

PRELIMINARY REPORT OF 070221

last update on Wed Feb 21 16:24:36 GMT 2007

Due to an ASAR test acquisition campaign, the daily analysis on WVS products will be based on IS4 instead of IS2 during the following periods:

From orbit 25621 (23-Jan-2007) to 25720 (30-Jan-2007) in HH polarization
From orbit 26122 (27-Feb-2007) to 26221 (06-Mar-2007) in HH polarization
From orbit 25721 (30-Jan-2007) to 25820 (06-Feb-2007) in VV polarization
From orbit 26222 (06-Mar-2007) to 26321 (13-Mar-2007) in VV polarization

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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 2007-02-20 00:00:00 to 2007-02-21 16:24:36

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_XCA_AXVIEC20070215_184638_20070204_165113_20071231_000000	40	78	13	1	24
ASA_CON_AXVIEC20070215_184018_20070204_165113_20071231_000000	40	78	13	1	24
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	40	78	13	1	24
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	40	78	13	1	24

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_XCA_AXVIEC20070215_184638_20070204_165113_20071231_000000	44	48	31	12	47
ASA_CON_AXVIEC20070215_184018_20070204_165113_20071231_000000	44	48	31	12	47
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	44	48	31	12	47
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	44	48	31	12	47

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	20070220 042854
H	20070221 071829

MSM in V/V polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
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⊗	
⊗	
⊗	
⊗	

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)
3	P1a	-15.149378	0.240888	1.560212
7	P1a	-17.400105	0.105367	-0.161686
11	P1a	-17.305151	0.353858	0.168627
15	P1a	-12.840337	0.107630	-0.162081
19	P1a	-15.088187	0.094119	-0.024147
22	P1a	-15.500256	0.486217	-0.143282
26	P1a	-15.011950	0.215624	-0.190728
30	P1a	-17.307489	0.354968	-0.267985

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.610269	0.158754	-1.615396
7	P1	-3.099696	0.009165	-0.009184
11	P1	-4.123614	0.019446	-0.013774
15	P1	-6.322898	0.015613	-0.037486
19	P1	-3.705661	0.008610	0.004346
22	P1	-4.668604	0.014592	0.032662
26	P1	-3.924429	0.013235	0.021707
30	P1	-5.912237	0.011851	0.007981

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.533344	0.269979	-1.749097
7	P2	-21.592123	0.084341	0.144704
11	P2	-15.474056	0.101272	0.067590
15	P2	-7.003294	0.098073	0.033707
19	P2	-9.072216	0.086530	0.027470
22	P2	-18.096453	0.081532	-0.019998

26	P2	-16.494991	0.094815	0.012686
30	P2	-19.325291	0.077570	0.033767

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.191168	0.007752	0.055173
7	P3	-8.191168	0.007752	0.055173
11	P3	-8.191168	0.007752	0.055173
15	P3	-8.191168	0.007752	0.055173
19	P3	-8.191168	0.007752	0.055173
22	P3	-8.191168	0.007752	0.055173
26	P3	-8.191168	0.007752	0.055173
30	P3	-8.191168	0.007752	0.055173

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1
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P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1a	-11.309649	0.143233	1.113228
7	P1a	-10.032623	0.062681	-0.034725
11	P1a	-10.579821	0.058782	-0.228134
15	P1a	-10.847003	0.131565	-0.054747
19	P1a	-15.741653	0.064450	0.023595
22	P1a	-20.873613	1.276144	0.306106
26	P1a	-15.432210	0.262789	0.230018
30	P1a	-18.326960	0.361712	-0.025874

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-6.881902	3.906304	-6.925952
7	P1	-2.433396	0.005940	0.036844

11	P1	-2.882267	0.016071	-0.080620
15	P1	-3.797920	0.033206	-0.077808
19	P1	-3.549357	0.012750	0.002777
22	P1	-5.022327	0.022691	0.010041
26	P1	-5.990890	0.023235	0.033104
30	P1	-5.285411	0.022900	0.025779

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.435488	0.787076	-2.990856
7	P2	-21.995607	0.052615	0.151673
11	P2	-10.670059	0.030901	0.103965
15	P2	-4.824492	0.027282	0.072918
19	P2	-6.820459	0.028342	0.090634
22	P2	-8.128669	0.029877	0.092556
26	P2	-24.245485	0.032075	0.047657
30	P2	-21.774464	0.035906	0.111910

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.042050	0.003322	0.061488
7	P3	-8.042068	0.003333	0.061016
11	P3	-8.042098	0.003325	0.061195
15	P3	-8.042029	0.003332	0.061477
19	P3	-8.042068	0.003313	0.061230
22	P3	-8.042136	0.003324	0.061233
26	P3	-8.041976	0.003327	0.061519
30	P3	-8.042039	0.003331	0.061165

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	0.000622815
	stdev	2.42450e-07
MEAN Q	mean	0.000380239
	stdev	2.52060e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.102641
	stdev	0.00259350
STDEV Q	mean	0.102646
	stdev	0.00264383



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007022[901]

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_GM1_1PNPDK20070220_151813_000003802055_00412_26017_2588.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)

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

7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

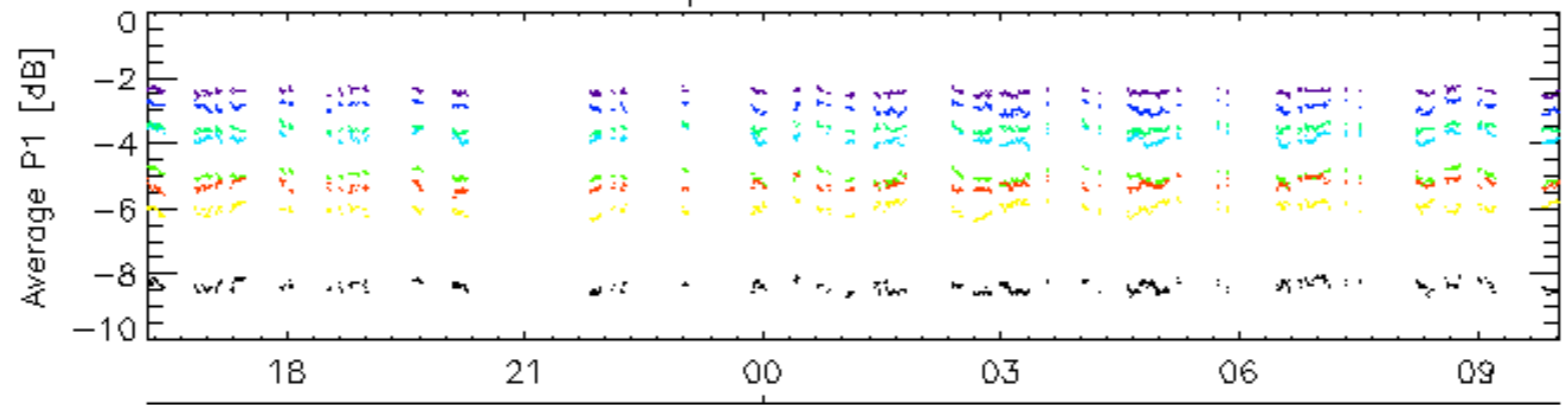
<input type="checkbox"/>
Acsending
<input type="checkbox"/>
Descending

7.6 - Doppler evolution versus ANX for GM1

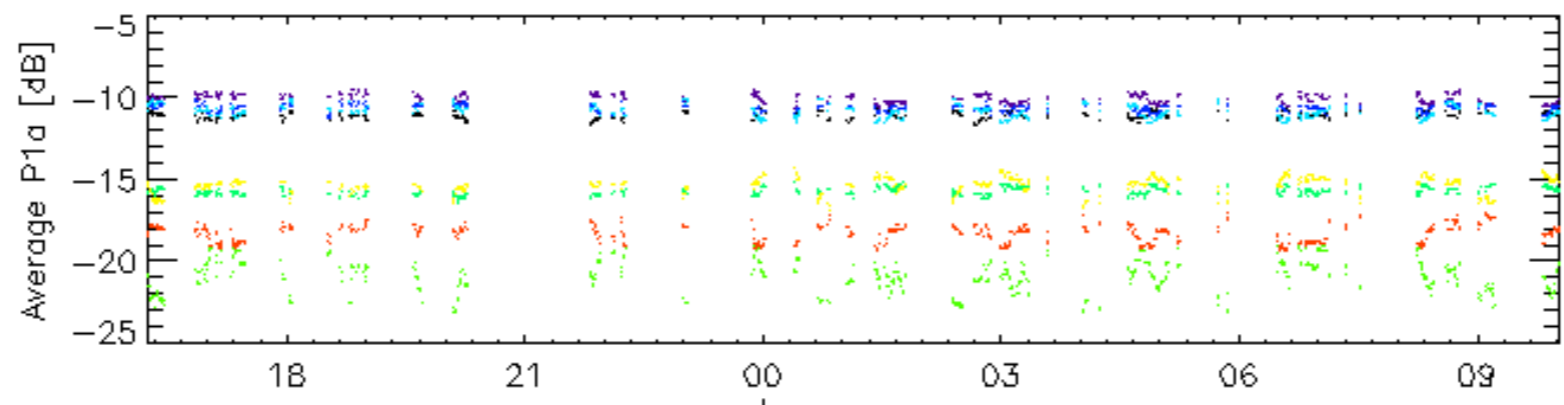
Evolution Doppler error versus ANX

<input type="checkbox"/>

Cal pulses for GM1 SS3

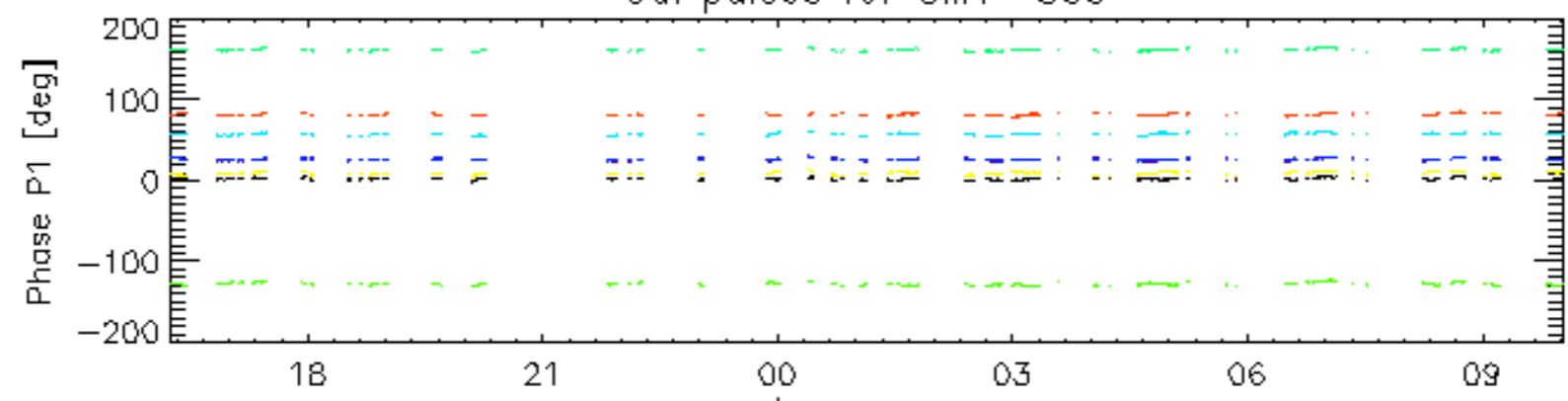


21-Feb

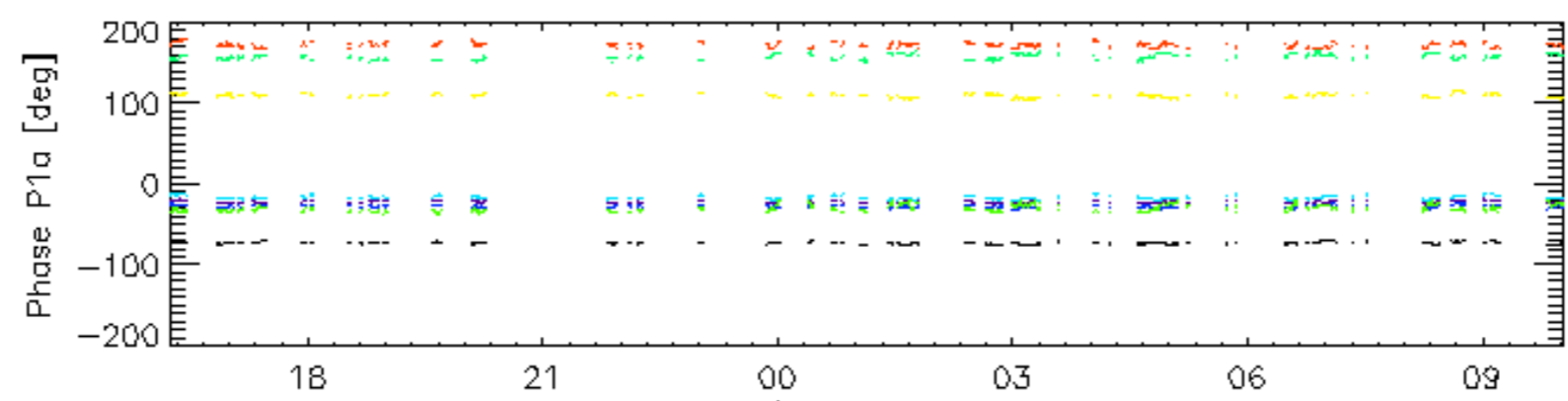


21-Feb

Cal pulses for GM1 SS3



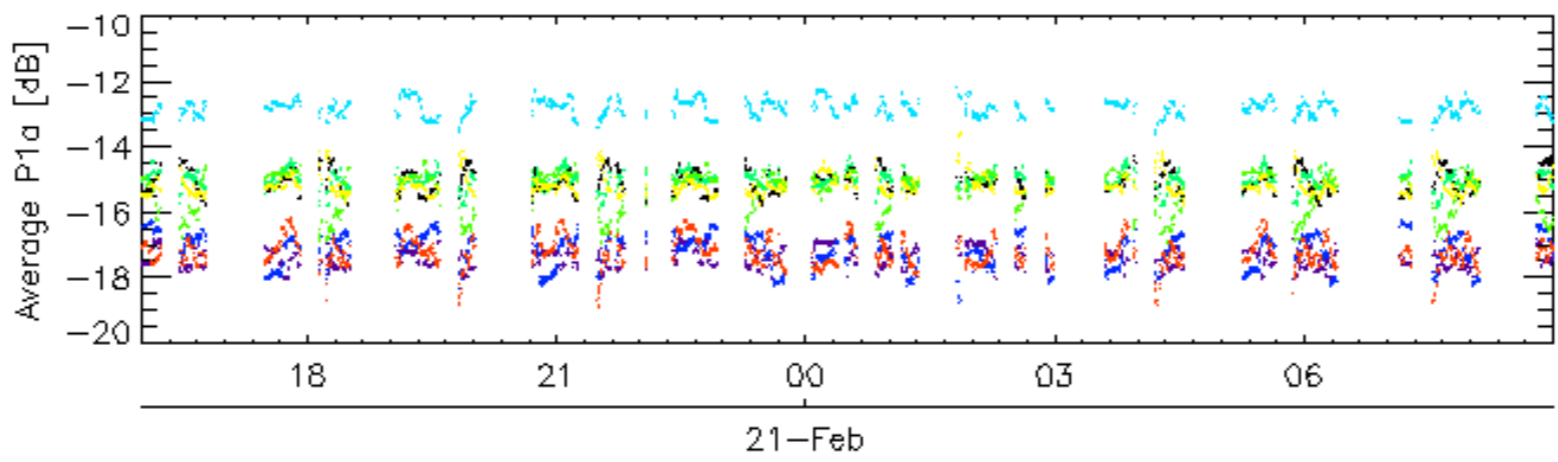
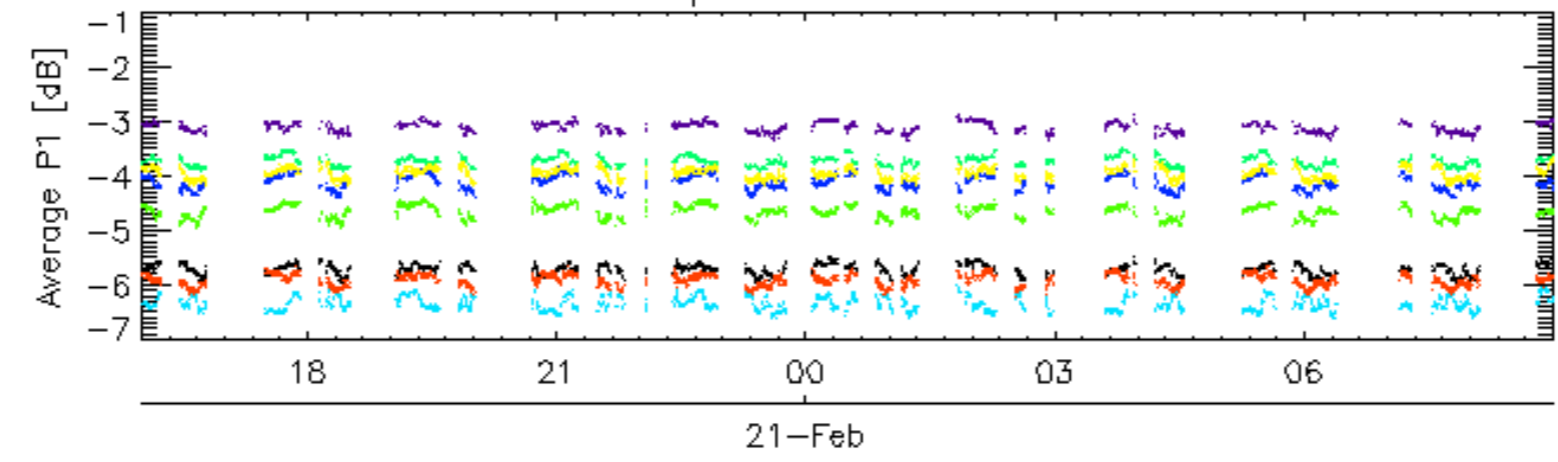
21-Feb



