

# PRELIMINARY REPORT OF 070518

last update on Fri May 18 23:36:51 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 2007-05-17 00:00:00 to 2007-05-18 23:36:51

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	51	97	7	2	37
ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	34	62	6	0	25
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	51	97	7	2	37
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	17	35	1	2	12
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	51	97	7	2	37

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20070306_164819_20070307_060000_20071231_000000	48	67	33	13	89
ASA_XCA_AXVIEC20070517_153558_20070204_165113_20071231_000000	34	42	19	5	56
ASA_CON_AXVIEC20070410_140202_20070204_165113_20071231_000000	48	67	33	13	89
ASA_XCA_AXVIEC20070222_185842_20070204_165113_20071231_000000	14	25	14	8	33
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	48	67	33	13	89

## 2.3 - Browse Visual Inspection

No anomalies observed on available browse products

## 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**

**MSM in V/V polarisation**

**MSM in H/H polarisation**

## 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

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#### P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1a	-15.204903	0.133298	-0.299958
7	P1a	-17.591522	0.092822	-0.108379

11	P1a	-17.704803	0.346200	-0.323412
15	P1a	-13.140759	0.150905	-0.283700
19	P1a	-15.430014	0.067486	-0.131626
22	P1a	-15.995990	0.355180	-0.060946
26	P1a	-14.948194	0.215253	0.032711
30	P1a	-17.947538	0.406817	-0.514671

**P1t Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-5.782369	0.010064	-0.020758
7	P1	-3.162589	0.008972	-0.046099
11	P1	-4.196459	0.016437	0.056206
15	P1	-6.459671	0.019819	-0.106410
19	P1	-3.776593	0.012039	0.002336
22	P1	-4.743817	0.010849	0.036912
26	P1	-3.907671	0.018539	-0.007514
30	P1	-5.963002	0.009320	0.007239

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.652294	0.093447	0.043317
7	P2	-21.514040	0.093744	0.105800
11	P2	-15.289021	0.122397	0.119673
15	P2	-7.132795	0.090647	-0.003874
19	P2	-9.120486	0.083099	-0.016590
22	P2	-18.086258	0.078545	0.000795
26	P2	-16.647522	0.085005	-0.065827
30	P2	-19.253428	0.084221	0.062481

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.245276	0.004771	0.003893
7	P3	-8.245276	0.004771	0.003893
11	P3	-8.245276	0.004771	0.003893
15	P3	-8.245276	0.004771	0.003893
19	P3	-8.245276	0.004771	0.003893
22	P3	-8.245276	0.004771	0.003893

26	P3	-8.245276	0.004771	0.003893
30	P3	-8.245276	0.004771	0.003893

#### 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	-11.437178	0.182636	-0.797439
7	P1a	-10.029794	0.162918	0.124223
11	P1a	-10.683915	0.084531	-0.007633
15	P1a	-10.791361	0.145830	0.123317
19	P1a	-15.848682	0.092650	-0.124719
22	P1a	-21.487438	1.404573	-0.055109
26	P1a	-15.559116	0.333386	-0.060106
30	P1a	-18.269434	0.434099	0.024384

#### P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-8.041179	0.339204	1.569891
7	P1	-2.376556	0.086303	0.098859
11	P1	-2.872928	0.021979	0.030161
15	P1	-3.799155	0.036088	0.049174
19	P1	-3.602581	0.015976	-0.040321
22	P1	-4.950470	0.023183	0.032009
26	P1	-6.054730	0.023478	-0.045034
30	P1	-5.352985	0.031978	-0.037567

#### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.209467	0.075102	-0.076572
7	P2	-22.061598	0.168435	-0.079102

11	P2	-10.657327	0.046581	-0.060592
15	P2	-4.955127	0.044652	-0.069805
19	P2	-6.881557	0.042700	-0.019717
22	P2	-8.106664	0.083045	0.019522
26	P2	-24.347439	0.135681	-0.085058
30	P2	-21.703287	0.109273	-0.000114

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.092771	0.005138	-0.000972
7	P3	-8.092764	0.005137	-0.000958
11	P3	-8.092708	0.005126	-0.001366
15	P3	-8.092691	0.005137	-0.001239
19	P3	-8.092738	0.005141	-0.001448
22	P3	-8.092606	0.005135	-0.001358
26	P3	-8.092637	0.005147	-0.001254
30	P3	-8.092654	0.005135	-0.001071

## 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	0.000549689
	stdev	1.92947e-07
MEAN Q	mean	0.000508101

stdev 2.38439e-07



## 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.136075
	stdev	0.00117738
STDEV Q	mean	0.136462
	stdev	0.00119449



## 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2007051[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_1PNPDE20070518_015652_000000362058_00146_27254_0357.N1	1	0
ASA_IMM_1PNPDE20070518_042631_000000762058_00147_27255_0576.N1	1	0
ASA_WSM_1PNPDE20070516_161232_000000852058_00126_27234_8519.N1	0	1
ASA_WSM_1PNPDE20070516_171622_000002252058_00127_27235_8573.N1	0	62
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_1PNPDK20070516_135852_000000862058_00125_27233_1603.N1	0	2







## 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


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### 7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)


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Ascending
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Descending
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### 7.5 - Absolute Doppler for GM1

<b>Evolution of Absolute Doppler</b>
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Ascending
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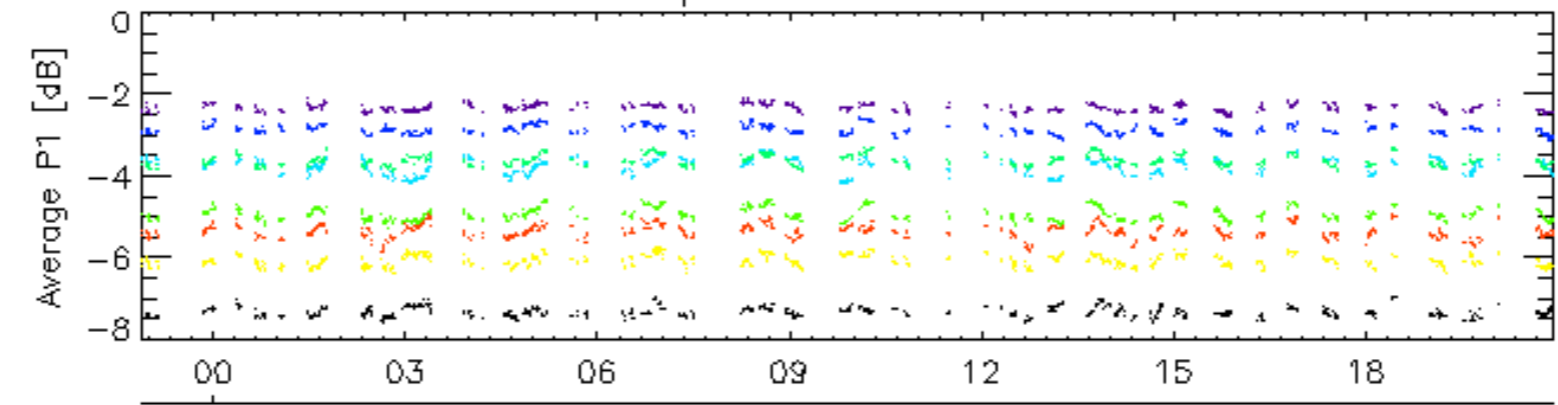
Descending
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### 7.6 - Doppler evolution versus ANX for GM1

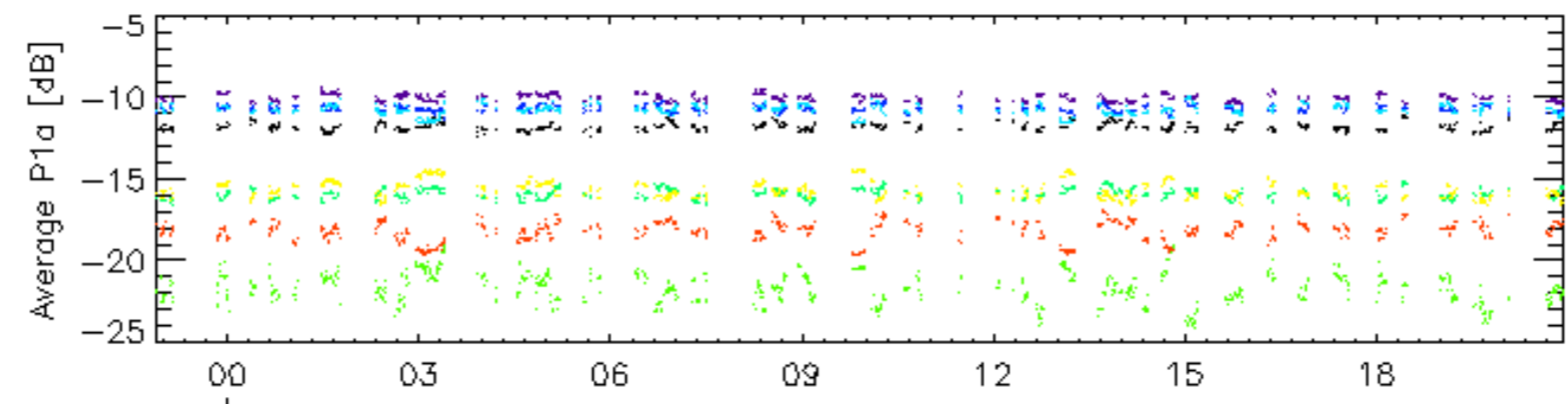
<b>Evolution Doppler error versus ANX</b>
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Cal pulses for GM1 SS3

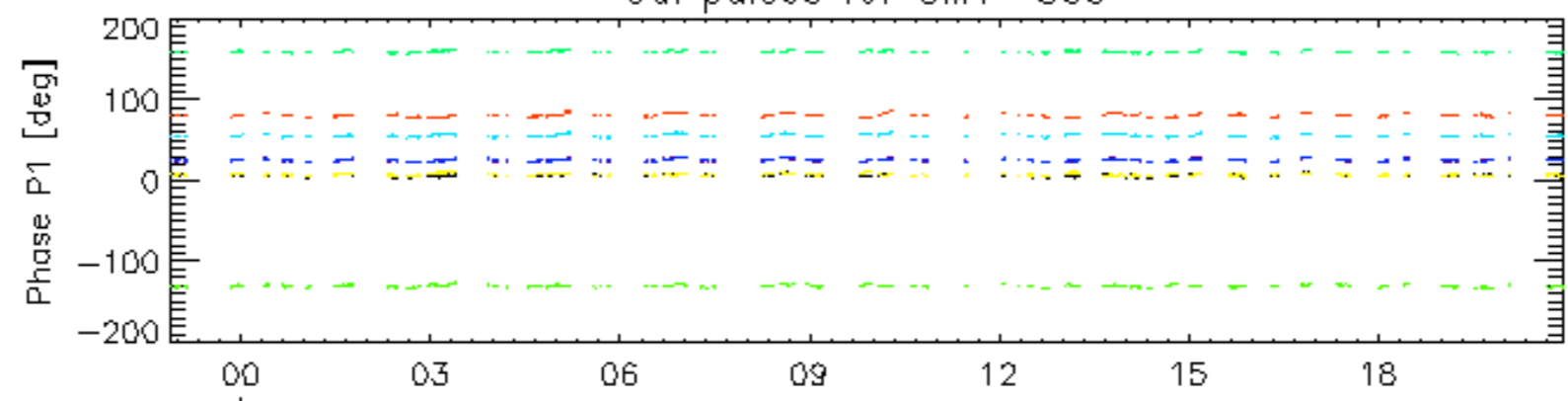


18-May

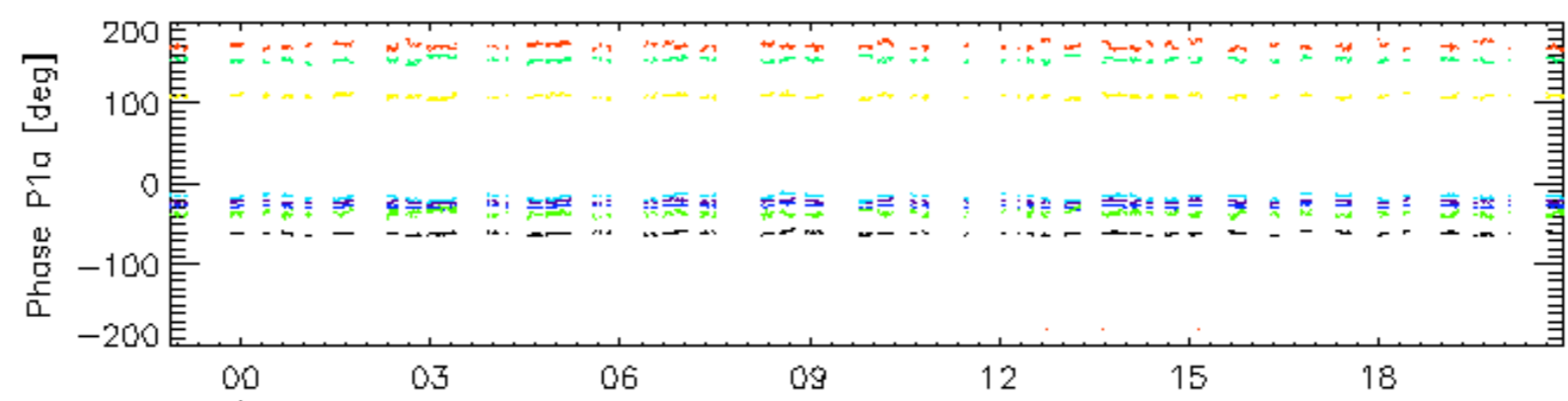


18-May

Cal pulses for GM1 SS3

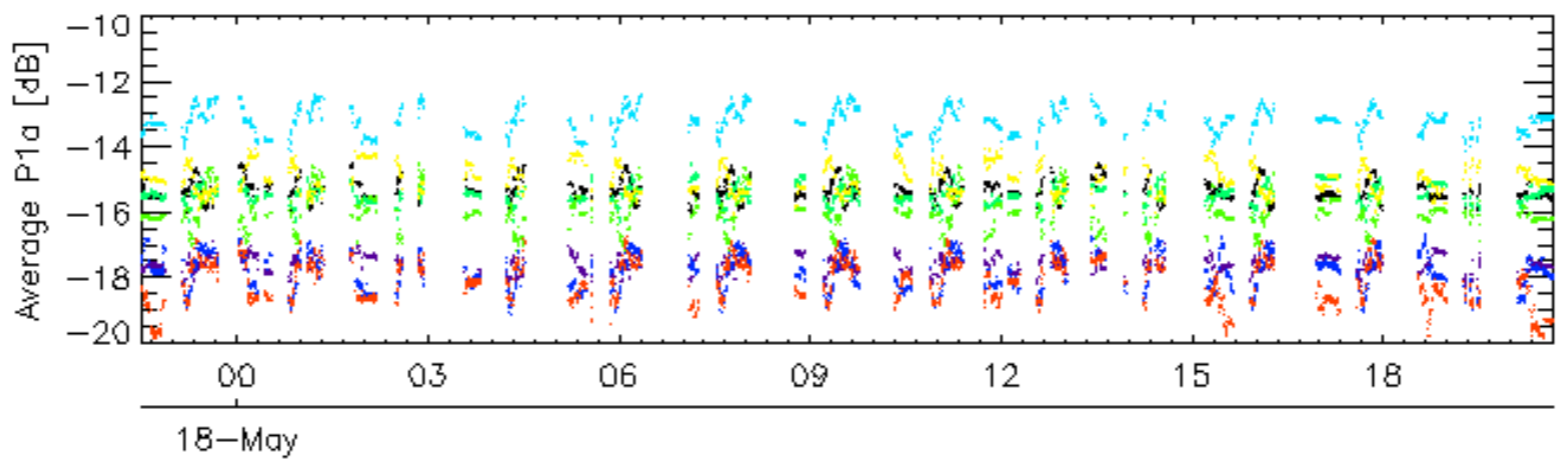
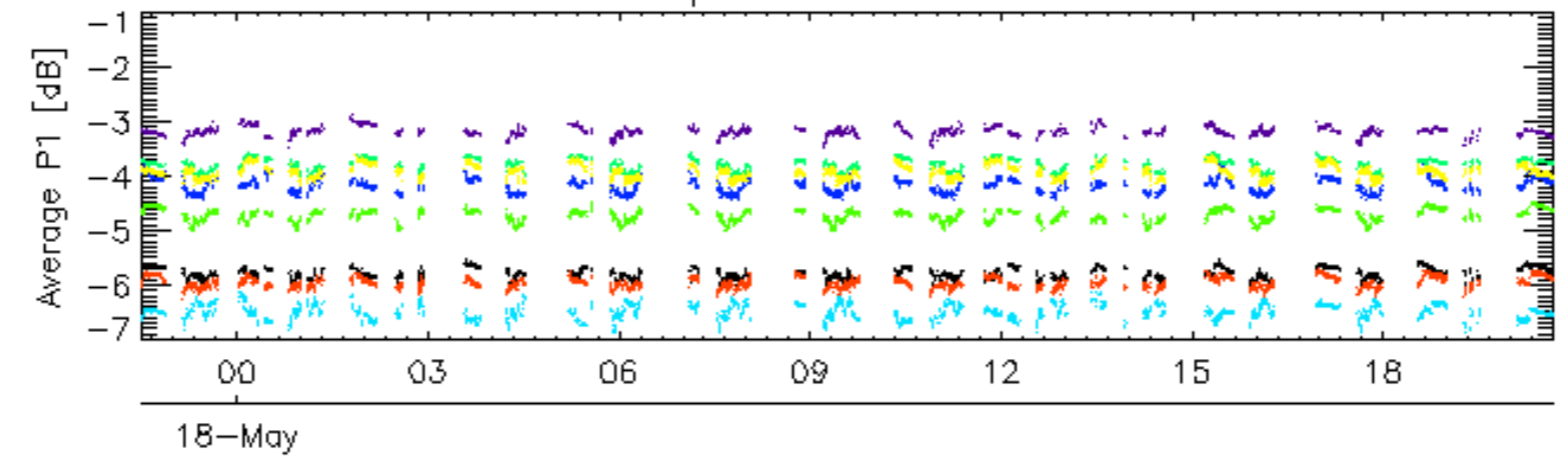


18-May

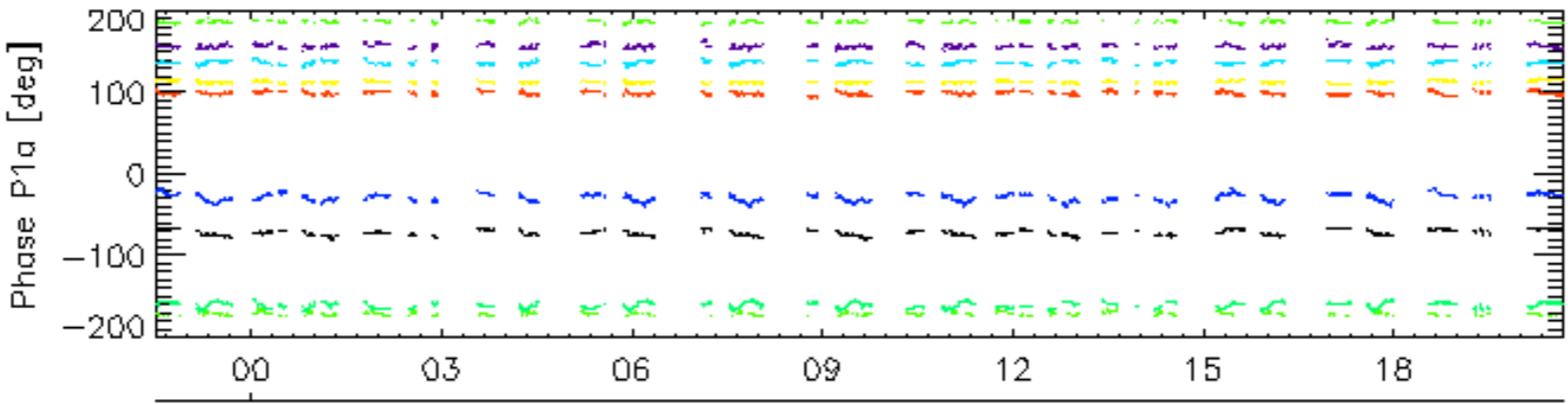
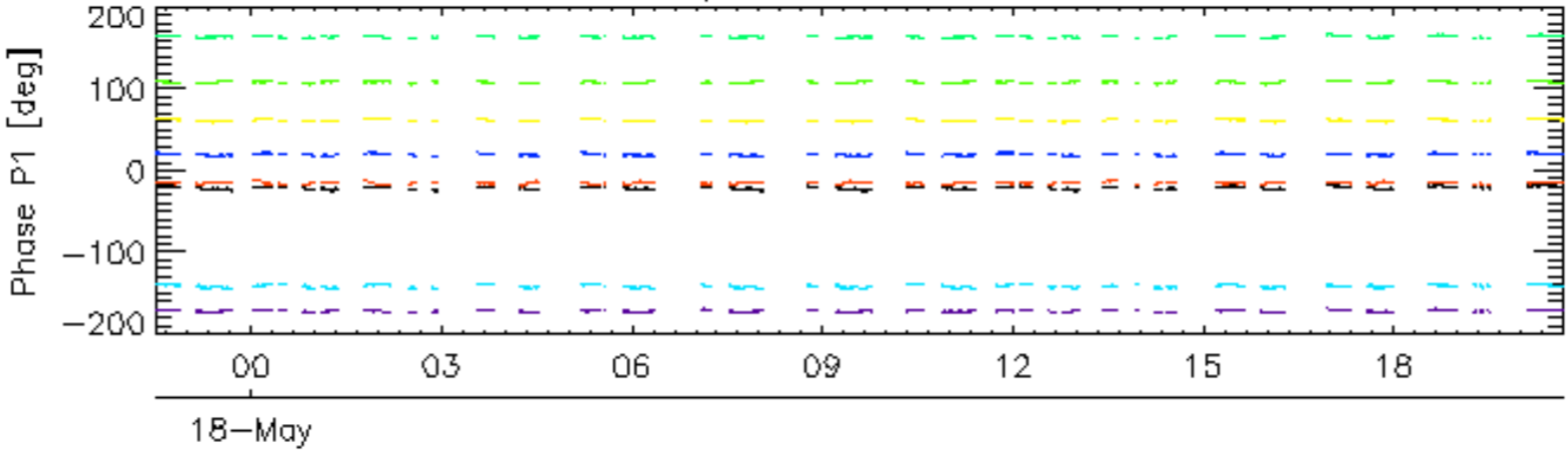


