

# PRELIMINARY REPORT OF 070504

last update on Fri May 4 23:44:21 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 2007-05-03 00:00:00 to 2007-05-04 23:44:21

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	65	111	15	0	38
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	65	111	15	0	38
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	65	111	15	0	38
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	65	111	15	0	38

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	41	57	48	5	55
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	41	57	48	5	55
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	41	57	48	5	55
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	41	57	48	5	55

## 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	20070503 100805
H	20070504 143816

### 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
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

## 4 - Internal calibration Results

No anomalies observed.

### 4.1 - Daily statistics

#### 4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS
<input type="checkbox"/>
<input type="checkbox"/>

#### 4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1
<input type="checkbox"/>
<input type="checkbox"/>

### 4.2 - Cyclic statistics

#### 4.2.1 - Evolution for WVS

Evolution of cal pulses for WVS
<input type="checkbox"/>

**P1a Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1a	-15.113624	0.146375	-0.235270
7	P1a	-17.560364	0.097597	-0.086766
11	P1a	-17.542250	0.361564	-0.661777
15	P1a	-13.032590	0.131107	-0.375714
19	P1a	-15.357359	0.071331	-0.300180
22	P1a	-15.931440	0.403921	-0.325936
26	P1a	-15.007748	0.217725	0.331861
30	P1a	-17.747576	0.358138	-0.627332

**P1t Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.772625	0.010435	-0.049752
7	P1	-3.149589	0.008975	-0.020649
11	P1	-4.208751	0.012621	-0.005478
15	P1	-6.418908	0.020063	-0.135441
19	P1	-3.781906	0.011118	0.036129
22	P1	-4.748810	0.009554	-0.018519
26	P1	-3.915550	0.019493	0.062057
30	P1	-5.967288	0.009371	0.012772

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.659554	0.090752	-0.001272
7	P2	-21.552187	0.089176	0.109462
11	P2	-15.340611	0.117619	0.192703
15	P2	-7.128676	0.088484	-0.024579
19	P2	-9.118796	0.080369	0.000593
22	P2	-18.087139	0.076936	0.001384
26	P2	-16.624855	0.081842	-0.073128
30	P2	-19.273346	0.082225	0.047812

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.245159	0.005227	-0.006055
7	P3	-8.245159	0.005227	-0.006055
11	P3	-8.245159	0.005227	-0.006055
15	P3	-8.245159	0.005227	-0.006055
19	P3	-8.245159	0.005227	-0.006055
22	P3	-8.245159	0.005227	-0.006055
26	P3	-8.245159	0.005227	-0.006055
30	P3	-8.245159	0.005227	-0.006055

#### 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	-11.212602	0.118159	-0.113103
7	P1a	-10.053849	0.178713	0.064770
11	P1a	-10.686497	0.091233	0.030677
15	P1a	-10.825530	0.161159	0.124405
19	P1a	-15.814336	0.087512	-0.114655
22	P1a	-21.401028	1.459906	-0.344701
26	P1a	-15.510376	0.368978	-0.178793
30	P1a	-18.312311	0.455527	0.114495

#### P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-8.455759	0.046979	-0.017802
7	P1	-2.403427	0.093932	0.064922
11	P1	-2.885398	0.023515	0.055795
15	P1	-3.815183	0.036277	0.048105
19	P1	-3.590714	0.014532	-0.030921
22	P1	-4.966999	0.023284	0.071003
26	P1	-6.041011	0.025532	-0.049400
30	P1	-5.340344	0.032160	-0.028319

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.183401	0.064882	-0.074722
7	P2	-22.043186	0.180327	-0.043600
11	P2	-10.638739	0.043883	-0.037258
15	P2	-4.925775	0.041424	-0.068553
19	P2	-6.870281	0.039860	-0.021573
22	P2	-8.108813	0.083462	0.013743
26	P2	-24.324261	0.135916	-0.027769
30	P2	-21.709028	0.103732	0.044986

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.091154	0.004925	-0.001652
7	P3	-8.091127	0.004926	-0.001447
11	P3	-8.090962	0.004926	-0.001721
15	P3	-8.090906	0.004927	-0.001776
19	P3	-8.091035	0.004946	-0.001625
22	P3	-8.090935	0.004917	-0.001337
26	P3	-8.090995	0.004928	-0.001441
30	P3	-8.090921	0.004919	-0.001558

## 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	0.000546585
	stdev	1.98486e-07
MEAN Q	mean	0.000496822
	stdev	2.41910e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.135742
	stdev	0.00122409
STDEV Q	mean	0.136131
	stdev	0.00124178



### 5.3 - Gain imbalance I/Q





## 6 - Telemetry analysis

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

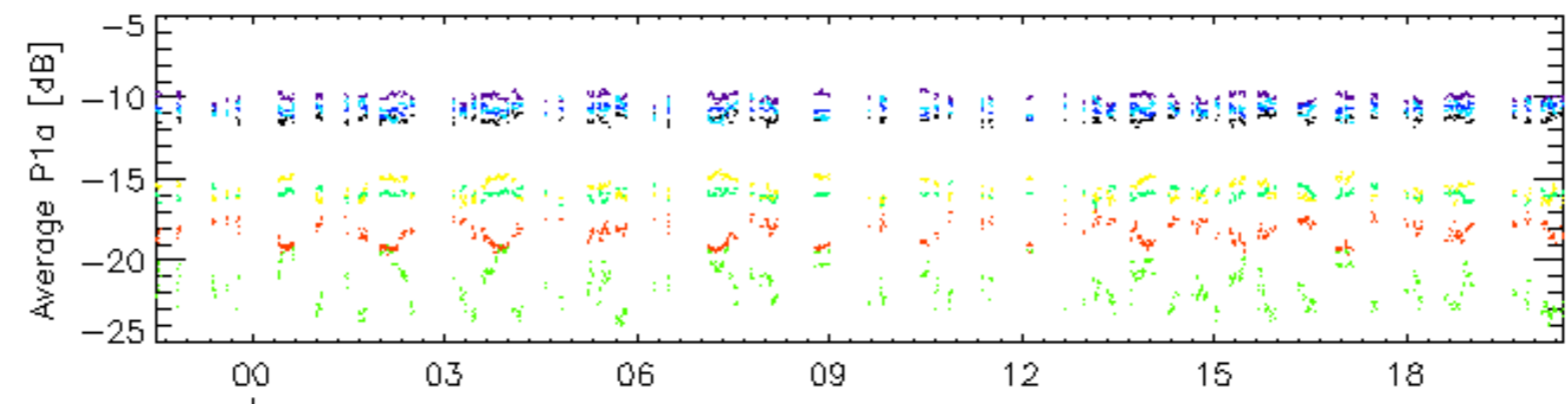
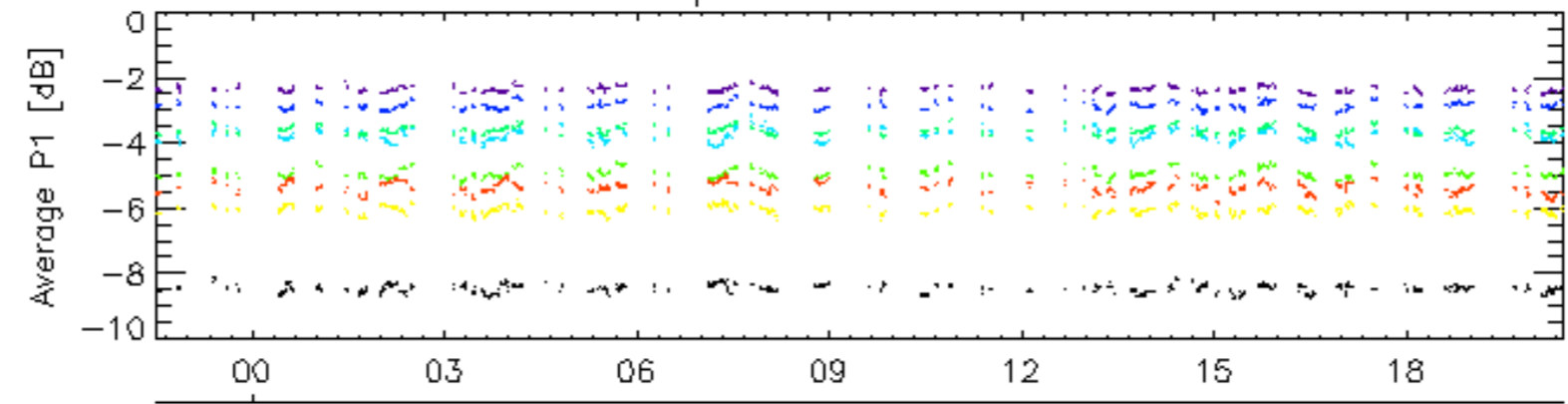


## 7.6 - Doppler evolution versus ANX for GM1

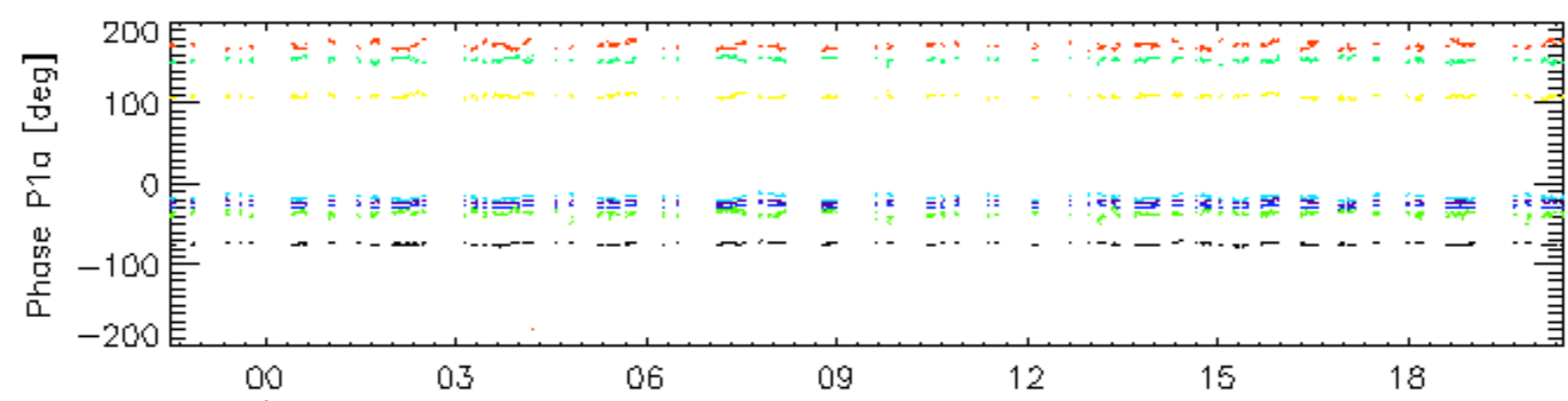
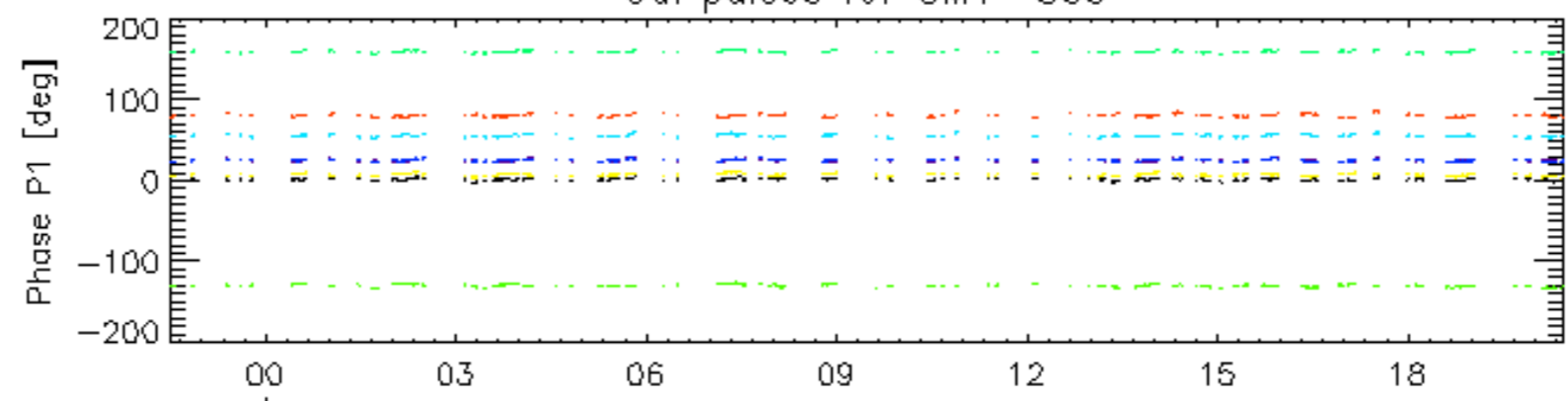
Evolution Doppler error versus ANX



