

PRELIMINARY REPORT OF 051006

last update on Thu Oct 6 16:36:38 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 2005-10-05 00:00:00 to 2005-10-06 16:36:38

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	42	65	13	2	4
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	42	65	13	2	4
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	42	65	13	2	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	42	65	13	2	4

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	38	50	33	12	48
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	38	50	33	12	48
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	38	50	33	12	48
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	38	50	33	12	48

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	20051005 043738
H	20051004 050915

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

<input type="checkbox"/>

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	-3.529628	0.074441	-0.207648
7	P1	-3.002129	0.039675	0.491969
11	P1	-4.314592	0.154799	1.088414
15	P1	-5.909472	0.048862	-0.512672
19	P1	-3.264096	0.193093	0.753215
22	P1	-4.507843	0.024698	0.310018
26	P1	-4.505327	0.111569	0.876296
30	P1	-6.107564	0.561067	2.056721
3	P1	-15.867001	1.955065	0.948423
7	P1	-16.693401	5.172246	0.509986
11	P1	-18.655441	14.125398	9.620369
15	P1	-13.609591	10.265973	-0.920191
19	P1	-13.795526	0.281468	1.164901
22	P1	-17.293848	25.062740	2.179647
26	P1	-17.910212	23.166996	4.215337
30	P1	-17.709906	9.659475	4.026560

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.817831	0.103600	-0.234610
7	P2	-22.498827	0.285324	-1.120374
11	P2	-15.877011	2.615685	-4.467555
15	P2	-7.193838	0.120411	-0.154198
19	P2	-9.202096	0.208617	0.408695
22	P2	-17.389000	0.263254	-1.318803
26	P2	-16.225813	0.139250	0.658635
30	P2	-19.418903	0.239637	-1.017979

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.173038	0.004674	-0.027969
7	P3	-8.173038	0.004674	-0.027969
11	P3	-8.173038	0.004674	-0.027969
15	P3	-8.173038	0.004674	-0.027969
19	P3	-8.173038	0.004674	-0.027969
22	P3	-8.173038	0.004674	-0.027969
26	P3	-8.173038	0.004674	-0.027969
30	P3	-8.173038	0.004674	-0.027969

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	-3.278519	0.295623	-1.437570
7	P1	-2.955596	0.072549	0.320776
11	P1	-3.270504	0.330556	1.754184
15	P1	-3.485291	0.034576	0.385974
19	P1	-3.360306	0.072806	0.249045
22	P1	-5.213063	0.196091	0.519065
26	P1	-6.053046	0.790514	1.730221
30	P1	-5.380580	0.452040	1.148107
3	P1	-11.482205	0.492732	-0.101350
7	P1	-11.568778	22.033035	4.005854
11	P1	-12.820096	42.766529	8.017593
15	P1	-12.815051	37.299866	5.601610
19	P1	-15.311542	0.230406	-0.241705
22	P1	-22.000675	6.382180	7.043791
26	P1	-17.168657	5.929218	-1.058987
30	P1	-19.573212	1.980721	2.210035

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.603886	0.063598	-0.449035
7	P2	-22.762445	0.317989	-1.331753
11	P2	-11.112402	1.111683	-3.015273
15	P2	-4.942337	0.049245	0.292431
19	P2	-6.776411	0.119568	-0.285200
22	P2	-7.721625	0.270896	-1.548935
26	P2	-23.882326	0.042873	0.182874
30	P2	-22.067226	0.064162	-0.044681

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.015368	0.002914	-0.027216
7	P3	-8.015442	0.002921	-0.027629
11	P3	-8.015193	0.002922	-0.027329
15	P3	-8.015278	0.002922	-0.027405
19	P3	-8.015445	0.002915	-0.027225
22	P3	-8.015233	0.002919	-0.027448
26	P3	-8.015462	0.002919	-0.027571
30	P3	-8.015347	0.002926	-0.027253

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	0.000525228
	stdev	1.87772e-07
MEAN Q	mean	0.000521533
	stdev	2.19266e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.134769
	stdev	0.00109191
STDEV Q	mean	0.135084
	stdev	0.00110686



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2005100[456]

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_1PNPDK20051004_123413_00000812041_00210_18801_5176.N1	1	0
ASA_GM1_1PNPDK20051004_092122_000006762041_00208_18799_7351.N1	0	15
ASA_GM1_1PNPDK20051004_151128_000011352041_00211_18802_7392.N1	0	9
ASA_GM1_1PNPDK20051005_103508_000005862041_00223_18814_7480.N1	0	15
ASA_WSM_1PNPDE20051005_015357_000001592041_00218_18809_2400.N1	0	48
ASA_WSM_1PNPDE20051005_165617_000001592041_00227_18818_2484.N1	0	65
ASA_WSM_1PNPDE20051006_044316_000003062041_00234_18825_2610.N1	0	53
ASA_APM_1PNPDE20051004_141145_000000612041_00211_18802_1628.N1	0	22



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)

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

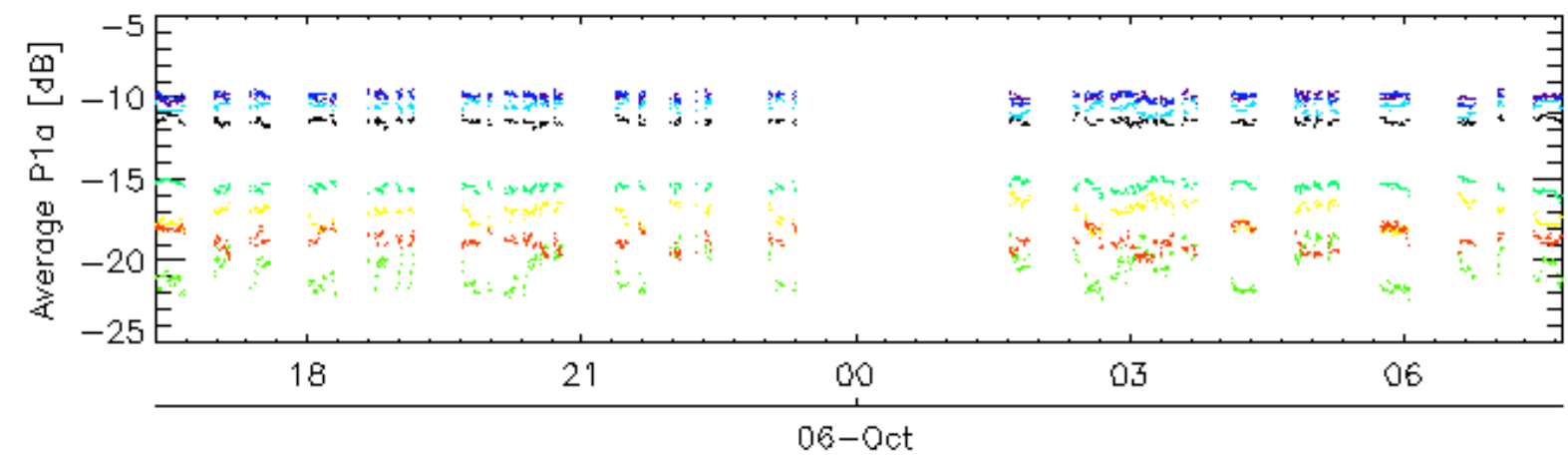
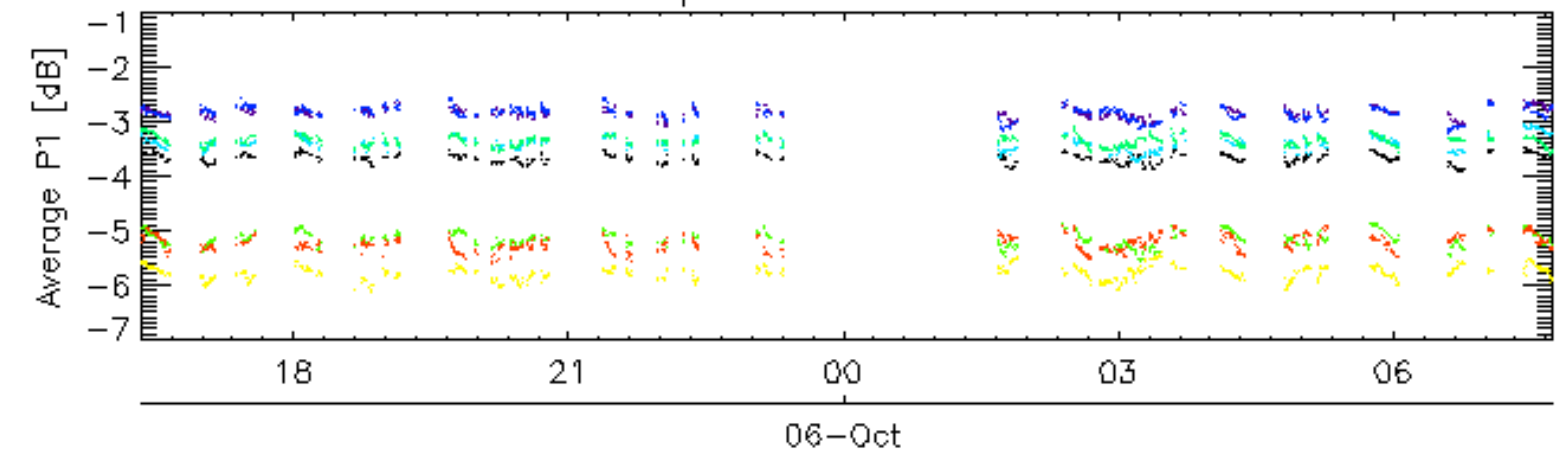
7.5 - Absolute Doppler for GM1**Evolution of Absolute Doppler**

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

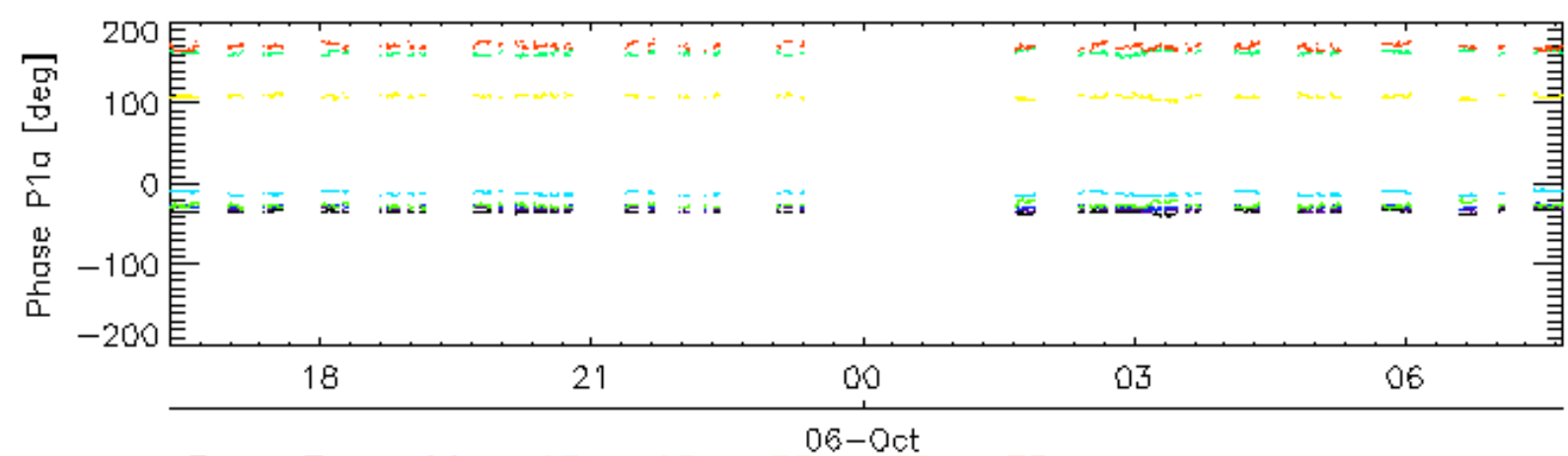
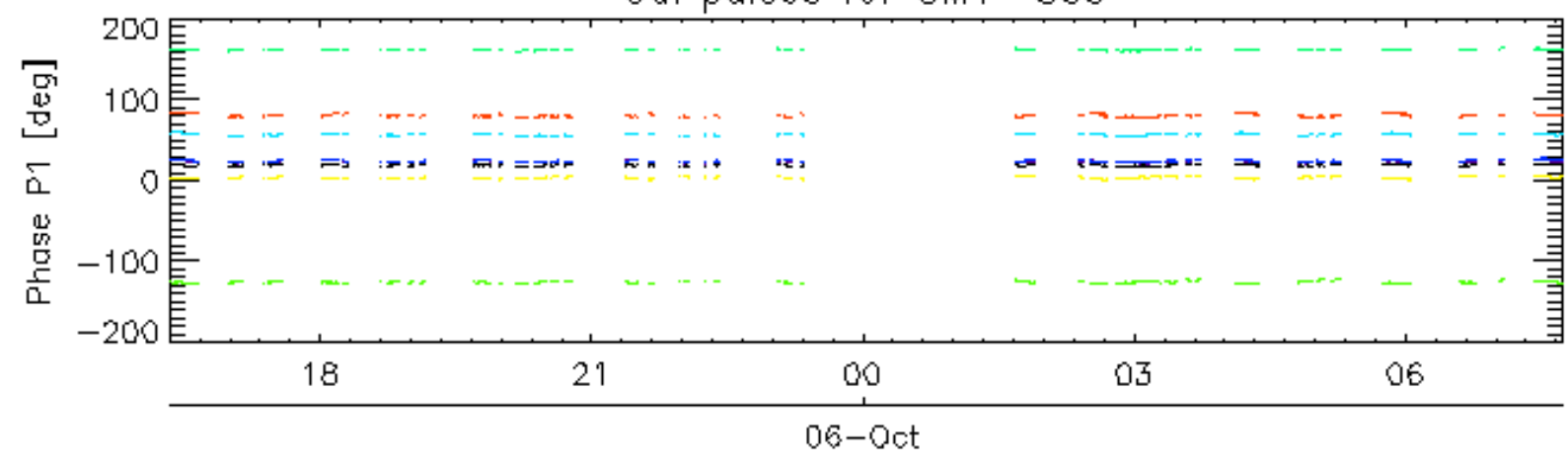
7.6 - Doppler evolution versus ANX for GM1**Evolution Doppler error versus ANX**

<input type="checkbox"/>

Cal pulses for GM1 SS3

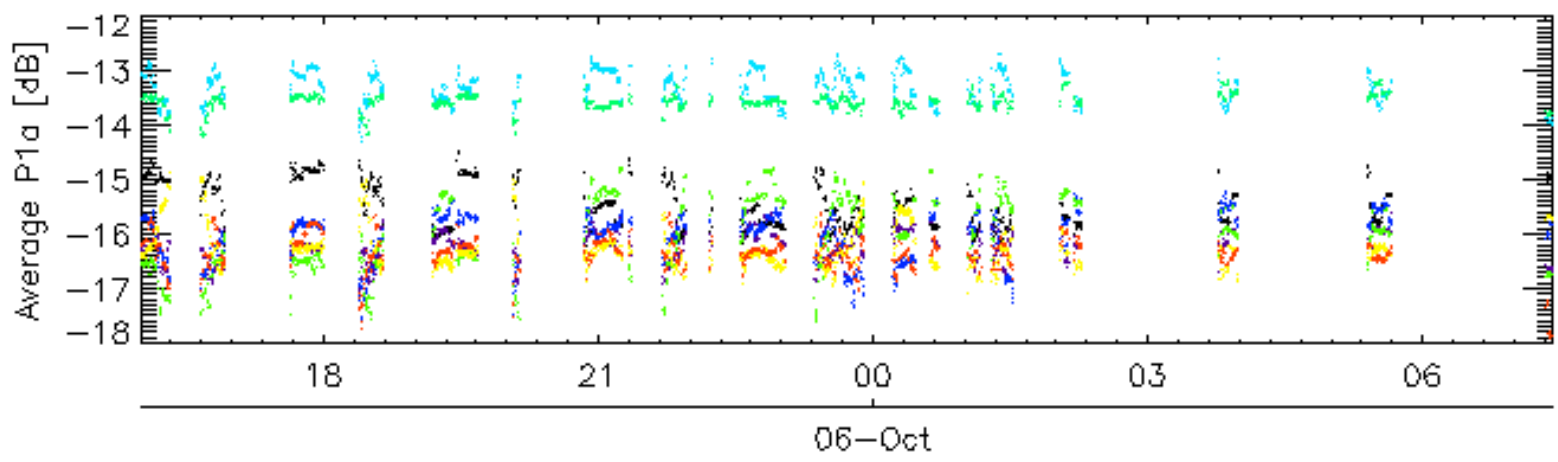
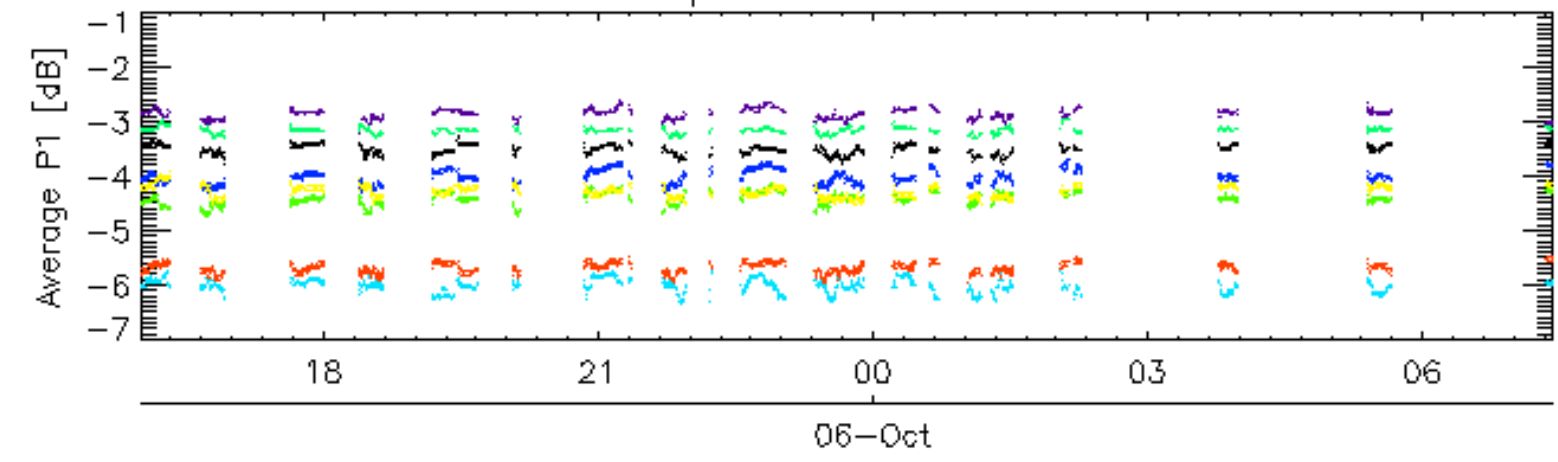


