

# PRELIMINARY REPORT OF 070519

last update on Sat May 19 23:12:30 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 2007-05-18 00:00:00 to 2007-05-19 23:12:30

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	47	90	10	2	38
ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	47	90	10	2	38
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	47	90	10	2	38
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	47	90	10	2	38

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	53	68	34	8	91
ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	53	68	34	8	91
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	53	68	34	8	91
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	53	68	34	8	91

## 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	20070519 064401
H	20070518 071538

### MSM in V/V 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"/>

### 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	-15.211921	0.131594	-0.284601
7	P1a	-17.592510	0.092942	-0.116350
11	P1a	-17.713213	0.345873	-0.283621
15	P1a	-13.145503	0.151867	-0.259489
19	P1a	-15.432975	0.067590	-0.117690
22	P1a	-15.994679	0.351596	-0.070229
26	P1a	-14.949292	0.214461	0.004485
30	P1a	-17.959394	0.409947	-0.498431

**P1t Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.782882	0.010078	-0.017921
7	P1	-3.163475	0.008947	-0.049626
11	P1	-4.195182	0.016755	0.055587
15	P1	-6.462191	0.019722	-0.098085
19	P1	-3.776907	0.012042	-0.002333
22	P1	-4.742847	0.010973	0.035371
26	P1	-3.908280	0.018332	-0.013744
30	P1	-5.962906	0.009326	0.007222

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.651953	0.093438	0.037189
7	P2	-21.511469	0.093852	0.101769
11	P2	-15.286651	0.121923	0.106759
15	P2	-7.132914	0.090818	-0.005001
19	P2	-9.120779	0.083103	-0.019446
22	P2	-18.085945	0.078309	-0.003146
26	P2	-16.649271	0.084973	-0.065337
30	P2	-19.252186	0.084256	0.059512

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.245090	0.004734	0.002050
7	P3	-8.245090	0.004734	0.002050
11	P3	-8.245090	0.004734	0.002050
15	P3	-8.245090	0.004734	0.002050
19	P3	-8.245090	0.004734	0.002050
22	P3	-8.245090	0.004734	0.002050
26	P3	-8.245090	0.004734	0.002050
30	P3	-8.245090	0.004734	0.002050

#### 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	-11.455195	0.185018	-0.820440
7	P1a	-10.027550	0.162640	0.137224
11	P1a	-10.684525	0.084623	0.005023
15	P1a	-10.788713	0.144375	0.131230
19	P1a	-15.851533	0.093444	-0.131615
22	P1a	-21.494627	1.393166	-0.080928
26	P1a	-15.560154	0.329603	-0.065417
30	P1a	-18.267050	0.430354	0.025875

#### P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-8.009321	0.347820	1.618670
7	P1	-2.374168	0.086395	0.102973
11	P1	-2.872089	0.021989	0.033756
15	P1	-3.797888	0.036015	0.052067
19	P1	-3.603558	0.016150	-0.042035
22	P1	-4.948731	0.023097	0.033257
26	P1	-6.055812	0.023618	-0.048303
30	P1	-5.354315	0.032197	-0.042111

## P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.209881	0.075804	-0.075124
7	P2	-22.061970	0.168251	-0.085316
11	P2	-10.657243	0.046600	-0.060134
15	P2	-4.956761	0.044841	-0.072689
19	P2	-6.881027	0.042716	-0.020010
22	P2	-8.106141	0.083455	0.018807
26	P2	-24.348289	0.135832	-0.091624
30	P2	-21.701807	0.109721	-0.002166

## P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.092467	0.005141	-0.001584
7	P3	-8.092421	0.005143	-0.001248
11	P3	-8.092422	0.005133	-0.001675
15	P3	-8.092388	0.005141	-0.001753
19	P3	-8.092405	0.005149	-0.001737
22	P3	-8.092335	0.005142	-0.001738
26	P3	-8.092308	0.005148	-0.001667
30	P3	-8.092294	0.005140	-0.001636

## 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	0.000550842
	stdev	1.91342e-07
MEAN Q	mean	0.000509704
	stdev	2.37582e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.136049
	stdev	0.00117412
STDEV Q	mean	0.136435
	stdev	0.00119125



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2007051[789]

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_1PNPDE20070518_015652_000000362058_00146_27254_0357.N1	1	0
ASA_IMM_1PNPDE20070518_042631_000000762058_00147_27255_0576.N1	1	0
ASA_WSM_1PNPDE20070517_035646_000001282058_00133_27241_9322.N1	0	1
ASA_WSM_1PNPDE20070517_164501_000000852058_00141_27249_9765.N1	0	57
ASA_WSM_1PNPDE20070517_182820_000000852058_00142_27250_9815.N1	0	67
ASA_WSM_1PNPDE20070518_015027_000000852058_00146_27254_0388.N1	0	2
ASA_WSM_1PNPDE20070518_032509_000000672058_00147_27255_0392.N1	0	1
ASA_WSM_1PNPDE20070518_032509_000001472058_00147_27255_0992.N1	0	1
ASA_WSM_1PNPDE20070518_201722_000000672058_00157_27265_1371.N1	0	52

ASA_WSM_1PNPDE20070518_234323_000002442058_00159_27267_1774.N1	0	35
ASA_WSM_1PNPDE20070519_012058_000000852058_00160_27268_1922.N1	0	40
ASA_WSM_1PNPDE20070519_172249_000001772058_00170_27278_2607.N1	0	2
ASA_WSM_1PNPDE20070519_190232_000000972058_00171_27279_2642.N1	0	41



## 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"/>
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### 7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)
<input type="checkbox"/>
Acsending
<input type="checkbox"/>
Descending

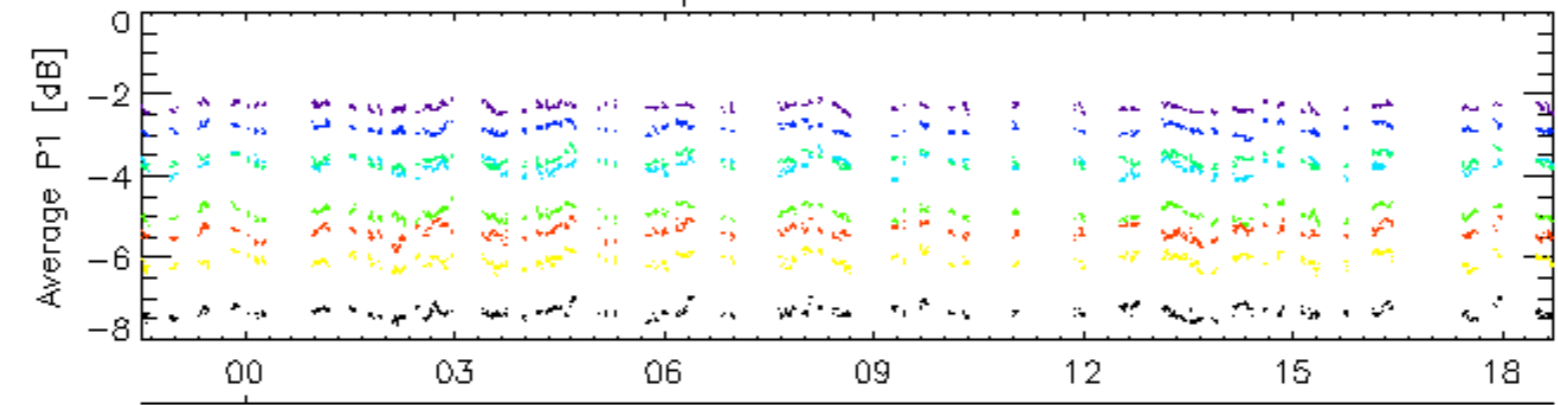
### 7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler
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Acsending
<input type="checkbox"/>
Descending

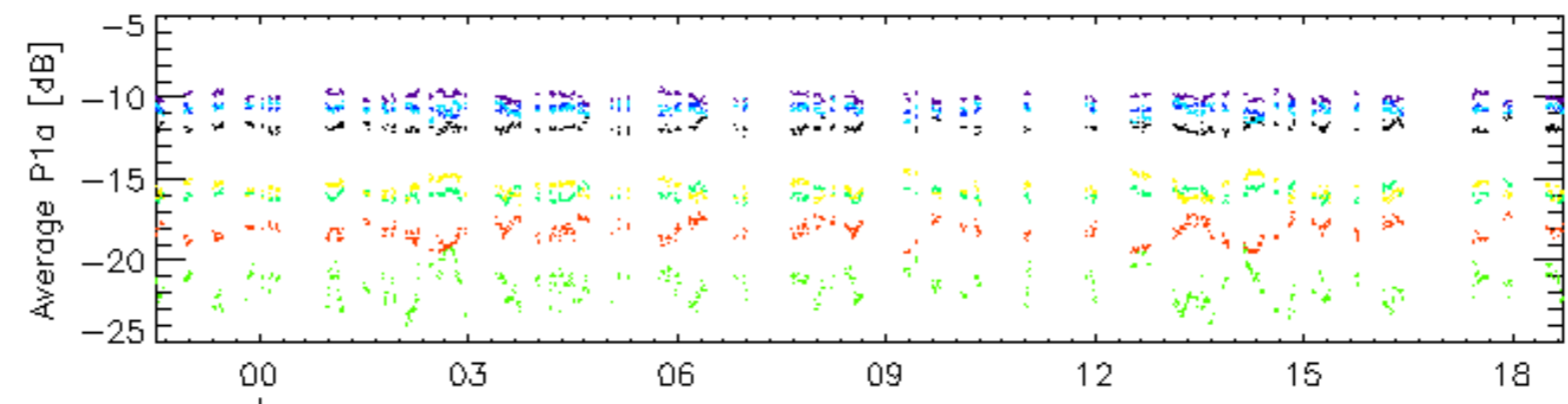
### 7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
<input type="checkbox"/>

