

PRELIMINARY REPORT OF 060521

last update on Sun May 21 16:39:55 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 2006-05-20 00:00:00 to 2006-05-21 16:39:55

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	42	78	15	0	18
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	42	78	15	0	18
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	42	78	15	0	18
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	42	78	15	0	18

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	38	66	56	20	43
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	38	66	56	20	43
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	38	66	56	20	43
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	38	66	56	20	43

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	20060520 204903
H	20060519 143816

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
☒	☒
☒	☒
☒	☒
☒	☒

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	-3.966148	0.011634	0.022620
7	P1	-3.078346	0.013909	-0.088960
11	P1	-4.101292	0.015215	-0.036041
15	P1	-6.121120	0.011655	-0.072253
19	P1	-3.312258	0.008147	-0.018518
22	P1	-4.524138	0.010829	0.002646
26	P1	-4.009284	0.020294	0.087754
30	P1	-5.741348	0.019489	-0.034268
3	P1	-16.626692	0.298898	0.165036
7	P1	-17.056177	0.151851	-0.335883
11	P1	-16.846149	0.313801	-0.359169
15	P1	-13.163924	0.145069	-0.211277
19	P1	-14.209819	0.048462	-0.210542
22	P1	-16.121771	0.424758	-0.170897
26	P1	-15.338316	0.267539	0.301621
30	P1	-16.899044	0.335801	-0.375531

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.254330	0.084134	0.128898
7	P2	-22.146582	0.100559	0.172117
11	P2	-15.988539	0.111835	0.145704
15	P2	-7.167556	0.094075	-0.004077
19	P2	-9.158038	0.086943	-0.027478
22	P2	-18.087656	0.085427	-0.114092
26	P2	-16.339039	0.090523	-0.109582
30	P2	-19.597588	0.085925	0.033448

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.189891	0.003933	0.002685
7	P3	-8.189891	0.003933	0.002685
11	P3	-8.189891	0.003933	0.002685
15	P3	-8.189891	0.003933	0.002685
19	P3	-8.189891	0.003933	0.002685
22	P3	-8.189891	0.003933	0.002685
26	P3	-8.189910	0.003934	0.002749
30	P3	-8.189910	0.003934	0.002749

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	-3.749156	0.038627	-0.018120
7	P1	-2.631838	0.100614	0.117432
11	P1	-2.866667	0.030197	0.046383
15	P1	-3.499378	0.029224	0.068376
19	P1	-3.387872	0.014288	-0.021252
22	P1	-5.099536	0.022031	0.059914
26	P1	-5.828054	0.021386	-0.042029
30	P1	-5.182177	0.043761	-0.034087
3	P1	-11.602874	0.135711	-0.035278
7	P1	-9.973666	0.152579	0.012499
11	P1	-10.208587	0.082311	0.042580
15	P1	-10.637687	0.126330	0.203965
19	P1	-15.477587	0.087057	-0.102835
22	P1	-20.798000	1.277485	-0.348740
26	P1	-16.444242	0.384837	-0.190585
30	P1	-18.125395	0.483575	0.347486

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.923605	0.070674	0.088344
7	P2	-22.513536	0.176440	-0.016098
11	P2	-11.189505	0.050353	0.001492
15	P2	-4.885462	0.042721	-0.065833
19	P2	-6.867166	0.042286	-0.025717
22	P2	-8.174173	0.053815	-0.055707
26	P2	-24.069948	0.126090	-0.094094
30	P2	-22.053503	0.087634	-0.021548

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.022357	0.003745	0.008393
7	P3	-8.022391	0.003755	0.007890
11	P3	-8.022460	0.003729	0.008024
15	P3	-8.022230	0.003755	0.008351
19	P3	-8.022417	0.003745	0.008564
22	P3	-8.022467	0.003742	0.008037
26	P3	-8.022257	0.003731	0.007941
30	P3	-8.022348	0.003739	0.008278

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	0.000538101
	stdev	1.87833e-07
MEAN Q	mean	0.000515392
	stdev	2.26662e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.135074
	stdev	0.00117949
STDEV Q	mean	0.135418
	stdev	0.00119660



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2006052[901]

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_IMM_1PNPDE20060521_004019_000001342047_00474_22071_5837.N1	1	0
ASA_IMM_1PNPDE20060521_022552_000000362047_00476_22073_5844.N1	1	0
ASA_WSM_1PNPDE20060520_083606_000000852047_00465_22062_9979.N1	0	1
ASA_WSM_1PNPDE20060520_083607_000000852047_00465_22062_9998.N1	0	1
ASA_WSM_1PNPDE20060520_230542_000001222047_00474_22071_0064.N1	0	35







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)


Acsending

Descending

7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler


Acsending

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

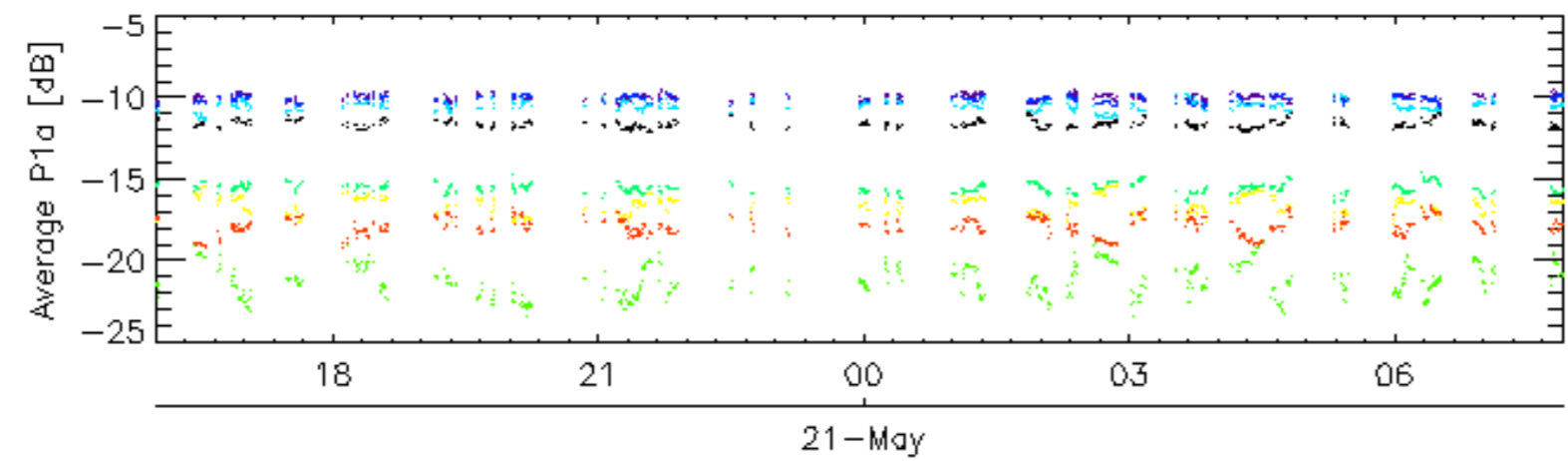
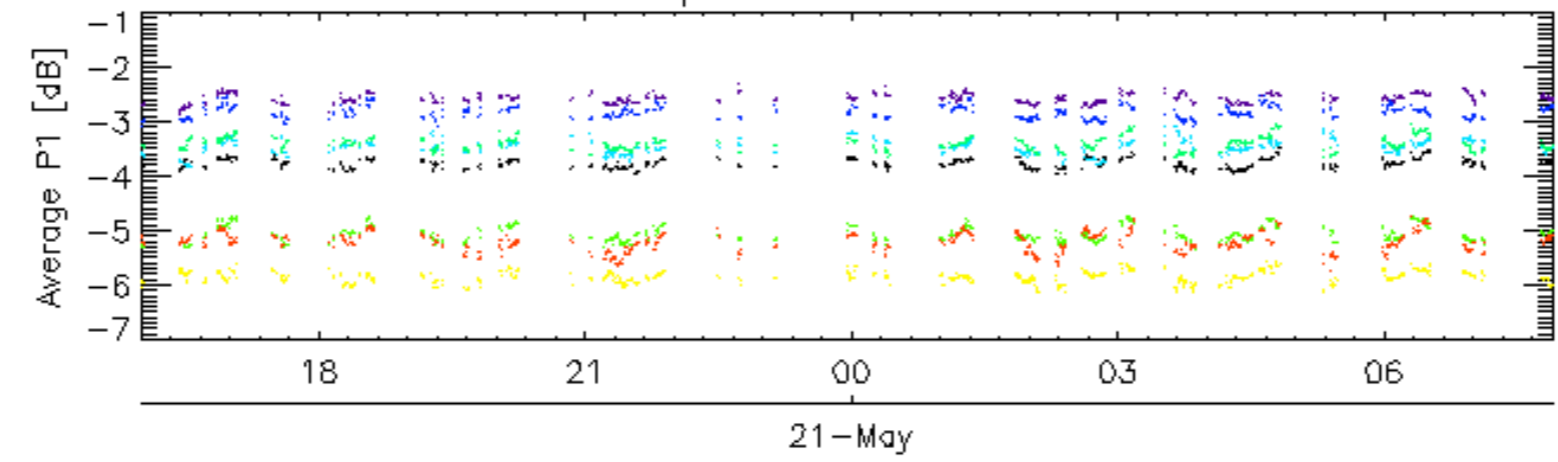
Ascending

Descending

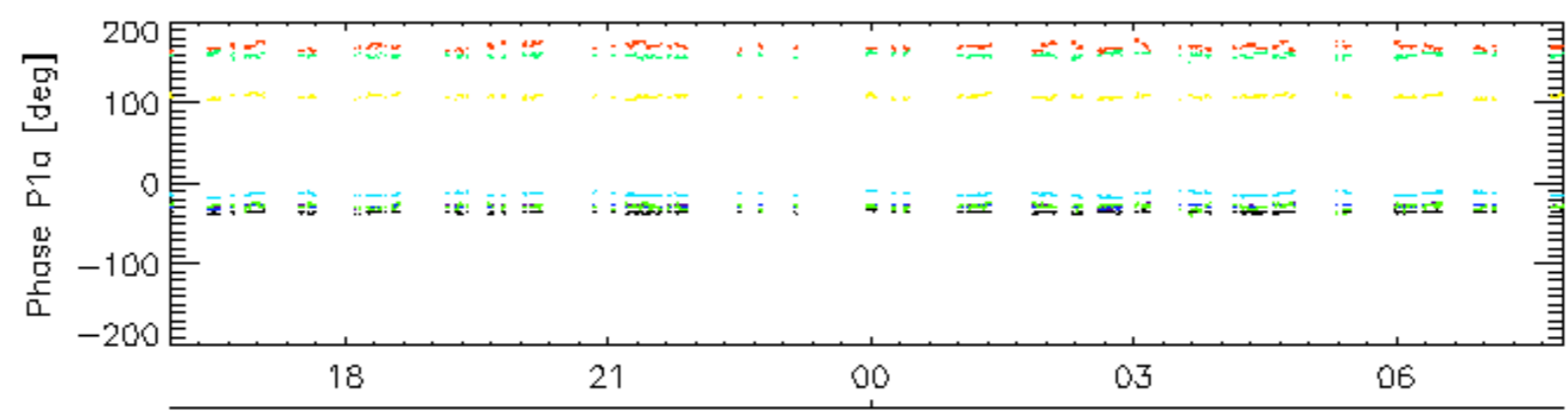
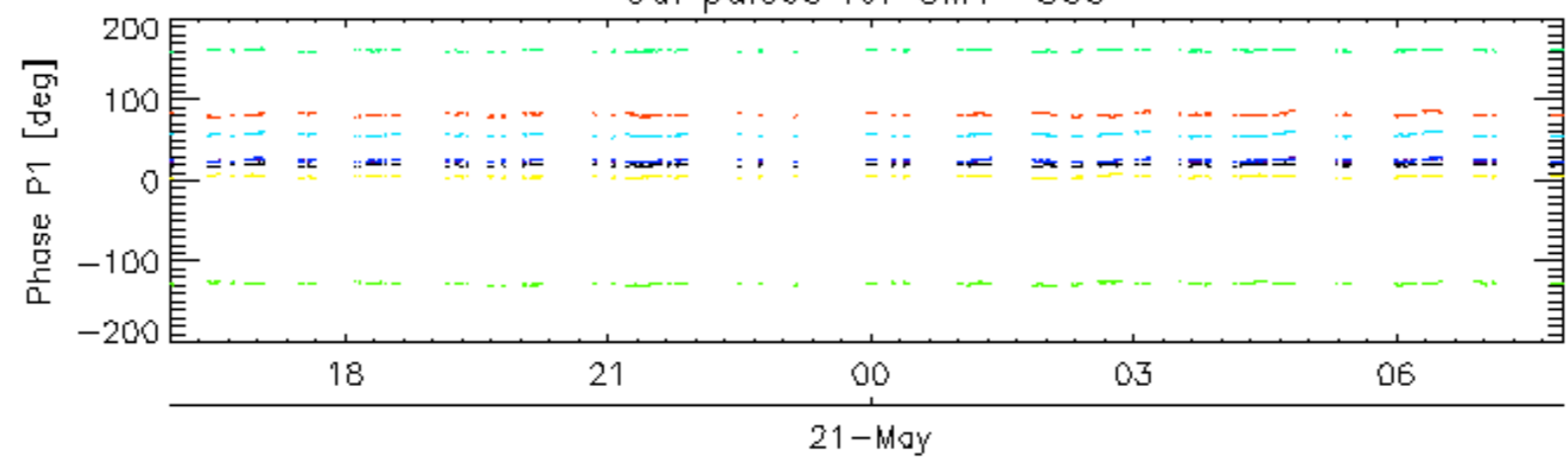
7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

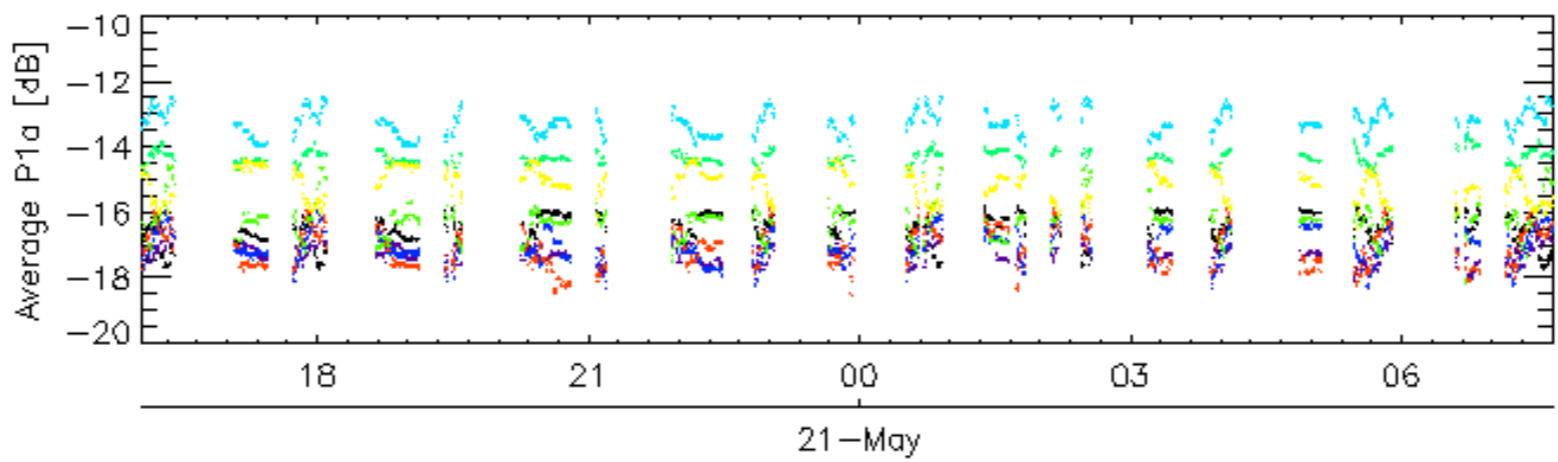
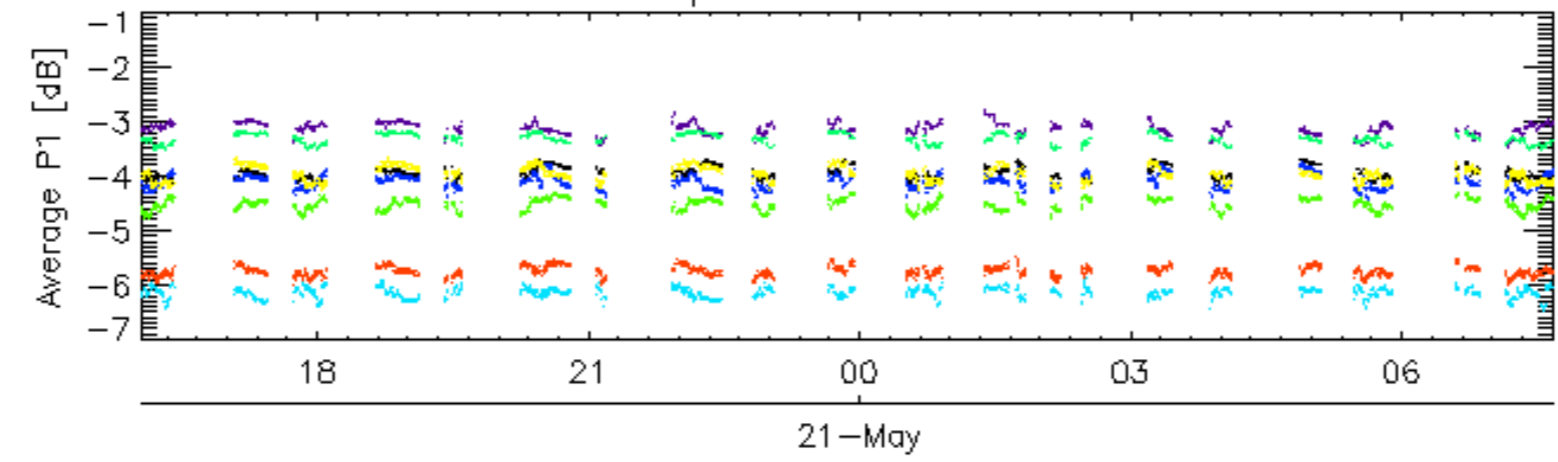


