

PRELIMINARY REPORT OF 060615

last update on Thu Jun 15 16:46:10 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 2006-06-14 00:00:00 to 2006-06-15 16:46:10

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	42	72	13	0	0
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	42	72	13	0	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	42	72	13	0	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	42	72	13	0	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	42	51	29	19	67
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	42	51	29	19	67
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	42	51	29	19	67
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	42	51	29	19	67

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	20060614 073840
H	20060615 070703

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
<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	-3.940804	0.018269	0.049584
7	P1	-3.128198	0.016056	-0.061640
11	P1	-4.109291	0.019060	0.002693
15	P1	-6.143055	0.020101	-0.029848
19	P1	-3.340773	0.008504	-0.065506
22	P1	-4.514629	0.011599	-0.001822
26	P1	-3.975873	0.017146	0.010625
30	P1	-5.748619	0.008930	-0.010904
3	P1	-16.525881	0.248138	0.109874
7	P1	-17.208324	0.150852	-0.155642
11	P1	-16.948519	0.308503	-0.056913
15	P1	-13.206881	0.217034	0.059514
19	P1	-14.310199	0.050287	-0.131430
22	P1	-16.169367	0.374916	-0.007821
26	P1	-15.236825	0.233256	0.077668
30	P1	-17.096783	0.404229	-0.225826

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.164276	0.079158	0.114896
7	P2	-22.044855	0.094753	0.100104
11	P2	-15.894094	0.108421	0.119017
15	P2	-7.161645	0.091589	0.000764
19	P2	-9.171400	0.083393	-0.025335
22	P2	-18.150822	0.081513	-0.081773
26	P2	-16.392782	0.085281	-0.067122
30	P2	-19.564140	0.084623	0.032010

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.185306	0.004082	-0.003894
7	P3	-8.185306	0.004082	-0.003894
11	P3	-8.185306	0.004082	-0.003894
15	P3	-8.185306	0.004082	-0.003894
19	P3	-8.185306	0.004082	-0.003894
22	P3	-8.185306	0.004082	-0.003894
26	P3	-8.185306	0.004082	-0.003894
30	P3	-8.185306	0.004082	-0.003894

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	-3.798154	0.051793	-0.006576
7	P1	-2.594866	0.030635	0.028877
11	P1	-2.861846	0.023382	0.004710
15	P1	-3.504084	0.050154	-0.034513
19	P1	-3.405750	0.014438	-0.028554
22	P1	-5.081501	0.019693	-0.003742
26	P1	-5.851269	0.015887	-0.034624
30	P1	-5.192791	0.026856	-0.009458
3	P1	-11.624571	0.053758	0.025874
7	P1	-9.965283	0.049333	-0.067233
11	P1	-10.212677	0.087708	-0.089257
15	P1	-10.638170	0.151875	-0.131749
19	P1	-15.532650	0.076038	-0.049182
22	P1	-20.935242	1.178861	-0.115405

26	P1	-16.485229	0.334507	0.027324
30	P1	-17.938540	0.372429	0.210227

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.854620	0.070689	0.127758
7	P2	-22.498865	0.128491	0.037289
11	P2	-11.164586	0.048185	0.056831
15	P2	-4.916332	0.048819	-0.036185
19	P2	-6.881586	0.053447	-0.024467
22	P2	-8.205194	0.043633	-0.032715
26	P2	-24.127317	0.068585	-0.099169
30	P2	-22.065067	0.056358	-0.008118

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.019598	0.004866	-0.010808
7	P3	-8.019688	0.004851	-0.010738
11	P3	-8.019677	0.004842	-0.010763
15	P3	-8.019560	0.004858	-0.011072
19	P3	-8.019614	0.004850	-0.010804
22	P3	-8.019783	0.004845	-0.010893
26	P3	-8.019688	0.004847	-0.010923
30	P3	-8.019686	0.004846	-0.011138

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	0.000538155
	stdev	1.86011e-07
MEAN Q	mean	0.000511854
	stdev	2.27749e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.134877
	stdev	0.00118628
STDEV Q	mean	0.135221
	stdev	0.00120320



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2006061[345]

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_1PNPDE20060613_010016_000000842048_00303_22401_7335.N1	1	0
ASA_IMM_1PNPDE20060613_061630_000000812048_00306_22404_7368.N1	1	0
ASA_WSM_1PNPDE20060613_110750_000001582048_00309_22407_3853.N1	0	66
ASA_WSM_1PNPDE20060615_042315_000002382048_00334_22432_4158.N1	0	6
ASA_WSM_1PNPDK20060613_134955_000001032048_00311_22409_7492.N1	0	21



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

7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler

<input type="checkbox"/>
Acsending
<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

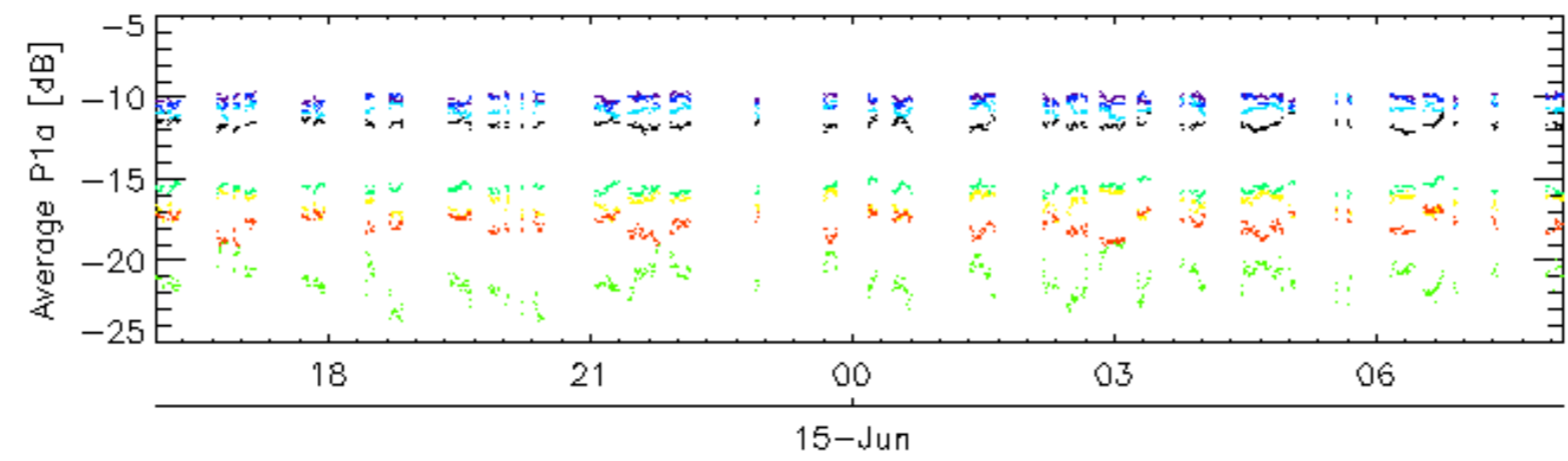
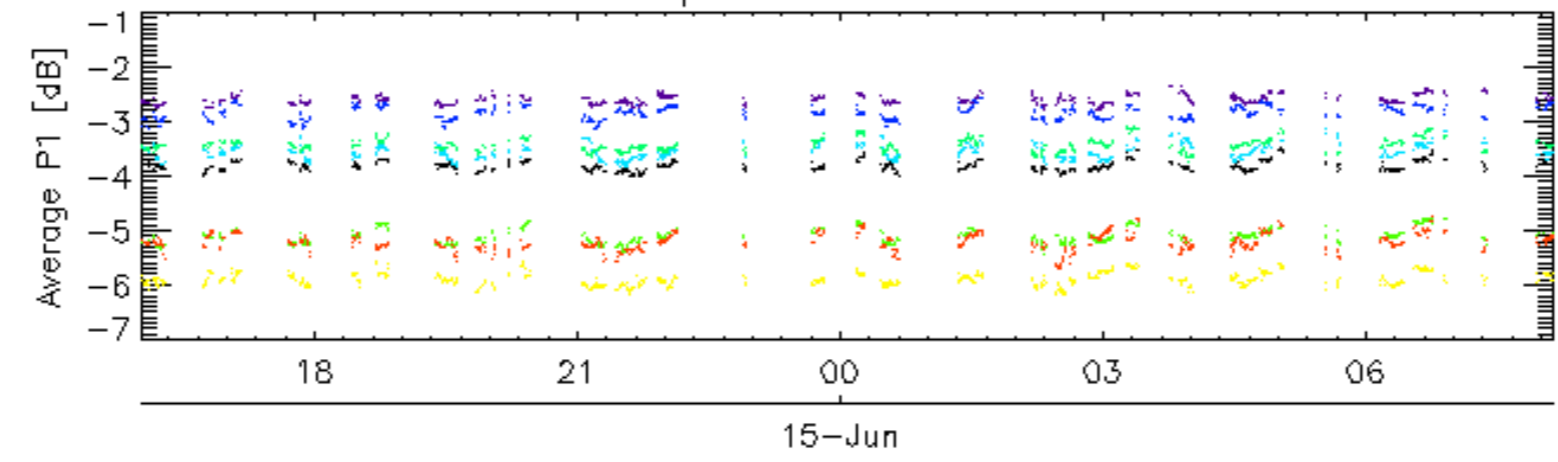
<input type="checkbox"/>	
	Ascending
<input type="checkbox"/>	
	Descending

7.6 - Doppler evolution versus ANX for GM1

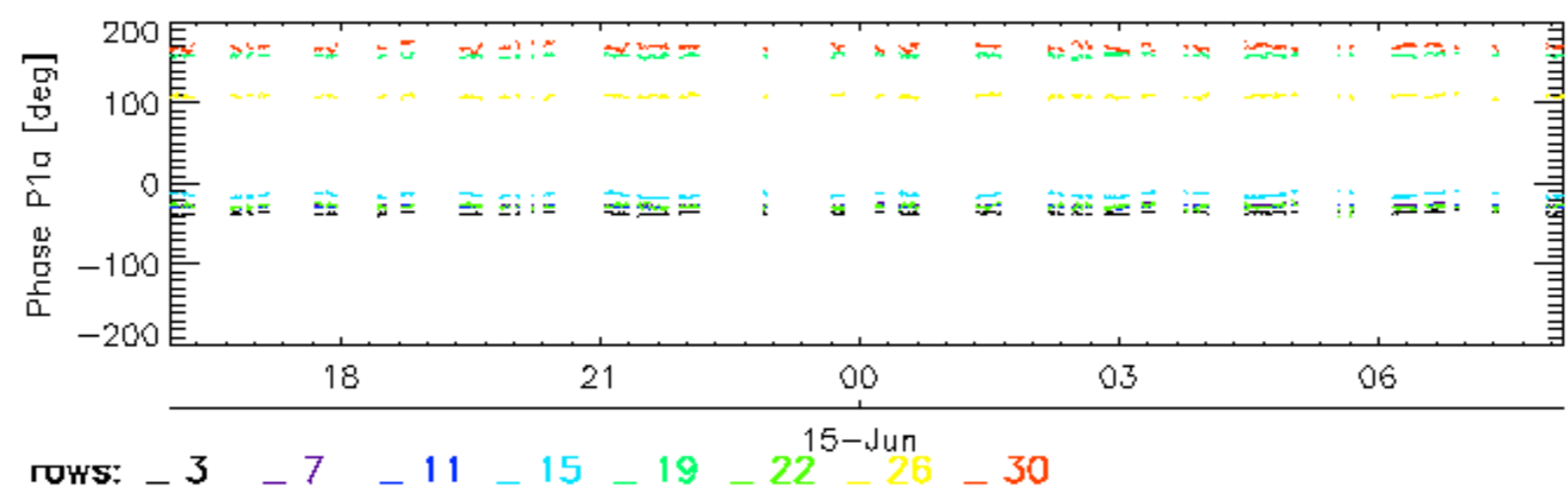
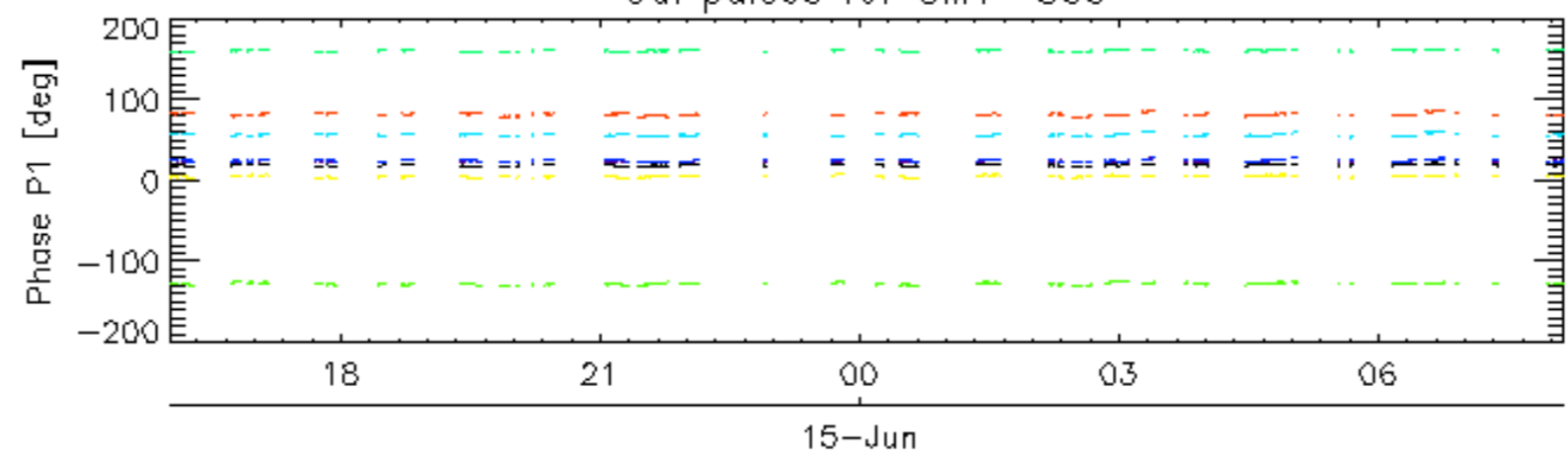
Evolution Doppler error versus ANX

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

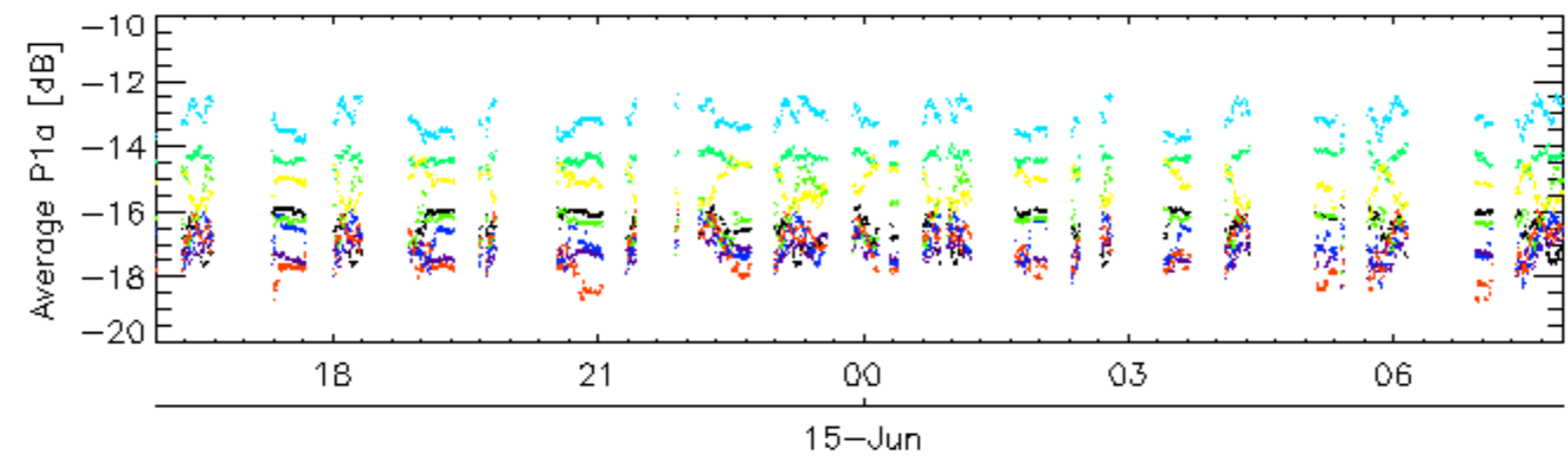
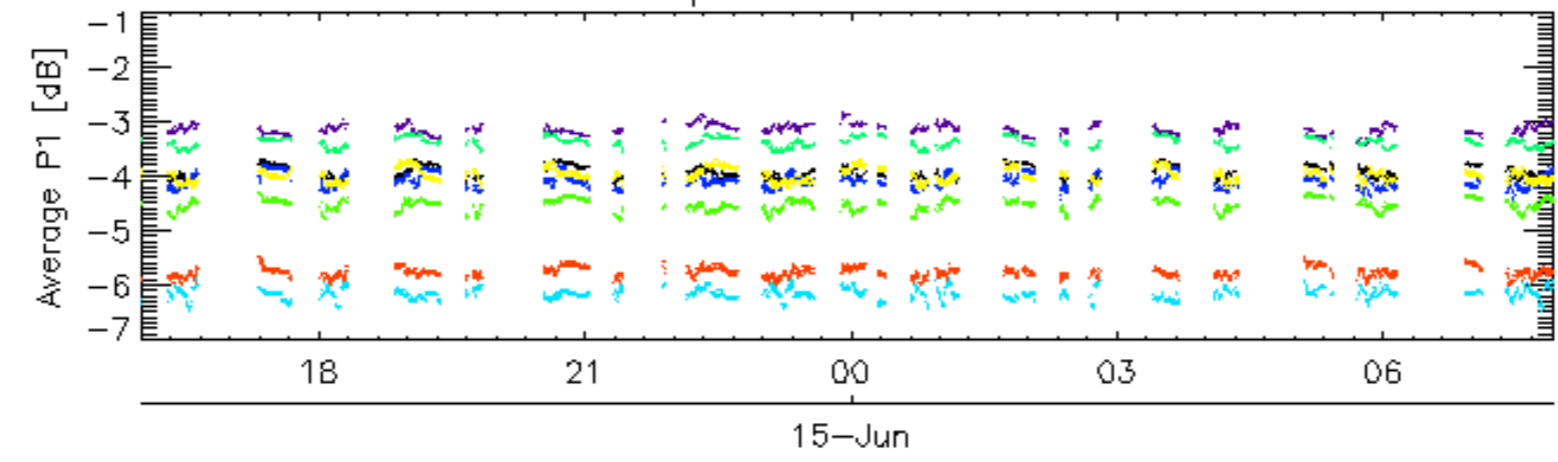
Cal pulses for GM1 SS3