Cal pulses for GM1 SS3

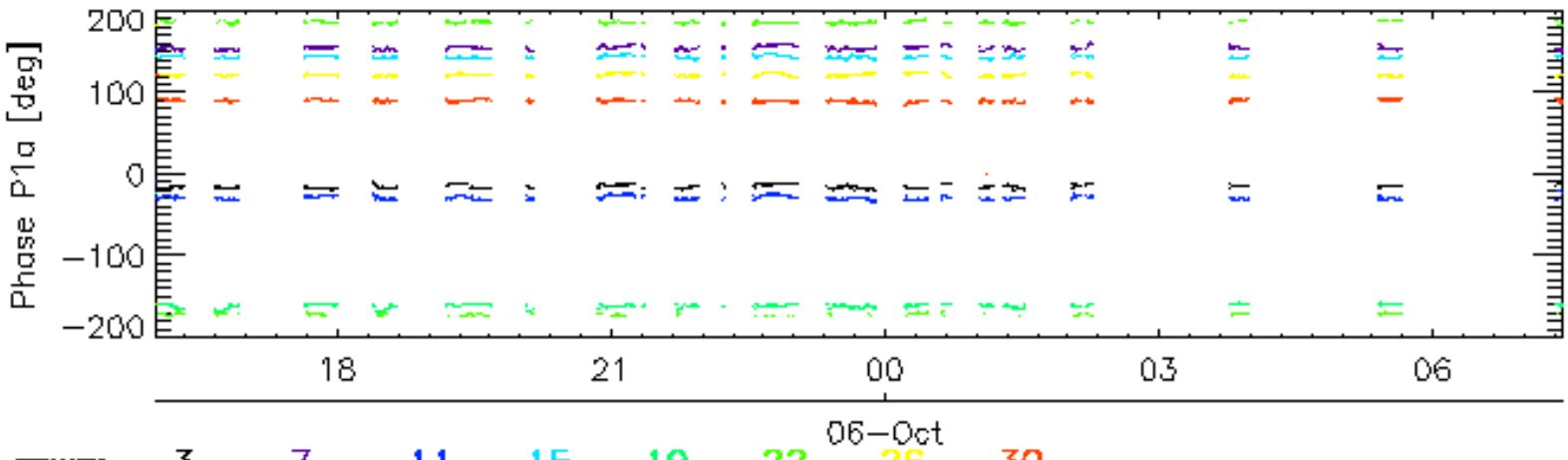
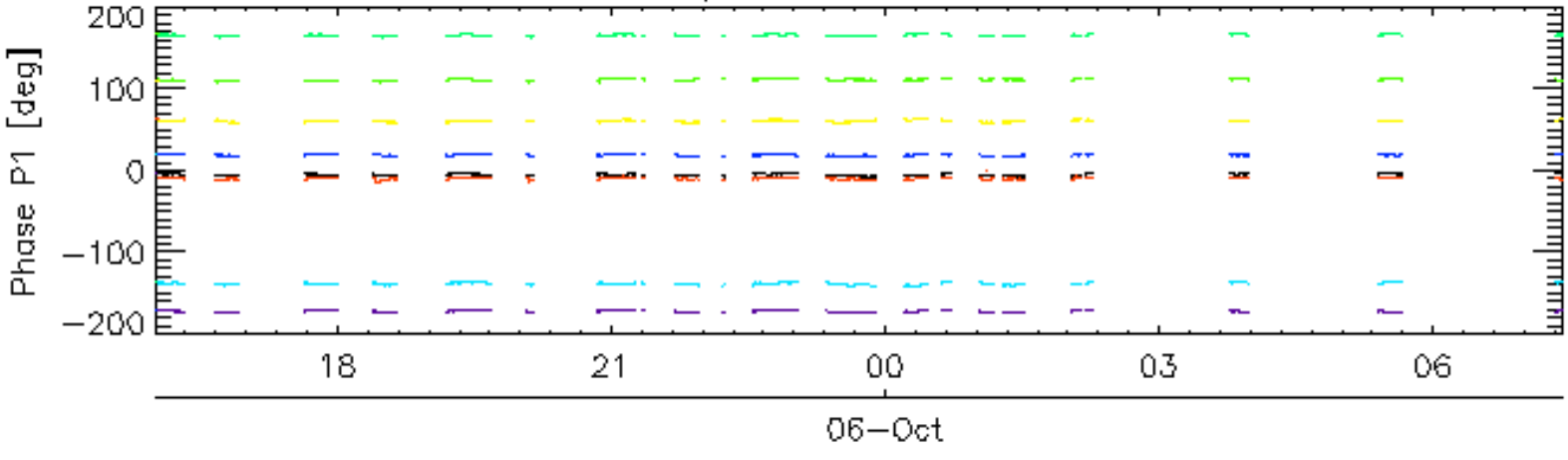


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

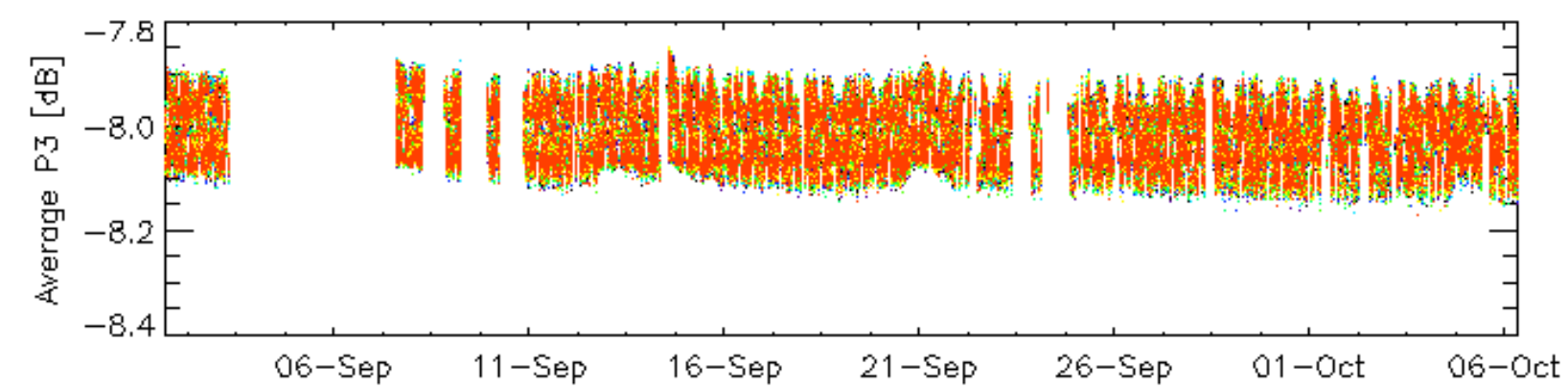
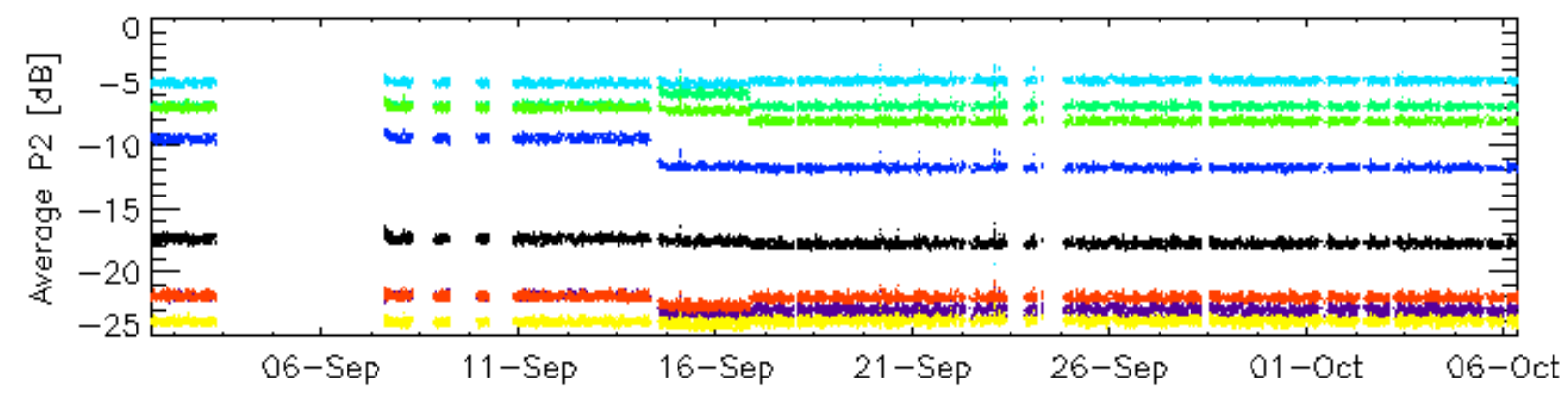
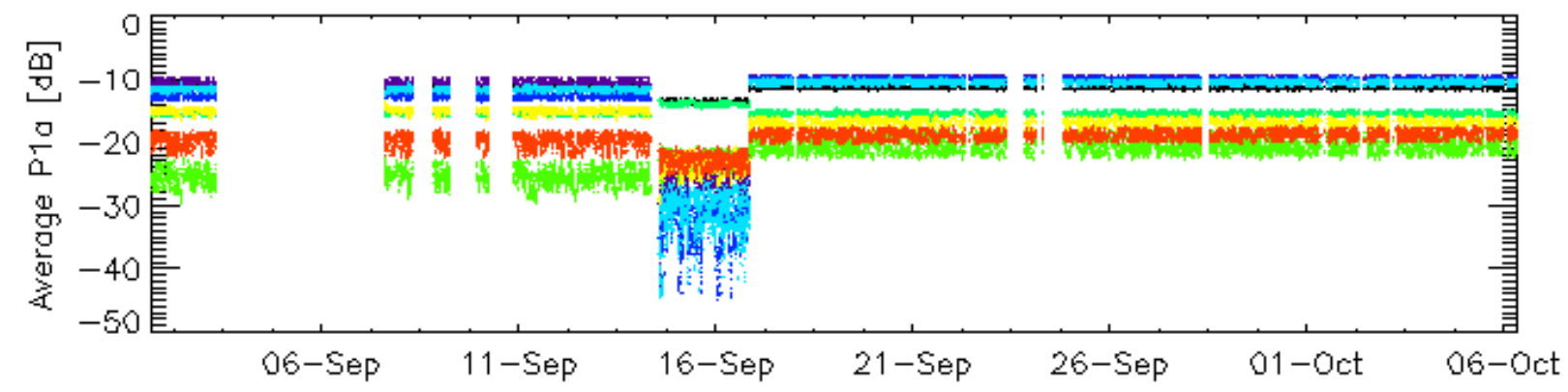
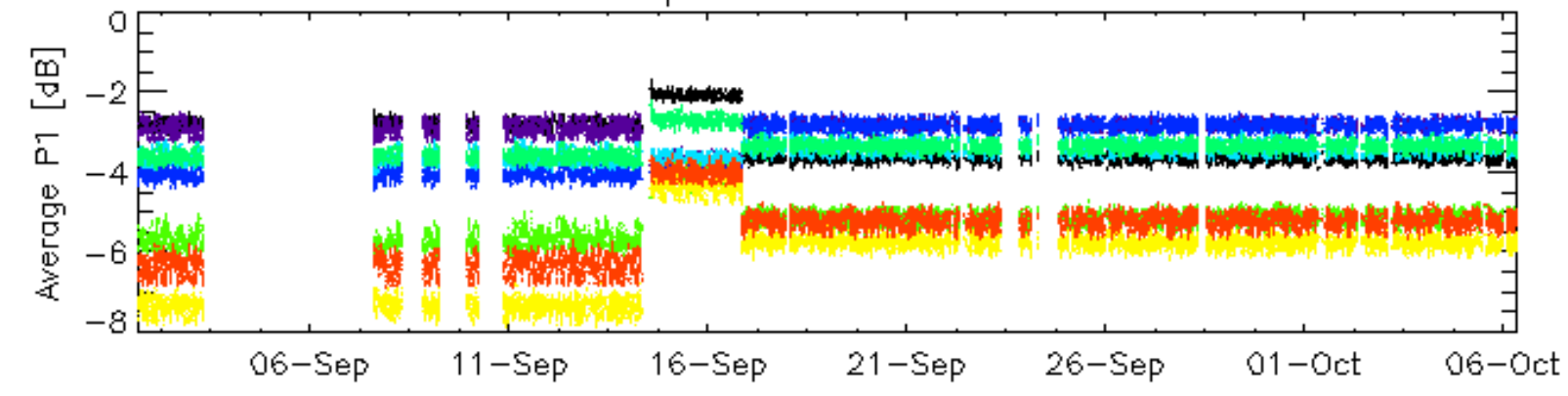


Cal pulses for WVS IS2



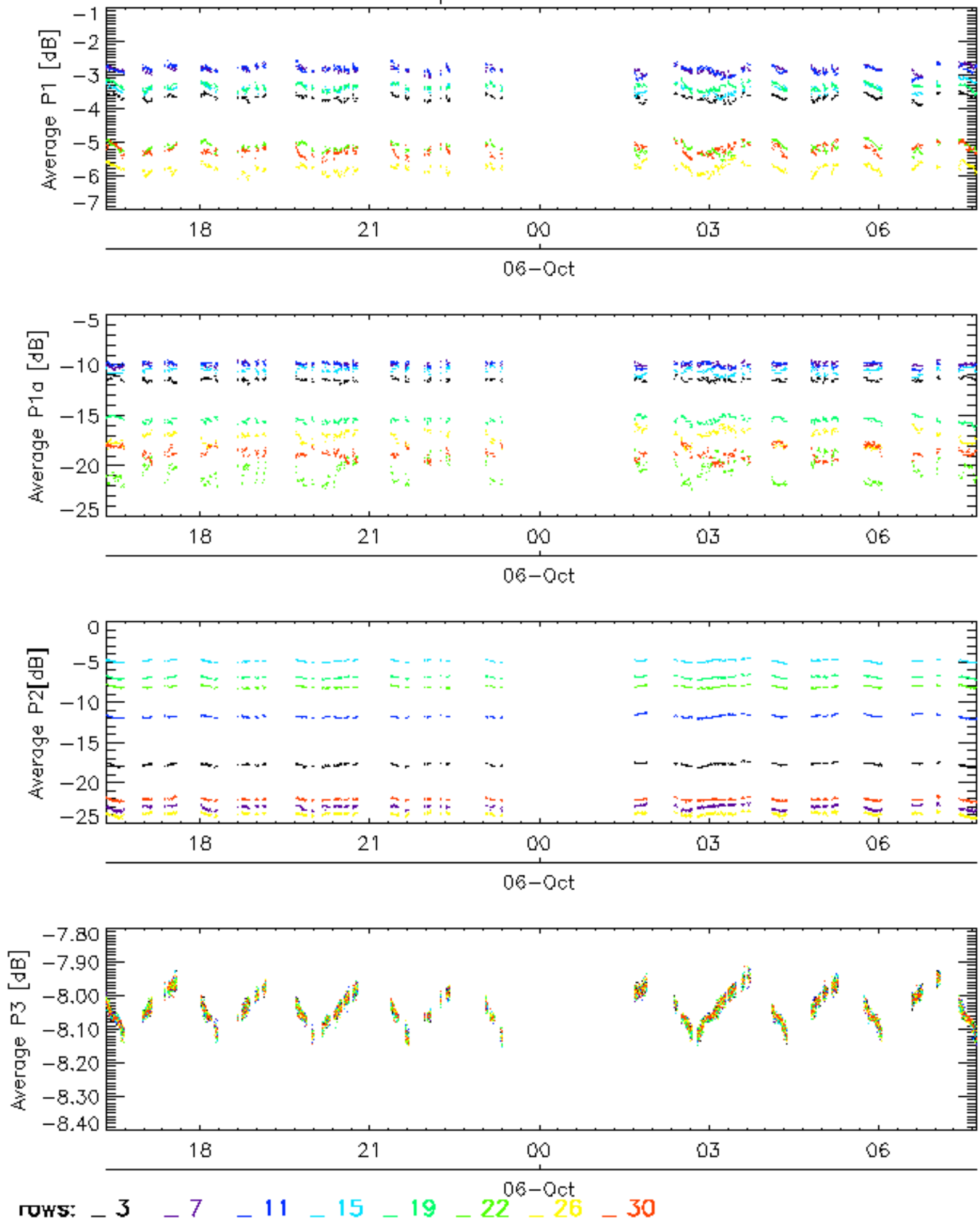
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

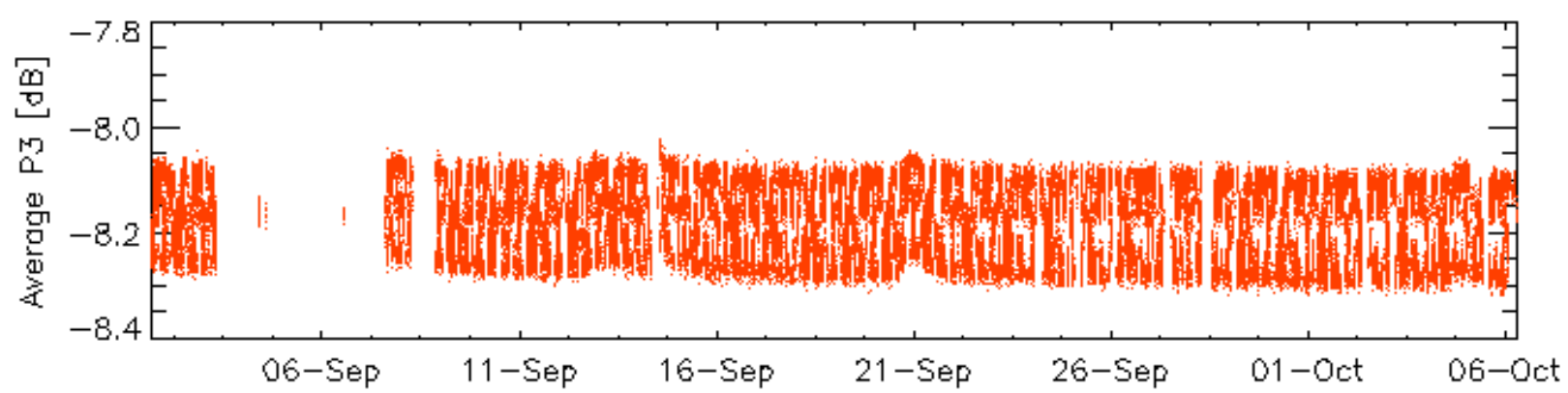
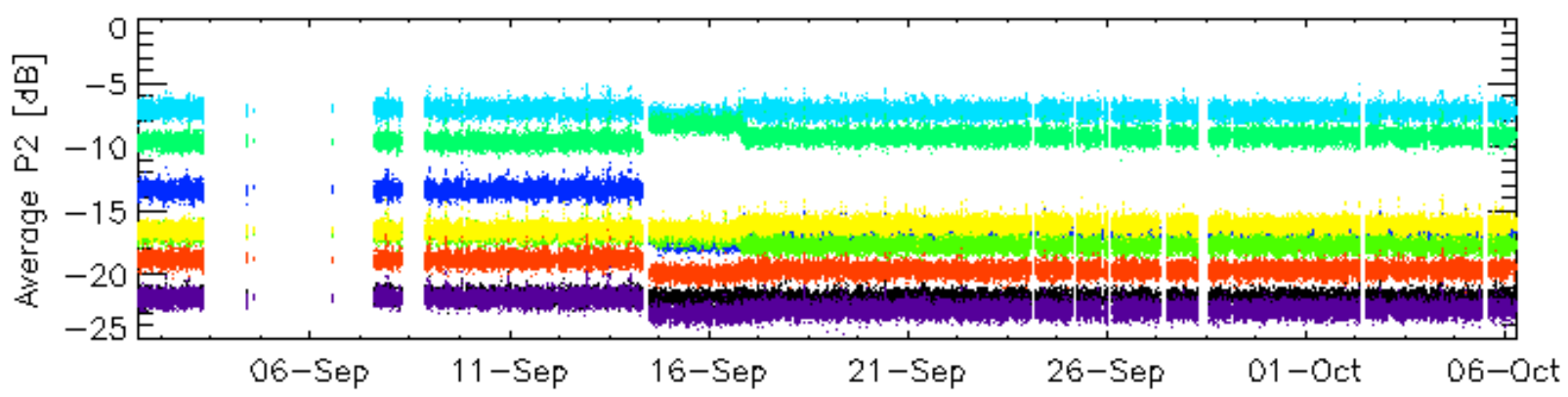
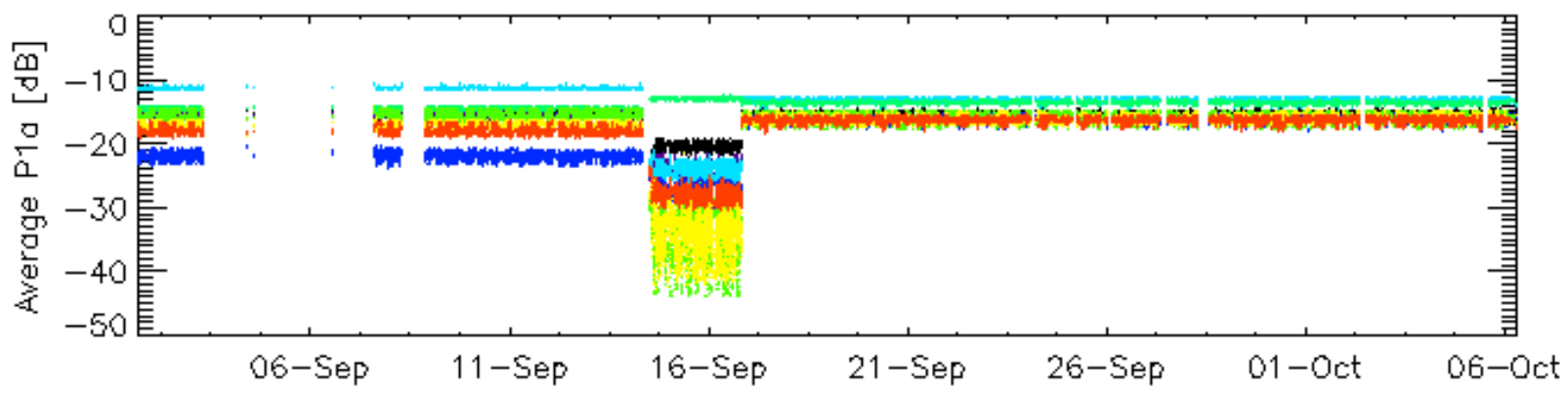
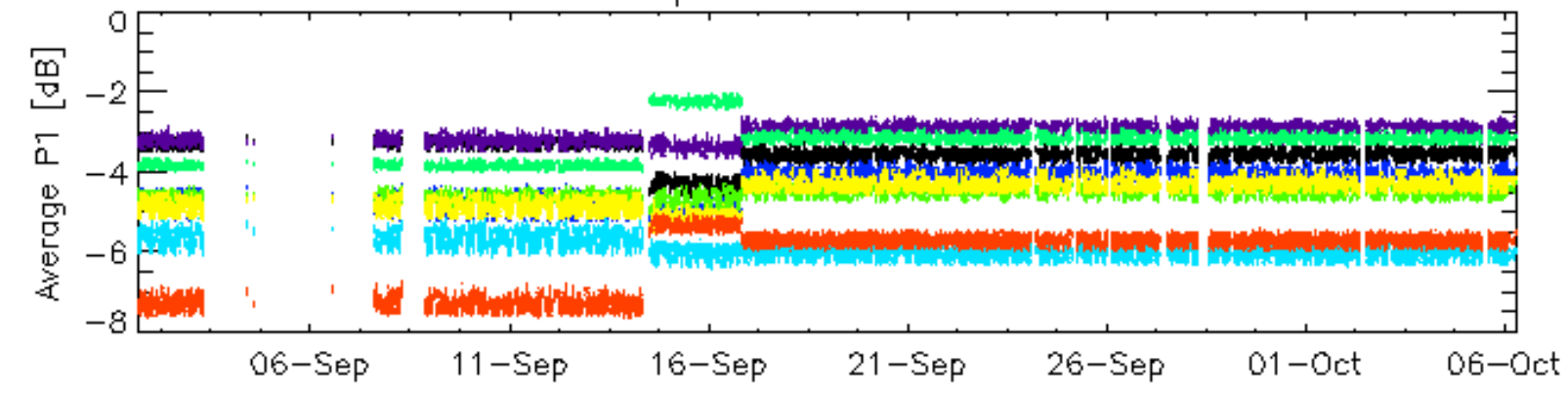


