

PRELIMINARY REPORT OF 060213

last update on Mon Feb 13 16:41:45 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 2006-02-12 00:00:00 to 2006-02-13 16:41:45

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	49	0	8	1	22
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	49	0	8	1	22
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	49	0	8	1	22
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	49	0	8	1	22

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	45	42	41	14	39
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	45	42	41	14	39
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	45	42	41	14	39
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	45	42	41	14	39

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	20060212 095339
H	20060213 092202

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	-4.012971	0.008309	0.034631
7	P1	-3.002478	0.012596	0.005418
11	P1	-4.092573	0.022041	0.024028
15	P1	-6.060459	0.018206	0.000206
19	P1	-3.259087	0.006612	-0.023906
22	P1	-4.474421	0.018342	0.023010
26	P1	-4.194579	0.013189	0.040616
30	P1	-5.772724	0.010380	0.004862
3	P1	-16.906551	0.266067	-0.010443
7	P1	-16.651196	0.124290	-0.079582
11	P1	-16.590038	0.302278	0.103563
15	P1	-13.171782	0.110783	0.157304
19	P1	-13.892761	0.070459	-0.024903
22	P1	-15.795321	0.558456	0.248181
26	P1	-15.766057	0.248940	0.007738
30	P1	-16.577282	0.306363	0.088514

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.545946	0.091978	0.169778
7	P2	-22.432682	0.095789	0.084829
11	P2	-16.268635	0.101951	0.075772
15	P2	-7.195626	0.102495	0.044881
19	P2	-9.159915	0.096496	0.029167
22	P2	-17.943161	0.093272	0.000926
26	P2	-16.215607	0.100170	0.014551
30	P2	-19.641645	0.084383	0.014297

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.203461	0.007255	0.025035
7	P3	-8.203461	0.007255	0.025035
11	P3	-8.203461	0.007255	0.025035
15	P3	-8.203461	0.007255	0.025035
19	P3	-8.203461	0.007255	0.025035
22	P3	-8.203461	0.007255	0.025035
26	P3	-8.203461	0.007255	0.025035
30	P3	-8.203461	0.007255	0.025035

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	-3.734874	0.011391	-0.035517
7	P1	-2.742814	0.007606	-0.007522
11	P1	-2.882820	0.013319	-0.070117
15	P1	-3.495839	0.020895	-0.100462
19	P1	-3.380625	0.011905	-0.009466
22	P1	-5.141620	0.021859	-0.064906
26	P1	-5.847369	0.017919	0.036662
30	P1	-5.232254	0.027556	0.041305
3	P1	-11.542500	0.041875	-0.034427
7	P1	-9.922139	0.048015	-0.045523
11	P1	-10.130114	0.055861	-0.167819
15	P1	-10.668629	0.099489	-0.156696
19	P1	-15.455919	0.062318	0.046369
22	P1	-20.443455	1.241378	0.432396

26	P1	-16.628307	0.355619	0.454993
30	P1	-18.218224	0.326689	-0.198390

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.322212	0.038334	0.237335
7	P2	-22.762640	0.070701	0.235508
11	P2	-11.369780	0.026114	0.154434
15	P2	-4.886255	0.028071	0.078206
19	P2	-6.895200	0.024992	0.049289
22	P2	-8.182832	0.025894	0.028621
26	P2	-23.955746	0.025667	0.020284
30	P2	-22.087416	0.018732	0.009878

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.038819	0.002644	0.032802
7	P3	-8.038710	0.002650	0.032565
11	P3	-8.038696	0.002652	0.032574
15	P3	-8.038784	0.002658	0.032221
19	P3	-8.038918	0.002655	0.032462
22	P3	-8.038869	0.002651	0.032601
26	P3	-8.038932	0.002652	0.032235
30	P3	-8.038774	0.002666	0.032697

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	0.000565266
	stdev	1.65129e-07
MEAN Q	mean	0.000524560
	stdev	2.10326e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.139995
	stdev	0.00115716
STDEV Q	mean	0.140358
	stdev	0.00117683



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2006021[123]

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_1PNPDE20060211_005021_000002372045_00059_20654_2678.N1	1	0
ASA_WVS_1PNPDE20060211_065800_000000002045_00063_20658_0912.N1	1	0
ASA_WSM_1PNPDE20060212_171026_000001282045_00084_20679_4709.N1	0	8
ASA_WSM_1PNPDK20060211_123449_000000362045_00066_20661_2941.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)	
	
	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

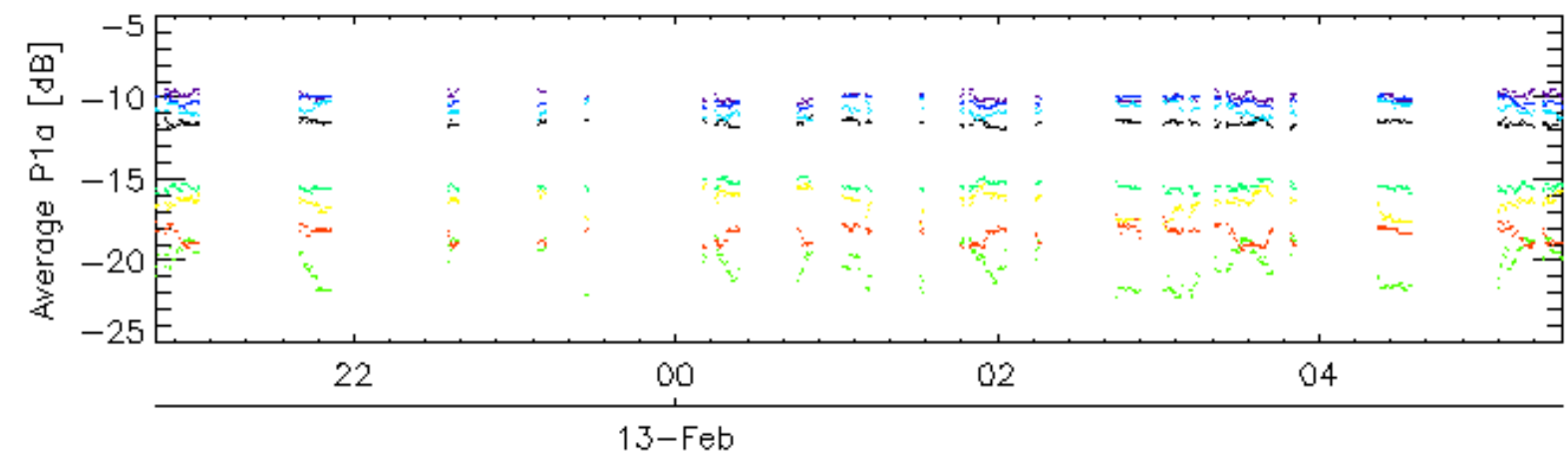
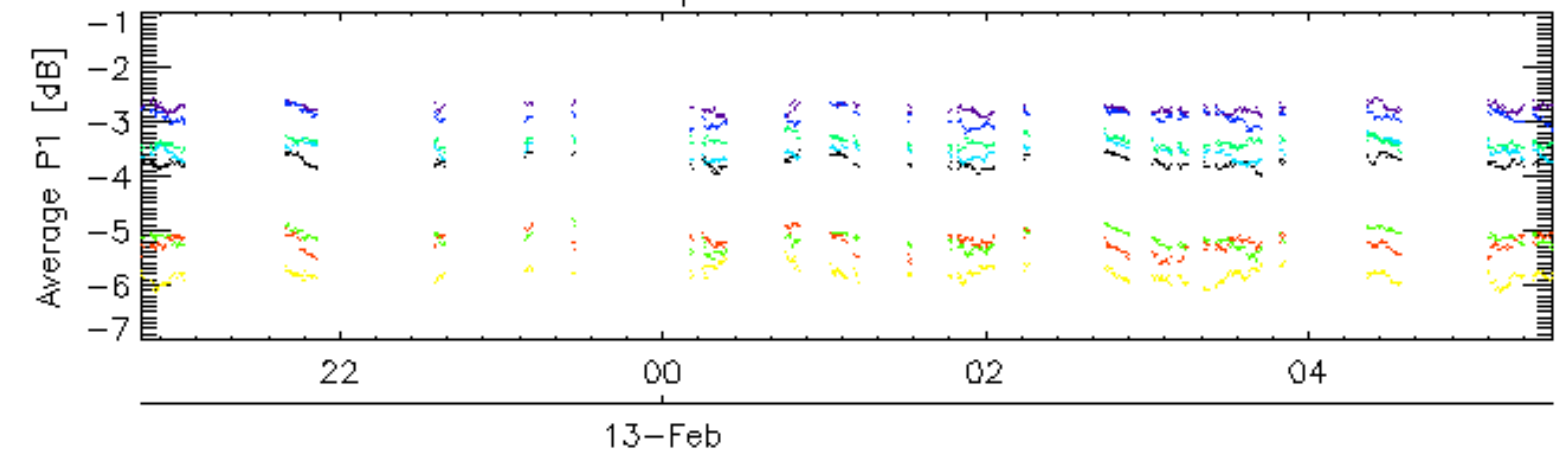
7.5 - Absolute Doppler for GM1**Evolution of Absolute Doppler**

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

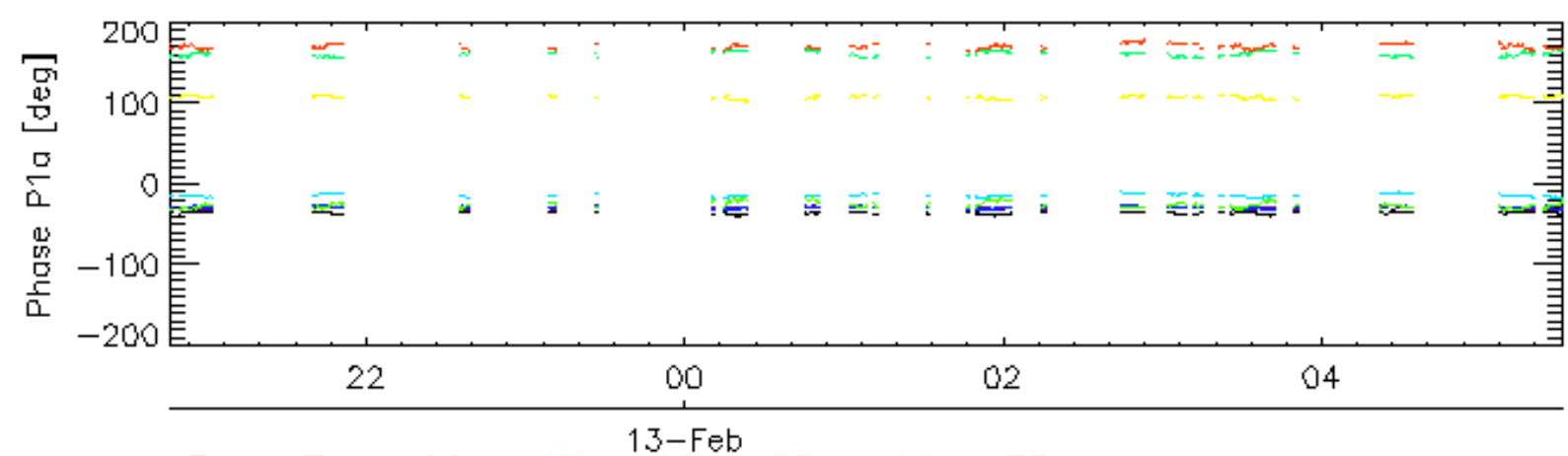
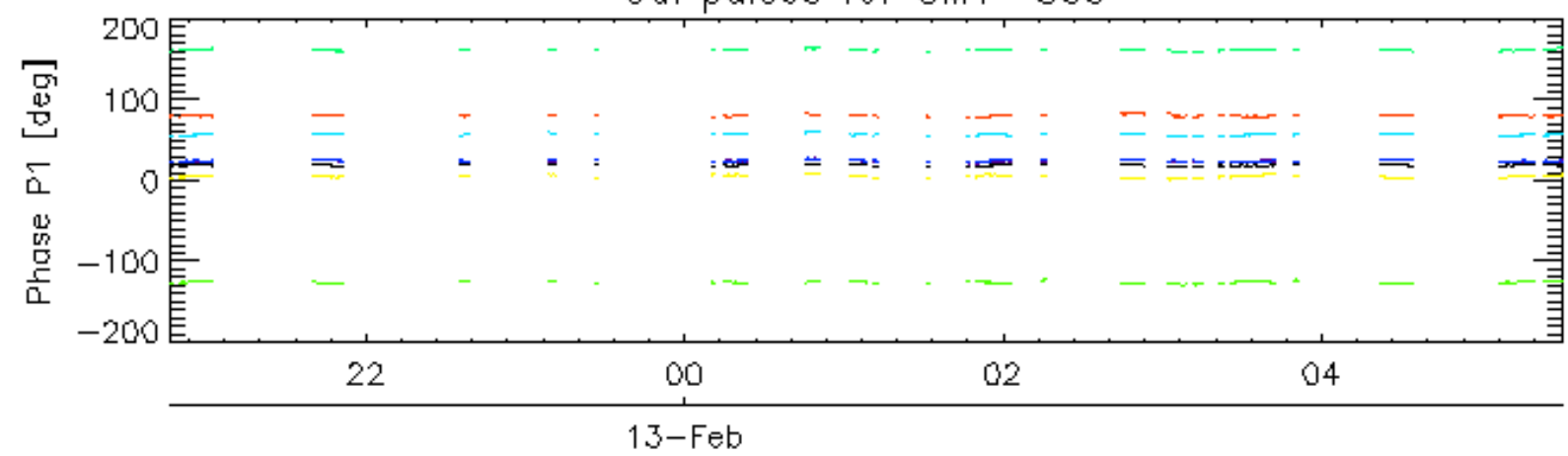
7.6 - Doppler evolution versus ANX for GM1**Evolution Doppler error versus ANX**