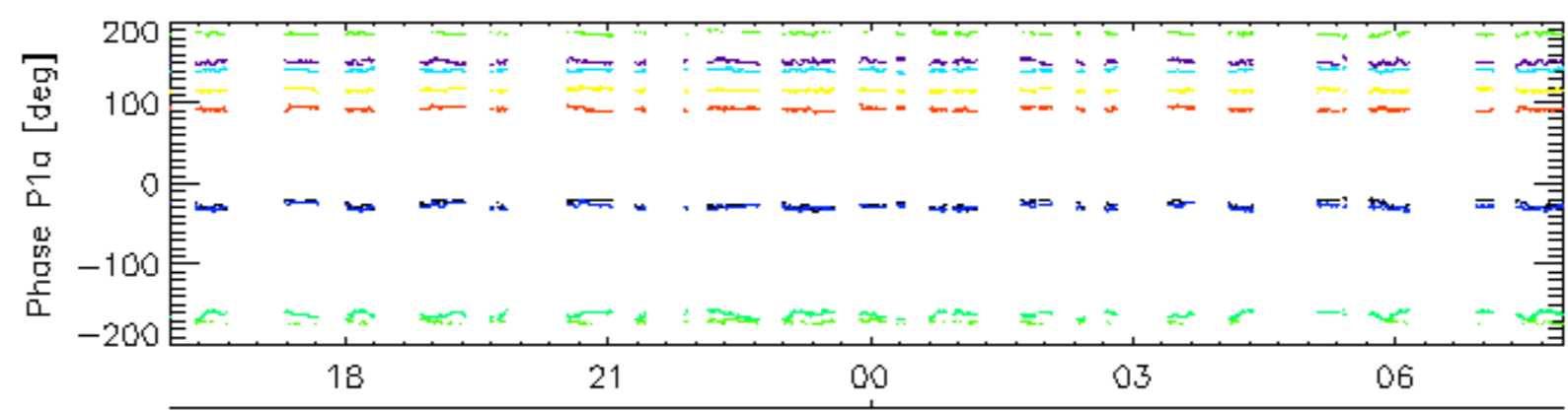
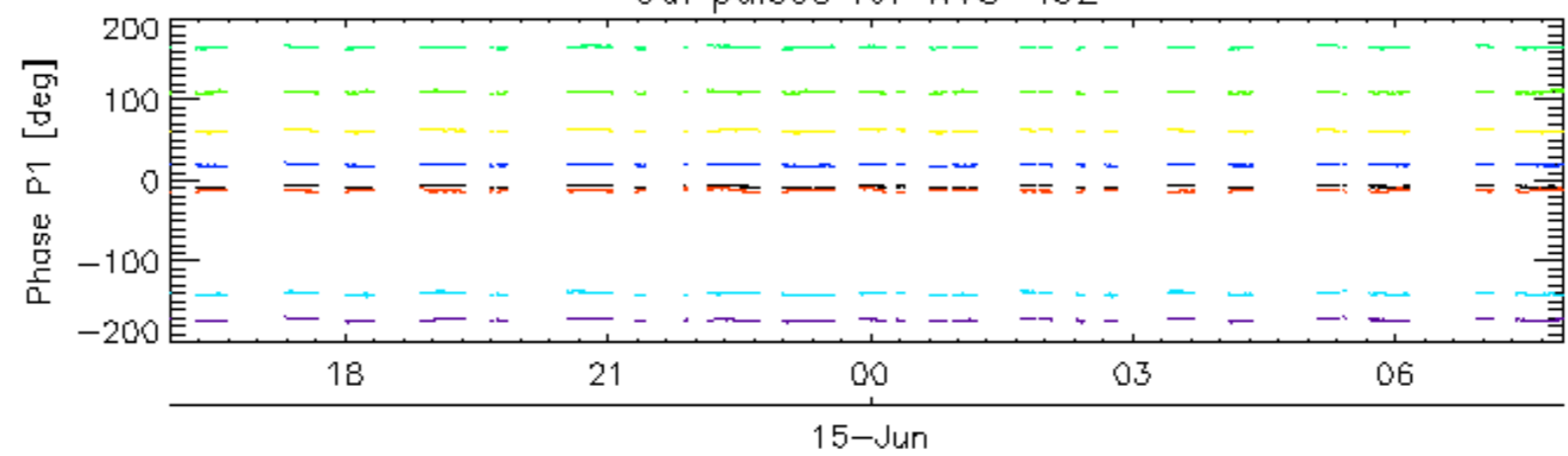
Cal pulses for GM1 SS3



Cal pulses for WVS IS2

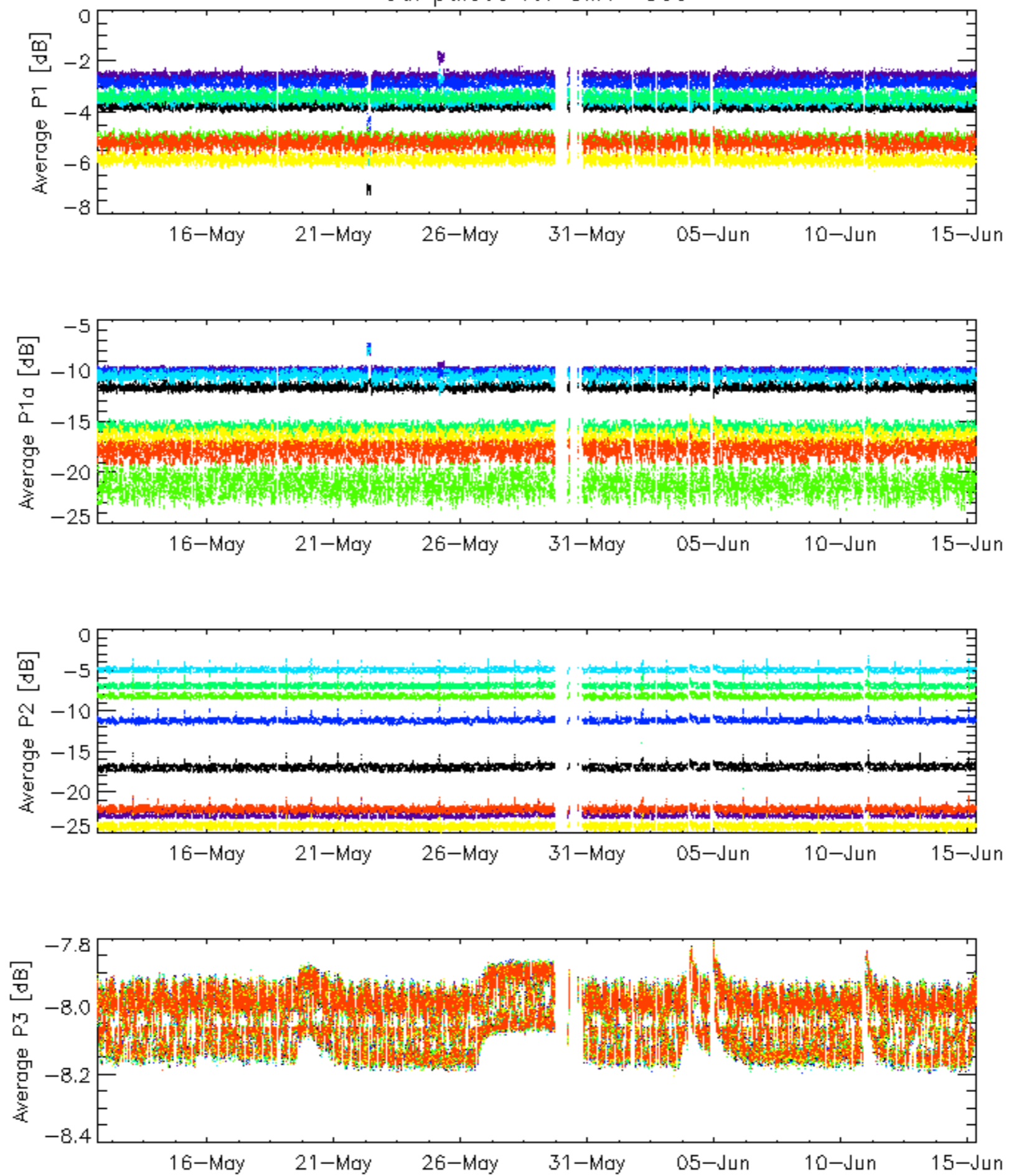


Cal pulses for WVS IS2



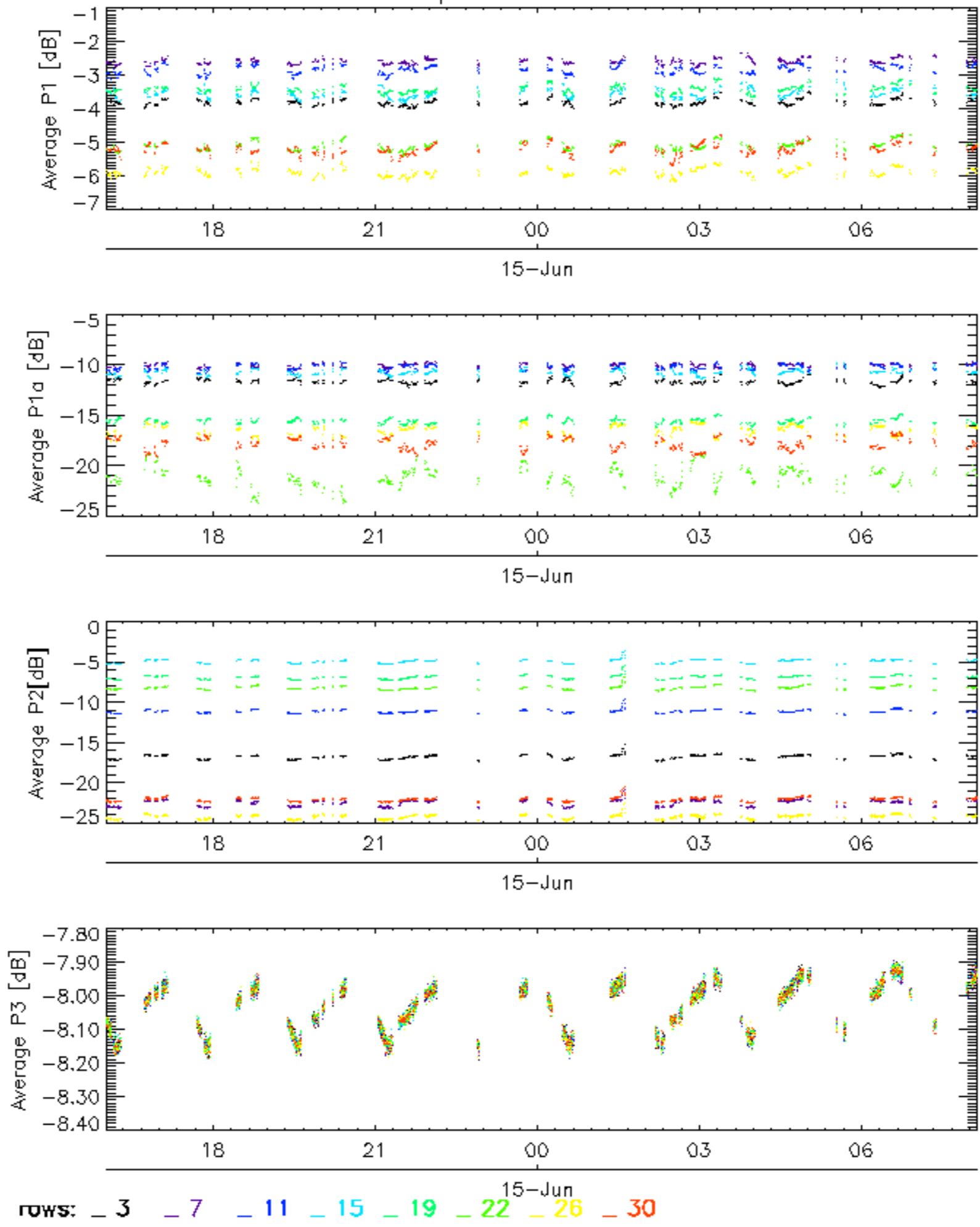
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

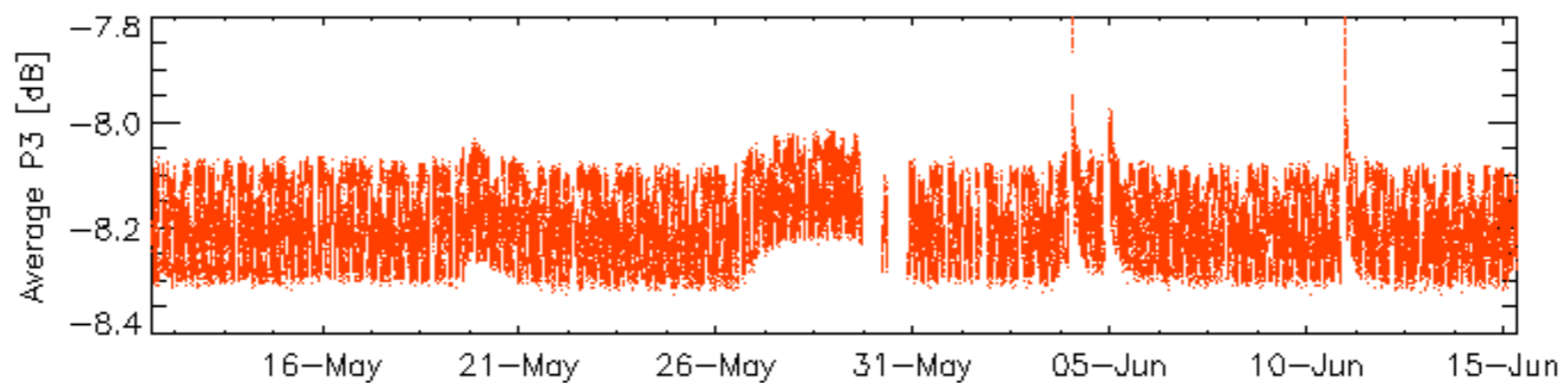
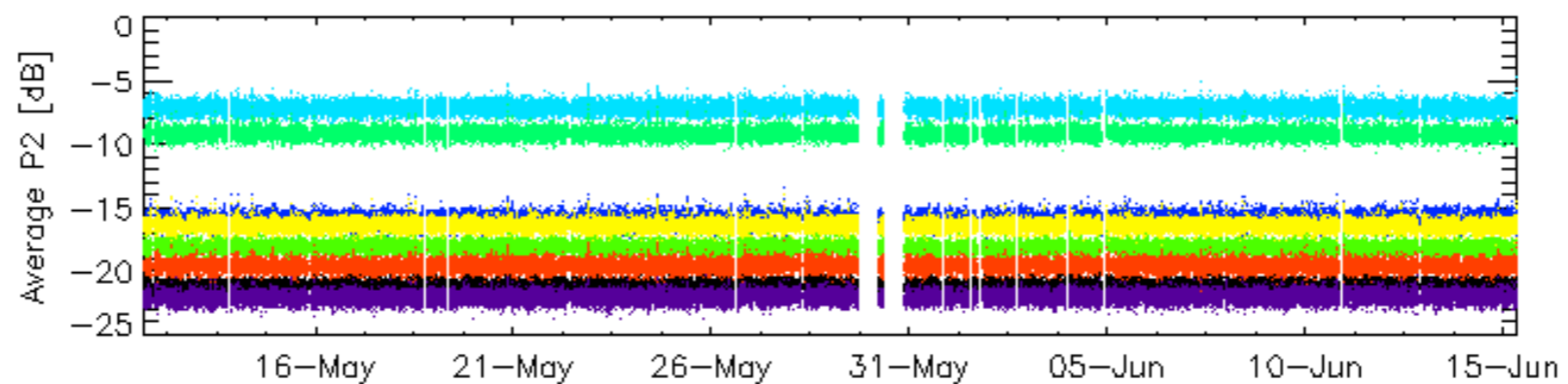
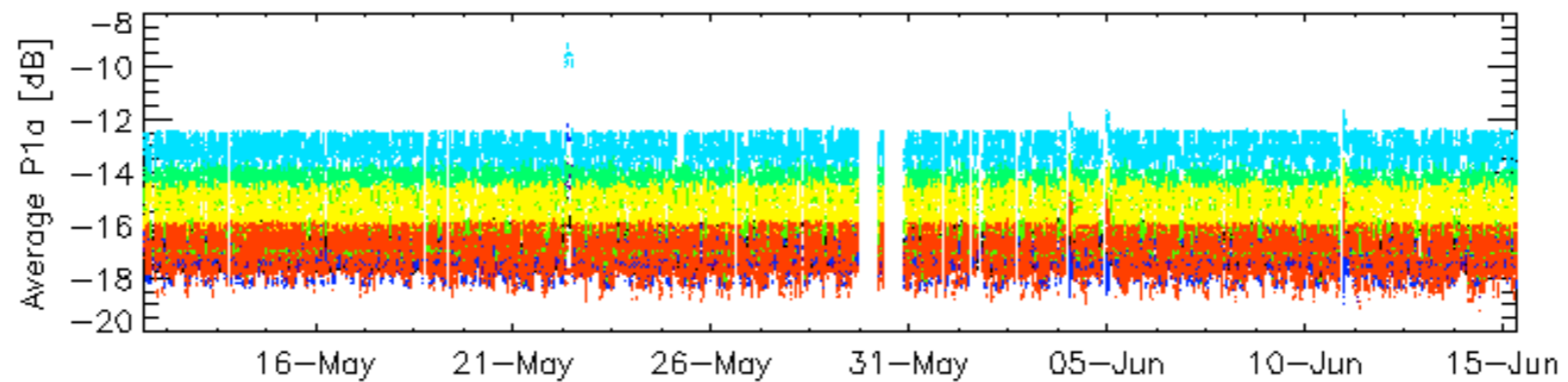
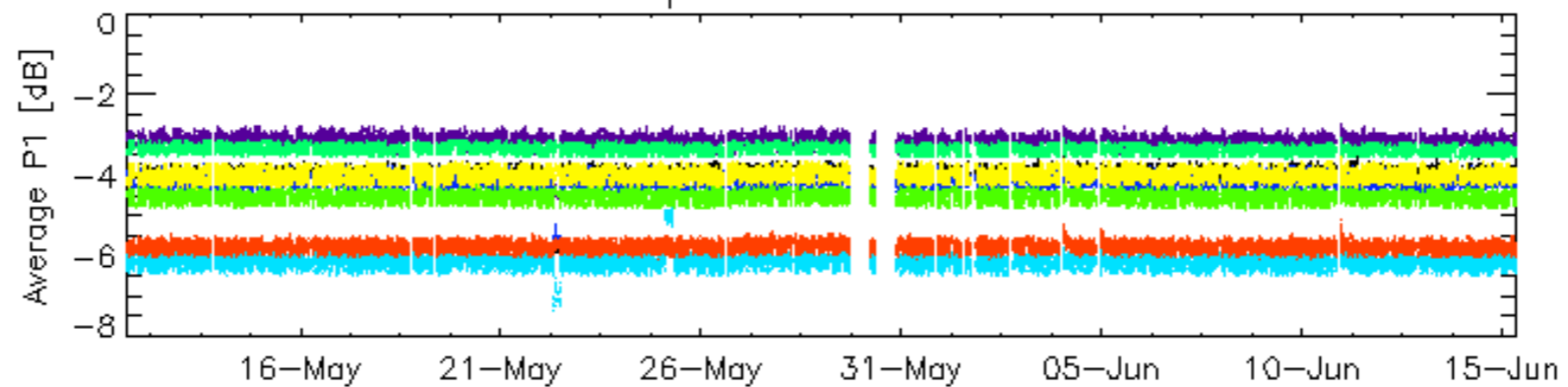


