

# PRELIMINARY REPORT OF 050816

last update on Tue Aug 16 10:50:01 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 2005-08-15 00:00:00 to 2005-08-16 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	23	41	6	6	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	23	41	6	6	0
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	23	41	6	6	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	23	41	6	6	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	35	48	23	9	32
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	35	48	23	9	32
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000	35	48	23	9	32
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	35	48	23	9	32

## 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	20050815 180518
H	20050814 183655

### 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)
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**P1 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.315511	0.025407	0.010806
7	P1	-3.158679	0.026193	-0.056203
11	P1	-4.712682	0.032958	-0.030872
15	P1	-5.594010	0.050450	-0.068085
19	P1	-3.798220	0.004237	-0.043281
22	P1	-4.636656	0.089030	0.022522
26	P1	-4.846996	0.117346	0.047051
30	P1	-7.244095	0.119566	0.007936
3	P1	-15.550766	0.077309	0.049786
7	P1	-15.526703	0.144006	-0.054142
11	P1	-21.750336	0.271850	-0.190739
15	P1	-11.294104	0.066445	0.000841
19	P1	-14.491998	0.036308	-0.051017
22	P1	-15.682243	0.345540	0.200367
26	P1	-17.342627	0.200318	0.199621
30	P1	-17.773838	0.397714	-0.134922

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.810410	0.084435	0.112305
7	P2	-21.965998	0.101820	0.140101
11	P2	-13.558016	0.108060	0.200517
15	P2	-7.066516	0.091892	0.042426
19	P2	-9.588202	0.095384	-0.000637
22	P2	-16.834661	0.097391	0.053689
26	P2	-16.507139	0.098452	-0.001625
30	P2	-18.797703	0.086693	-0.023289

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.156539	0.002681	0.000359
7	P3	-8.156539	0.002681	0.000359
11	P3	-8.156539	0.002681	0.000359
15	P3	-8.156539	0.002681	0.000359
19	P3	-8.156539	0.002681	0.000359
22	P3	-8.156539	0.002681	0.000359
26	P3	-8.156539	0.002681	0.000359
30	P3	-8.156539	0.002681	0.000359

#### 4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1



#### 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	-2.803698	0.085494	-0.047024
7	P1	-2.971545	0.055259	-0.035047
11	P1	-4.015554	0.016450	-0.057943
15	P1	-3.615717	0.056935	-0.097016
19	P1	-3.631914	0.015556	0.010128
22	P1	-5.694477	0.095795	-0.034167
26	P1	-7.393489	0.160172	0.039795
30	P1	-6.326042	0.096791	0.048065
3	P1	-10.895294	0.051812	-0.189045
7	P1	-10.469935	0.163661	-0.035239
11	P1	-12.643002	0.103024	-0.044607
15	P1	-11.606959	0.096073	-0.016140
19	P1	-15.503313	0.066566	0.100985
22	P1	-25.600552	2.827975	0.352766
26	P1	-15.293496	0.312061	0.230264
30	P1	-20.052612	1.266681	-0.018070

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.541792	0.047178	0.161875
7	P2	-22.021996	0.038887	0.054283
11	P2	-9.597299	0.066322	0.188383
15	P2	-5.104539	0.042451	0.047072
19	P2	-6.883841	0.063515	0.060438
22	P2	-7.056734	0.039492	0.052138
26	P2	-23.965702	0.037969	0.021612
30	P2	-21.947432	0.043654	0.023147

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.998370	0.004277	0.001628
7	P3	-7.998235	0.004267	0.001586
11	P3	-7.998243	0.004274	0.001338
15	P3	-7.998174	0.004274	0.001624
19	P3	-7.998281	0.004271	0.001666
22	P3	-7.998249	0.004266	0.001862
26	P3	-7.998167	0.004262	0.001996
30	P3	-7.998180	0.004259	0.001590

## 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	0.000457622
	stdev	2.22411e-07
MEAN Q	mean	0.000486150
	stdev	2.35273e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127972
	stdev	0.00100194
STDEV Q	mean	0.128229
	stdev	0.00101223



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005081[456]

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_1PNPDE20050815_032905_000002292039_00490_18079_2564.N1	1	0
ASA_IMM_1PNPDK20050814_124040_000000362039_00482_18071_1689.N1	1	0
ASA_WSM_1PNPDE20050815_165908_000000912039_00499_18088_4602.N1	0	2
ASA_WSM_1PNPDE20050815_184313_000002252039_00500_18089_4607.N1	0	3
ASA_APM_1PNPDE20050814_141422_000000582039_00483_18072_0499.N1	0	21







## 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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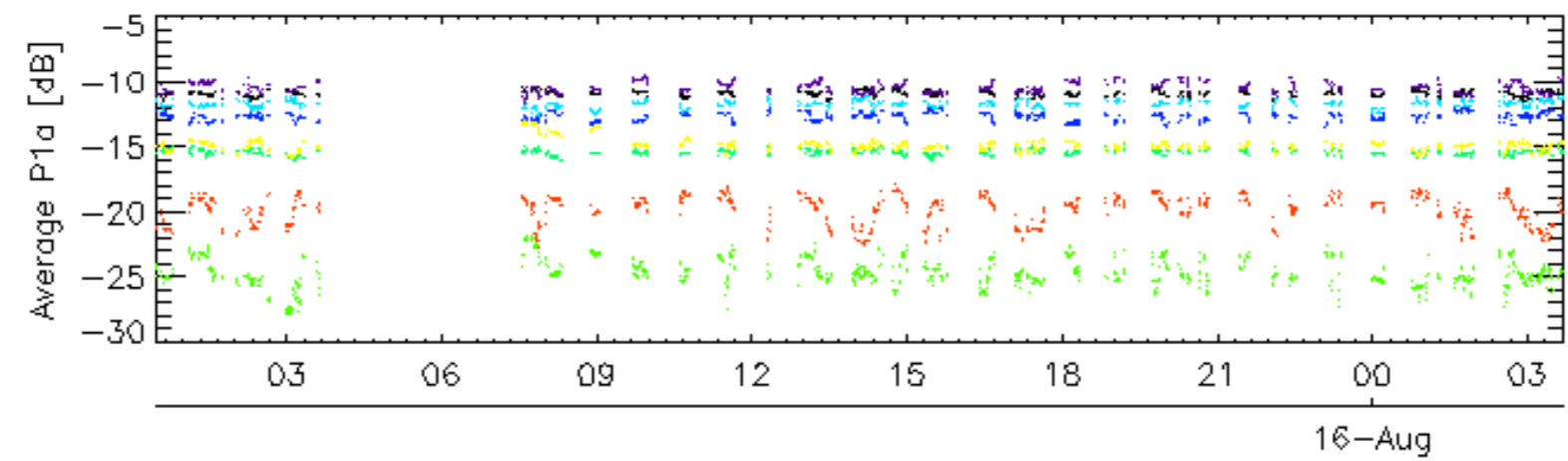
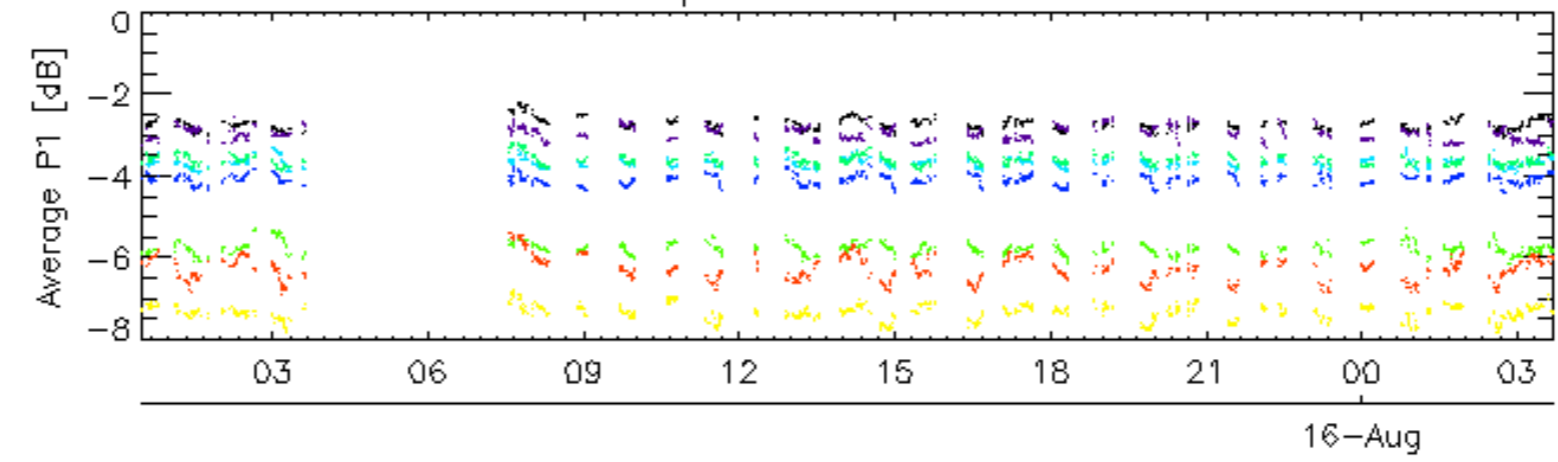
Descending
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### 7.6 - Doppler evolution versus ANX for GM1

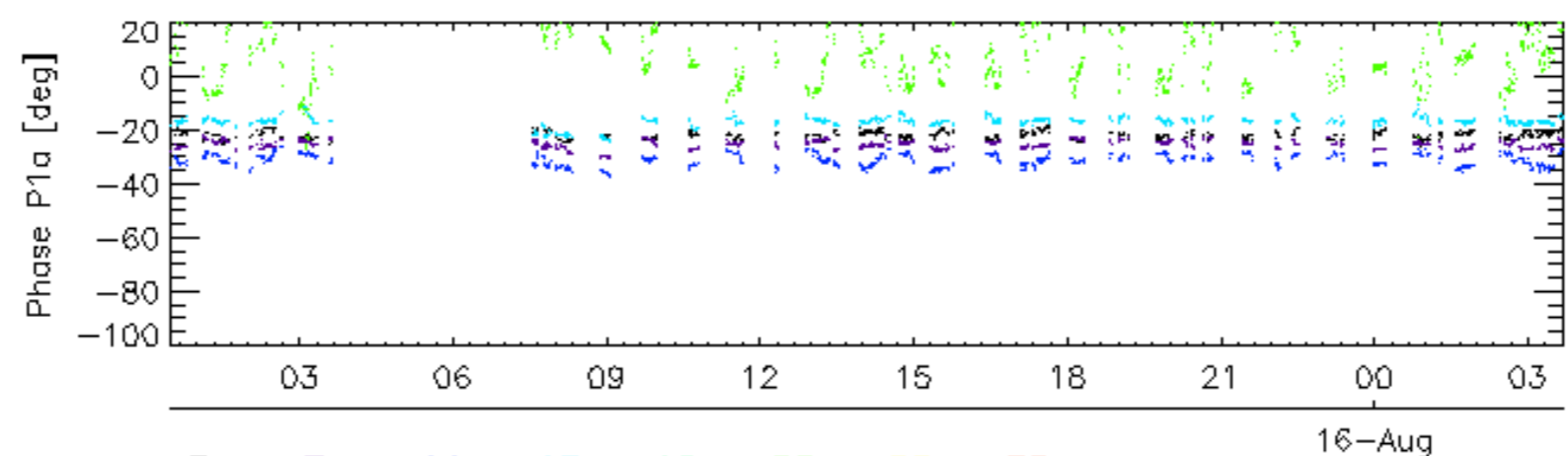
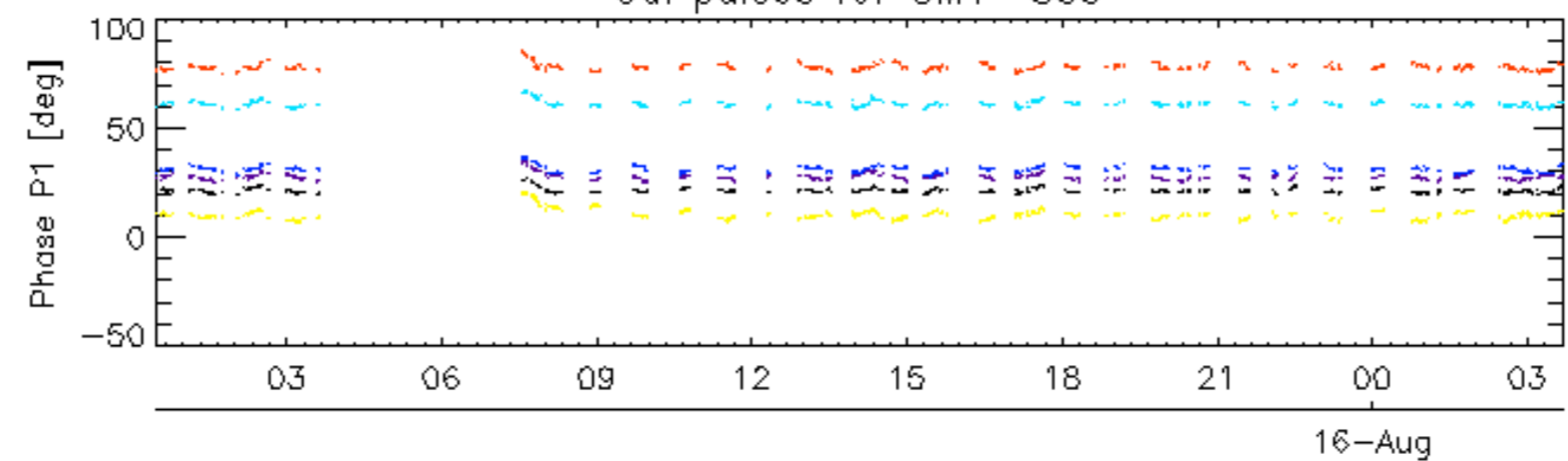
<b>Evolution Doppler error versus ANX</b>
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Cal pulses for GM1 SS3

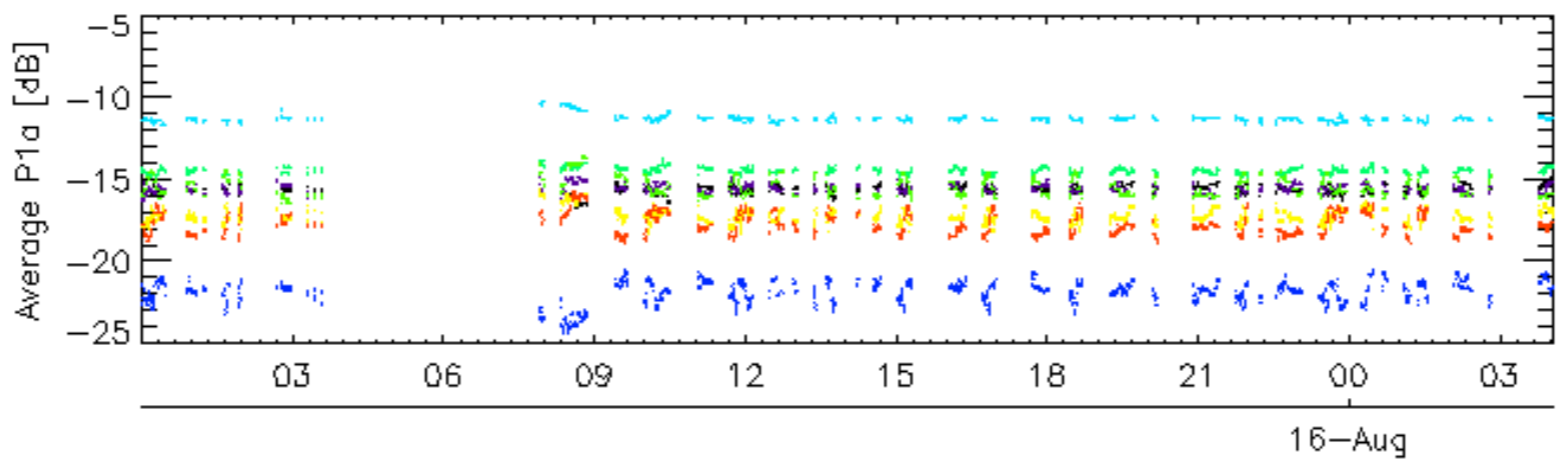
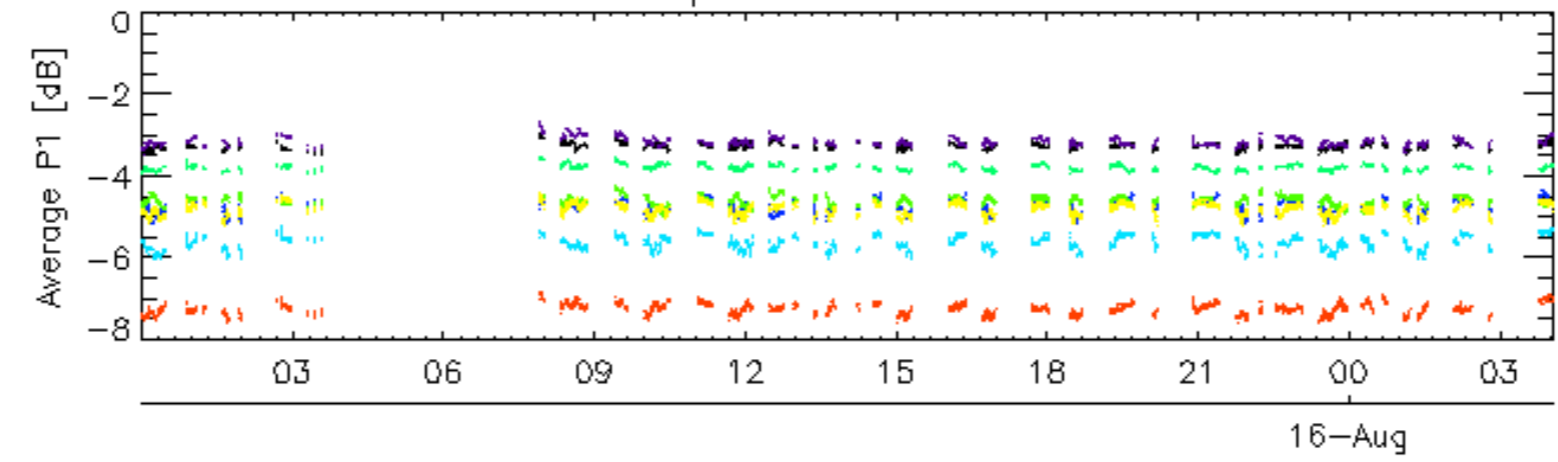


