

# PRELIMINARY REPORT OF 051015

last update on Sat Oct 15 16:42:08 GMT 2005

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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 2005-10-14 00:00:00 to 2005-10-15 16:42:08

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	41	78	11	2	21
ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	41	78	11	2	21
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	41	78	11	2	21
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	41	78	11	2	21

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	6	4	3	0	5
ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	26	47	27	9	62
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	32	51	30	9	67
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	6	4	3	0	5
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	26	47	27	9	62
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	32	51	30	9	67

## 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	20051014 063530
H	20051015 060353

### 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	-3.561494	0.057459	0.077674
7	P1	-2.955447	0.031822	0.286538
11	P1	-4.201013	0.112922	0.648877
15	P1	-5.973870	0.032470	-0.259476
19	P1	-3.165815	0.122026	0.137662
22	P1	-4.478504	0.021054	0.165649
26	P1	-4.403937	0.088918	0.599814
30	P1	-5.861183	0.295158	0.848987
3	P1	-15.785336	1.781252	1.556976
7	P1	-16.732185	4.415186	1.803297
11	P1	-17.658056	11.483021	6.660999
15	P1	-13.832162	8.280023	1.769381
19	P1	-13.661729	0.171605	0.336094
22	P1	-17.236101	21.845592	4.550180
26	P1	-17.542727	20.894279	5.811493
30	P1	-17.360802	8.721954	4.156156

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.846552	0.101882	-0.105915
7	P2	-22.630547	0.198947	-0.402300
11	P2	-16.408525	1.407087	-1.874301
15	P2	-7.220416	0.115338	-0.010308
19	P2	-9.149775	0.173136	-0.040323
22	P2	-17.551617	0.203910	-0.808760
26	P2	-16.160173	0.122533	0.333177
30	P2	-19.545706	0.171045	-0.422114

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.180563	0.005129	-0.038746
7	P3	-8.180563	0.005129	-0.038746
11	P3	-8.180563	0.005129	-0.038746
15	P3	-8.180563	0.005129	-0.038746
19	P3	-8.180563	0.005129	-0.038746
22	P3	-8.180563	0.005129	-0.038746
26	P3	-8.180563	0.005129	-0.038746
30	P3	-8.180563	0.005129	-0.038746

**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	-3.432111	0.237794	-1.040062
7	P1	-2.918916	0.062922	0.351397
11	P1	-3.076402	0.221844	1.066494
15	P1	-3.439274	0.028765	0.242699
19	P1	-3.330994	0.053423	-0.033863
22	P1	-5.141086	0.133677	0.050355
26	P1	-5.855897	0.475879	0.517828
30	P1	-5.246242	0.283587	0.284046
3	P1	-11.511078	0.390045	0.376828
7	P1	-11.231993	18.819319	5.374425
11	P1	-12.079197	37.130417	8.710176
15	P1	-12.325771	32.017860	7.205836
19	P1	-15.341103	0.208402	-0.459025
22	P1	-21.240696	4.374747	4.006535

26	P1	-17.365713	4.528083	0.908050
30	P1	-19.301912	1.724453	2.172183

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.654894	0.053291	-0.242314
7	P2	-22.922375	0.216968	-0.627267
11	P2	-11.457062	0.621488	-1.491518
15	P2	-4.921659	0.044375	0.163763
19	P2	-6.806135	0.105069	-0.369634
22	P2	-7.901073	0.184616	-0.960724
26	P2	-23.874687	0.042748	0.090322
30	P2	-22.082380	0.054286	0.089706

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.022834	0.002894	-0.038340
7	P3	-8.022916	0.002899	-0.038715
11	P3	-8.022742	0.002904	-0.039151
15	P3	-8.022821	0.002896	-0.038813
19	P3	-8.022996	0.002901	-0.038507
22	P3	-8.022738	0.002903	-0.038774
26	P3	-8.023038	0.002899	-0.038676
30	P3	-8.022845	0.002906	-0.038512

## 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	0.000540642
	stdev	1.80344e-07
MEAN Q	mean	0.000529723
	stdev	2.18434e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.136068
	stdev	0.00110873
STDEV Q	mean	0.136396
	stdev	0.00112449



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005101[345]

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_1PNPDK20051013_125413_000001212041_00339_18930_5617.N1	1	0
ASA_WSM_1PNPDE20051013_224734_000000912041_00345_18936_3834.N1	0	40
ASA_WSM_1PNPDE20051014_011413_000003542041_00346_18937_3867.N1	0	23
ASA_WSM_1PNPDE20051014_175039_000002012041_00356_18947_3964.N1	0	1
ASA_WSM_1PNPDE20051014_185458_000002312041_00357_18948_3963.N1	0	52



## 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)

Ascending

Descending

### 7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

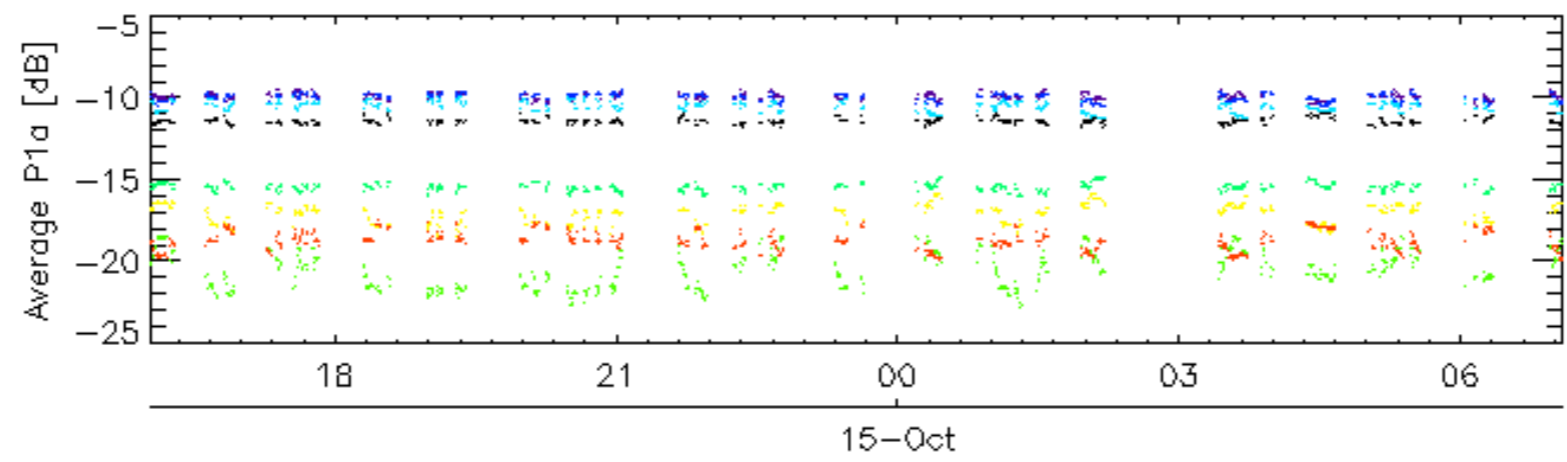
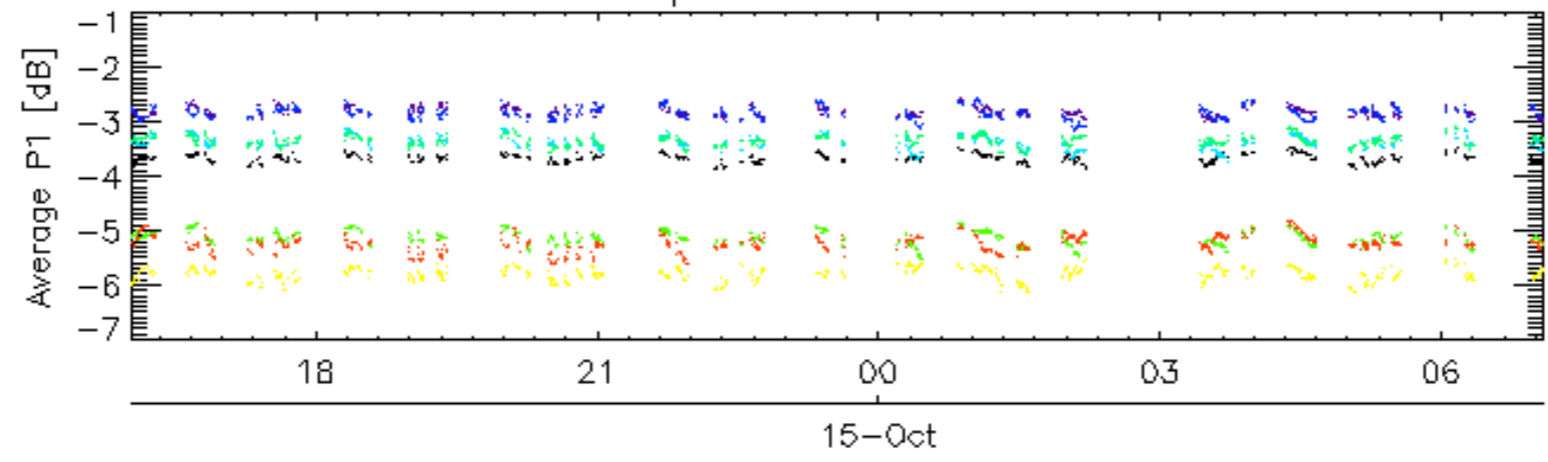
Ascending

Descending

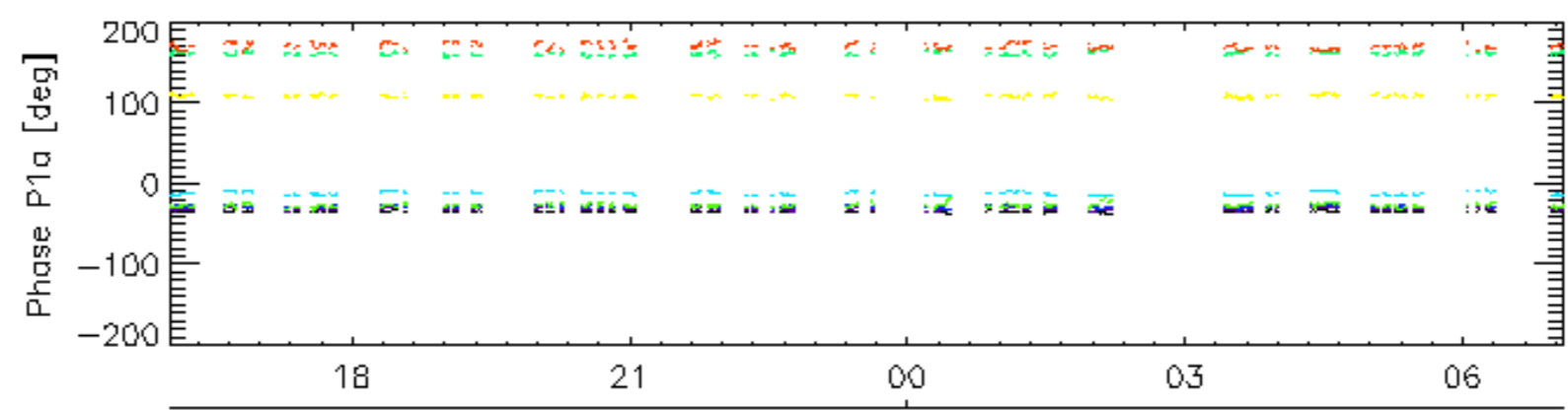
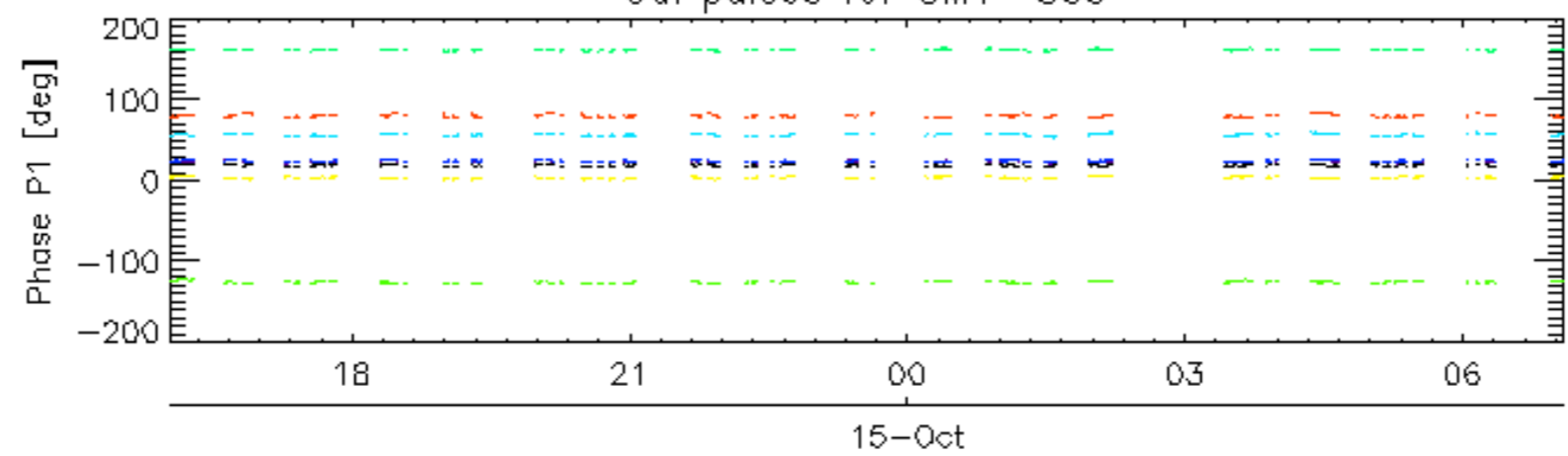
### 7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

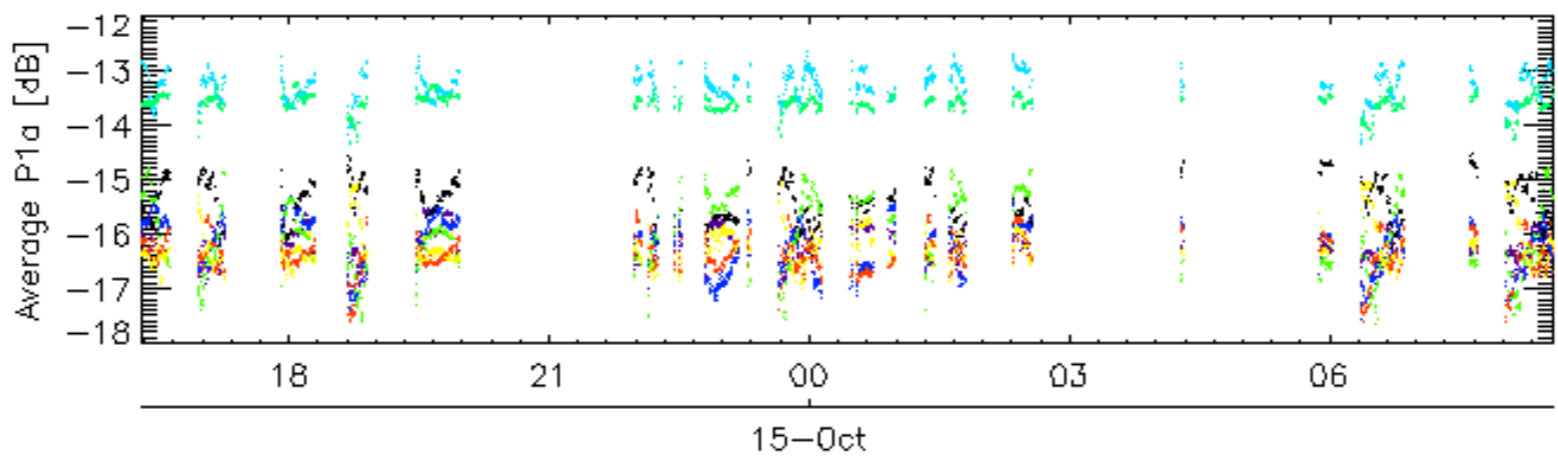
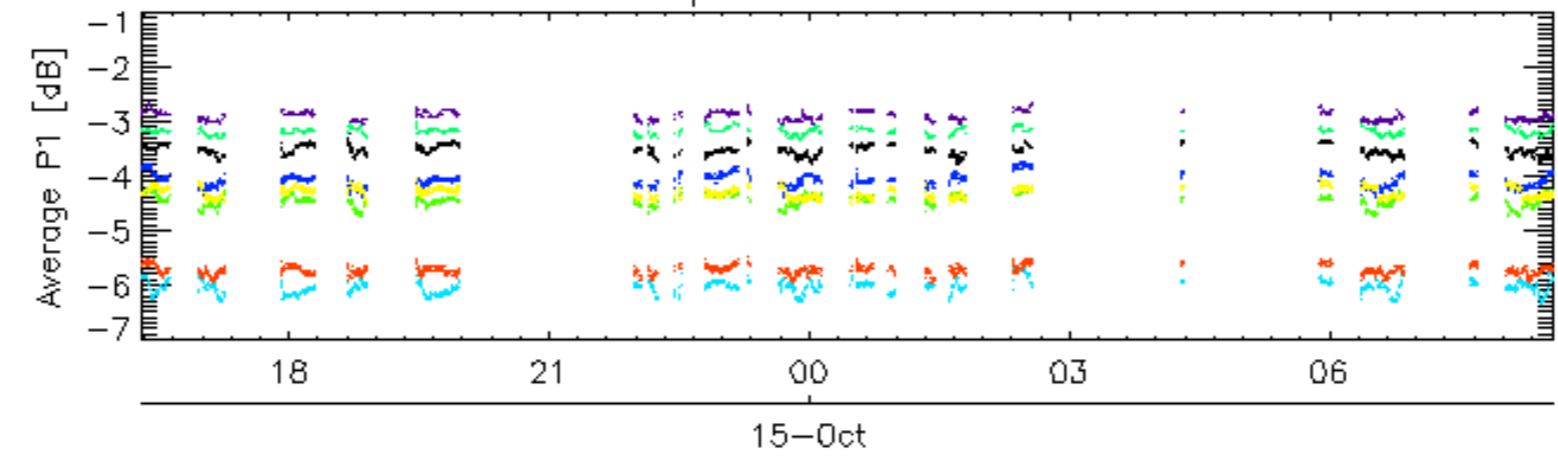


