

REPORT OF 060525

last update on Fri May 26 13:40:11 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. [Wave Doppler analysis](#)
7. [TLM 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

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

The following instrument unavailability is occurred:

Ref : EN-UNA-2006/0171

ASAR Antenna Reset in accordance with procedure CRP_SYS_5041 due to TILE (C1) current lower than expected - back to operations

2.2 - Auxiliary files

Summary of the auxiliary files used from 2006-05-25 00:00:00 to 2006-05-26 13:40:11

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	34	65	14	1	21
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	34	65	14	1	21
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	34	65	14	1	21
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	34	65	14	1	21

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	44	52	30	35	59
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	44	52	30	35	59
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	44	52	30	35	59
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	44	52	30	35	59

2.3 - Browse Visual Inspection

2.2 - Browse Visual Inspection

No anomalies observed on available browse products

2.4 - Data Analysis

2.3 - 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	20060524 170159
H	20060523 173336

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	-3.966502	0.016961	0.012936
7	P1	-3.092028	0.017062	-0.094518
11	P1	-4.107797	0.018193	-0.039305
15	P1	-6.125443	0.020451	-0.029211
19	P1	-3.315851	0.008384	-0.029170
22	P1	-4.524774	0.010894	0.019092
26	P1	-4.000044	0.019851	0.066133
30	P1	-5.743848	0.019311	-0.039425
3	P1	-16.605408	0.294374	0.157765
7	P1	-17.078300	0.187000	-0.263402
11	P1	-16.878180	0.331114	-0.265603
15	P1	-13.200537	0.208348	-0.201572
19	P1	-14.234658	0.047774	-0.160734
22	P1	-16.148321	0.400651	-0.077426
26	P1	-15.306393	0.259190	0.188440
30	P1	-16.957762	0.346255	-0.298532

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.240274	0.083276	0.132444
7	P2	-22.128447	0.100143	0.162337
11	P2	-15.970292	0.112079	0.134751
15	P2	-7.169193	0.093716	-0.001880

19	P2	-9.164282	0.086368	-0.027999
22	P2	-18.104729	0.084234	-0.099850
26	P2	-16.354040	0.089381	-0.097589
30	P2	-19.595453	0.085630	0.047759

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.191945	0.003774	0.002340
7	P3	-8.191945	0.003774	0.002340
11	P3	-8.191945	0.003774	0.002340
15	P3	-8.191945	0.003774	0.002340
19	P3	-8.191945	0.003774	0.002340
22	P3	-8.191945	0.003774	0.002340
26	P3	-8.191966	0.003775	0.002441
30	P3	-8.191966	0.003775	0.002441

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	-3.767508	0.085498	-0.110172
7	P1	-2.626066	0.122587	0.080797
11	P1	-2.868187	0.039664	-0.016654
15	P1	-3.500822	0.055717	0.015423
19	P1	-3.393798	0.014624	-0.025252
22	P1	-5.094332	0.021550	0.038725
26	P1	-5.836957	0.020645	-0.028407
30	P1	-5.184603	0.043209	-0.040301

3	P1	-11.604043	0.137358	-0.046406
7	P1	-9.962666	0.168519	0.044114
11	P1	-10.193717	0.111383	0.037882
15	P1	-10.626235	0.161080	0.100923
19	P1	-15.495232	0.085999	-0.089380
22	P1	-20.845181	1.253528	-0.249870
26	P1	-16.474152	0.367292	-0.126437
30	P1	-18.072788	0.477251	0.260404

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.917606	0.071432	0.079987
7	P2	-22.522520	0.175419	-0.001041
11	P2	-11.192228	0.049337	0.013318
15	P2	-4.899525	0.042159	-0.054237
19	P2	-6.876890	0.041075	-0.021351
22	P2	-8.189179	0.052589	-0.043803
26	P2	-24.085829	0.125803	-0.096771
30	P2	-22.059996	0.087905	-0.045088

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.024731	0.003799	0.004120
7	P3	-8.024875	0.003803	0.003983
11	P3	-8.024831	0.003780	0.003934
15	P3	-8.024690	0.003799	0.004122
19	P3	-8.024815	0.003804	0.004580
22	P3	-8.024875	0.003791	0.004110
26	P3	-8.024751	0.003787	0.003812
30	P3	-8.024828	0.003802	0.004176

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	0.000534214
	stdev	1.89296e-07
MEAN Q	mean	0.000514897
	stdev	2.26648e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.134916
	stdev	0.00116202
STDEV Q	mean	0.135260
	stdev	0.00117902



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2006052[345]

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_1PNPDE20060524_004516_000001932048_00016_22114_6100.N1	1	0
ASA_IMM_1PNPDE20060524_155402_000000702048_00025_22123_6119.N1	1	0
ASA_WSM_1PNPDE20060523_163146_000001282048_00012_22110_0468.N1	0	47
ASA_WSM_1PNPDE20060523_231127_000001152048_00016_22114_0537.N1	0	35
ASA_WSM_1PNPDE20060523_235742_000003302048_00016_22114_0549.N1	0	34
ASA_WSM_1PNPDE20060524_013517_000000852048_00017_22115_0566.N1	0	39
ASA_WSM_1PNPDE20060524_113721_000001472048_00023_22121_0630.N1	0	45





7 - Doppler Analysis

Preliminary report. The data is not yet controlled



6.1 - Unbiased Doppler Error for WVS

Evolution of unbiased Doppler error (Real - Expected)


Acsending

Descending

6.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler


Acsending

Descending

6.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX**6.4 - Unbiased Doppler Error for GM1****Evolution of unbiased Doppler error (Real - Expected)**

Acsending

Descending

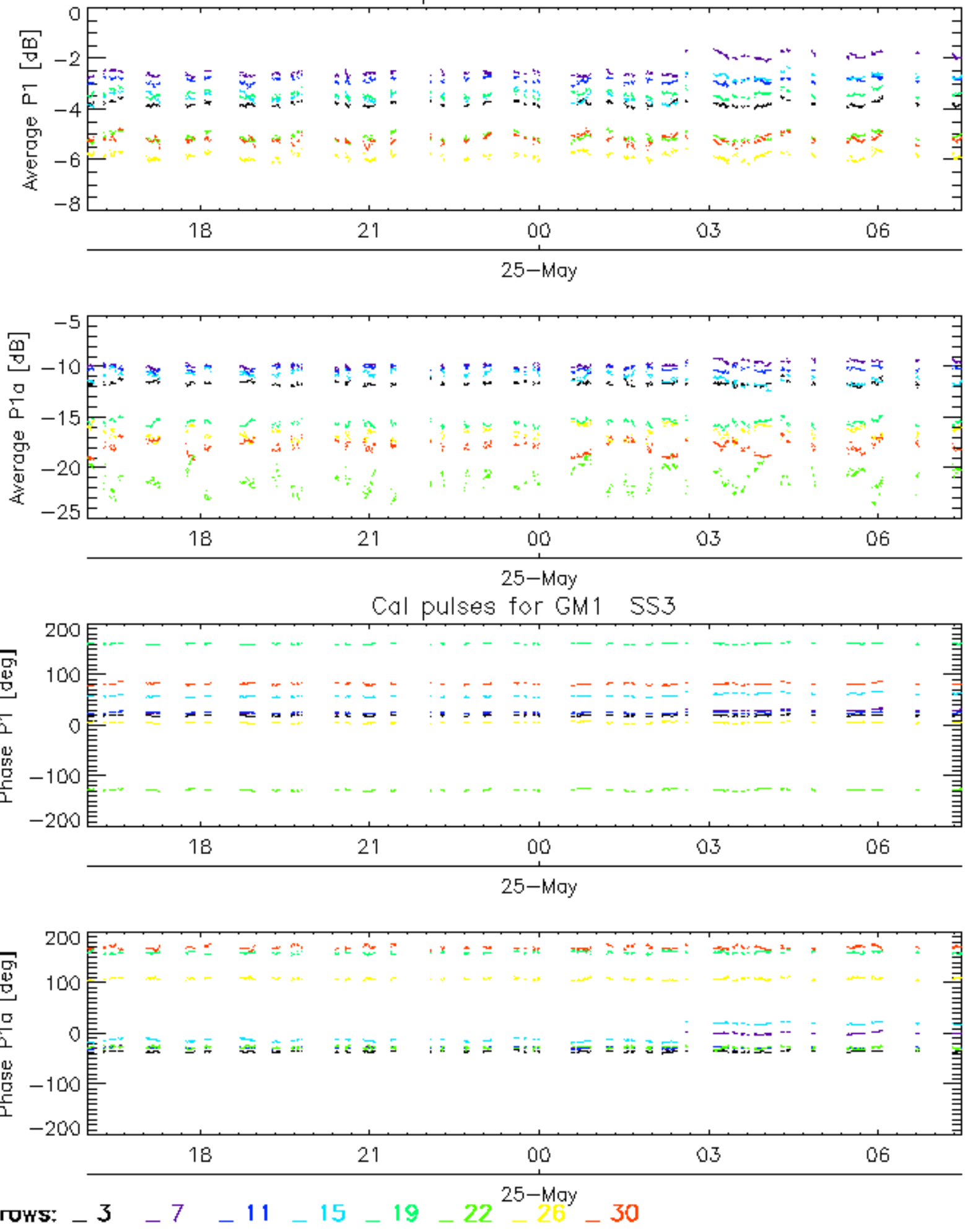
6.5 - Absolute Doppler for GM1**Evolution of Absolute Doppler**

Acsending

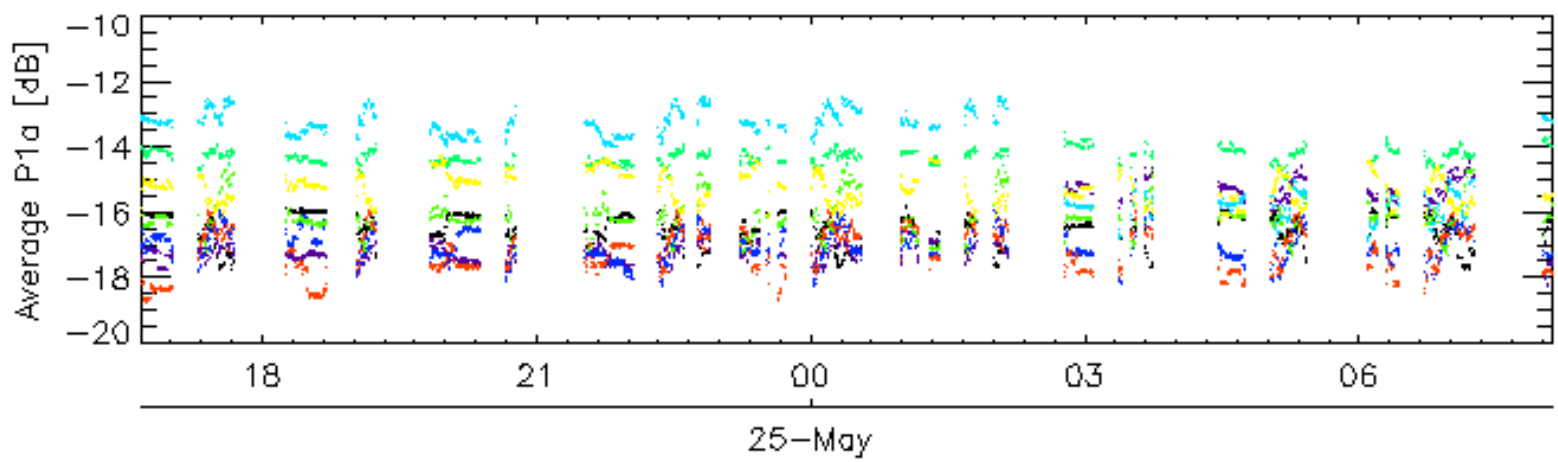
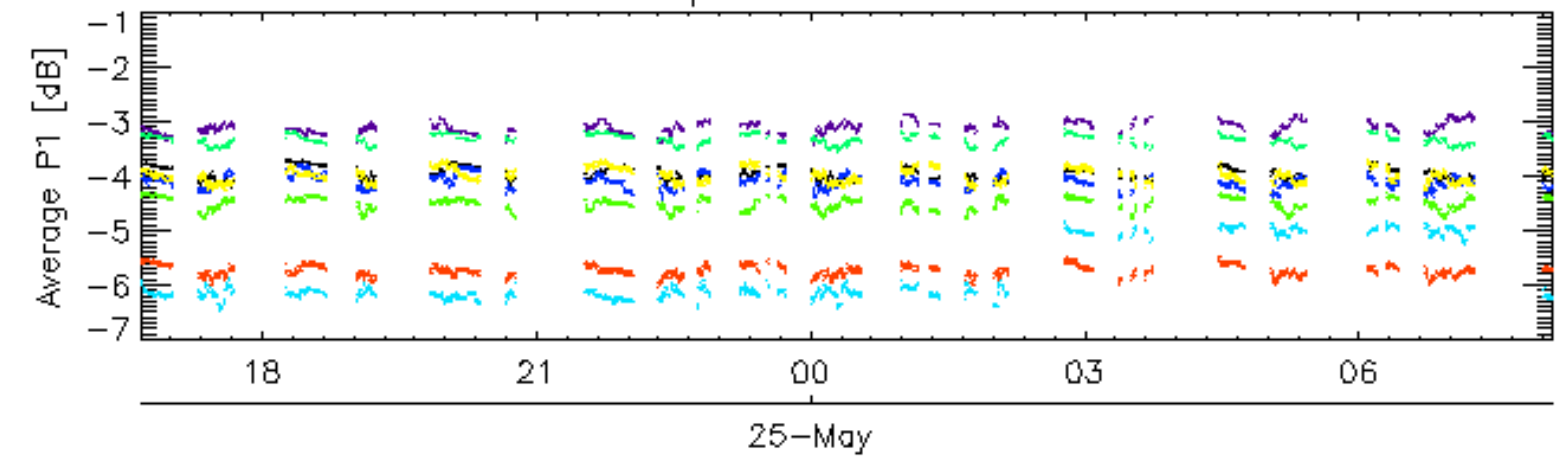
Descending

6.6 - Doppler evolution versus ANX for GM1**Evolution Doppler error versus ANX**

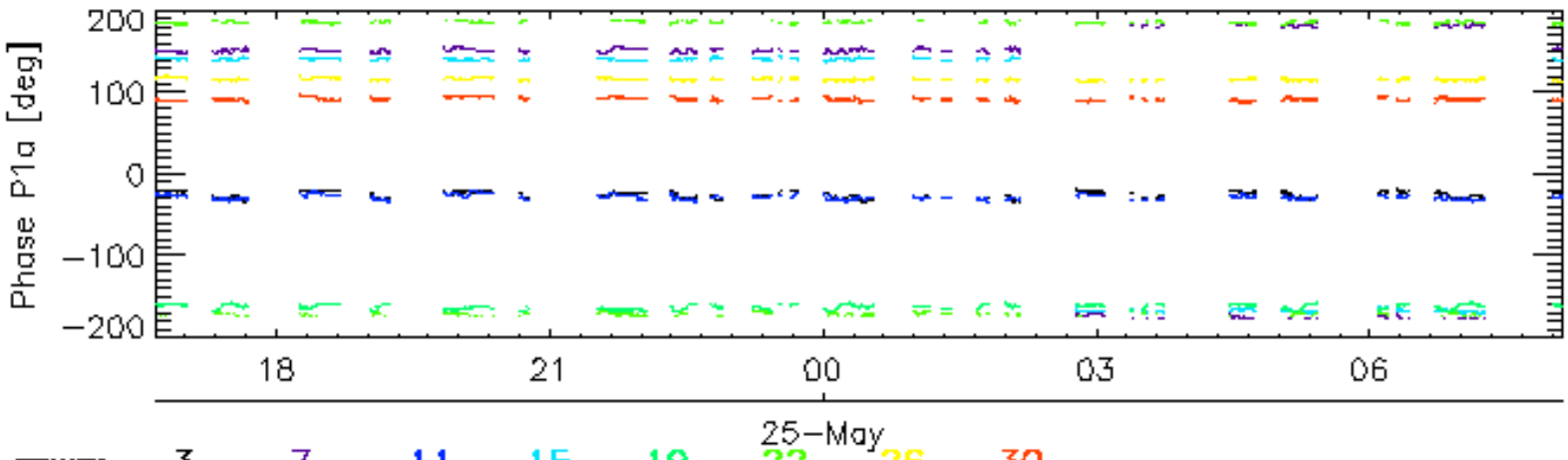
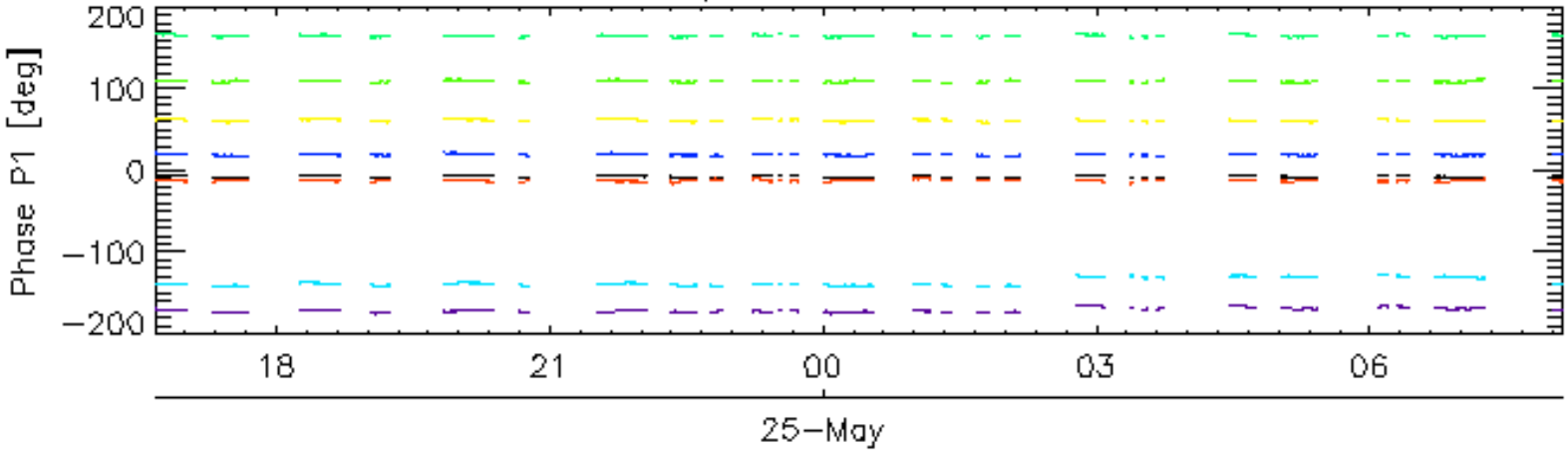
Cal pulses for GM1 SS3



