

PRELIMINARY REPORT OF 061007

last update on Sat Oct 7 16:41:30 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 2006-10-06 00:00:00 to 2006-10-07 16:41:30

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	47	89	32	7	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	47	89	32	7	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	47	89	32	7	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	47	89	32	7	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	22	47	14	3	10
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	22	47	14	3	10
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	22	47	14	3	10
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	22	47	14	3	10

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	20061005 100808
H	20061004 071833

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	-3.943856	0.010422	-0.003025
7	P1	-3.073988	0.010708	-0.014339
11	P1	-4.077736	0.021734	-0.040758
15	P1	-6.194411	0.016041	-0.024685
19	P1	-3.554178	0.052121	0.053337
22	P1	-4.597025	0.010721	-0.024172
26	P1	-3.982804	0.067449	-0.113281
30	P1	-5.858392	0.232165	-0.021458
3	P1	-16.620039	0.231293	-0.034534
7	P1	-17.118748	0.108905	-0.037455
11	P1	-16.888147	0.377514	-0.297177
15	P1	-12.855978	0.106727	0.070252
19	P1	-14.694704	0.481889	0.201079
22	P1	-15.662848	0.474853	0.143092
26	P1	-15.165524	0.258440	0.238419
30	P1	-16.916601	0.592986	0.020135

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.817348	0.085053	-0.013521
7	P2	-21.816082	0.097027	0.128201
11	P2	-15.744468	0.107756	0.036501
15	P2	-7.085485	0.103501	0.049149
19	P2	-9.127002	0.094074	0.008724
22	P2	-18.131065	0.091197	-0.007624
26	P2	-16.425514	0.098006	-0.001350
30	P2	-19.469212	0.091952	0.020670

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.191841	0.006253	-0.016366
7	P3	-8.191841	0.006253	-0.016366
11	P3	-8.191841	0.006253	-0.016366
15	P3	-8.191841	0.006253	-0.016366
19	P3	-8.191841	0.006253	-0.016366
22	P3	-8.191841	0.006253	-0.016366
26	P3	-8.191829	0.006255	-0.016401
30	P3	-8.191829	0.006255	-0.016401

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	-3.872845	0.017779	-0.056312
7	P1	-2.545388	0.044272	-0.001604
11	P1	-2.899228	0.021676	-0.035587
15	P1	-3.681918	0.033775	-0.066537
19	P1	-3.477835	0.080626	0.108483
22	P1	-5.105989	0.021908	0.035253
26	P1	-5.895593	0.107765	-0.136509
30	P1	-5.240008	0.161393	-0.031423
3	P1	-11.670399	0.064334	-0.109811
7	P1	-10.030312	0.082371	-0.058577
11	P1	-10.383688	0.072243	-0.083745
15	P1	-10.875338	0.160484	-0.066594
19	P1	-15.696102	3.673806	0.901718
22	P1	-20.949646	1.258945	-0.267346
26	P1	-15.847216	0.455557	0.300129
30	P1	-18.082687	0.488235	0.164684

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.381052	0.057757	0.067127
7	P2	-22.133883	0.148301	0.172391
11	P2	-10.880254	0.051708	0.075732
15	P2	-4.855855	0.033927	0.014060
19	P2	-6.835971	0.039313	0.067919
22	P2	-8.156917	0.048690	0.000127
26	P2	-24.179716	0.082580	-0.013216
30	P2	-21.954905	0.053842	0.033186

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.040336	0.003696	-0.019954
7	P3	-8.040223	0.003687	-0.020327
11	P3	-8.040303	0.003693	-0.020402
15	P3	-8.040277	0.003705	-0.020385
19	P3	-8.040275	0.003709	-0.020706
22	P3	-8.040394	0.003691	-0.020241
26	P3	-8.040332	0.003703	-0.020068
30	P3	-8.040195	0.003686	-0.019973

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	0.000561784
	stdev	1.67694e-07
MEAN Q	mean	0.000526521
	stdev	2.15642e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.137759
	stdev	0.00112080
STDEV Q	mean	0.138122
	stdev	0.00113826



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2006100[567]

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_1PNPDE20061005_003434_000001152051_00431_24032_6859.N1	1	0
ASA_IMM_1PNPDK20061006_120210_000001222051_00453_24054_2403.N1	1	0
ASA_IMM_1PNPDK20061006_181201_000001342051_00456_24057_2430.N1	0	1
ASA_IMM_1PNPDK20061006_210706_000000602051_00458_24059_2441.N1	1	0
ASA_GM1_1PNPDK20061005_065203_000001992051_00435_24036_5928.N1	0	17







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

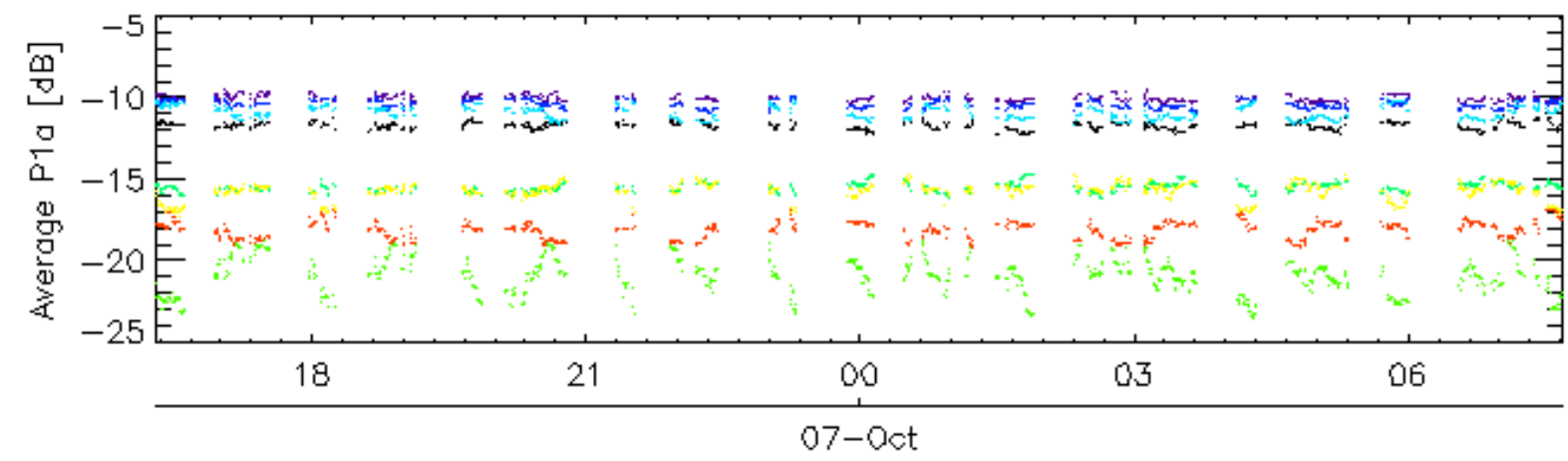
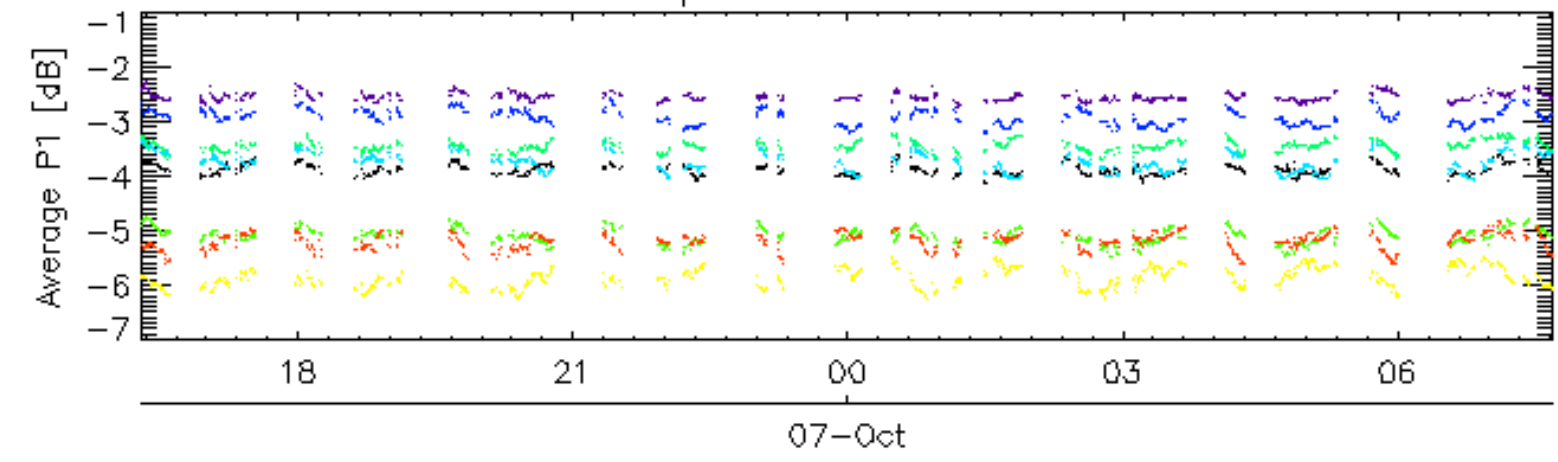
Ascending

Descending

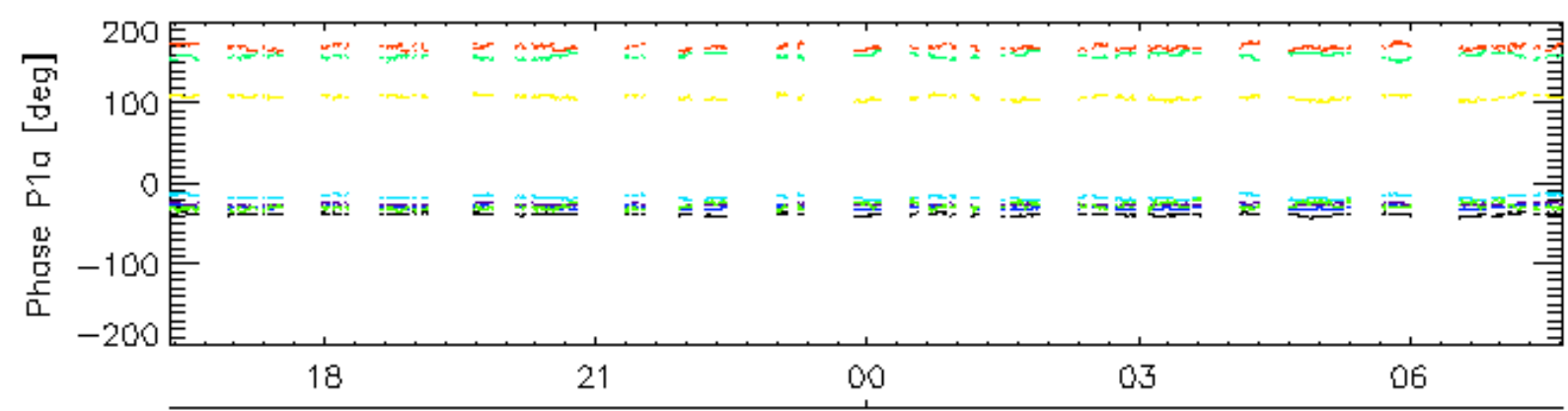
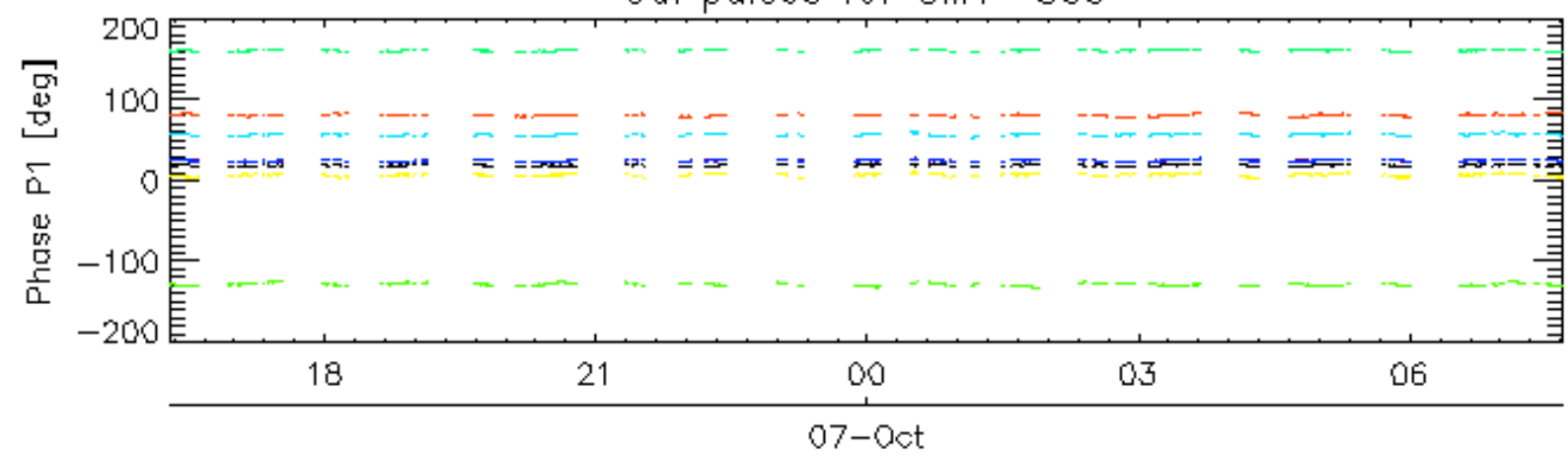
7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

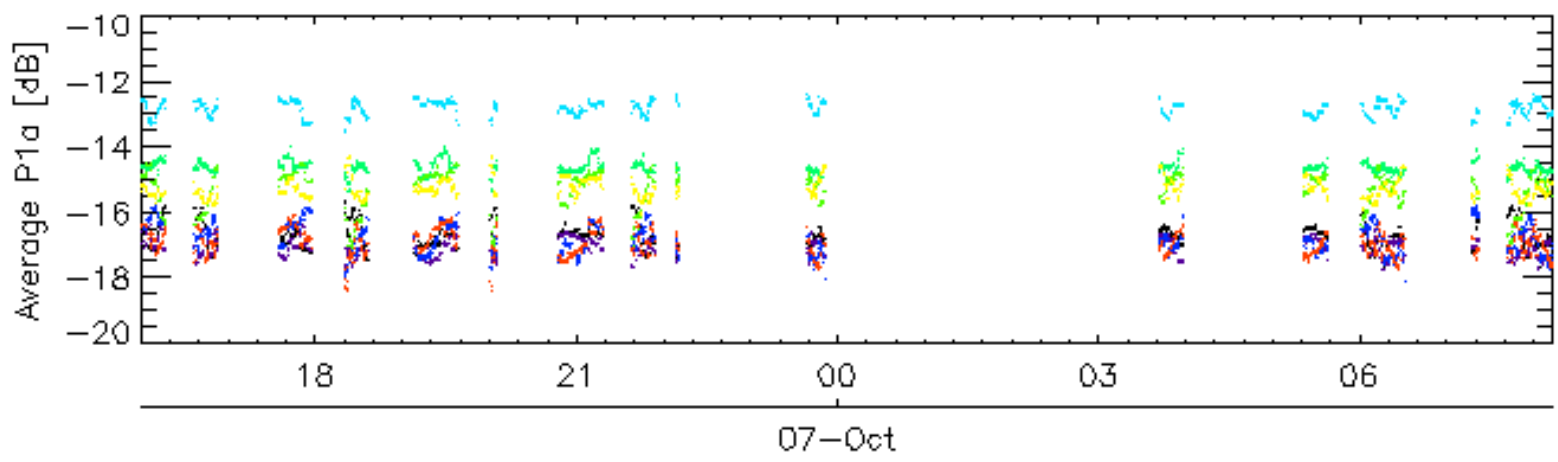
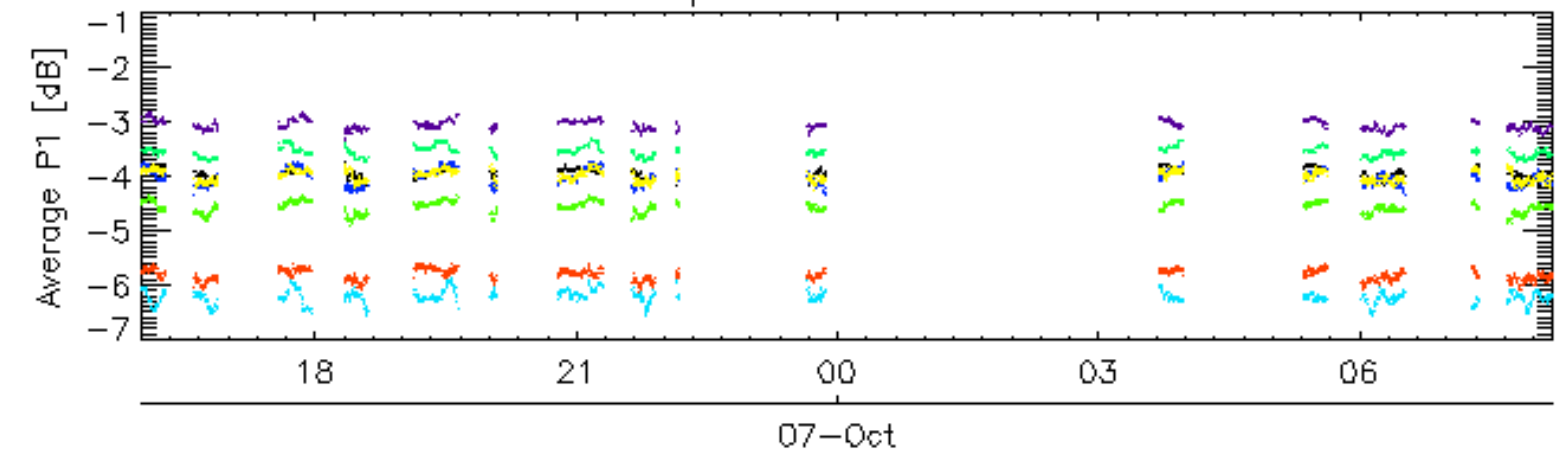


