

PRELIMINARY REPORT OF 061004

last update on Wed Oct 4 16:41:07 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 2006-10-03 00:00:00 to 2006-10-04 16:41:07

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	46	78	17	7	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	46	78	17	7	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	46	78	17	7	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	46	78	17	7	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	17	48	7	7	5
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	17	48	7	7	5
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	17	48	7	7	5
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	17	48	7	7	5

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	20060929 063526
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	-3.943417	0.010433	-0.000911
7	P1	-3.073735	0.011105	-0.020546
11	P1	-4.076461	0.021017	-0.058173
15	P1	-6.190904	0.015855	-0.023437
19	P1	-3.548189	0.052314	0.026349
22	P1	-4.596508	0.010907	-0.046953
26	P1	-3.961513	0.019015	-0.016782
30	P1	-5.831595	0.142055	0.059270
3	P1	-16.604889	0.242820	0.010070
7	P1	-17.122526	0.110769	-0.058438
11	P1	-16.868376	0.368415	-0.298751
15	P1	-12.869607	0.110824	0.064104
19	P1	-14.686620	0.483416	0.091617
22	P1	-15.703143	0.482590	-0.012640
26	P1	-15.187059	0.232803	0.201218
30	P1	-16.962303	0.383132	-0.175443

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.818439	0.085606	-0.016375
7	P2	-21.823456	0.097258	0.122056
11	P2	-15.743587	0.109054	0.033712
15	P2	-7.090351	0.103339	0.023373
19	P2	-9.128304	0.094412	-0.011078
22	P2	-18.131649	0.091119	-0.028191
26	P2	-16.425957	0.098671	-0.029333
30	P2	-19.470457	0.092146	0.017032

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.190435	0.006086	-0.021560
7	P3	-8.190435	0.006086	-0.021560
11	P3	-8.190435	0.006086	-0.021560
15	P3	-8.190435	0.006086	-0.021560
19	P3	-8.190435	0.006086	-0.021560
22	P3	-8.190435	0.006086	-0.021560
26	P3	-8.190420	0.006088	-0.021598
30	P3	-8.190420	0.006088	-0.021598

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	-3.867433	0.017711	-0.055368
7	P1	-2.545270	0.045342	-0.005987
11	P1	-2.893489	0.021346	-0.027768
15	P1	-3.670145	0.033282	-0.050538
19	P1	-3.478143	0.082352	0.071480
22	P1	-5.105989	0.021580	0.030424
26	P1	-5.878419	0.029211	-0.044263
30	P1	-5.219940	0.075656	0.047964
3	P1	-11.662065	0.062461	-0.092642
7	P1	-10.022502	0.084561	-0.086860
11	P1	-10.374799	0.072981	-0.081685
15	P1	-10.859704	0.161569	-0.024604
19	P1	-15.708804	3.760990	0.667520
22	P1	-20.933645	1.264449	-0.244242
26	P1	-15.897184	0.376187	0.143301
30	P1	-18.097313	0.467111	0.115351

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.391266	0.060792	0.056606
7	P2	-22.156172	0.153583	0.156844
11	P2	-10.893024	0.052442	0.039883
15	P2	-4.861322	0.035065	0.000644
19	P2	-6.845709	0.038632	0.036580
22	P2	-8.162589	0.049229	-0.017051
26	P2	-24.180161	0.085571	-0.026167
30	P2	-21.959723	0.055623	0.018736

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.039010	0.003833	-0.027577
7	P3	-8.038858	0.003833	-0.027805
11	P3	-8.038896	0.003840	-0.028310
15	P3	-8.038835	0.003851	-0.028010
19	P3	-8.038919	0.003856	-0.028198
22	P3	-8.039053	0.003836	-0.027820
26	P3	-8.038945	0.003854	-0.028044
30	P3	-8.038896	0.003833	-0.027686

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	0.000560964
	stdev	1.68462e-07
MEAN Q	mean	0.000526207
	stdev	2.16220e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.137709
	stdev	0.00112751
STDEV Q	mean	0.138073
	stdev	0.00114517



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2006100[234]

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_1PNPDK20061003_115626_00000502051_00410_24011_2298.N1	1	0
ASA_IMM_1PNPDK20061003_210129_00000532051_00415_24016_2306.N1	1	0



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

7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler

<input type="checkbox"/>
Ascending
<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

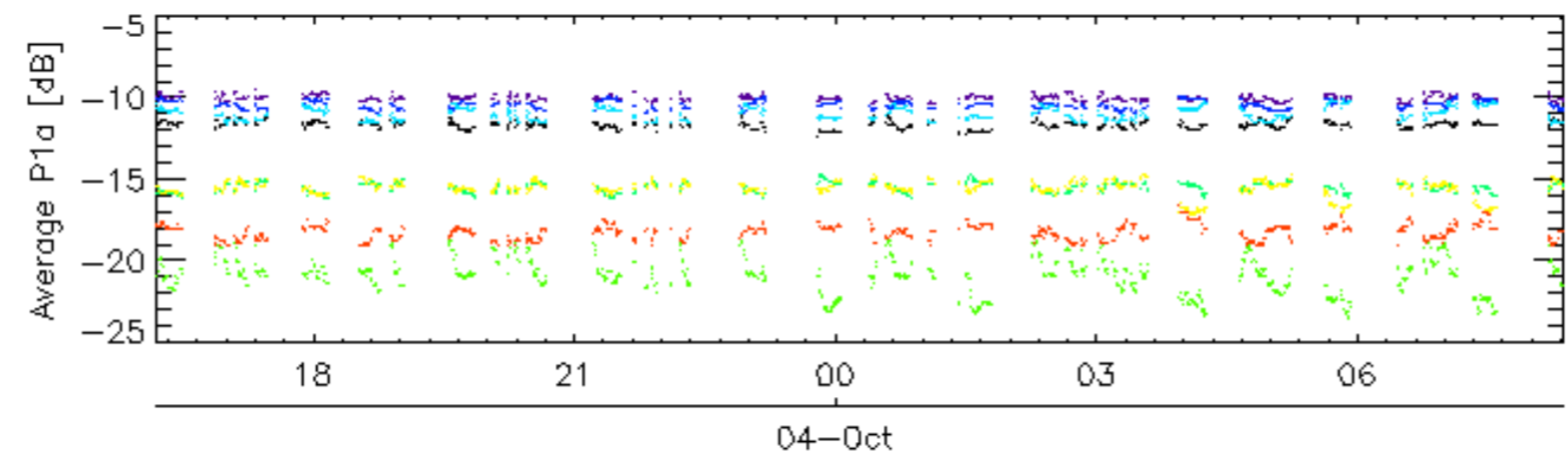
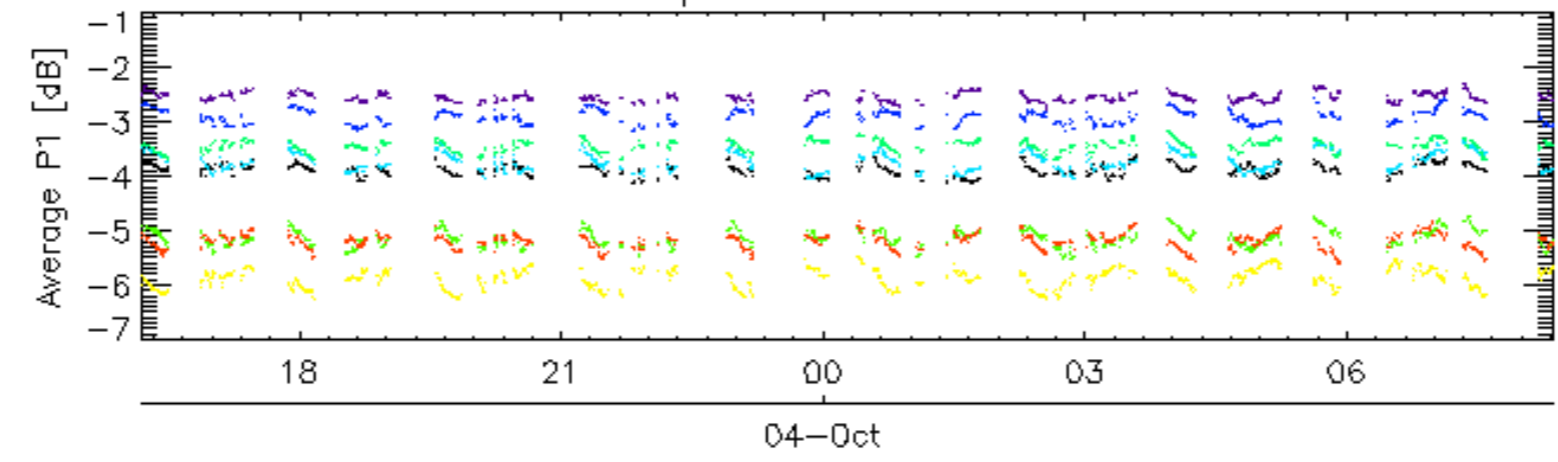
Ascending

Descending

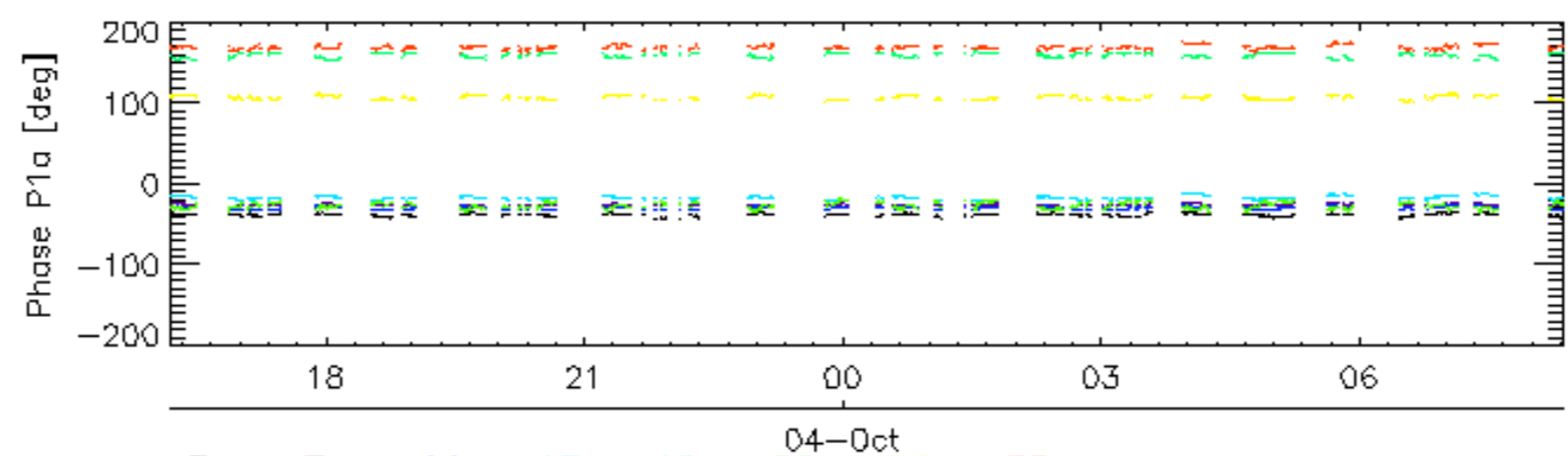
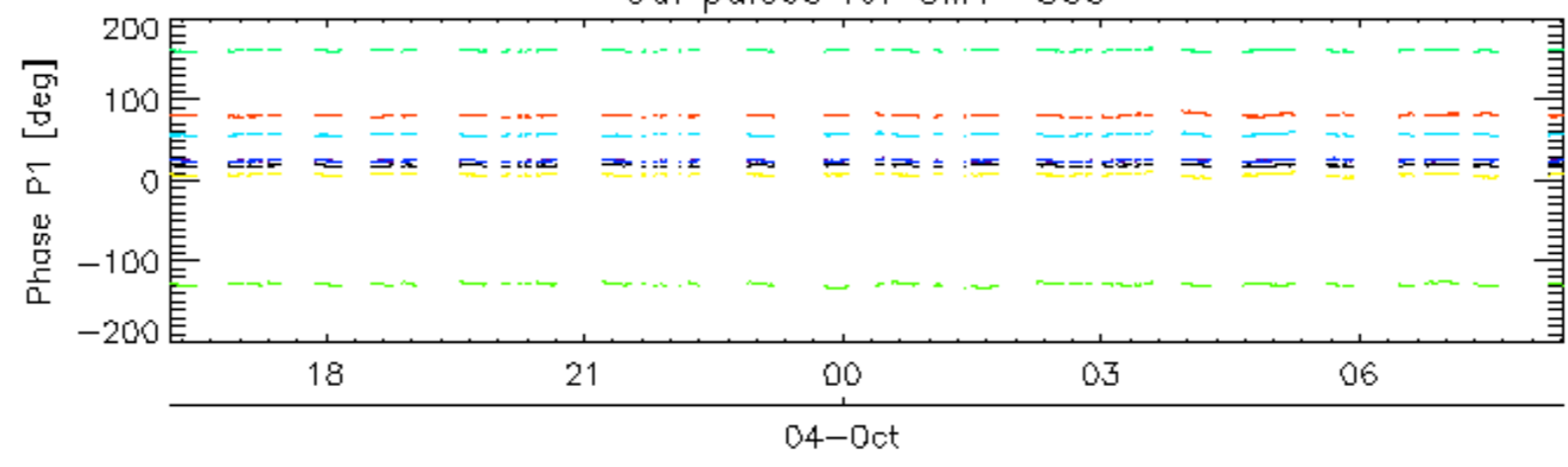
7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

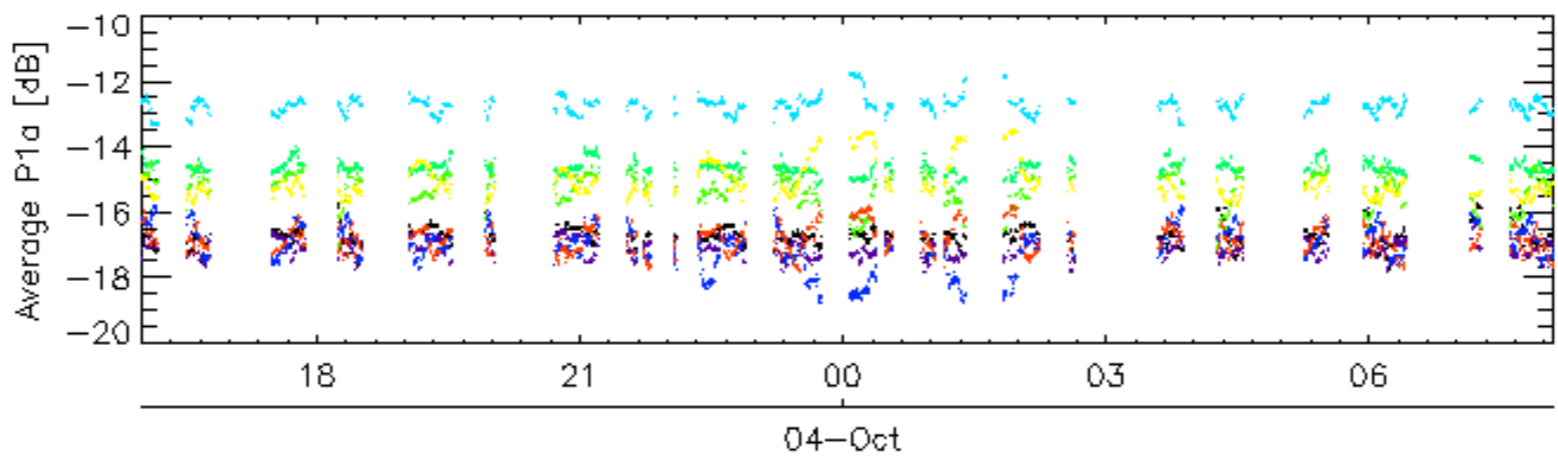
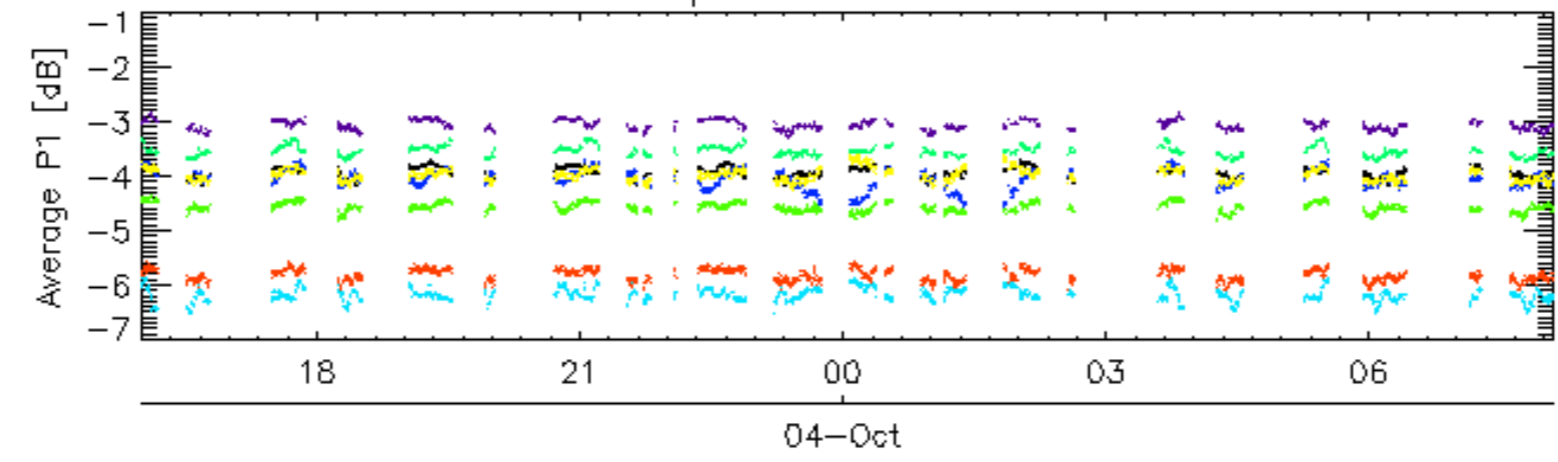


