

# PRELIMINARY REPORT OF 050720

last update on Wed Jul 20 10:57:19 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 2005-07-19 00:00:00 to 2005-07-20 10:57:19

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	26	44	13	3	23
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	26	44	13	3	23
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	26	44	13	3	23
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	26	44	13	3	23

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	33	55	33	6	48
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	33	55	33	6	48
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	33	55	33	6	48
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	33	55	33	6	48

## 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	20050719 085039
H	20050716 084454

### 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
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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	-3.322480	0.006722	0.027248
7	P1	-3.137486	0.015210	0.014462
11	P1	-4.675076	0.033159	-0.054247
15	P1	-5.543758	0.047231	-0.054546
19	P1	-3.785229	0.045524	-0.036200
22	P1	-4.610525	0.066497	-0.028124
26	P1	-4.849632	0.071079	0.014515
30	P1	-7.206411	0.159122	-0.076878
3	P1	-15.571076	0.084326	-0.007580
7	P1	-15.541179	0.109700	0.085614
11	P1	-21.576246	0.260816	-0.245210
15	P1	-11.290536	0.045039	0.015286
19	P1	-14.491412	0.257694	-0.061070
22	P1	-15.802213	0.355802	0.178036
26	P1	-17.518265	0.254913	0.256961
30	P1	-17.757069	0.360929	0.124350

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.887457	0.082882	0.131640
7	P2	-22.067436	0.105300	0.181576
11	P2	-13.735344	0.105076	0.263720
15	P2	-7.102633	0.093189	0.085782
19	P2	-9.598264	0.094338	0.039054
22	P2	-16.860600	0.094255	0.032684
26	P2	-16.506483	0.096399	0.032163
30	P2	-18.789291	0.083344	0.004037

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.159029	0.002754	0.017775
7	P3	-8.159029	0.002754	0.017775
11	P3	-8.159029	0.002754	0.017775
15	P3	-8.159029	0.002754	0.017775
19	P3	-8.159029	0.002754	0.017775
22	P3	-8.159029	0.002754	0.017775
26	P3	-8.159029	0.002754	0.017775
30	P3	-8.159029	0.002754	0.017775

#### 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	-2.786471	0.013845	0.026043
7	P1	-2.952387	0.031735	0.007369
11	P1	-3.991347	0.017169	-0.023472
15	P1	-3.558733	0.023629	-0.053215
19	P1	-3.672638	0.117253	-0.006120
22	P1	-5.670871	0.111713	-0.037361
26	P1	-7.379327	0.196624	-0.073427
30	P1	-6.321628	0.118392	-0.071577
3	P1	-10.820761	0.039165	0.034850
7	P1	-10.439065	0.158282	-0.024268
11	P1	-12.603592	0.110901	-0.055035
15	P1	-11.615716	0.074702	0.009307
19	P1	-15.682198	1.356174	0.029382
22	P1	-25.867973	3.504683	0.405075
26	P1	-15.447913	0.416836	0.204453
30	P1	-20.145773	1.283665	0.255346

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.638453	0.047237	0.138358
7	P2	-22.066565	0.040146	0.076895
11	P2	-9.737309	0.061676	0.180038
15	P2	-5.130404	0.046463	0.020726
19	P2	-6.909901	0.063242	0.014397
22	P2	-7.089978	0.039482	0.034611
26	P2	-23.967808	0.043781	-0.017250
30	P2	-21.959993	0.041433	0.022428

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.998802	0.004127	0.000900
7	P3	-7.998859	0.004113	0.001081
11	P3	-7.998784	0.004119	0.001395
15	P3	-7.998830	0.004126	0.001218
19	P3	-7.998875	0.004129	0.000859
22	P3	-7.998859	0.004112	0.000958
26	P3	-7.998944	0.004114	0.001144
30	P3	-7.998882	0.004115	0.001084

## 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	0.000463341
	stdev	2.18315e-07
MEAN Q	mean	0.000497778
	stdev	2.33258e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127625
	stdev	0.000989947
STDEV Q	mean	0.127865
	stdev	0.00100043



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2005071[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_1PNPDK20050710_124045_000000362038_00482_17570_1372.N1	1	0
ASA_IMM_1PNPDK20050710_124045_000000372038_00482_17570_1379.N1	1	0
ASA_IMM_1PNPDK20050719_125658_000000542039_00110_17699_1848.N1	1	0
ASA_WSM_1PNPDE20050710_141215_000000672038_00483_17571_3333.N1	0	39
ASA_WSM_1PNPDE20050719_201133_000000852039_00114_17703_0289.N1	0	34







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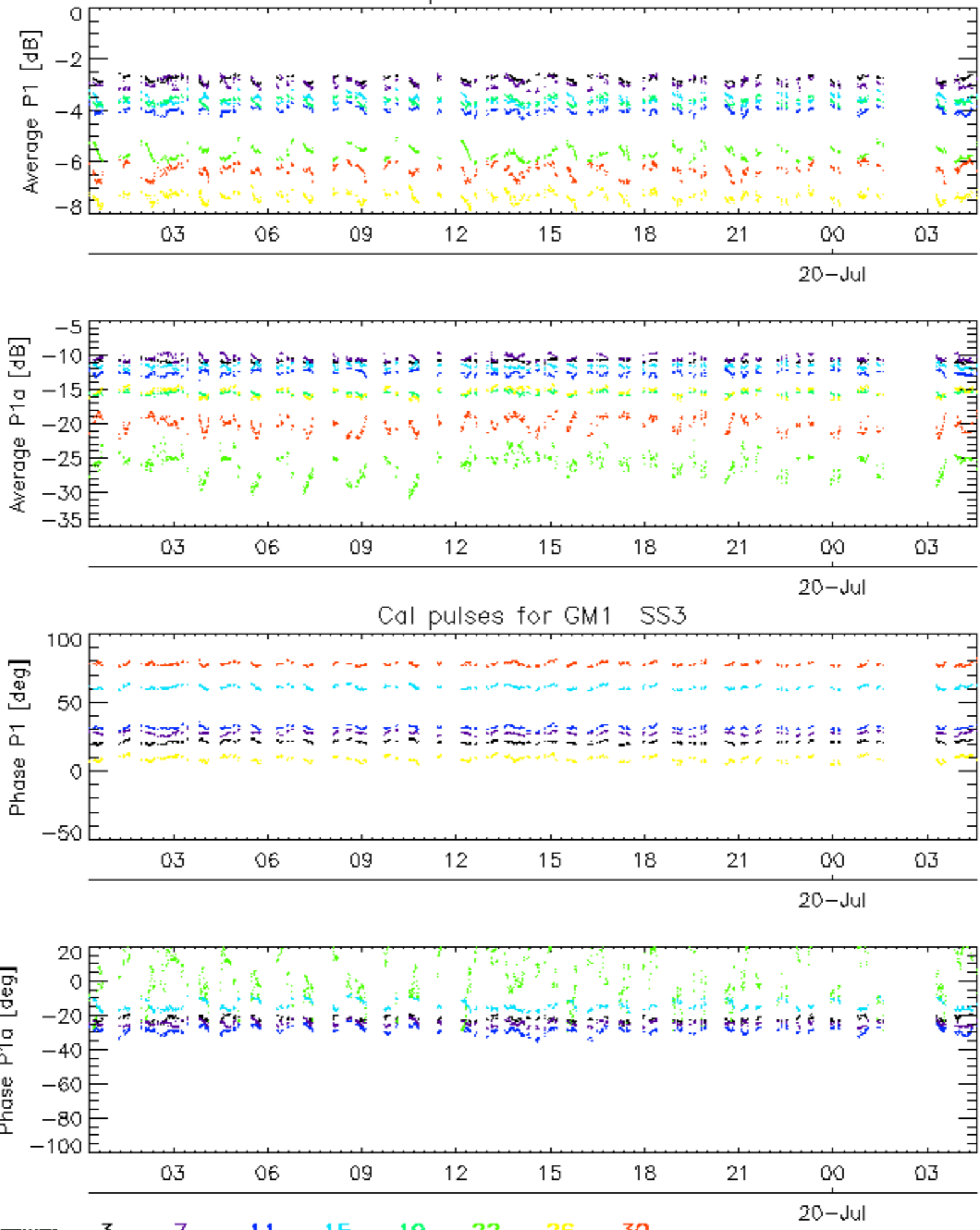
Descending
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### 7.6 - Doppler evolution versus ANX for GM1

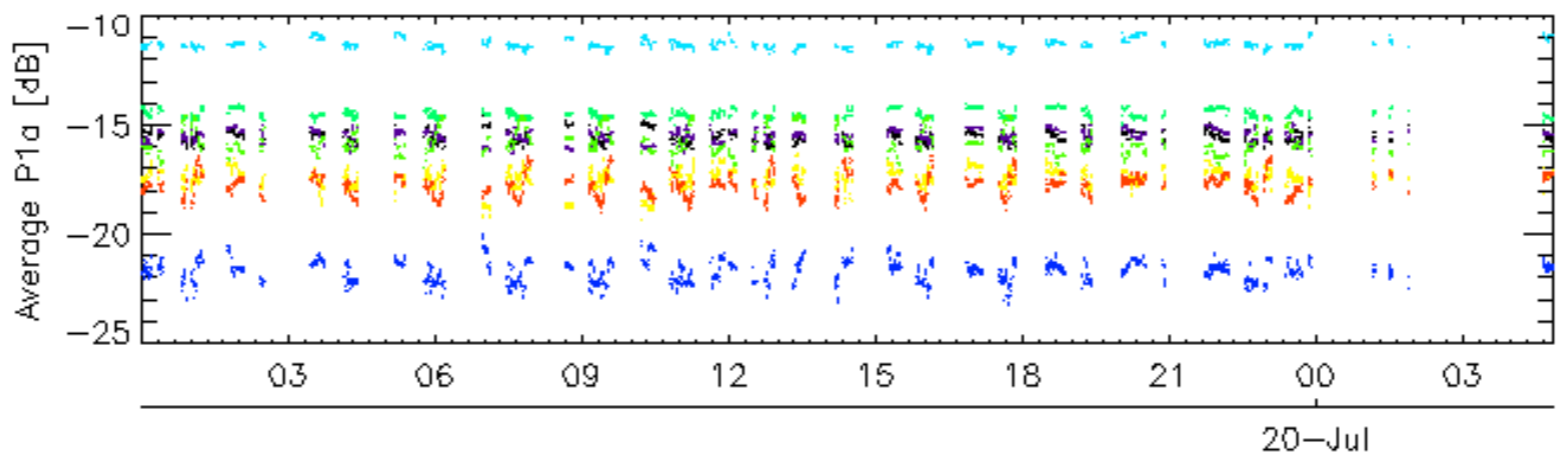
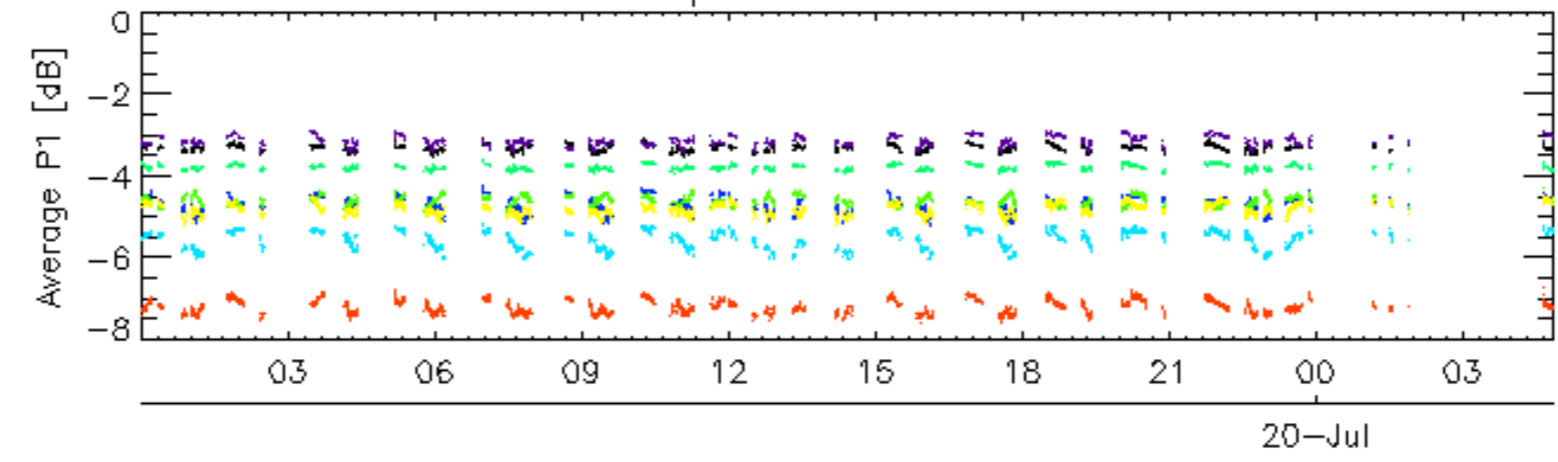
<b>Evolution Doppler error versus ANX</b>
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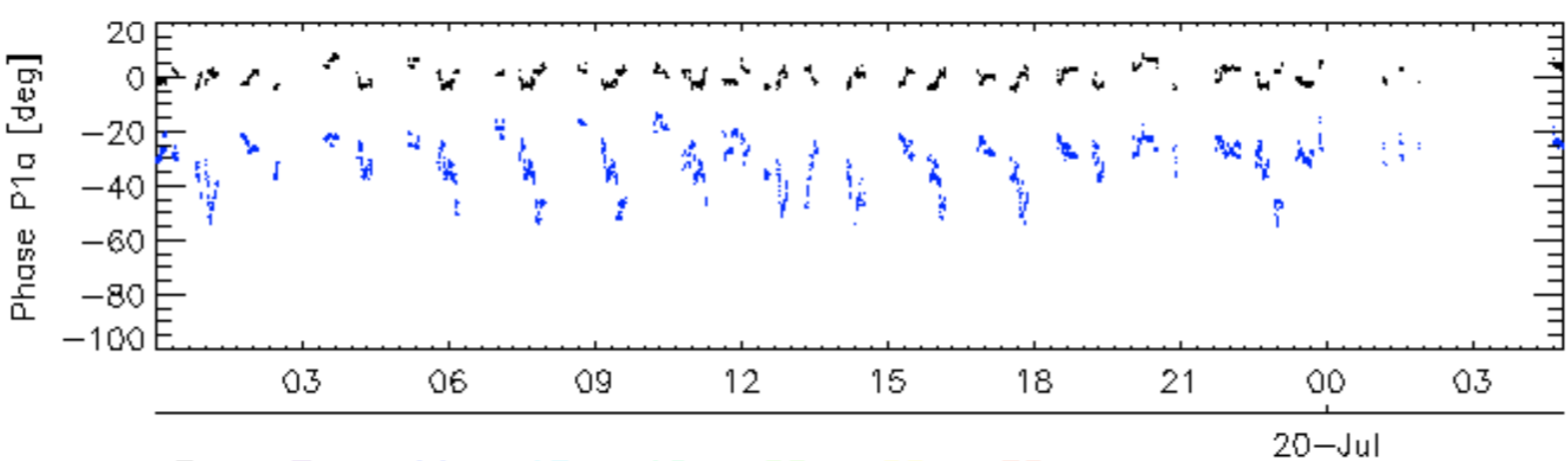
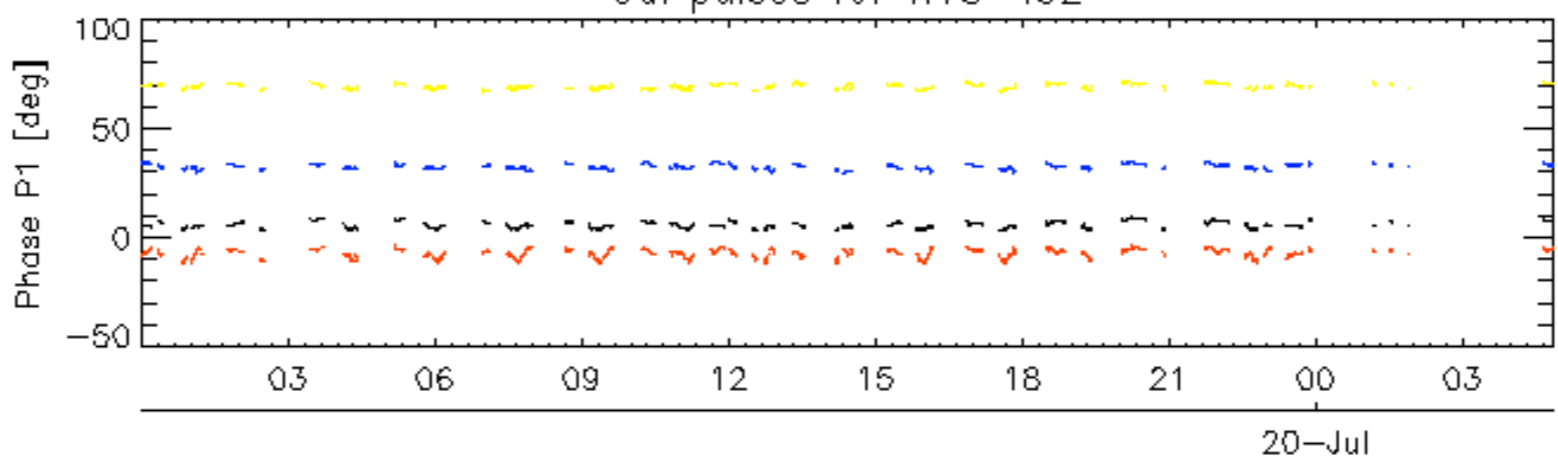
Cal pulses for GM1 SS3



