

# PRELIMINARY REPORT OF 070208

last update on Thu Feb 8 16:44:27 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 2007-02-07 00:00:00 to 2007-02-08 16:44:27

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	41	75	10	1	24
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	41	75	10	1	24
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	41	75	10	1	24
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	41	75	10	1	24

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	43	50	38	17	58
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	43	50	38	17	58
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	43	50	38	17	58
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	43	50	38	17	58

## 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	20070207 043731
H	20070208 040554

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	-15.581745	0.742095	3.875579
7	P1a	-17.358557	0.123071	-0.597086
11	P1a	-17.308371	0.391520	-0.031209
15	P1a	-12.792067	0.122281	-0.404297
19	P1a	-15.081874	0.095055	-0.226194
22	P1a	-15.493737	0.458857	-0.823565
26	P1a	-14.972616	0.247516	-0.097330
30	P1a	-17.225460	0.348244	-0.651196

#### P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.134075	0.699784	-4.112817
7	P1	-3.095765	0.009454	-0.159965
11	P1	-4.118745	0.022839	-0.223922
15	P1	-6.302477	0.017810	-0.087773
19	P1	-3.708961	0.008378	-0.047227
22	P1	-4.675591	0.014325	-0.041710
26	P1	-3.931774	0.012791	-0.012763
30	P1	-5.917373	0.011974	-0.122883

#### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.000736	0.924039	-4.504864
7	P2	-21.627556	0.091208	0.022164
11	P2	-15.489285	0.107976	0.045146
15	P2	-7.013358	0.108658	-0.181764
19	P2	-9.082489	0.094642	-0.166206
22	P2	-18.089247	0.093727	-0.178267

26	P2	-16.501970	0.108250	-0.263258
30	P2	-19.337170	0.089389	-0.135721

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.207484	0.007200	-0.062429
7	P3	-8.207484	0.007200	-0.062429
11	P3	-8.207484	0.007200	-0.062429
15	P3	-8.207484	0.007200	-0.062429
19	P3	-8.207484	0.007200	-0.062429
22	P3	-8.207484	0.007200	-0.062429
26	P3	-8.207484	0.007200	-0.062429
30	P3	-8.207484	0.007200	-0.062429

### 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	-11.525487	0.140425	1.964833
7	P1a	-10.023097	0.051047	-0.075136
11	P1a	-10.532907	0.062995	-0.430923
15	P1a	-10.834231	0.134047	-0.115872
19	P1a	-15.746308	0.062374	0.002032
22	P1a	-20.934946	1.335698	0.559219
26	P1a	-15.480100	0.256904	0.266625
30	P1a	-18.321754	0.366566	-0.115429

### P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.525386	3.607652	-12.322987
7	P1	-2.440827	0.006077	-0.004724

11	P1	-2.863824	0.017565	-0.149466
15	P1	-3.780603	0.033227	-0.123650
19	P1	-3.550108	0.013592	-0.026348
22	P1	-5.023285	0.023917	-0.003605
26	P1	-6.001775	0.022018	-0.030740
30	P1	-5.290216	0.023401	0.000358

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.836544	0.726236	-5.138932
7	P2	-22.032276	0.047642	0.038405
11	P2	-10.691181	0.029763	0.082058
15	P2	-4.843066	0.025959	-0.006575
19	P2	-6.841261	0.026157	0.020658
22	P2	-8.150977	0.029096	0.004487
26	P2	-24.253866	0.030926	0.027173
30	P2	-21.799755	0.033798	0.014289

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.055247	0.002539	0.010628
7	P3	-8.055086	0.002540	0.010323
11	P3	-8.055149	0.002529	0.011036
15	P3	-8.055132	0.002515	0.011194
19	P3	-8.055116	0.002523	0.010741
22	P3	-8.055223	0.002524	0.011224
26	P3	-8.055029	0.002532	0.012197
30	P3	-8.055173	0.002537	0.010494

## 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	0.000689786
	stdev	2.87693e-07
MEAN Q	mean	0.000263771
	stdev	2.43726e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.0677486
	stdev	0.00151256
STDEV Q	mean	0.0673803
	stdev	0.00154179



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2007020[678]

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_1PNPDE20070208_015344_000001402055_00232_25837_9161.N1	7	101
ASA_GM1_1PNPDK20070206_135601_000003142055_00210_25815_6169.N1	0	8



ASA_GM1_1PNPDK20070206_151422_000001692055_00211_25816_6289.N1	0	6
ASA_WSM_1PNPDE20070208_012926_000000862055_00232_25837_9154.N1	17	4430
ASA_WSM_1PNPDE20070208_013746_000001222055_00232_25837_9217.N1	0	56
ASA_WSM_1PNPDE20070208_013853_000000552055_00232_25837_9136.N1	0	44
ASA_WSM_1PNPDE20070208_022638_000000672055_00232_25837_9174.N1	40	13228
ASA_WSM_1PNPDE20070208_022638_000000672055_00232_25837_9789.N1	40	13228
ASA_WSM_1PNPDE20070208_022846_000001162055_00232_25837_9196.N1	8	1599
ASA_WSM_1PNPDE20070208_022846_000001162055_00232_25837_9825.N1	8	1599
ASA_WSM_1PNPDK20070208_094718_000000852055_00237_25842_8500.N1	0	32
ASA_APM_1PNPDE20070207_153229_000000682055_00226_25831_8504.N1	0	81





## 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

<input type="checkbox"/>
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### 7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)

<input type="checkbox"/>
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Acsending

<input type="checkbox"/>
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Descending

### 7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

<input type="checkbox"/>
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Acsending

<input type="checkbox"/>
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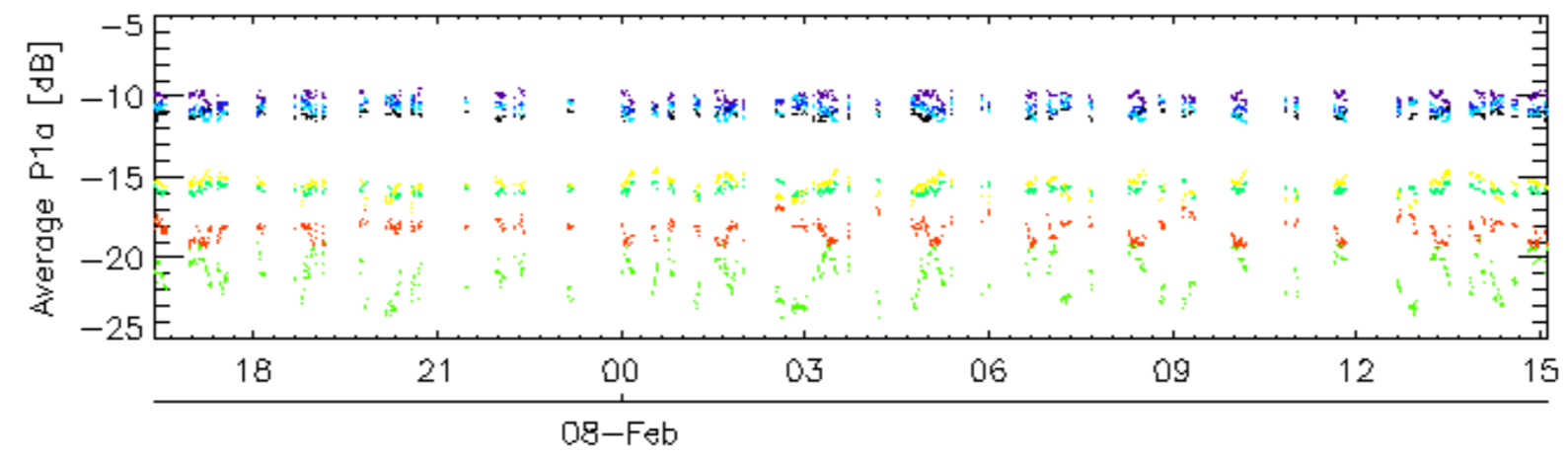
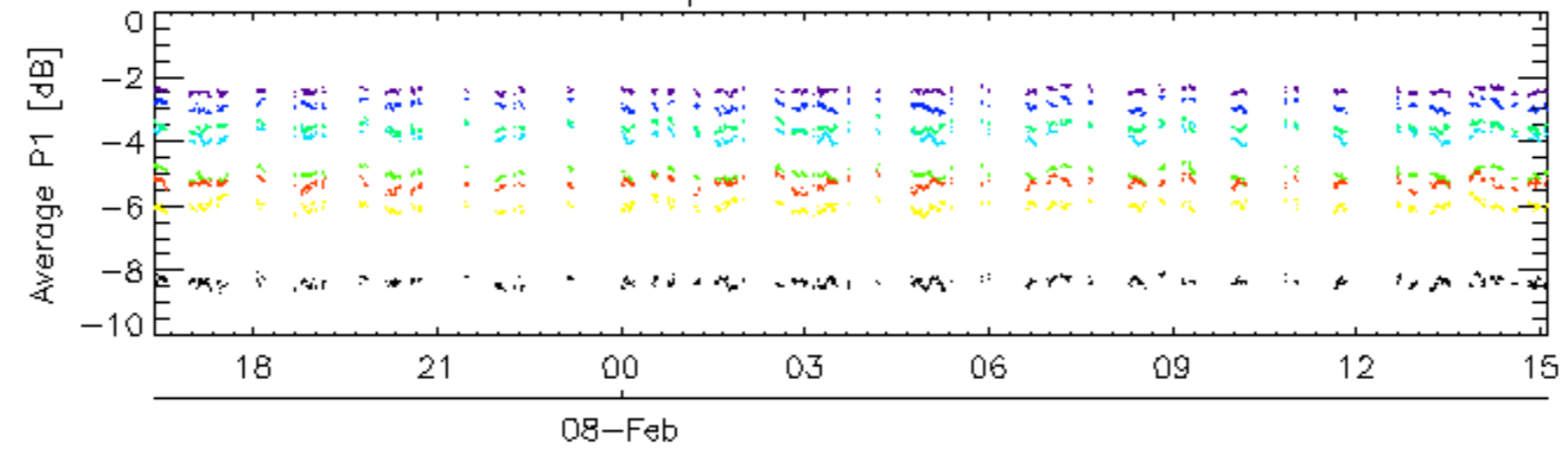
Descending

### 7.6 - Doppler evolution versus ANX for GM1

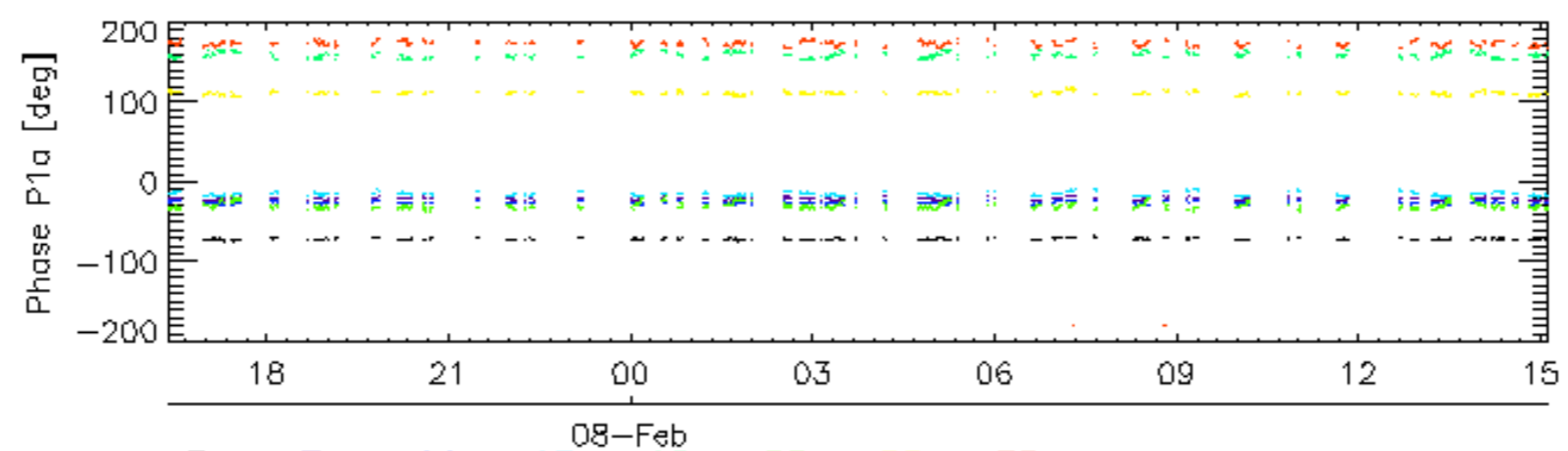
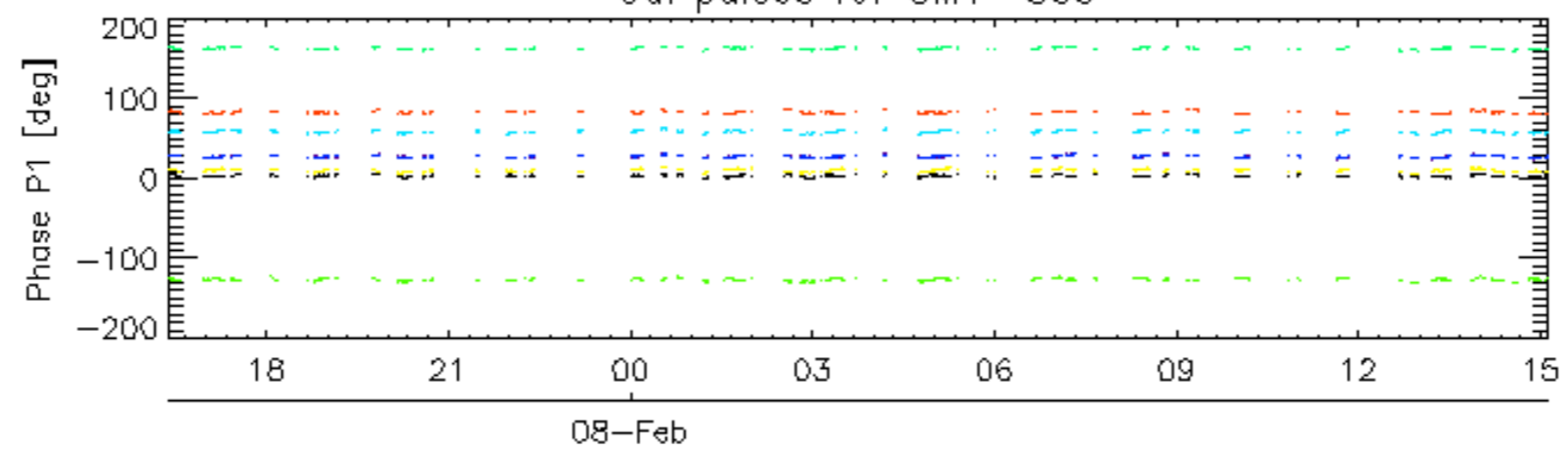
Evolution Doppler error versus ANX

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

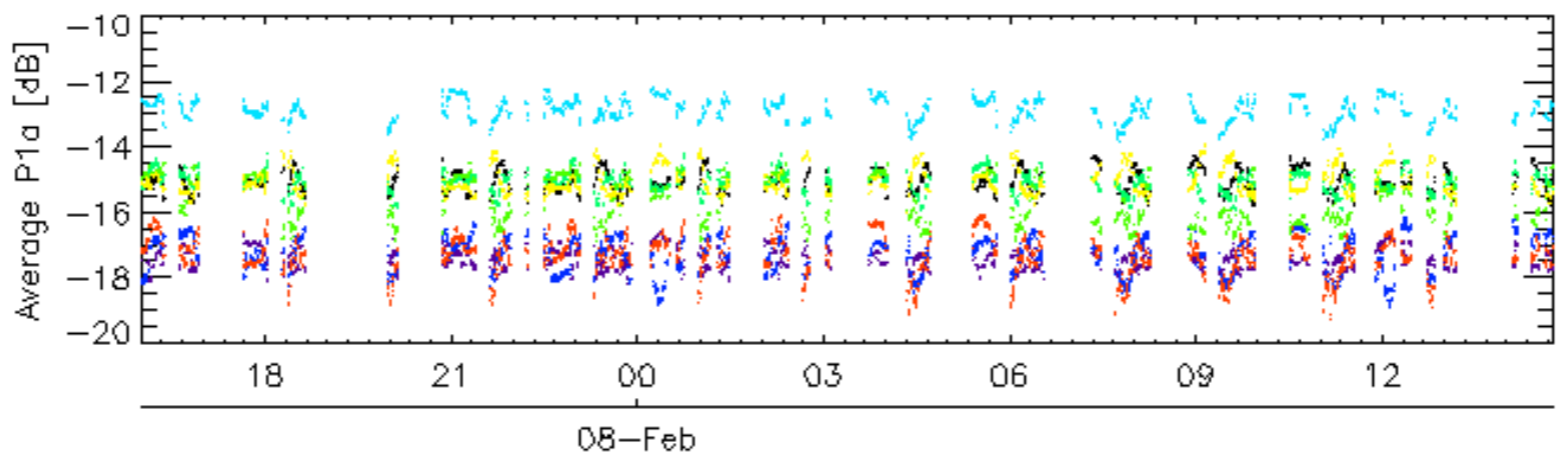
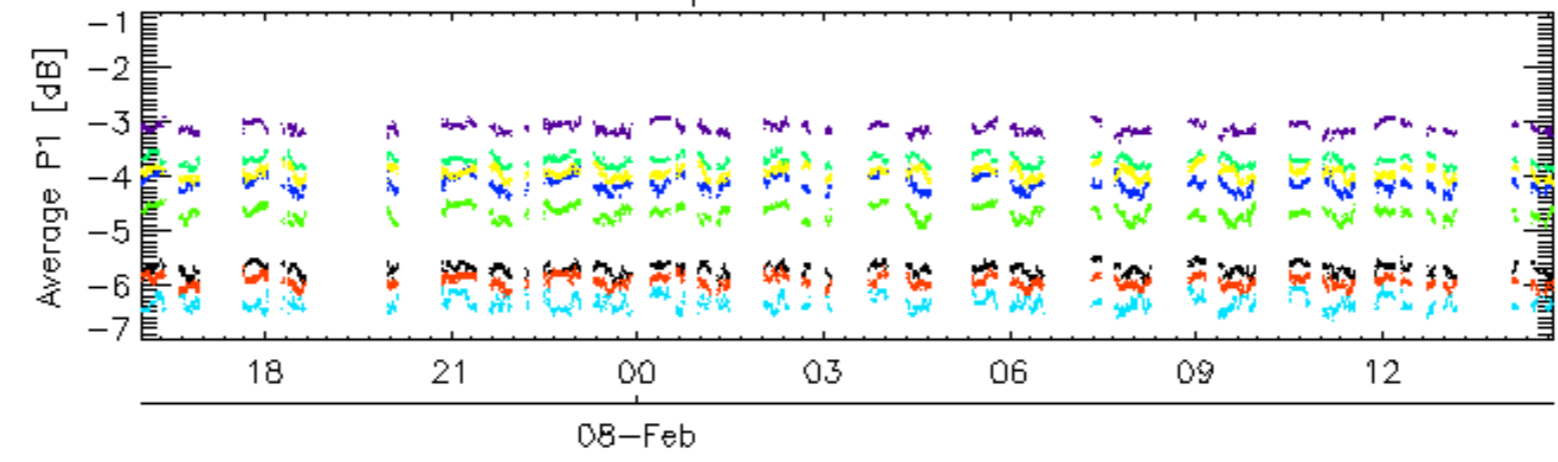