Cal pulses for GM1 SS3

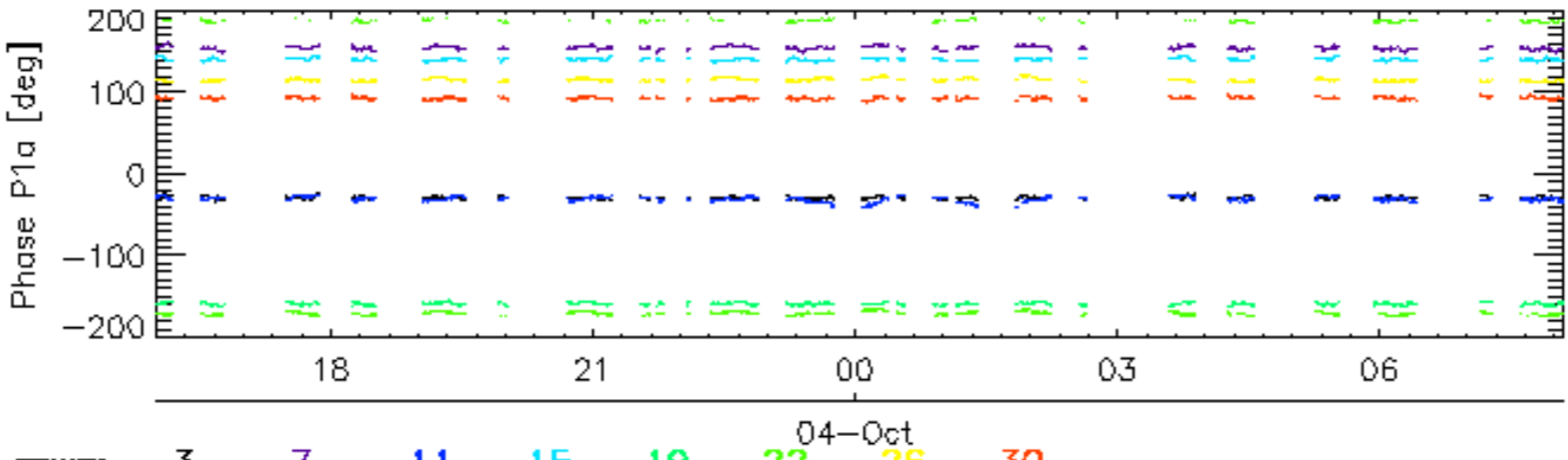
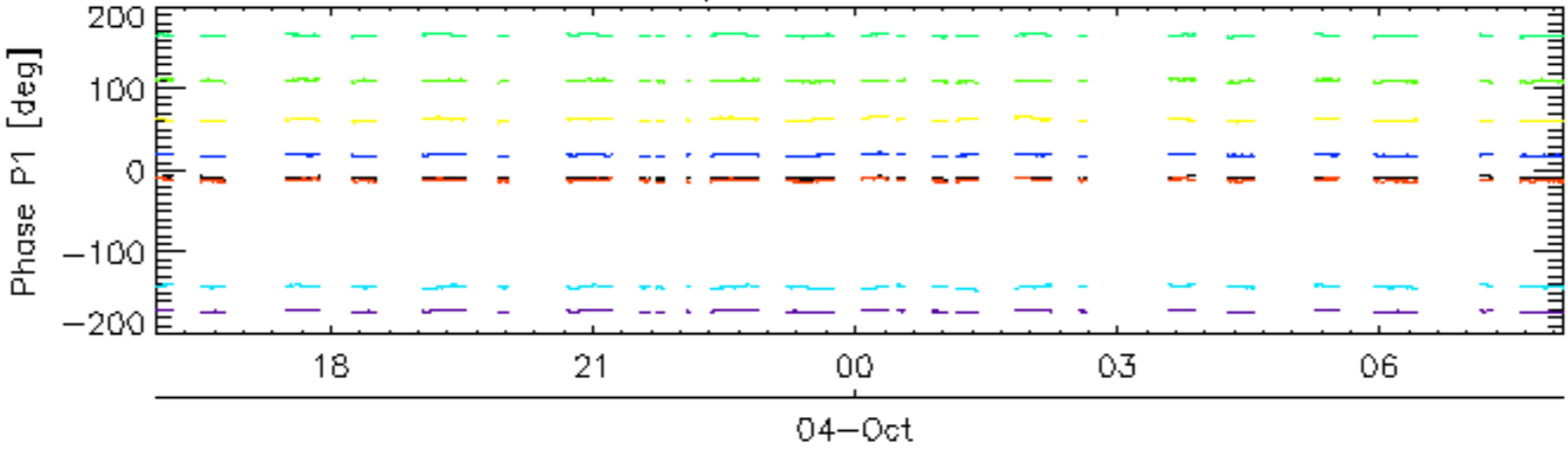


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

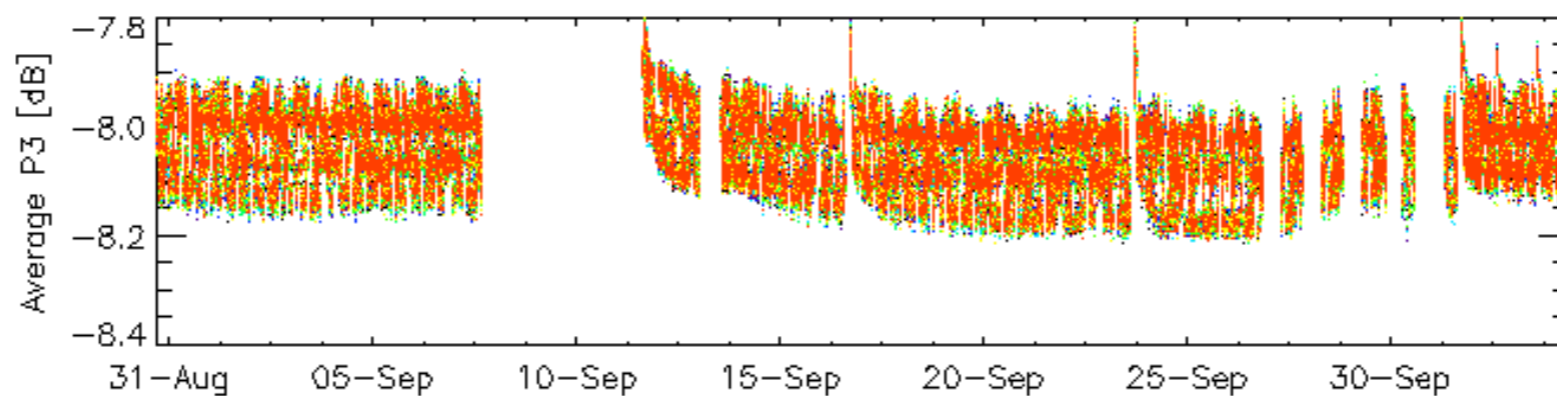
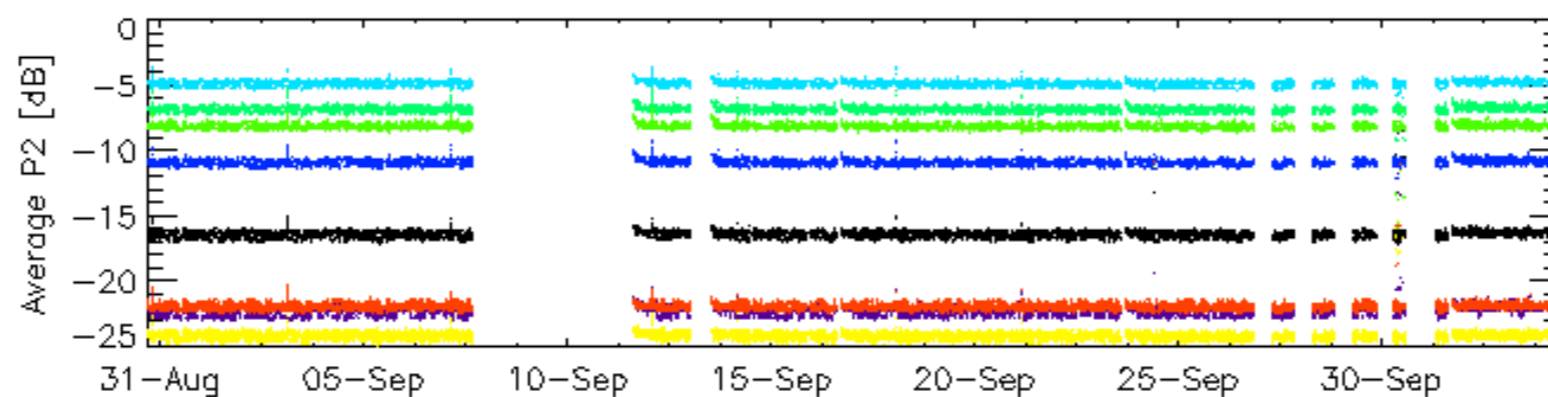
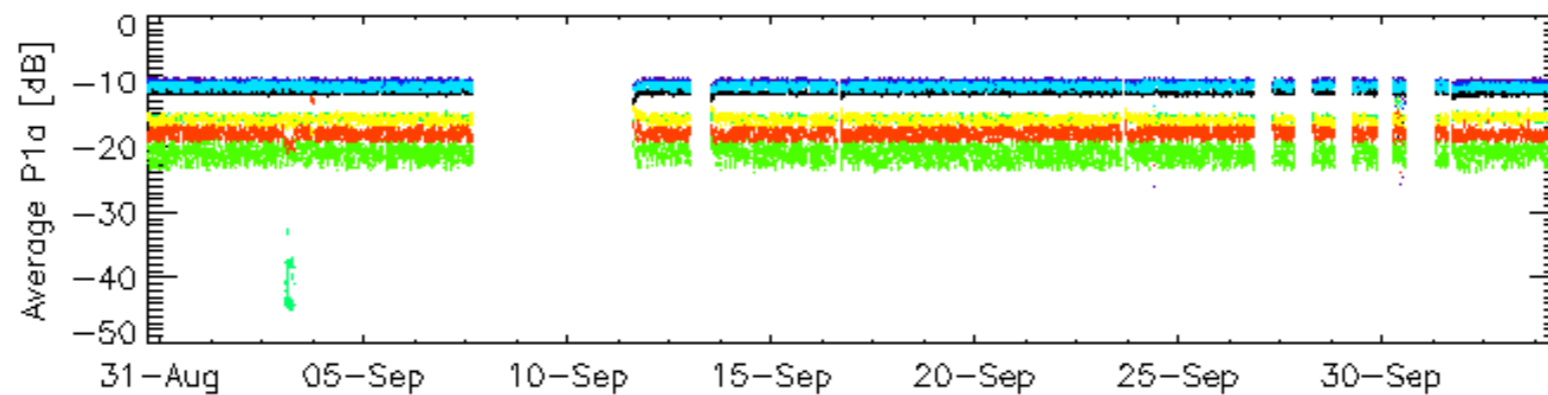
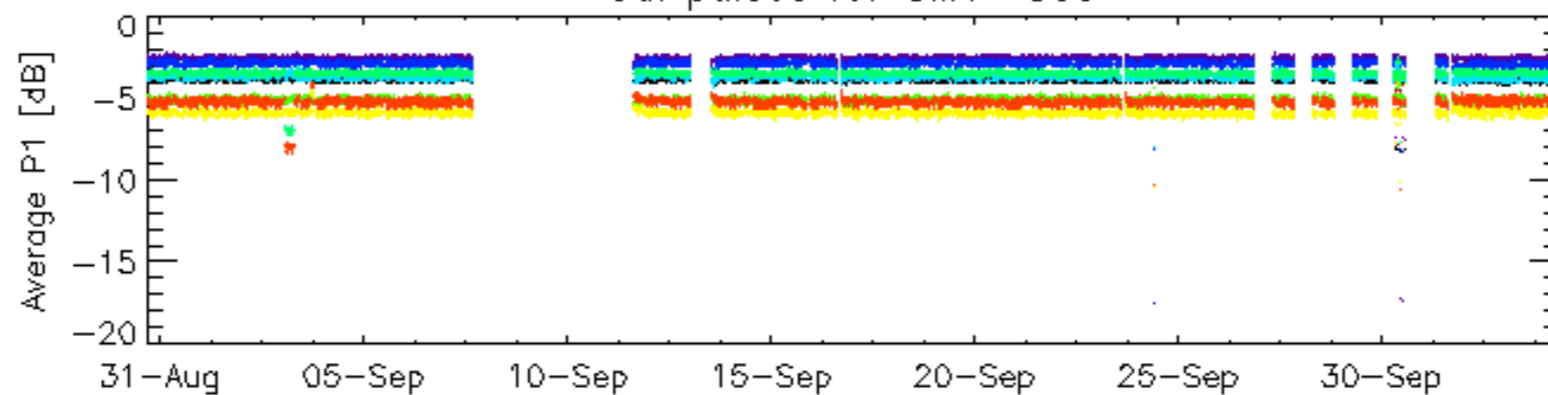


Cal pulses for WVS IS2



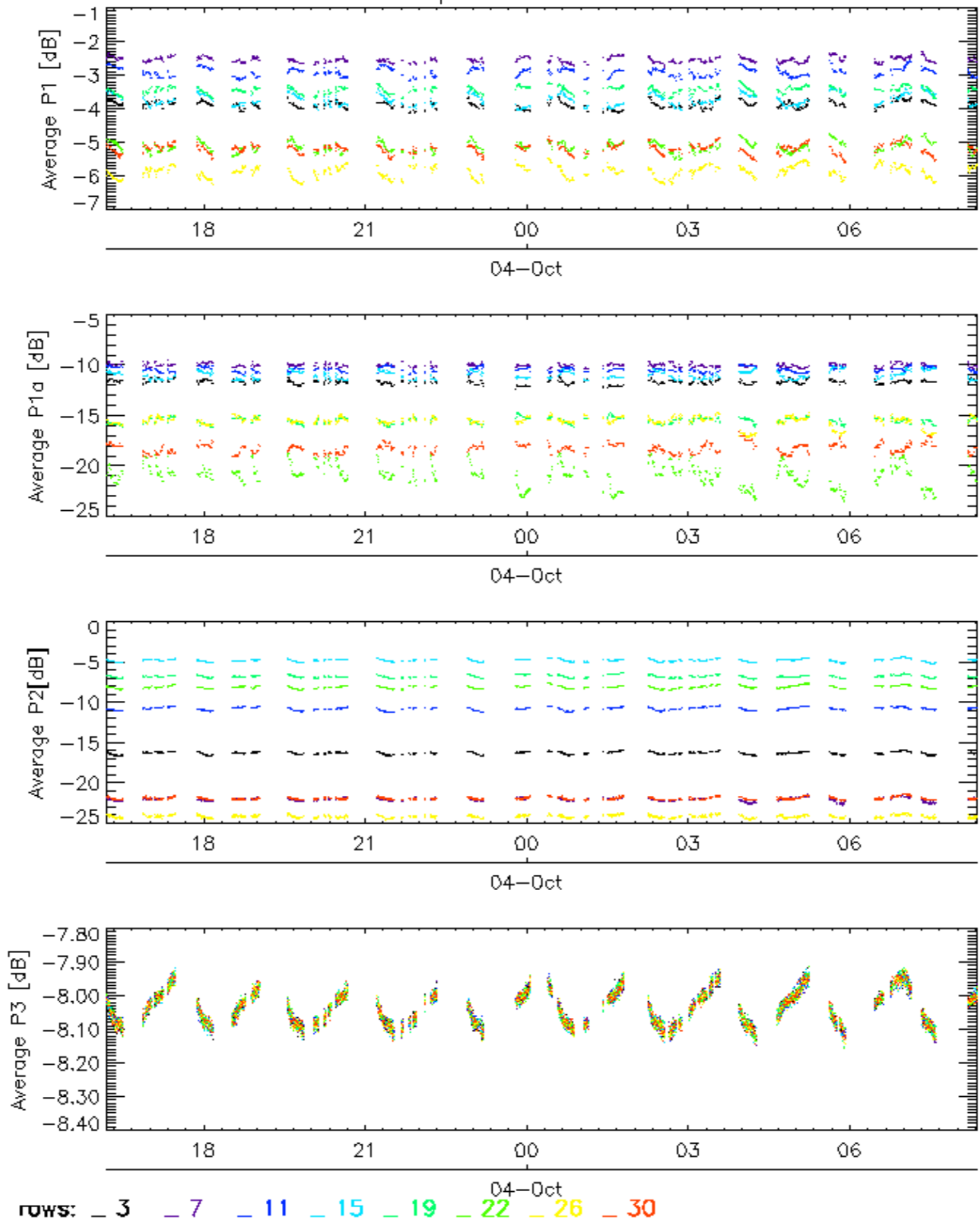
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

