

PRELIMINARY REPORT OF 060315

last update on Wed Mar 15 16:59:34 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 2006-03-14 00:00:00 to 2006-03-15 16:59:34

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	43	65	9	0	27
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	43	65	9	0	27
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	43	65	9	0	27
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	43	65	9	0	27

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	42	45	39	15	66
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	42	45	39	15	66
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	42	45	39	15	66
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	42	45	39	15	66

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	20060313 180507
H	20060314 173330

MSM in V/V 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"/>

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	-4.002801	0.009399	0.001105
7	P1	-3.005478	0.008770	-0.025523
11	P1	-4.065172	0.020676	0.042795
15	P1	-6.080241	0.021524	-0.042228
19	P1	-3.288015	0.006588	-0.032459
22	P1	-4.459214	0.014947	0.001308
26	P1	-4.197002	0.103431	0.094009
30	P1	-5.802247	0.144803	-0.009473
3	P1	-16.977173	0.248930	-0.025635
7	P1	-16.709890	0.103260	-0.125724
11	P1	-16.501841	0.323304	0.078475
15	P1	-13.059750	0.095235	0.027249
19	P1	-13.930389	0.055072	-0.089554
22	P1	-15.588920	0.469601	0.073356
26	P1	-15.767164	0.304556	-0.044787
30	P1	-16.497503	0.308512	-0.066943

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.409805	0.087463	0.112203
7	P2	-22.380733	0.095354	0.096393
11	P2	-16.229271	0.100483	0.046228
15	P2	-7.166418	0.098842	0.021132
19	P2	-9.133606	0.091159	0.019000
22	P2	-17.938910	0.089425	-0.028547
26	P2	-16.209852	0.094352	-0.008289
30	P2	-19.646080	0.083951	-0.023522

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.194163	0.005991	0.004378
7	P3	-8.194163	0.005991	0.004378
11	P3	-8.194163	0.005991	0.004378
15	P3	-8.194163	0.005991	0.004378
19	P3	-8.194163	0.005991	0.004378
22	P3	-8.194163	0.005991	0.004378
26	P3	-8.194163	0.005991	0.004378
30	P3	-8.194164	0.005991	0.004378

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	-3.841730	3.182052	0.193064
7	P1	-2.833418	3.339890	0.258080
11	P1	-3.022229	3.362542	0.219200
15	P1	-3.666443	3.333905	0.232306
19	P1	-3.469394	3.230248	0.190175
22	P1	-5.263351	2.968455	0.172467
26	P1	-5.952545	3.154717	0.374617
30	P1	-5.291157	3.002815	0.240289
3	P1	-11.640360	2.090359	0.173830
7	P1	-10.037526	2.315871	0.156382
11	P1	-10.334393	2.307358	0.084504
15	P1	-10.877972	2.316124	0.106089
19	P1	-15.470273	1.703602	0.104532
22	P1	-20.313589	2.326359	0.144405

26	P1	-16.324852	2.219490	0.166482
30	P1	-18.358110	1.593126	0.082464

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.107866	2.198876	0.139766
7	P2	-22.551615	2.570234	-0.013851
11	P2	-11.279621	2.387599	0.155207
15	P2	-4.916870	3.102364	0.204588
19	P2	-6.925808	2.792313	0.193786
22	P2	-8.214374	2.619432	0.150062
26	P2	-23.892868	2.634151	-0.189453
30	P2	-22.035528	2.487344	-0.101027

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.023436	0.002470	0.011104
7	P3	-8.023448	0.002467	0.011139
11	P3	-8.023444	0.002476	0.011141
15	P3	-8.023558	0.002469	0.010823
19	P3	-8.023439	0.002479	0.011054
22	P3	-8.023555	0.002469	0.010774
26	P3	-8.023525	0.002468	0.011197
30	P3	-8.023390	0.002470	0.011258

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	0.000554561
	stdev	1.76540e-07
MEAN Q	mean	0.000513035
	stdev	2.21801e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138082
	stdev	0.00119565
STDEV Q	mean	0.138444
	stdev	0.00121369



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2006031[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_1PNPDE20060314_134140_000000372046_00010_21106_0829.N1	1	0
ASA_IMM_1PNPDE20060314_153600_000000352046_00011_21107_0830.N1	1	0
ASA_IMM_1PNPDE20060315_004510_000001932046_00016_21112_0858.N1	1	0
ASA_GM1_1PNPDK20060314_155431_000003742046_00011_21107_0319.N1	0	17
ASA_WSM_1PNPDE20060313_165856_000001292045_00499_21094_0582.N1	0	76

ASA_WSM_1PNPDE20060314_135201_000000852046_00010_21106_0704.N1	0	29
ASA_WSM_1PNPDE20060315_030808_000001832046_00018_21114_0795.N1	0	1



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

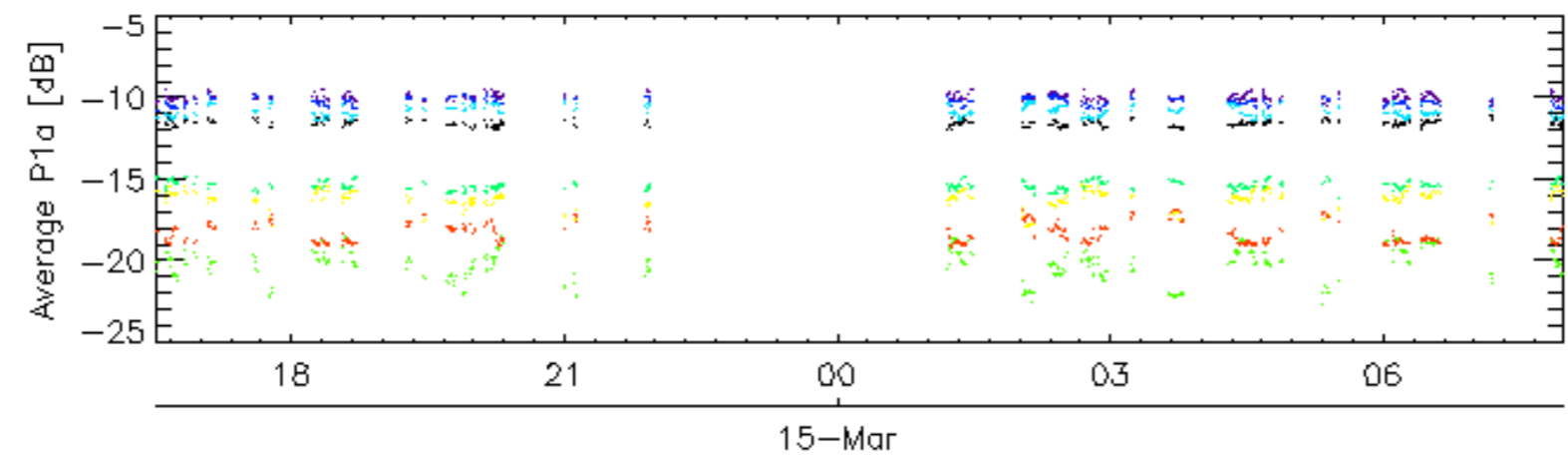
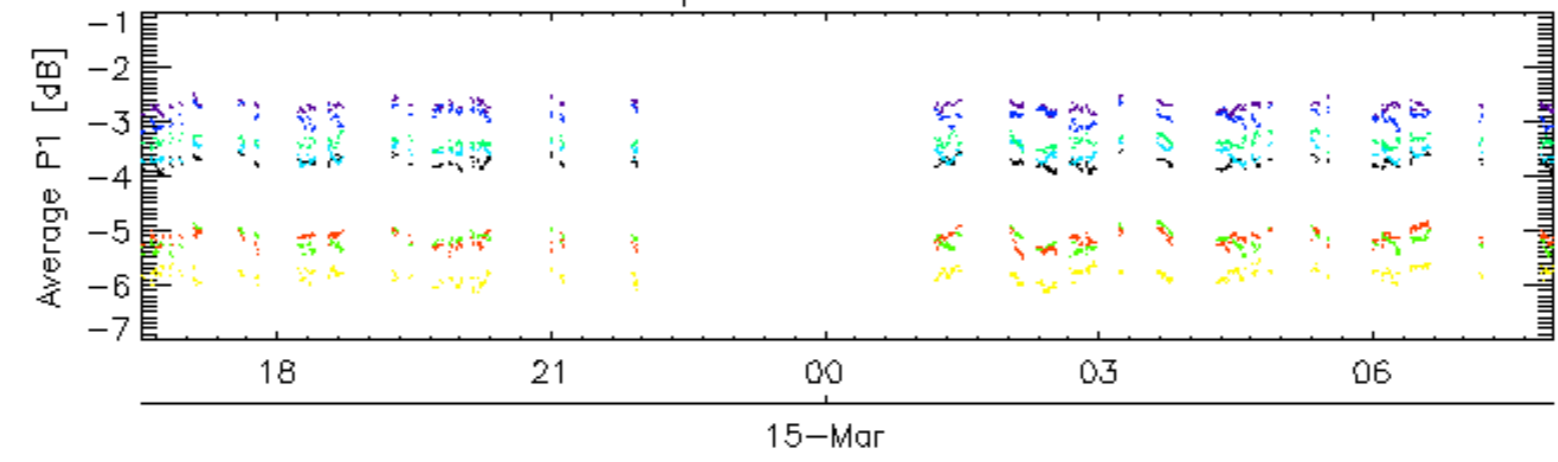
7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler
<input type="checkbox"/>
Ascending
<input type="checkbox"/>
Descending

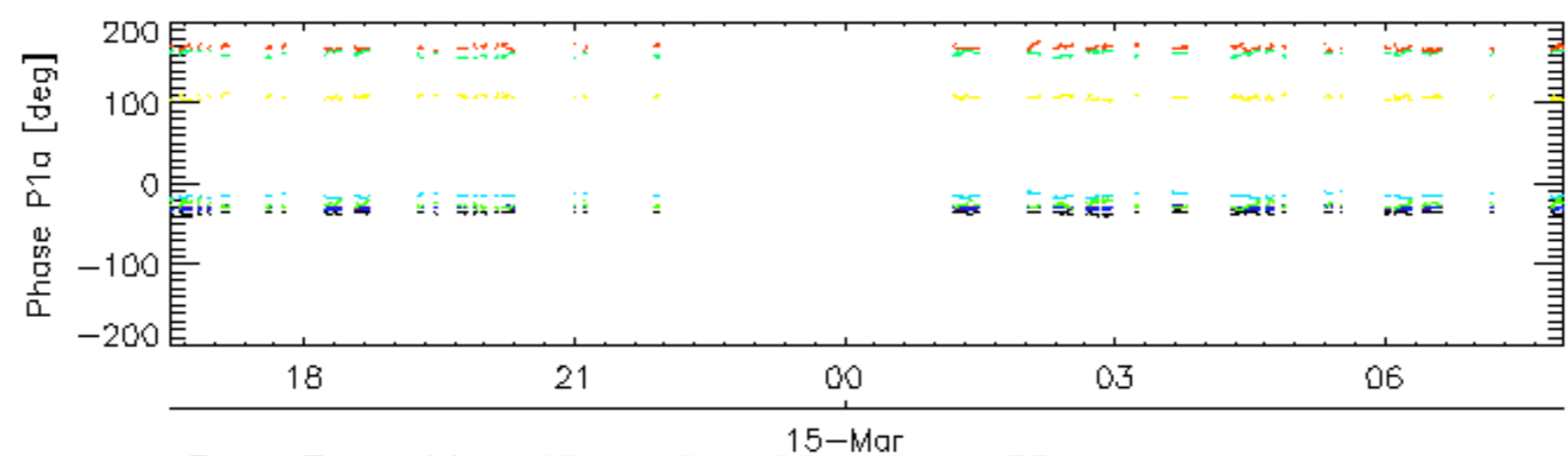
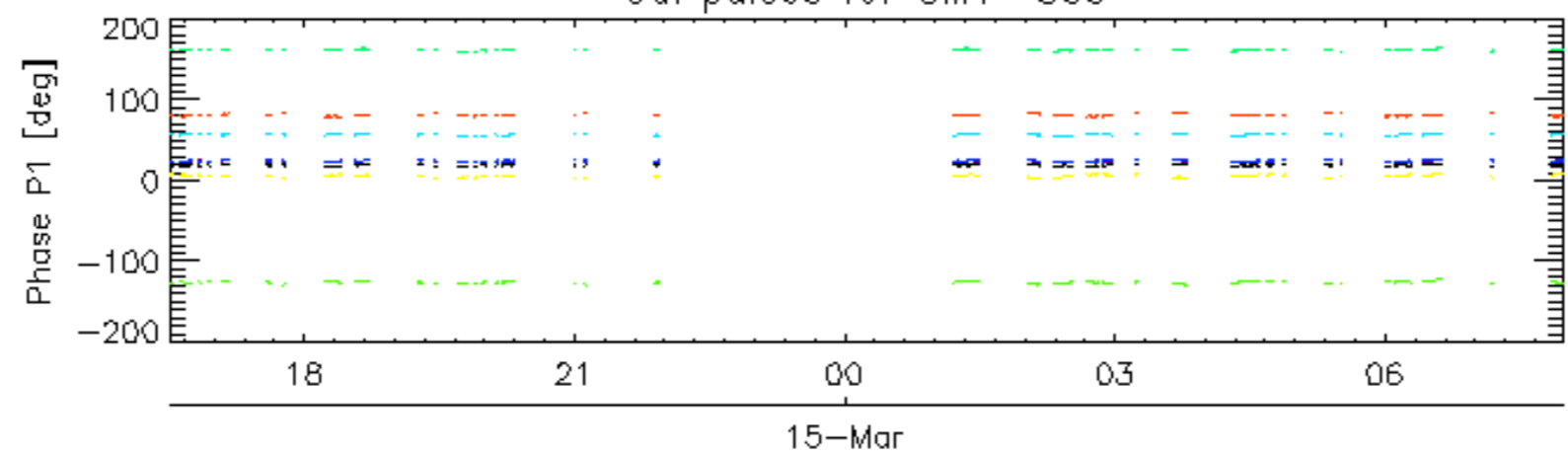
7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
<input type="checkbox"/>

Cal pulses for GM1 SS3

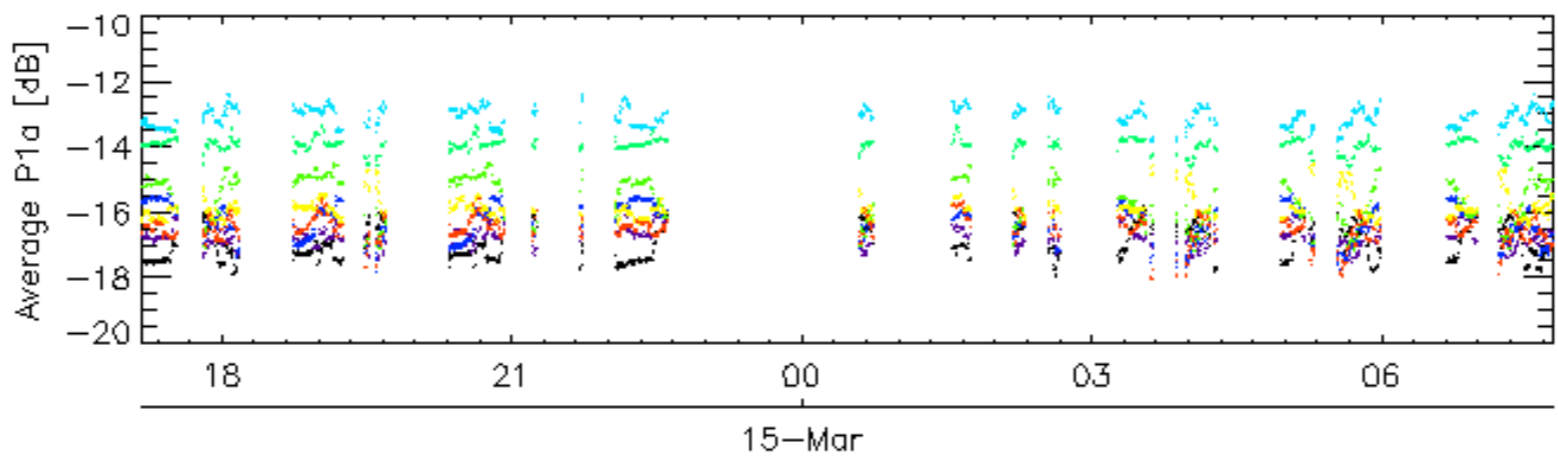
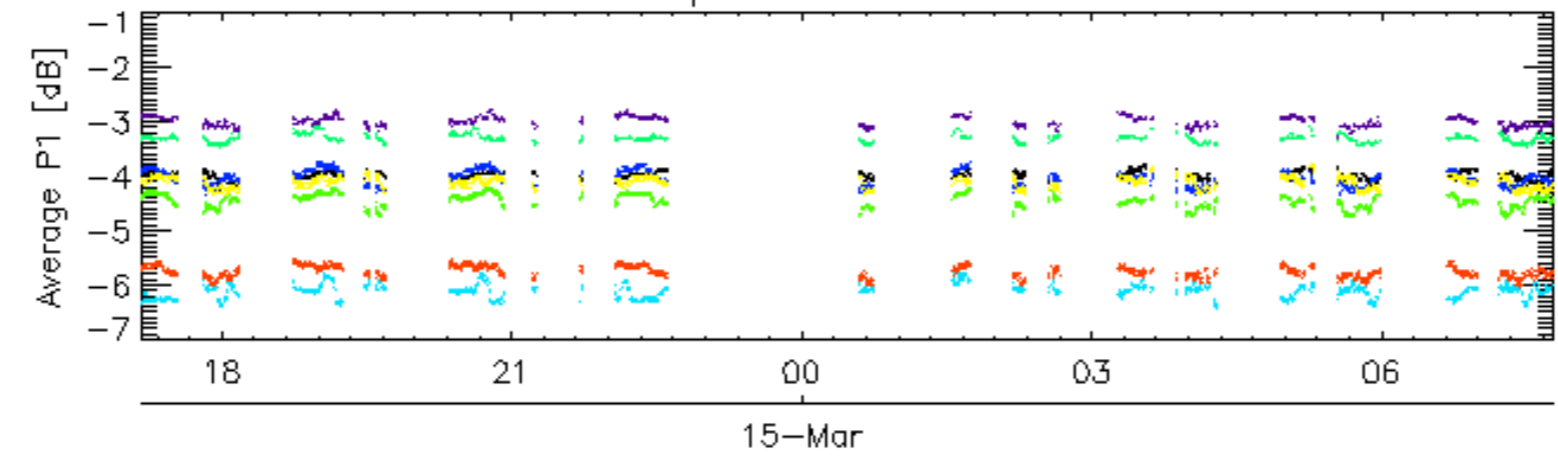


