

# PRELIMINARY REPORT OF 070328

last update on Wed Mar 28 23:55:18 GMT 2007

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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 2007-03-27 00:00:00 to 2007-03-28 23:55:18

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20070222_190441_20070204_165113_20071231_000000	23	47	3	2	20
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	49	98	4	3	37
ASA_CON_AXVIEC20070326_152930_20070327_000000_20070328_000000	26	51	1	1	17
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	49	98	4	3	37
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	49	98	4	3	37

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20070222_190441_20070204_165113_20071231_000000	24	34	17	6	21
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	48	66	45	10	62
ASA_CON_AXVIEC20070326_152930_20070327_000000_20070328_000000	24	32	28	4	41
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	48	66	45	10	62
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	48	66	45	10	62

## 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	20070327 042852
H	20070328 071827

### 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
☒
☒

#### 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	-15.103862	0.125732	0.079861
7	P1a	-17.485830	0.102782	-0.112481
11	P1a	-17.264643	0.344835	0.029009
15	P1a	-12.883528	0.087740	0.025598
19	P1a	-15.167249	0.077001	-0.061500
22	P1a	-15.518483	0.558801	-0.486537
26	P1a	-15.091157	0.439877	-0.203624
30	P1a	-17.410372	0.295392	-0.230170

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.745358	0.010565	-0.027004
7	P1	-3.135777	0.008546	-0.011031
11	P1	-4.172542	0.014975	-0.057867
15	P1	-6.373118	0.016594	0.028353
19	P1	-3.776800	0.007507	-0.028819
22	P1	-4.684074	0.045938	-0.116130
26	P1	-3.927942	0.039176	-0.037881
30	P1	-5.924511	0.069439	-0.128848

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.643677	0.093621	0.038724
7	P2	-21.603216	0.082692	0.034255
11	P2	-15.495899	0.101917	0.154882
15	P2	-7.081815	0.094404	-0.049471
19	P2	-9.108513	0.083699	-0.015637
22	P2	-18.092060	0.078152	0.033373
26	P2	-16.560989	0.086167	-0.057641
30	P2	-19.317896	0.081959	0.094438

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.234216	0.006485	0.002776
7	P3	-8.234216	0.006485	0.002776
11	P3	-8.234216	0.006485	0.002776
15	P3	-8.234216	0.006485	0.002776
19	P3	-8.234216	0.006485	0.002776
22	P3	-8.234216	0.006485	0.002776
26	P3	-8.234144	0.006487	0.003076
30	P3	-8.234144	0.006487	0.003076

**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	-11.098672	0.052688	-0.090067
7	P1a	-10.070560	0.133242	-0.004508
11	P1a	-10.680188	0.063132	-0.020452
15	P1a	-10.933993	0.143799	0.120988
19	P1a	-15.718219	0.071820	-0.139828
22	P1a	-20.915897	1.516172	-0.190292
26	P1a	-15.264351	0.323633	-0.141004
30	P1a	-18.373882	0.700108	0.043263

**P1t Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-8.414412	0.039791	-0.055755
7	P1	-2.425779	0.022543	-0.002857
11	P1	-2.920247	0.019143	0.018427
15	P1	-3.847460	0.039303	-0.000107
19	P1	-3.563745	0.011173	-0.039339
22	P1	-5.028931	0.032247	0.053356

26	P1	-5.958748	0.052237	-0.068975
30	P1	-5.277732	0.031136	-0.043843

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.106886	0.037673	-0.037899
7	P2	-21.959362	0.061527	-0.047640
11	P2	-10.635411	0.033621	0.024661
15	P2	-4.835166	0.031710	-0.053198
19	P2	-6.815531	0.033947	-0.028880
22	P2	-8.079975	0.034123	-0.014400
26	P2	-24.289997	0.042191	0.015701
30	P2	-21.719490	0.044270	0.033109

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.063126	0.004055	-0.019202
7	P3	-8.063044	0.004054	-0.019363
11	P3	-8.063128	0.004052	-0.019533
15	P3	-8.063231	0.004058	-0.019209
19	P3	-8.063115	0.004064	-0.018722
22	P3	-8.063209	0.004061	-0.019739
26	P3	-8.062960	0.004037	-0.019187
30	P3	-8.063087	0.004046	-0.019367

## 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	0.000643425
	stdev	2.65013e-07
MEAN Q	mean	0.000345860
	stdev	2.77203e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.102562
	stdev	0.00239753
STDEV Q	mean	0.102519
	stdev	0.00245424



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2007032[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_1PNPDE20070328_143307_000000372056_00425_26531_0306.N1	1	0
ASA_GM1_1PNPDK20070326_142221_000001572056_00397_26503_4278.N1	0	6
ASA_GM1_1PNPDK20070328_172929_000005192056_00427_26533_7340.N1	0	7
ASA_WSM_1PNPDE20070326_185948_000000672056_00400_26506_7466.N1	0	54
ASA_WSM_1PNPDE20070327_004727_000000852056_00403_26509_7928.N1	0	26

ASA_WSM_1PNPDE20070327_140944_000000862056_00411_26517_8651.N1	0	22
ASA_WSM_1PNPDE20070327_150733_000000862056_00412_26518_8655.N1	0	33
ASA_WSM_1PNPDE20070327_183104_000000852056_00414_26520_8729.N1	0	16
ASA_WSM_1PNPDE20070328_001649_000002022056_00417_26523_9211.N1	0	26
ASA_WSM_1PNPDK20070326_140038_000000792056_00397_26503_4251.N1	0	16





## 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)

Ascending

Descending

#### 7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

Ascending

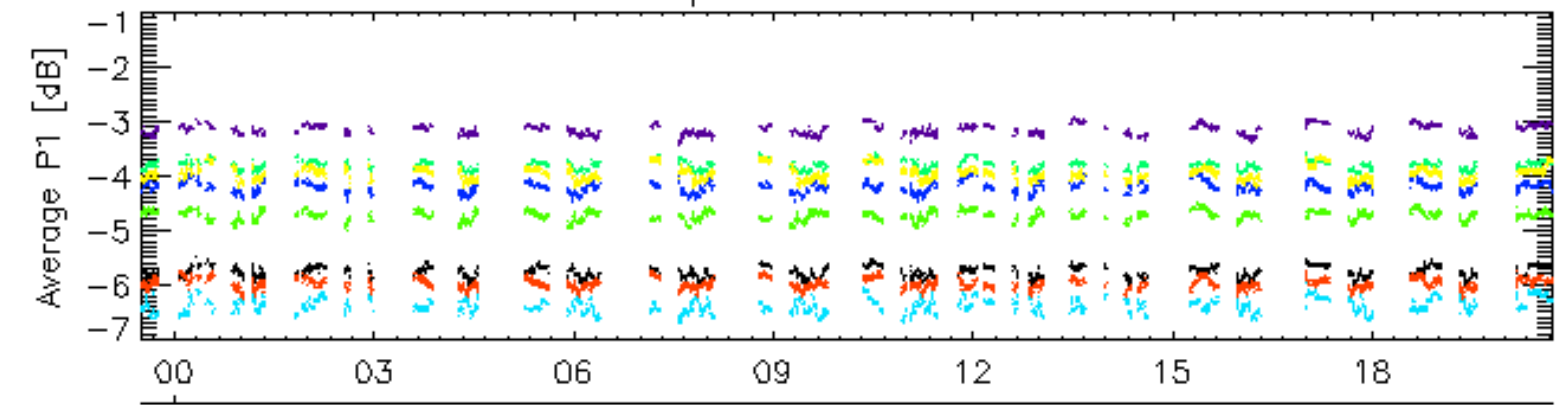
Descending

#### 7.6 - Doppler evolution versus ANX for GM1

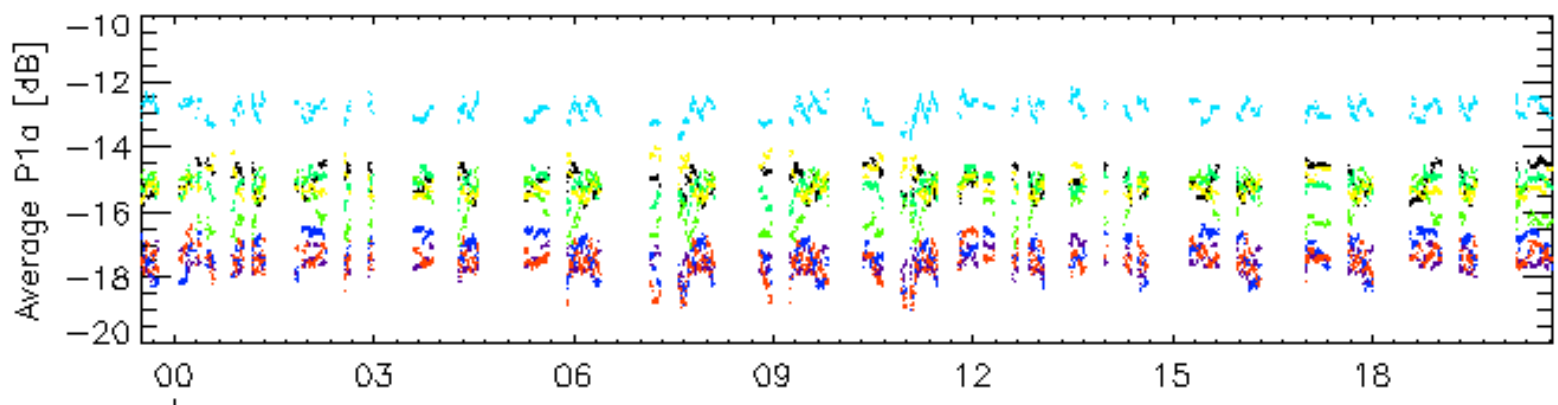
Evolution Doppler error versus ANX



Cal pulses for WVS IS2

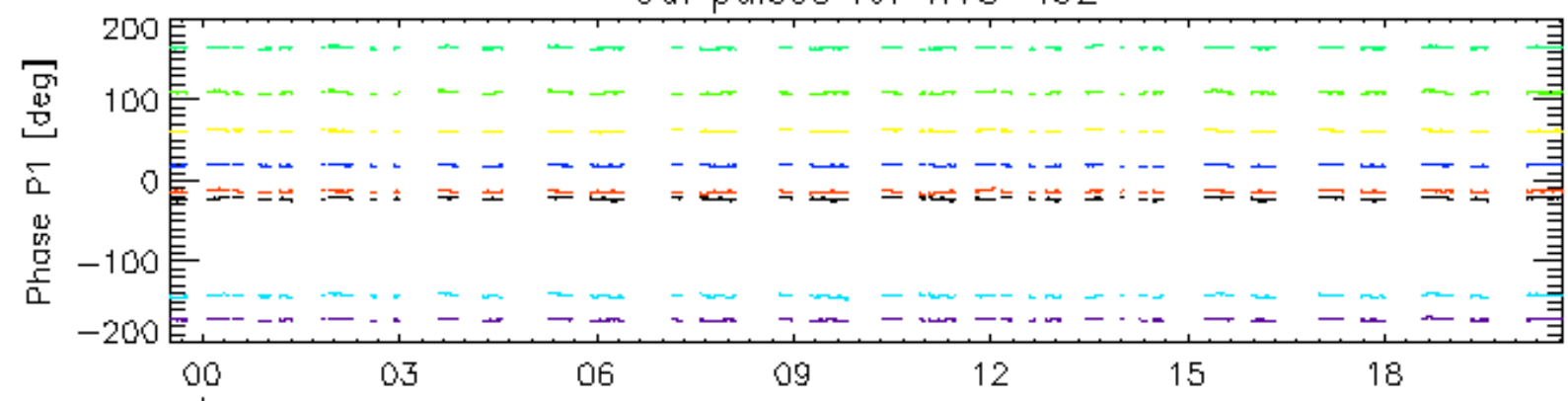


28-Mar

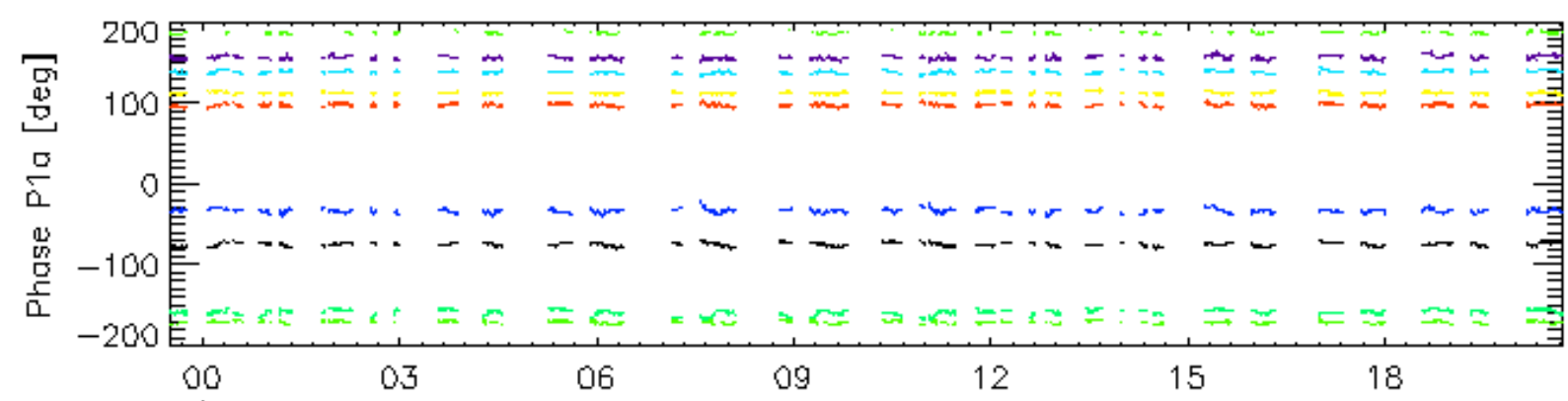


28-Mar

Cal pulses for WVS IS2



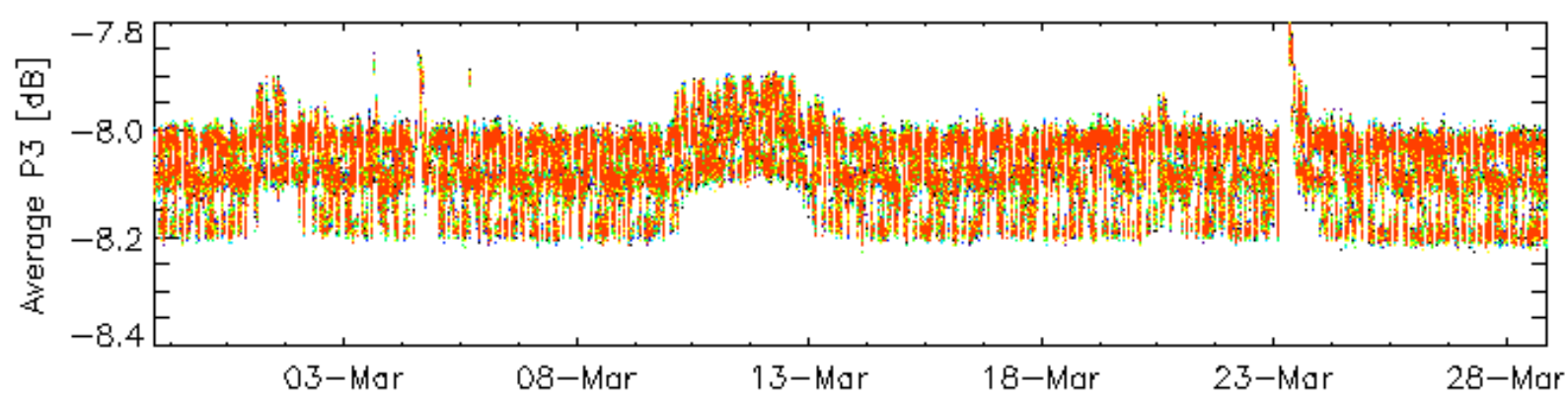
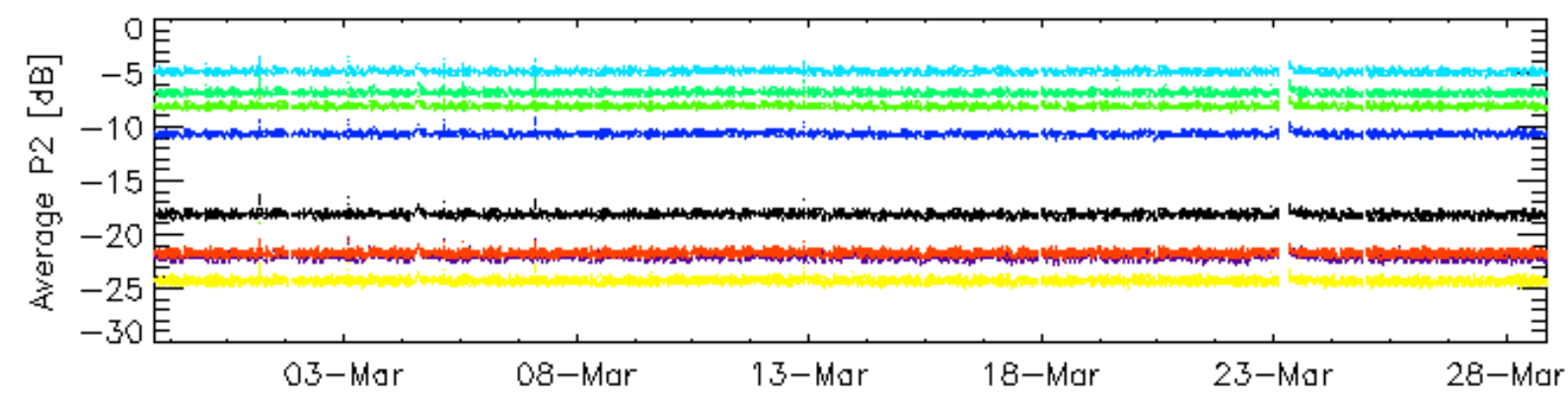
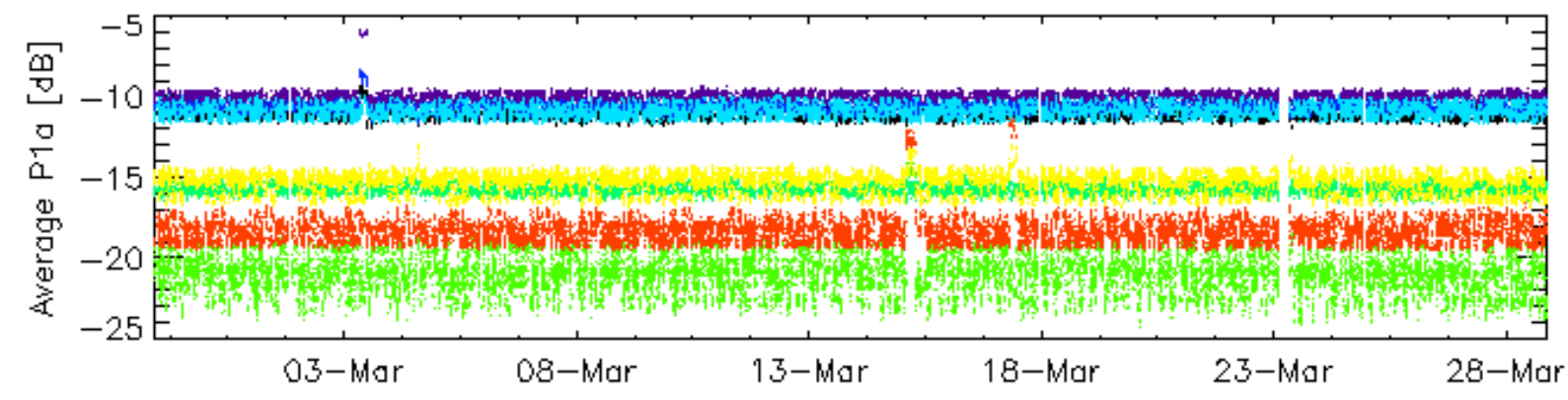
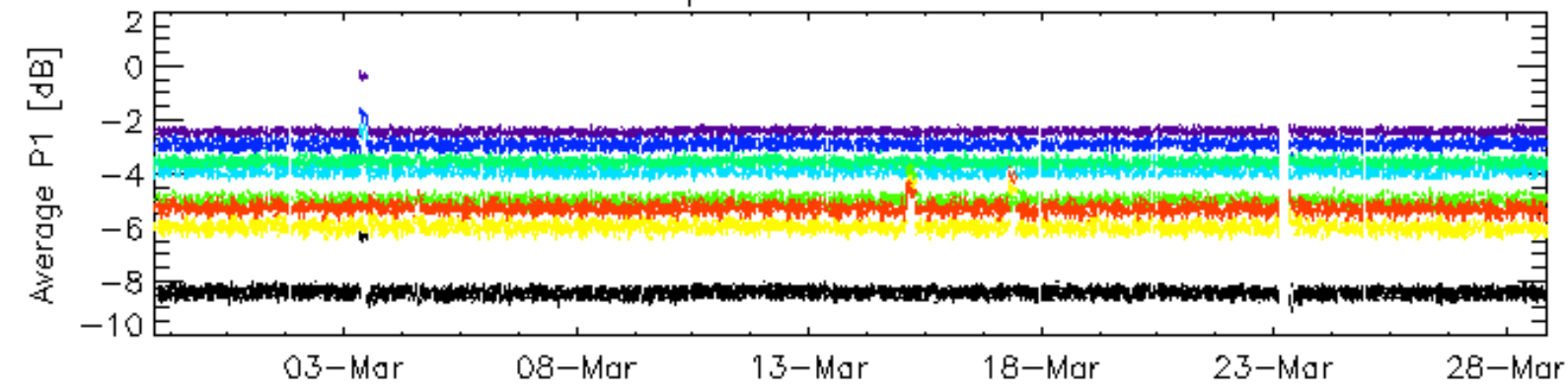
28-Mar