Cal pulses for GM1 SS3

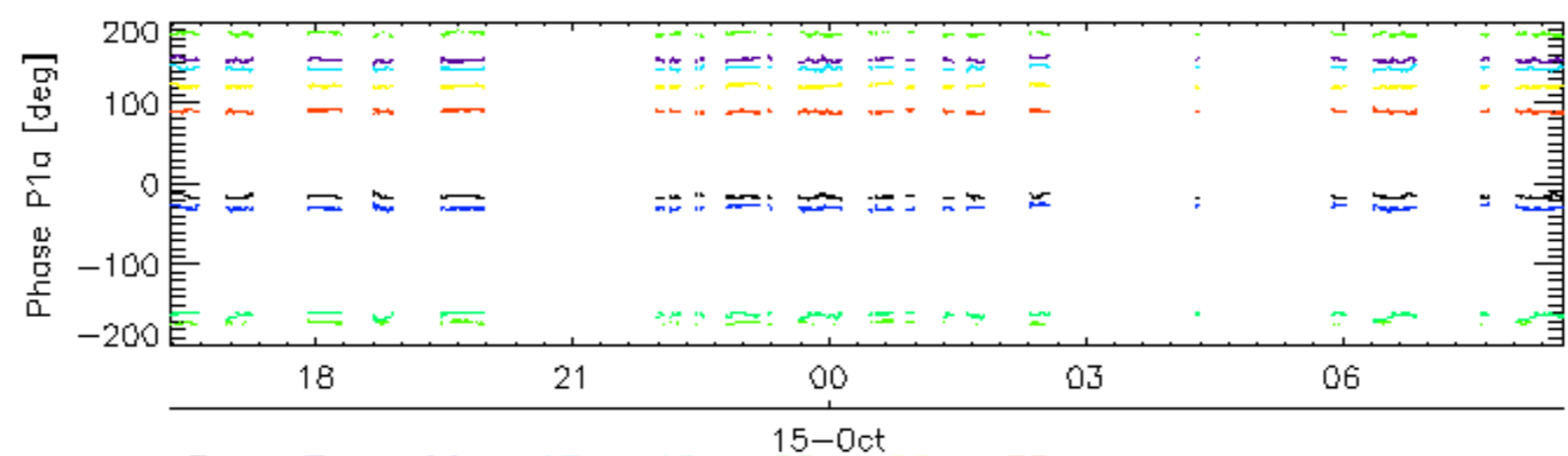
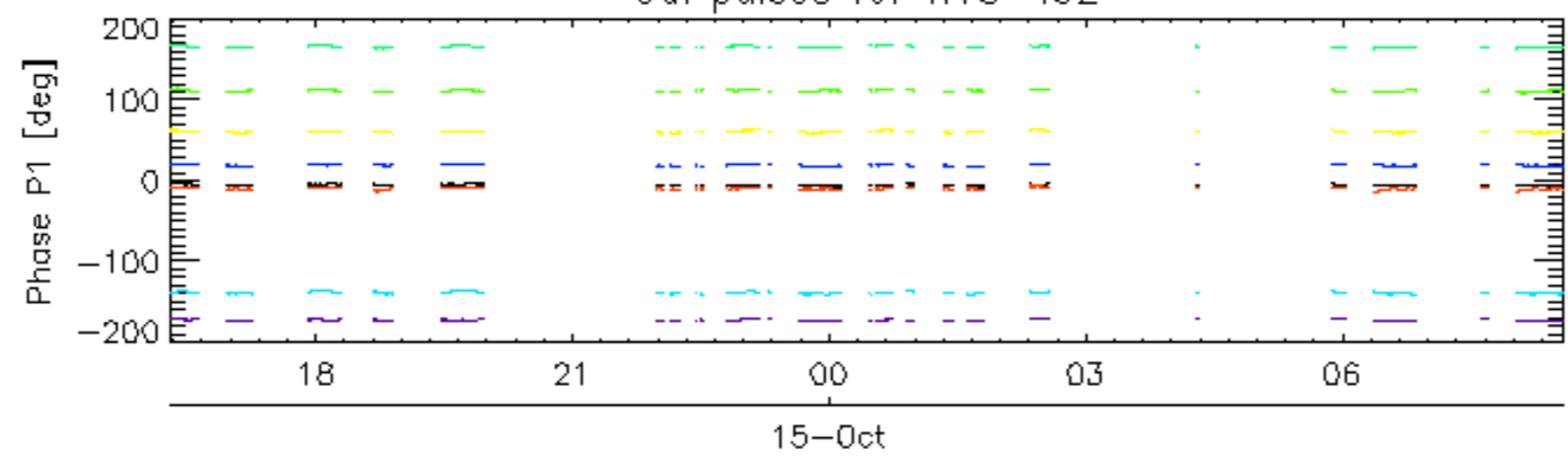


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

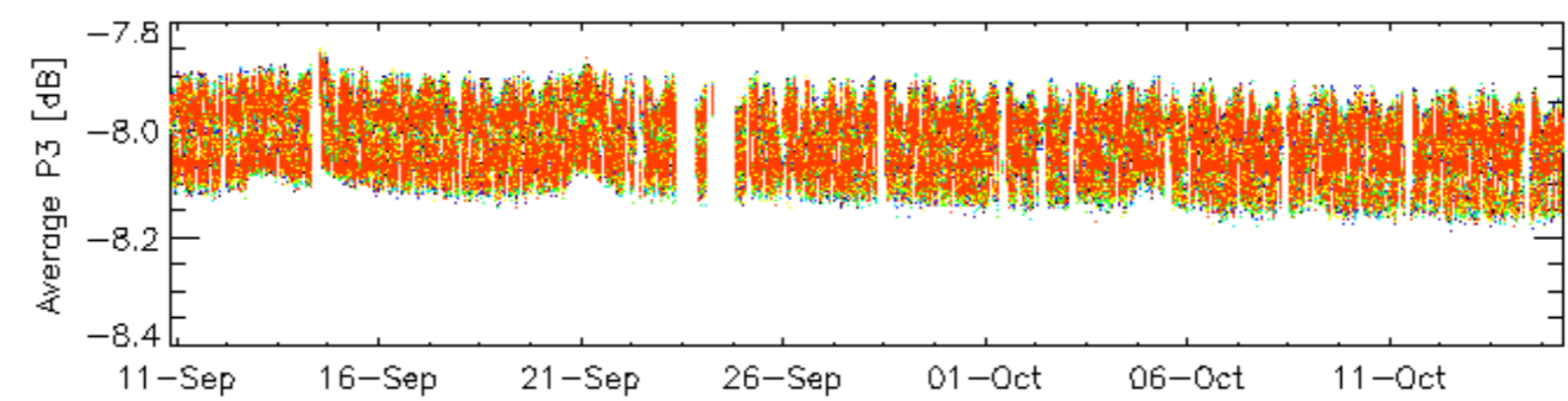
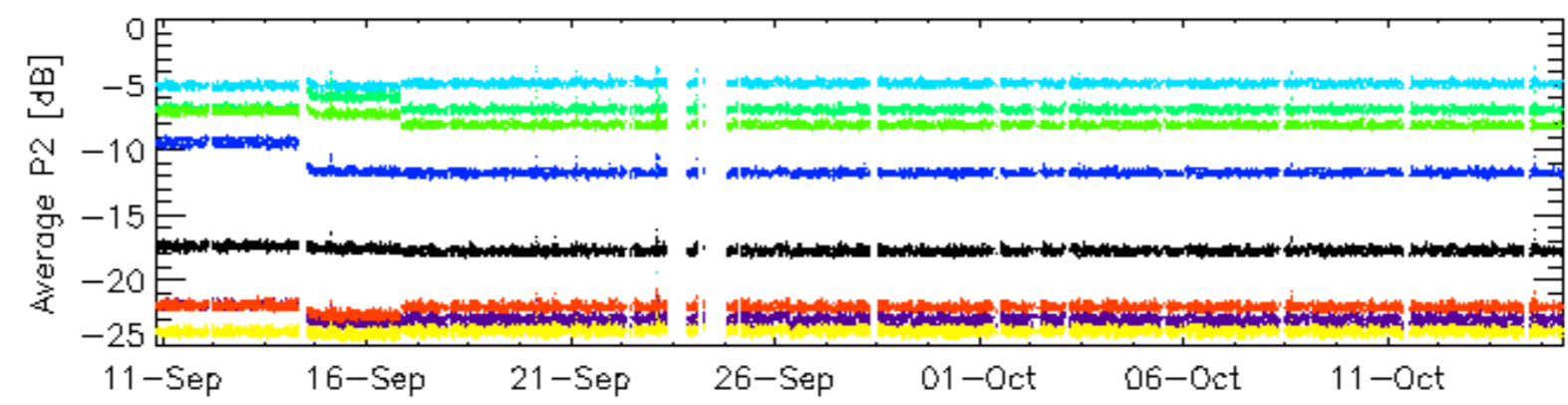
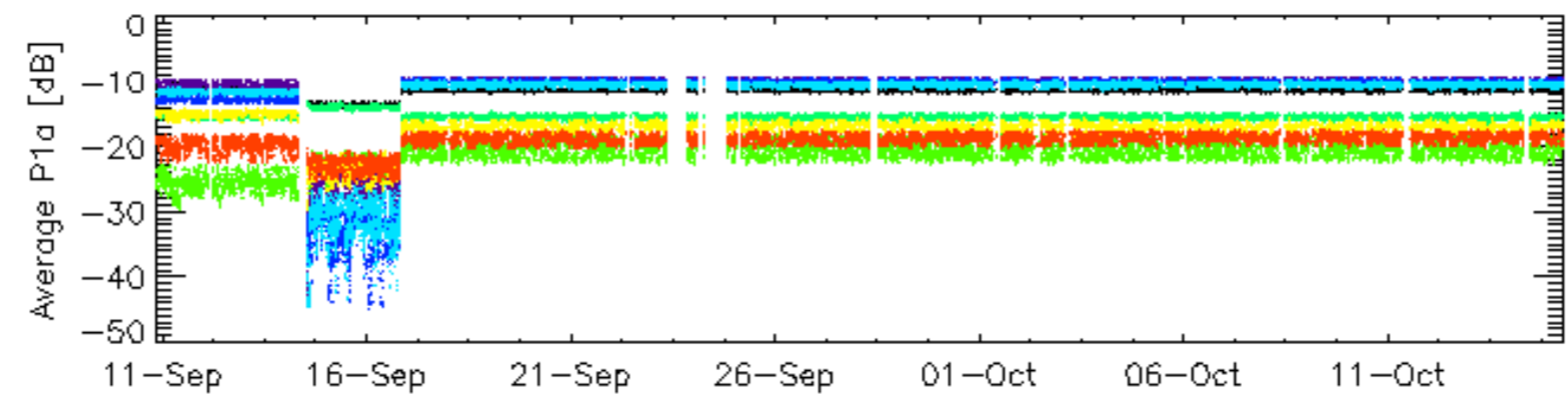
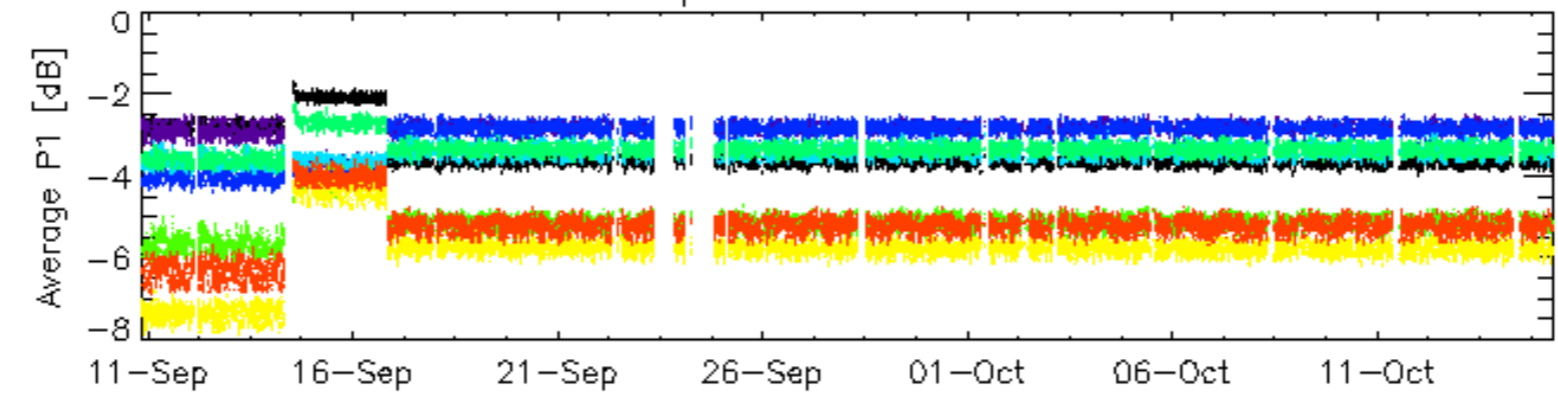


Cal pulses for WVS IS2



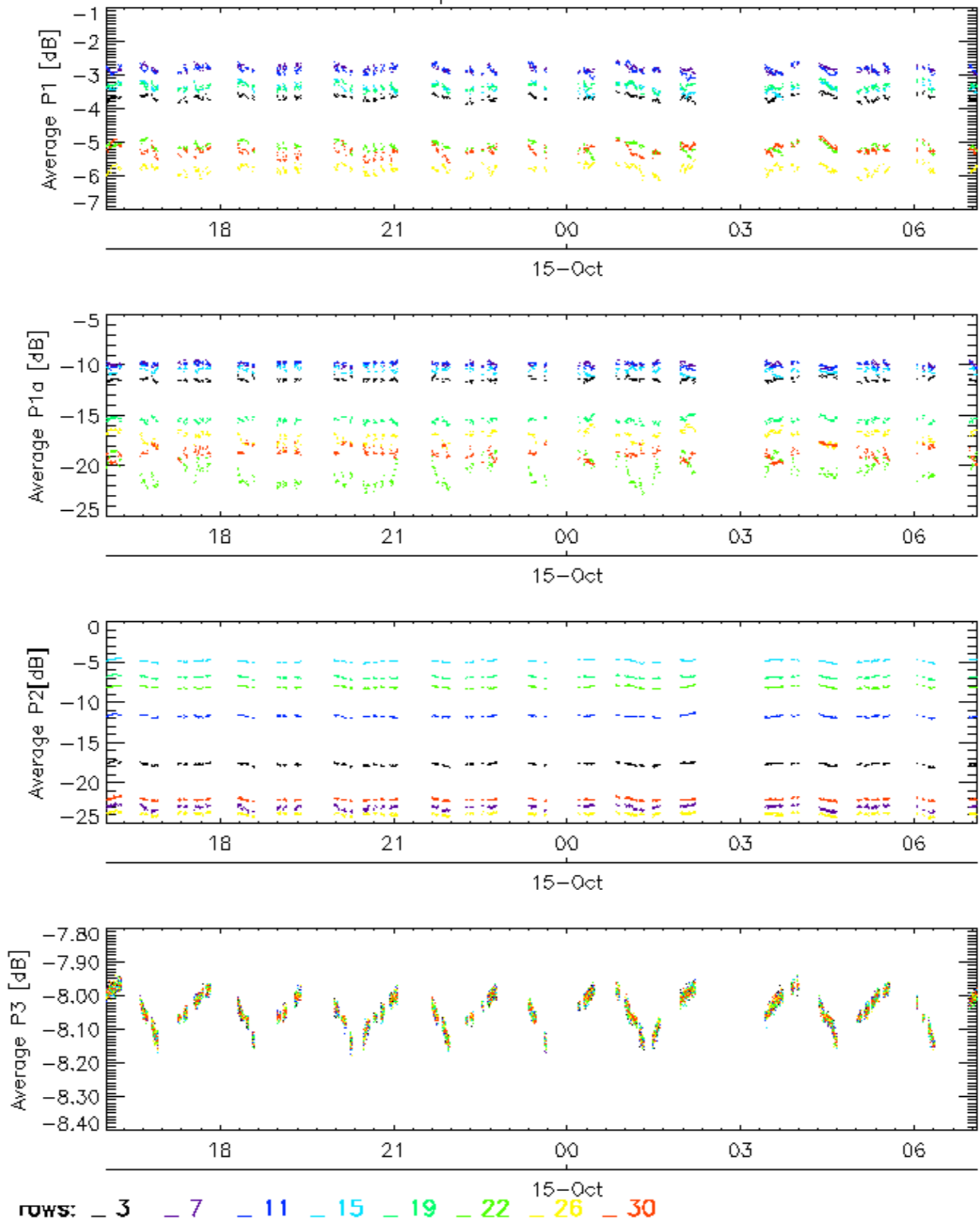
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

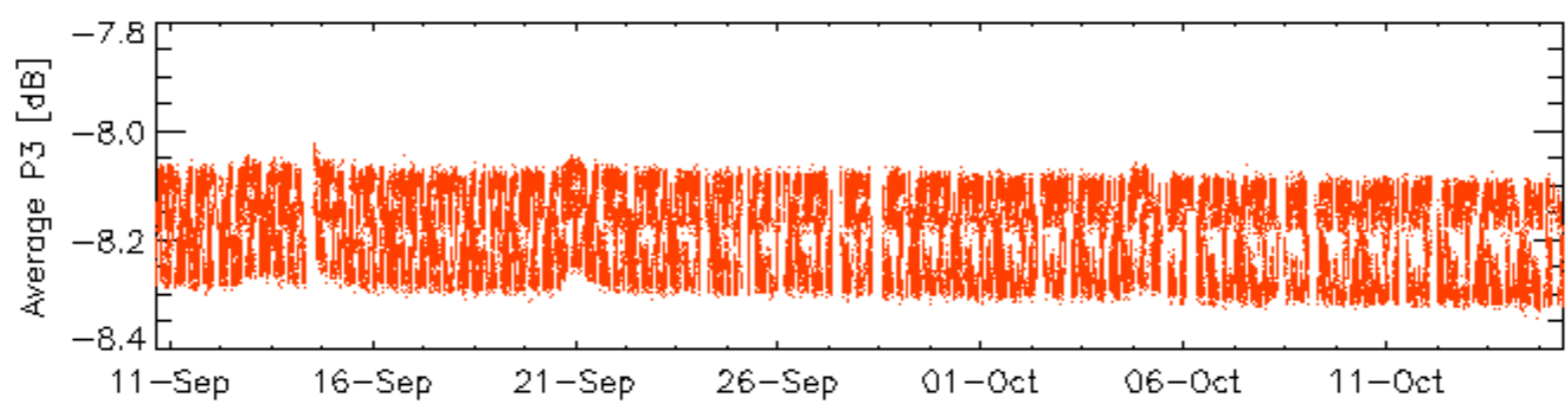
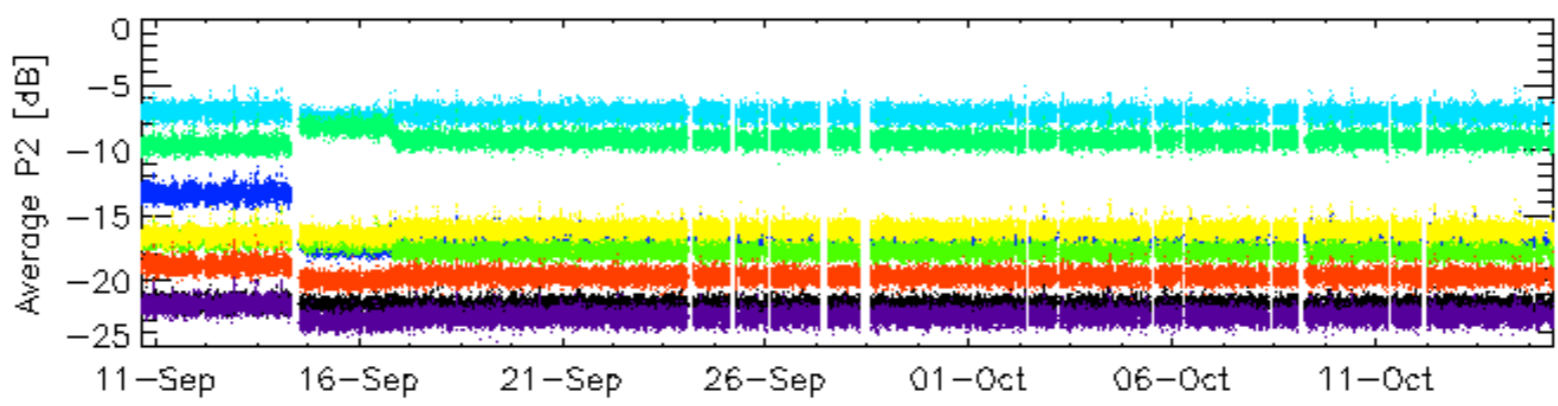
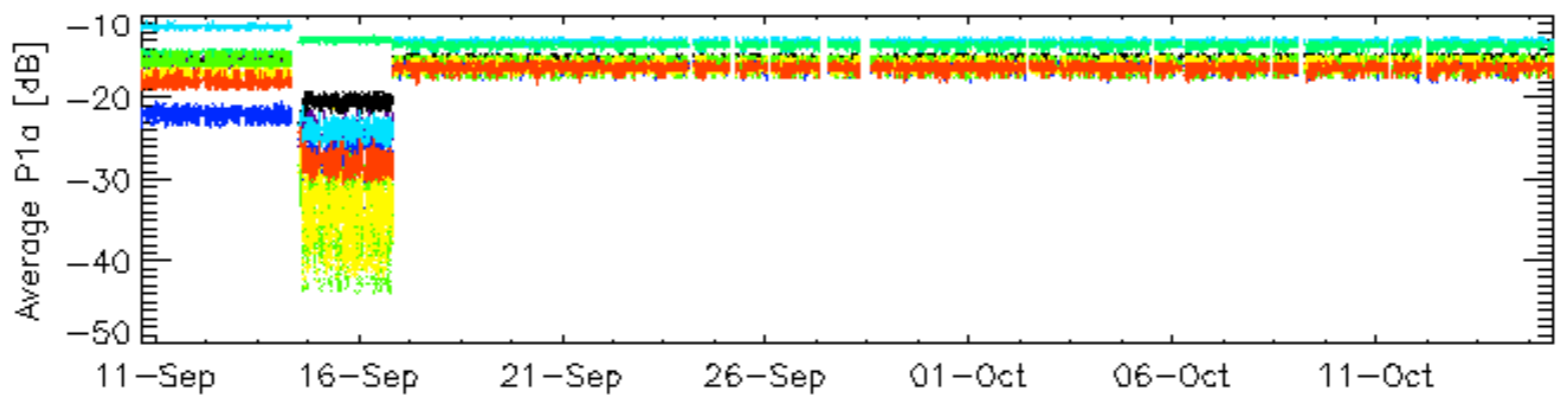
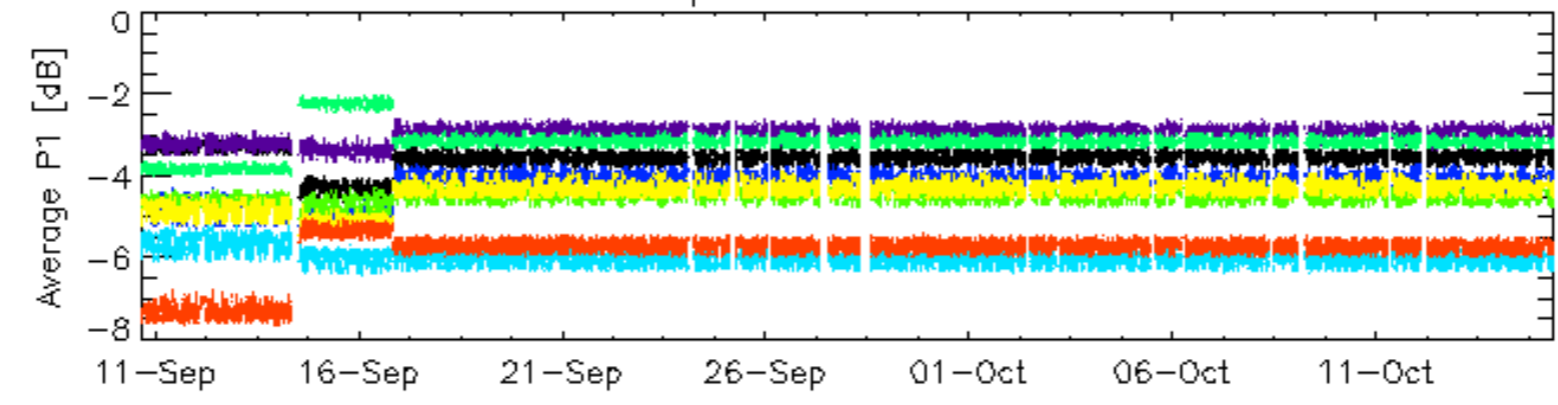