Cal pulses for GM1 SS3

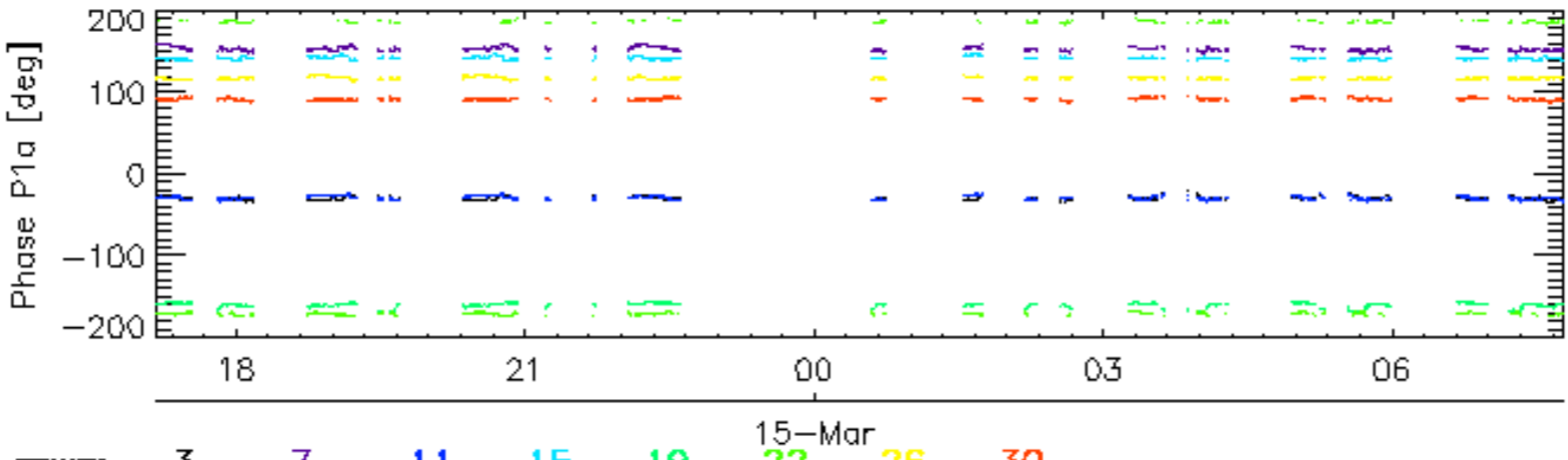
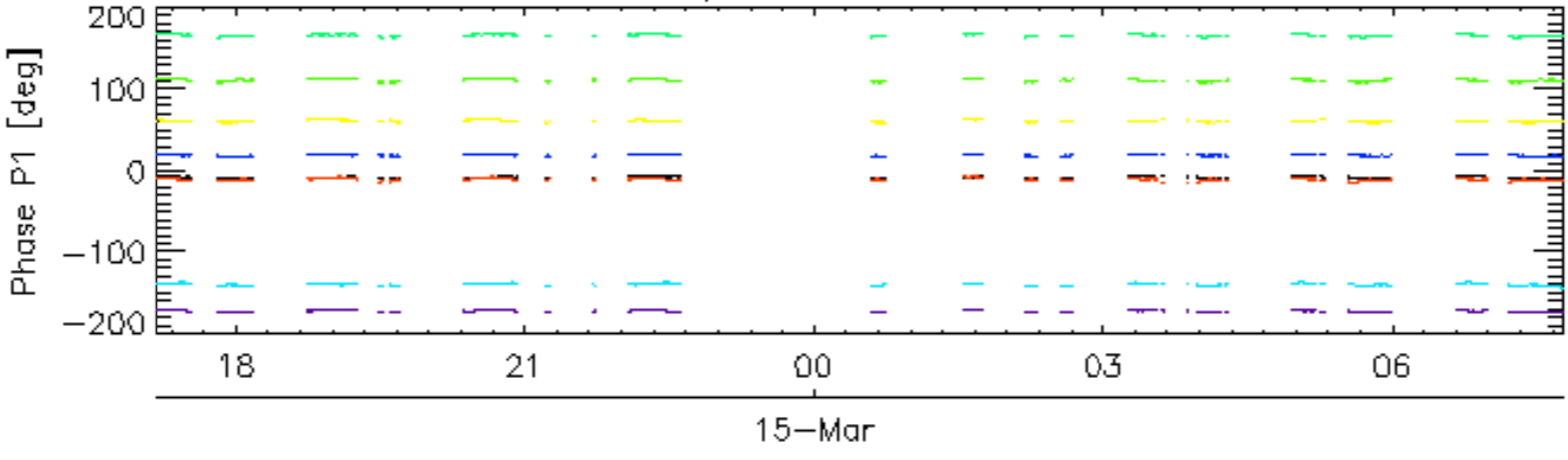


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

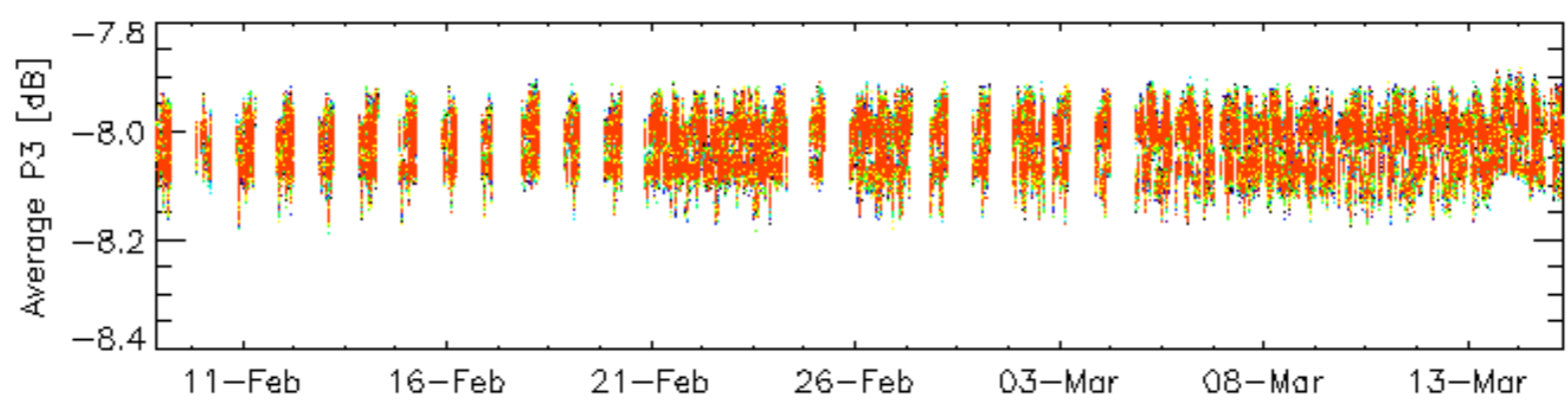
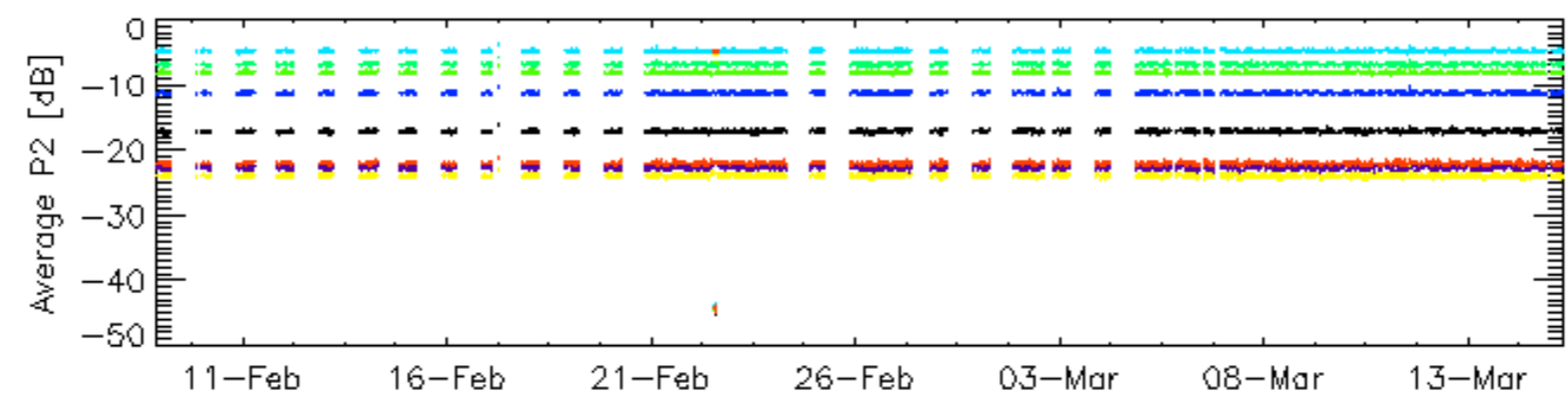
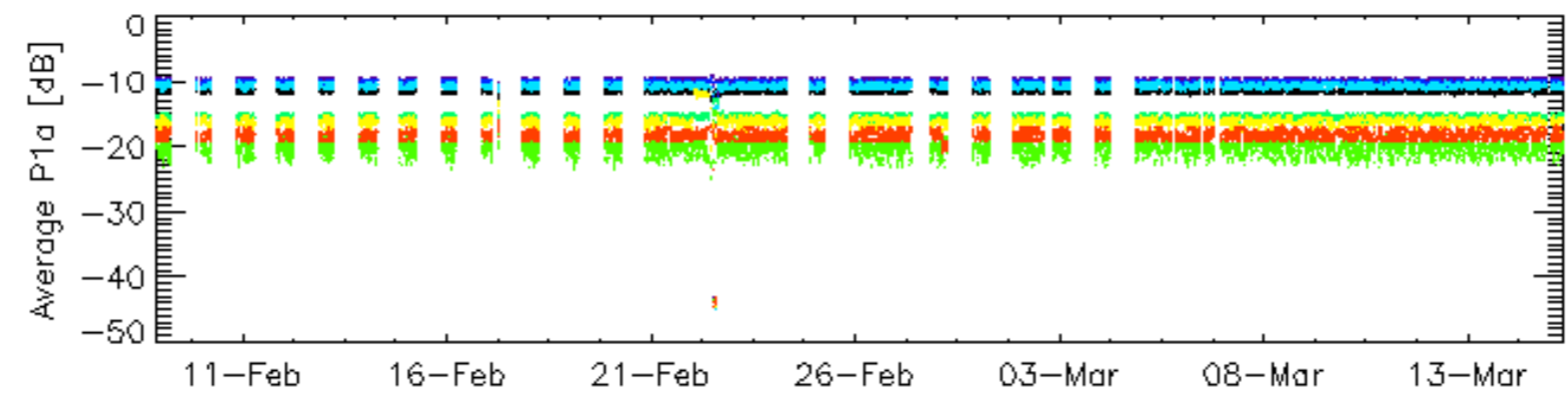
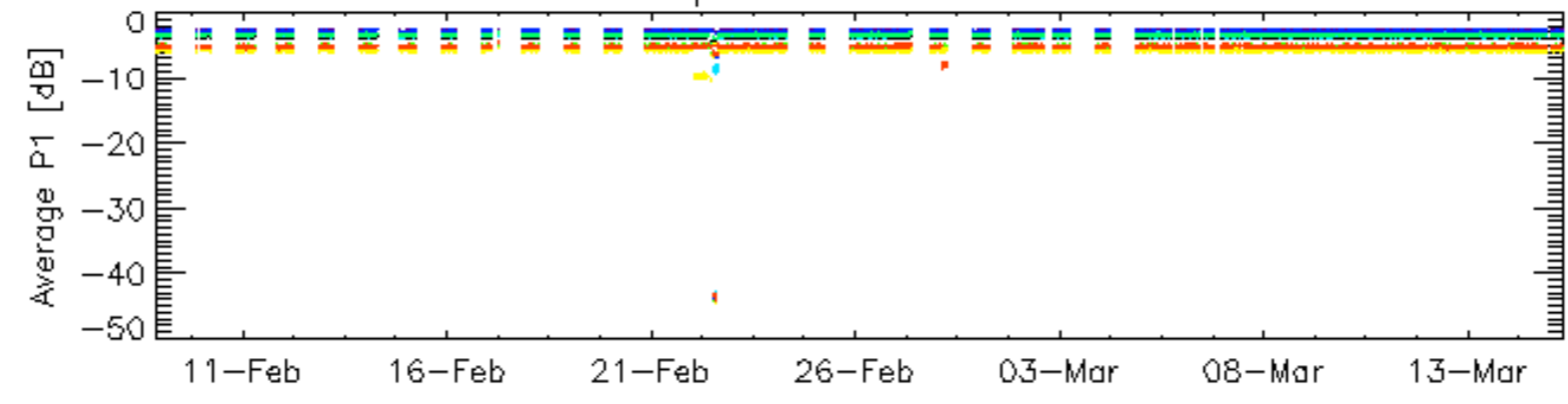


Cal pulses for WVS IS2



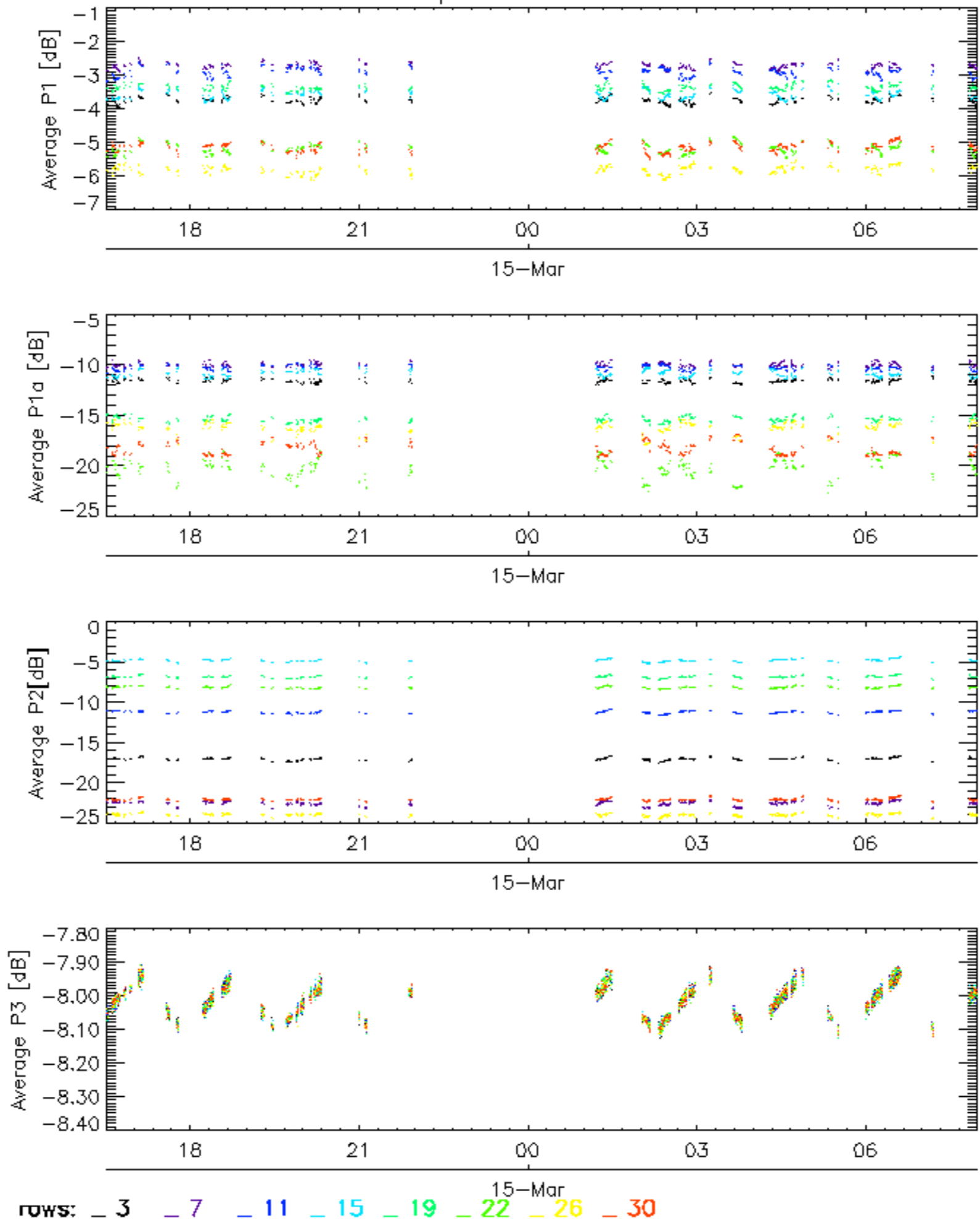
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