<input type="checkbox"/>

Cal pulses for GM1 SS3

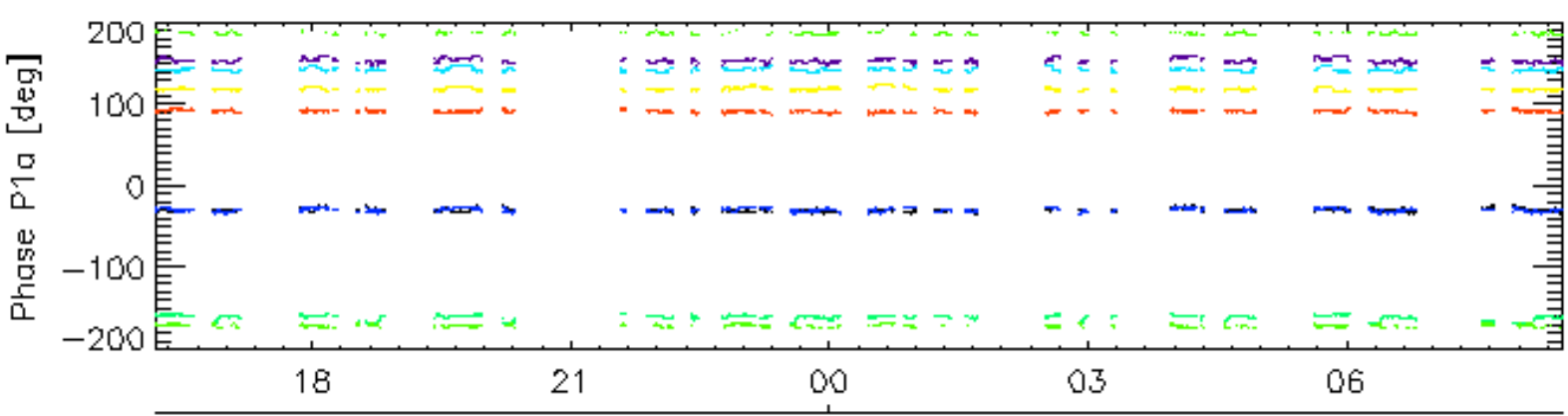
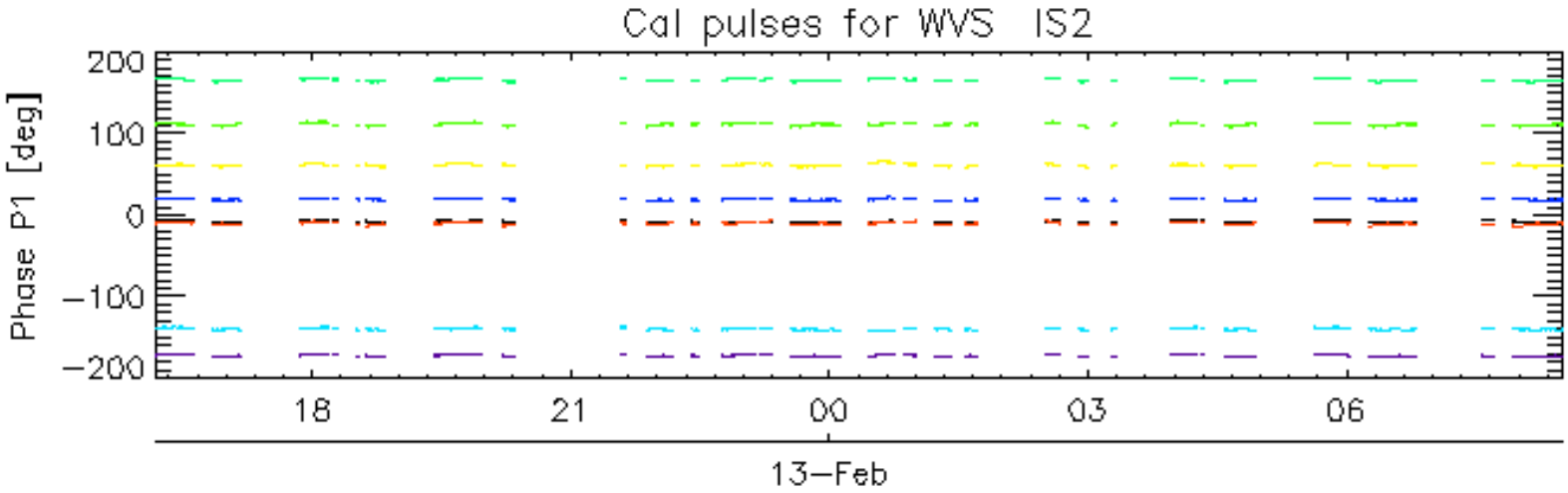
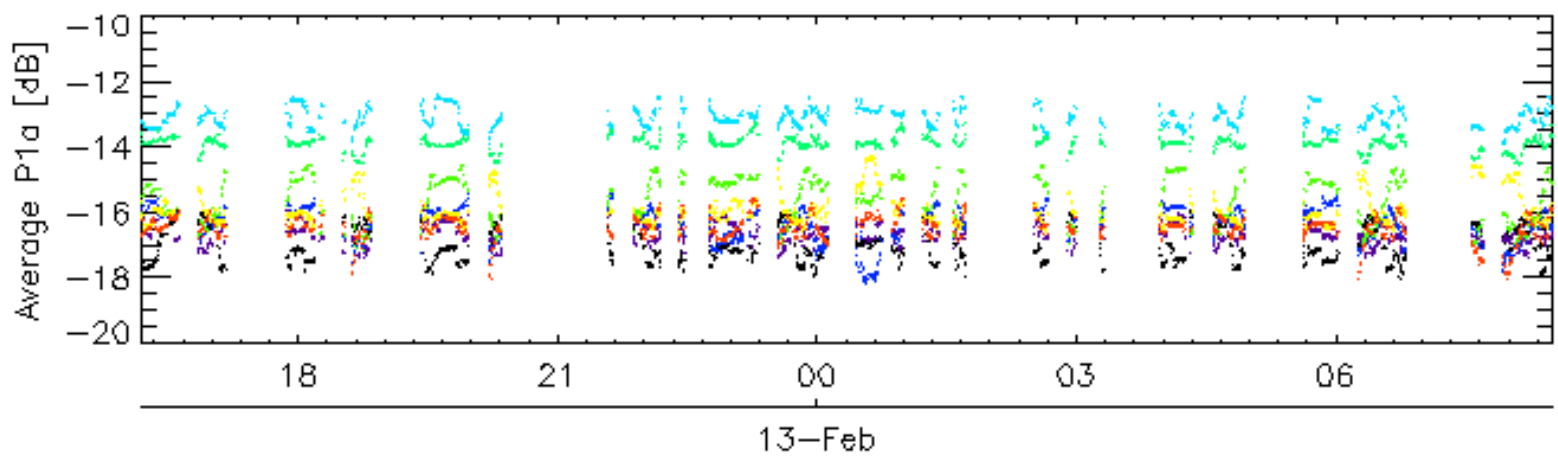
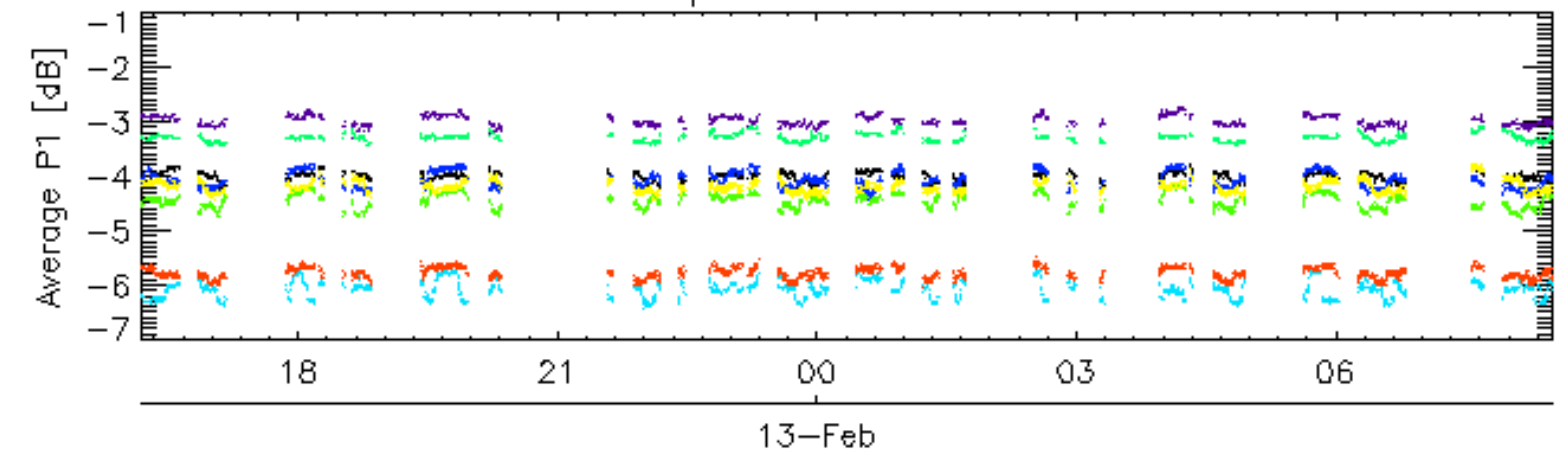


Cal pulses for GM1 SS3



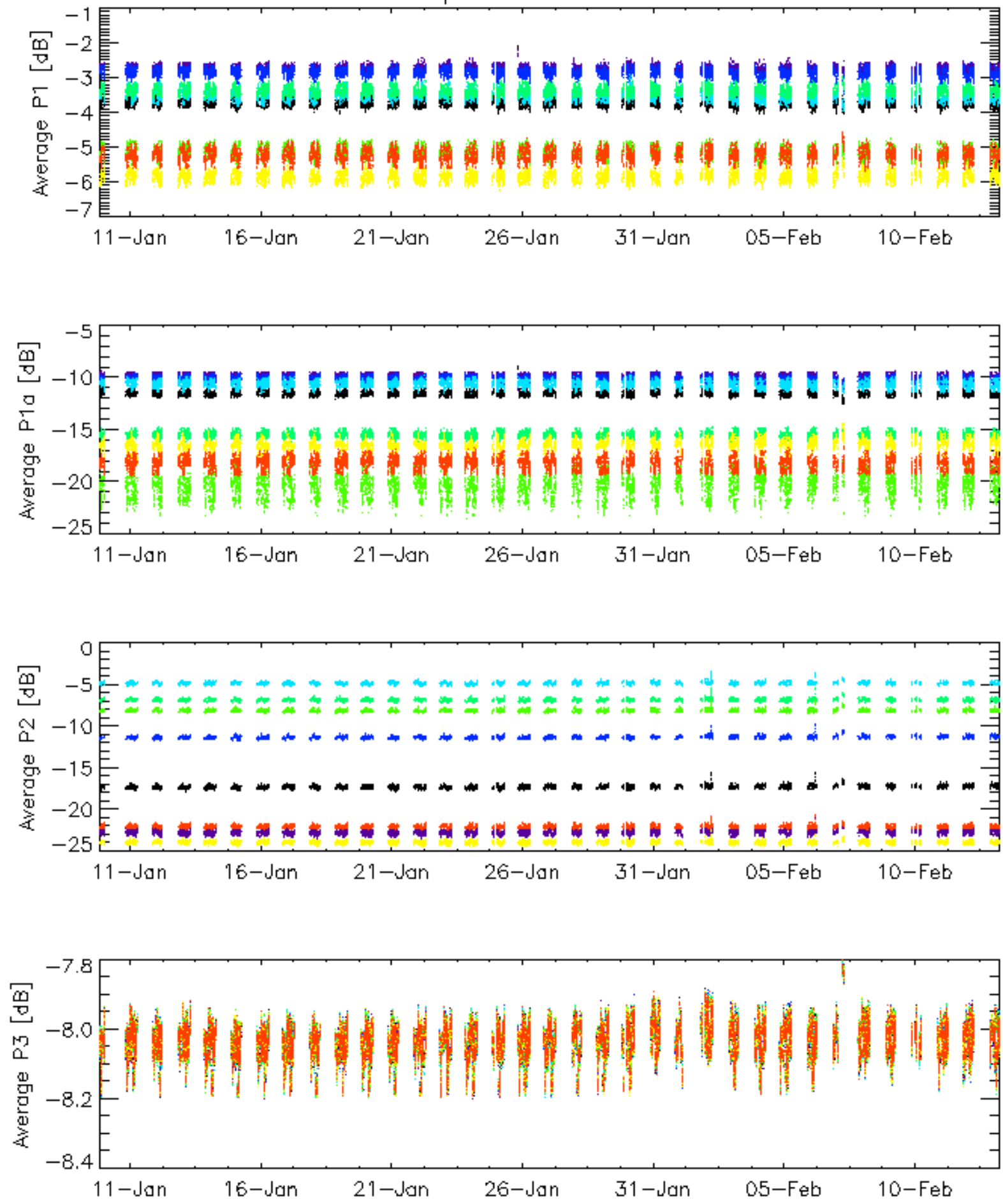
rows: 3 7 11 15 19 22 26 30

Cal pulses for WVS IS2



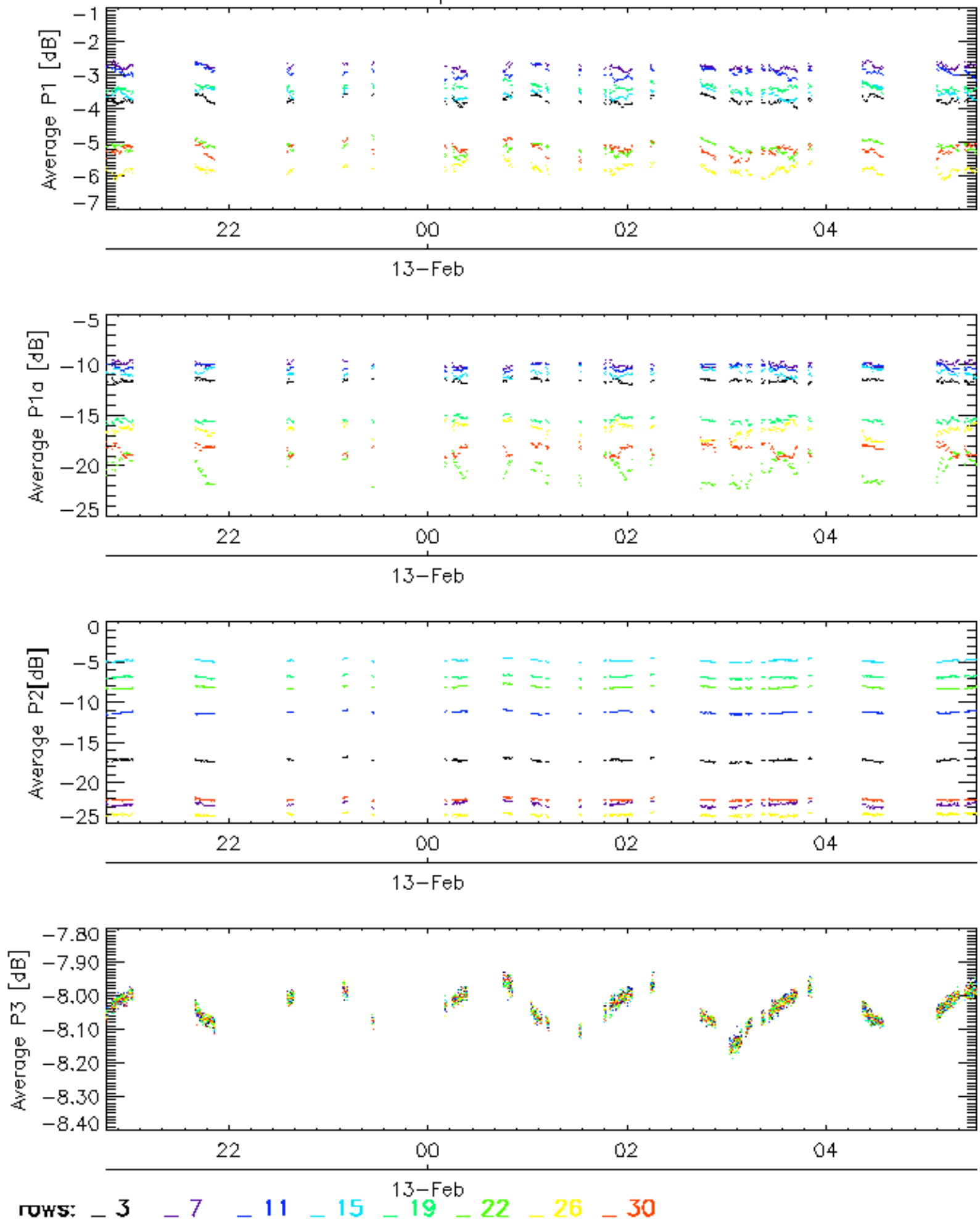
rows: 3 7 11 15 19 22 26 30

Cal pulses for GM1 SS3

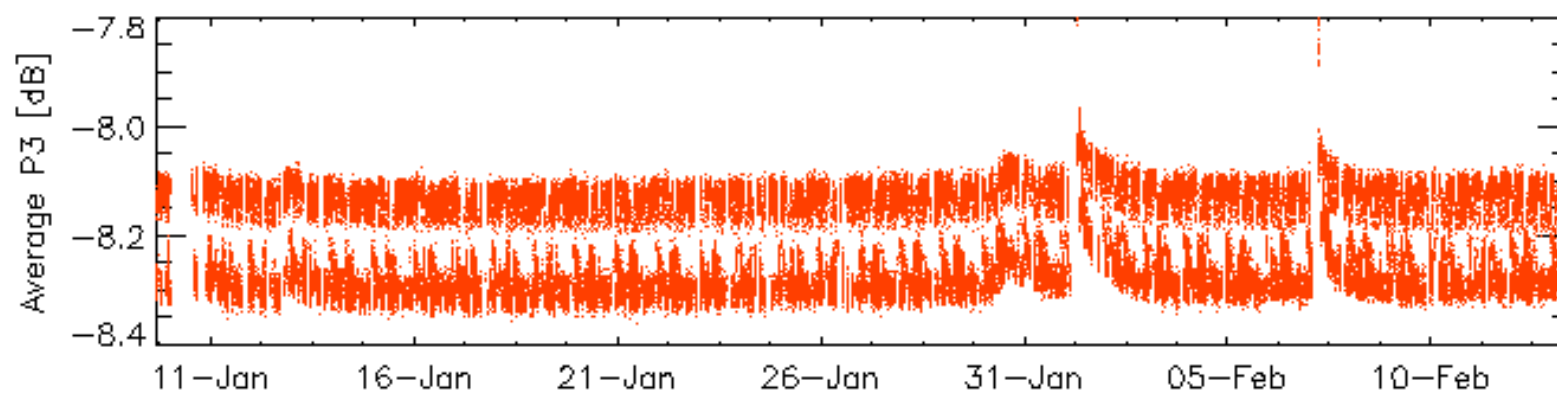
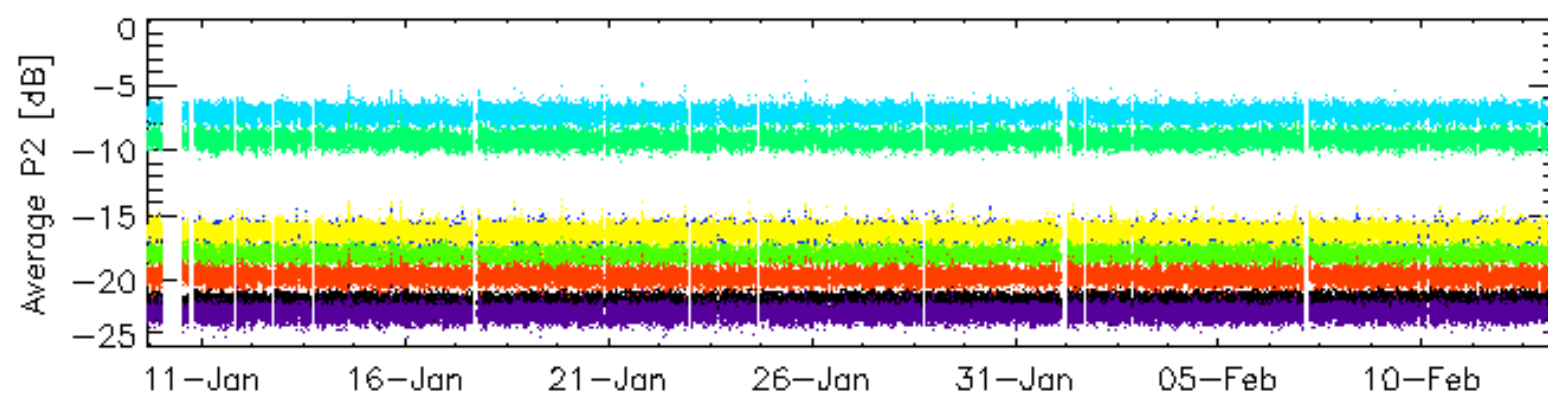
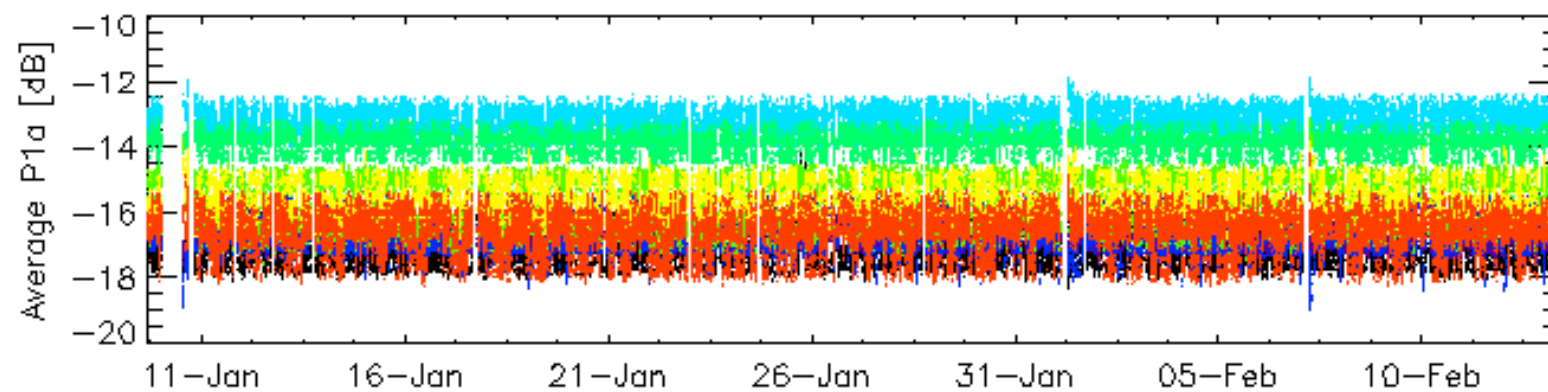
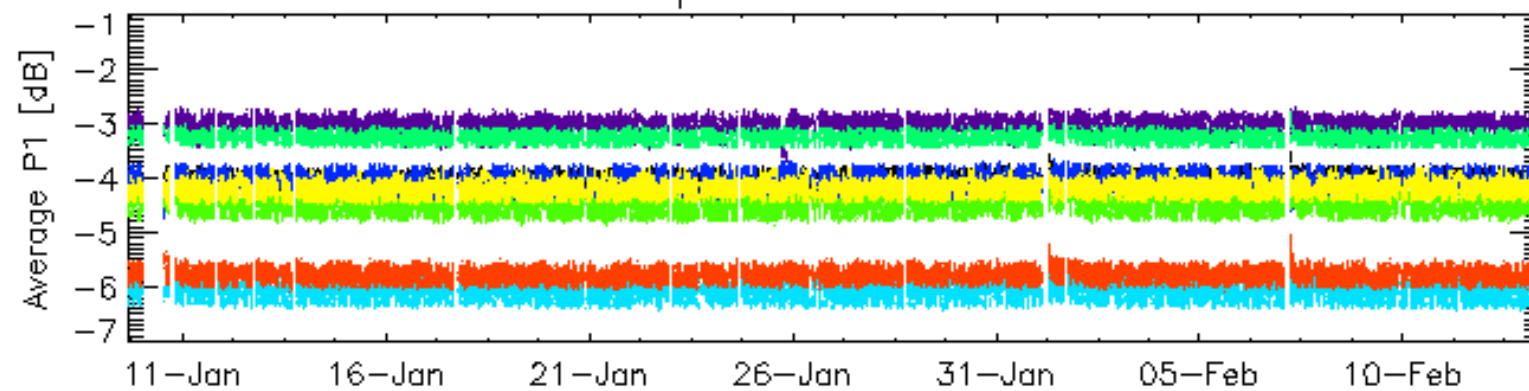