Cal pulses for GM1 SS3

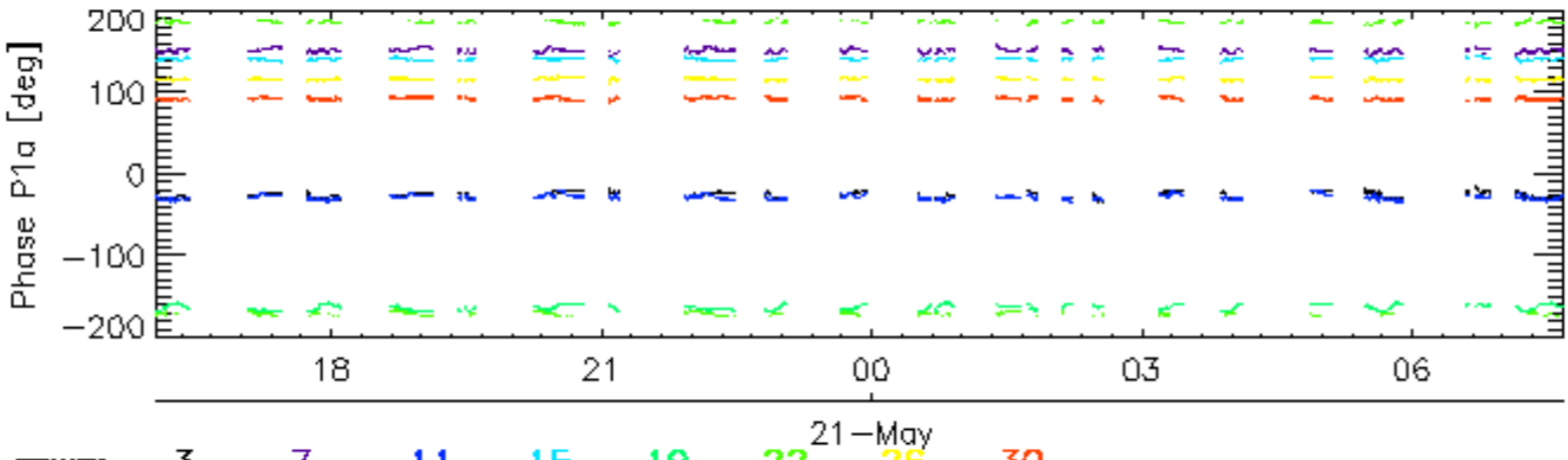
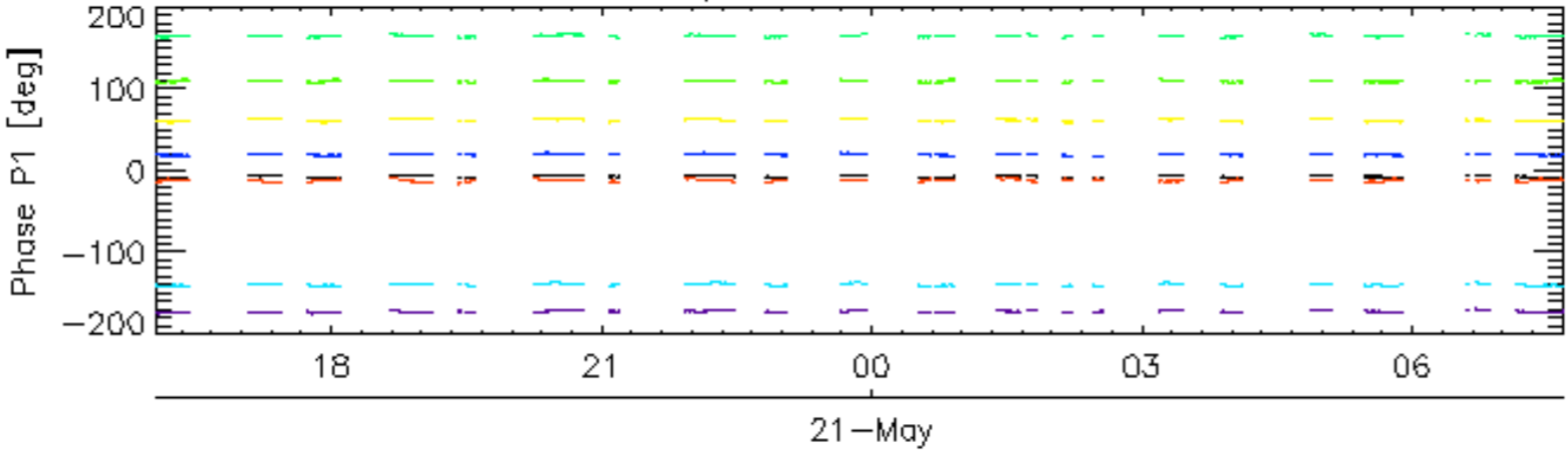


rows: 3 7 11 15 19 22 26 30

Cal pulses for WVS IS2

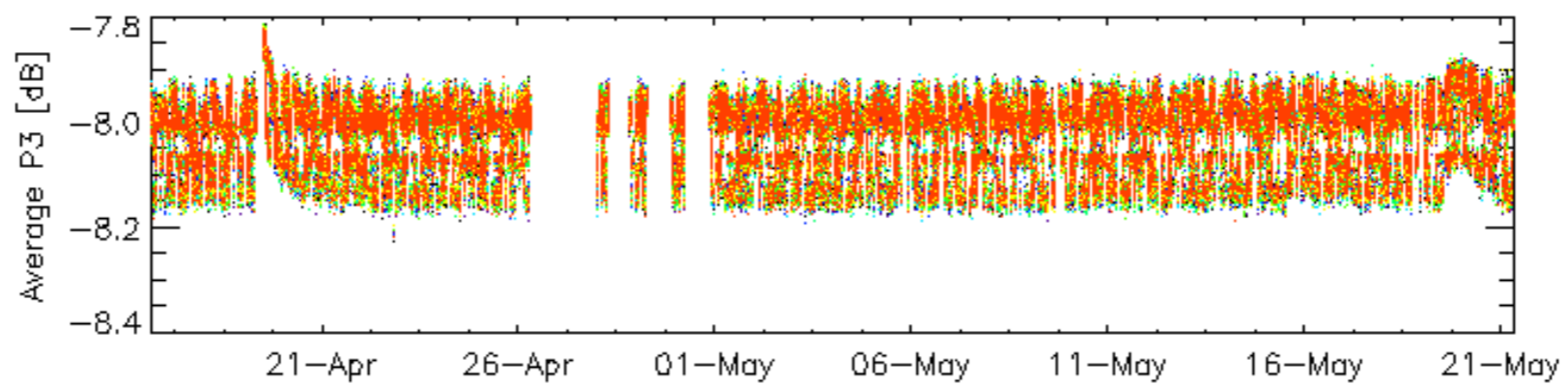
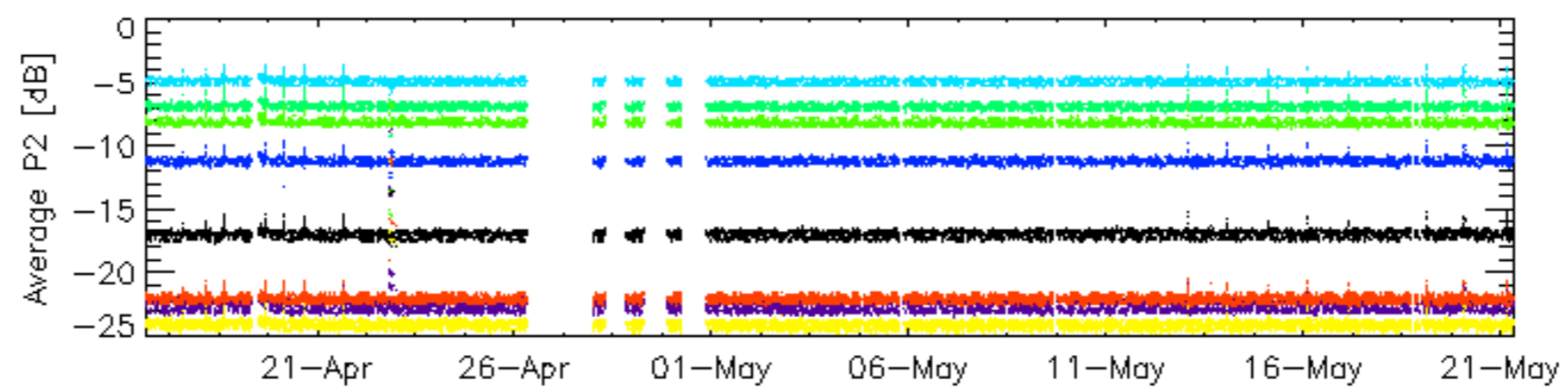
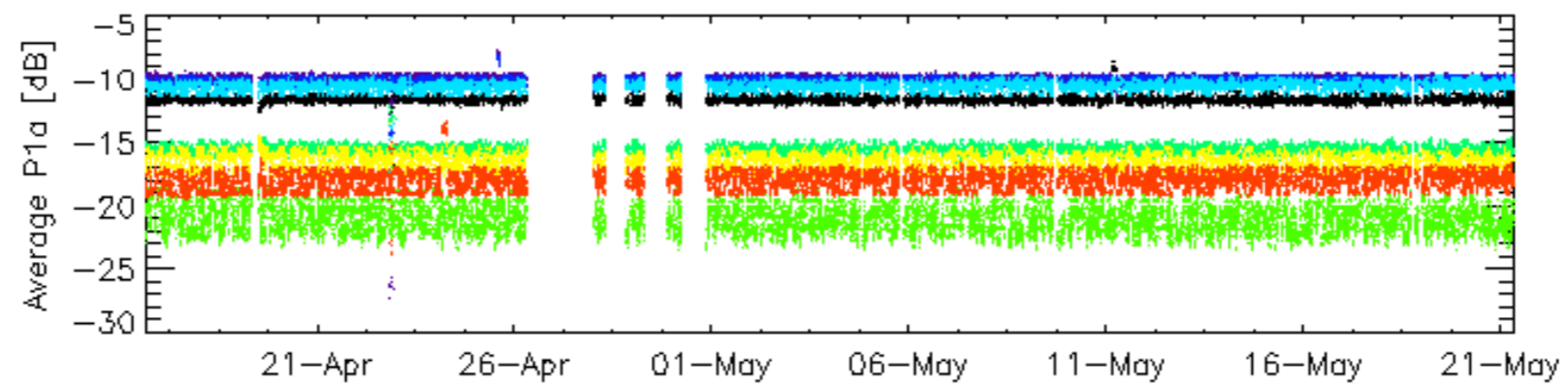
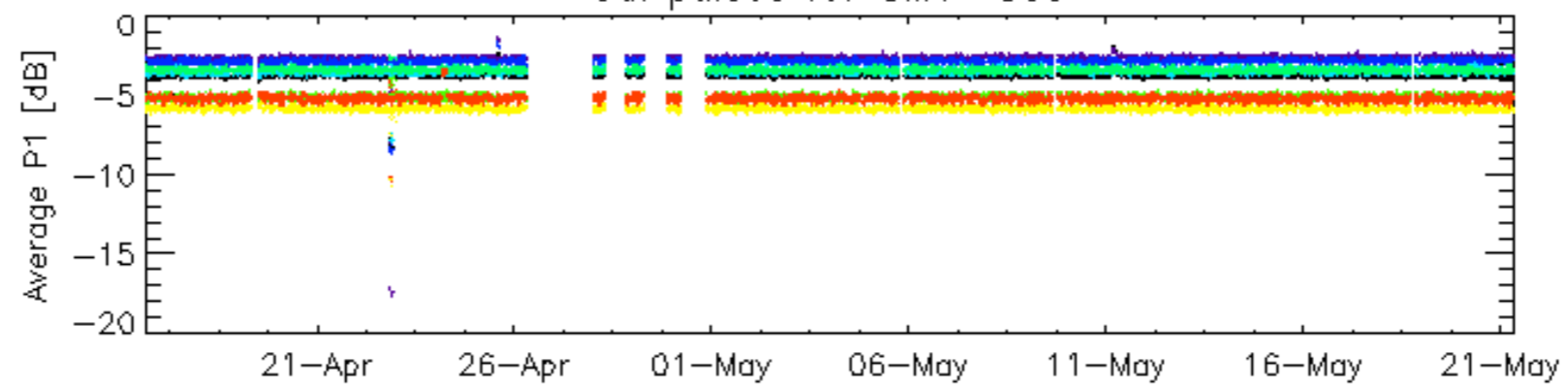