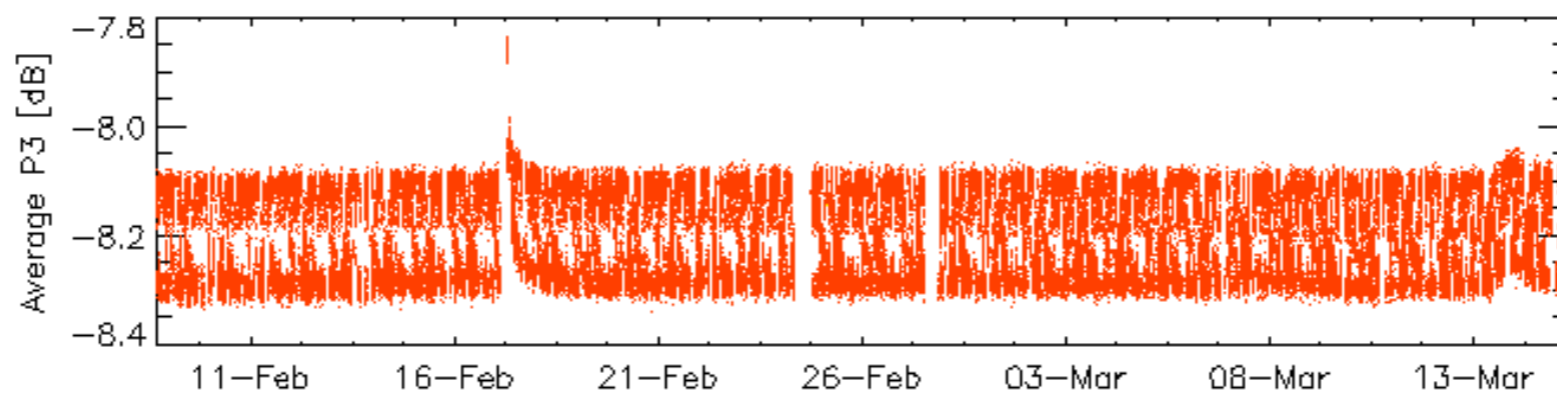
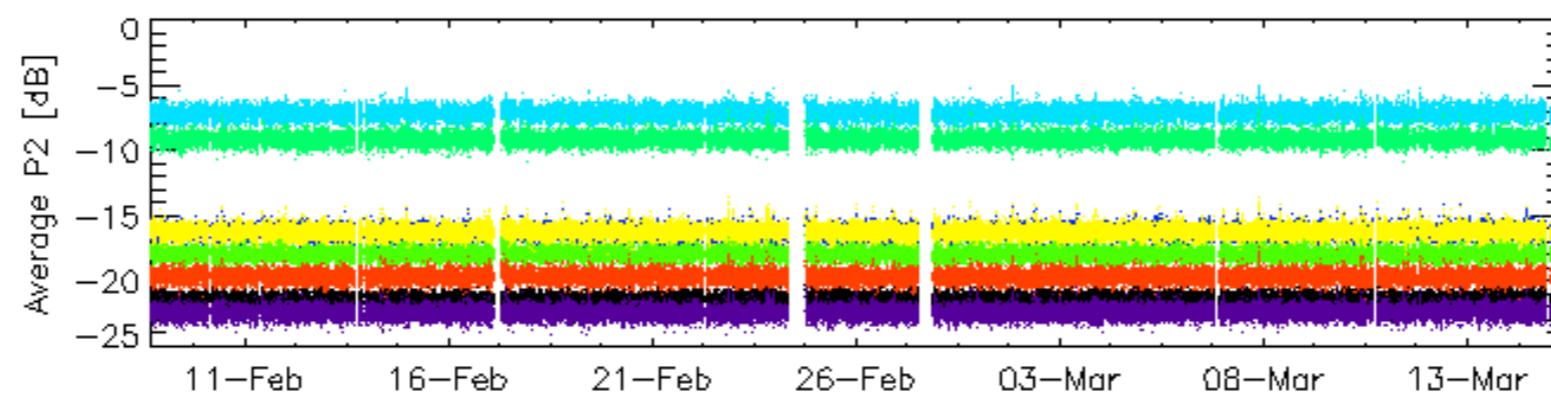
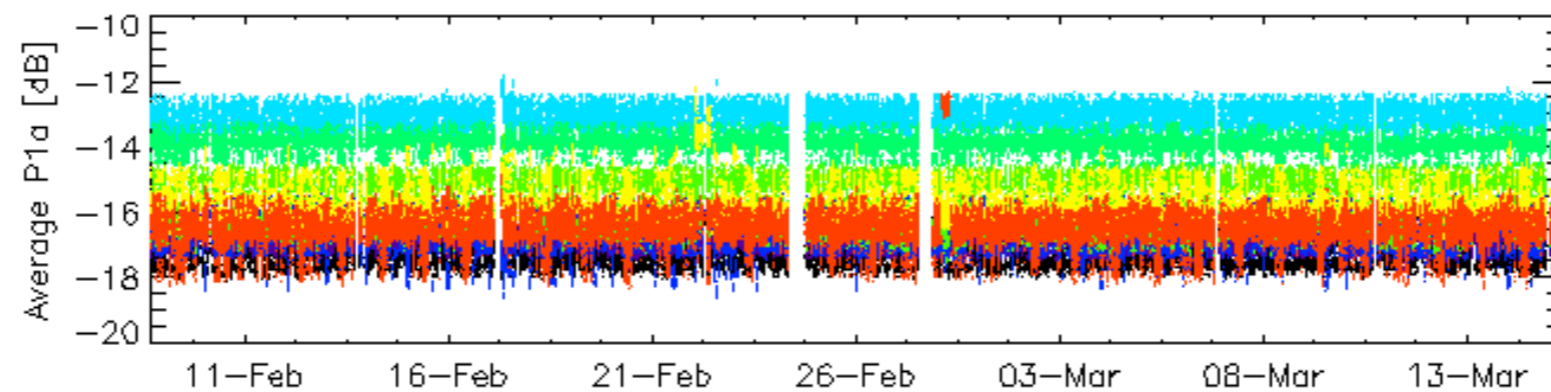
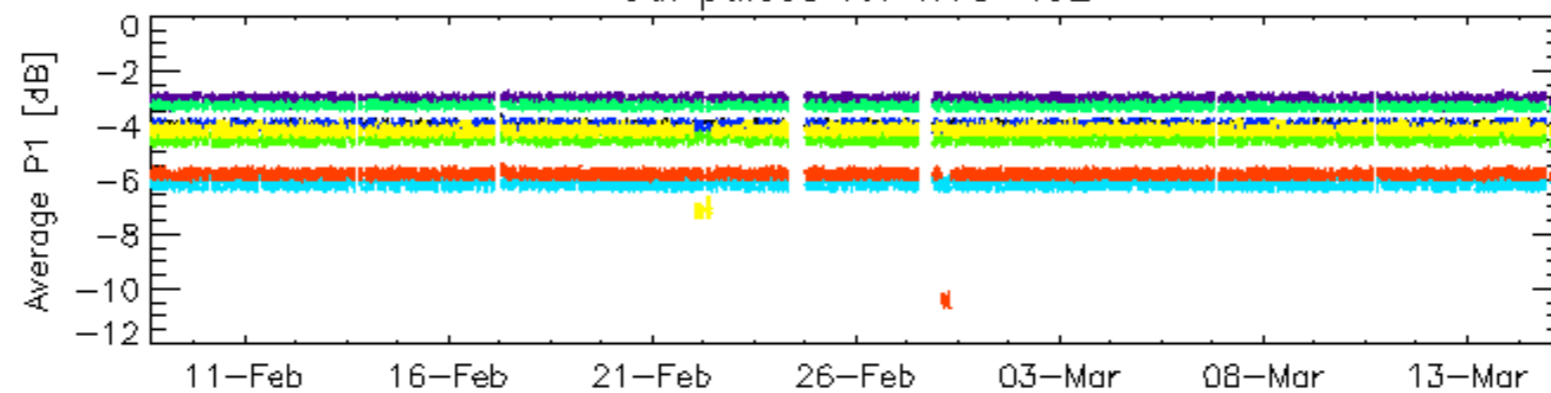


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

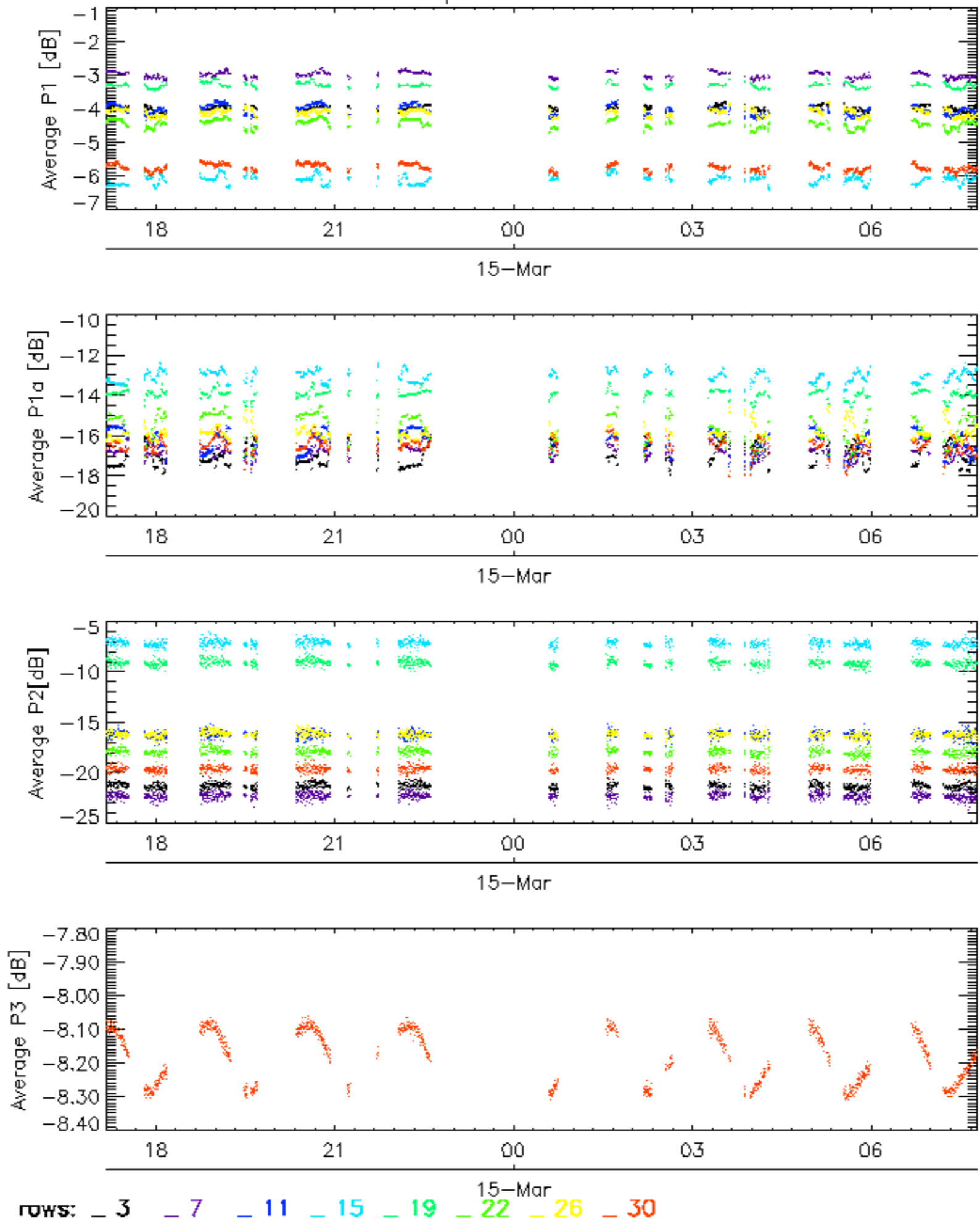


Cal pulses for WVS IS2



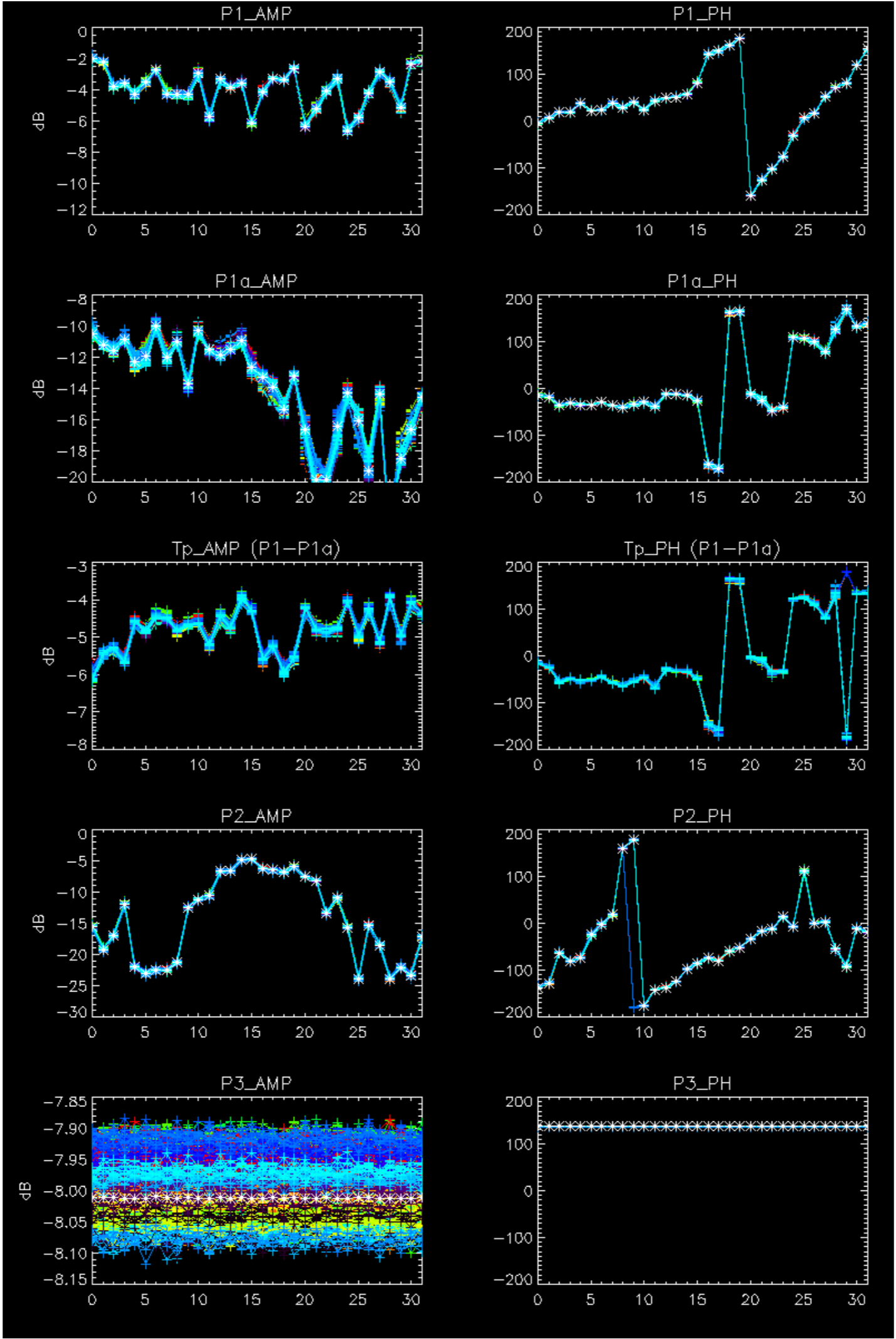
rows: [3](#) [7](#) [11](#) [15](#) [19](#) [22](#) [26](#) [30](#)

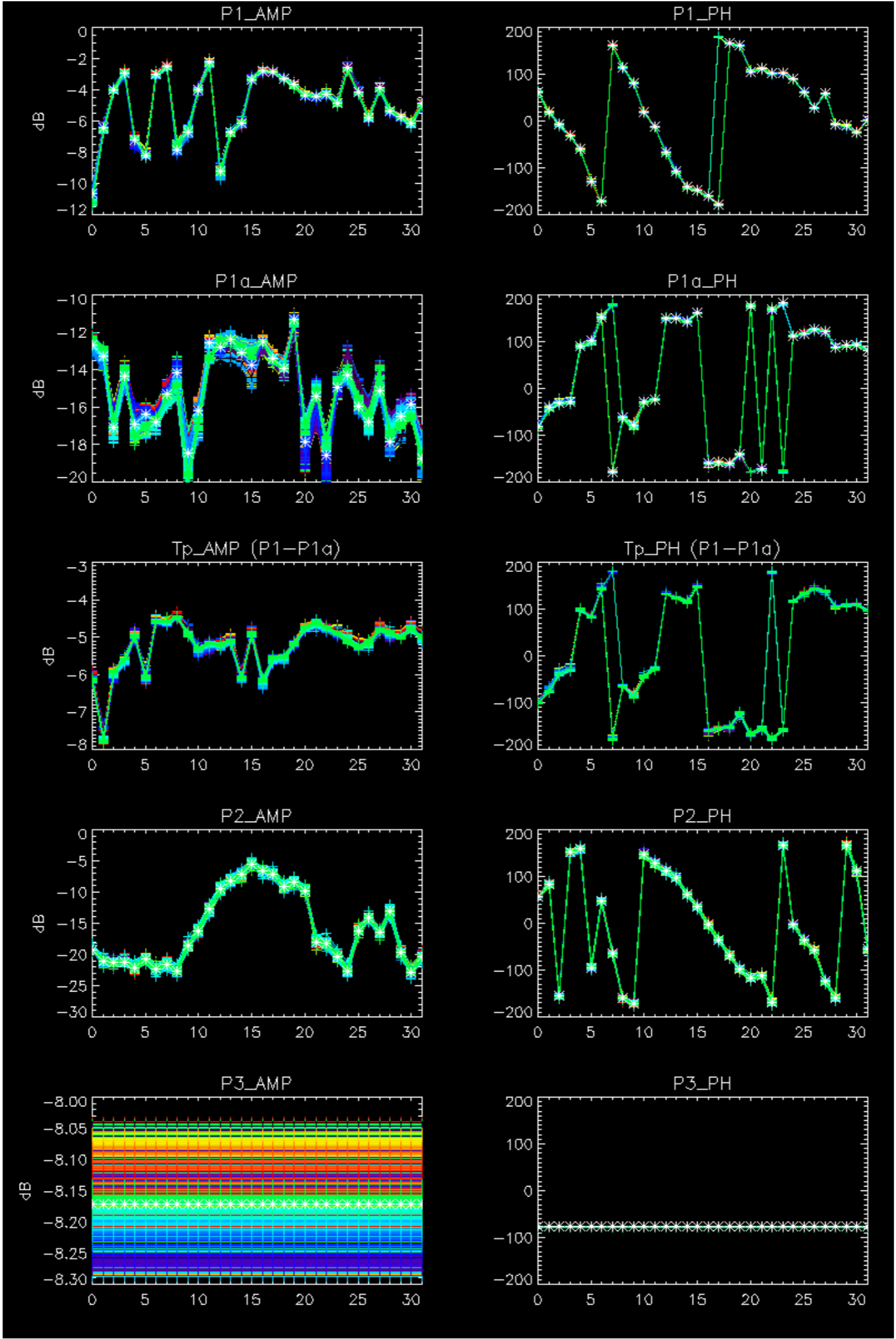
Cal pulses for WVS IS2



No anomalies observed on available browse products

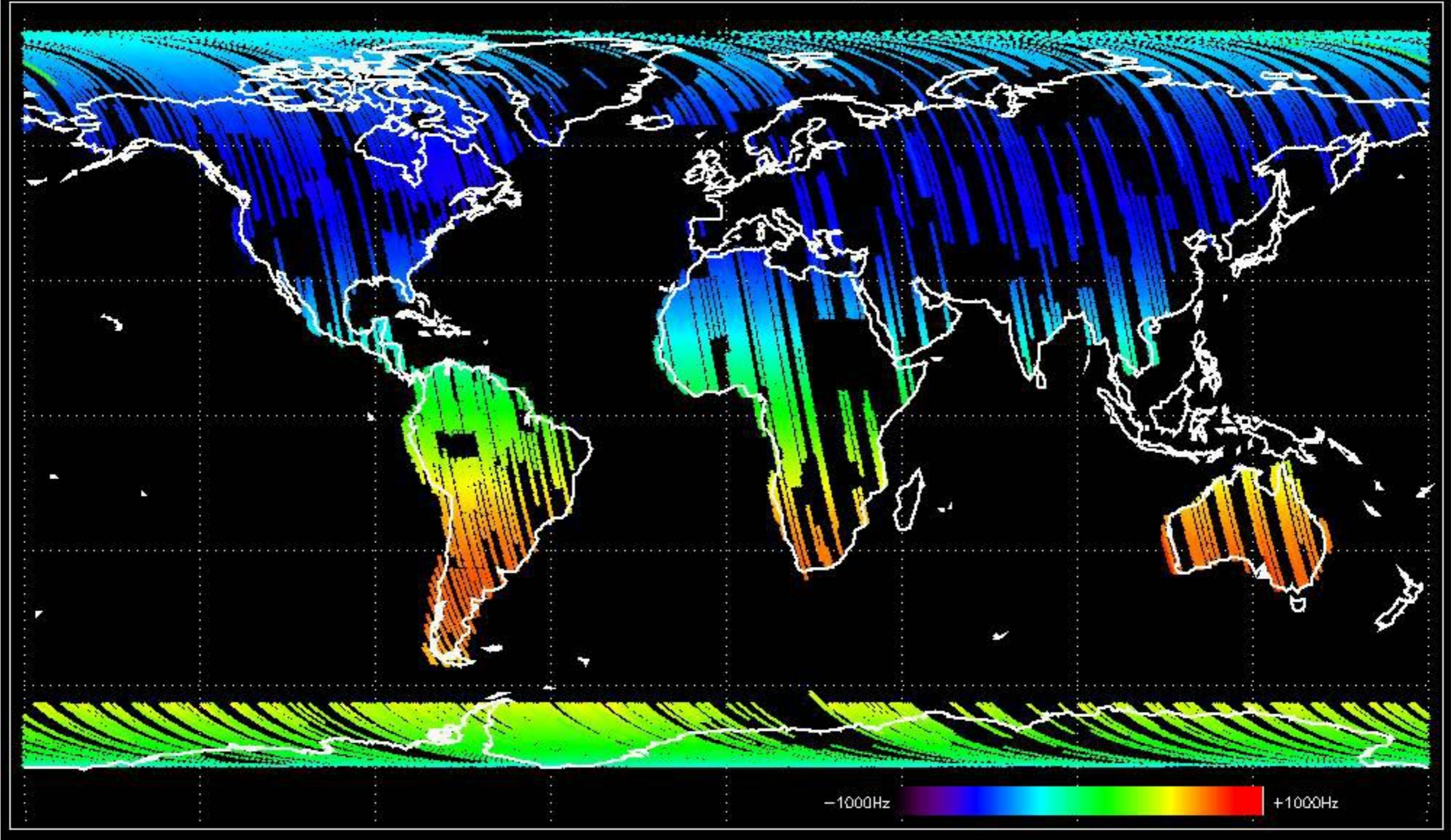
No anomalies observed.



