

# PRELIMINARY REPORT OF 060720

last update on Thu Jul 20 16:28:00 GMT 2006

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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 2006-07-19 00:00:00 to 2006-07-20 16:28:00

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	39	60	17	8	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	39	60	17	8	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	39	60	17	8	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	39	60	17	8	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	31	59	31	16	58
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	31	59	31	16	58
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	31	59	31	16	58
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	31	59	31	16	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	20060719 073844
H	20060720 070707

### 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)
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**P1 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.931227	0.012495	-0.021945
7	P1	-3.103528	0.010253	-0.013370
11	P1	-4.087519	0.013656	-0.010664
15	P1	-6.172984	0.011529	-0.008898
19	P1	-3.396760	0.009337	-0.057023
22	P1	-4.546267	0.010269	-0.030183
26	P1	-3.932089	0.019753	0.025629
30	P1	-5.762922	0.008043	-0.008527
3	P1	-16.506918	0.335125	-0.034710
7	P1	-17.195473	0.102507	-0.084156
11	P1	-16.986078	0.276569	-0.052525
15	P1	-13.114759	0.151197	0.027685
19	P1	-14.445665	0.048809	-0.139105
22	P1	-16.026142	0.418795	-0.047912
26	P1	-15.131310	0.236787	0.079069
30	P1	-17.097944	0.344660	-0.051853

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.989948	0.087975	0.130618
7	P2	-21.923458	0.106053	0.073289
11	P2	-15.798631	0.122356	0.066795
15	P2	-7.133021	0.101572	0.015071
19	P2	-9.136310	0.091972	-0.005860
22	P2	-18.150934	0.086815	-0.007442
26	P2	-16.399872	0.094544	-0.035217
30	P2	-19.526325	0.093856	0.035696

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.175507	0.002947	-0.000504
7	P3	-8.175507	0.002947	-0.000504
11	P3	-8.175507	0.002947	-0.000504
15	P3	-8.175507	0.002947	-0.000504
19	P3	-8.175507	0.002947	-0.000504
22	P3	-8.175507	0.002947	-0.000504
26	P3	-8.175507	0.002947	-0.000504
30	P3	-8.175507	0.002947	-0.000504

#### 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)
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#### P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.802631	0.028655	-0.114393
7	P1	-2.561588	0.007943	0.018877
11	P1	-2.859029	0.014600	0.019165
15	P1	-3.566298	0.028789	-0.042734
19	P1	-3.418036	0.013427	-0.018779
22	P1	-5.090420	0.020088	0.030527
26	P1	-5.859191	0.015753	-0.019814
30	P1	-5.194647	0.026574	-0.031001
3	P1	-11.589281	0.094525	-0.172446
7	P1	-9.971858	0.034274	0.029753
11	P1	-10.247393	0.058257	0.014645
15	P1	-10.753420	0.143133	0.003314
19	P1	-15.531697	0.074740	-0.034609
22	P1	-20.918751	1.223078	-0.055996
26	P1	-16.320744	0.378105	0.157219
30	P1	-17.895466	0.407725	-0.101099

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.636230	0.071025	0.206398
7	P2	-22.410849	0.127703	0.116516
11	P2	-11.056308	0.042362	0.082238
15	P2	-4.916030	0.045860	0.022483
19	P2	-6.876484	0.041754	0.028712
22	P2	-8.198607	0.037367	0.015870
26	P2	-24.185736	0.063020	0.022428
30	P2	-22.018114	0.049821	0.048932

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.014748	0.003746	0.012000
7	P3	-8.014713	0.003748	0.012491
11	P3	-8.014545	0.003761	0.012199
15	P3	-8.014697	0.003757	0.012386
19	P3	-8.014688	0.003753	0.012478
22	P3	-8.014740	0.003739	0.012045
26	P3	-8.014746	0.003743	0.011553
30	P3	-8.014703	0.003741	0.012420

## 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	0.000567461
	stdev	1.65443e-07
MEAN Q	mean	0.000545229
	stdev	2.11389e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.137970
	stdev	0.00107527
STDEV Q	mean	0.138325
	stdev	0.00109317



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006071[890]

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_1PNPDE20060718_010021_000000822049_00303_22902_1205.N1	1	0
ASA_WSM_1PNPDE20060710_162344_000000672049_00198_22797_2353.N1	0	65
ASA_WSM_1PNPDE20060710_234911_000003302049_00202_22801_2445.N1	0	33
ASA_WSM_1PNPDE20060719_003803_000000672049_00317_22916_3537.N1	0	34
ASA_WSM_1PNPDE20060719_021639_000001462049_00318_22917_3556.N1	0	33





## 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



Ascending



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
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<input type="checkbox"/>
Descending

### 7.5 - Absolute Doppler for GM1

<b>Evolution of Absolute Doppler</b>
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<input type="checkbox"/>
Ascending

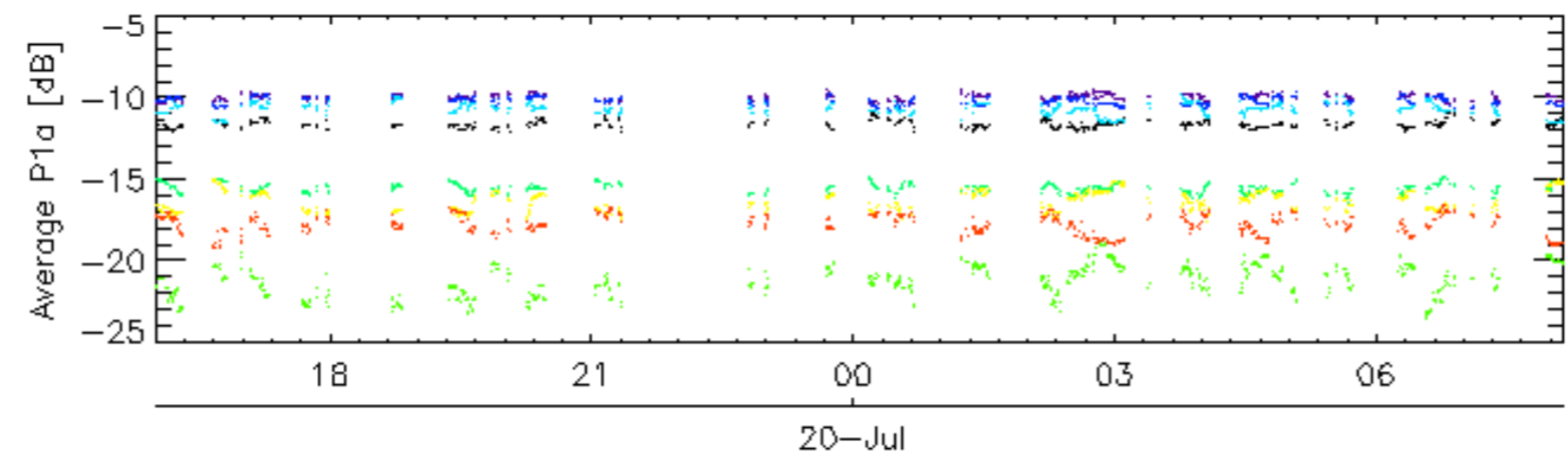
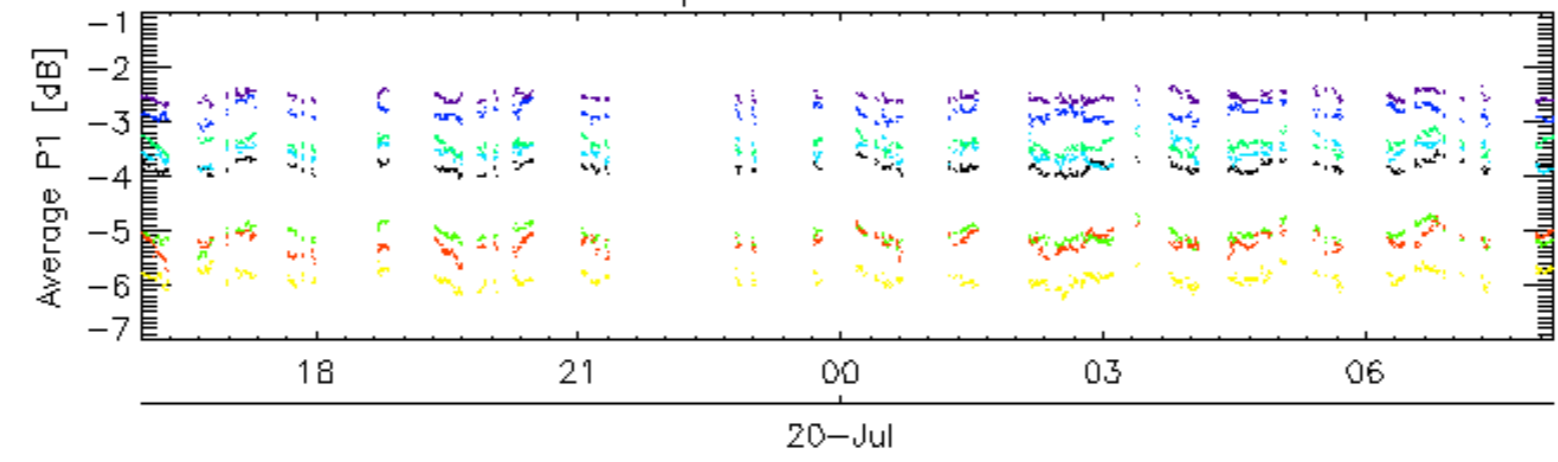
<input type="checkbox"/>
Descending

### 7.6 - Doppler evolution versus ANX for GM1

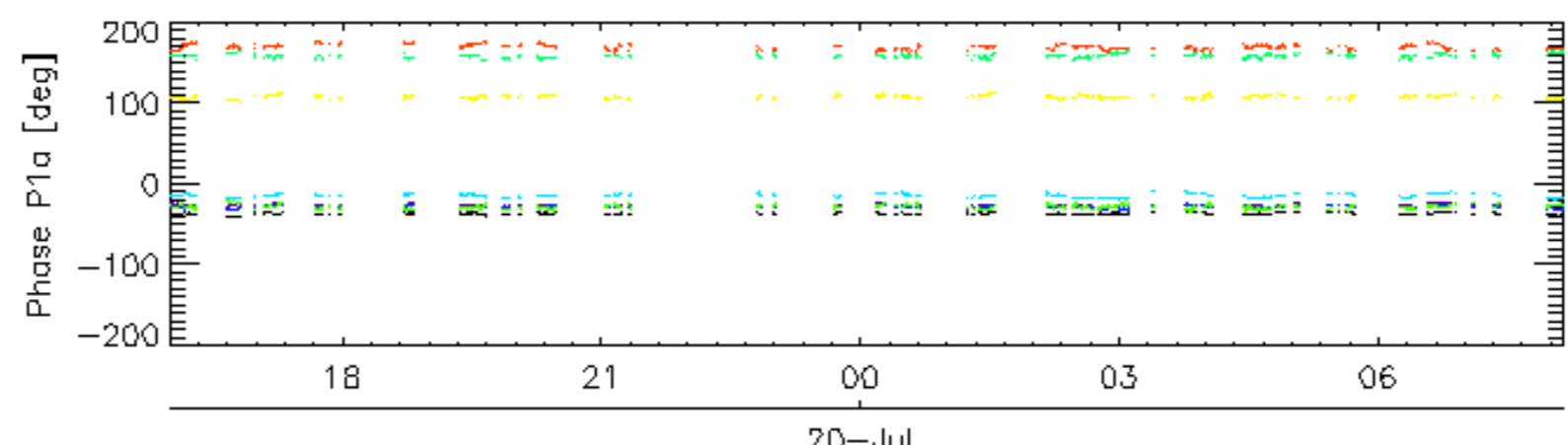
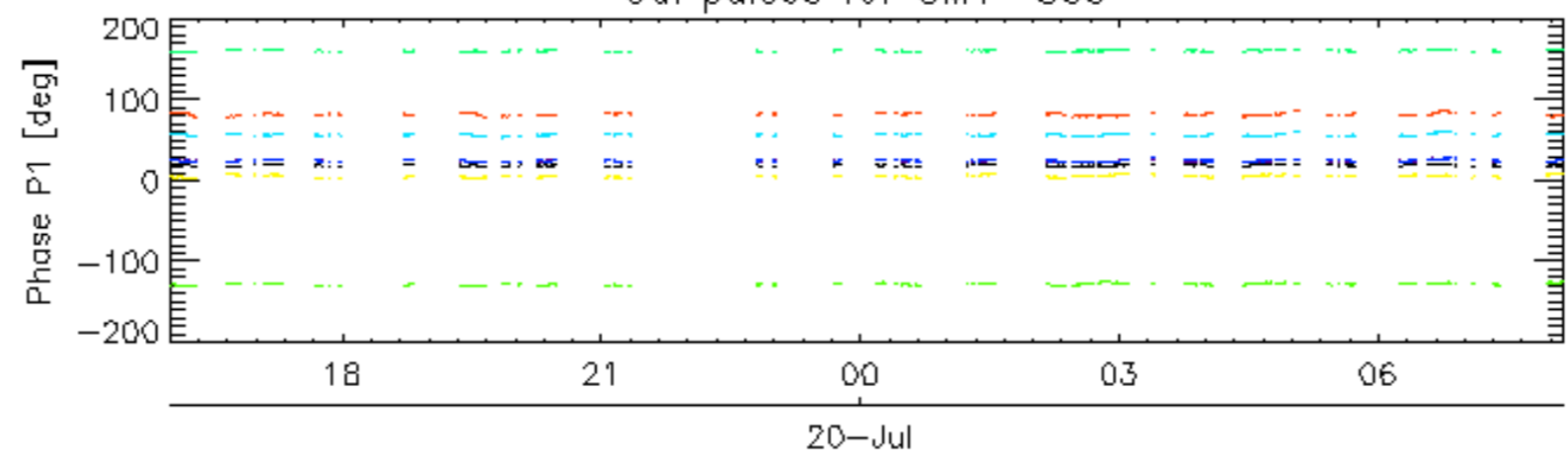
<b>Evolution Doppler error versus ANX</b>
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<input type="checkbox"/>
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Cal pulses for GM1 SS3

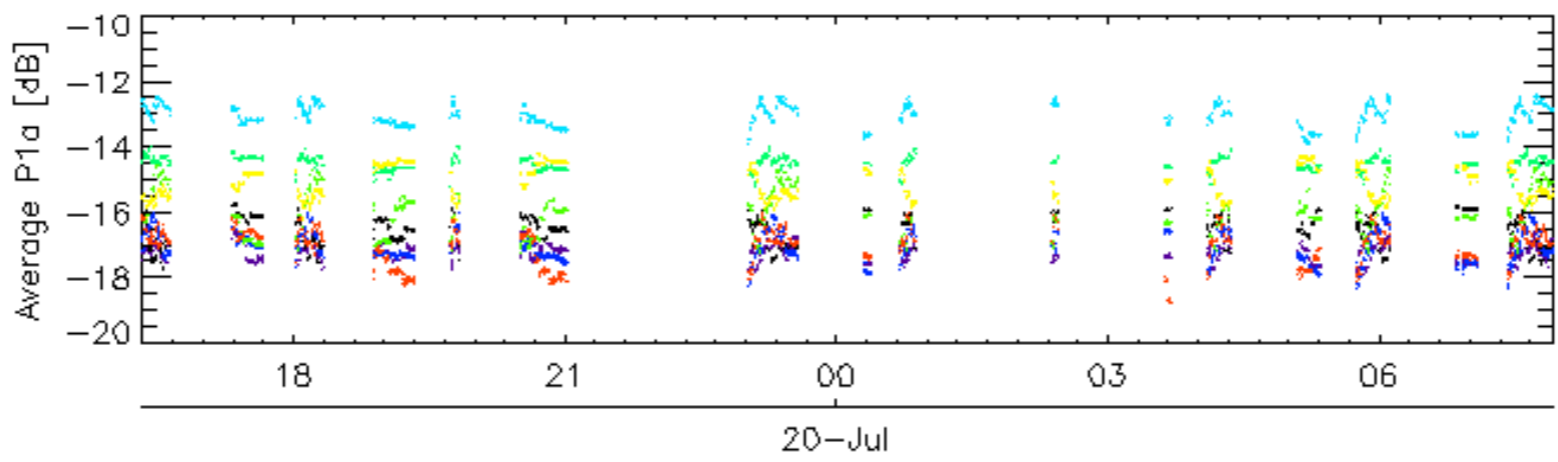
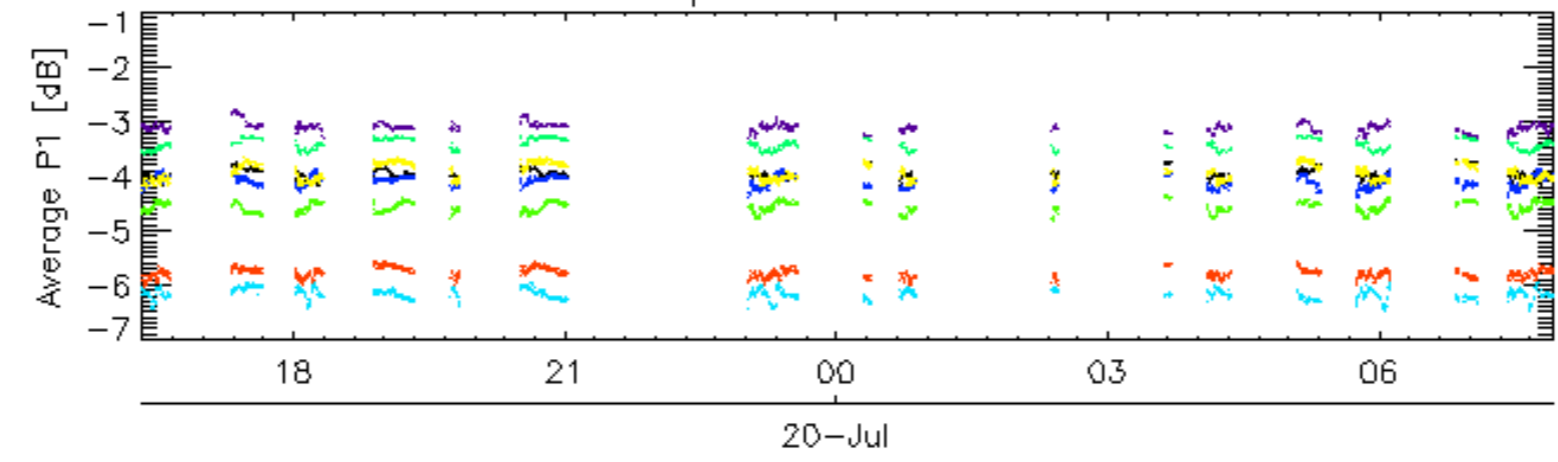


