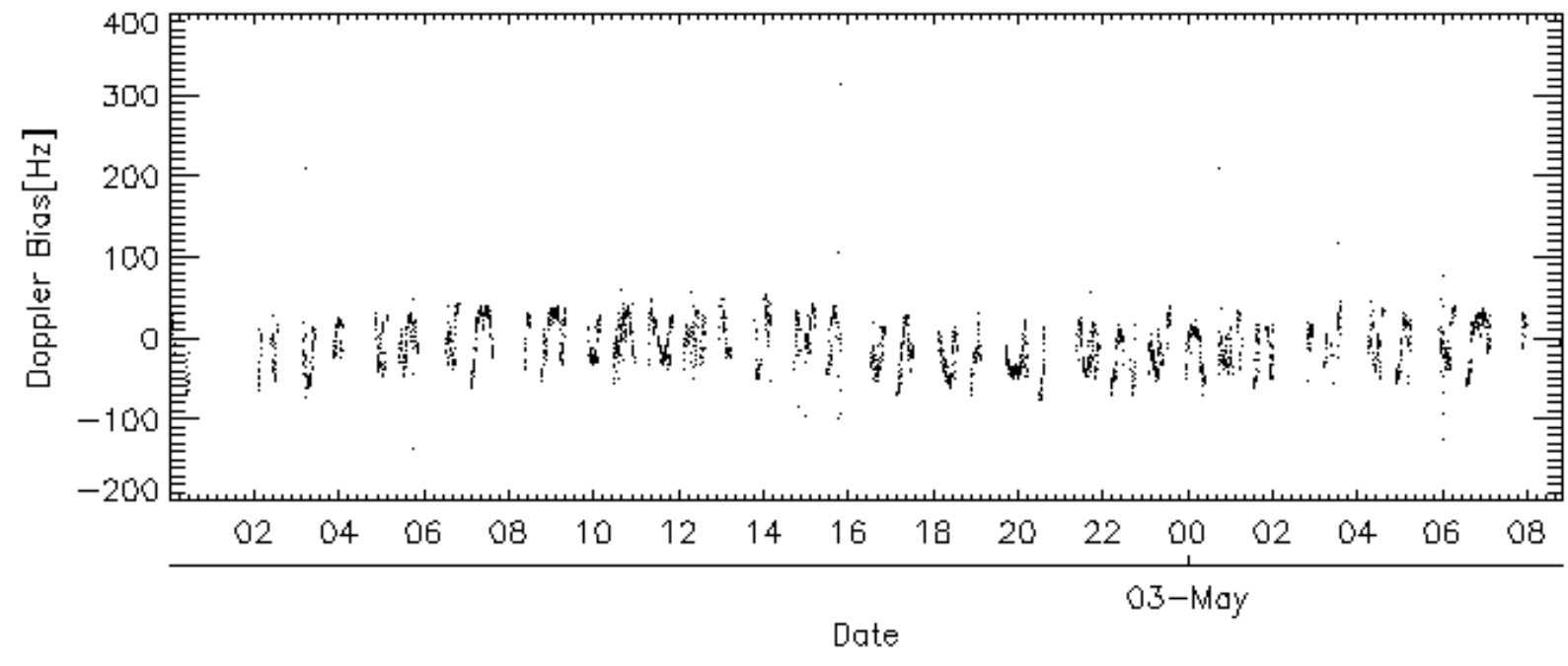
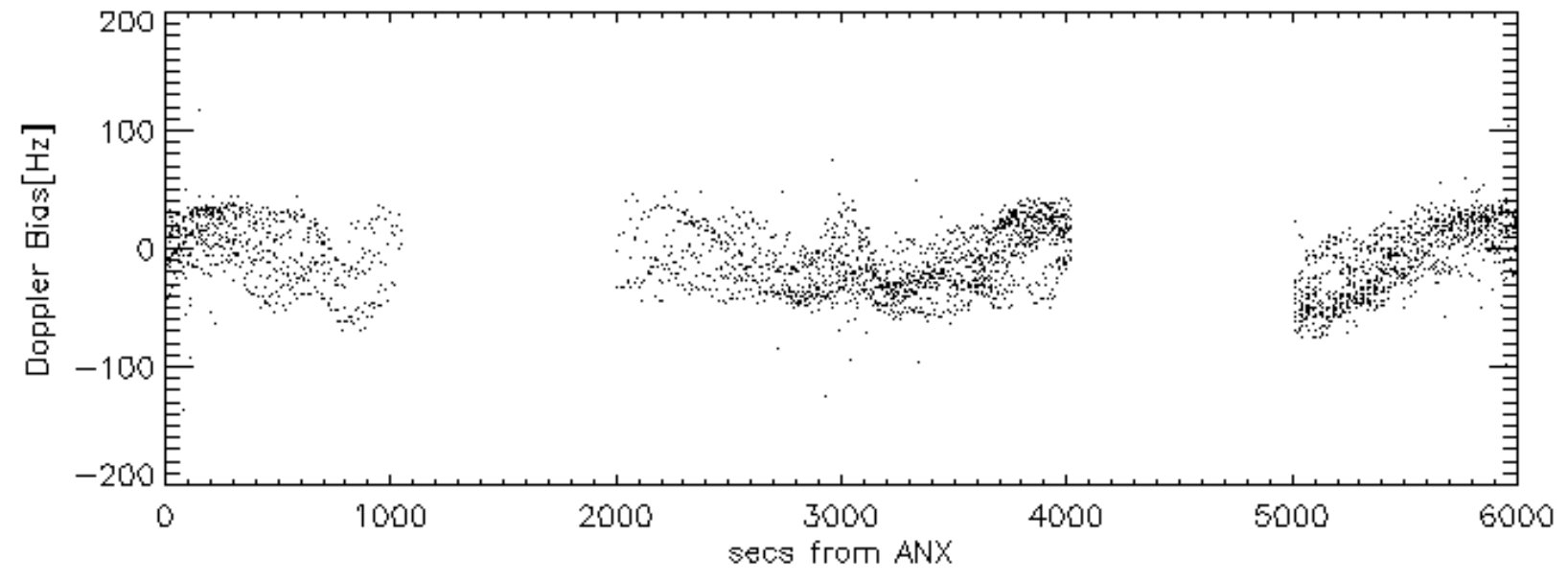
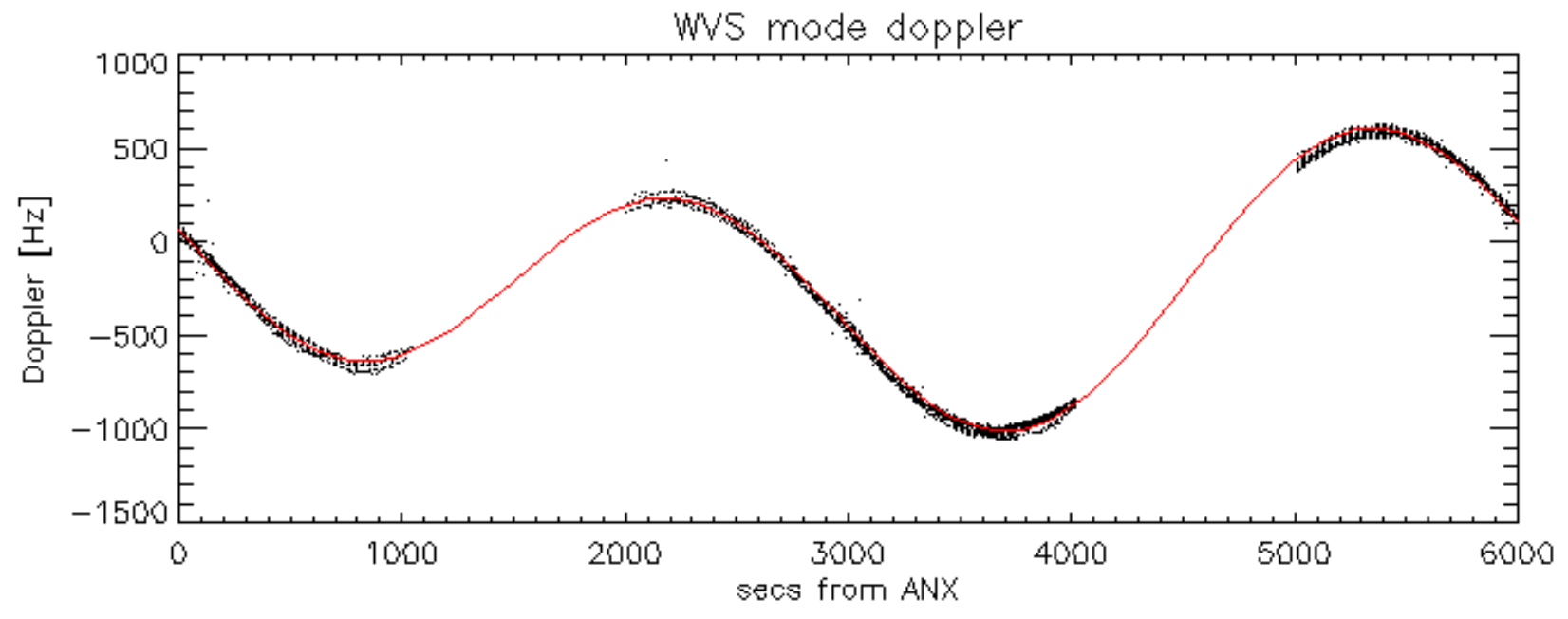
Doppler 'WVS' 'IS2' ascending