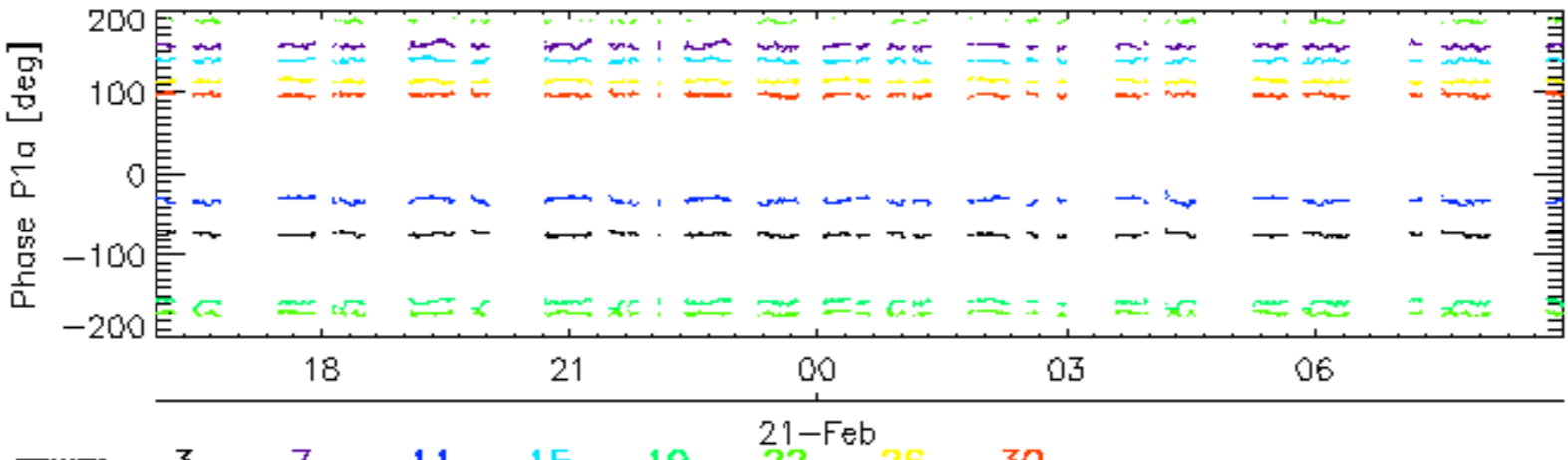
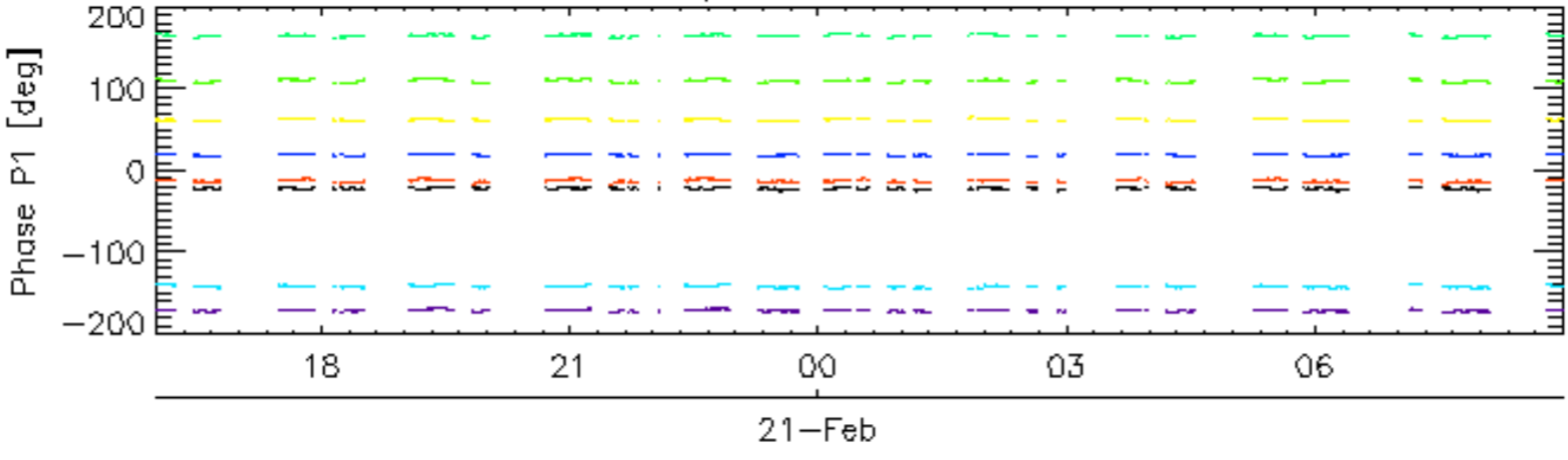
21-Feb

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

Cal pulses for WVS IS2

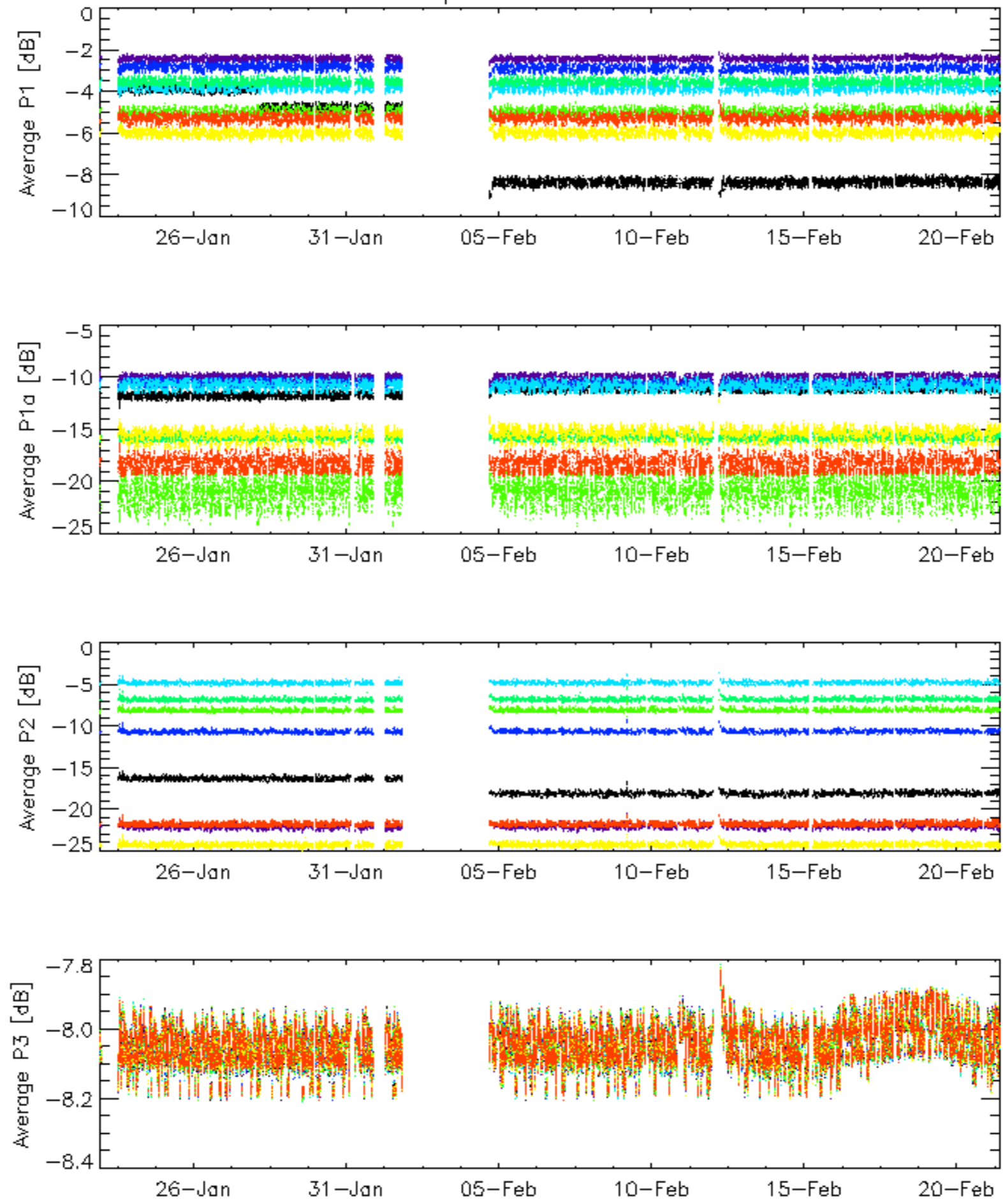


Cal pulses for WVS IS2



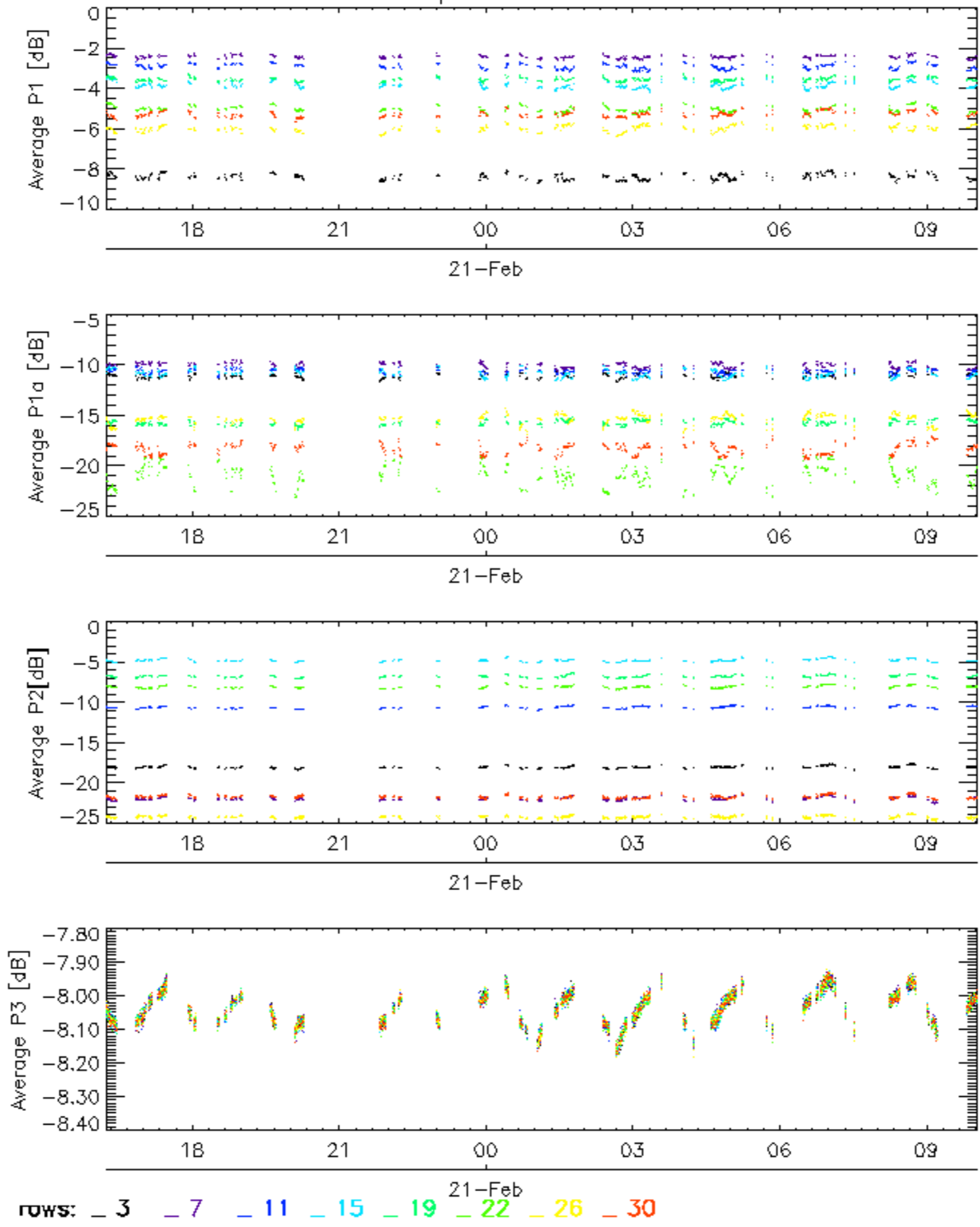
rows: 3 7 11 15 19 22 26 30

Cal pulses for GM1 SS3

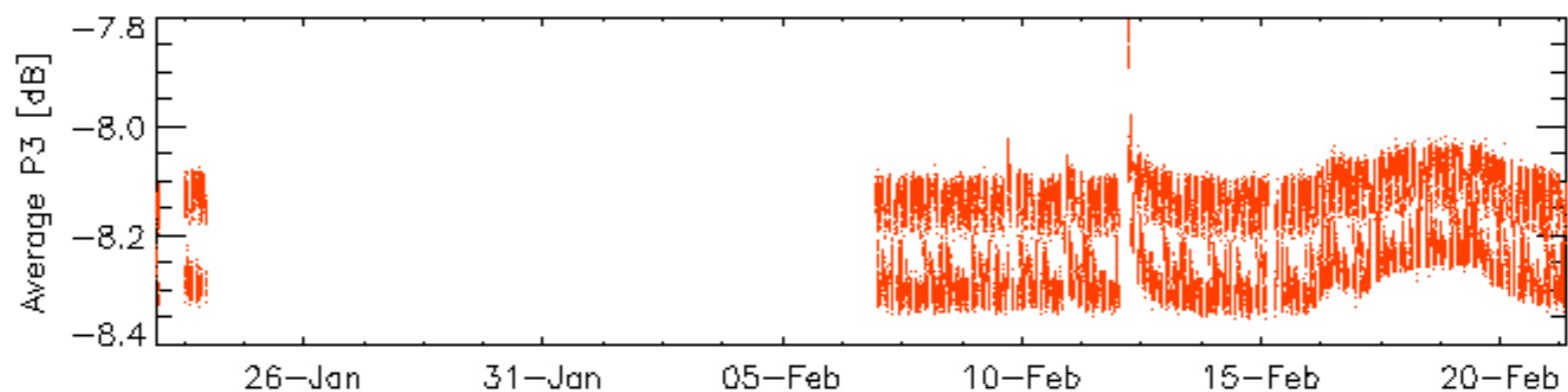
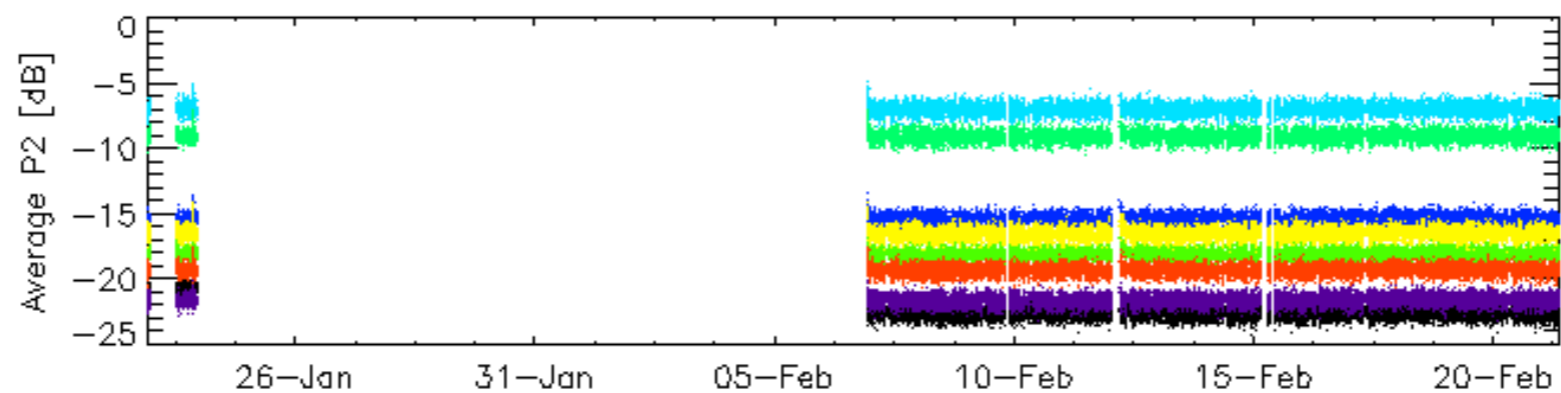
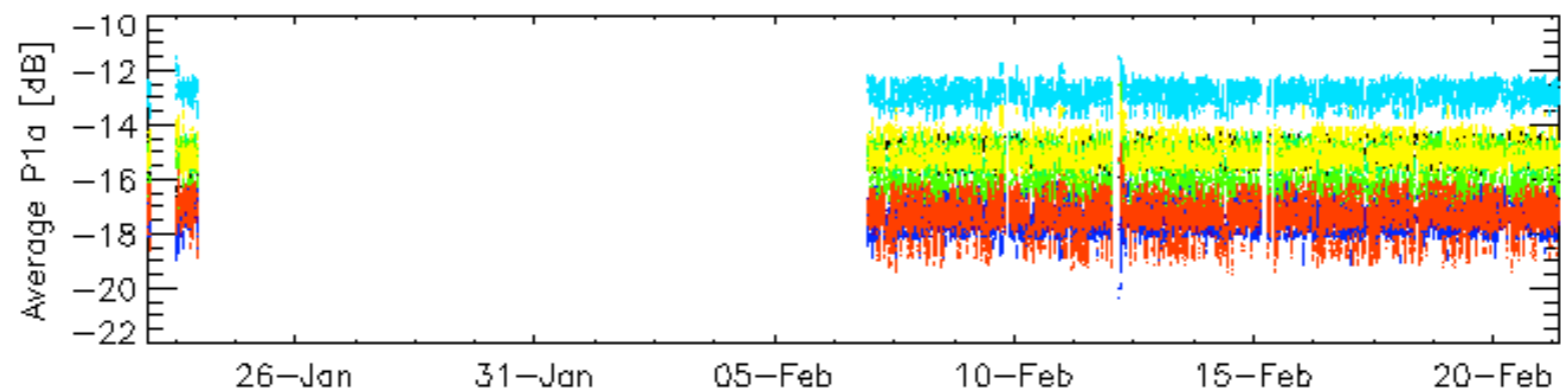
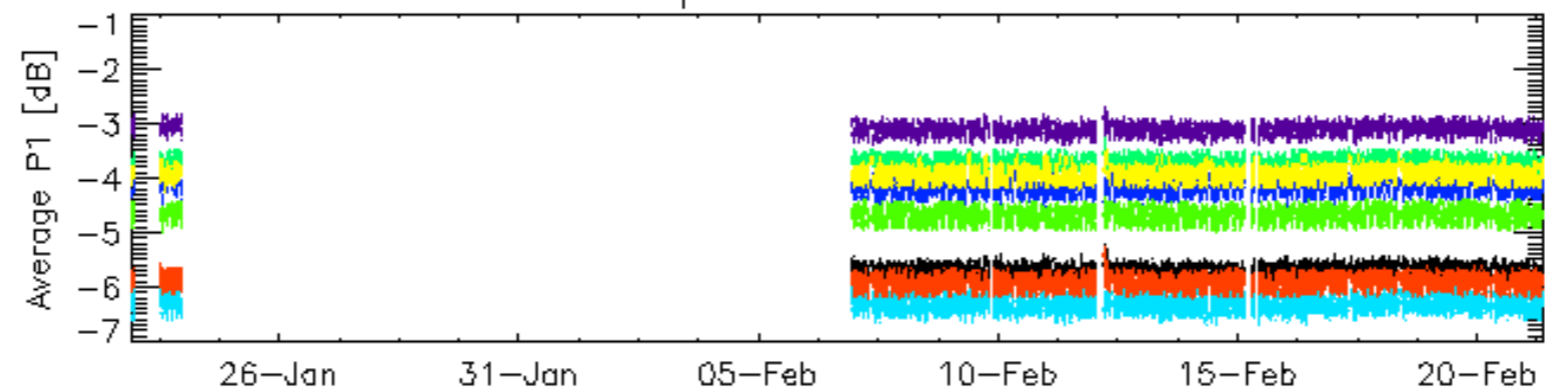