Cal pulses for GM1 SS3

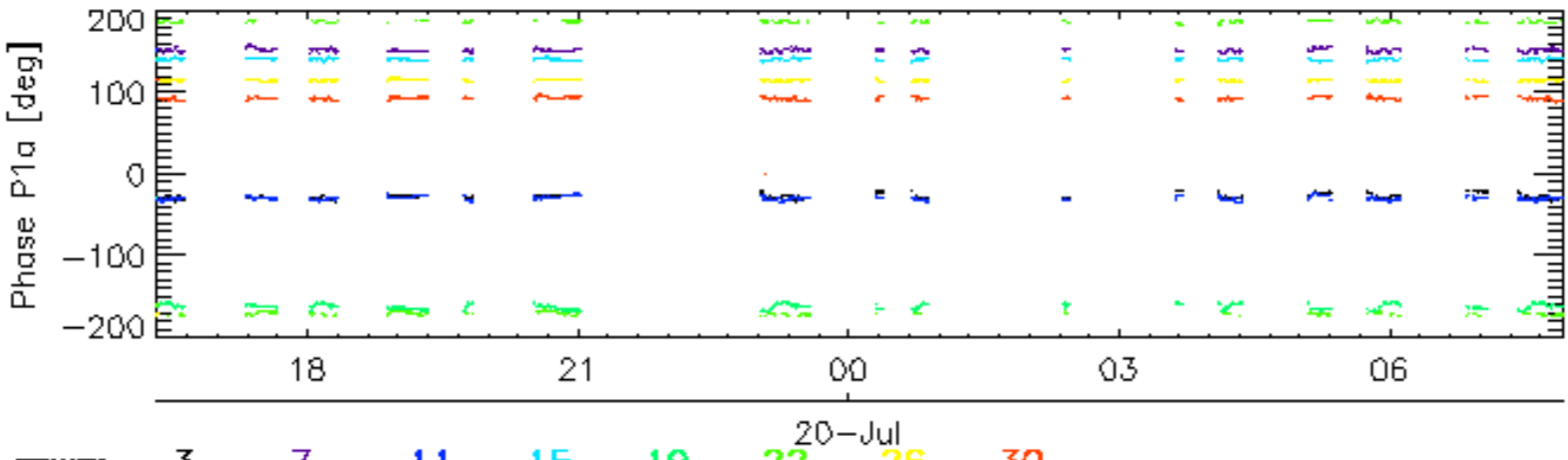
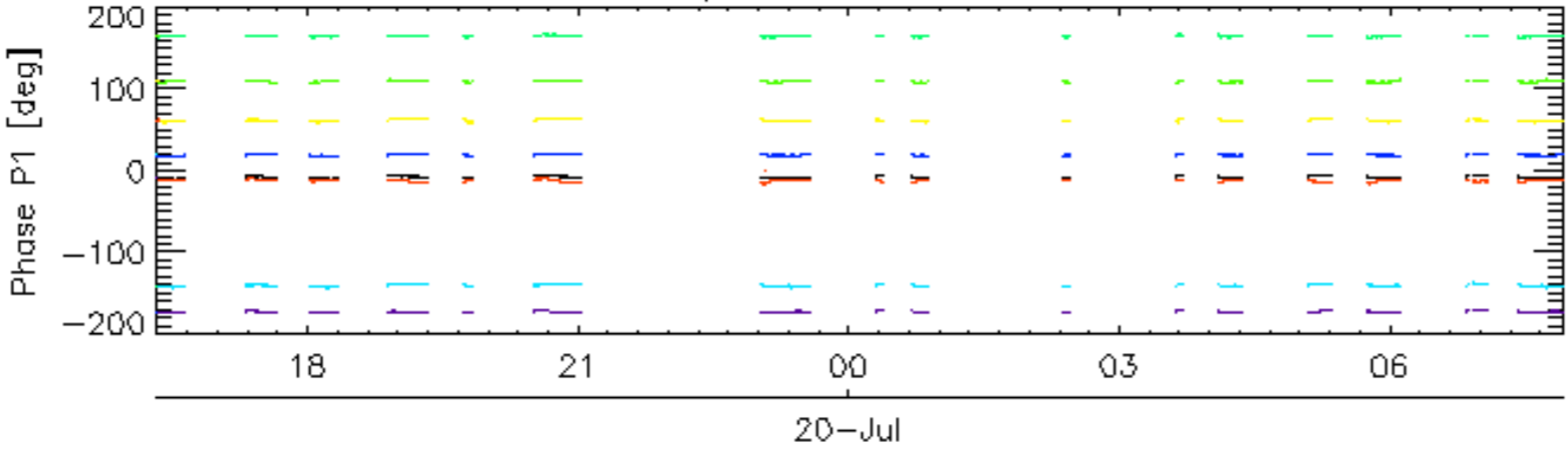


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

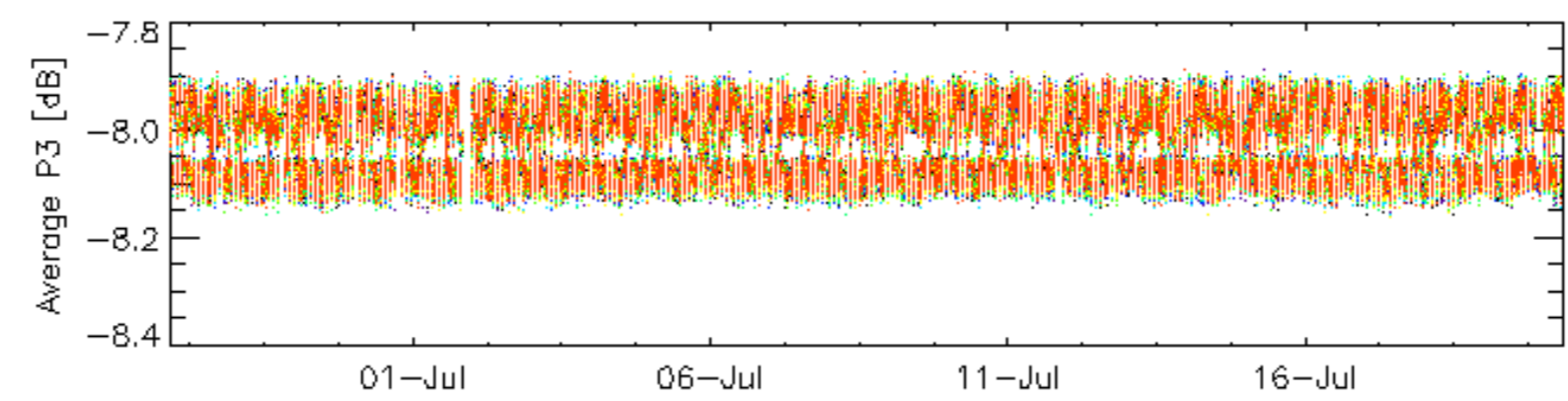
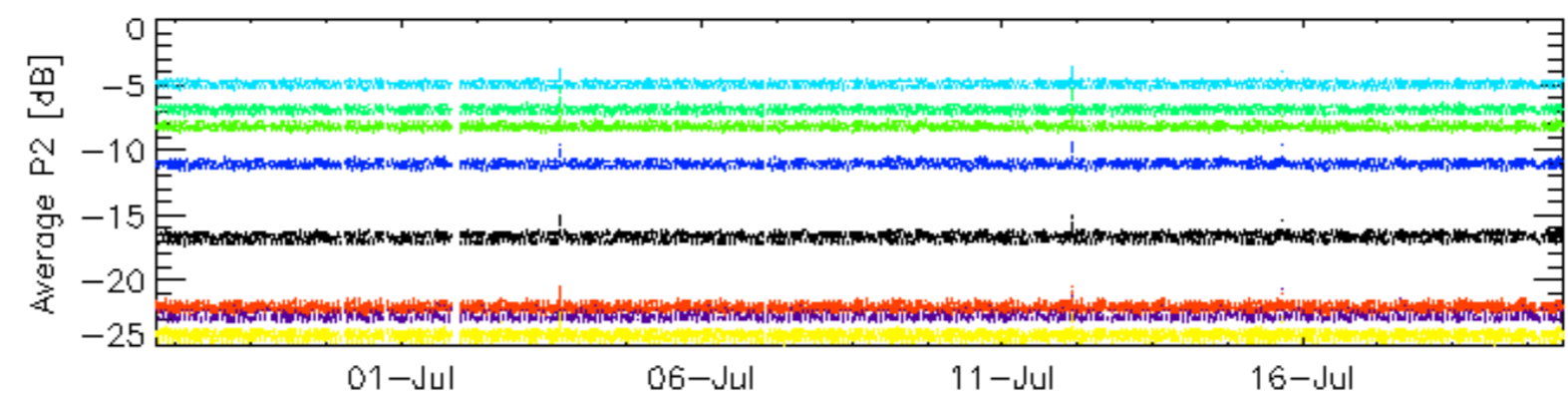
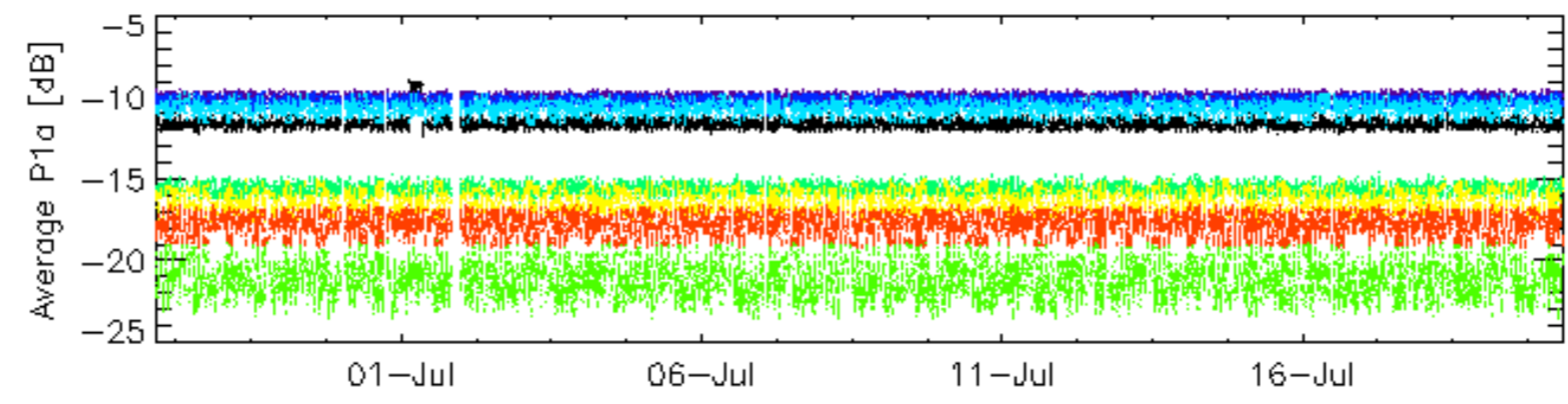
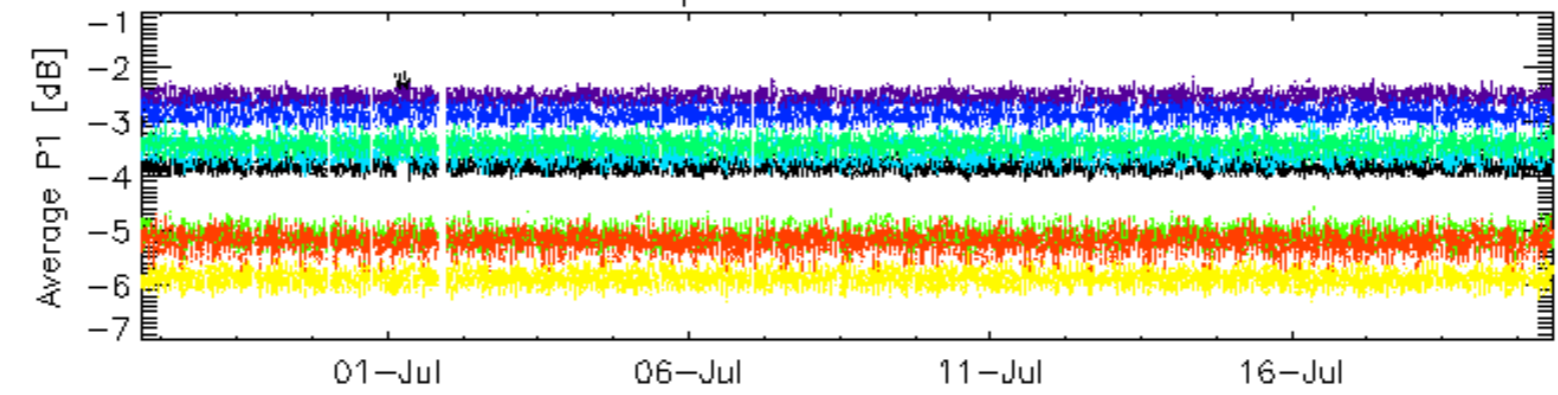


Cal pulses for WVS IS2



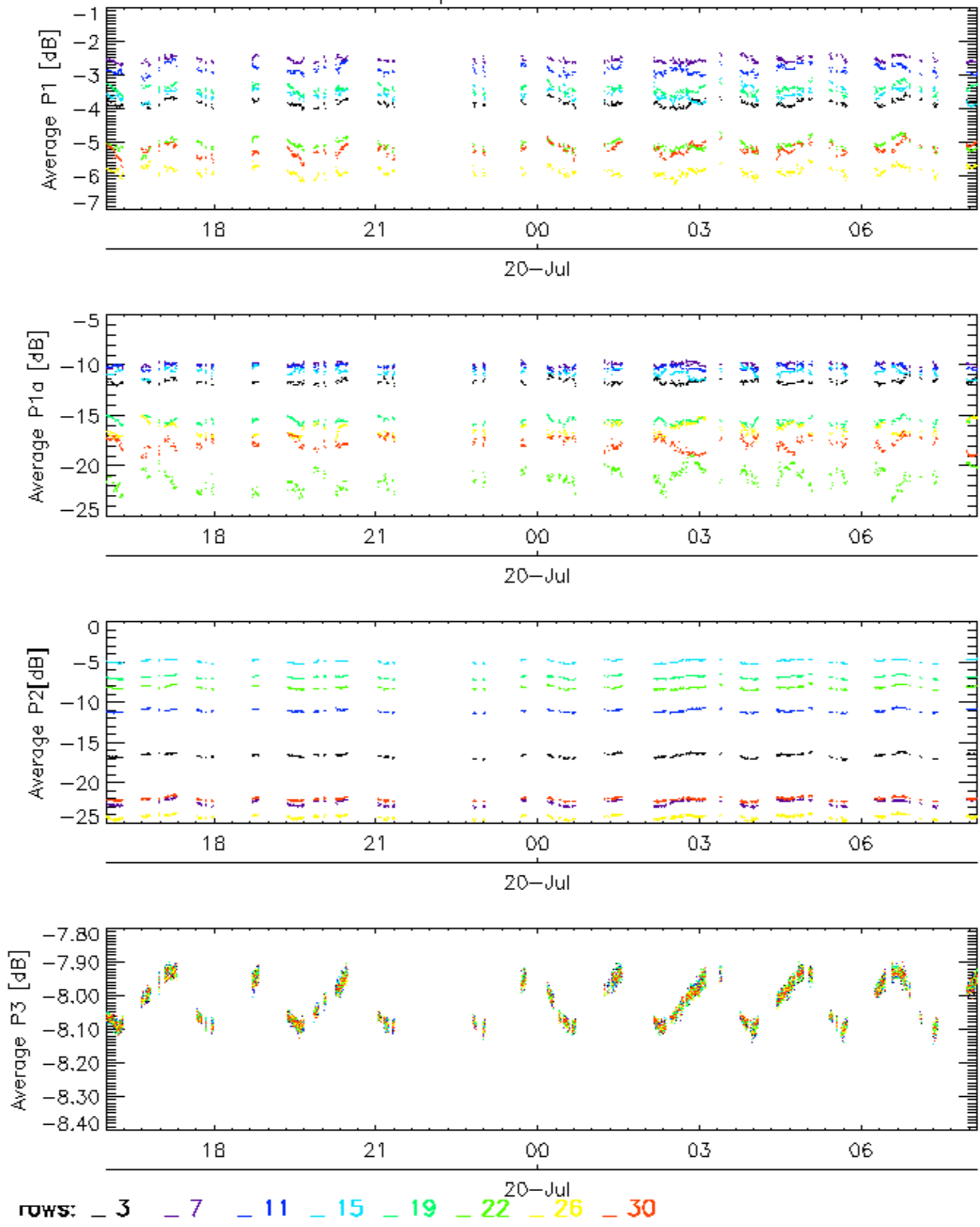
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