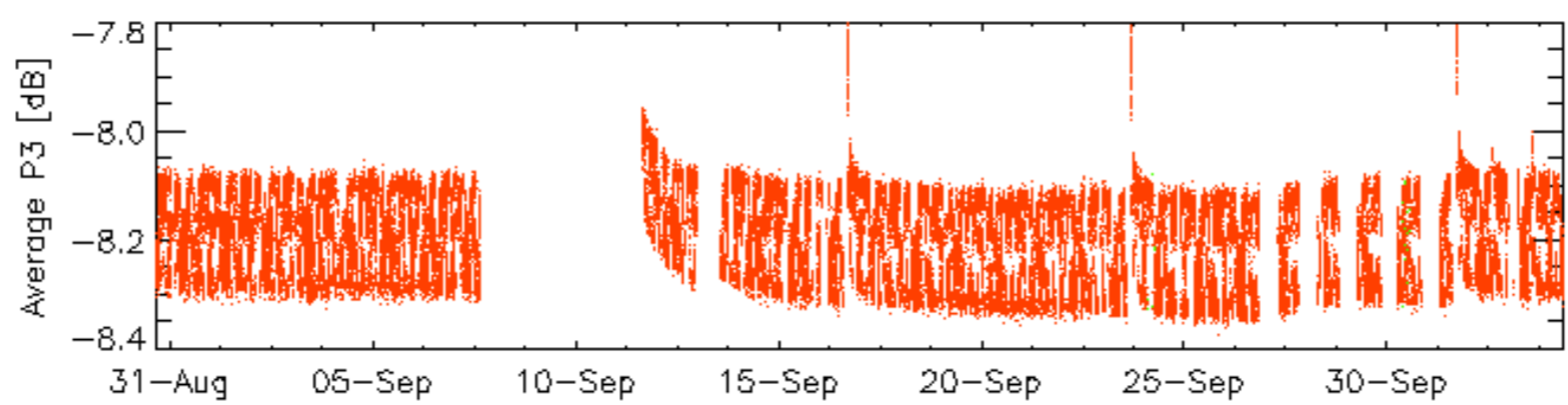
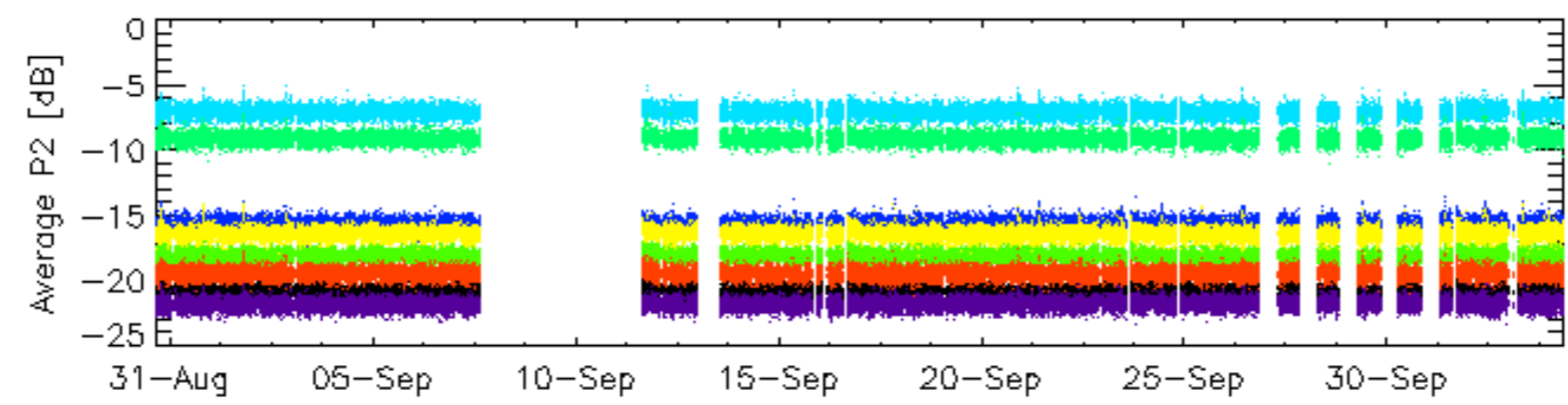
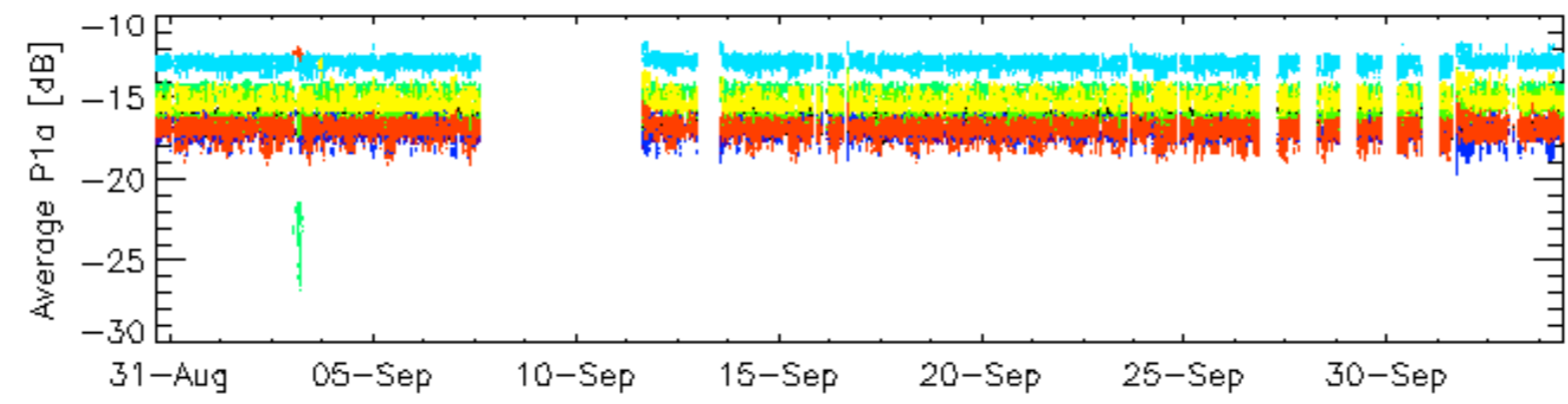
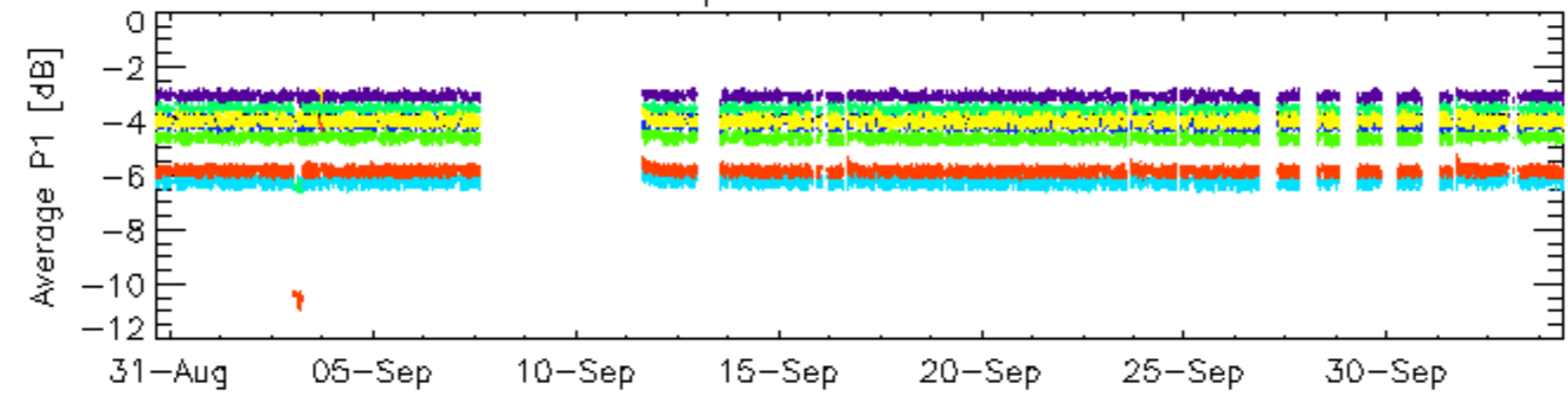


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

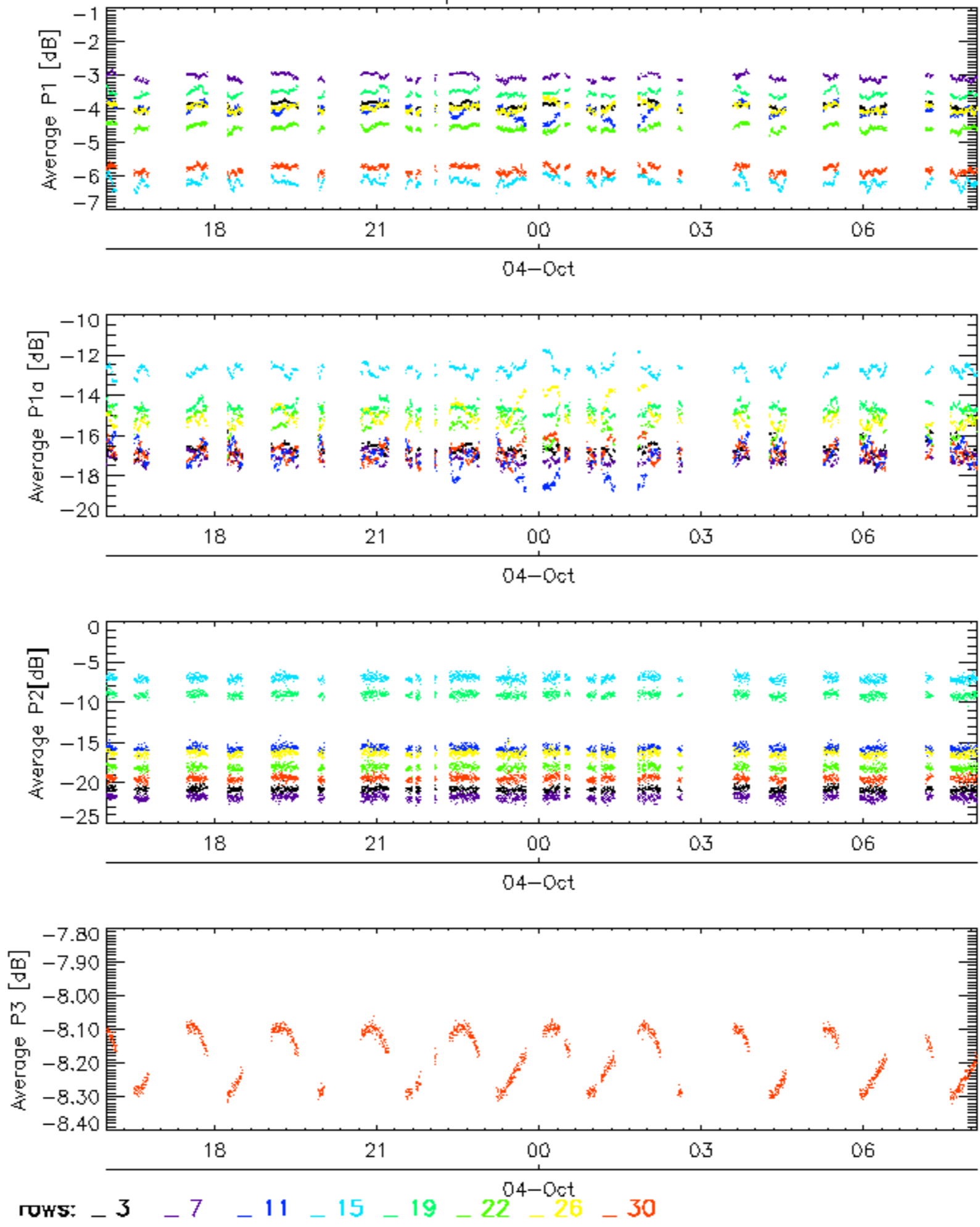


Cal pulses for WVS IS2

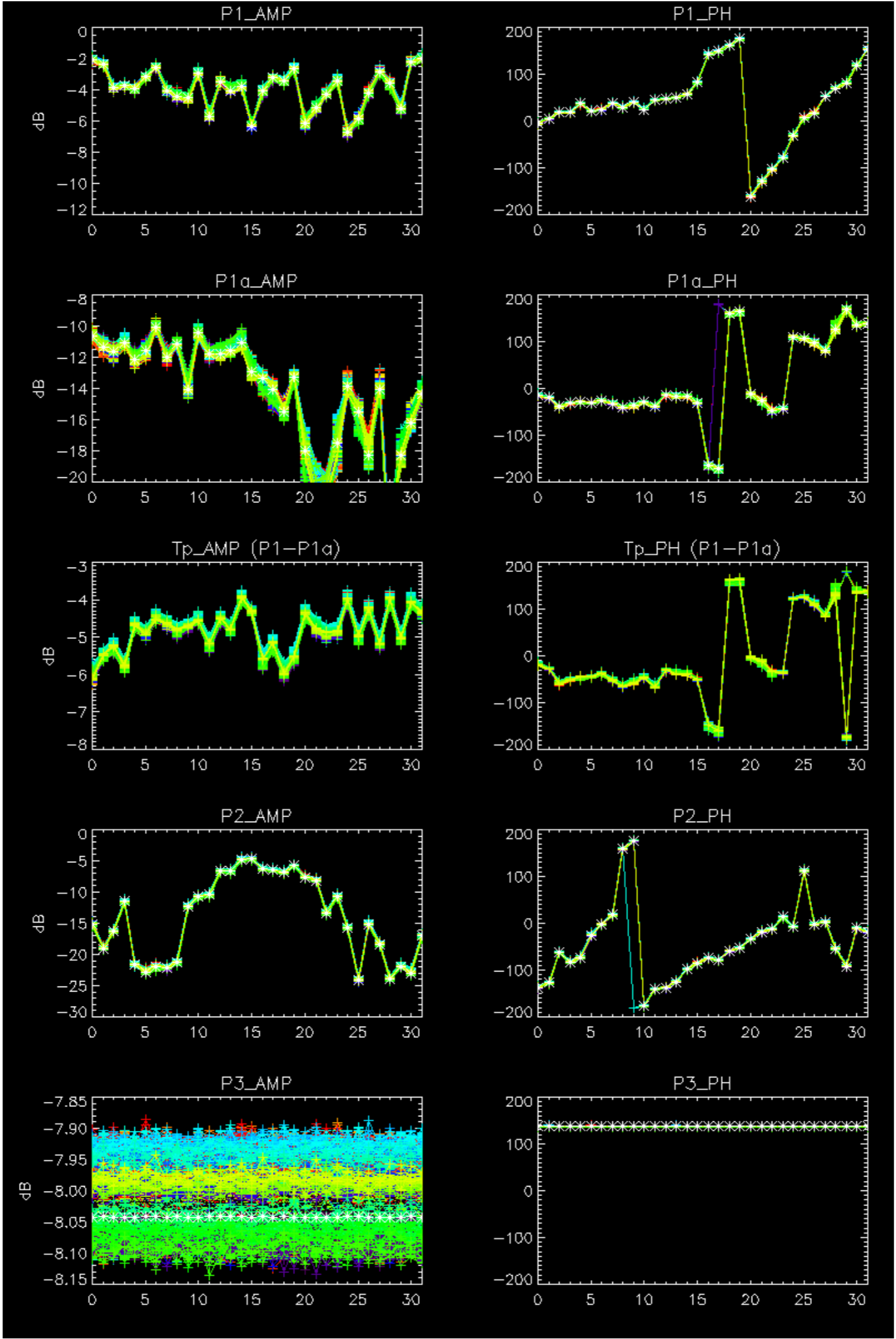


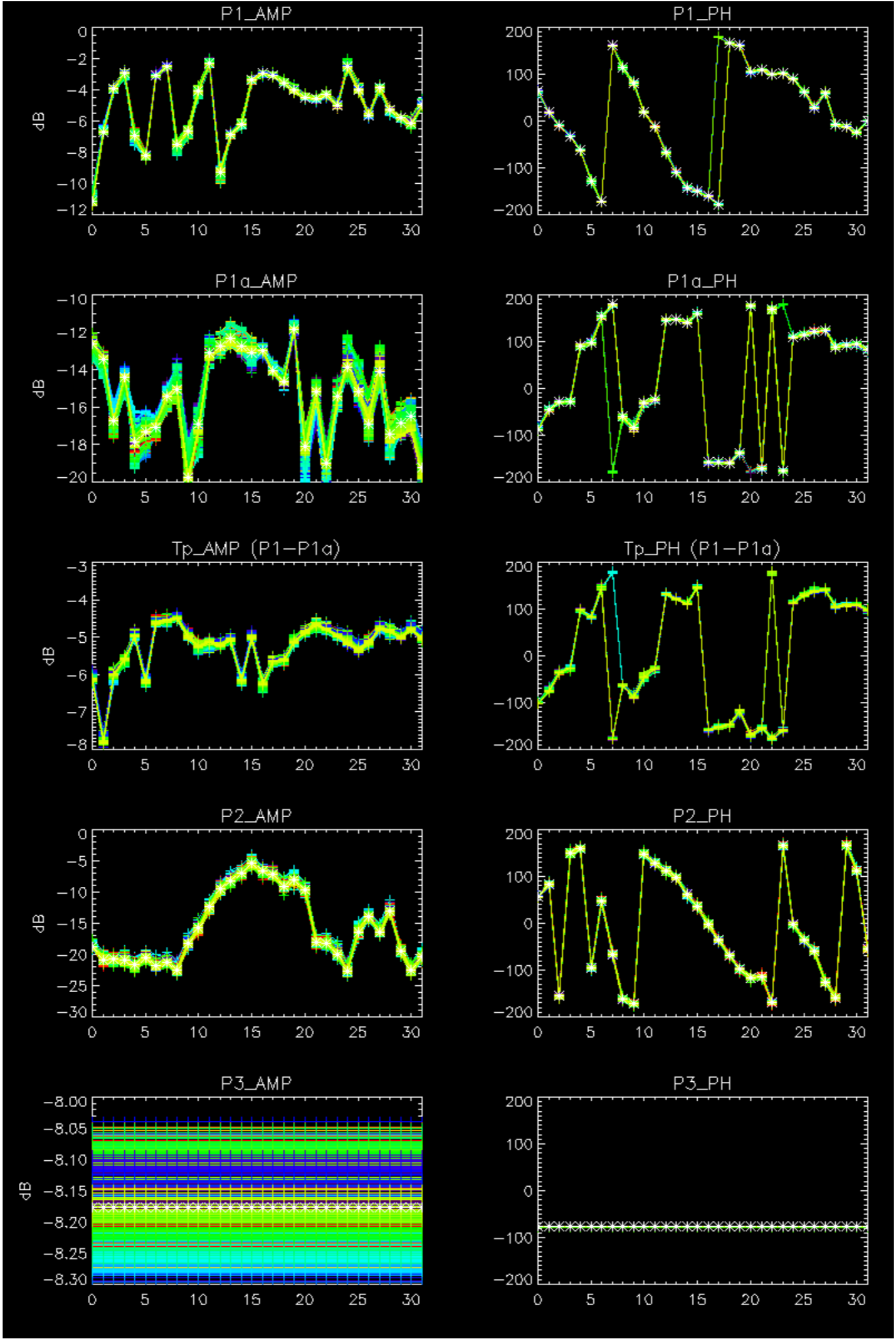
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



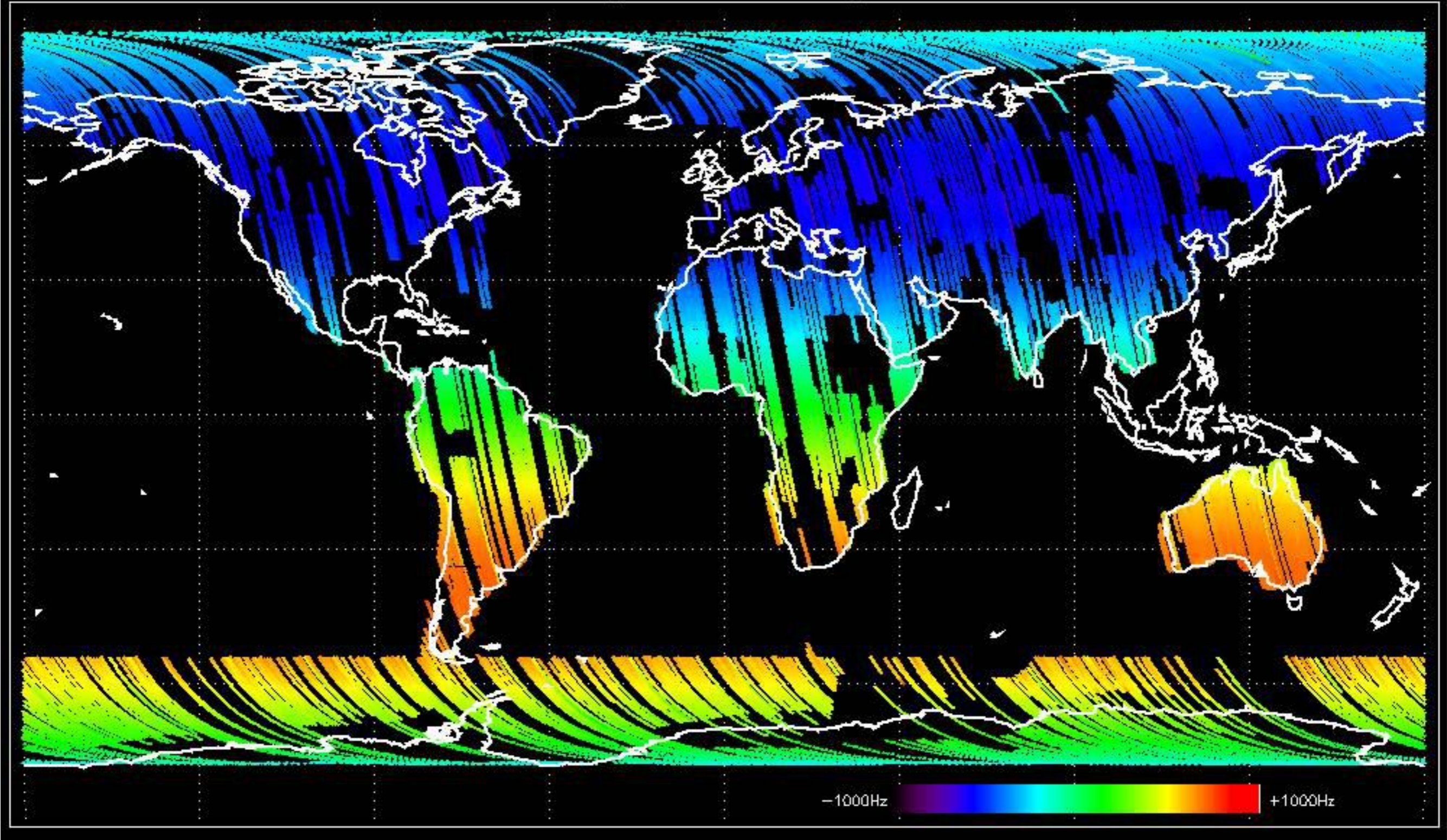
No anomalies observed.