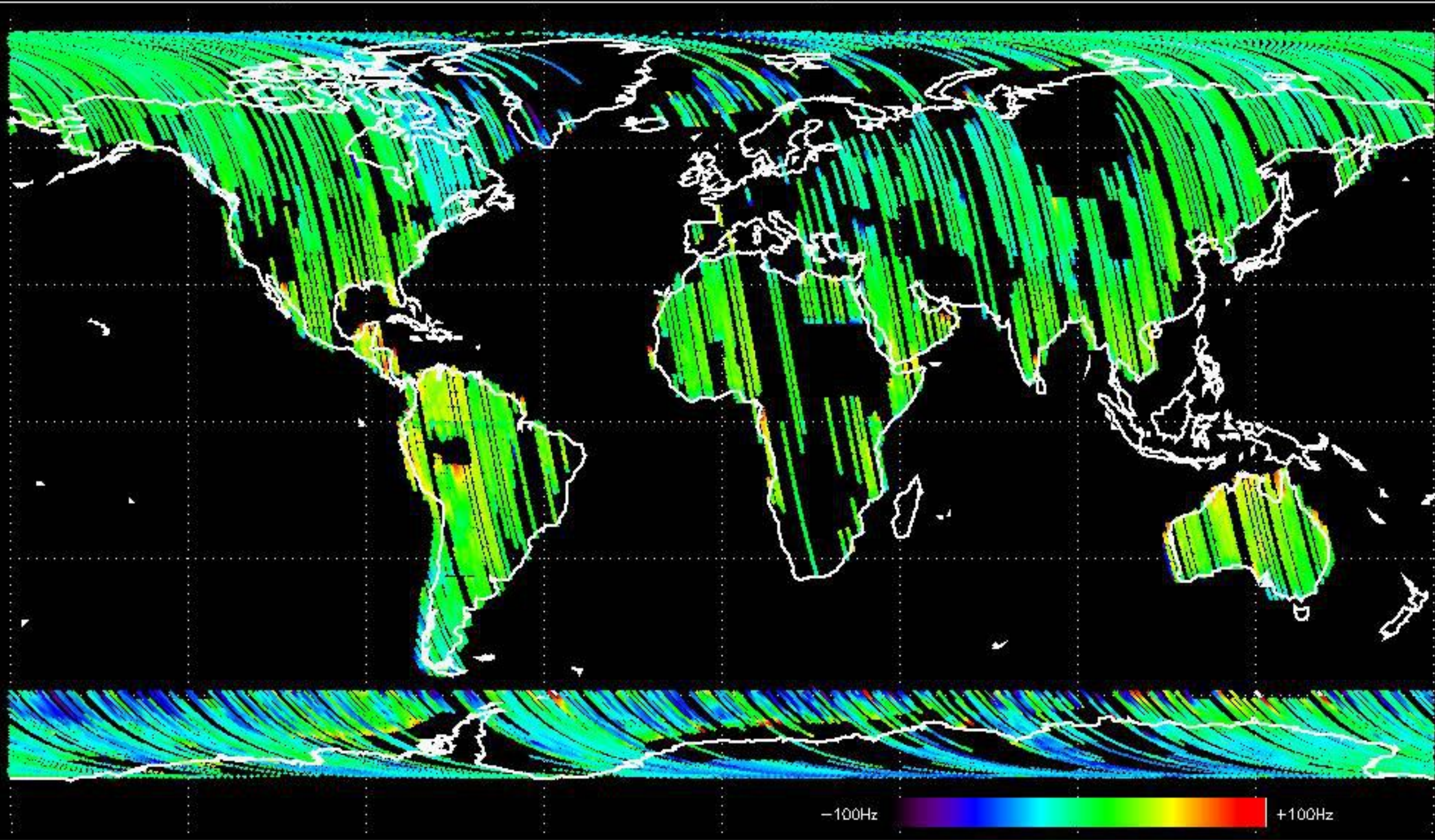
Doppler 'WVS' 'IS2' descending



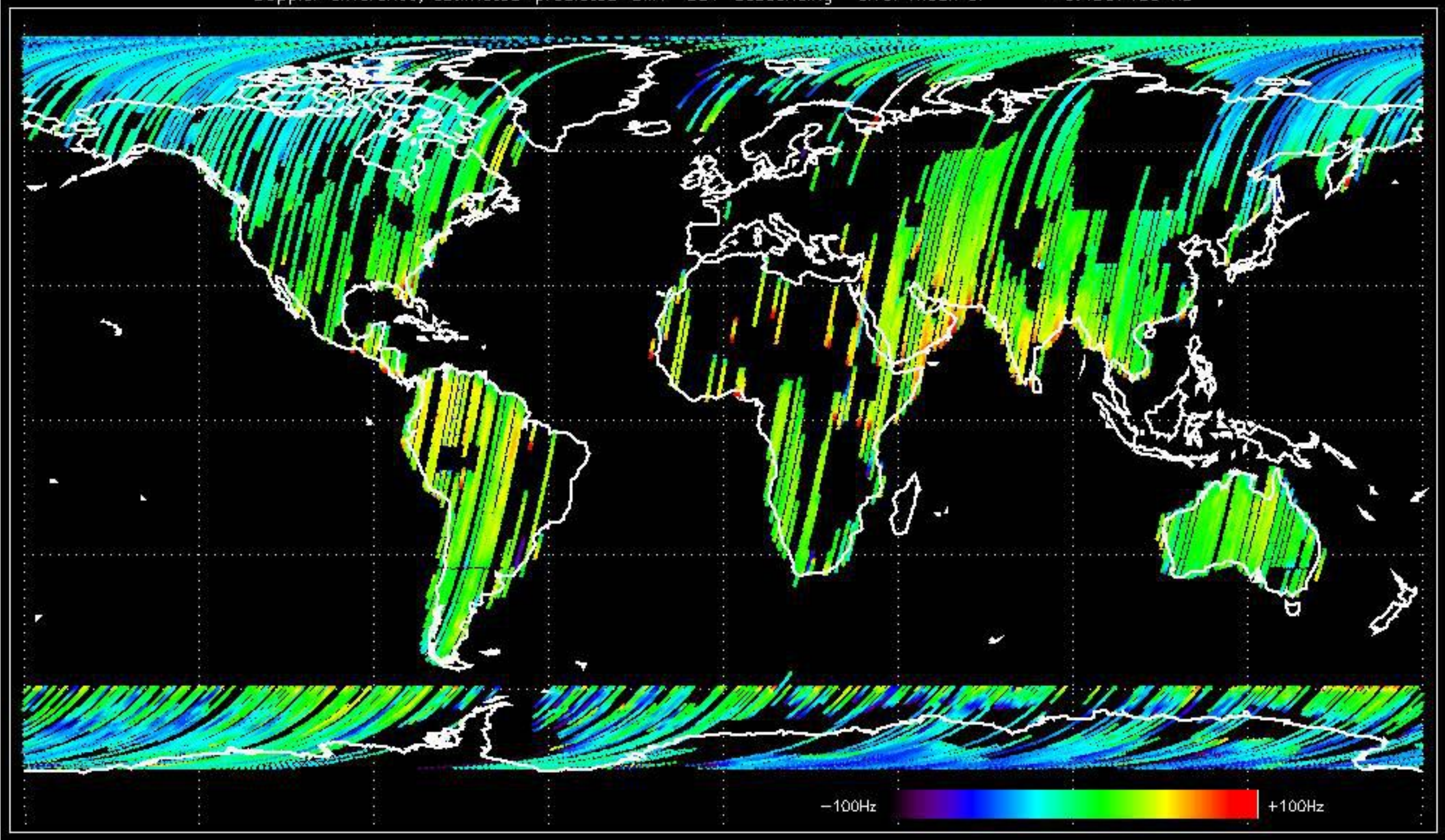




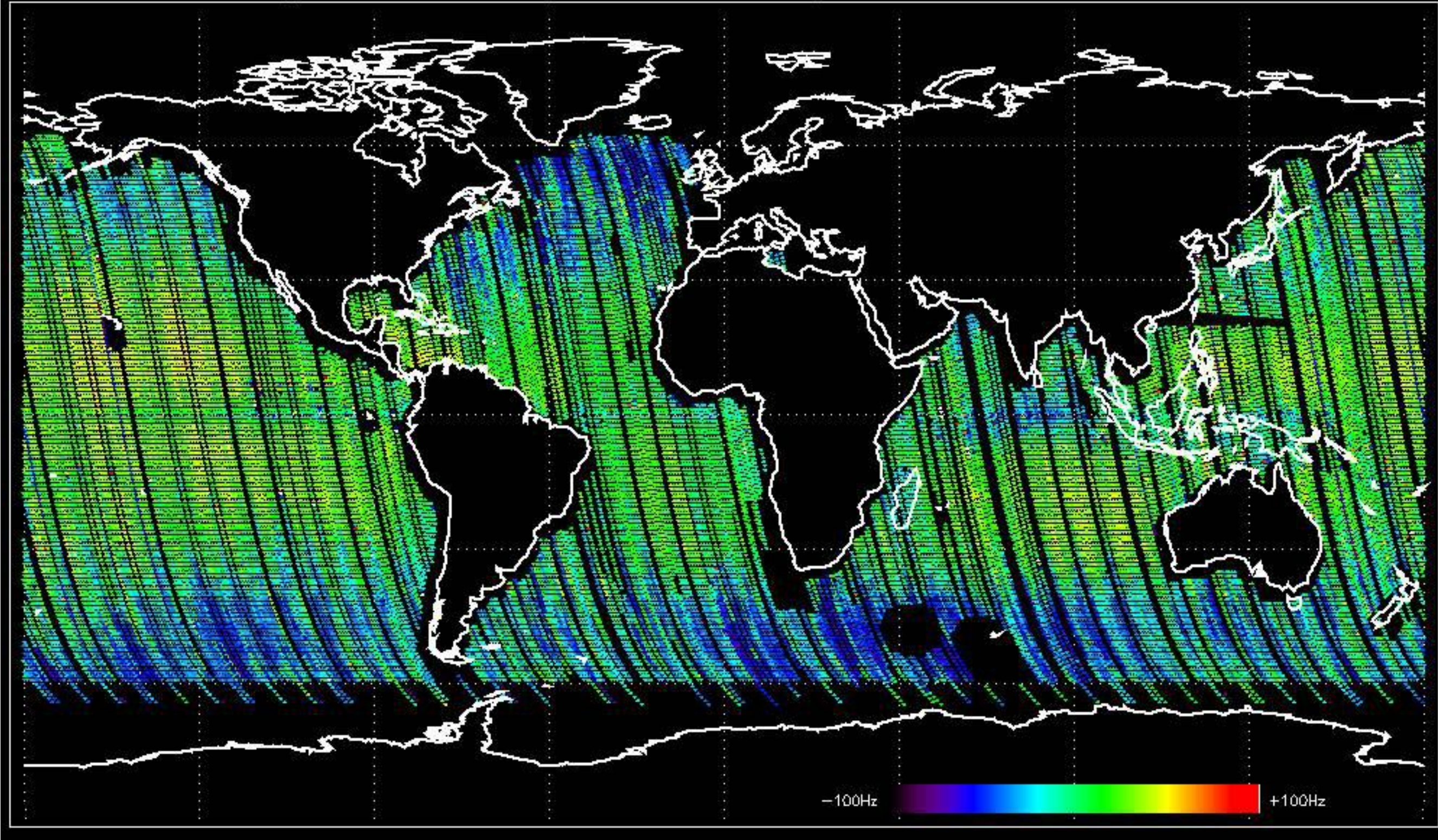
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -14.043222 Hz