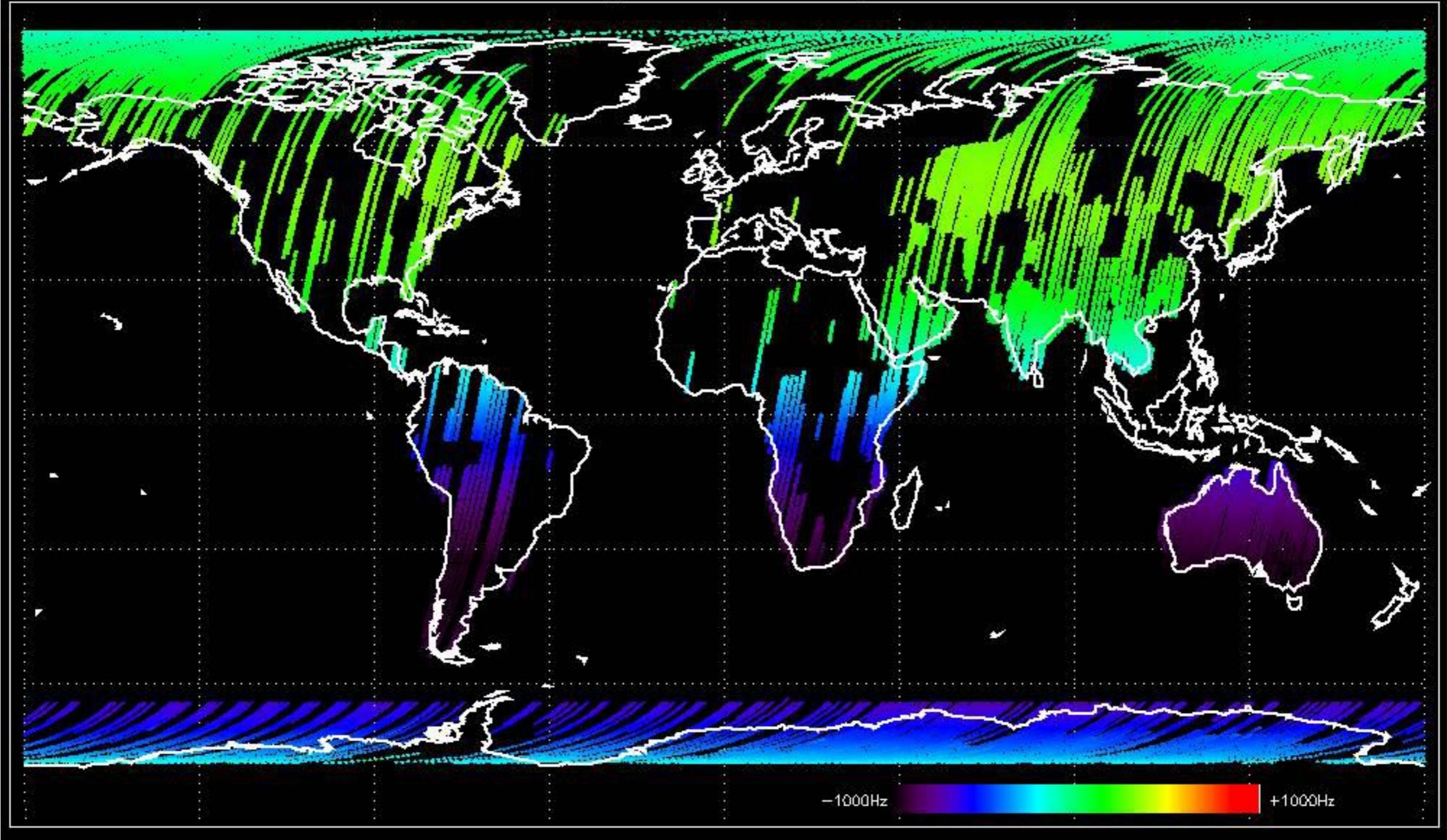


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

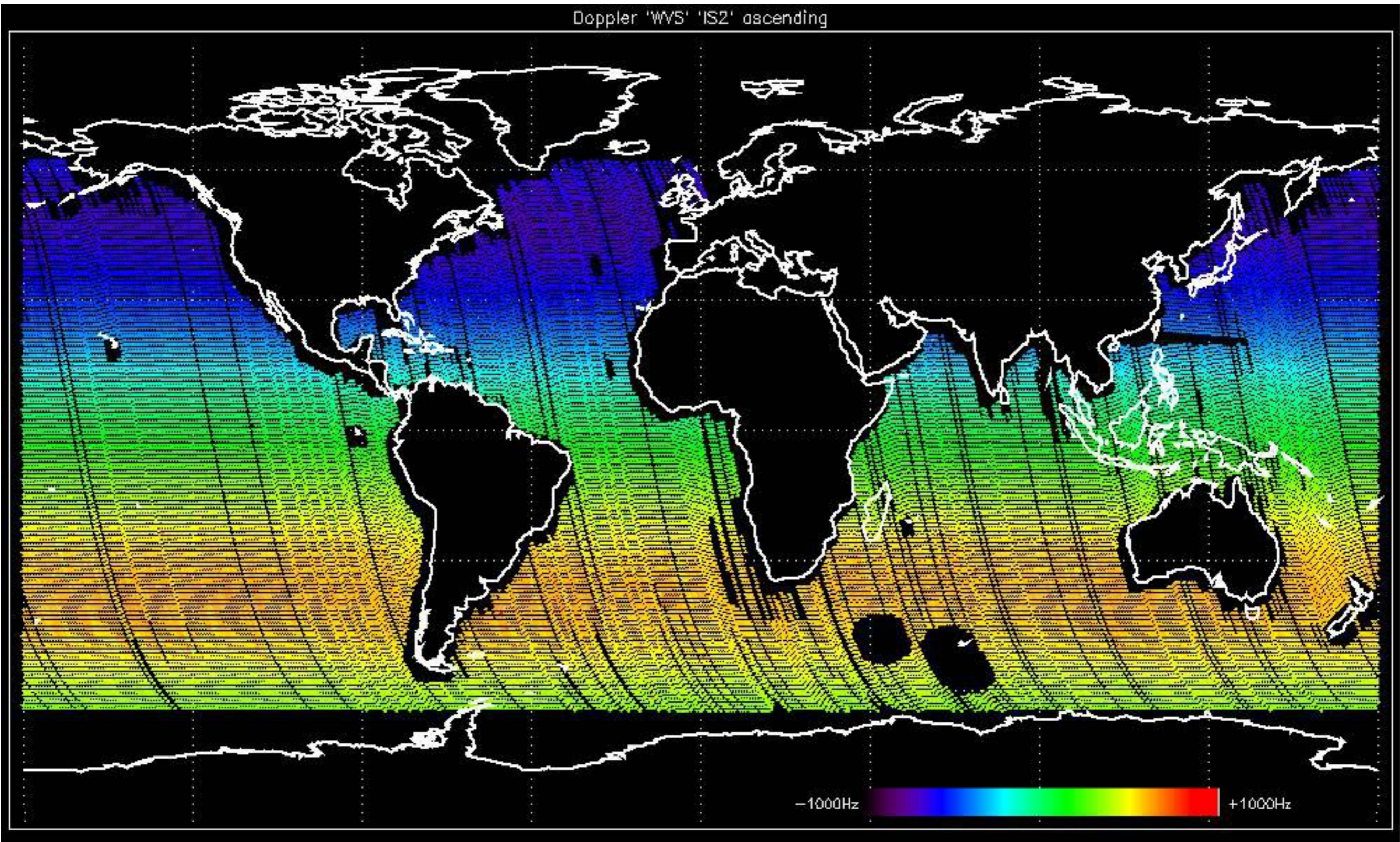
Doppler 'GM1' 'SS1' ascending



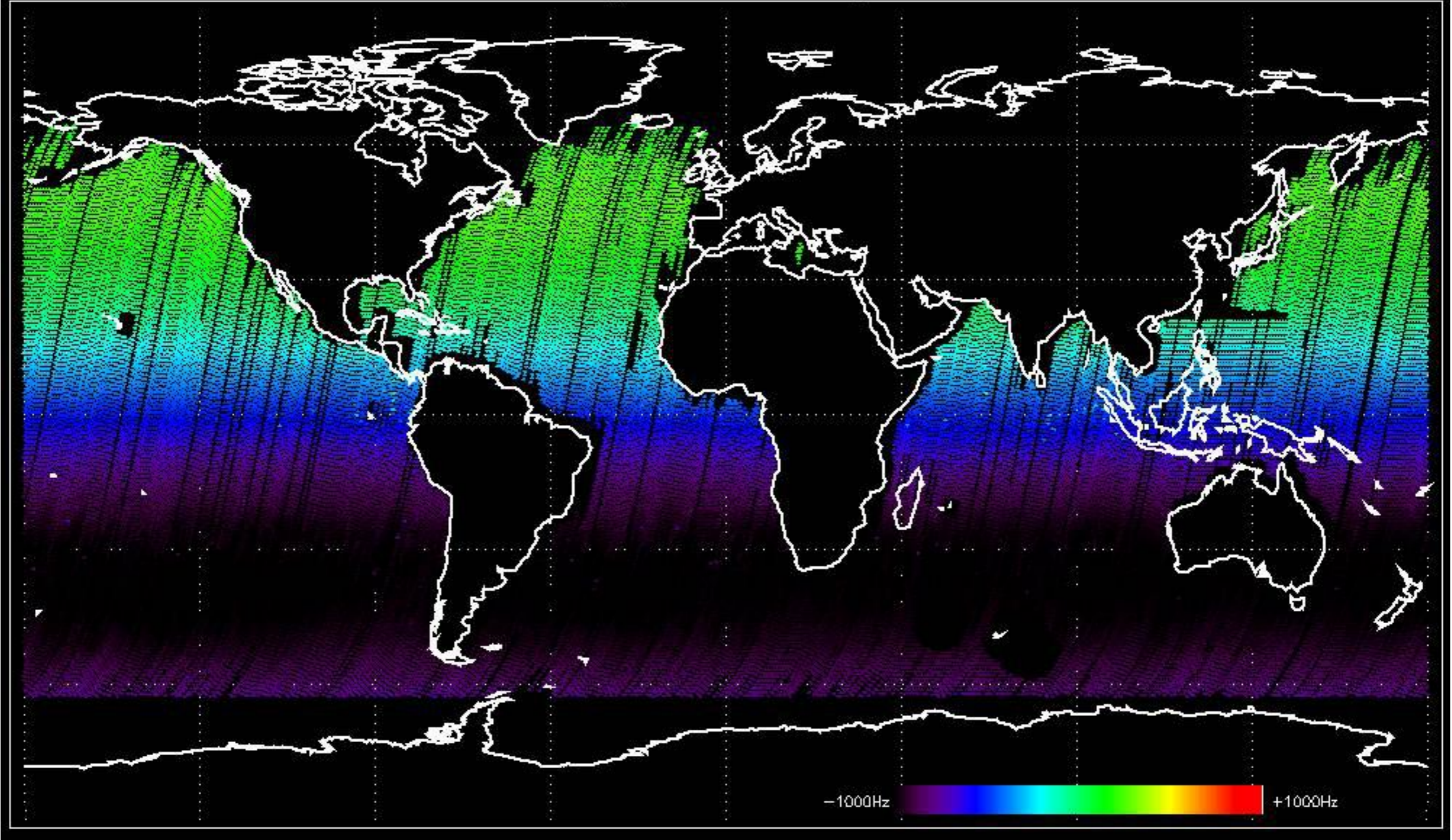
Doppler 'GM1' 'SS1' descending



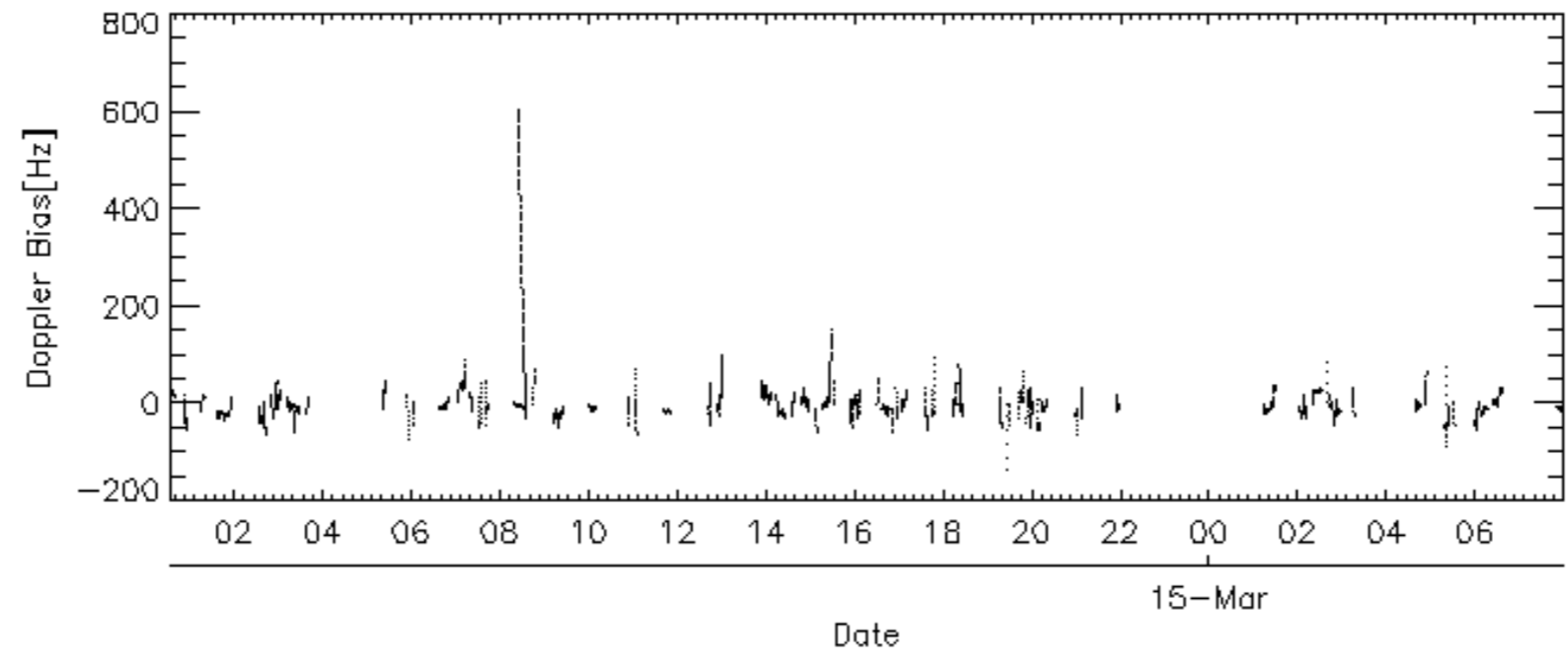
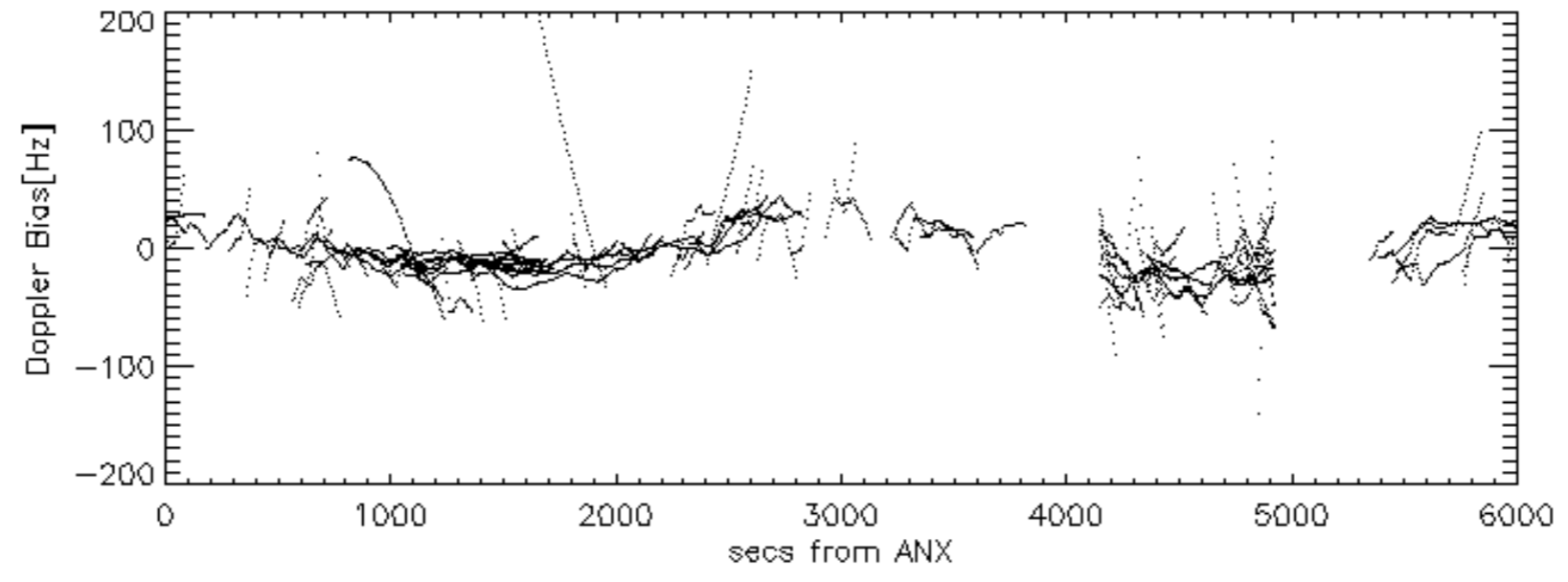
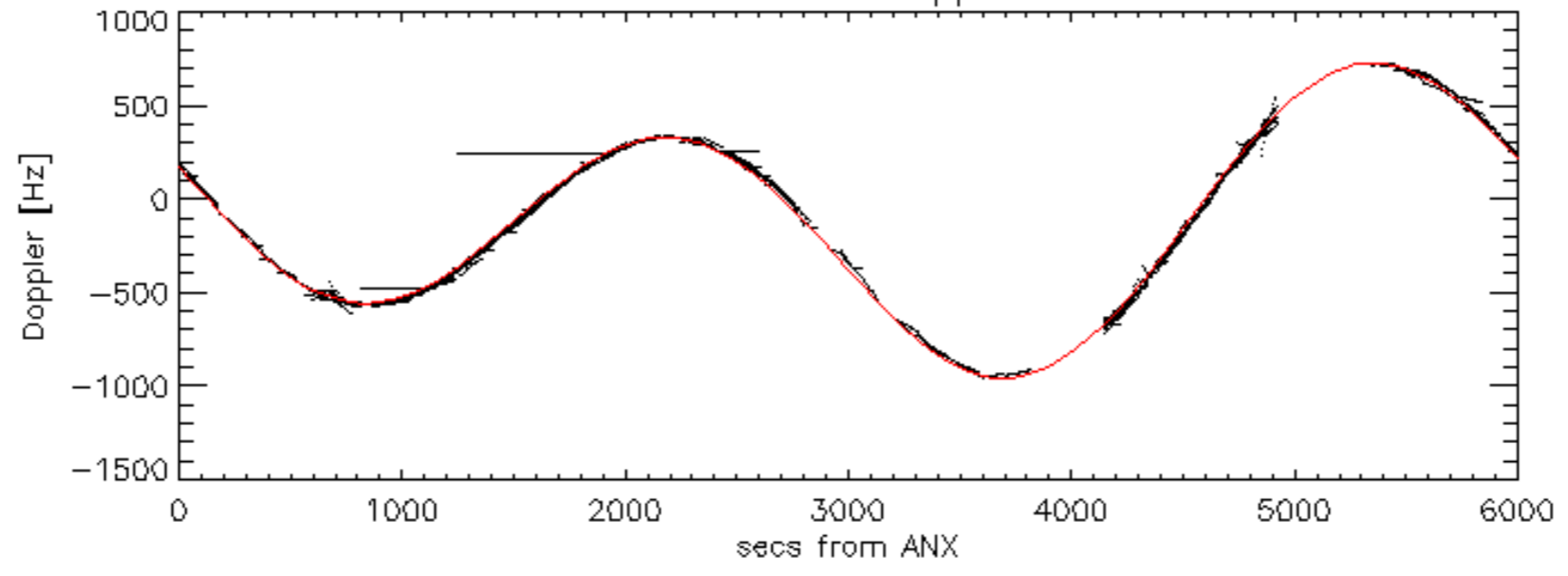
Doppler 'WVS' 'IS2' ascending