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

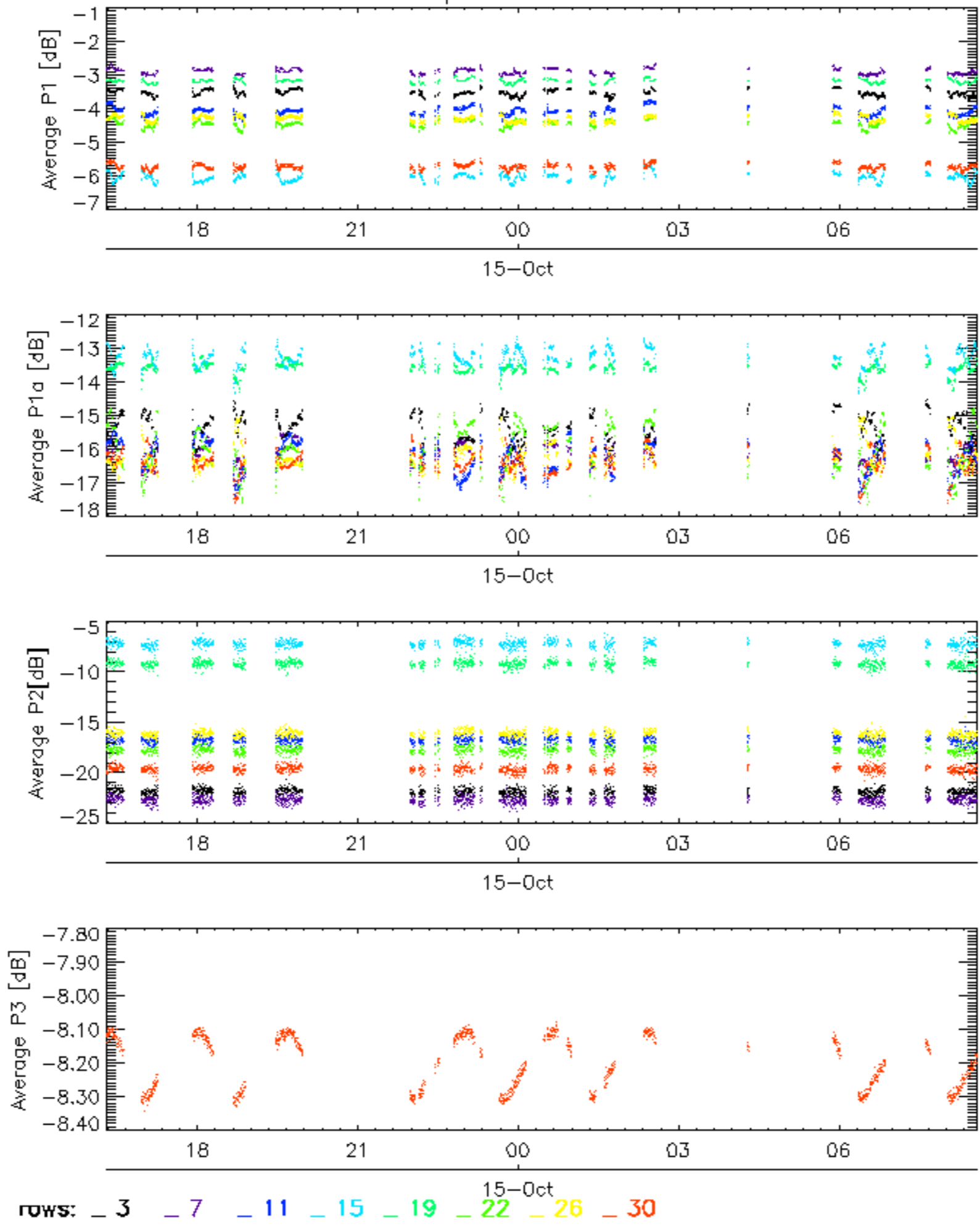


Cal pulses for WVS IS2



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

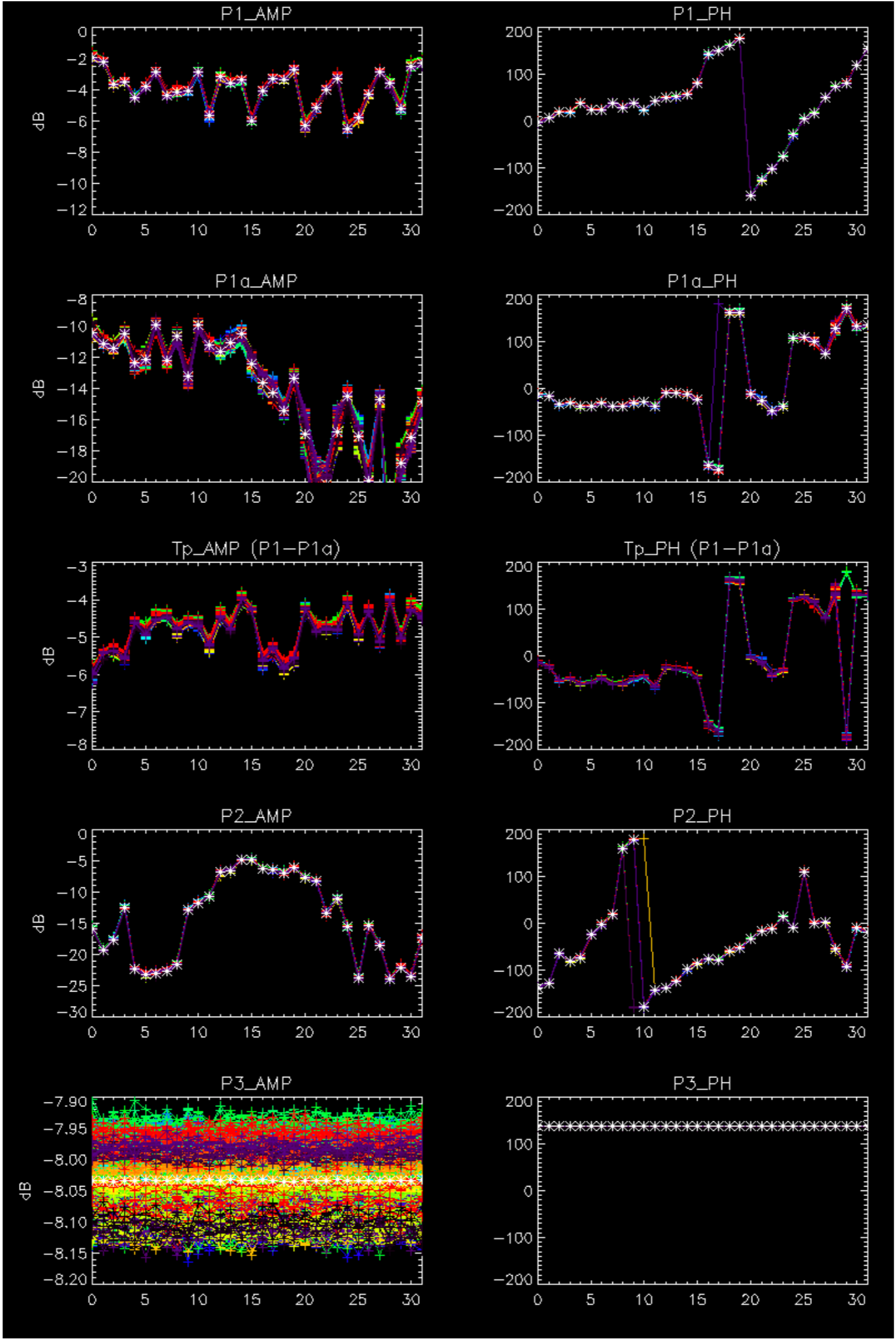
Cal pulses for WVS IS2

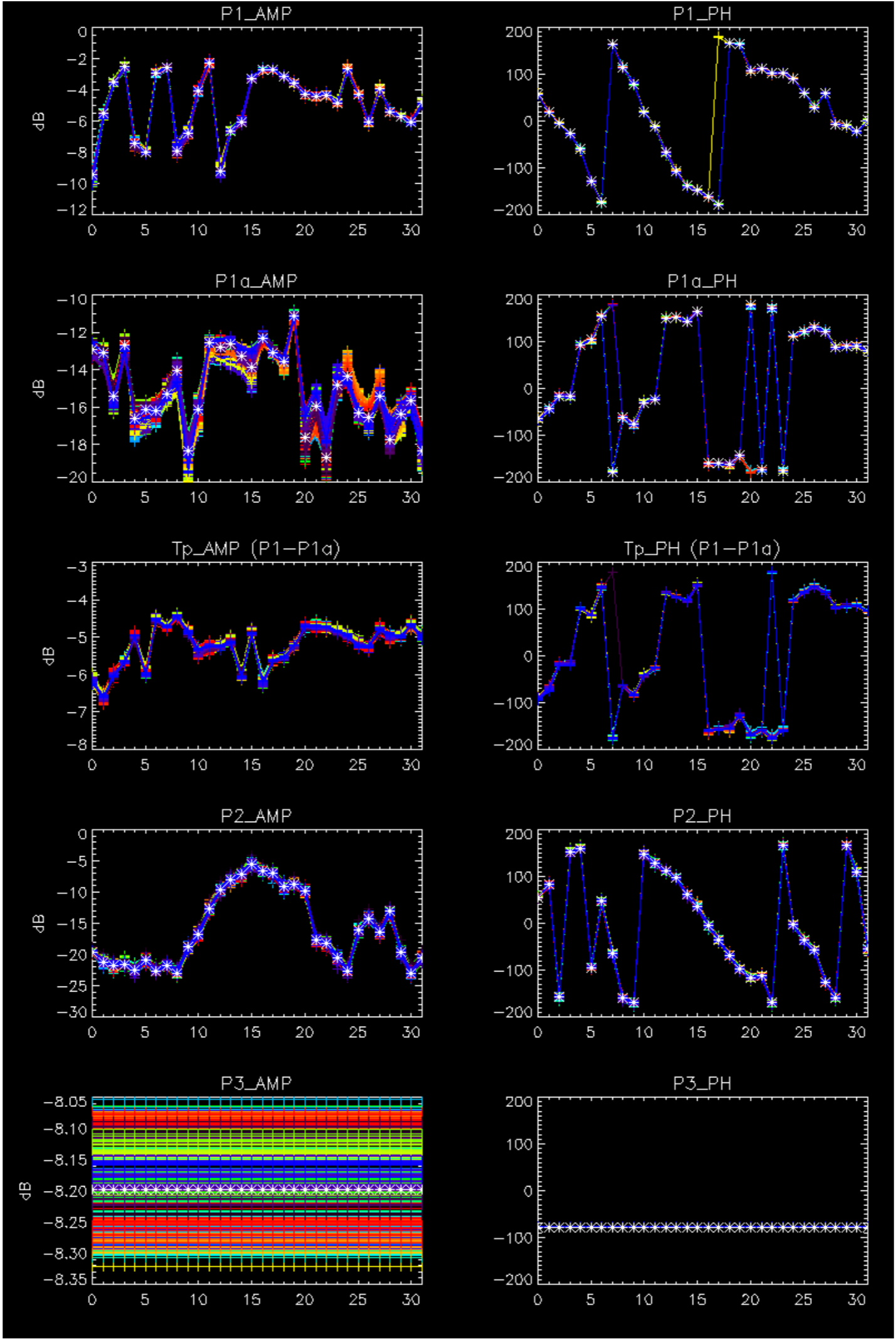




No anomalies observed.