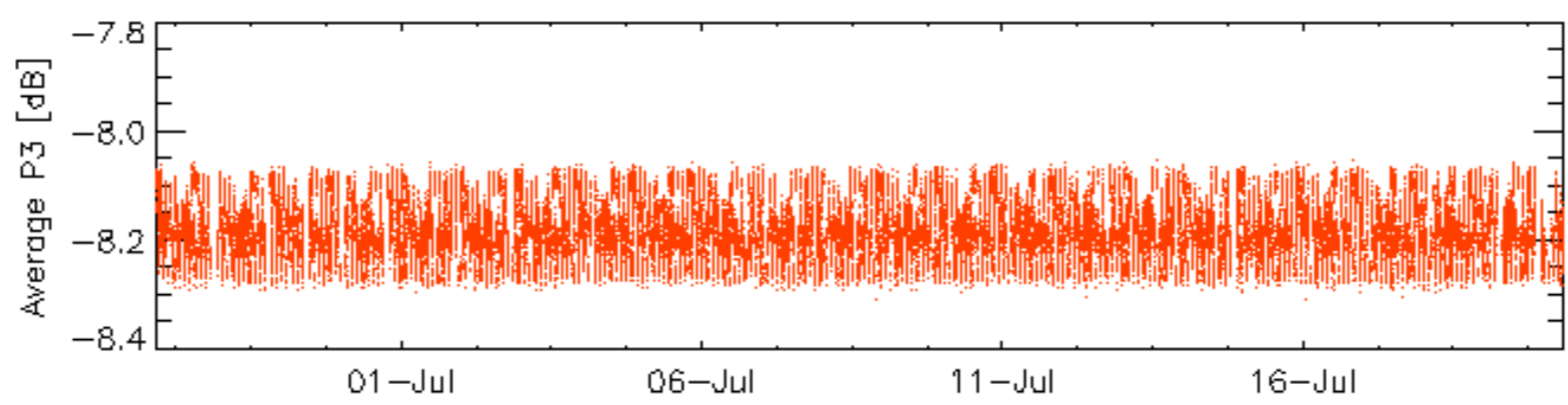
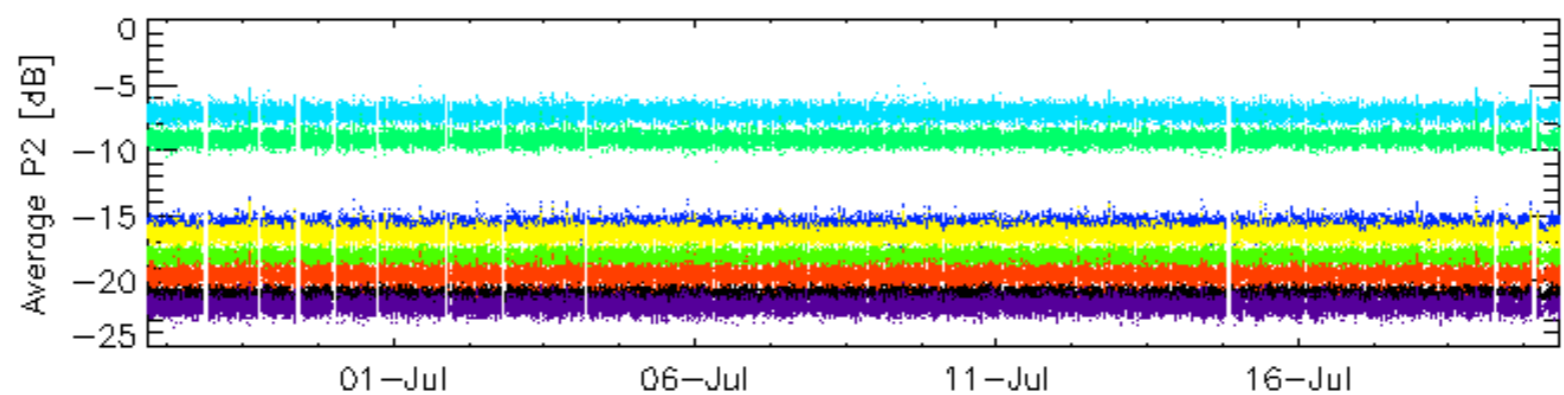
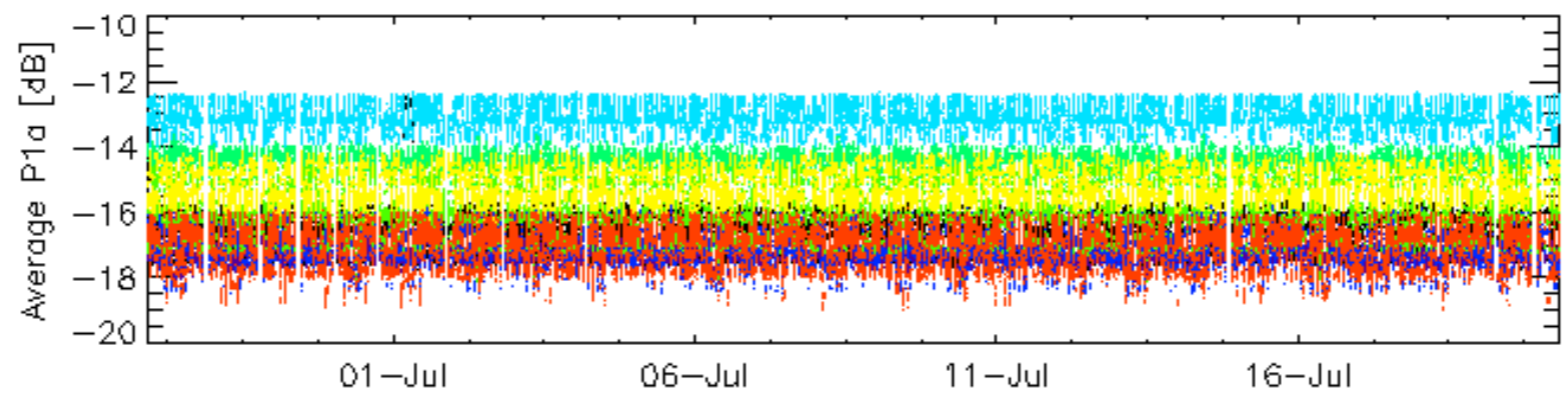
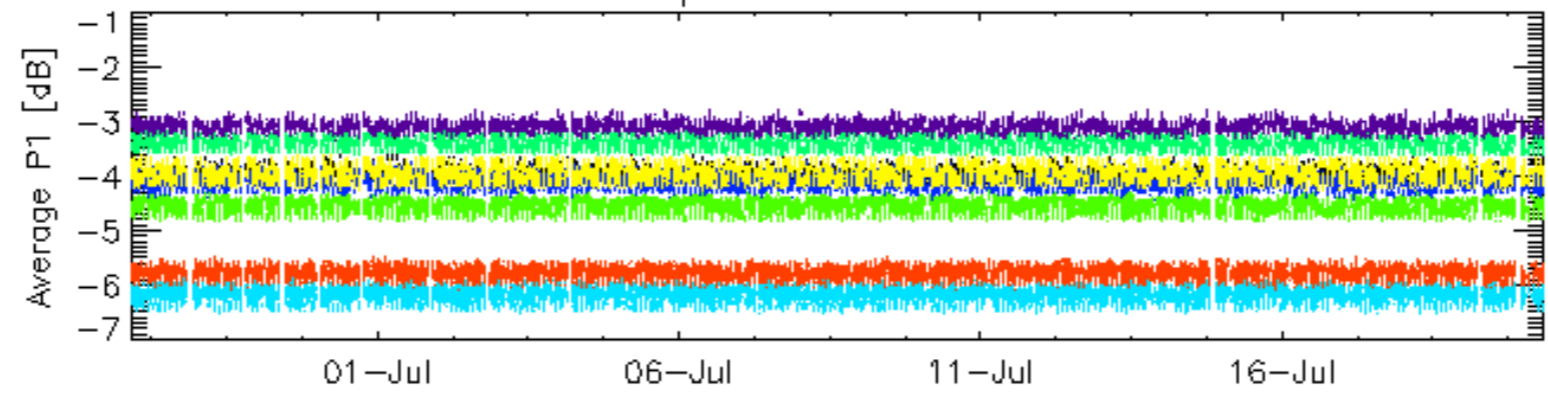


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

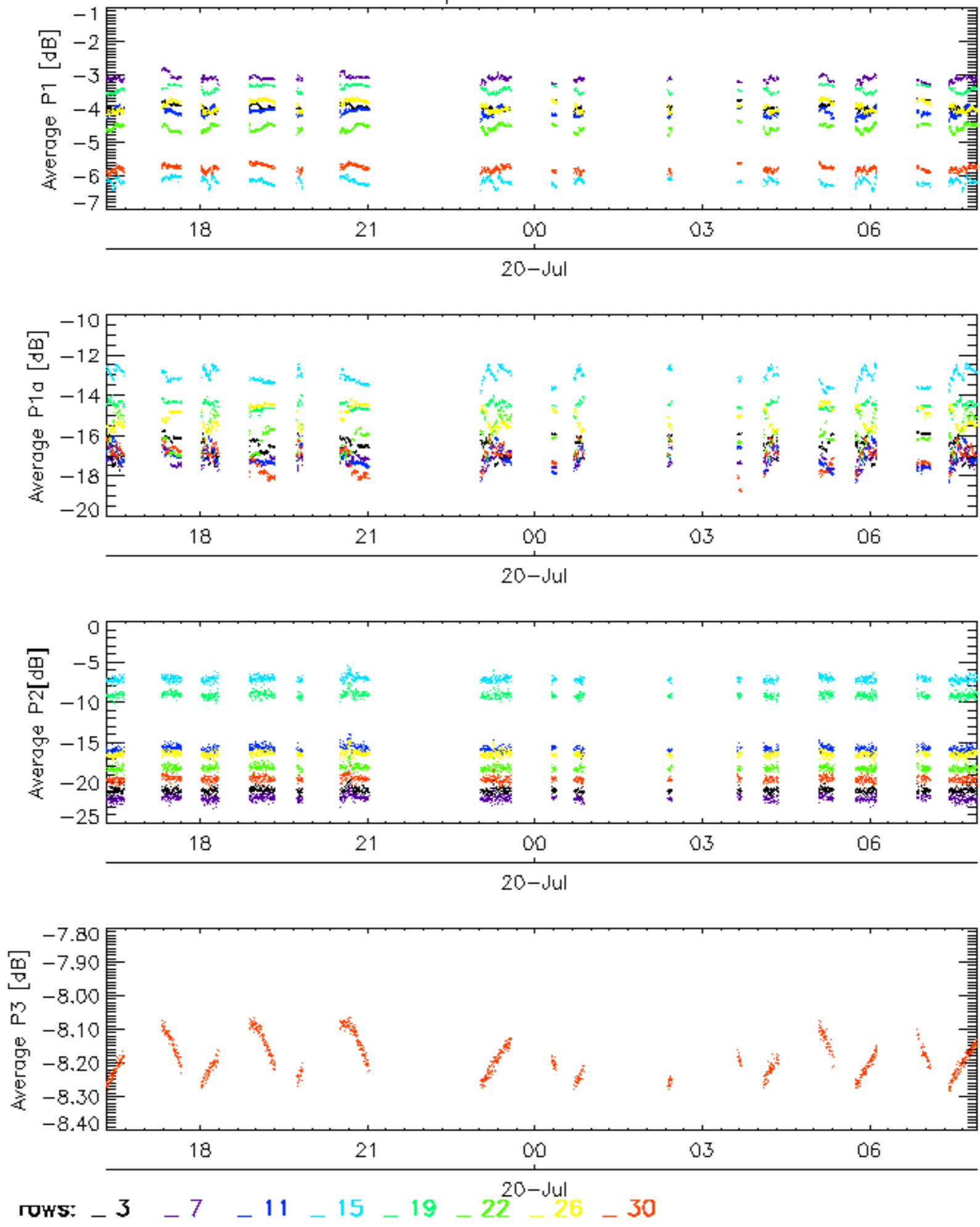


Cal pulses for WVS IS2



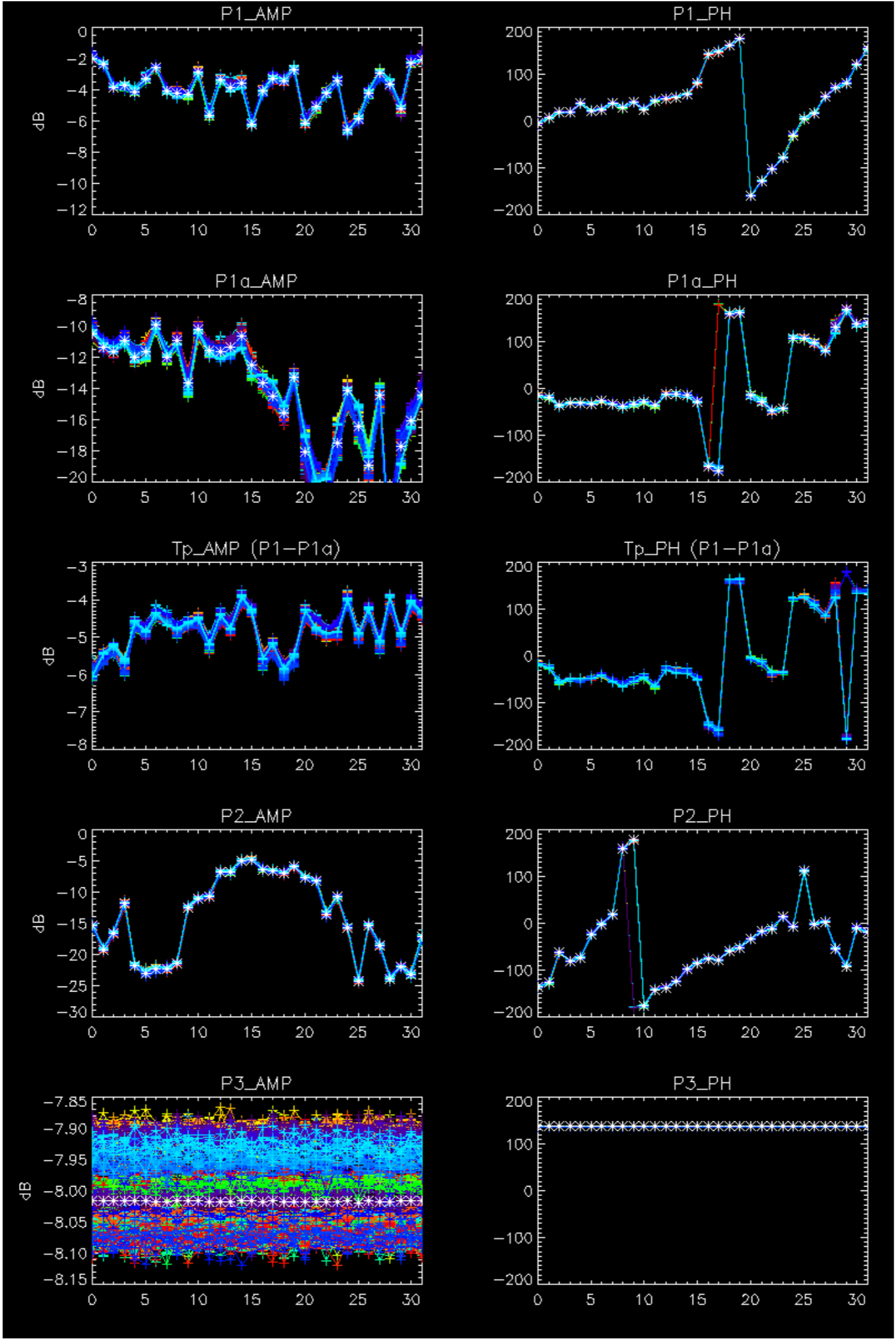
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

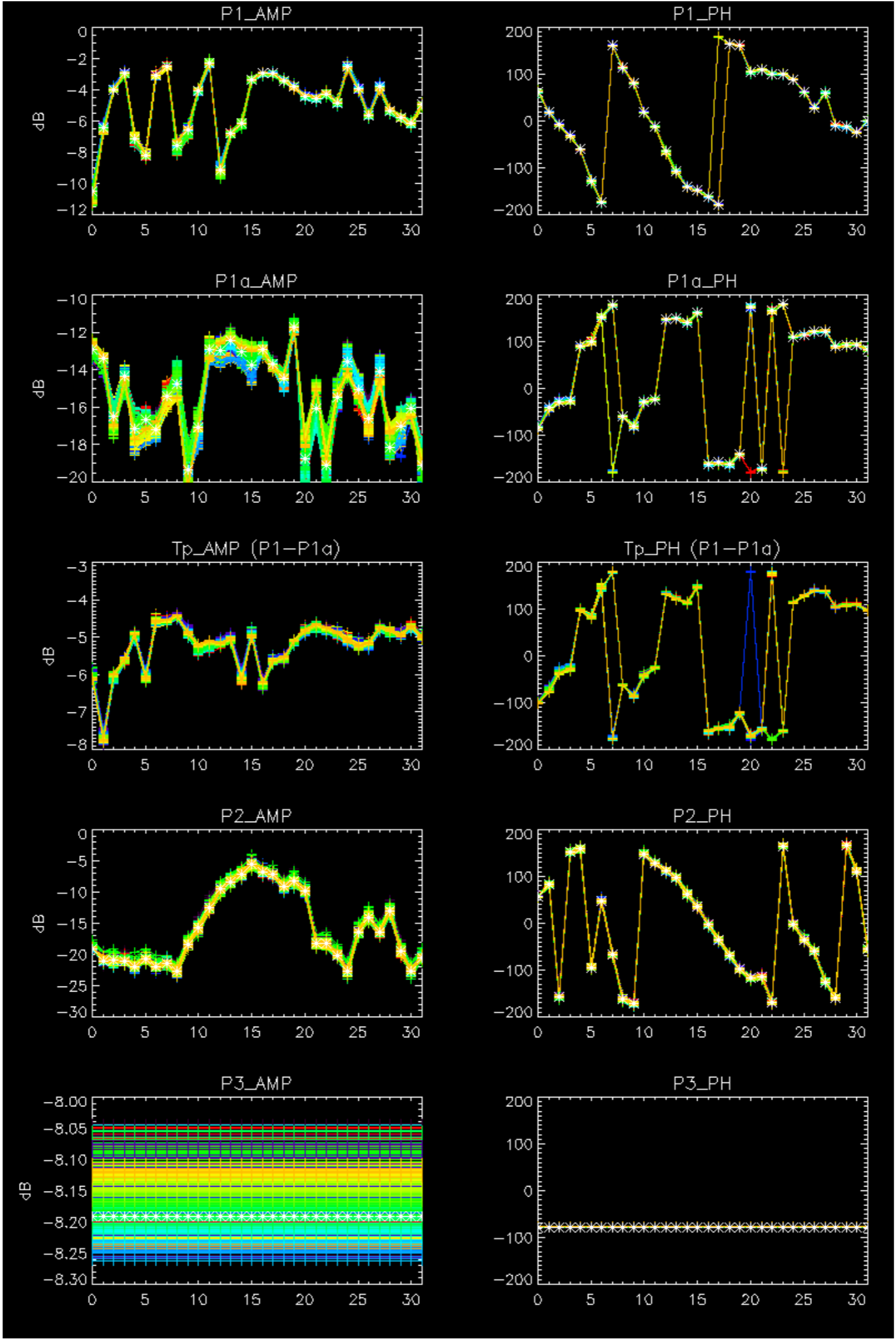
Cal pulses for WVS IS2



No anomalies observed.