Cal pulses for GM1 SS3

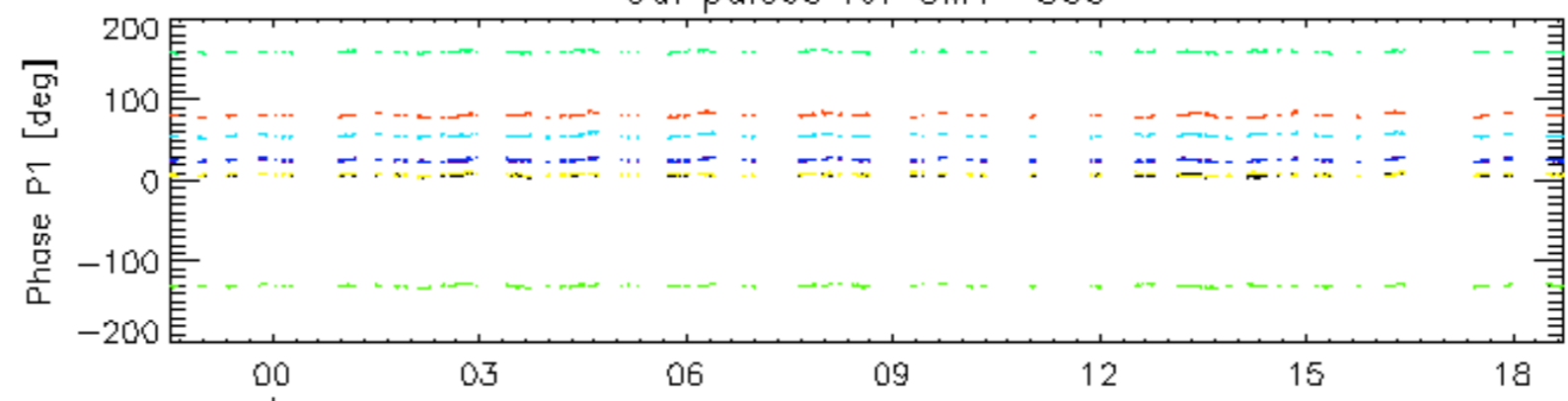


19-May

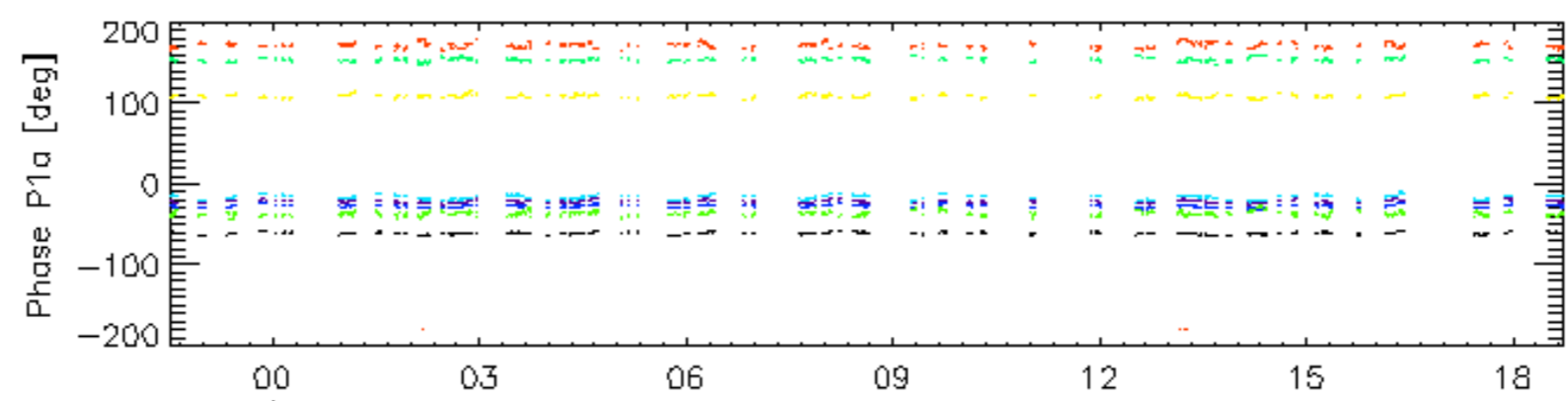


19-May

Cal pulses for GM1 SS3

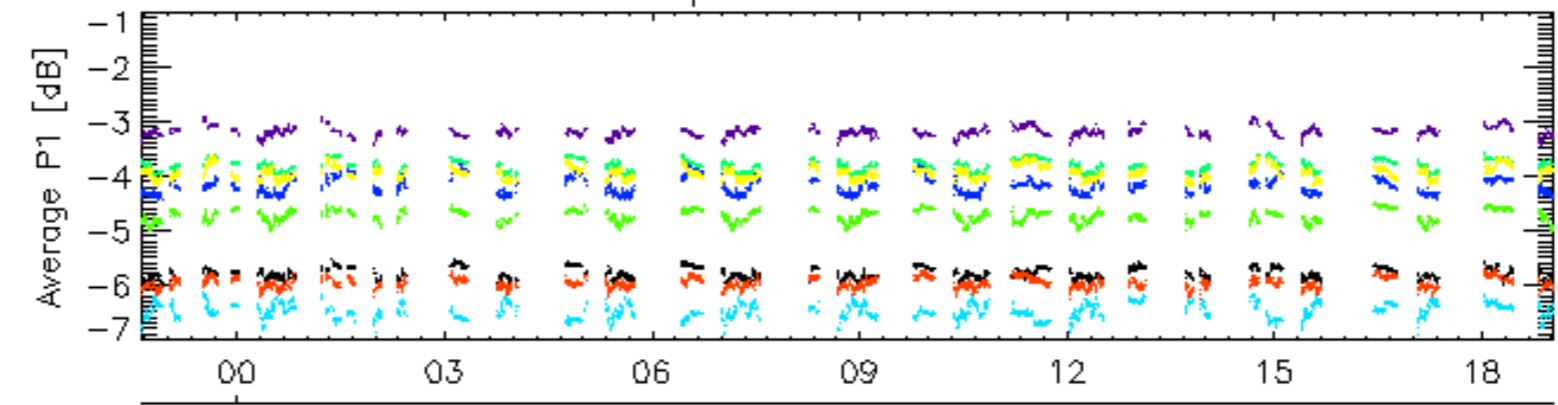


19-May

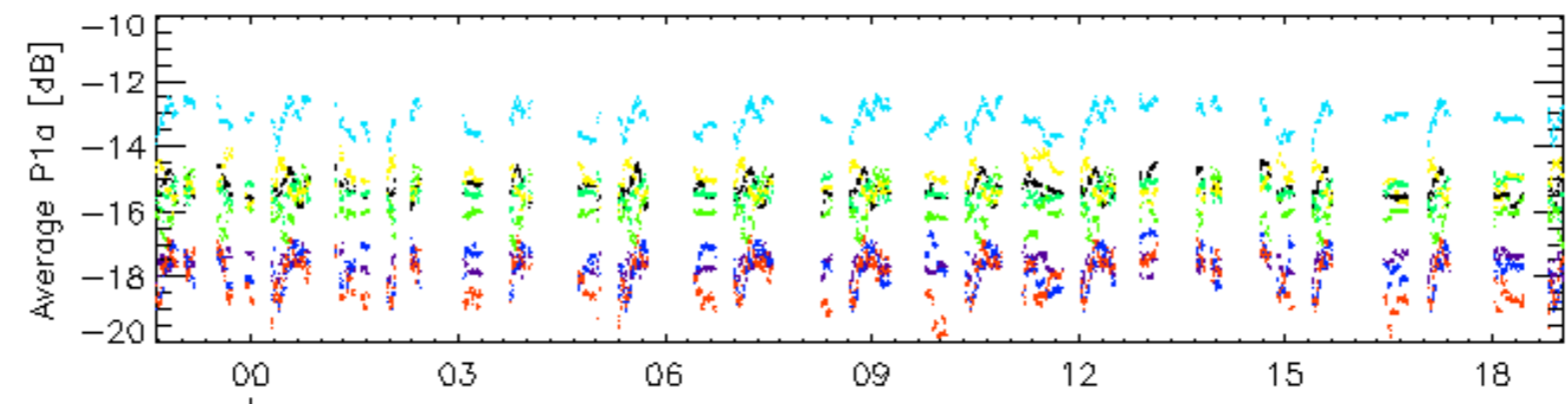


rows: 3 7 11 15 19 22 26 30

Cal pulses for WVS IS2

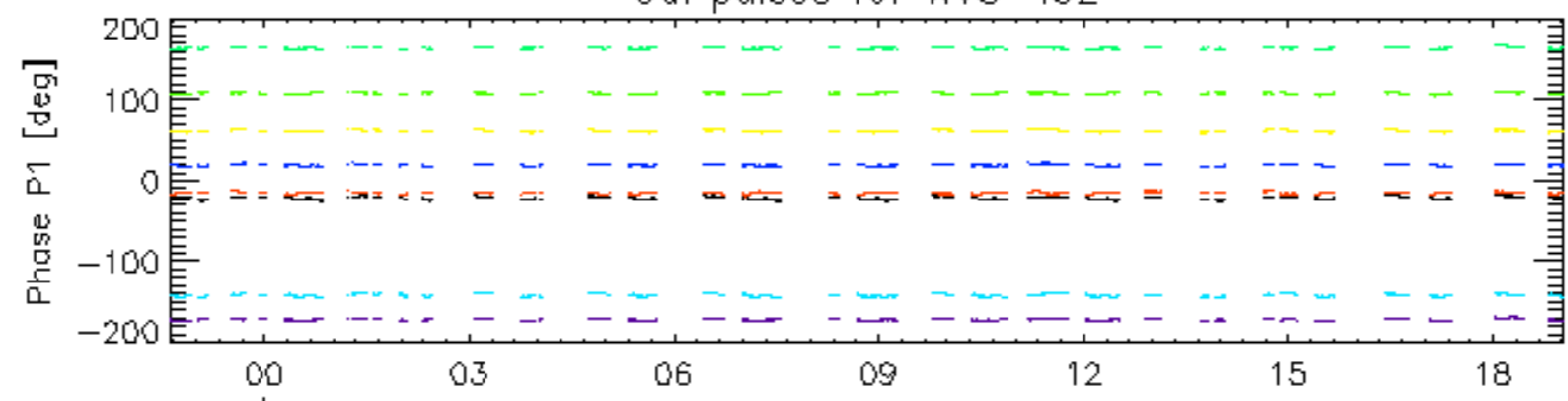


19-May

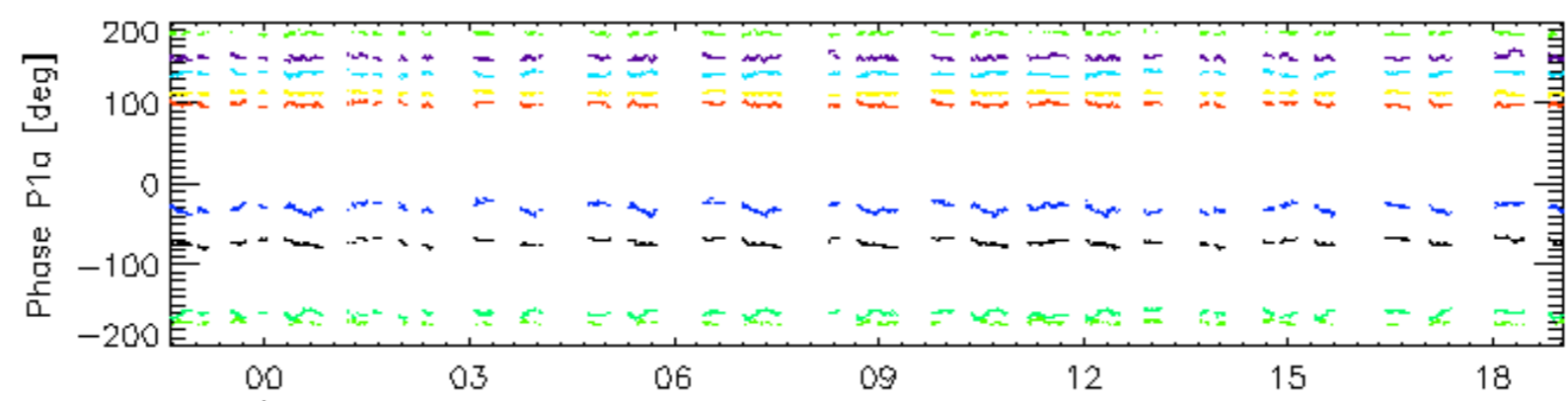


19-May

Cal pulses for WVS IS2

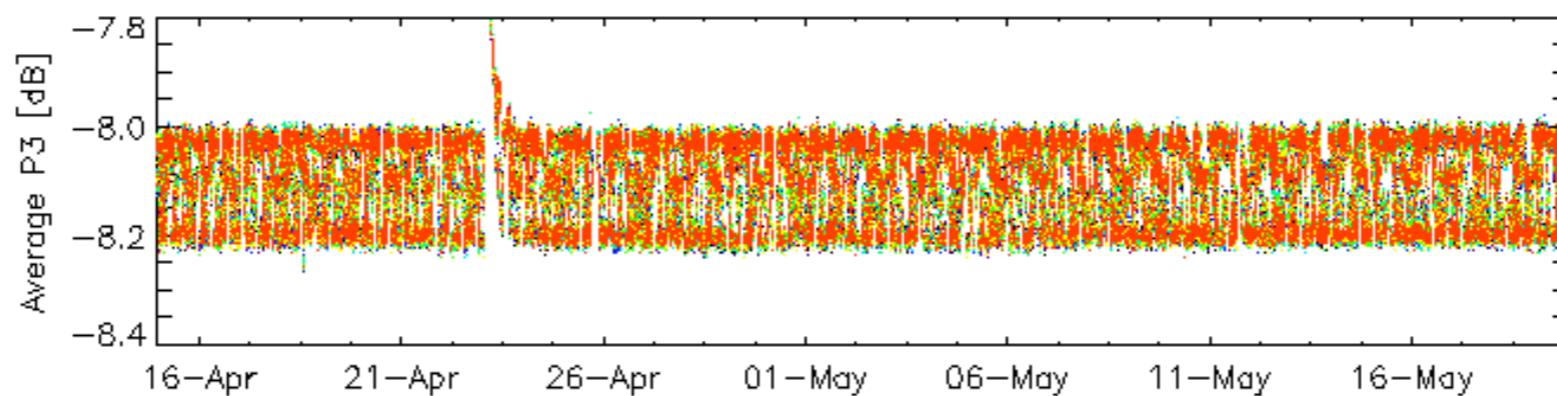
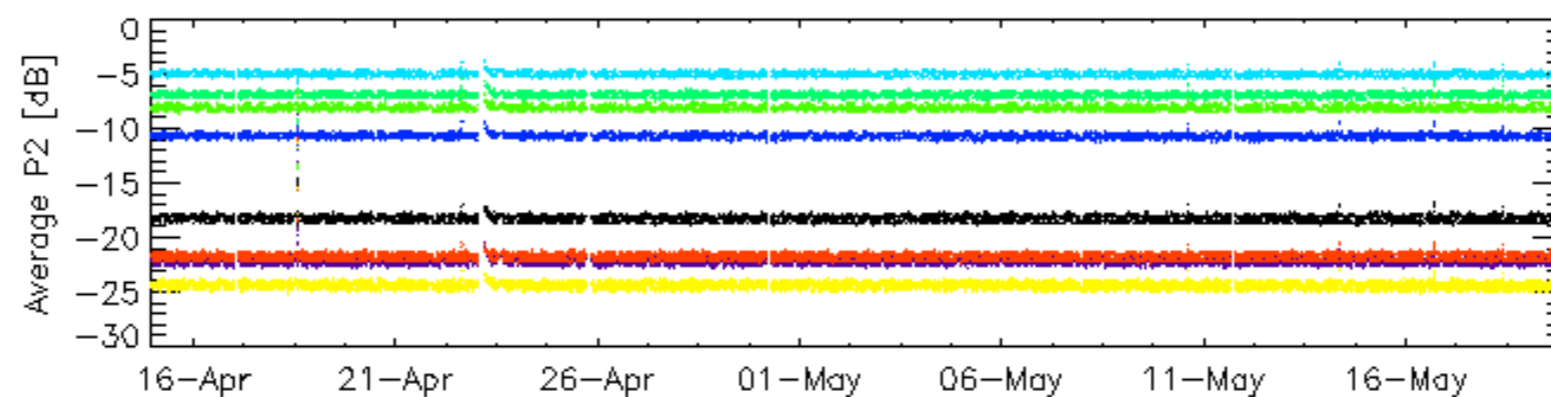
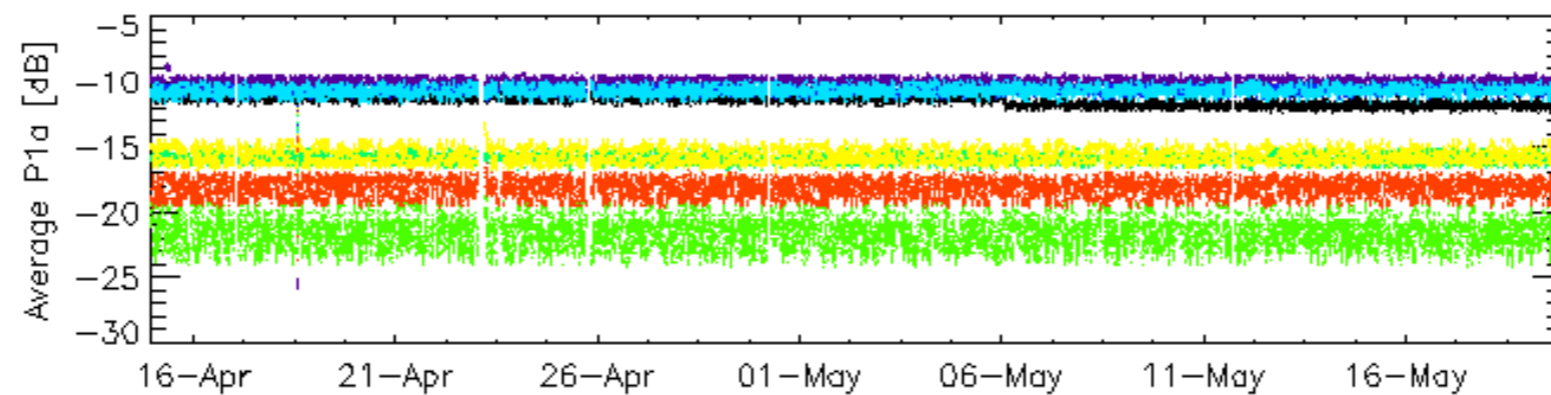
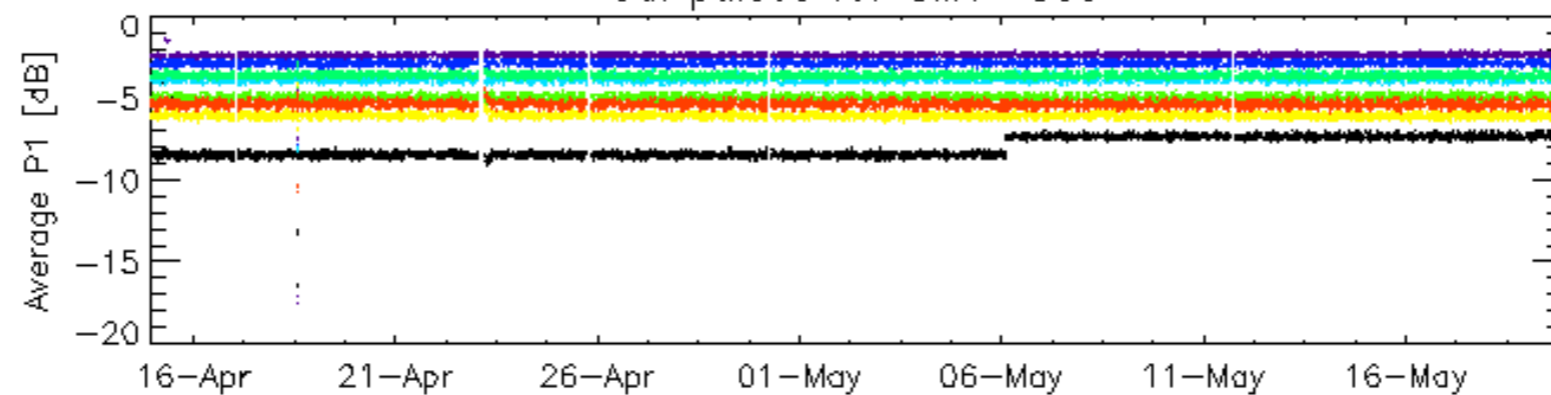


19-May



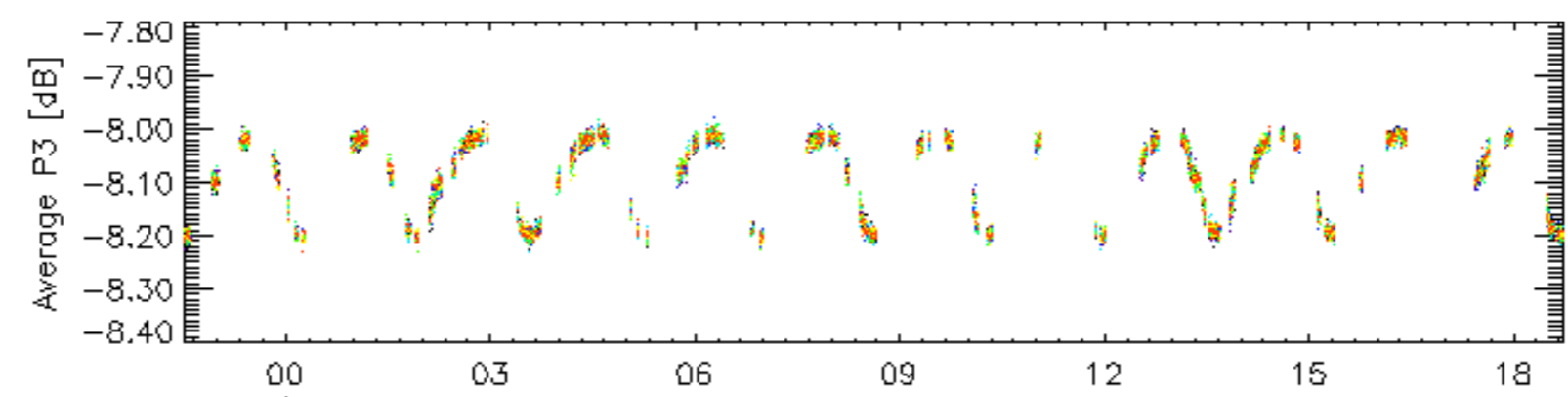
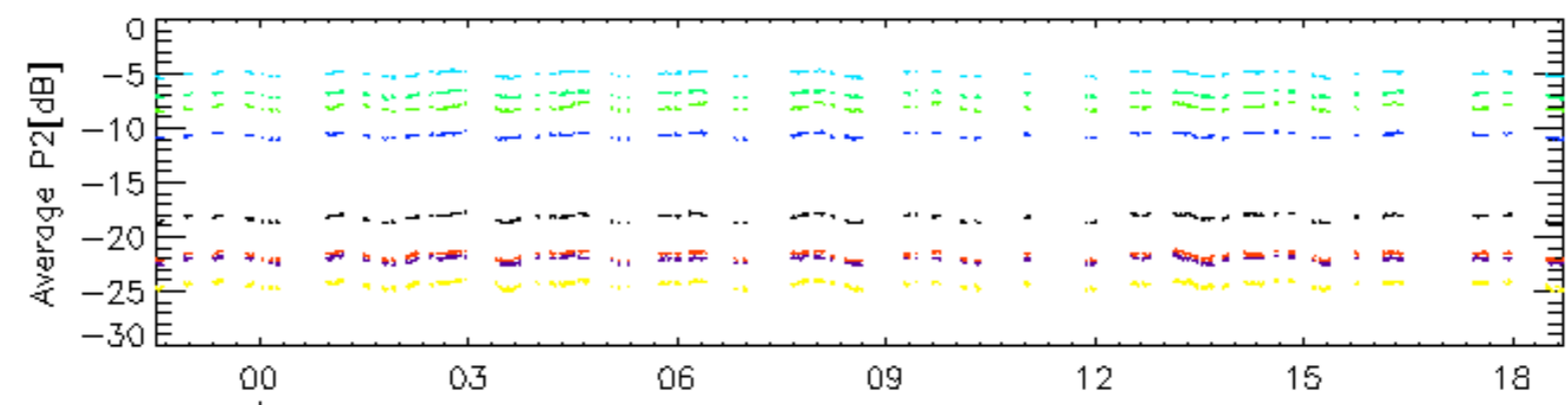
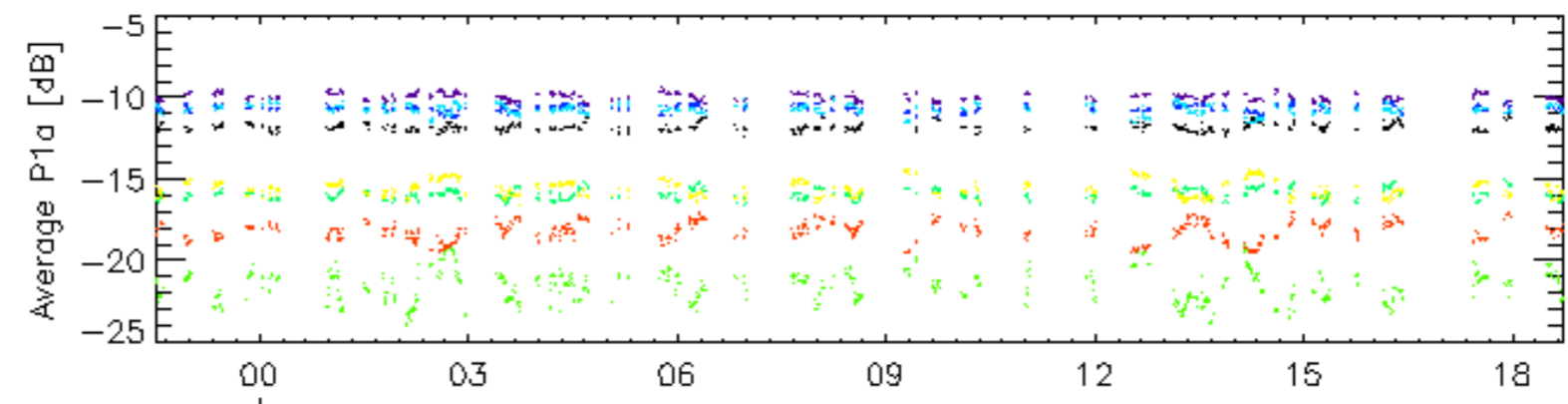
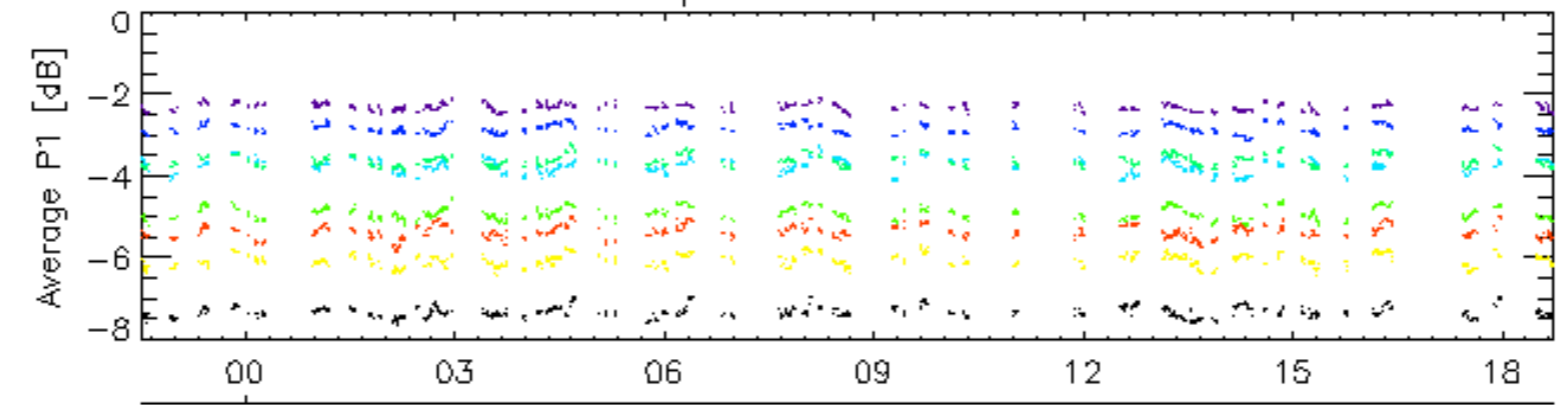
rows: 3 7 11 15 19 22 26 30

### Cal pulses for GM1 SS3



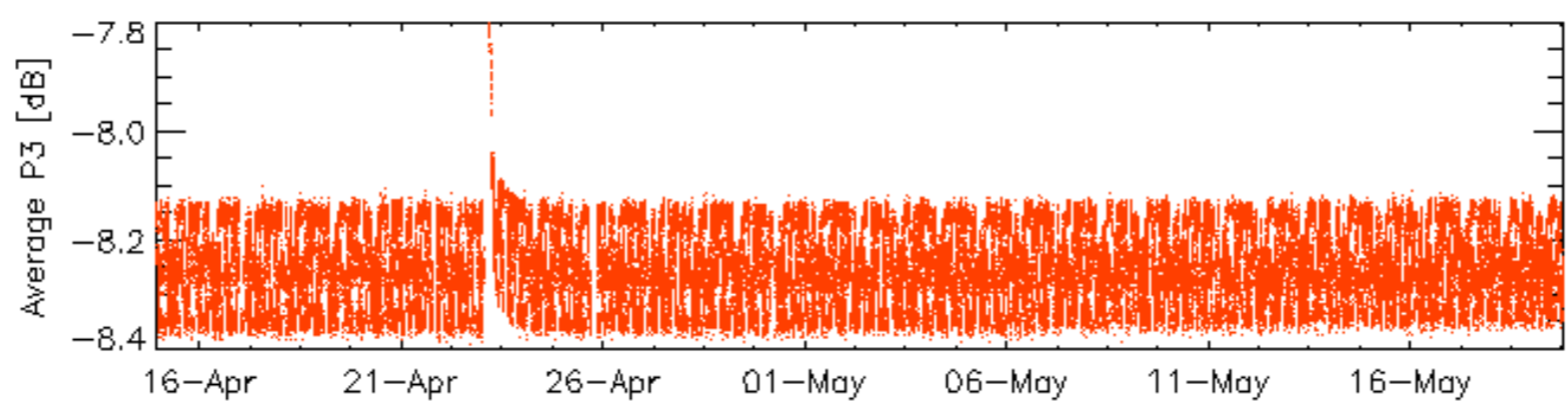
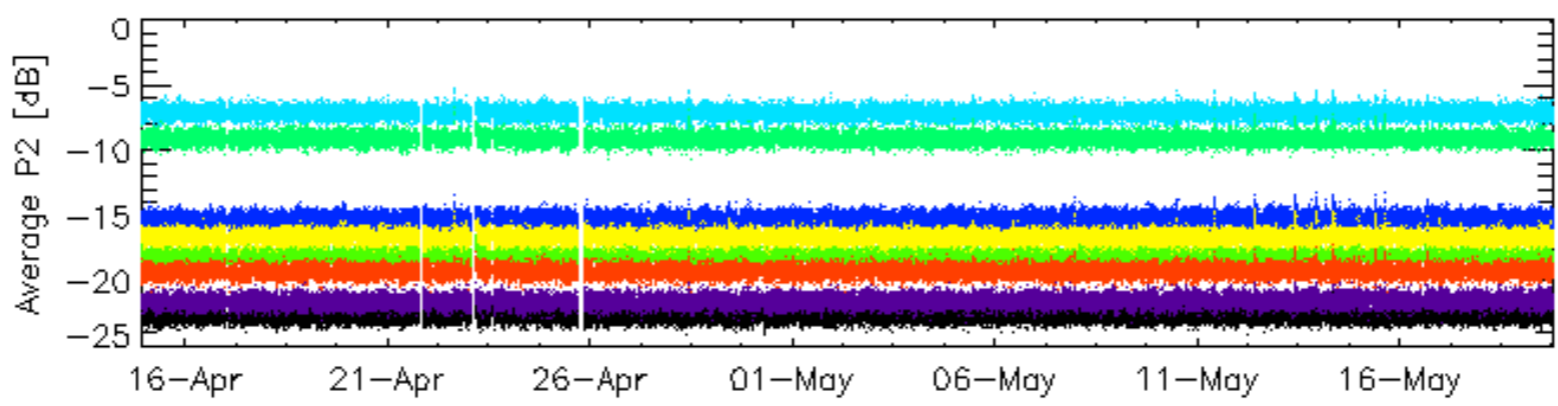
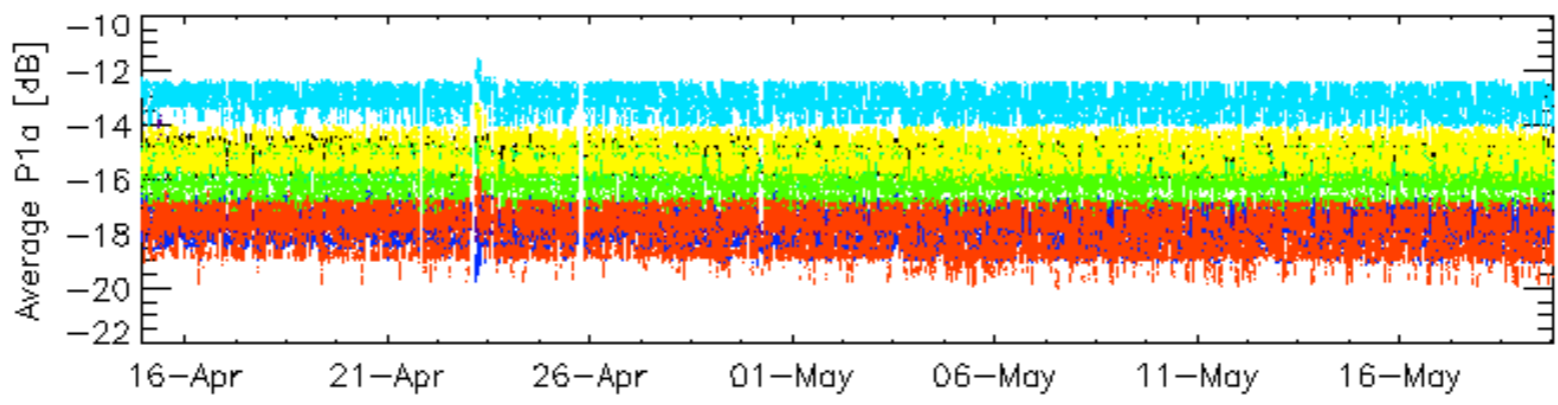
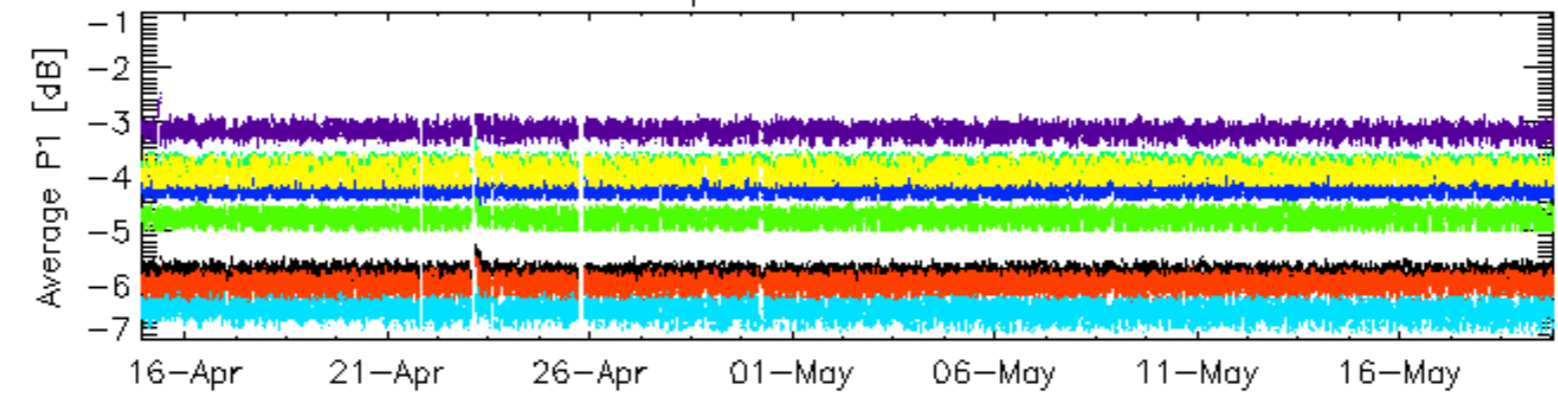
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3



