

PRELIMINARY REPORT OF 070225

last update on Sun Feb 25 16:24:27 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 2007-02-24 00:00:00 to 2007-02-25 16:24:27

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20070222_190441_20070204_165113_20071231_000000	35	69	15	0	26
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	35	69	15	0	26
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	35	69	15	0	26
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	35	69	15	0	26

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20070222_190441_20070204_165113_20071231_000000	37	39	58	4	18
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	37	39	58	4	18
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	37	39	58	4	18
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	37	39	58	4	18

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	20070224 204902
H	20070223 143815

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

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⊗

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	-15.138698	0.212949	1.066484
7	P1a	-17.404673	0.106106	-0.137916
11	P1a	-17.309595	0.350014	0.082056
15	P1a	-12.841035	0.105141	-0.113201
19	P1a	-15.087390	0.092504	-0.015271
22	P1a	-15.484320	0.473994	-0.010644
26	P1a	-15.030035	0.206733	-0.232071
30	P1a	-17.310476	0.341585	-0.196291

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.632007	0.131301	-1.172145
7	P1	-3.104146	0.009239	-0.034956
11	P1	-4.125905	0.019347	-0.024997
15	P1	-6.328640	0.016146	-0.059975
19	P1	-3.710061	0.008704	-0.024717
22	P1	-4.669046	0.014222	0.016523
26	P1	-3.929336	0.012898	-0.015815
30	P1	-5.914997	0.011795	-0.012578

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.554470	0.236580	-1.253431
7	P2	-21.593397	0.083664	0.084835
11	P2	-15.482137	0.100788	-0.005722
15	P2	-7.008607	0.098171	-0.014169
19	P2	-9.075915	0.086417	-0.007349
22	P2	-18.099390	0.081495	-0.033491

26	P2	-16.499344	0.094541	-0.022005
30	P2	-19.329065	0.077239	-0.002848

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.196090	0.007717	0.003739
7	P3	-8.196090	0.007717	0.003739
11	P3	-8.196090	0.007717	0.003739
15	P3	-8.196090	0.007717	0.003739
19	P3	-8.196090	0.007717	0.003739
22	P3	-8.196090	0.007717	0.003739
26	P3	-8.196090	0.007717	0.003739
30	P3	-8.196090	0.007717	0.003739

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	-11.280741	0.135747	0.915717
7	P1a	-10.038706	0.064405	-0.055398
11	P1a	-10.590570	0.058156	-0.212846
15	P1a	-10.859193	0.132834	-0.099174
19	P1a	-15.738360	0.064319	0.032242
22	P1a	-20.861172	1.265403	0.271510
26	P1a	-15.414575	0.267154	0.246092
30	P1a	-18.342731	0.358977	-0.097100

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-7.079037	3.657385	-5.789669
7	P1	-2.434870	0.005928	0.017718

11	P1	-2.888171	0.015943	-0.085946
15	P1	-3.805898	0.033313	-0.094366
19	P1	-3.550313	0.012380	-0.003489
22	P1	-5.026754	0.022818	-0.015596
26	P1	-5.986318	0.023486	0.044861
30	P1	-5.284370	0.022824	0.022477

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.520164	0.736282	-2.498327
7	P2	-21.988382	0.053075	0.139538
11	P2	-10.667924	0.030724	0.081752
15	P2	-4.822074	0.027136	0.061491
19	P2	-6.819163	0.028442	0.068103
22	P2	-8.123880	0.029673	0.087315
26	P2	-24.249168	0.032539	0.013837
30	P2	-21.769430	0.036263	0.102021

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.043303	0.003258	0.035801
7	P3	-8.043326	0.003270	0.035487
11	P3	-8.043391	0.003264	0.035293
15	P3	-8.043308	0.003273	0.035540
19	P3	-8.043354	0.003253	0.035393
22	P3	-8.043441	0.003265	0.035323
26	P3	-8.043303	0.003262	0.035506
30	P3	-8.043338	0.003271	0.035332

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	0.000615879
	stdev	2.34933e-07
MEAN Q	mean	0.000395114
	stdev	2.50473e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.107302
	stdev	0.00257129
STDEV Q	mean	0.107355
	stdev	0.00262098



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007022[345]

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_WSM_1PNPDE20070223_023249_000000852055_00447_26052_8839.N1	0	29
ASA_WSM_1PNPDE20070223_153029_000000242055_00455_26060_9423.N1	2	470



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

7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

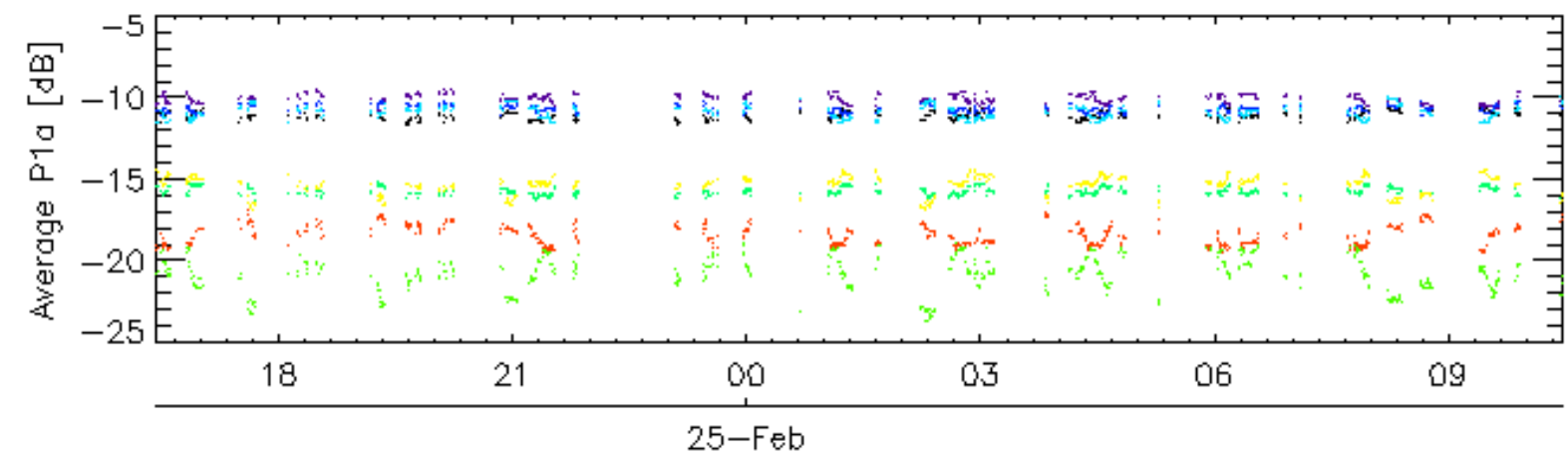
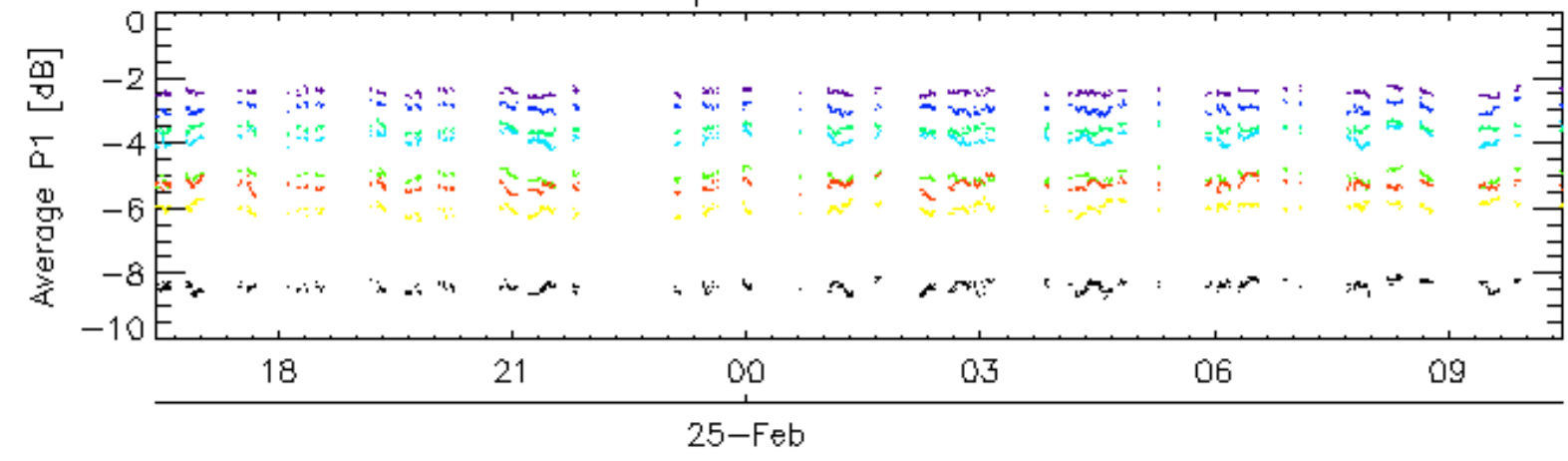
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	Ascending
<input type="checkbox"/>	
	Descending

7.6 - Doppler evolution versus ANX for GM1

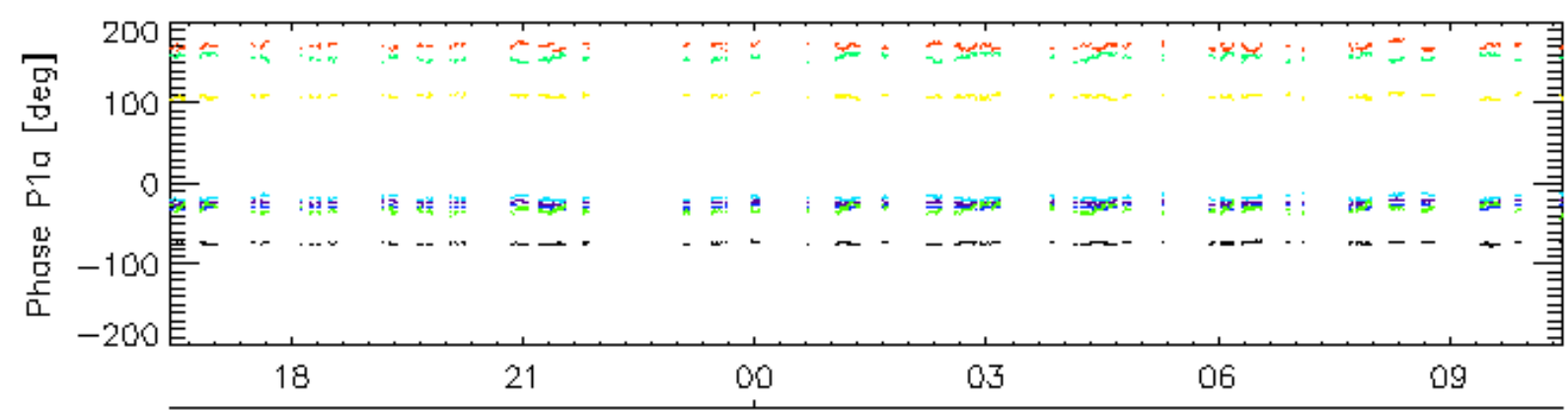
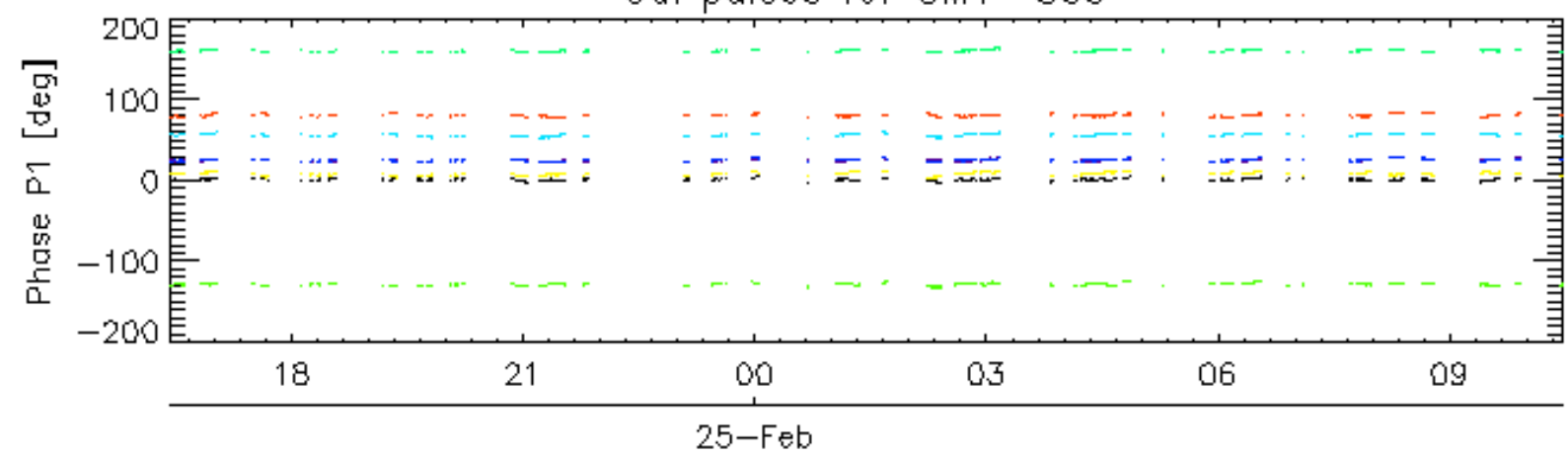
Evolution Doppler error versus ANX

<input type="checkbox"/>	
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Cal pulses for GM1 SS3

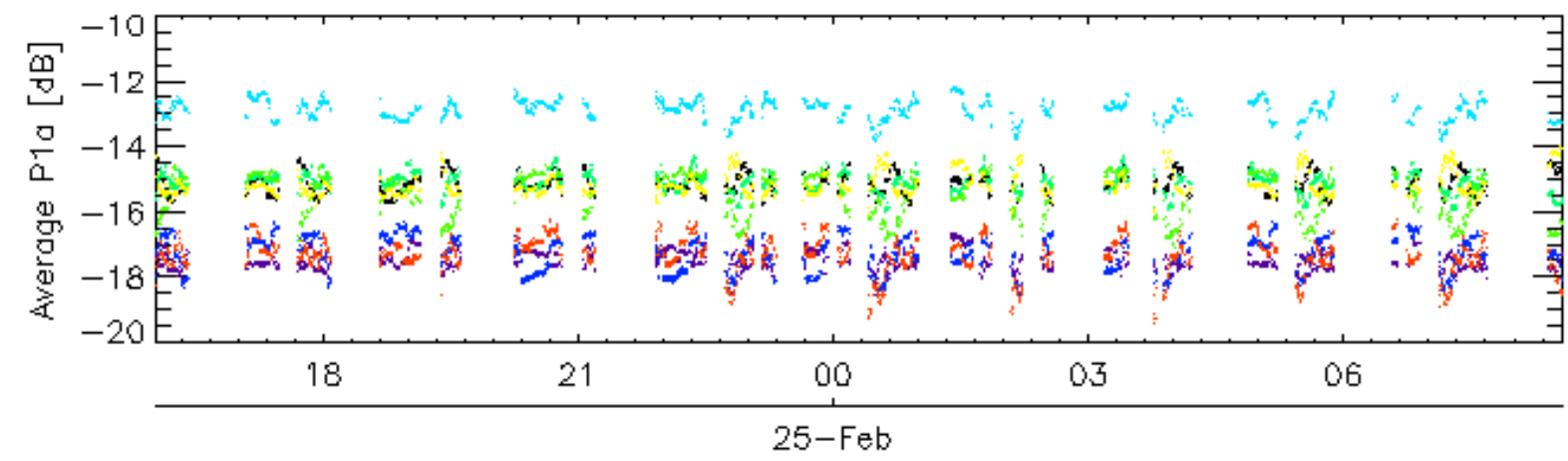
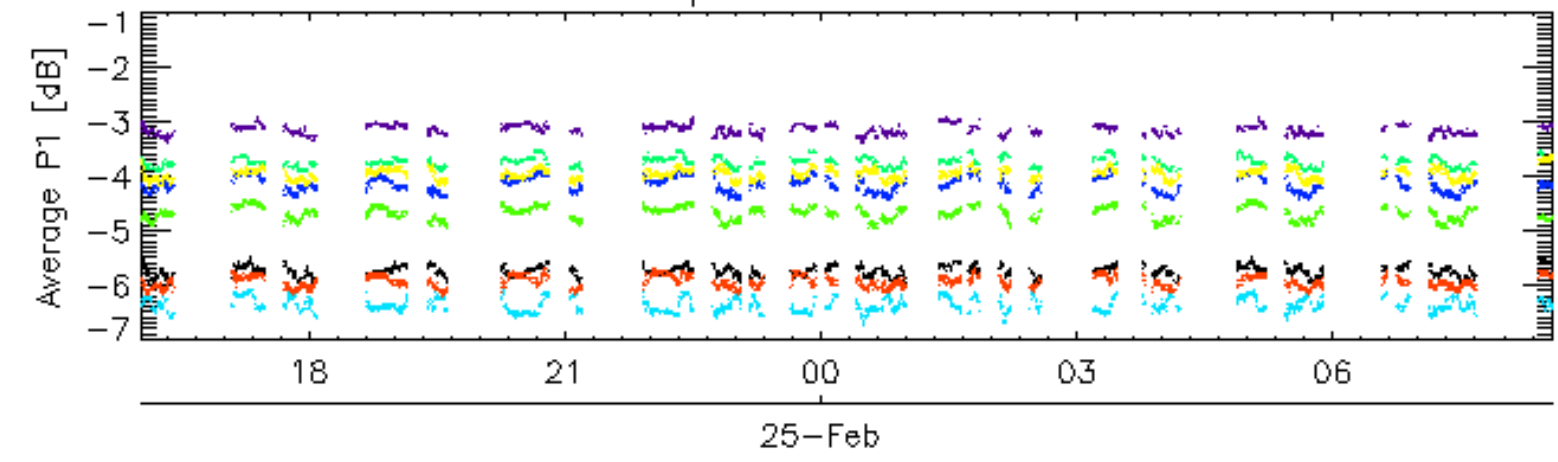