28-Mar

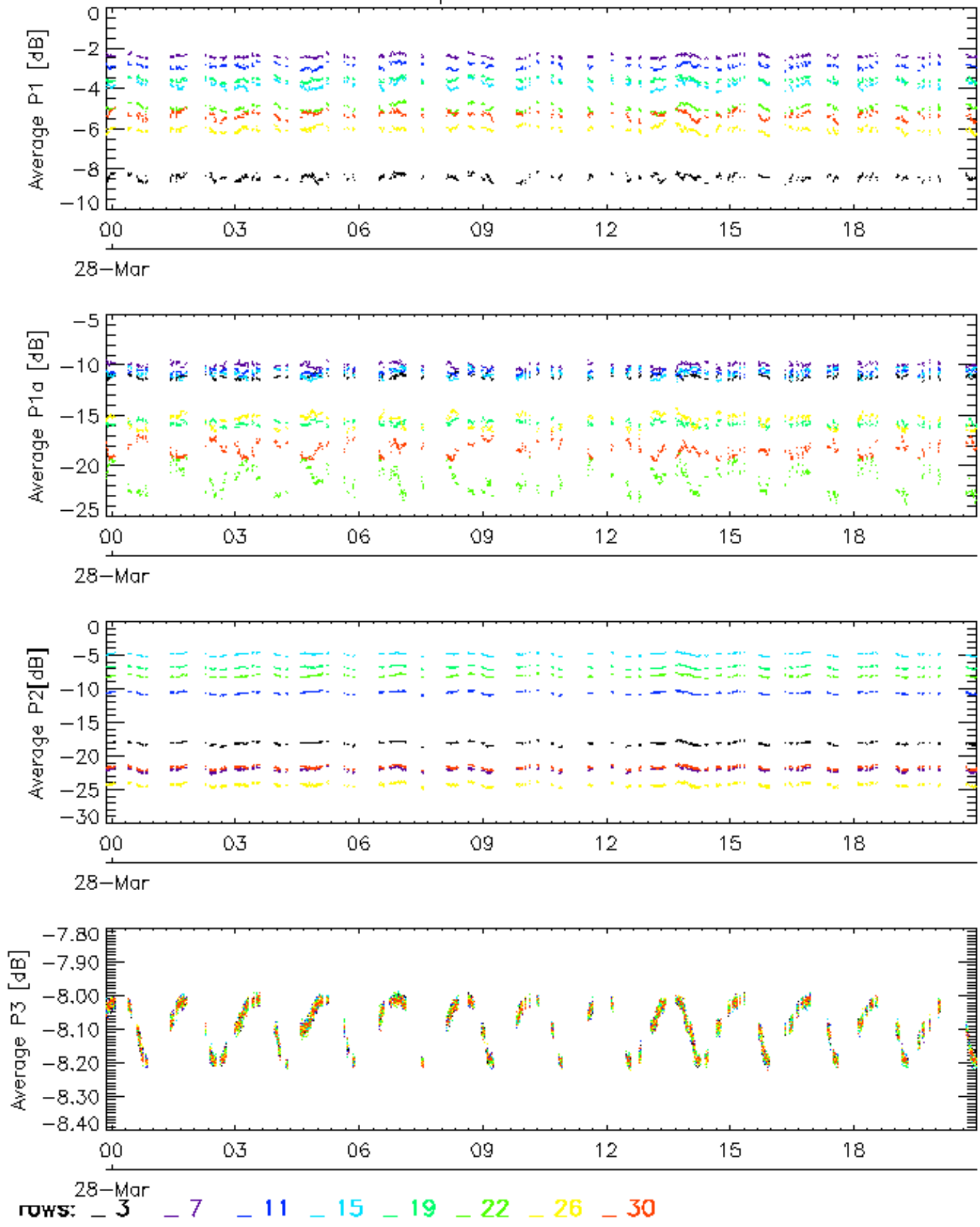
rows: - 3 - 7 - 11 - 15 - 19 - 22 - 26 - 30

### Cal pulses for GM1 SS3

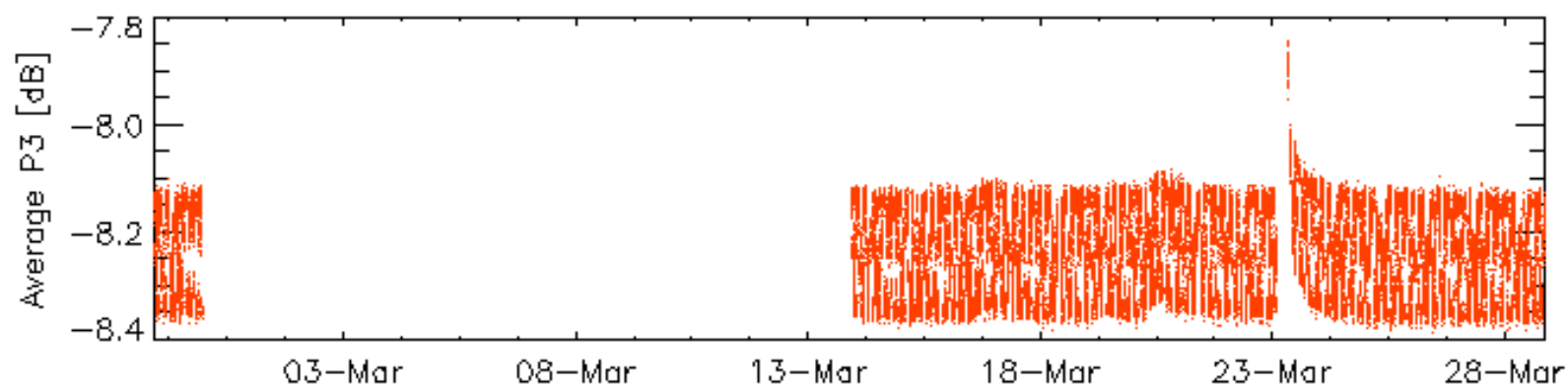
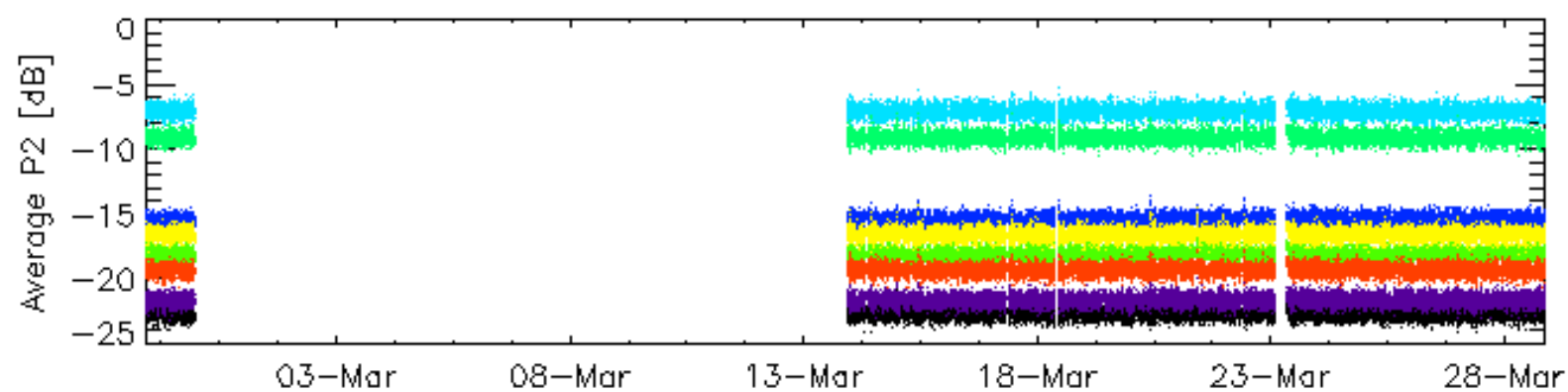
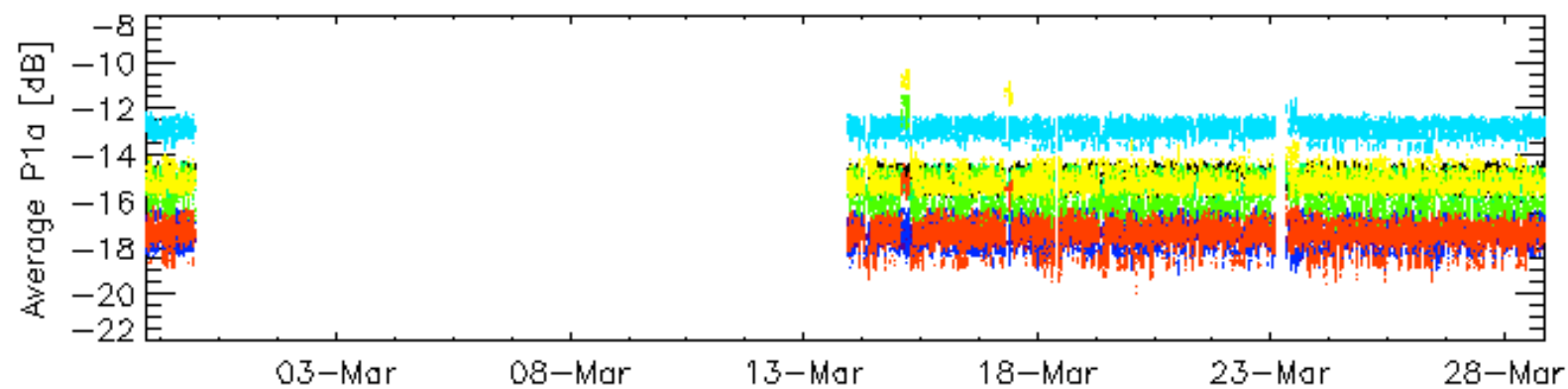
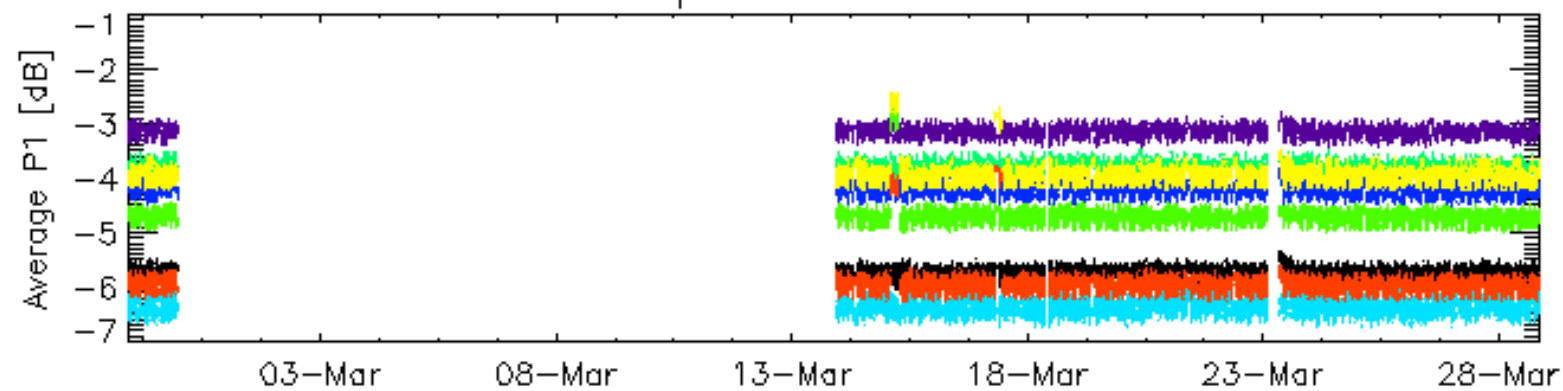


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

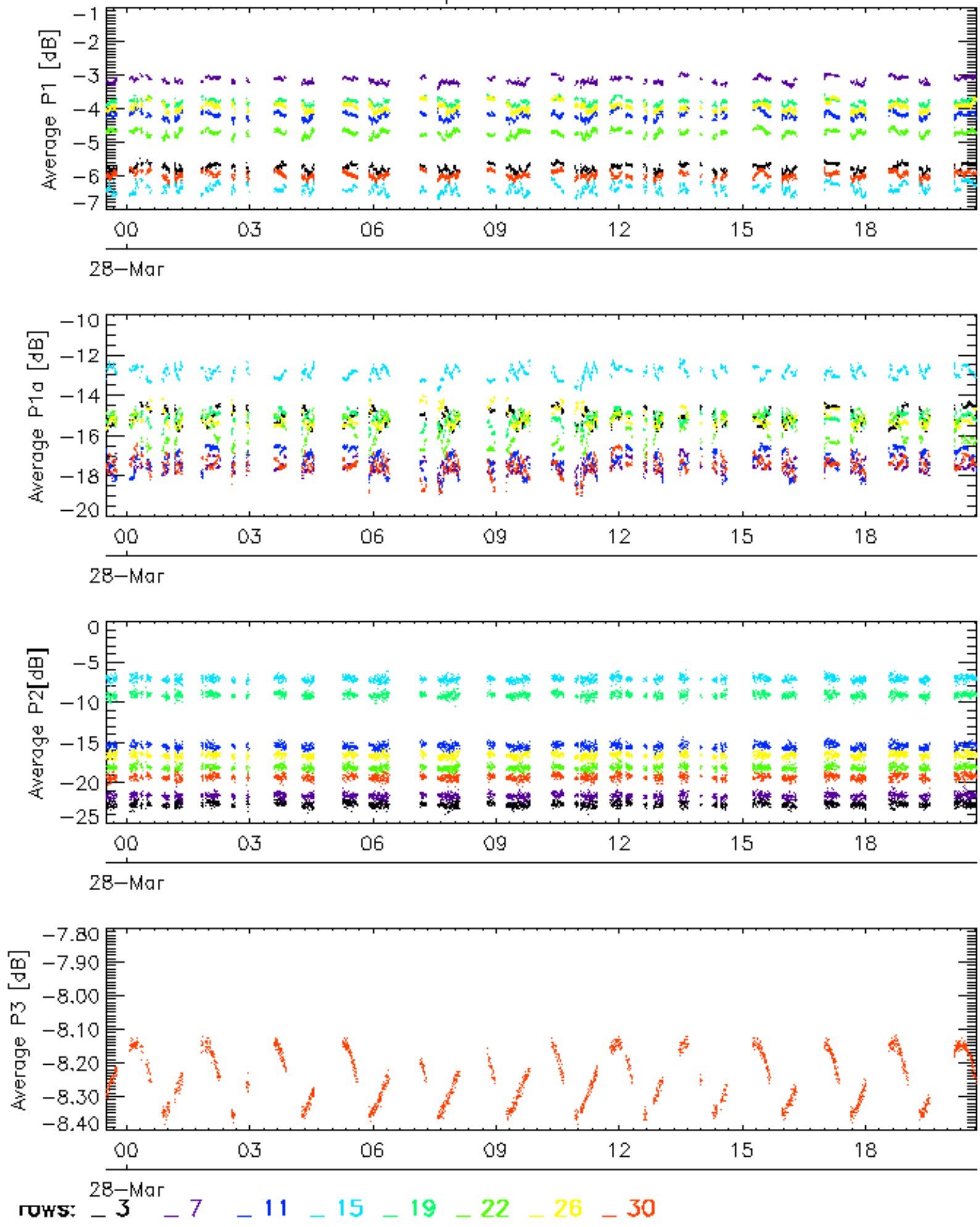


Cal pulses for WVS IS2



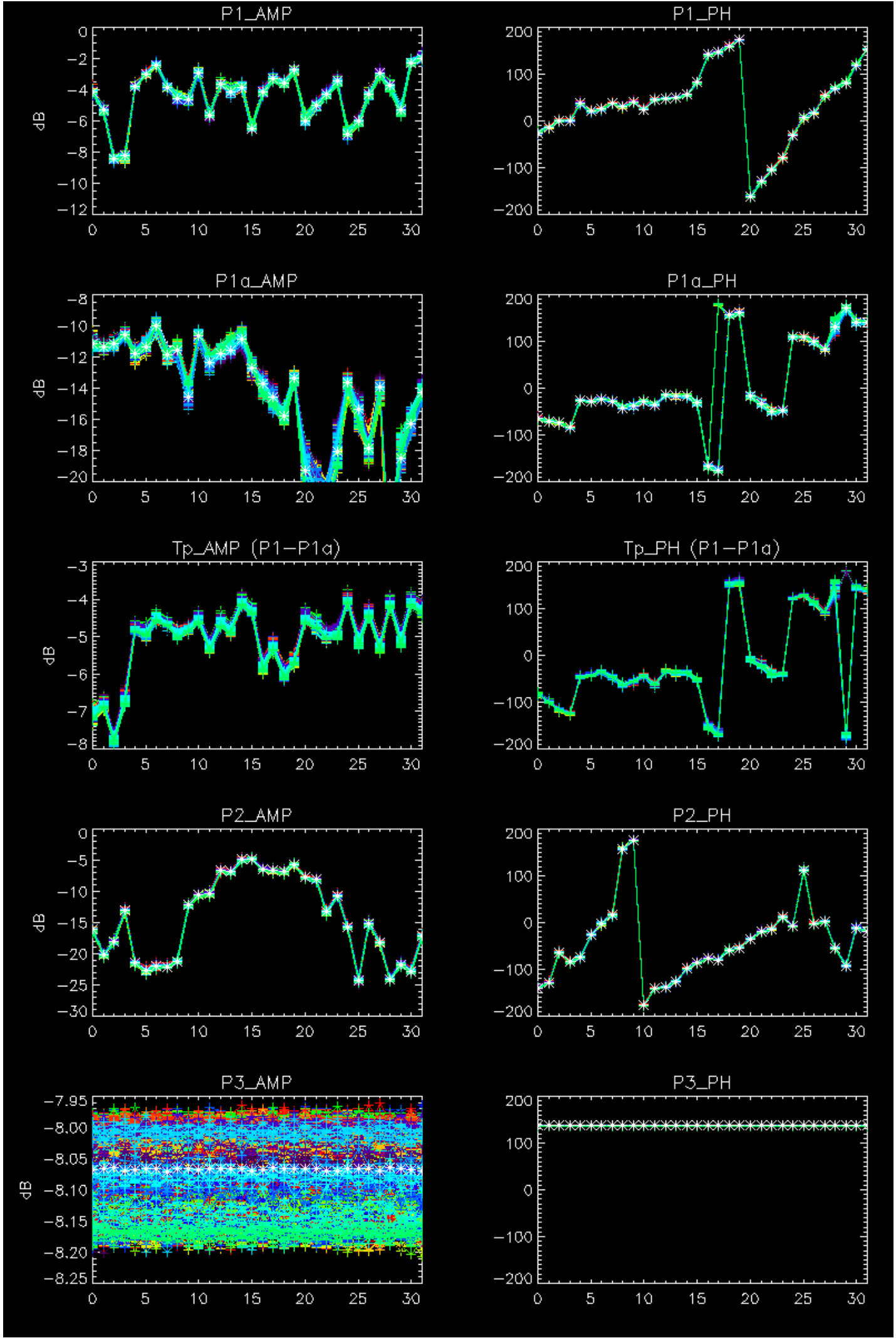
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