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

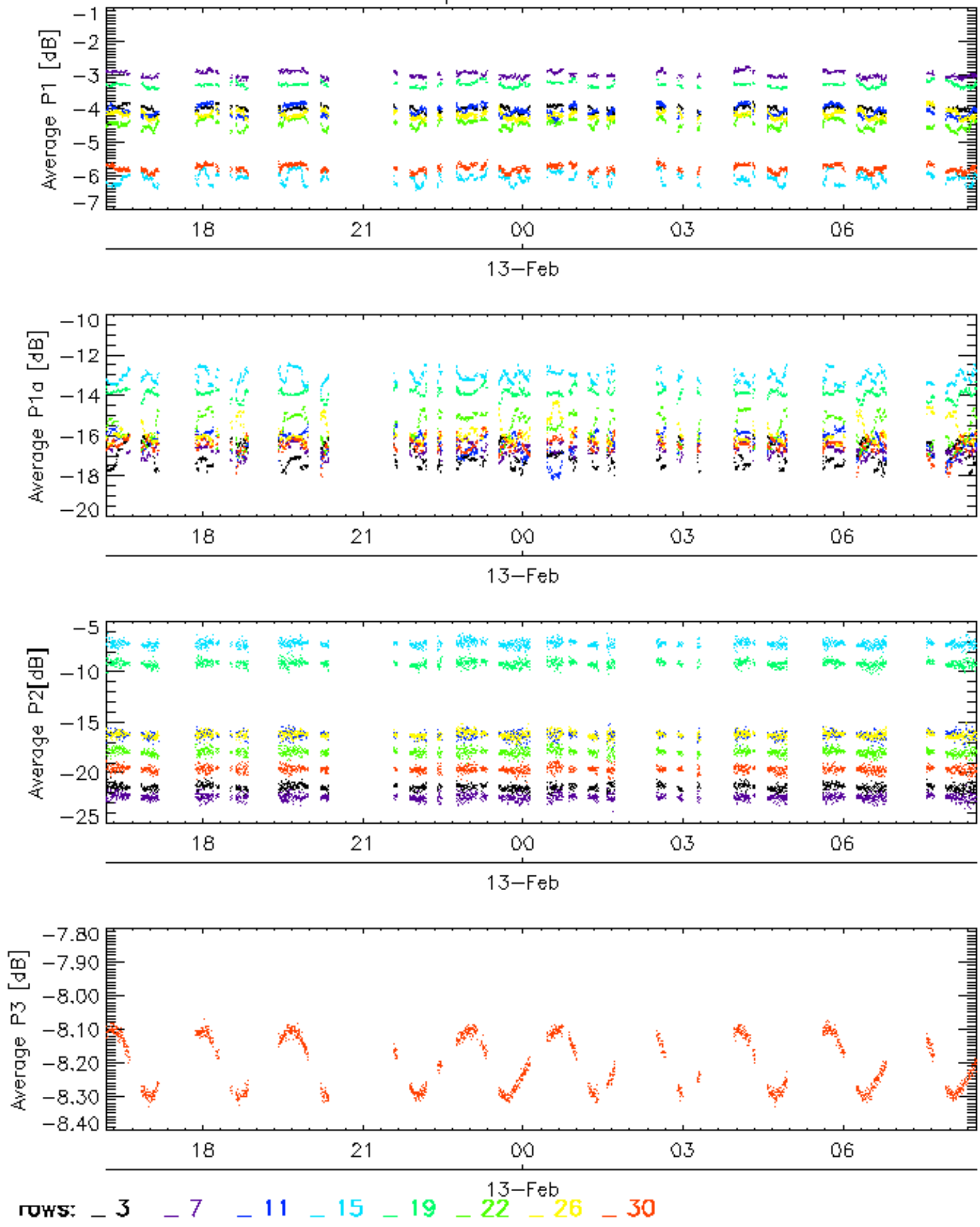


Cal pulses for WVS IS2



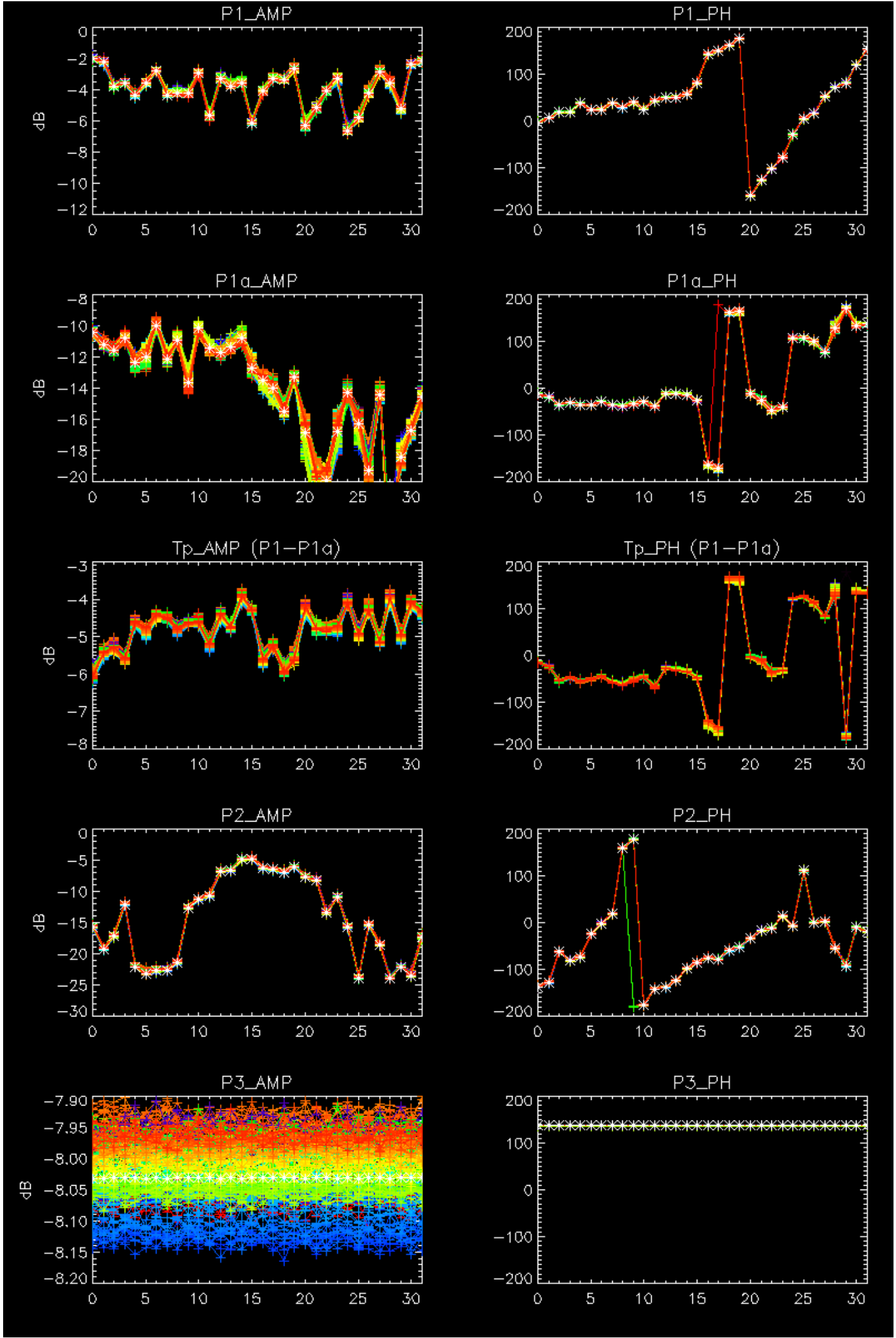
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

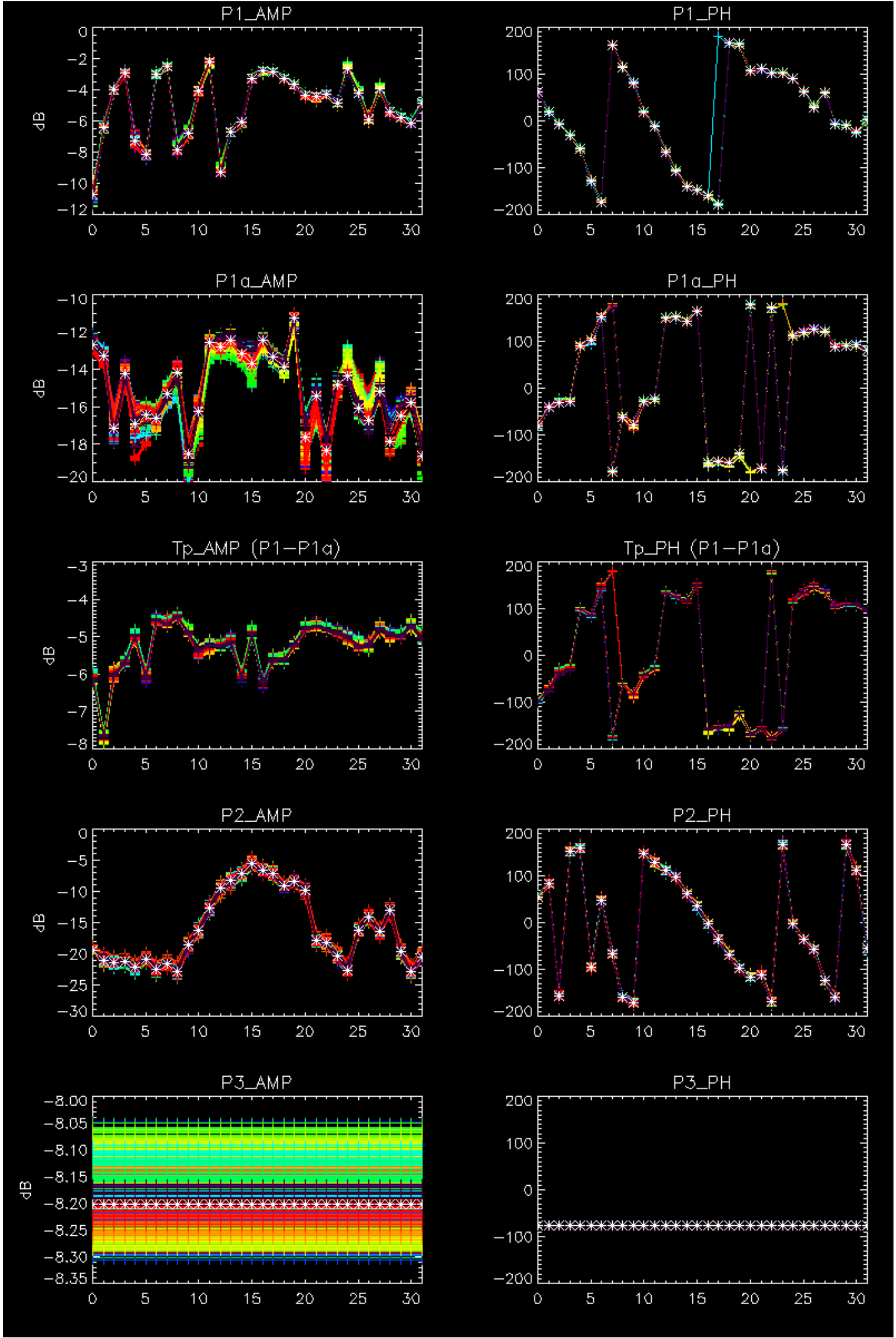
Cal pulses for WVS IS2



No anomalies observed on available browse products

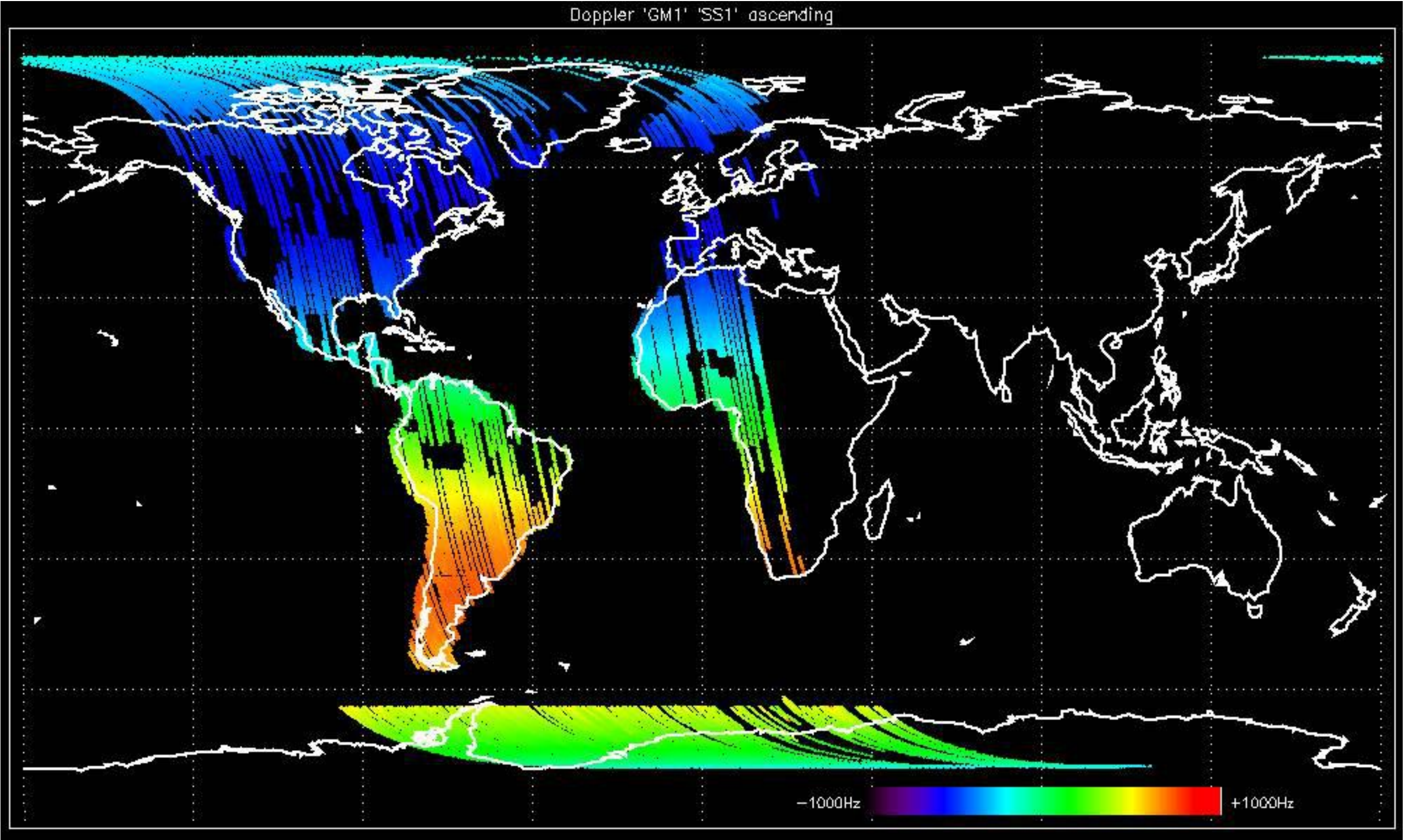
No anomalies observed.