rows: 18-May  
3 7 11 15 19 22 26 30

Cal pulses for WVS IS2

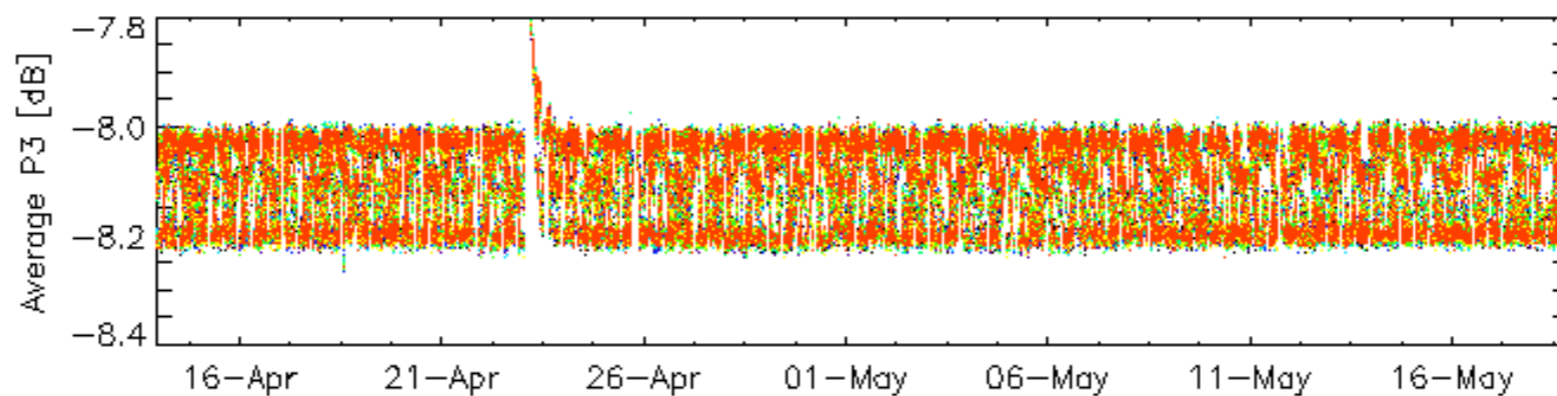
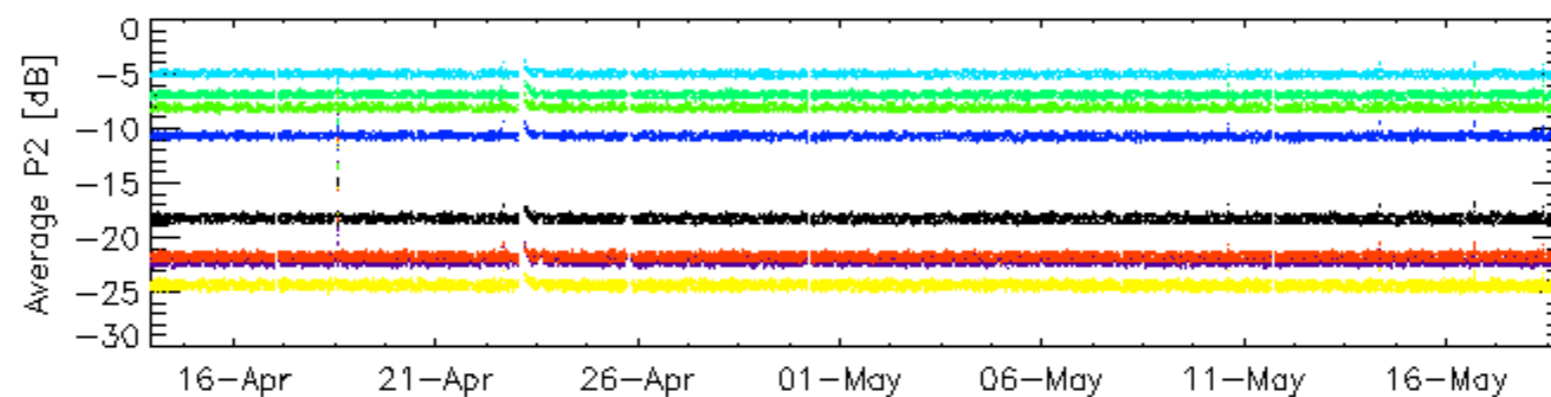
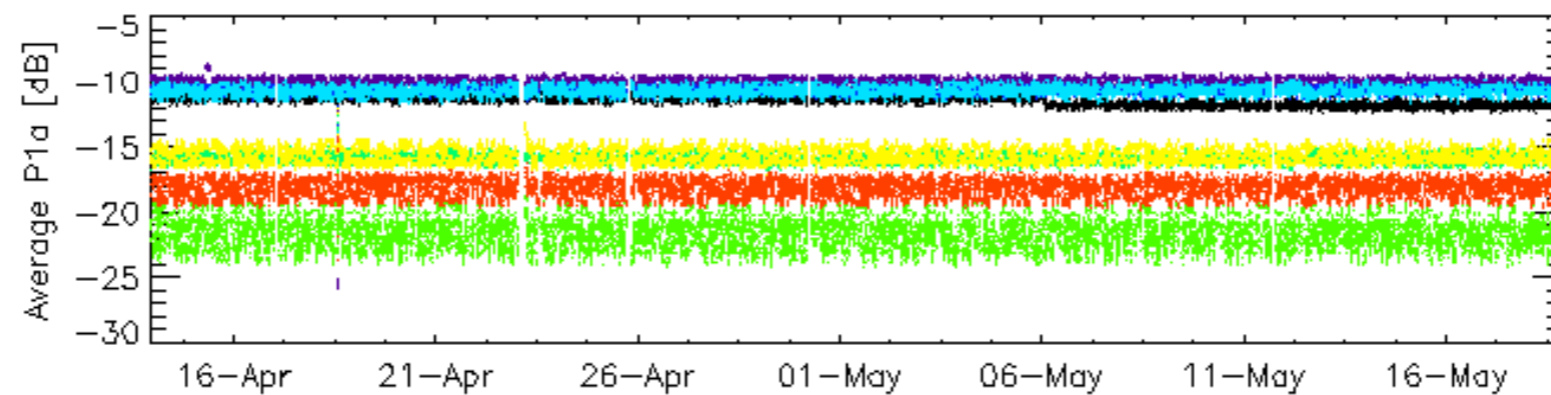
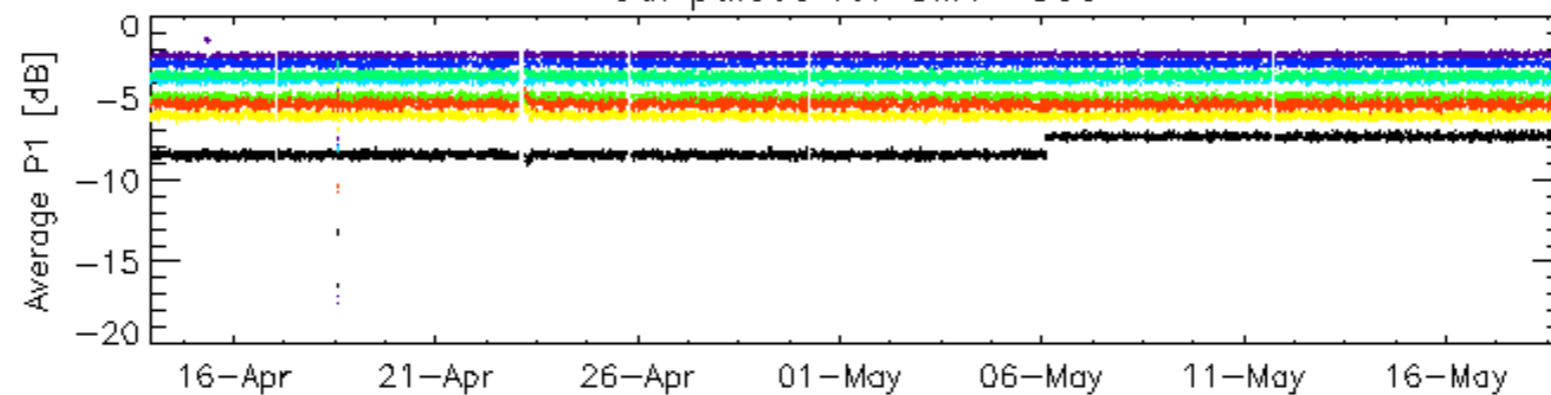


Cal pulses for WVS IS2



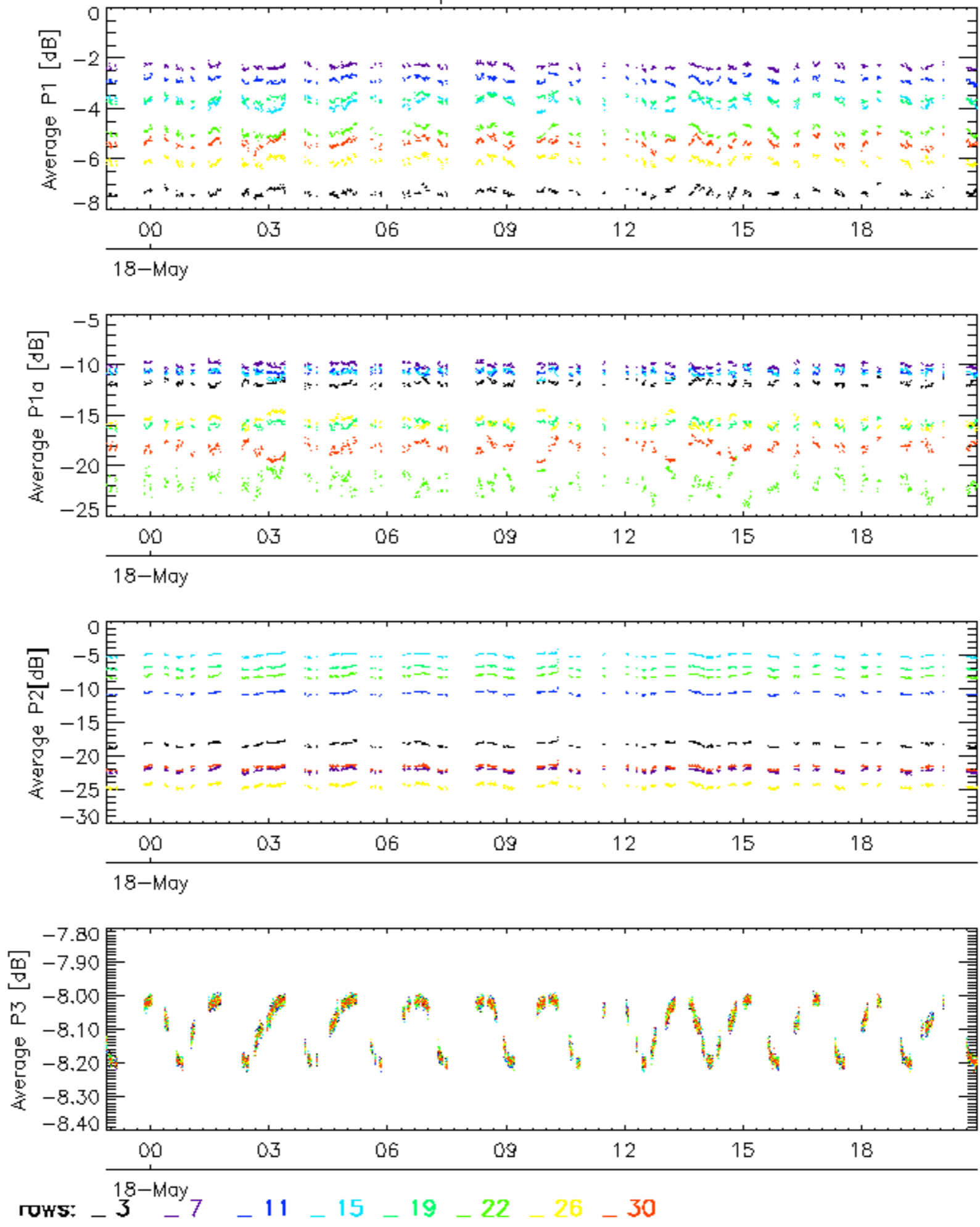
rows: <sup>18-May</sup> 3 7 11 15 19 22 26 30

### Cal pulses for GM1 SS3

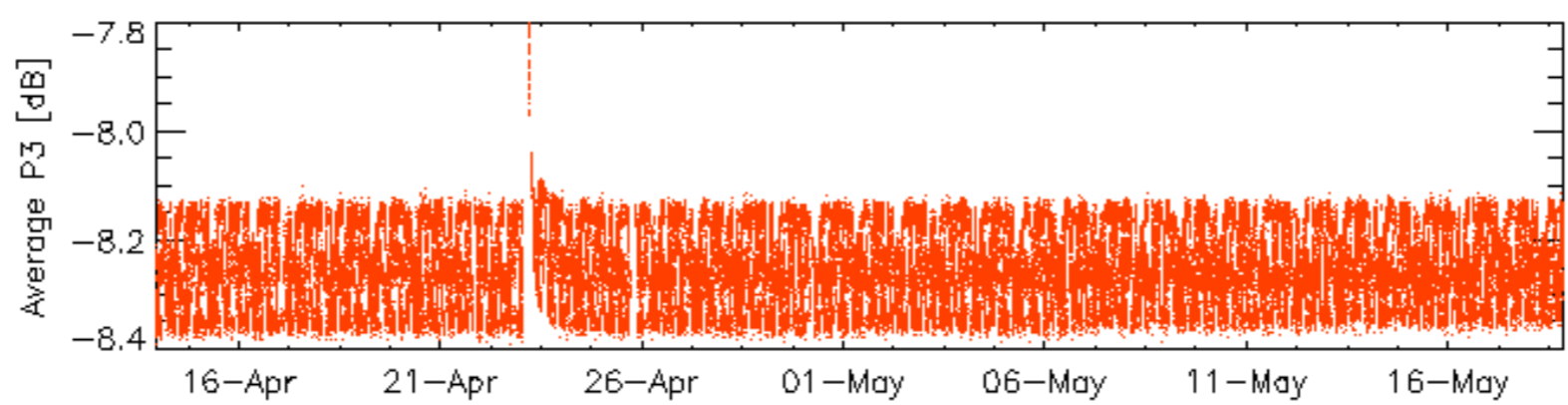
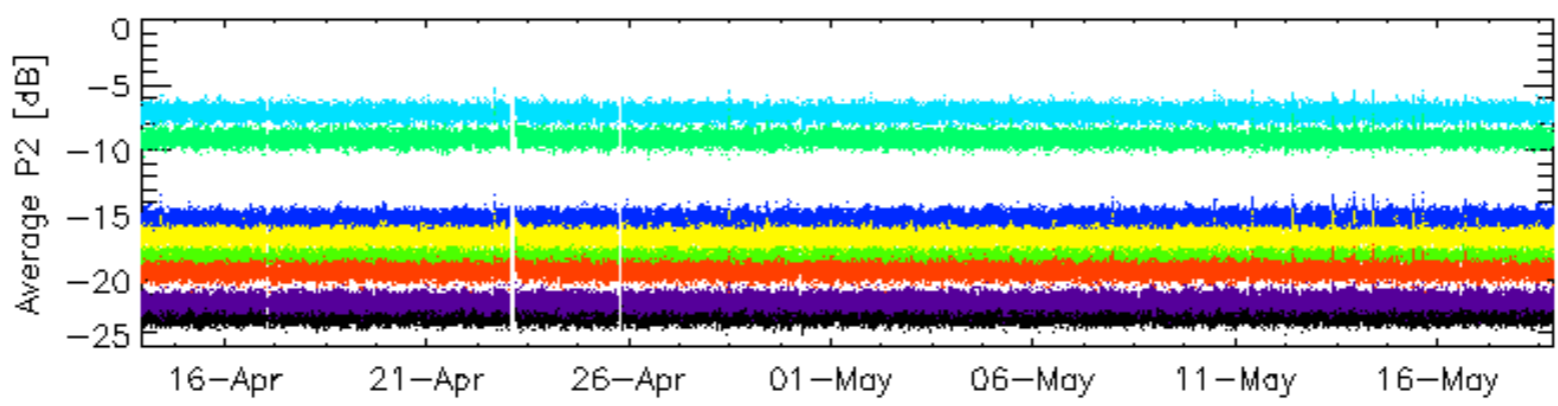
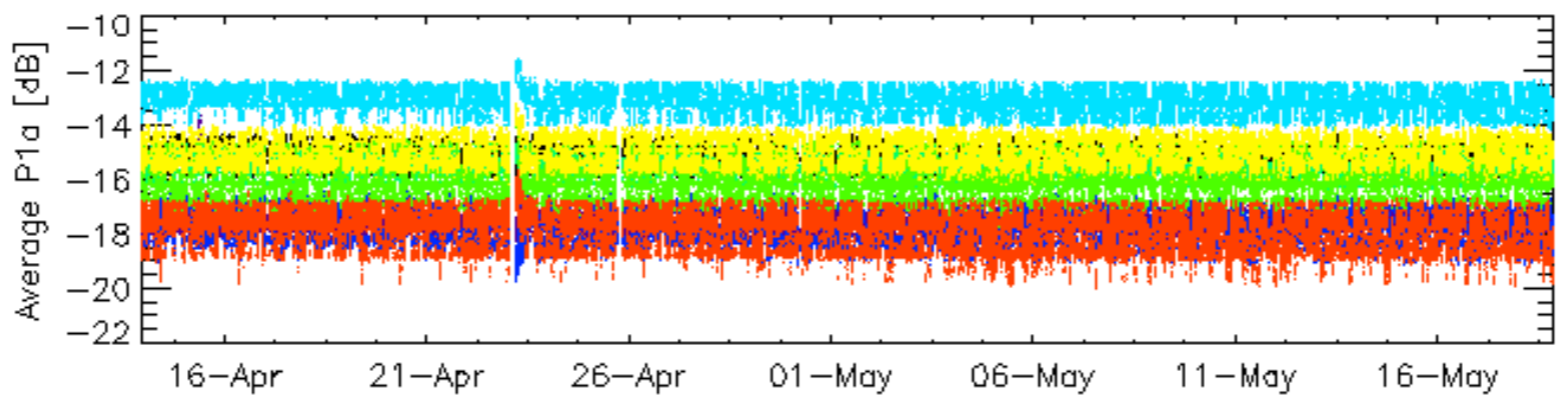
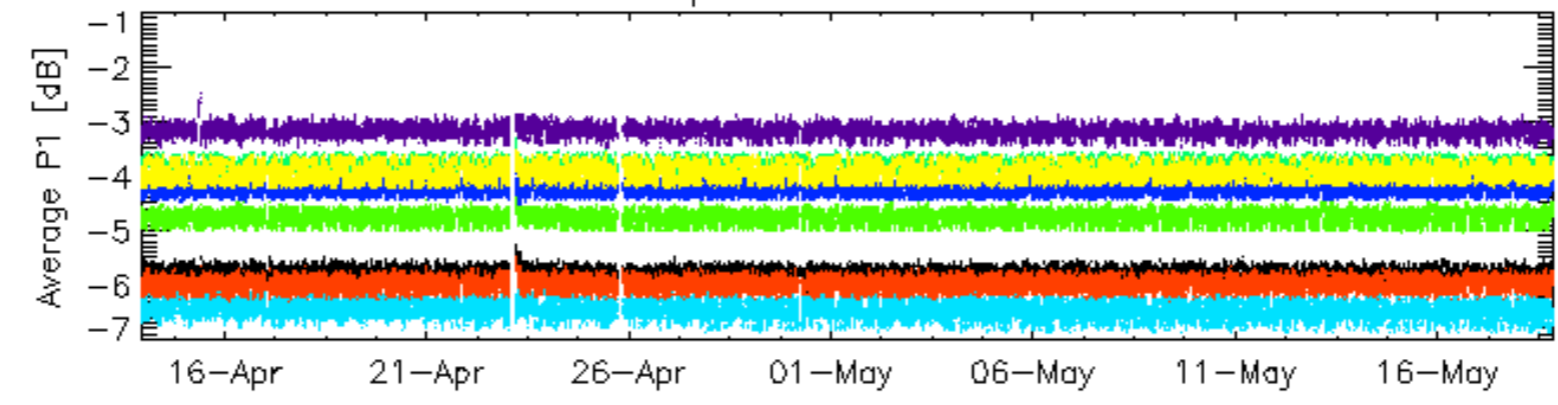