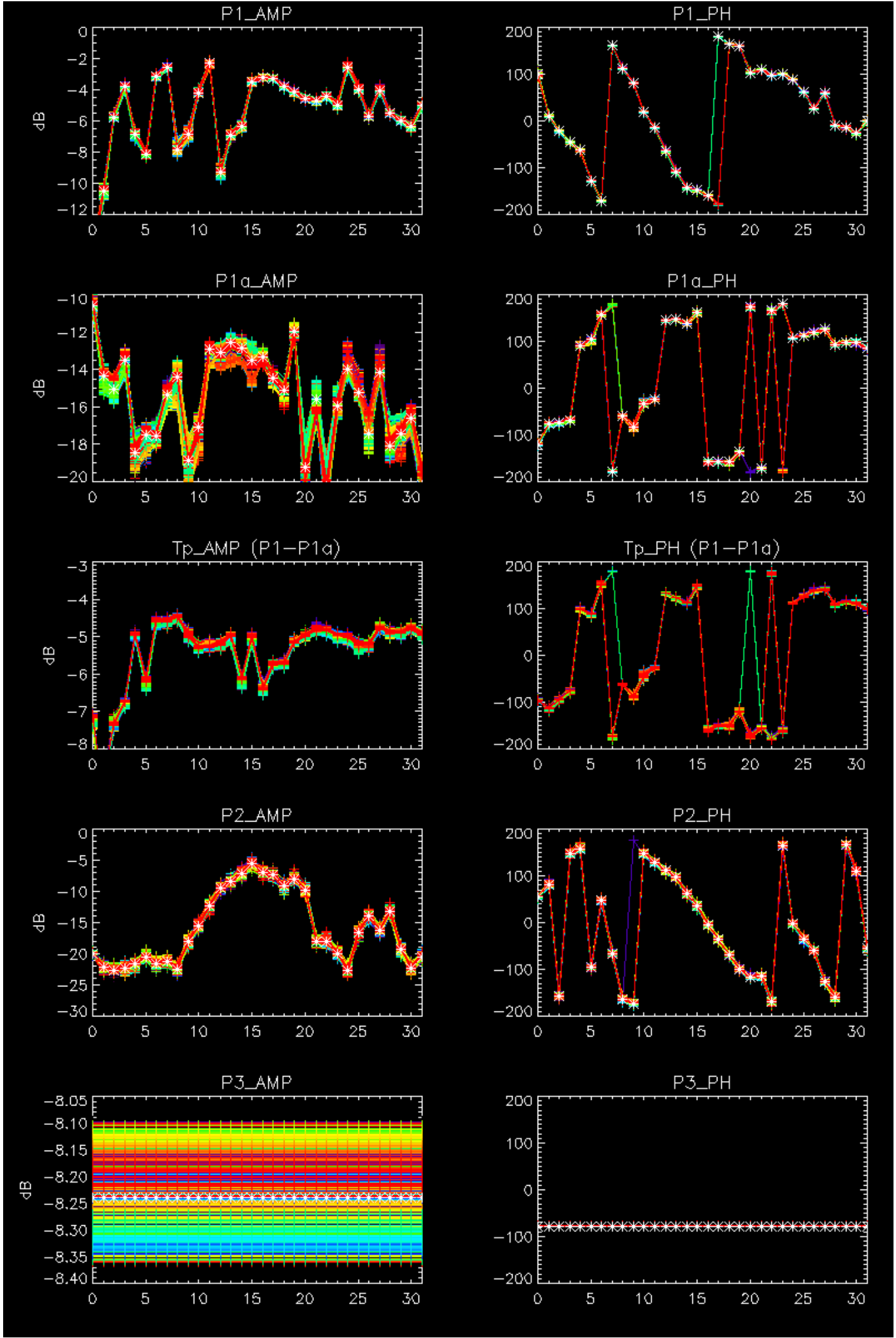
Cal pulses for WVS IS2



No anomalies observed.