Cal pulses for WVS IS2

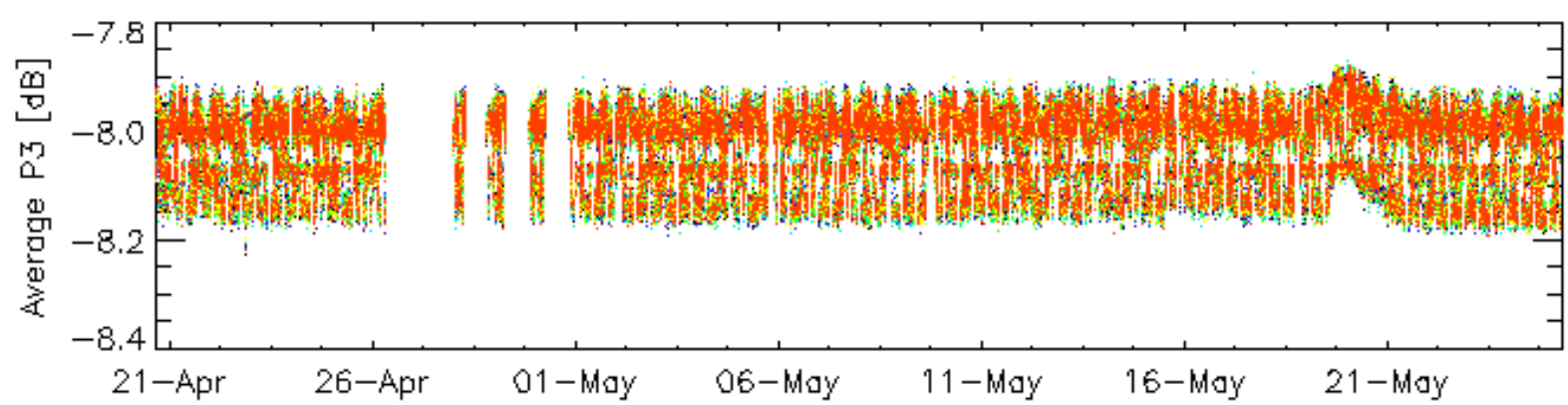
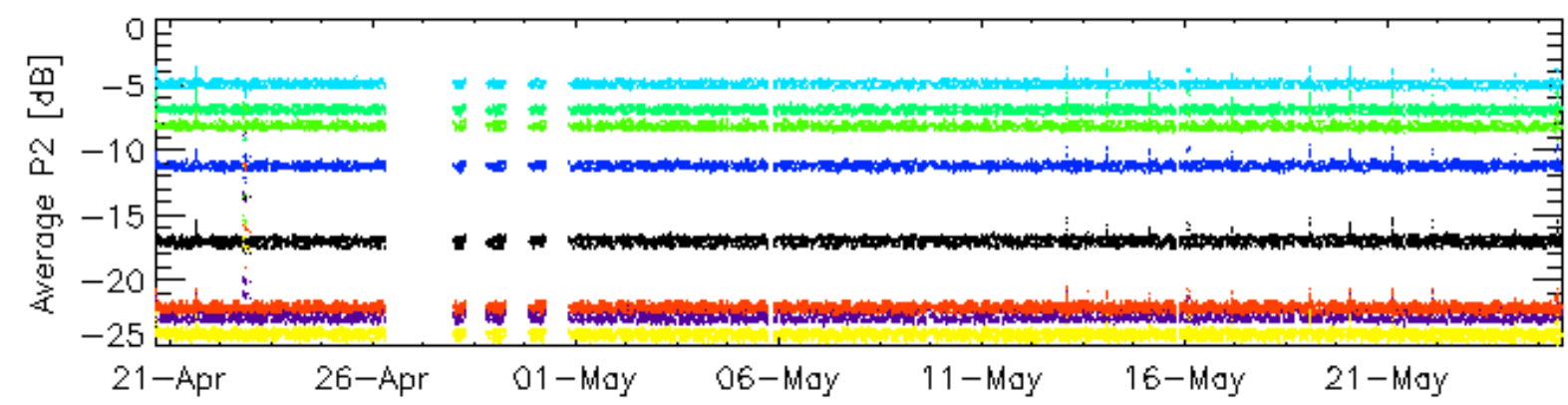
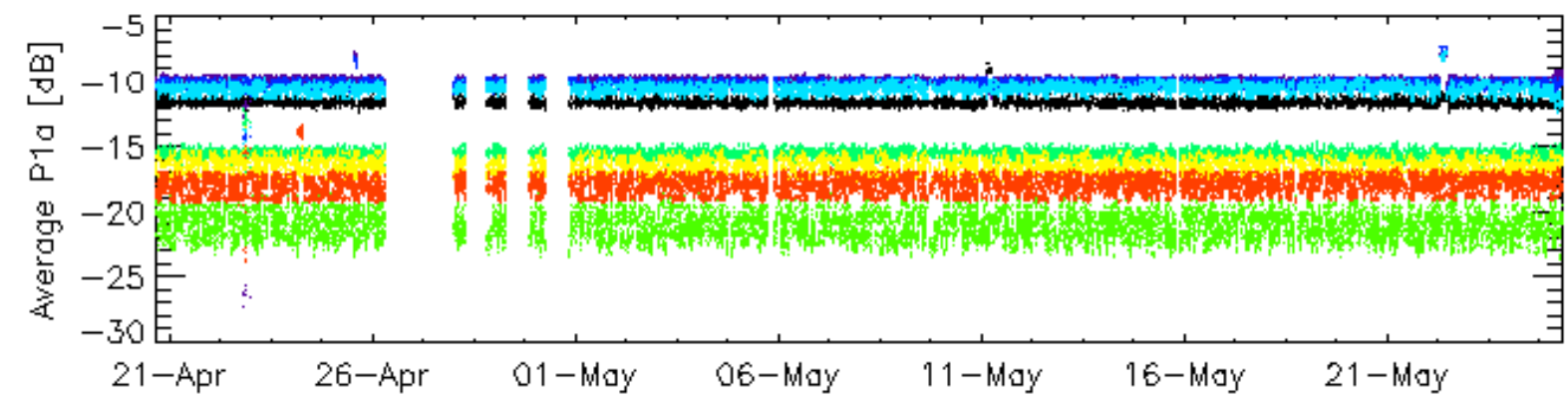
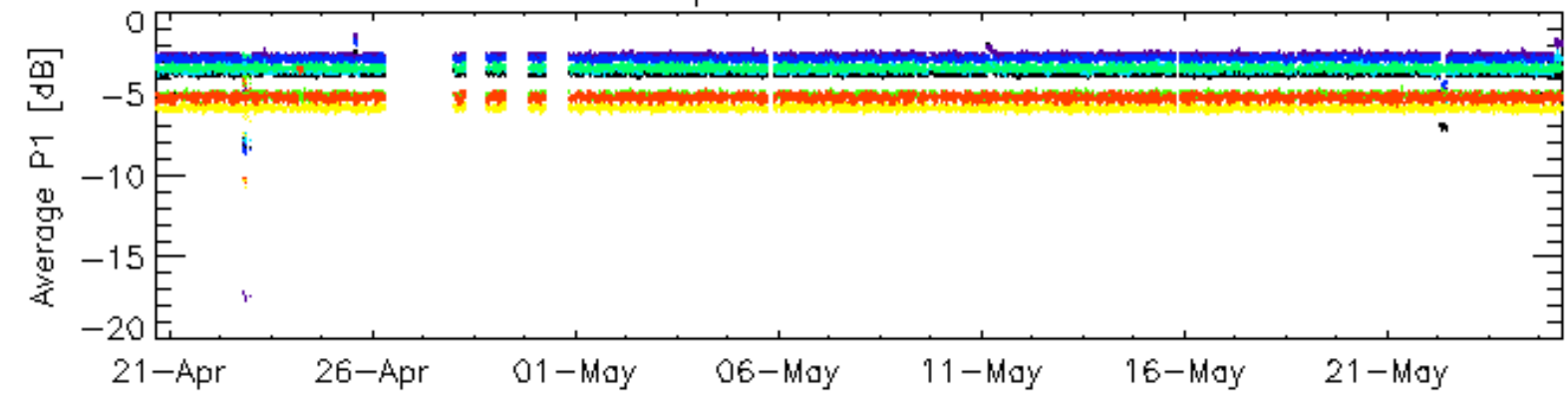