Cal pulses for WVS IS2

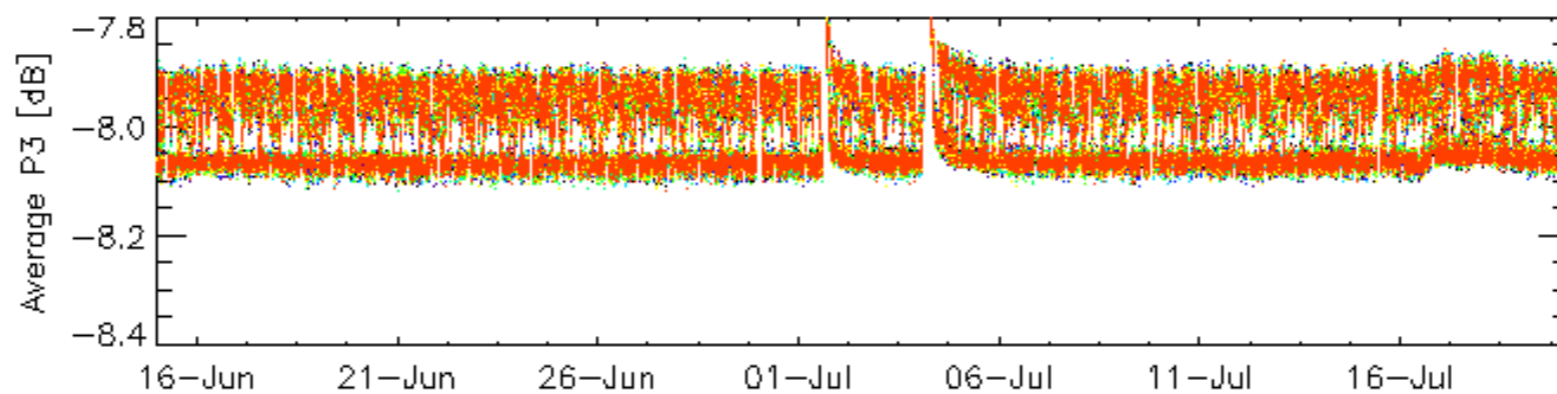
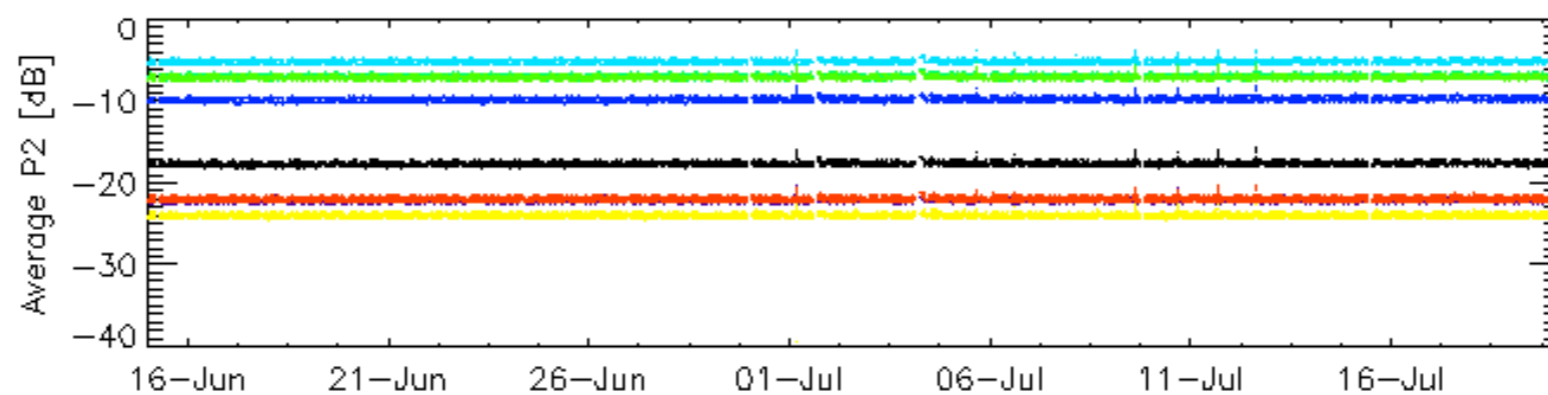
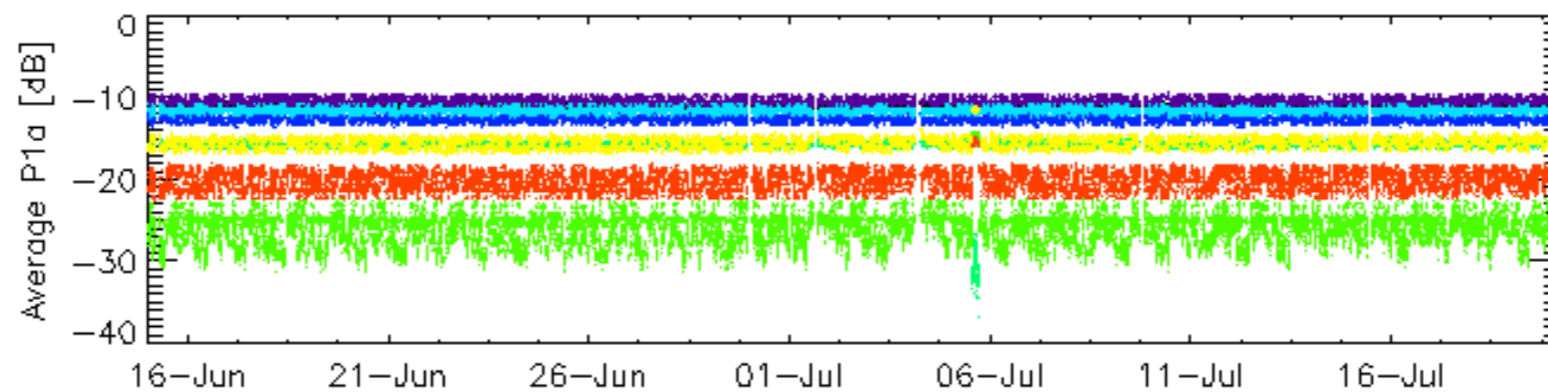
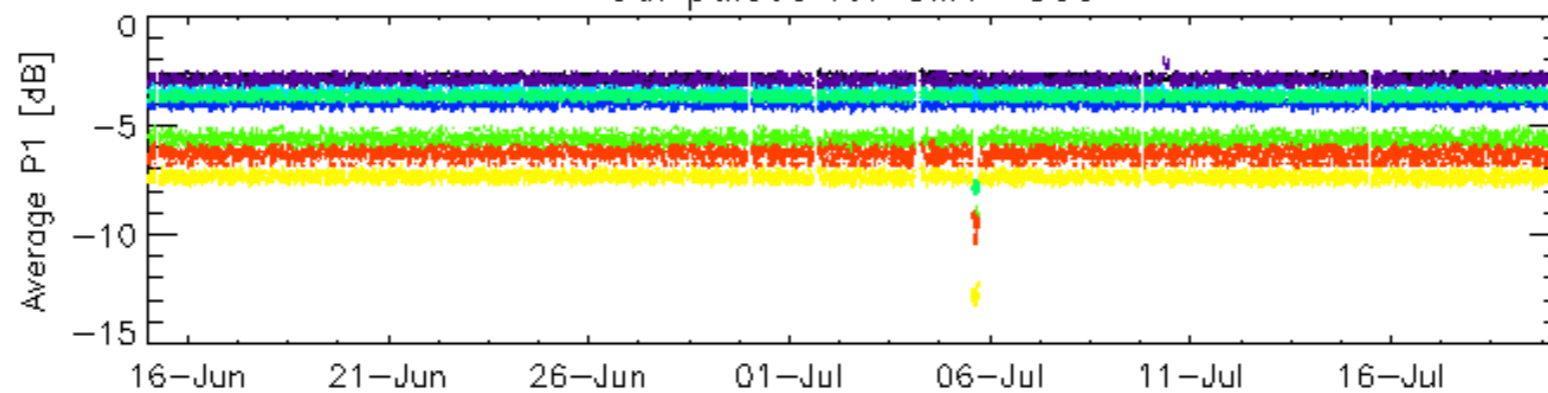


Cal pulses for WVS IS2



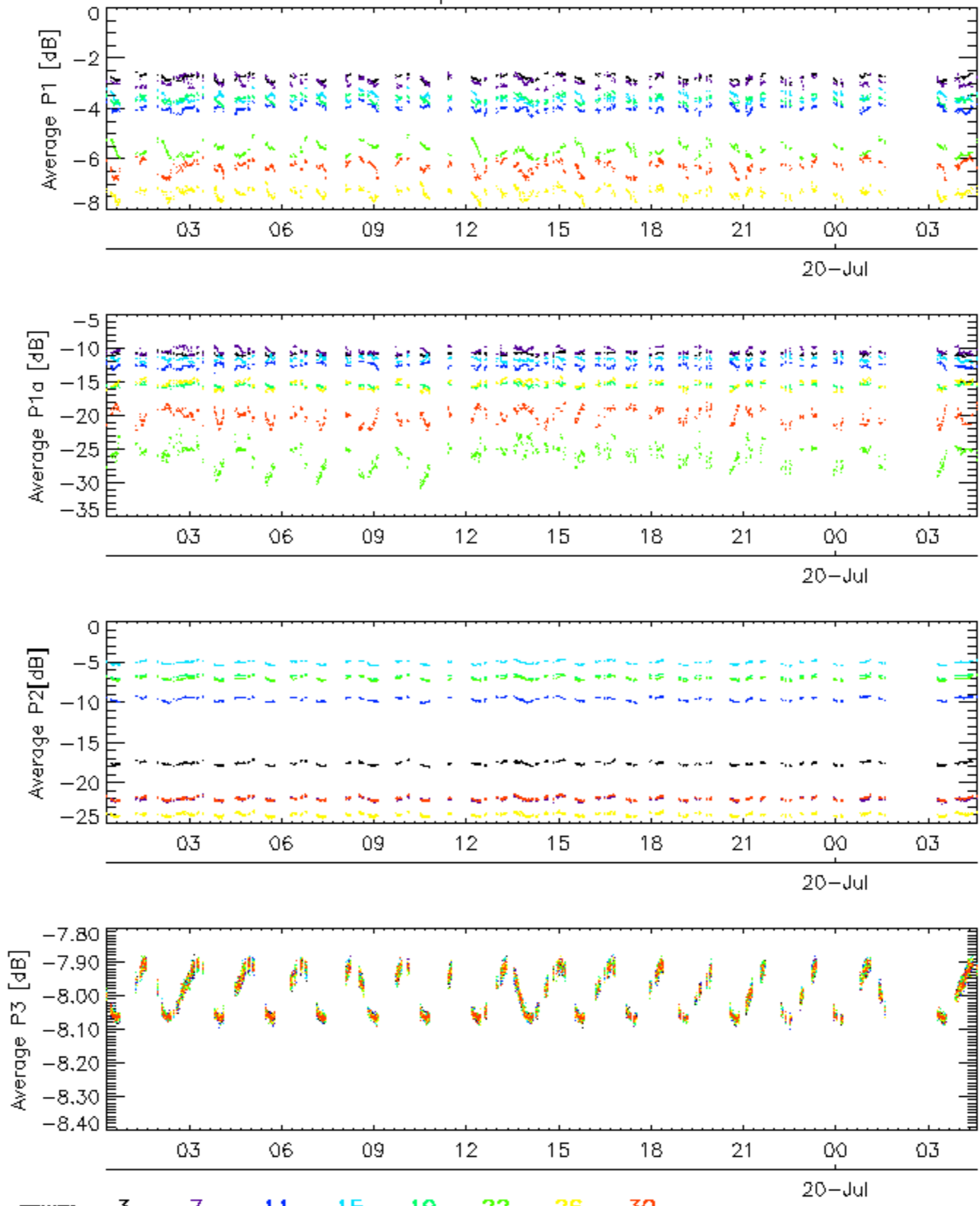
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

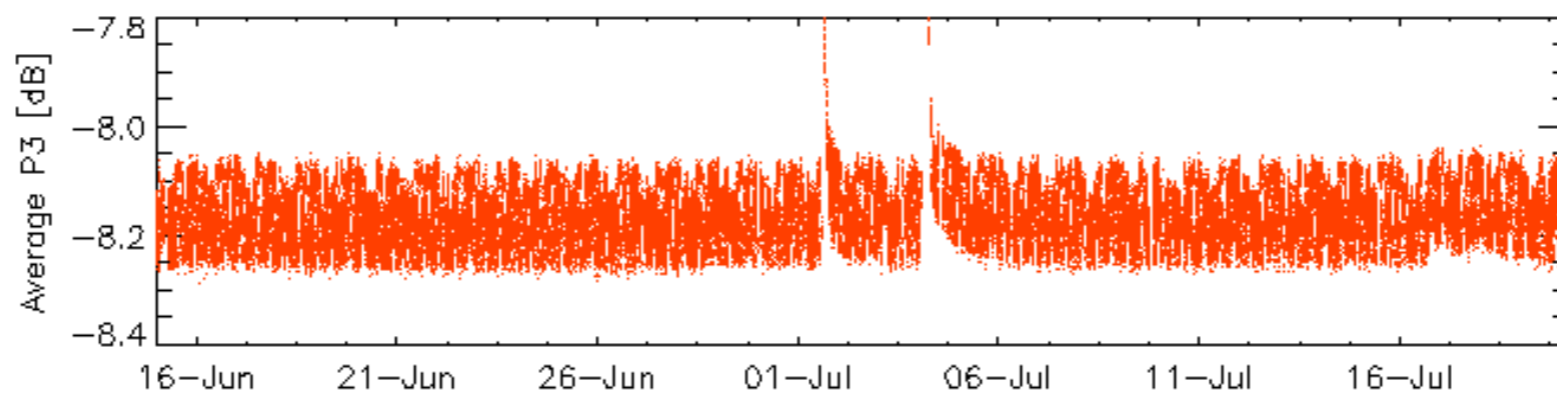
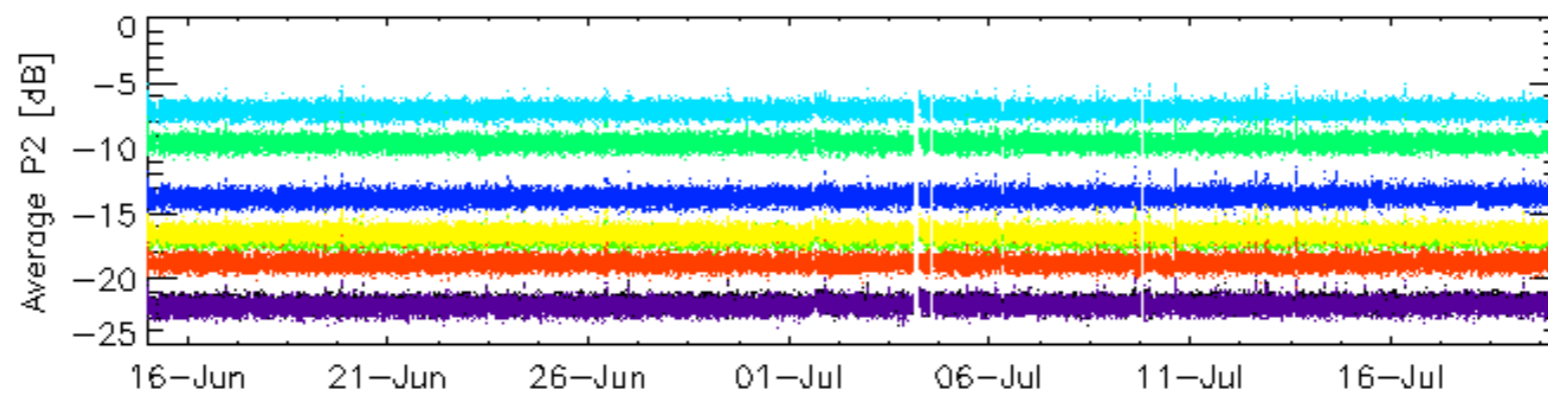
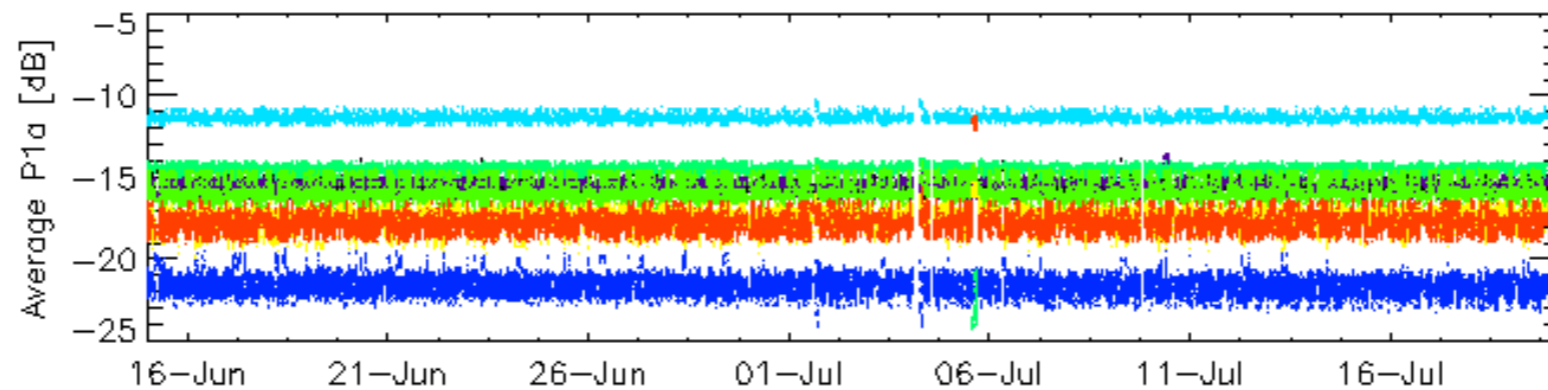
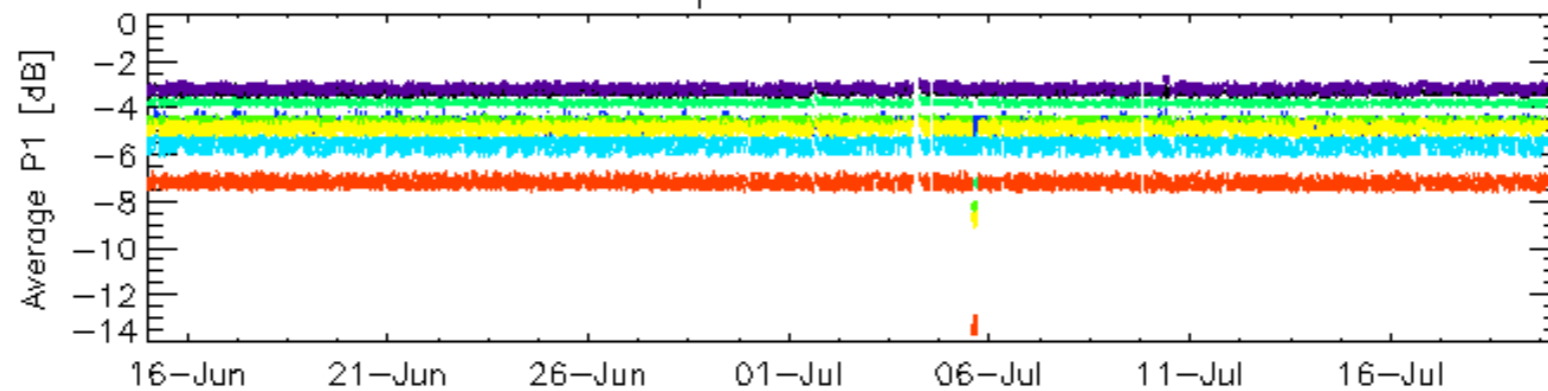


