

PRELIMINARY REPORT OF 070214

last update on Wed Feb 14 16:21:18 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 2007-02-13 00:00:00 to 2007-02-14 16:21:18

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	42	67	15	1	26
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	42	67	15	1	26
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	42	67	15	1	26
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	42	67	15	1	26

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	42	55	50	19	40
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	42	55	50	19	43
ASA_CON_AXVIEC20070212_170541_20070213_214400_20070213_214900	0	0	0	0	3
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	42	55	50	19	43
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	42	55	50	19	43

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	20070214 073836
H	20070213 081013

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
☒	☒
☒	☒
☒	☒
☒	☒

4 - Internal calibration Results

No anomalies observed.

4.1 - Daily statistics

4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS

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☒

4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1

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☒

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	-15.233692	0.330381	2.727377
7	P1a	-17.406813	0.110331	-0.421624
11	P1a	-17.349329	0.371096	-0.132199
15	P1a	-12.833621	0.125861	-0.318522
19	P1a	-15.096774	0.095799	-0.172740
22	P1a	-15.513323	0.482833	-0.498367
26	P1a	-14.975895	0.251591	-0.047382
30	P1a	-17.298946	0.391486	-0.570253

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.540582	0.272041	-3.013954
7	P1	-3.106393	0.009607	-0.103654
11	P1	-4.132968	0.020040	-0.143362
15	P1	-6.323796	0.016751	-0.104823
19	P1	-3.707440	0.008980	-0.014739
22	P1	-4.676864	0.014387	-0.029206
26	P1	-3.927471	0.014005	0.007193
30	P1	-5.918832	0.012421	-0.060790

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.462250	0.408402	-3.347772
7	P2	-21.617678	0.085249	0.051888
11	P2	-15.481815	0.103548	0.064629
15	P2	-7.018637	0.100663	-0.097010

19	P2	-9.085570	0.088667	-0.084057
22	P2	-18.099968	0.085989	-0.103274
26	P2	-16.511156	0.099509	-0.143543
30	P2	-19.335695	0.080223	-0.046339

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.203448	0.008048	-0.014846
7	P3	-8.203448	0.008048	-0.014846
11	P3	-8.203448	0.008048	-0.014846
15	P3	-8.203448	0.008048	-0.014846
19	P3	-8.203448	0.008048	-0.014846
22	P3	-8.203448	0.008048	-0.014846
26	P3	-8.203448	0.008048	-0.014846
30	P3	-8.203448	0.008048	-0.014846

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1



P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1a	-11.397630	0.151272	1.540313
7	P1a	-10.035298	0.058720	-0.103946
11	P1a	-10.566247	0.061799	-0.369273
15	P1a	-10.846245	0.130306	-0.117219
19	P1a	-15.745838	0.064001	-0.004424
22	P1a	-20.897371	1.292756	0.451319
26	P1a	-15.453588	0.259270	0.269940
30	P1a	-18.326975	0.365217	-0.079917

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
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3	P1	-6.355453	4.255390	-9.863891
7	P1	-2.440684	0.005957	-0.001403
11	P1	-2.879102	0.016915	-0.151733
15	P1	-3.793559	0.033753	-0.130480
19	P1	-3.551401	0.013023	-0.021439
22	P1	-5.025743	0.023387	-0.017910
26	P1	-5.994368	0.023064	0.031202
30	P1	-5.290150	0.023450	-0.000459

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.208120	0.863791	-4.272302
7	P2	-22.014711	0.050859	0.121440
11	P2	-10.682851	0.032185	0.080974
15	P2	-4.834418	0.027166	0.050616
19	P2	-6.833204	0.028828	0.054432
22	P2	-8.141176	0.030332	0.061374
26	P2	-24.253643	0.032444	0.010333
30	P2	-21.791279	0.034479	0.057320

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.051351	0.002909	0.029133
7	P3	-8.051314	0.002925	0.028369
11	P3	-8.051334	0.002912	0.029078
15	P3	-8.051351	0.002911	0.028929
19	P3	-8.051302	0.002906	0.028837
22	P3	-8.051359	0.002911	0.029251
26	P3	-8.051213	0.002907	0.029350
30	P3	-8.051266	0.002913	0.029242

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	0.000649832
	stdev	2.56451e-07
MEAN Q	mean	0.000343348
	stdev	2.52210e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.0900855
	stdev	0.00247185
STDEV Q	mean	0.0899525
	stdev	0.00252028



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007021[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
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ASA_IMM_1PNPDE20070212_221218_000001072055_00301_25906_5131.N1	15	3773
ASA_IMM_1PNPDE20070212_221549_000002632055_00301_25906_5257.N1	3	10
ASA_IMM_1PNPDE20070212_235224_000004552055_00302_25907_5398.N1	15	2640
ASA_IMM_1PNPDE20070213_153643_000000802055_00312_25917_6362.N1	0	558



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

7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler

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

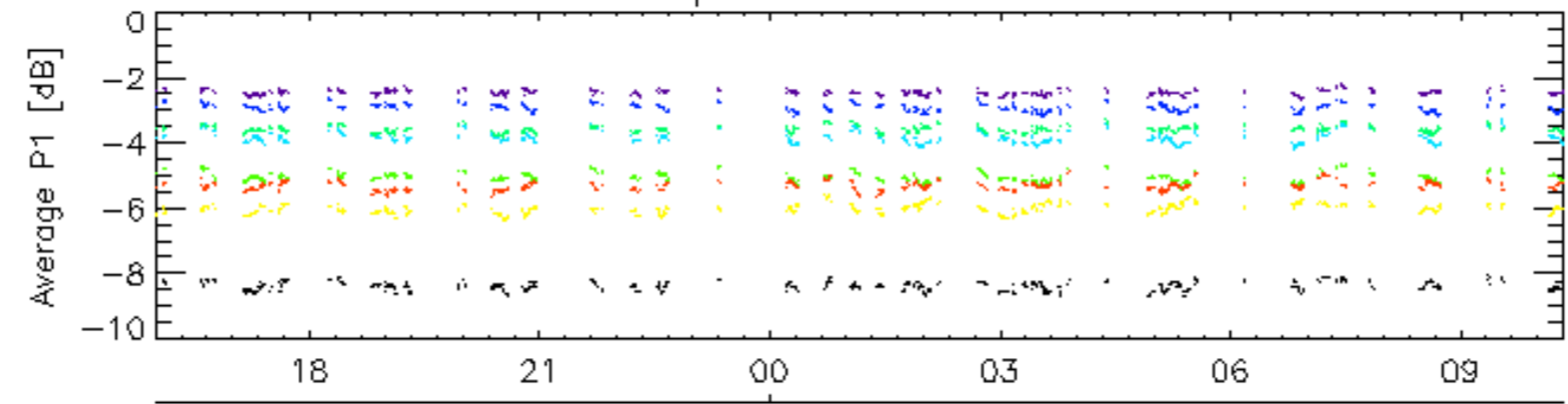
7.5 - Absolute Doppler for GM1

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

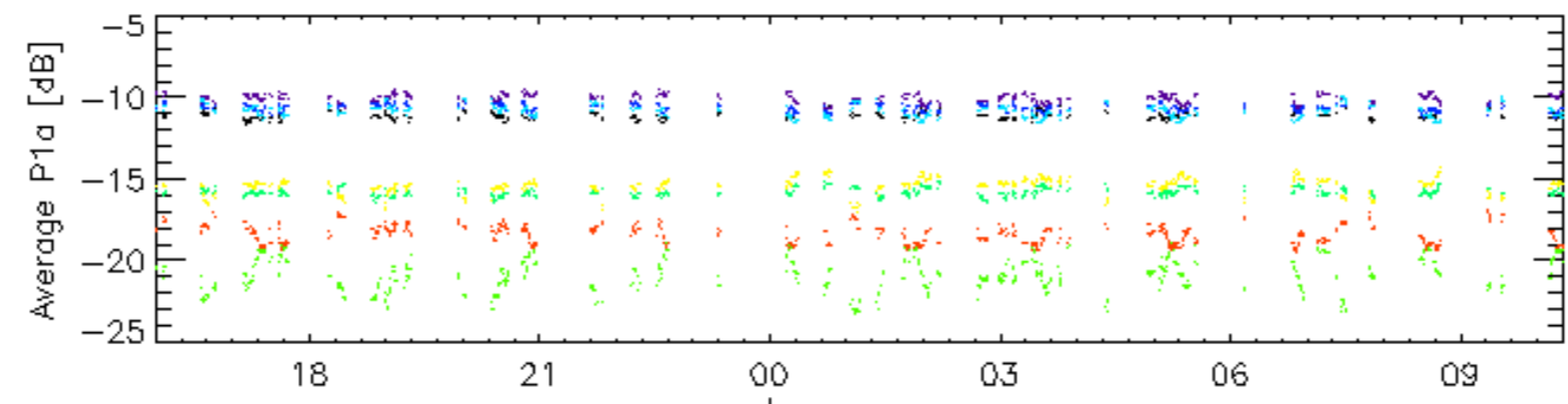
7.6 - Doppler evolution versus ANX for GM1

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

Cal pulses for GM1 SS3

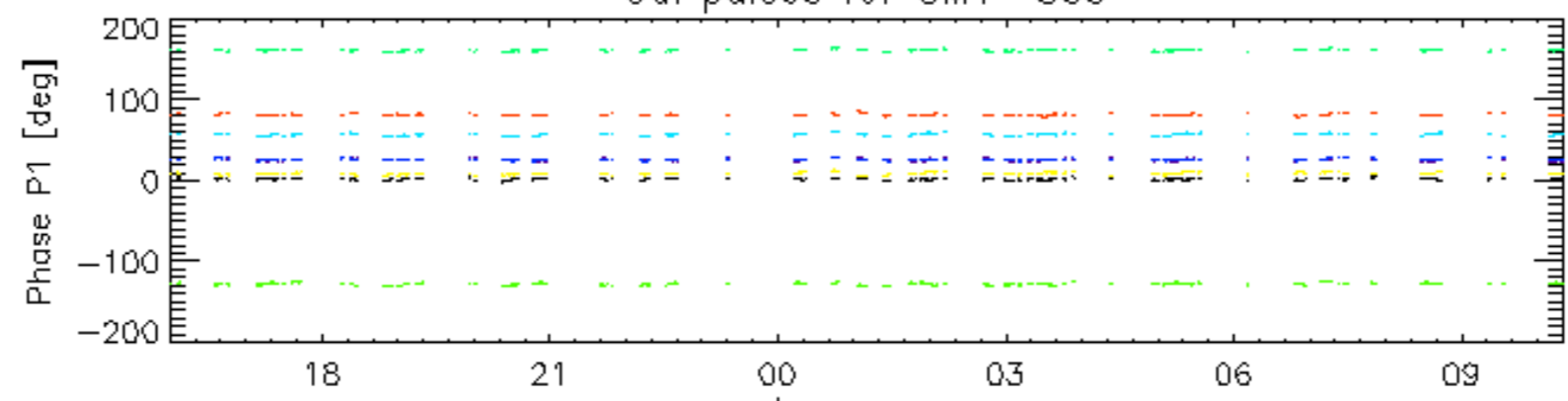


14-Feb

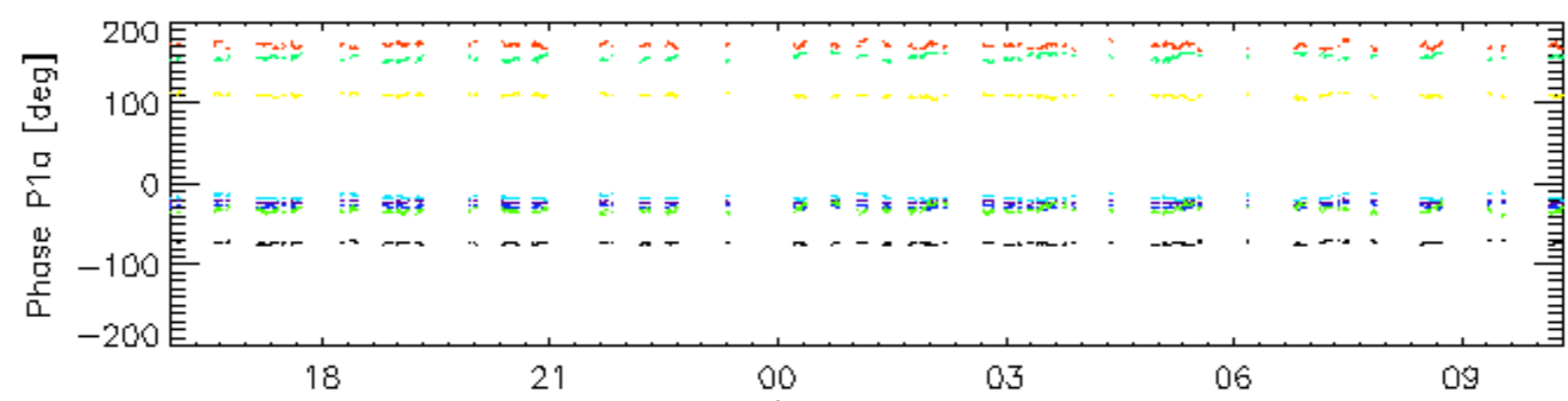


14-Feb

Cal pulses for GM1 SS3

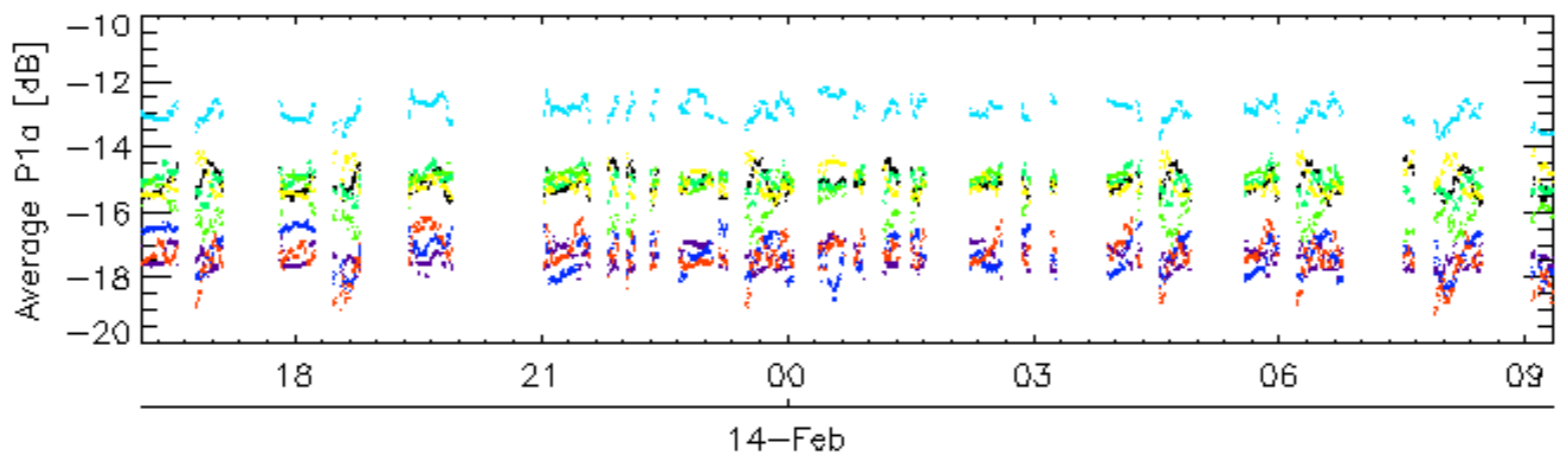
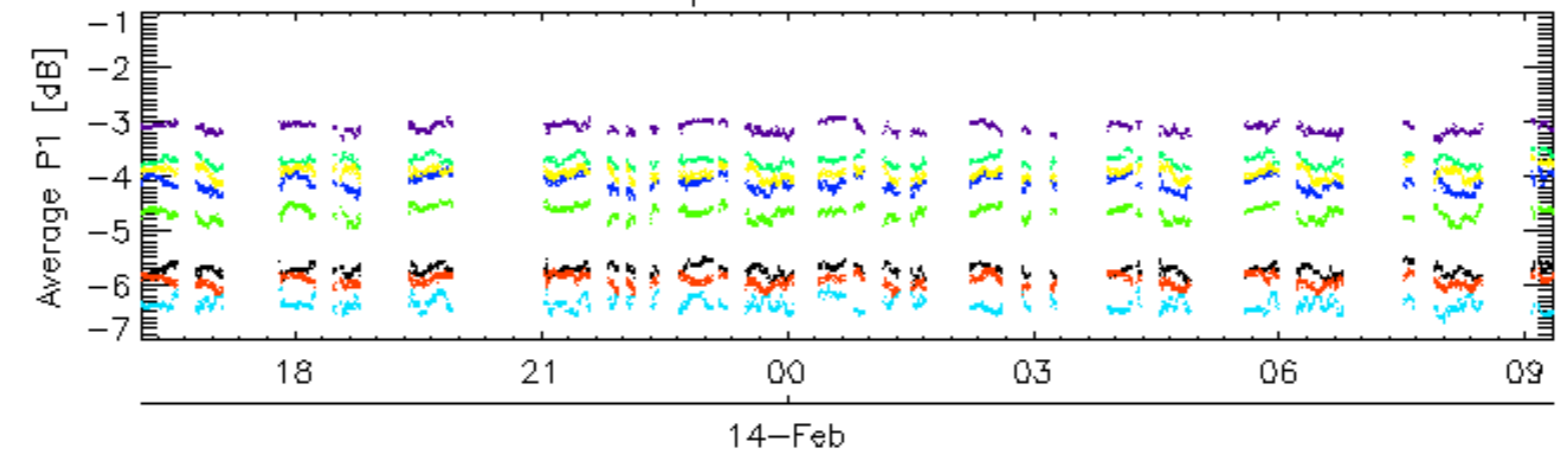


14-Feb

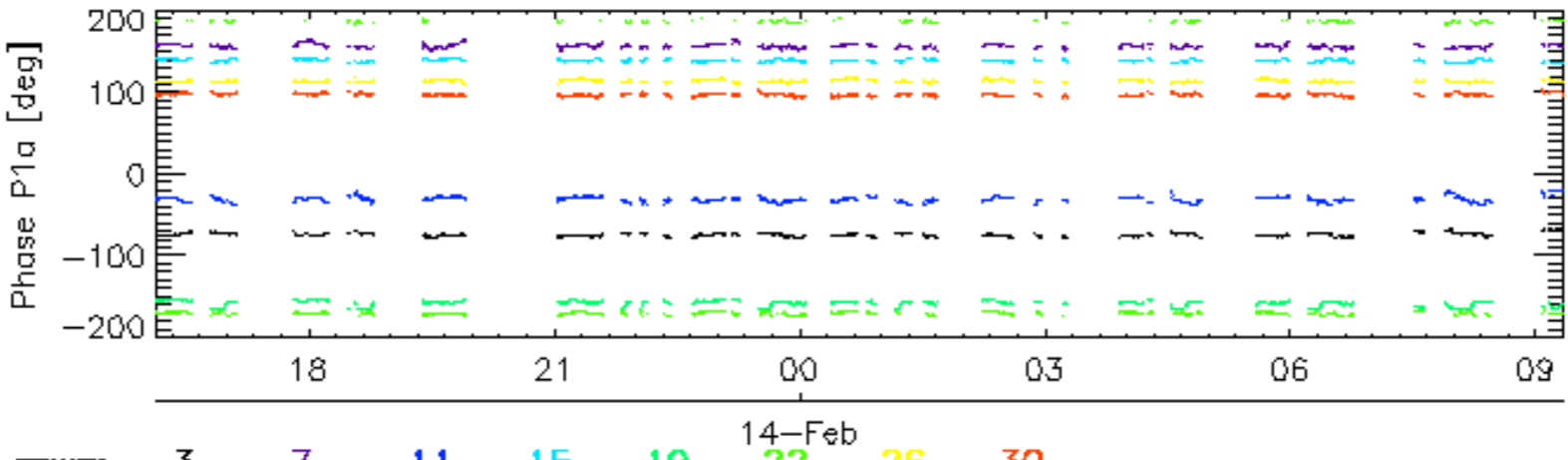
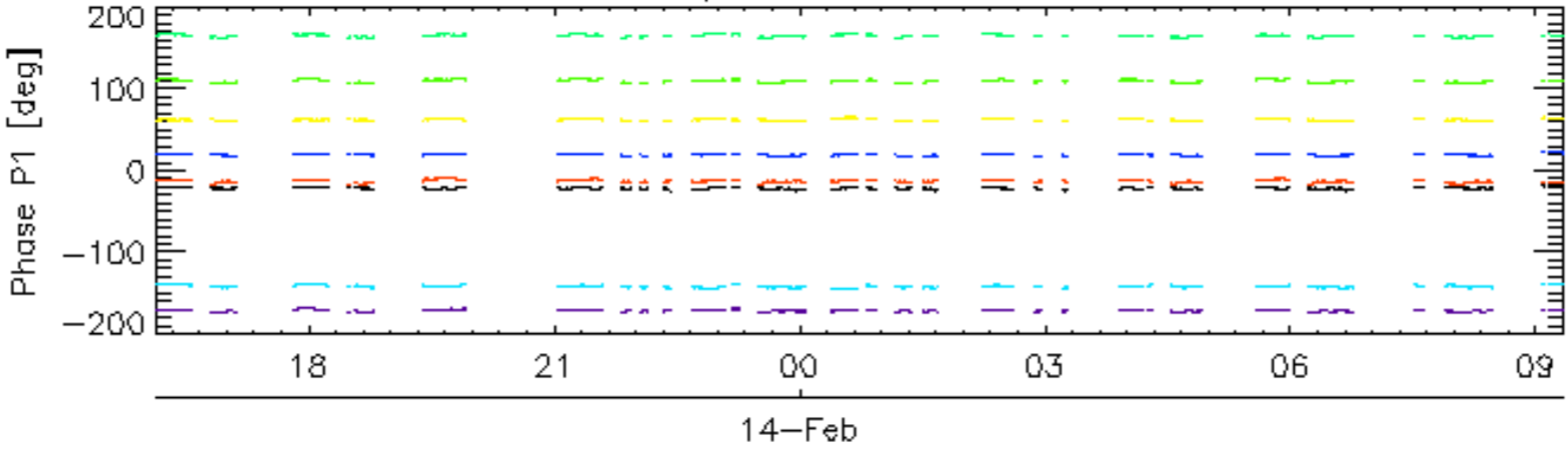