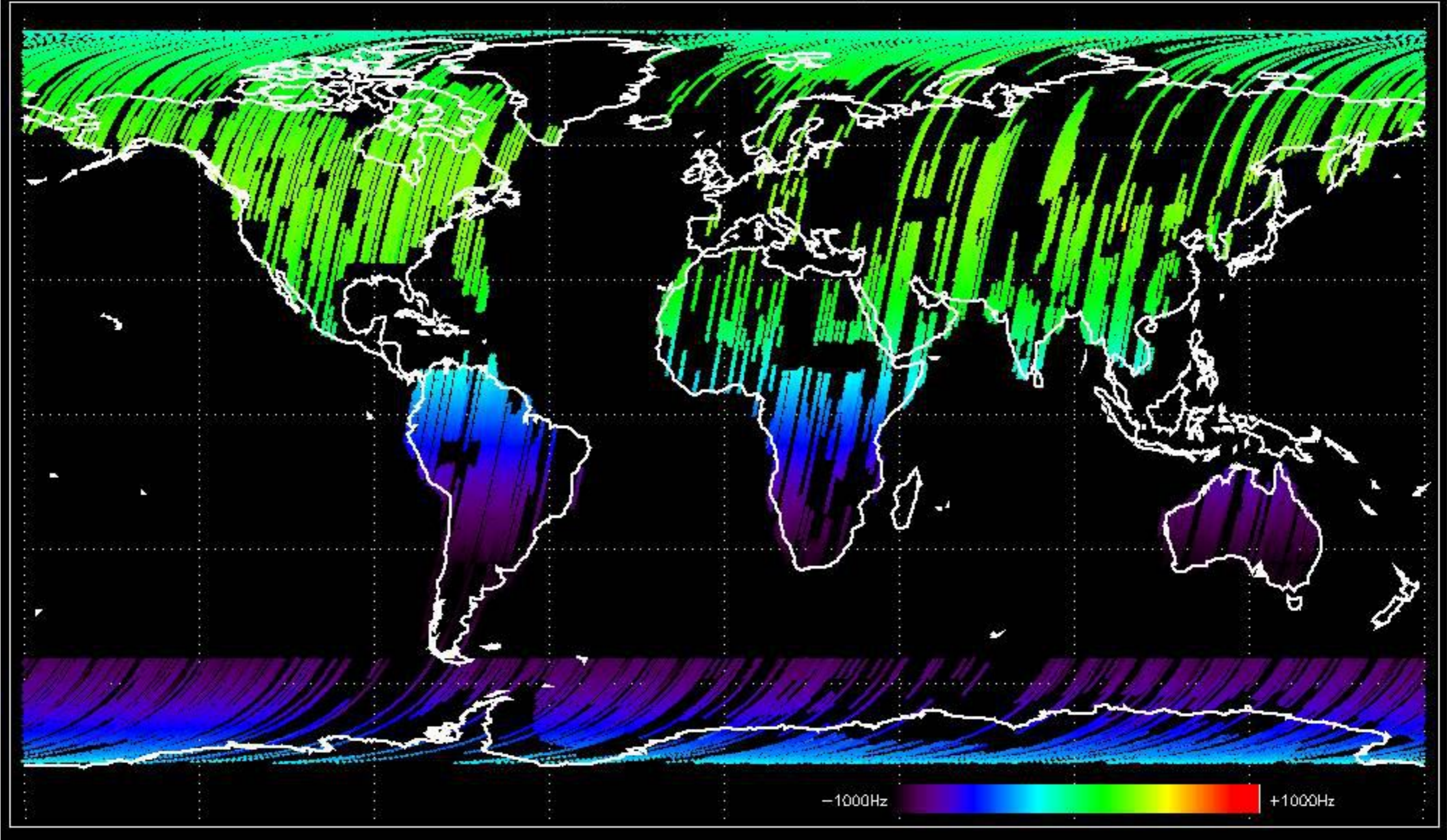


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

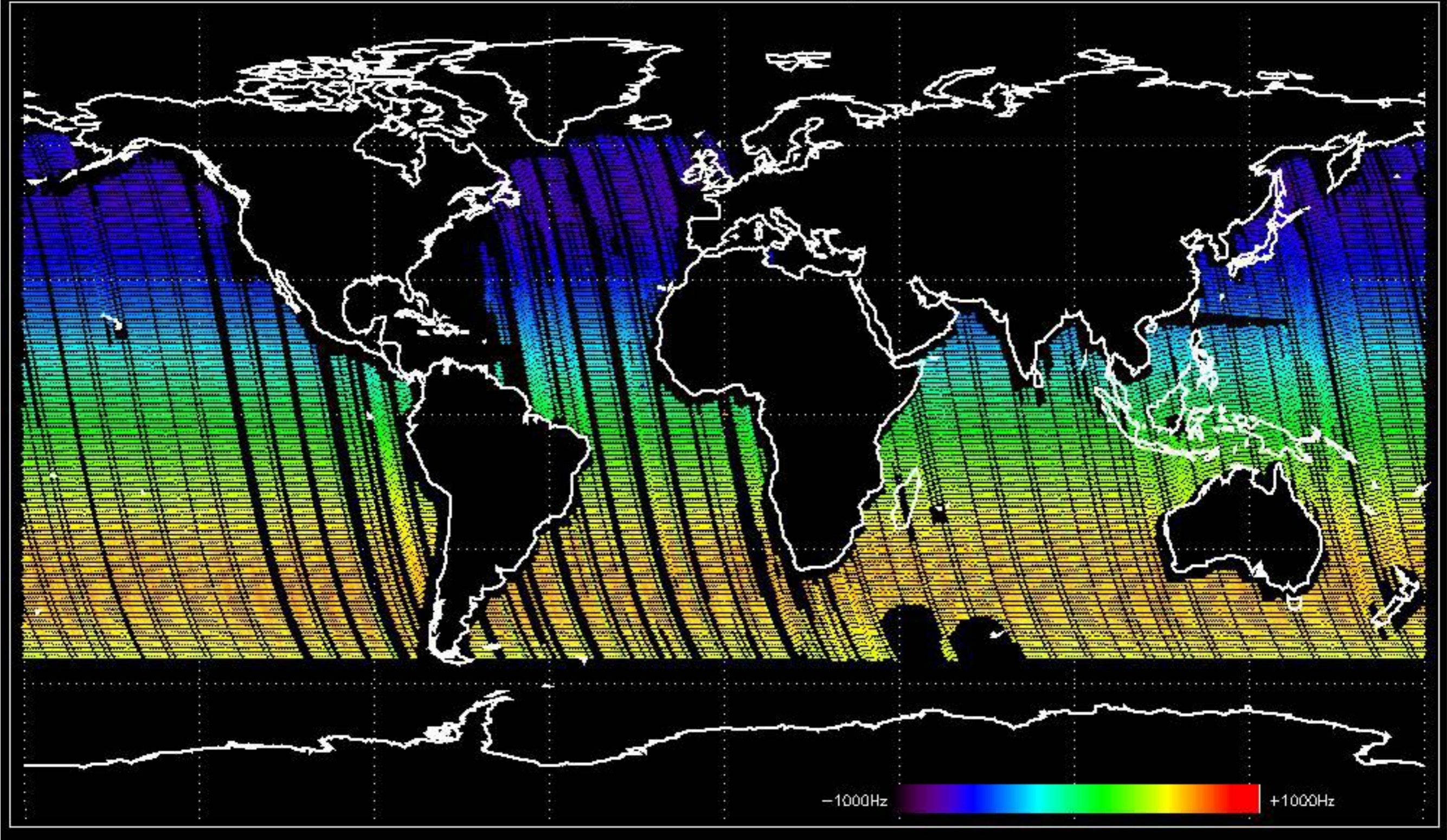
Doppler 'GM1' 'SS1' ascending



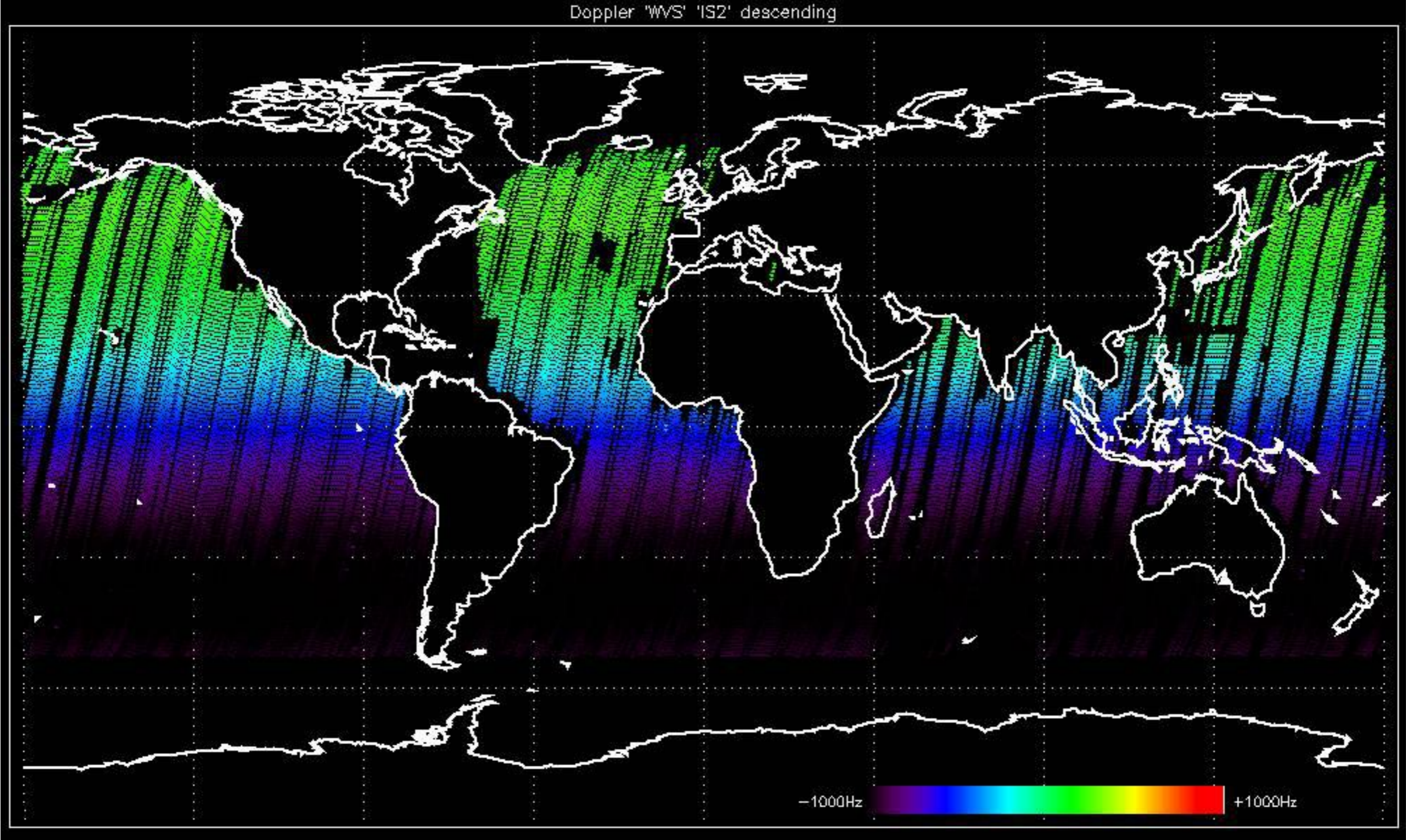
Doppler 'GM1' 'SS1' descending



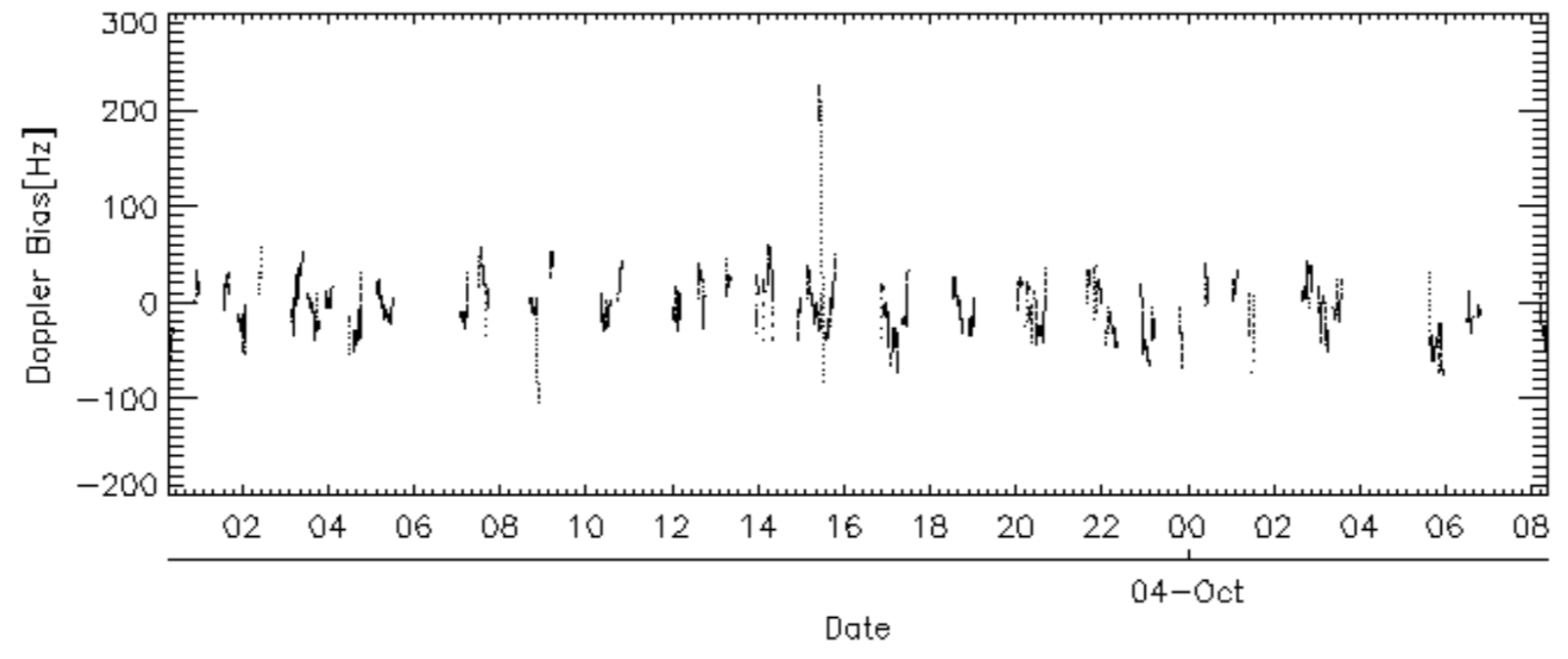
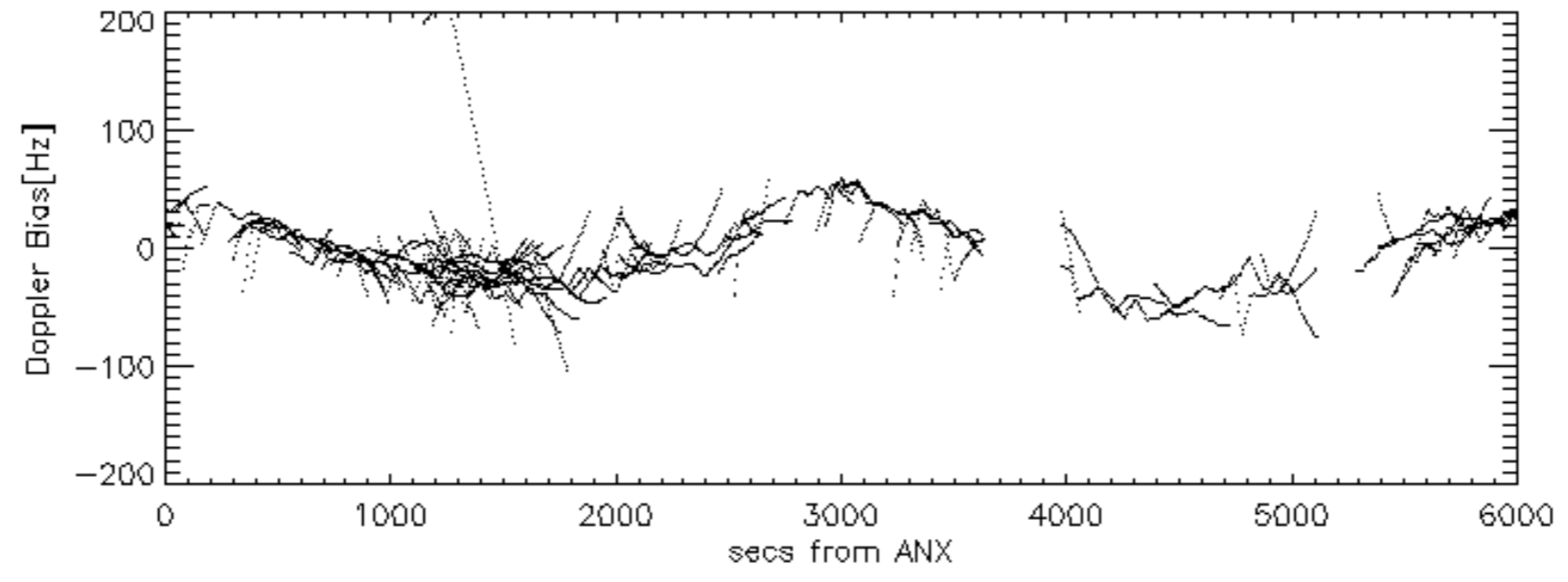
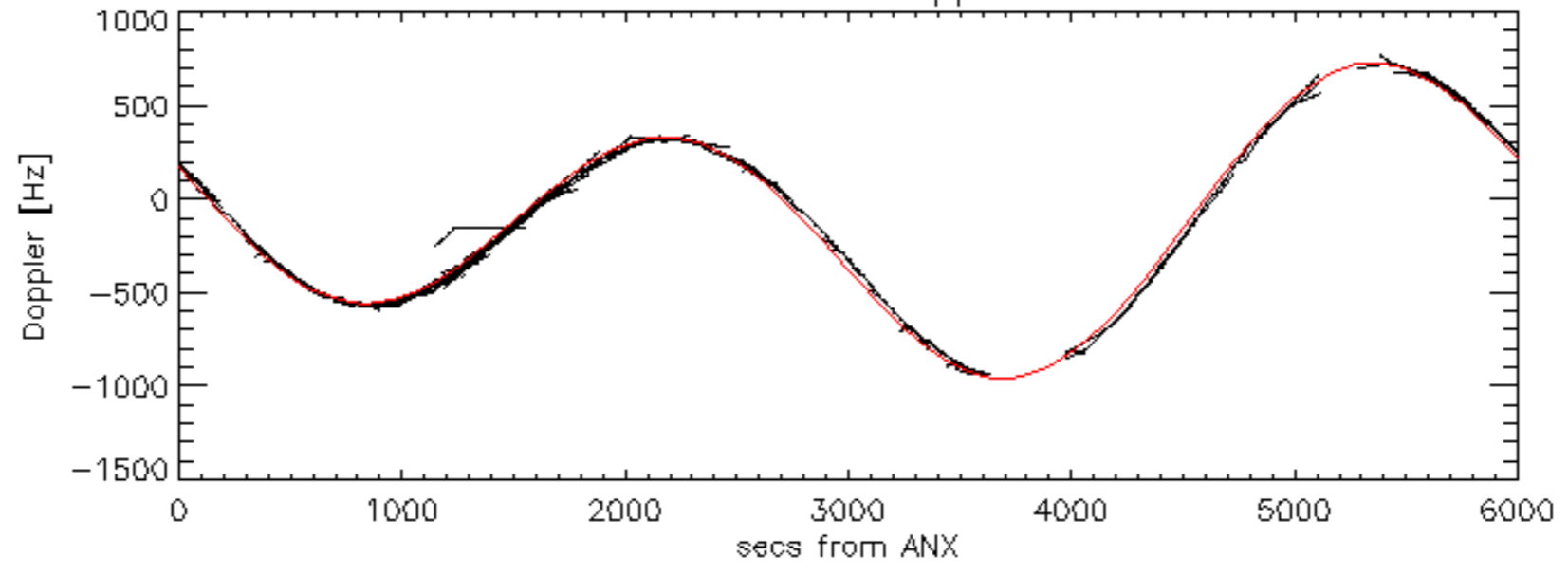
Doppler 'WVS' 'IS2' ascending