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3

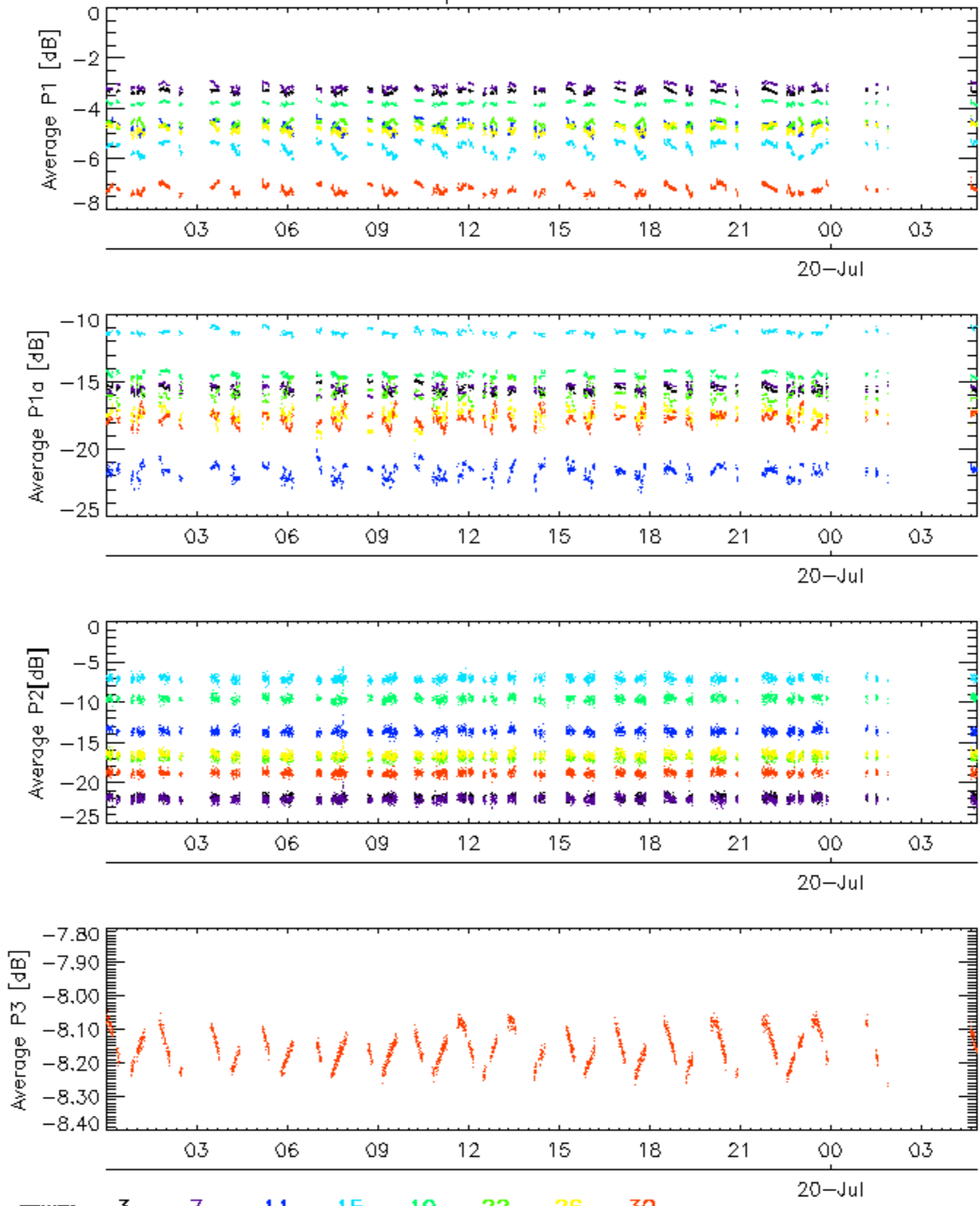


Cal pulses for WVS IS2



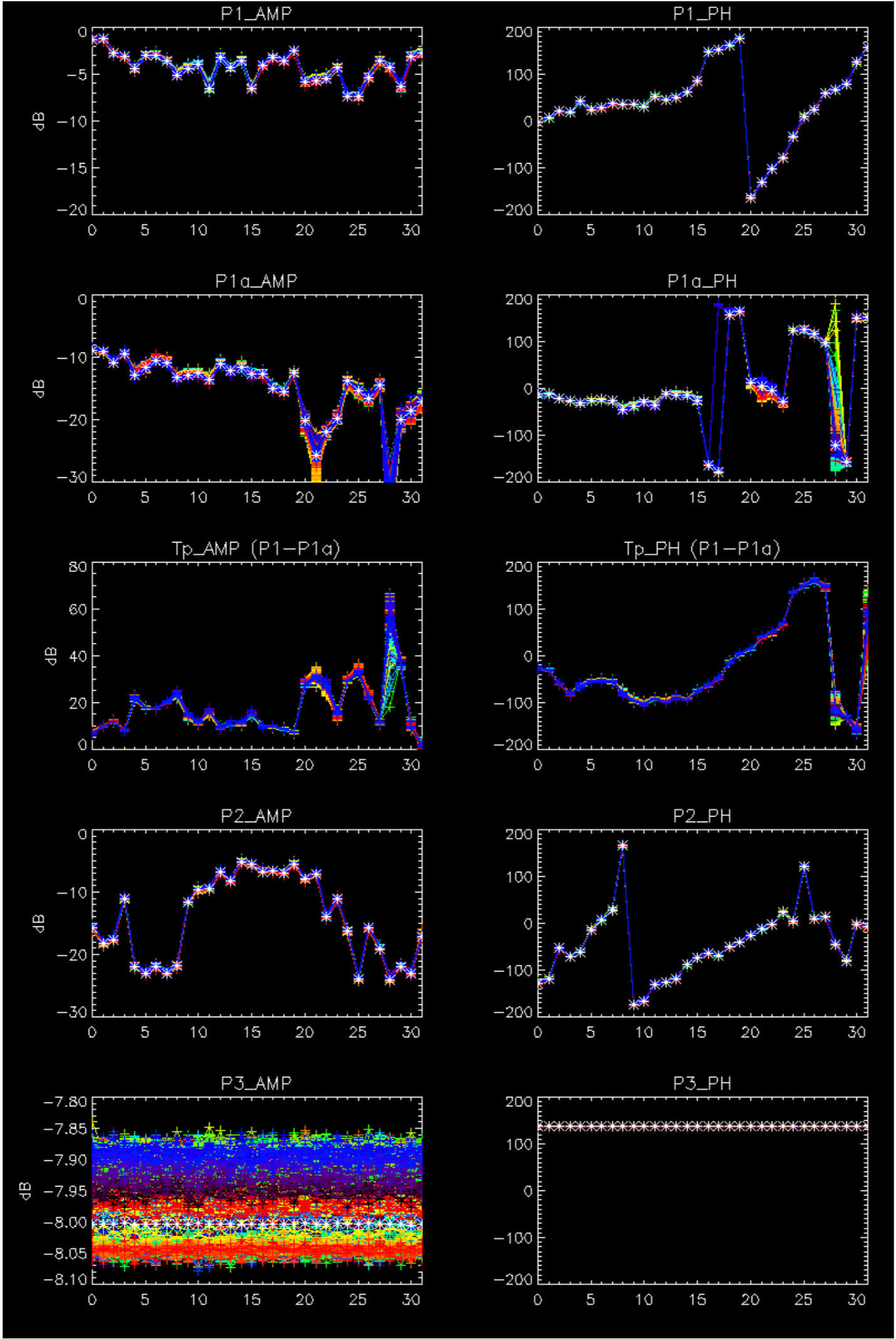
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

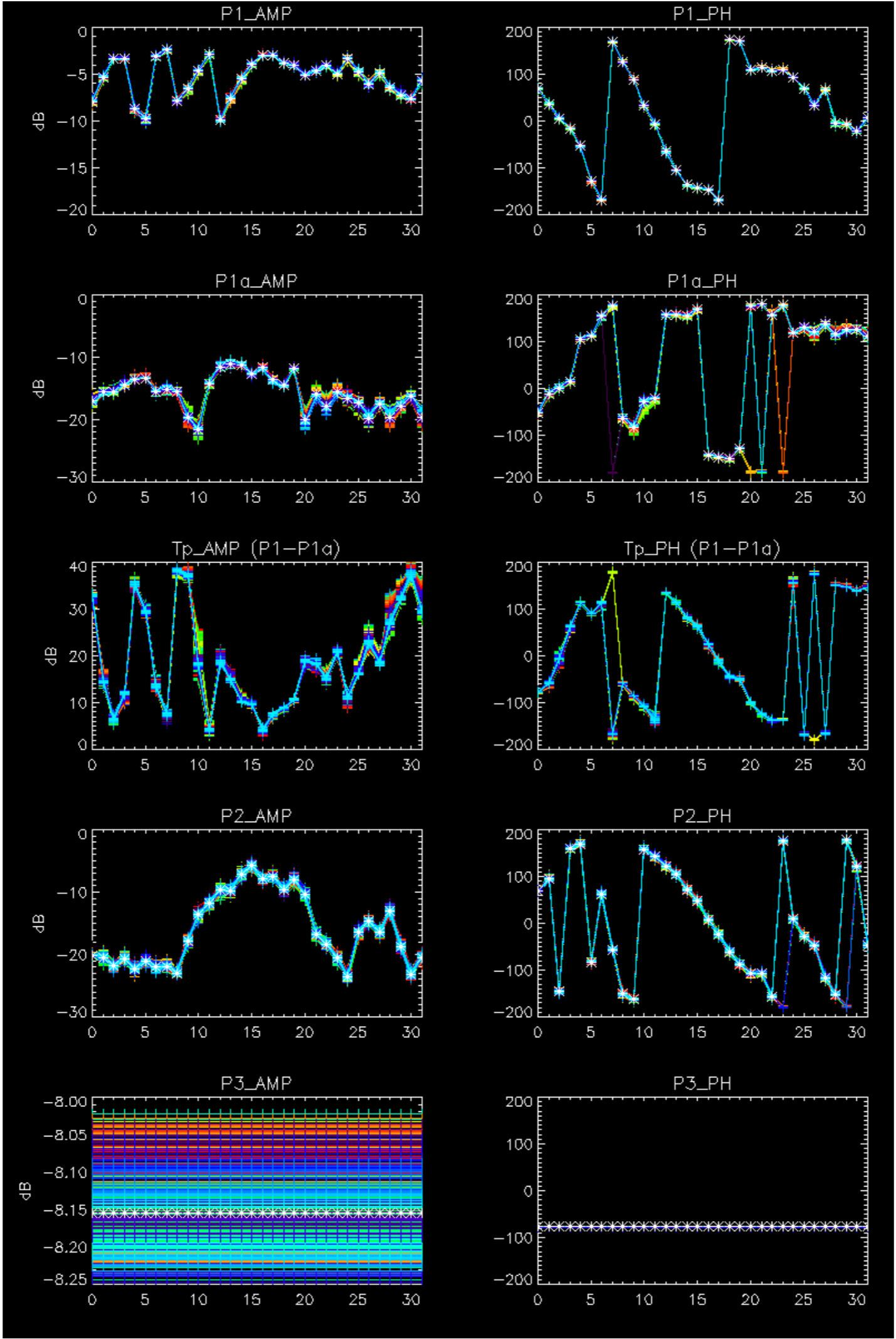
Cal pulses for WVS IS2



No anomalies observed.



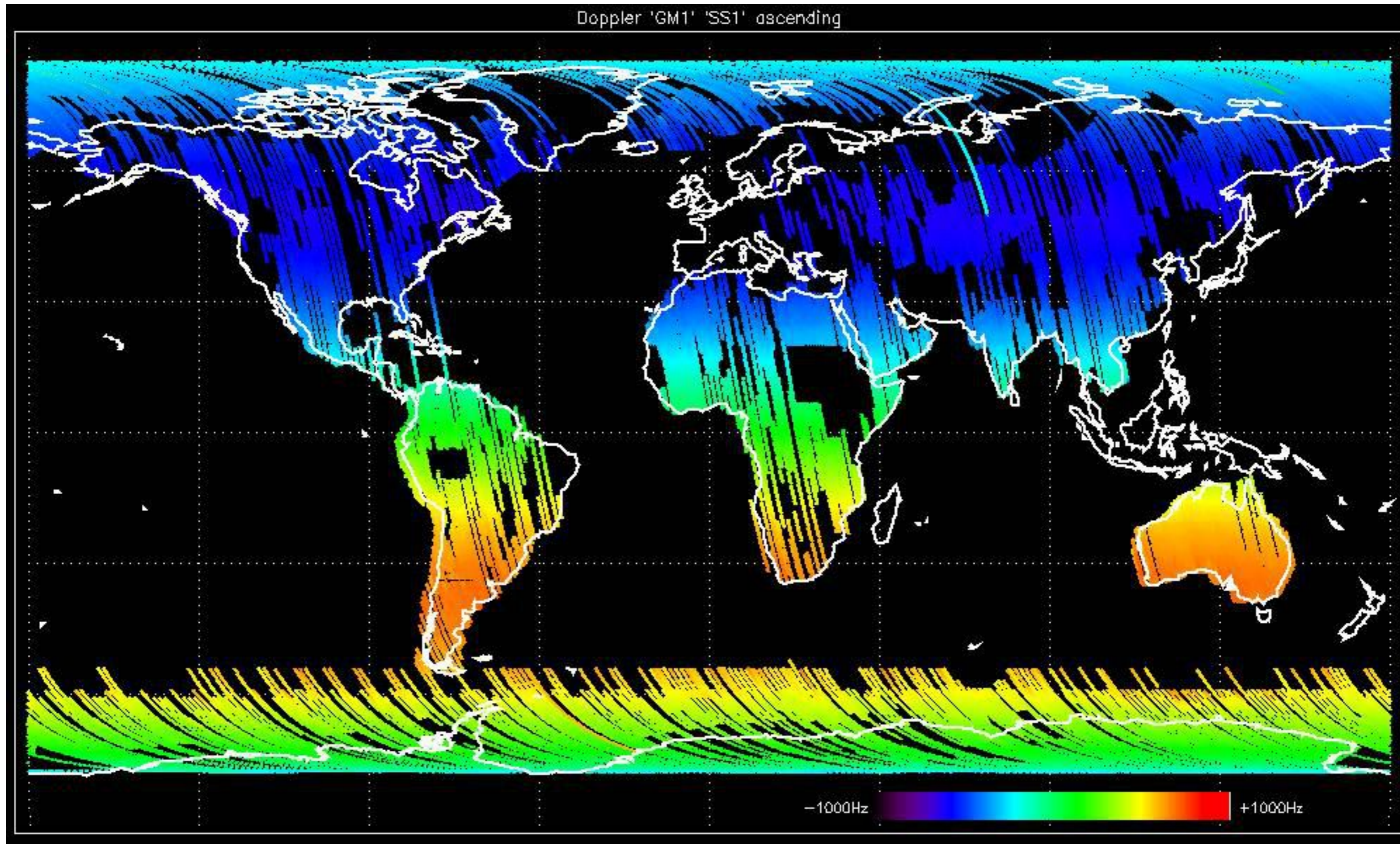




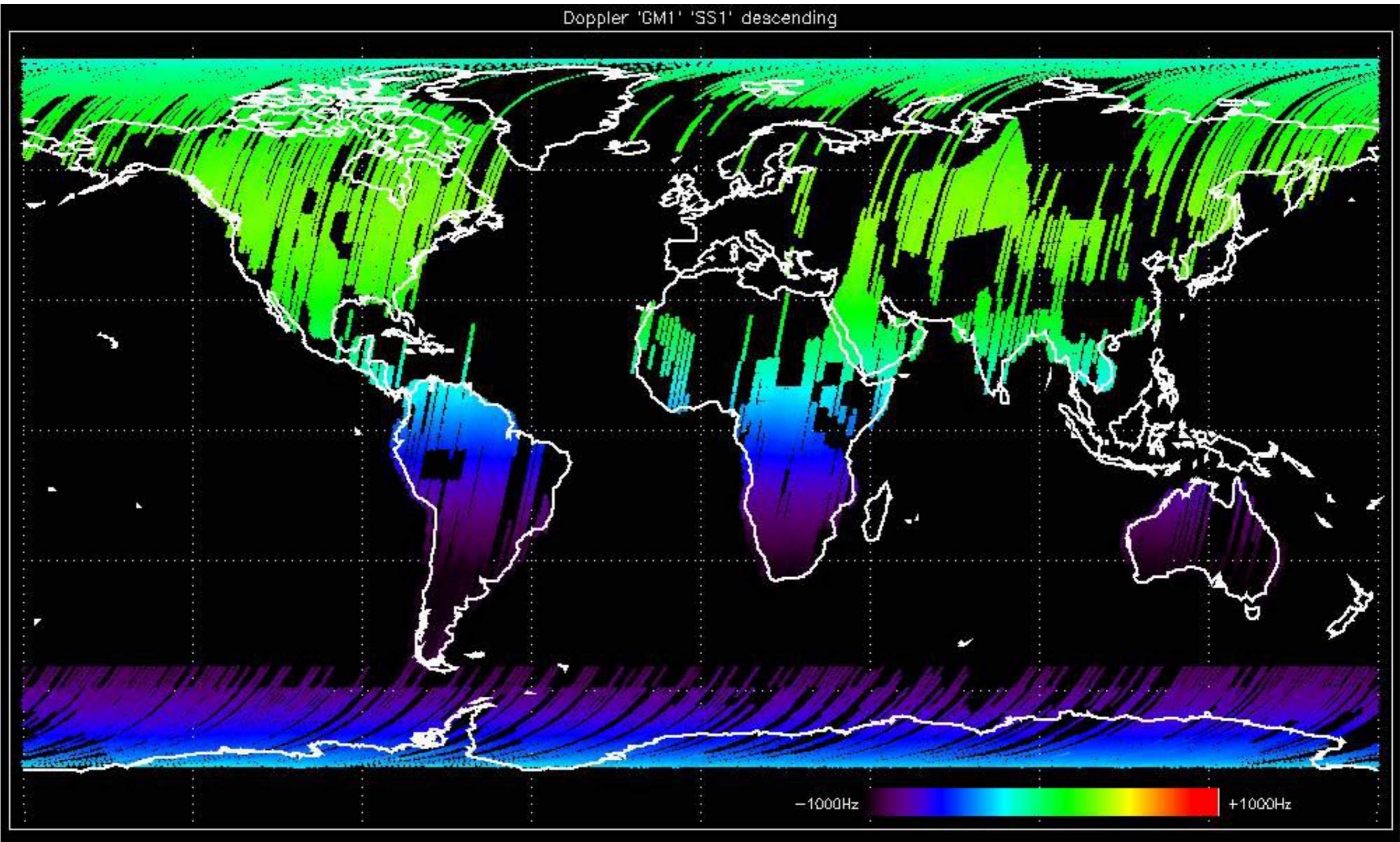
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