Cal pulses for GM1 SS3

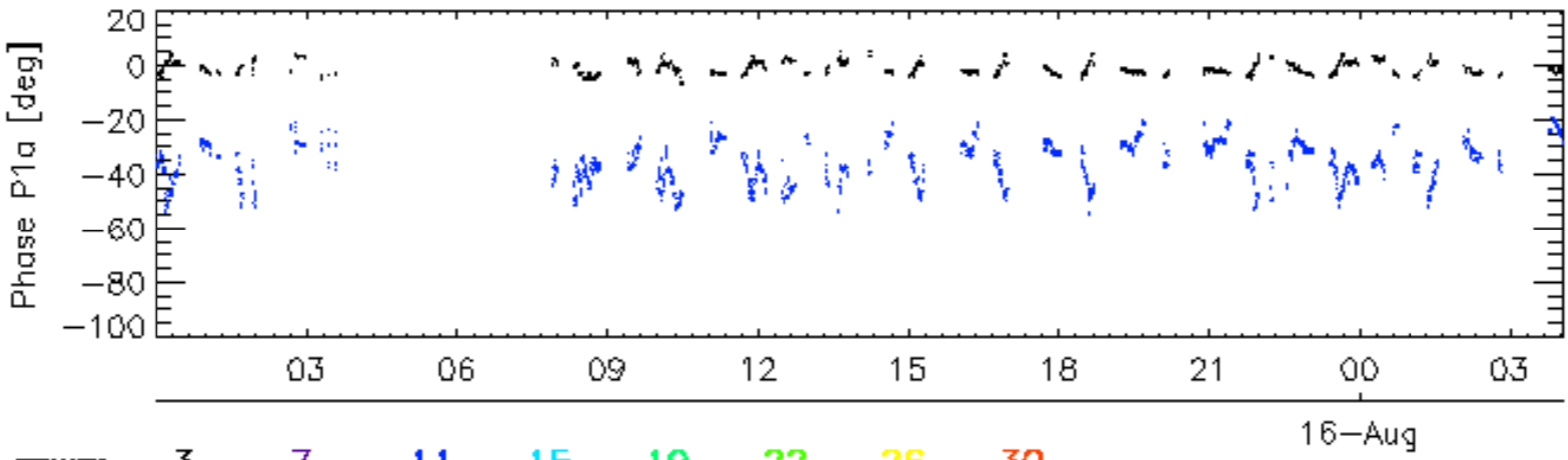
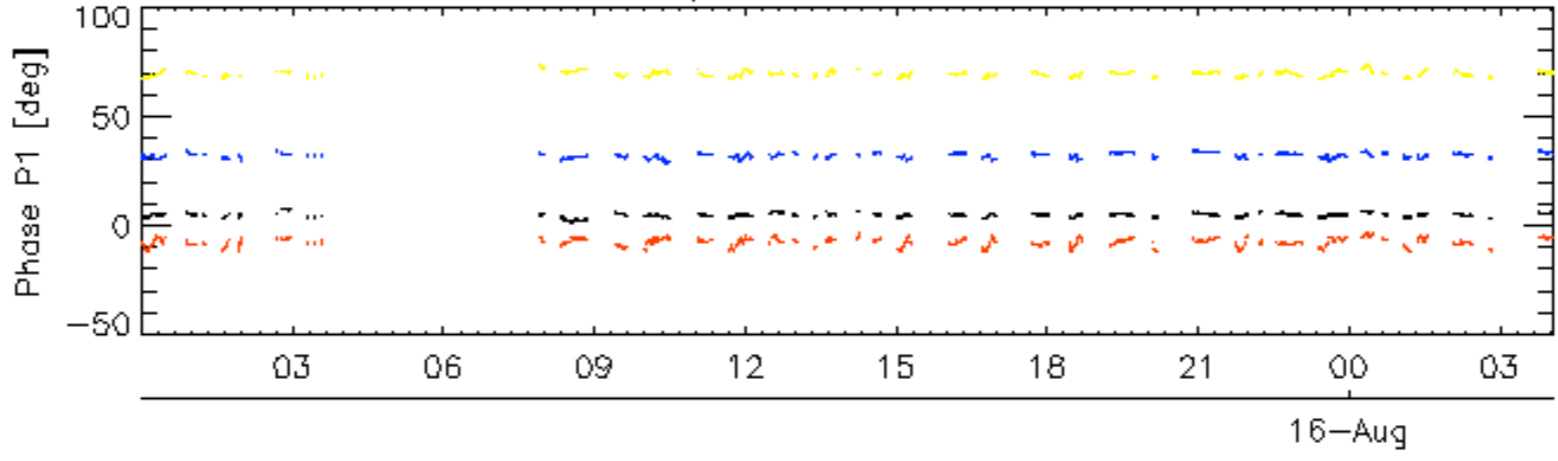


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

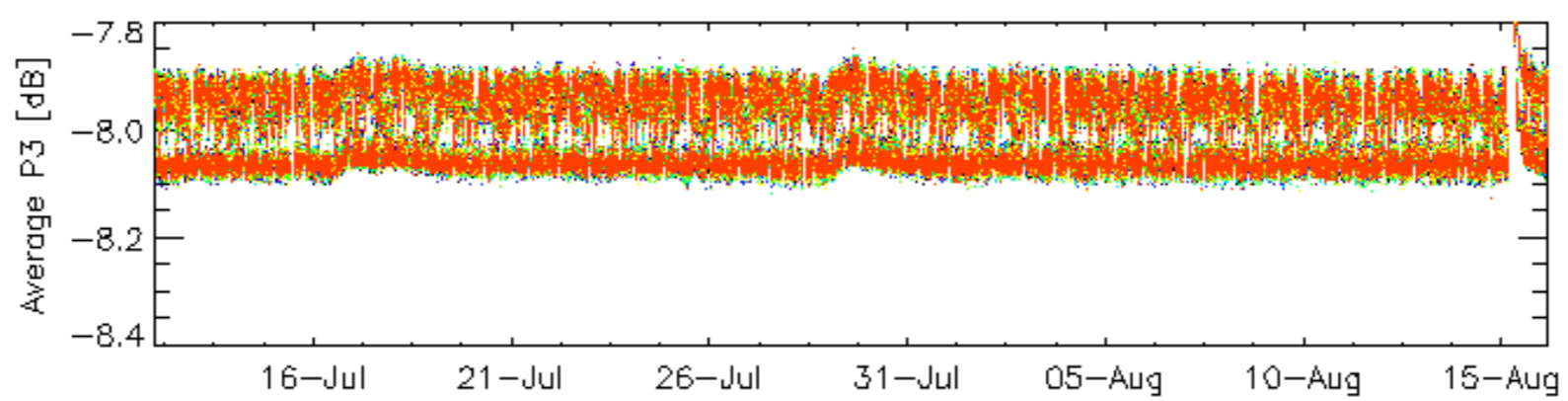
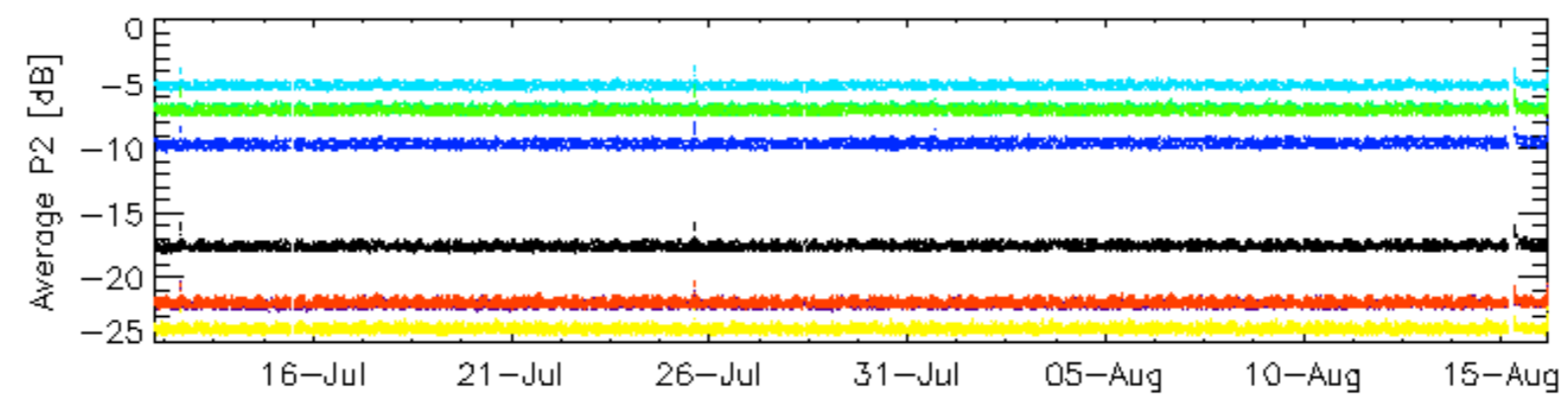
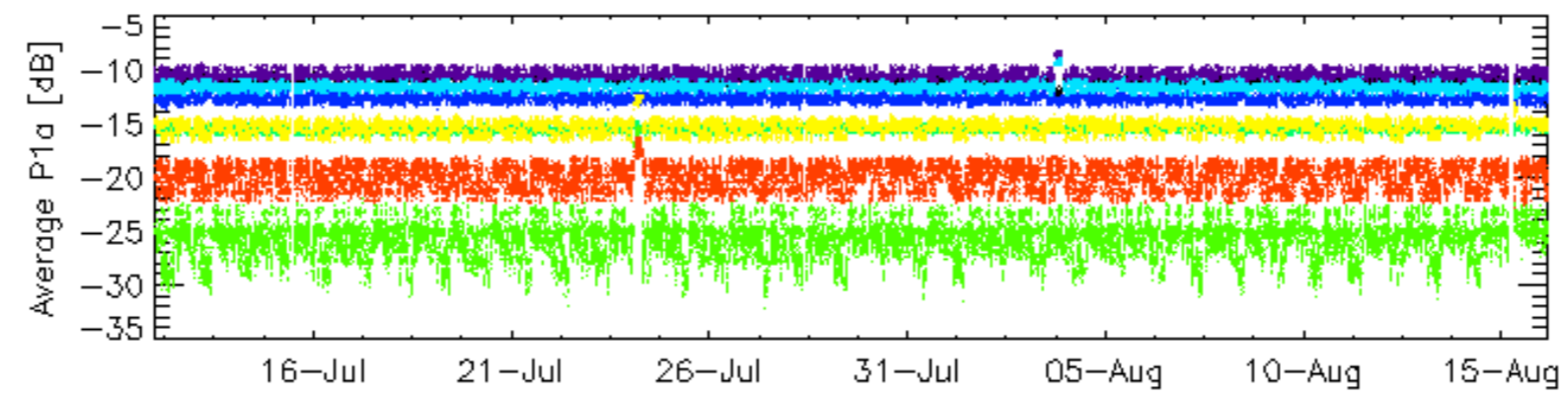
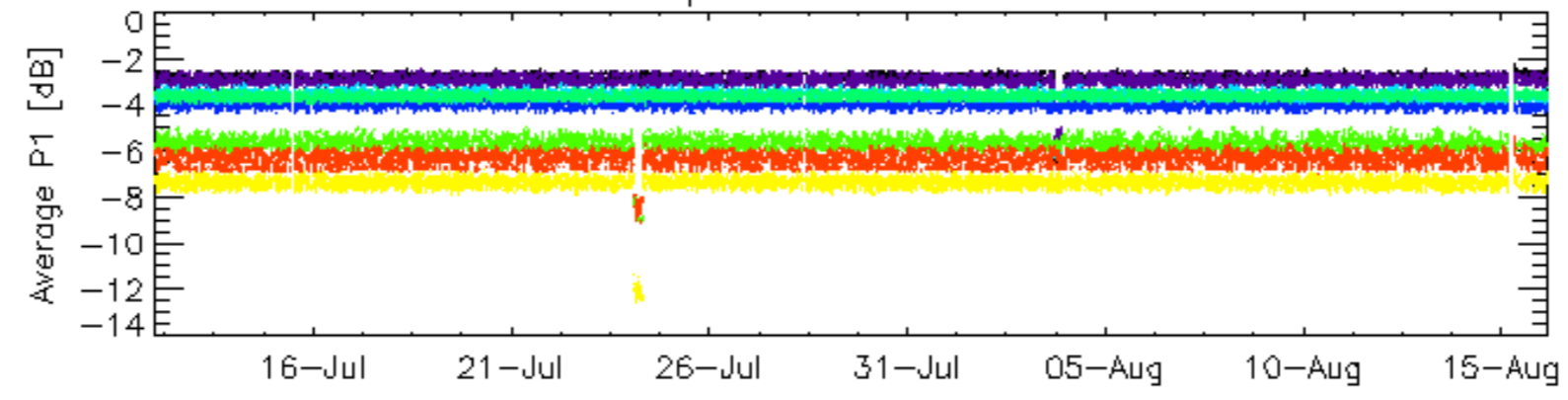


Cal pulses for WVS IS2



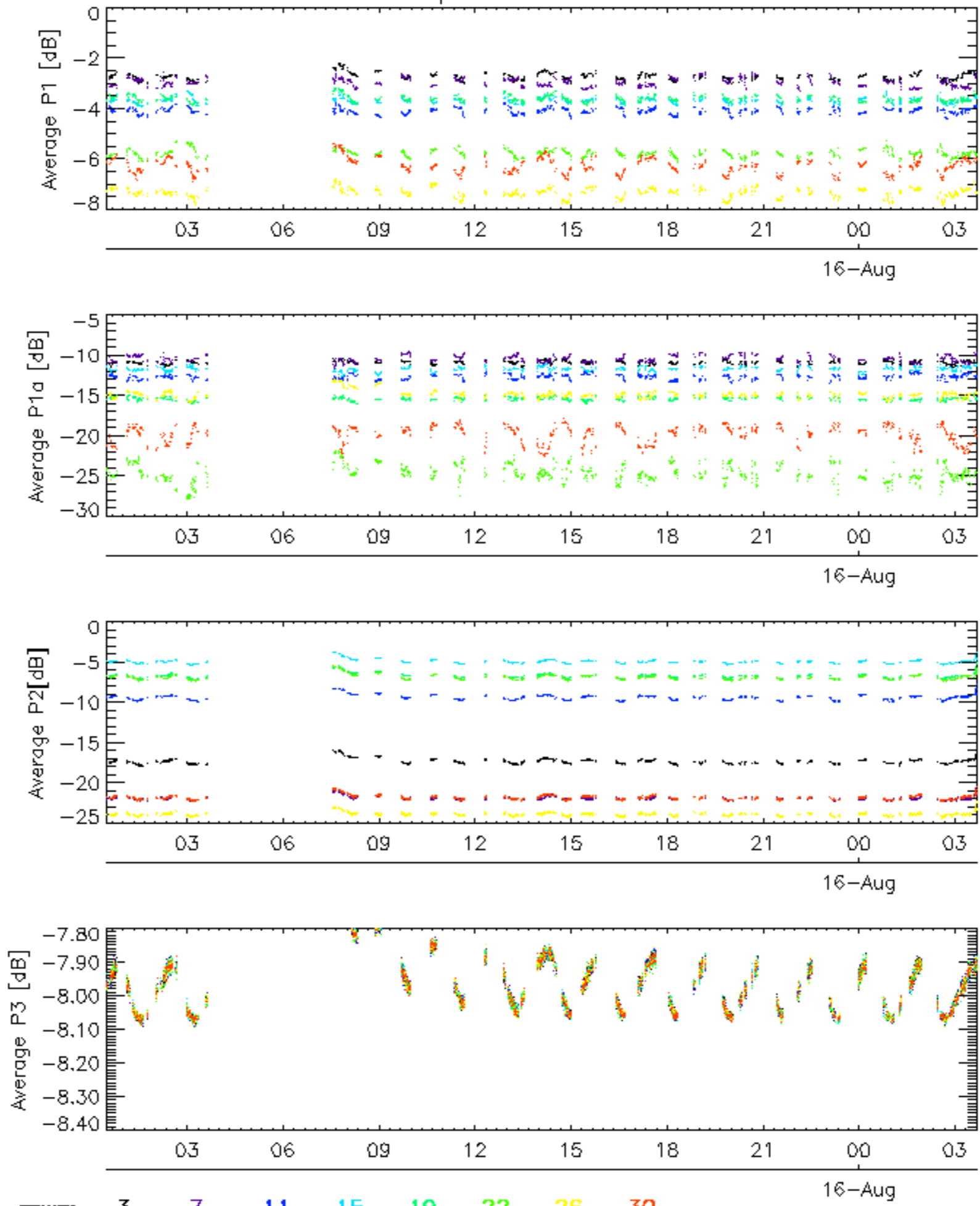
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