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

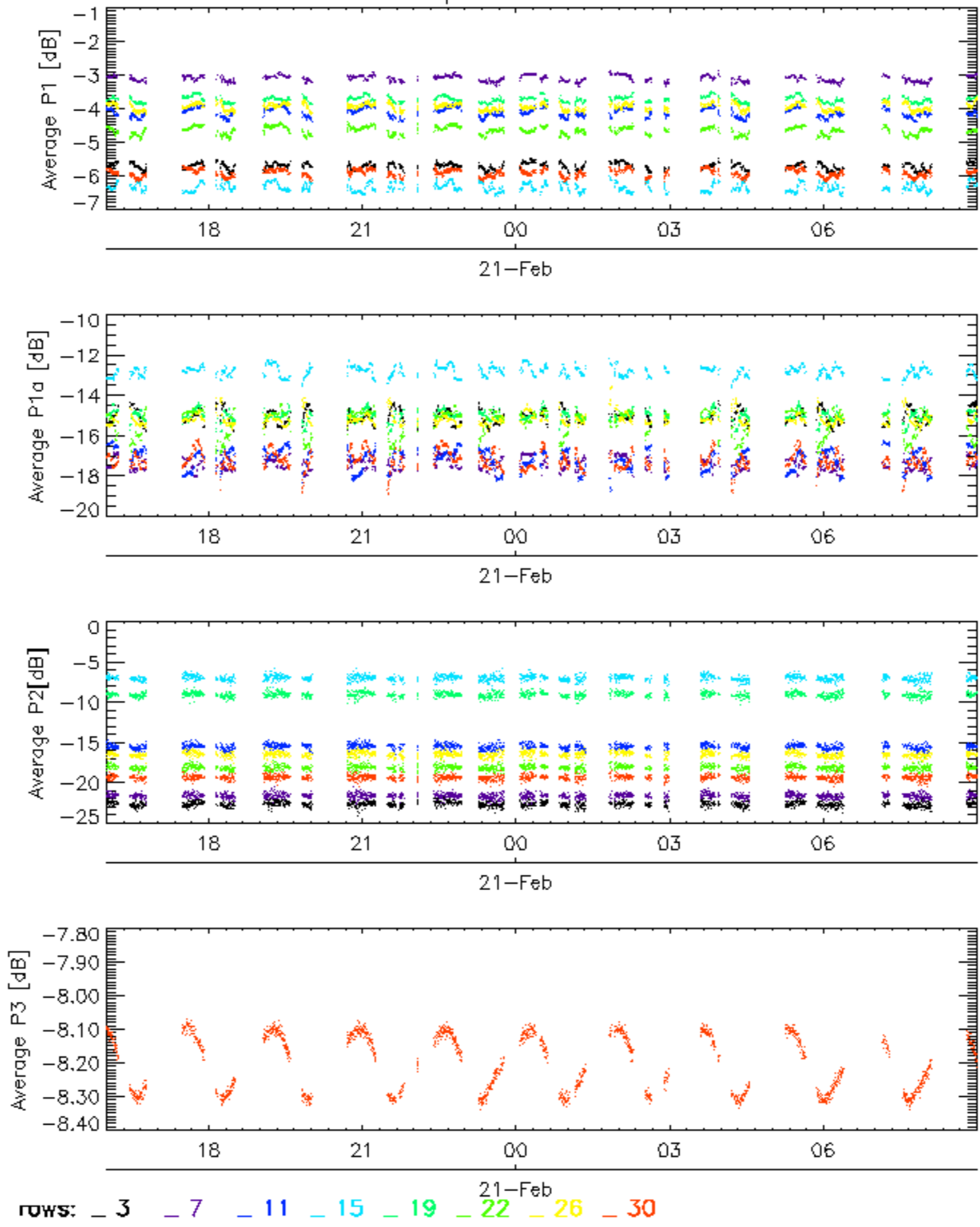


Cal pulses for WVS IS2

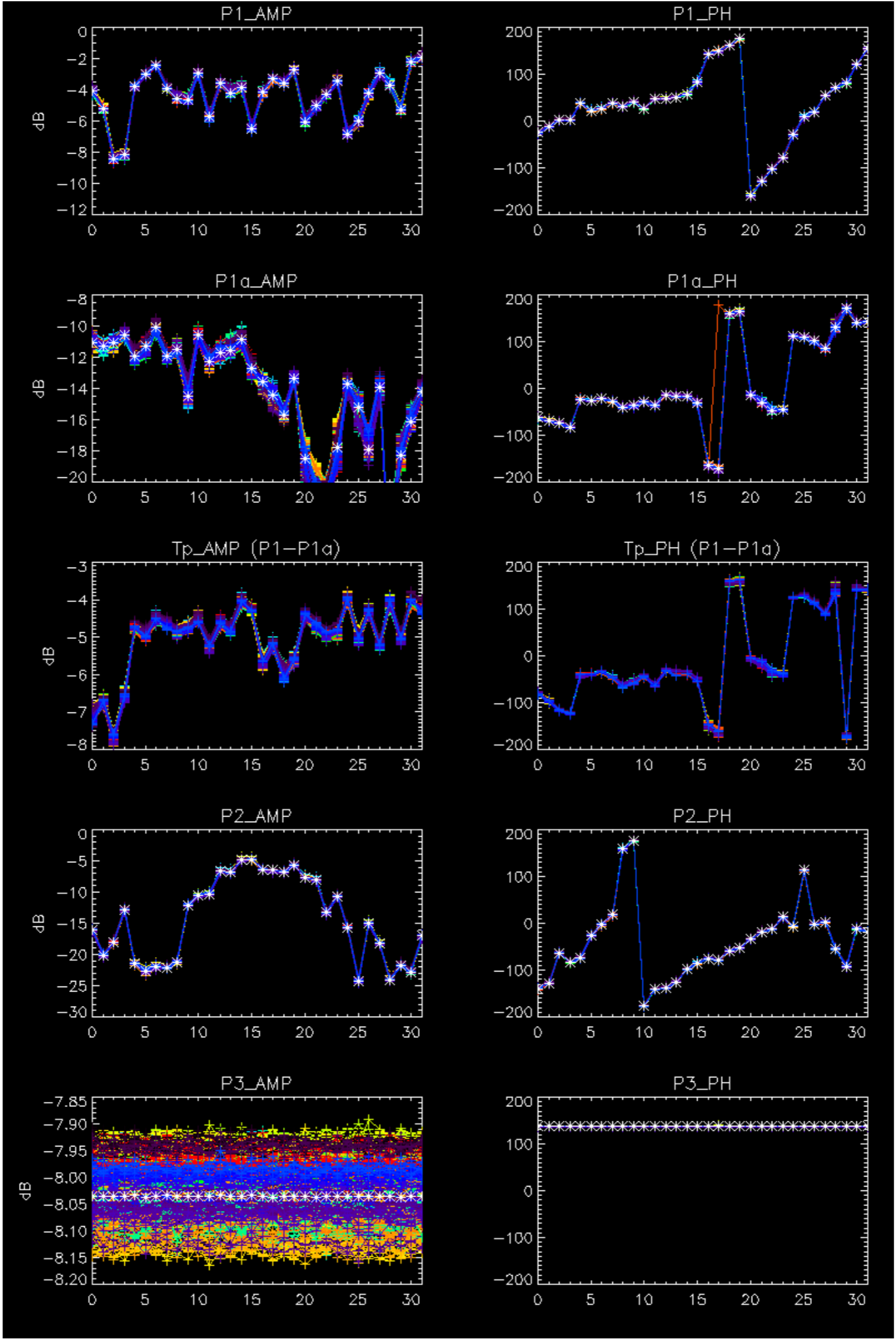


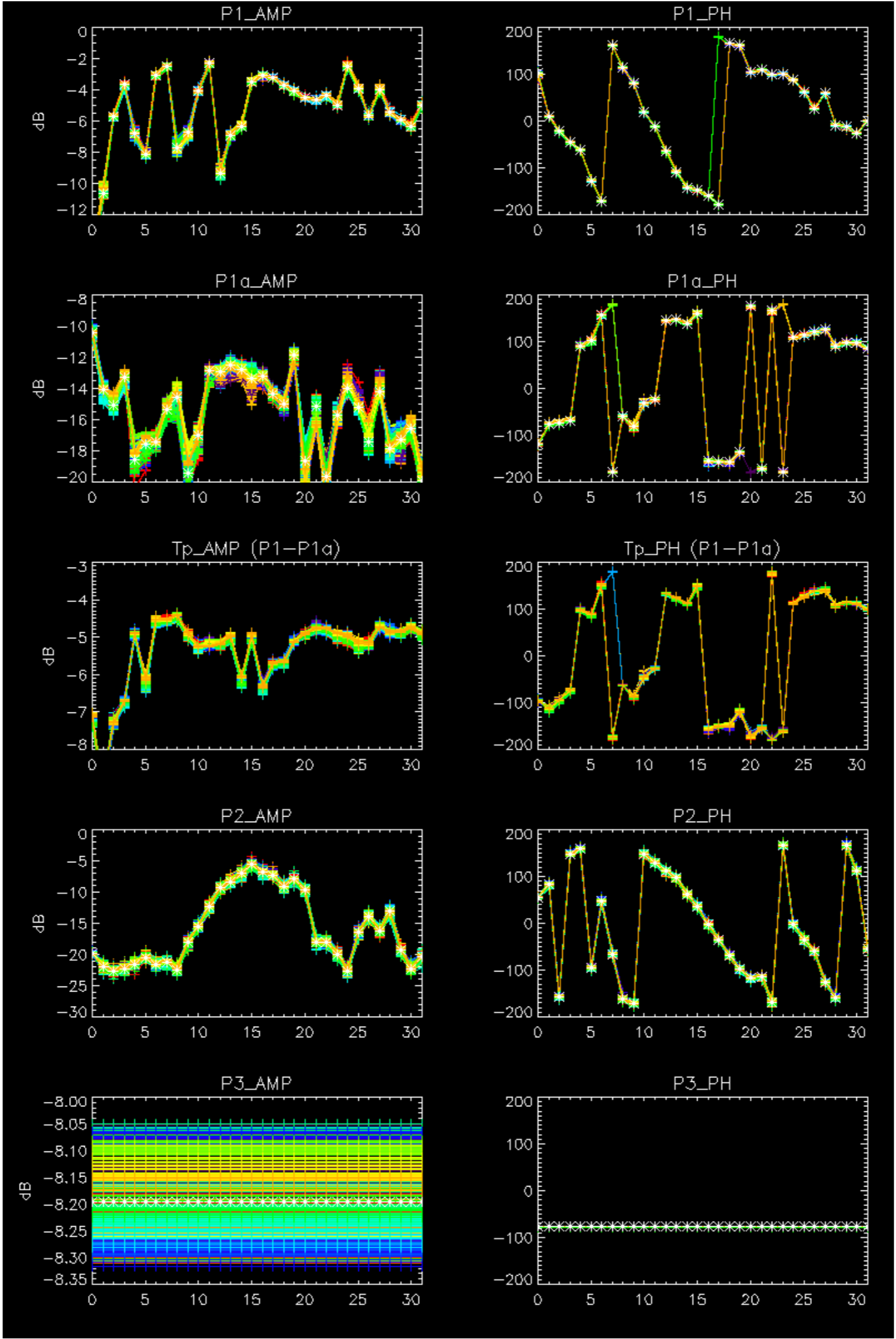
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



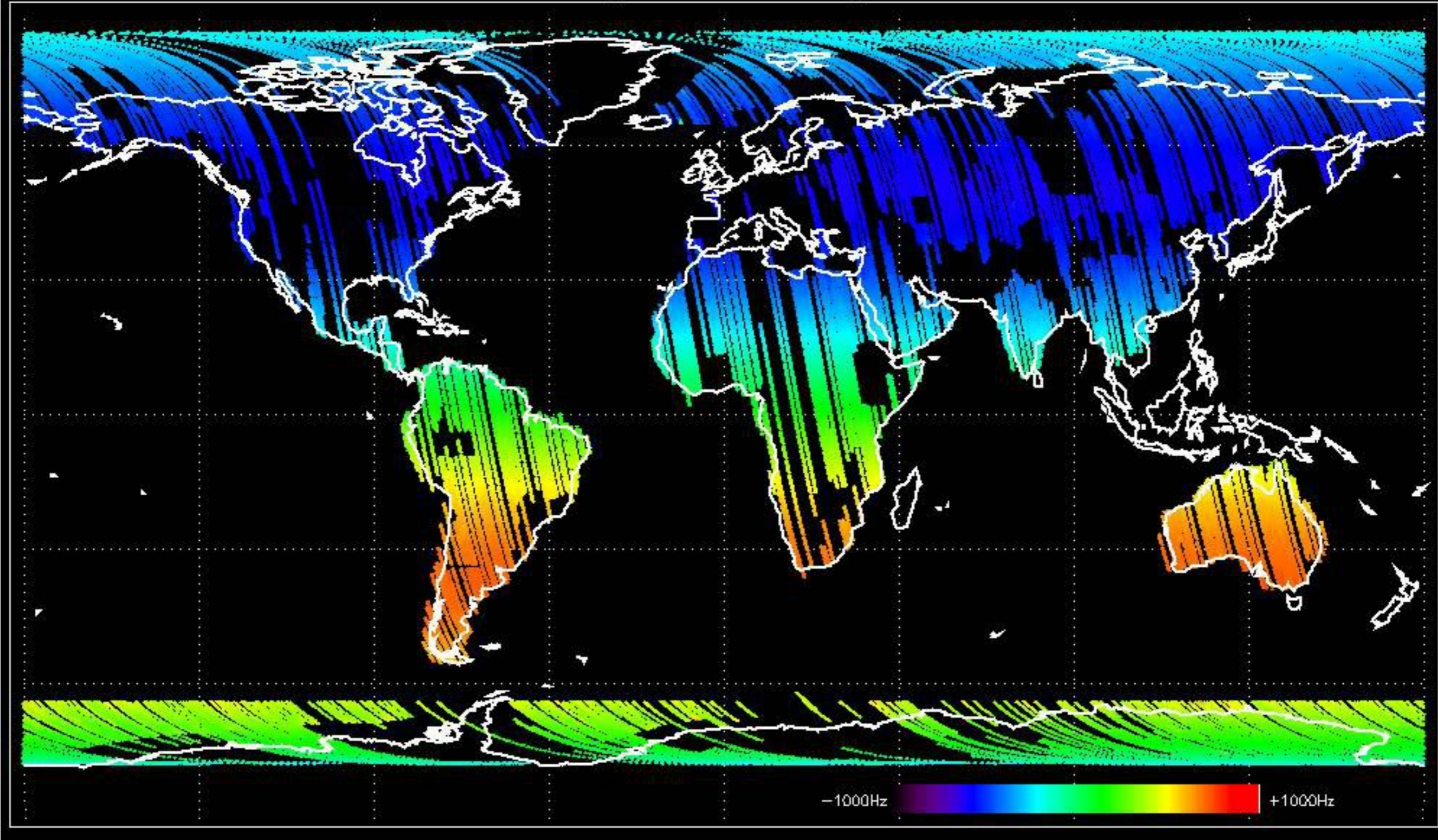
No anomalies observed.