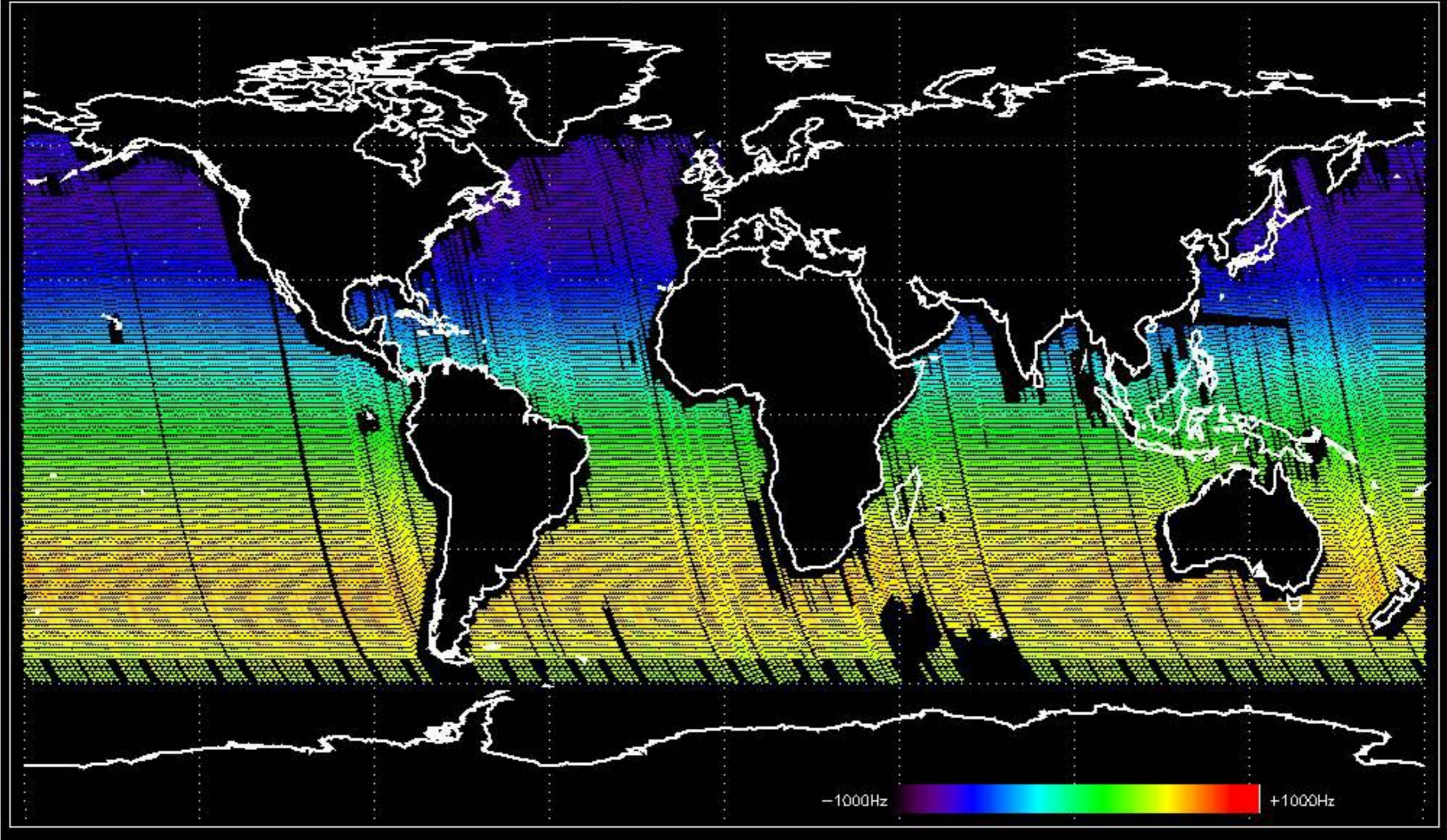
Doppler 'GM1' 'SS1' ascending



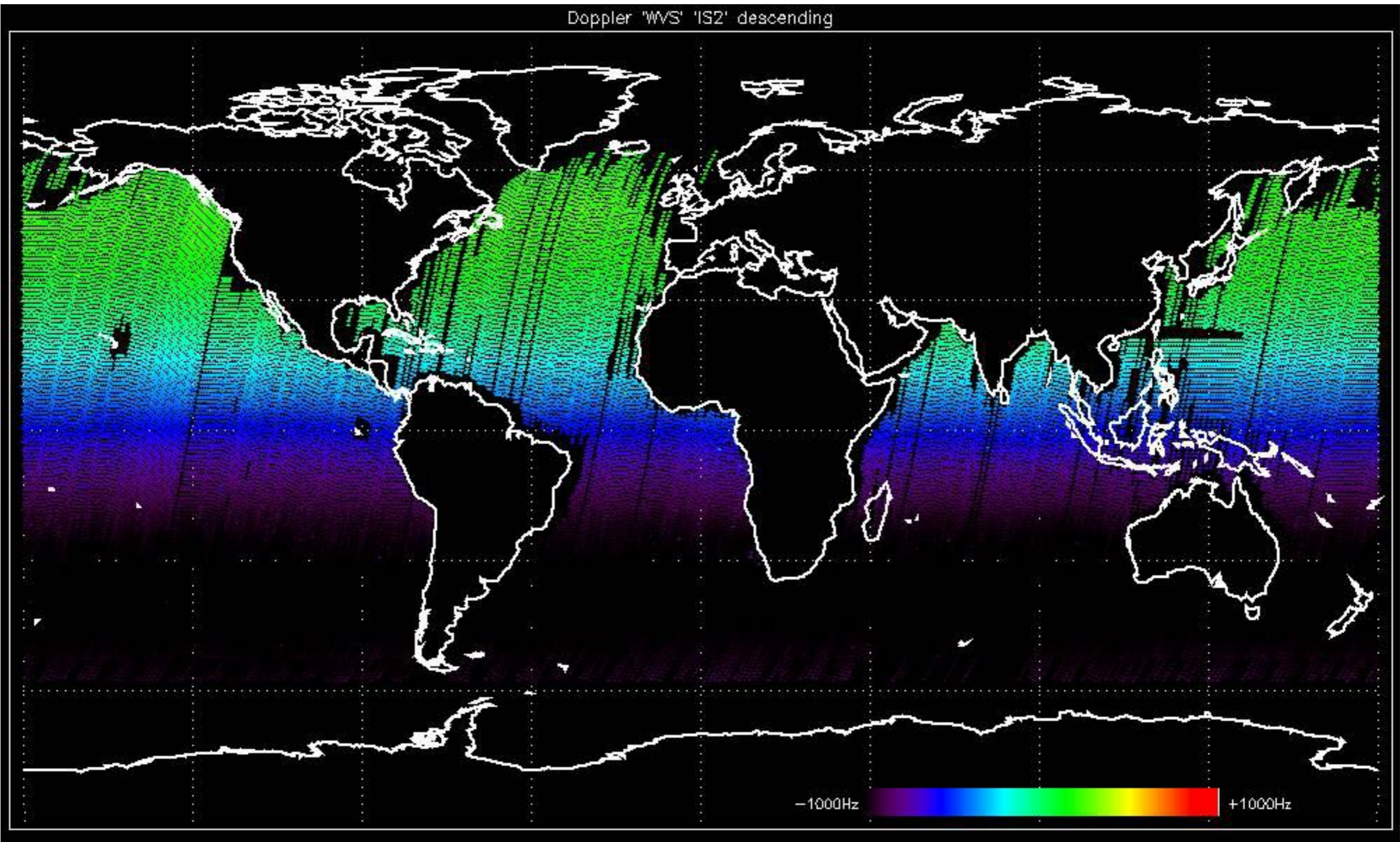
Doppler 'GM1' 'SS1' descending



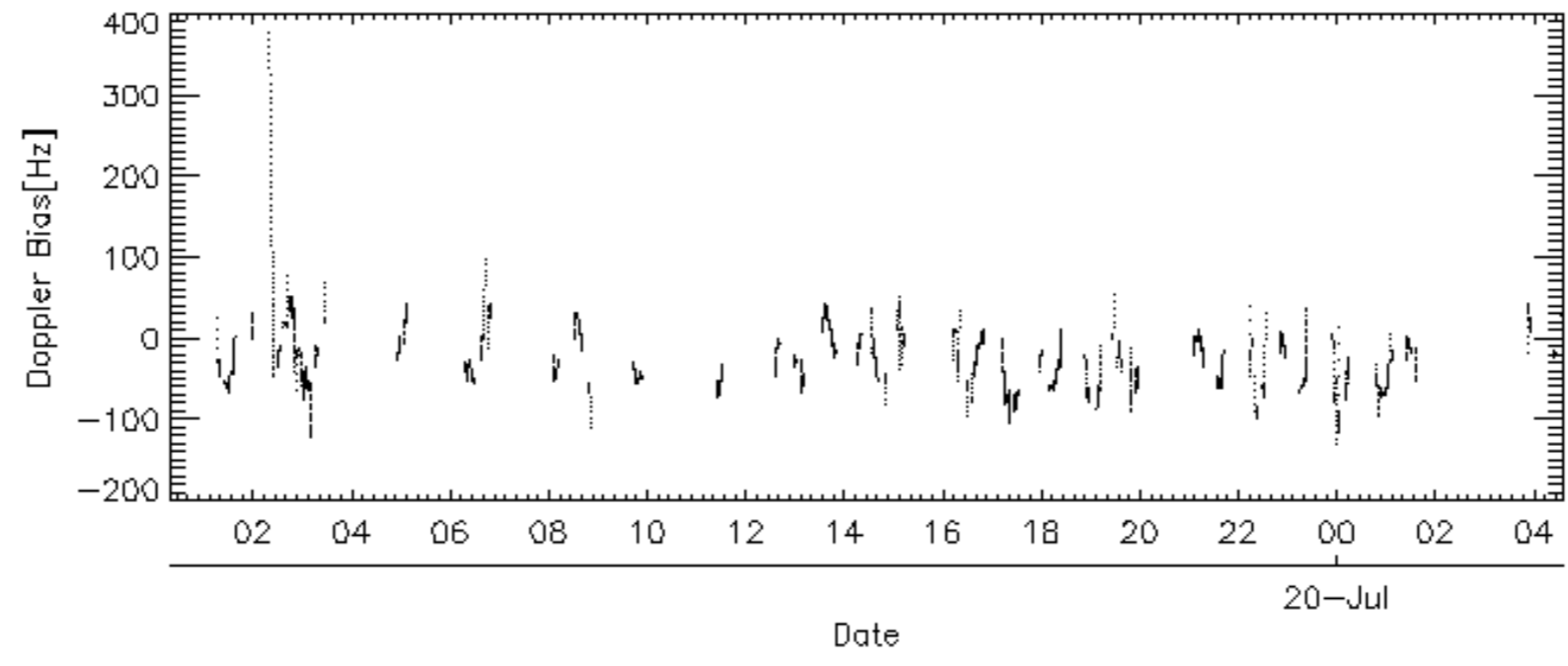
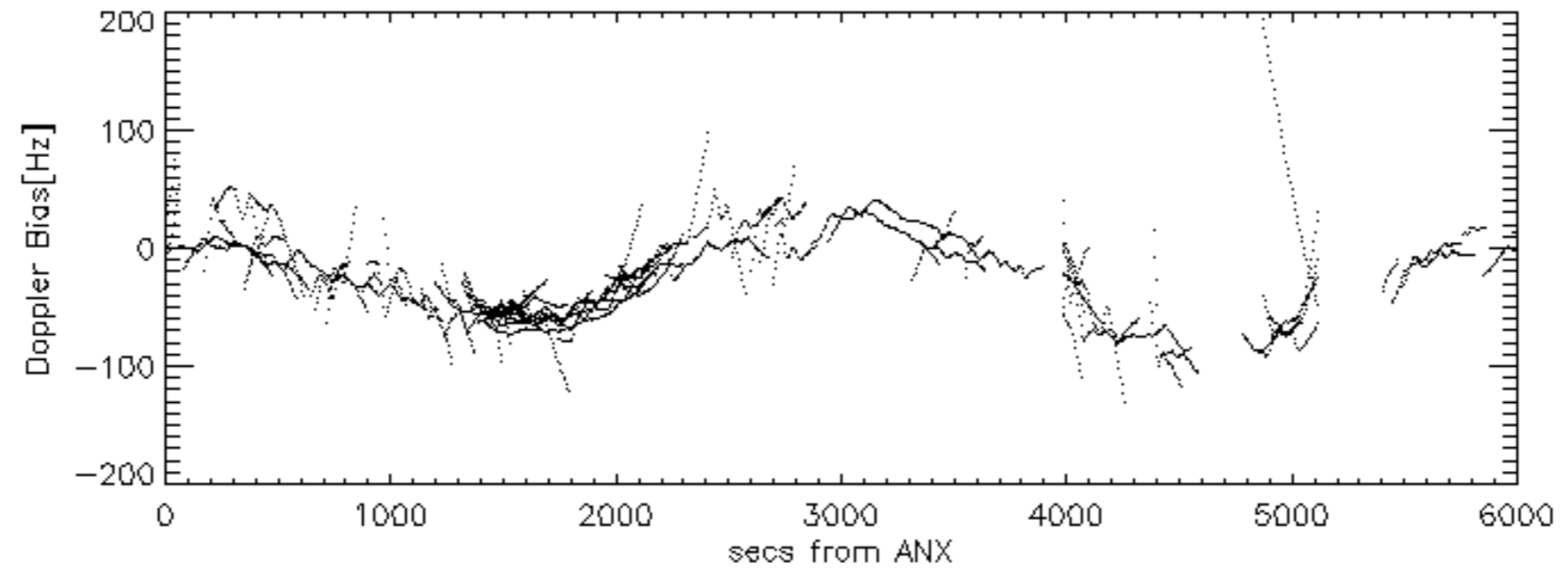
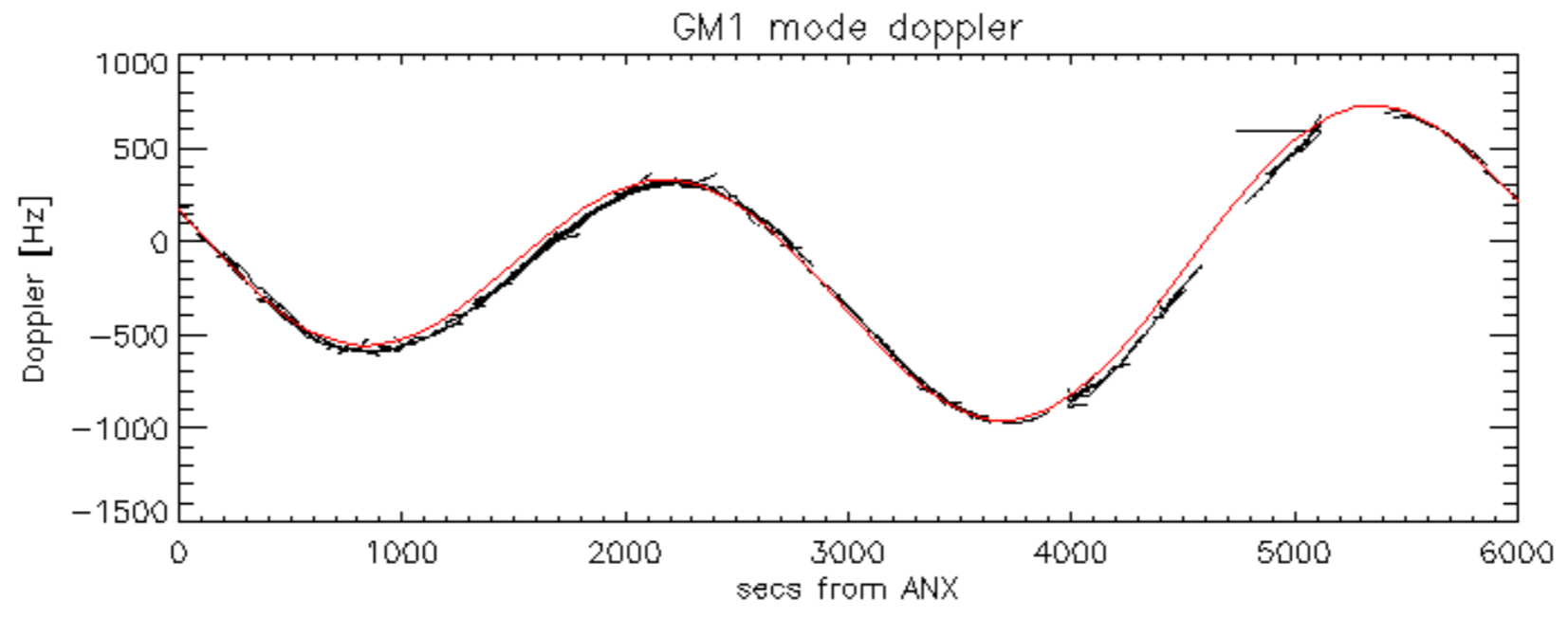
Doppler 'WVS' 'IS2' ascending