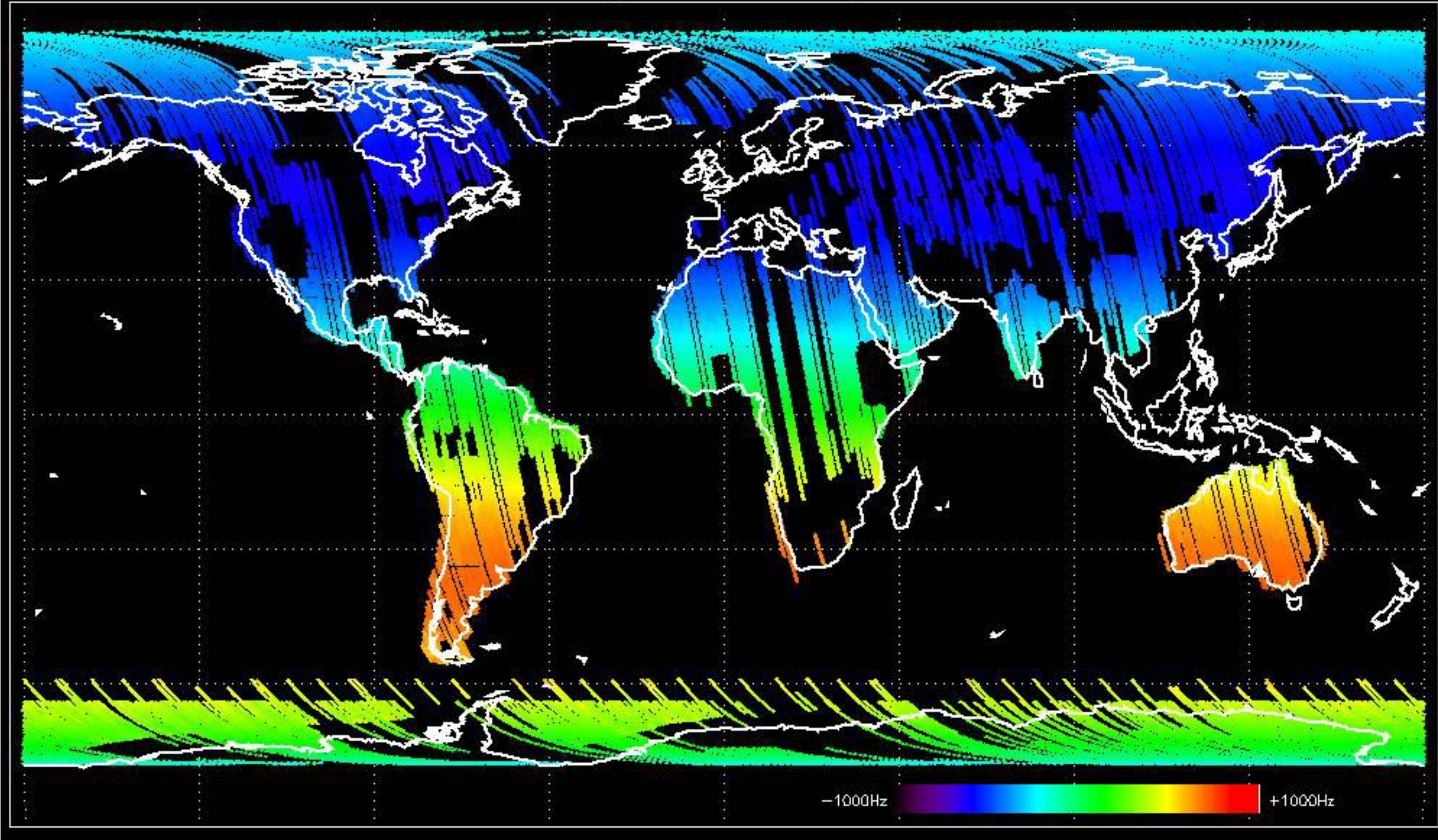


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



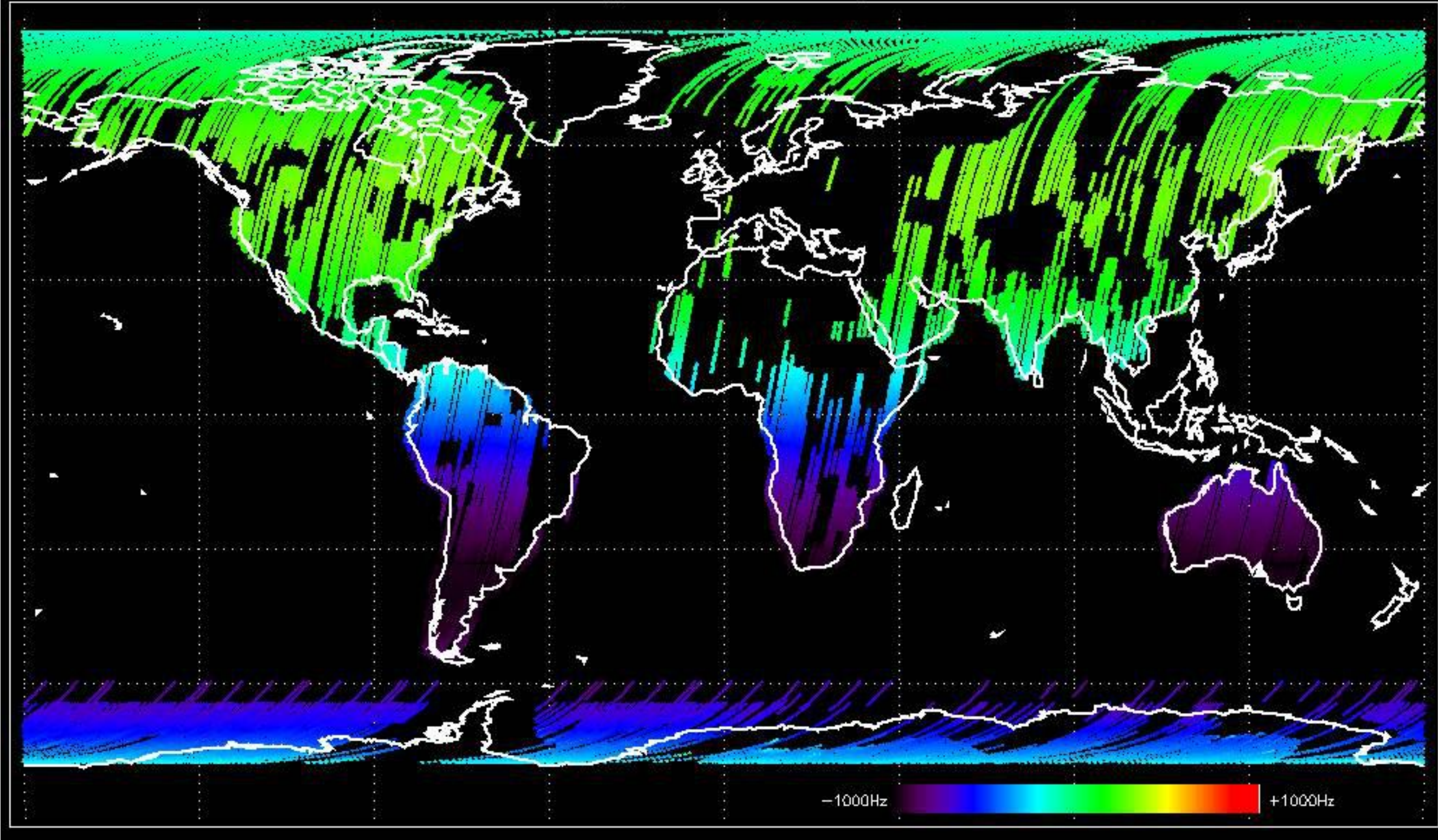


Doppler 'GM1' 'SS1' ascending



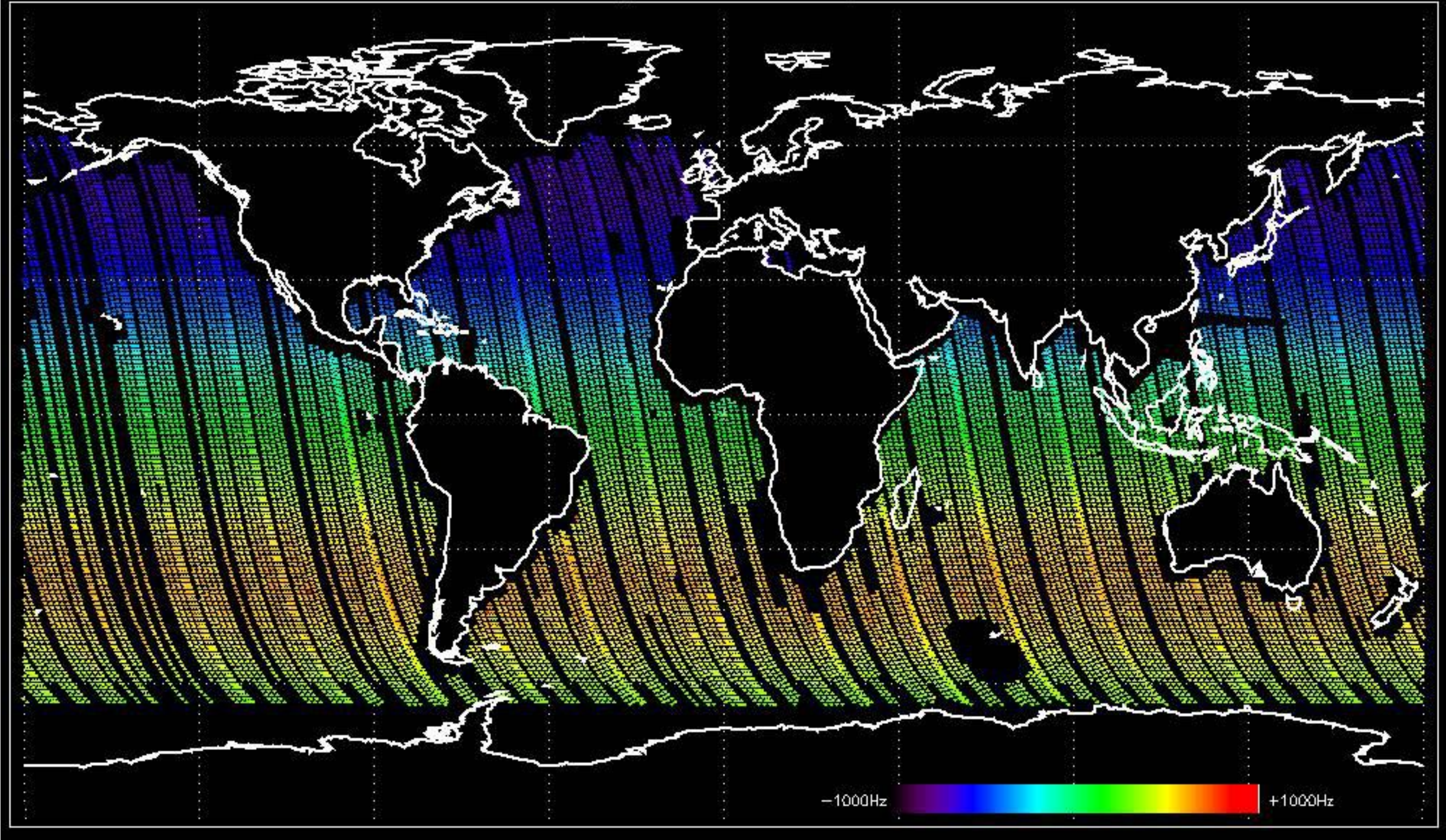


Doppler 'GM1' 'SS1' descending



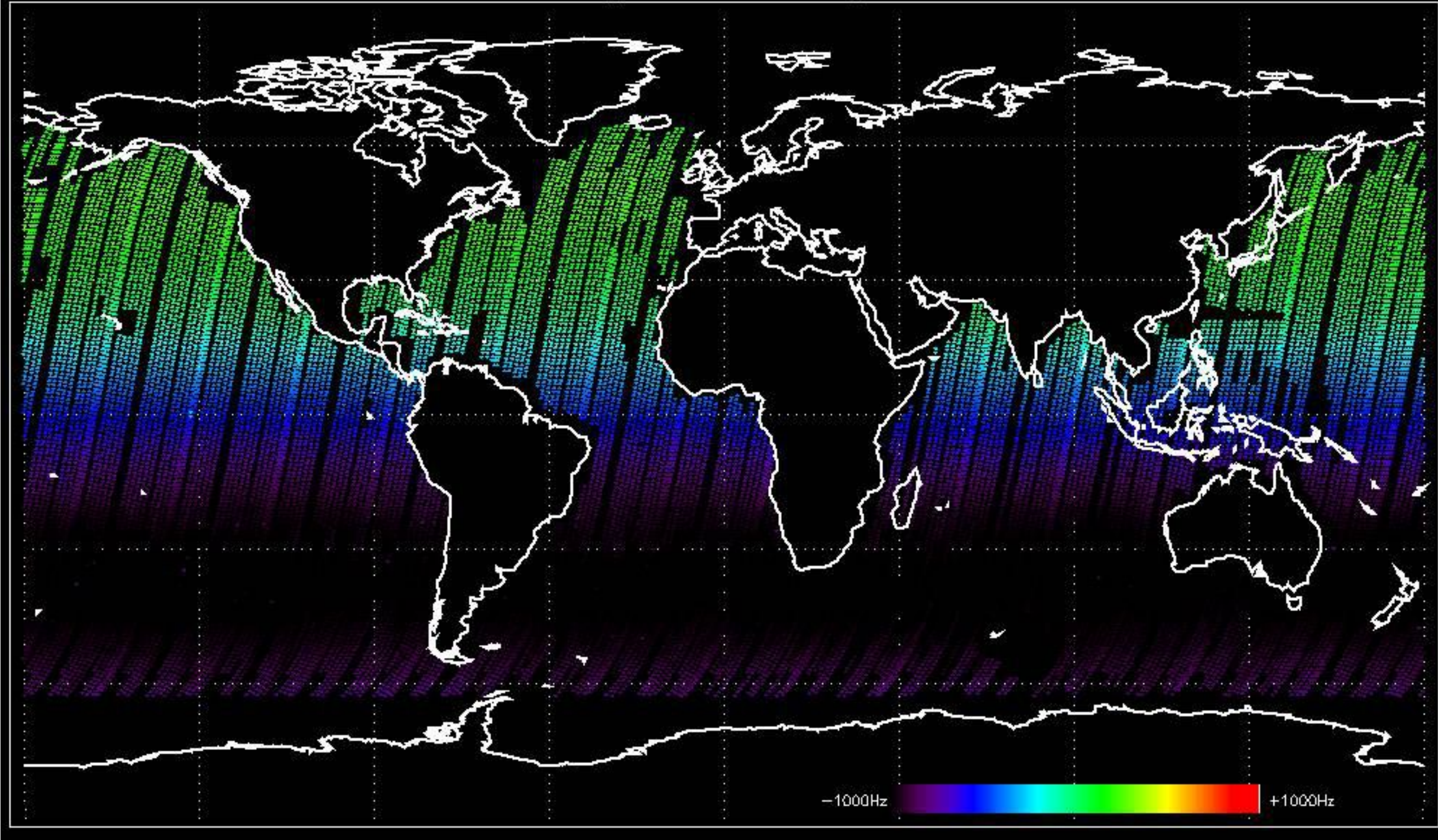


Doppler 'WVS' 'IS2' ascending

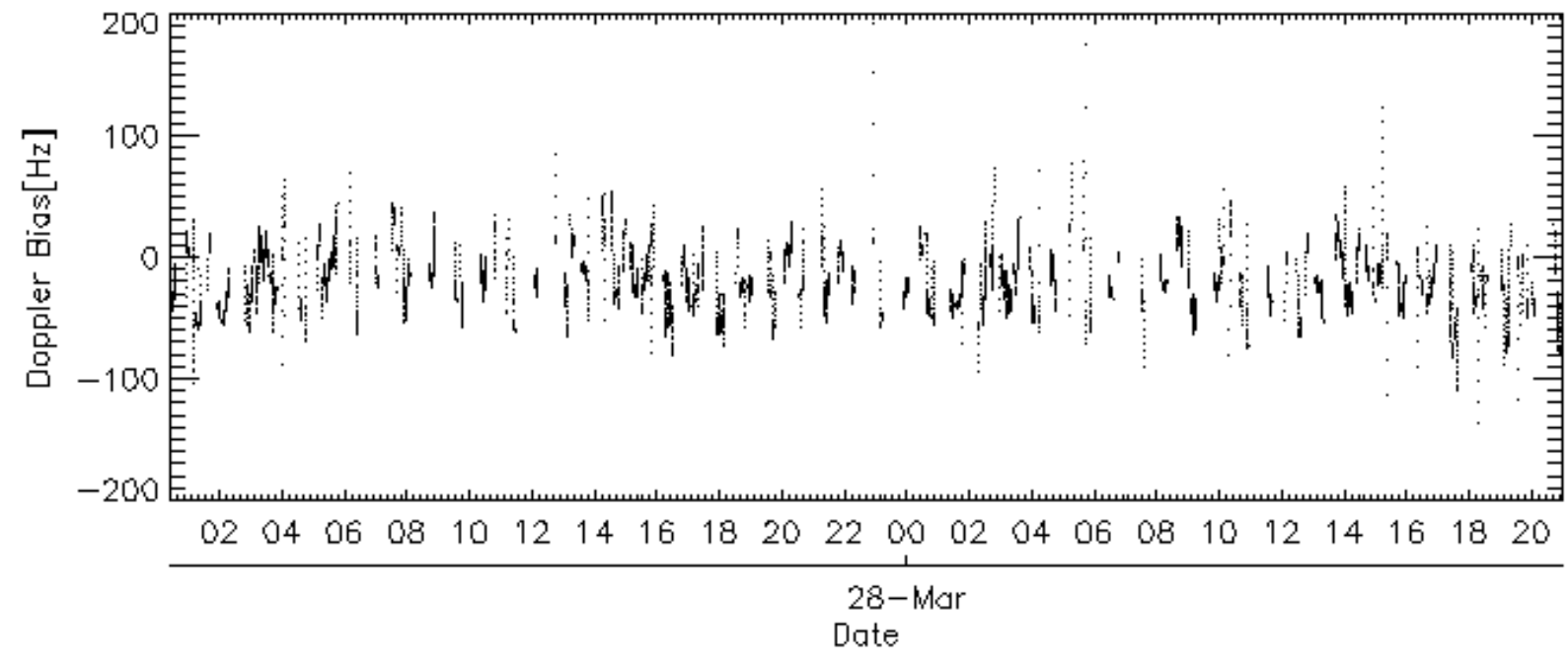
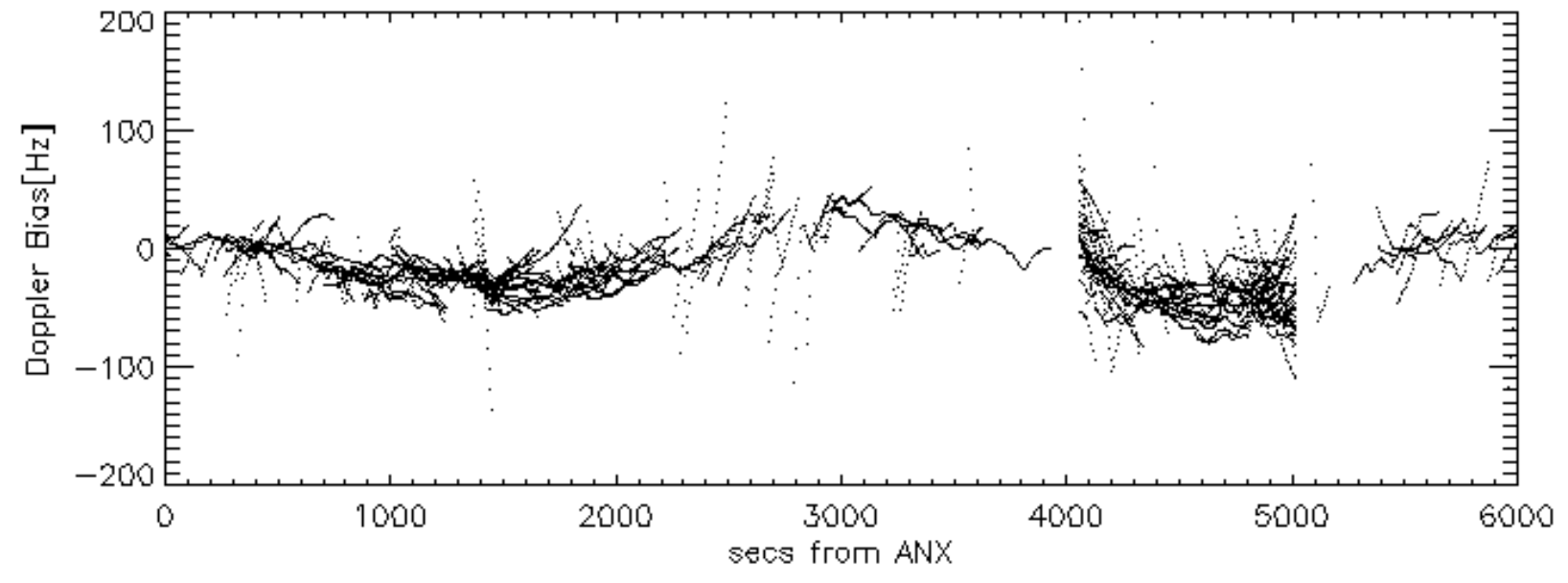
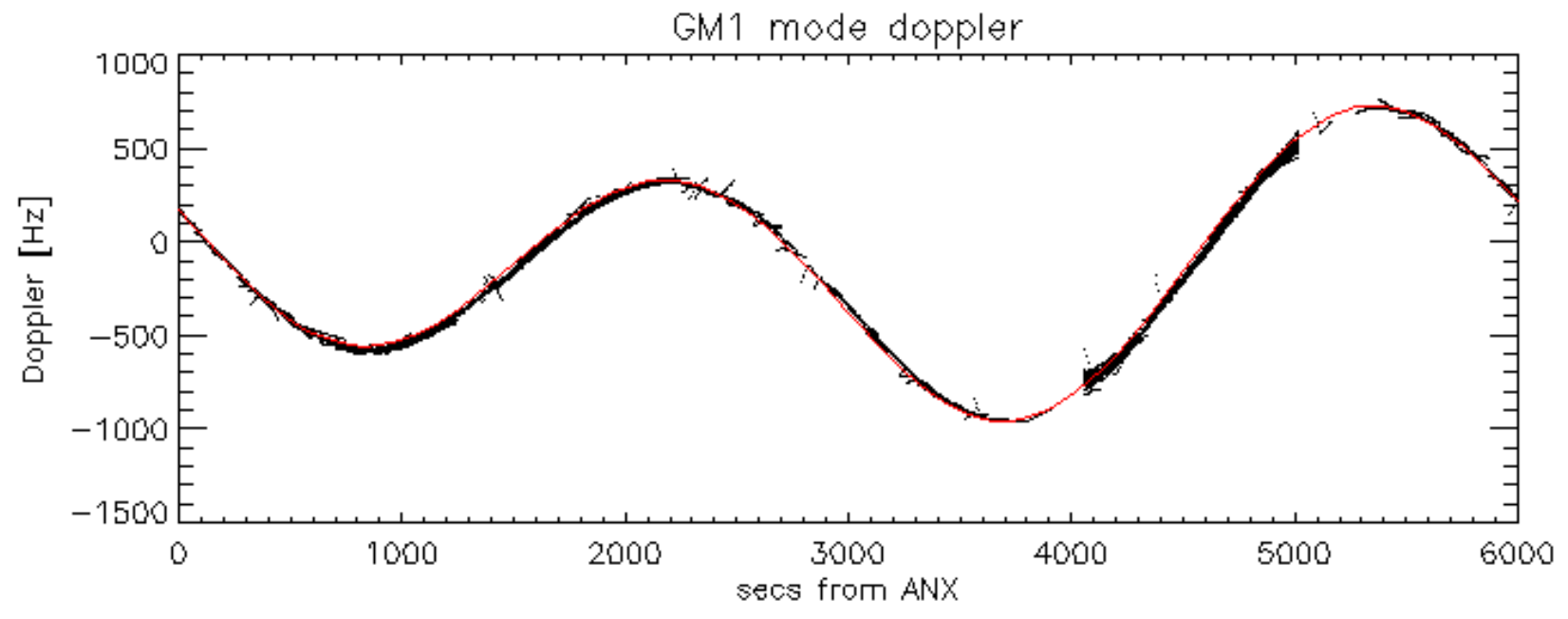


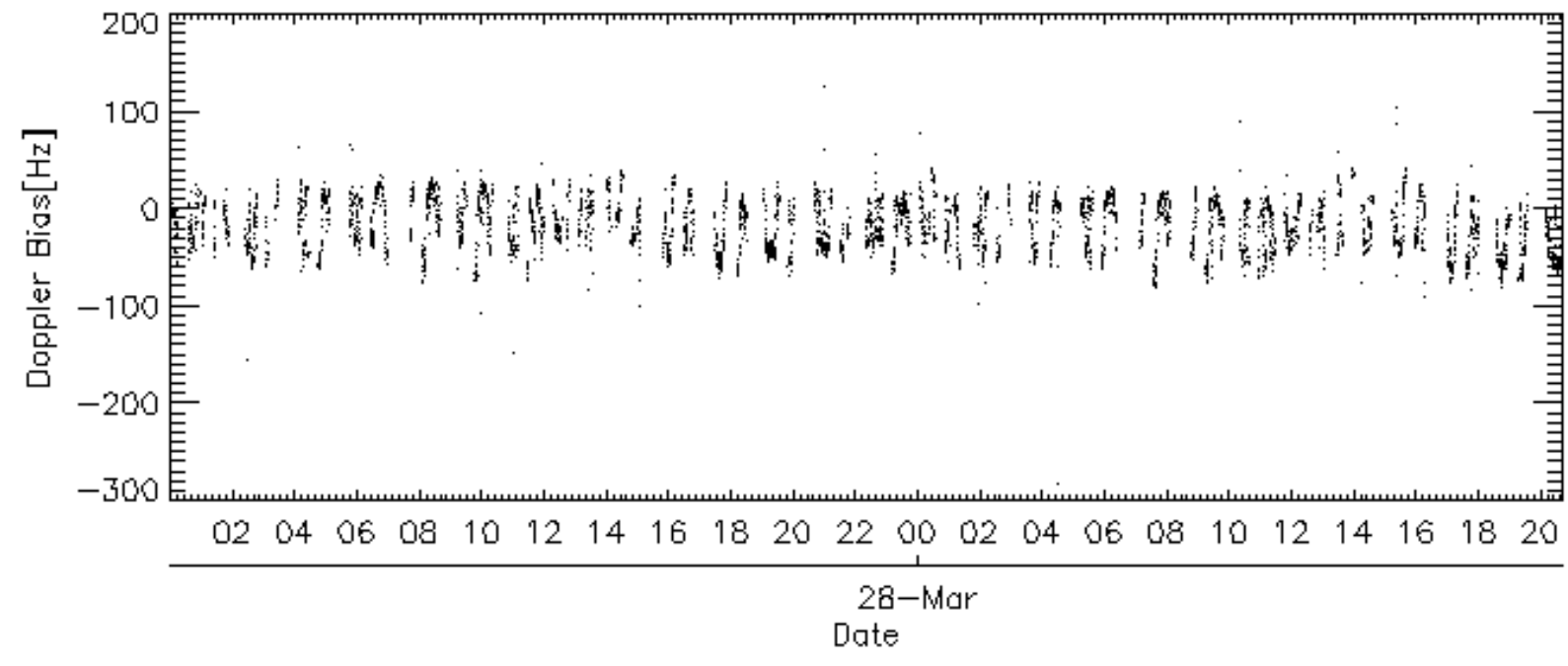
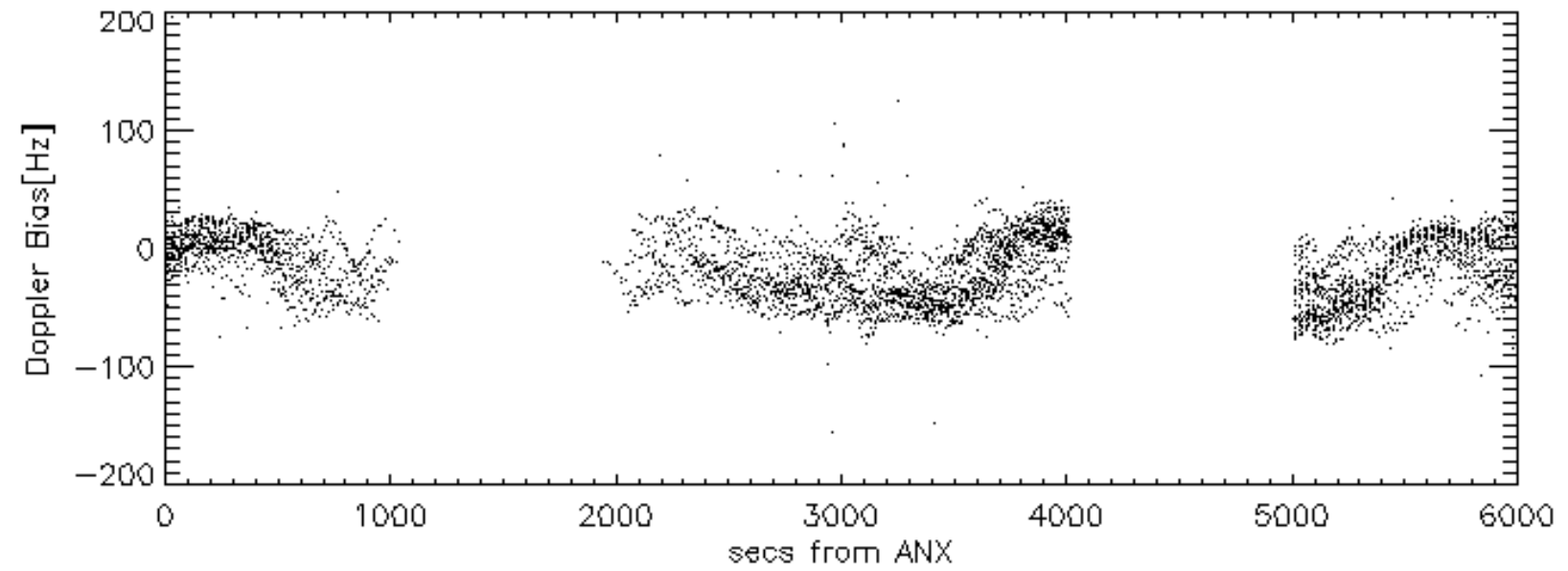
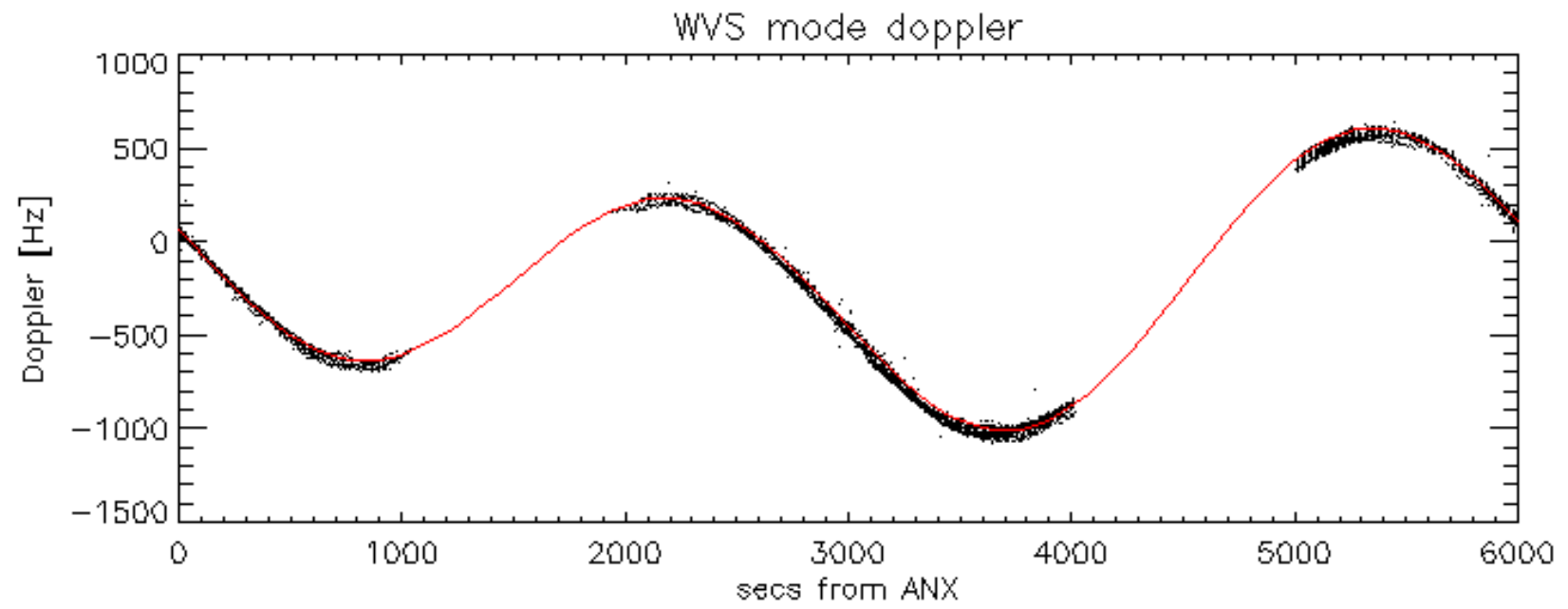