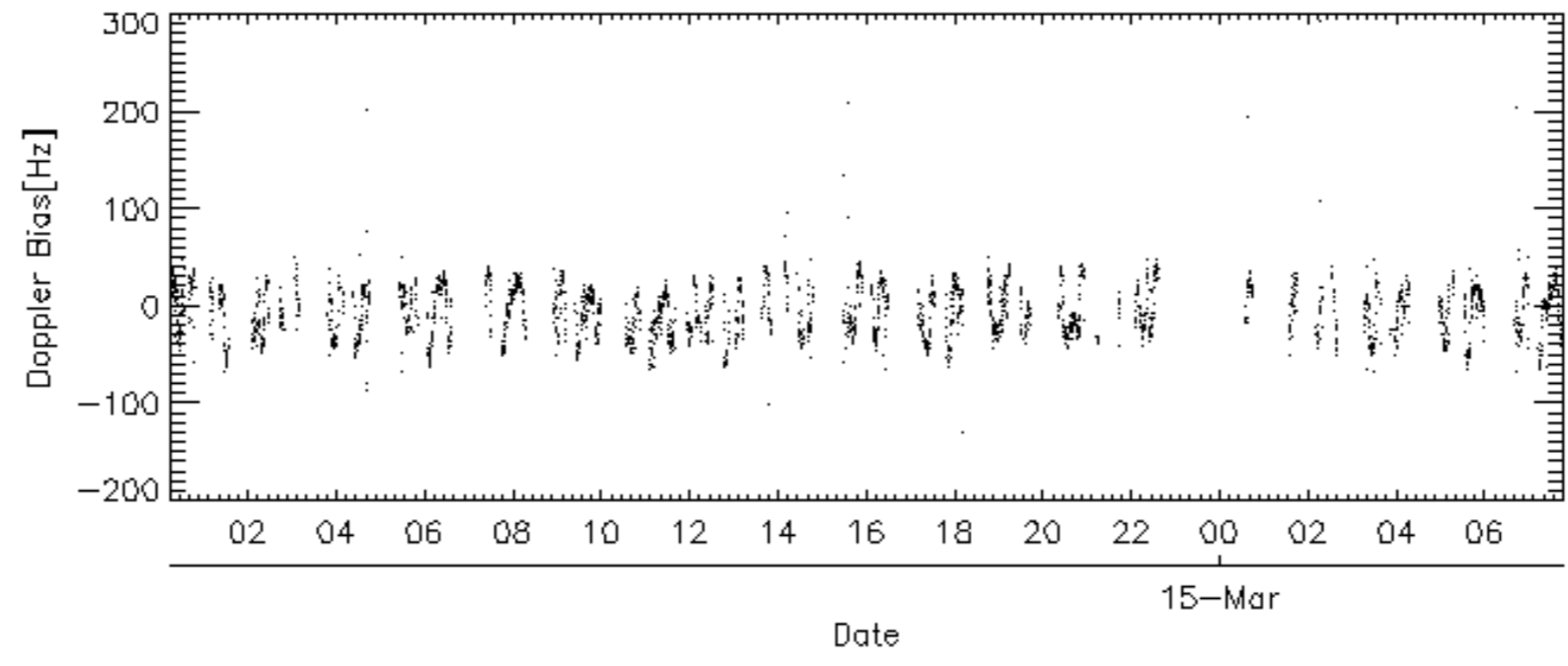
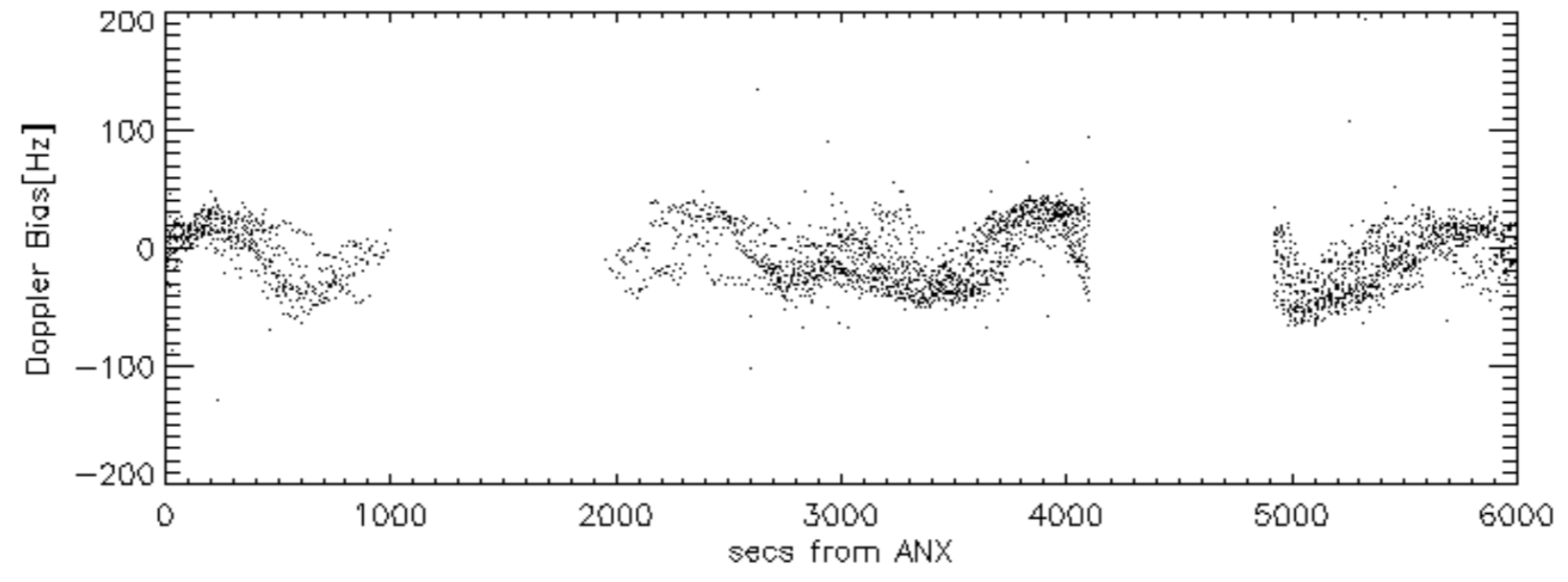
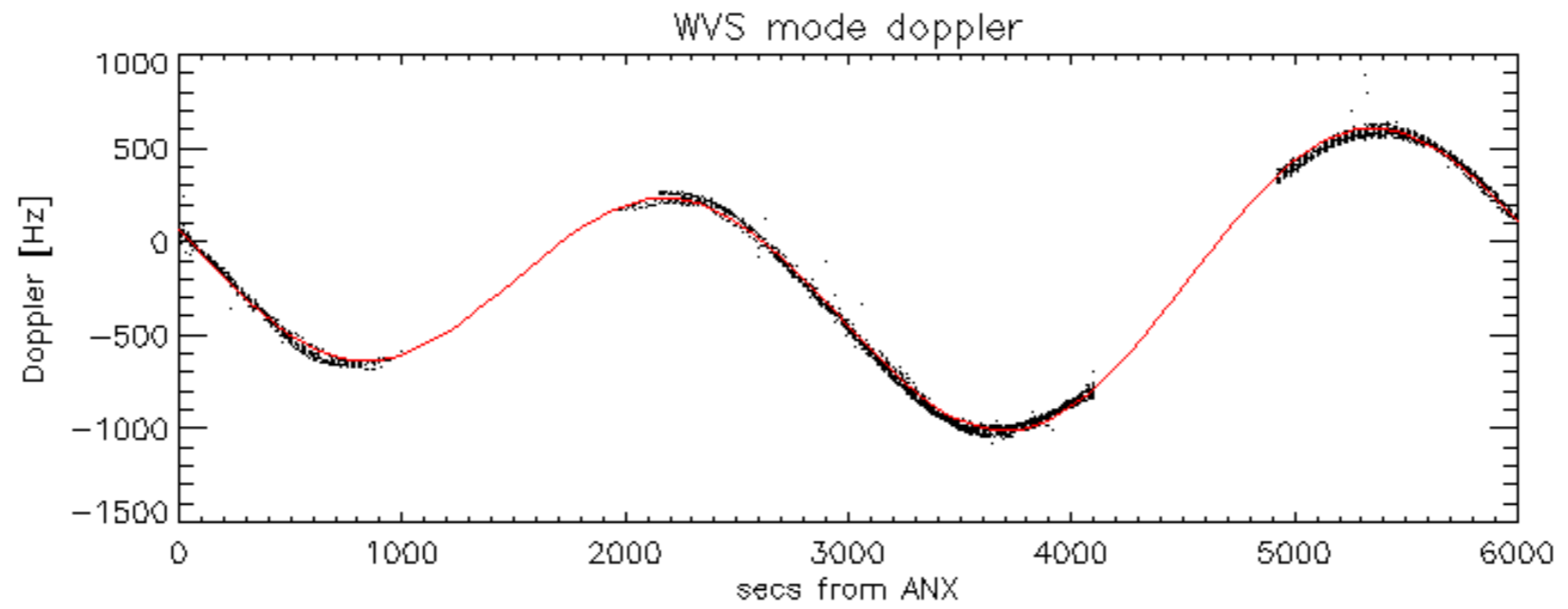


Doppler 'WVS' 'IS2' descending

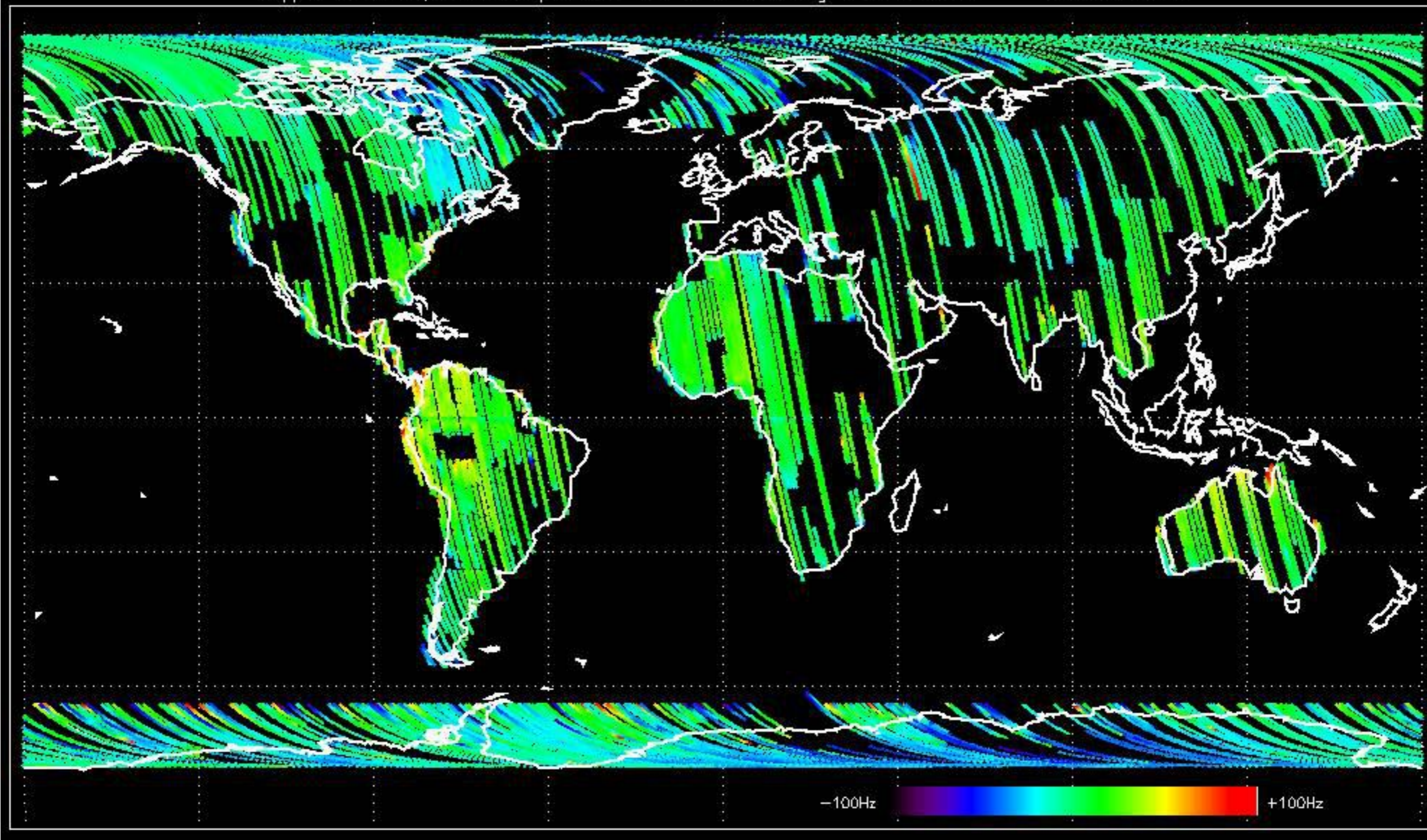


GM1 mode doppler

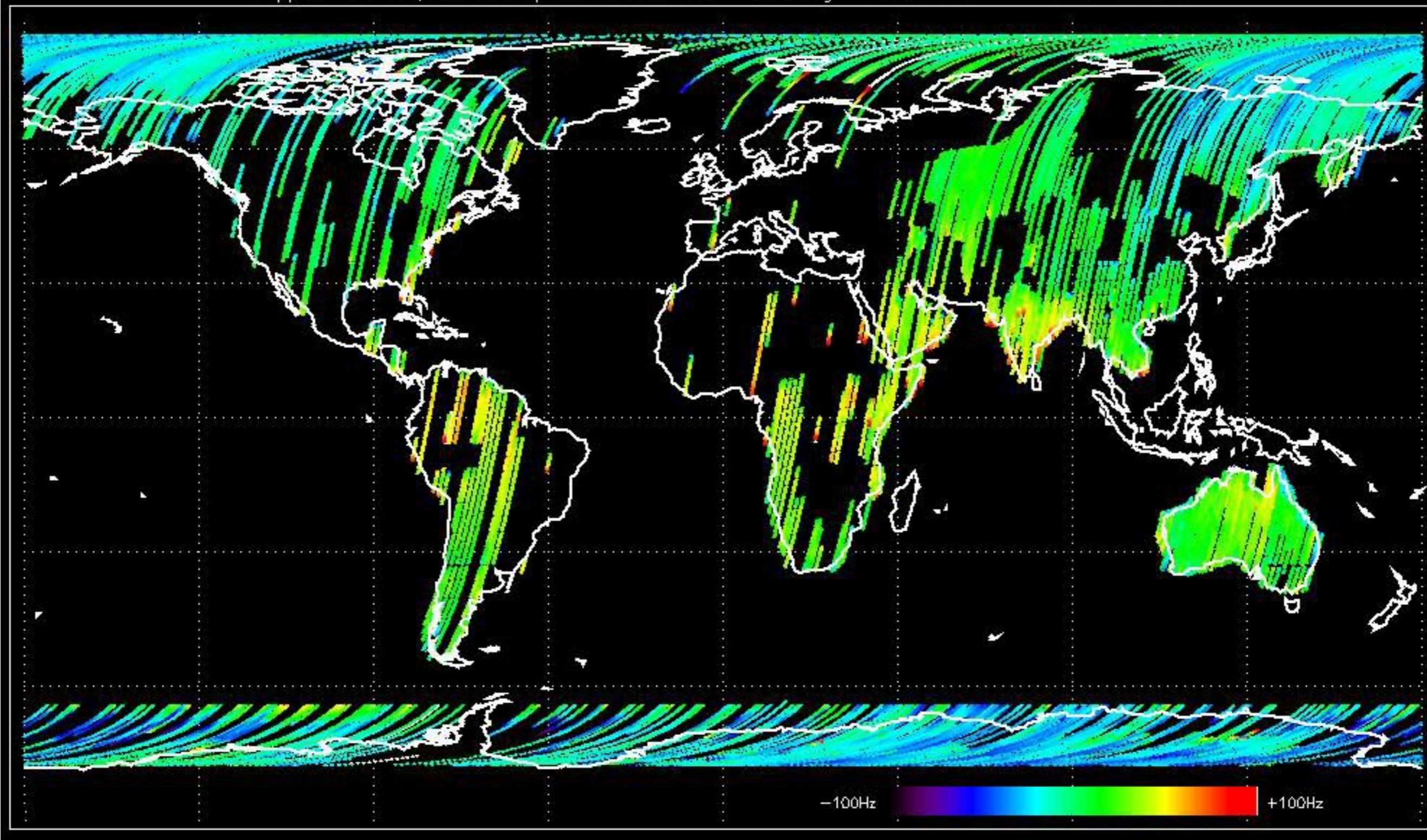




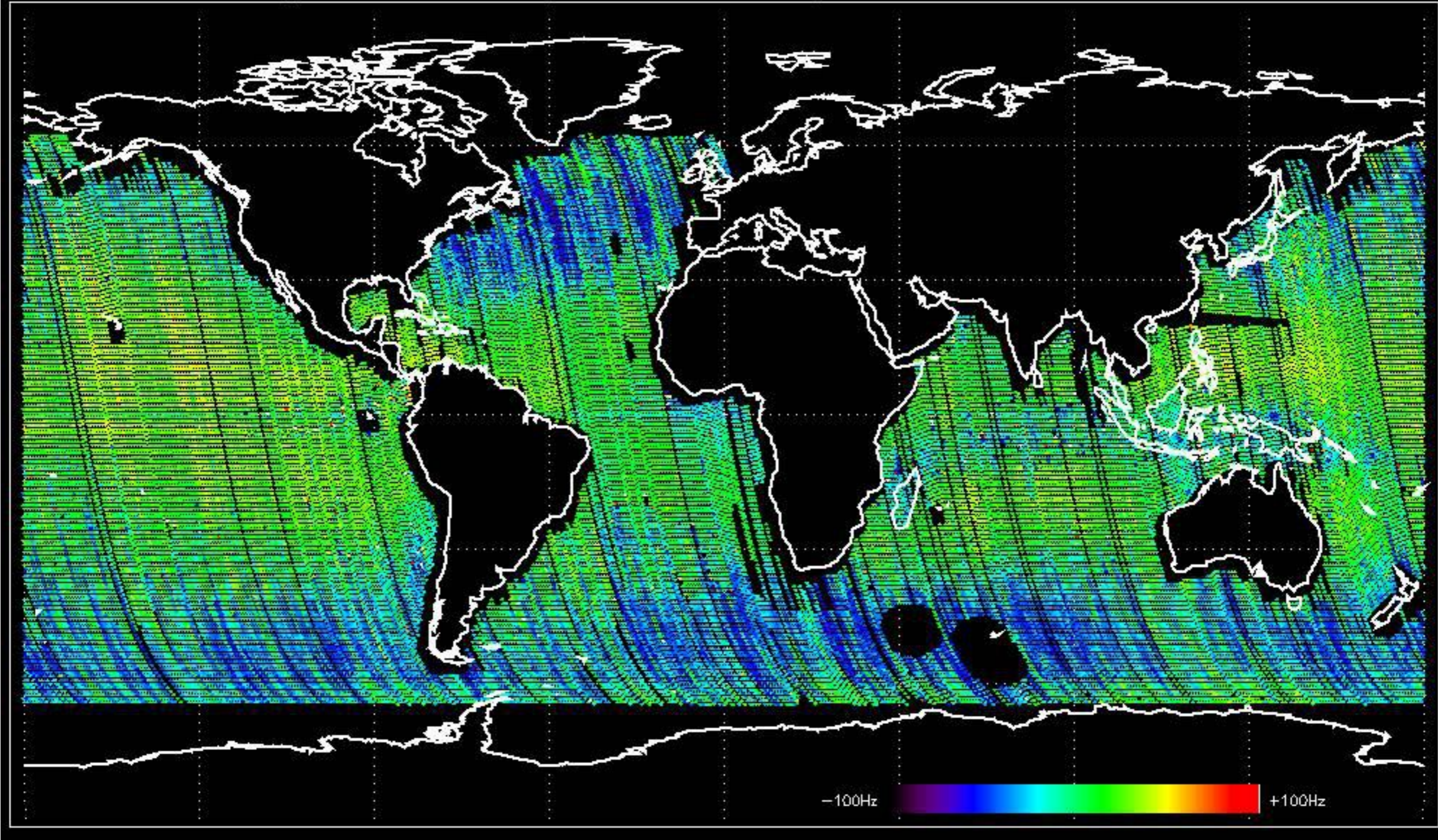
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -9.0719871 Hz



