

PRELIMINARY REPORT OF 060217

last update on Fri Feb 17 16:43:53 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 2006-02-16 00:00:00 to 2006-02-17 16:43:53

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	43	0	16	0	23
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	43	0	16	0	23
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	43	0	16	0	23
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	43	0	16	0	23

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	32	32	39	9	45
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	32	32	39	9	45
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	32	32	39	9	45
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	32	32	39	9	45

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	20060216 074711
H	20060217 071534

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
<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

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	-4.011432	0.008588	0.031878
7	P1	-3.004264	0.012253	0.017233
11	P1	-4.092386	0.021624	0.030809
15	P1	-6.063690	0.018771	-0.002156
19	P1	-3.262891	0.006603	-0.025356
22	P1	-4.473455	0.017880	0.034307
26	P1	-4.192247	0.013132	0.033285
30	P1	-5.774044	0.010282	0.010522
3	P1	-16.911707	0.265322	-0.094964
7	P1	-16.659756	0.121551	-0.054606
11	P1	-16.589397	0.308133	0.126046
15	P1	-13.159558	0.110670	0.199228
19	P1	-13.897267	0.068599	-0.008120
22	P1	-15.769149	0.551334	0.364115
26	P1	-15.763040	0.252207	-0.015680
30	P1	-16.571568	0.299321	0.150565

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.530840	0.091625	0.183579
7	P2	-22.427784	0.095469	0.076666
11	P2	-16.263405	0.101824	0.064954
15	P2	-7.192799	0.102750	0.054531
19	P2	-9.158826	0.096353	0.043743
22	P2	-17.943844	0.092990	0.024671
26	P2	-16.215685	0.100139	0.023673
30	P2	-19.643105	0.084806	0.021954

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.203034	0.007220	0.030639
7	P3	-8.203034	0.007220	0.030639
11	P3	-8.203034	0.007220	0.030639
15	P3	-8.203034	0.007220	0.030639
19	P3	-8.203034	0.007220	0.030639
22	P3	-8.203034	0.007220	0.030639
26	P3	-8.203034	0.007220	0.030639
30	P3	-8.203034	0.007220	0.030639

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	-3.738966	0.011316	-0.025145
7	P1	-2.745814	0.007686	-0.018603
11	P1	-2.890107	0.014233	-0.065368
15	P1	-3.506962	0.020728	-0.101346
19	P1	-3.380449	0.011524	0.011915
22	P1	-5.148846	0.022254	-0.062921
26	P1	-5.841909	0.018938	0.074434
30	P1	-5.225599	0.027754	0.064375
3	P1	-11.551978	0.045149	-0.041506
7	P1	-9.930075	0.050019	-0.065114
11	P1	-10.148509	0.058746	-0.168237
15	P1	-10.688232	0.101194	-0.178421
19	P1	-15.449459	0.063142	0.076109
22	P1	-20.402527	1.206681	0.429569

26	P1	-16.576687	0.371678	0.535952
30	P1	-18.228022	0.329455	-0.210514

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.297617	0.042538	0.281924
7	P2	-22.738169	0.076662	0.308179
11	P2	-11.354211	0.030200	0.188392
15	P2	-4.876792	0.029905	0.117326
19	P2	-6.888955	0.027674	0.080347
22	P2	-8.178091	0.029039	0.080188
26	P2	-23.952778	0.027666	0.054316
30	P2	-22.085976	0.019769	0.033737

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.036232	0.003201	0.043186
7	P3	-8.036166	0.003199	0.043397
11	P3	-8.036074	0.003203	0.043532
15	P3	-8.036174	0.003203	0.043219
19	P3	-8.036252	0.003203	0.043549
22	P3	-8.036263	0.003211	0.044270
26	P3	-8.036337	0.003205	0.043479
30	P3	-8.036180	0.003209	0.043566

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	0.000560643
	stdev	1.68665e-07
MEAN Q	mean	0.000520360
	stdev	2.12615e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.139511
	stdev	0.00117010
STDEV Q	mean	0.139871
	stdev	0.00118938



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2006021[567]

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_1PNPDE20060216_113801_000000992045_00137_20732_3352.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)


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)


Acsending

<input type="checkbox"/>
Descending

7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

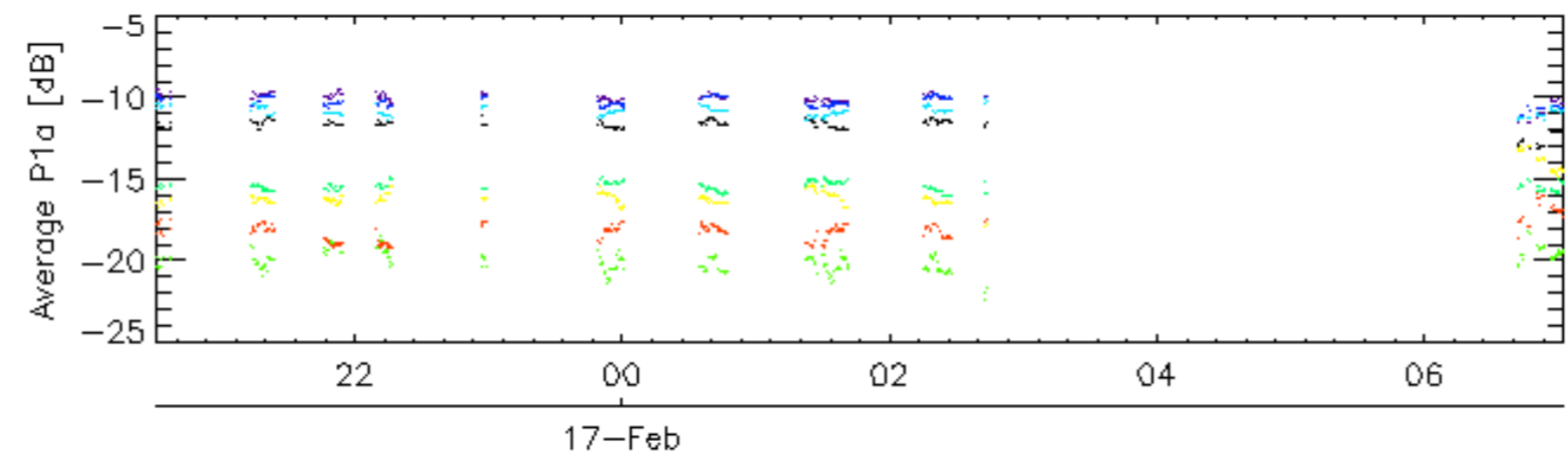
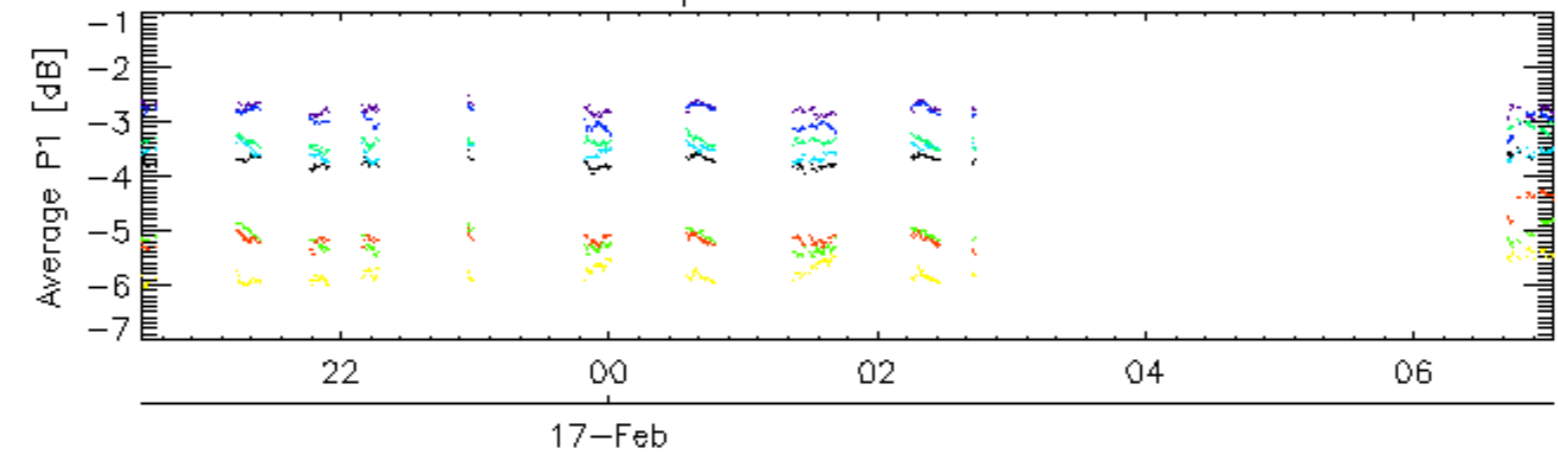
<input type="checkbox"/>
Ascending
<input type="checkbox"/>
Descending

7.6 - Doppler evolution versus ANX for GM1

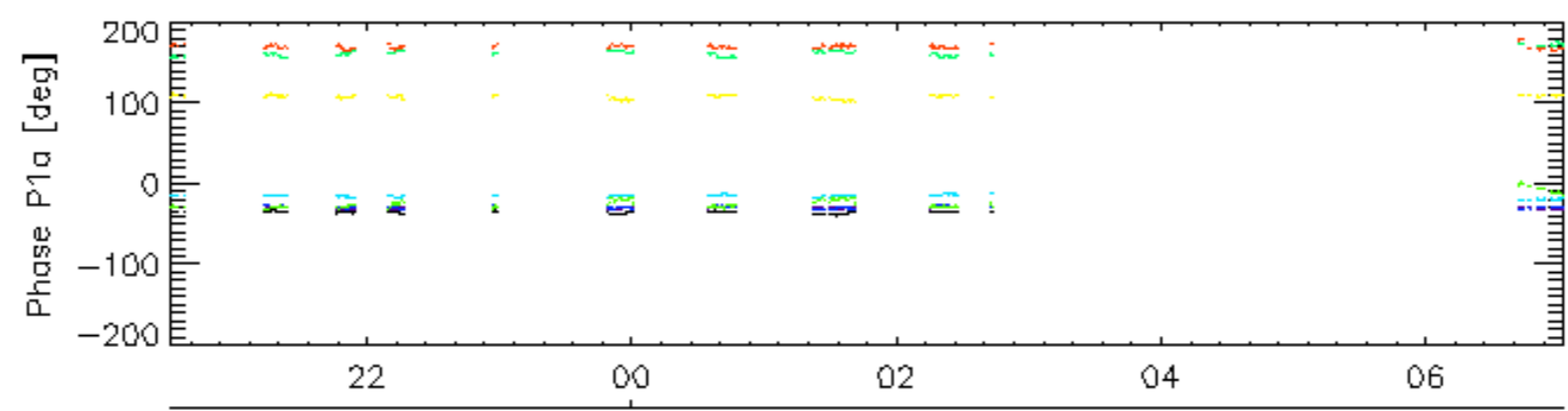
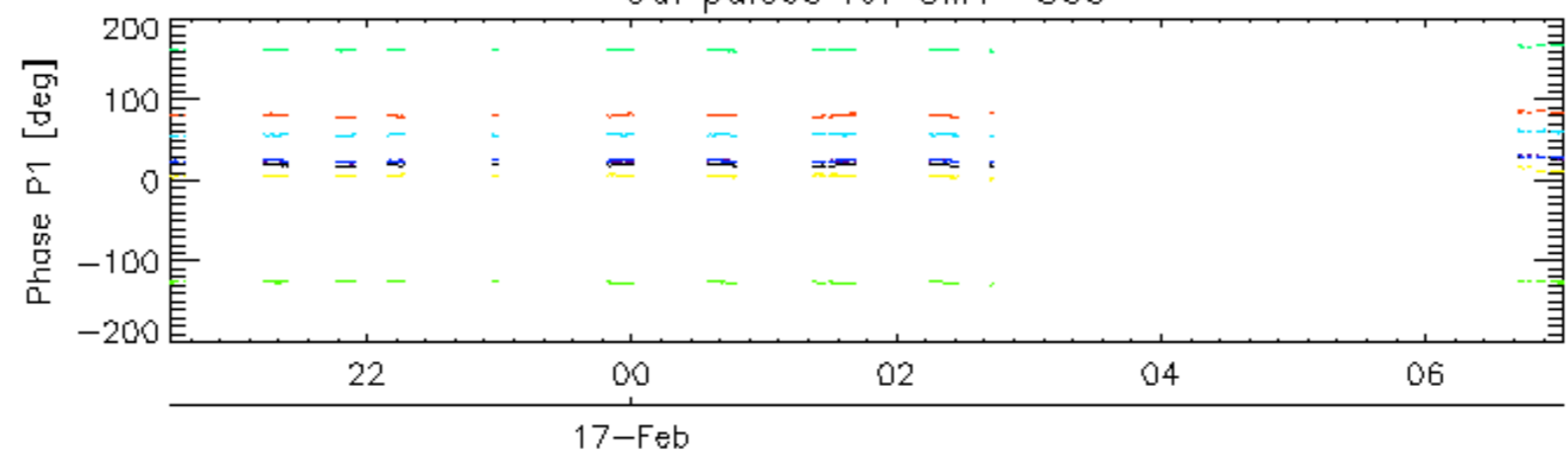
Evolution Doppler error versus ANX

<input type="checkbox"/>

Cal pulses for GM1 SS3

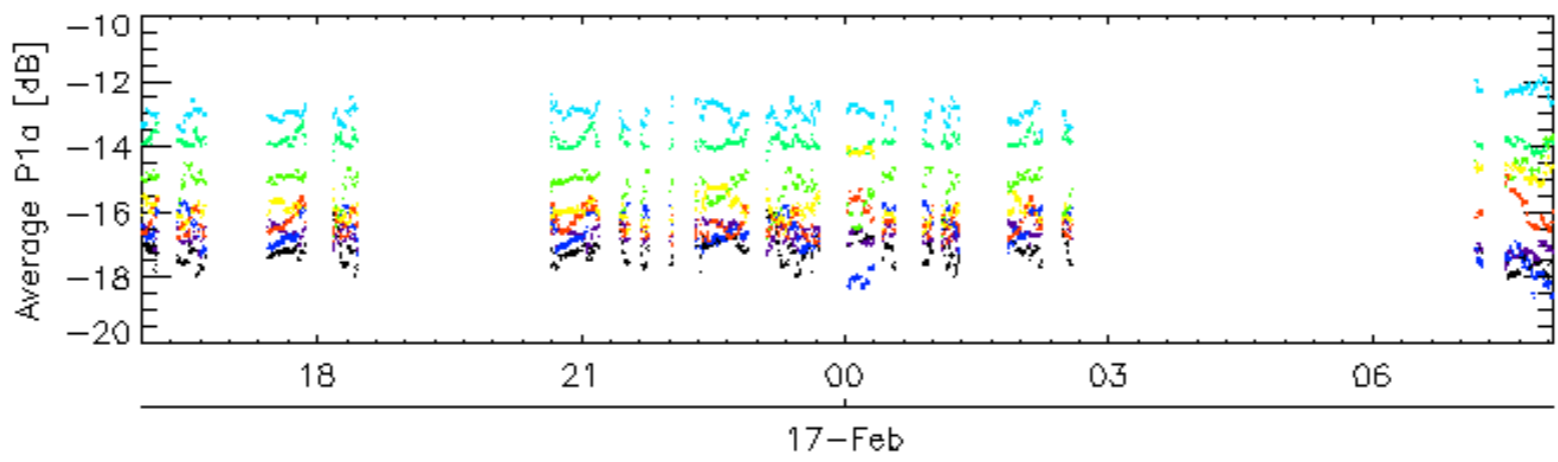
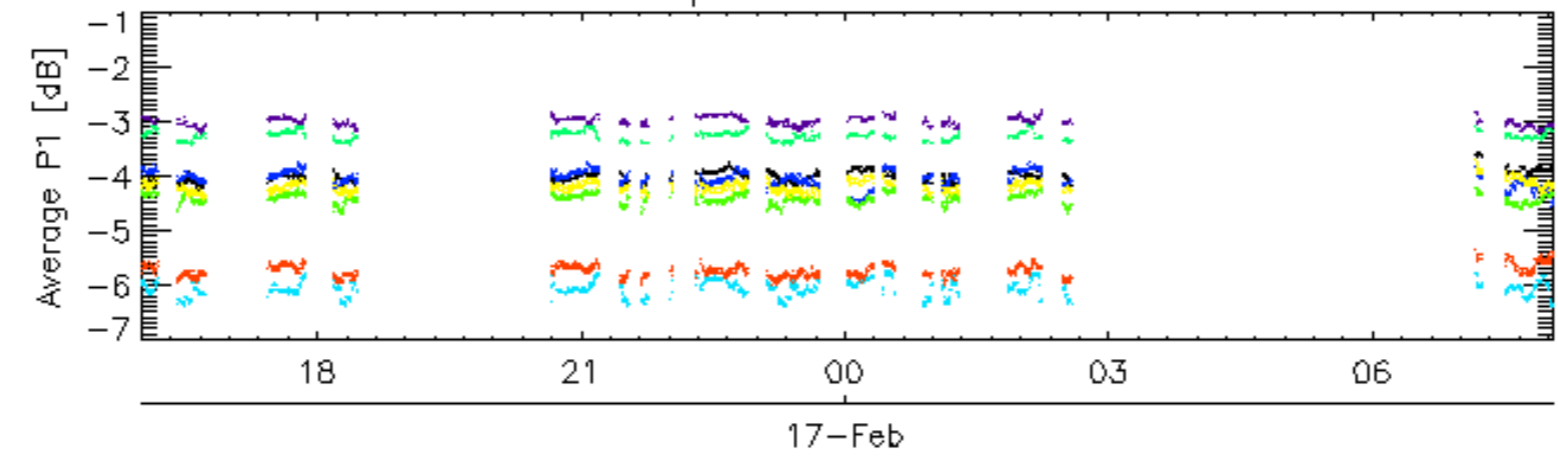