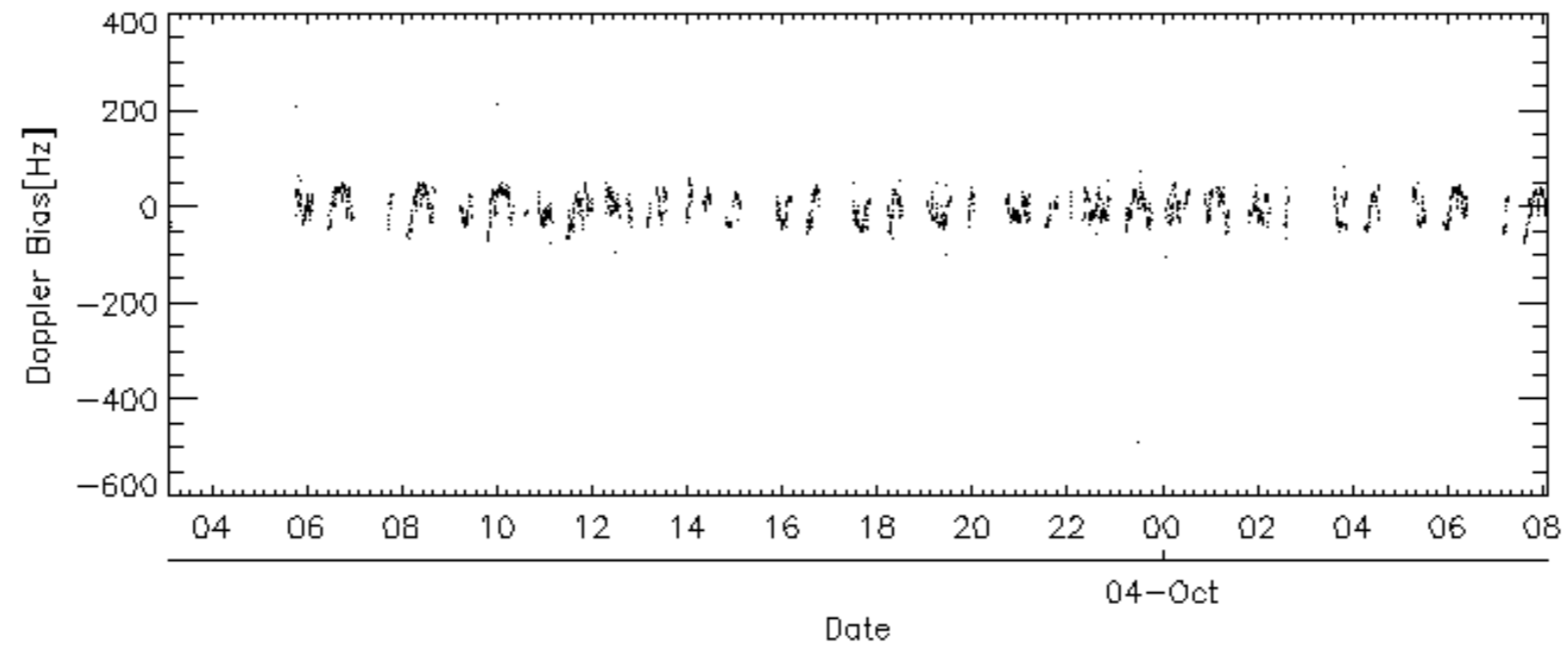
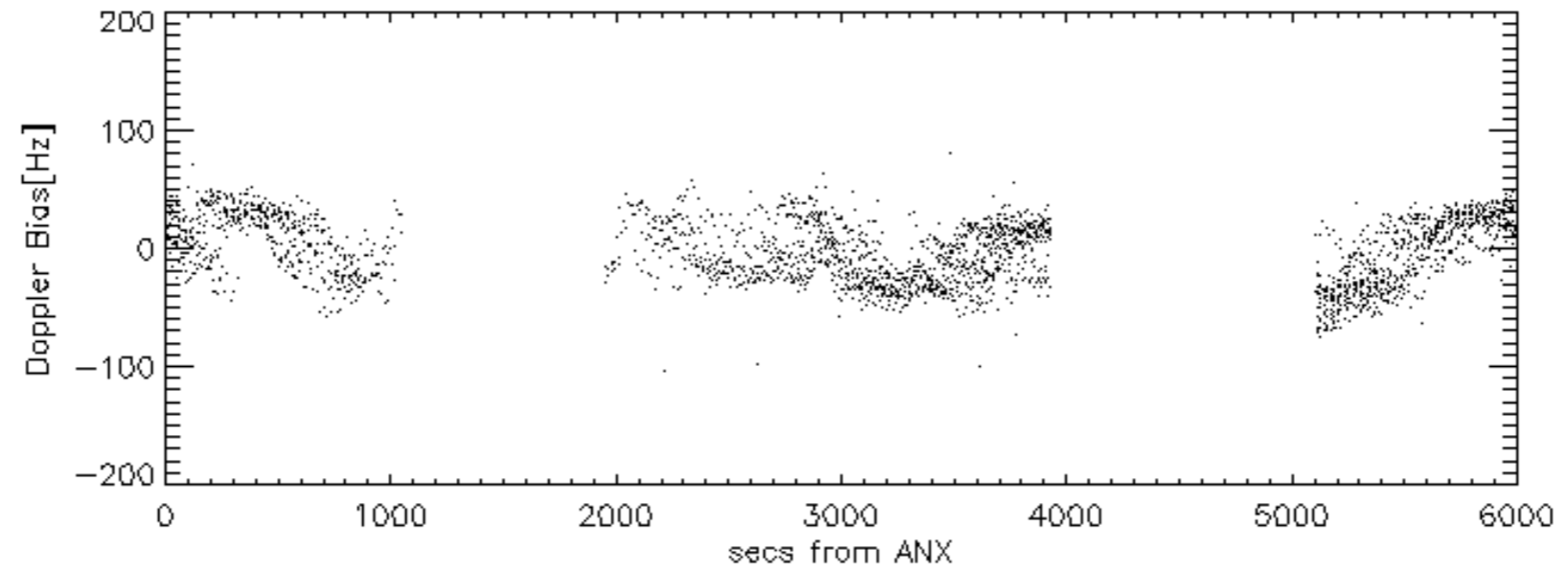
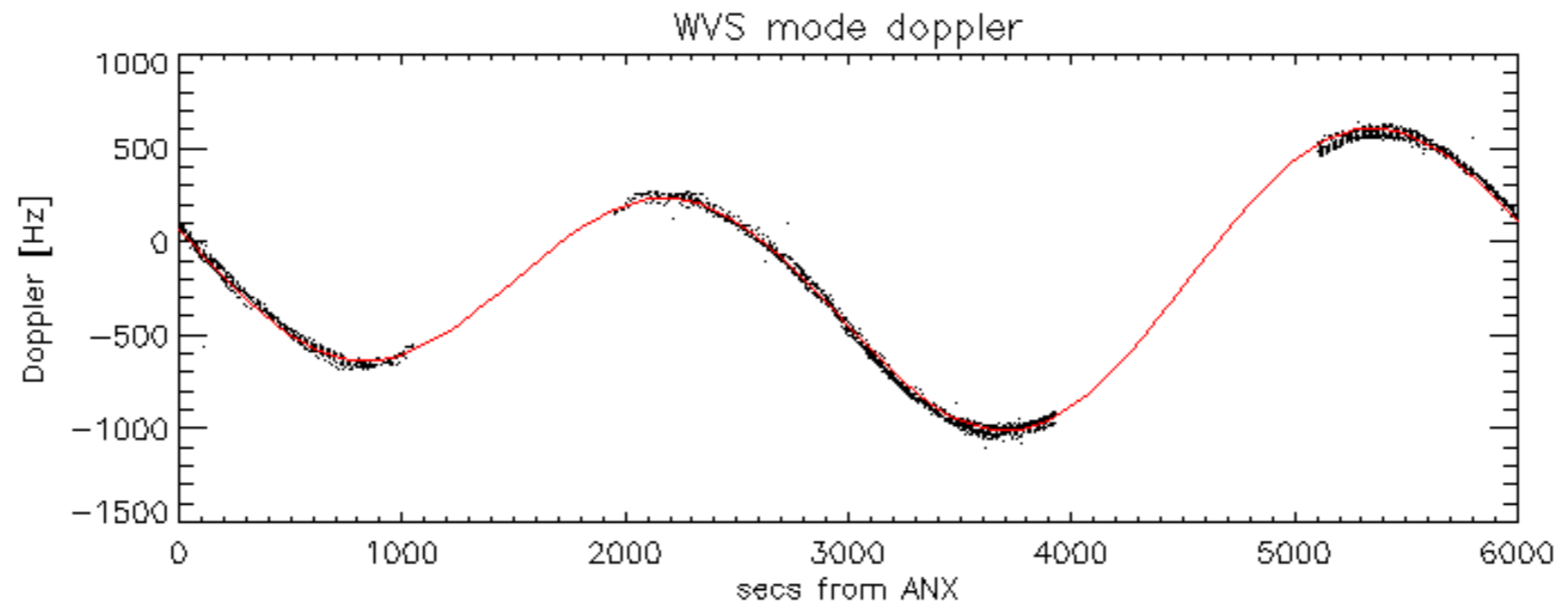