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

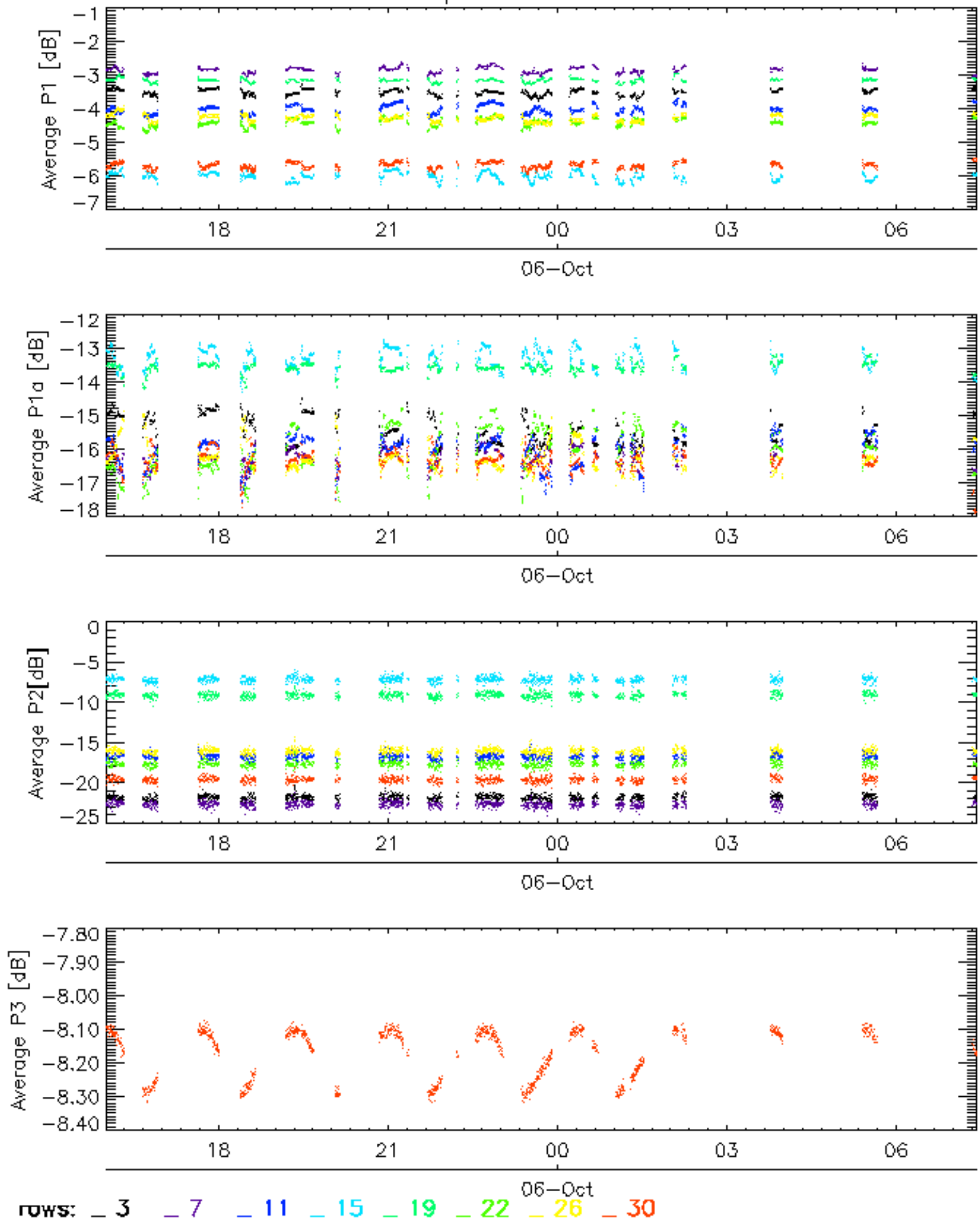


Cal pulses for WVS IS2

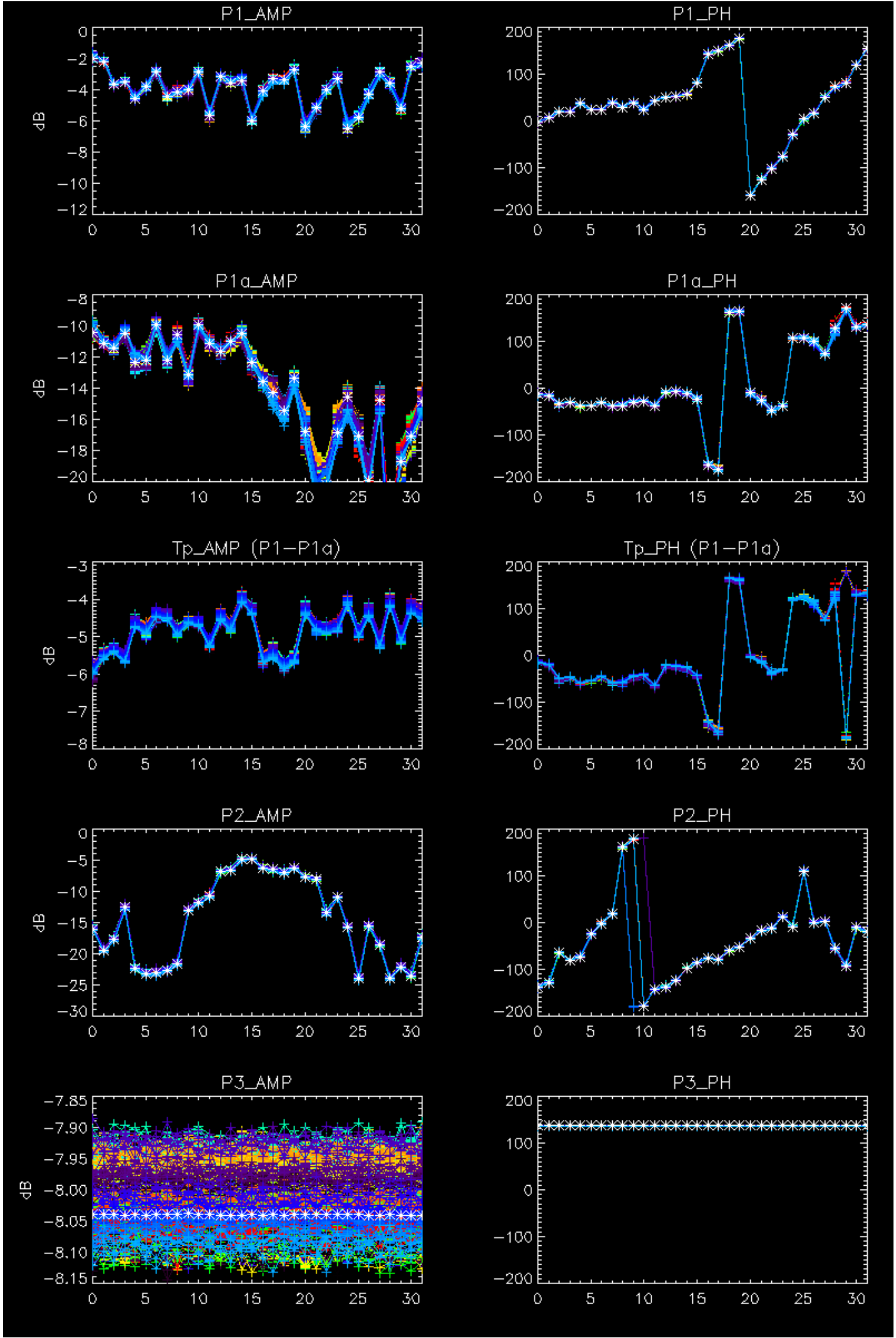


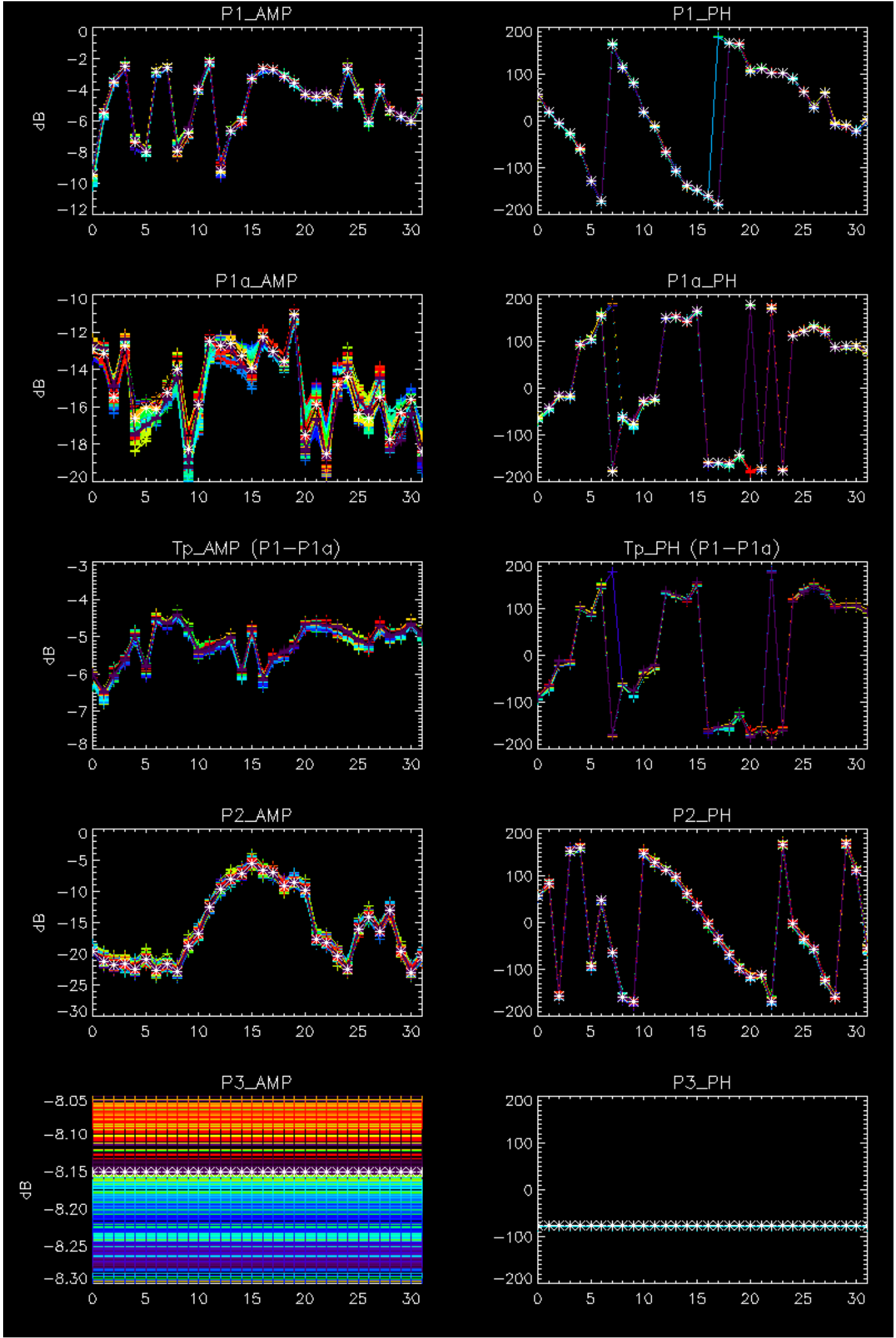
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



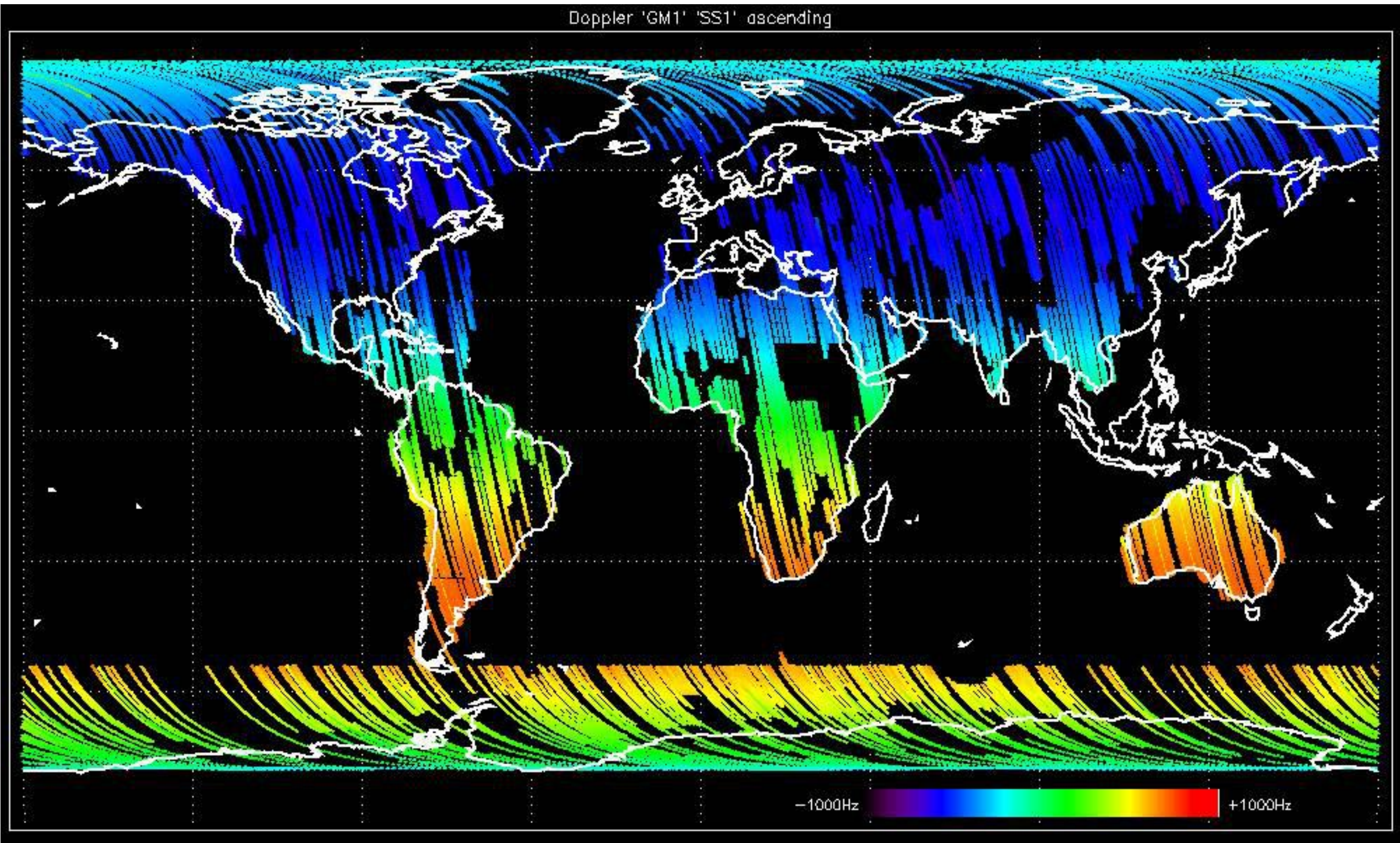
No anomalies observed.



