

PRELIMINARY REPORT OF 070220

last update on Tue Feb 20 16:23:25 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 2007-02-19 00:00:00 to 2007-02-20 16:23:25

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_XCA_AXVIEC20070215_184638_20070204_165113_20071231_000000	46	77	23	3	25
ASA_CON_AXVIEC20070215_184018_20070204_165113_20071231_000000	46	77	23	3	25
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	46	77	23	3	25
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	46	77	23	3	25

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_XCA_AXVIEC20070215_184638_20070204_165113_20071231_000000	37	42	42	12	44
ASA_CON_AXVIEC20070215_184018_20070204_165113_20071231_000000	37	42	42	12	44
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	37	42	42	12	44
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	37	42	42	12	44

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	20070220 042854
H	20070219 050031

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	-15.155804	0.249024	1.714164
7	P1a	-17.400106	0.105958	-0.182713
11	P1a	-17.316906	0.357762	0.096063
15	P1a	-12.841841	0.109621	-0.195937
19	P1a	-15.091522	0.095331	-0.054428
22	P1a	-15.506728	0.489584	-0.215872
26	P1a	-15.002081	0.220880	-0.135076
30	P1a	-17.312344	0.364926	-0.343066

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.603044	0.168824	-1.769935
7	P1	-3.099751	0.009233	-0.010500
11	P1	-4.124109	0.019577	-0.019613
15	P1	-6.322330	0.015627	-0.037642
19	P1	-3.704464	0.008639	0.014602
22	P1	-4.669509	0.014623	0.029750
26	P1	-3.923260	0.013334	0.034343
30	P1	-5.911975	0.011883	0.011240

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.528238	0.282012	-1.937486
7	P2	-21.591892	0.084476	0.165639
11	P2	-15.472068	0.101564	0.093145
15	P2	-7.003363	0.097954	0.037828

19	P2	-9.071757	0.086629	0.034972
22	P2	-18.096535	0.081436	-0.022909
26	P2	-16.494785	0.095524	0.016206
30	P2	-19.324957	0.077742	0.041617

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.190932	0.007823	0.064829
7	P3	-8.190932	0.007823	0.064829
11	P3	-8.190932	0.007823	0.064829
15	P3	-8.190932	0.007823	0.064829
19	P3	-8.190932	0.007823	0.064829
22	P3	-8.190932	0.007823	0.064829
26	P3	-8.190932	0.007823	0.064829
30	P3	-8.190932	0.007823	0.064829

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	-11.319076	0.145002	1.167903
7	P1a	-10.031424	0.062201	-0.030049
11	P1a	-10.578193	0.059234	-0.241302
15	P1a	-10.846139	0.131317	-0.054406
19	P1a	-15.743270	0.064398	0.014925
22	P1a	-20.871161	1.282423	0.355078
26	P1a	-15.434726	0.261985	0.236672
30	P1a	-18.328230	0.362389	-0.037106

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
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3	P1	-6.822941	3.968832	-7.264831
7	P1	-2.433663	0.005980	0.039024
11	P1	-2.881348	0.016089	-0.082847
15	P1	-3.796943	0.033343	-0.079323
19	P1	-3.549575	0.012801	0.001603
22	P1	-5.022468	0.022679	0.010317
26	P1	-5.990868	0.023195	0.036612
30	P1	-5.285954	0.022938	0.024750

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.410698	0.801148	-3.142085
7	P2	-21.996885	0.052368	0.159070
11	P2	-10.671368	0.031159	0.105749
15	P2	-4.824553	0.027185	0.080159
19	P2	-6.821531	0.028426	0.092783
22	P2	-8.129716	0.030040	0.095135
26	P2	-24.245712	0.032127	0.050801
30	P2	-21.775656	0.035572	0.115474

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.042280	0.003357	0.066437
7	P3	-8.042301	0.003368	0.065899
11	P3	-8.042320	0.003359	0.066176
15	P3	-8.042239	0.003367	0.066584
19	P3	-8.042289	0.003348	0.066195
22	P3	-8.042326	0.003358	0.066360
26	P3	-8.042177	0.003361	0.066638
30	P3	-8.042242	0.003364	0.066260

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	0.000625580
	stdev	2.44160e-07
MEAN Q	mean	0.000375682
	stdev	2.52270e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.101161
	stdev	0.00259206
STDEV Q	mean	0.101149
	stdev	0.00264242



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007021[890]

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_1PNPDE20070218_003602_000000622055_00374_25979_1850.N1	2	14
ASA_IMM_1PNPDE20070218_003903_000000962055_00374_25979_1947.N1	0	80
ASA_IMM_1PNPDE20070218_004118_000001582055_00374_25979_1945.N1	0	62
ASA_IMM_1PNPDE20070219_231902_000000622055_00402_26007_4423.N1	2	111
ASA_WSM_1PNPDE20070219_093157_000000862055_00394_25999_3949.N1	0	1
ASA_WSM_1PNPDE20070219_112059_000000922055_00395_26000_4006.N1	0	10
ASA_WSM_1PNPDE20070219_171914_000000852055_00399_26004_4165.N1	0	59
ASA_WSM_1PNPDE20070219_185950_000000672055_00400_26005_4175.N1	0	59
ASA_APM_1PNPDE20070219_222200_000000412055_00402_26007_4421.N1	0	21





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

<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"/>

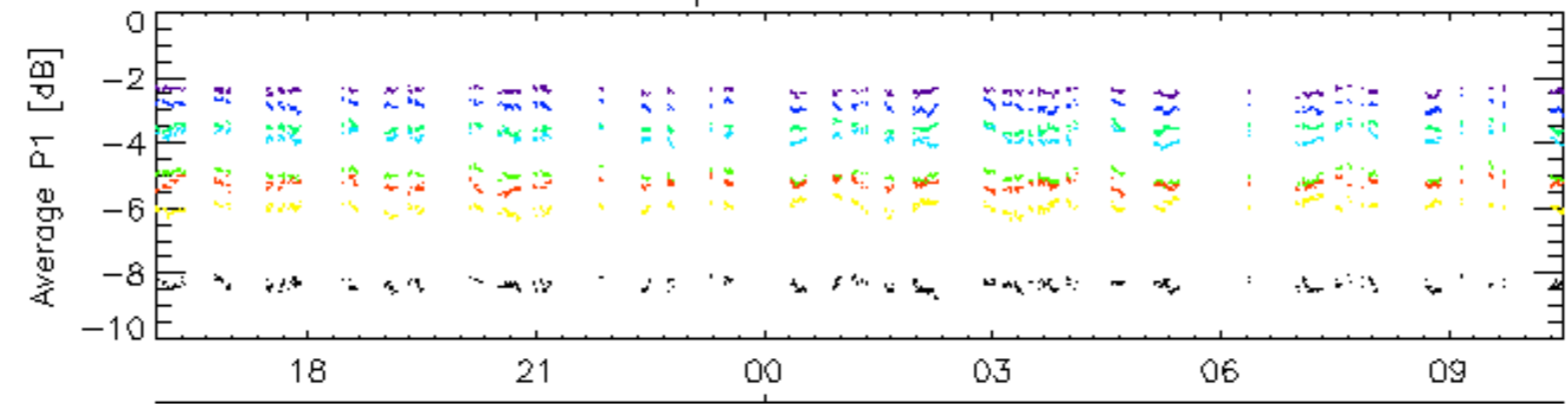
Descending

7.6 - Doppler evolution versus ANX for GM1

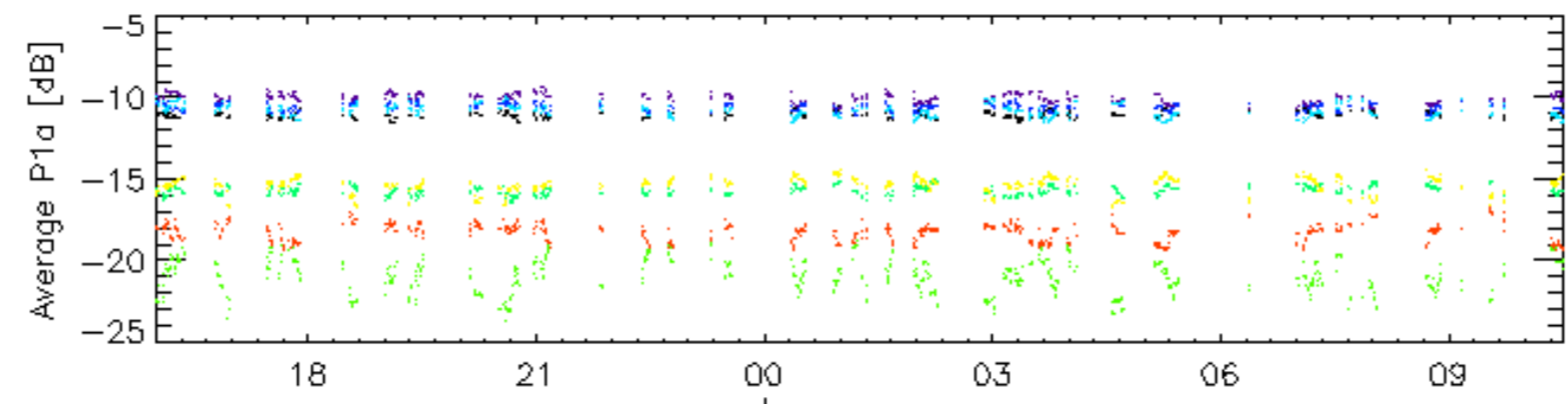
Evolution Doppler error versus ANX

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Cal pulses for GM1 SS3

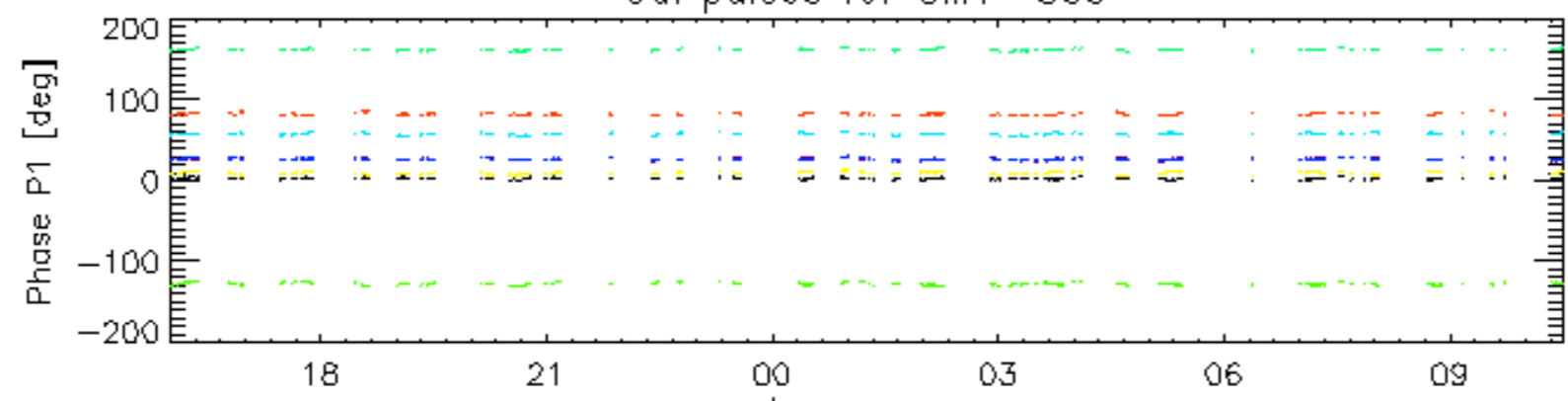


20-Feb

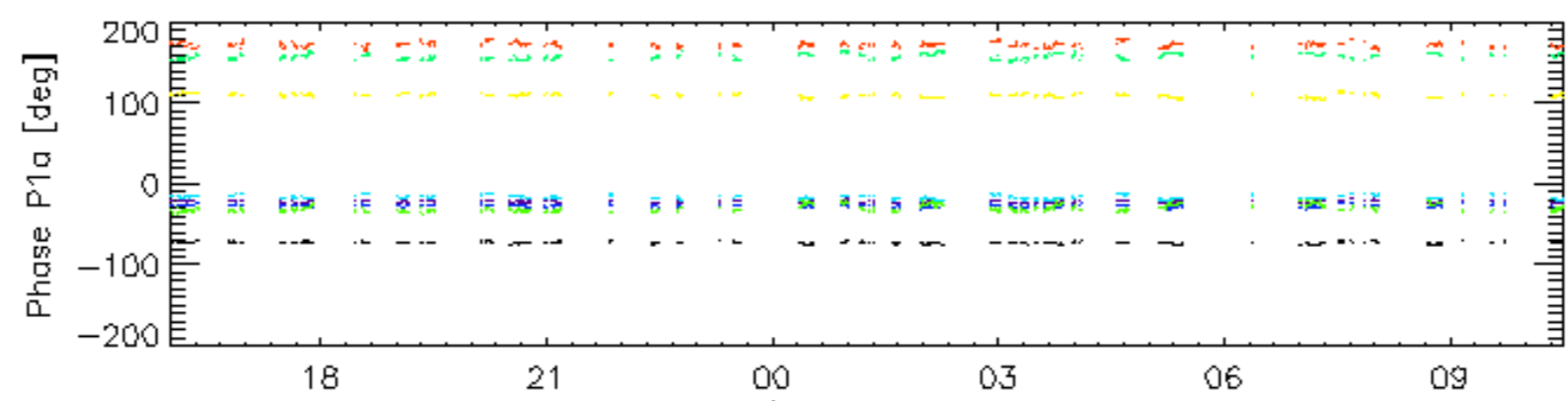


20-Feb

Cal pulses for GM1 SS3

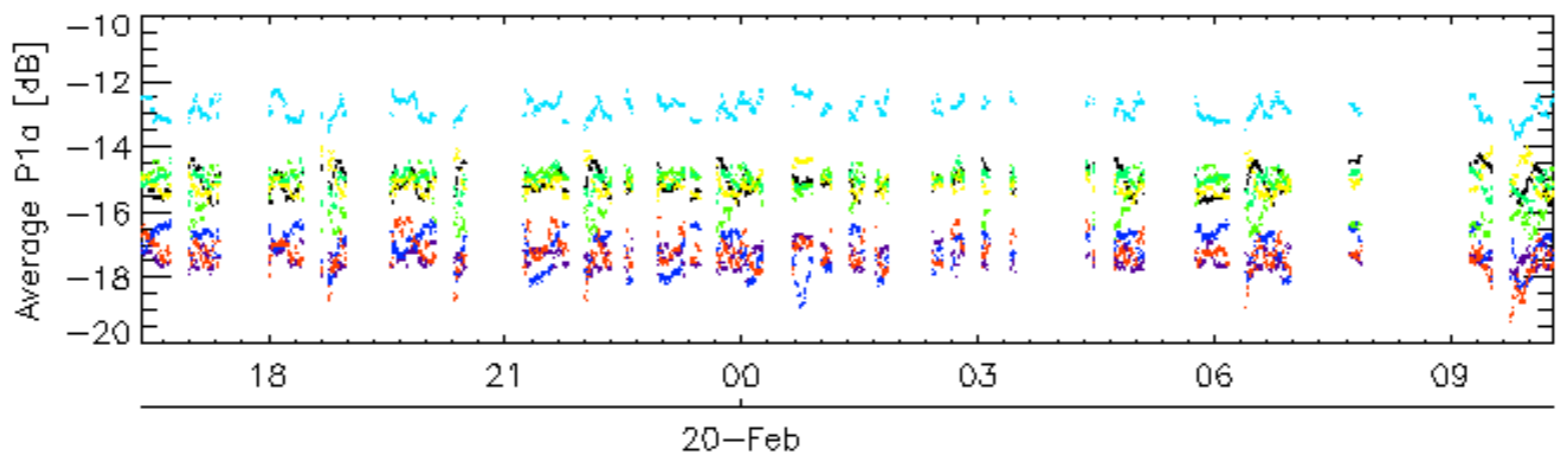
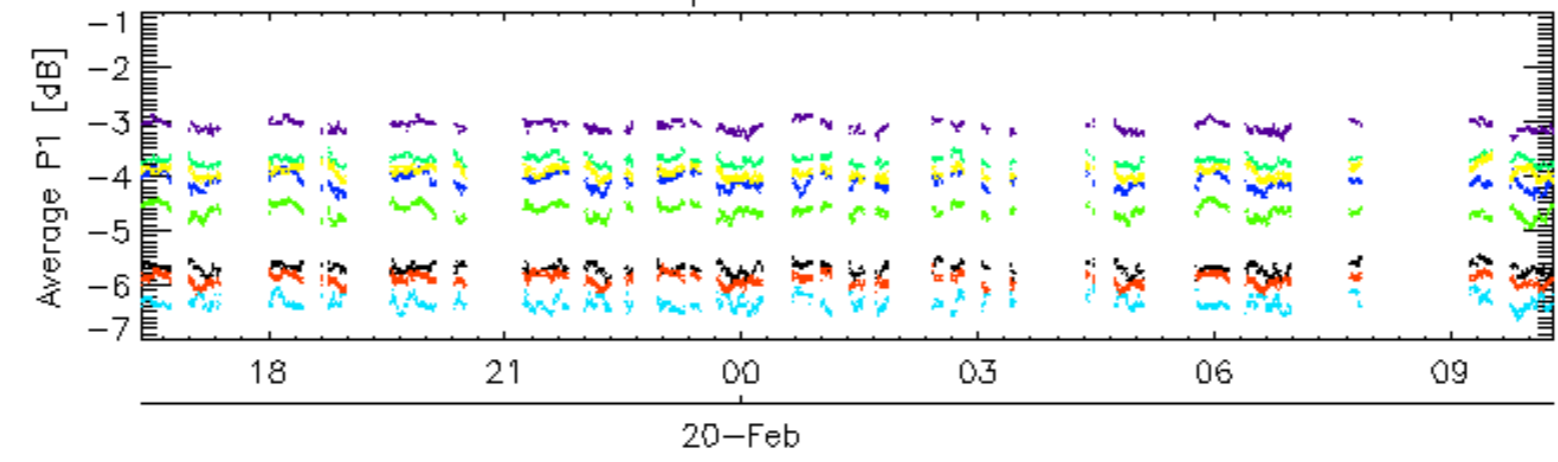