Cal pulses for GM1 SS3

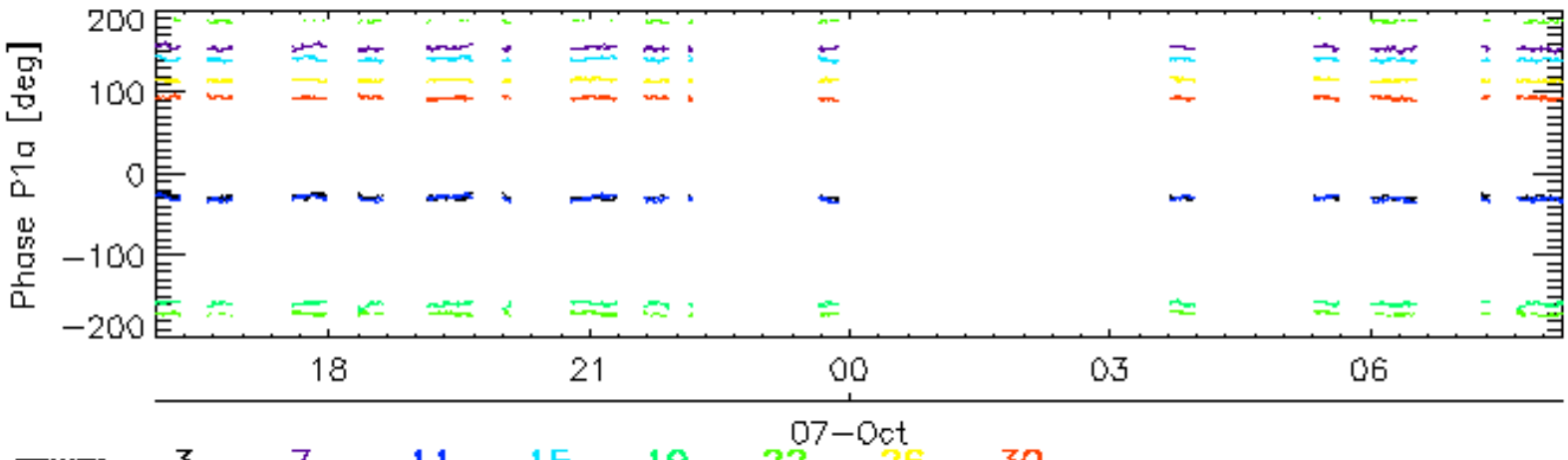
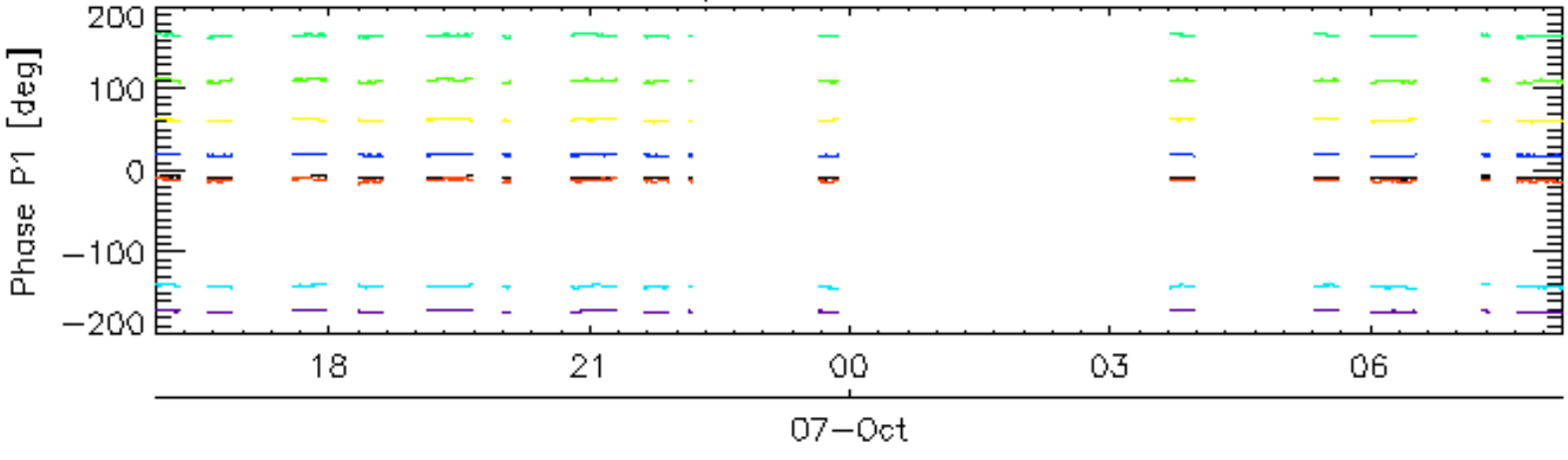


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

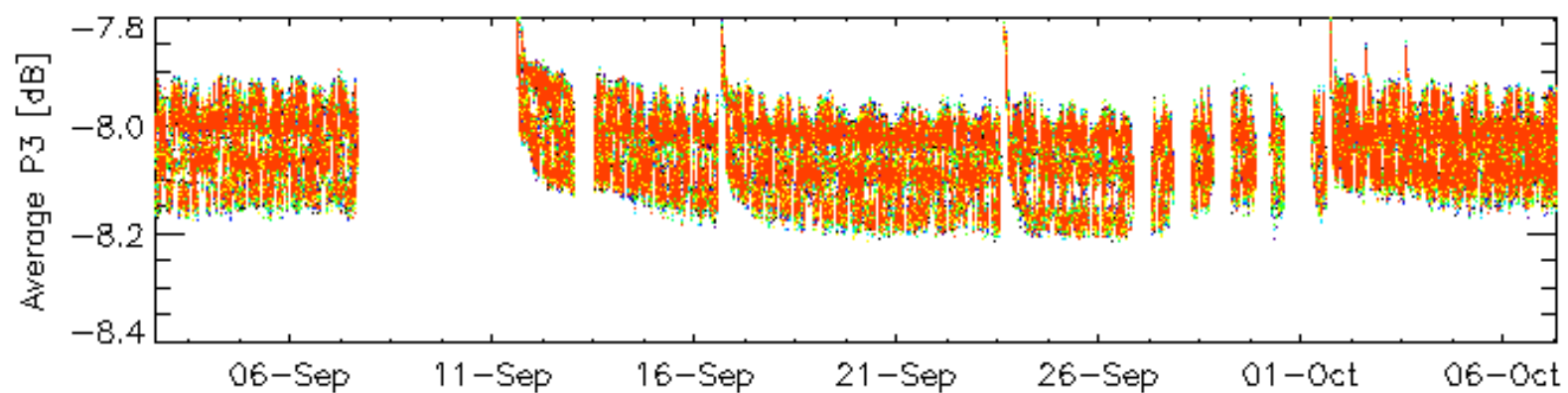
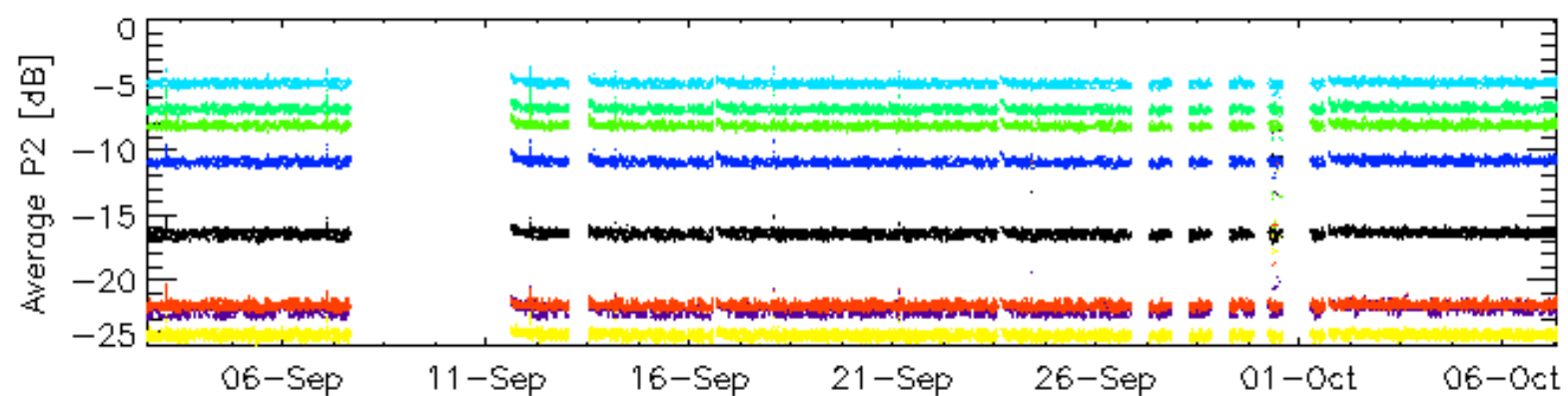
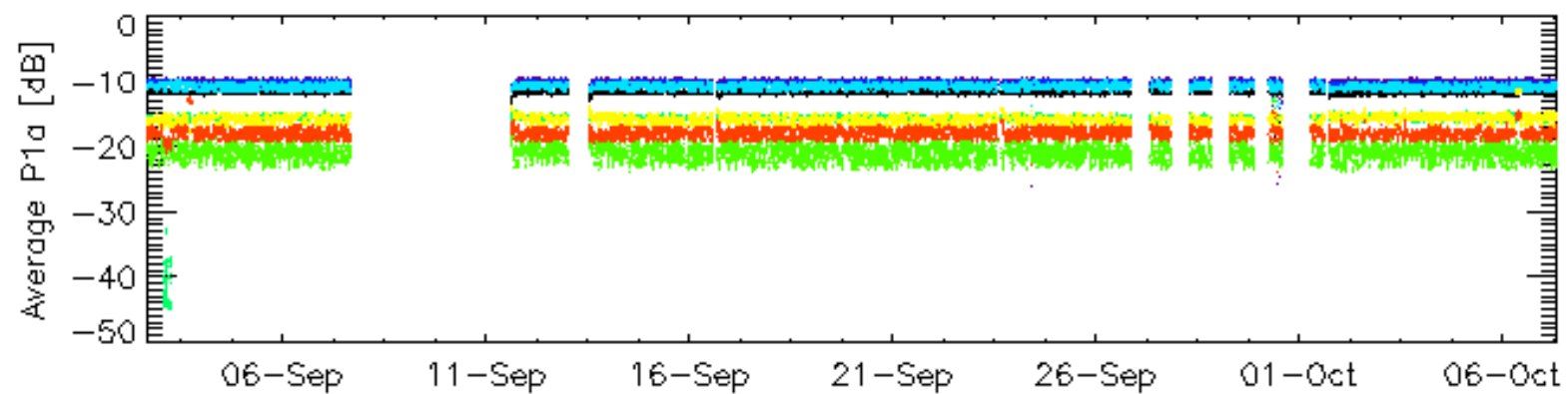
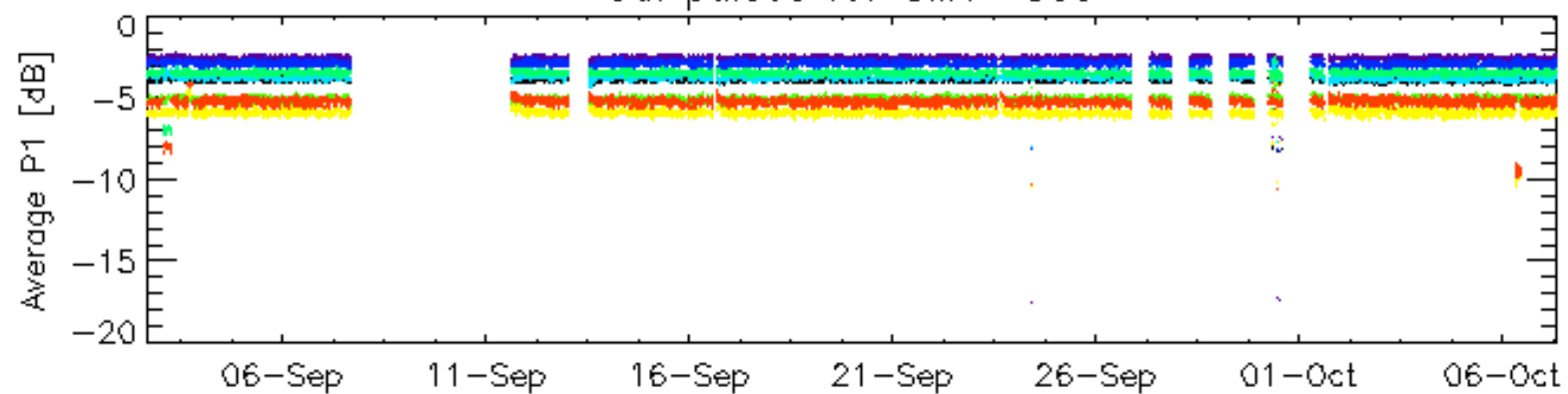


Cal pulses for WVS IS2



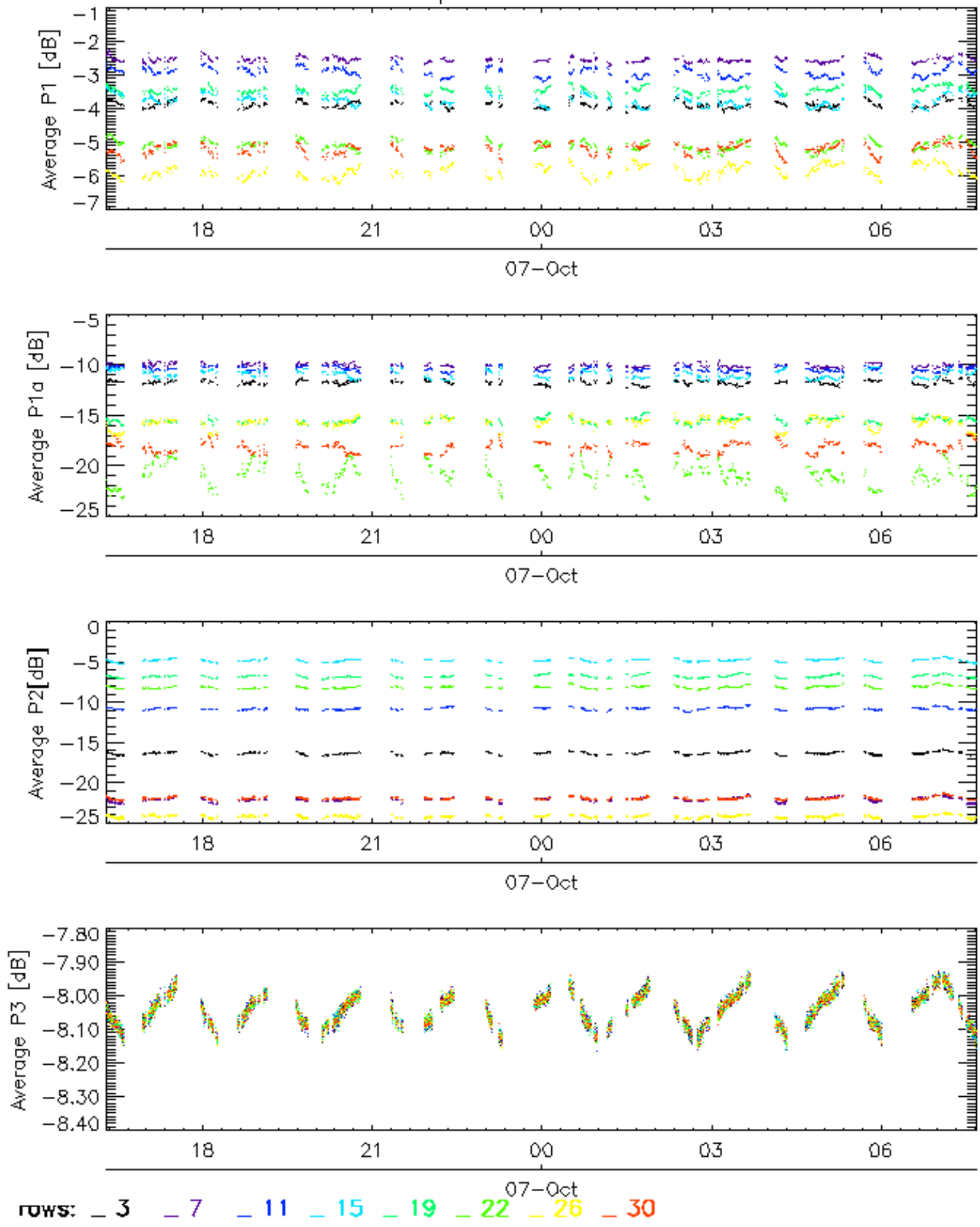
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

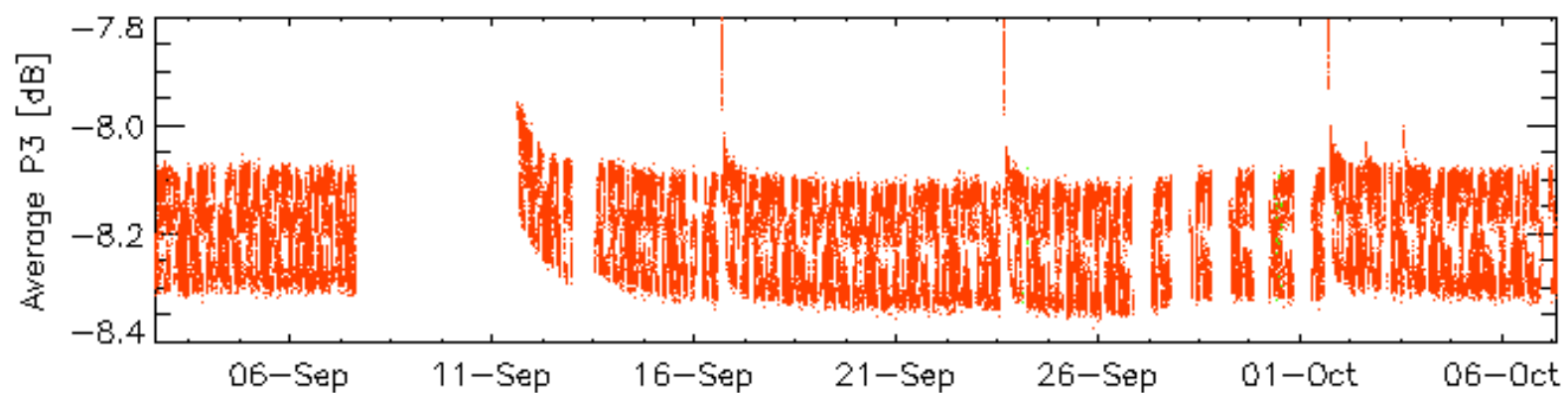
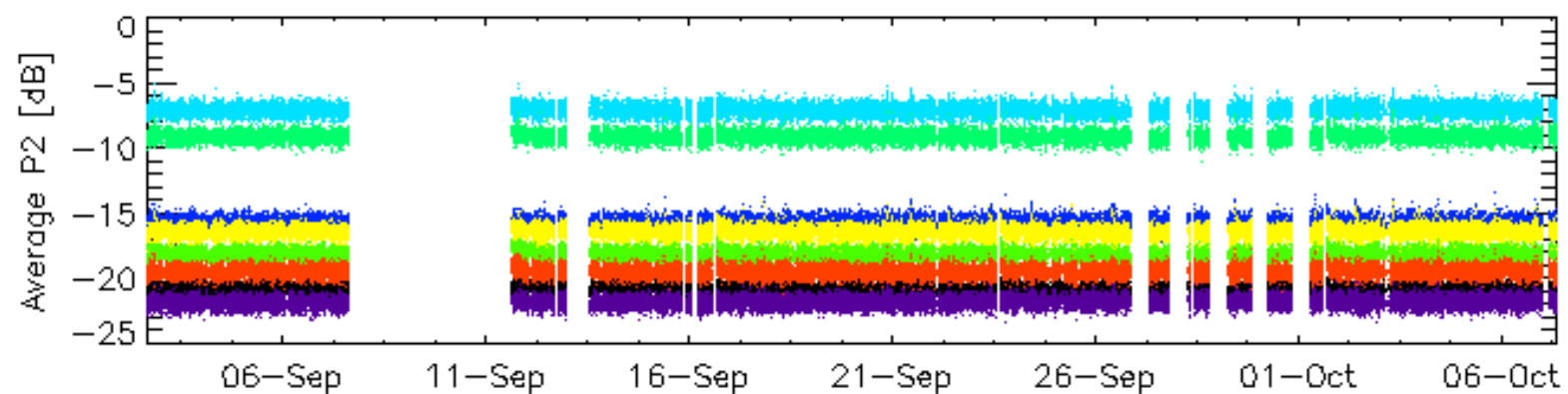
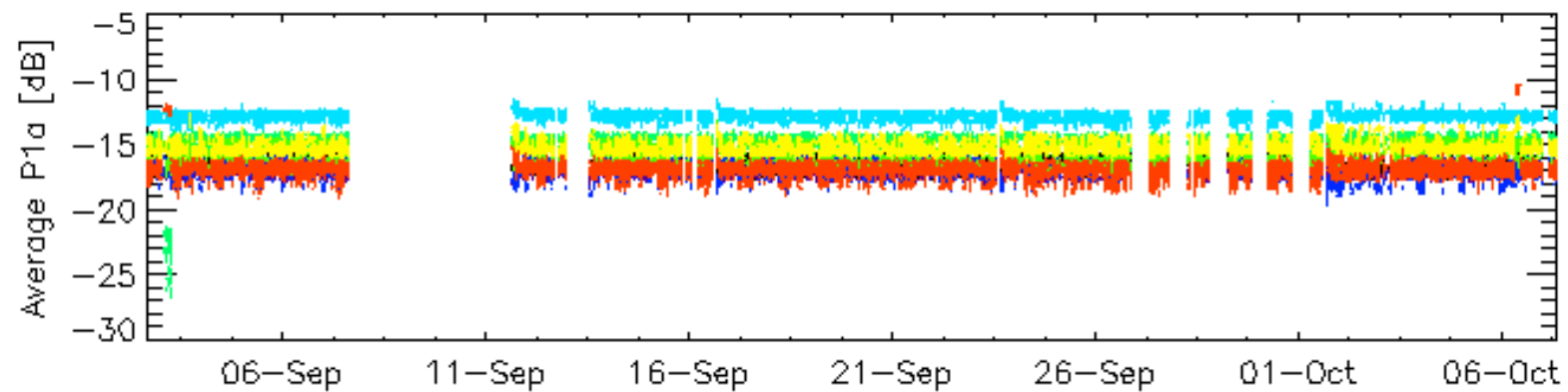
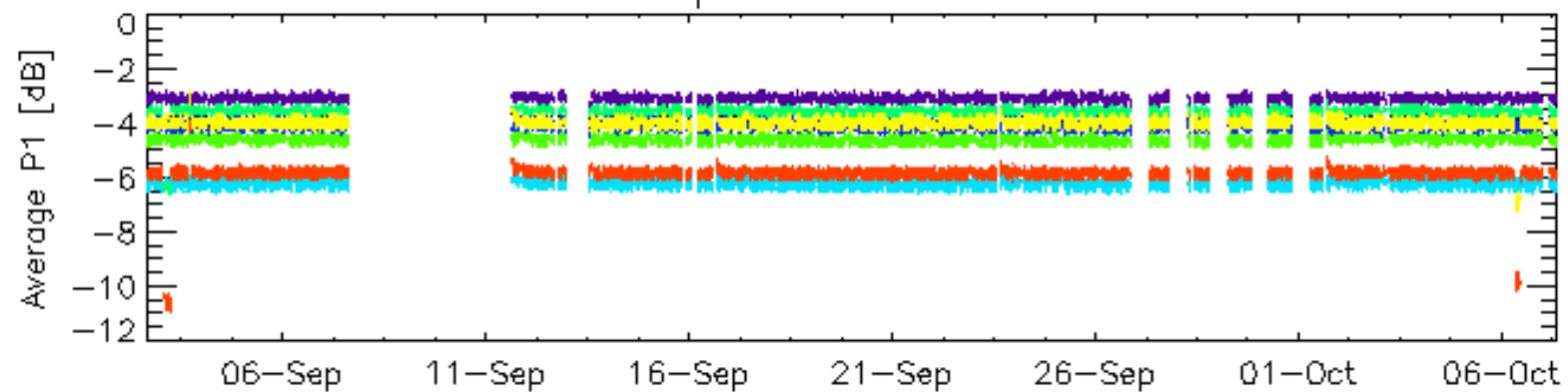