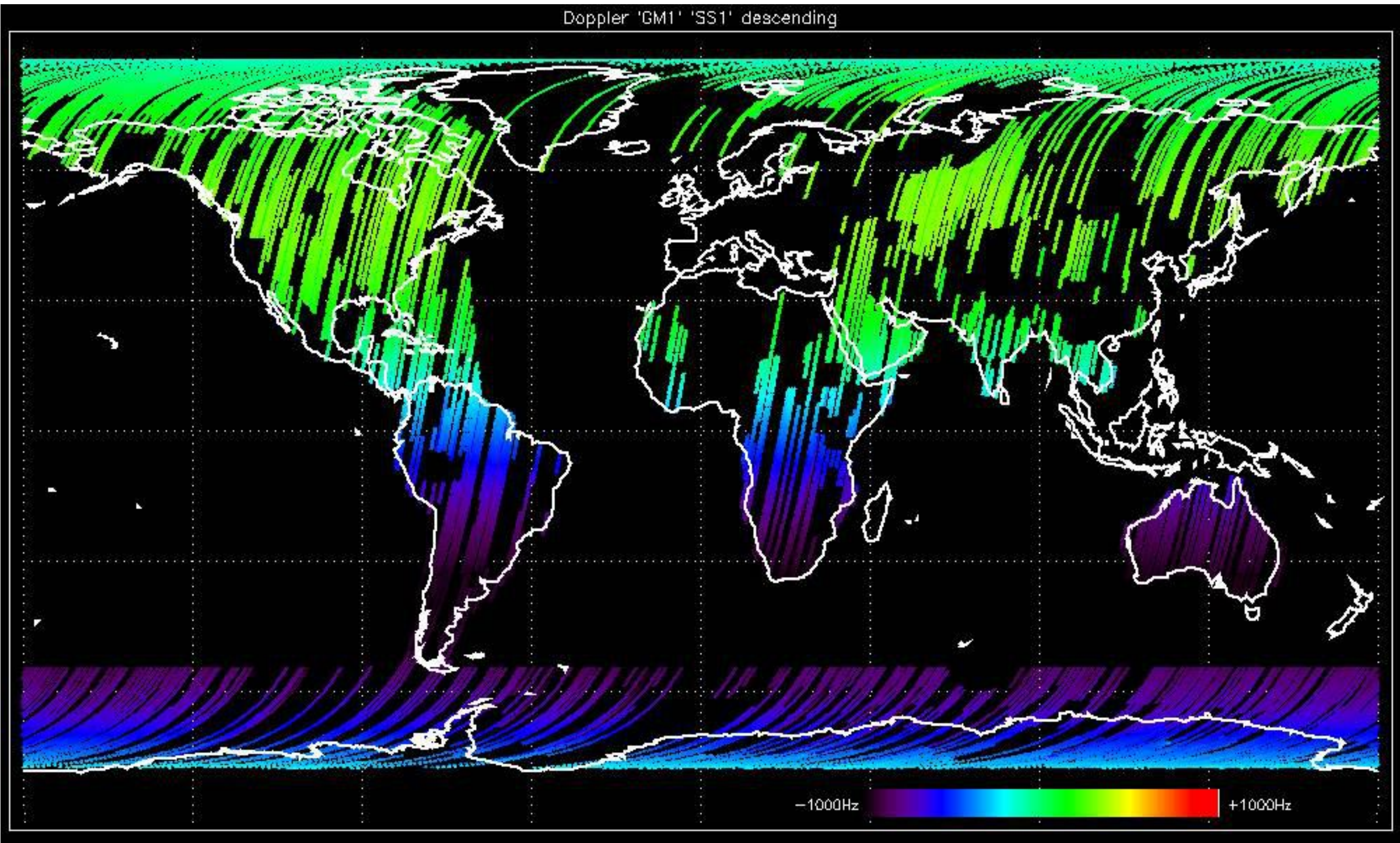


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

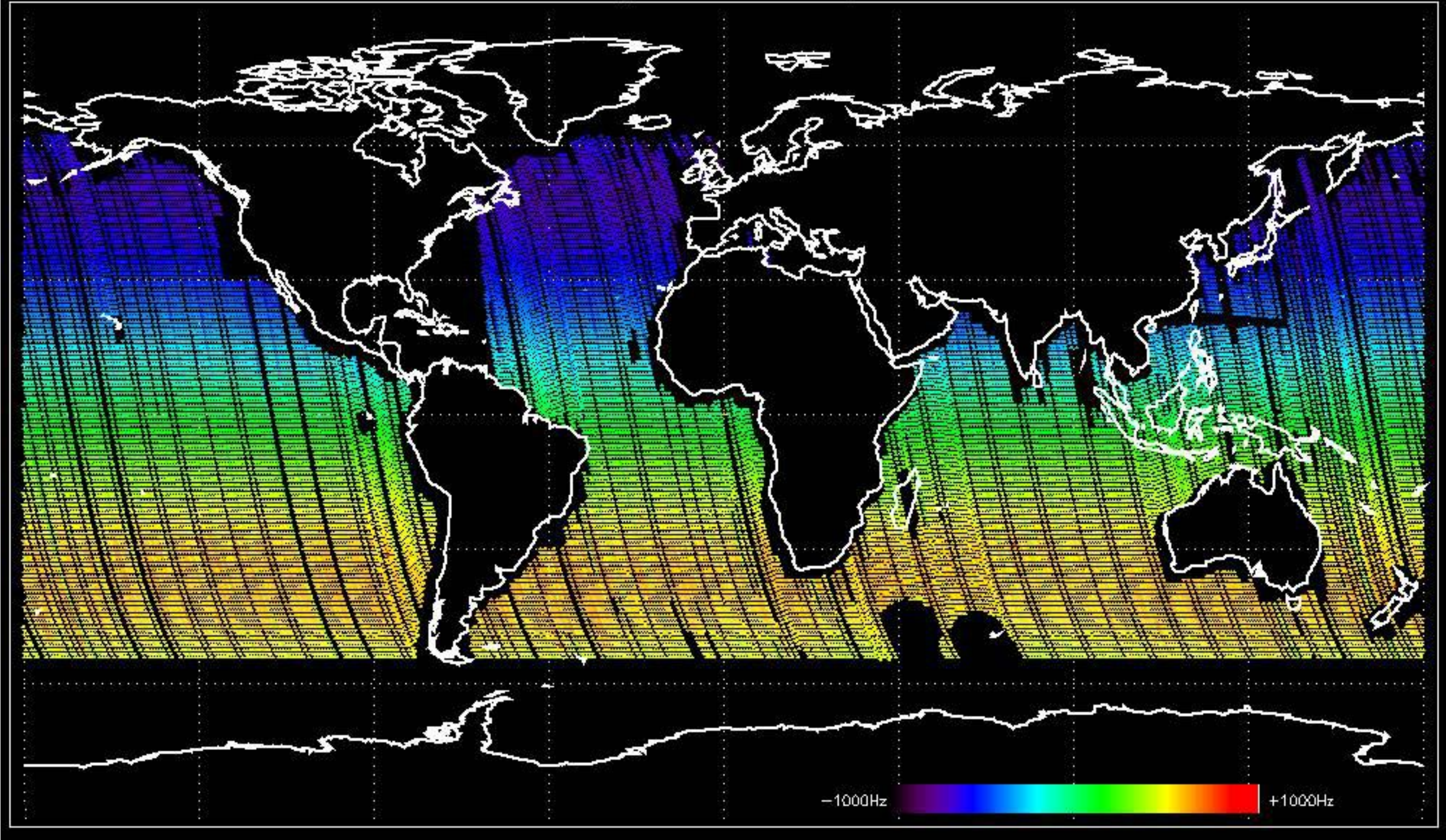
Doppler 'GM1' 'SS1' ascending



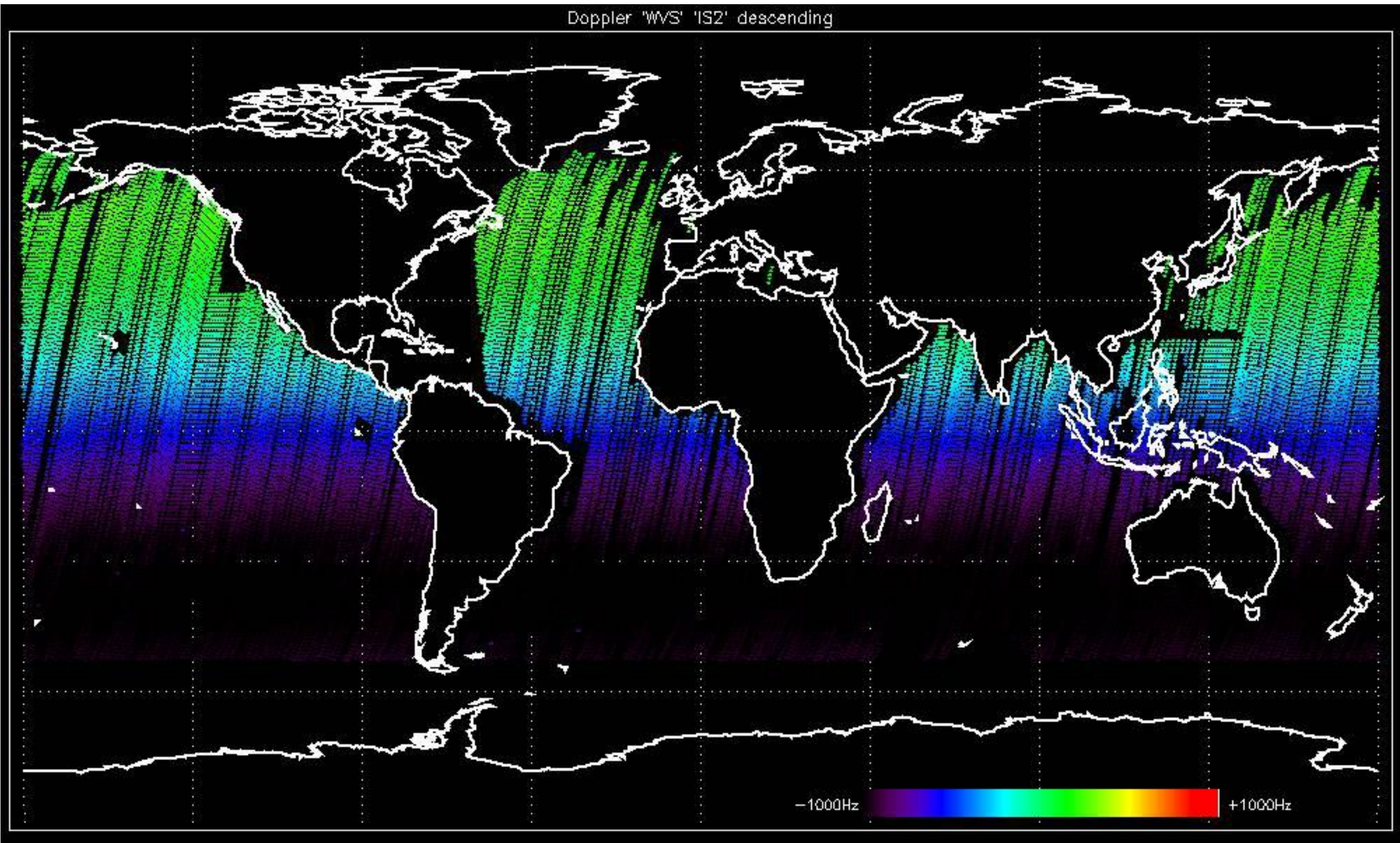
Doppler 'GM1' 'SS1' descending



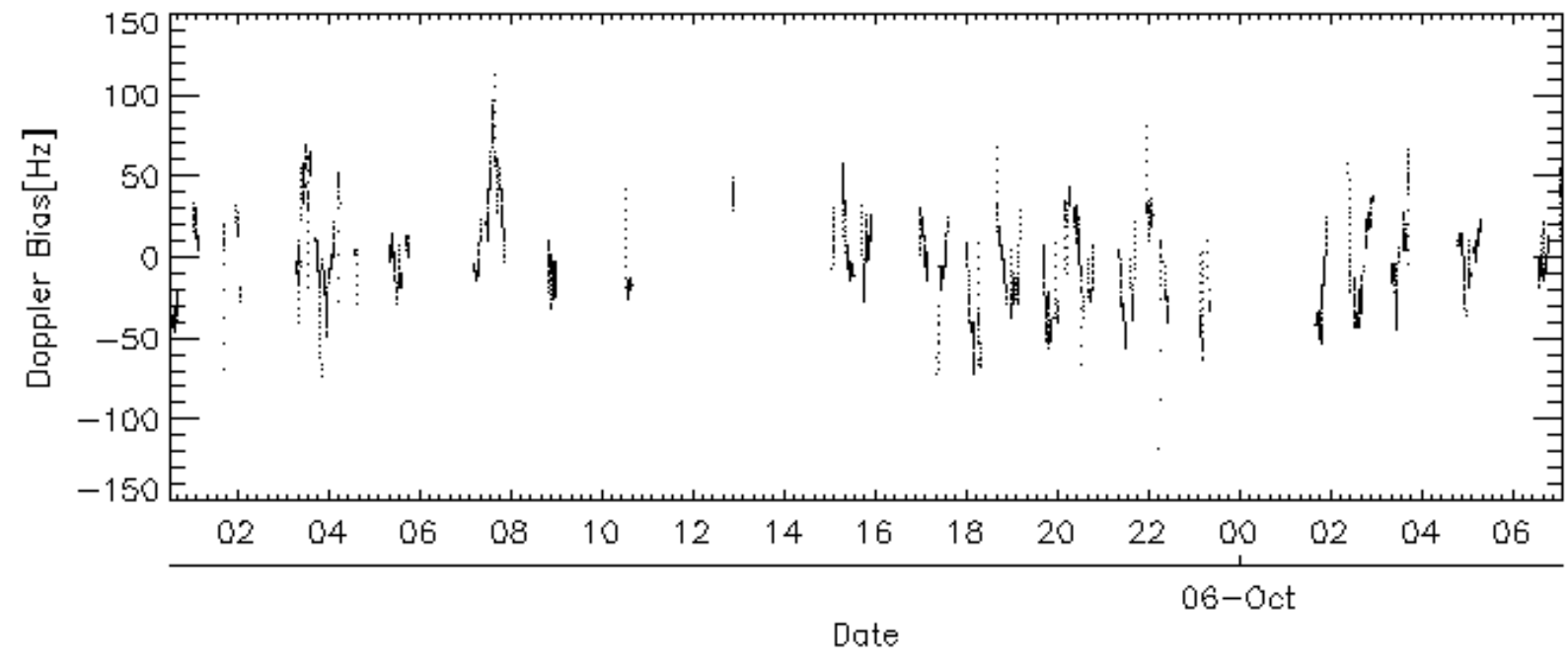
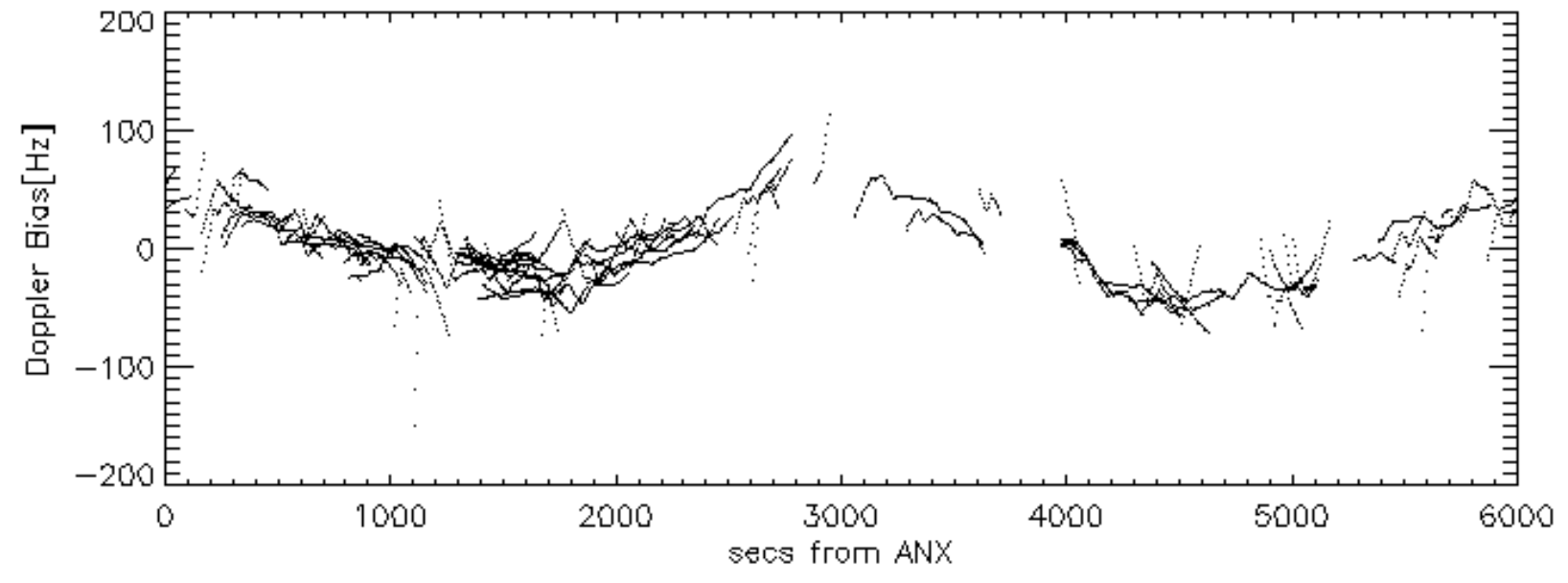
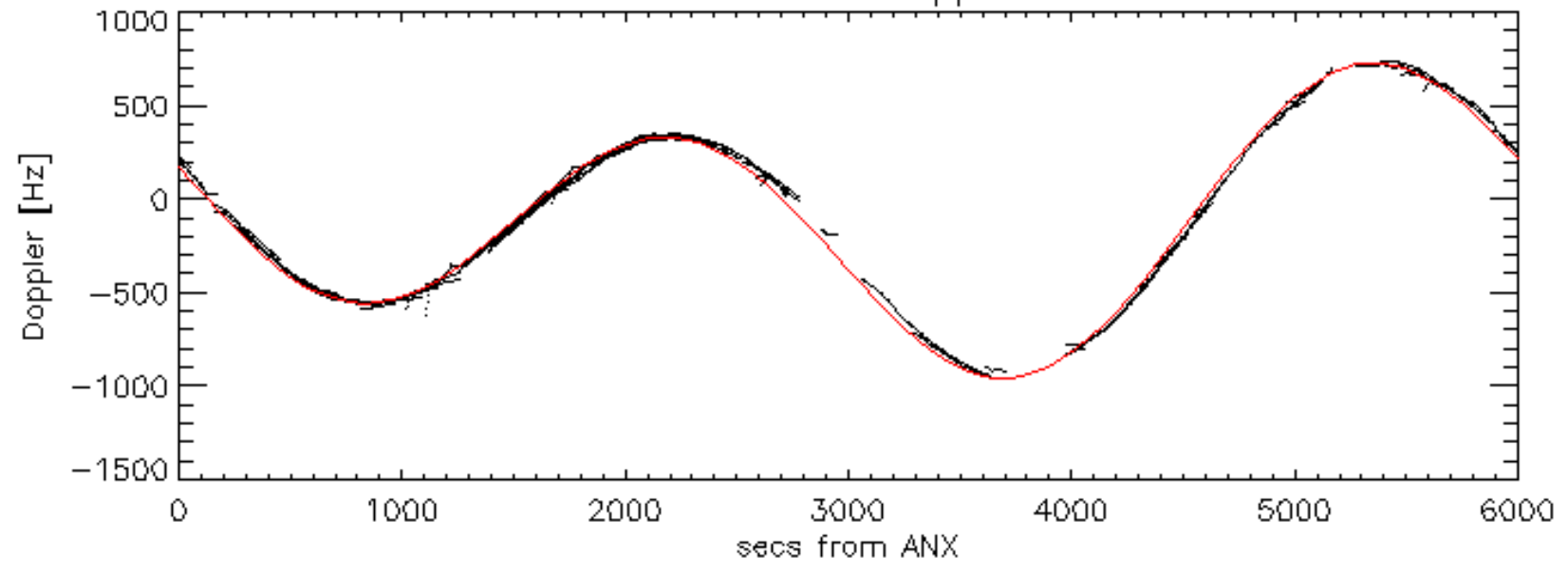
Doppler 'WVS' 'IS2' ascending