Doppler 'WVS' 'IS2' descending



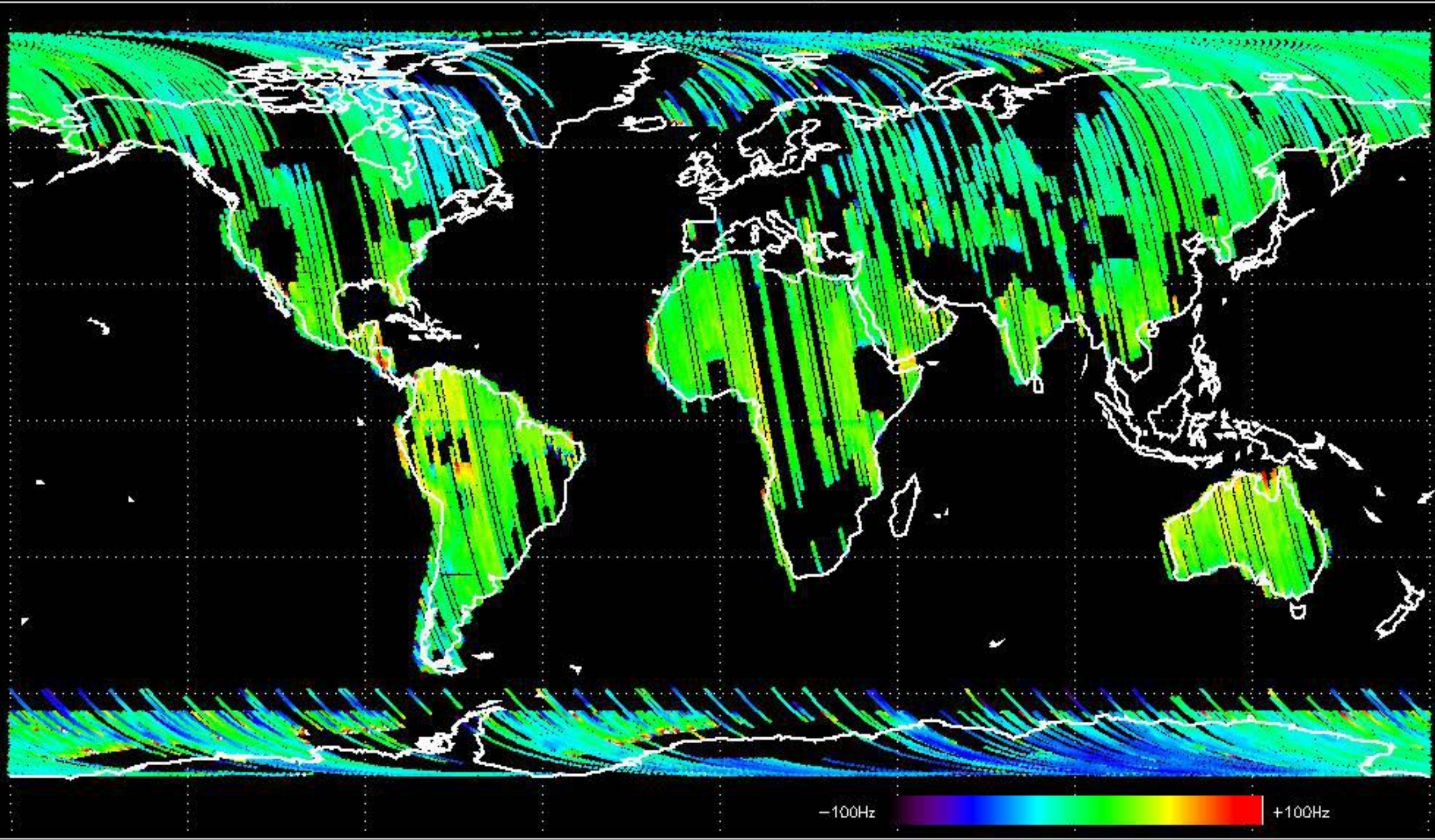








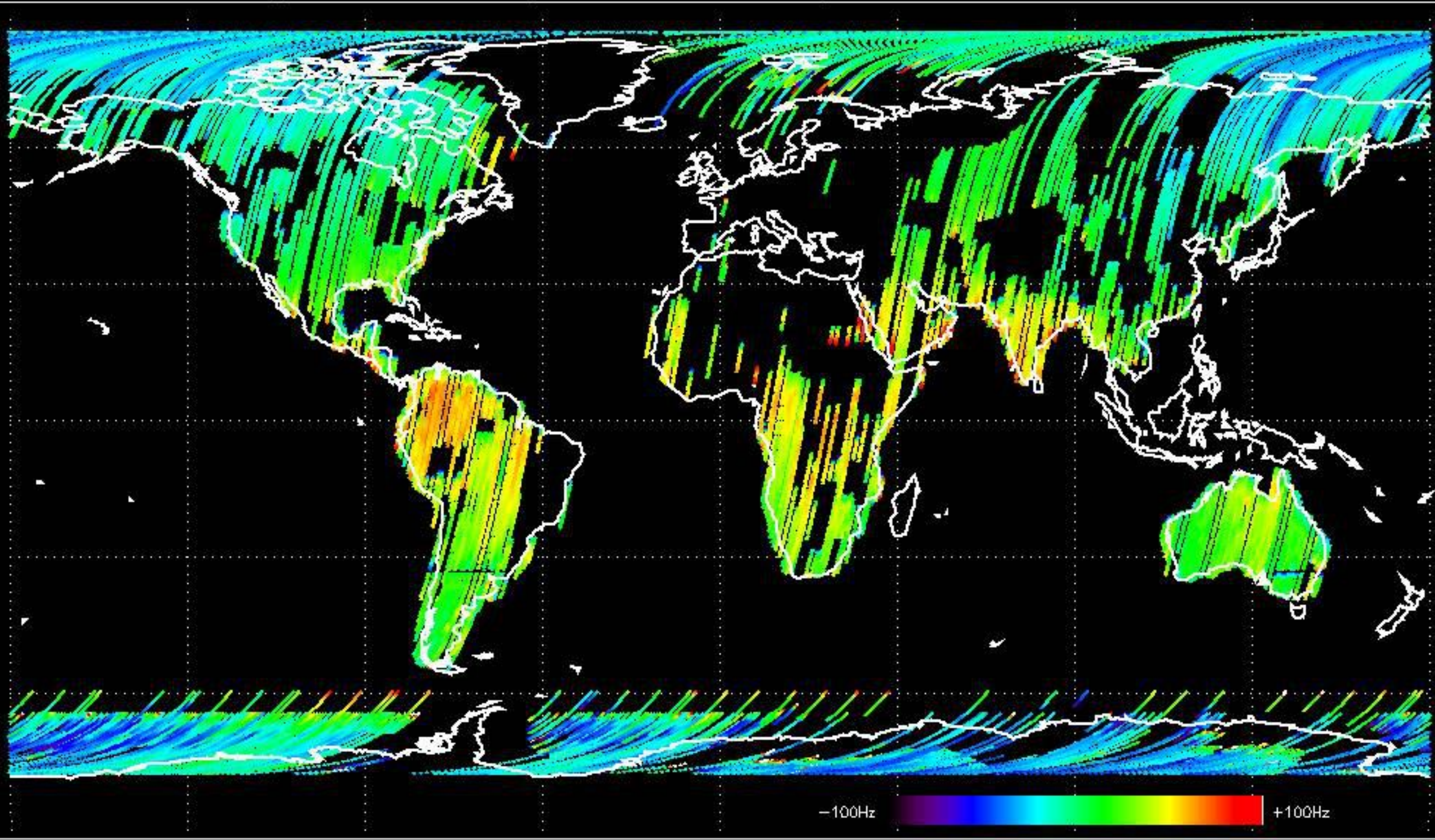
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -20.875785 Hz



-100Hz +100Hz

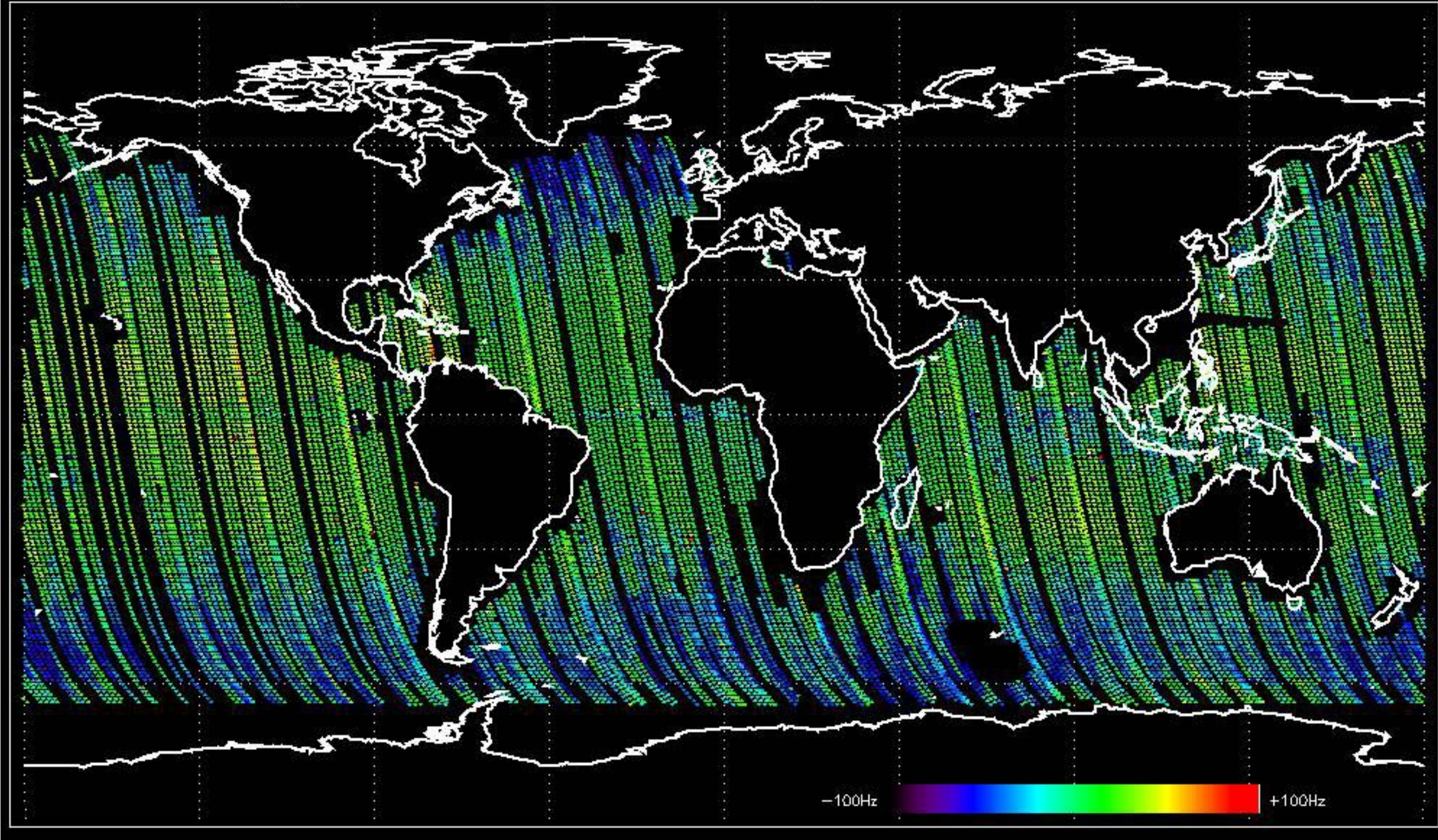


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -16.236362 Hz



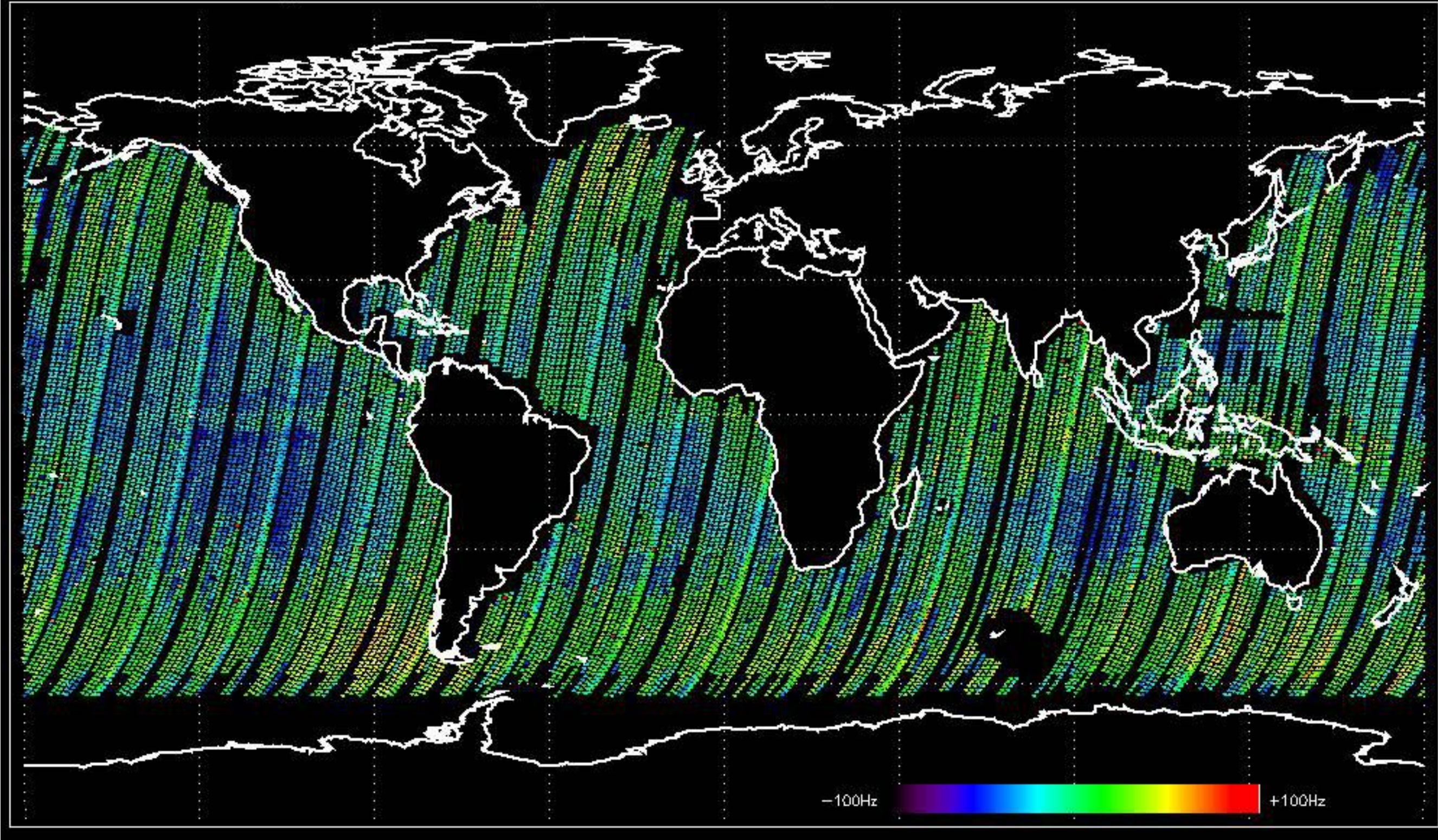


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -15.928001 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -15.535357 Hz





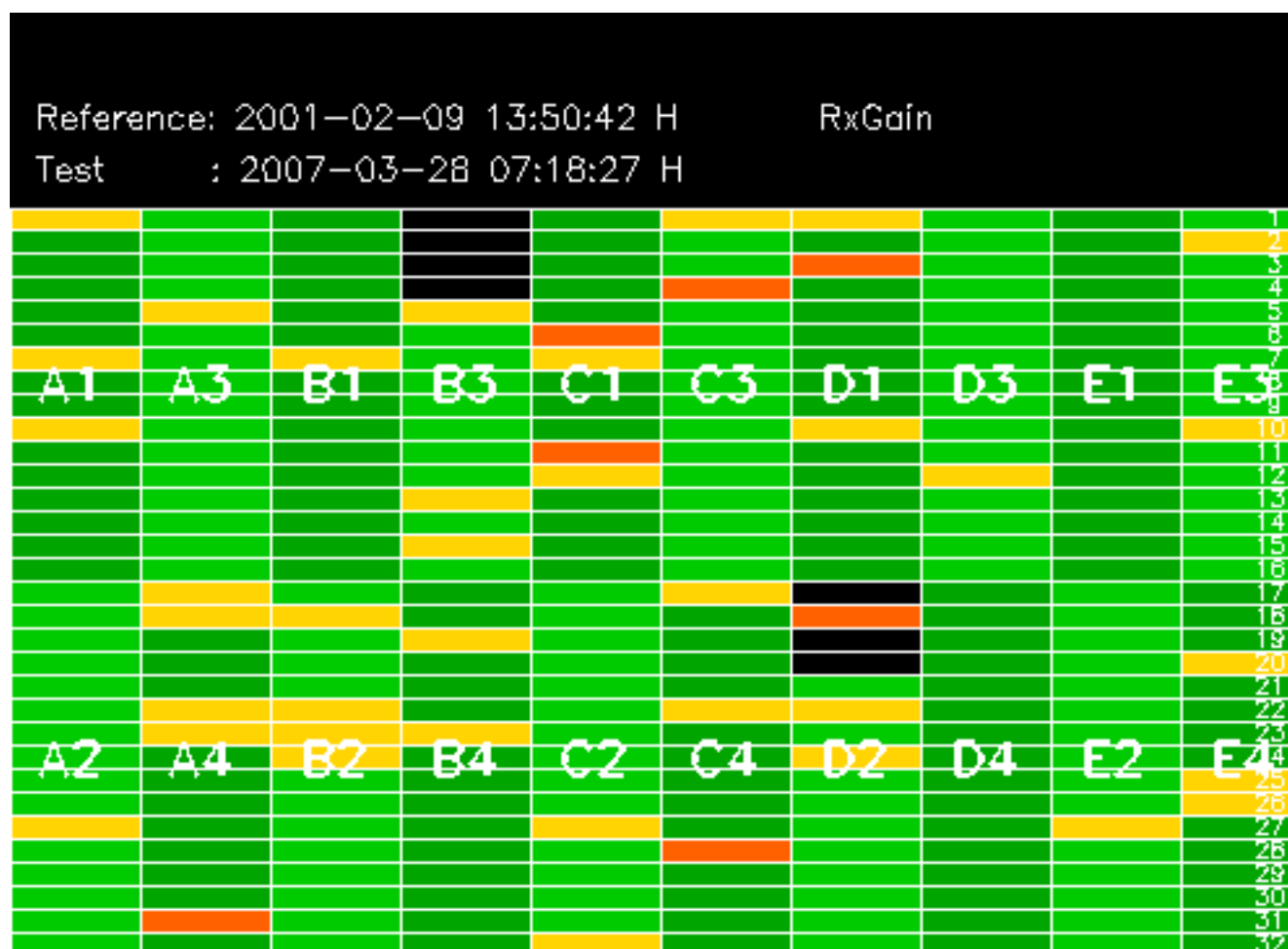
No anomalies observed on available MS products:

No anomalies observed.