20-Feb

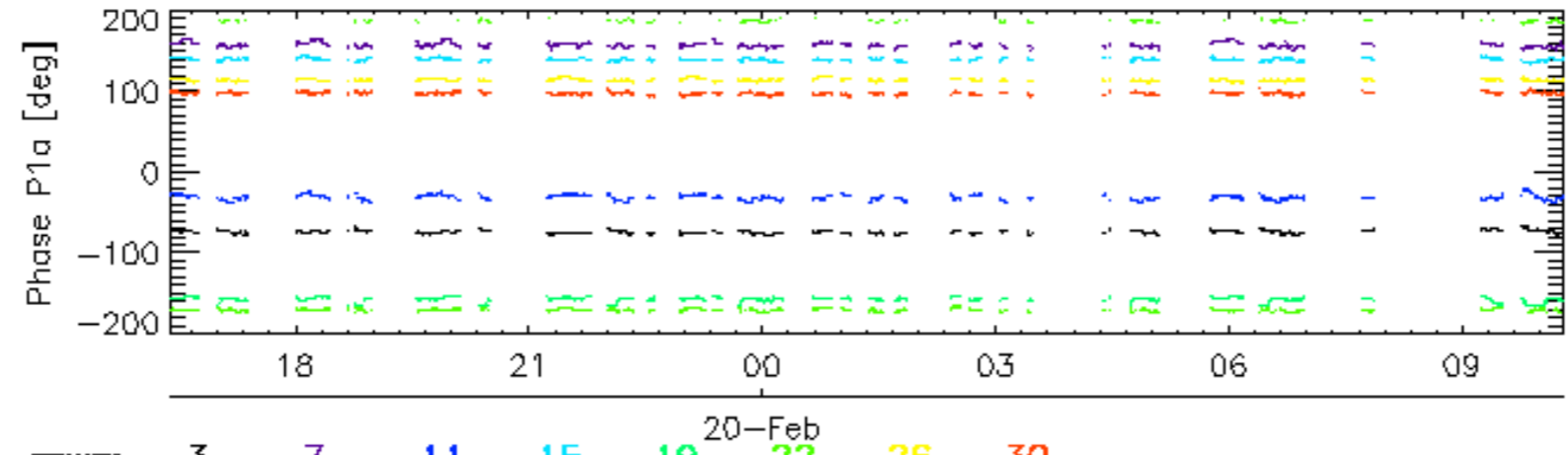
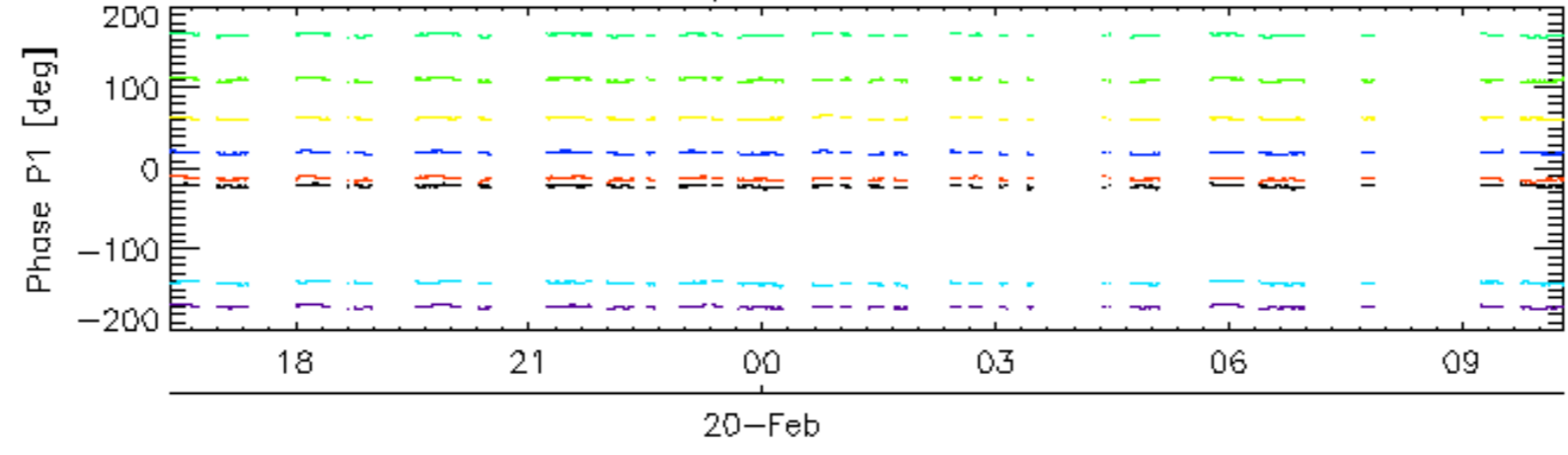


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

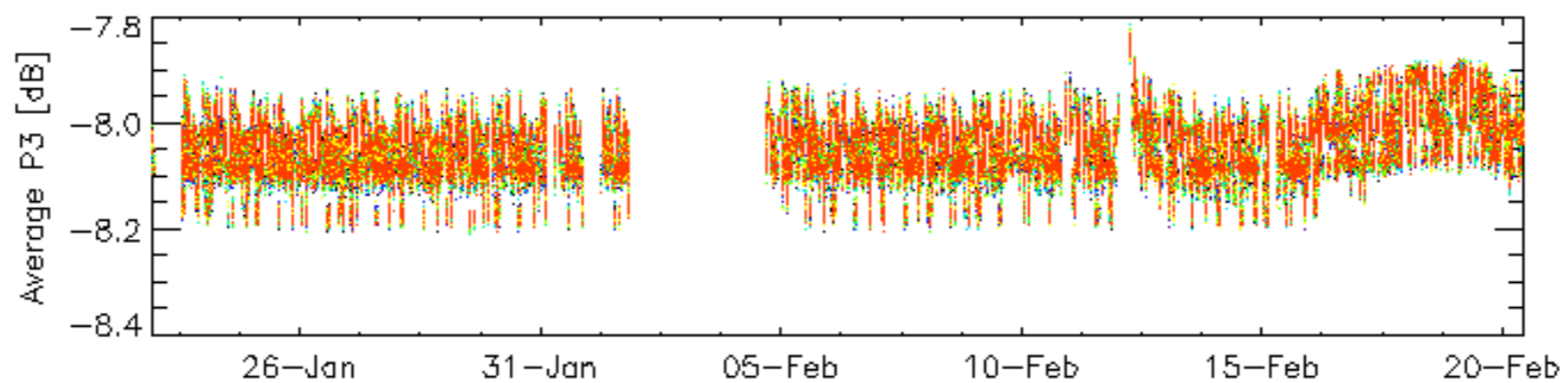
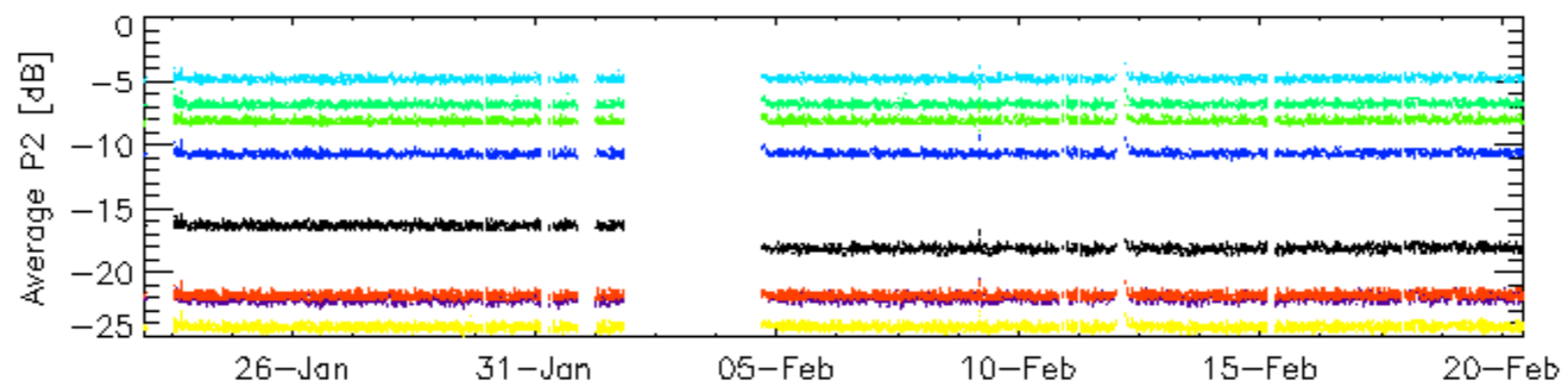
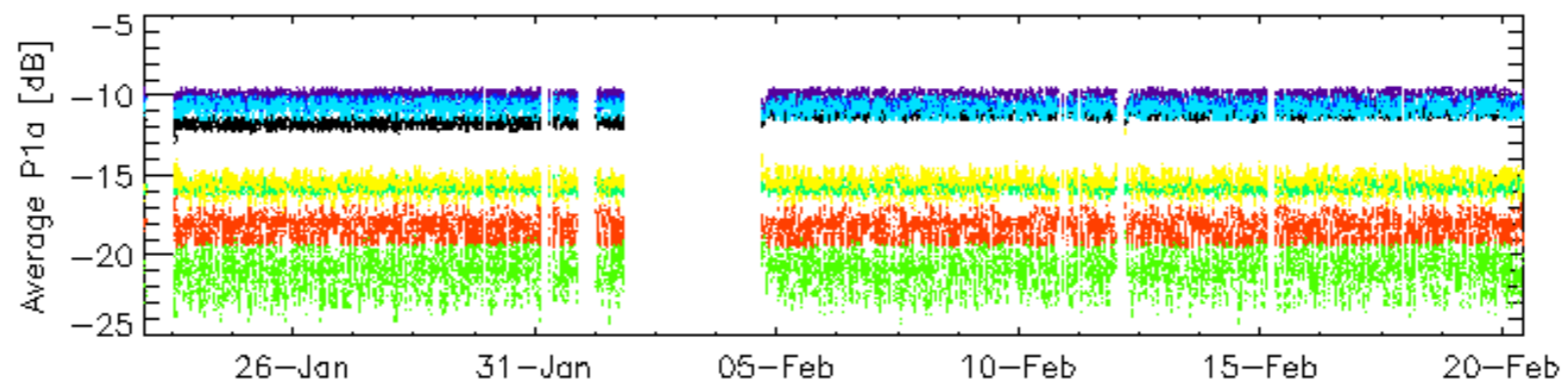
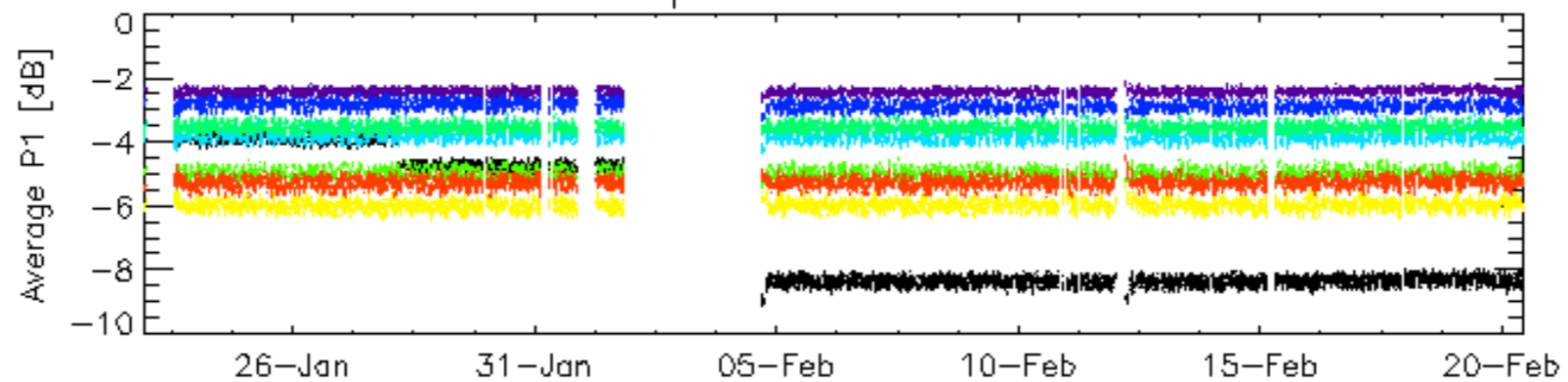


Cal pulses for WVS IS2



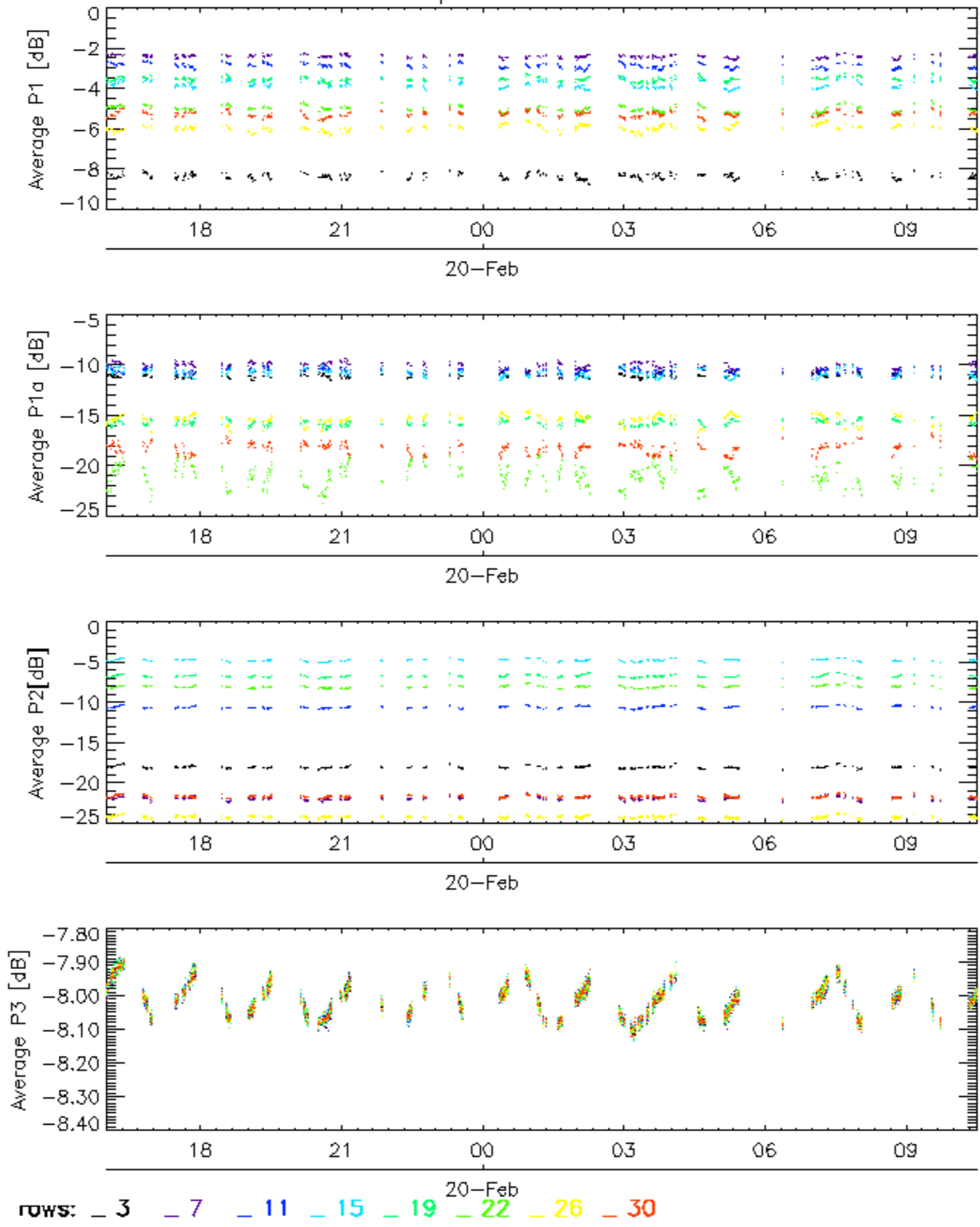
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

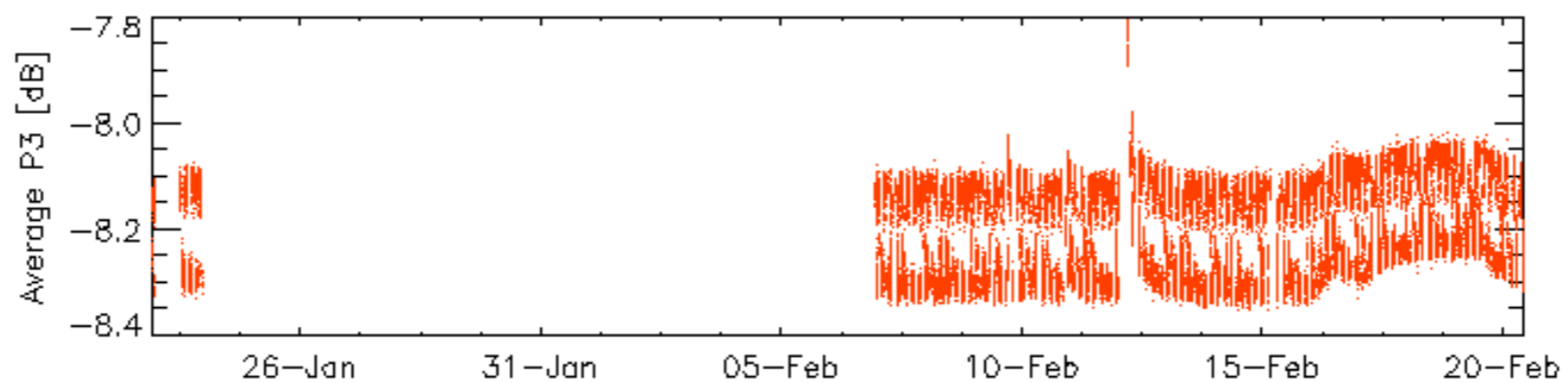
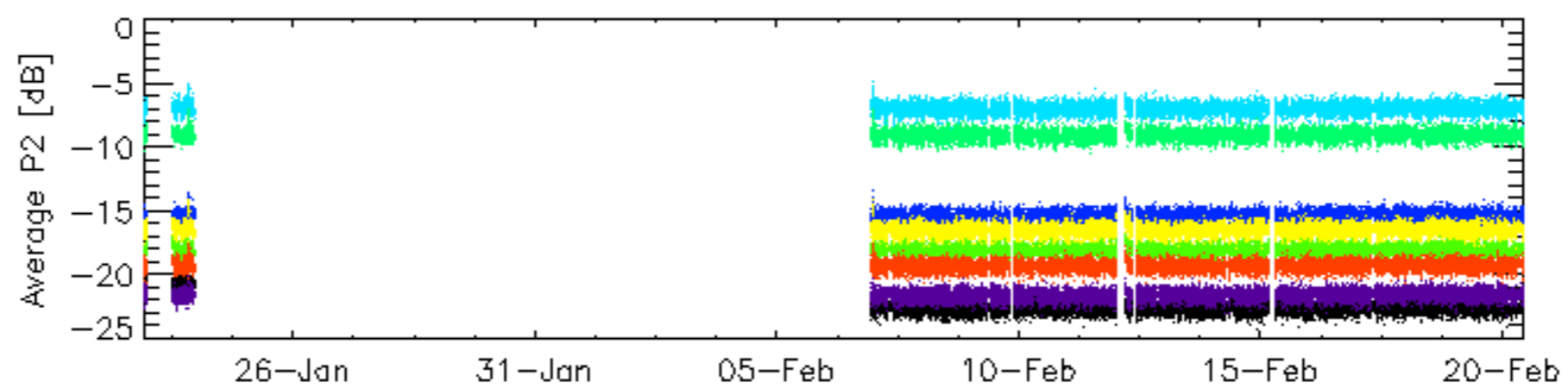
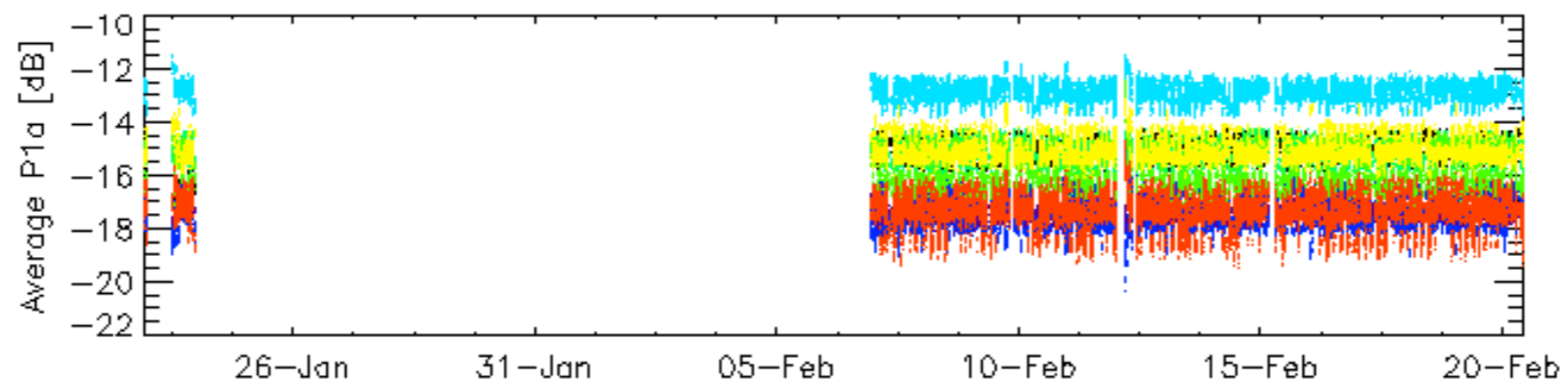
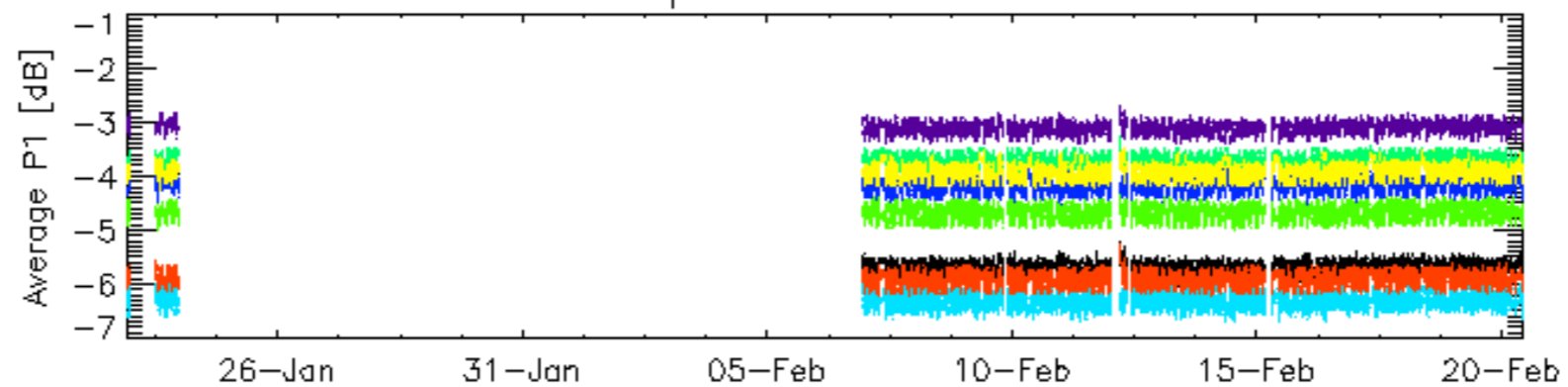