Cal pulses for WVS IS2



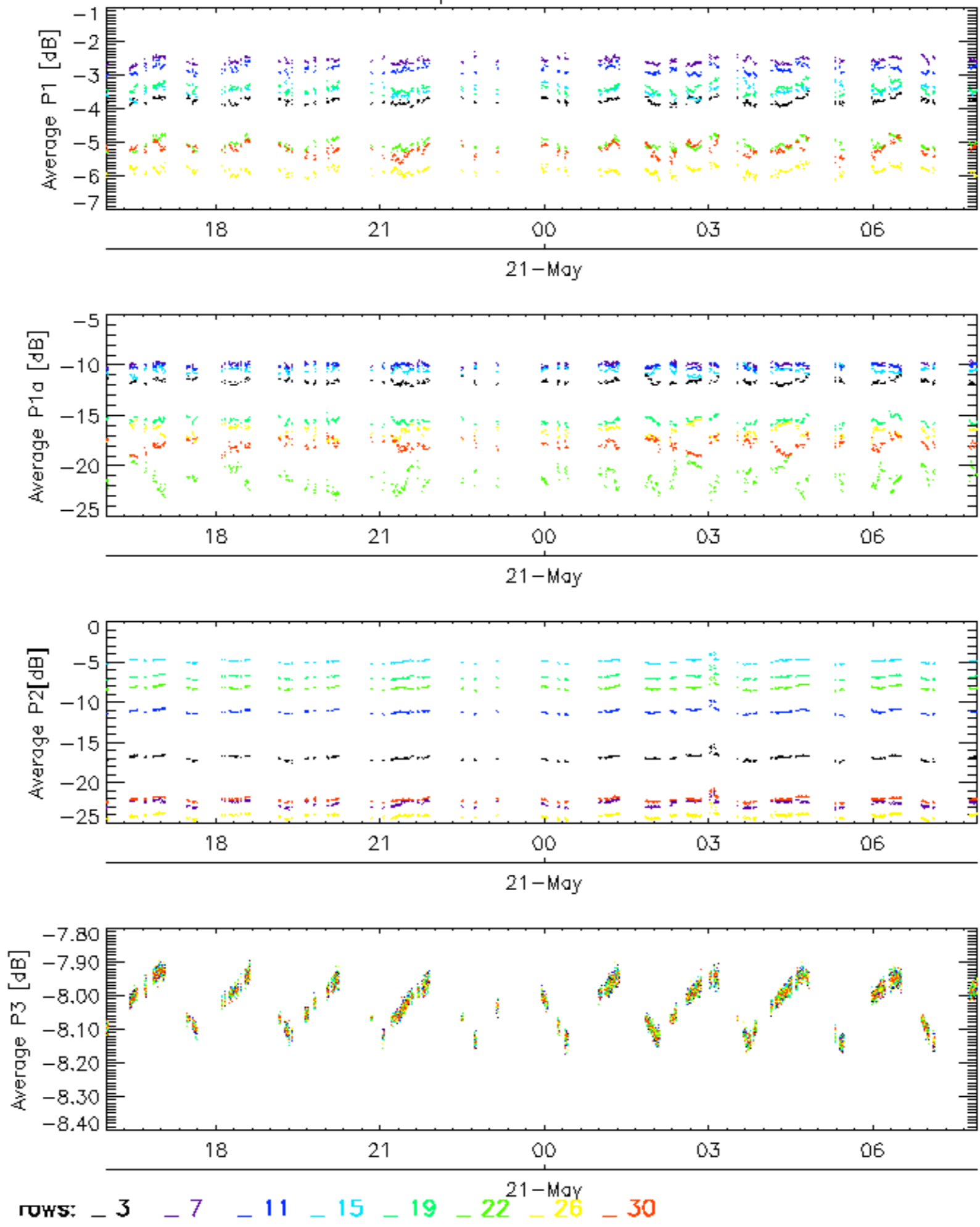
rows: 3 7 11 15 19 22 26 30

Cal pulses for GM1 SS3

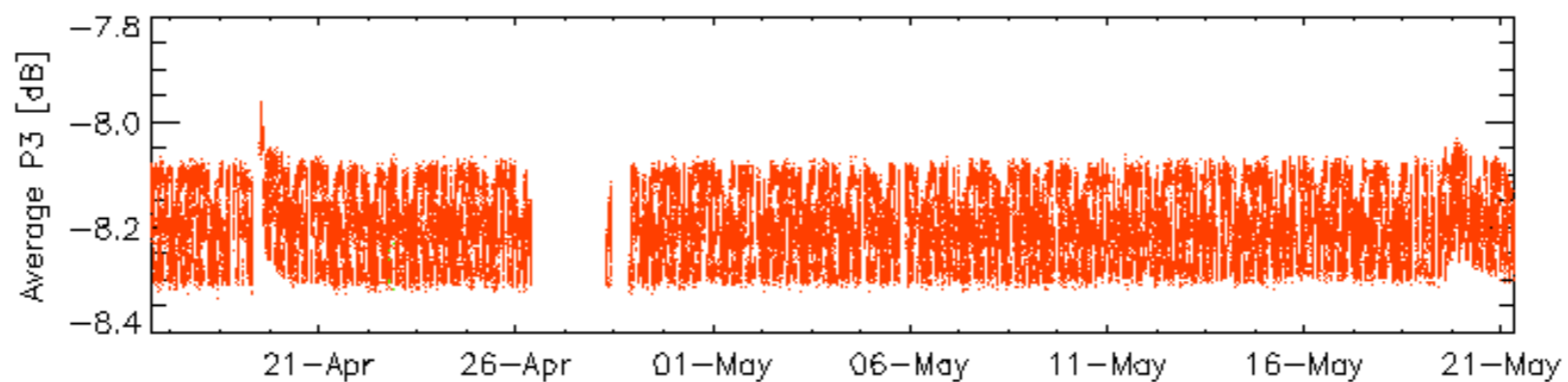
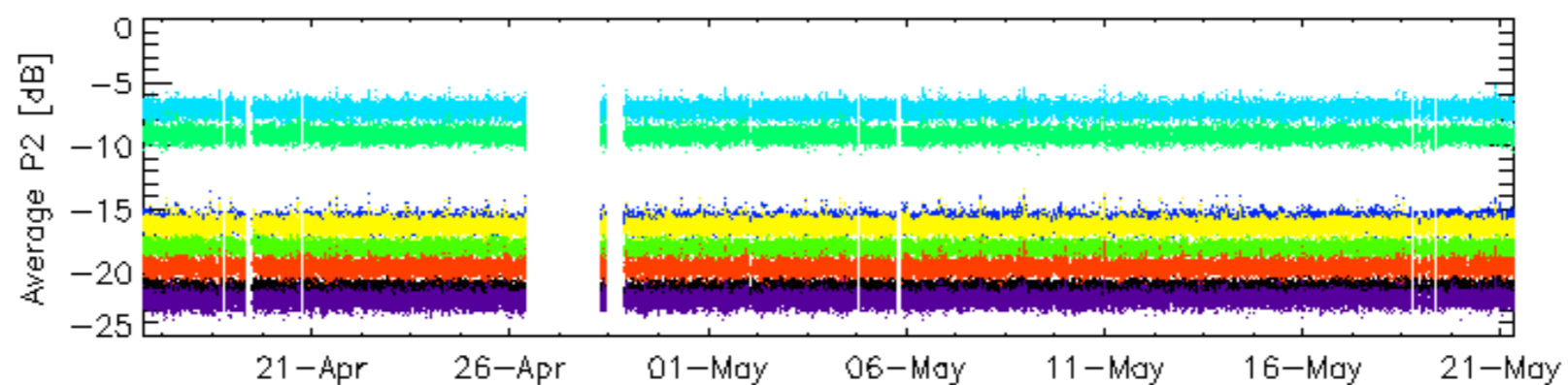
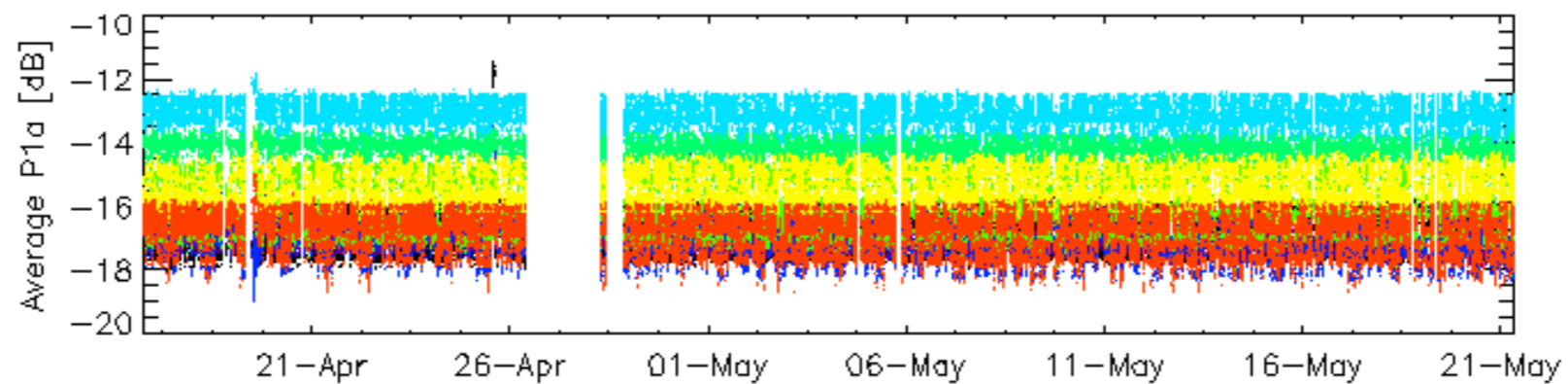
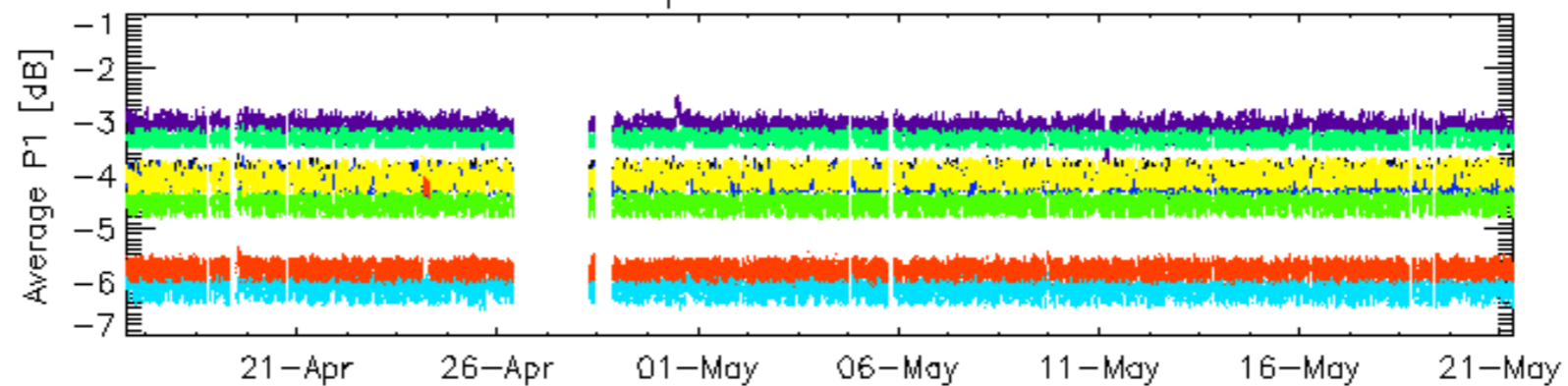


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

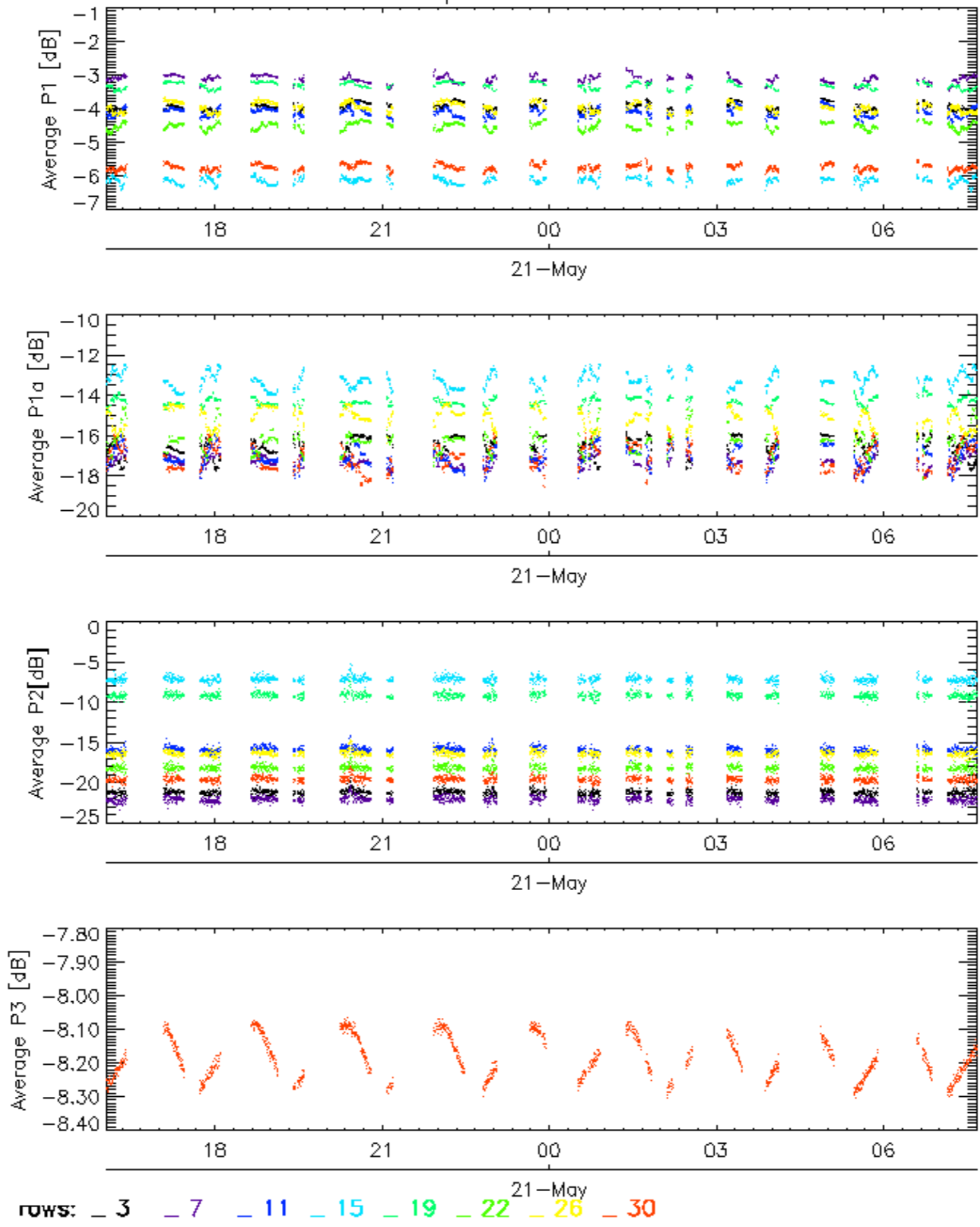


Cal pulses for WVS IS2

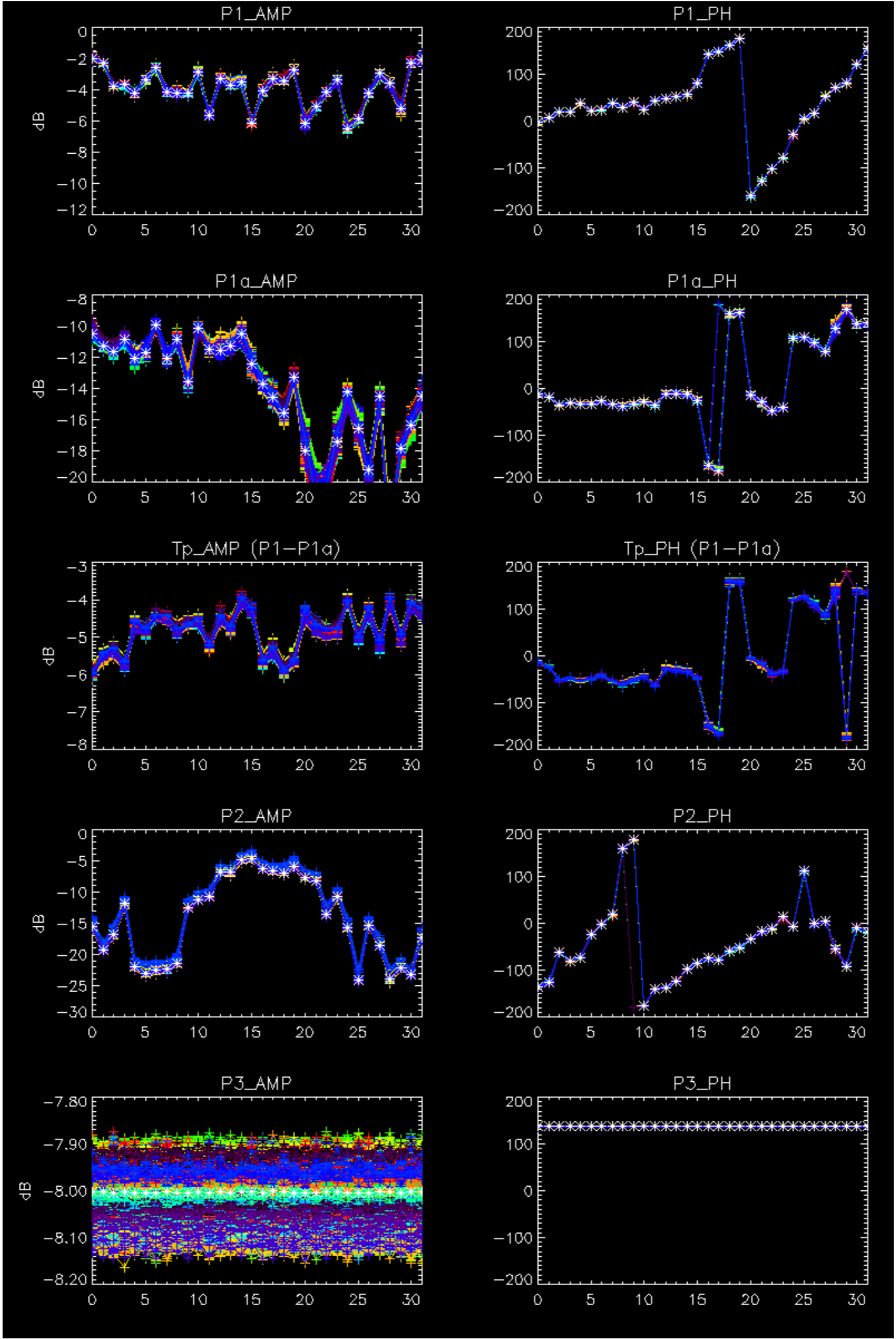


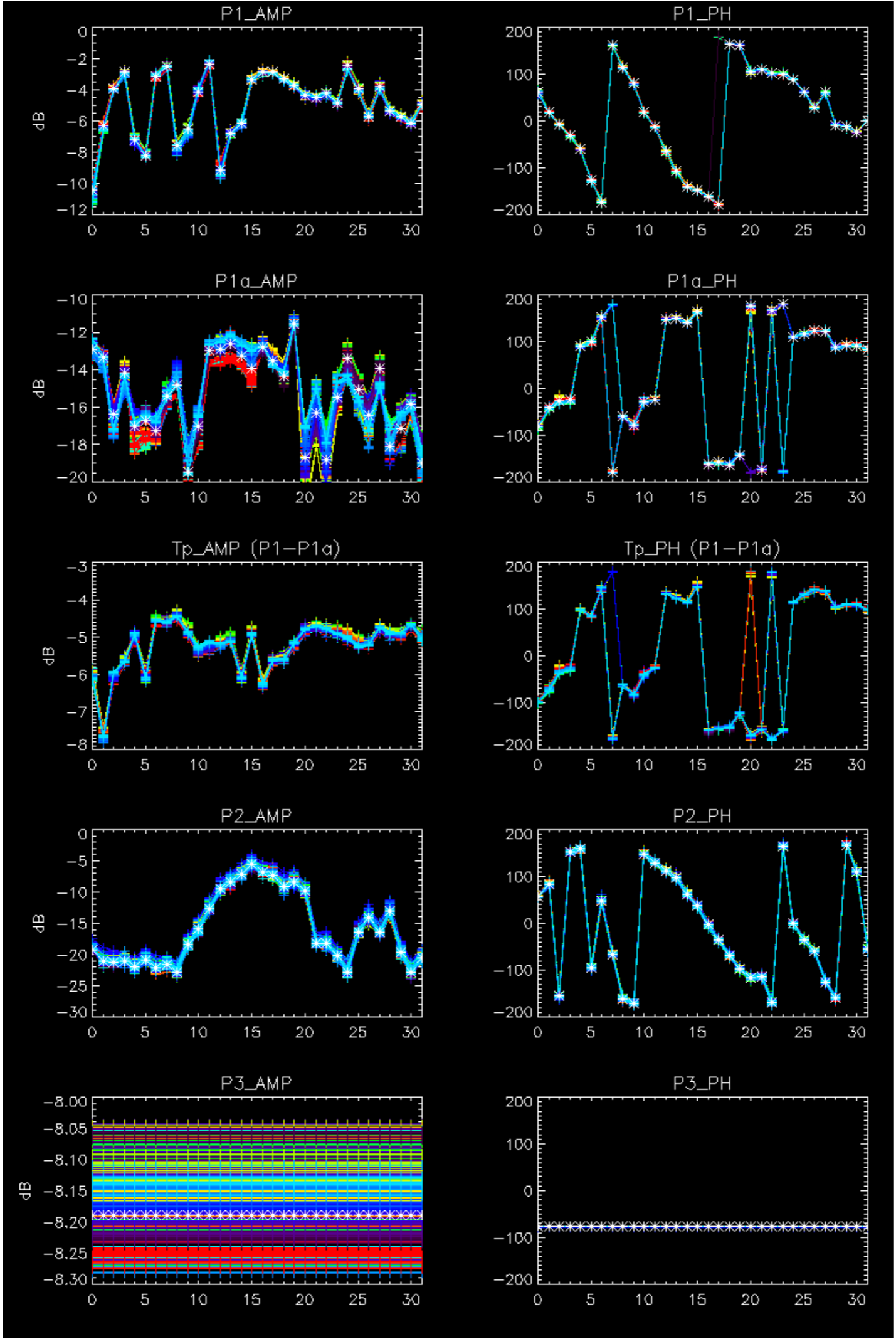
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



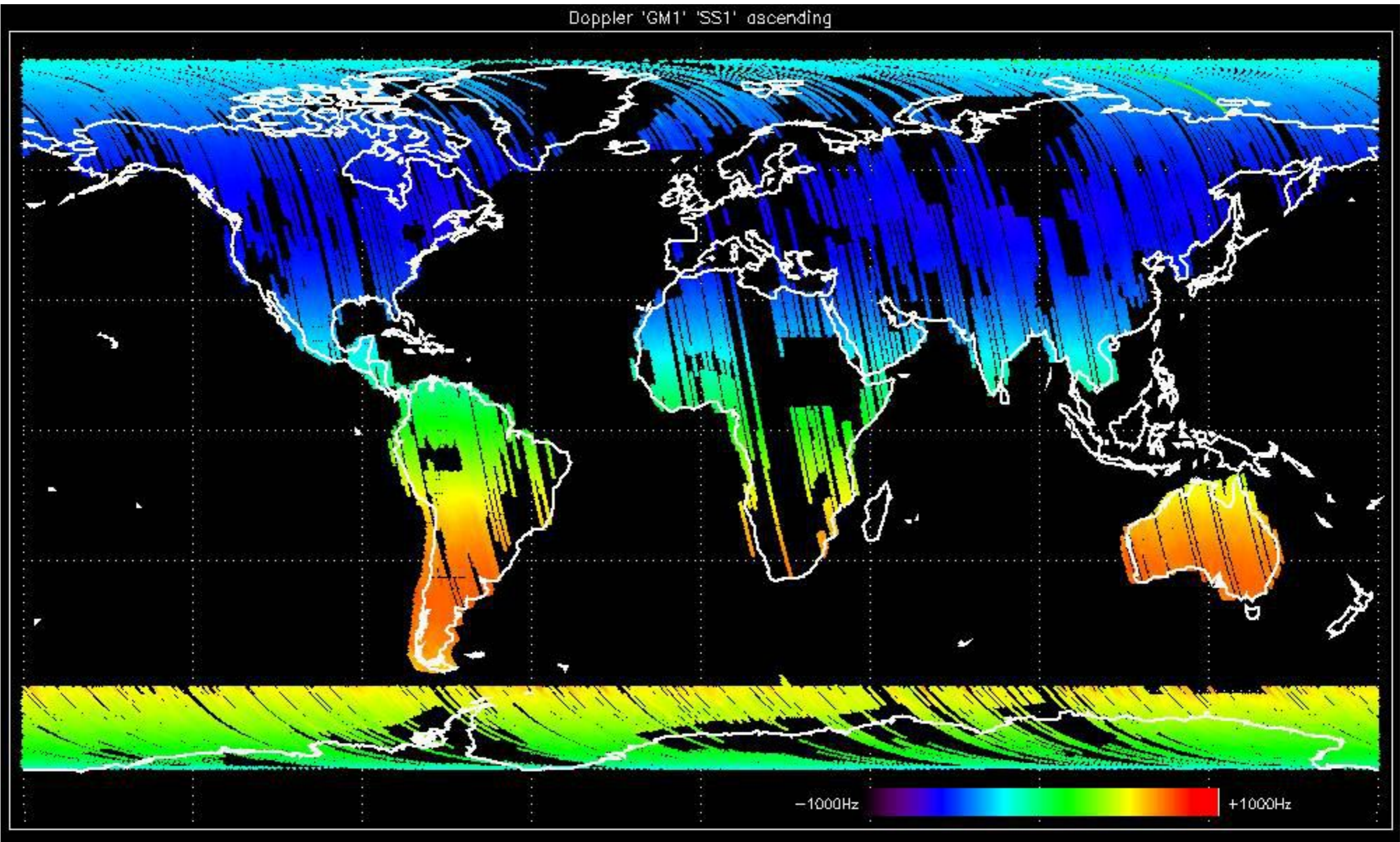
No anomalies observed.