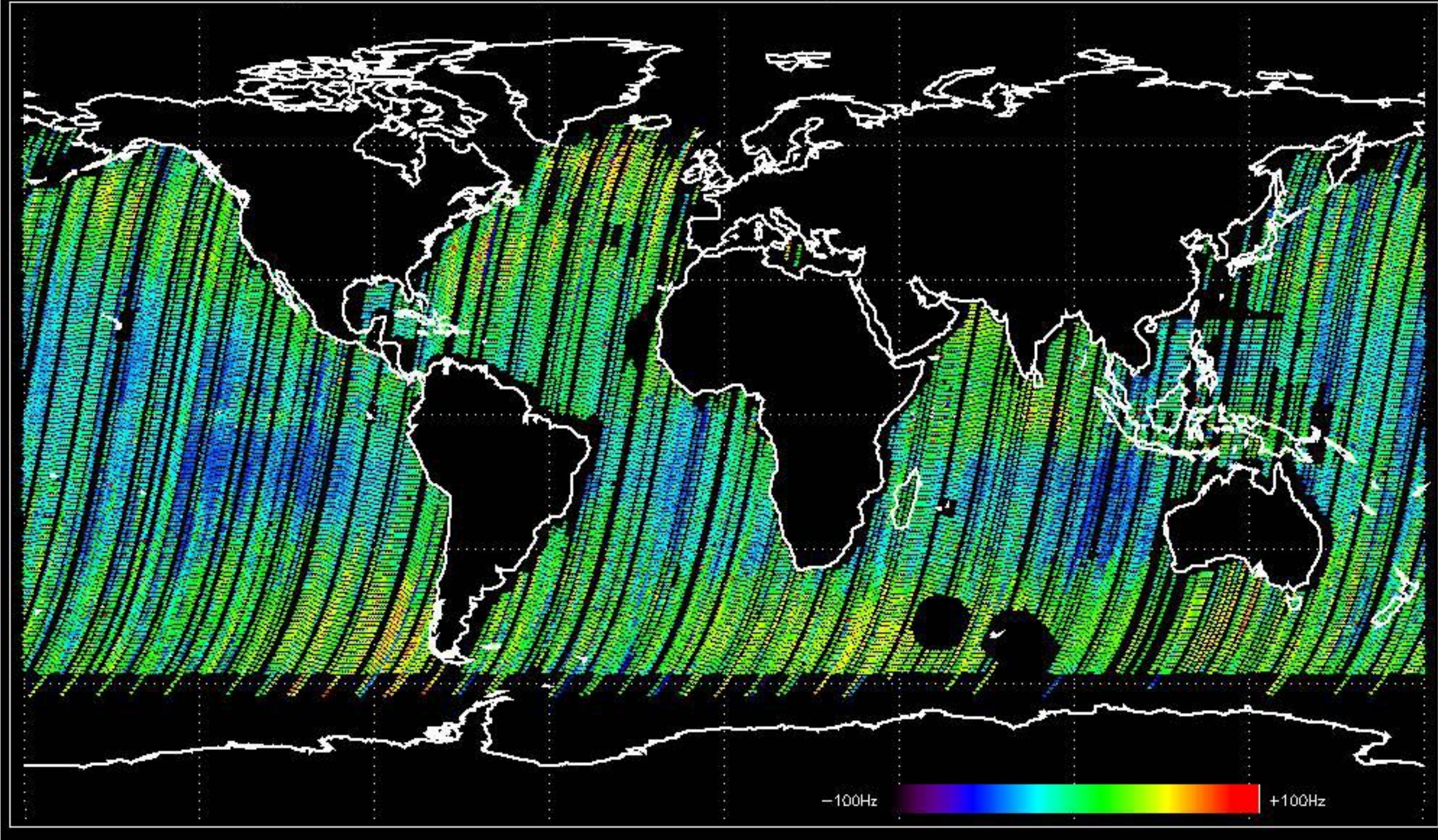
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -5.4307439 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -7.9122416 Hz