Cal pulses for GM1 SS3

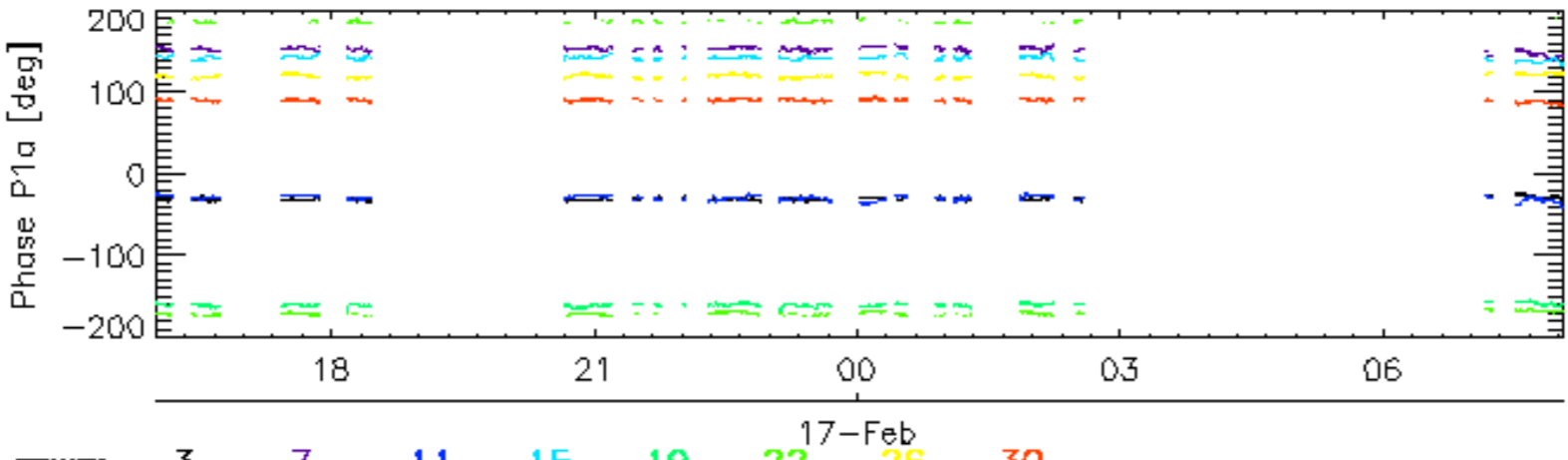
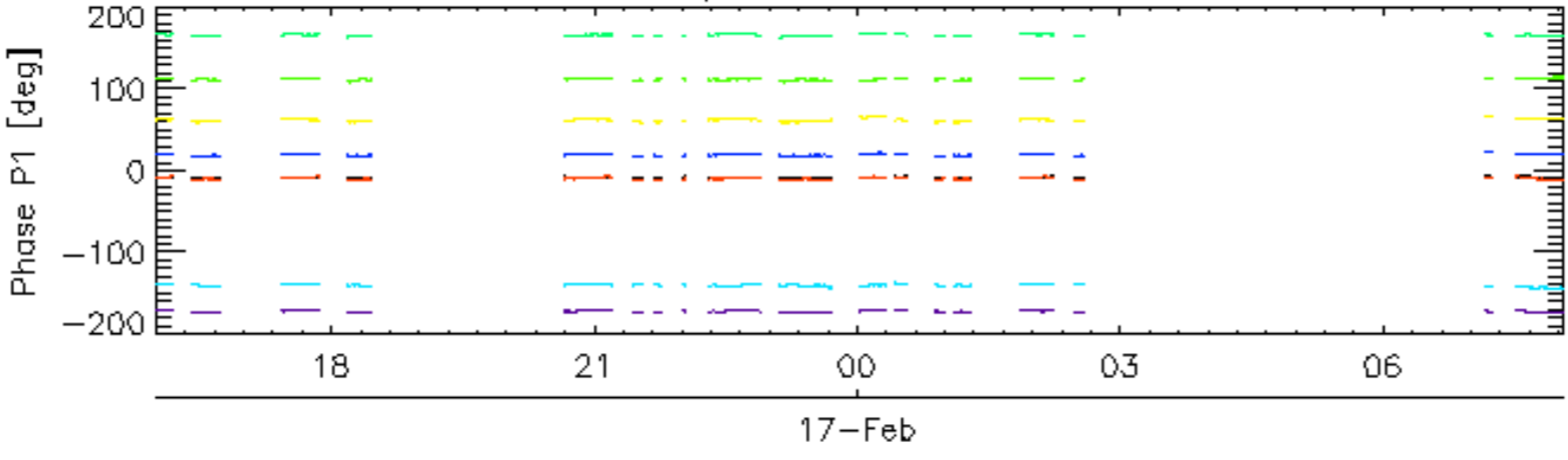


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

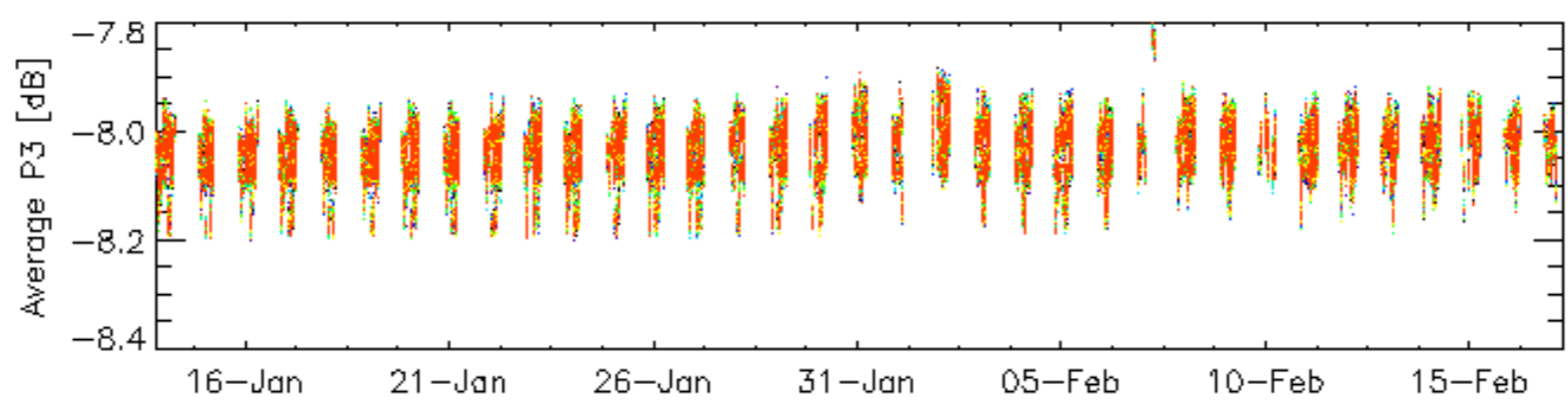
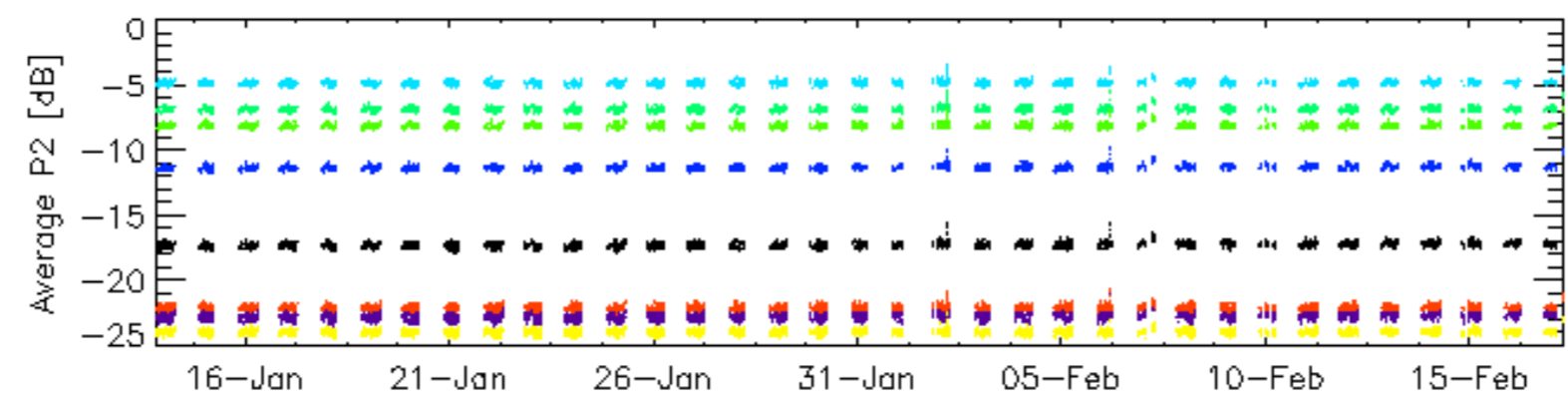
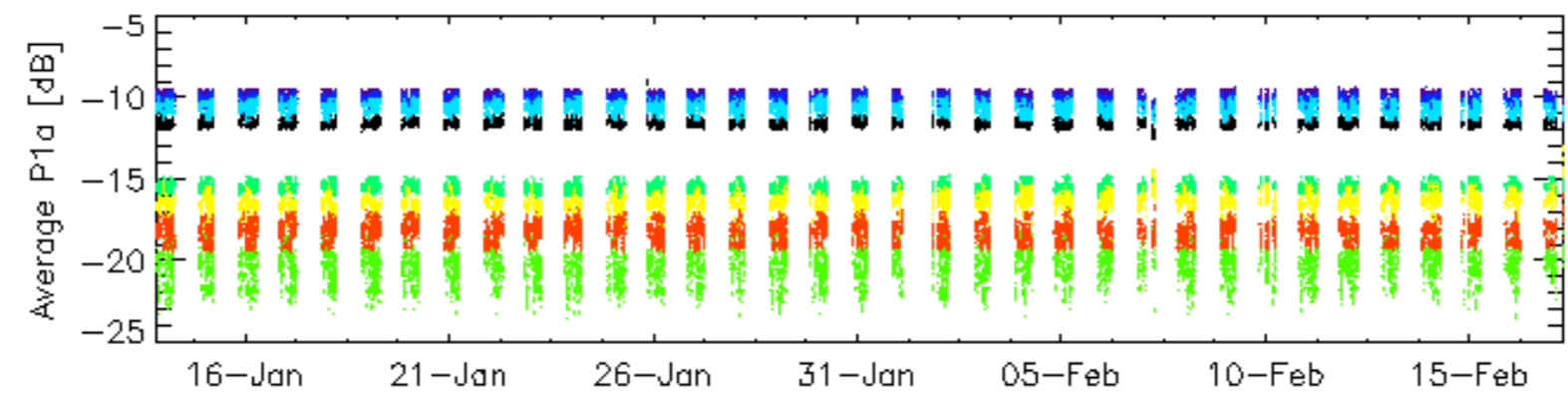
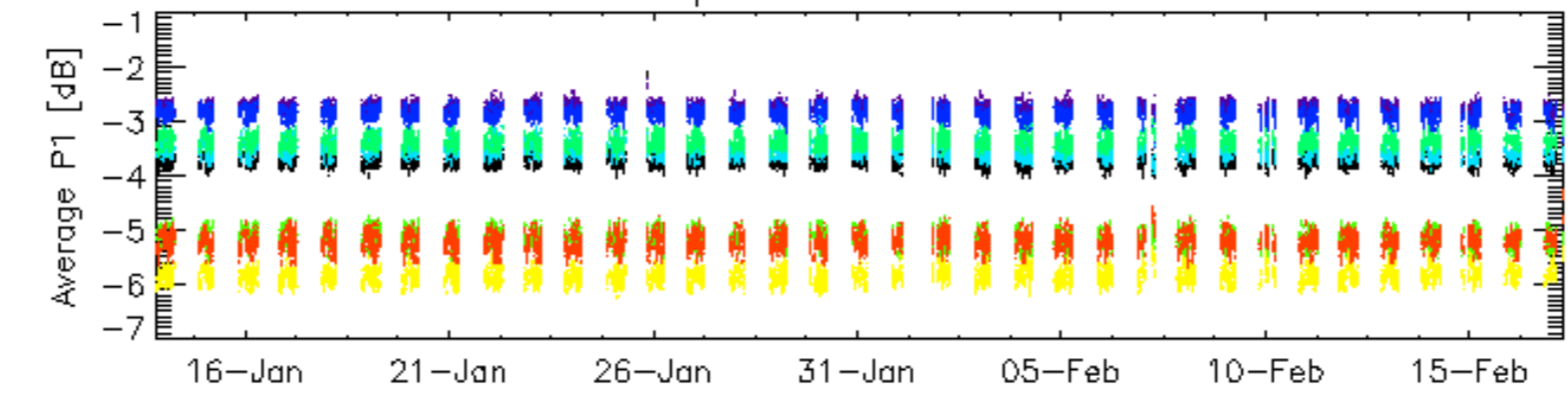


Cal pulses for WVS IS2



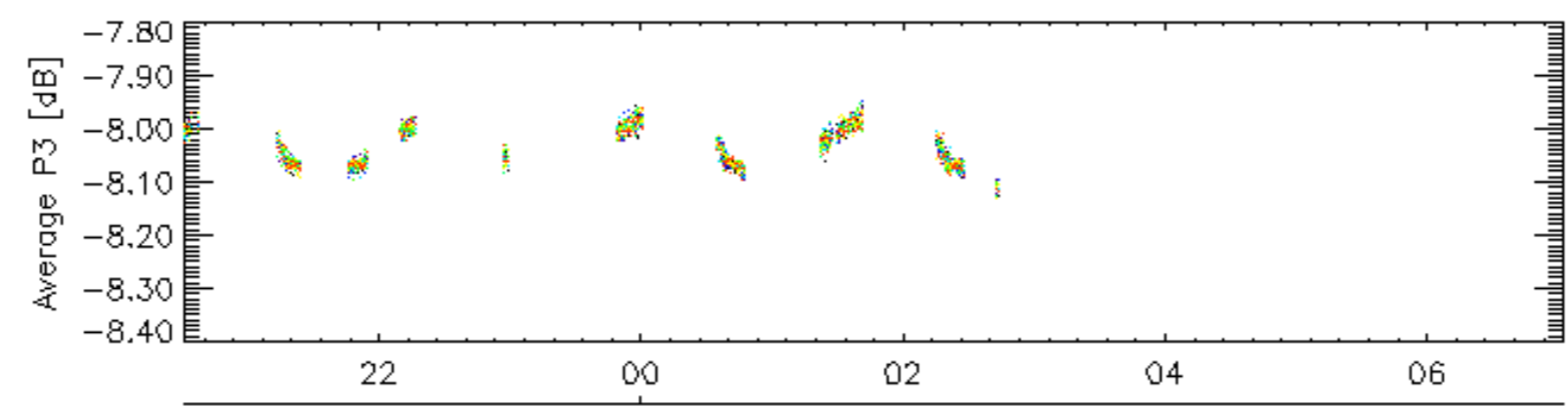
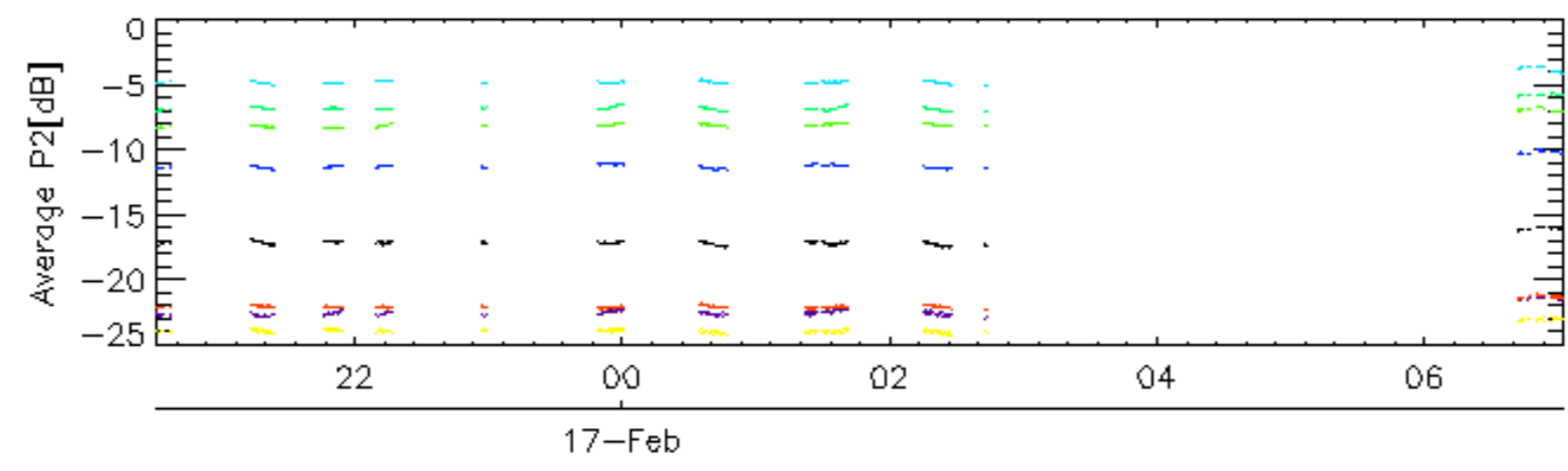
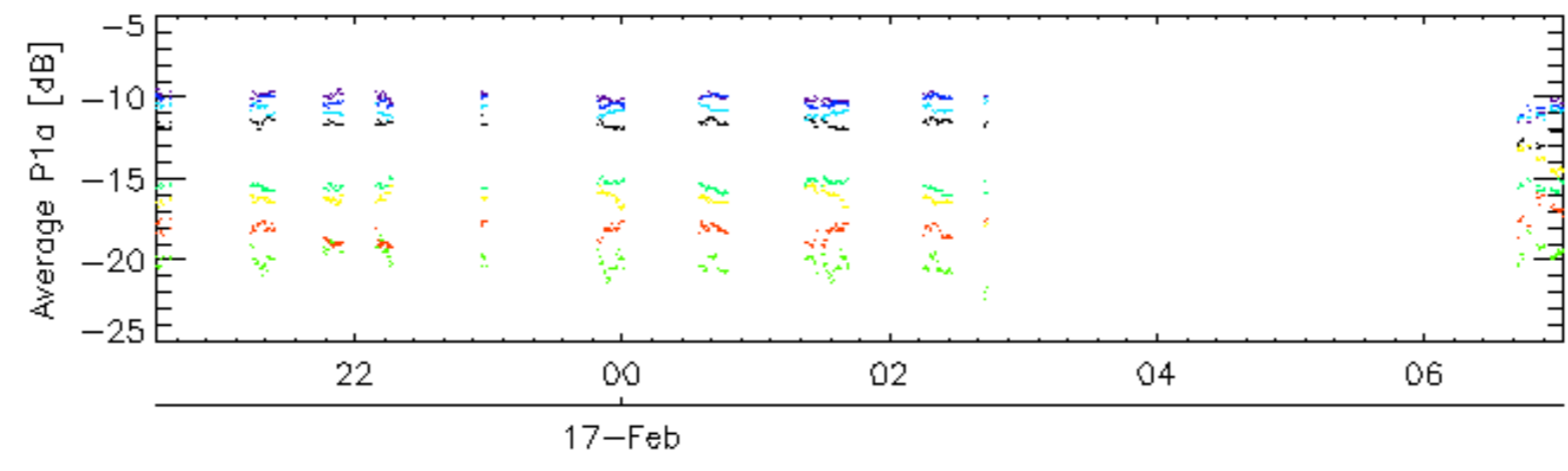
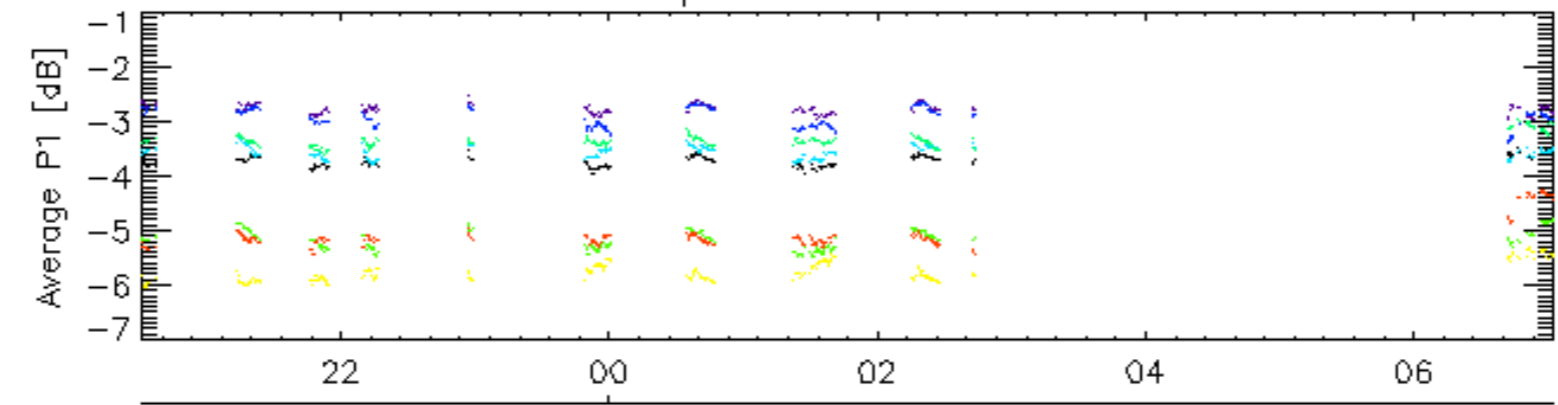
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3