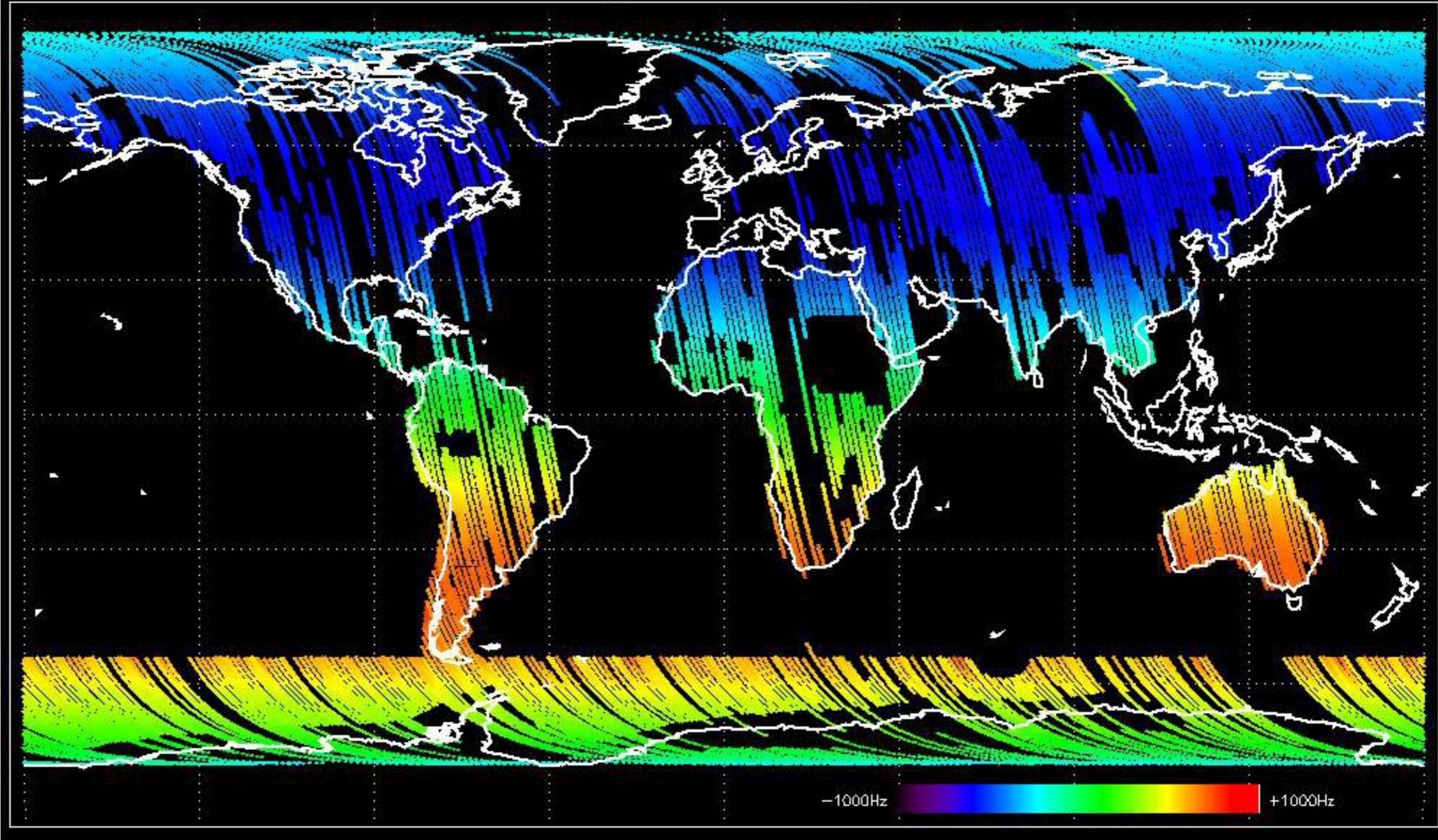




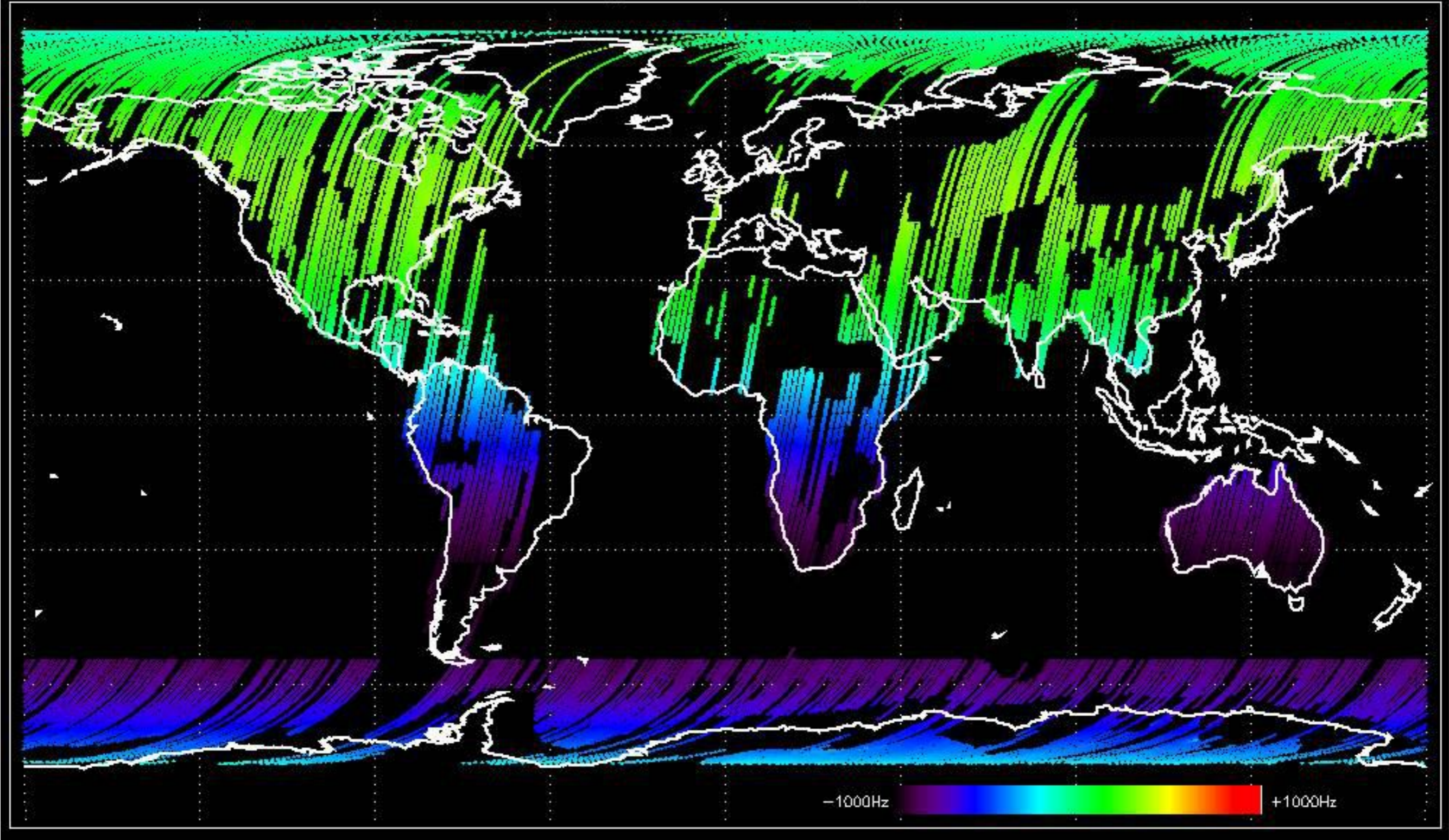
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



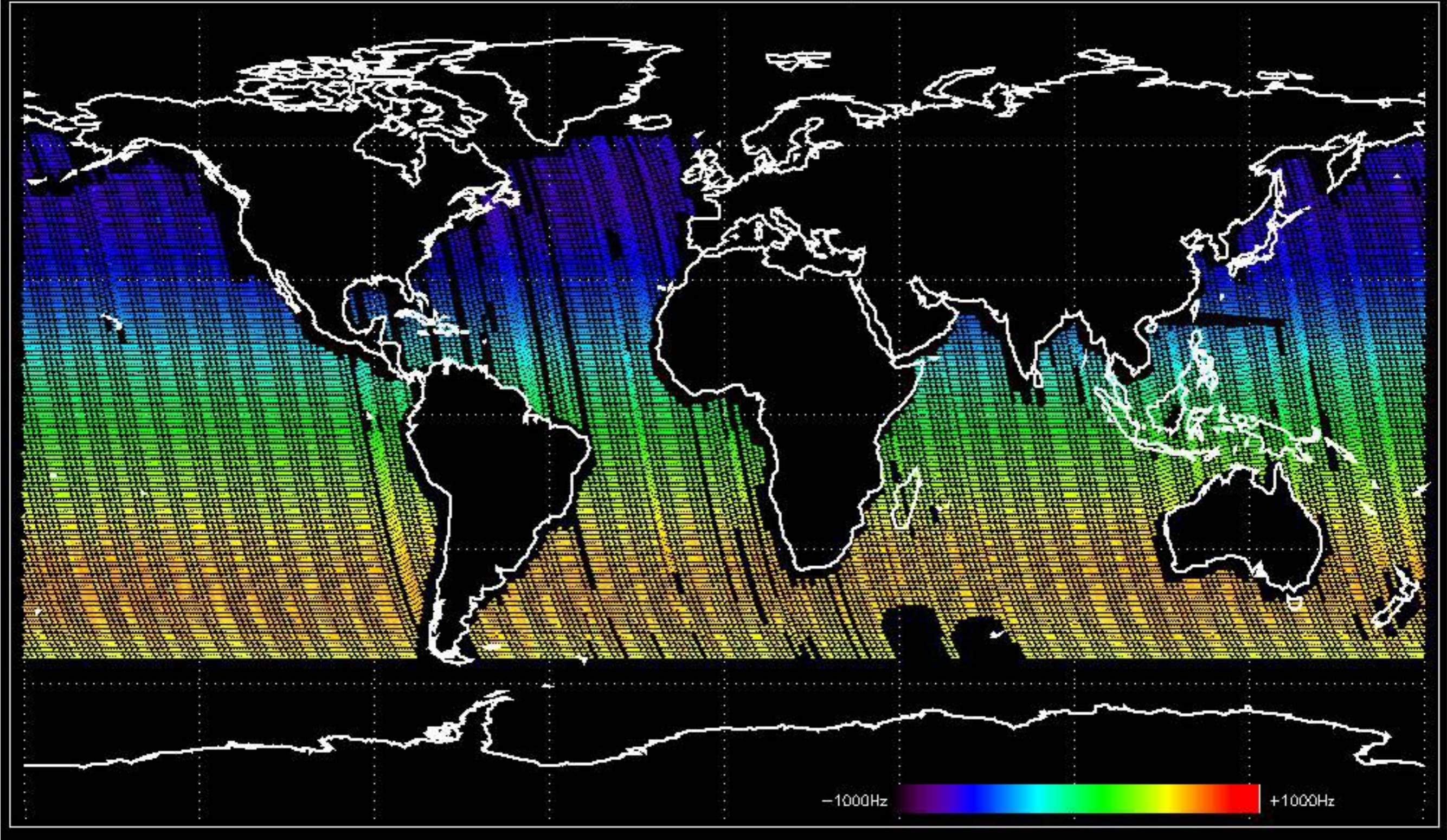
Doppler 'GM1' 'SS1' ascending



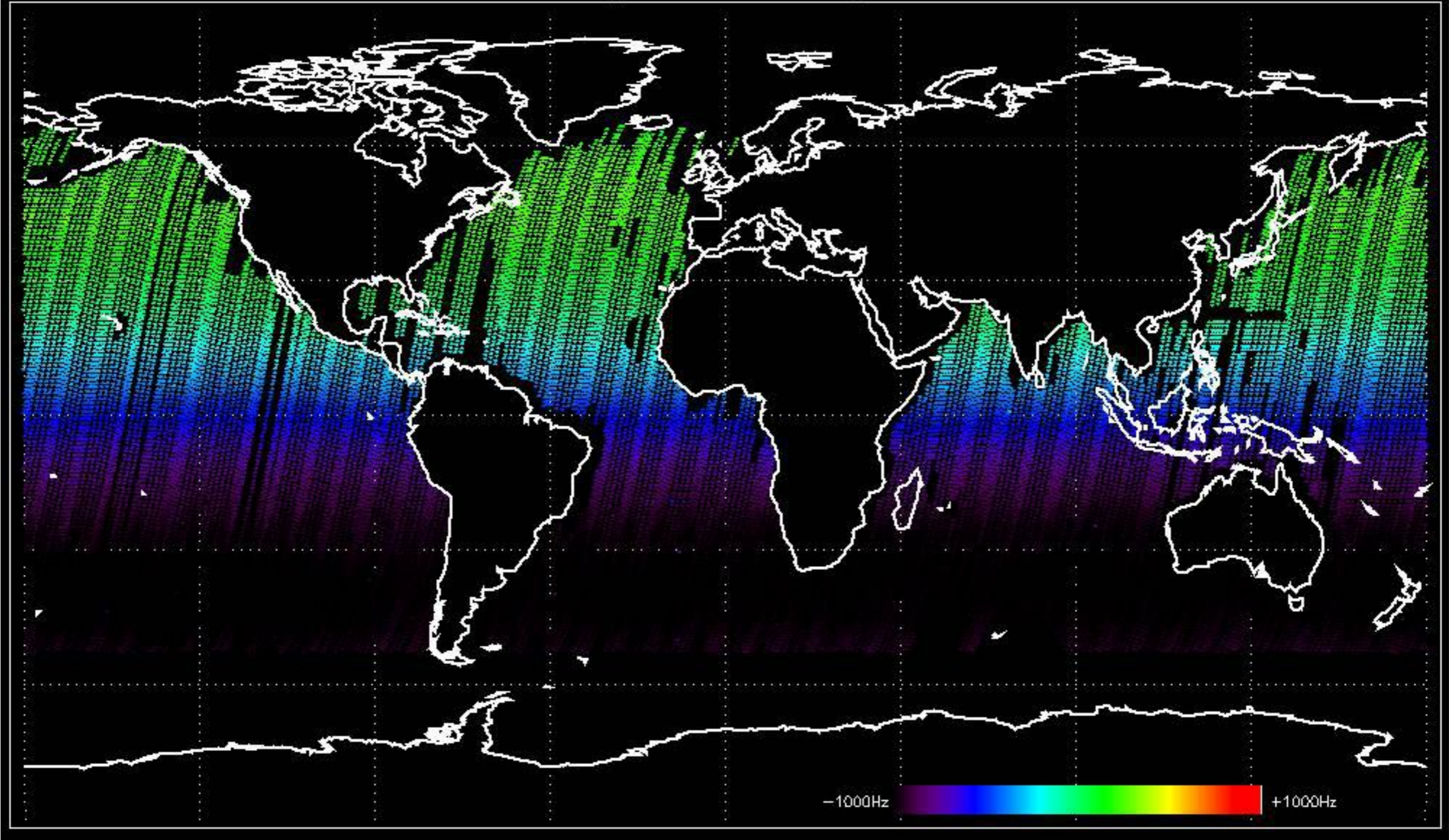
Doppler 'GM1' 'SS1' descending



Doppler 'WVS' 'IS2' ascending

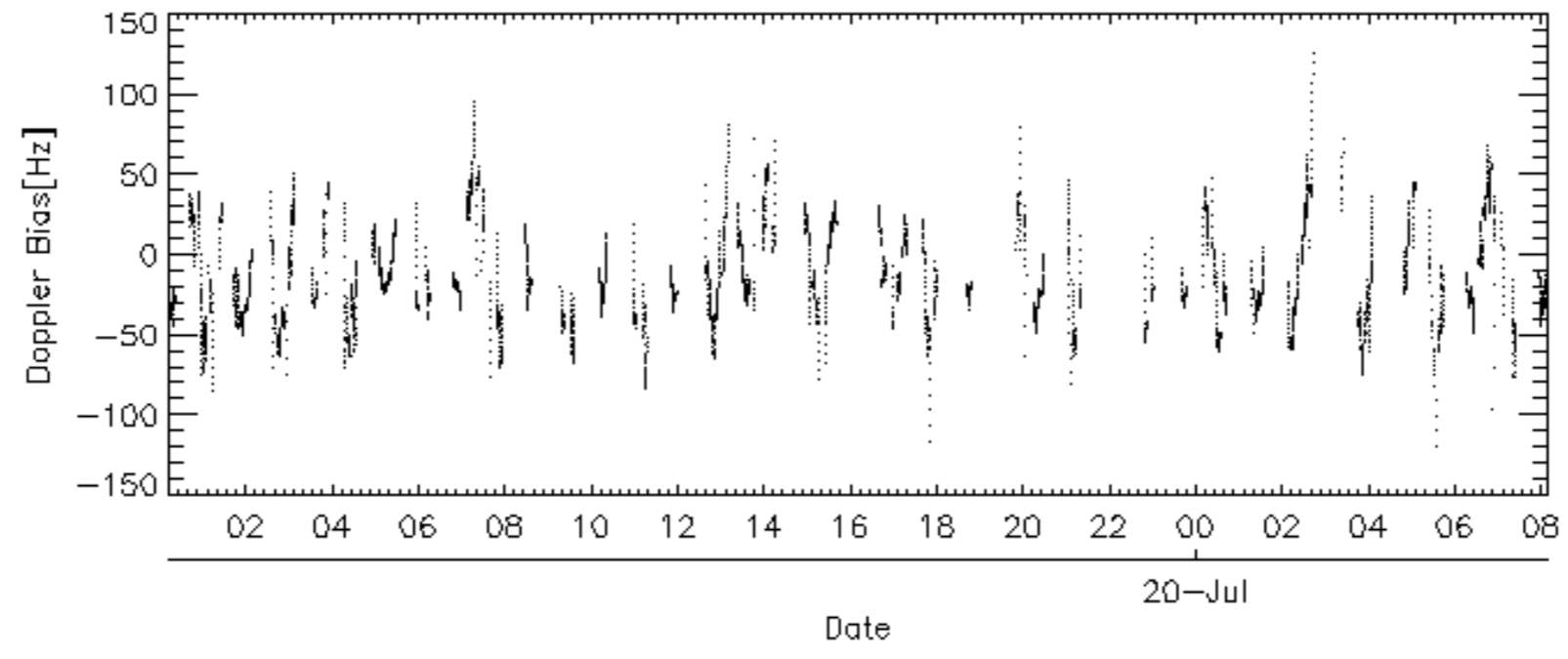
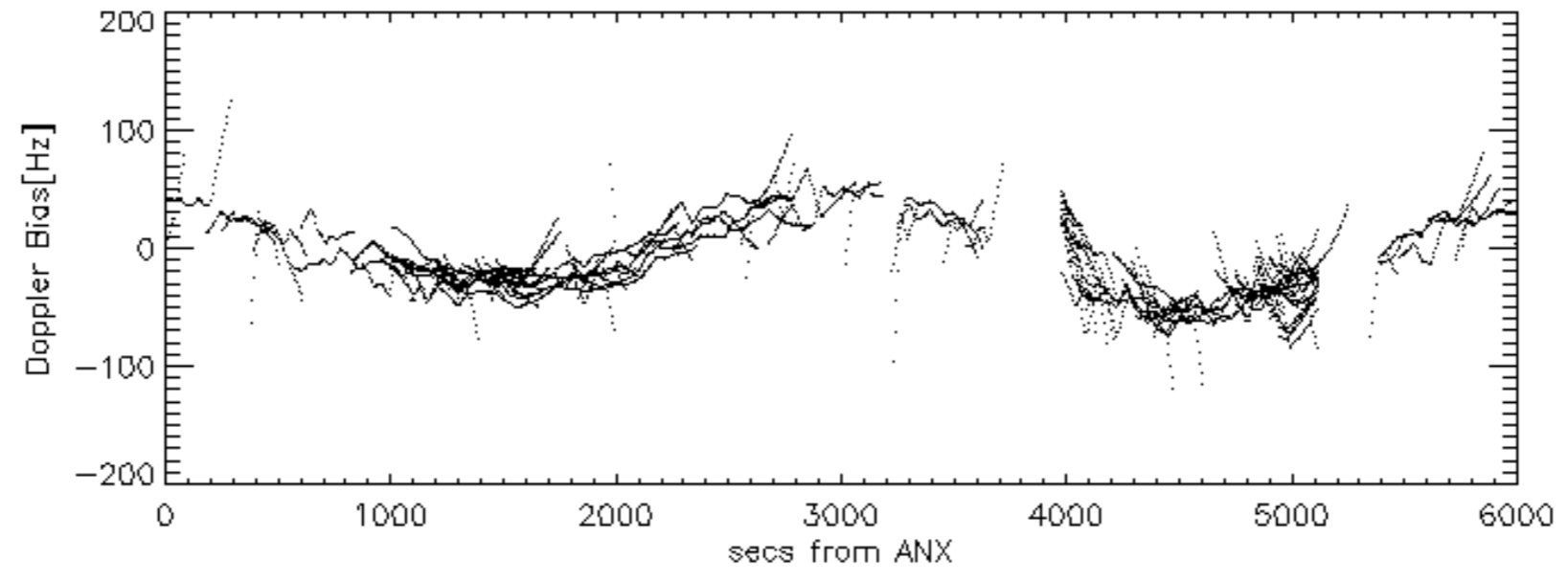
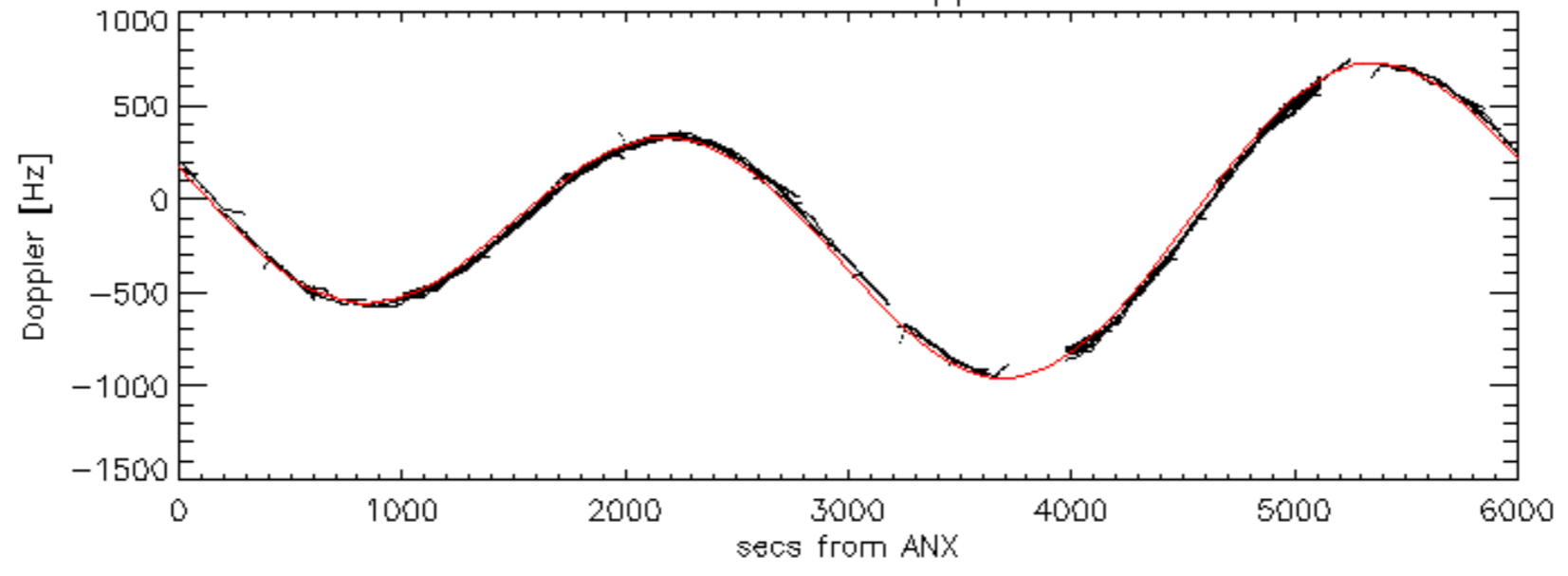