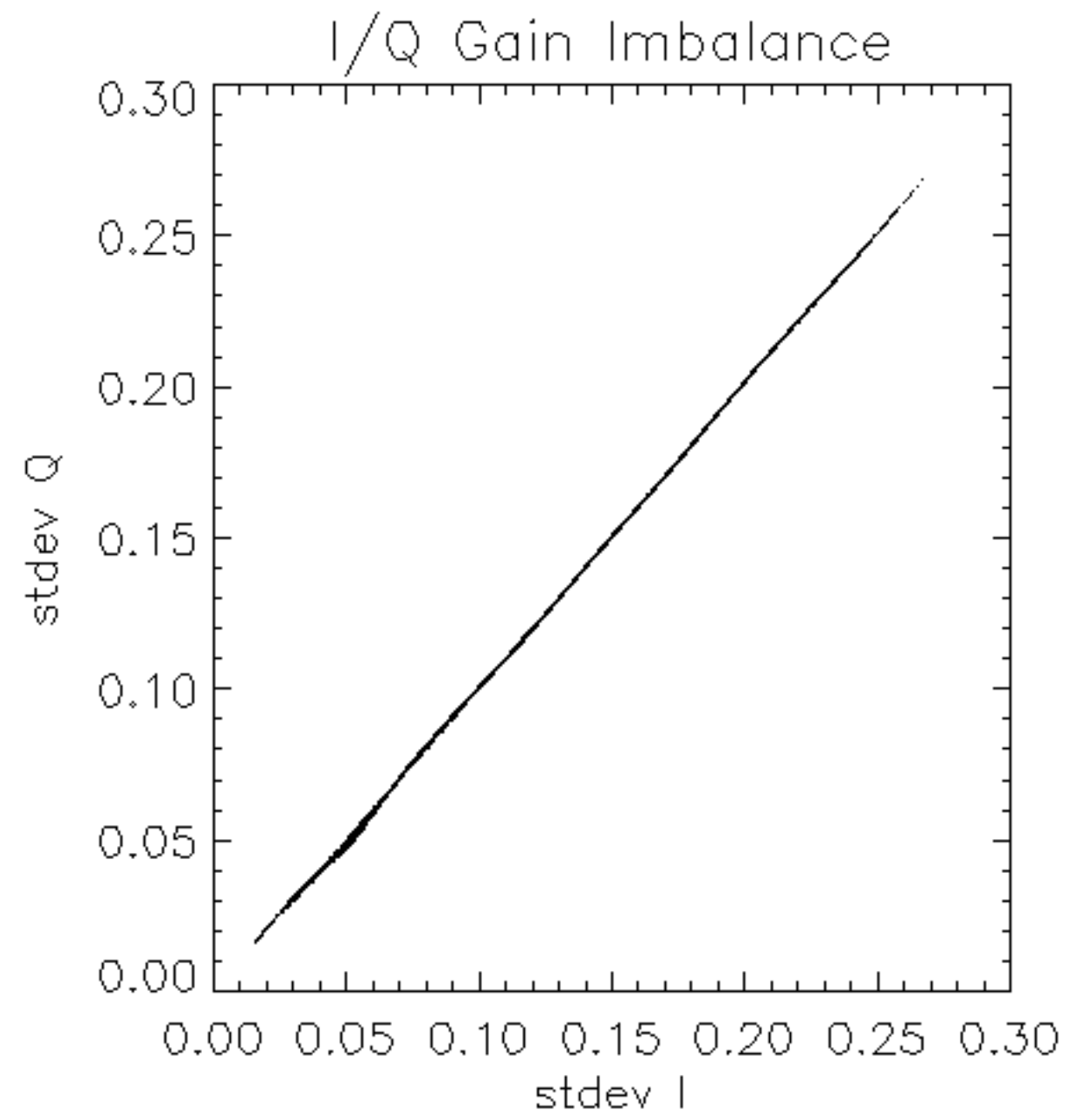


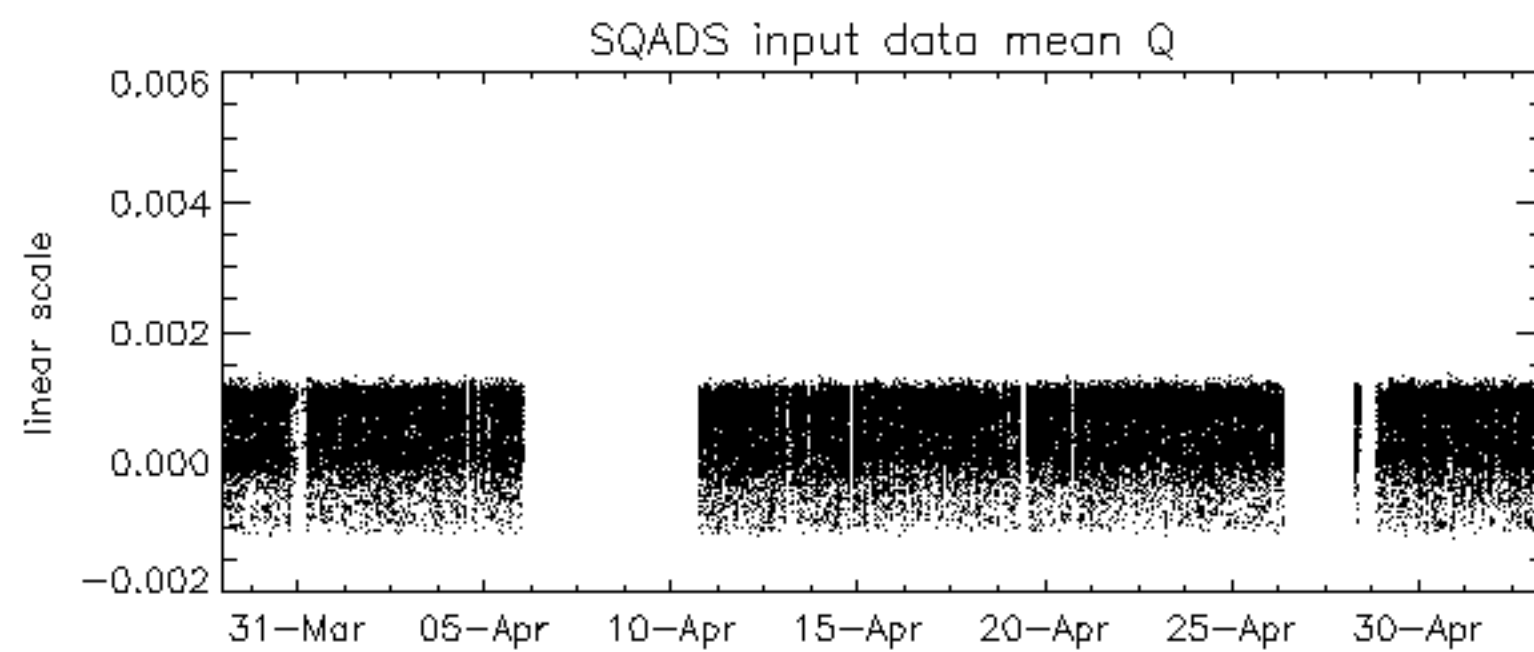
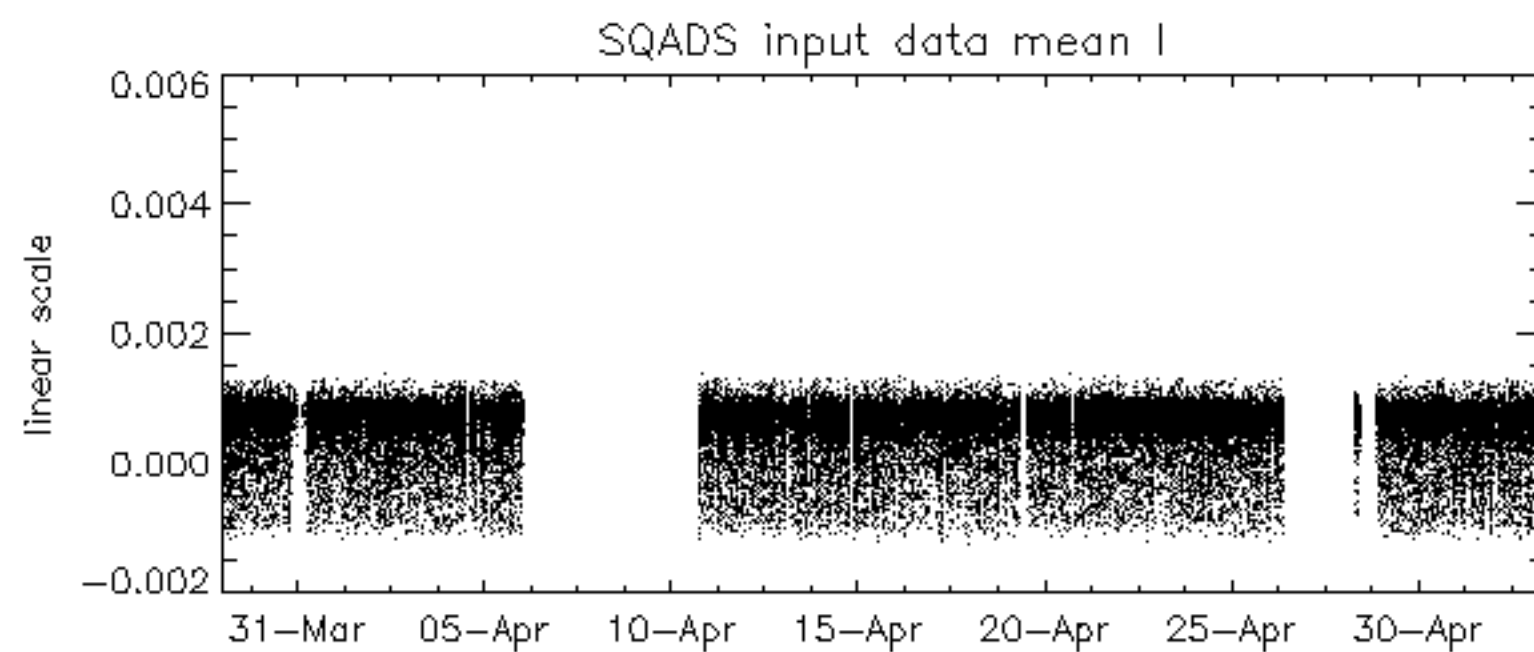
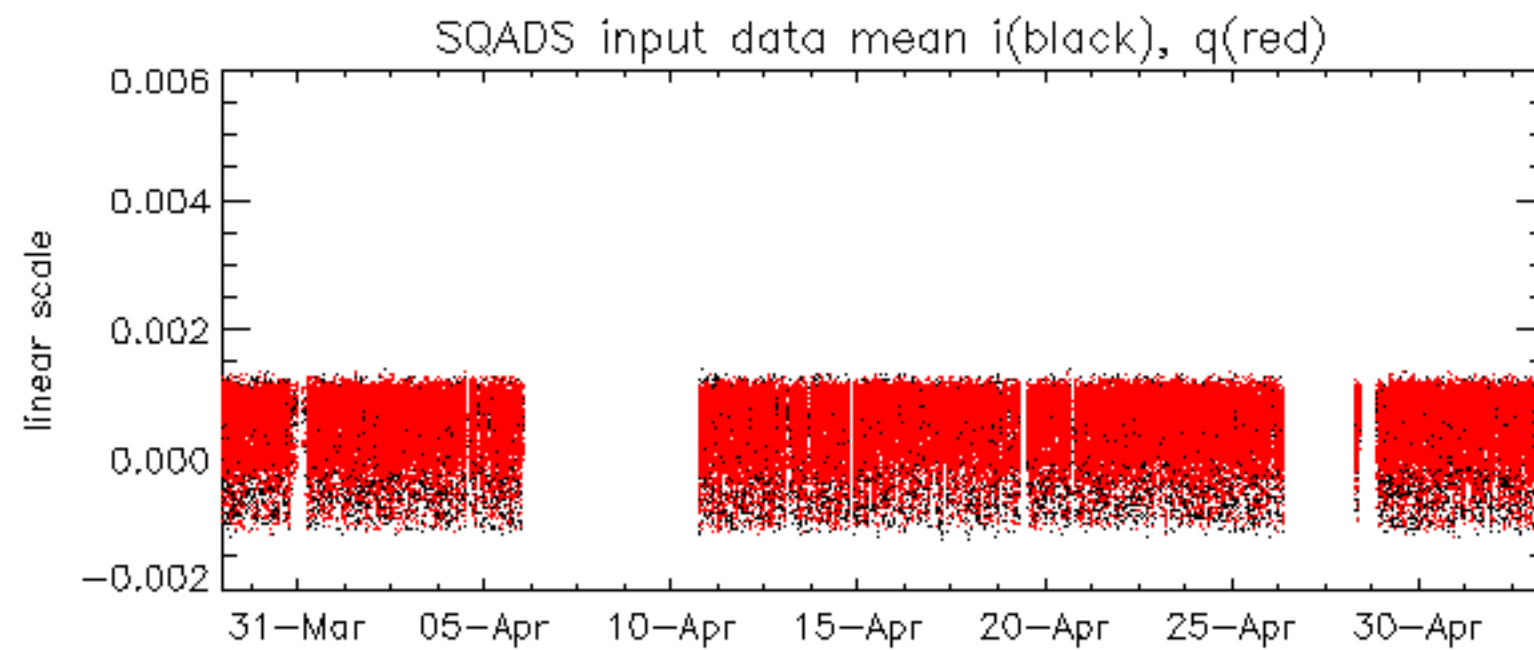
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -13.018408 Hz