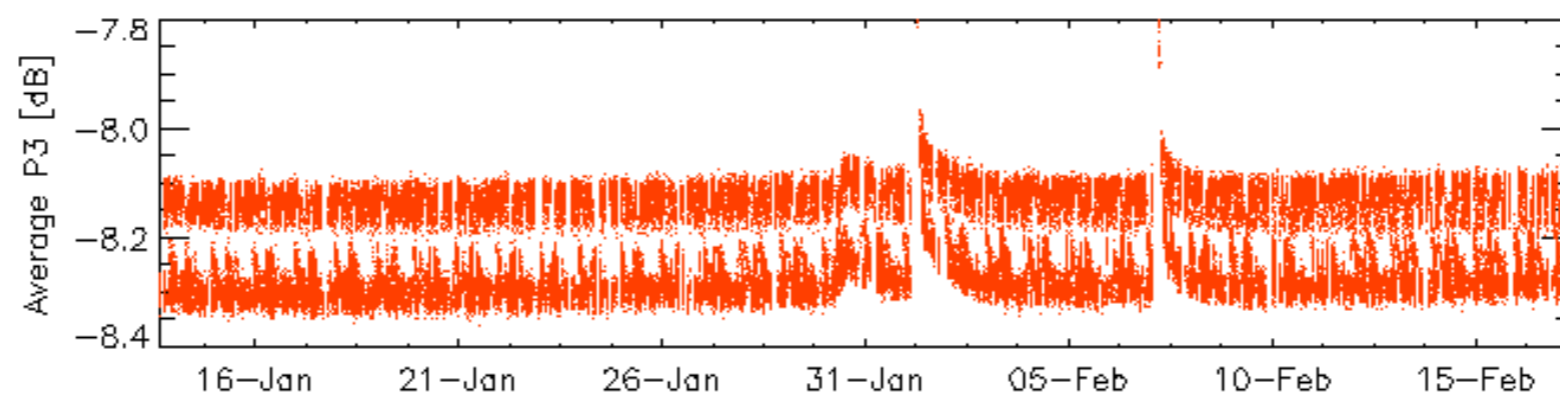
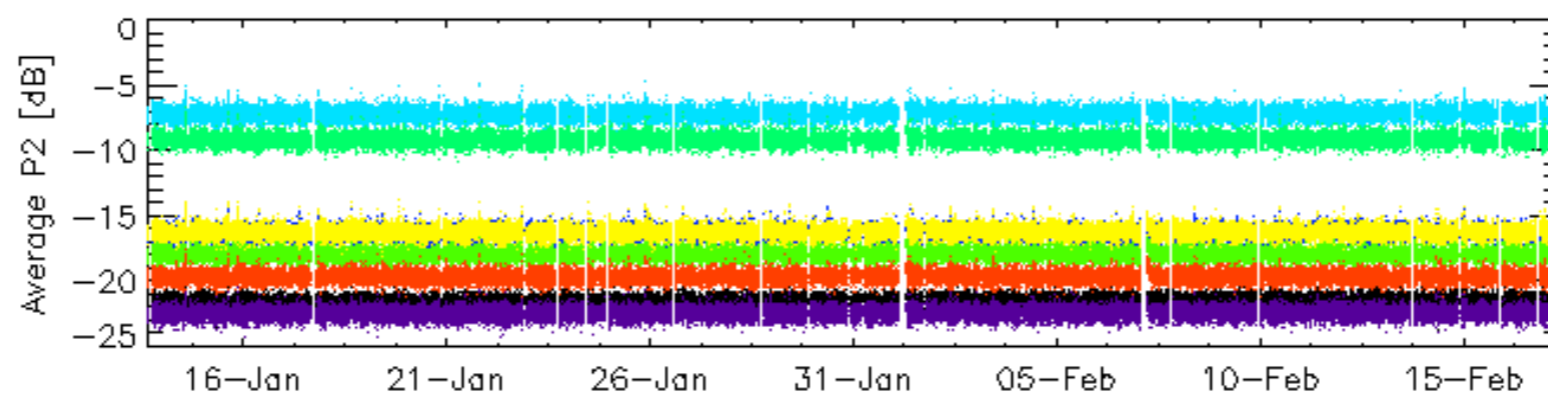
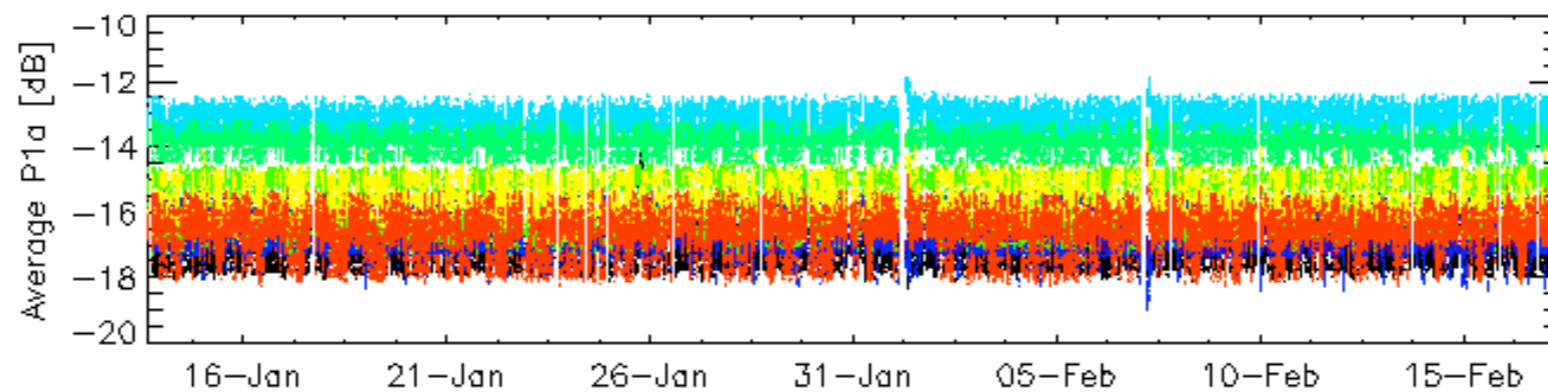
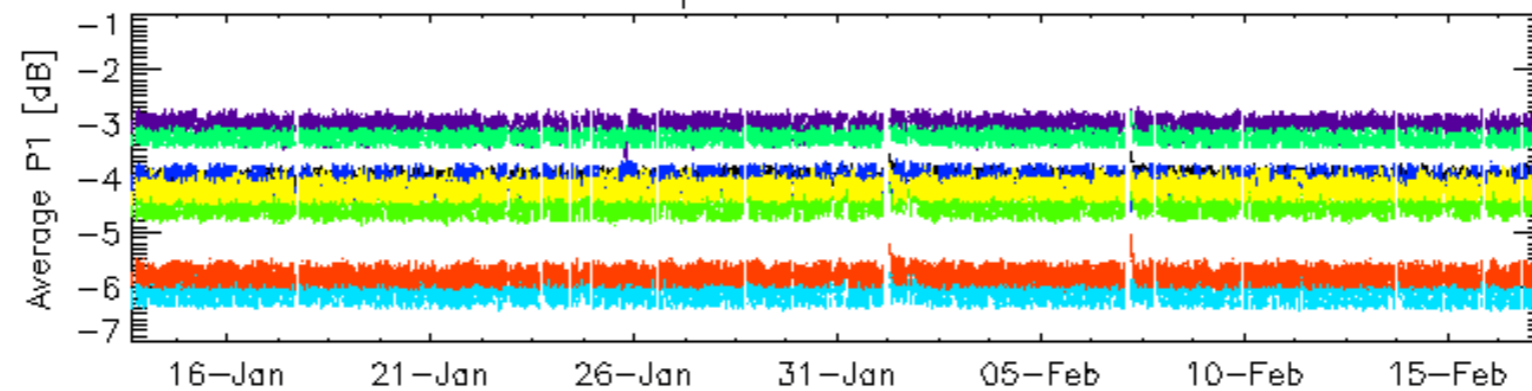
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3



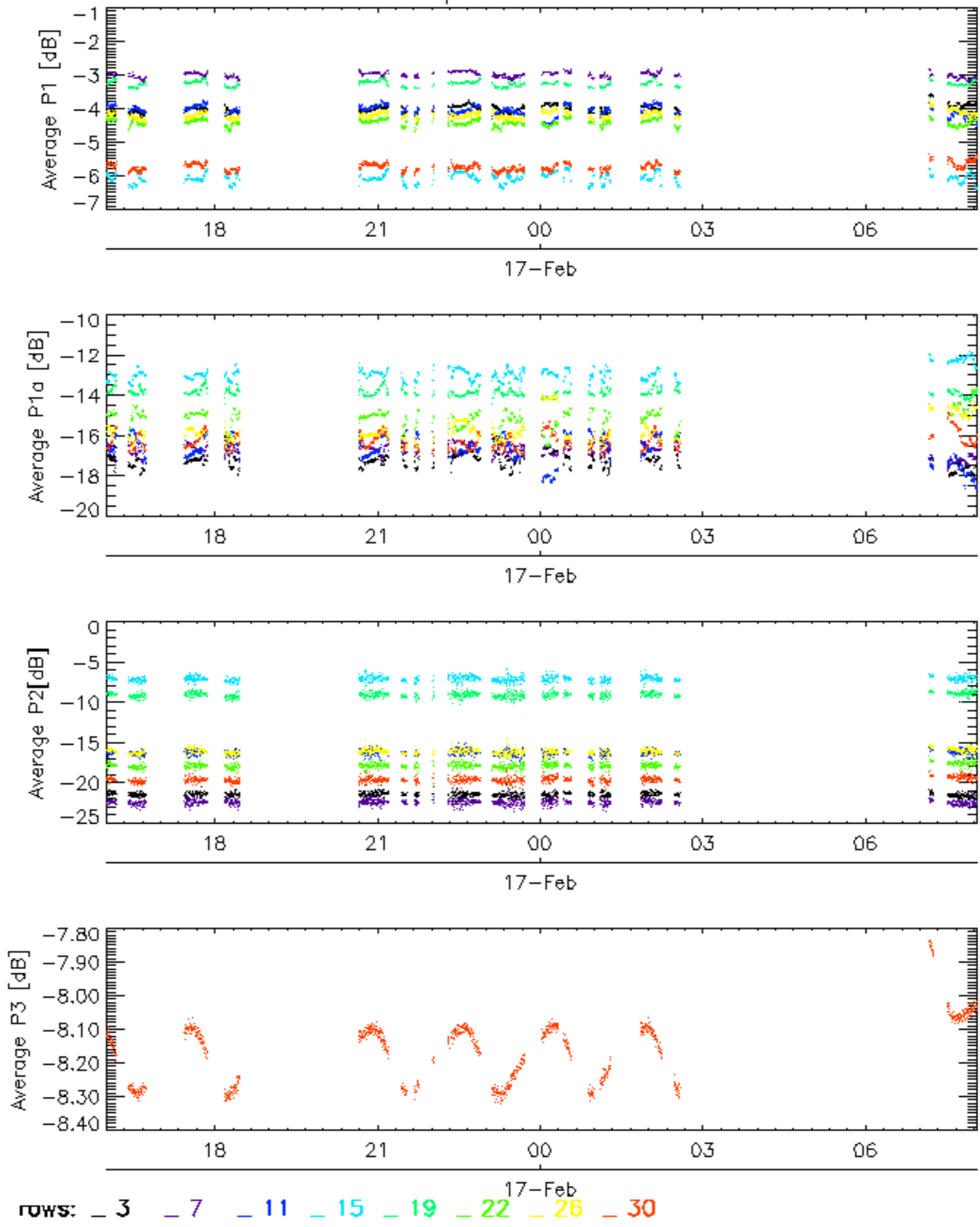
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



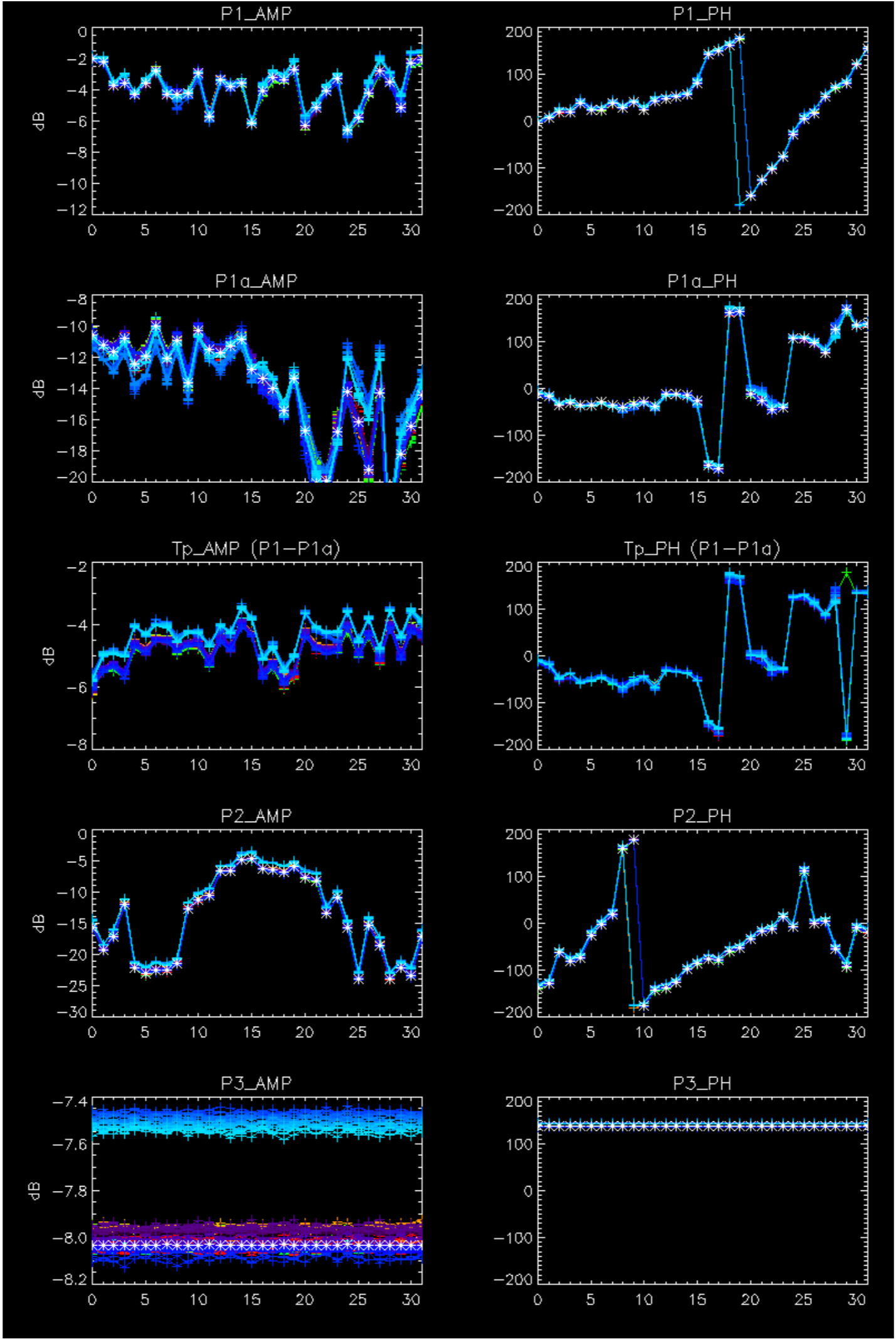
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