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

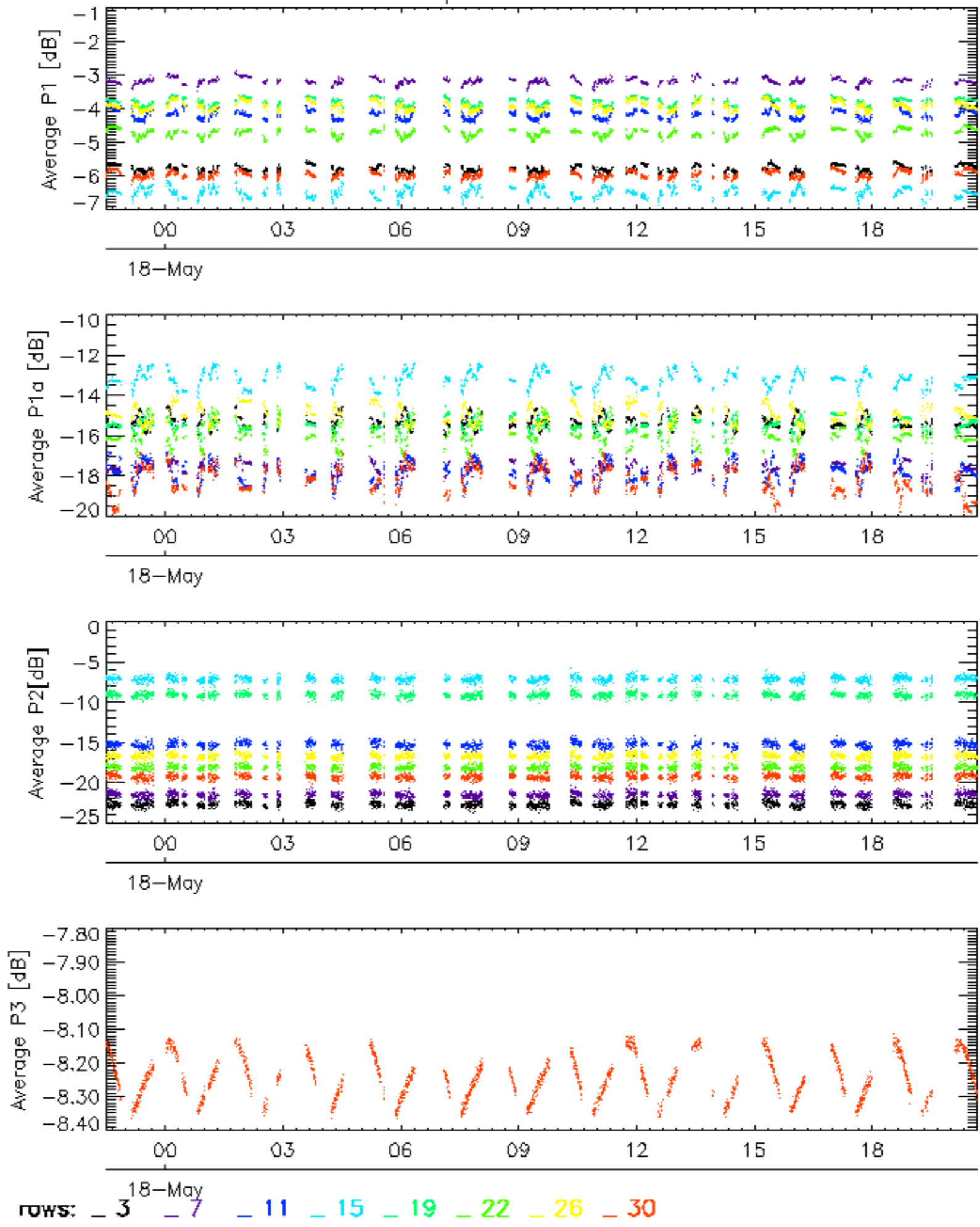


Cal pulses for WVS IS2



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

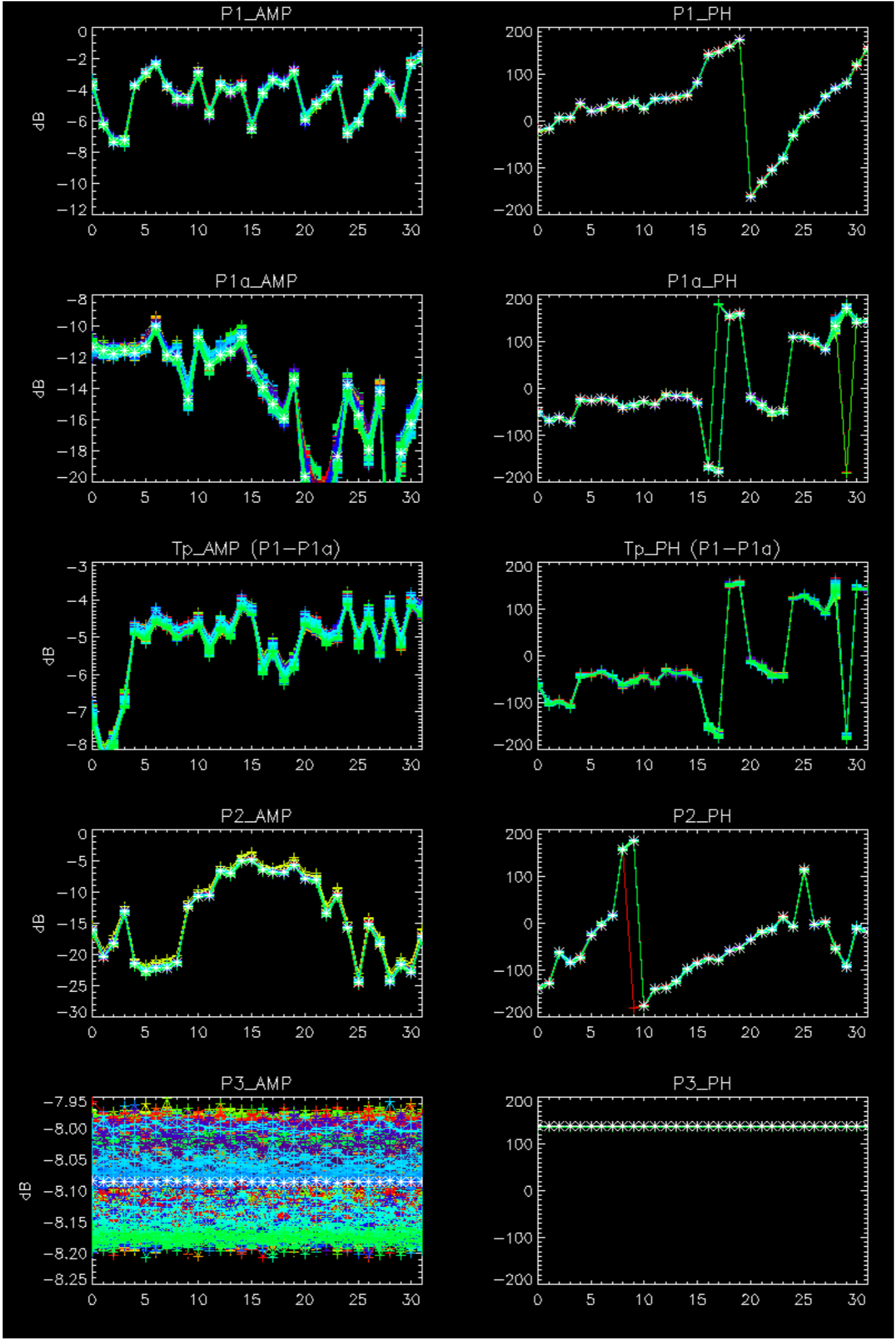
### Cal pulses for WVS IS2

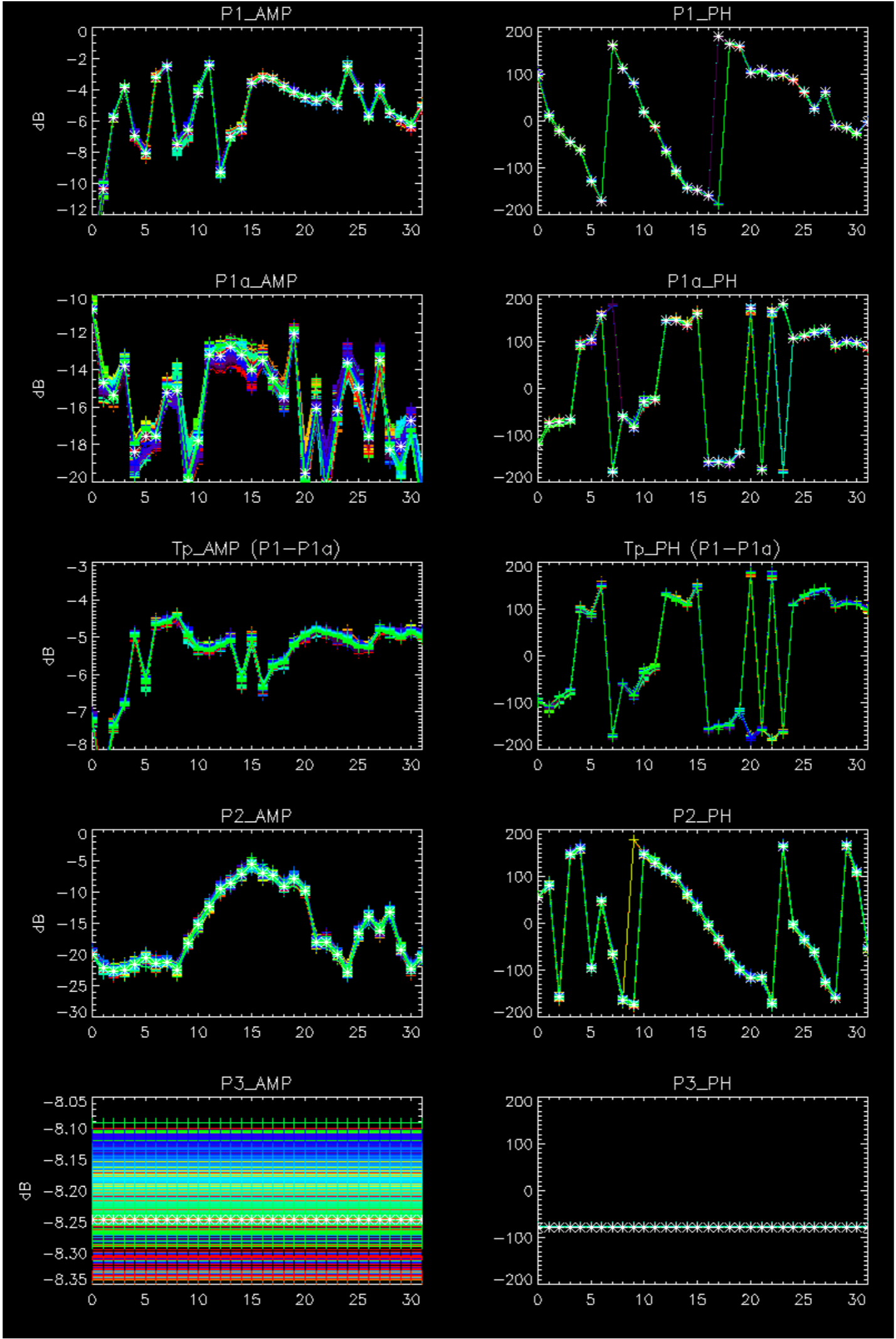


No anomalies observed on available browse products



No anomalies observed.

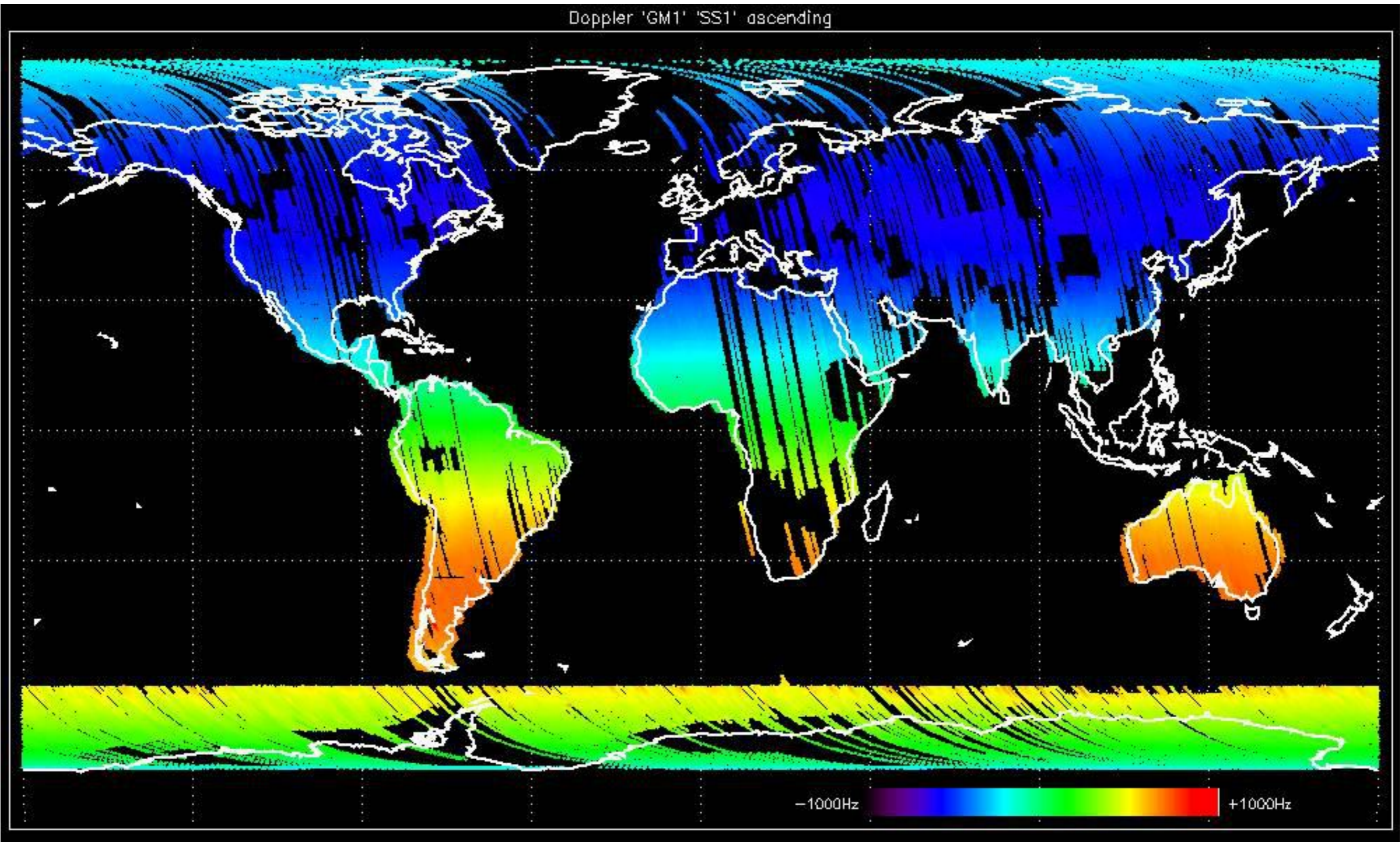




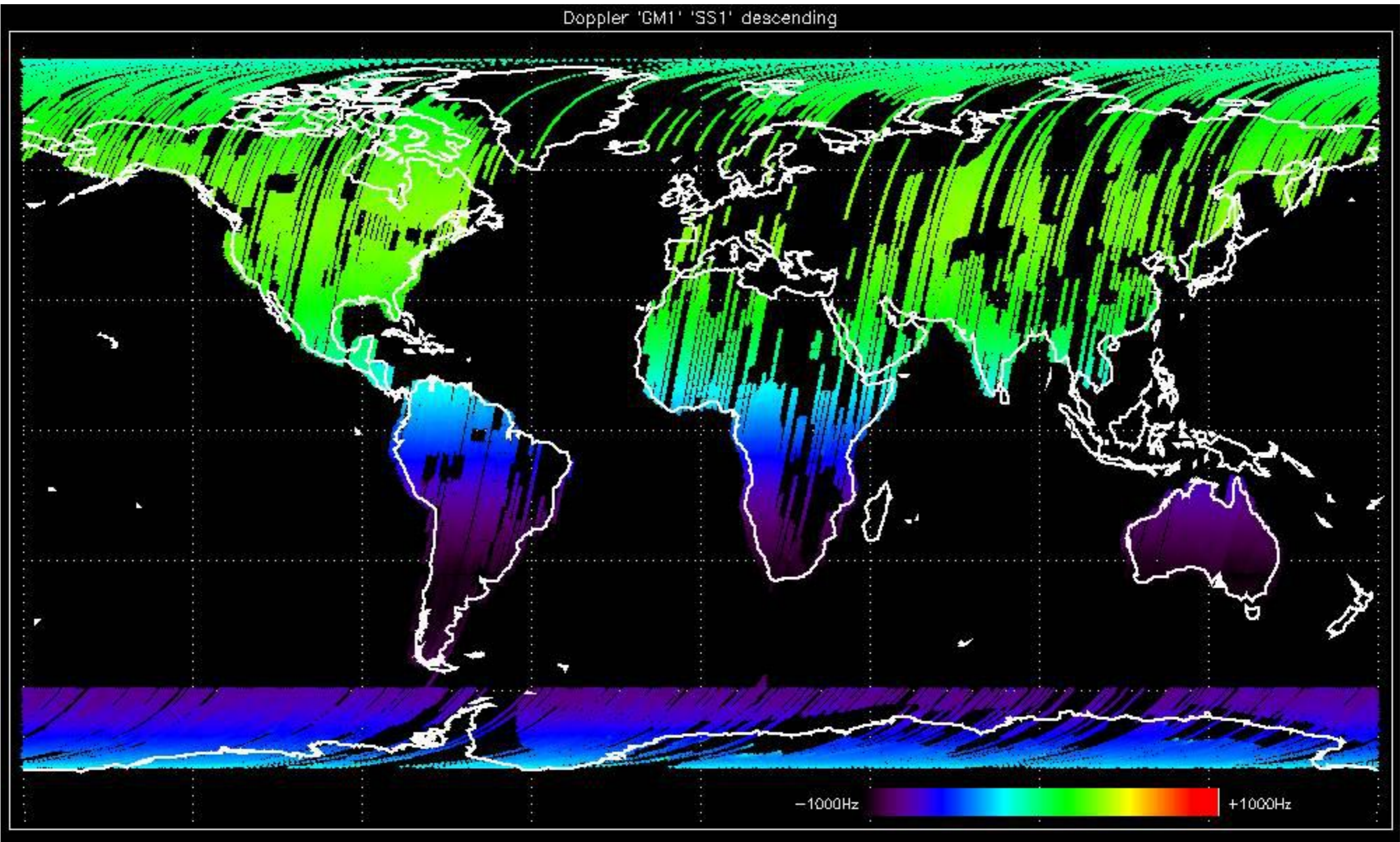
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