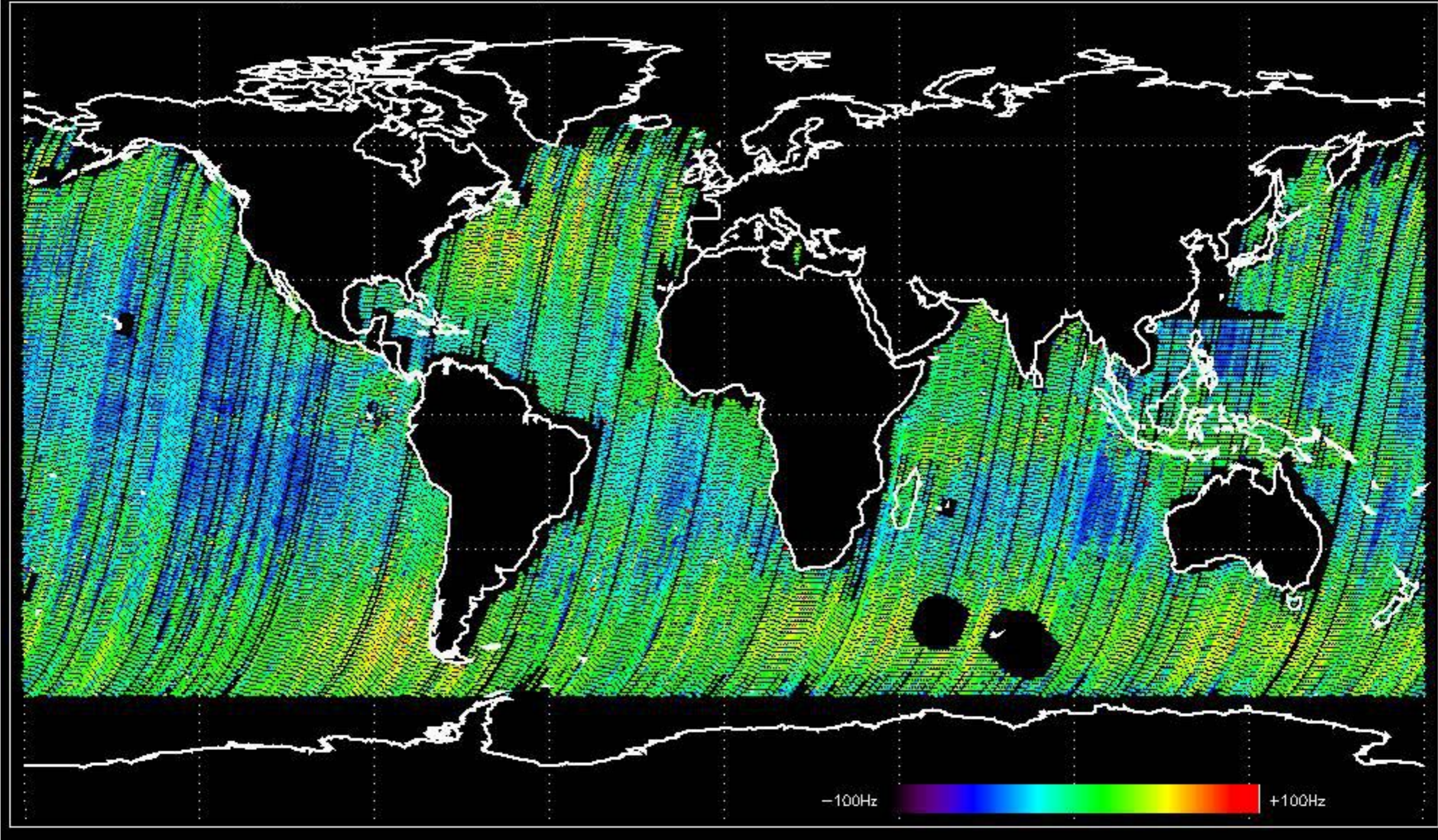
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -7.8112058 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -6.3397789 Hz

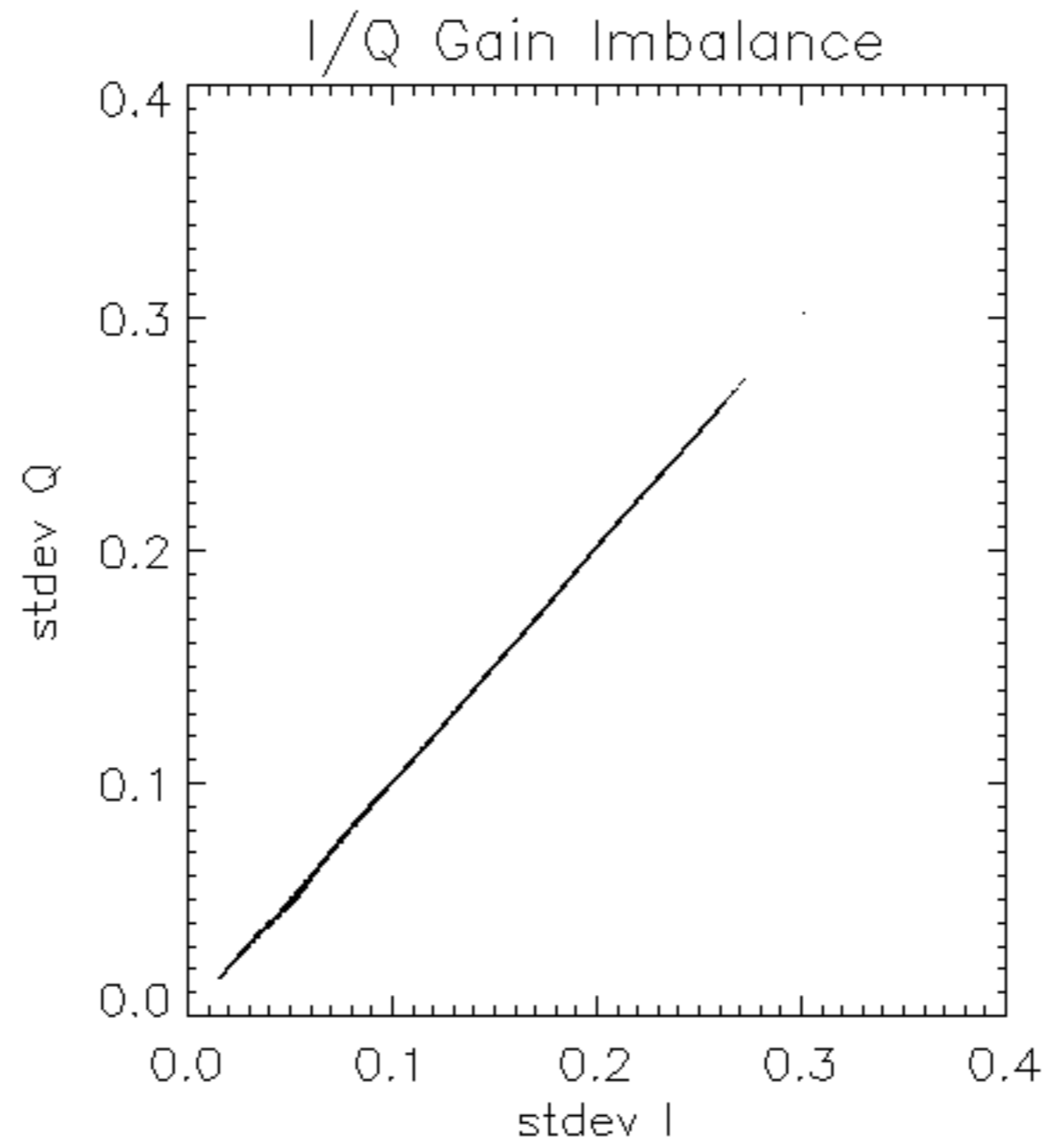


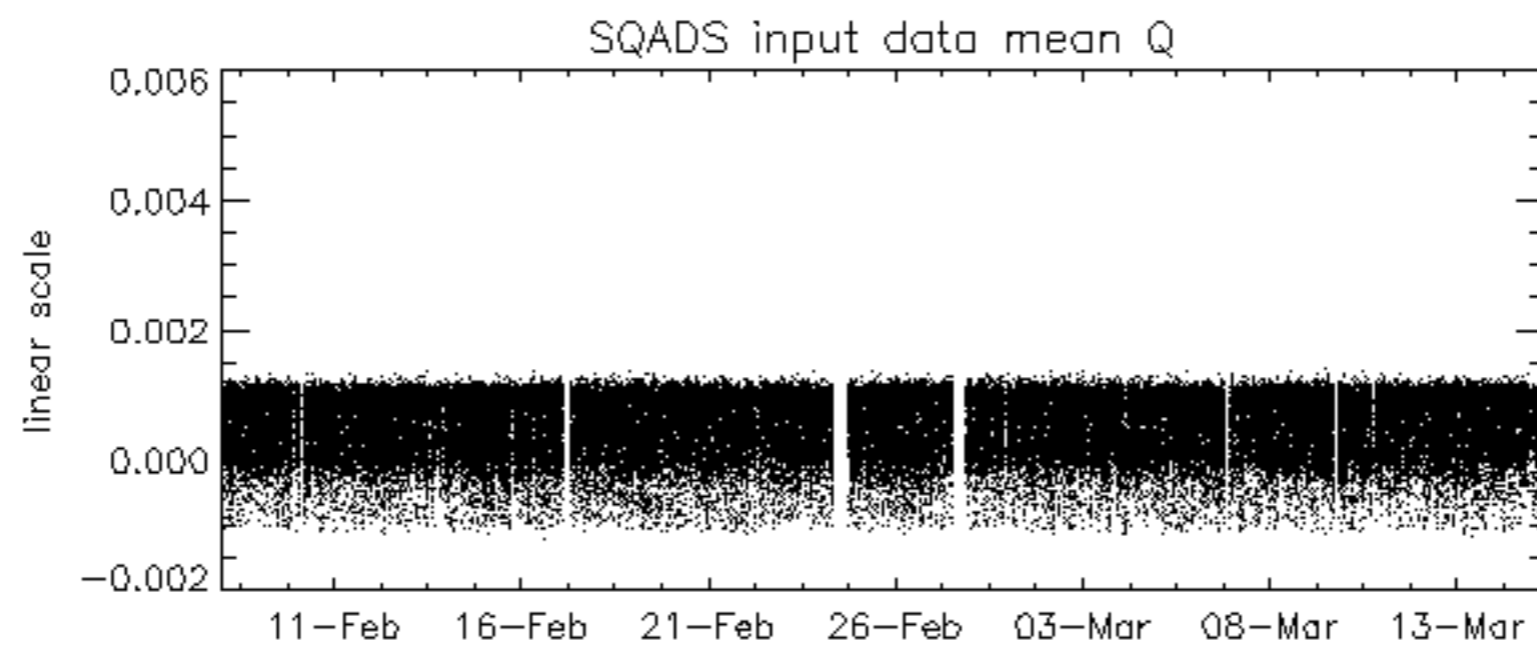
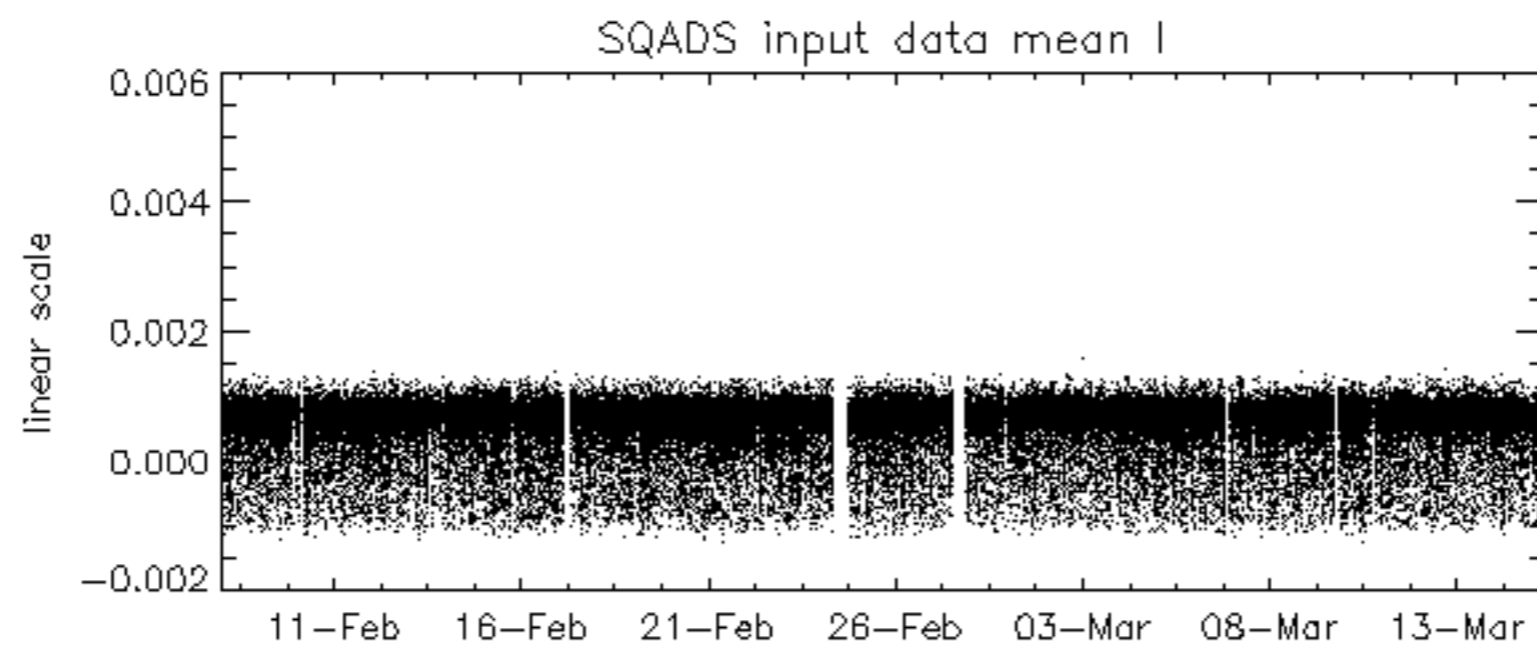
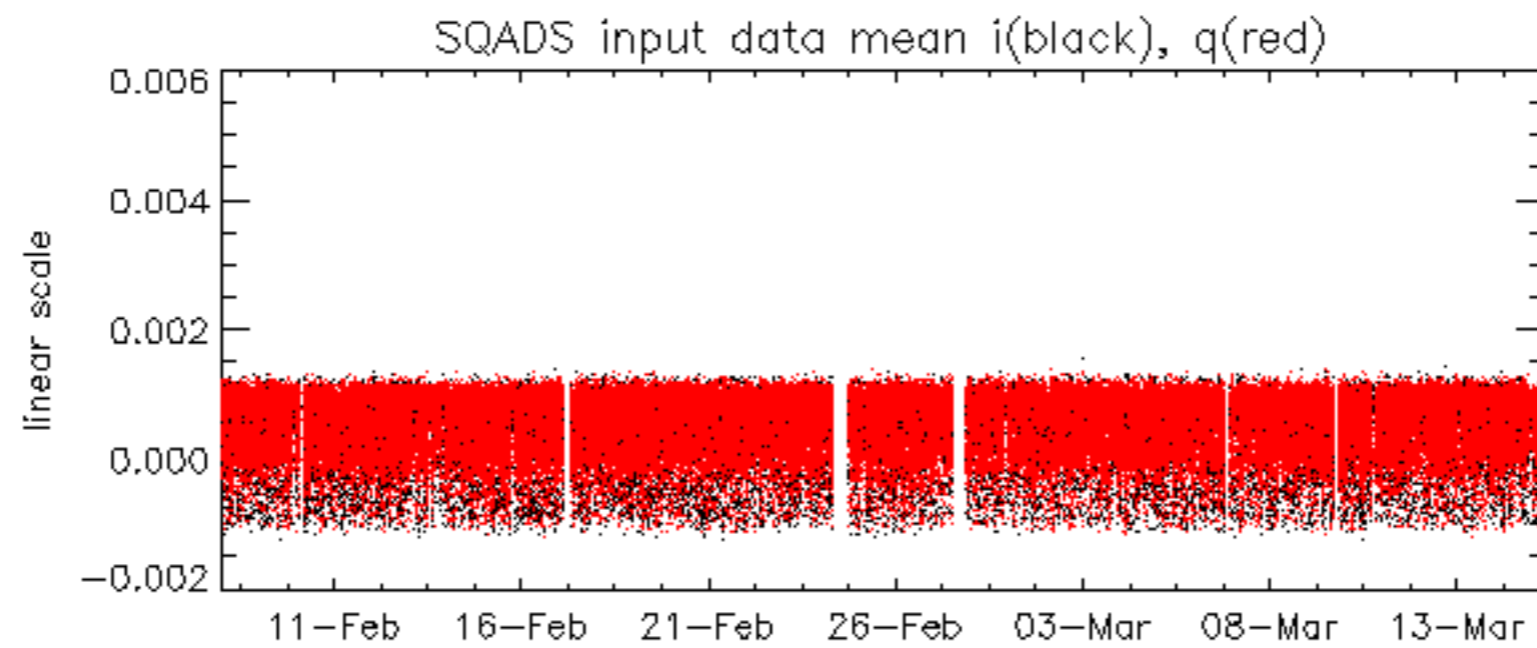
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -7.5657023 Hz