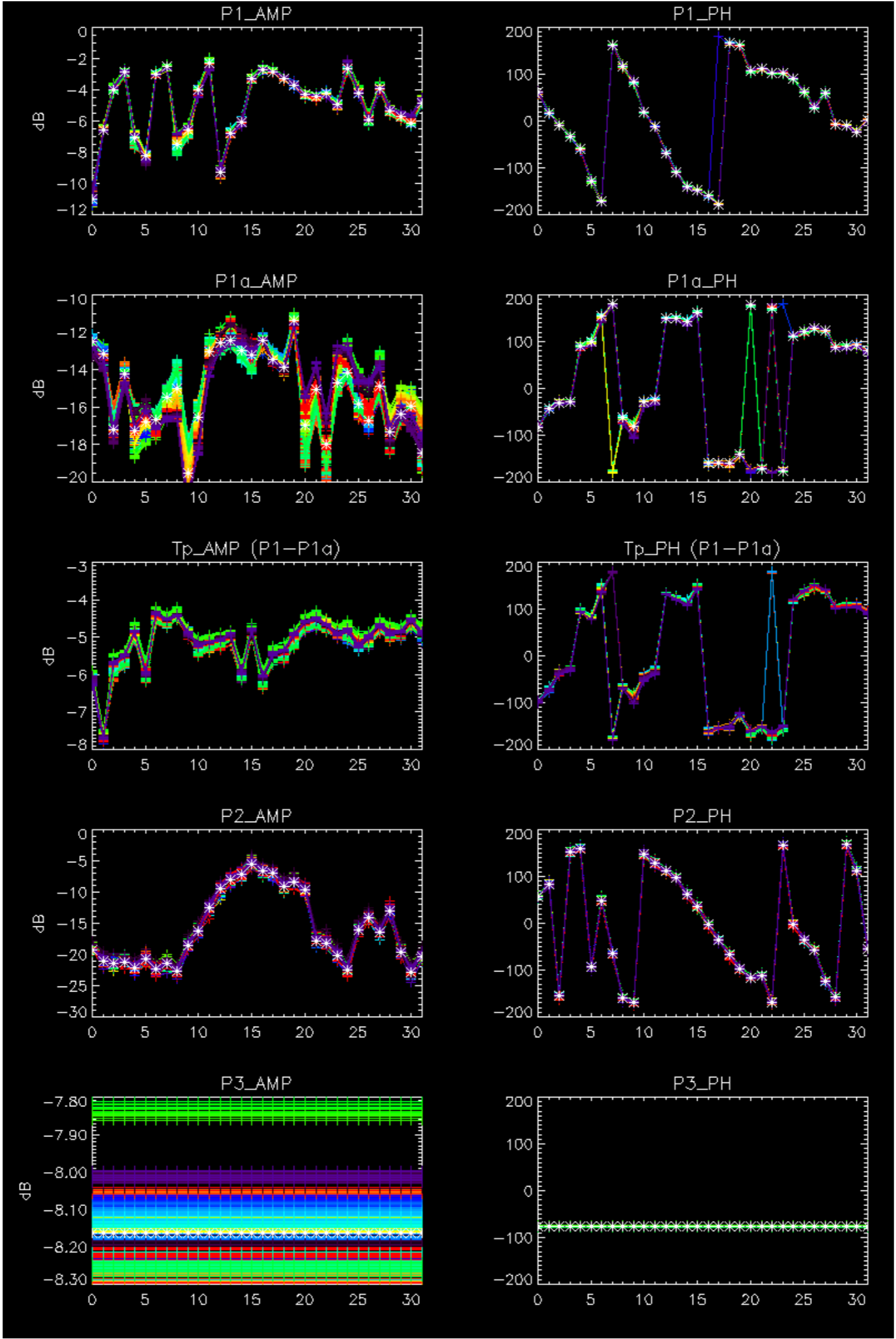
Cal pulses for WVS IS2



No anomalies observed on available browse products

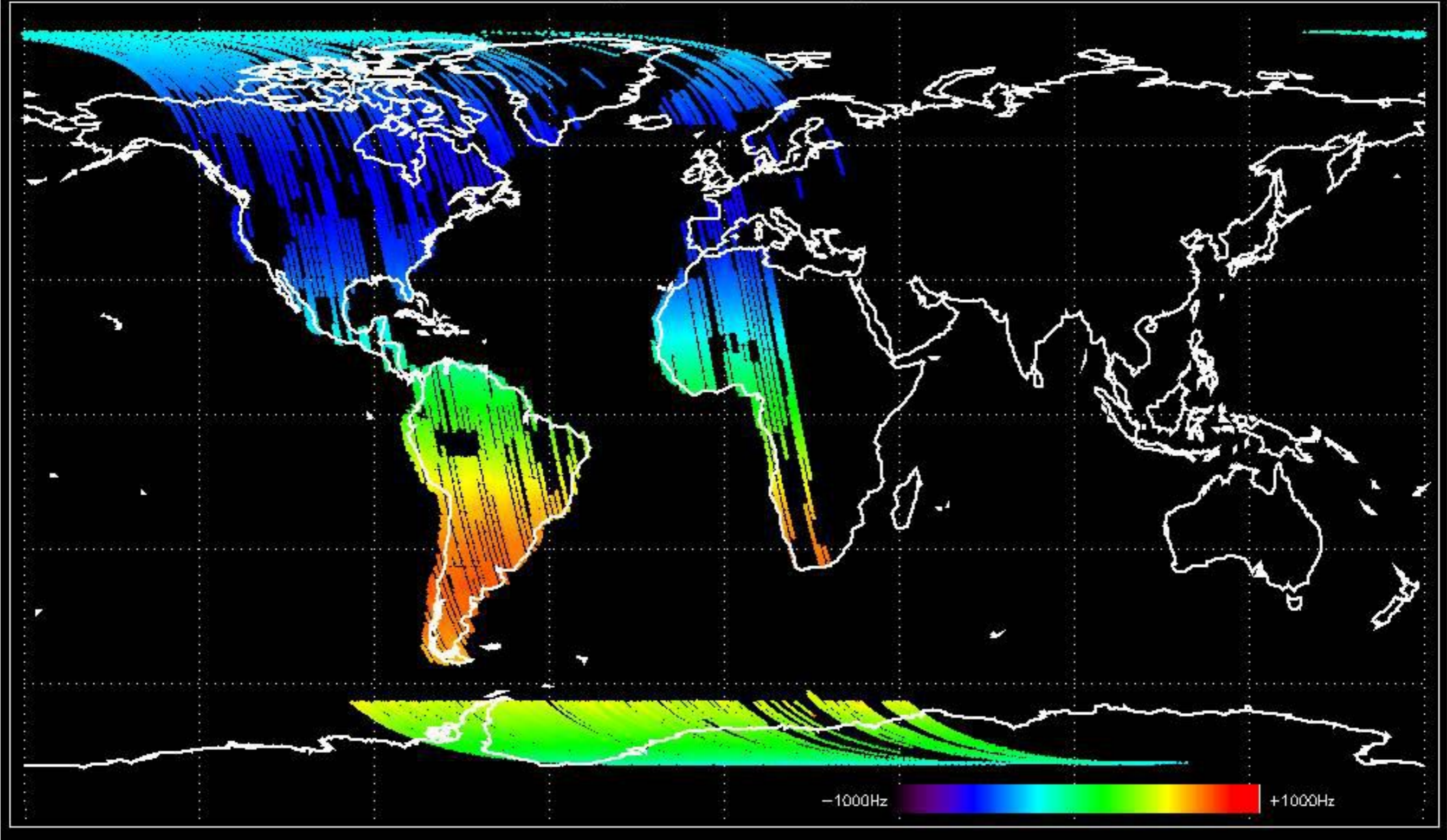
No anomalies observed.