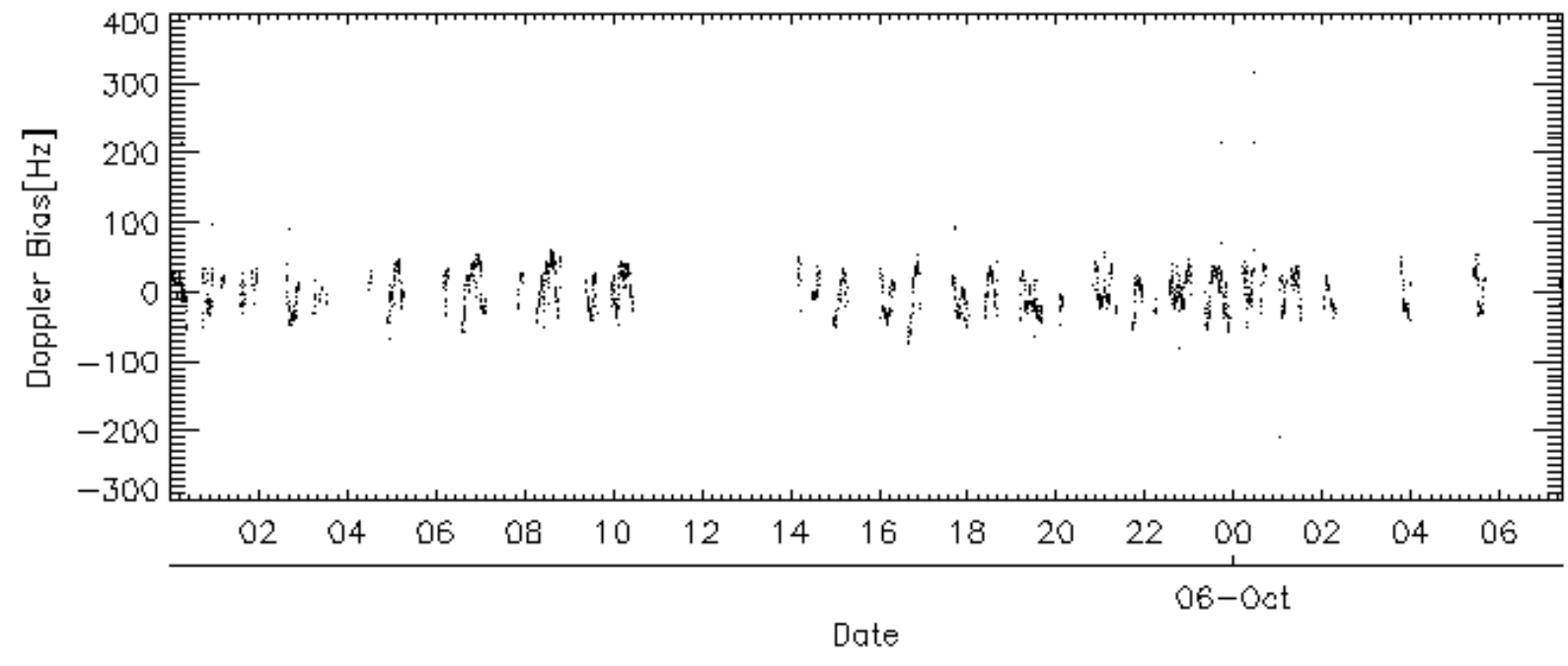
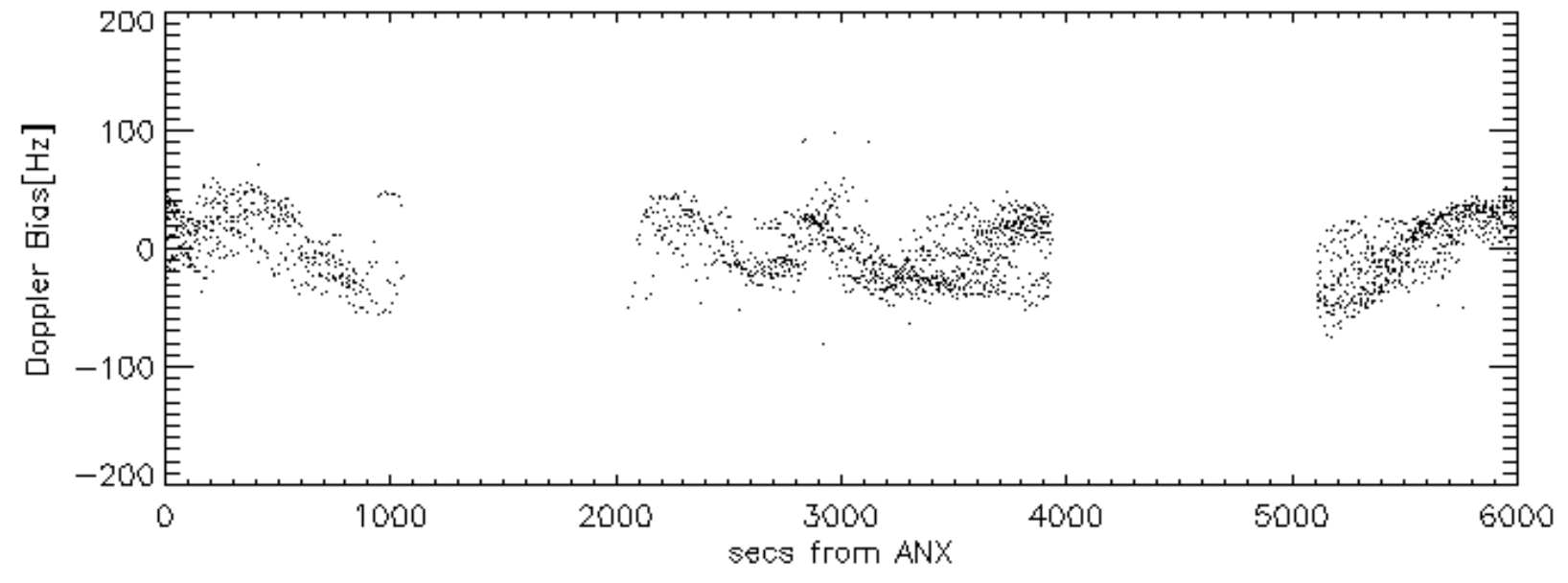
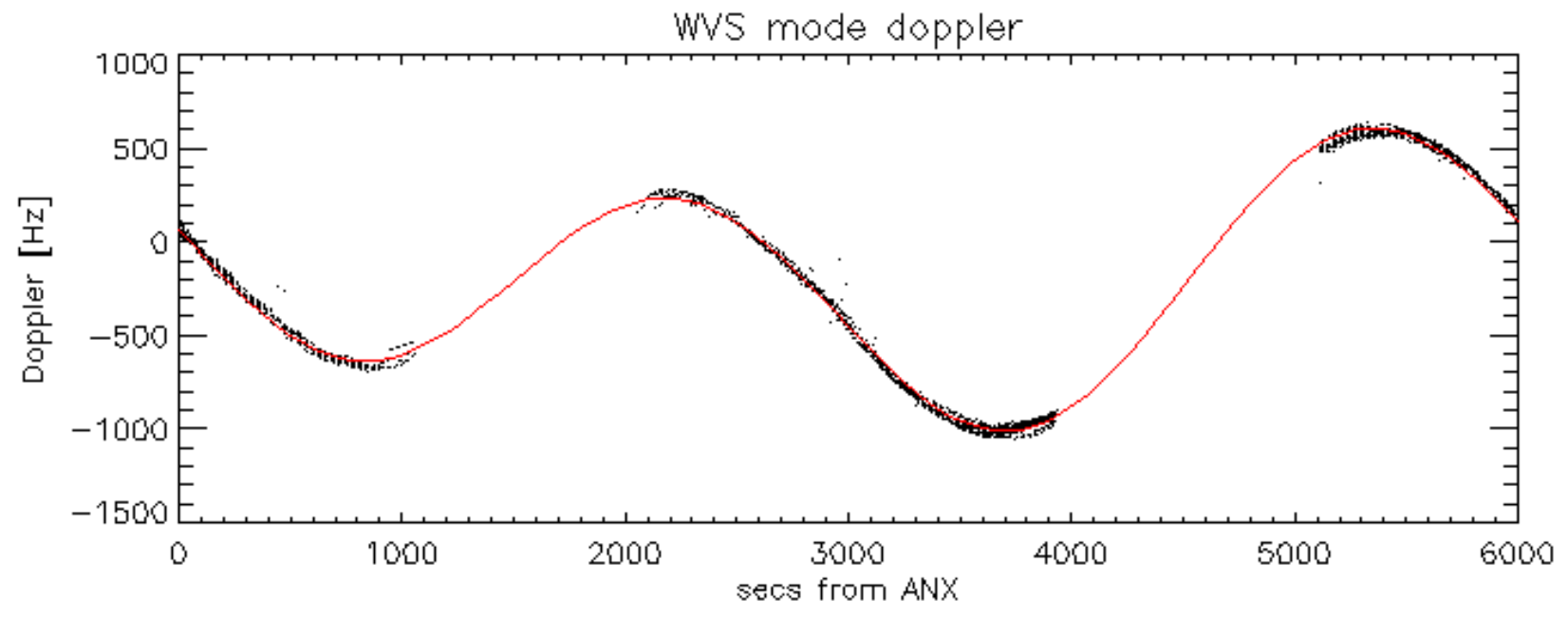


Doppler 'WVS' 'IS2' descending

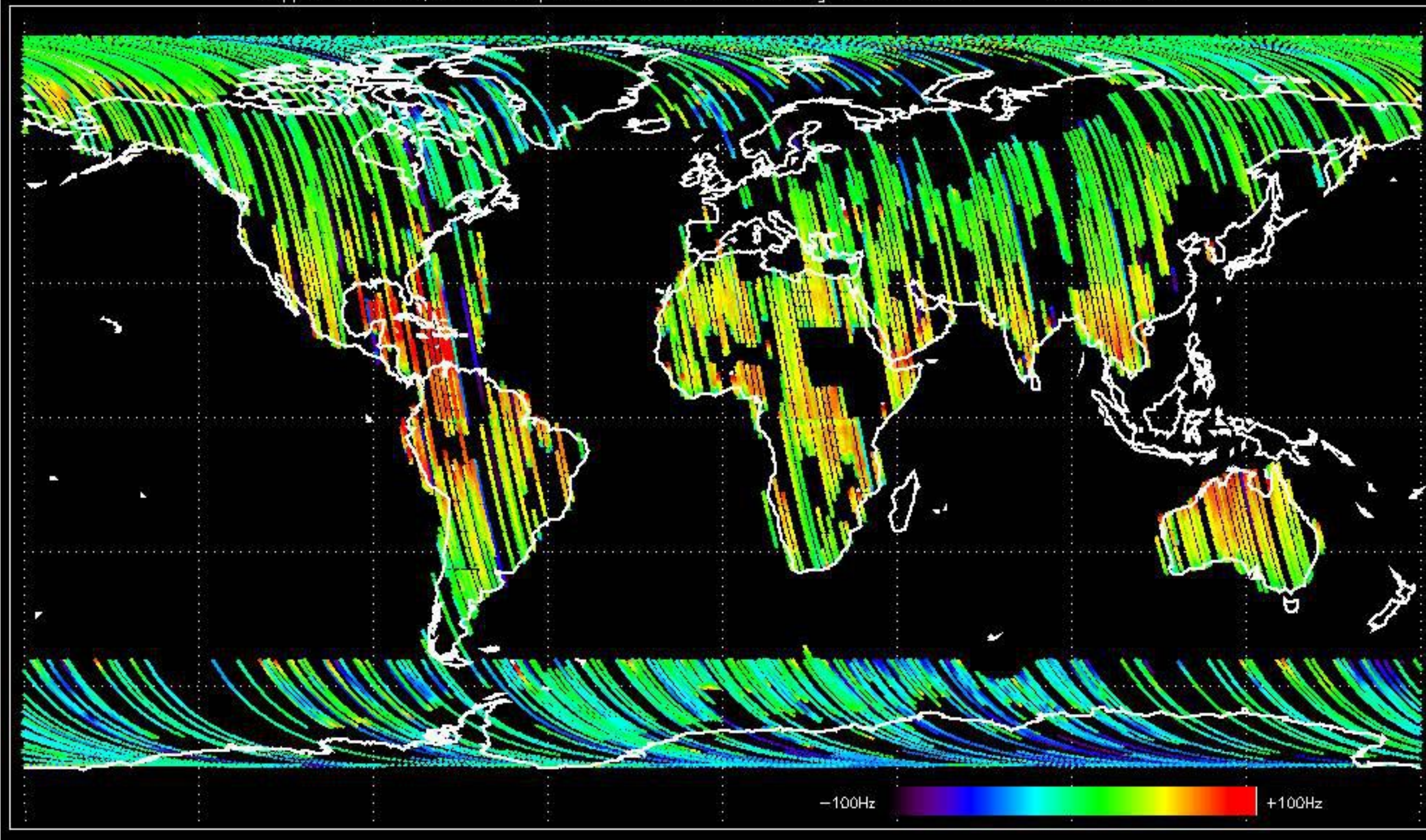


GM1 mode doppler

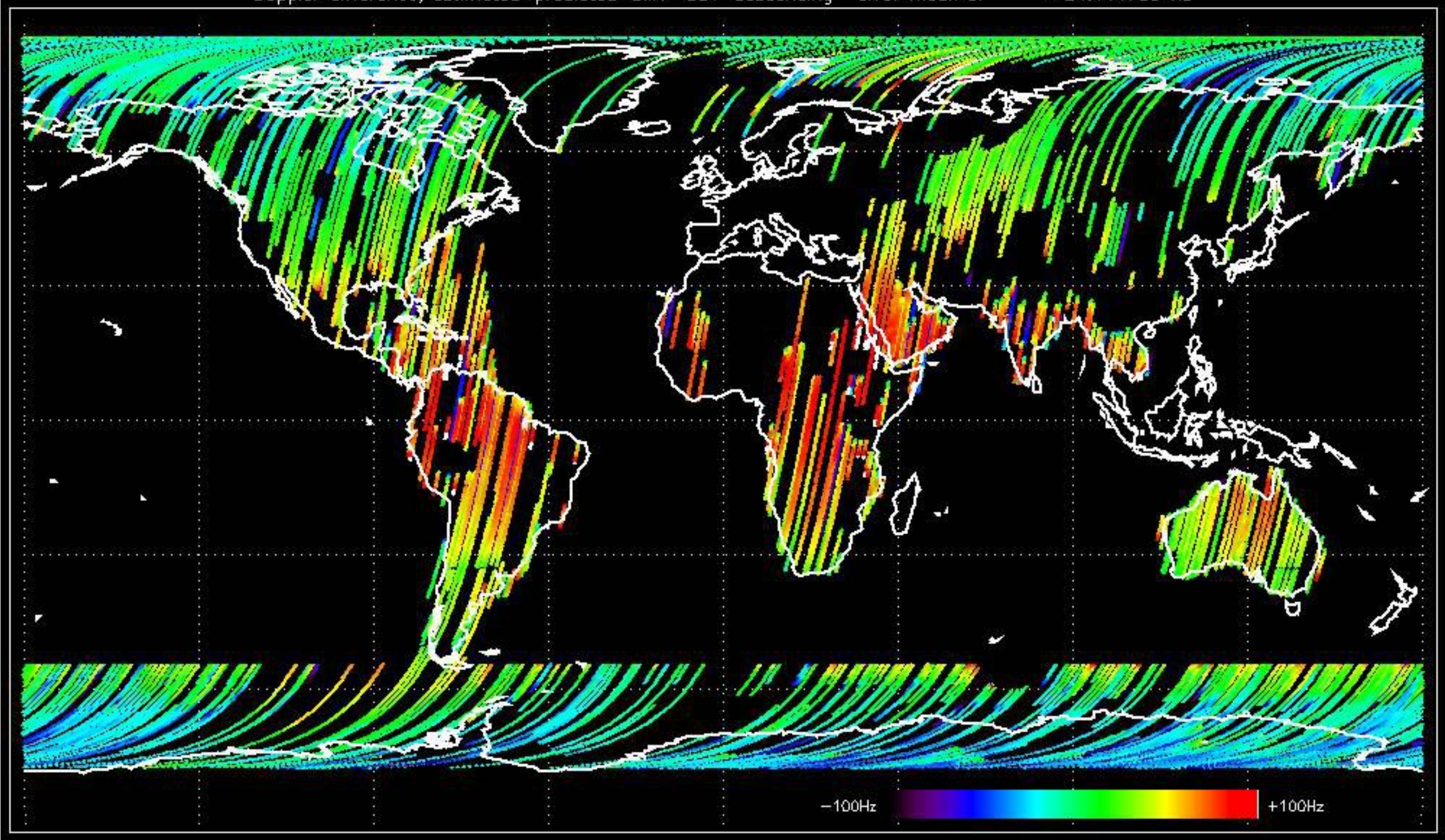




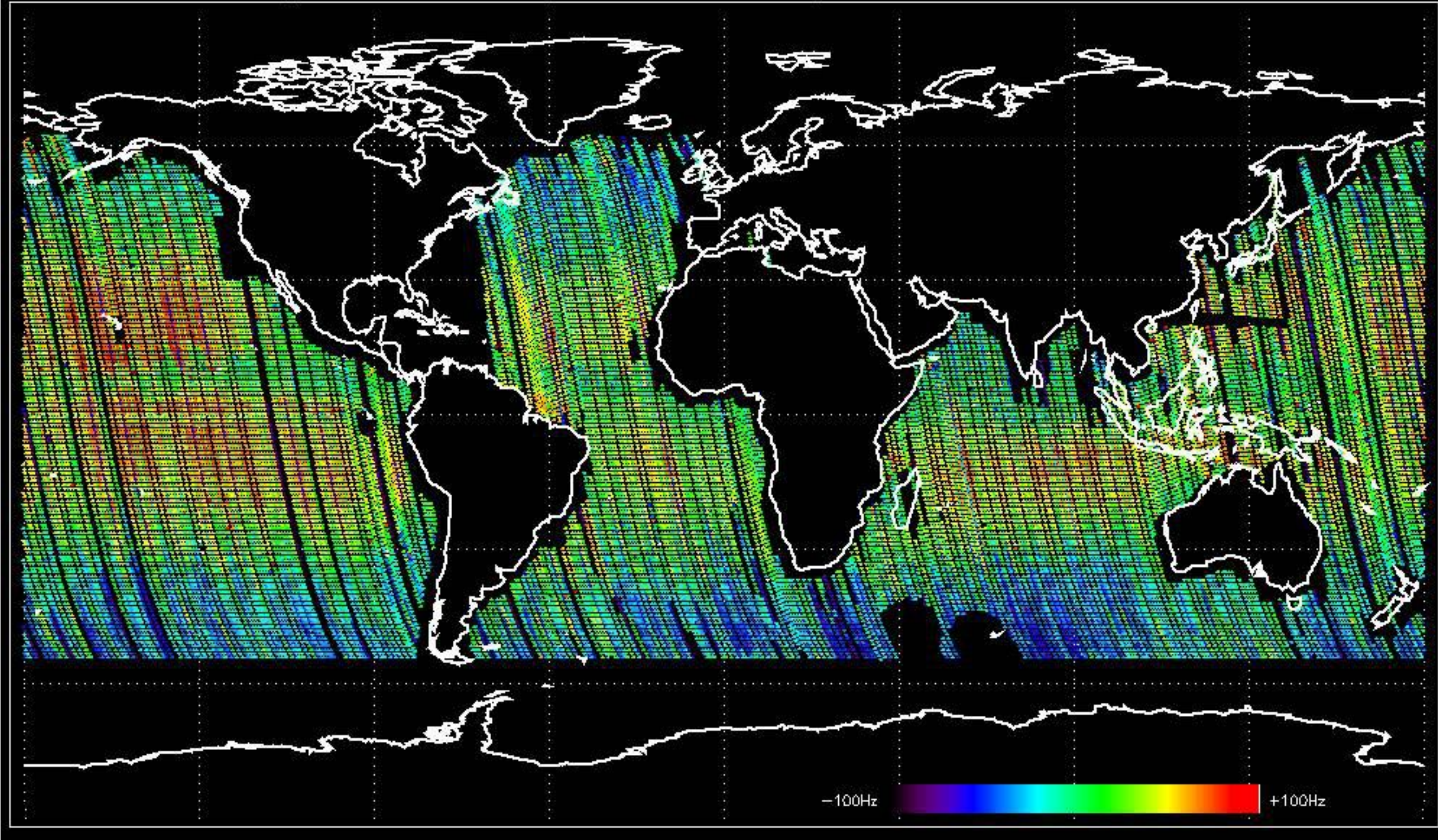
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -26.133885 Hz



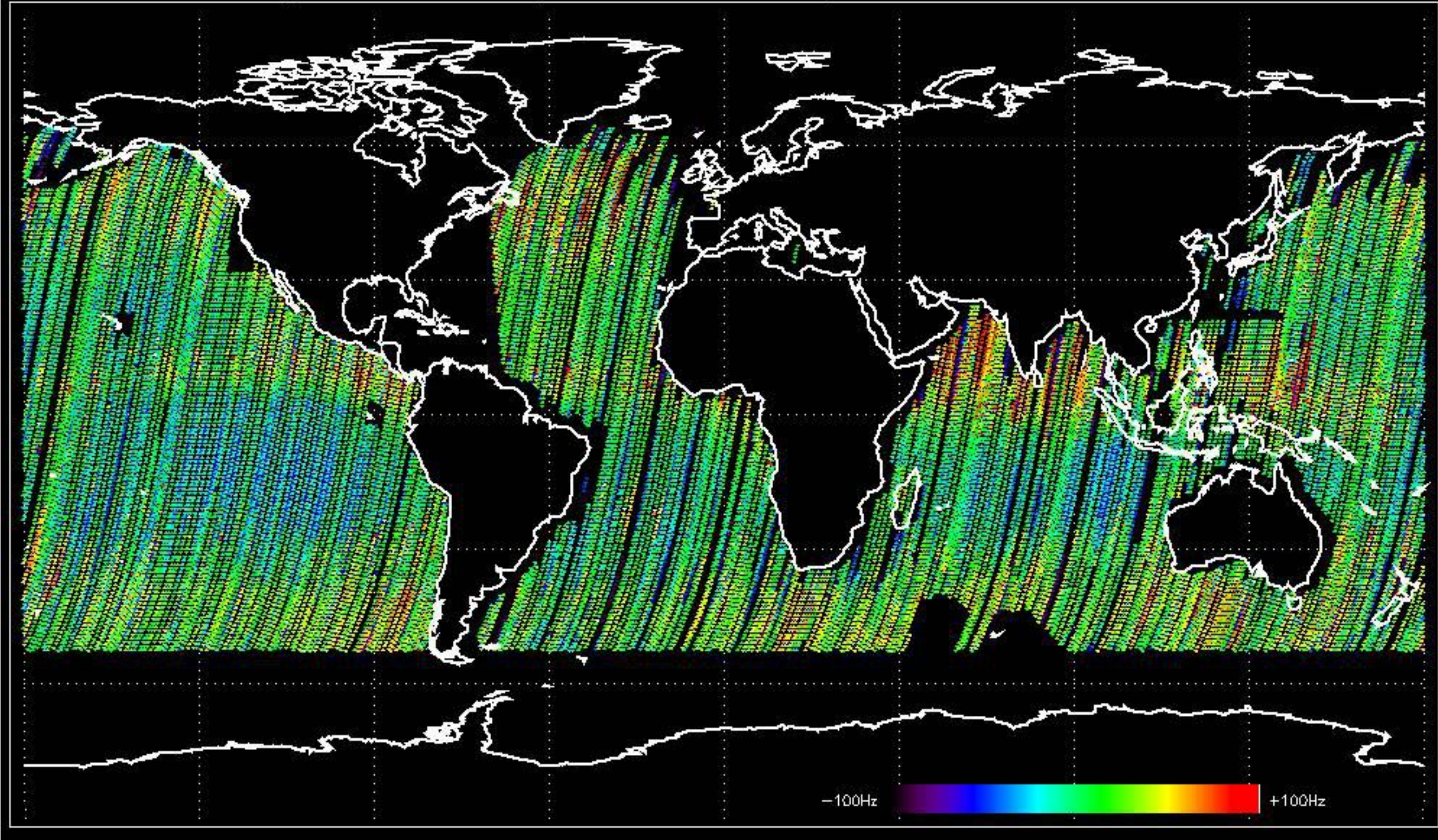
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -24.144703 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -21.334301 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -26.118035 Hz