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

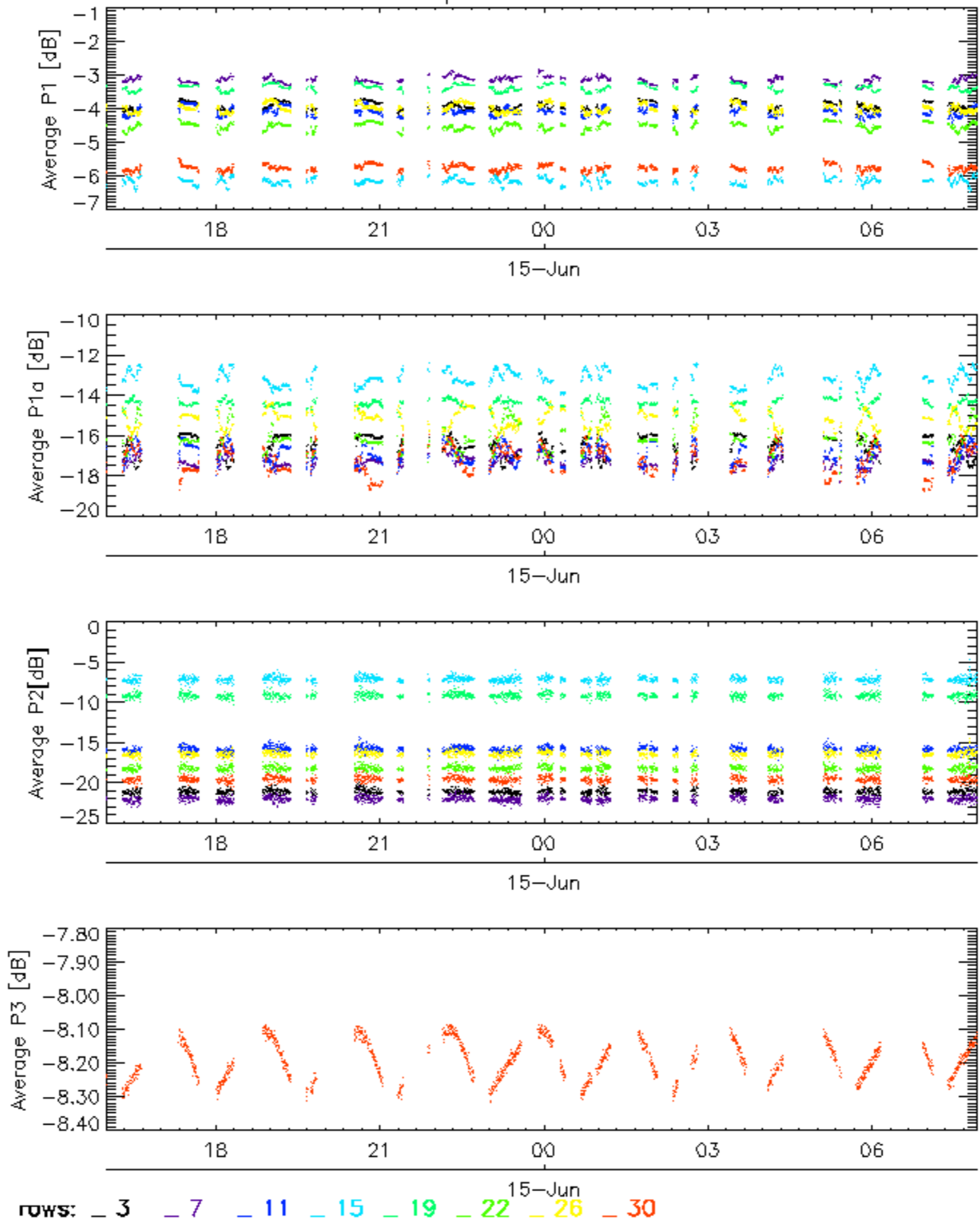


Cal pulses for WVS IS2



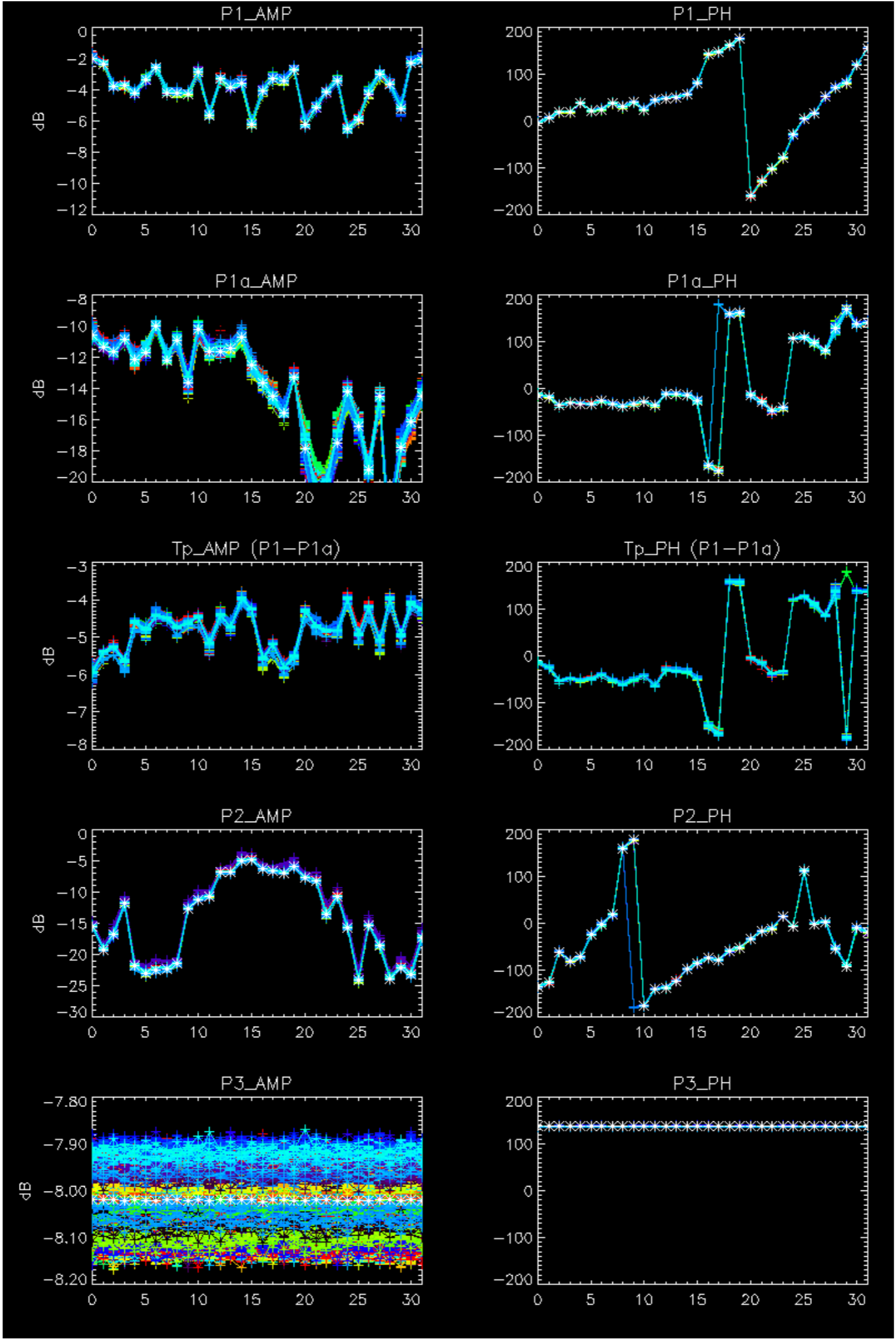
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

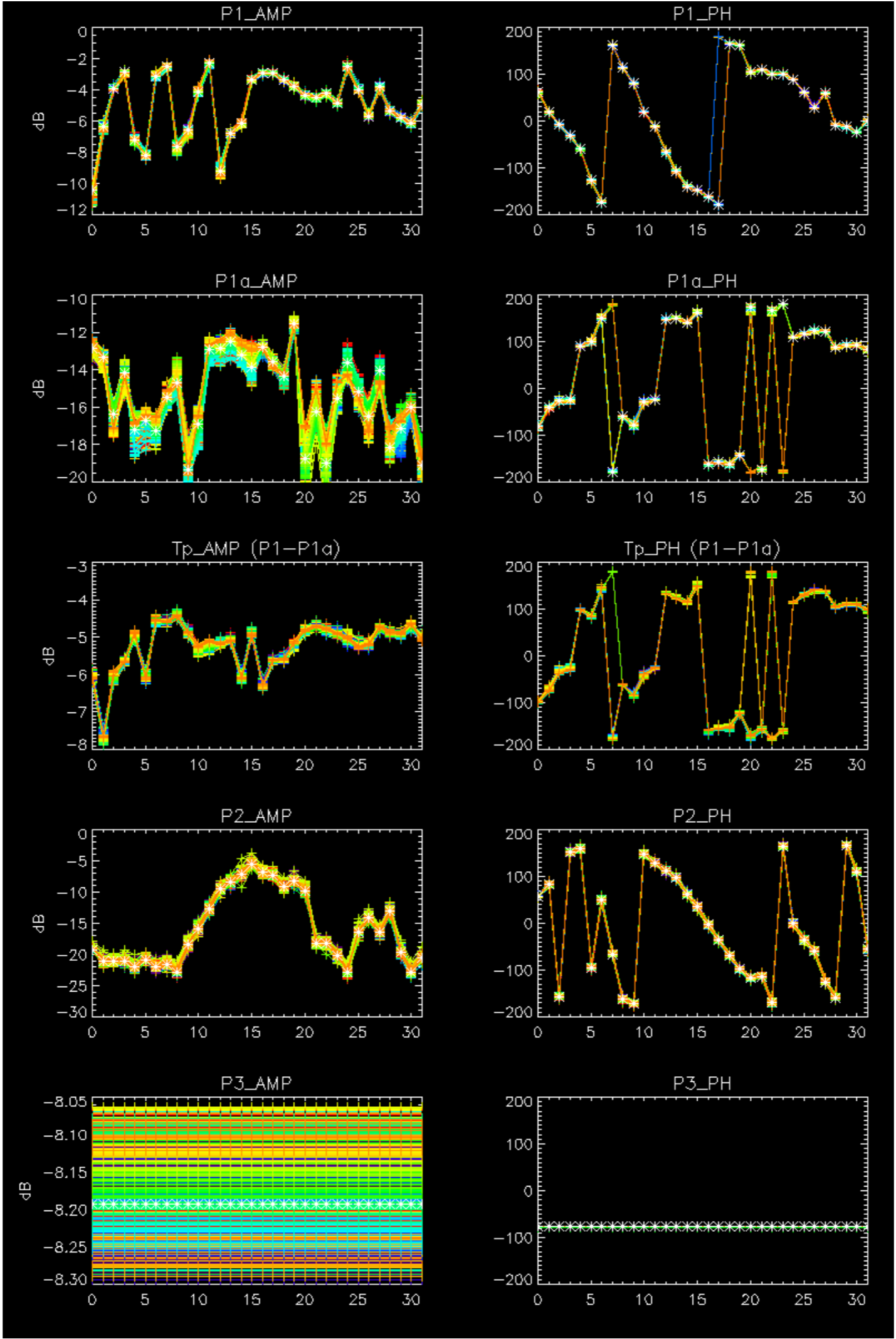
Cal pulses for WVS IS2



No anomalies observed on available browse products

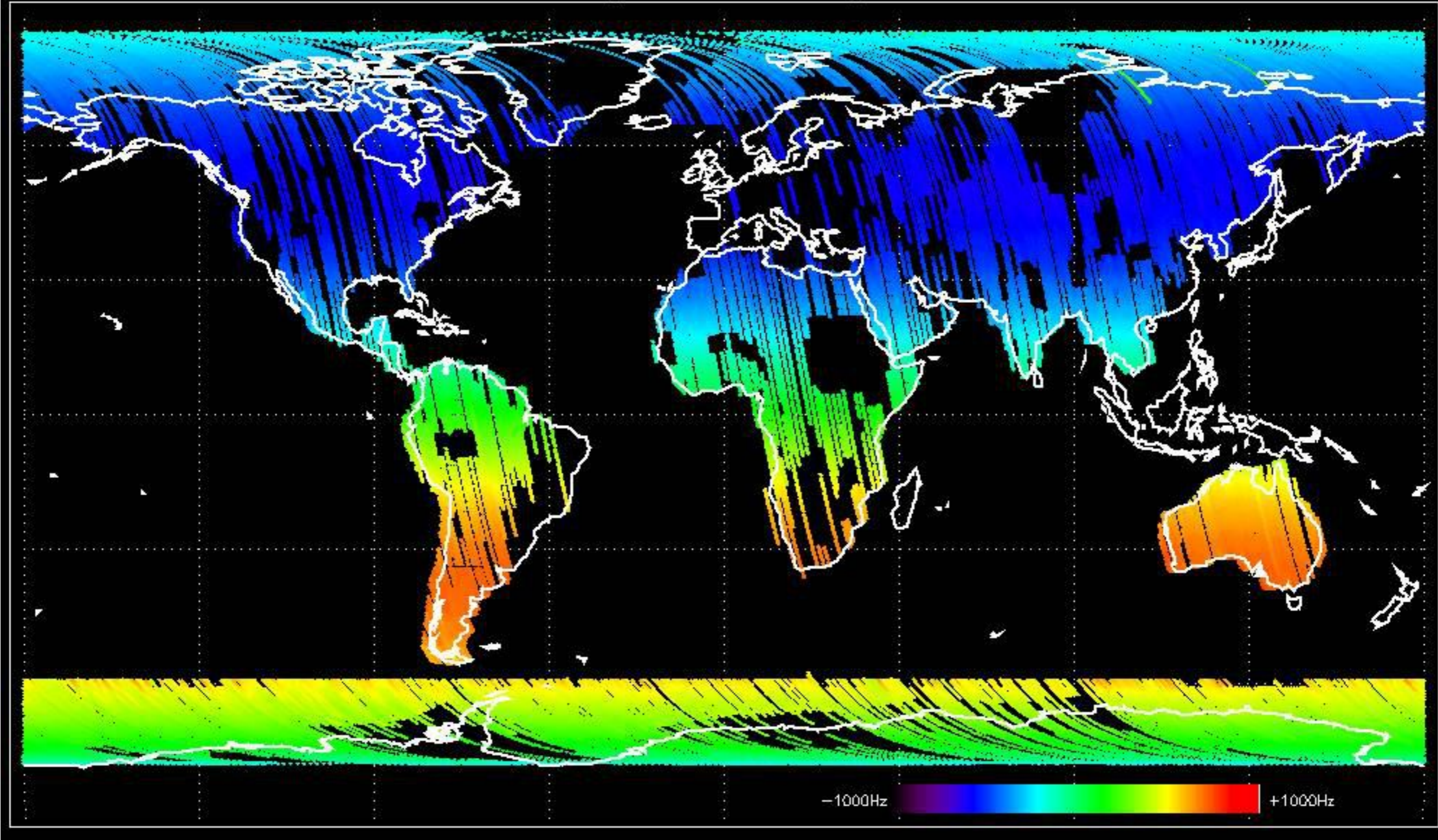
No anomalies observed.