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

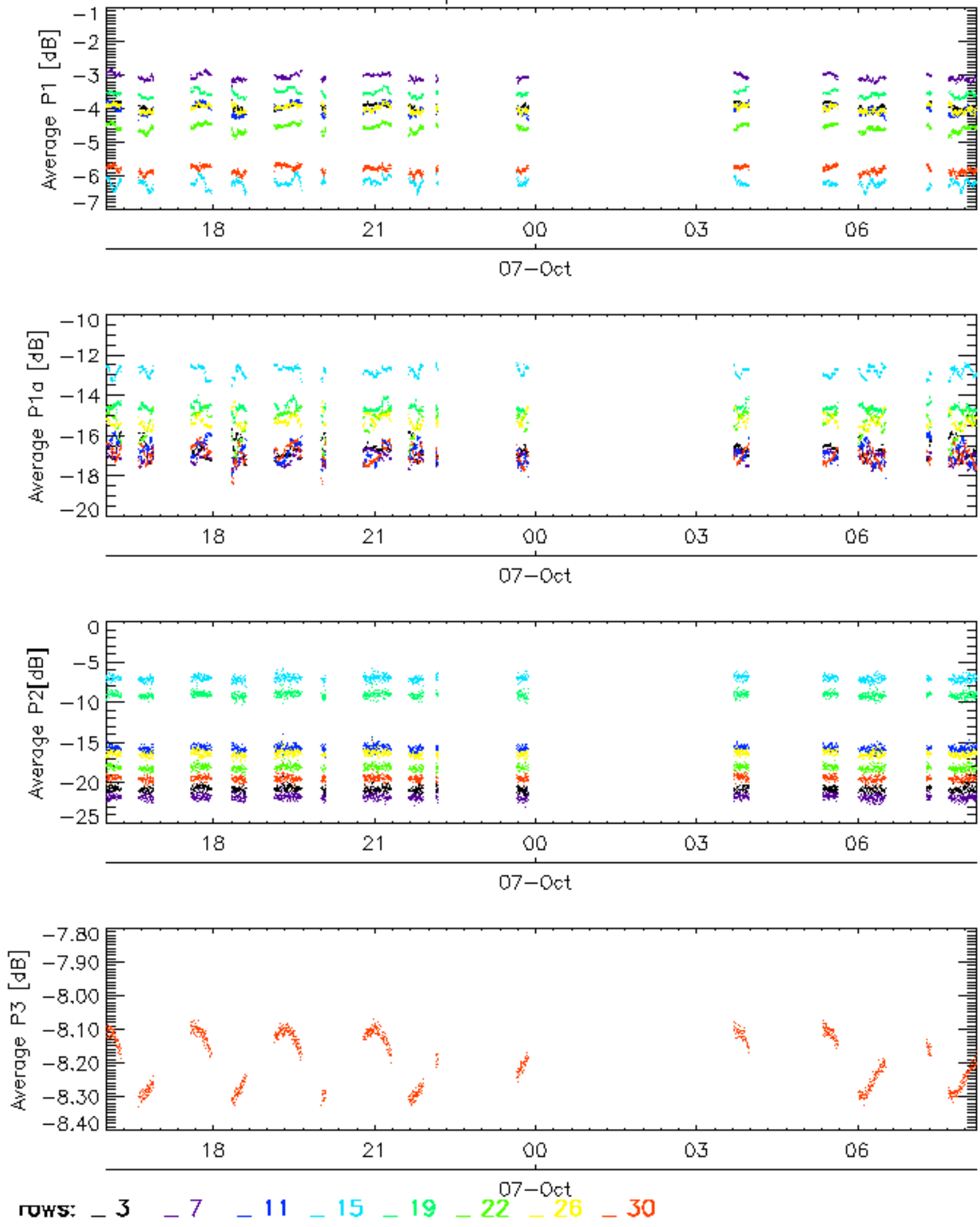


Cal pulses for WVS IS2

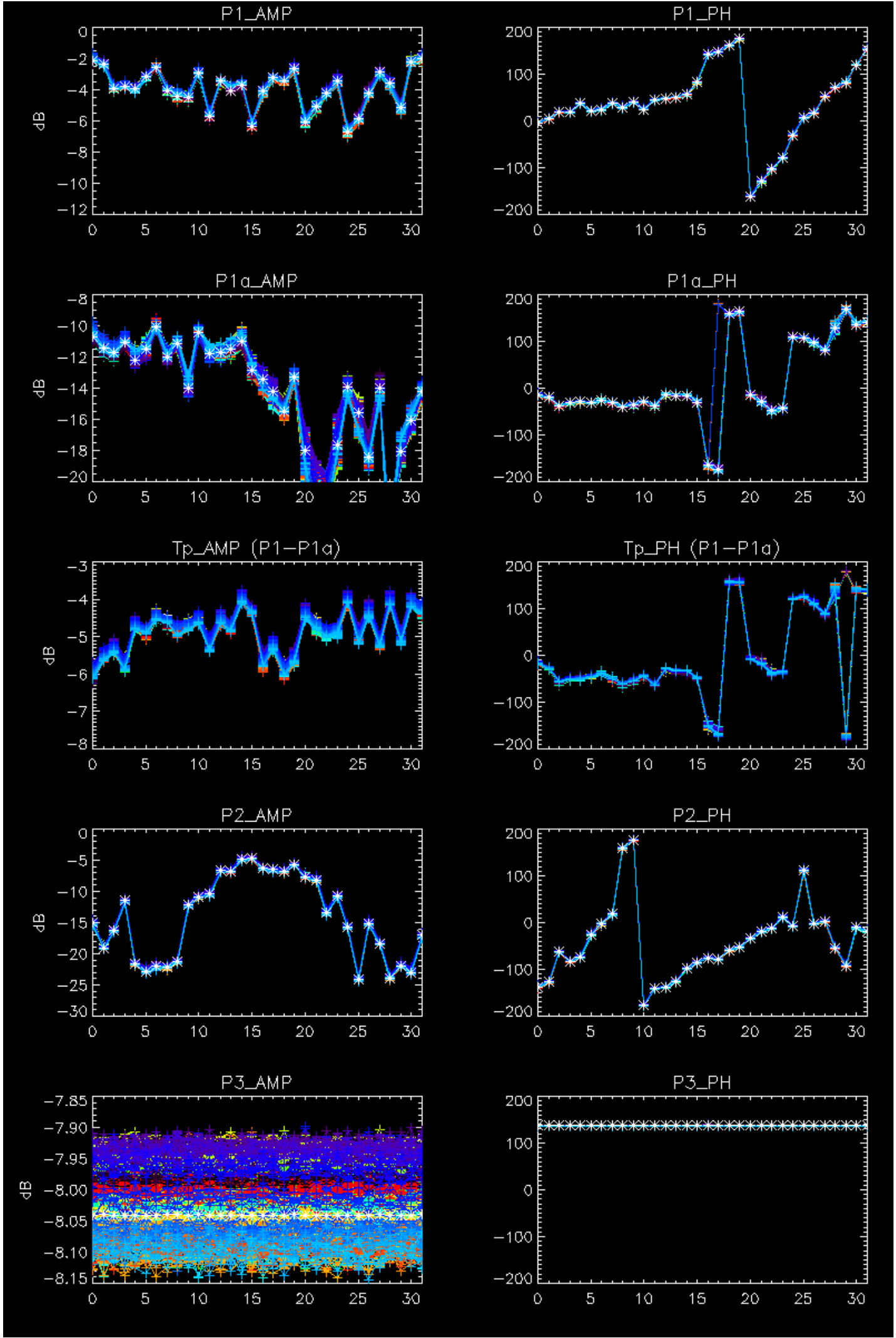


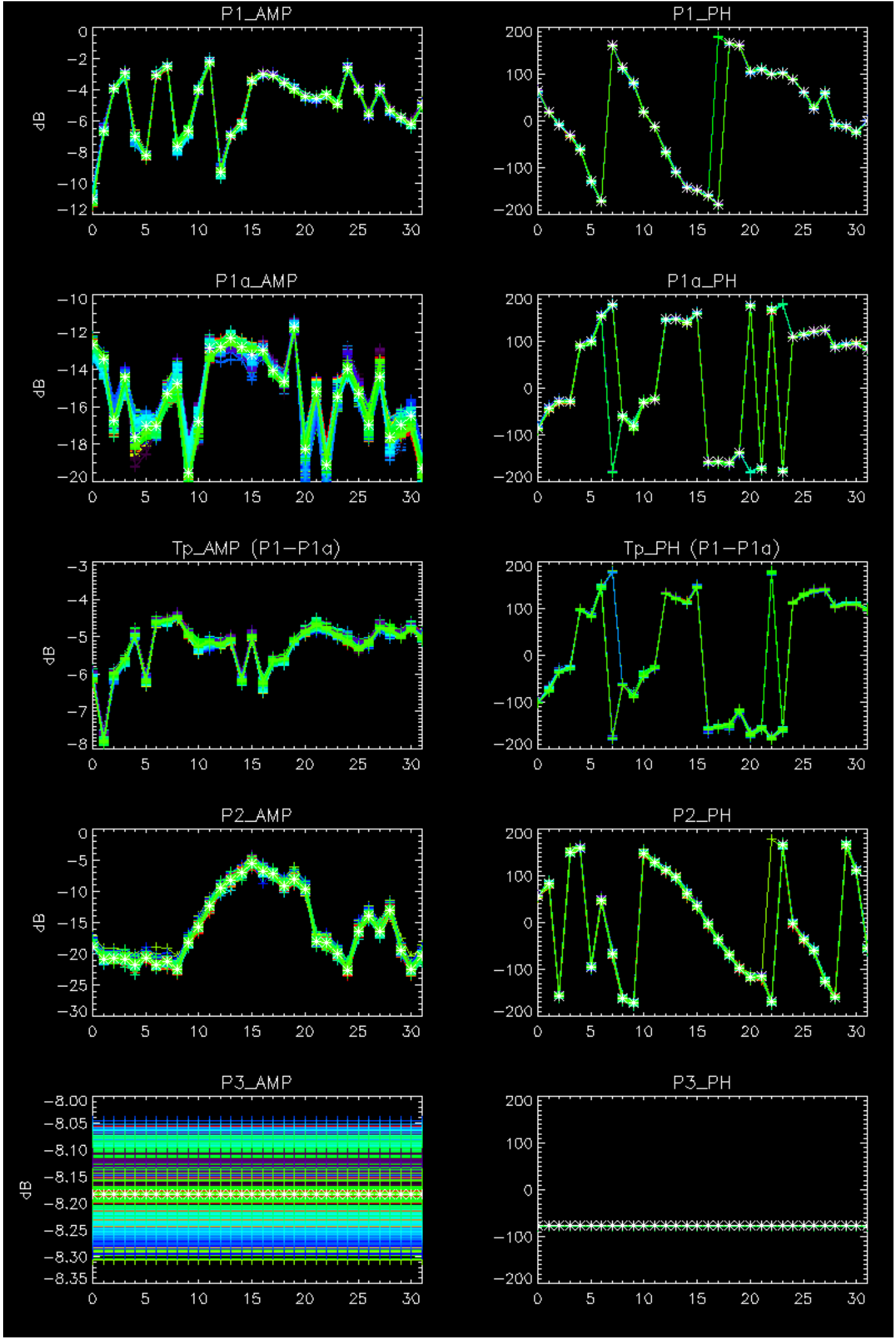
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



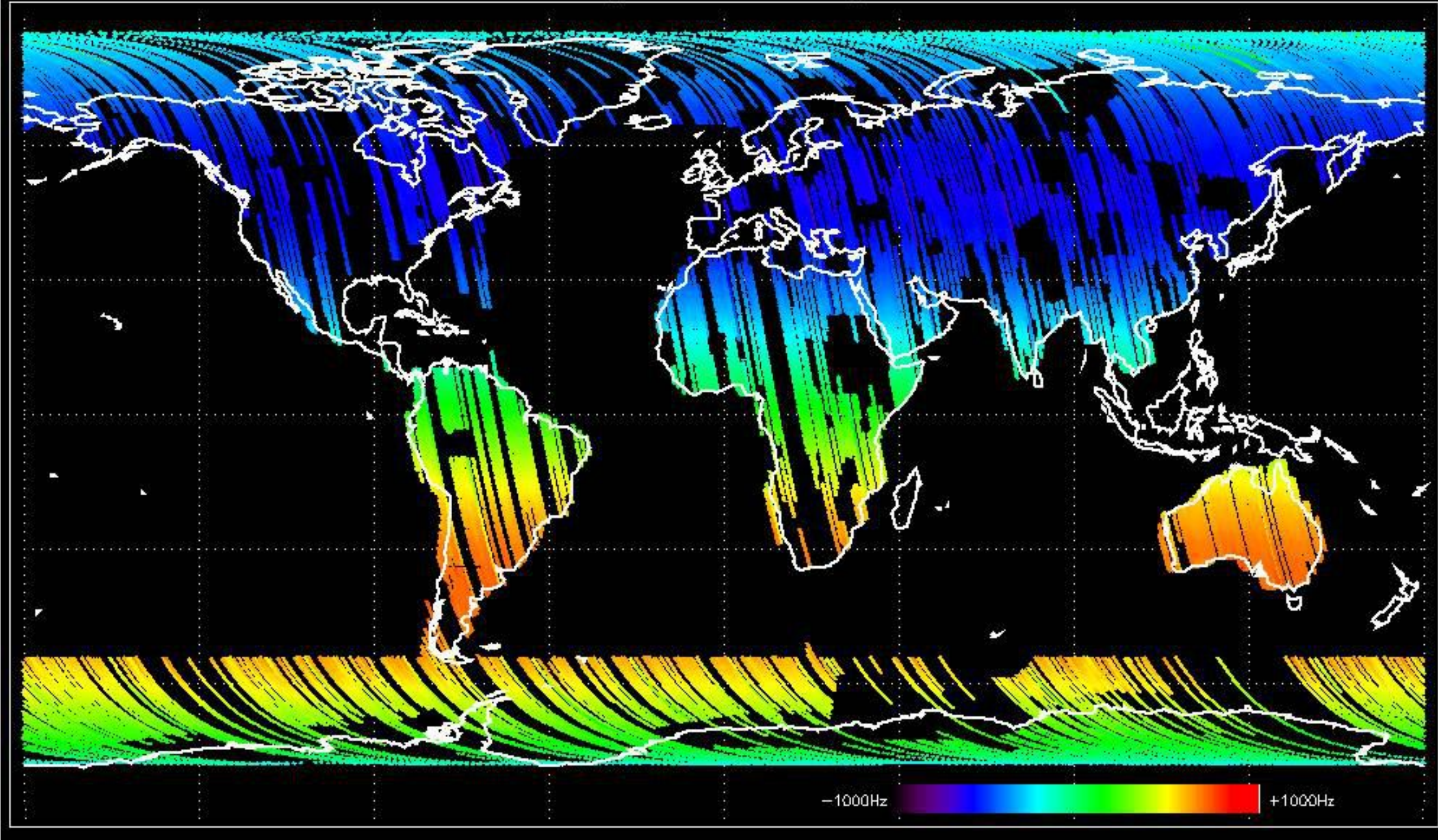
No anomalies observed.