Cal pulses for GM1 SS3

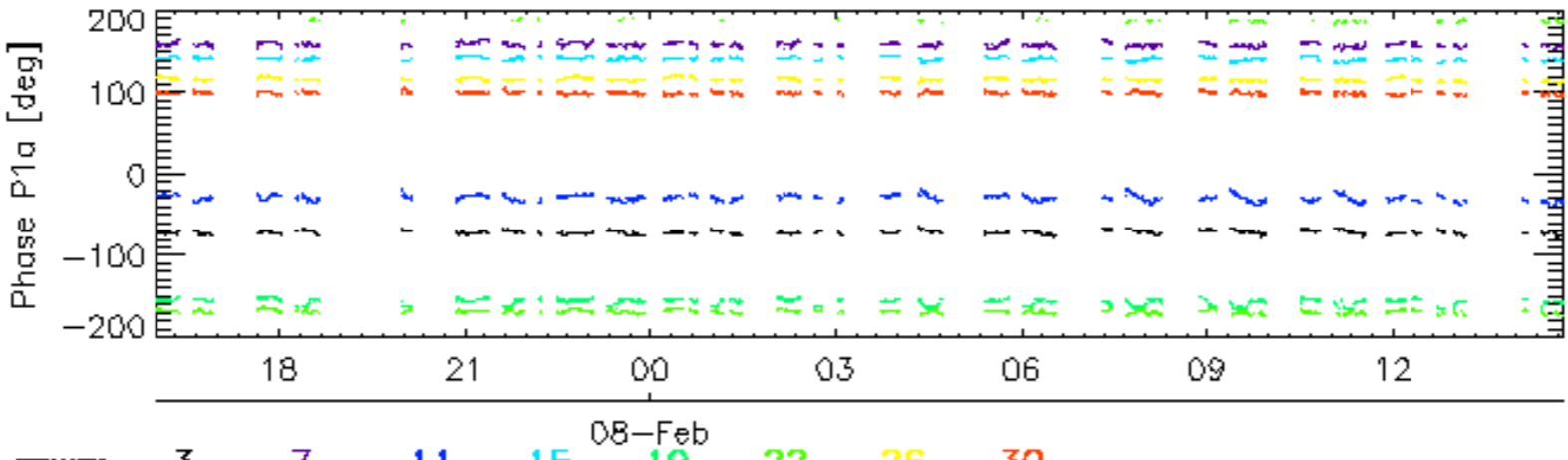
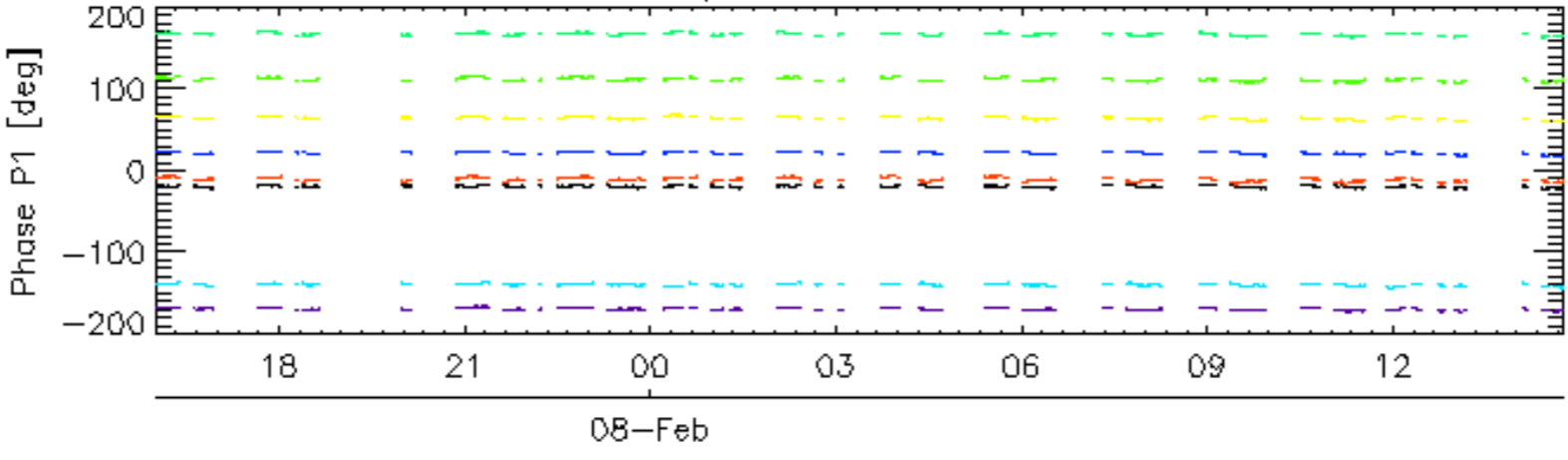


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

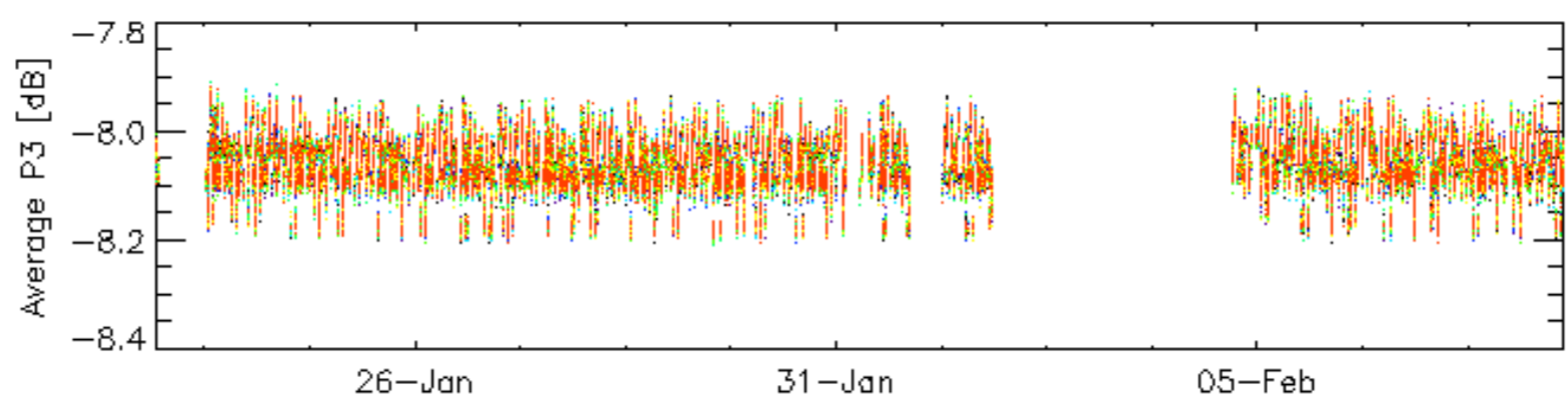
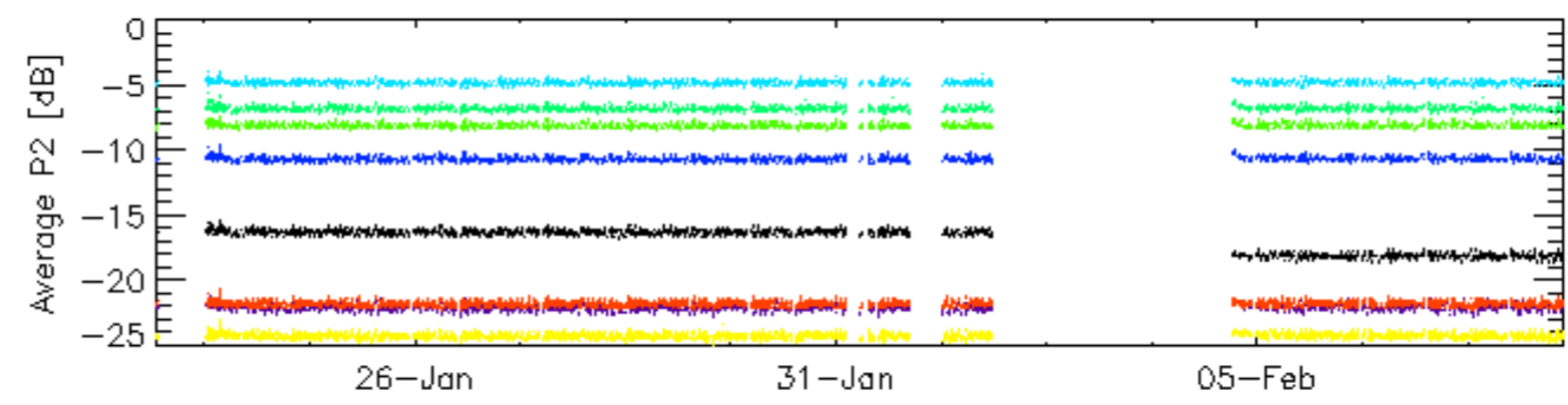
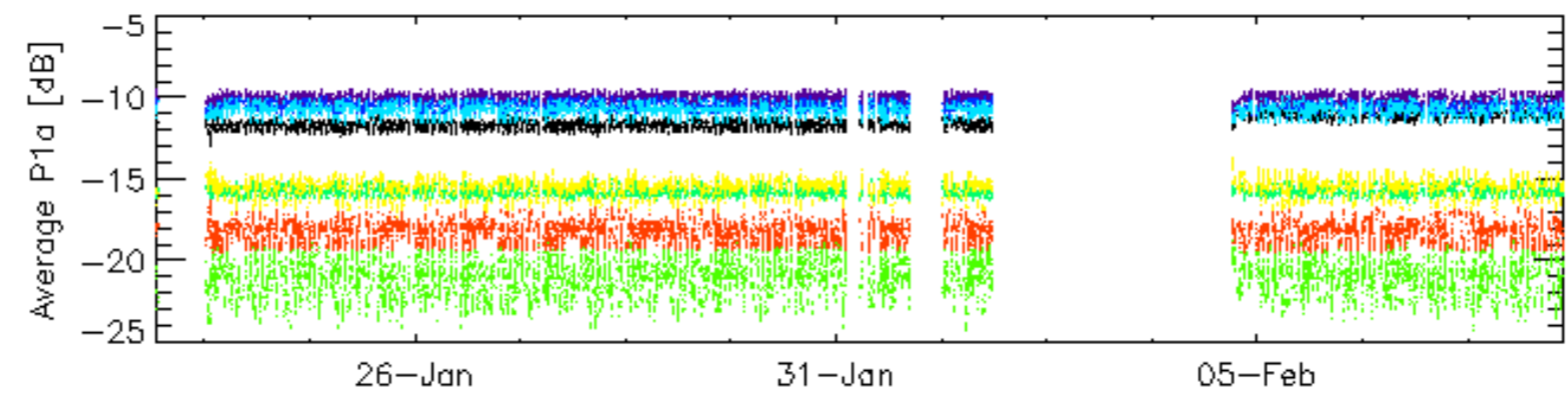
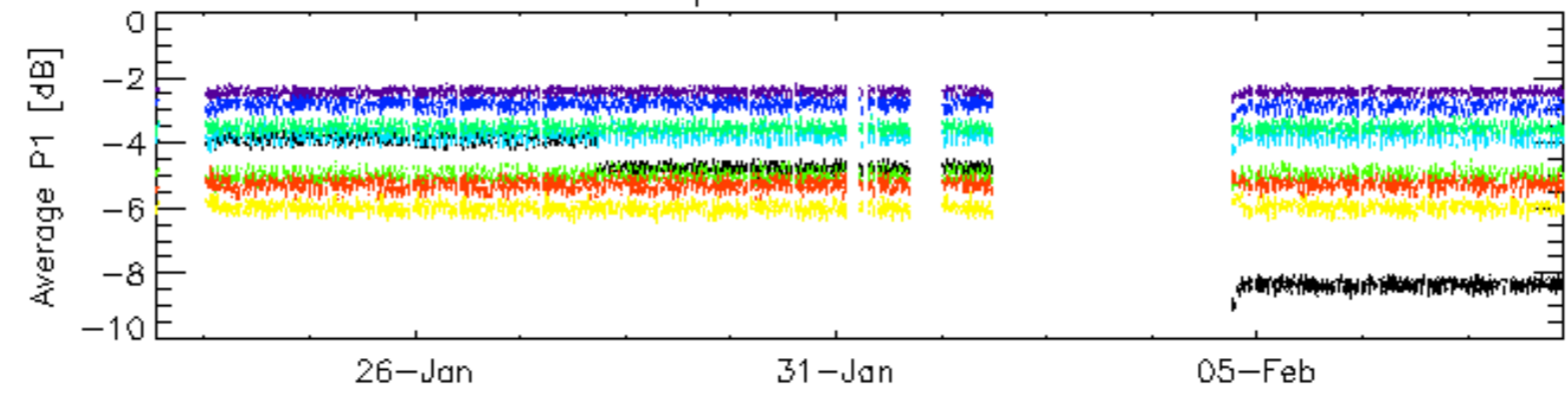


Cal pulses for WVS IS2



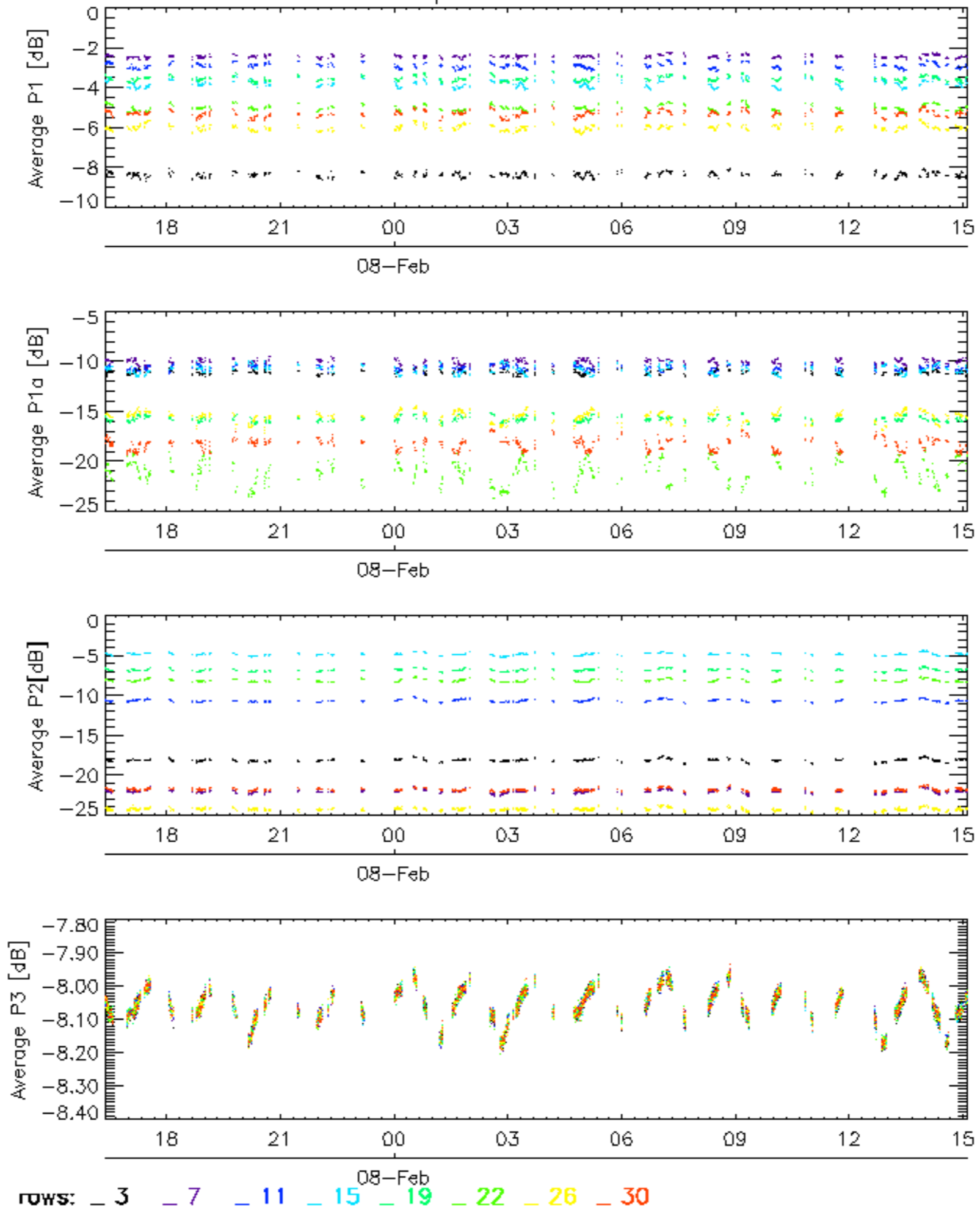
rows: 3 7 11 15 19 22 26 30

Cal pulses for GM1 SS3

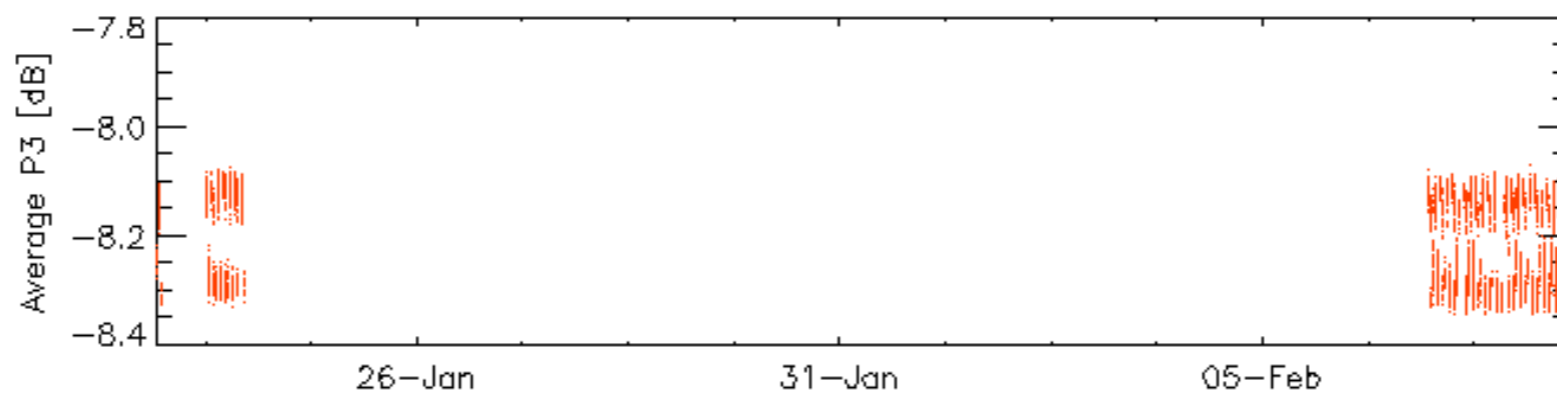
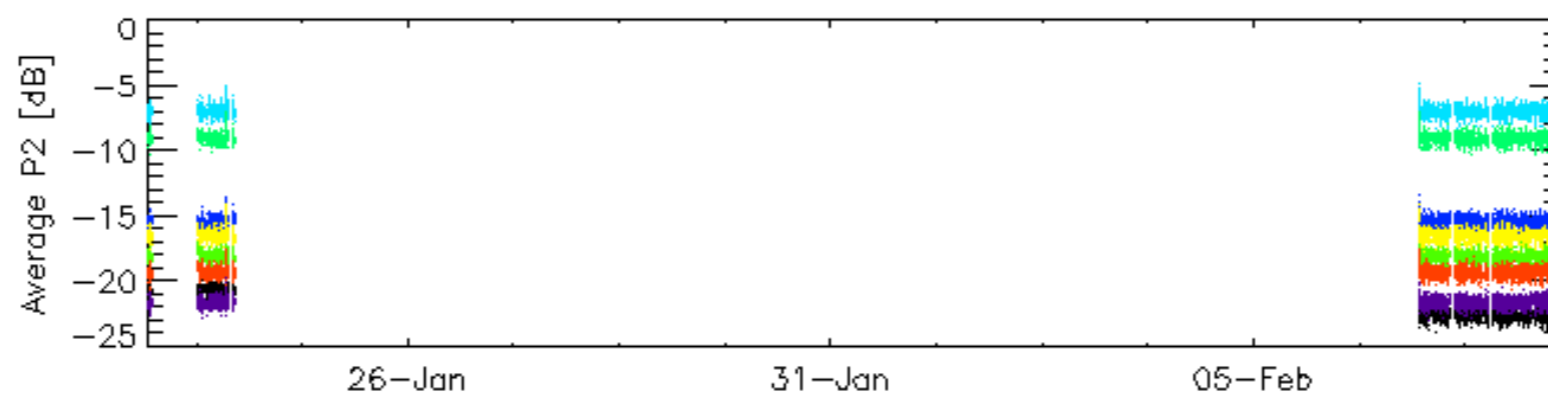
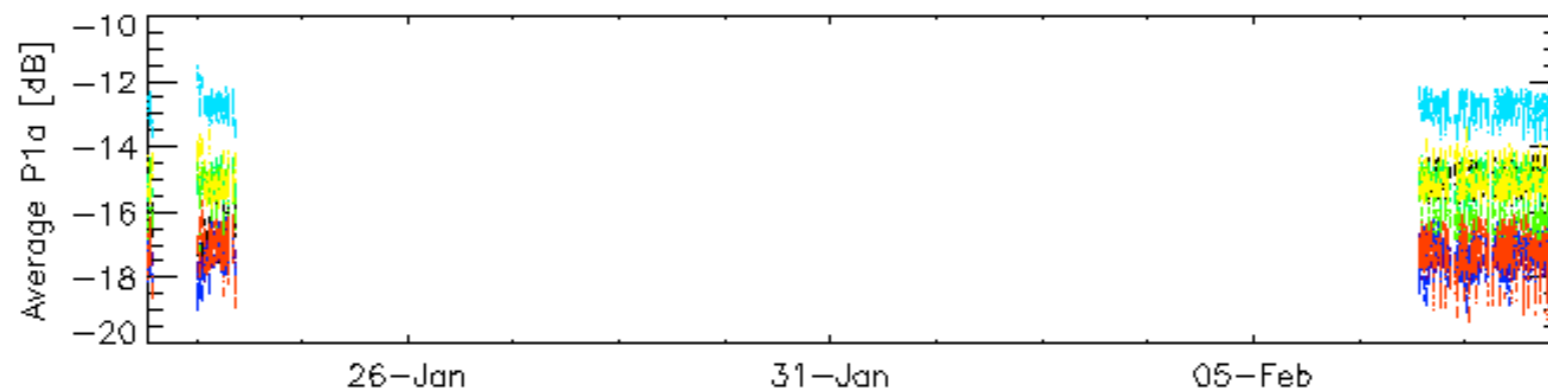
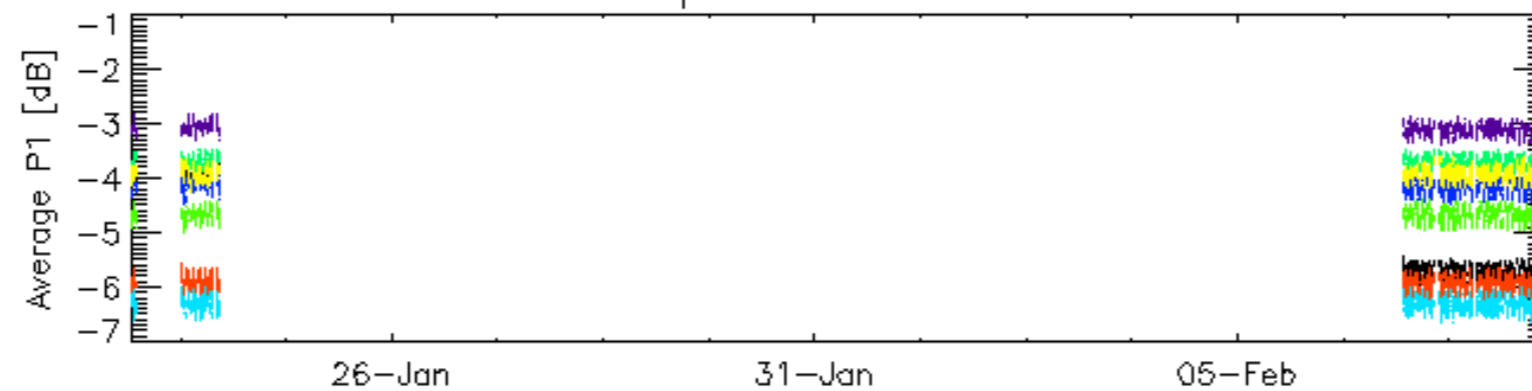