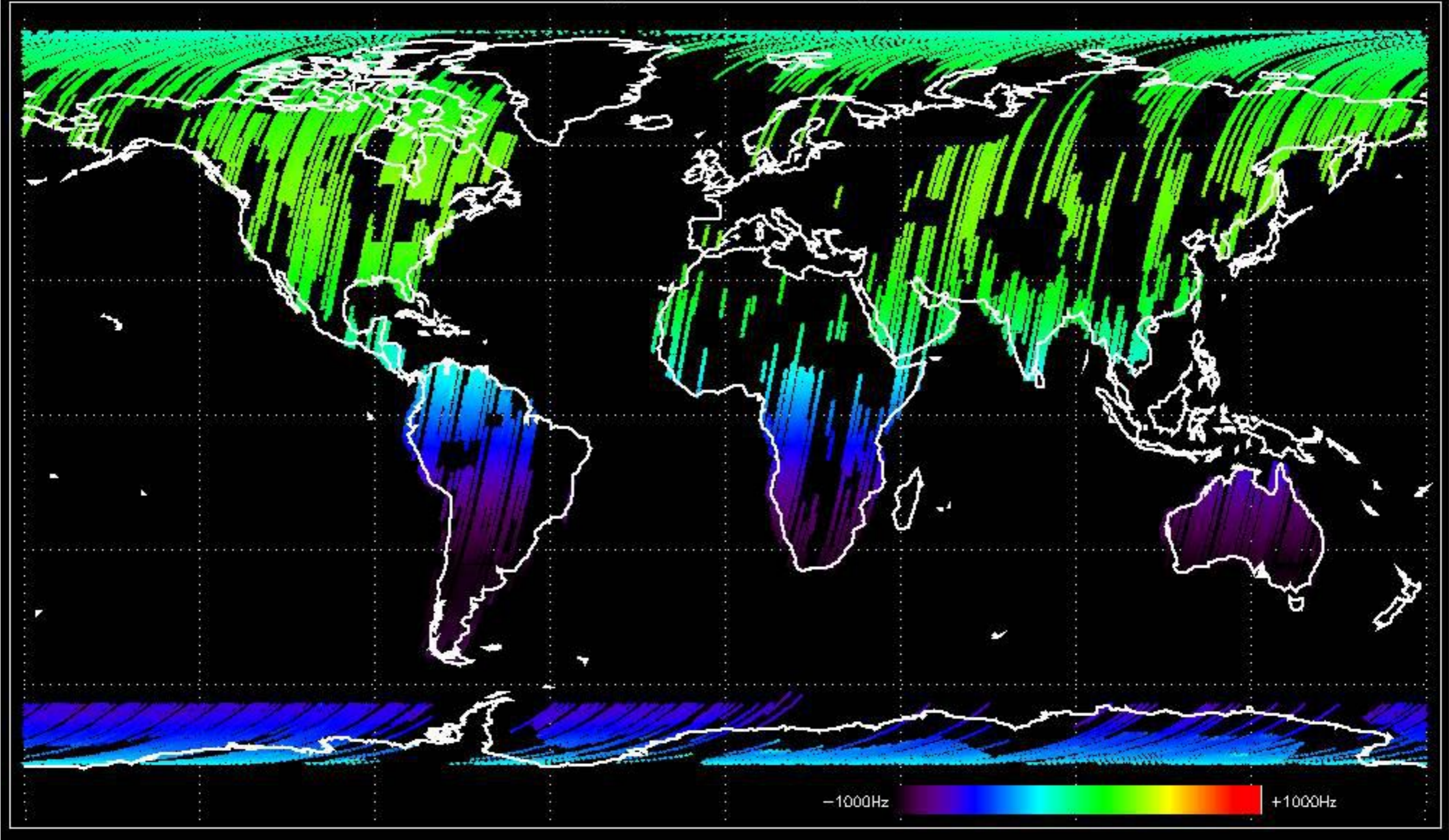


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

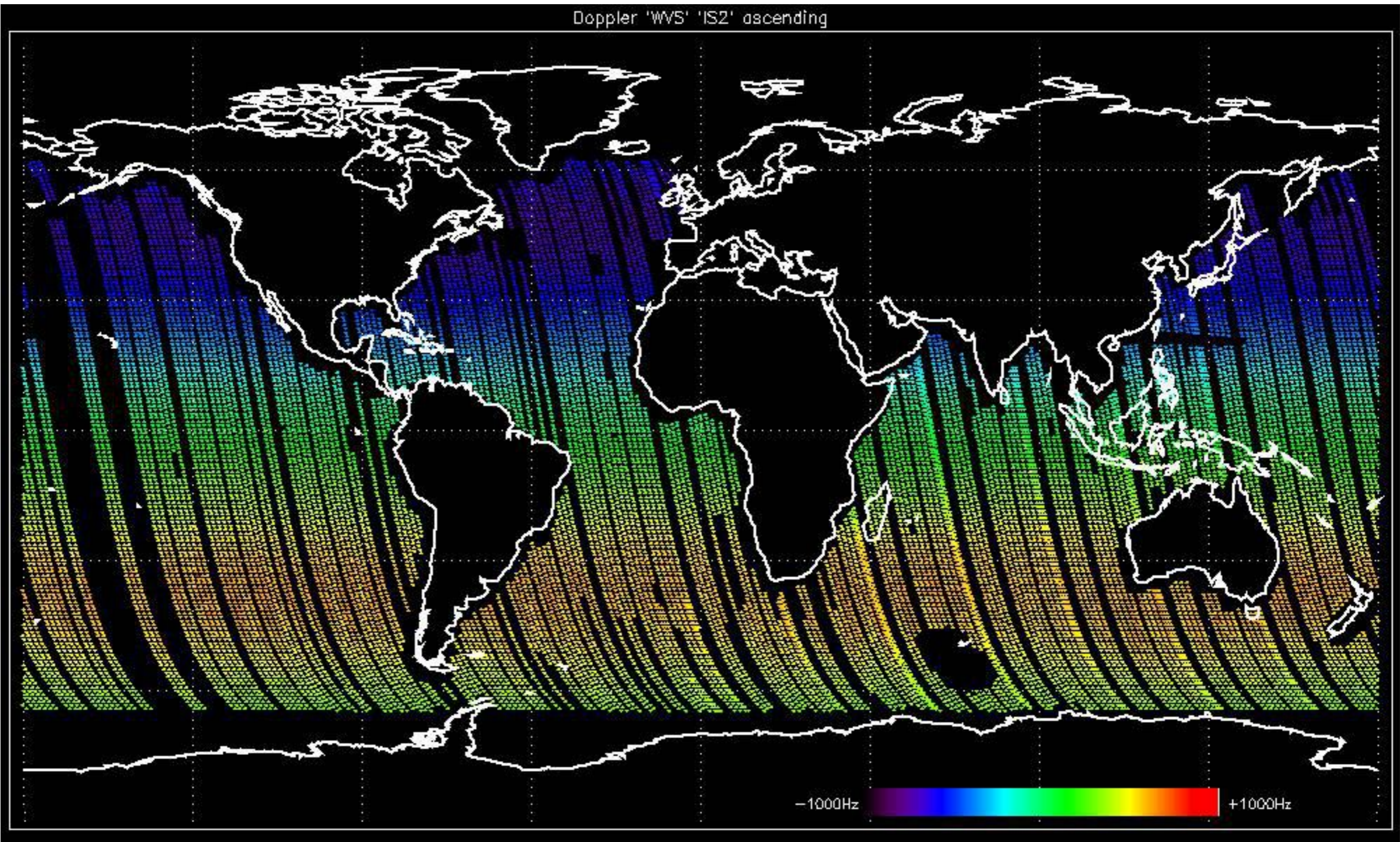
Doppler 'GM1' 'SS1' ascending



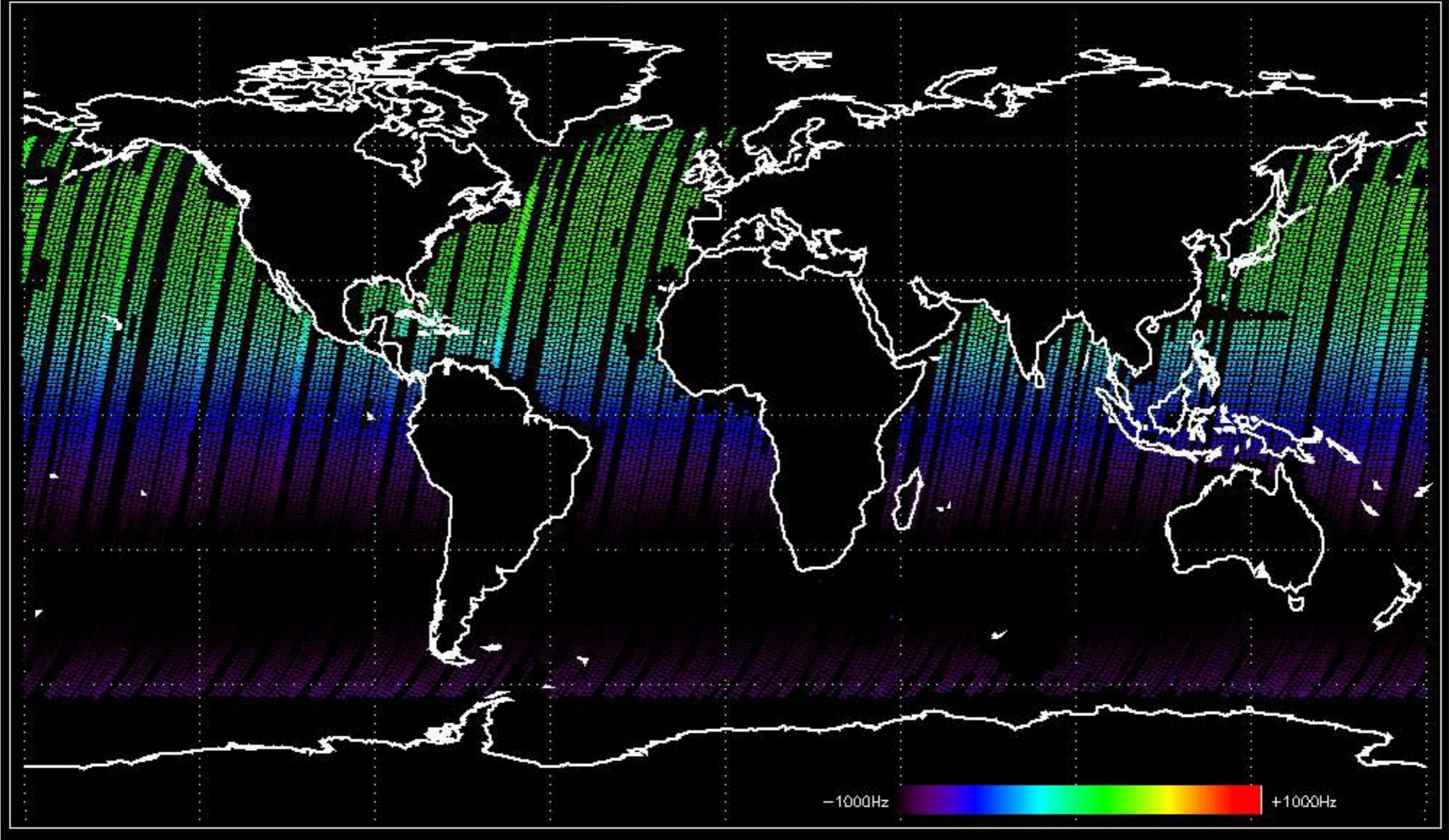
Doppler 'GM1' 'SS1' descending



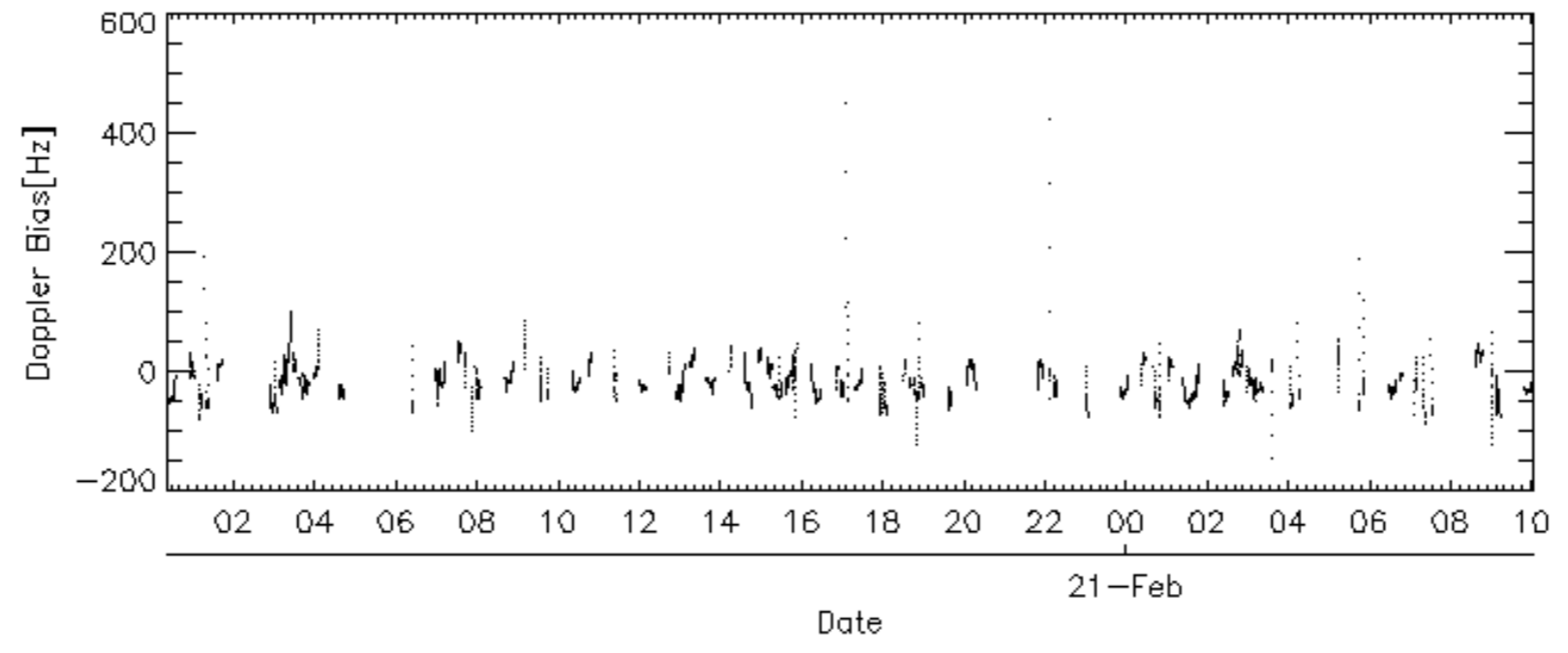
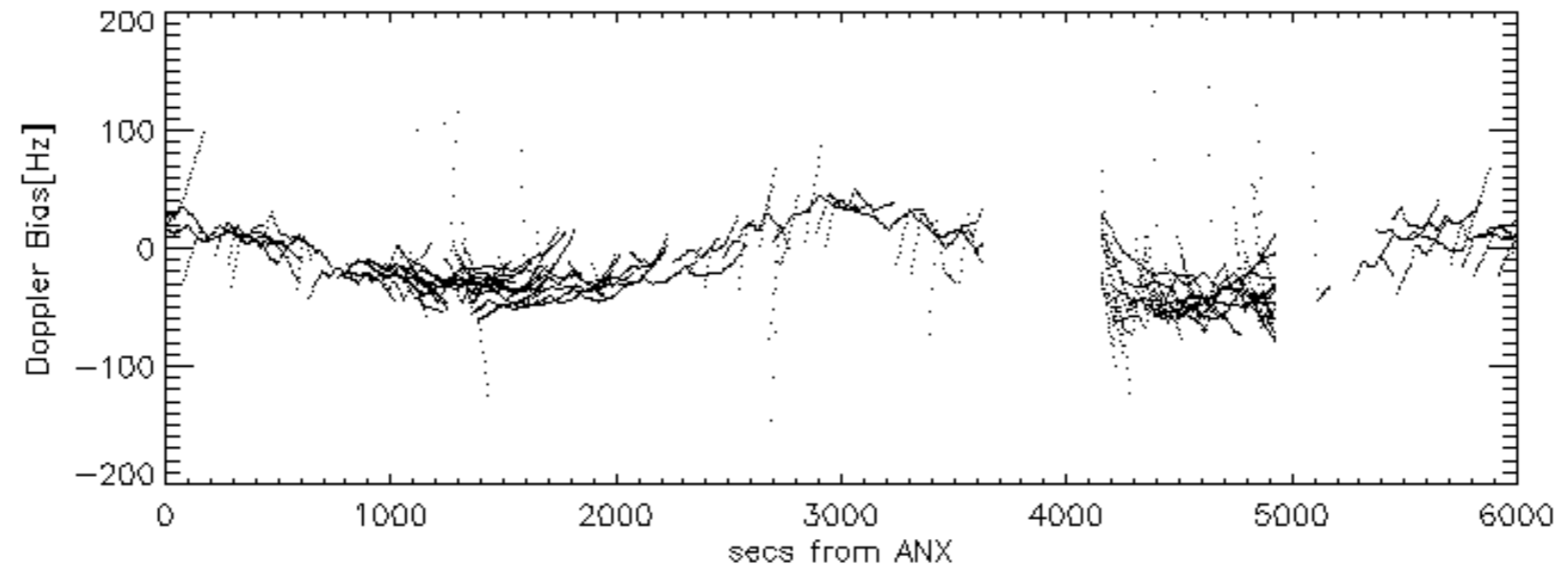
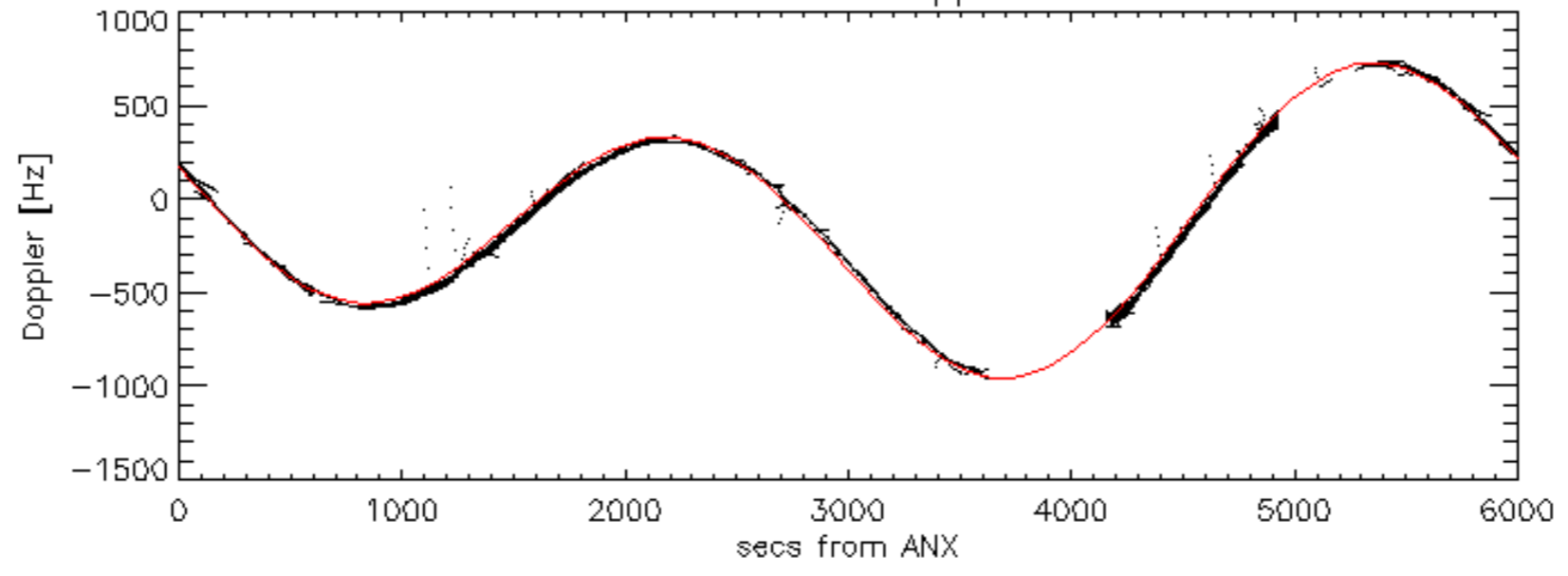
Doppler 'WVS' 'IS2' ascending

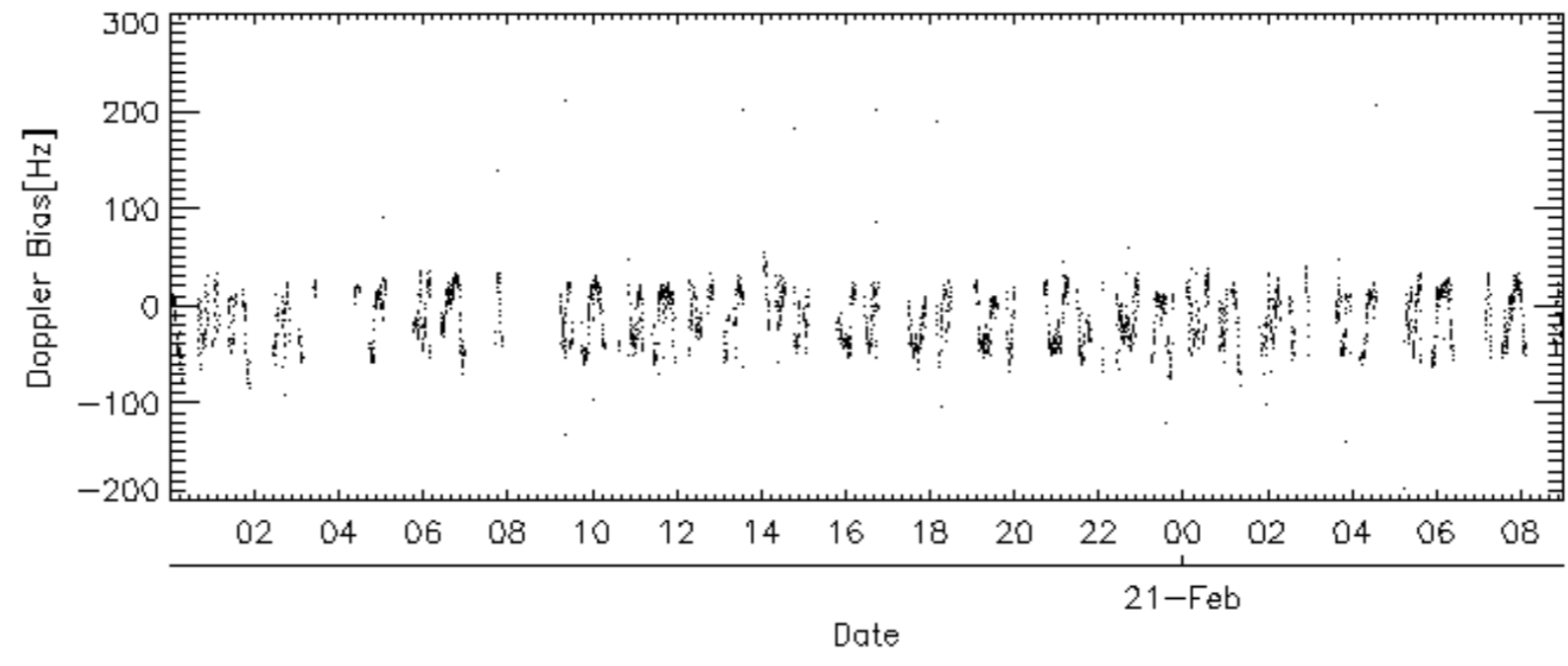
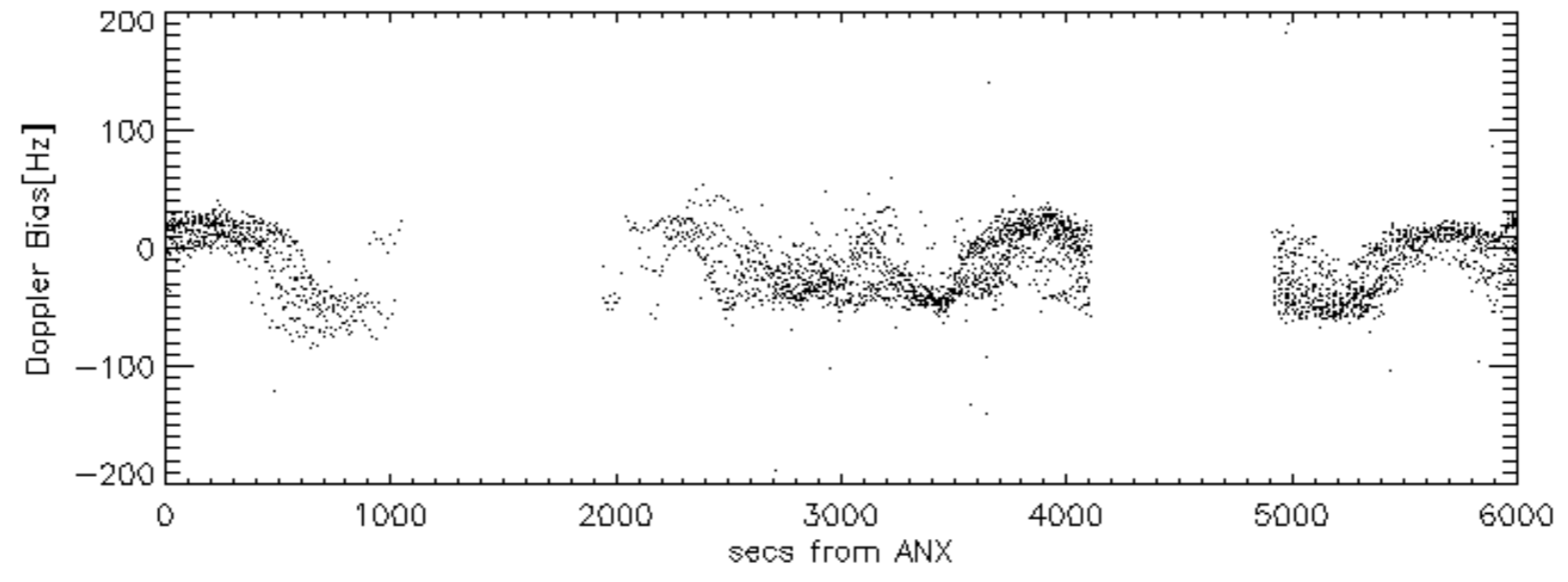
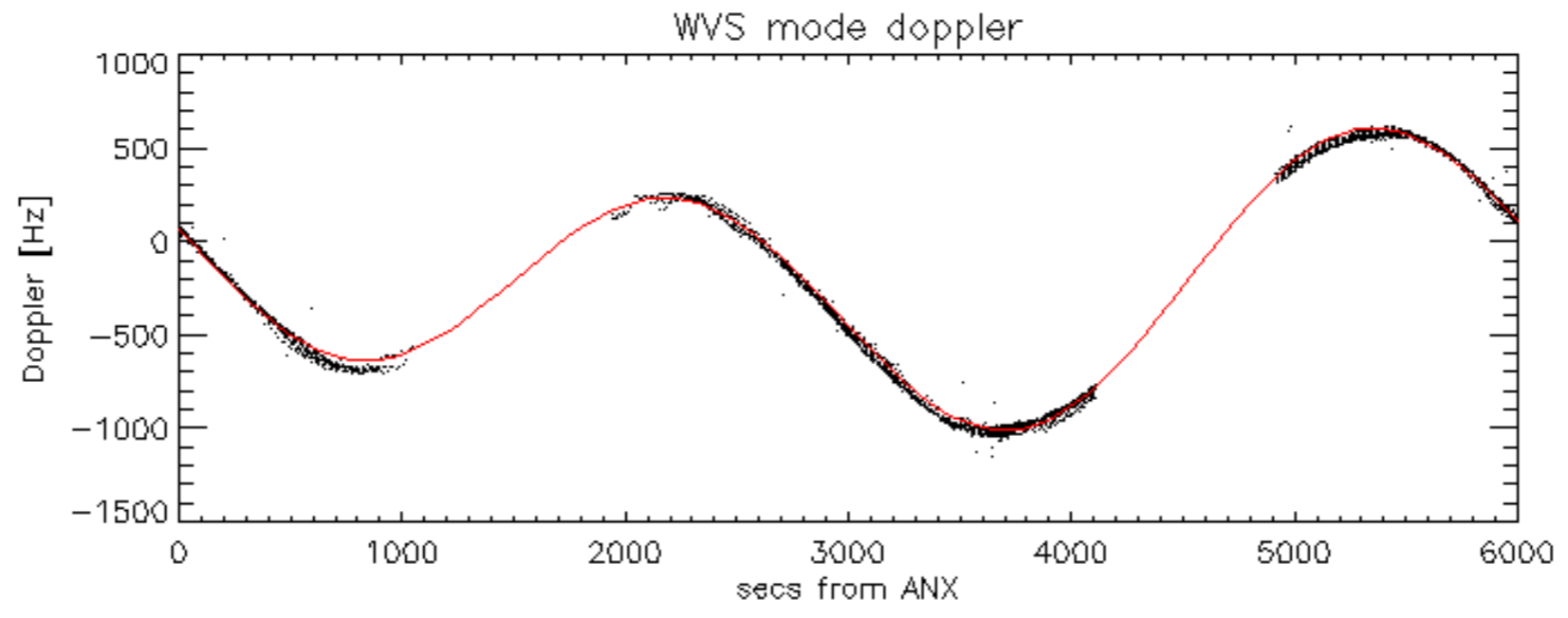