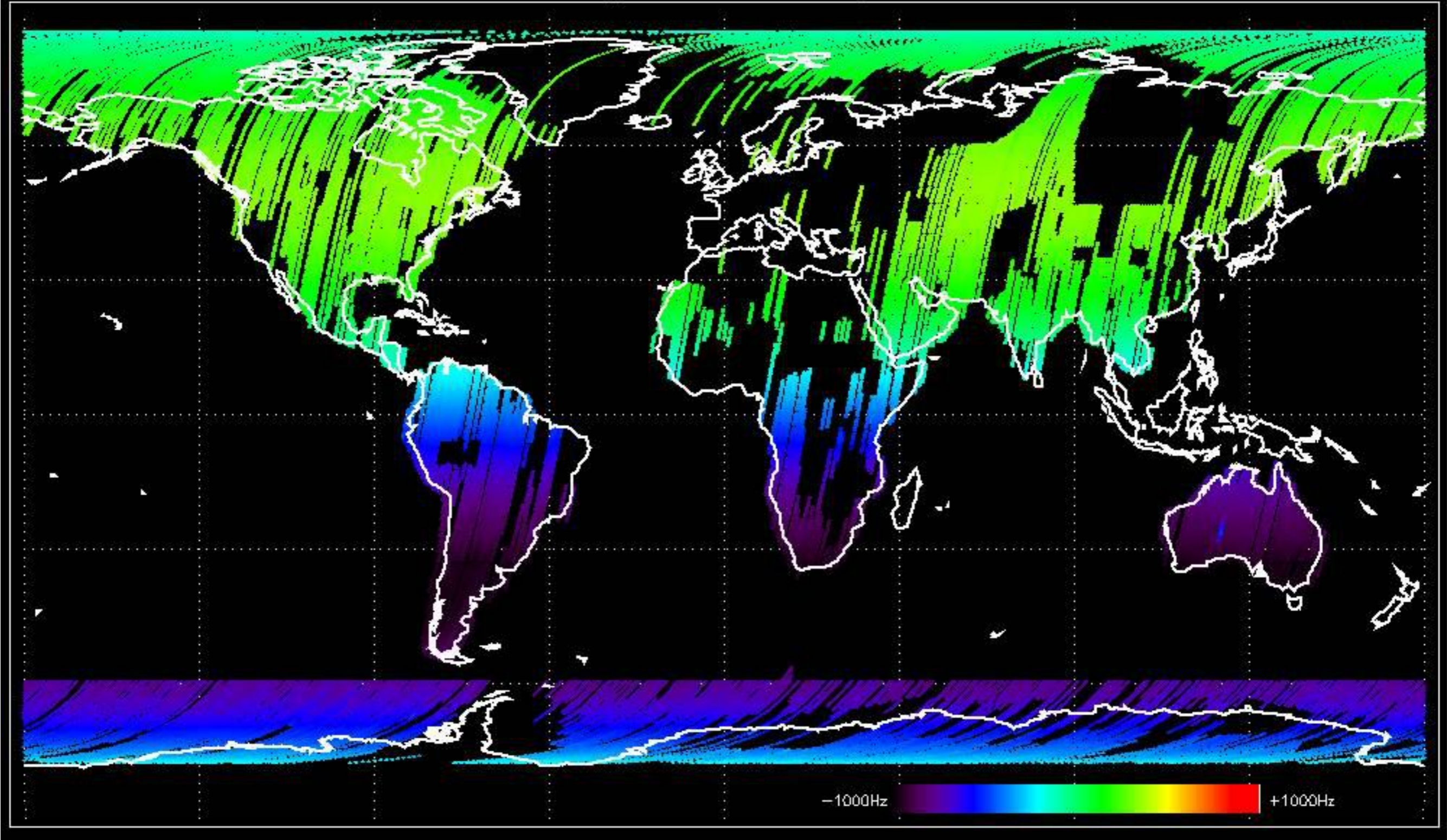


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

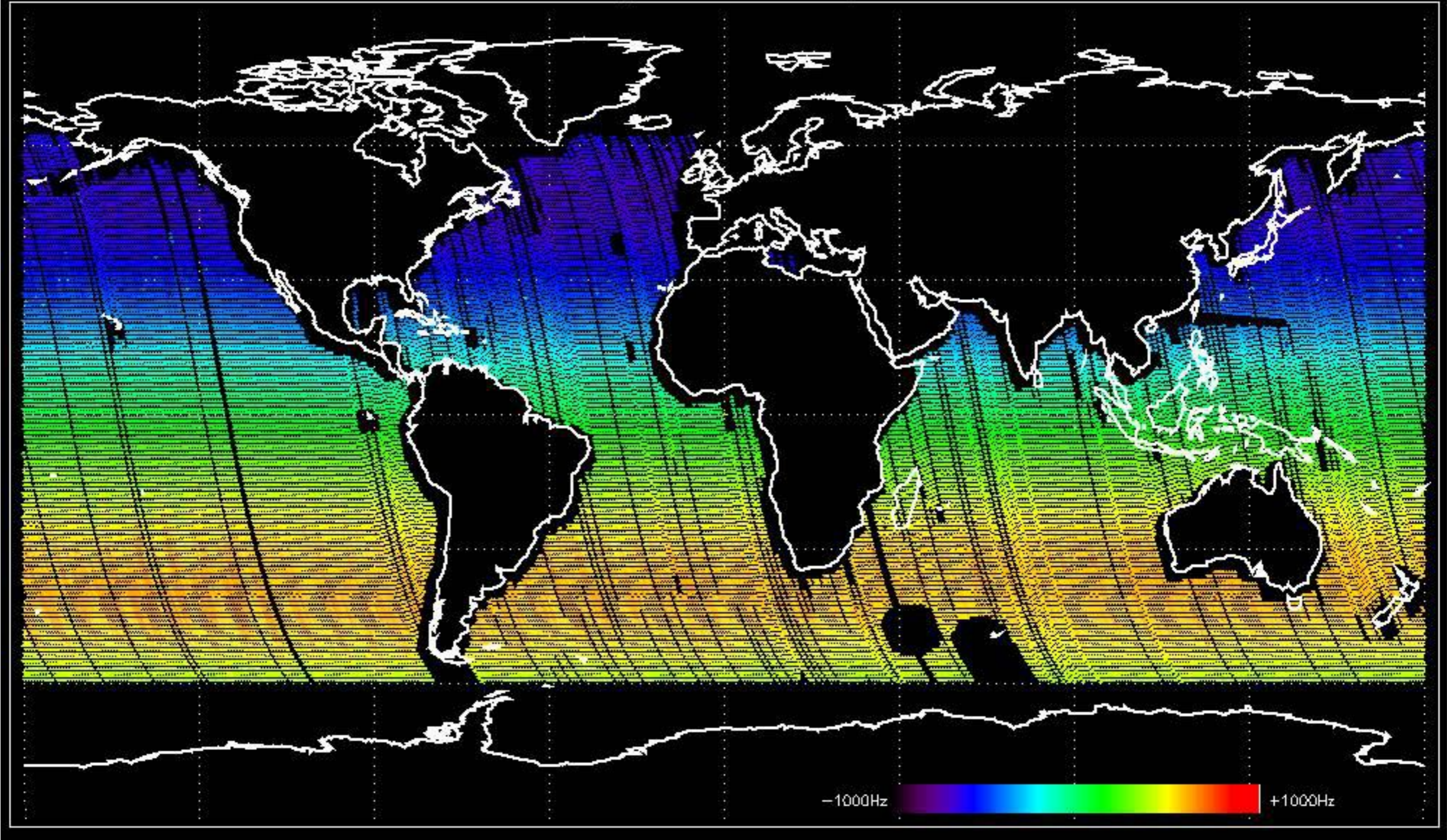
Doppler 'GM1' 'SS1' ascending



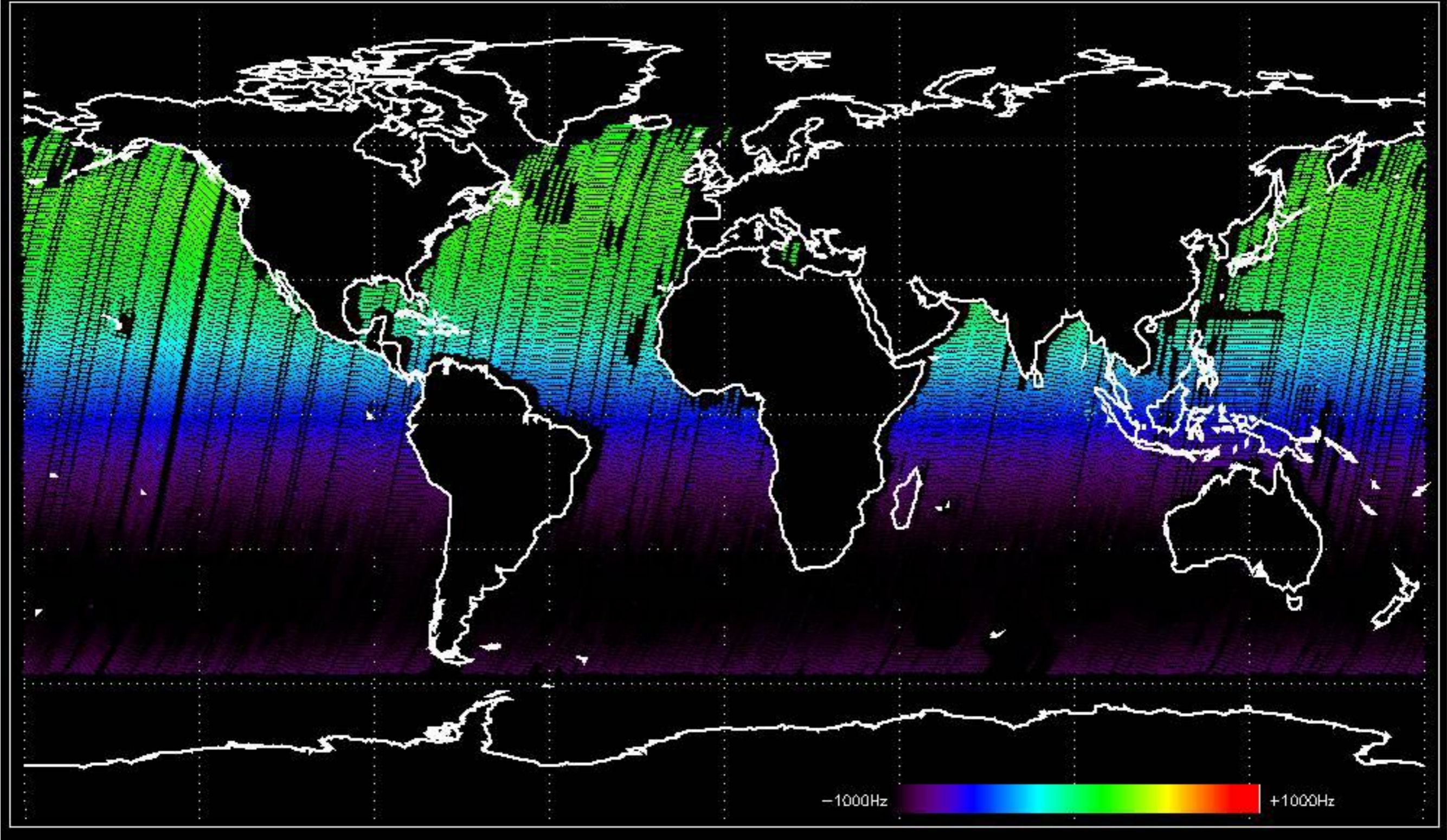
Doppler 'GM1' 'SS1' descending



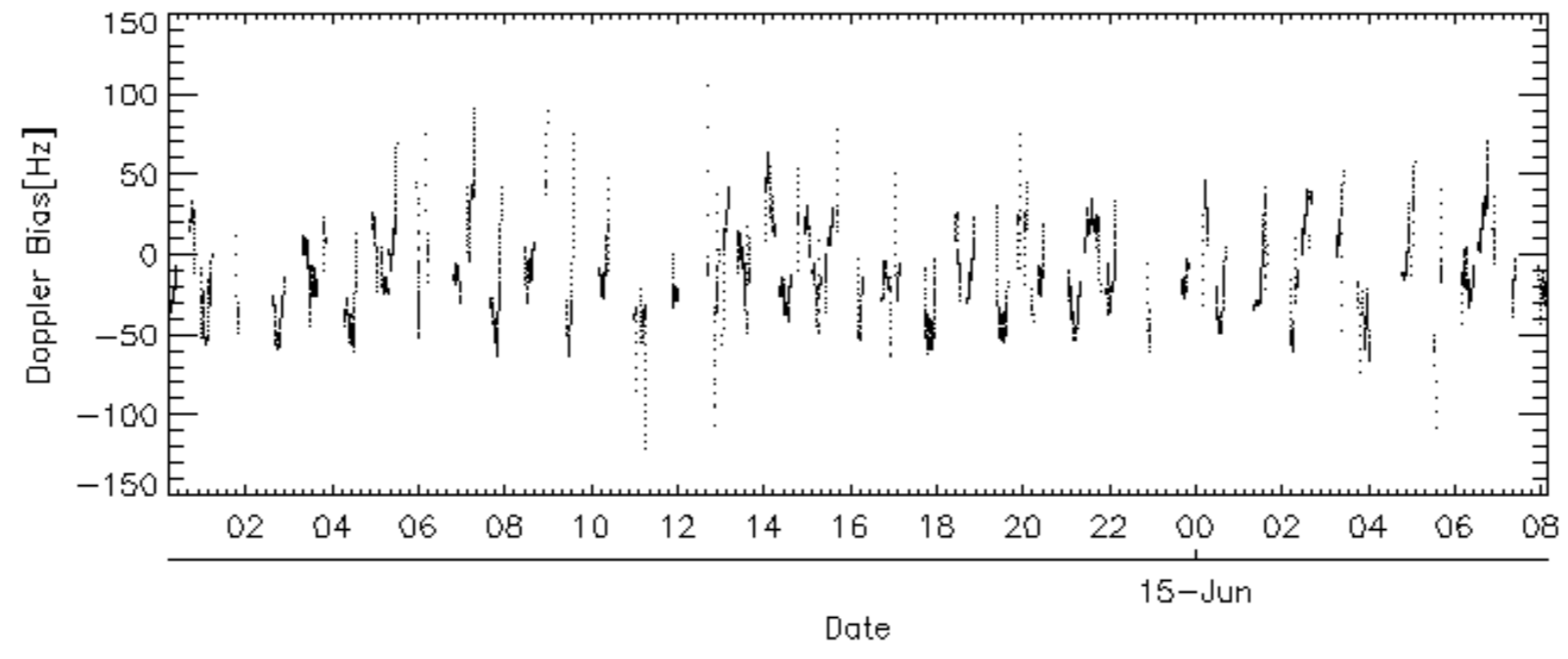
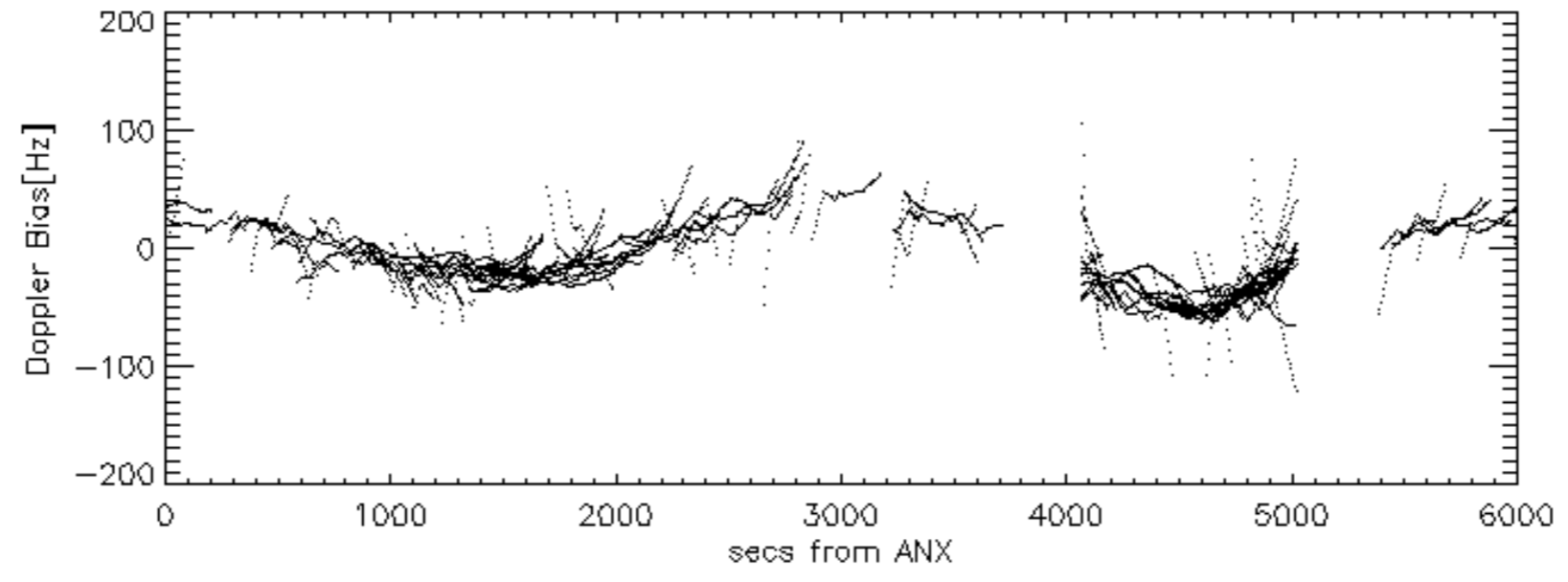
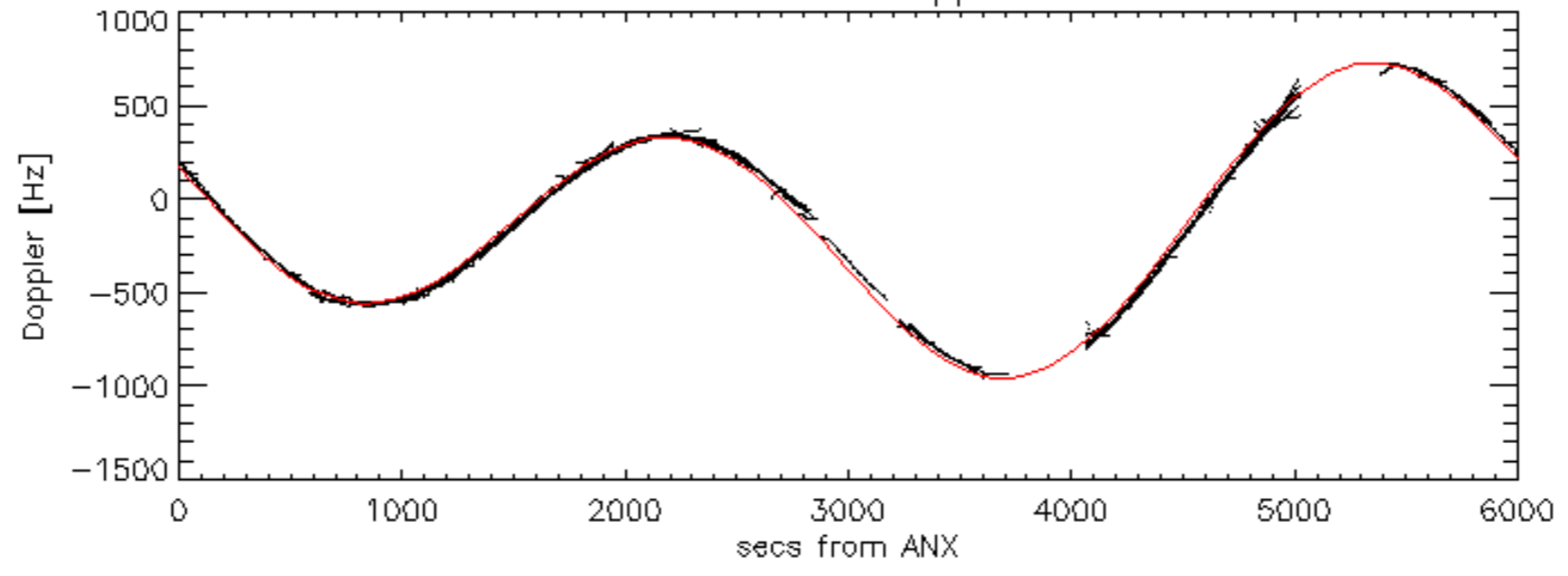
Doppler 'WVS' 'IS2' ascending