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

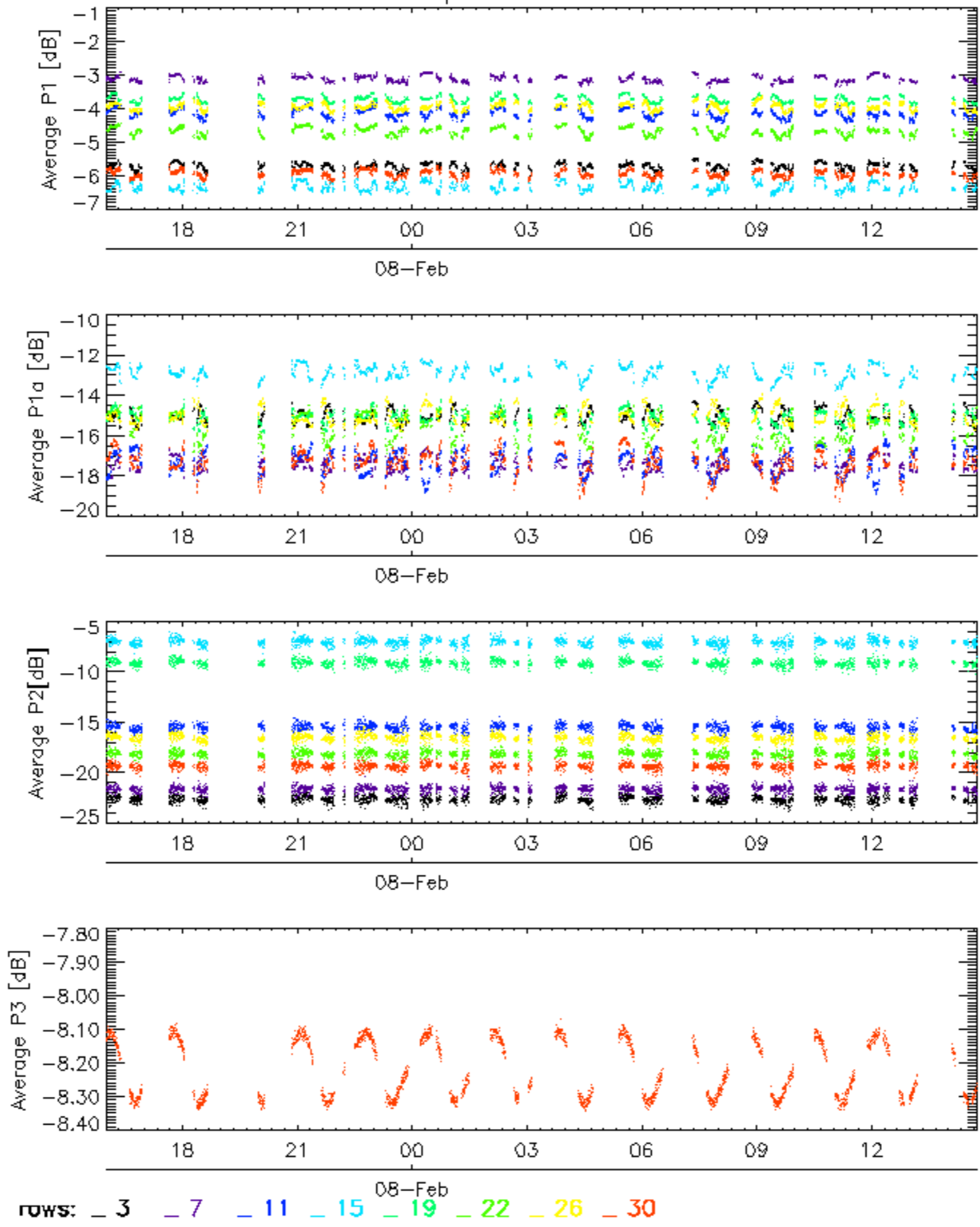


Cal pulses for WVS IS2



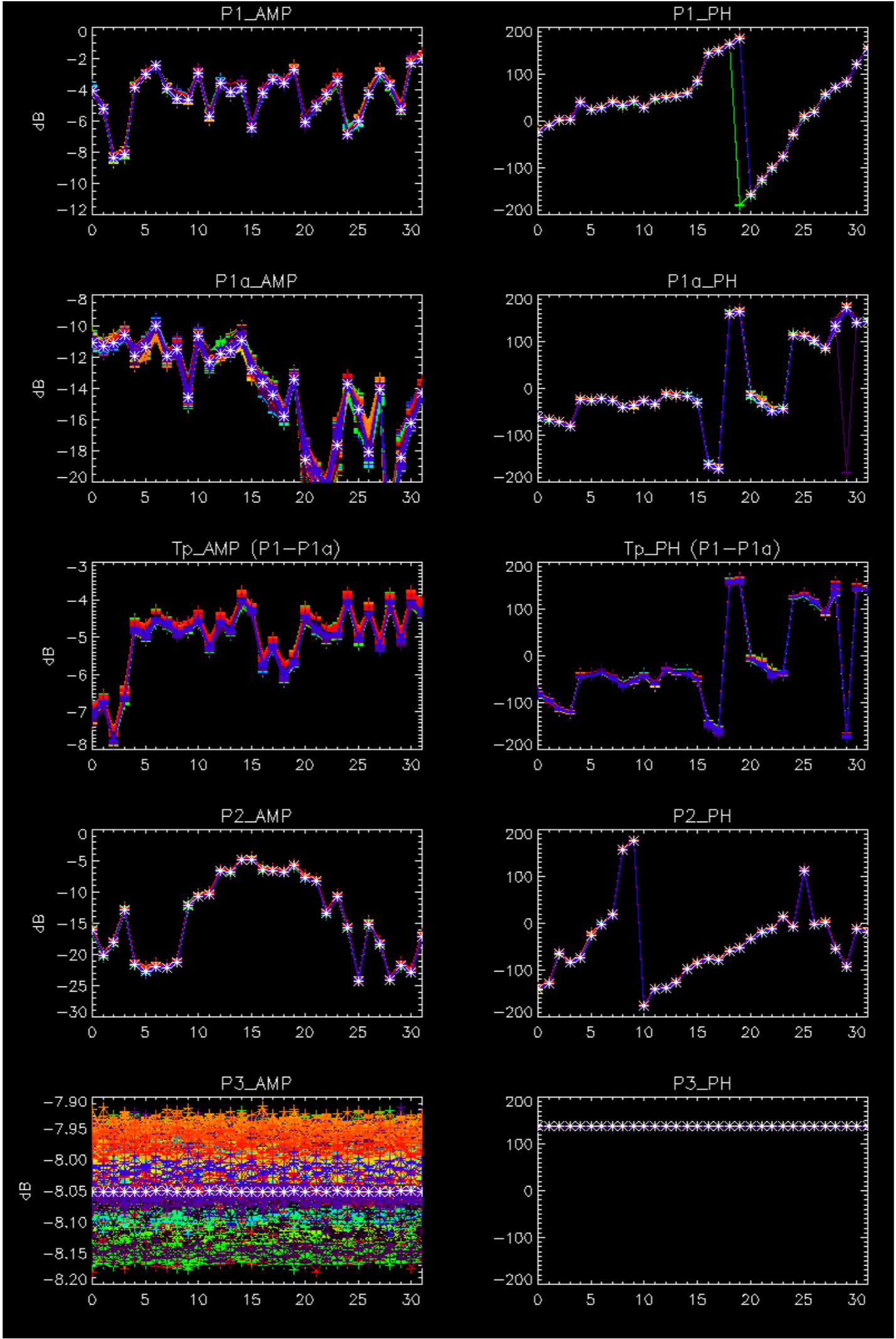
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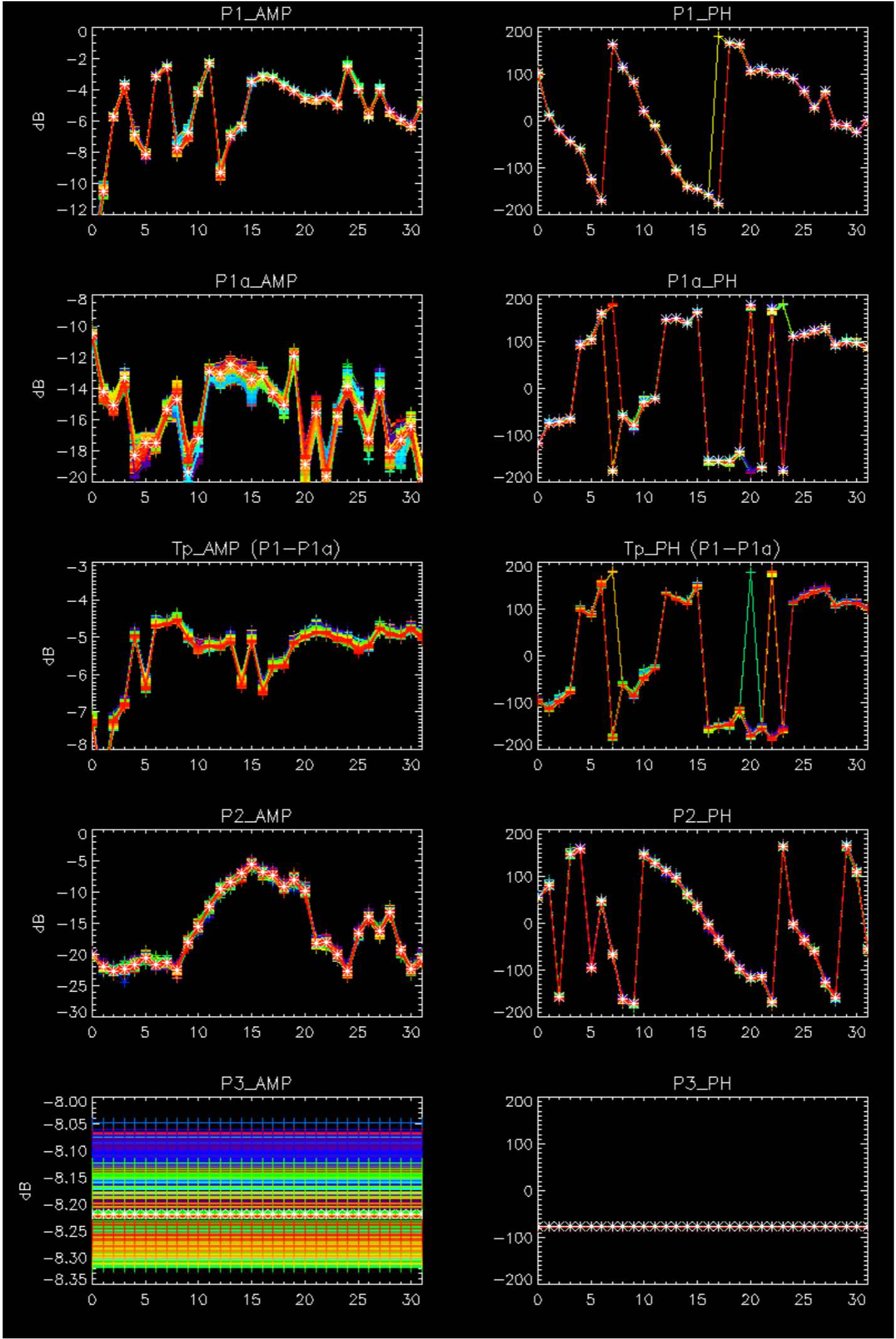
Cal pulses for WVS IS2



No anomalies observed.



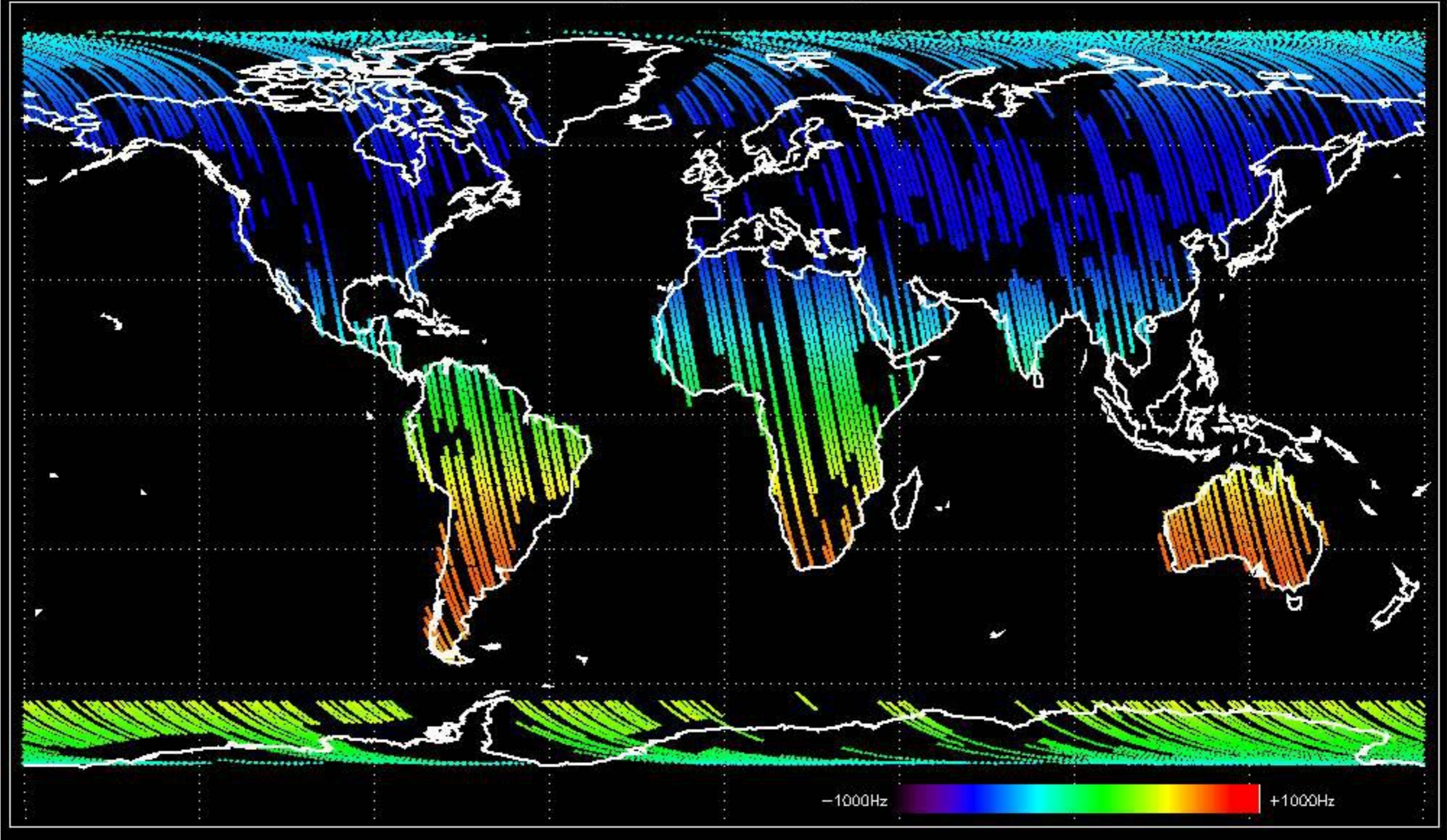




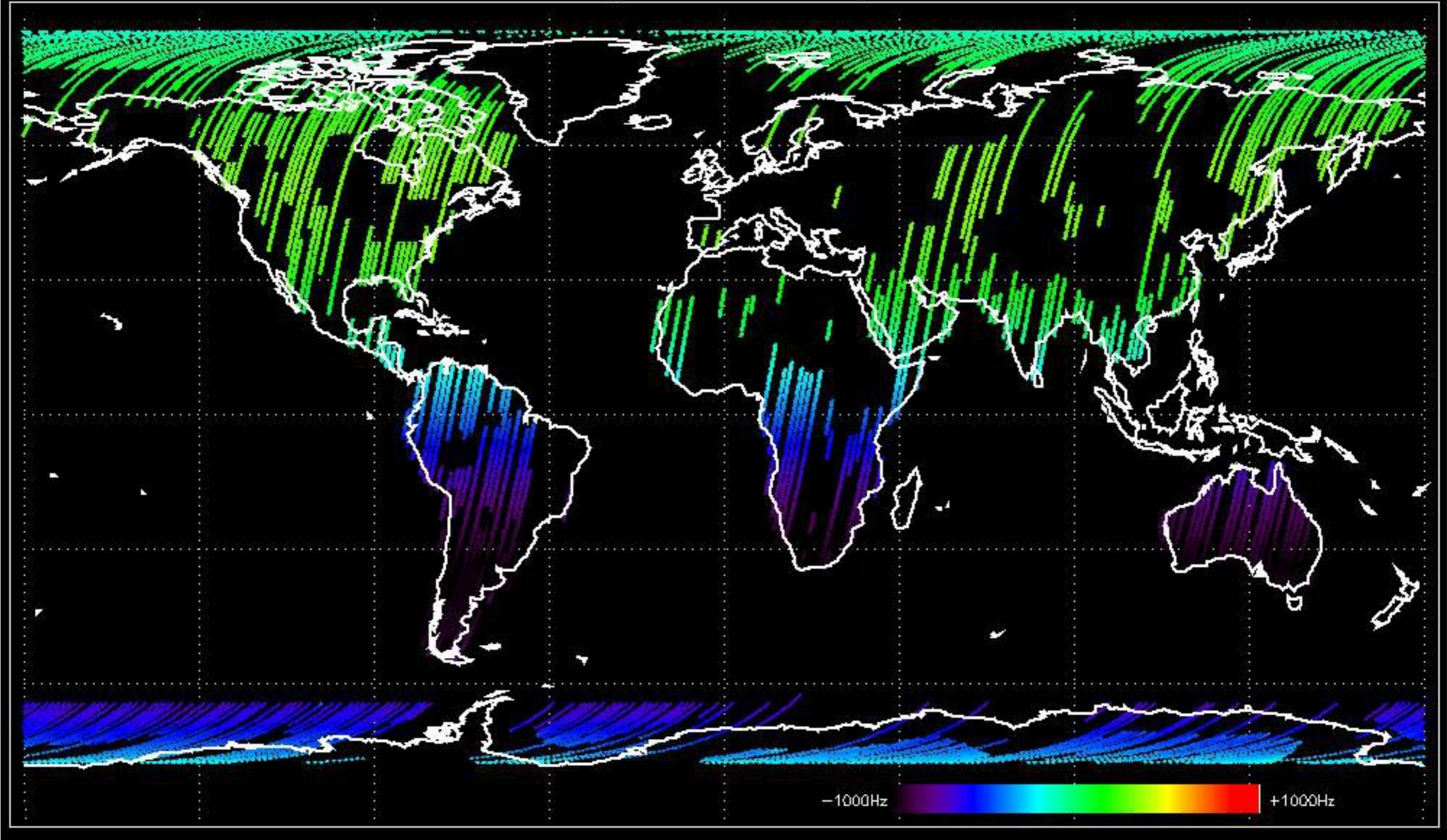
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