Cal pulses for GM1 SS3

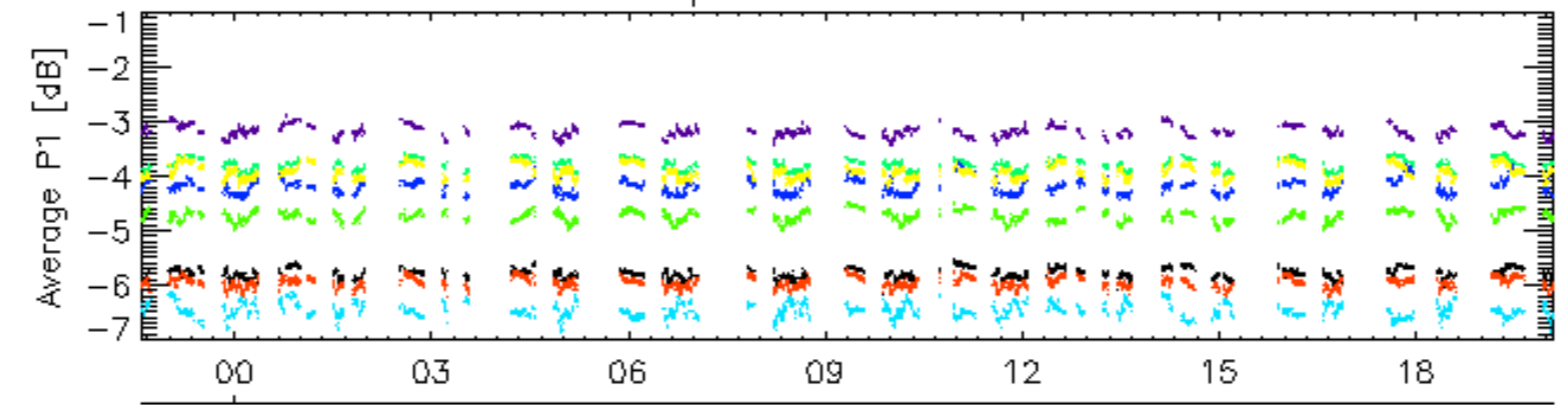


Cal pulses for GM1 SS3

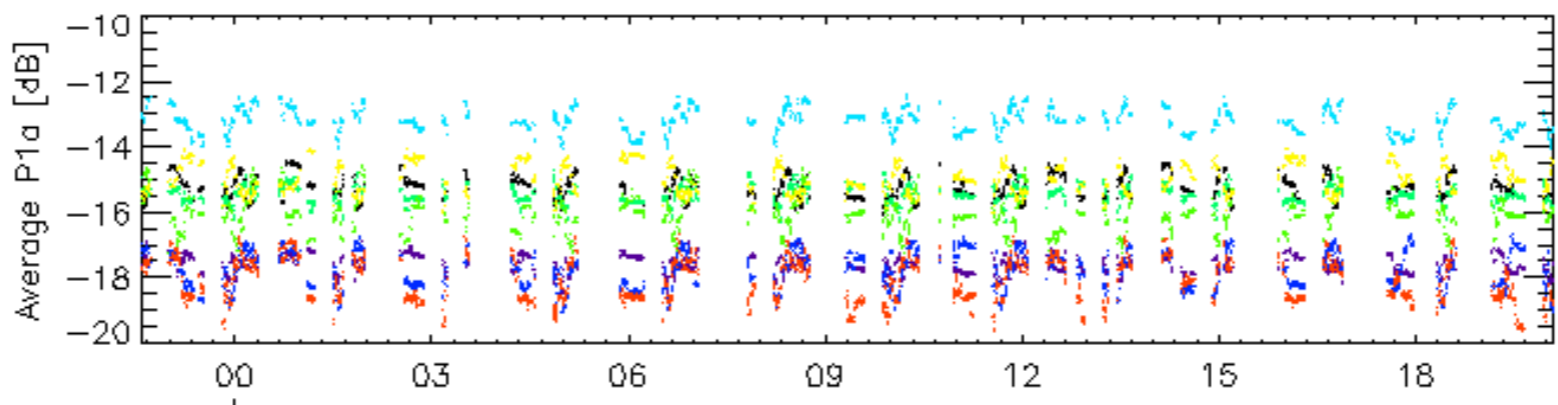


rows: 04-May 3 7 11 15 19 22 26 30

Cal pulses for WVS IS2

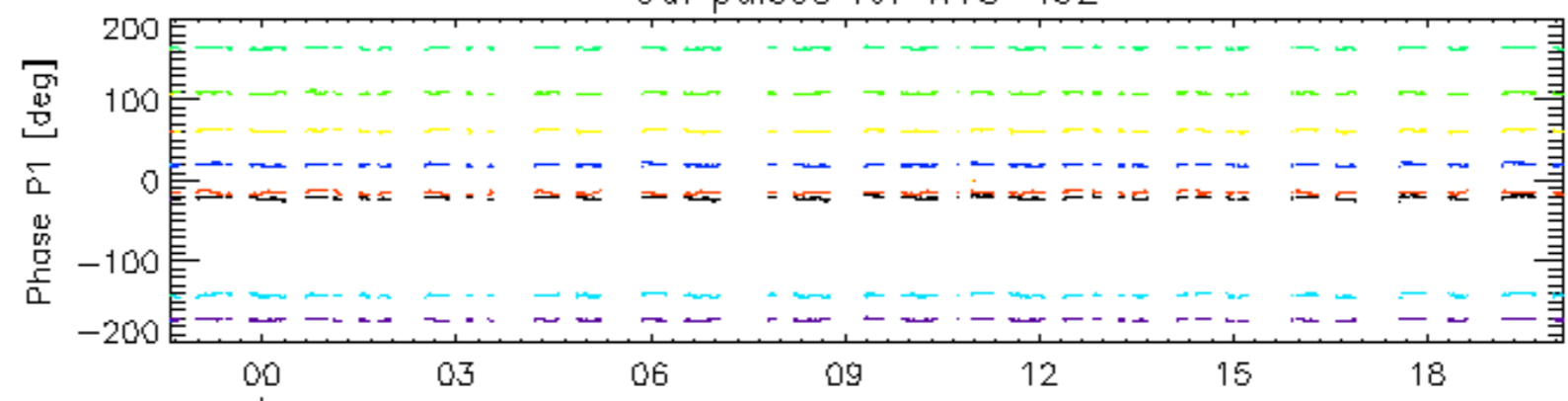


04-May

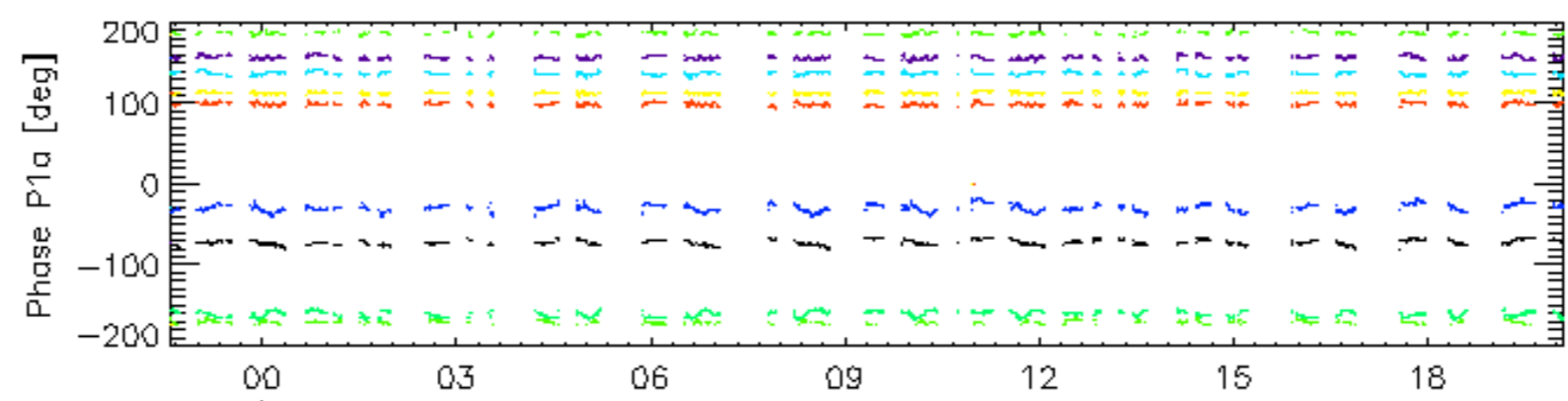


04-May

Cal pulses for WVS IS2

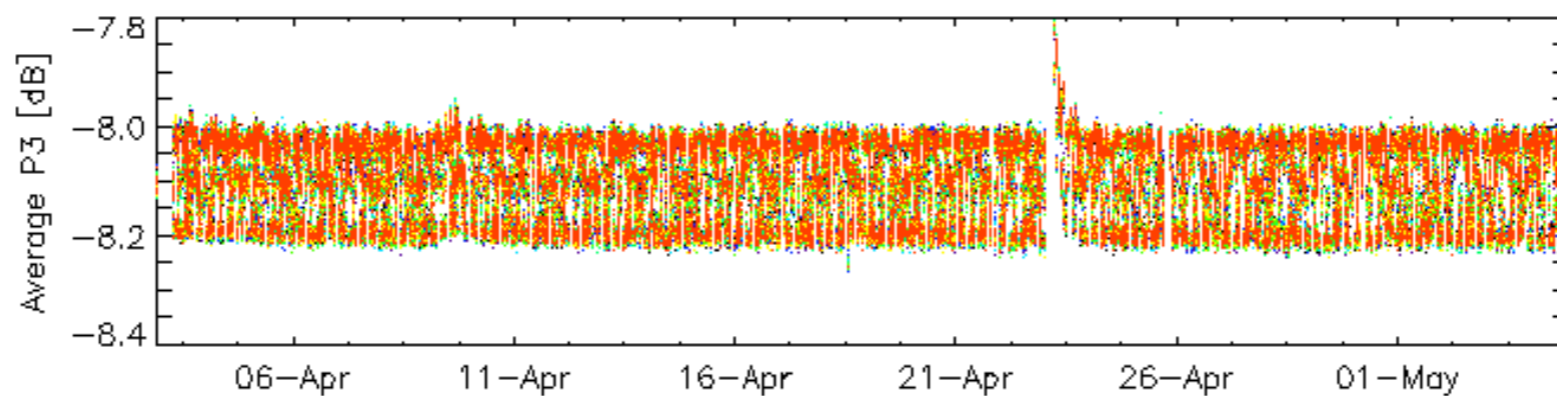
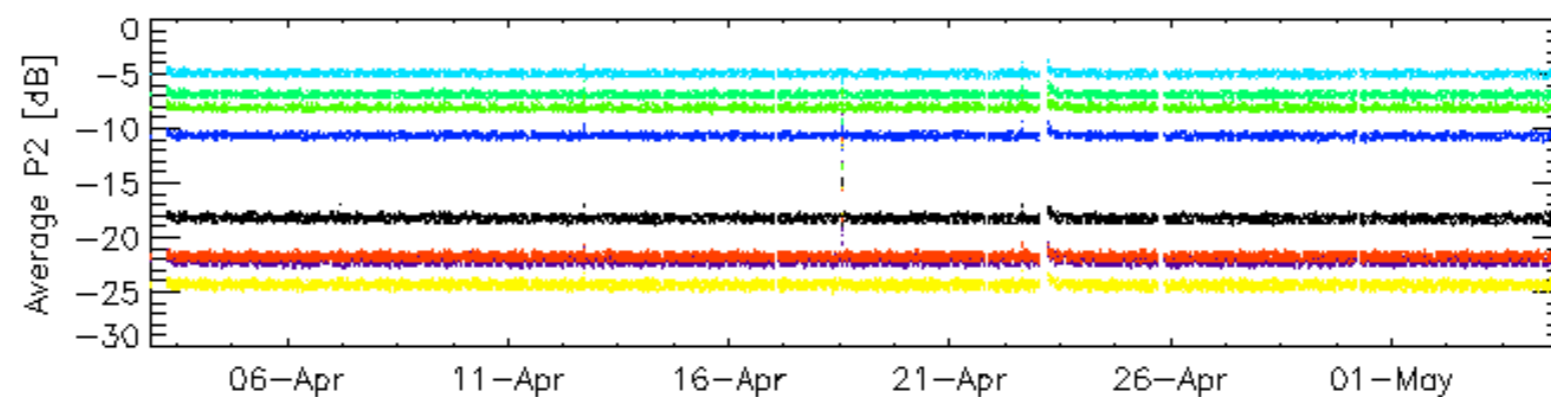
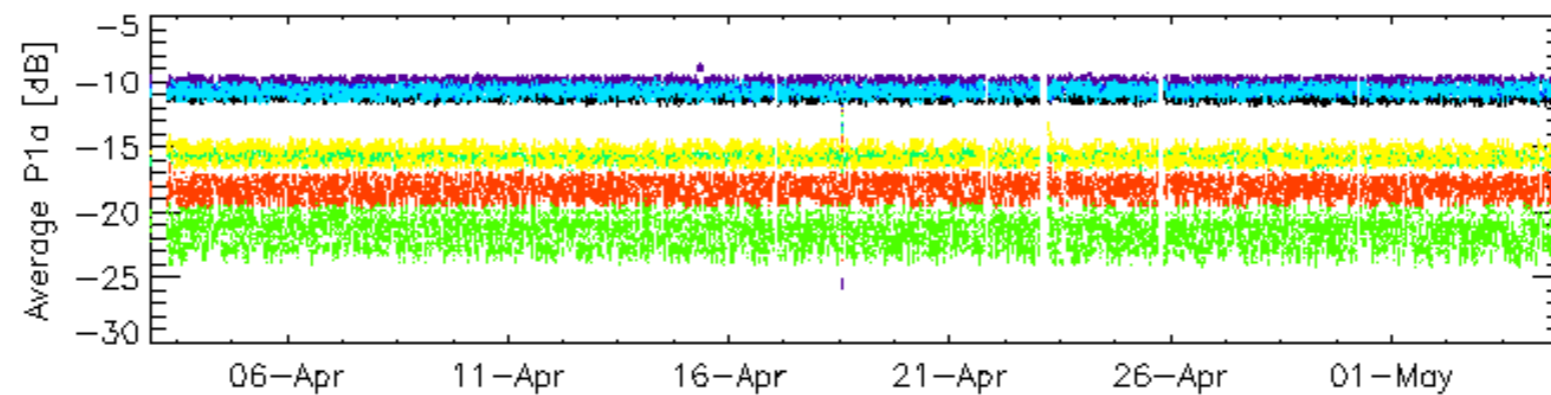
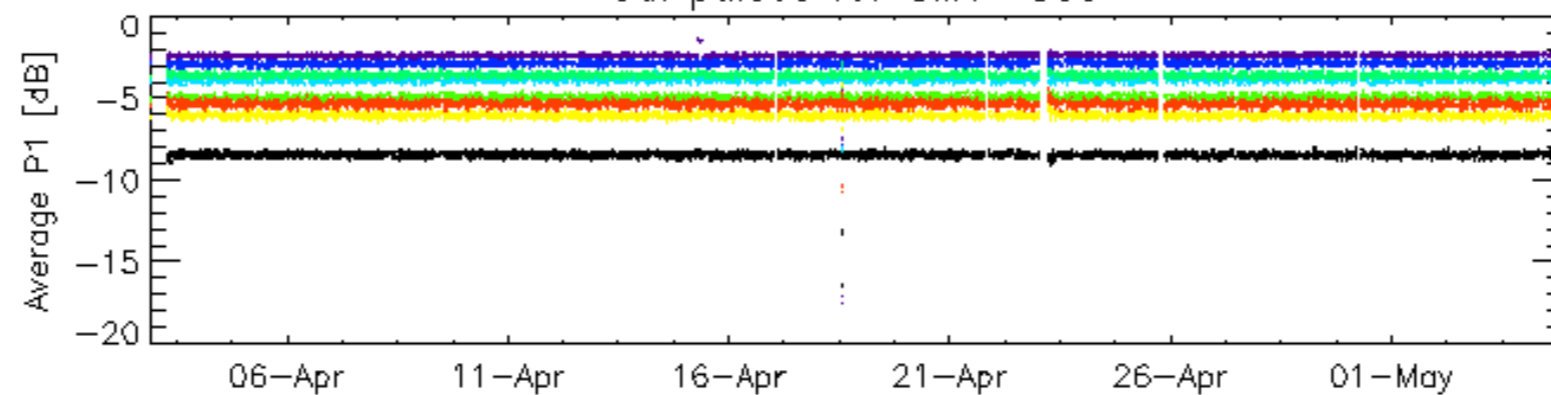


04-May



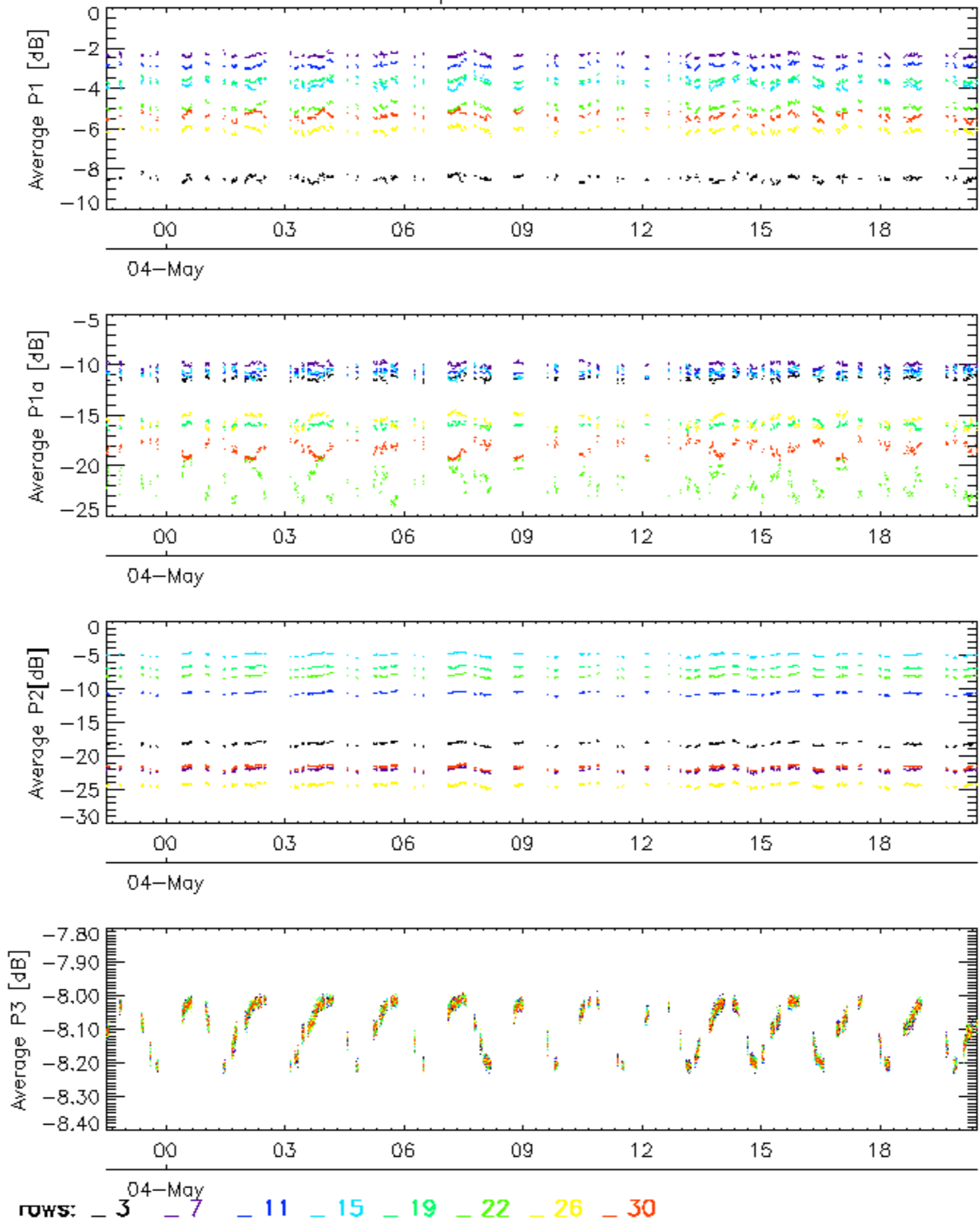
rows: 04-May  
 - 3 - 7 - 11 - 15 - 19 - 22 - 26 - 30

Cal pulses for GM1 SS3

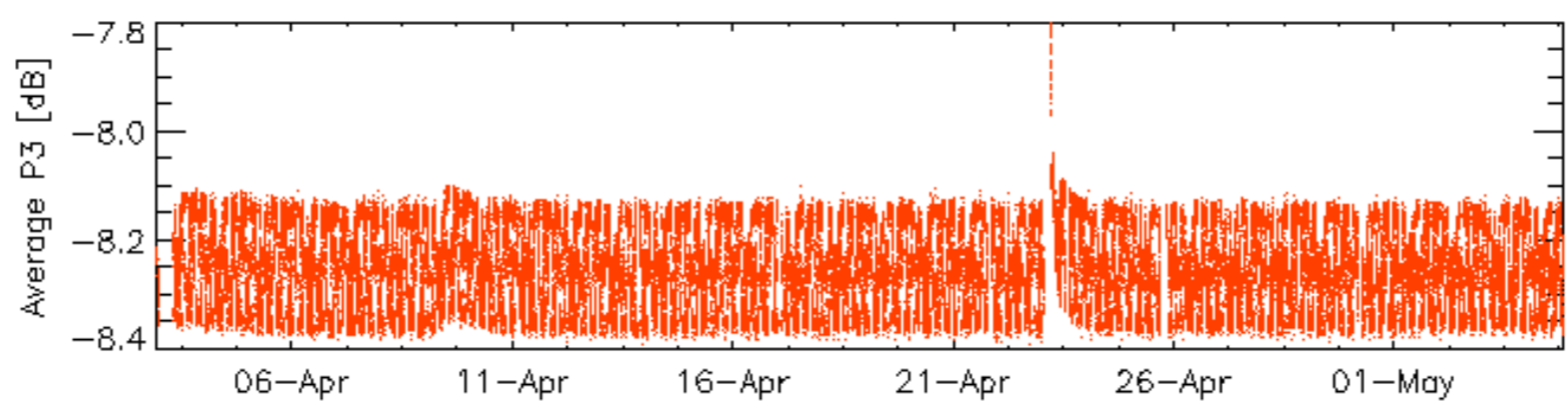
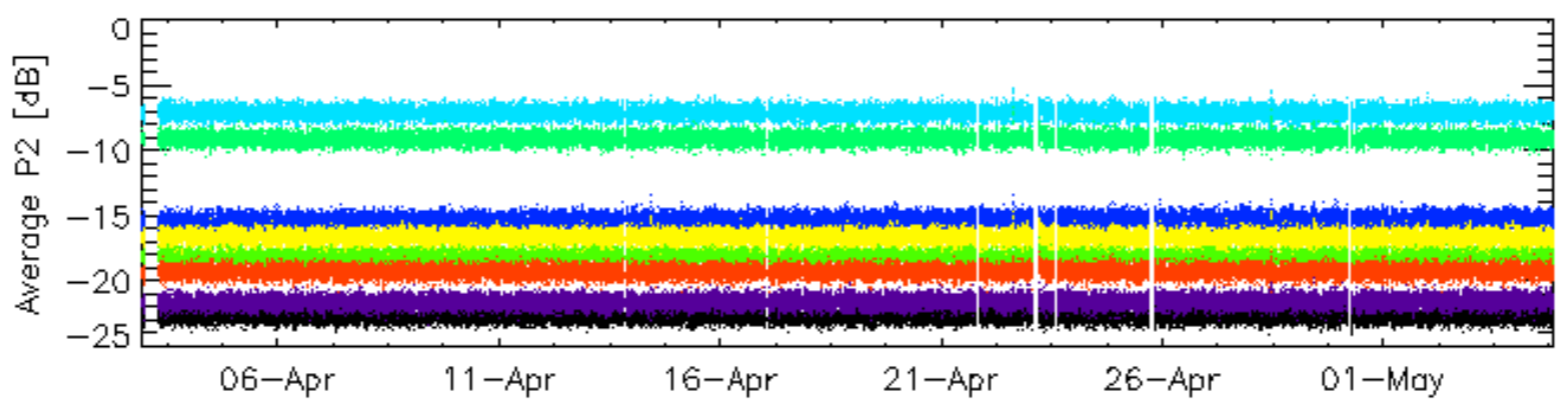
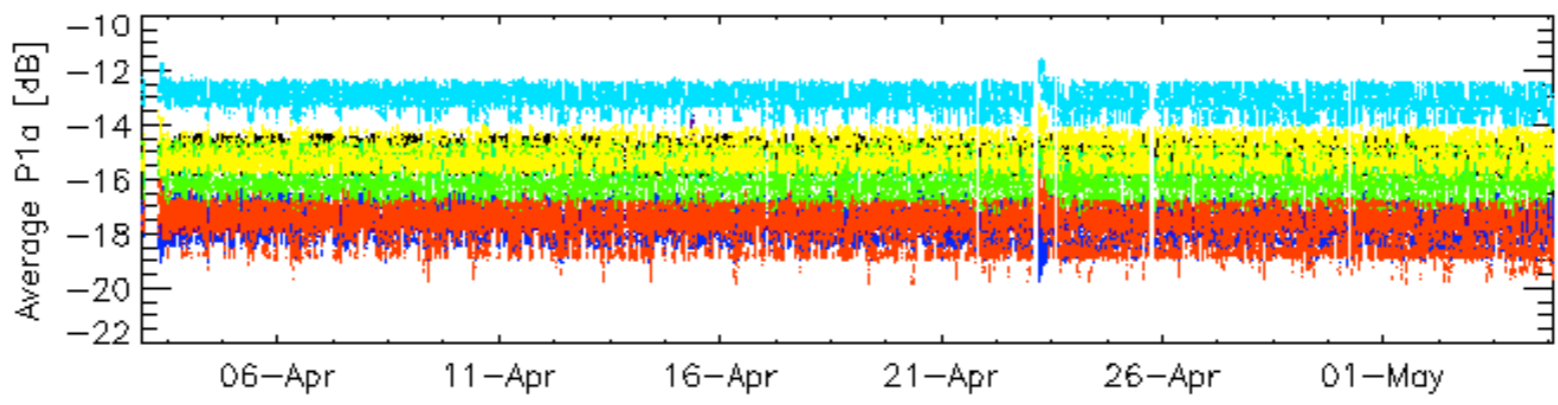
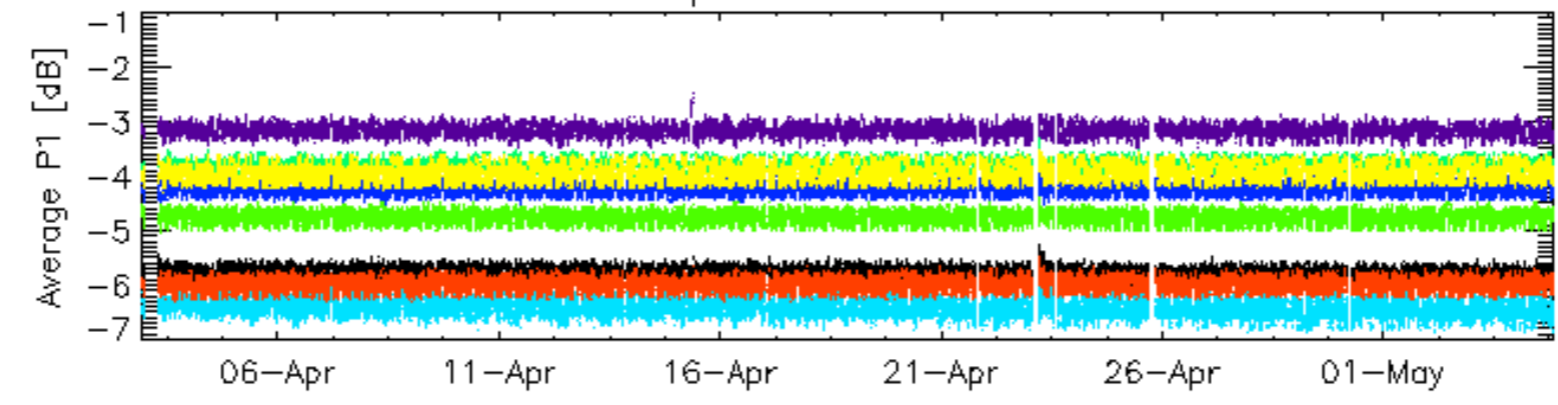