Cal pulses for GM1 SS3

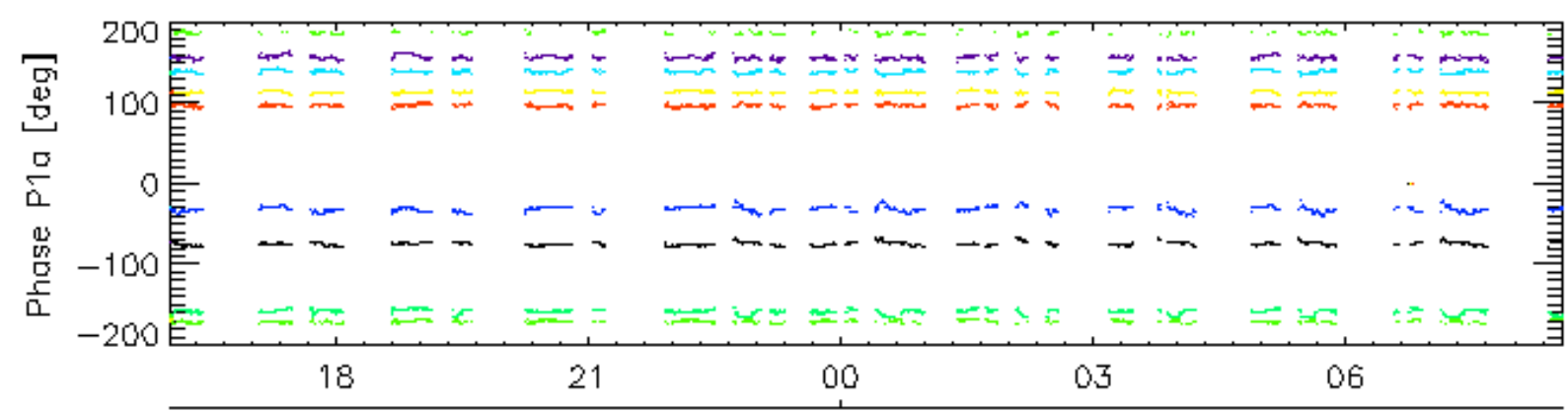
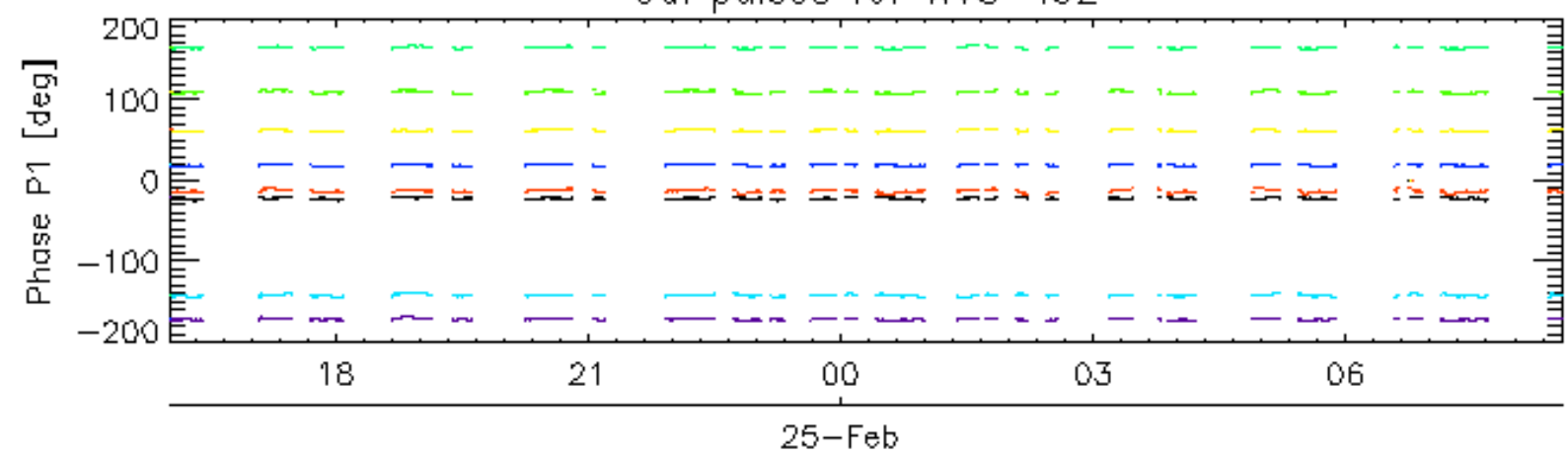


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

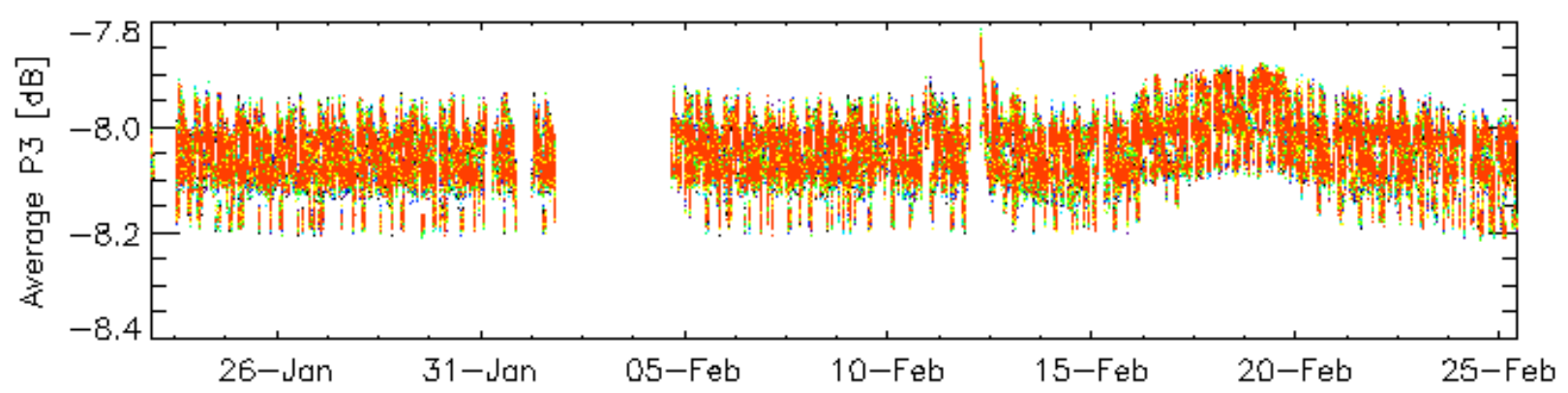
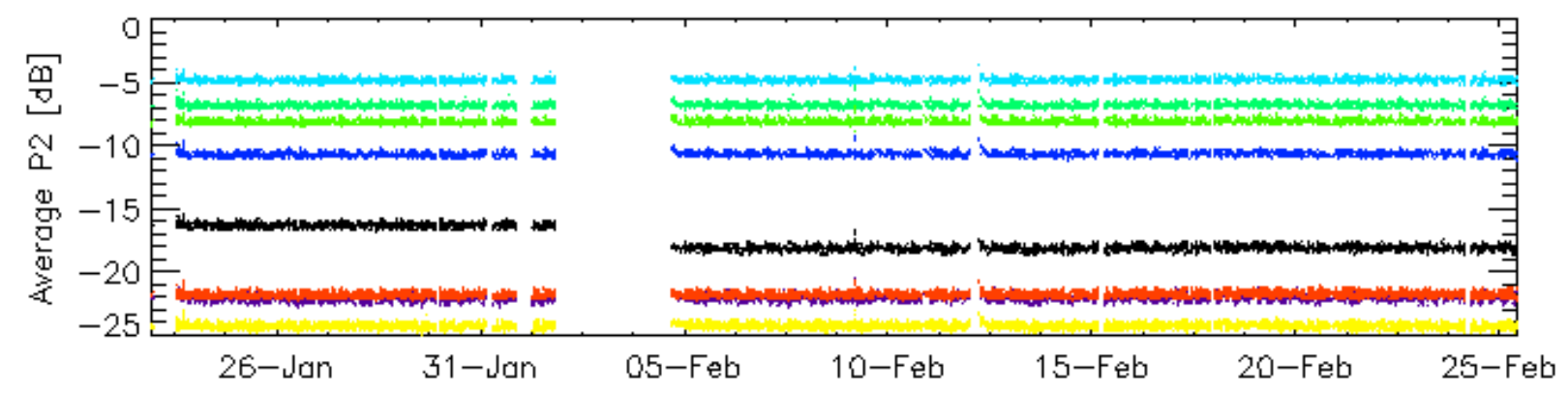
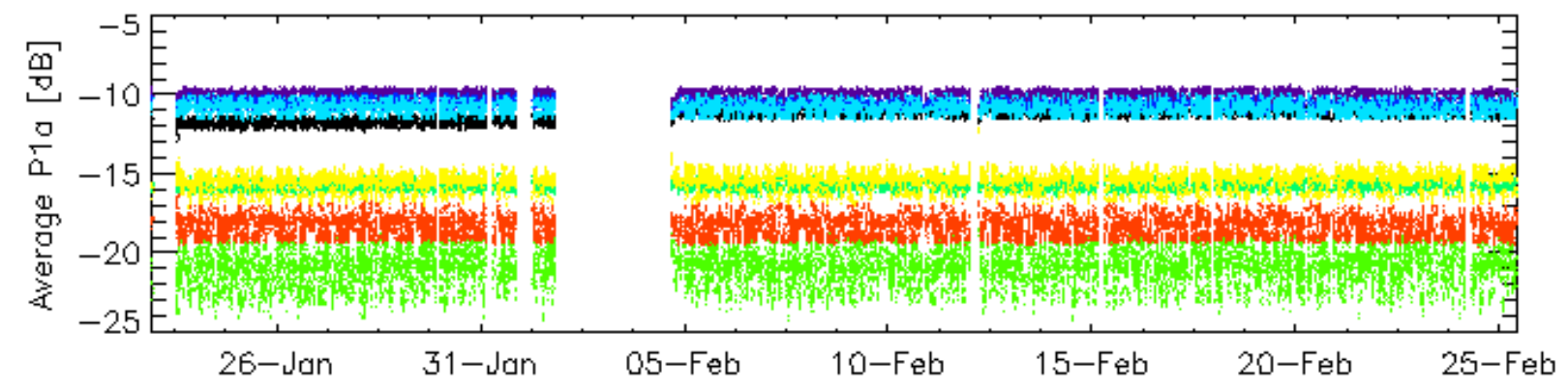
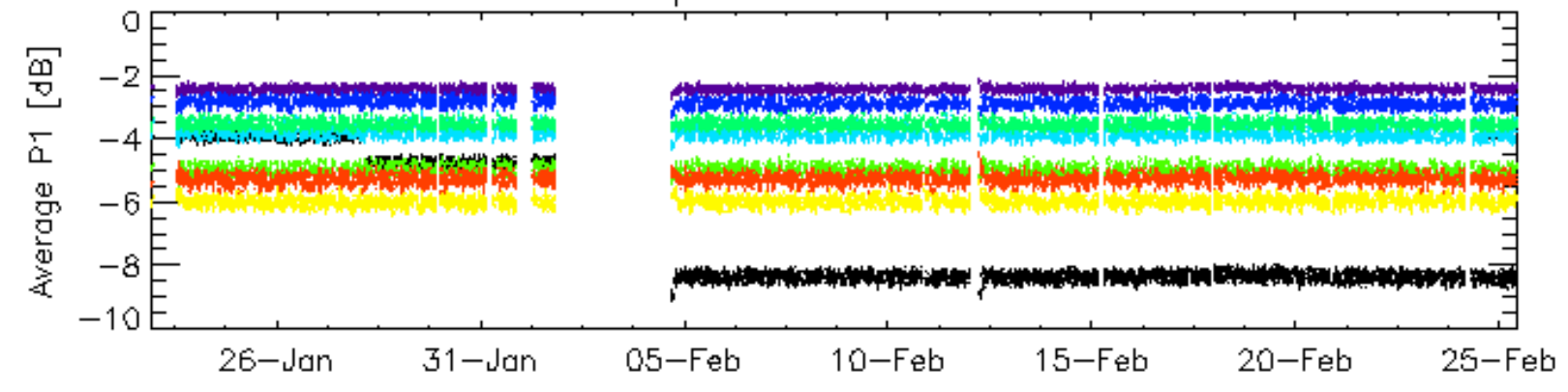


Cal pulses for WVS IS2



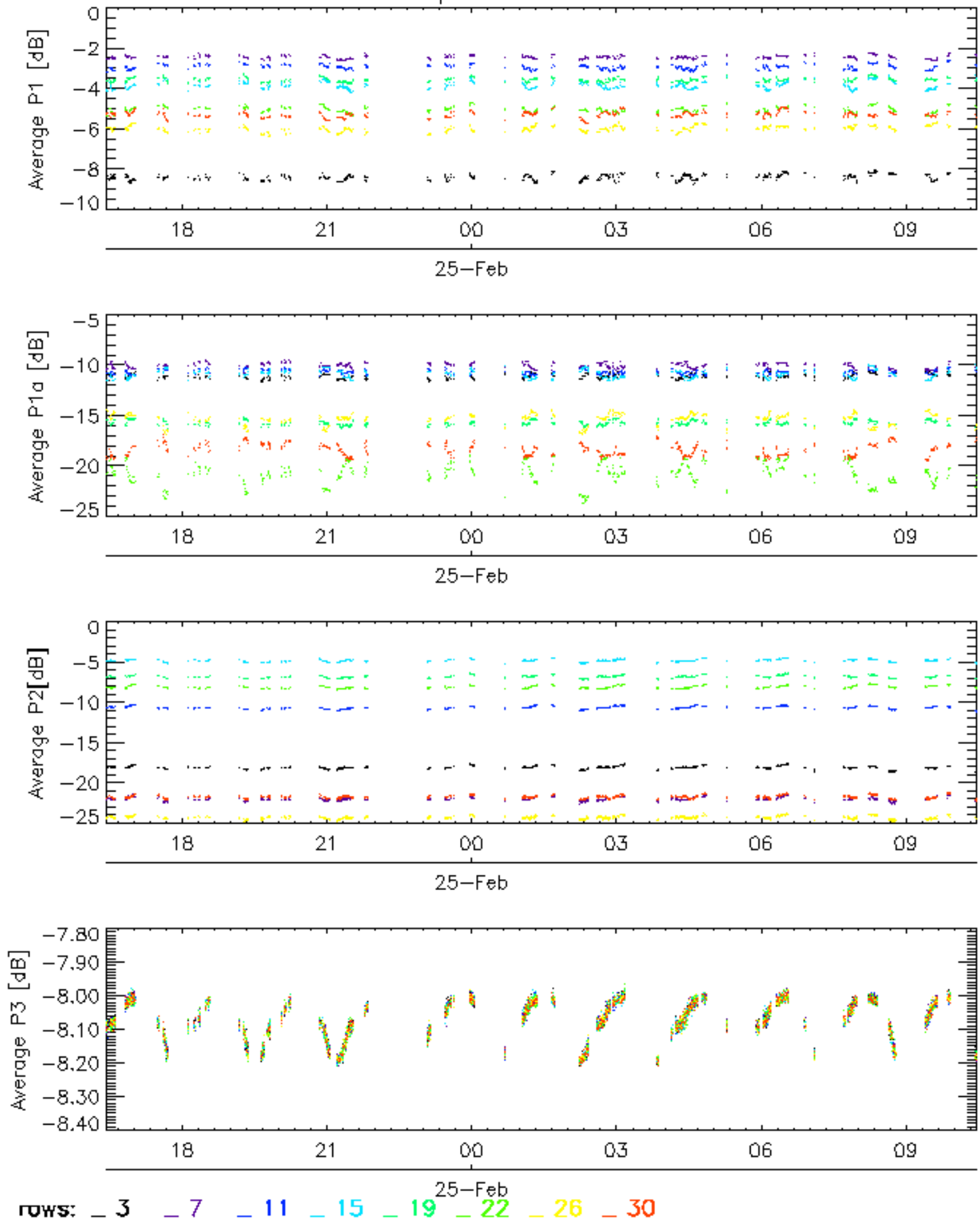
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

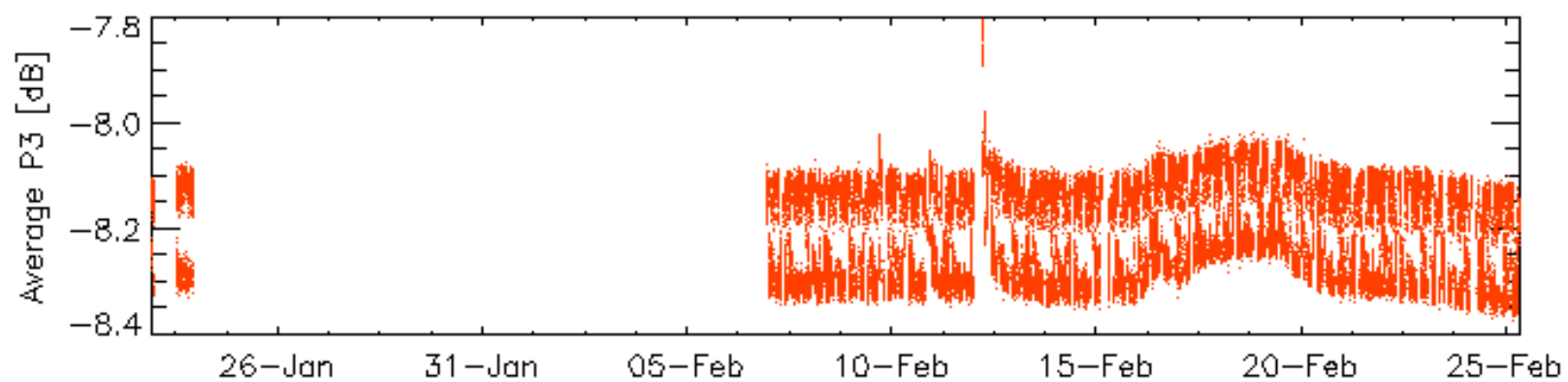
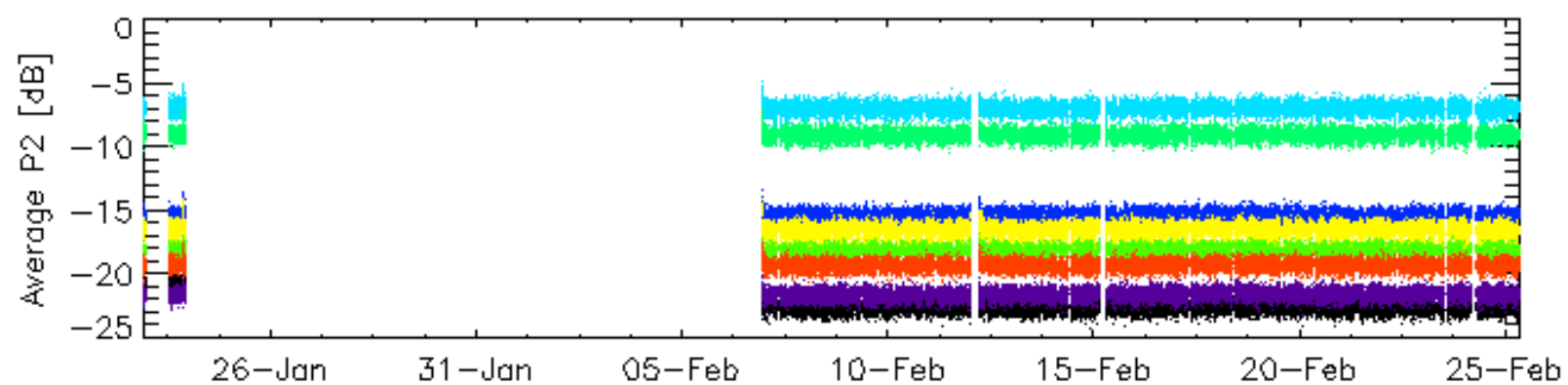
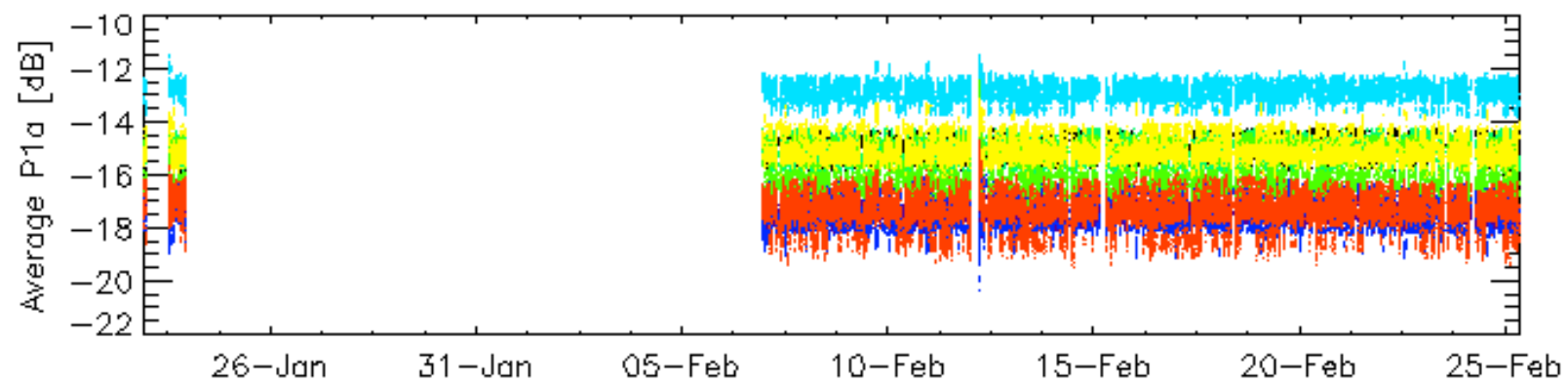
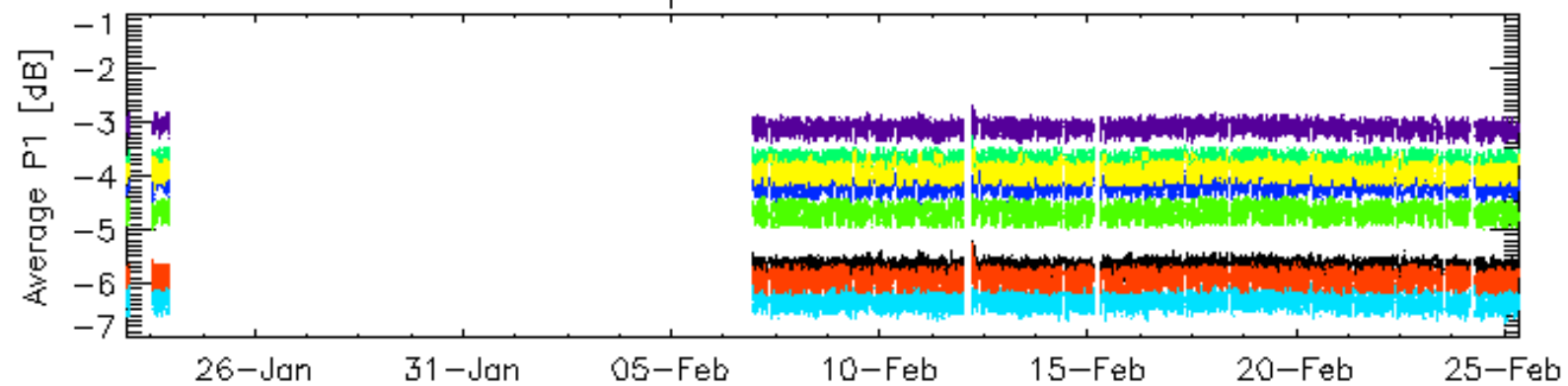