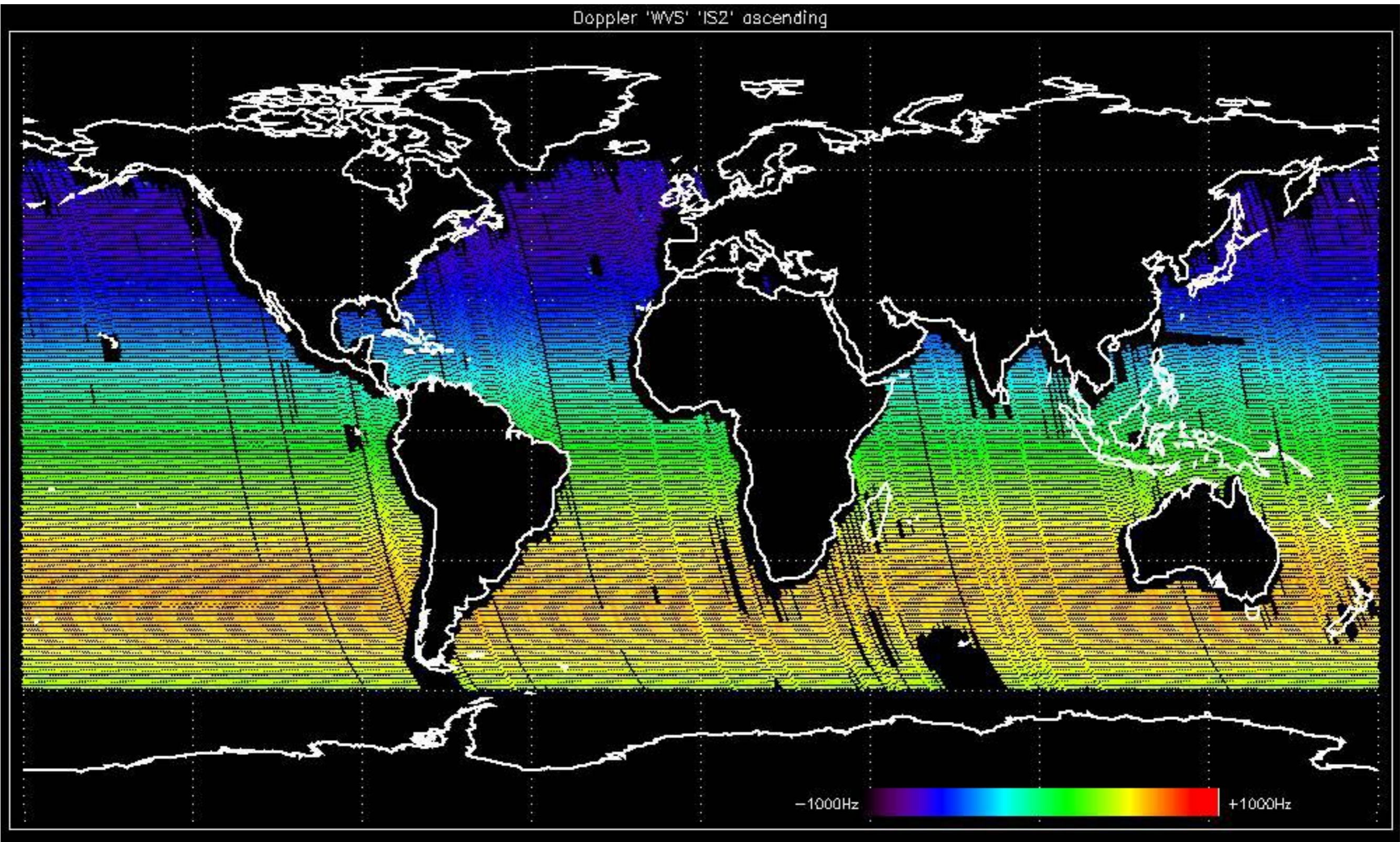
Doppler 'GM1' 'SS1' ascending



Doppler 'GM1' 'SS1' descending

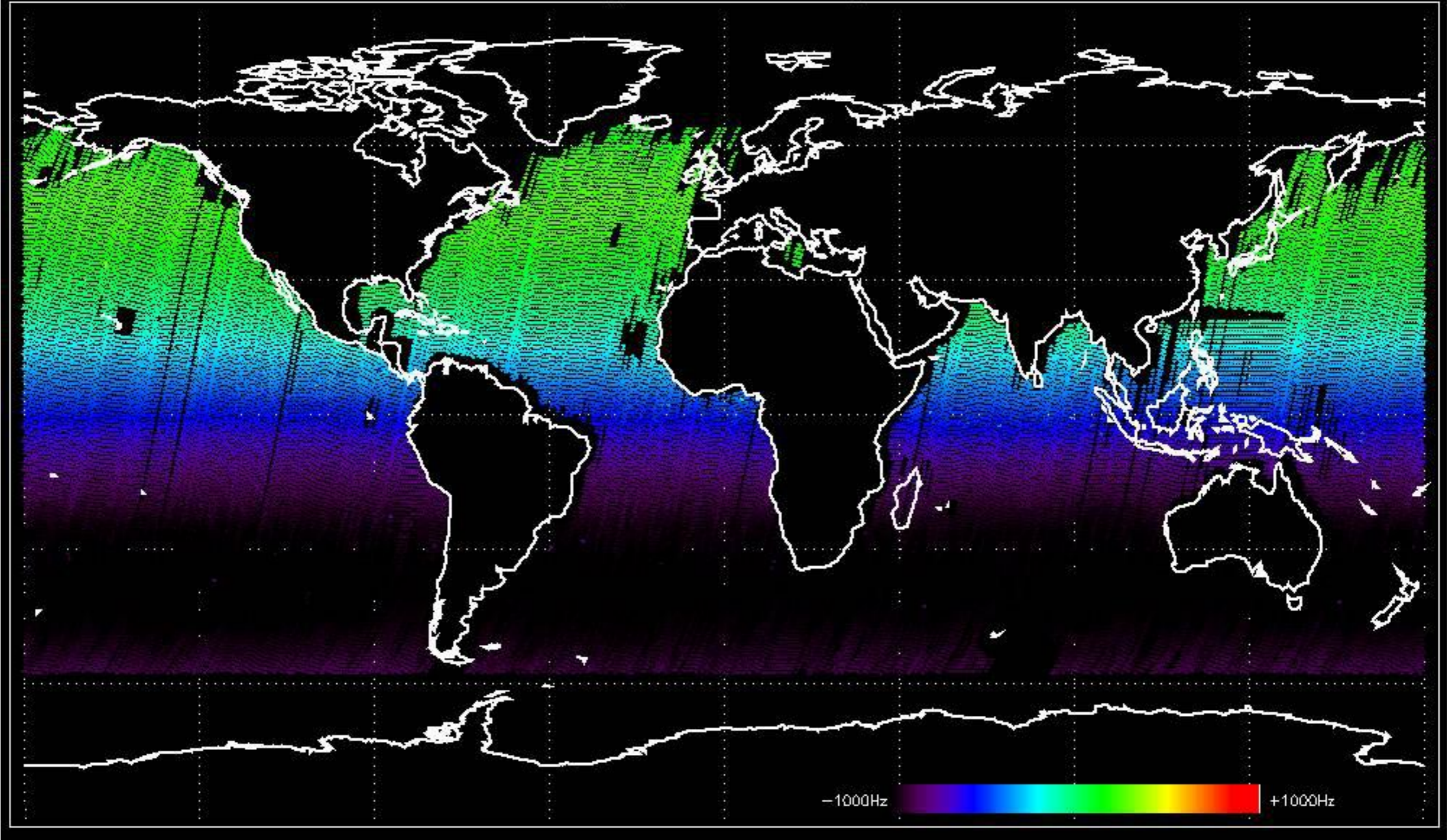


Doppler 'WVS' 'IS2' ascending

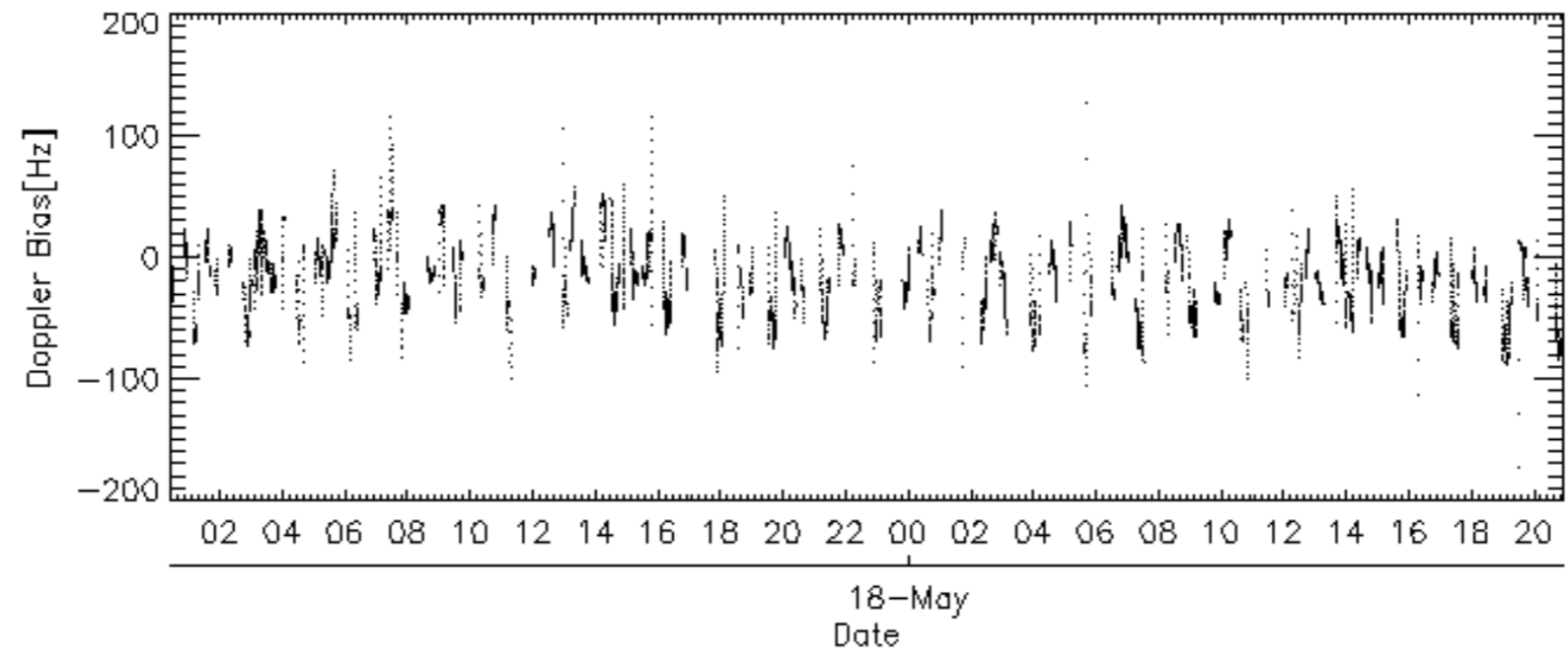
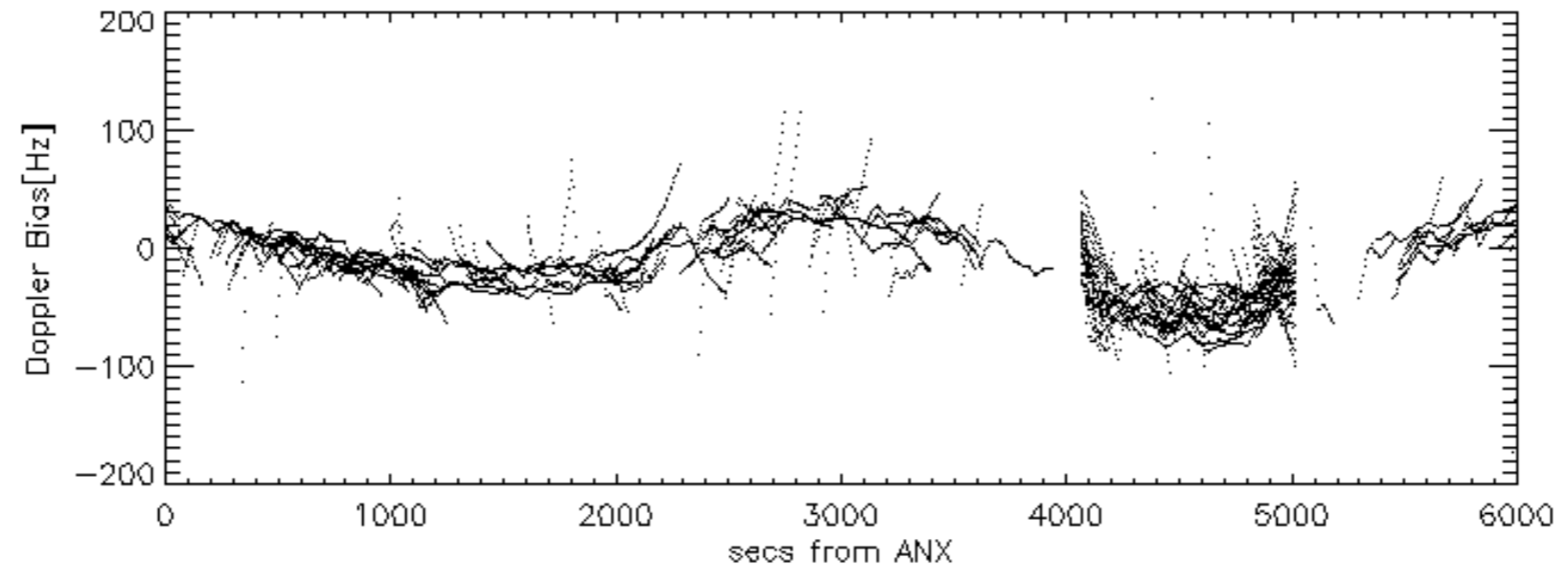
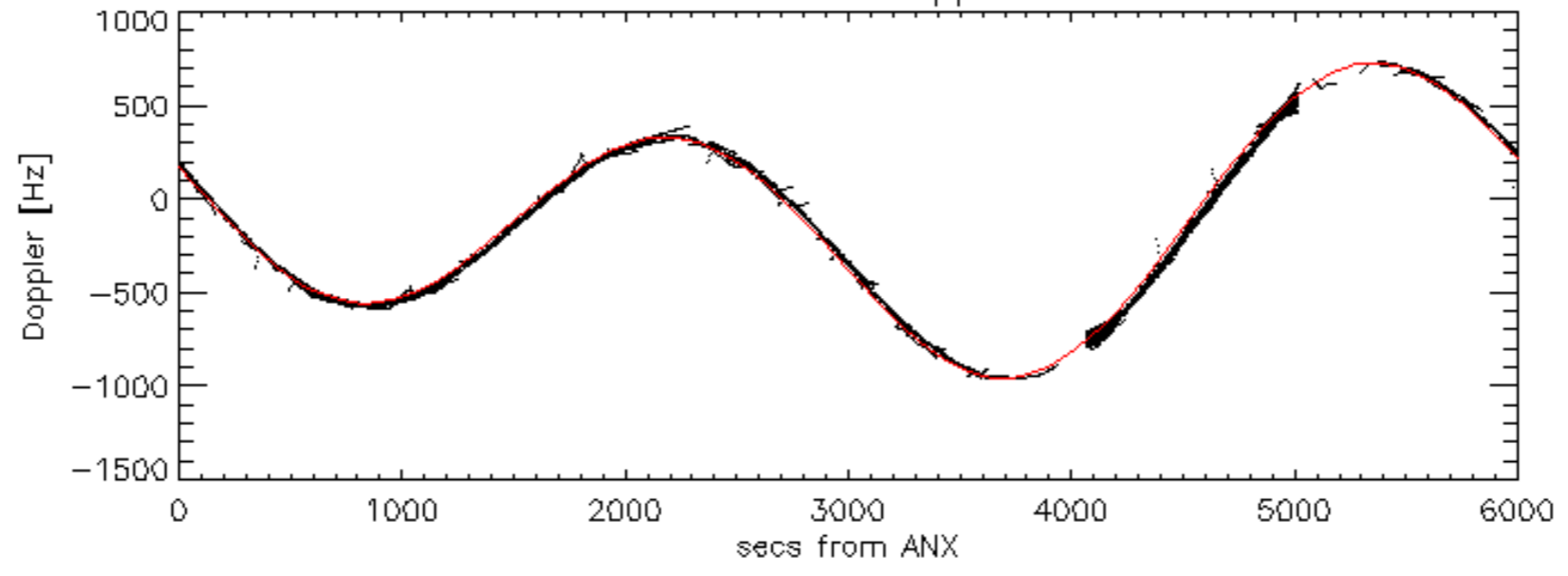


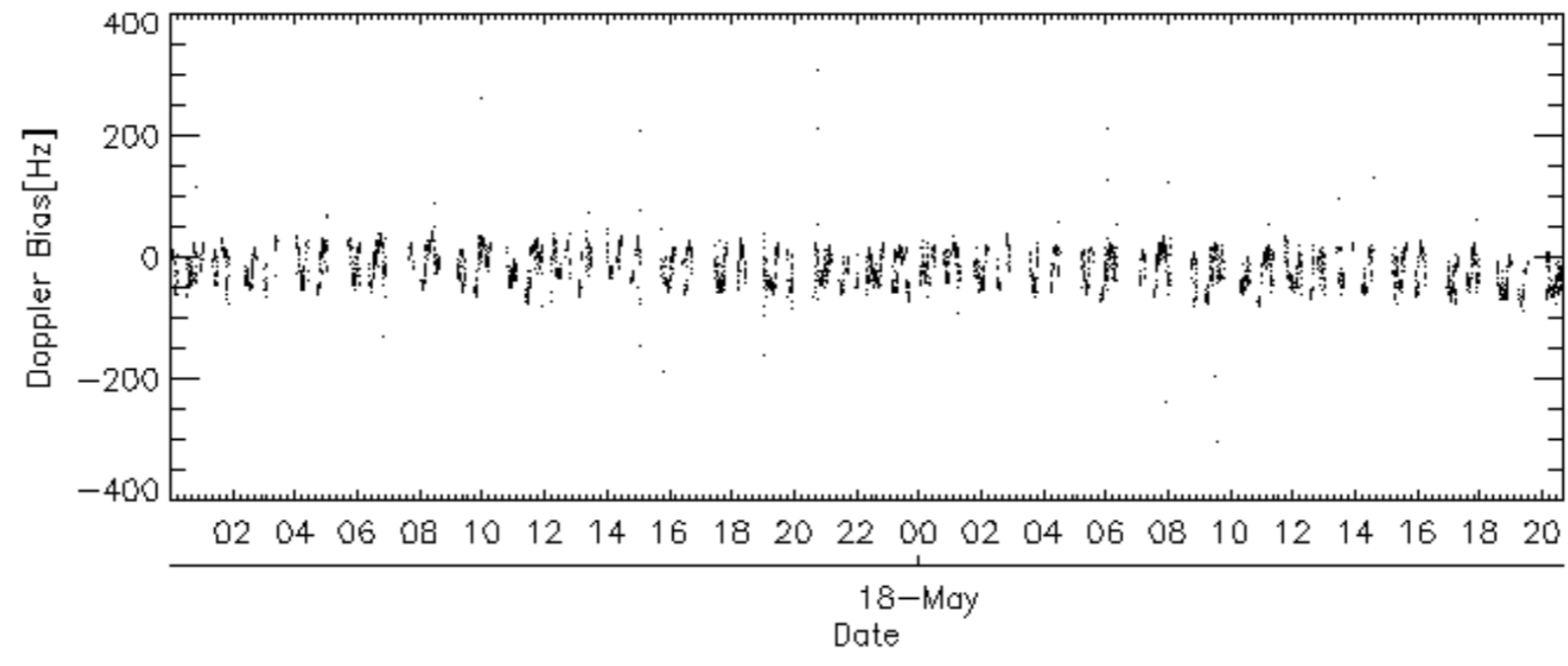
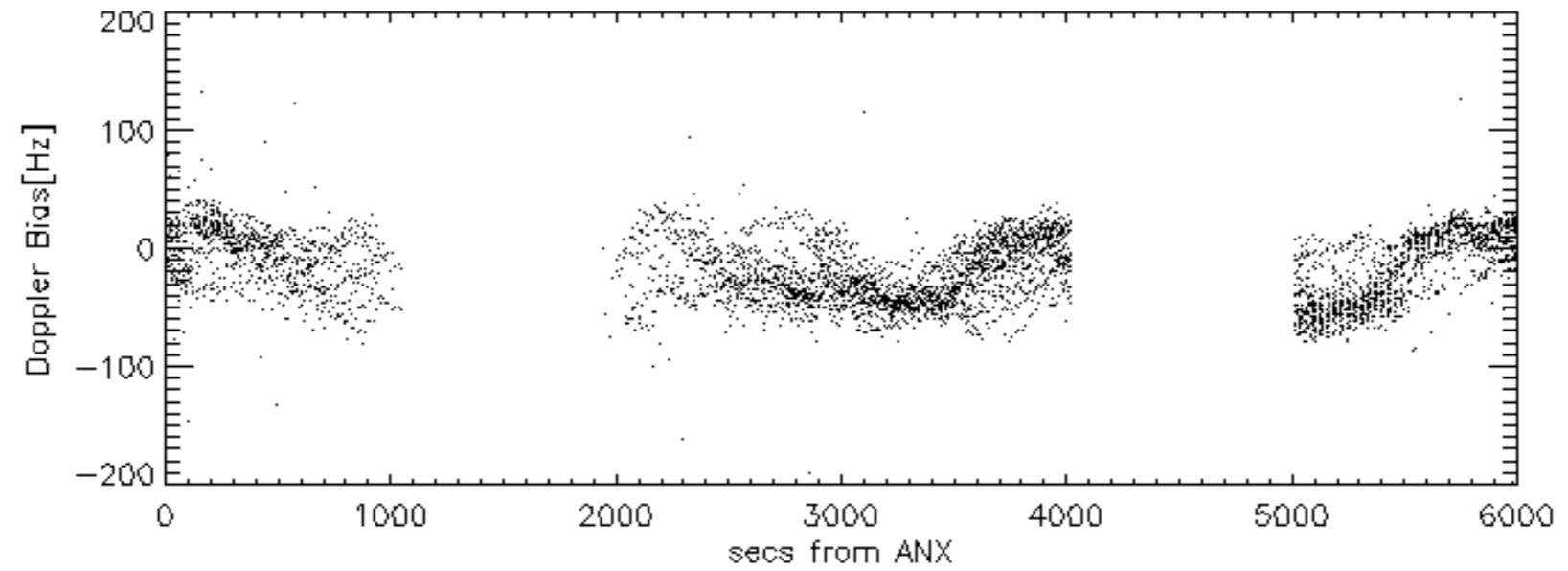
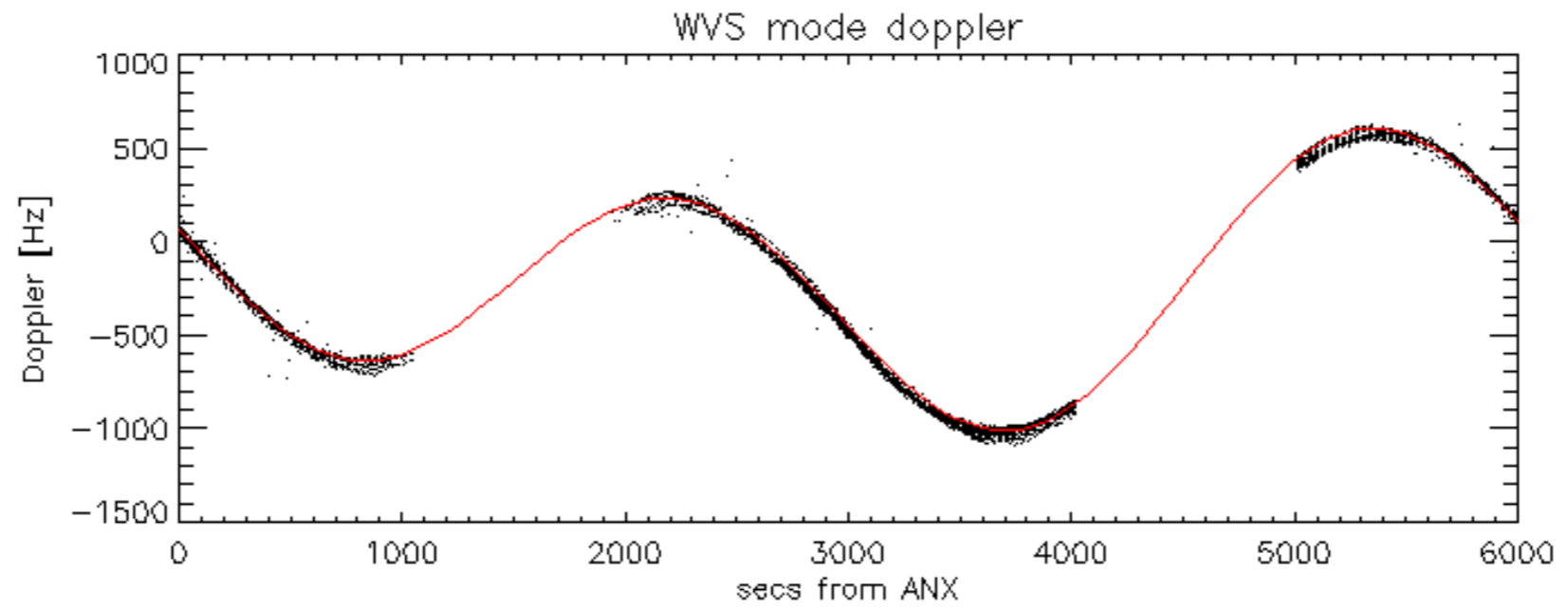