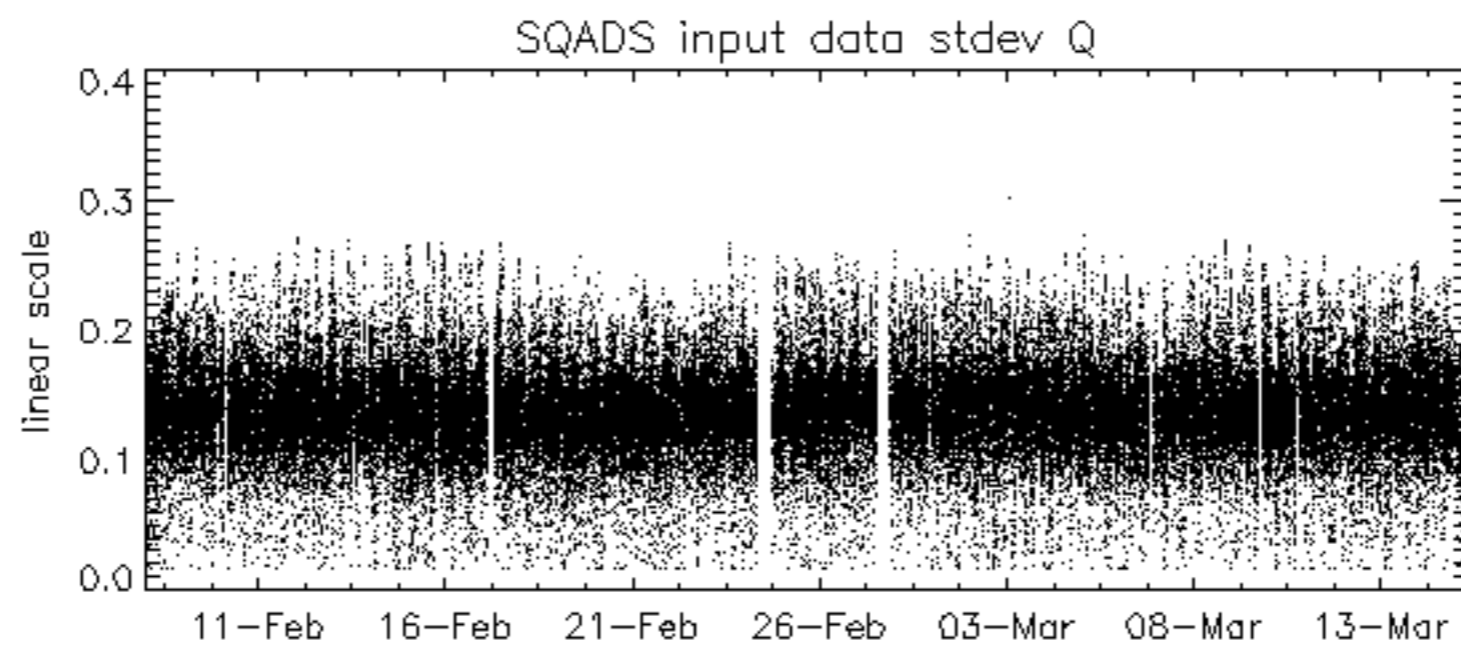
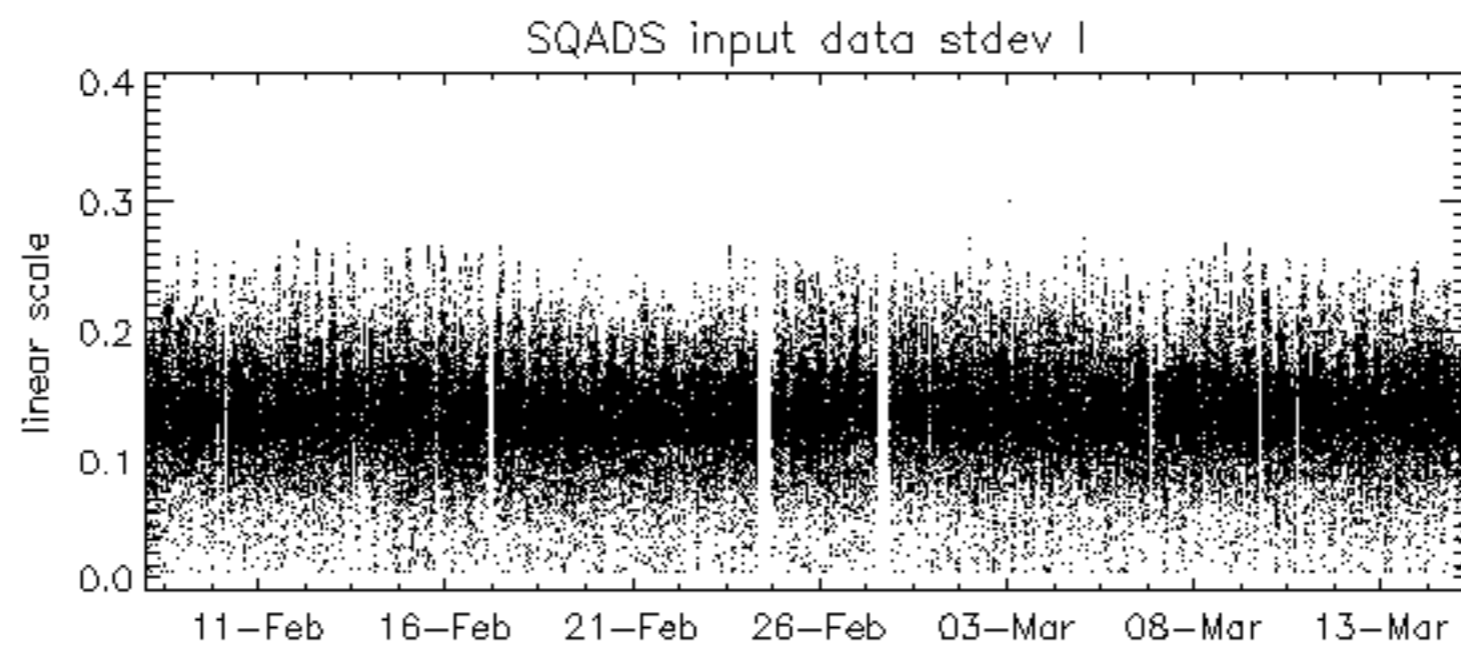
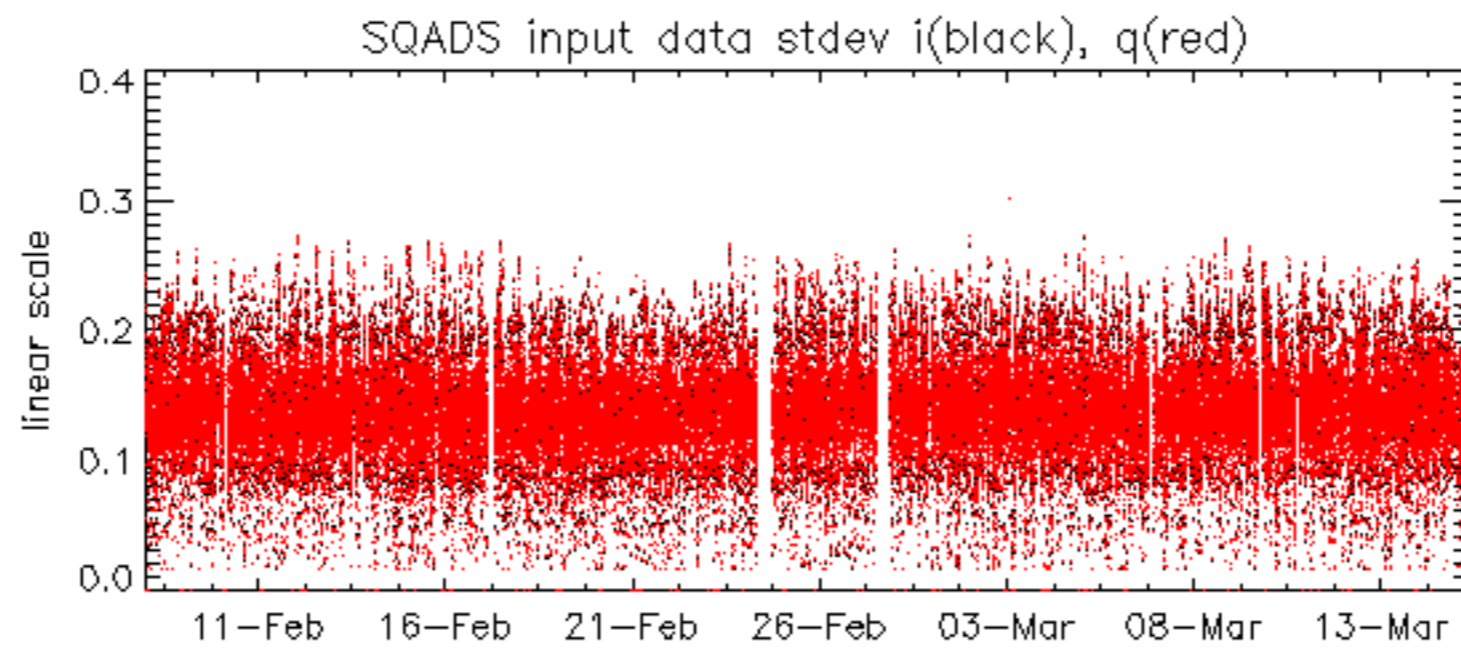


No anomalies observed on available MS products:

No anomalies observed.



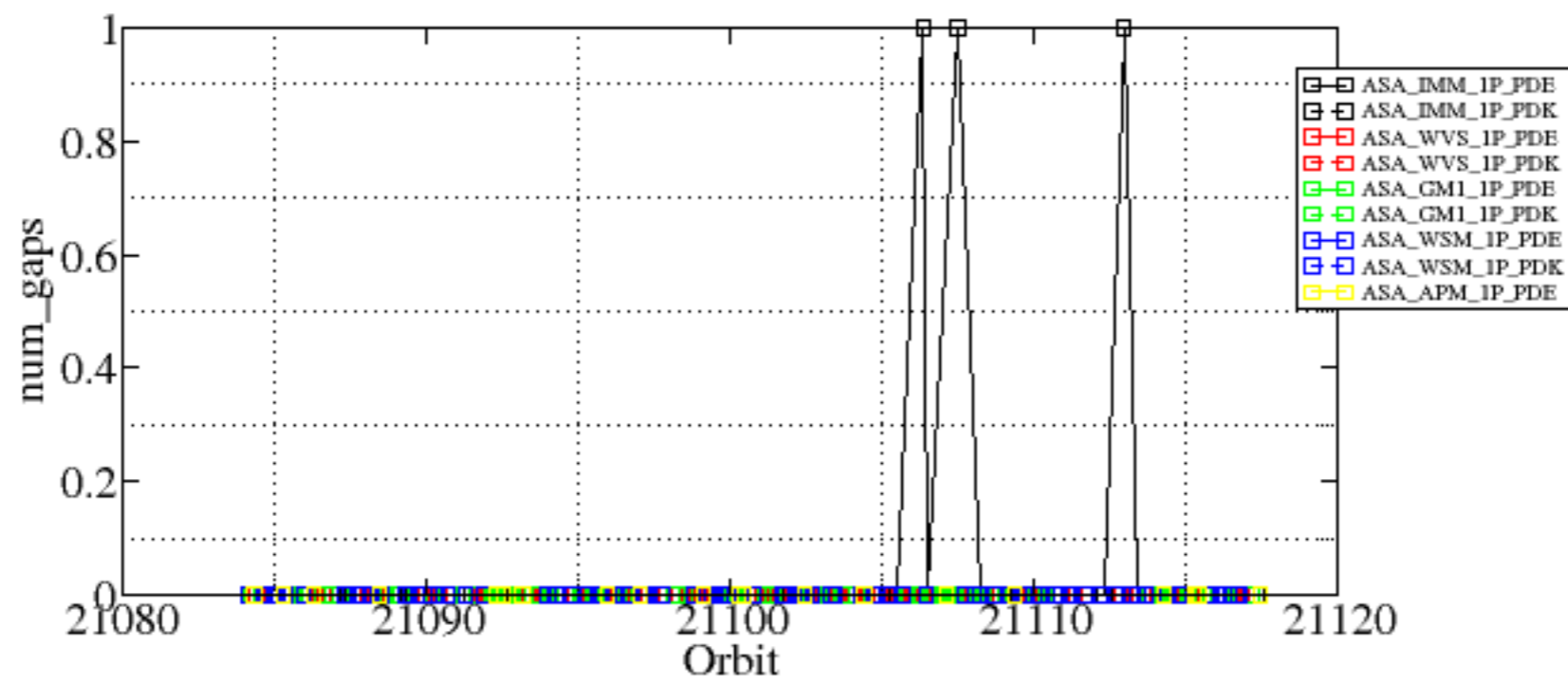


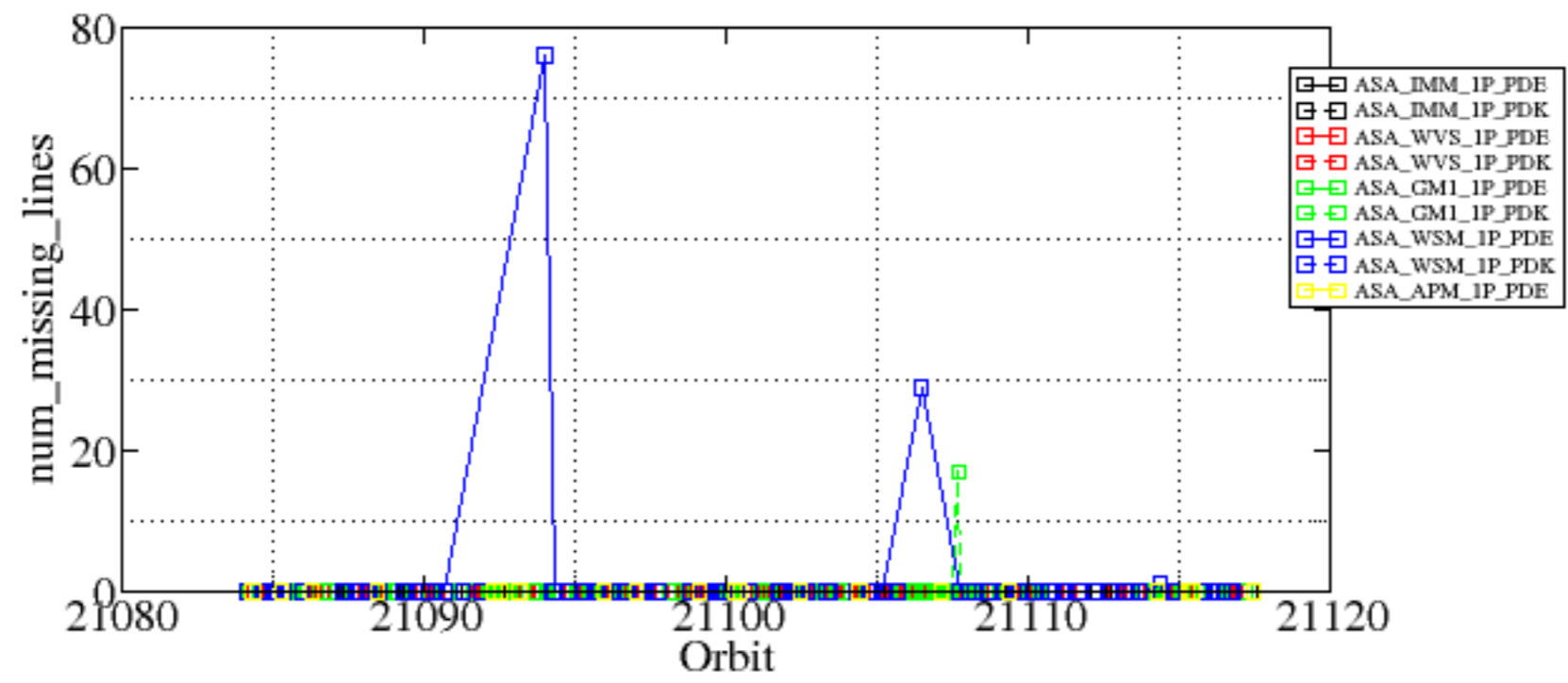


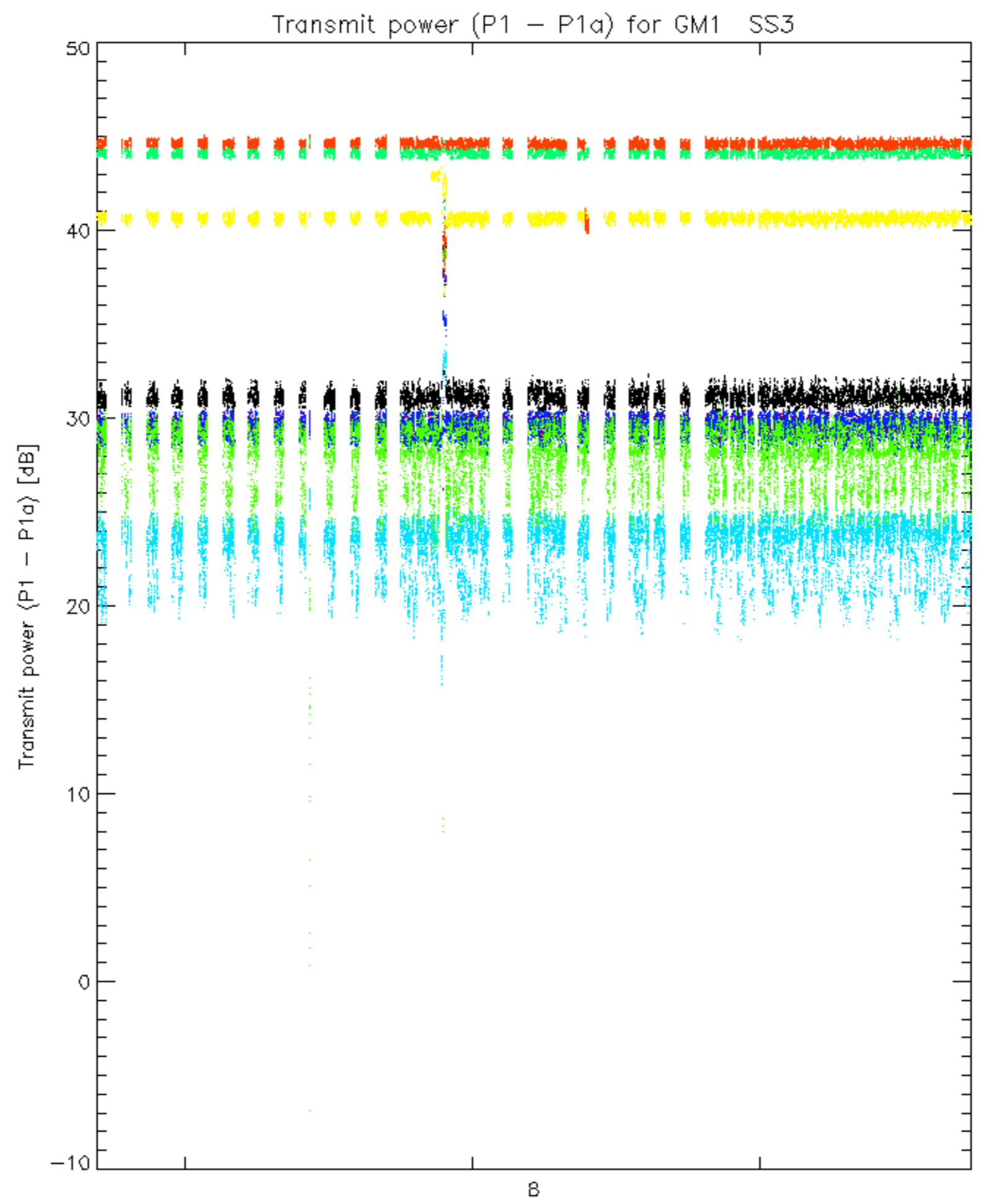
Summary of analysis for the last 3 days 2006031[345]