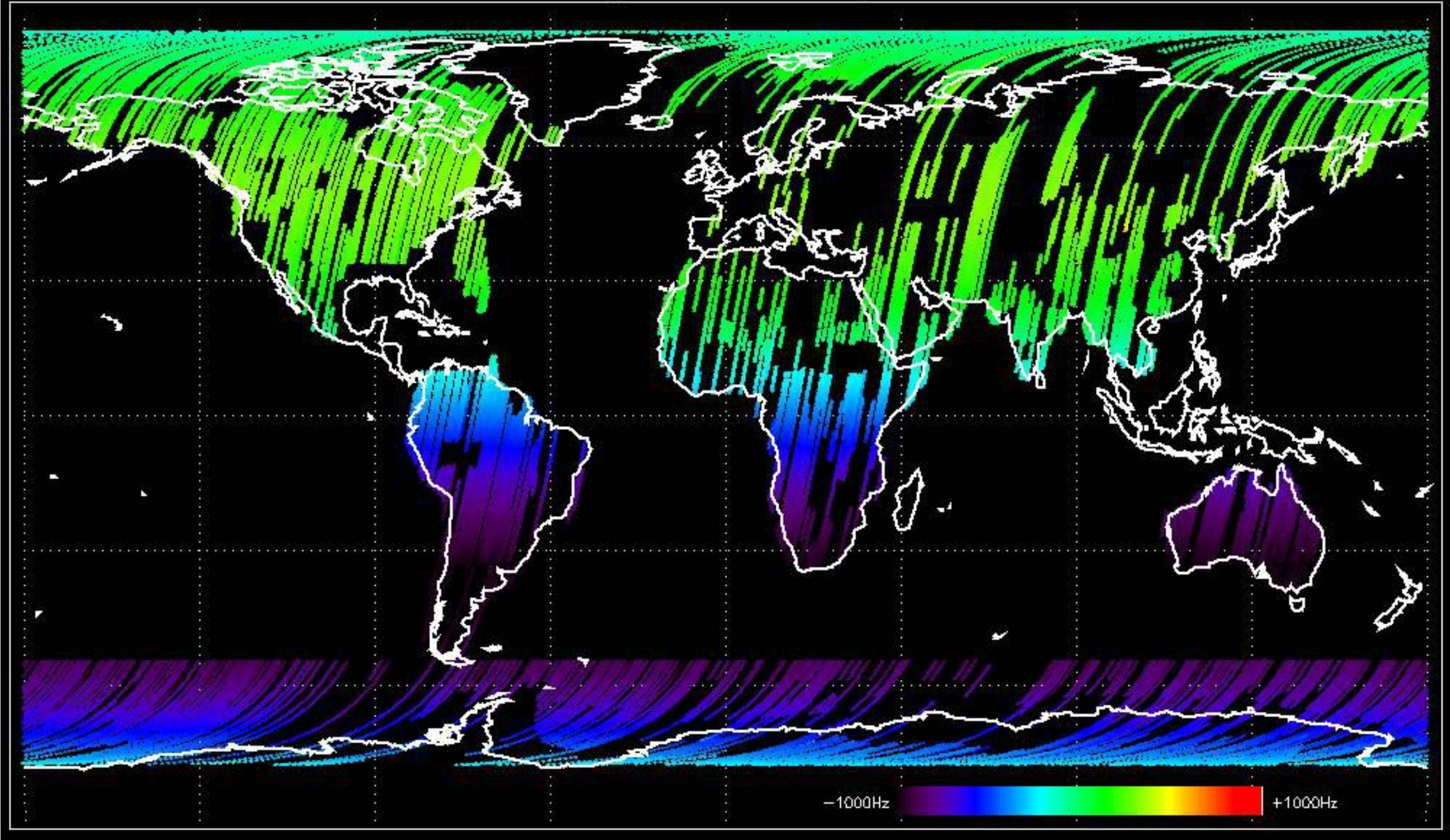


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

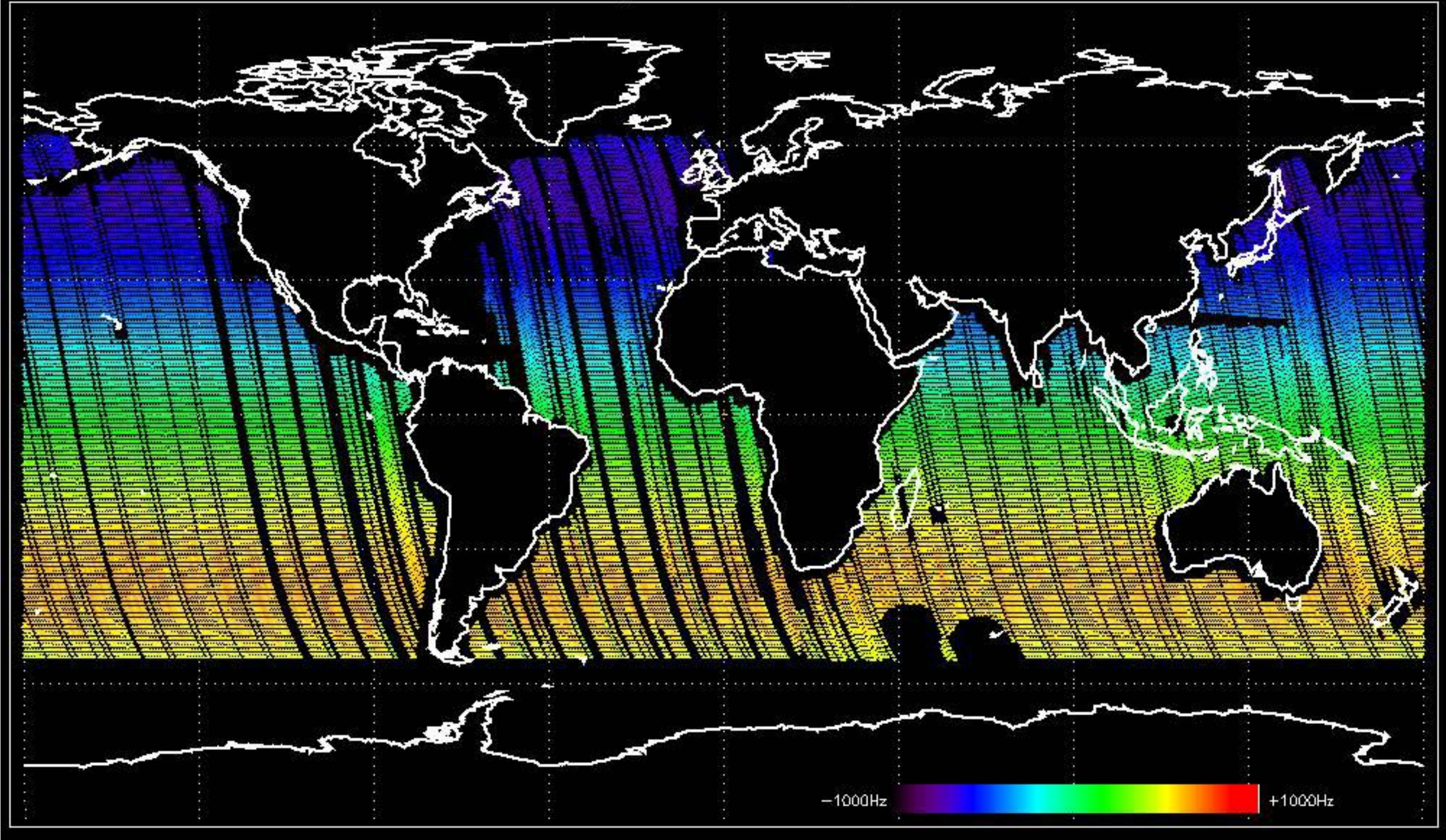
Doppler 'GM1' 'SS1' ascending



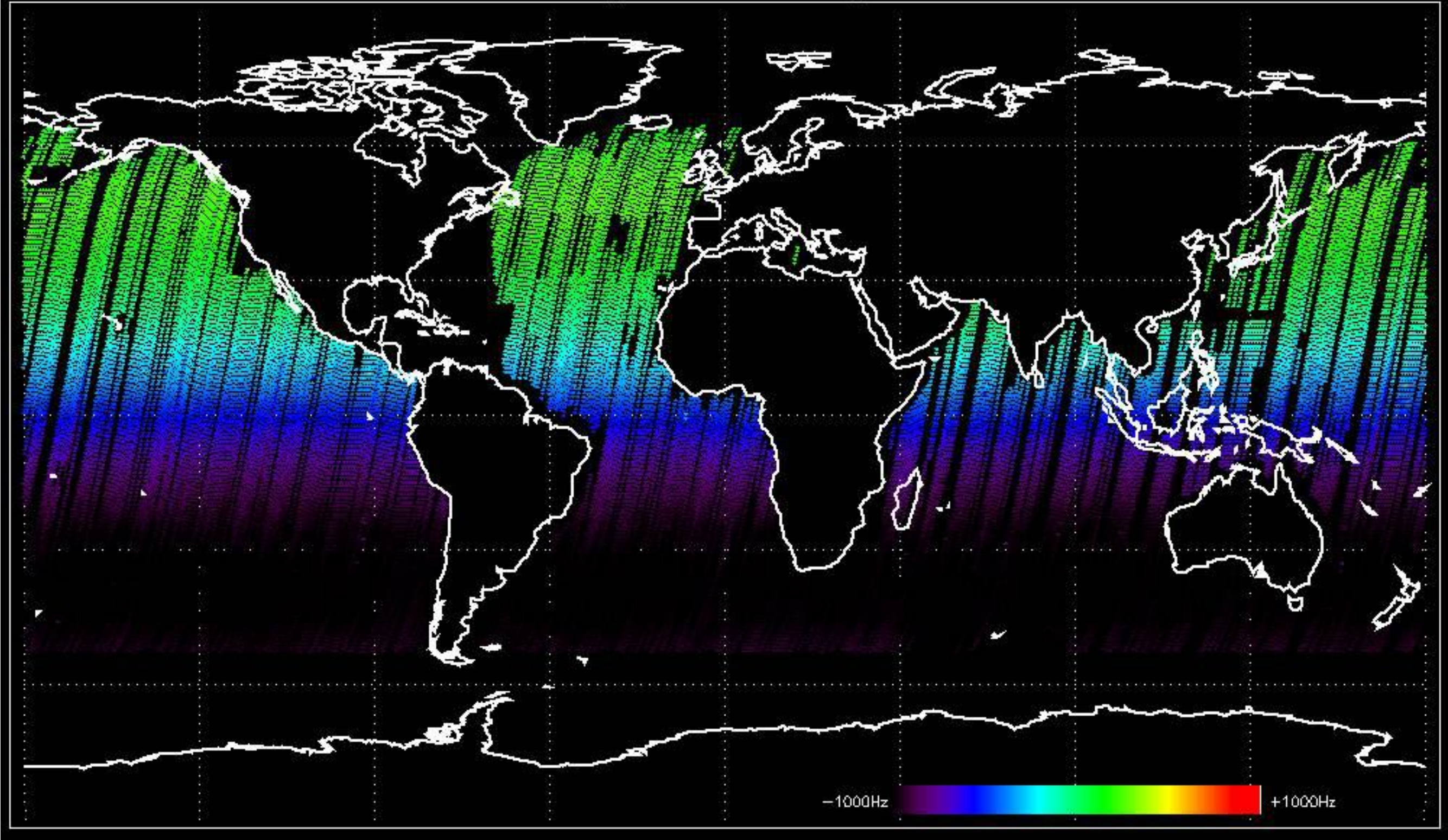
Doppler 'GM1' 'SS1' descending



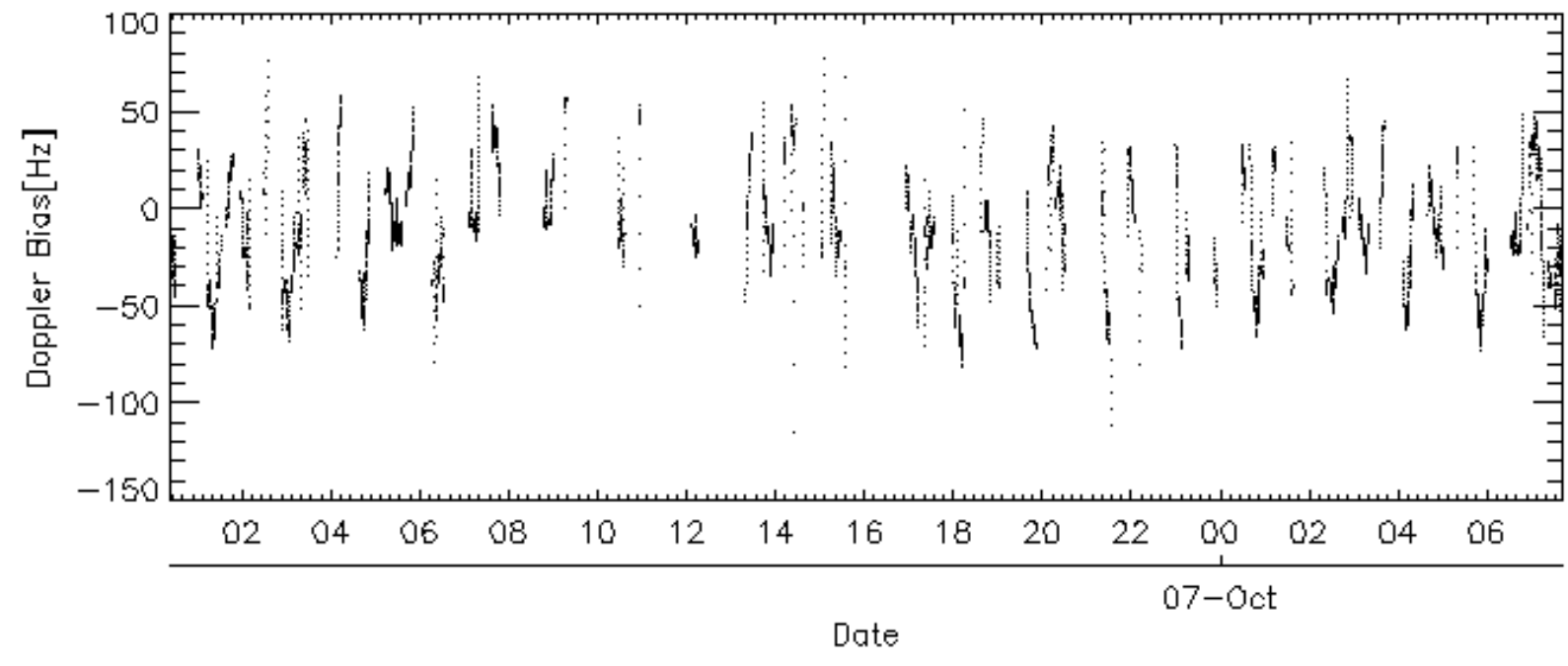
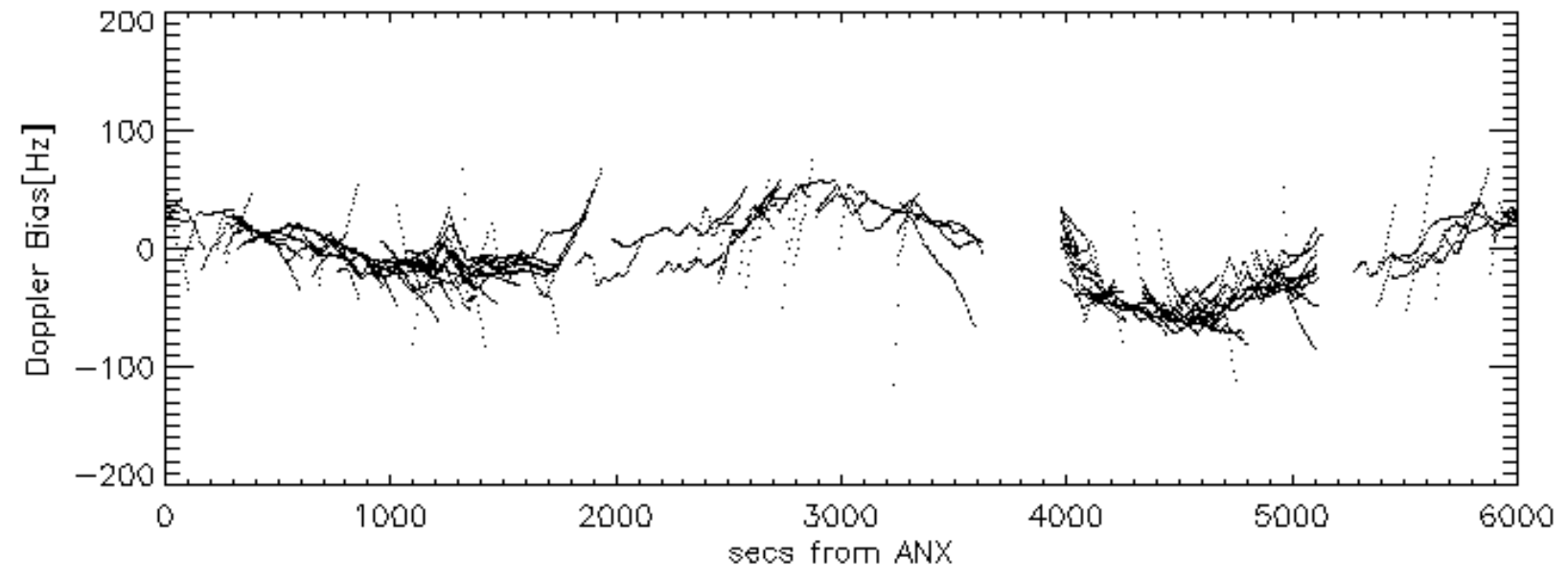
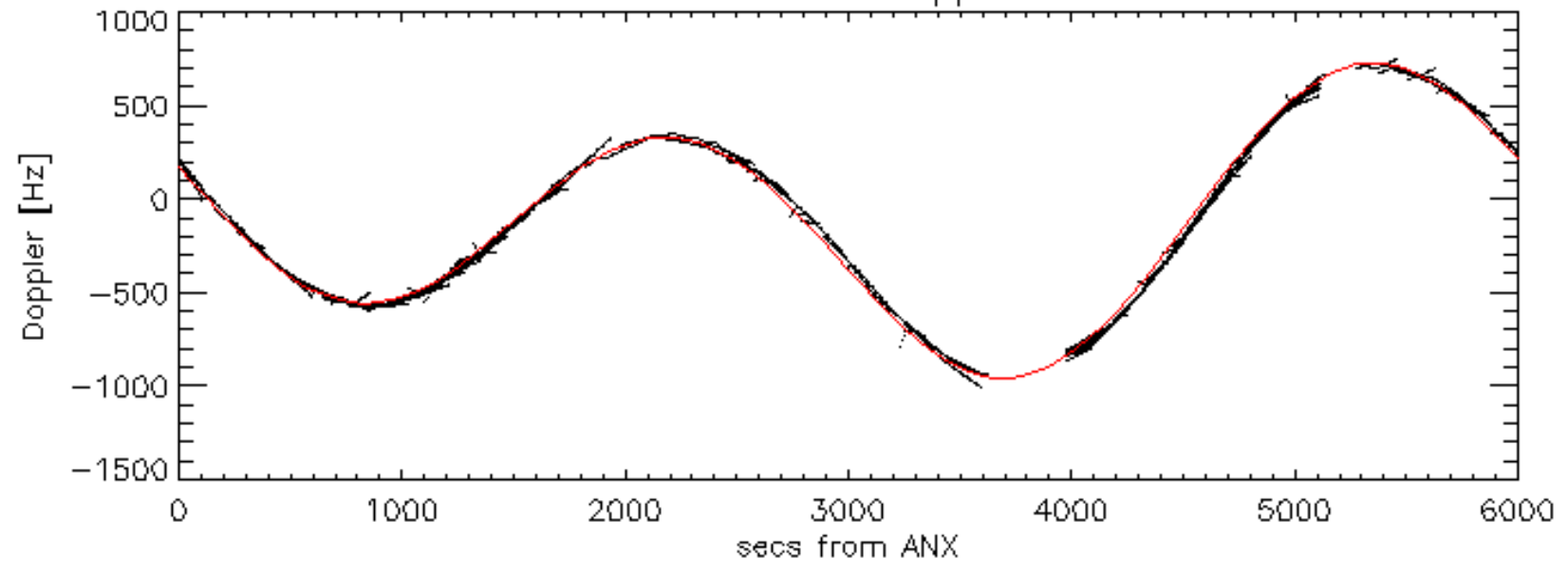
Doppler 'WVS' 'IS2' ascending