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

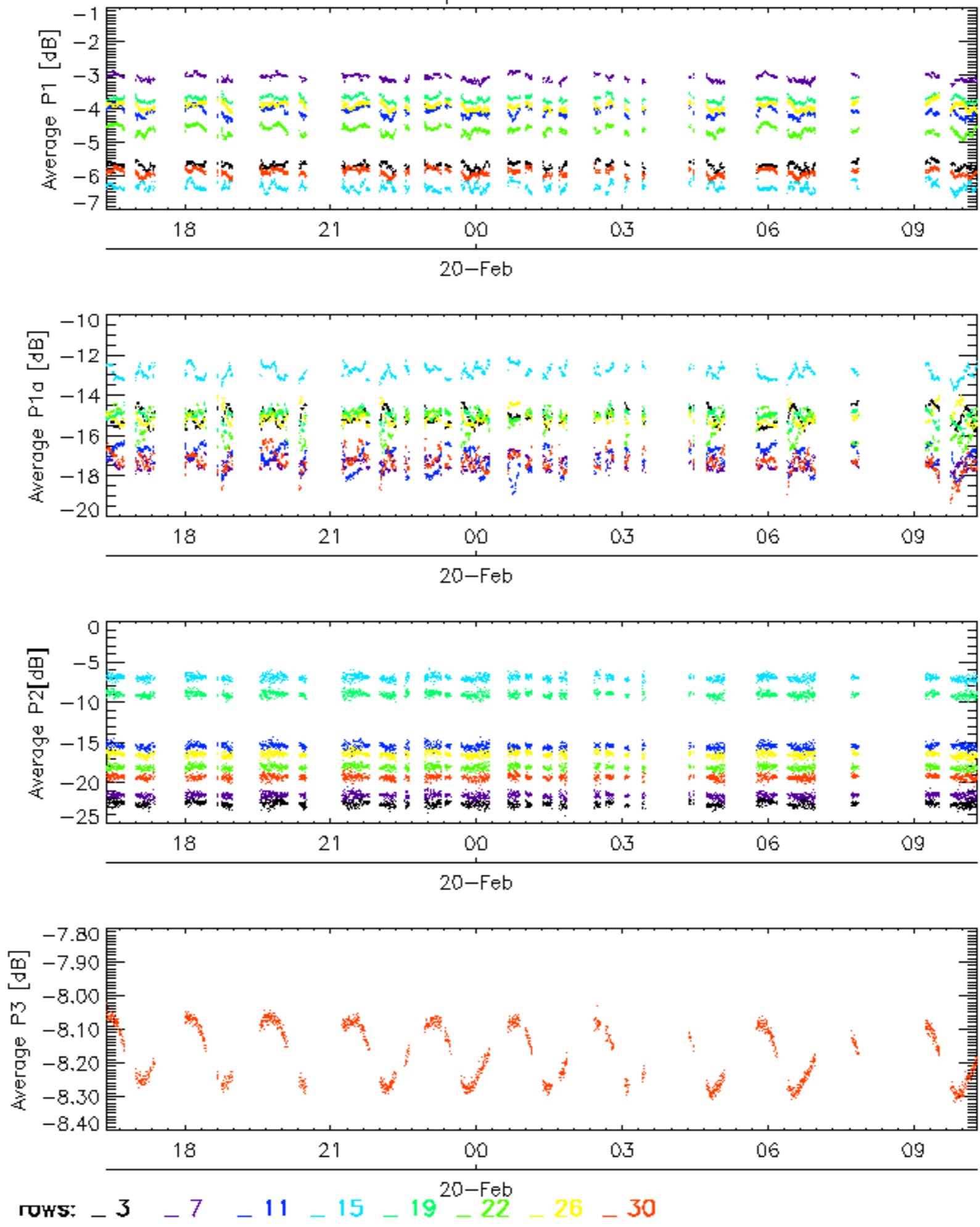


Cal pulses for WVS IS2



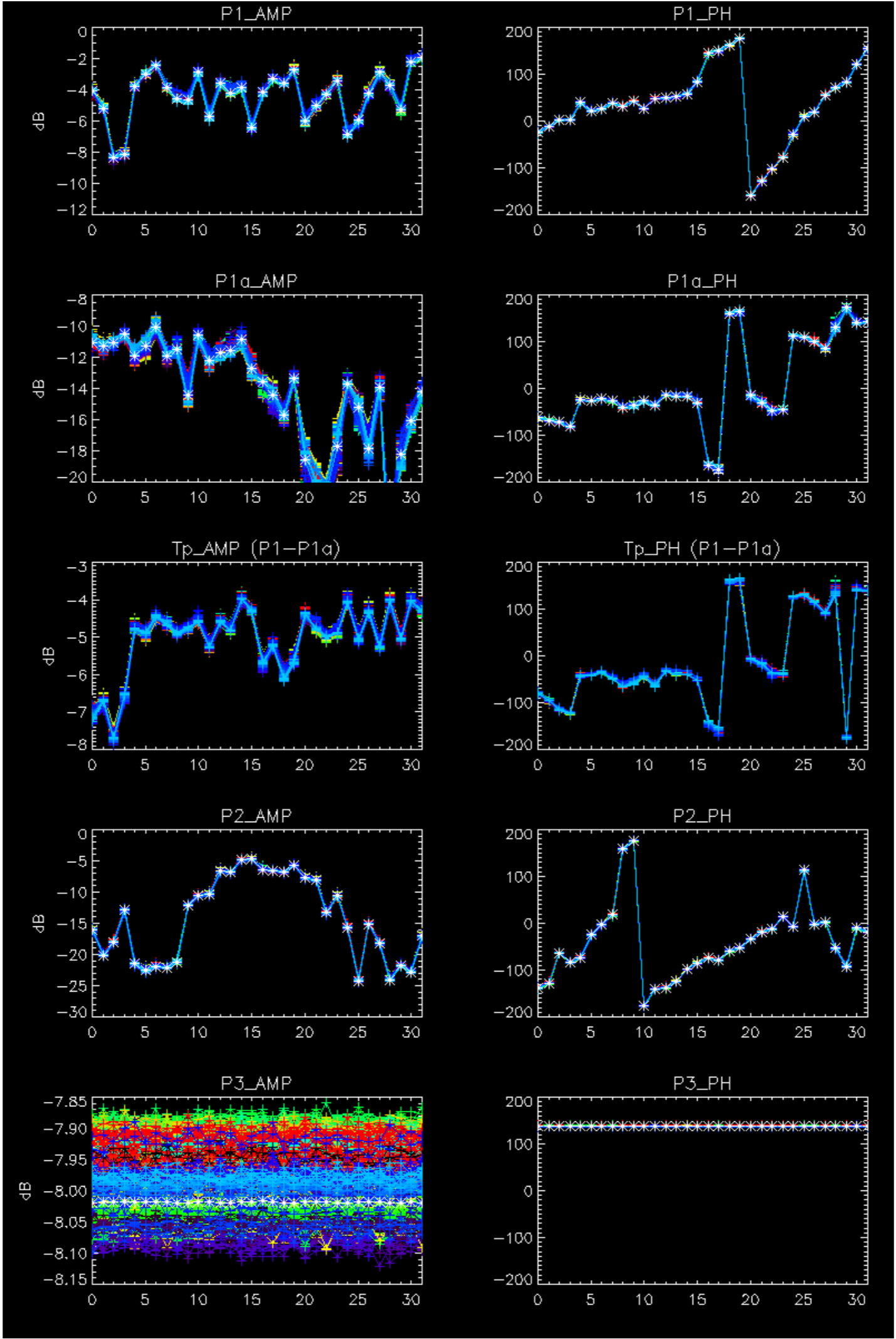
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

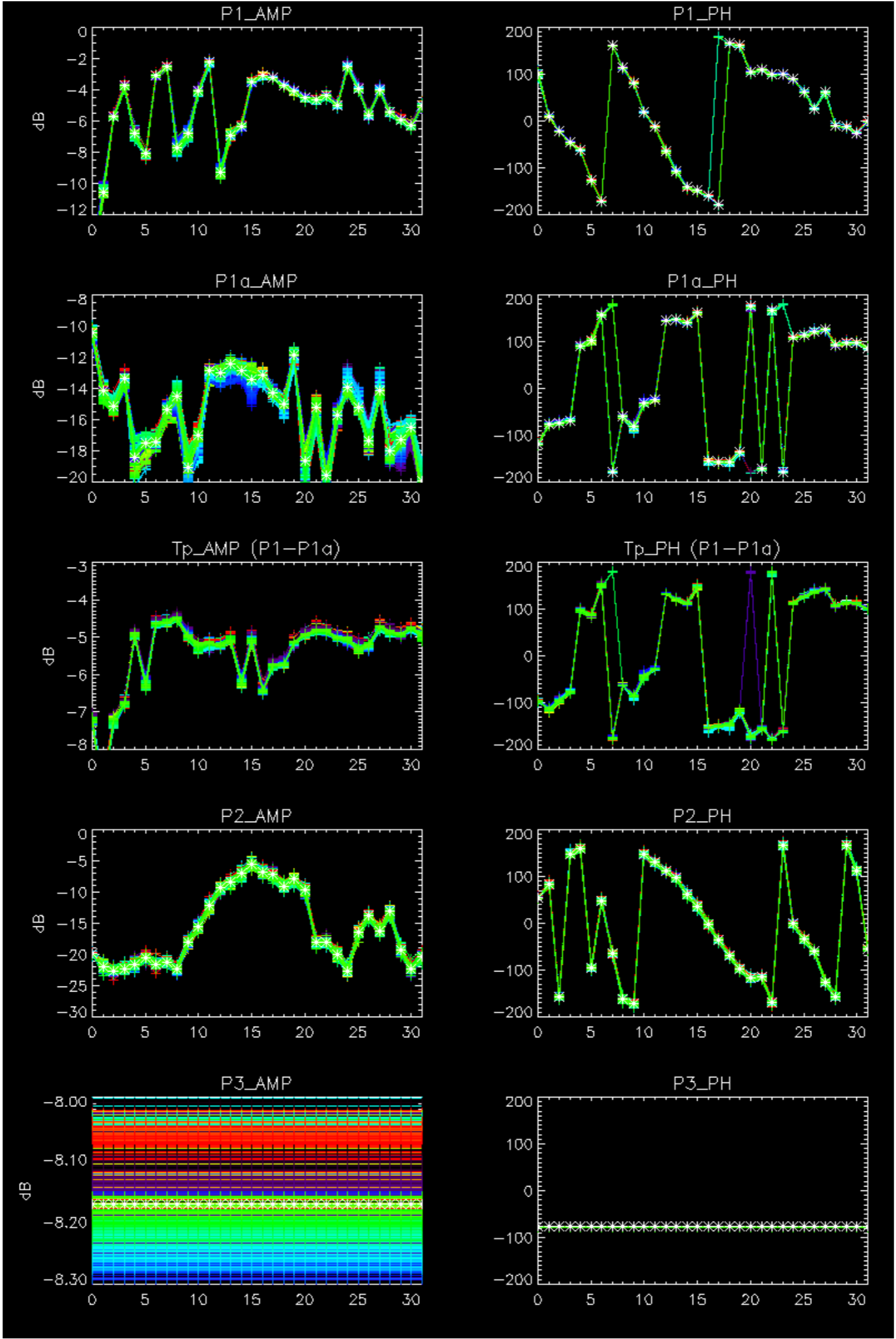
Cal pulses for WVS IS2



No anomalies observed on available browse products

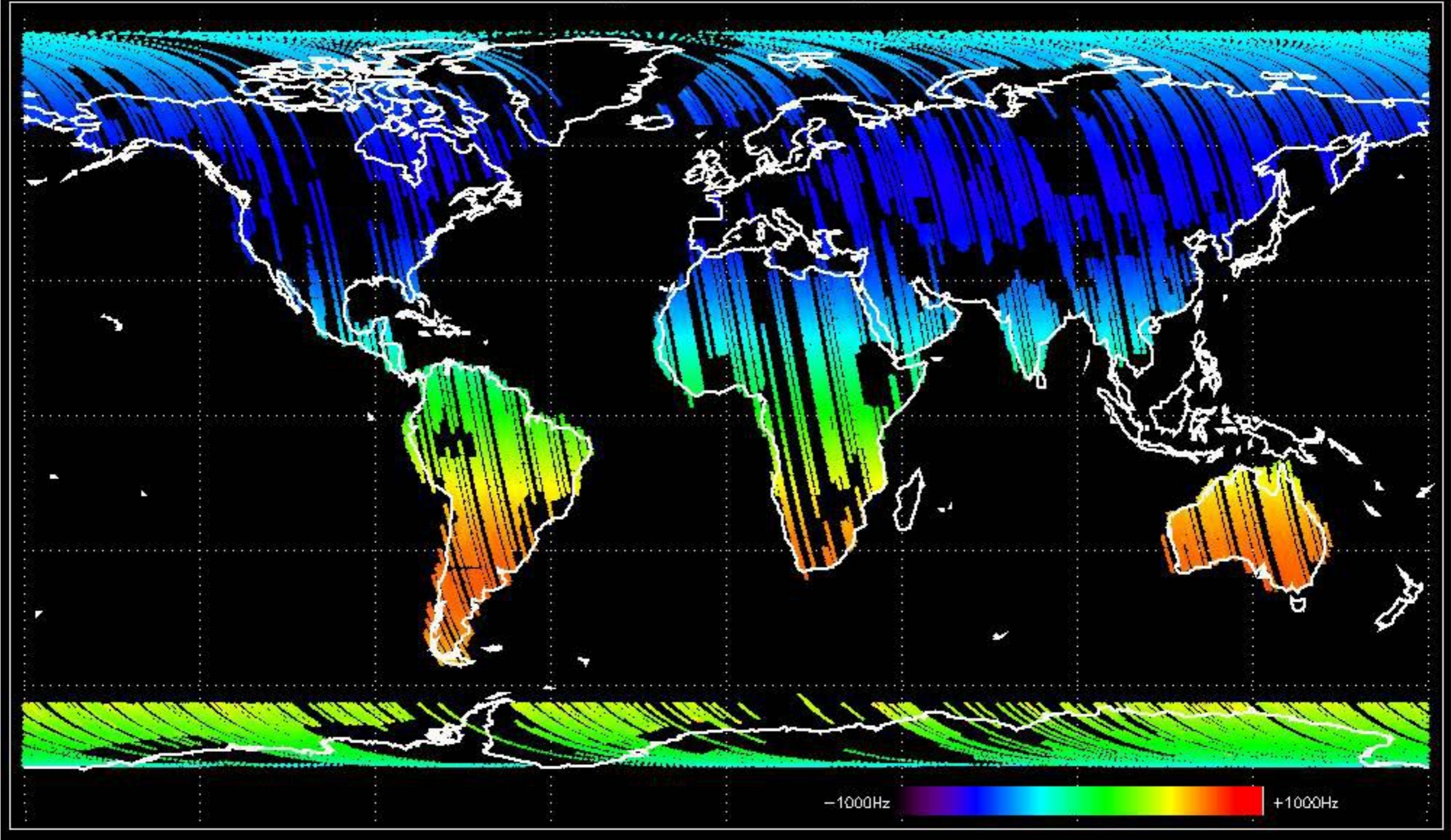
No anomalies observed.