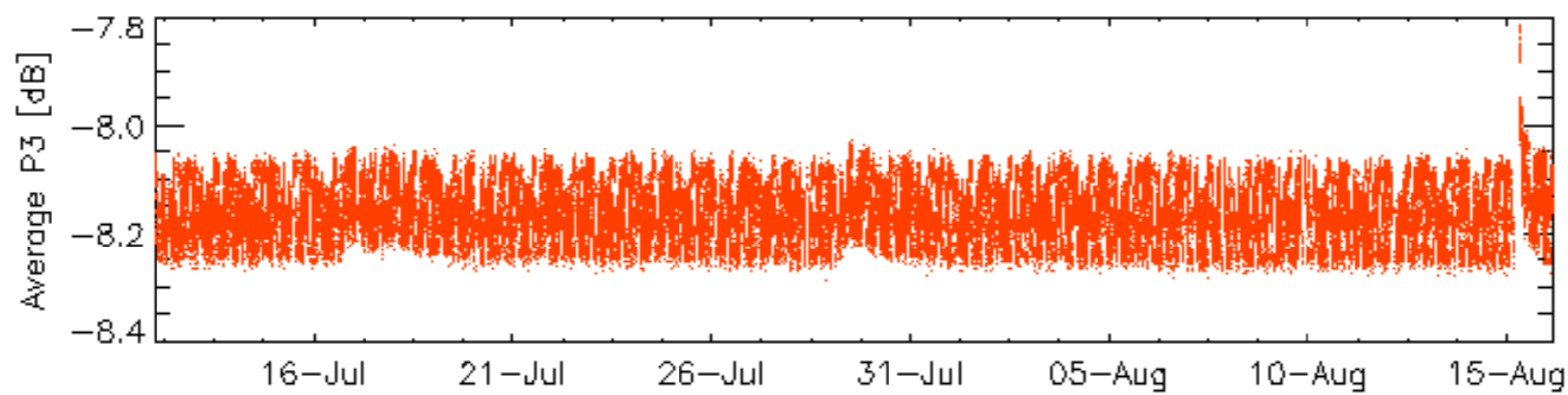
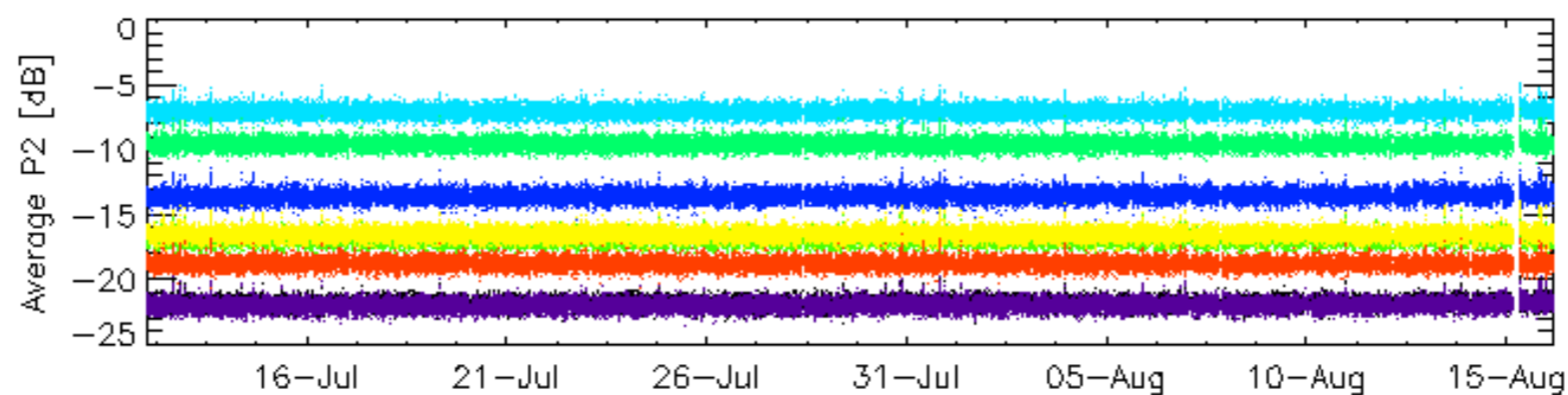
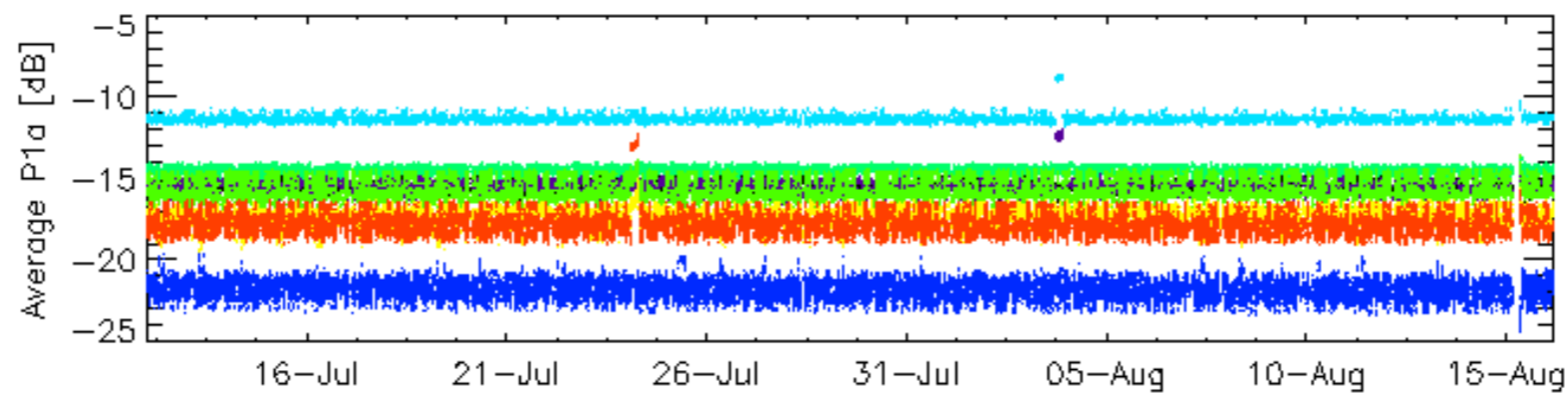
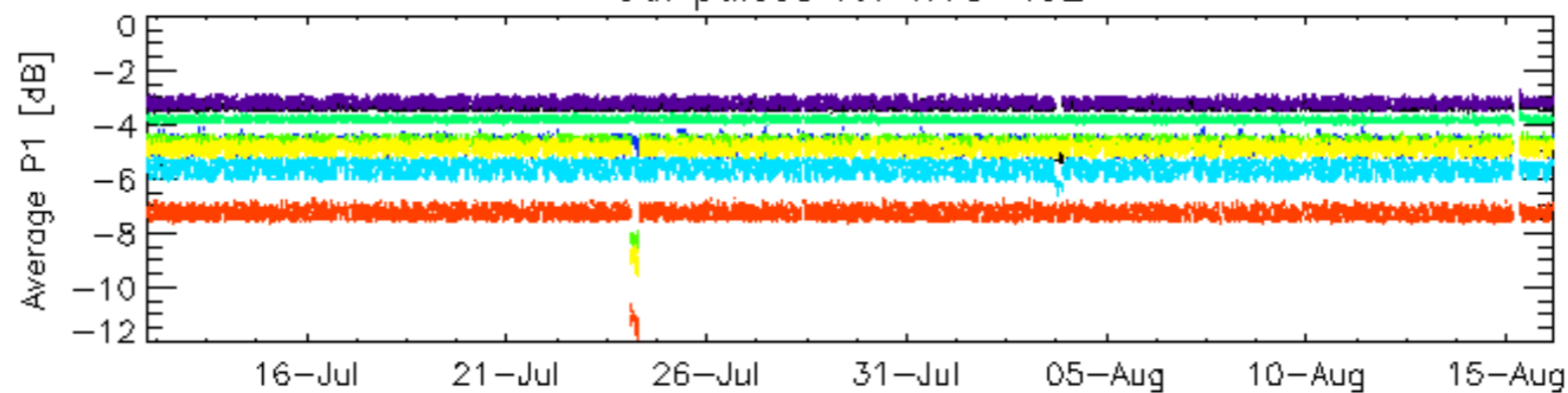


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3



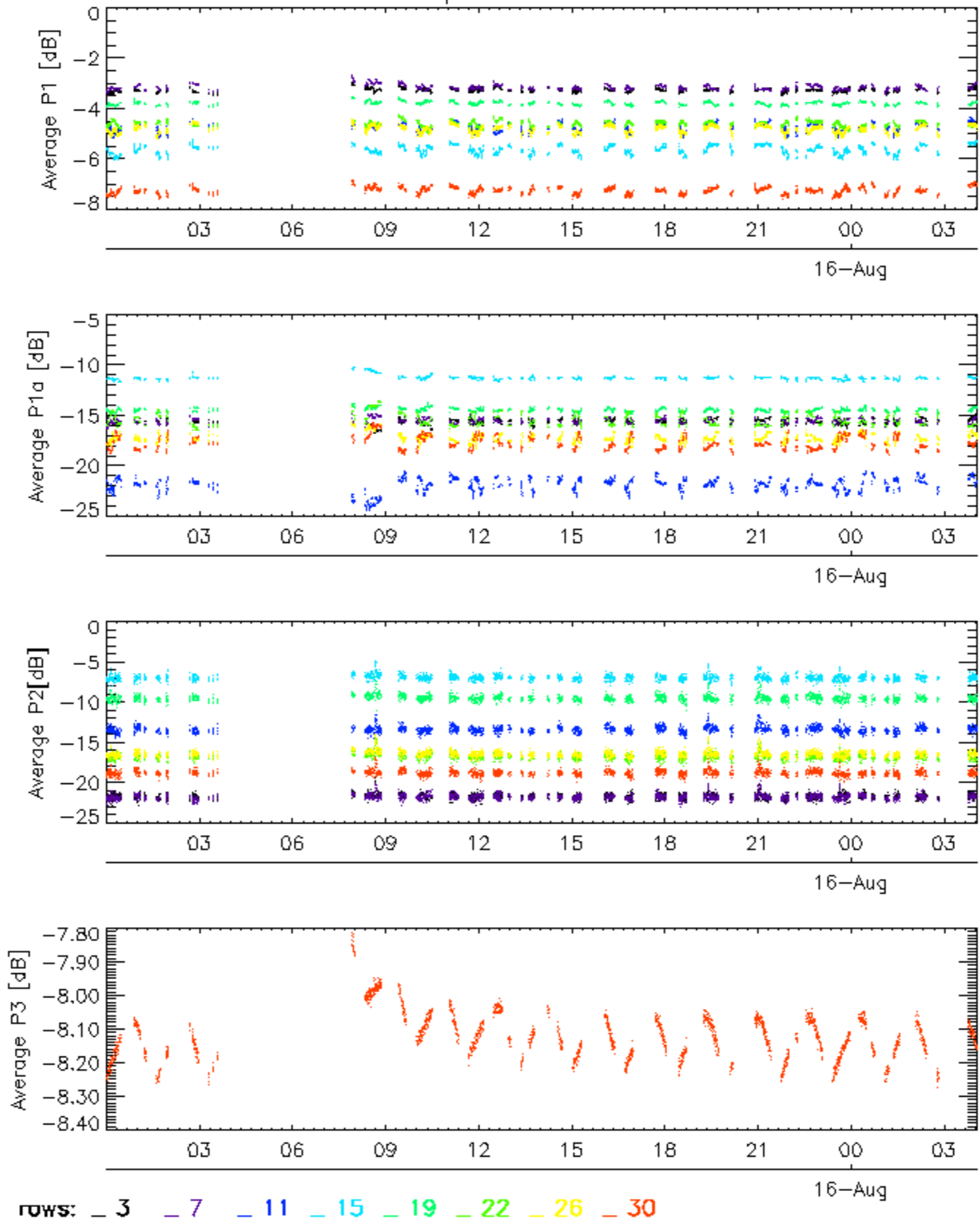
Cal pulses for WVS IS2



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

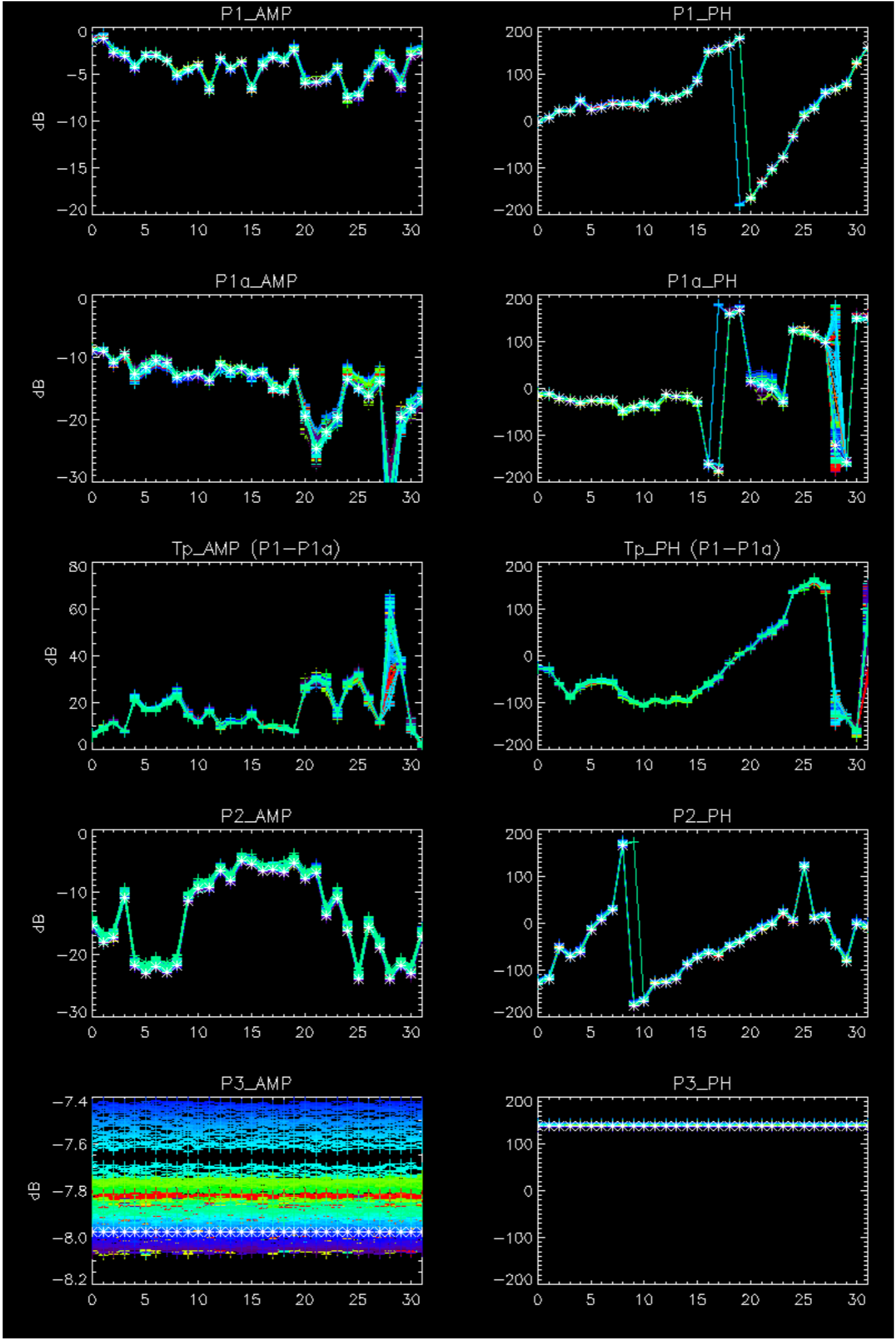


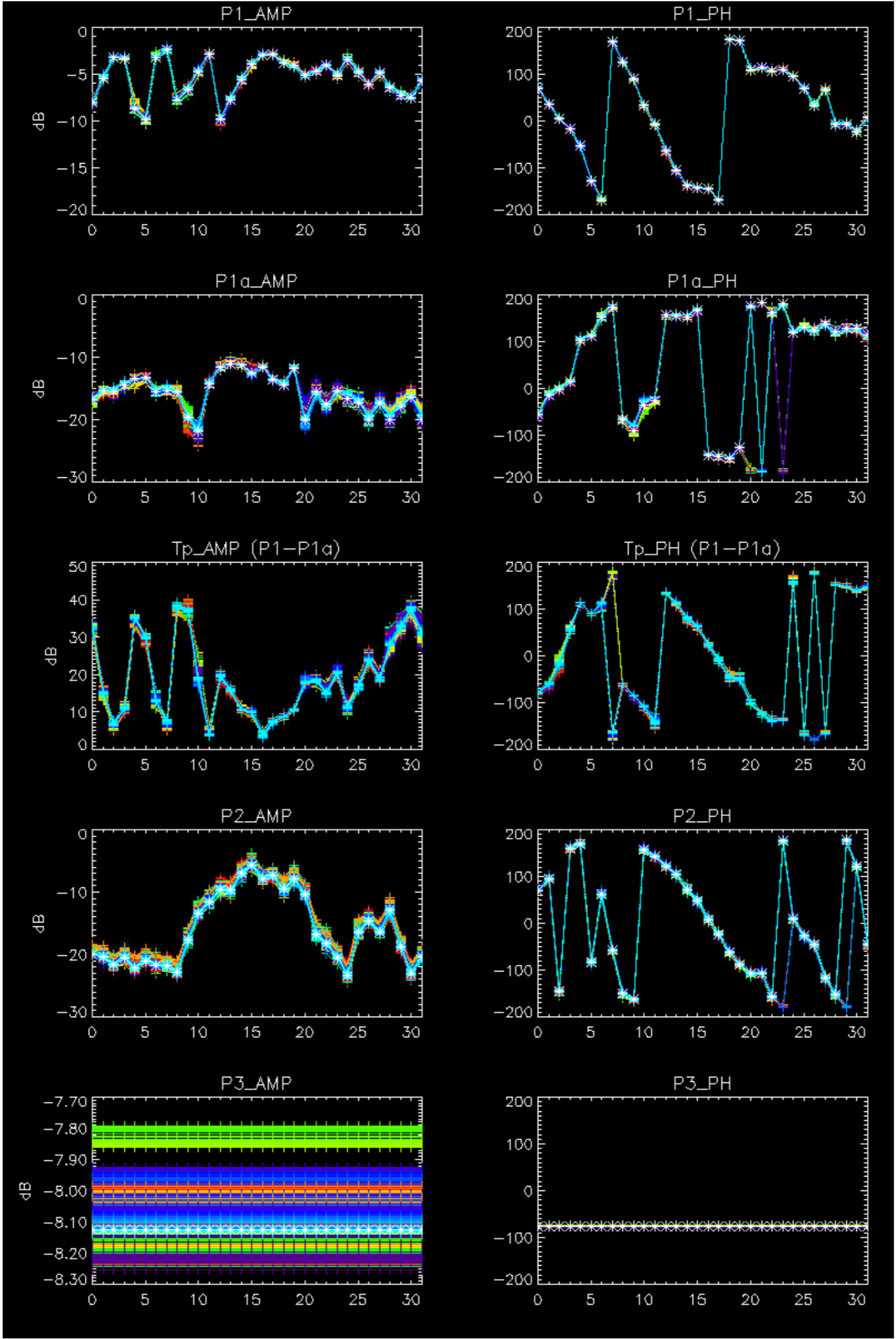
Cal pulses for WVS IS2



No anomalies observed.