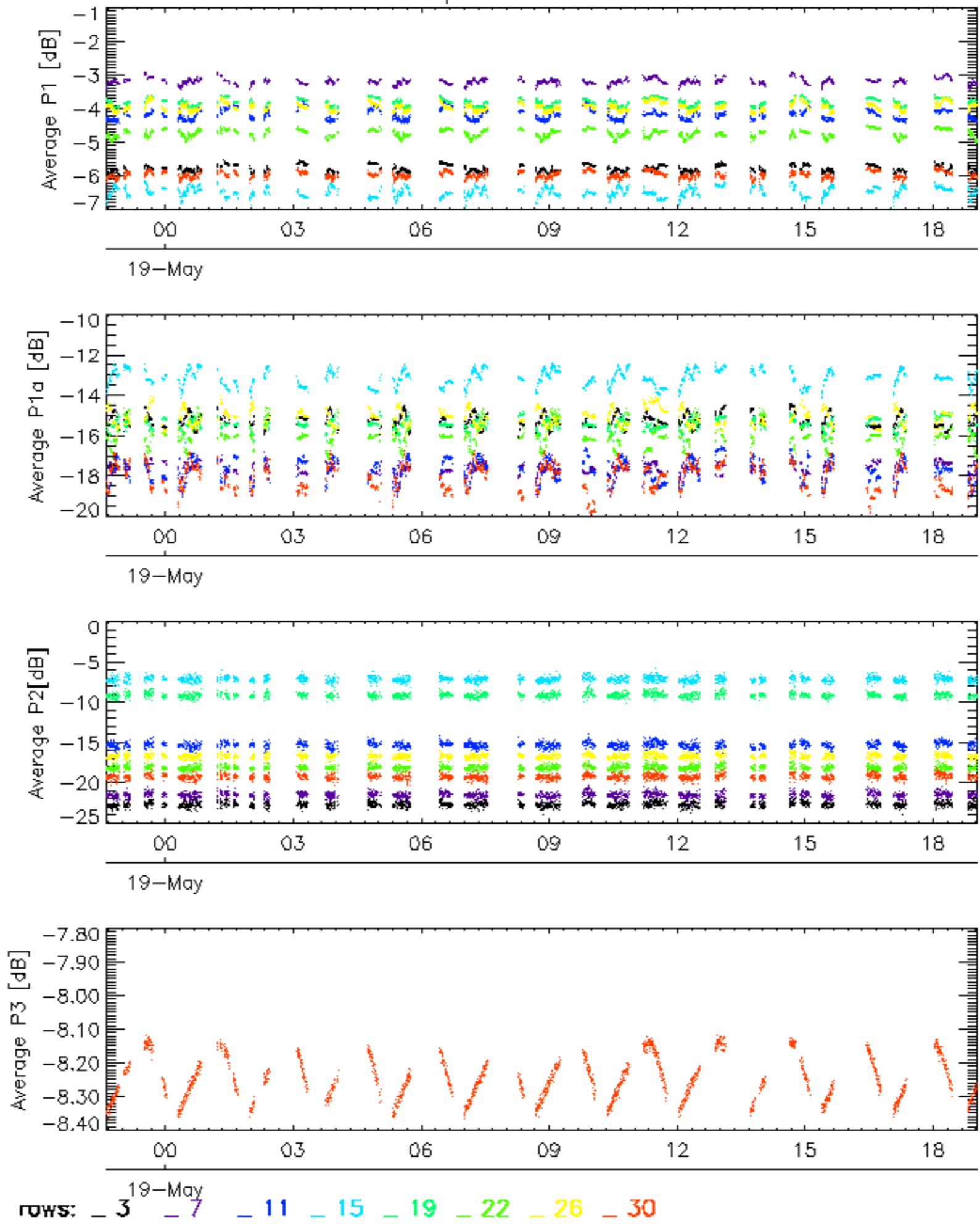
rows: 3 7 11 15 19 22 26 30

Cal pulses for WVS IS2



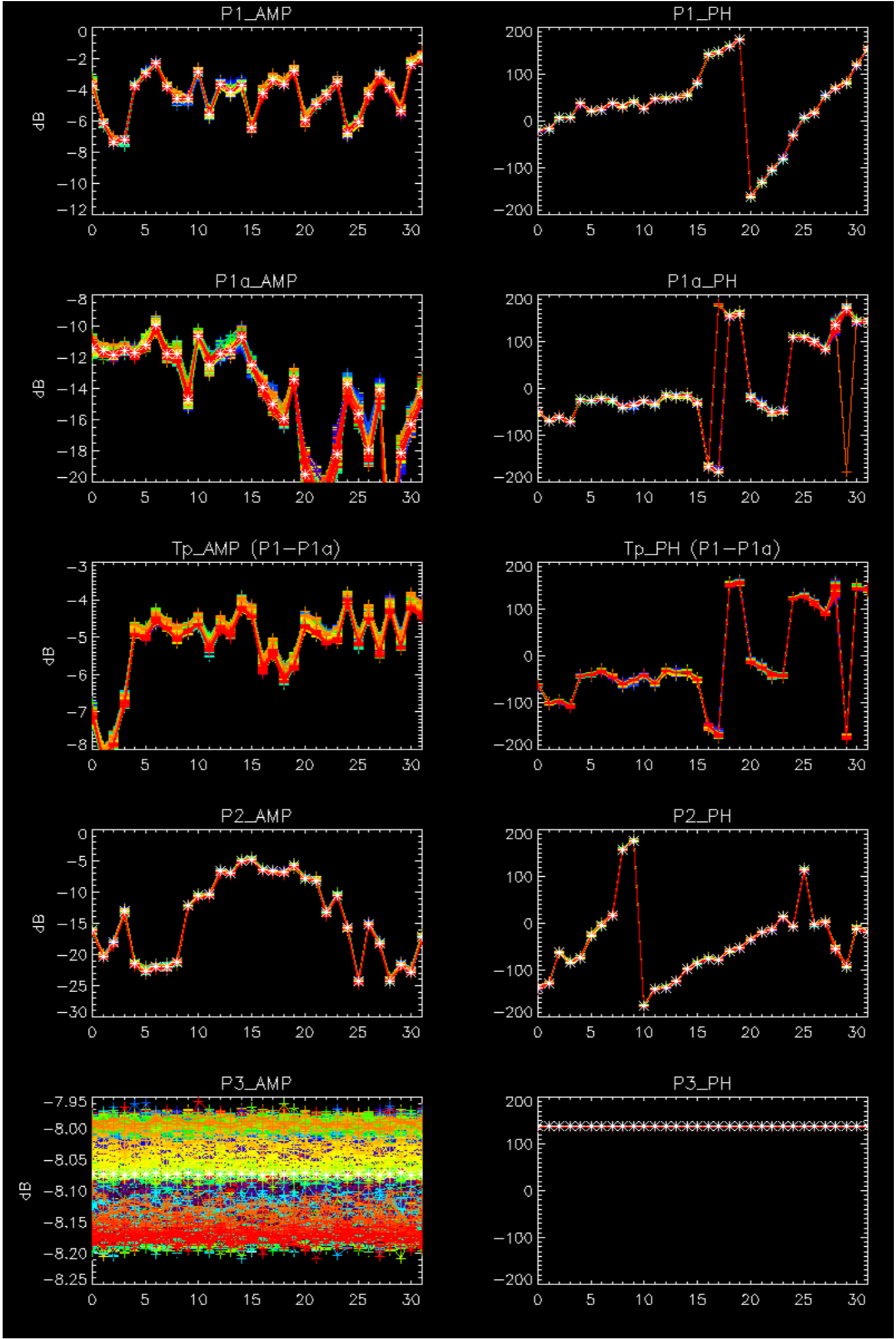
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

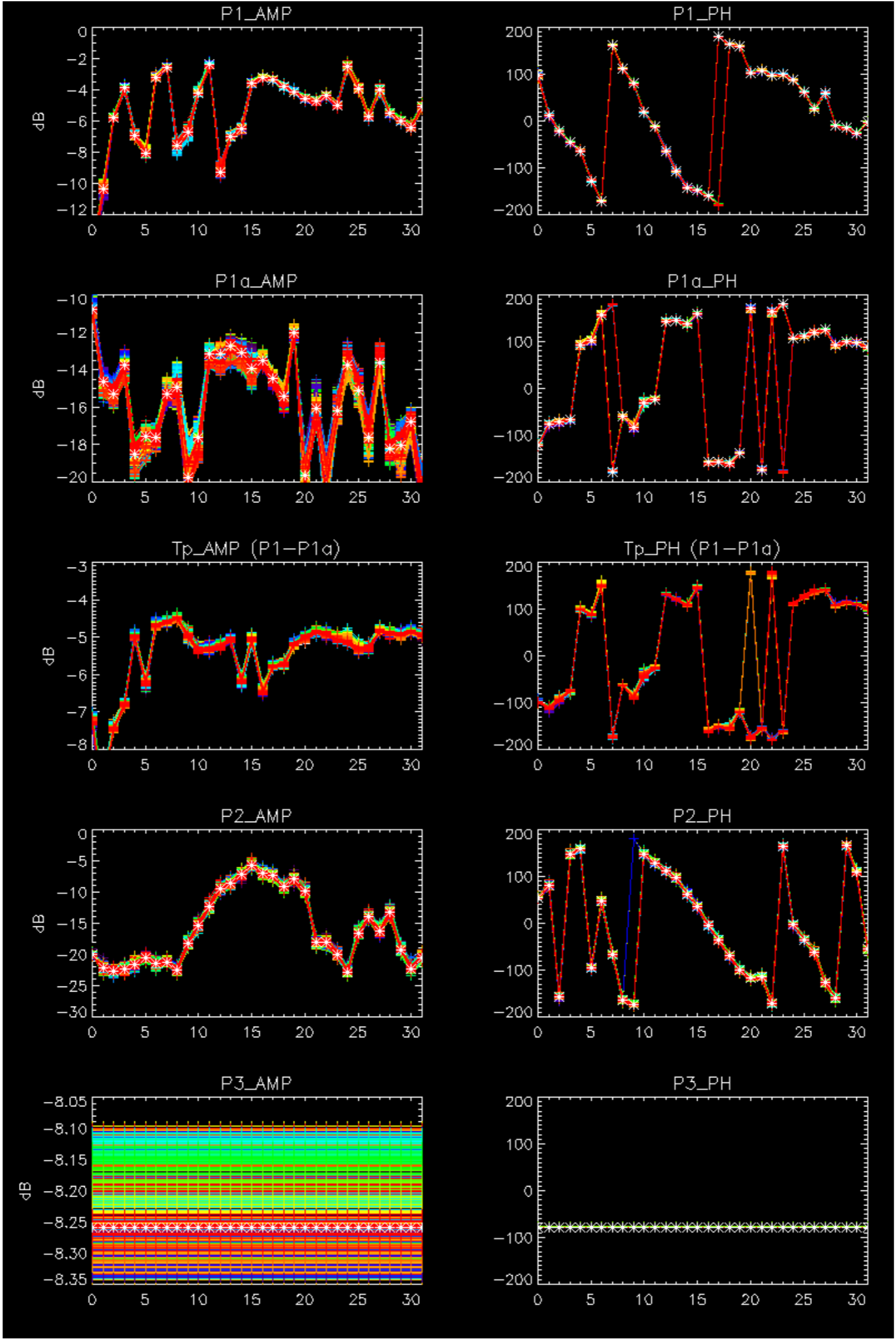
Cal pulses for WVS IS2



No anomalies observed.



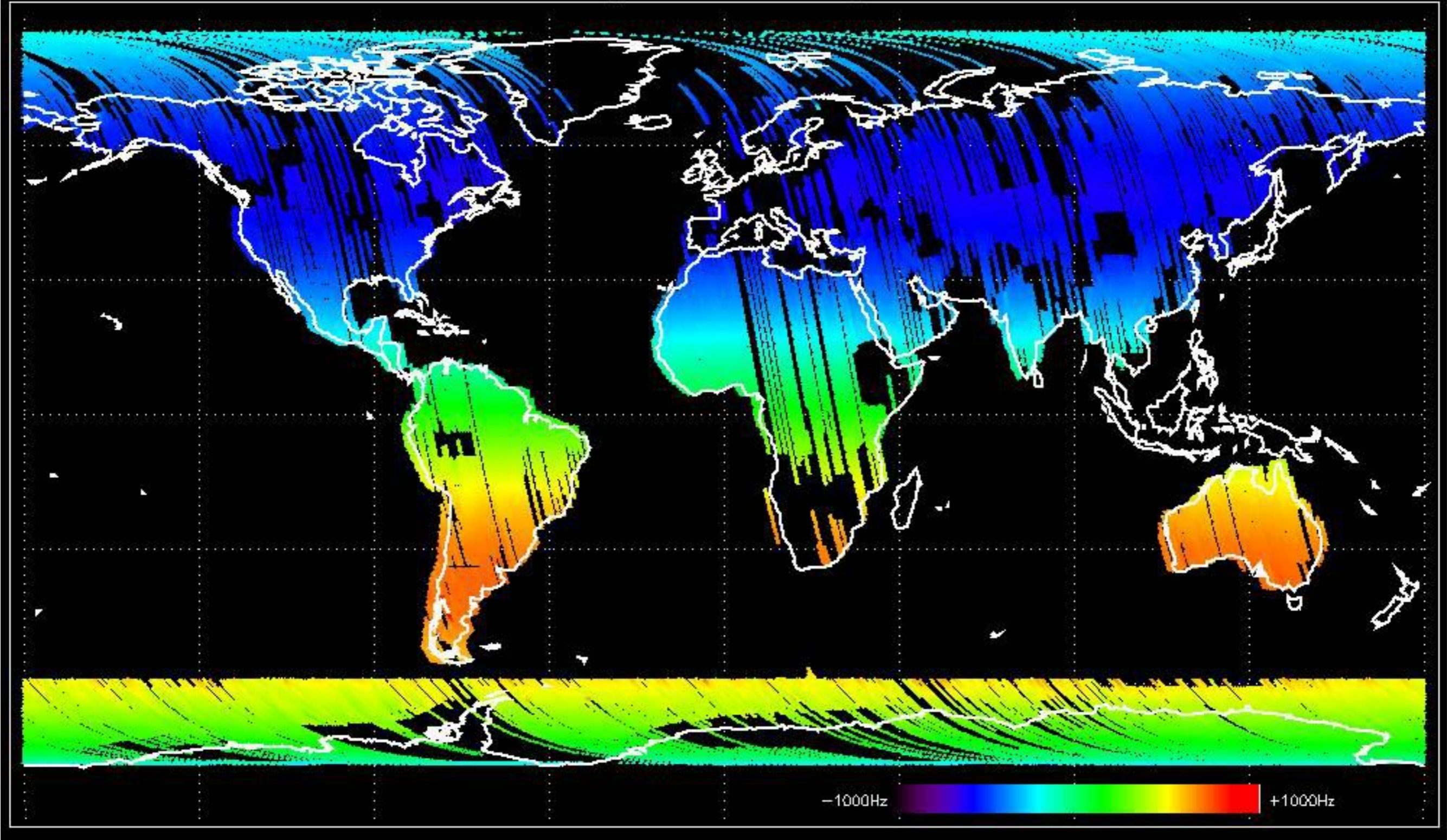




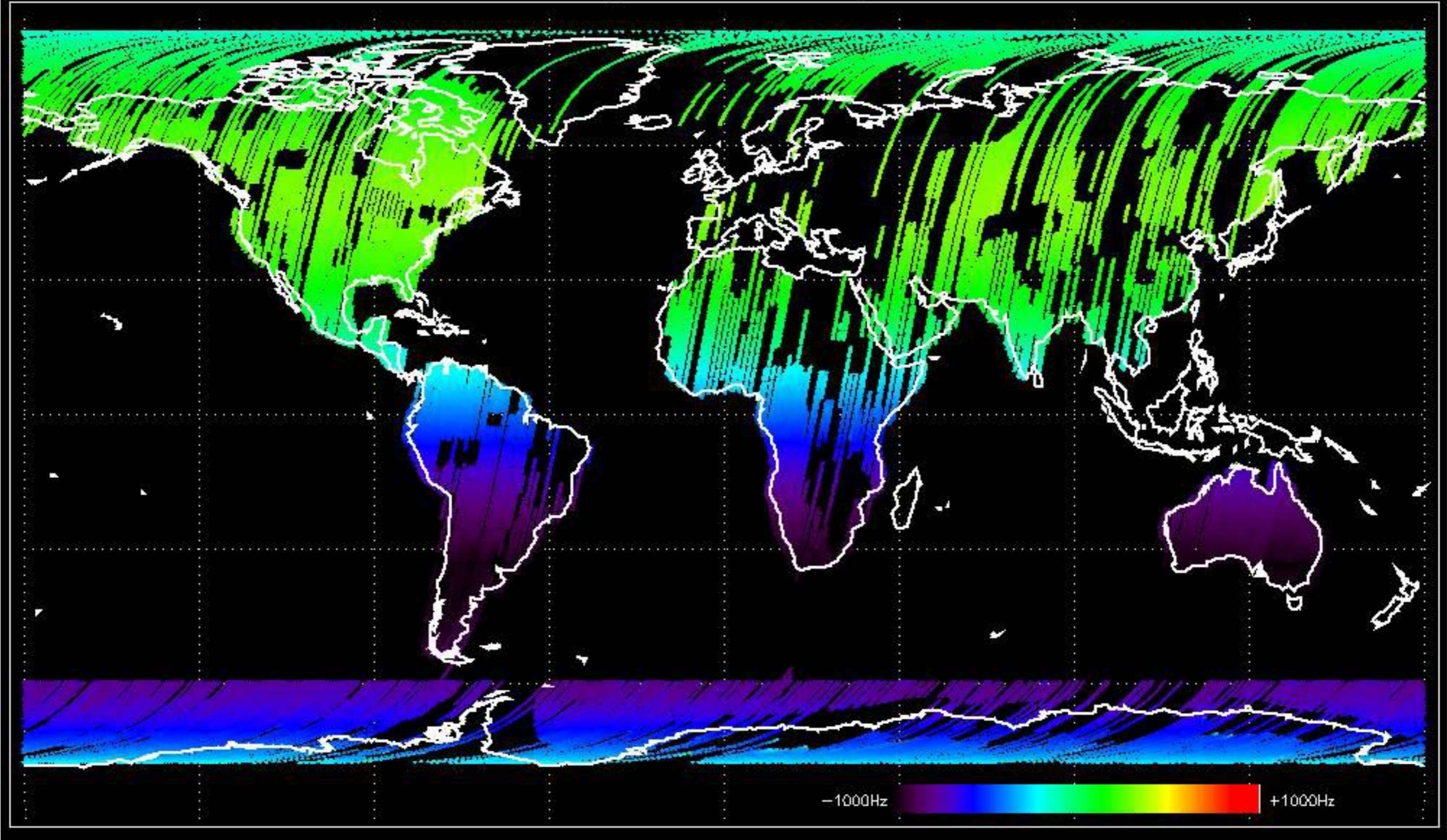
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



