

# PRELIMINARY REPORT OF 060109

last update on Mon Jan 9 16:46:19 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 2006-01-08 00:00:00 to 2006-01-09 16:46:19

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	34	0	5	1	27
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	34	0	5	1	27
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	34	0	5	1	27
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	34	0	5	1	27

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	45	49	33	12	50
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	45	49	33	12	50
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	45	49	33	12	50
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	45	49	33	12	50

### 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
V	20060108 095336
H	20060109 092159

### MSM in V/V 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"/>

### 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
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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	-3.866008	0.177952	-0.846982
7	P1	-2.860833	0.095766	-0.611389
11	P1	-4.128165	0.036358	0.093662
15	P1	-5.523429	1.213795	-2.408270
19	P1	-3.131773	0.049518	-0.473377
22	P1	-4.461201	0.023321	-0.131048
26	P1	-4.318711	0.047893	0.426702
30	P1	-5.705868	0.027250	-0.284388
3	P1	-16.311062	2.072765	-3.027226
7	P1	-15.874493	1.996800	-3.092233
11	P1	-16.436686	0.448458	-0.689485
15	P1	-12.951071	0.680141	-1.478383
19	P1	-13.635789	0.292115	-1.070142
22	P1	-15.952538	0.603420	-0.186160
26	P1	-15.373111	0.840950	-1.736039
30	P1	-16.029207	1.838818	-2.629017

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.728676	0.111310	0.291356
7	P2	-22.524960	0.104035	0.061171
11	P2	-16.421656	0.124302	0.336855
15	P2	-7.258334	0.105969	0.083468
19	P2	-9.203388	0.103584	0.030834
22	P2	-17.909046	0.108181	-0.148614
26	P2	-16.314936	0.125689	0.363102
30	P2	-19.737251	0.108364	0.286110

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.230254	0.007679	0.027868
7	P3	-8.230254	0.007679	0.027868
11	P3	-8.230254	0.007679	0.027868
15	P3	-8.230254	0.007679	0.027868
19	P3	-8.230254	0.007679	0.027868
22	P3	-8.230254	0.007679	0.027868
26	P3	-8.230254	0.007679	0.027868
30	P3	-8.230254	0.007679	0.027868

**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	-3.713952	0.008497	-0.023023
7	P1	-2.764768	0.007710	0.006363
11	P1	-2.872967	0.009857	0.021296
15	P1	-3.429931	0.017178	-0.068500
19	P1	-3.388799	0.014238	0.027263
22	P1	-5.122375	0.019678	0.004385
26	P1	-5.852549	0.015631	-0.002004
30	P1	-5.271507	0.033018	0.051022
3	P1	-11.496119	0.037621	-0.046756
7	P1	-9.954804	0.048597	0.067484
11	P1	-10.057195	0.054819	-0.020064
15	P1	-10.574821	0.074741	-0.119281
19	P1	-15.510674	0.071132	0.073579
22	P1	-20.864038	1.012742	0.529682

26	P1	-17.055668	0.312300	0.468392
30	P1	-18.163277	0.283019	0.079887

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.548120	0.031774	0.212557
7	P2	-22.999134	0.058525	0.255713
11	P2	-11.531013	0.020767	0.203293
15	P2	-4.972788	0.023010	0.114880
19	P2	-6.962340	0.022201	0.075753
22	P2	-8.207774	0.022481	0.029027
26	P2	-24.028198	0.029882	0.126110
30	P2	-22.127390	0.017923	0.062138

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.072864	0.002538	0.028736
7	P3	-8.072981	0.002531	0.029032
11	P3	-8.073103	0.002518	0.028607
15	P3	-8.073023	0.002515	0.028663
19	P3	-8.073044	0.002533	0.028916
22	P3	-8.072880	0.002520	0.029173
26	P3	-8.072829	0.002514	0.029309
30	P3	-8.072871	0.002522	0.028414