Doppler 'WVS' 'IS2' descending

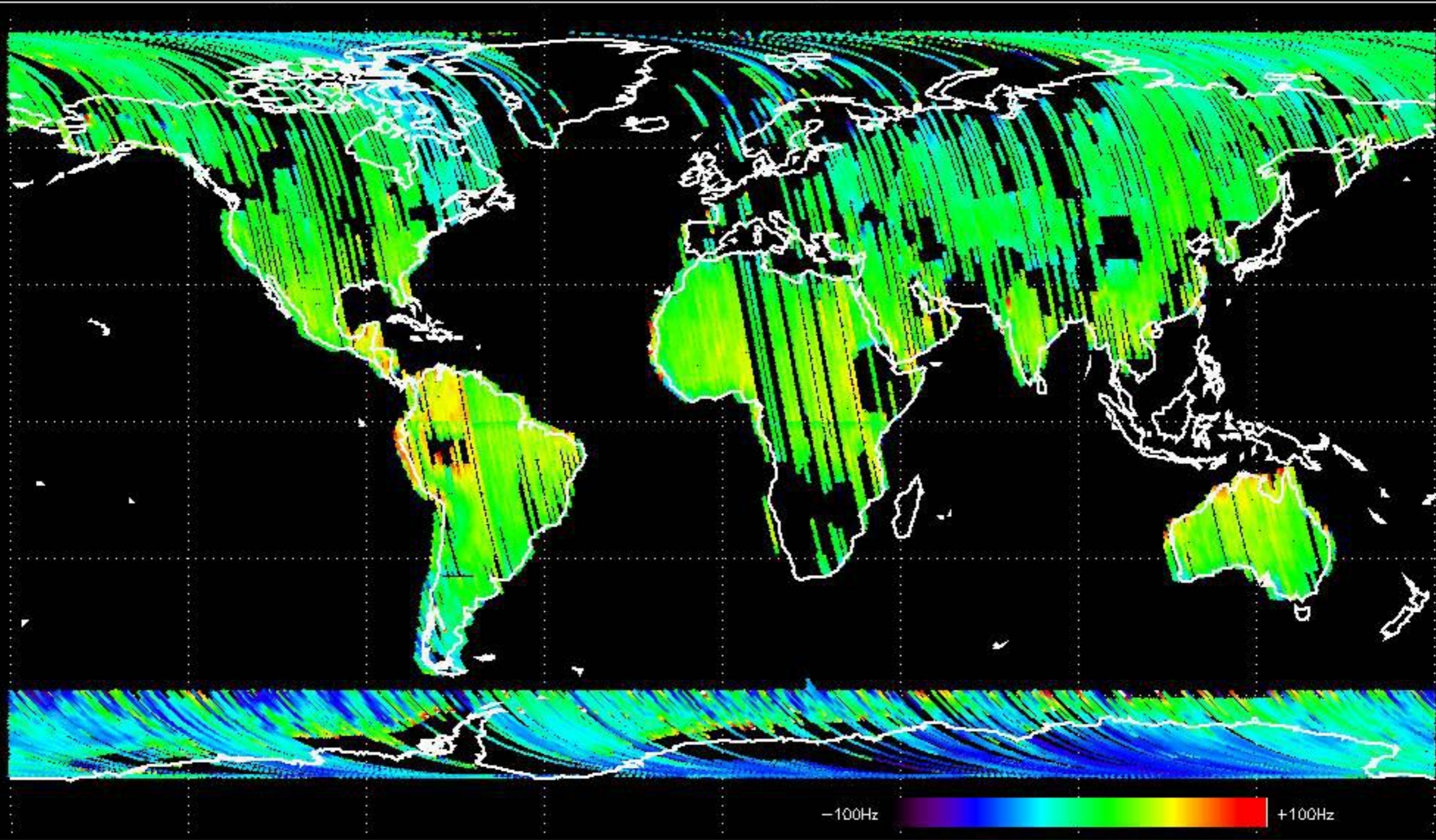


GM1 mode doppler

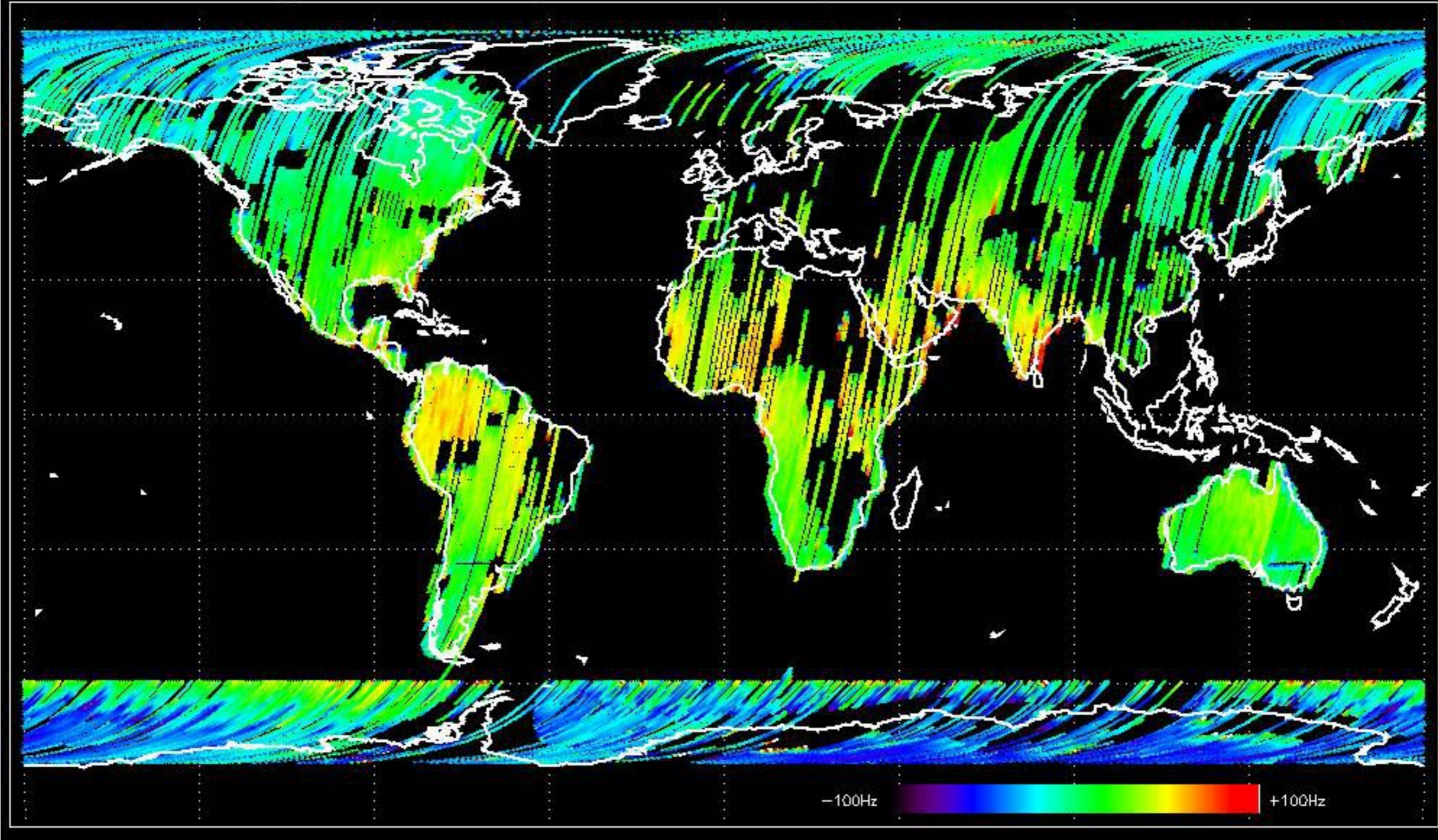




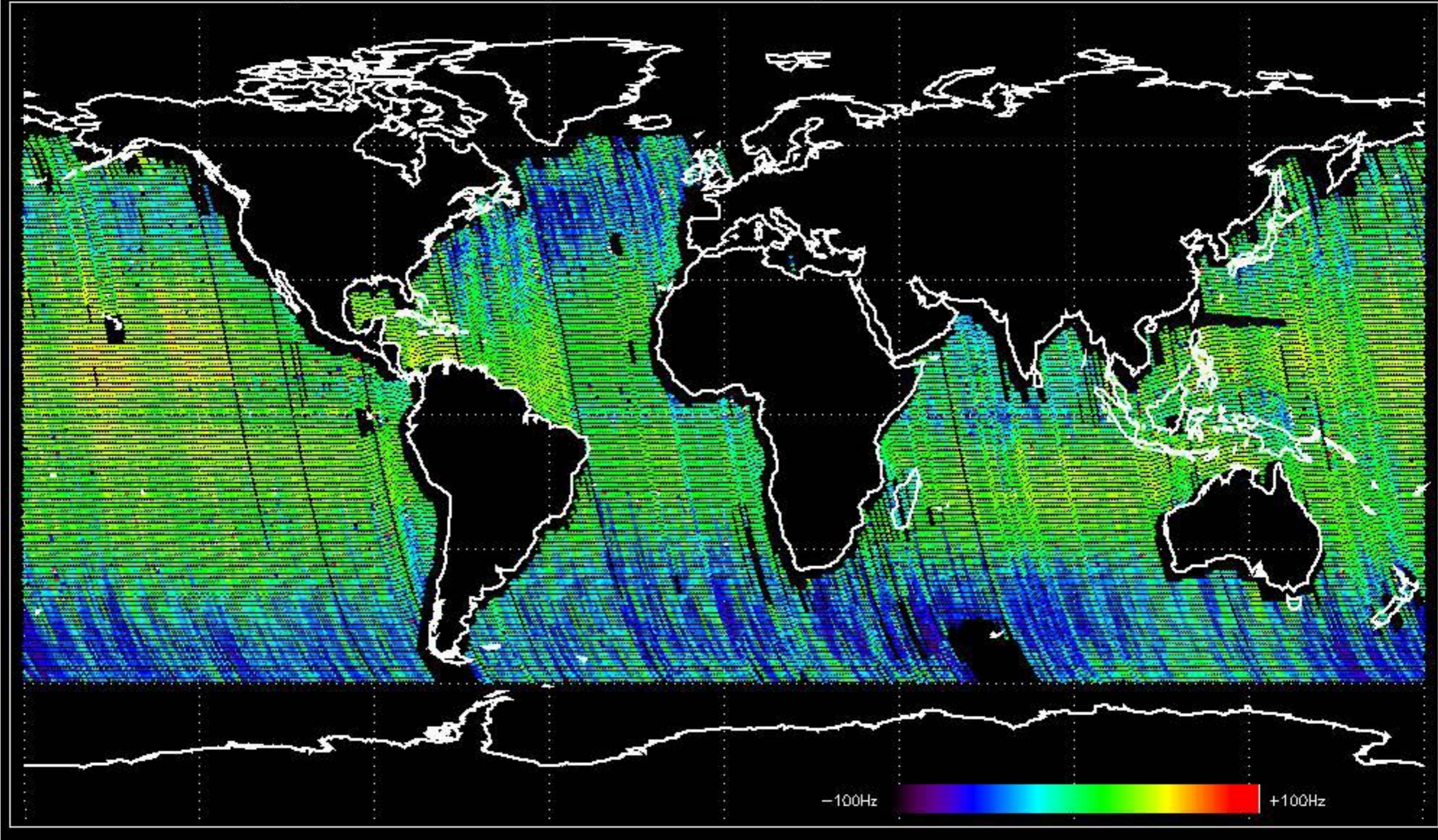
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -22.315473 Hz



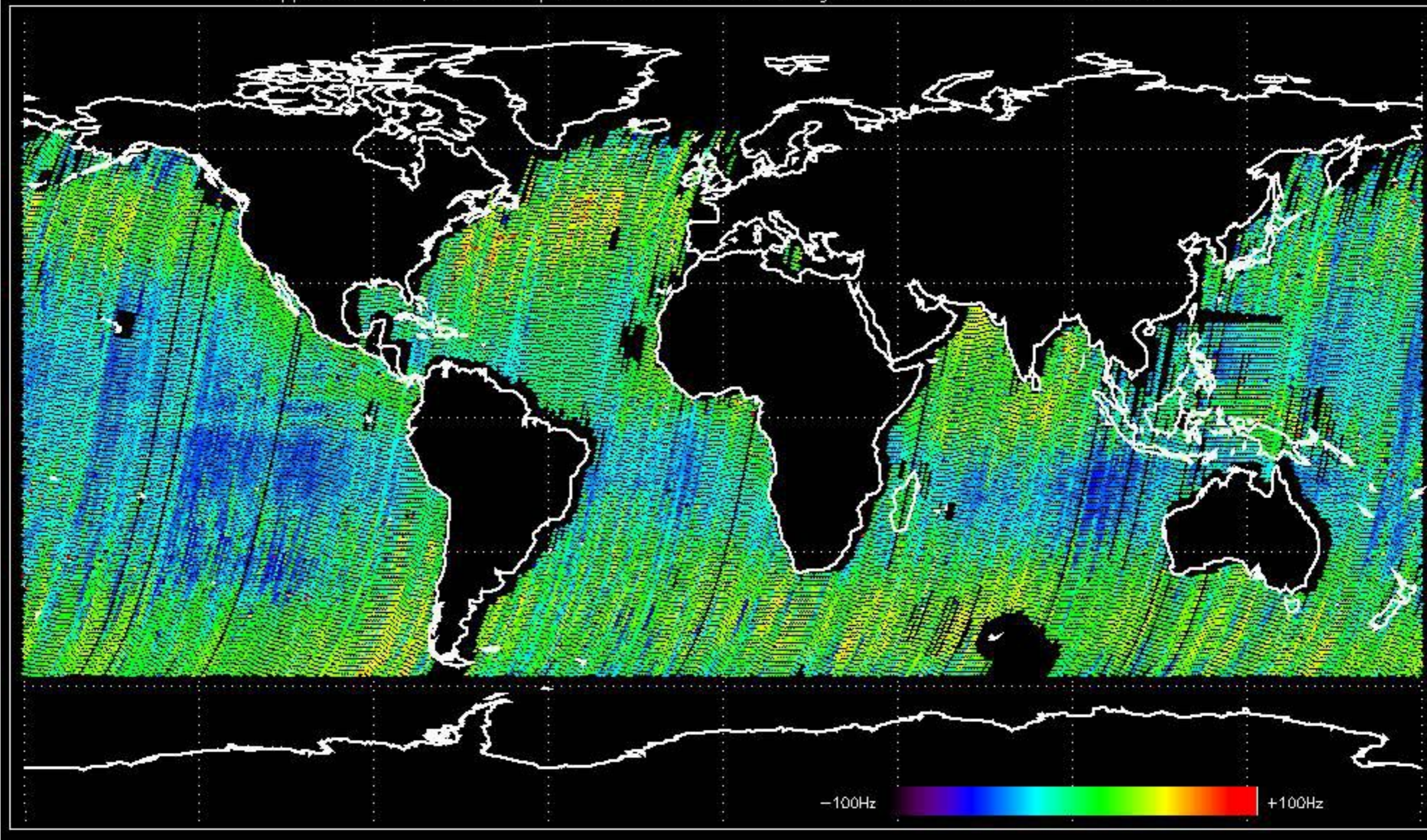
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -15.497452 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -15.425654 Hz



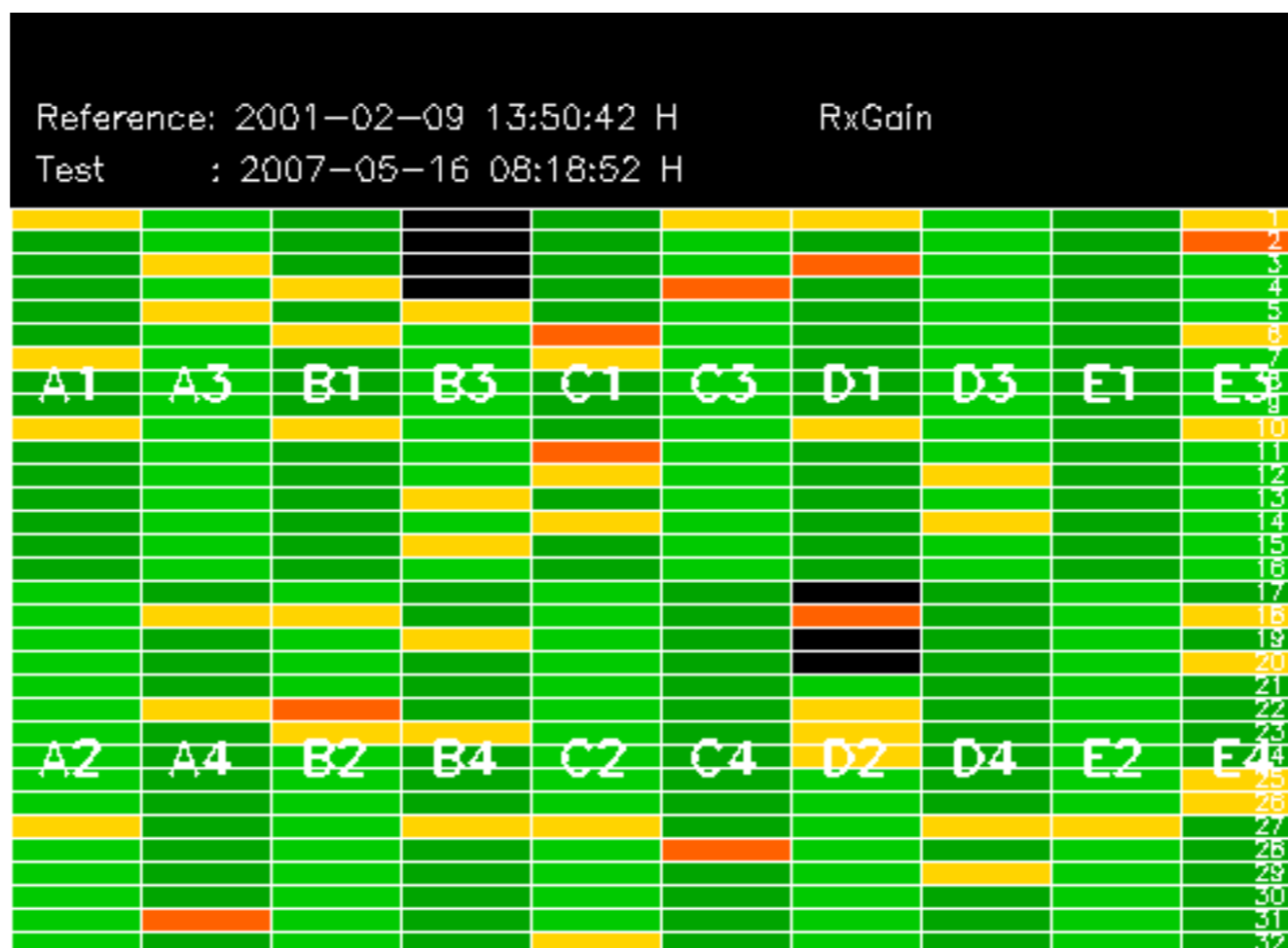
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -21.561781 Hz

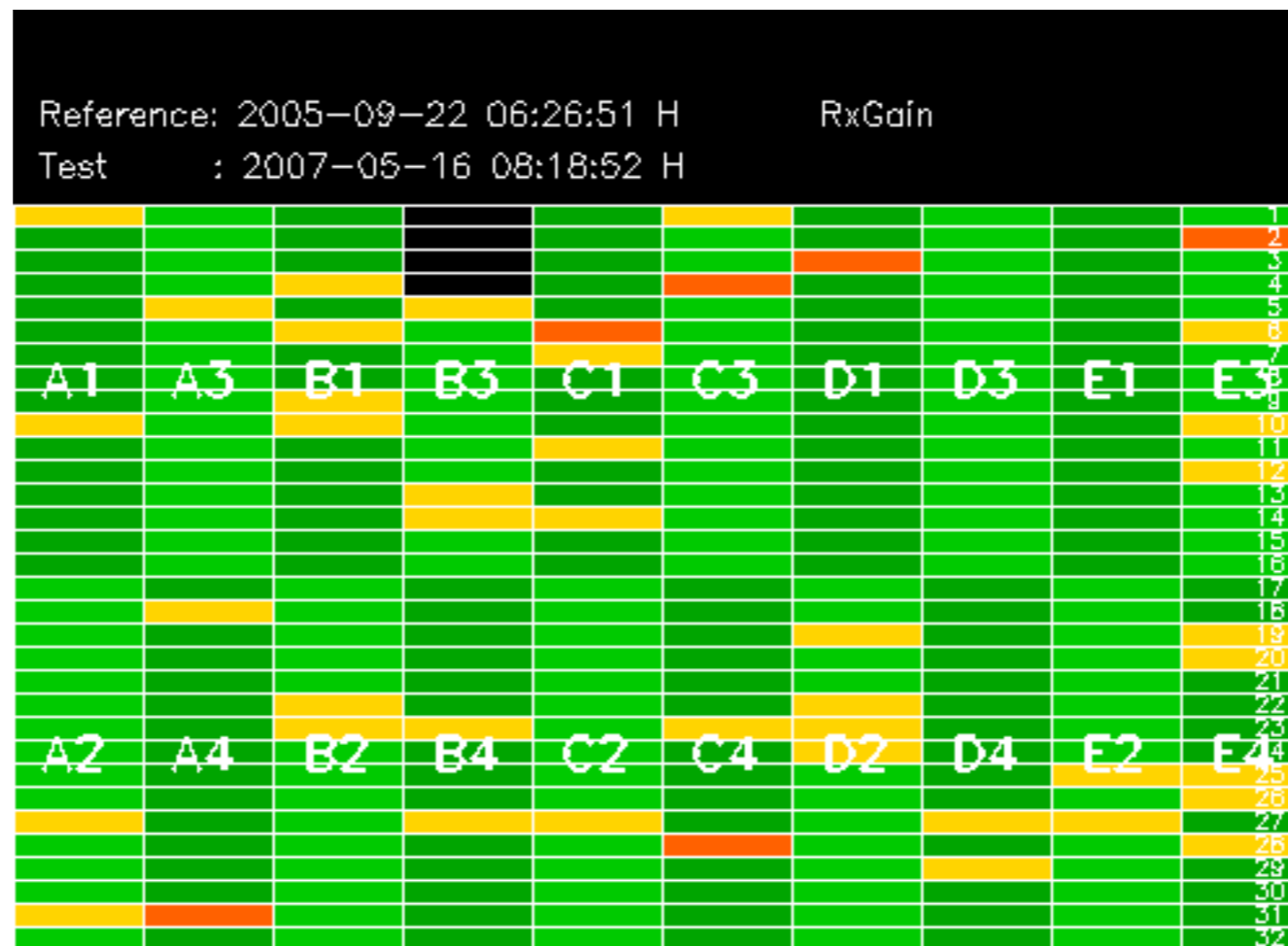


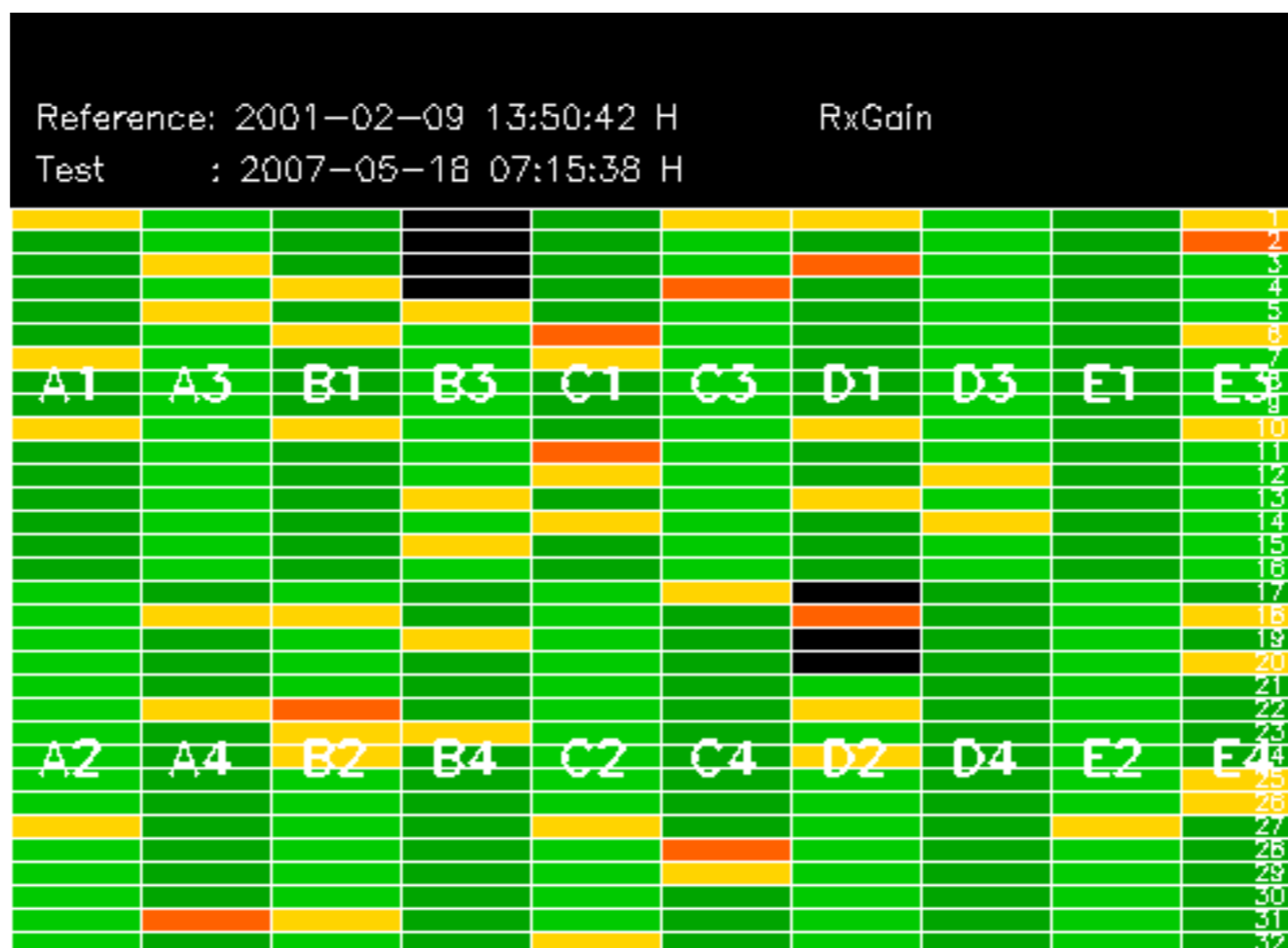
No anomalies observed on available MS products:

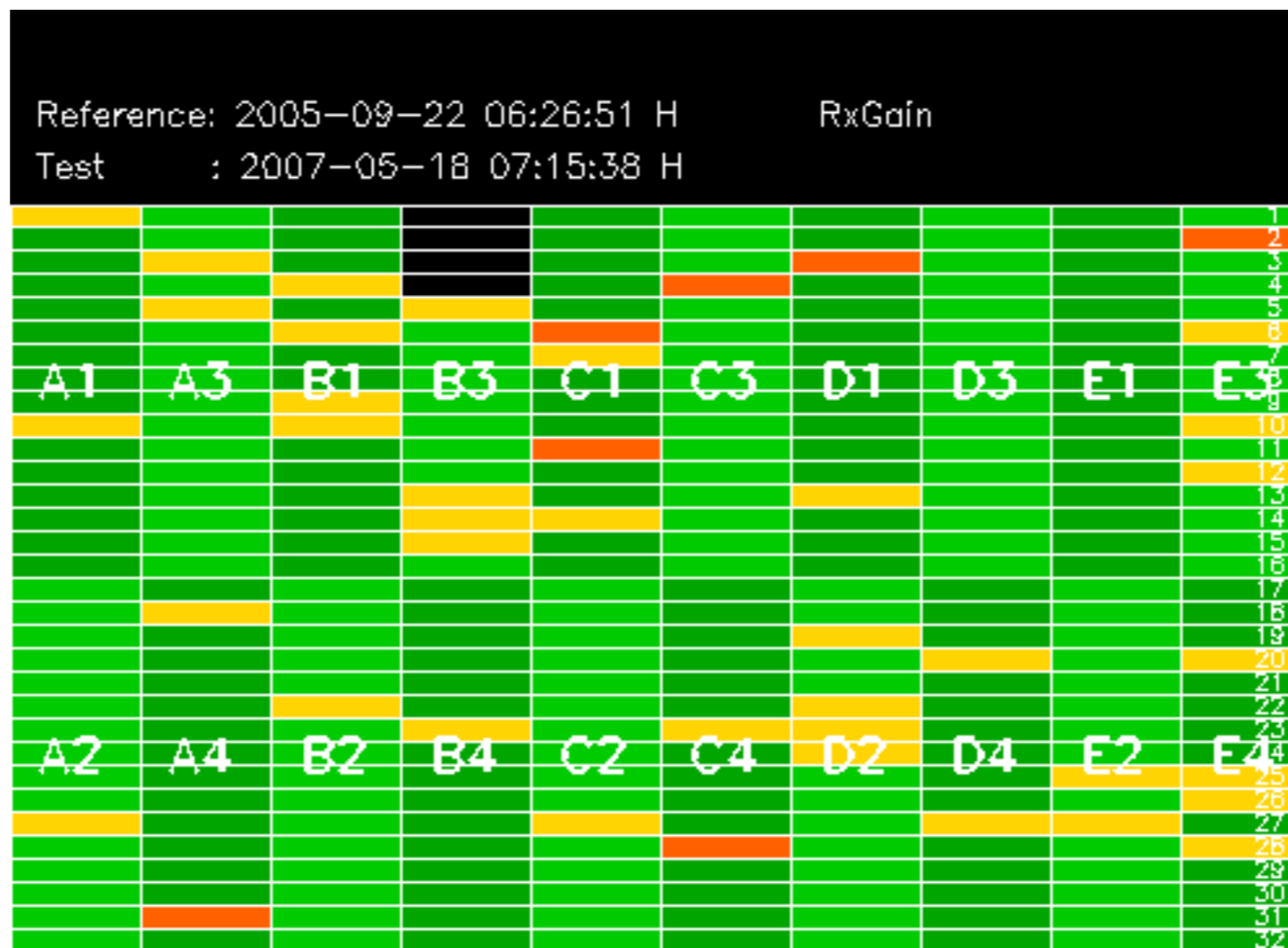


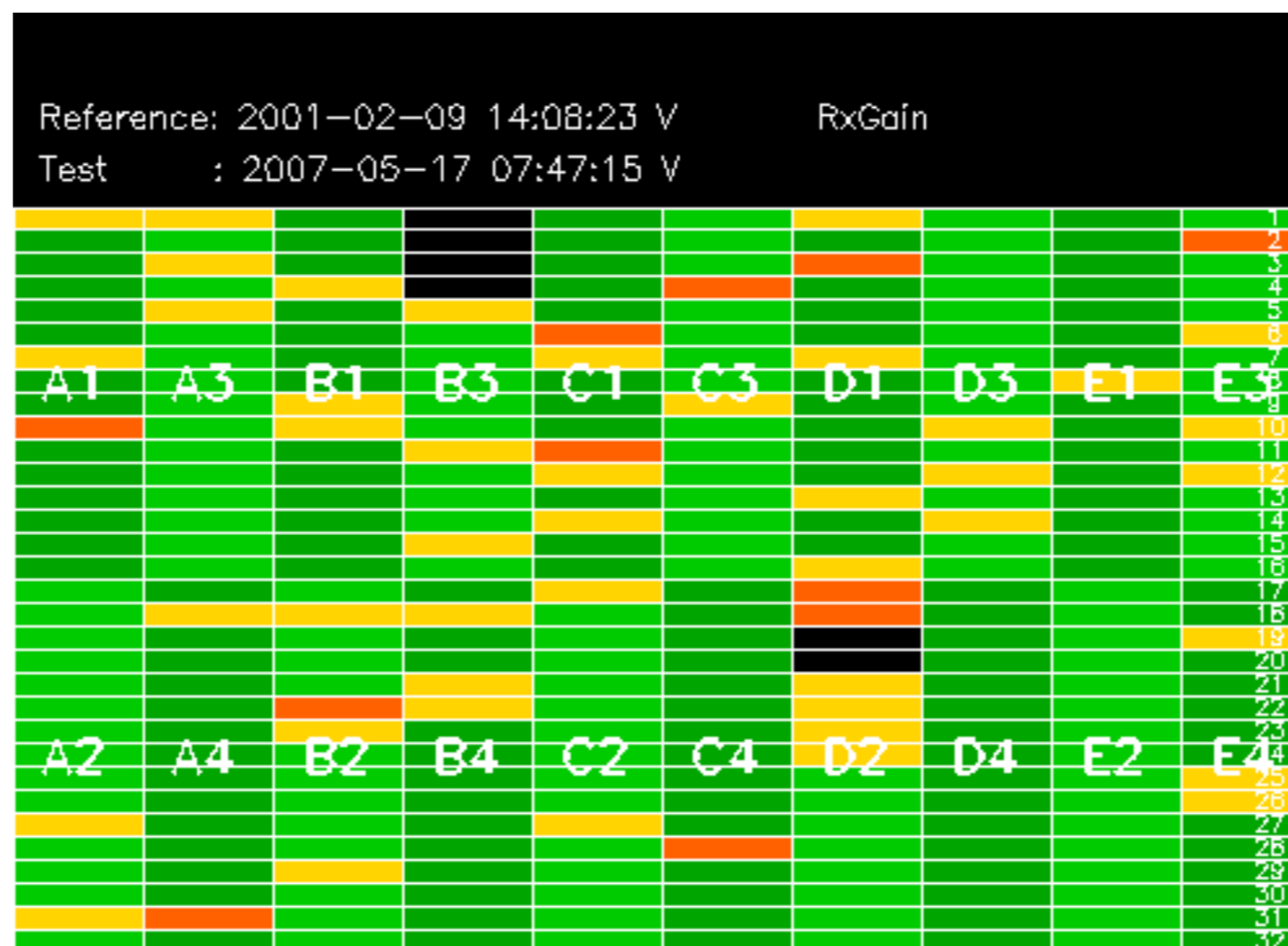
No anomalies observed.