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

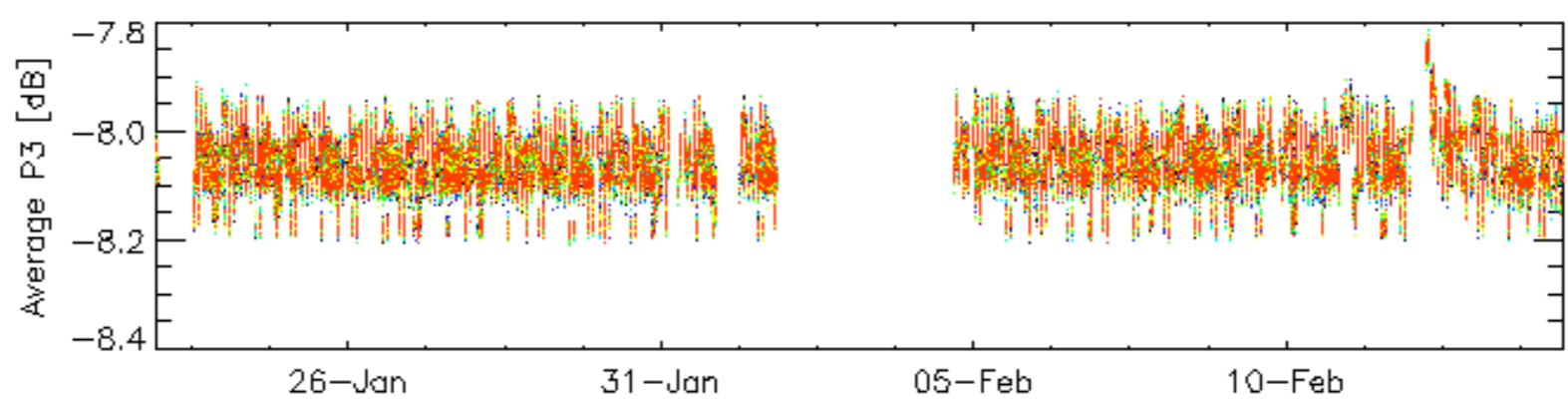
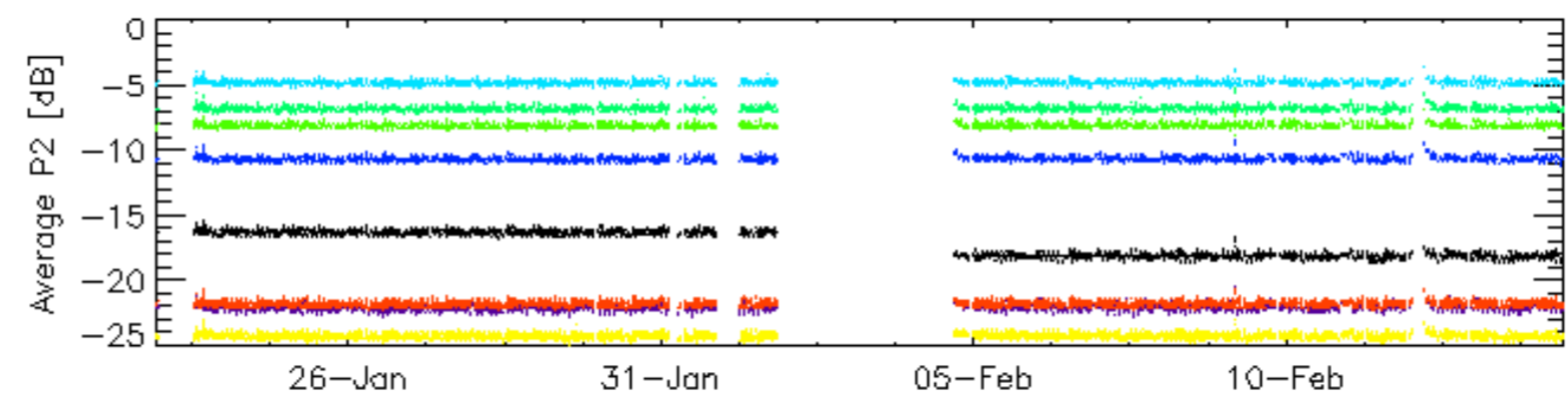
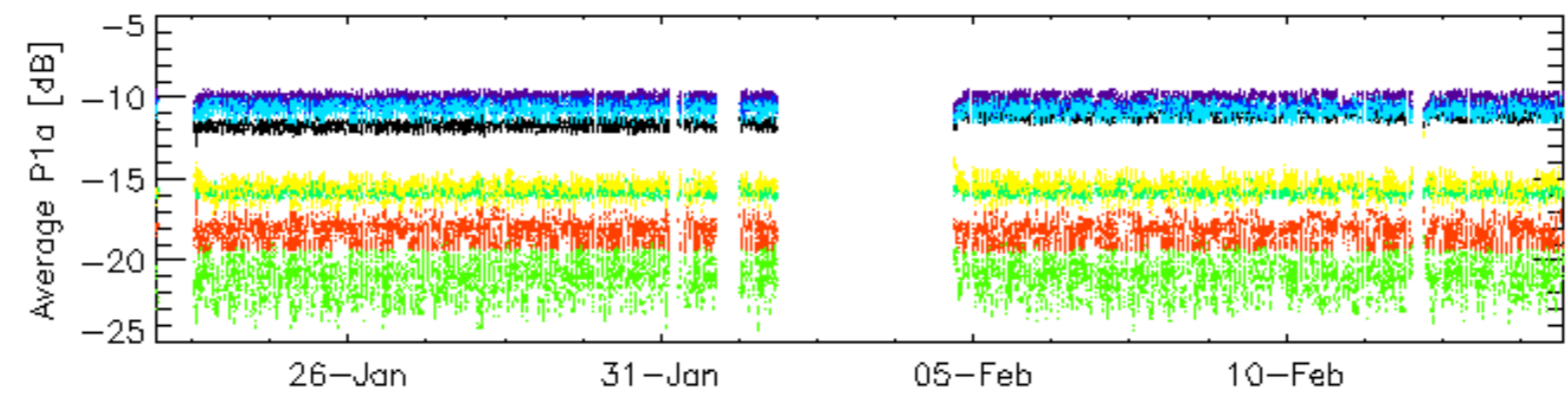
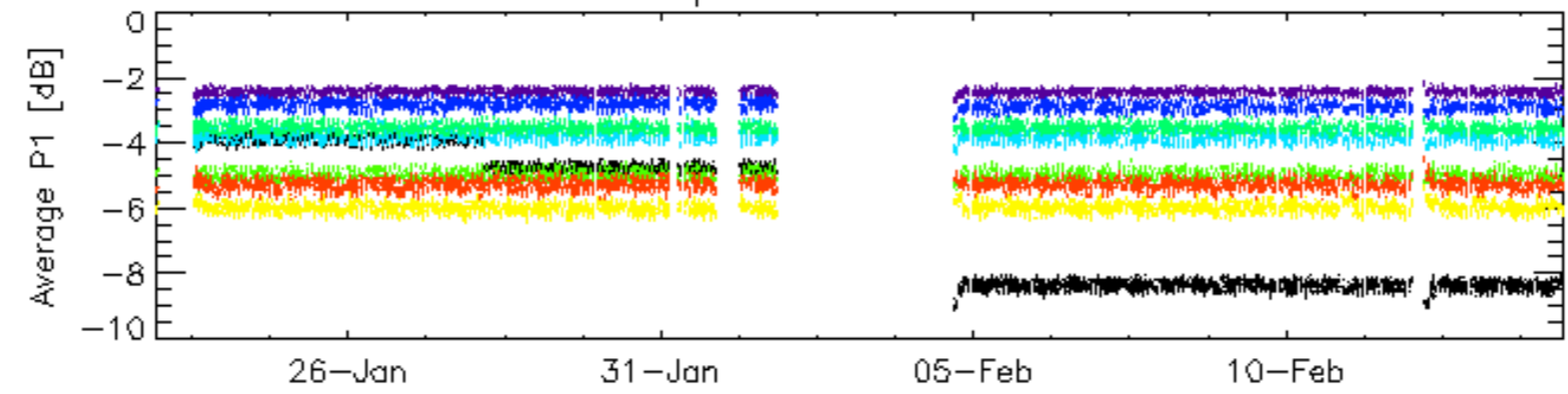


Cal pulses for WVS IS2



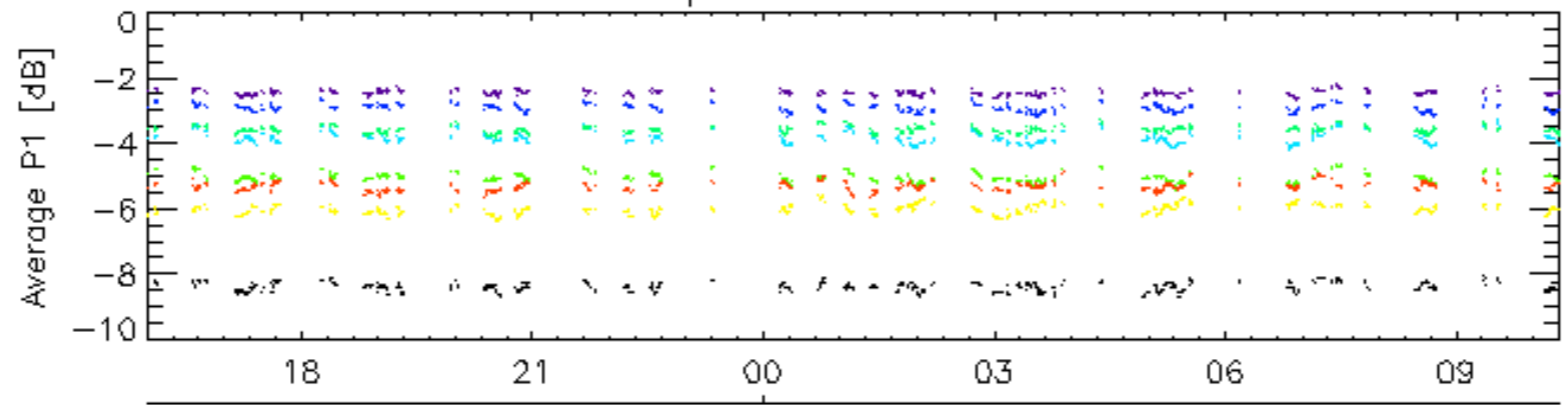
rows: 3 7 11 15 19 22 26 30

Cal pulses for GM1 SS3

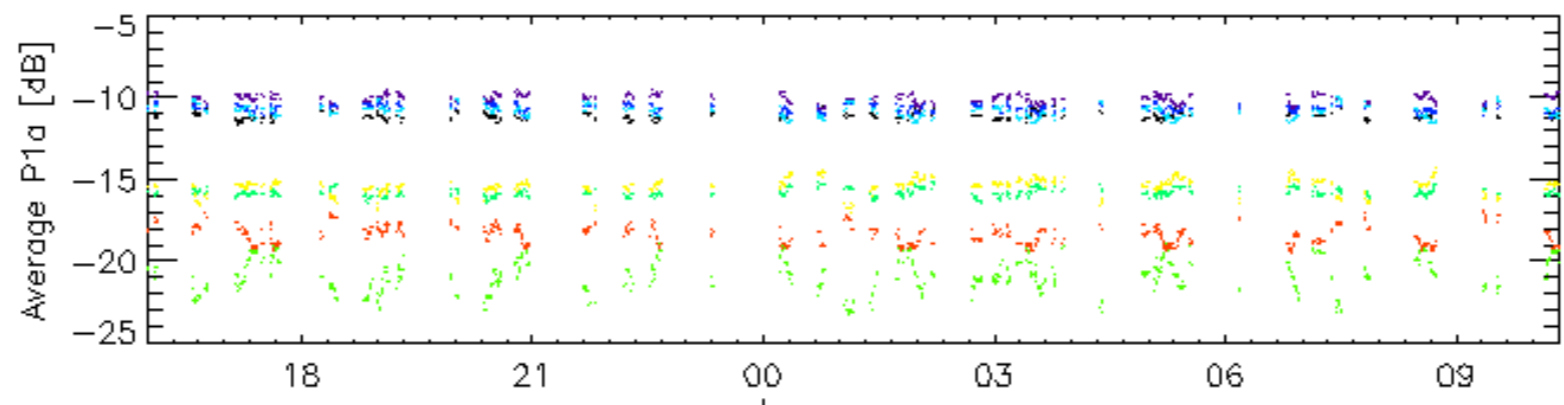


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

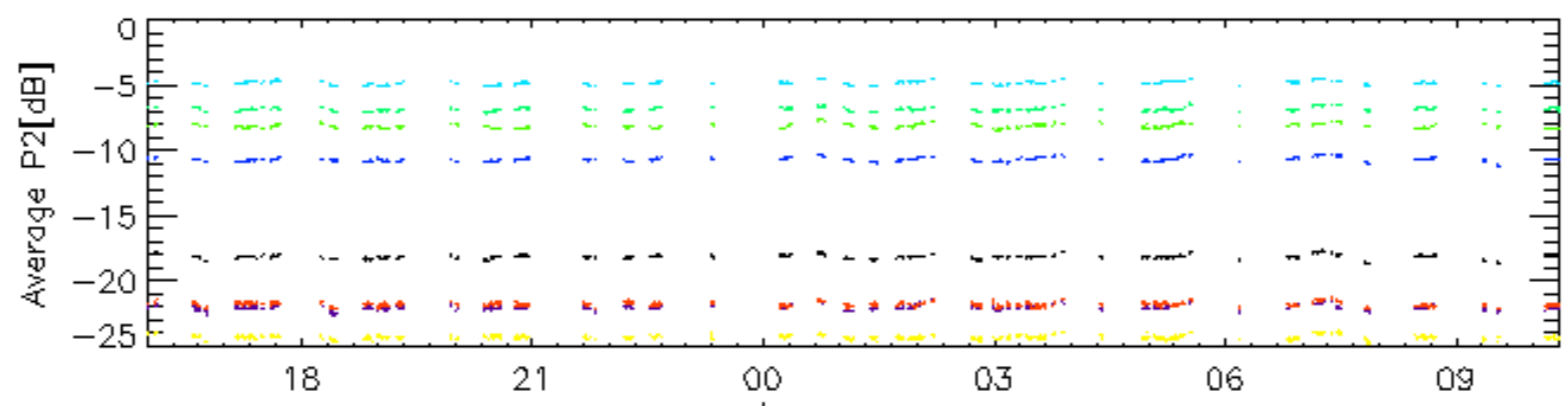
Cal pulses for GM1 SS3



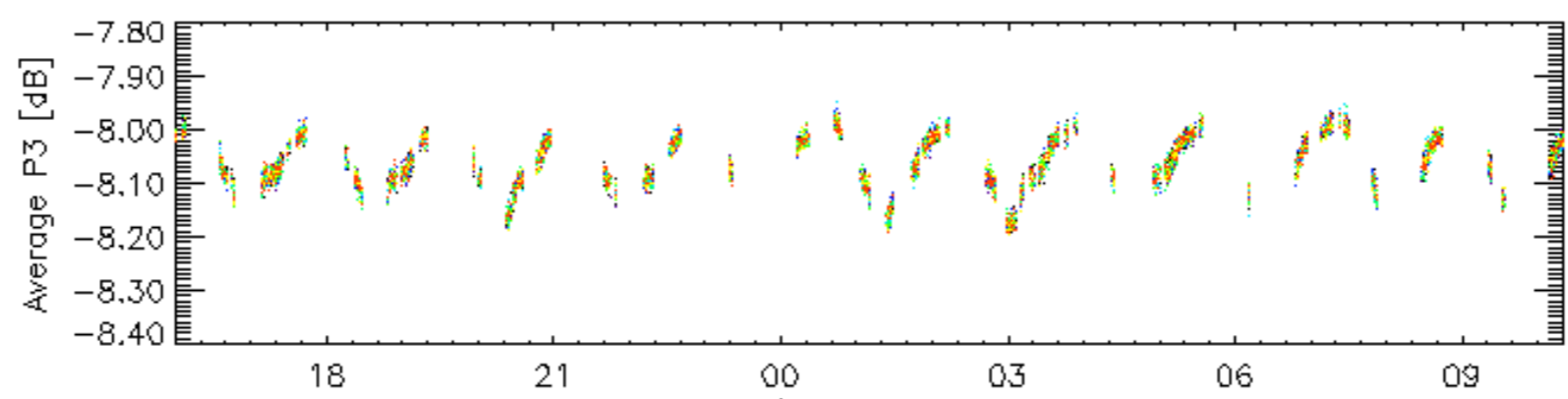
14-Feb



14-Feb



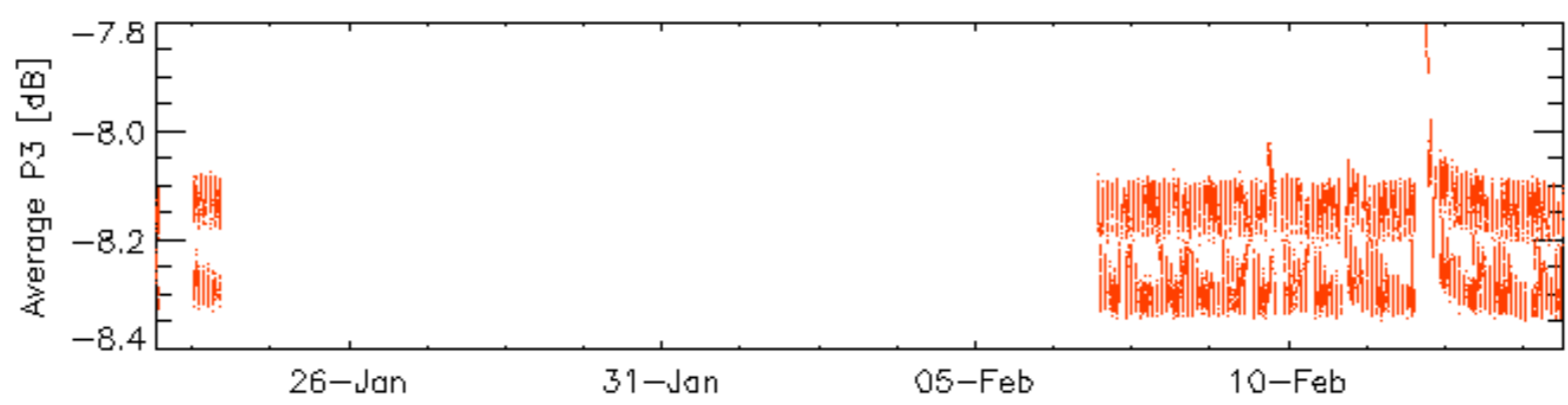
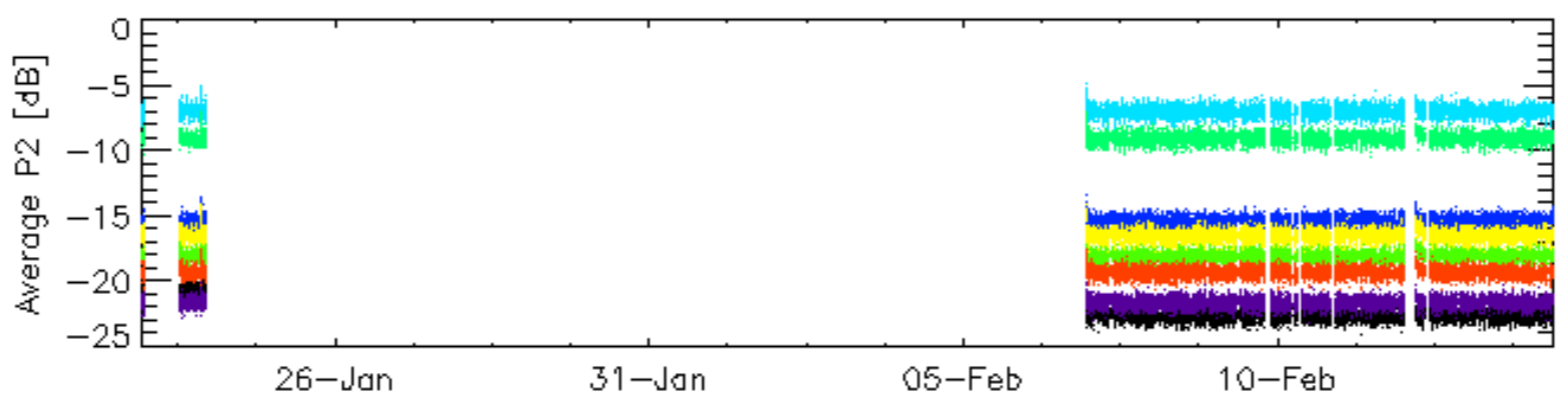
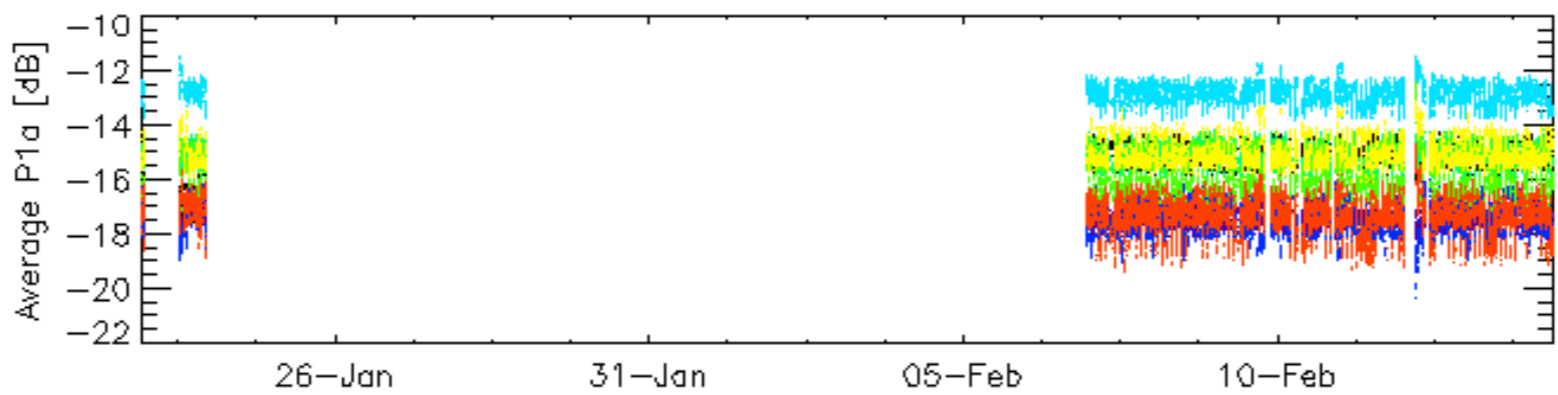
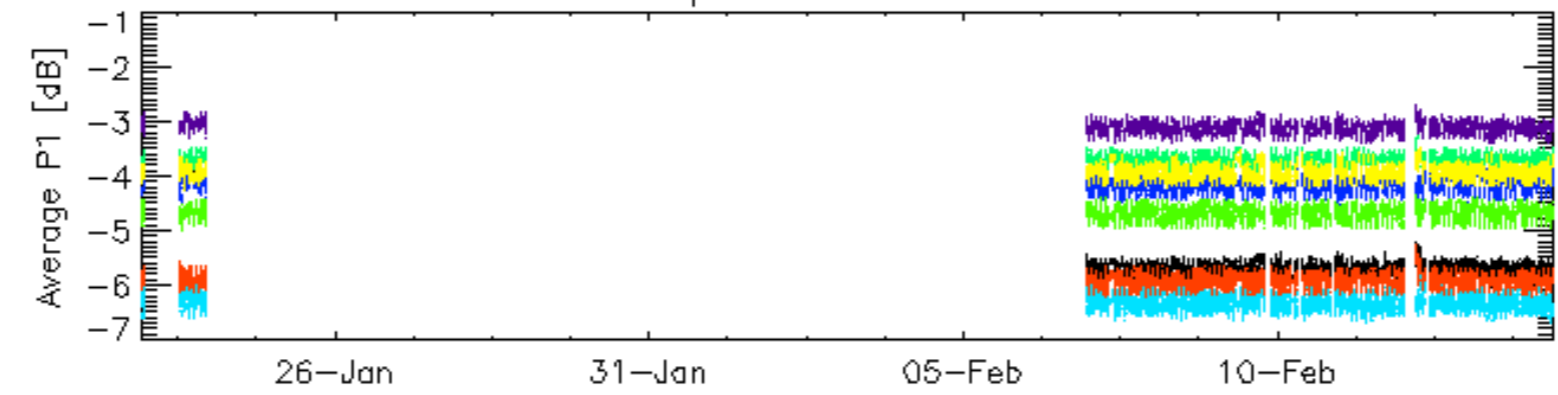
14-Feb