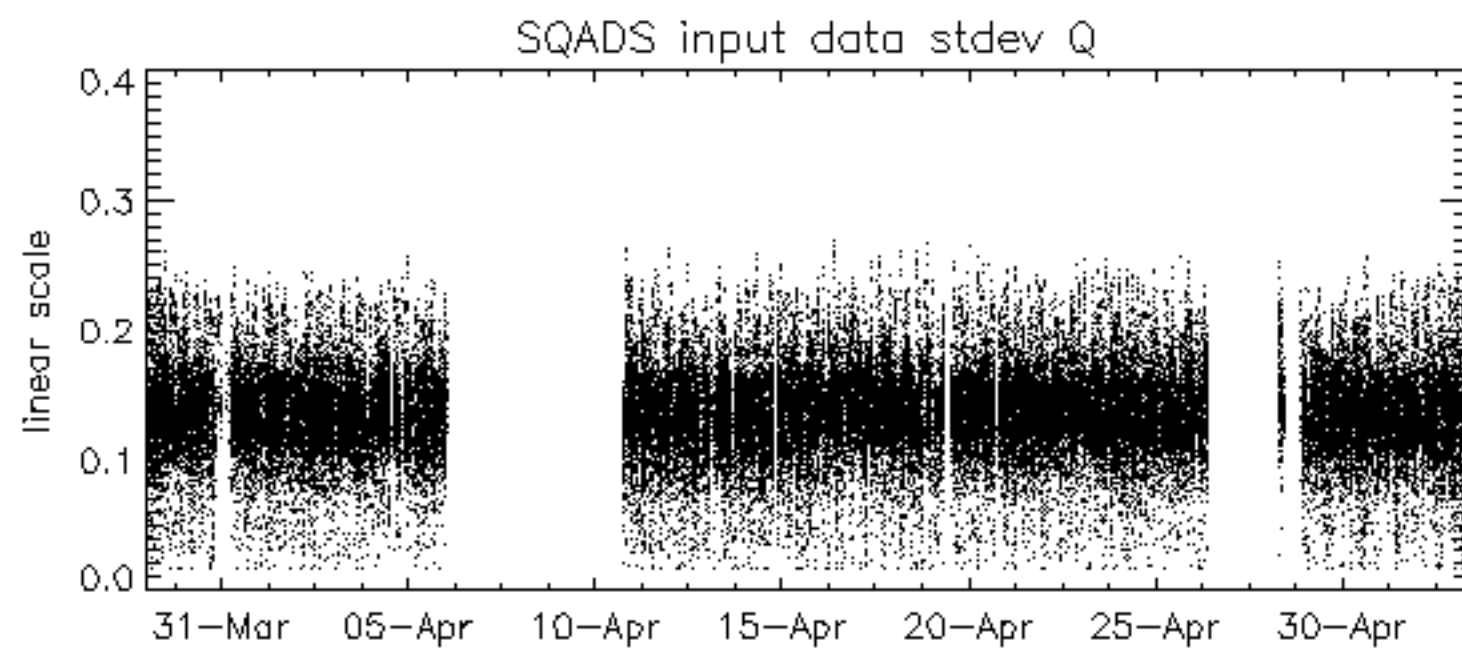
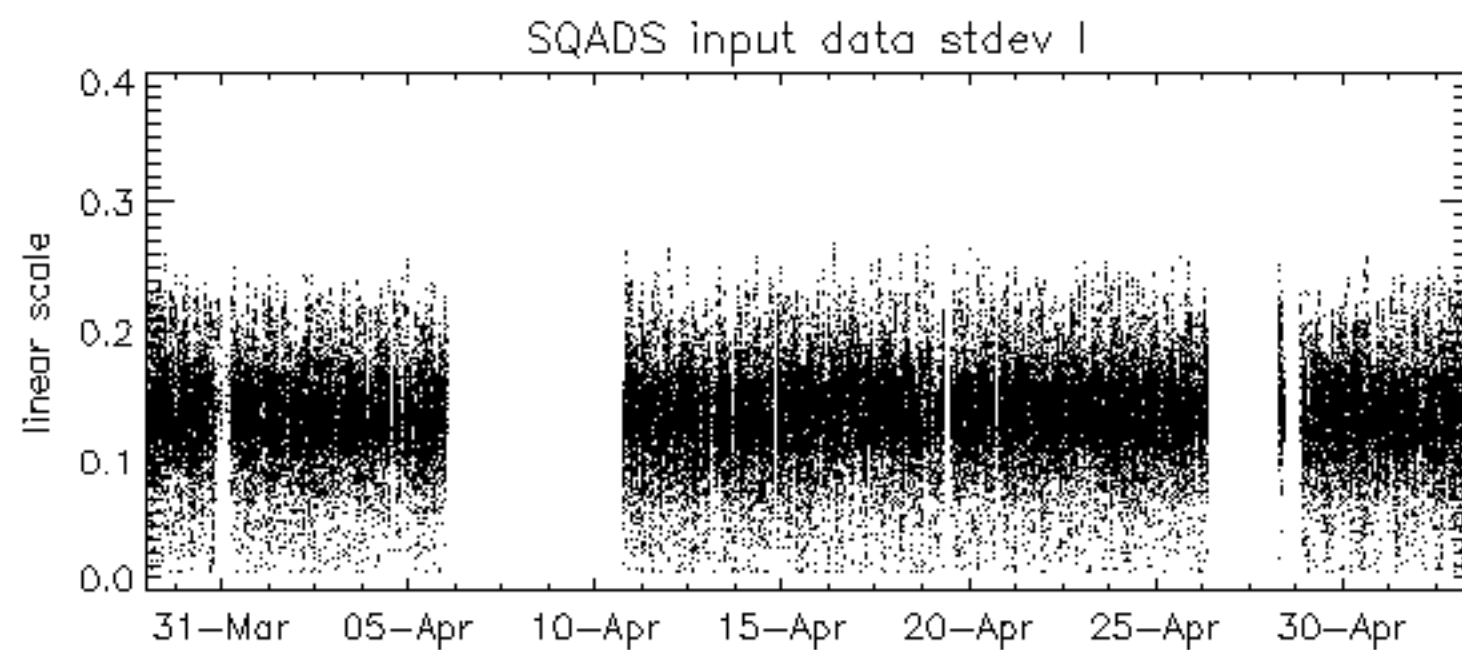
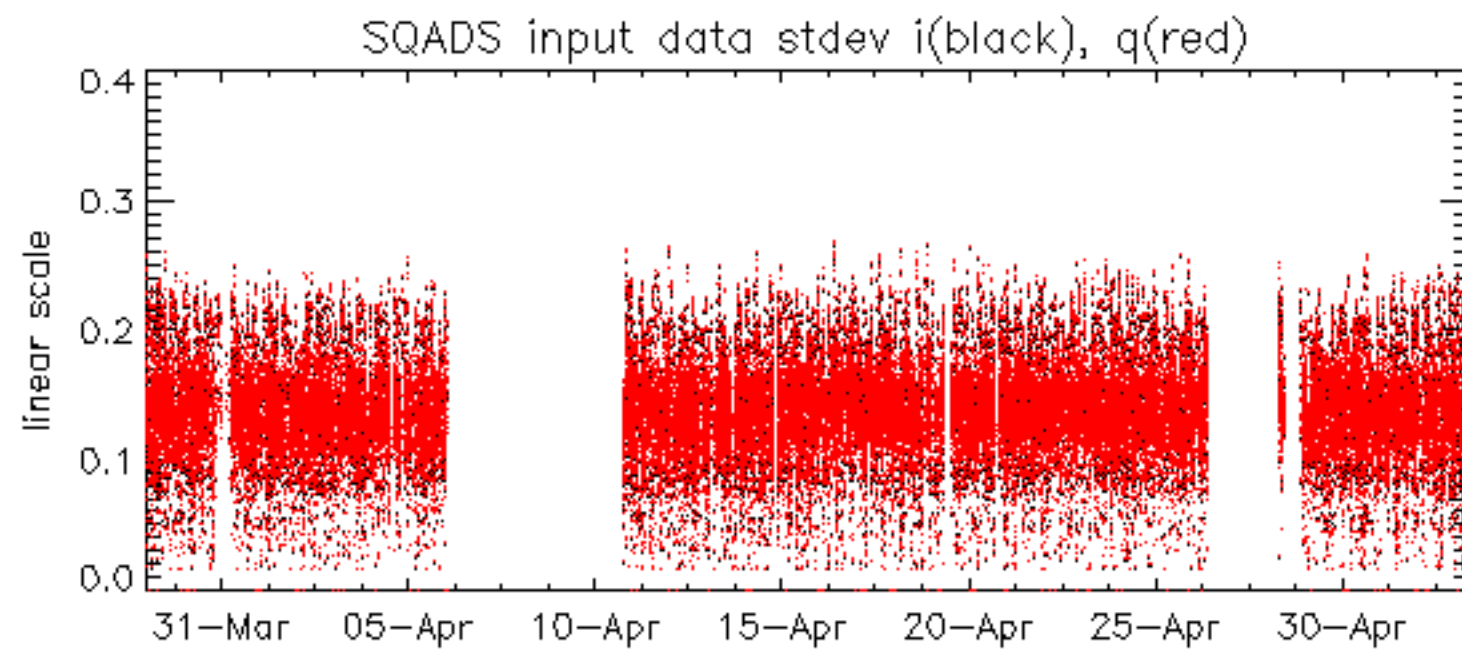


No anomalies observed on available MS products:

No anomalies observed.