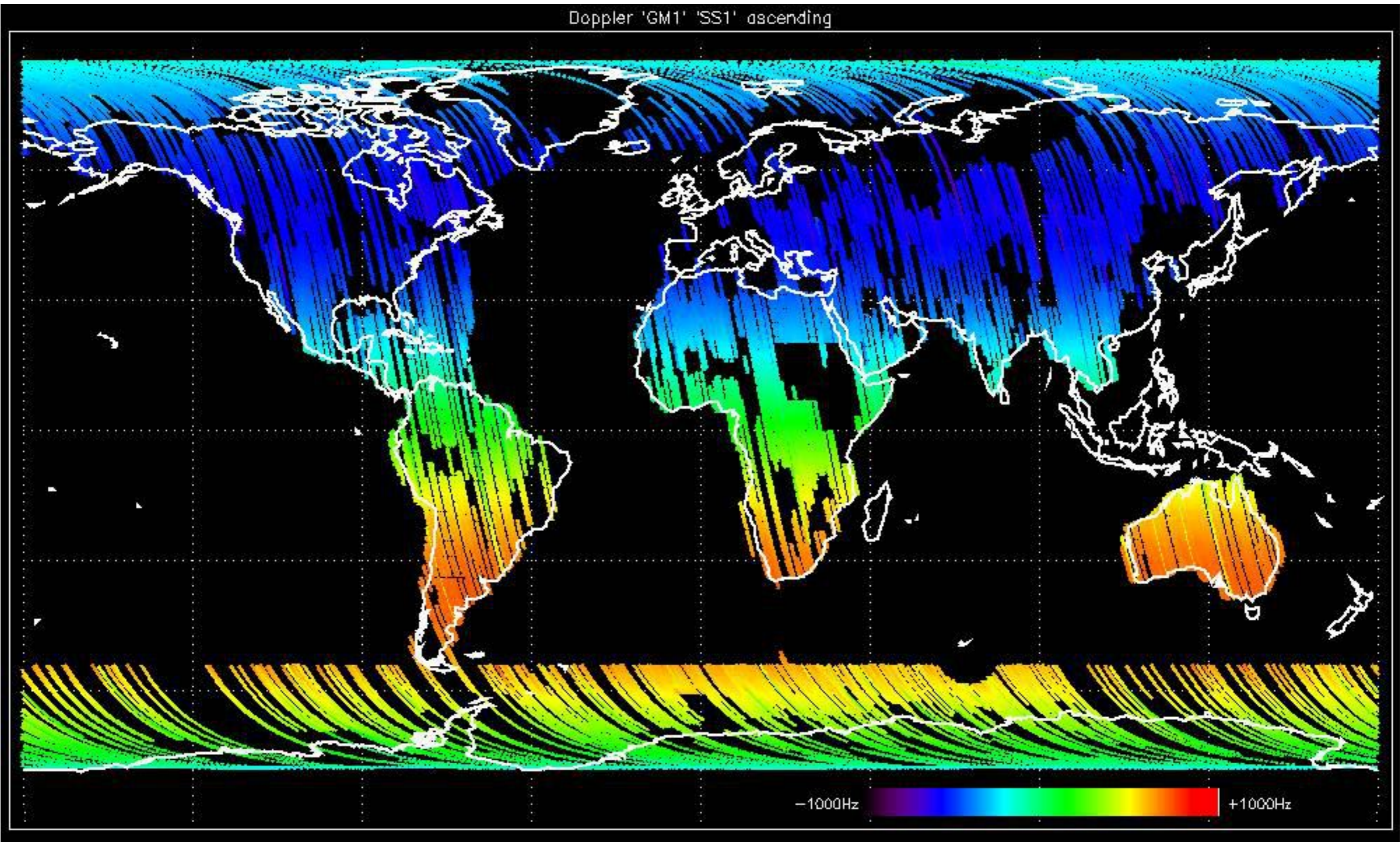


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



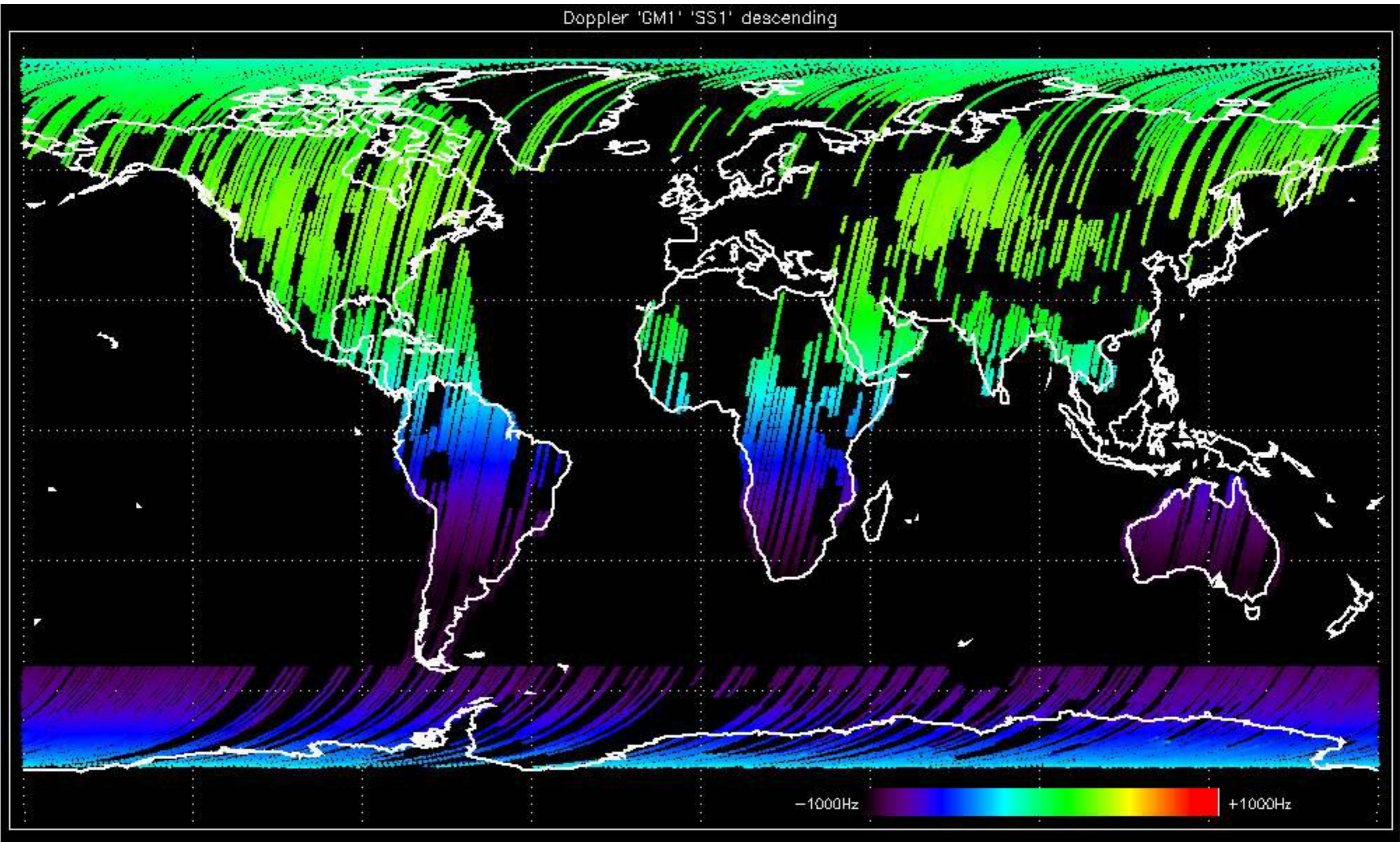


Doppler 'GM1' 'SS1' ascending



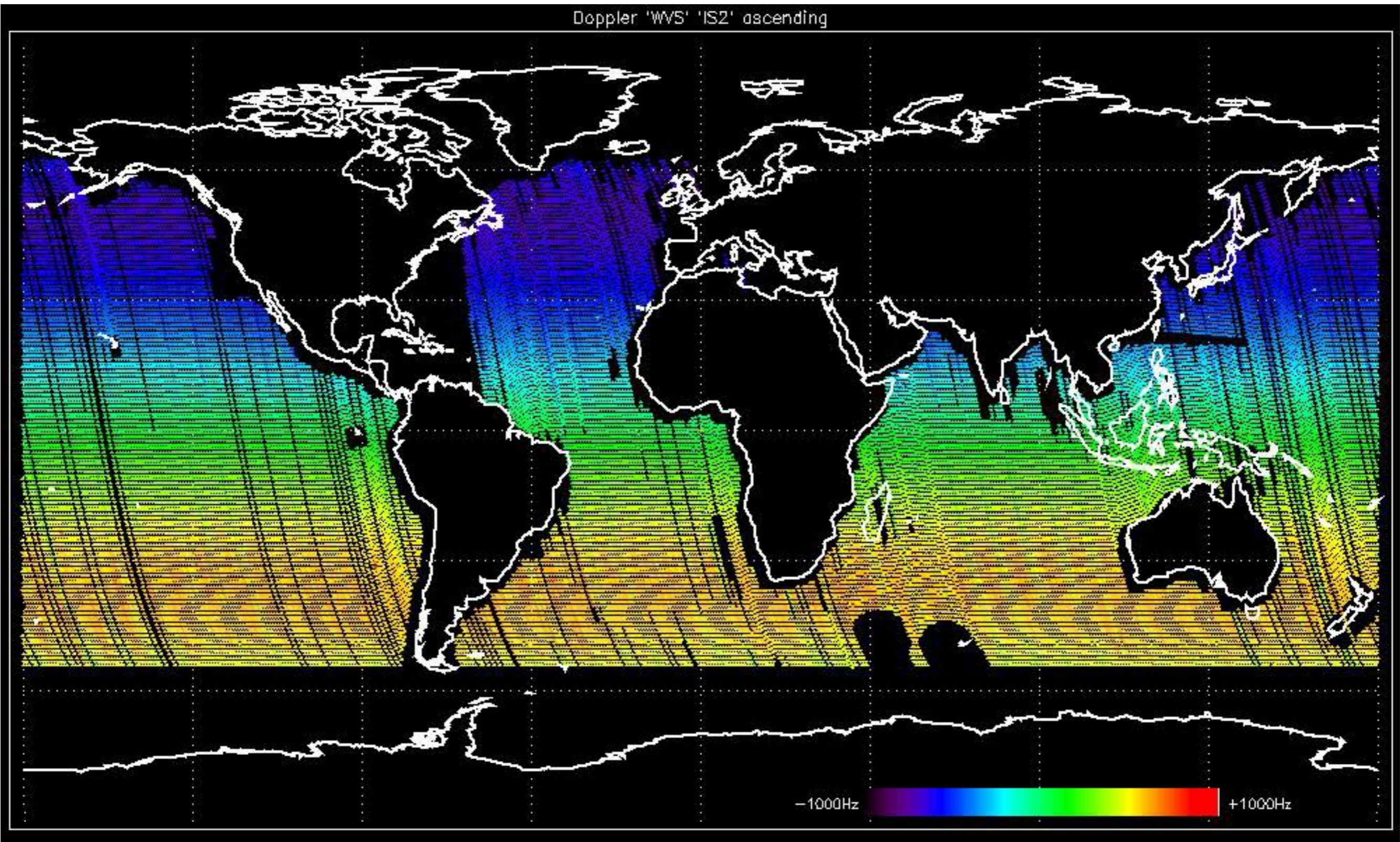


Doppler 'GM1' 'SS1' descending



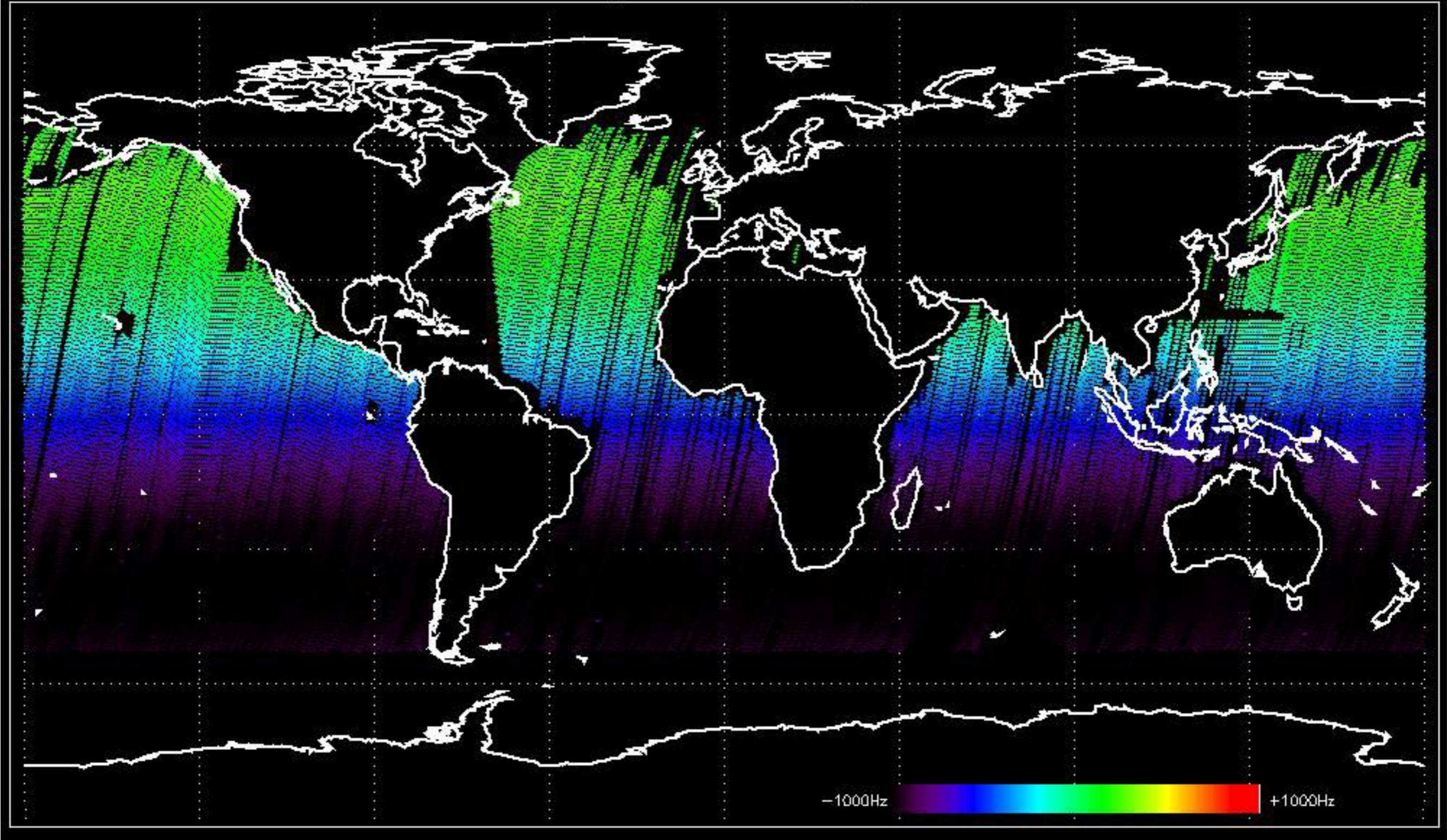


Doppler 'WVS' 'IS2' ascending



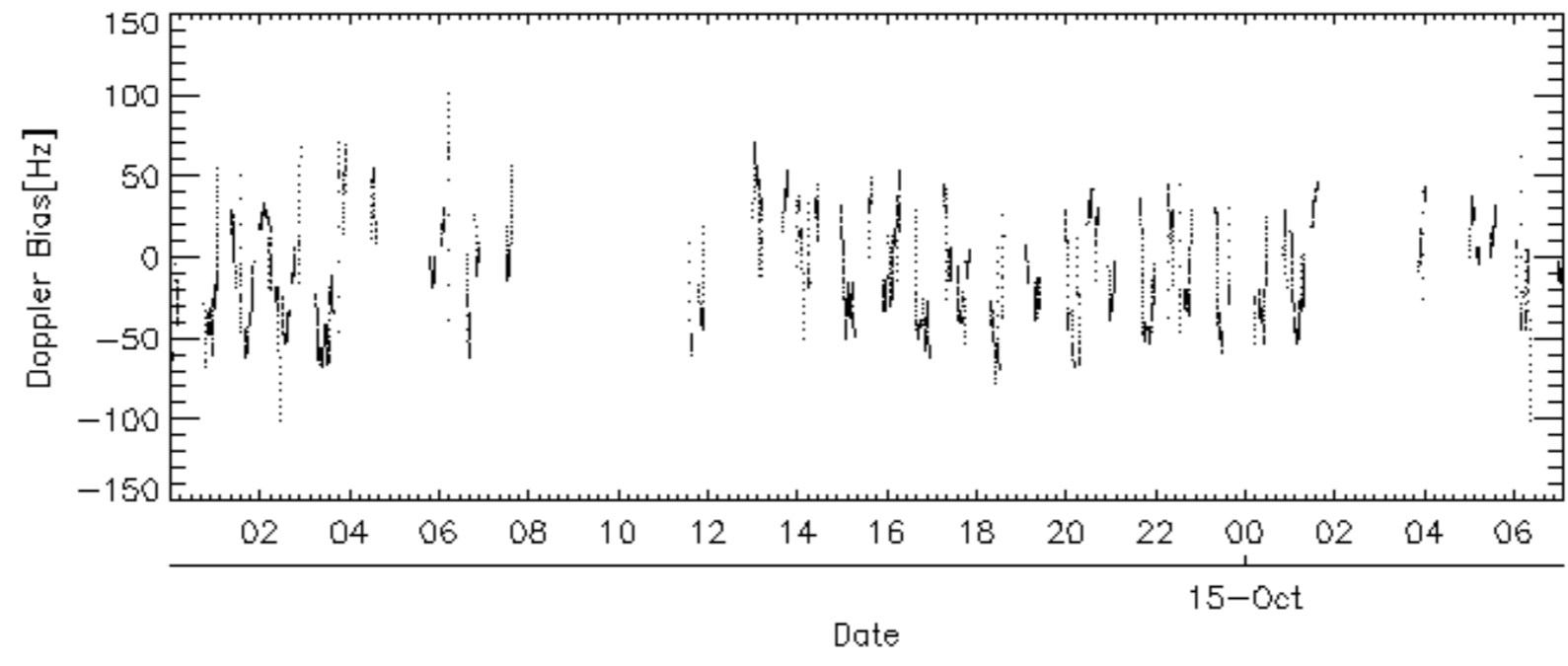
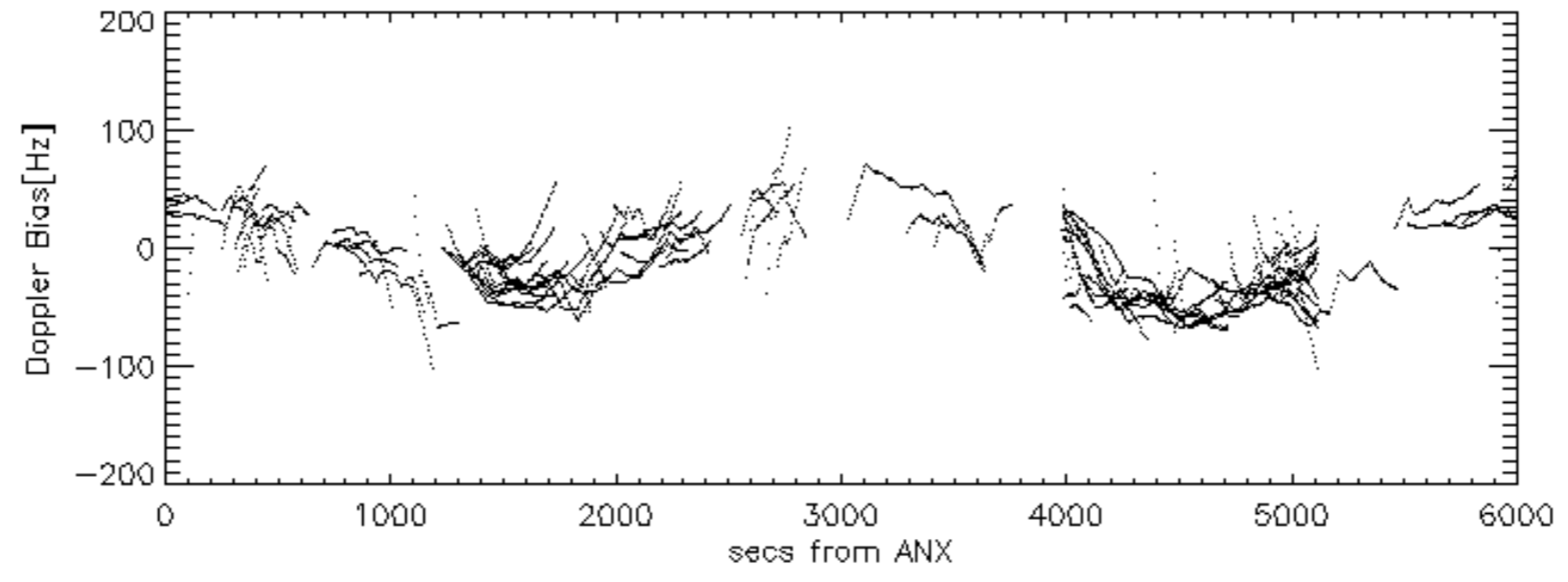
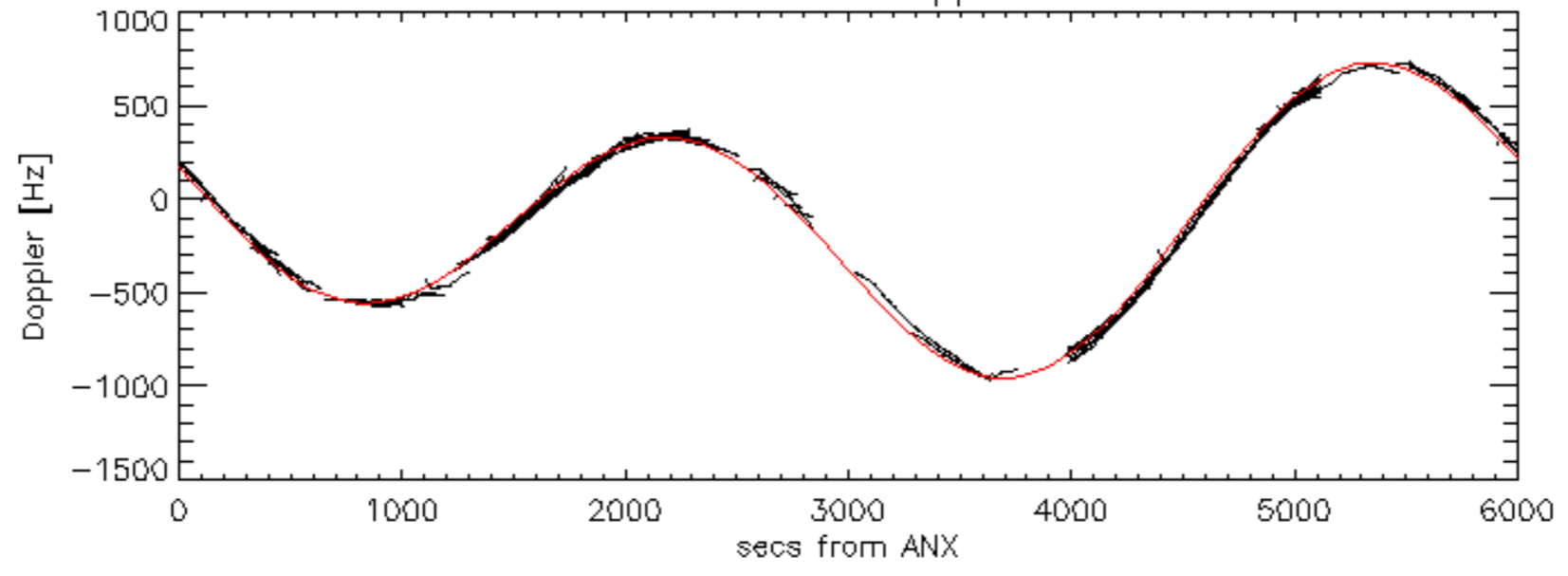