14-Feb

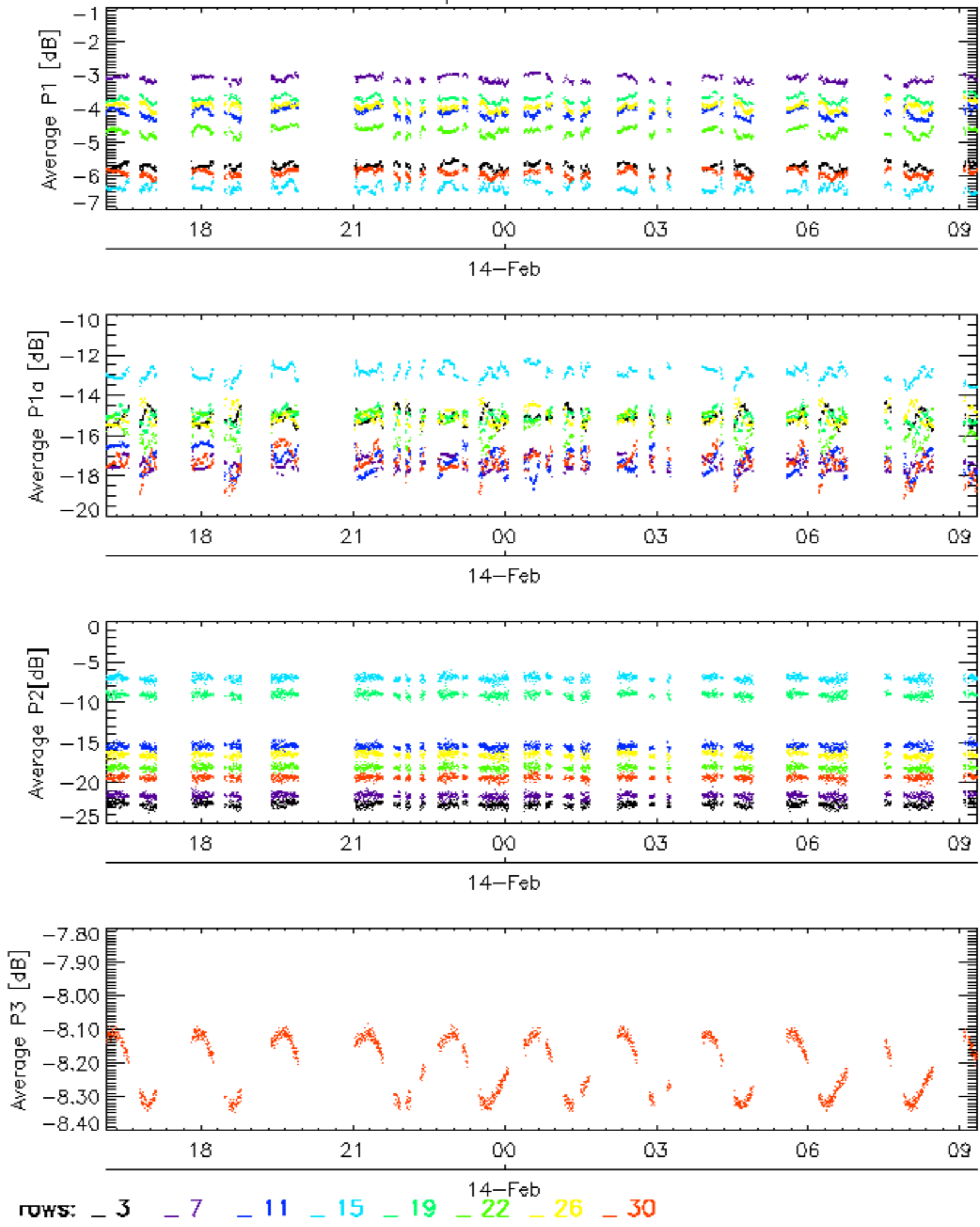
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

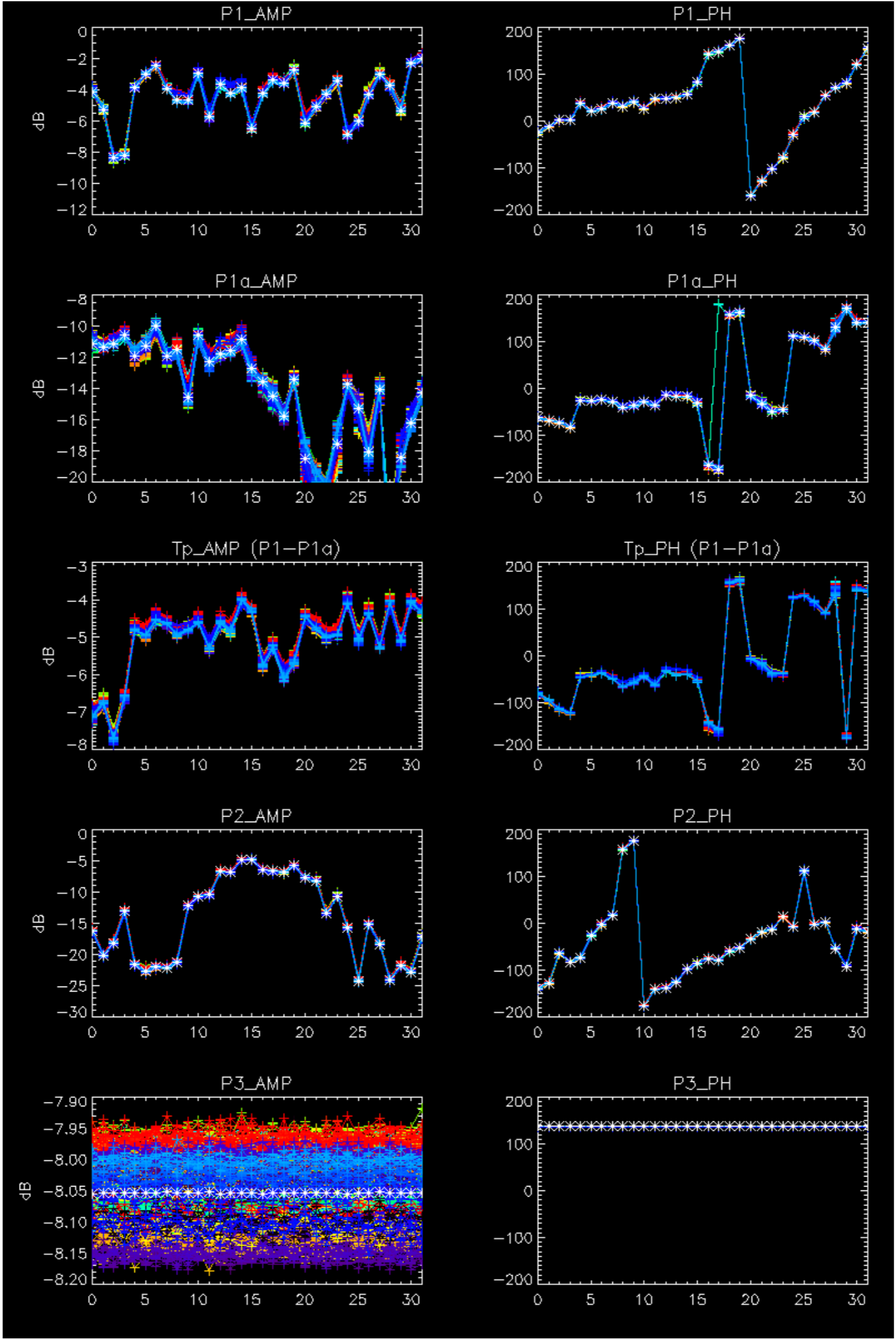


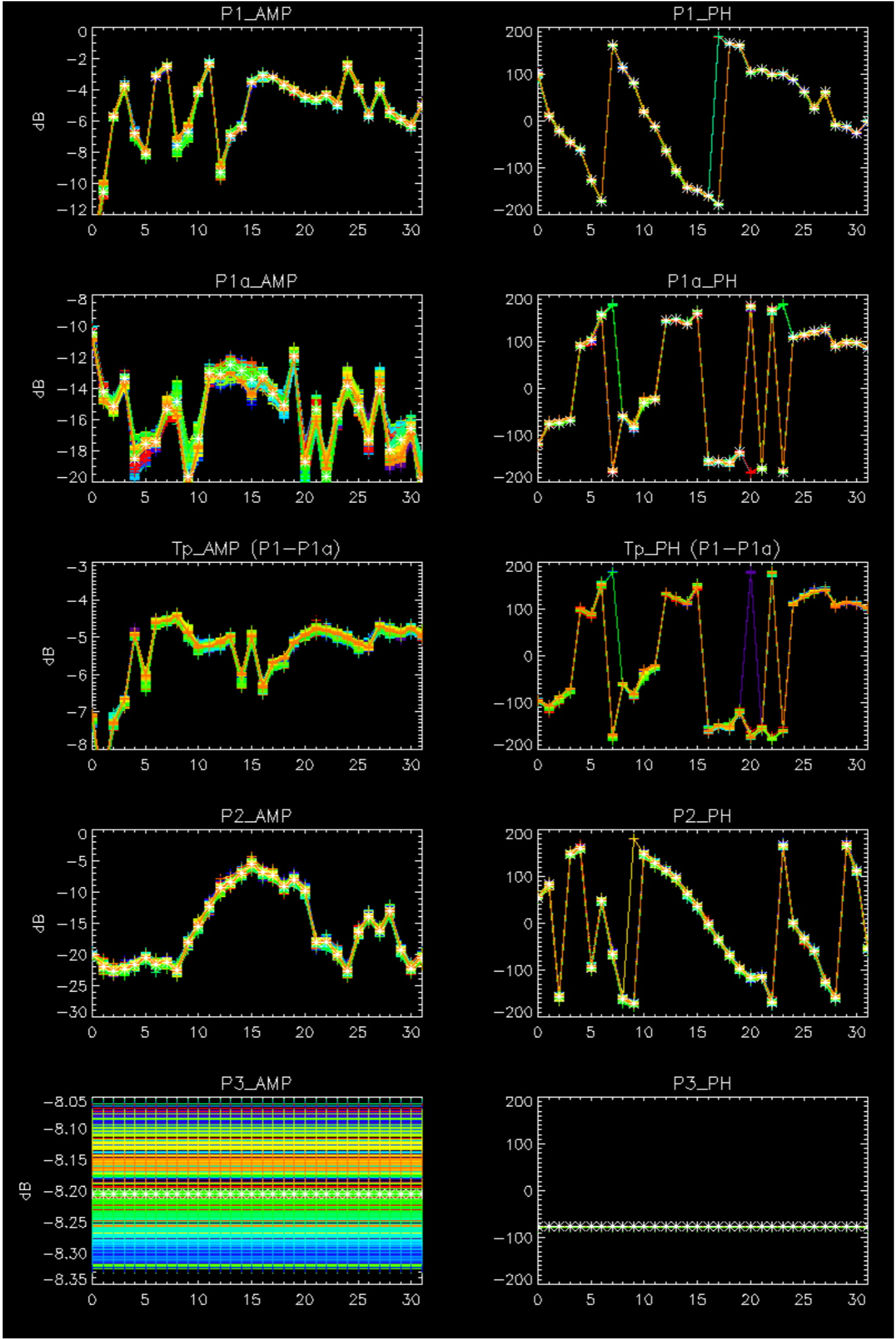
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



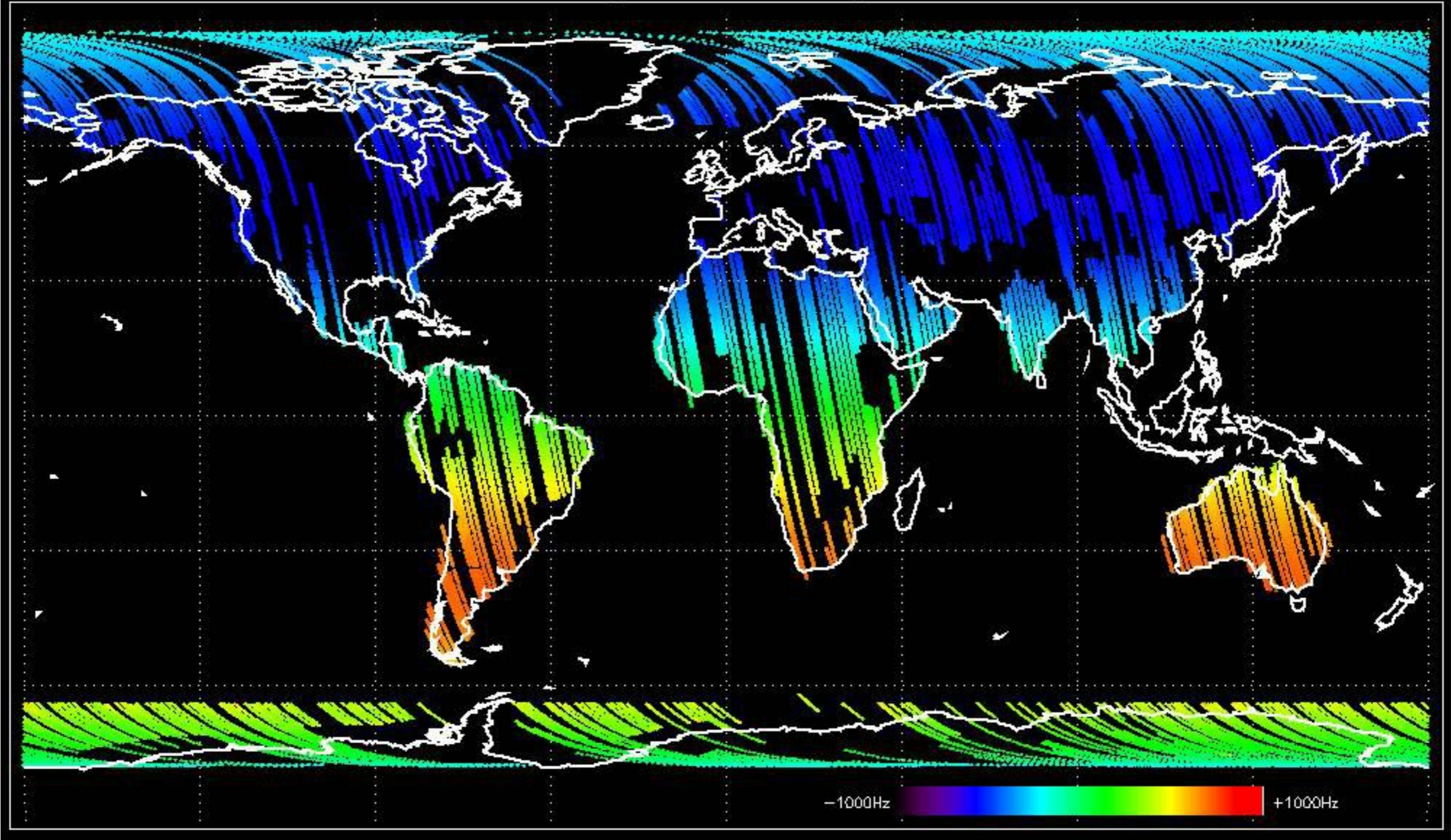
No anomalies observed.