Cal pulses for WVS IS2



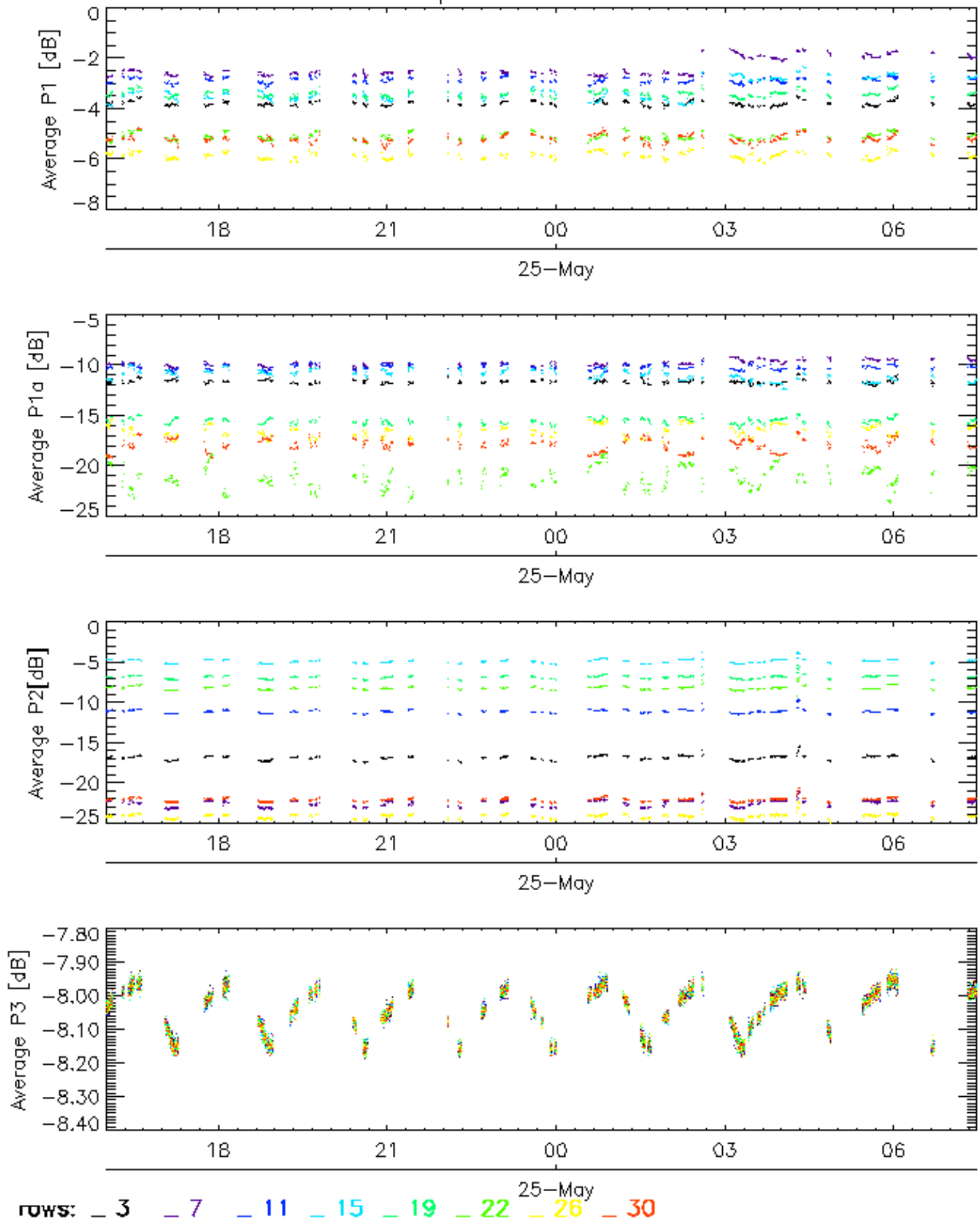
rows: 3 7 11 15 19 22 26 30

Cal pulses for GM1 SS3

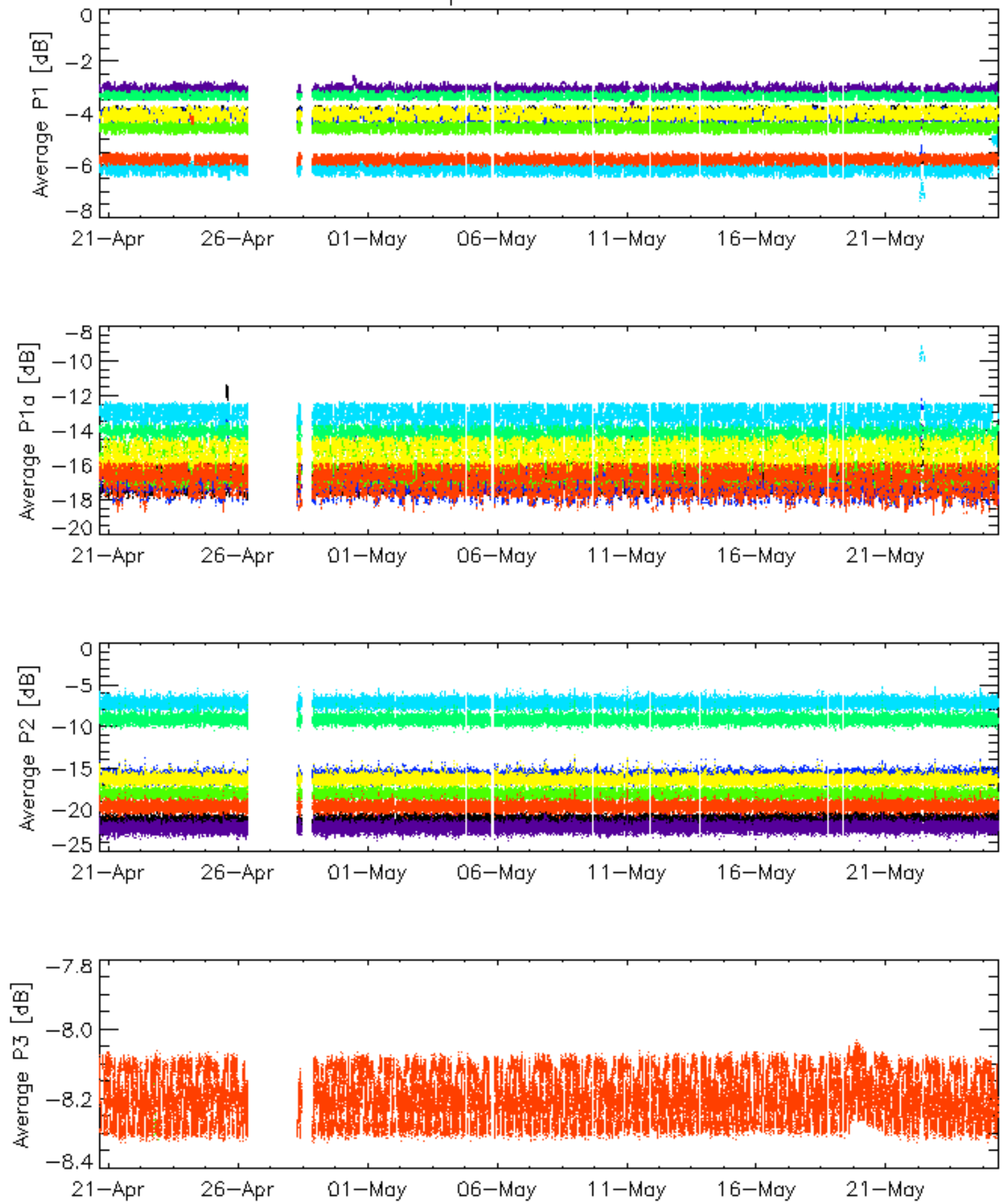


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

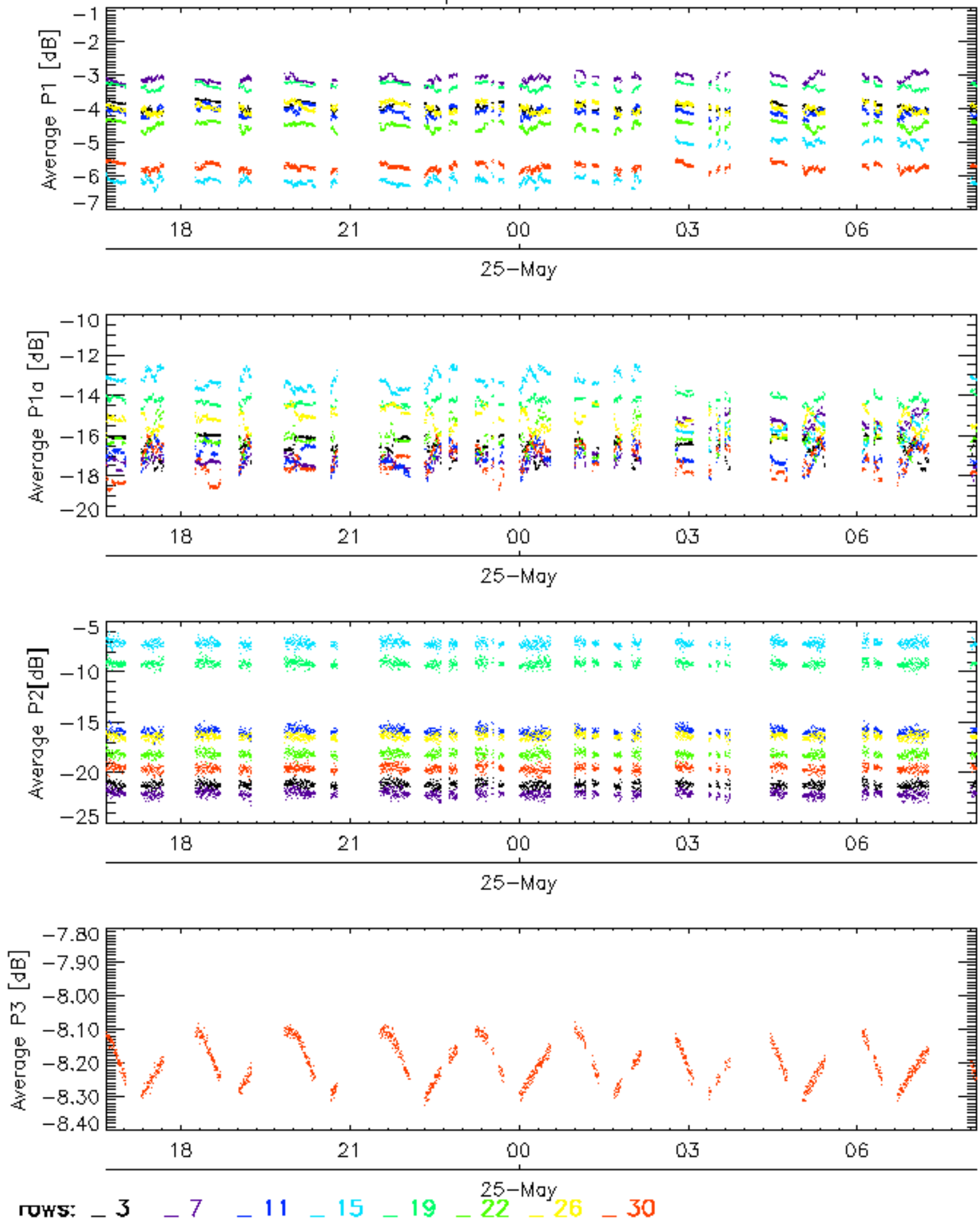


Cal pulses for WVS IS2



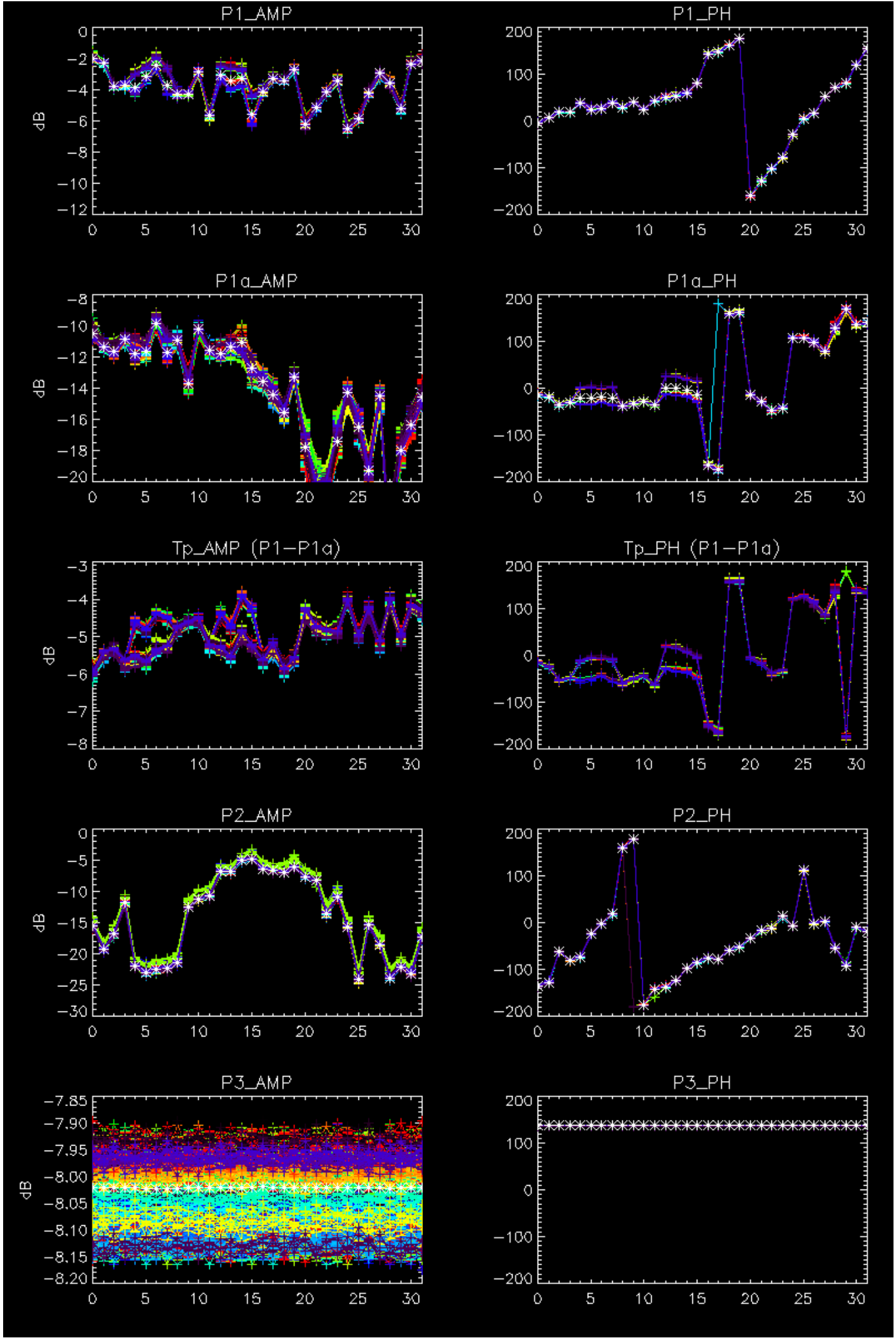
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

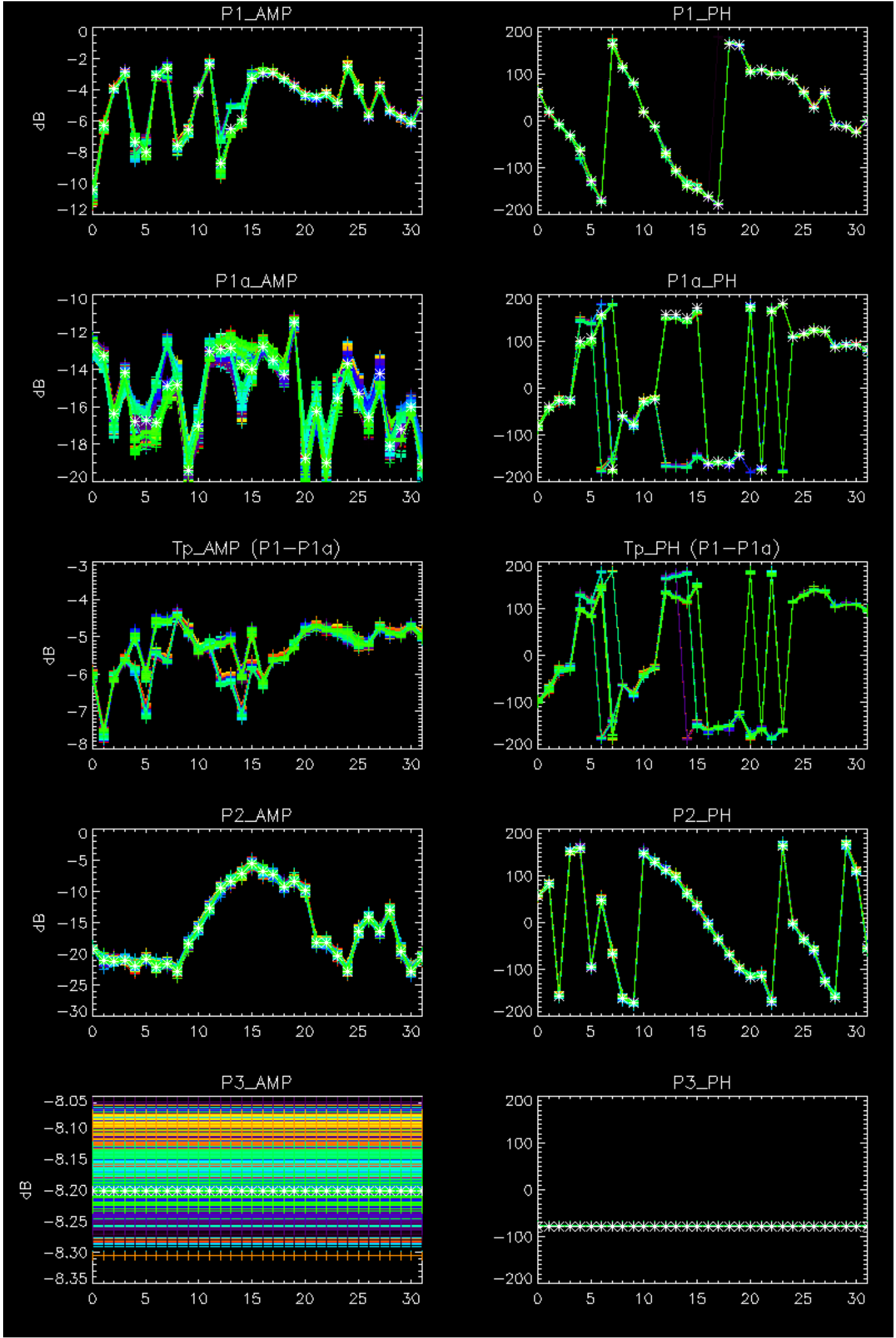
Cal pulses for WVS IS2



No anomalies observed on available browse products

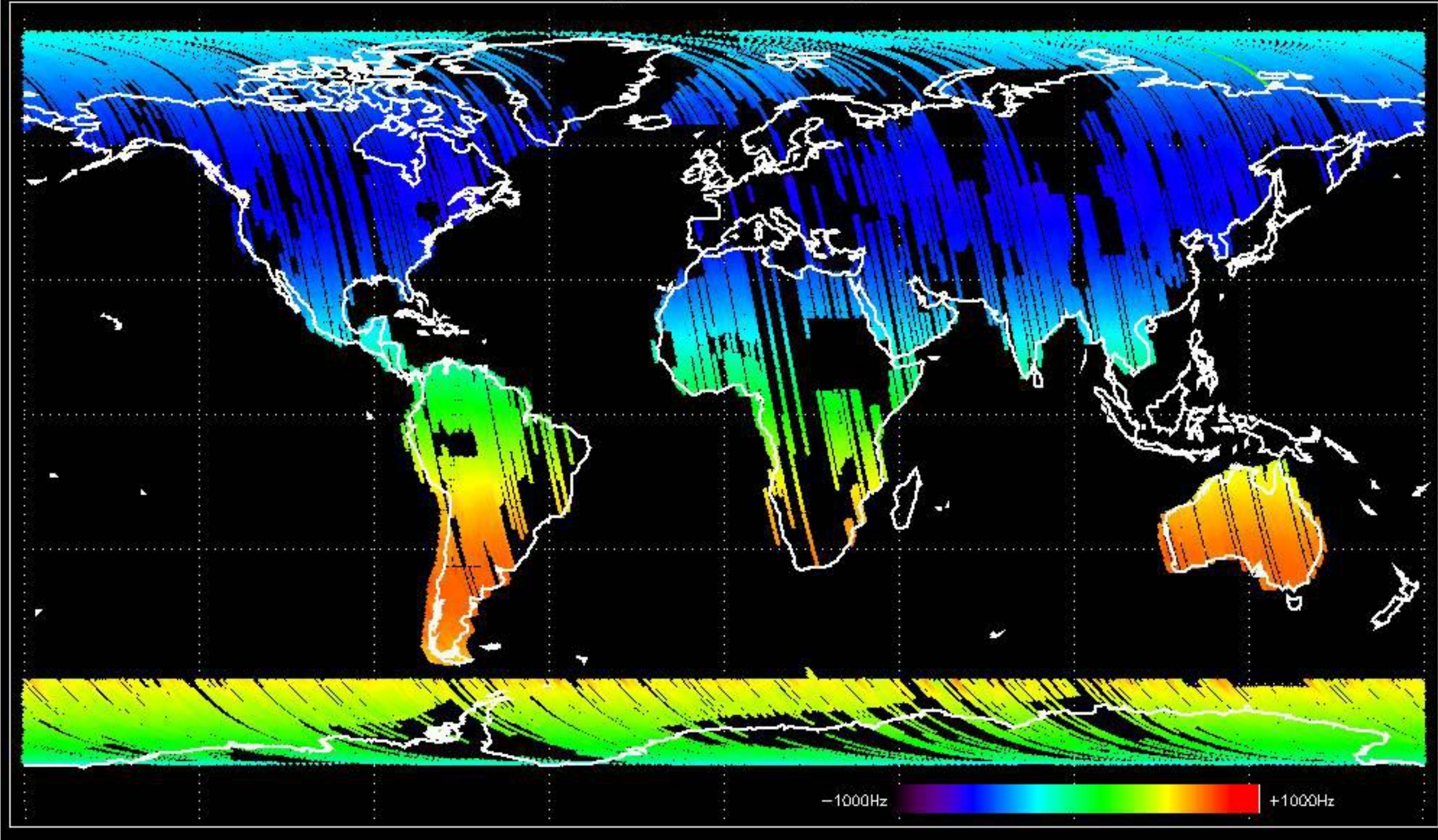
No anomalies observed.