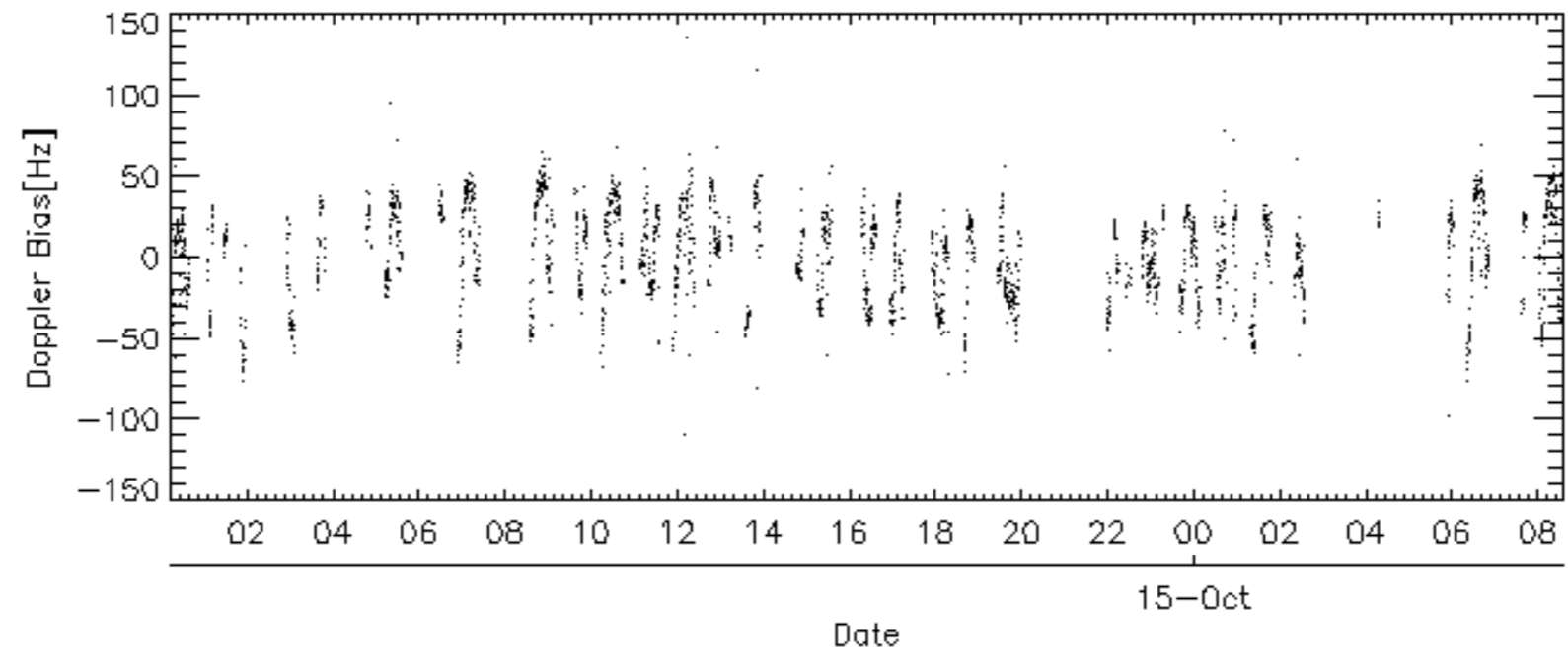
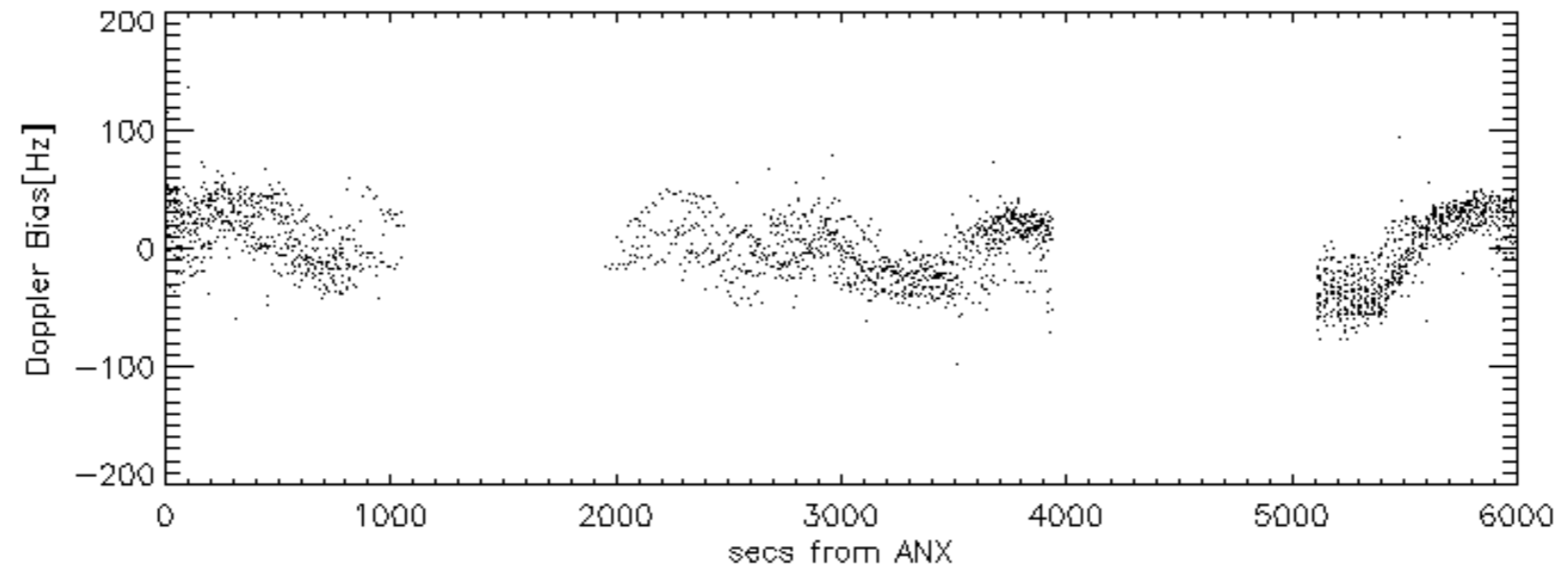
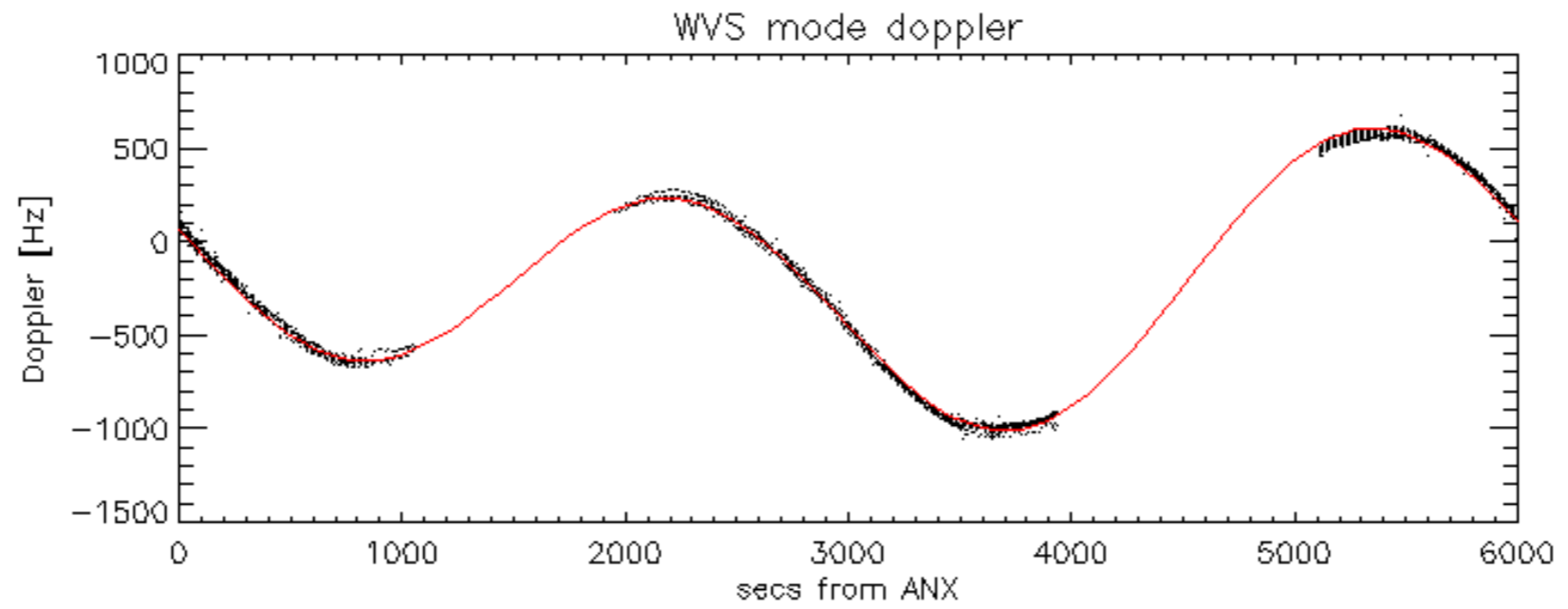
Doppler 'WVS' 'IS2' descending





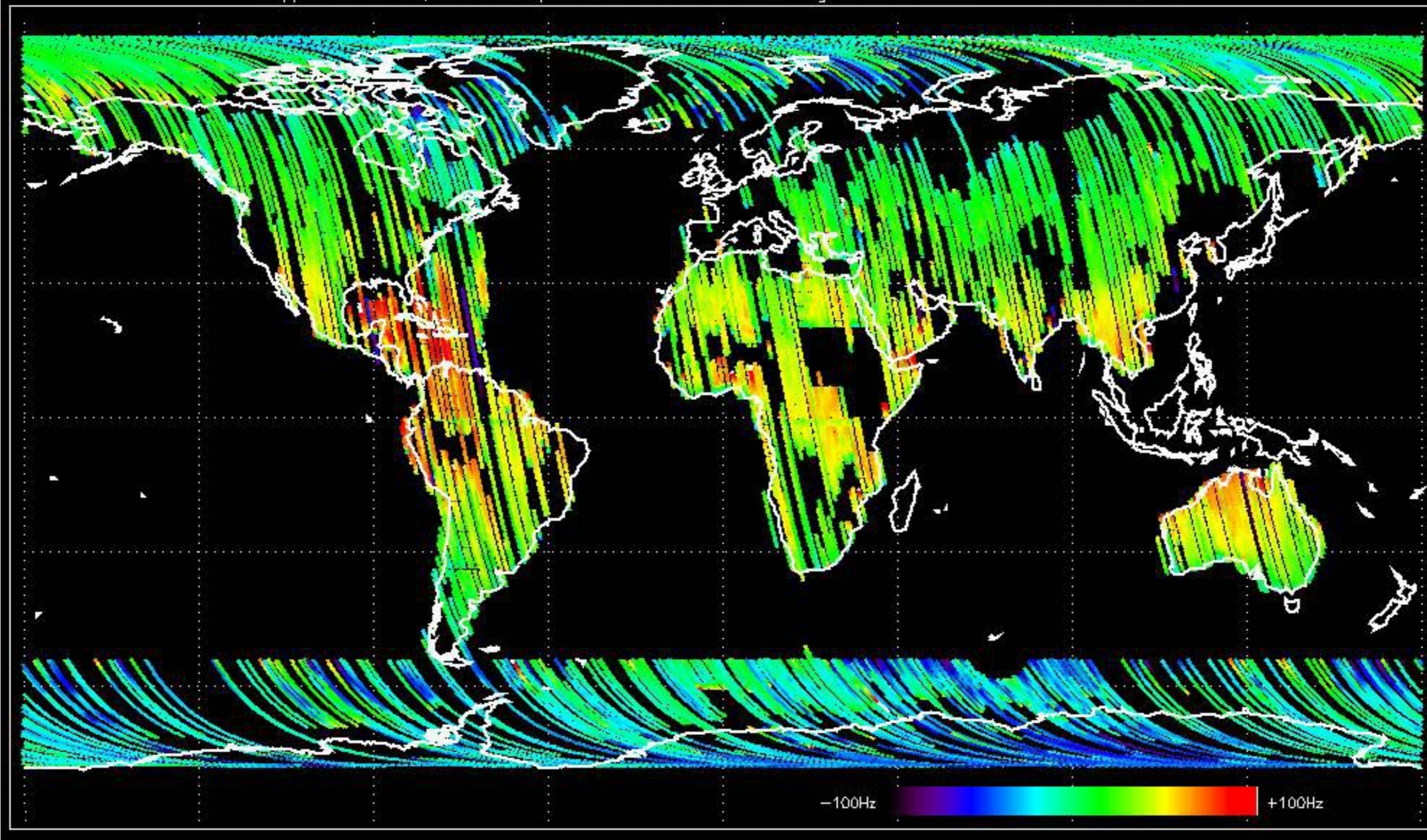
GM1 mode doppler





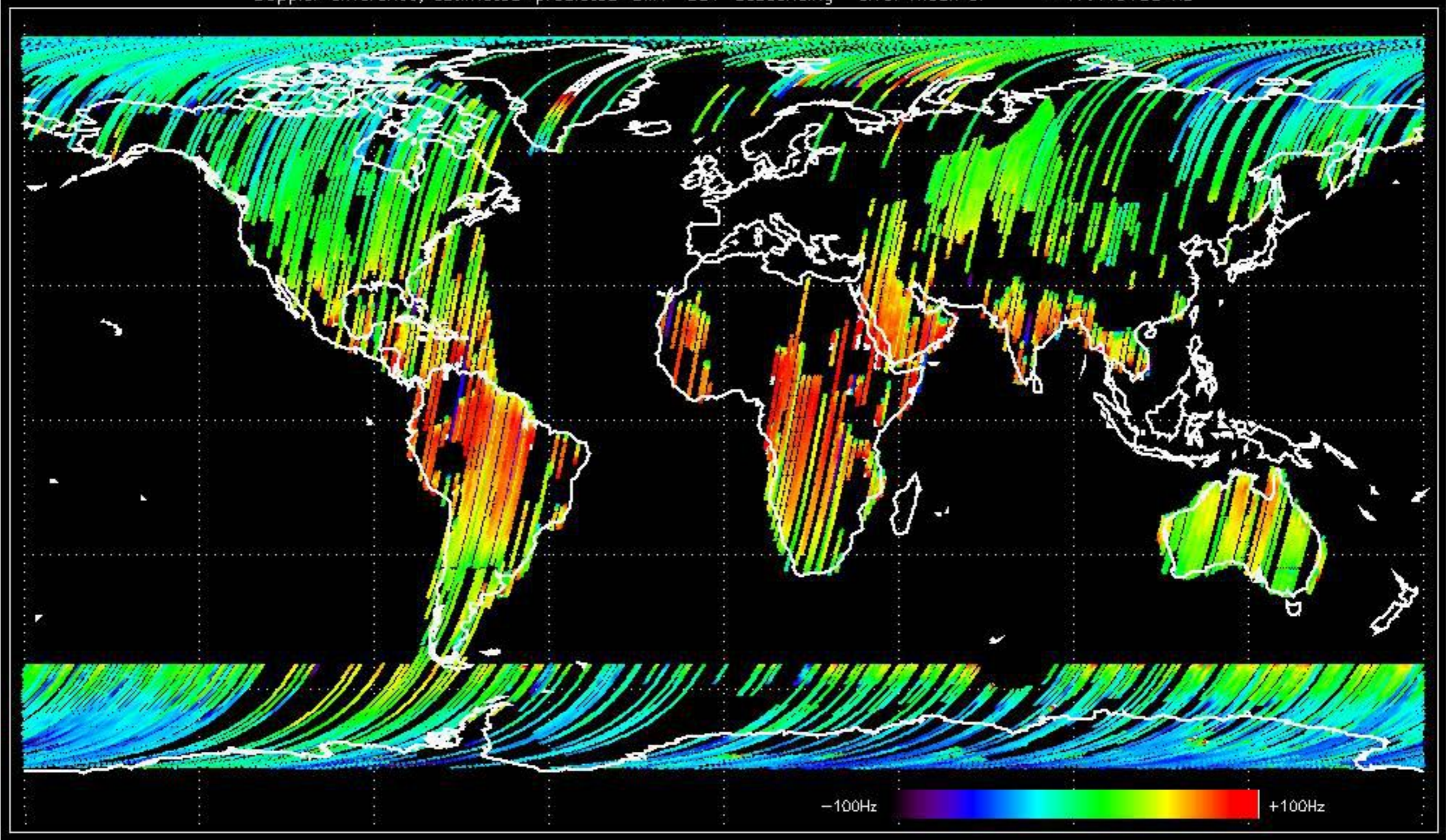


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -19.060858 Hz



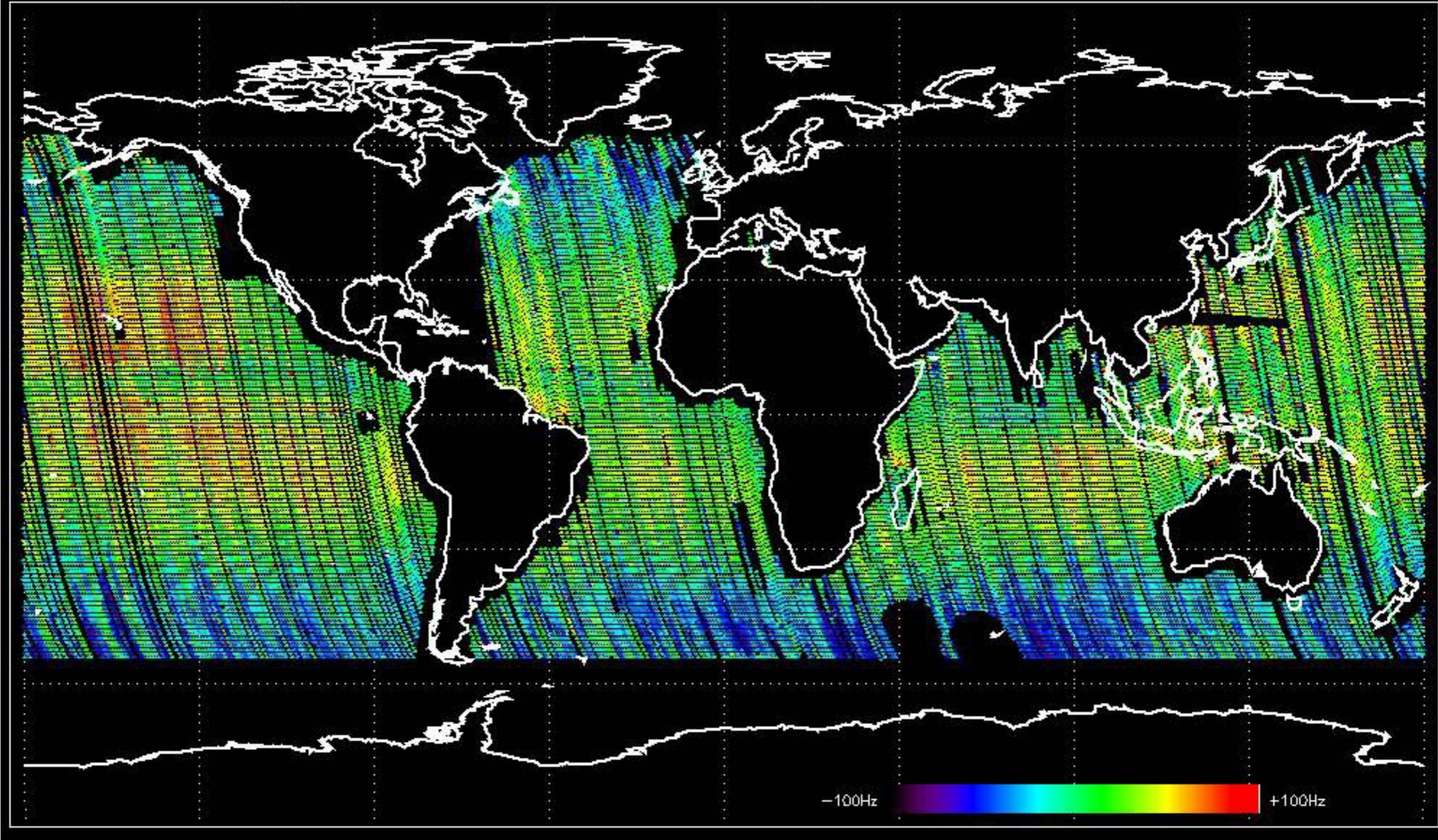


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -17.419108 Hz



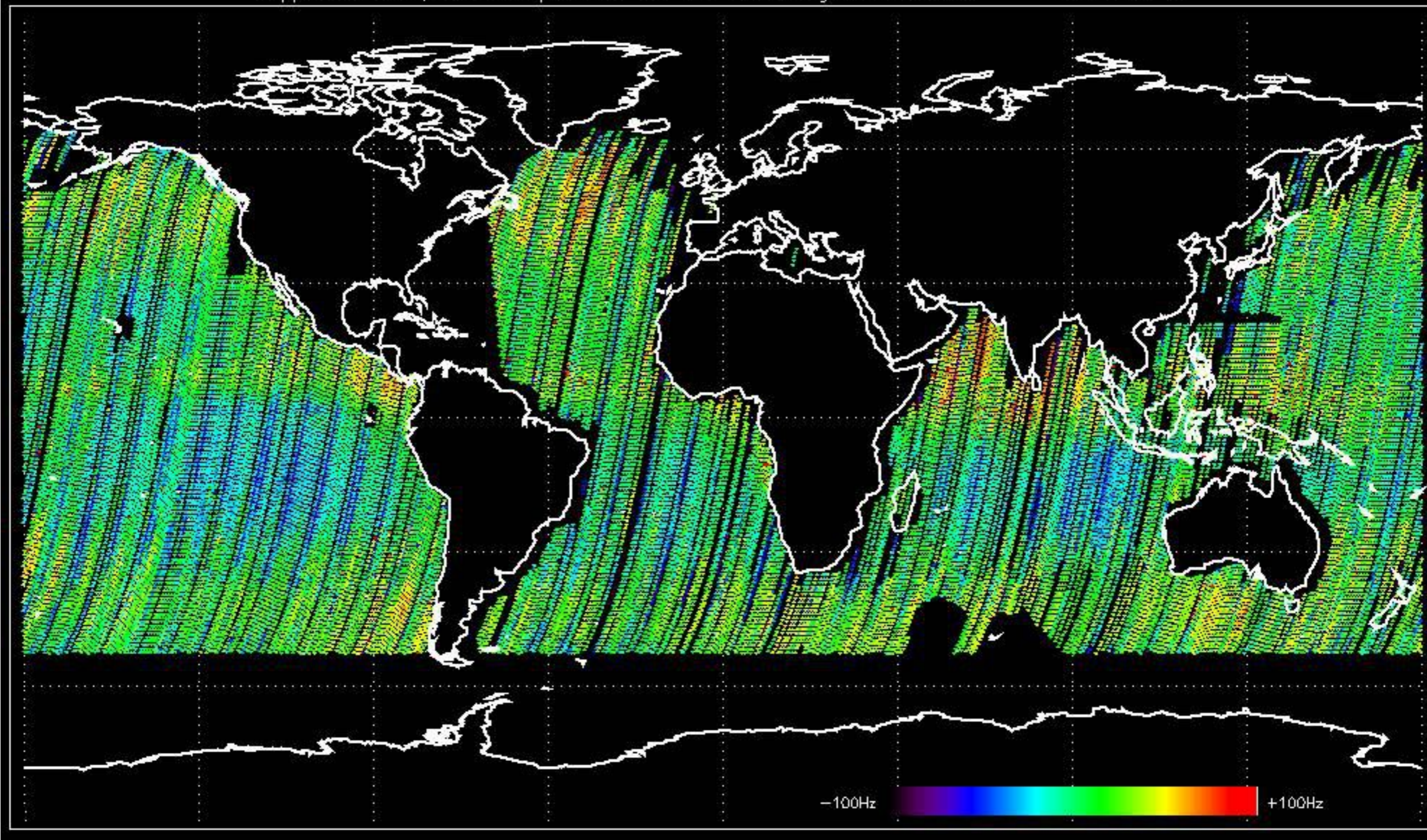


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -13.245787 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -17.249256 Hz