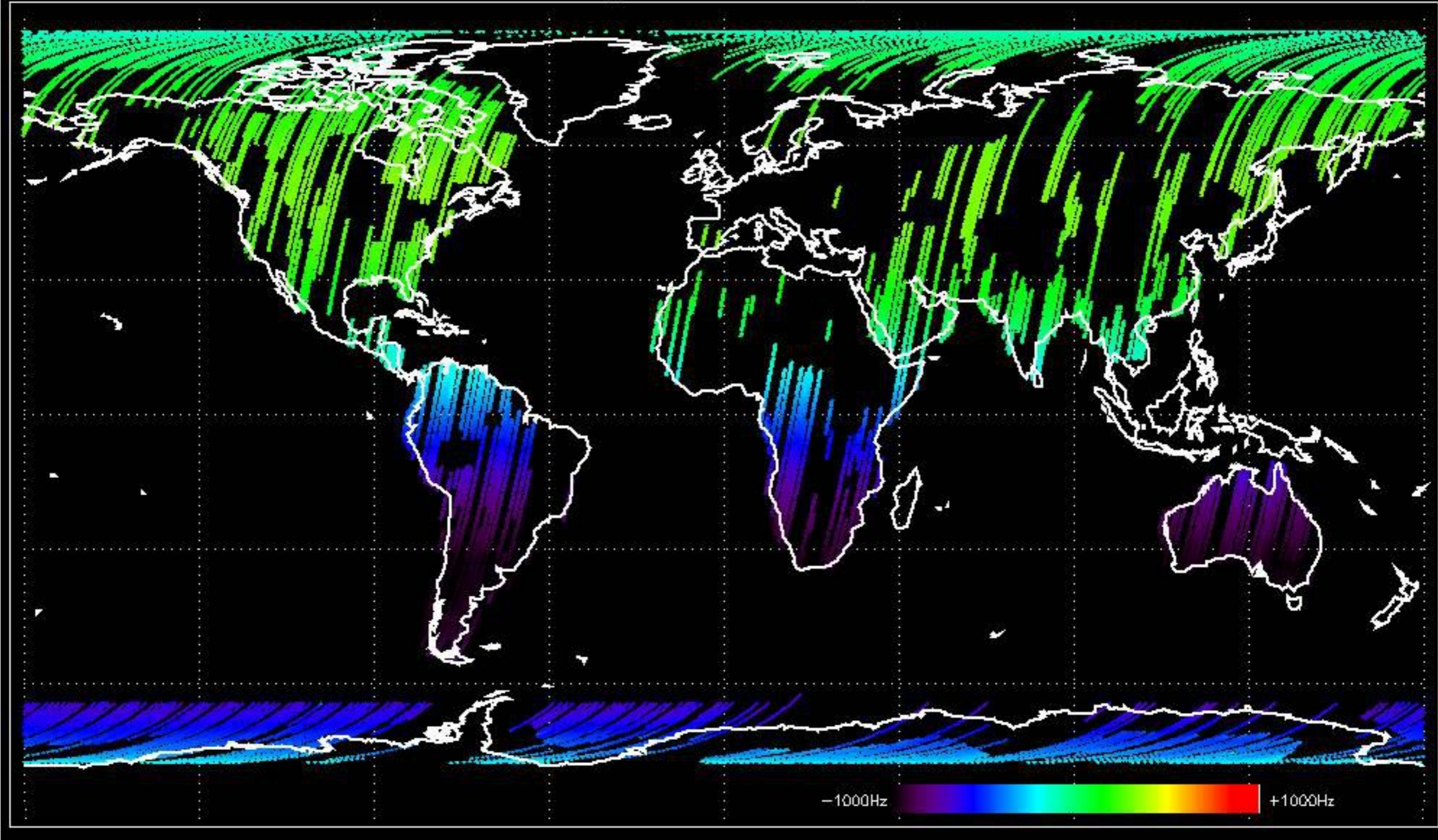


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

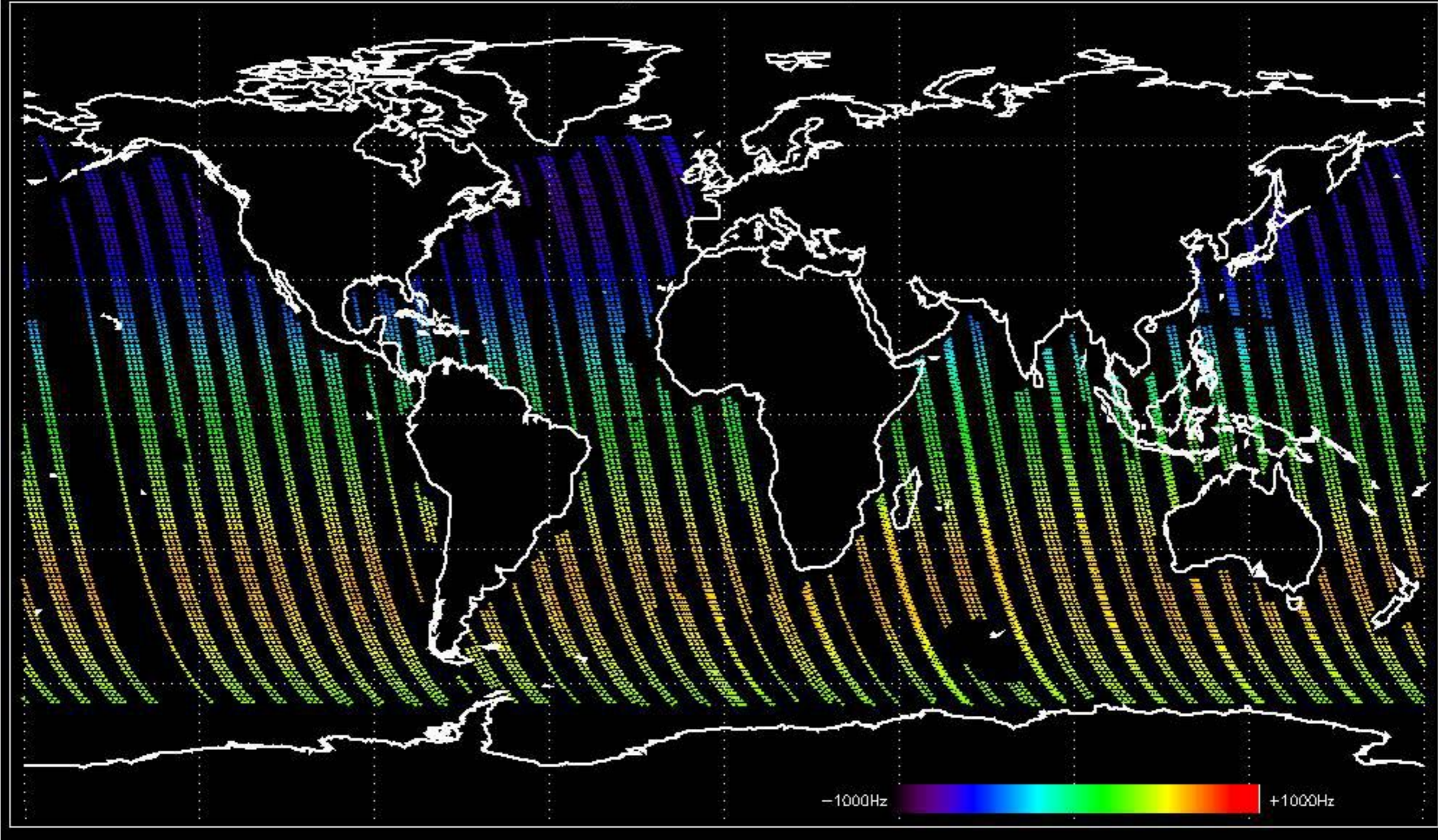
Doppler 'GM1' 'SS1' ascending



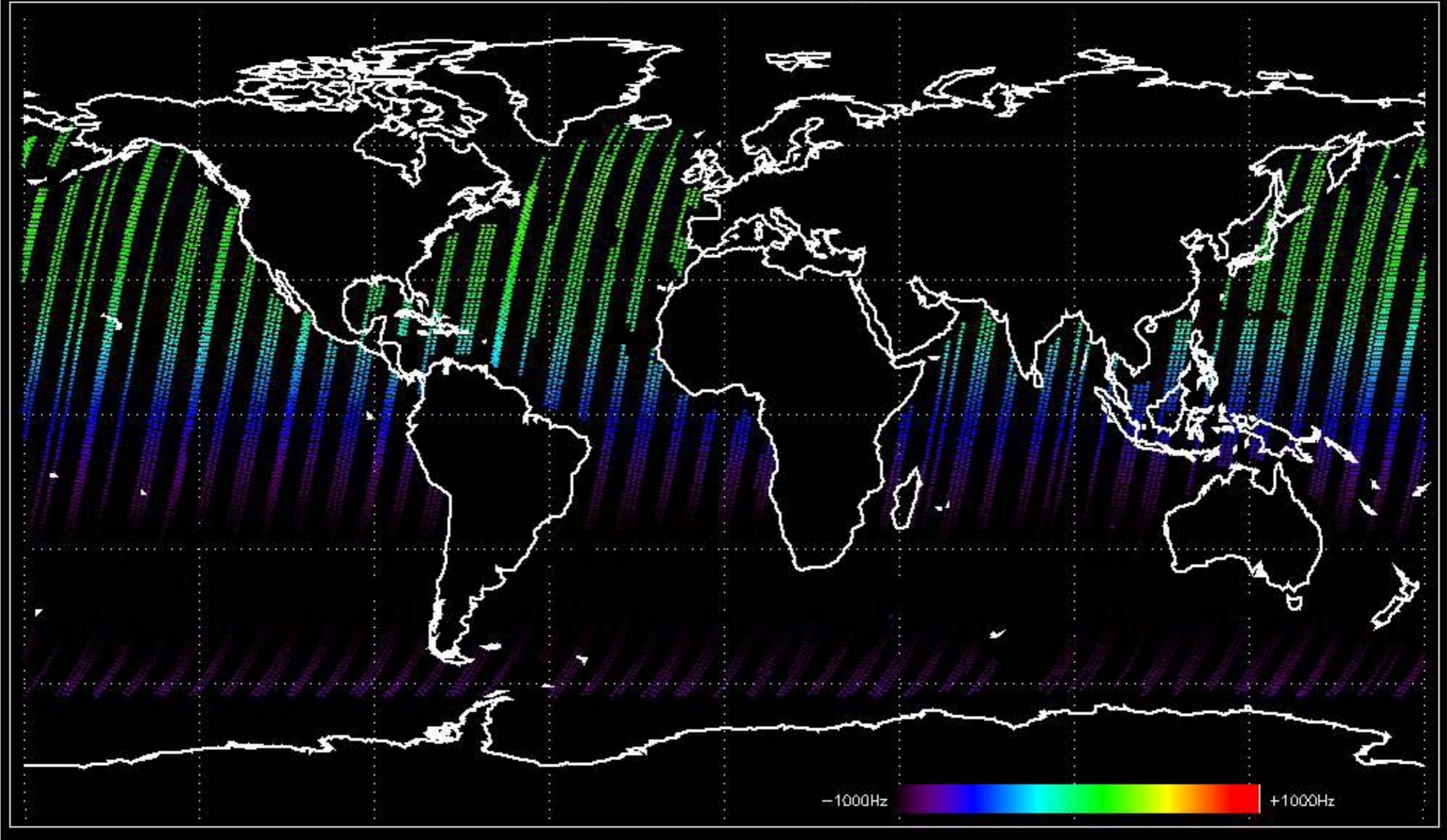
Doppler 'GM1' 'SS1' descending



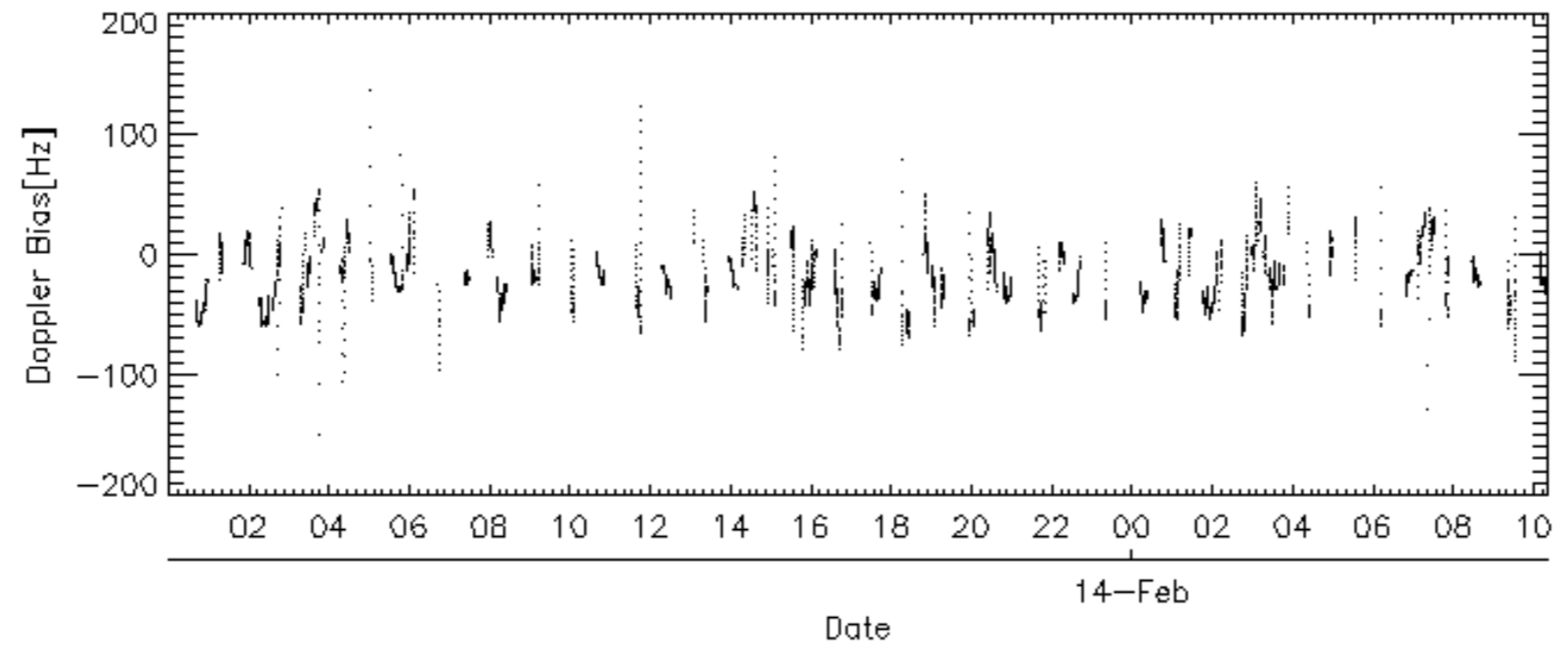
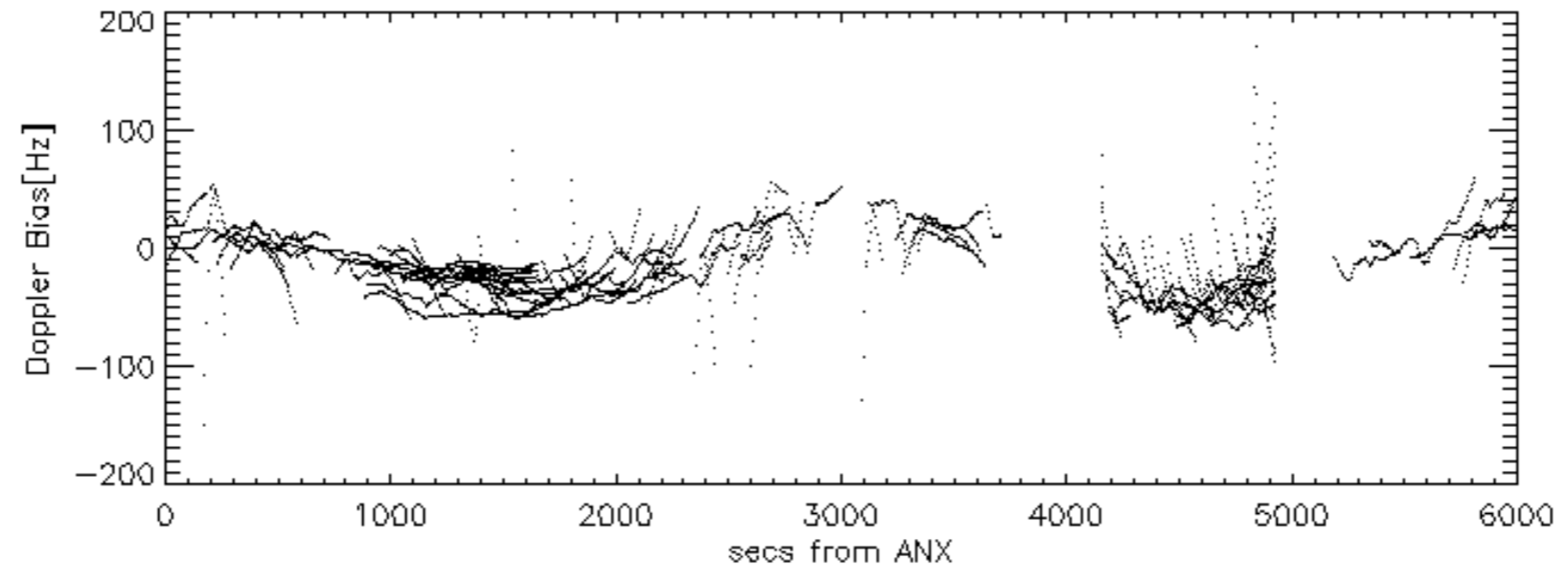
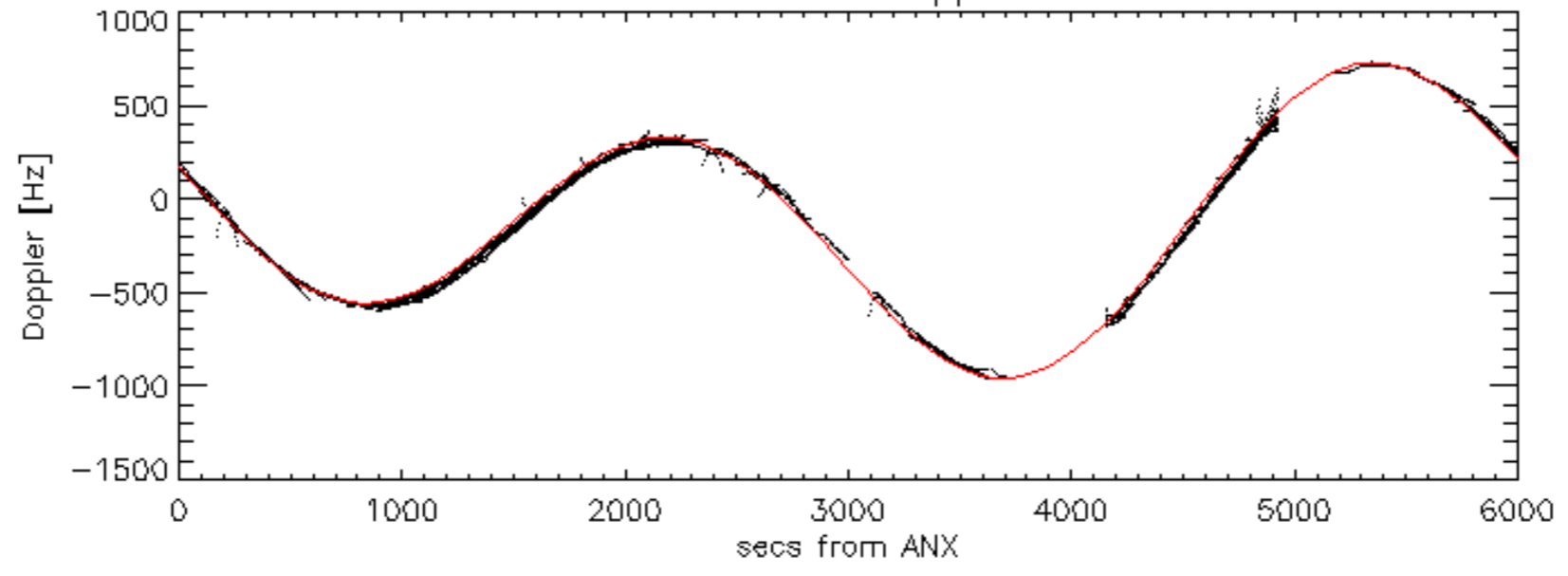
Doppler 'WVS' 'IS2' ascending

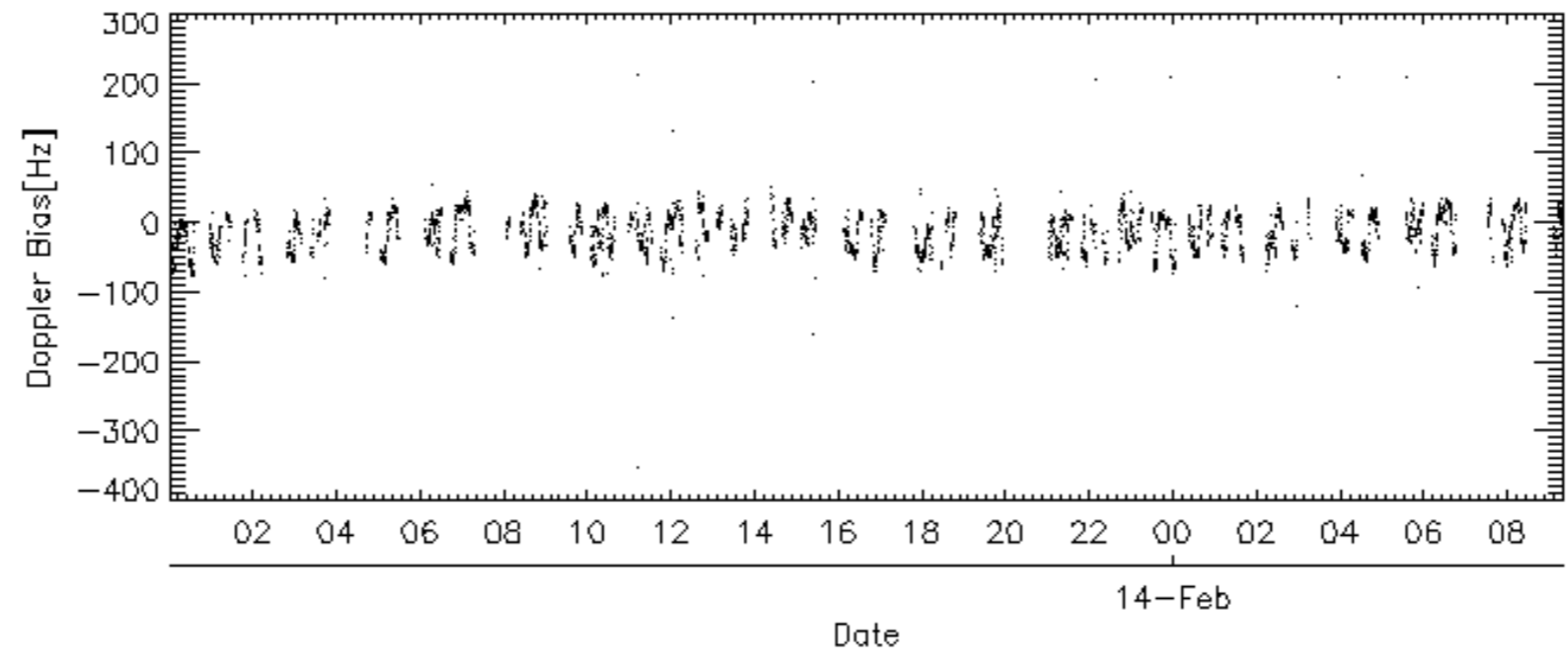
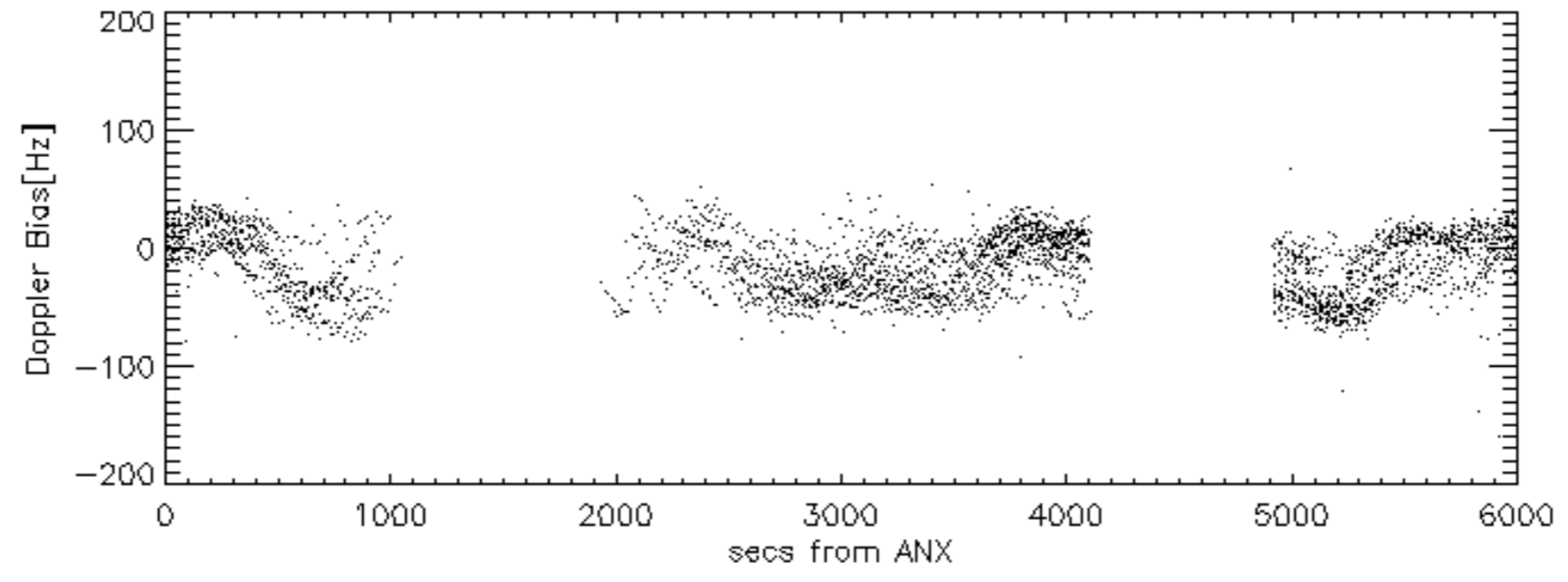
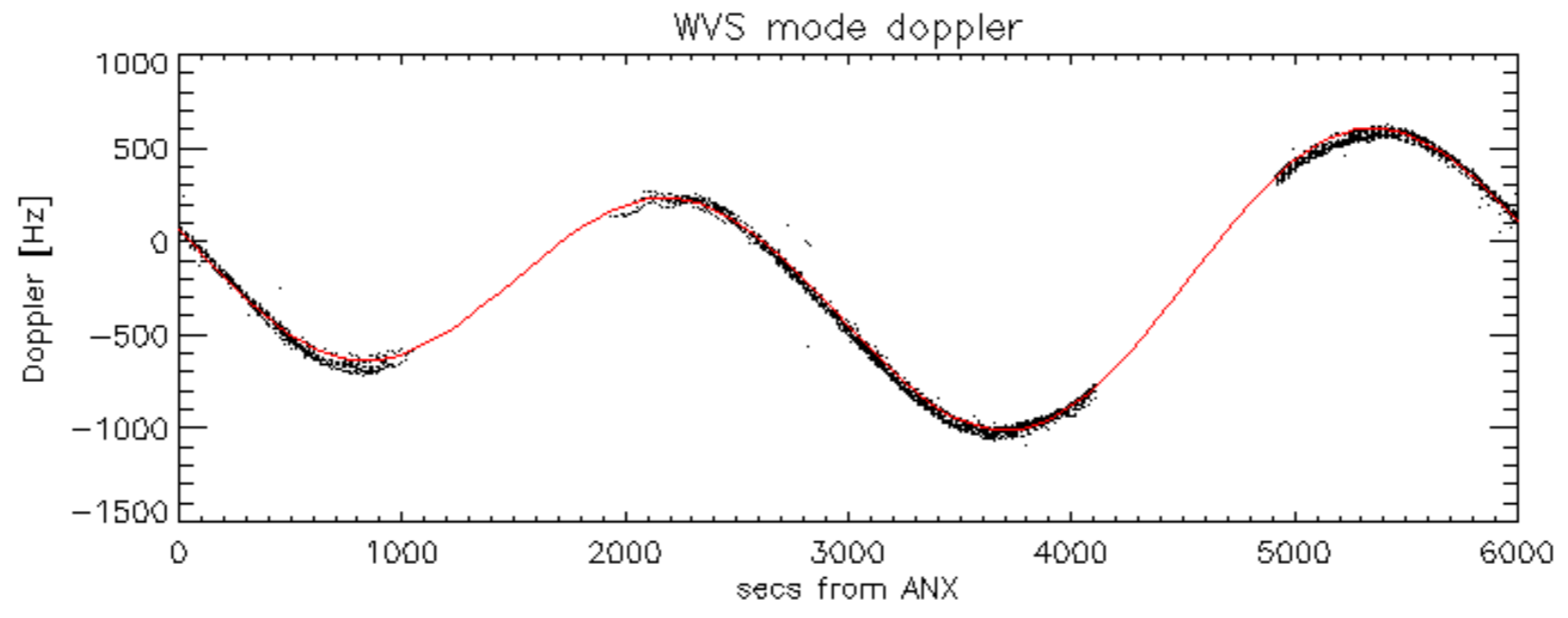