Doppler 'WVS' 'IS2' descending

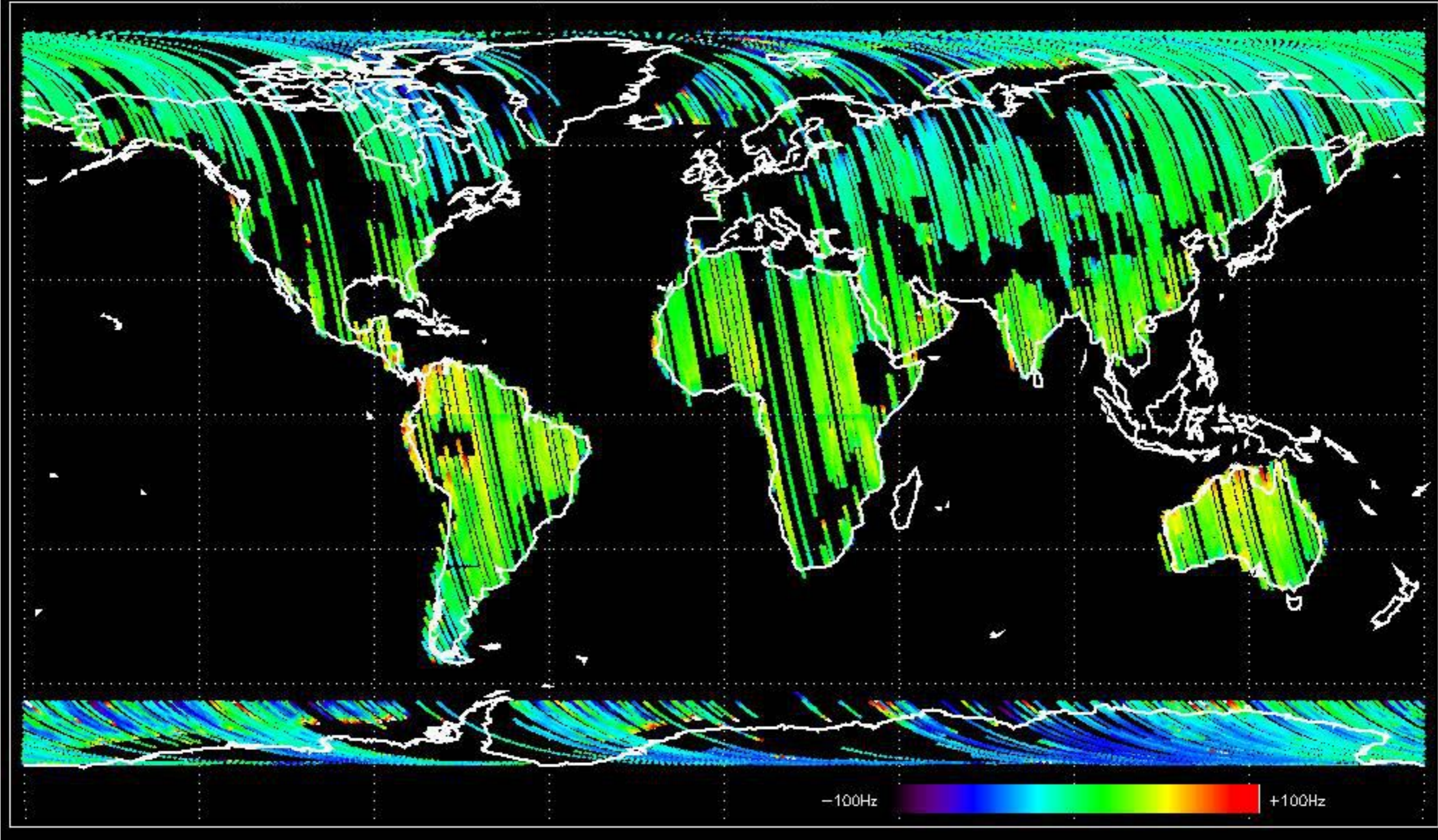


GM1 mode doppler

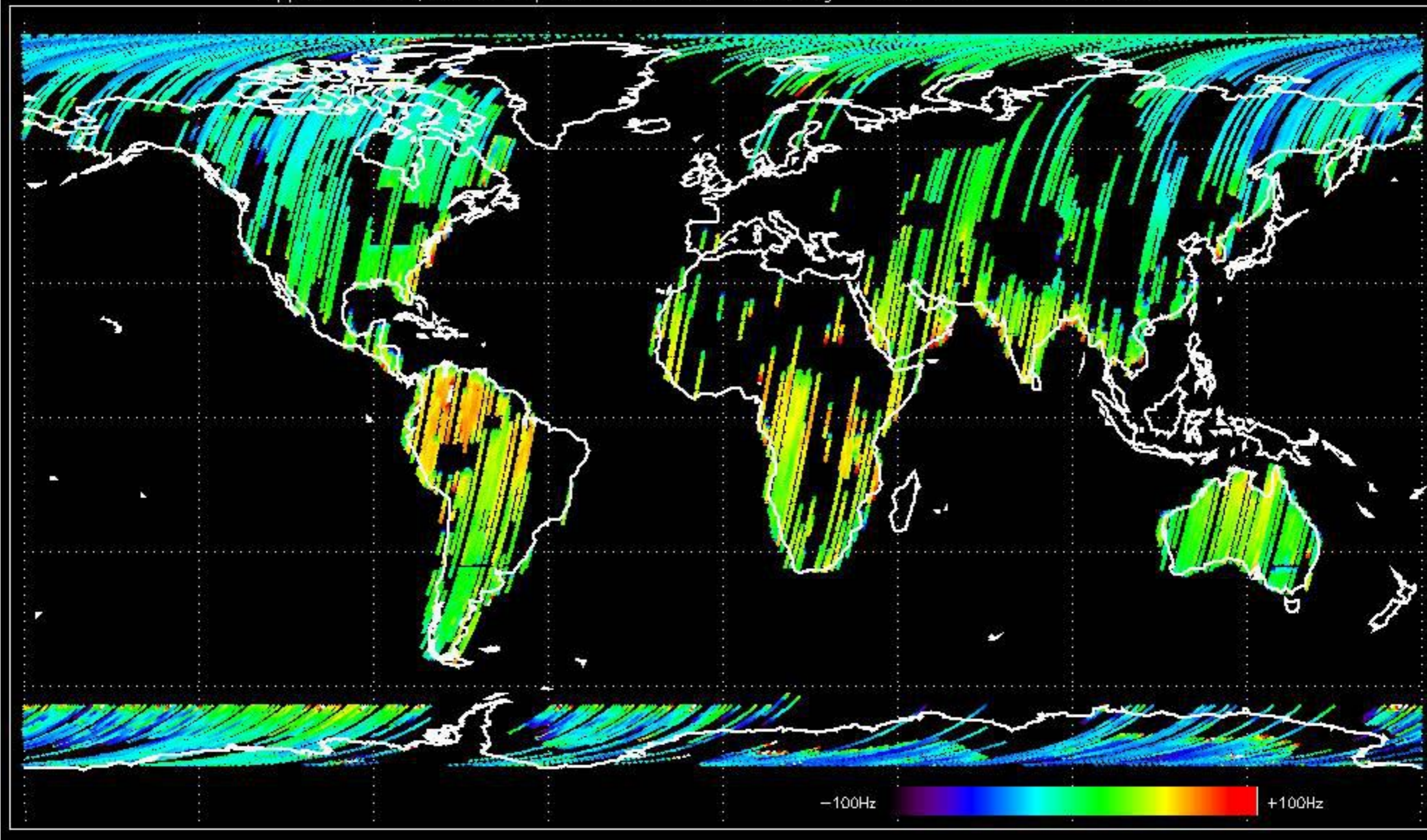




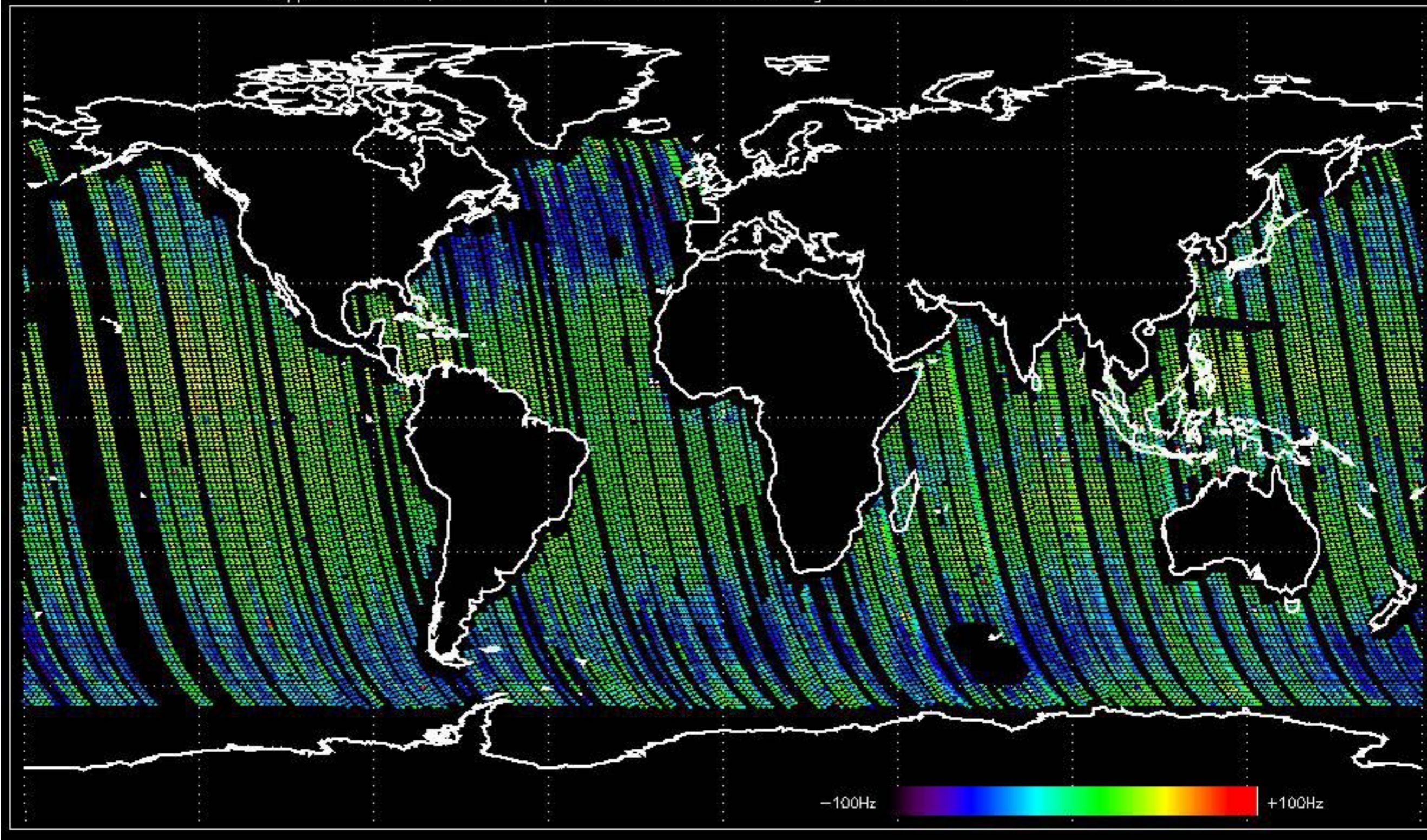
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -18.059314 Hz



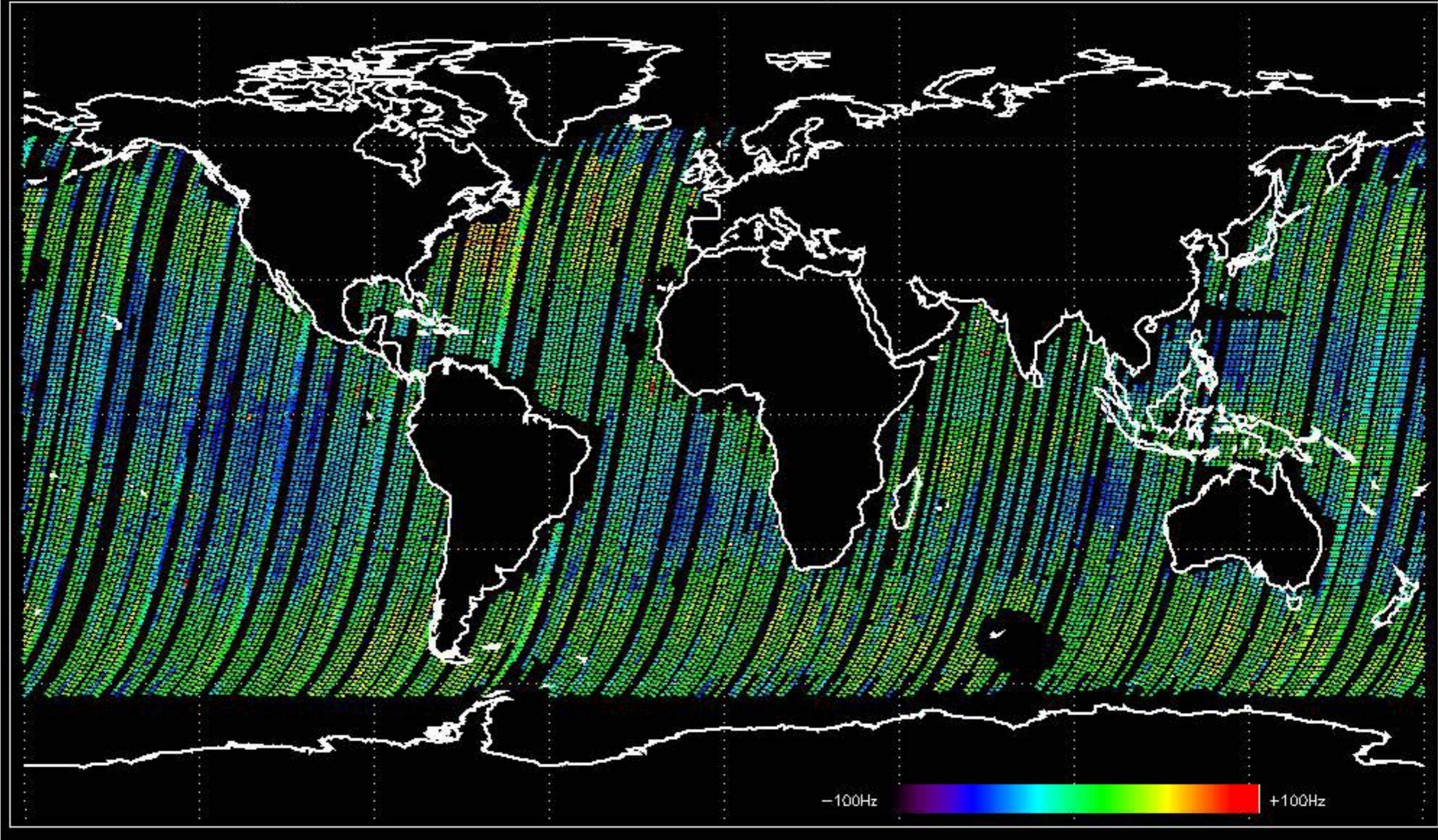
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -18.180052 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -15.666013 Hz