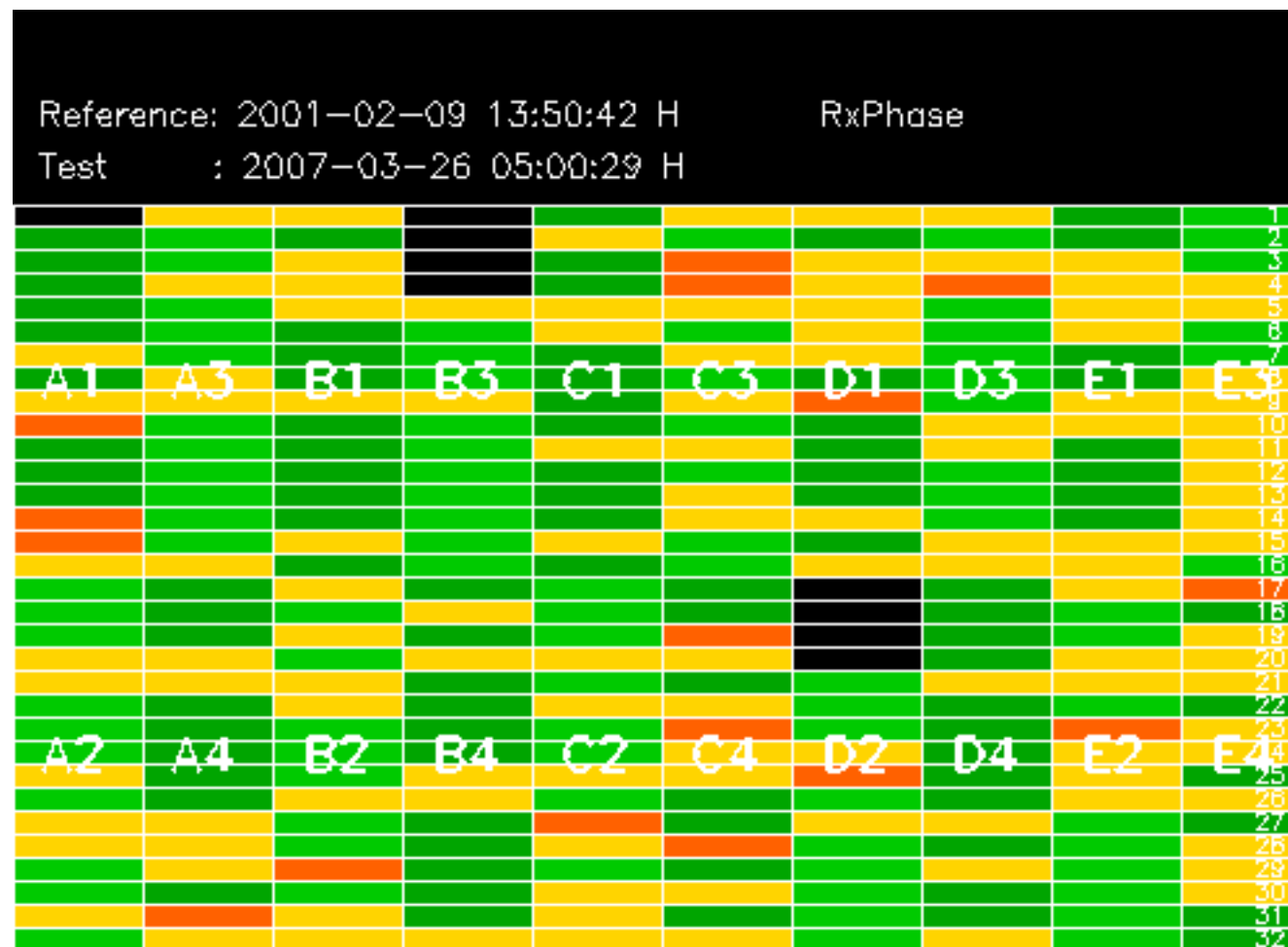










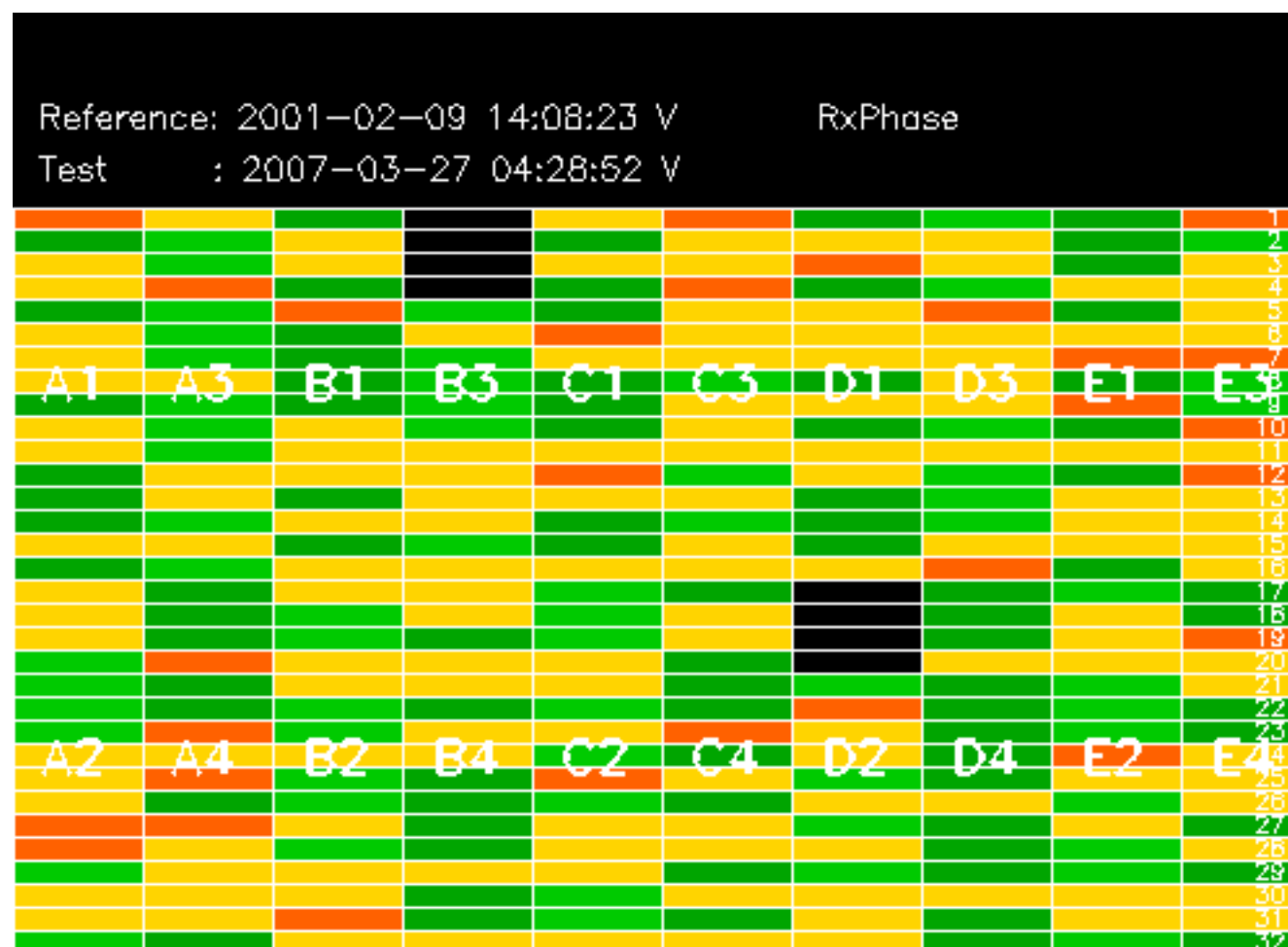




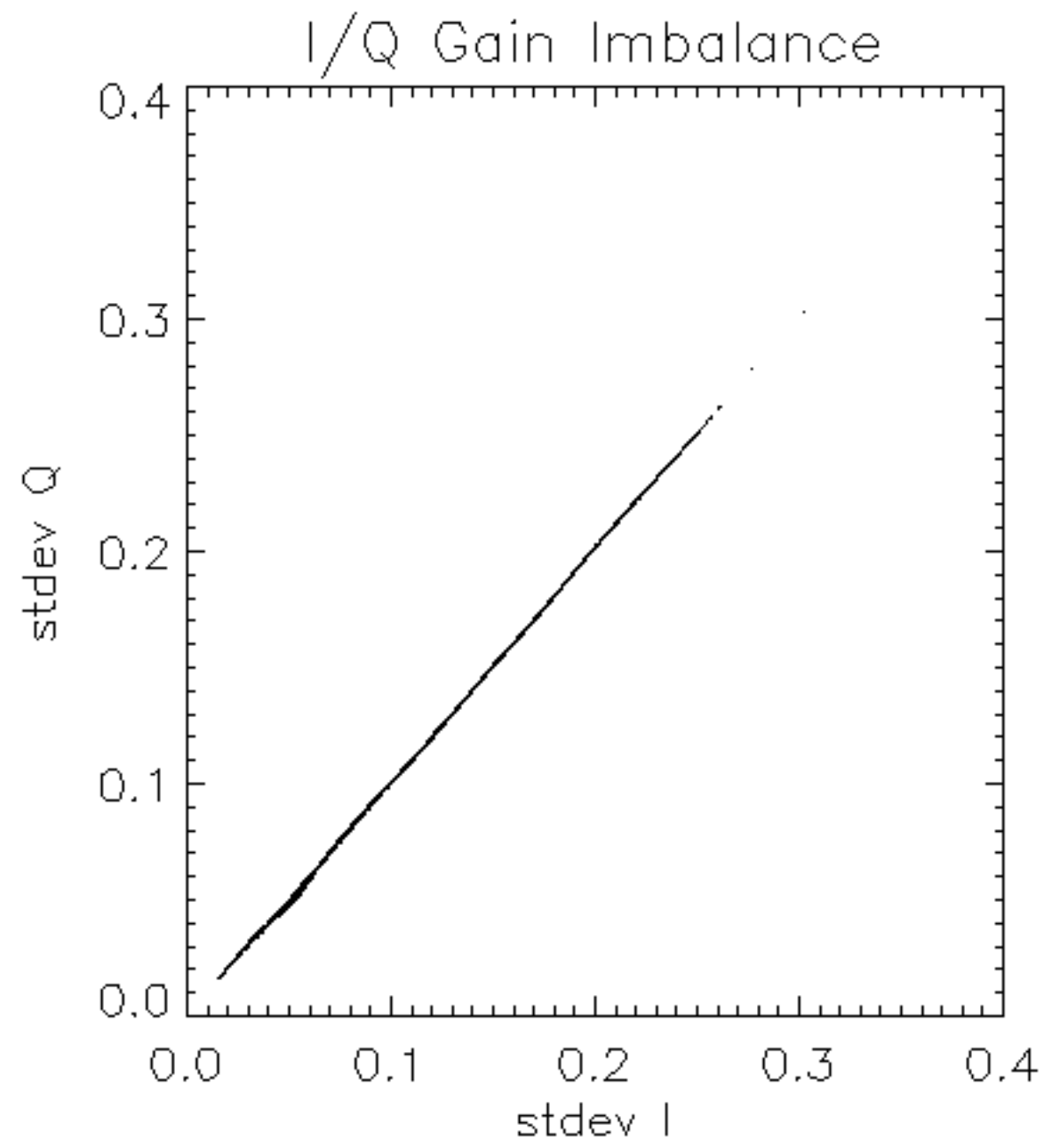


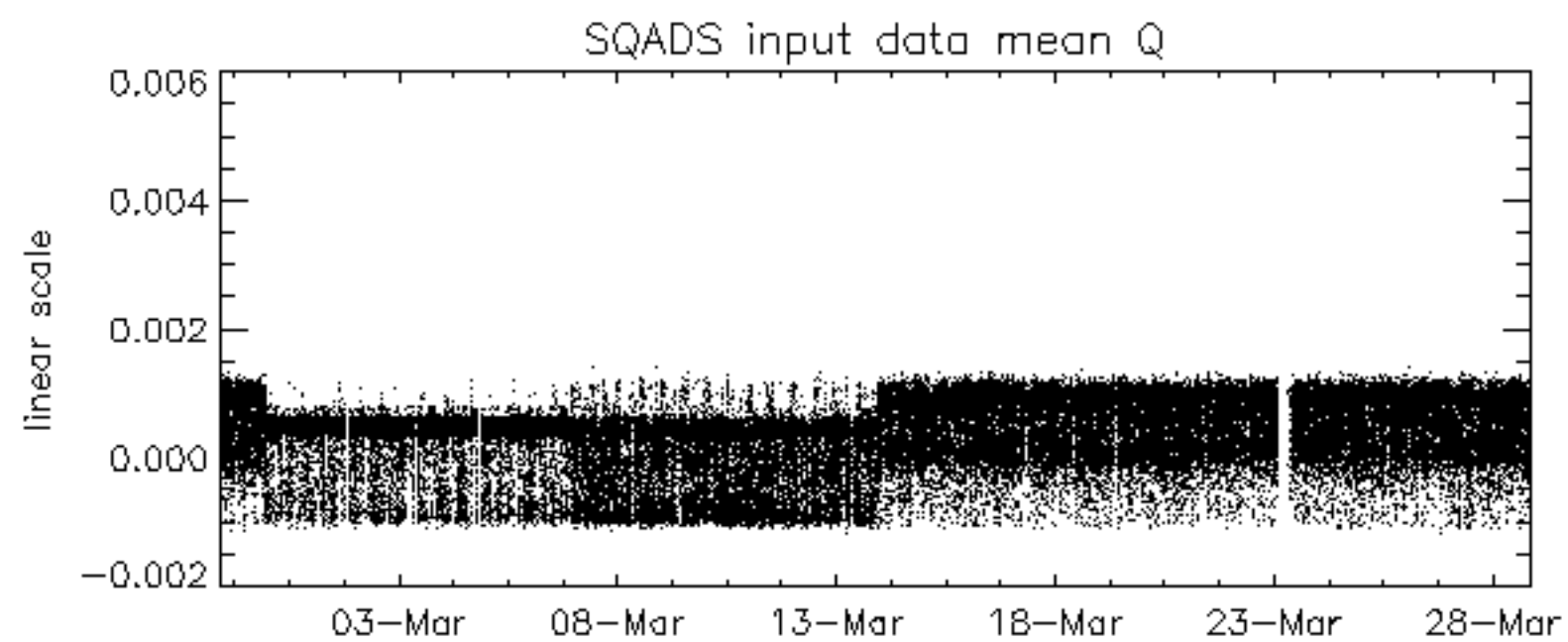
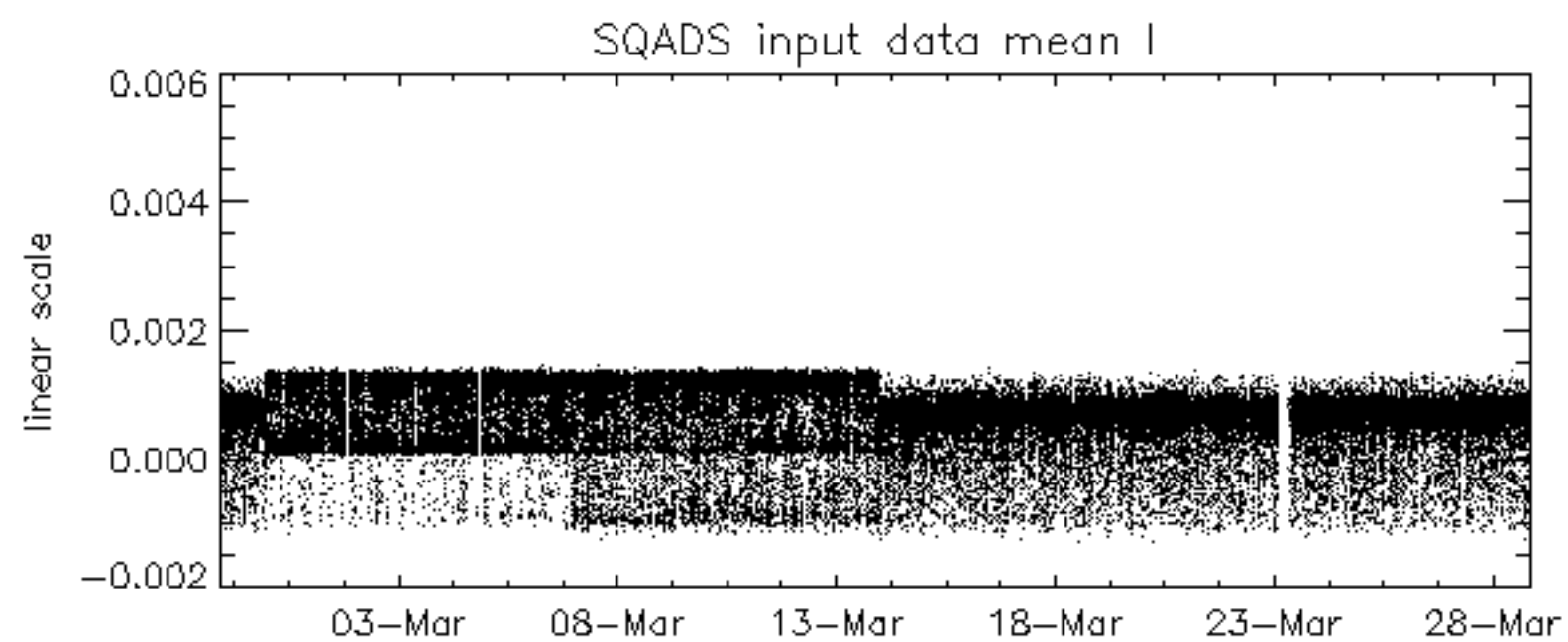
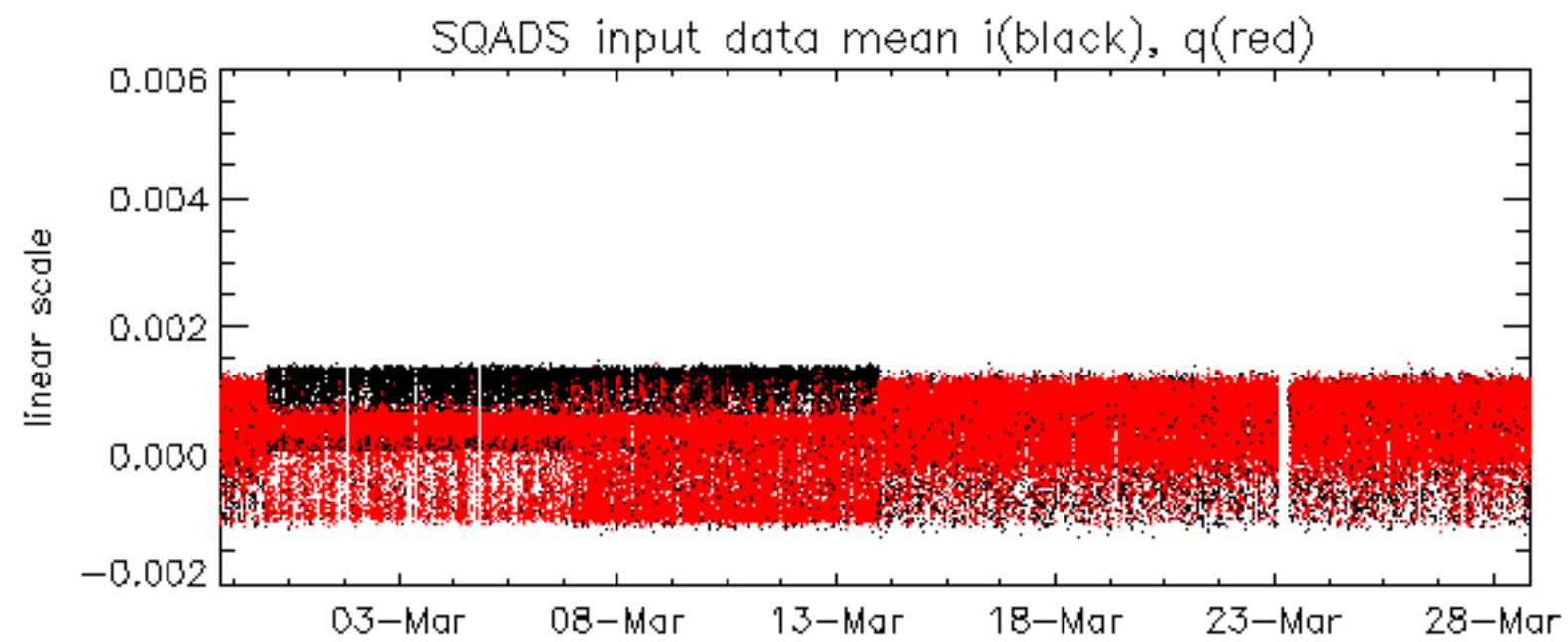