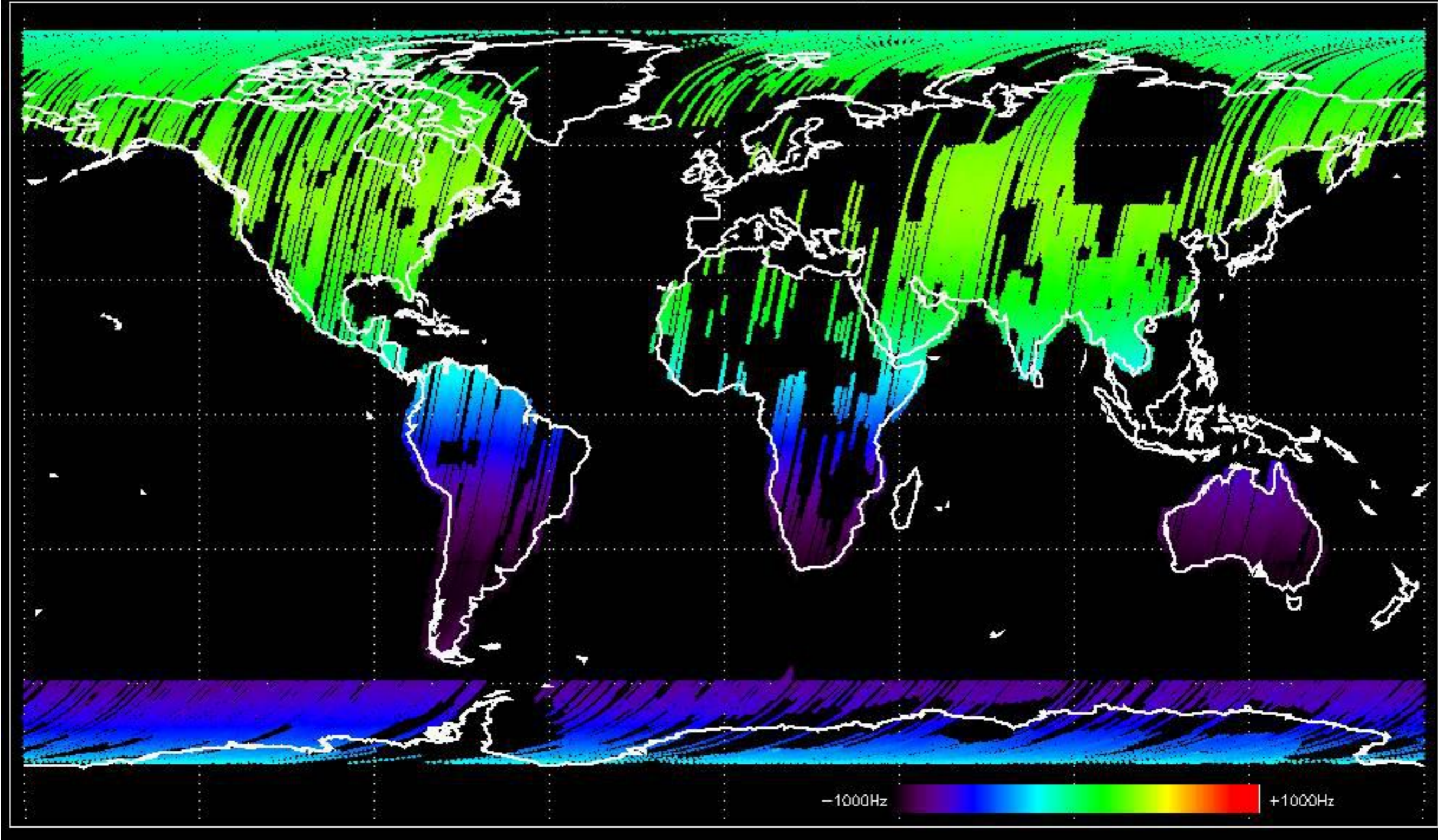


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

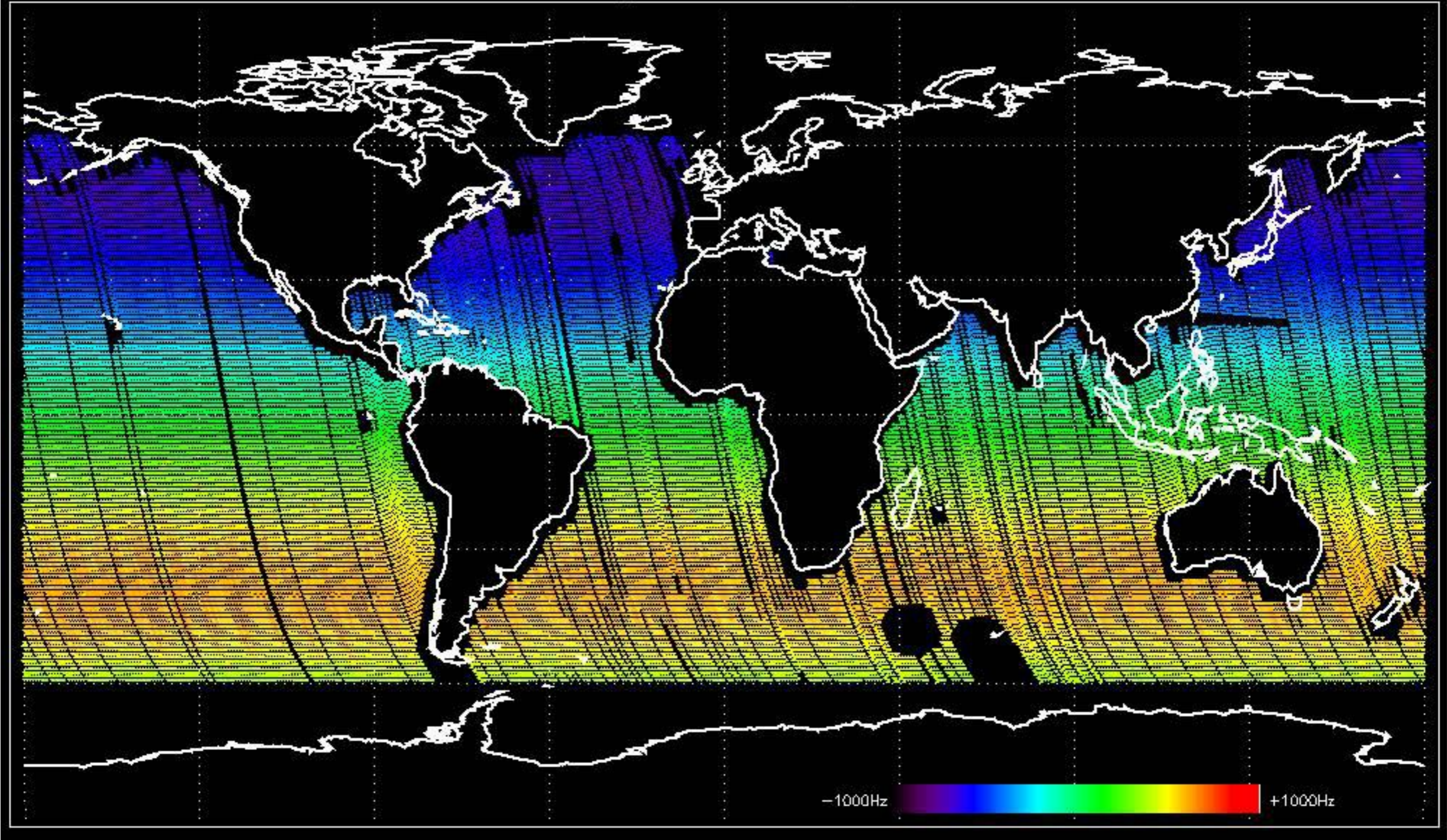
Doppler 'GM1' 'SS1' ascending



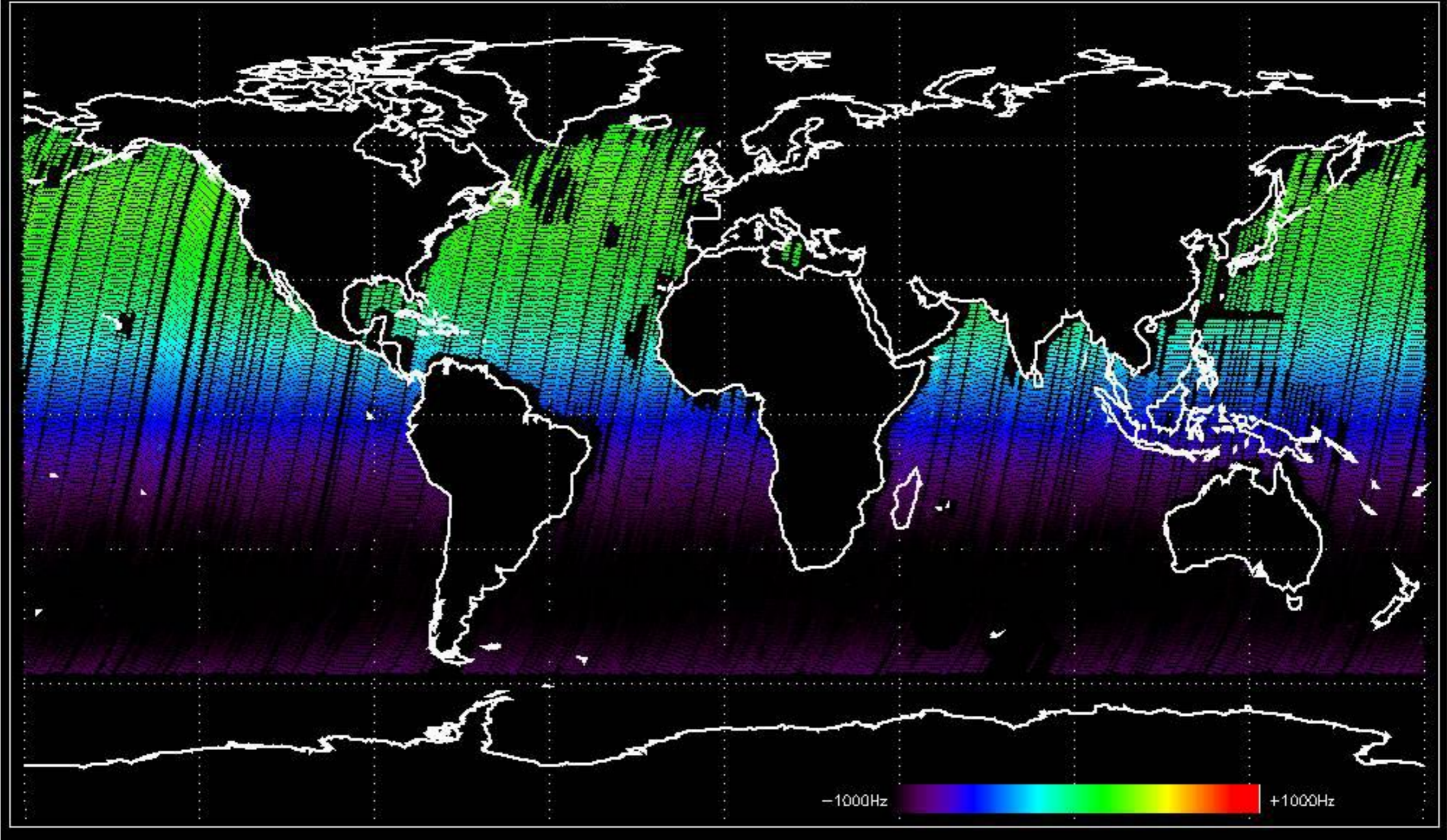
Doppler 'GM1' 'SS1' descending



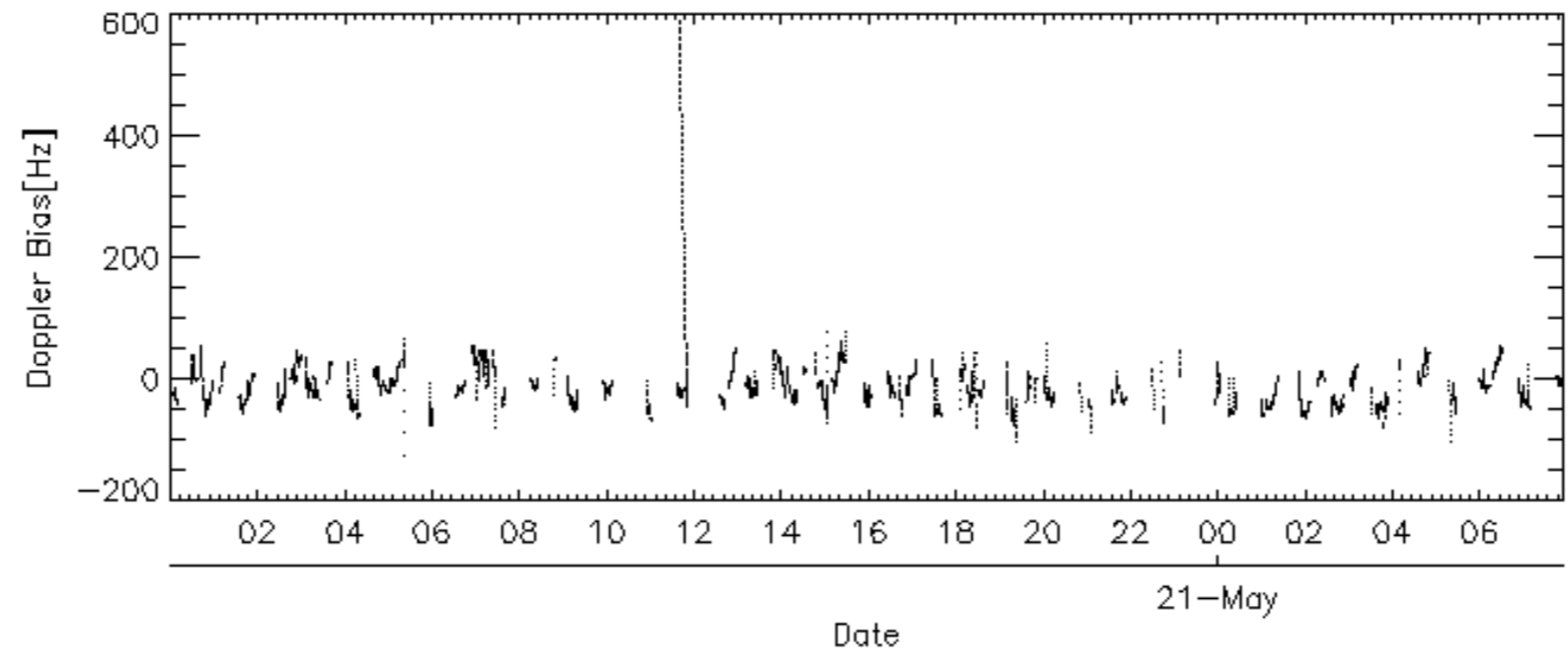
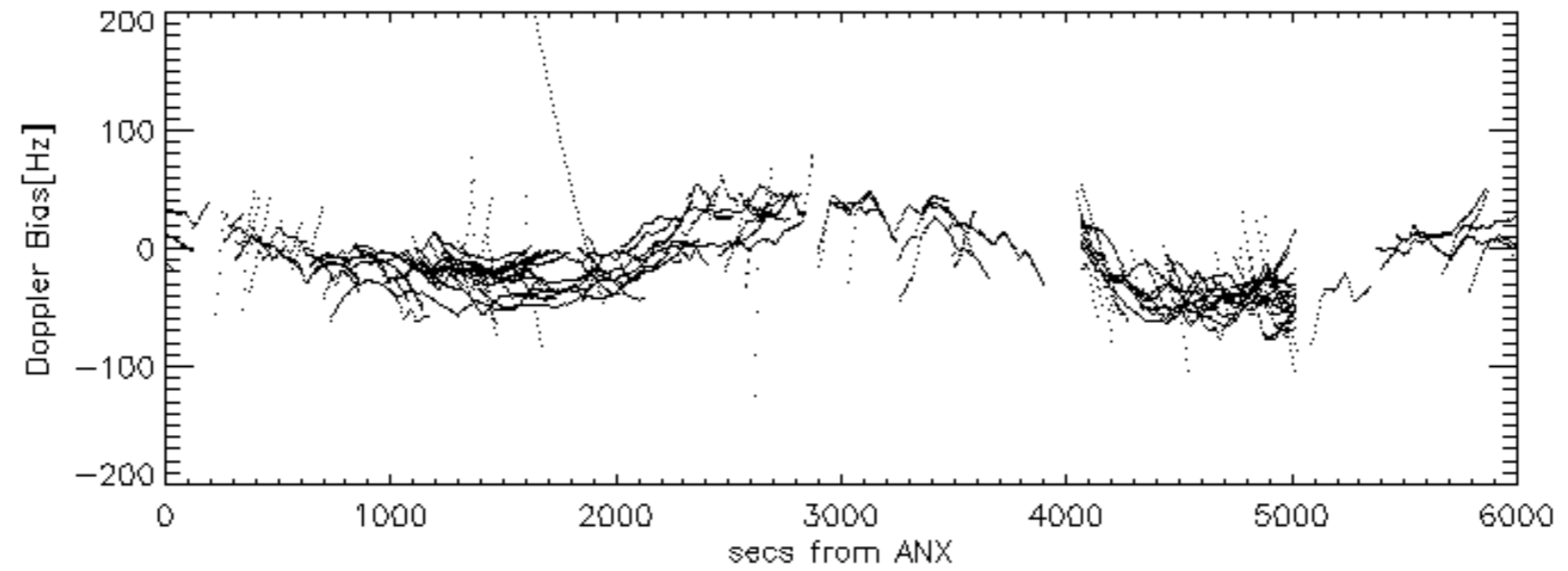
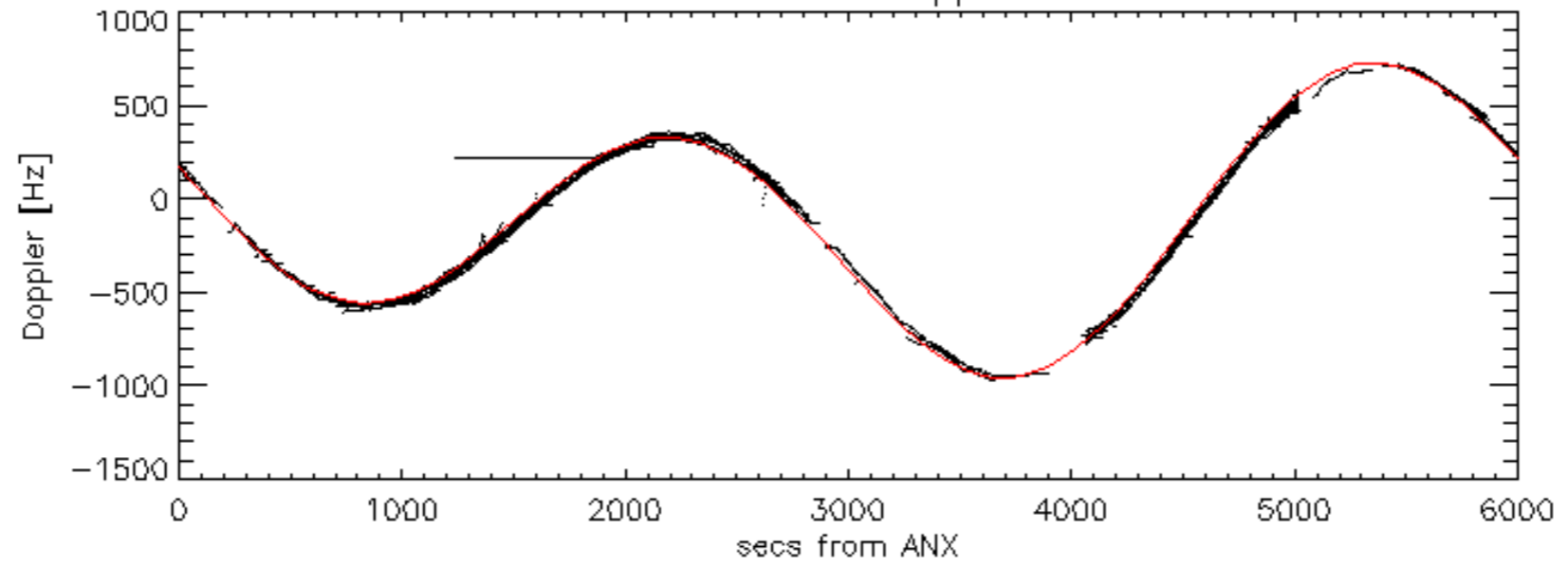
Doppler 'WVS' 'IS2' ascending