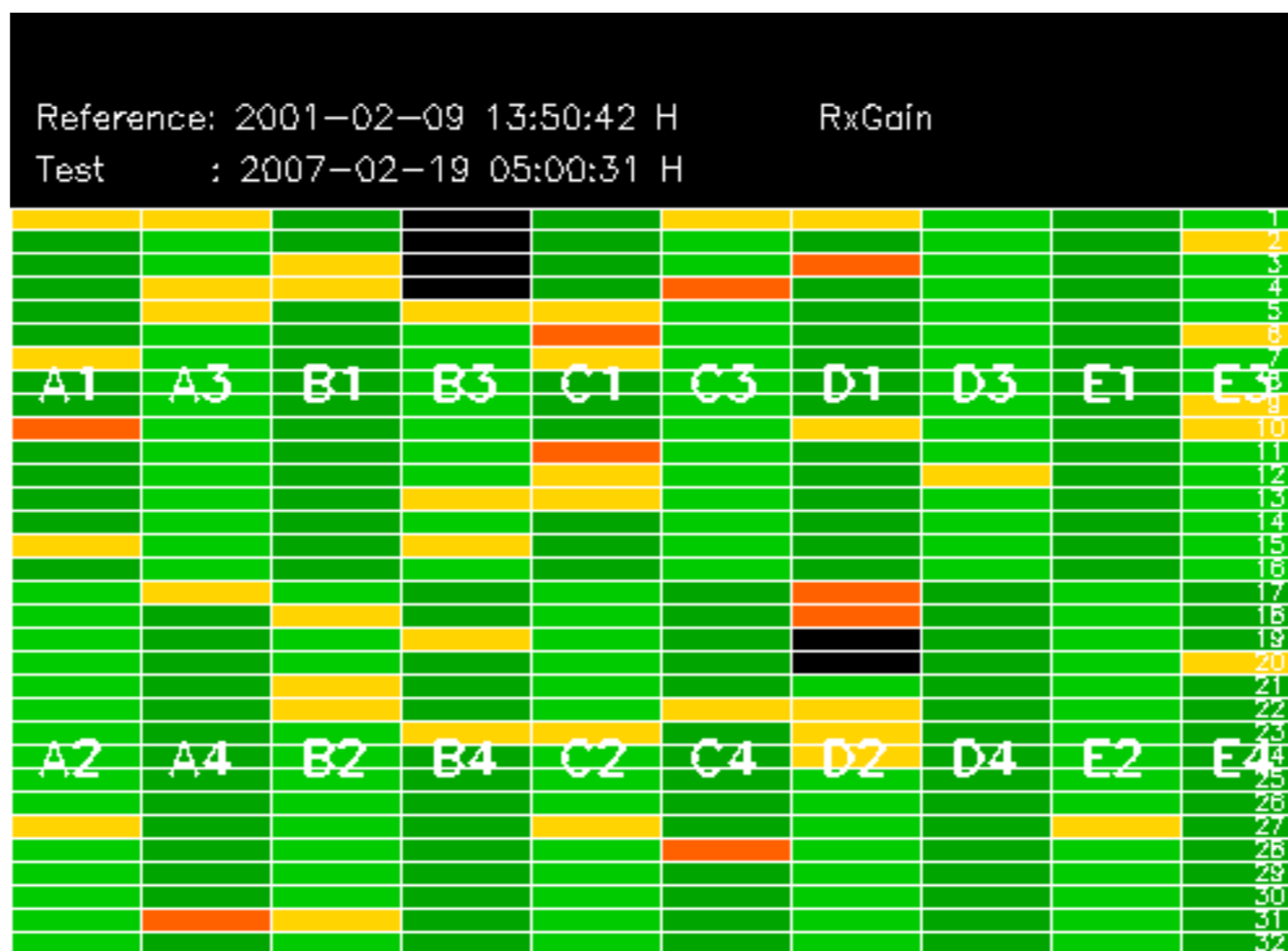


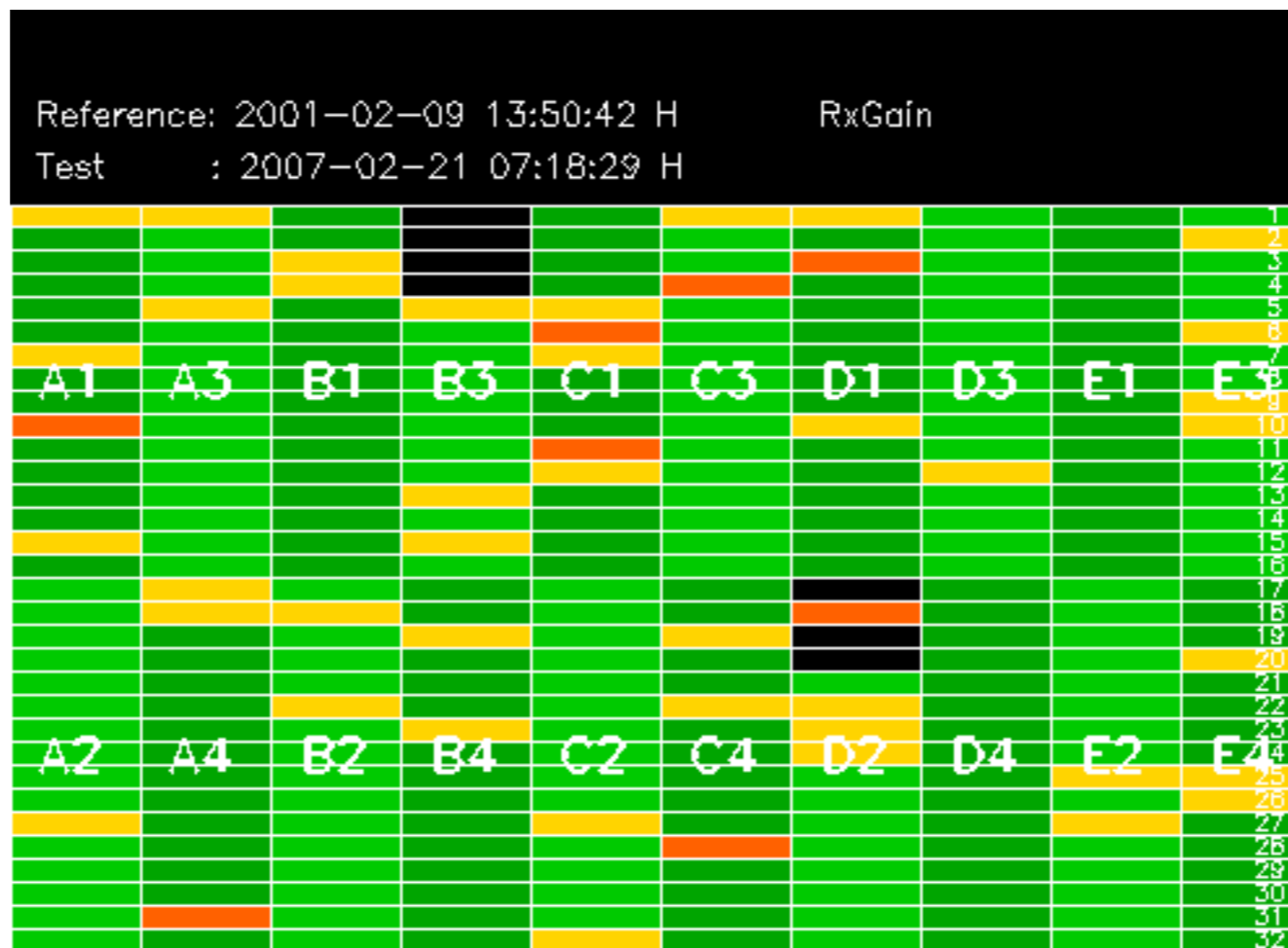
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -16.645284 Hz

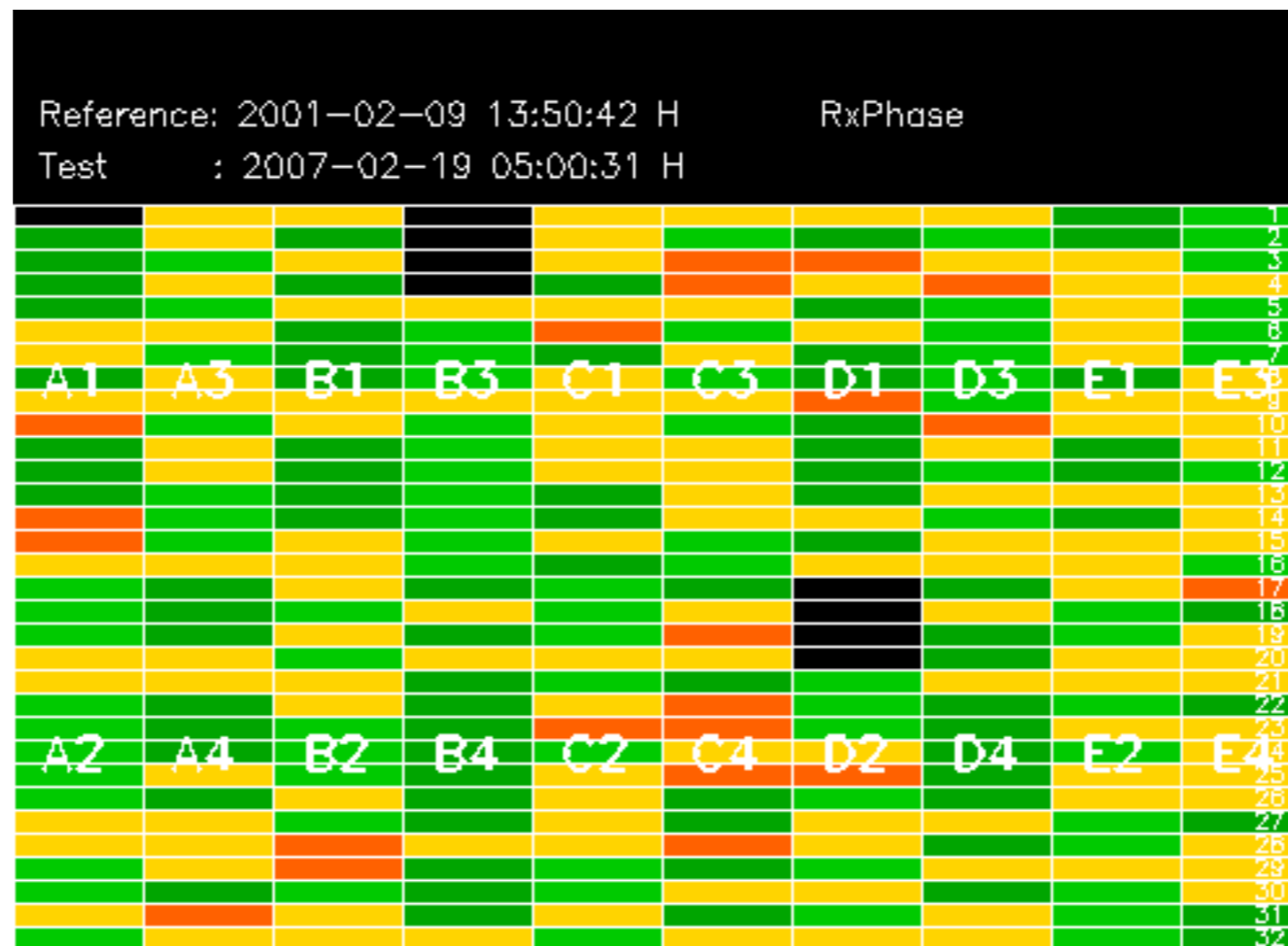


No anomalies observed on available MS products:

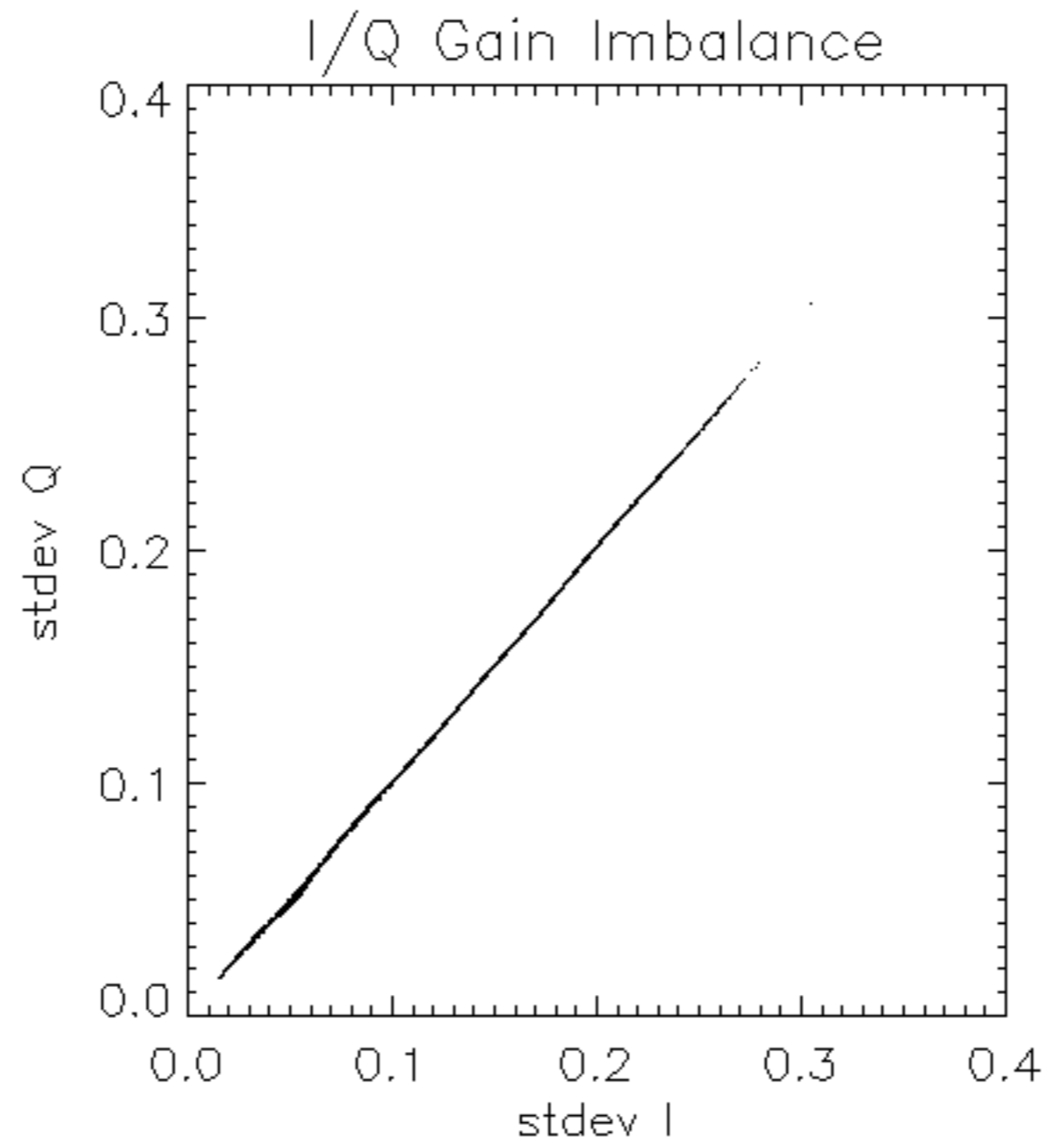
No anomalies observed.

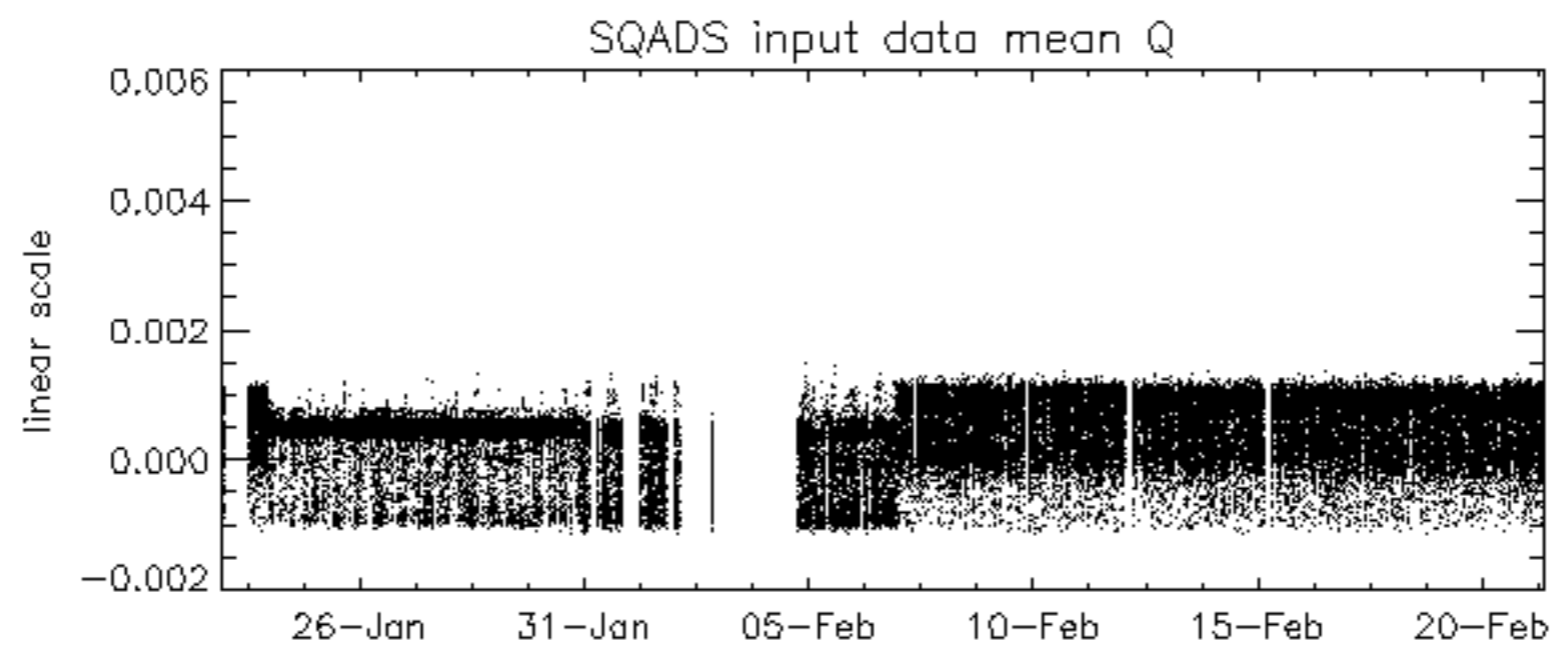
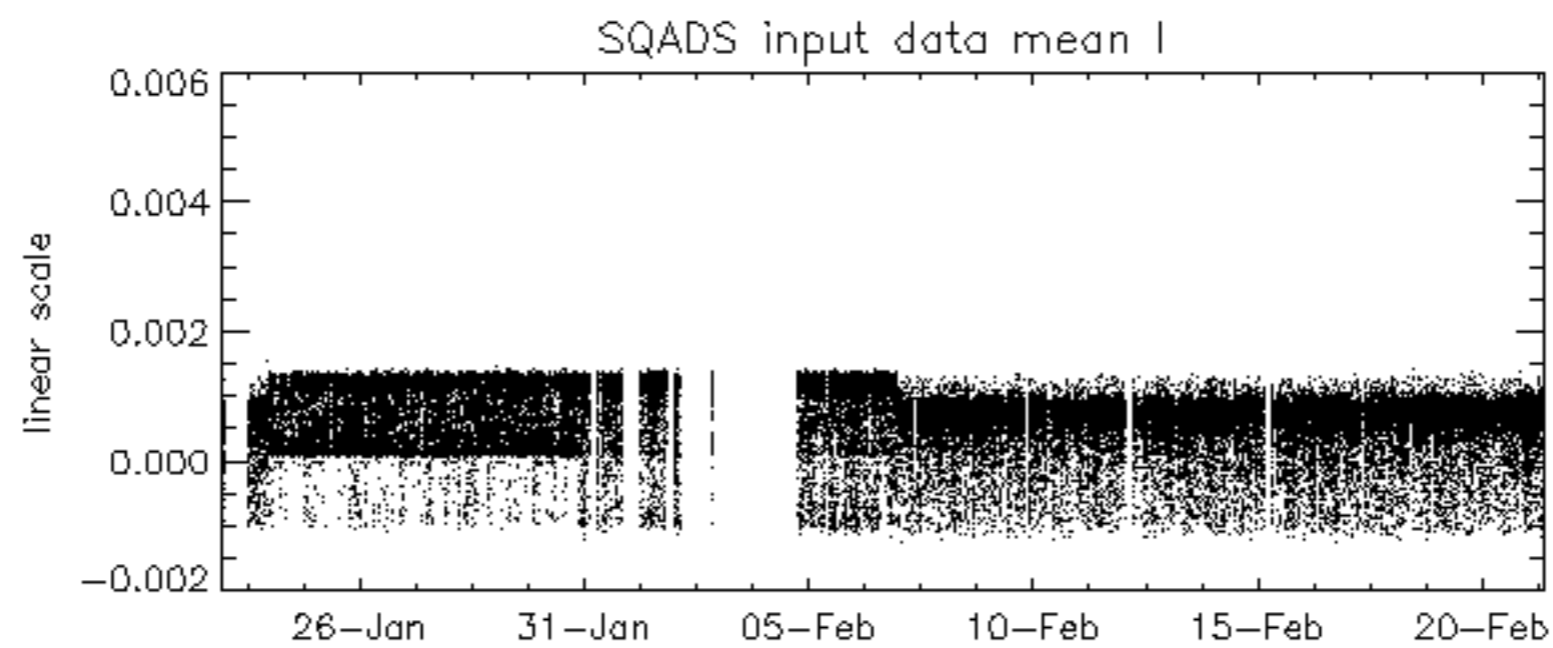
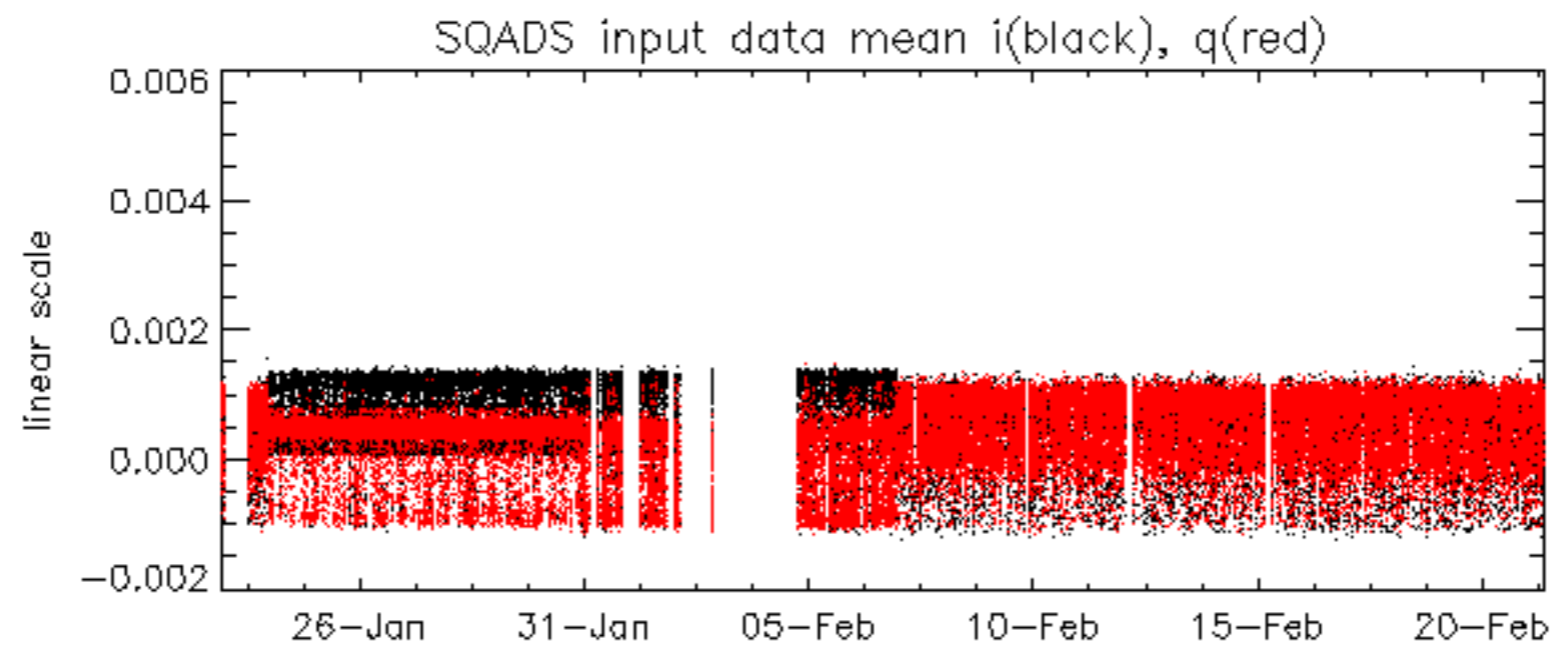