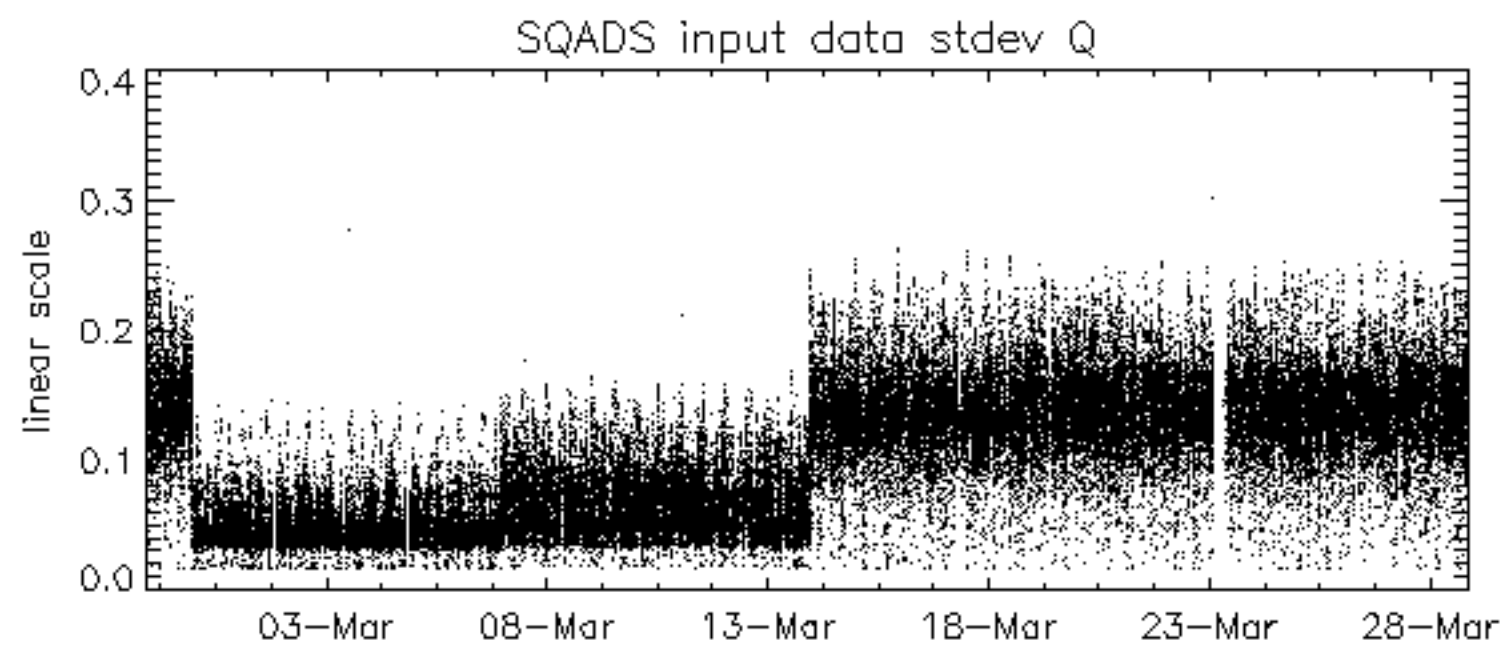
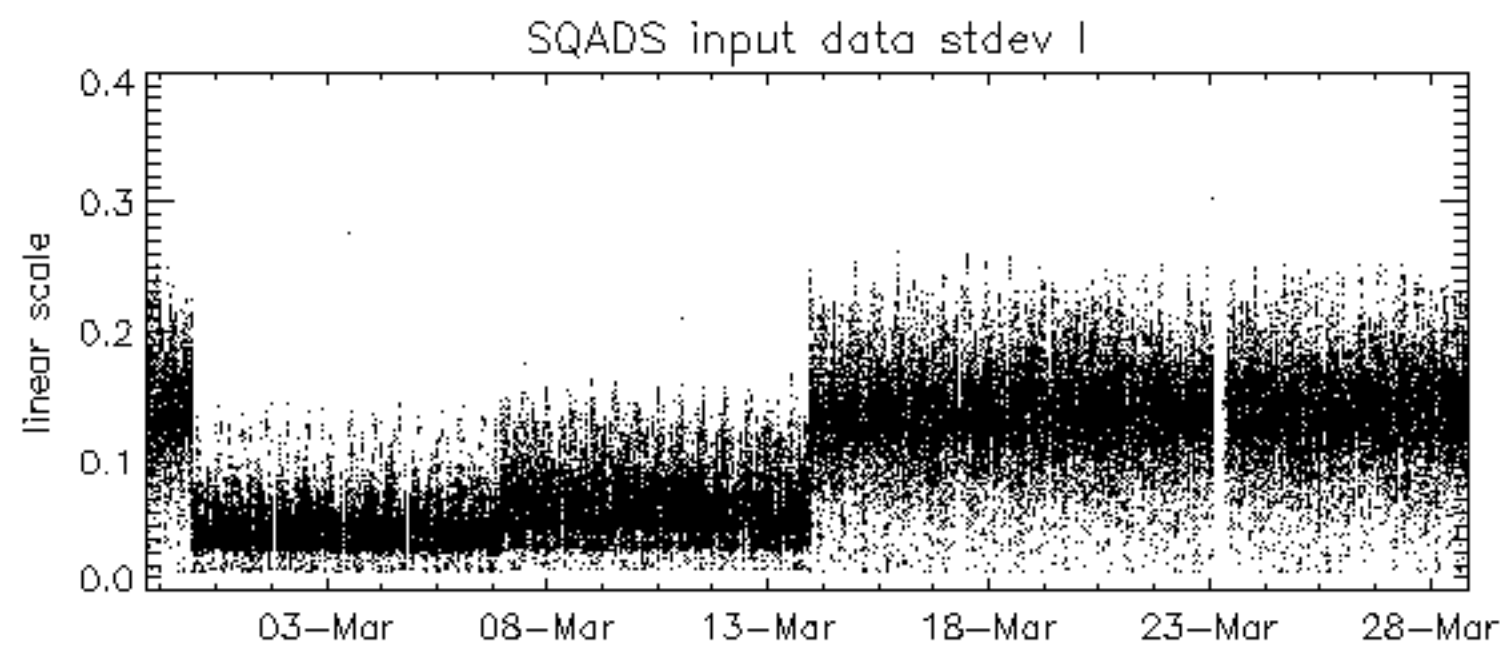
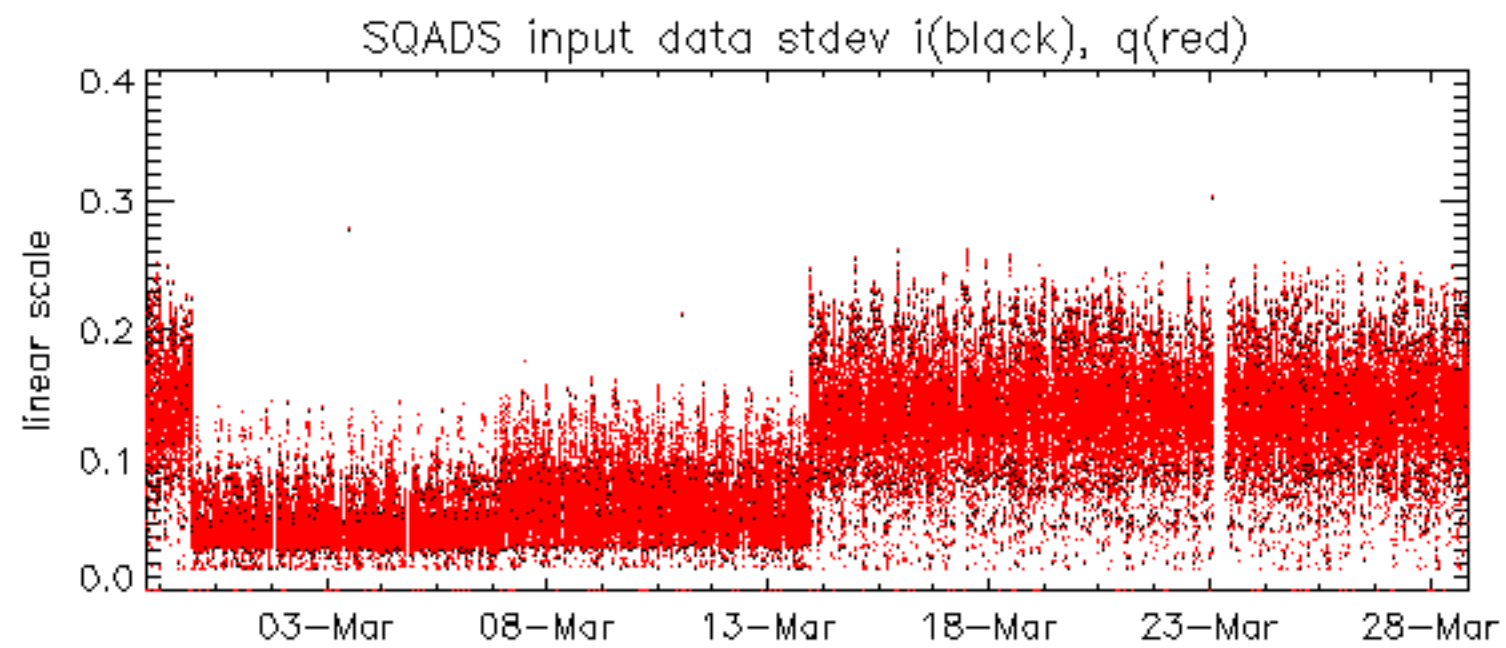






















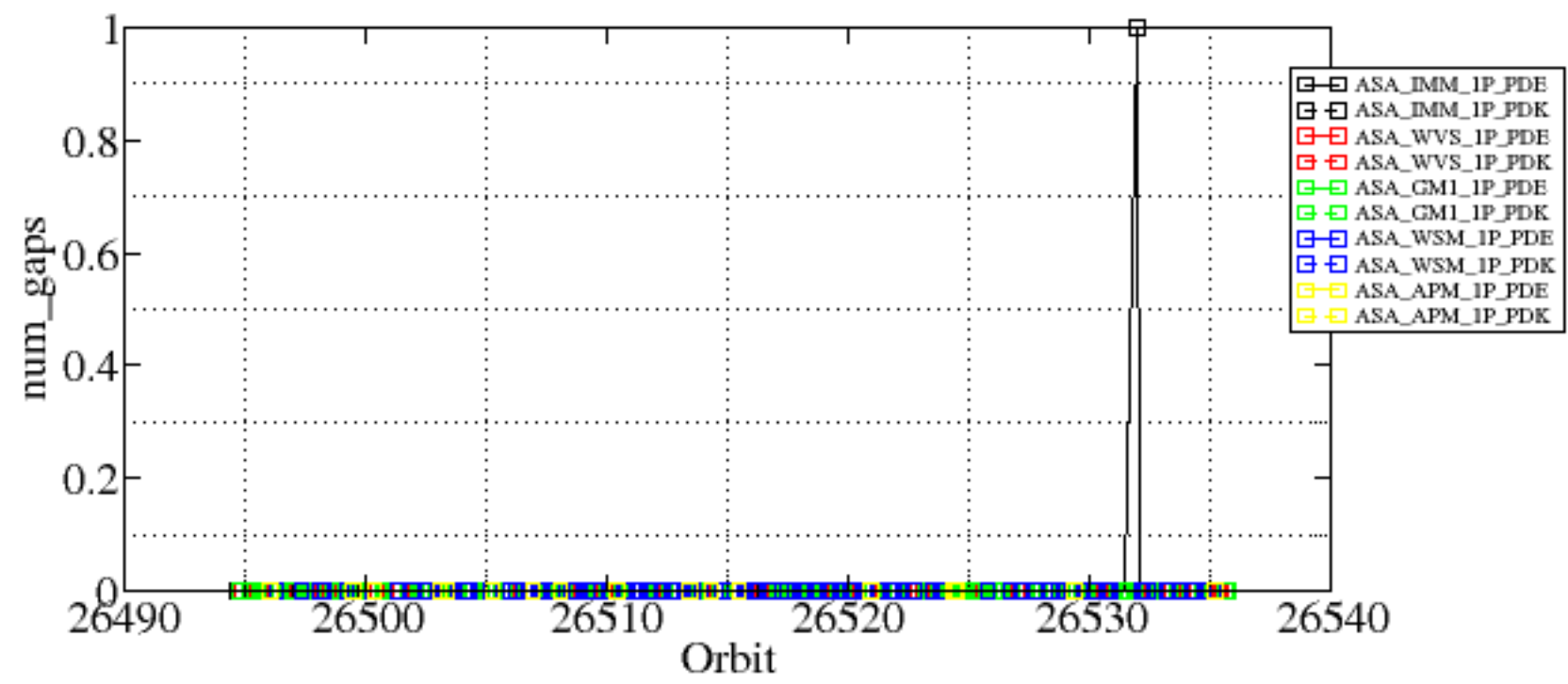




Summary of analysis for the last 3 days 2007032[678]

The assumptions is taken that the SQUADS num\_gaps and num\_missing\_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20070328_143307_000000372056_00425_26531_0306.N1	1	0
ASA_GM1_1PNPDK20070326_142221_000001572056_00397_26503_4278.N1	0	6
ASA_GM1_1PNPDK20070328_172929_000005192056_00427_26533_7340.N1	0	7
ASA_WSM_1PNPDE20070326_185948_000000672056_00400_26506_7466.N1	0	54
ASA_WSM_1PNPDE20070327_004727_000000852056_00403_26509_7928.N1	0	26
ASA_WSM_1PNPDE20070327_140944_000000862056_00411_26517_8651.N1	0	22
ASA_WSM_1PNPDE20070327_150733_000000862056_00412_26518_8655.N1	0	33
ASA_WSM_1PNPDE20070327_183104_000000852056_00414_26520_8729.N1	0	16
ASA_WSM_1PNPDE20070328_001649_000002022056_00417_26523_9211.N1	0	26
ASA_WSM_1PNPDK20070326_140038_000000792056_00397_26503_4251.N1	0	16