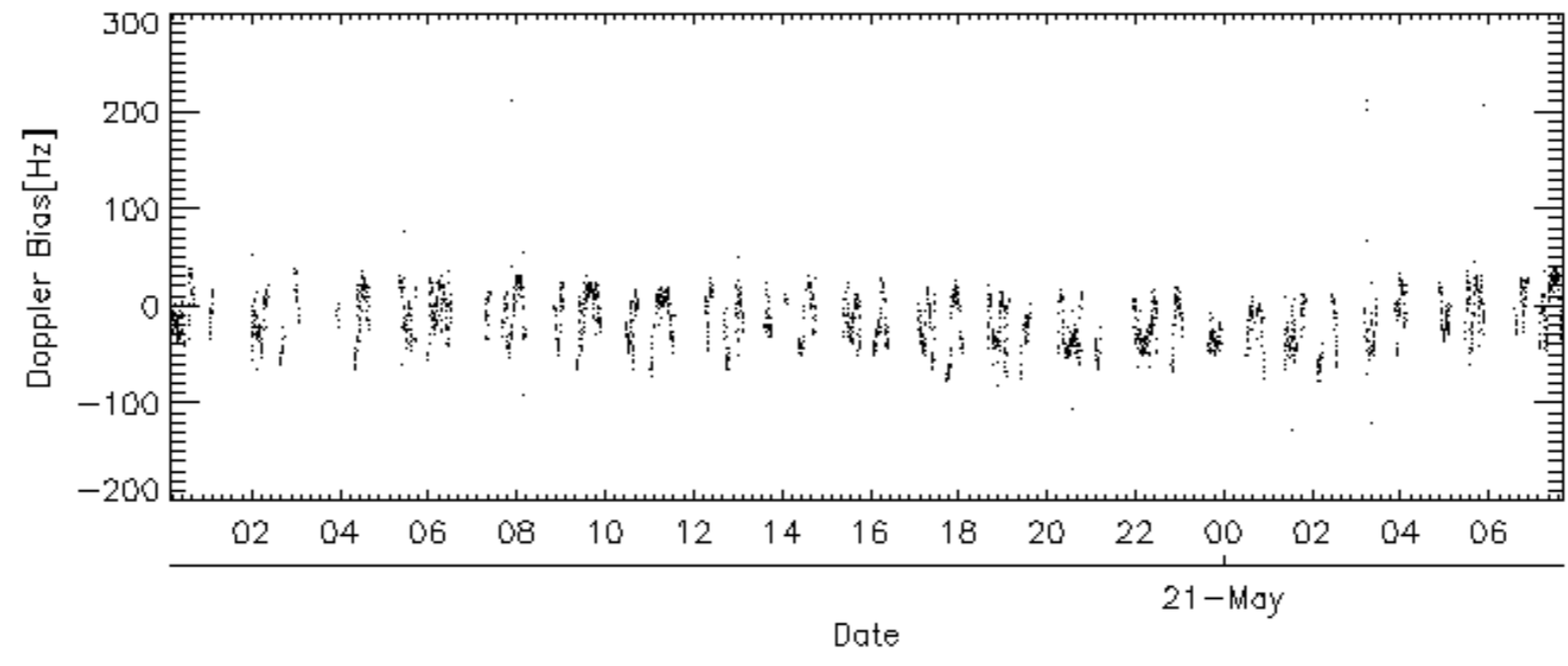
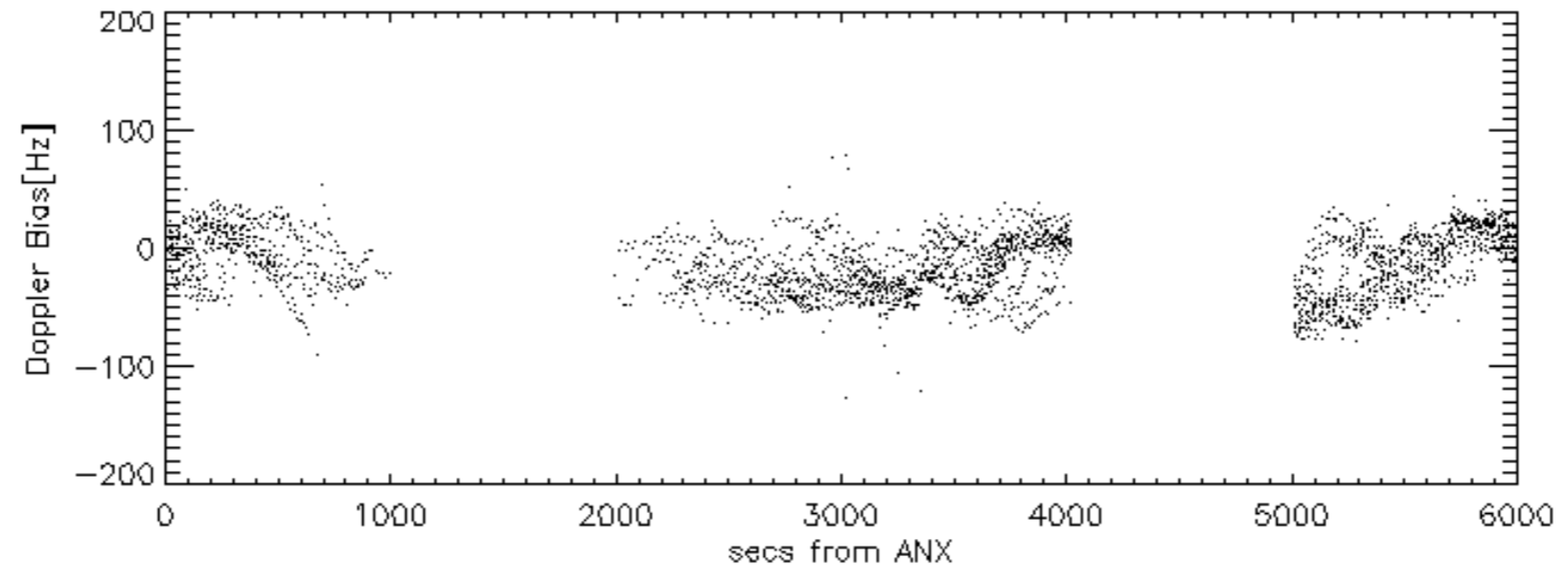
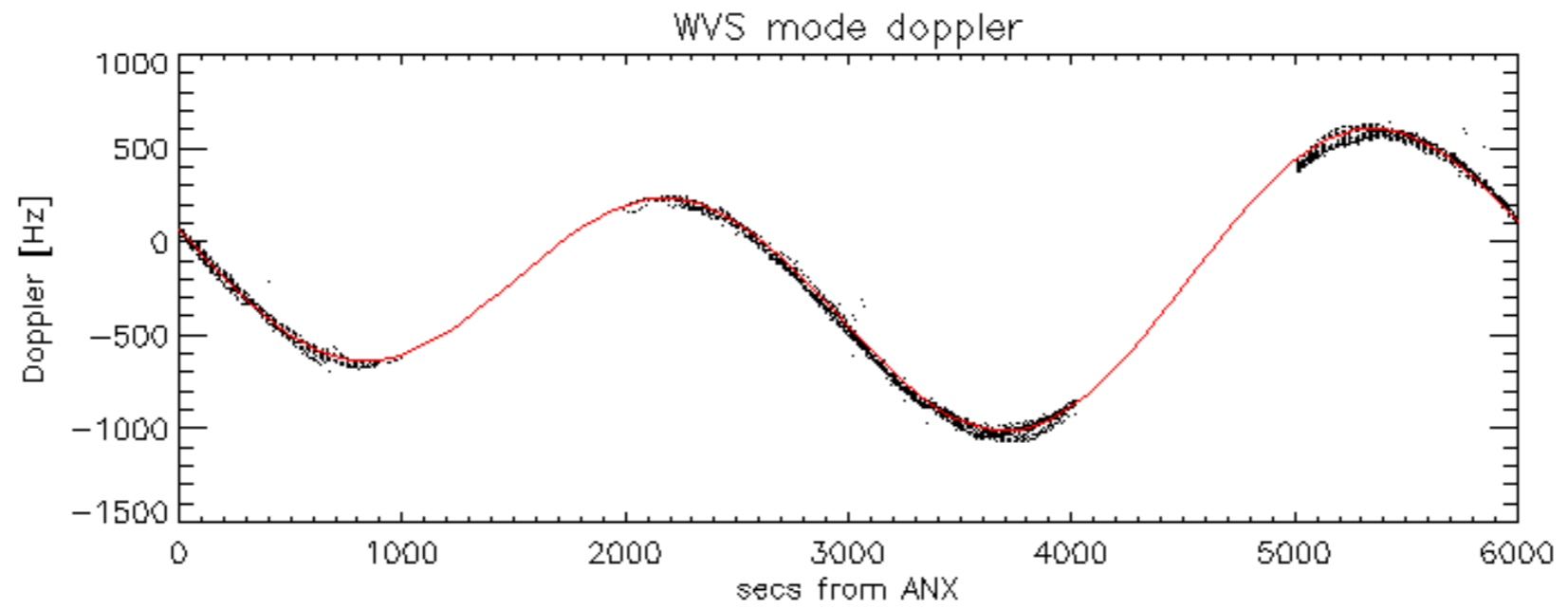