Doppler 'WVS' 'IS2' descending

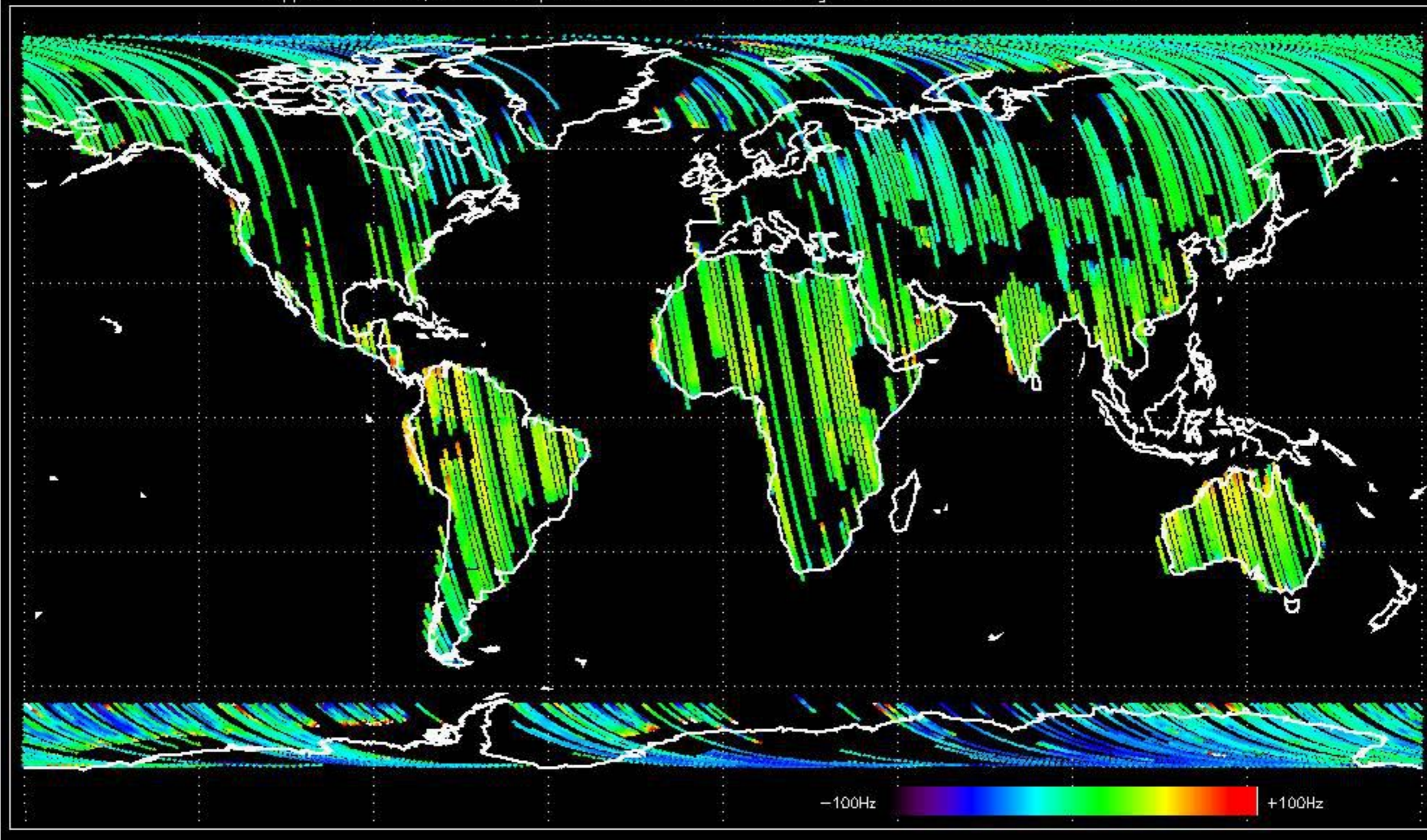


GM1 mode doppler

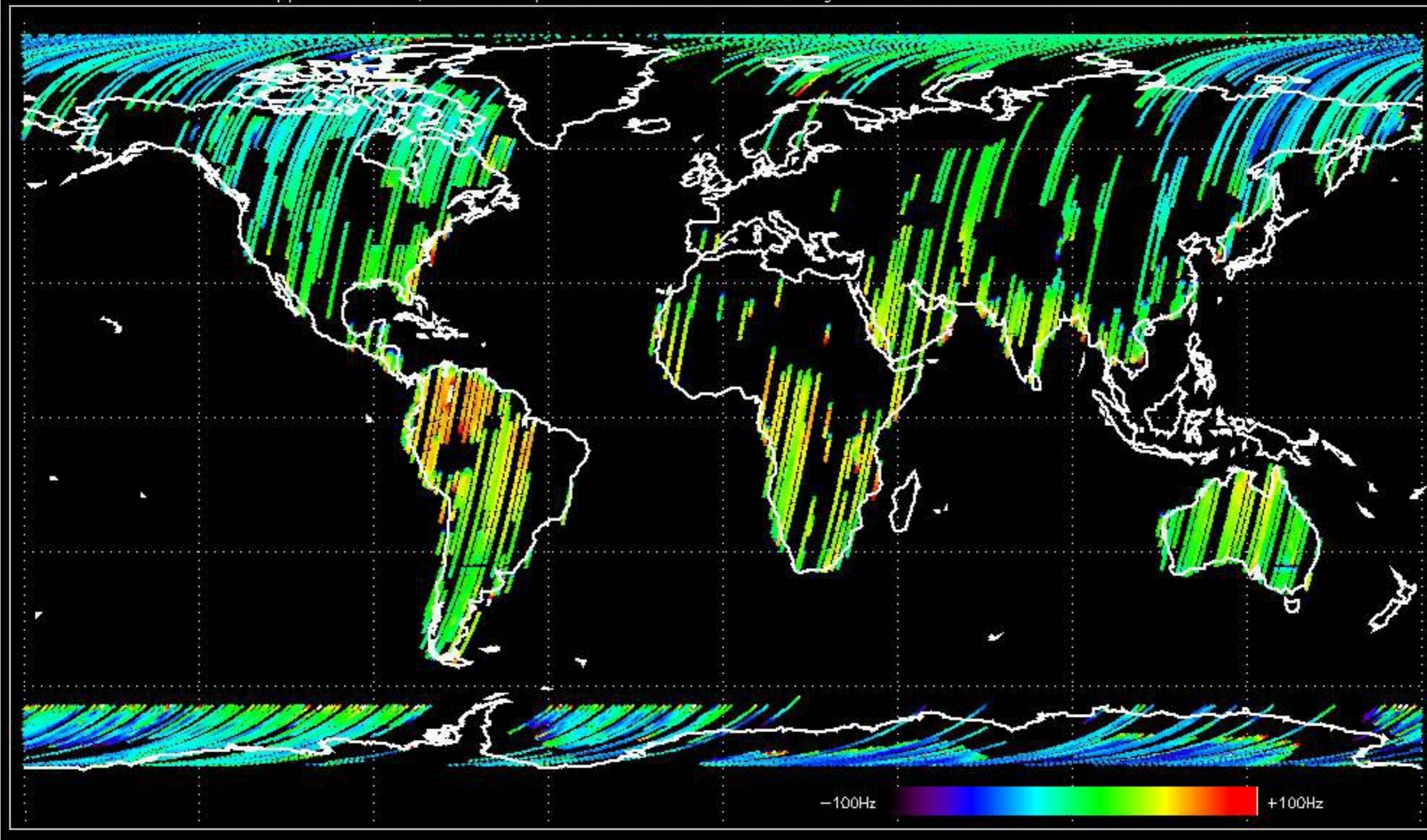




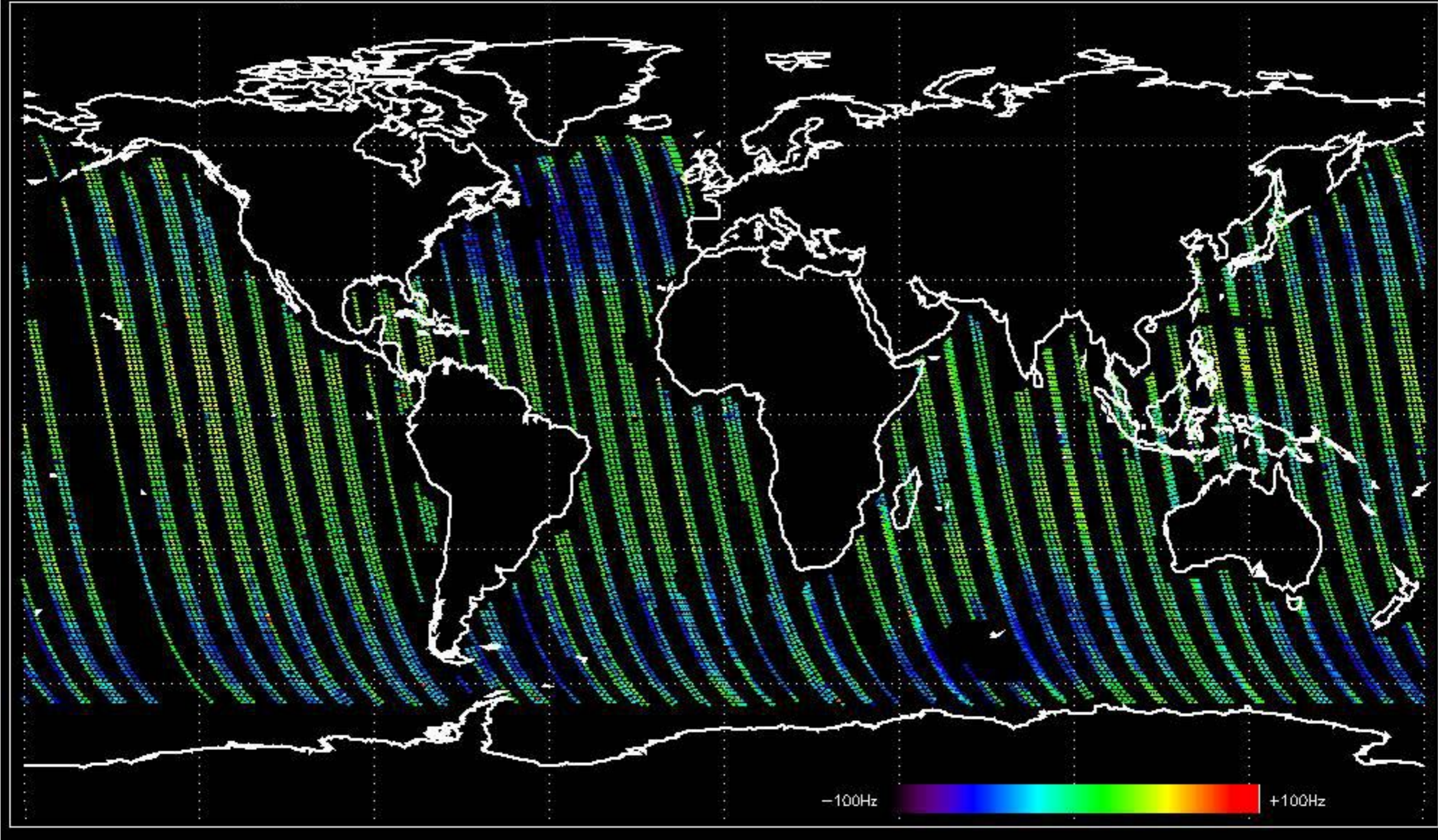
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -17.493848 Hz



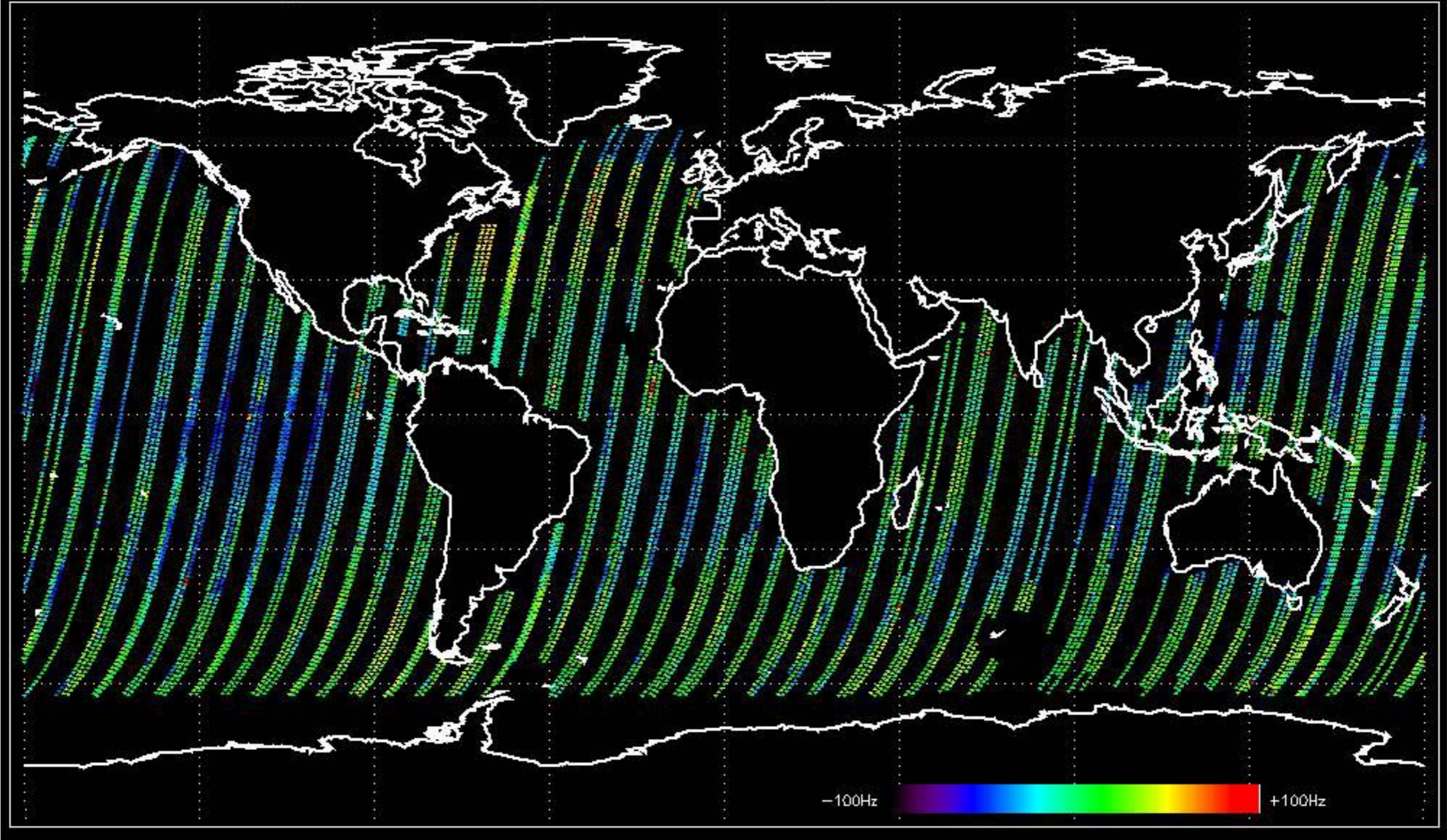
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -18.276408 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -15.552265 Hz

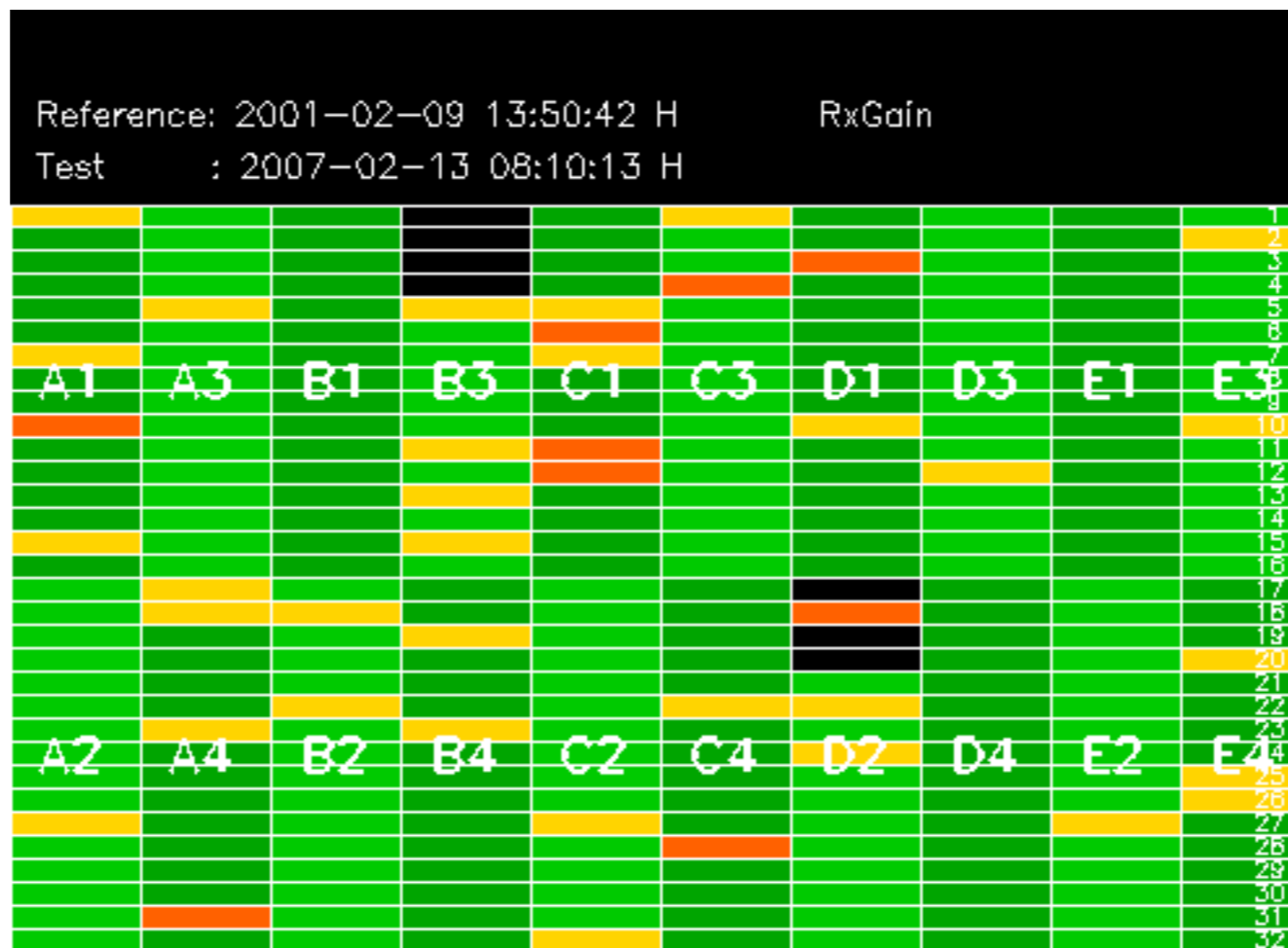


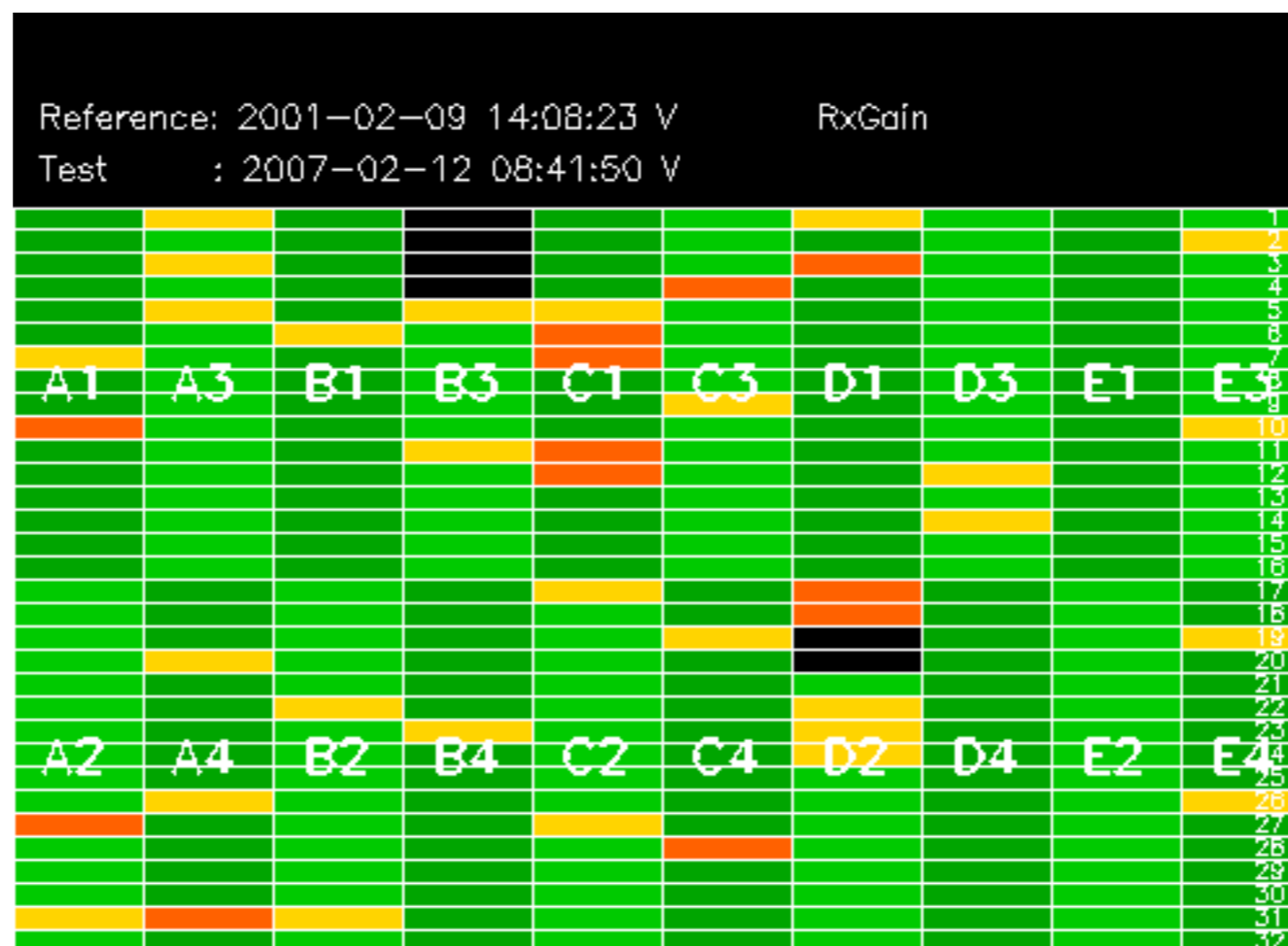
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -17.150525 Hz