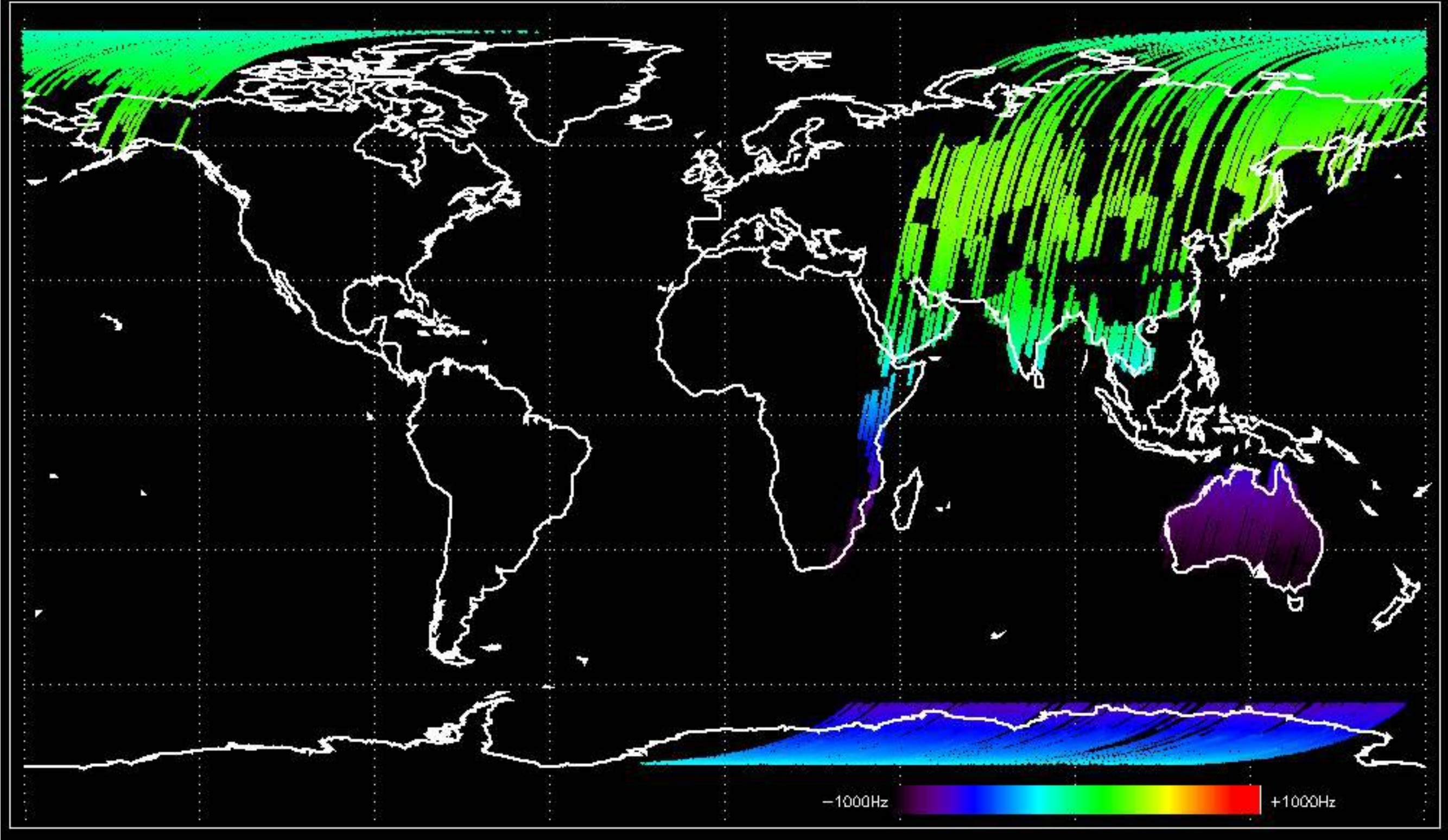


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

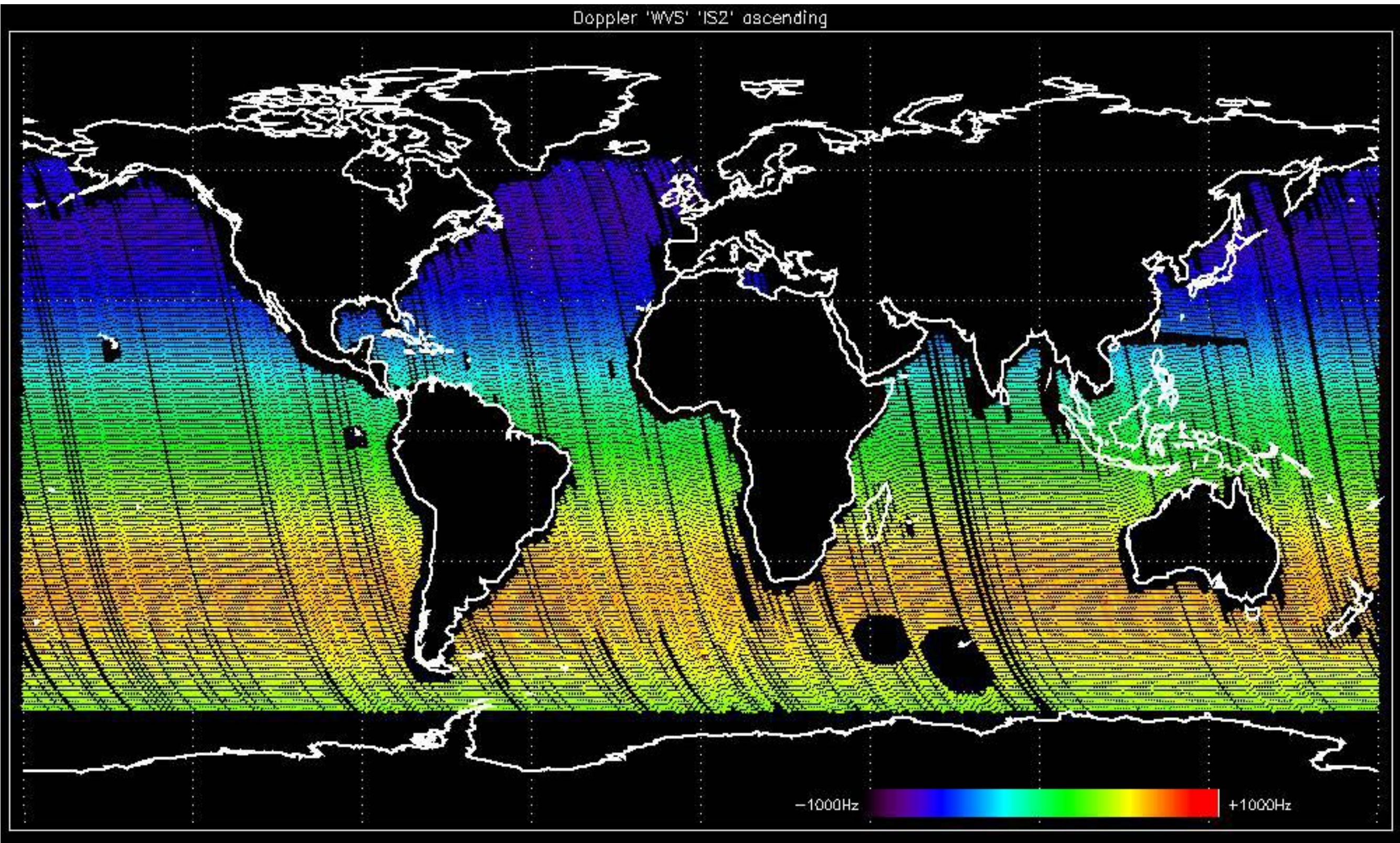
Doppler 'GM1' 'SS1' ascending



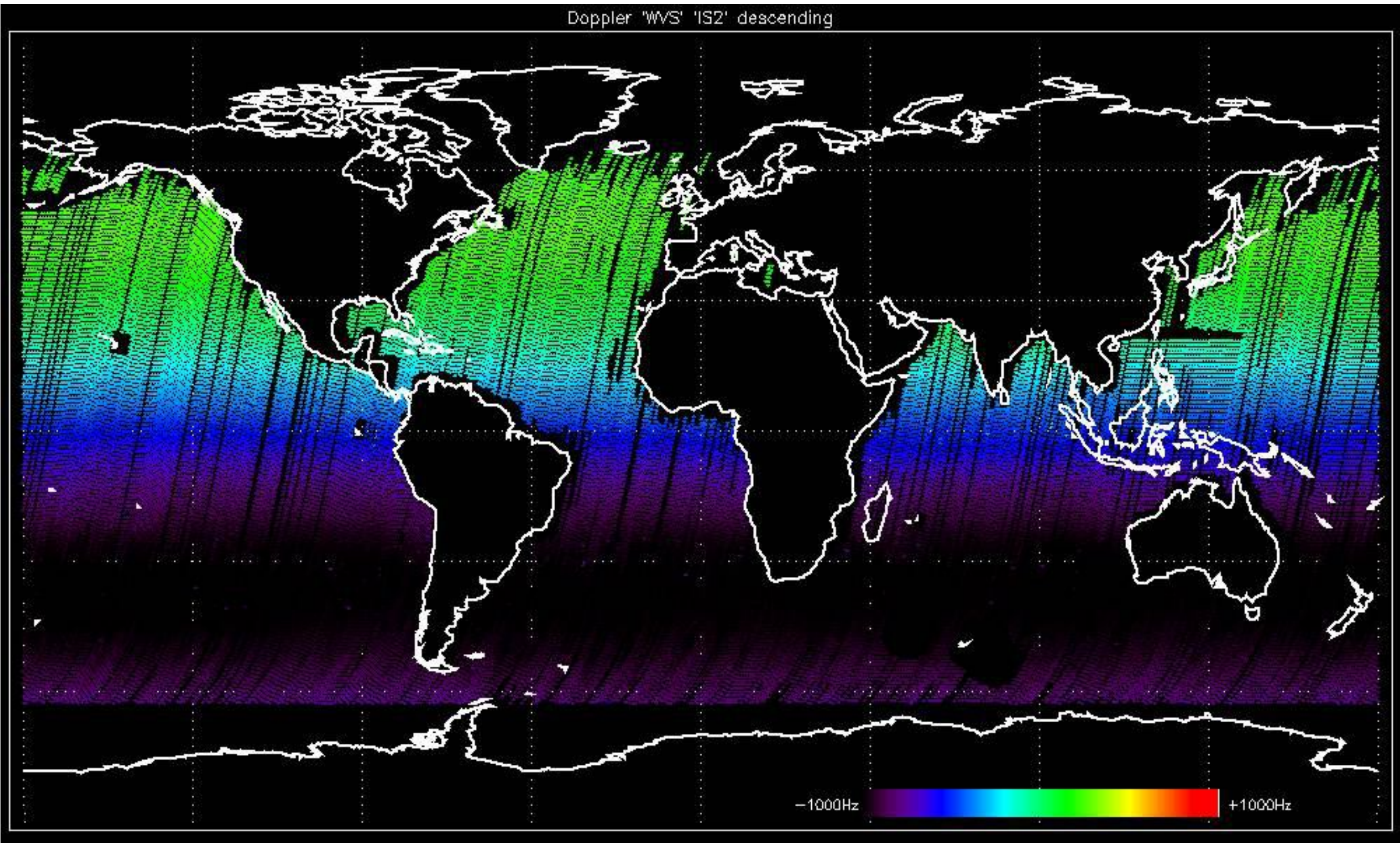
Doppler 'GM1' 'SS1' descending



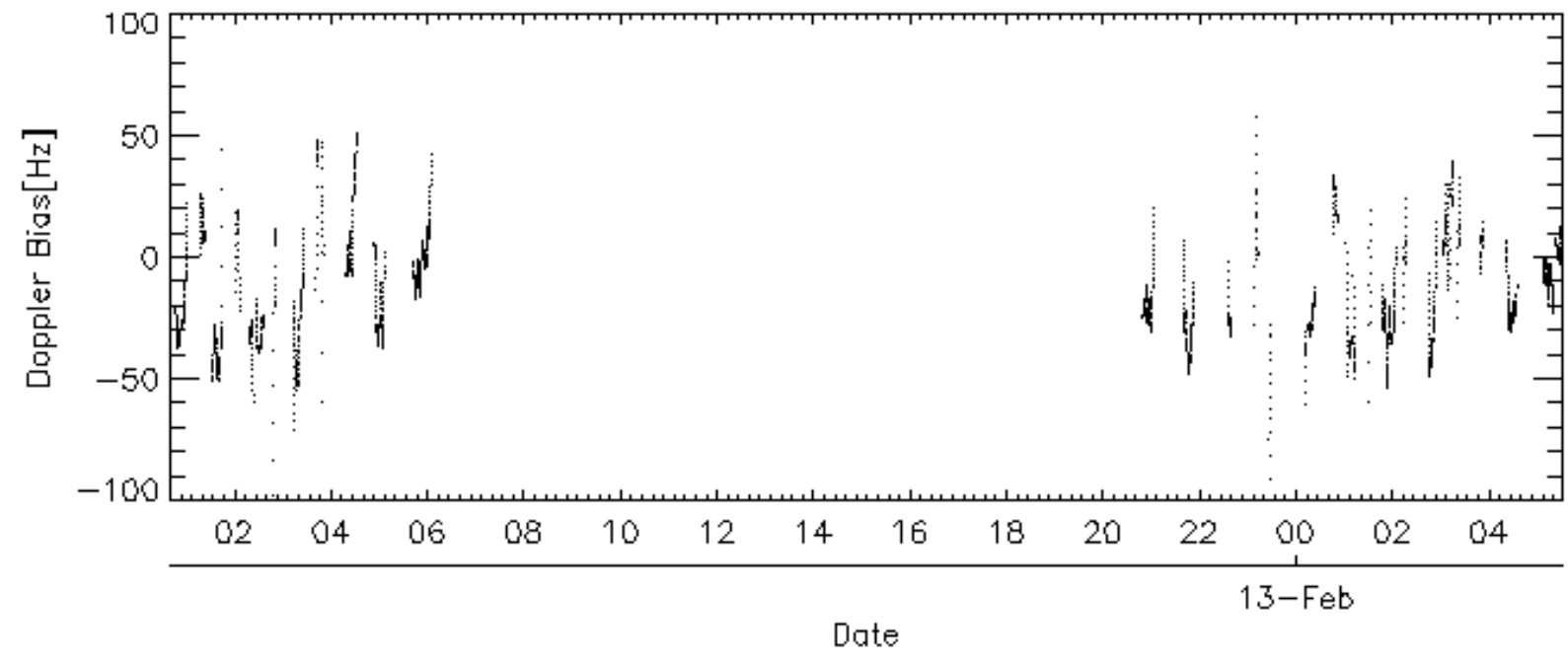
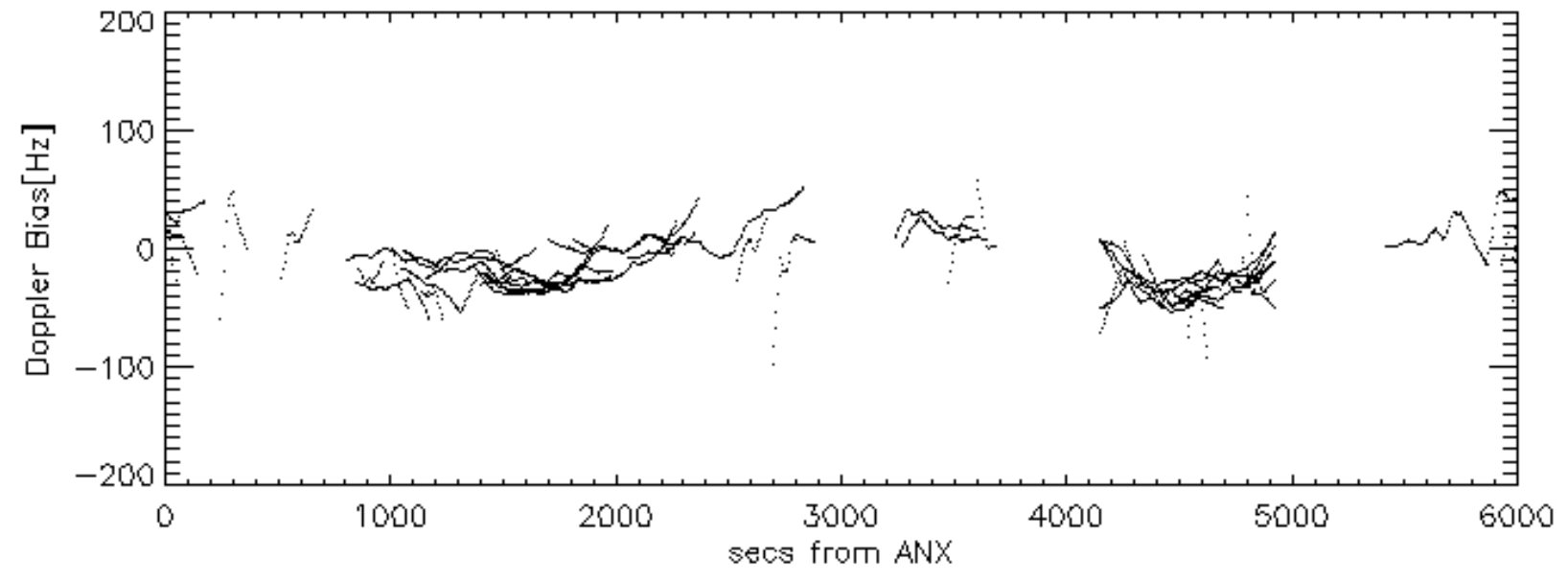
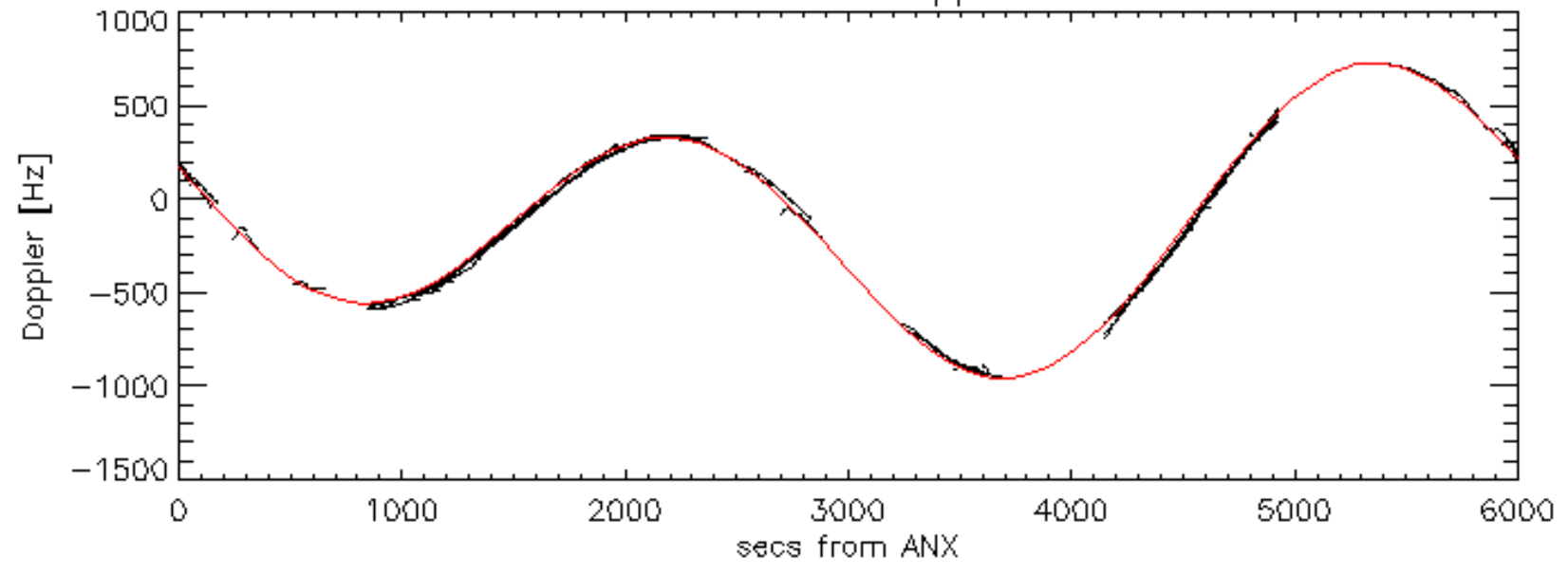
Doppler 'WVS' 'IS2' ascending