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

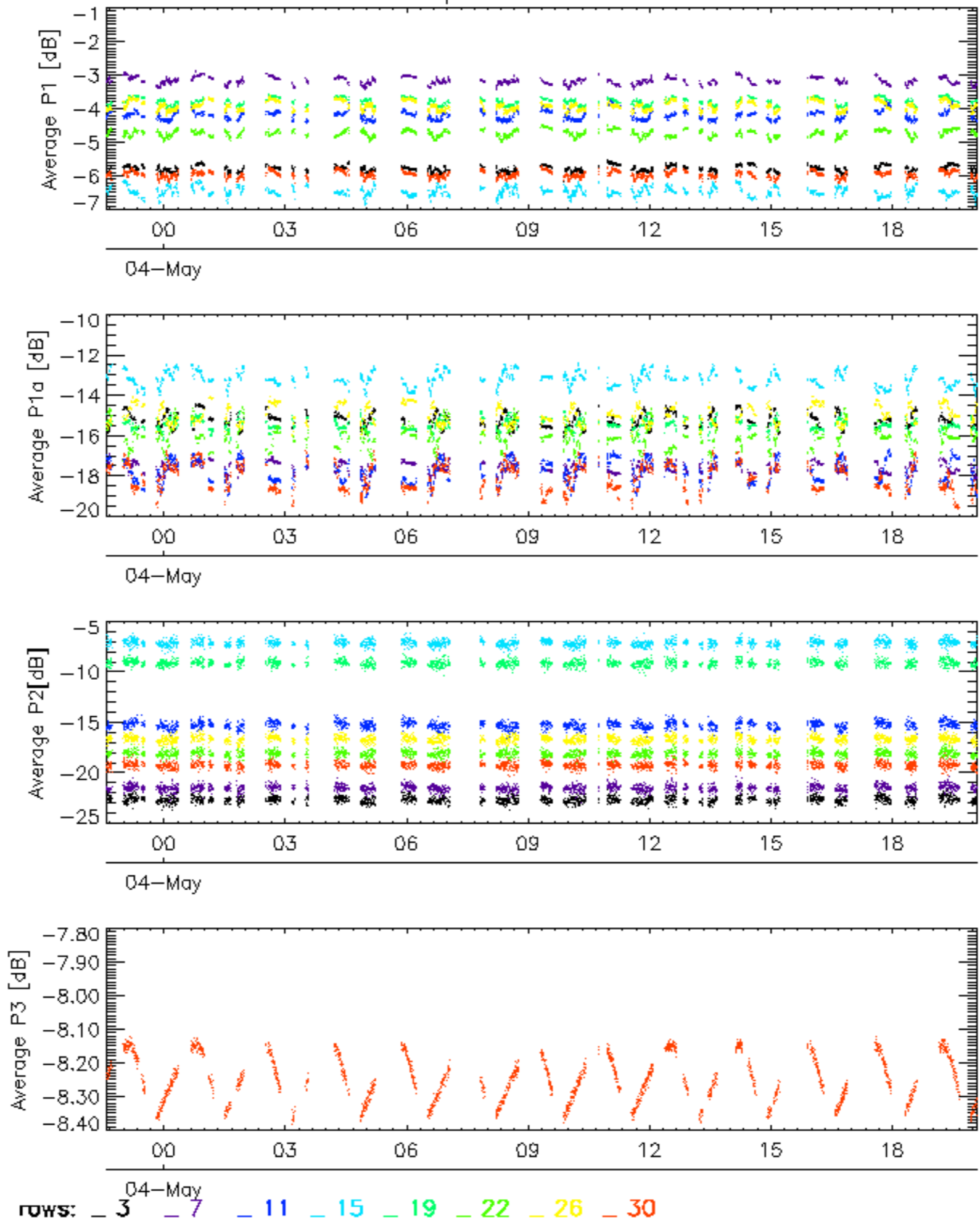


Cal pulses for WVS IS2



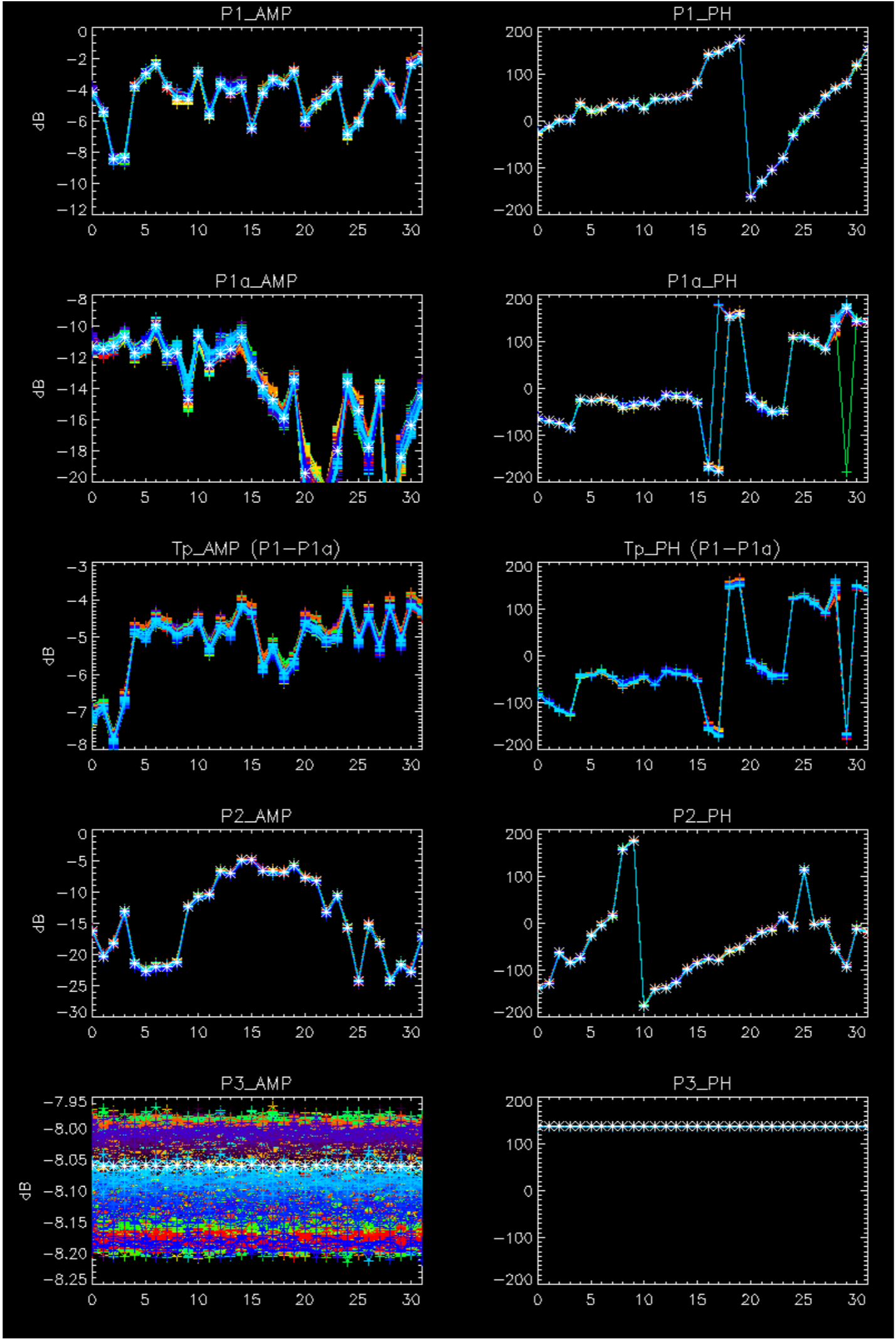
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

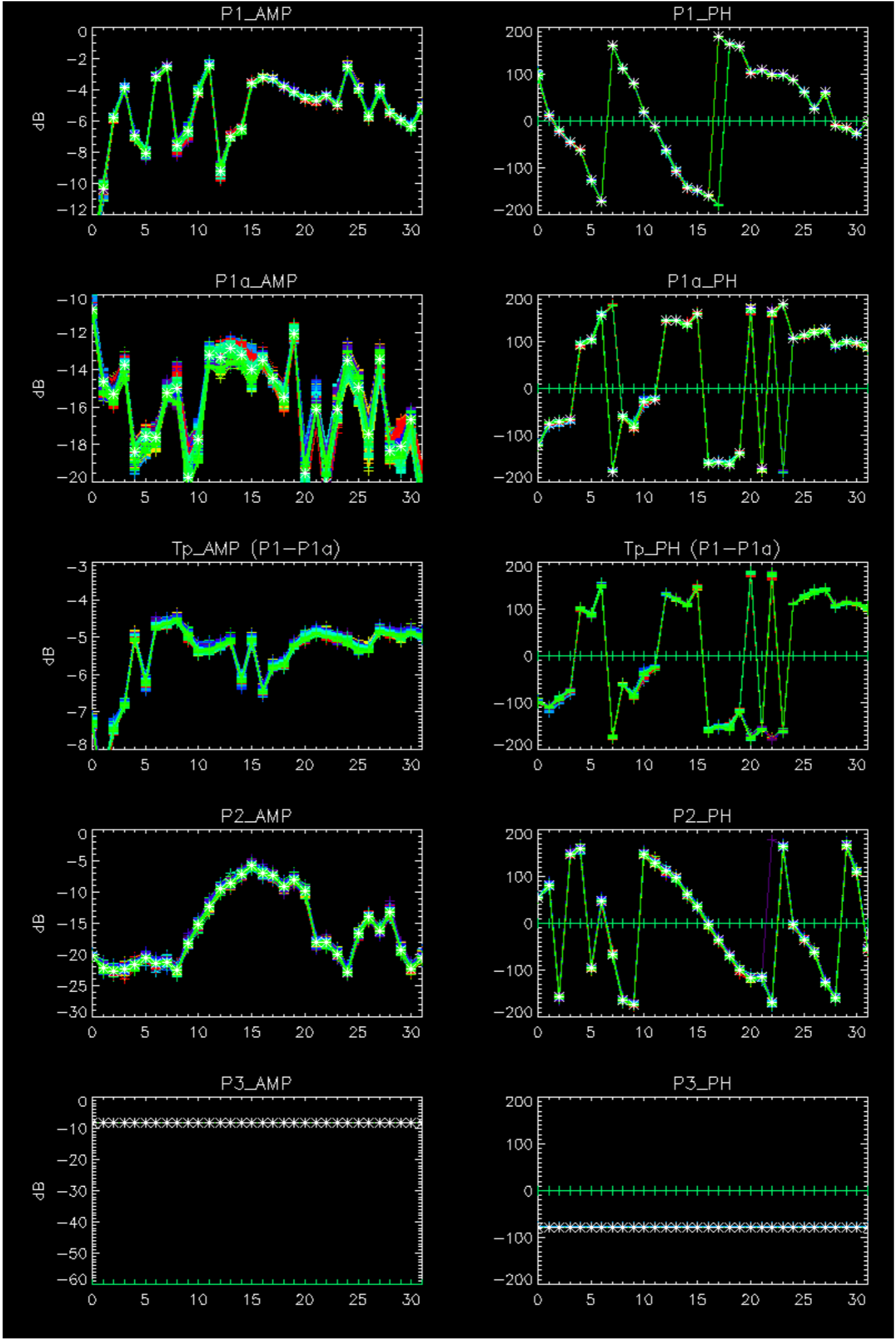
Cal pulses for WVS IS2



No anomalies observed.



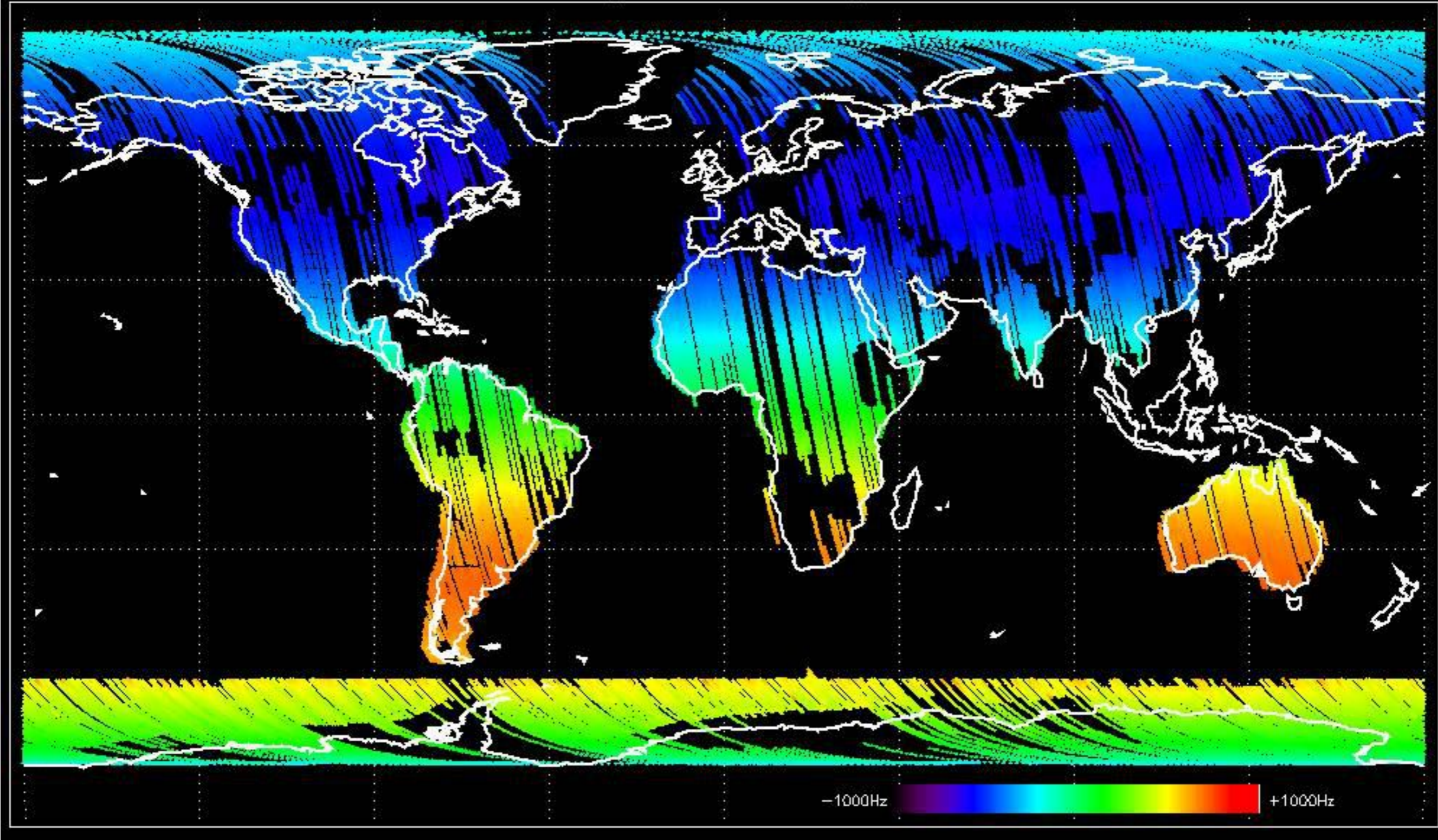




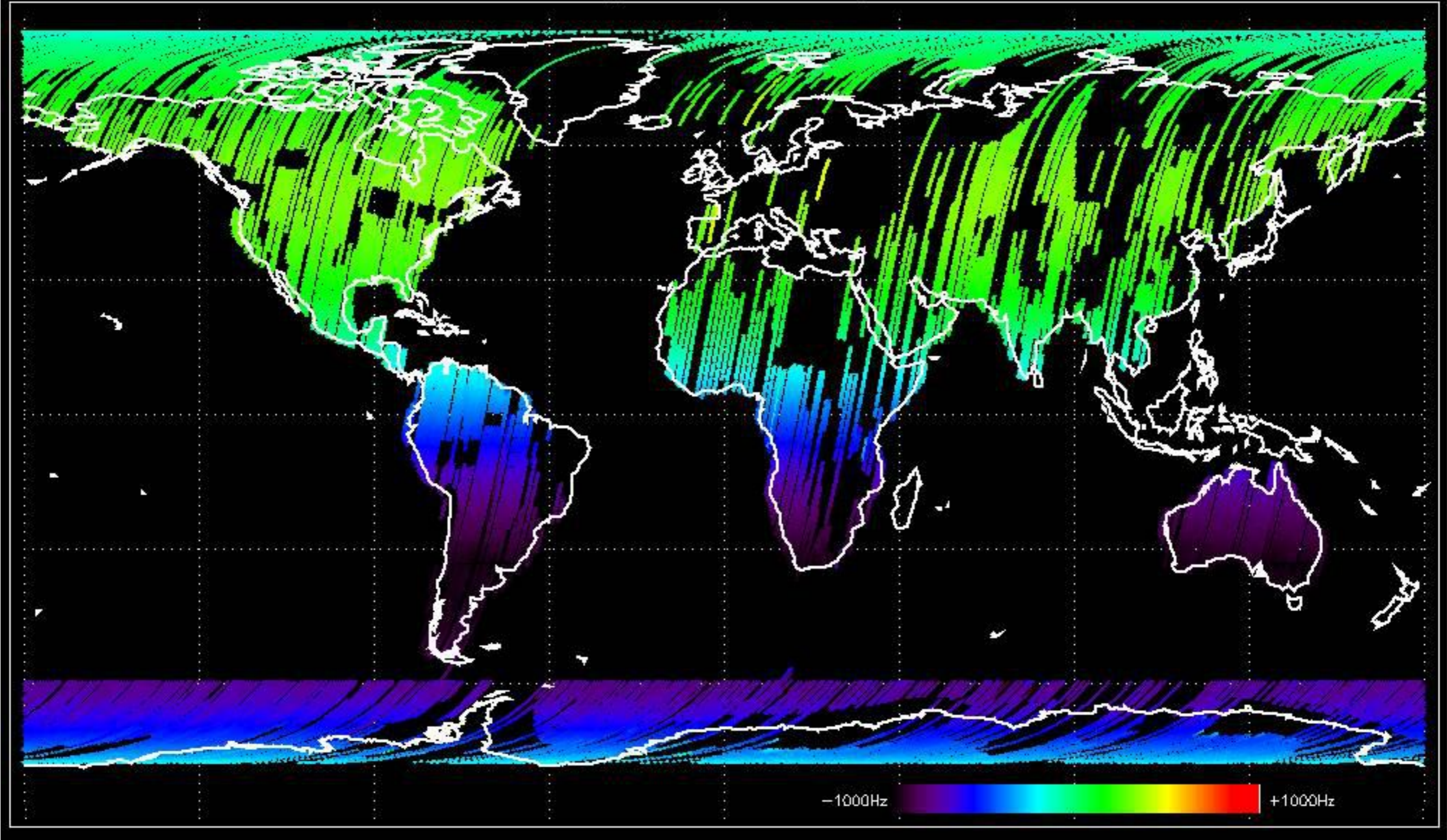
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