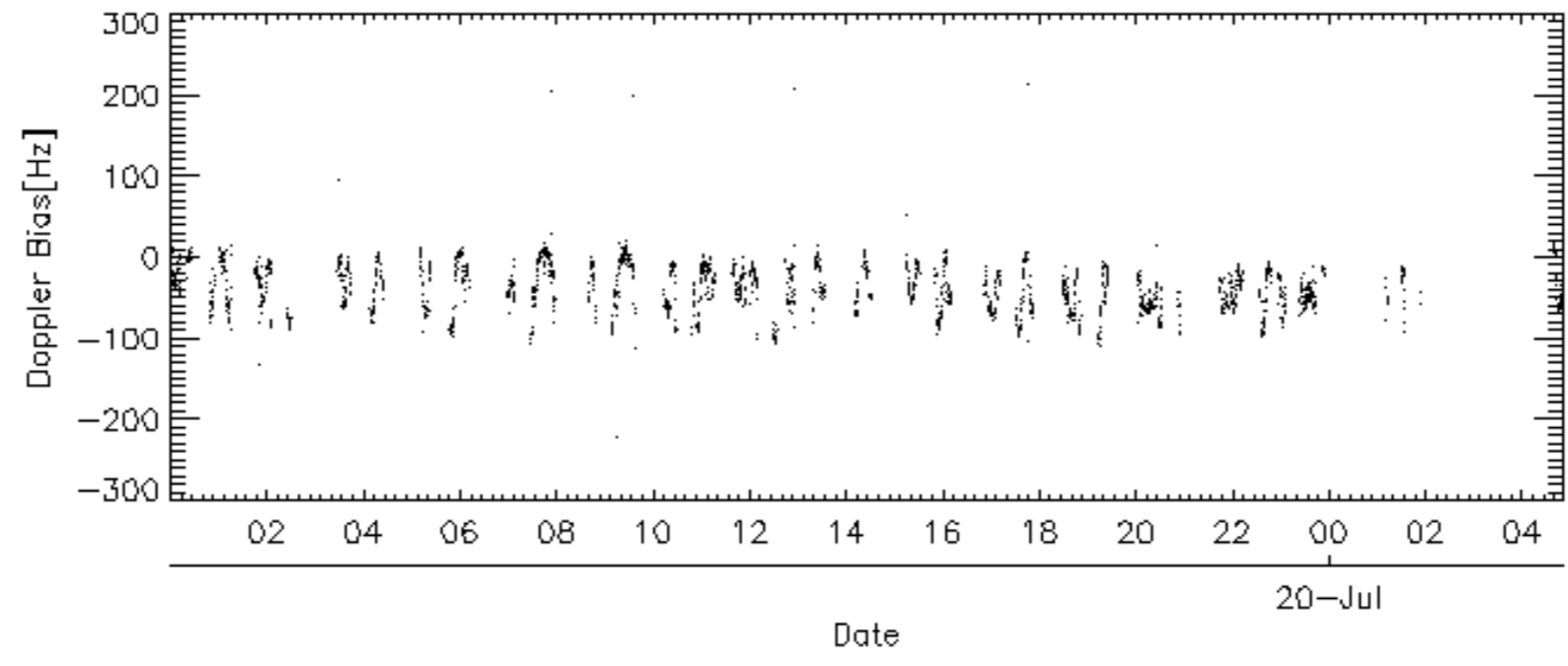
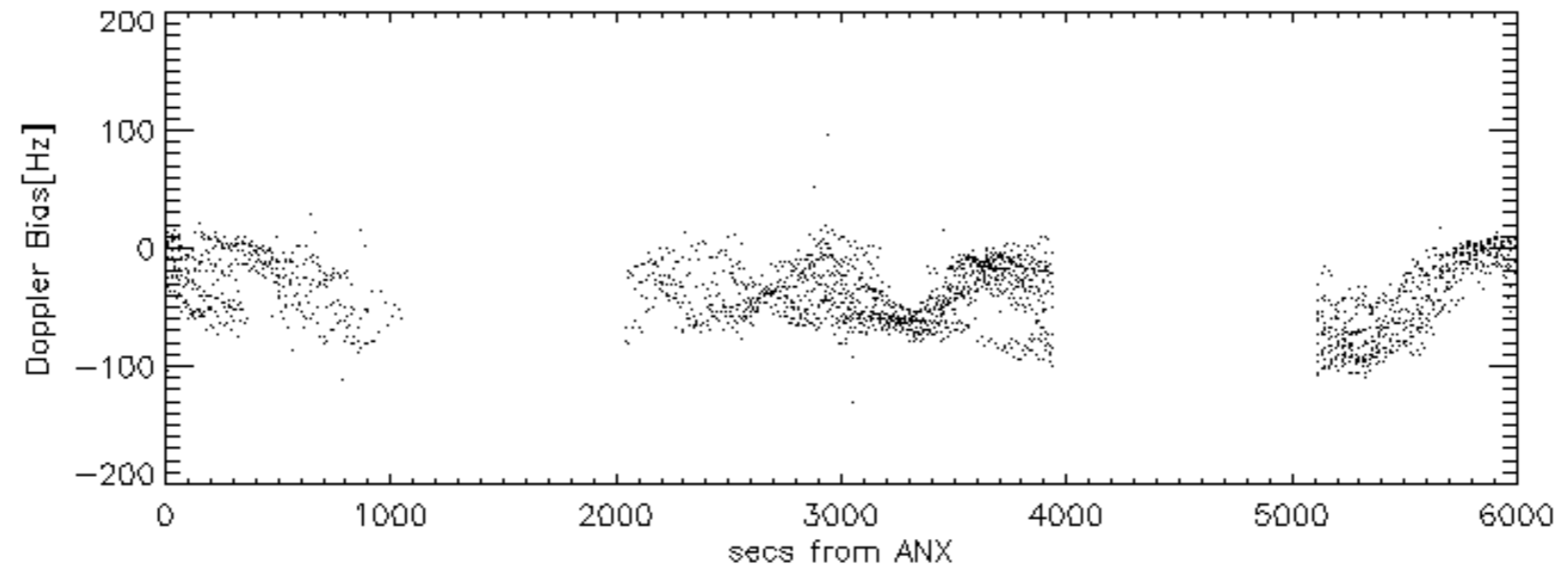
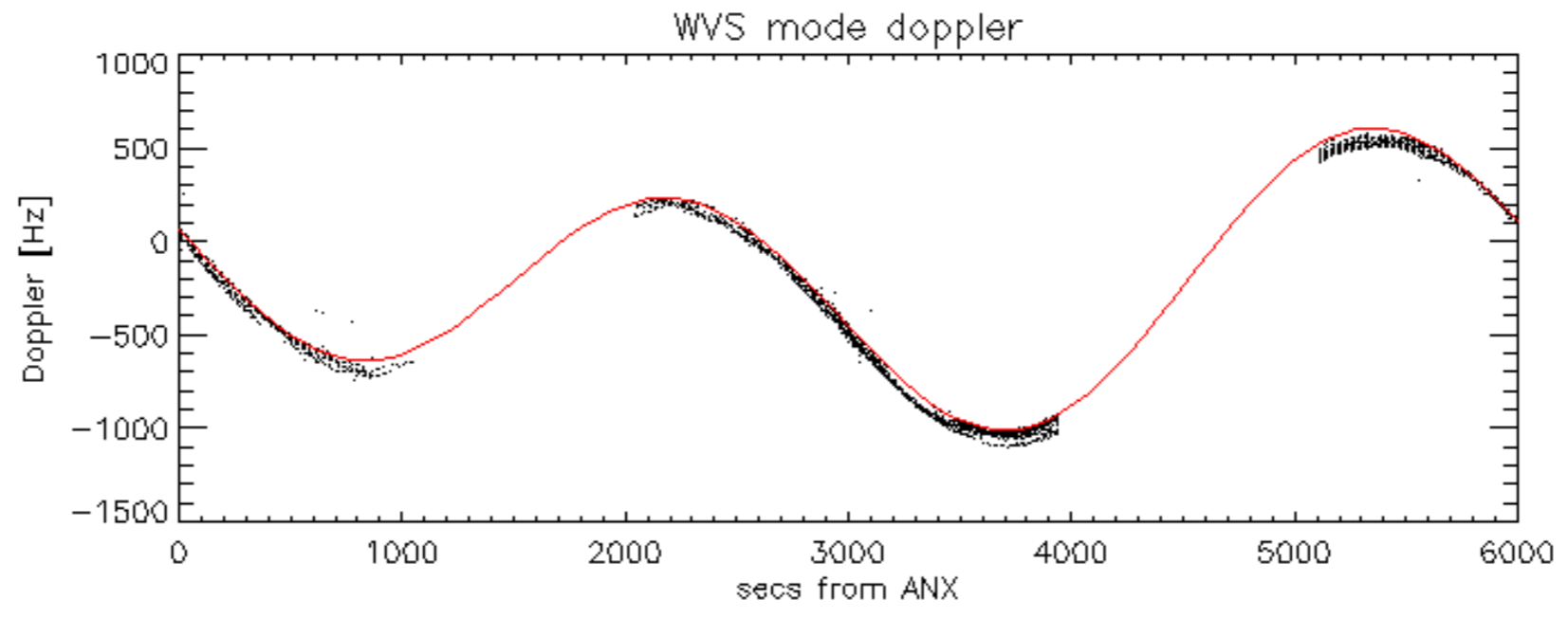