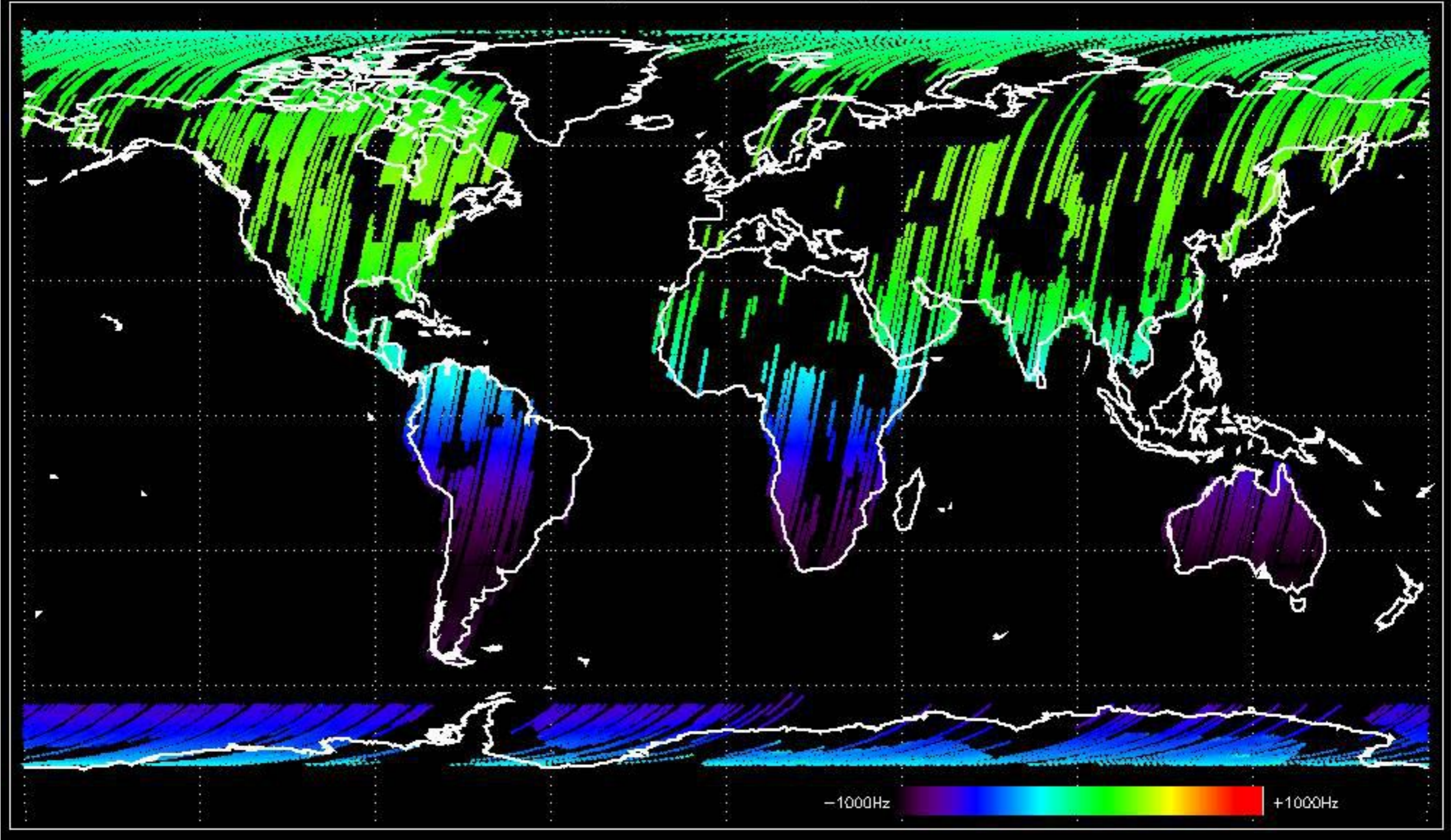


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

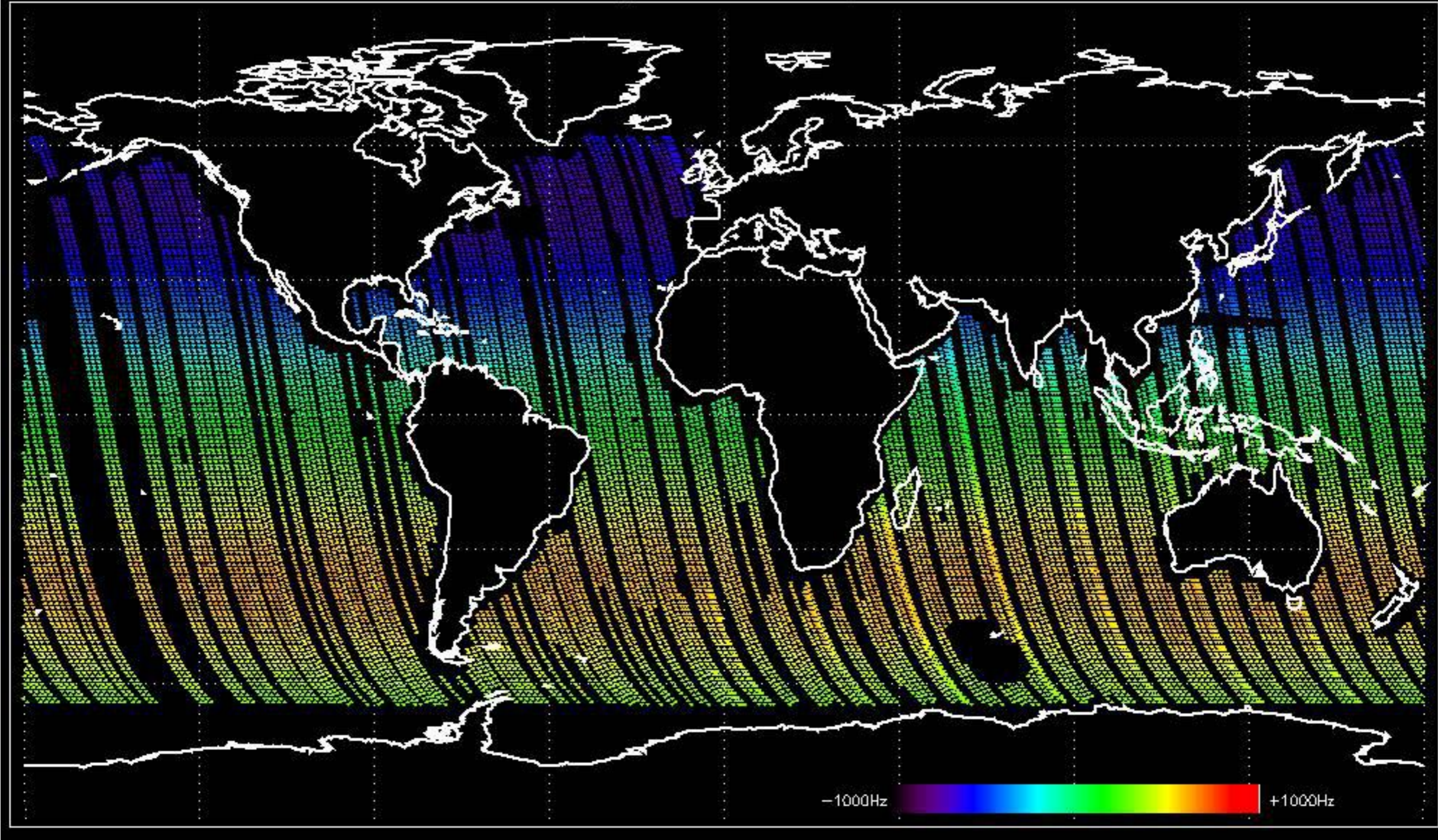
Doppler 'GM1' 'SS1' ascending



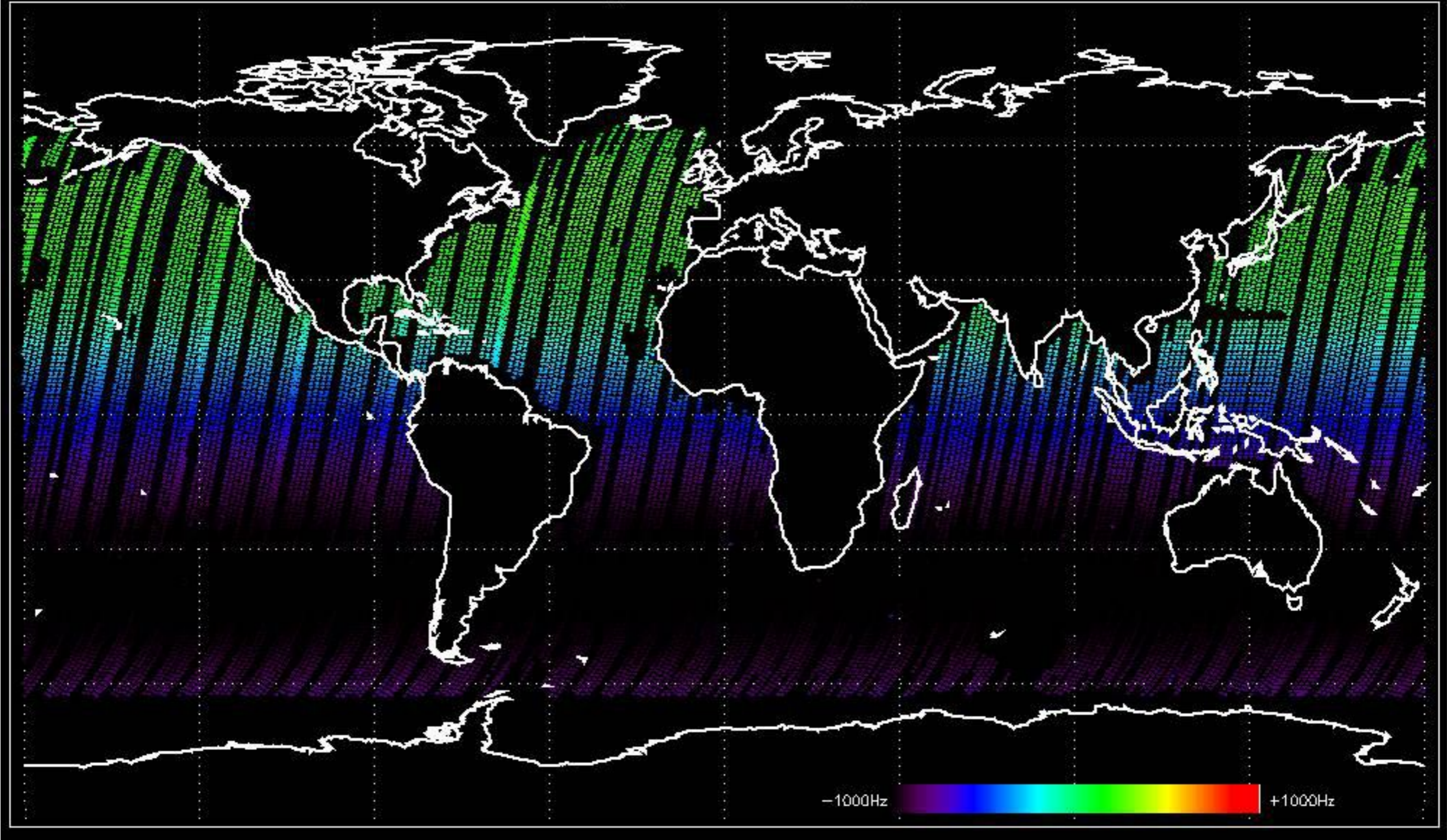
Doppler 'GM1' 'SS1' descending



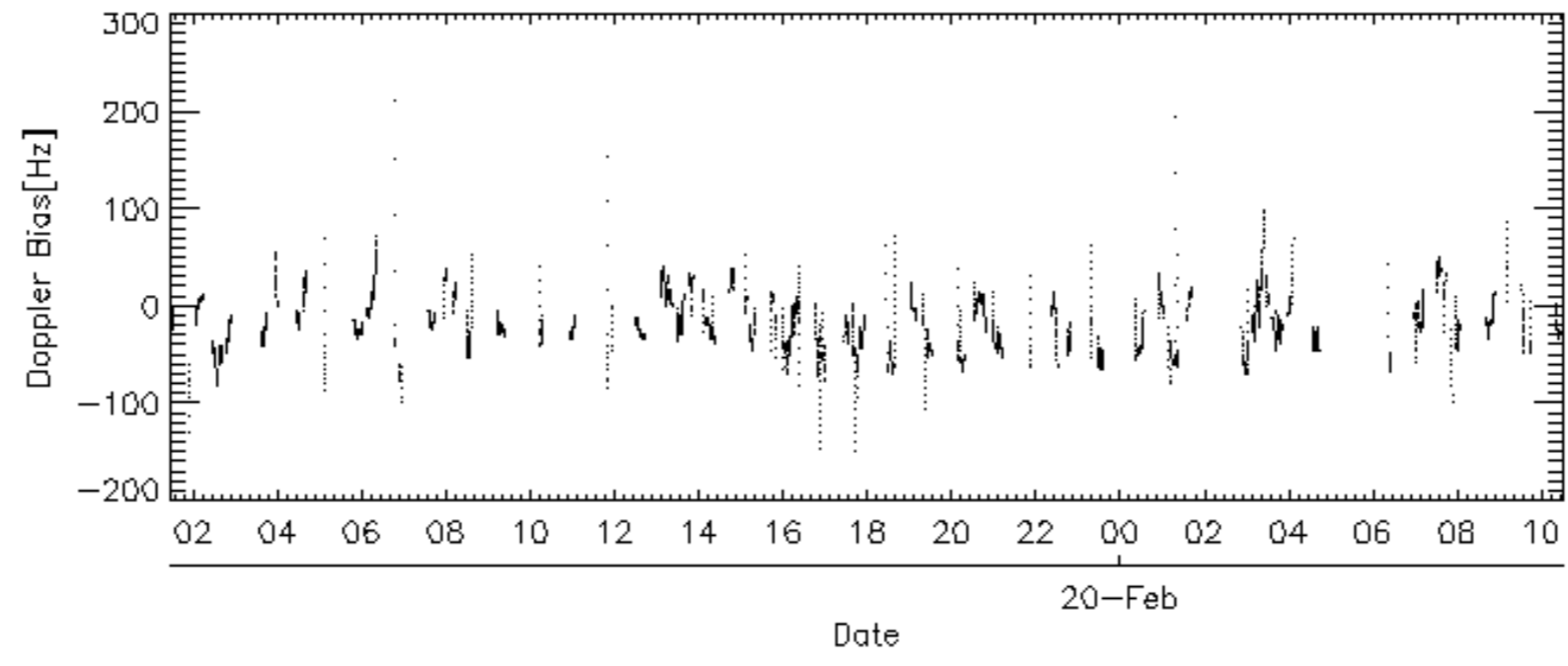
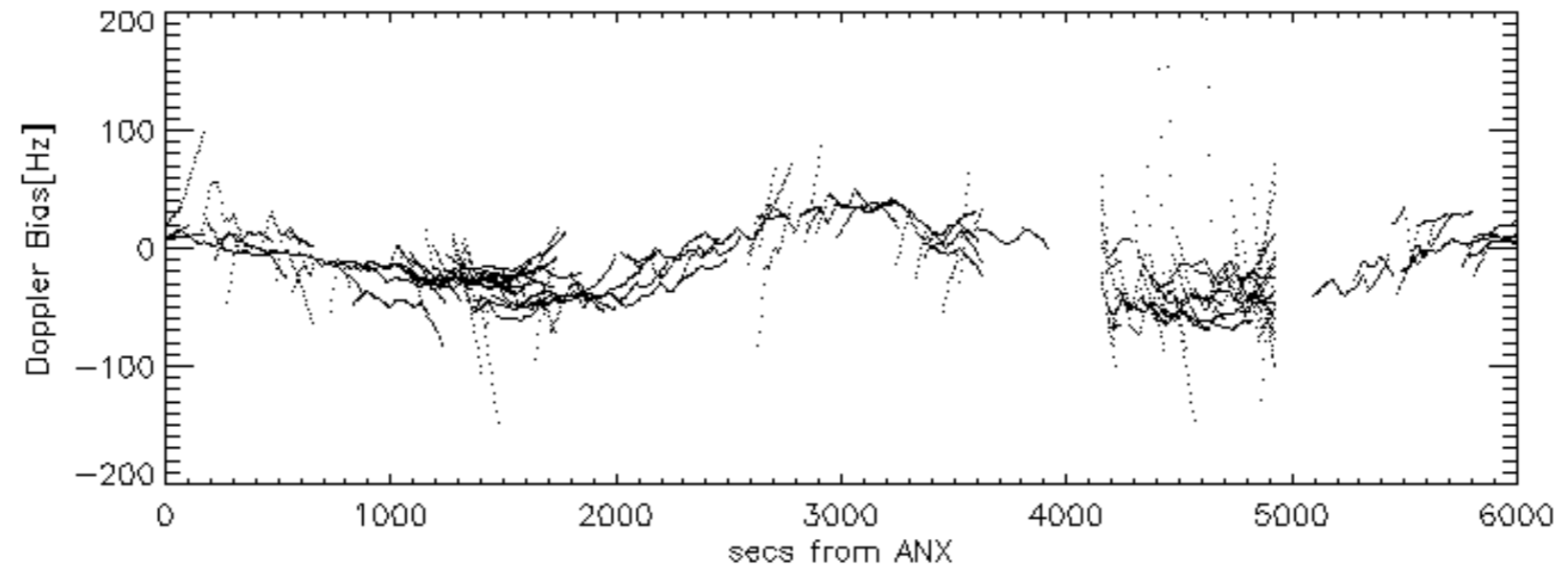
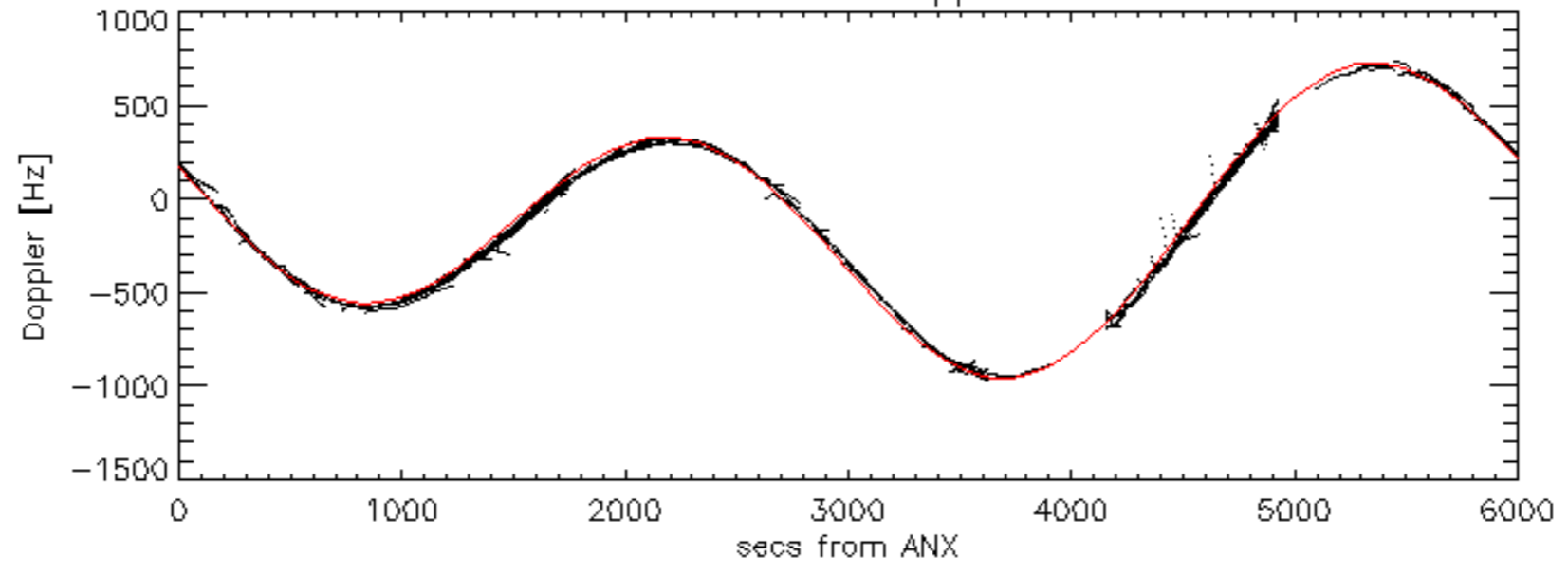
Doppler 'WVS' 'IS2' ascending