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

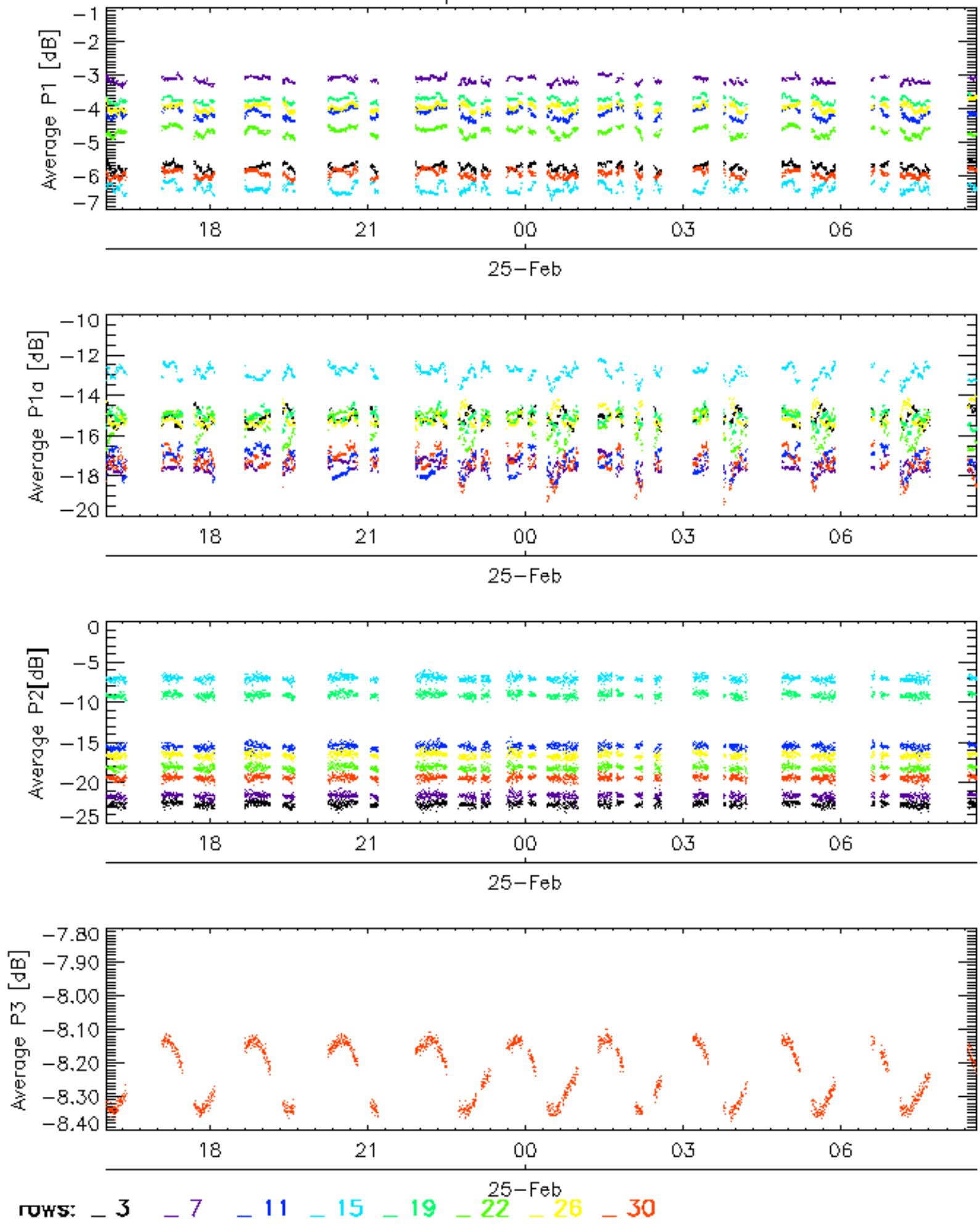


Cal pulses for WVS IS2

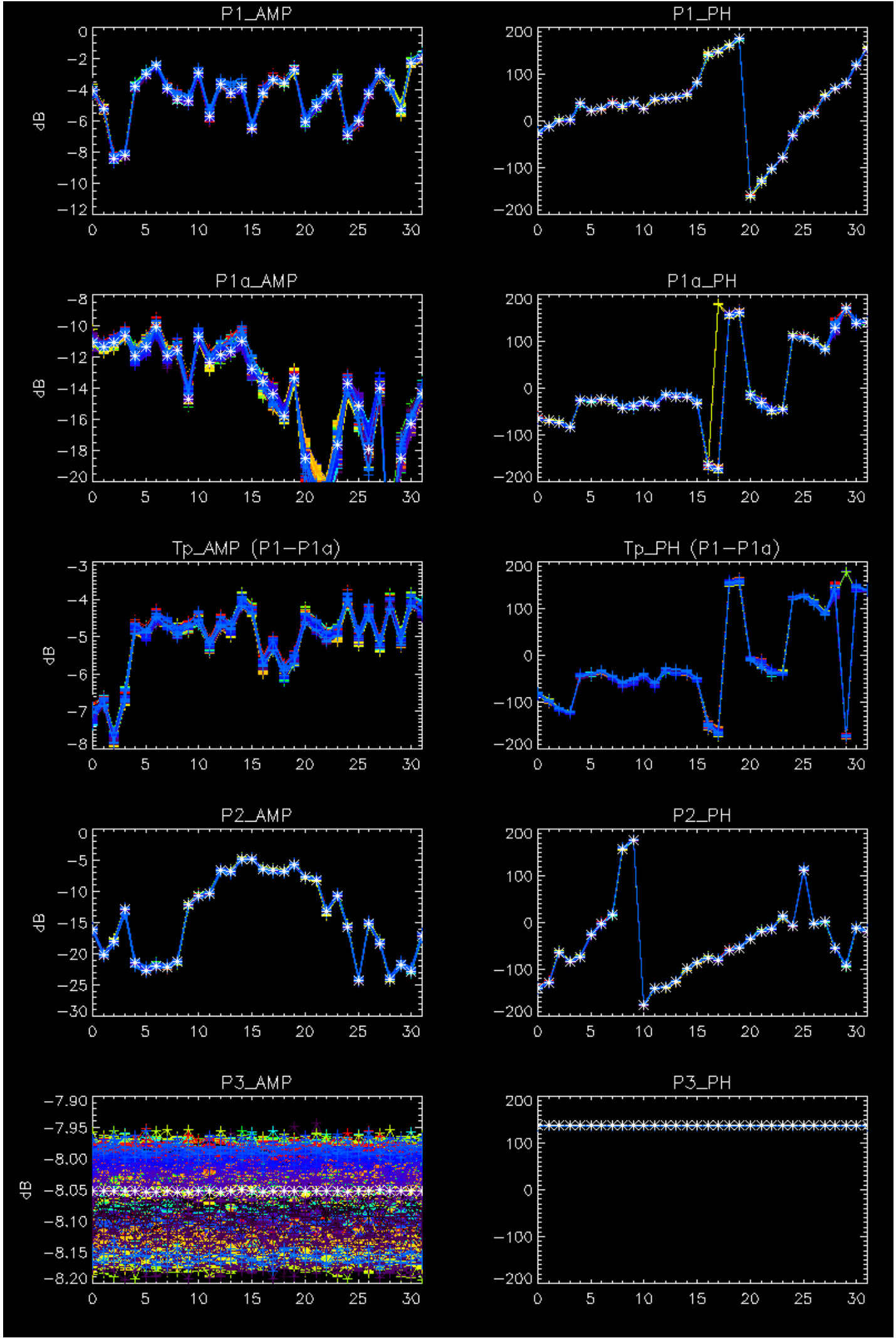


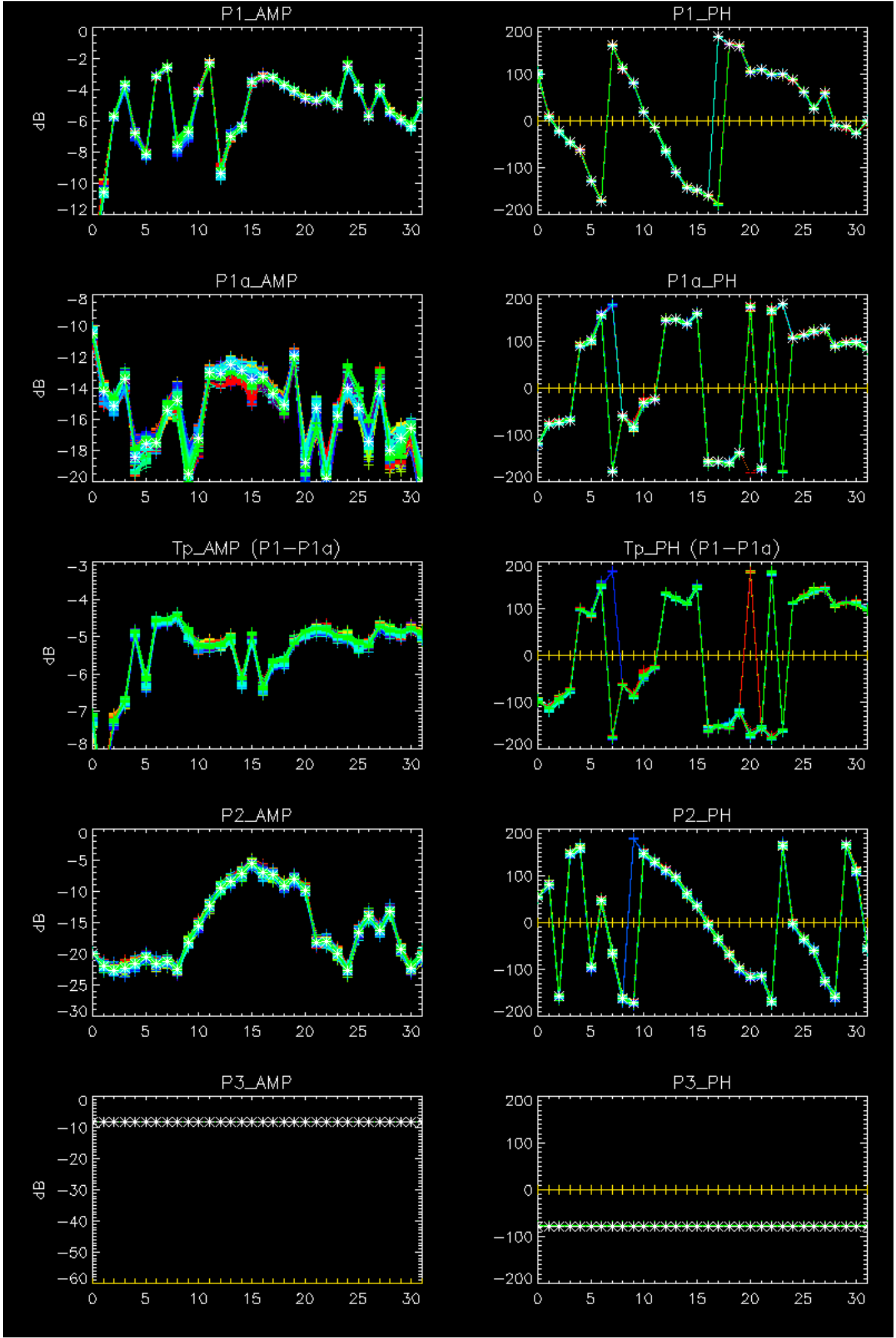
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



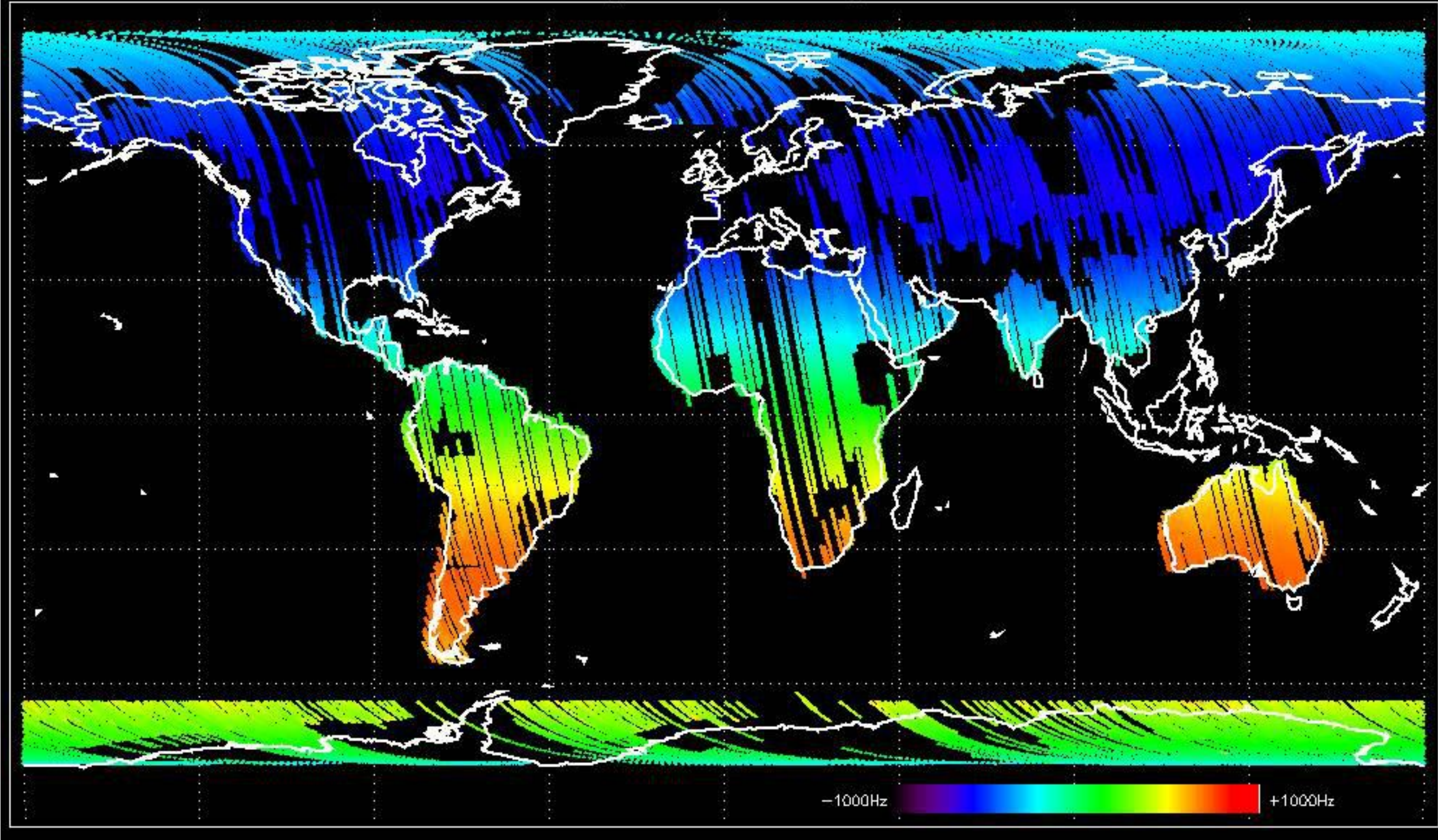
No anomalies observed.