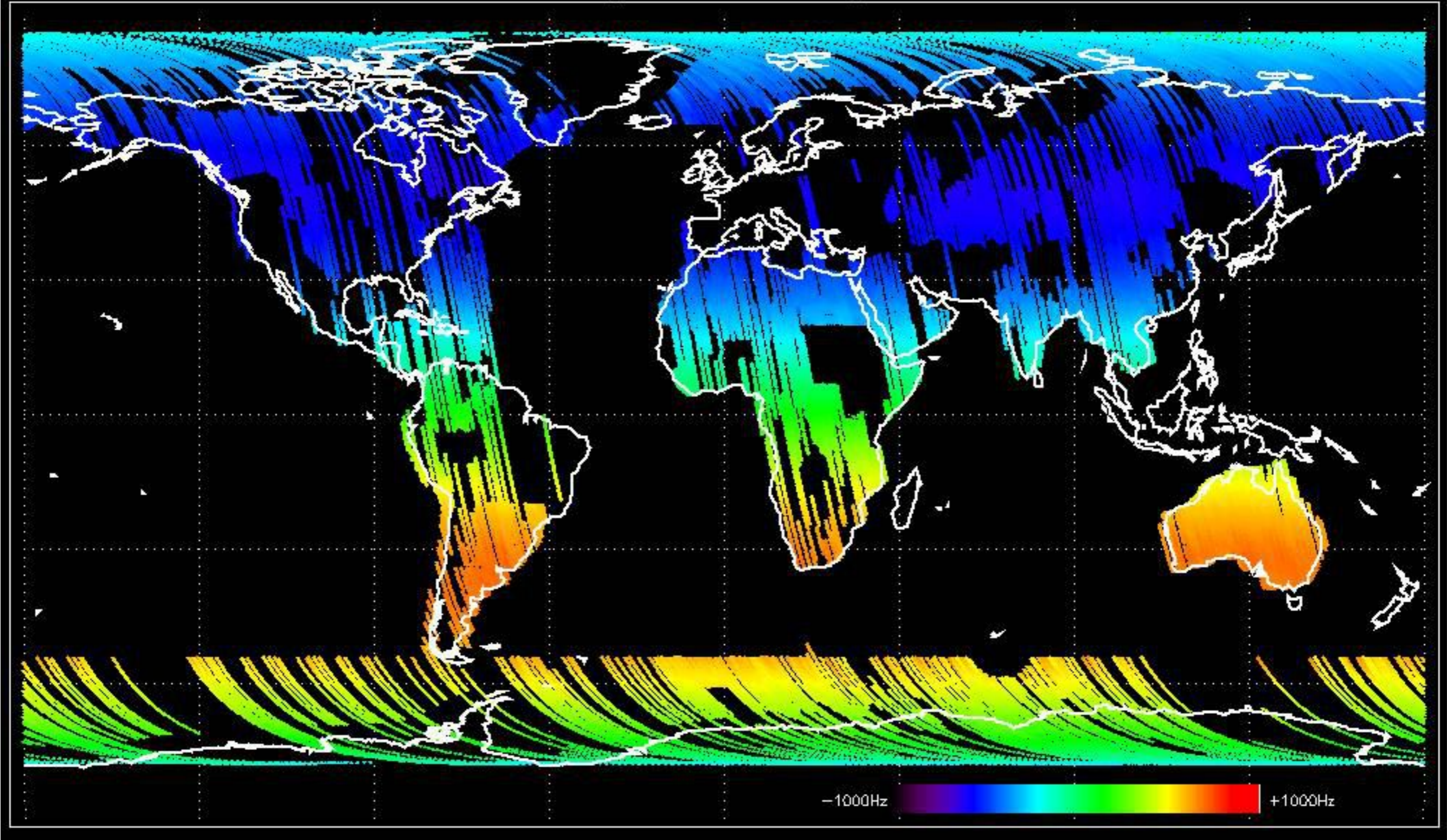


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



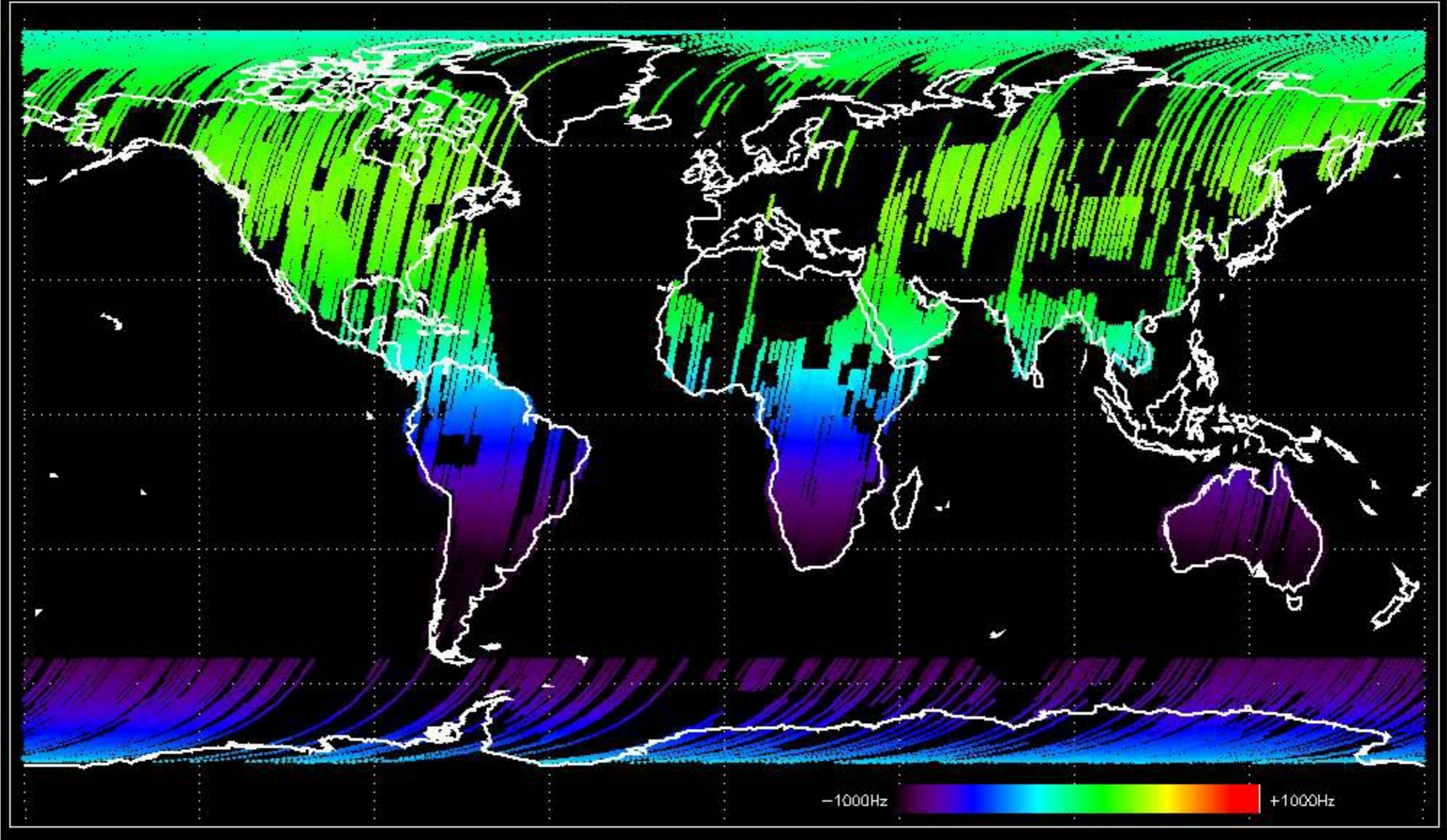


Doppler 'GM1' 'SS1' ascending



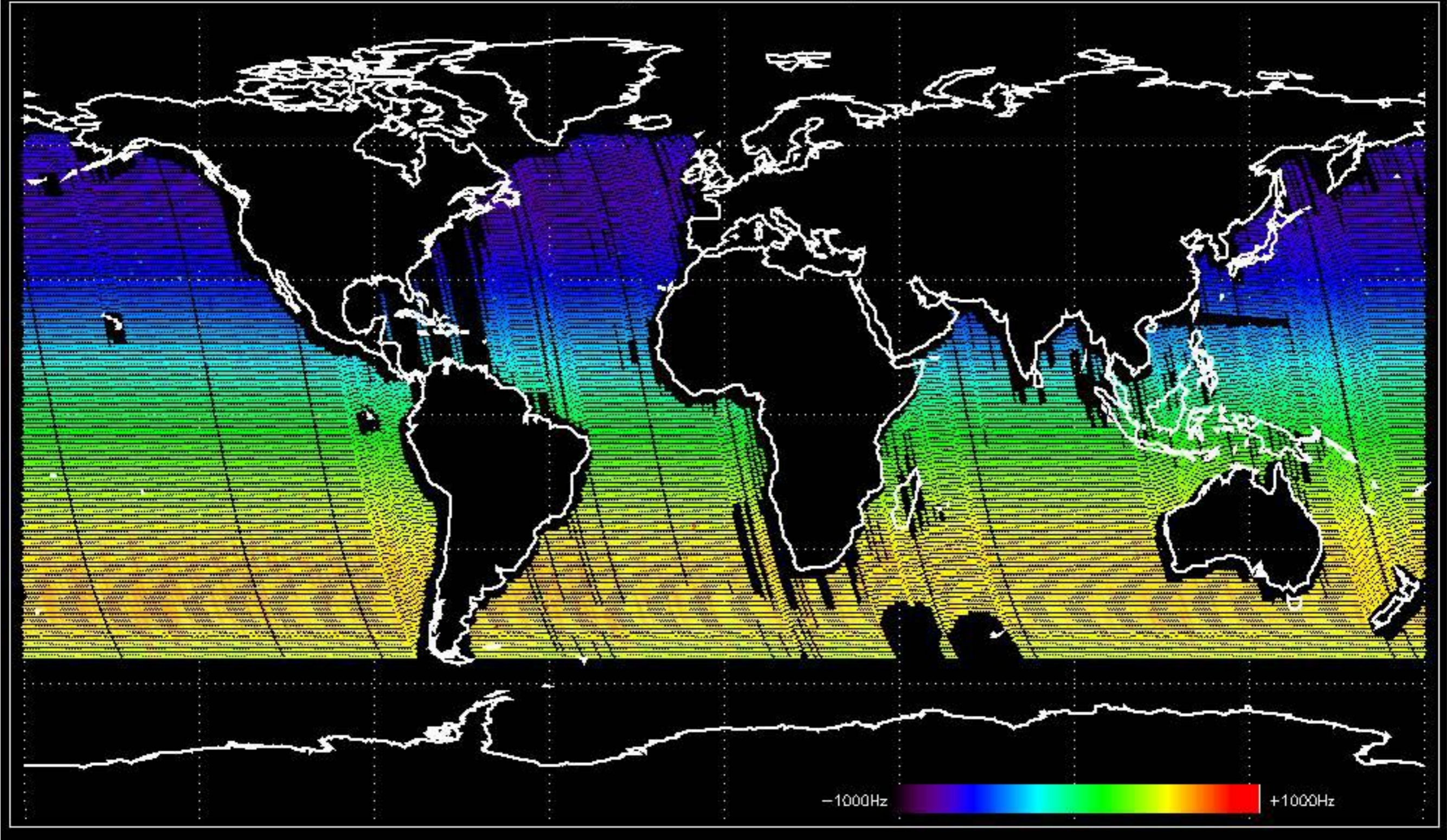


Doppler 'GM1' 'SS1' descending



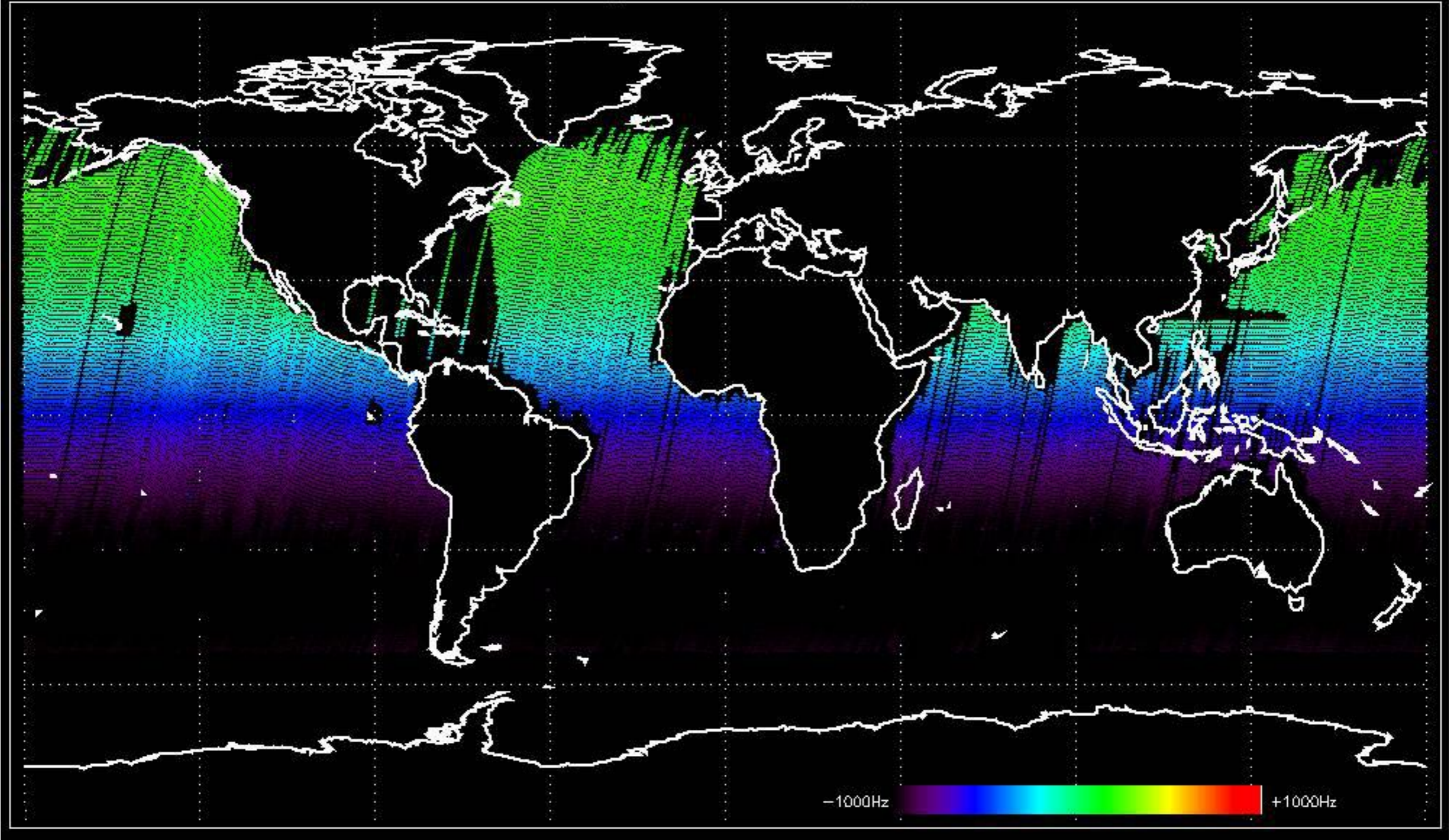


Doppler 'WVS' 'IS2' ascending



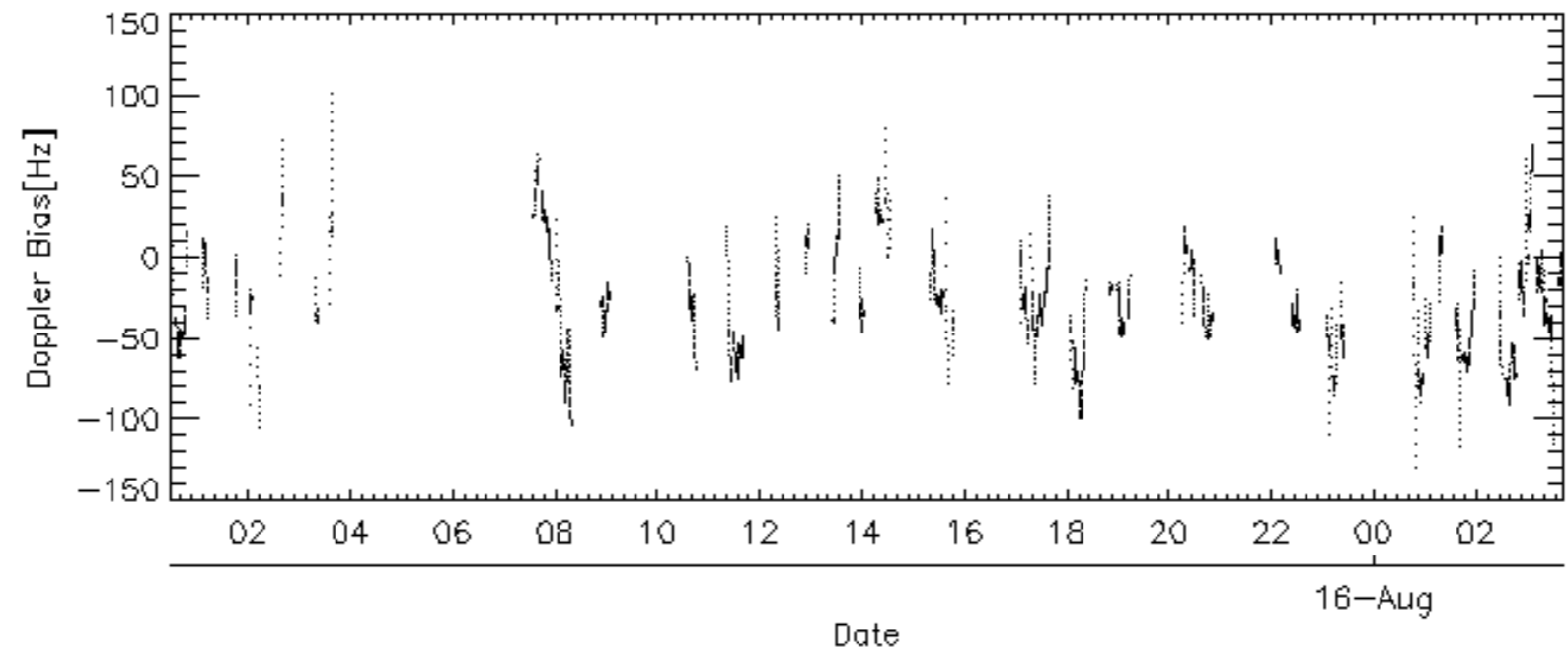
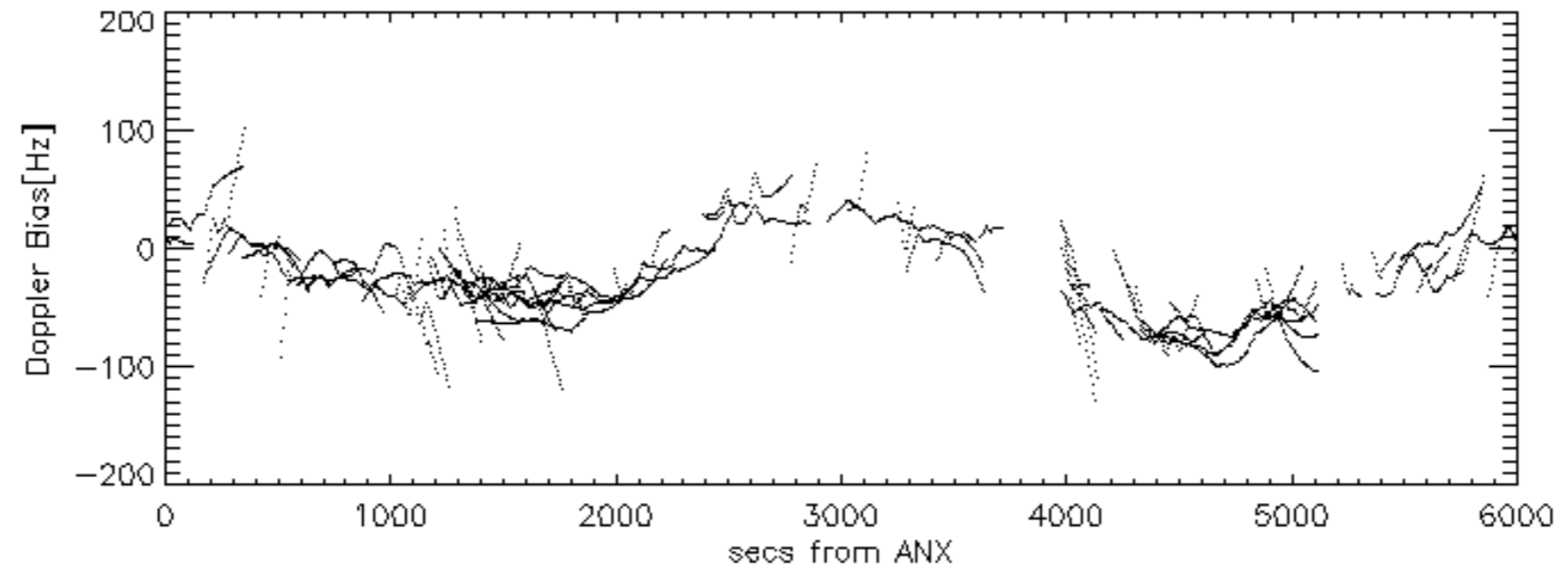
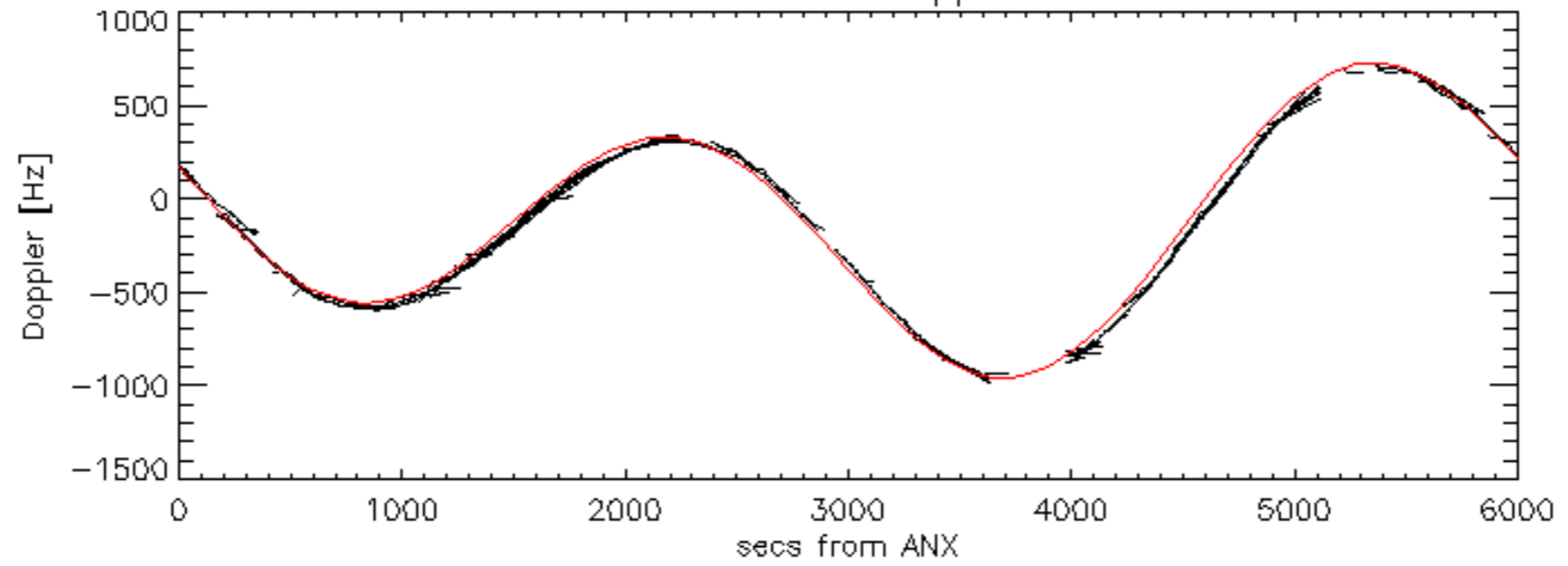