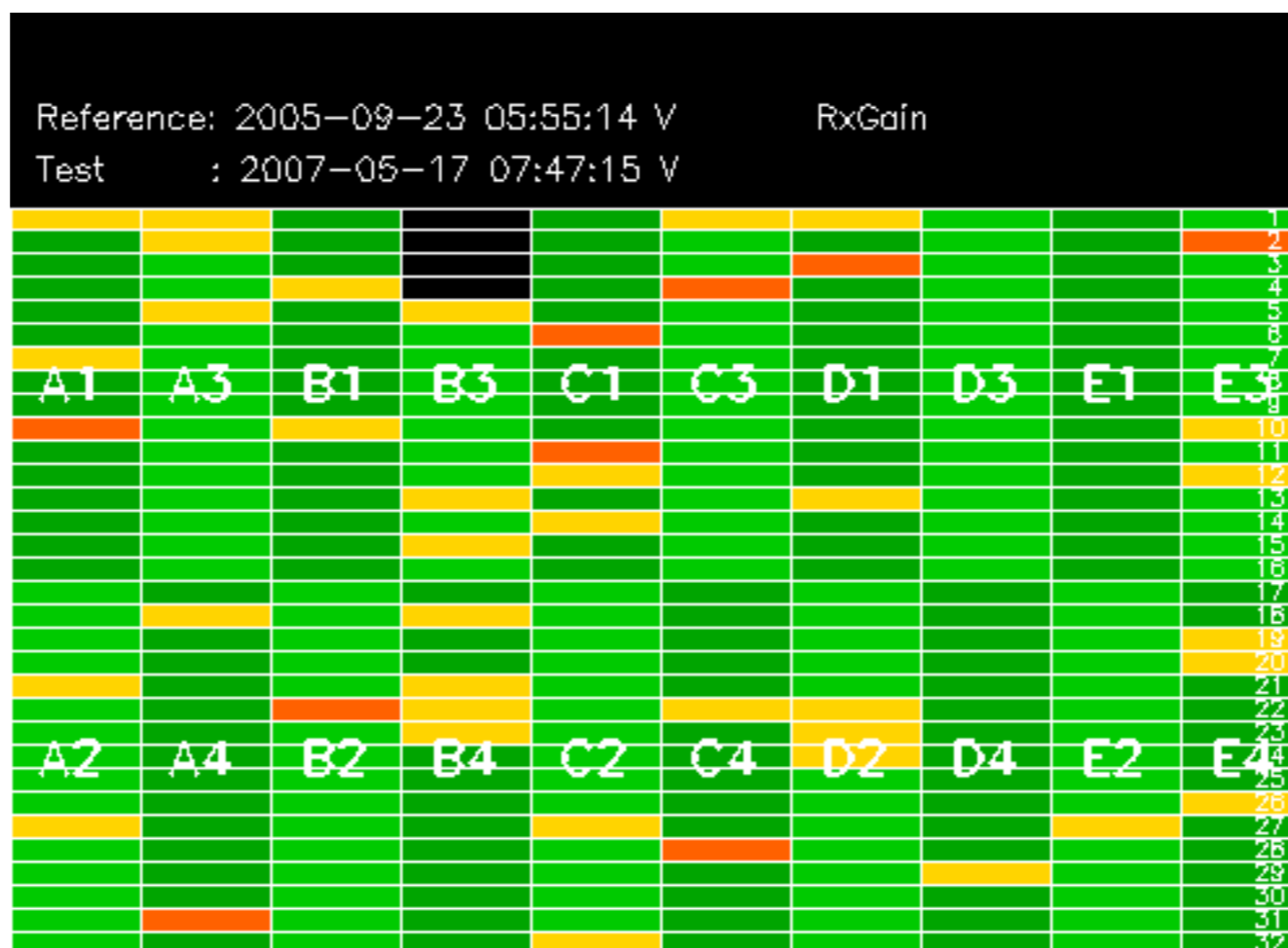








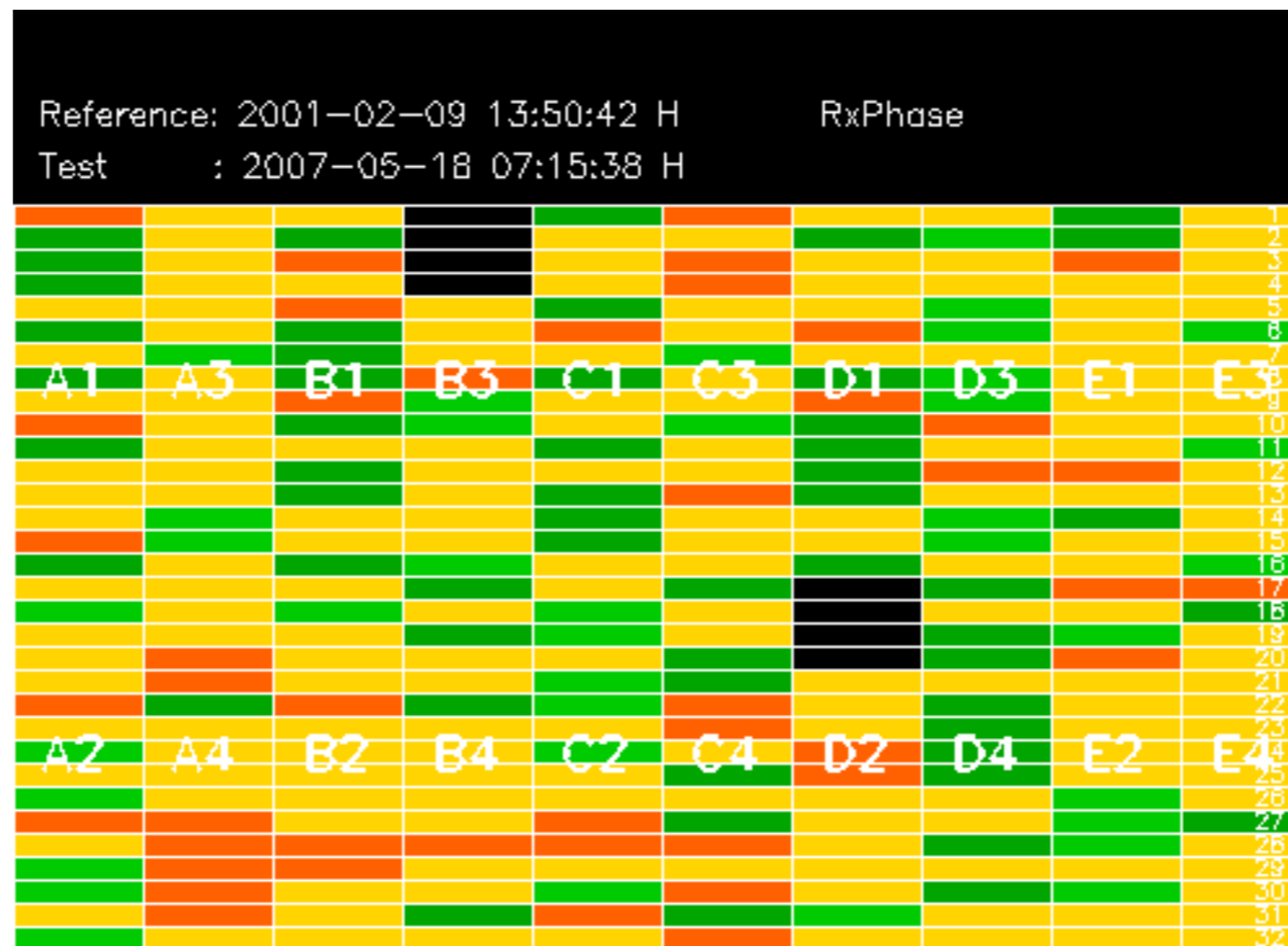






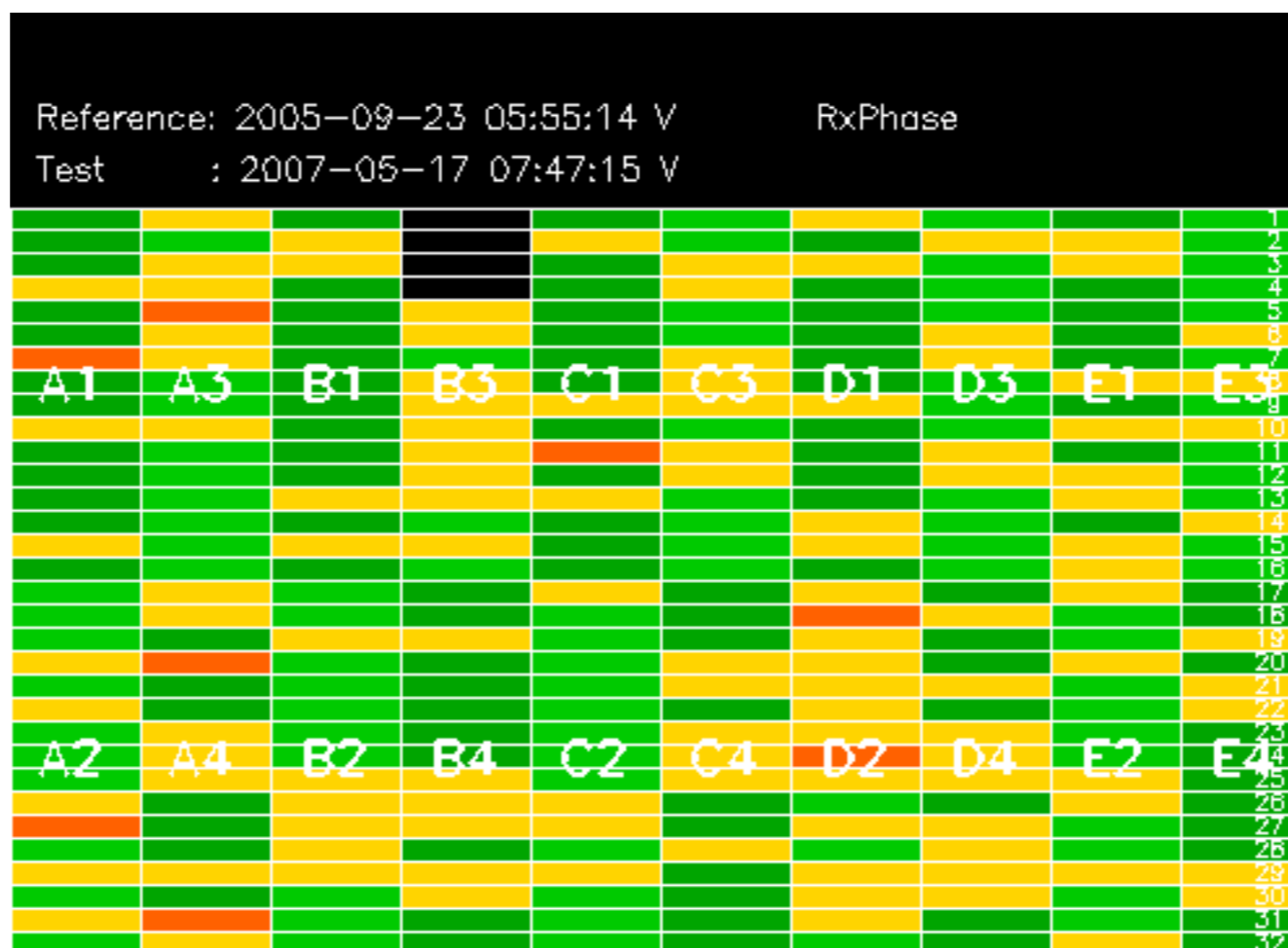


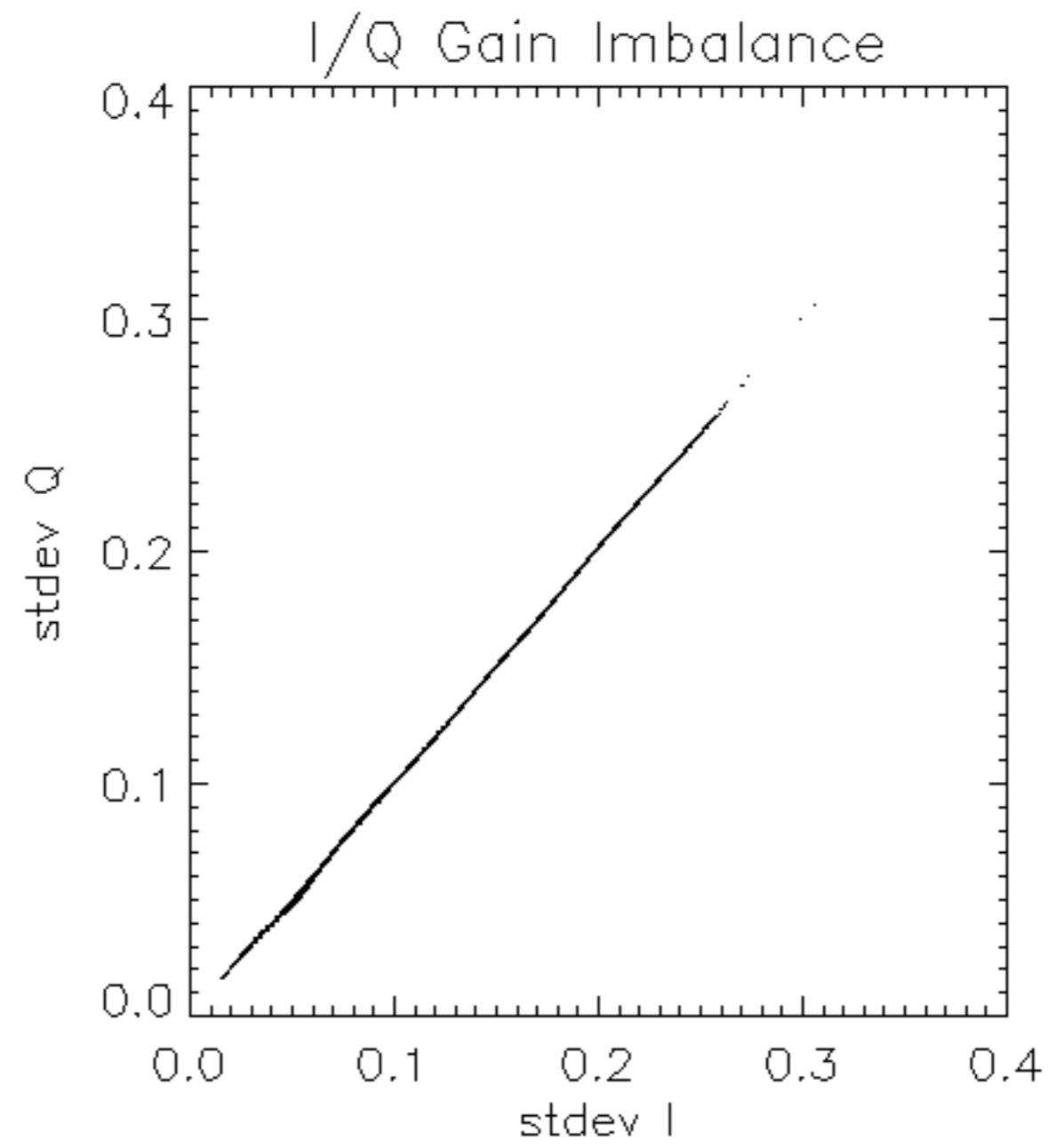


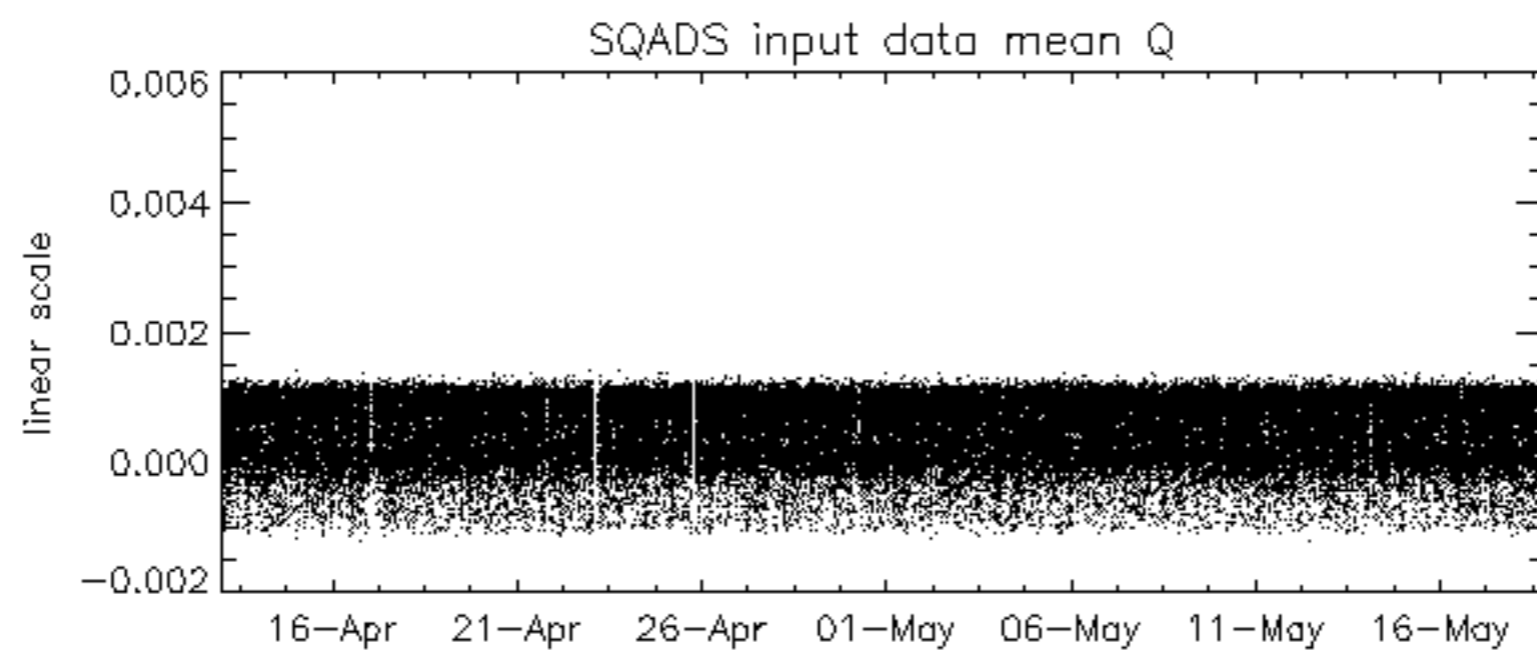
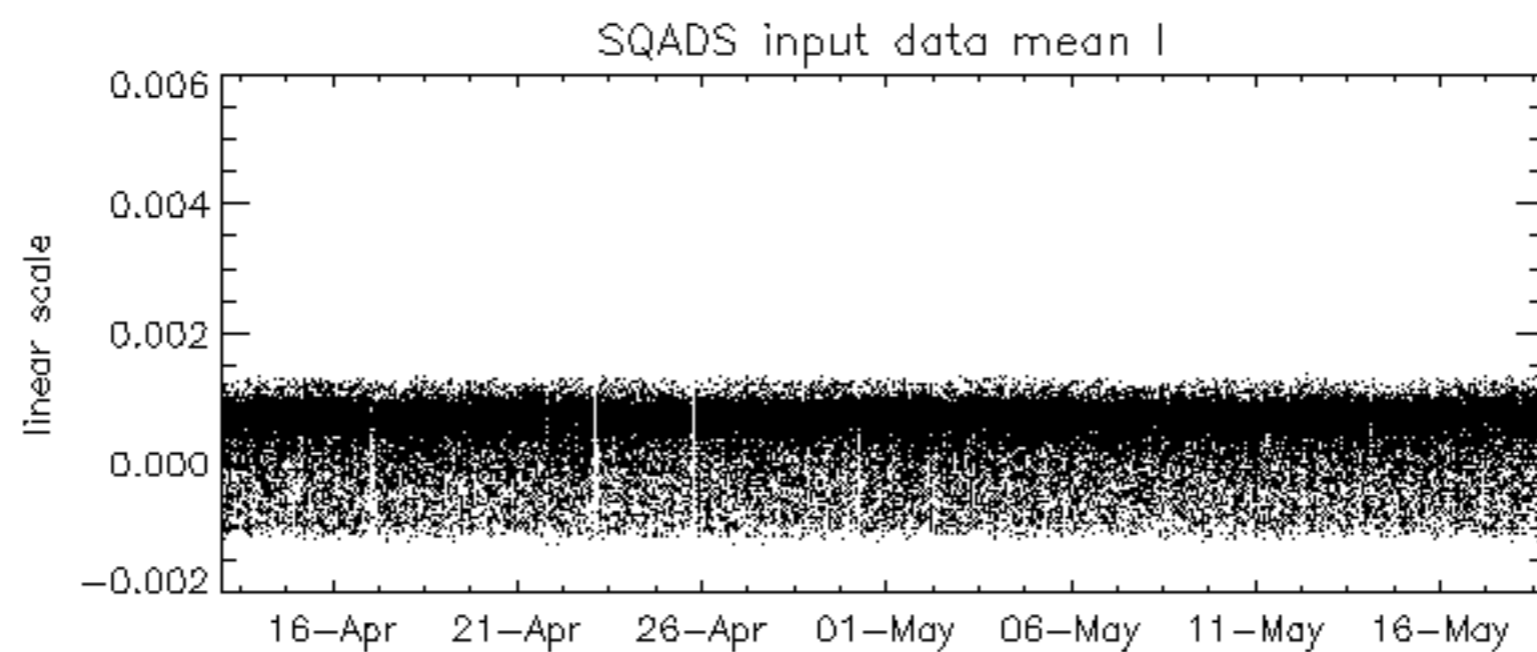
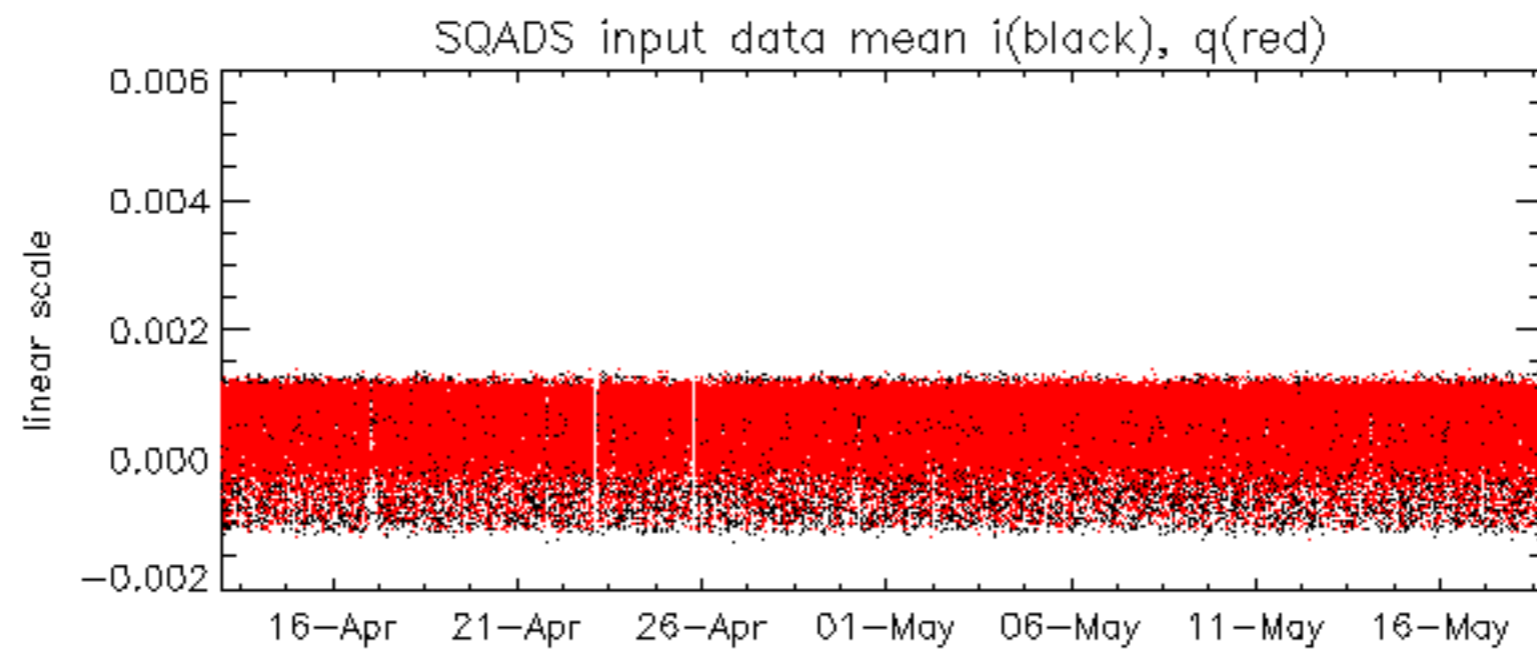


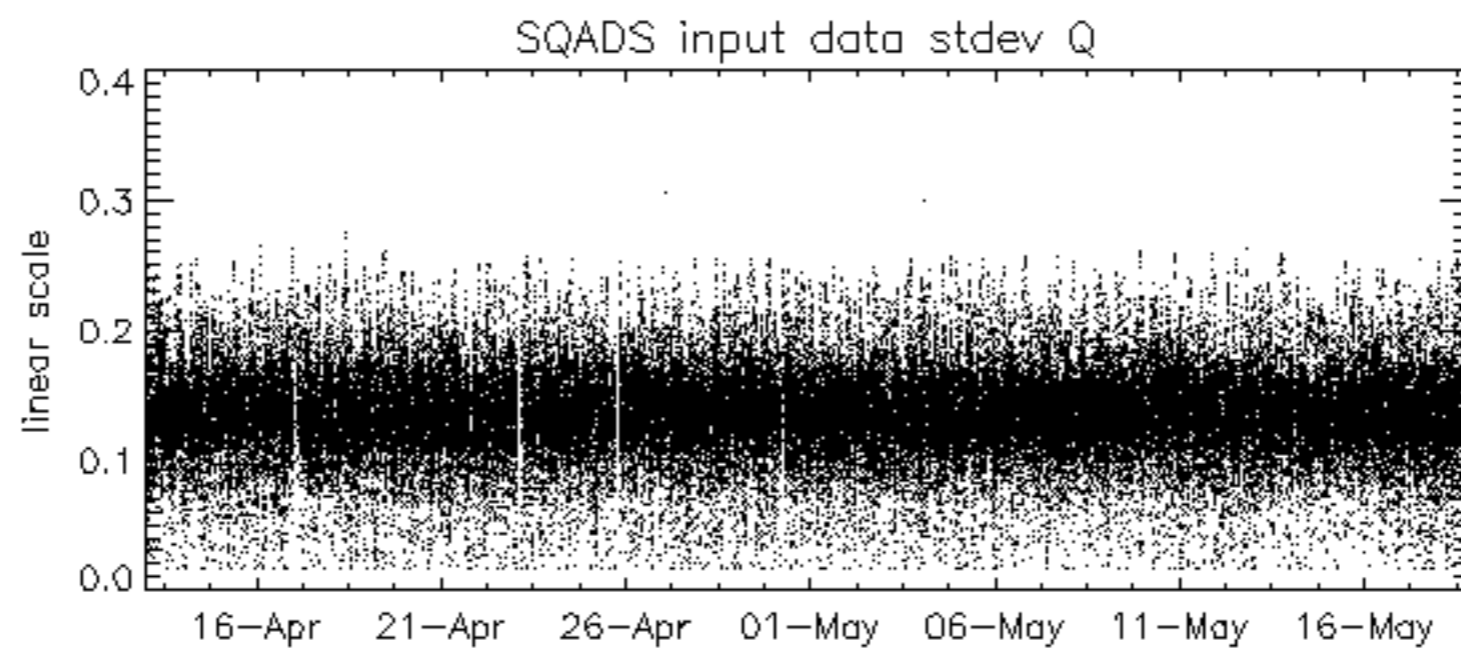
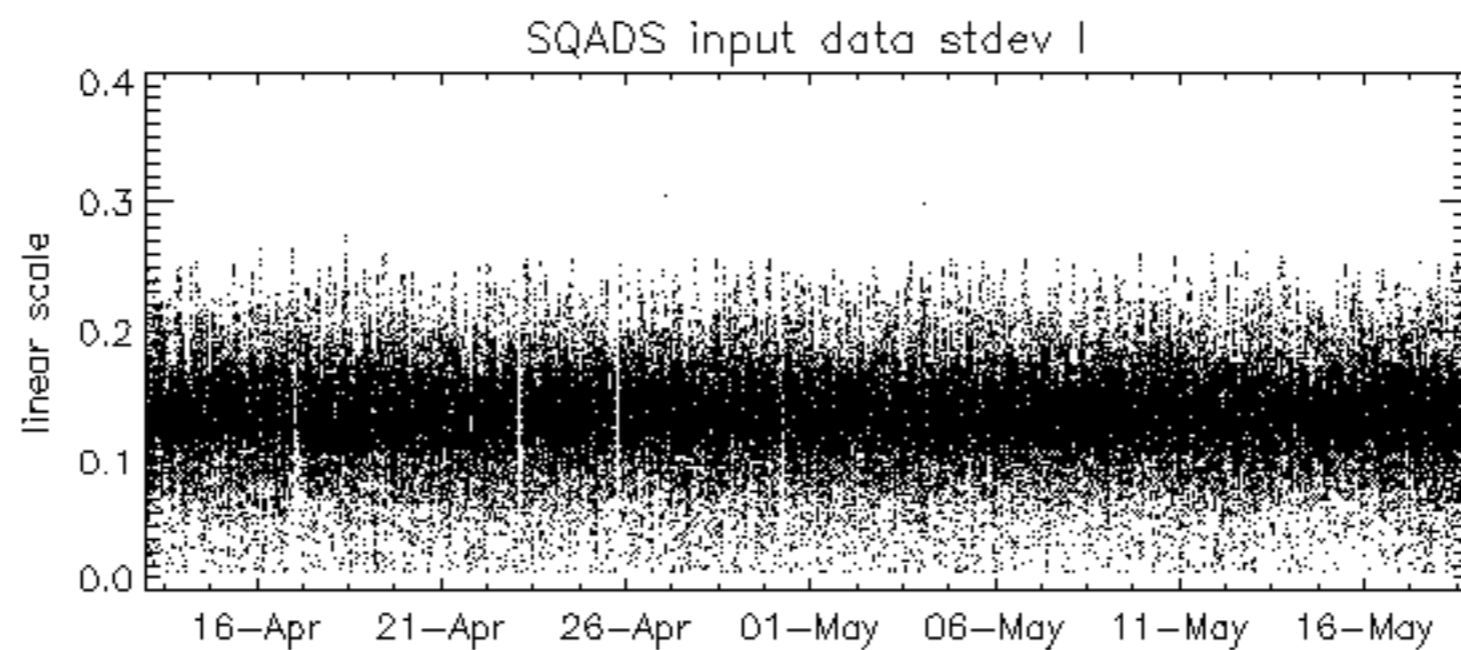
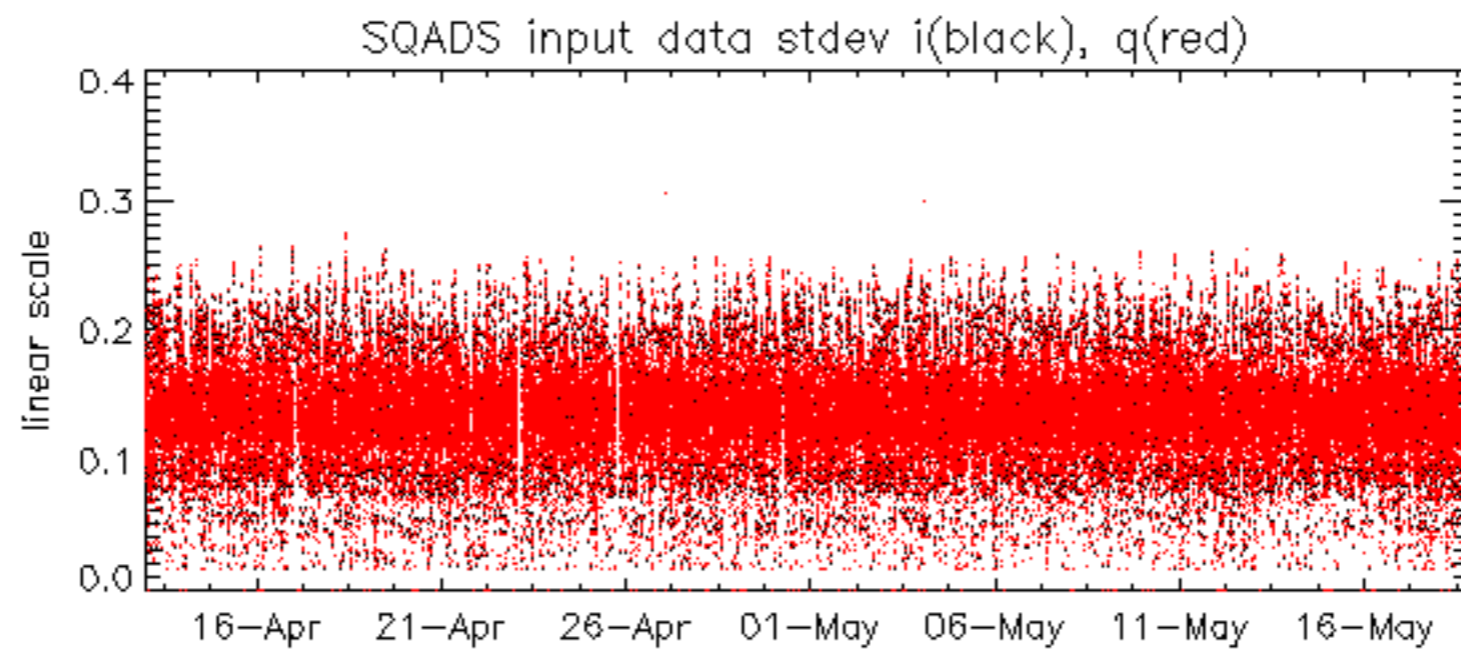


























Summary of analysis for the last 3 days 2007051[678]

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_1PNPDE20070518_015652_000000362058_00146_27254_0357.N1	1	0
ASA_IMM_1PNPDE20070518_042631_000000762058_00147_27255_0576.N1	1	0
ASA_WSM_1PNPDE20070516_161232_000000852058_00126_27234_8519.N1	0	1
ASA_WSM_1PNPDE20070516_171622_000002252058_00127_27235_8573.N1	0	62
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_1PNPDK20070516_135852_000000862058_00125_27233_1603.N1	0	2