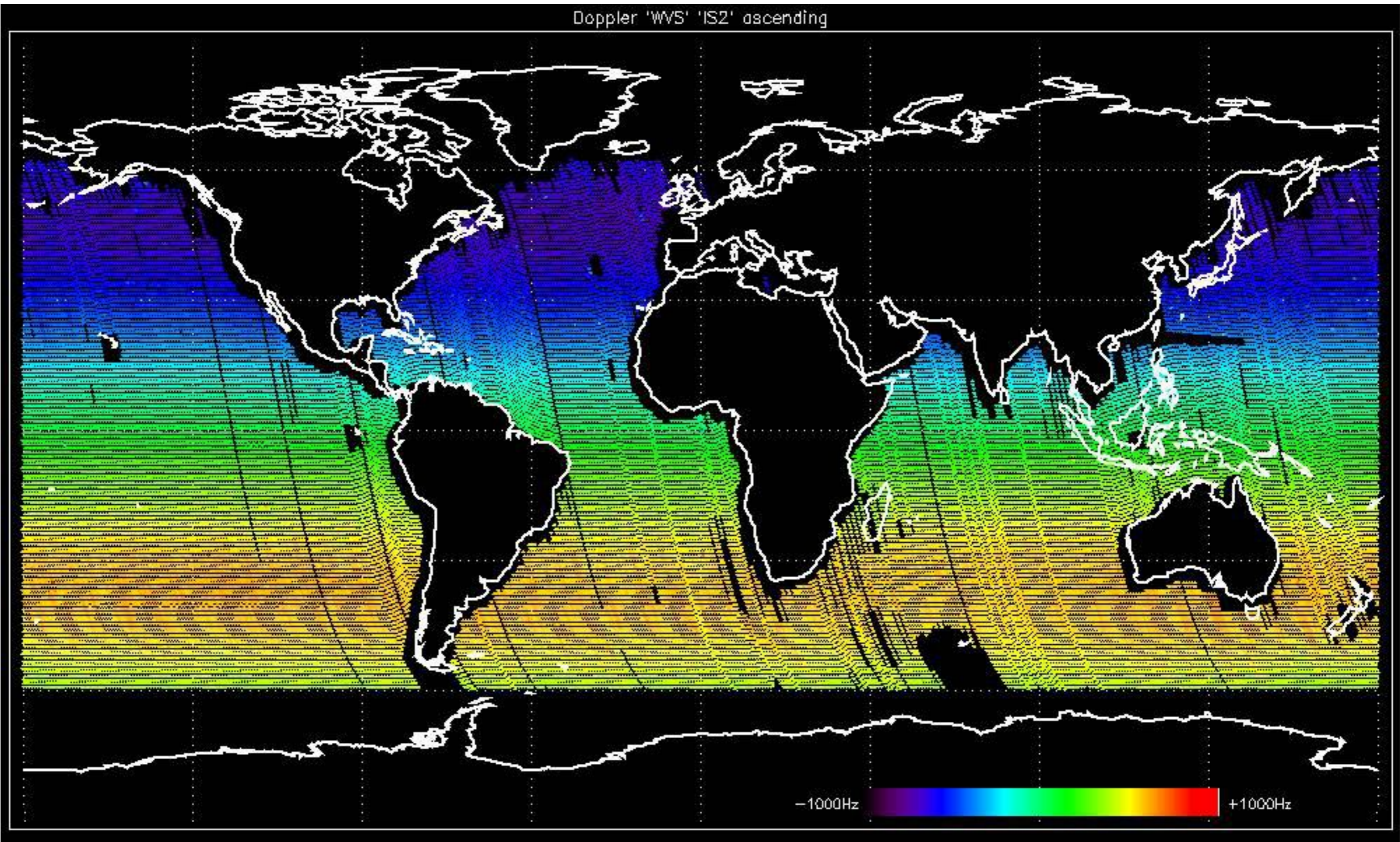
Doppler 'GM1' 'SS1' ascending



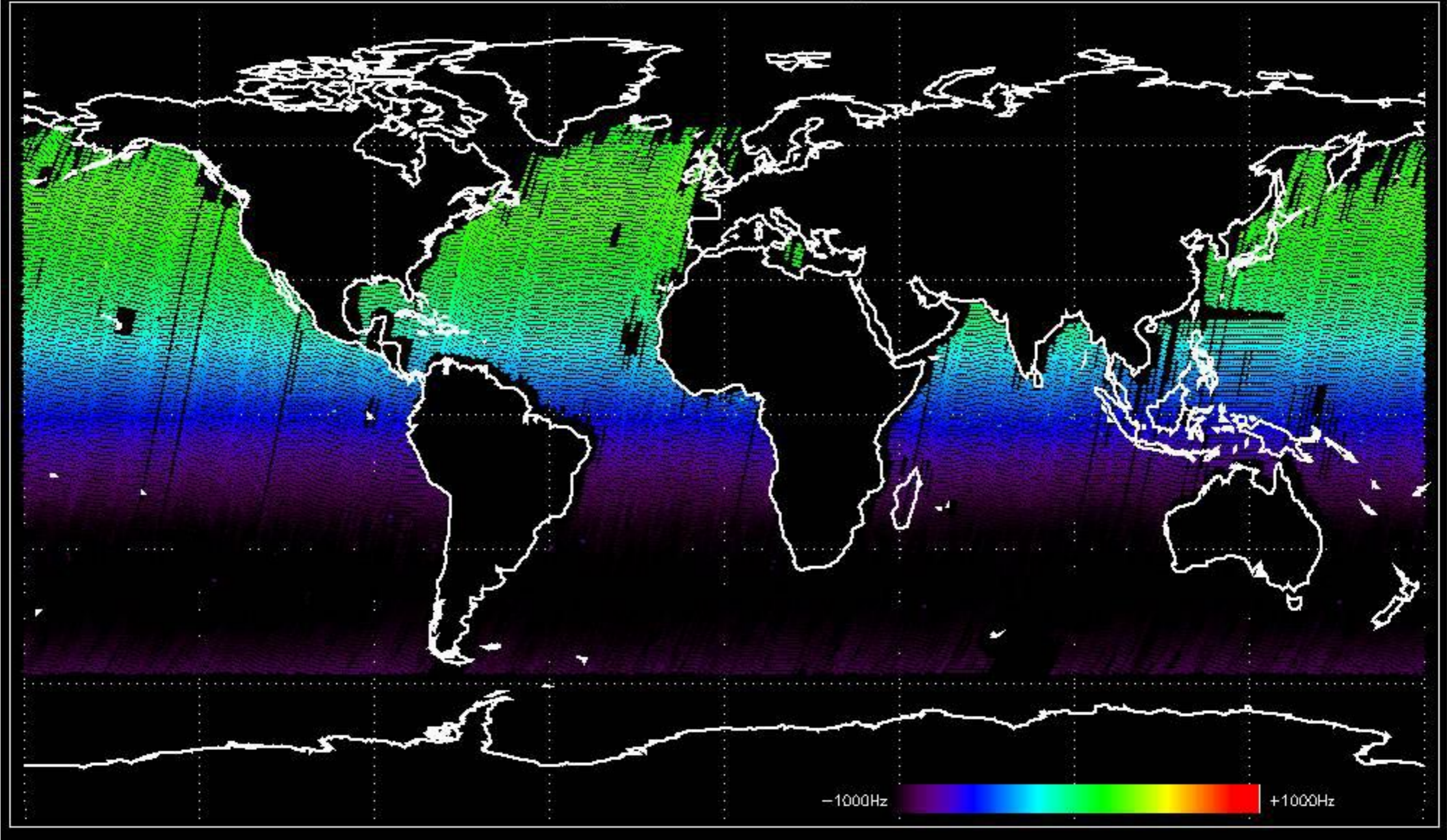
Doppler 'GM1' 'SS1' descending



Doppler 'WVS' 'IS2' ascending

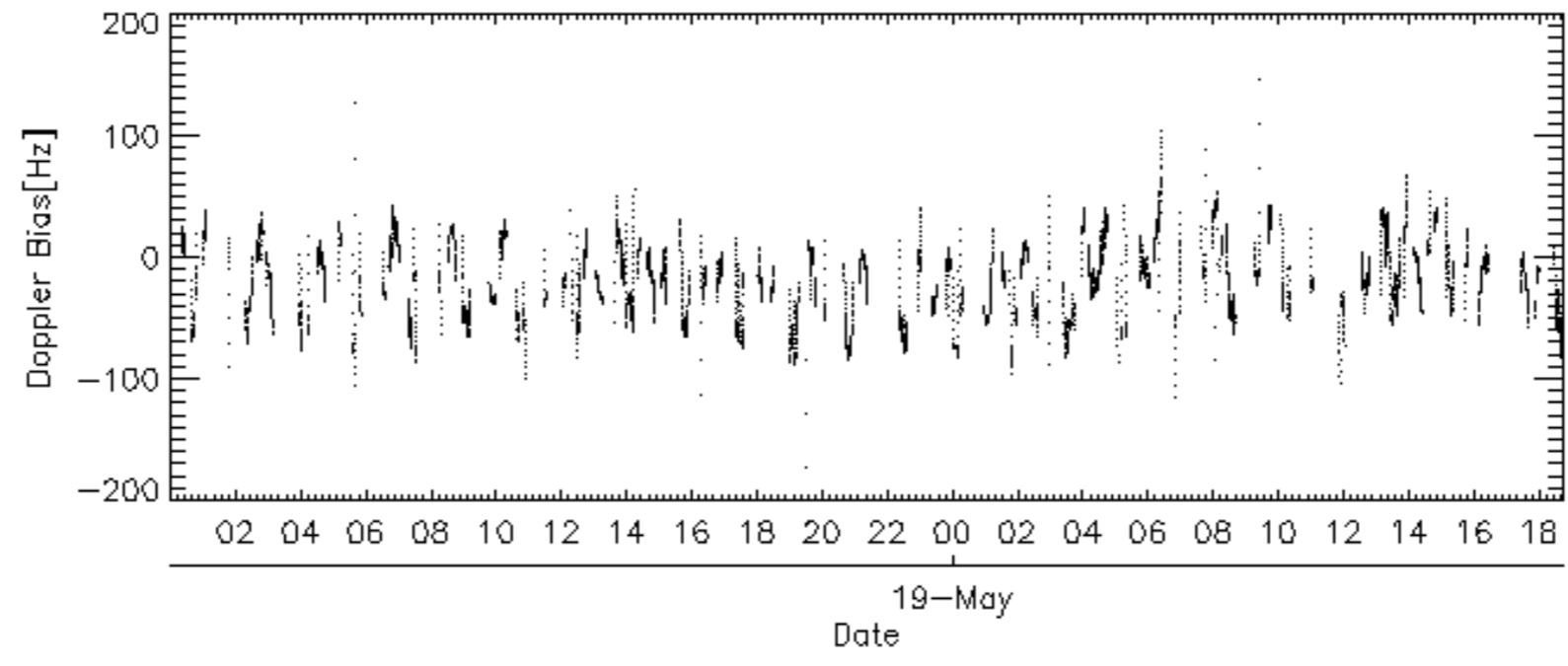
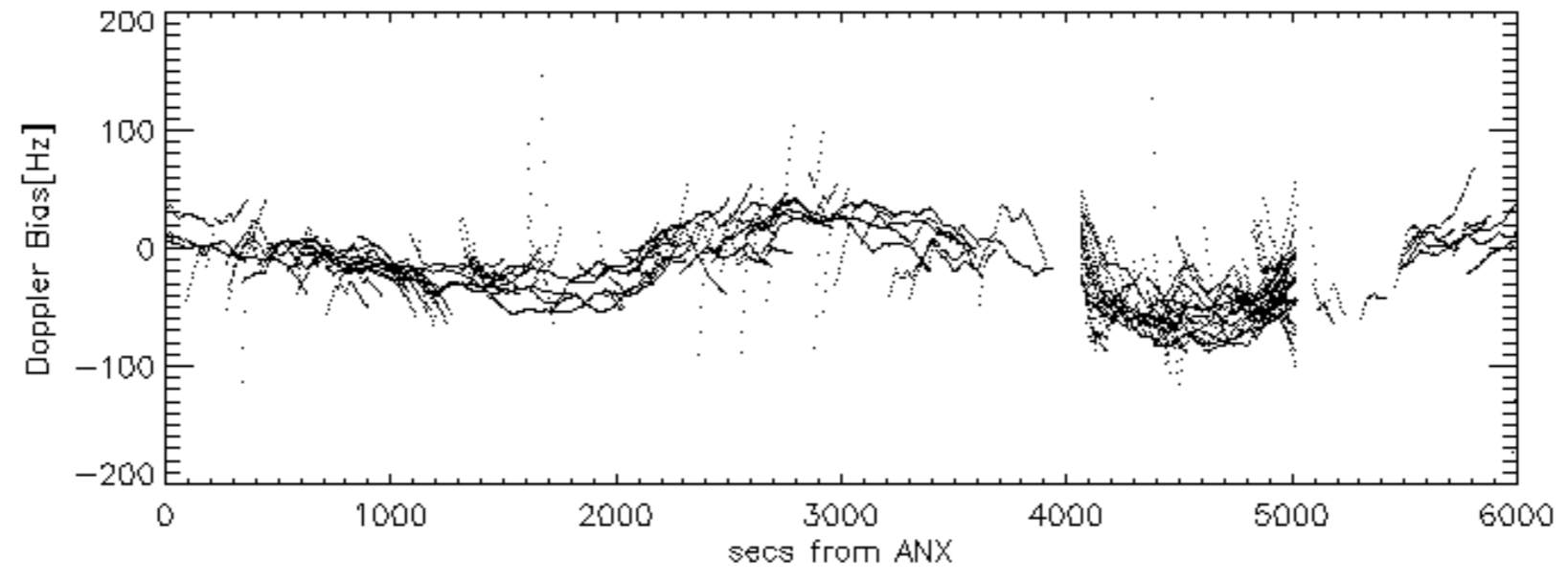
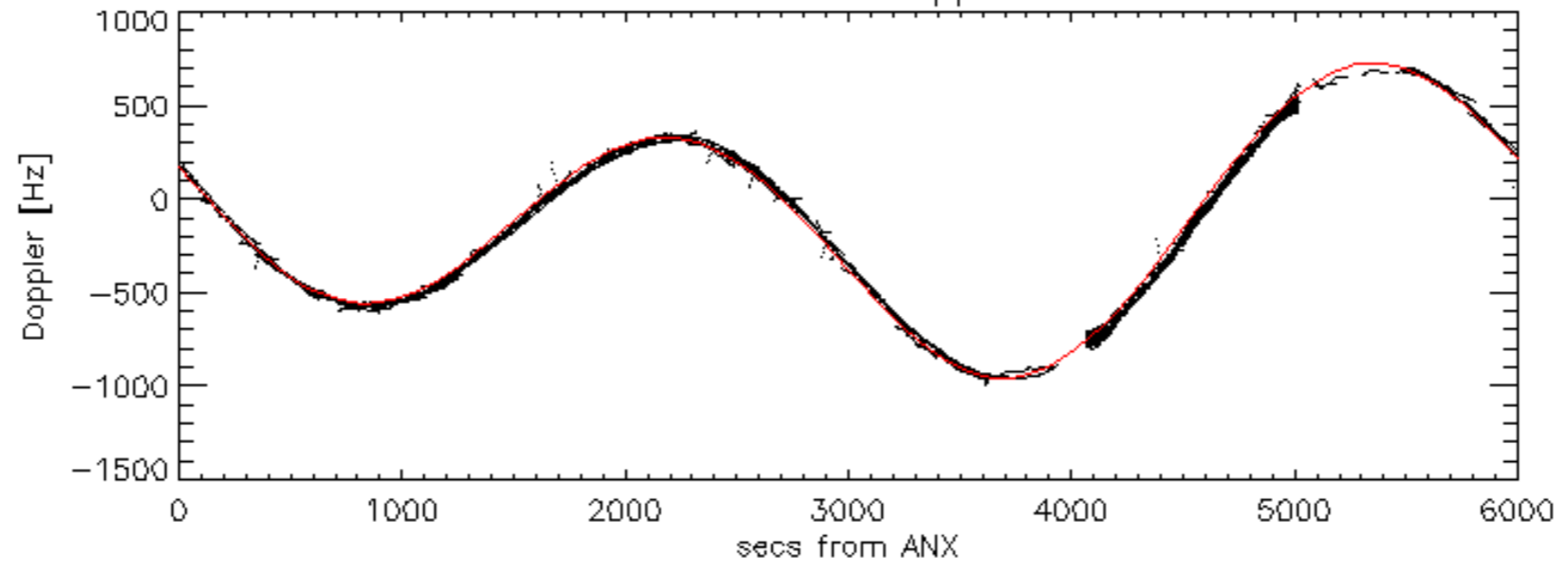


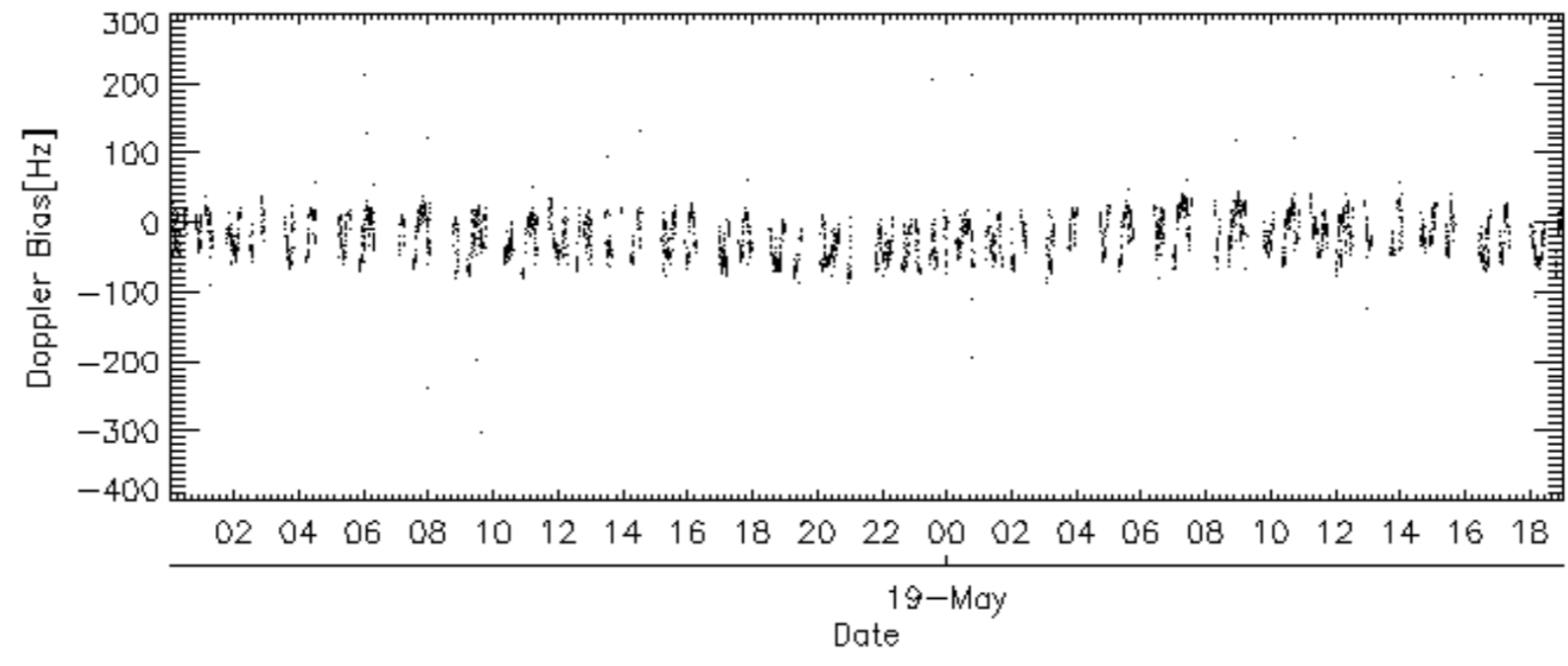
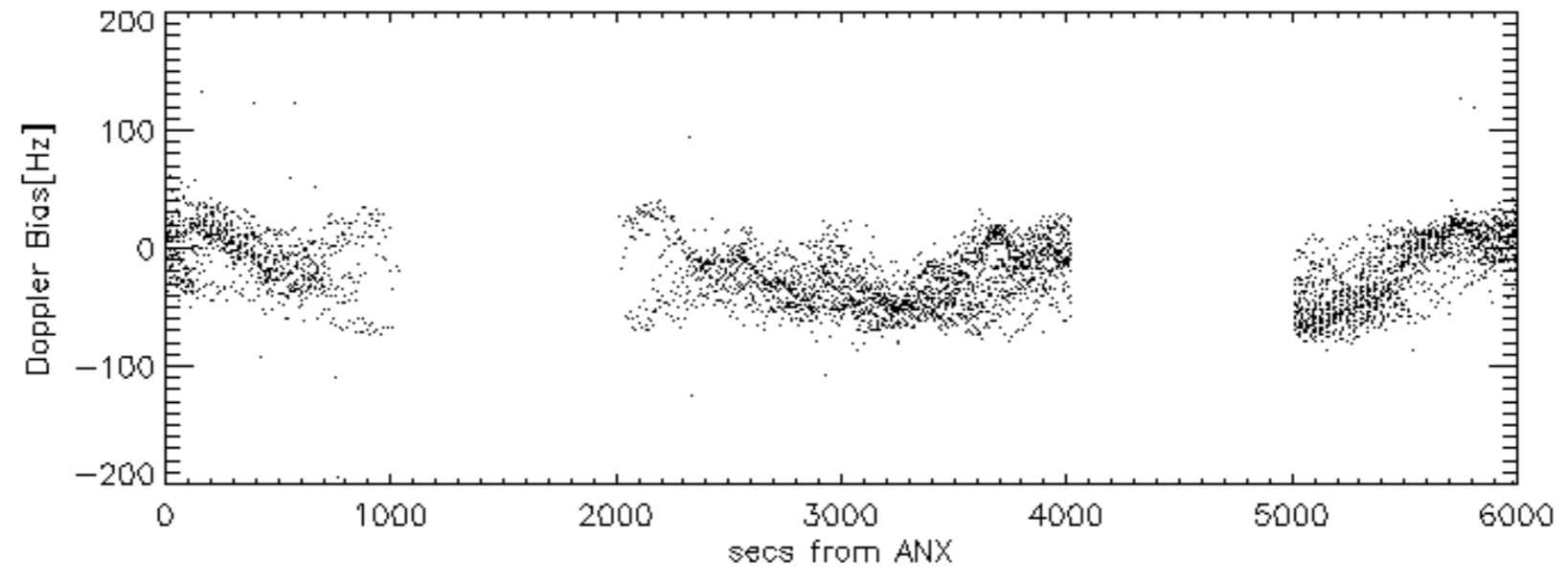
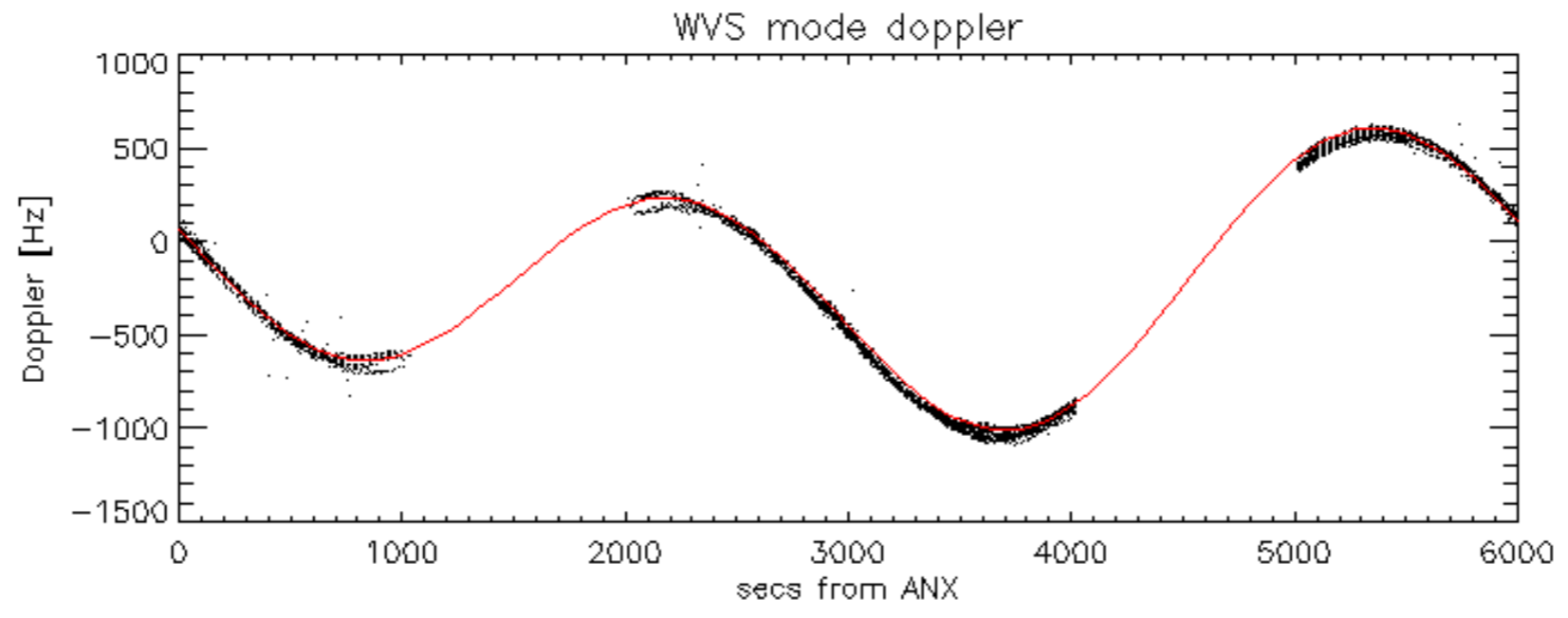
Doppler 'WVS' 'IS2' descending