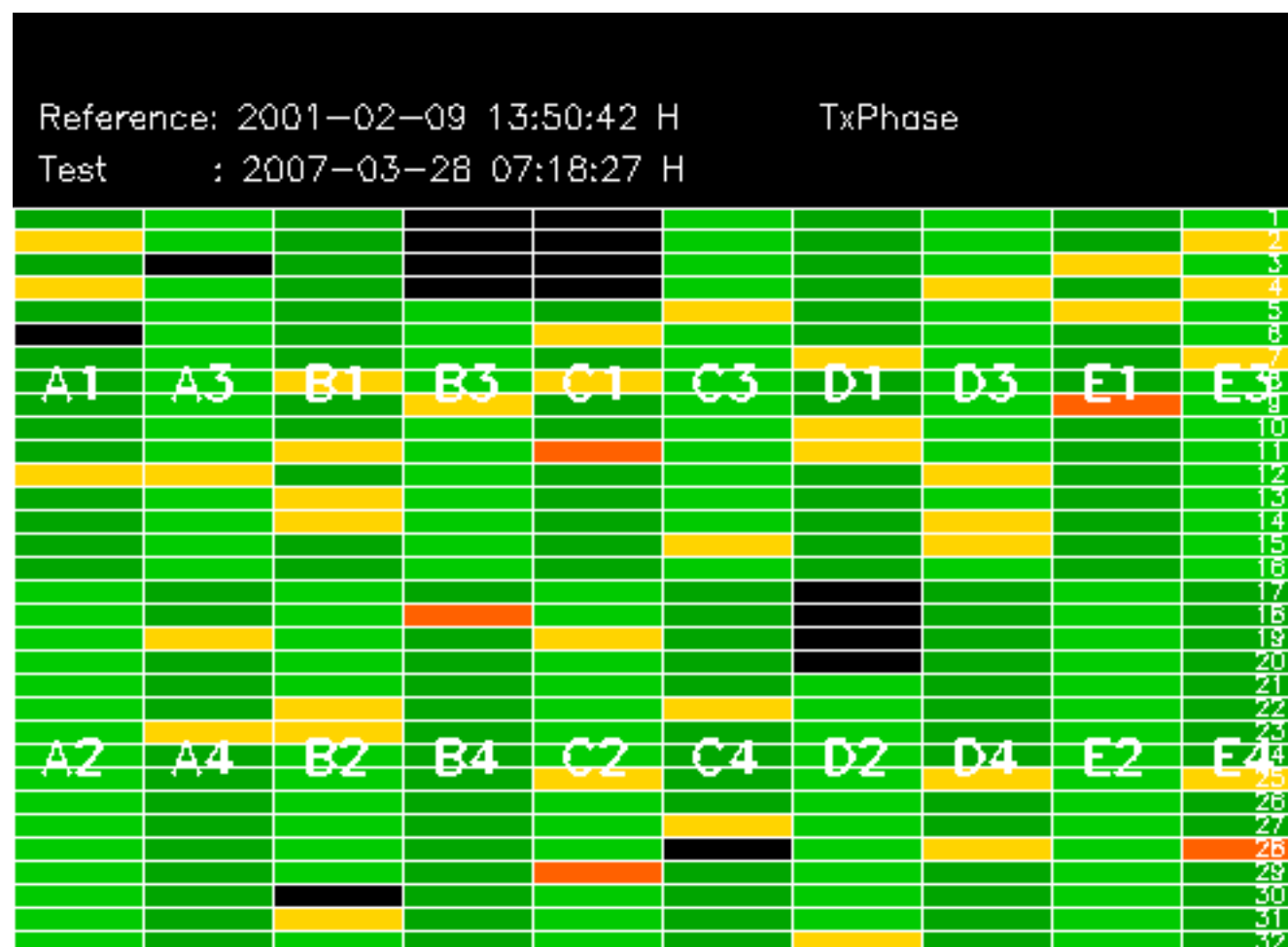












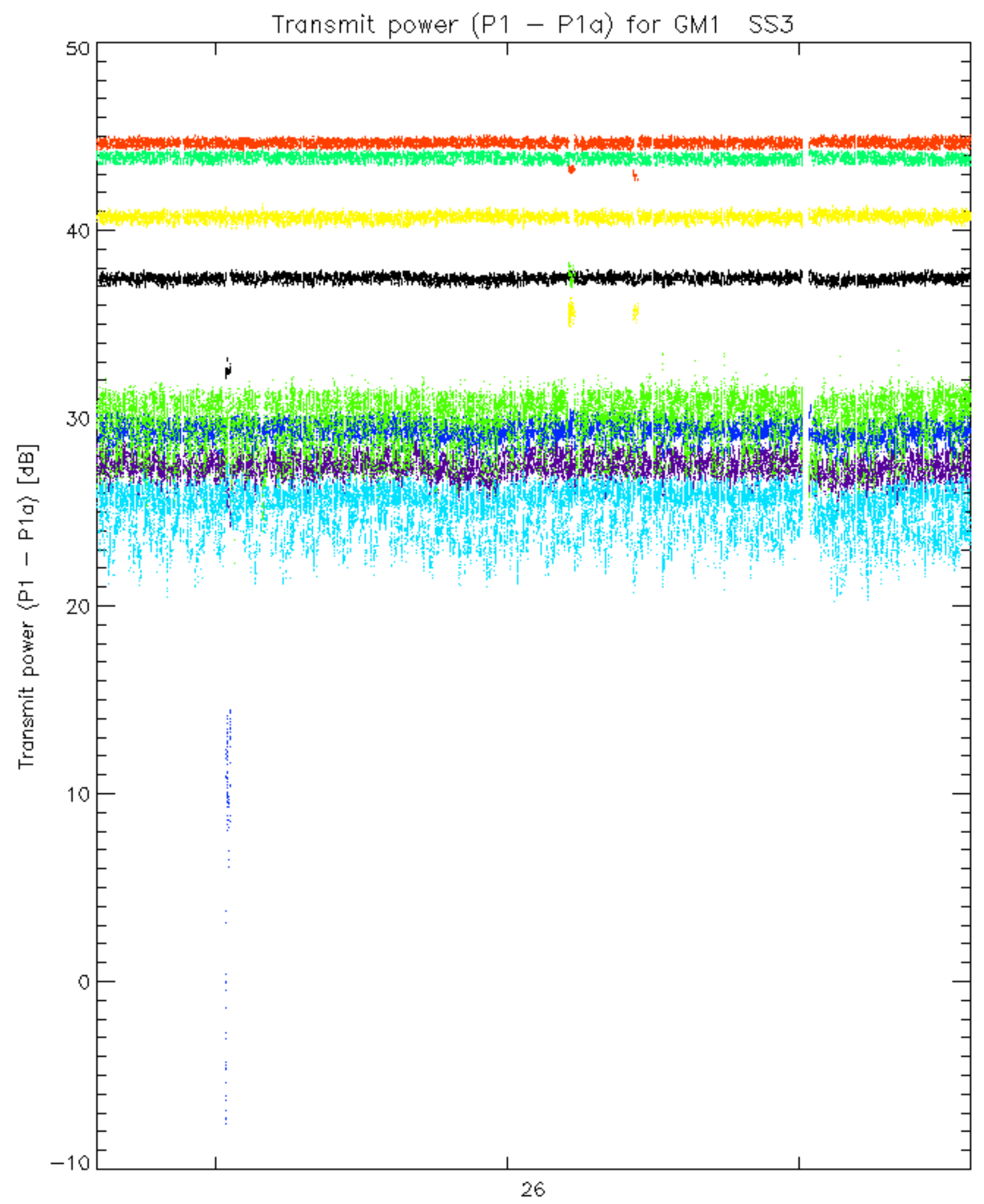




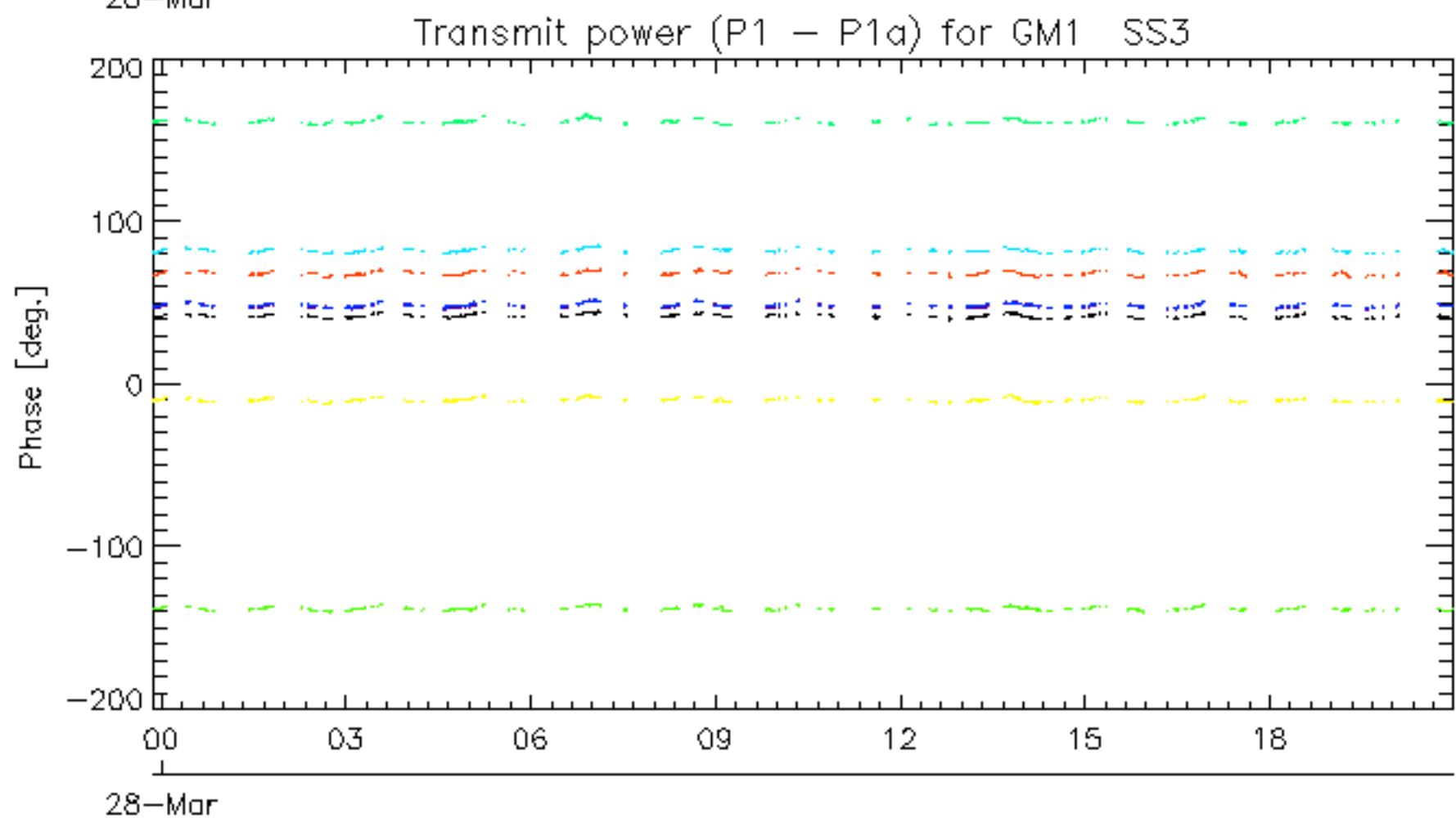
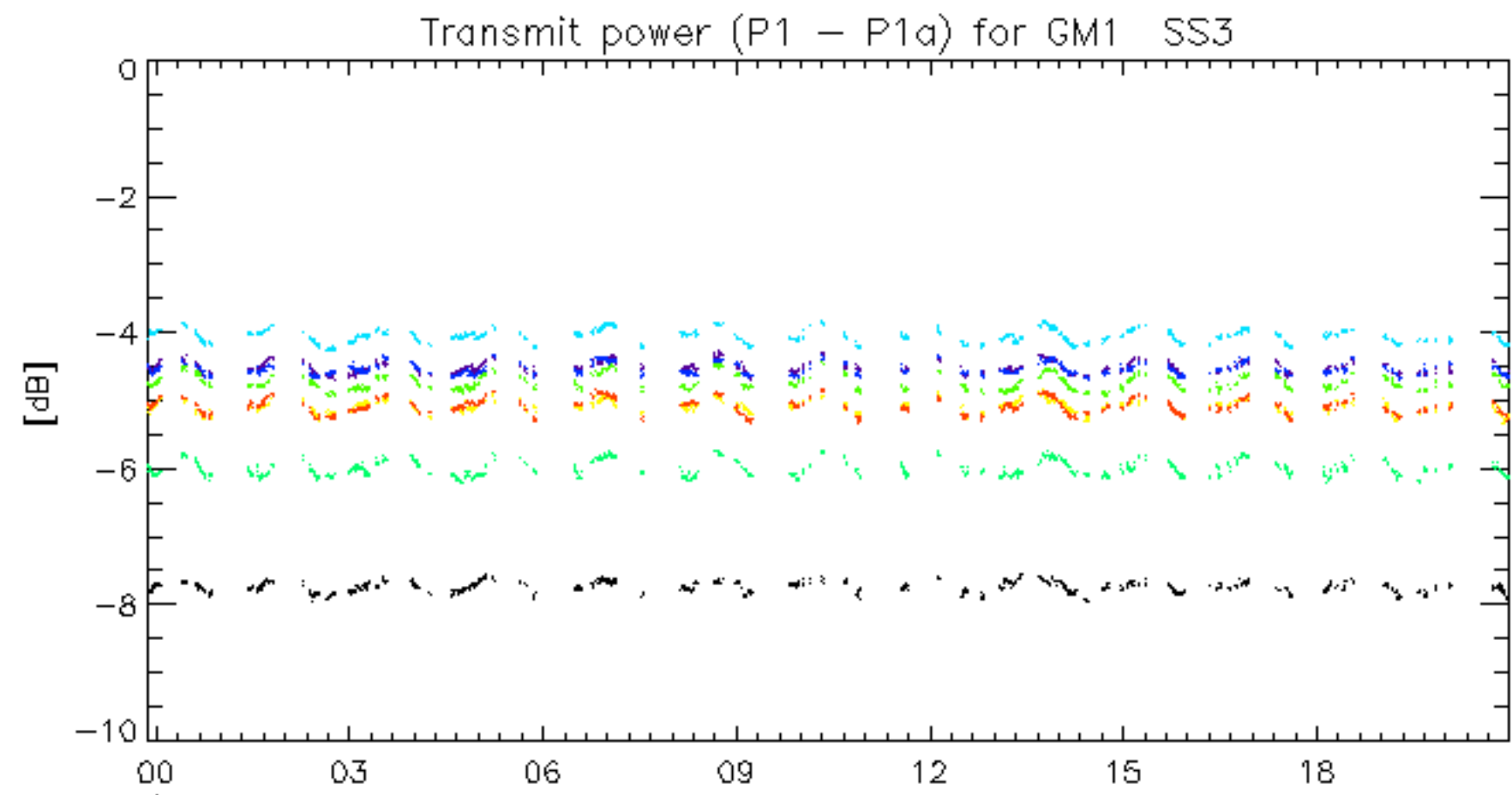






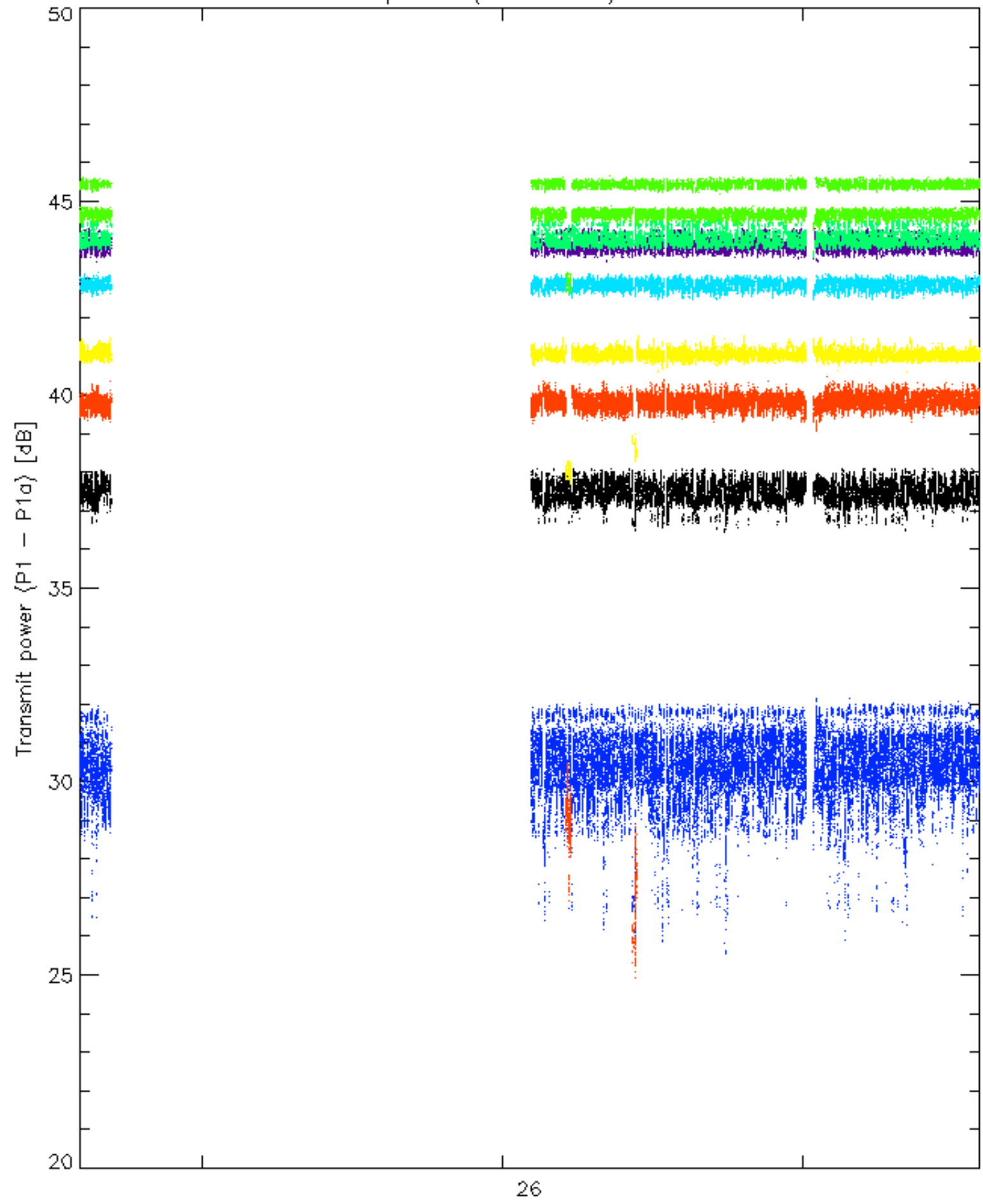


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

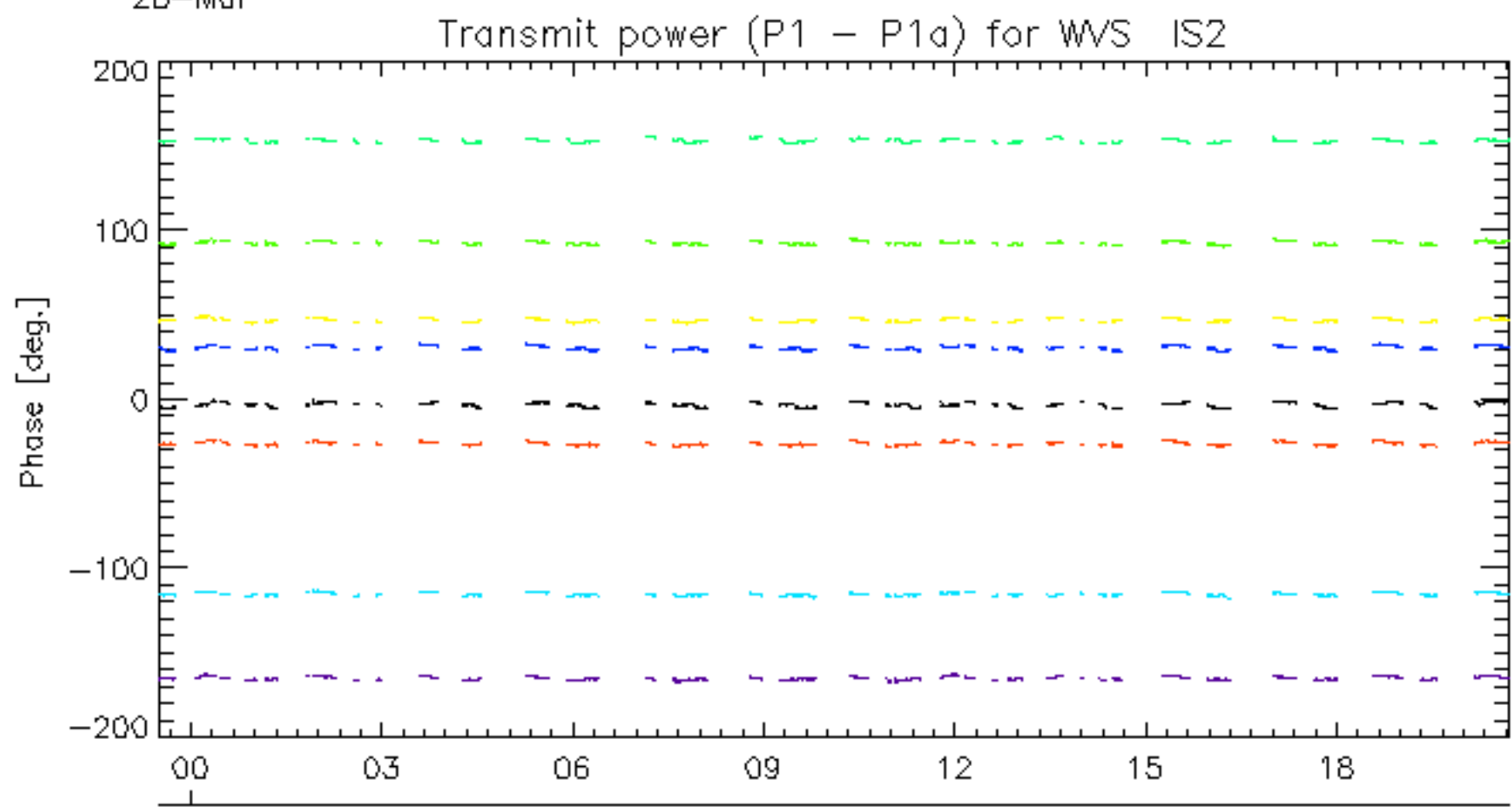
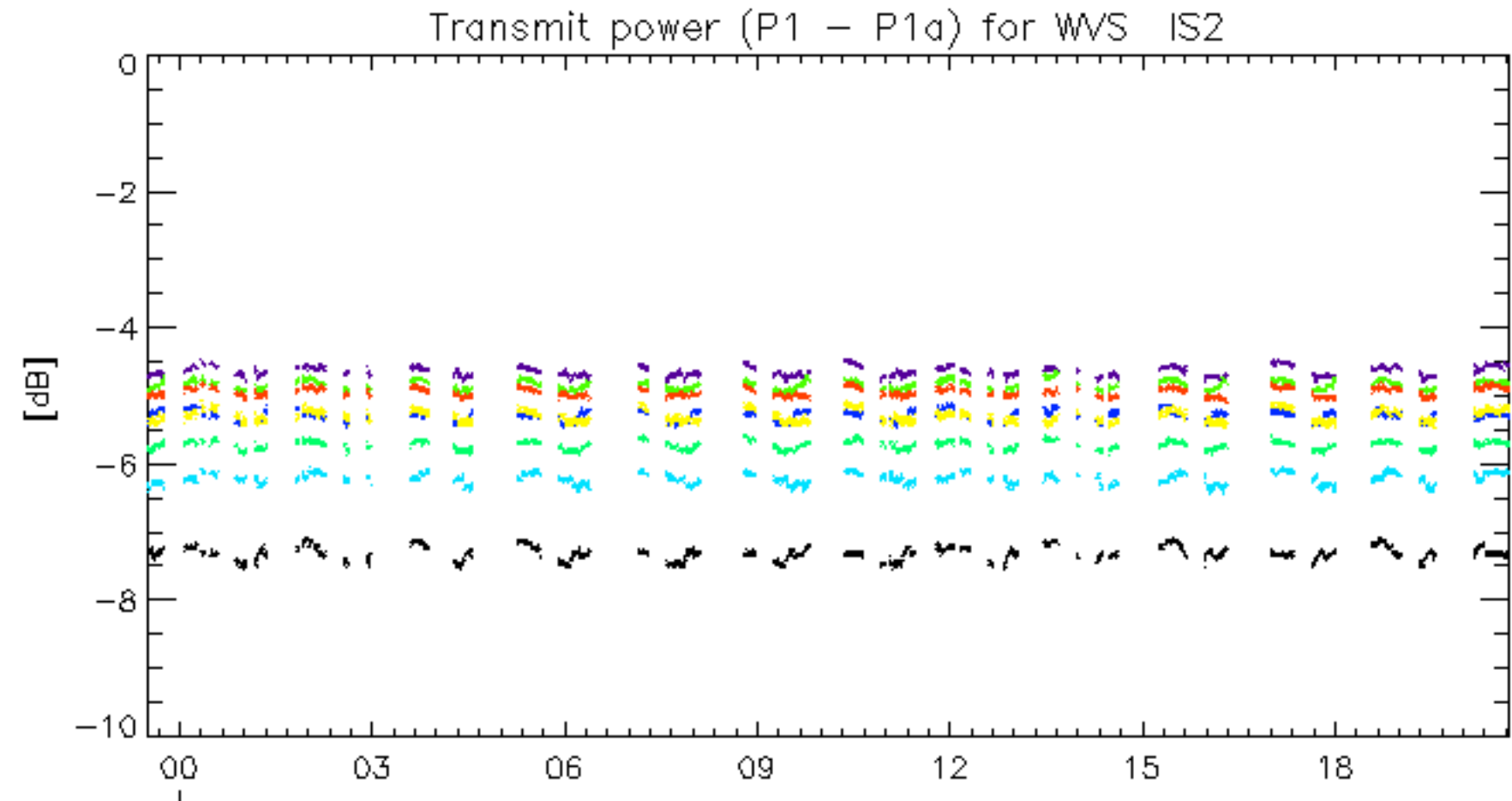


rows: **3** **7** **11** **15** **19** **22** **26** **30**

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.