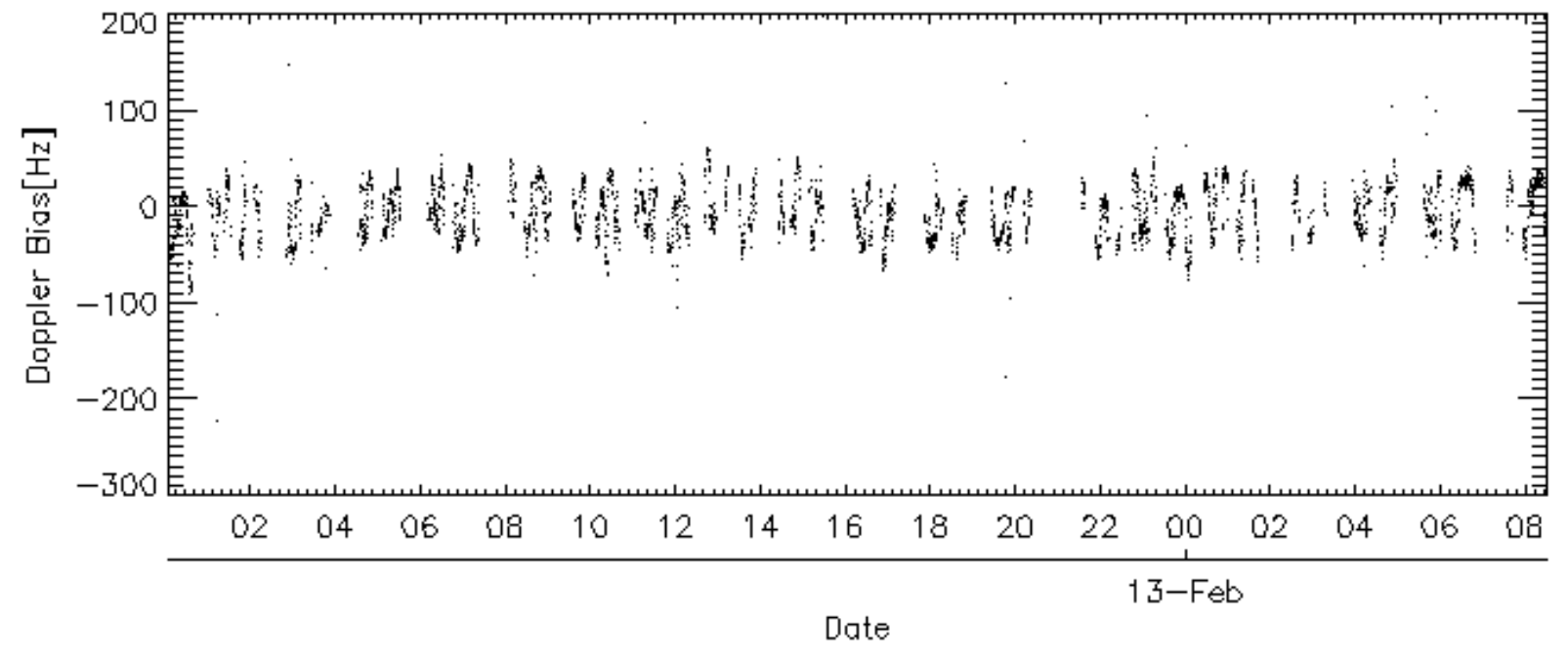
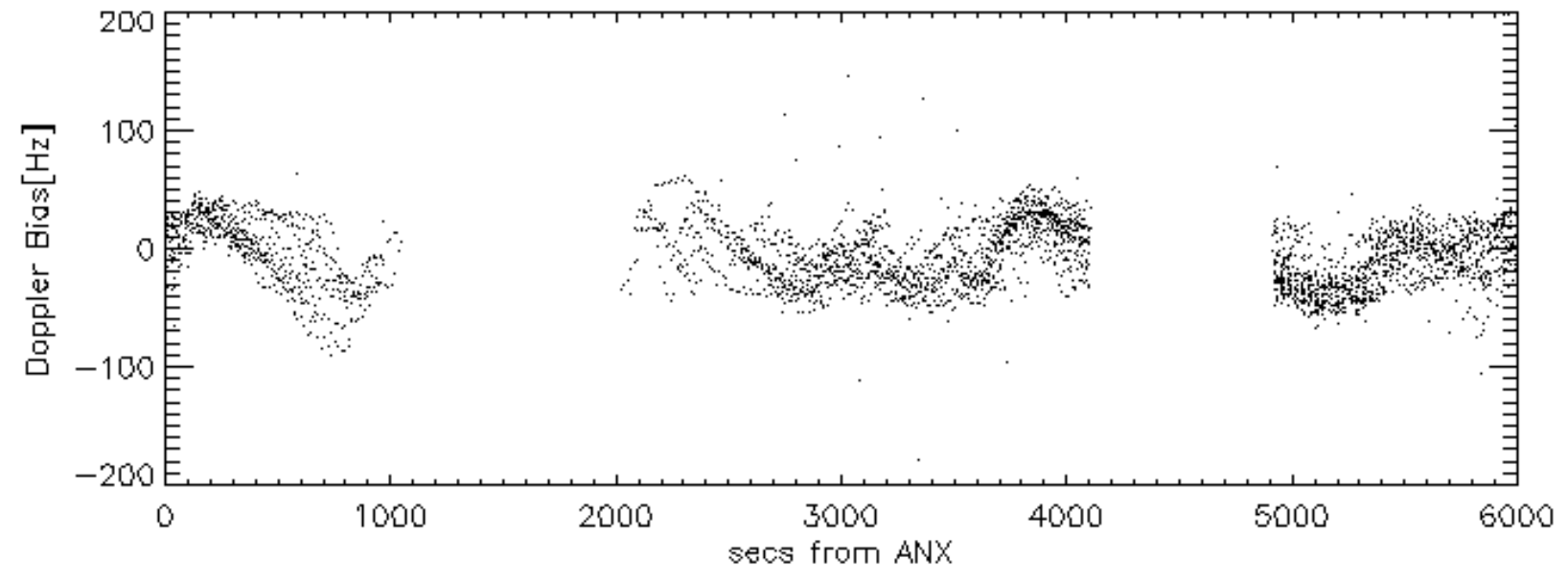
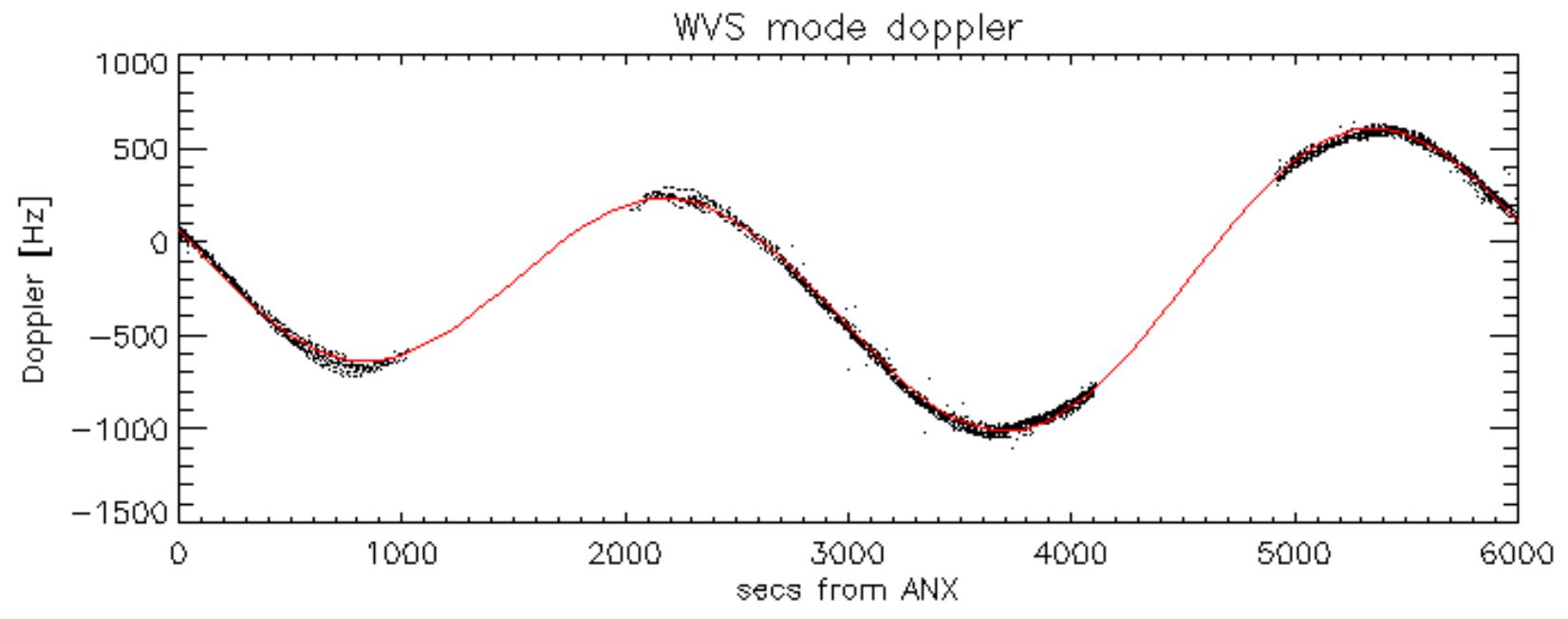