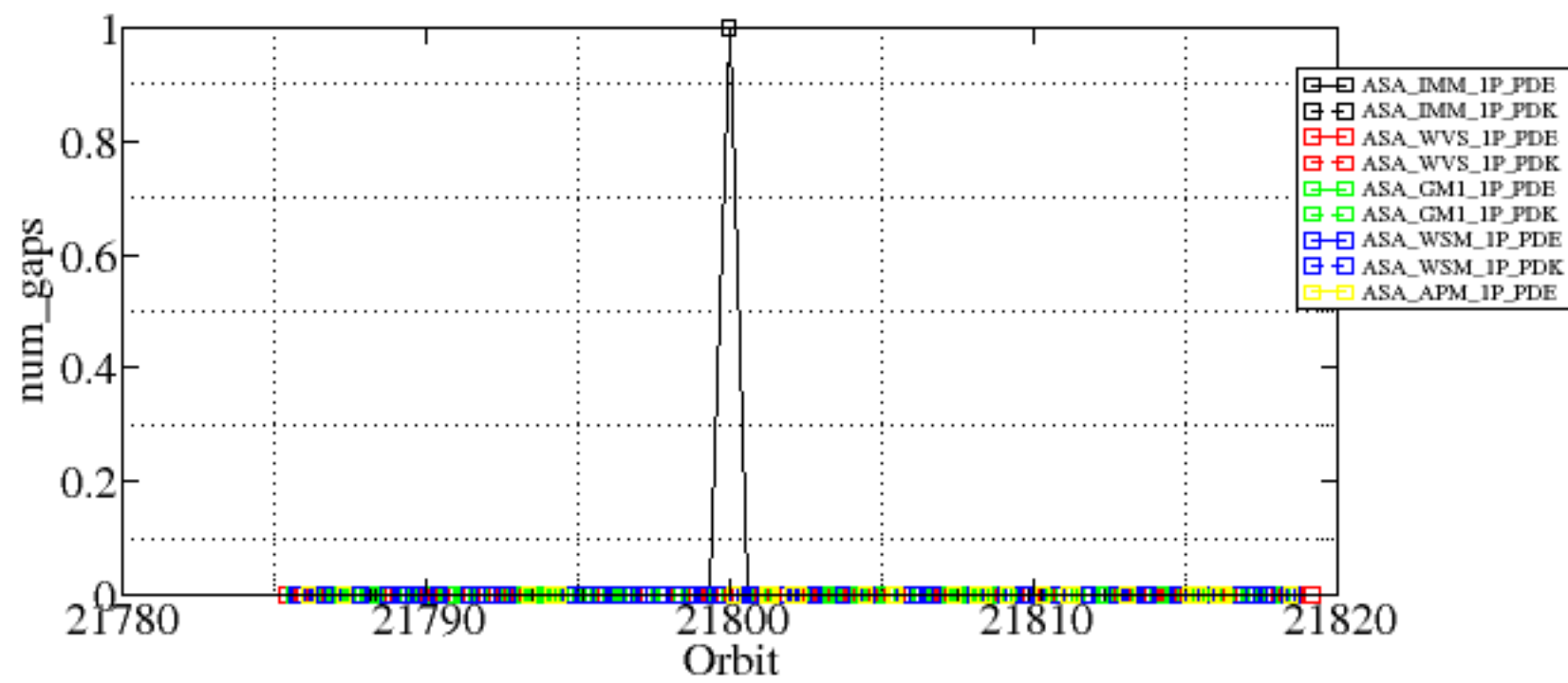


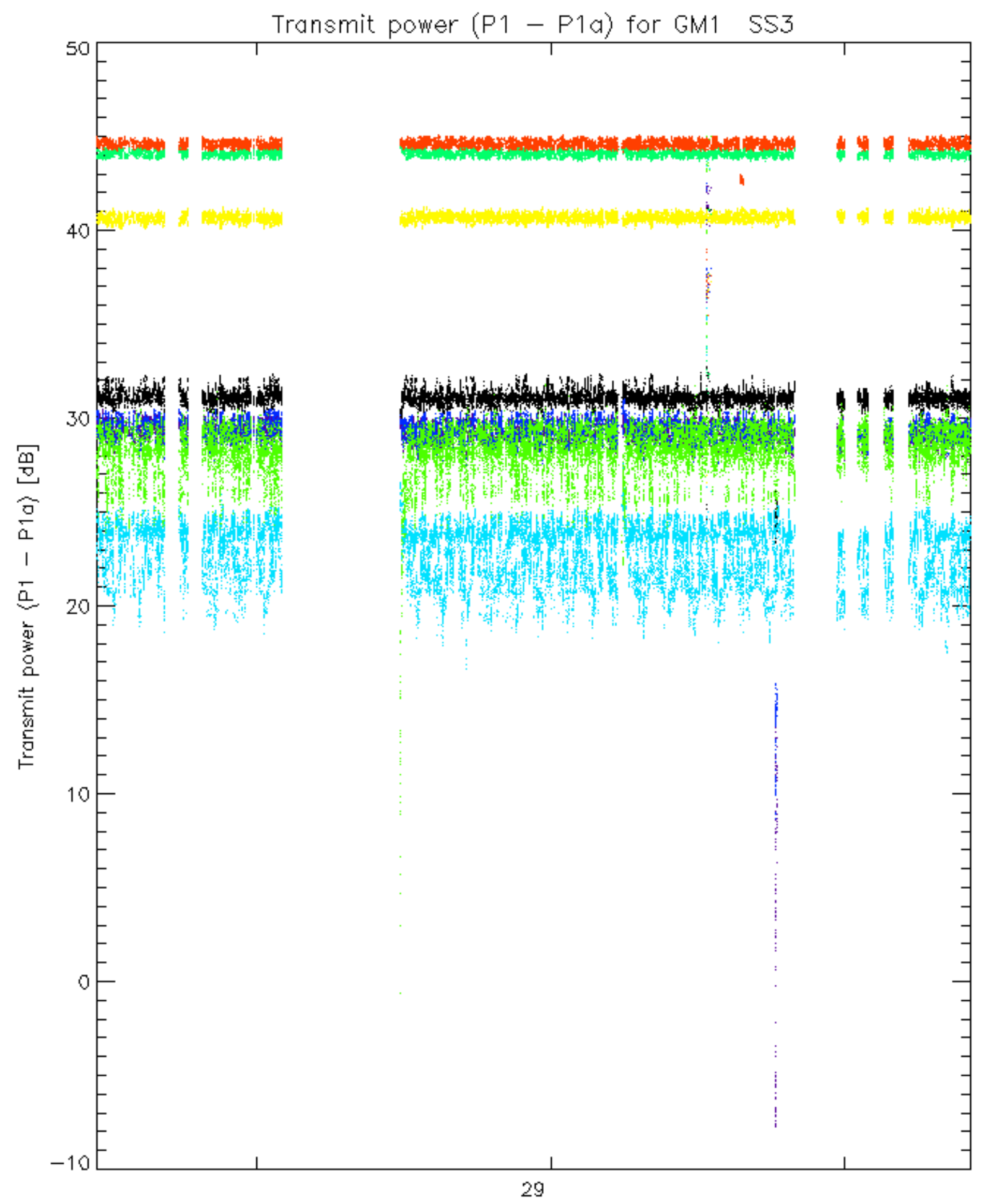


Summary of analysis for the last 3 days 2006050[123]