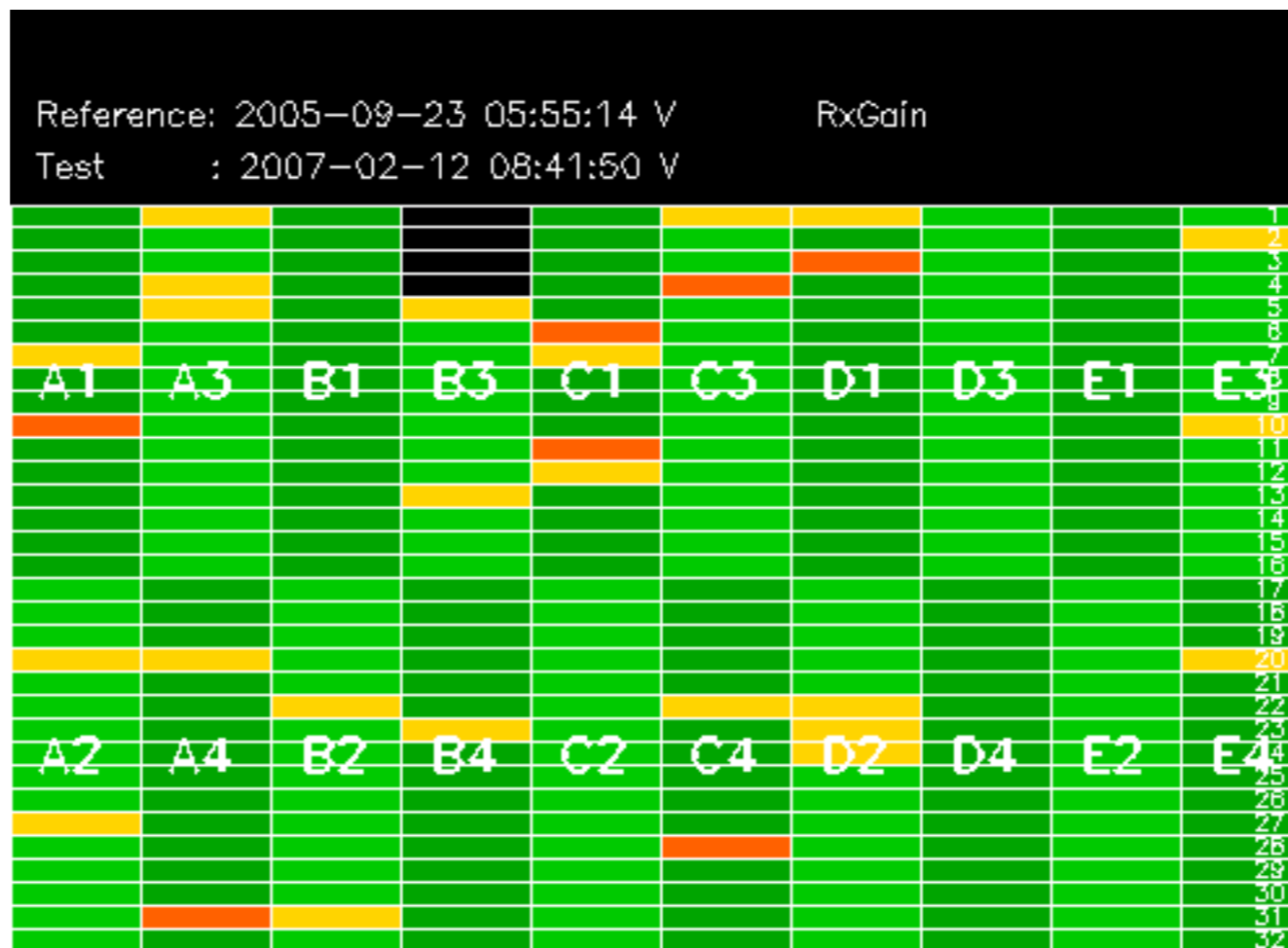


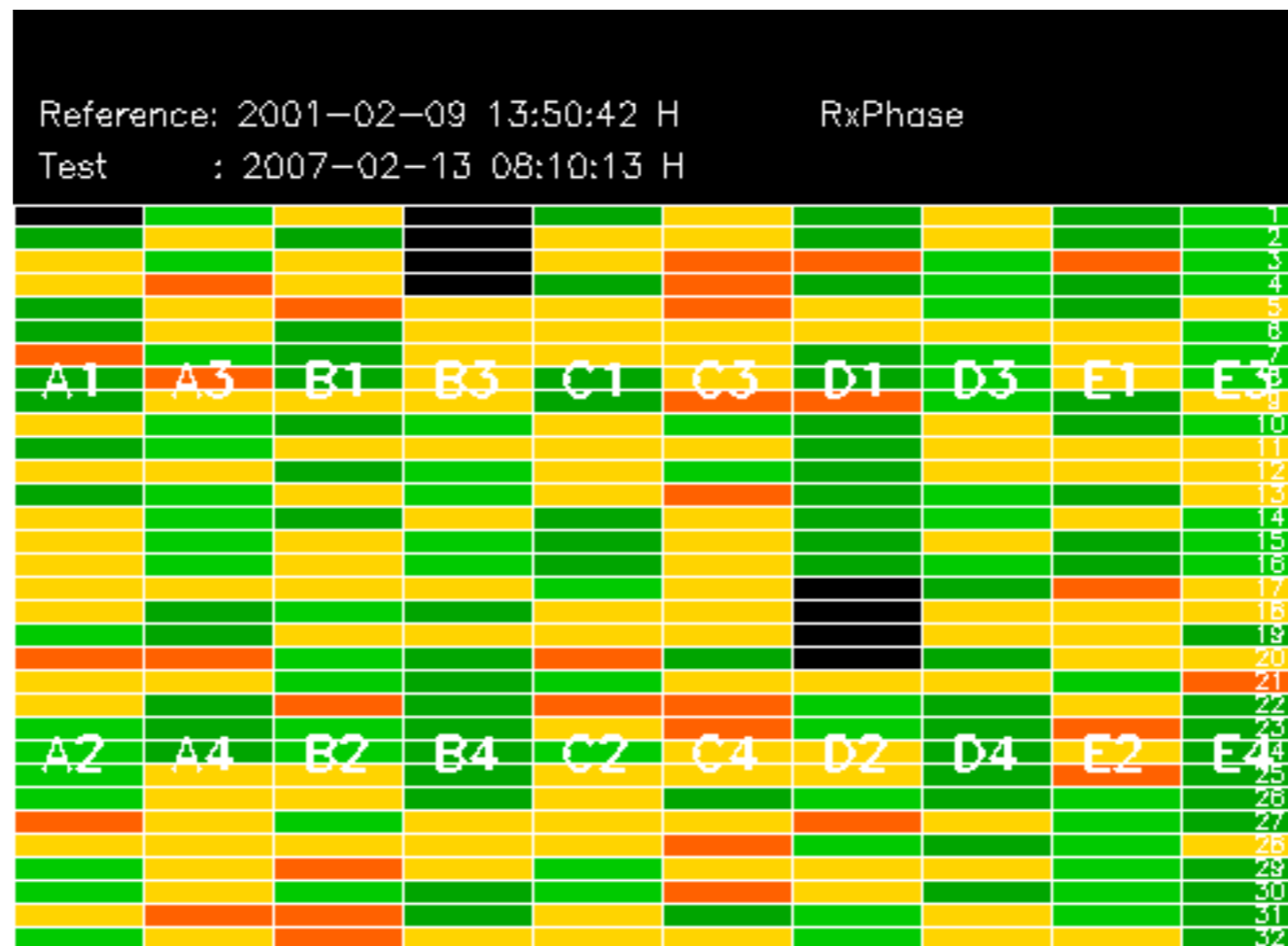
No anomalies observed on available MS products:

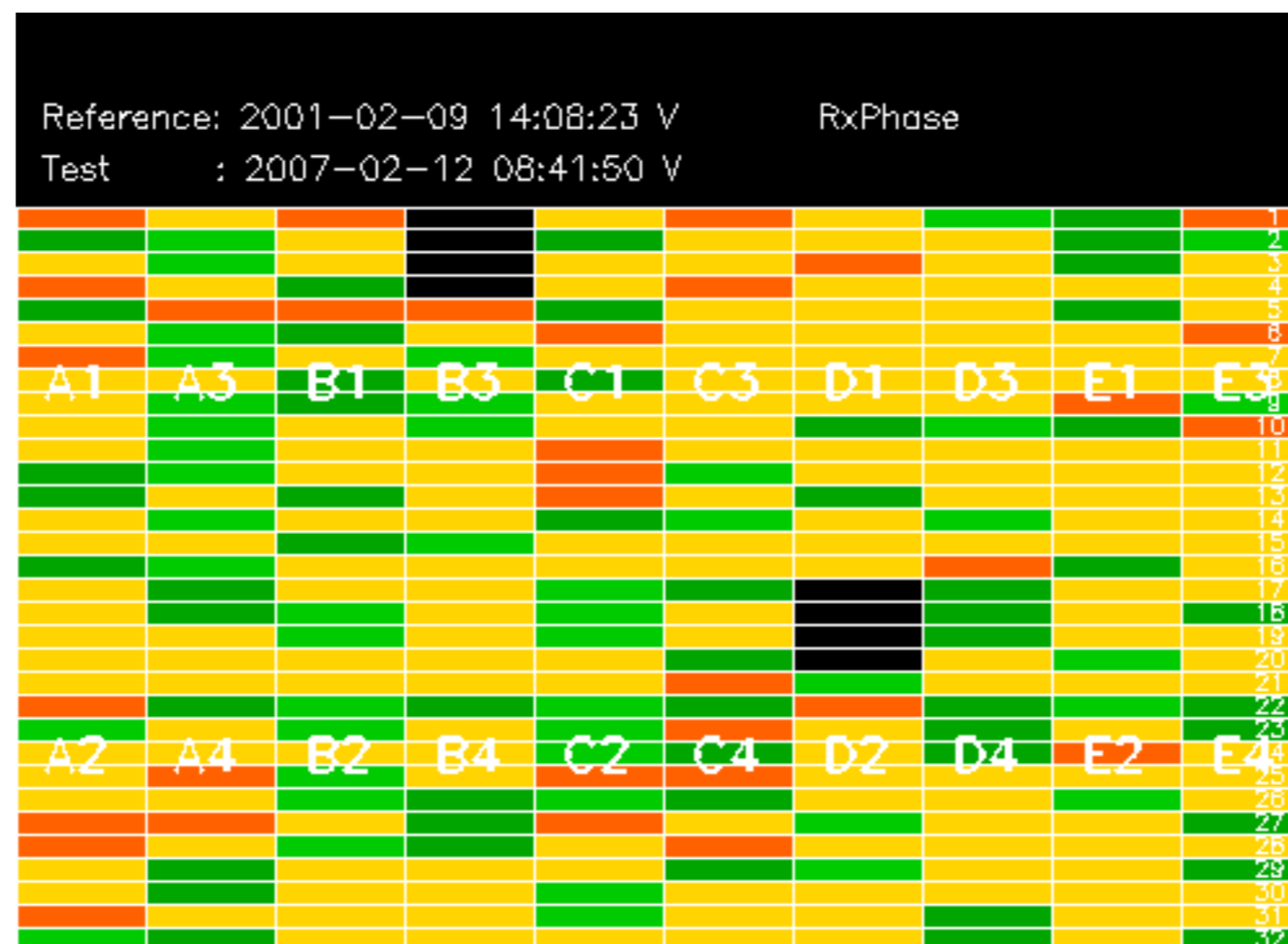
No anomalies observed.