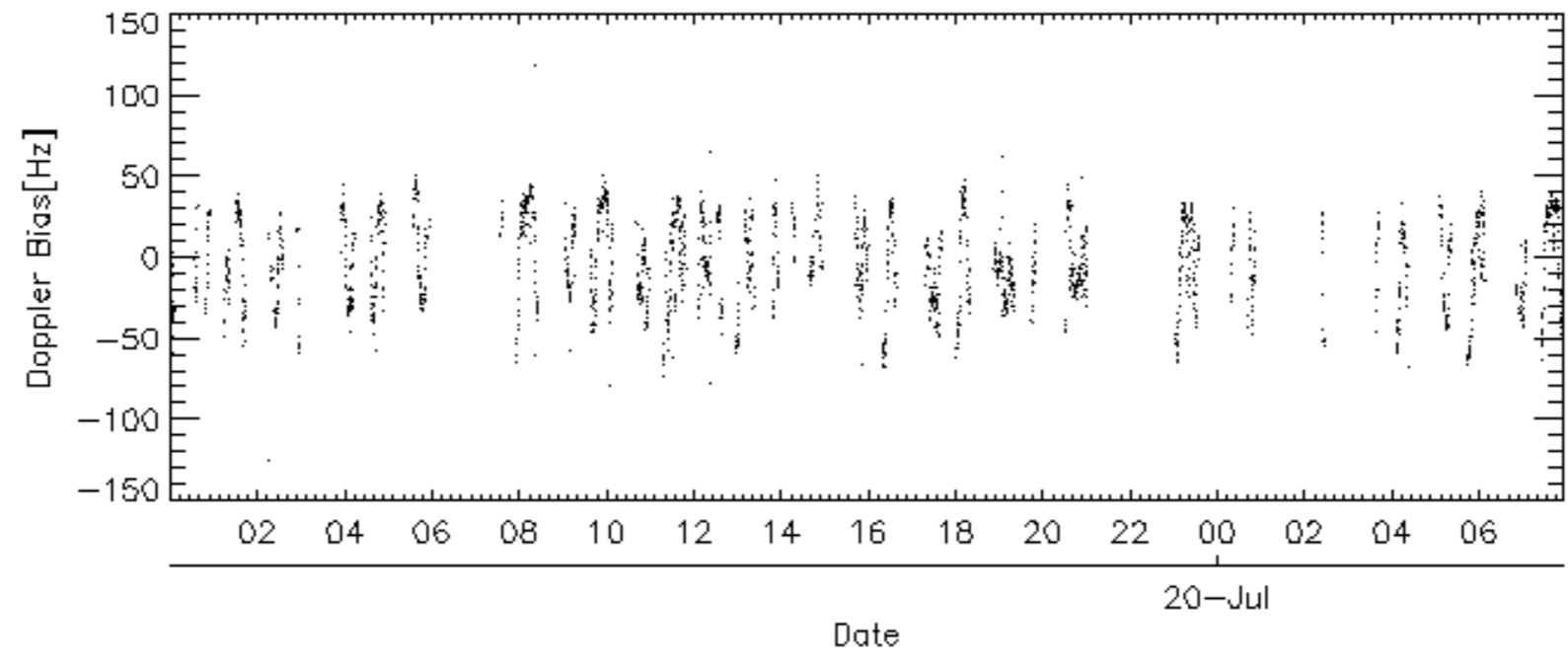
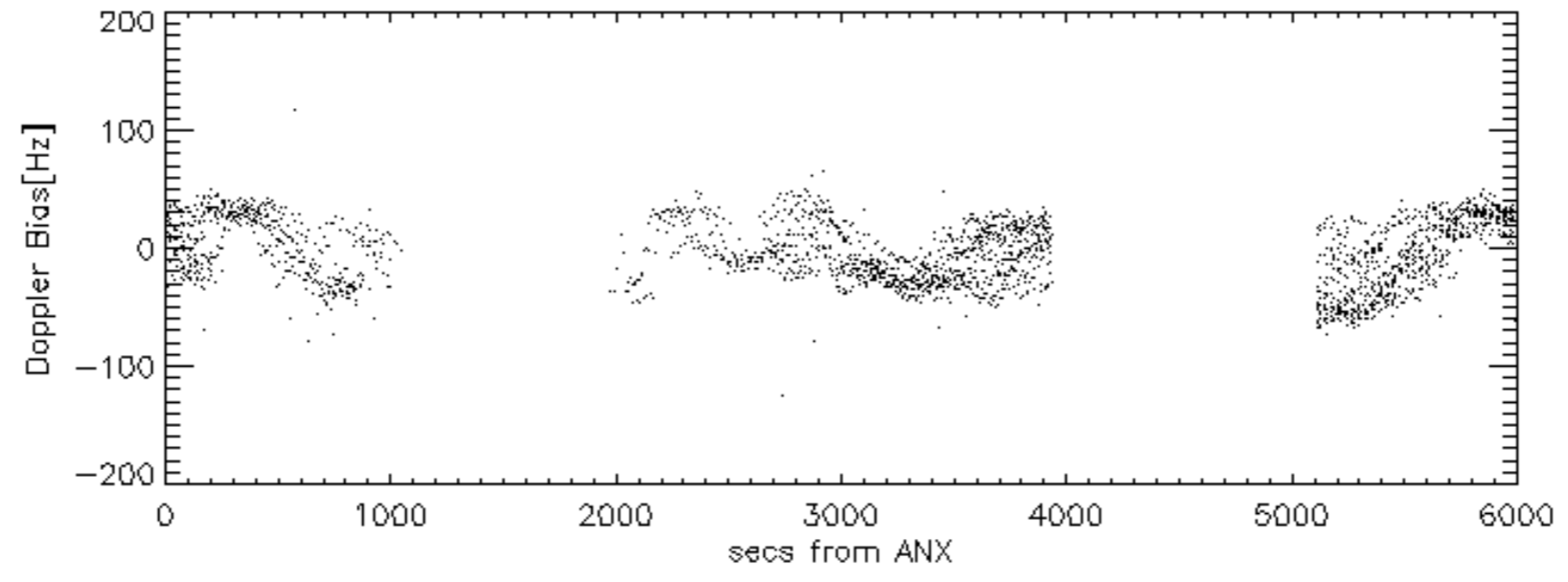
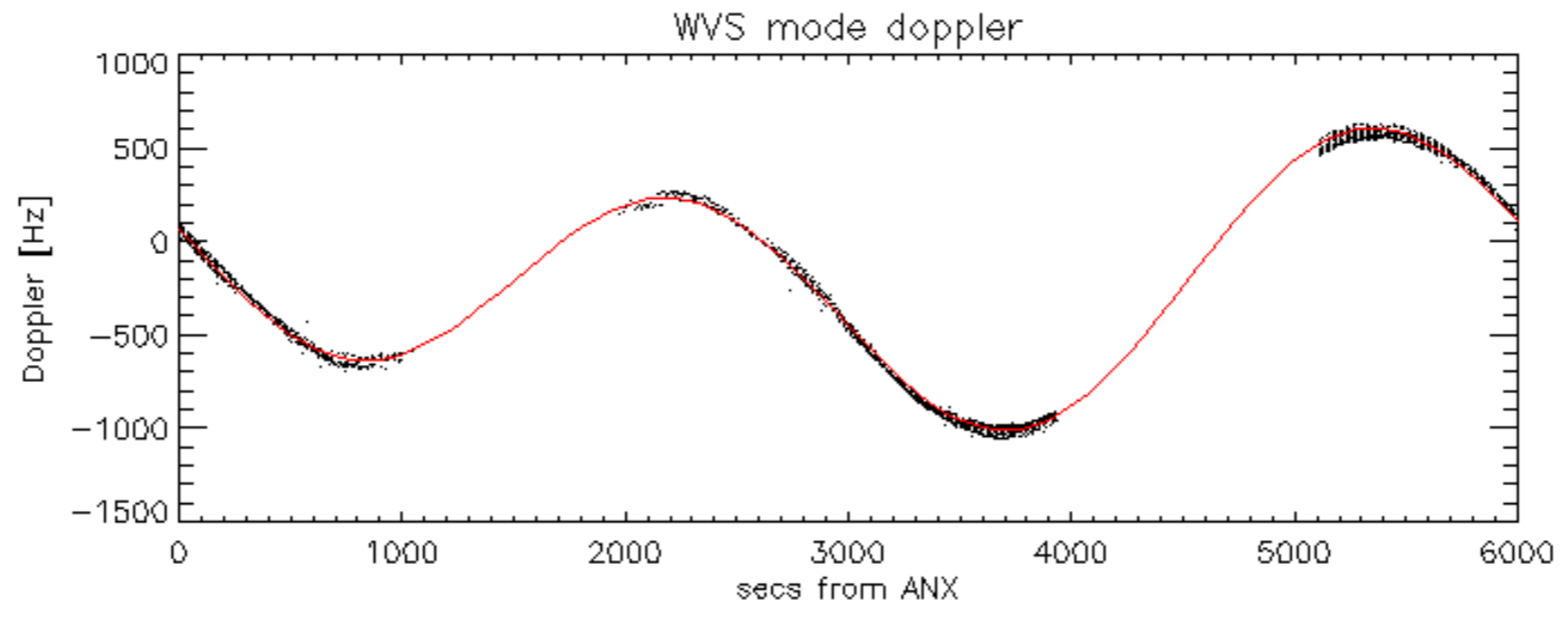
Doppler 'WVS' 'IS2' descending



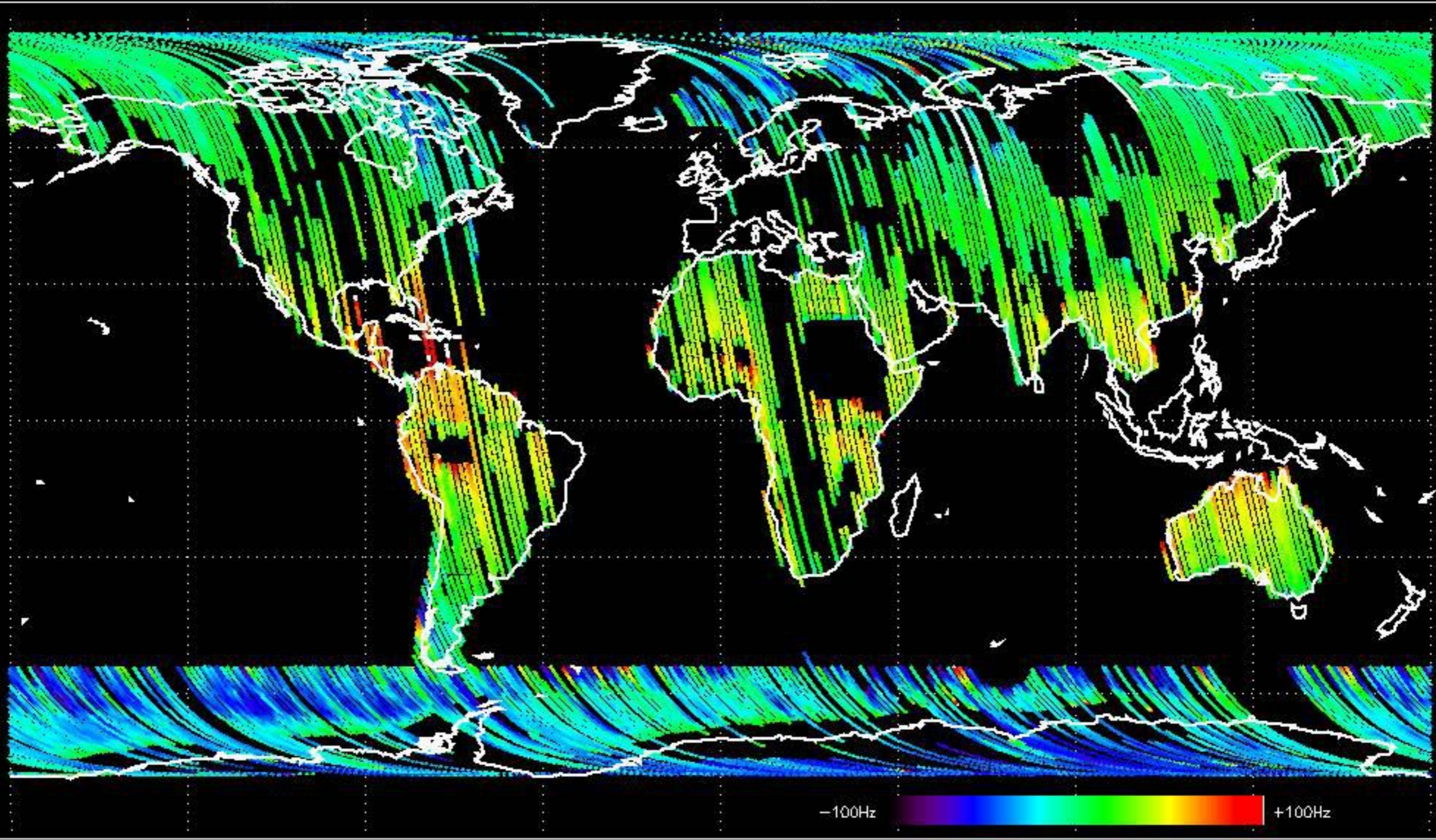


GM1 mode doppler

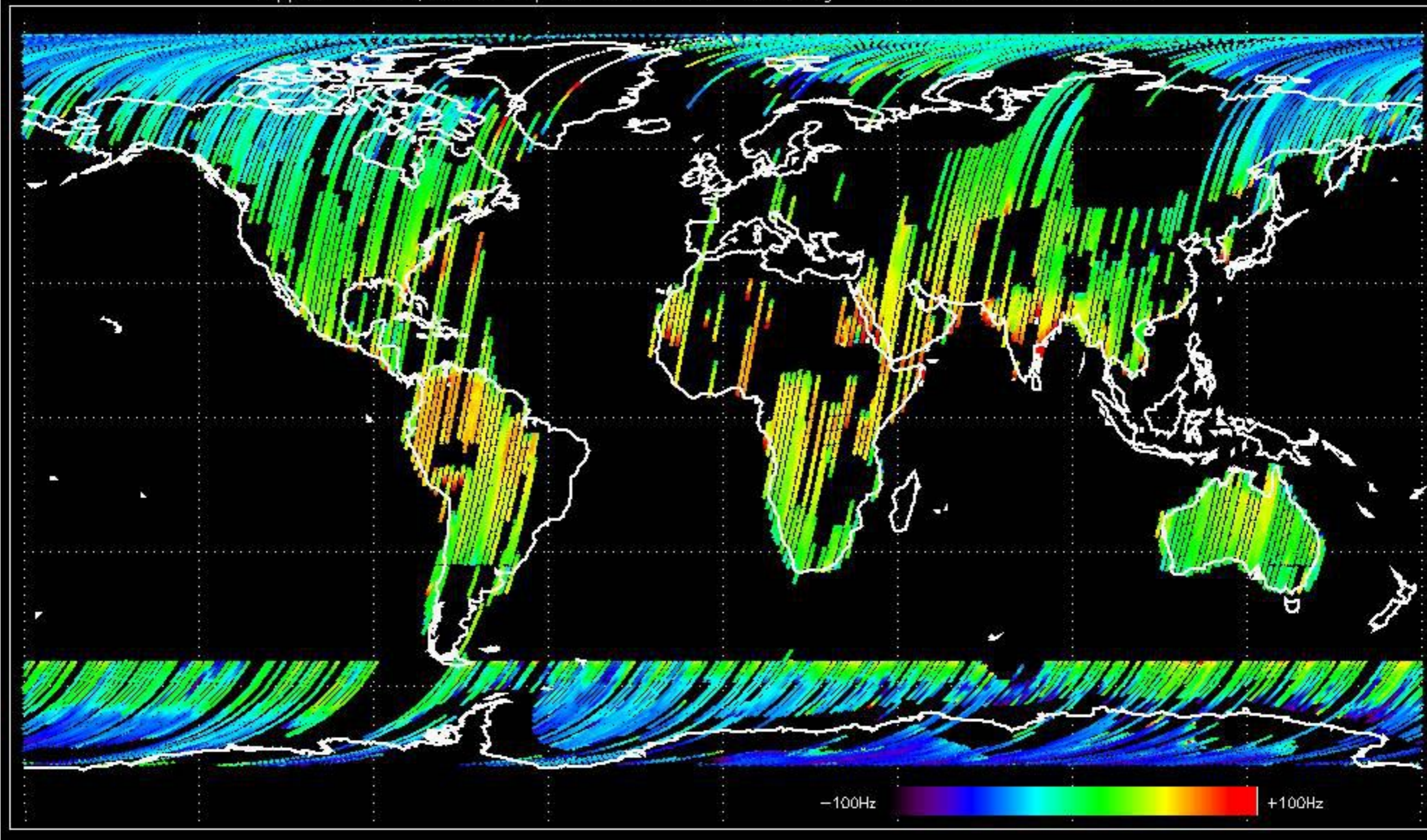




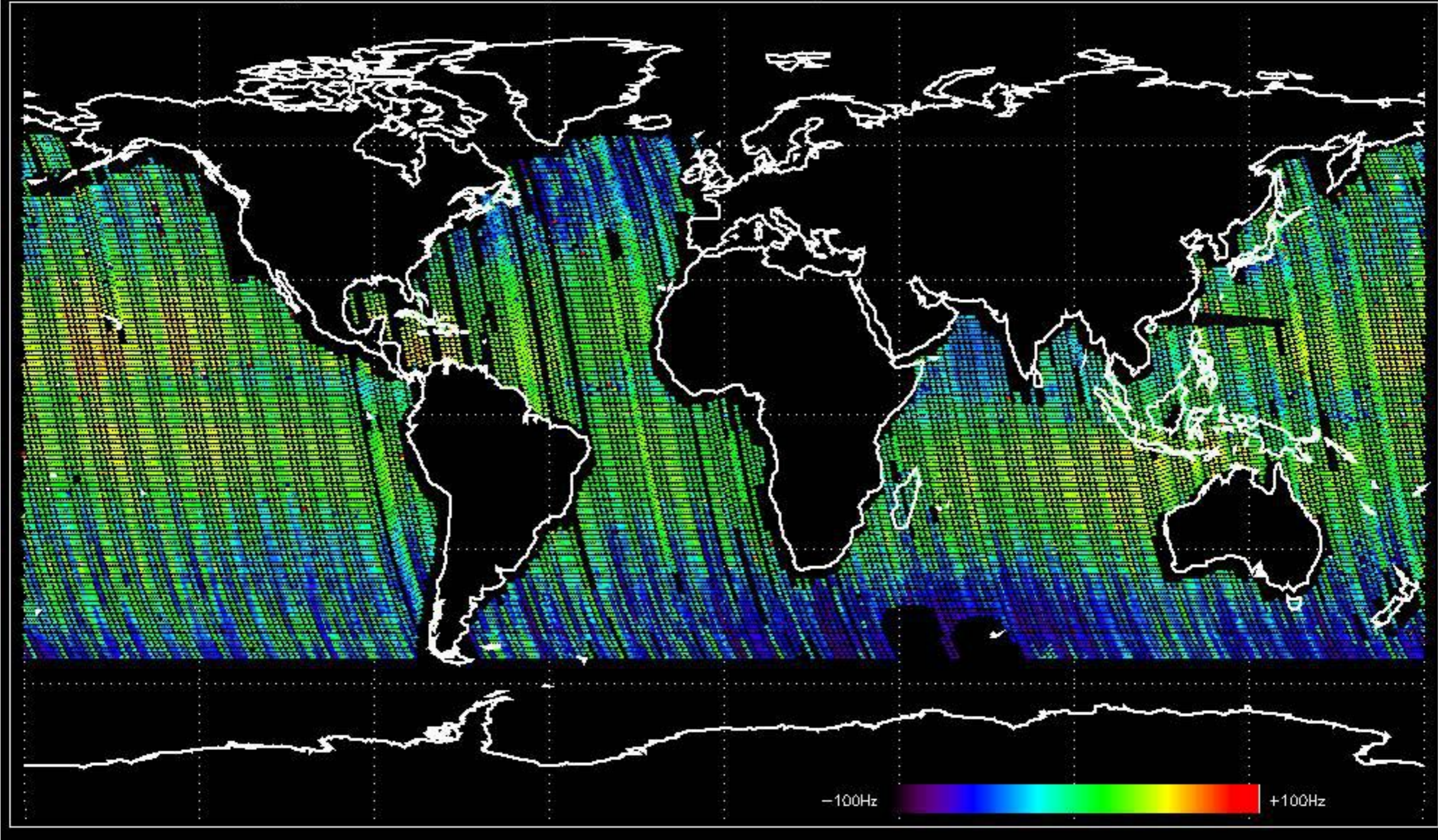
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -18.115034 Hz