Doppler 'WVS' 'IS2' descending

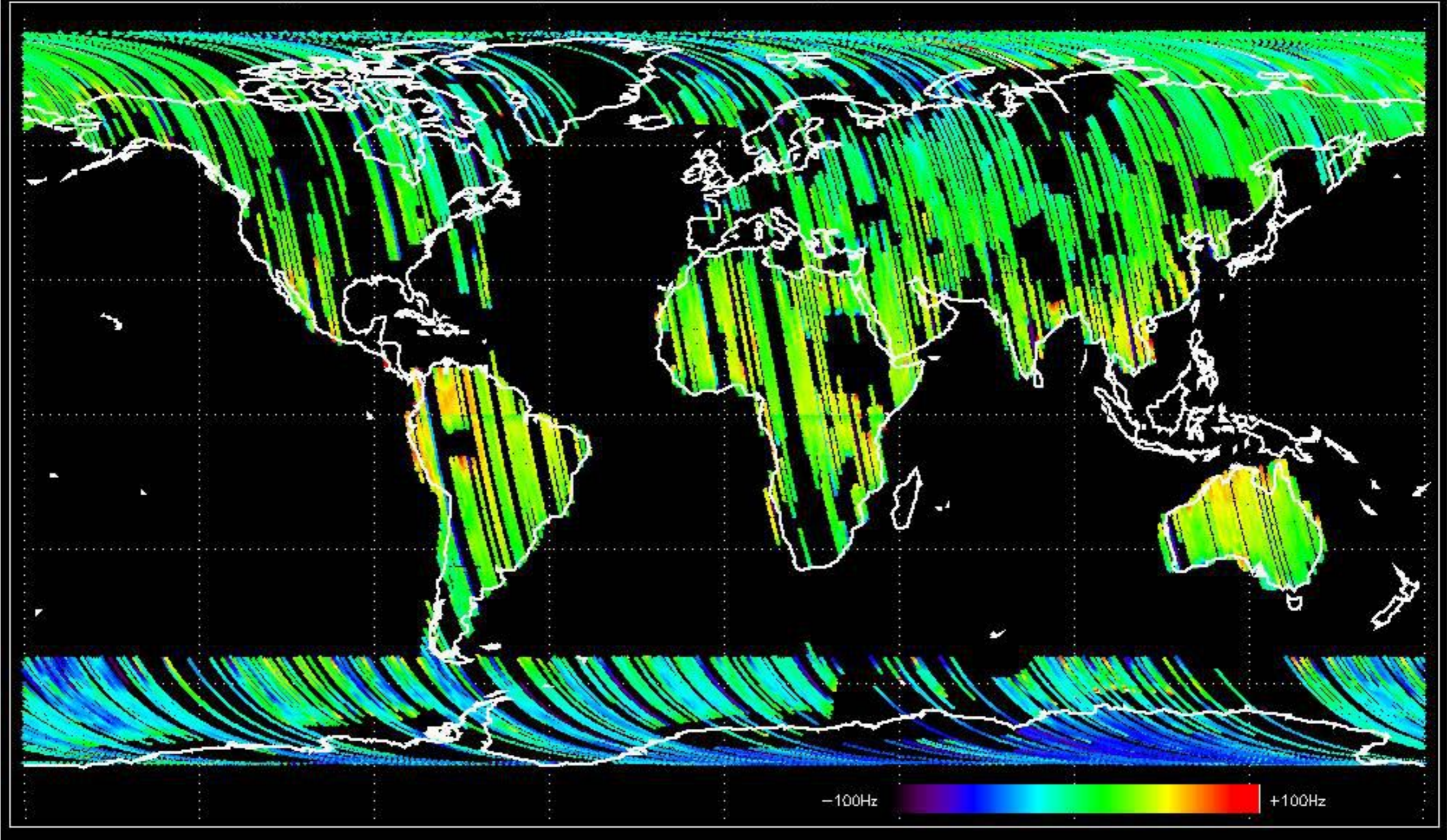


GM1 mode doppler

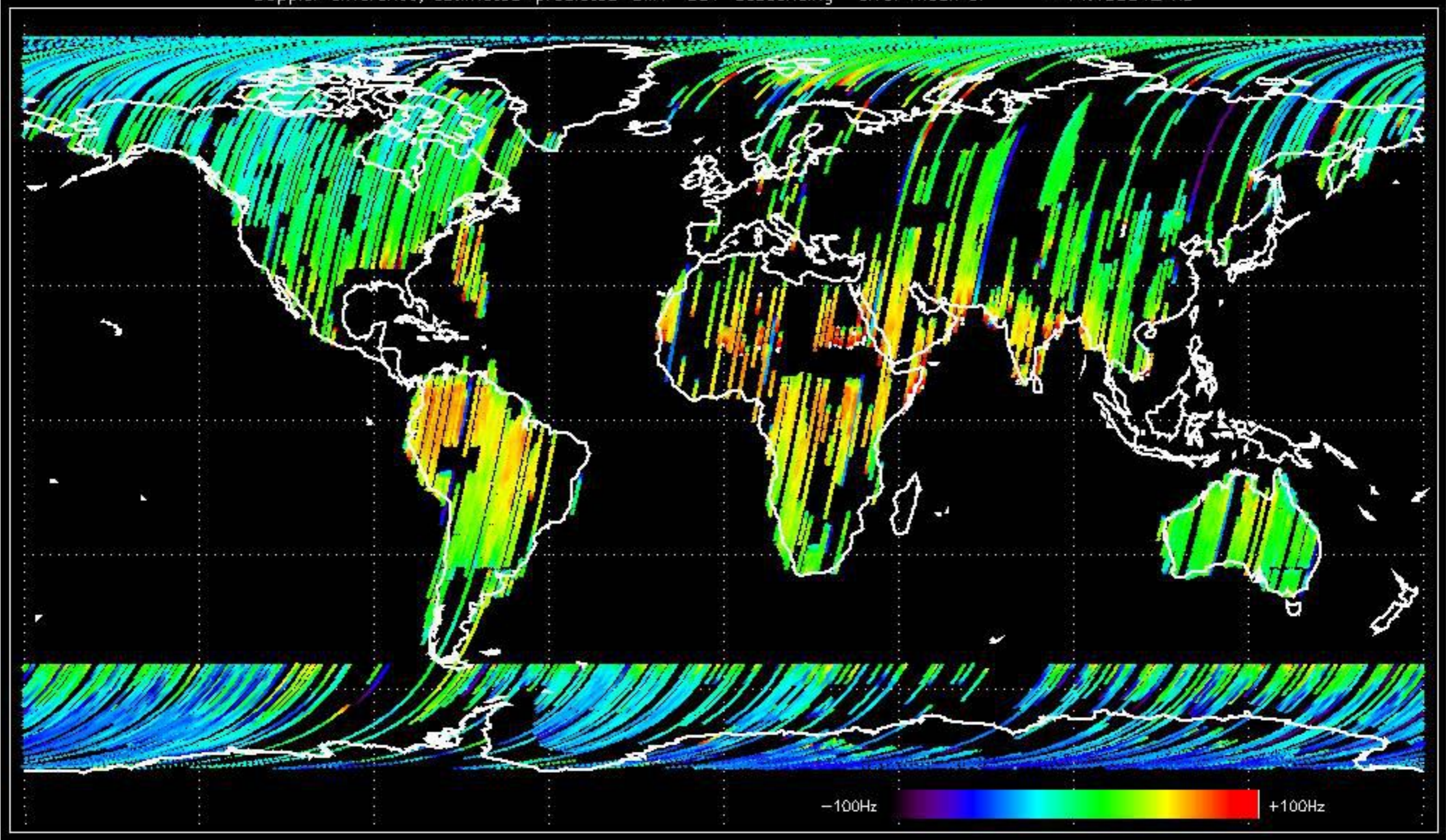




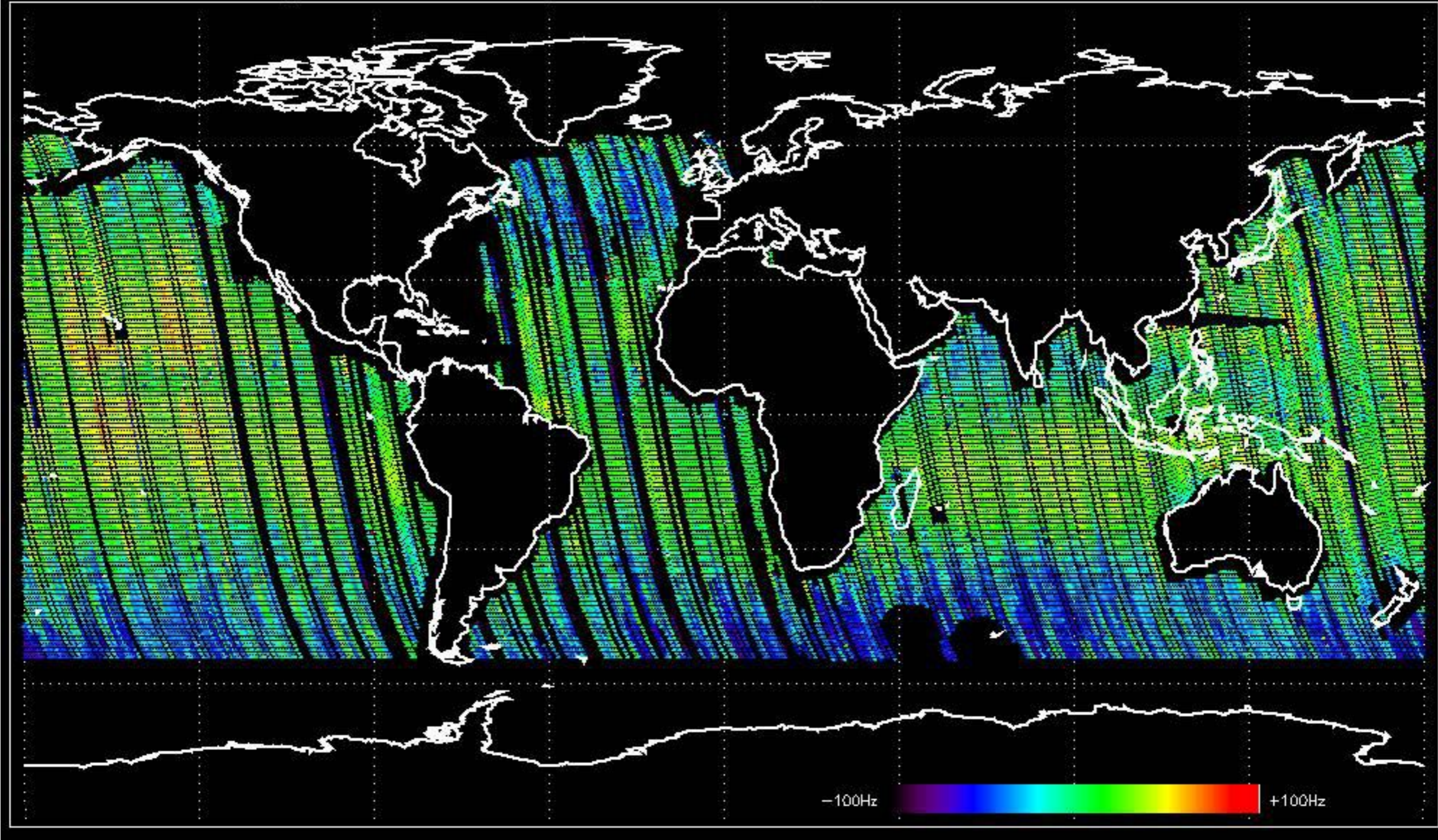
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -21.002836 Hz



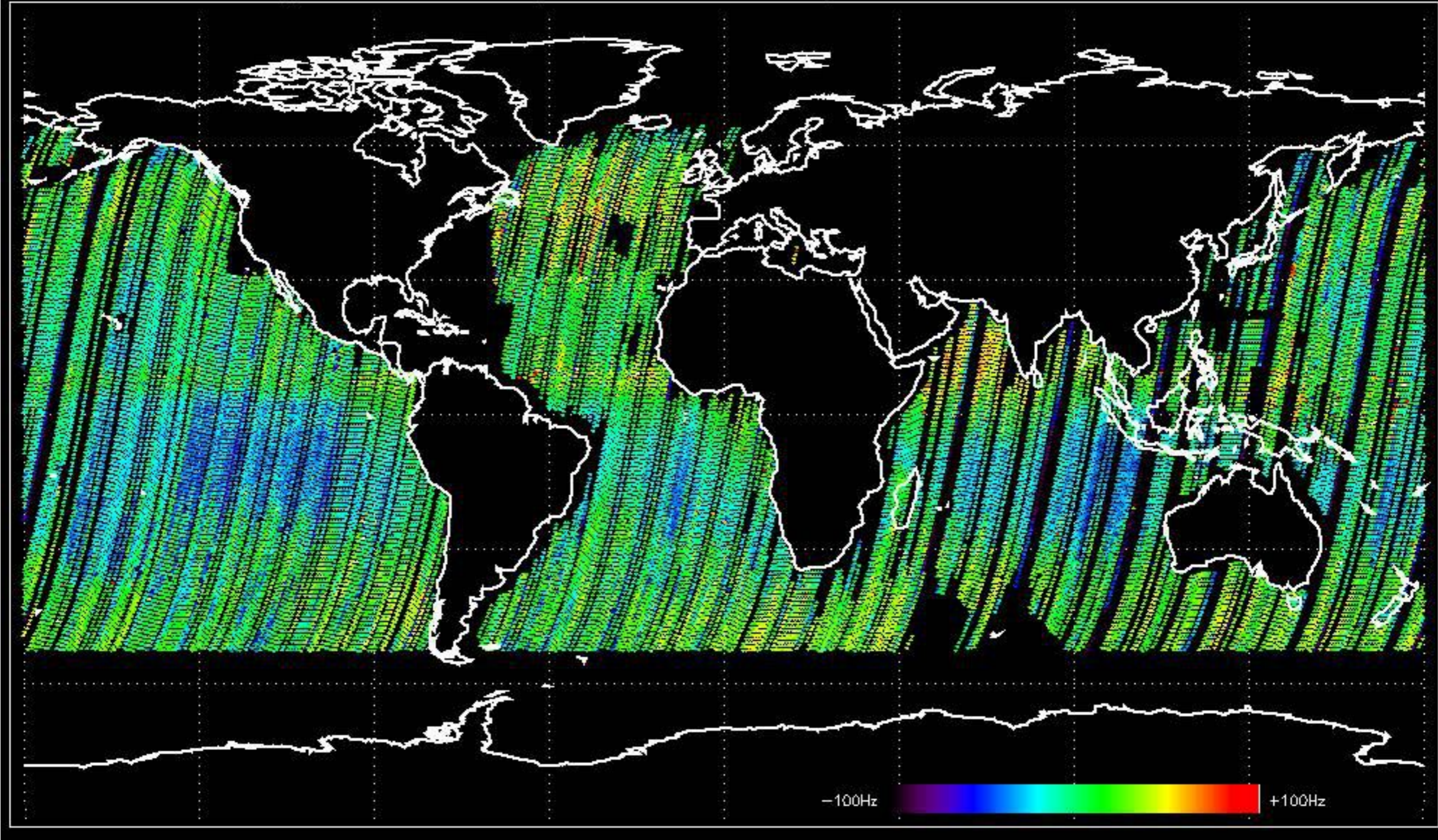
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -14.133342 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -9.8496945 Hz

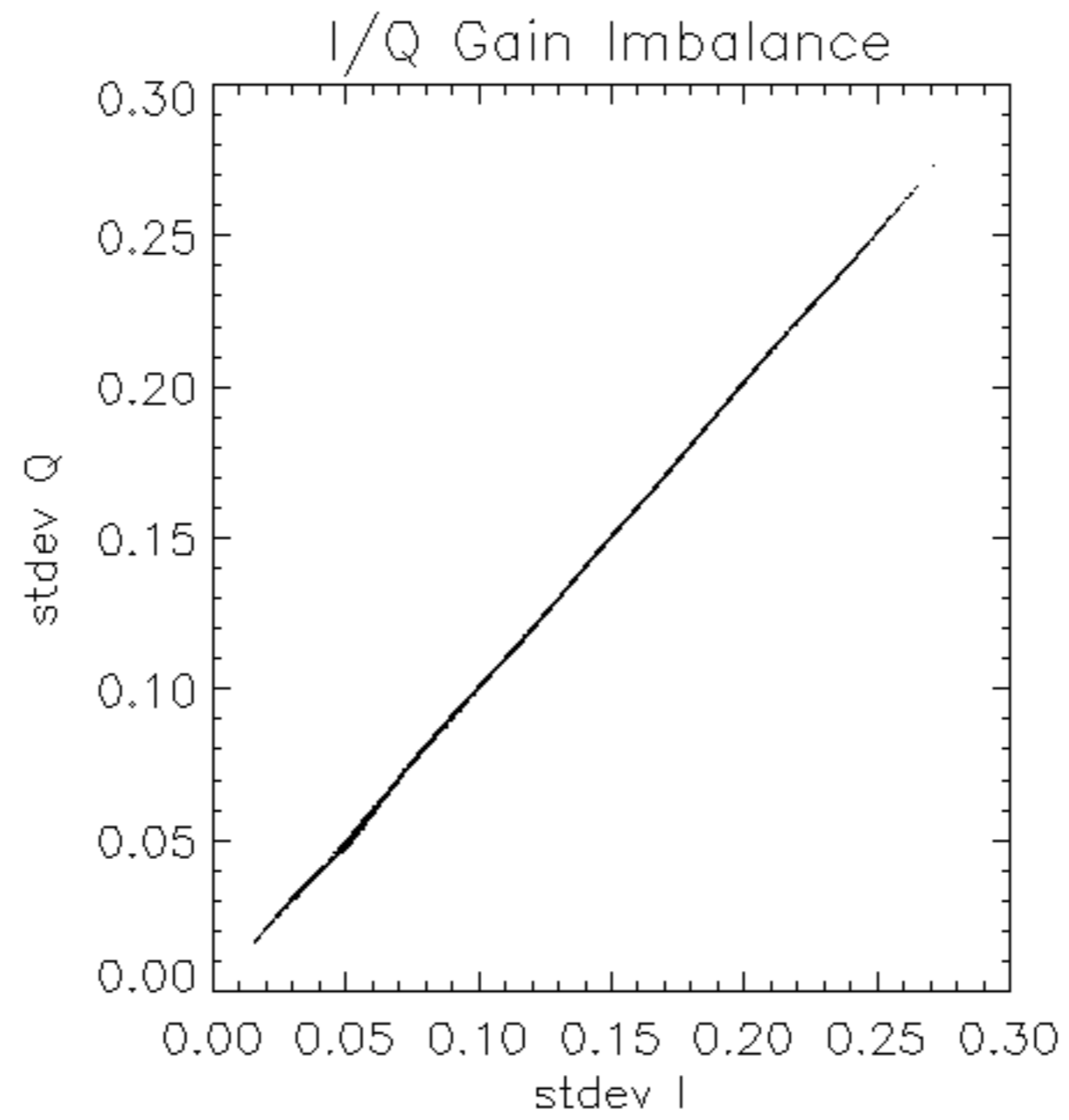


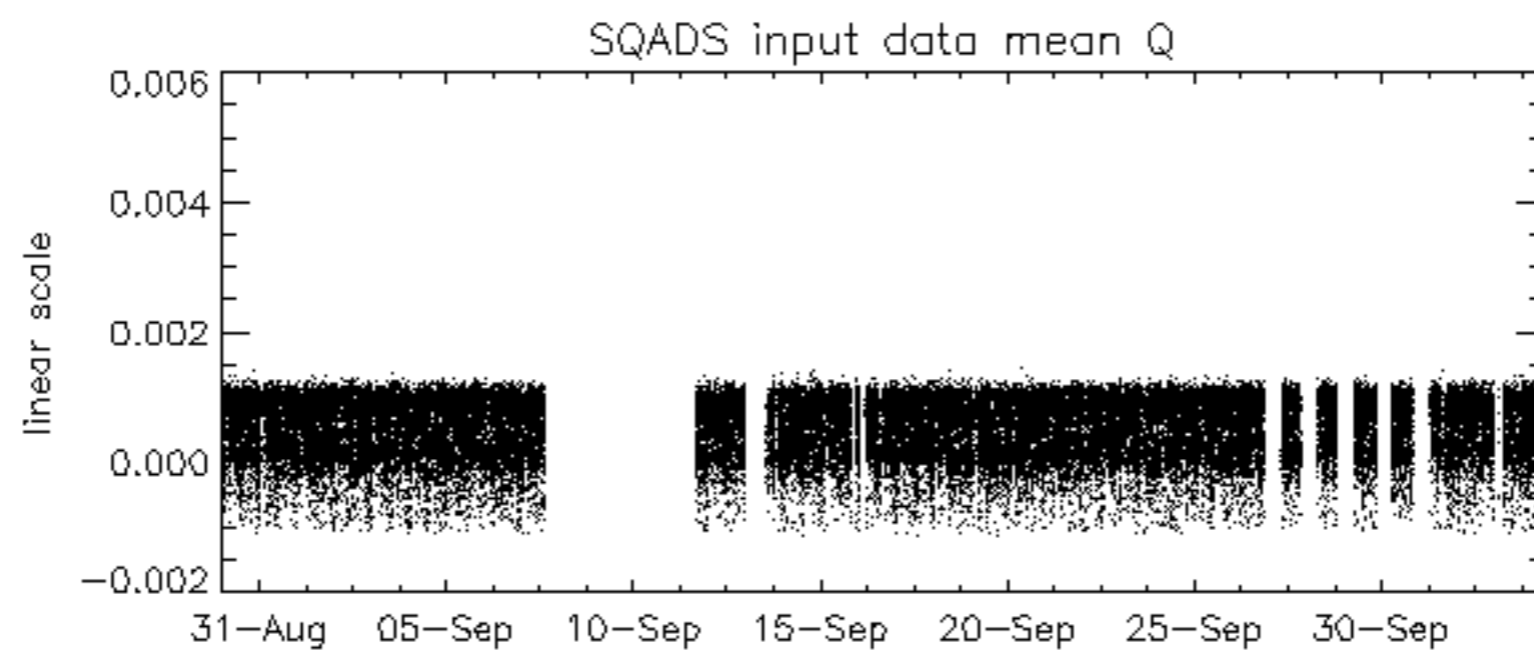
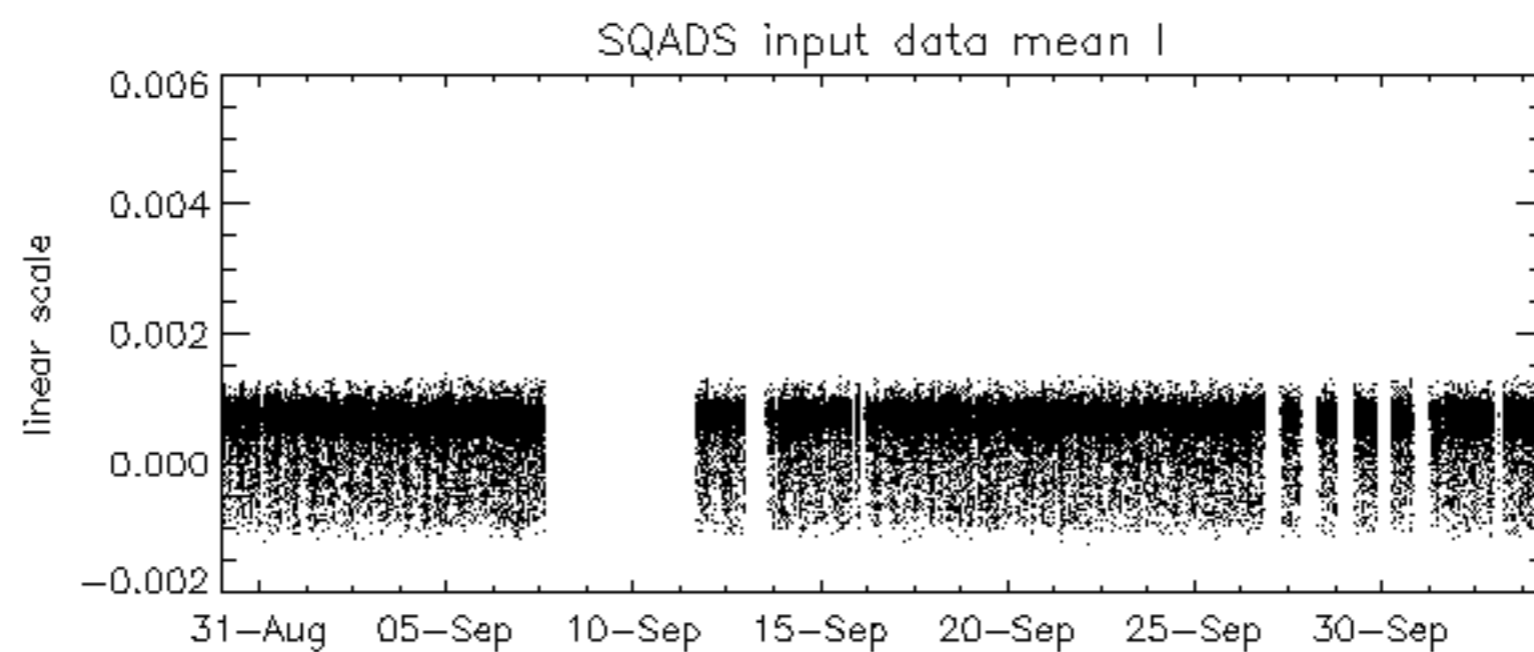
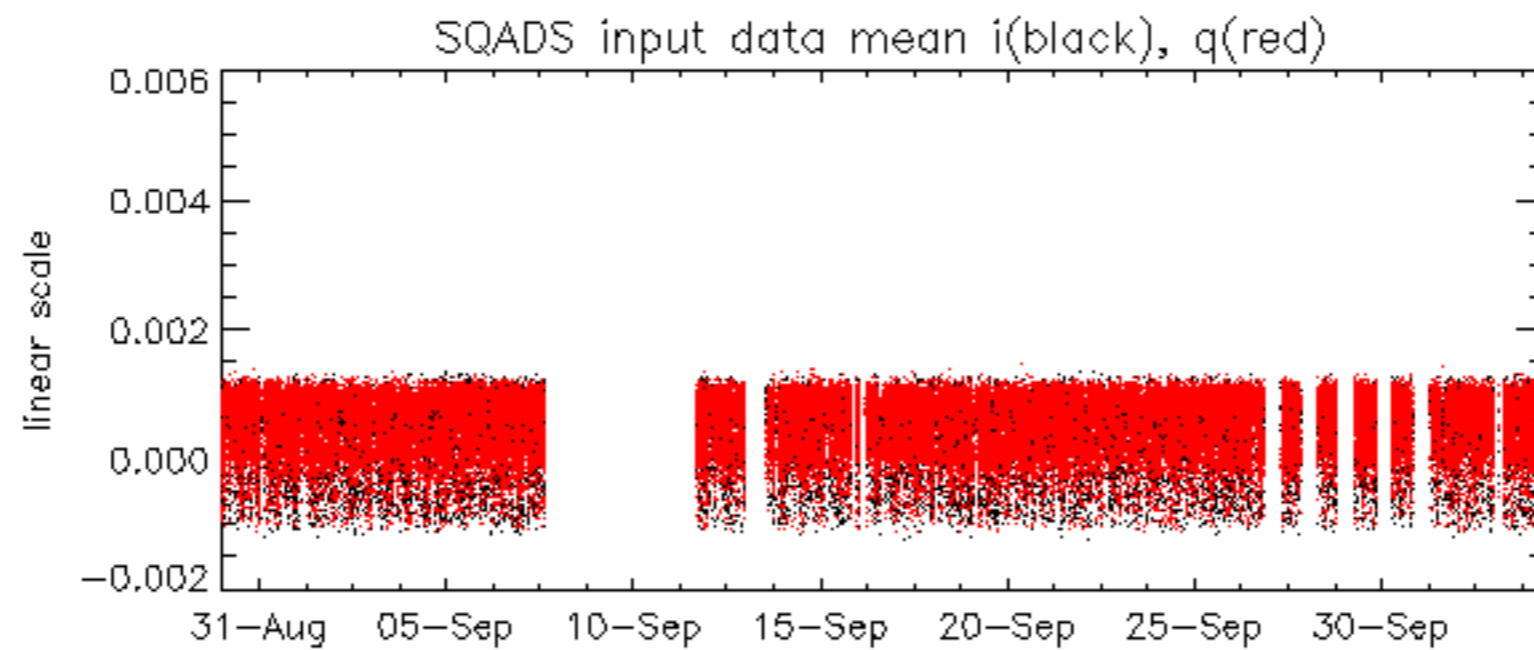
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -16.571900 Hz