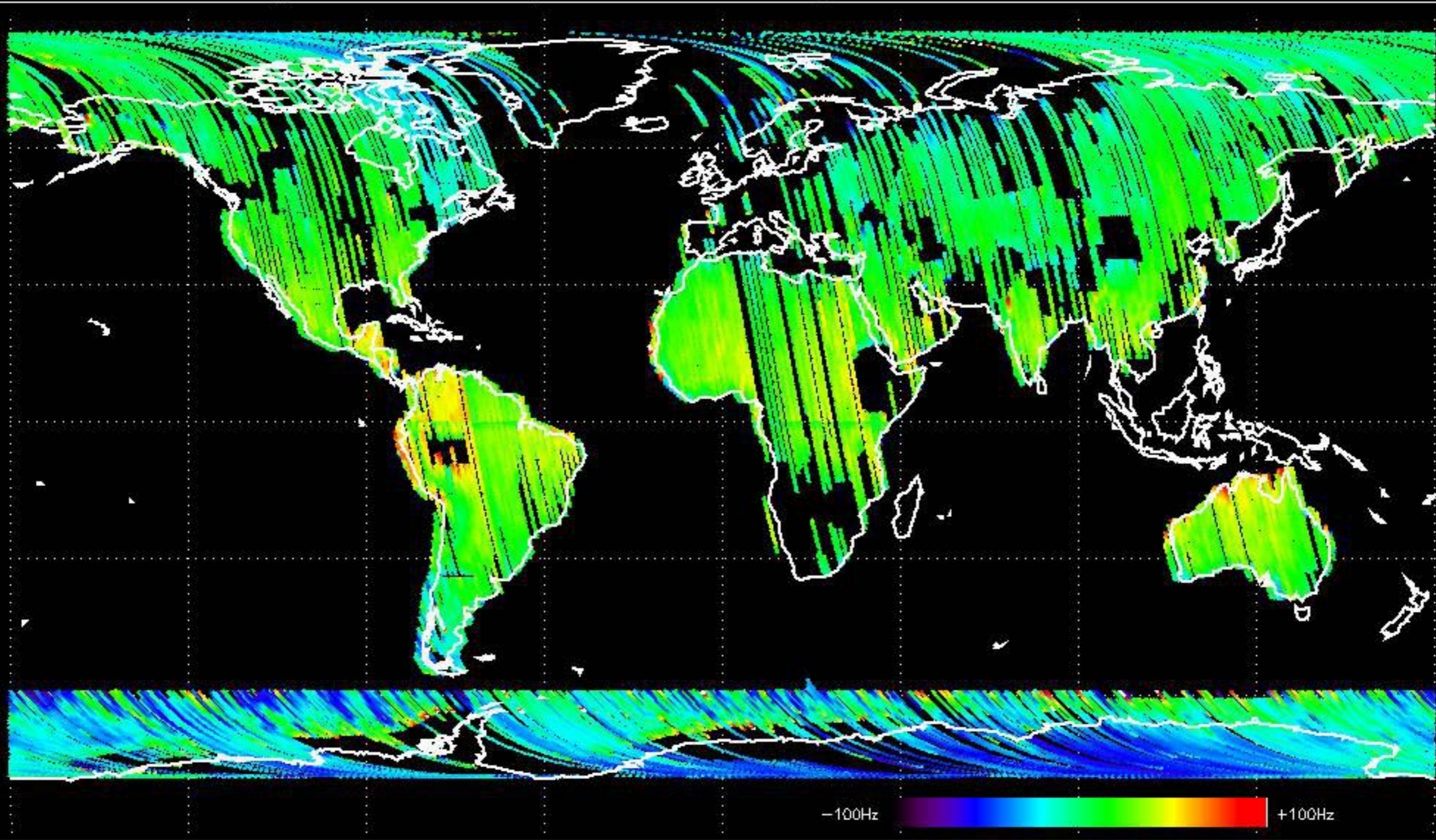


GM1 mode doppler

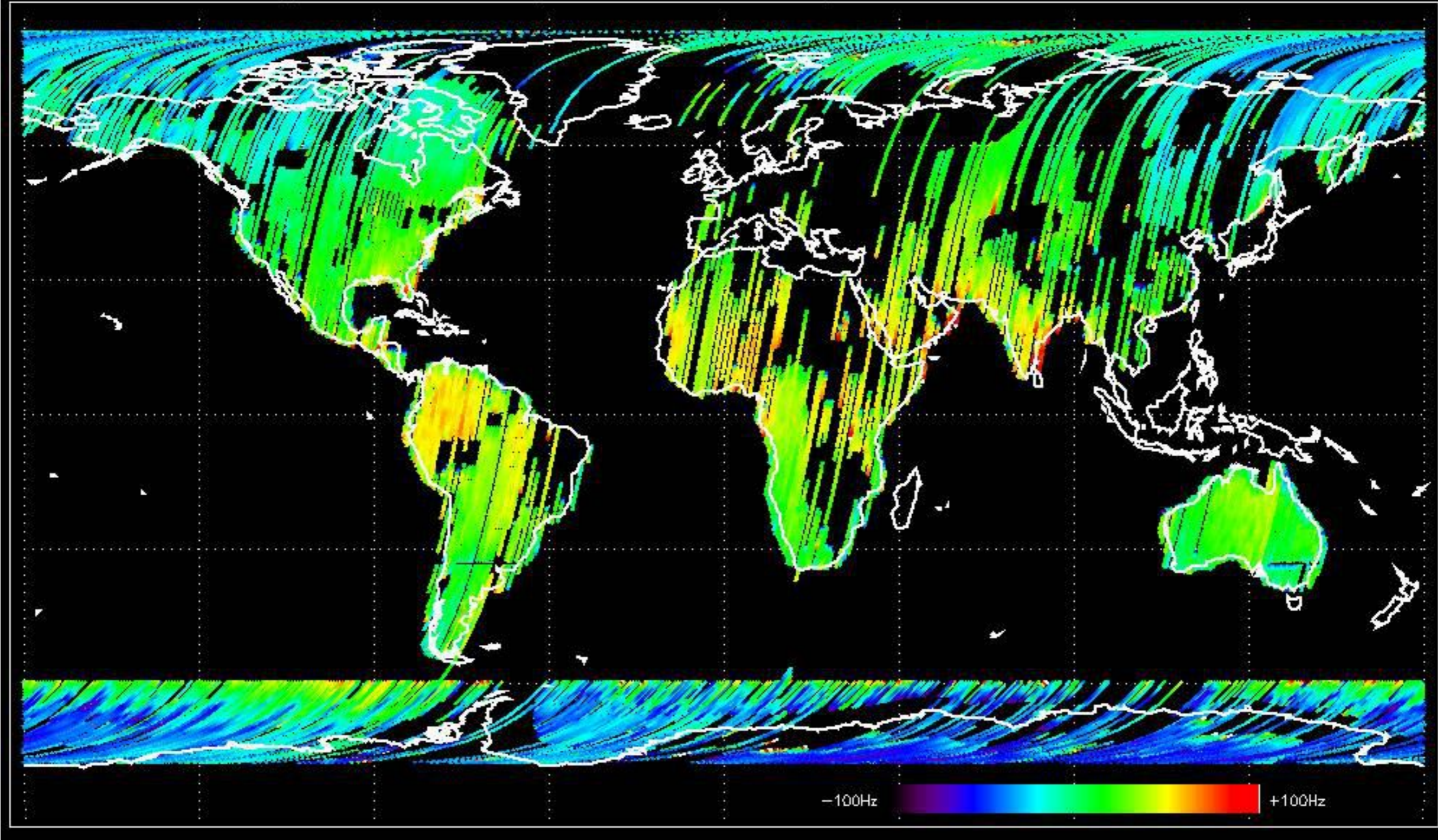




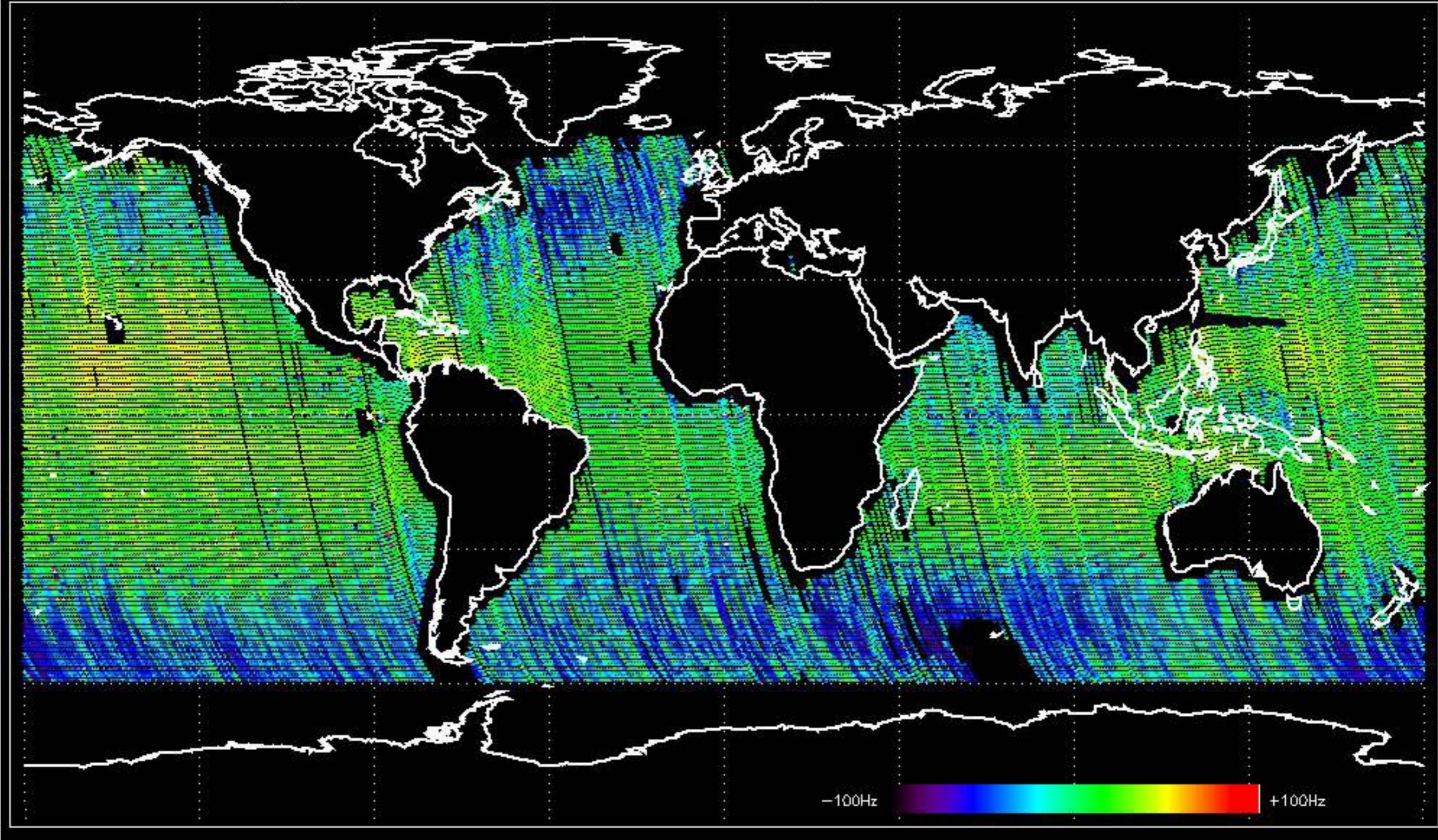
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -22.239779 Hz



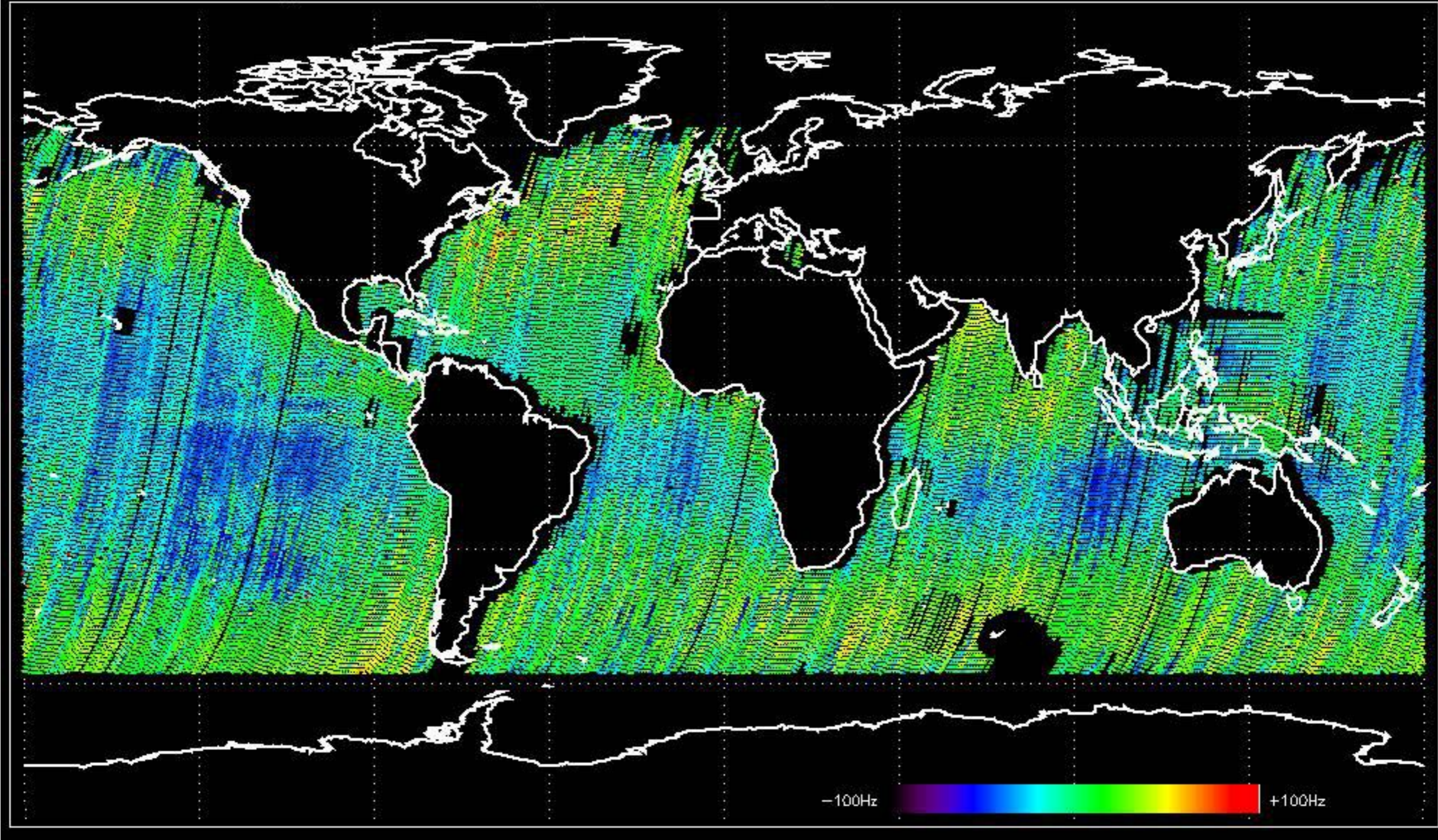
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -15.229432 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -15.169120 Hz



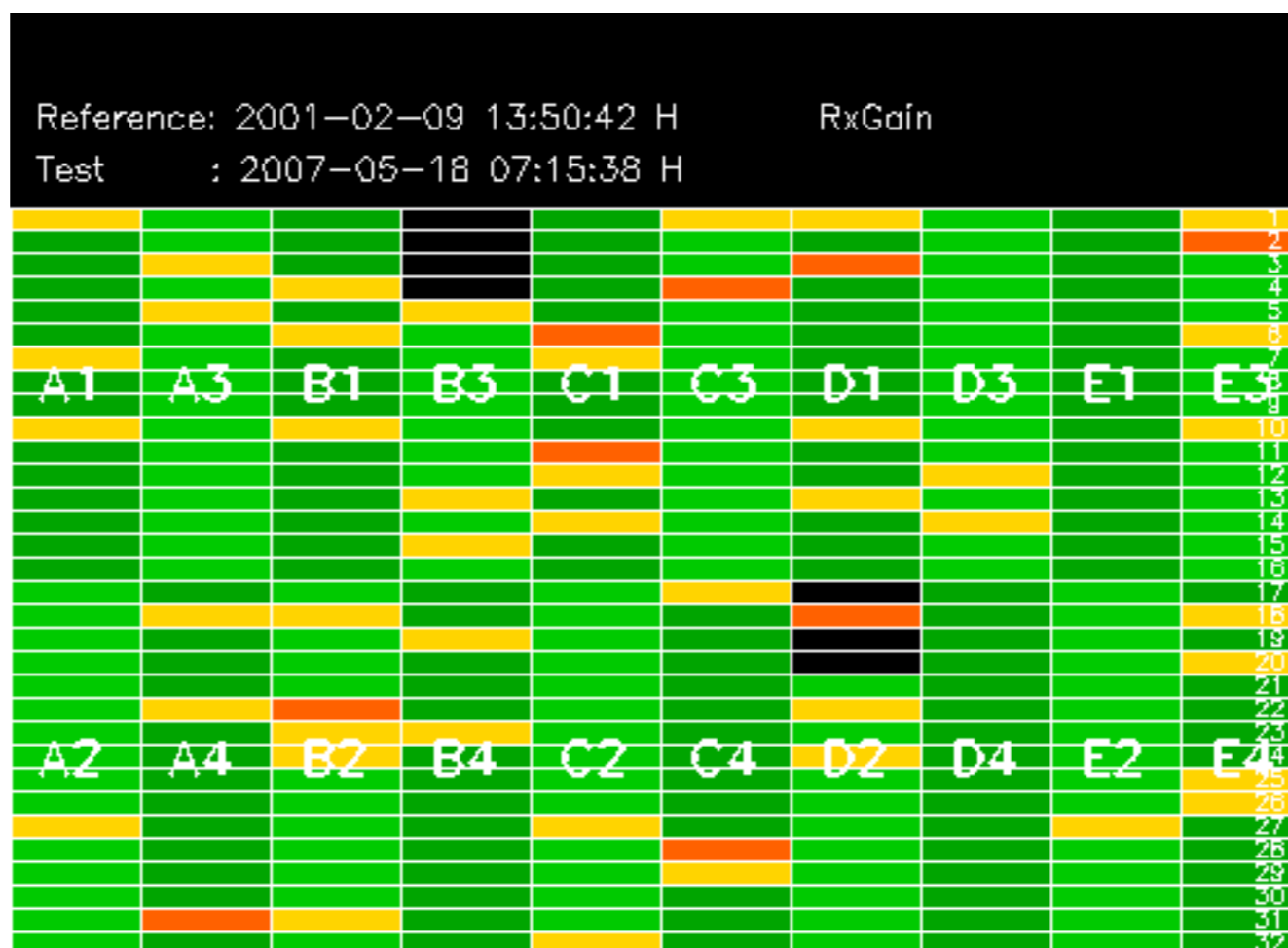
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -21.575389 Hz

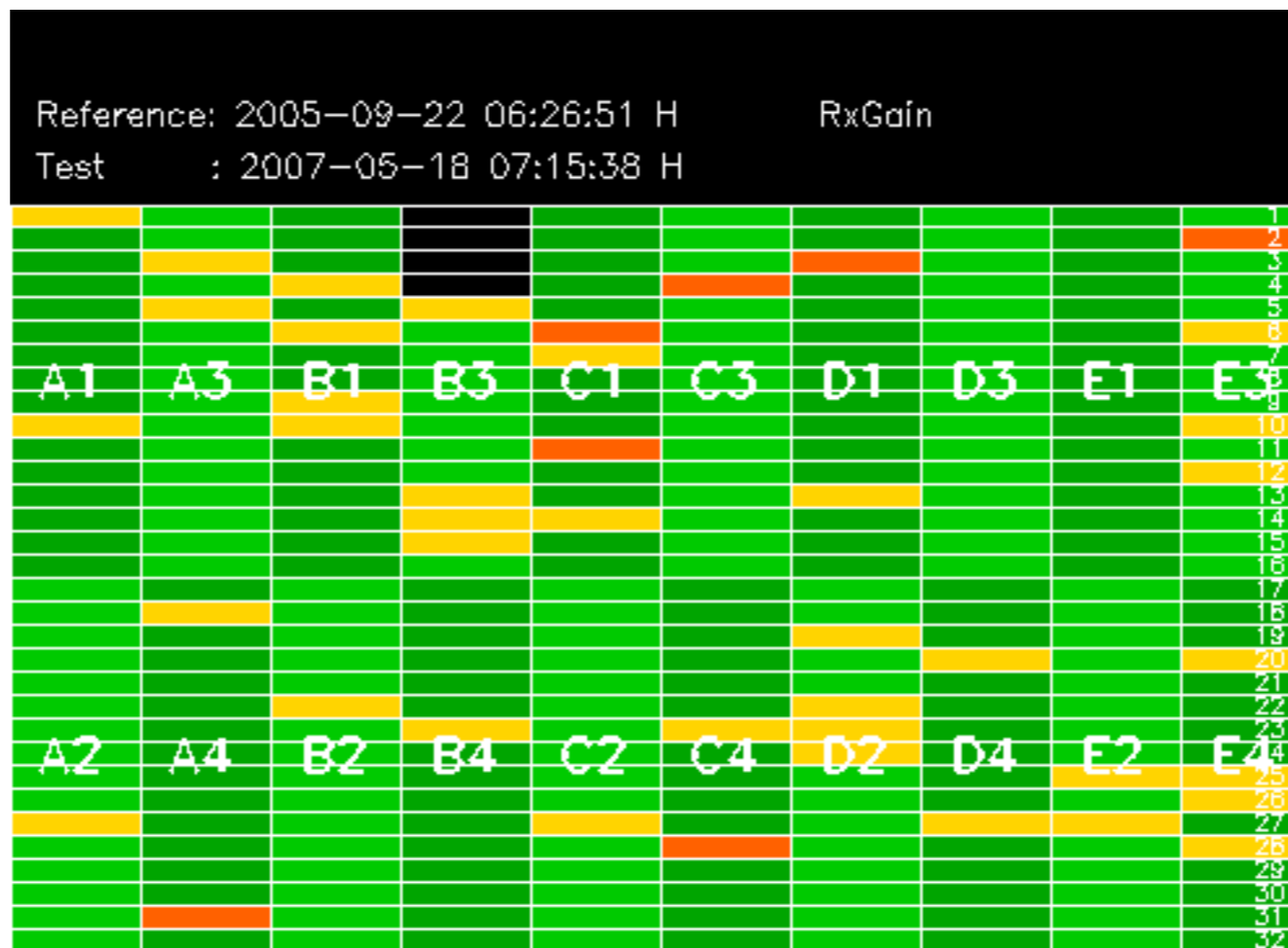


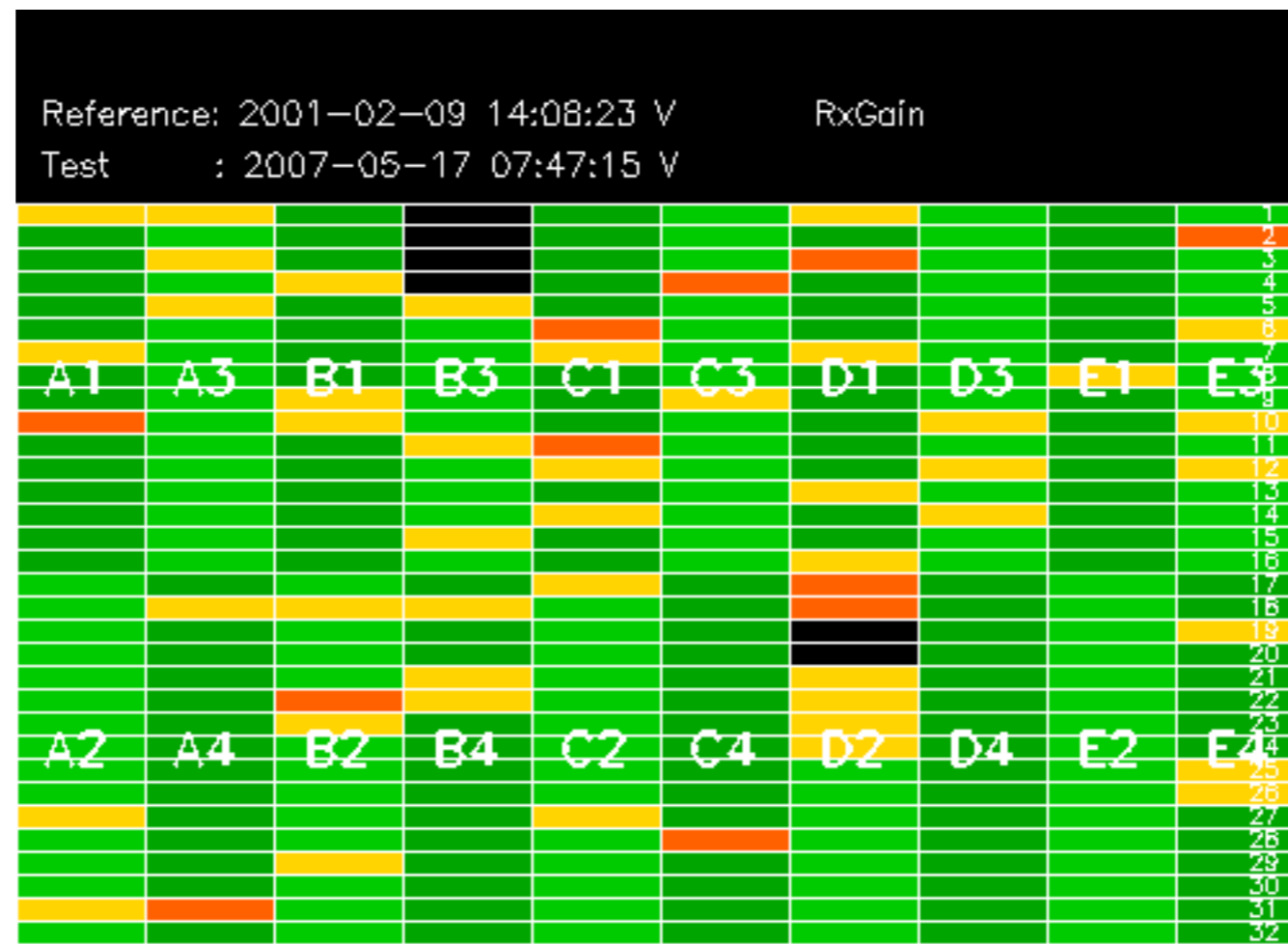
No anomalies observed on available MS products:

No anomalies observed.