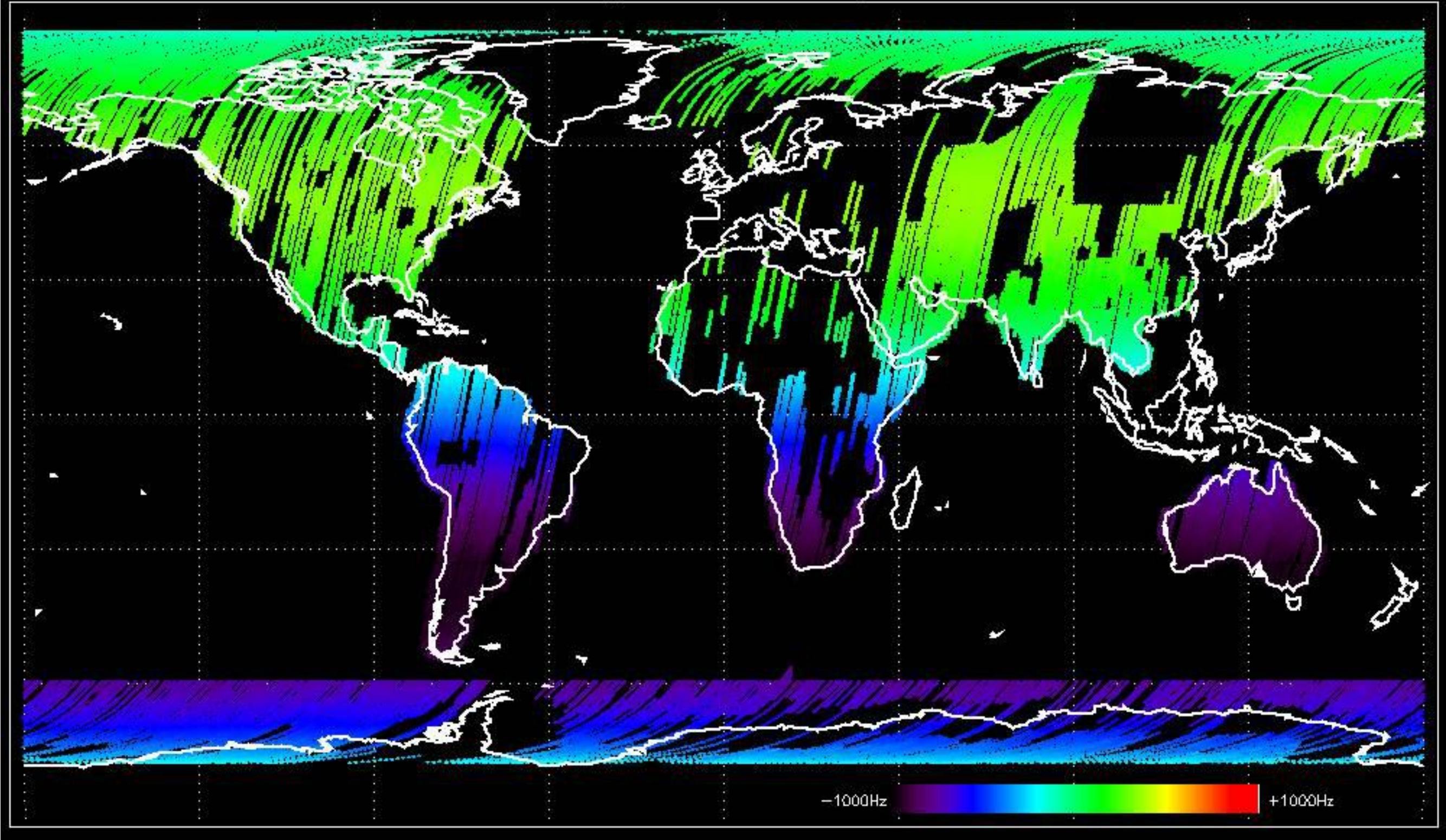


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

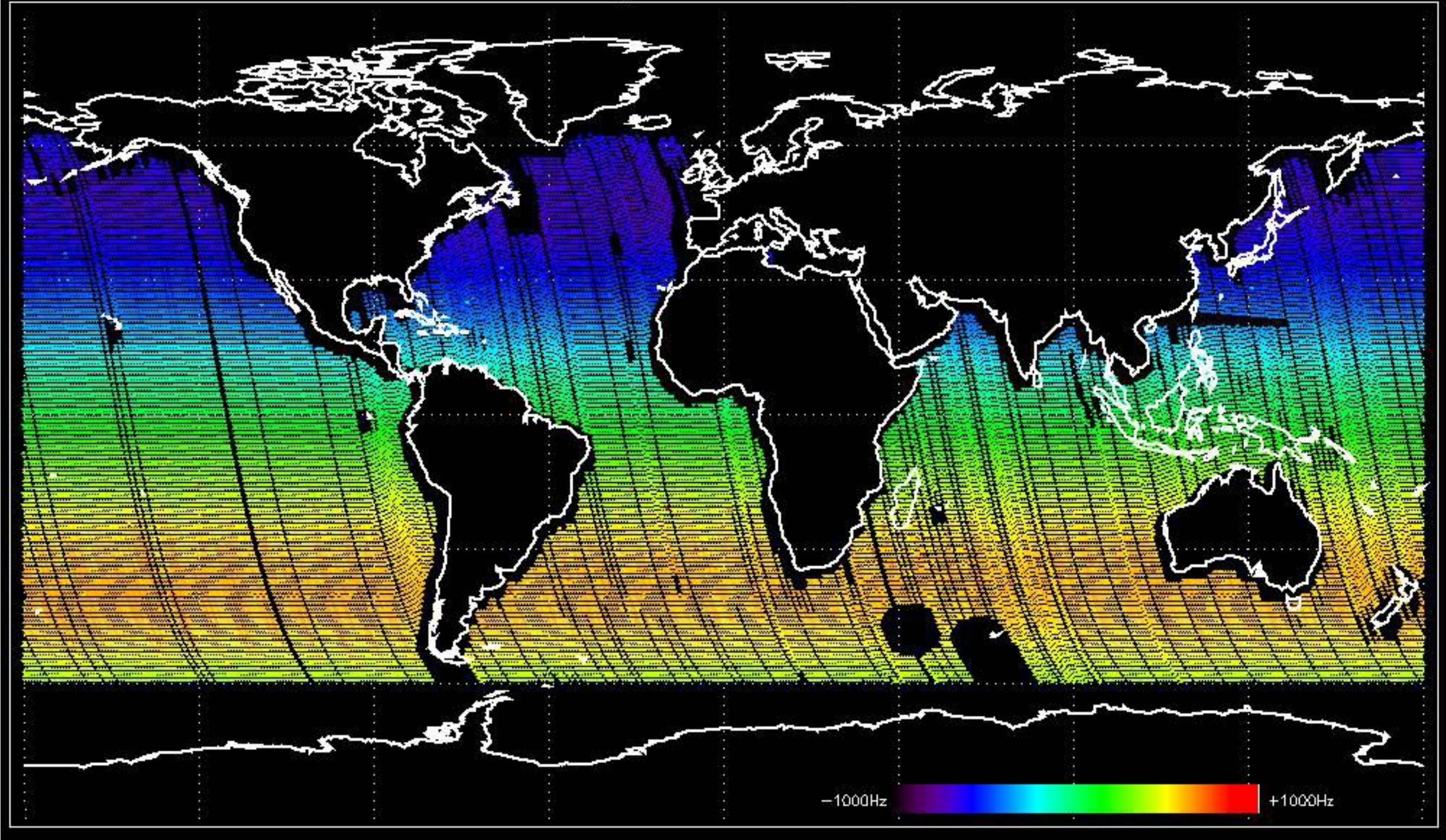
Doppler 'GM1' 'SS1' ascending



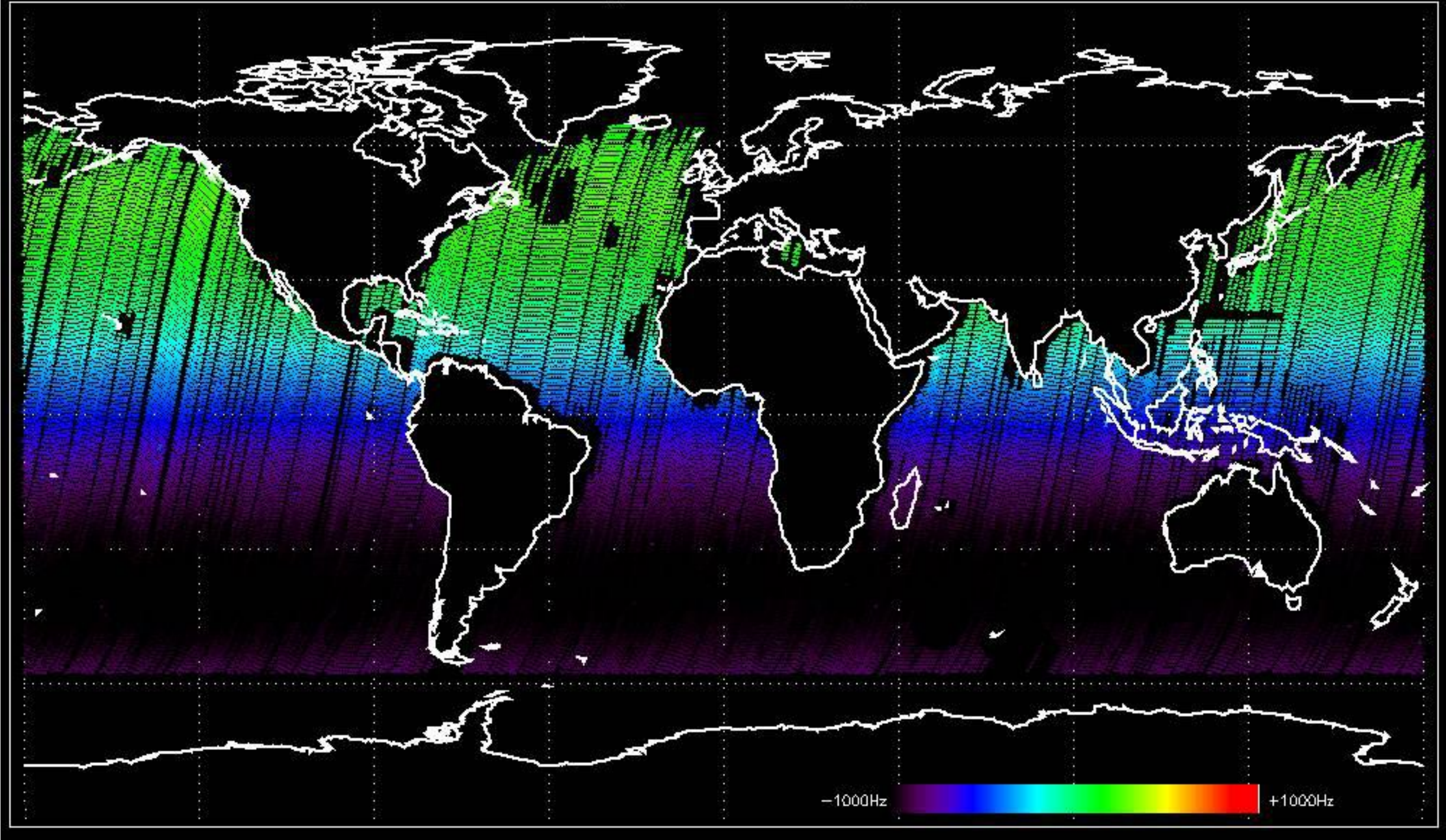
Doppler 'GM1' 'SS1' descending



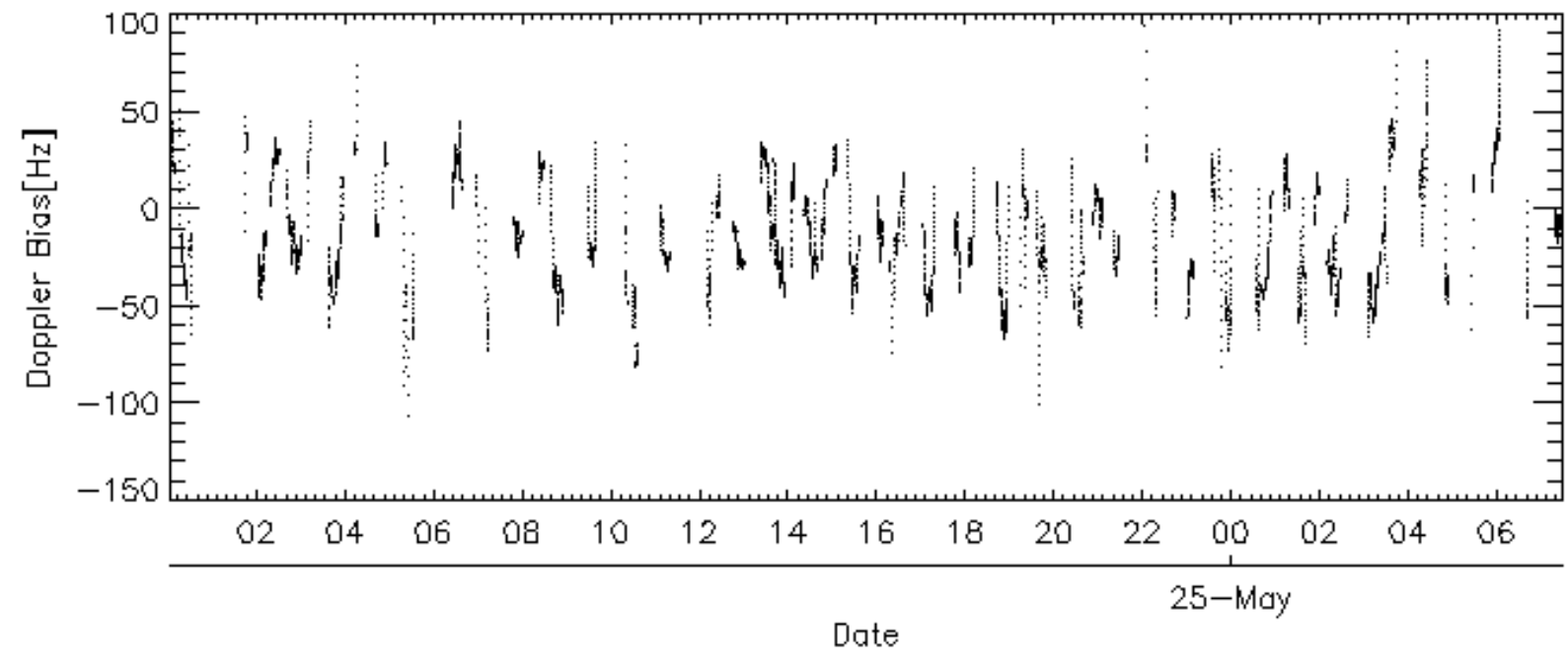
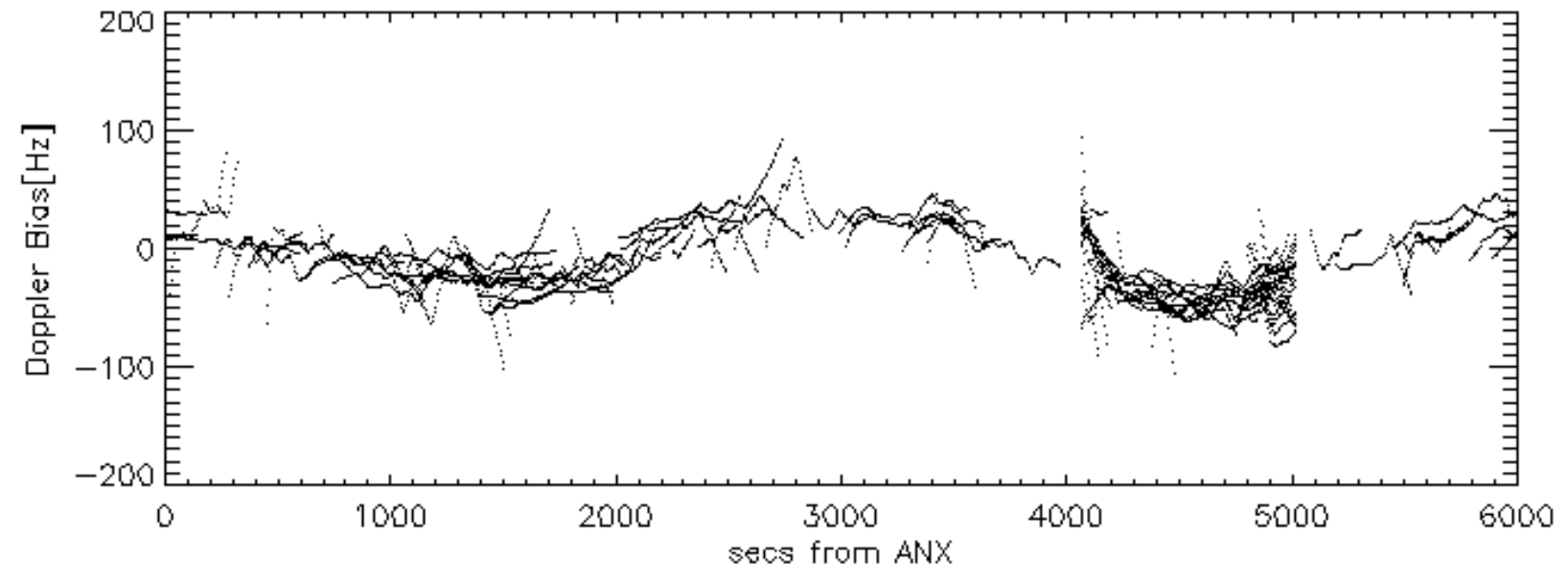
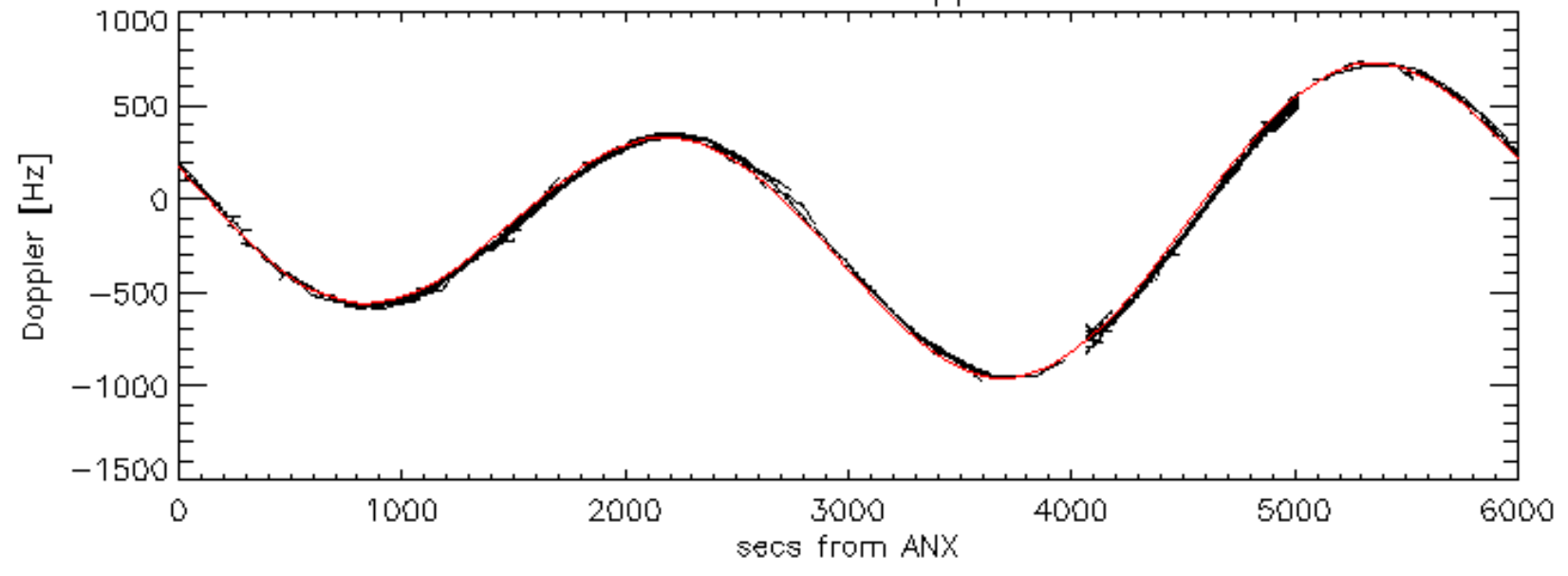
Doppler 'WVS' 'IS2' ascending