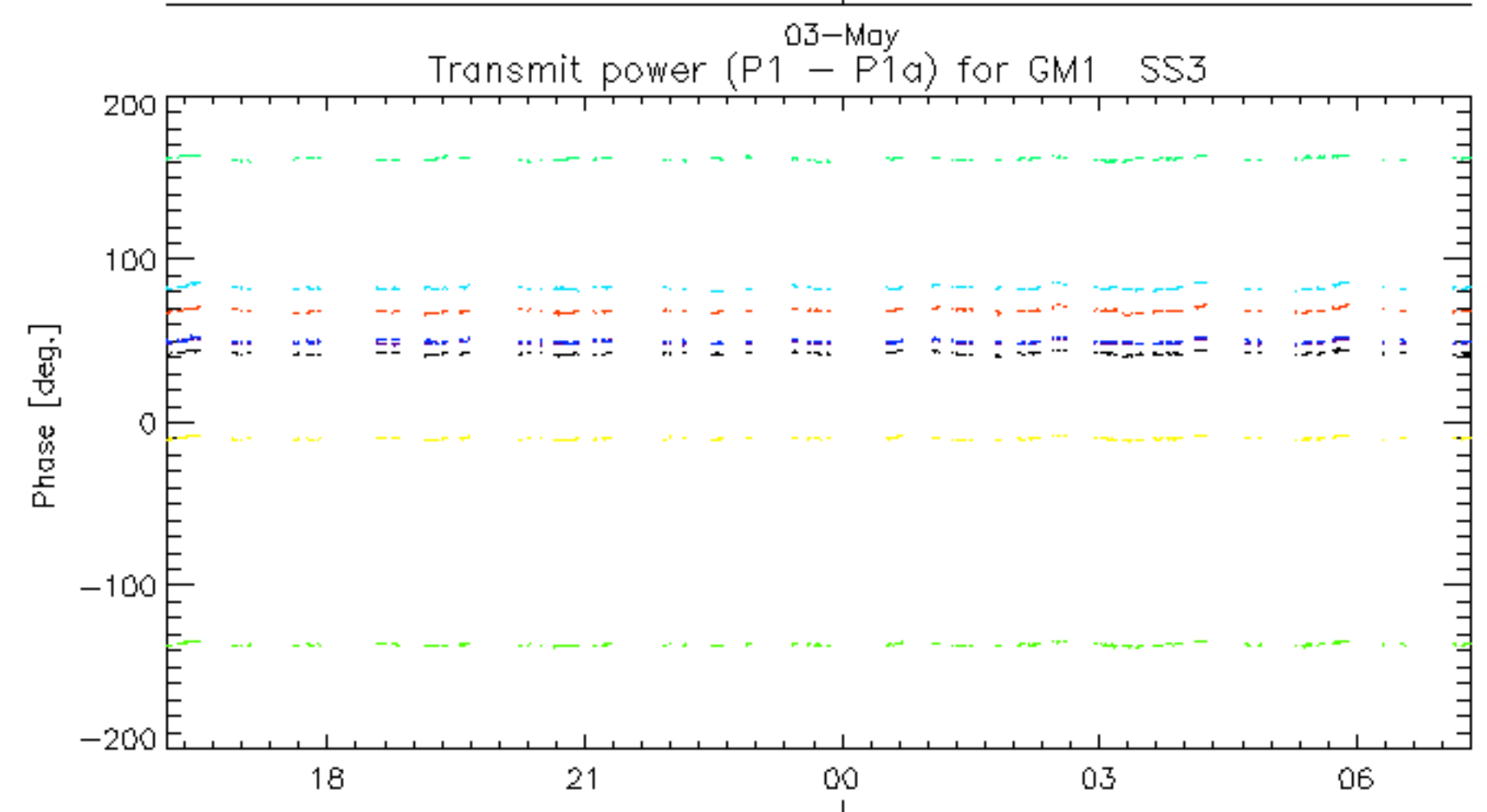
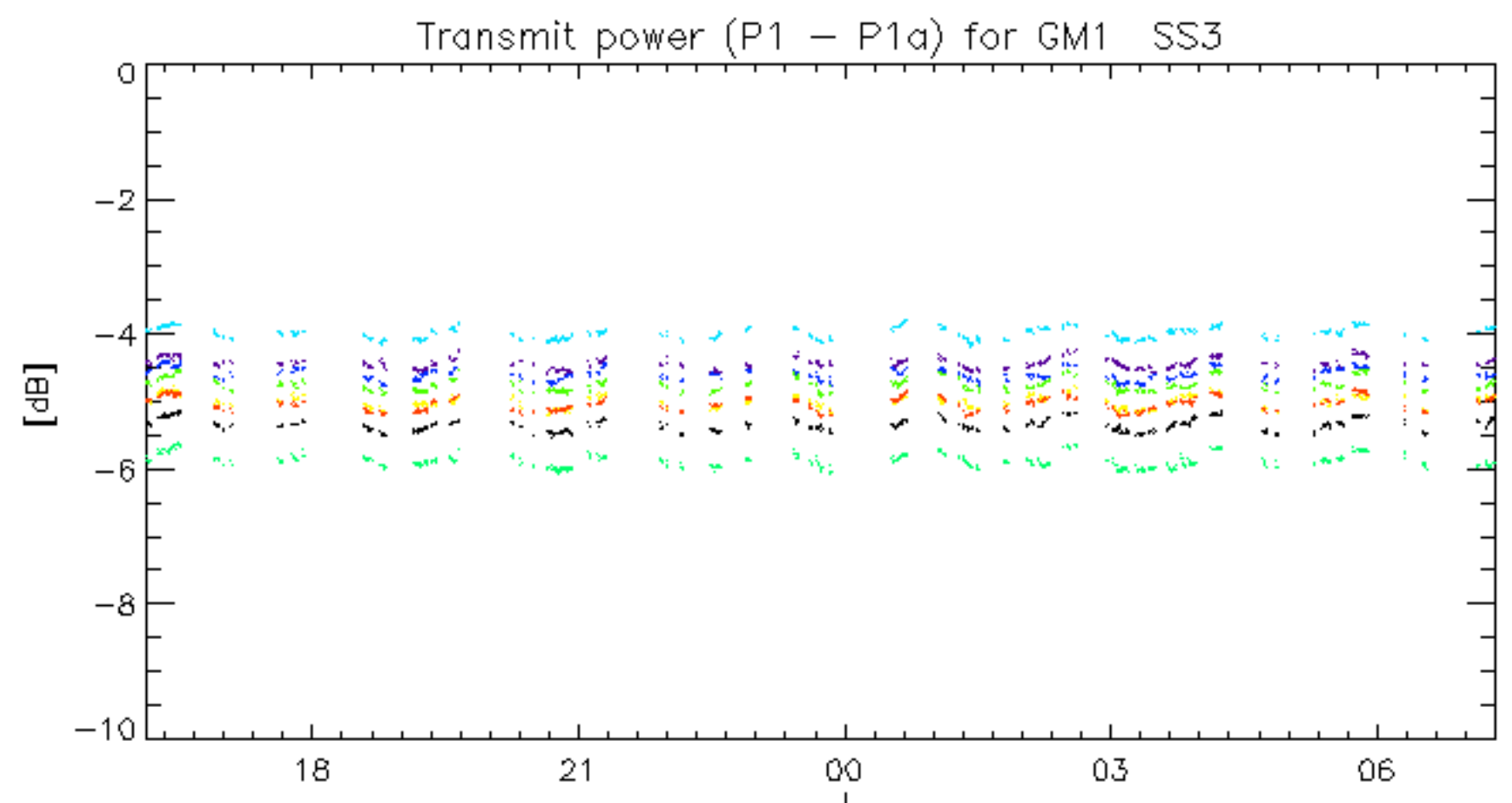
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20060502_003712_000001362047_00202_21799_3993.N1	1	0
ASA_GM1_1PNPDK20060501_081050_000007372047_00193_21790_2679.N1	0	48
ASA_WSM_1PNPDE20060501_230249_000001222047_00202_21799_7447.N1	0	31
ASA_WSM_1PNPDE20060502_012718_000001282047_00203_21800_7473.N1	0	66
ASA_WSM_1PNPDE20060502_112806_000001832047_00209_21806_7544.N1	0	2