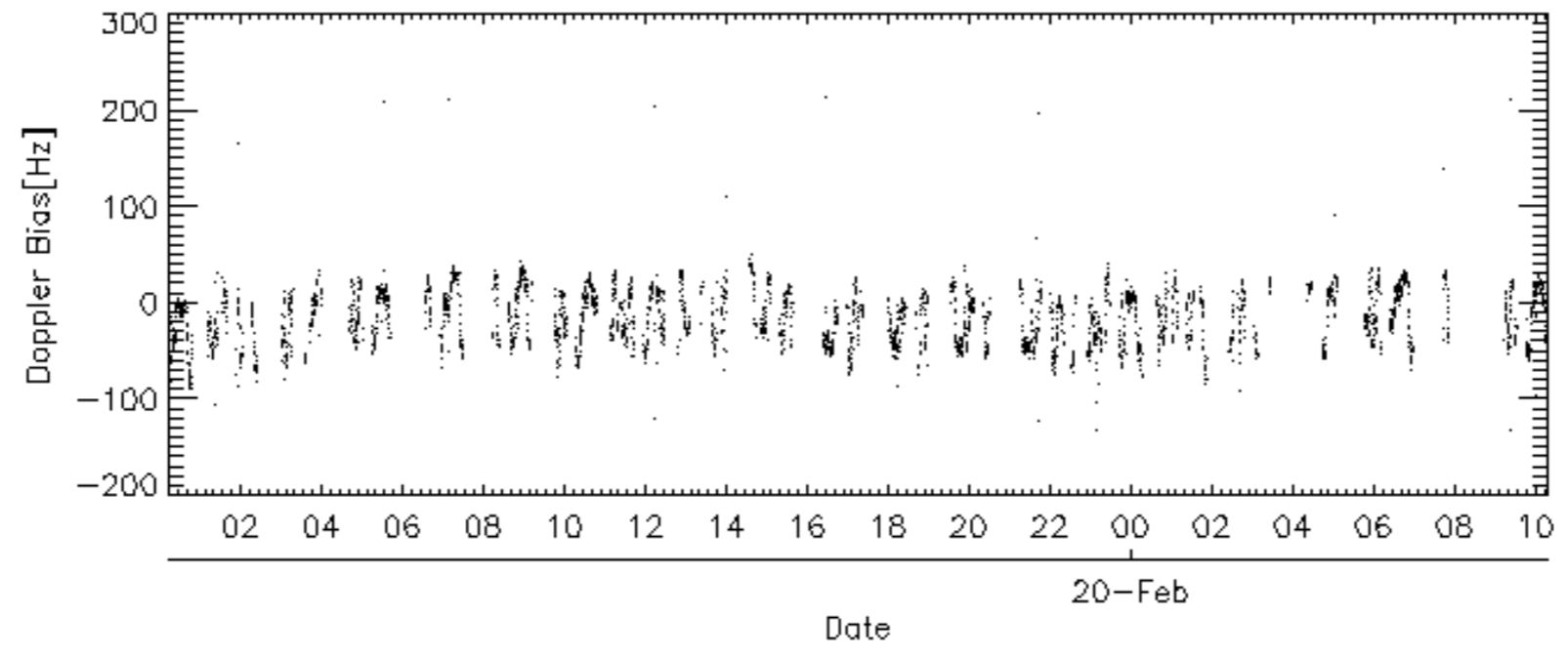
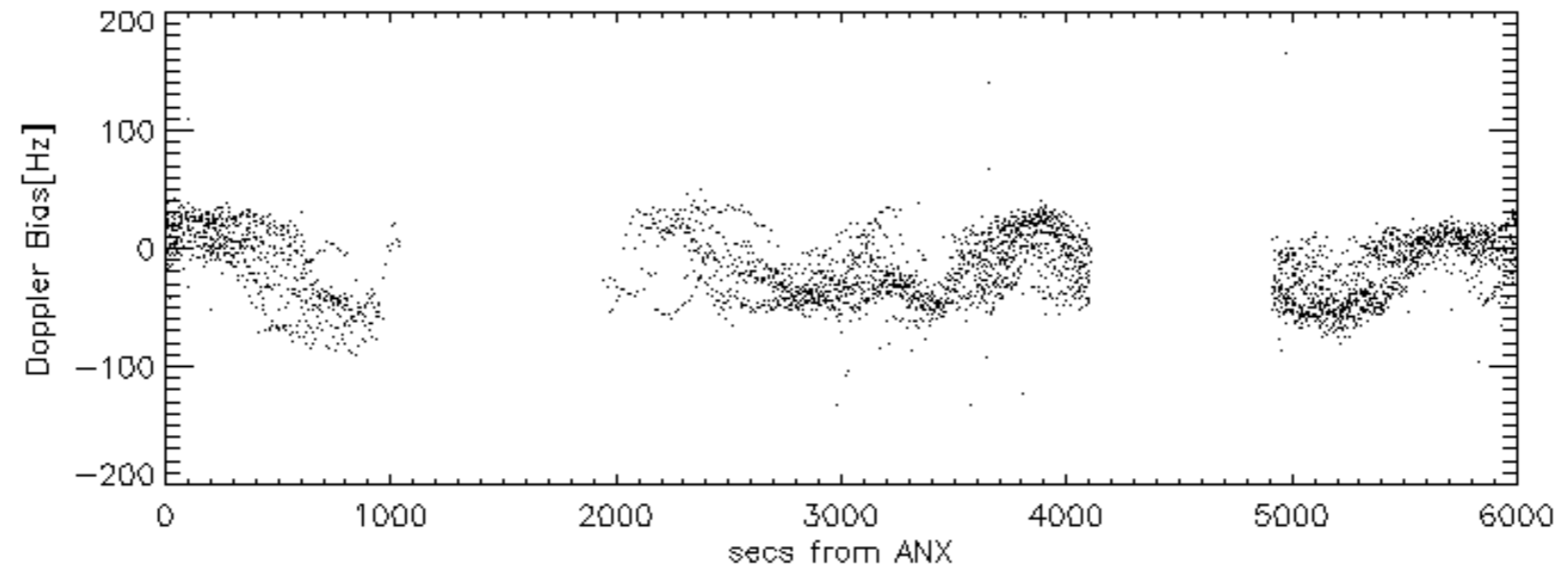
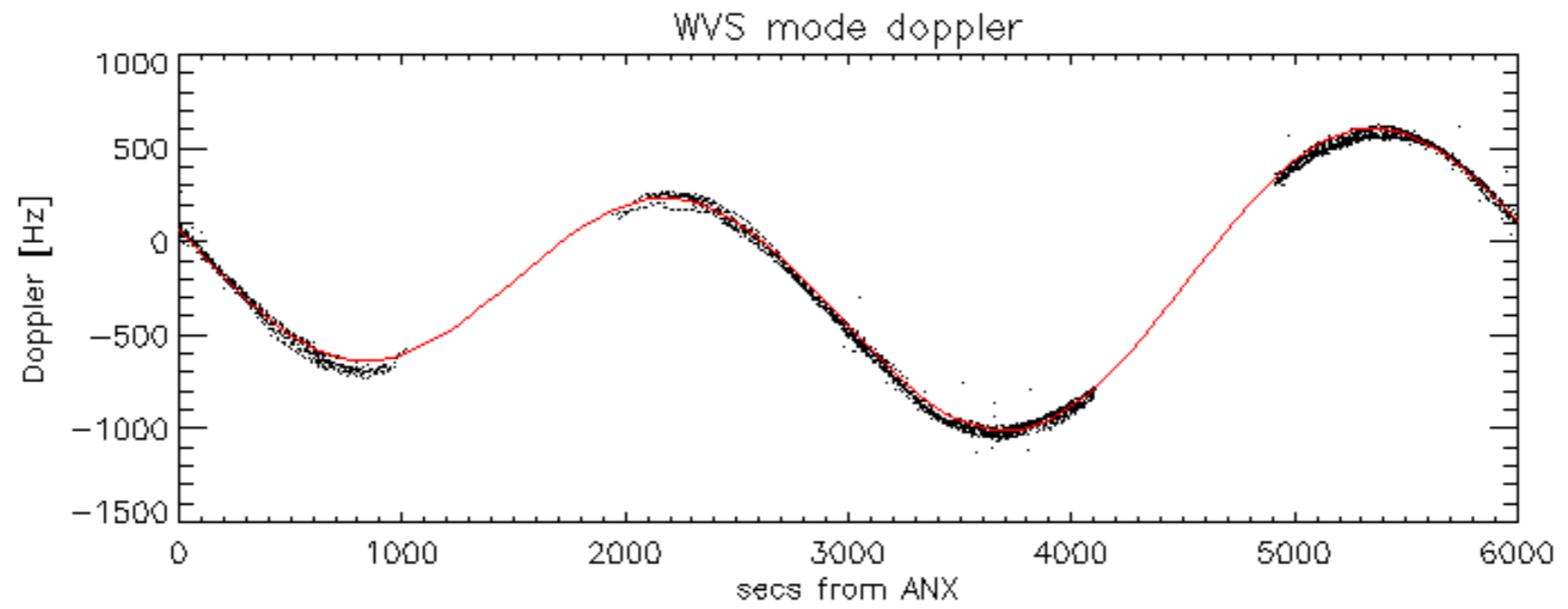


Doppler 'WVS' 'IS2' descending

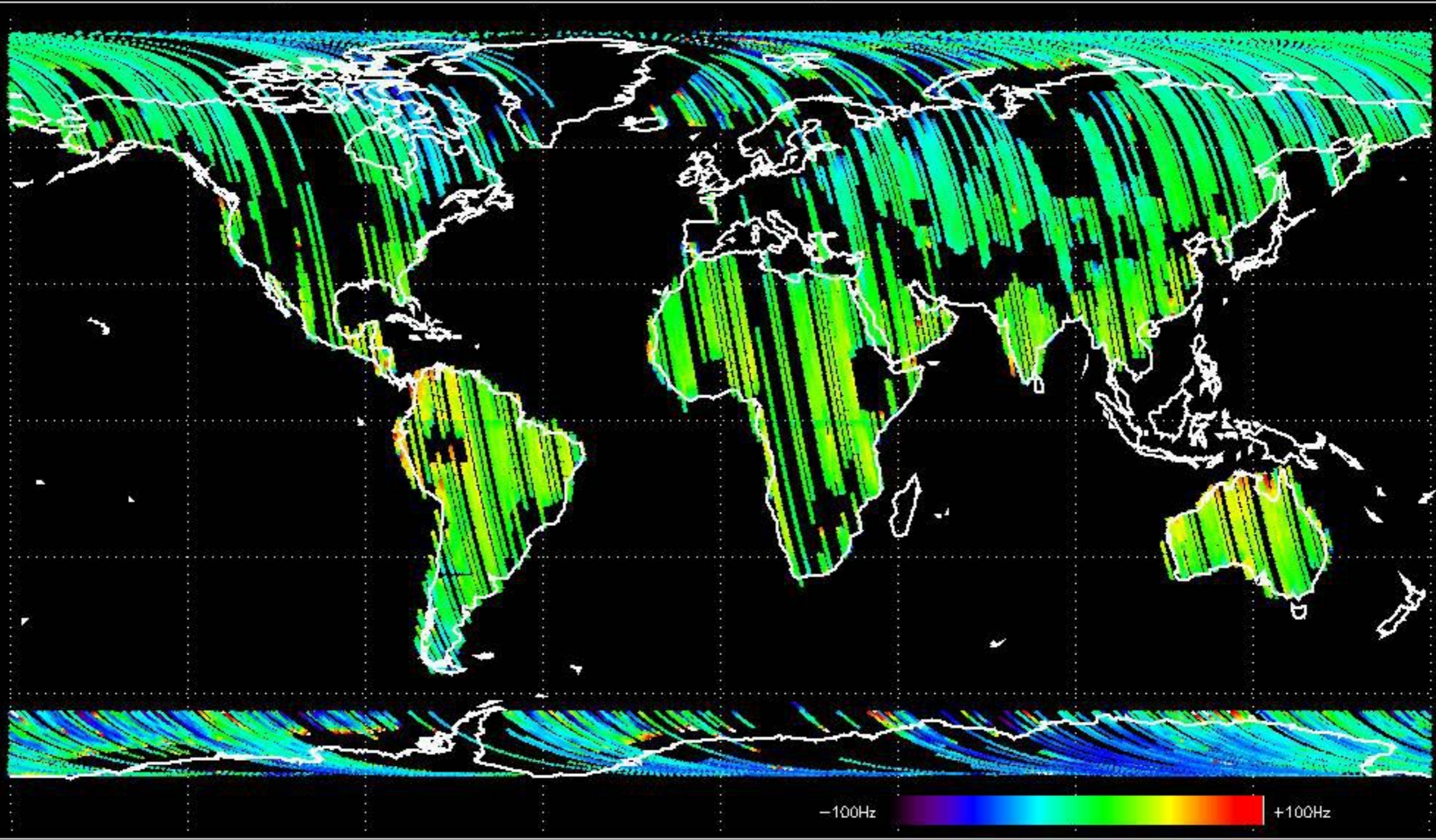


GM1 mode doppler

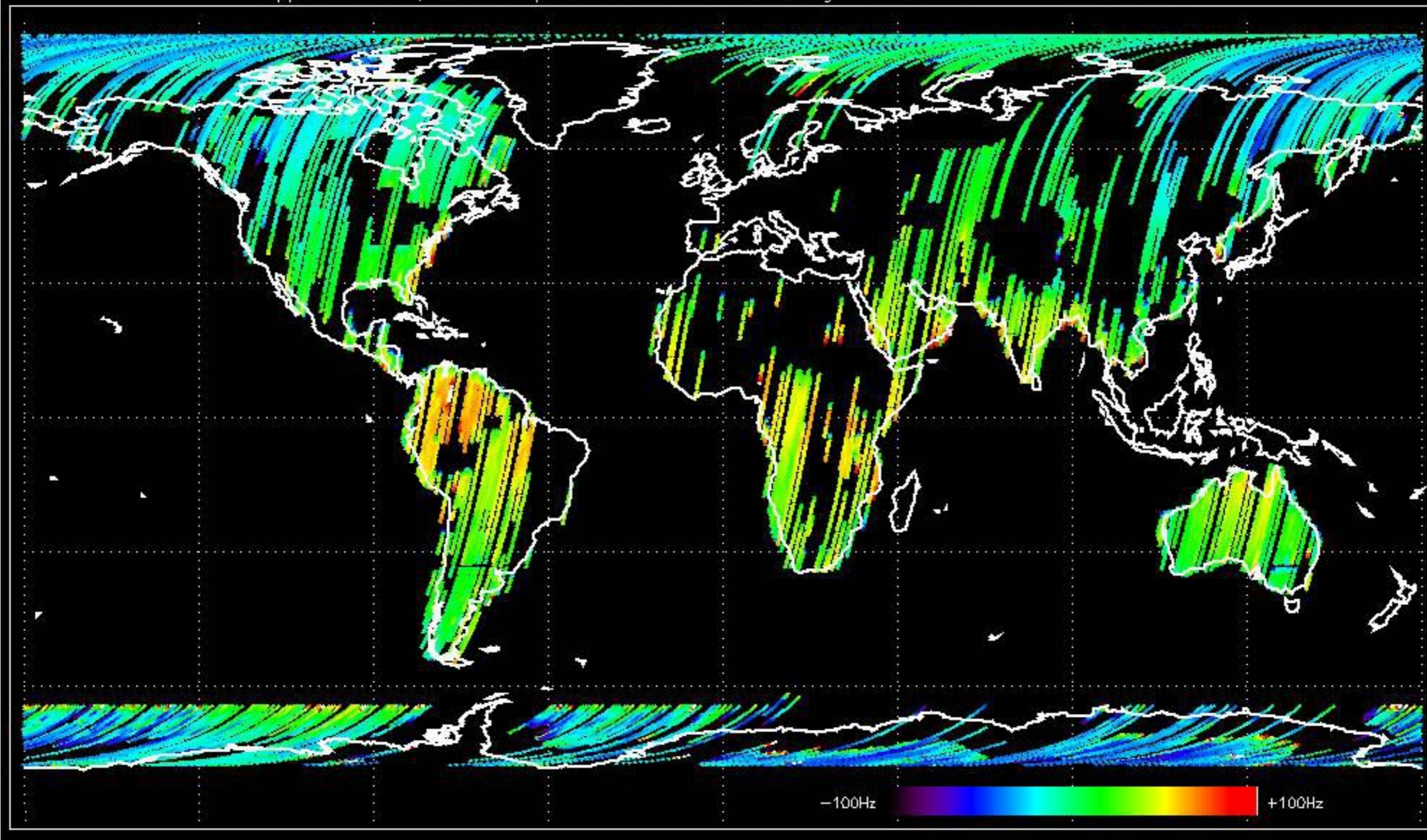




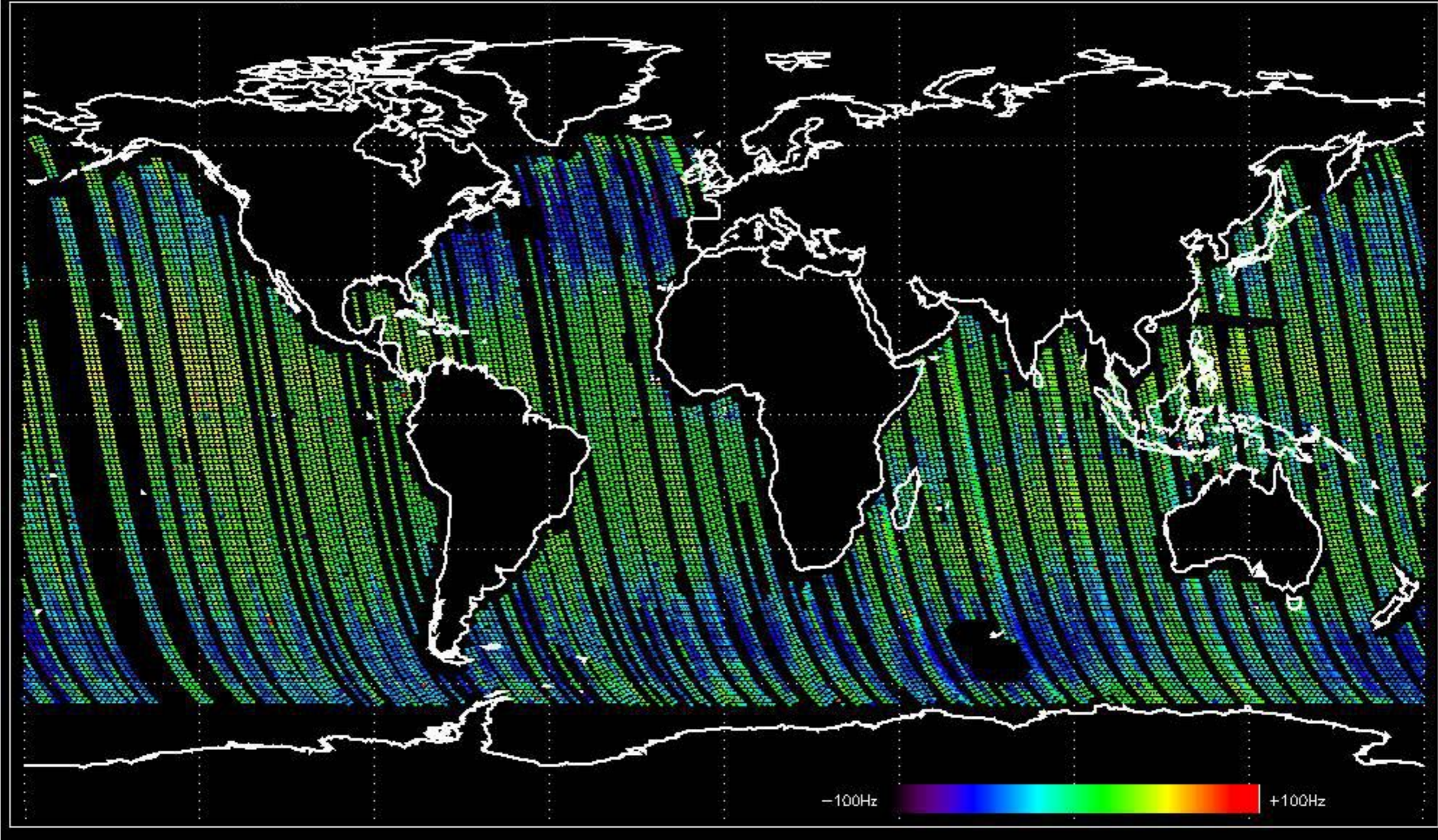
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -18.092606 Hz