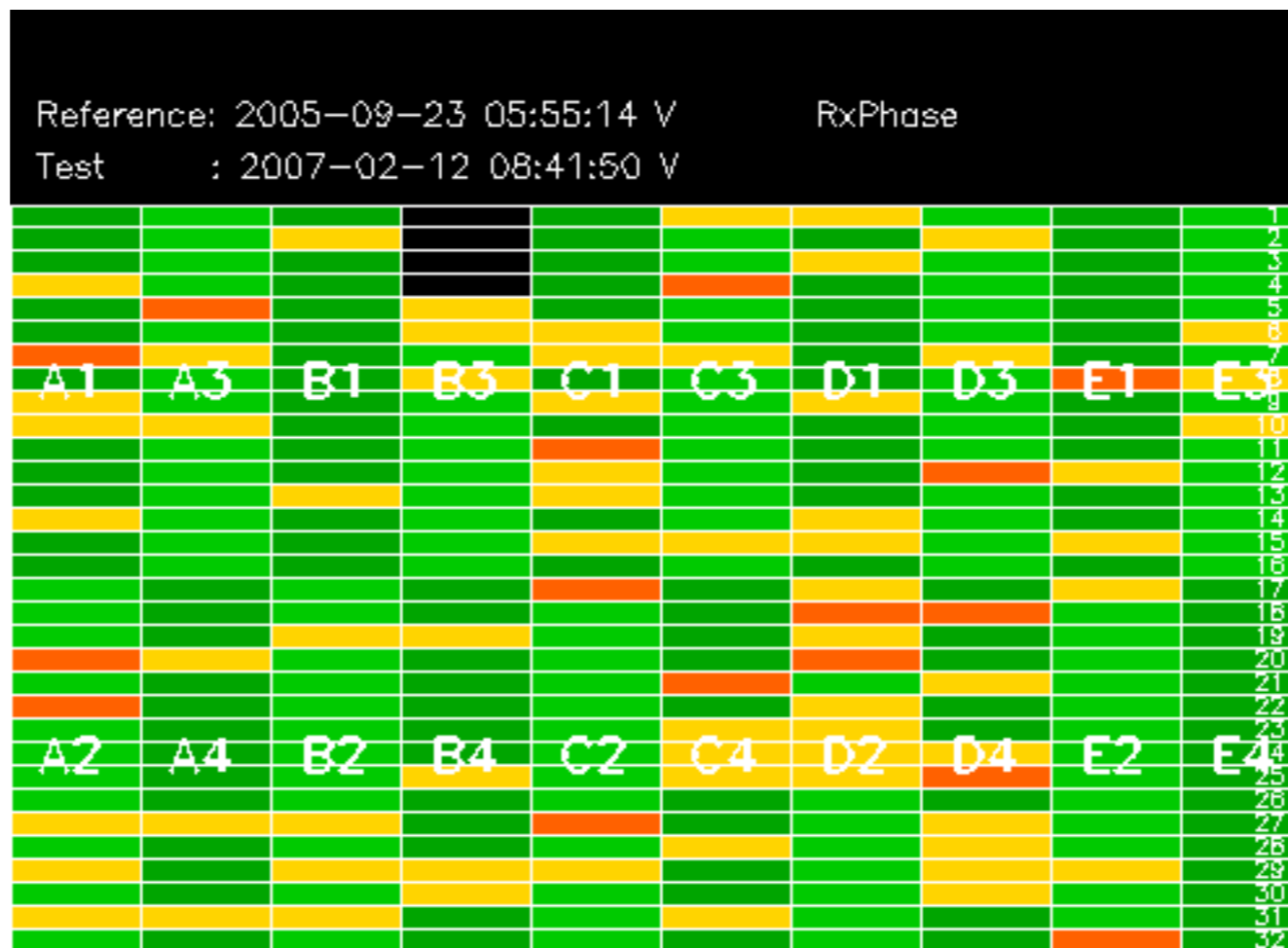


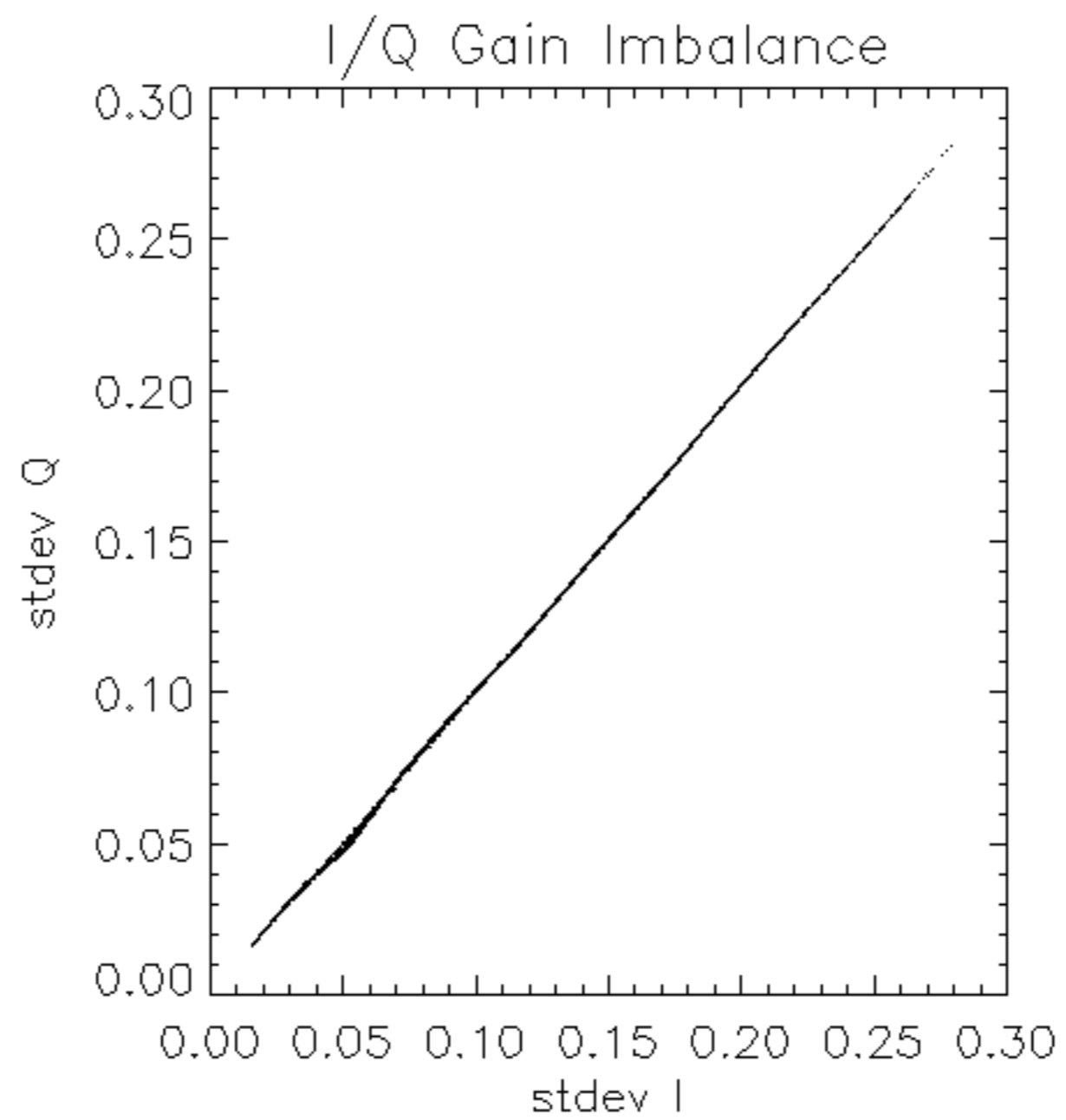


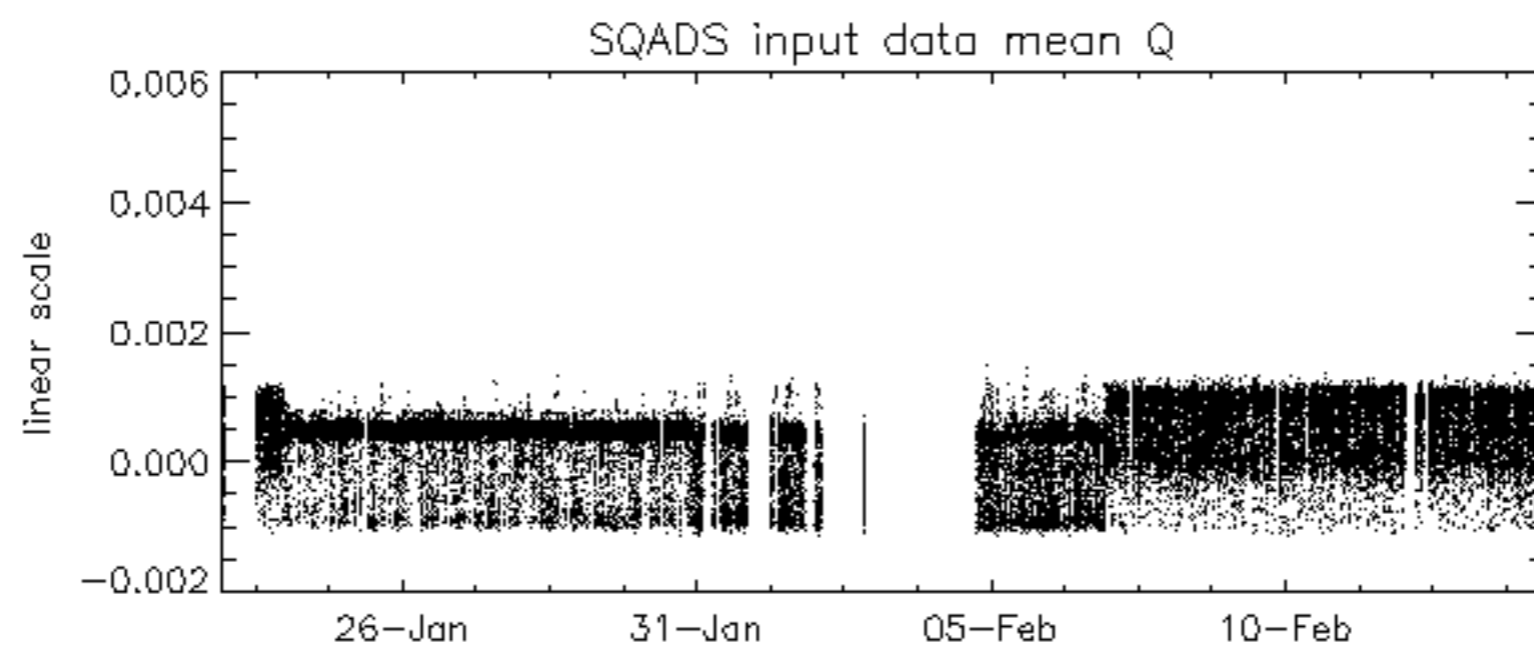
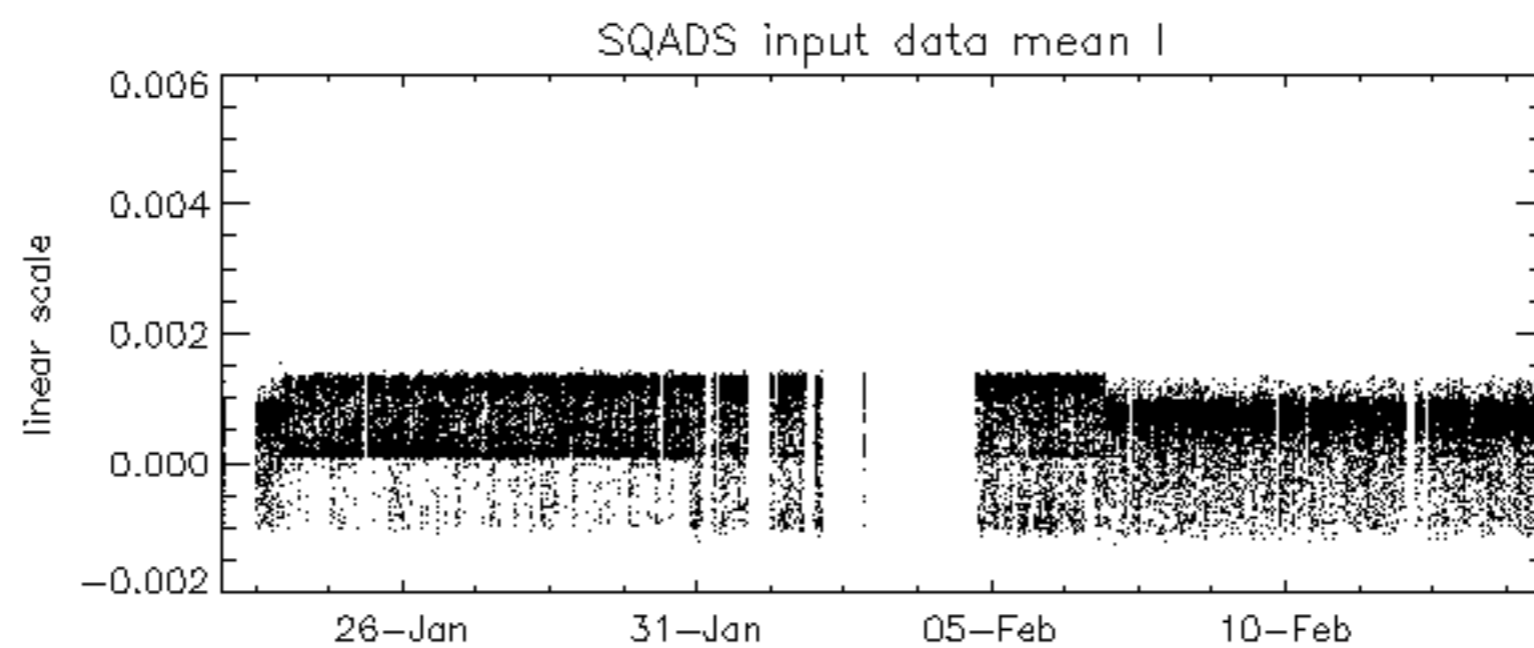
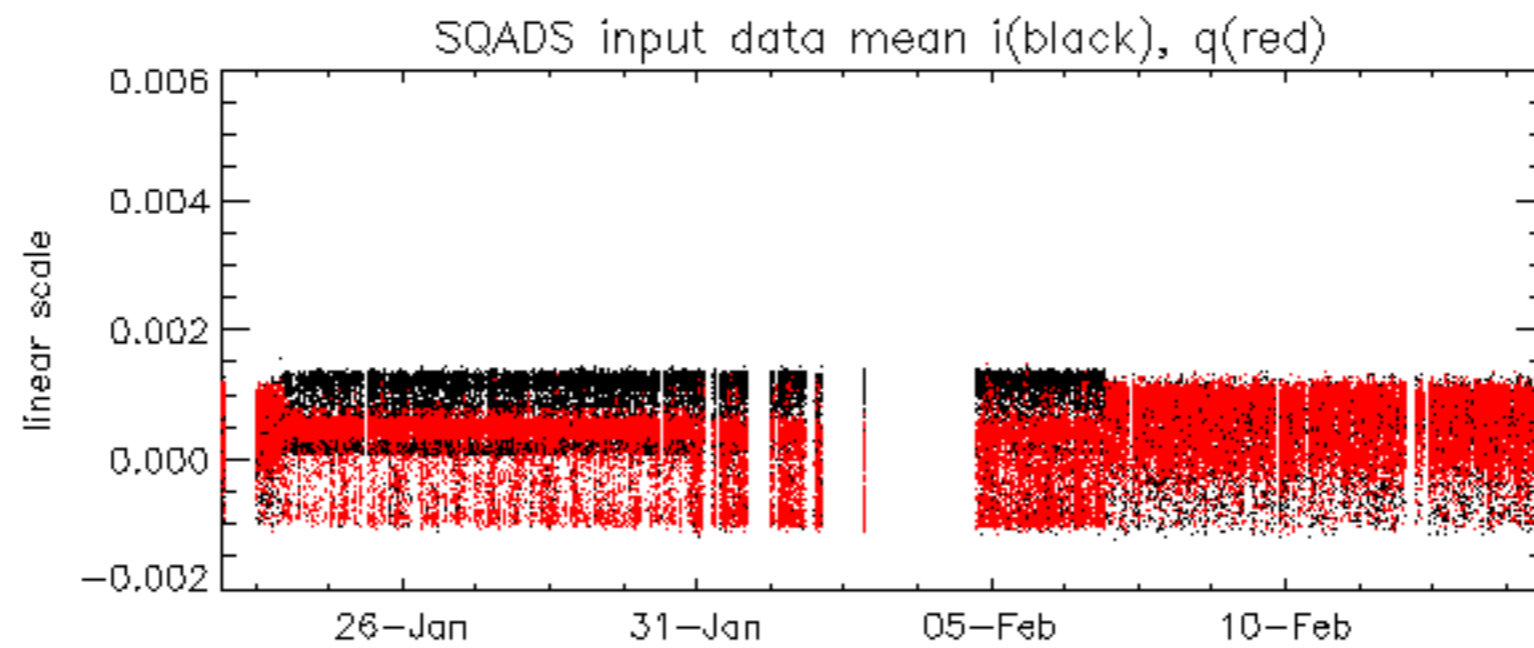


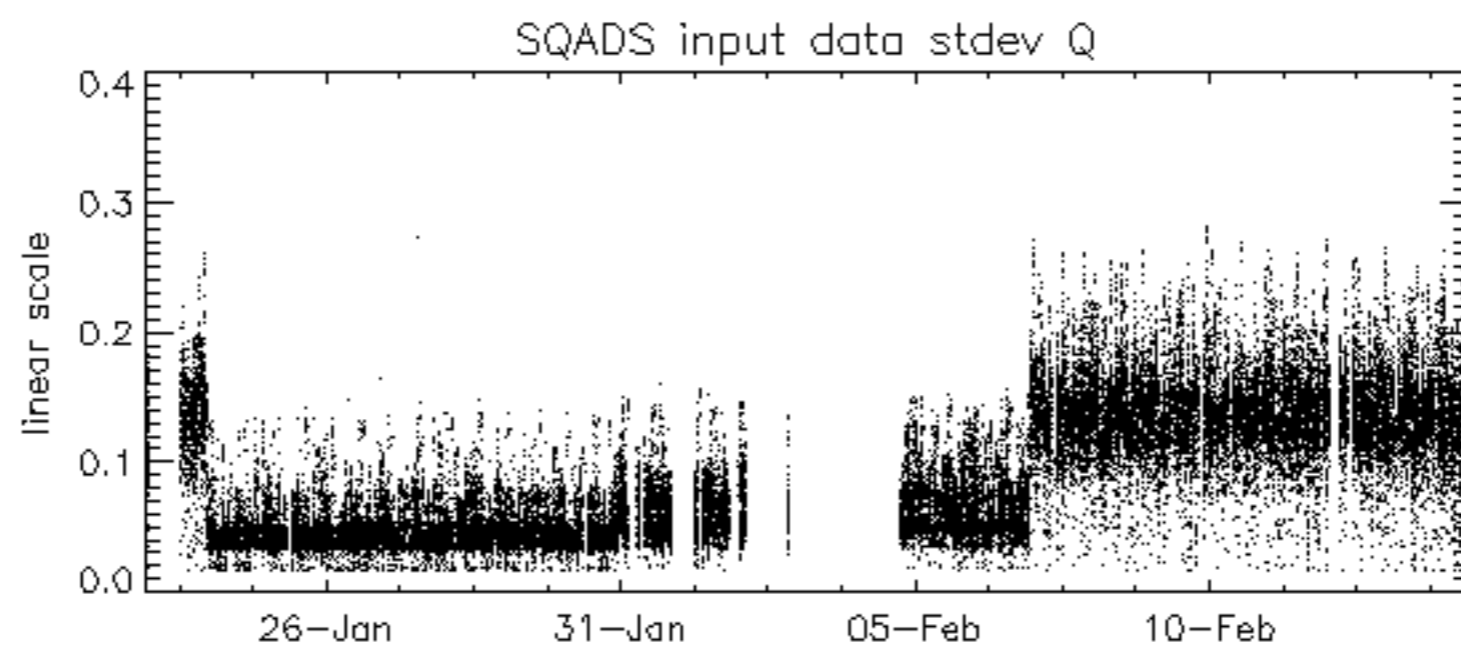
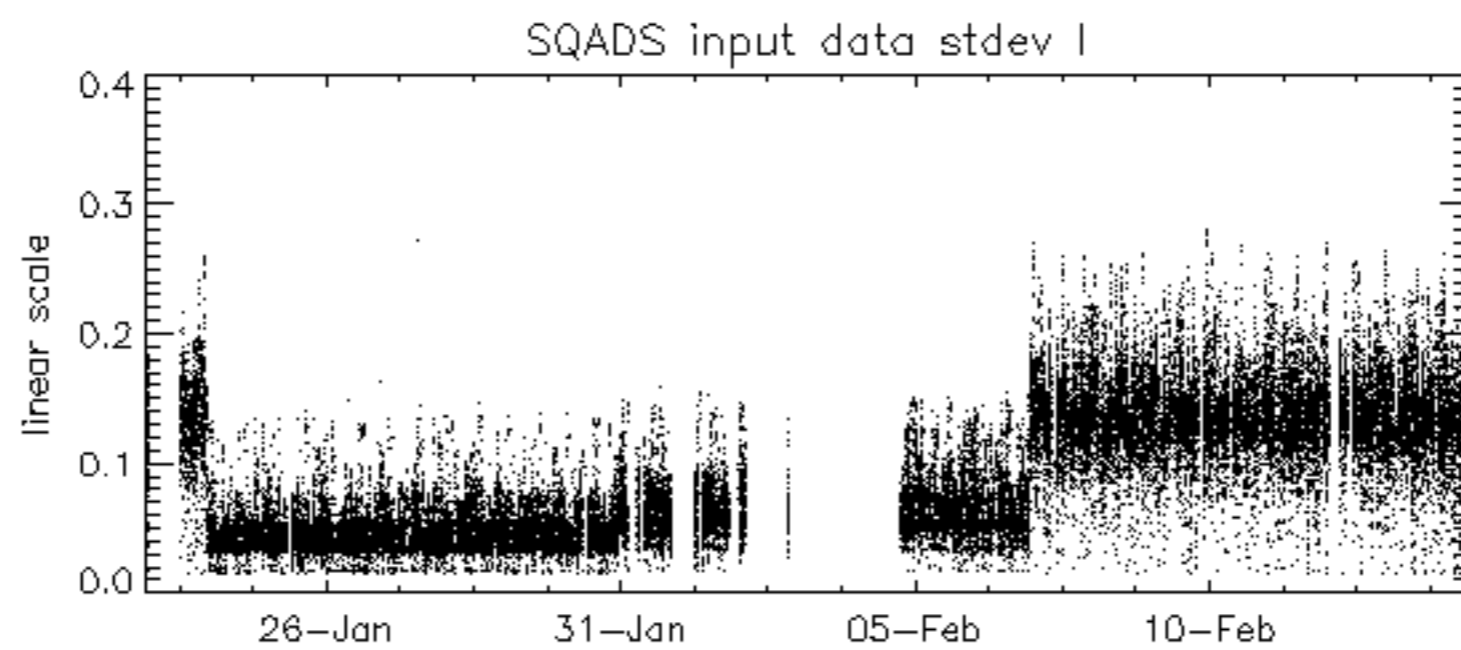
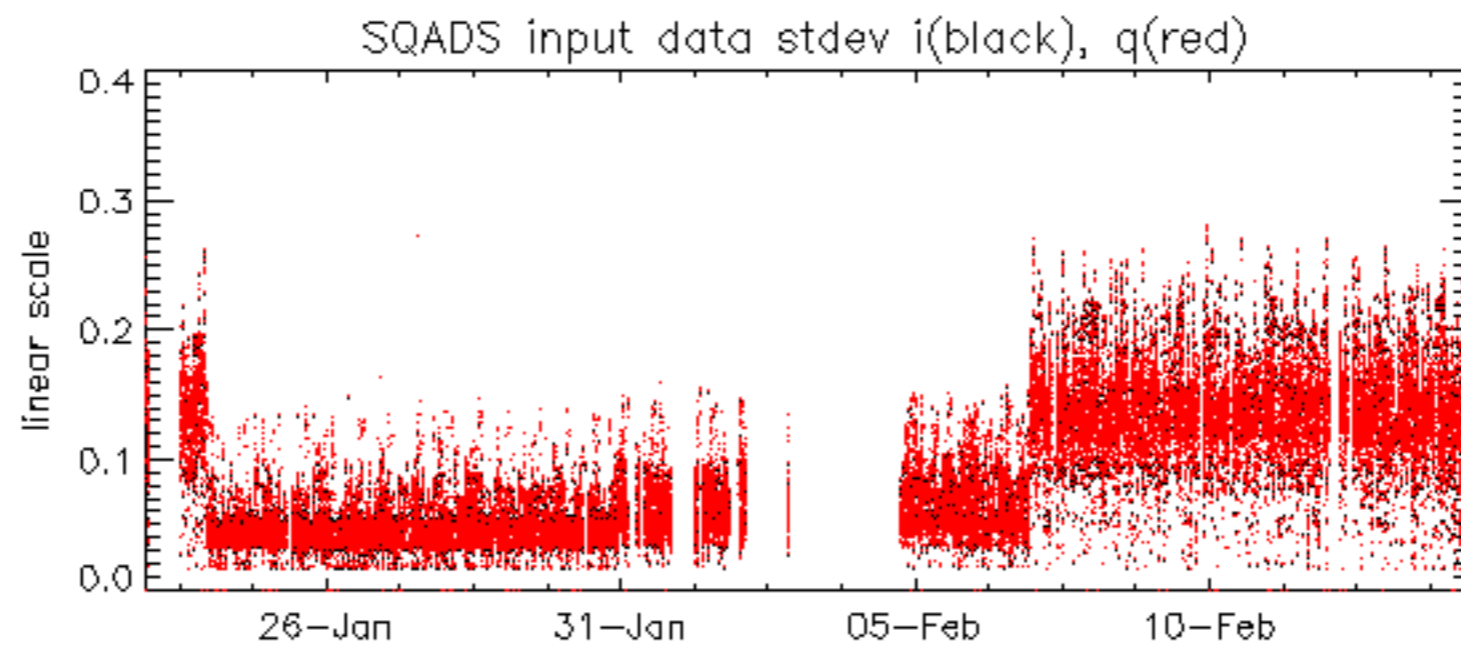








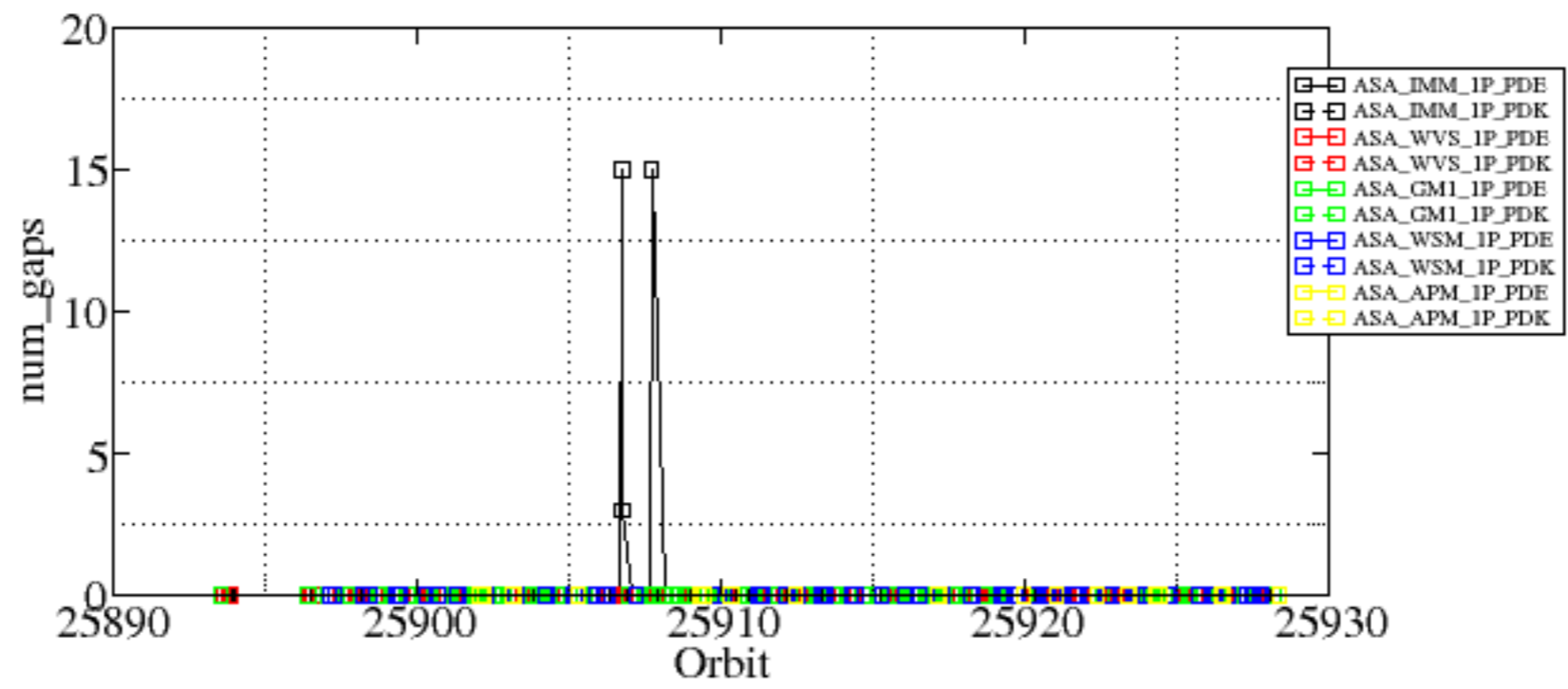




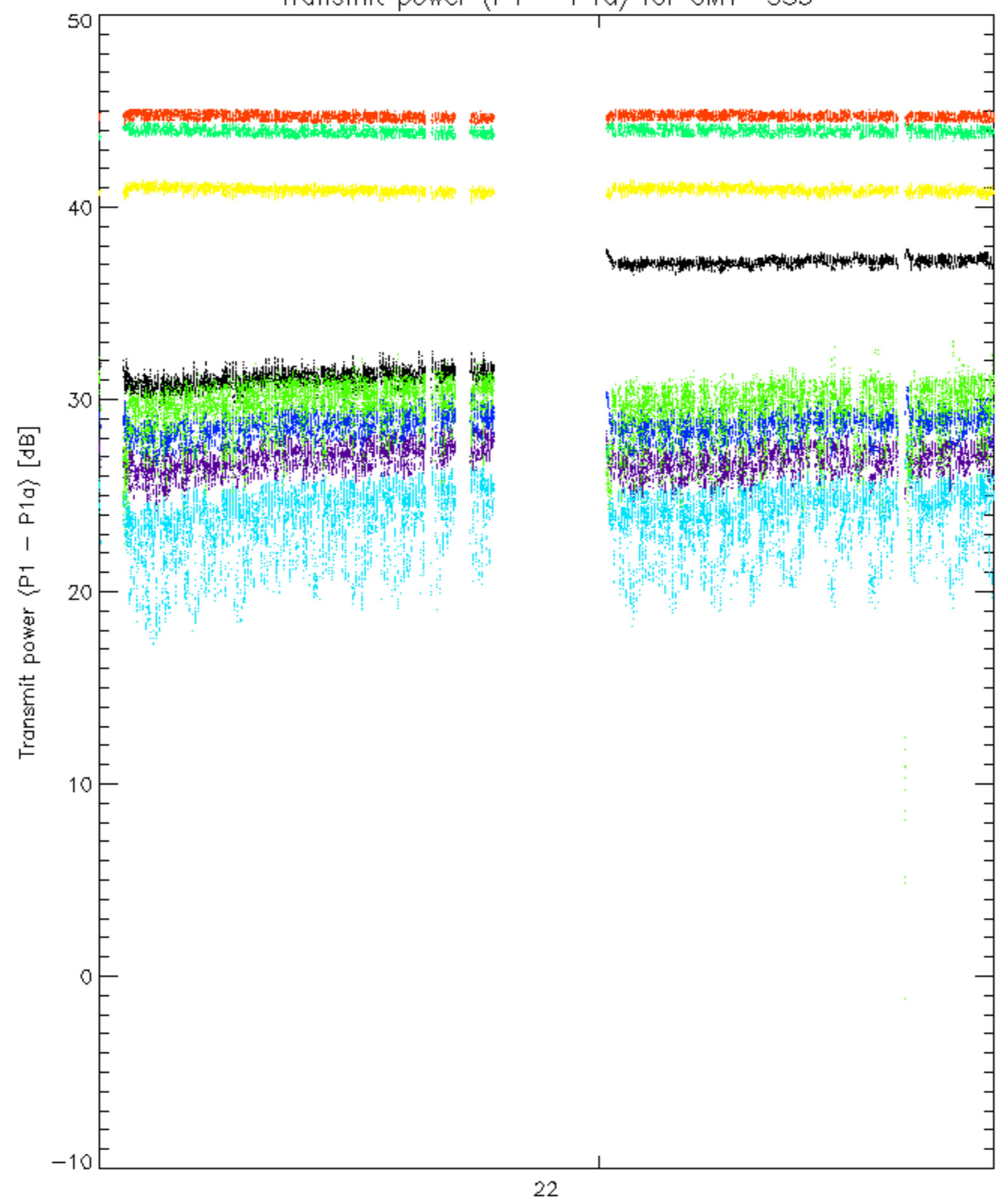
Summary of analysis for the last 3 days 2007021[234]