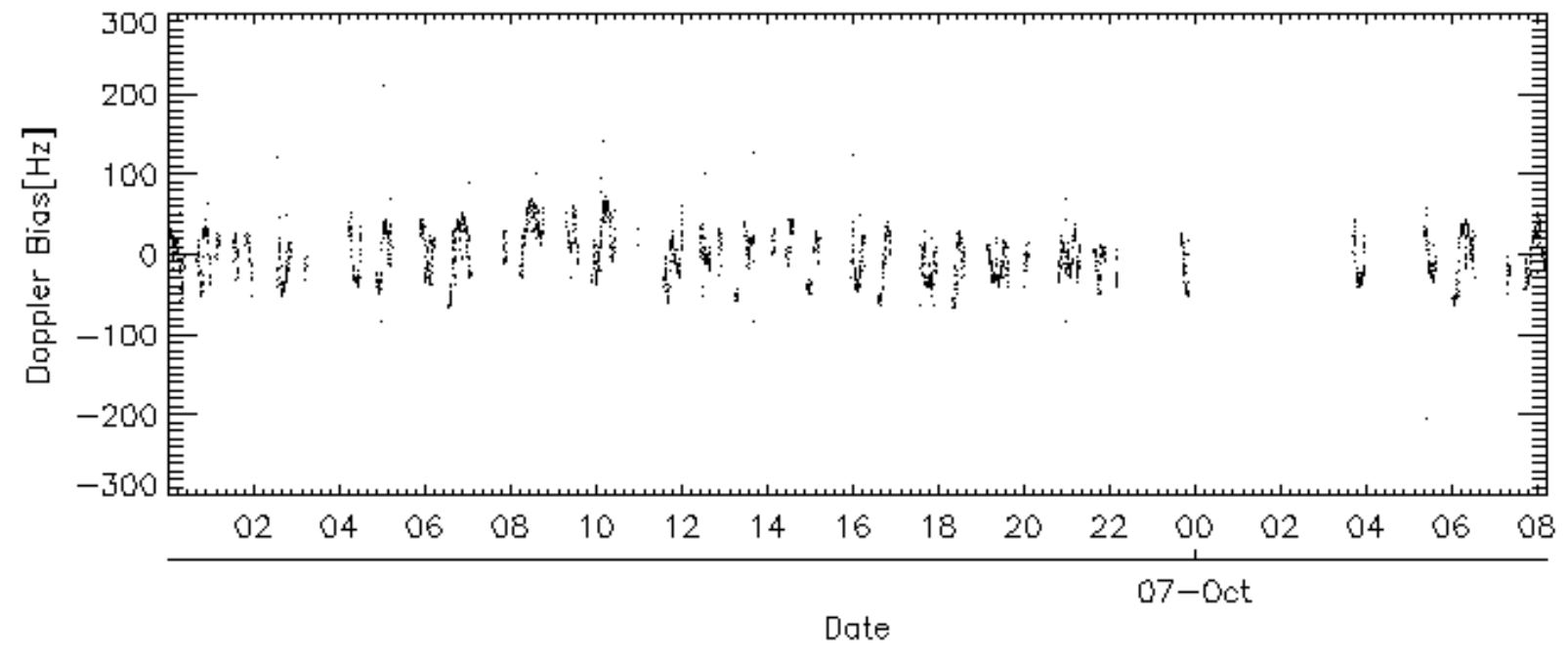
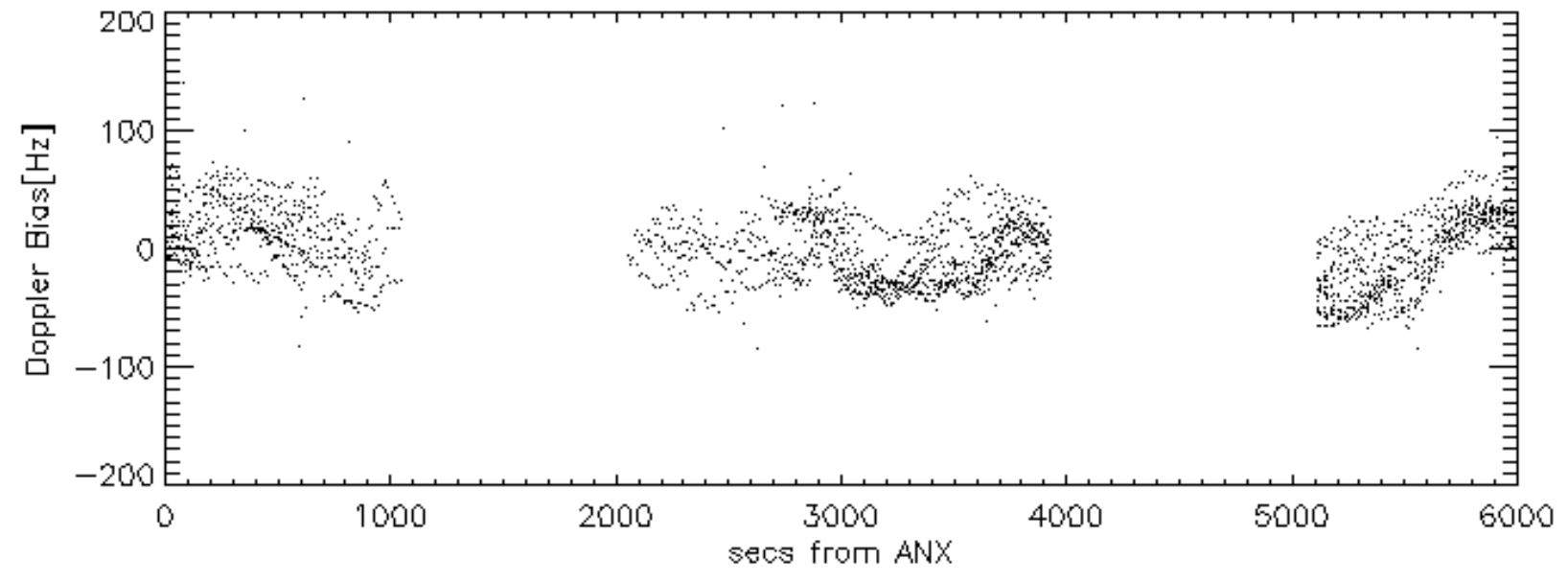
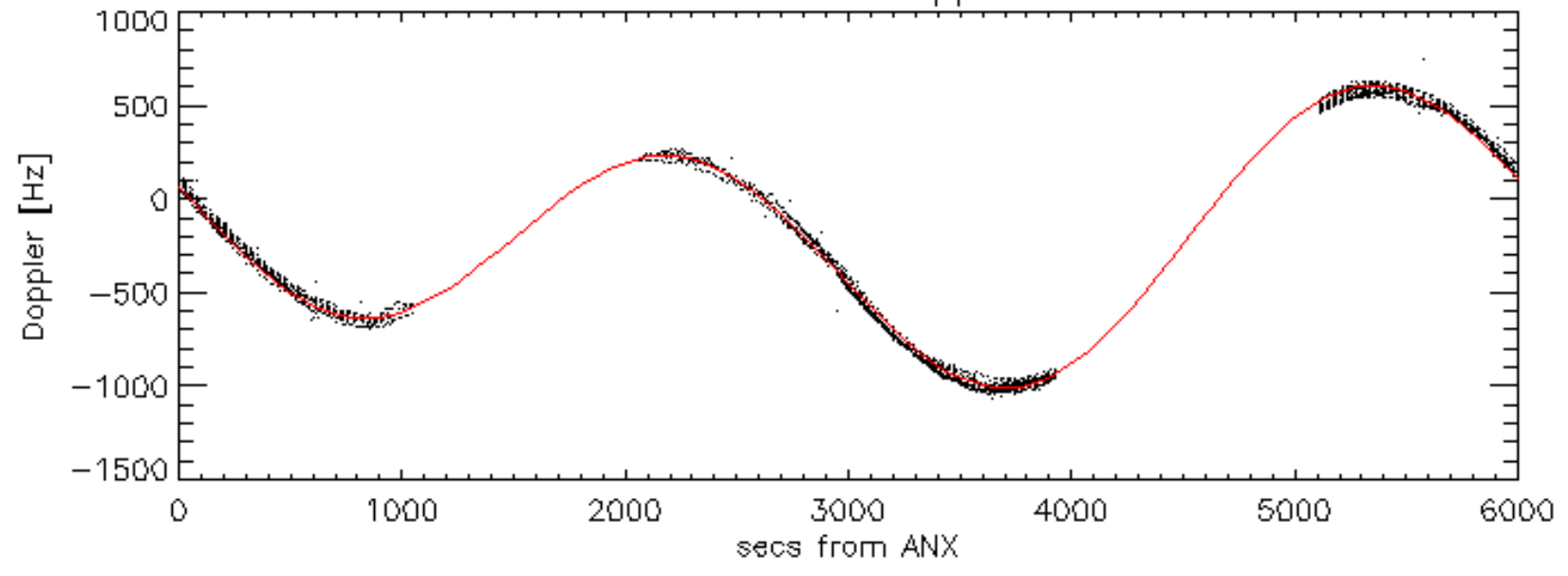
Doppler 'WVS' 'IS2' descending



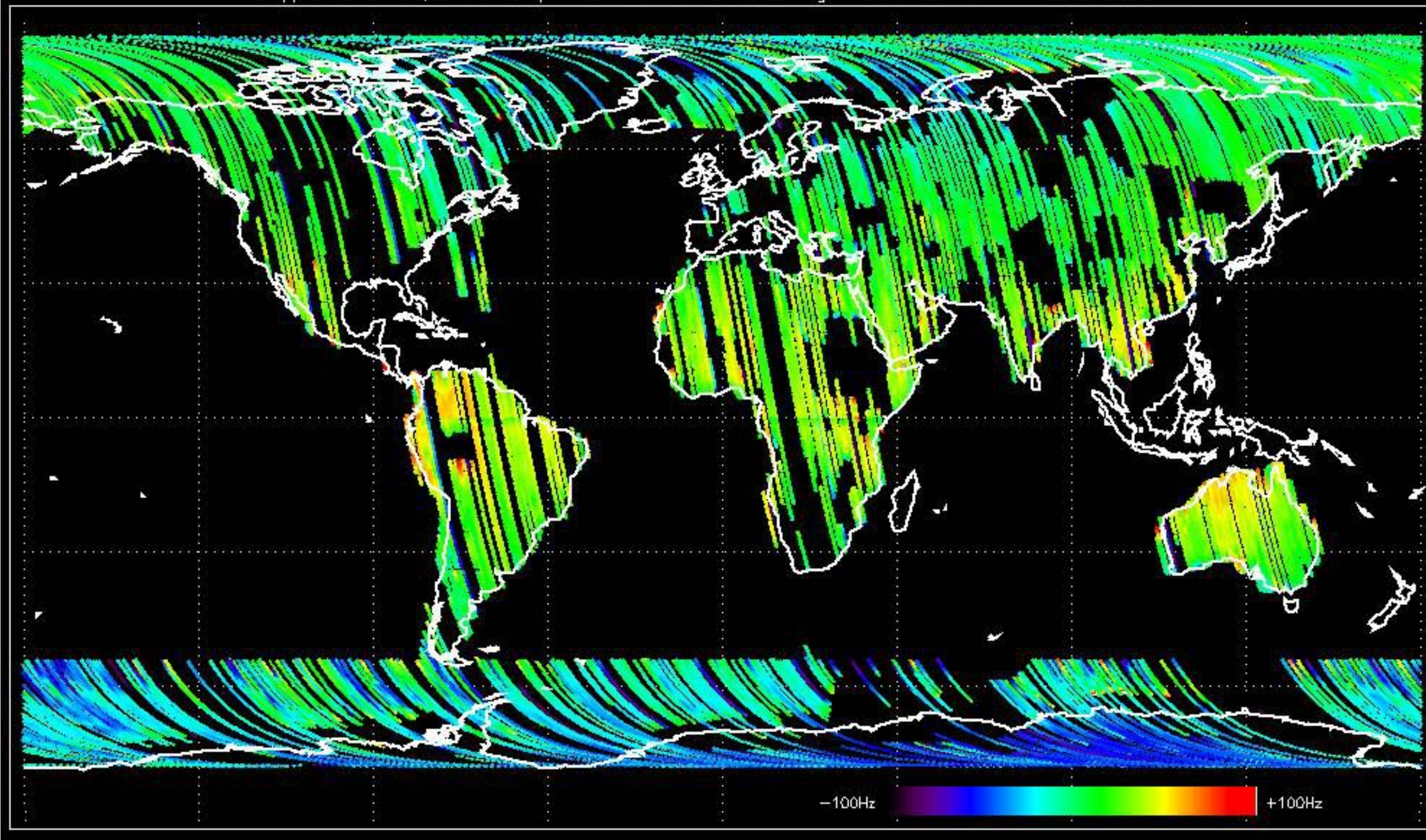
GM1 mode doppler



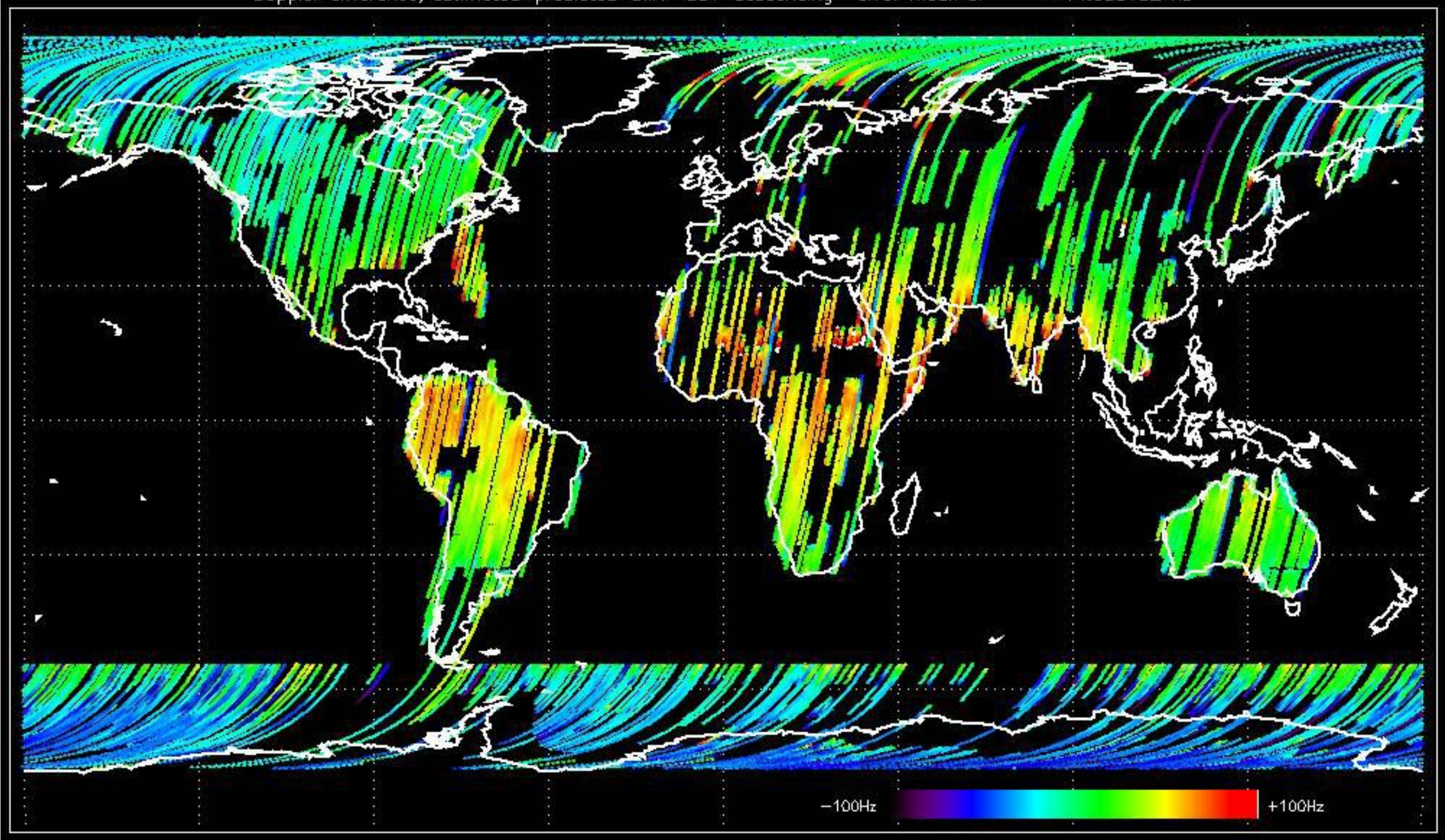
WVS mode doppler



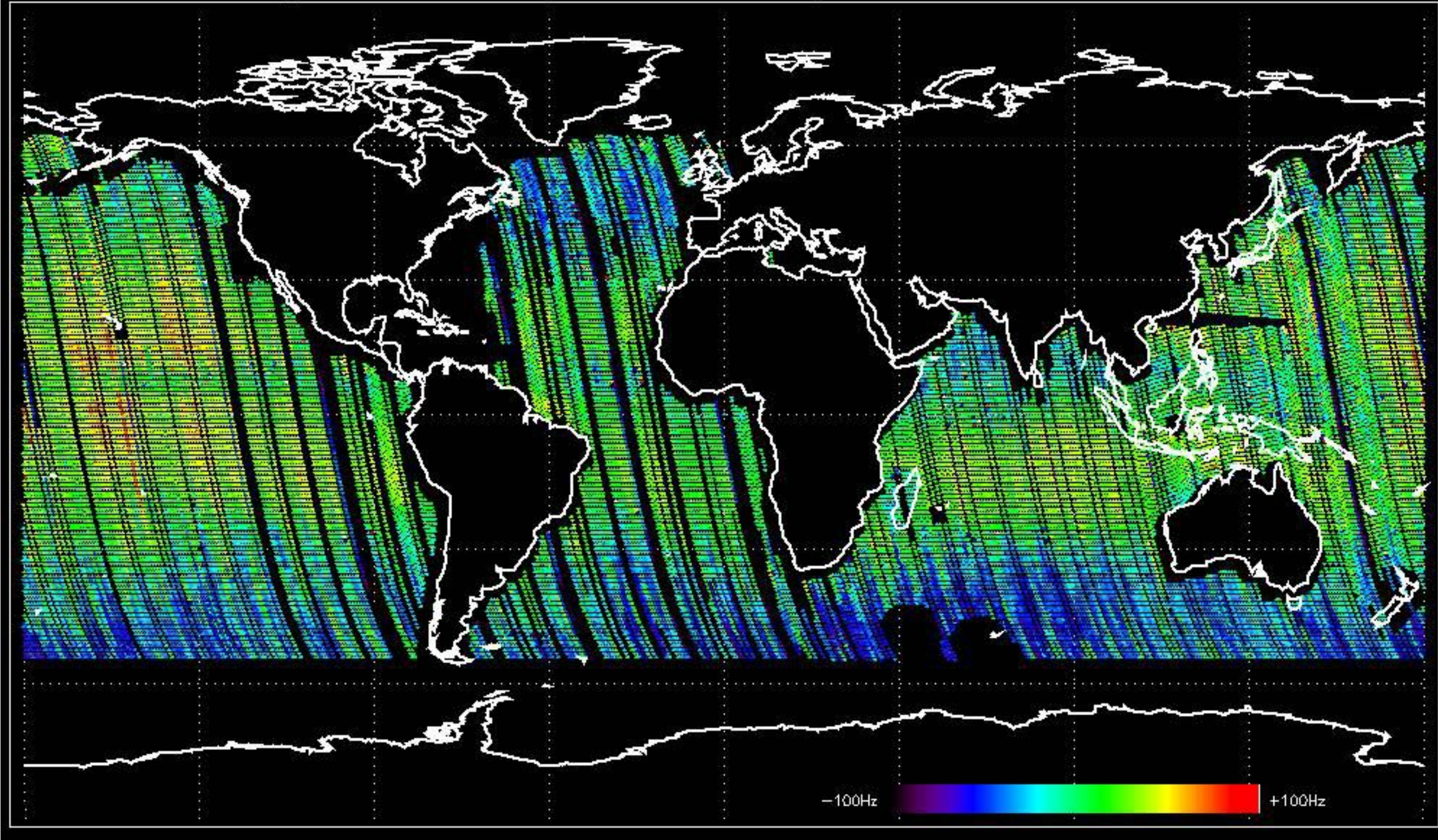
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -20.504113 Hz