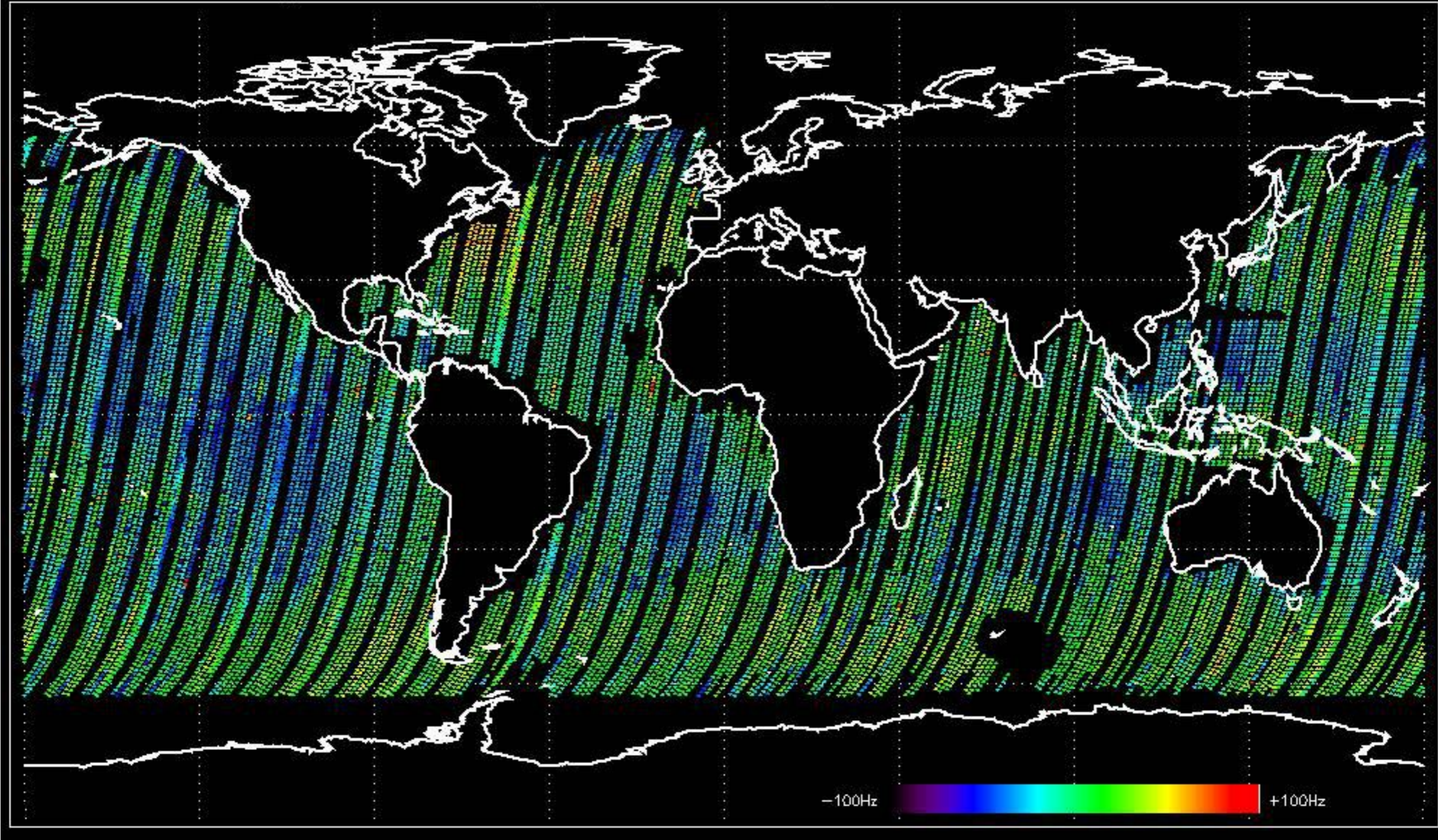
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -18.149615 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -15.944958 Hz

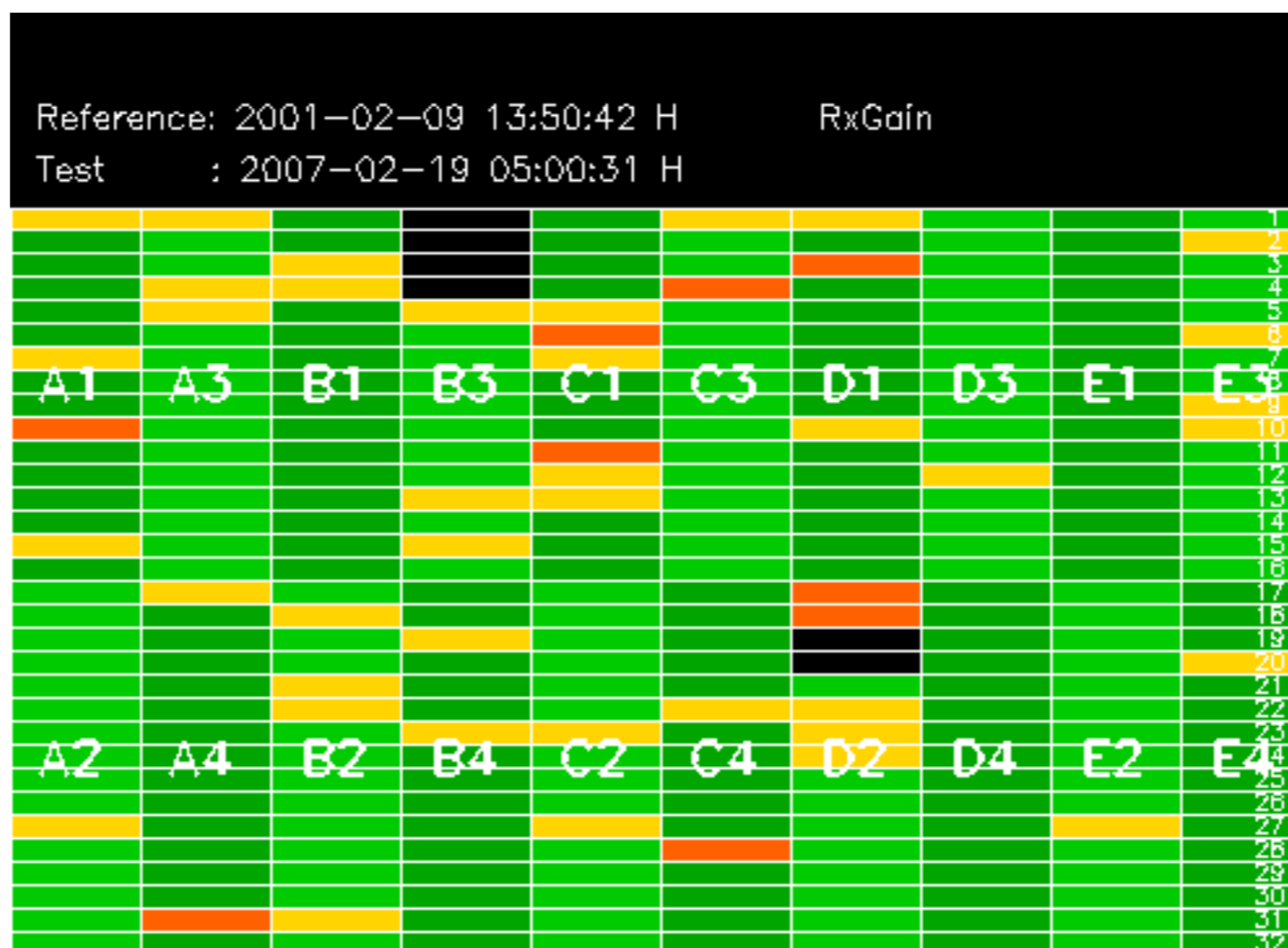


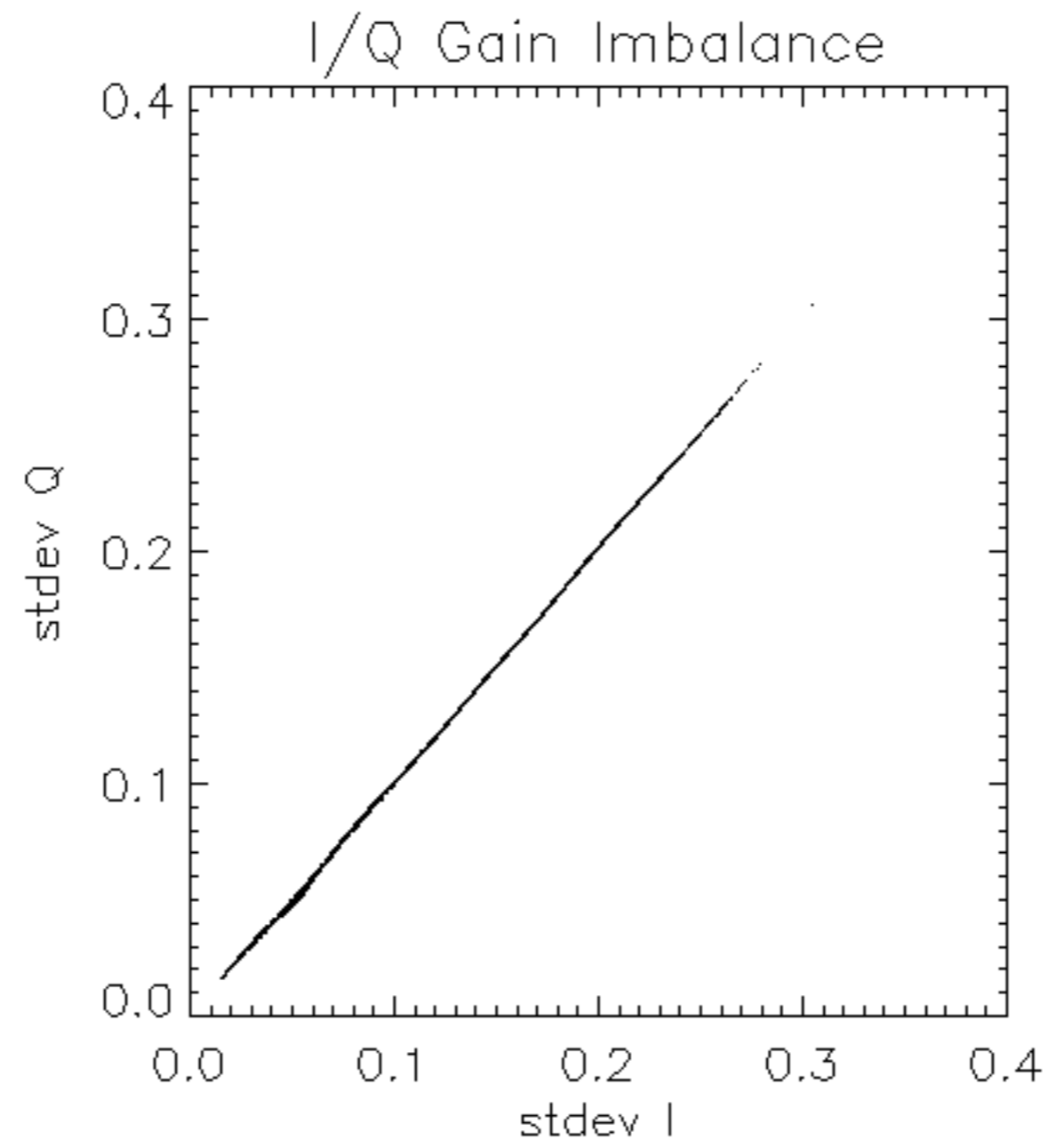
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -16.888355 Hz

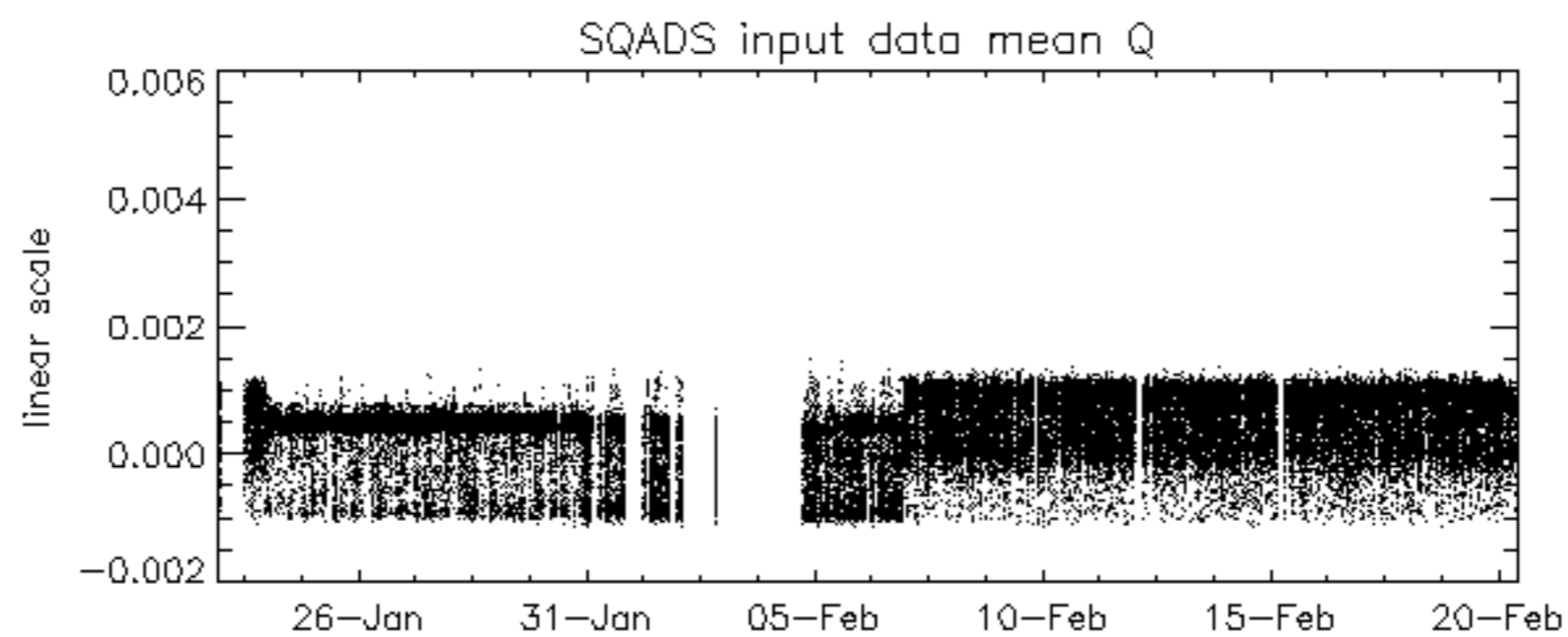
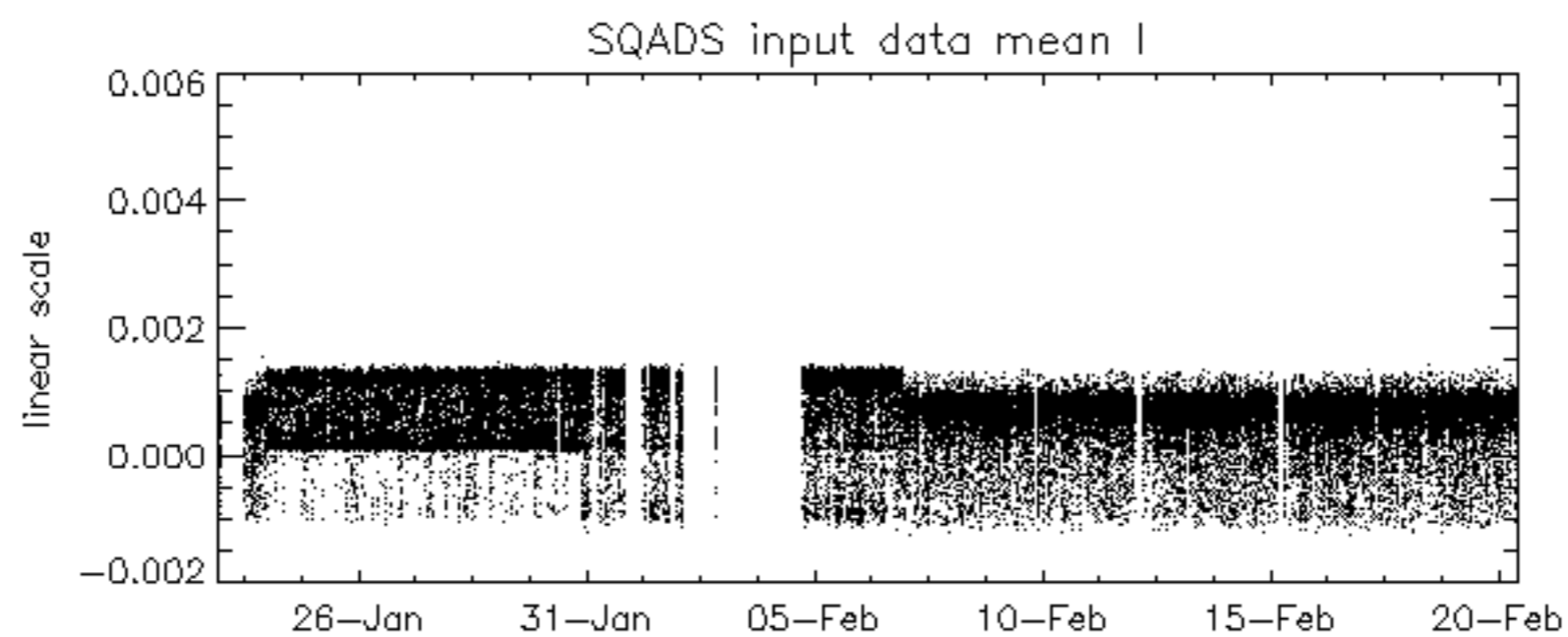
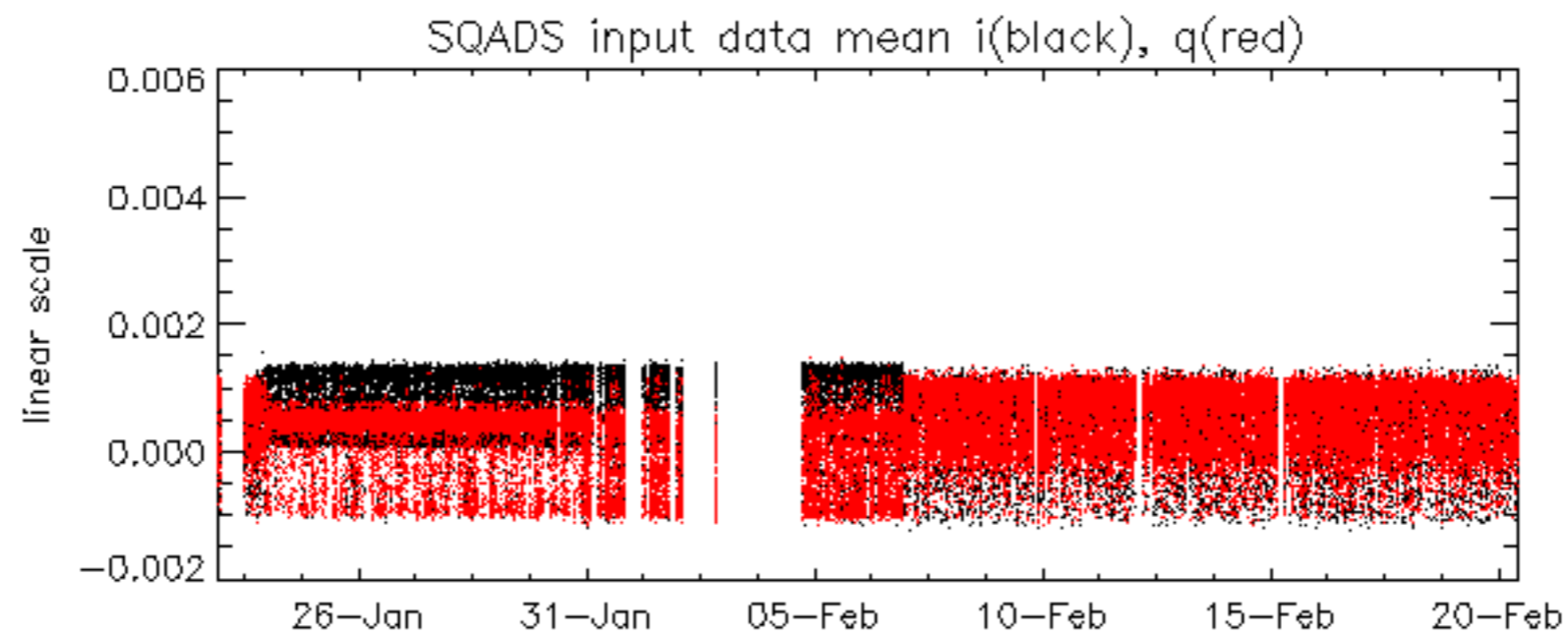