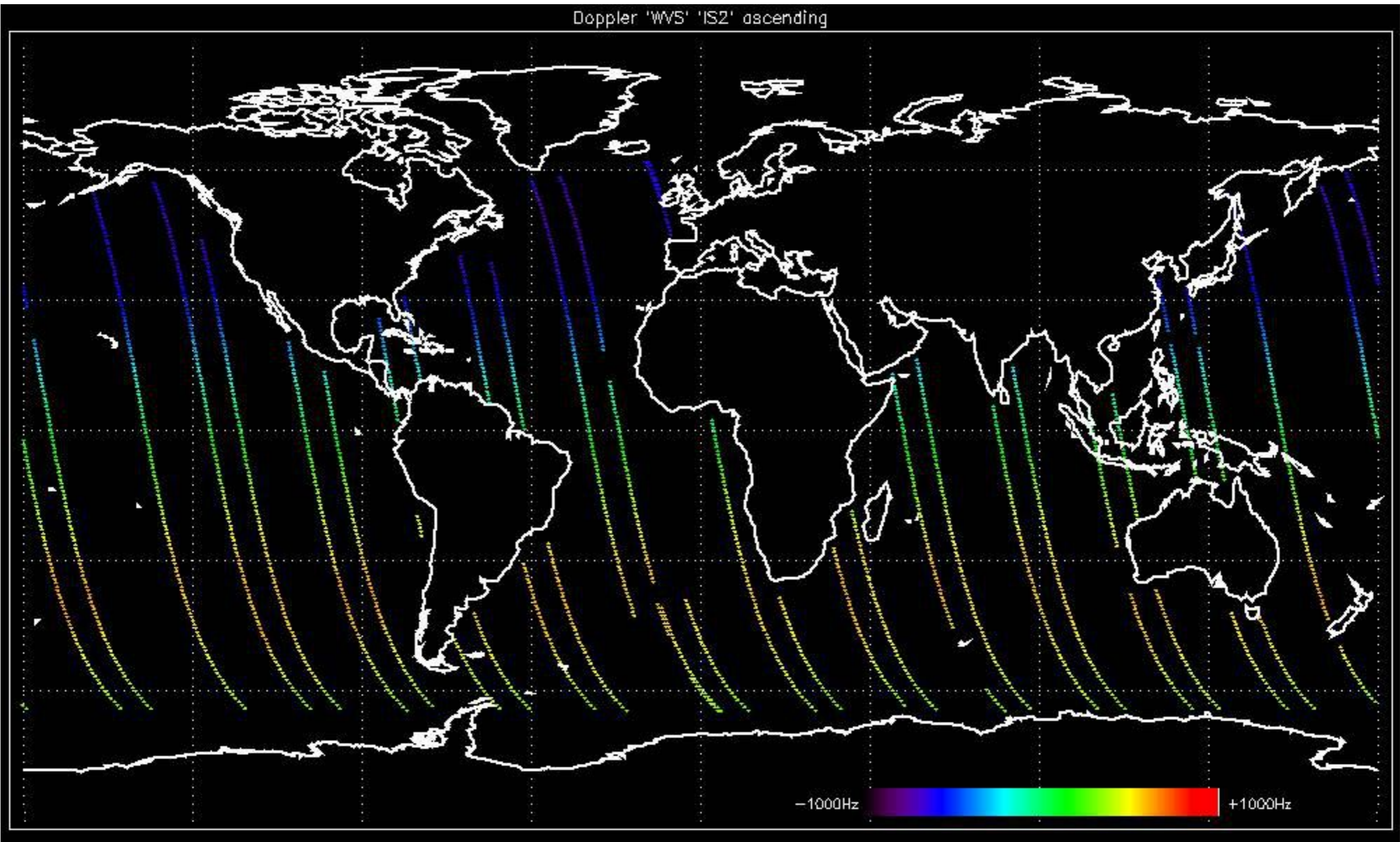
Doppler 'GM1' 'SS1' ascending



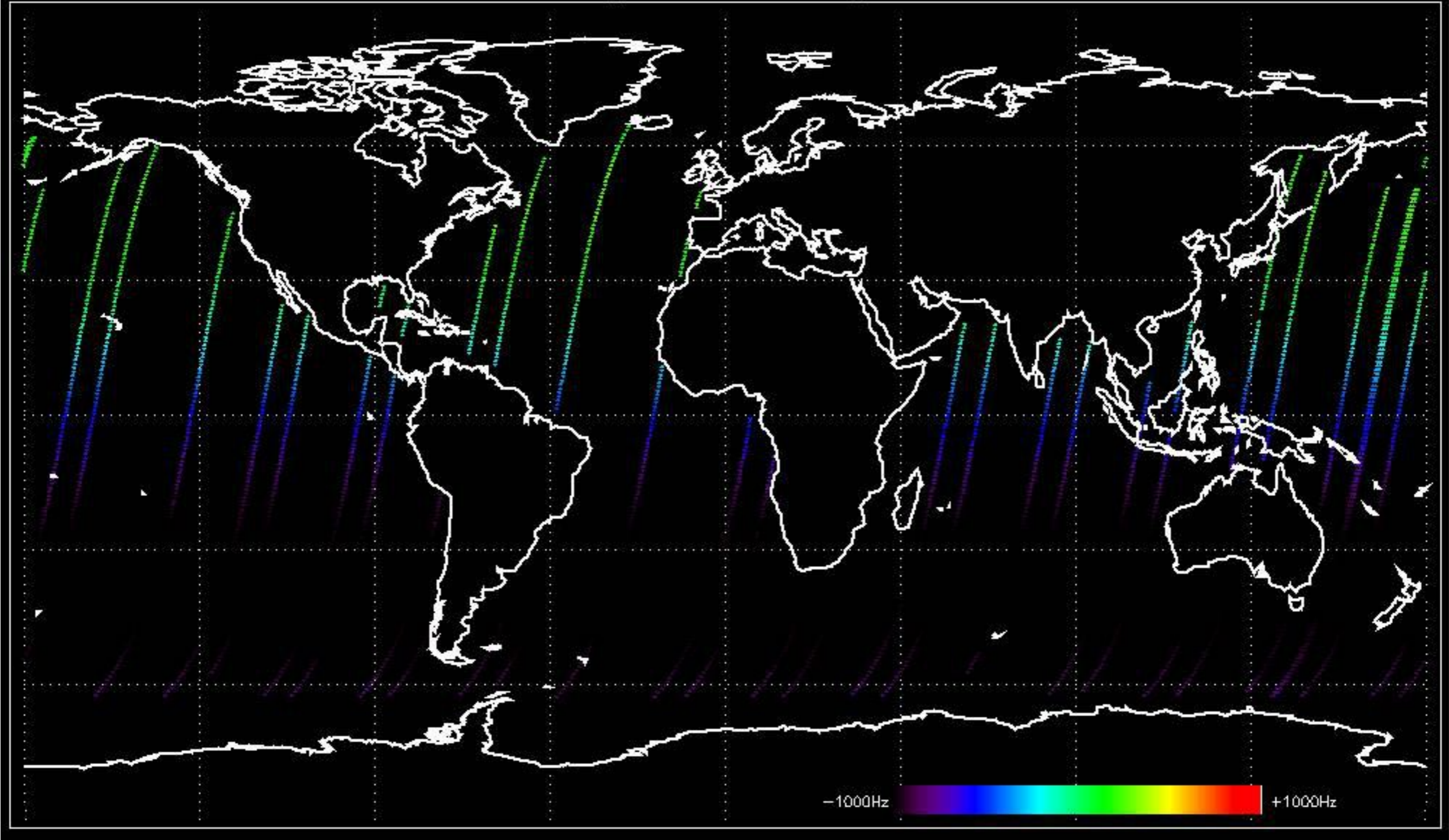
Doppler 'GM1' 'SS1' descending



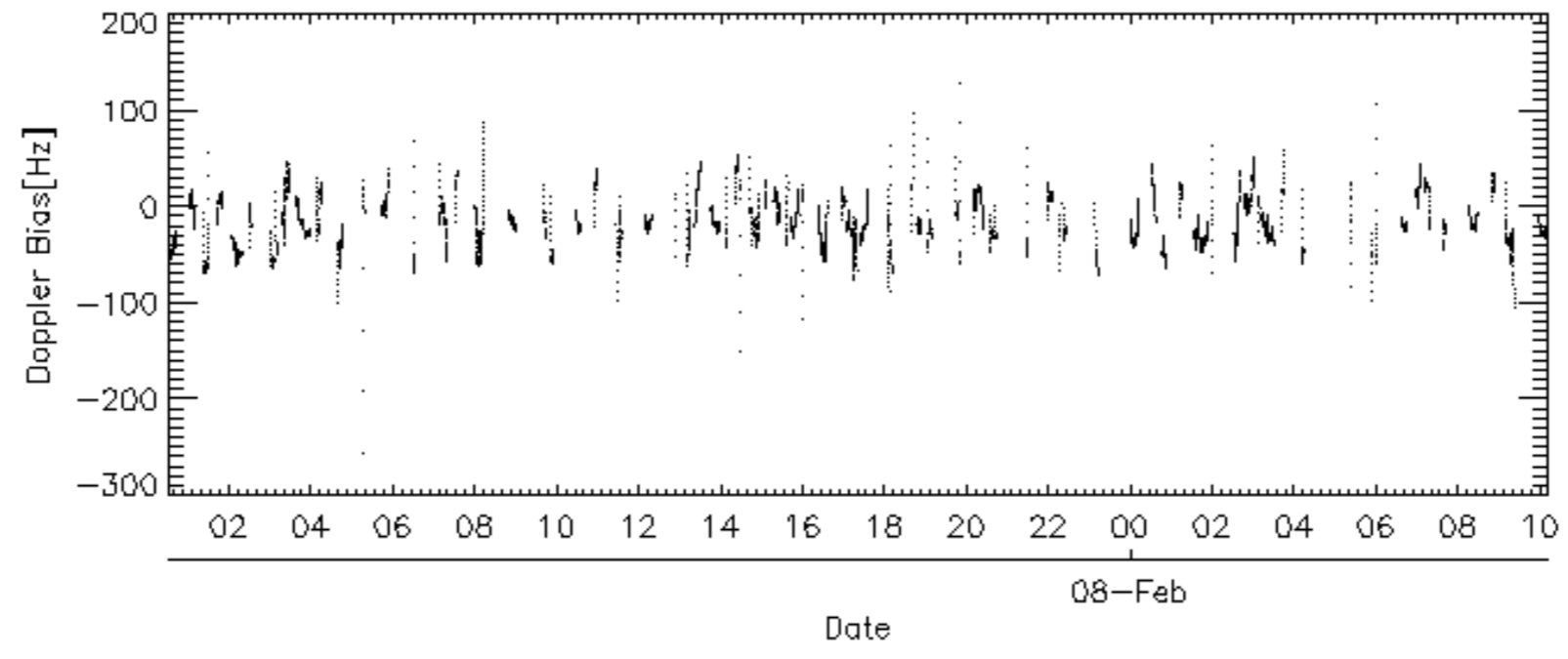
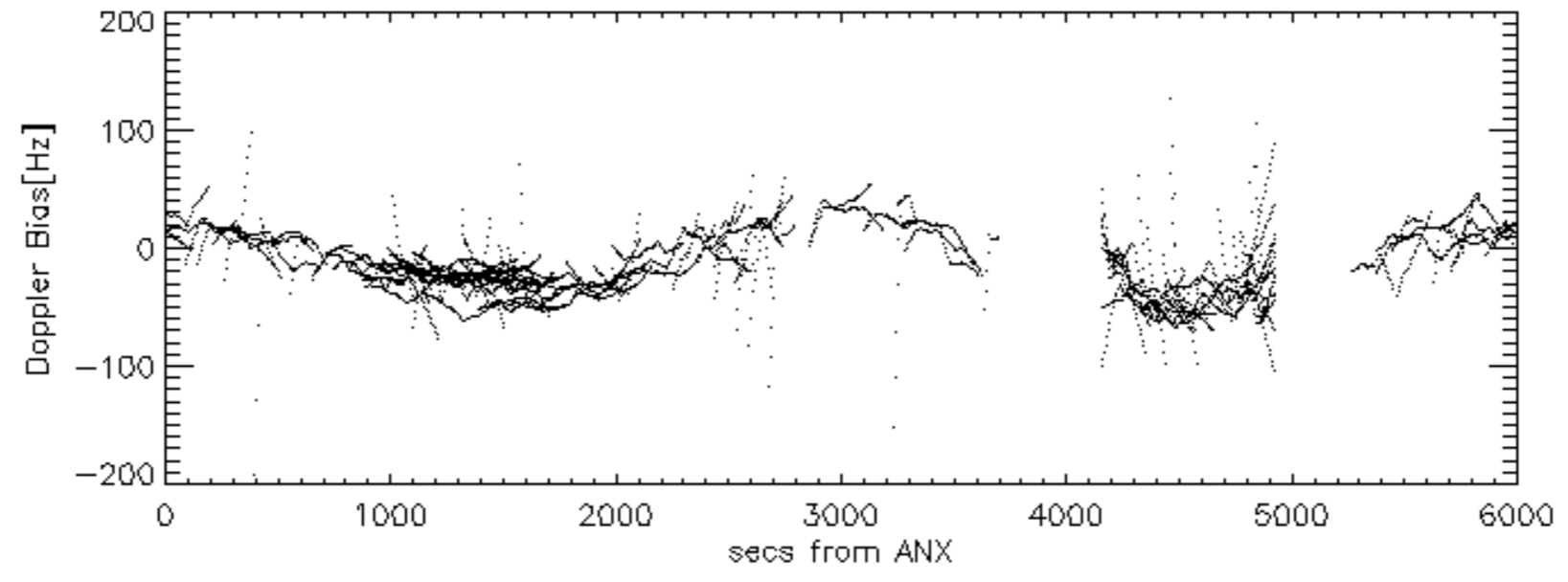
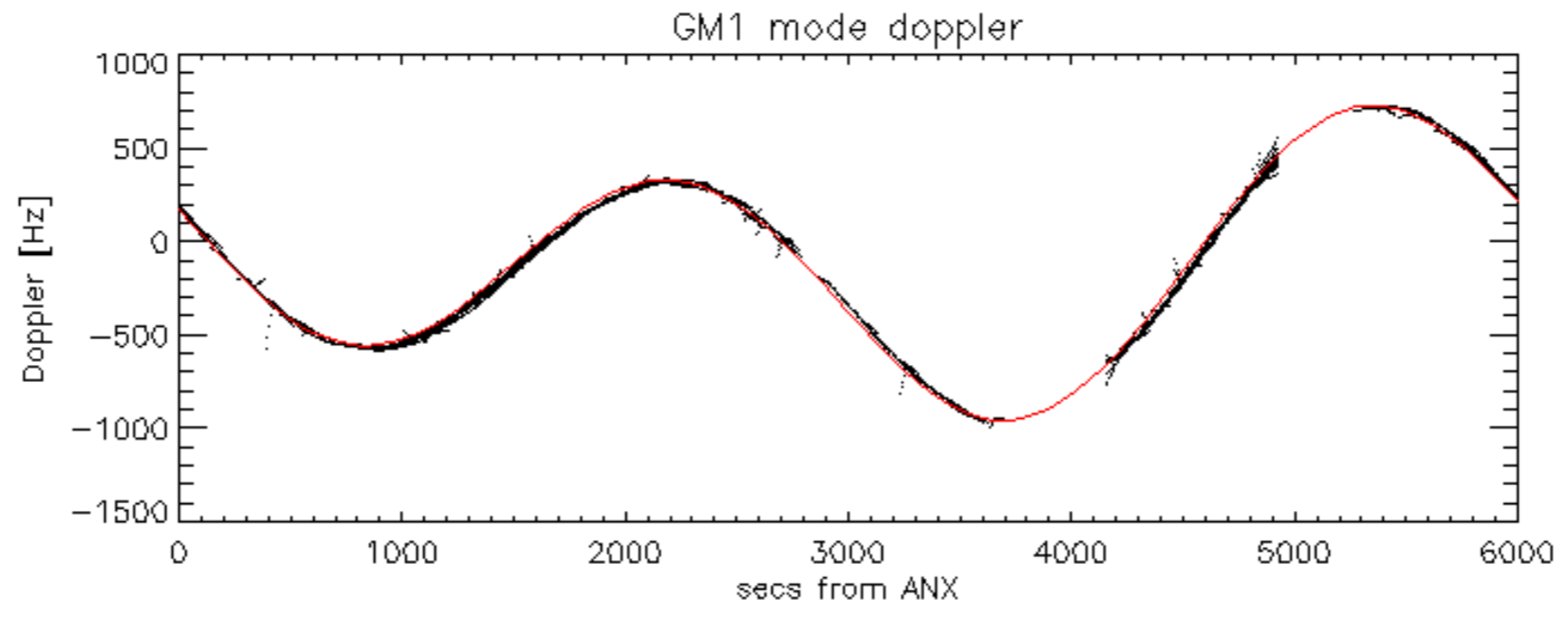
Doppler 'WVS' 'IS2' ascending