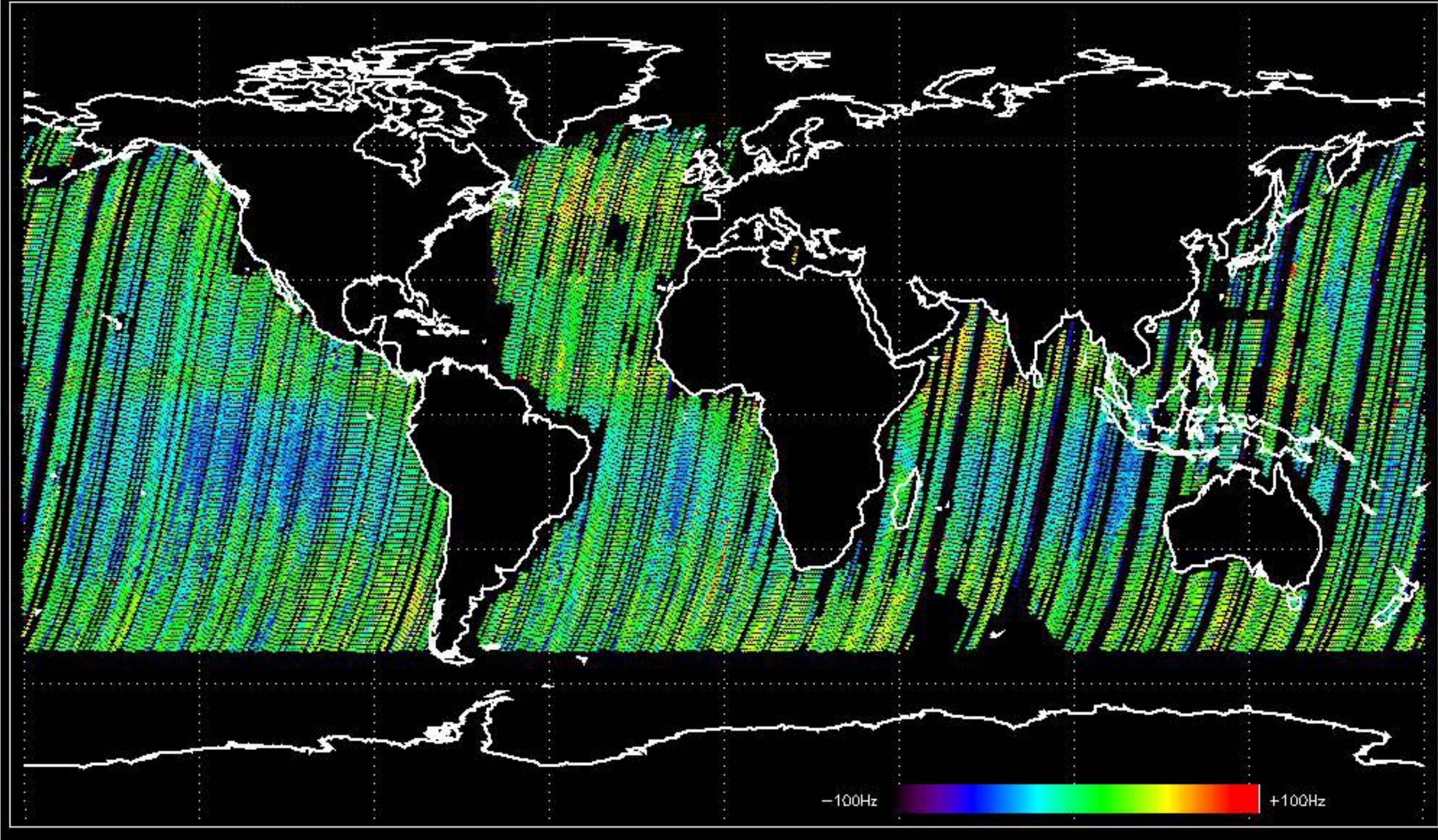
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -14.088102 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -9.1969024 Hz

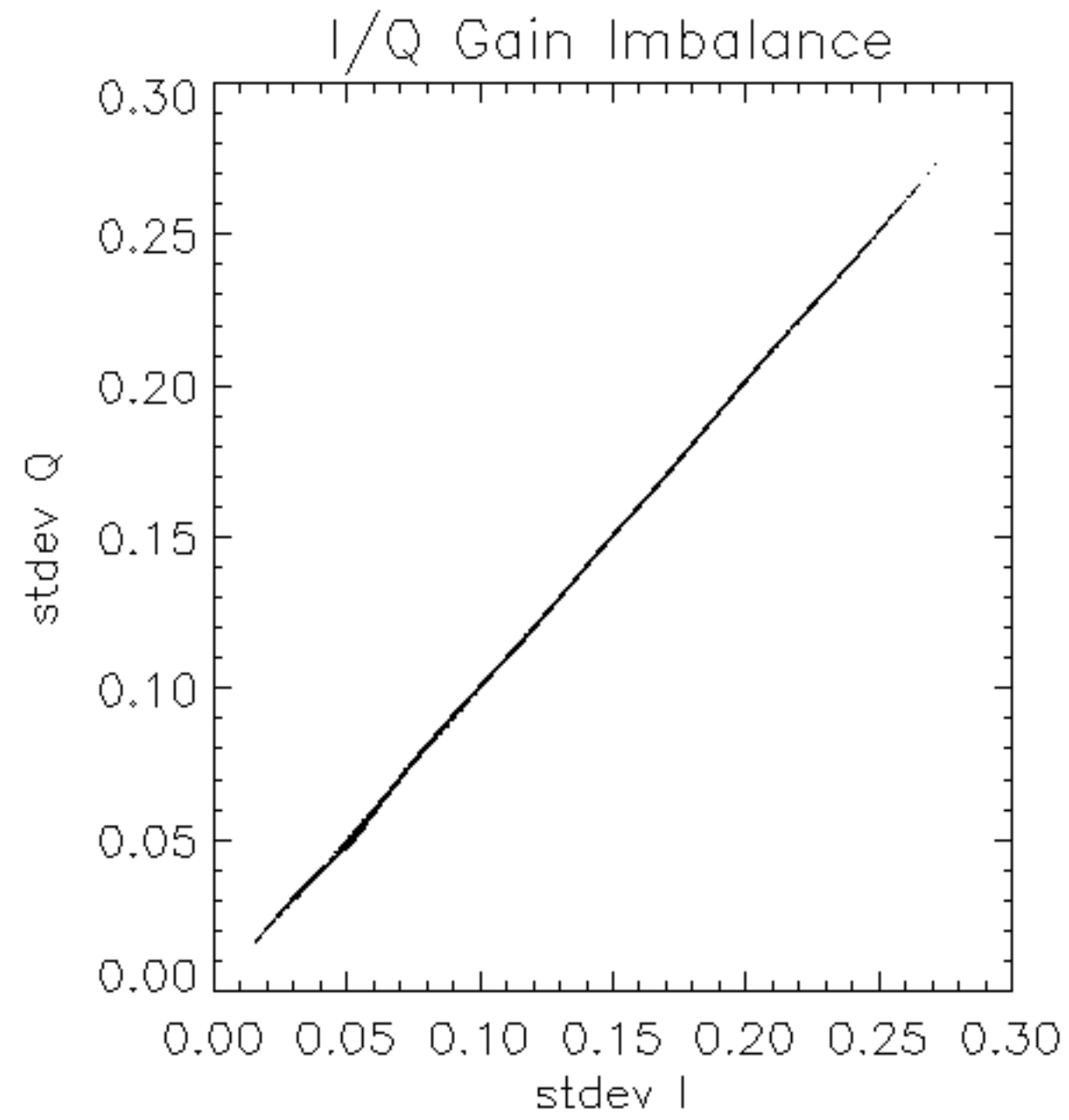


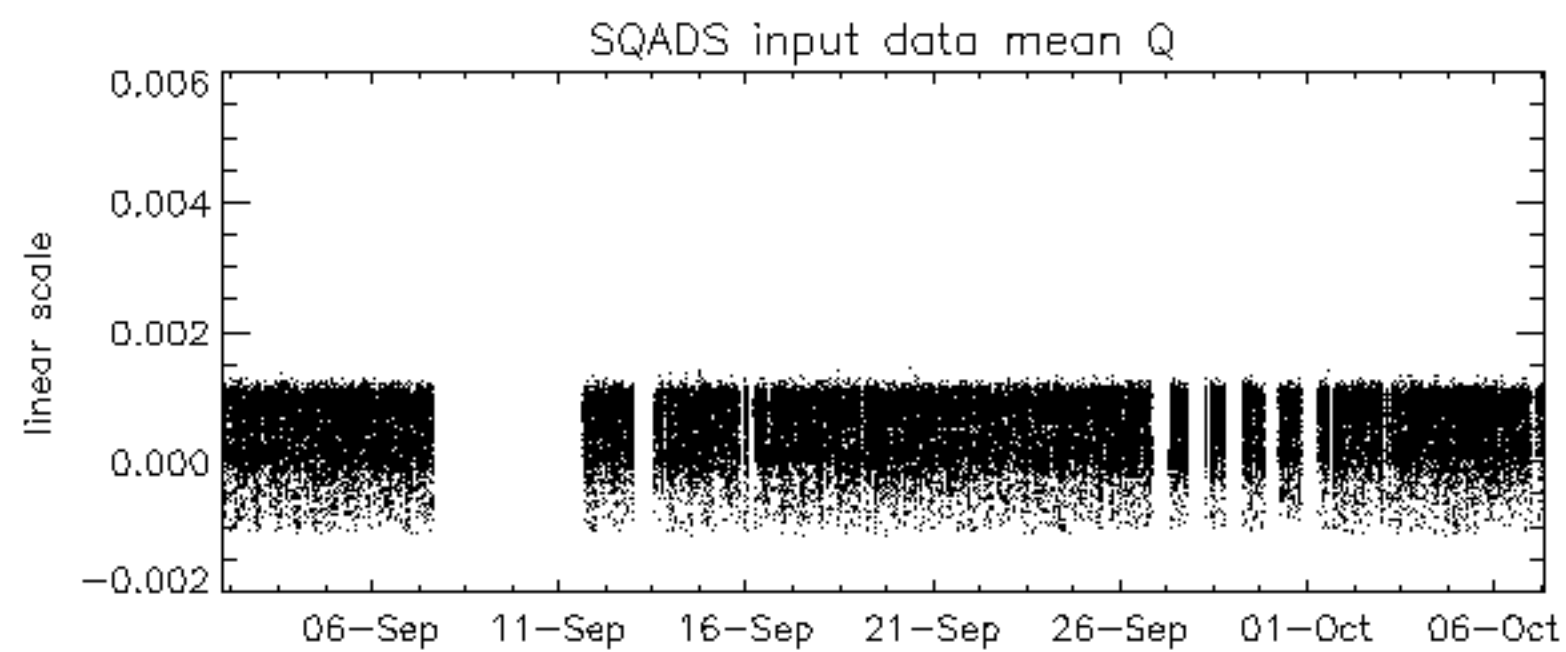
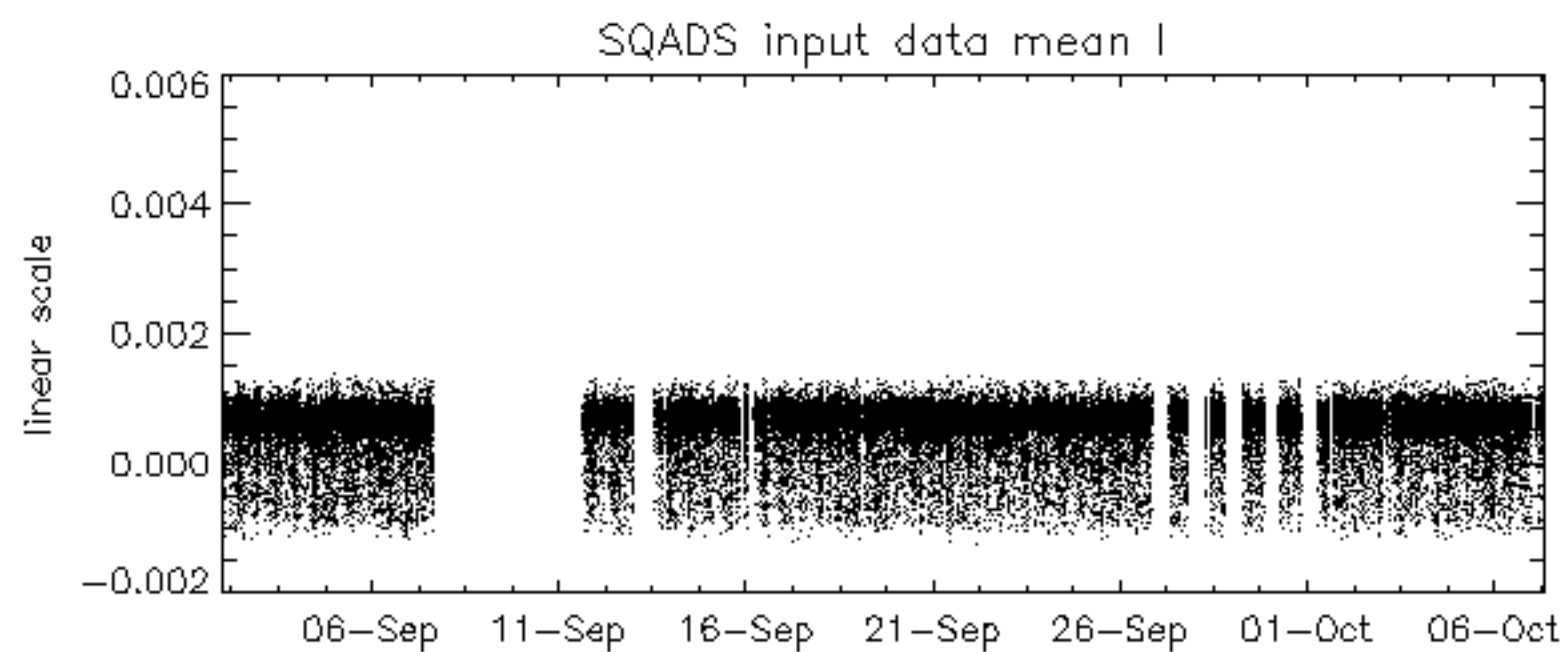
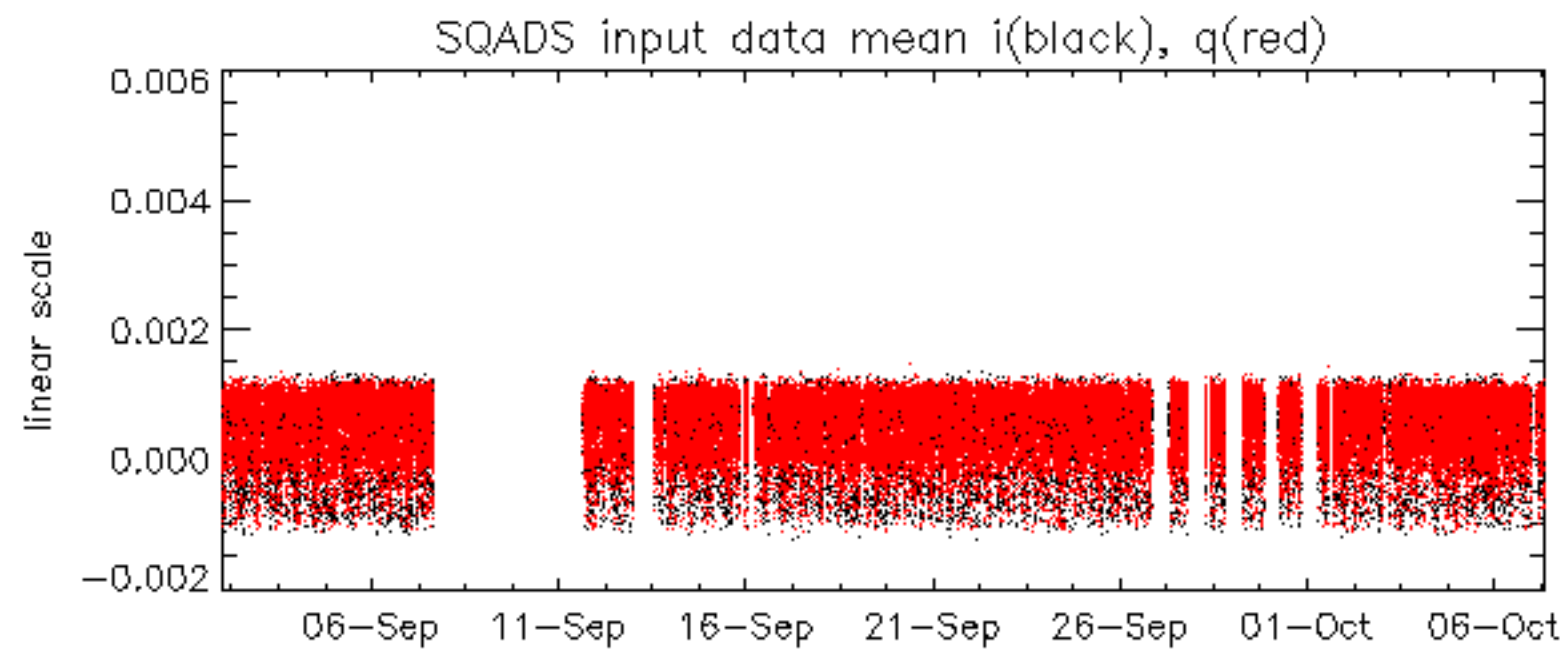
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -16.779929 Hz