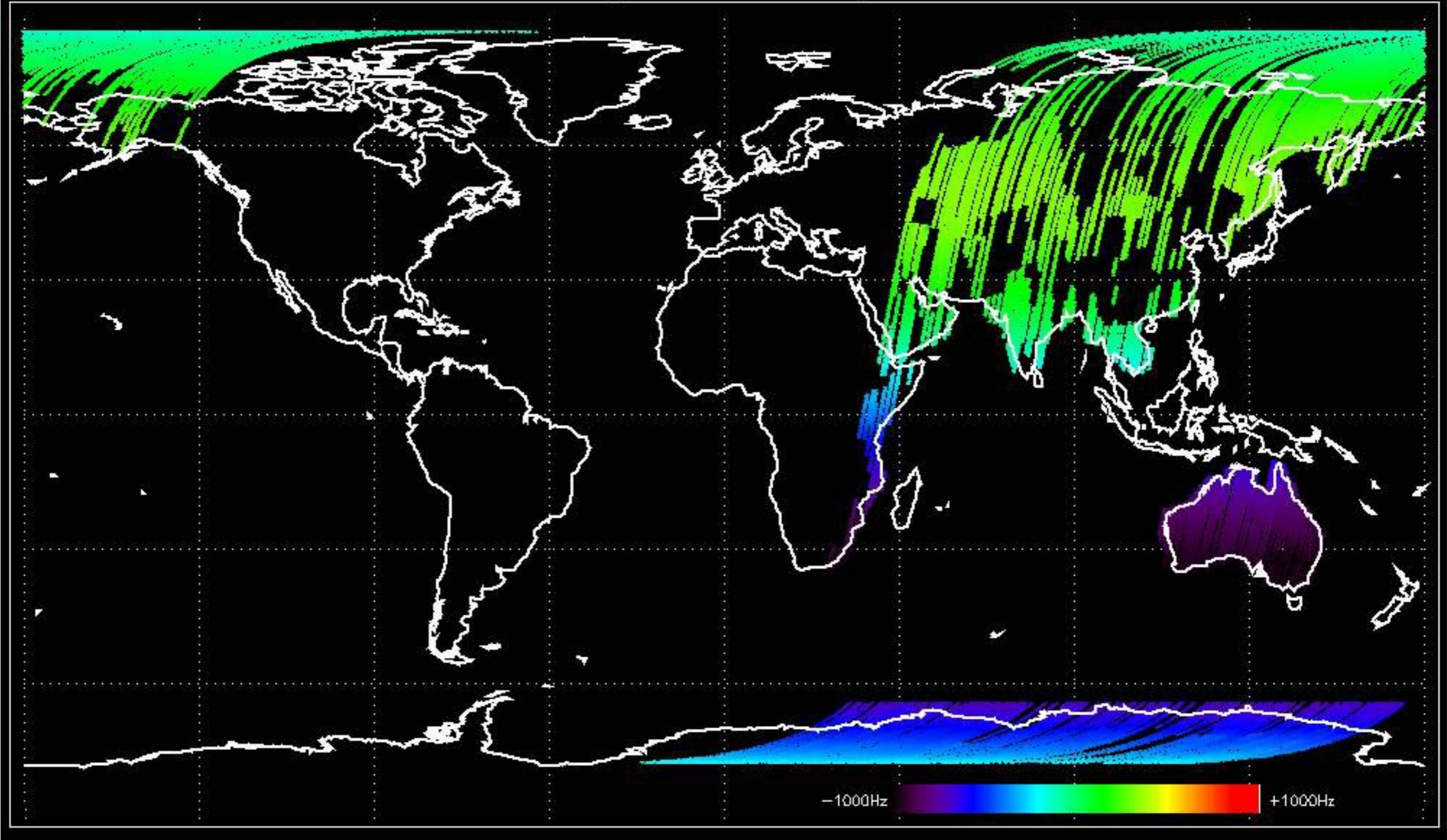


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

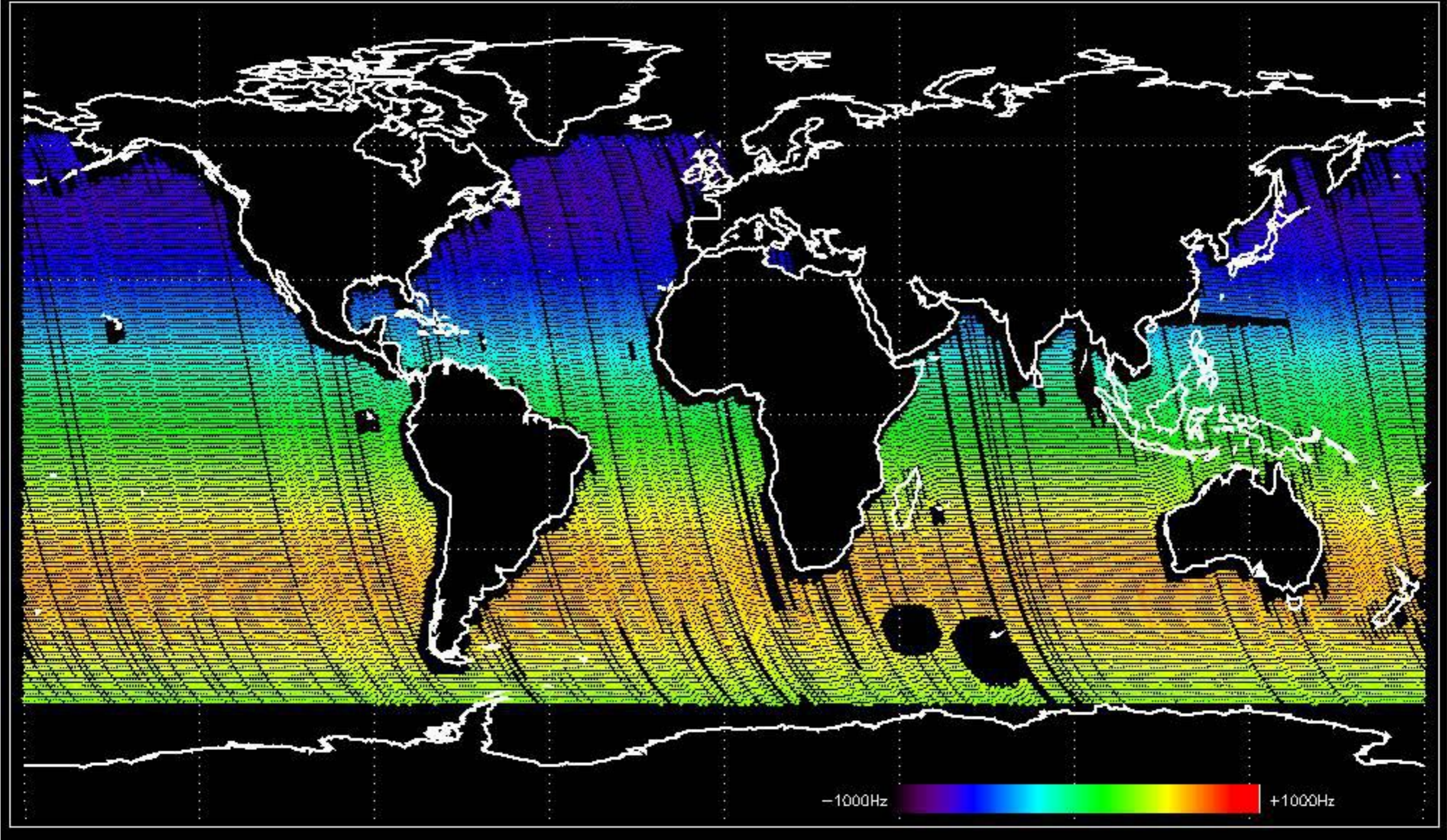
Doppler 'GM1' 'SS1' ascending



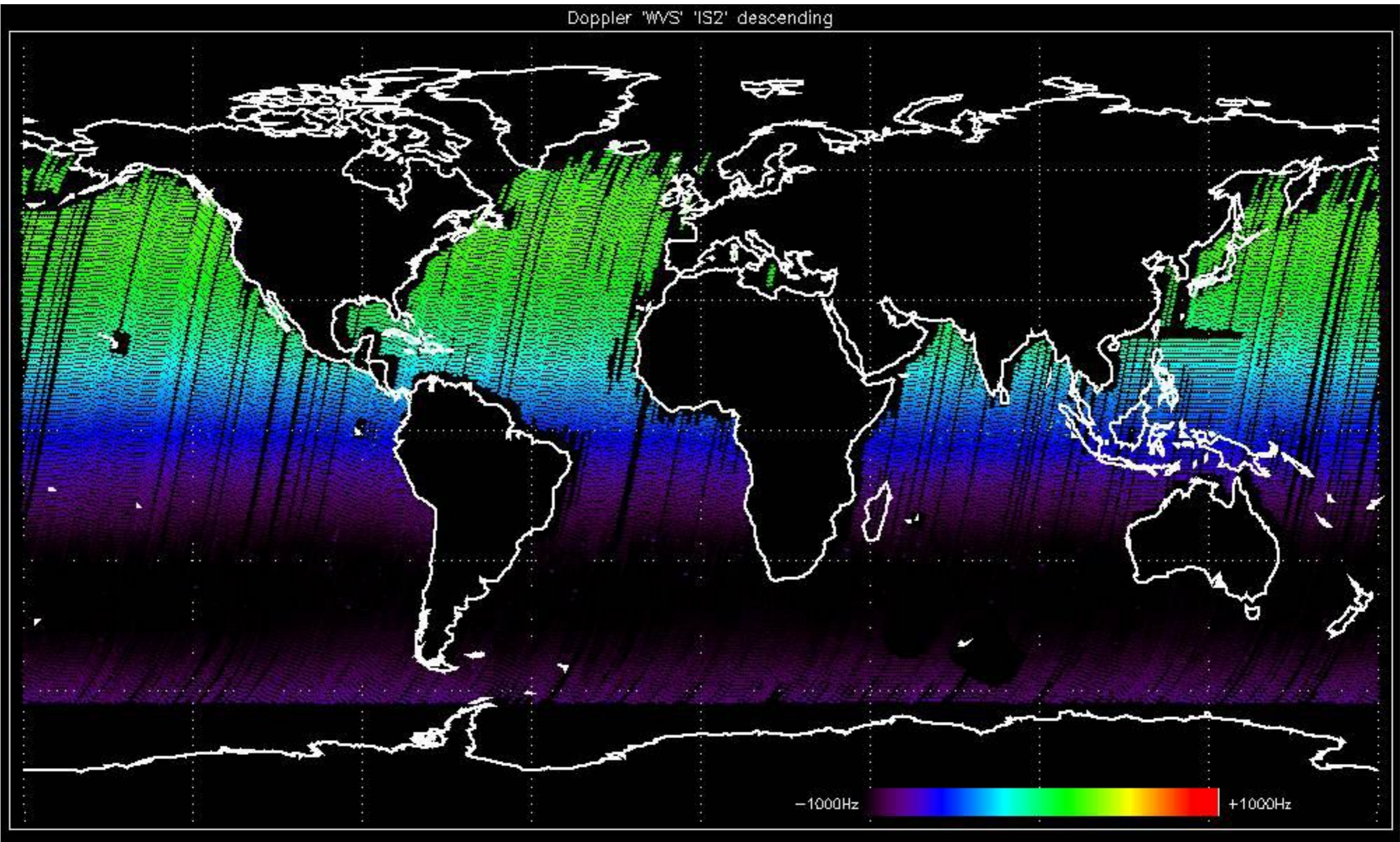
Doppler 'GM1' 'SS1' descending

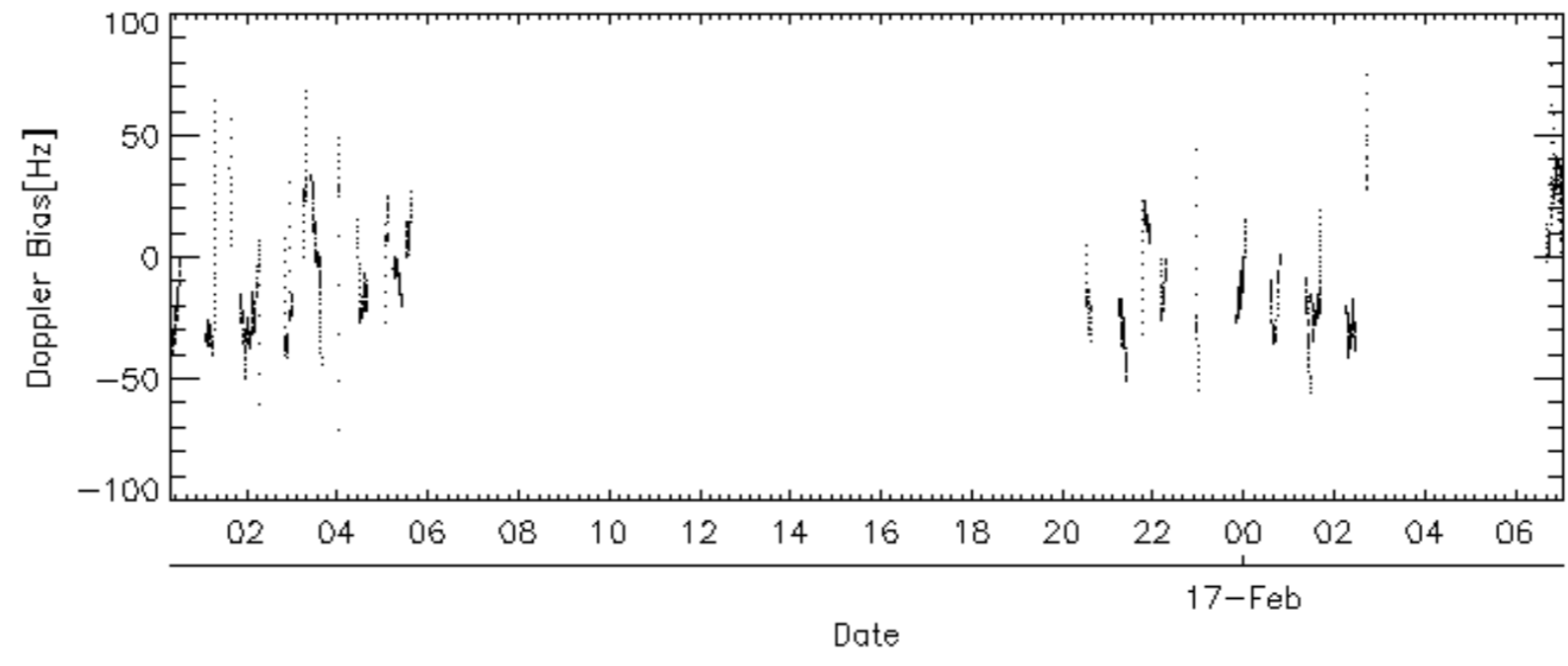
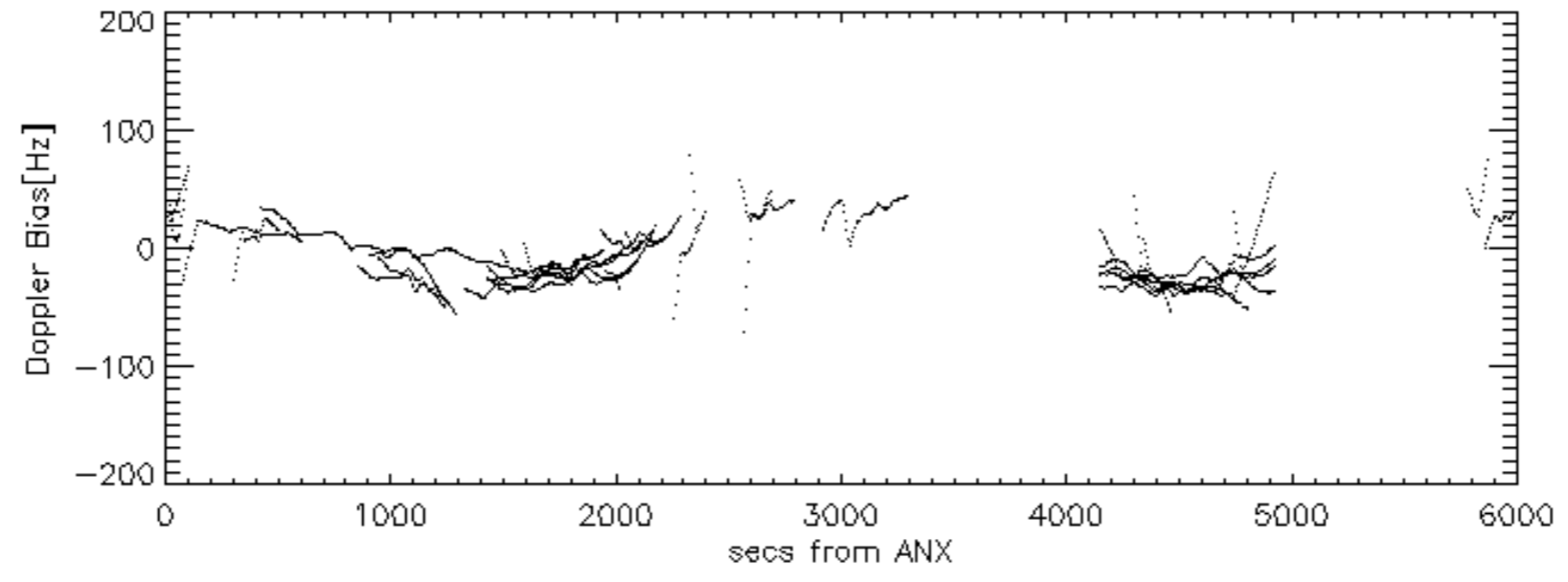
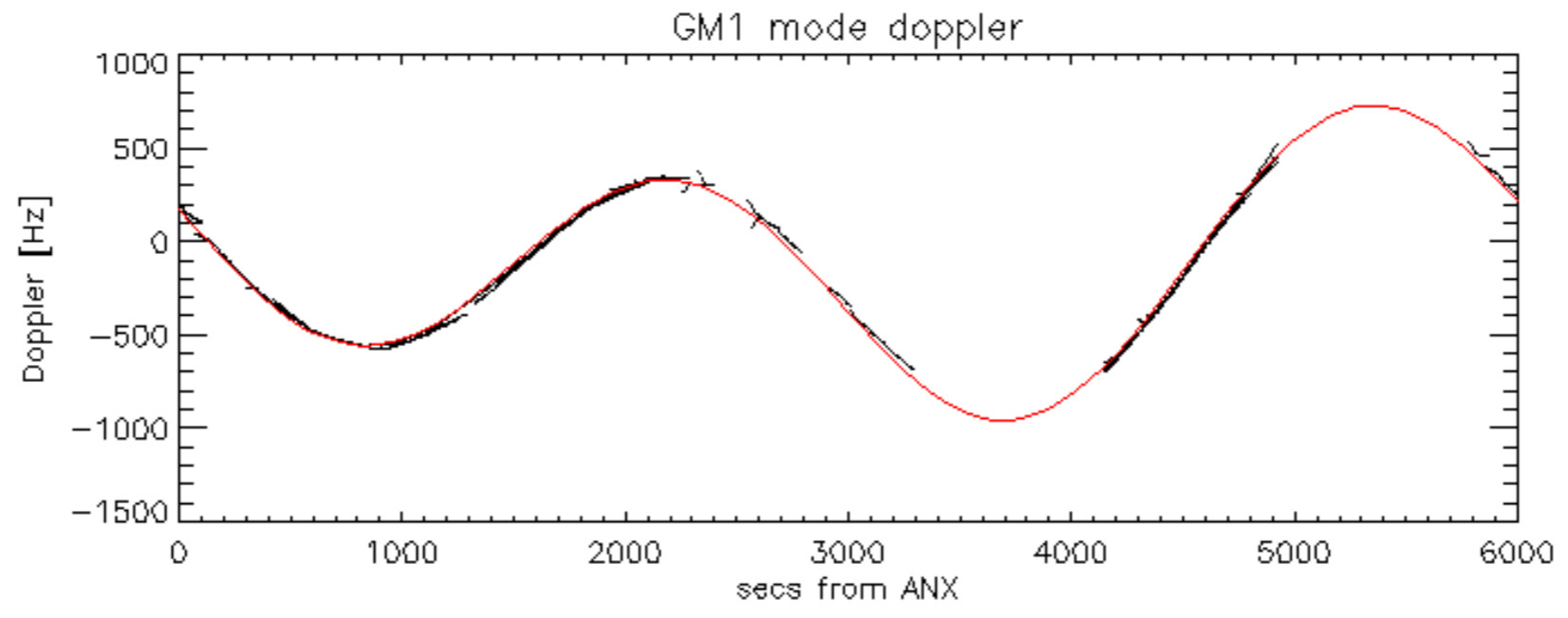


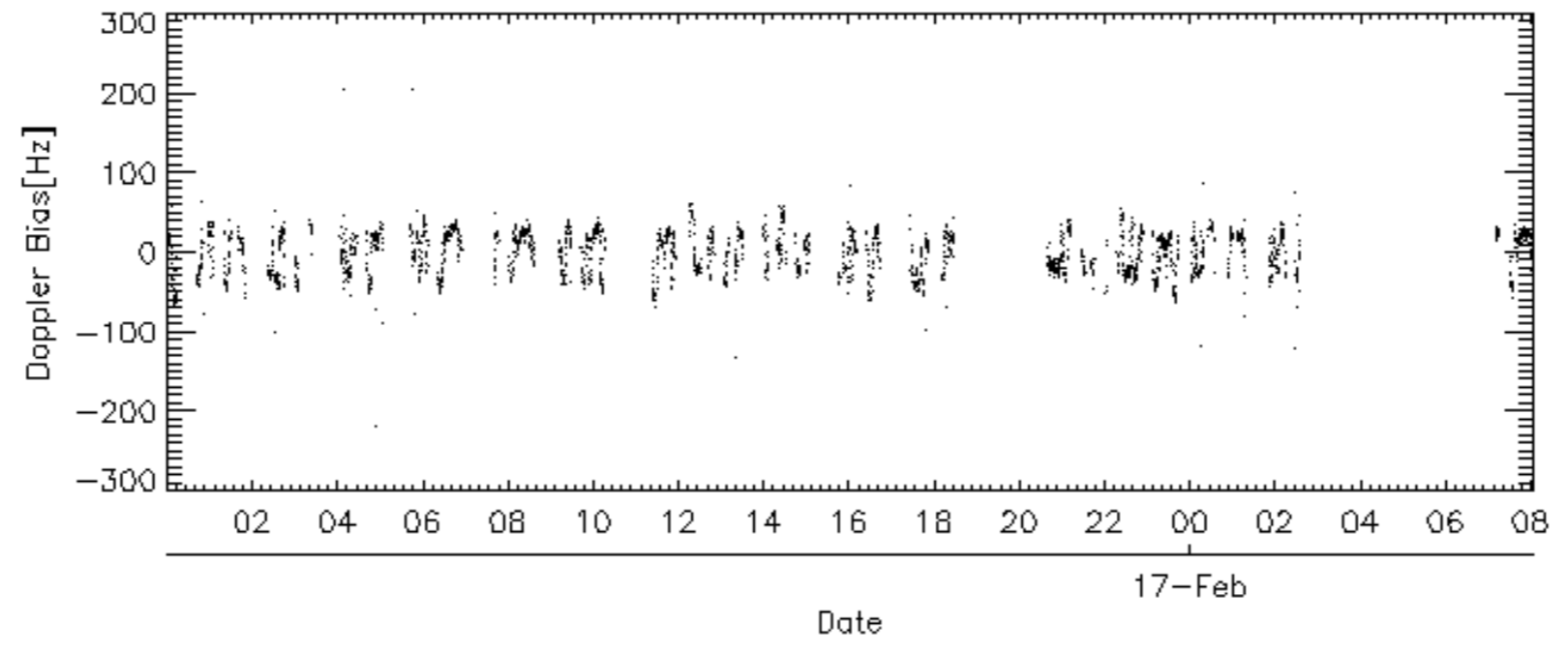
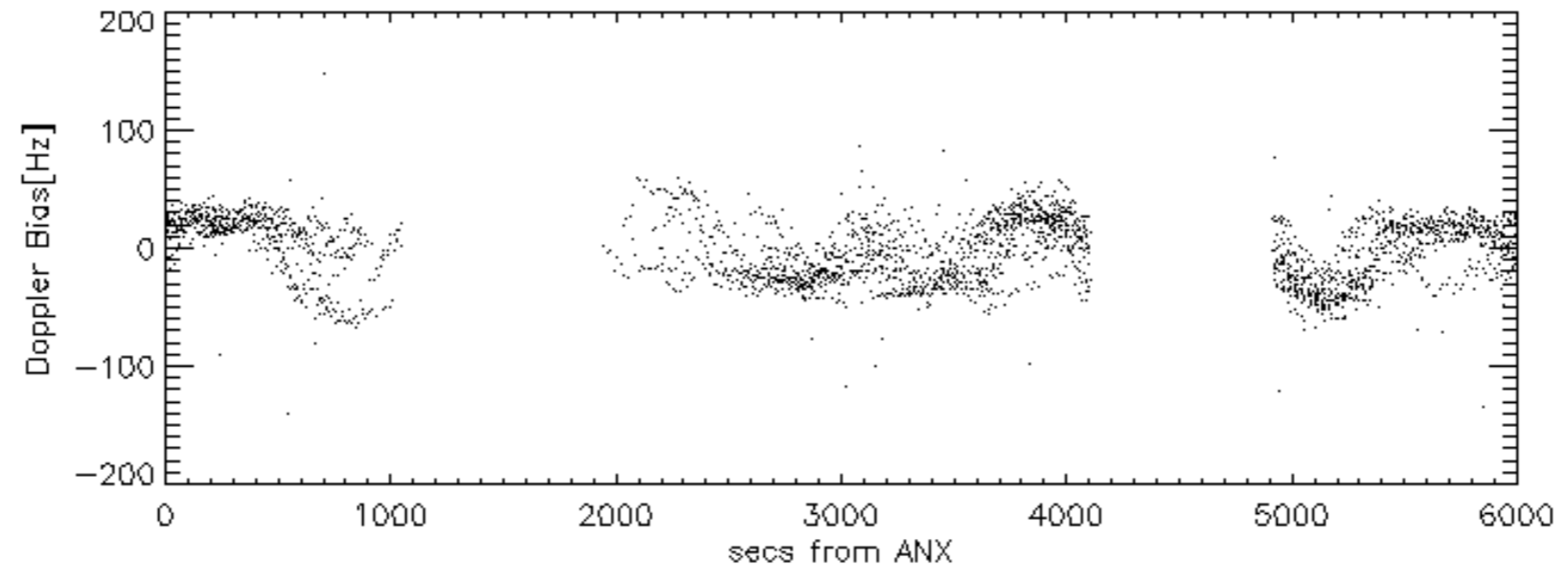
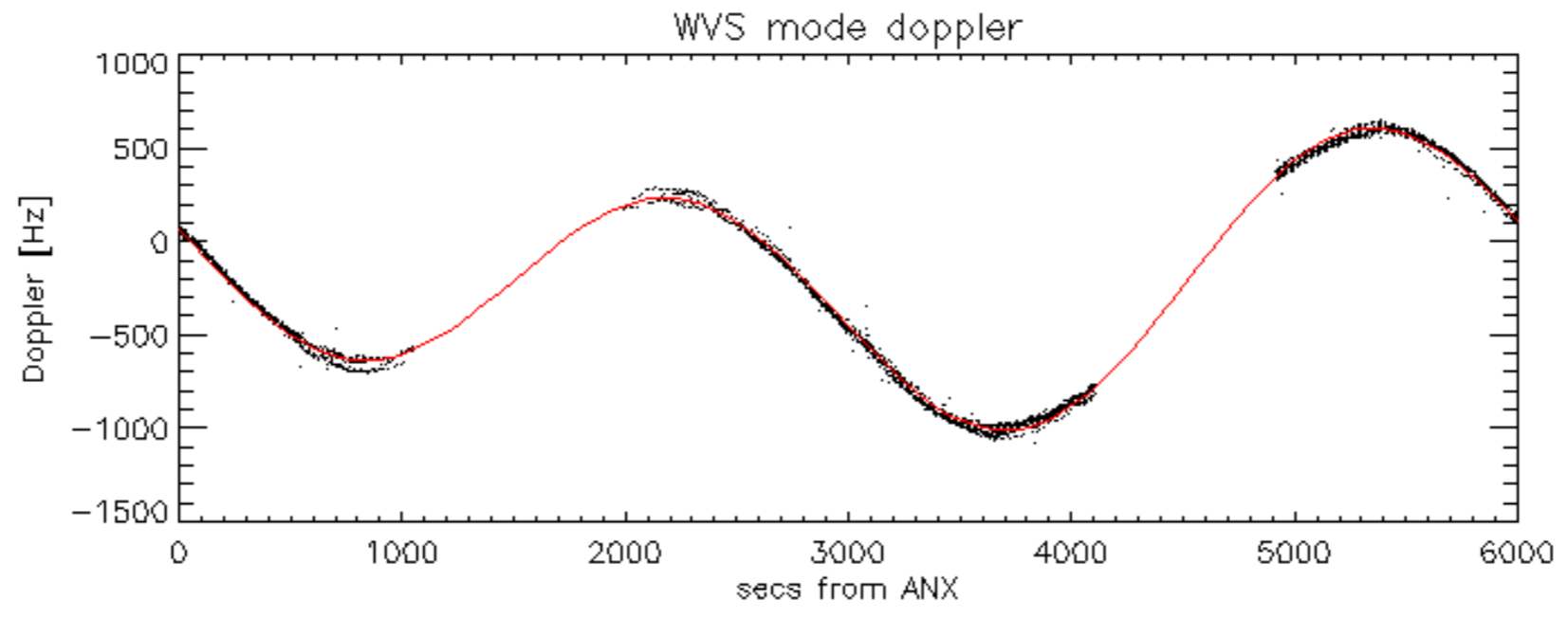
Doppler 'WVS' 'IS2' ascending