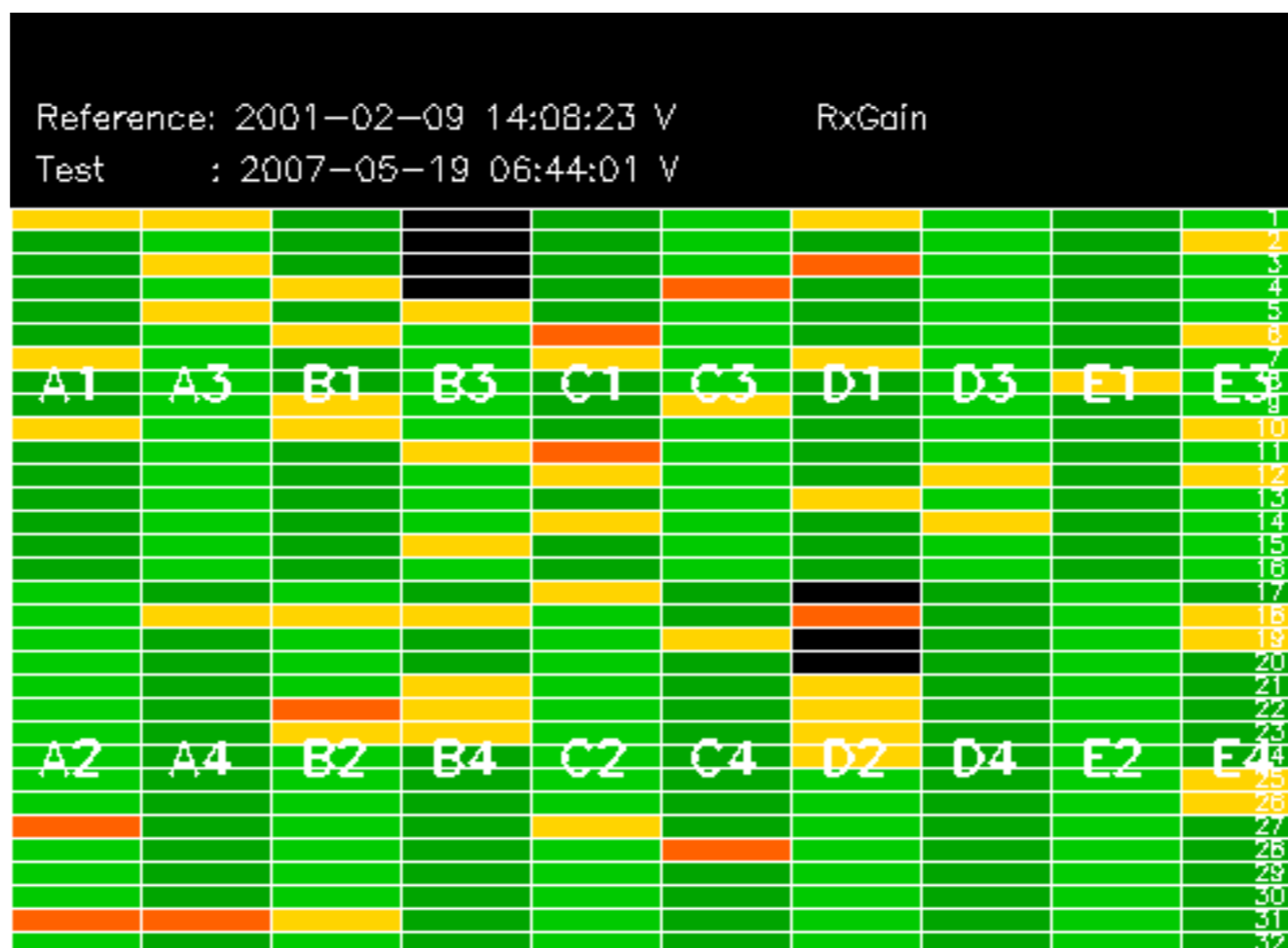






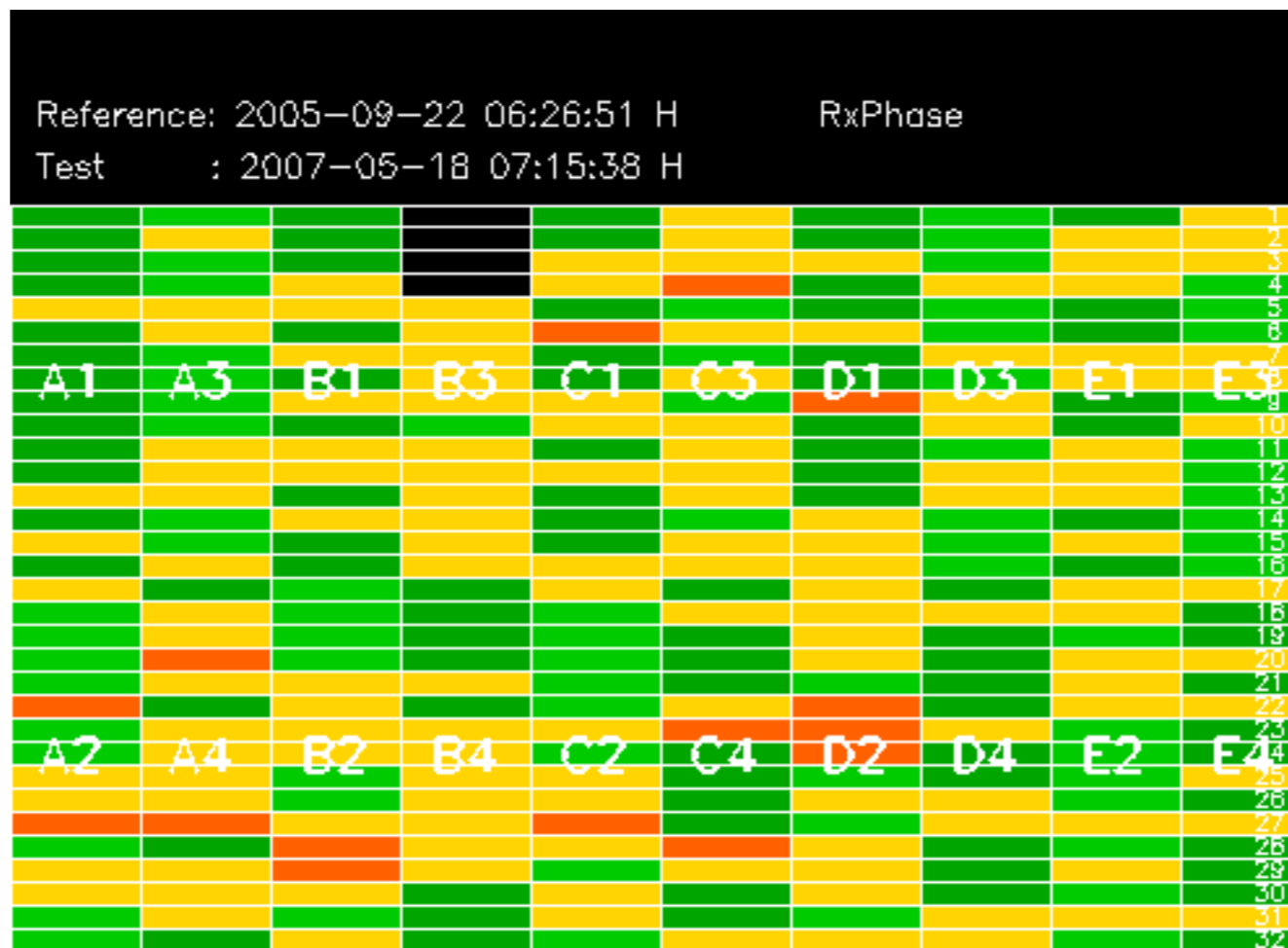




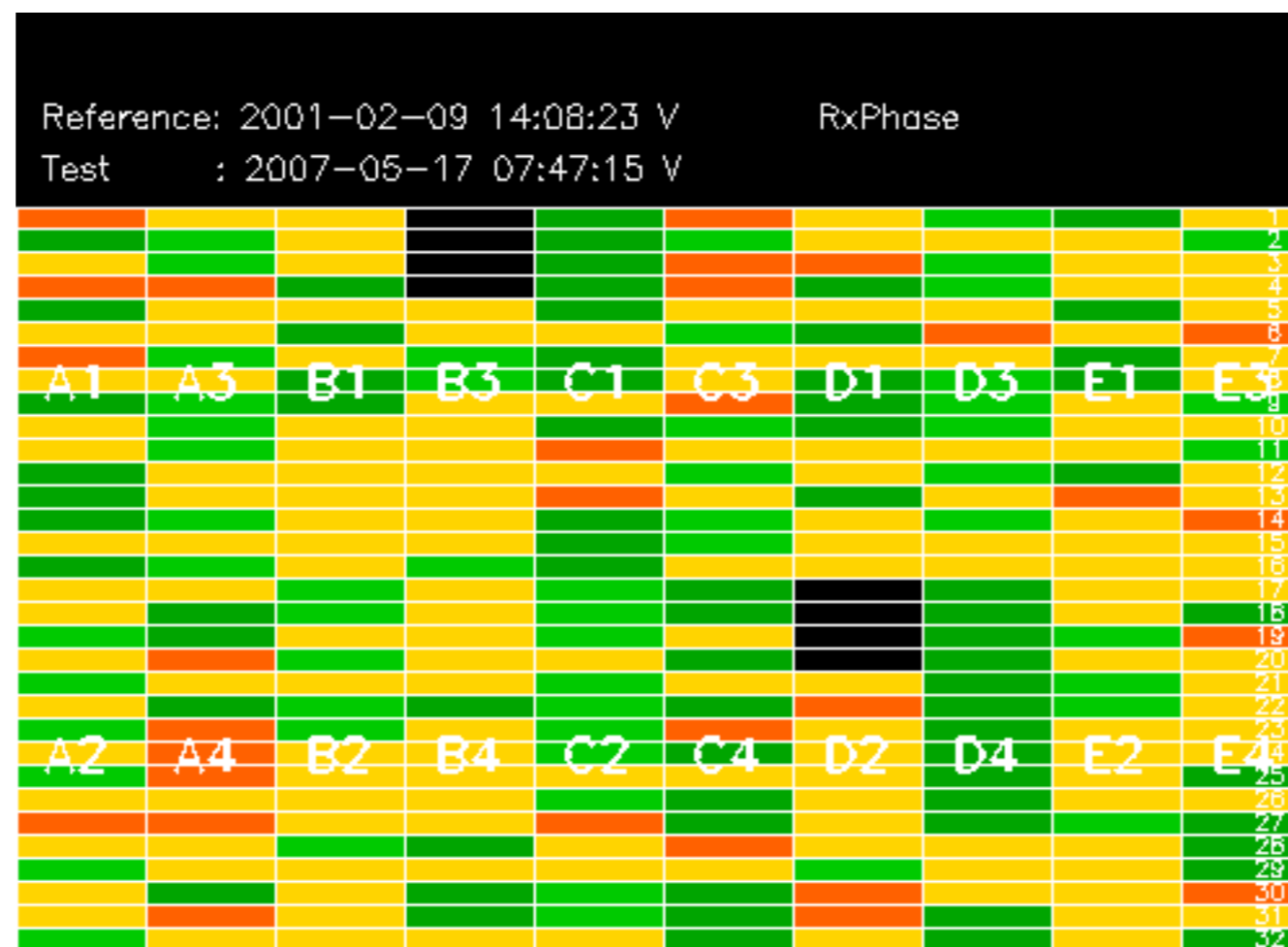








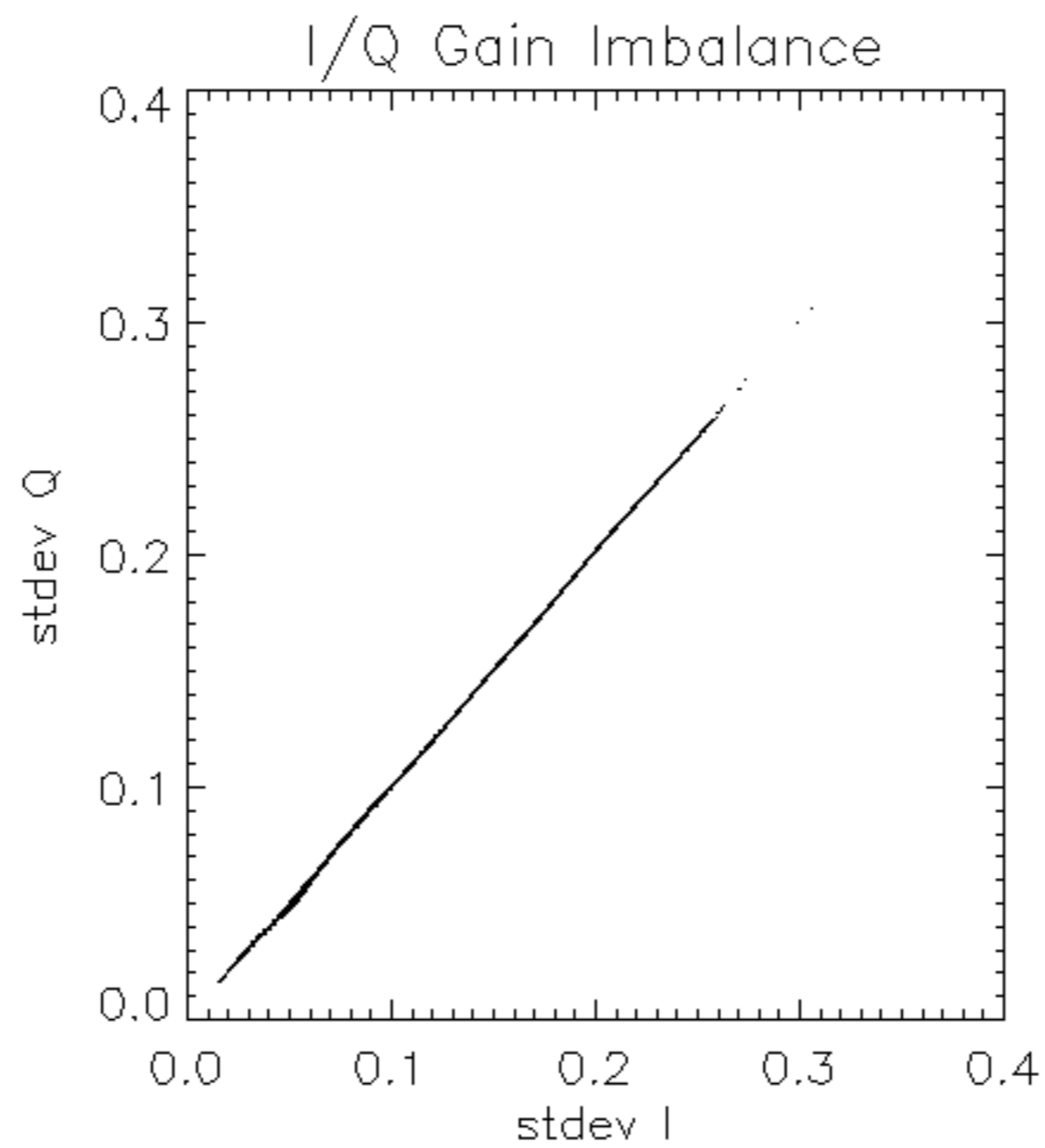


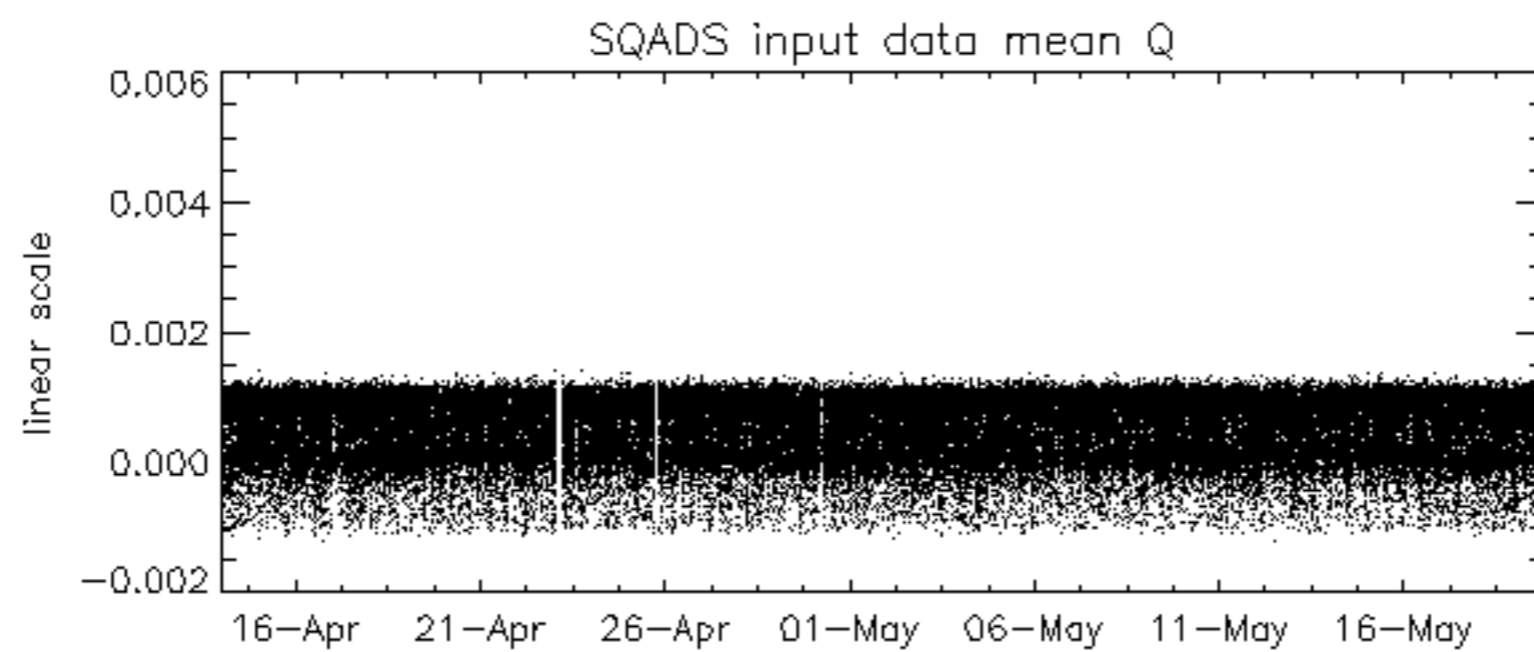
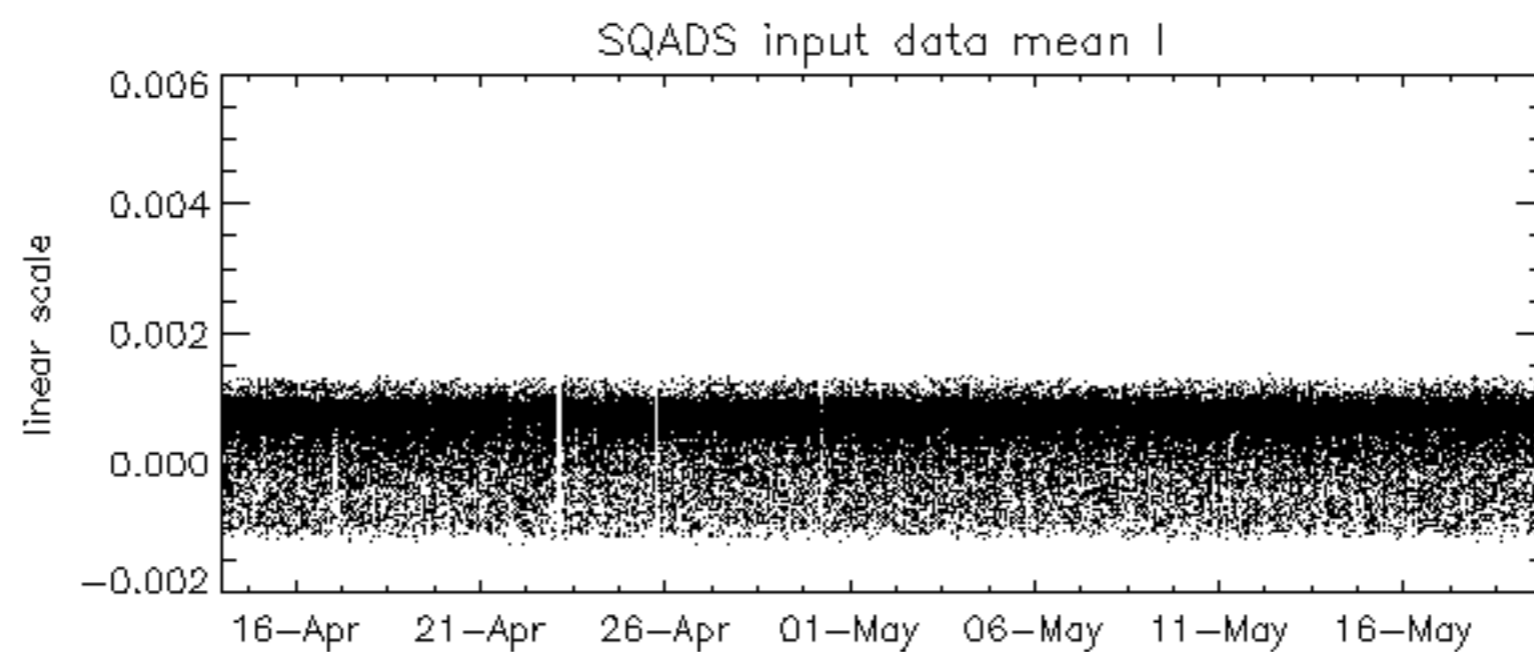
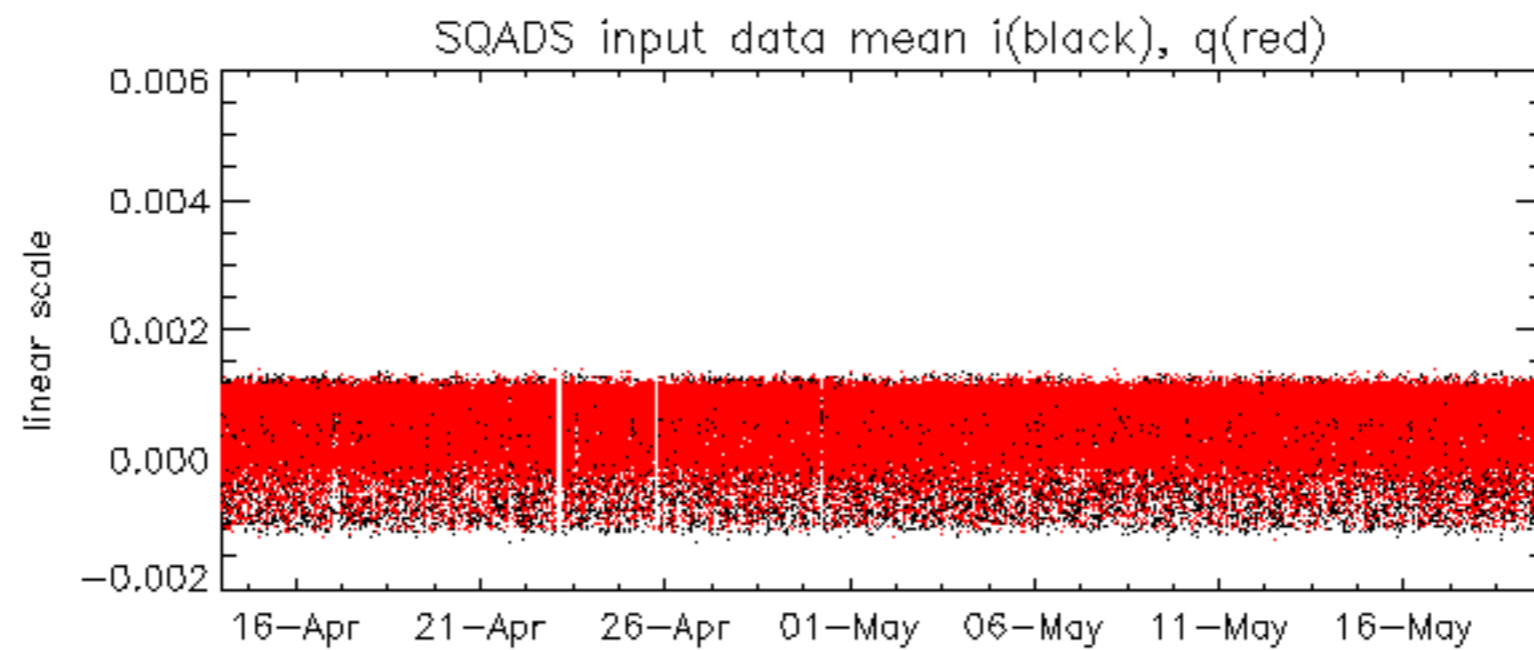