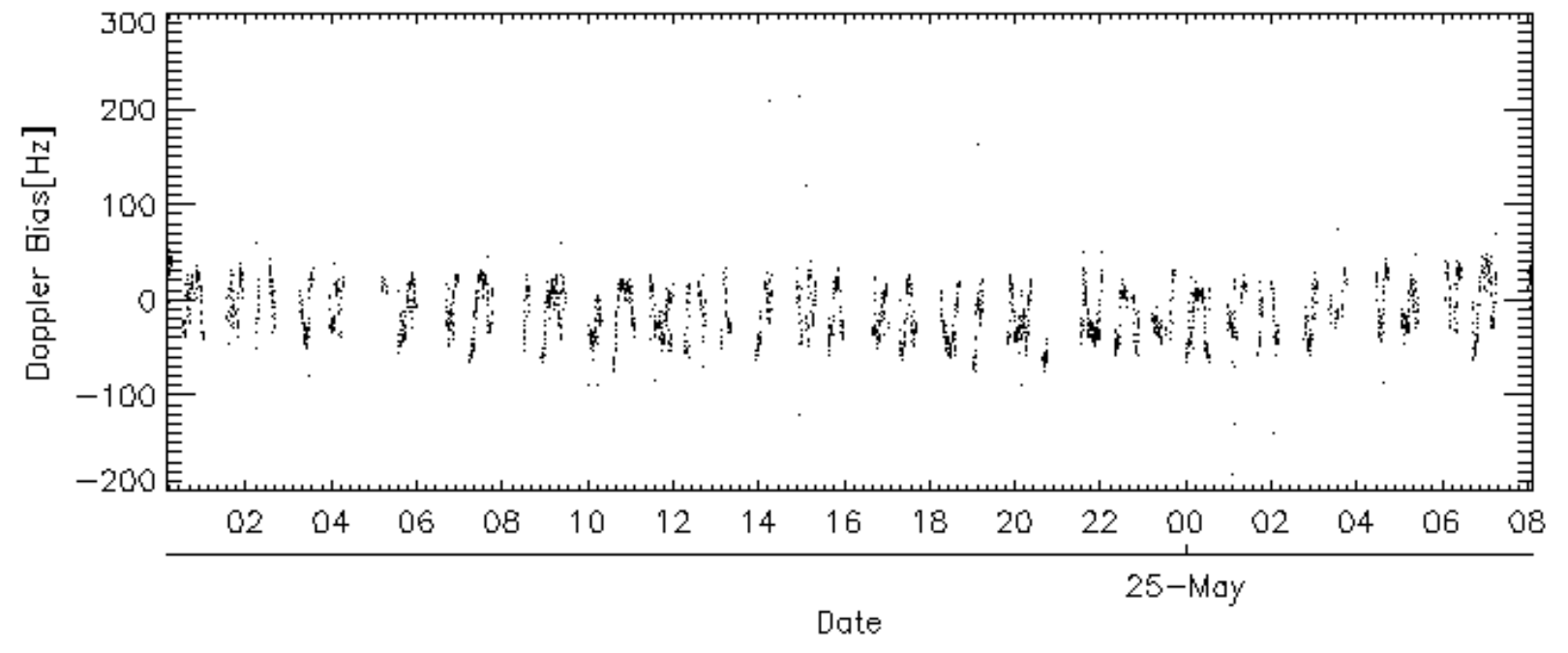
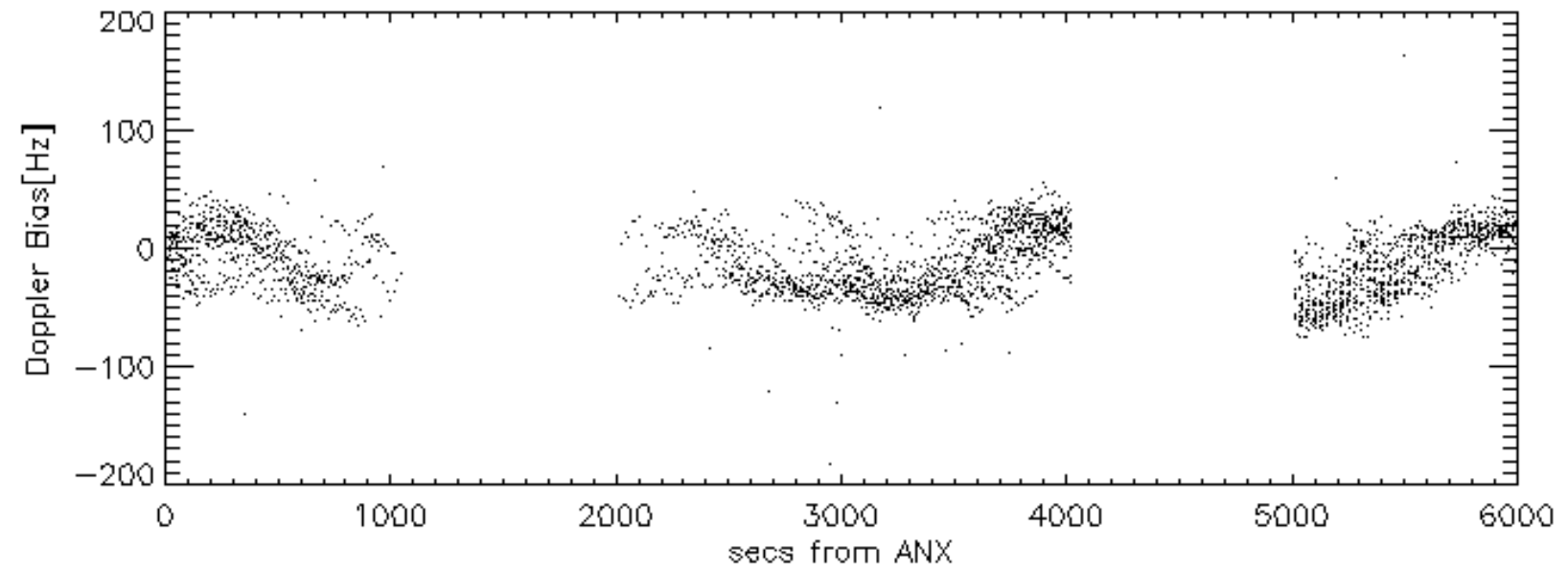
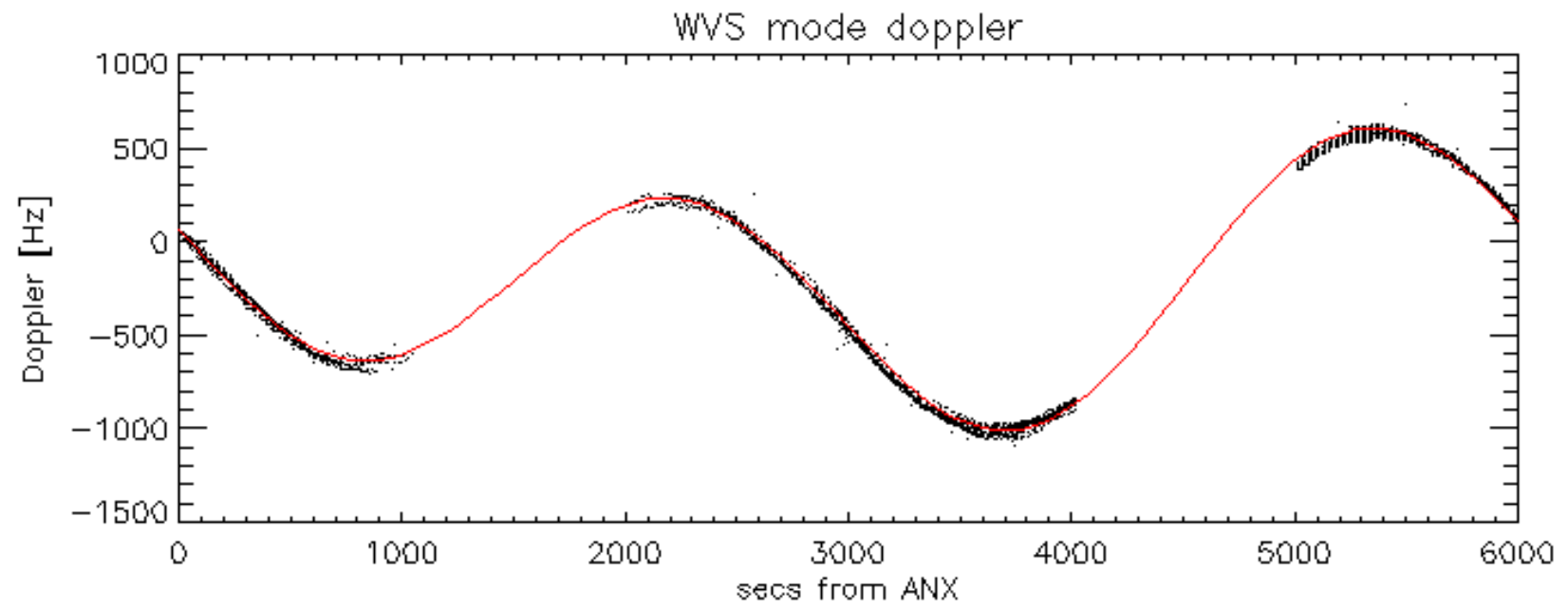


Doppler 'WVS' 'IS2' descending

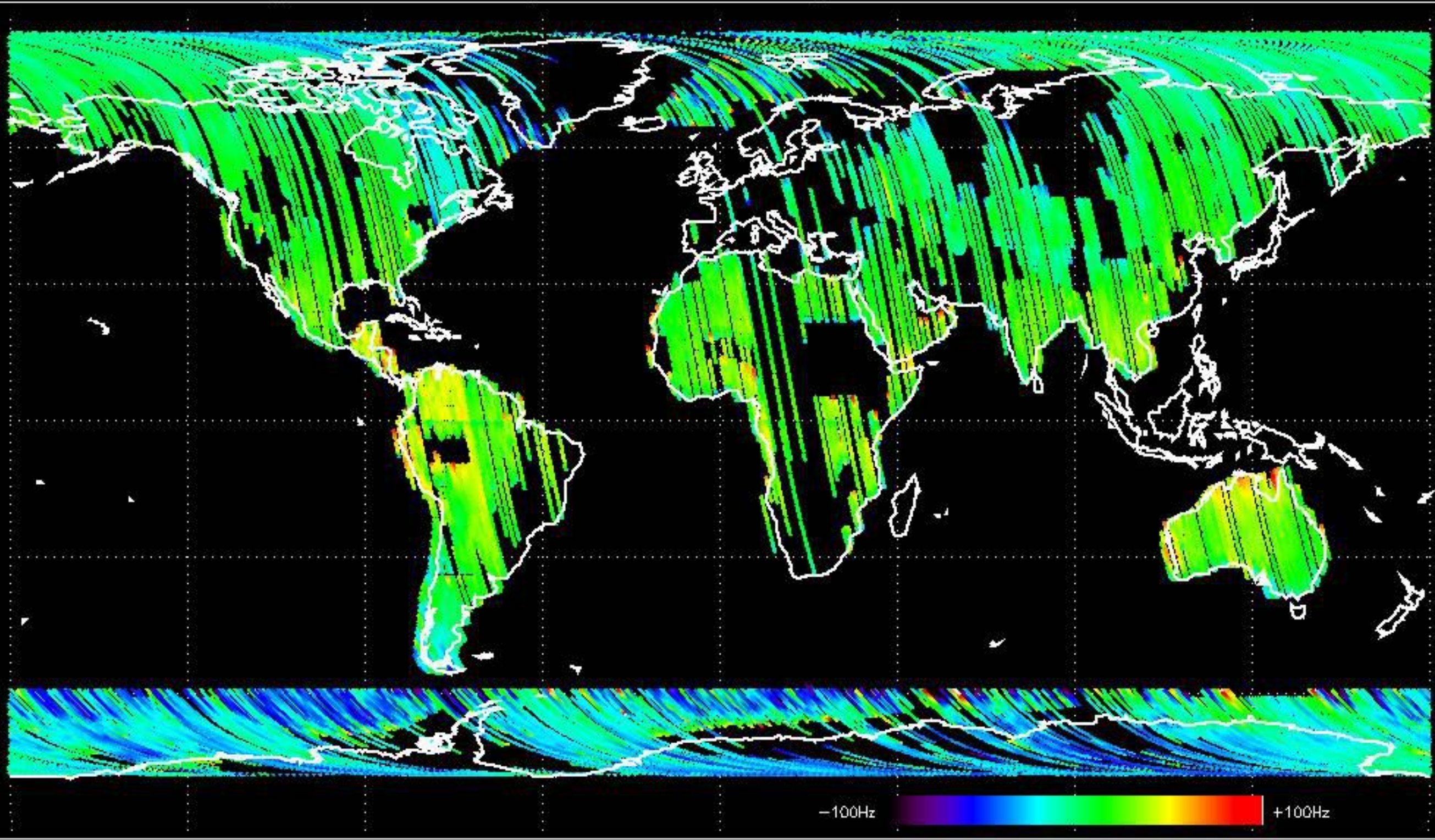


GM1 mode doppler

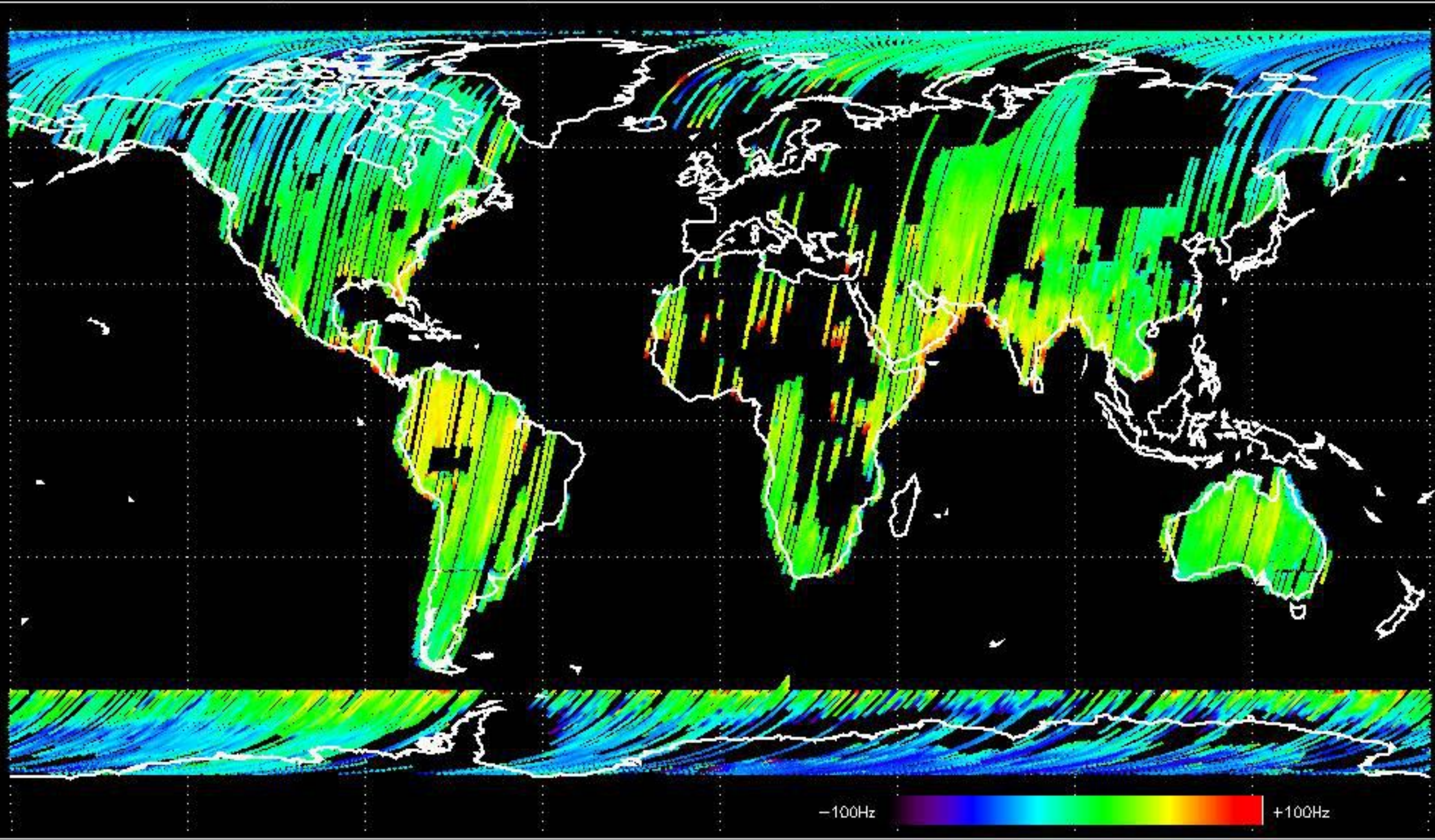




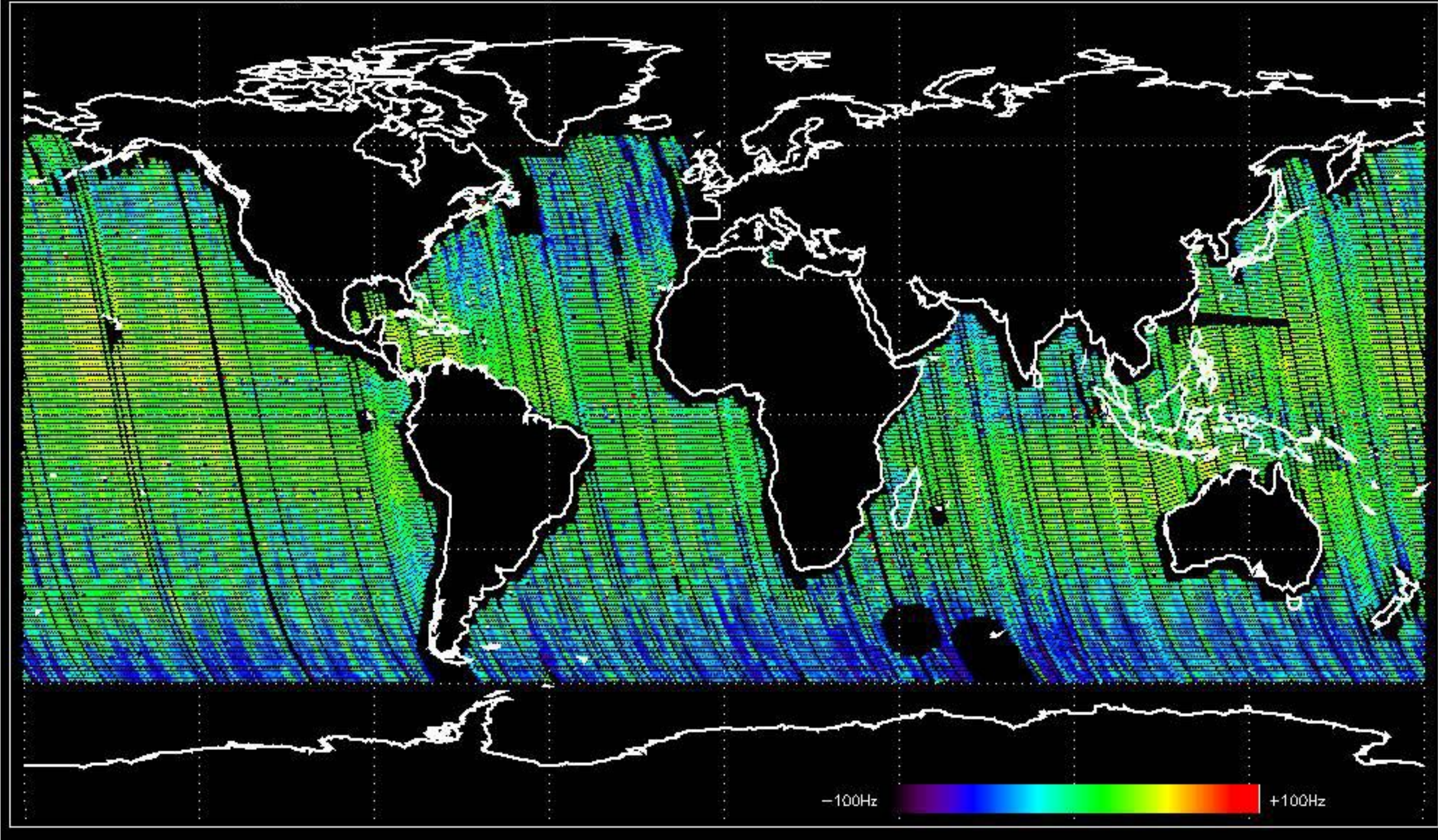
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -14.957370 Hz