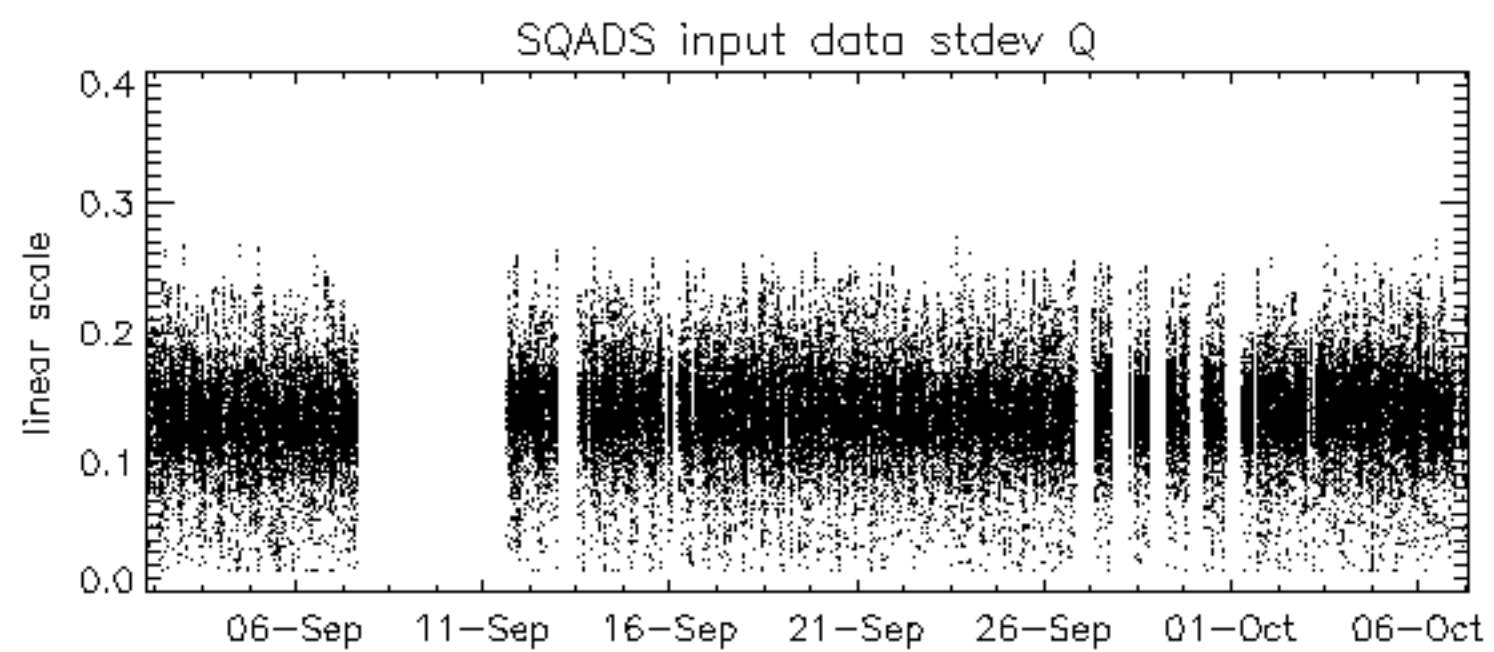
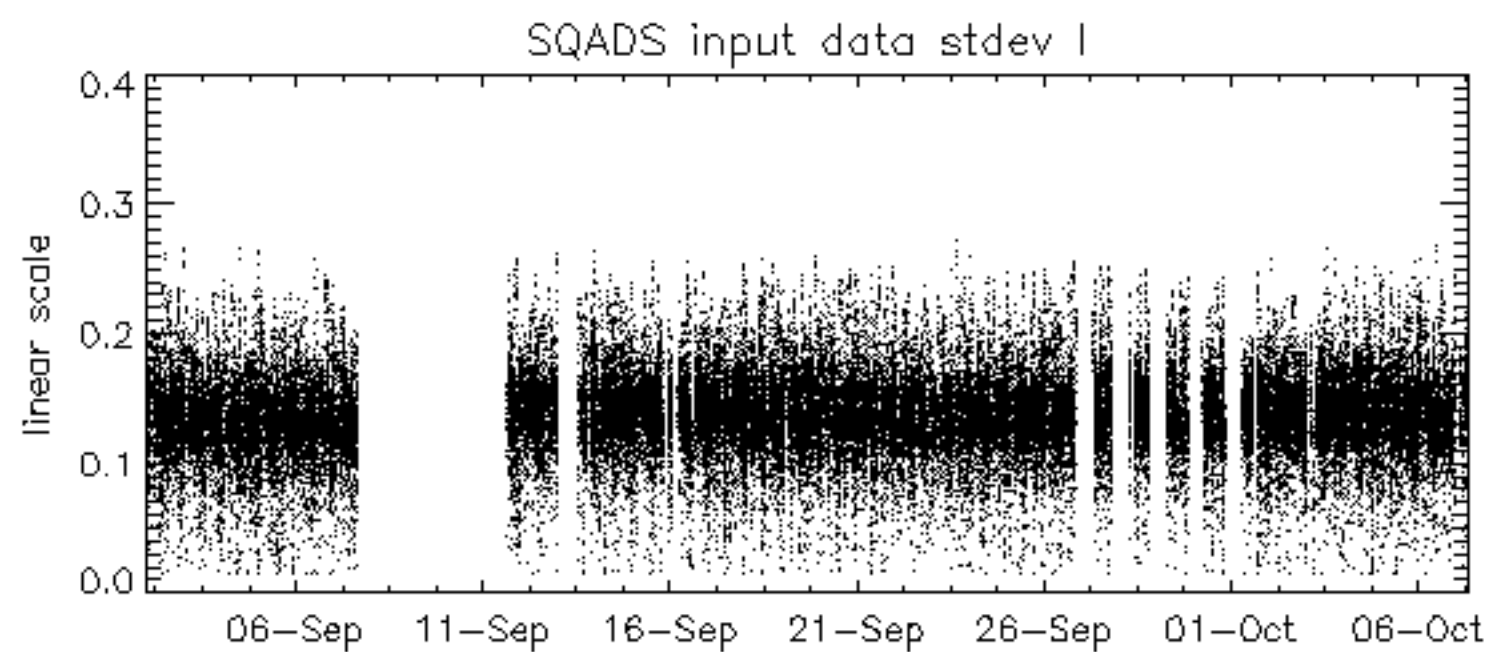
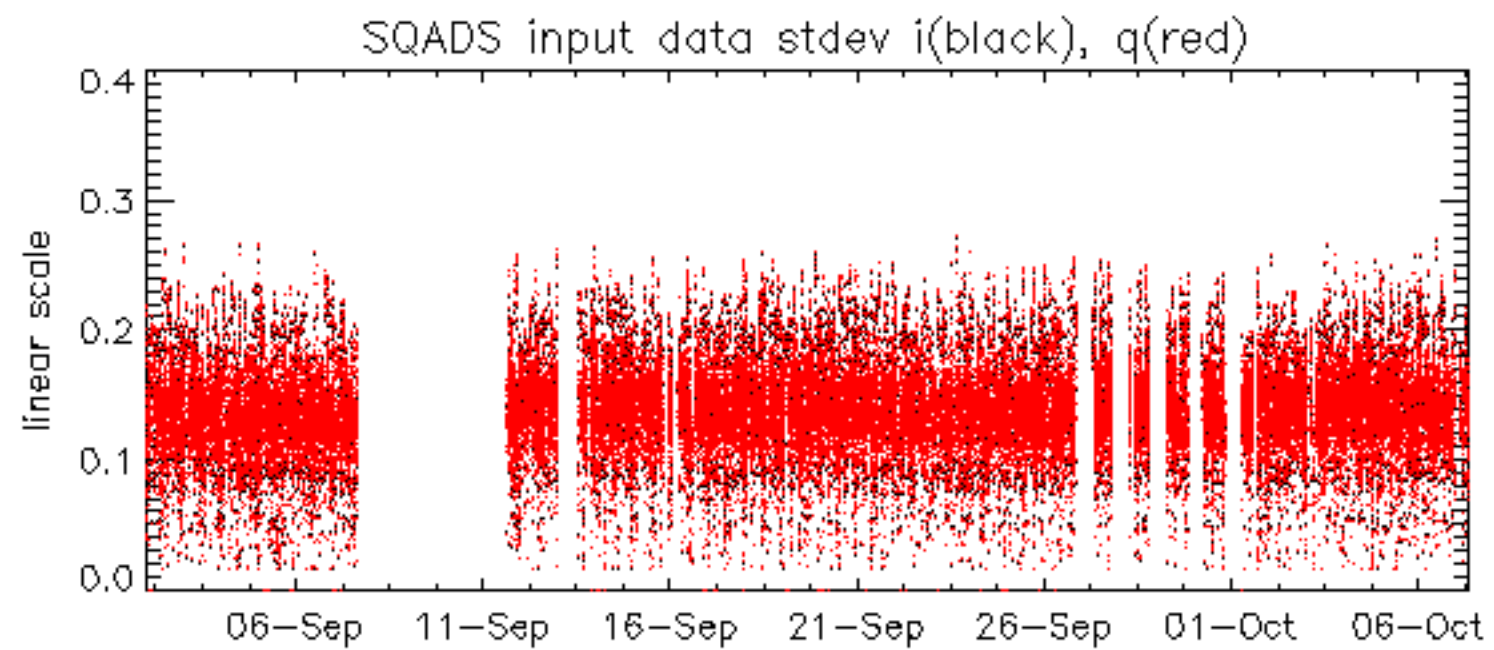


No anomalies observed on available MS products:

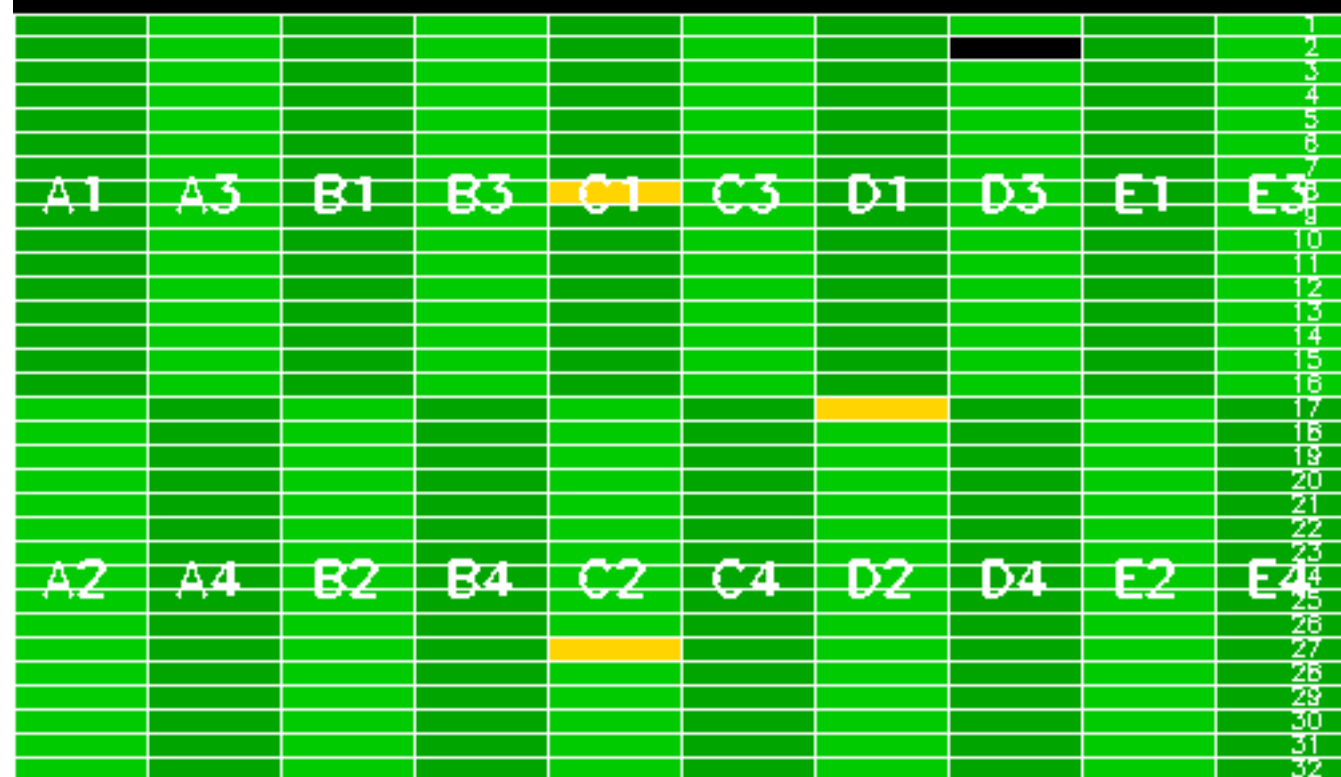
No anomalies observed.







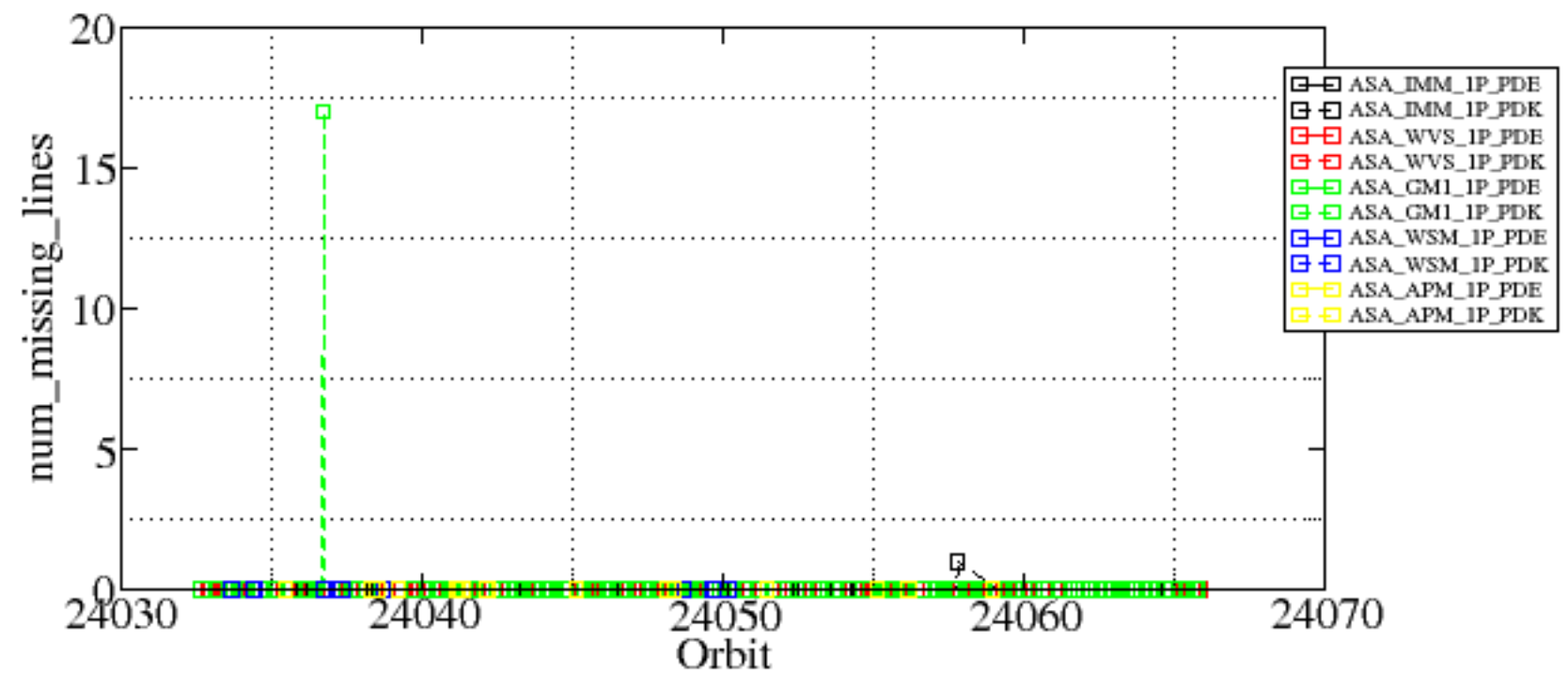
Reference: 2005-09-29 07:47:20 V TxGain
 Test : 2006-10-05 10:08:08 V



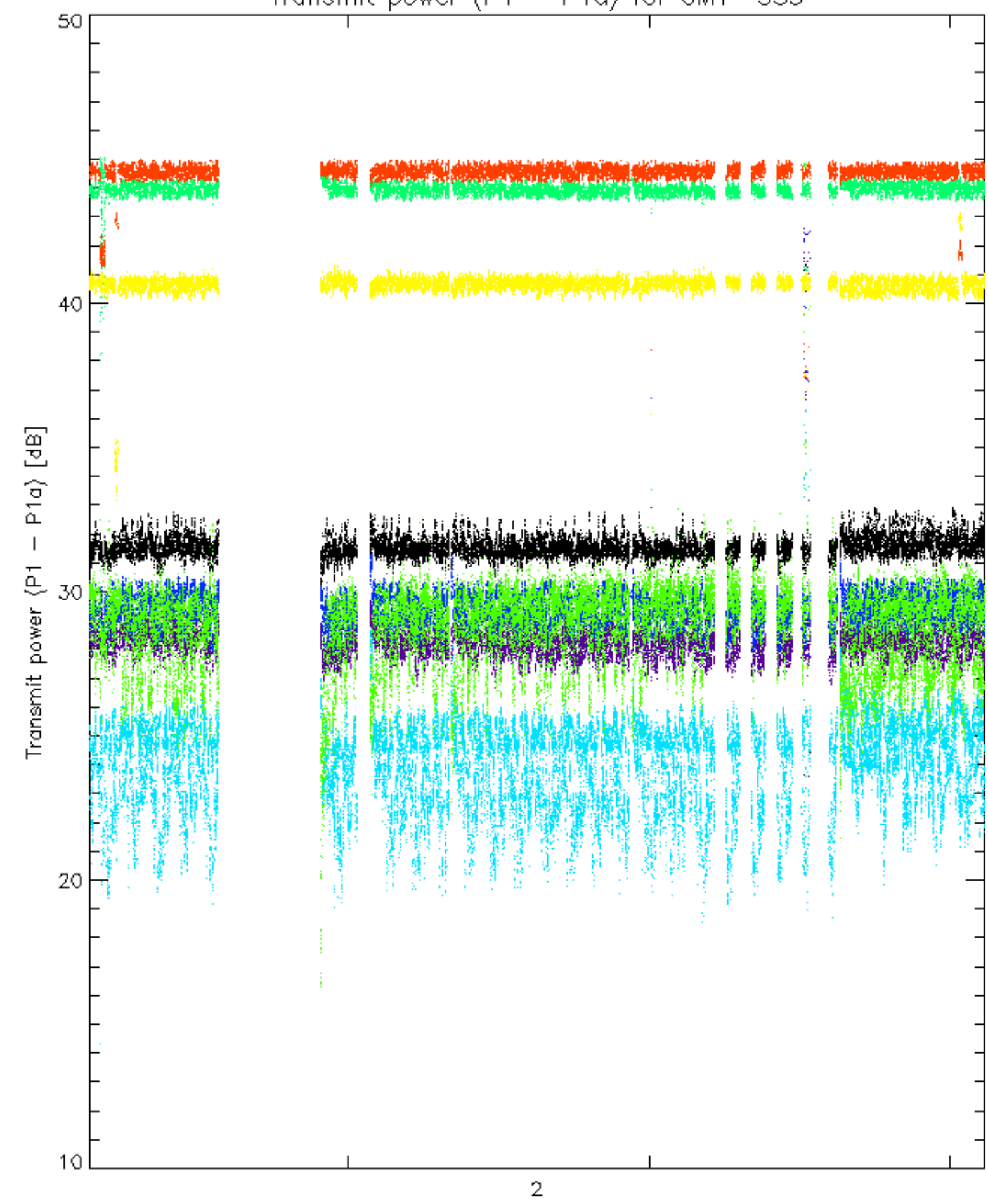
Summary of analysis for the last 3 days 2006100[567]