Doppler 'WVS' 'IS2' descending

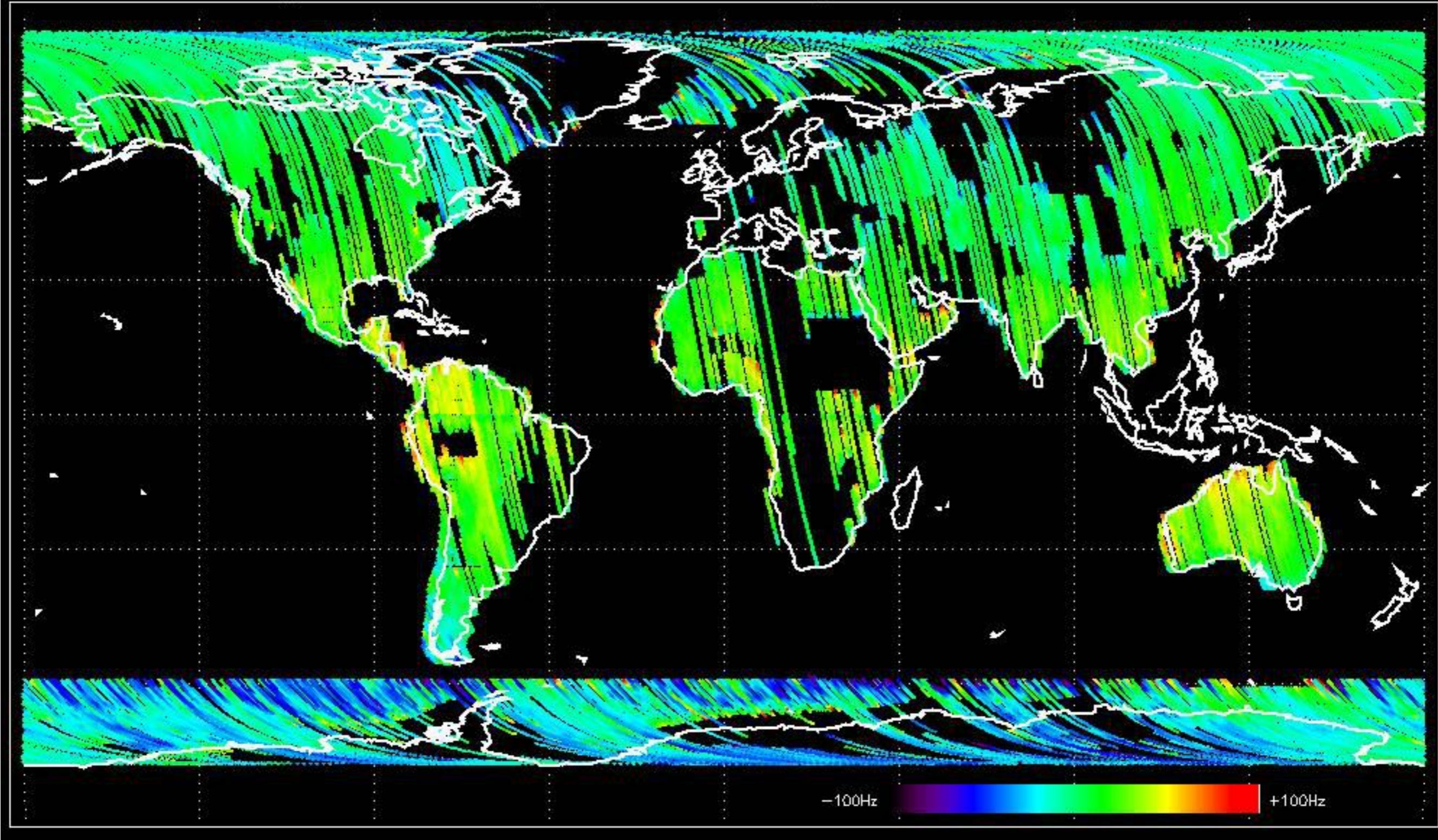


GM1 mode doppler

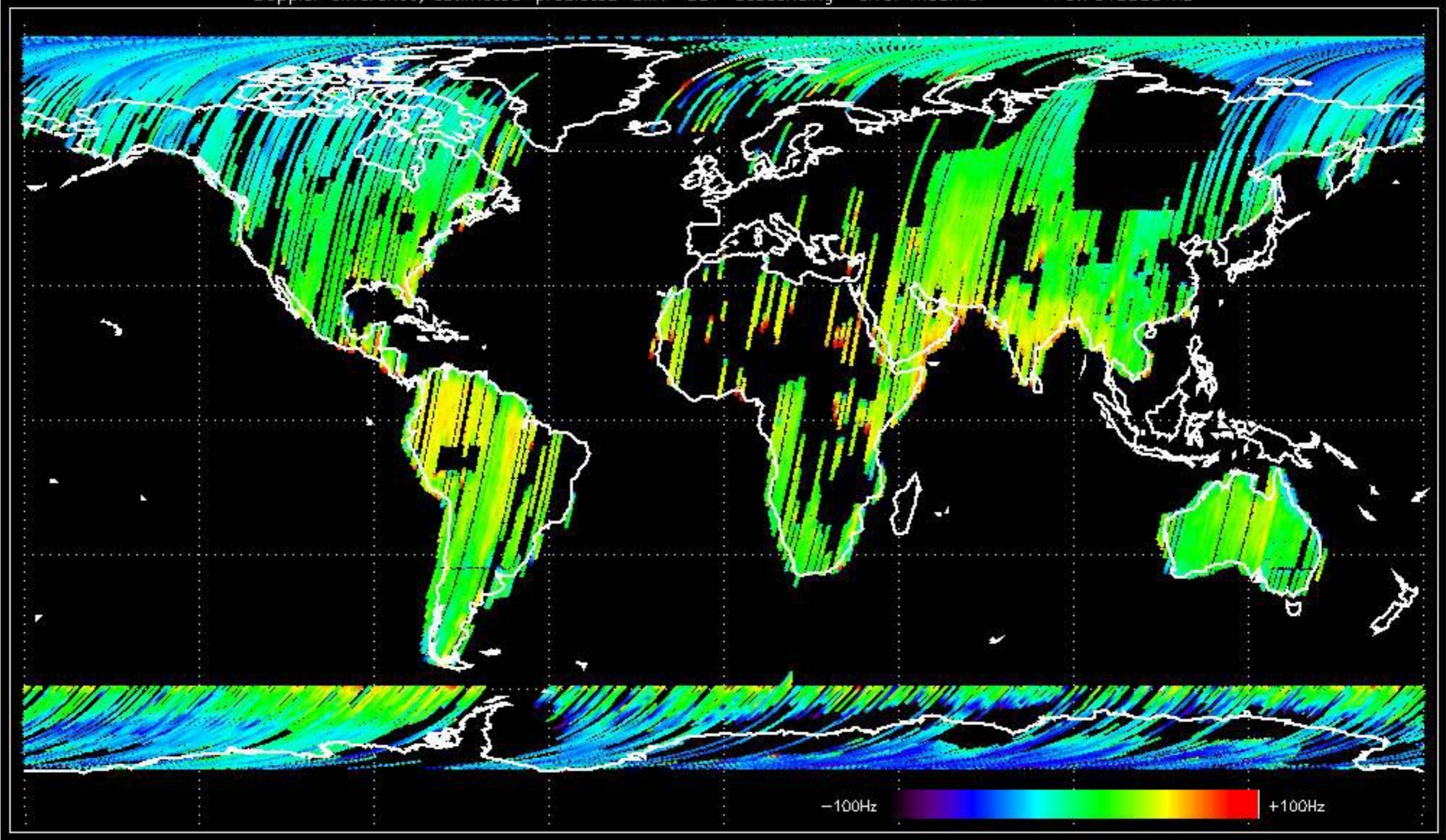




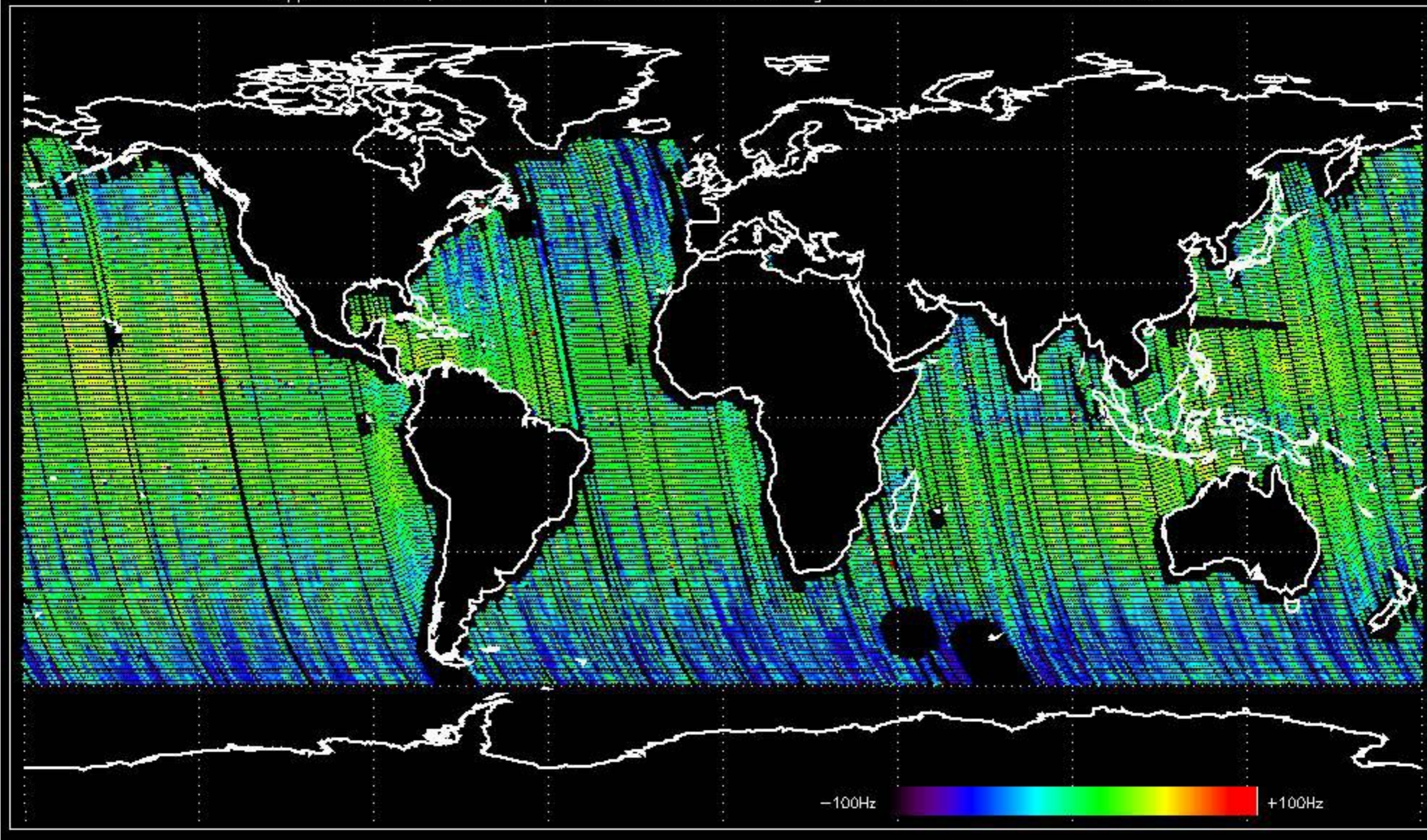
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -14.601485 Hz



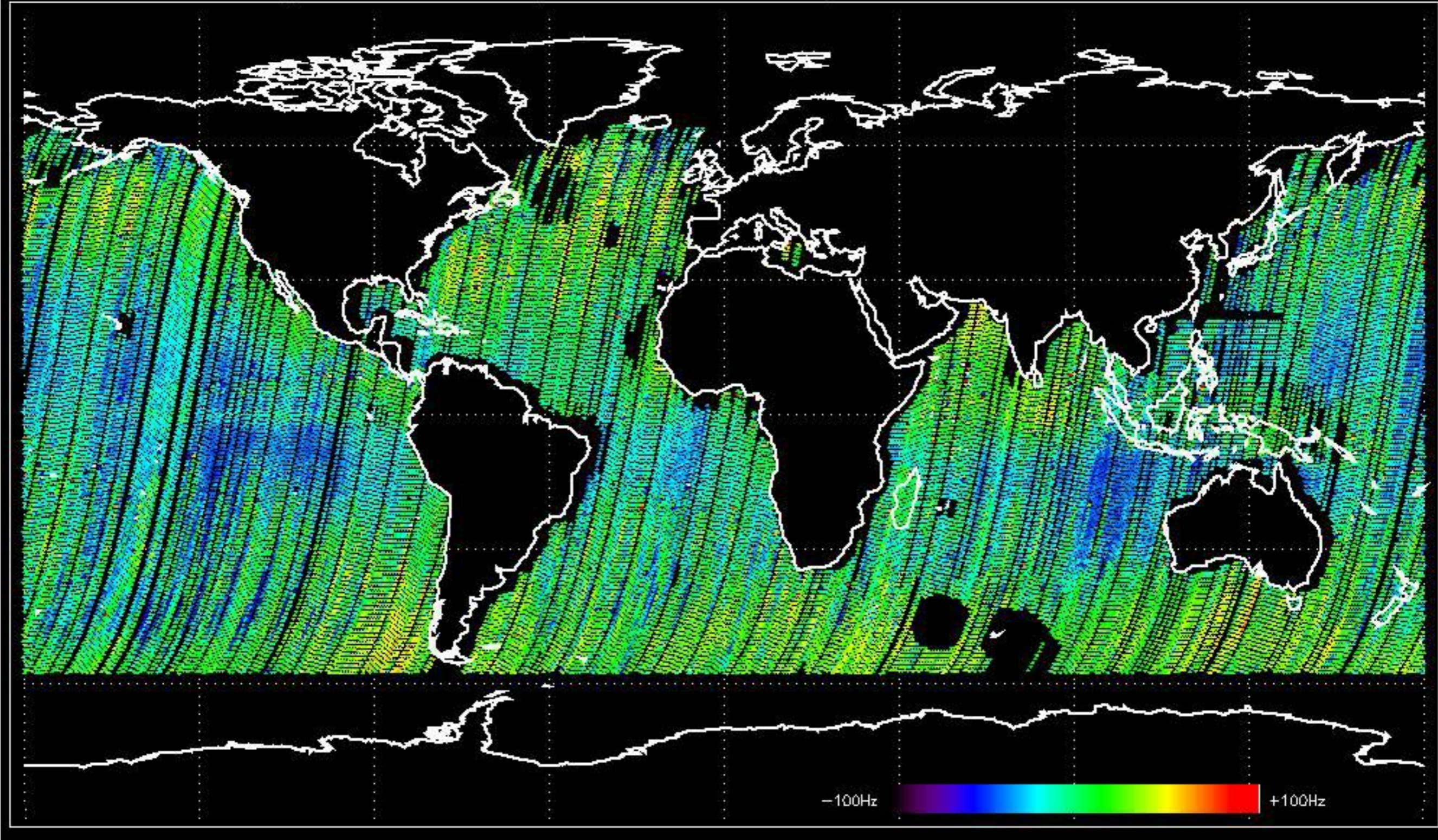
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -3.7015838 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -6.7757268 Hz

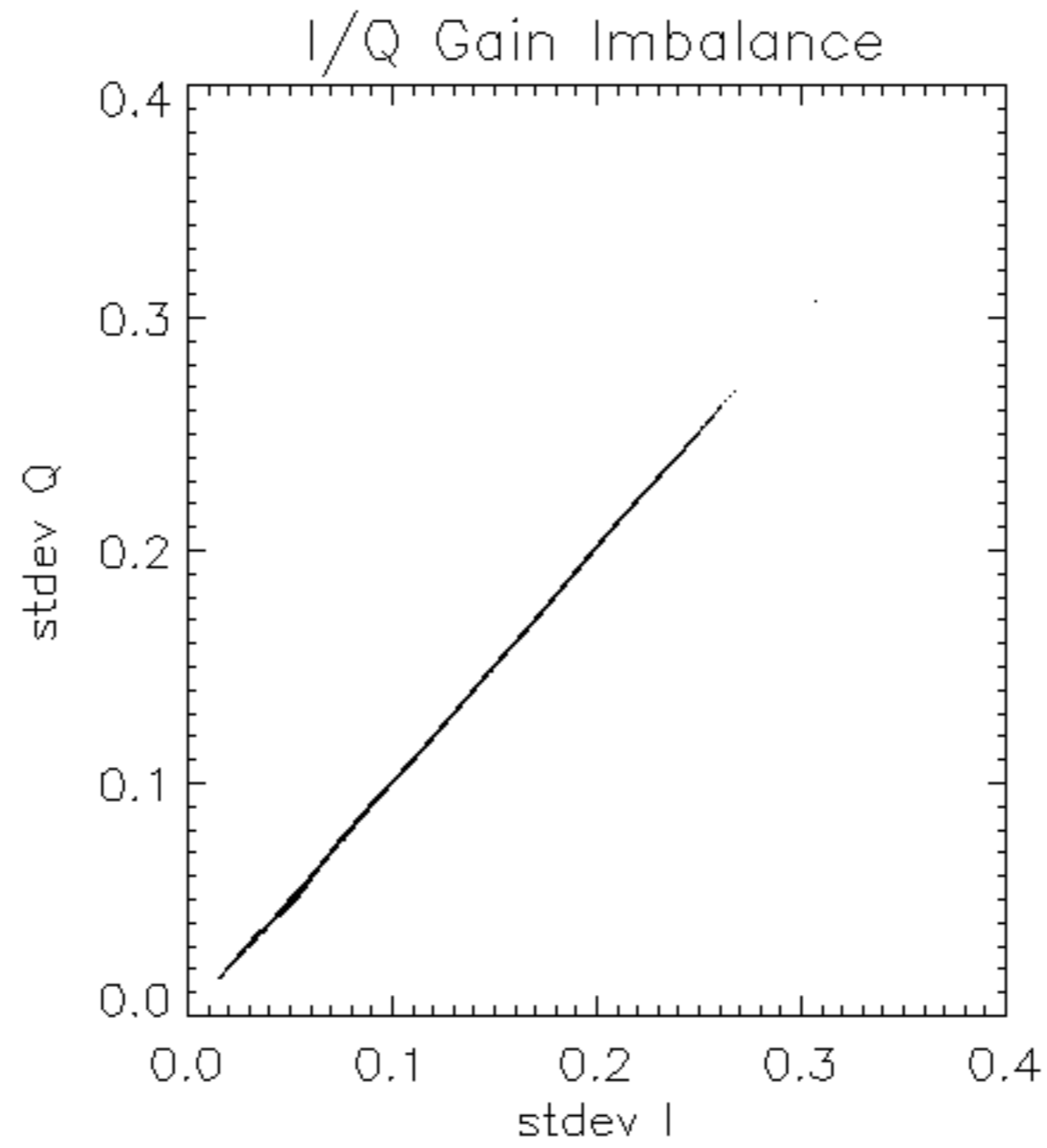


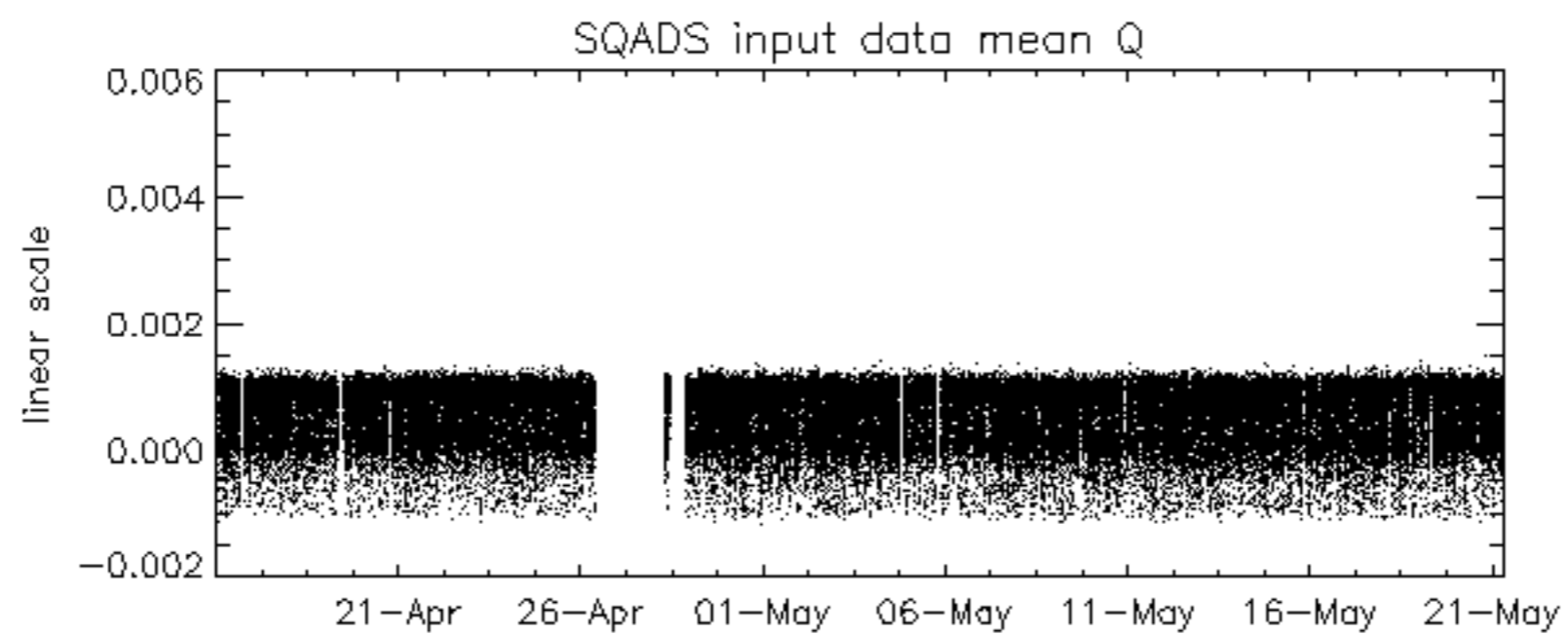
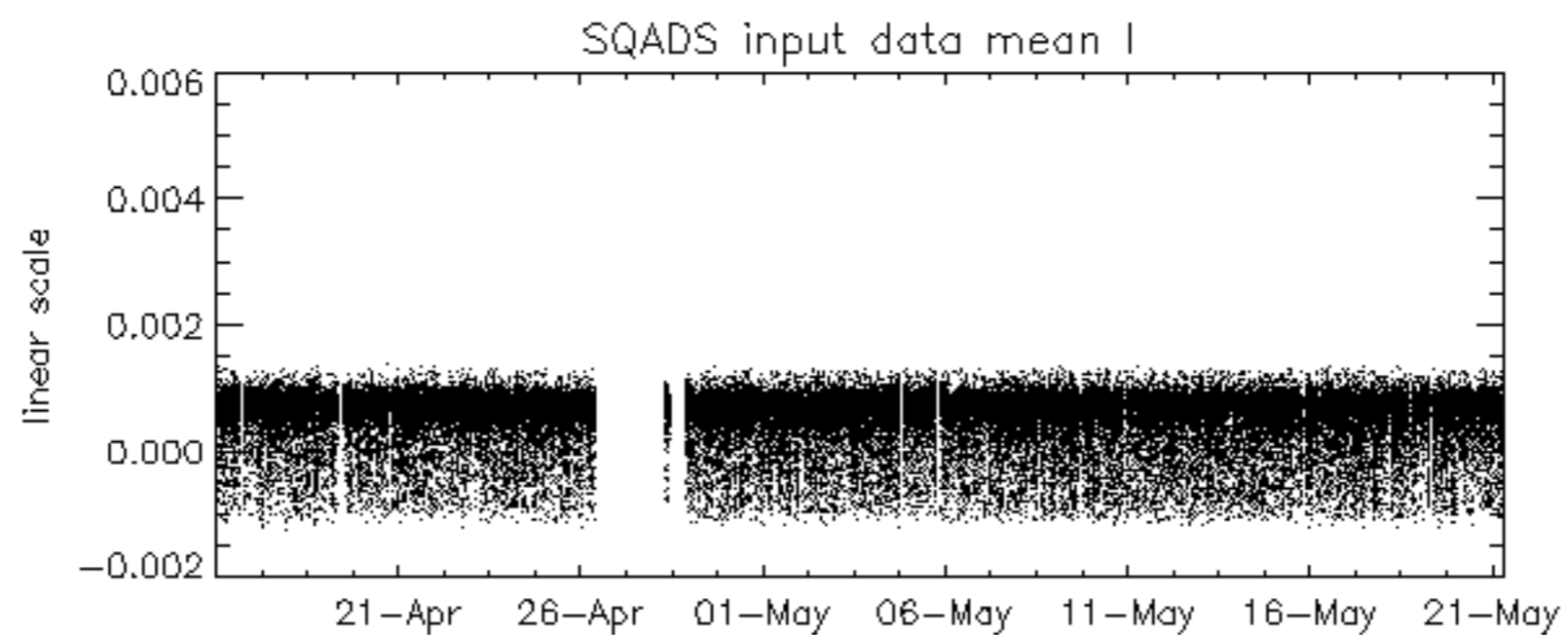
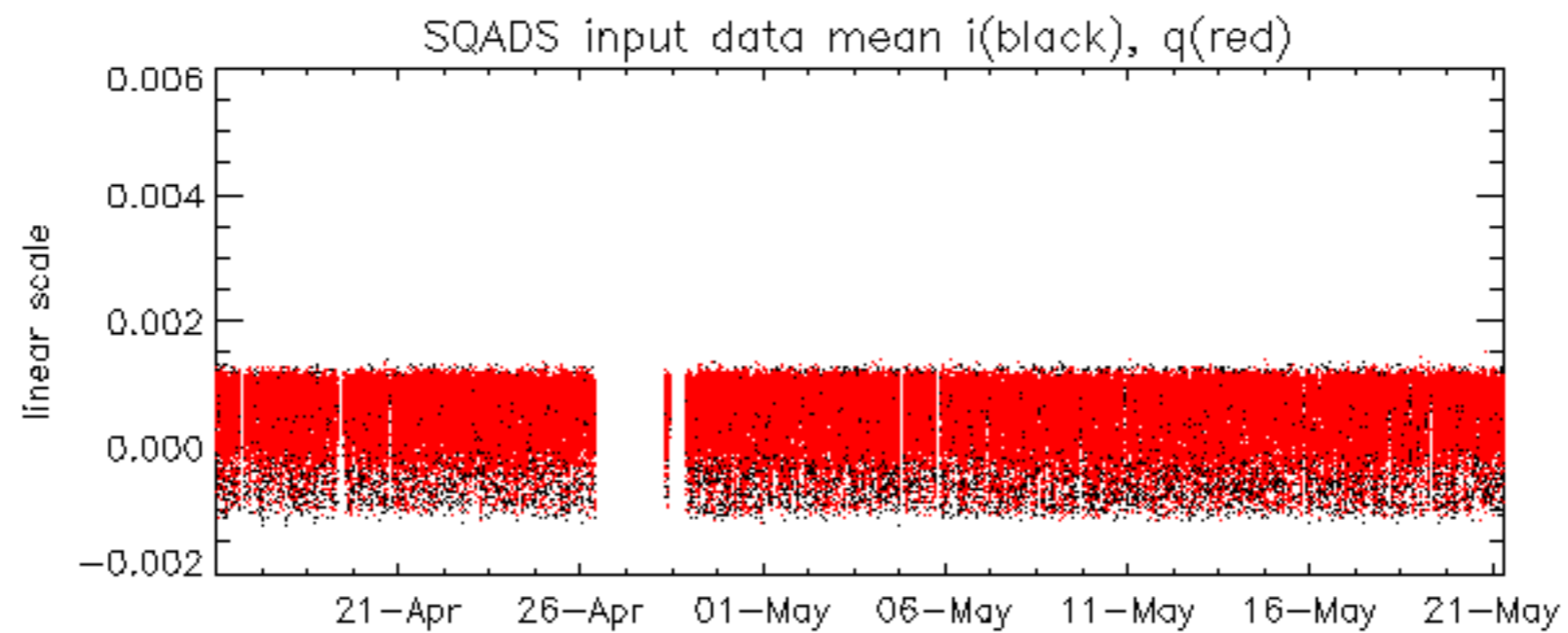
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -10.968256 Hz