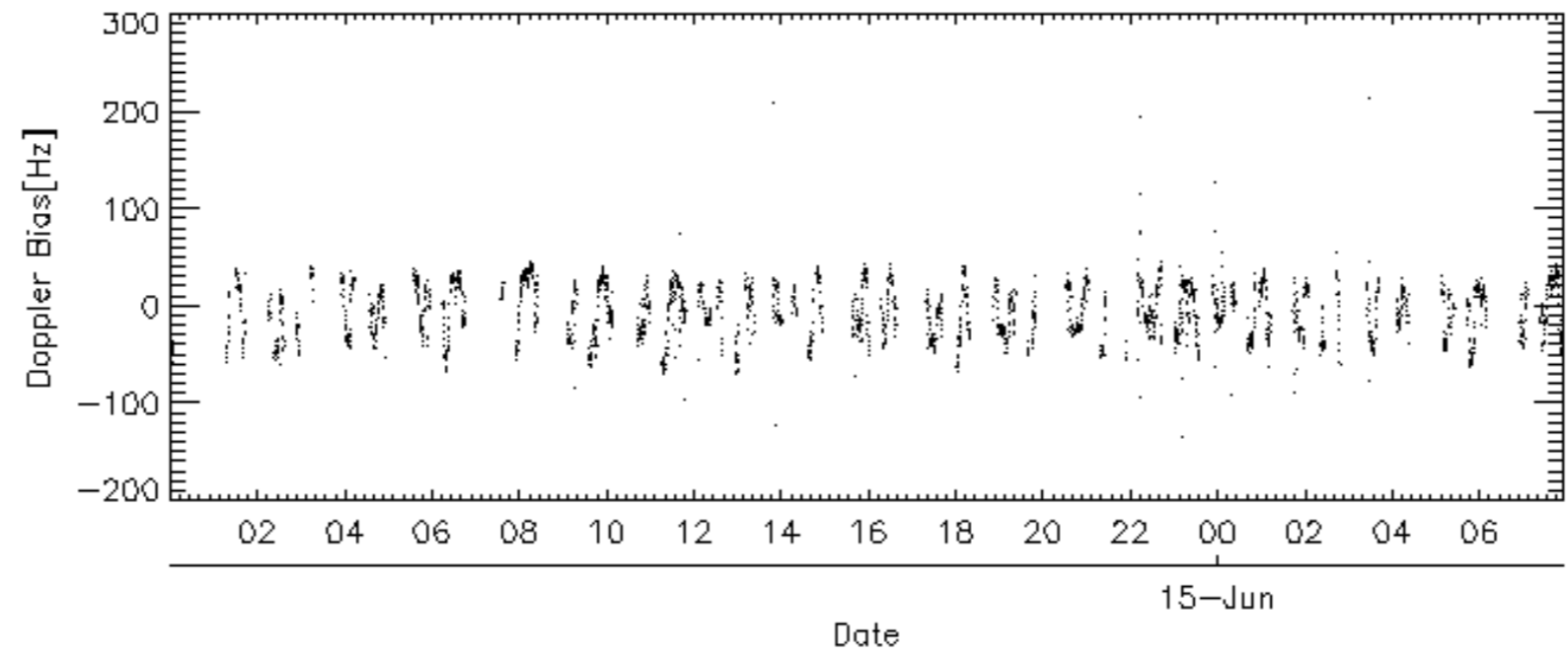
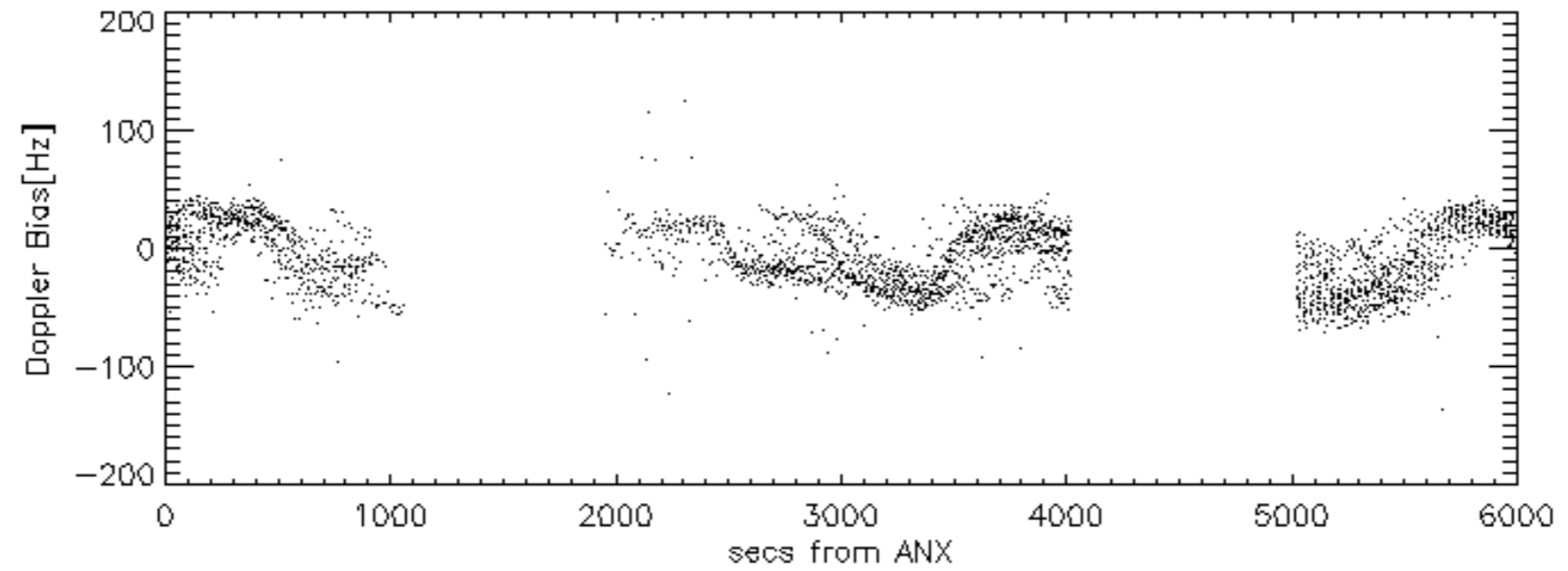
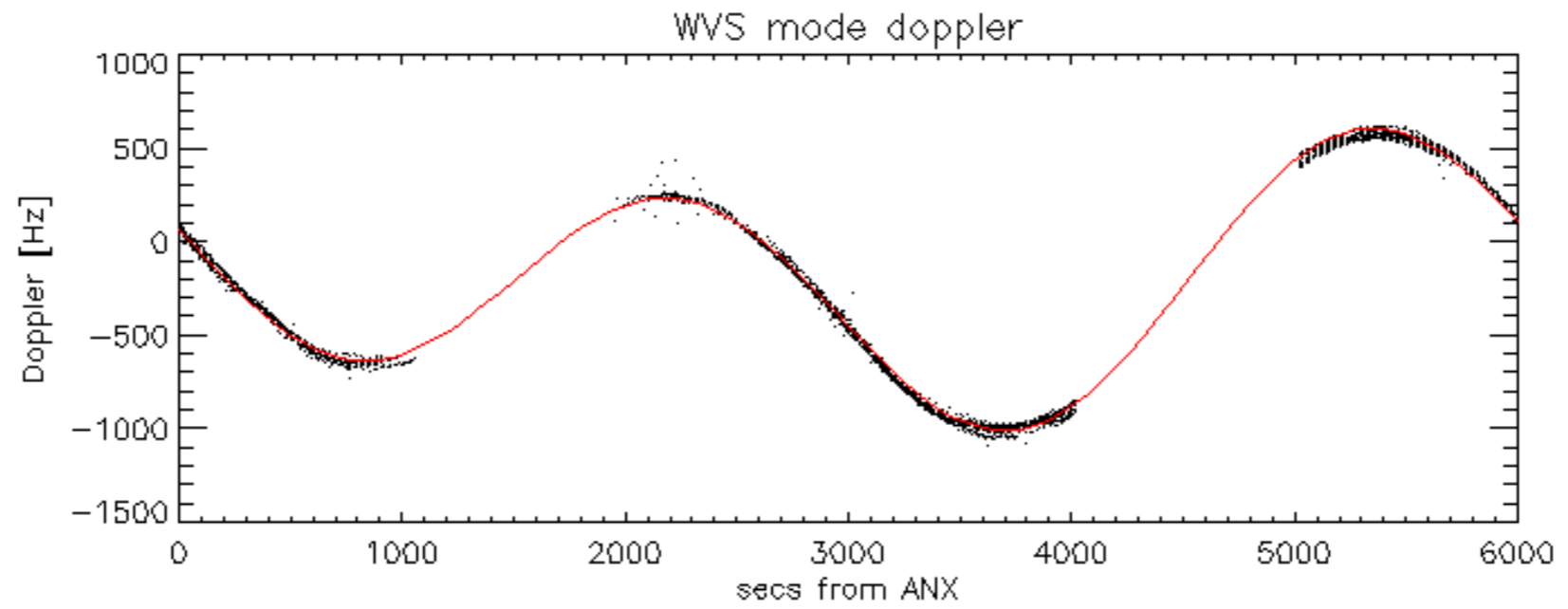


Doppler 'WVS' 'IS2' descending

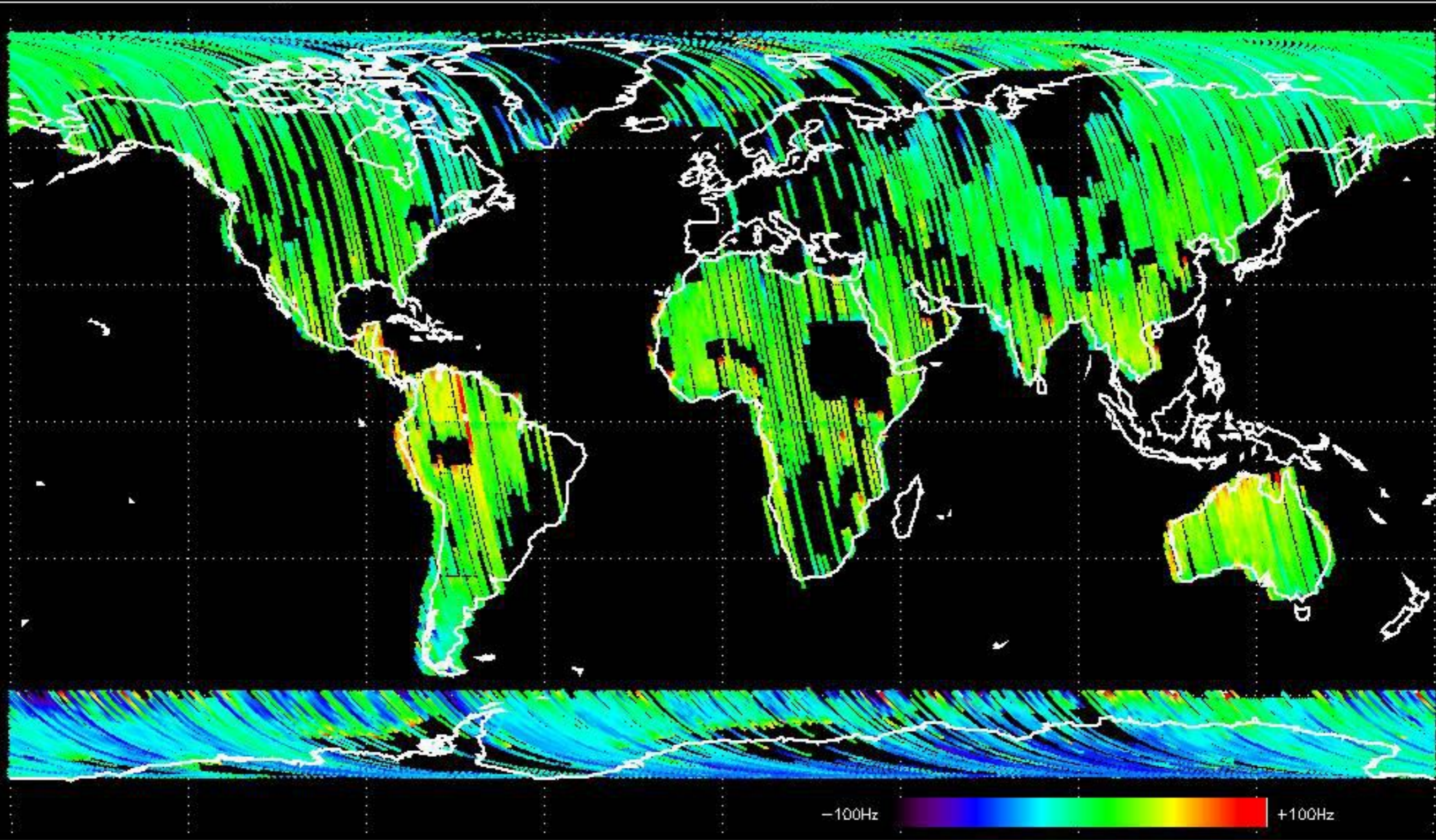


GM1 mode doppler

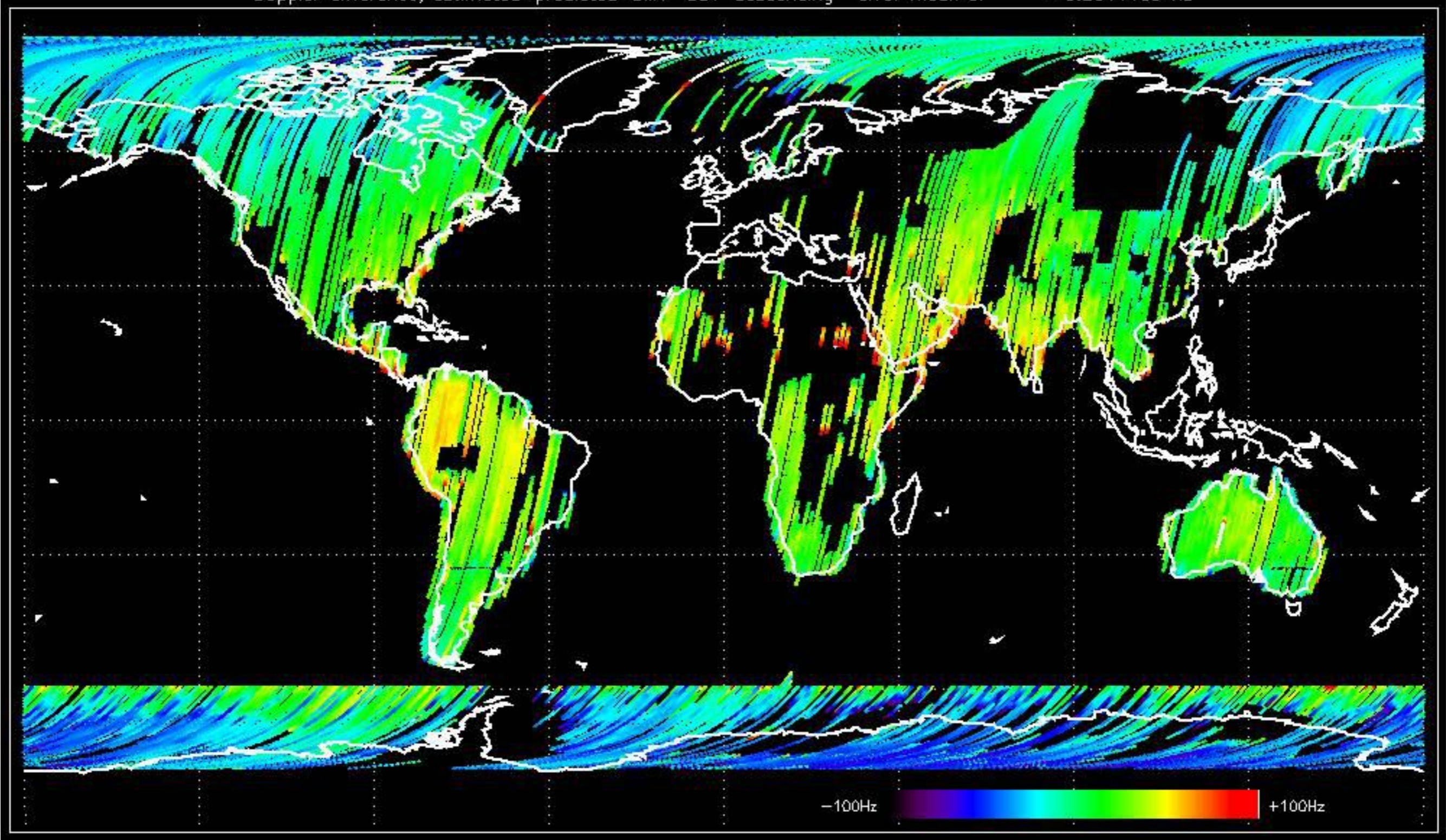




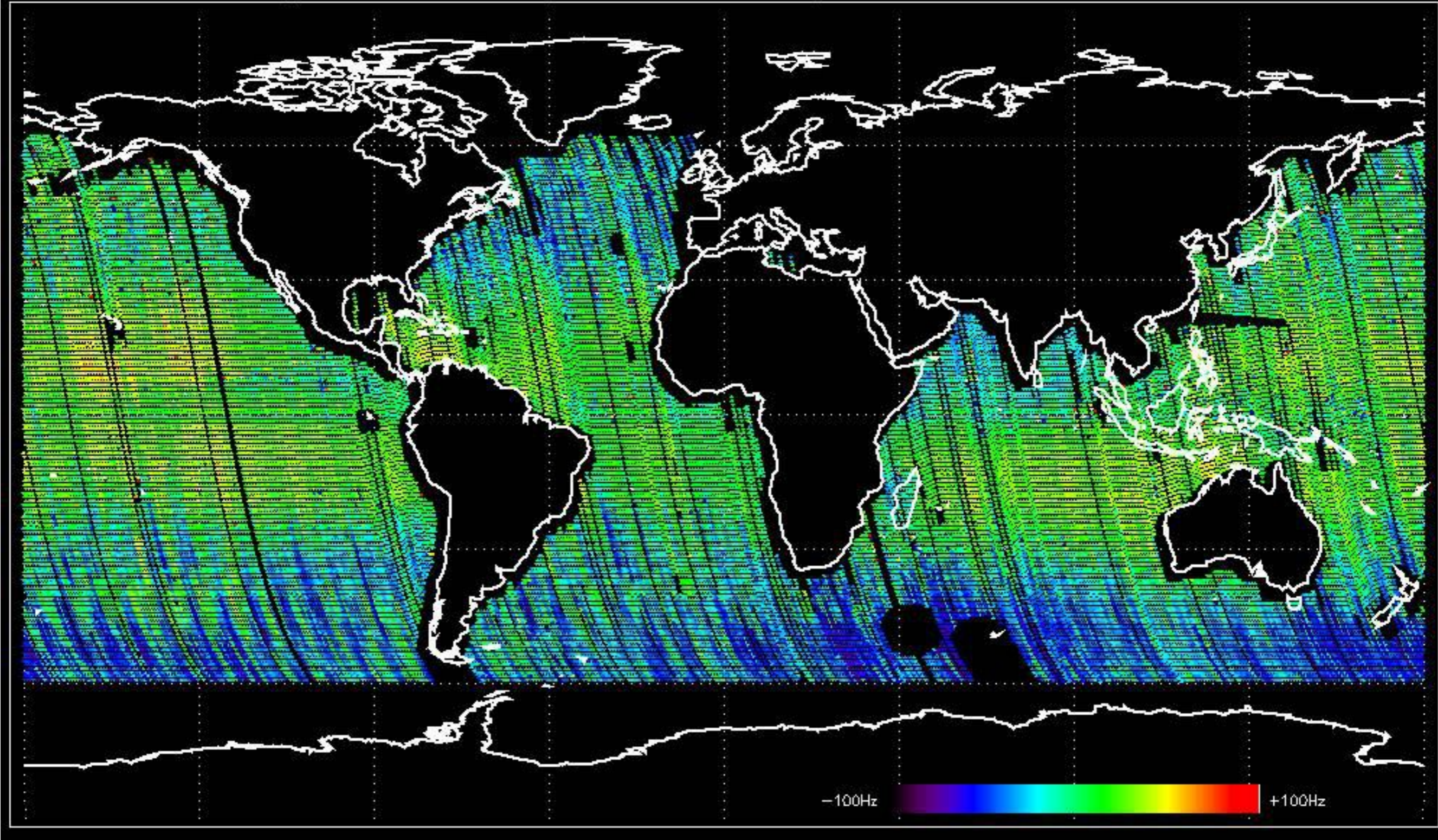
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -17.125065 Hz



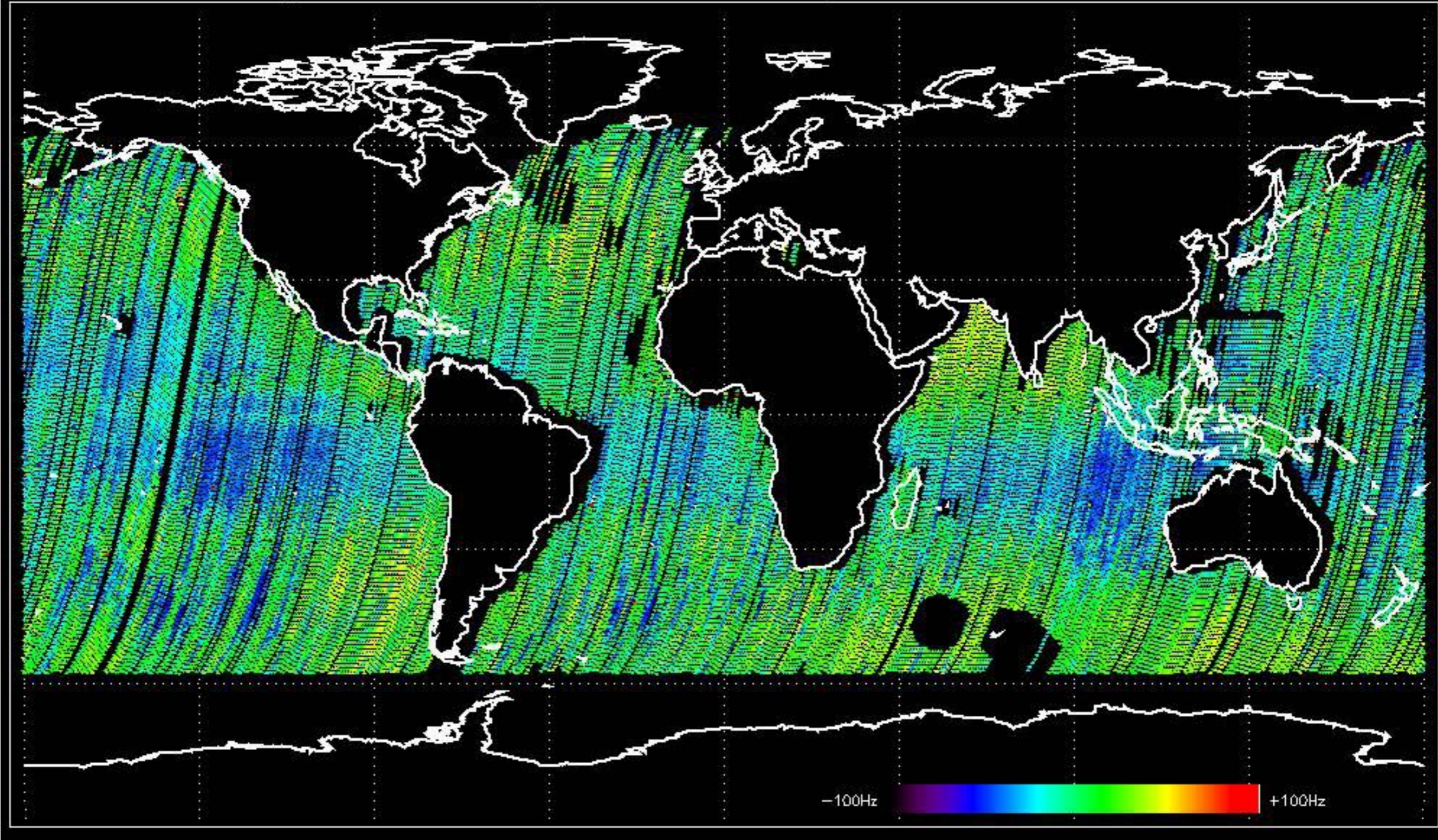
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -6.2611465 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -8.6253517 Hz