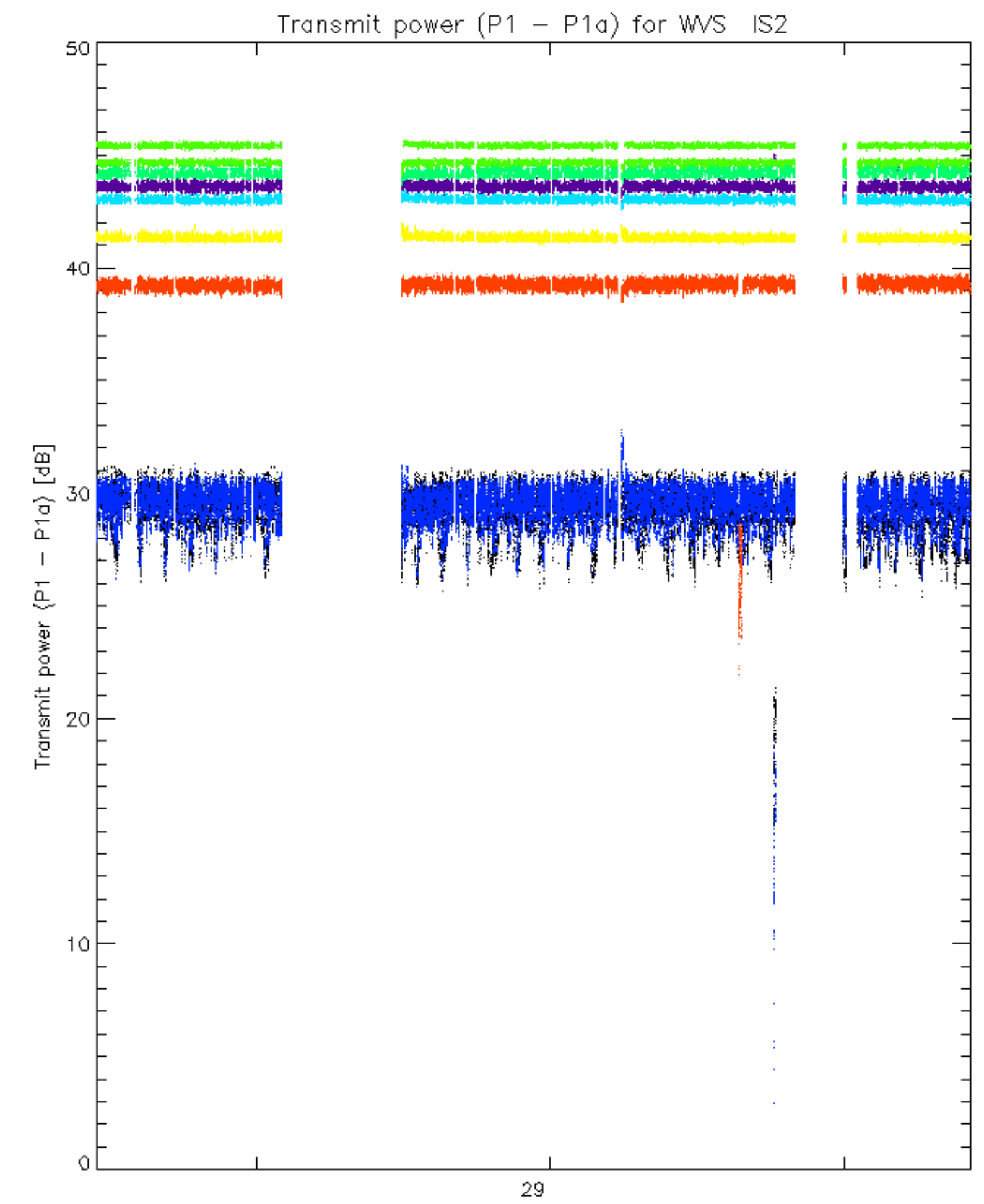




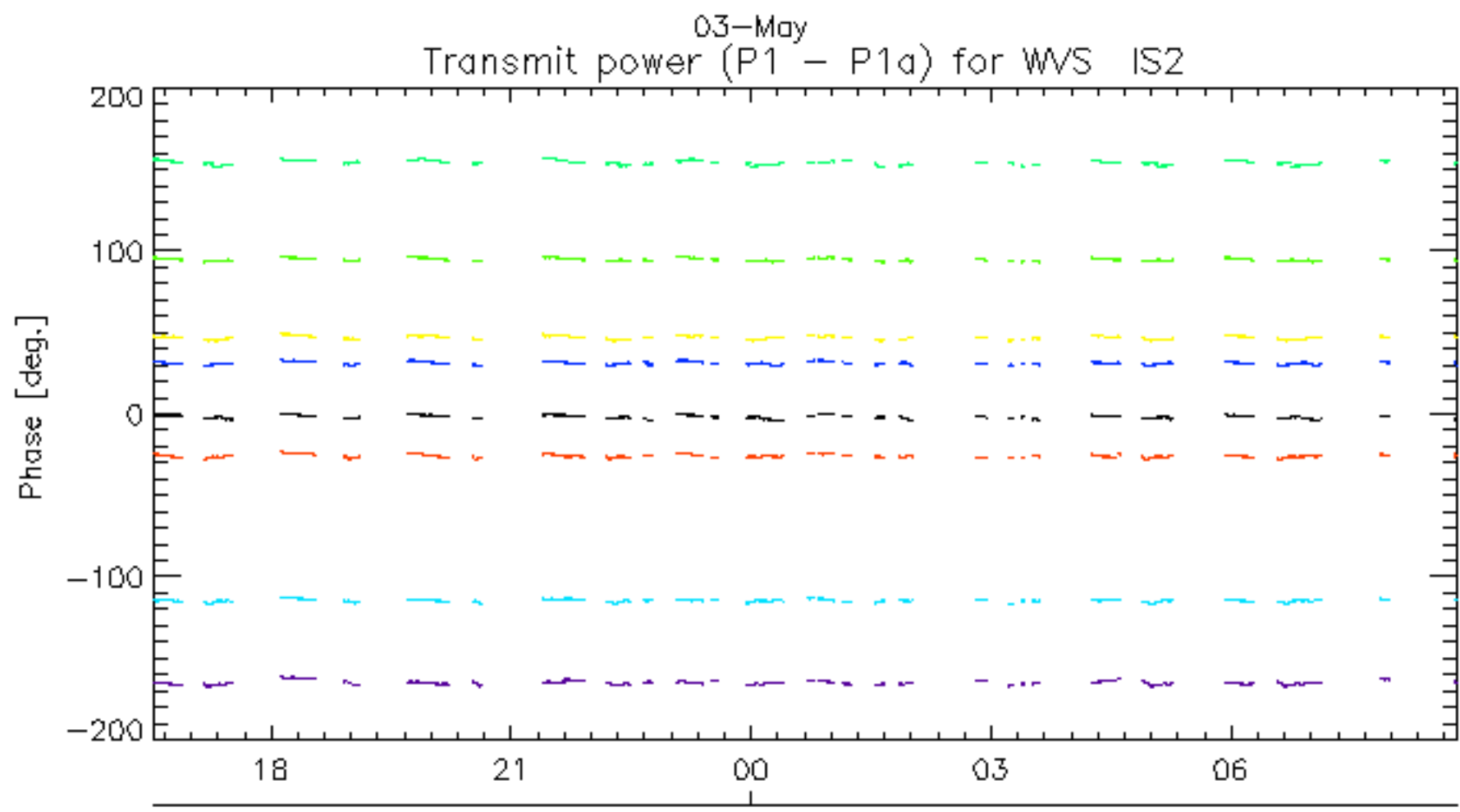
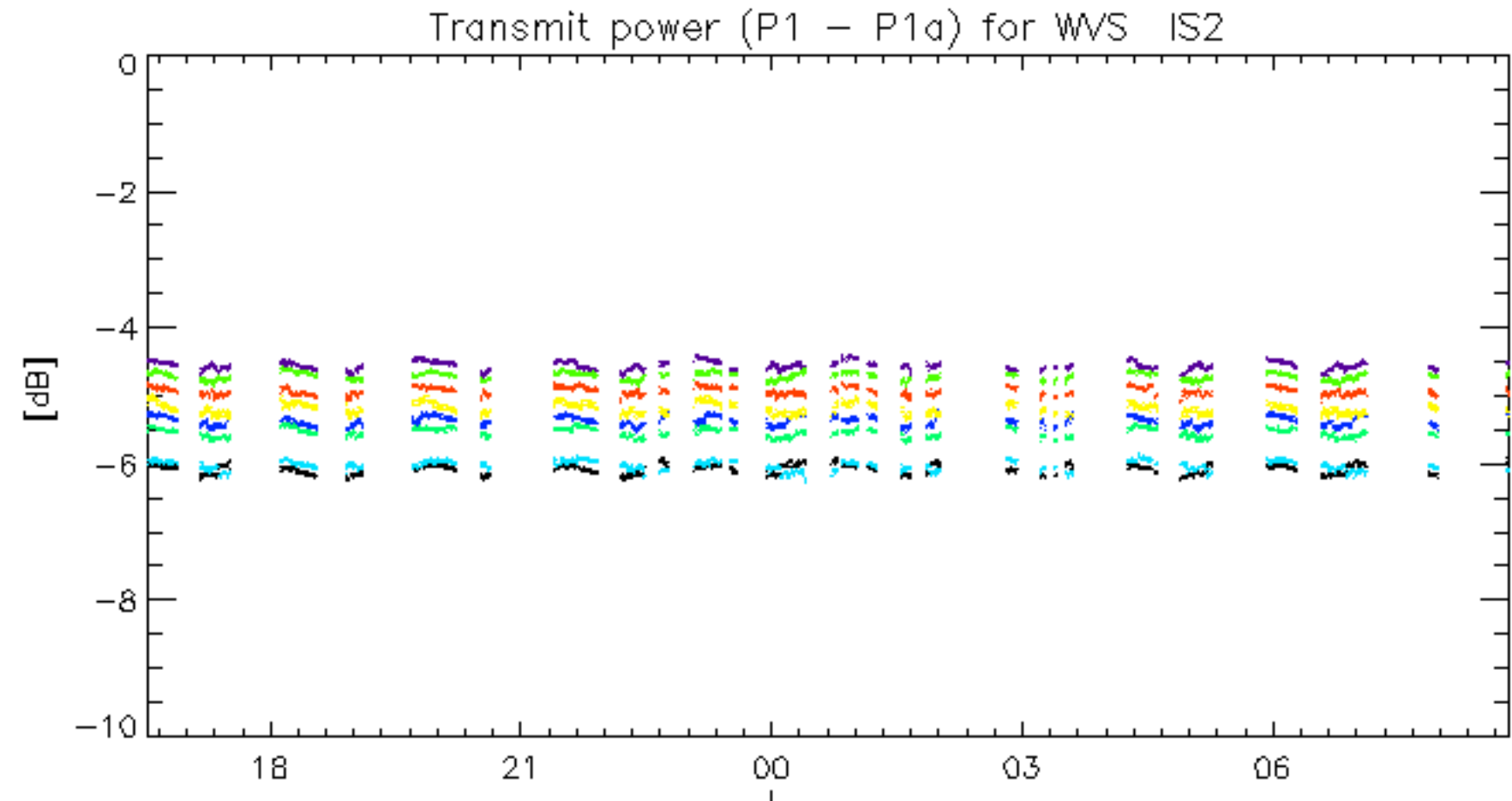
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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



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



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

No unavailabilities during the reported period.