Doppler 'WVS' 'IS2' descending

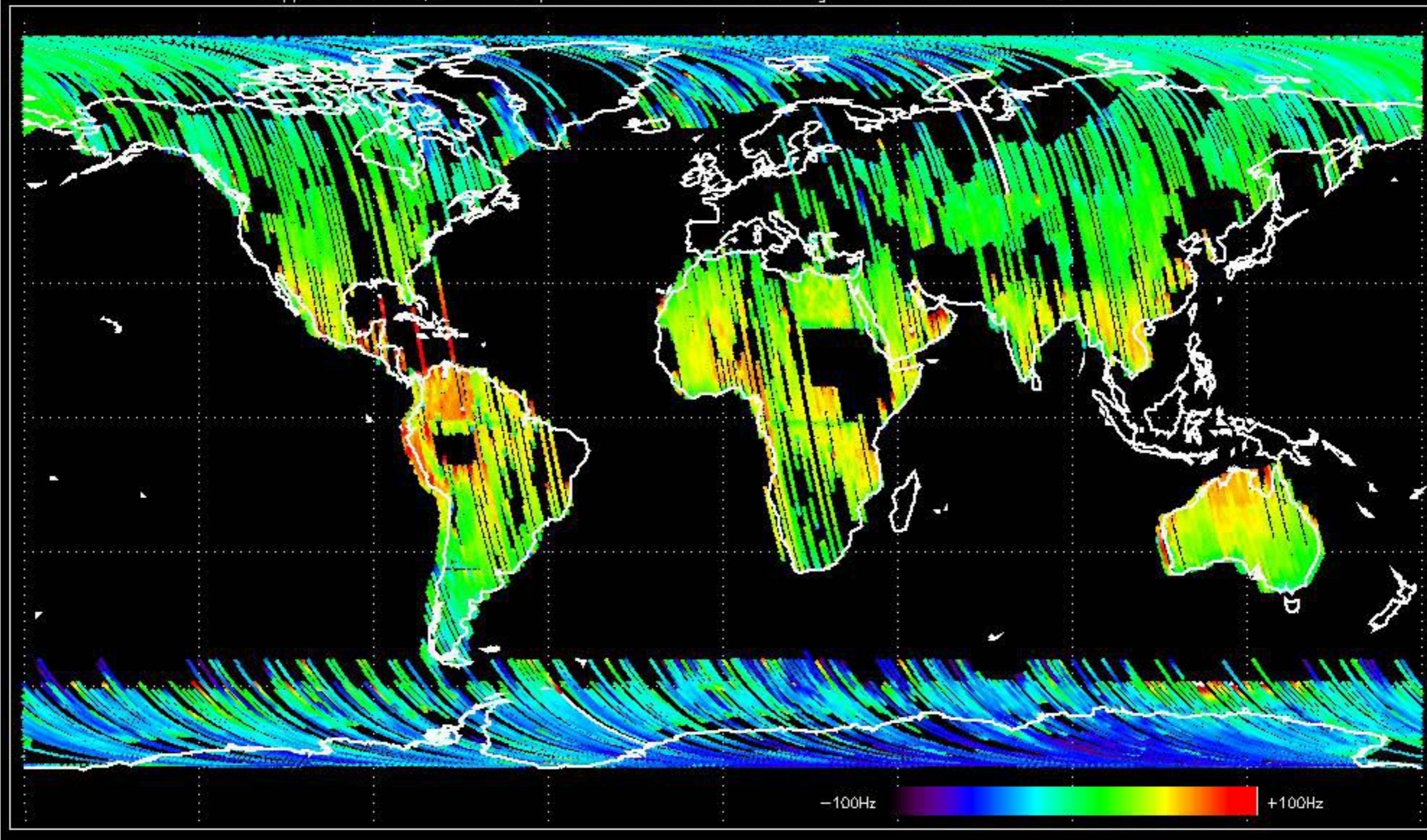




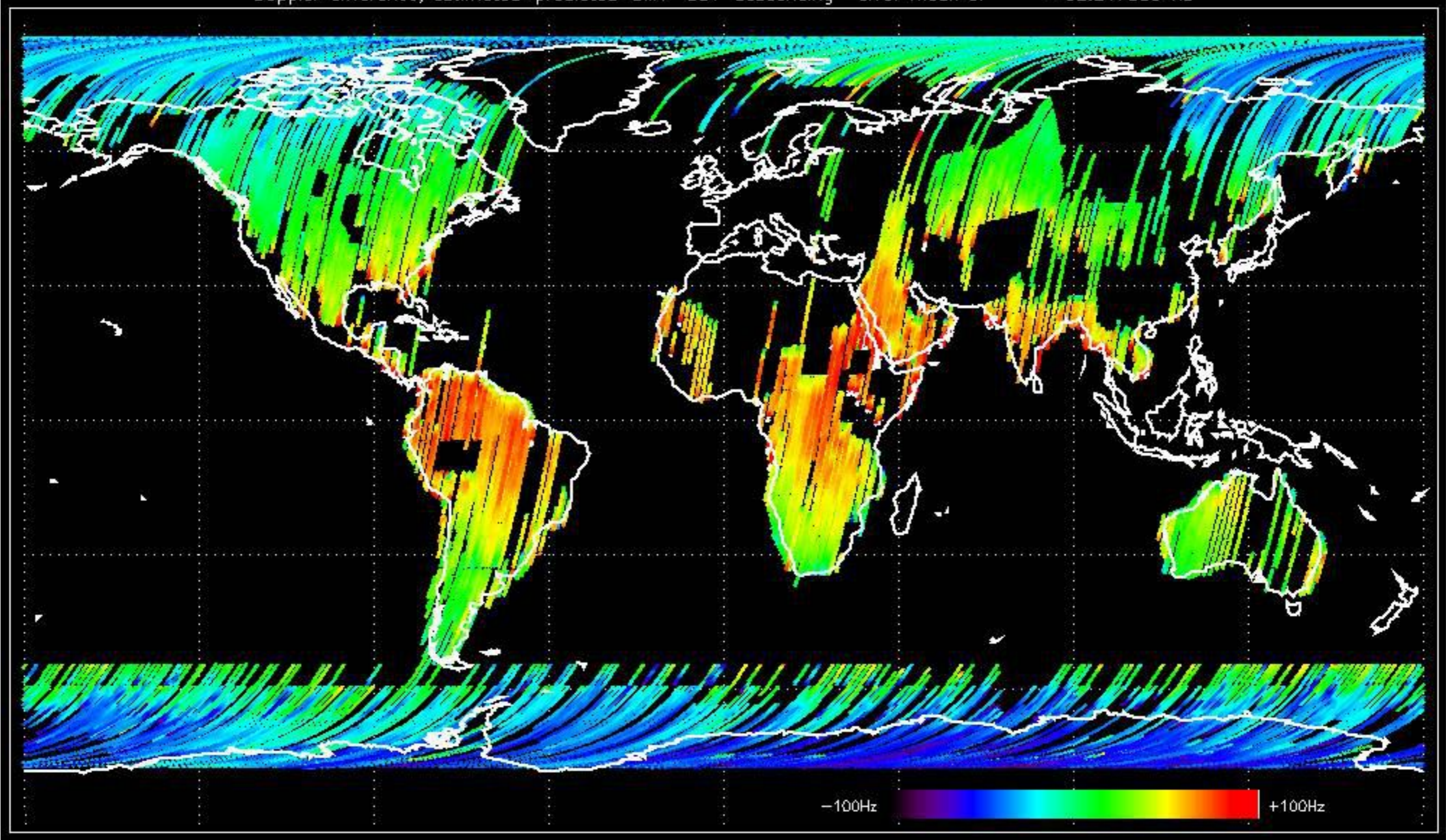




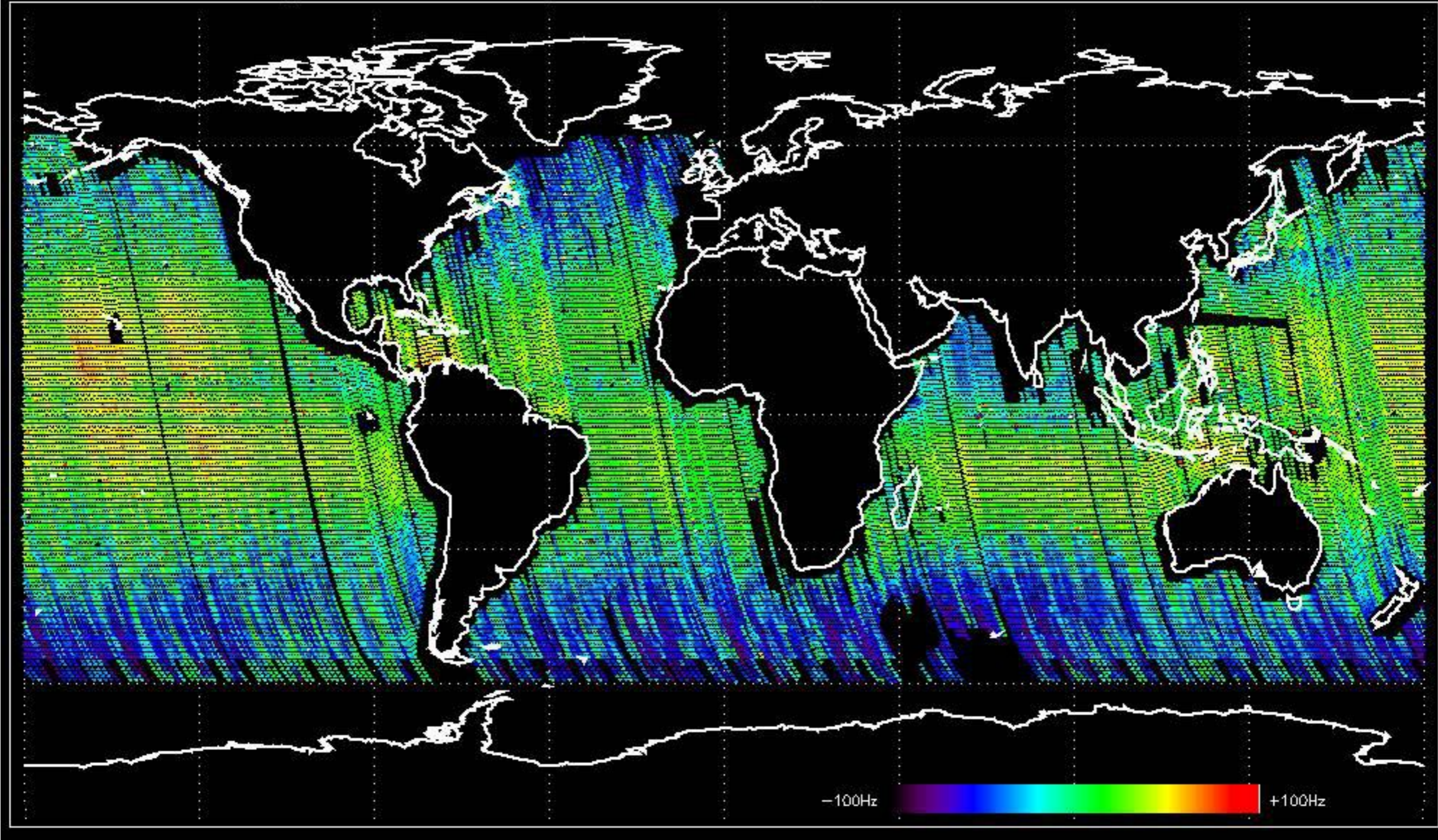
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -37.795463 Hz



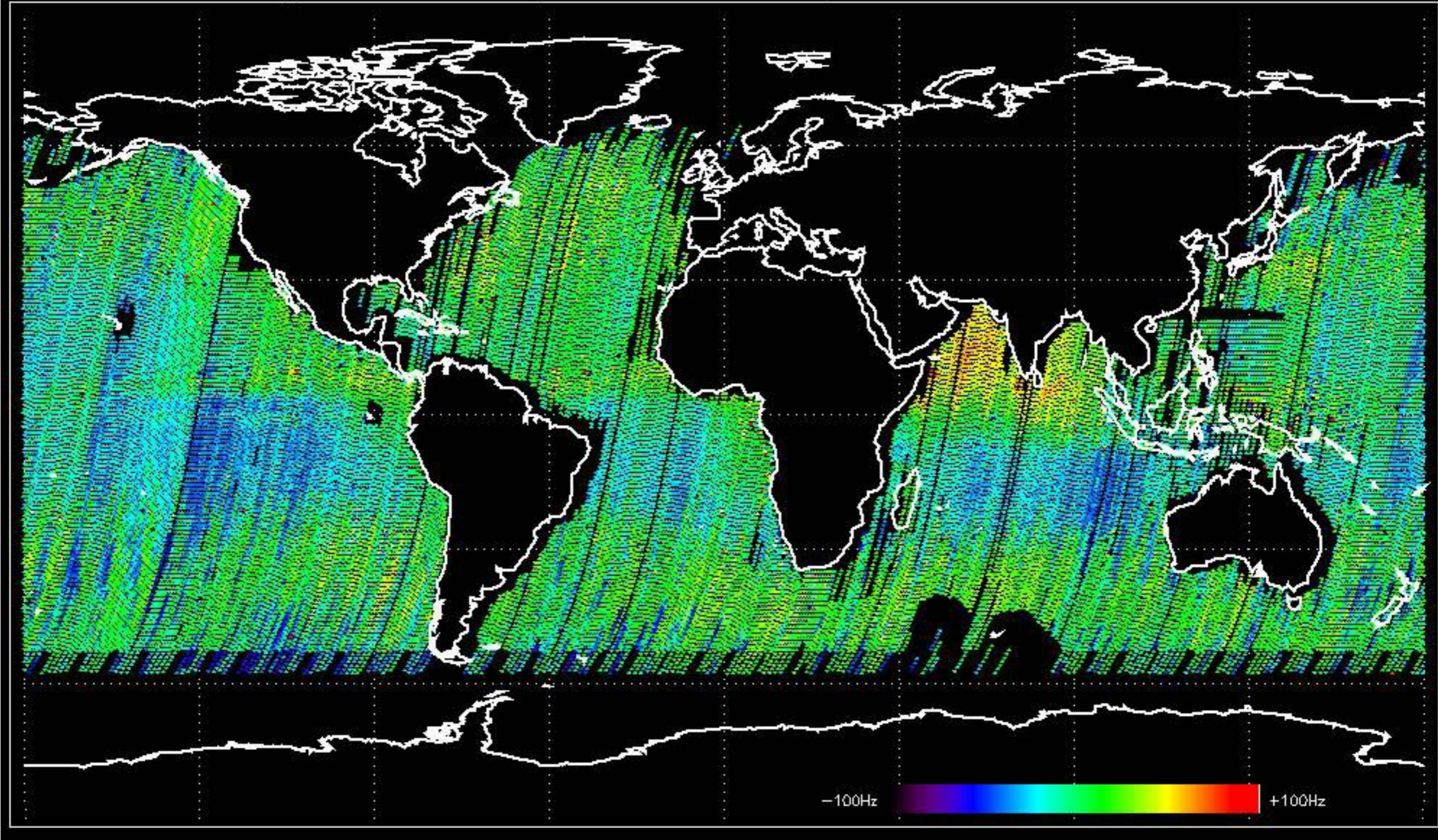
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -32.247000 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -32.713881 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -35.997660 Hz



No anomalies observed on available MS products:

No anomalies observed.











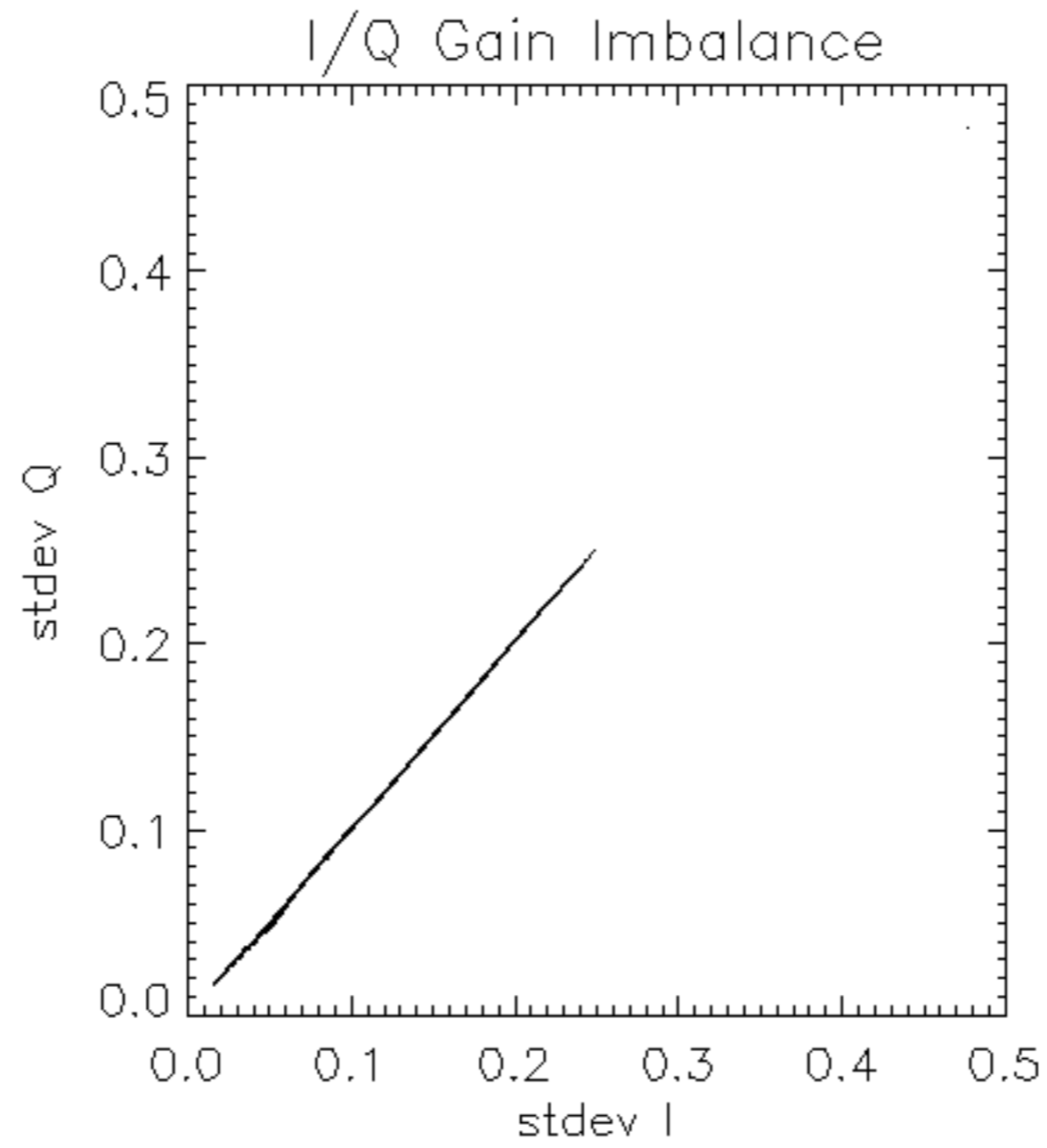


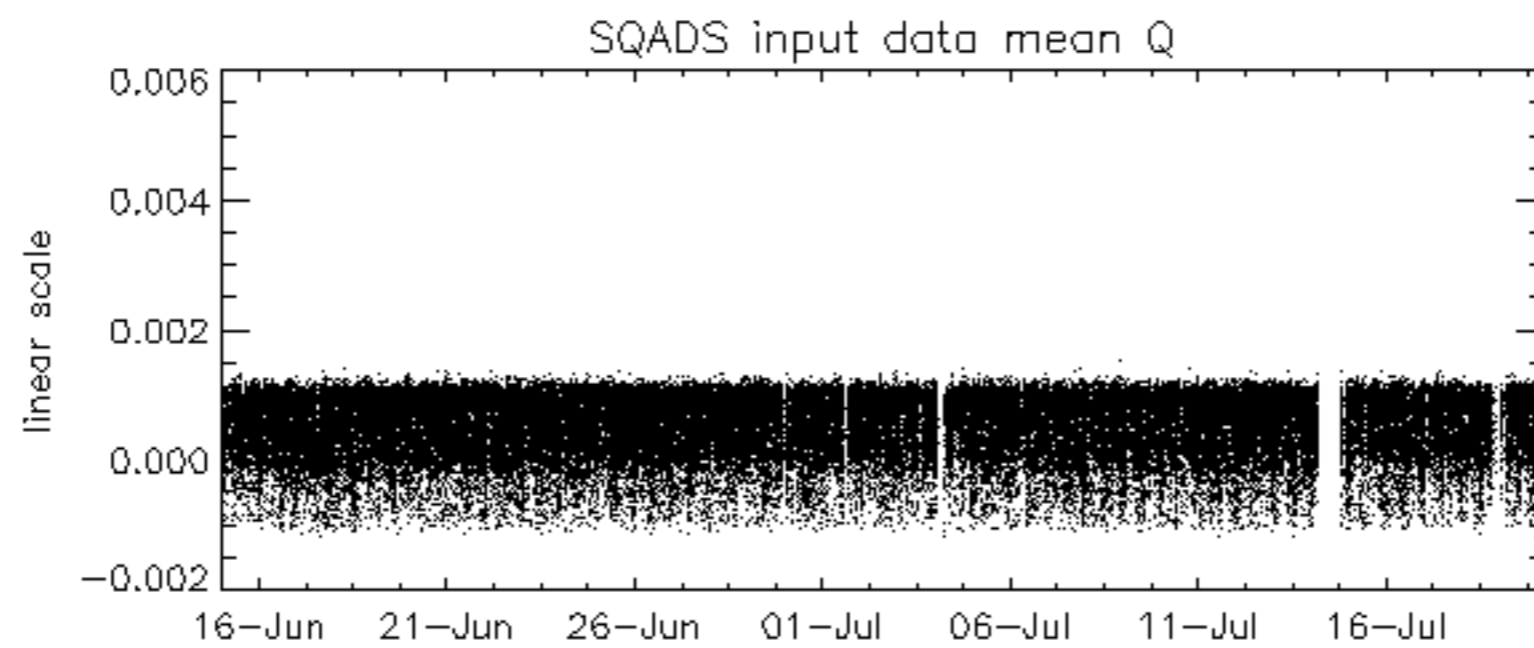
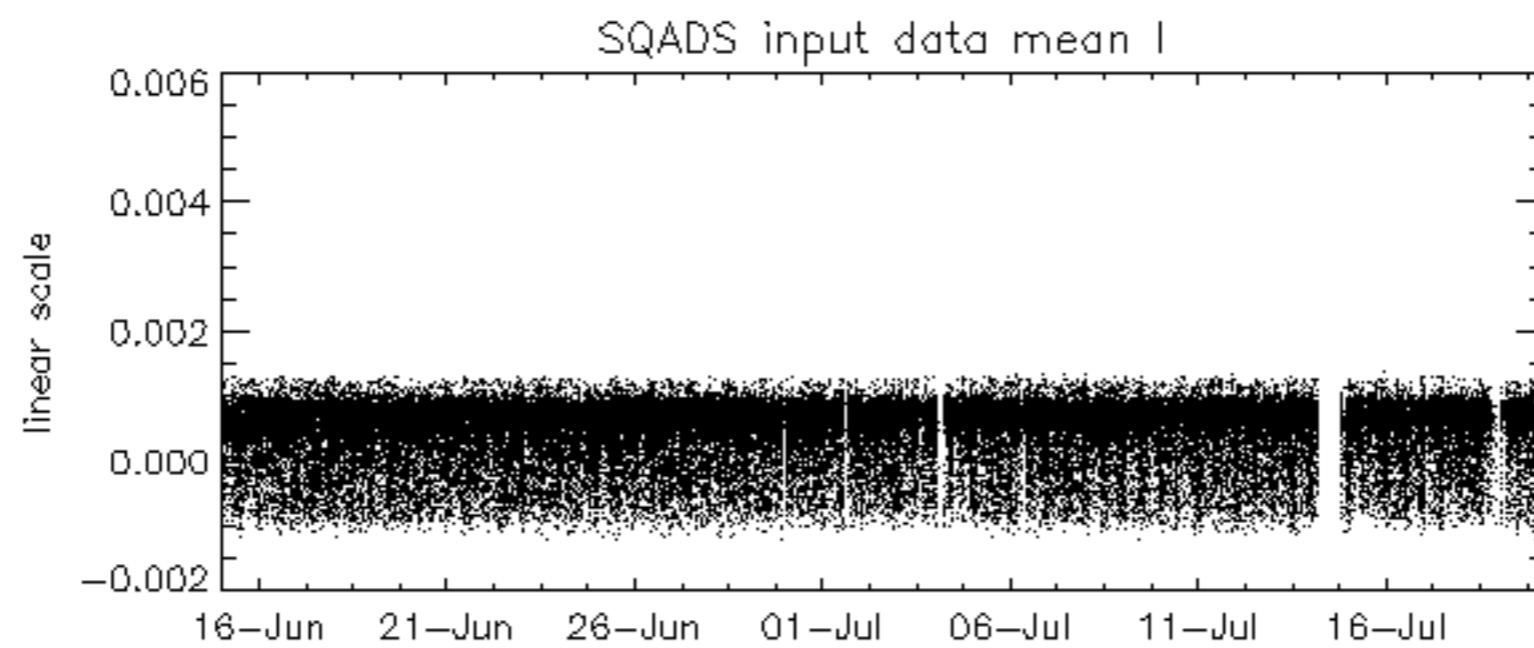
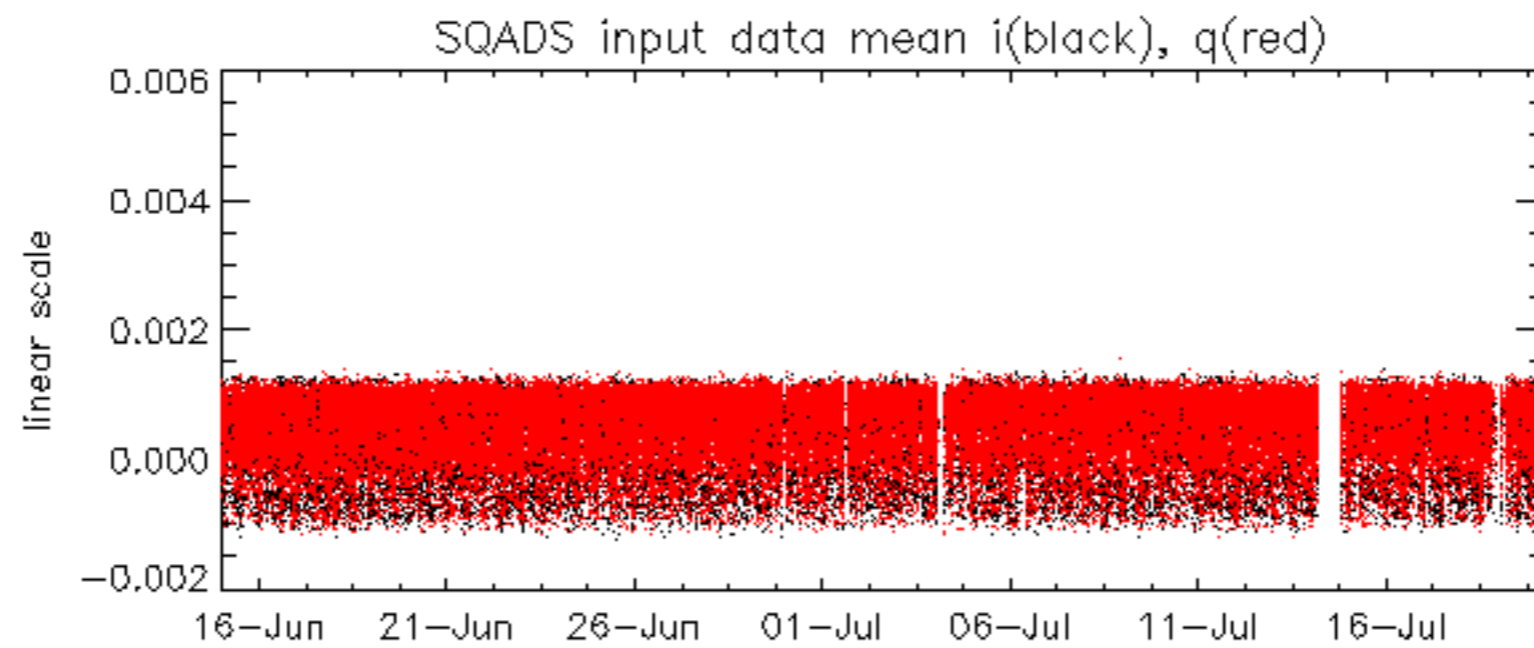