Doppler 'WVS' 'IS2' descending

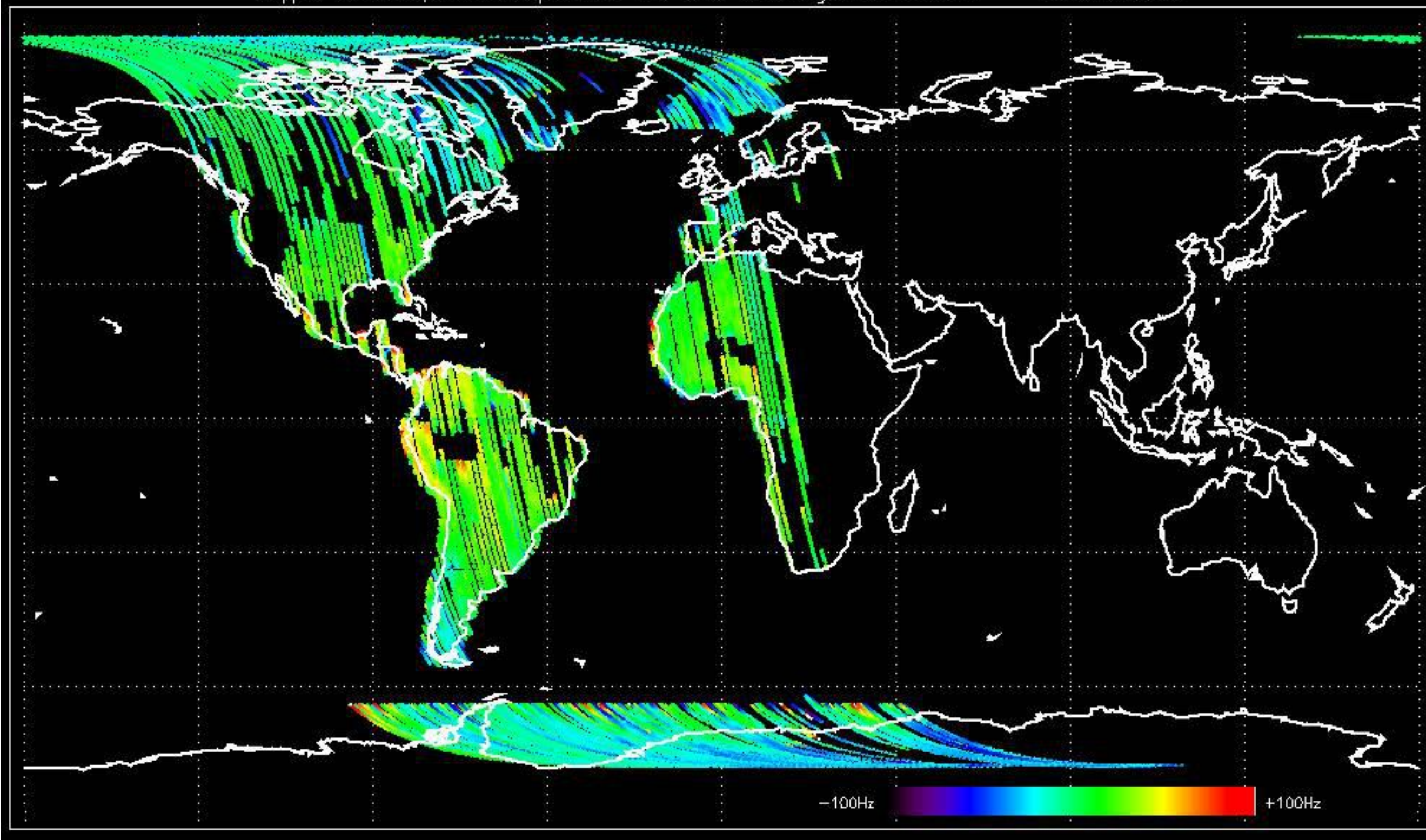


GM1 mode doppler

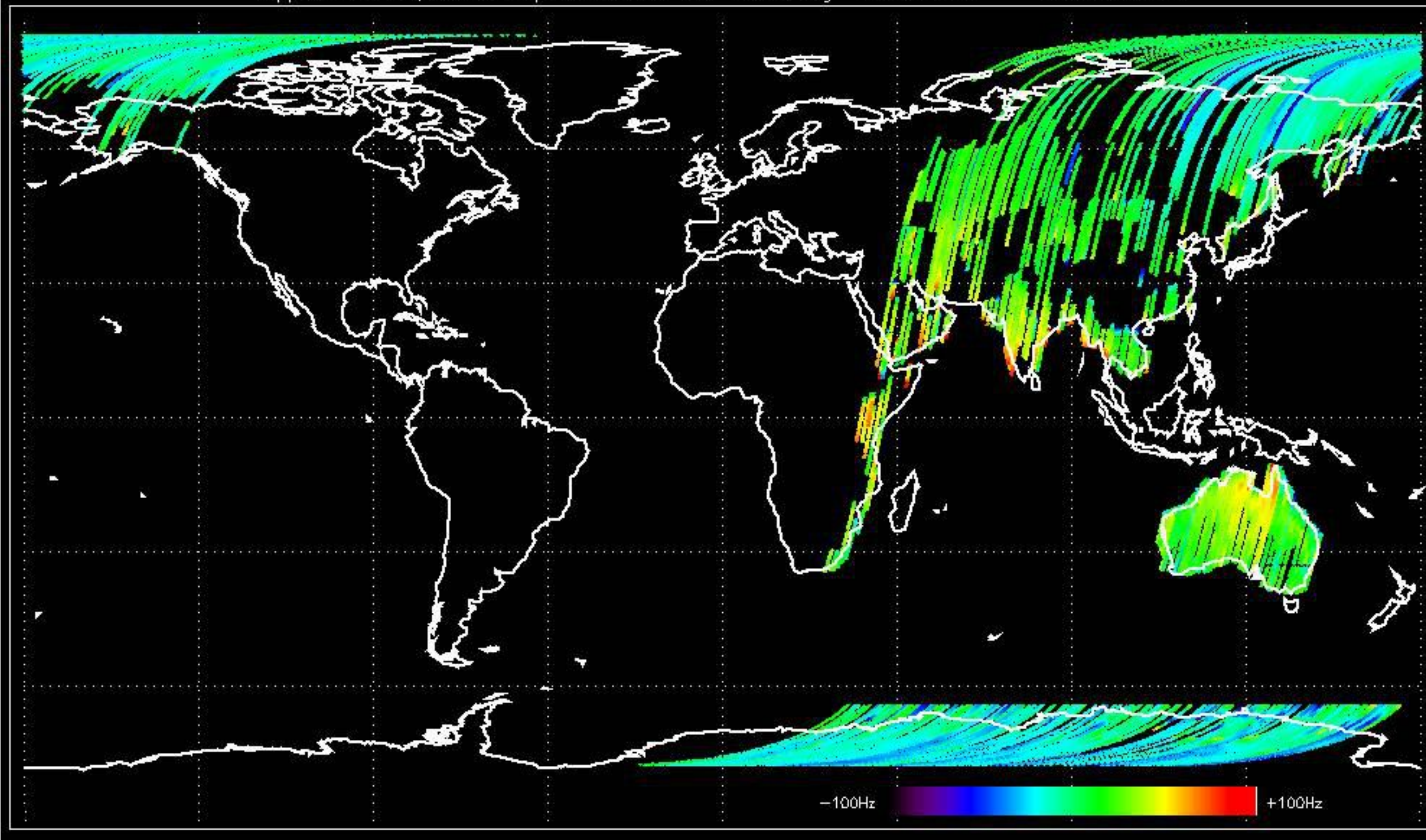




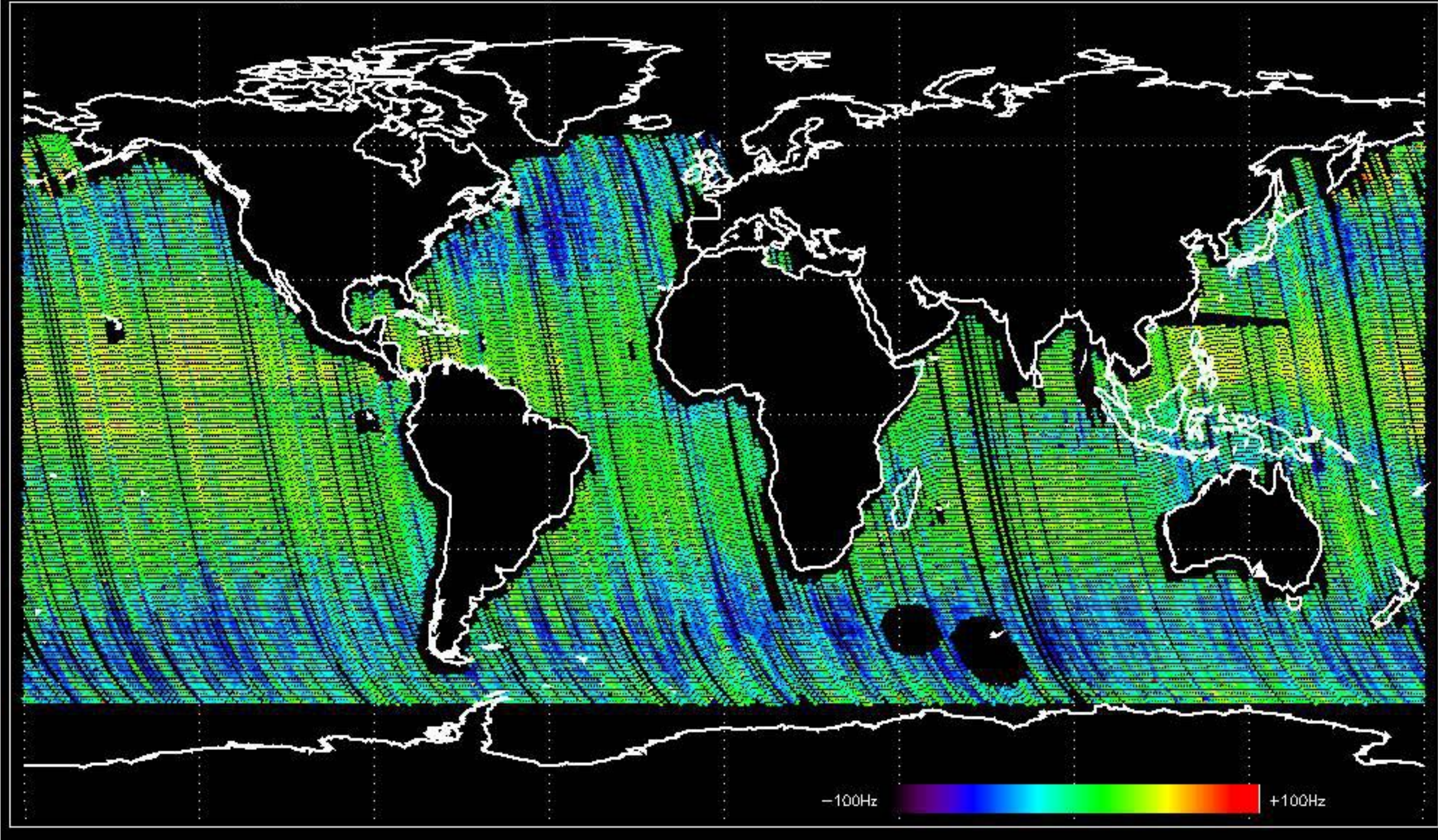
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -11.404311 Hz



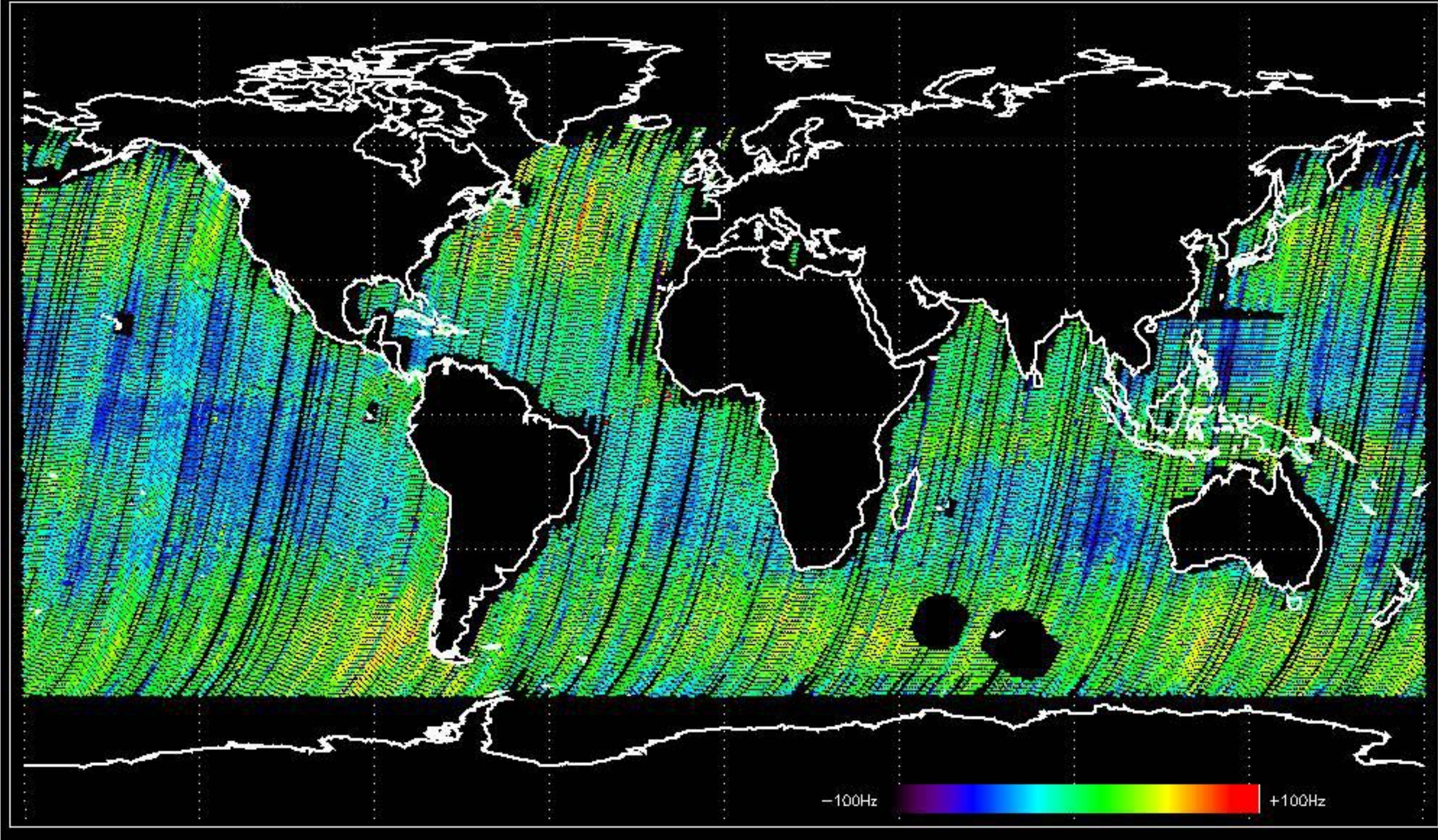
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -14.763647 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -9.4025841 Hz

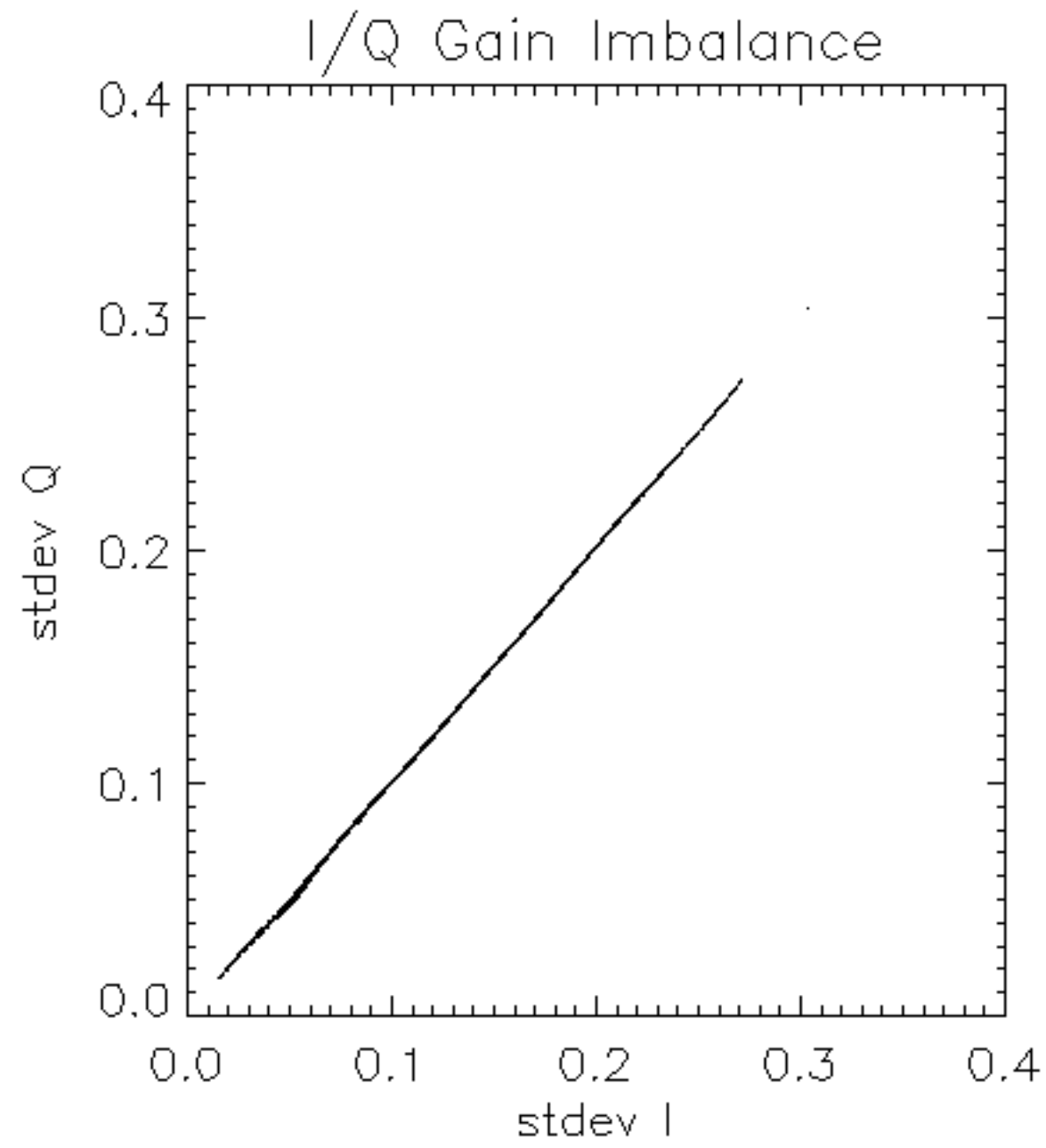


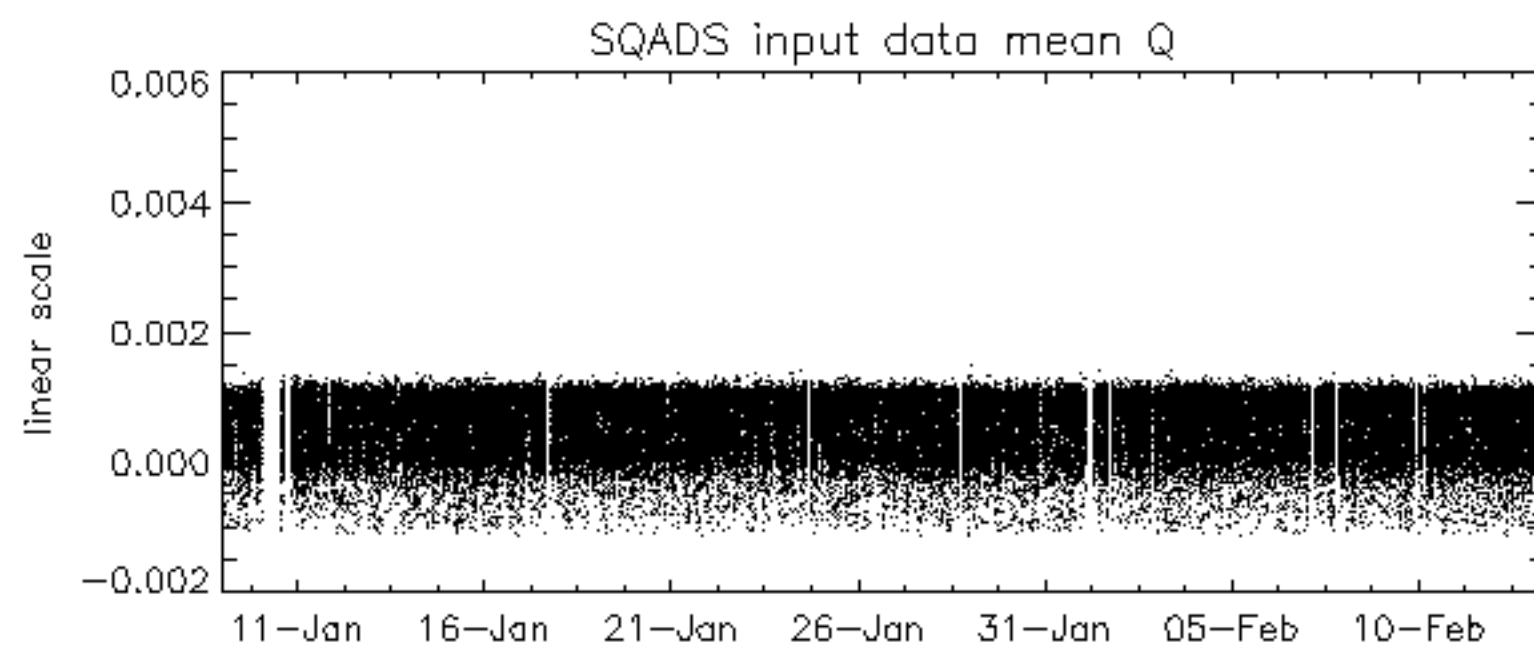
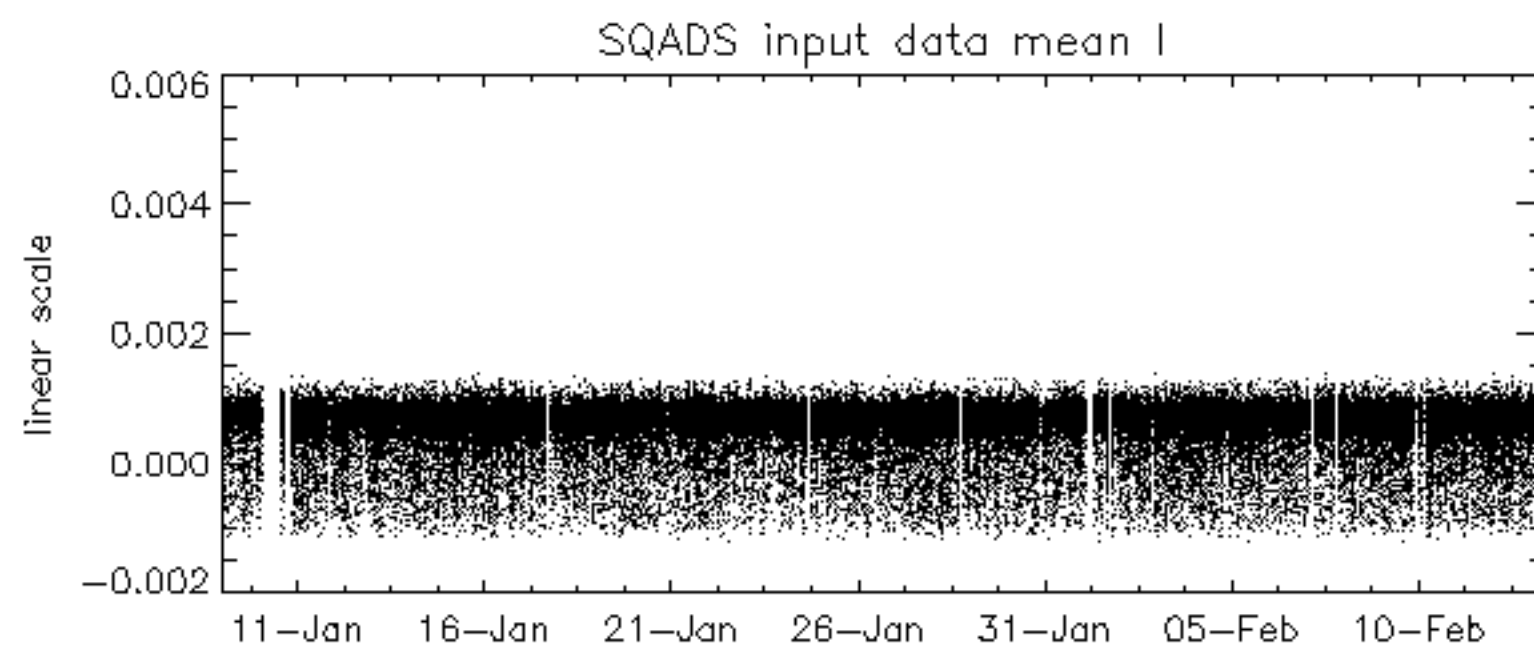
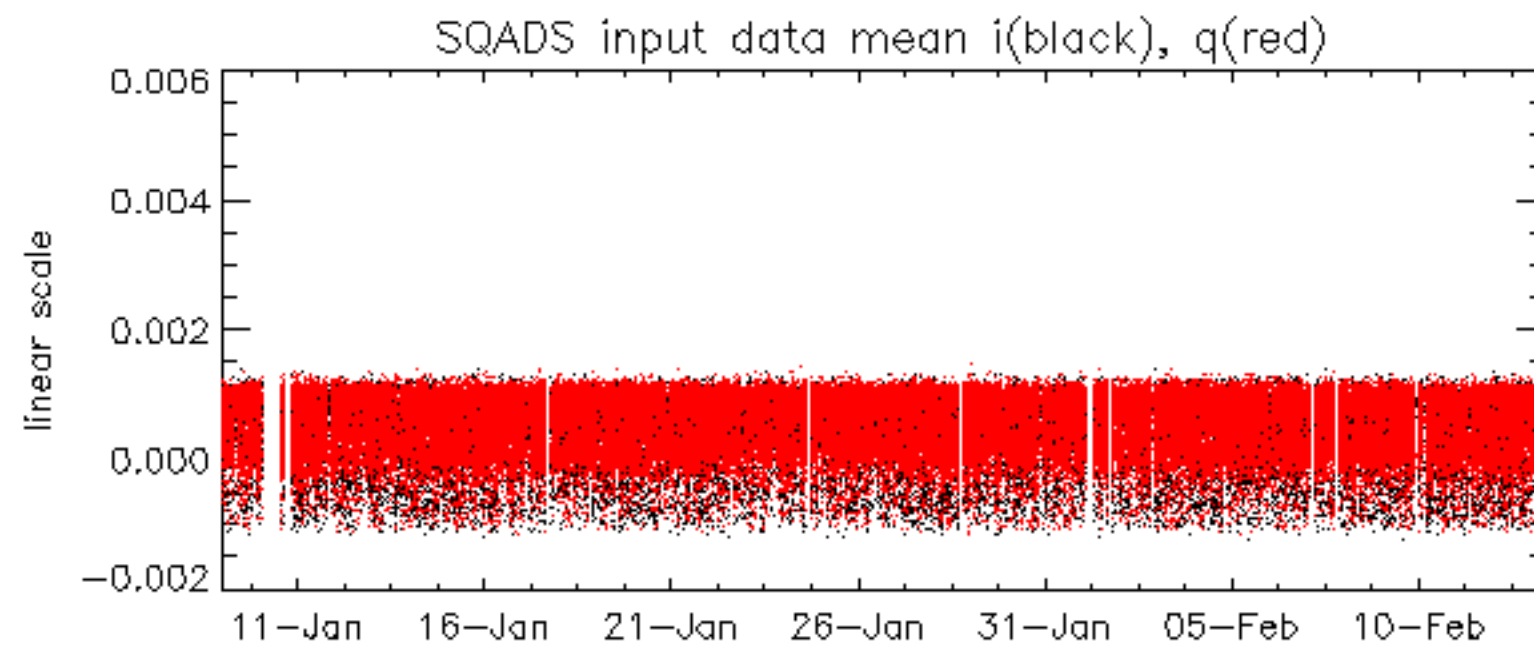
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -9.9408467 Hz