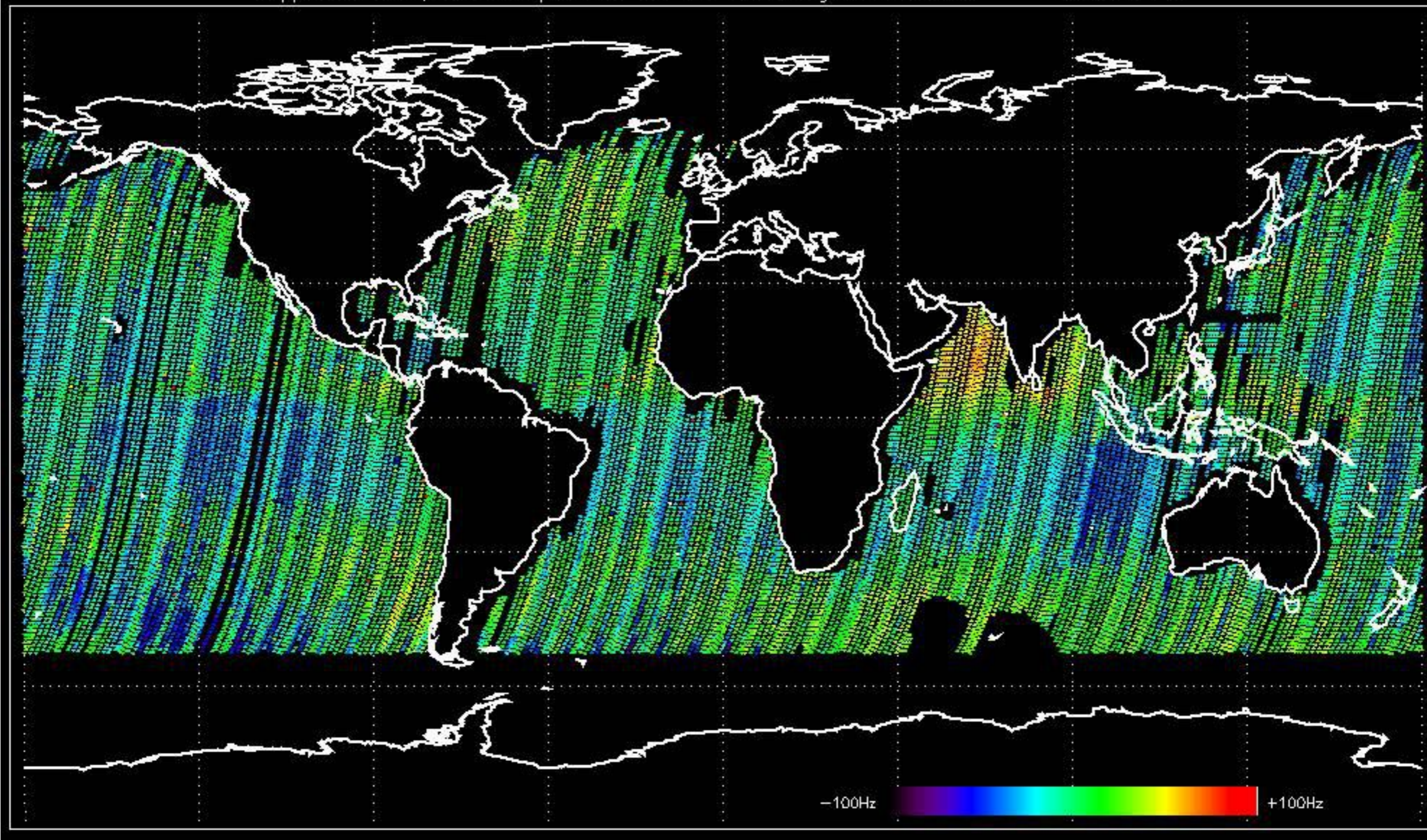
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -7.0028317 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -2.3359797 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -10.154282 Hz



No anomalies observed on available MS products:

No anomalies observed.



















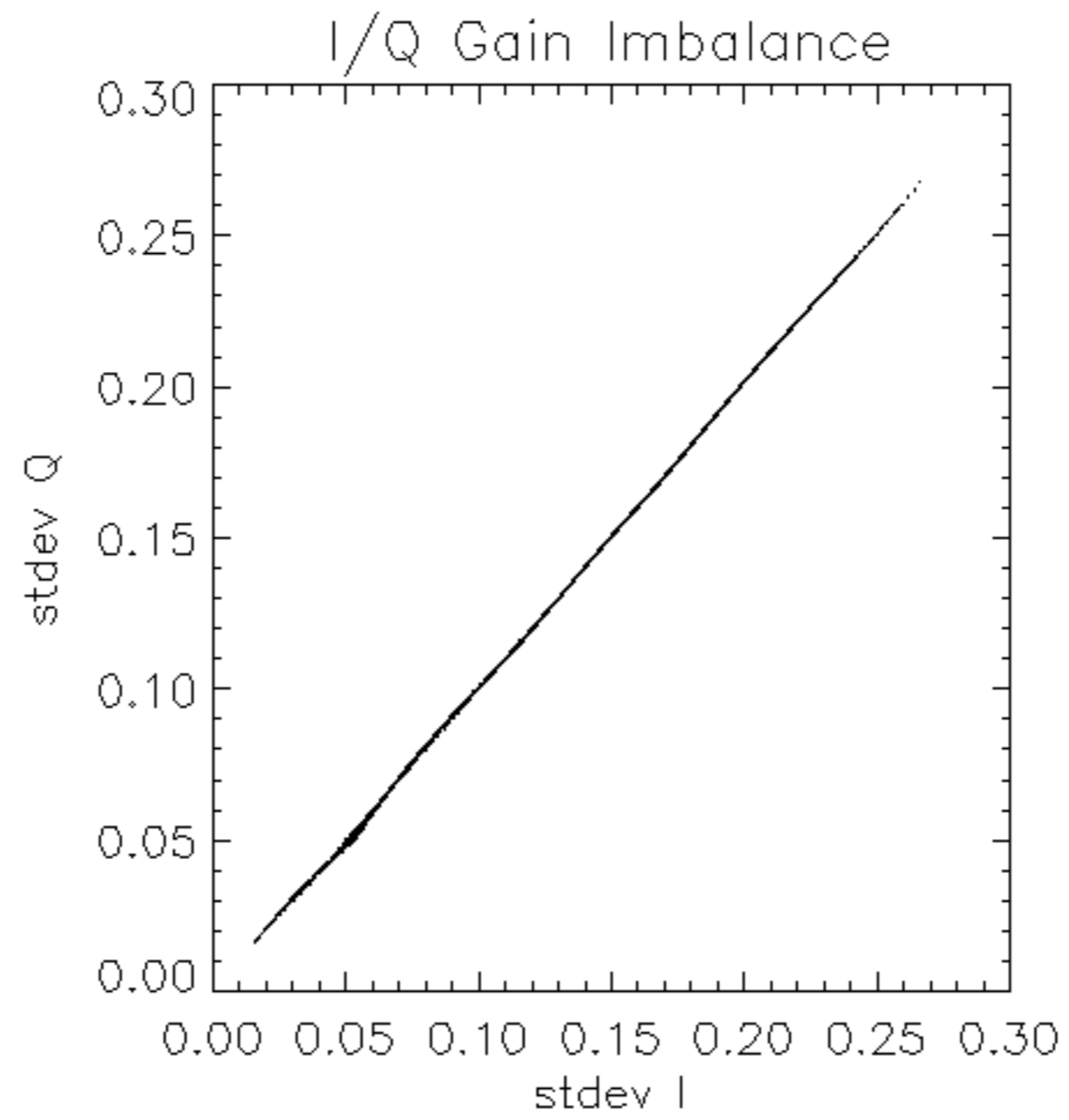


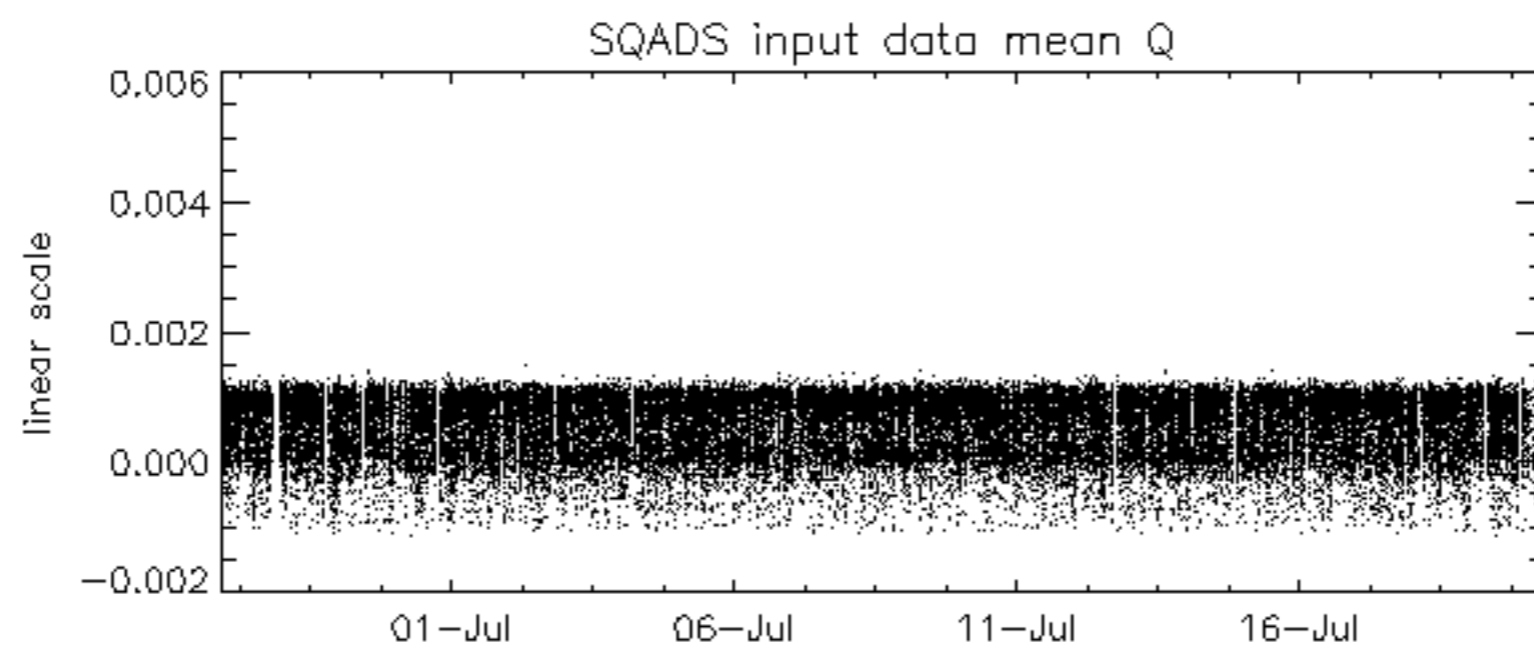
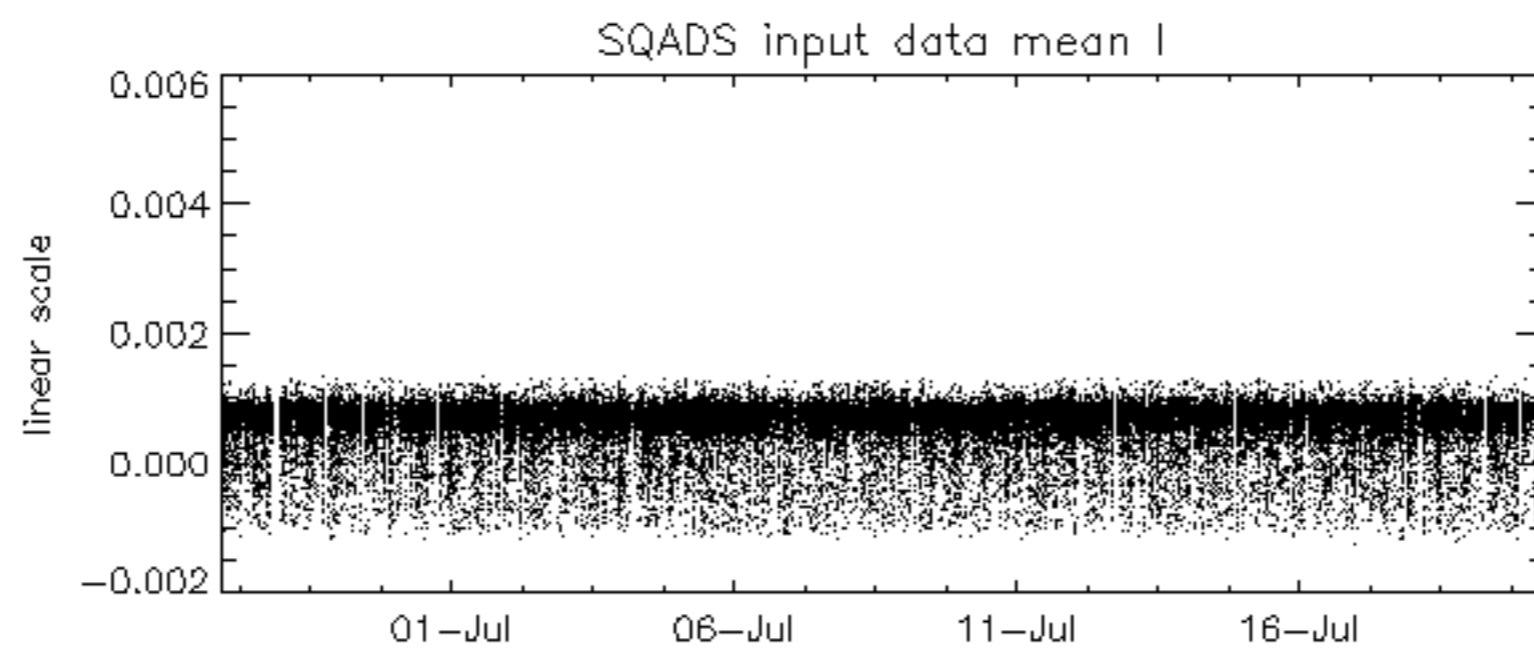
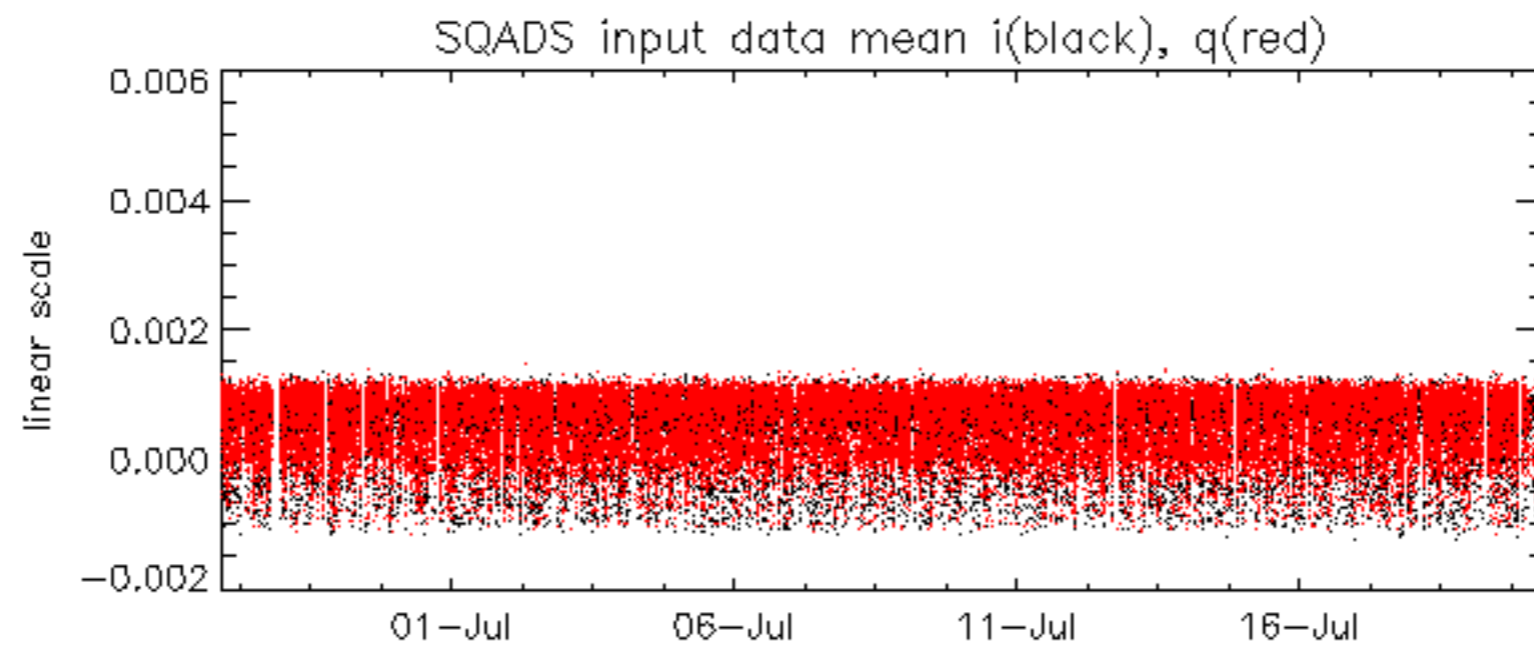