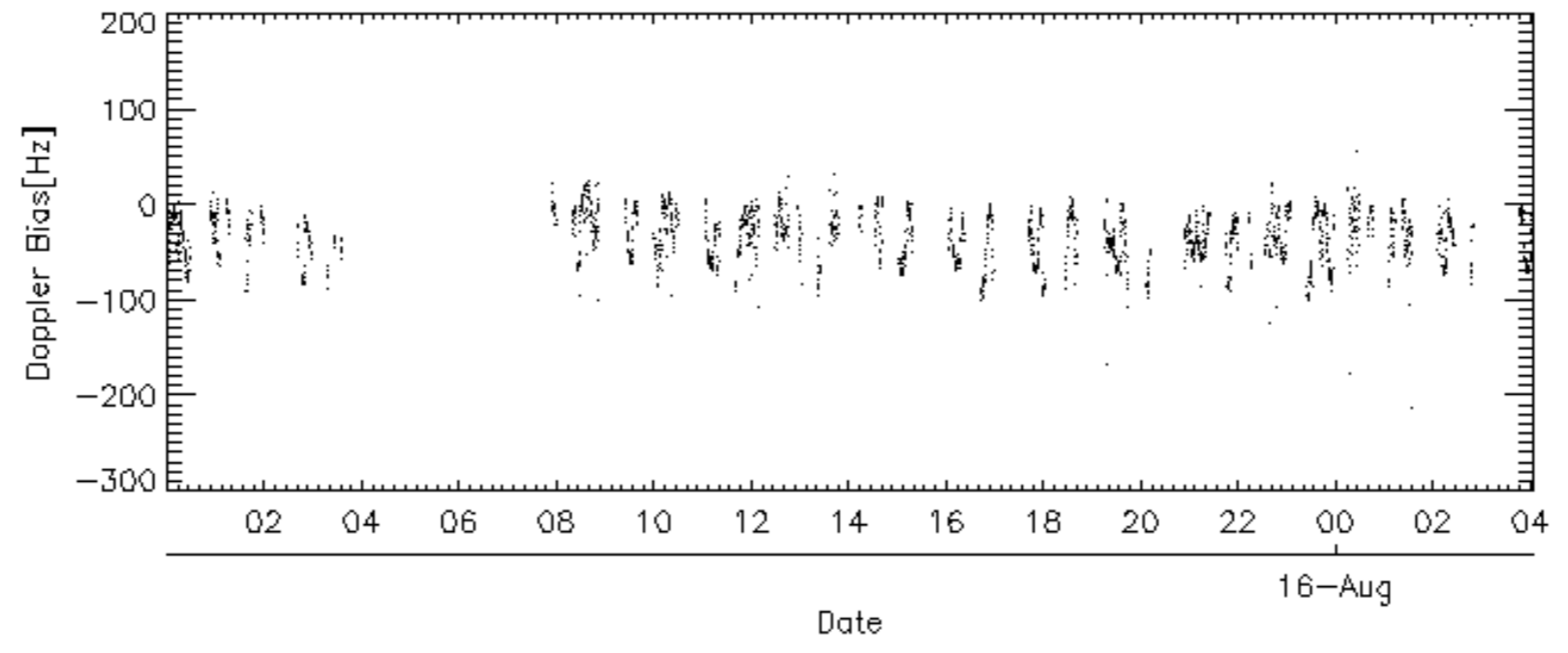
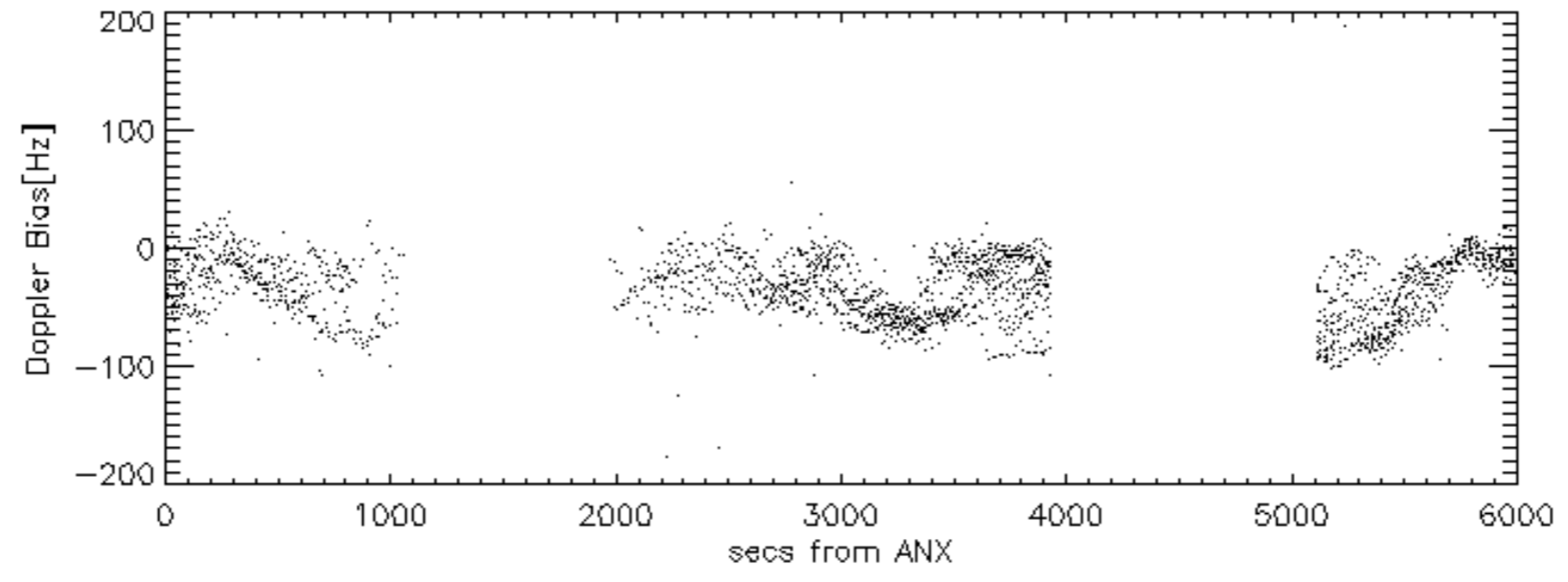
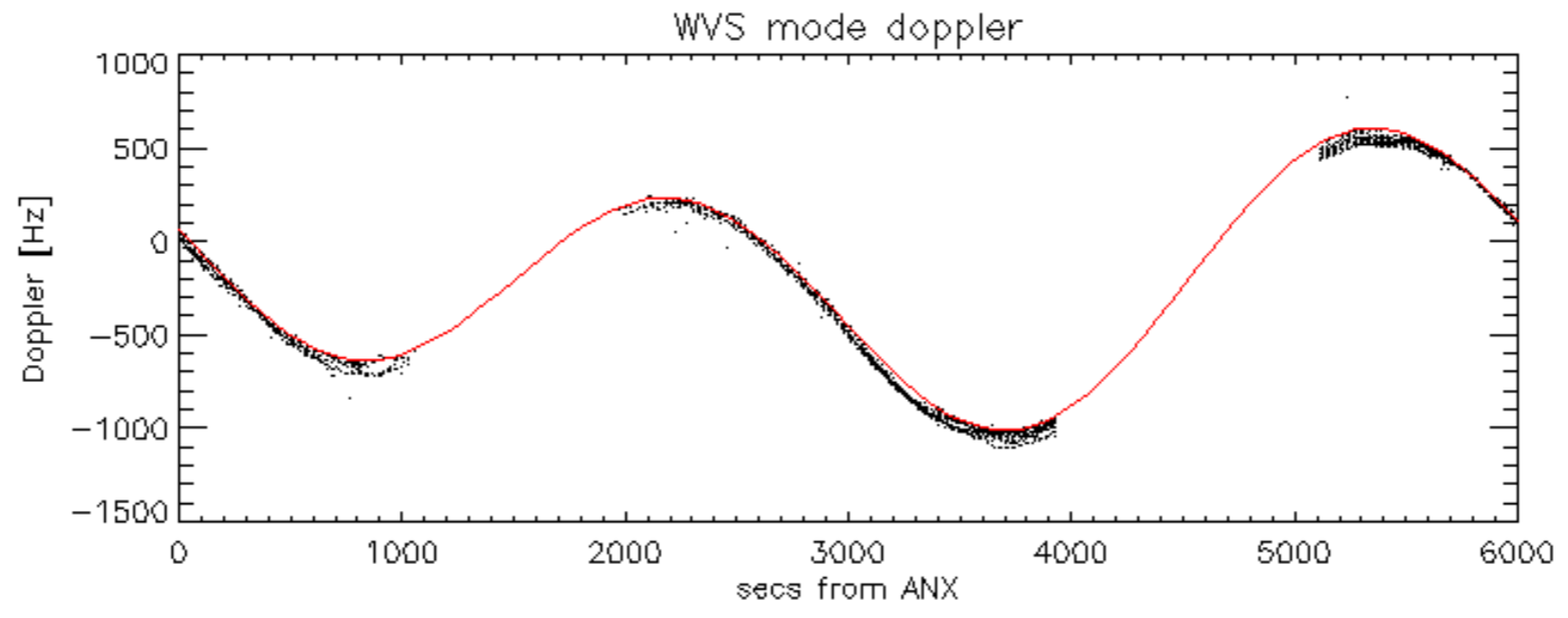
Doppler 'WVS' 'IS2' descending