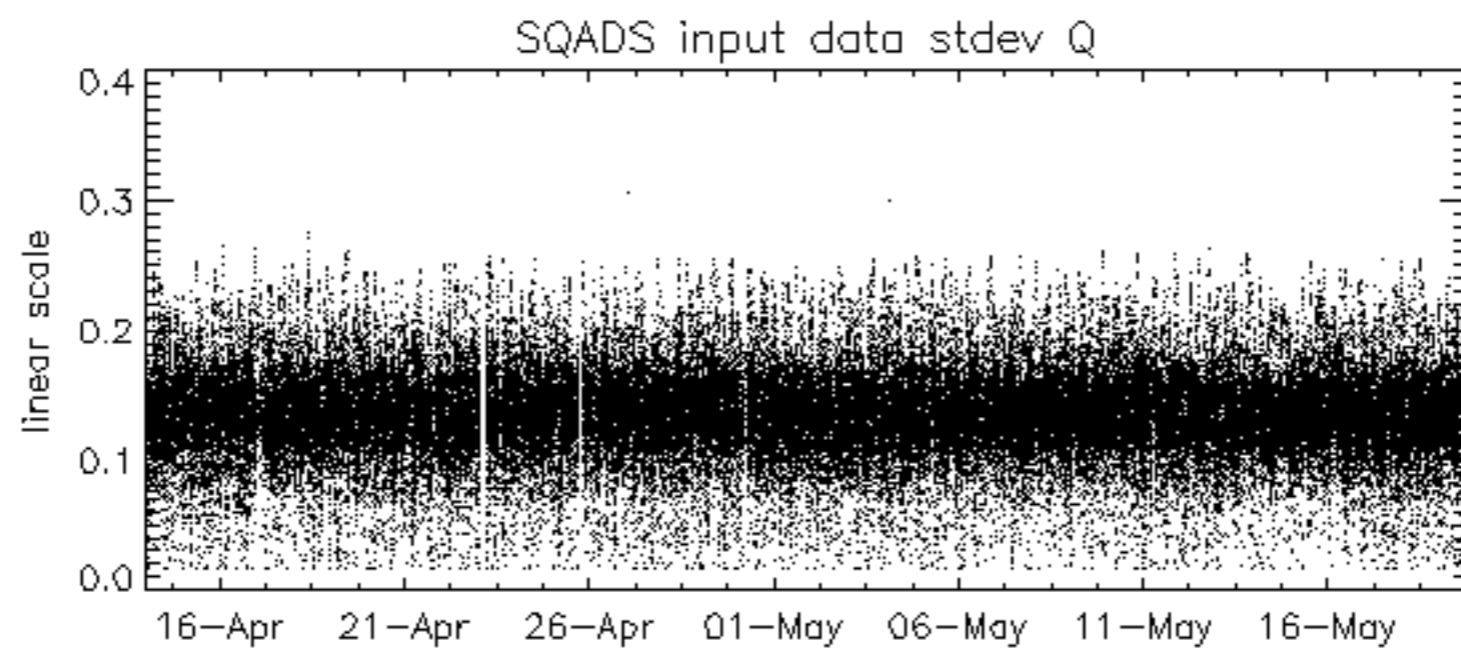
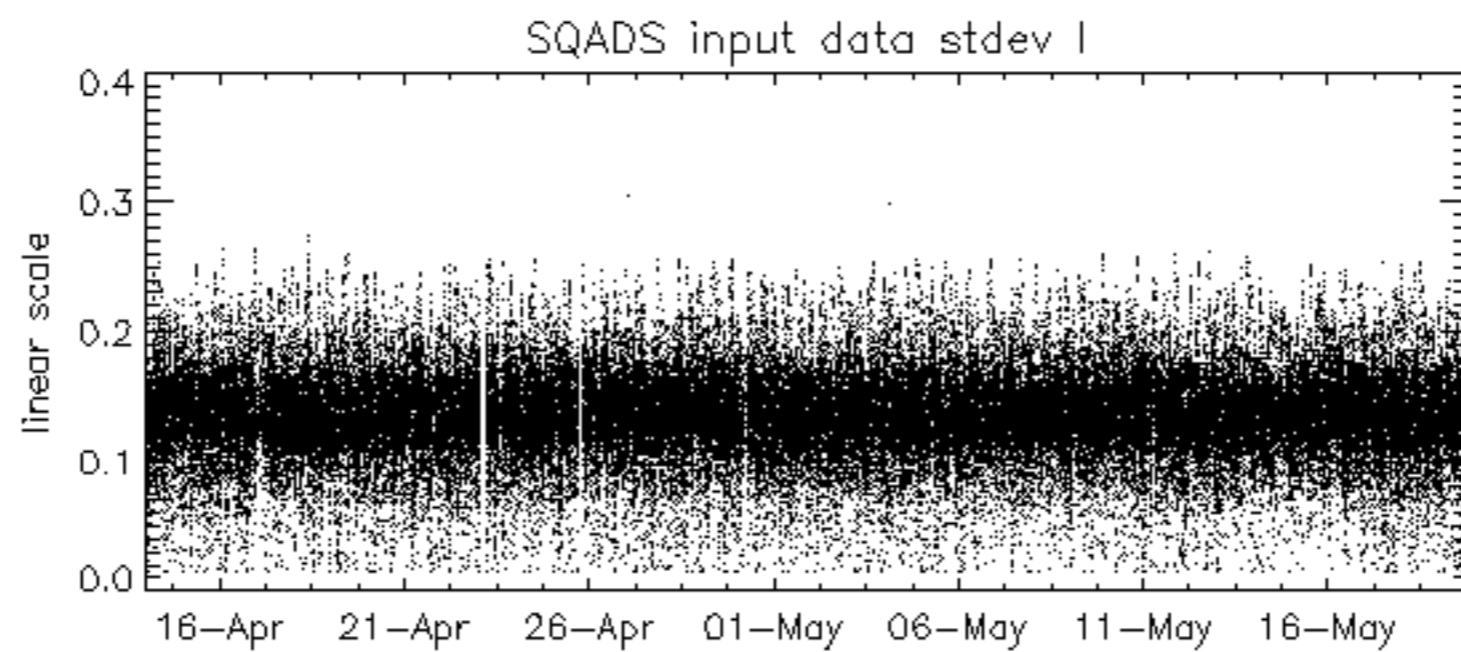
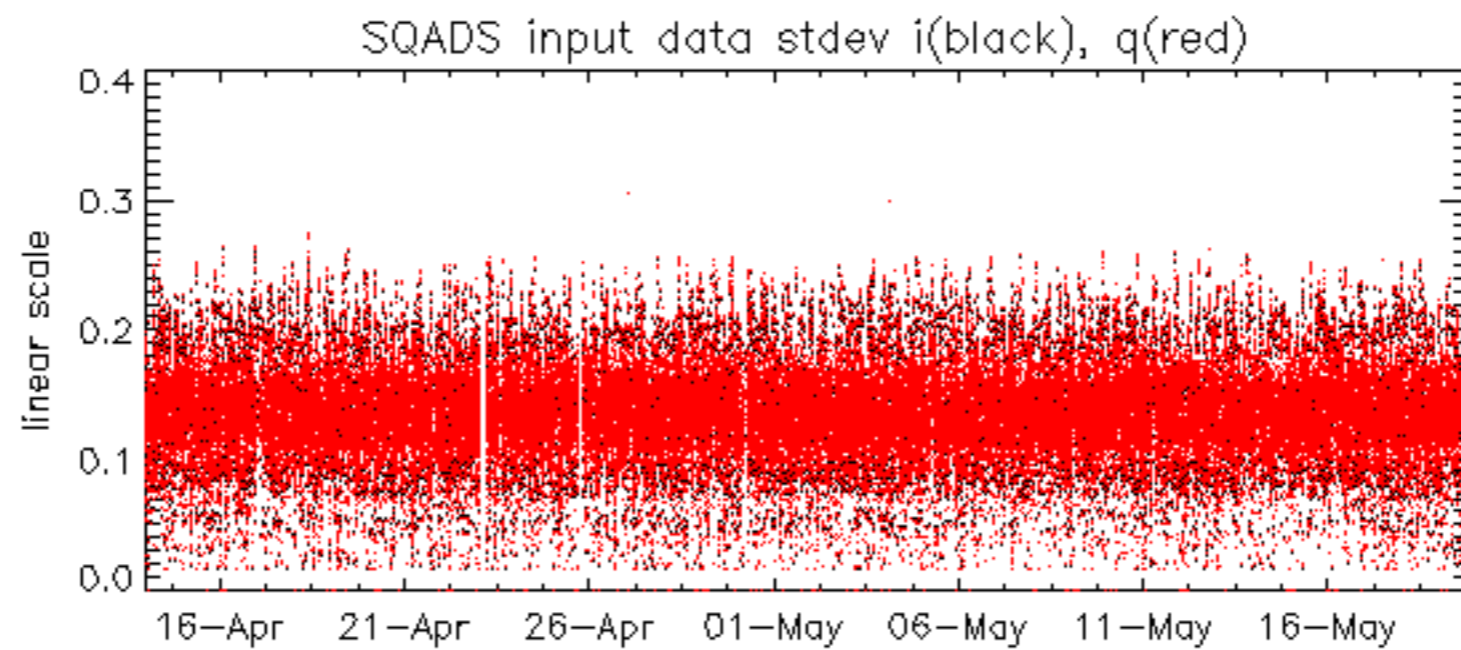






















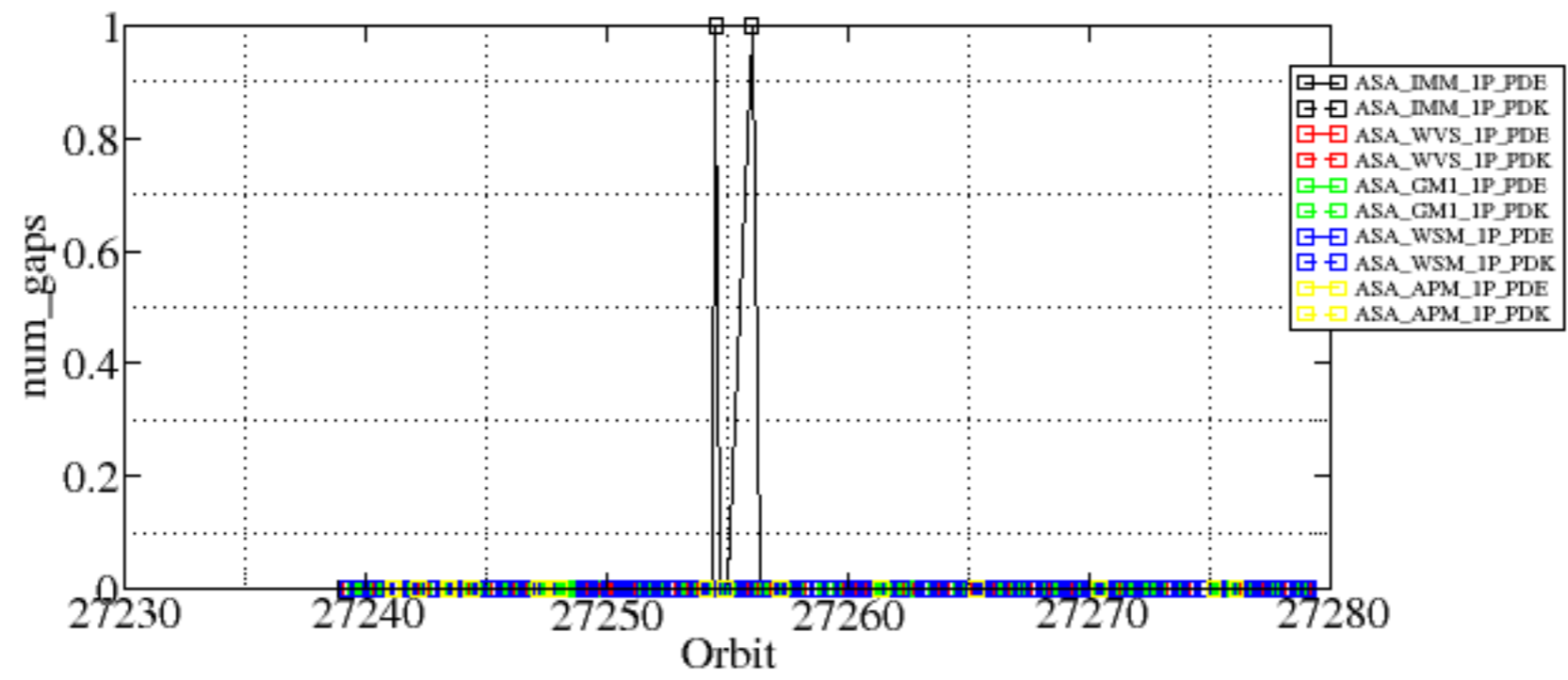




Summary of analysis for the last 3 days 2007051[789]

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_1PNPDE20070518_015652_000000362058_00146_27254_0357.N1	1	0
ASA_IMM_1PNPDE20070518_042631_000000762058_00147_27255_0576.N1	1	0
ASA_WSM_1PNPDE20070517_035646_000001282058_00133_27241_9322.N1	0	1
ASA_WSM_1PNPDE20070517_164501_000000852058_00141_27249_9765.N1	0	57
ASA_WSM_1PNPDE20070517_182820_000000852058_00142_27250_9815.N1	0	67
ASA_WSM_1PNPDE20070518_015027_000000852058_00146_27254_0388.N1	0	2
ASA_WSM_1PNPDE20070518_032509_000000672058_00147_27255_0392.N1	0	1
ASA_WSM_1PNPDE20070518_032509_000001472058_00147_27255_0992.N1	0	1
ASA_WSM_1PNPDE20070518_201722_000000672058_00157_27265_1371.N1	0	52
ASA_WSM_1PNPDE20070518_234323_000002442058_00159_27267_1774.N1	0	35
ASA_WSM_1PNPDE20070519_012058_000000852058_00160_27268_1922.N1	0	40
ASA_WSM_1PNPDE20070519_172249_000001772058_00170_27278_2607.N1	0	2
ASA_WSM_1PNPDE20070519_190232_000000972058_00171_27279_2642.N1	0	41