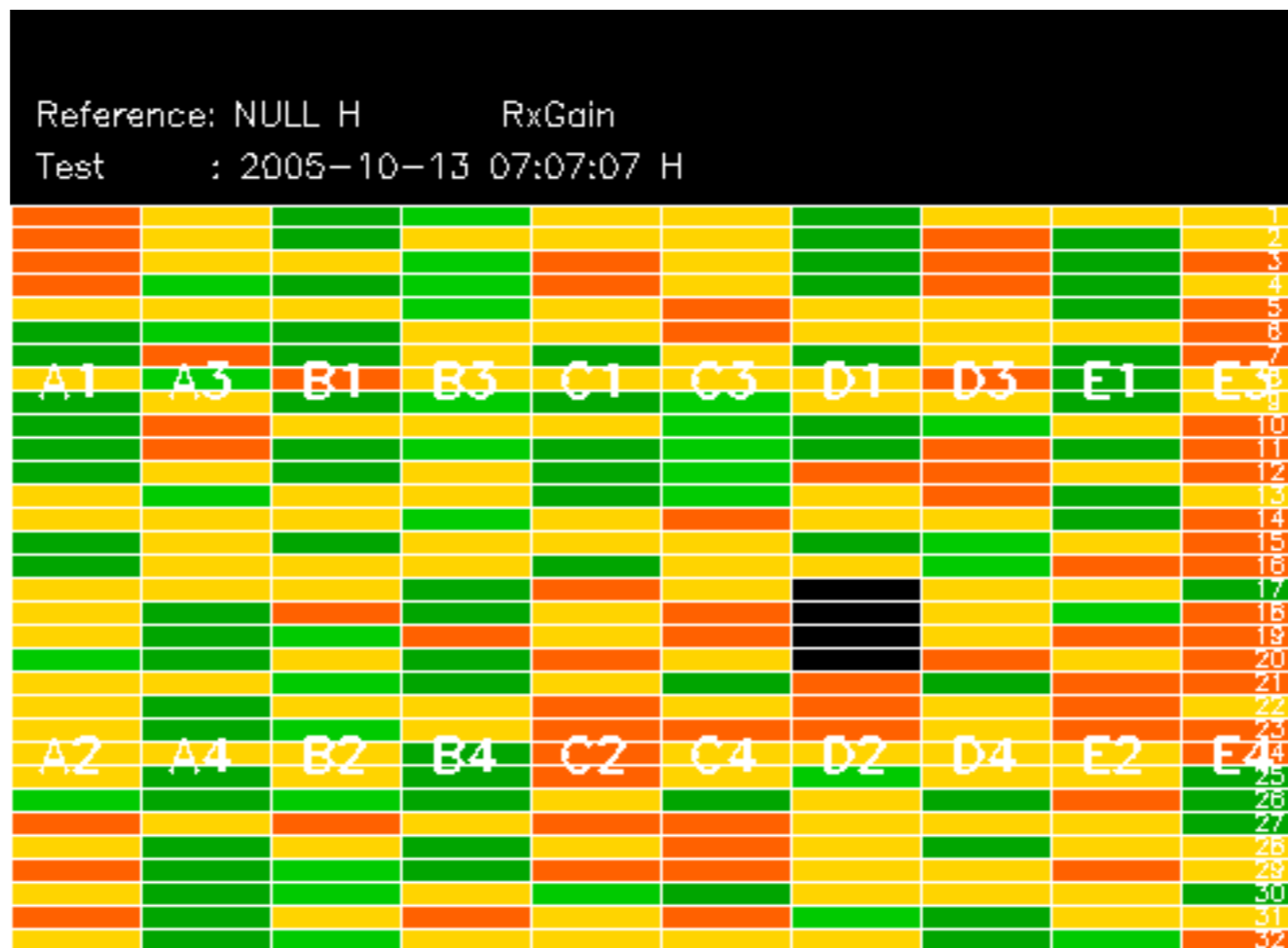


No anomalies observed on available MS products:

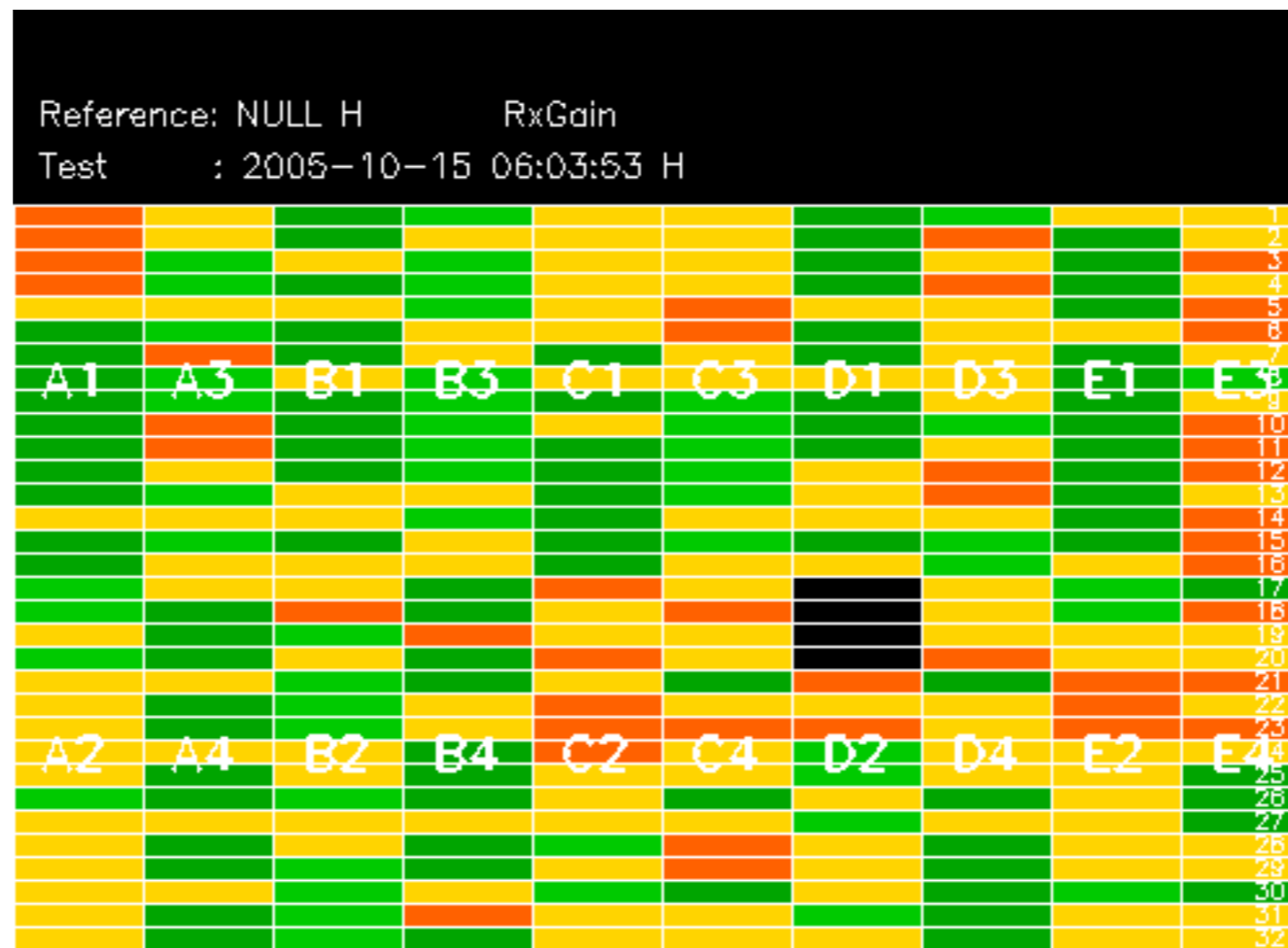
No anomalies observed.





















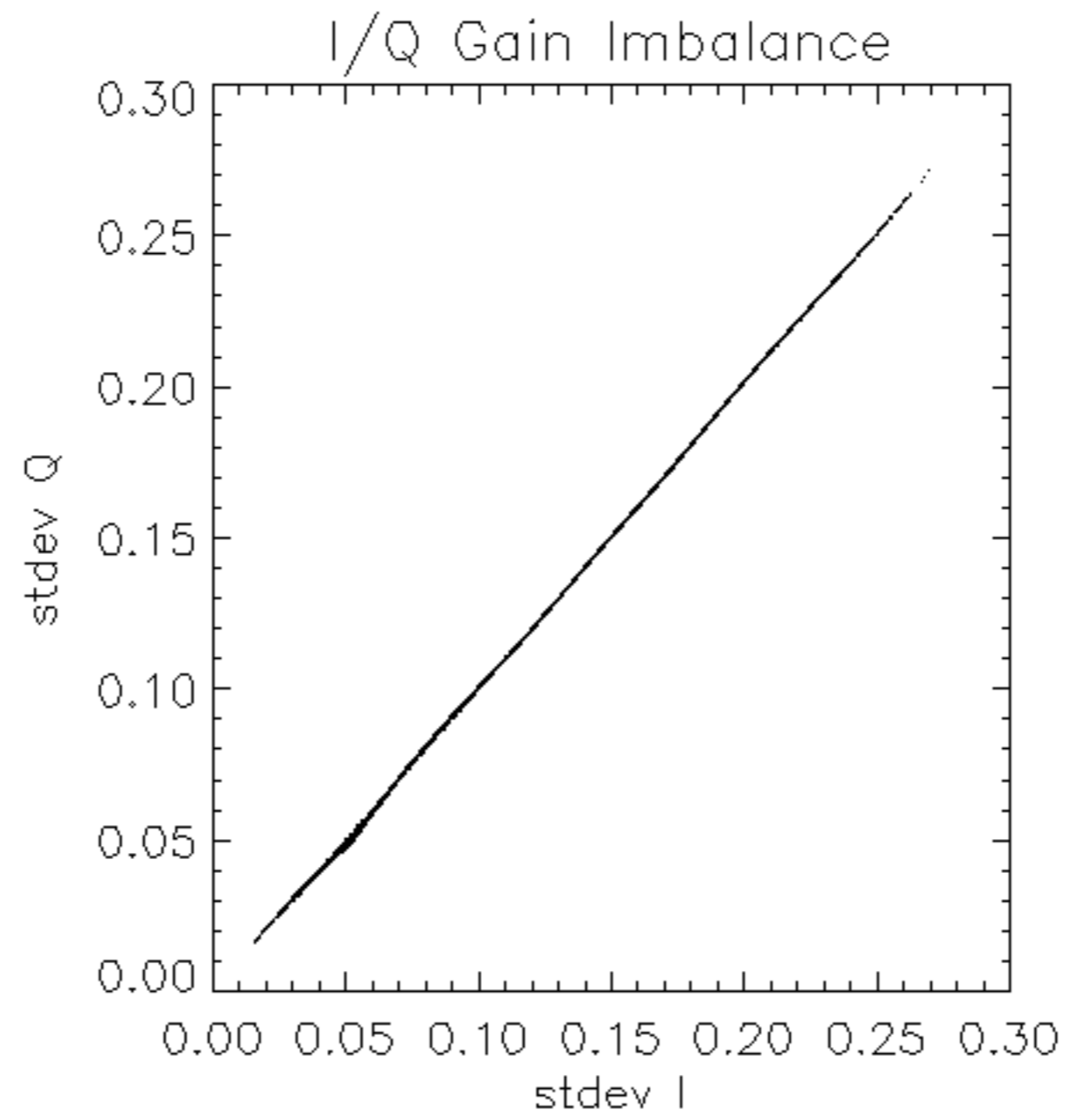


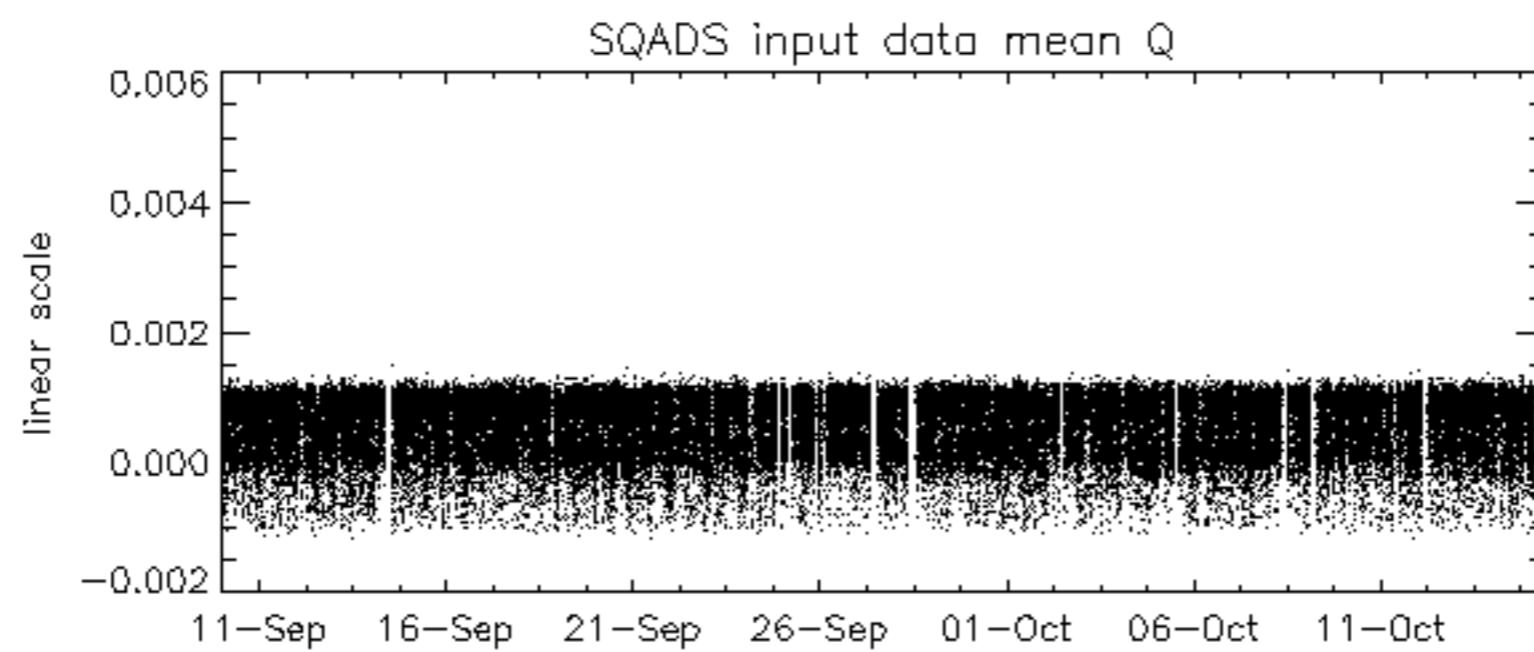
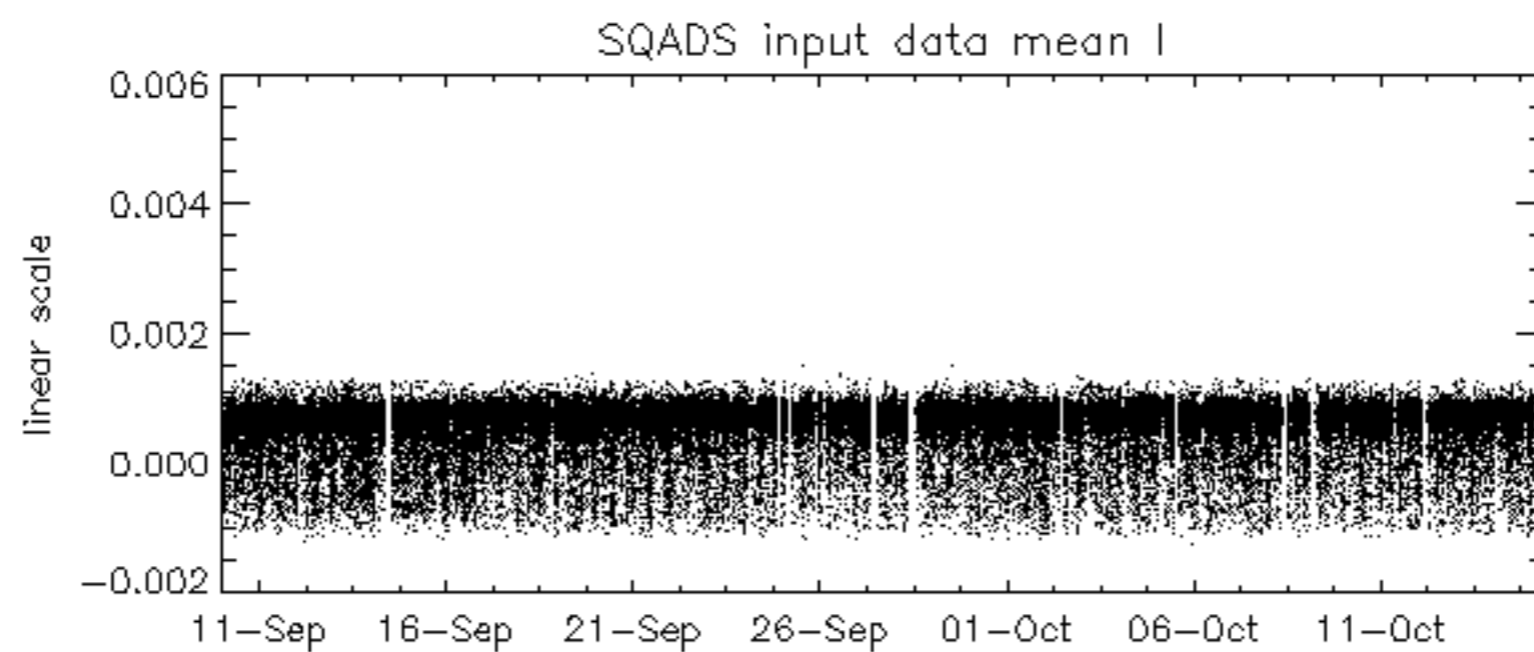
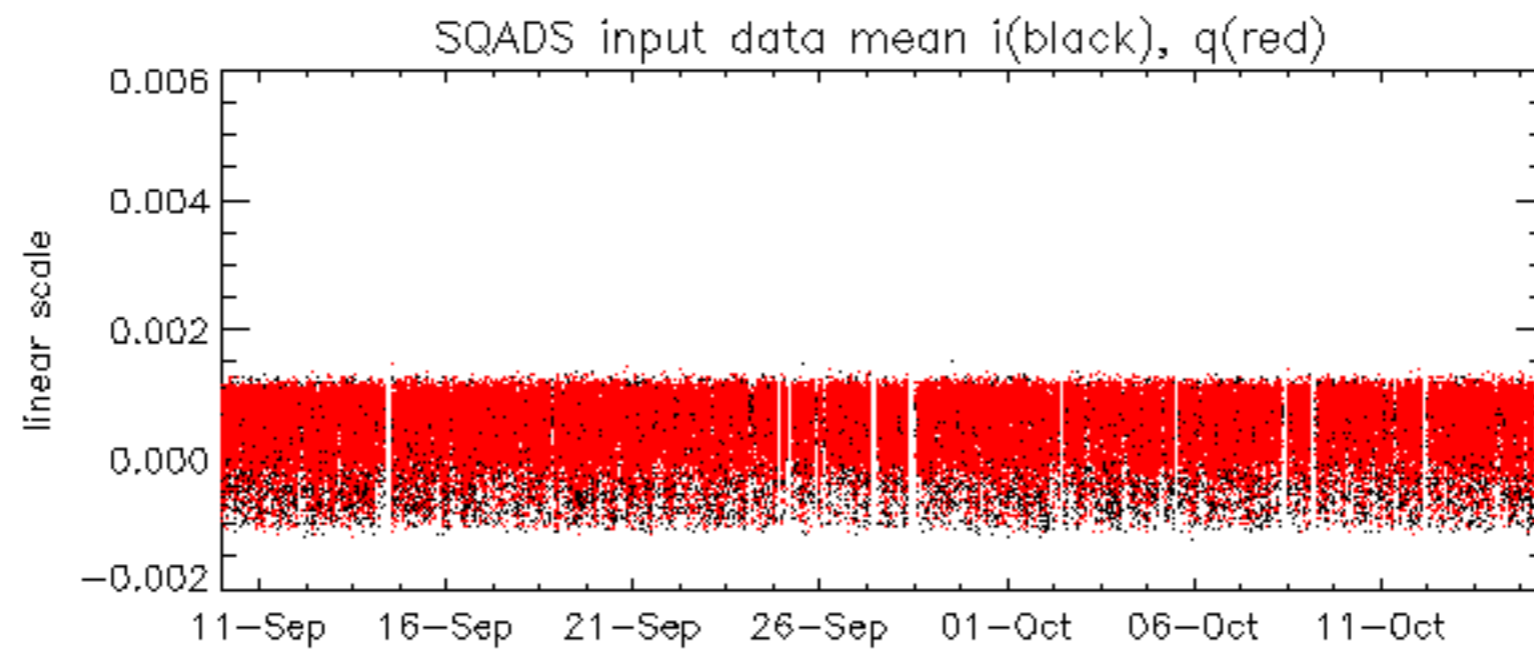