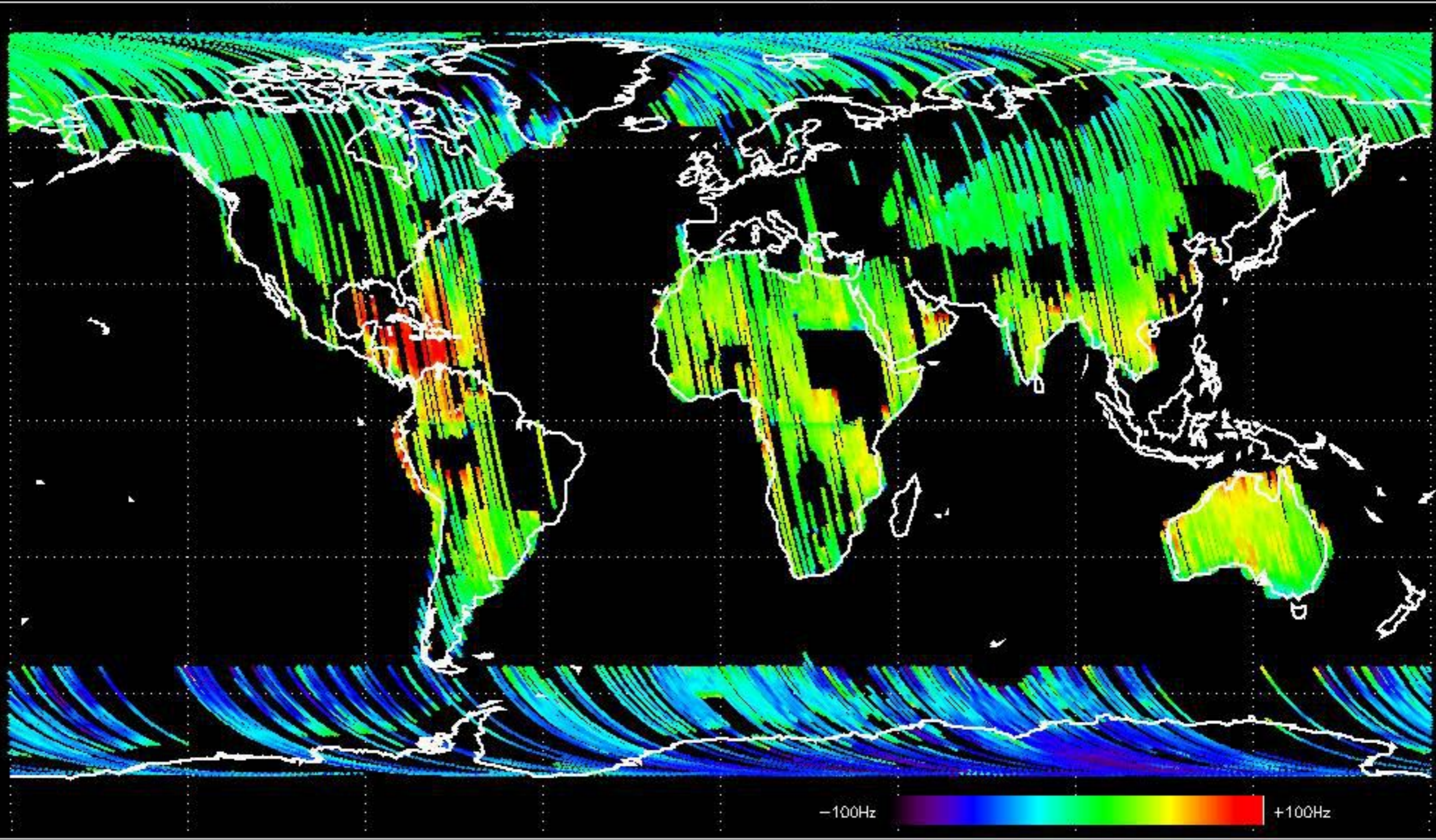
GM1 mode doppler





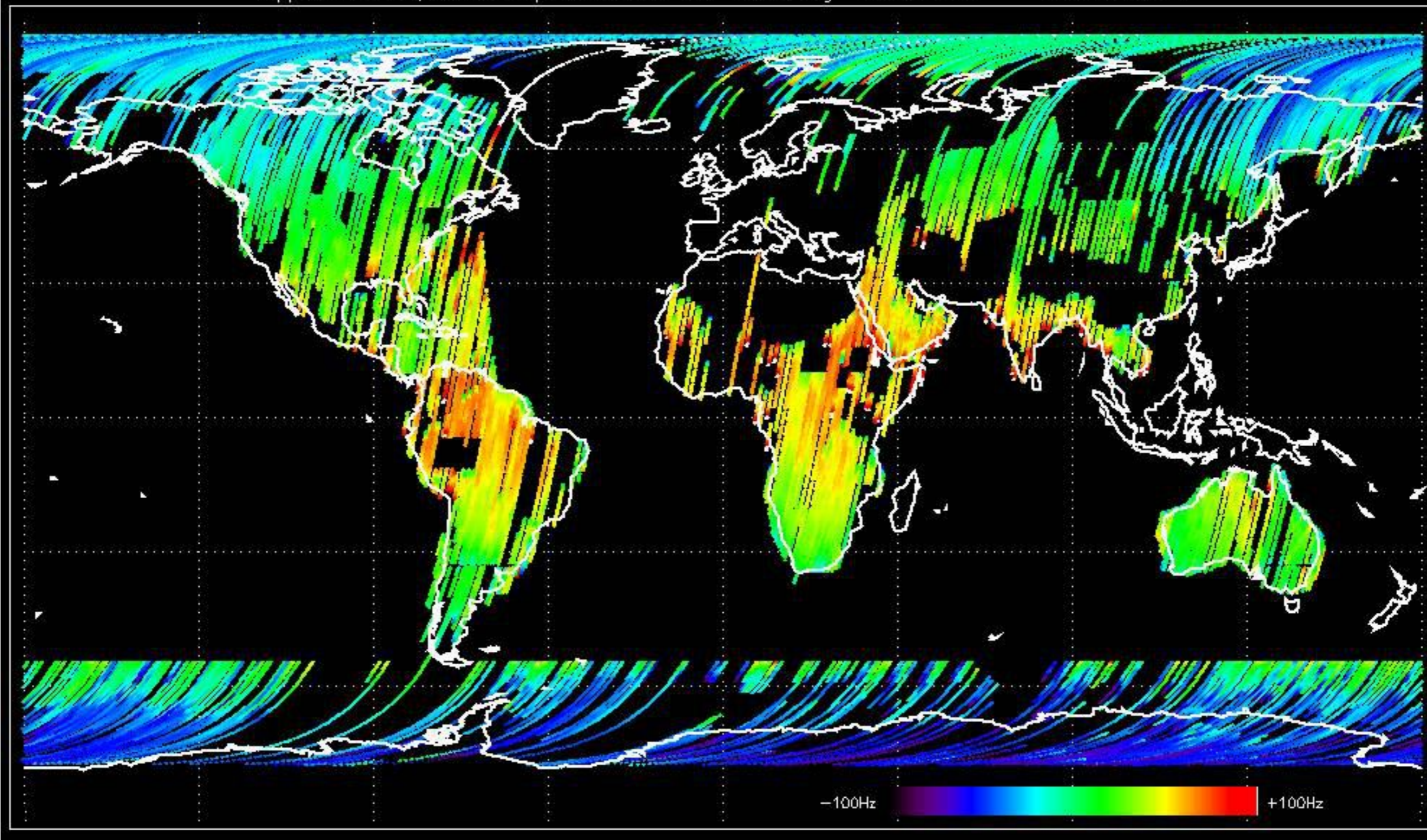


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -33.083796 Hz



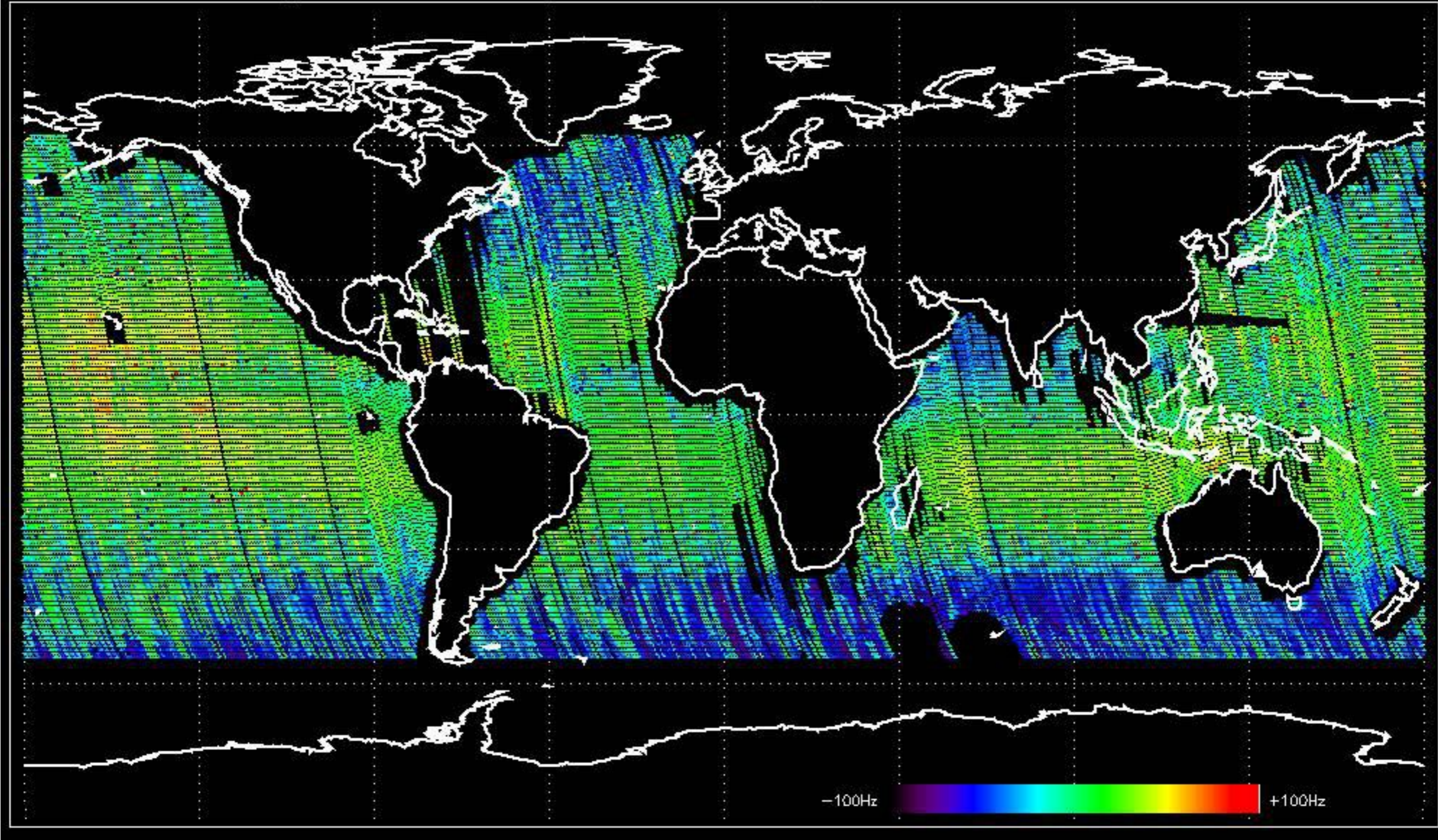


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -24.413626 Hz



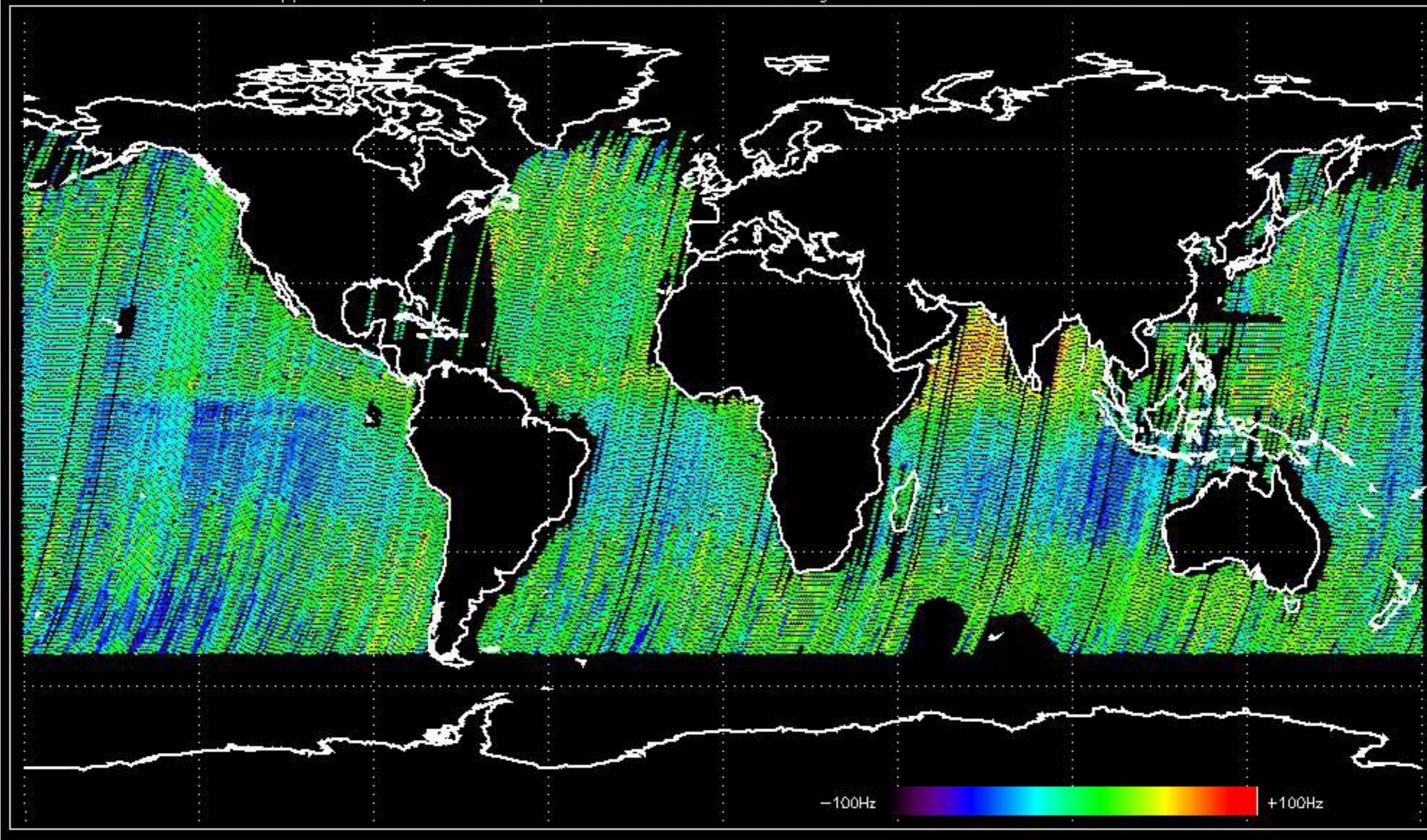


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -33.736887 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -36.405881 Hz





No anomalies observed on available MS products:

No anomalies observed.













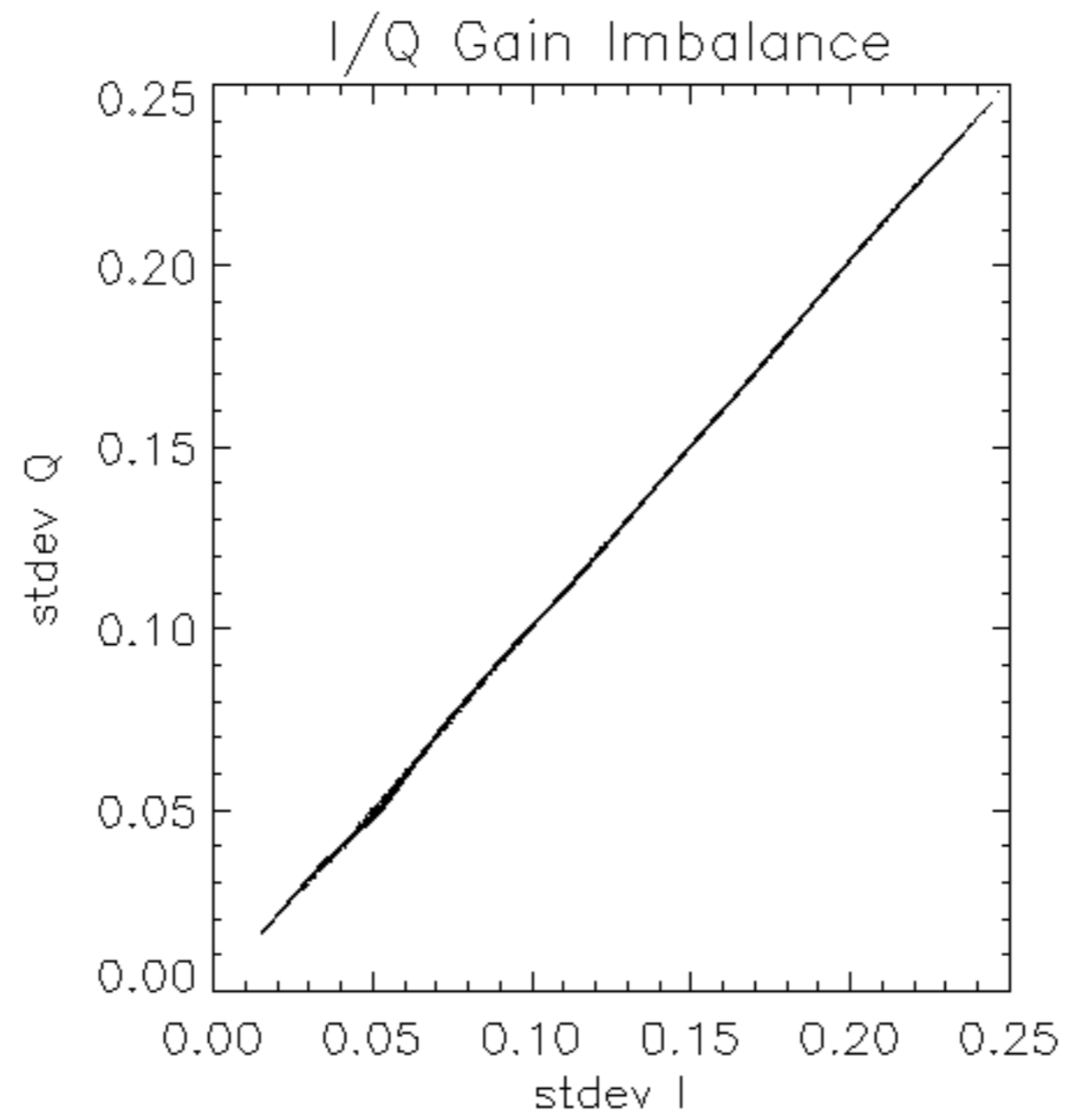




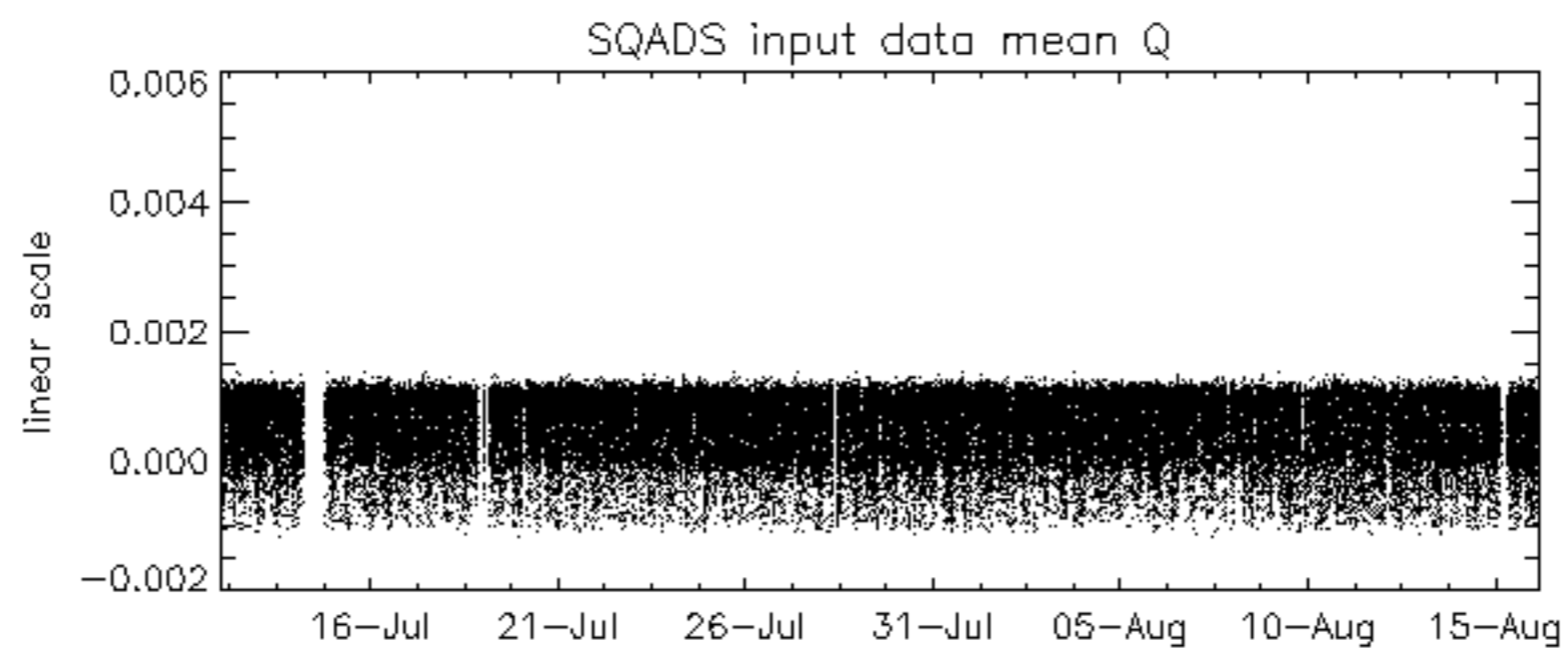
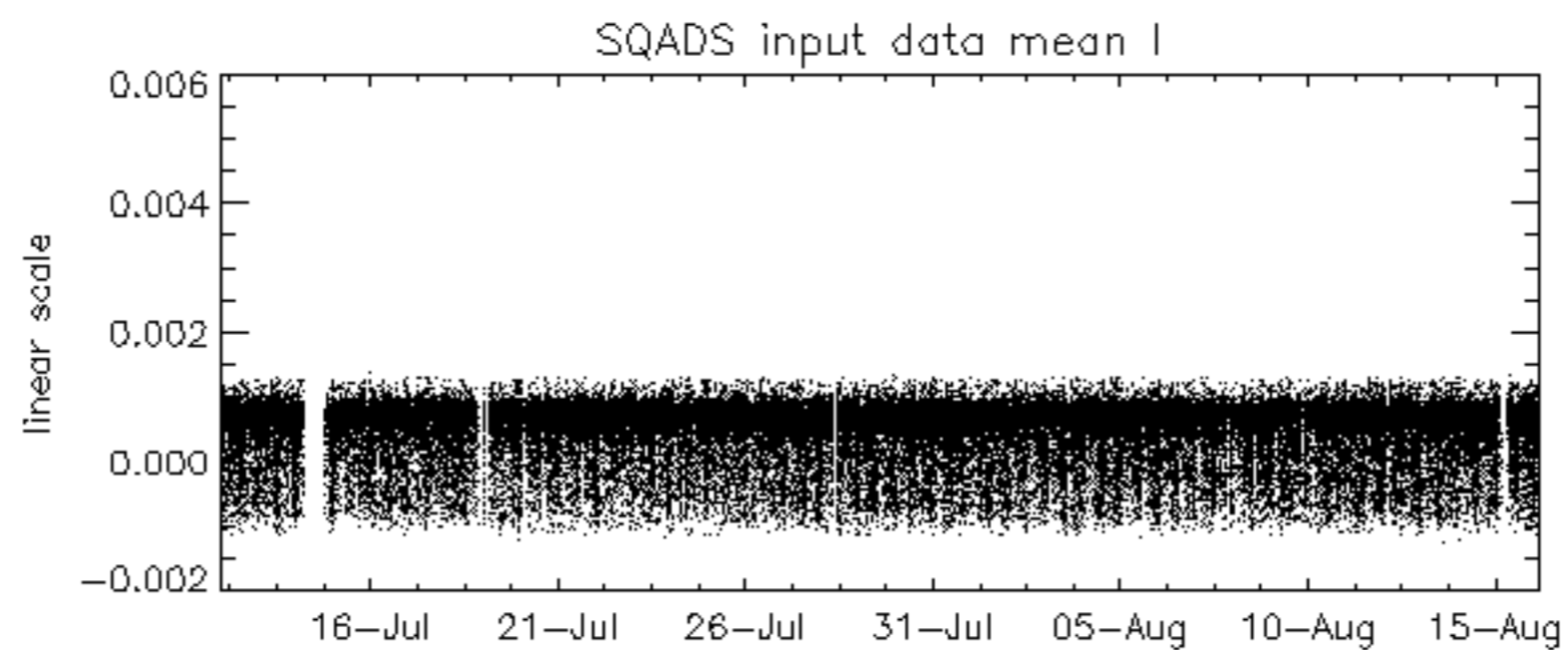
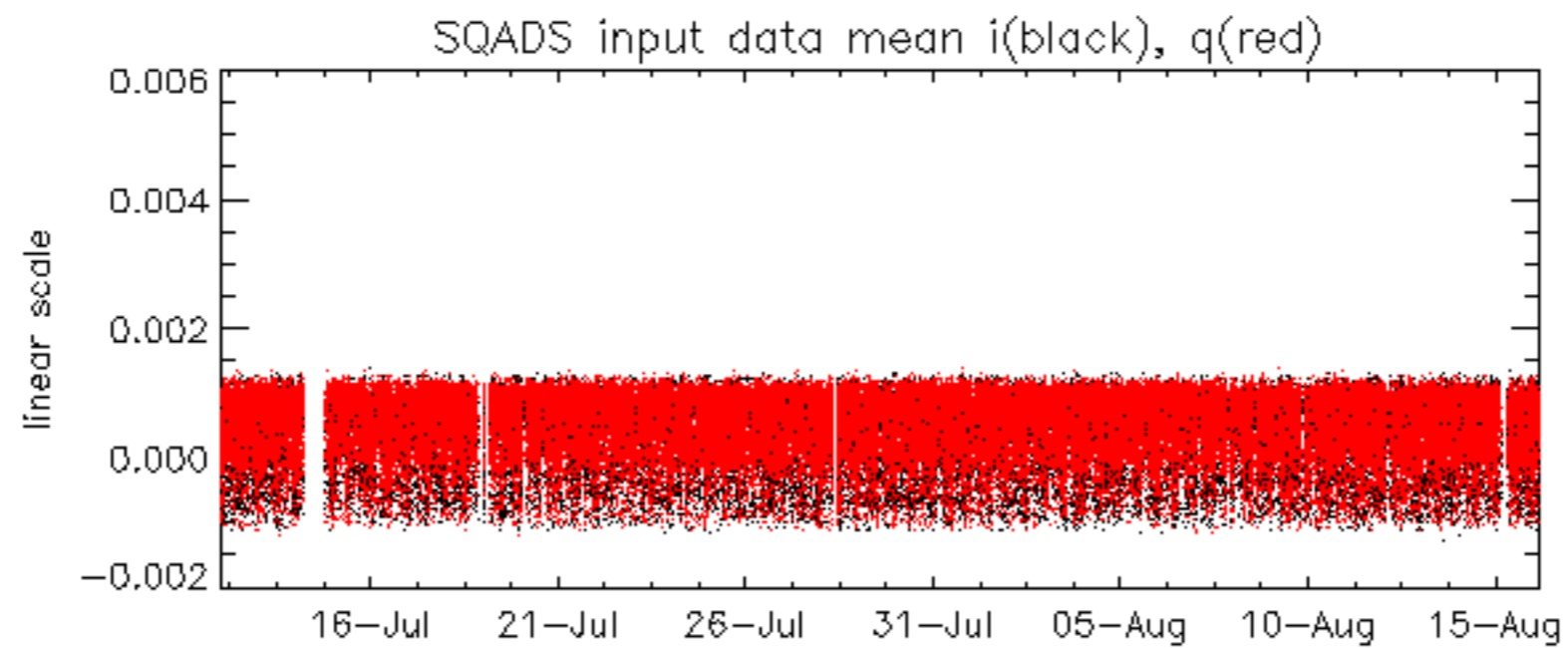