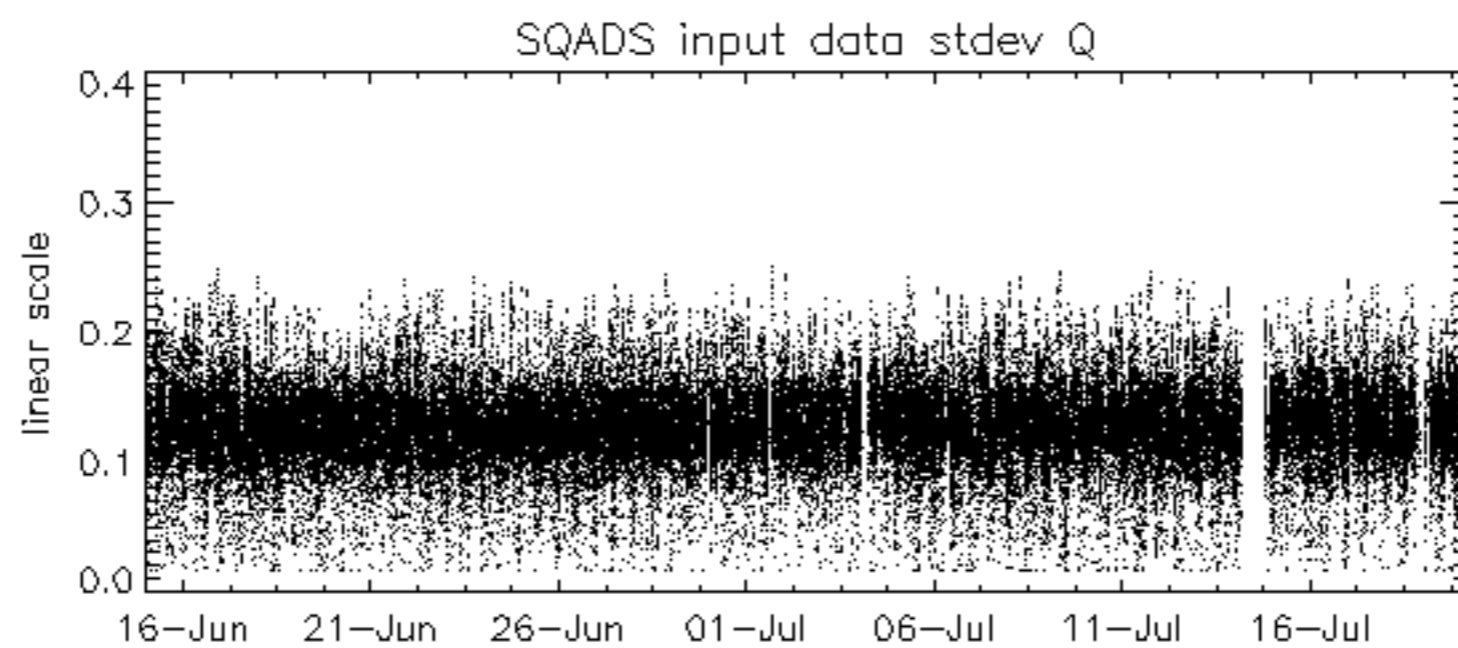
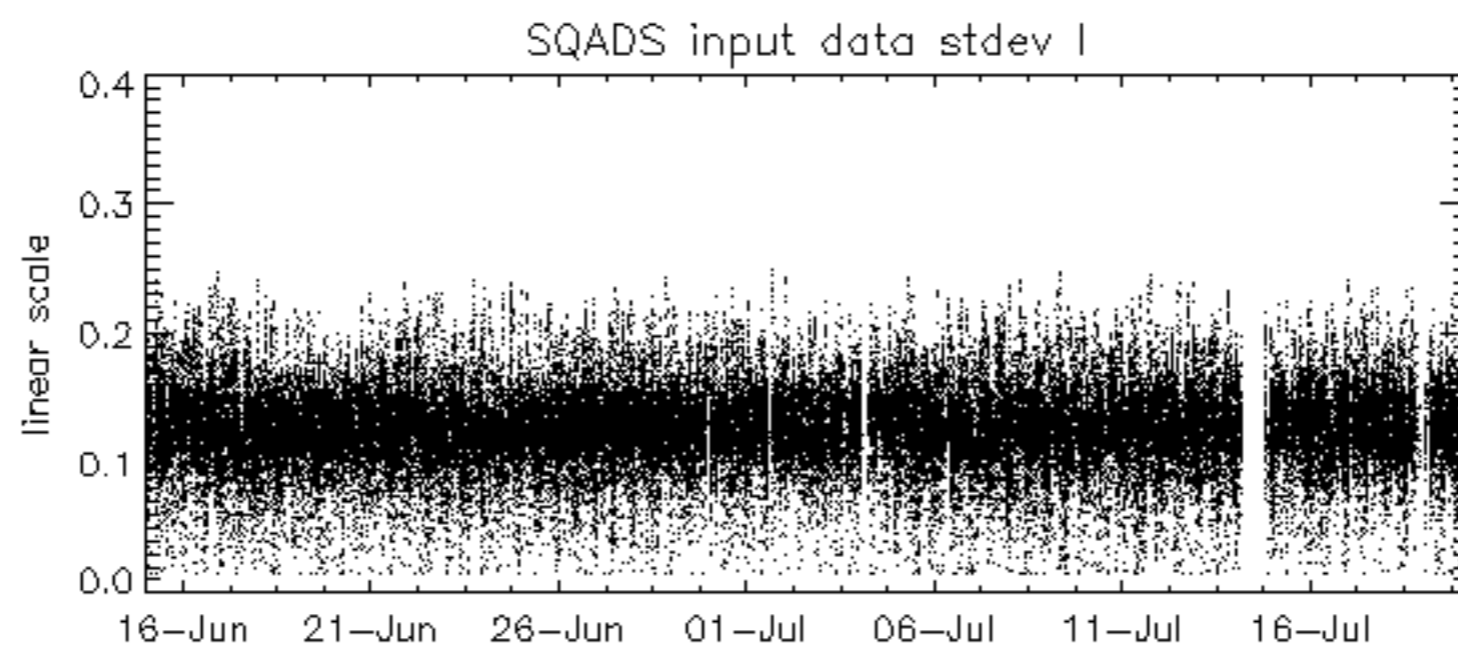
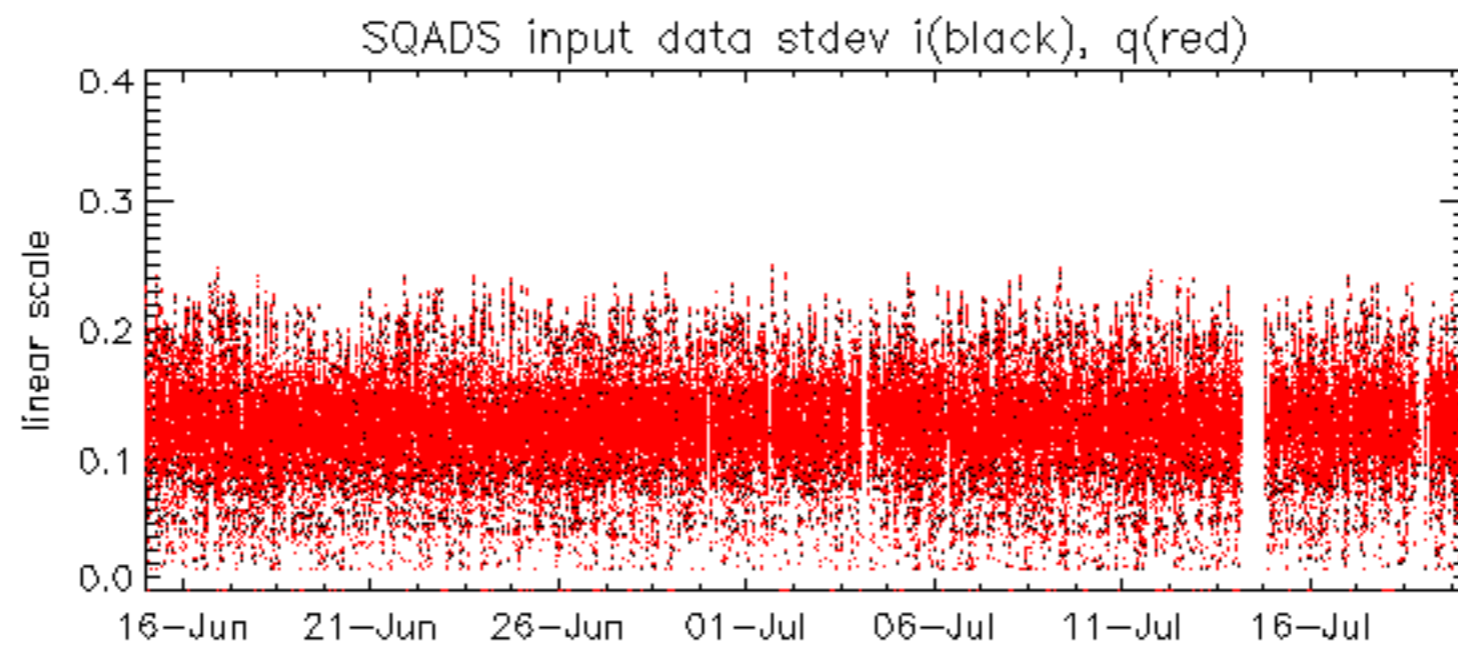


















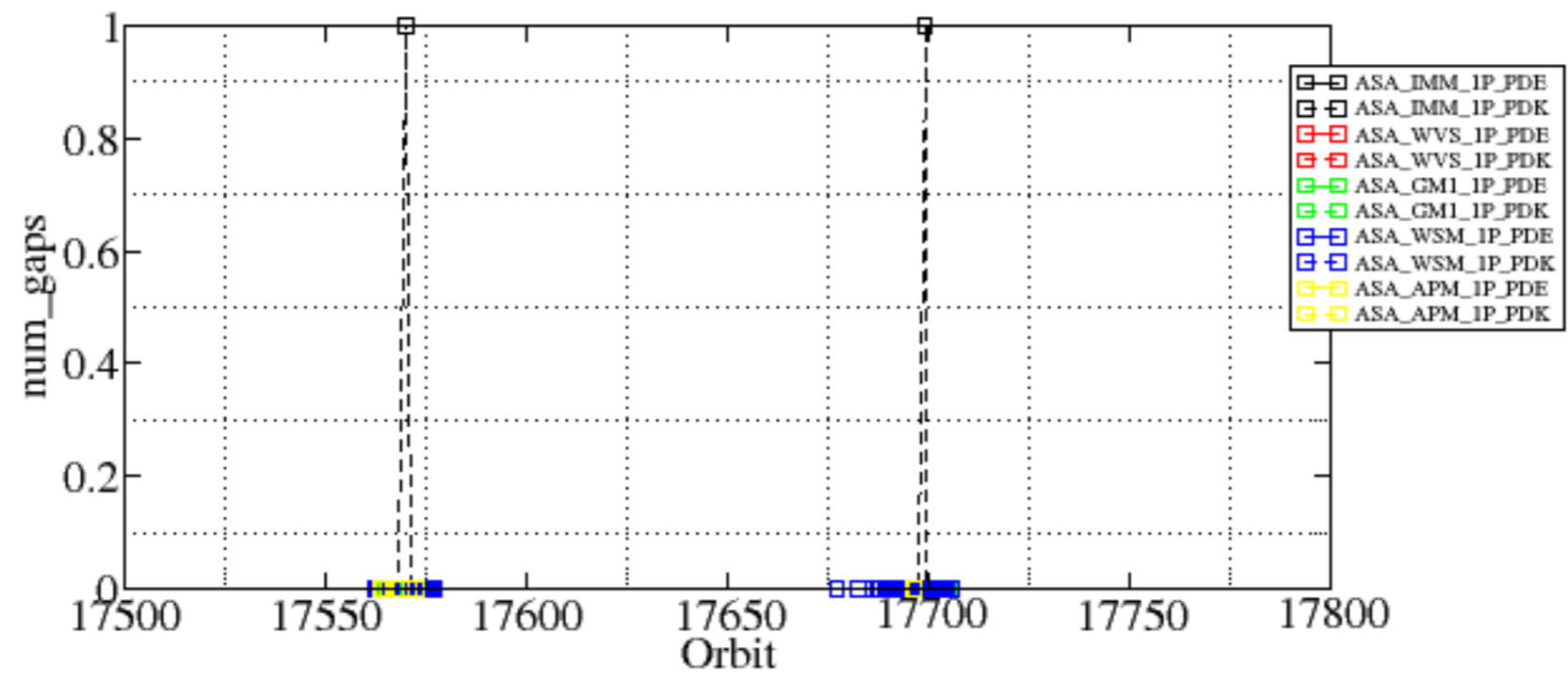


Summary of analysis for the last 3 days 2005071[890]

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_1PNPDK20050710_124045_000000362038_00482_17570_1372.N1	1	0
ASA_IMM_1PNPDK20050710_124045_000000372038_00482_17570_1379.N1	1	0
ASA_IMM_1PNPDK20050719_125658_000000542039_00110_17699_1848.N1	1	0
ASA_WSM_1PNPDE20050710_141215_000000672038_00483_17571_3333.N1	0	39
ASA_WSM_1PNPDE20050719_201133_000000852039_00114_17703_0289.N1	0	34