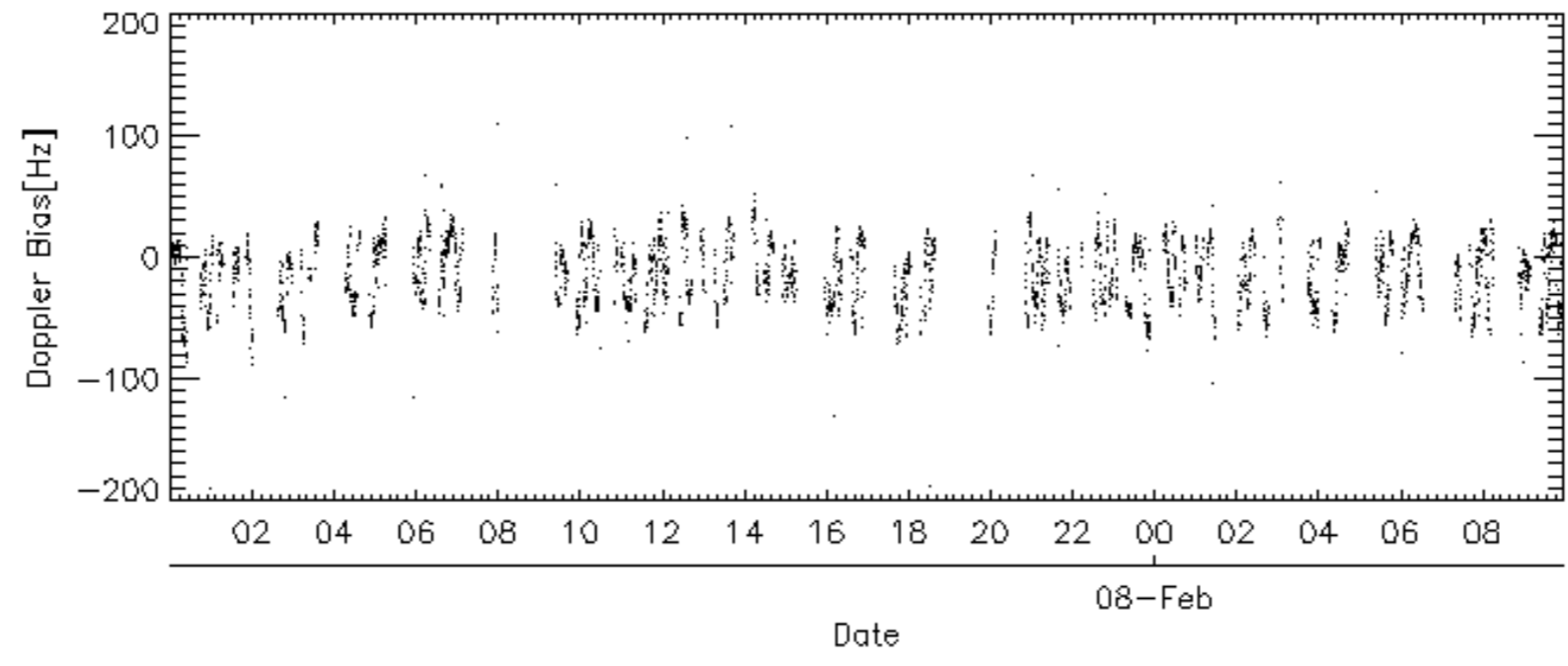
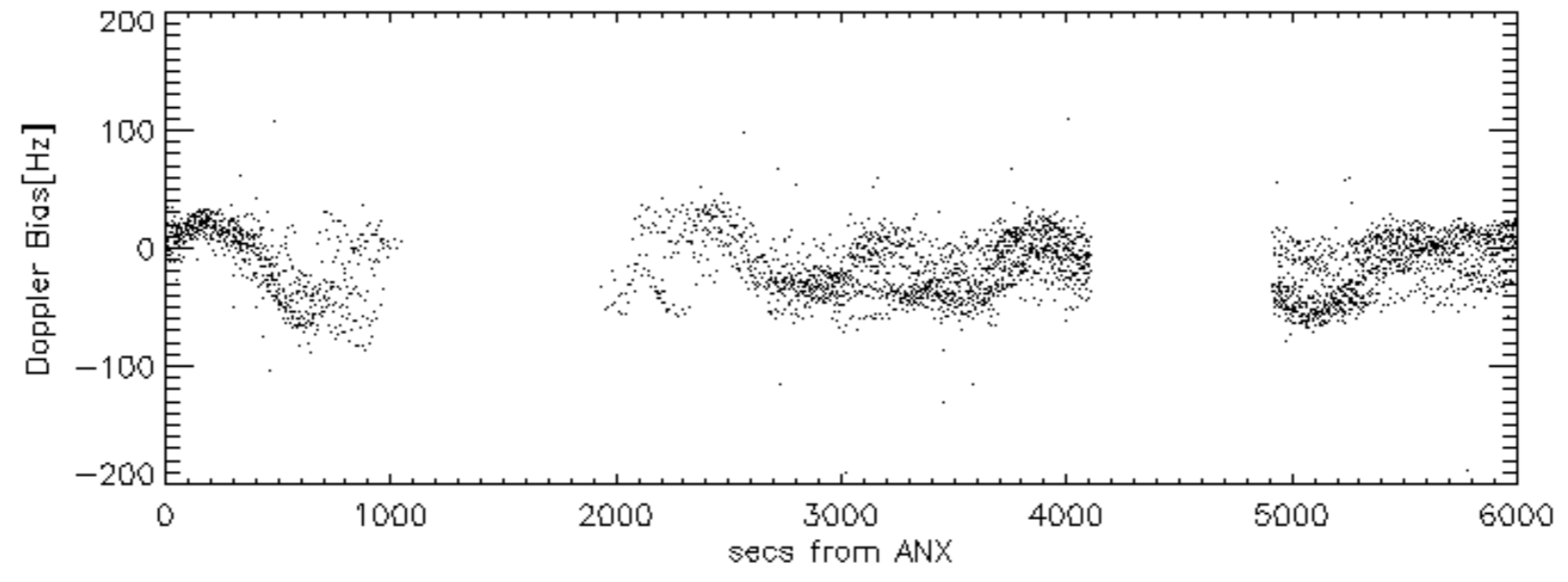
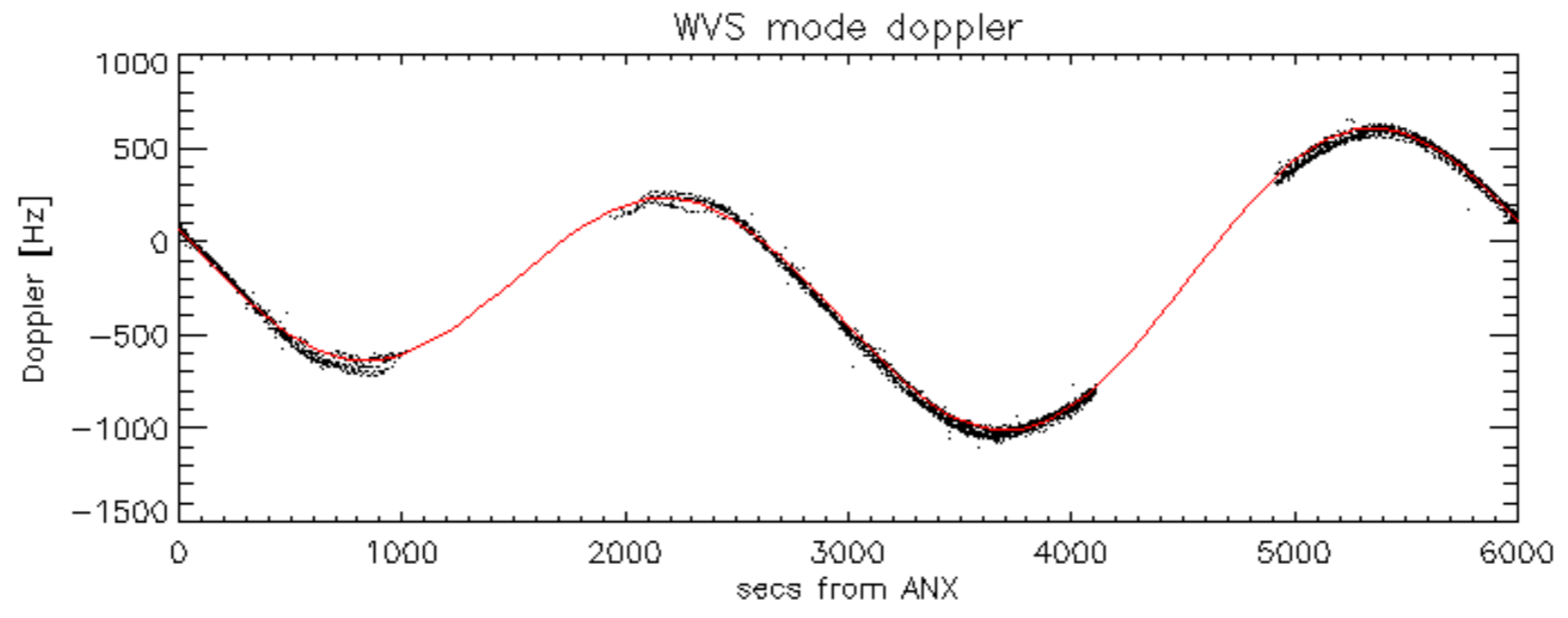


Doppler 'WVS' 'IS2' descending

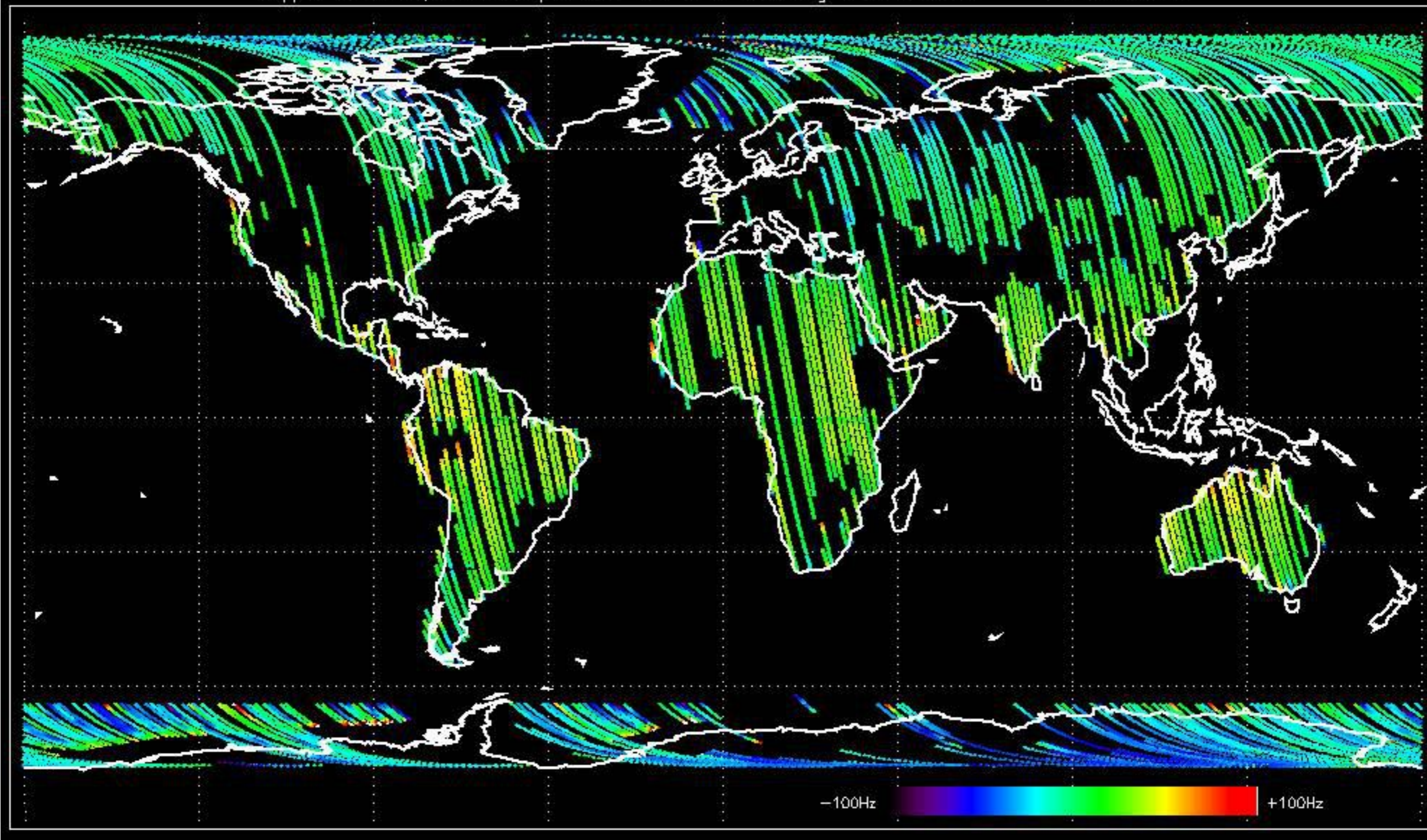




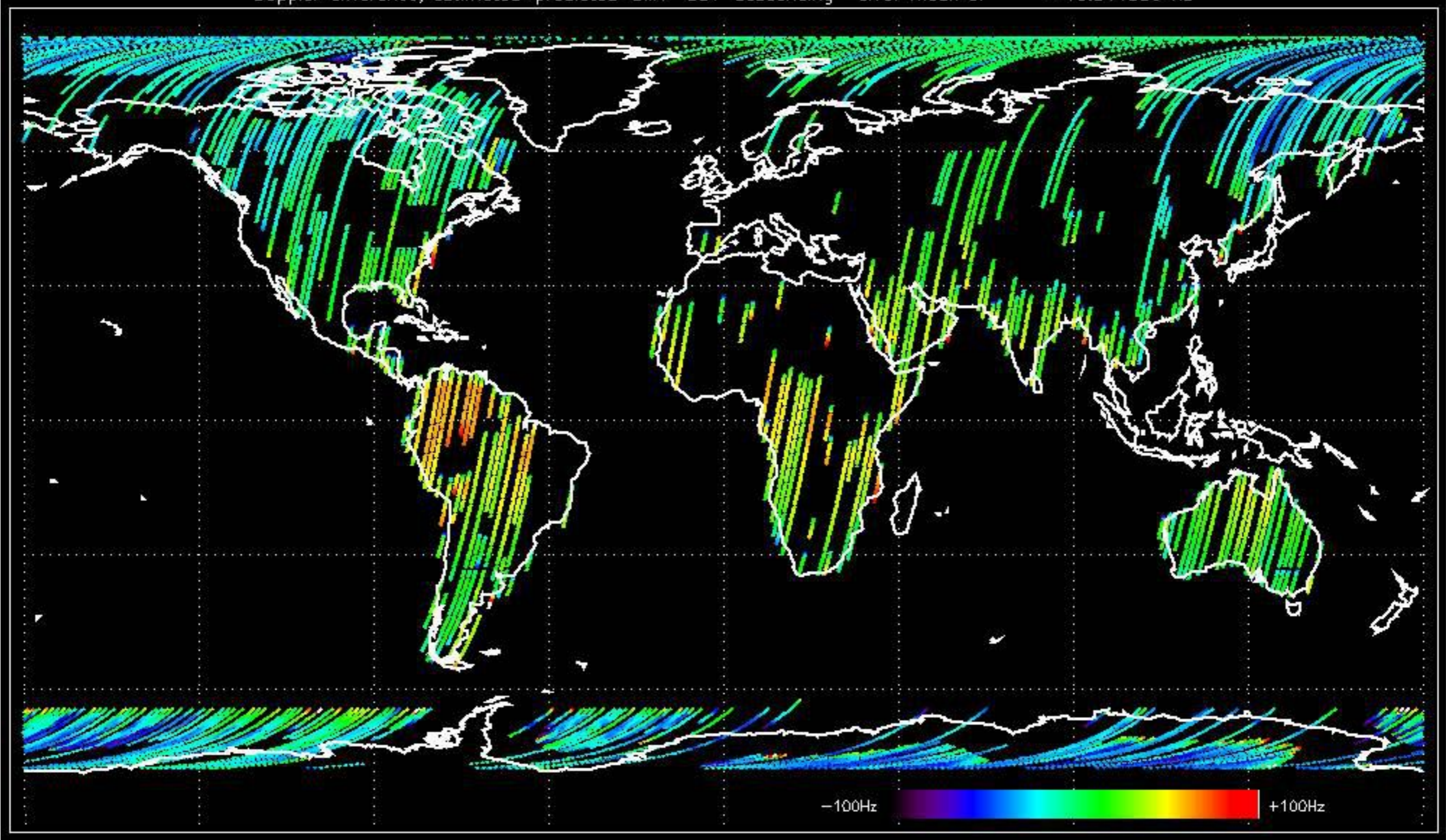




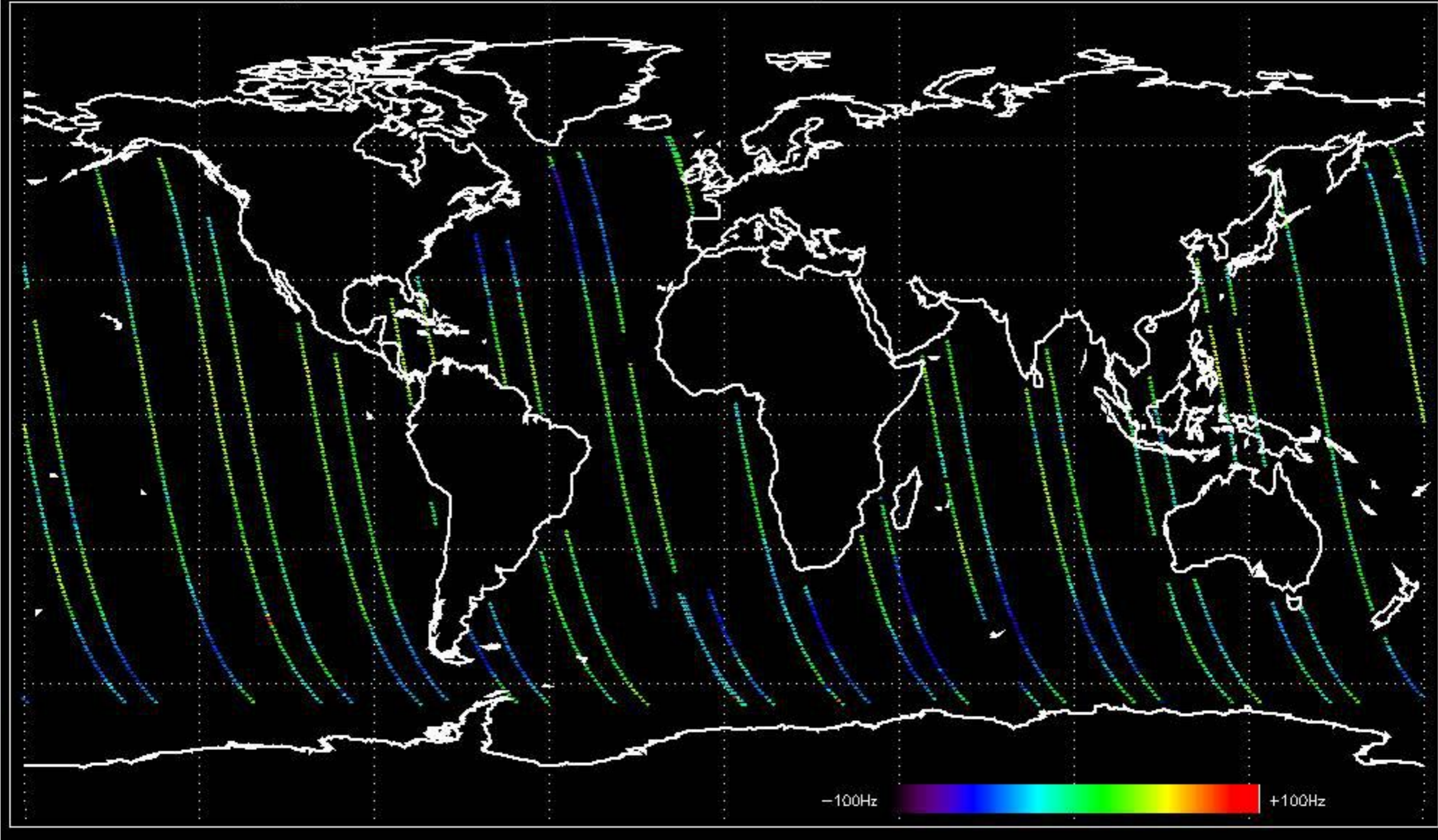
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -17.155601 Hz