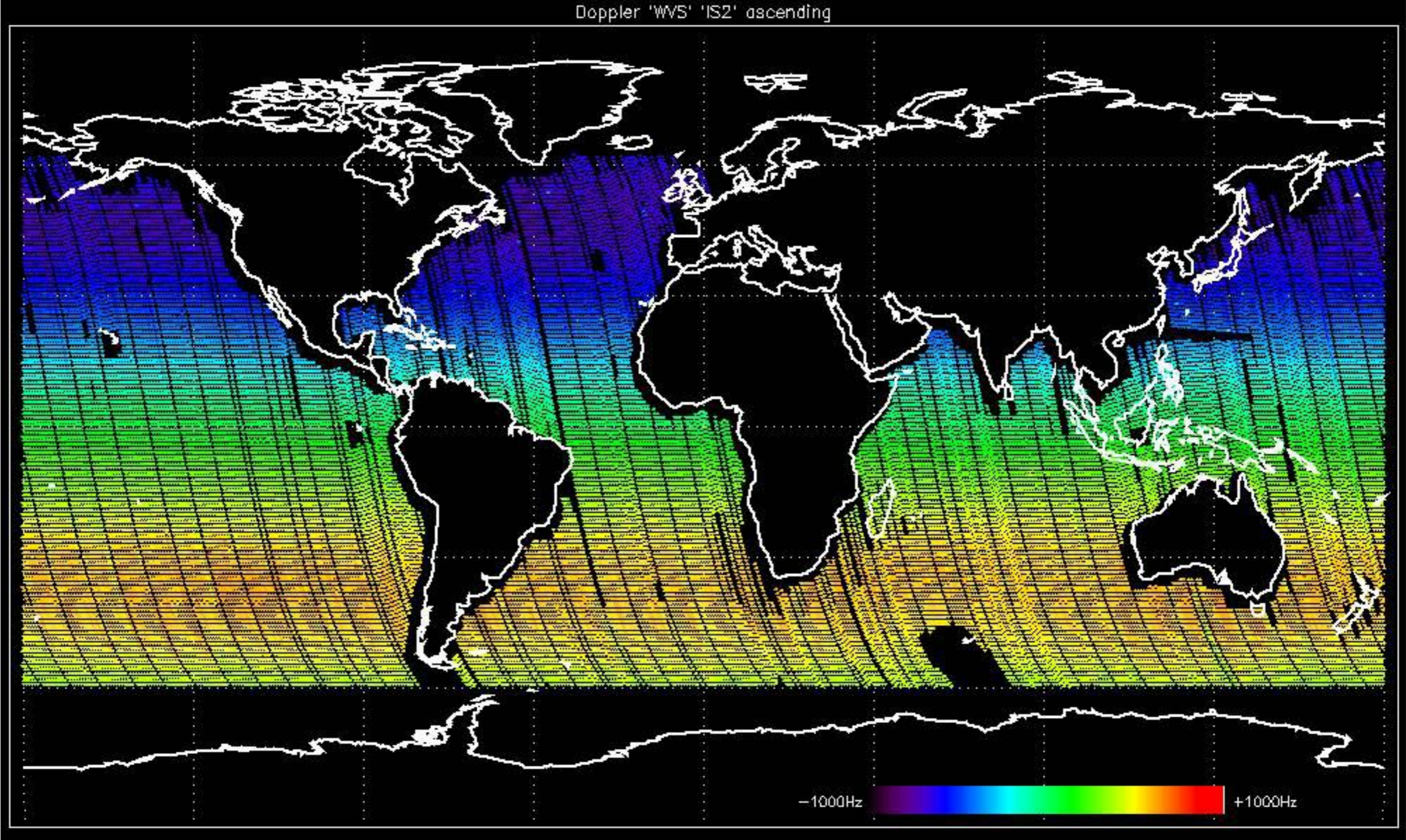
Doppler 'GM1' 'SS1' ascending



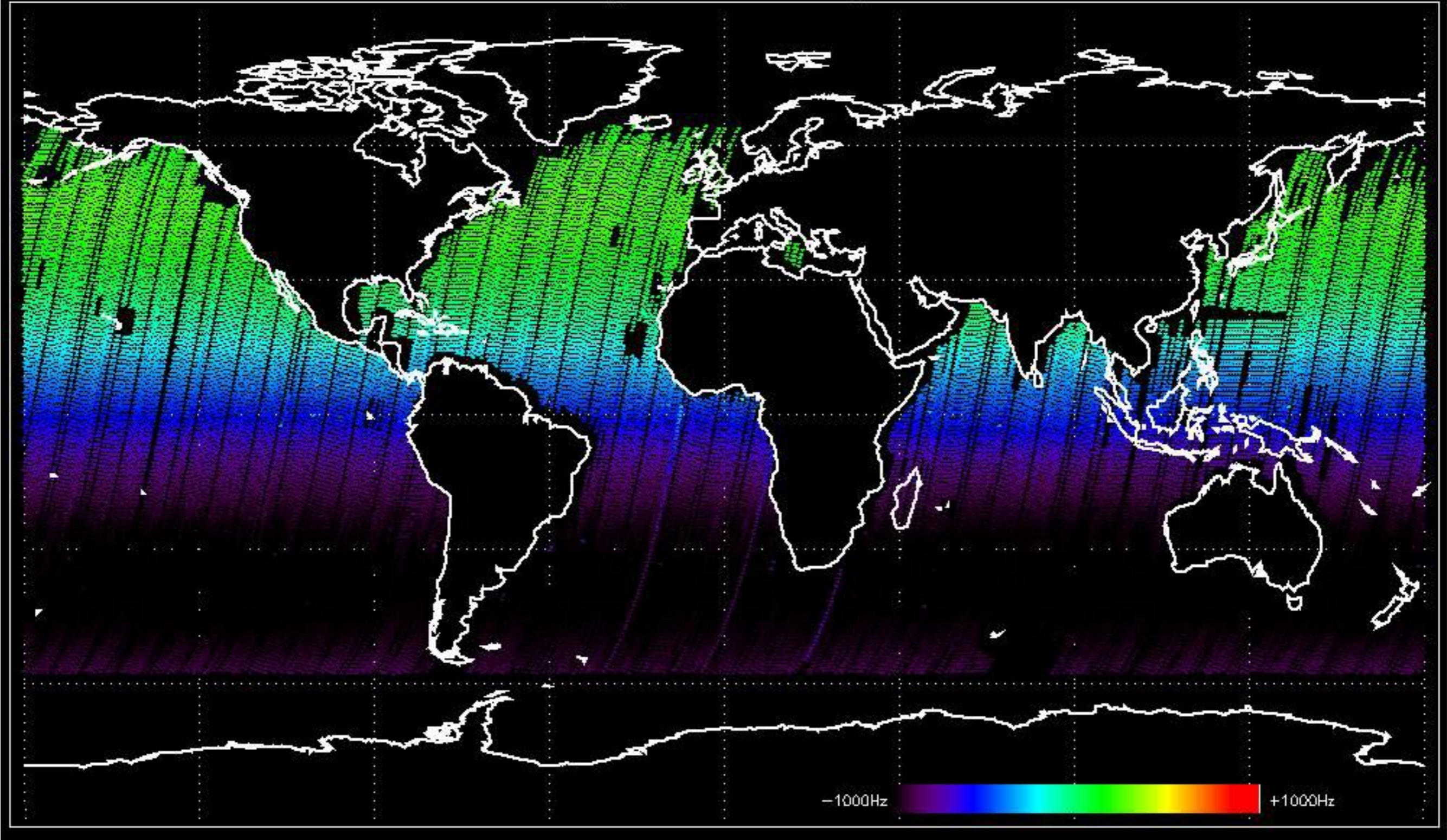
Doppler 'GM1' 'SS1' descending



Doppler 'WVS' 'IS2' ascending

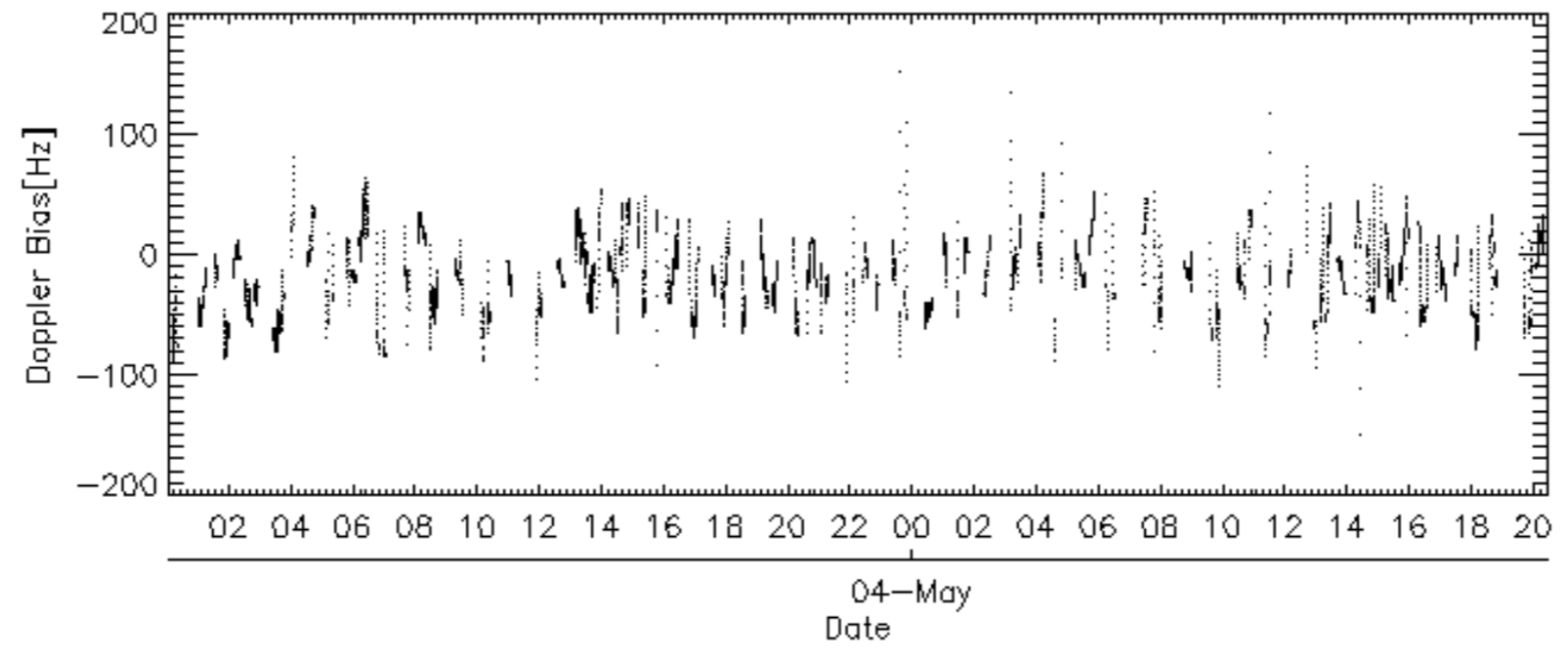
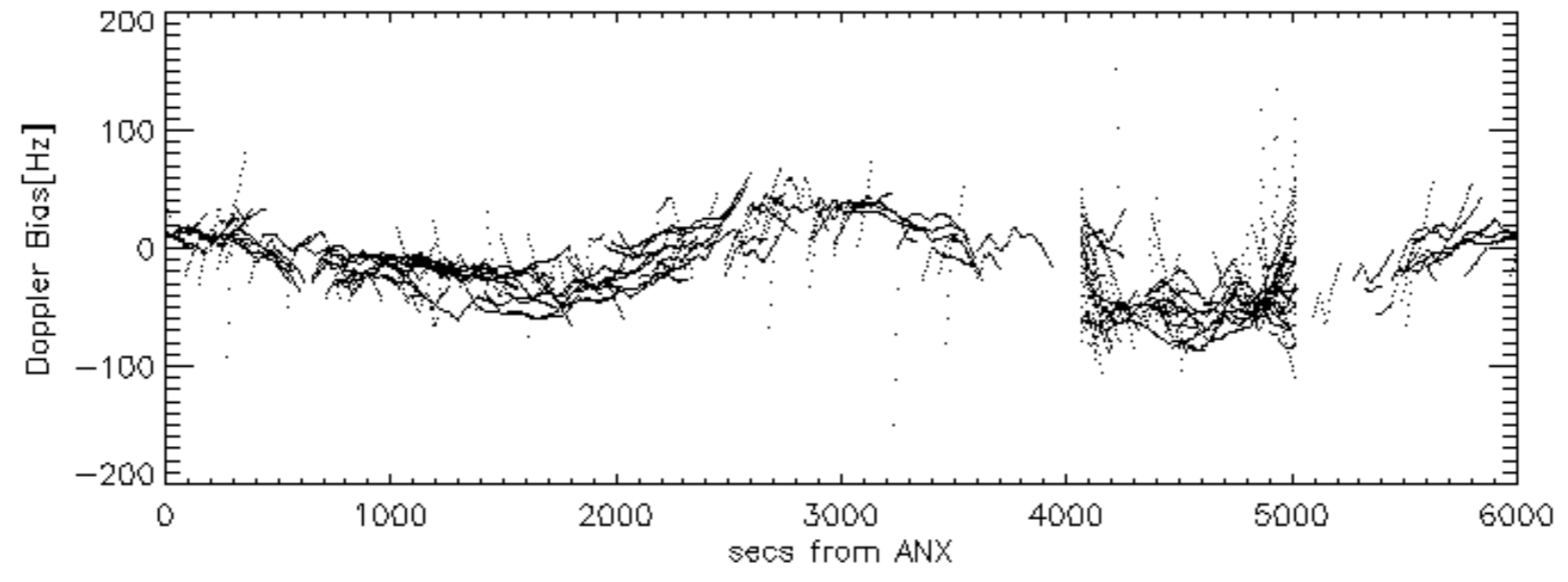
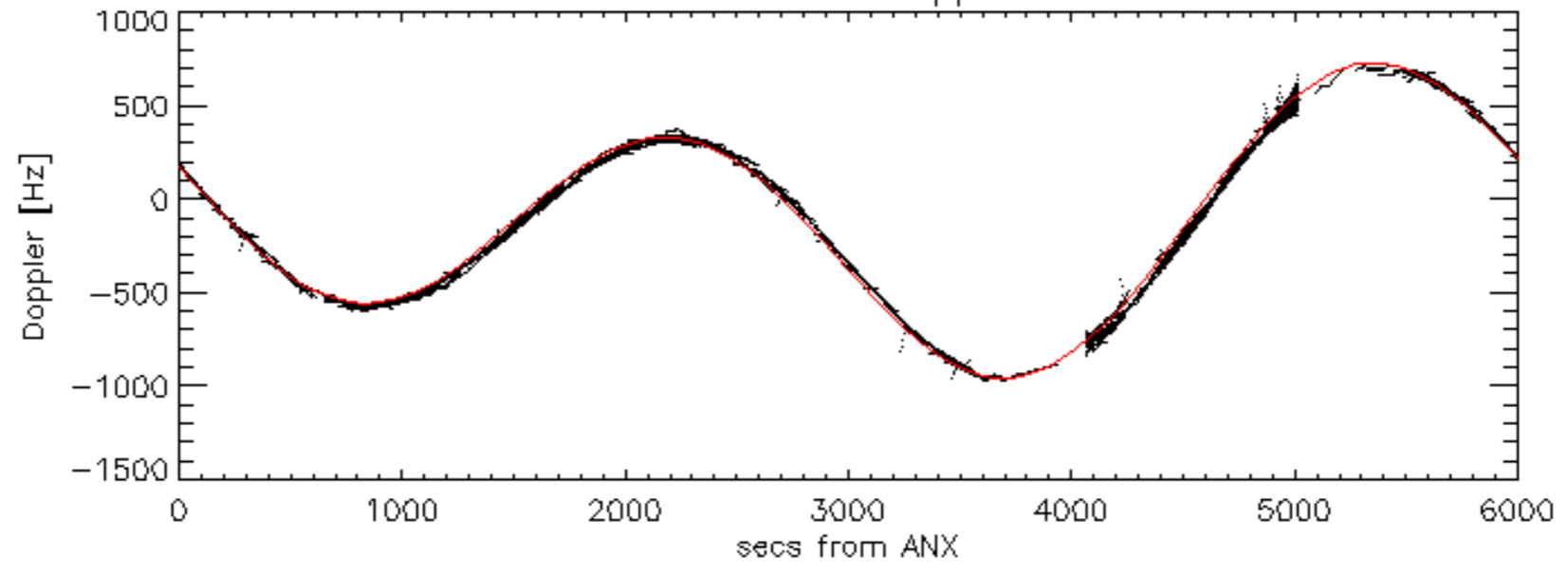


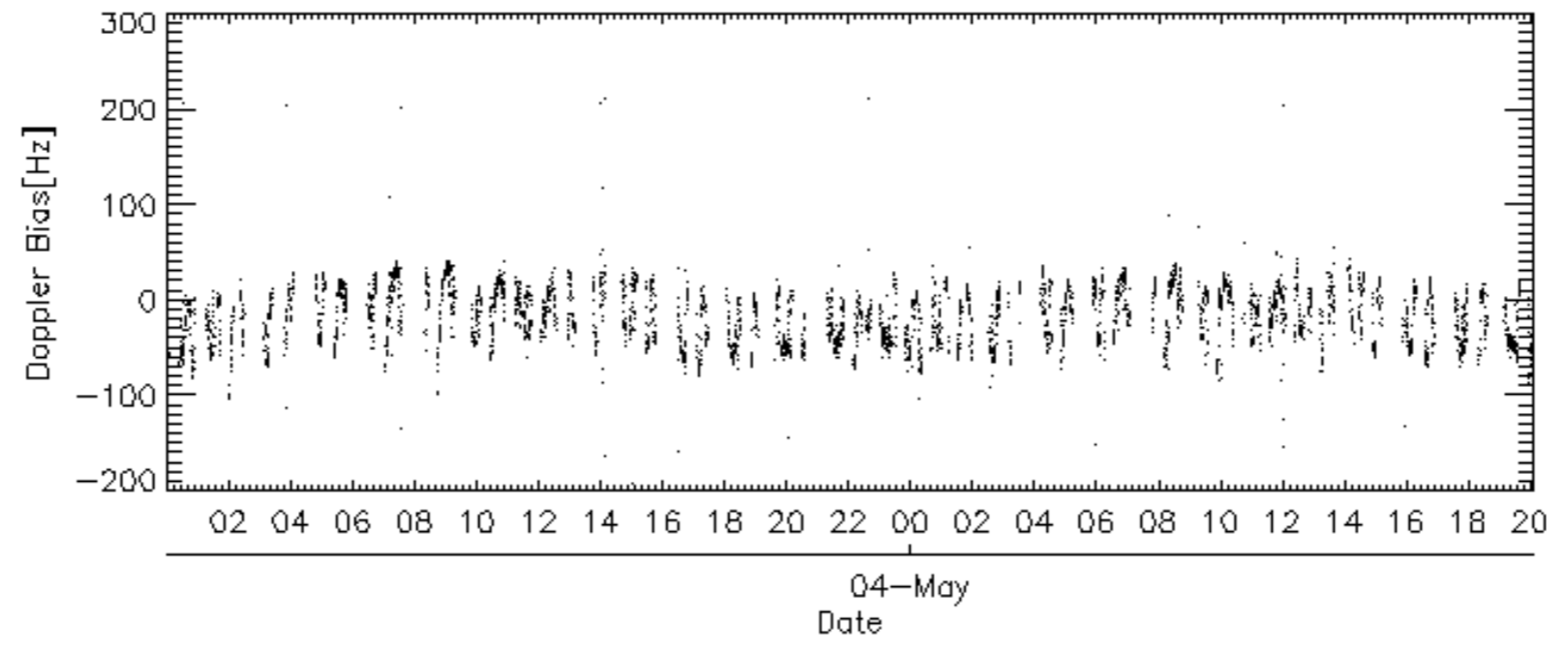
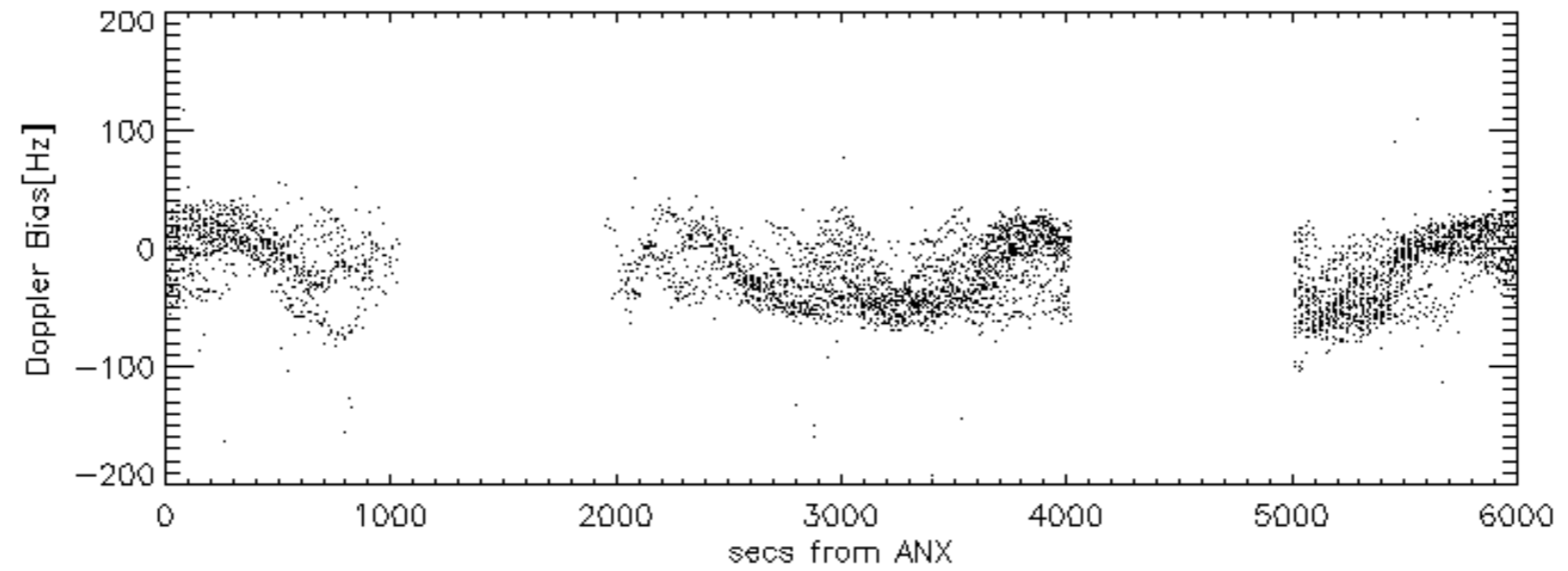
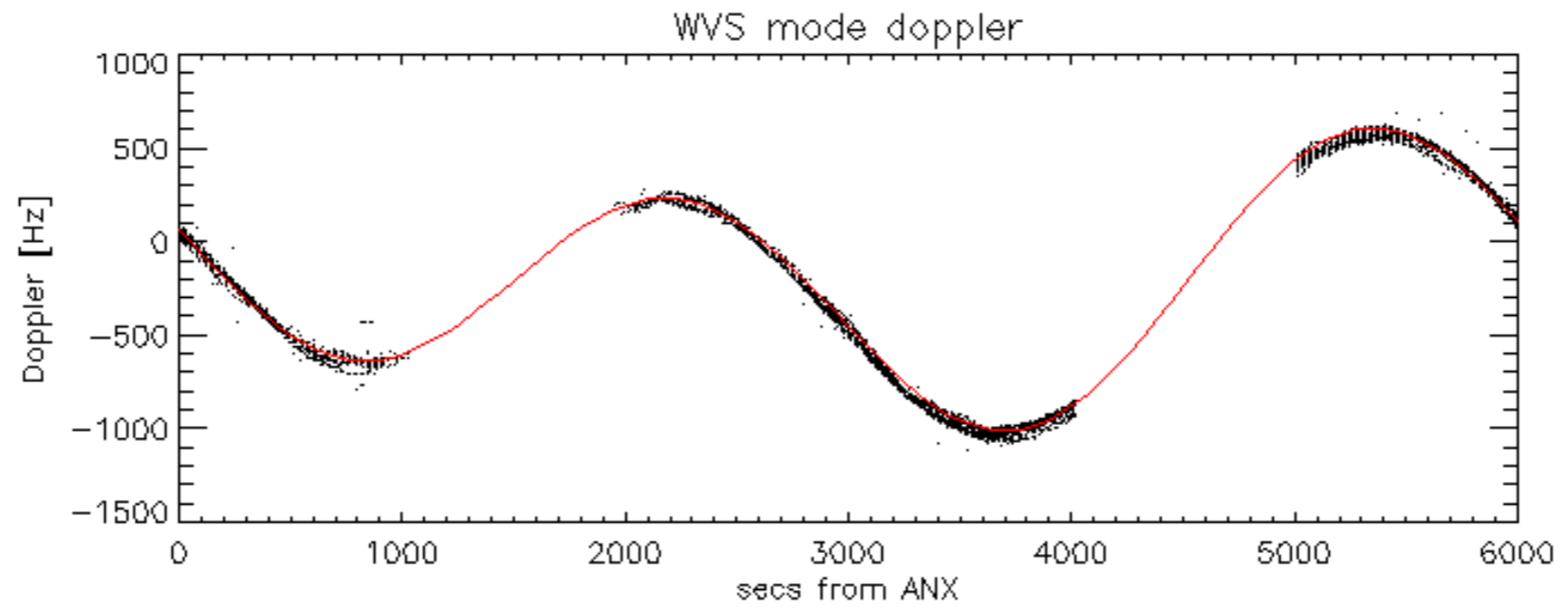
Doppler 'WVS' 'IS2' descending