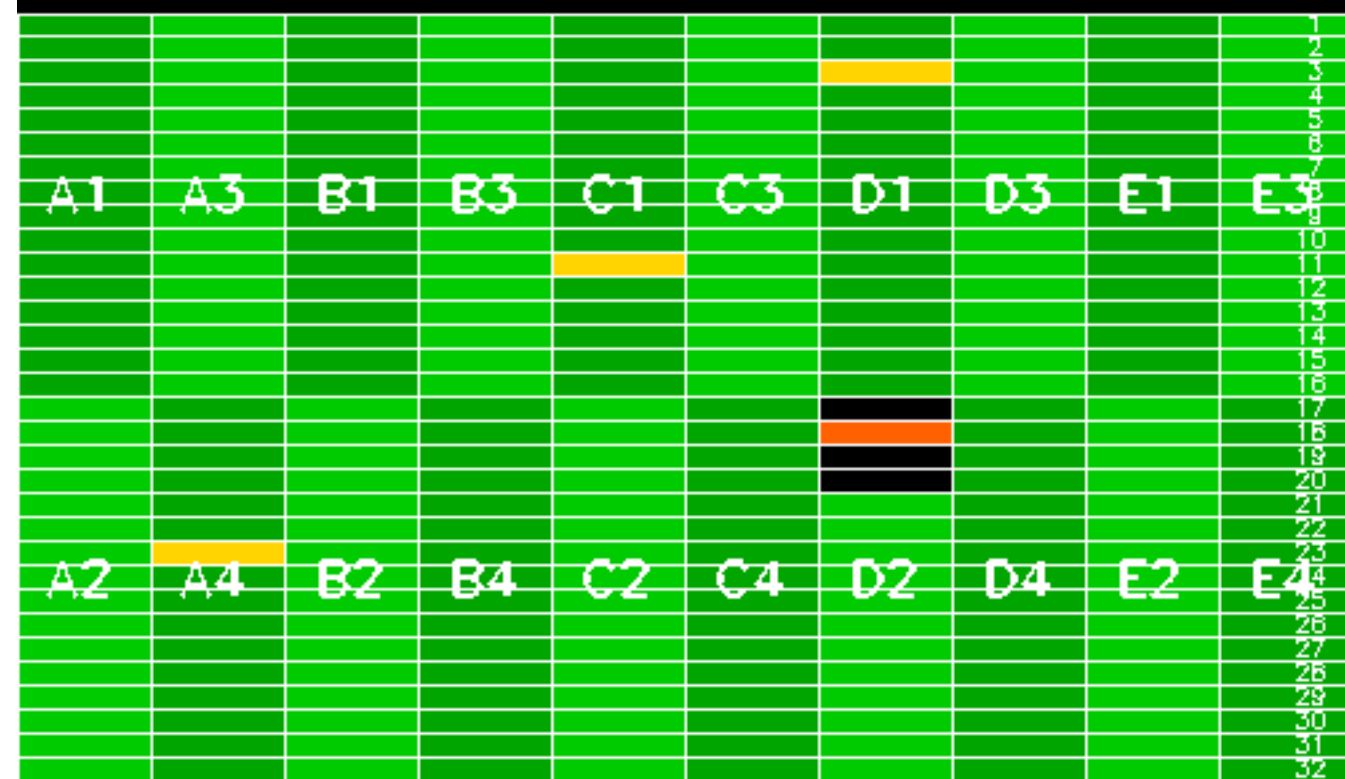


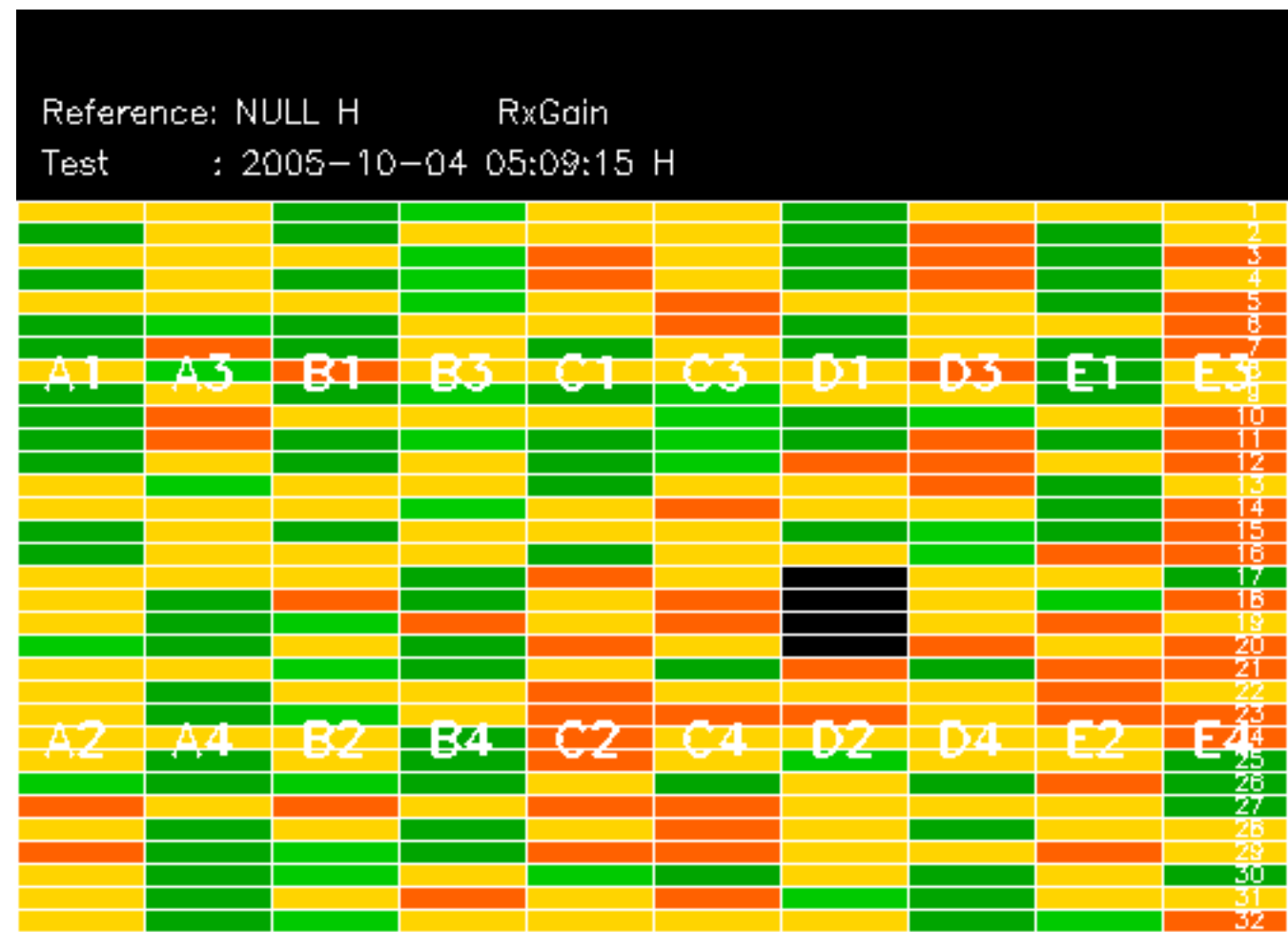
No anomalies observed on available MS products:

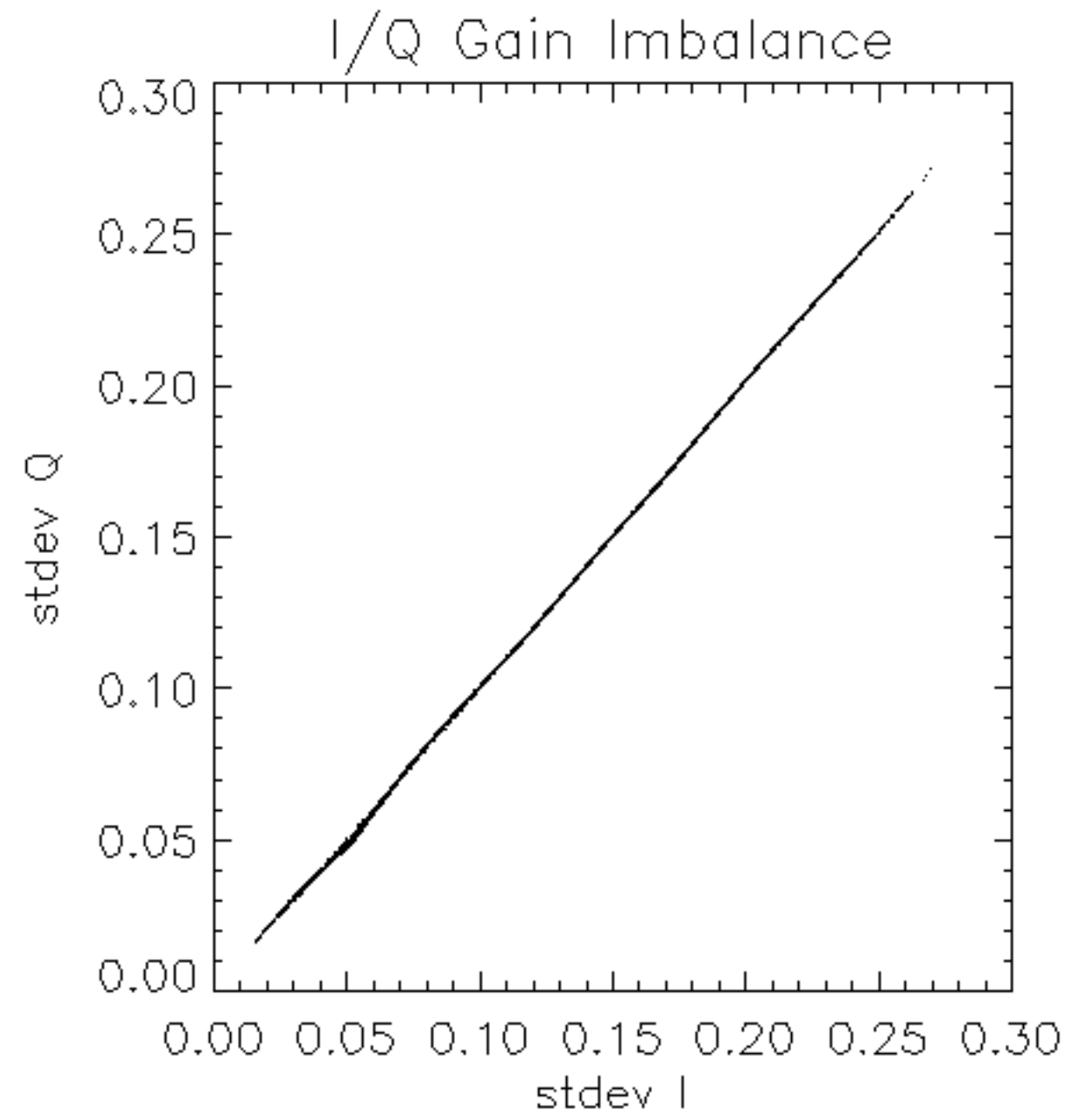
No anomalies observed.

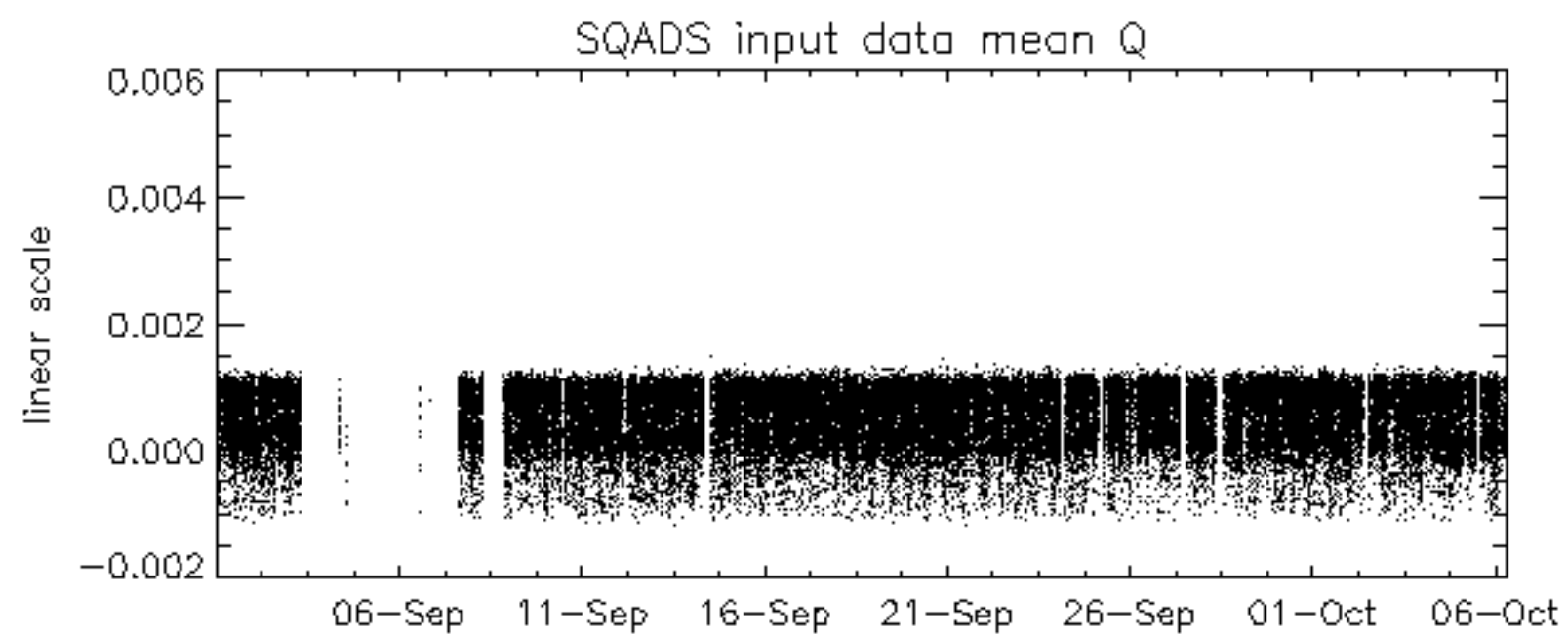
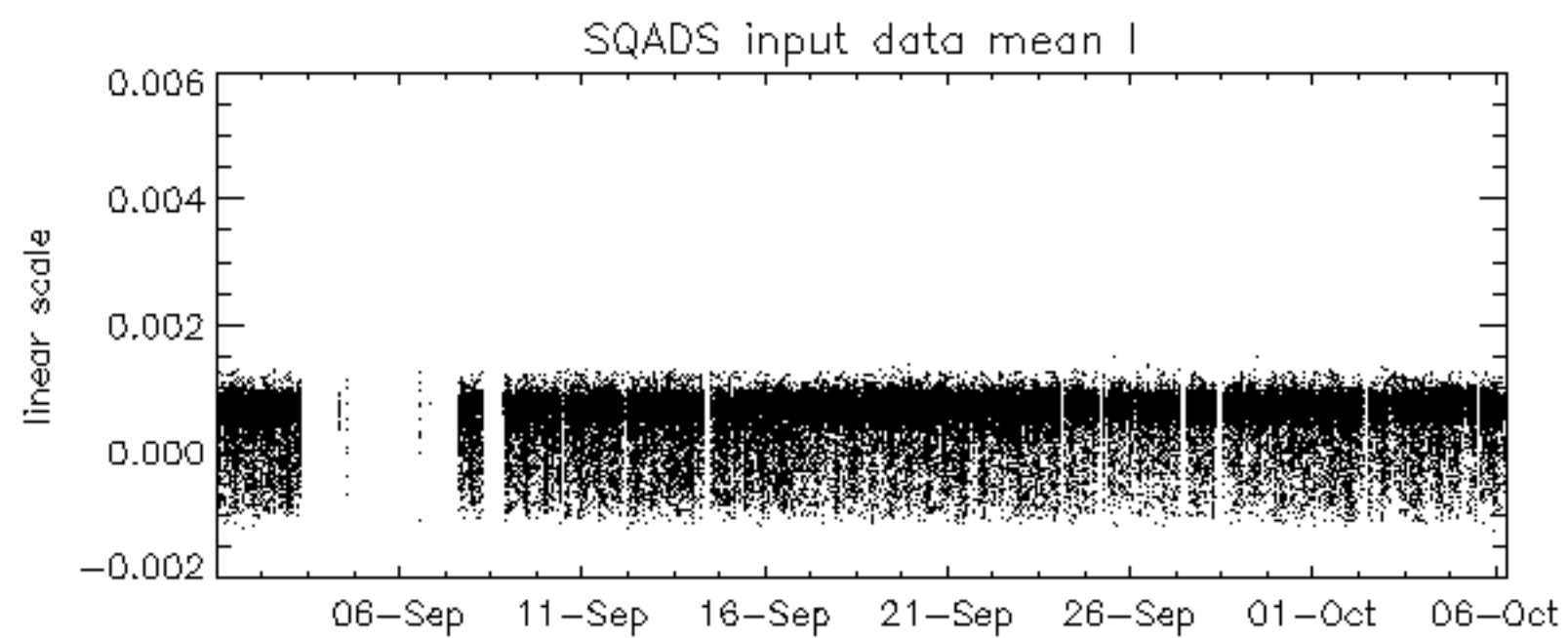
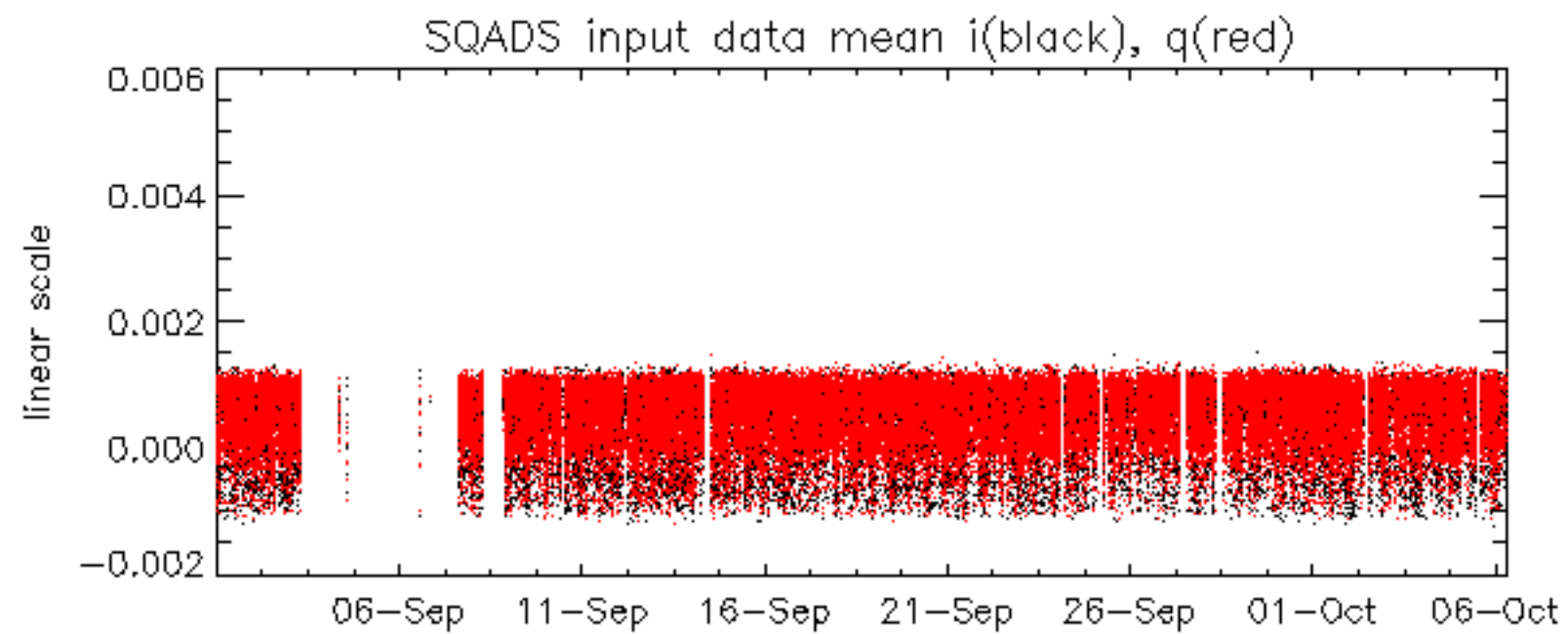
Reference: 2001-02-09 13:50:42 H RxGain