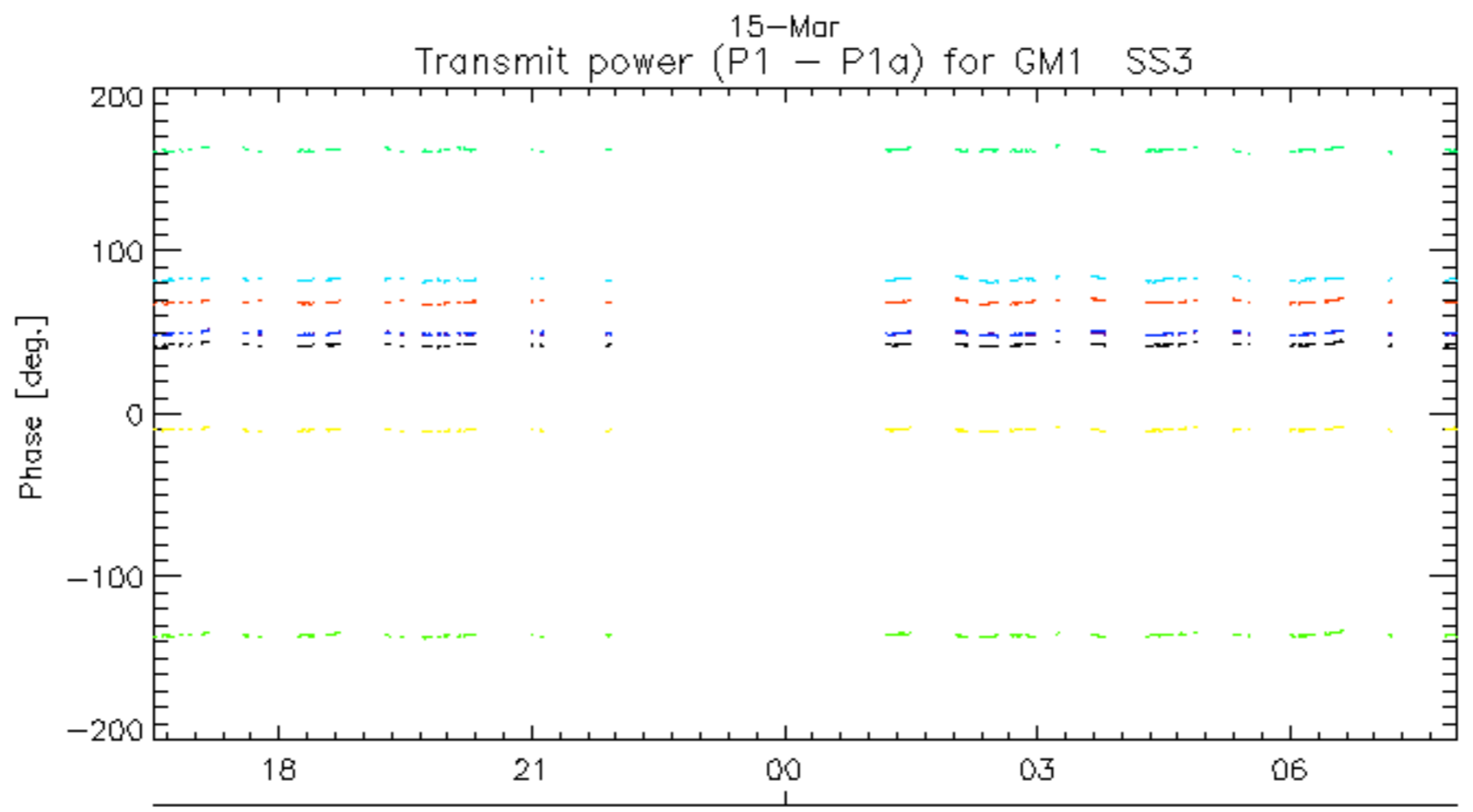
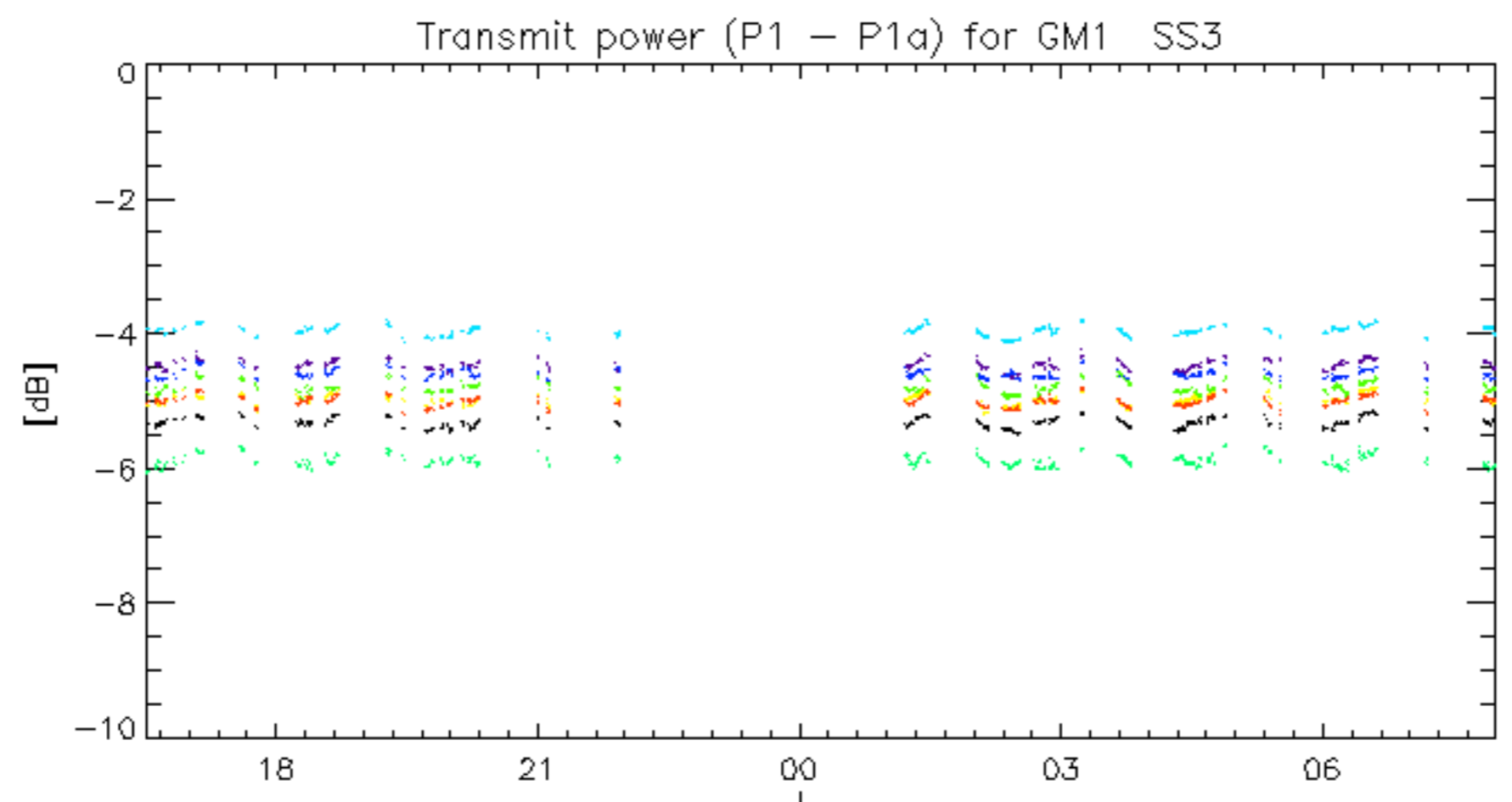
The assumption is taken that the SQUADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20060314_134140_00000372046_00010_21106_0829.N1	1	0
ASA_IMM_1PNPDE20060314_153600_00000352046_00011_21107_0830.N1	1	0
ASA_IMM_1PNPDE20060315_004510_000001932046_00016_21112_0858.N1	1	0
ASA_GM1_1PNPDK20060314_155431_000003742046_00011_21107_0319.N1	0	17
ASA_WSM_1PNPDE20060313_165856_000001292045_00499_21094_0582.N1	0	76
ASA_WSM_1PNPDE20060314_135201_000000852046_00010_21106_0704.N1	0	29
ASA_WSM_1PNPDE20060315_030808_000001832046_00018_21114_0795.N1	0	1

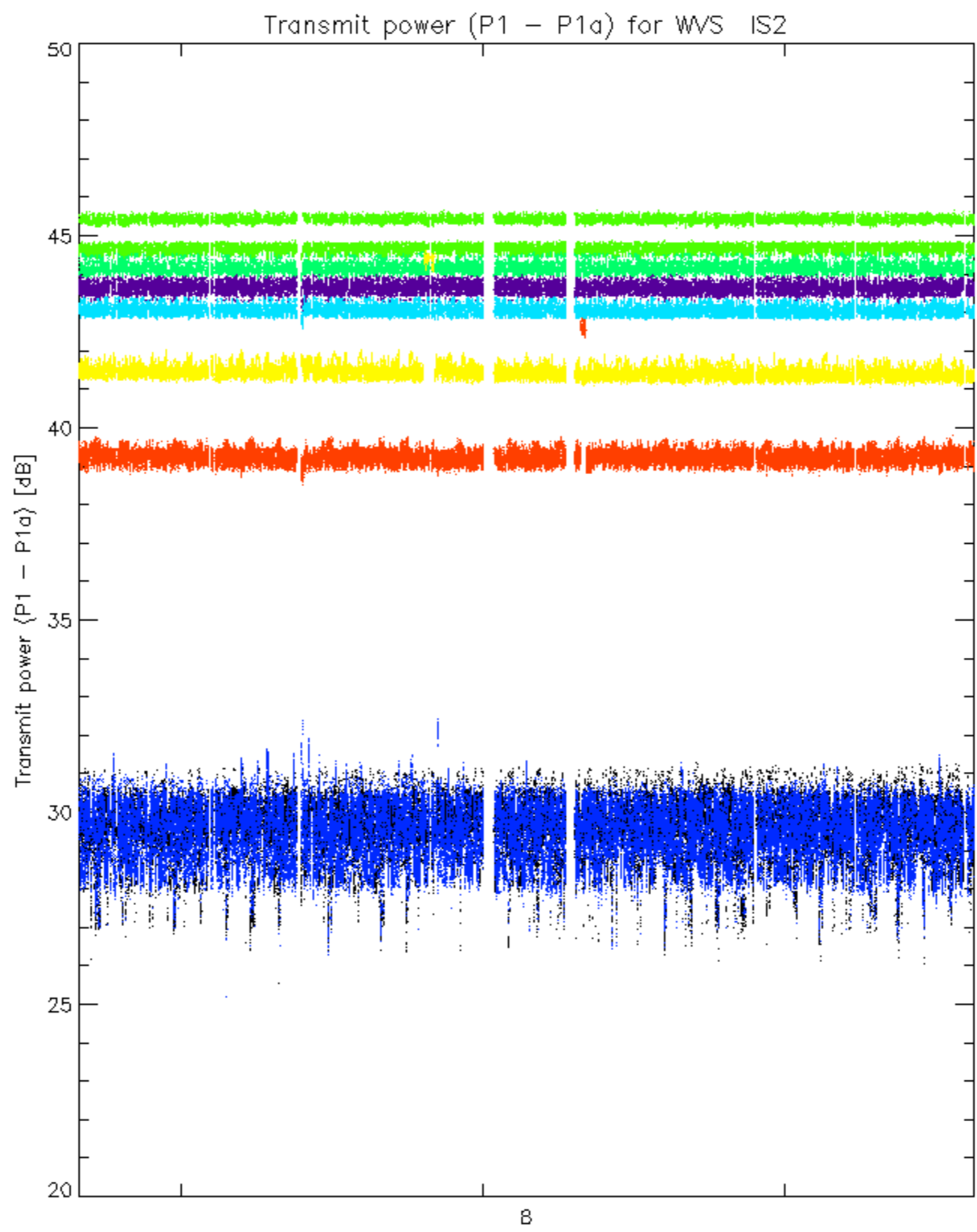




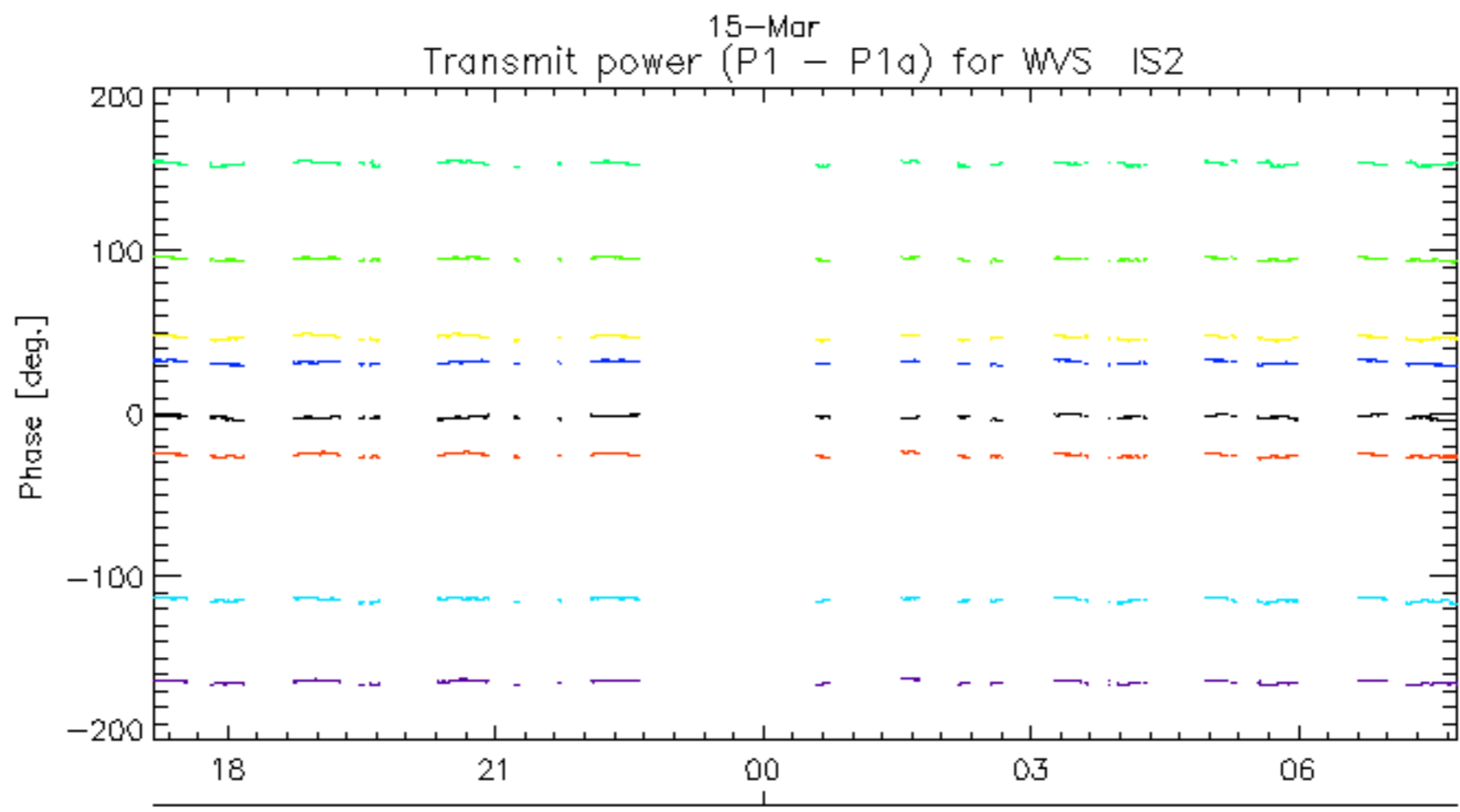
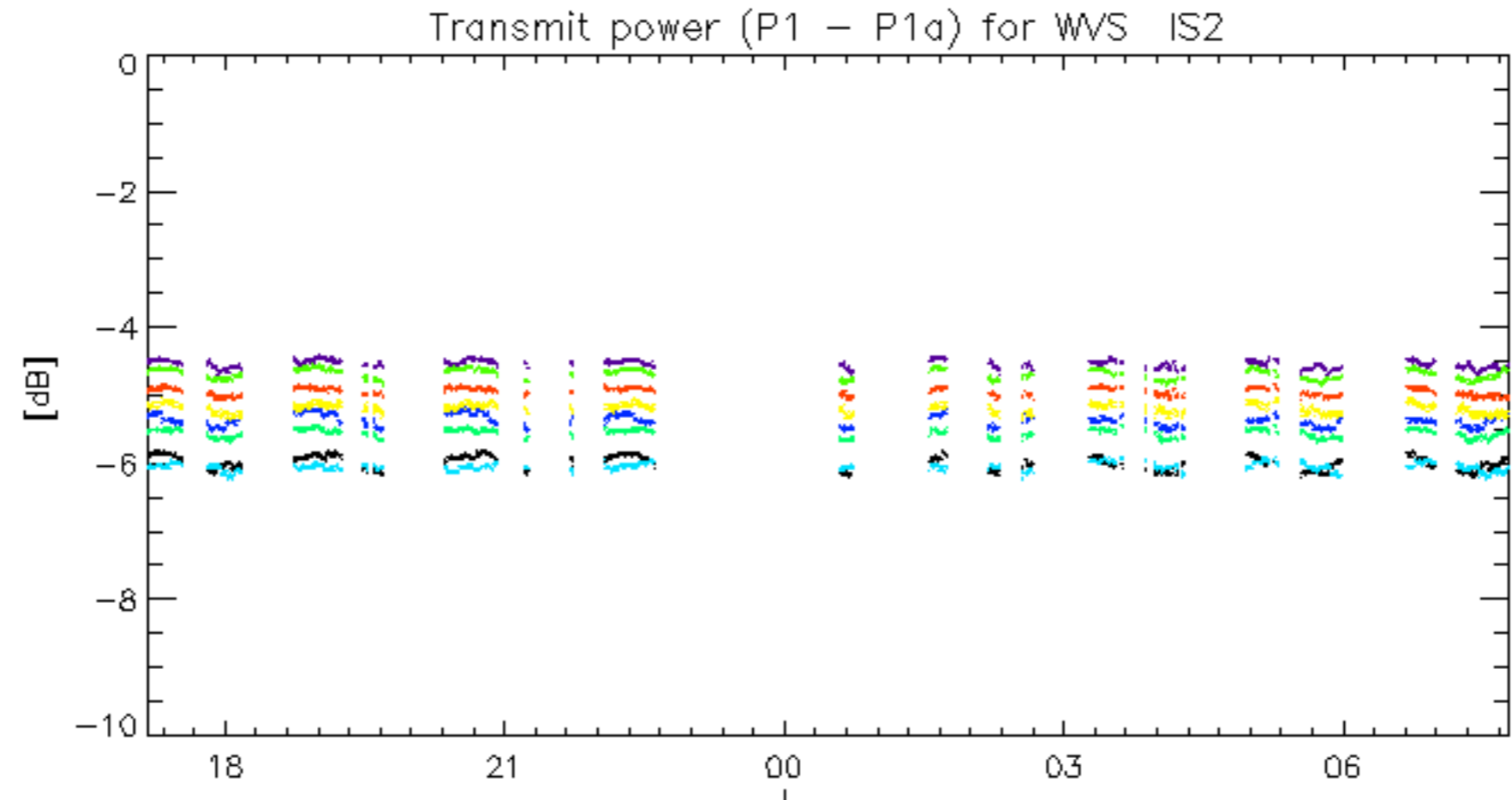




rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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



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

No unavailabilities during the reported period.