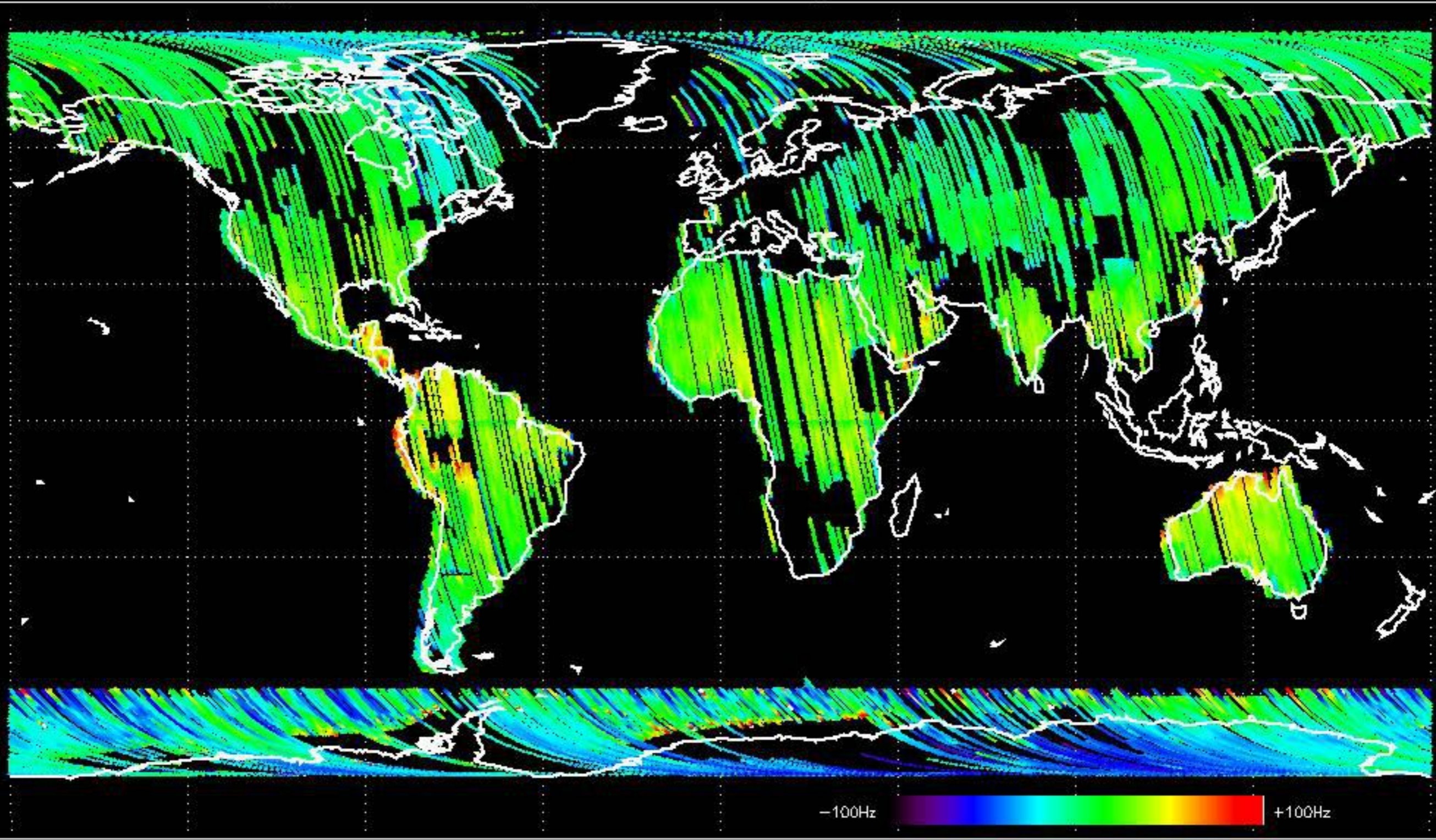


GM1 mode doppler

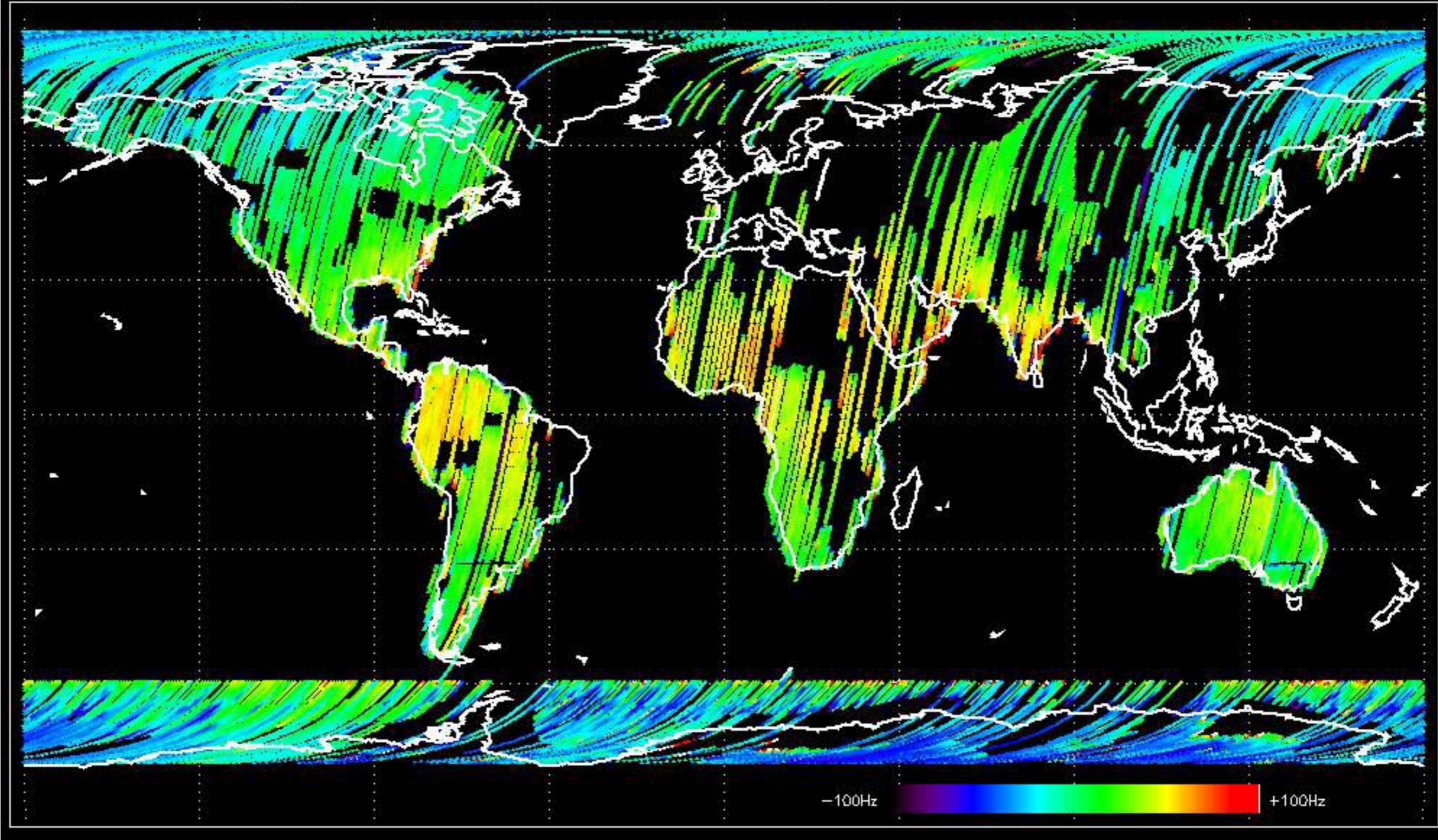




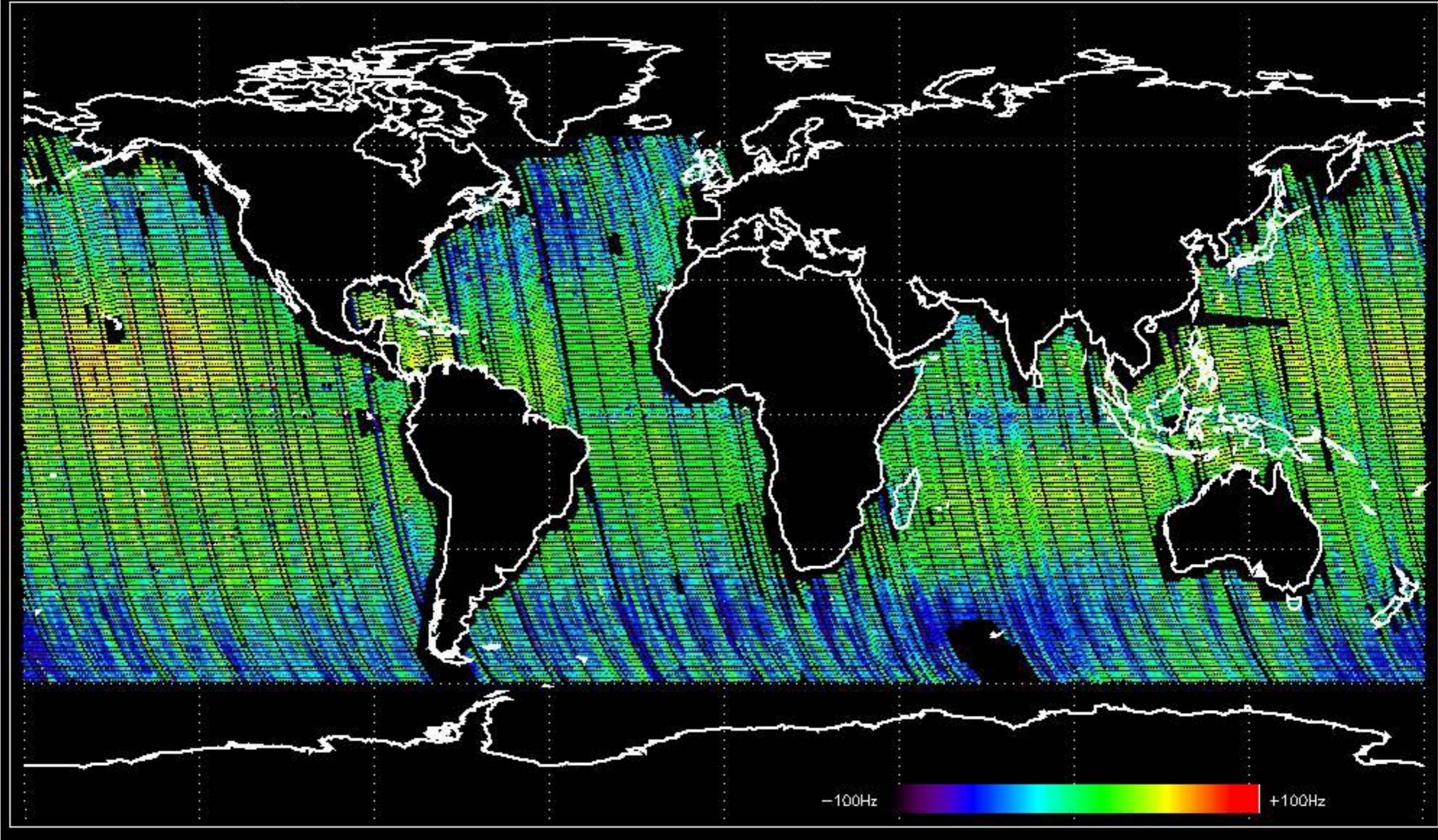
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -24.863712 Hz



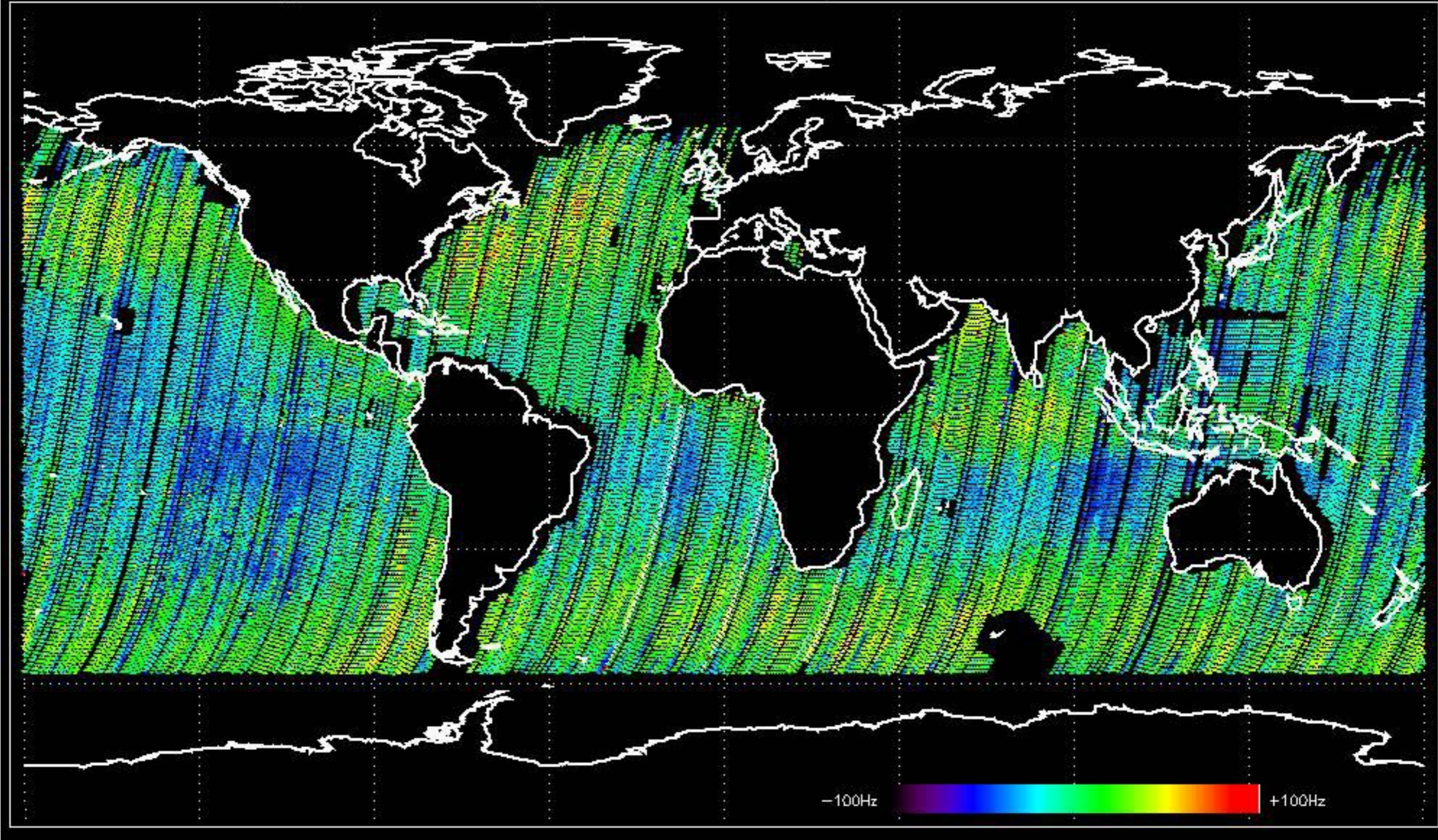
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -16.605773 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -19.266486 Hz



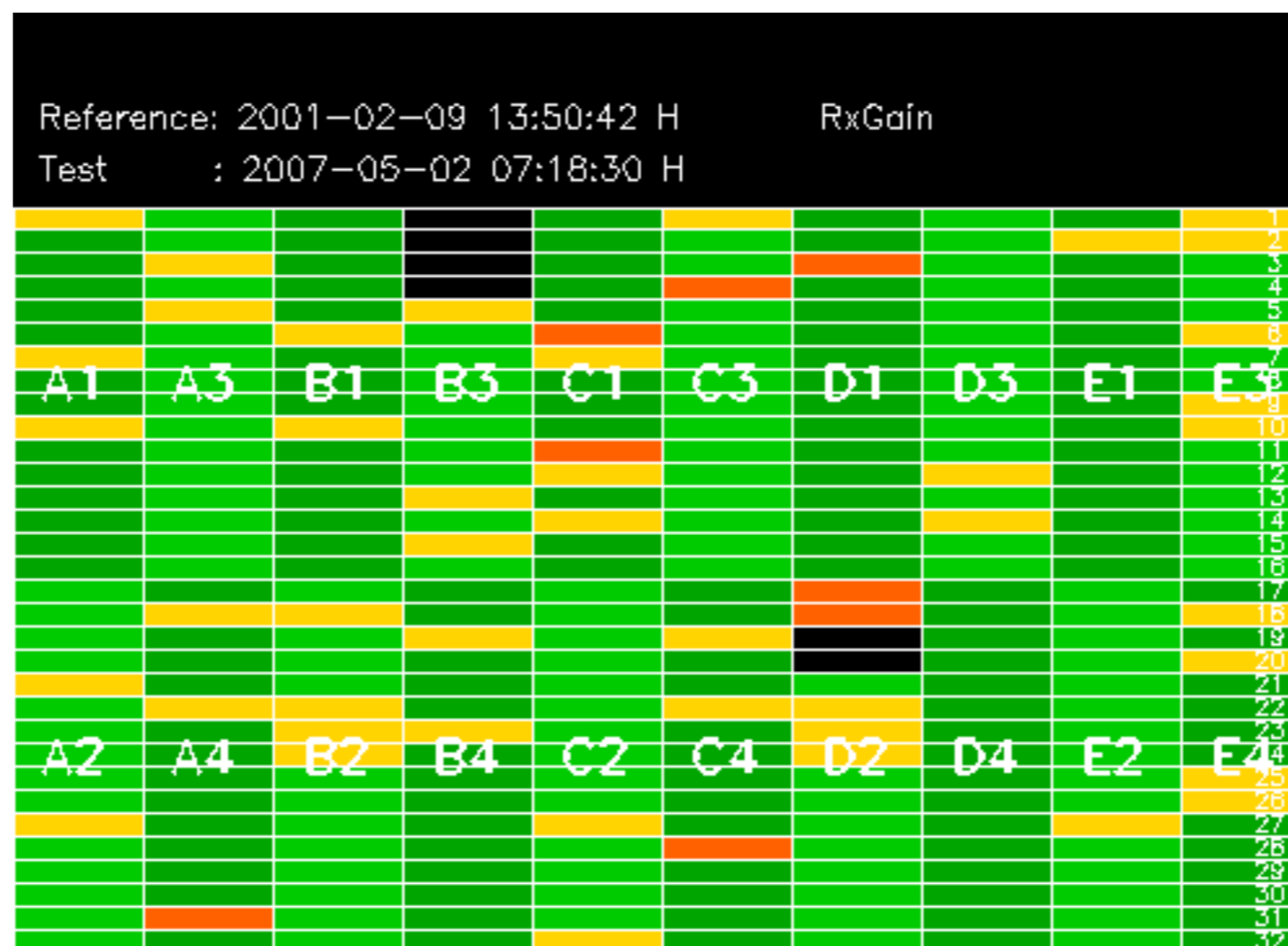
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -21.473192 Hz



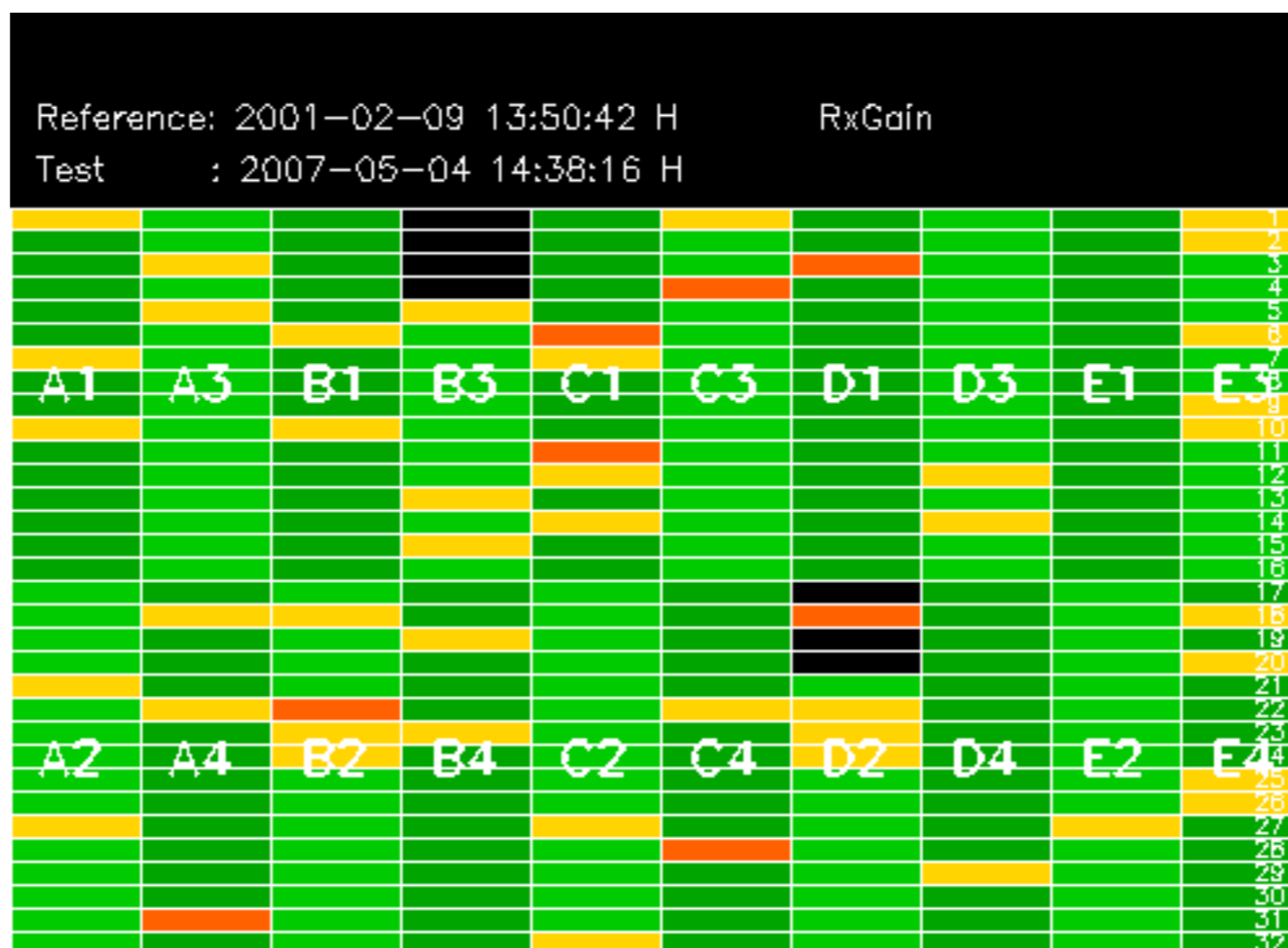
No anomalies observed on available MS products:

No anomalies observed.