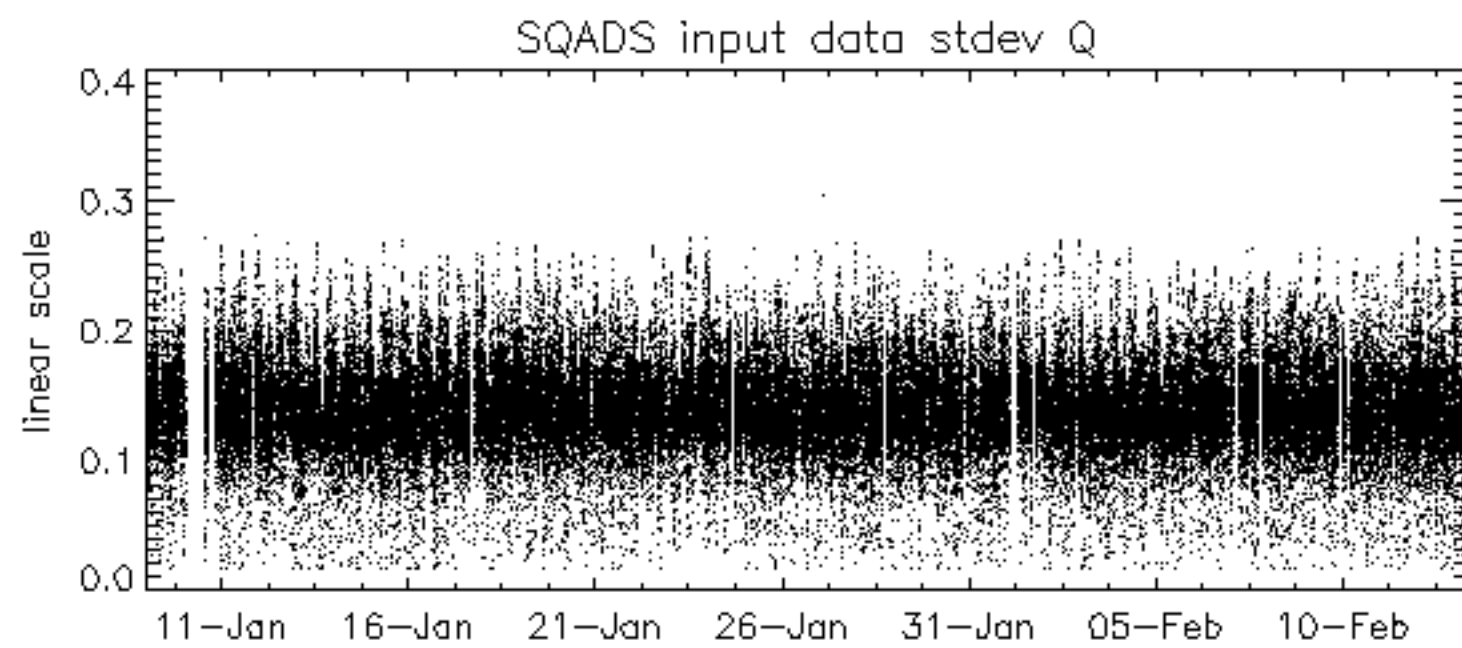
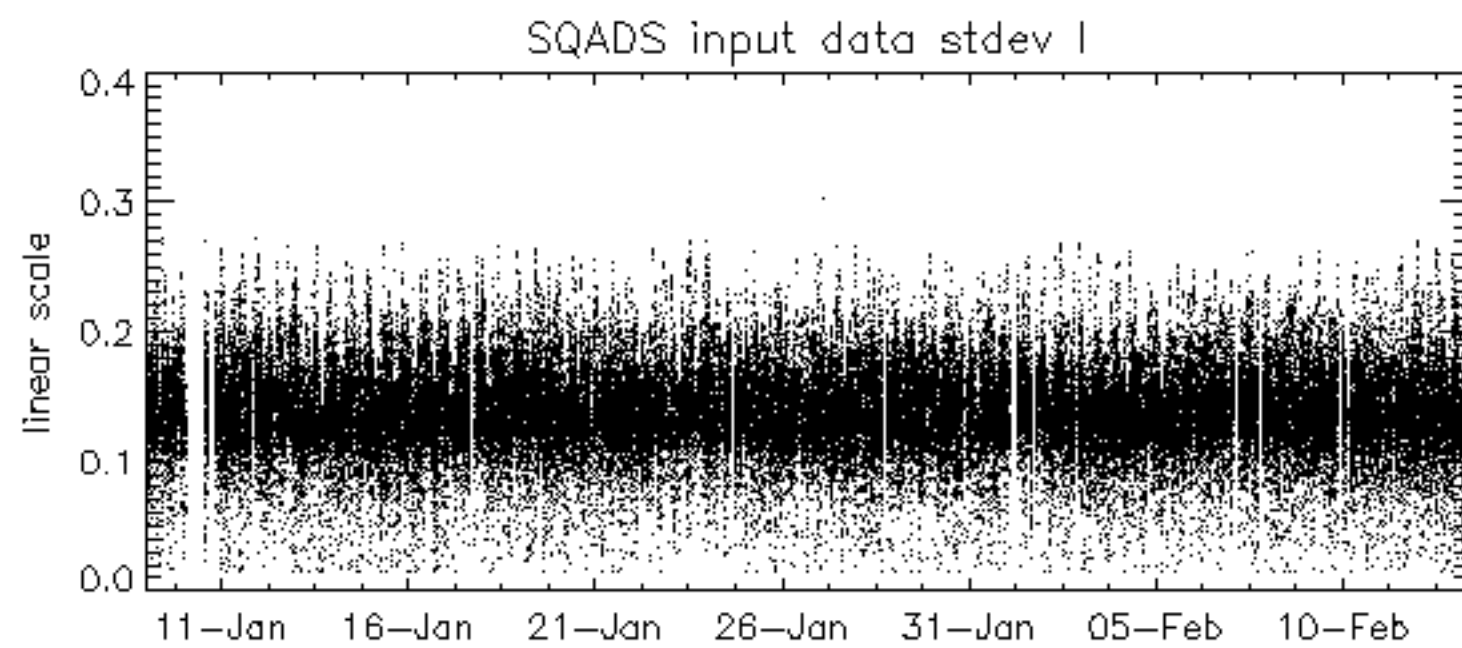
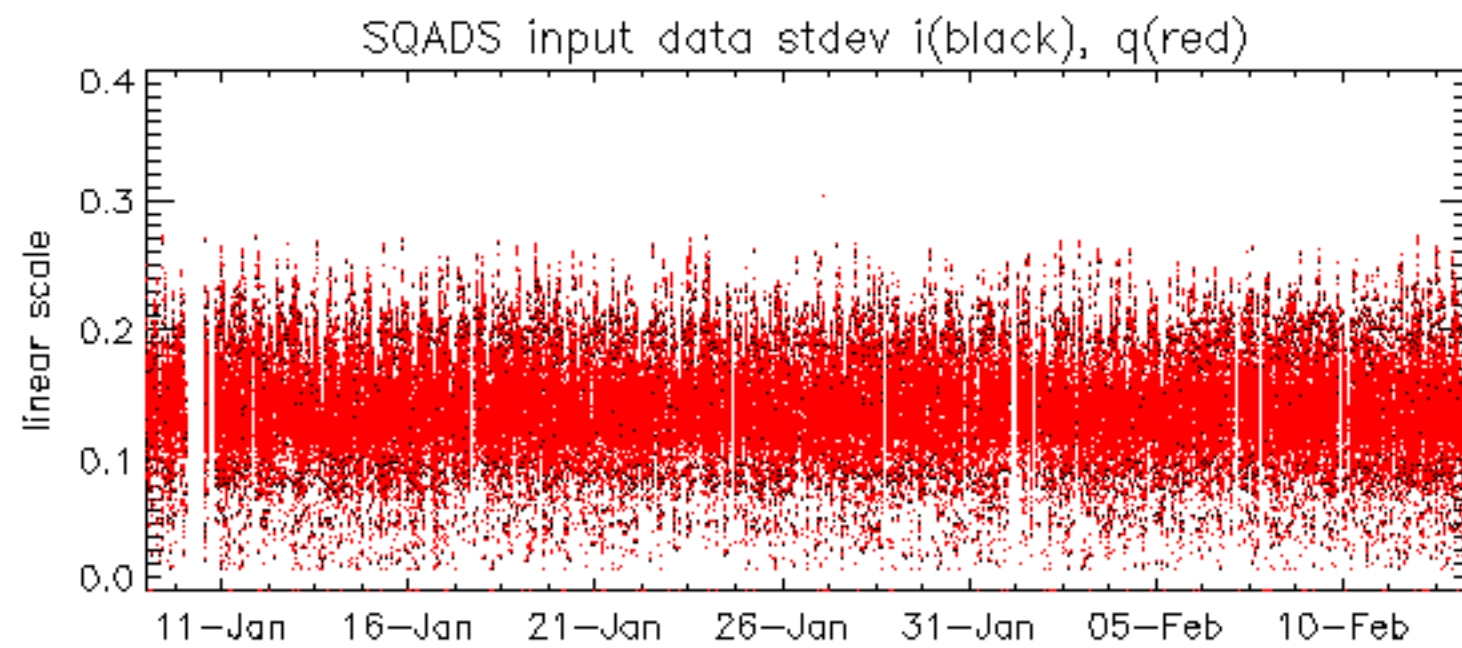


No anomalies observed on available MS products:

No anomalies observed.





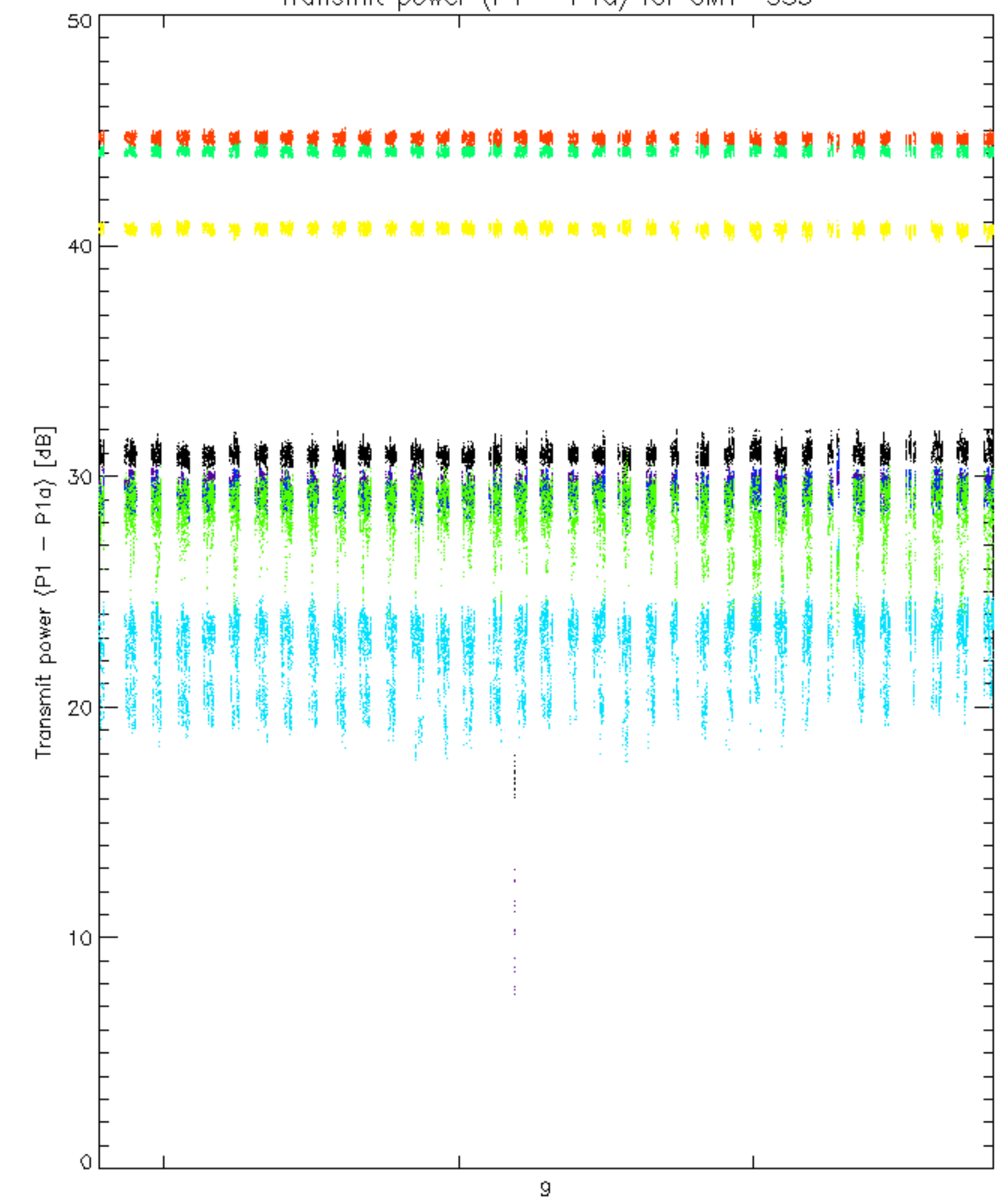


Summary of analysis for the last 3 days 2006021[123]