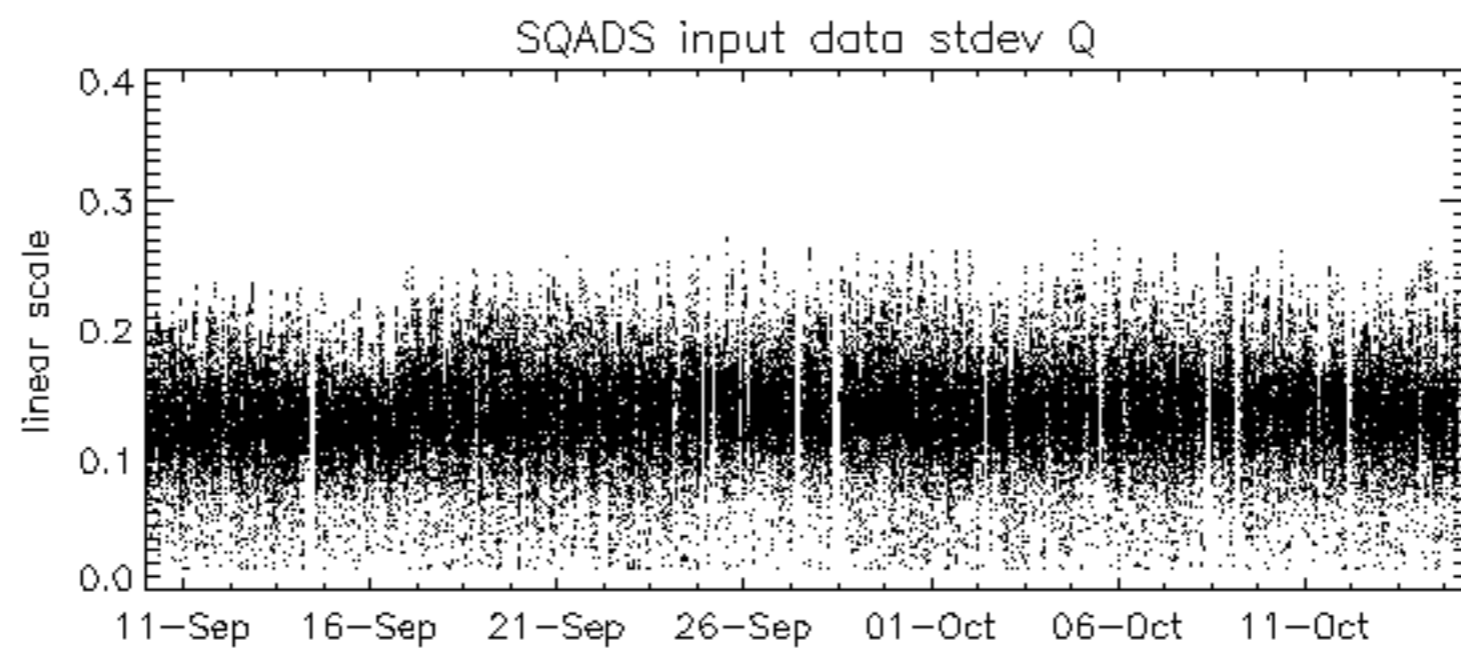
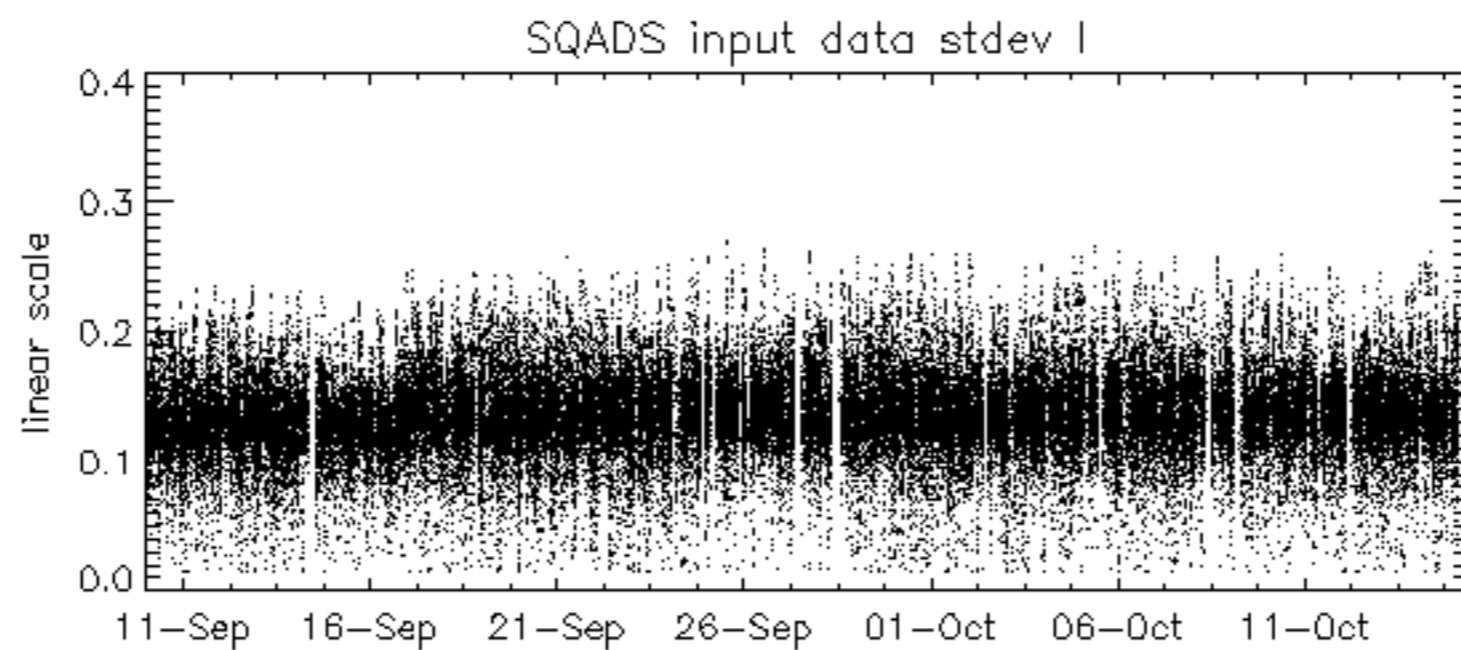
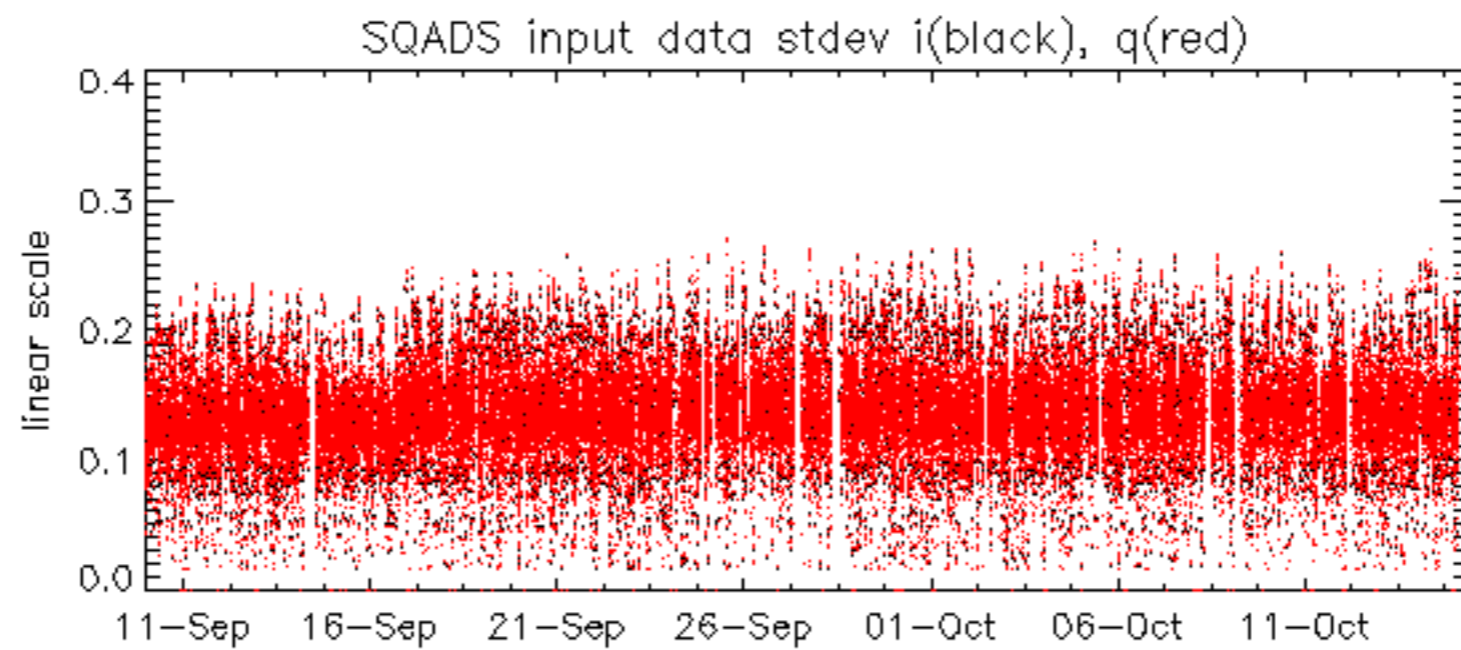










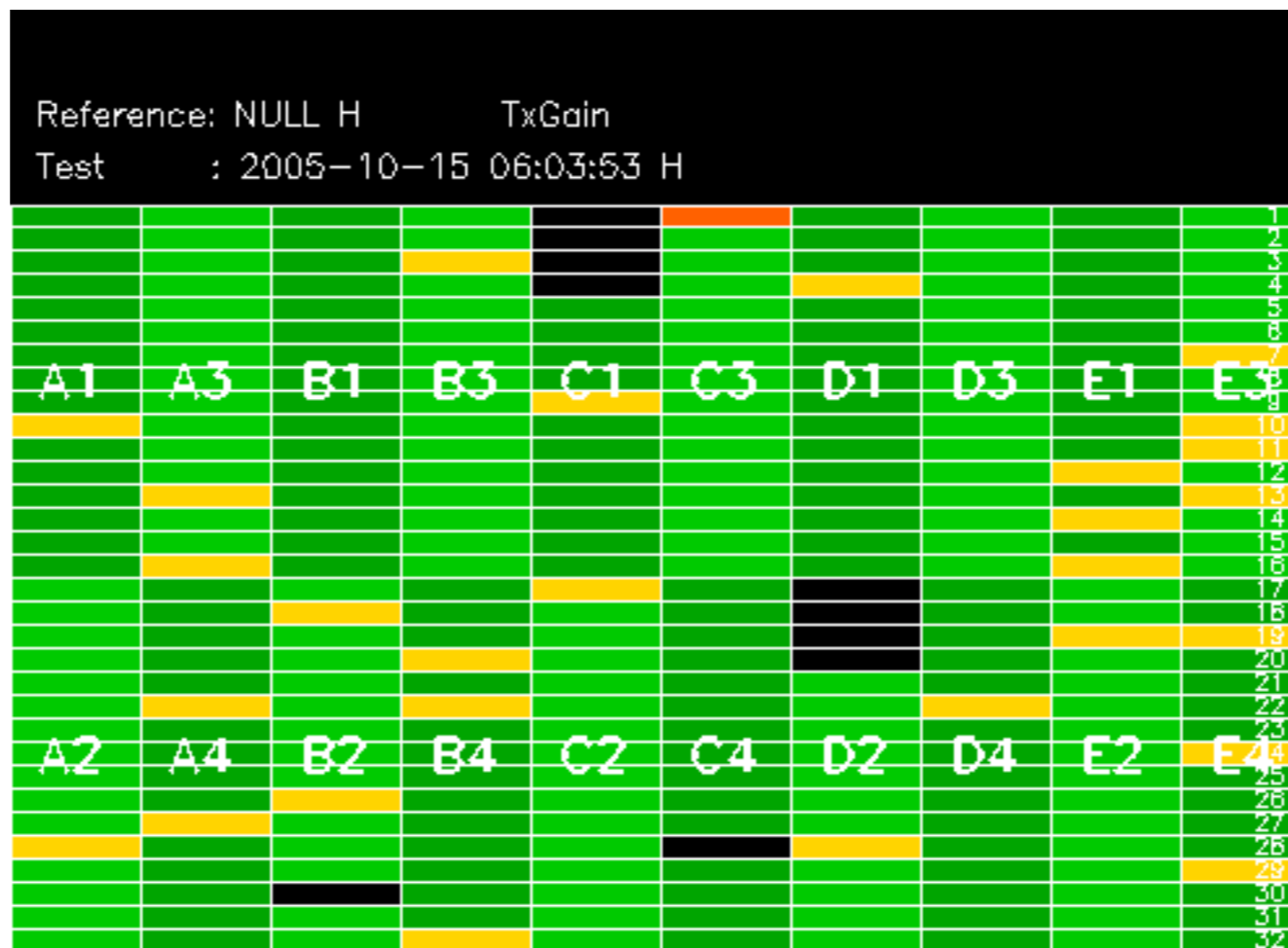














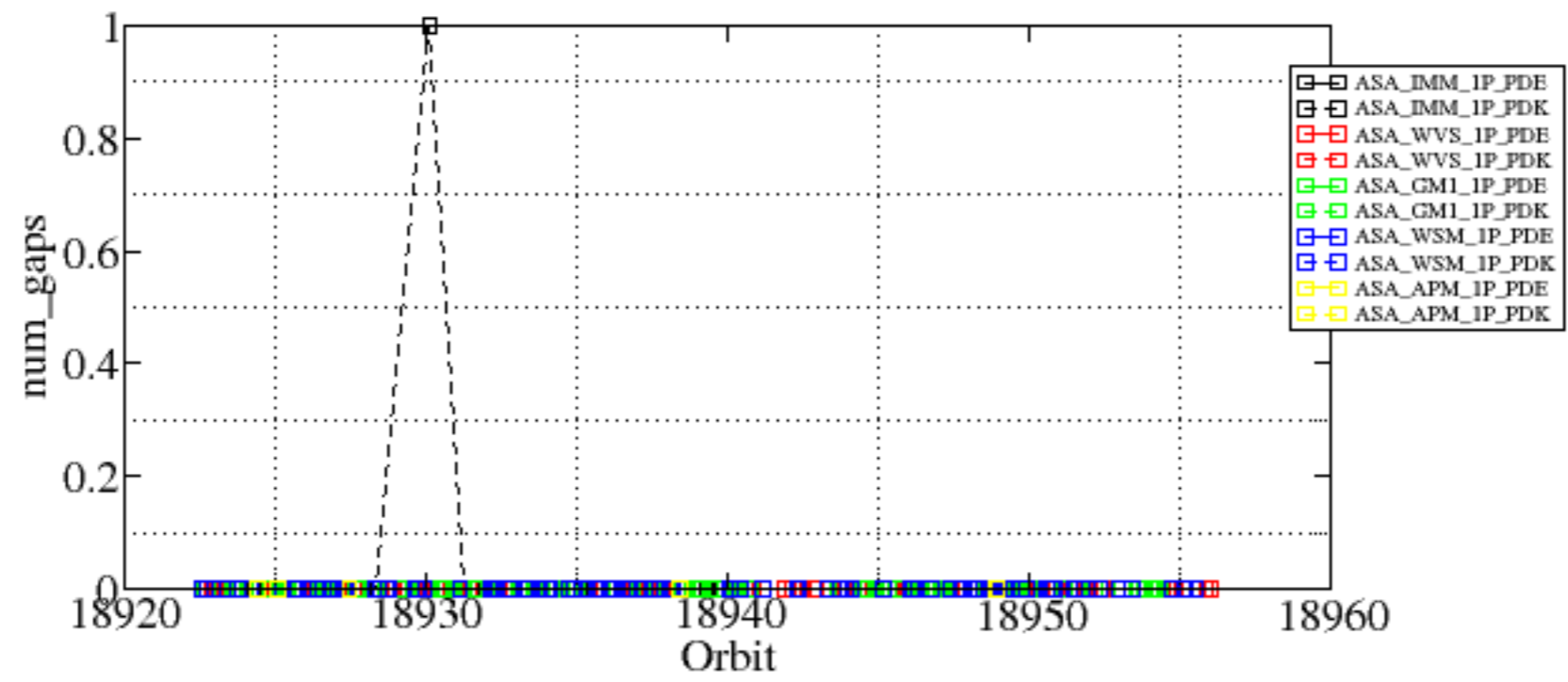




Summary of analysis for the last 3 days 2005101[345]

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_1PNPDK20051013_125413_000001212041_00339_18930_5617.N1	1	0
ASA_WSM_1PNPDE20051013_224734_000000912041_00345_18936_3834.N1	0	40
ASA_WSM_1PNPDE20051014_011413_000003542041_00346_18937_3867.N1	0	23
ASA_WSM_1PNPDE20051014_175039_000002012041_00356_18947_3964.N1	0	1
ASA_WSM_1PNPDE20051014_185458_000002312041_00357_18948_3963.N1	0	52