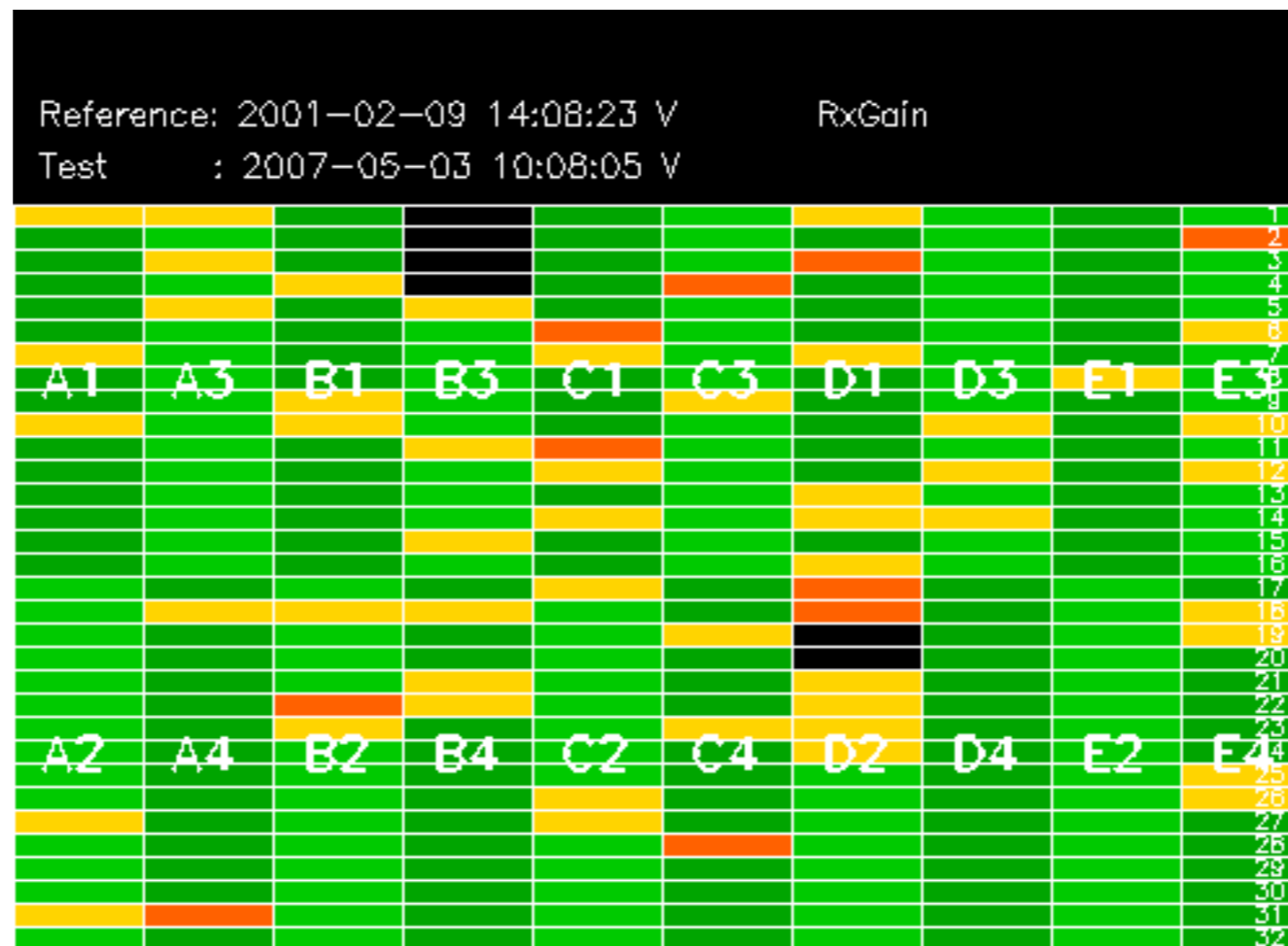


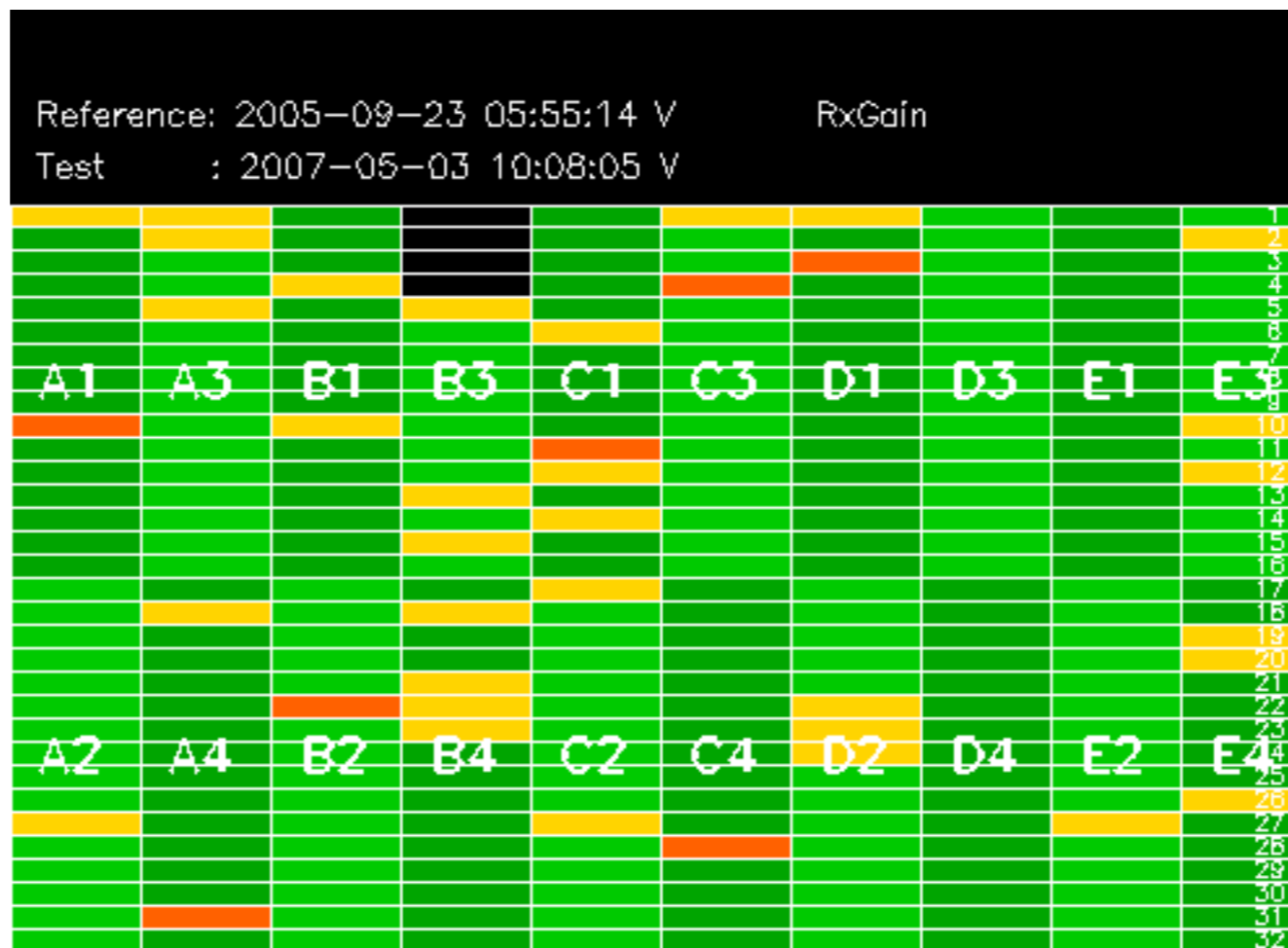








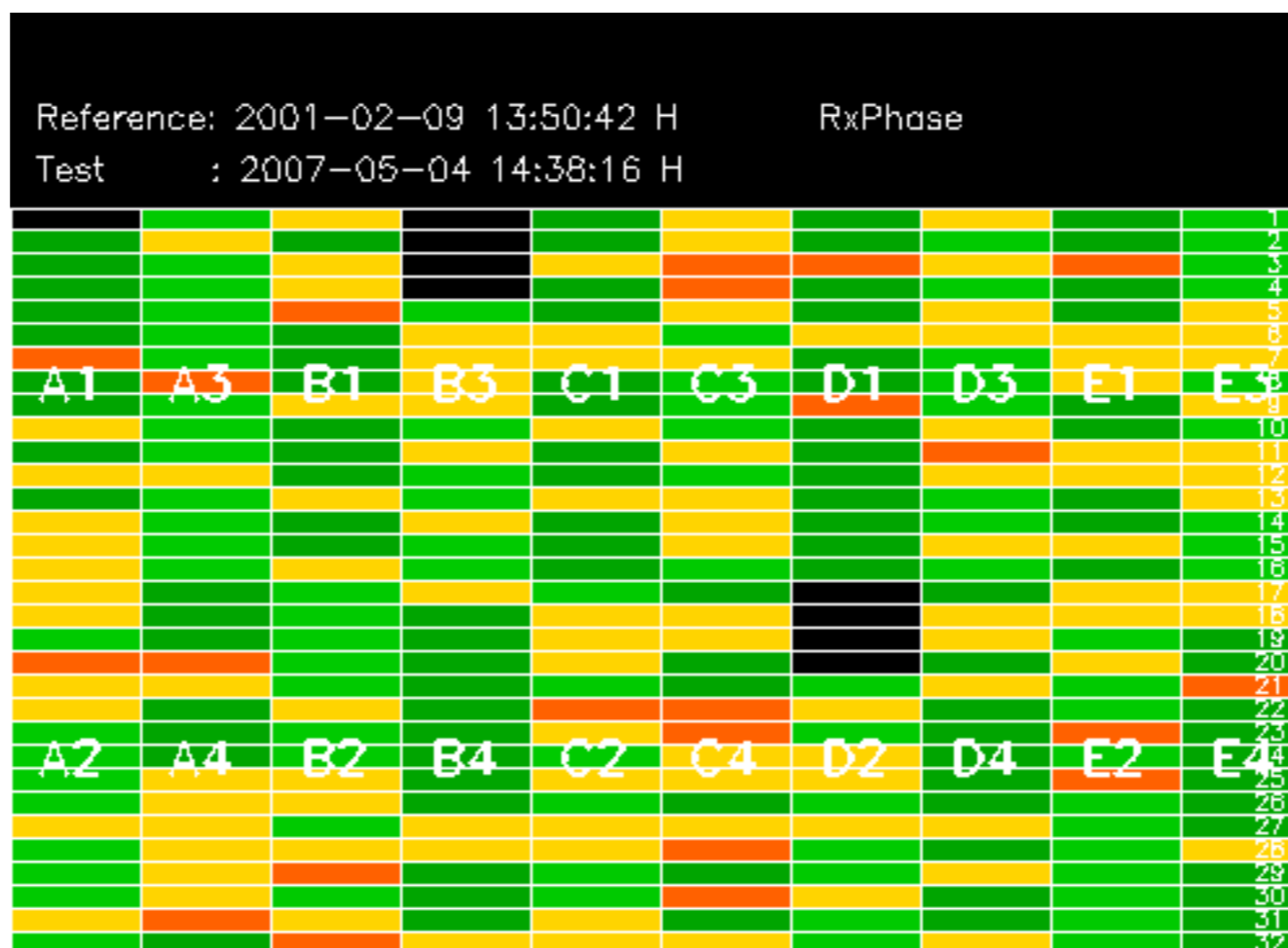


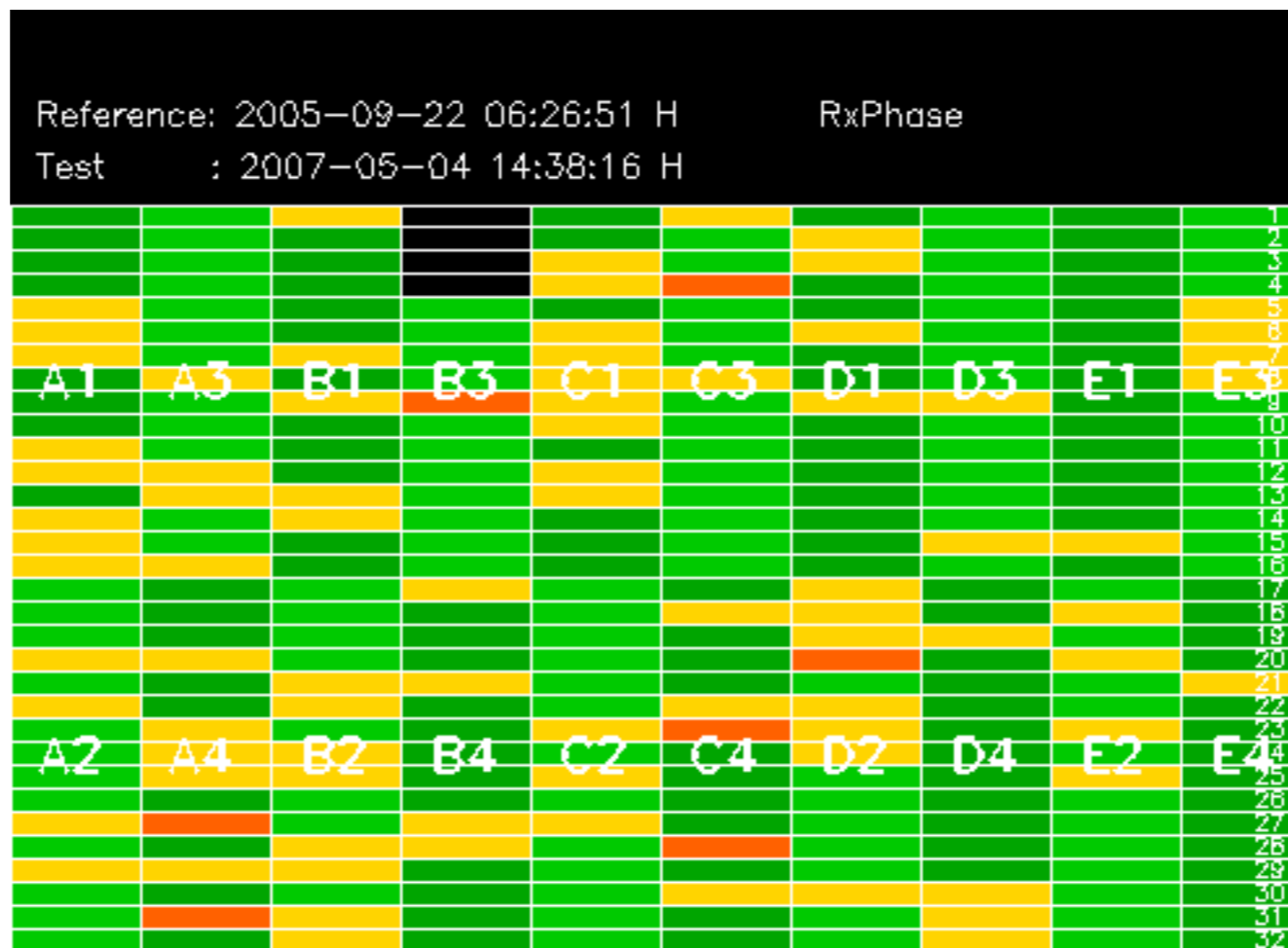






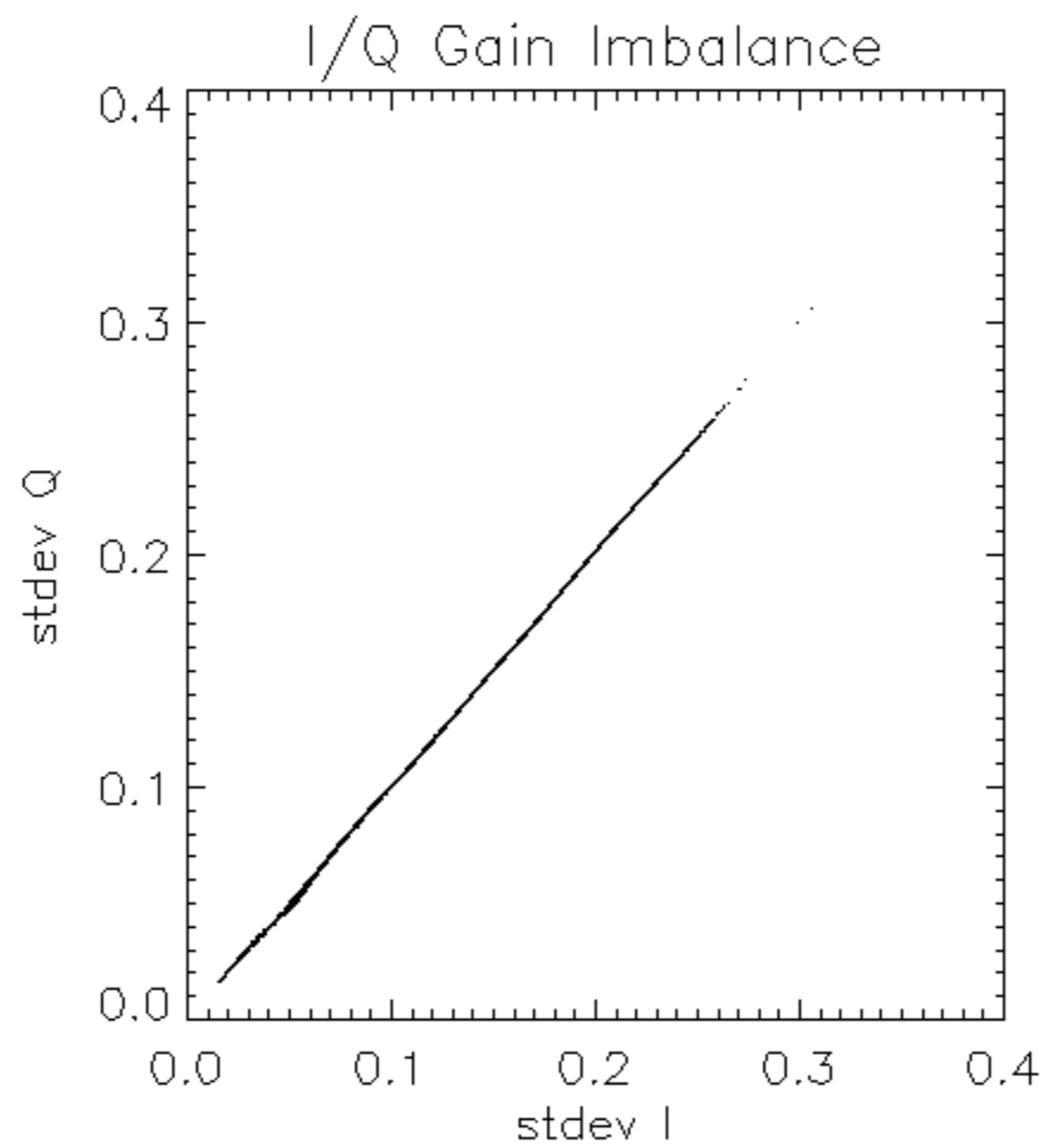


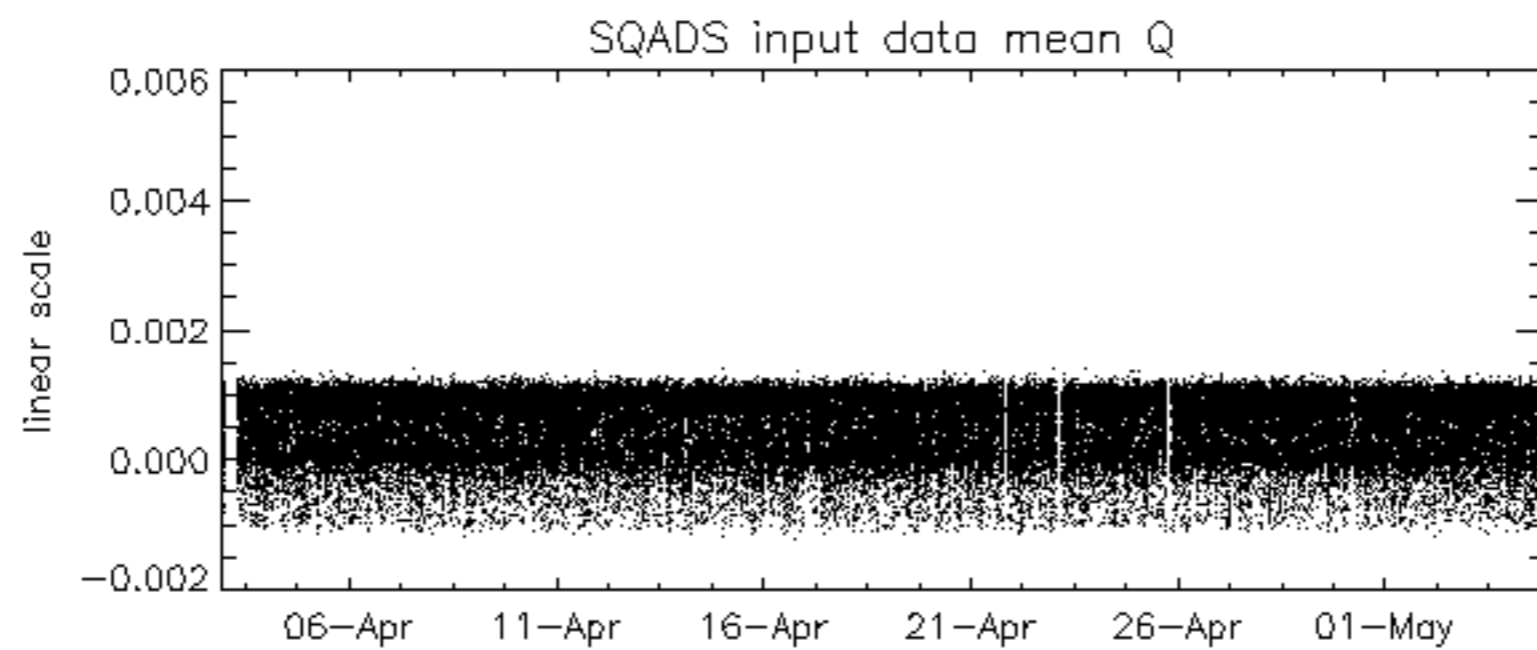
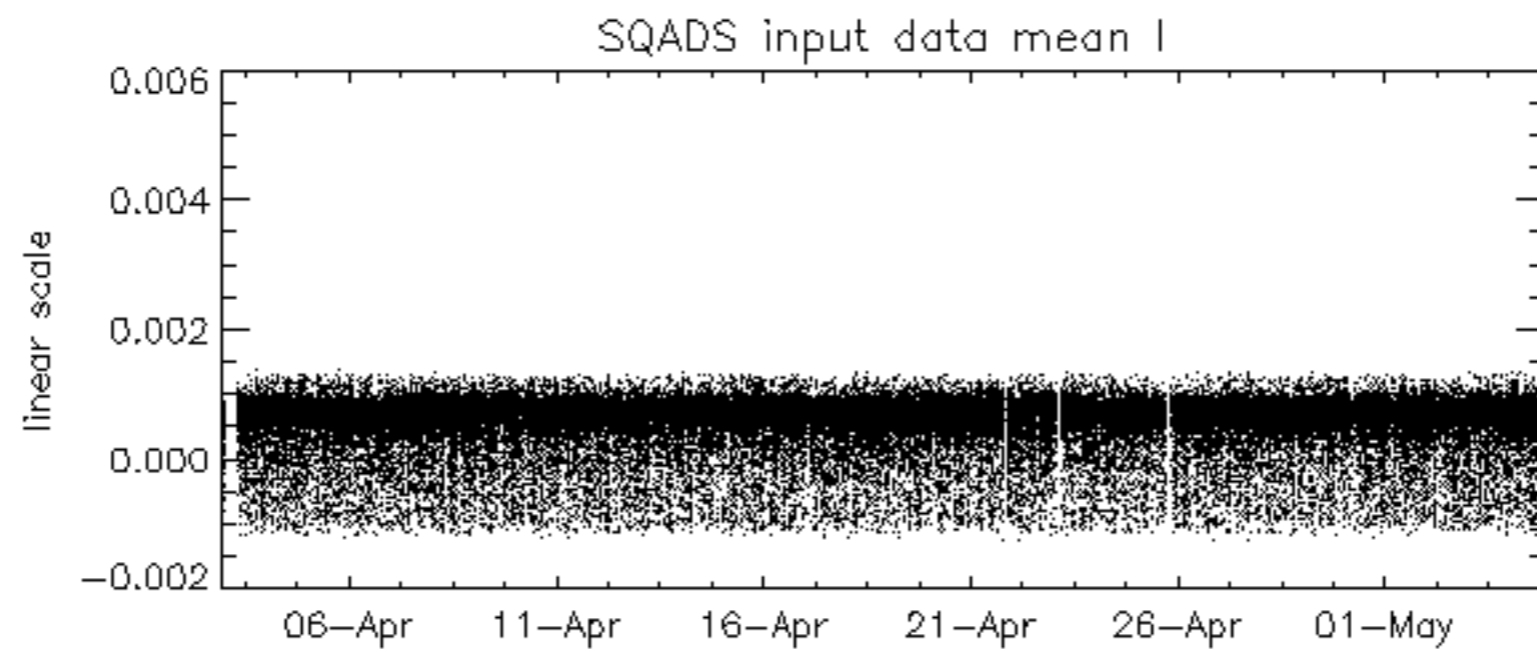
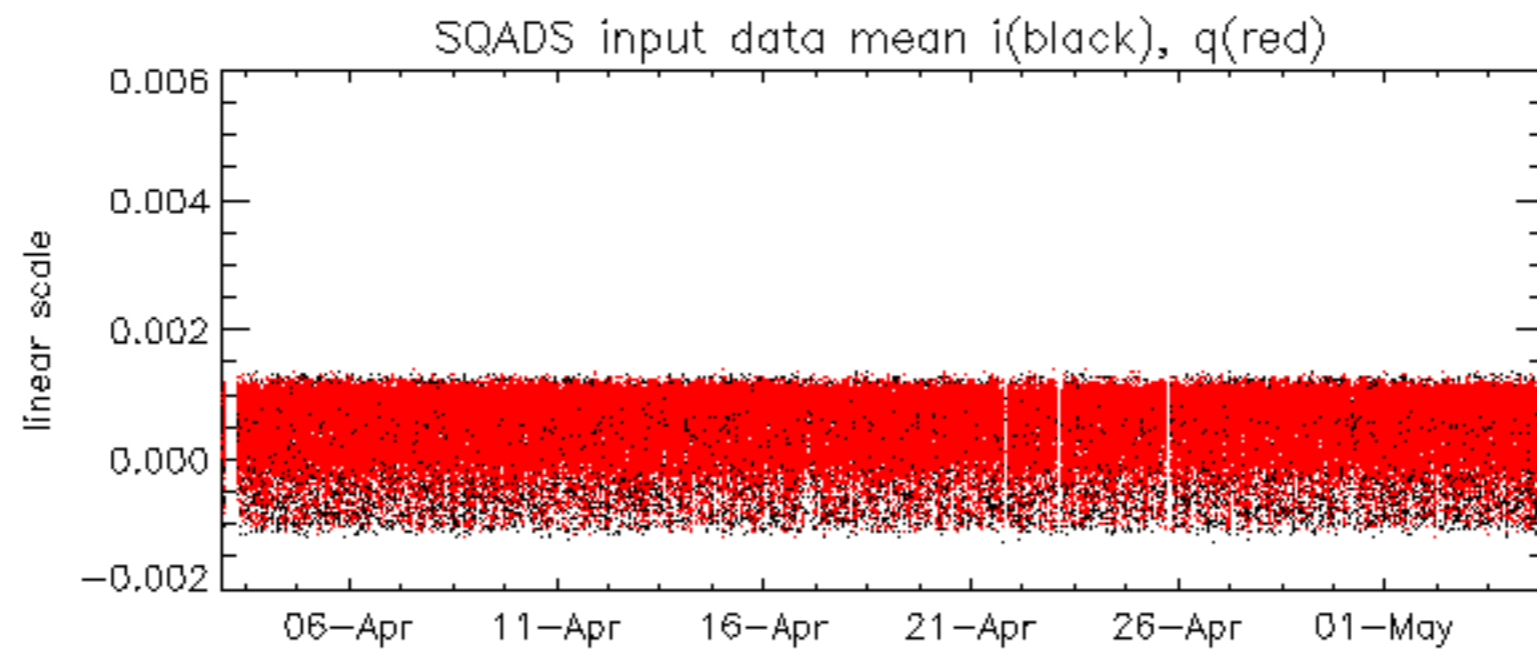


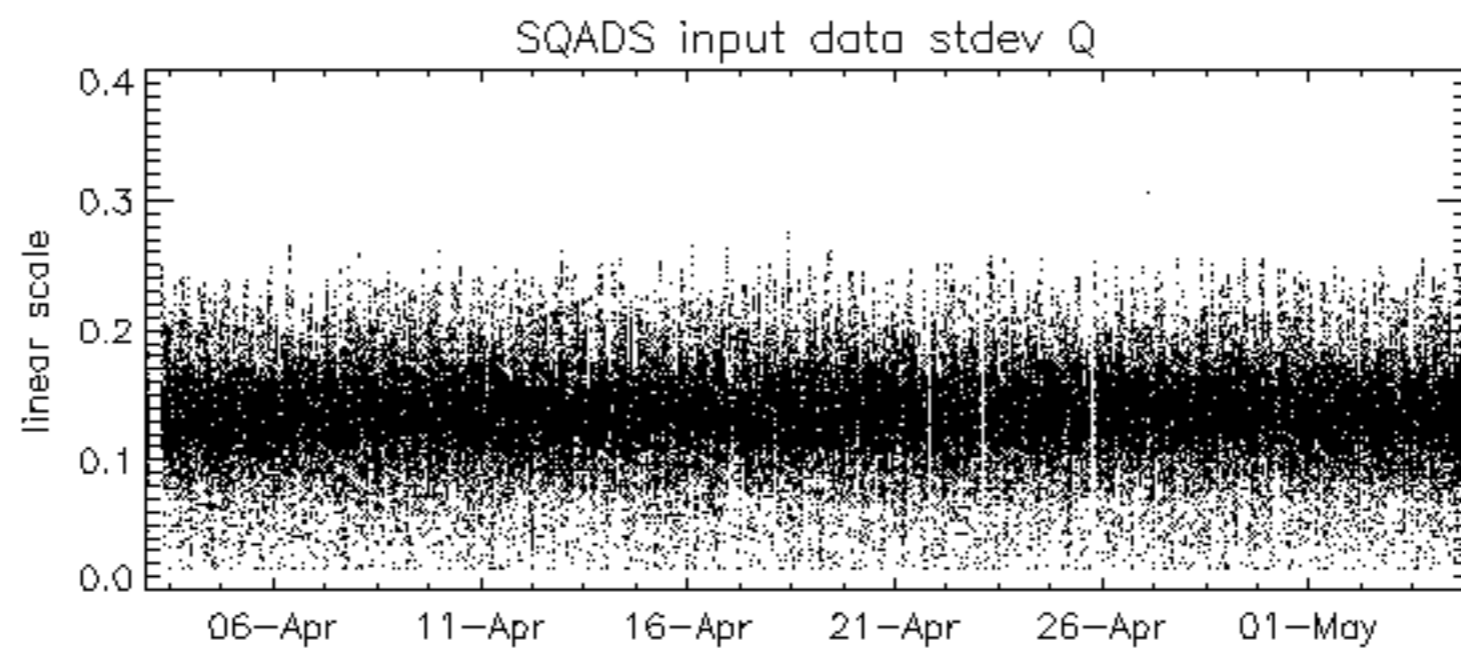
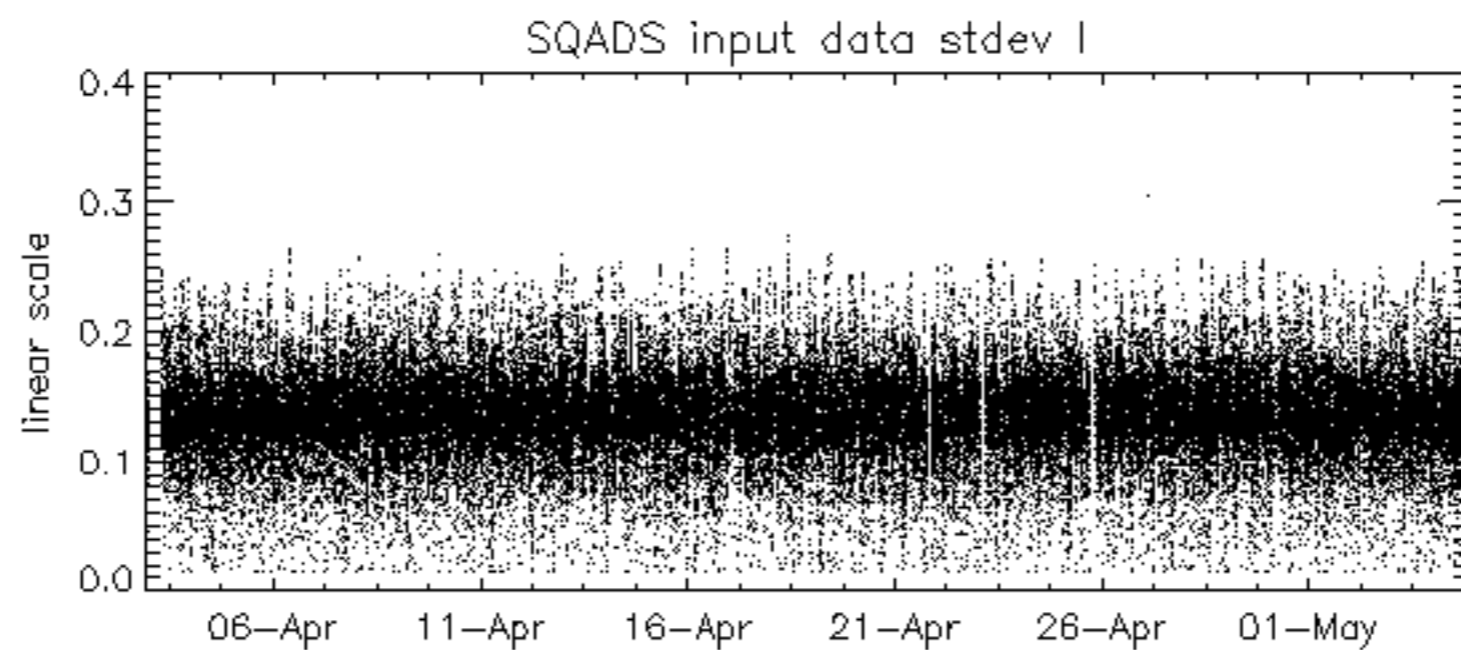
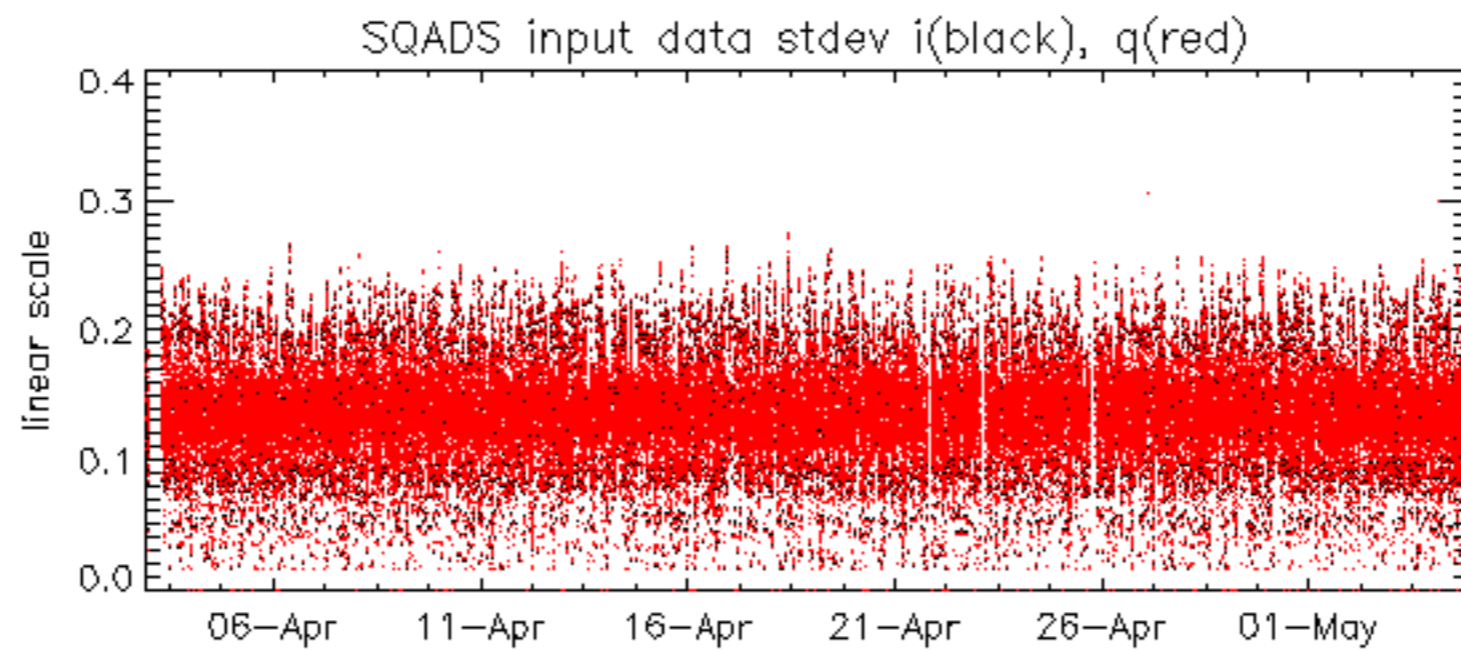






















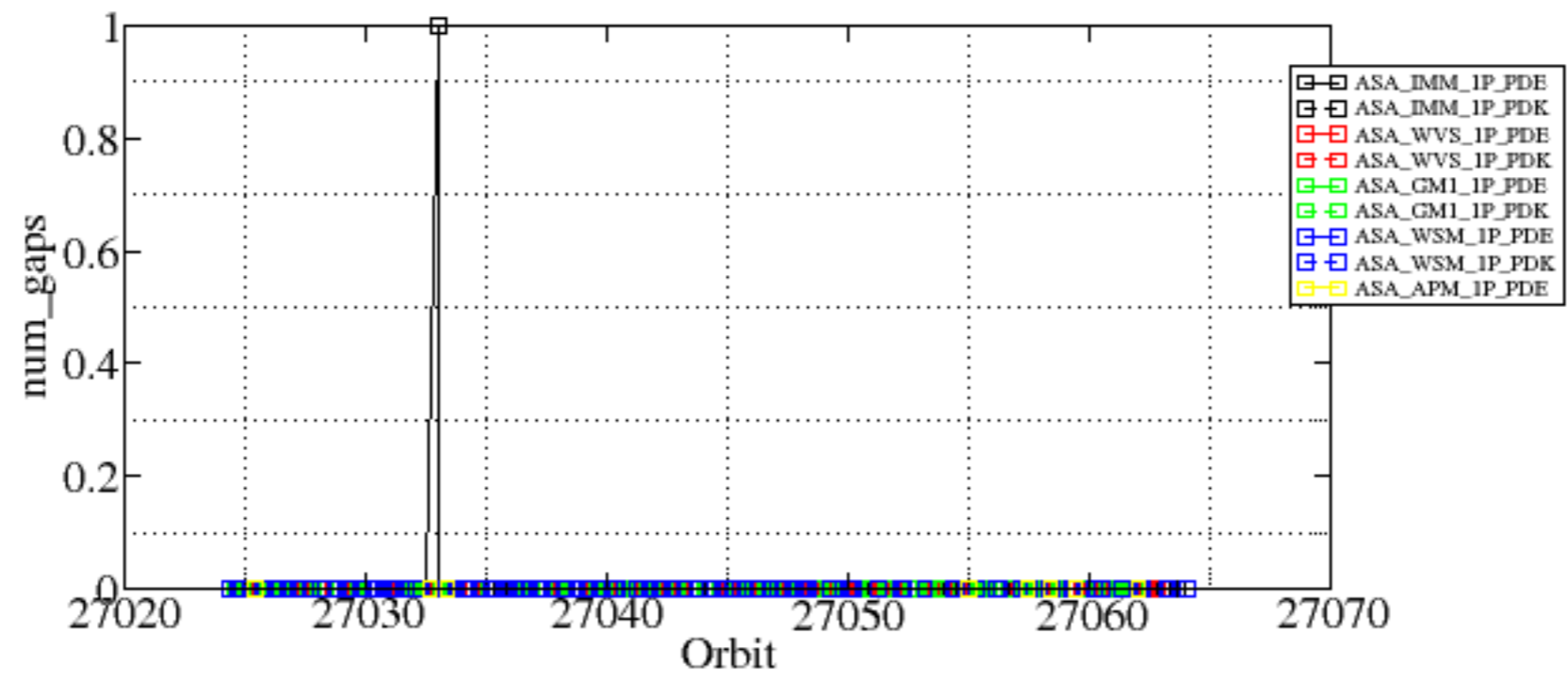




Summary of analysis for the last 3 days 2007050[234]

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_1PNPDE20070502_143310_00000372057_00425_27032_5713.N1	1	0
ASA_IMM_1PNPDK20070504_083350_00000612057_00451_27058_4312.N1	0	26
ASA_GM1_1PNPDK20070502_100004_000001082057_00423_27030_1179.N1	0	6
ASA_GM1_1PNPDK20070504_103940_000001322057_00452_27059_4839.N1	0	15
ASA_GM1_1PNPDK20070504_140155_000001502057_00454_27061_5837.N1	0	14
ASA_GM1_1PNPDK20070504_141822_000001632057_00454_27061_5839.N1	0	7
ASA_GM1_1PNPDK20070504_144335_000006462057_00454_27061_5971.N1	0	23
ASA_WSM_1PNPDE20070502_162039_000002072057_00427_27034_5777.N1	0	15
ASA_WSM_1PNPDE20070502_202012_00000672057_00429_27036_5922.N1	0	63
ASA_WSM_1PNPDE20070503_112609_000001152057_00438_27045_6978.N1	0	42
ASA_WSM_1PNPDE20070503_190521_000001092057_00443_27050_7140.N1	0	57
ASA_WSM_1PNPDE20070504_023250_00000852057_00447_27054_7677.N1	0	27