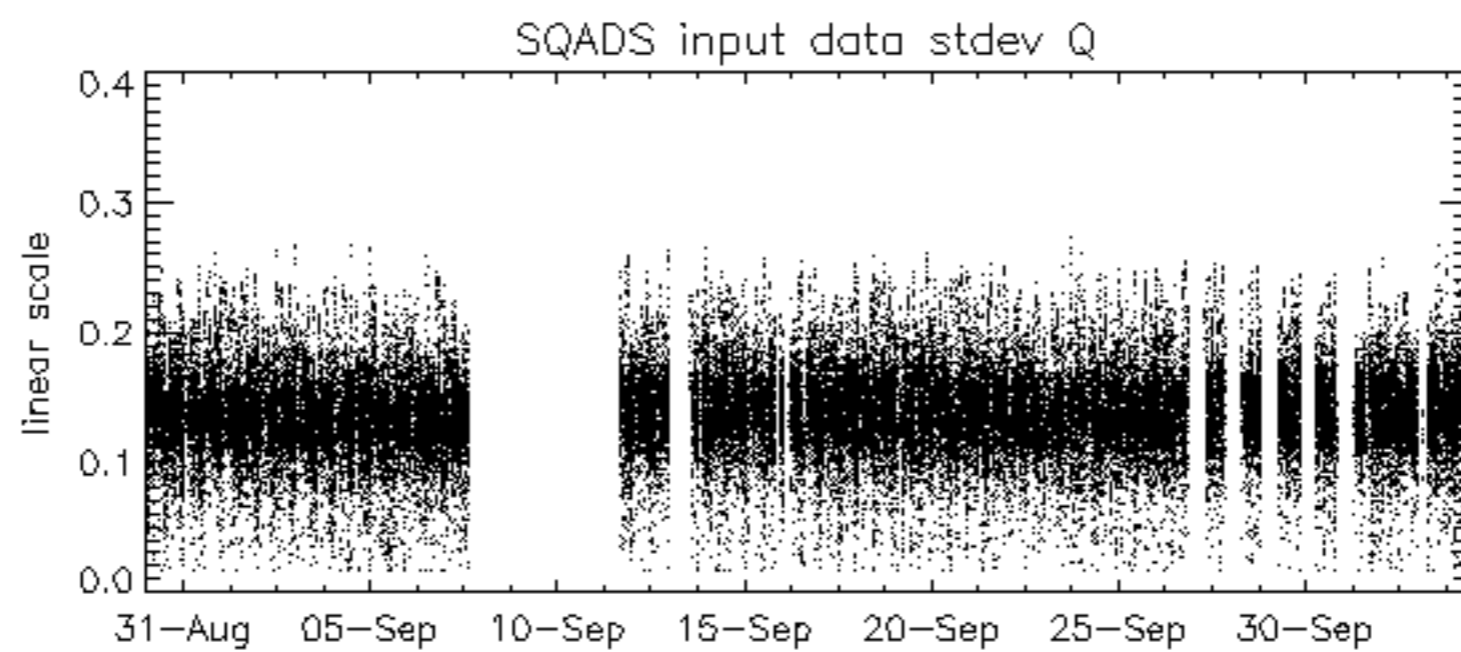
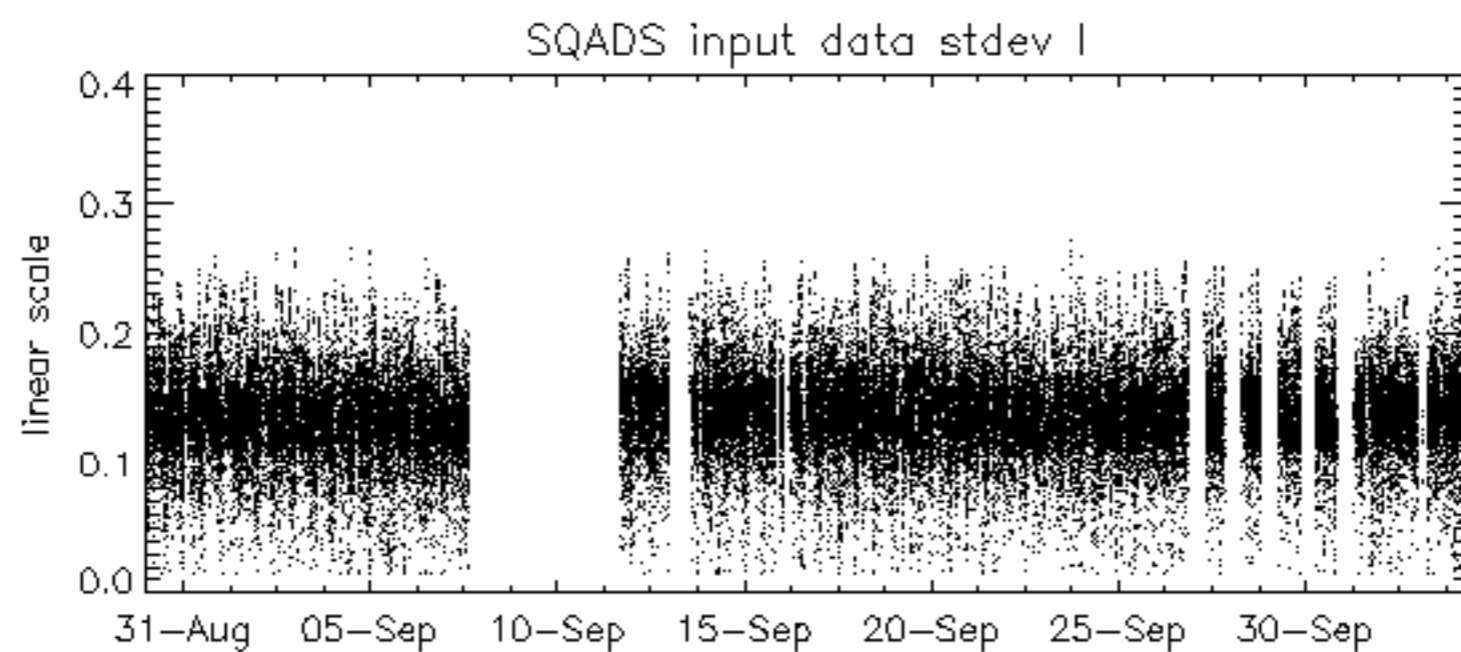
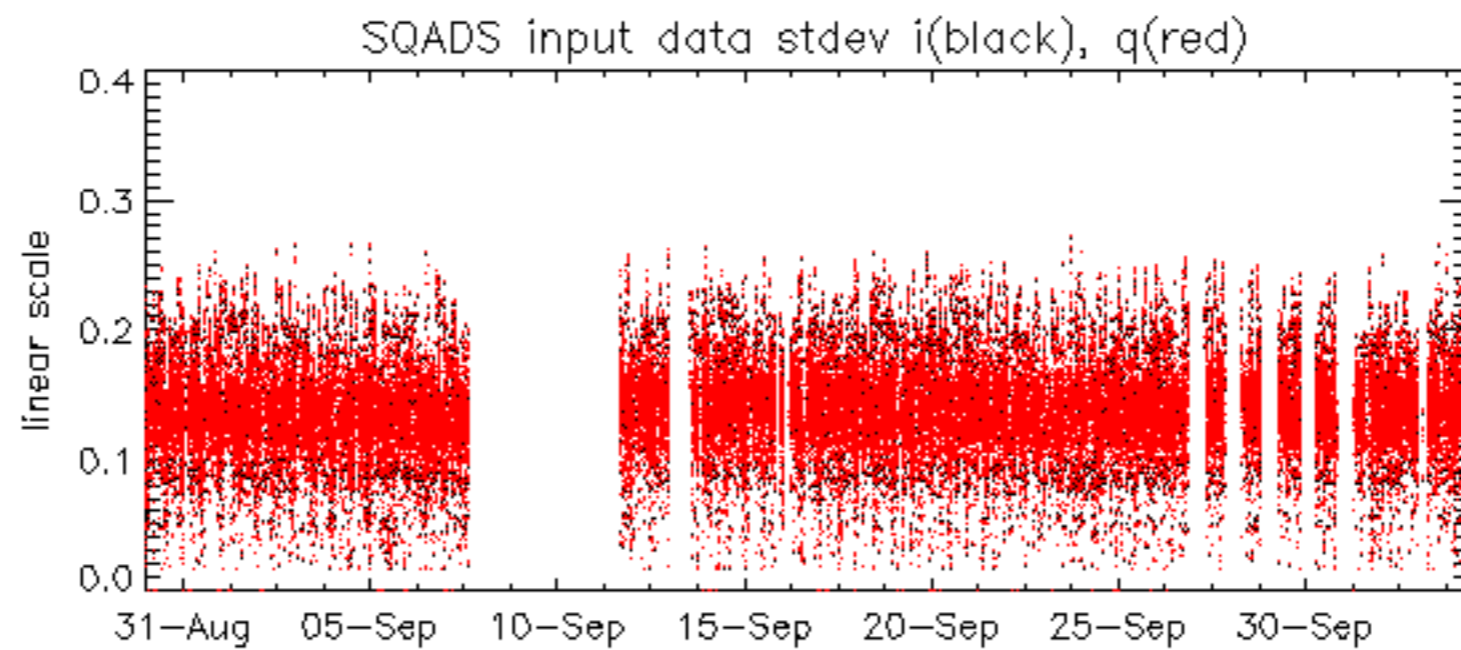


No anomalies observed on available MS products:

No anomalies observed.