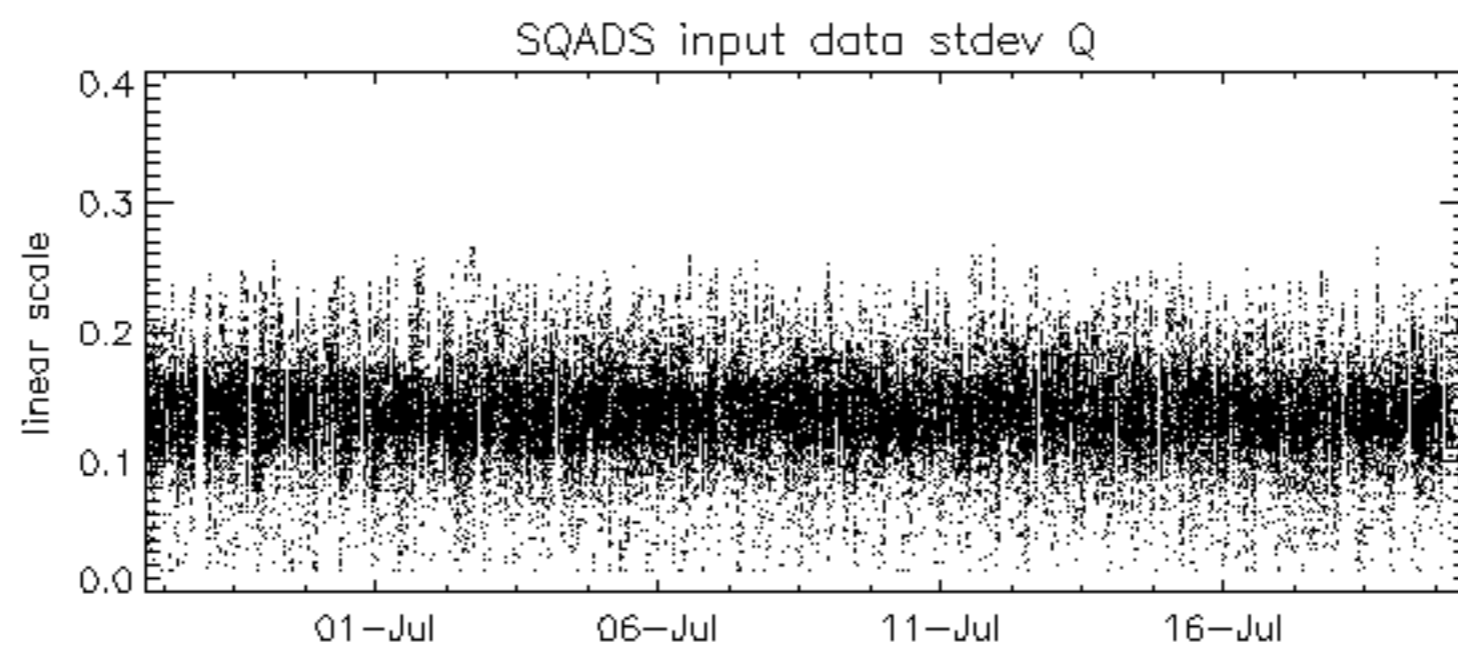
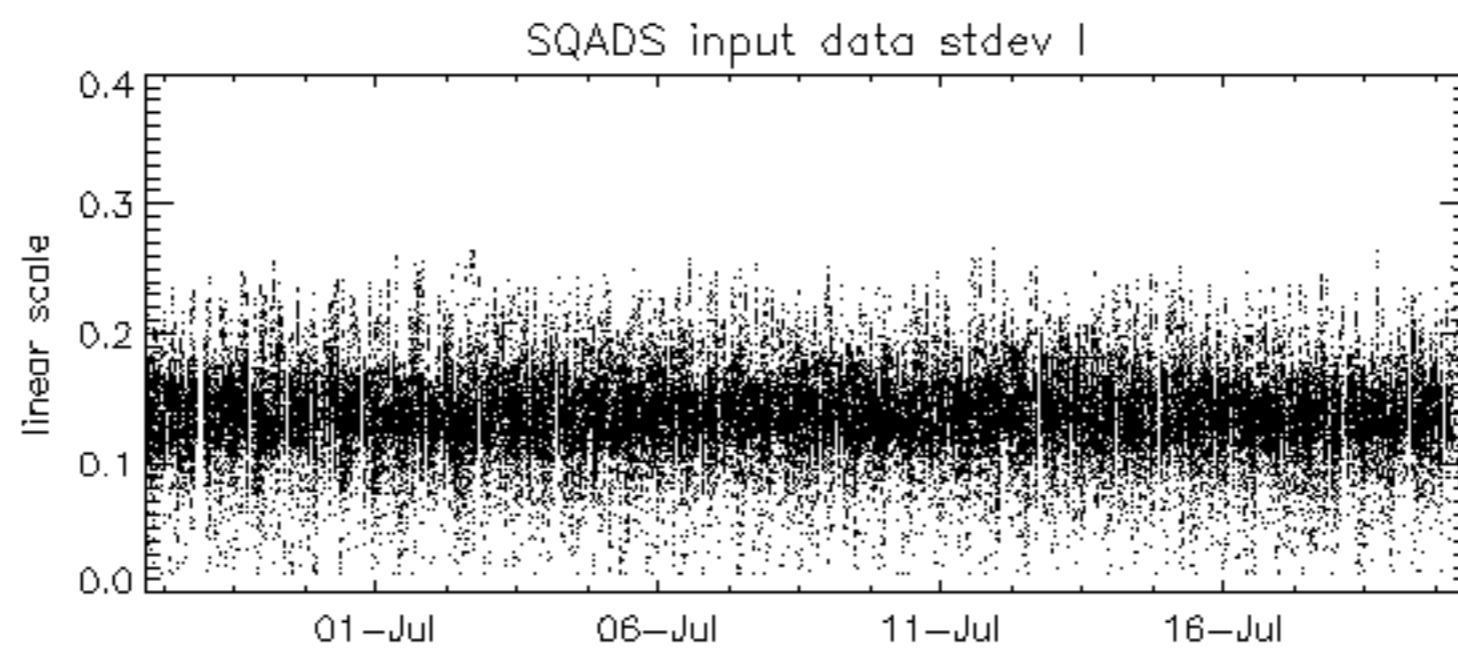
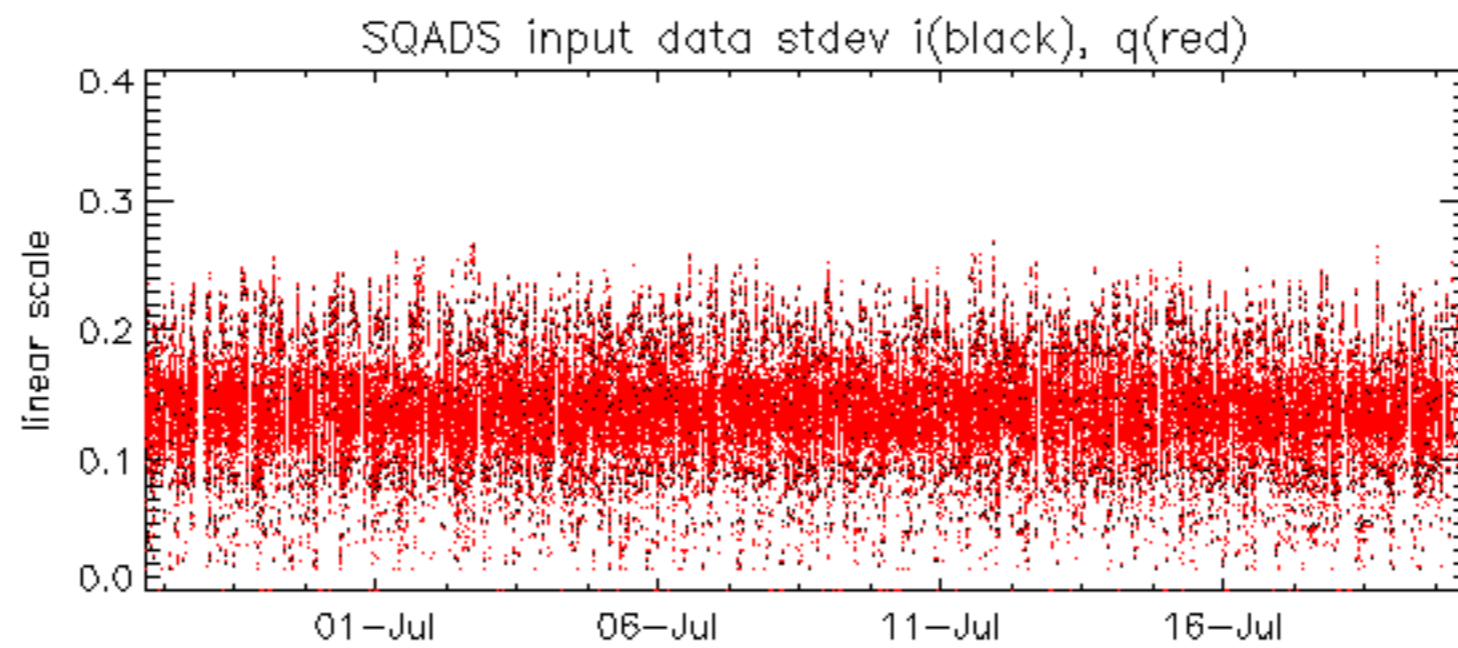
























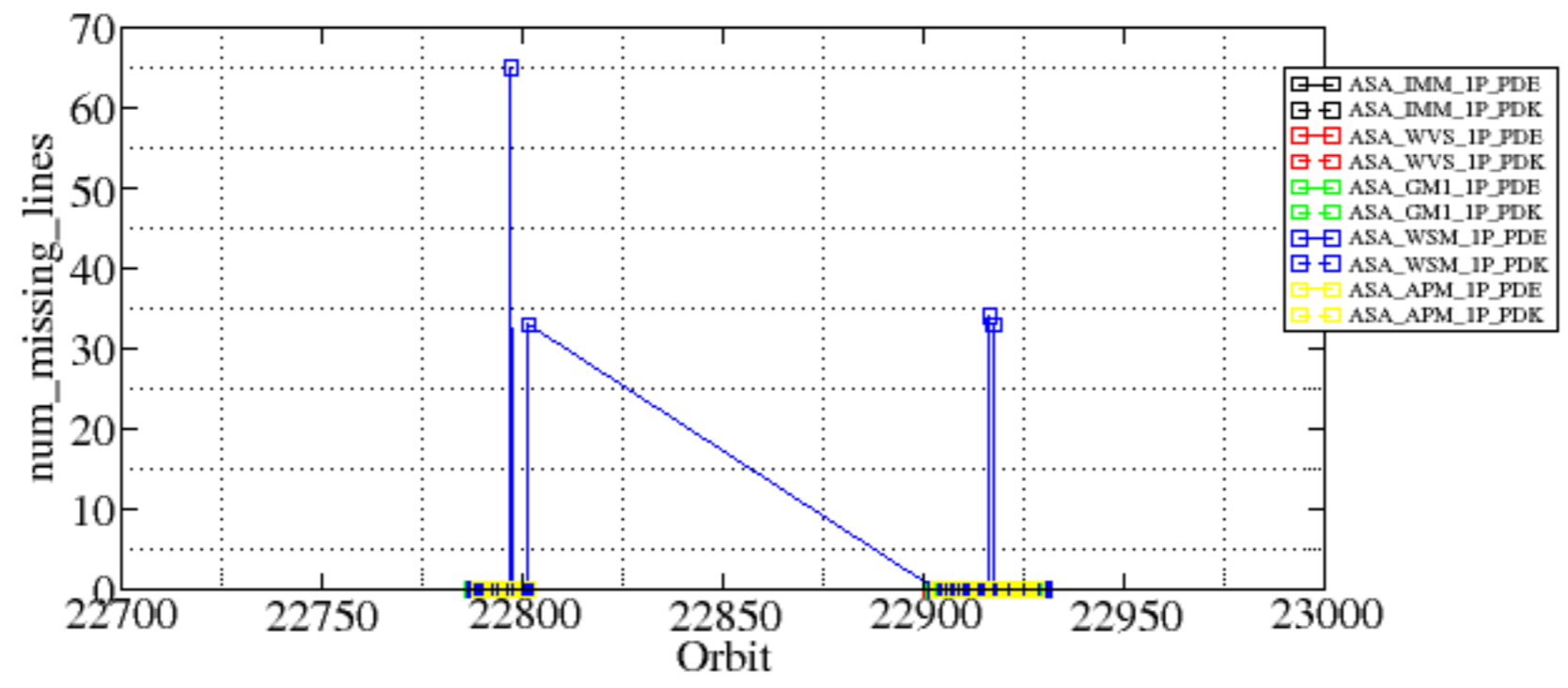


Summary of analysis for the last 3 days 2006071[890]

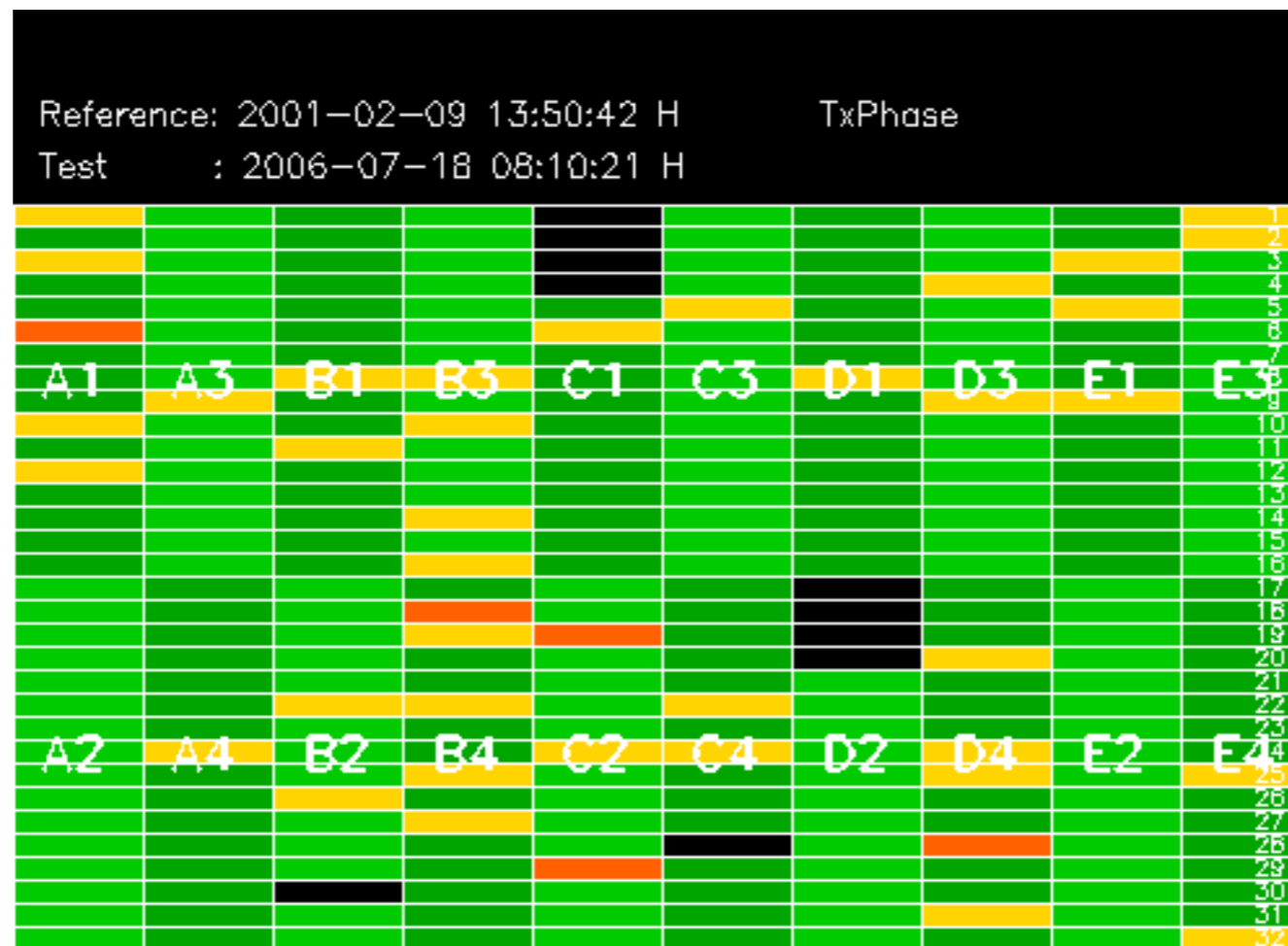
The assumptions is taken that the SQADS num\_gaps and num\_missing\_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20060718_010021_000000822049_00303_22902_1205.N1	1	0
ASA_WSM_1PNPDE20060710_162344_000000672049_00198_22797_2353.N1	0	65
ASA_WSM_1PNPDE20060710_234911_000003302049_00202_22801_2445.N1	0	33
ASA_WSM_1PNPDE20060719_003803_000000672049_00317_22916_3537.N1	0	34
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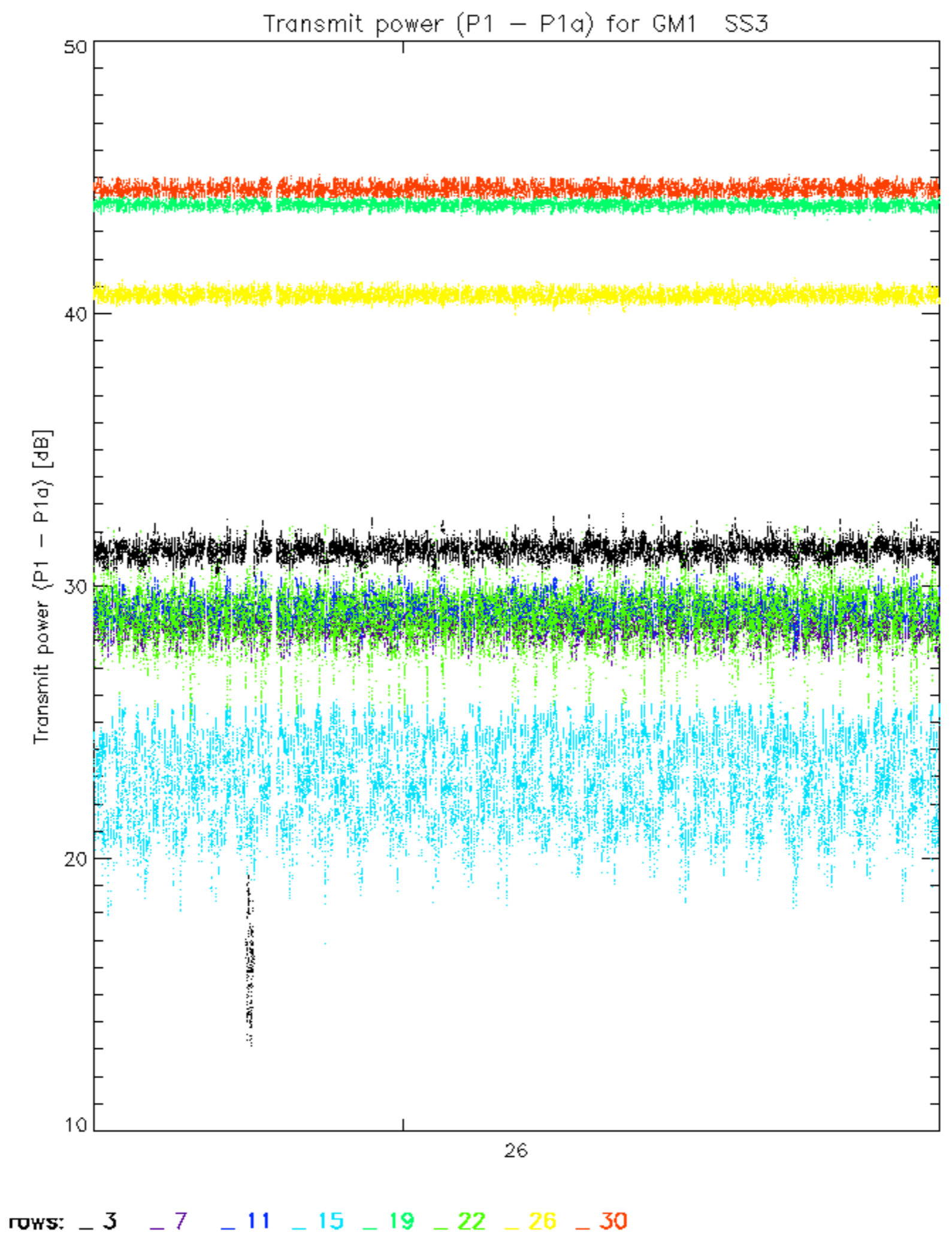