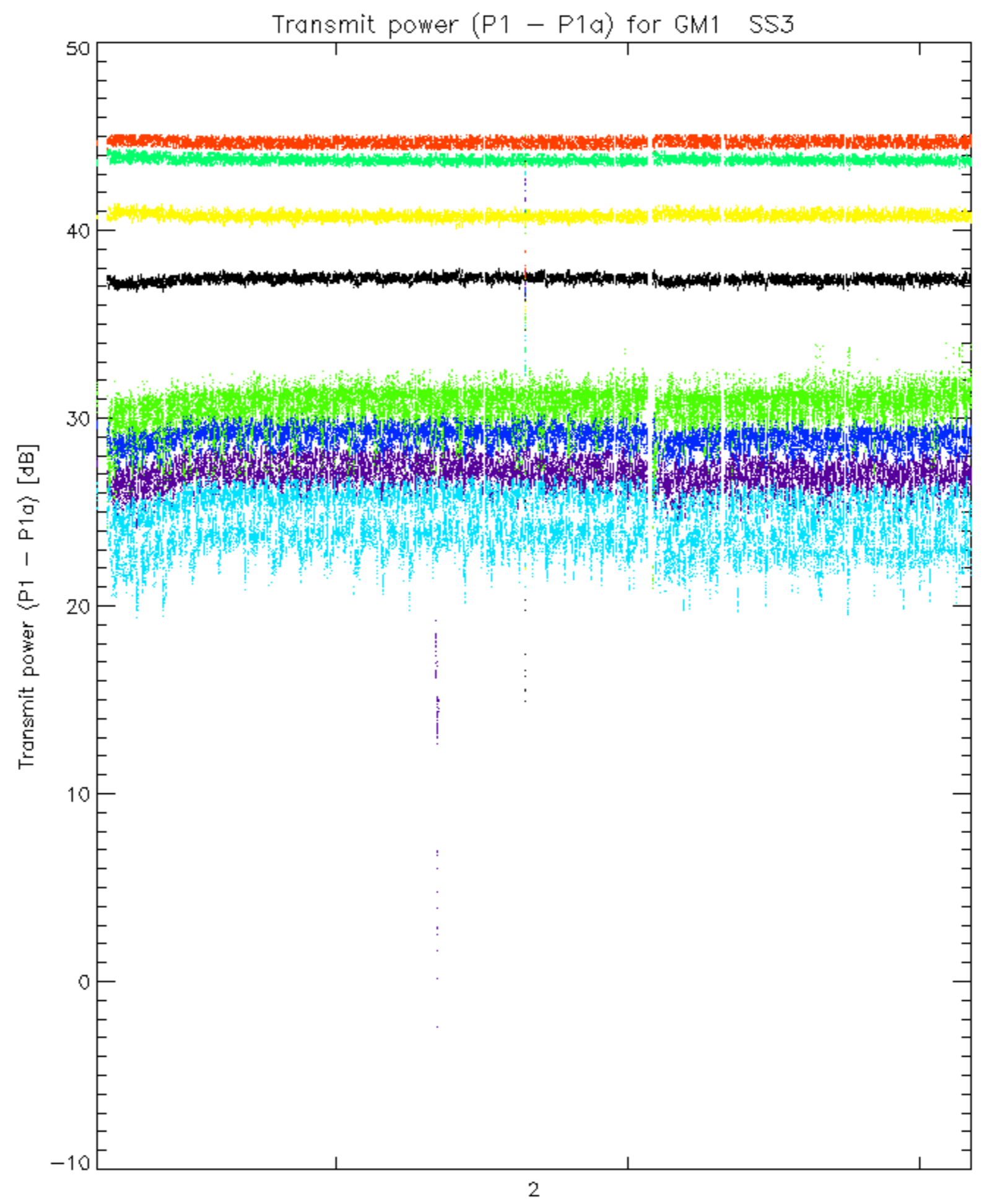




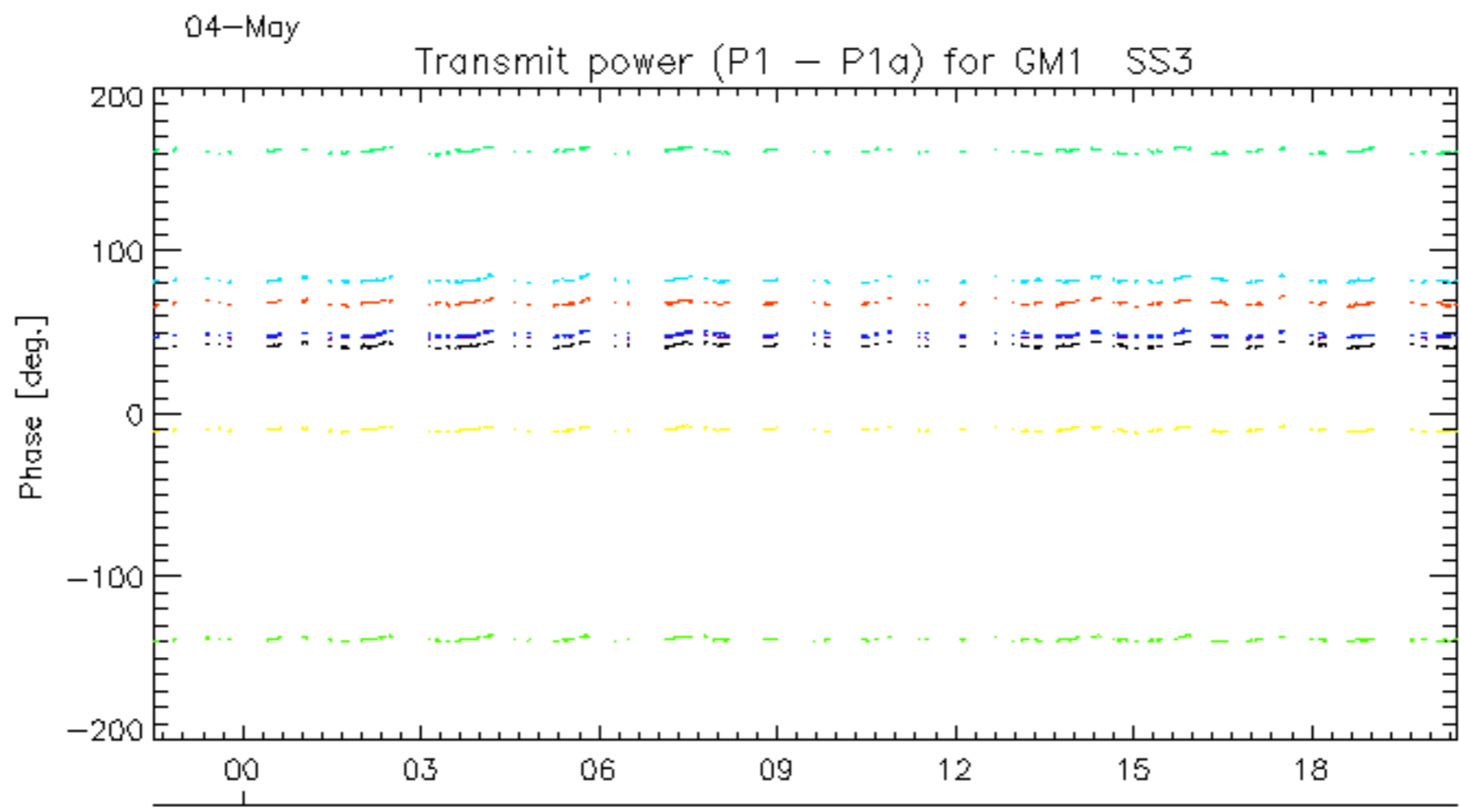
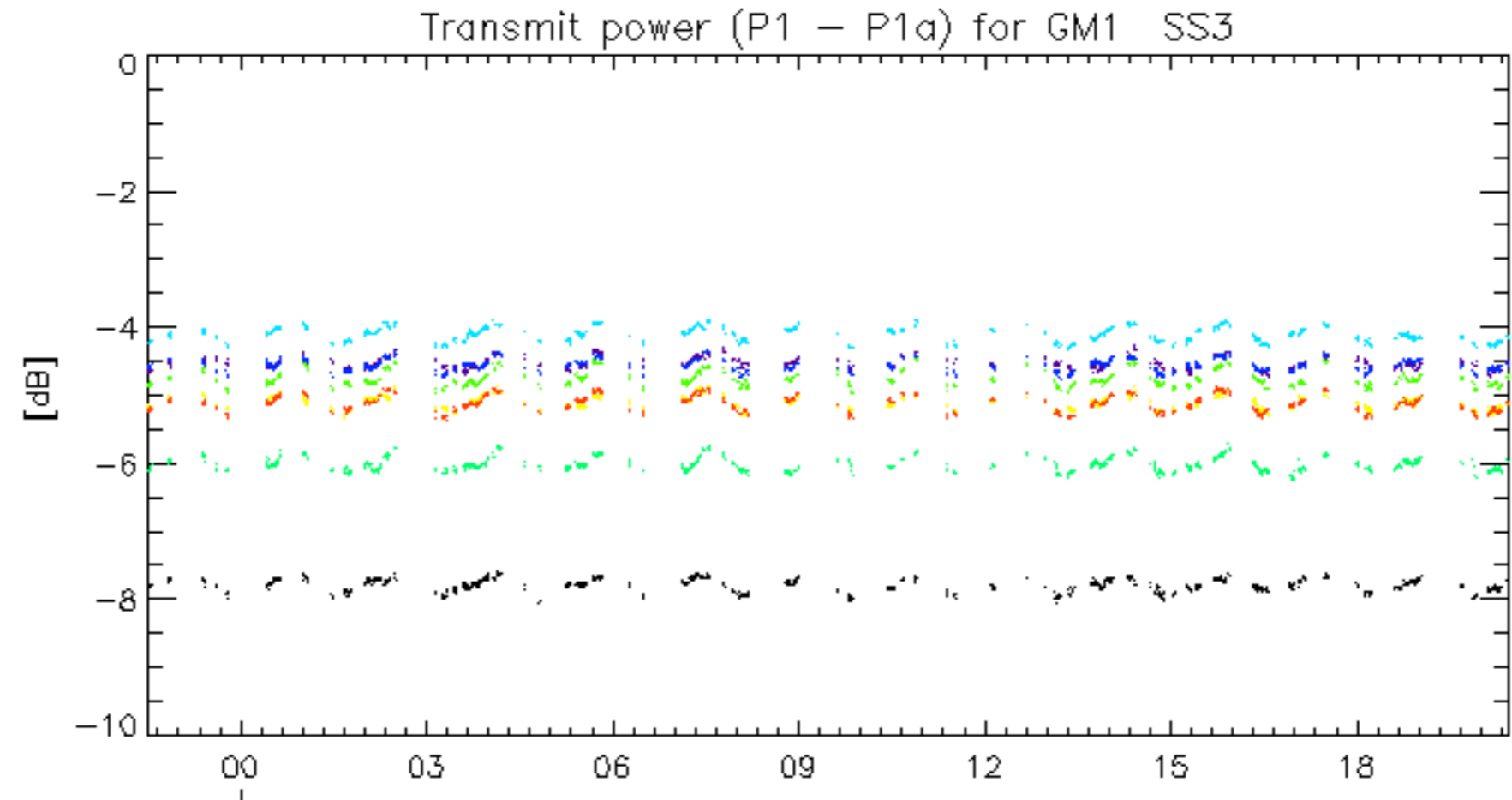








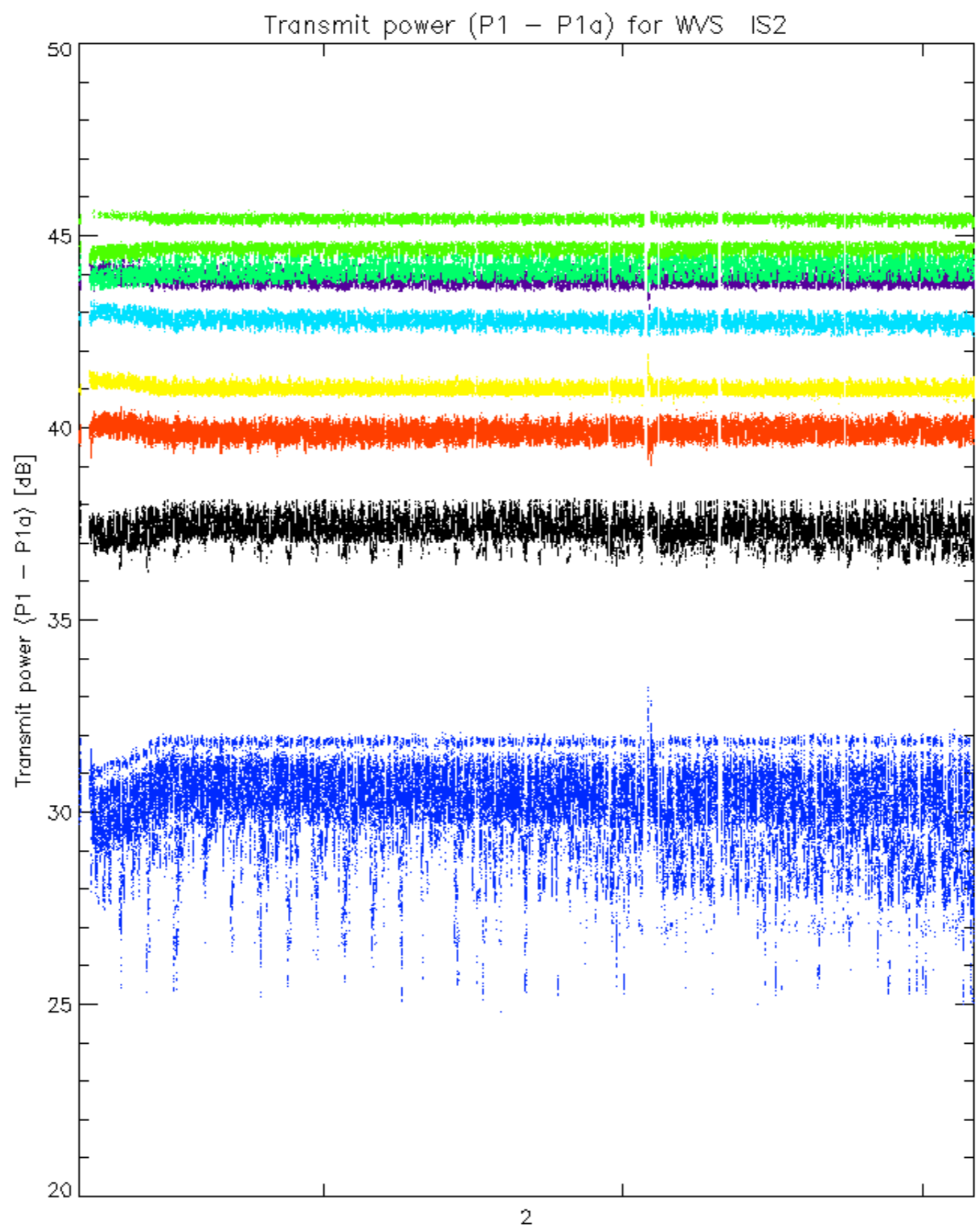
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



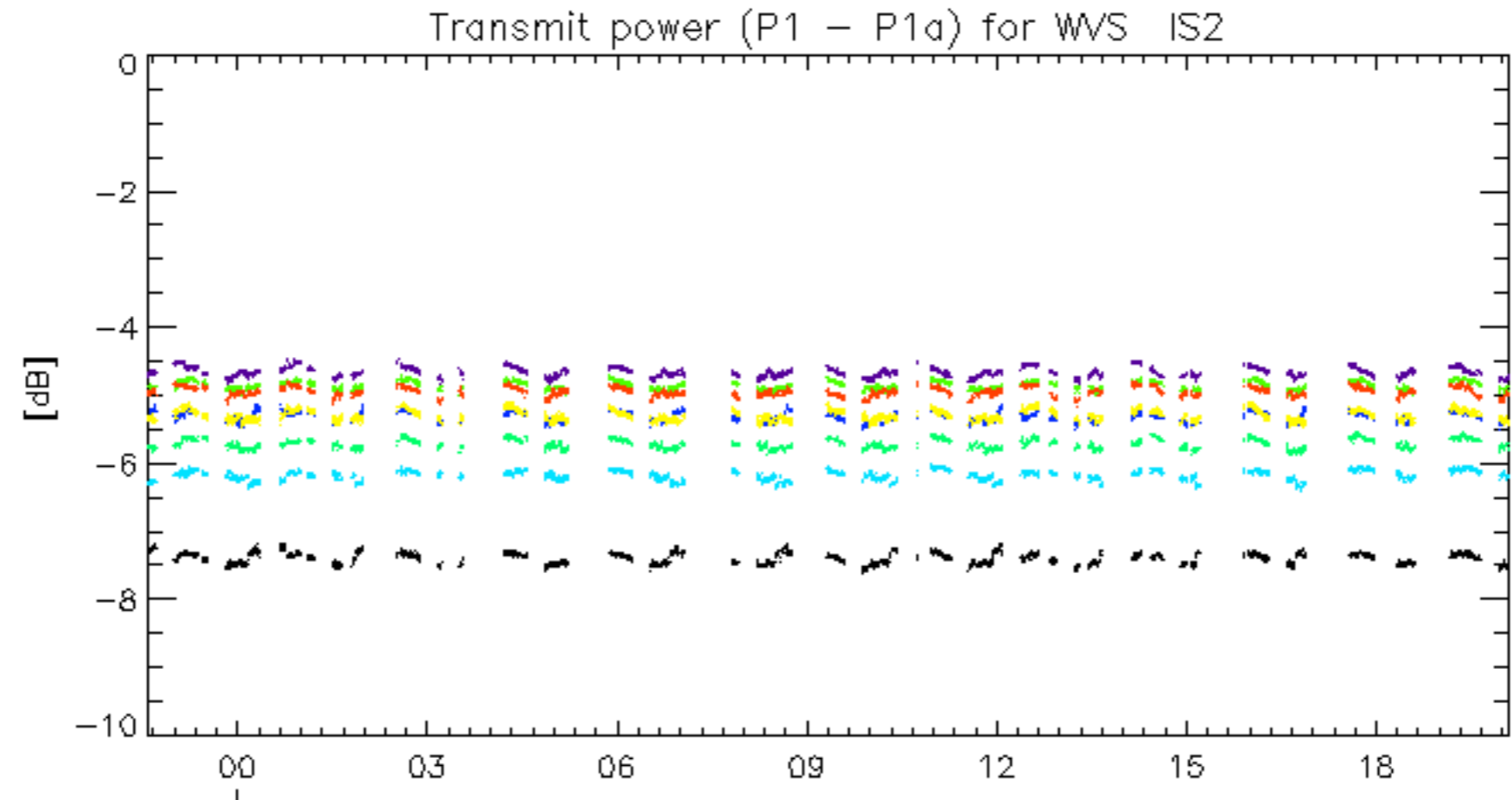
04-May

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

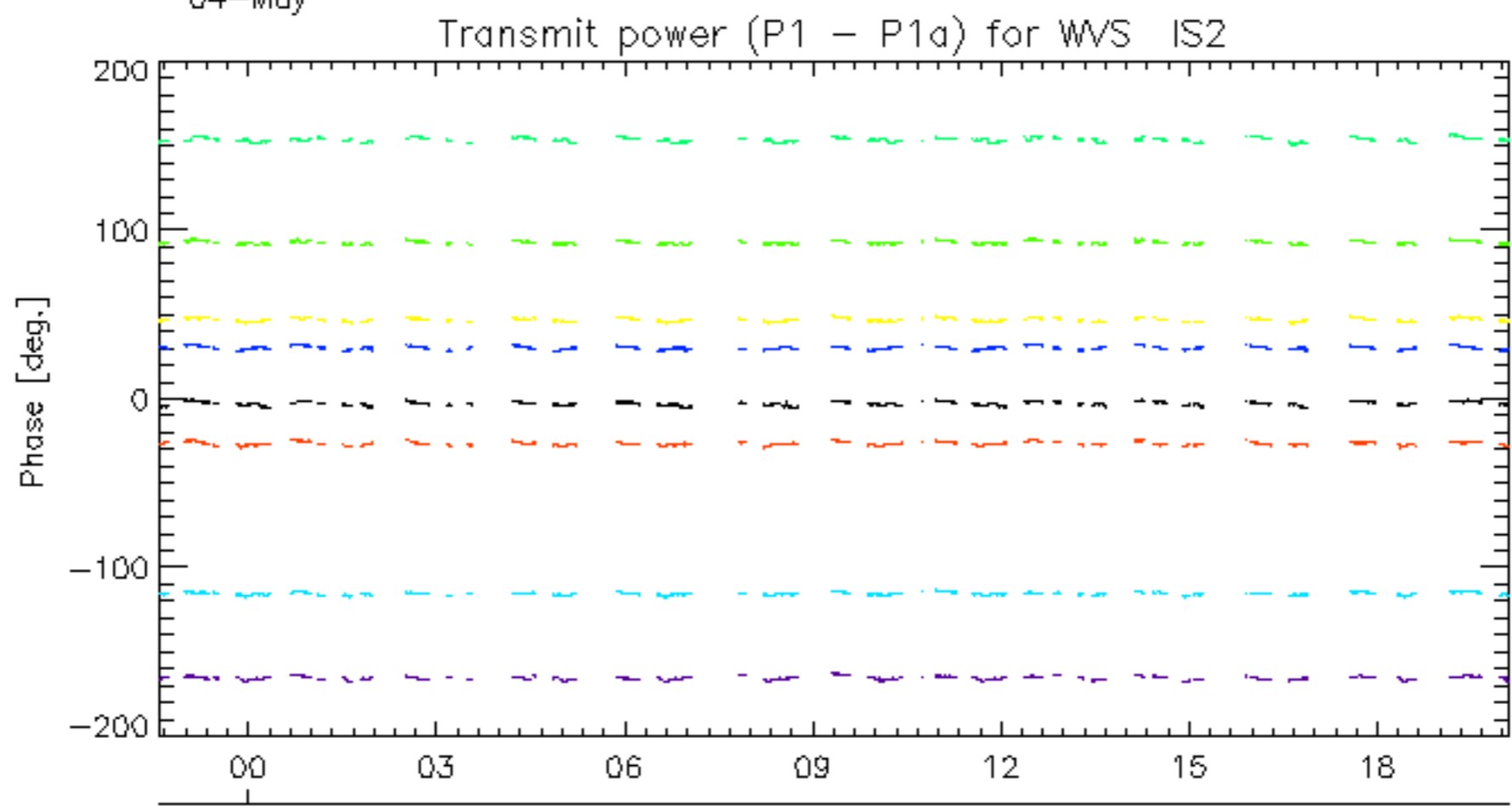




rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



04-May



04-May

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

No unavailabilities during the reported period.