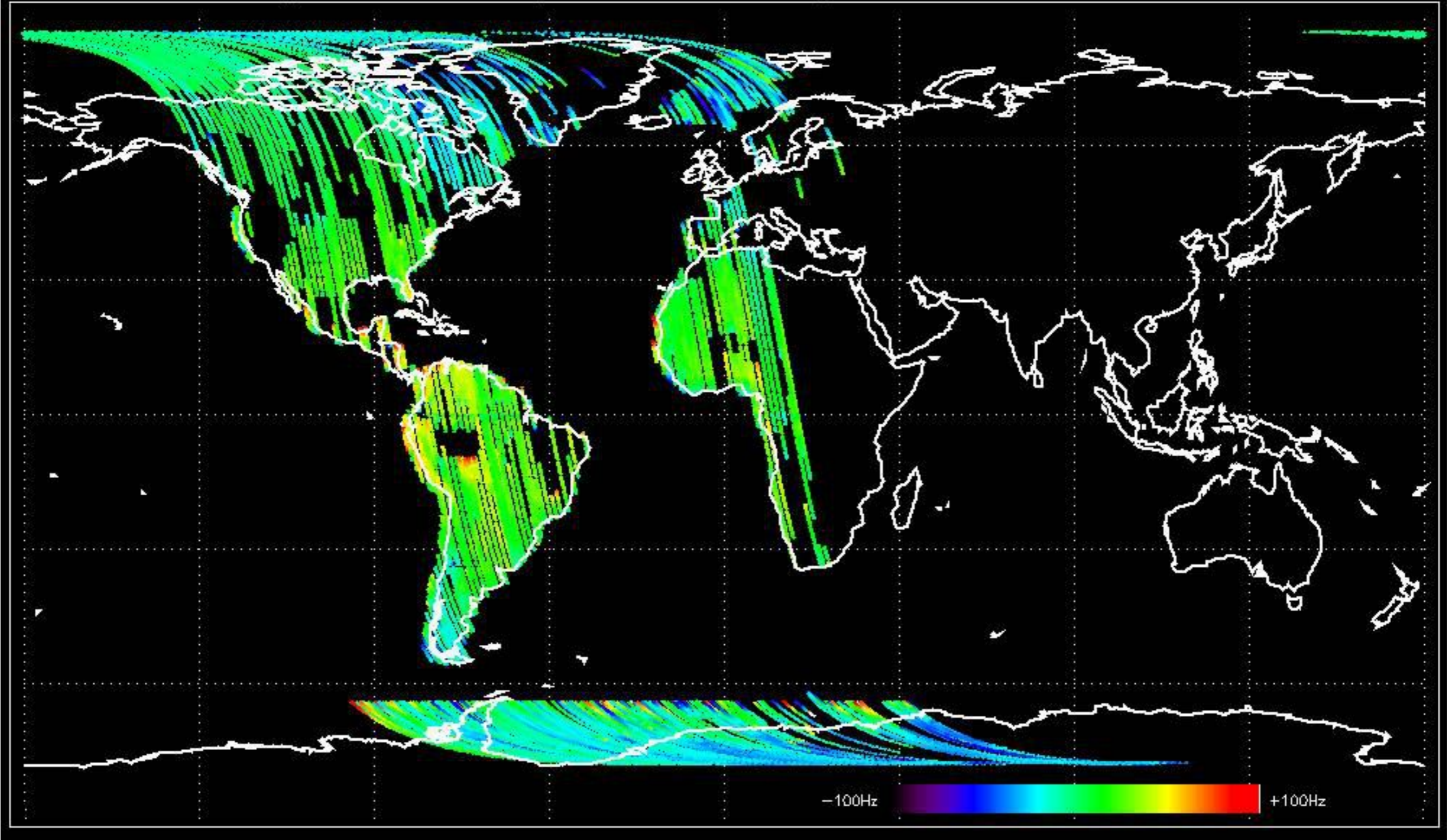
Doppler 'WVS' 'IS2' descending



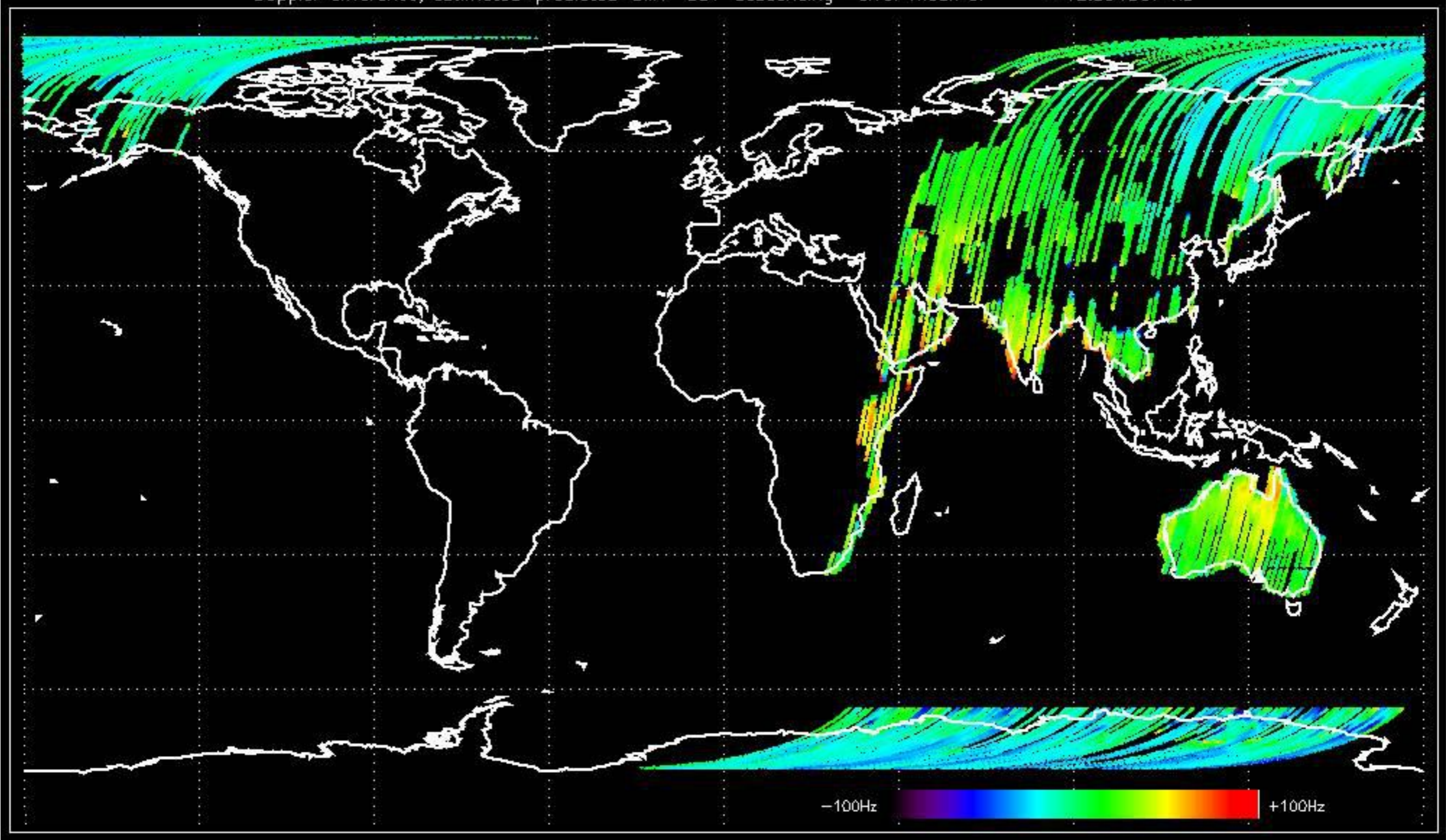




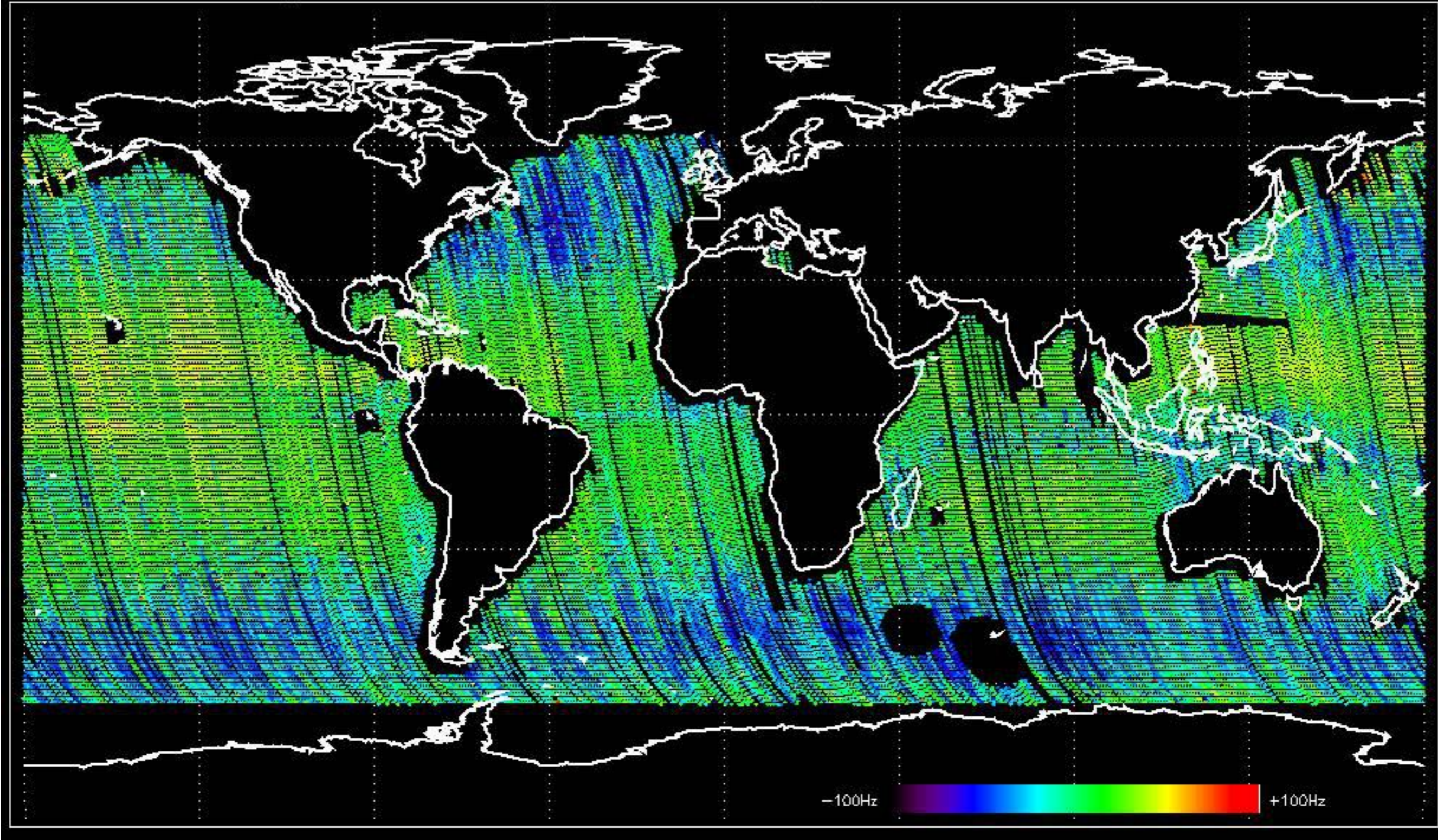
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -10.207150 Hz



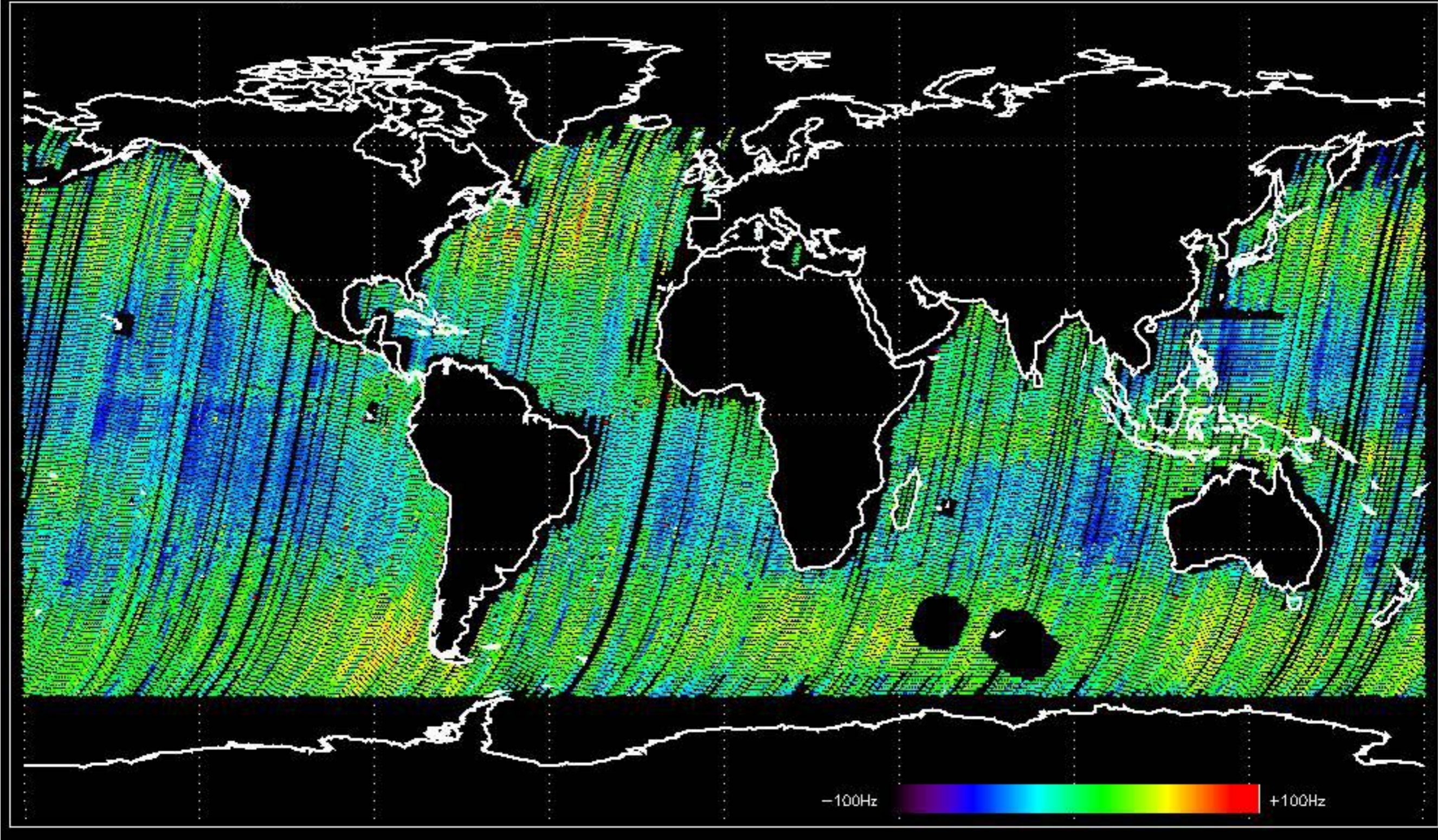
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -12.994367 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -7.4599743 Hz

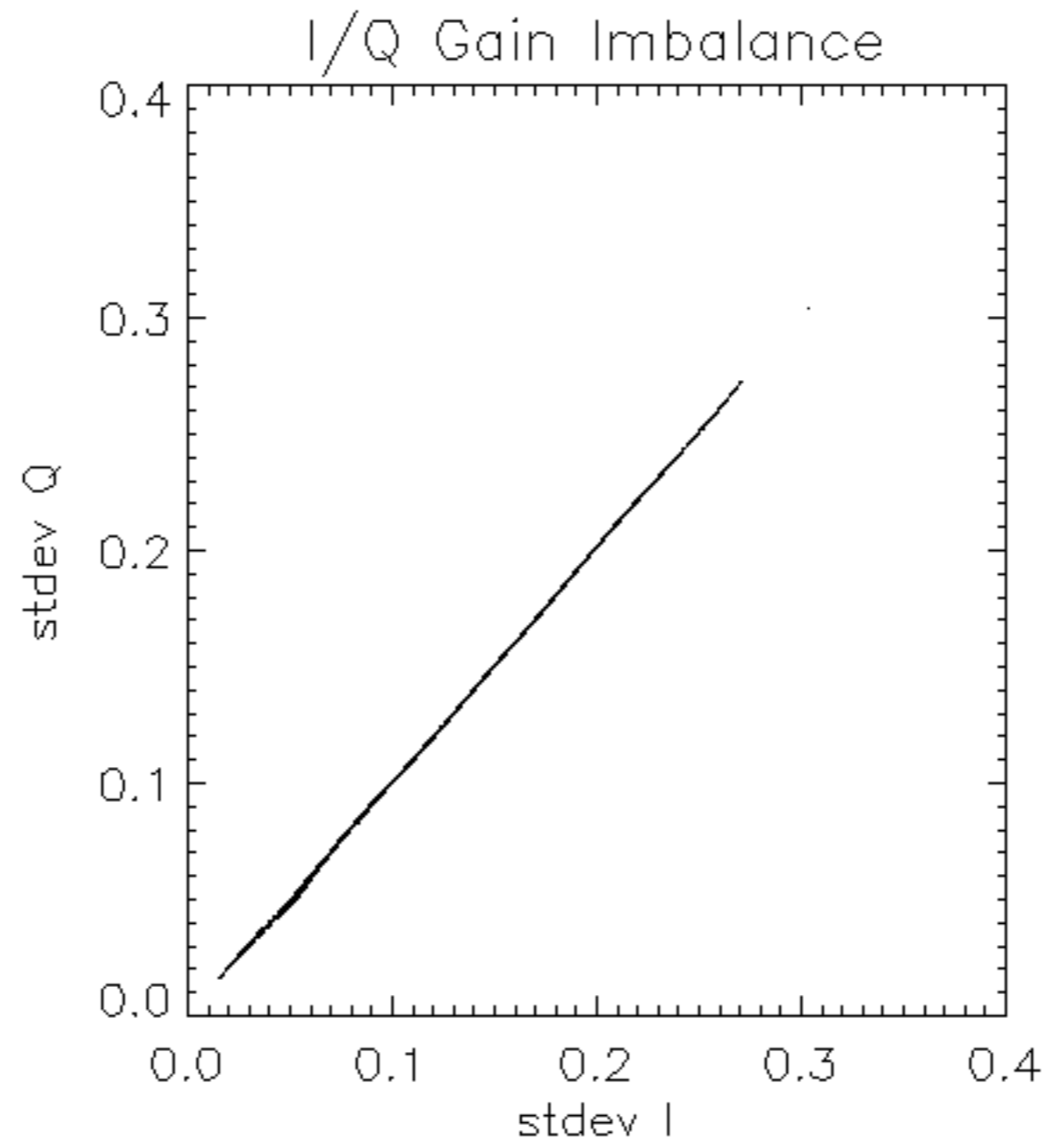


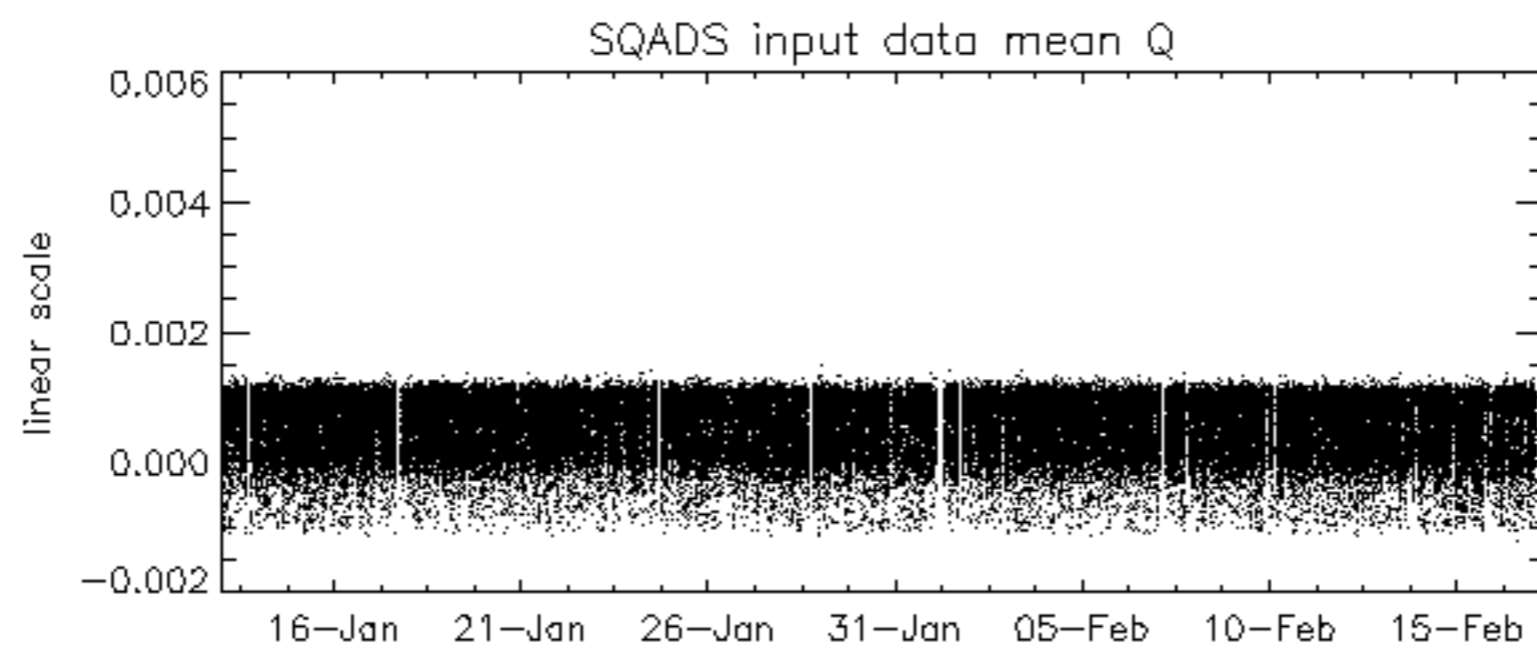
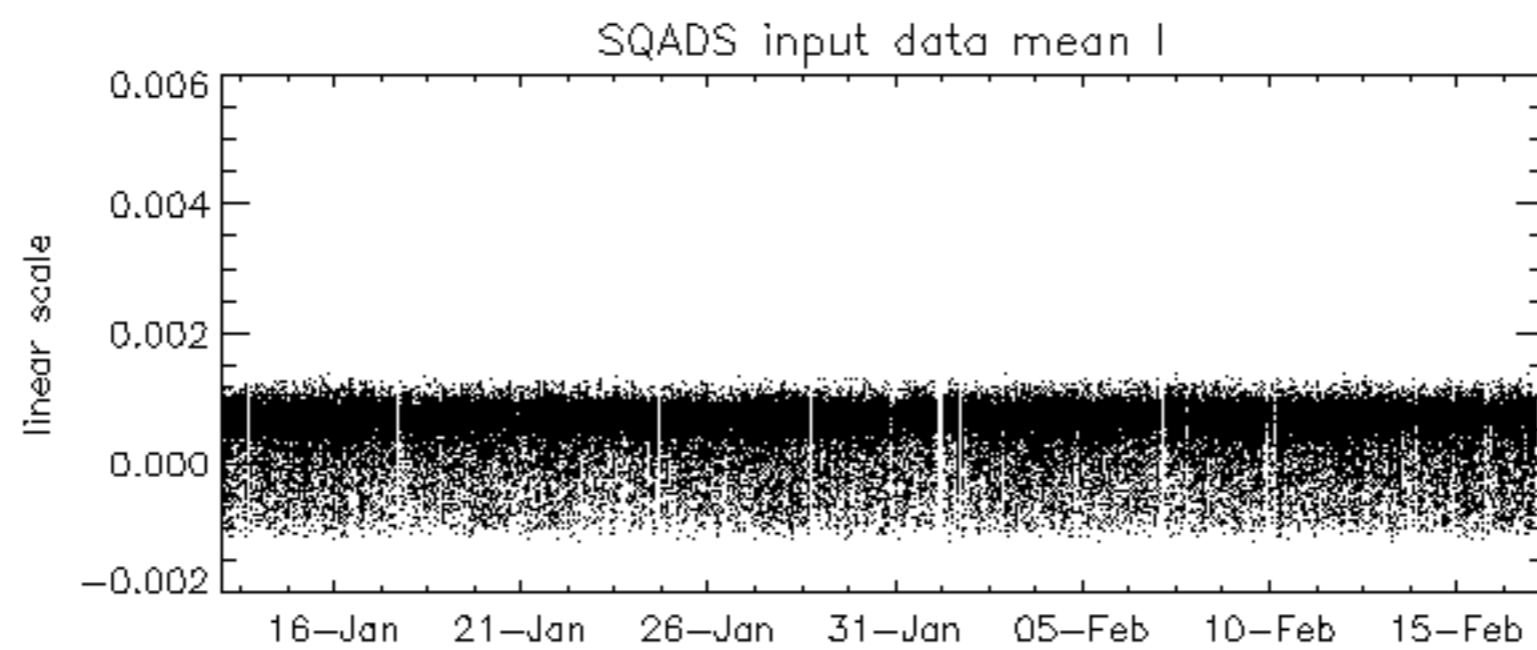
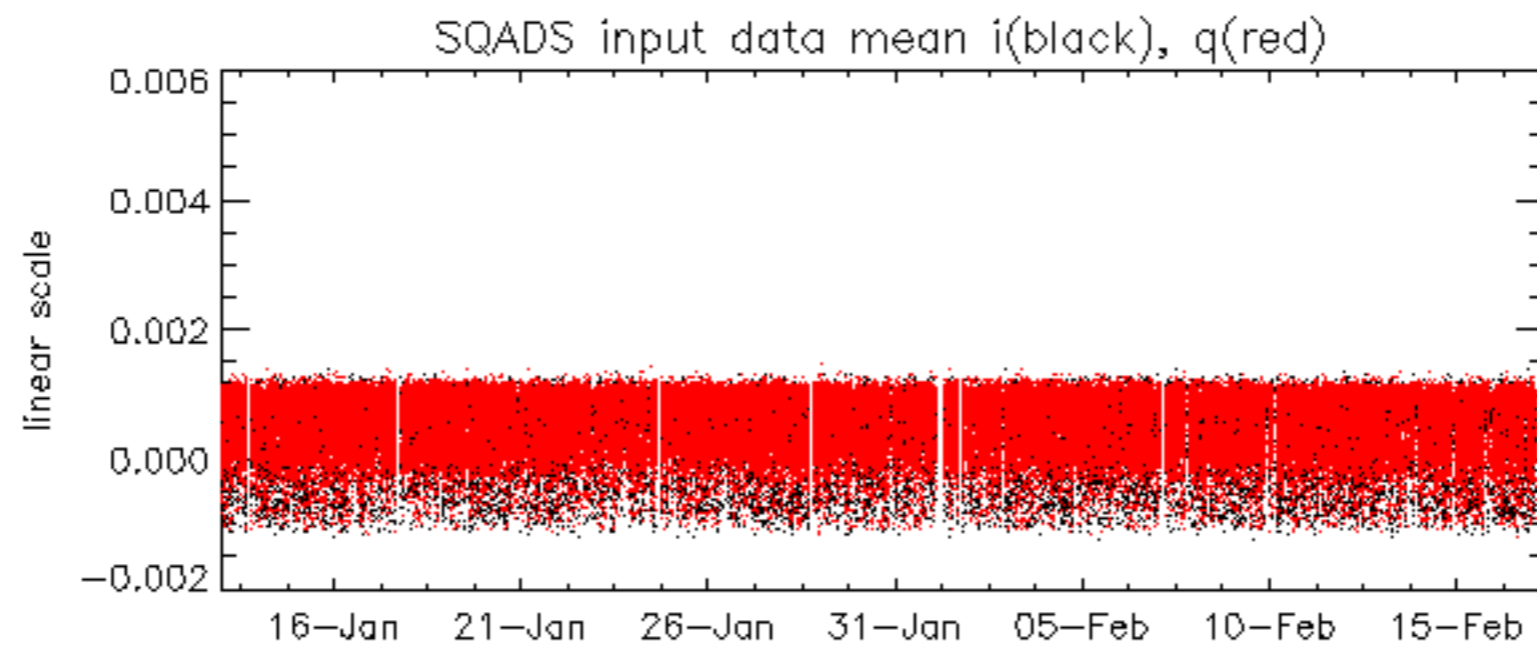
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -8.3664715 Hz