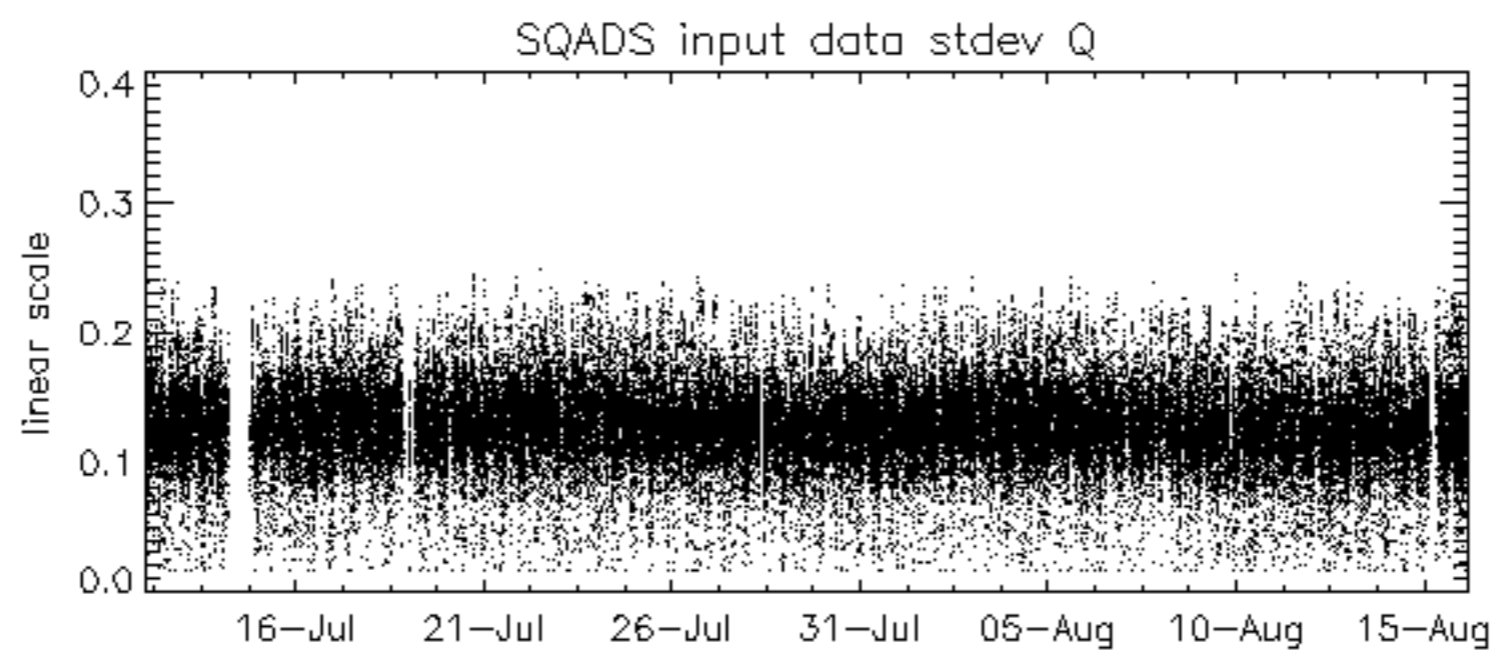
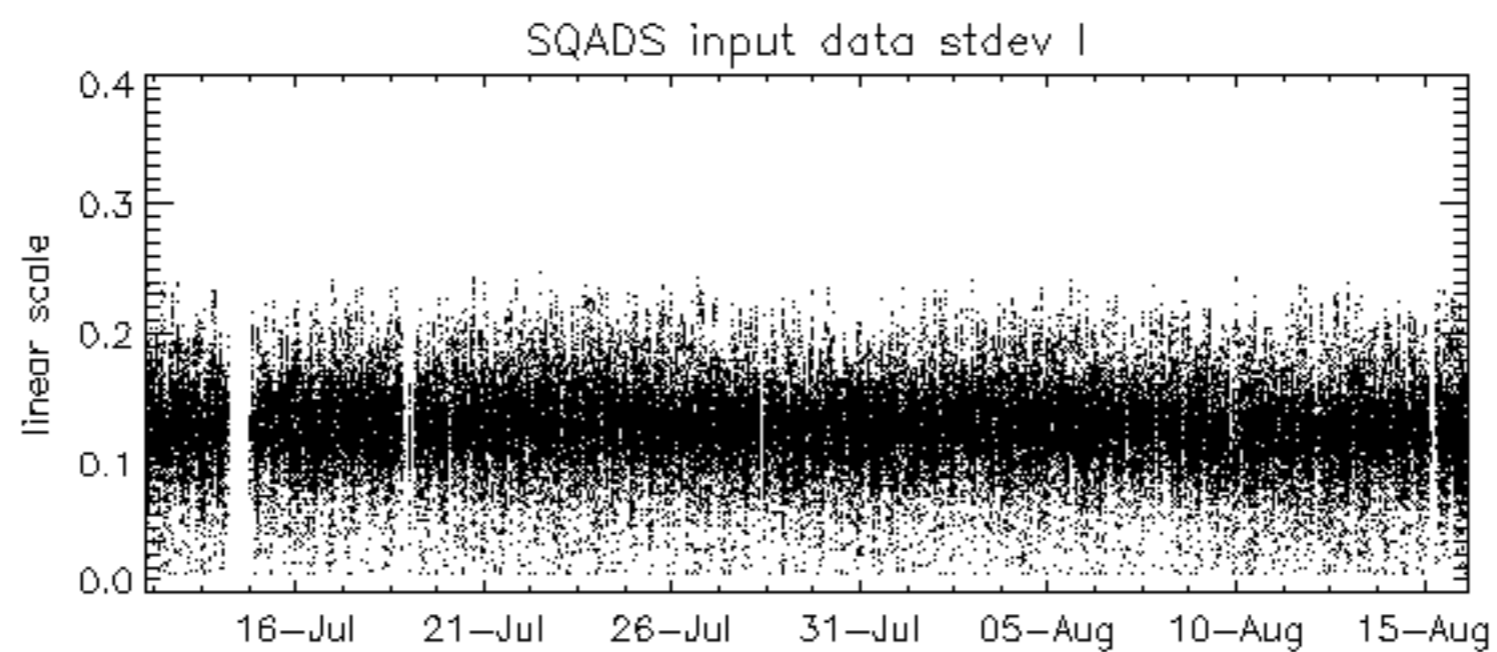
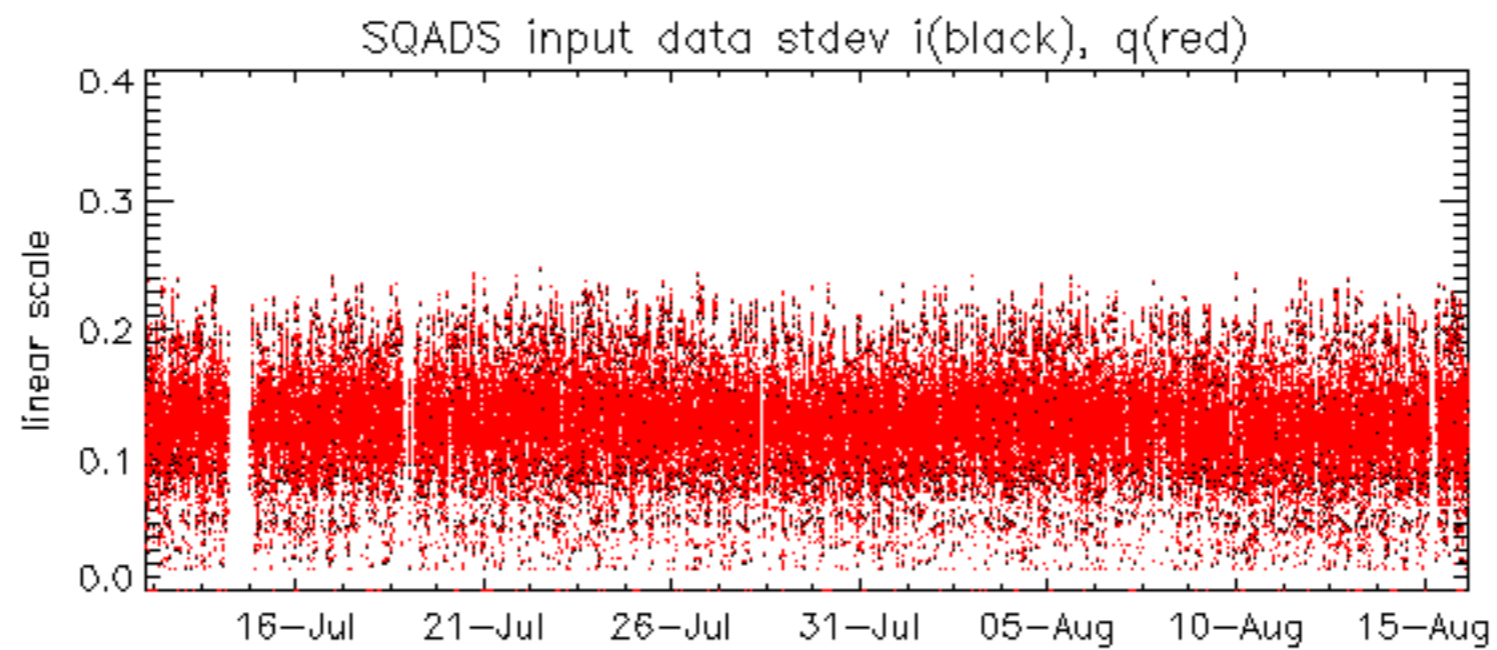








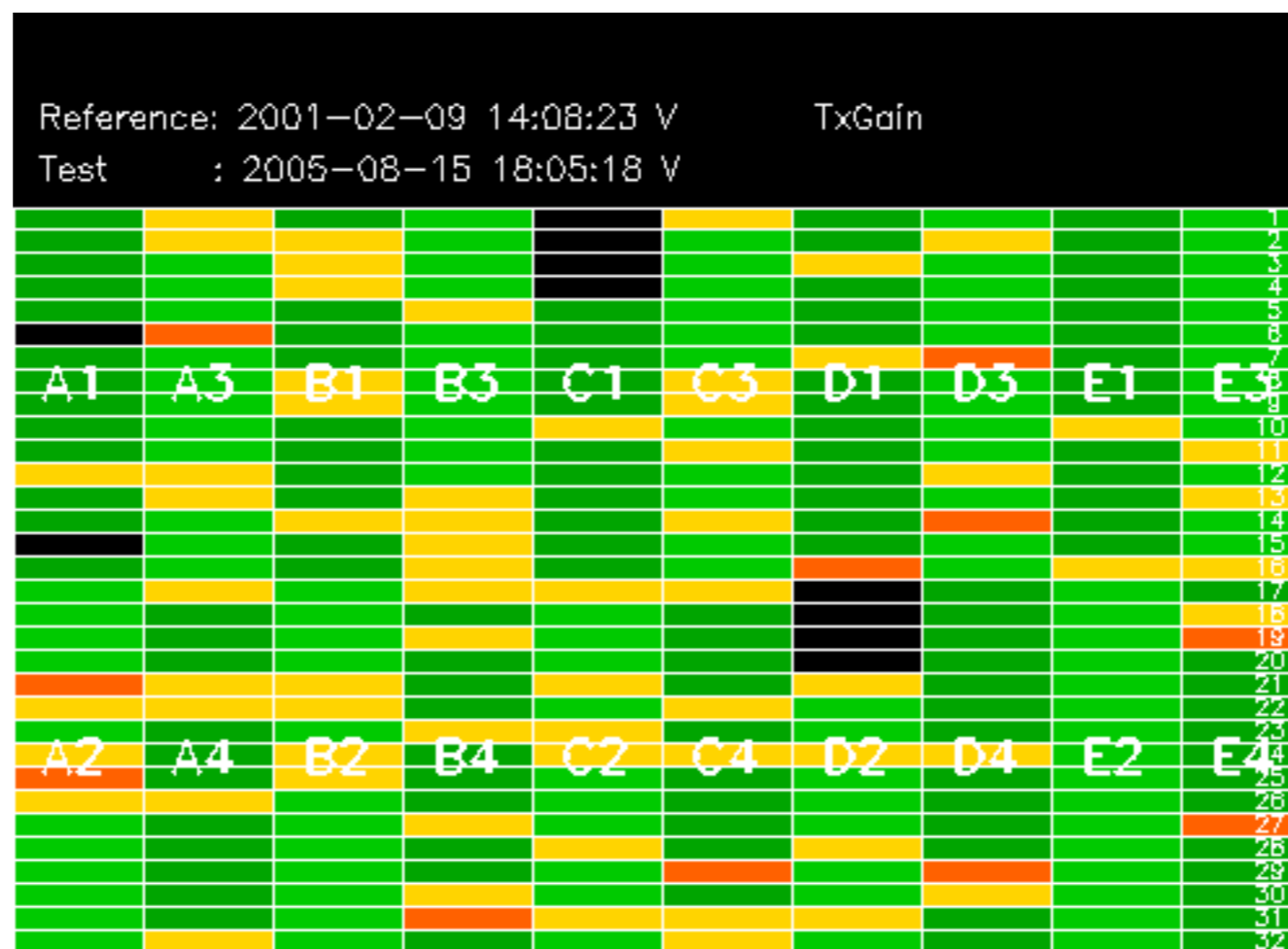
















Summary of analysis for the last 3 days 2005081[456]

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_1PNPDE20050815_032905_000002292039_00490_18079_2564.N1	1	0
ASA_IMM_1PNPDK20050814_124040_000000362039_00482_18071_1689.N1	1	0
ASA_WSM_1PNPDE20050815_165908_000000912039_00499_18088_4602.N1	0	2
ASA_WSM_1PNPDE20050815_184313_000002252039_00500_18089_4607.N1	0	3
ASA_APM_1PNPDE20050814_141422_000000582039_00483_18072_0499.N1	0	21