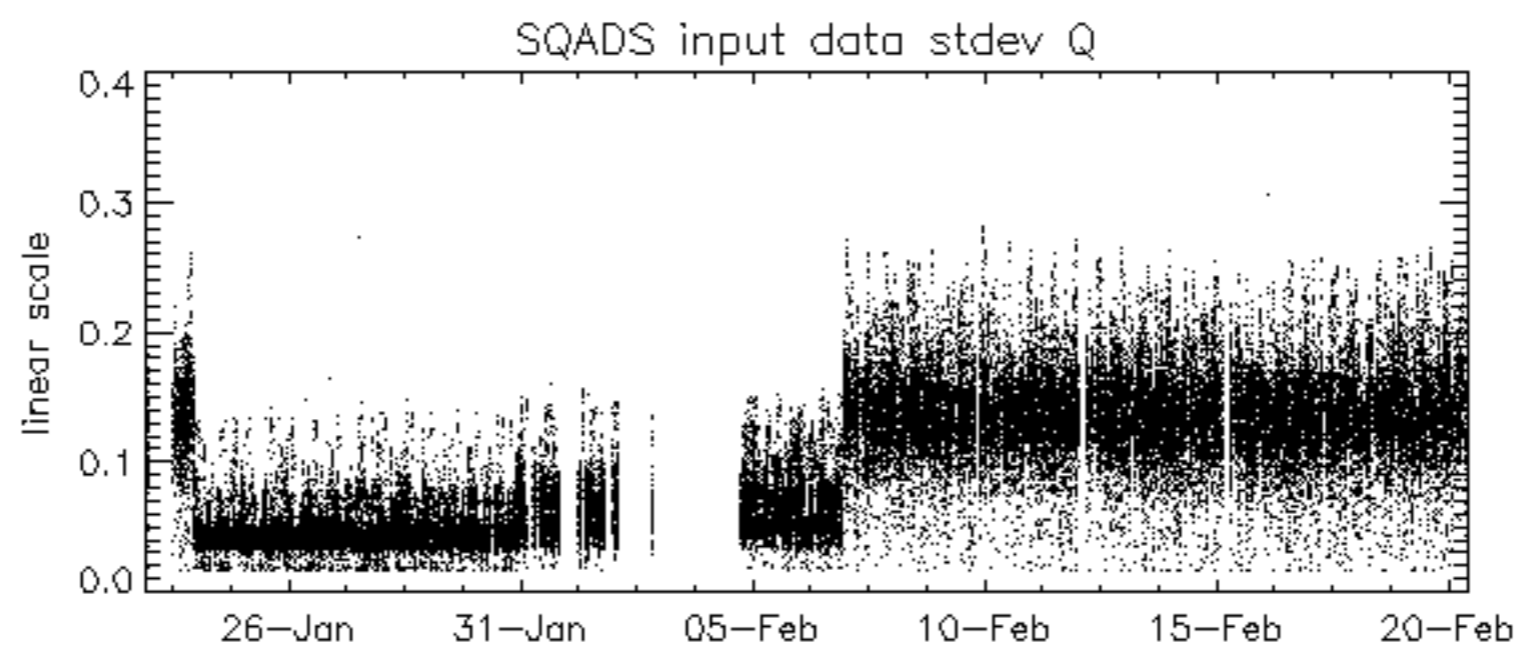
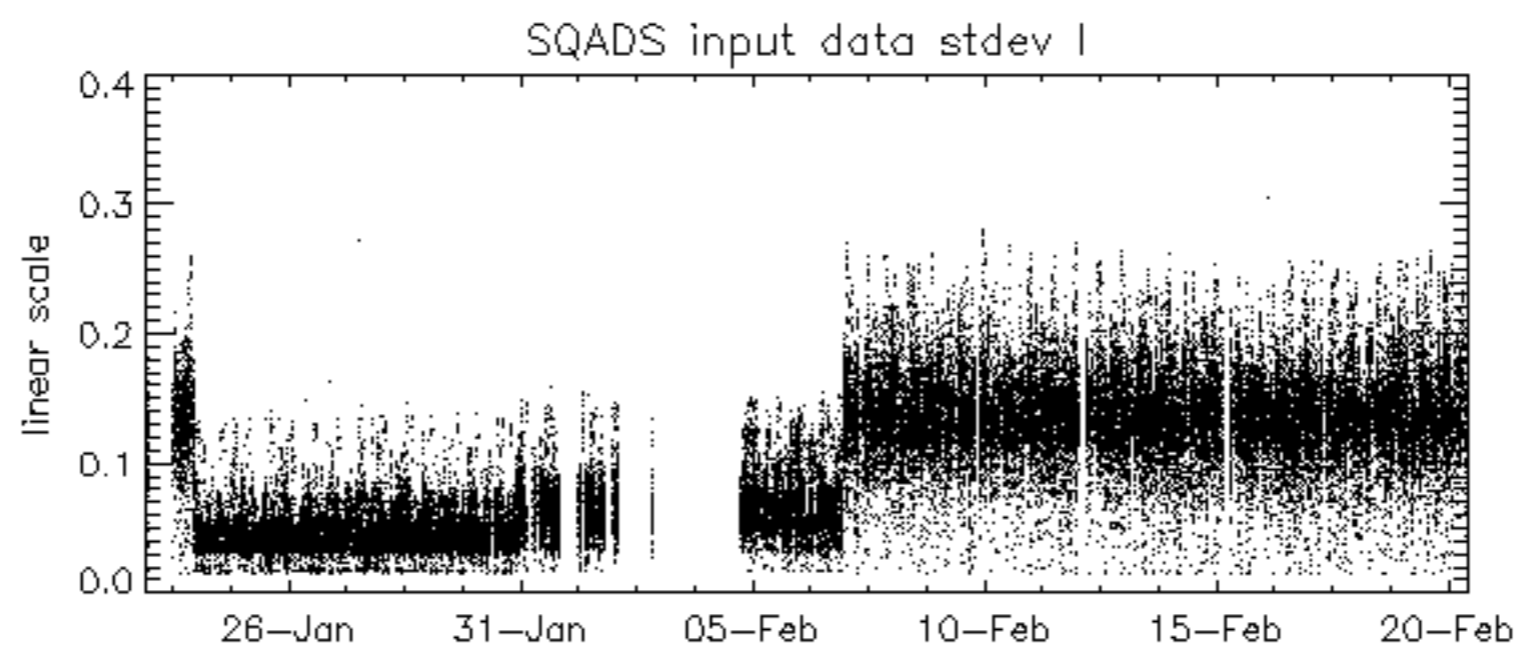
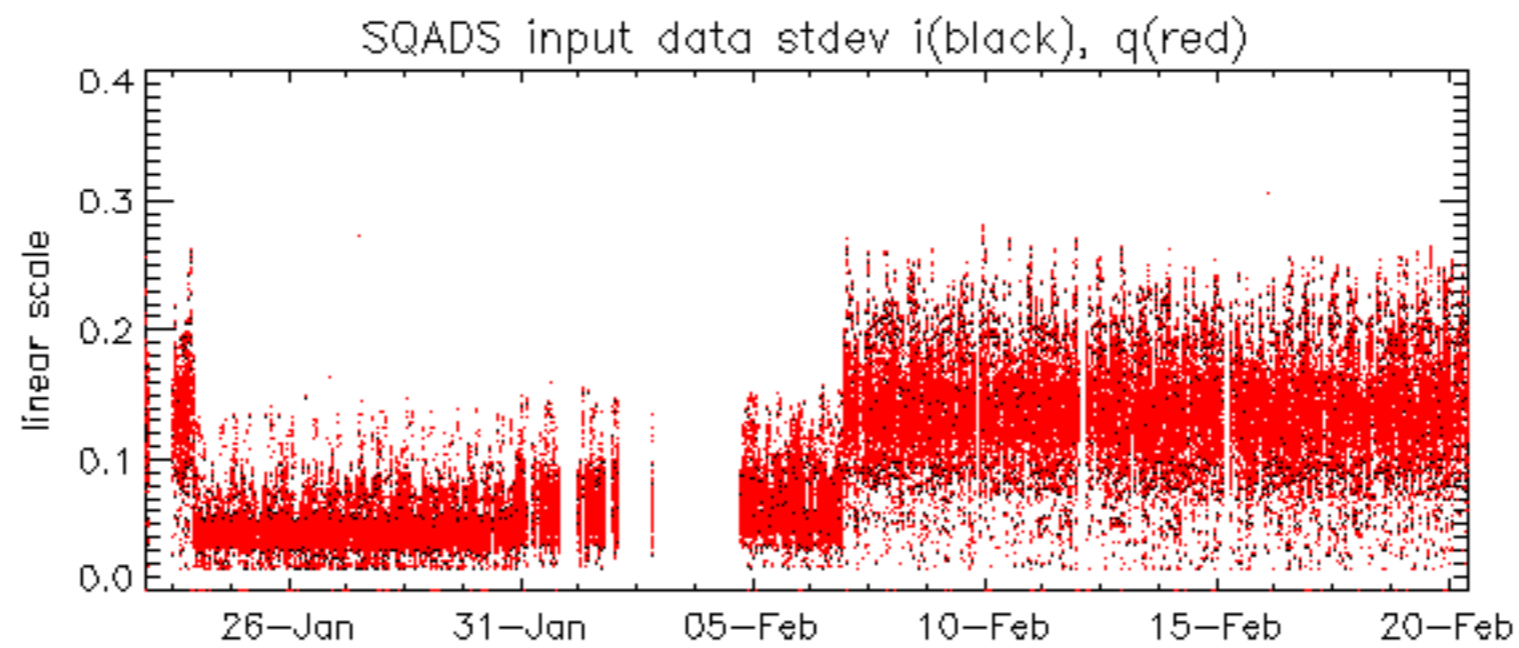
No anomalies observed on available MS products:

No anomalies observed.





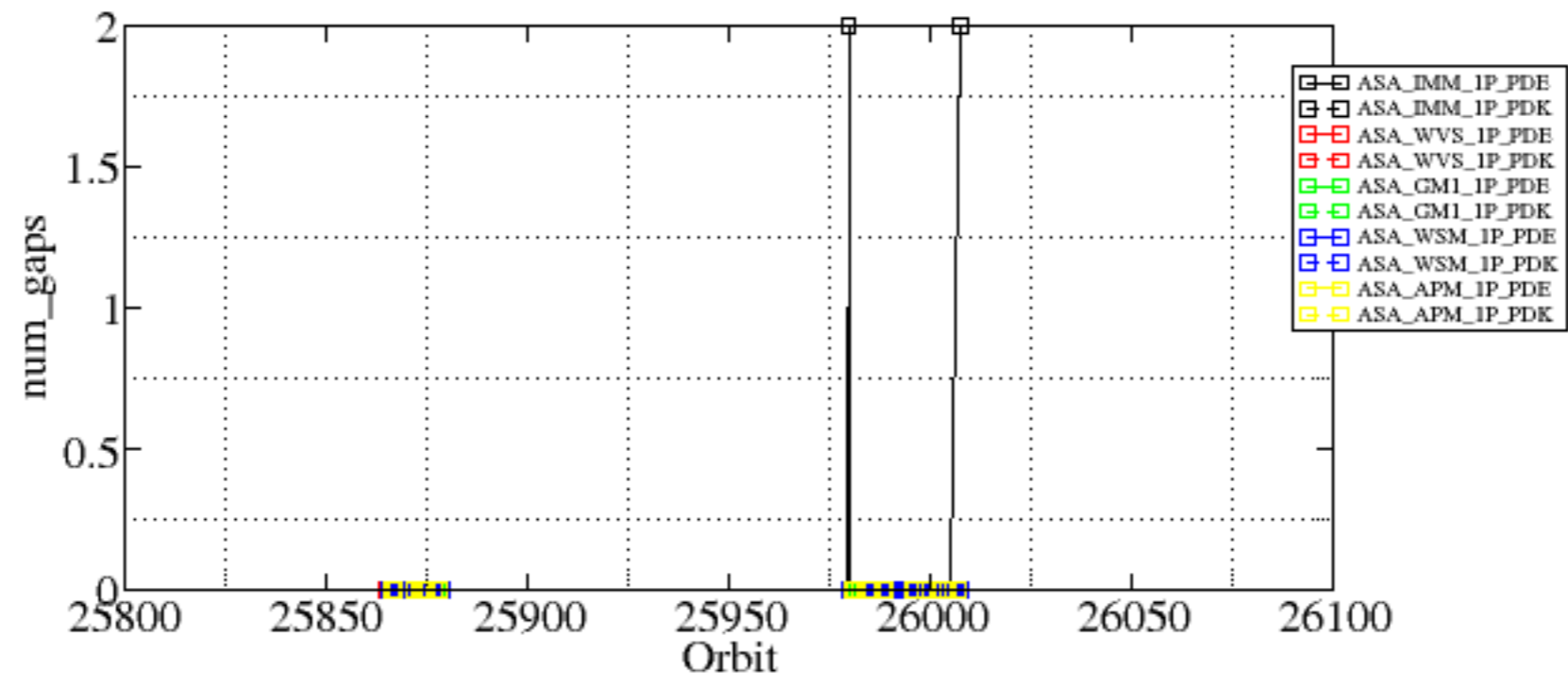


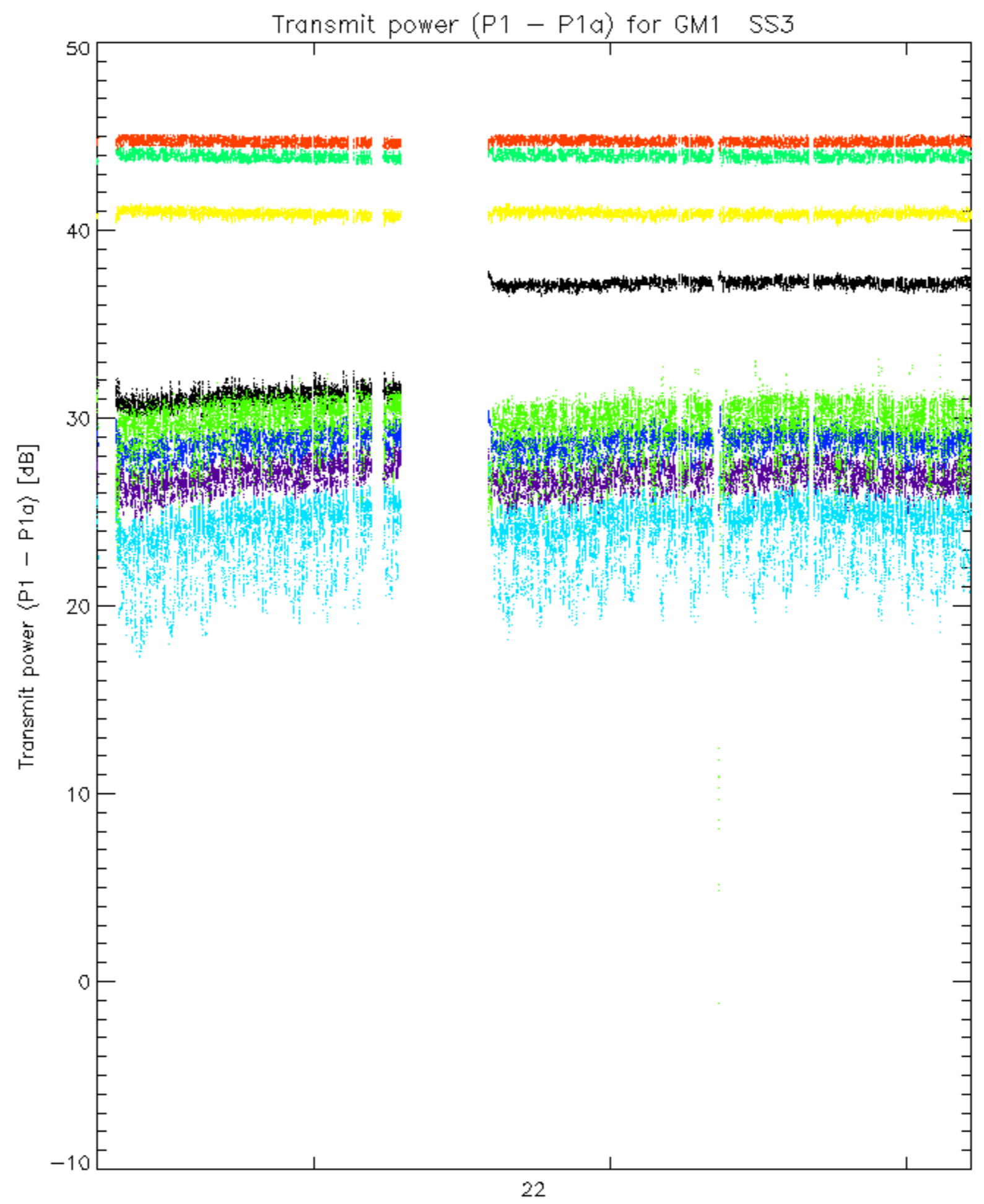


Summary of analysis for the last 3 days 2007021[890]