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

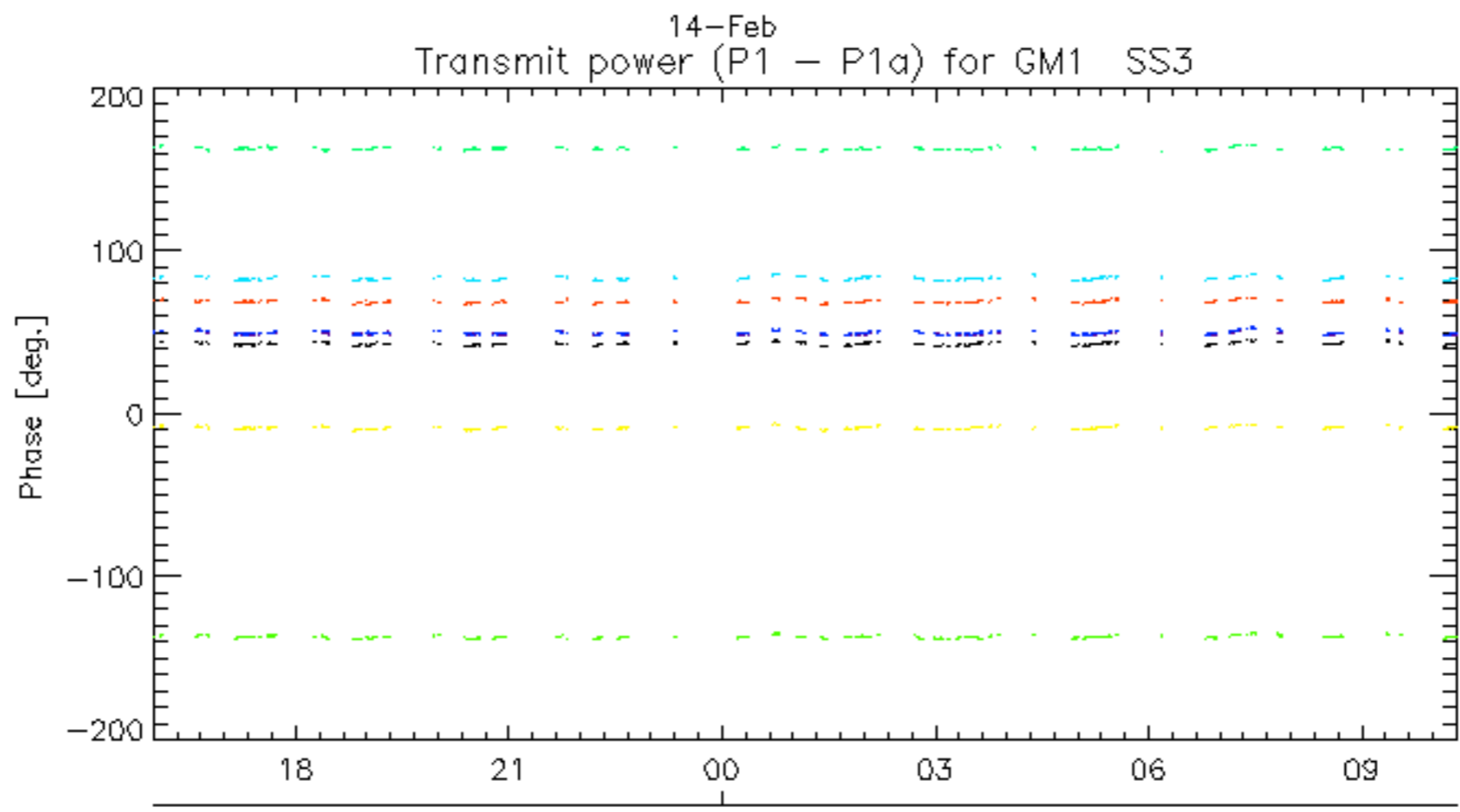
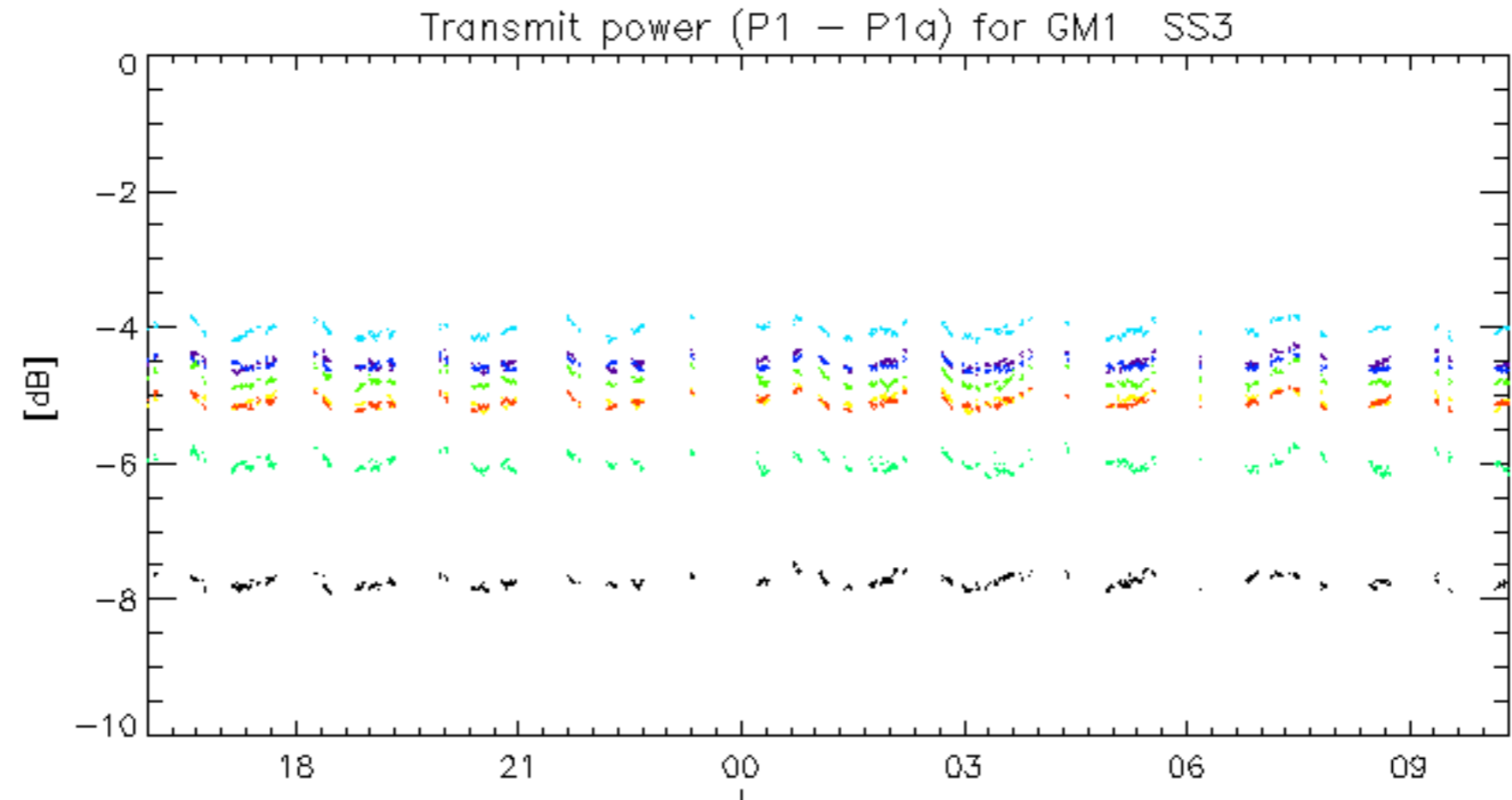
Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20070212_221218_000001072055_00301_25906_5131.N1	15	3773
ASA_IMM_1PNPDE20070212_221549_000002632055_00301_25906_5257.N1	3	10
ASA_IMM_1PNPDE20070212_235224_000004552055_00302_25907_5398.N1	15	2640
ASA_IMM_1PNPDE20070213_153643_00000802055_00312_25917_6362.N1	0	558



Transmit power (P1 - P1a) for GM1 SS3

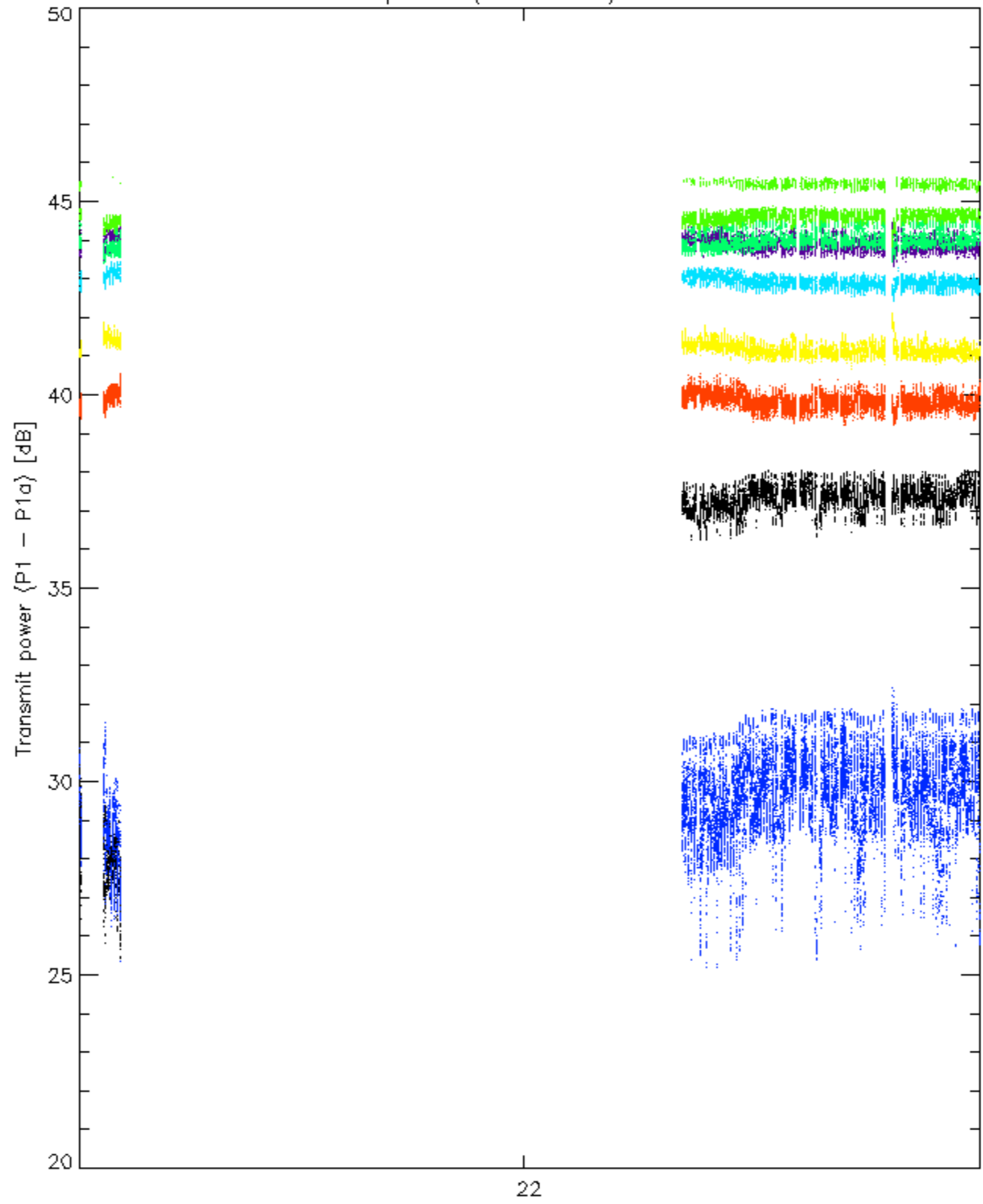


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

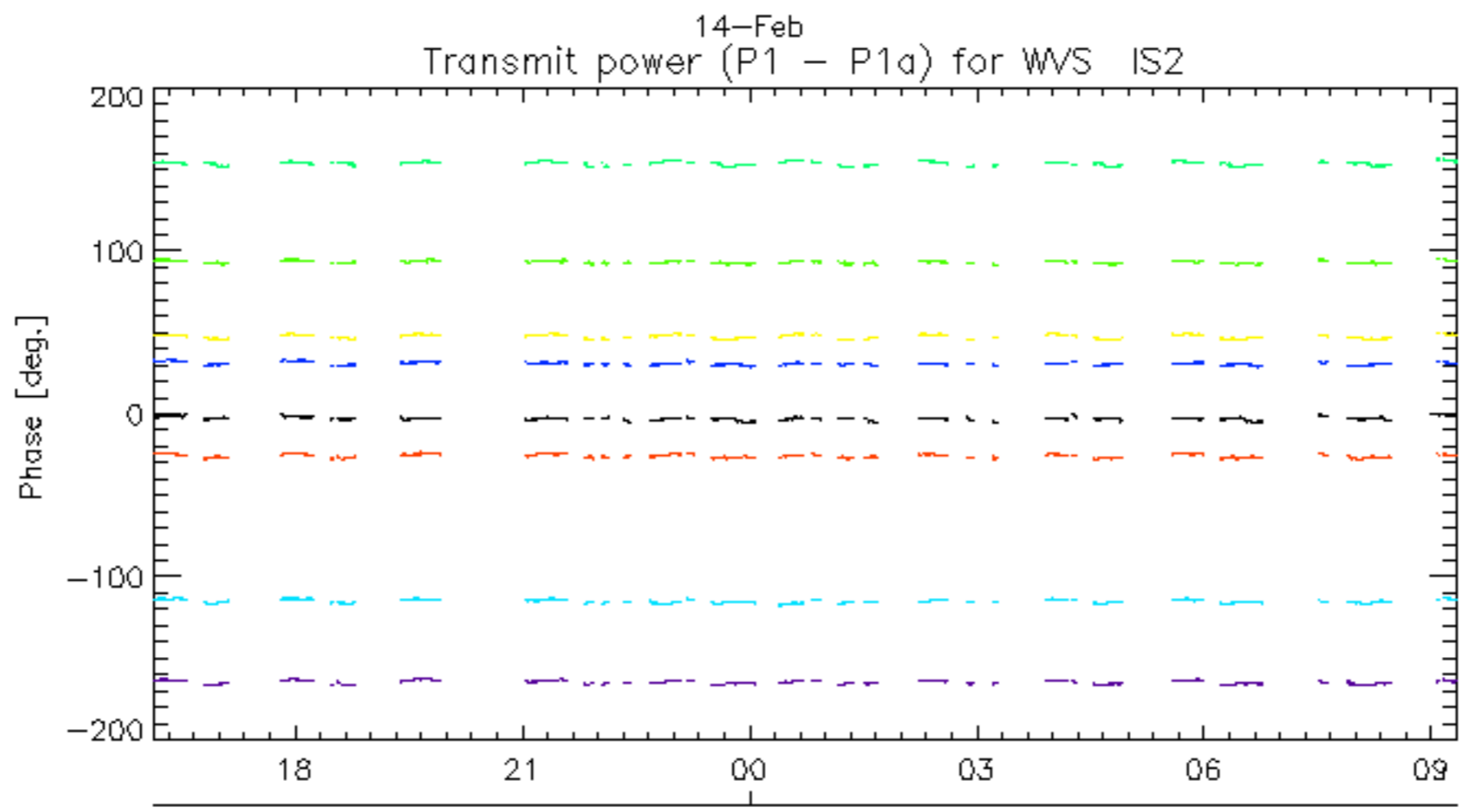
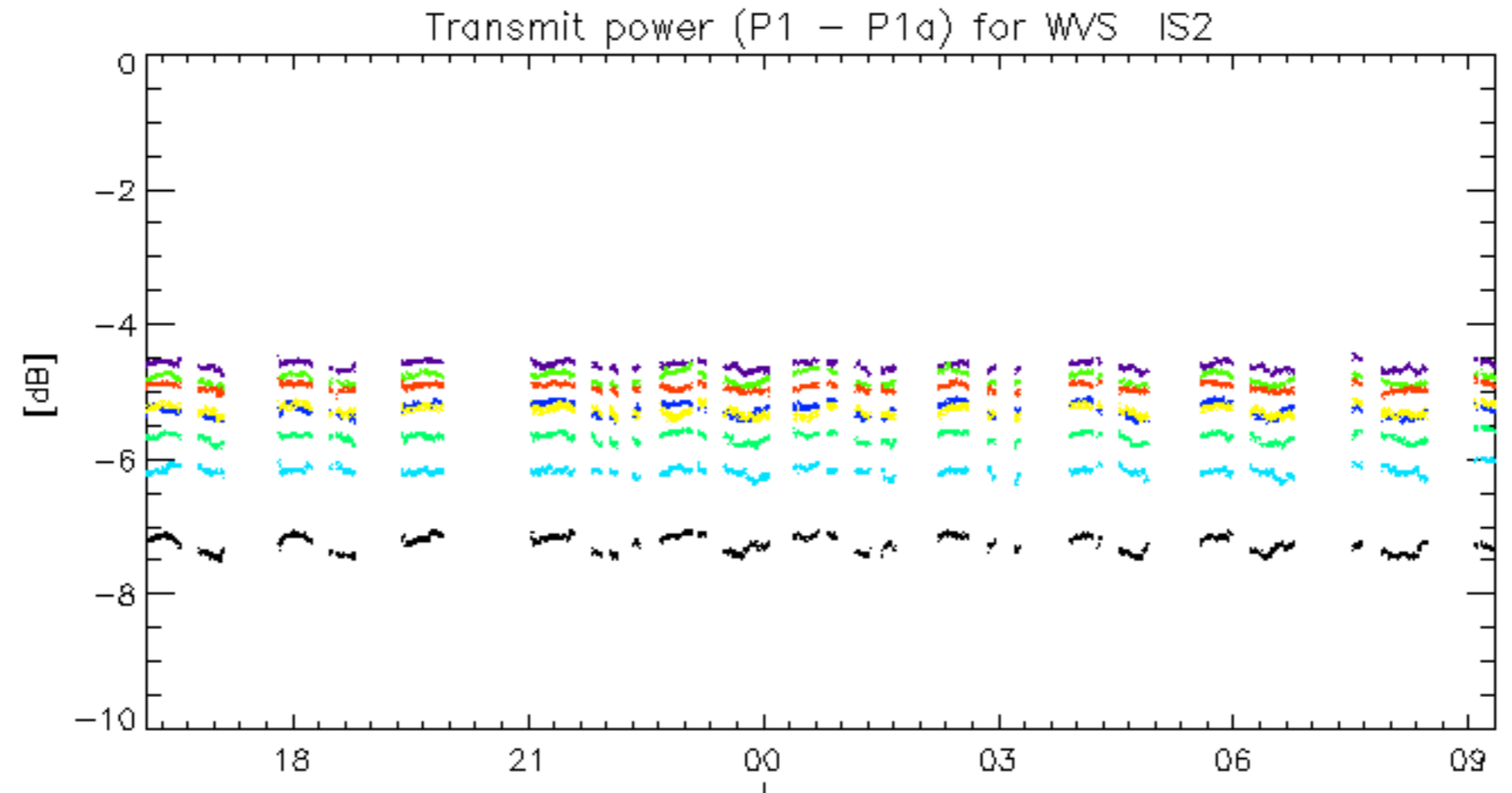


14-Feb
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Transmit power (P1 - P1a) for WVS IS2



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



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

No unavailabilities during the reported period.