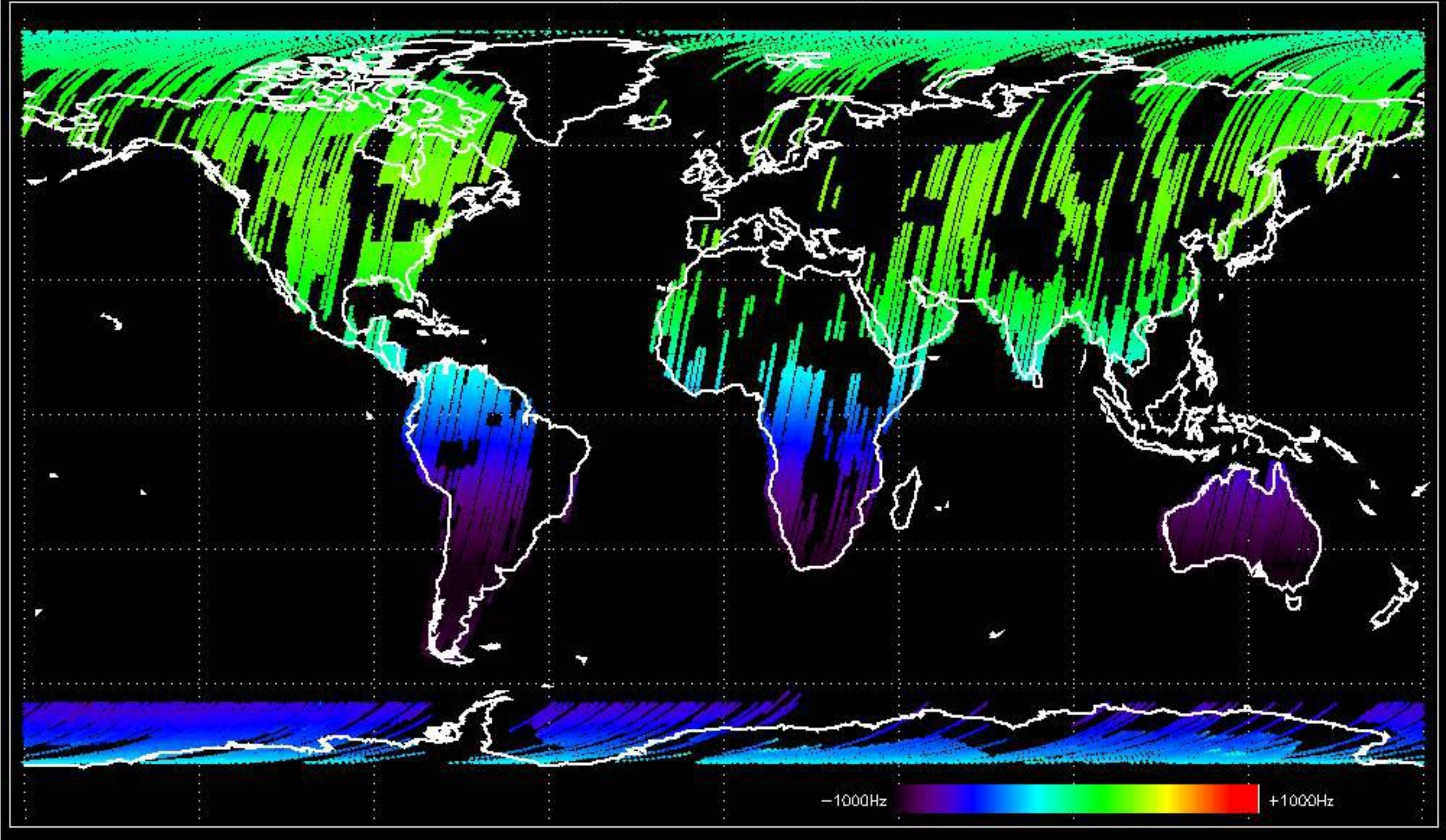


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

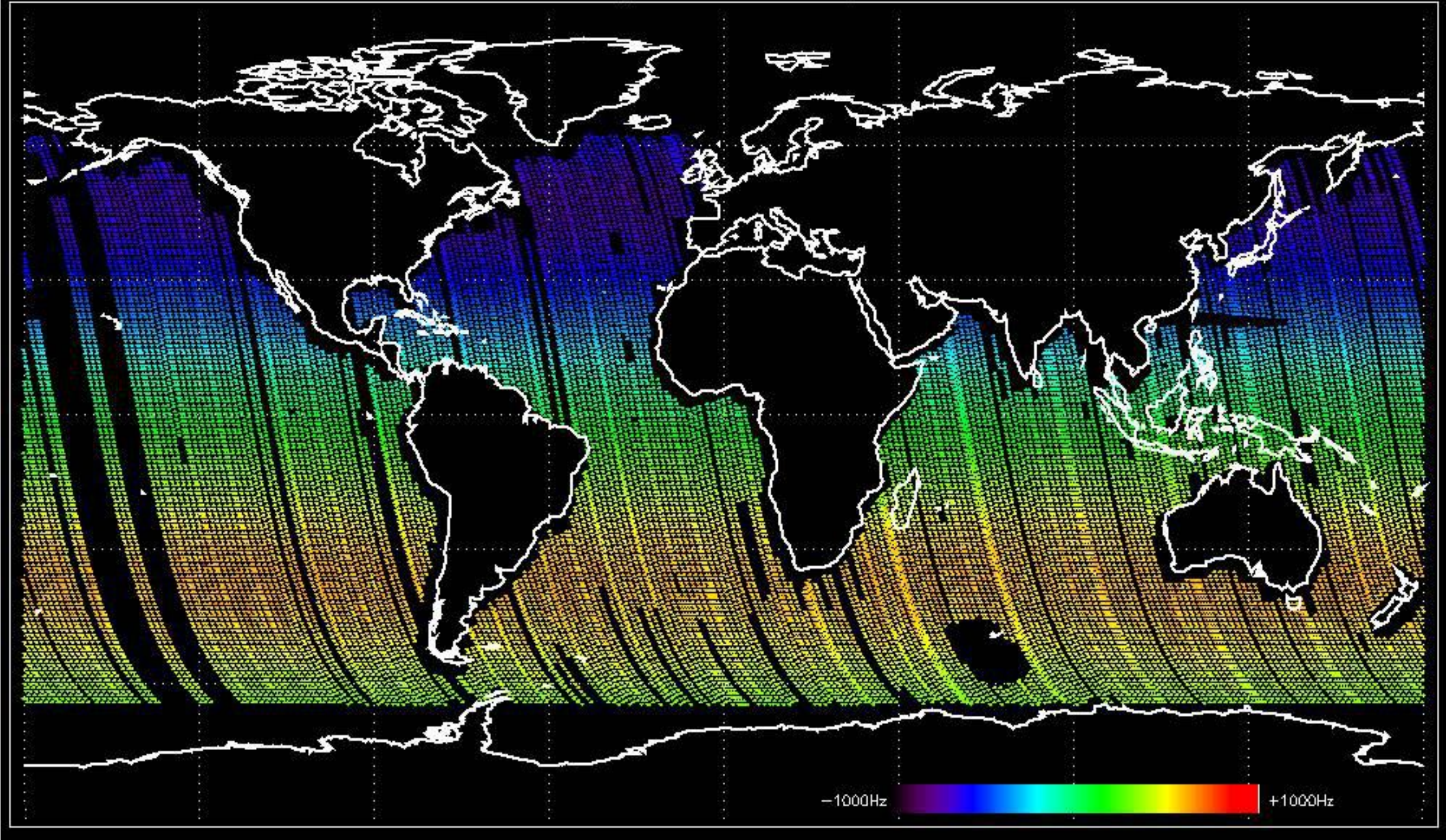
Doppler 'GM1' 'SS1' ascending



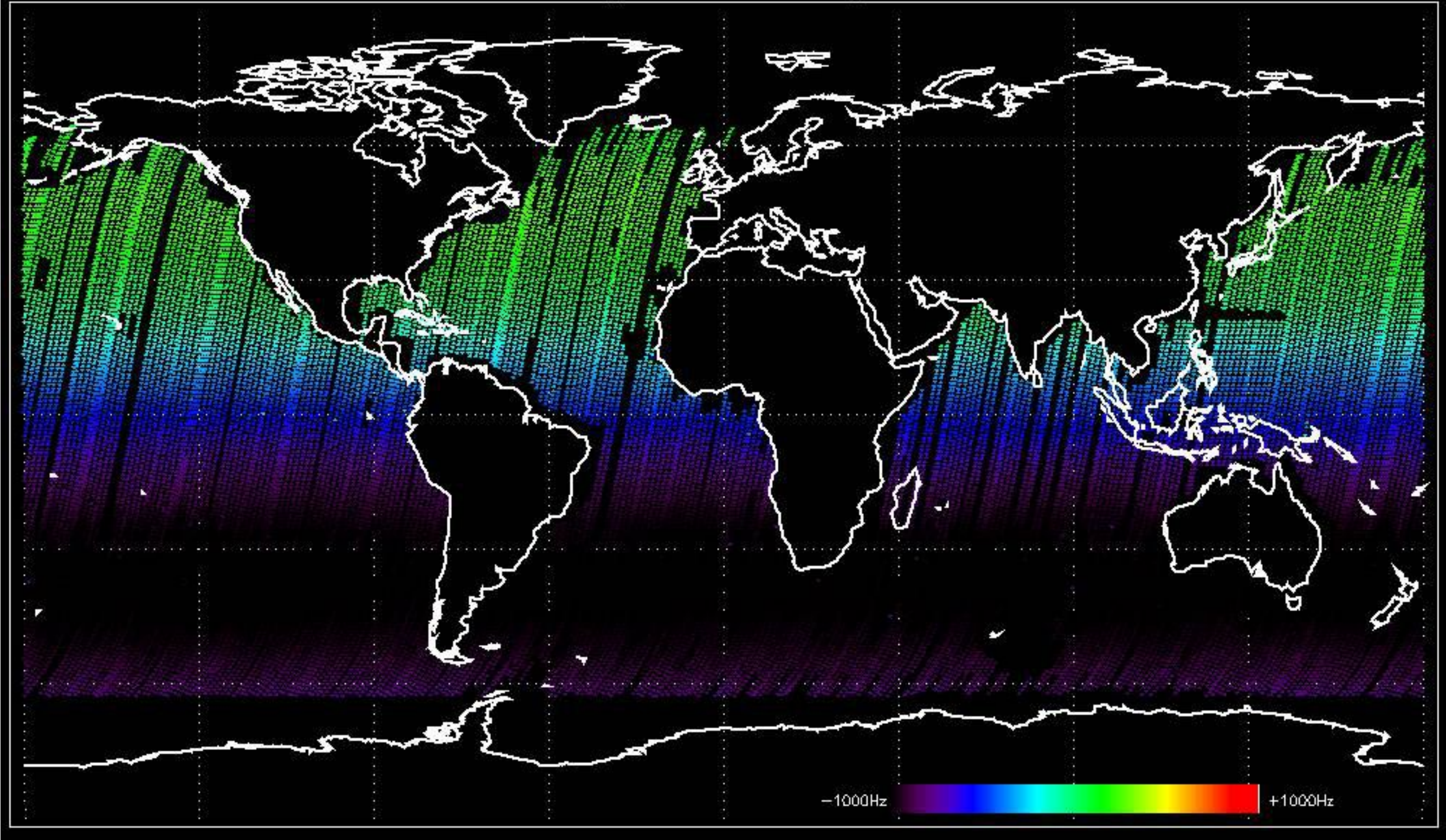
Doppler 'GM1' 'SS1' descending



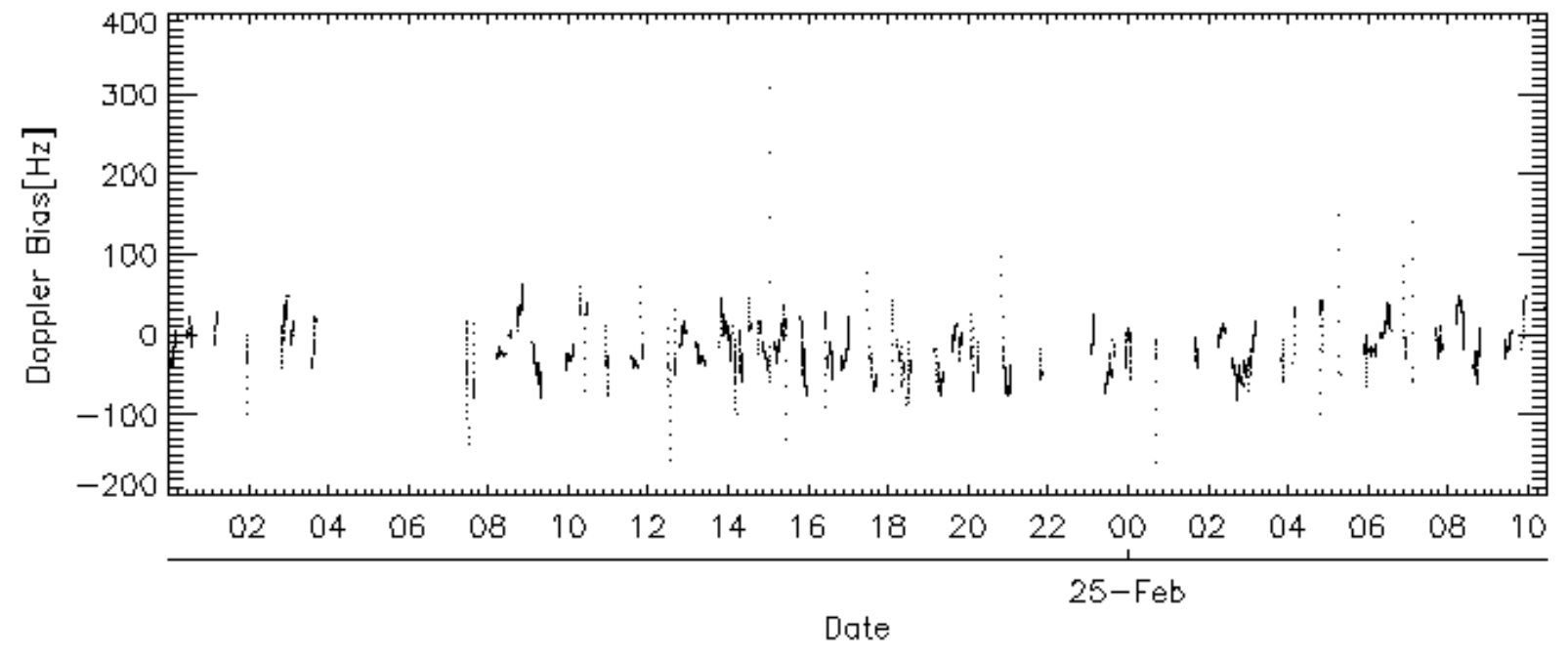
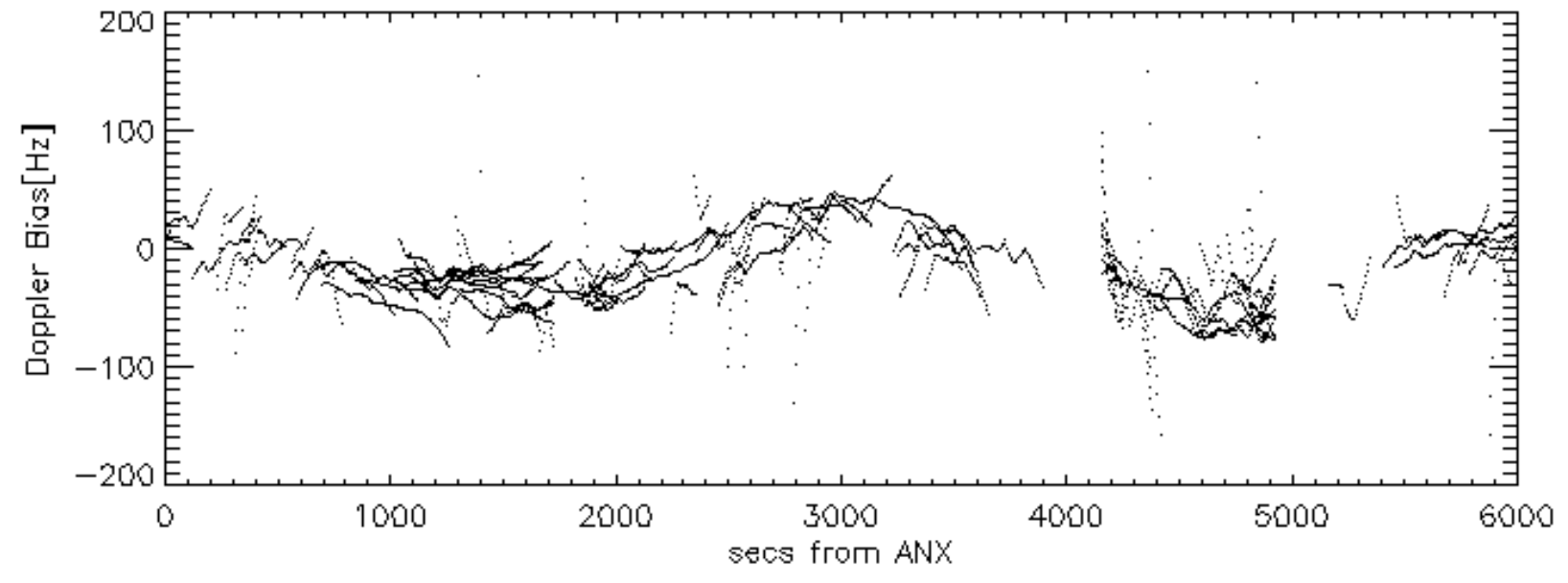
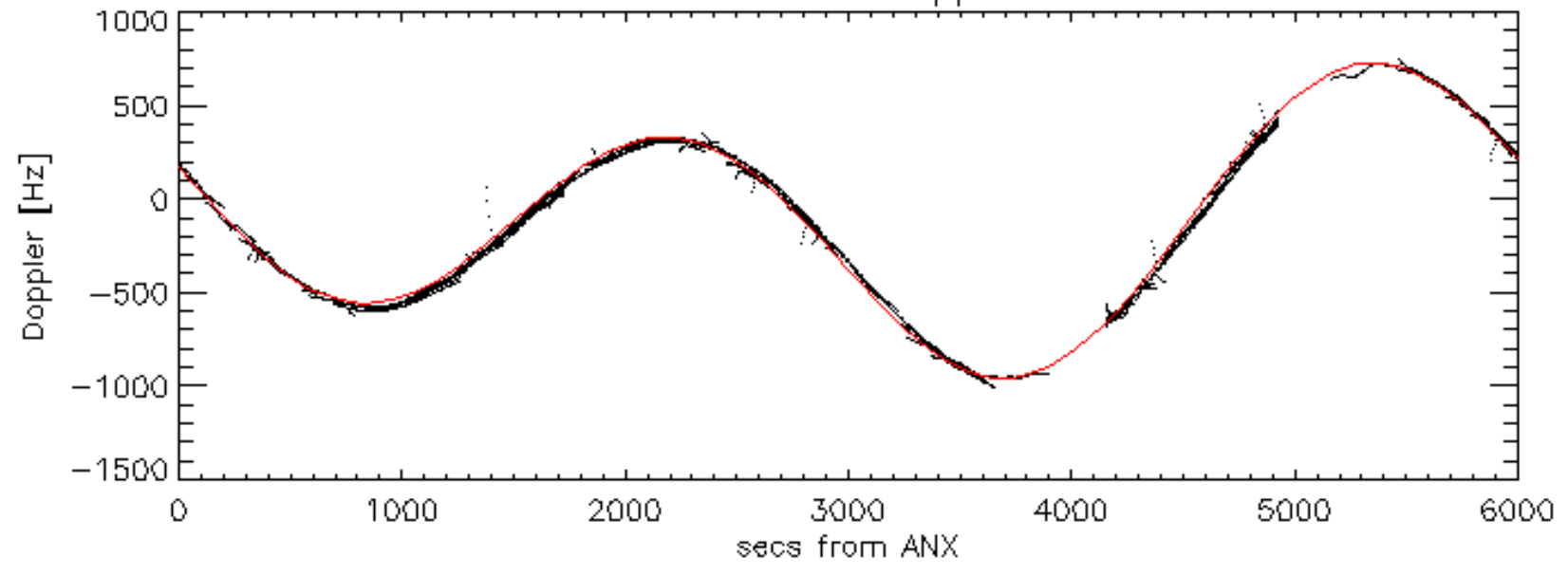
Doppler 'WVS' 'IS2' ascending