## 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	0.000496778
	stdev	2.03213e-07
MEAN Q	mean	0.000489707
	stdev	2.30462e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.132847
	stdev	0.00117588
STDEV Q	mean	0.133159
	stdev	0.00119123



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006010[789]

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_1PNPDE20060107_005035_000002152044_00059_20153_5838.N1	1	0
ASA_WSM_1PNPDE20060108_011129_000002262044_00074_20168_7722.N1	0	60





## 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)



<input type="checkbox"/>
Ascending
<input type="checkbox"/>
Descending

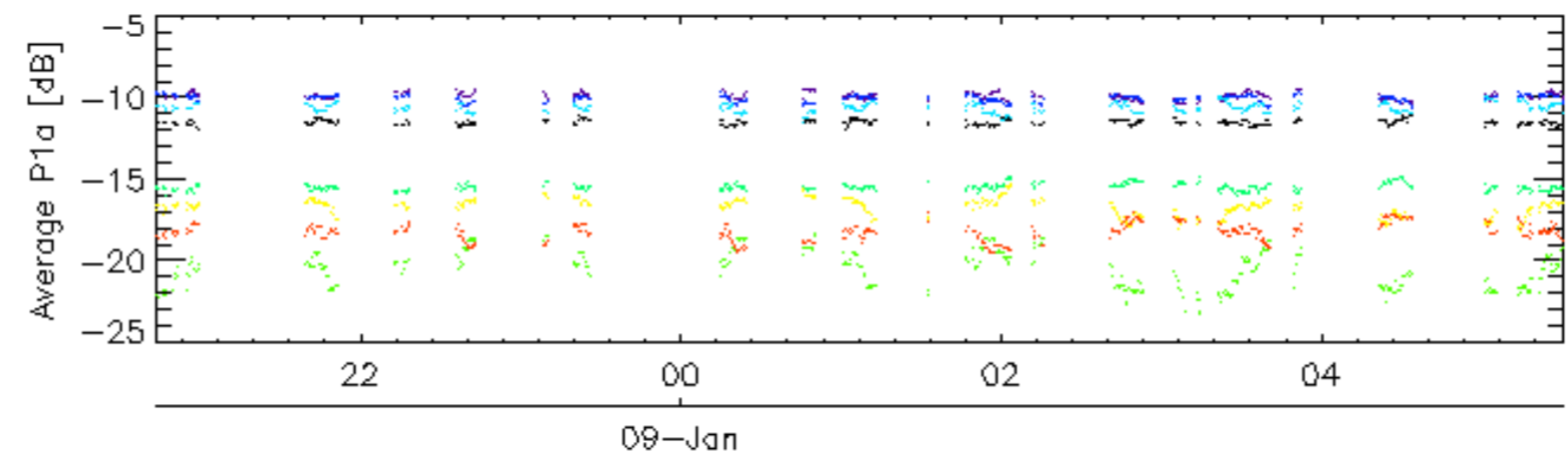
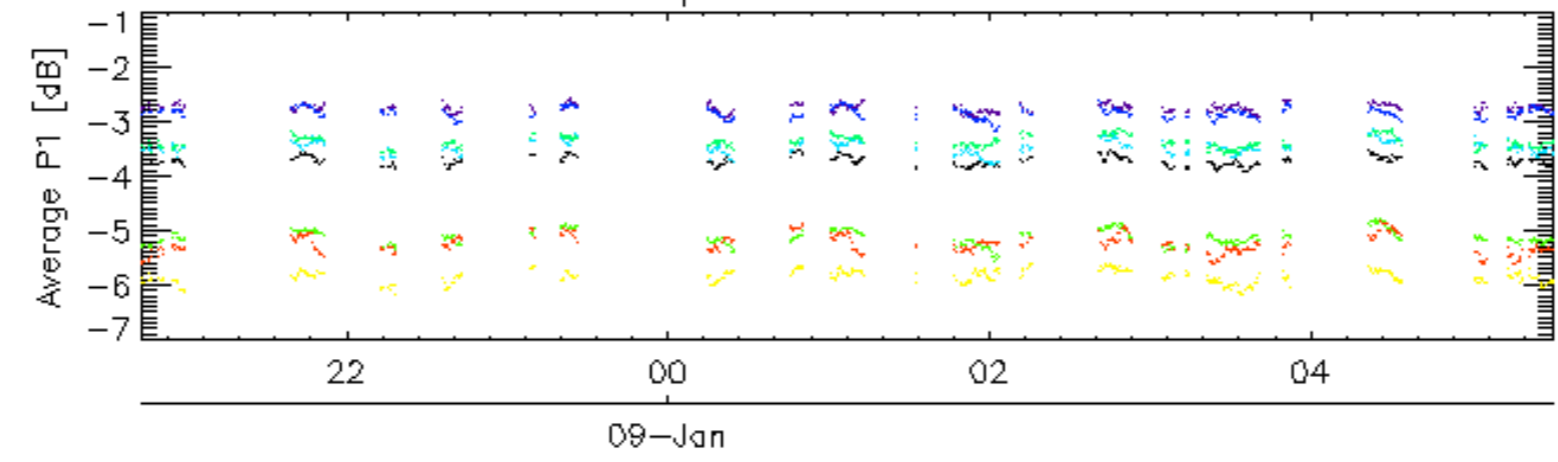
### 7.5 - Absolute Doppler for GM1