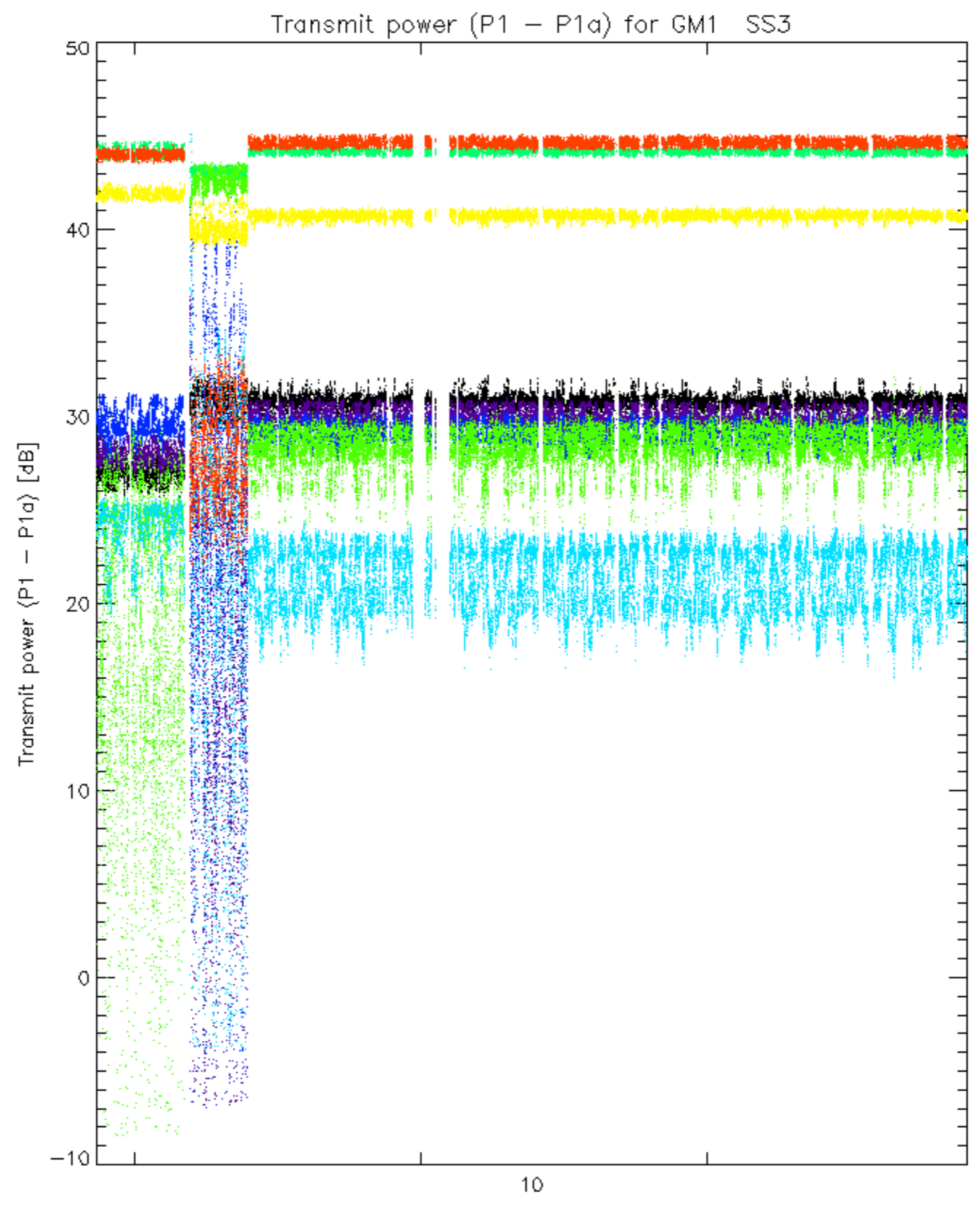




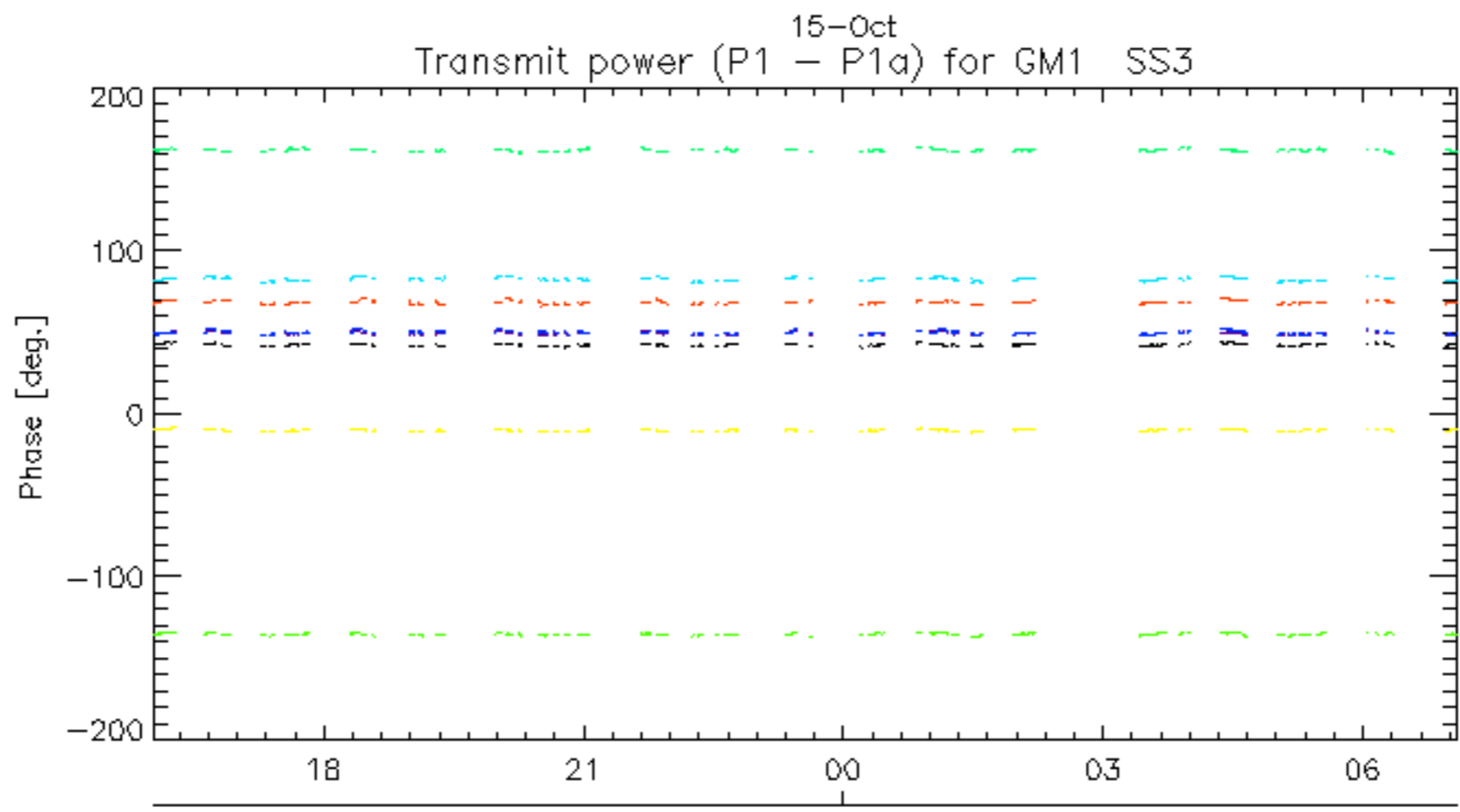
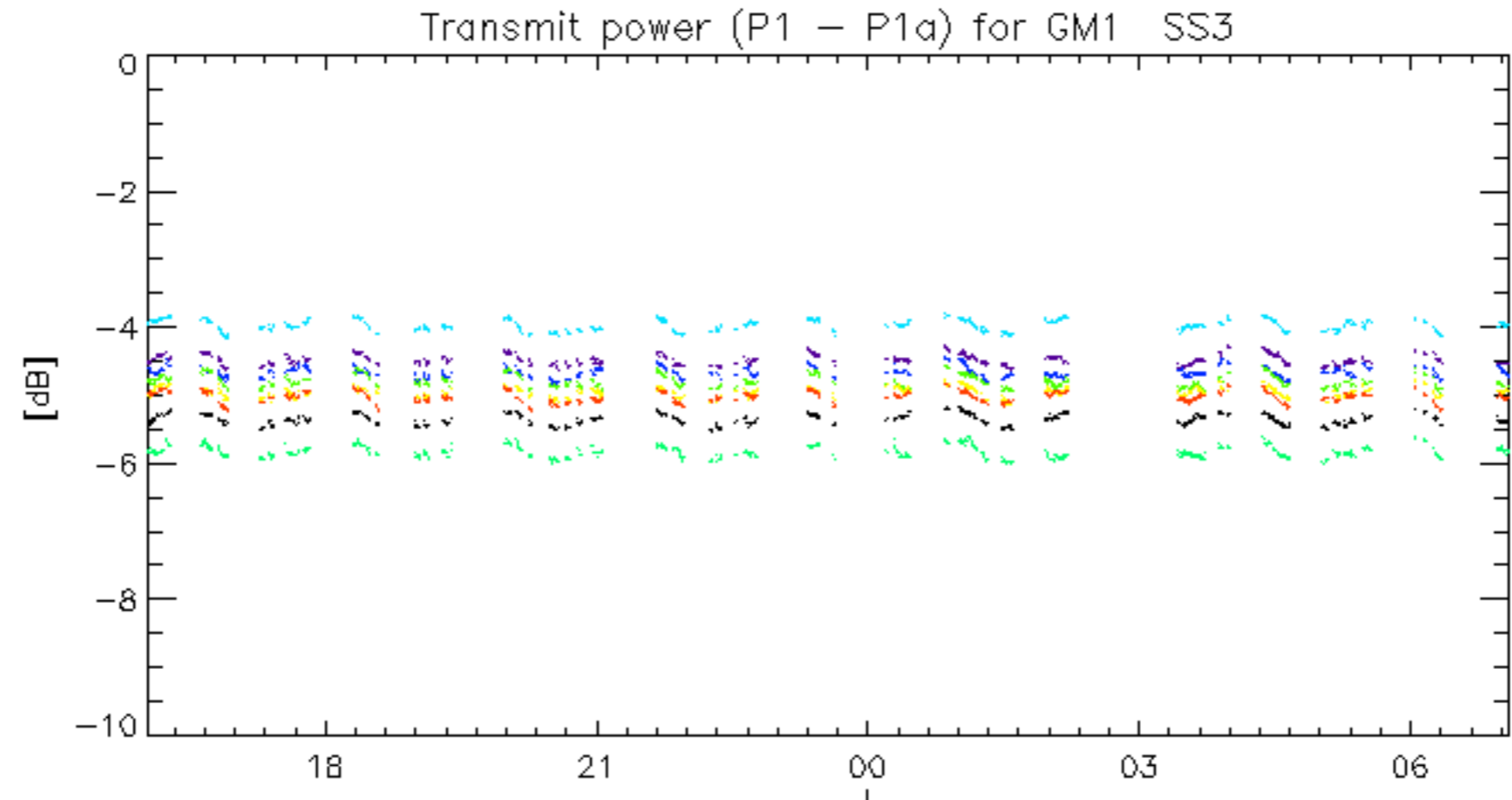




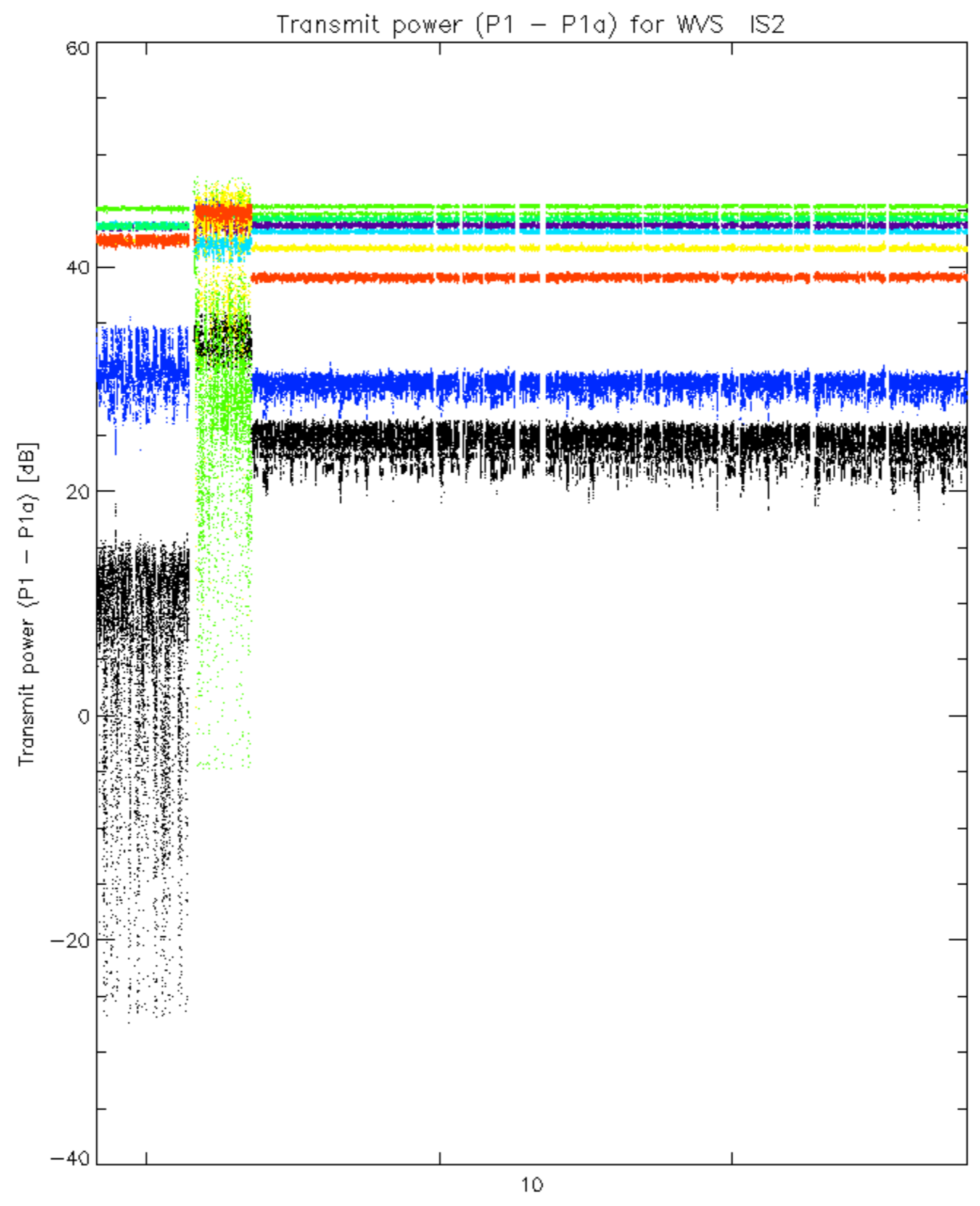




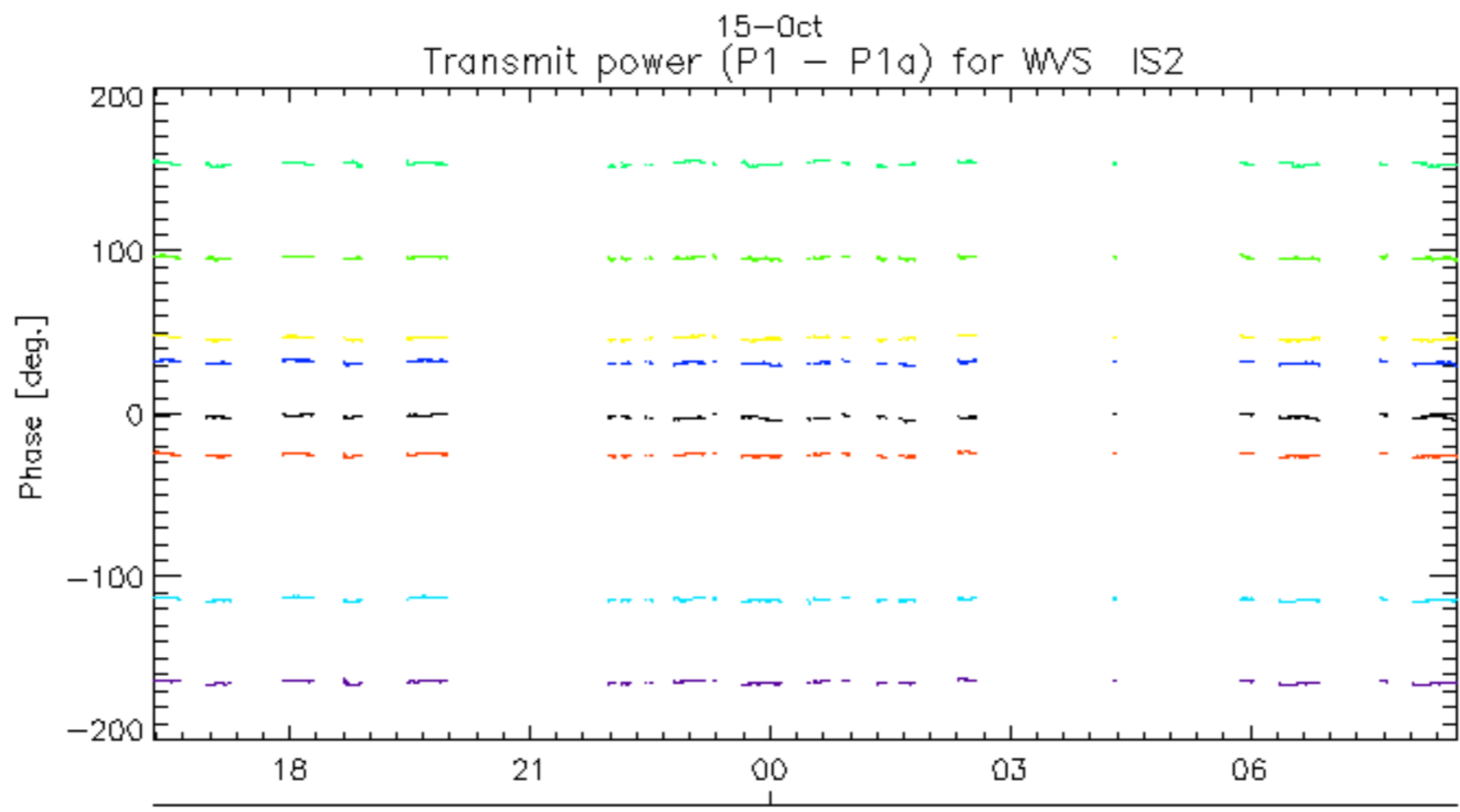
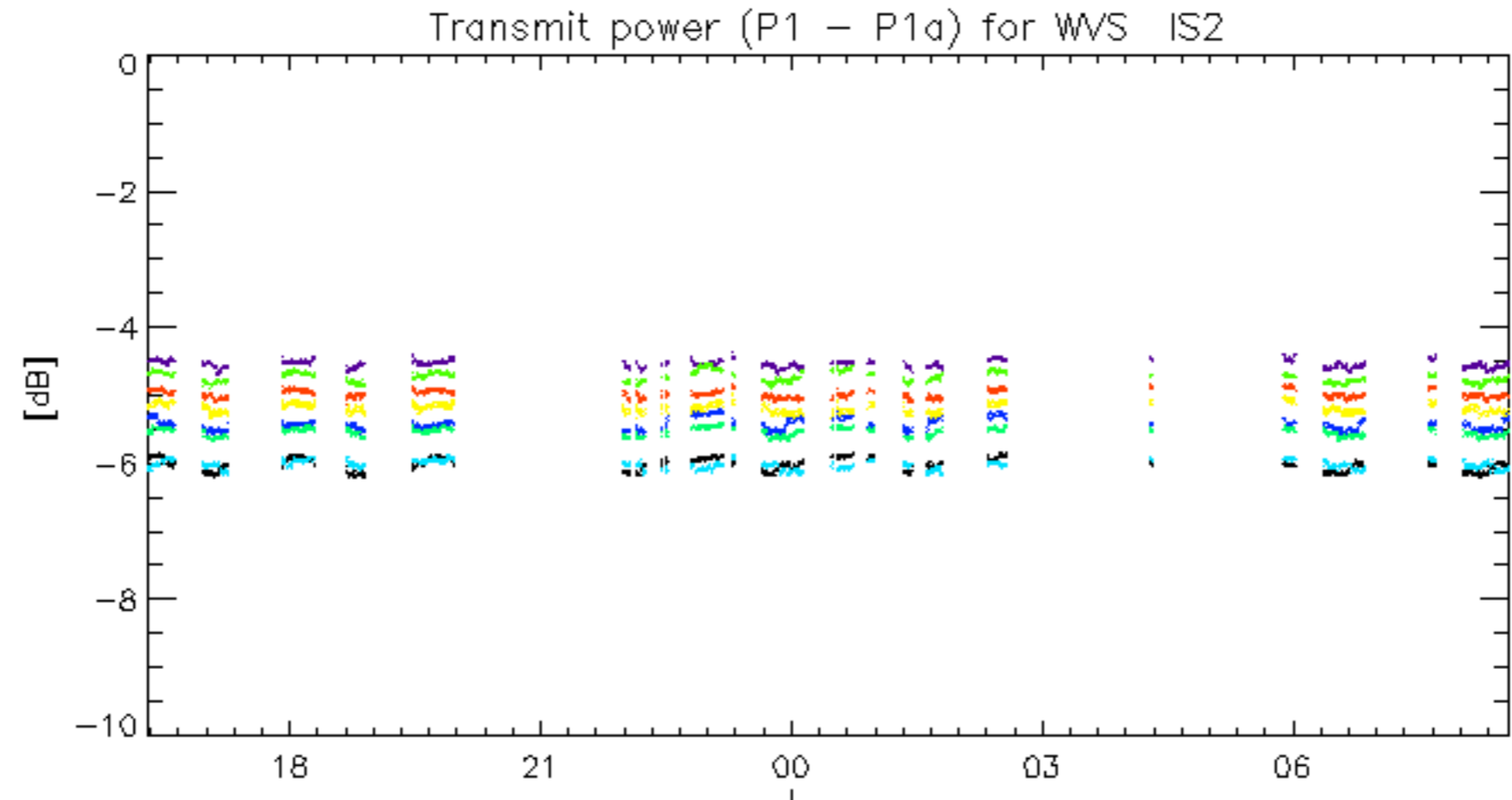




rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30



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

No unavailabilities during the reported period.