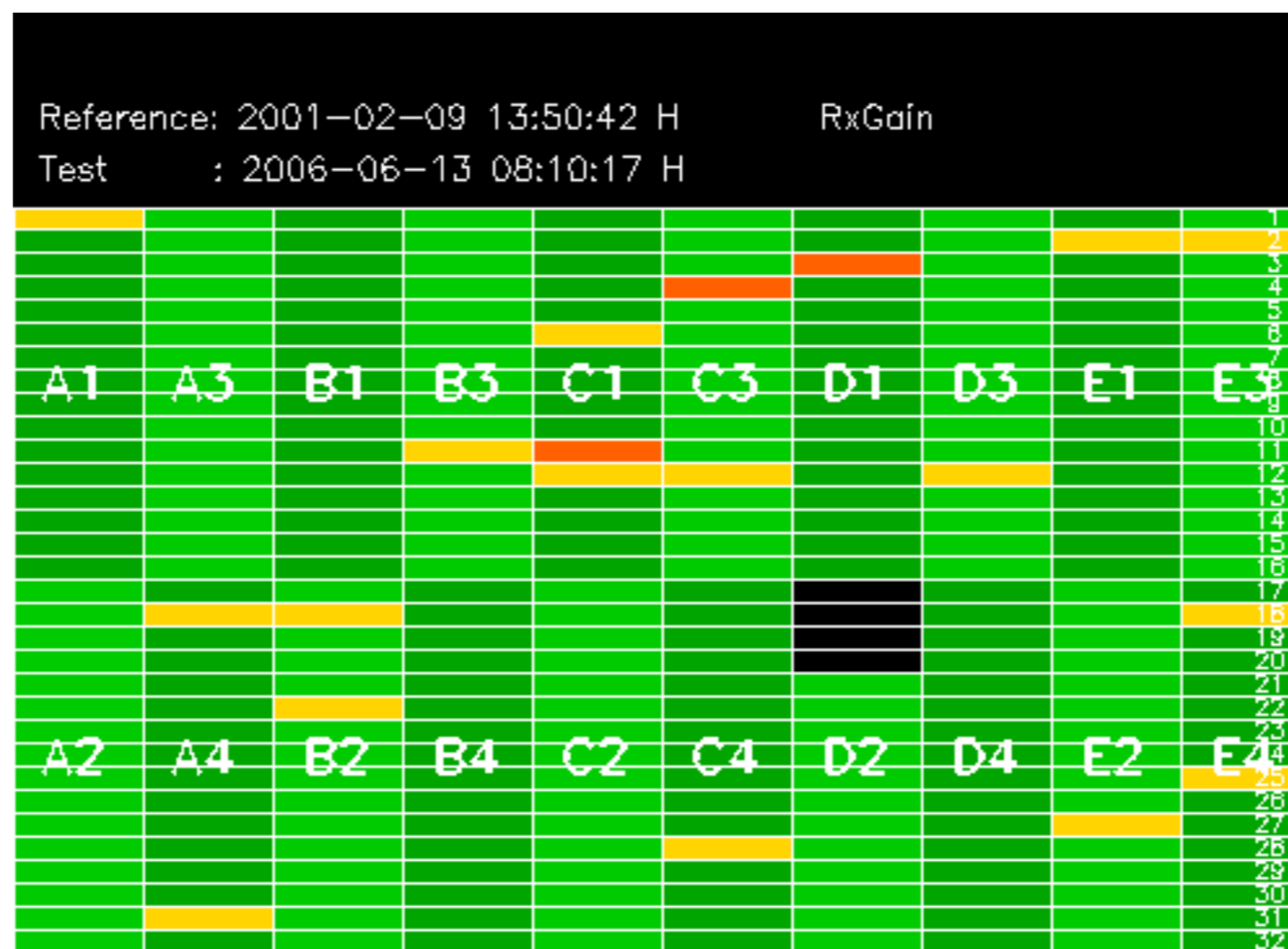


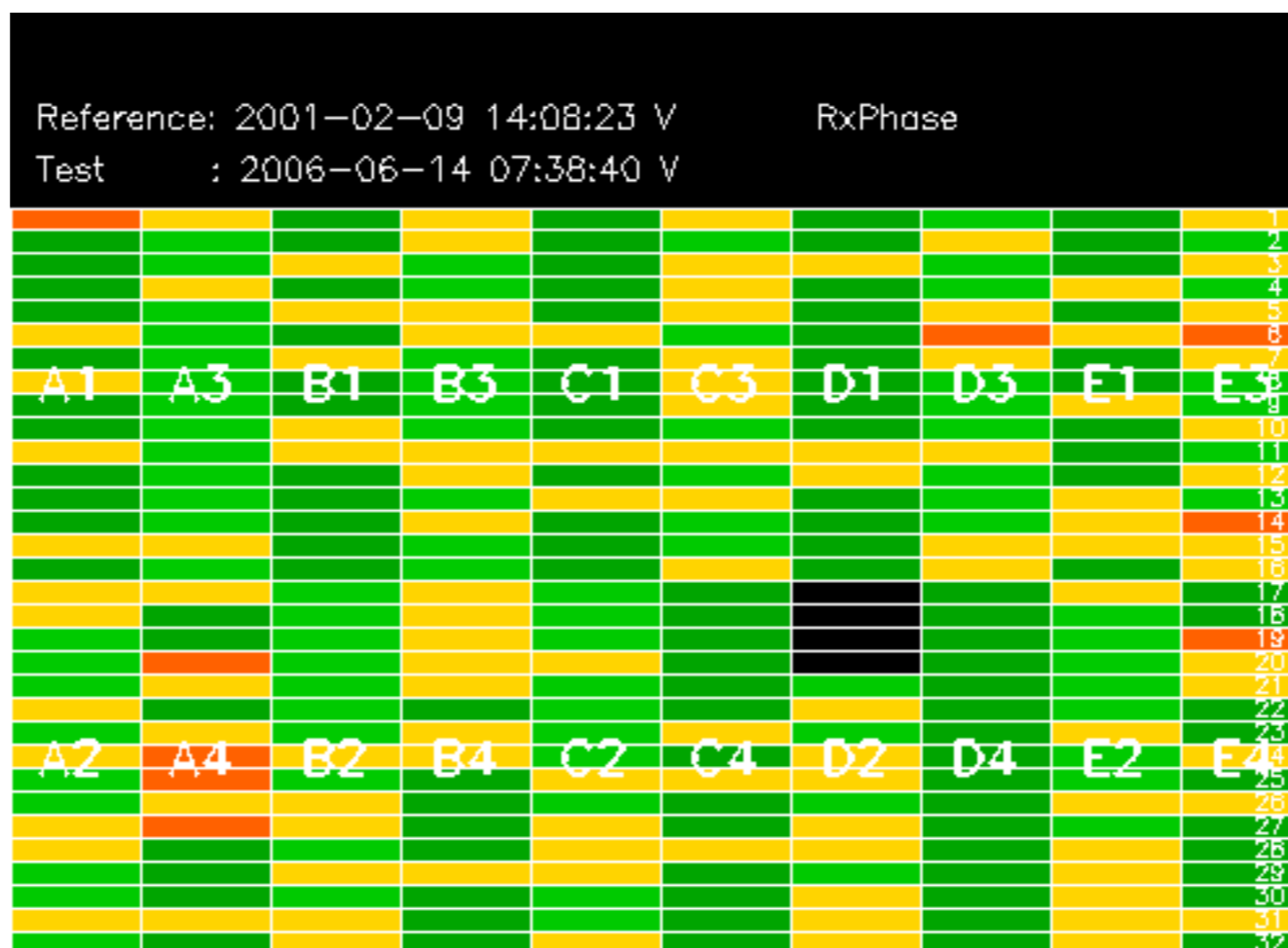
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -10.733338 Hz

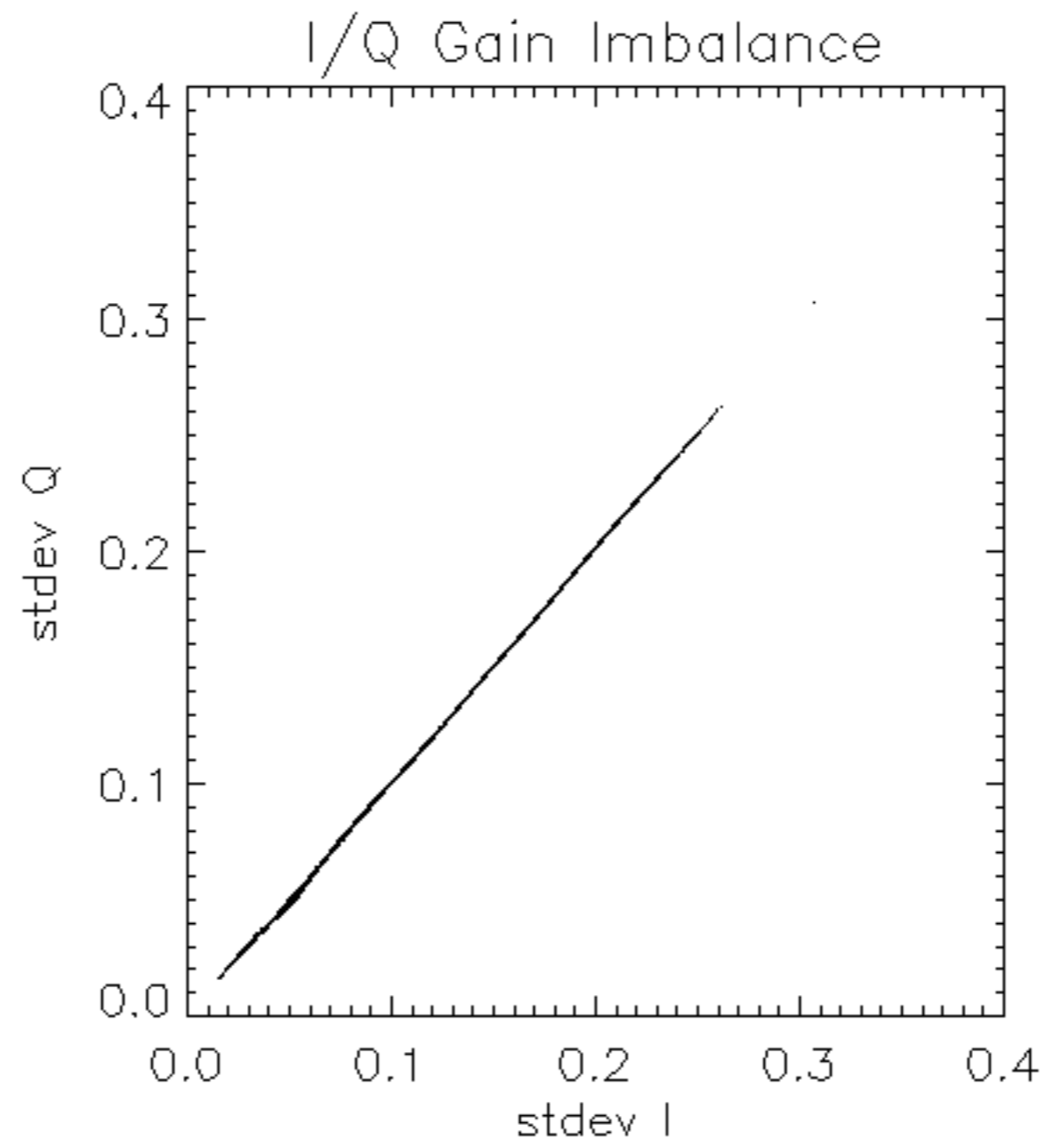


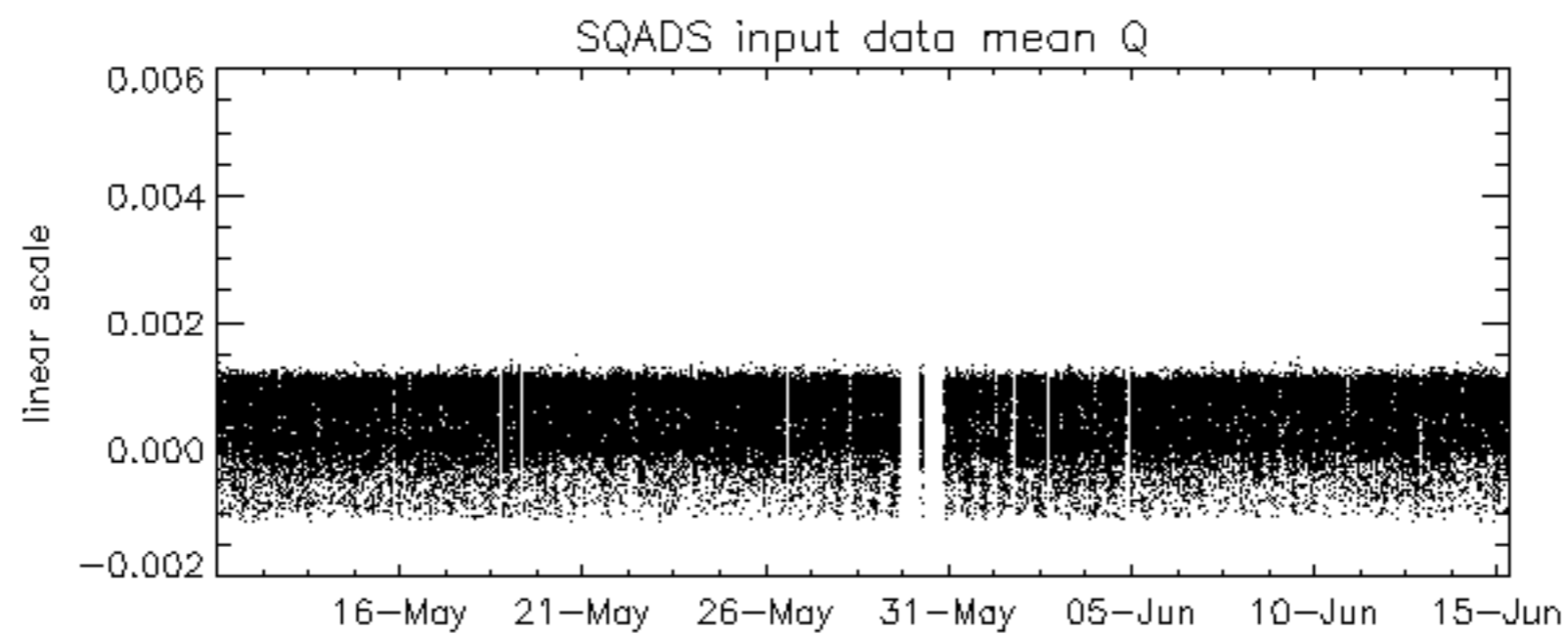
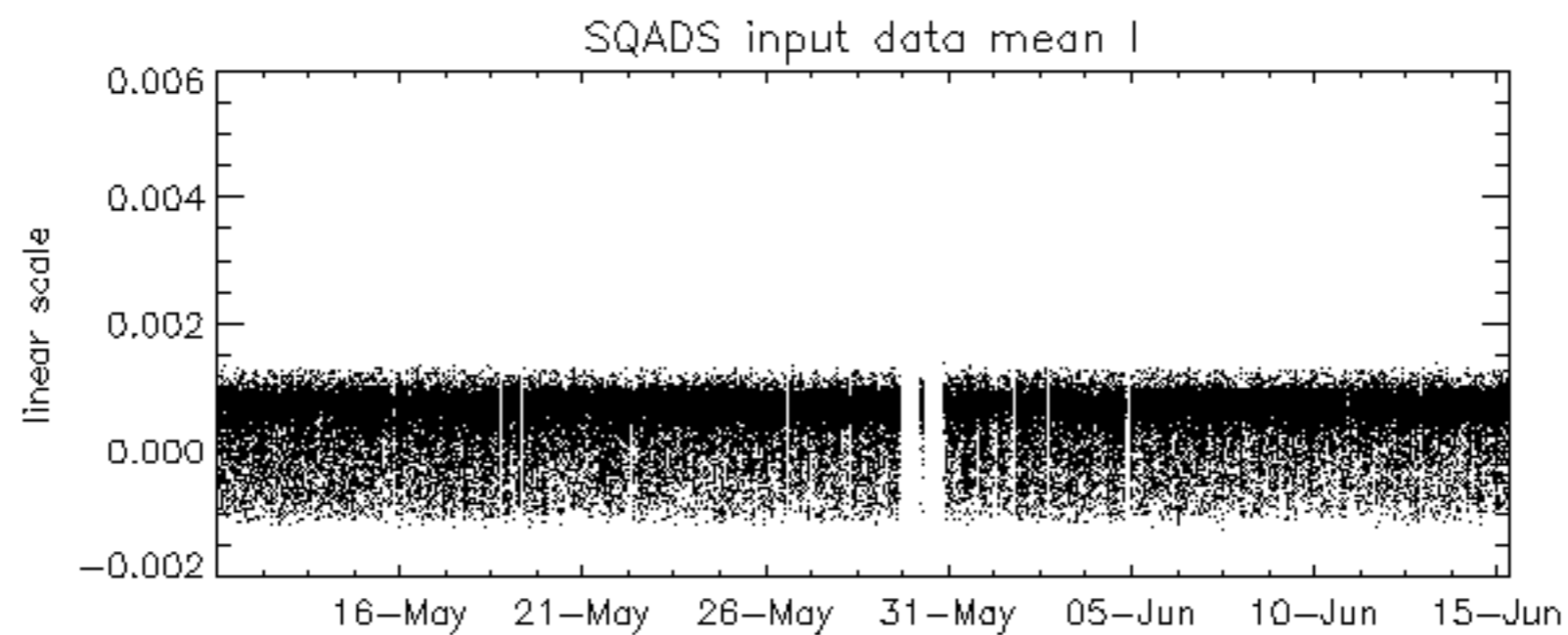
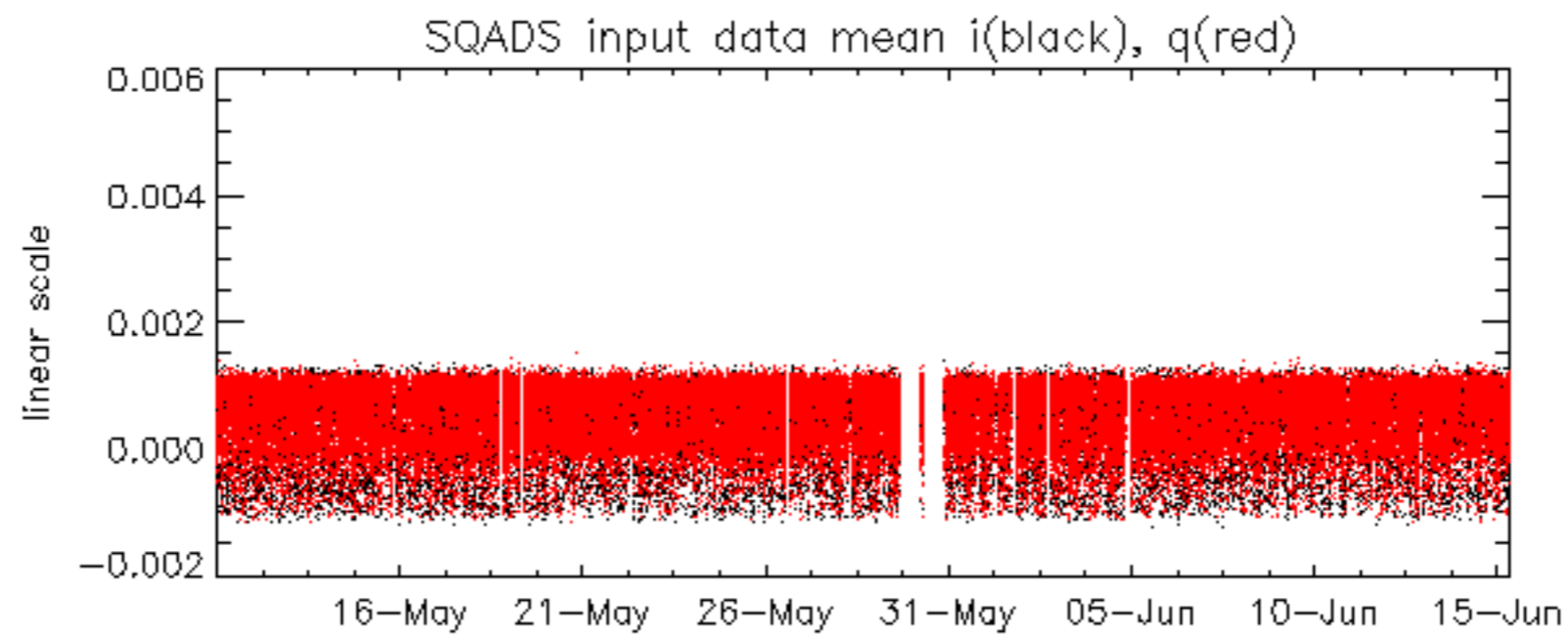
No anomalies observed on available MS products:

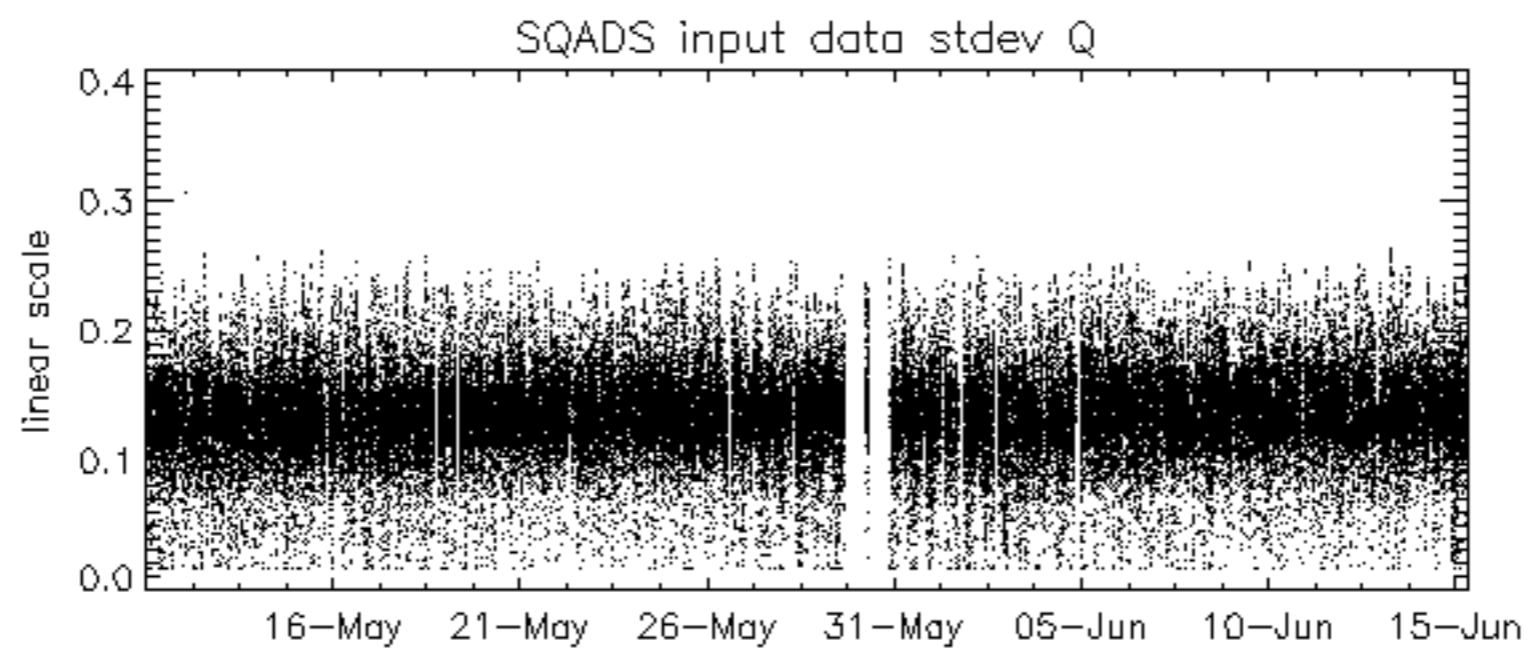
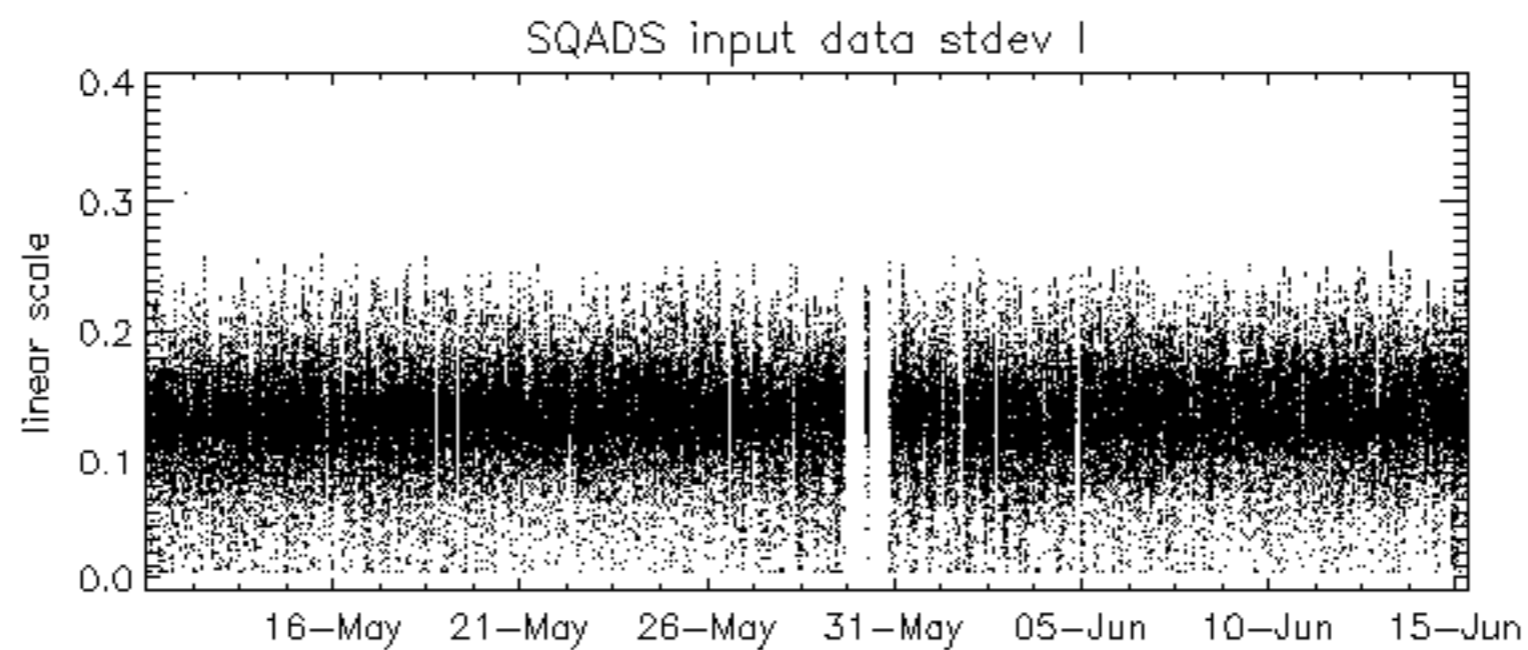
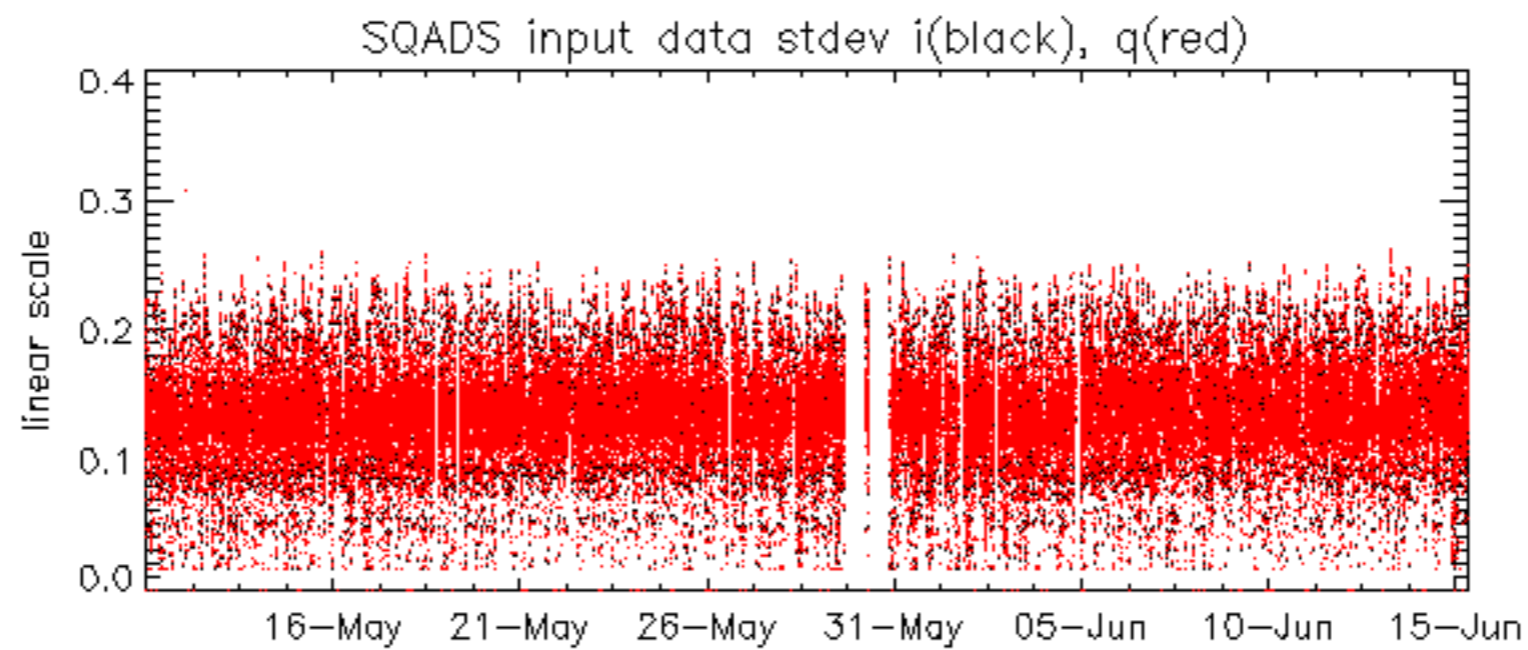
No anomalies observed.







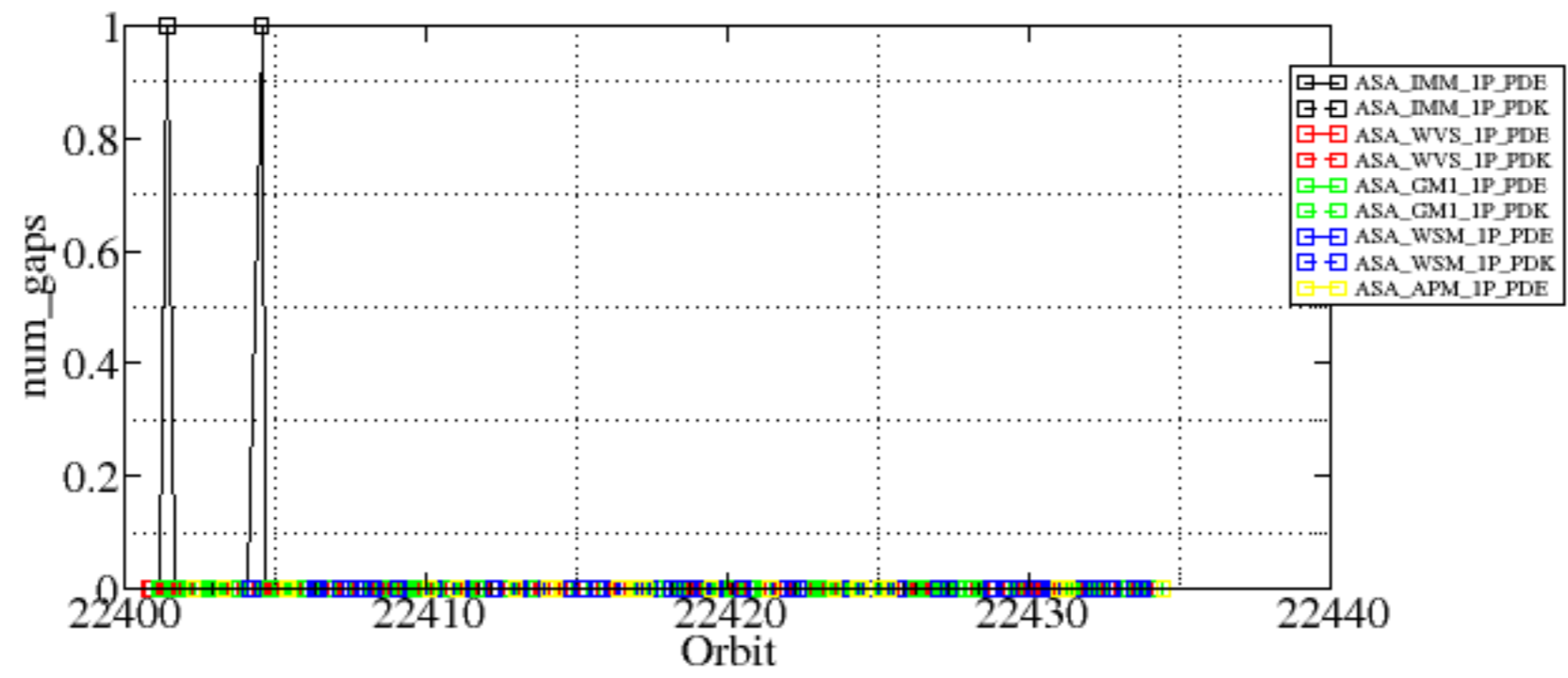




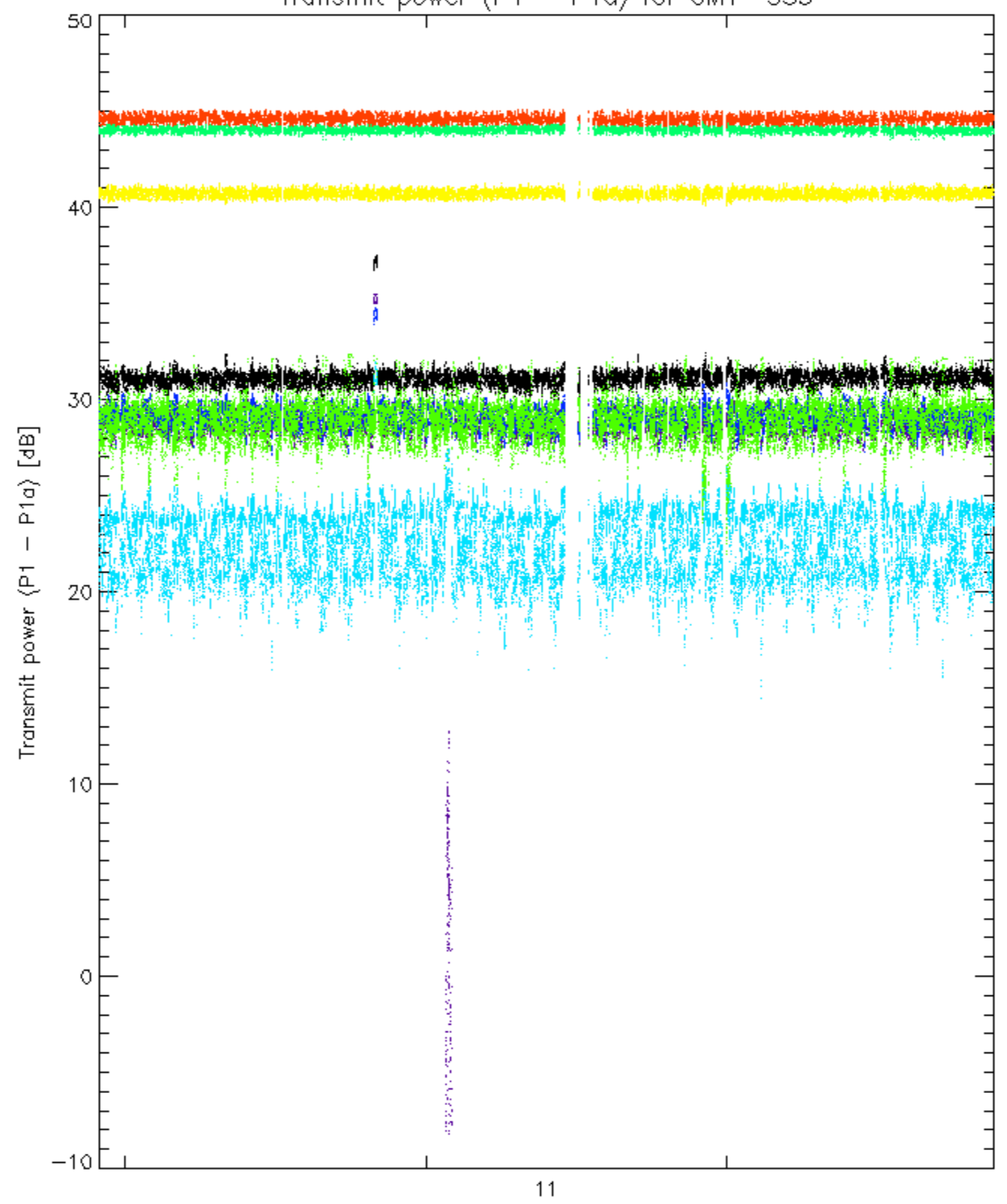
Summary of analysis for the last 3 days 2006061[345]