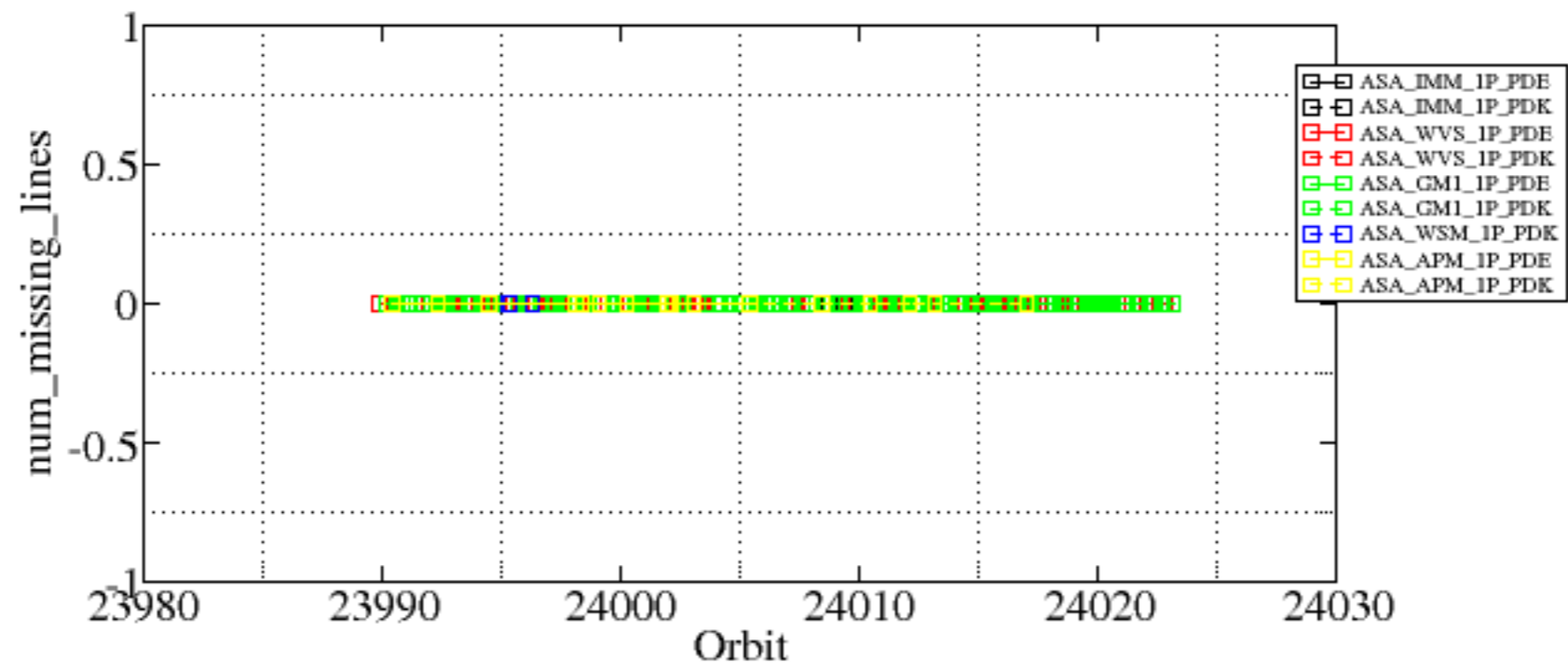


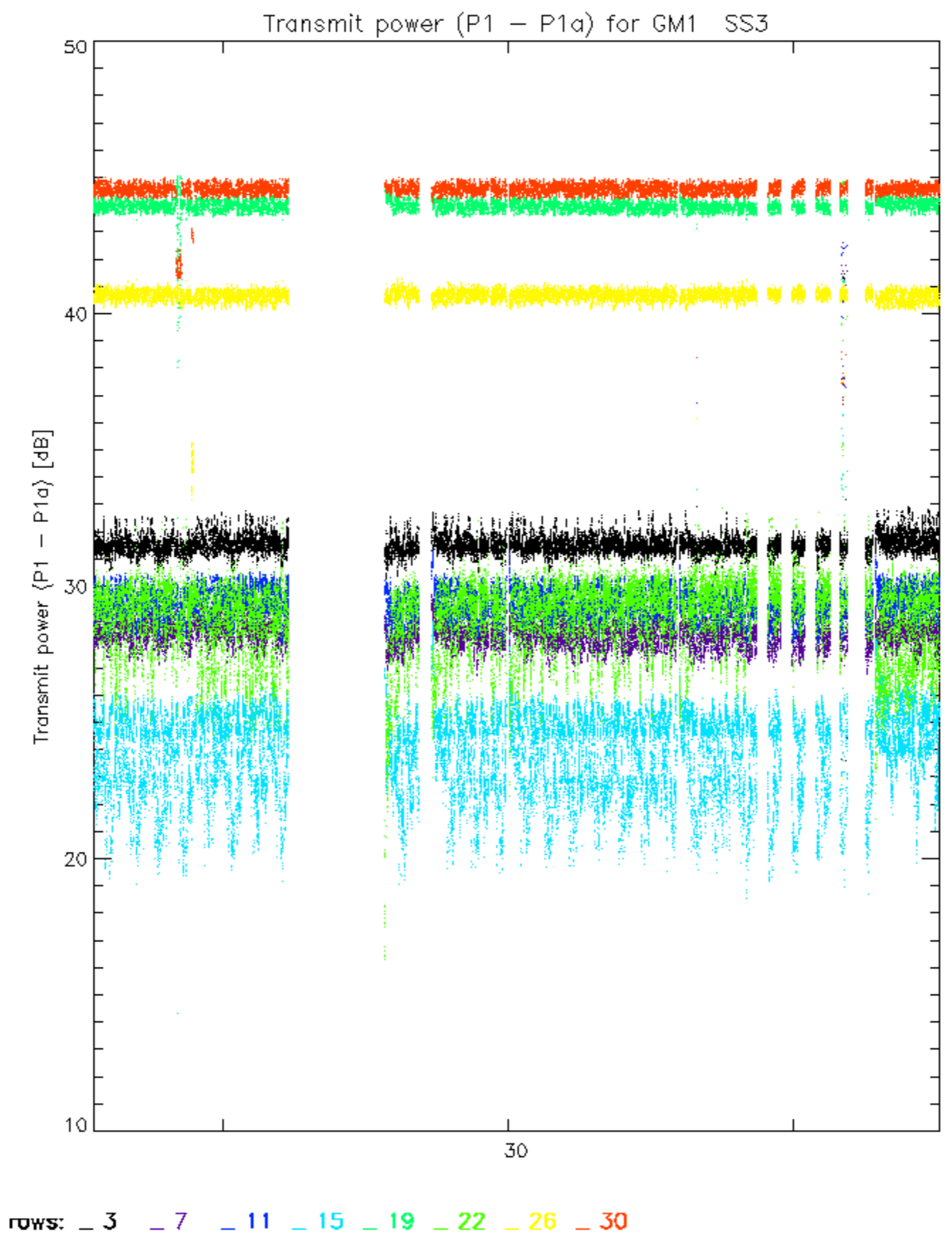


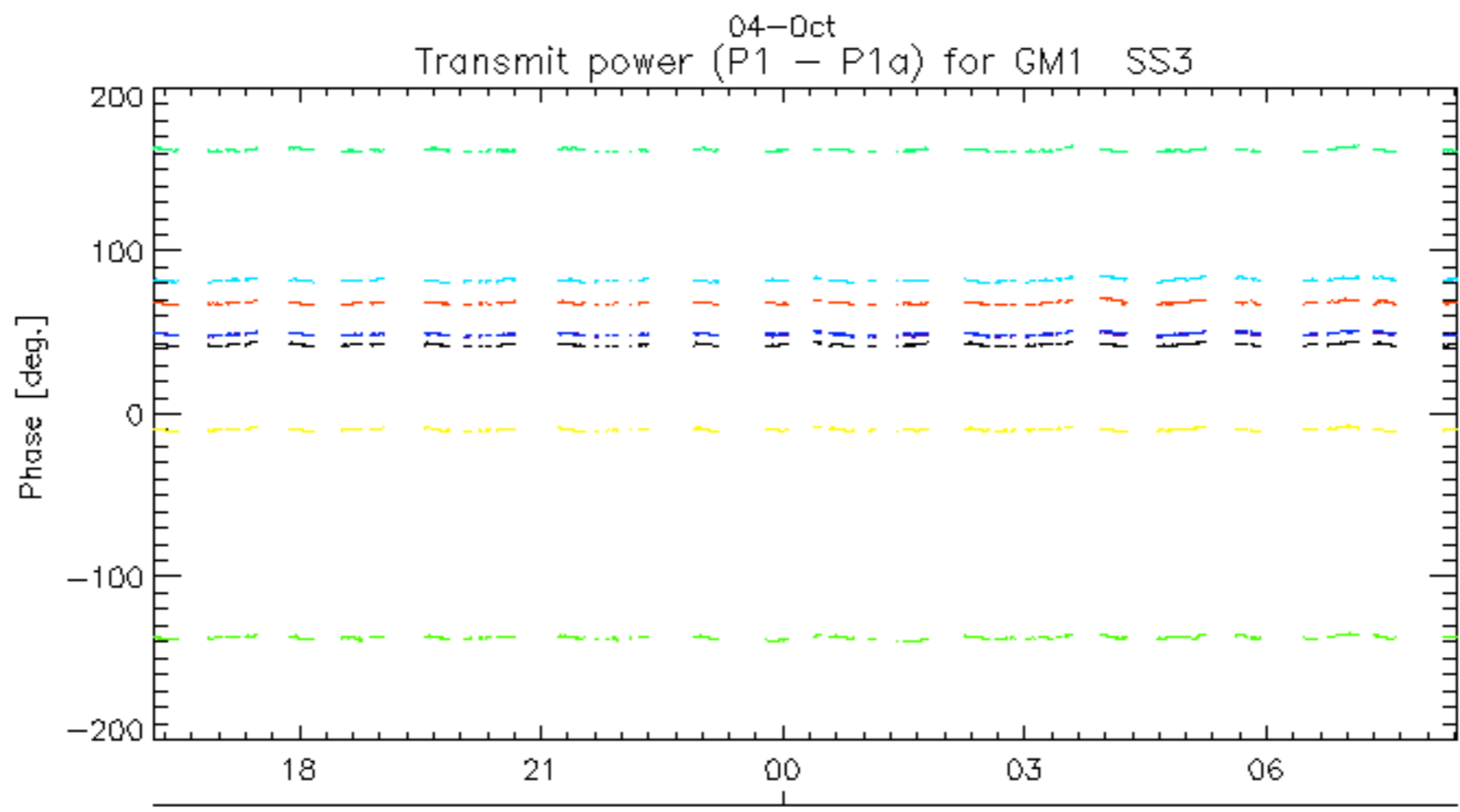
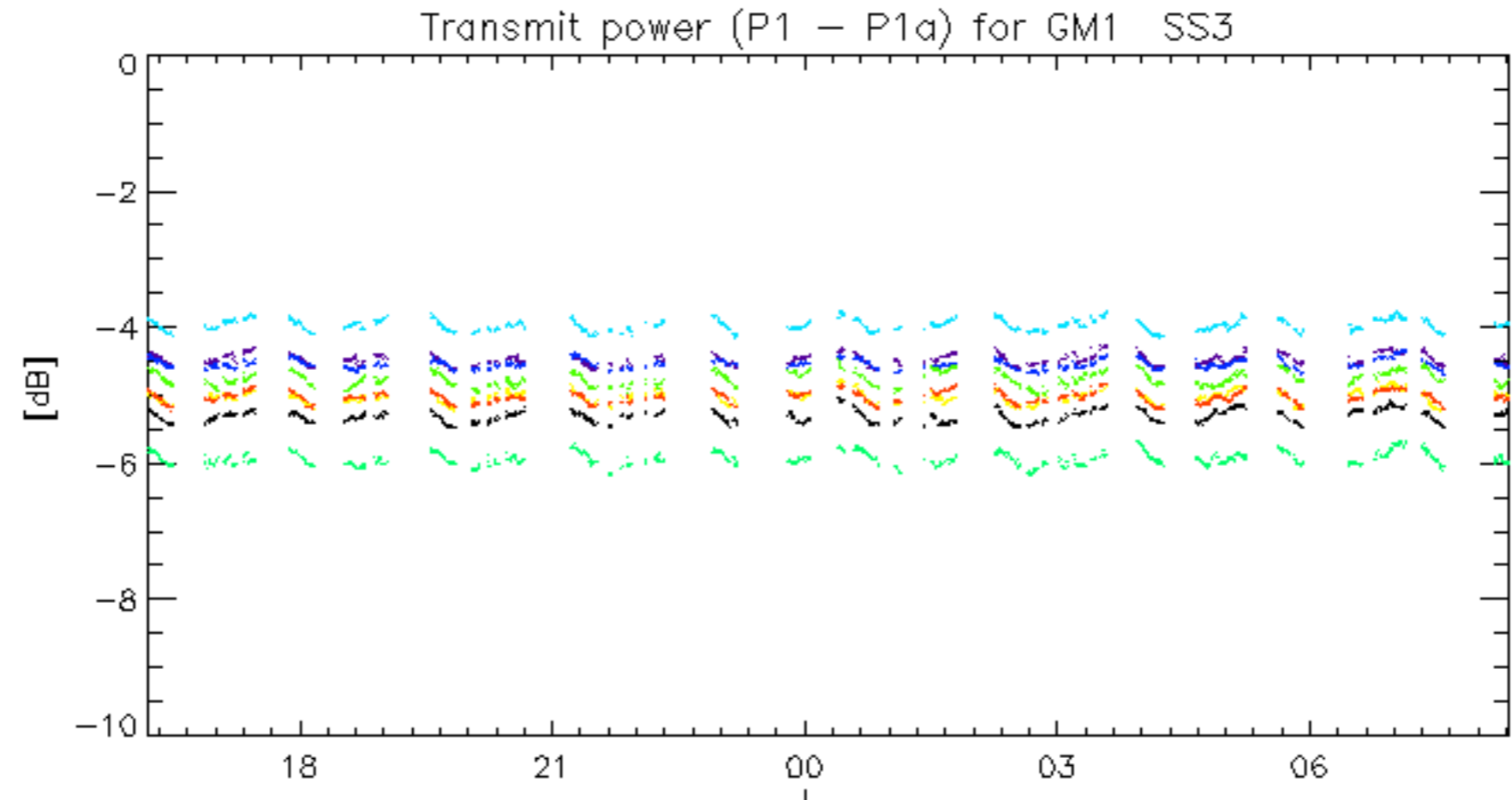
Summary of analysis for the last 3 days 2006100[234]

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

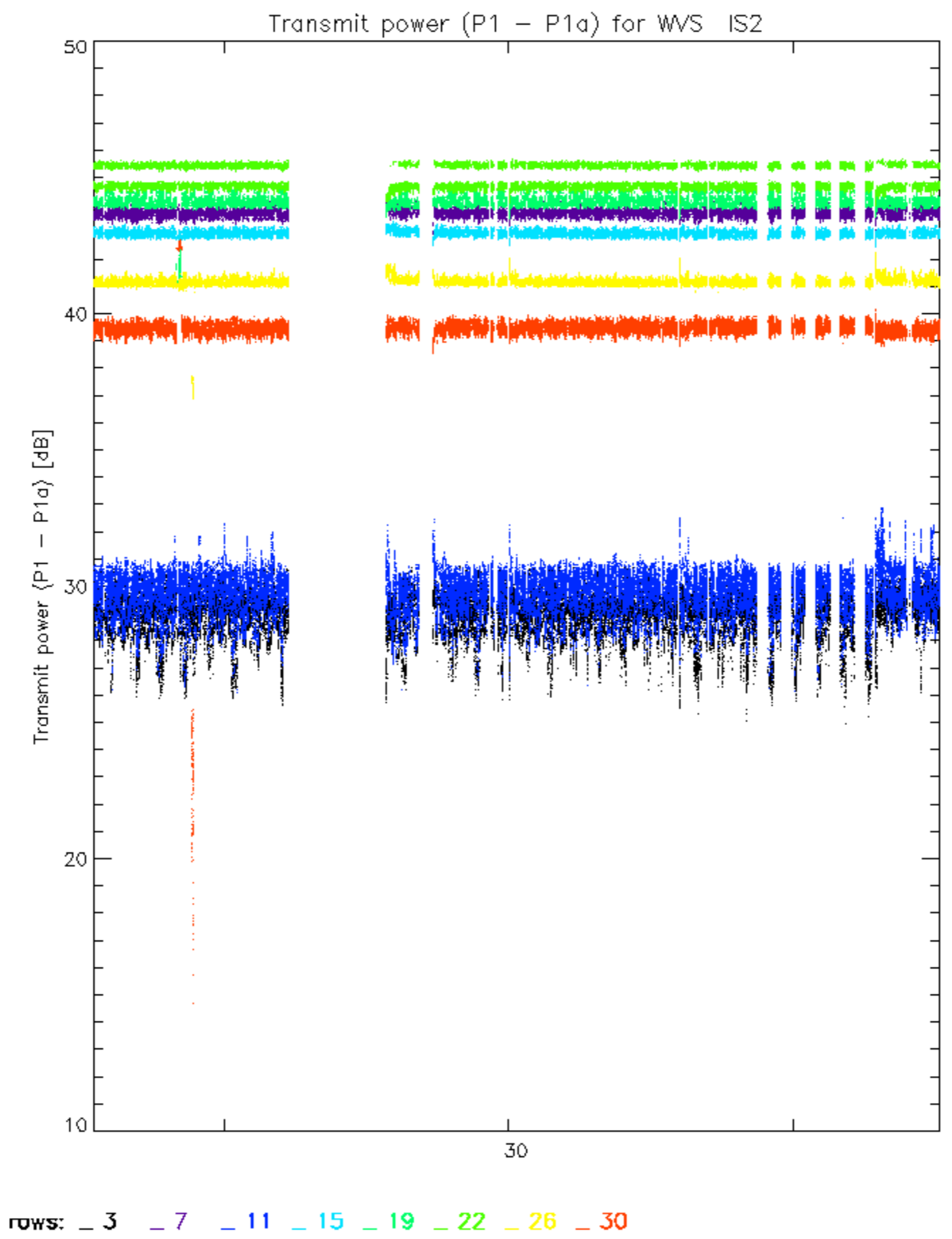
Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDK20061003_115626_00000502051_00410_24011_2298.N1	1	0
ASA_IMM_1PNPDK20061003_210129_00000532051_00415_24016_2306.N1	1	0

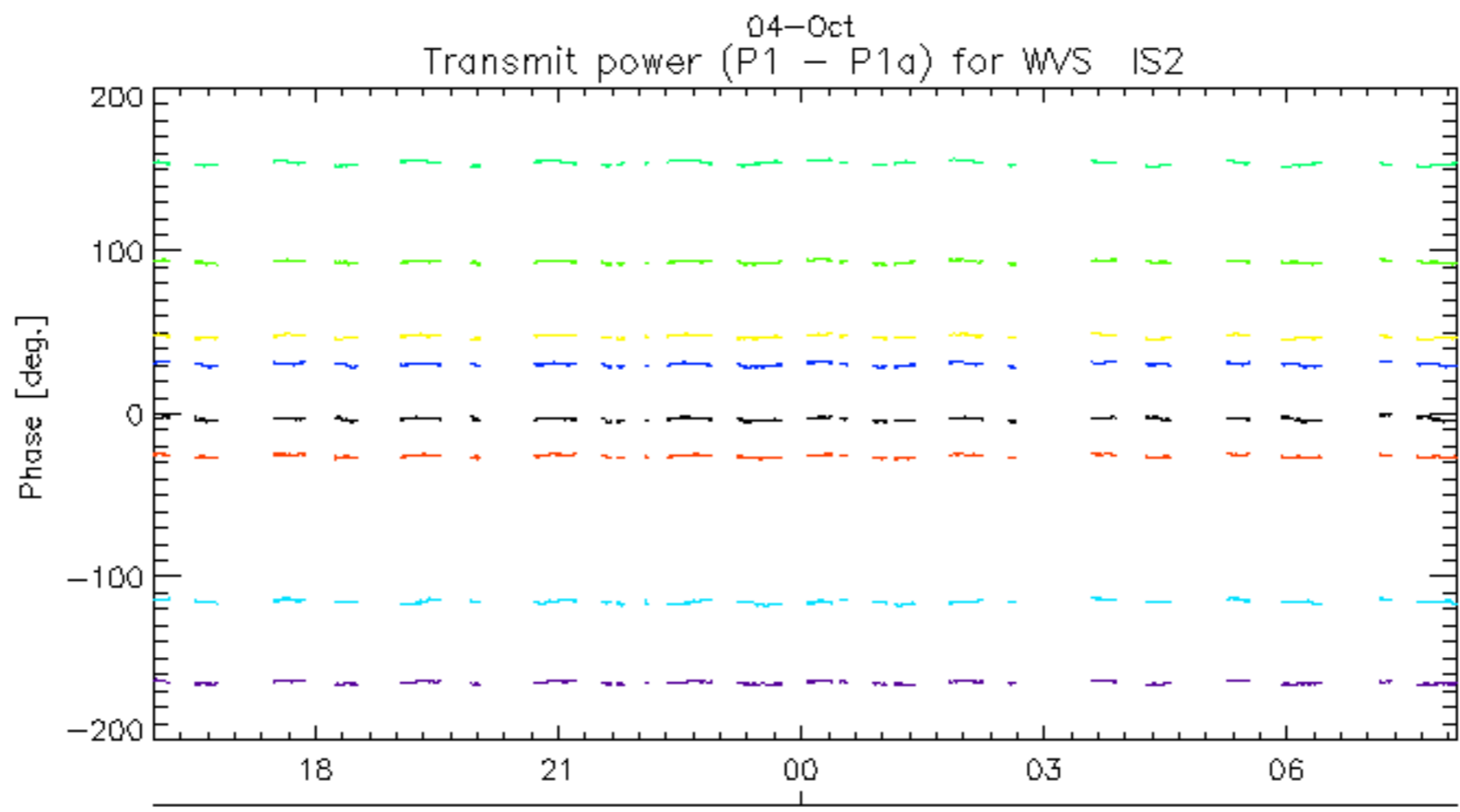
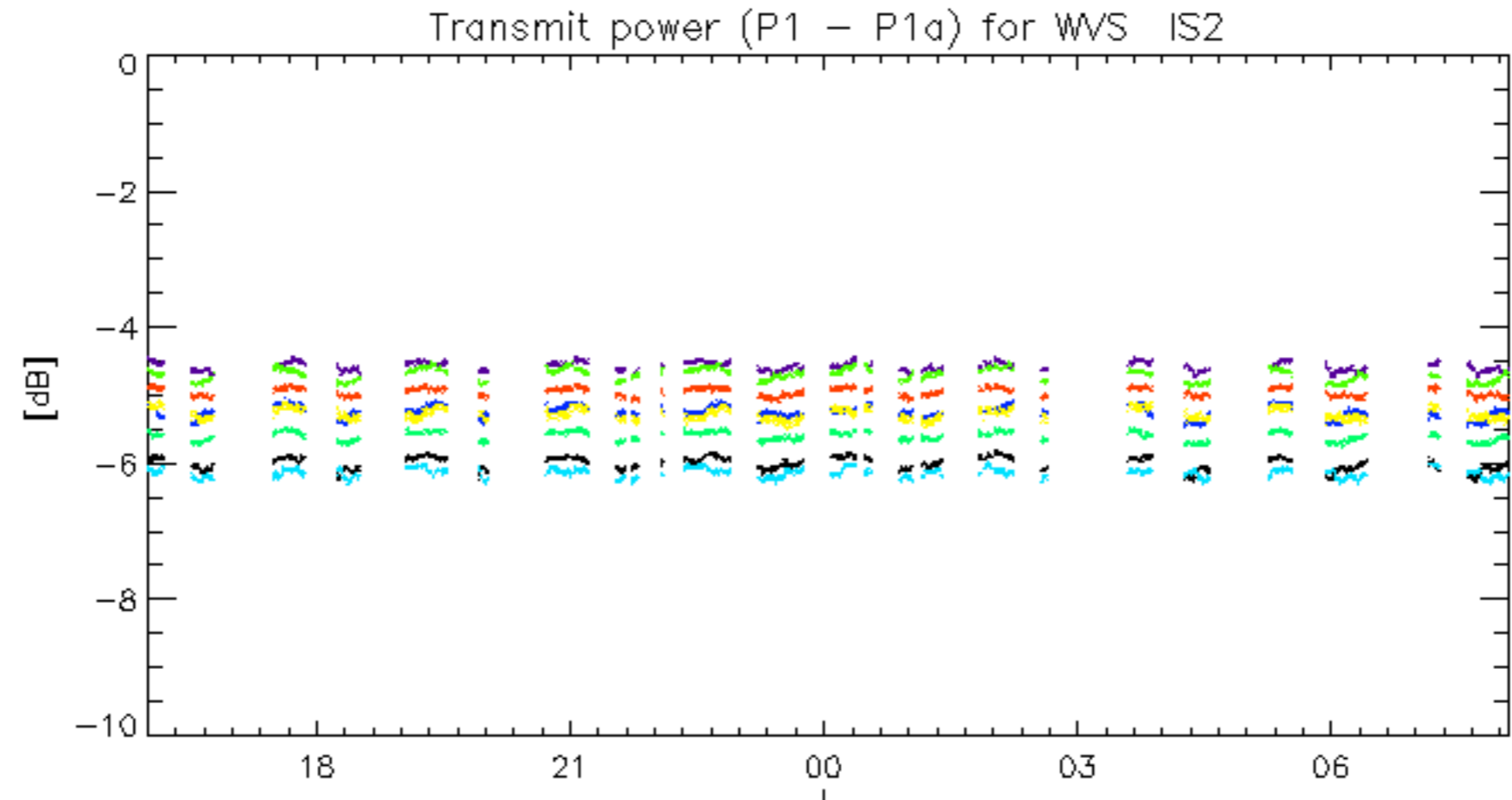






rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30





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

No unavailabilities during the reported period.