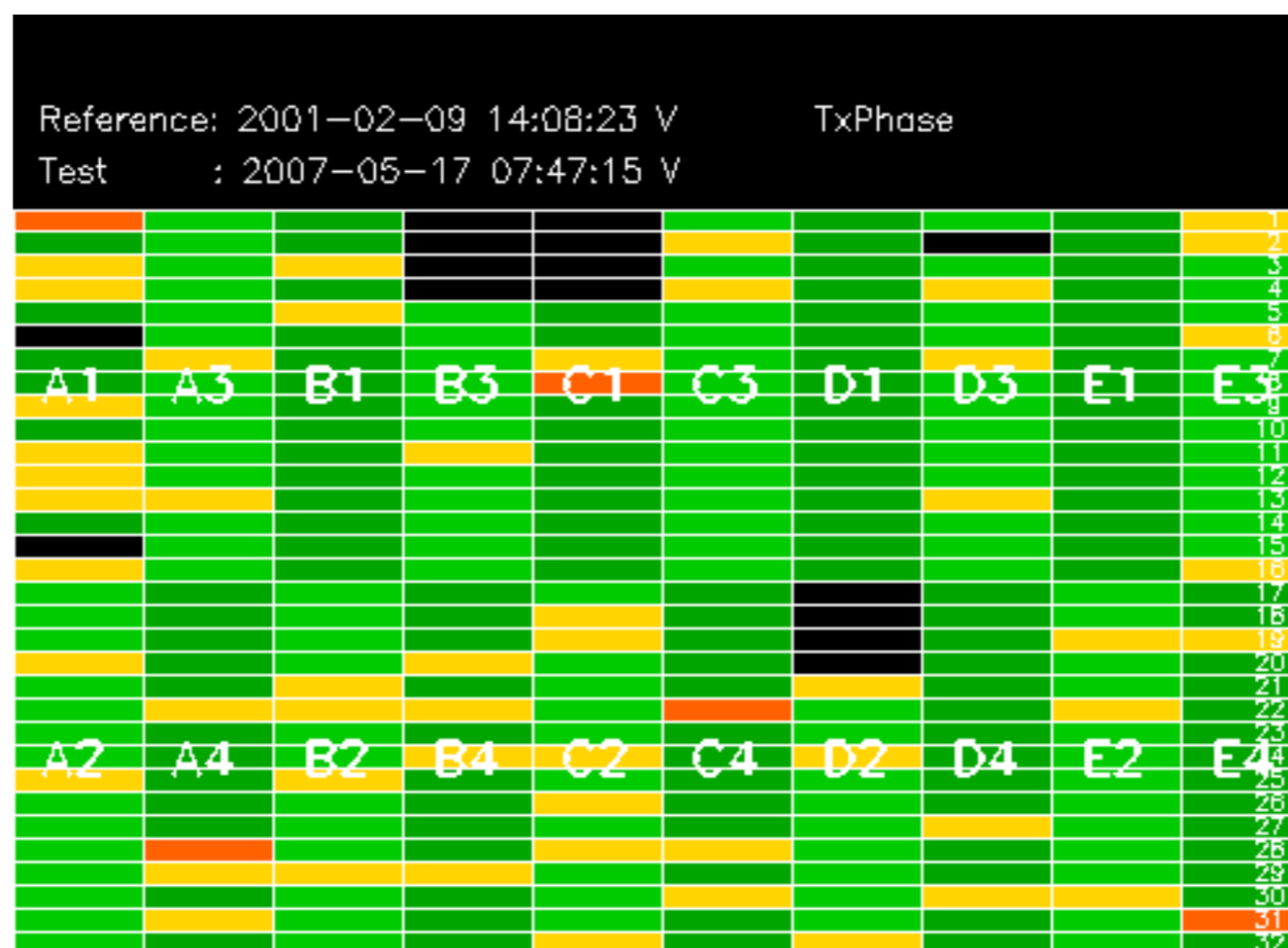




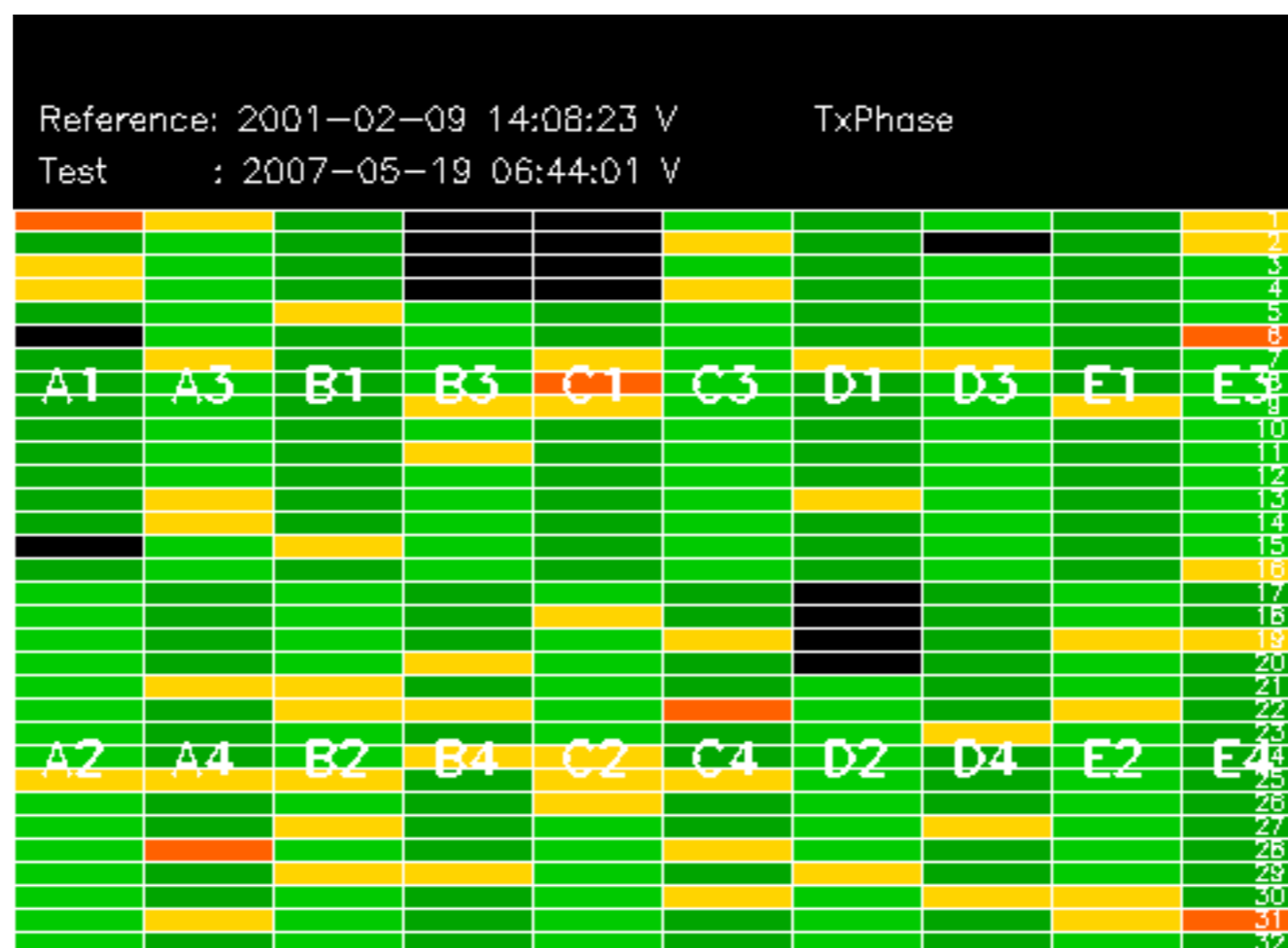


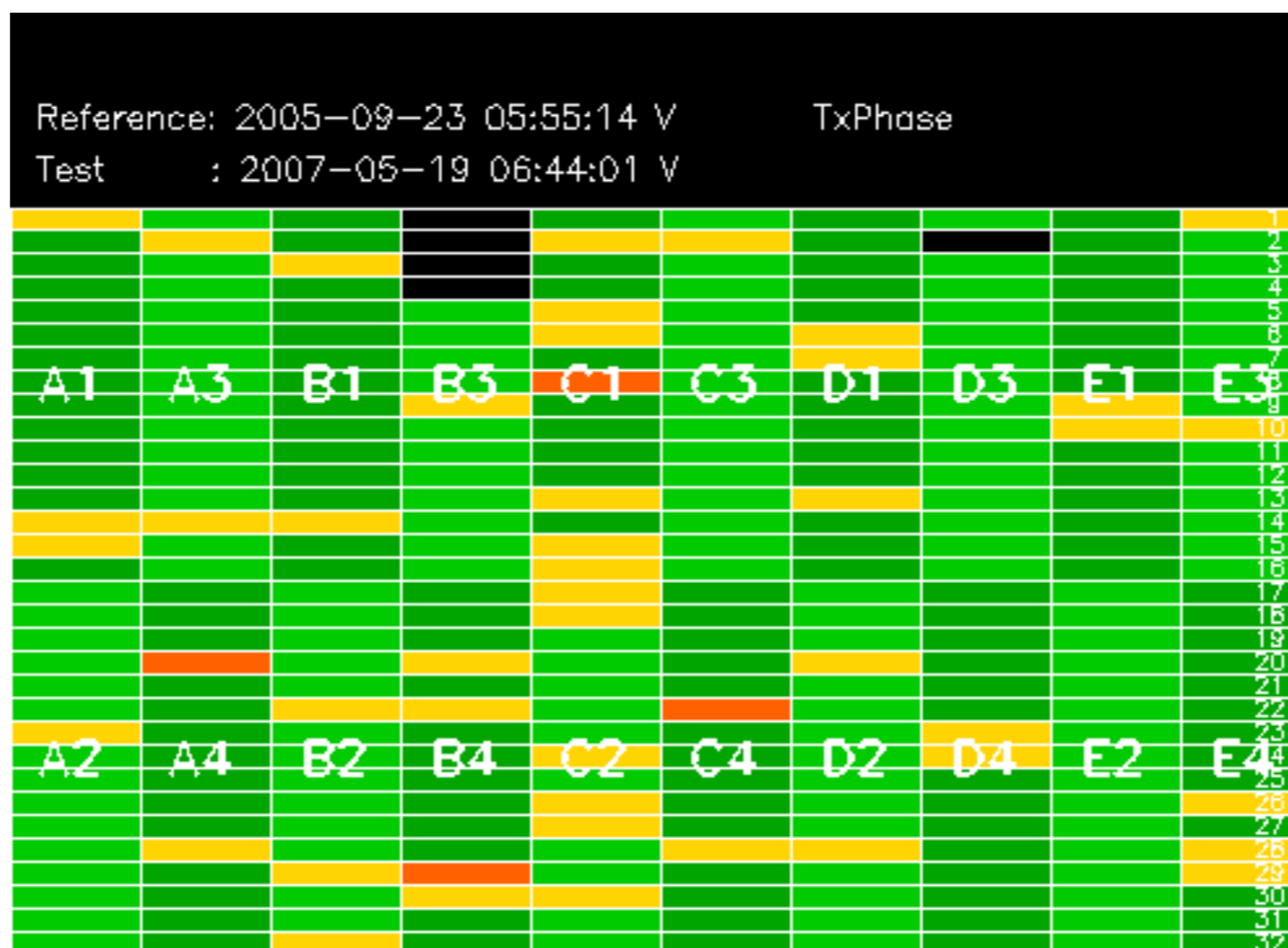


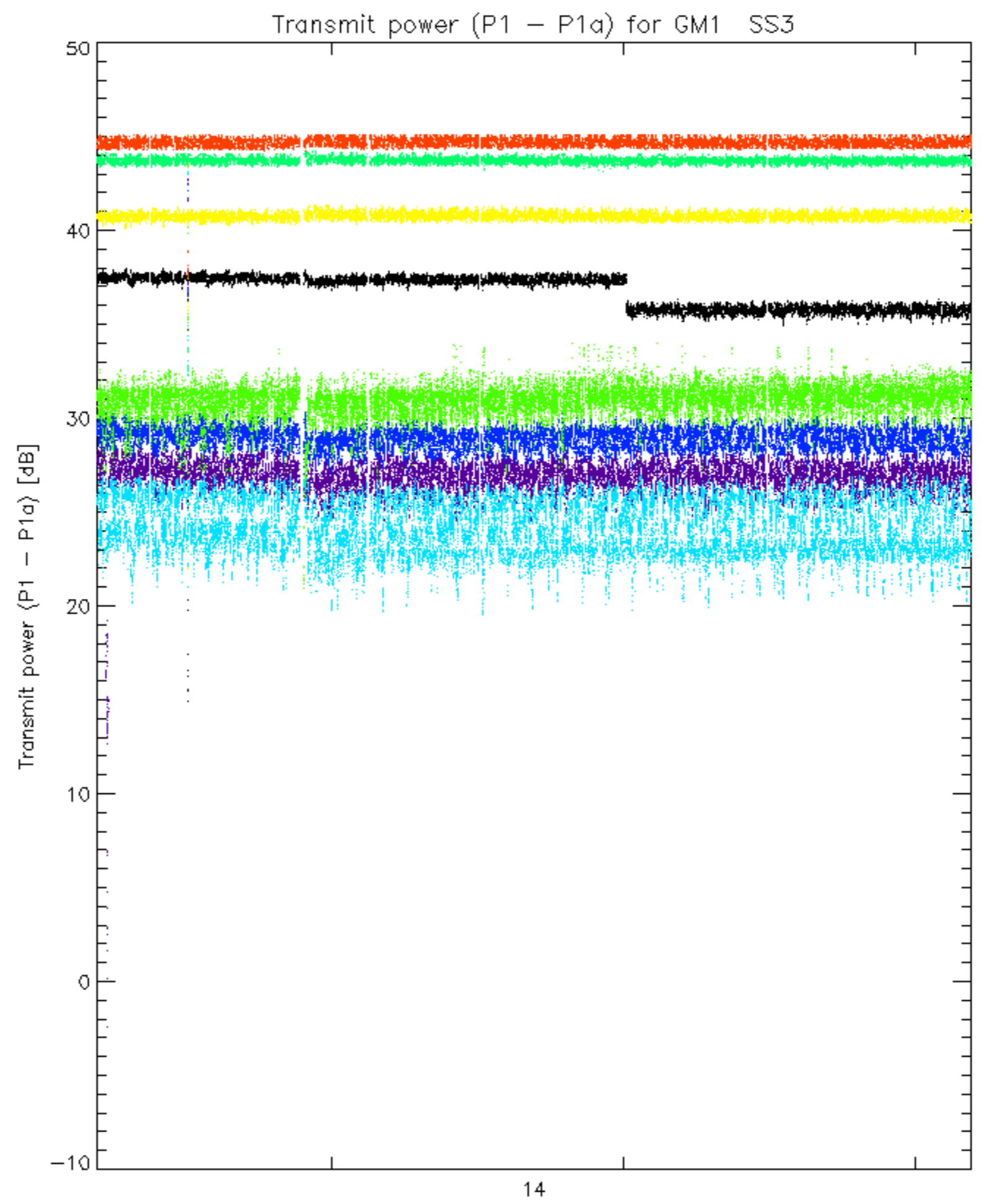




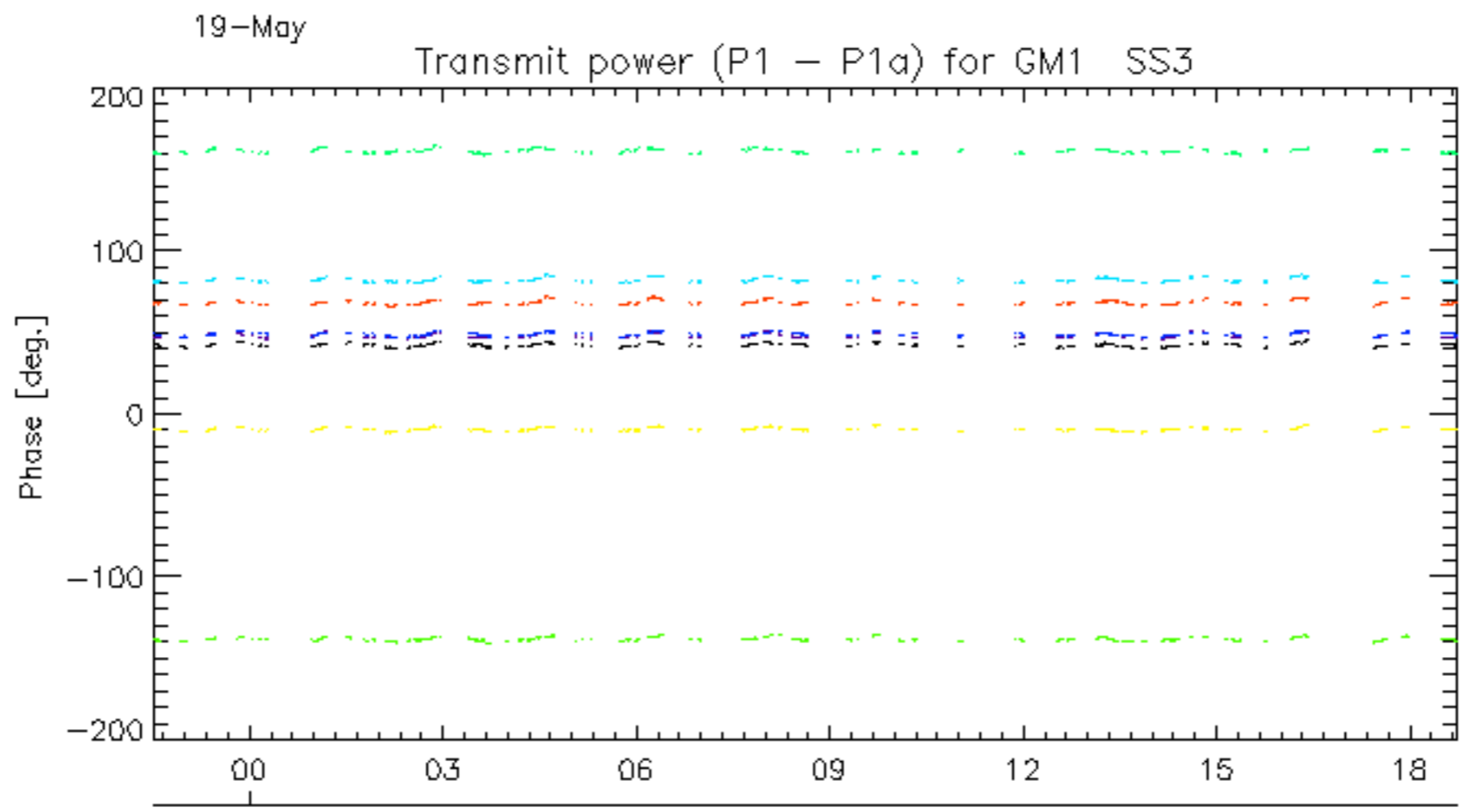
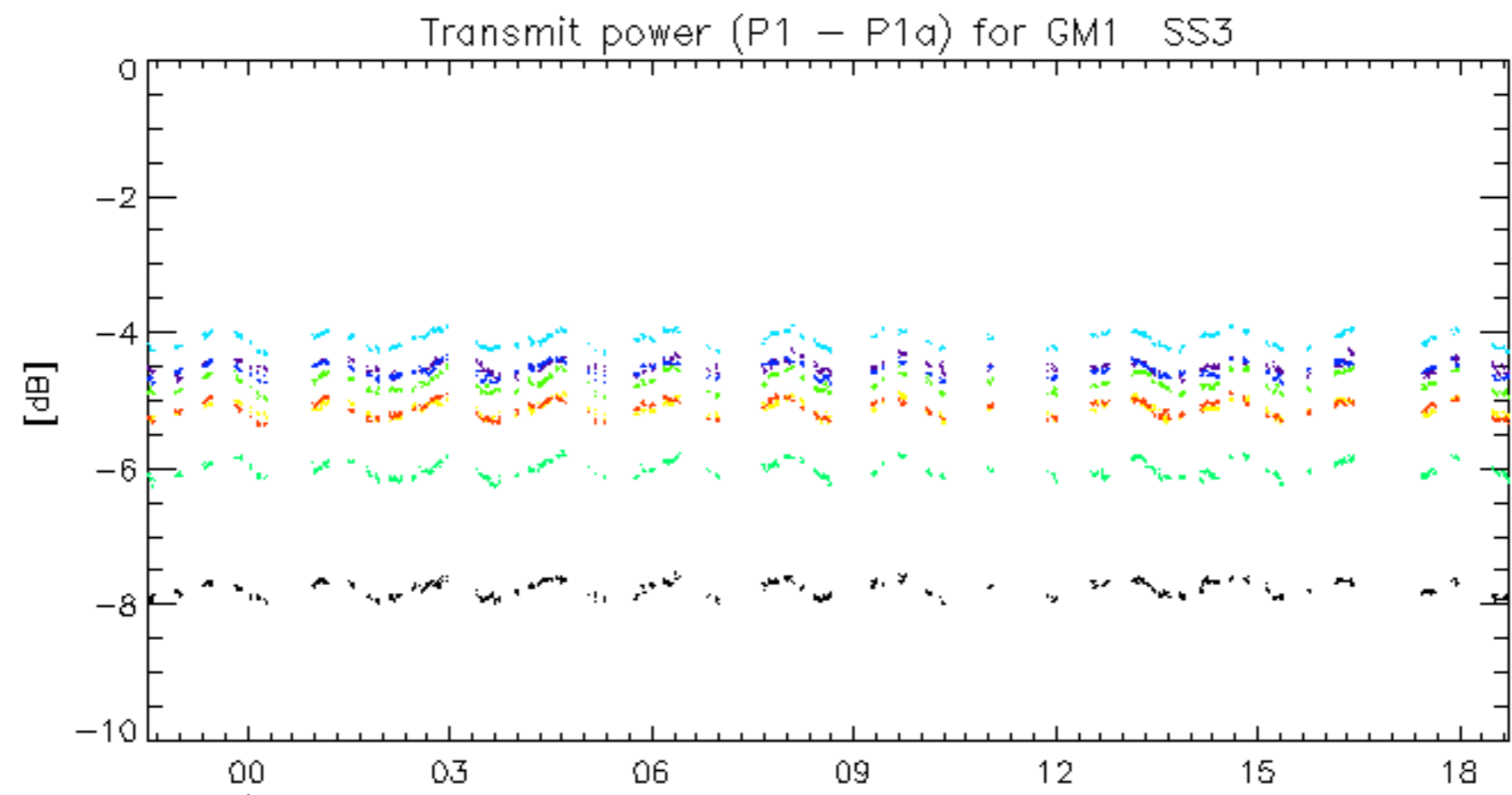








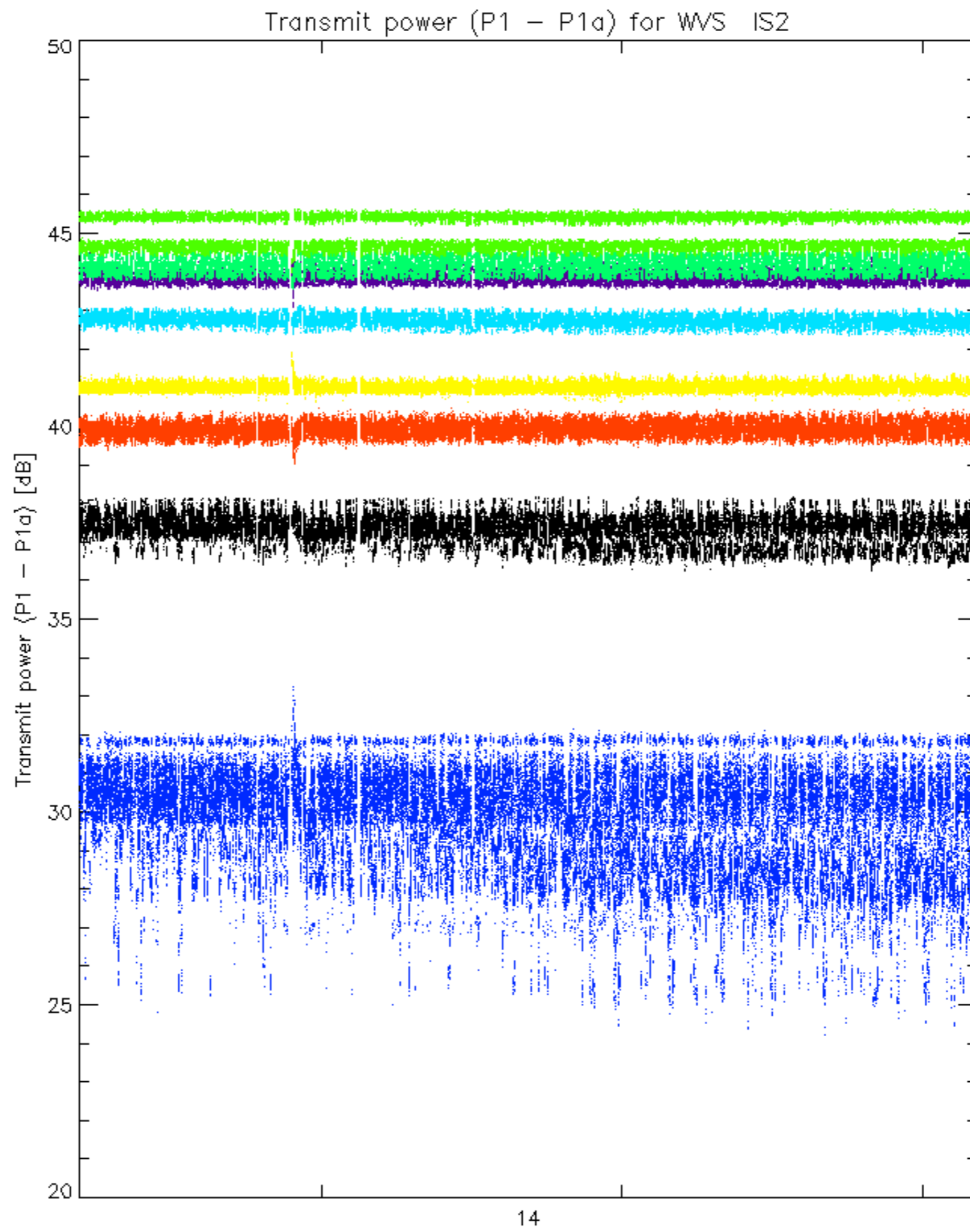
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



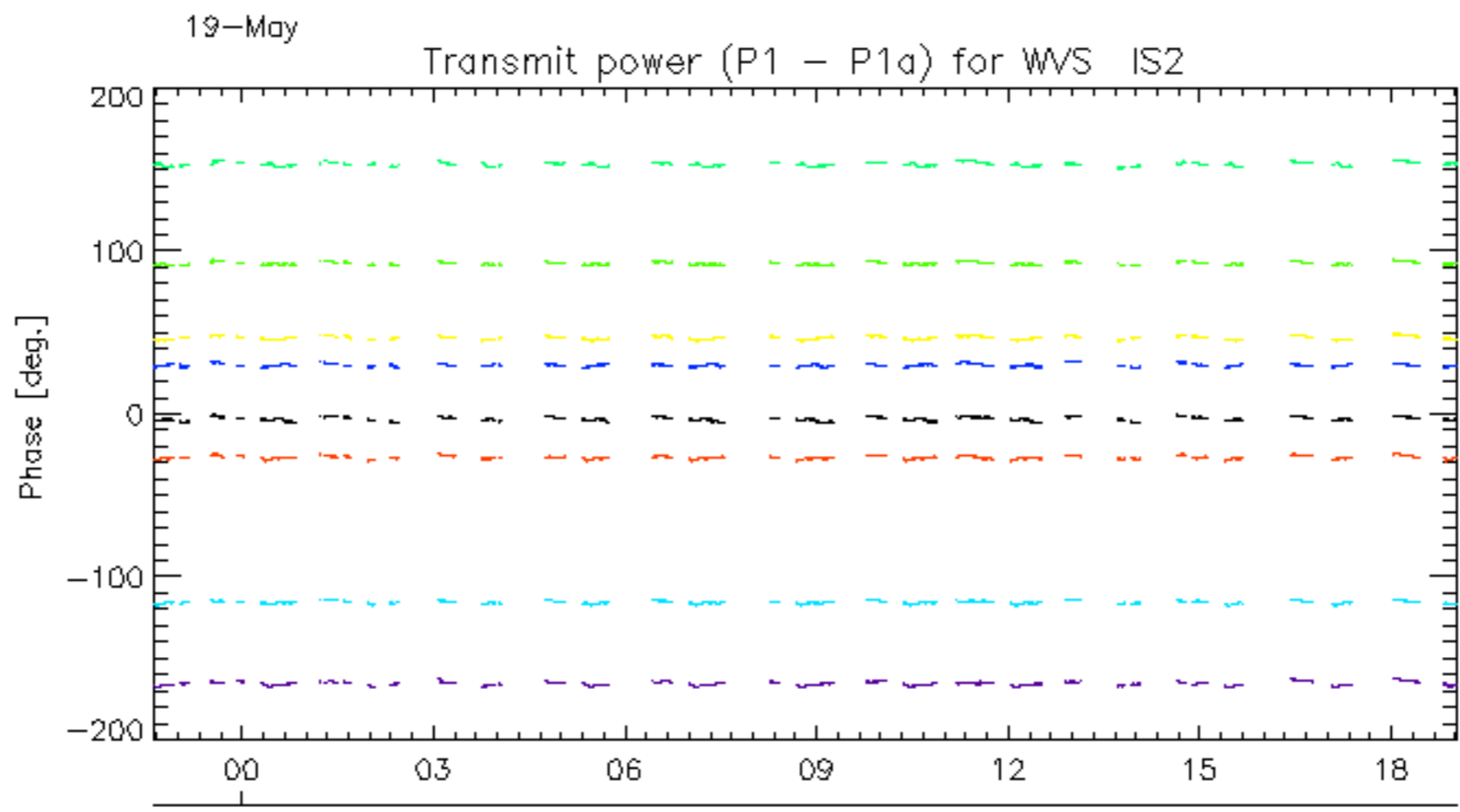
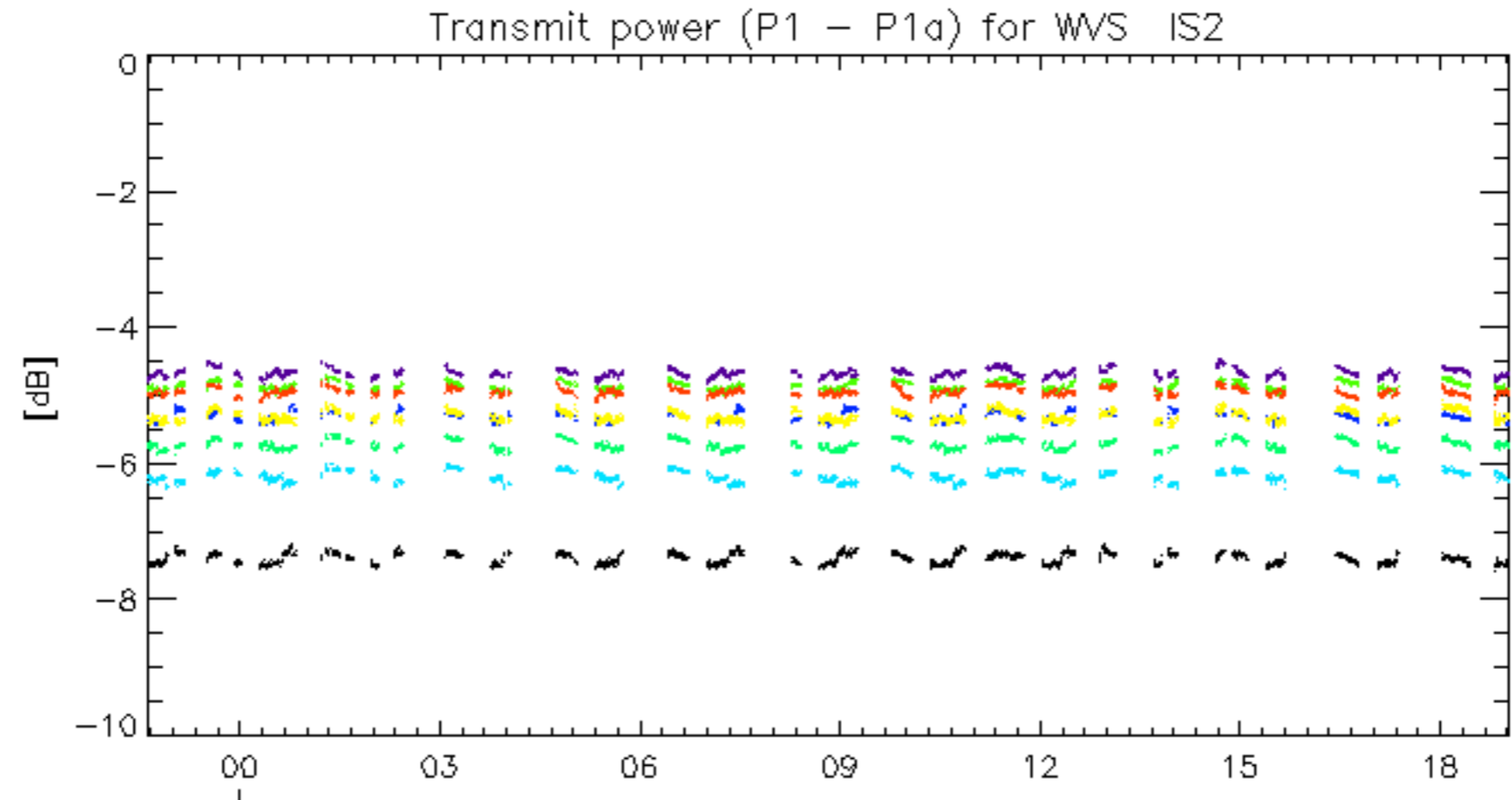
19-May

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





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



19-May

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

No unavailabilities during the reported period.