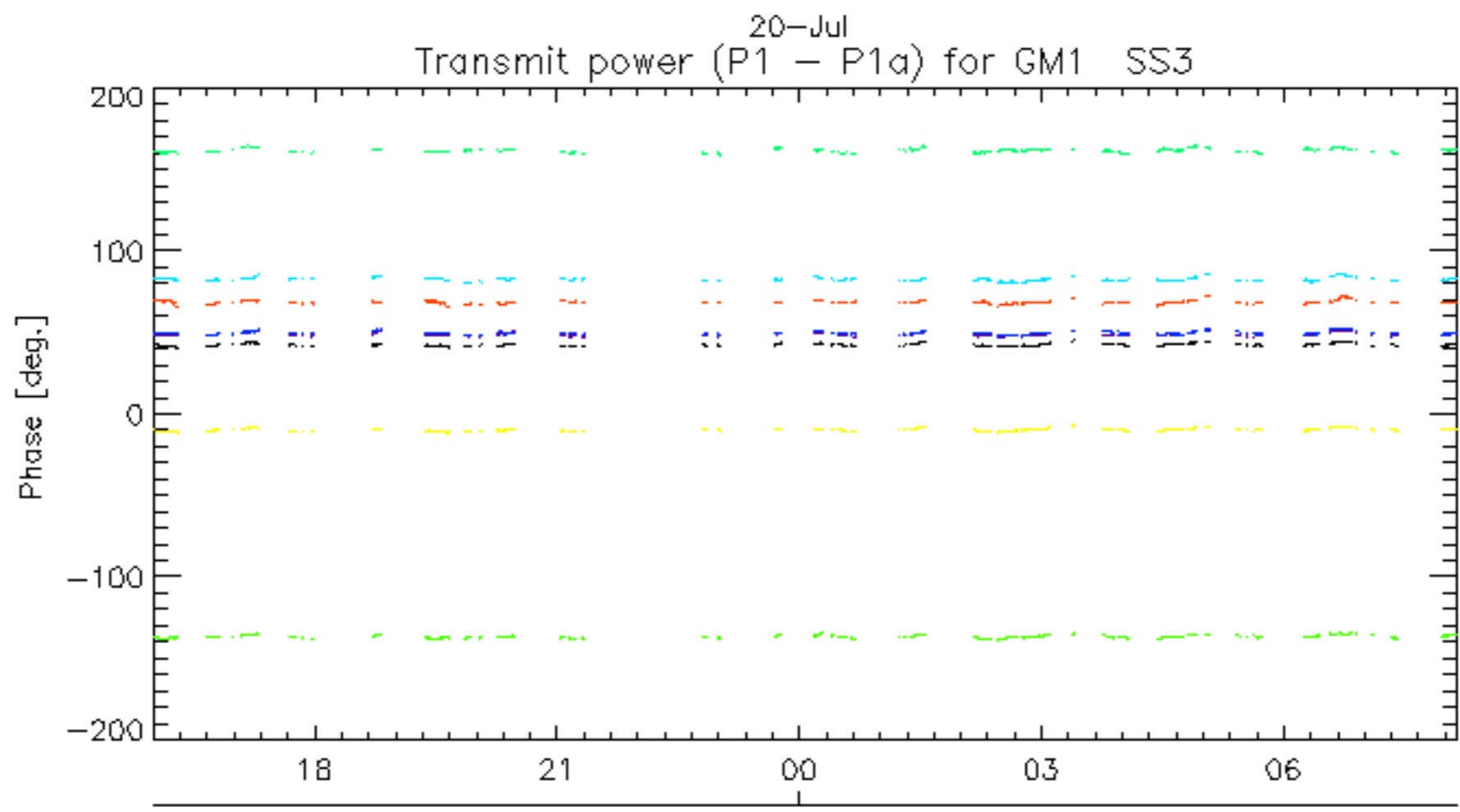
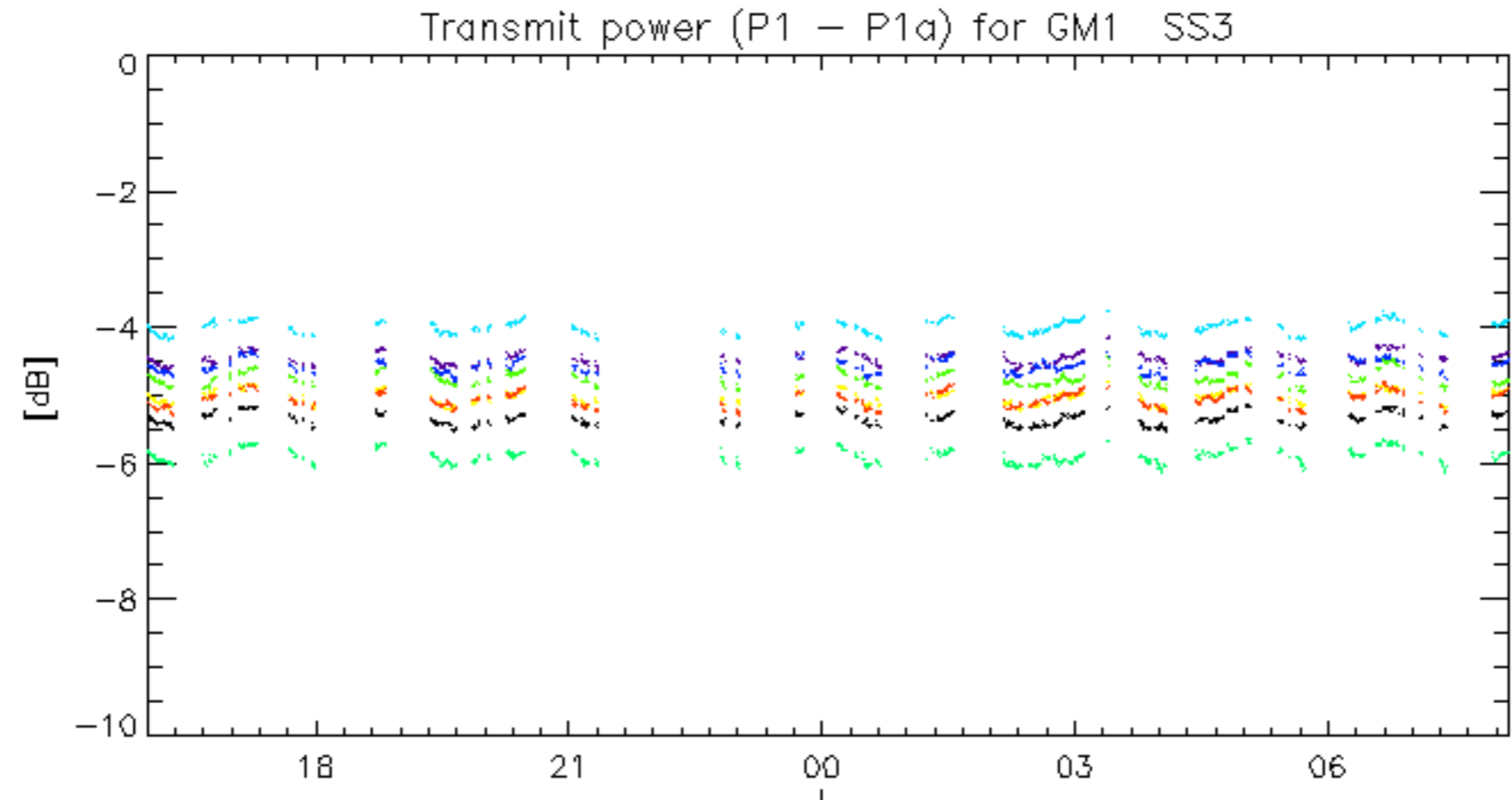






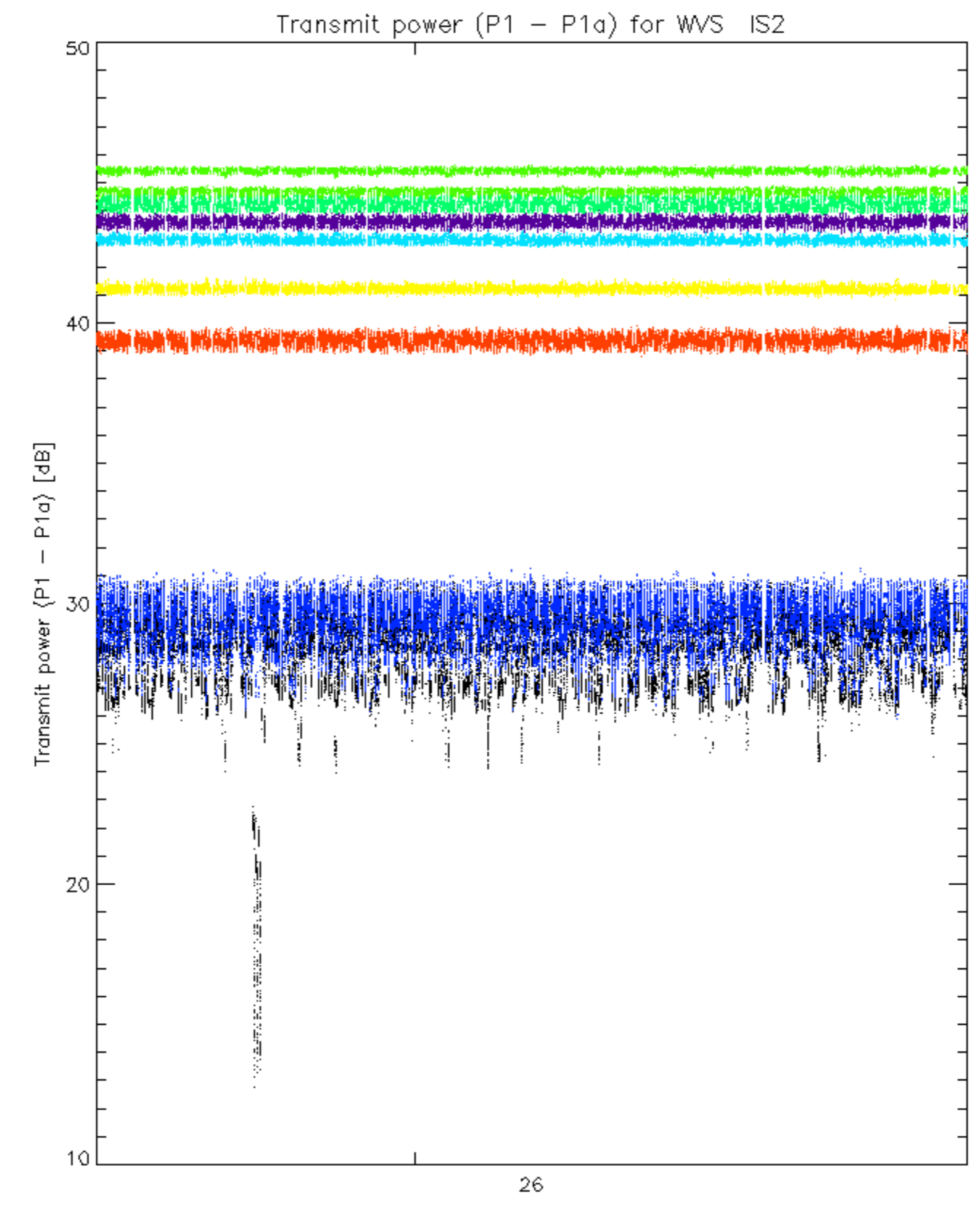




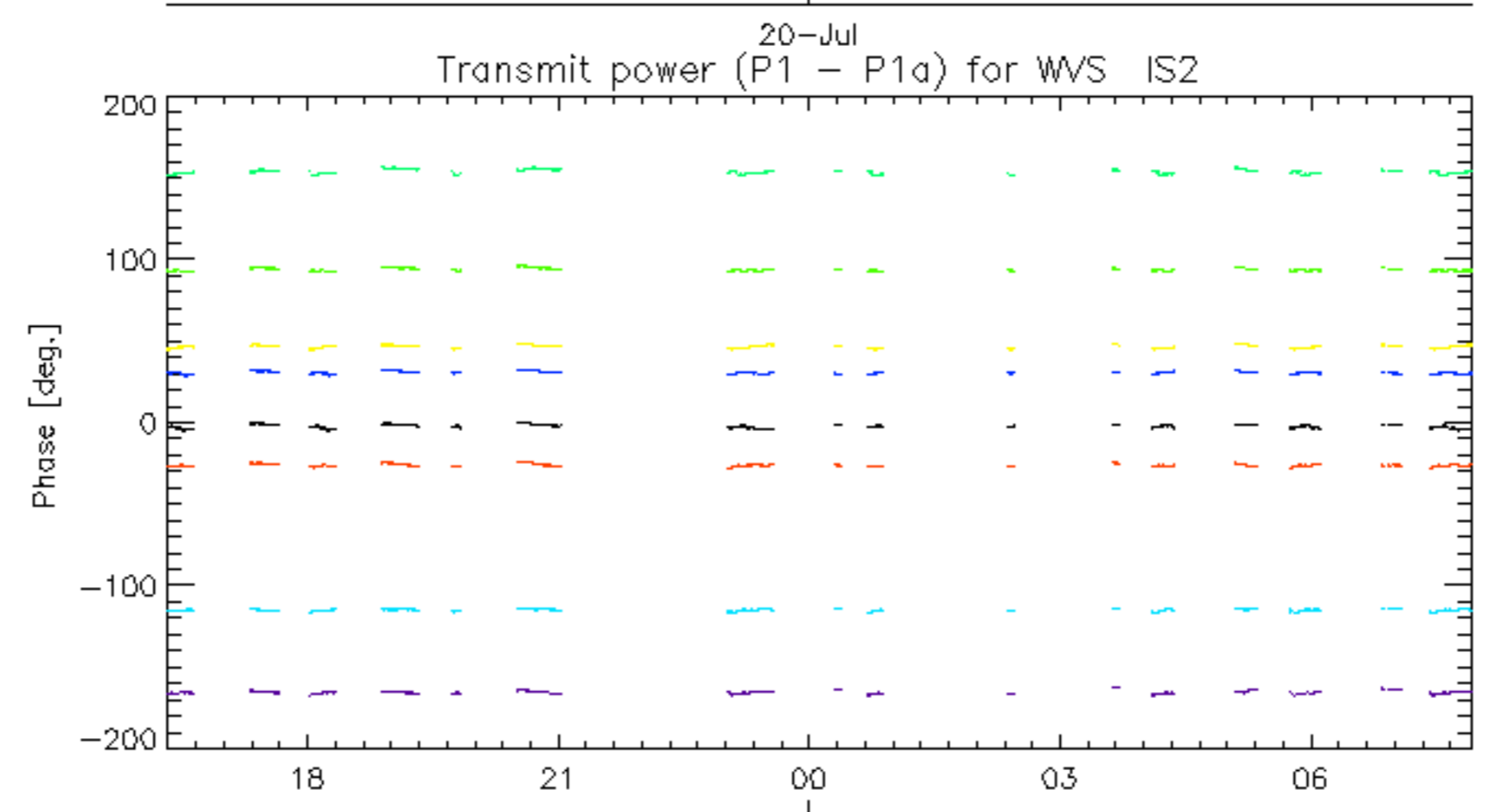
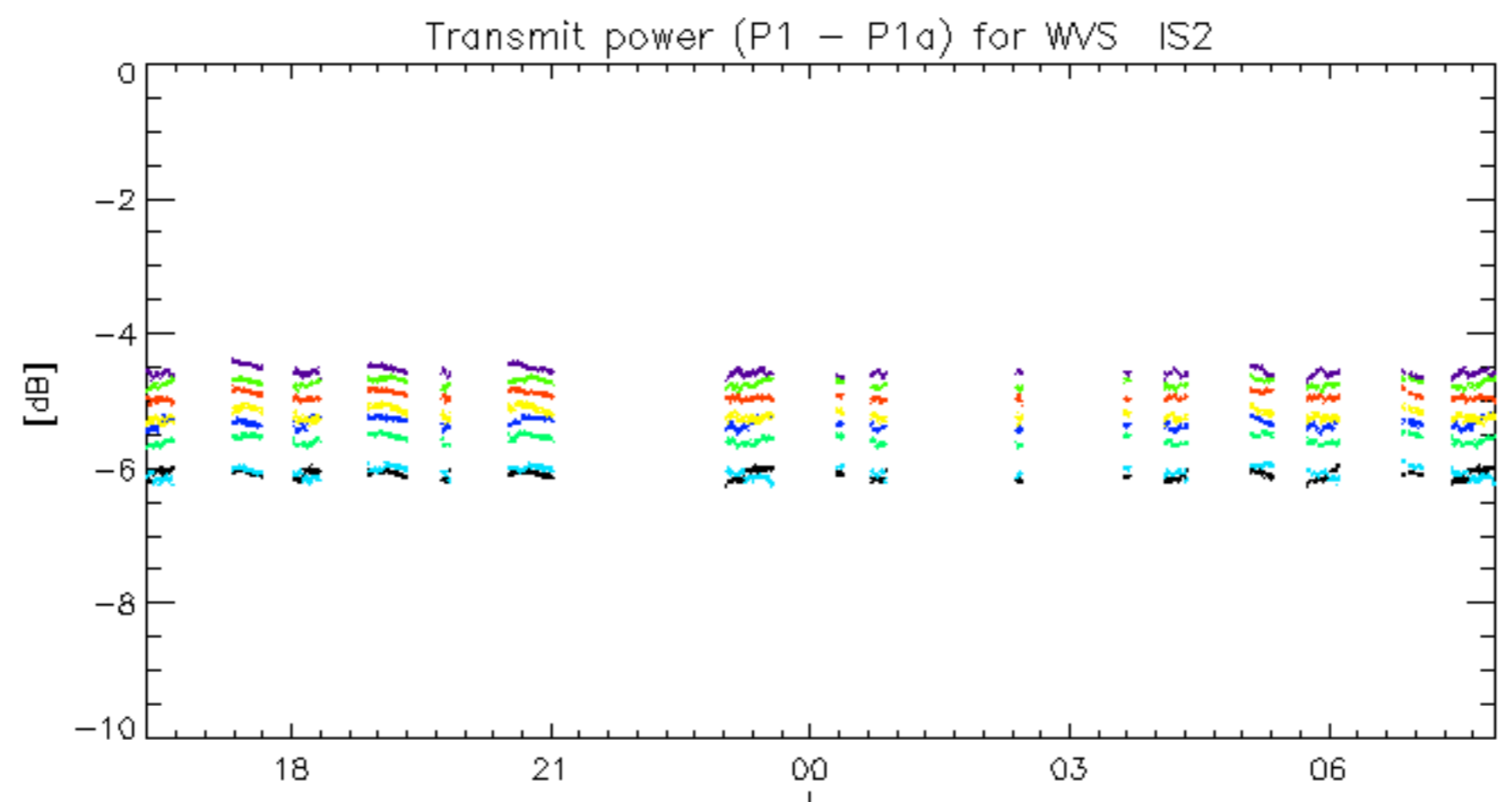


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No unavailabilities during the reported period.