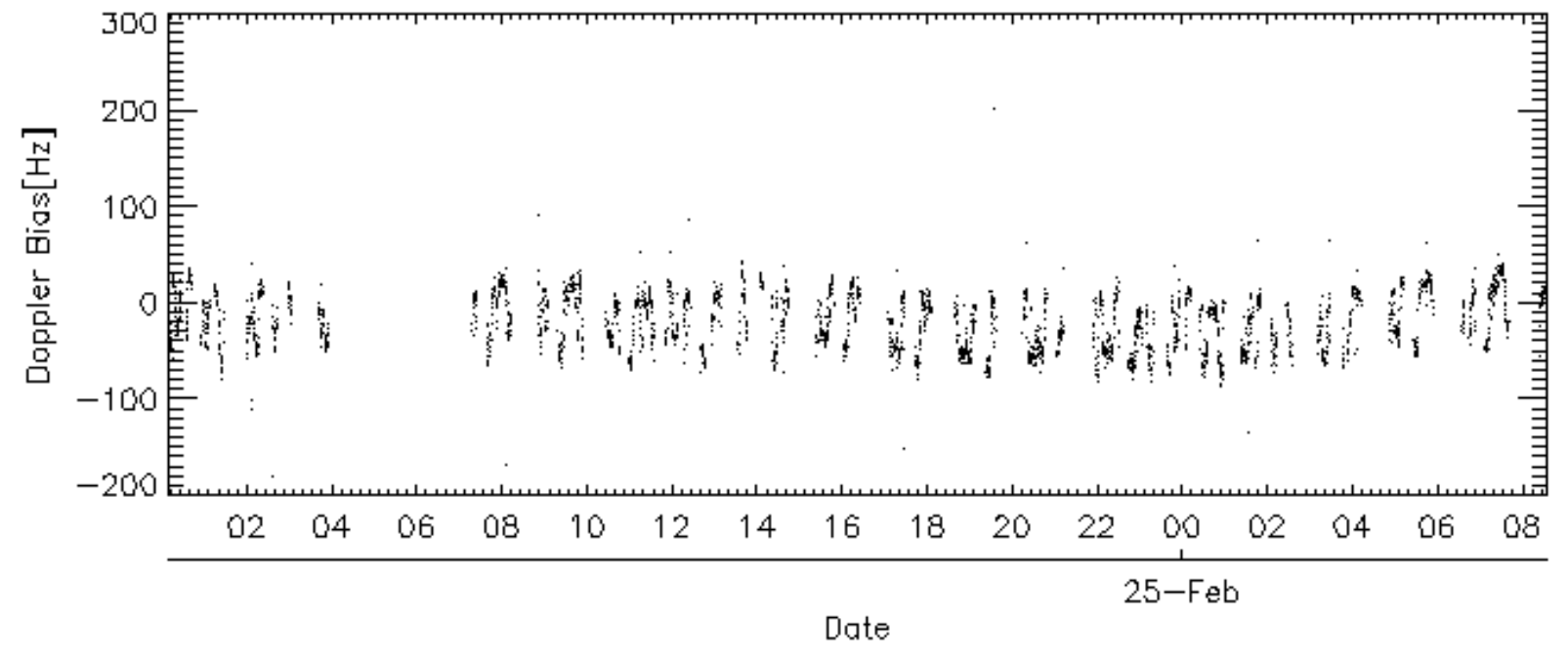
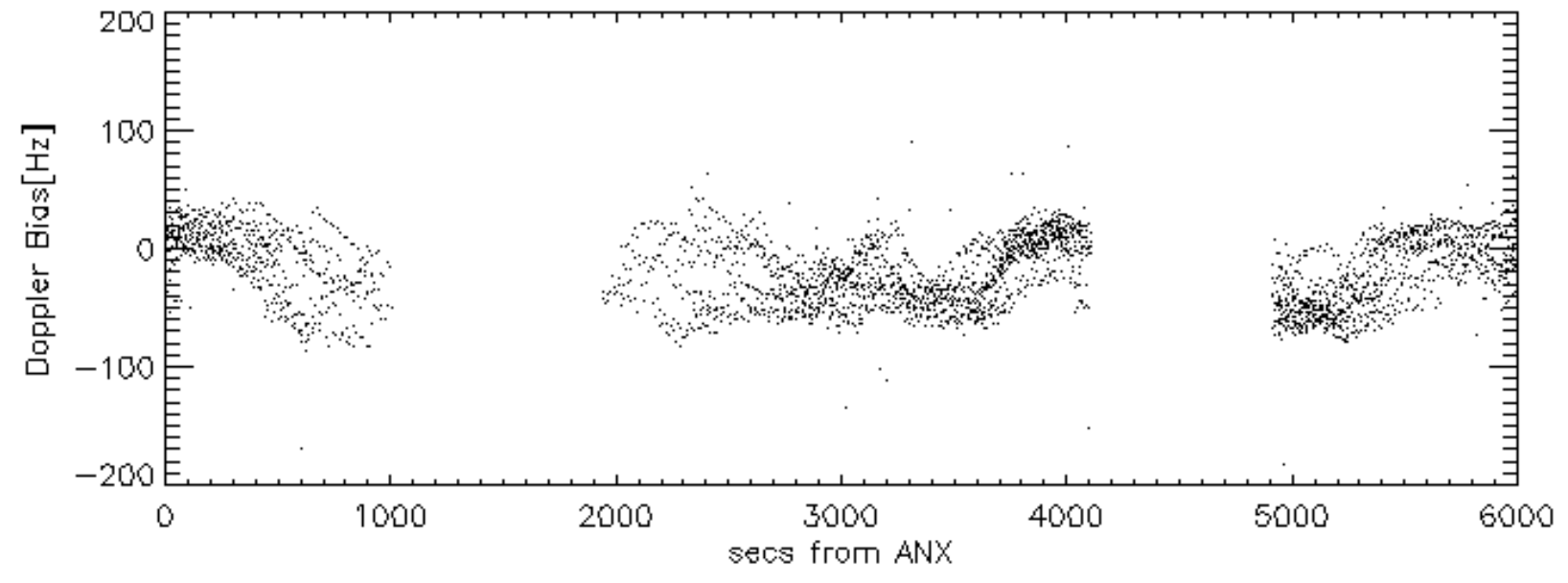
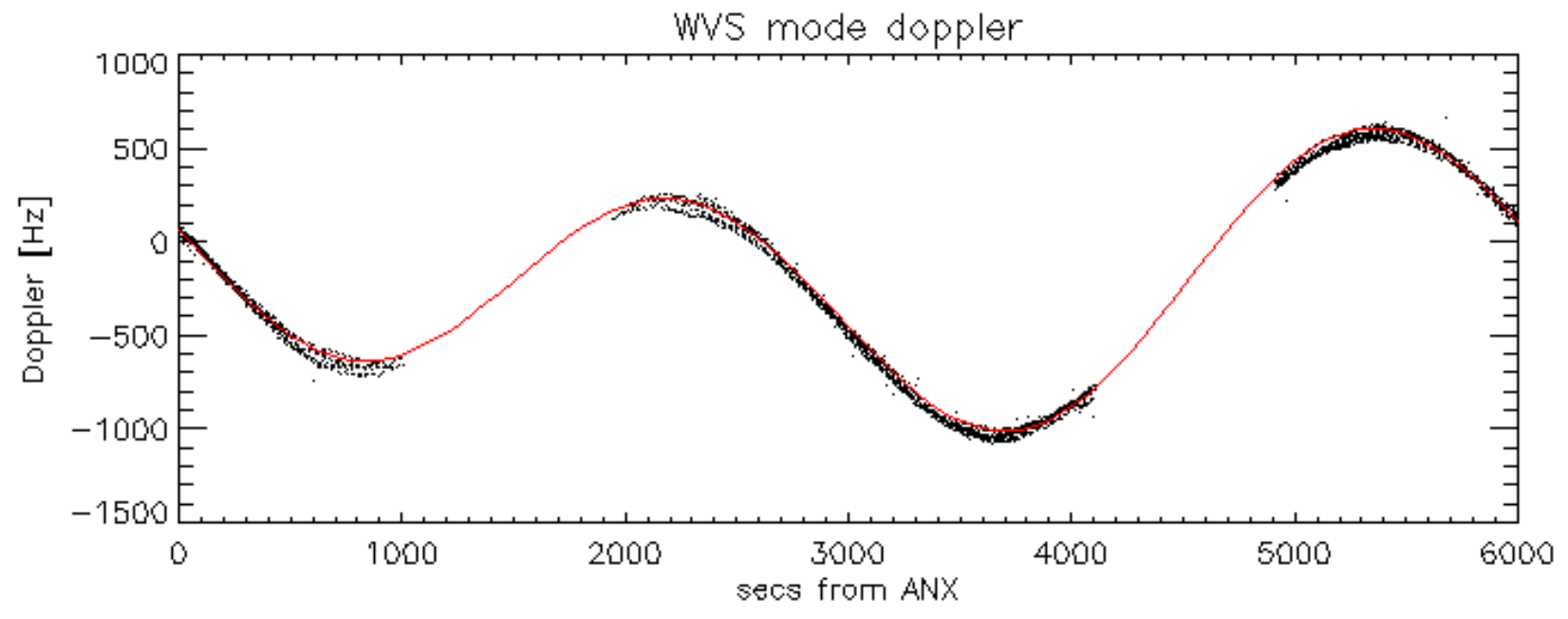


Doppler 'WVS' 'IS2' descending

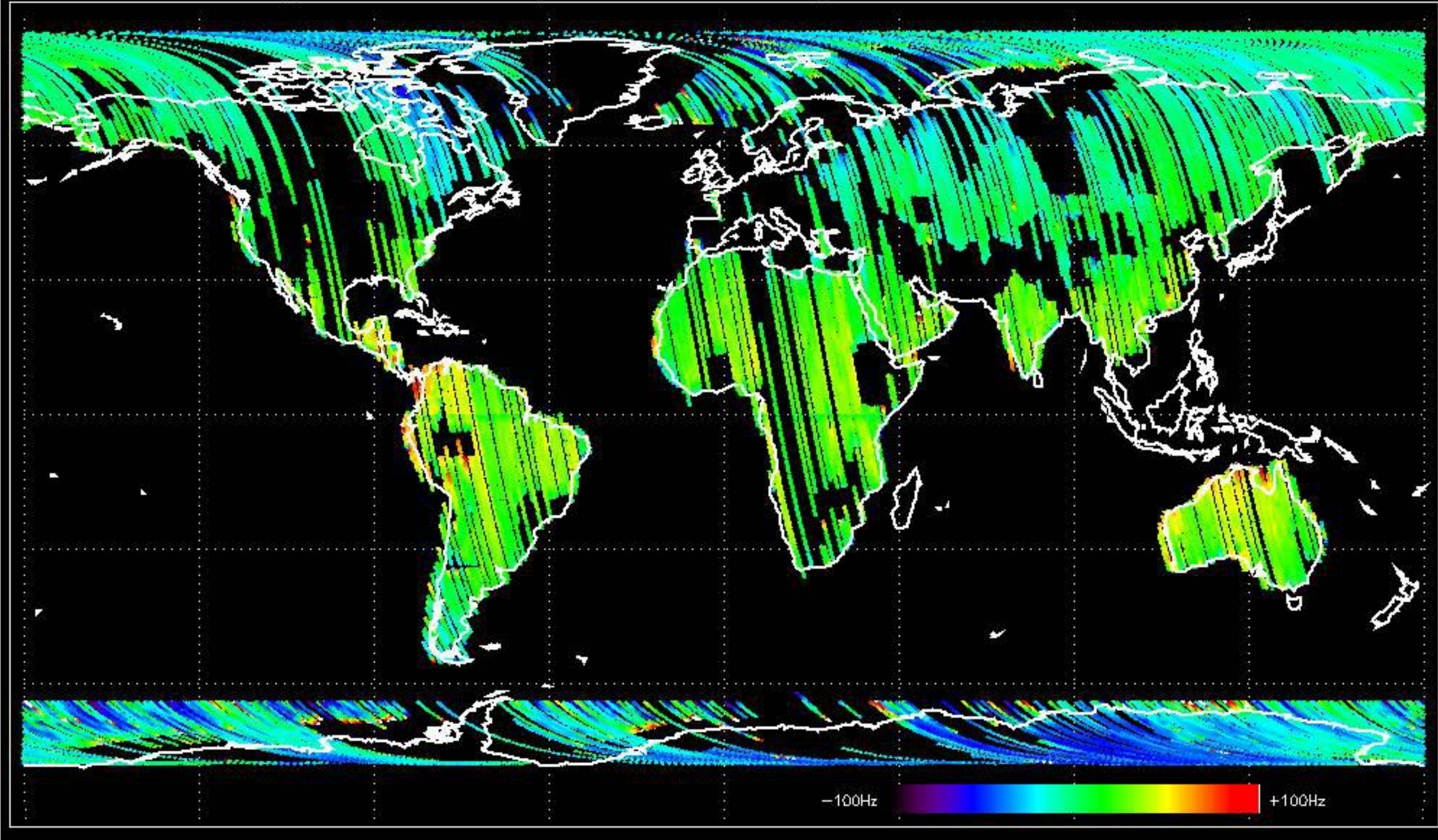


GM1 mode doppler

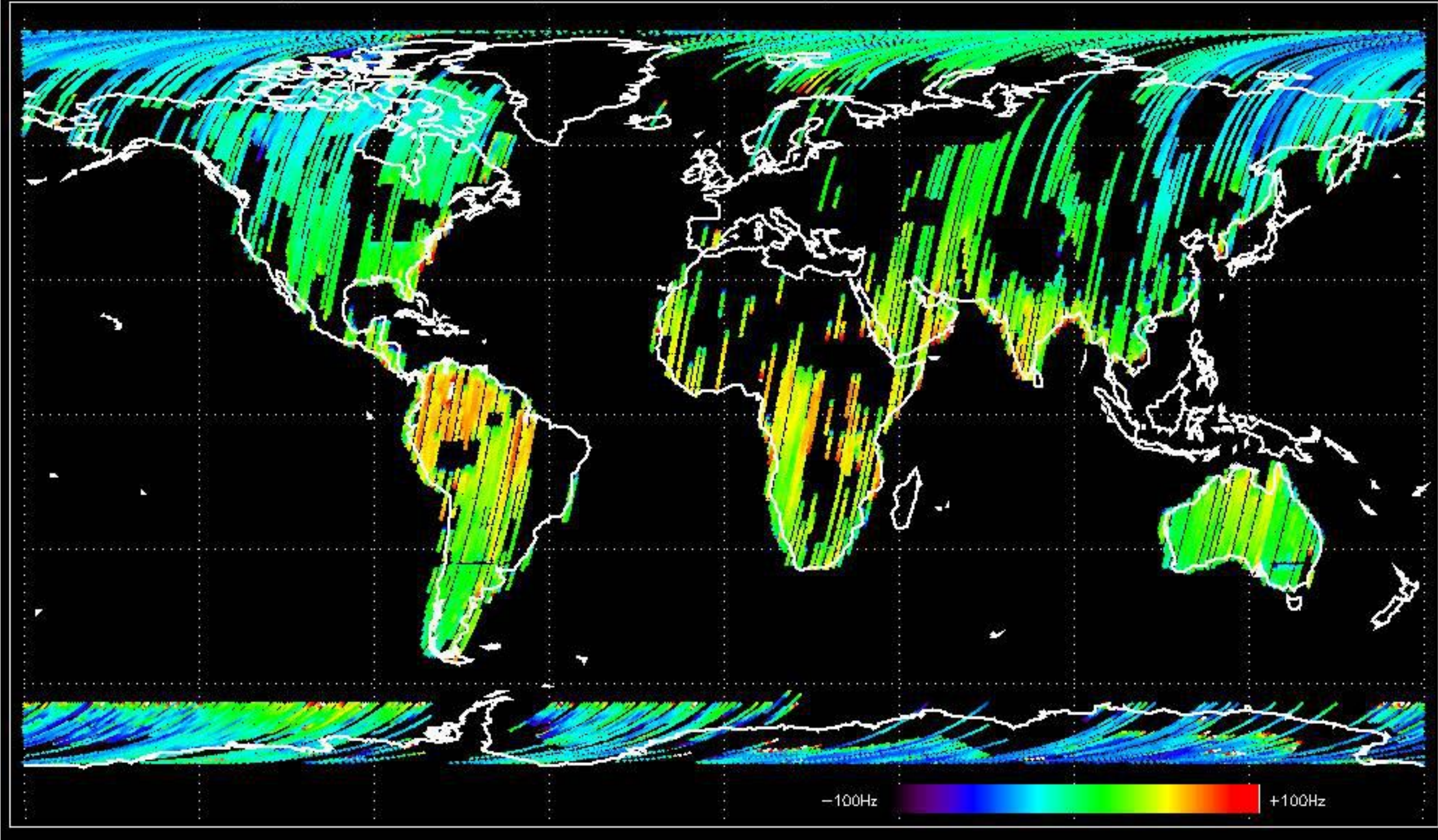




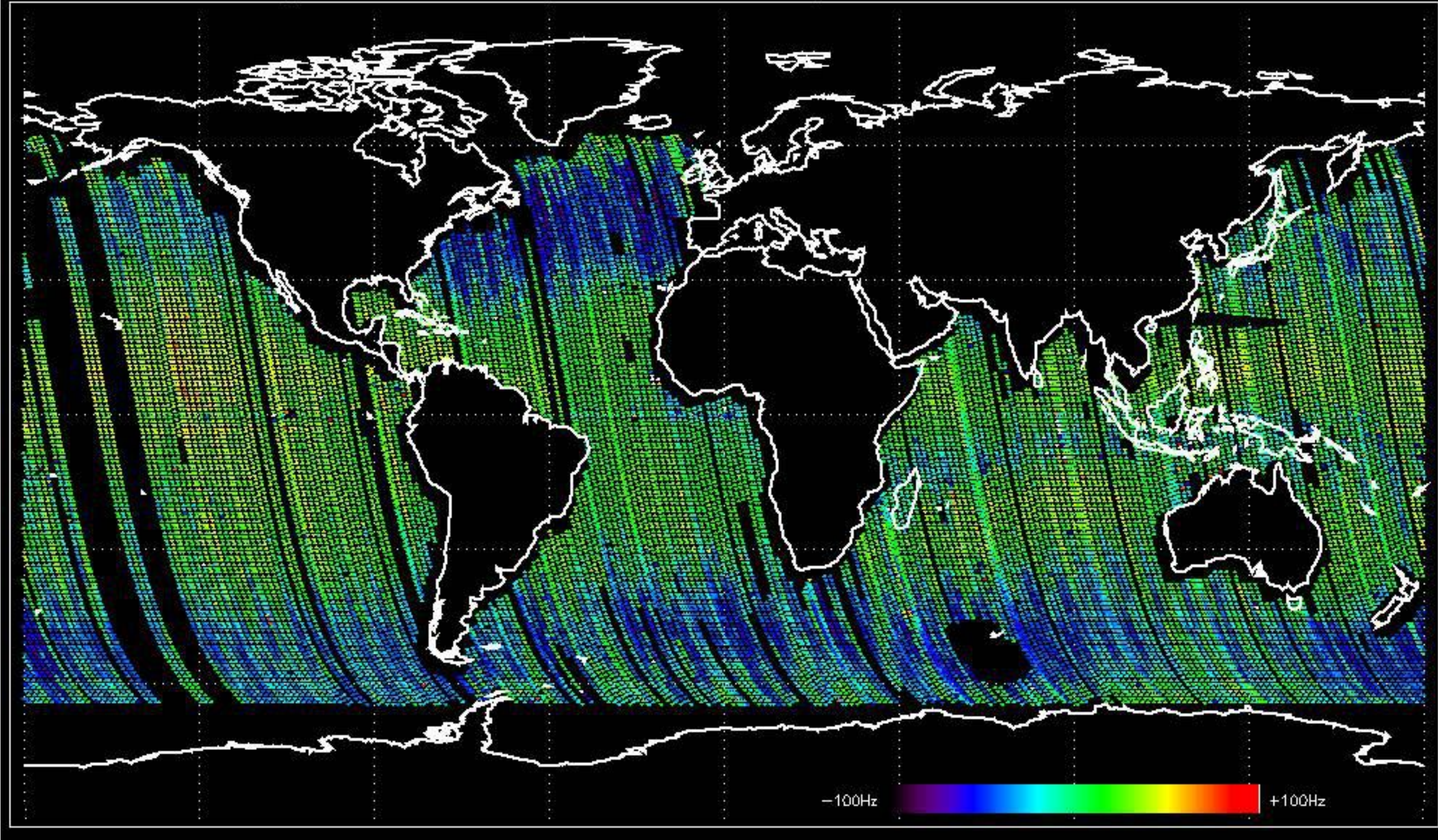
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -18.586235 Hz