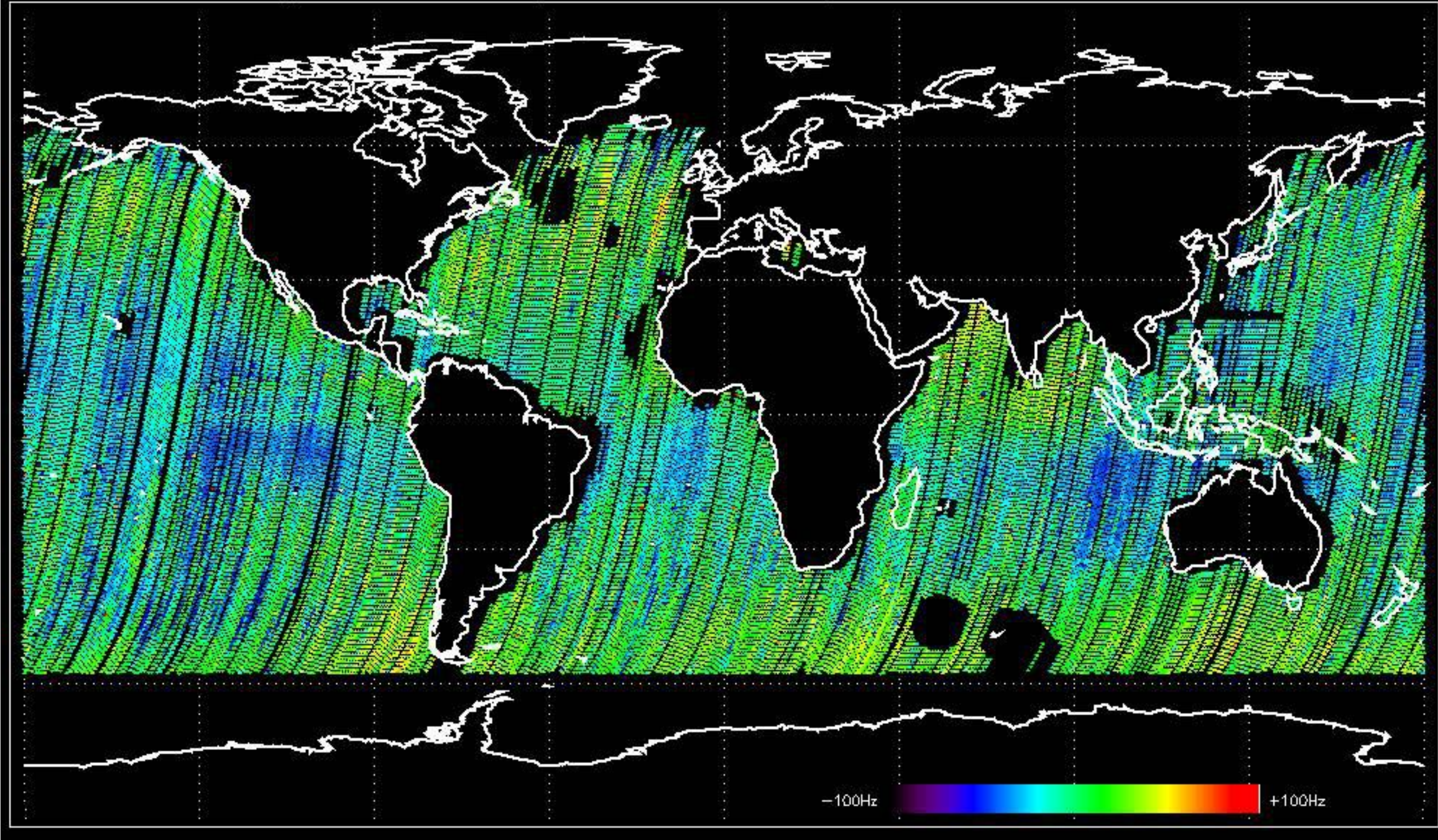
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -3.7355041 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -7.3467406 Hz

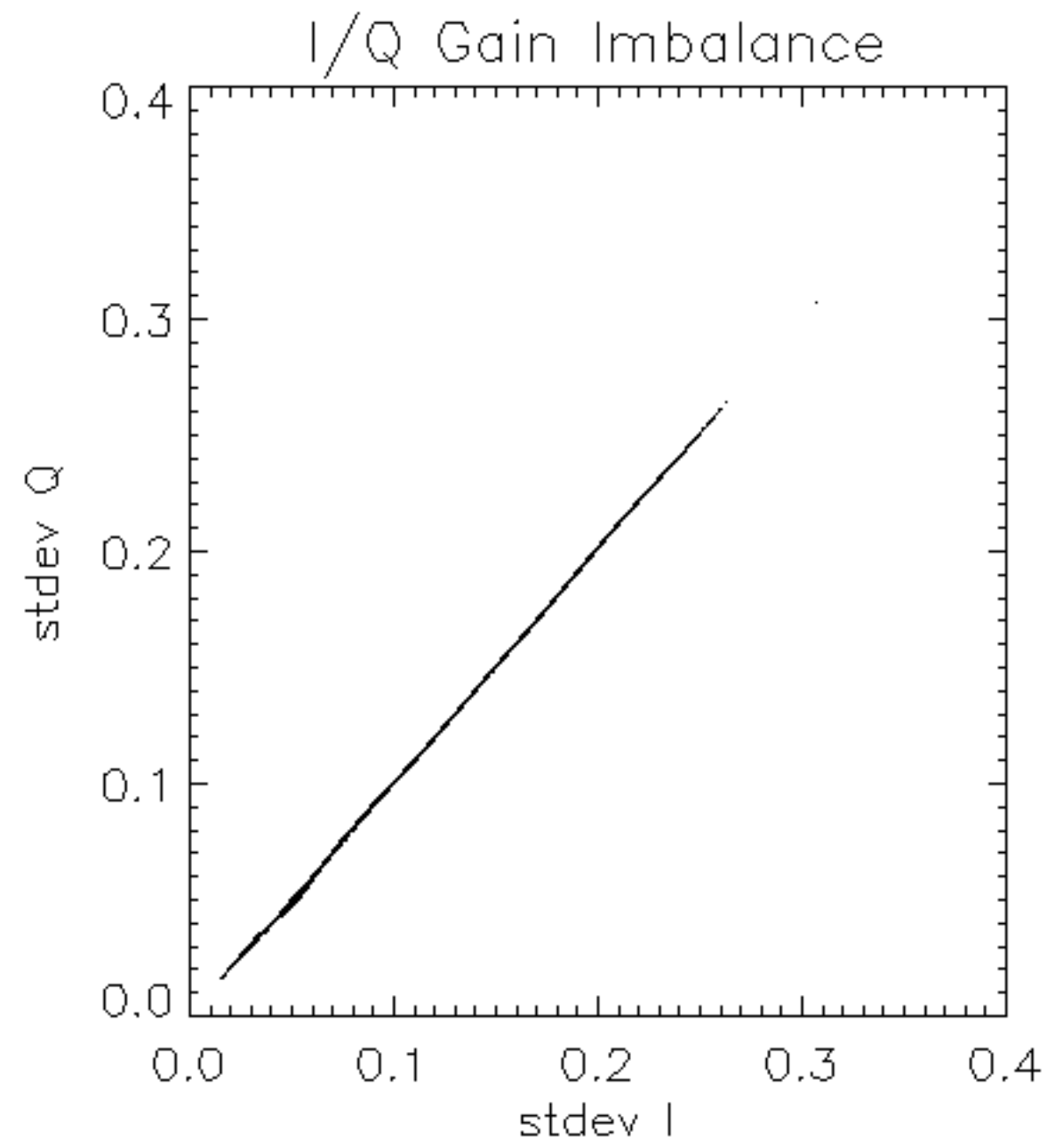


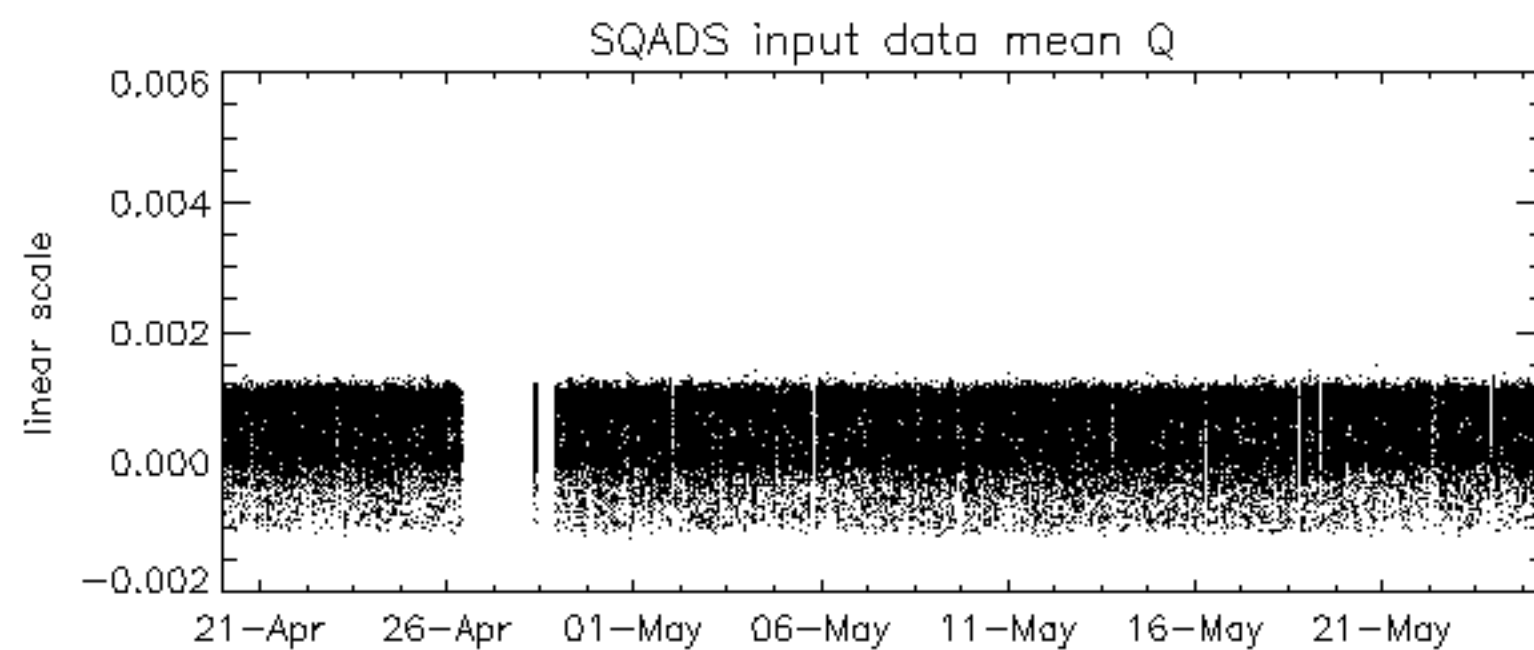
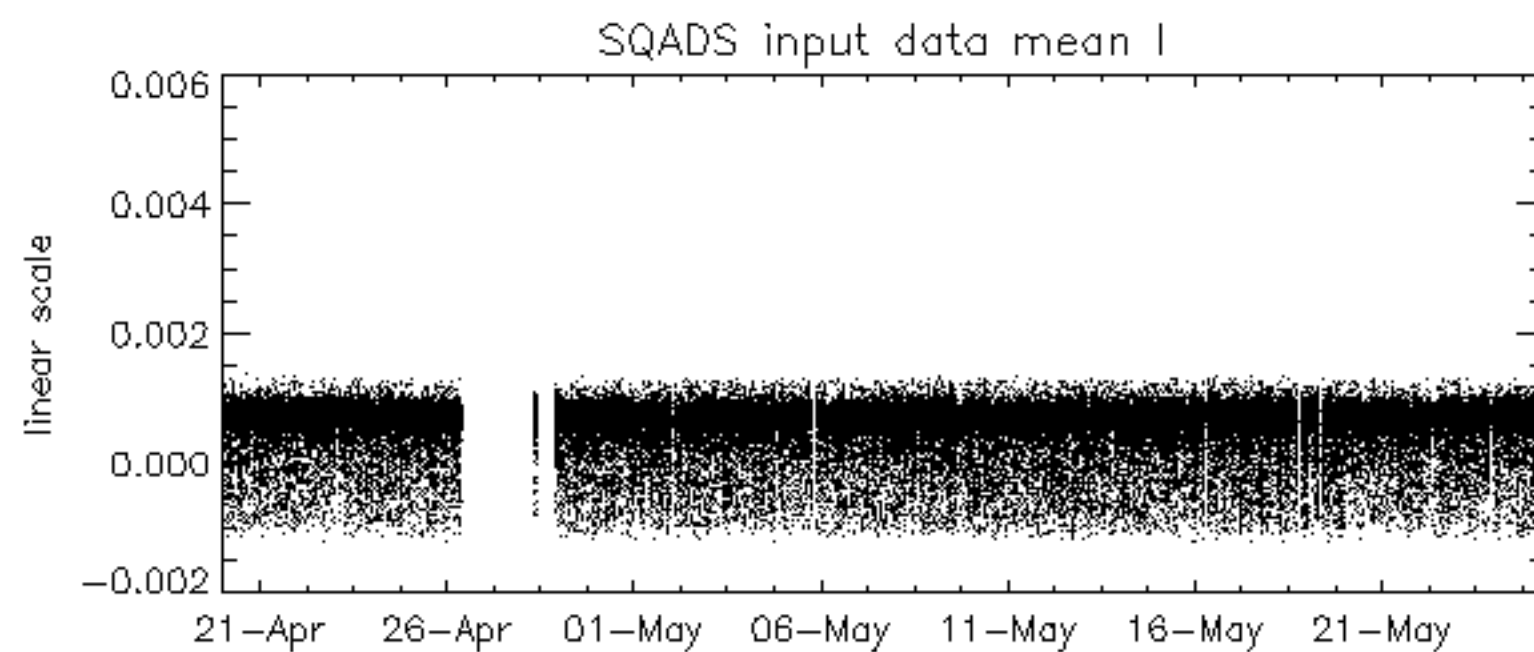
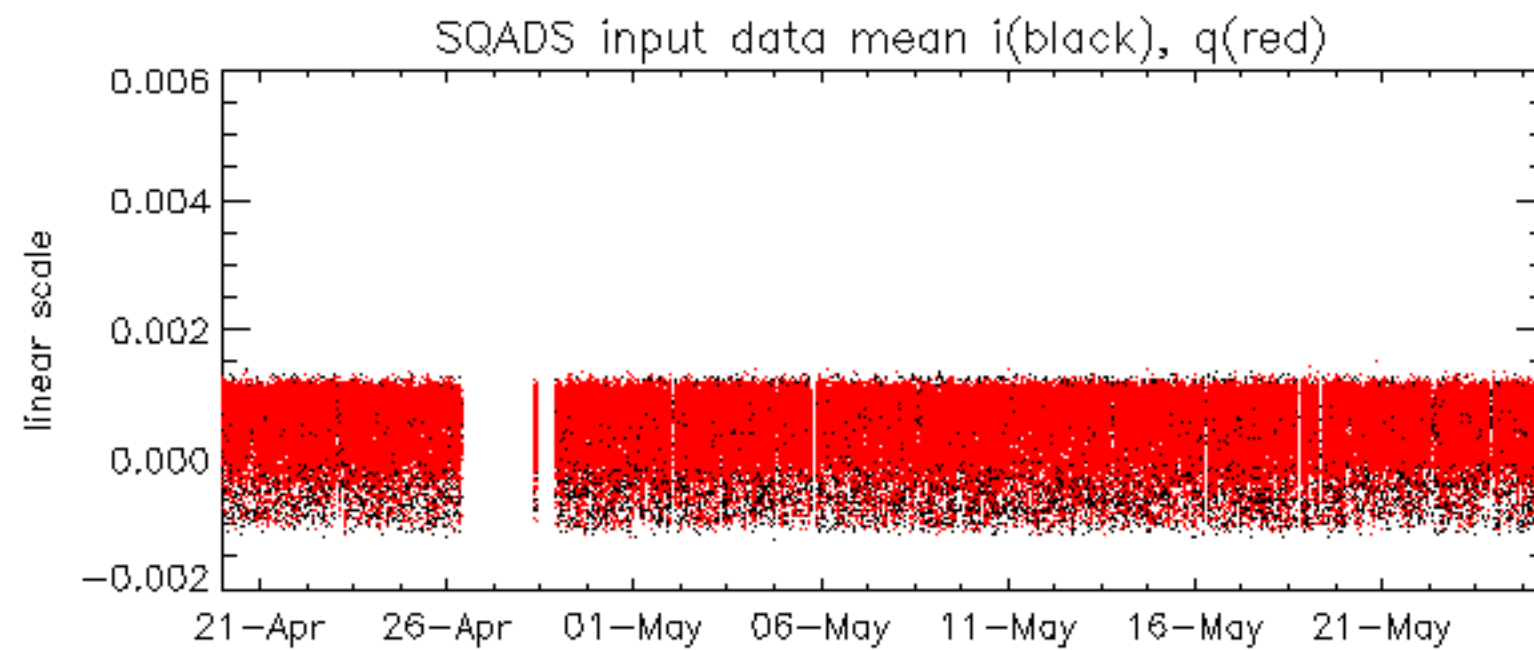
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -10.698957 Hz