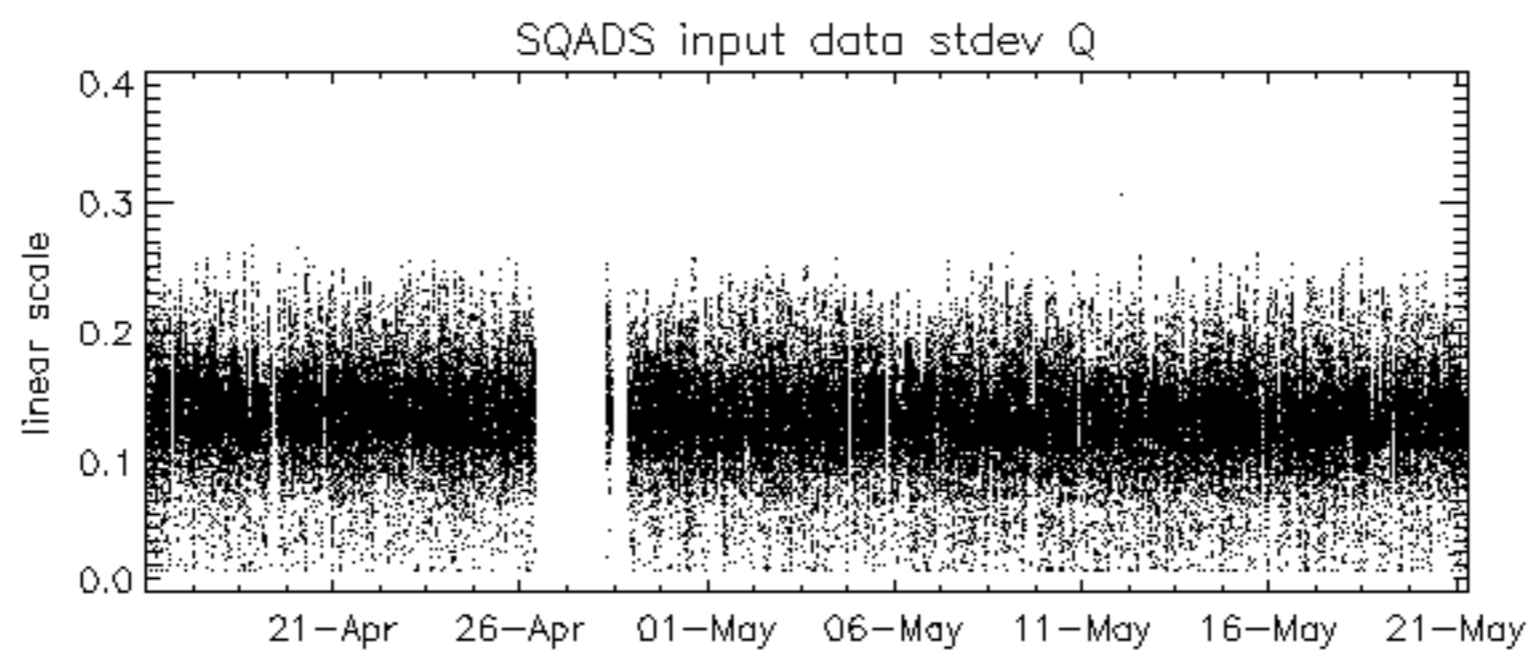
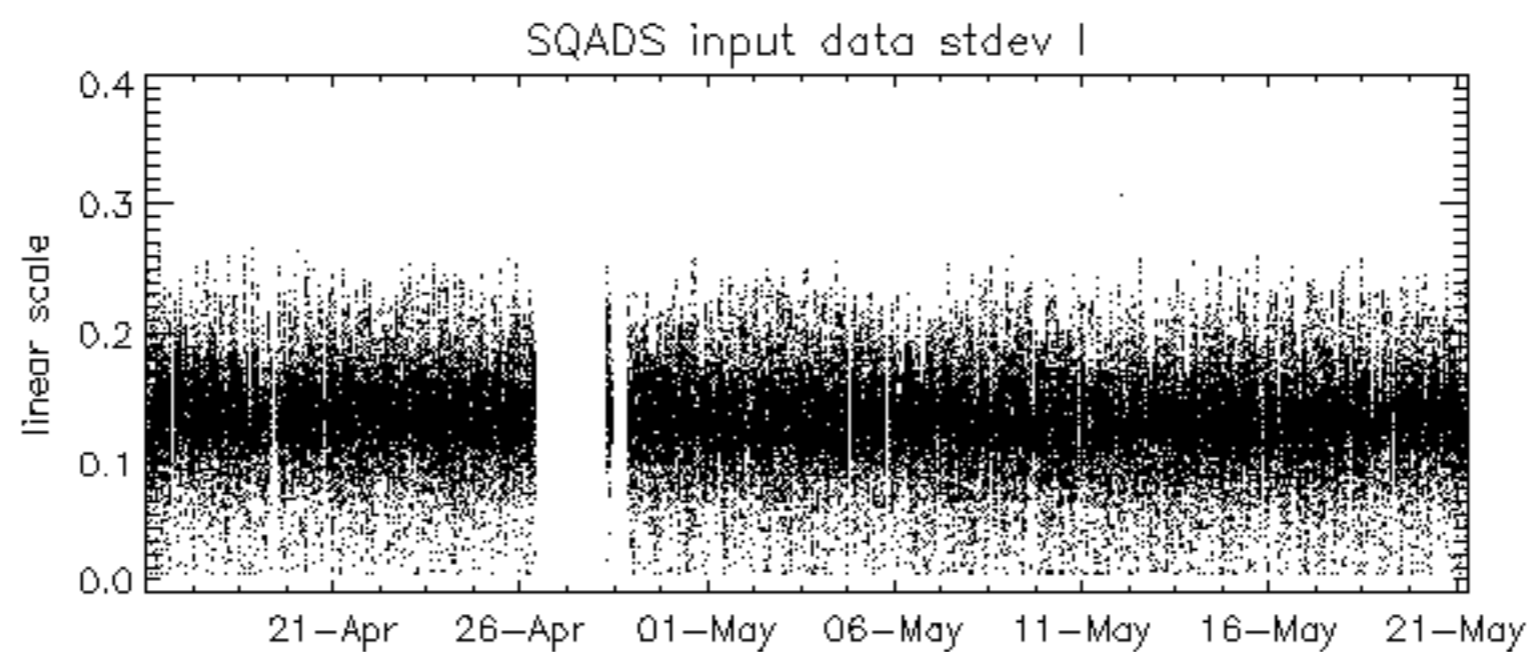
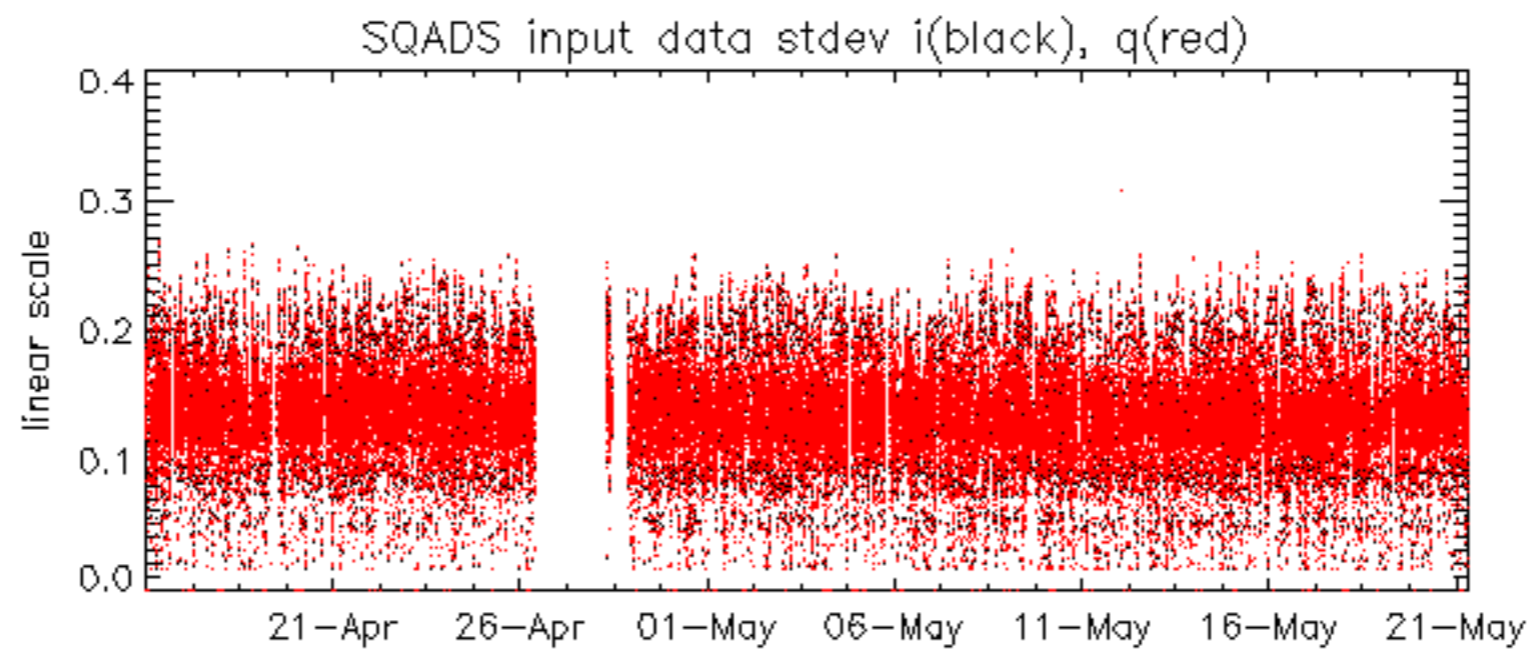


No anomalies observed on available MS products:

No anomalies observed.