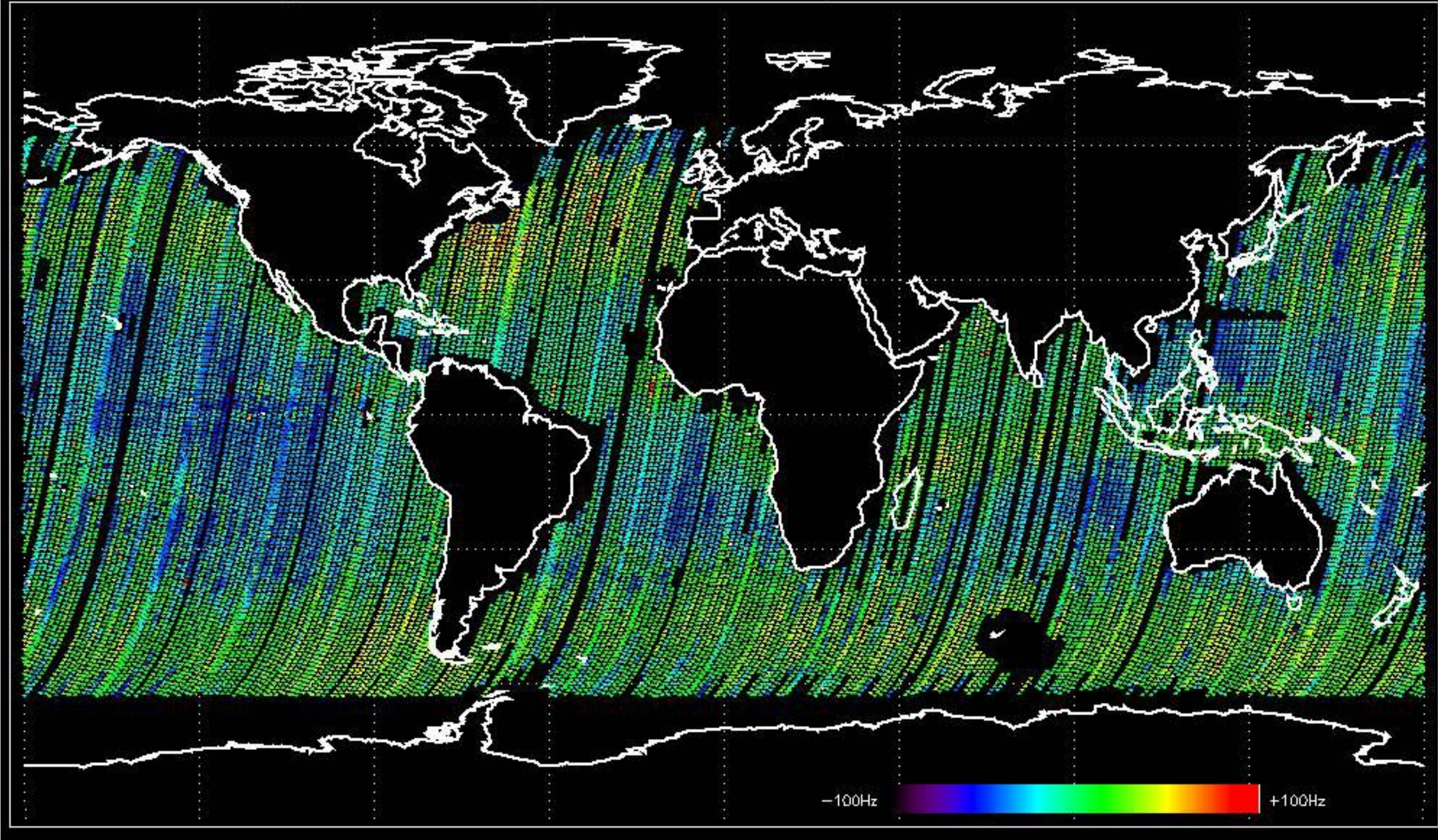
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -17.480328 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -15.725282 Hz

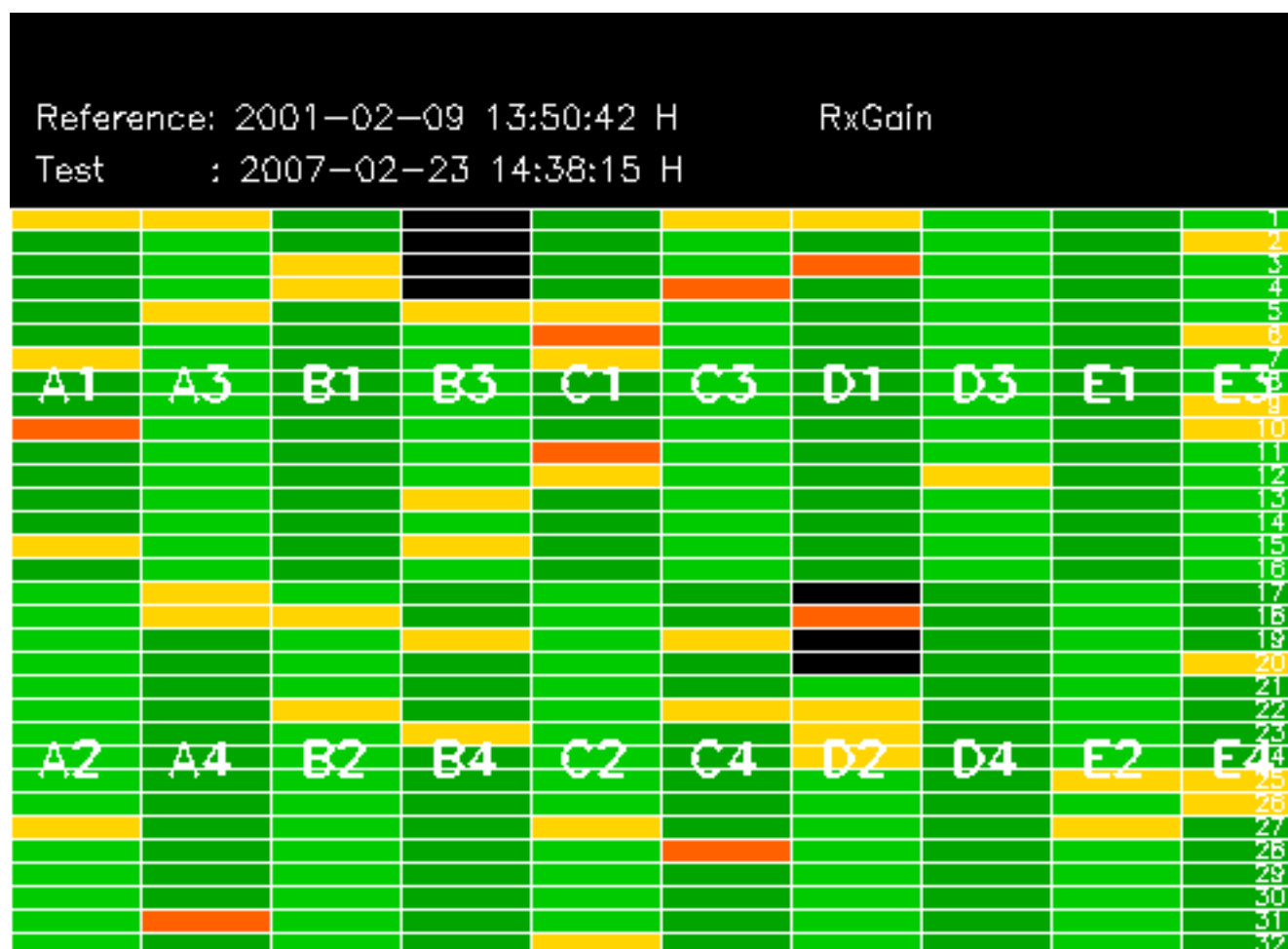


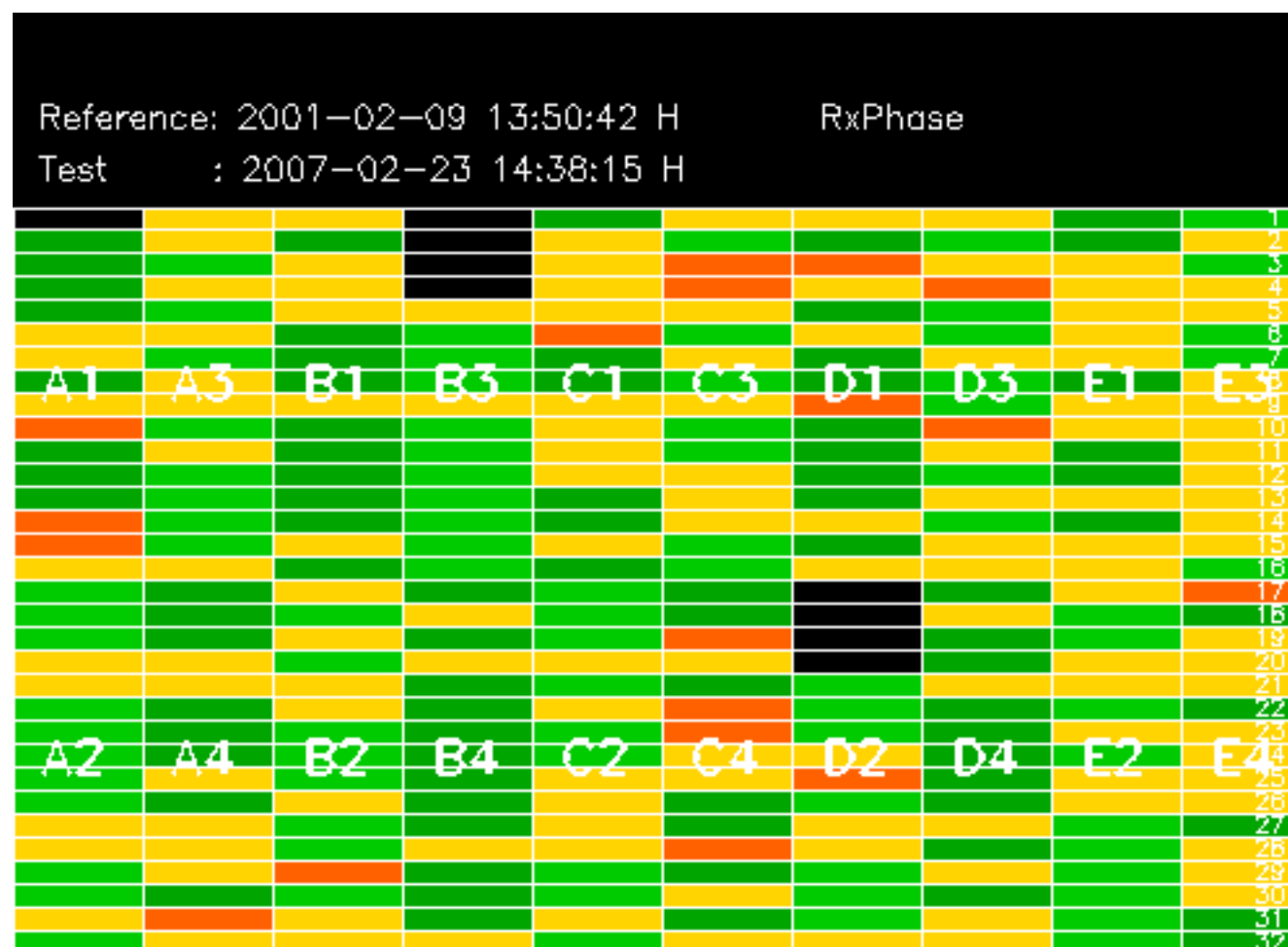
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -16.917171 Hz

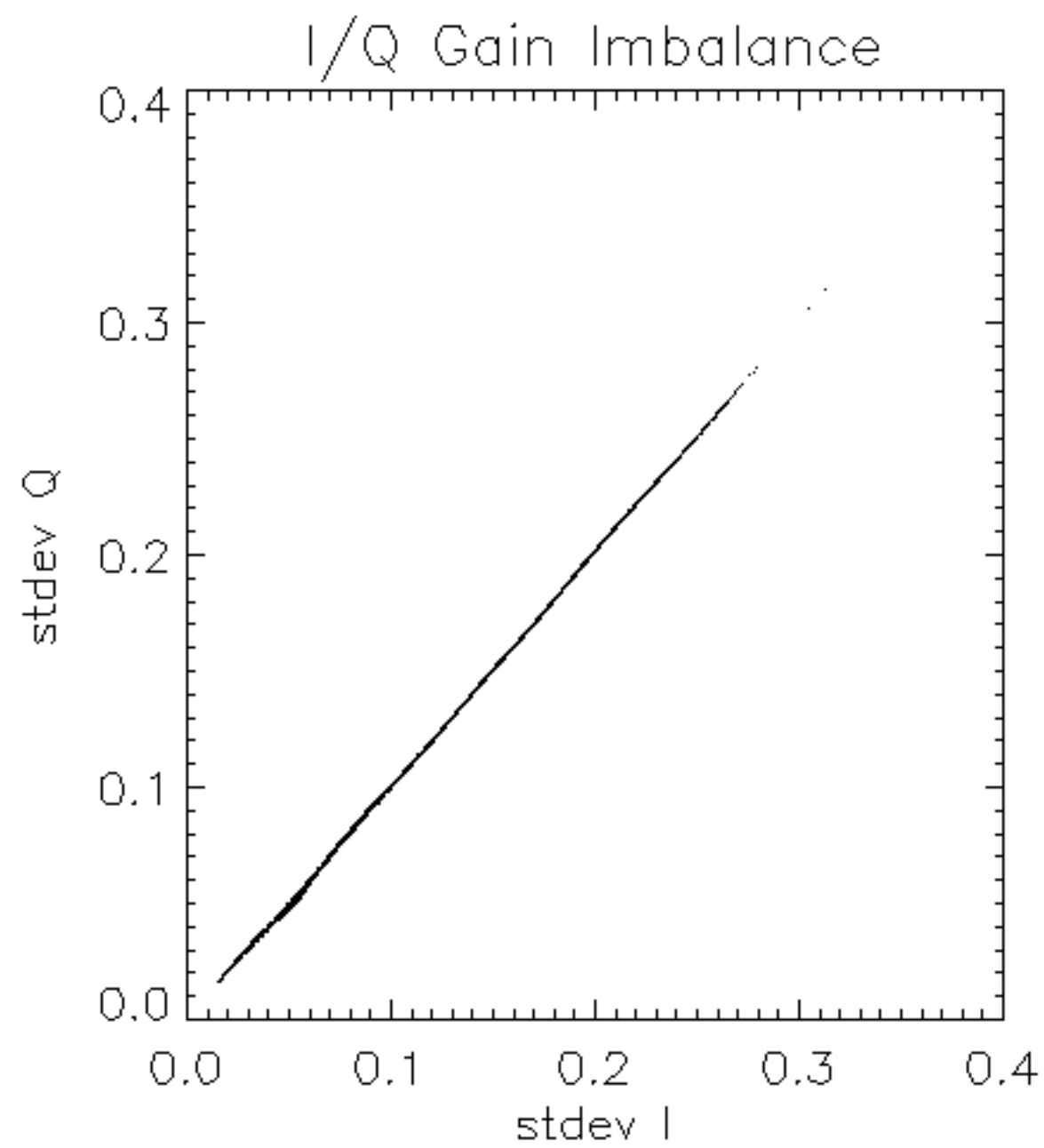


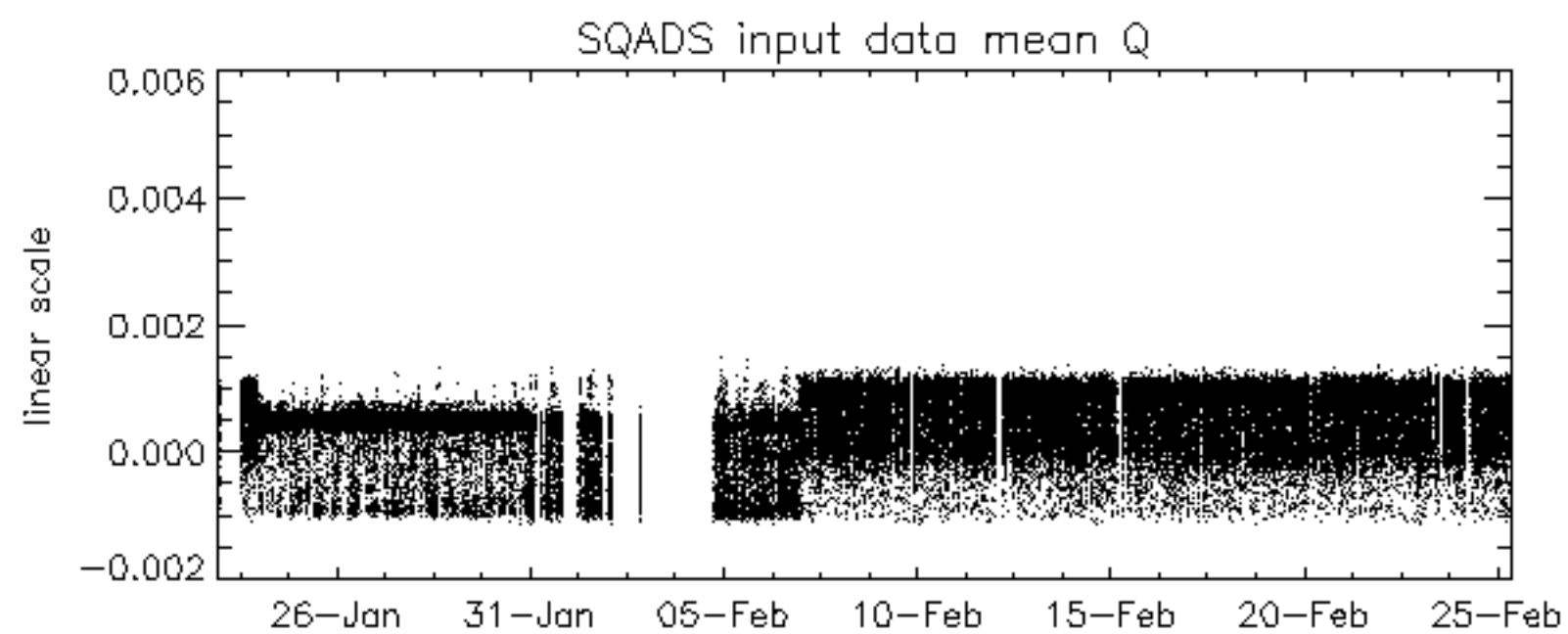
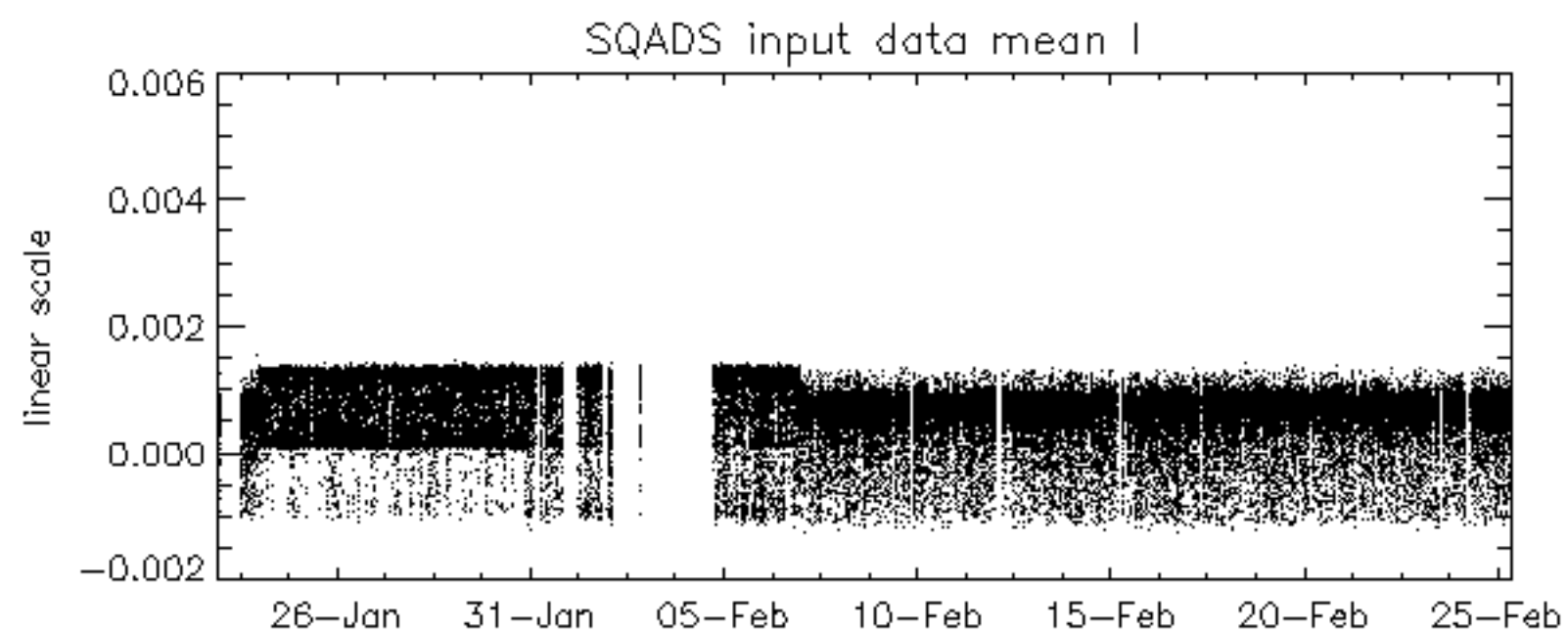
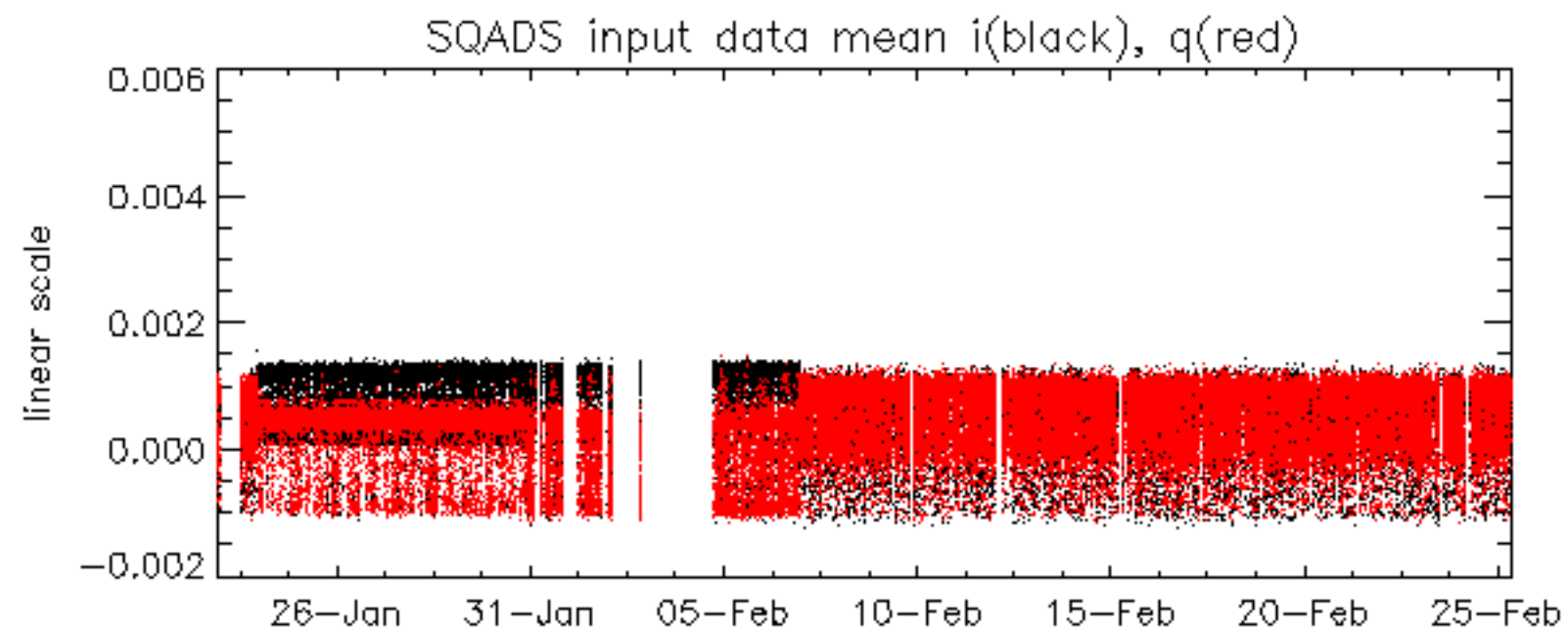
No anomalies observed on available MS products:

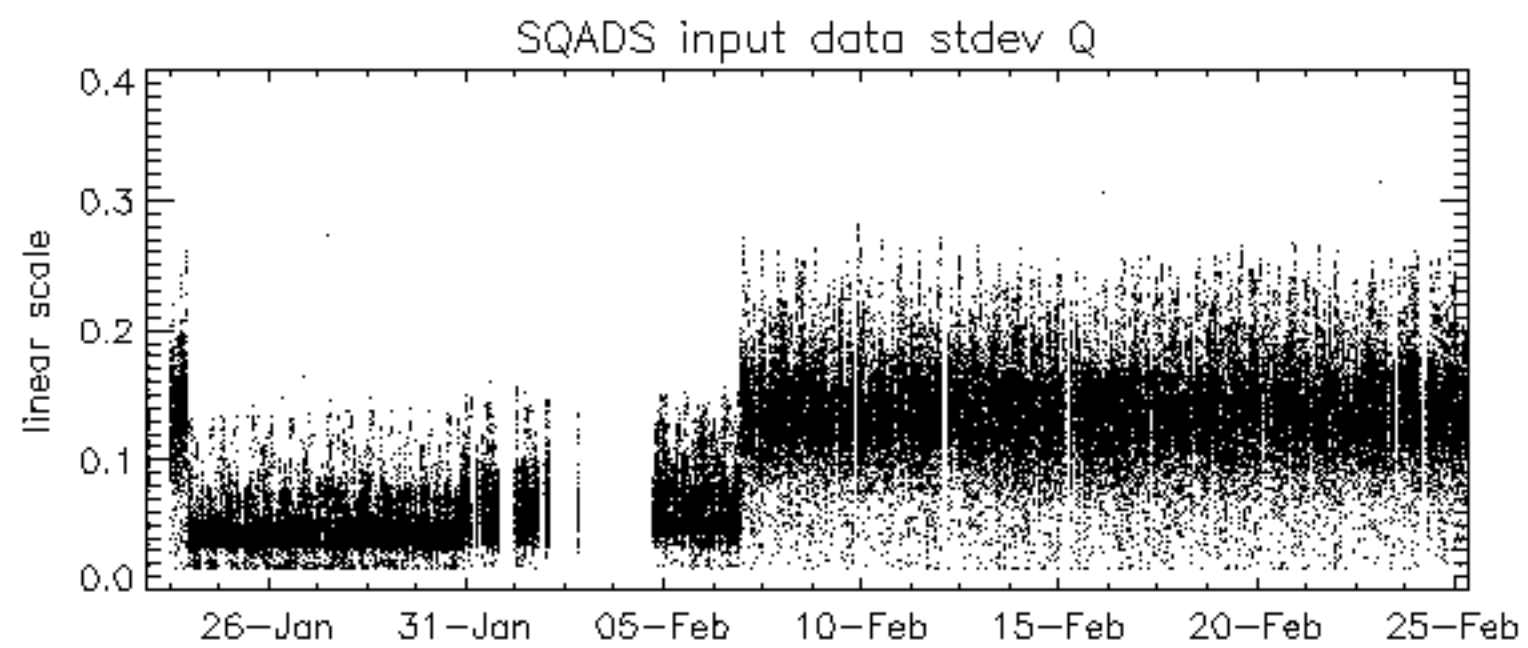
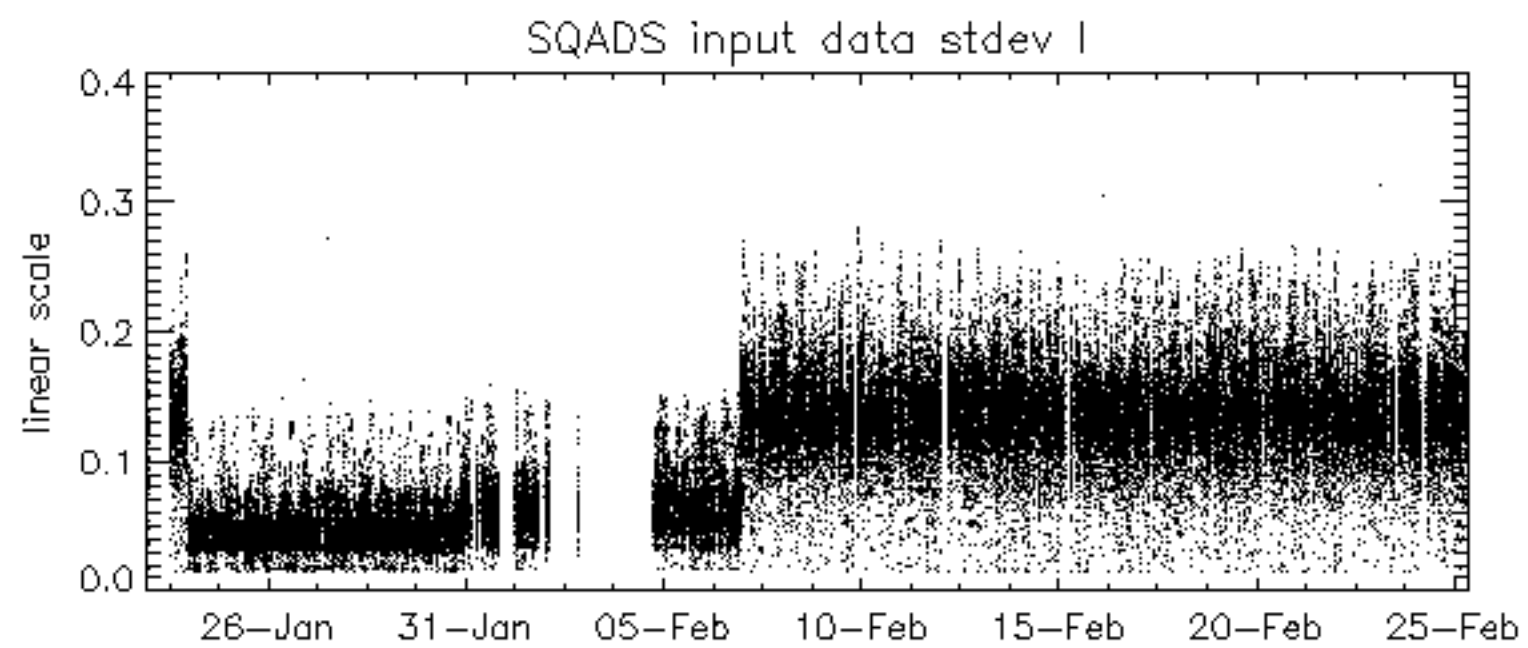
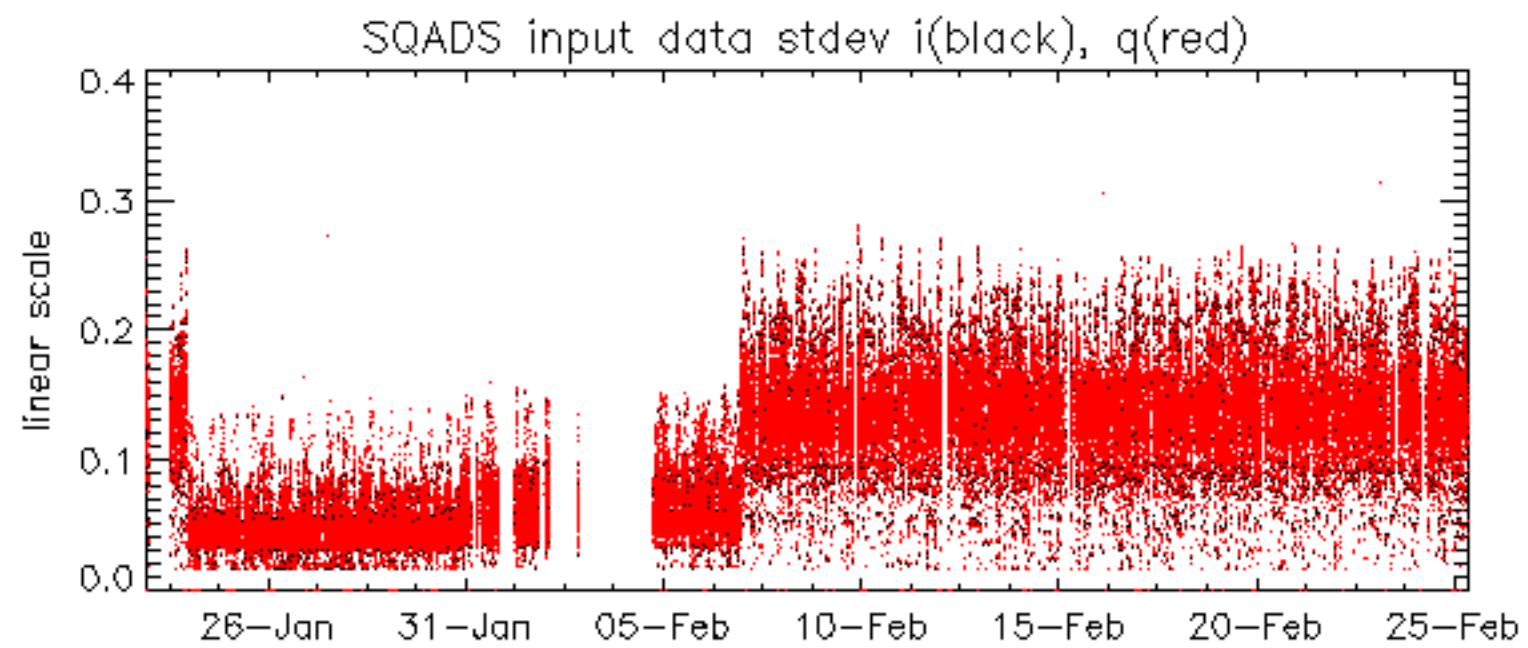
No anomalies observed.







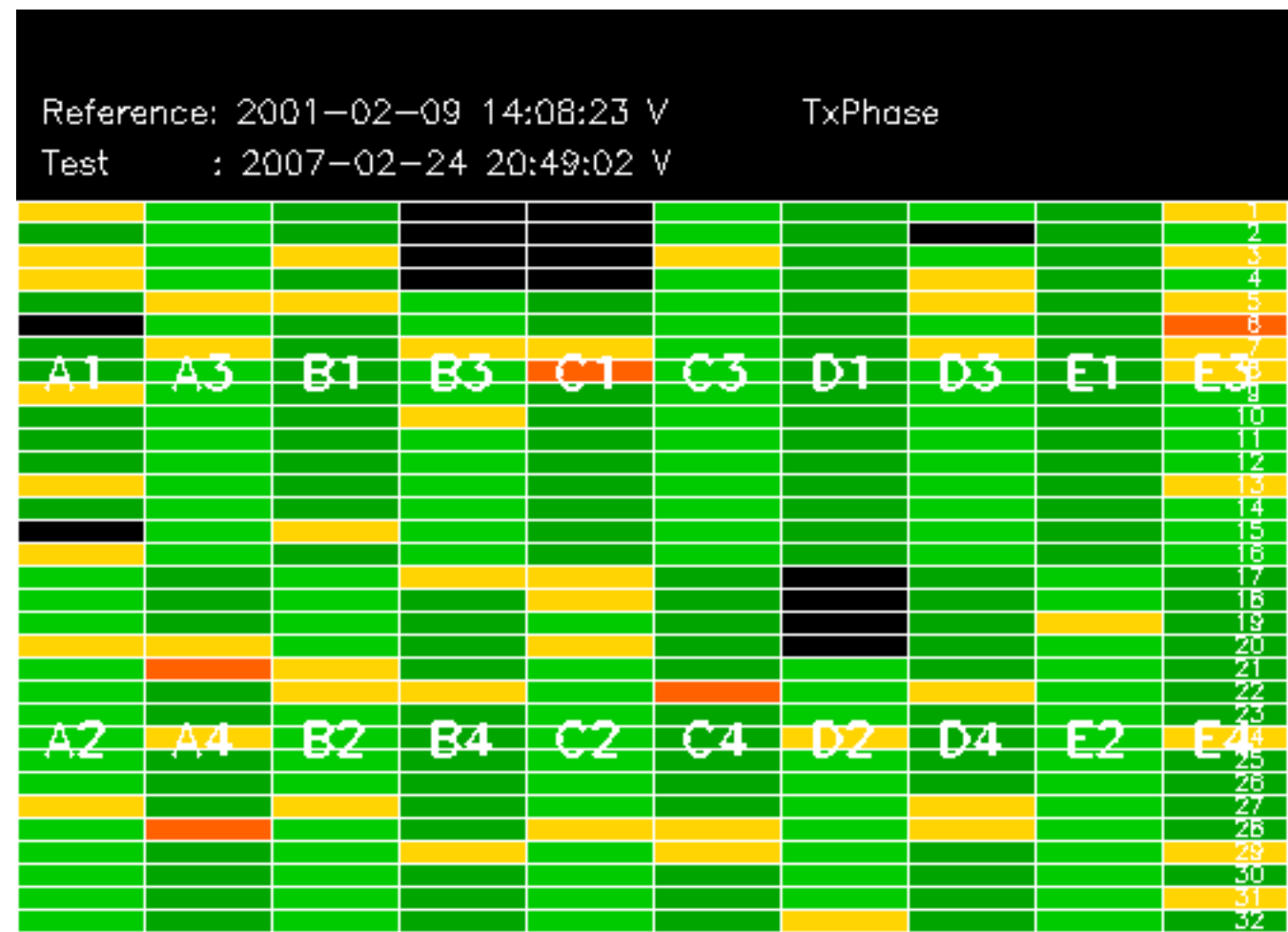




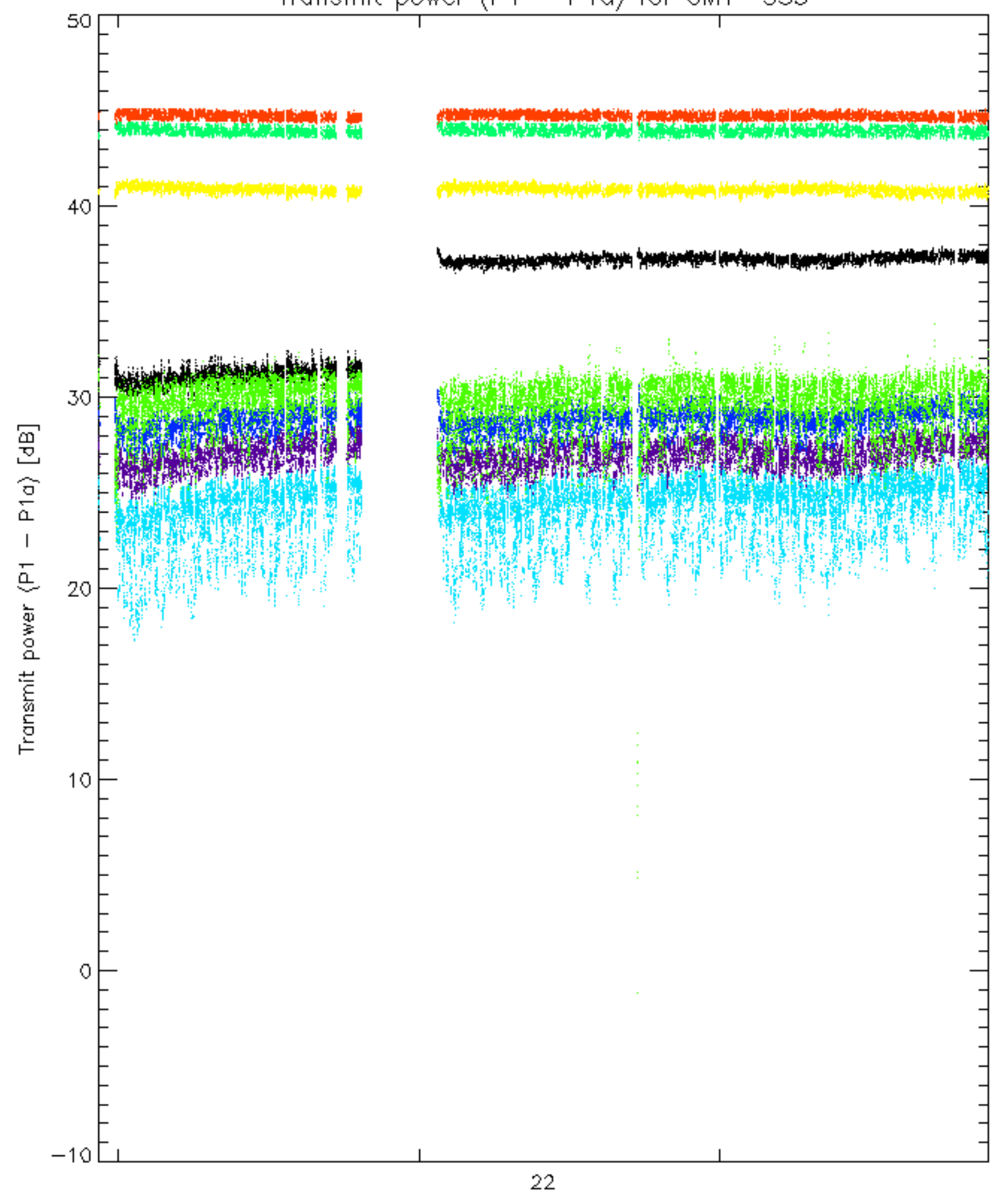
Summary of analysis for the last 3 days 2007022[345]