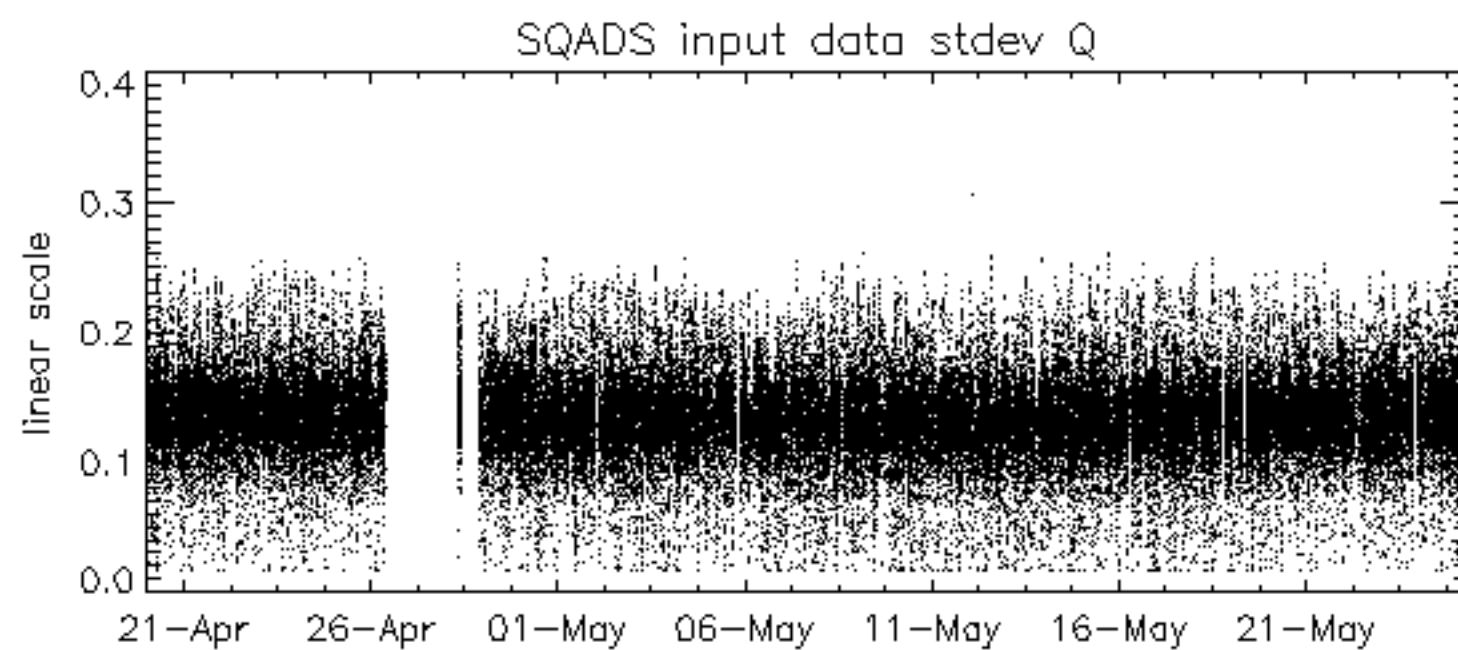
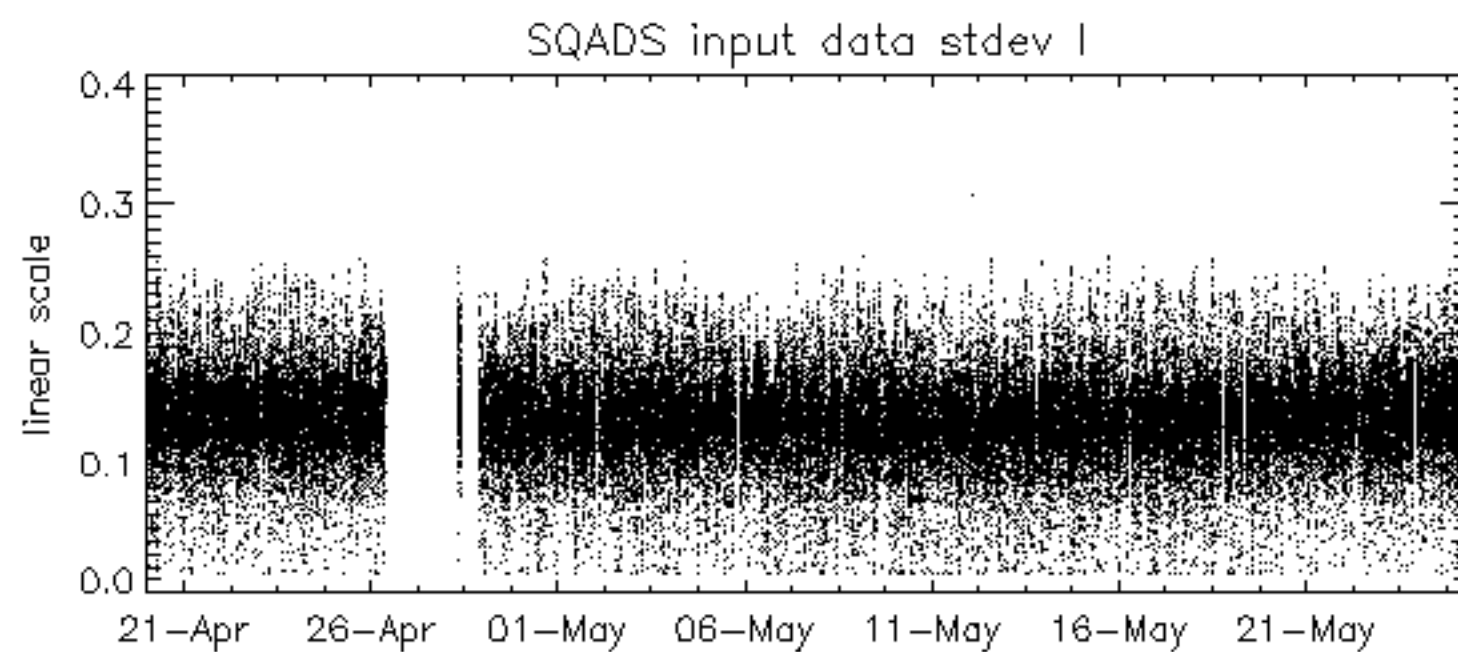
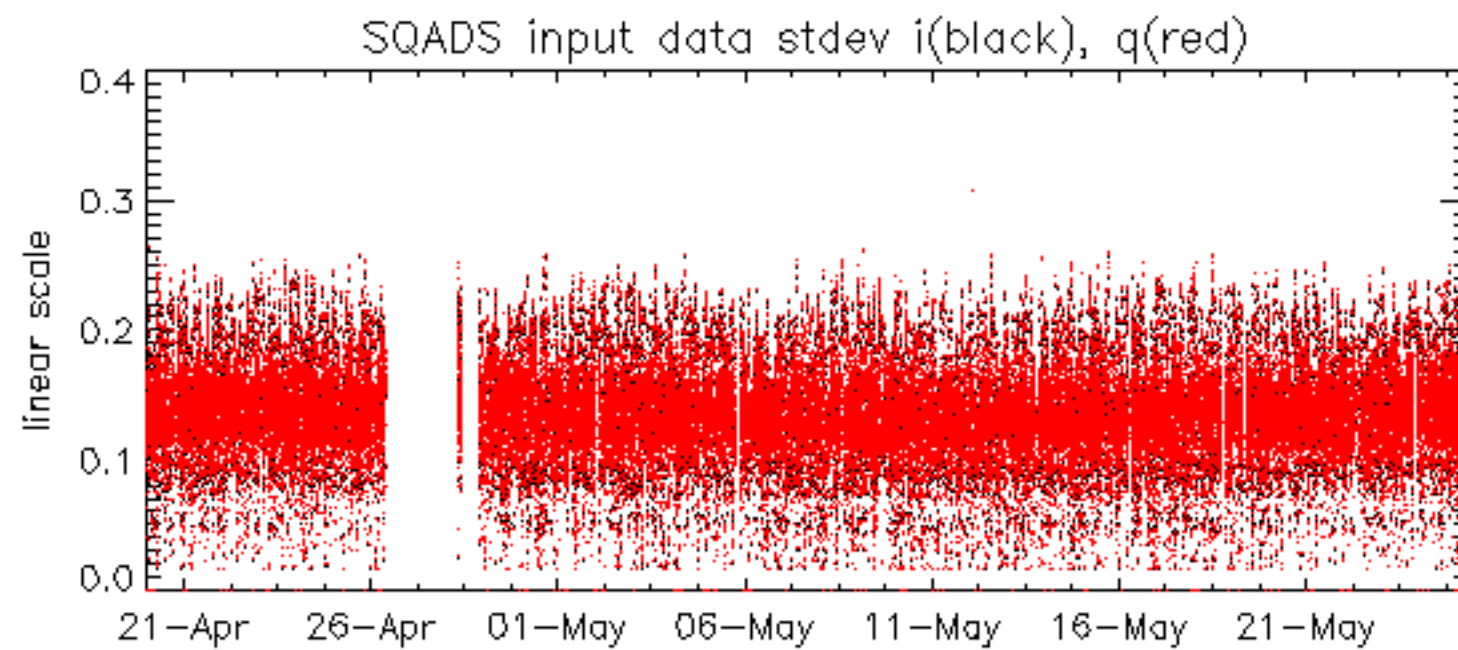


No anomalies observed on available MS products:

No anomalies observed.



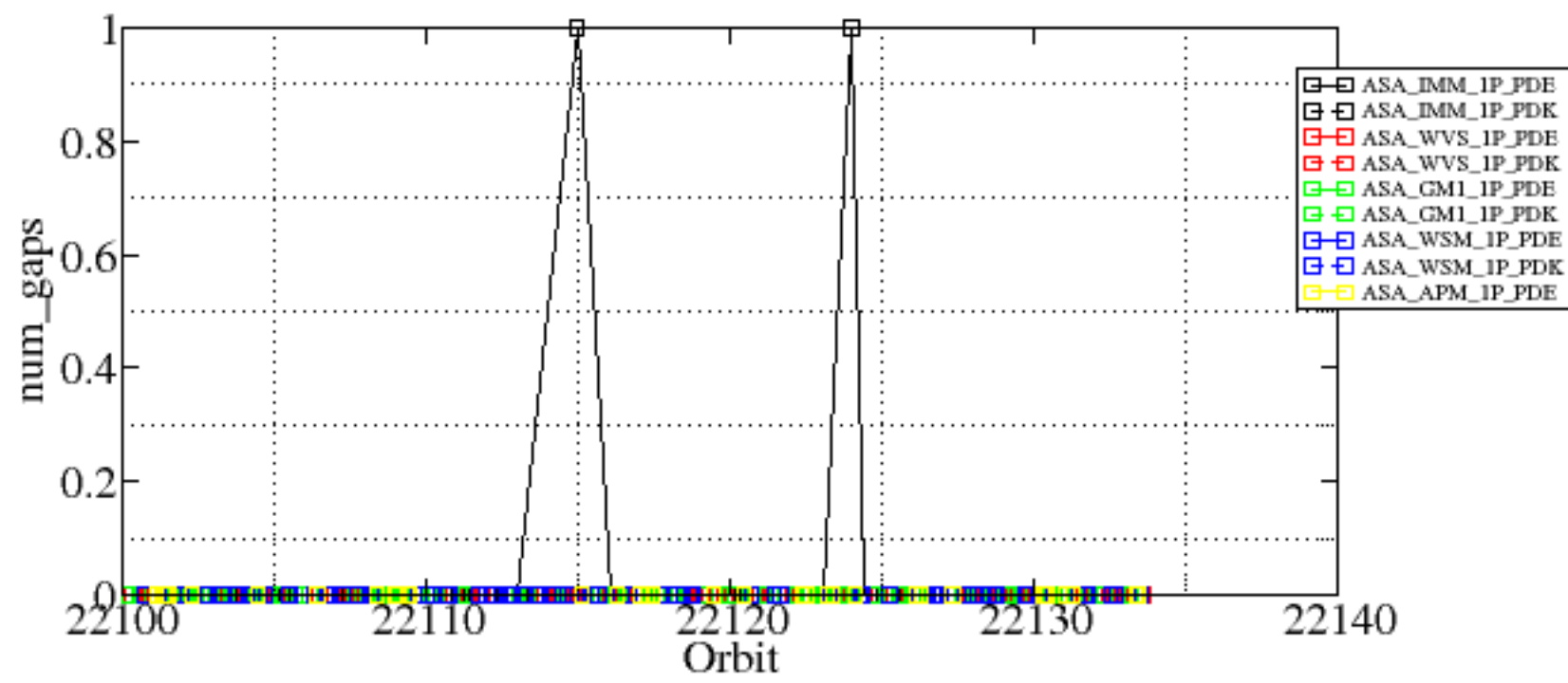




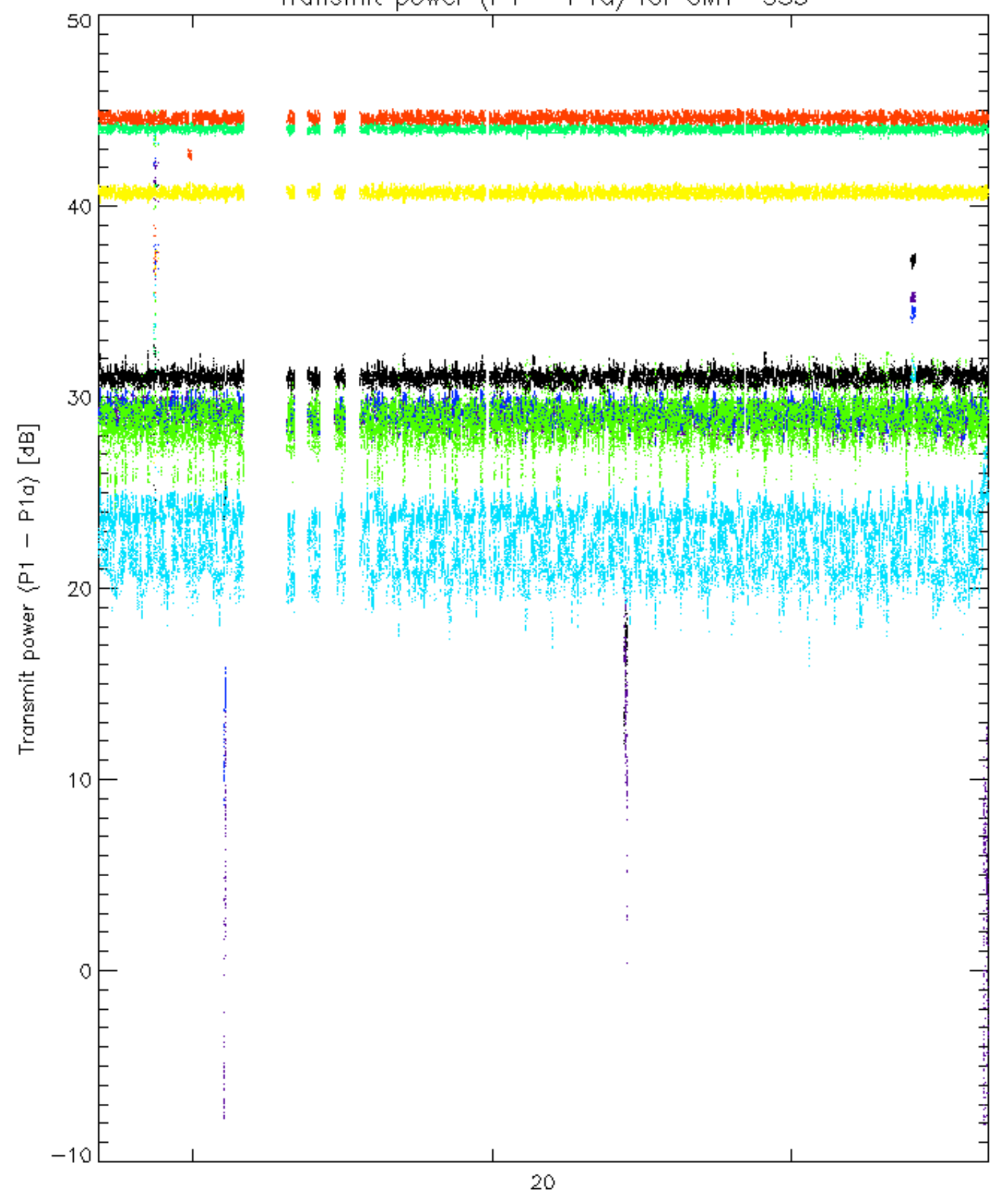
Summary of analysis for the last 3 days 2006052[345]