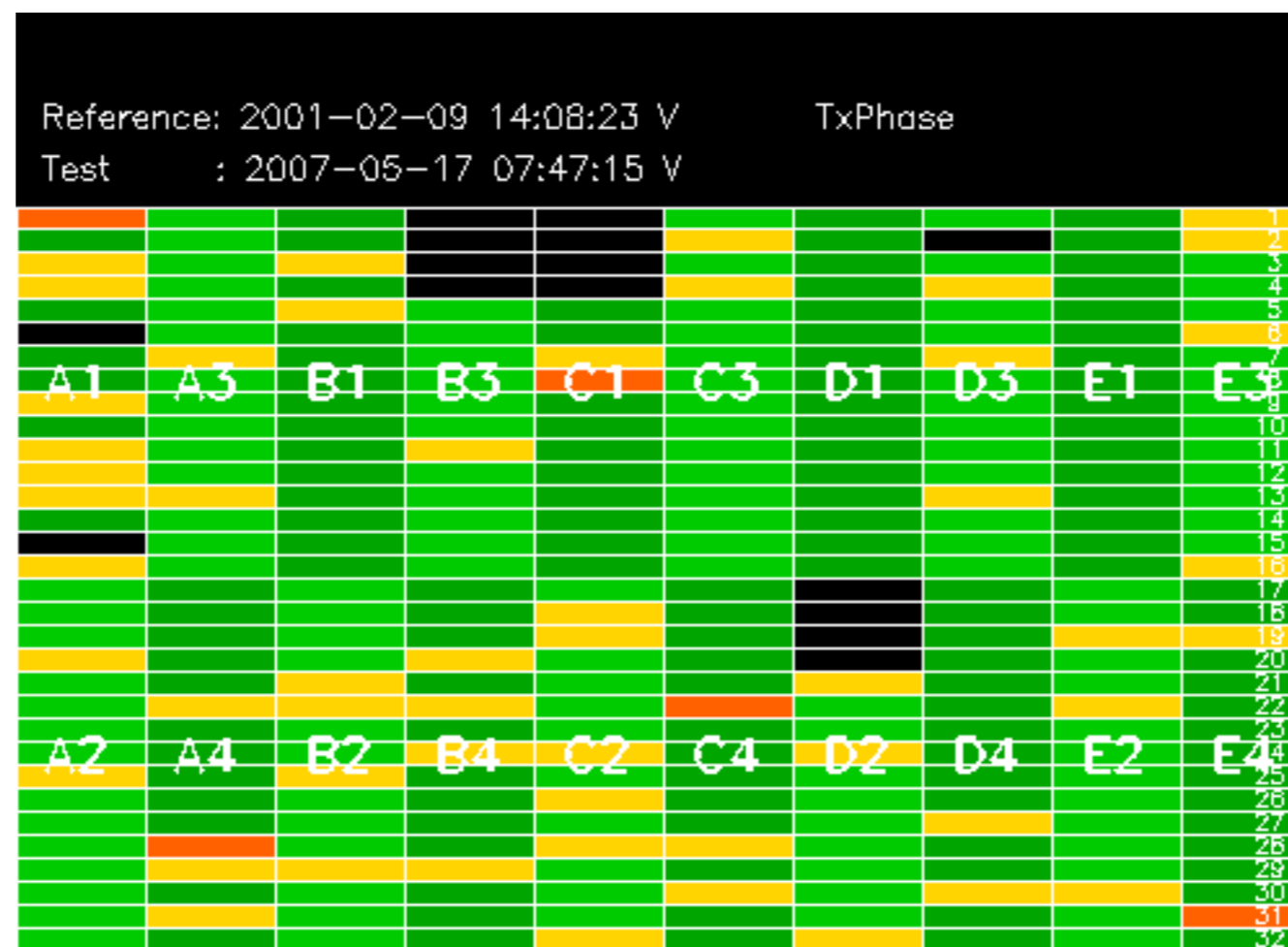


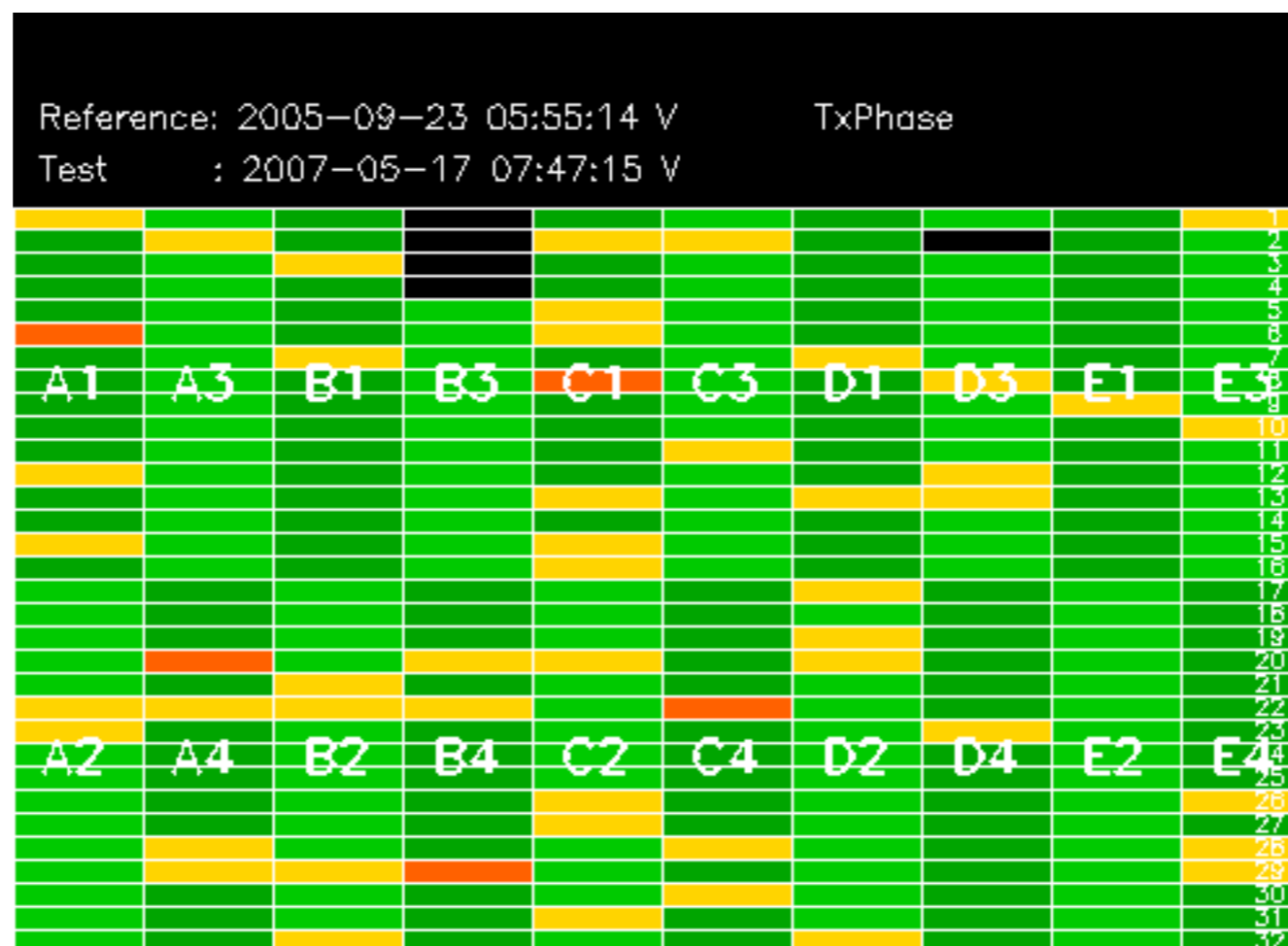


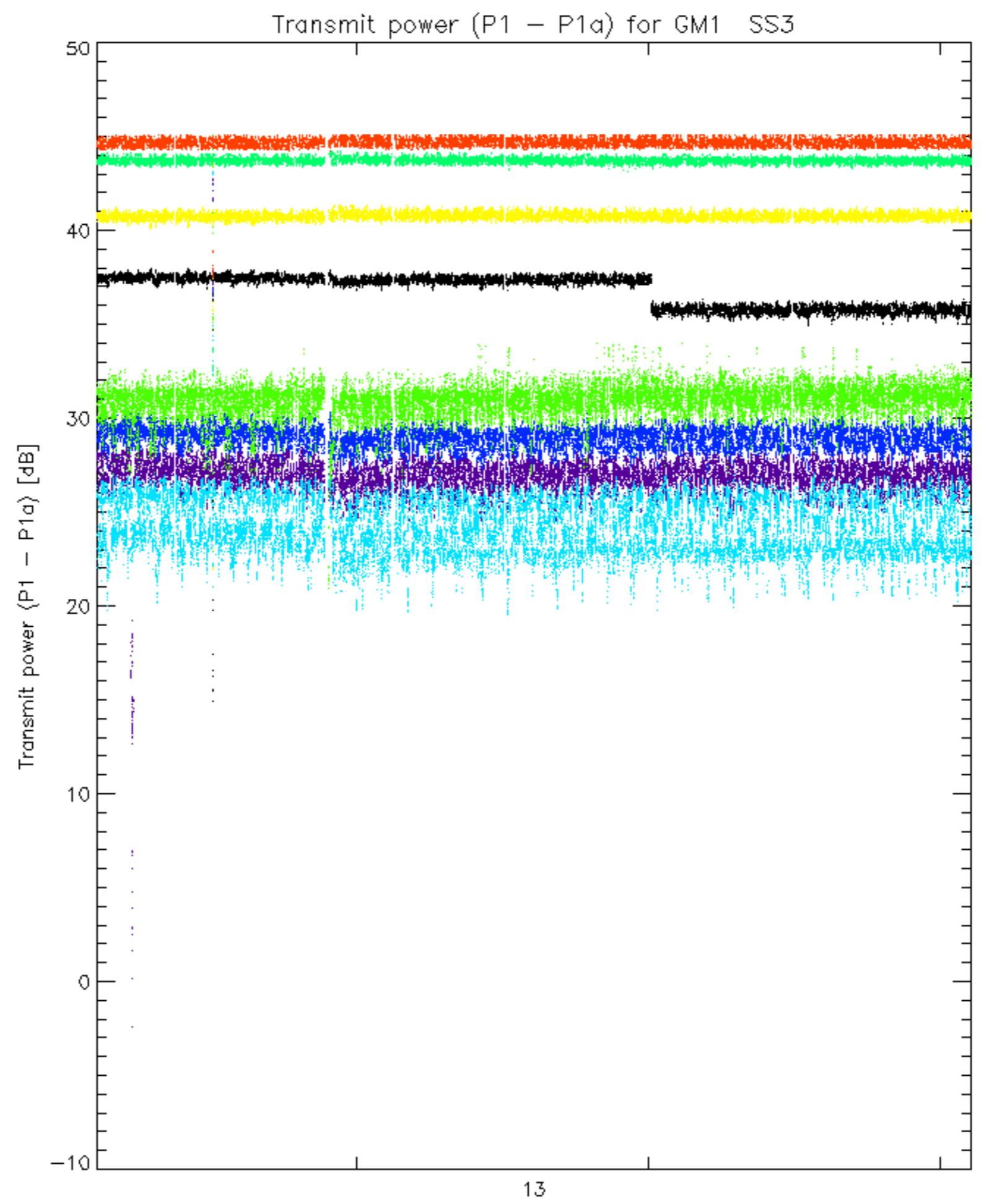






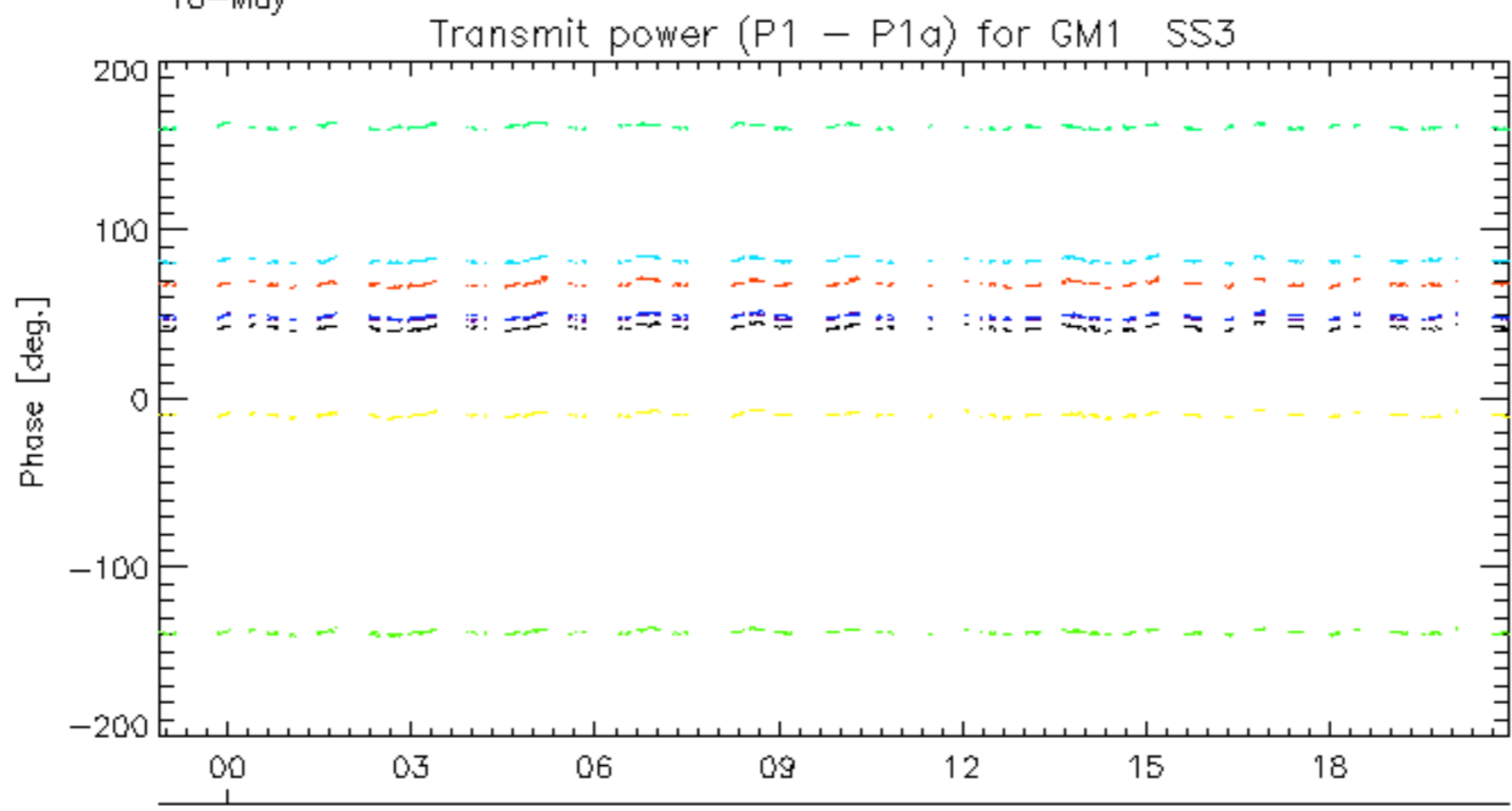
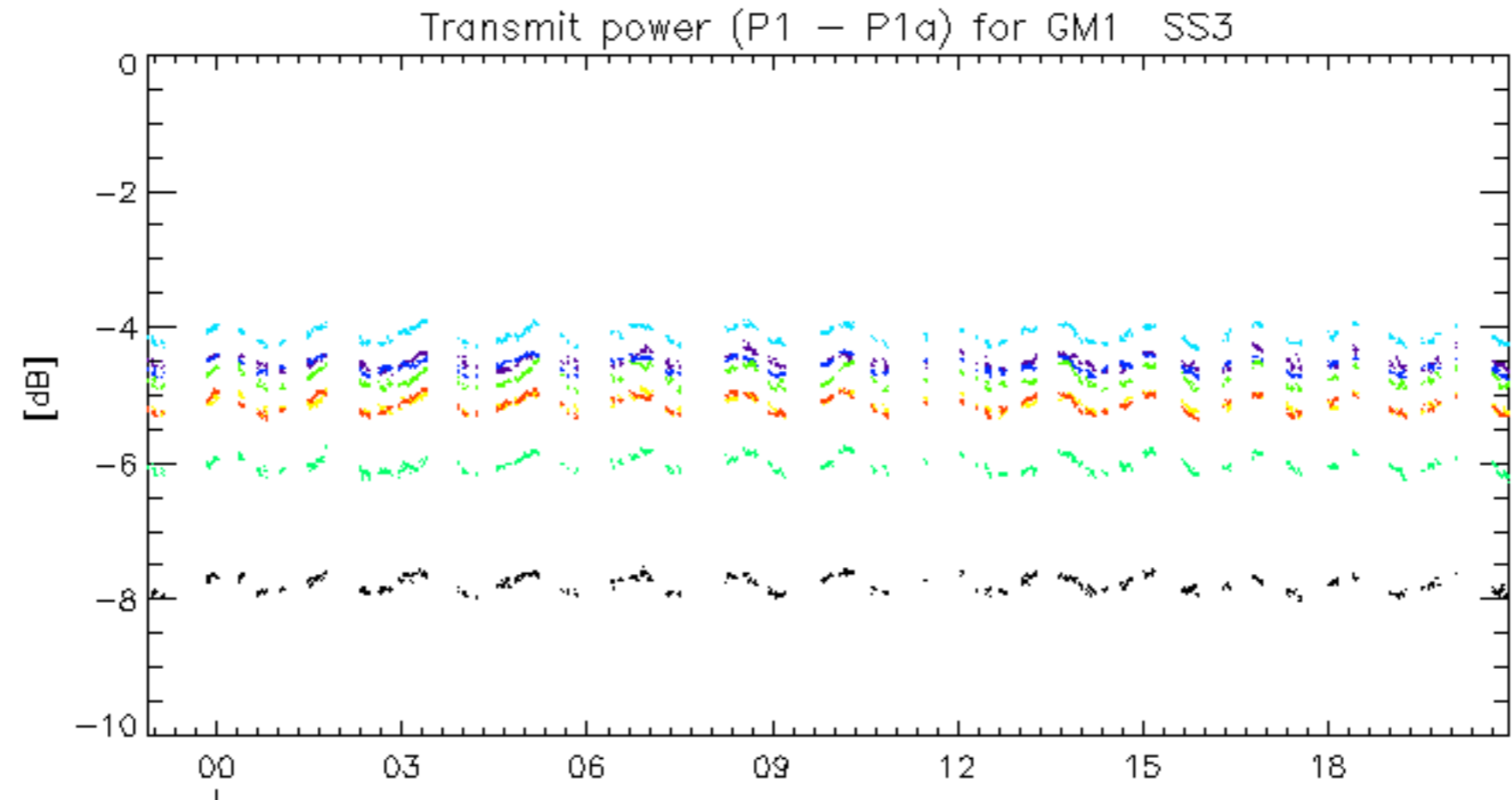




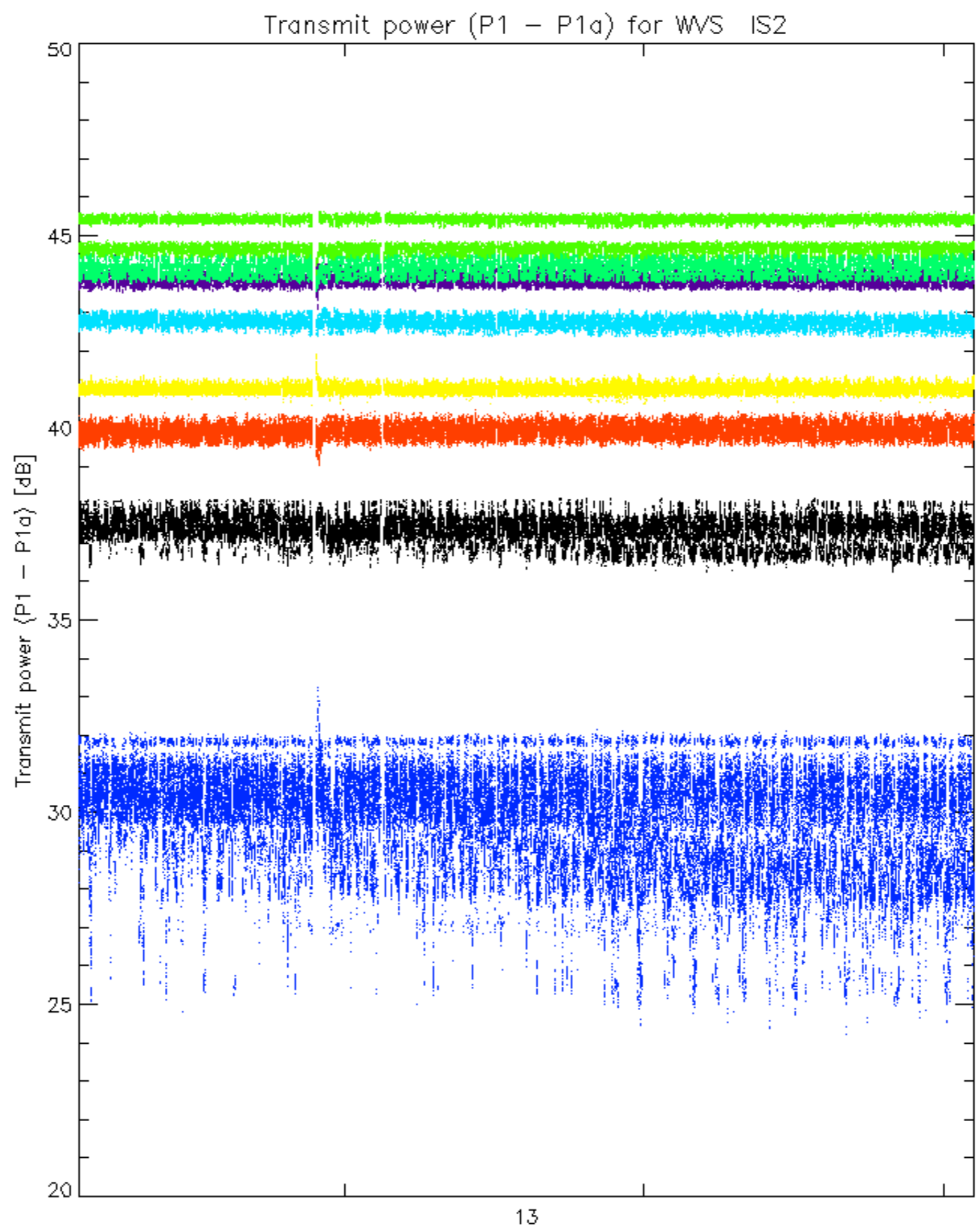


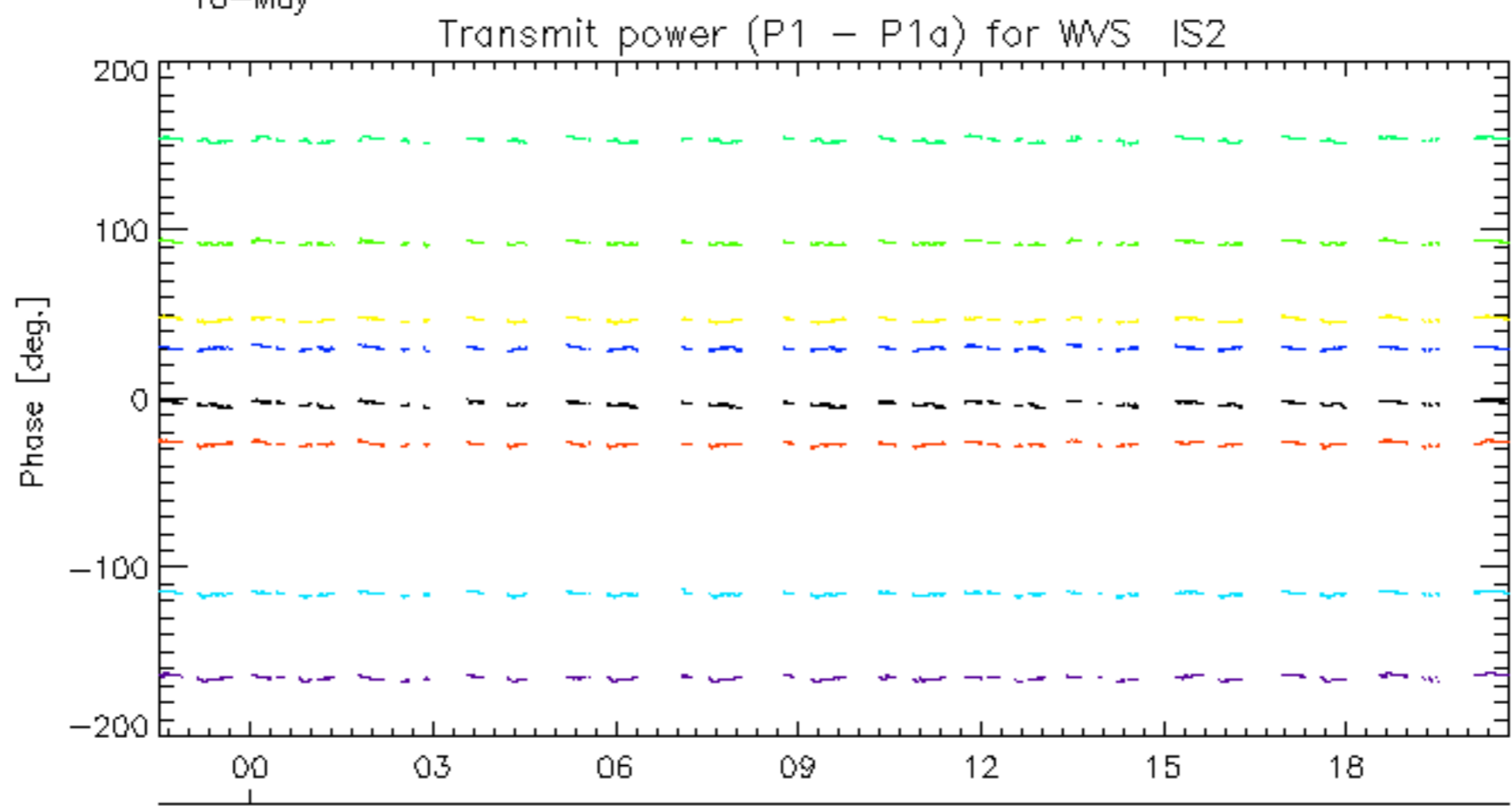
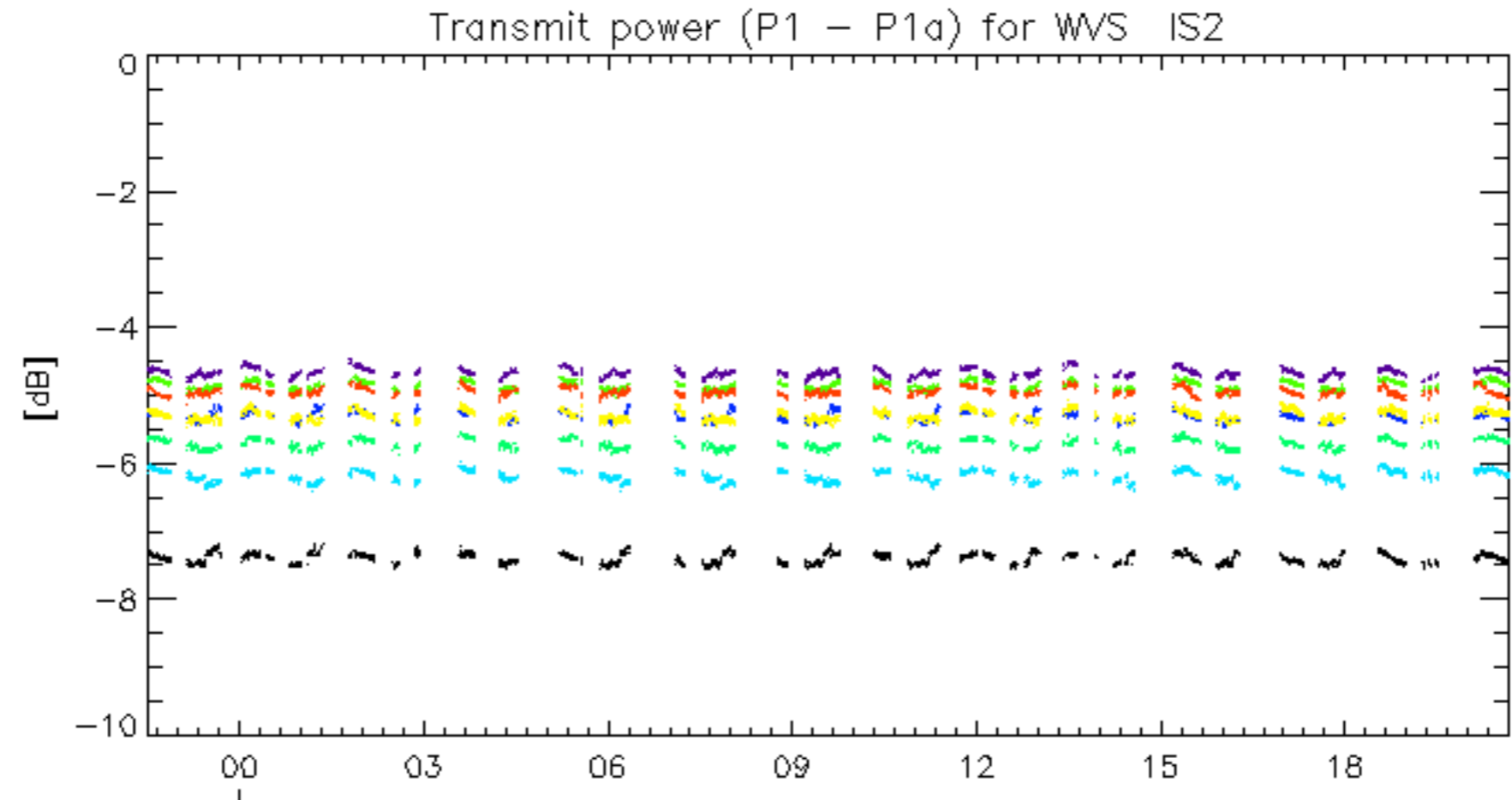
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30





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





rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.