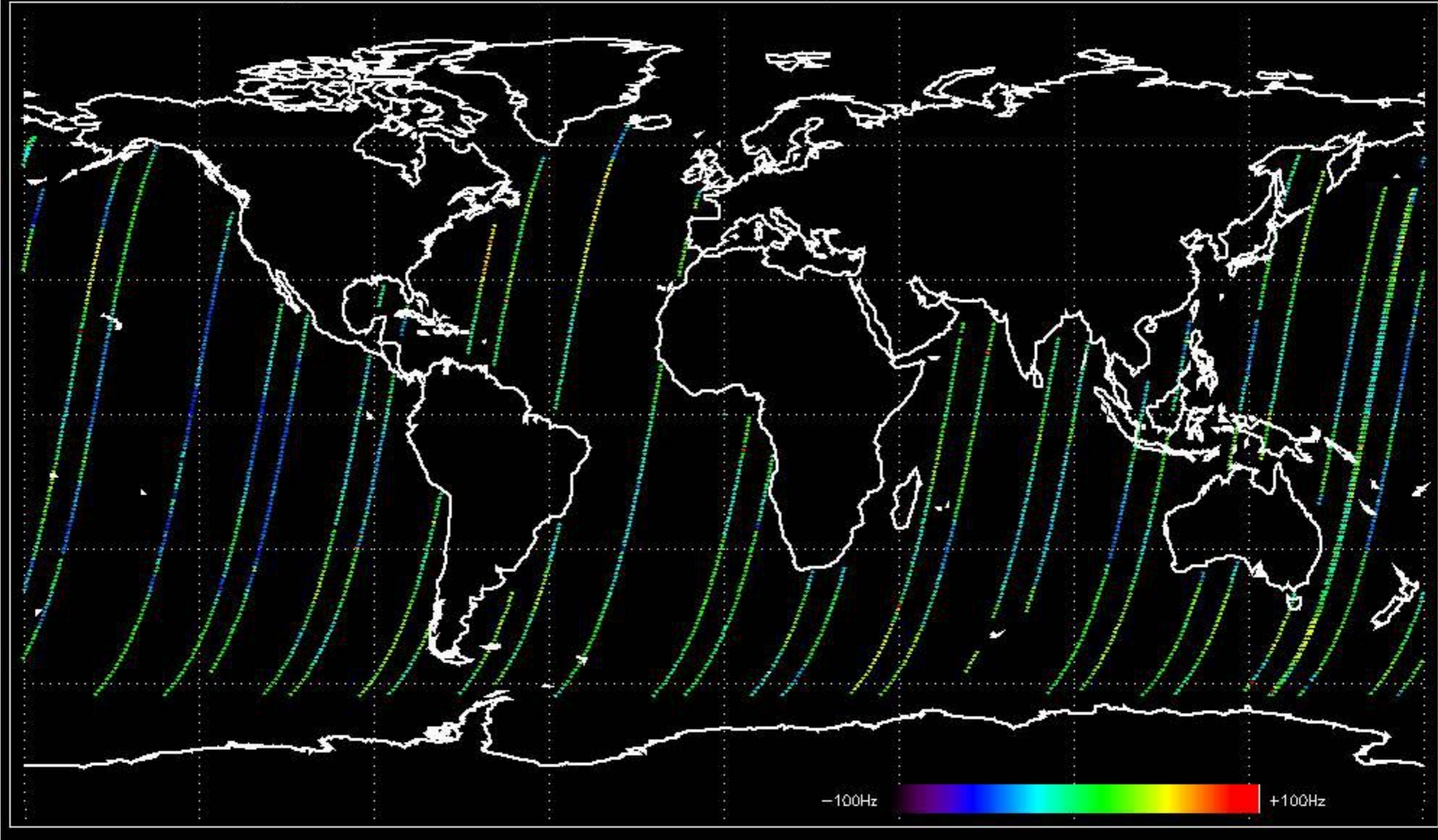
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -18.511056 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -16.961055 Hz



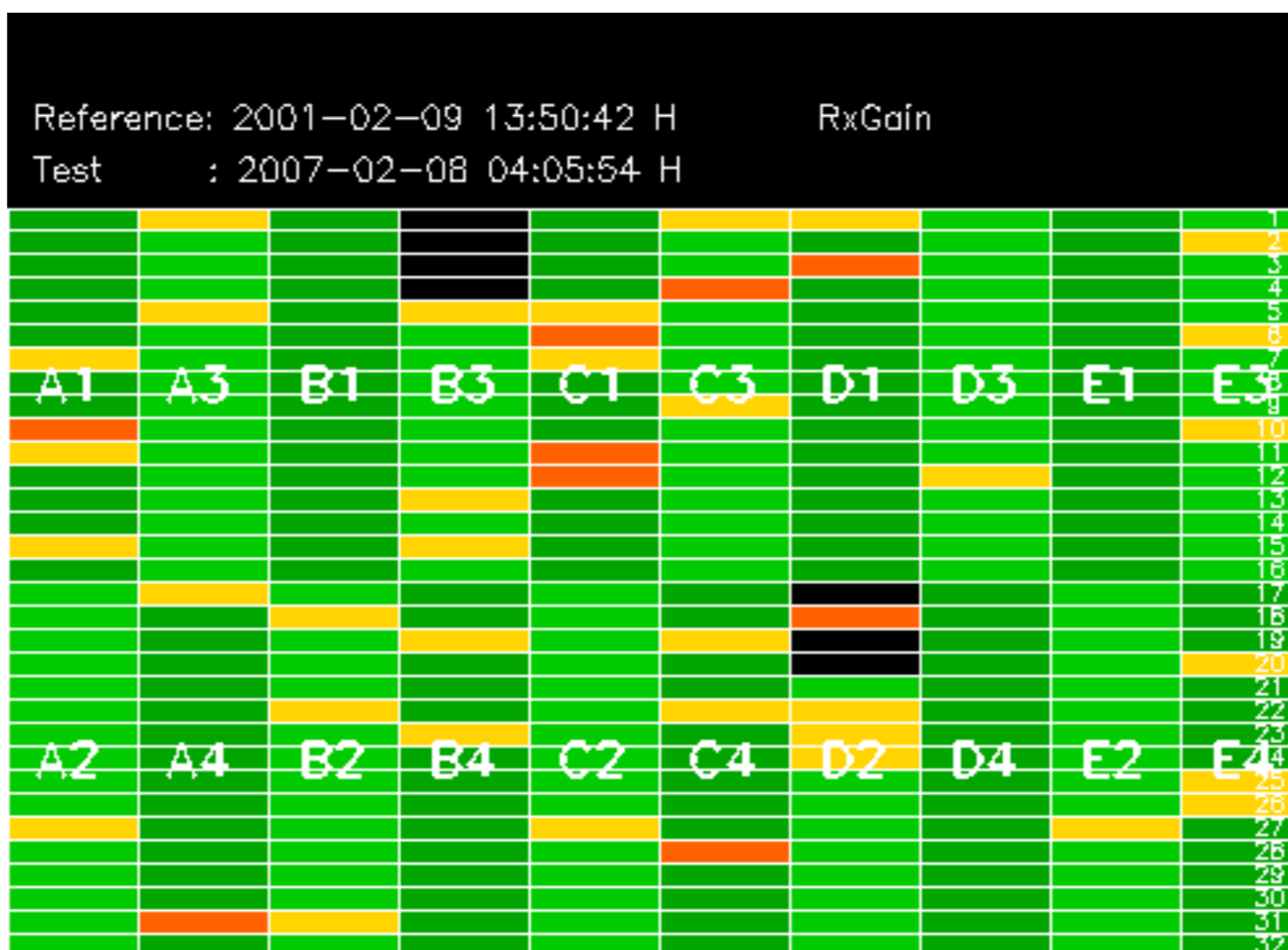
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -19.107905 Hz



No anomalies observed on available MS products:

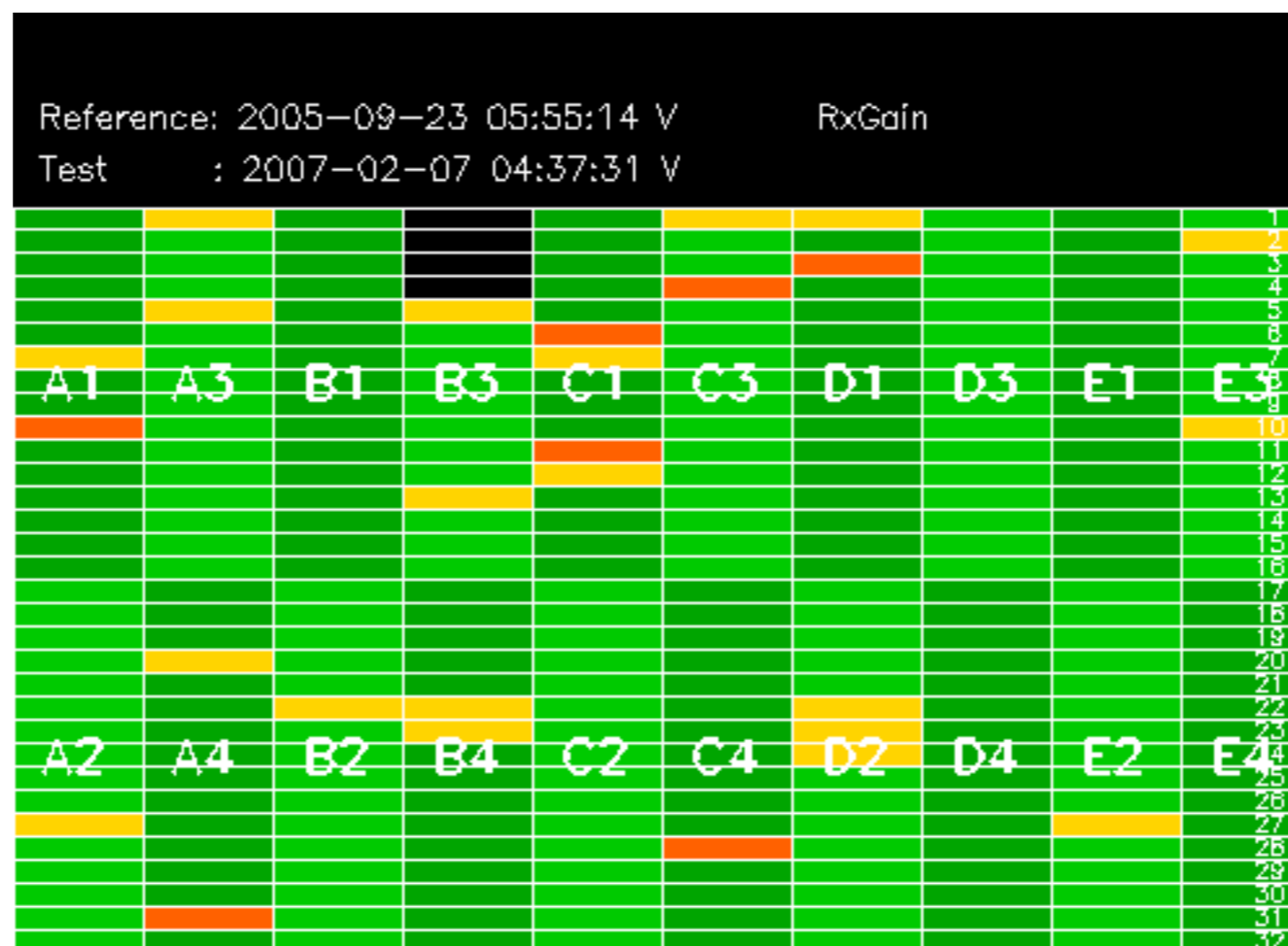
No anomalies observed.