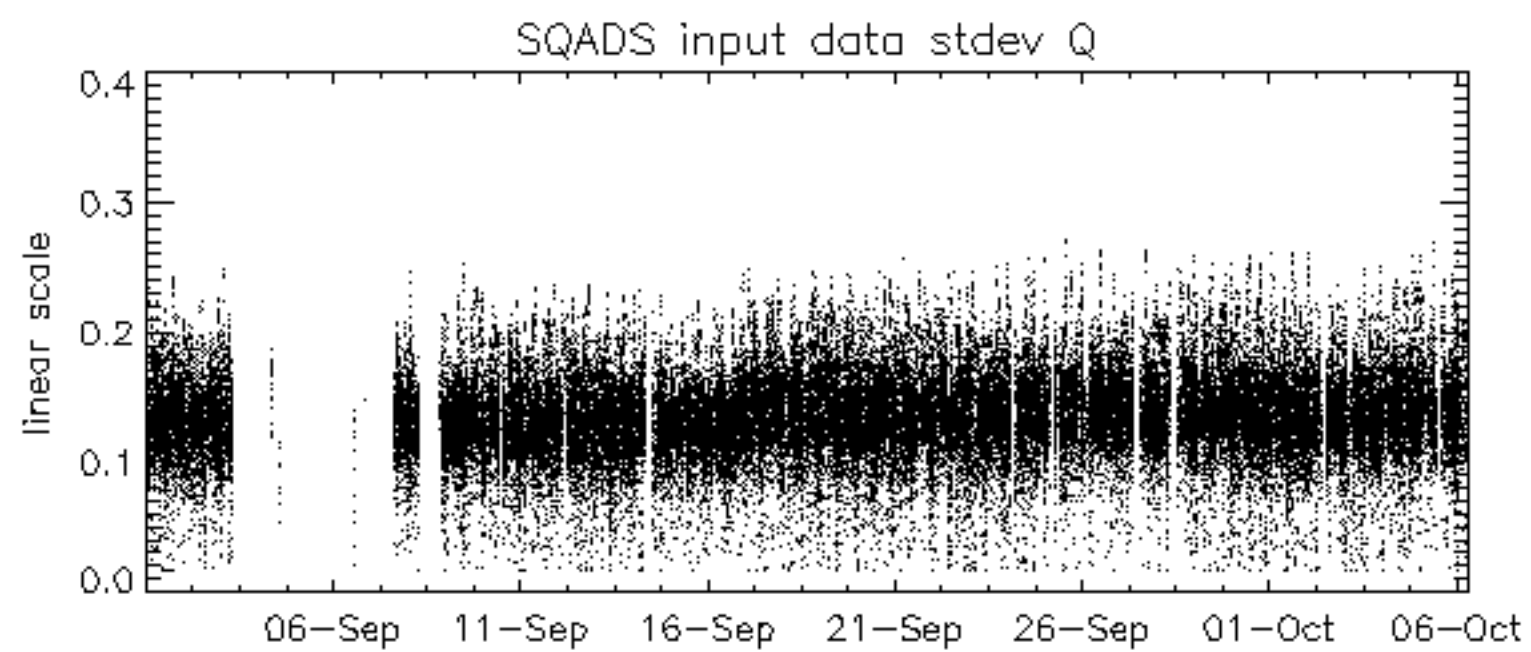
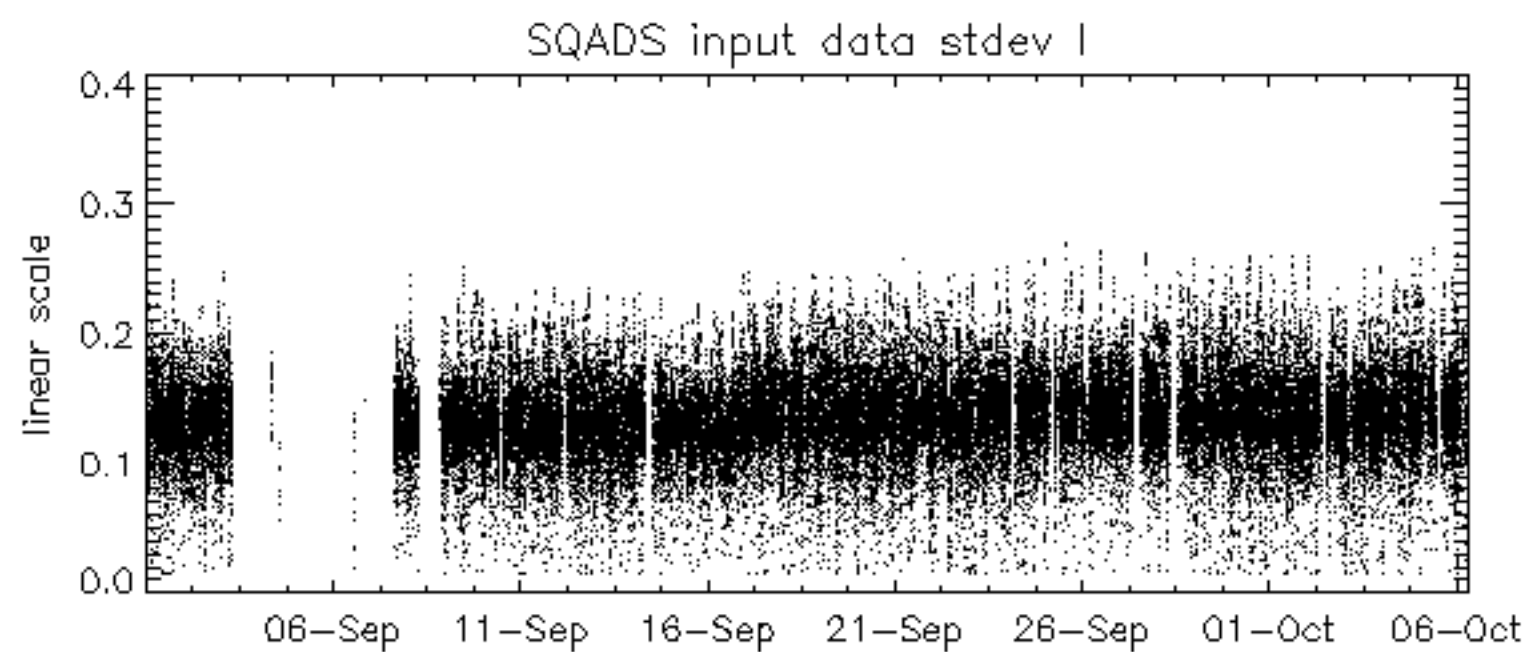
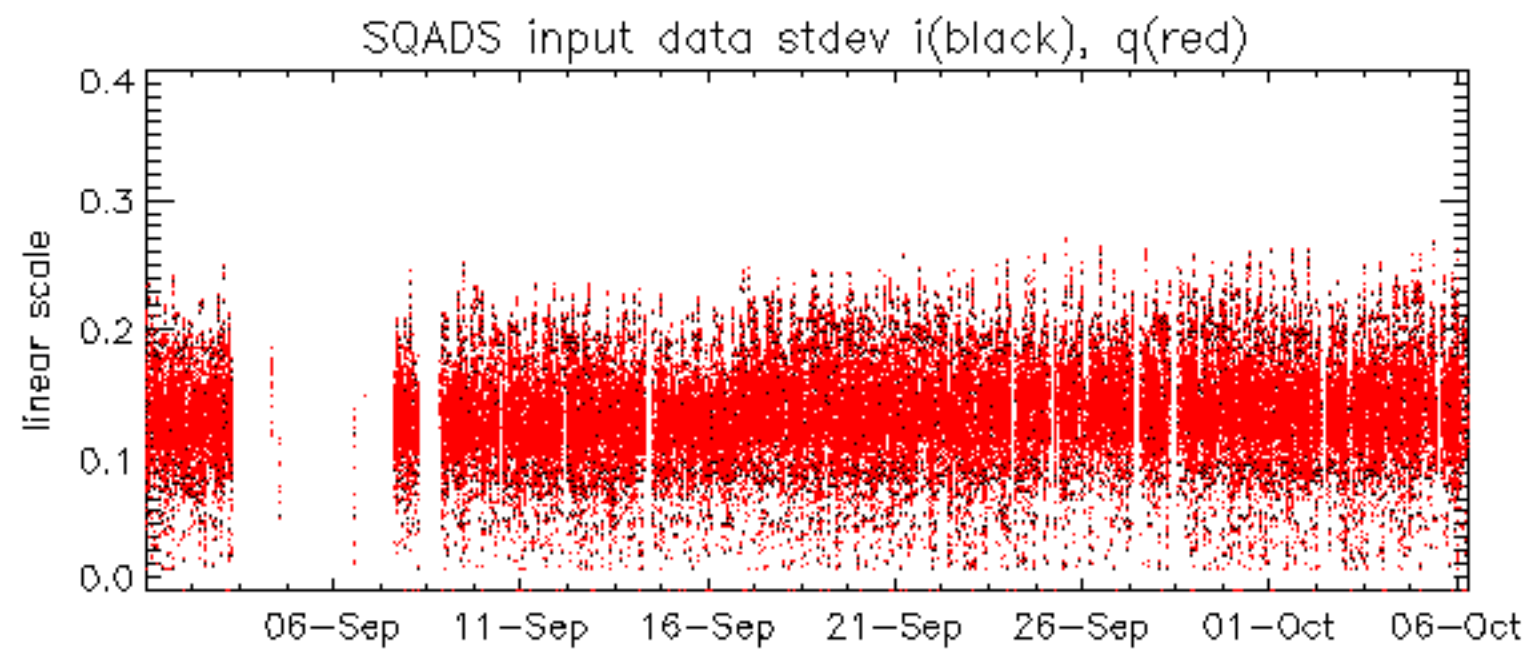
Test : 2005-10-04 05:09:15 H







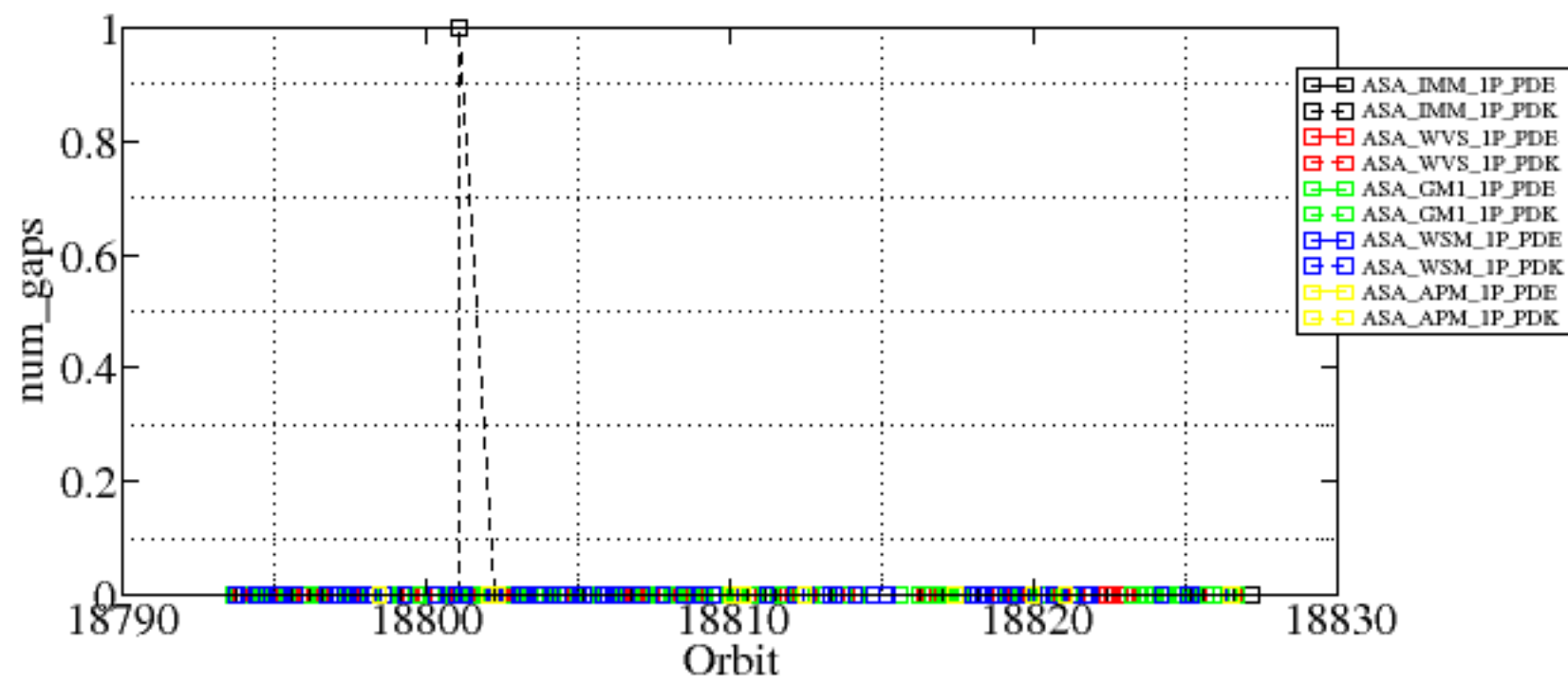


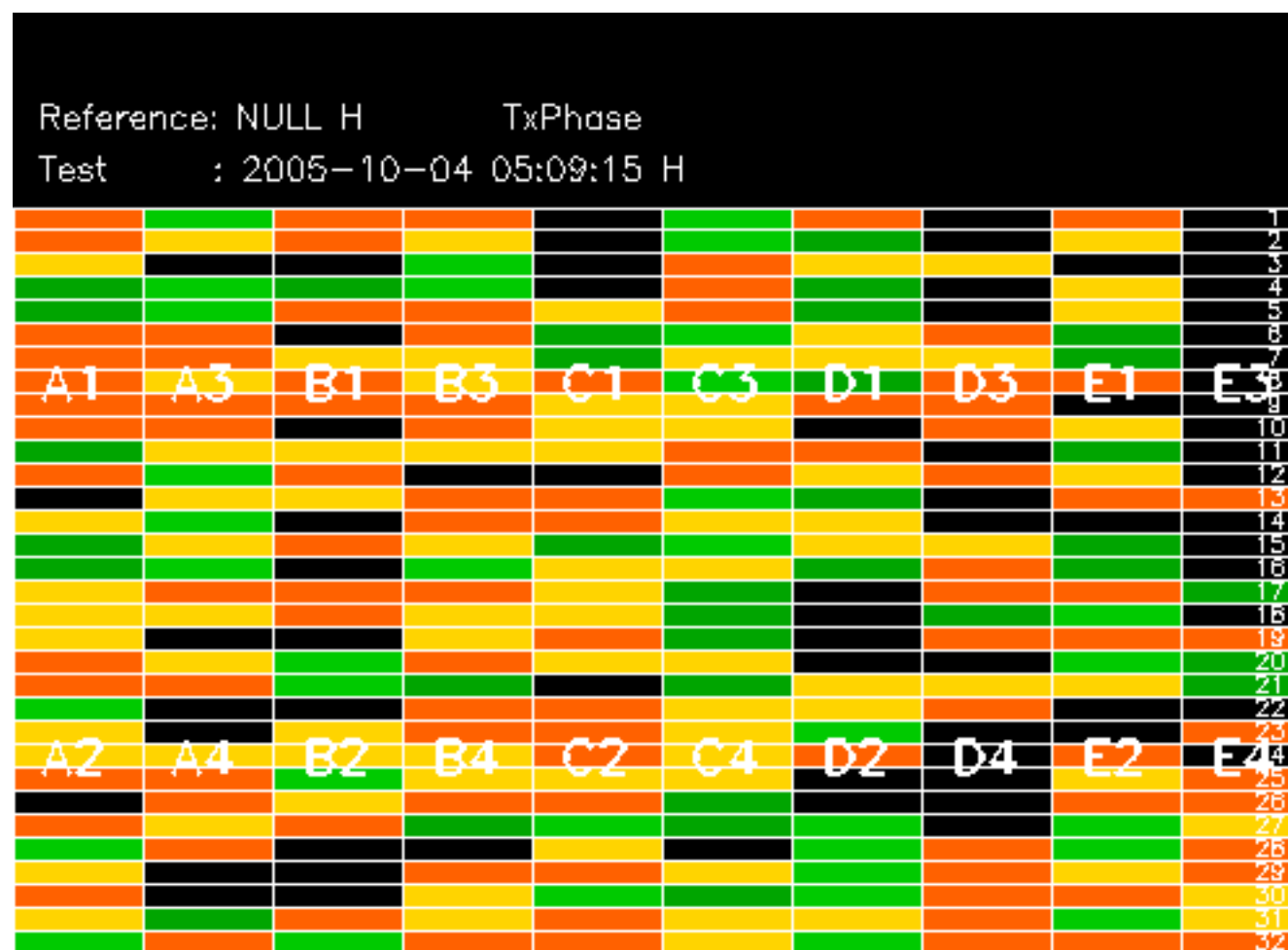


Summary of analysis for the last 3 days 2005100[456]

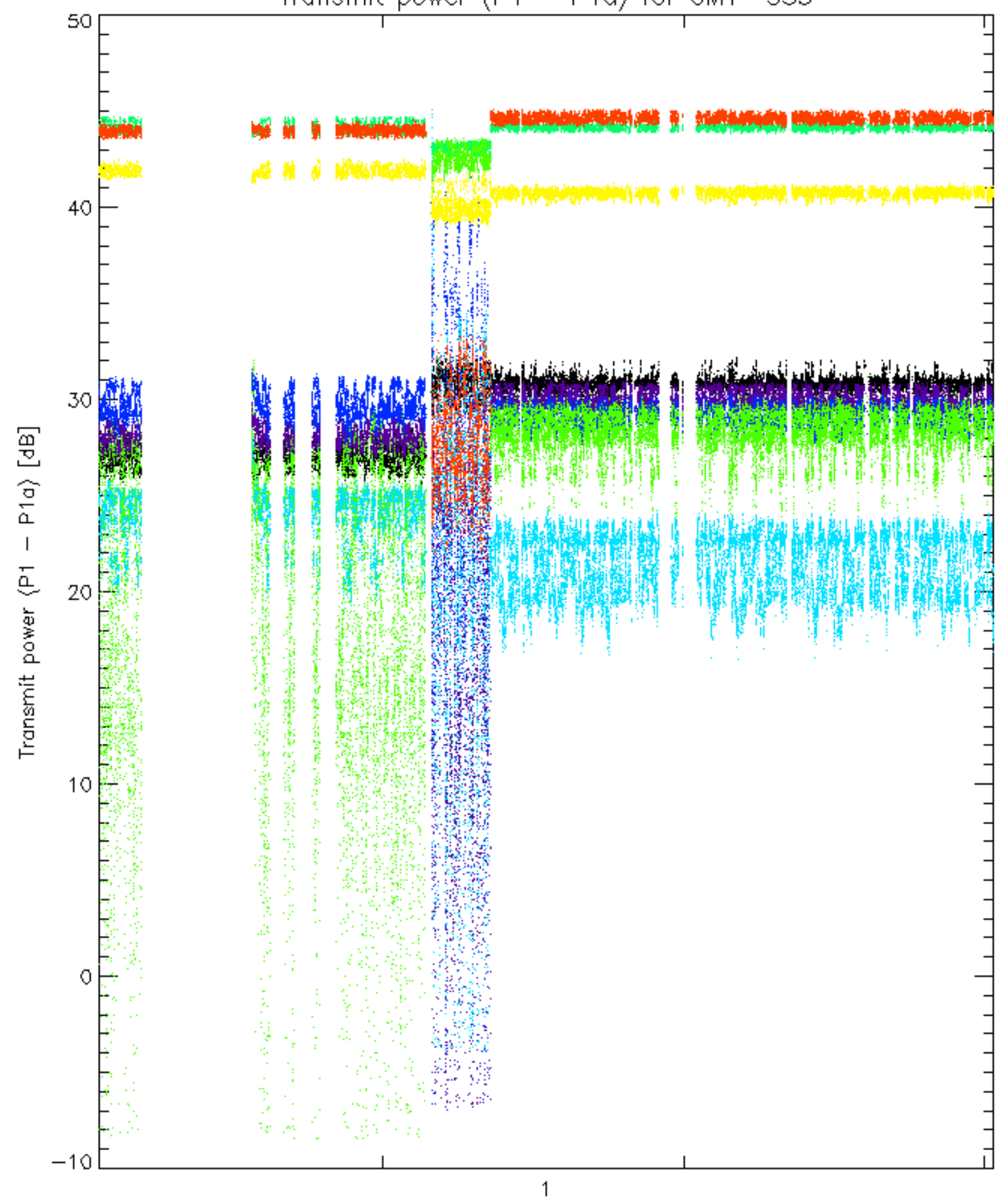
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDK20051004_123413_00000812041_00210_18801_5176.N1	1	0
ASA_GM1_1PNPDK20051004_092122_000006762041_00208_18799_7351.N1	0	15
ASA_GM1_1PNPDK20051004_151128_000011352041_00211_18802_7392.N1	0	9
ASA_GM1_1PNPDK20051005_103508_000005862041_00223_18814_7480.N1	0	15
ASA_WSM_1PNPDE20051005_015357_000001592041_00218_18809_2400.N1	0	48
ASA_WSM_1PNPDE20051005_165617_000001592041_00227_18818_2484.N1	0	65
ASA_WSM_1PNPDE20051006_044316_000003062041_00234_18825_2610.N1	0	53
ASA_APM_1PNPDE20051004_141145_00000612041_00211_18802_1628.N1	0	22