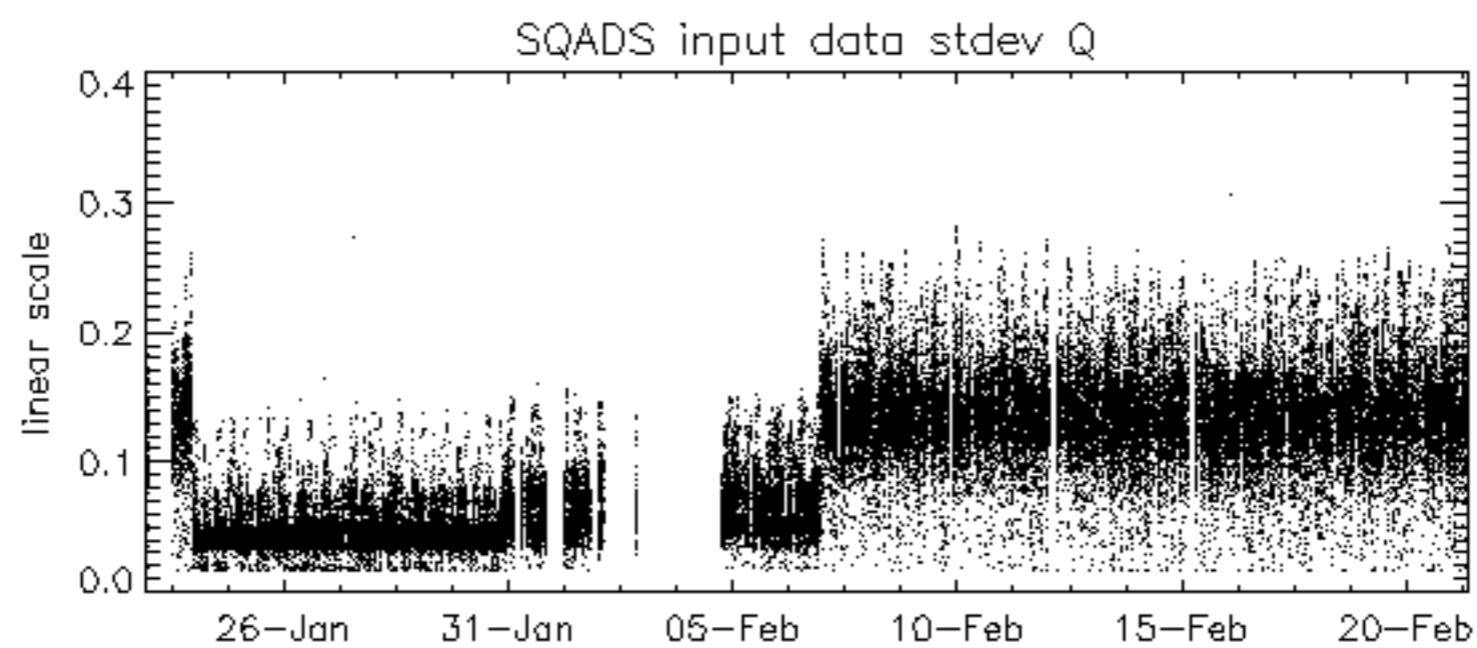
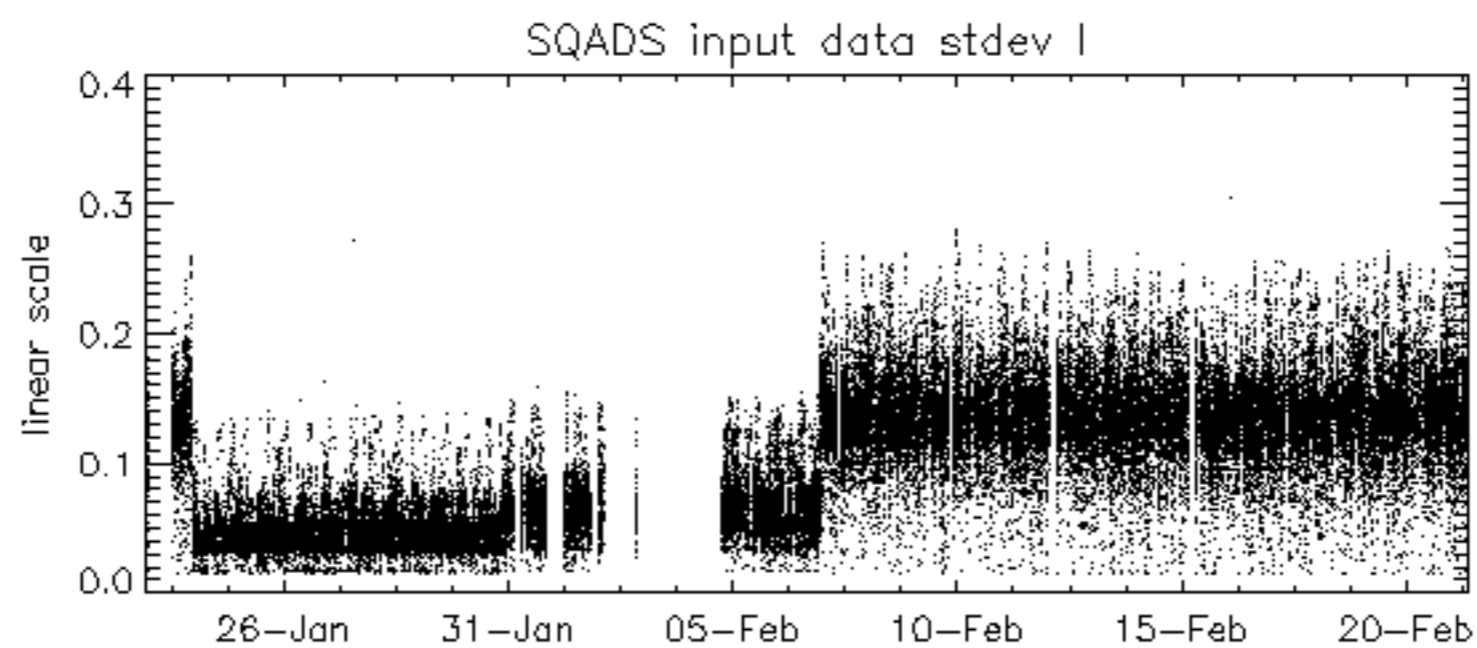
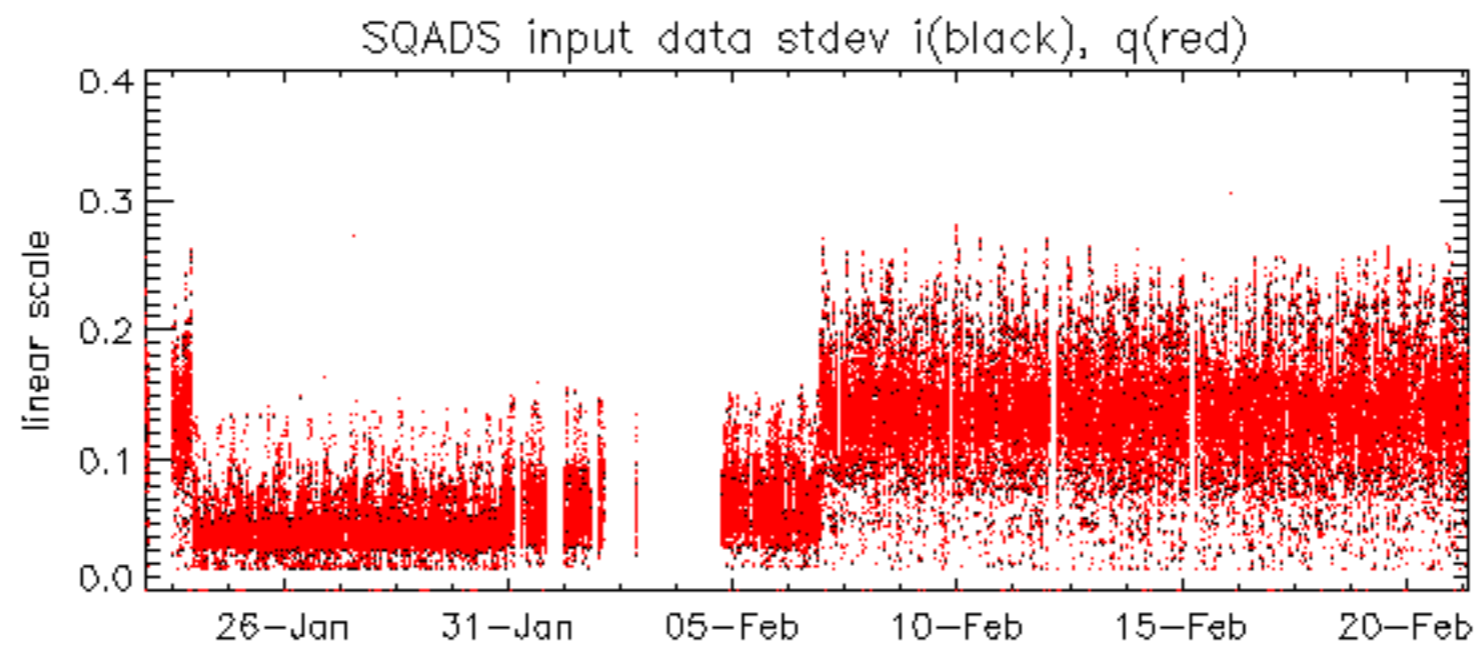








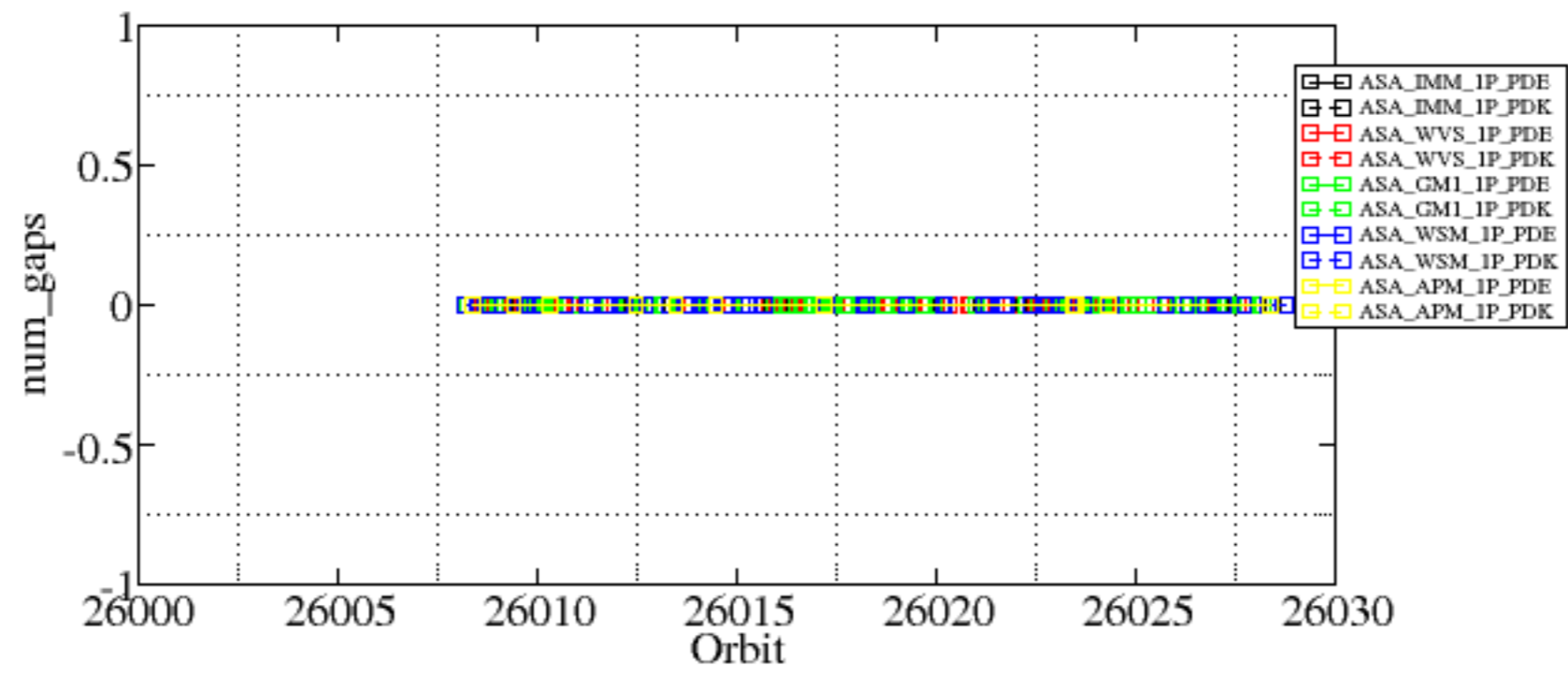


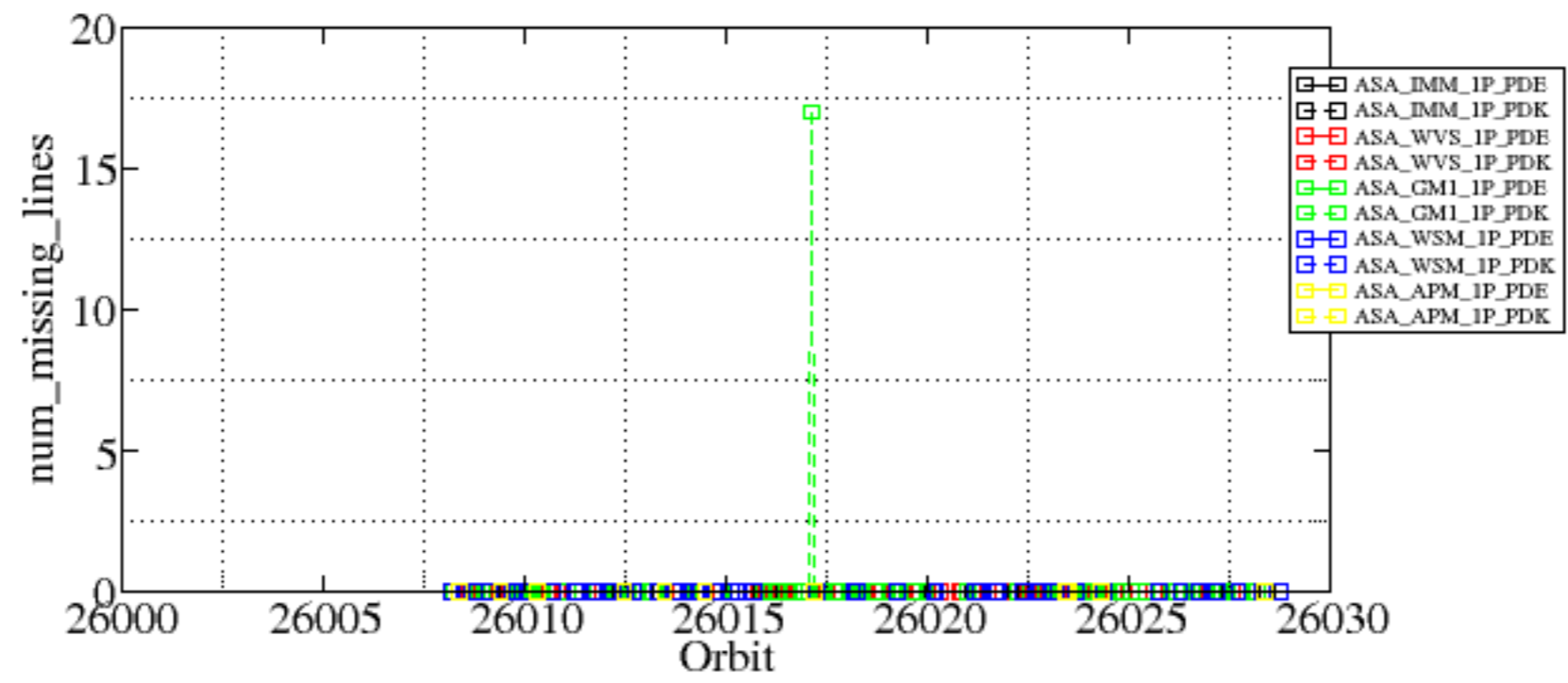


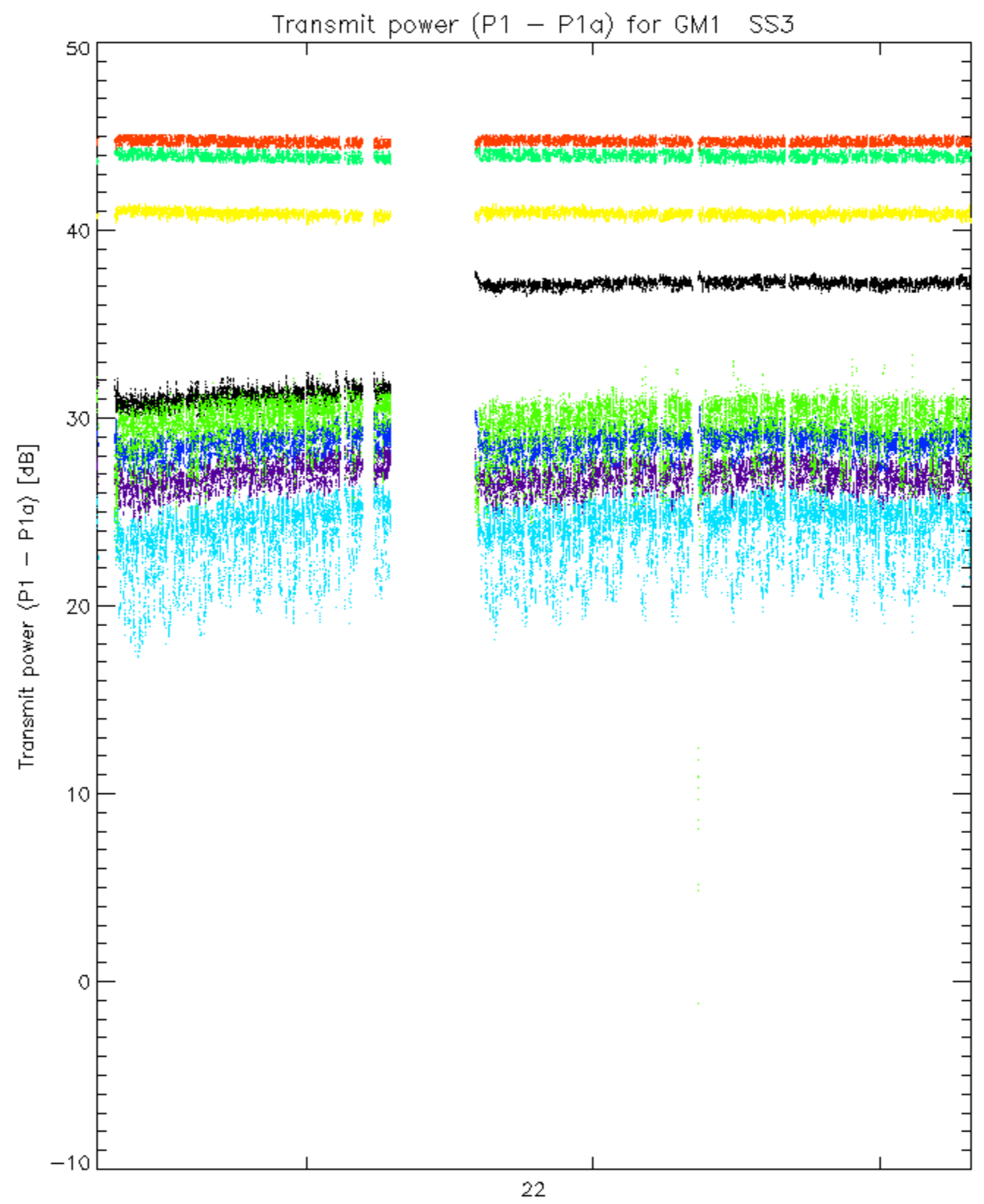
Summary of analysis for the last 3 days 2007022[901]