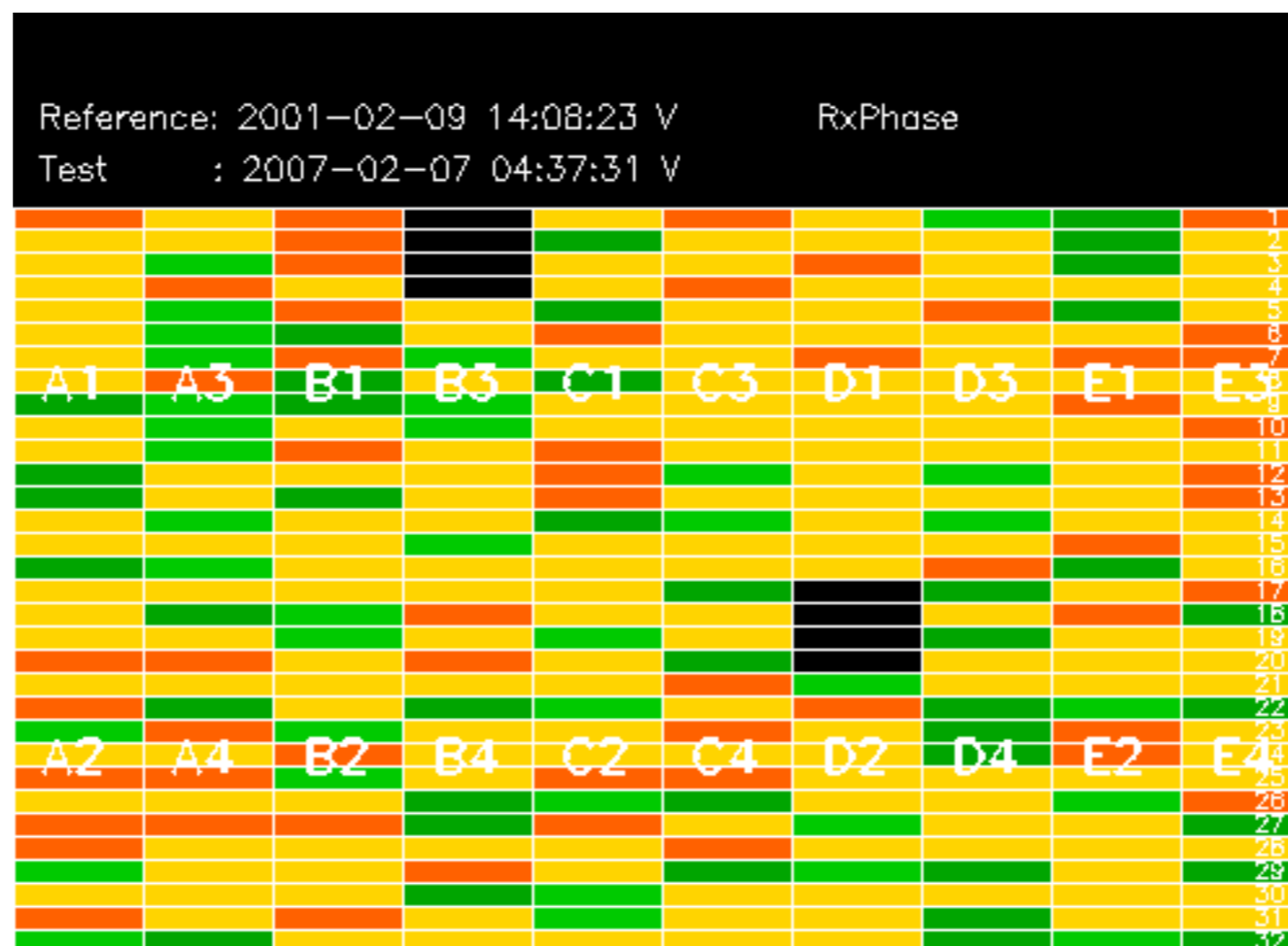






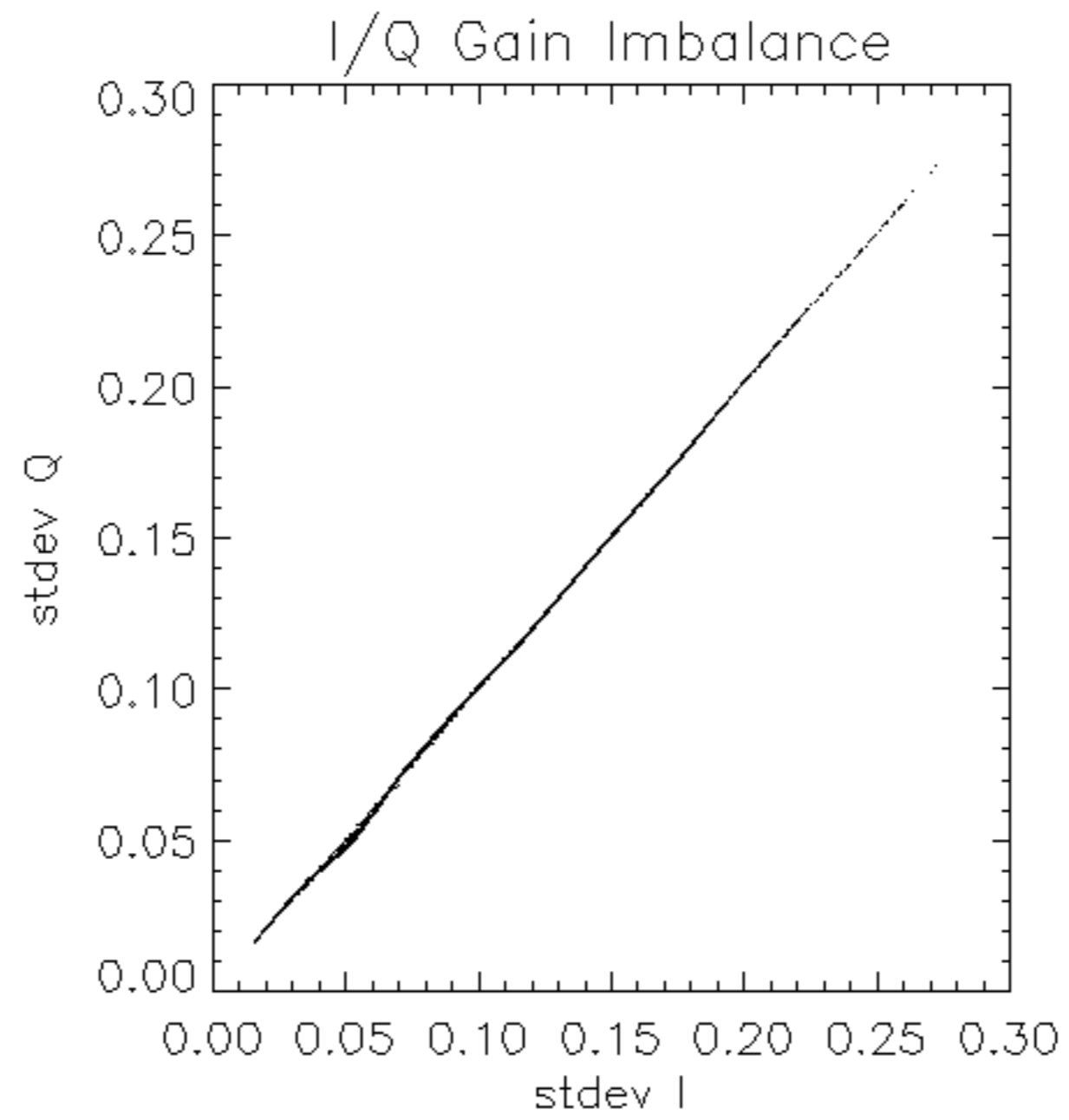


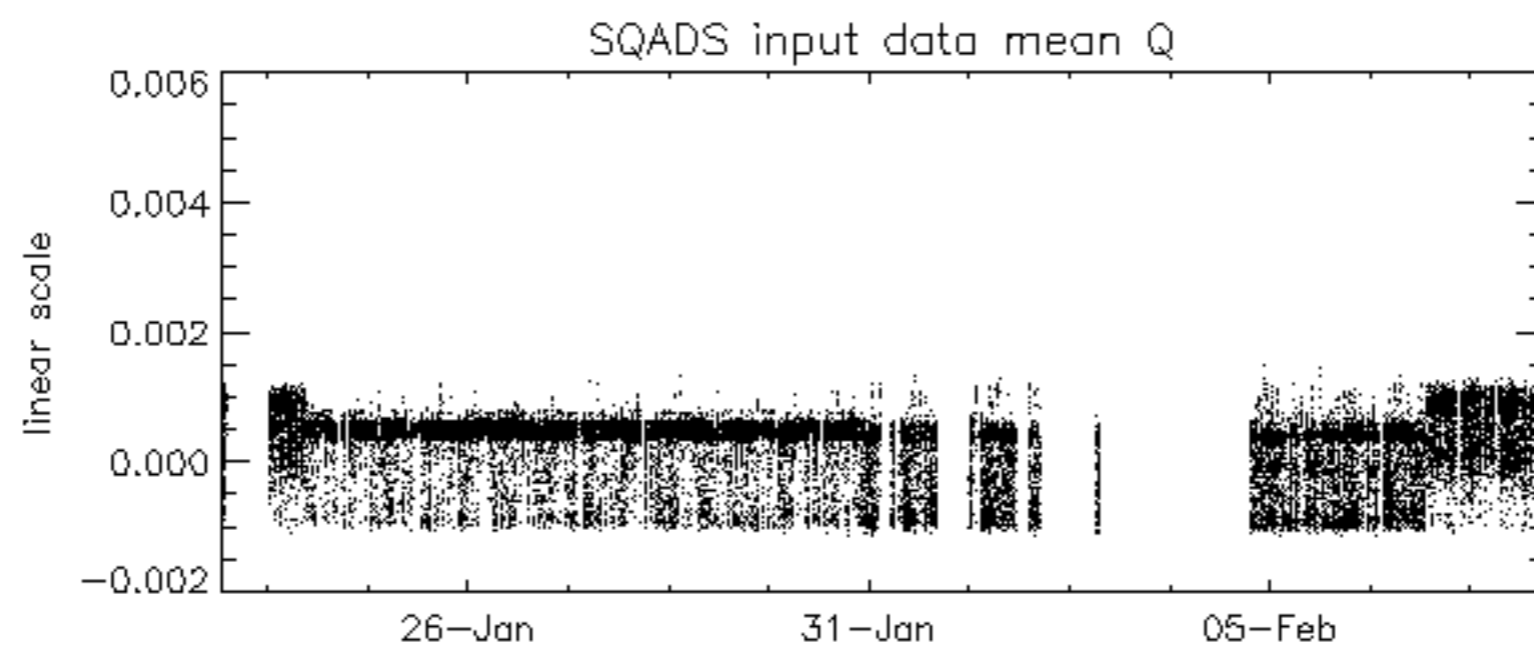
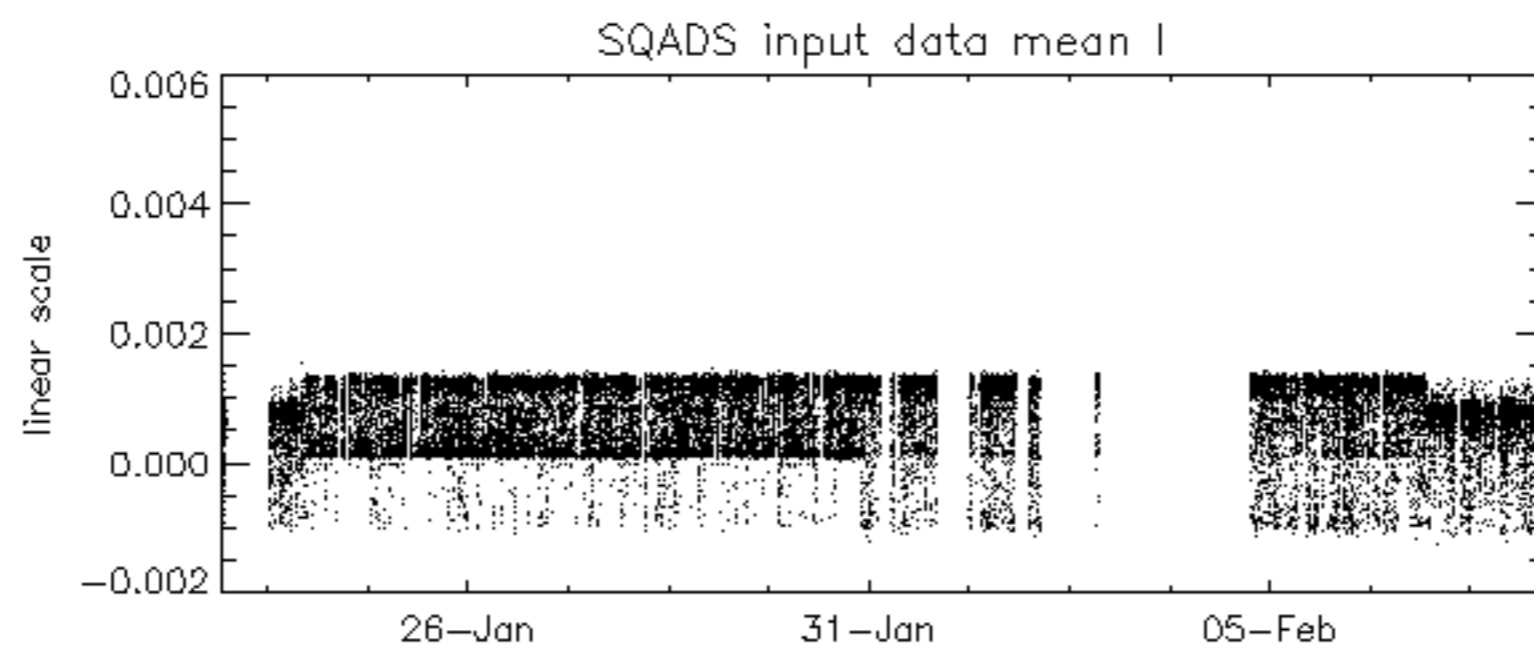
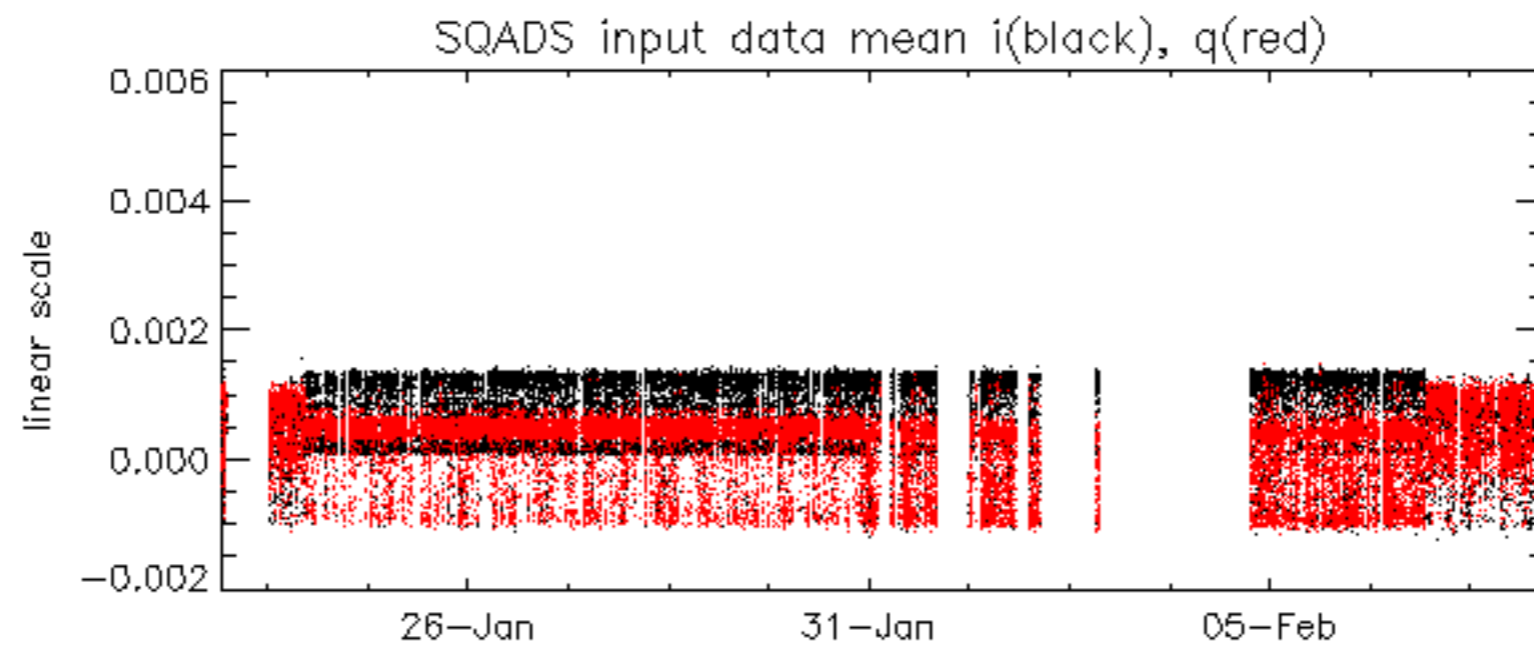


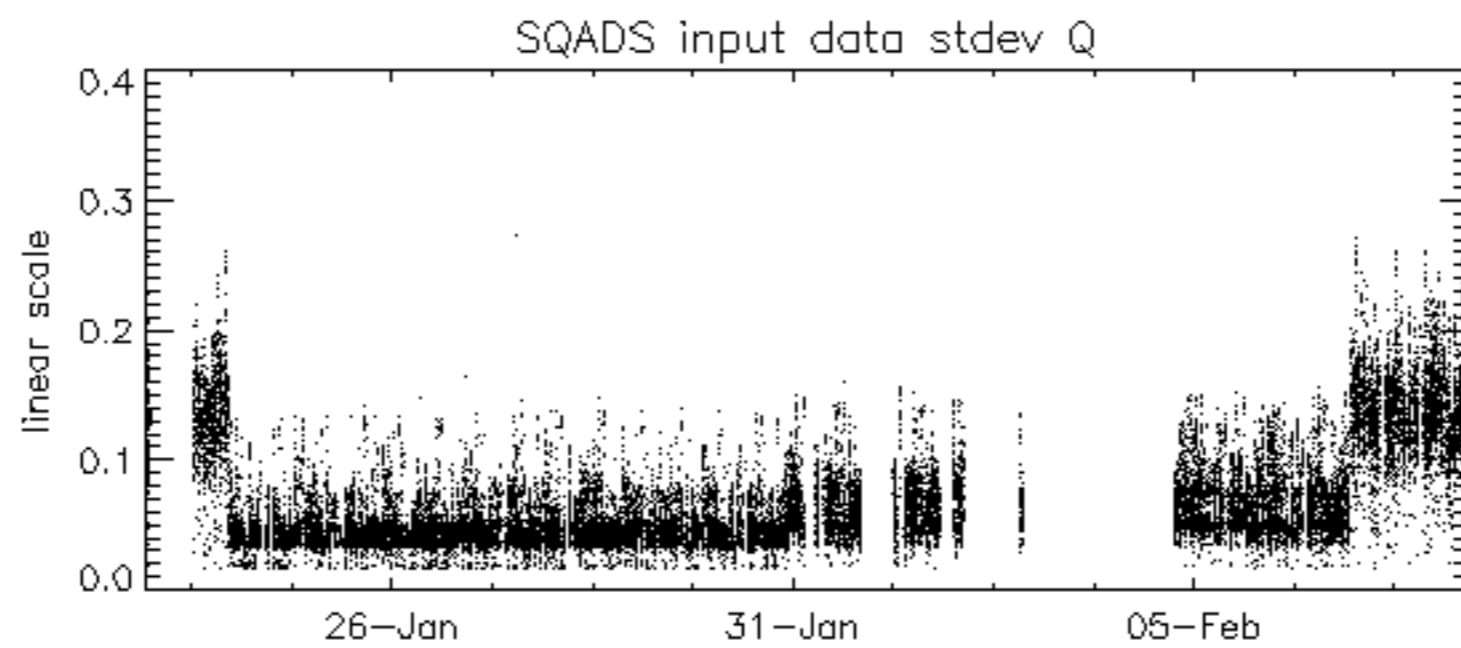
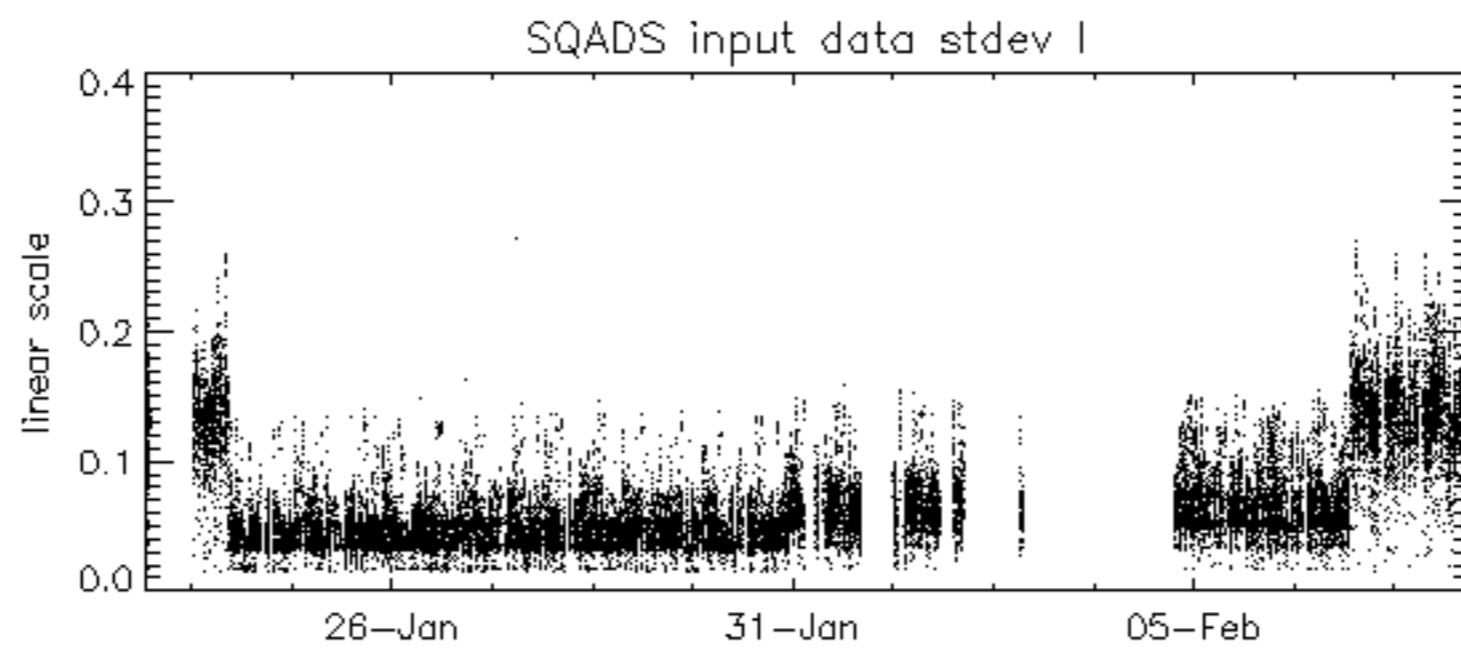
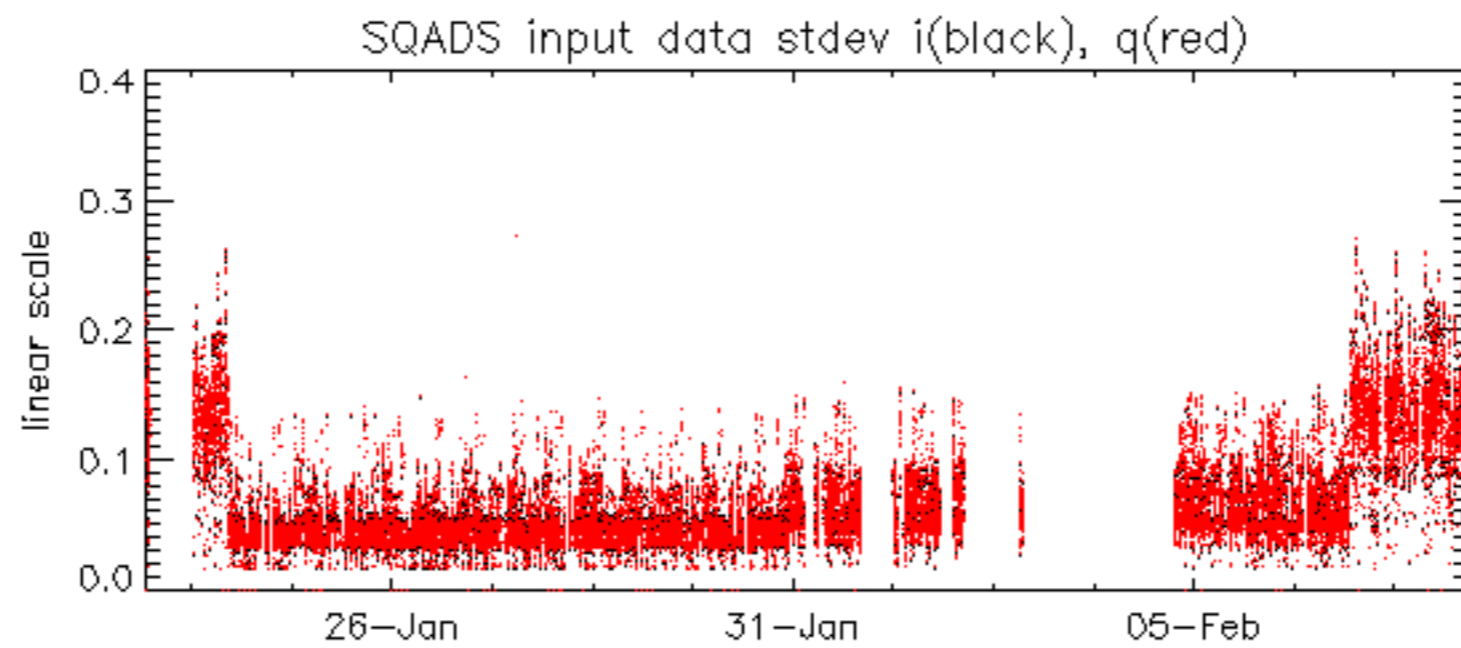




















Summary of analysis for the last 3 days 2007020[678]

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_1PNPDE20070208_015344_000001402055_00232_25837_9161.N1	7	101
ASA_GM1_1PNPDK20070206_135601_000003142055_00210_25815_6169.N1	0	8
ASA_GM1_1PNPDK20070206_151422_000001692055_00211_25816_6289.N1	0	6
ASA_WSM_1PNPDE20070208_012926_000000862055_00232_25837_9154.N1	17	4430
ASA_WSM_1PNPDE20070208_013746_000001222055_00232_25837_9217.N1	0	56
ASA_WSM_1PNPDE20070208_013853_000000552055_00232_25837_9136.N1	0	44
ASA_WSM_1PNPDE20070208_022638_000000672055_00232_25837_9174.N1	40	13228
ASA_WSM_1PNPDE20070208_022638_000000672055_00232_25837_9789.N1	40	13228
ASA_WSM_1PNPDE20070208_022846_000001162055_00232_25837_9196.N1	8	1599
ASA_WSM_1PNPDE20070208_022846_000001162055_00232_25837_9825.N1	8	1599
ASA_WSM_1PNPDK20070208_094718_000000852055_00237_25842_8500.N1	0	32
ASA_APM_1PNPDE20070207_153229_000000682055_00226_25831_8504.N1	0	81