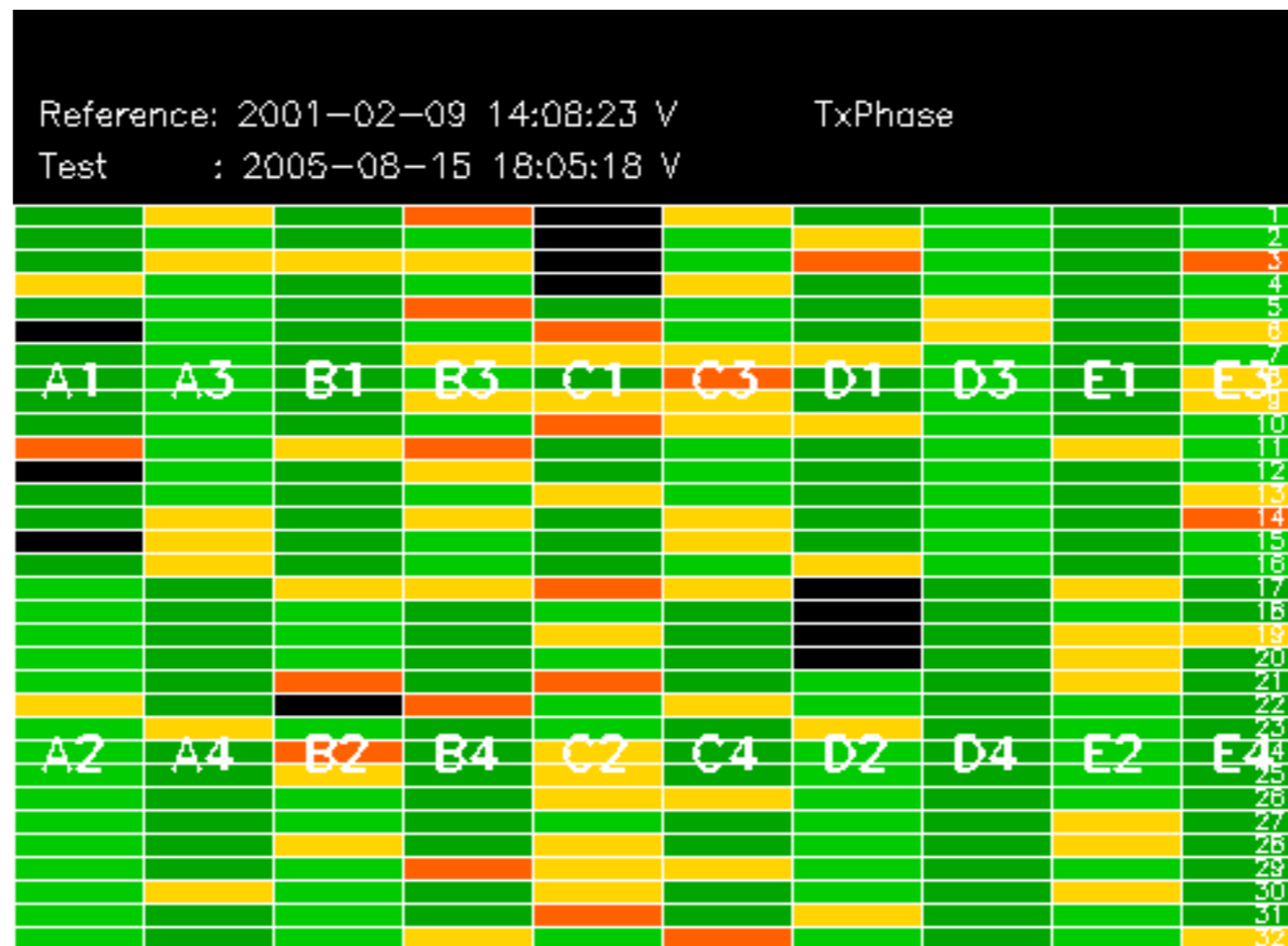




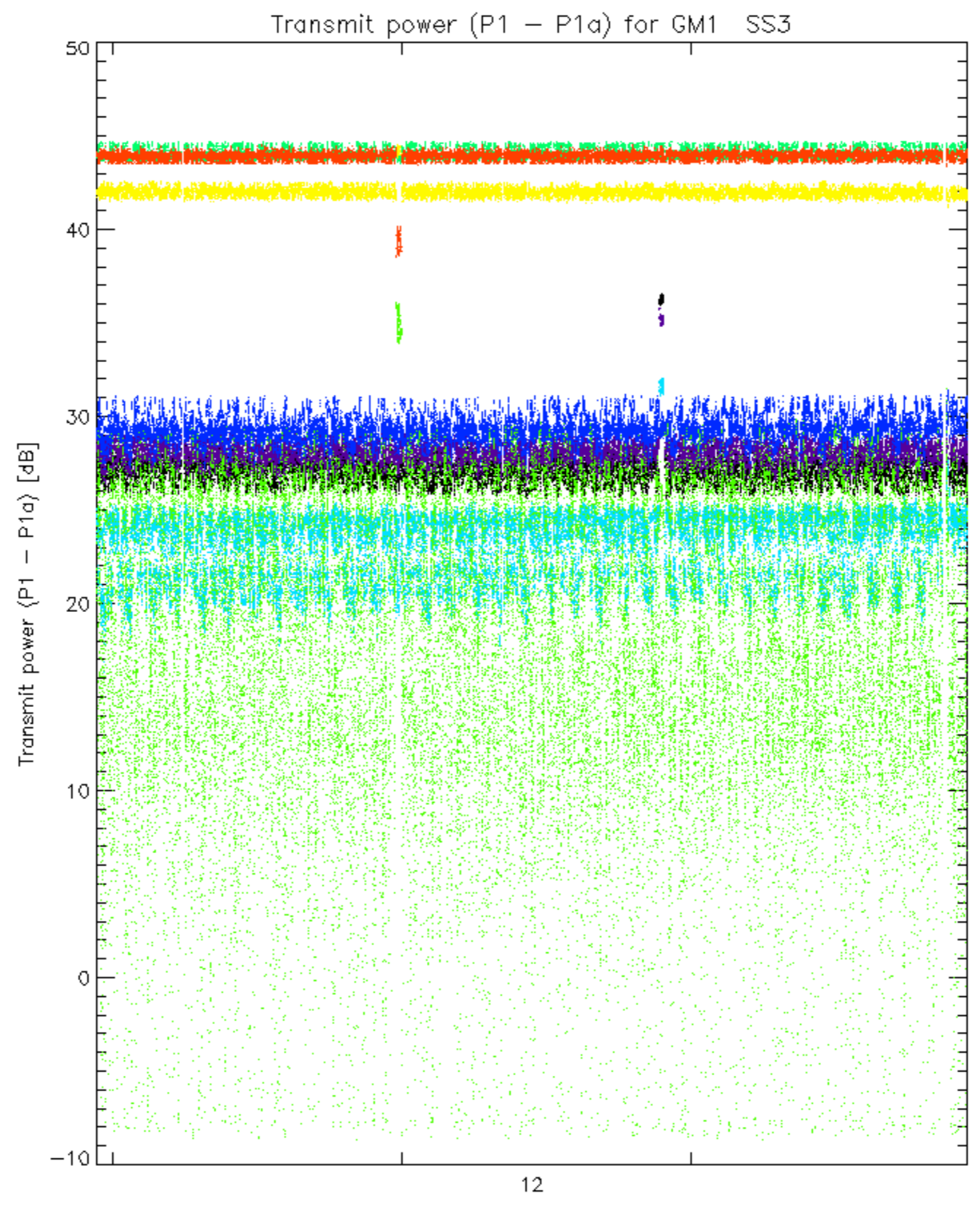






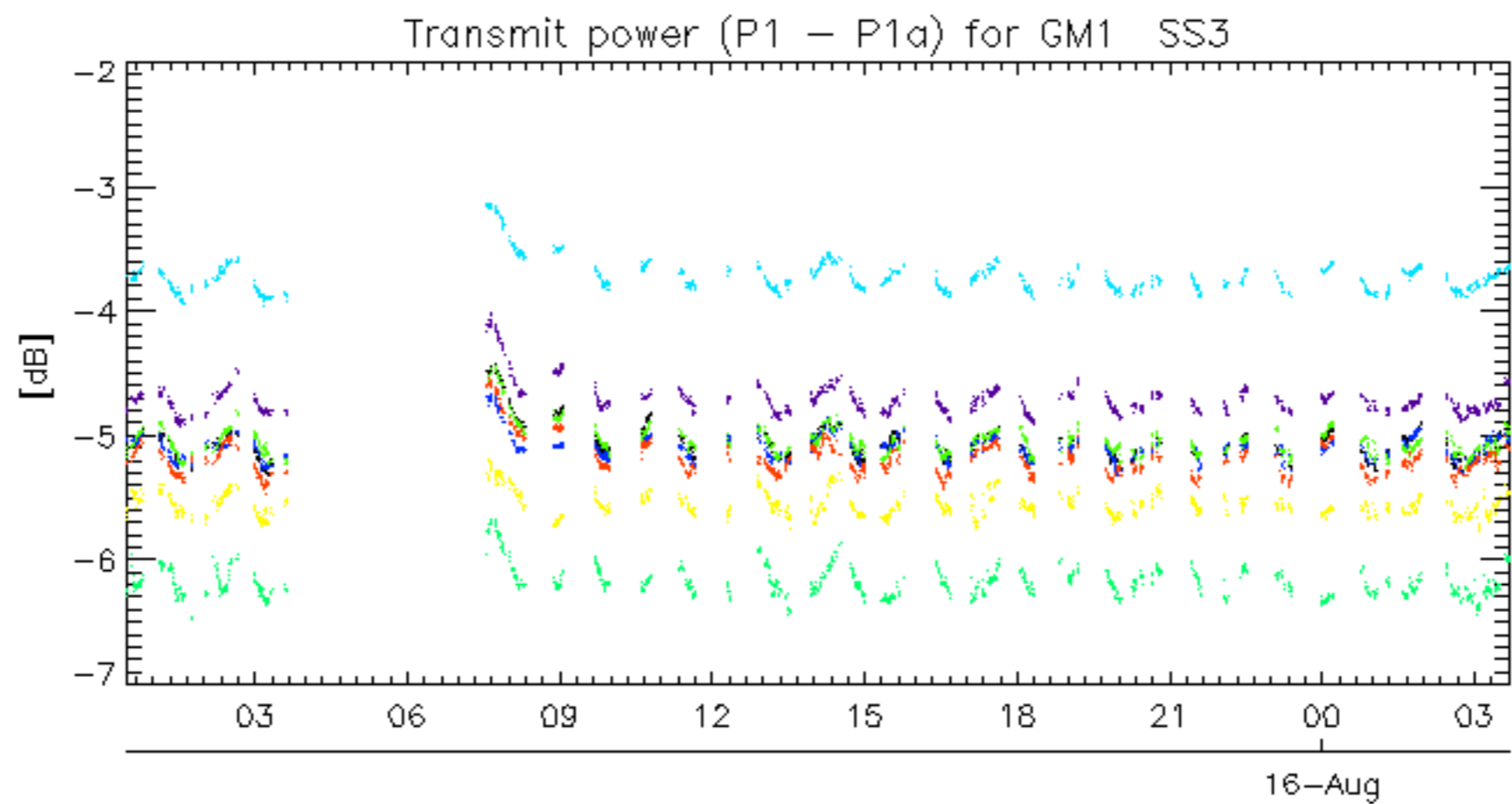




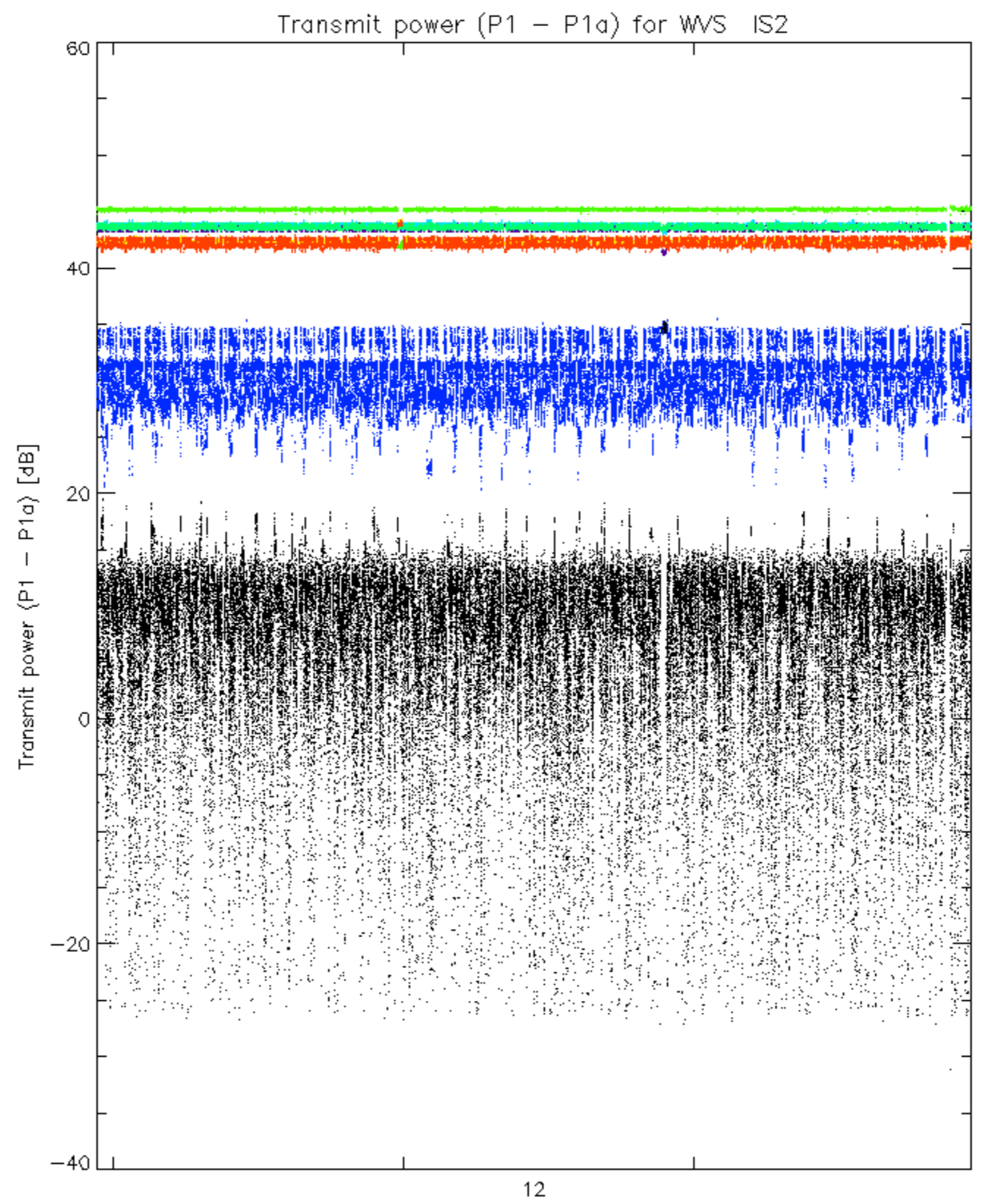


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

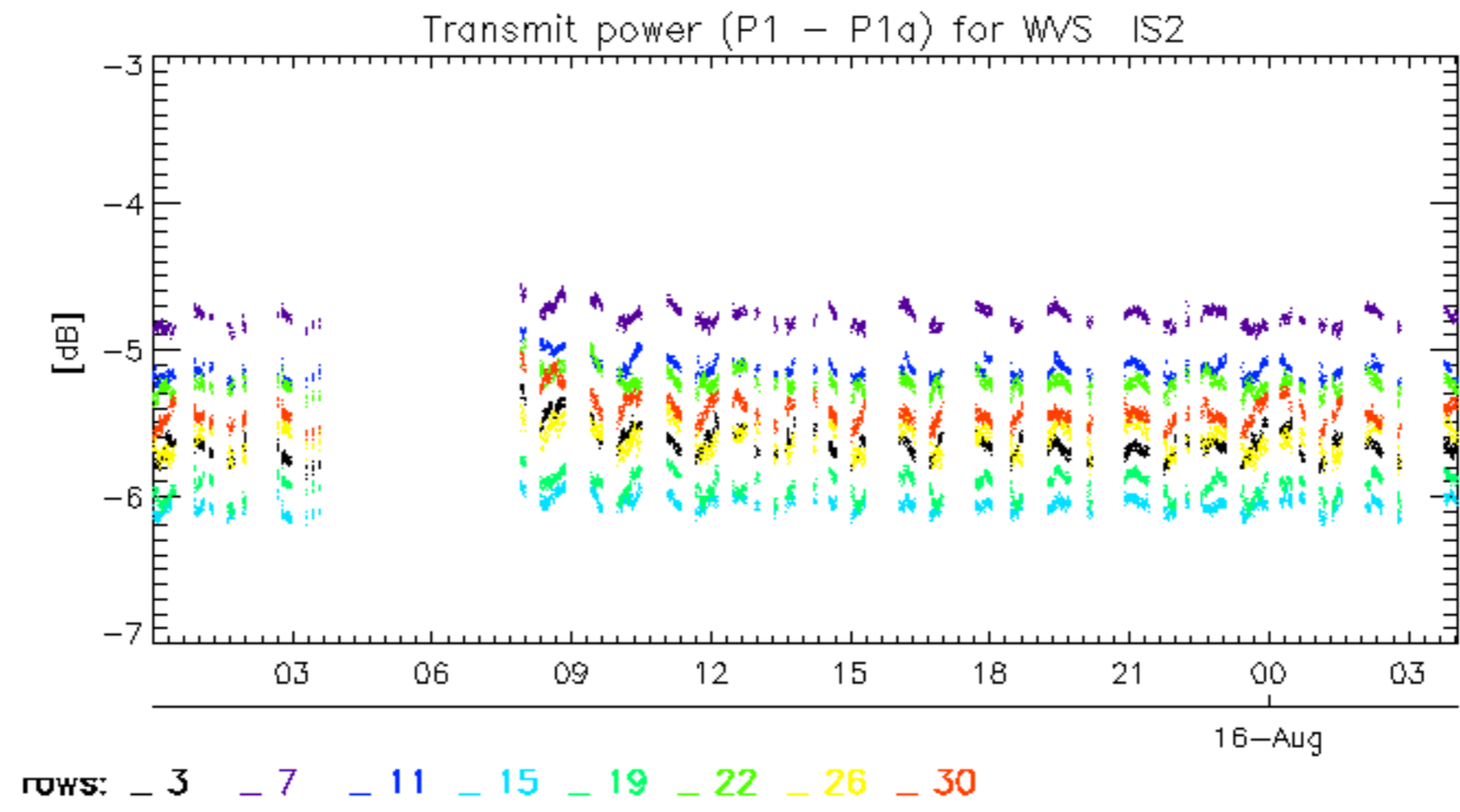




rows: **3** **7** **11** **15** **19** **22** **26** **30**



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



No unavailabilities during the reported period.