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

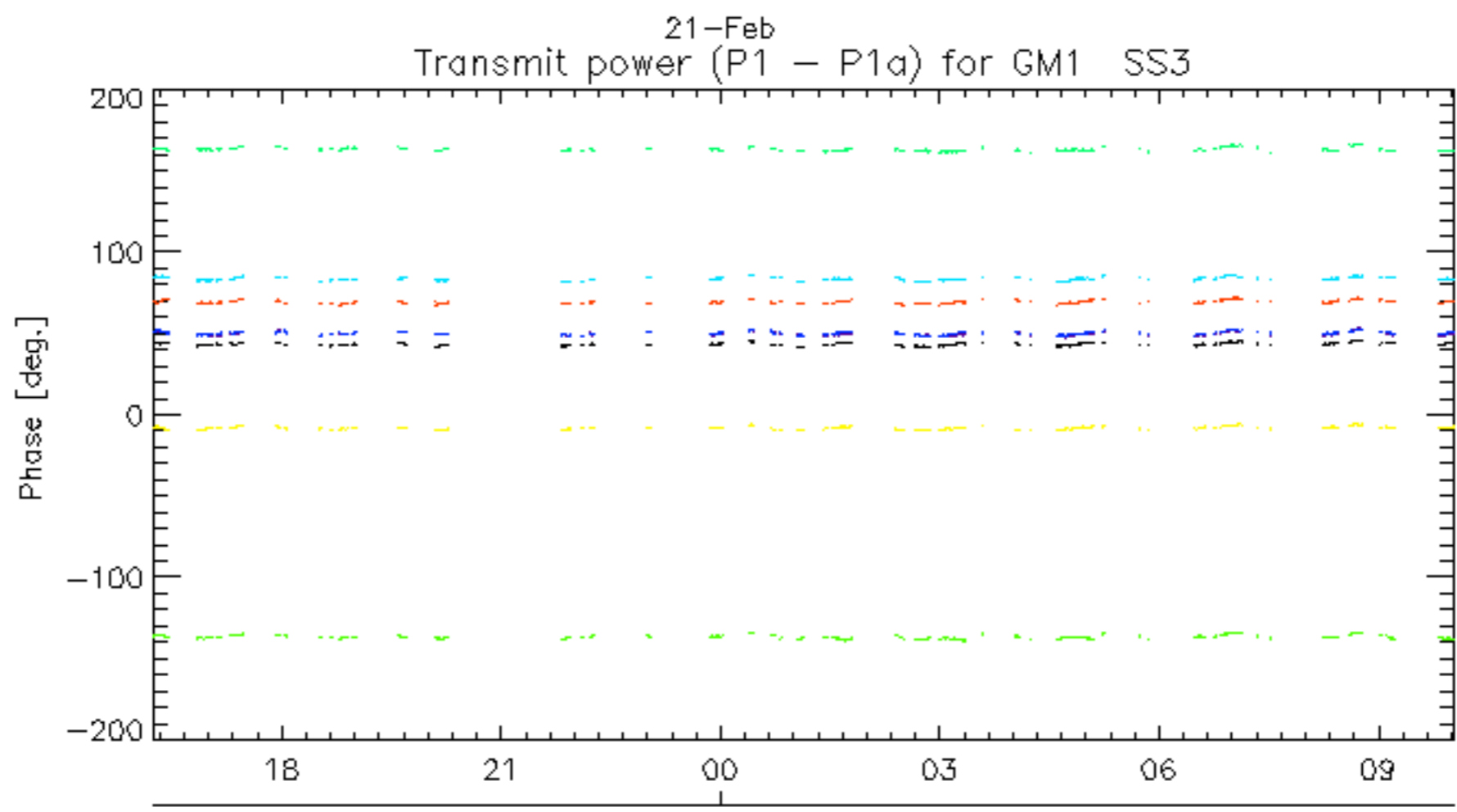
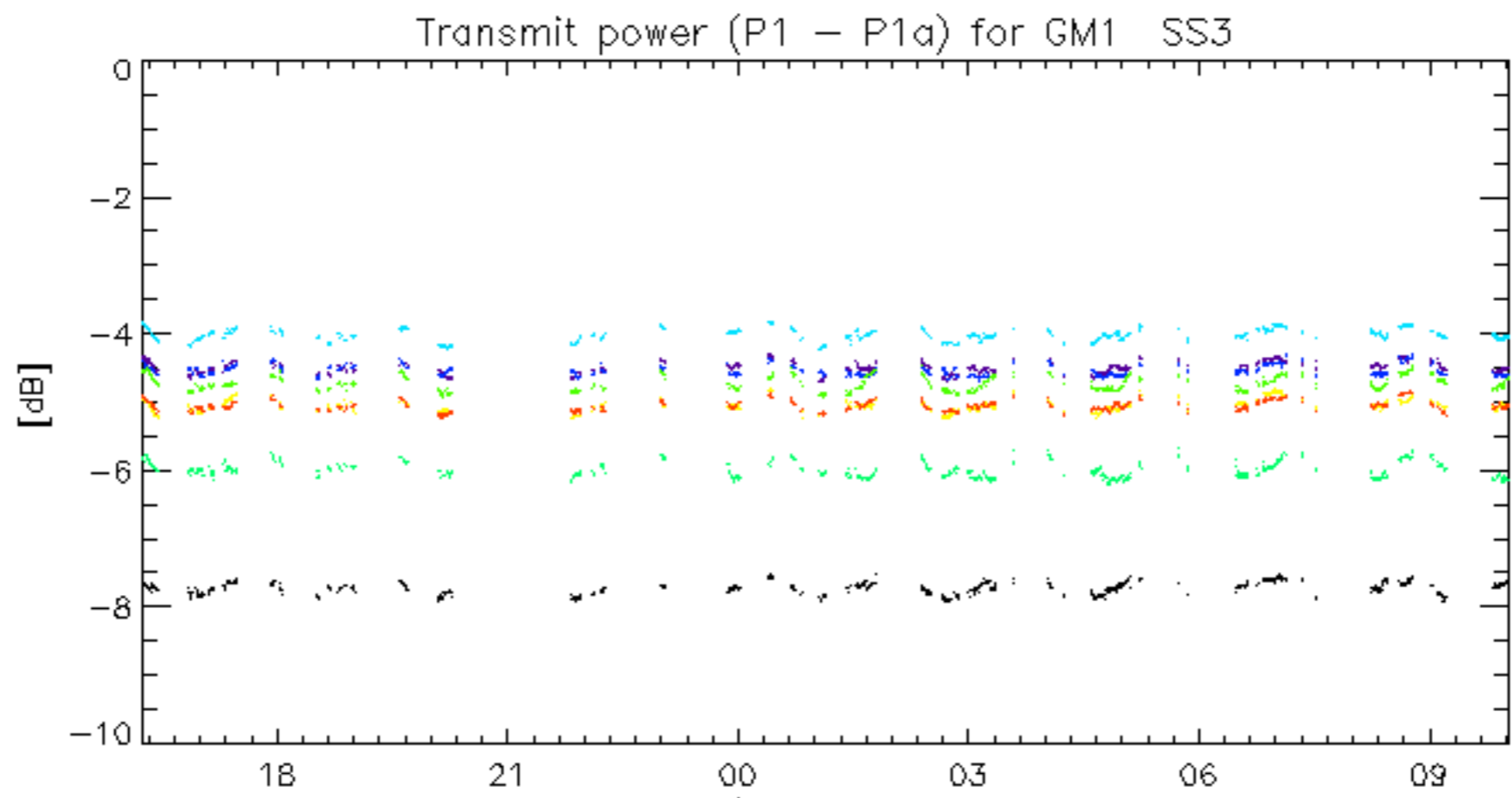
Filename	num_gaps	num_missing_lines
ASA_GM1_1PNPDK20070220_151813_000003802055_00412_26017_2588.N1	0	17



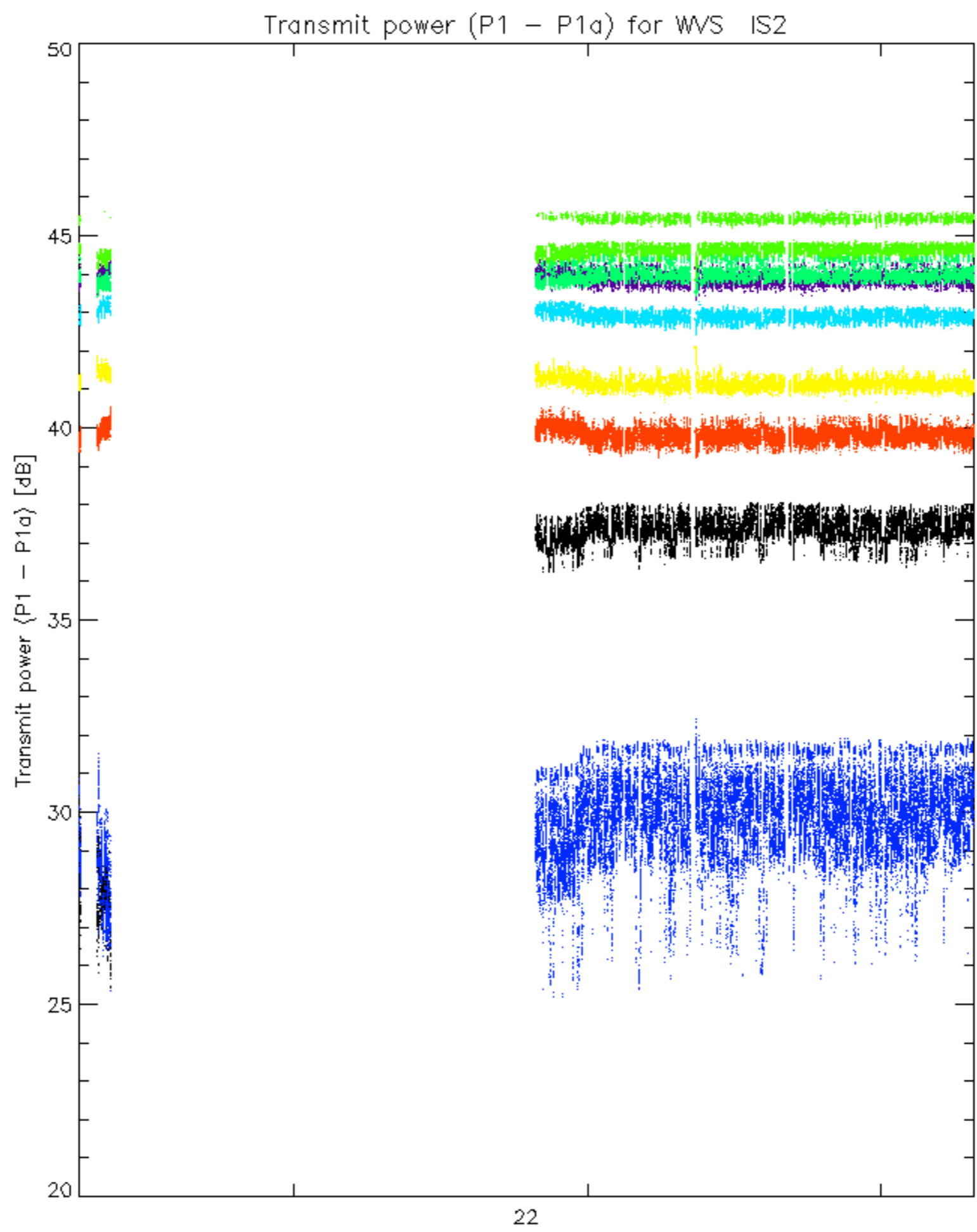




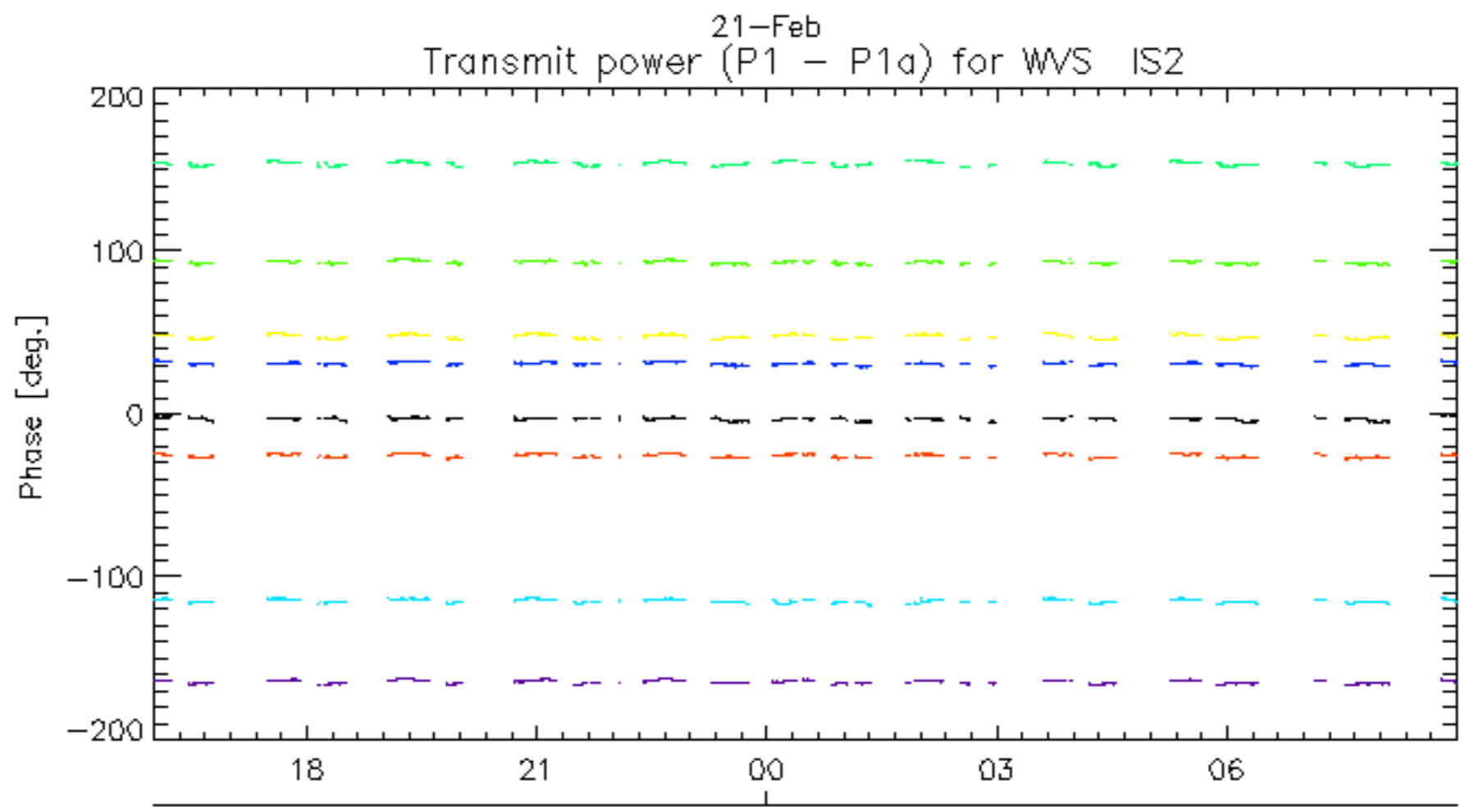
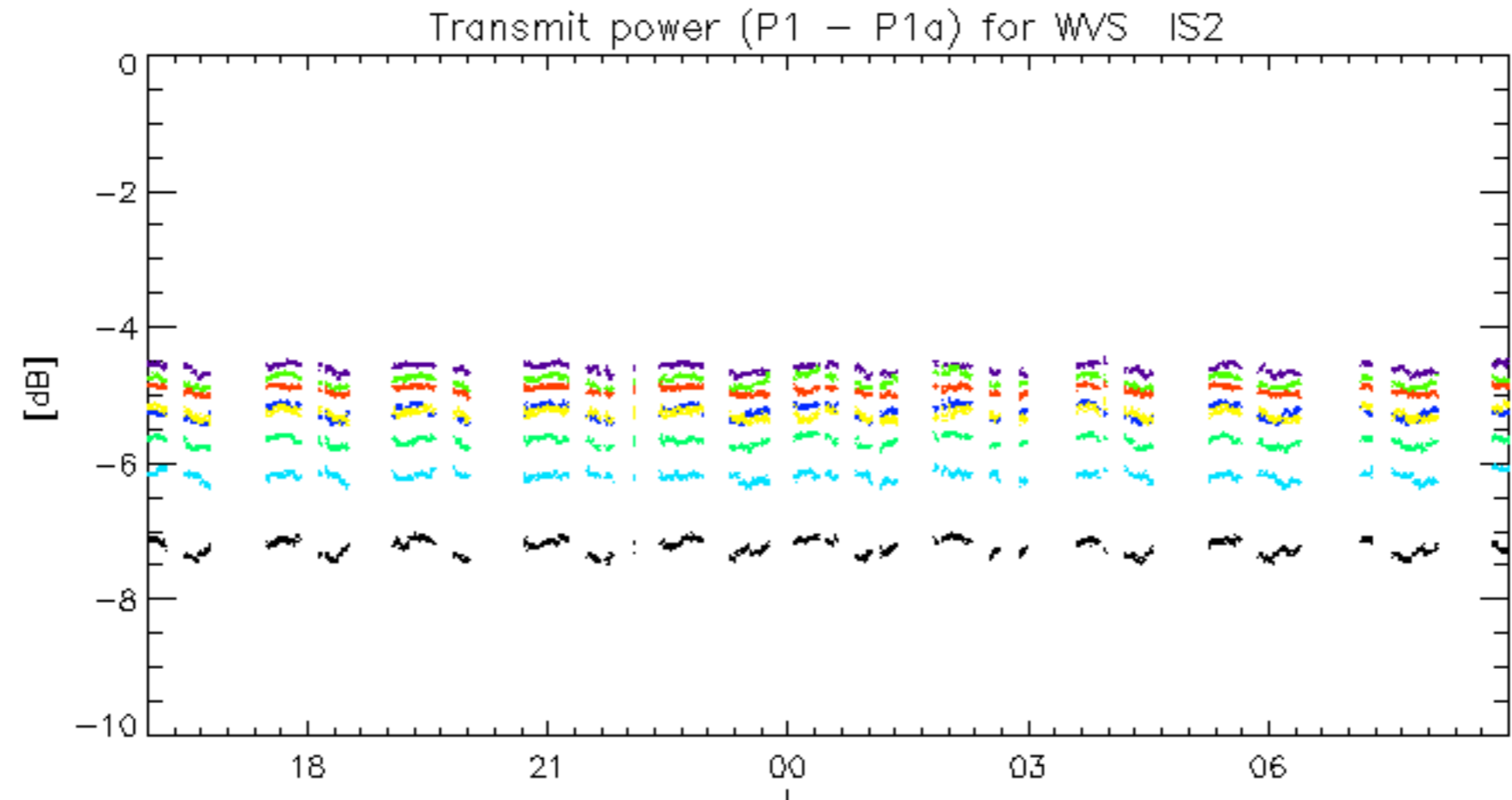
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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No unavailabilities during the reported period.