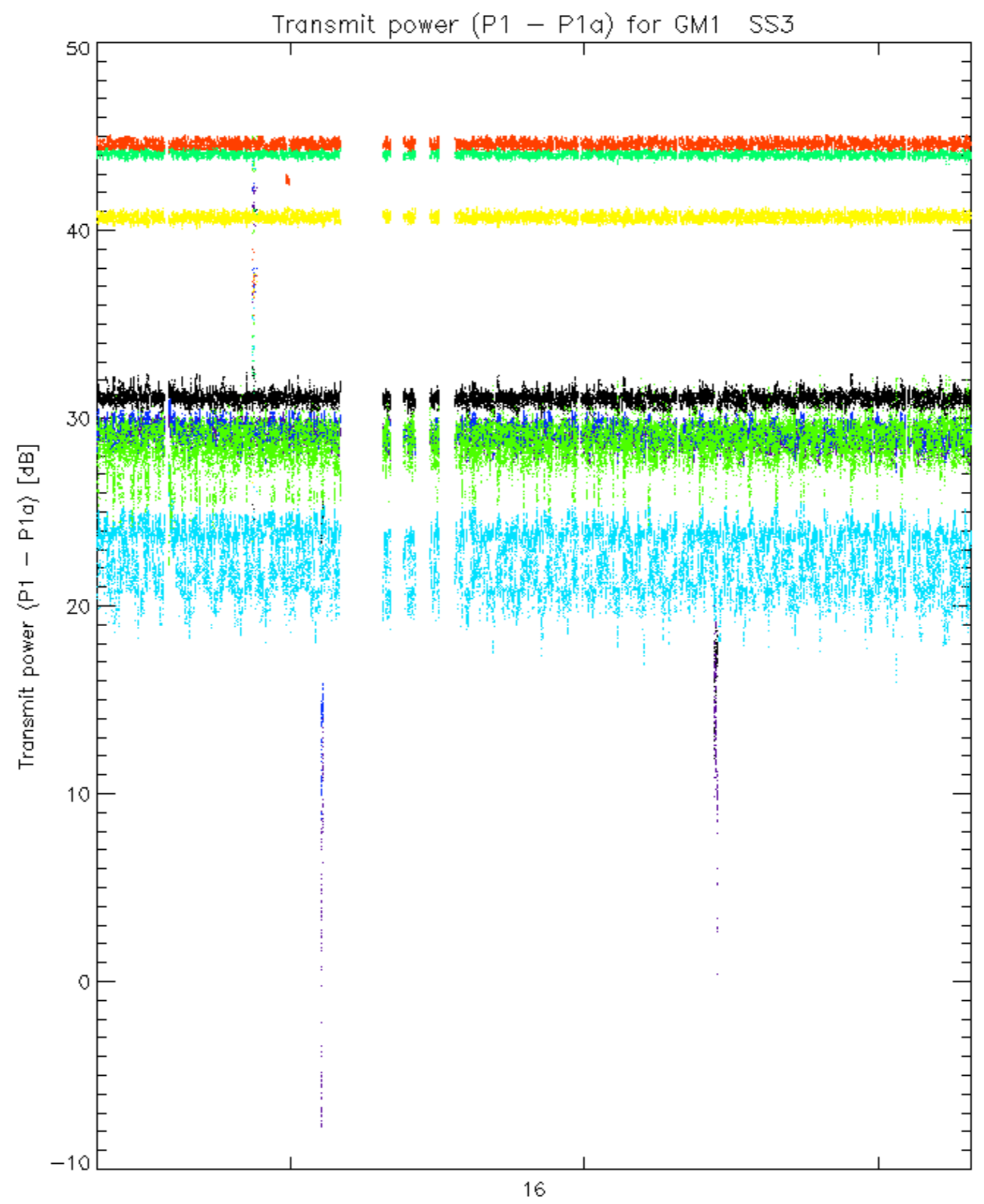




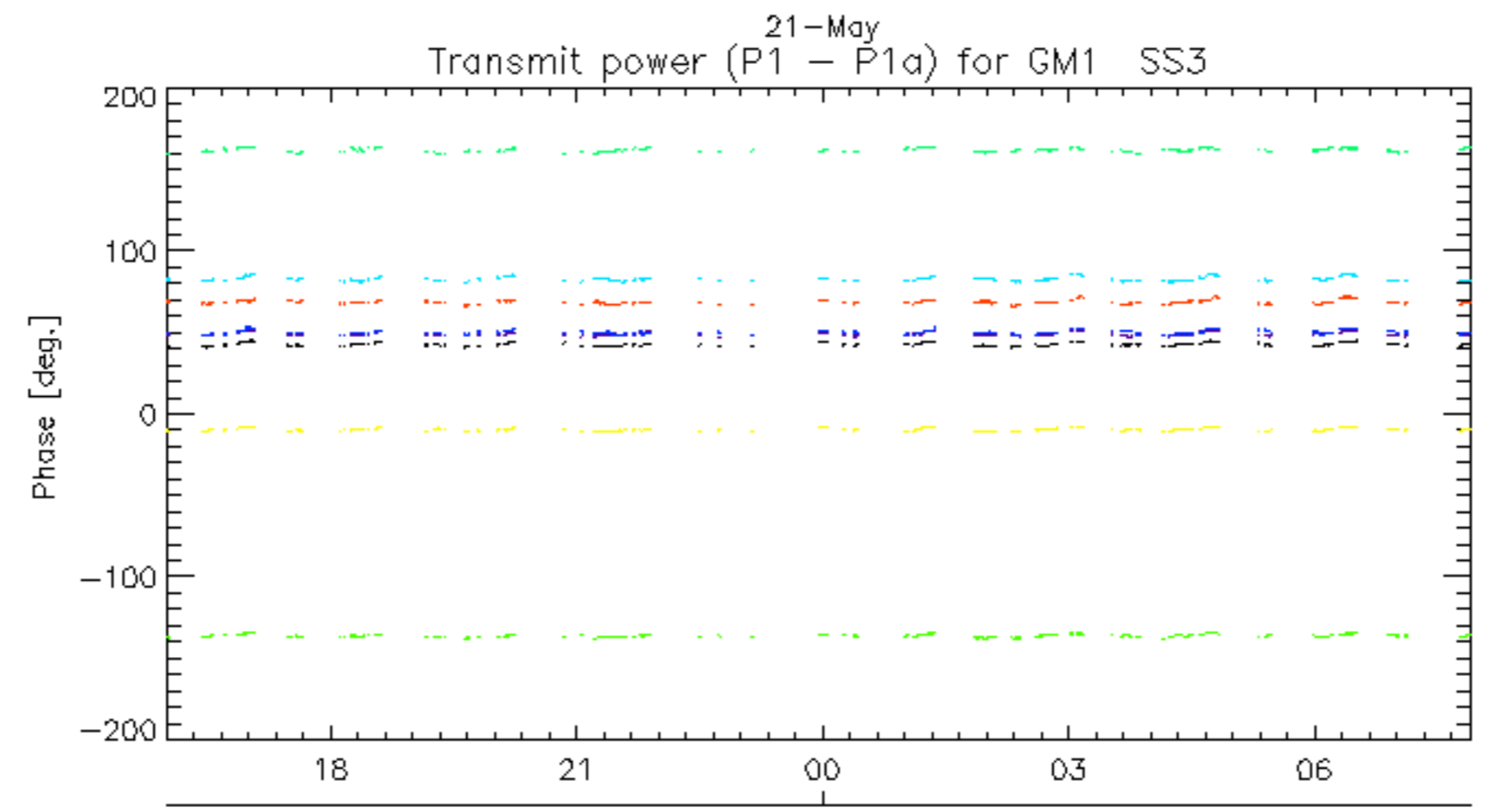
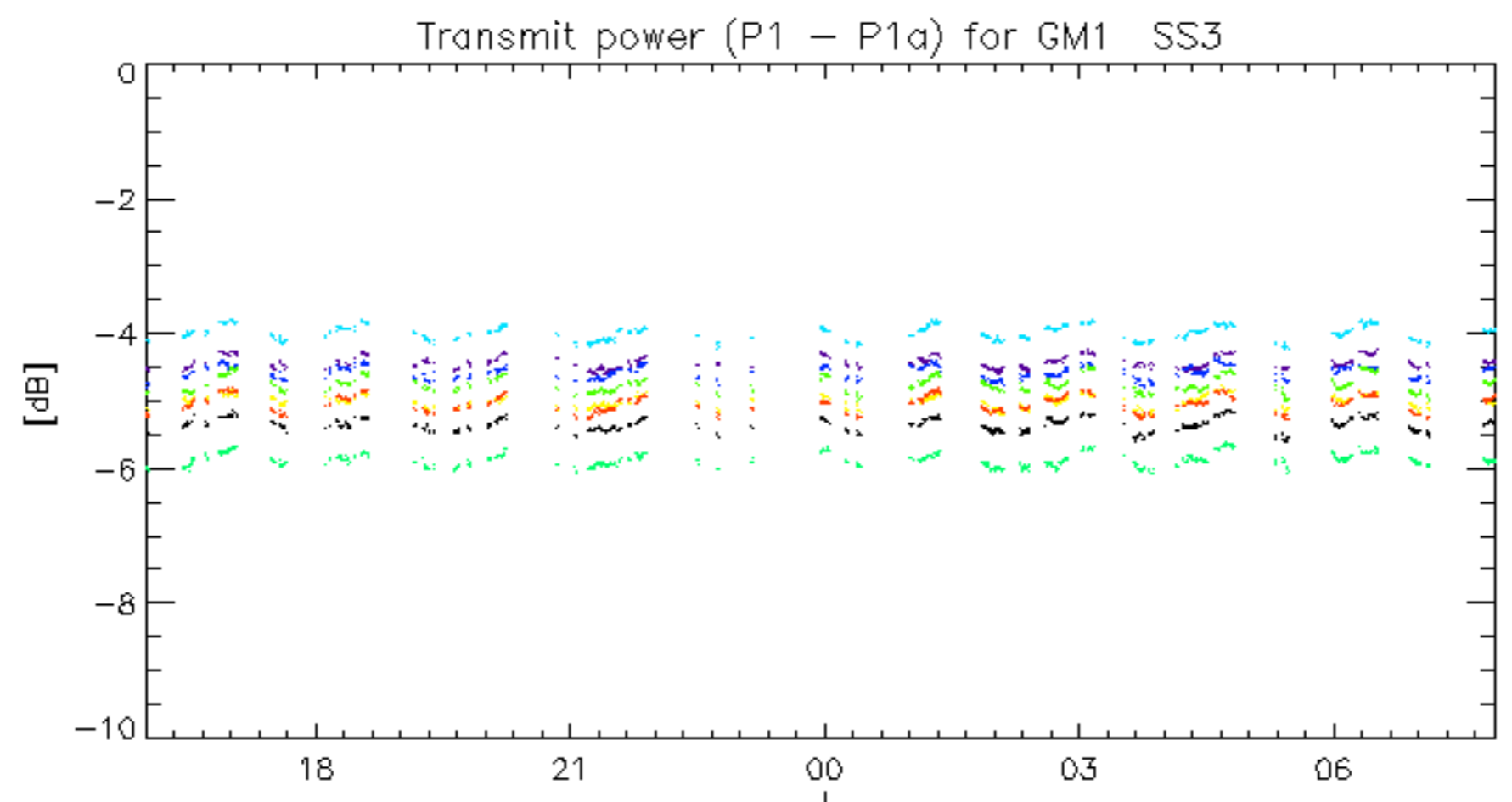
Summary of analysis for the last 3 days 2006052[901]

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

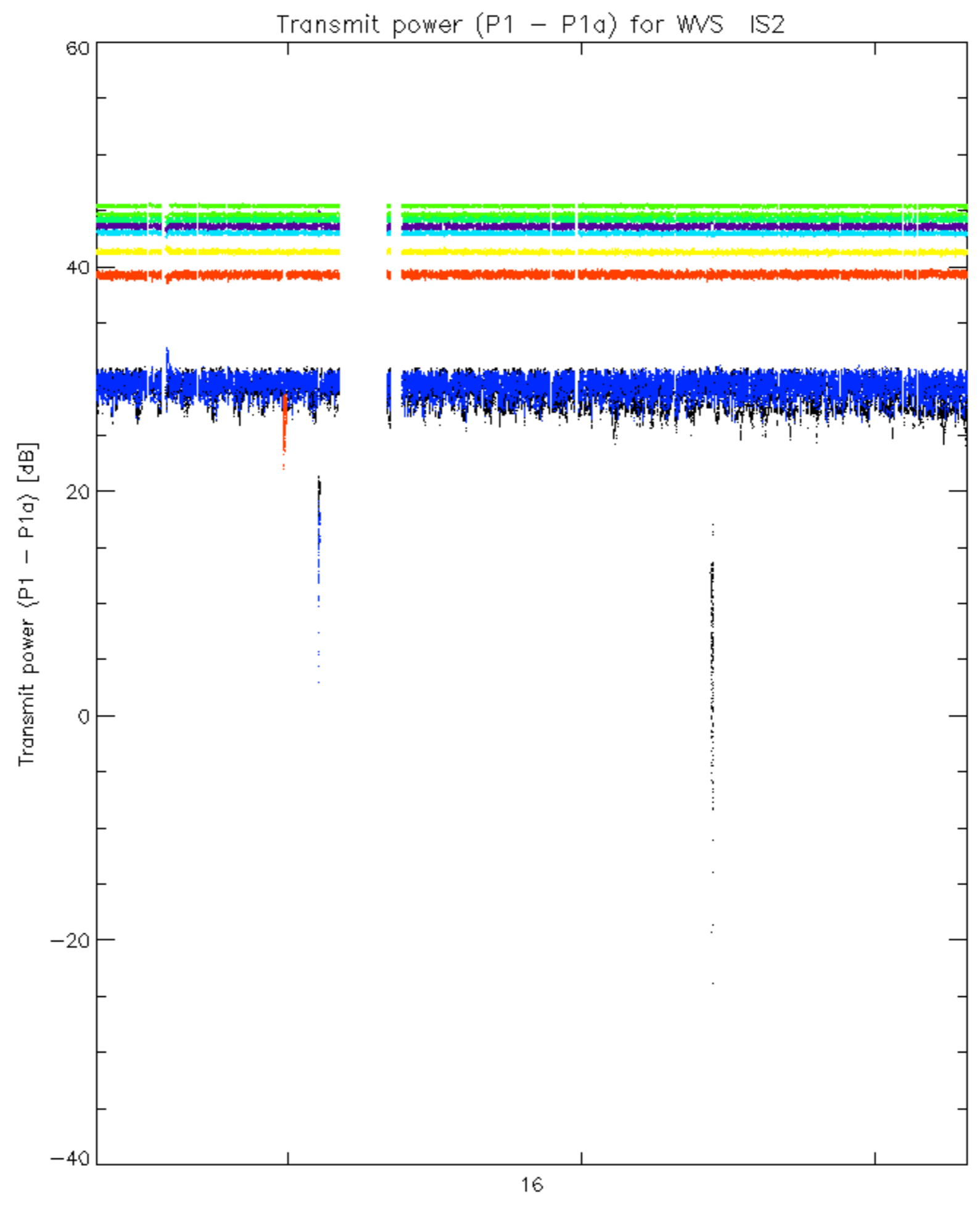
Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20060521_004019_000001342047_00474_22071_5837.N1	1	0
ASA_IMM_1PNPDE20060521_022552_000000362047_00476_22073_5844.N1	1	0
ASA_WSM_1PNPDE20060520_083606_000000852047_00465_22062_9979.N1	0	1
ASA_WSM_1PNPDE20060520_083607_000000852047_00465_22062_9998.N1	0	1
ASA_WSM_1PNPDE20060520_230542_000001222047_00474_22071_0064.N1	0	35



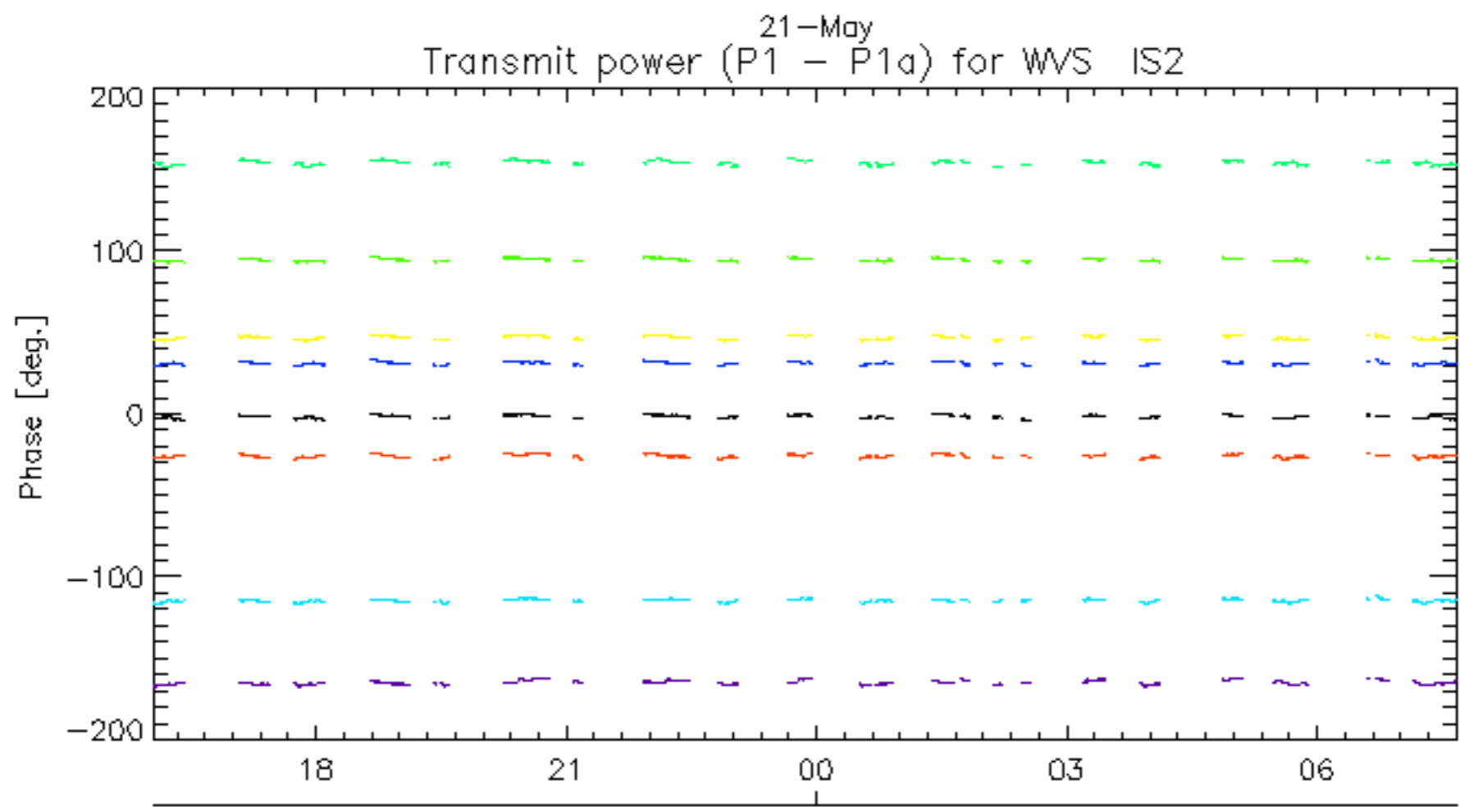
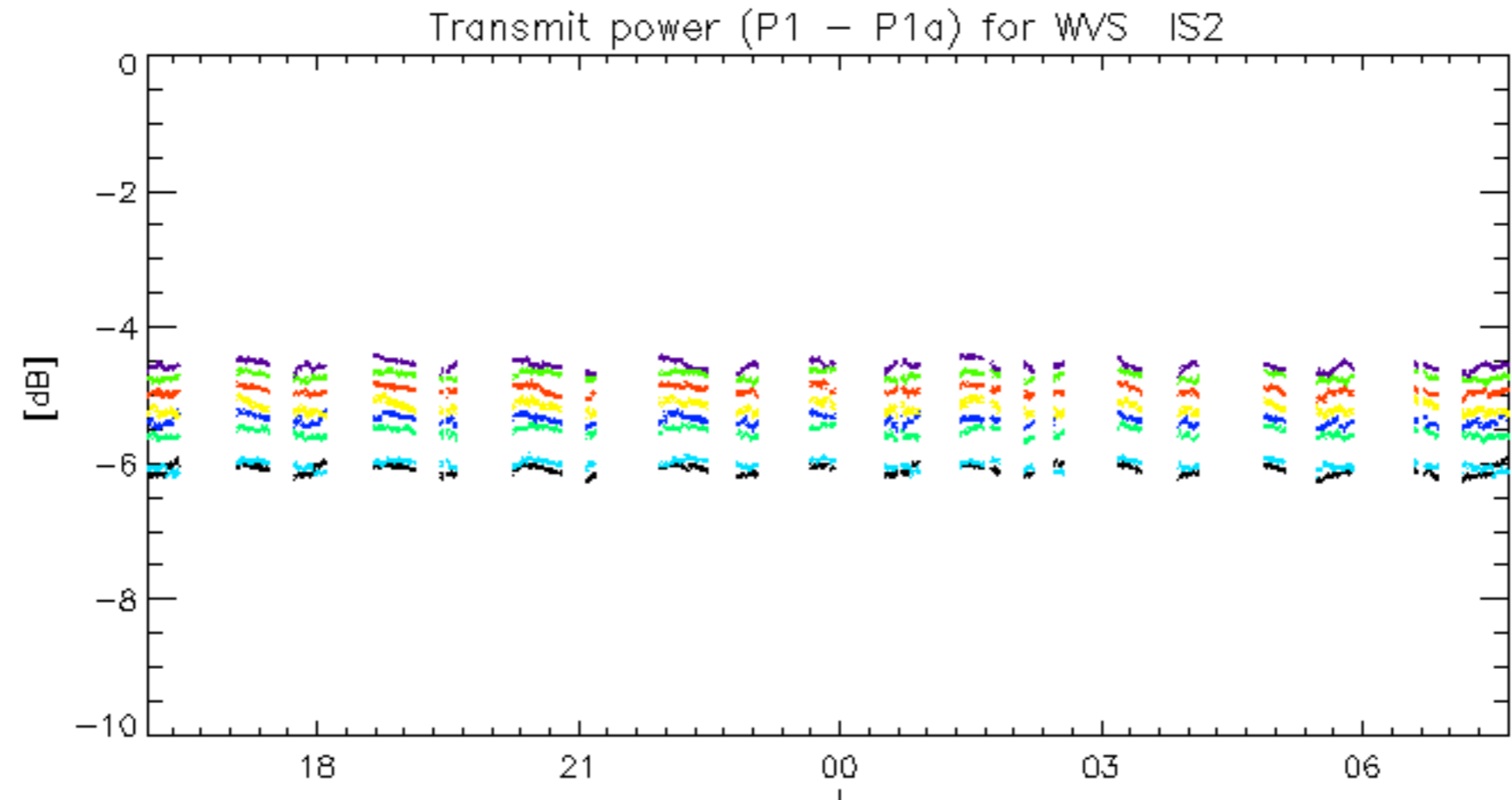
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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.