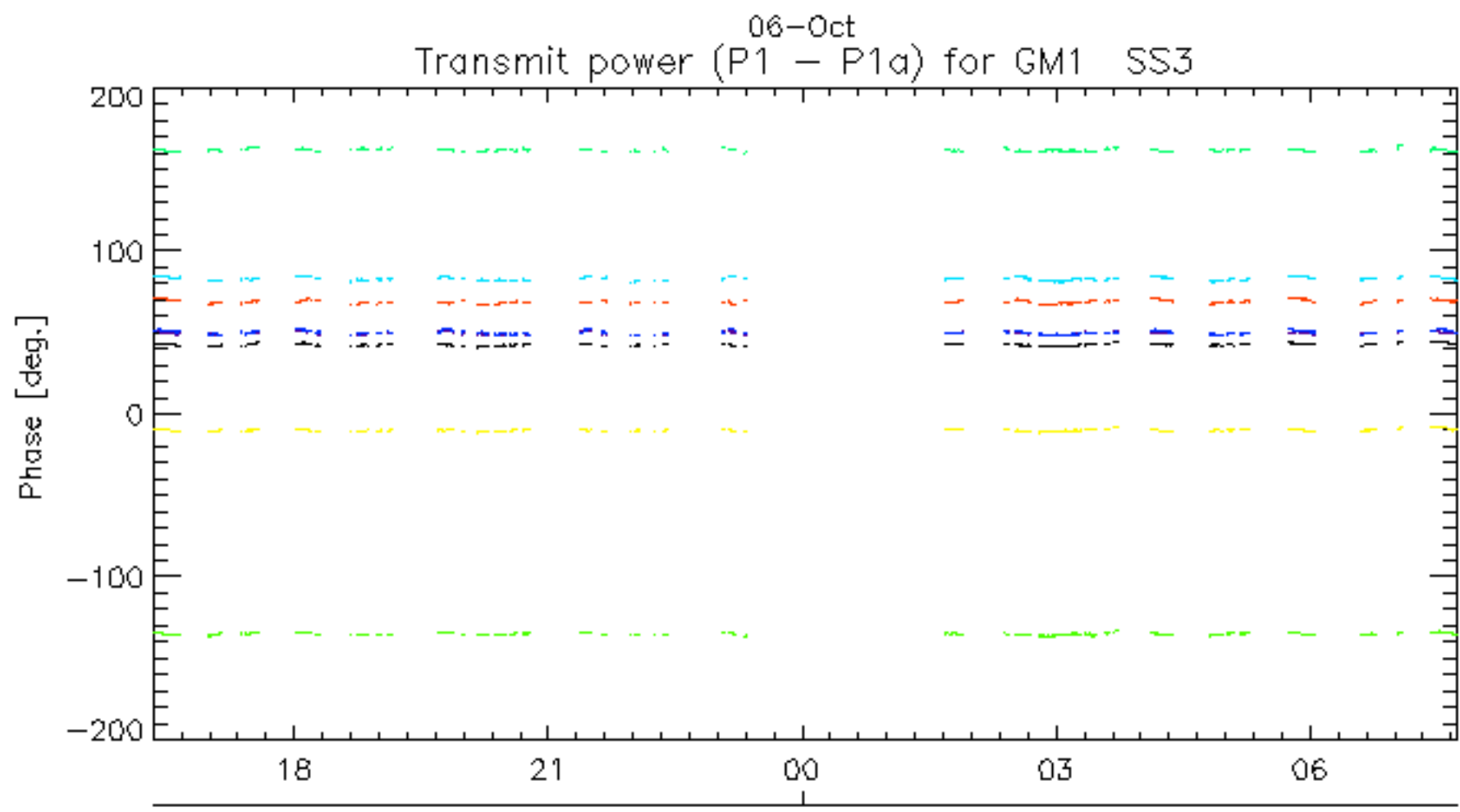
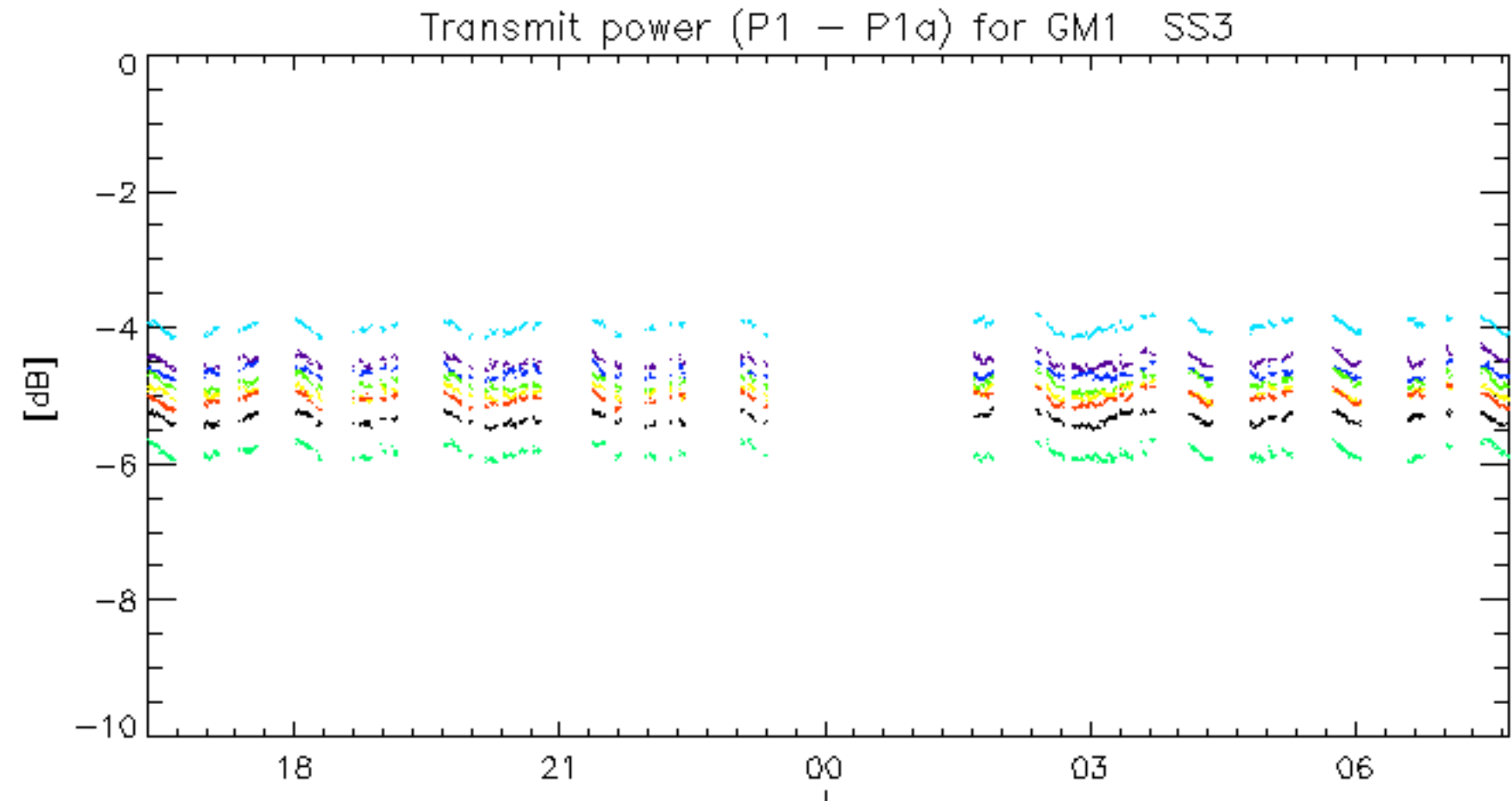




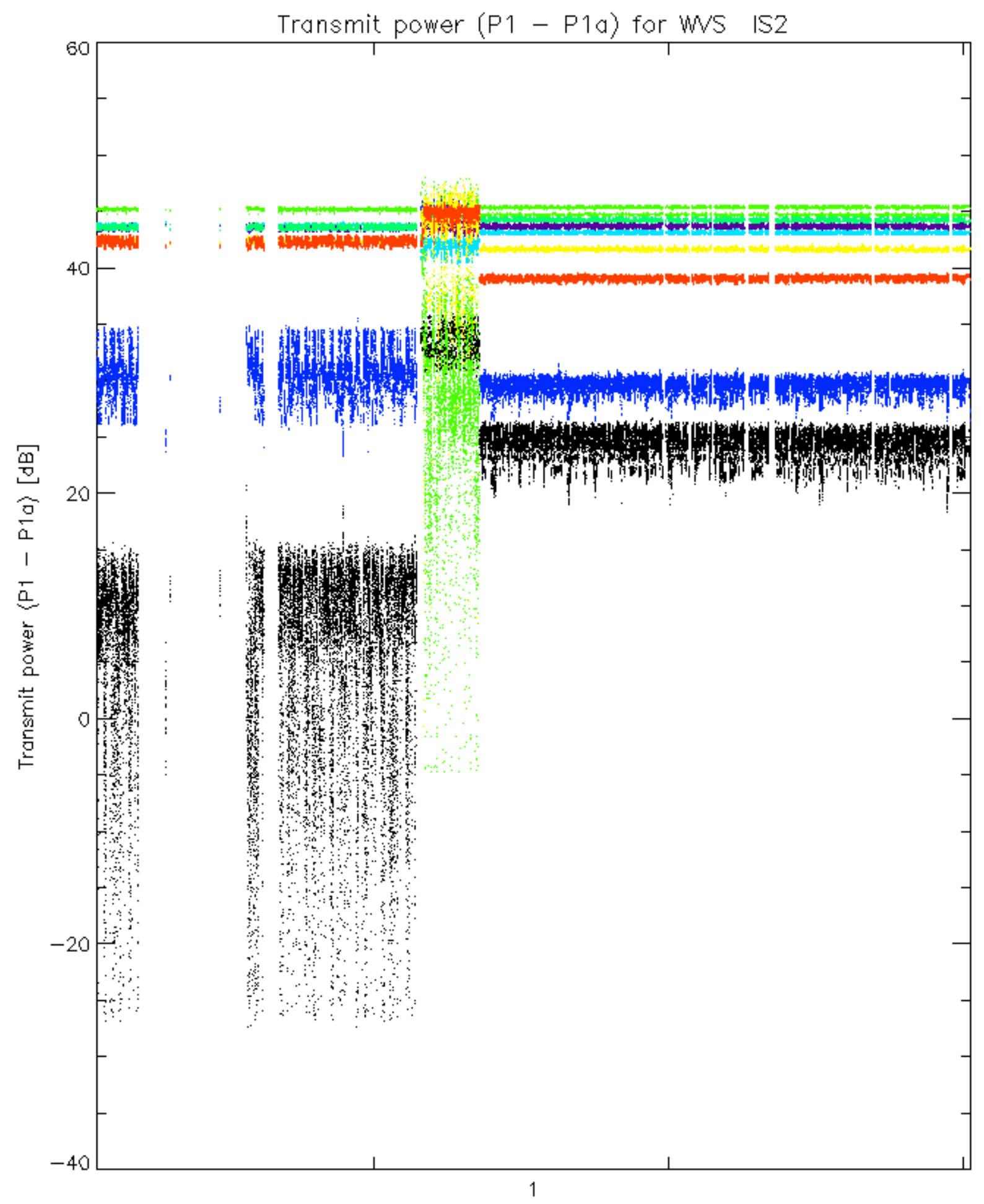
Transmit power (P1 - P1a) for GM1 SS3

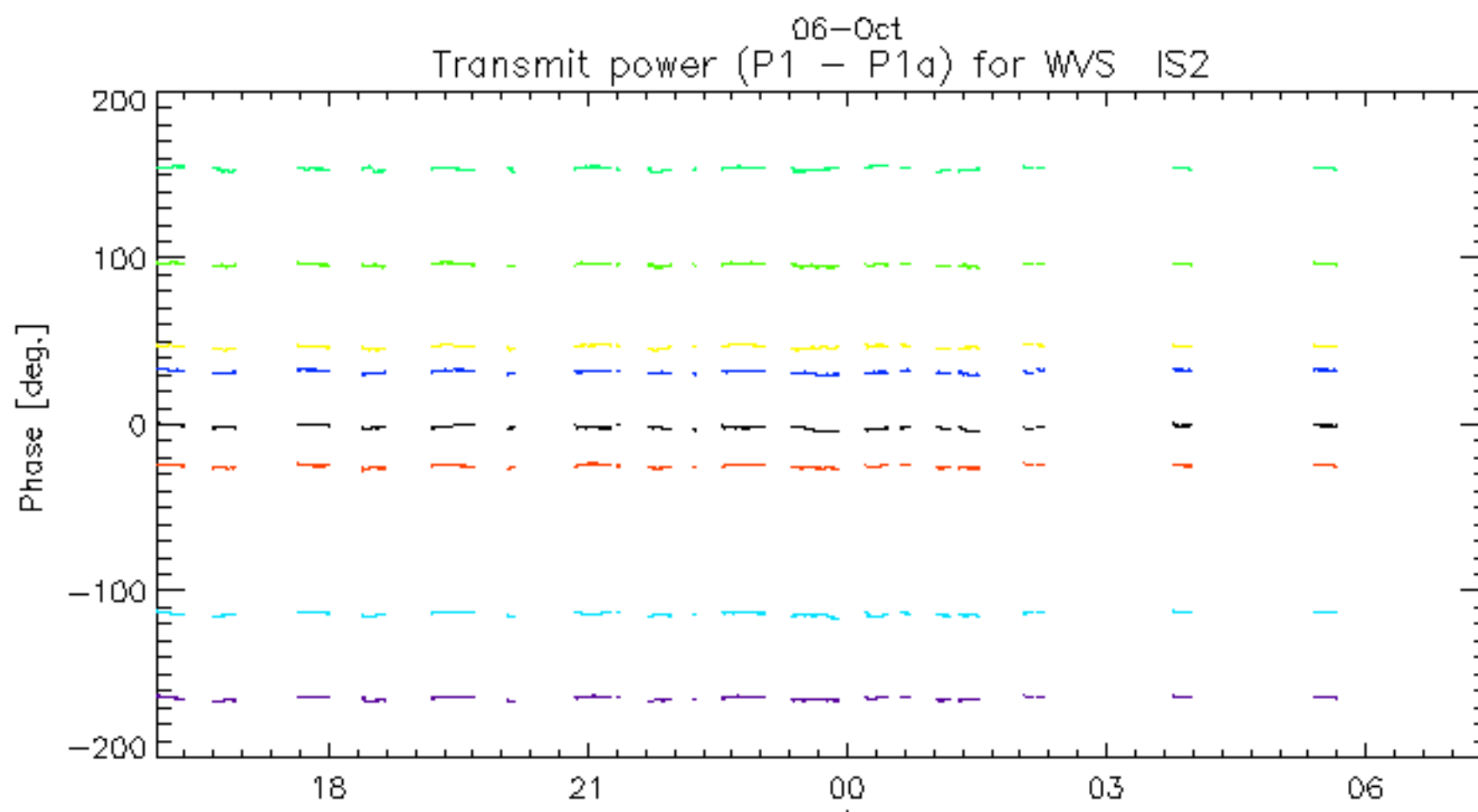
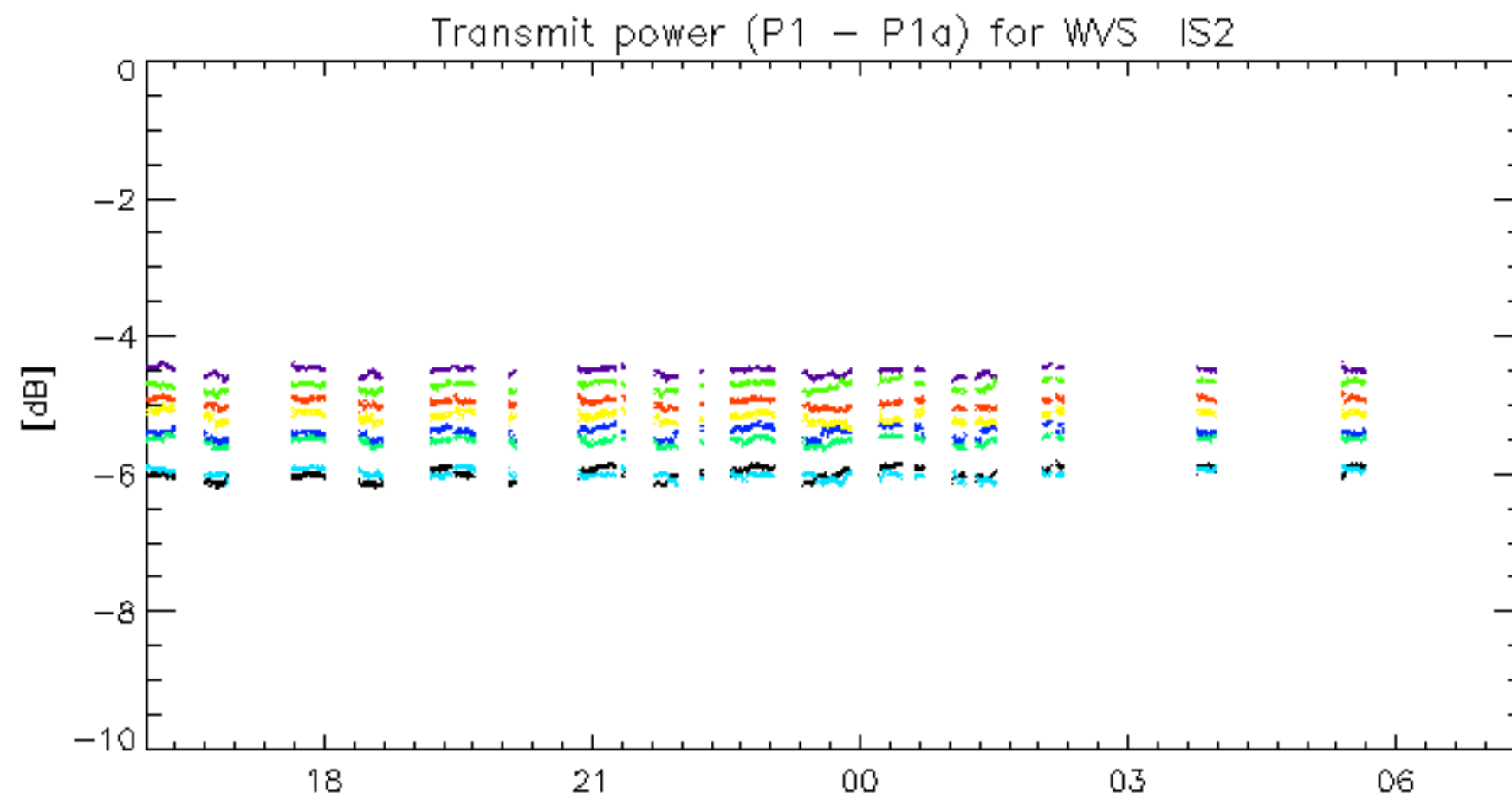


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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





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

No unavailabilities during the reported period.