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

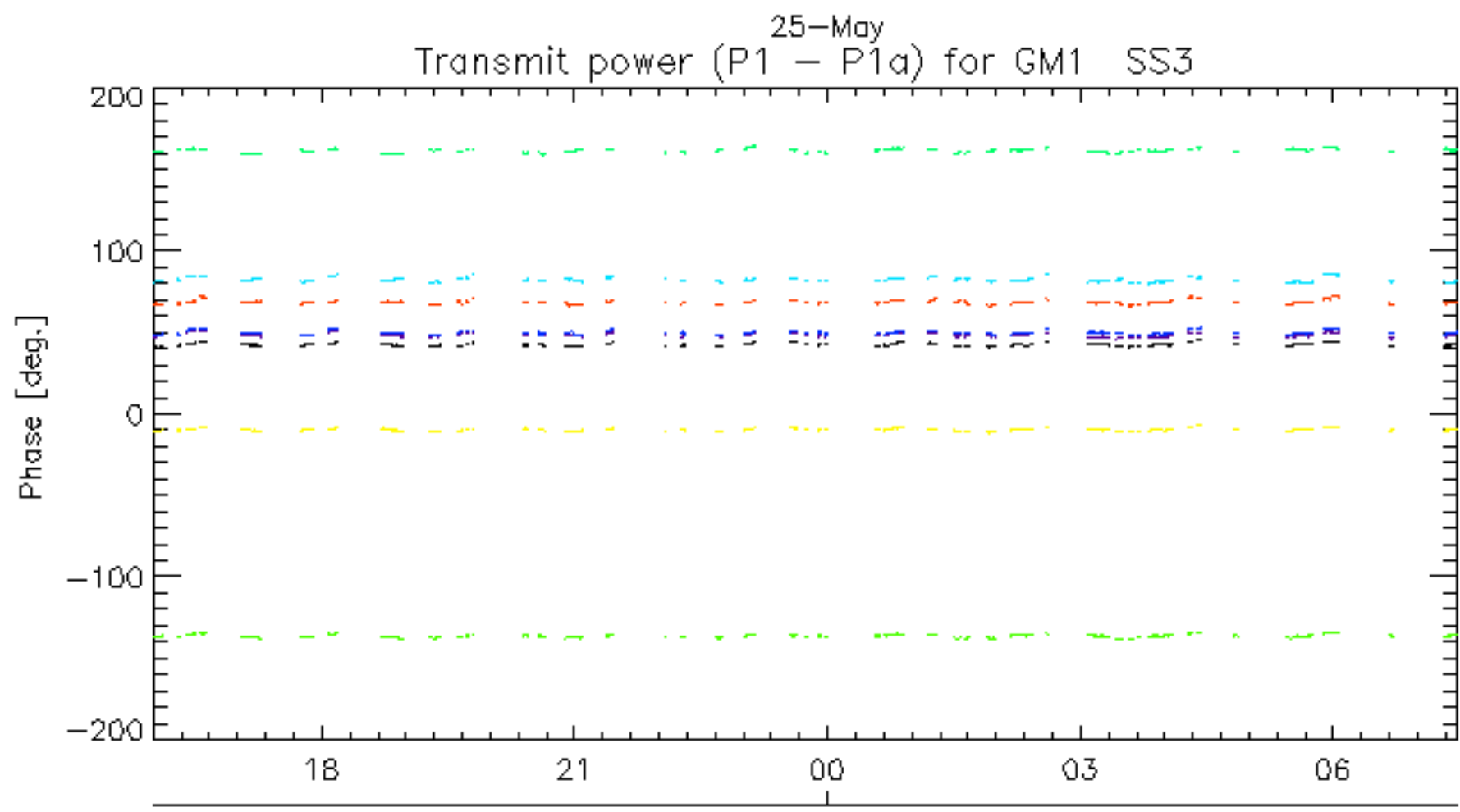
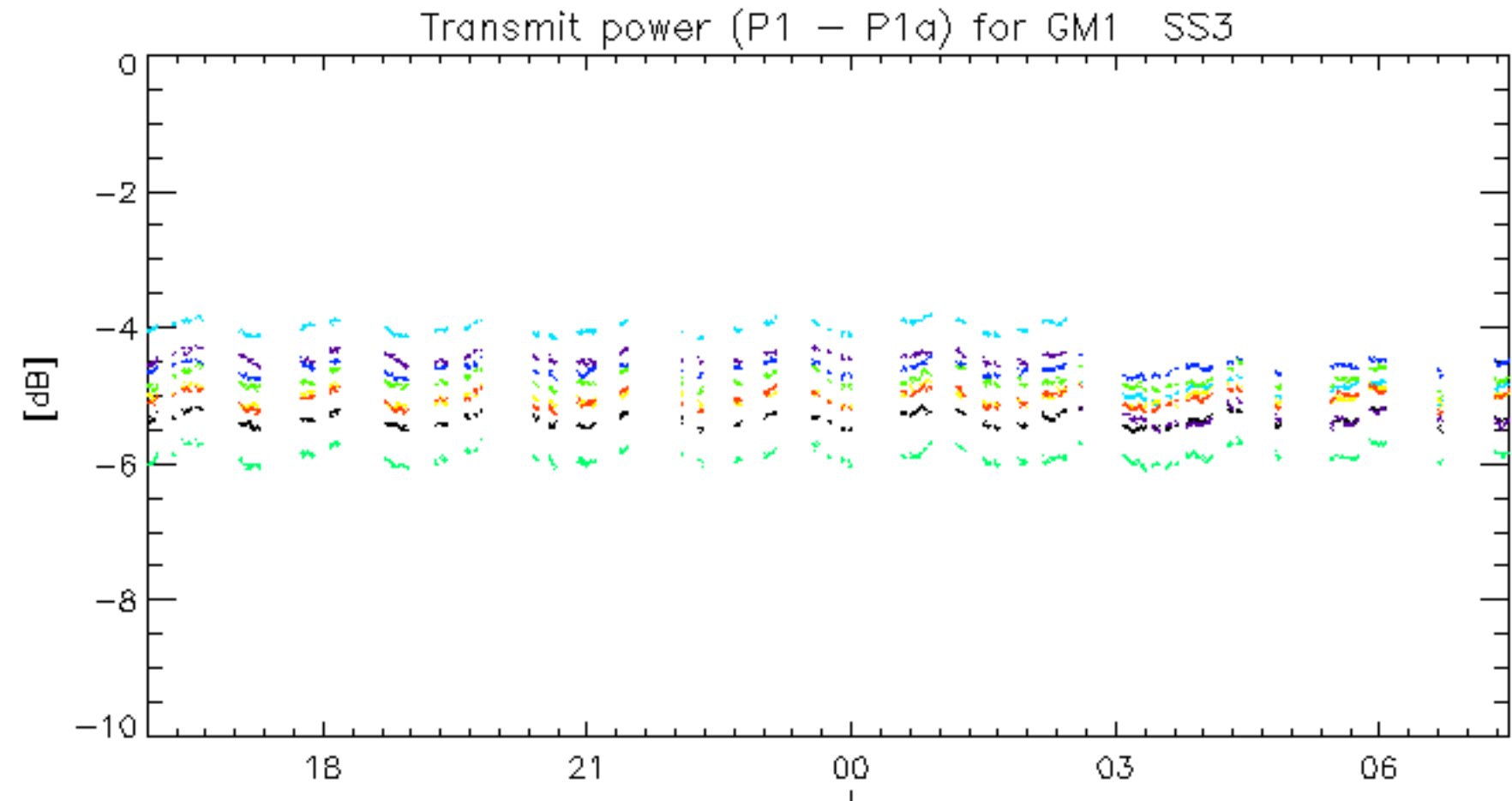
Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20060524_004516_000001932048_00016_22114_6100.N1	1	0
ASA_IMM_1PNPDE20060524_155402_000000702048_00025_22123_6119.N1	1	0
ASA_WSM_1PNPDE20060523_163146_000001282048_00012_22110_0468.N1	0	47
ASA_WSM_1PNPDE20060523_231127_000001152048_00016_22114_0537.N1	0	35
ASA_WSM_1PNPDE20060523_235742_000003302048_00016_22114_0549.N1	0	34
ASA_WSM_1PNPDE20060524_013517_000000852048_00017_22115_0566.N1	0	39
ASA_WSM_1PNPDE20060524_113721_000001472048_00023_22121_0630.N1	0	45



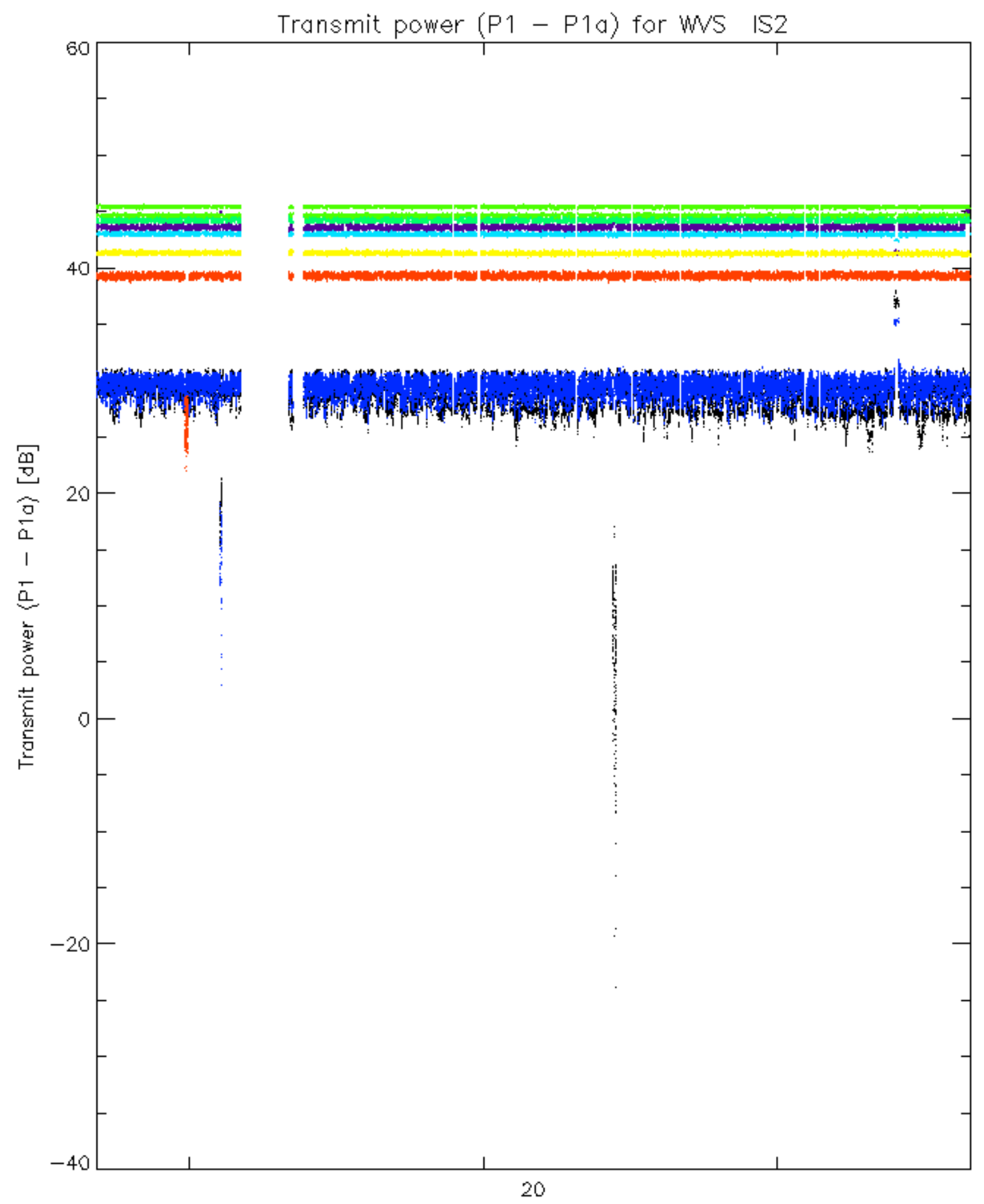
Transmit power (P1 - P1a) for GM1 SS3



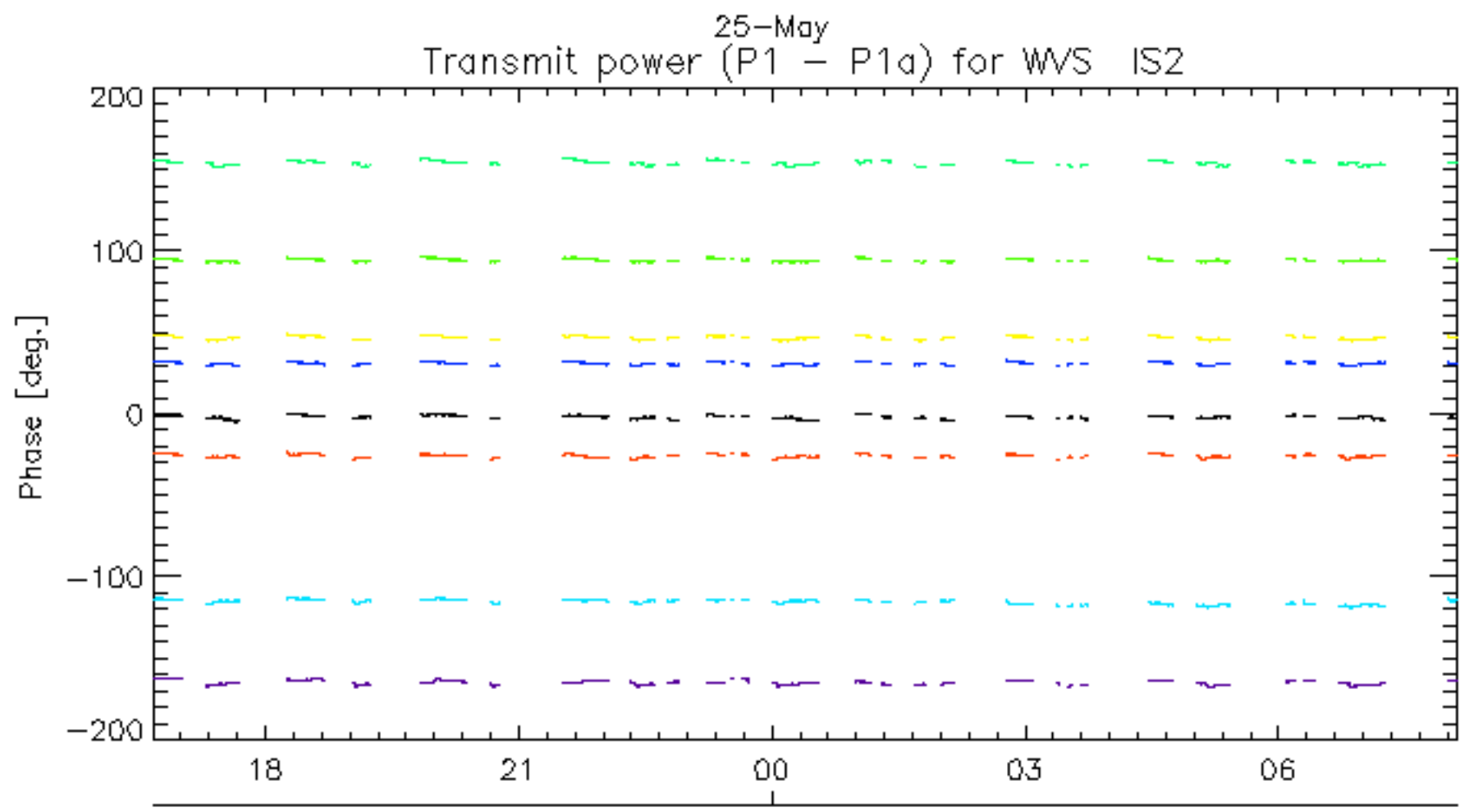
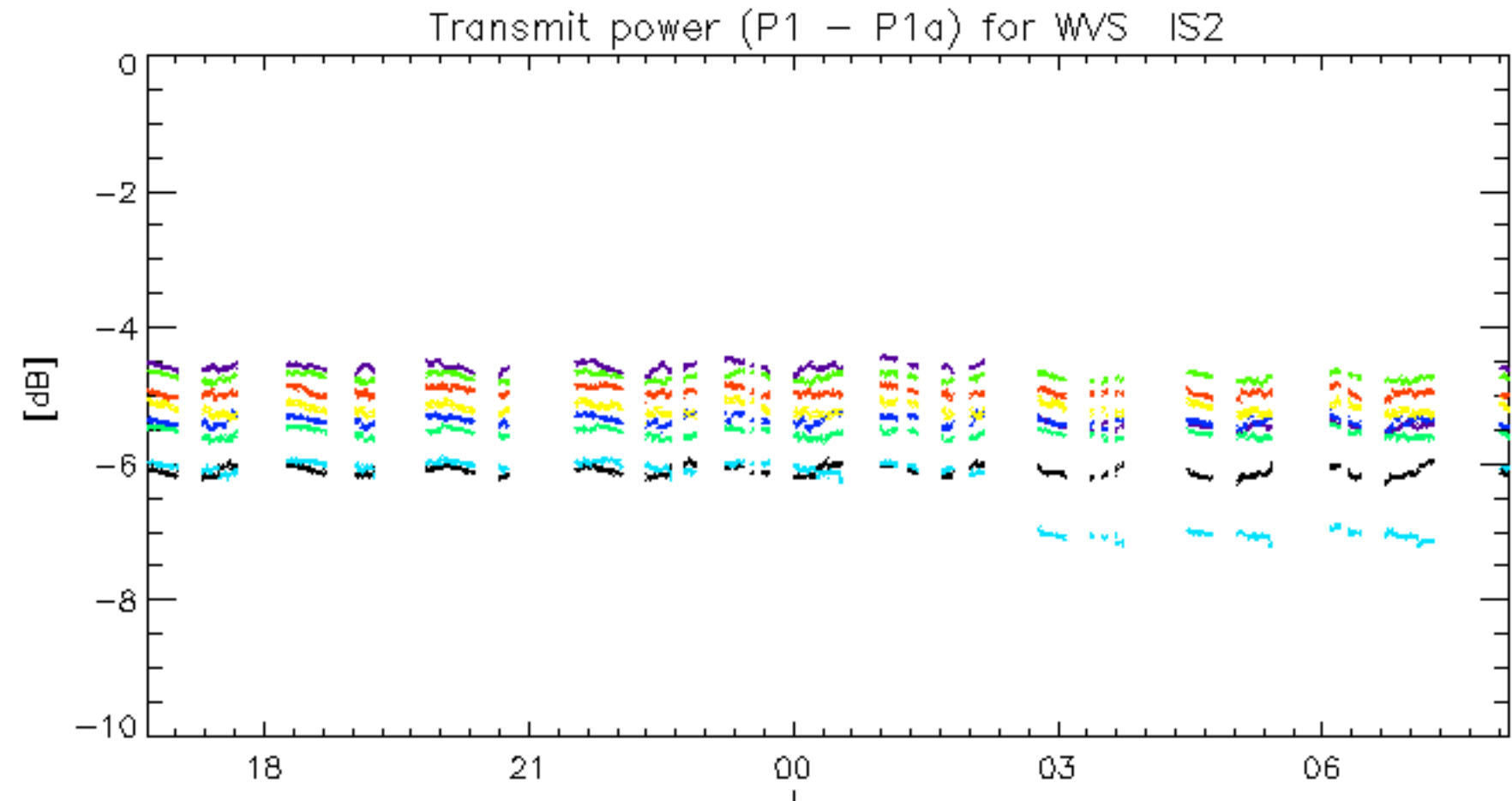
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



rows: 3 7 11 15 19 22 26 30



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



rows: 3 7 11 15 19 22 26 30

The following instrument unavailability is occurred:

Ref : EN-UNA-2006/0171

ASAR Antenna Reset in accordance with procedure CRP_SYS_5041 due to TILE (C1) current lower than expected - back to operations