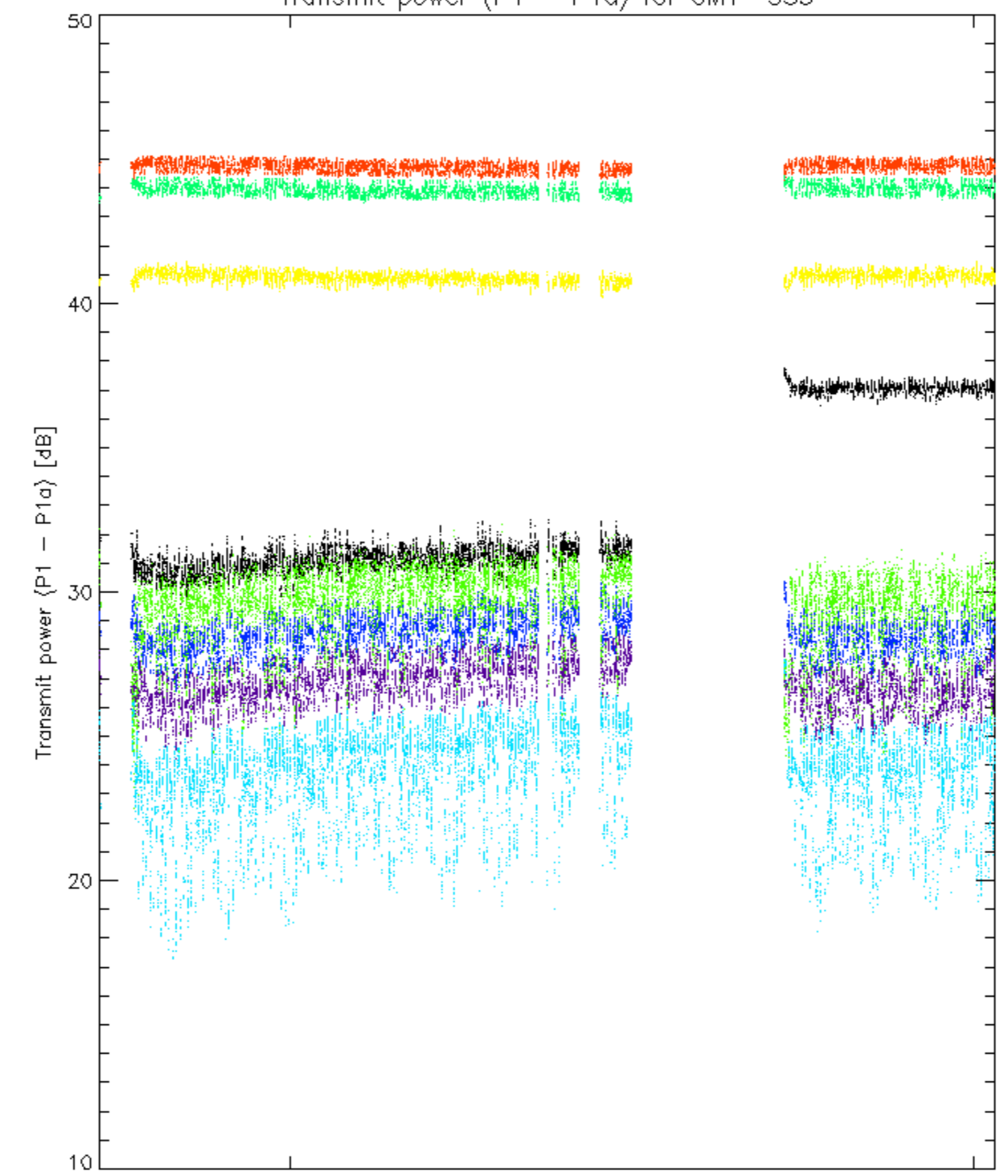






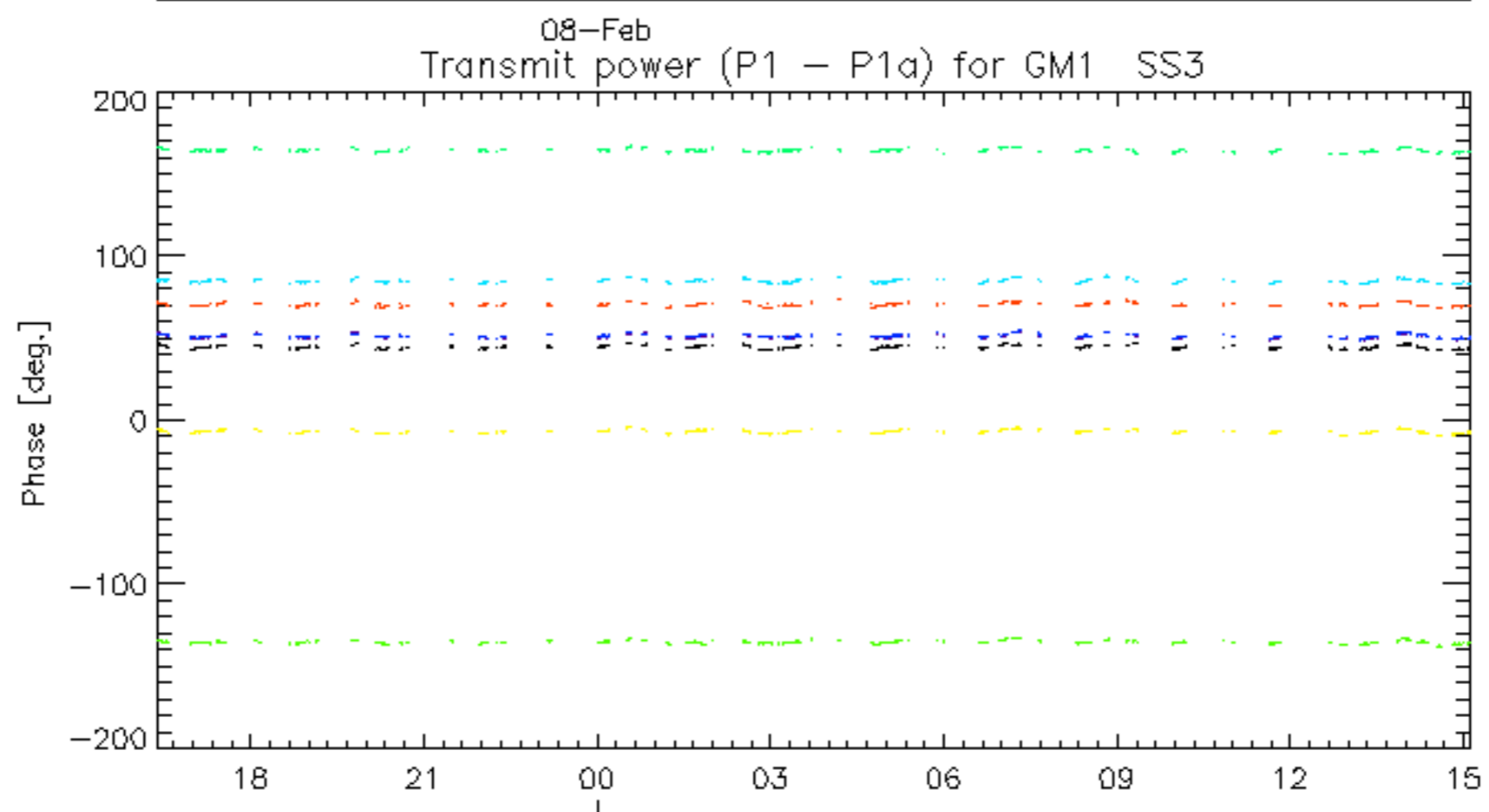
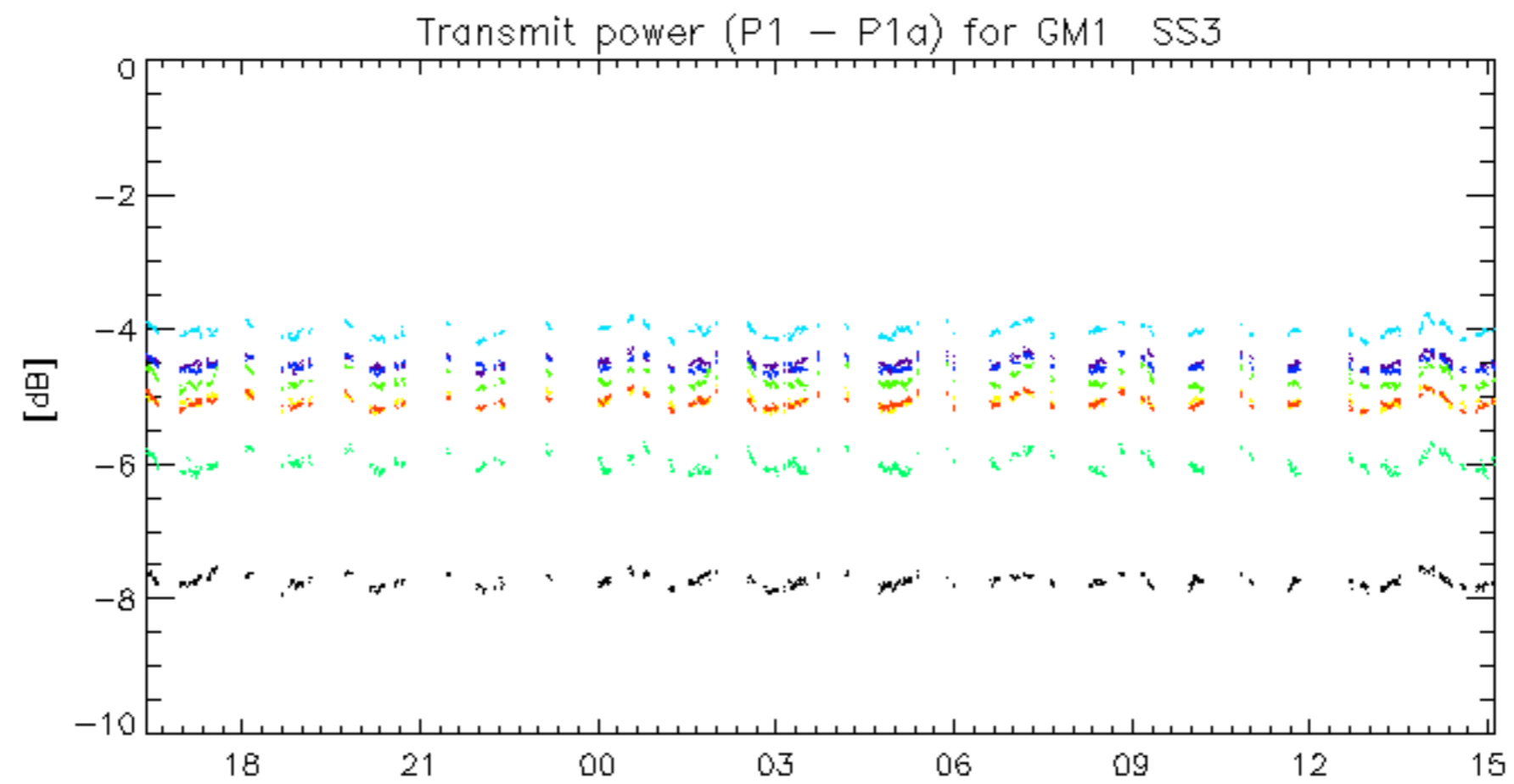


Transmit power (P1 - P1a) for GM1 SS3



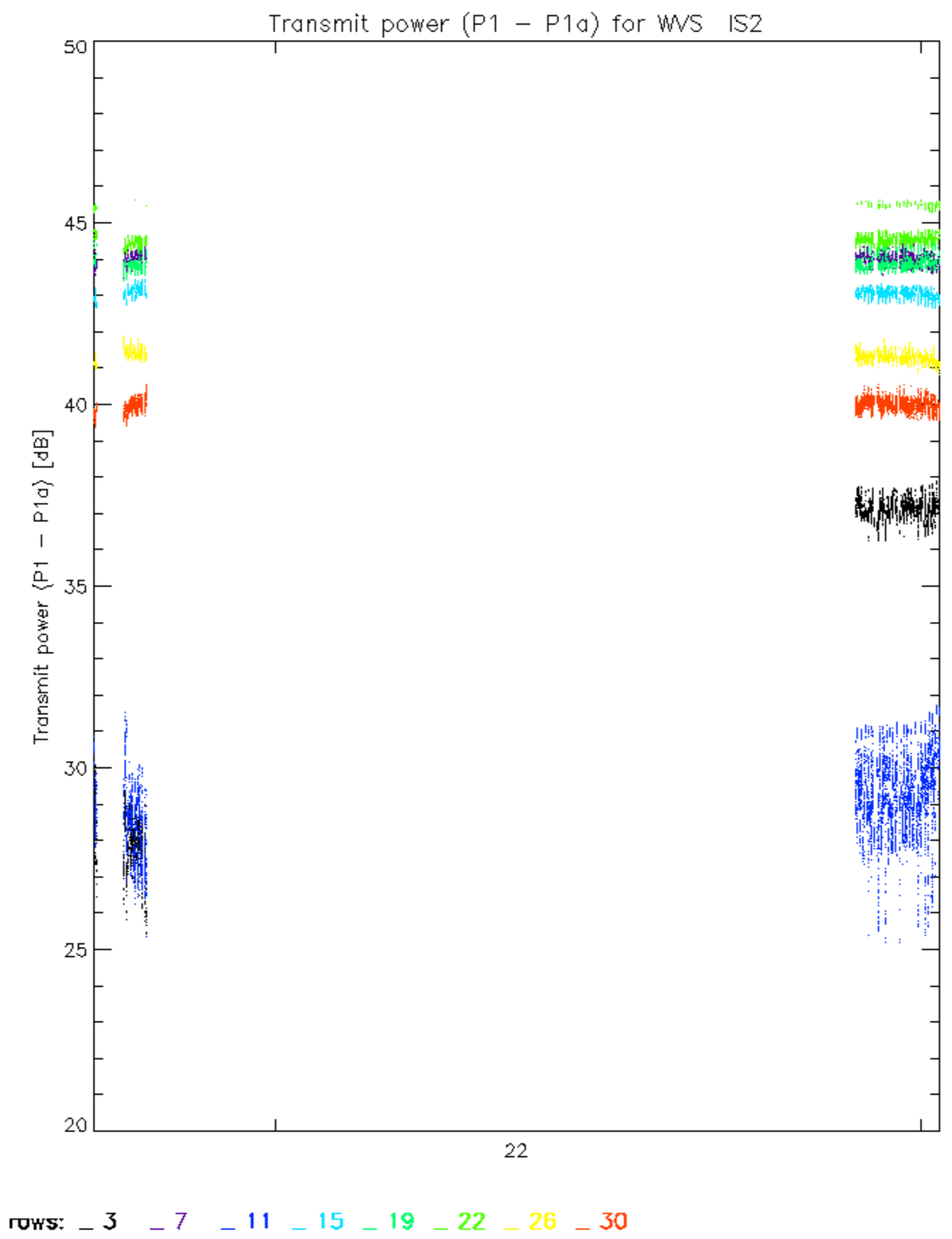
22

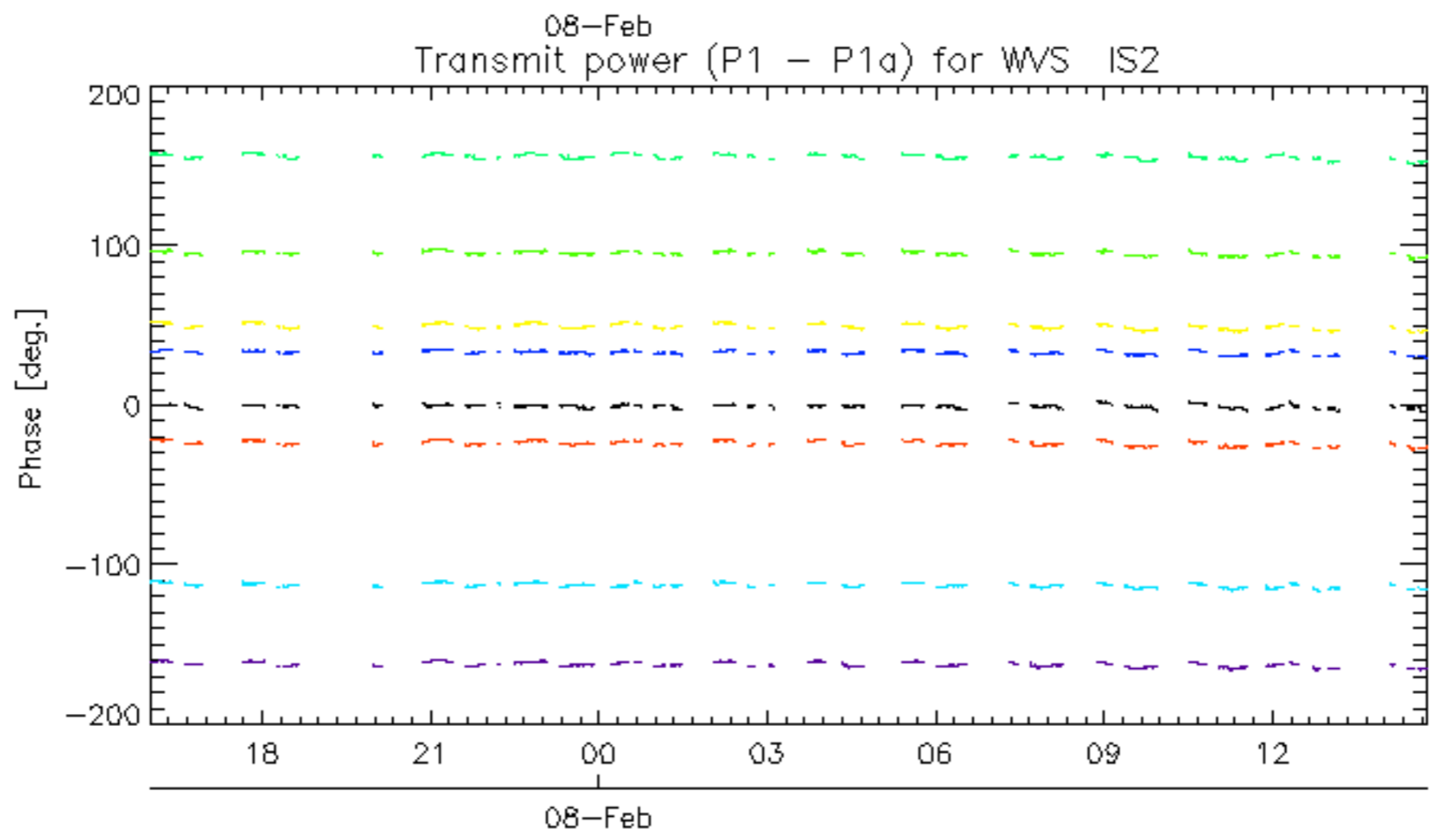
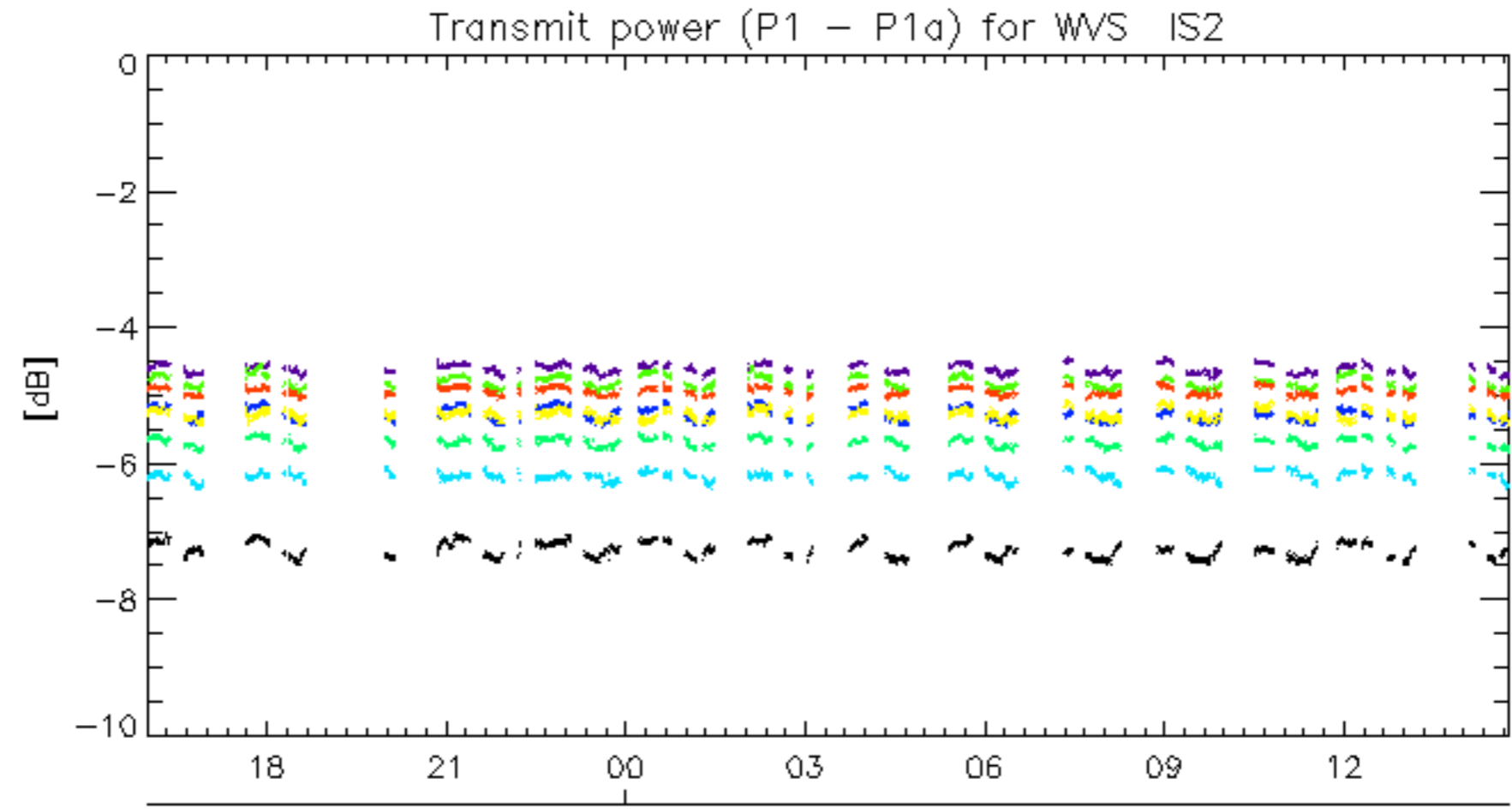
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



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







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

No unavailabilities during the reported period.