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

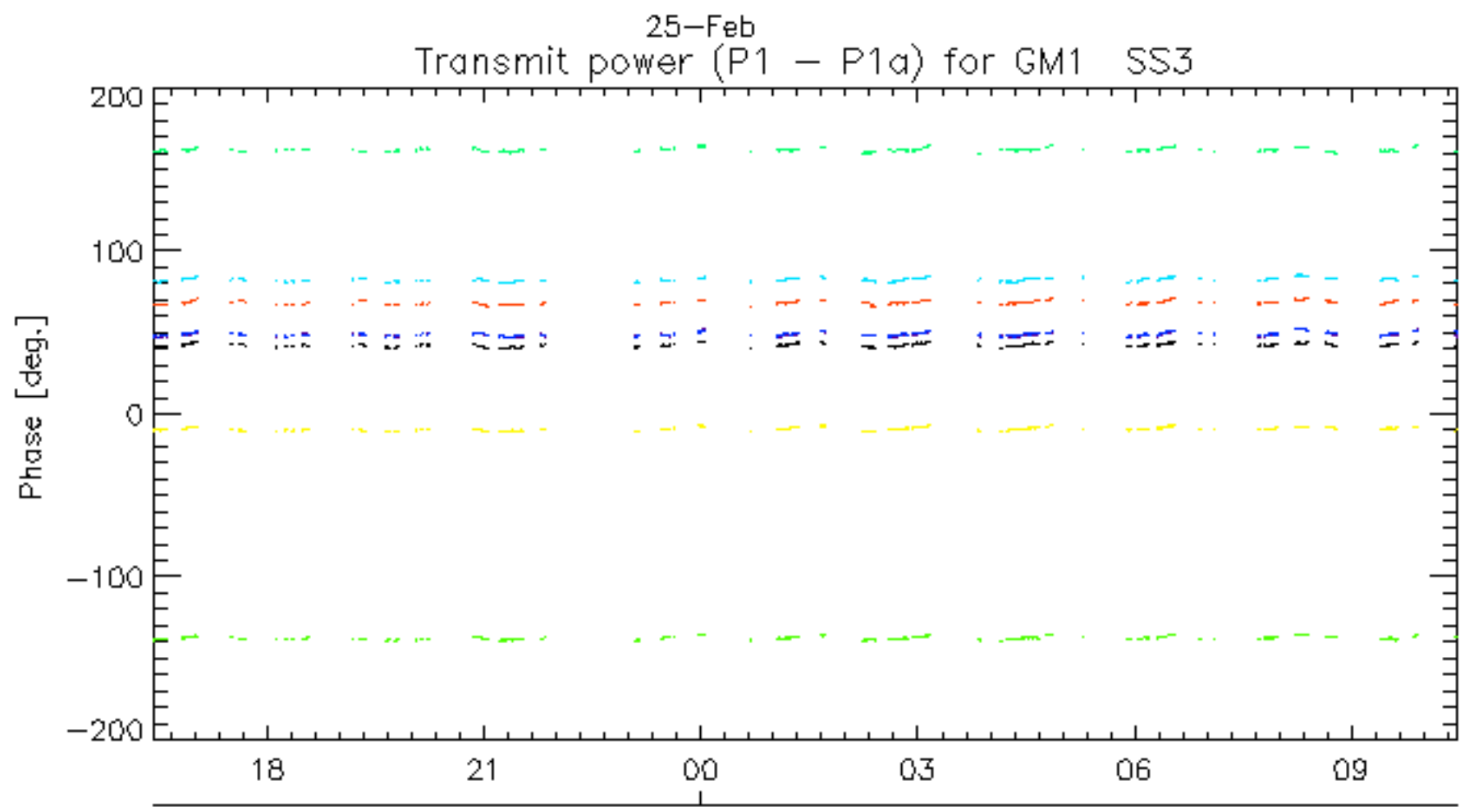
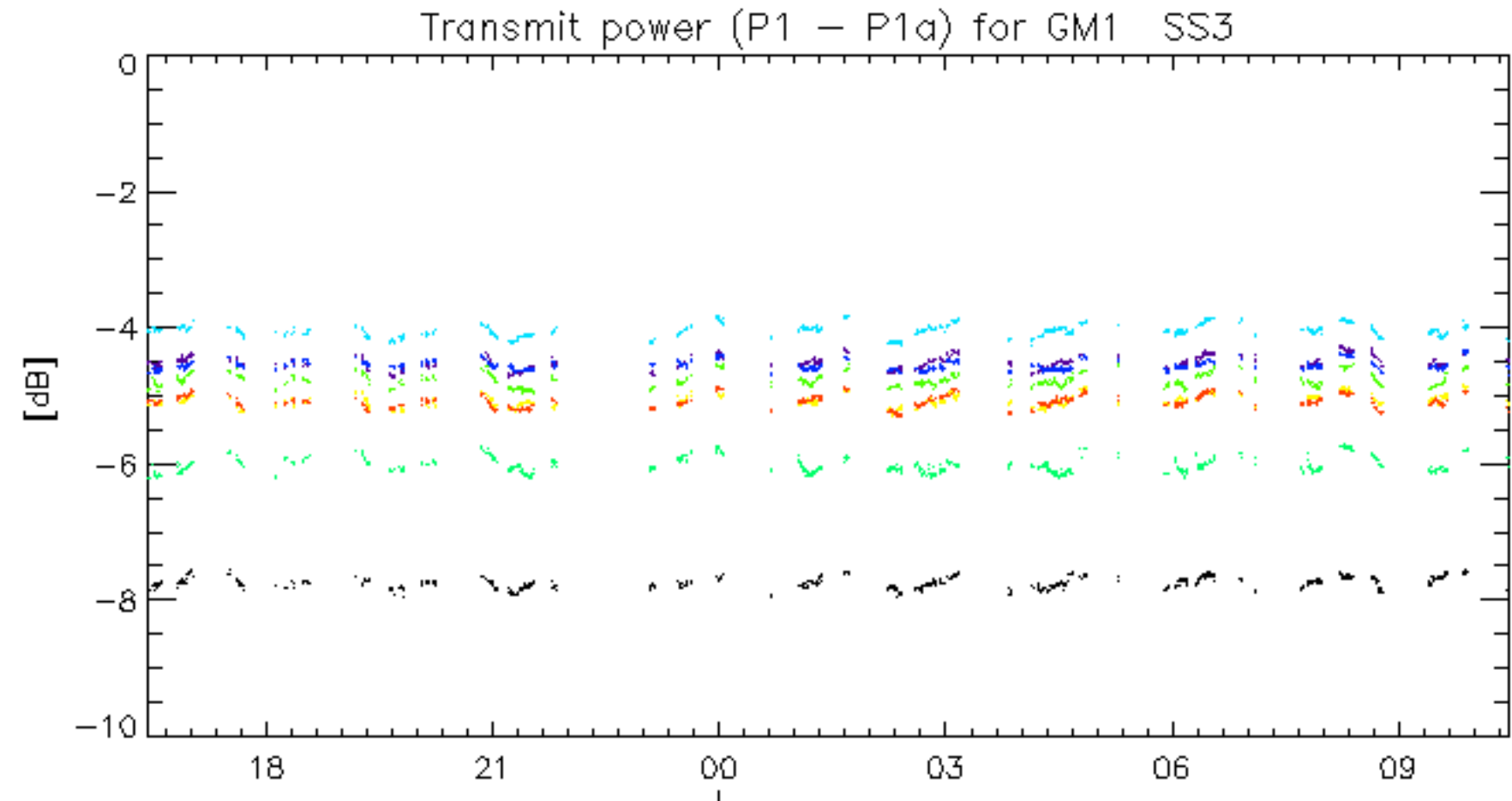
Filename	num_gaps	num_missing_lines
ASA_WSM_1PNPDE20070223_023249_000000852055_00447_26052_8839.N1	0	29
ASA_WSM_1PNPDE20070223_153029_000000242055_00455_26060_9423.N1	2	470
ASA_WSM_1PNPDK20070224_094429_000000852055_00466_26071_6572.N1	0	19



Transmit power (P1 - P1a) for GM1 SS3

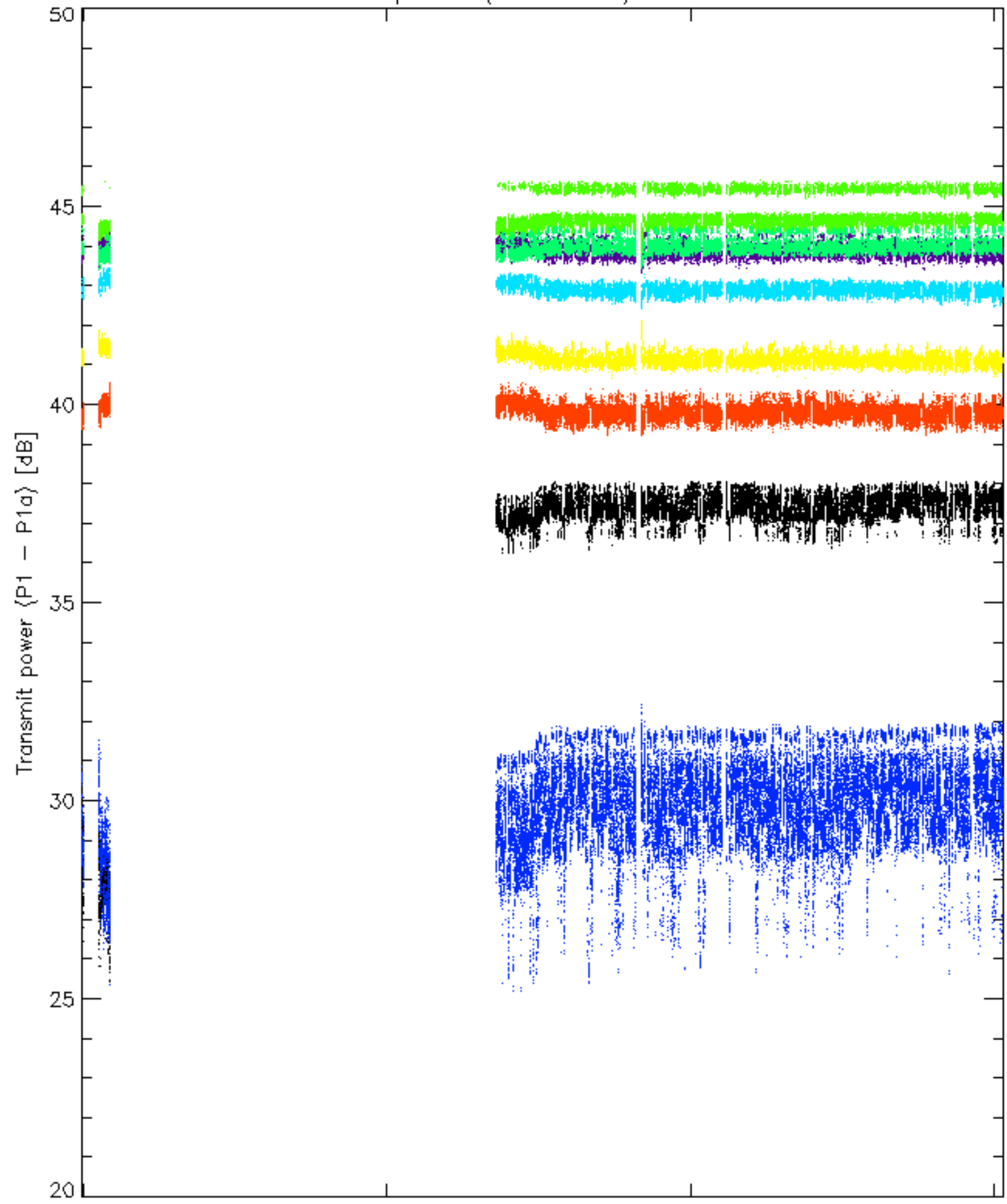


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

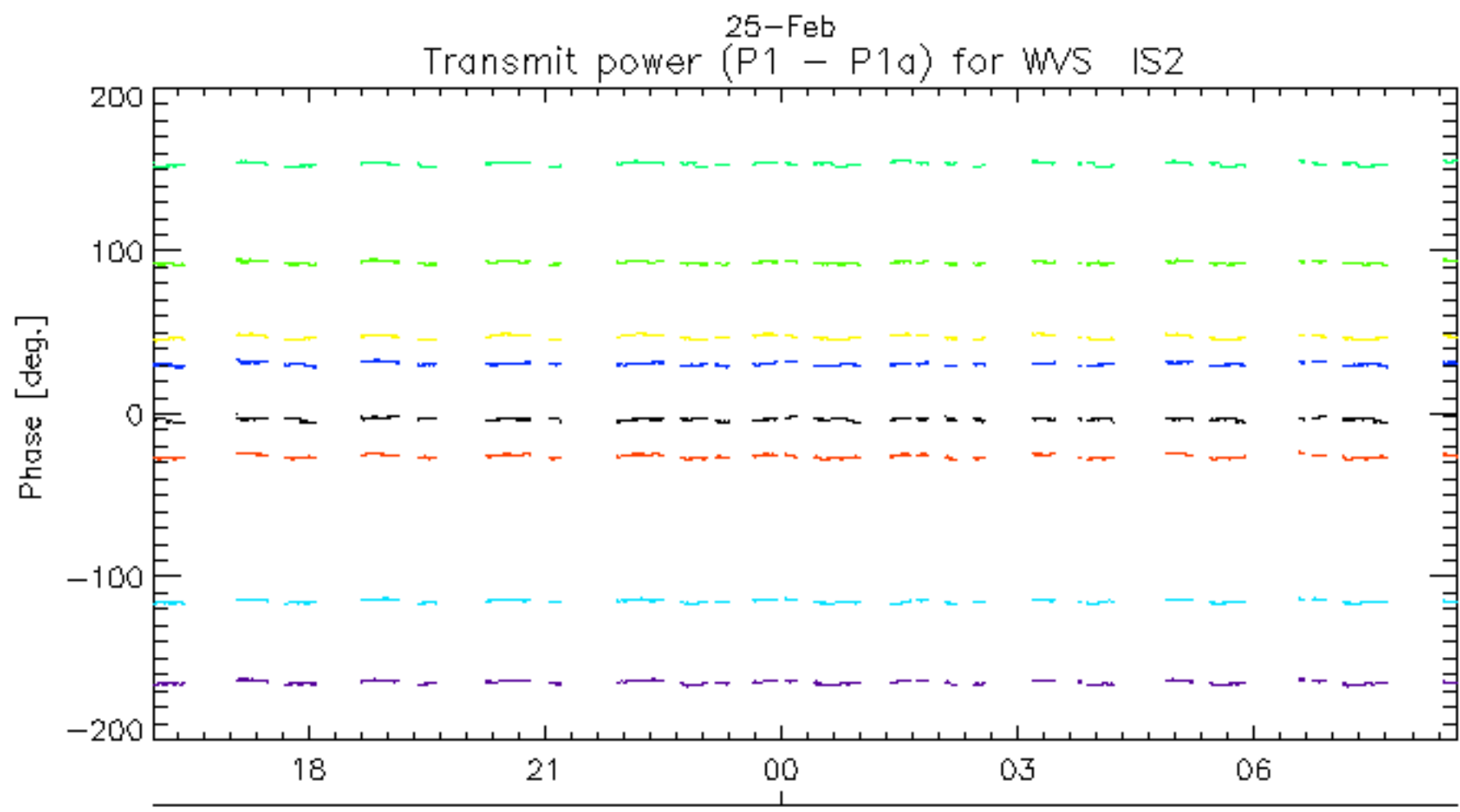
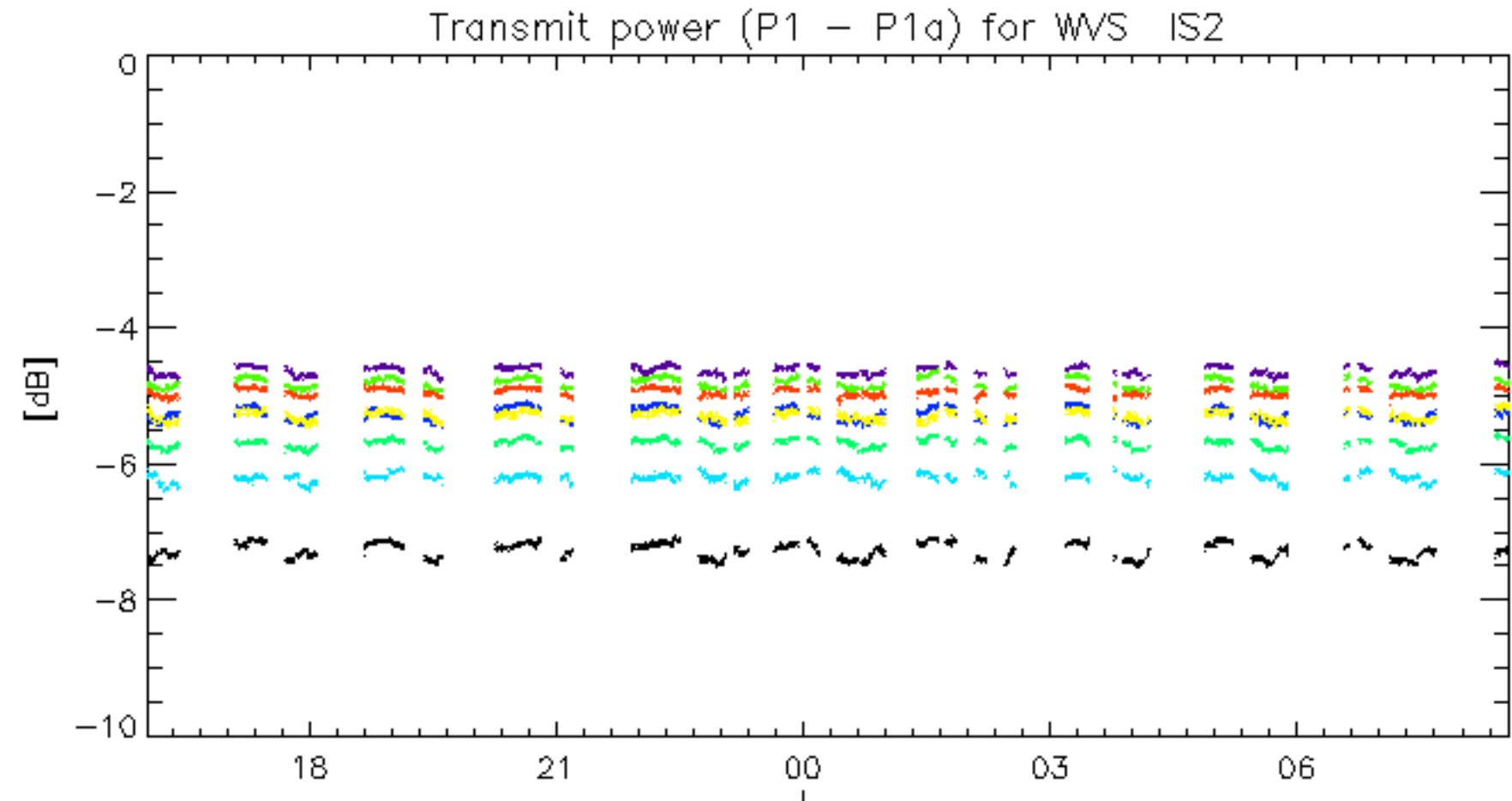


rows: **3** **7** **11** **15** **19** **22** **26** **30**

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.