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

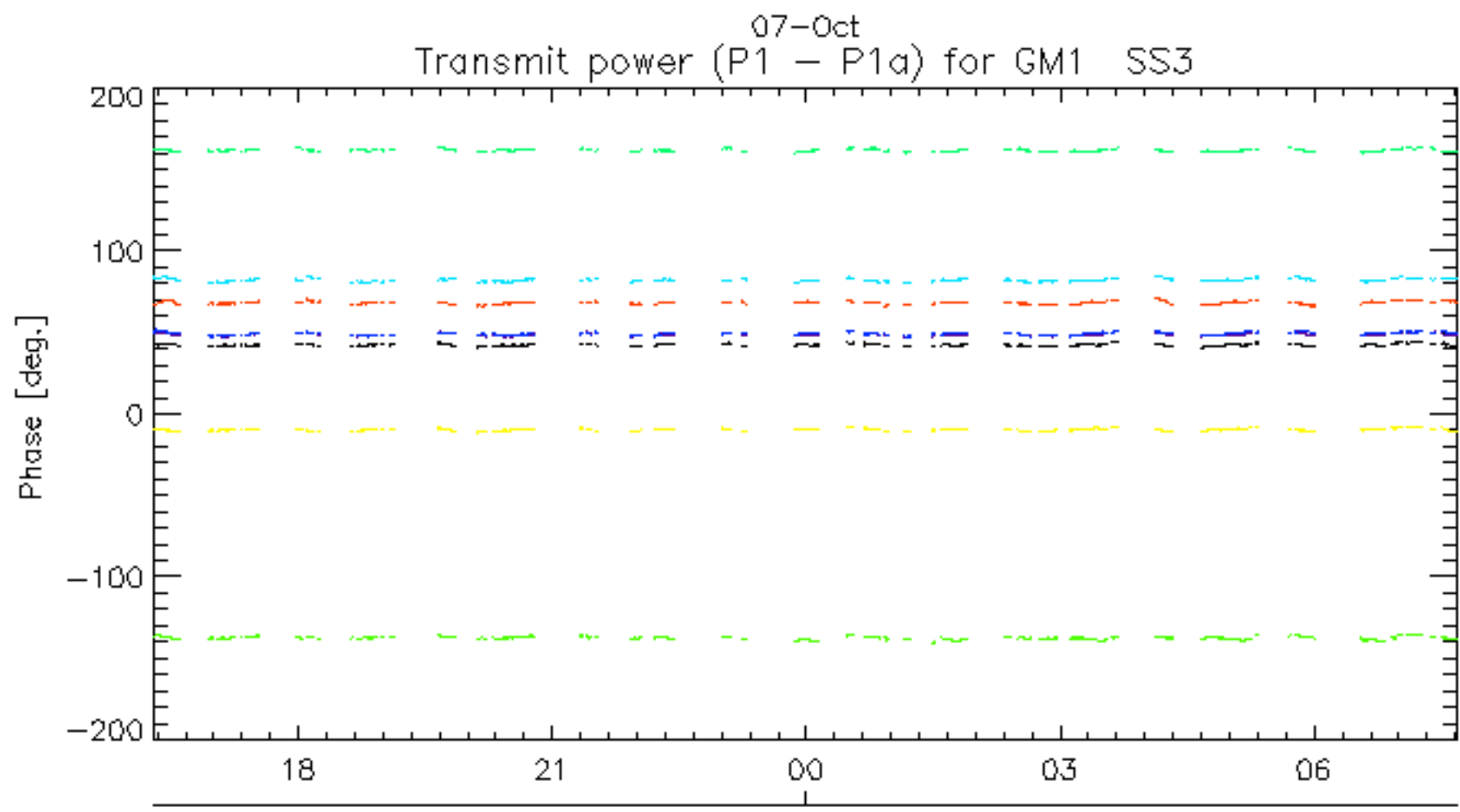
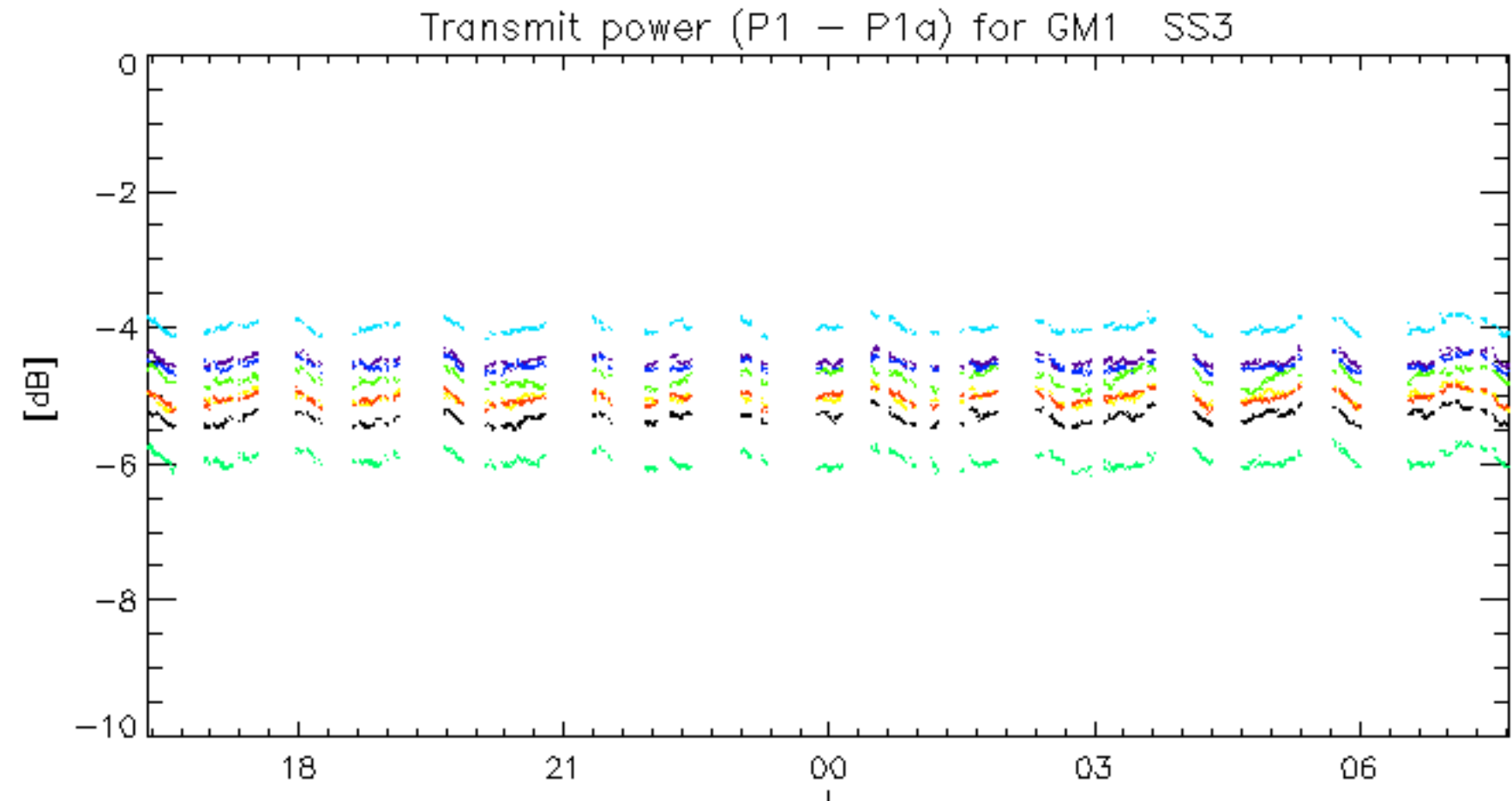
Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20061005_003434_000001152051_00431_24032_6859.N1	1	0
ASA_IMM_1PNPDK20061006_120210_000001222051_00453_24054_2403.N1	1	0
ASA_IMM_1PNPDK20061006_181201_000001342051_00456_24057_2430.N1	0	1
ASA_IMM_1PNPDK20061006_210706_000000602051_00458_24059_2441.N1	1	0
ASA_GM1_1PNPDK20061005_065203_000001992051_00435_24036_5928.N1	0	17



Transmit power (P1 - P1a) for GM1 SS3

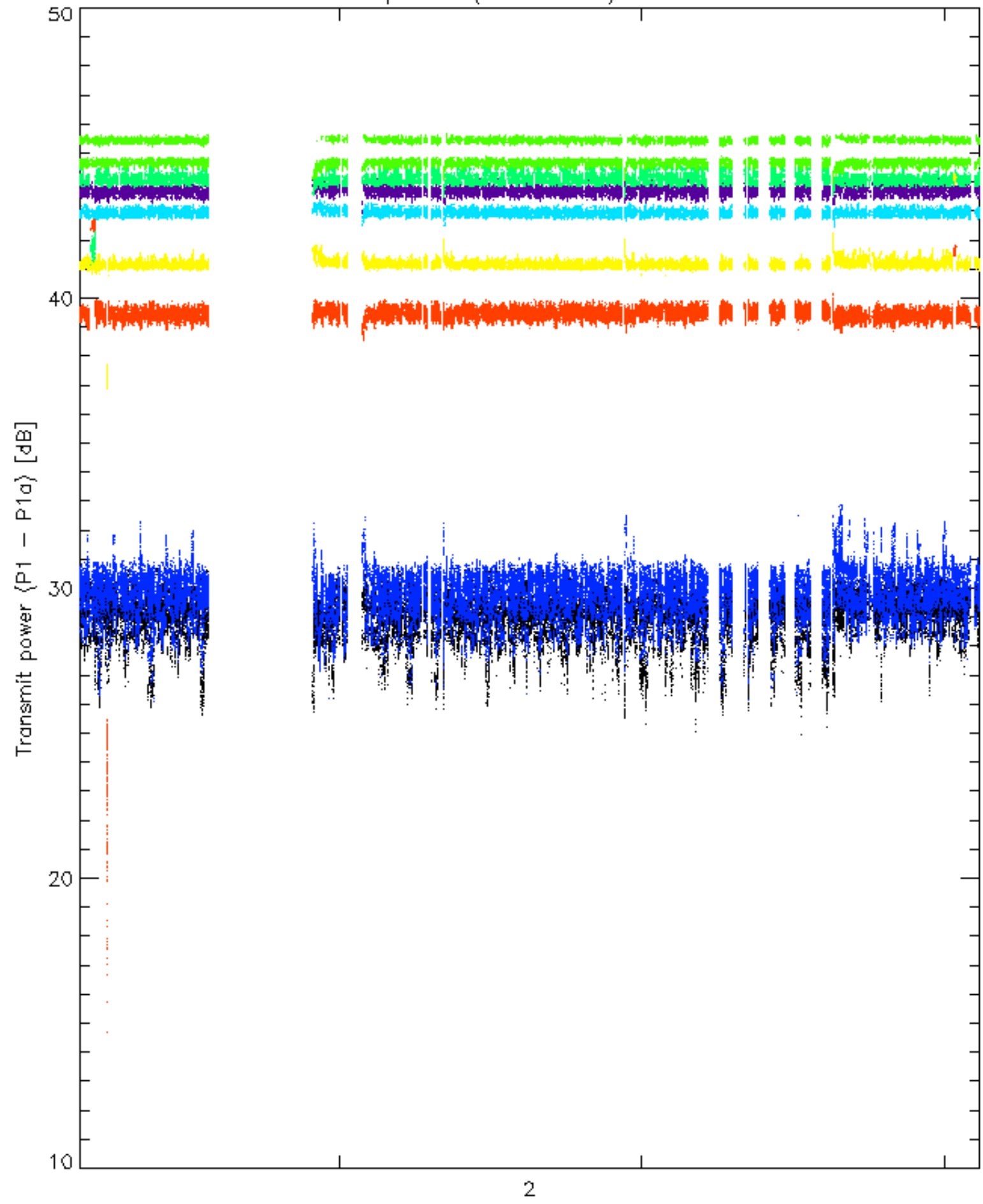


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

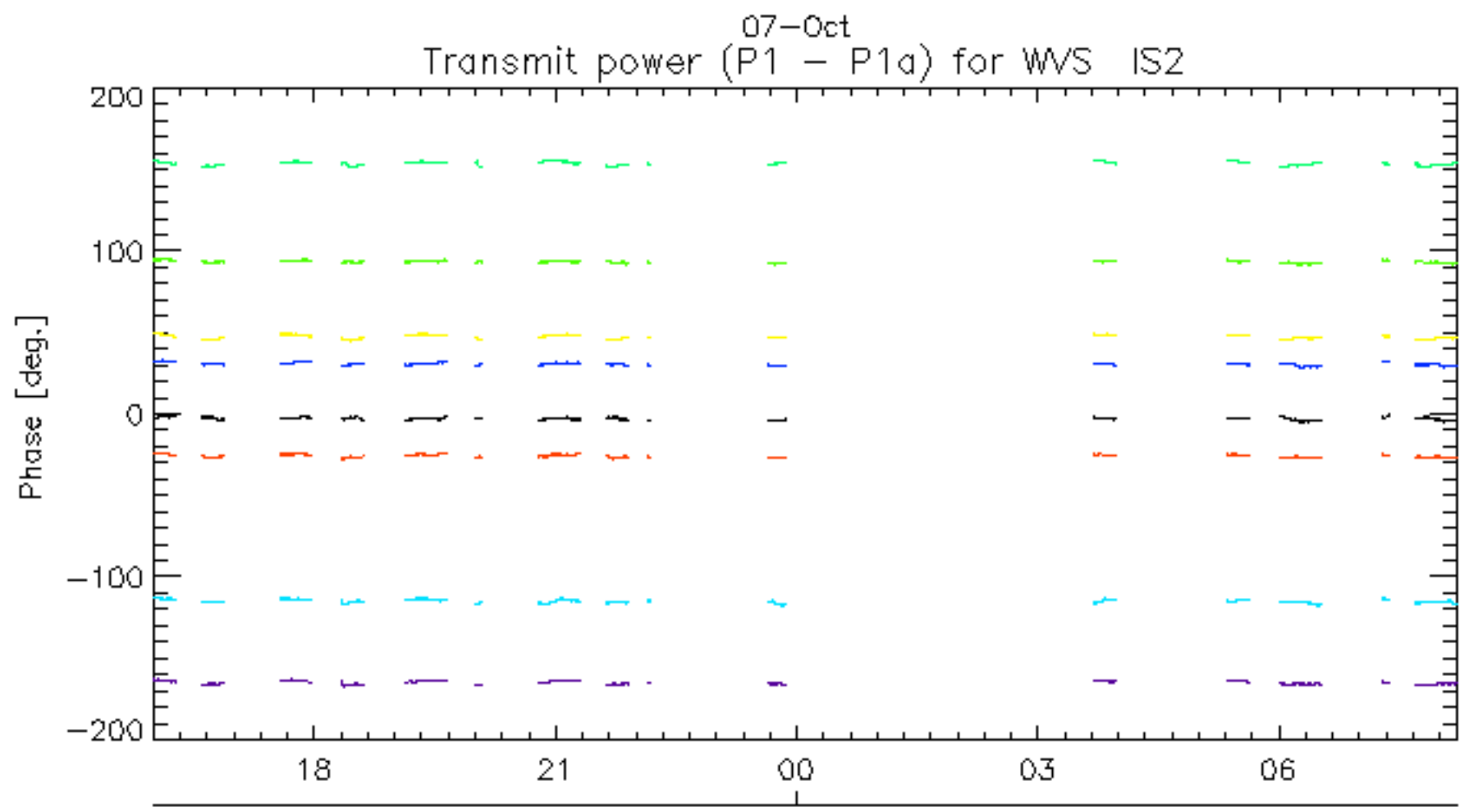
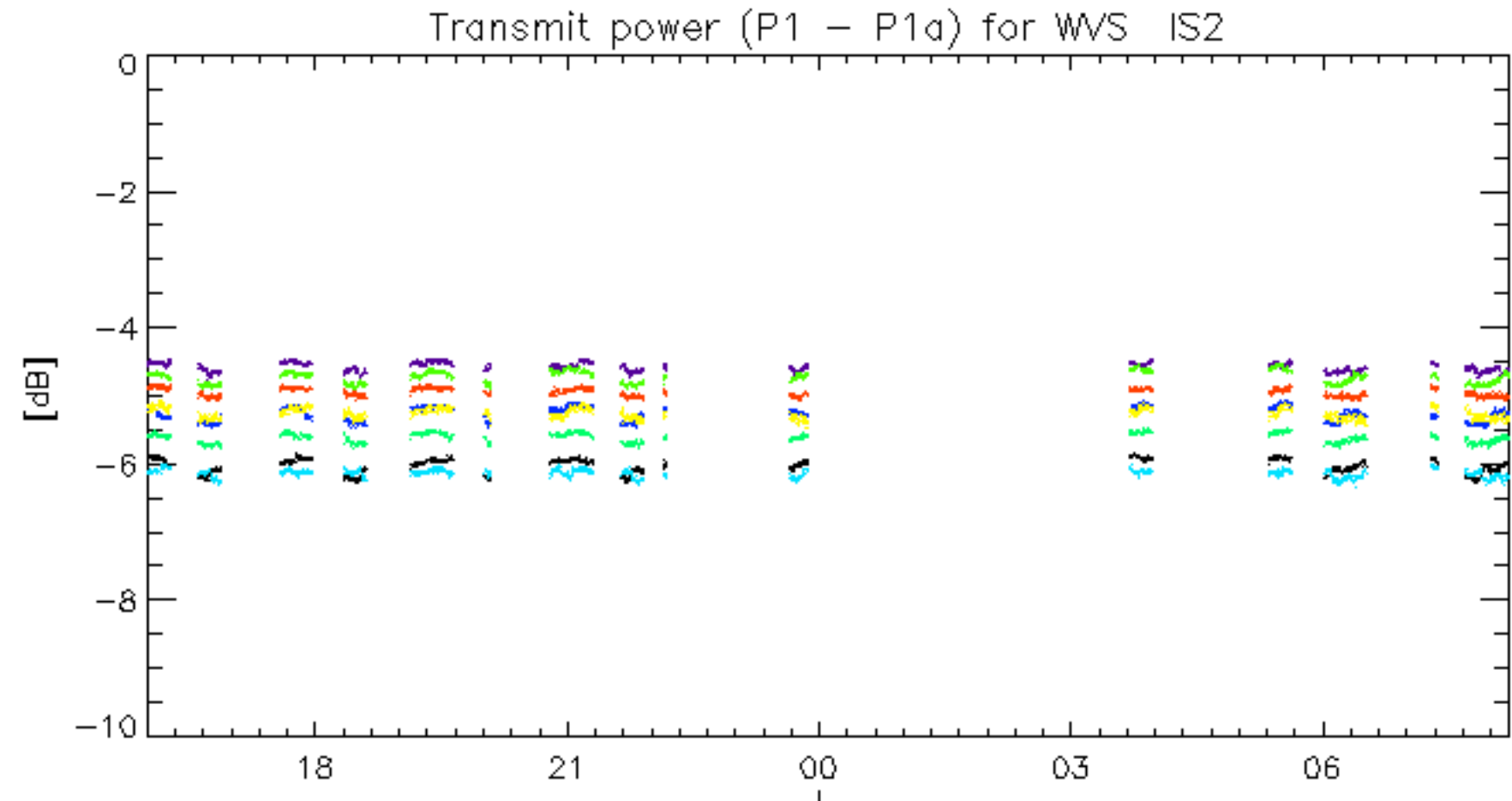


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Transmit power (P1 - P1a) for WVS IS2



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



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

No unavailabilities during the reported period.