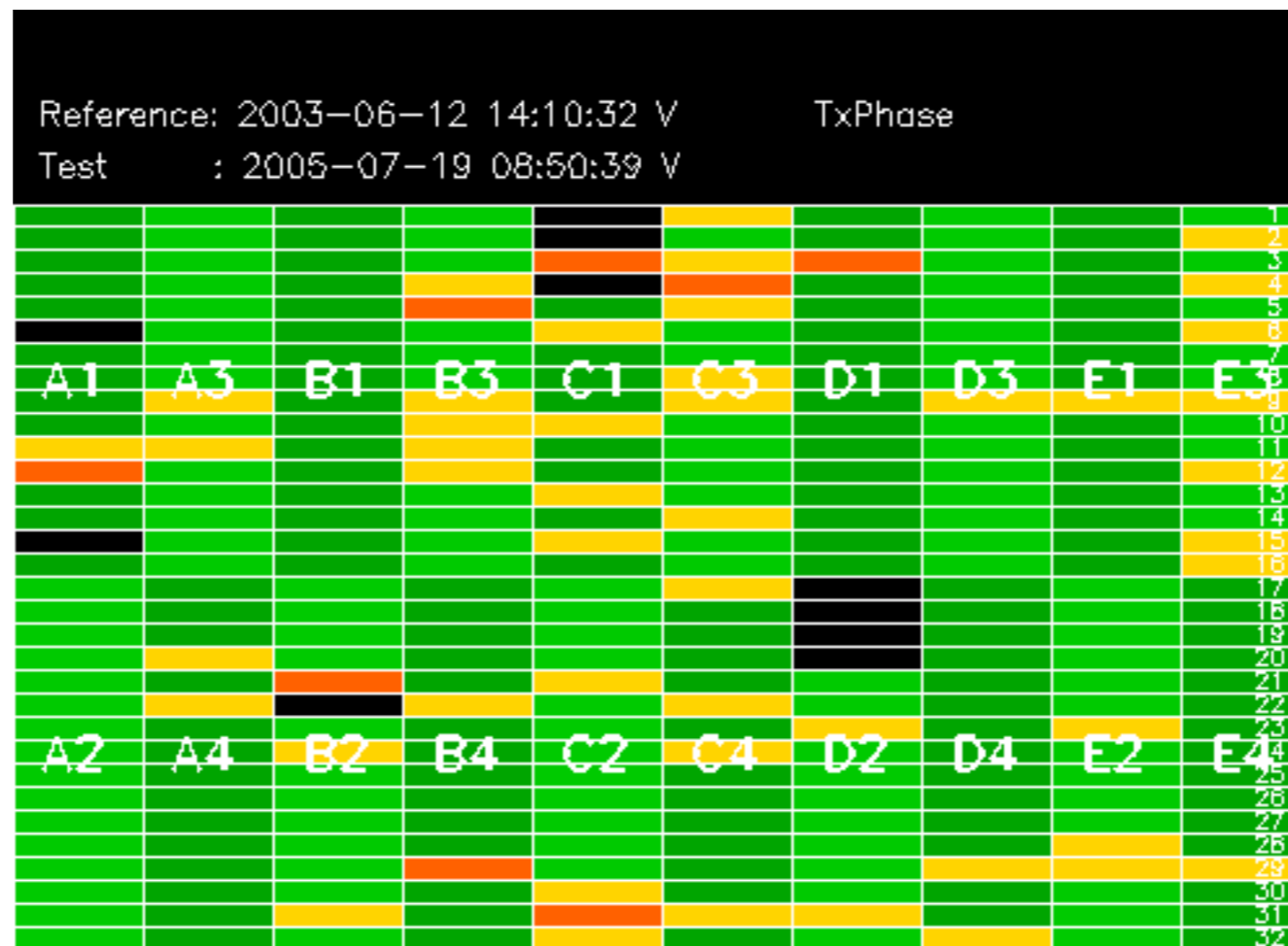


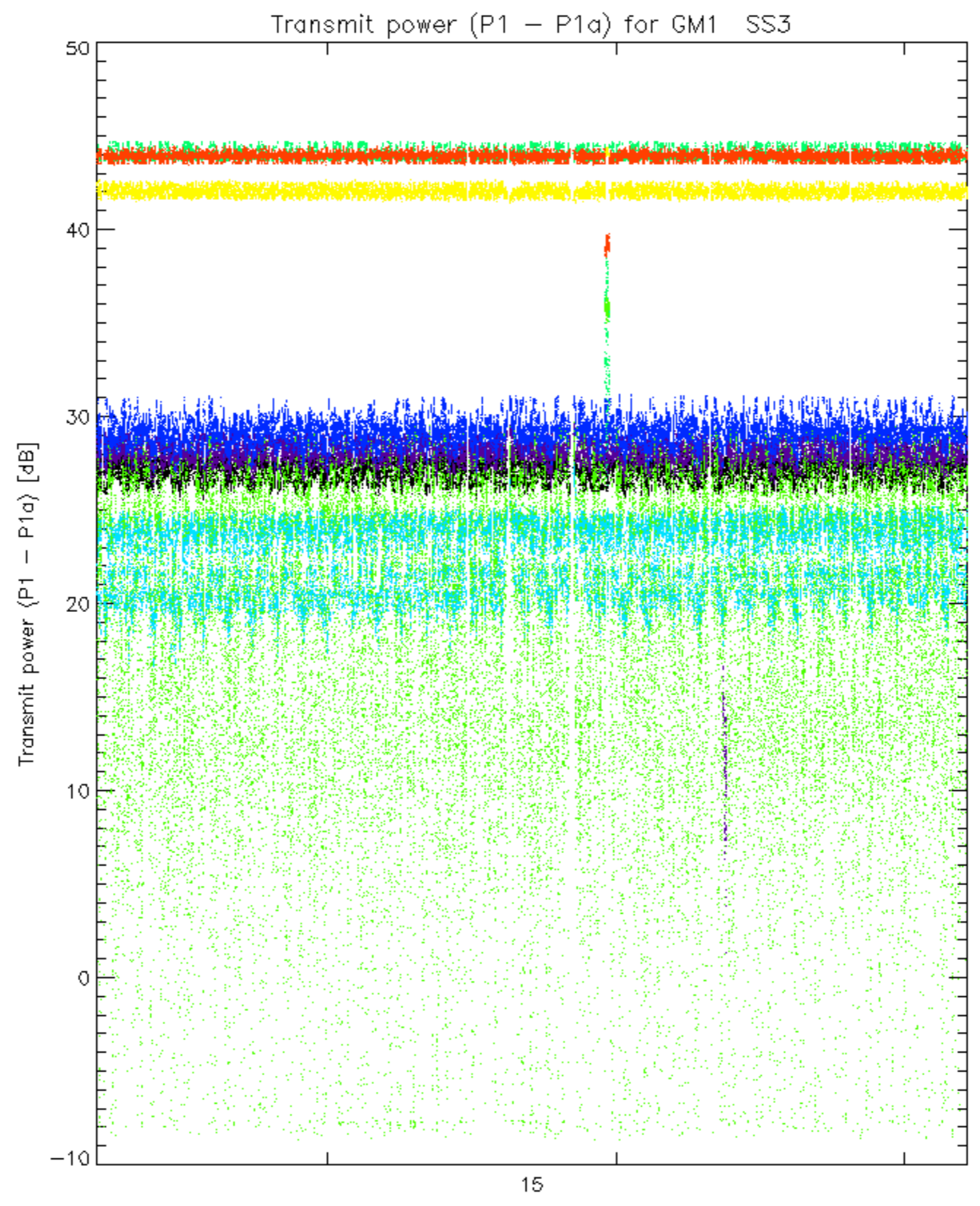




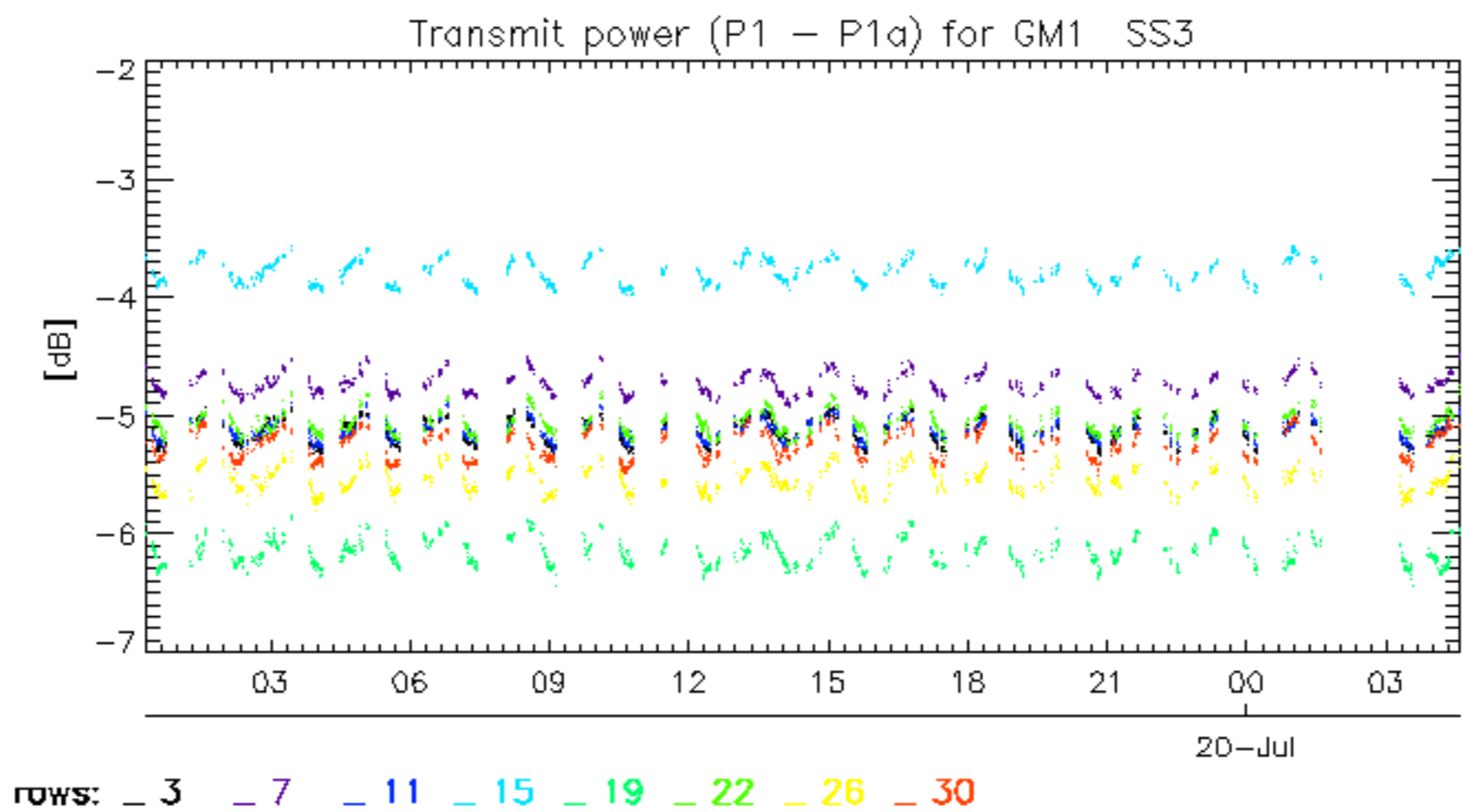




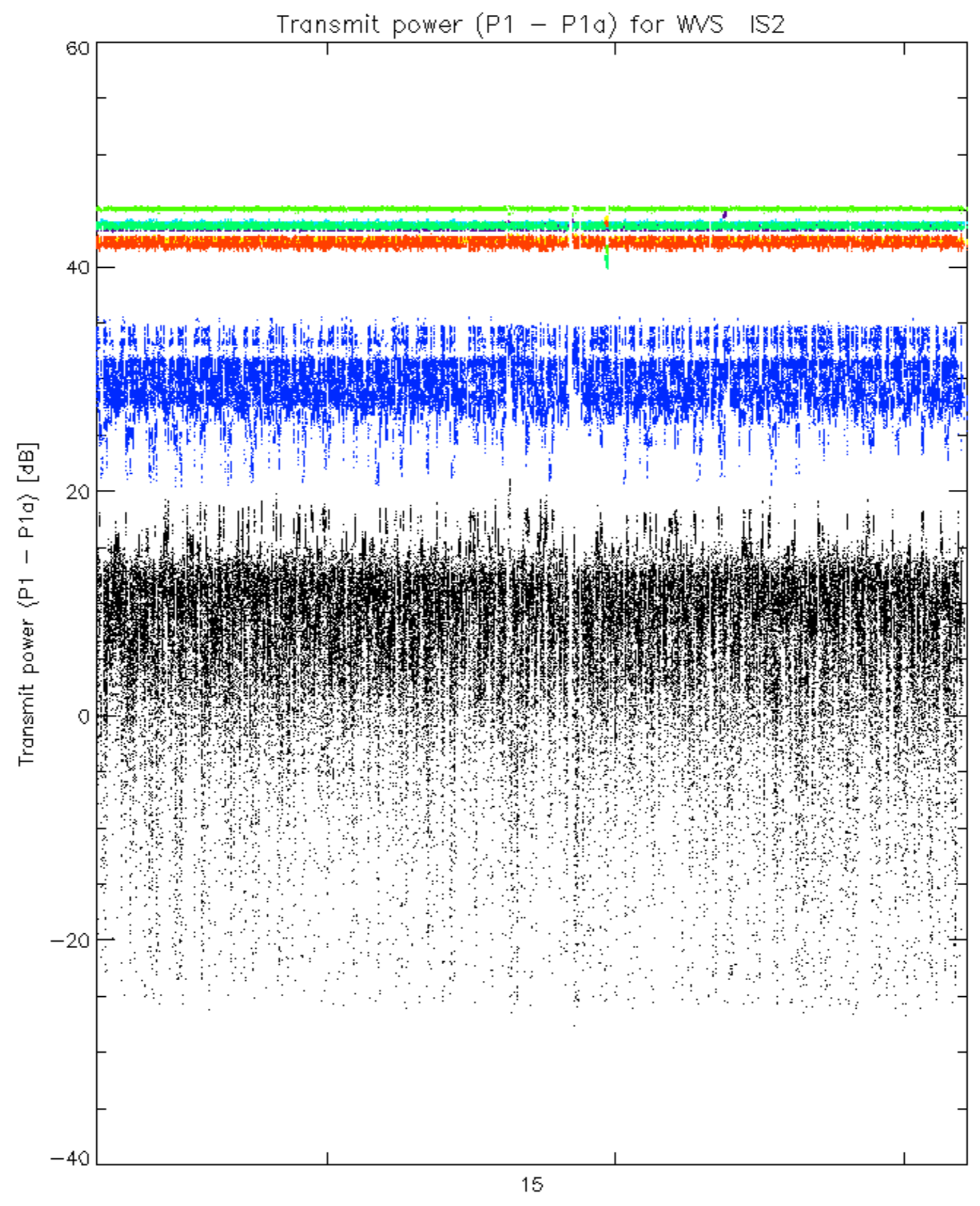




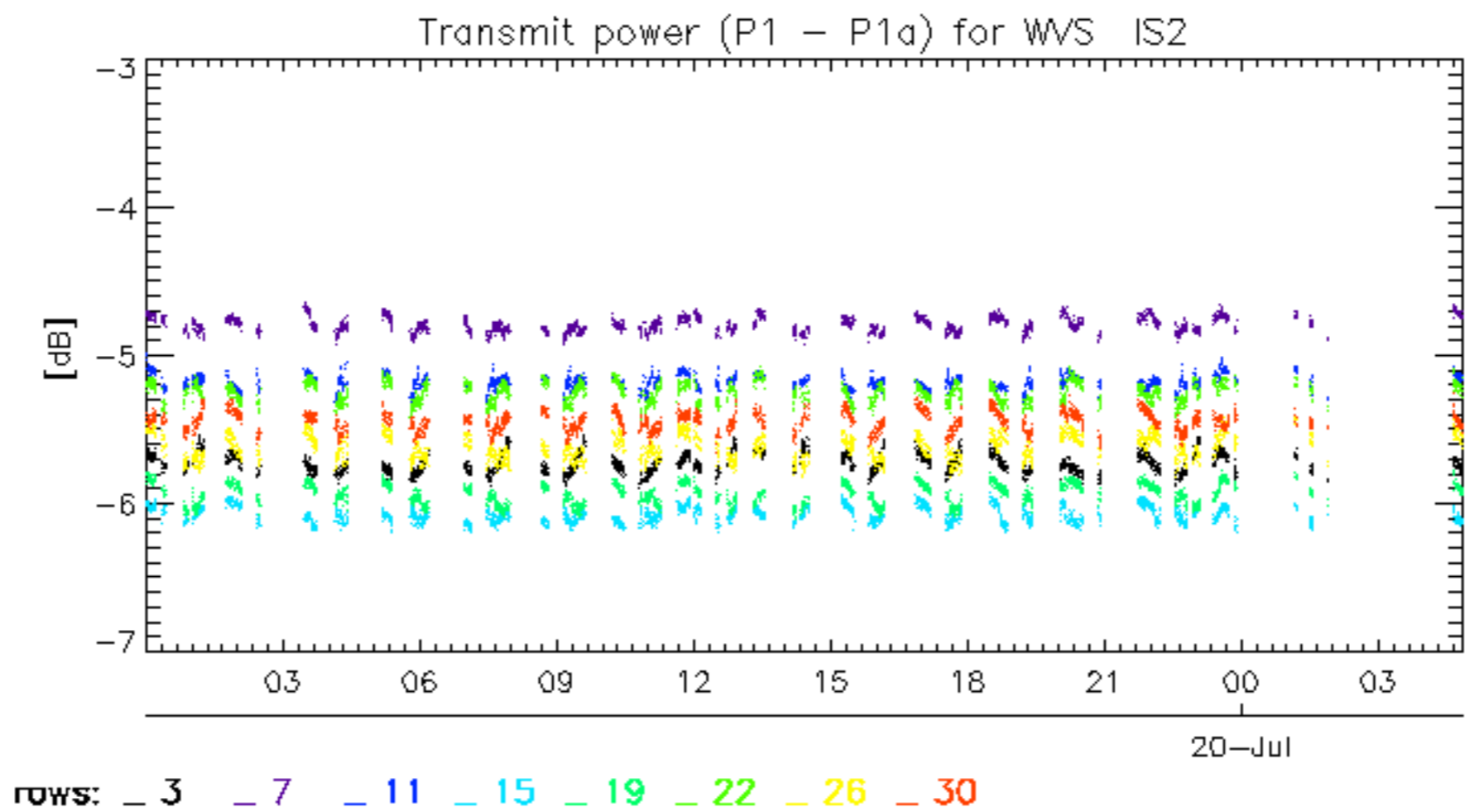
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30







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



No unavailabilities during the reported period.