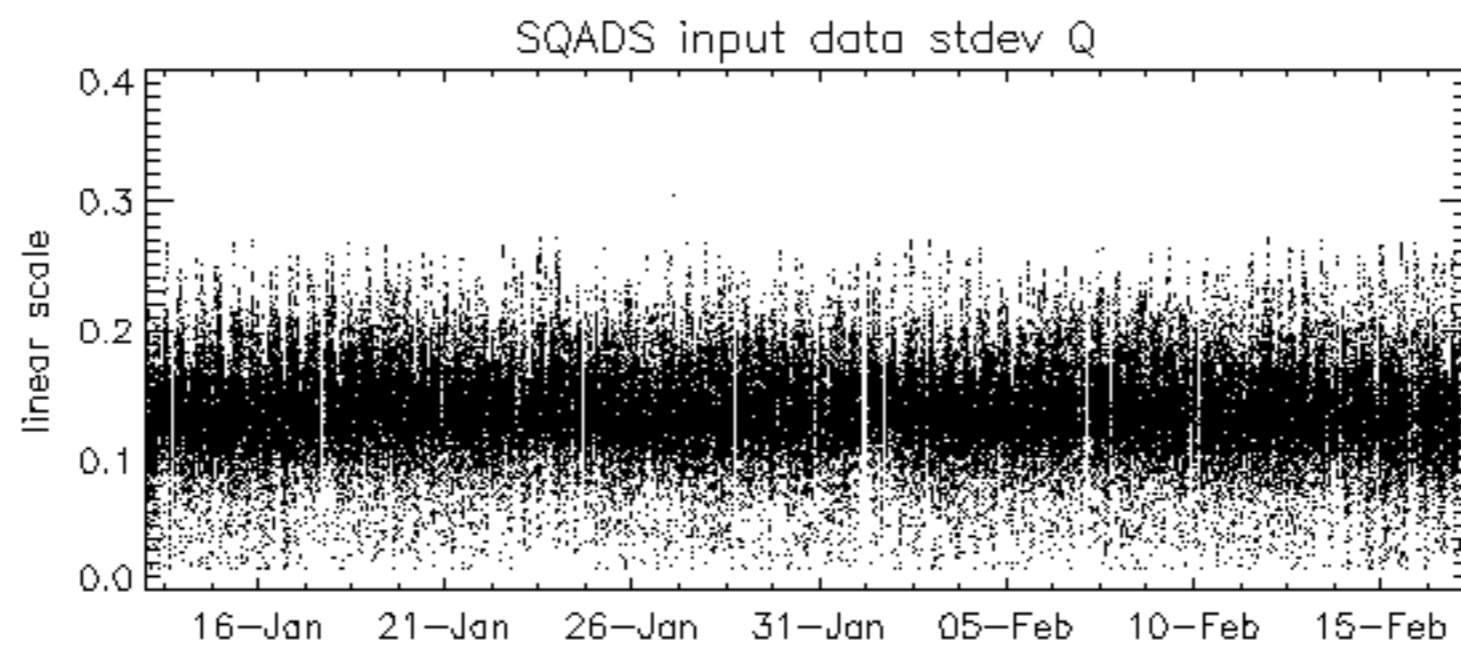
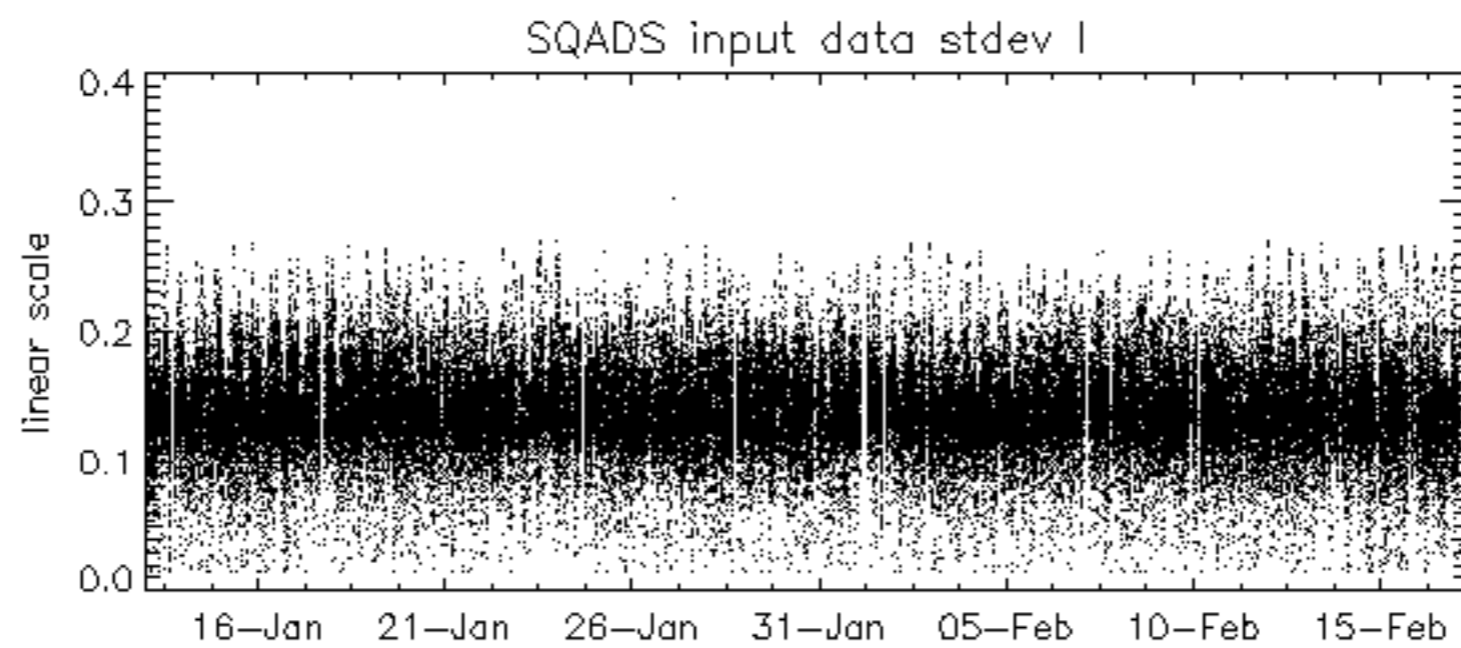
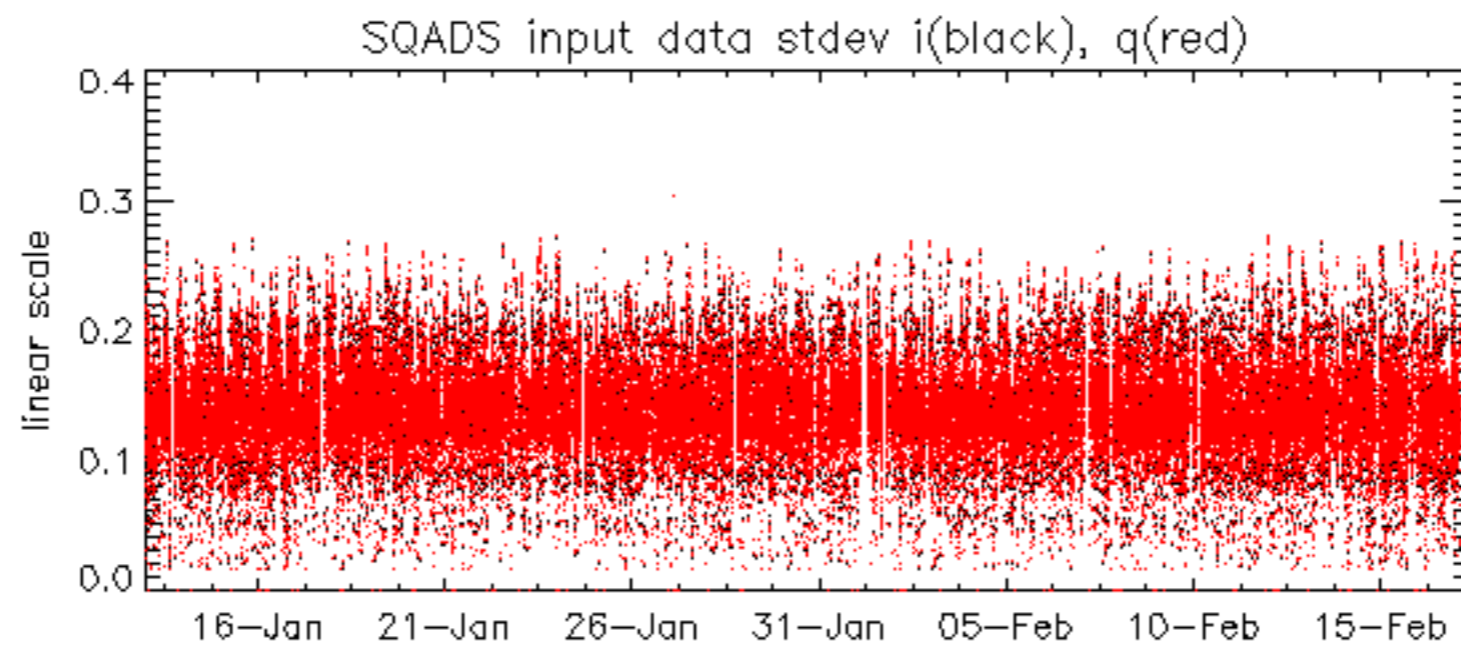


No anomalies observed on available MS products:

No anomalies observed.



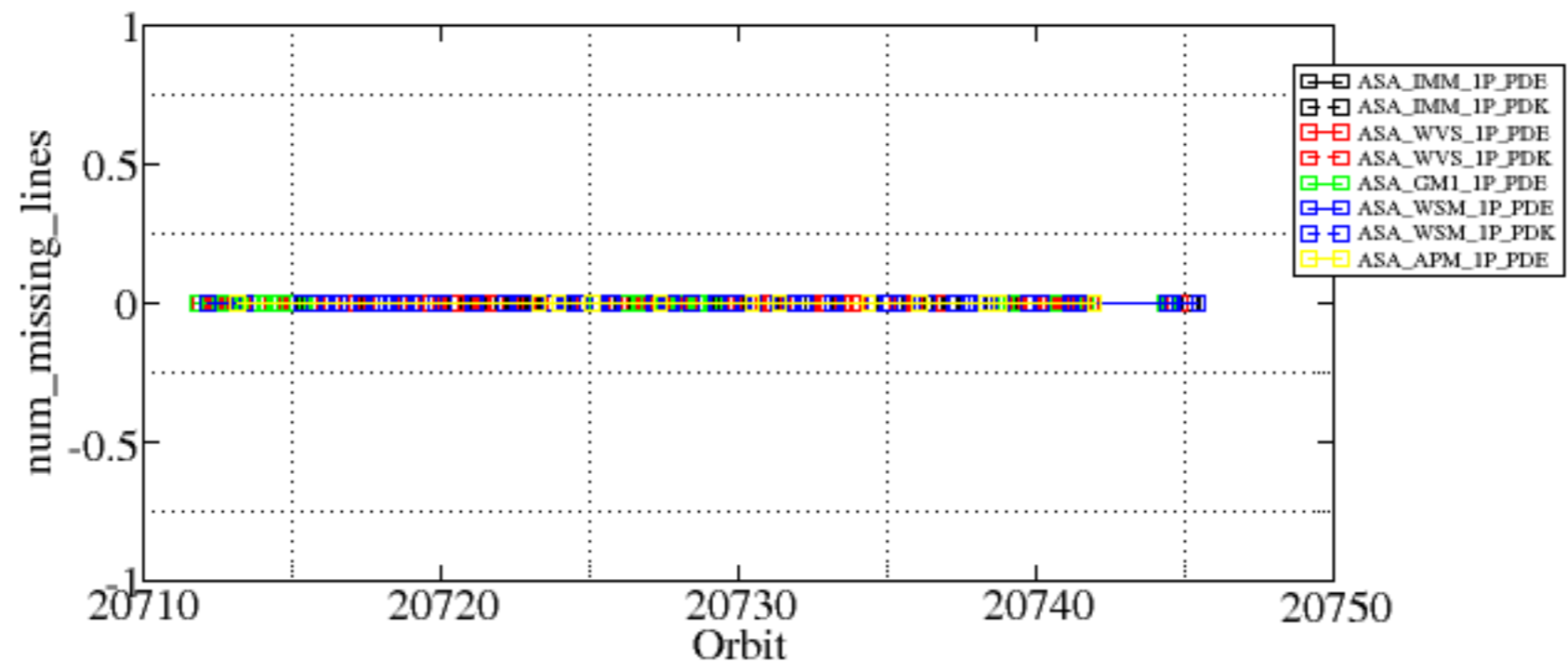




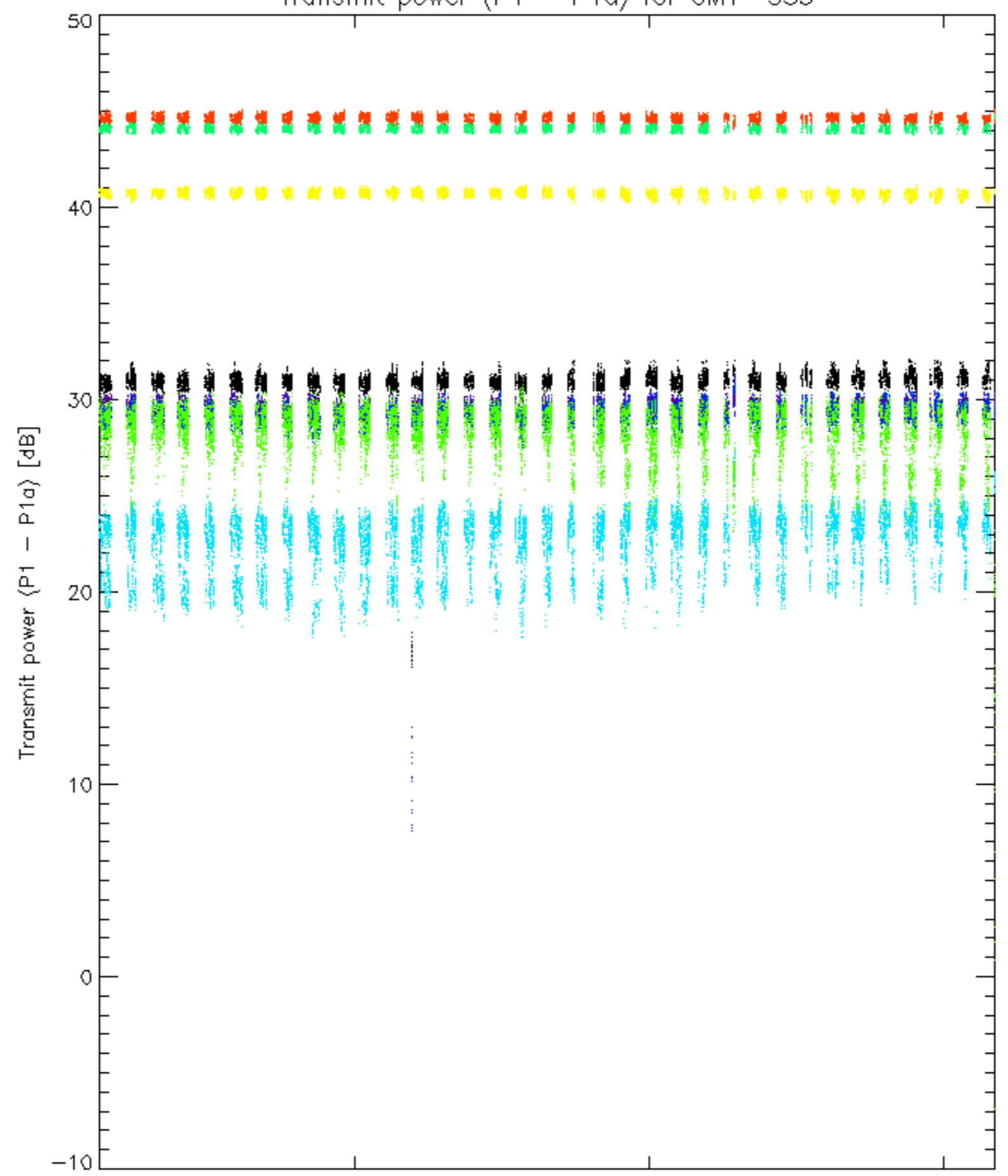
Summary of analysis for the last 3 days 2006021[567]