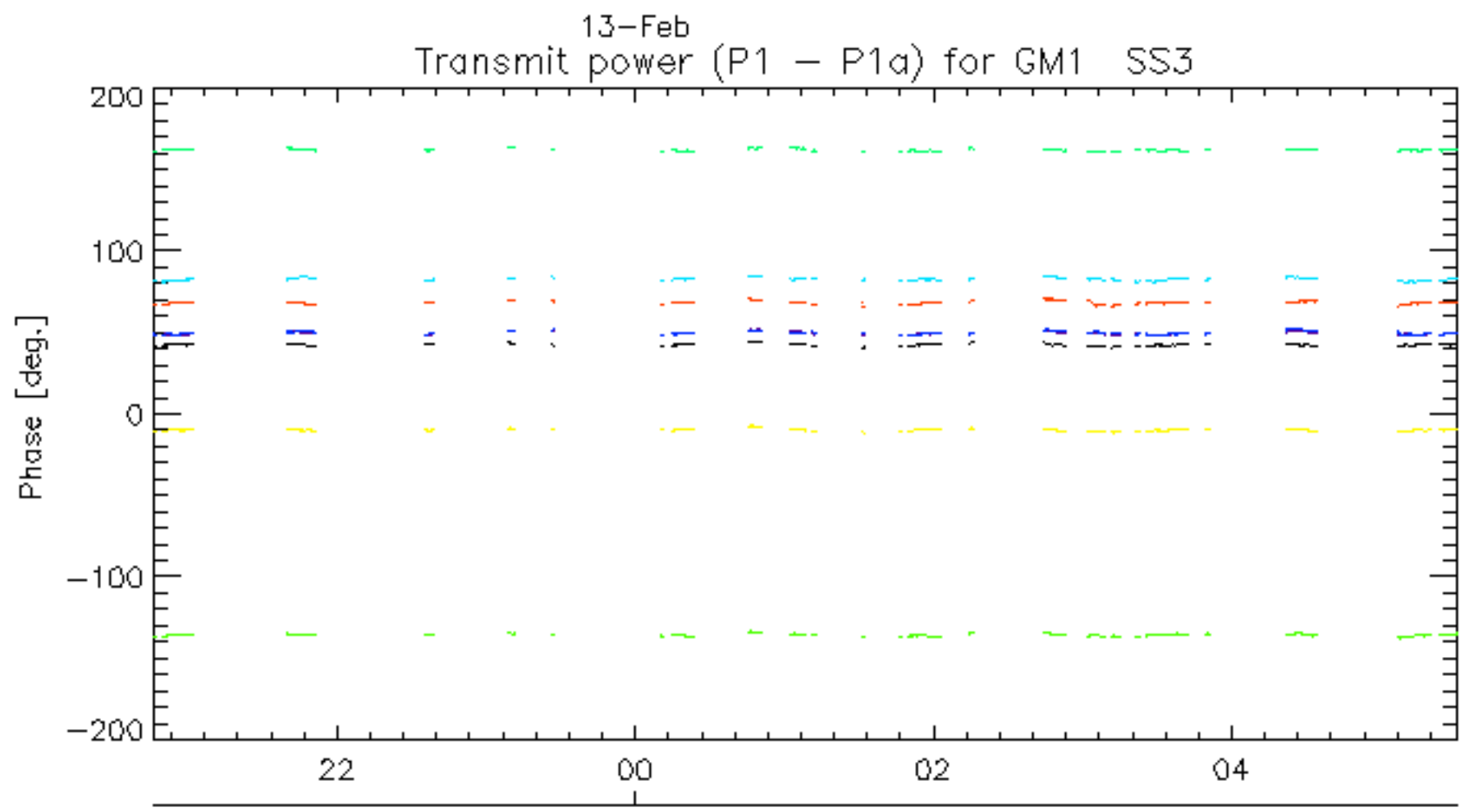
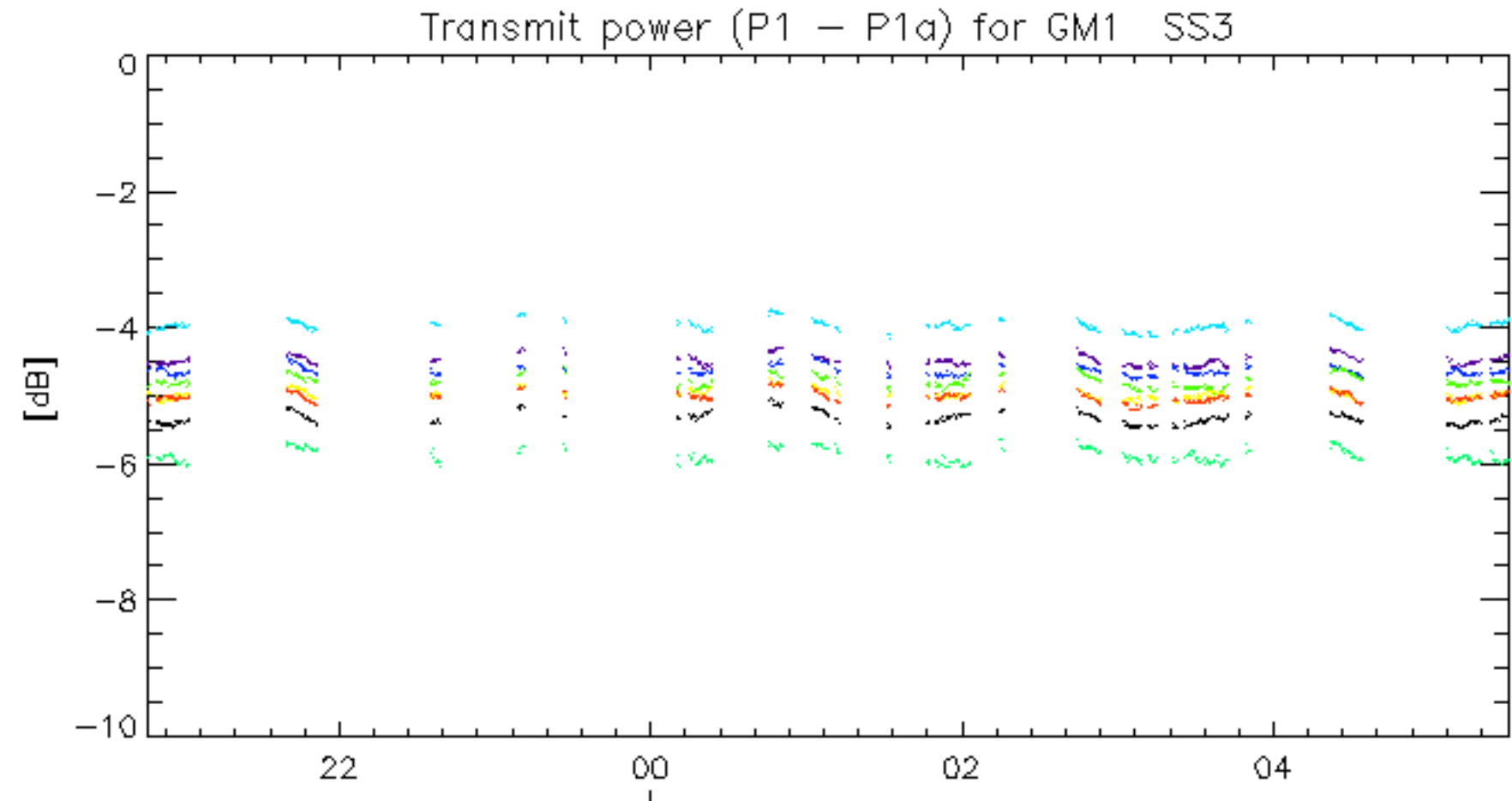
The assumption is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20060211_005021_000002372045_00059_20654_2678.N1	1	0
ASA_WVS_1PNPDE20060211_065800_000000002045_00063_20658_0912.N1	1	0
ASA_WSM_1PNPDE20060212_171026_000001282045_00084_20679_4709.N1	0	8
ASA_WSM_1PNPDK20060211_123449_000000362045_00066_20661_2941.N1	0	1

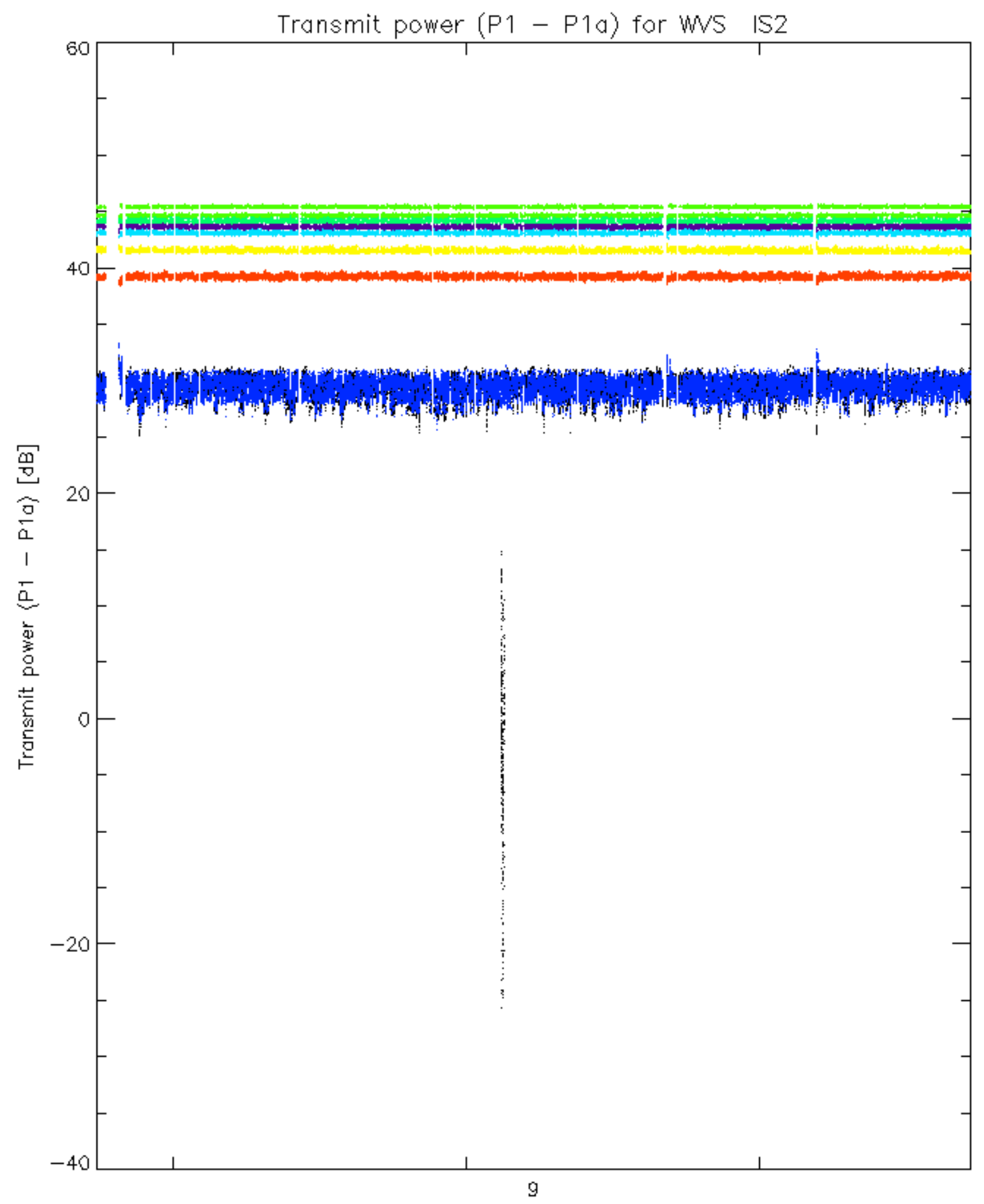
Transmit power (P1 - P1a) for GM1 SS3



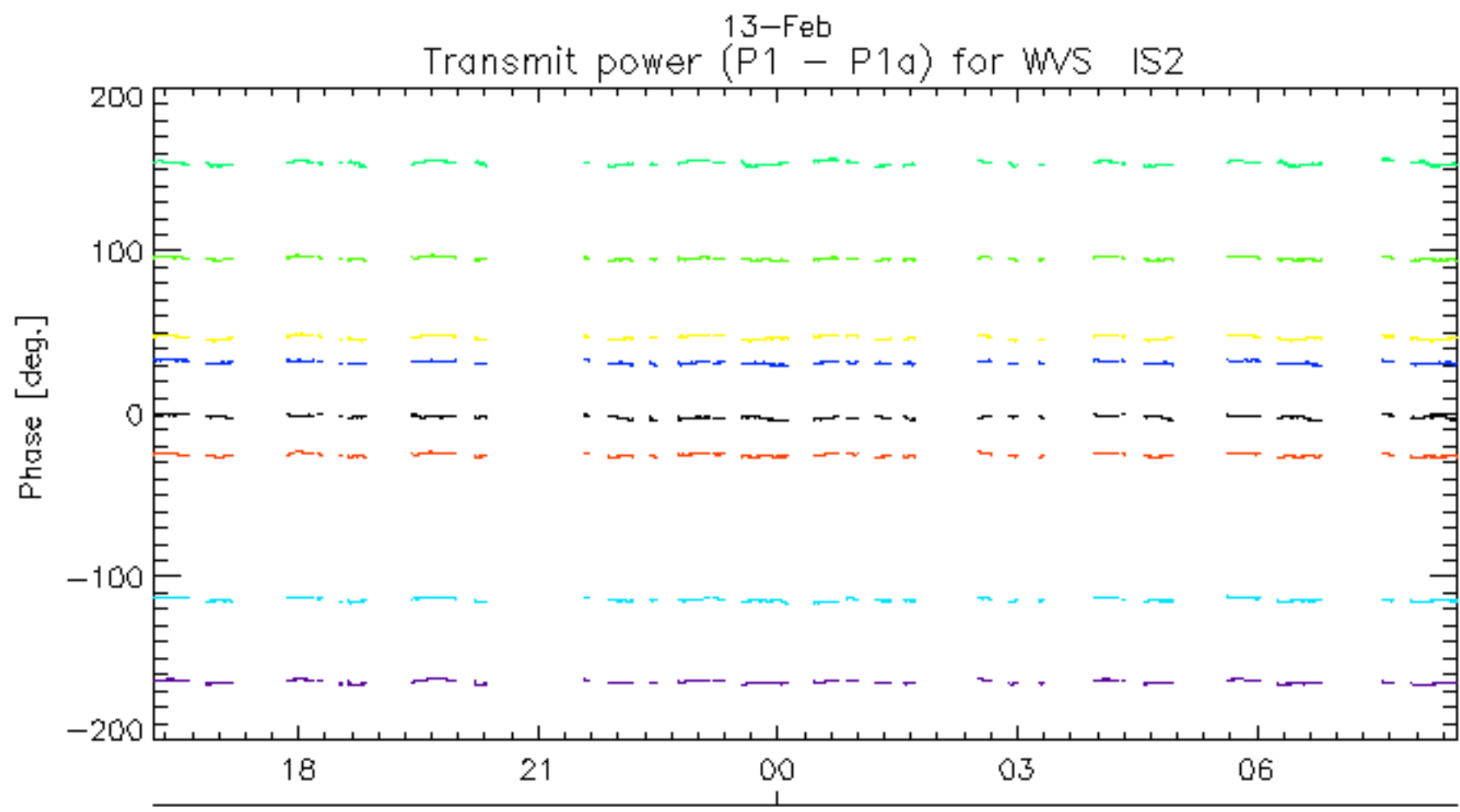
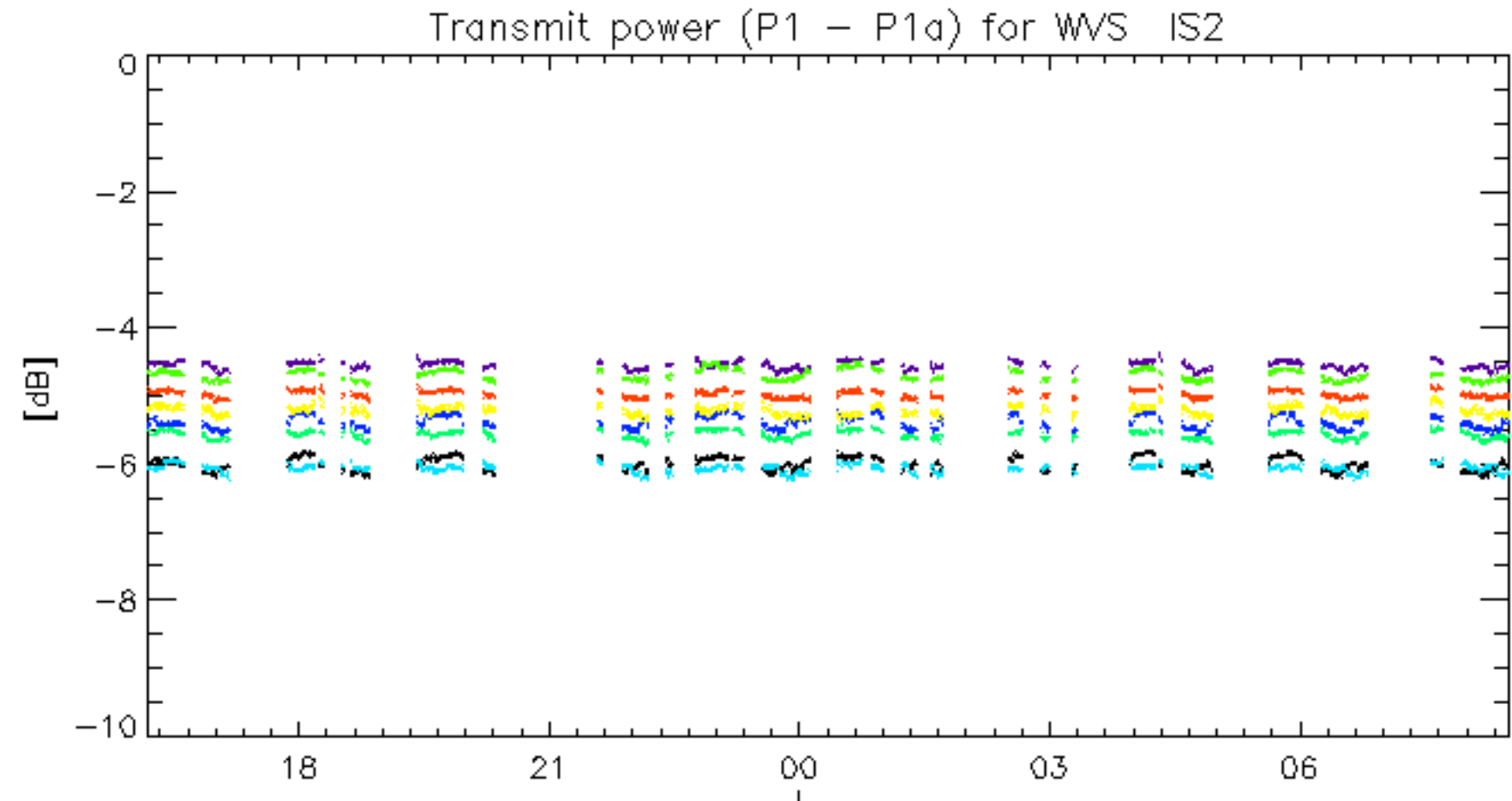
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



13-Feb
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



rows: 3 7 11 15 19 22 26 30



13-Feb
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

No unavailabilities during the reported period.