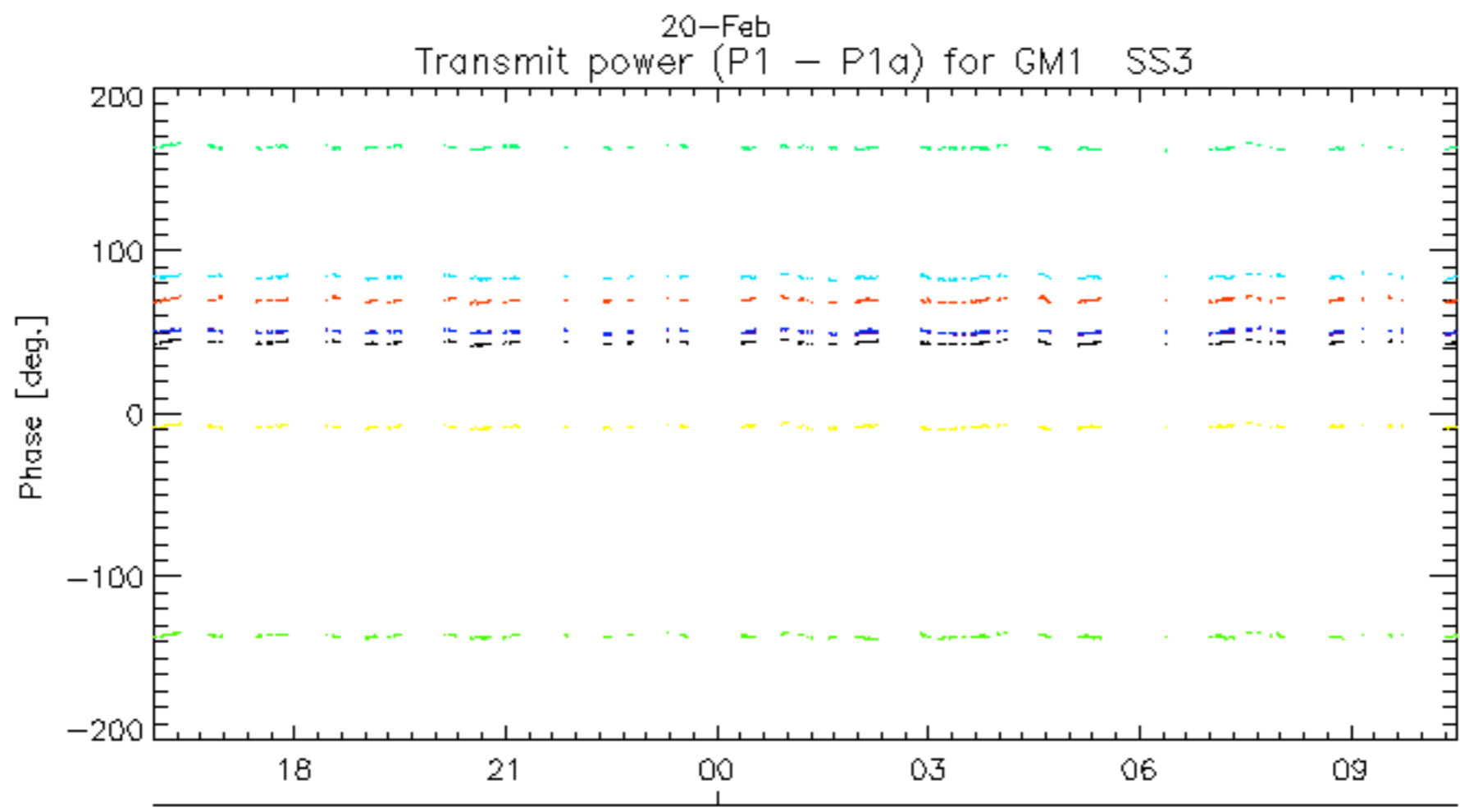
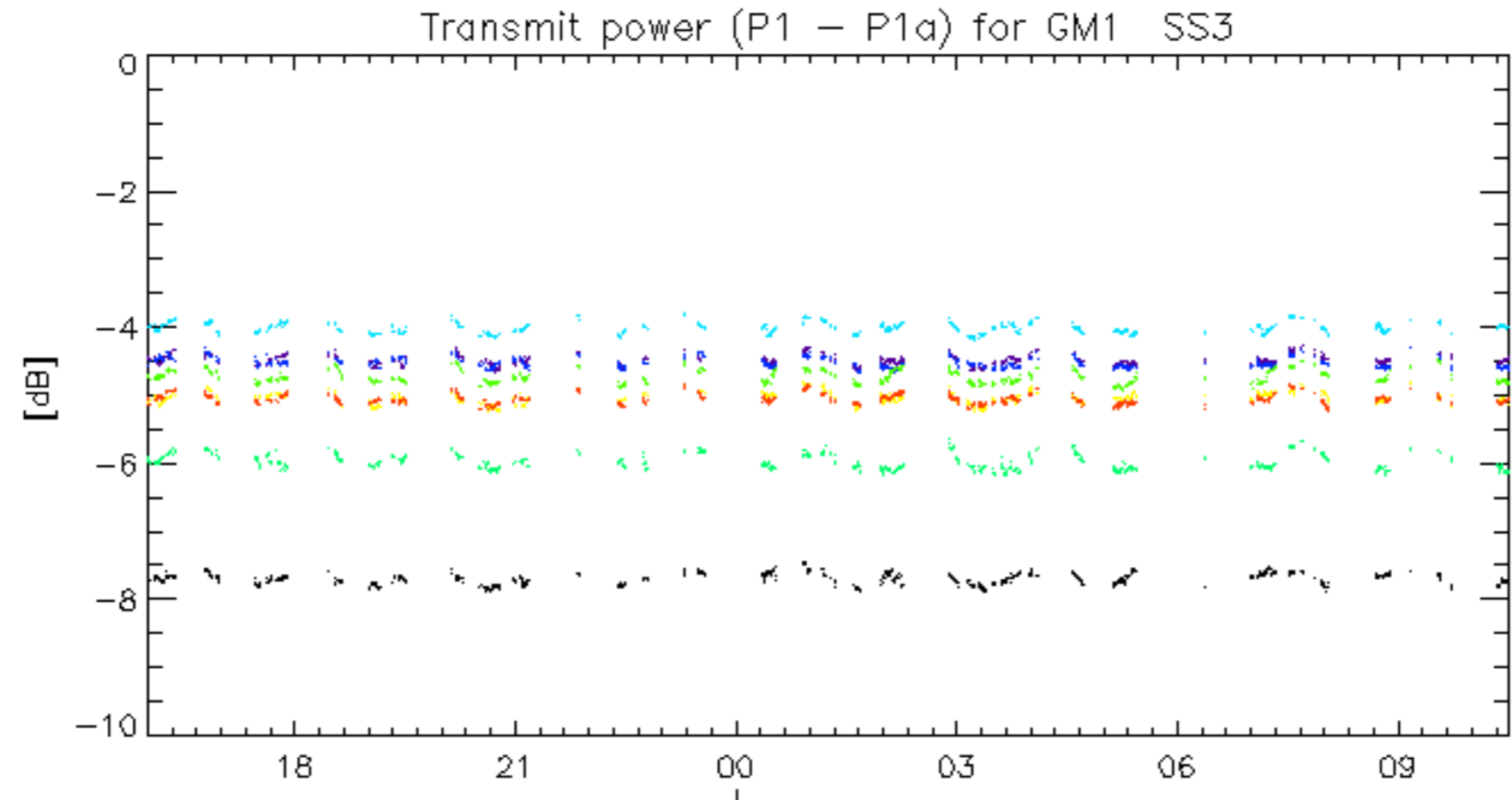
The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20070218_003602_000000622055_00374_25979_1850.N1	2	14
ASA_IMM_1PNPDE20070218_003903_000000962055_00374_25979_1947.N1	0	80
ASA_IMM_1PNPDE20070218_004118_000001582055_00374_25979_1945.N1	0	62
ASA_IMM_1PNPDE20070219_231902_000000622055_00402_26007_4423.N1	2	111
ASA_WSM_1PNPDE20070219_093157_000000862055_00394_25999_3949.N1	0	1
ASA_WSM_1PNPDE20070219_112059_000000922055_00395_26000_4006.N1	0	10
ASA_WSM_1PNPDE20070219_171914_000000852055_00399_26004_4165.N1	0	59
ASA_WSM_1PNPDE20070219_185950_000000672055_00400_26005_4175.N1	0	59
ASA_APM_1PNPDE20070219_222200_000000412055_00402_26007_4421.N1	0	21



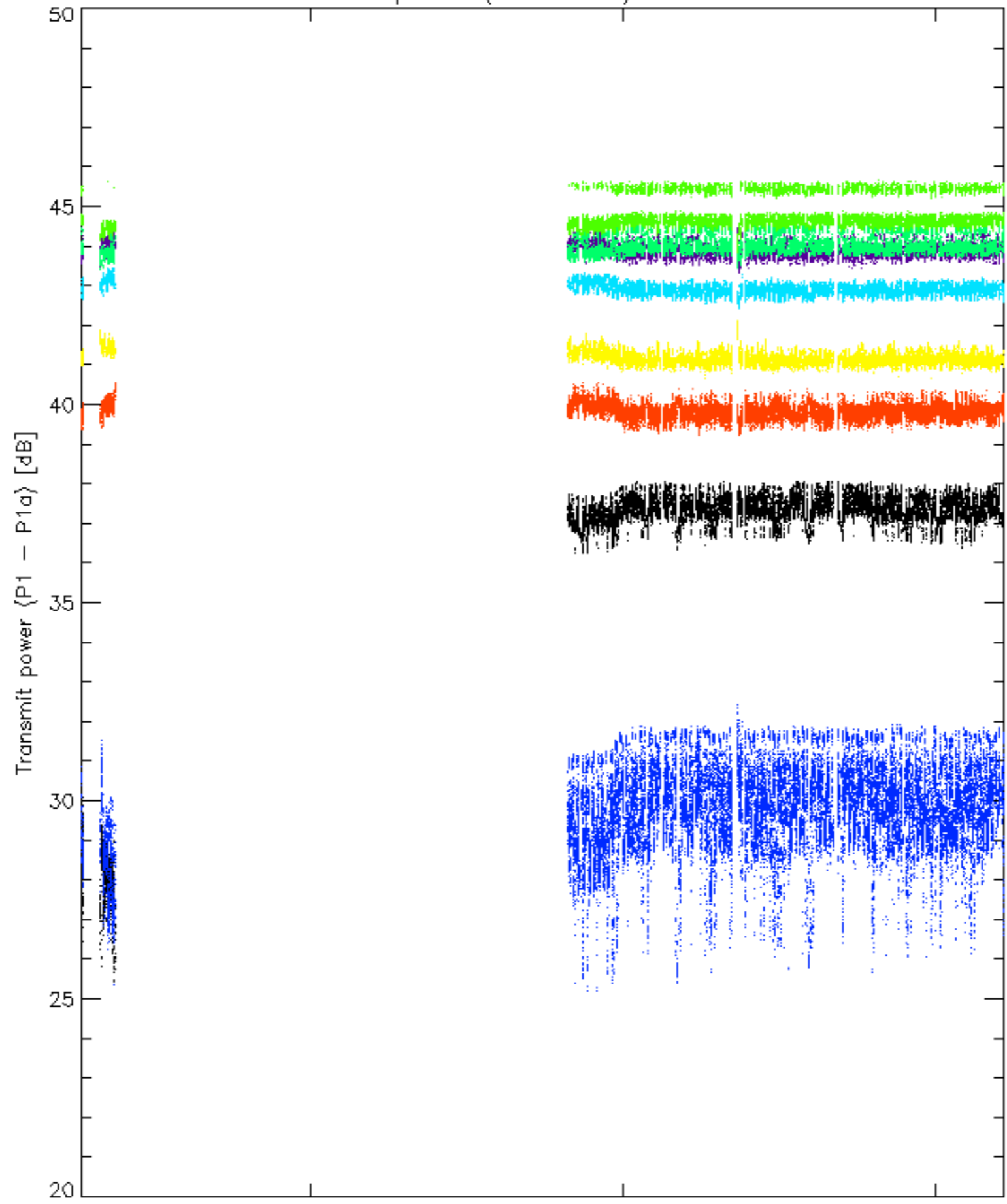


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

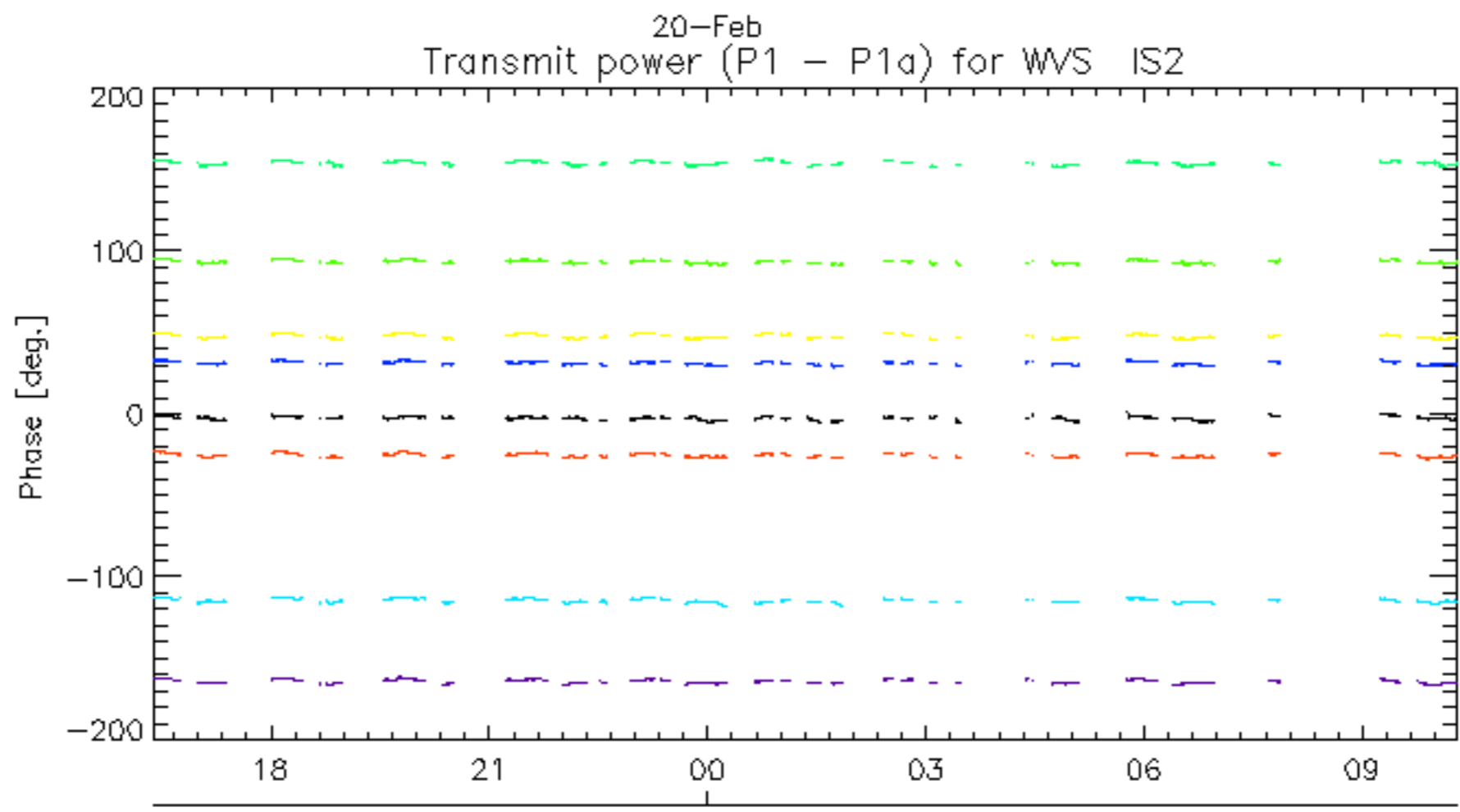
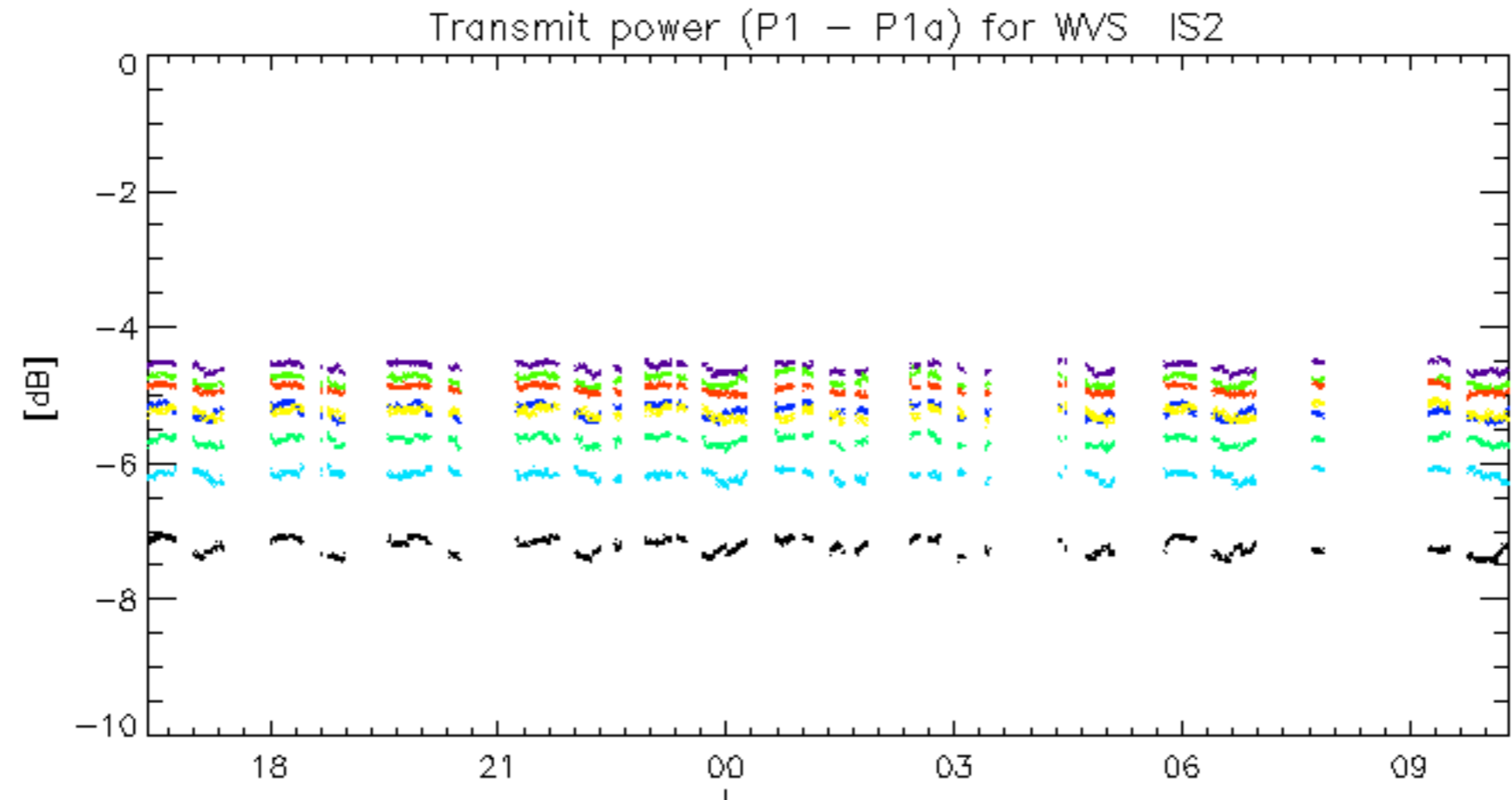


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Transmit power (P1 - P1a) for WWS 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.