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

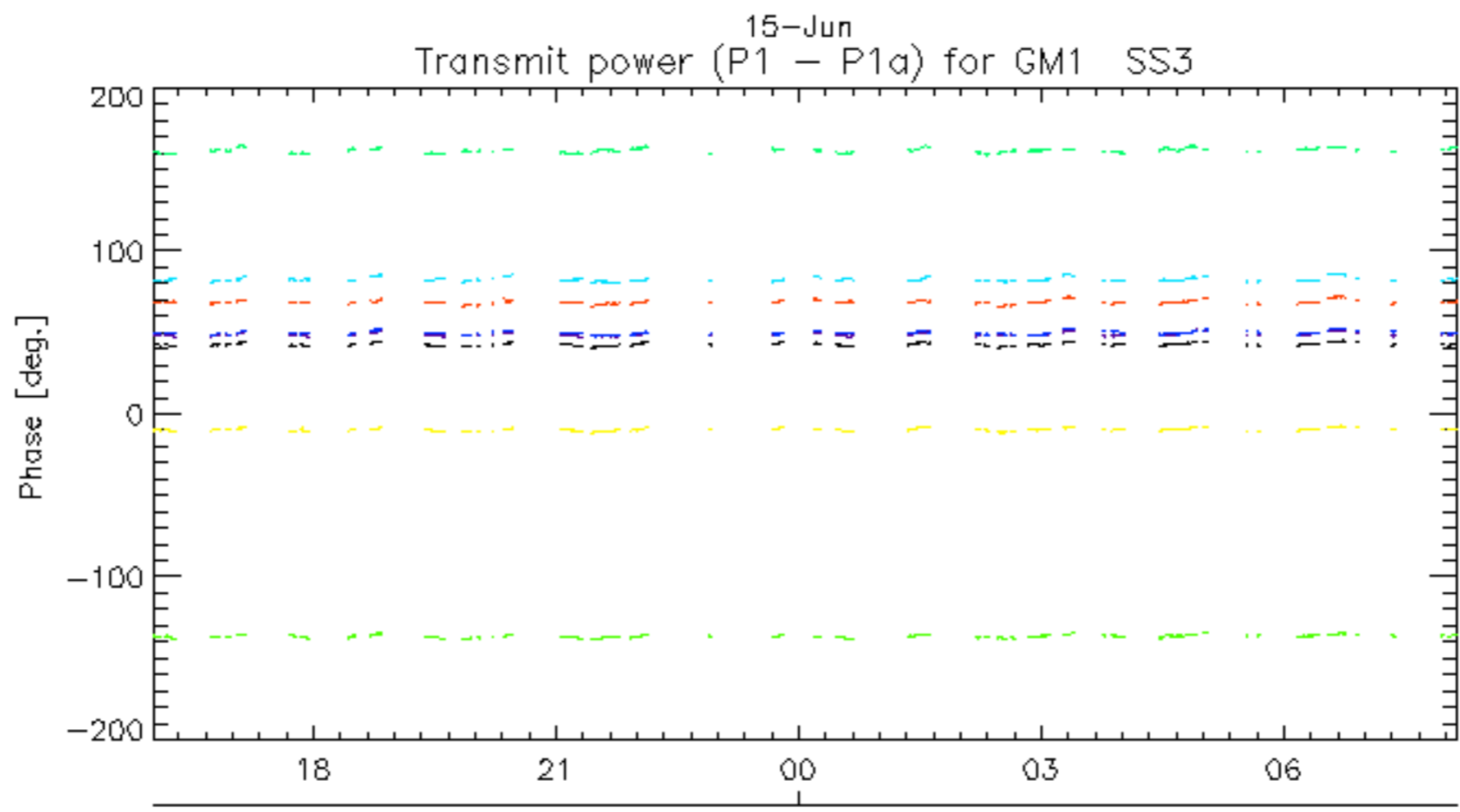
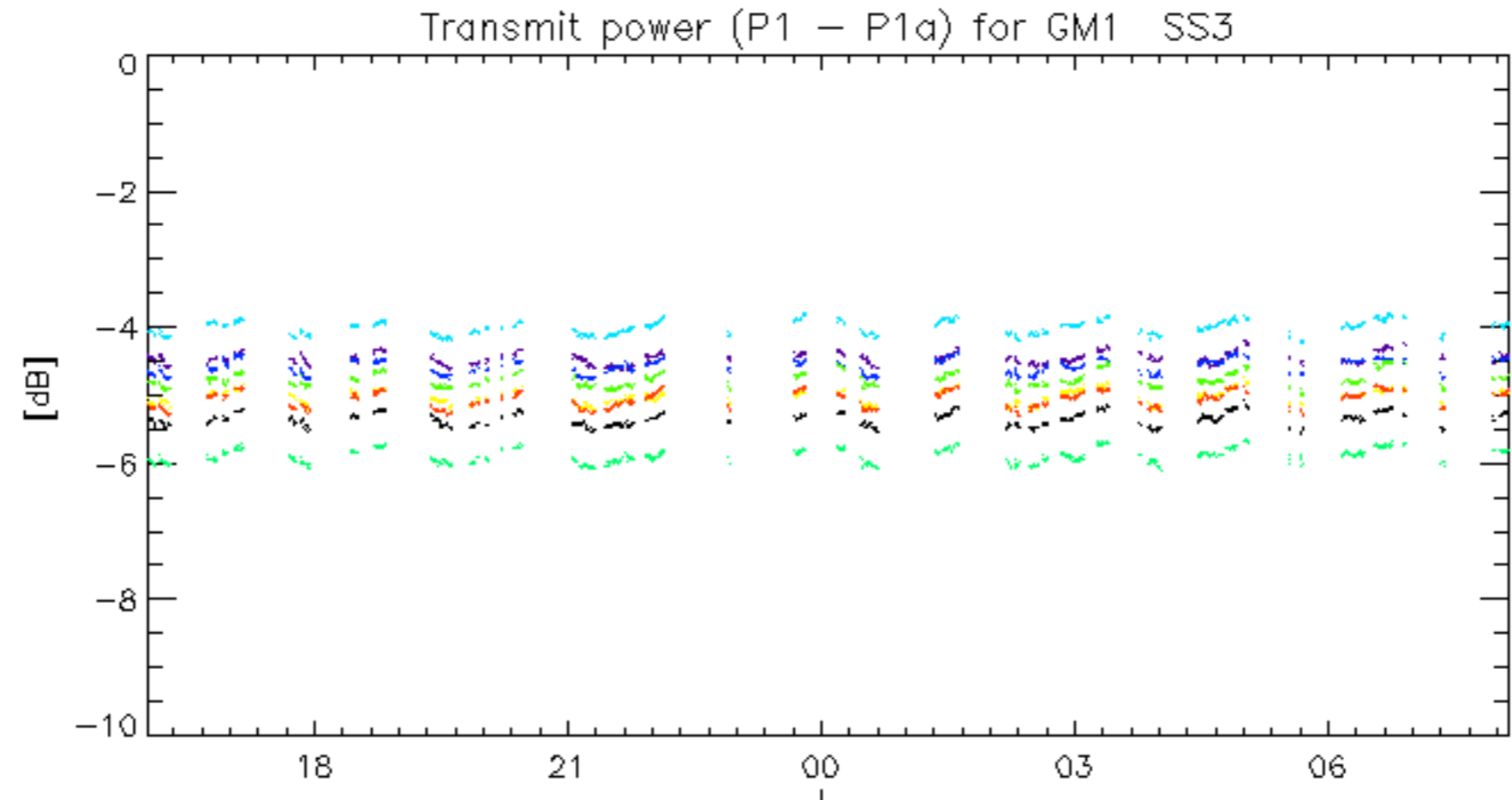
Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20060613_010016_000000842048_00303_22401_7335.N1	1	0
ASA_IMM_1PNPDE20060613_061630_000000812048_00306_22404_7368.N1	1	0
ASA_WSM_1PNPDE20060613_110750_000001582048_00309_22407_3853.N1	0	66
ASA_WSM_1PNPDE20060615_042315_000002382048_00334_22432_4158.N1	0	6
ASA_WSM_1PNPDK20060613_134955_000001032048_00311_22409_7492.N1	0	21
ASA_APM_1PNPDE20060613_170832_000000412048_00313_22411_3320.N1	0	20



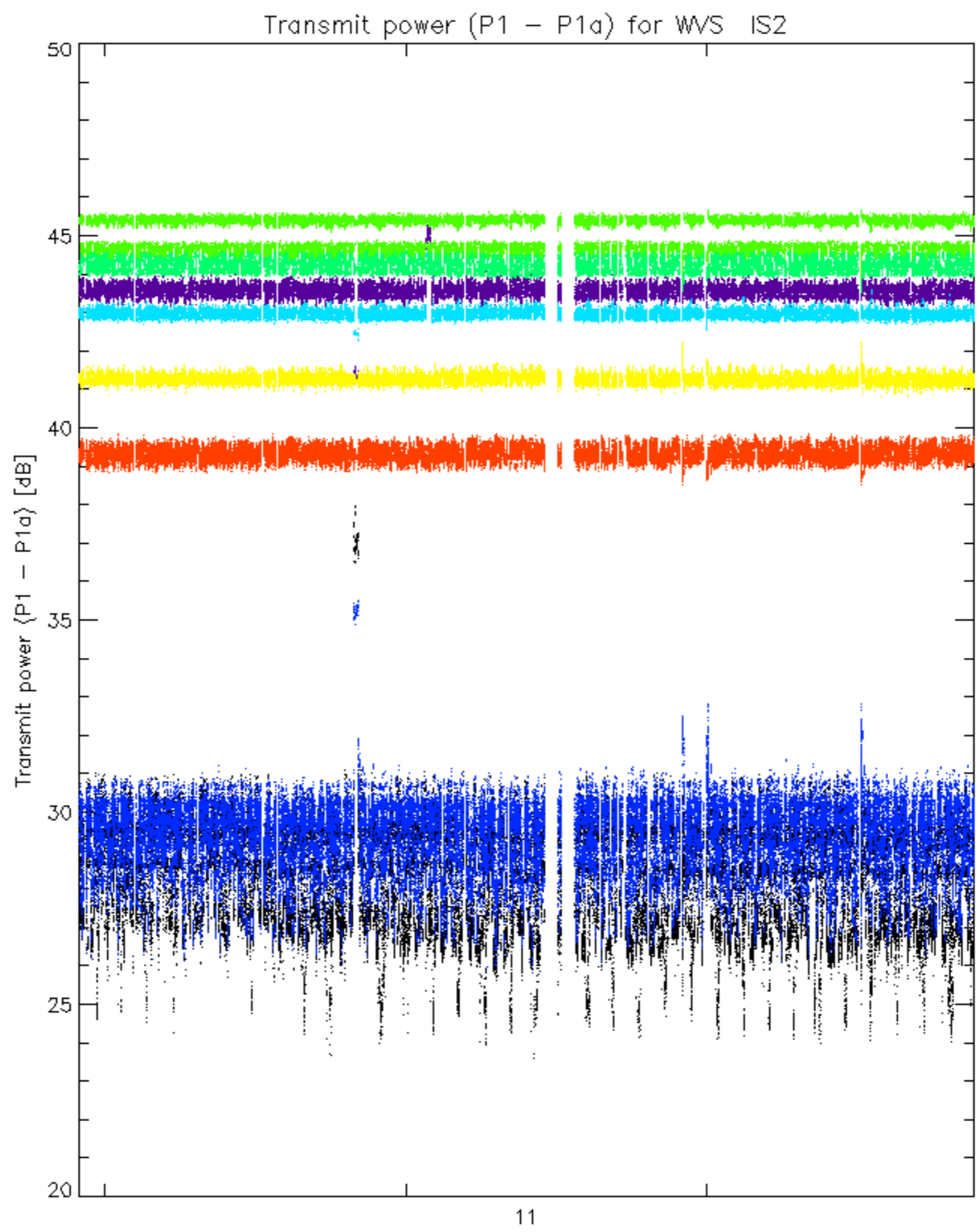
Transmit power (P1 - P1a) for GM1 SS3



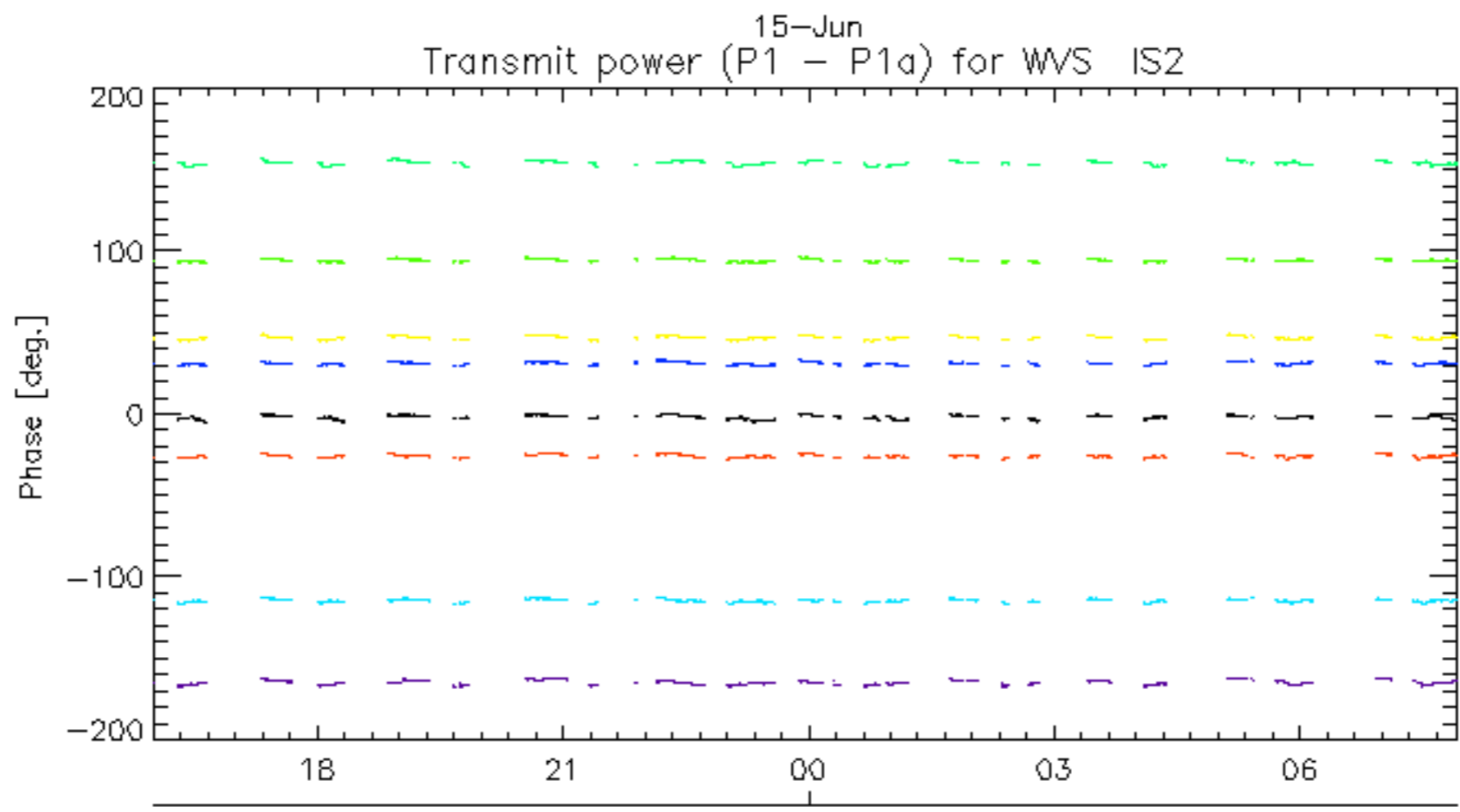
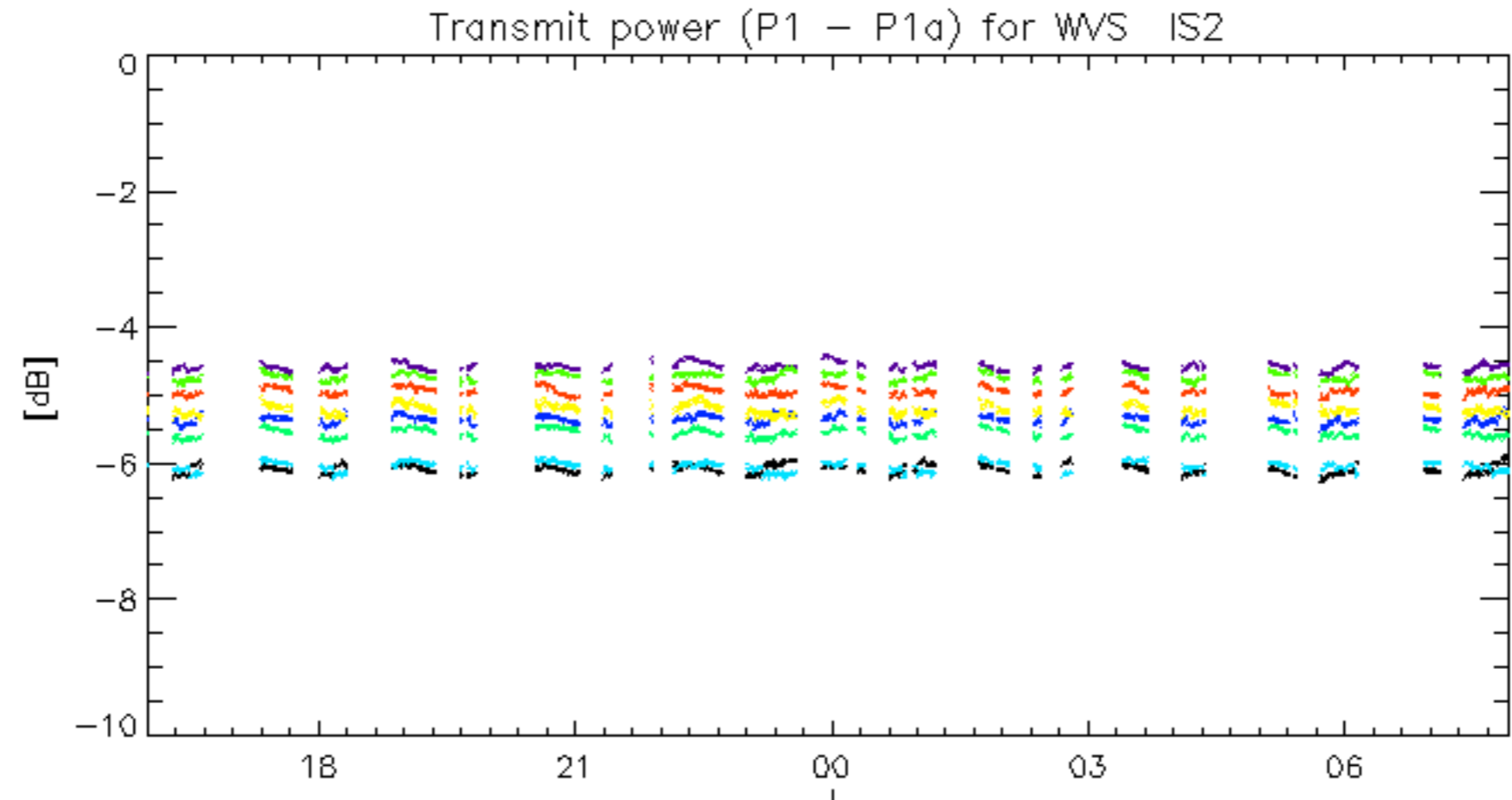
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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

No unavailabilities during the reported period.