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

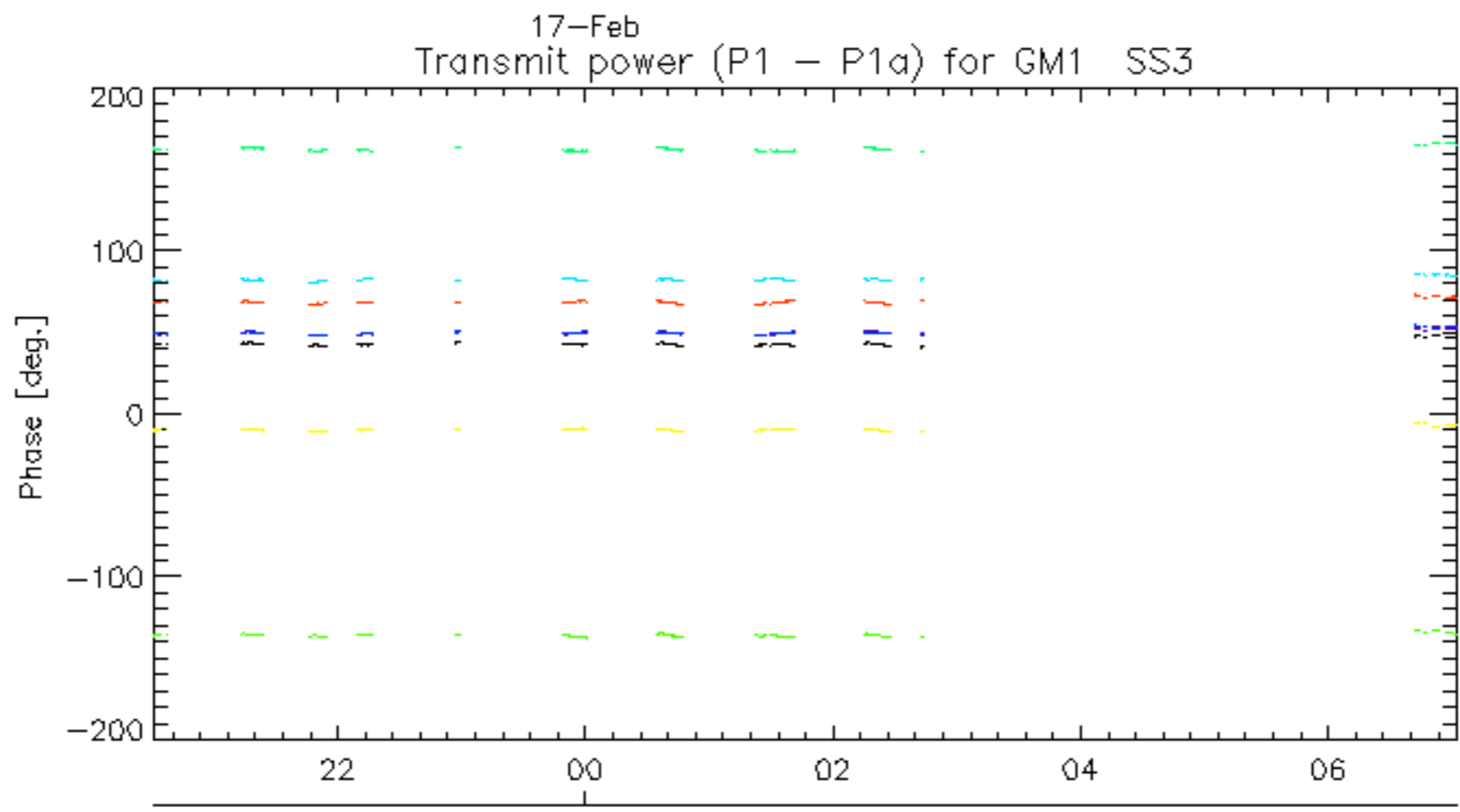
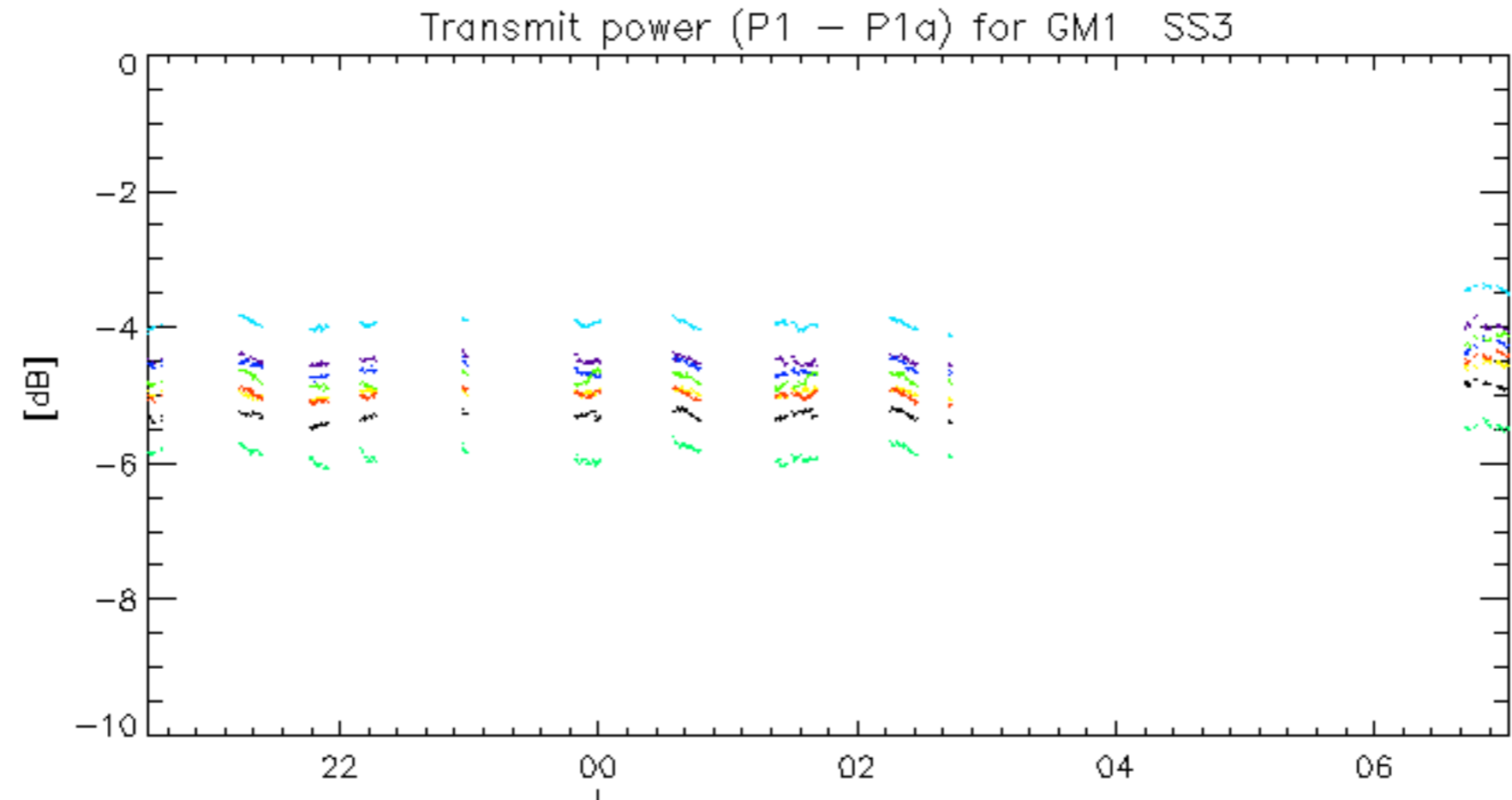
Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20060216_113801_00000992045_00137_20732_3352.N1	1	0



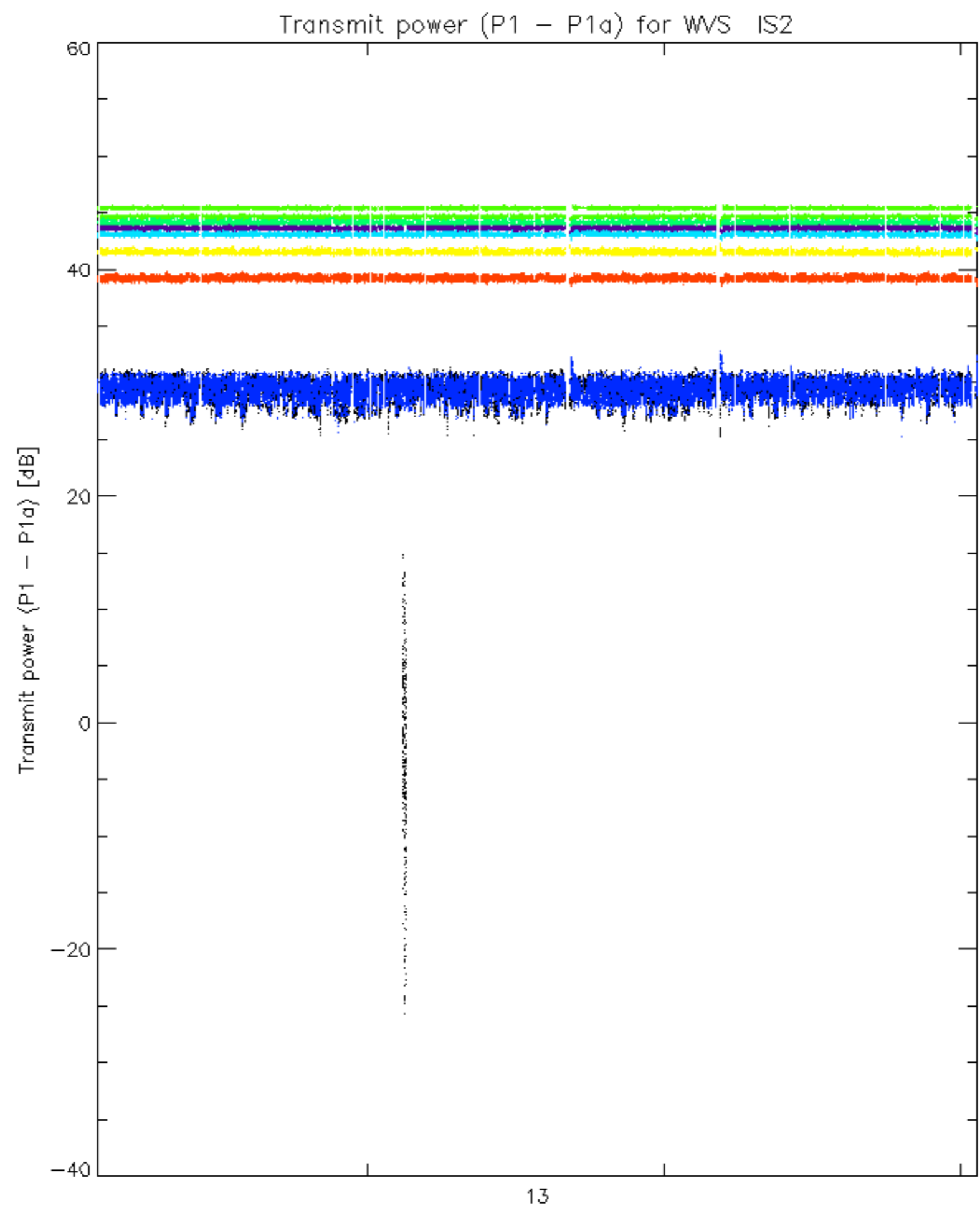
Transmit power (P1 - P1a) for GM1 SS3



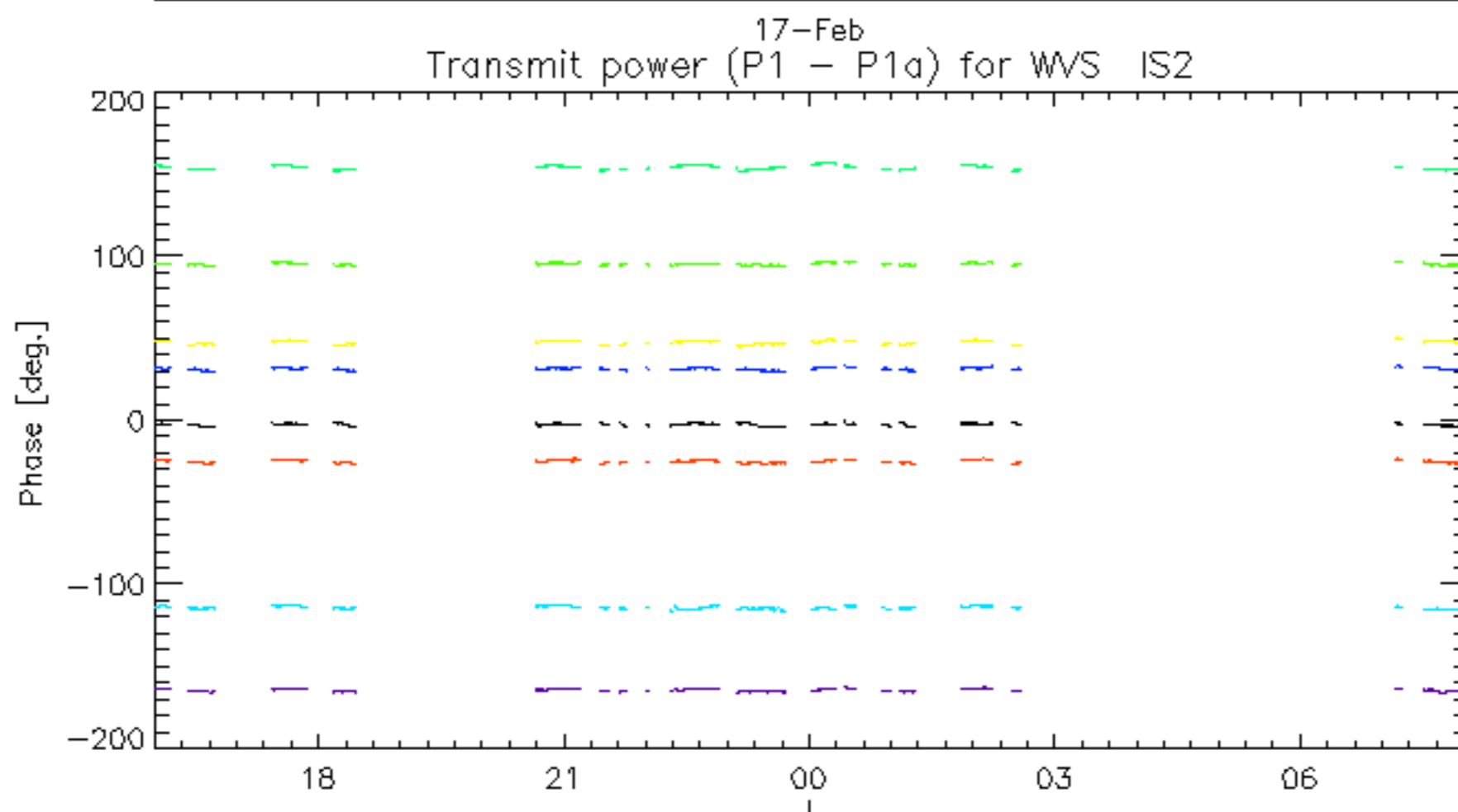
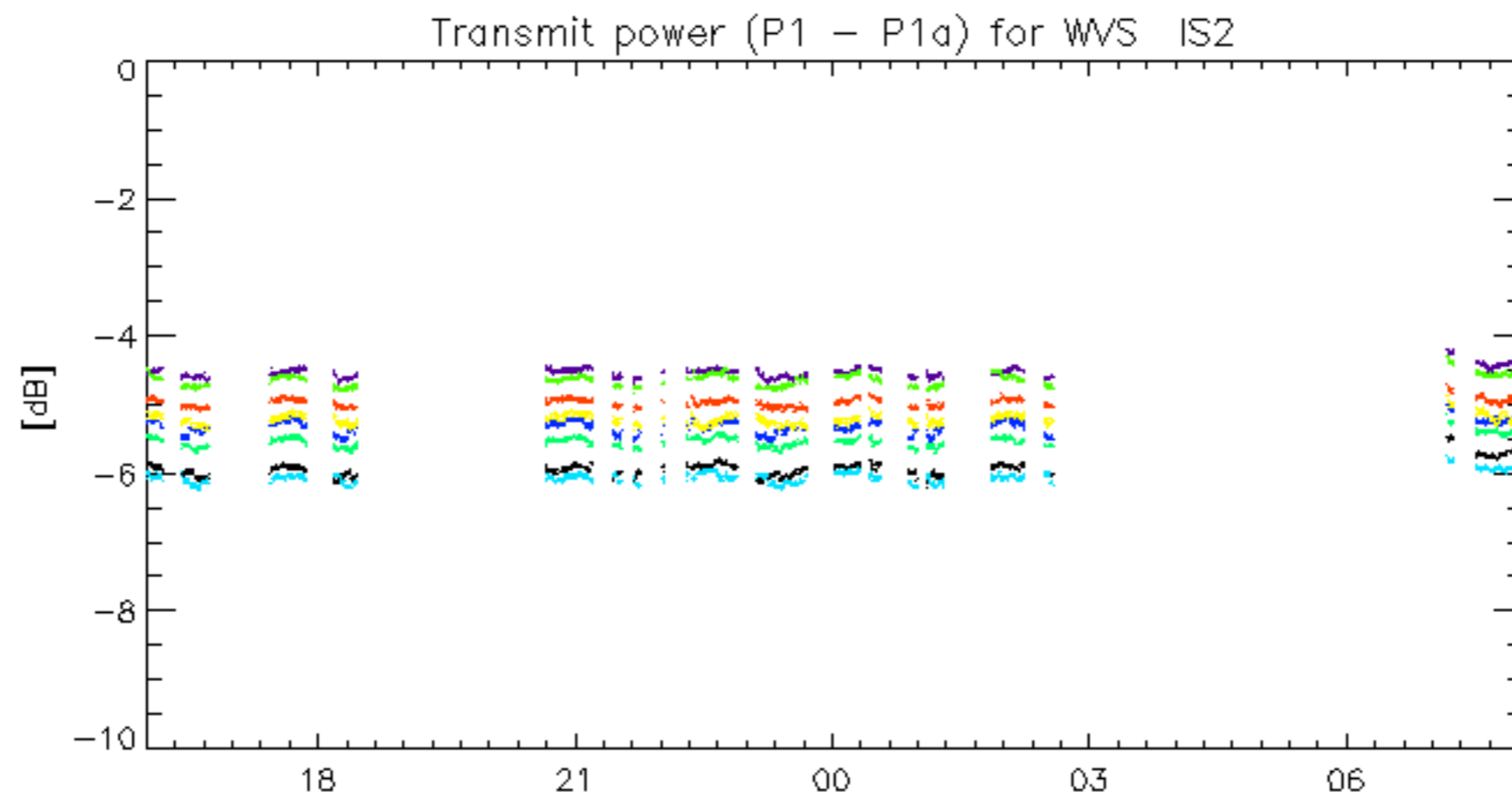
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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



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



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

No unavailabilities during the reported period.