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

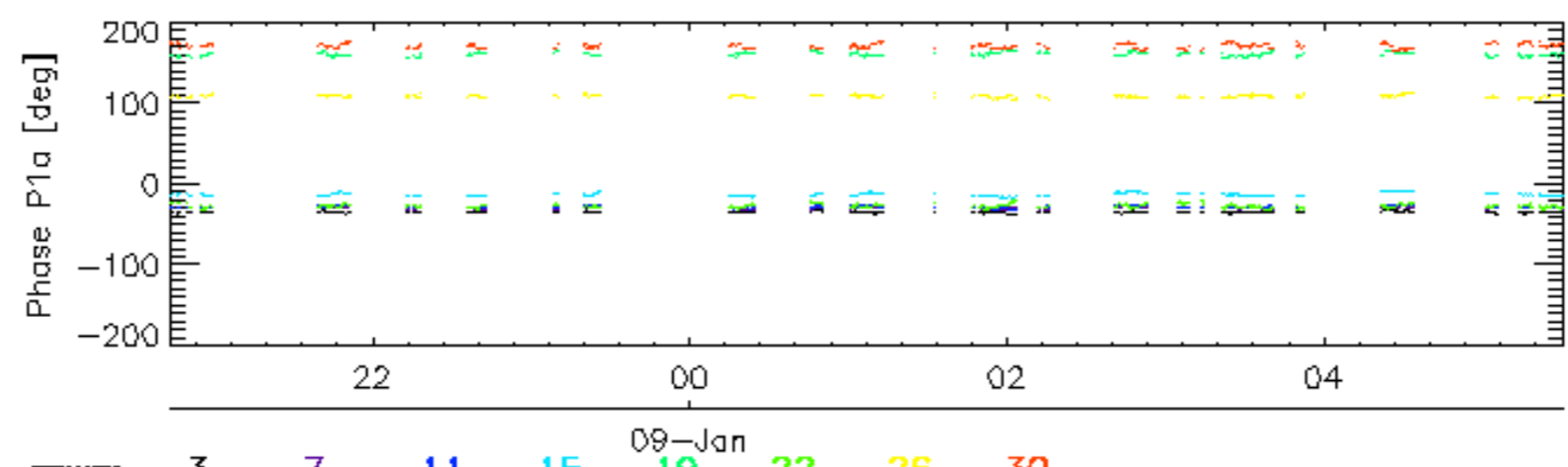
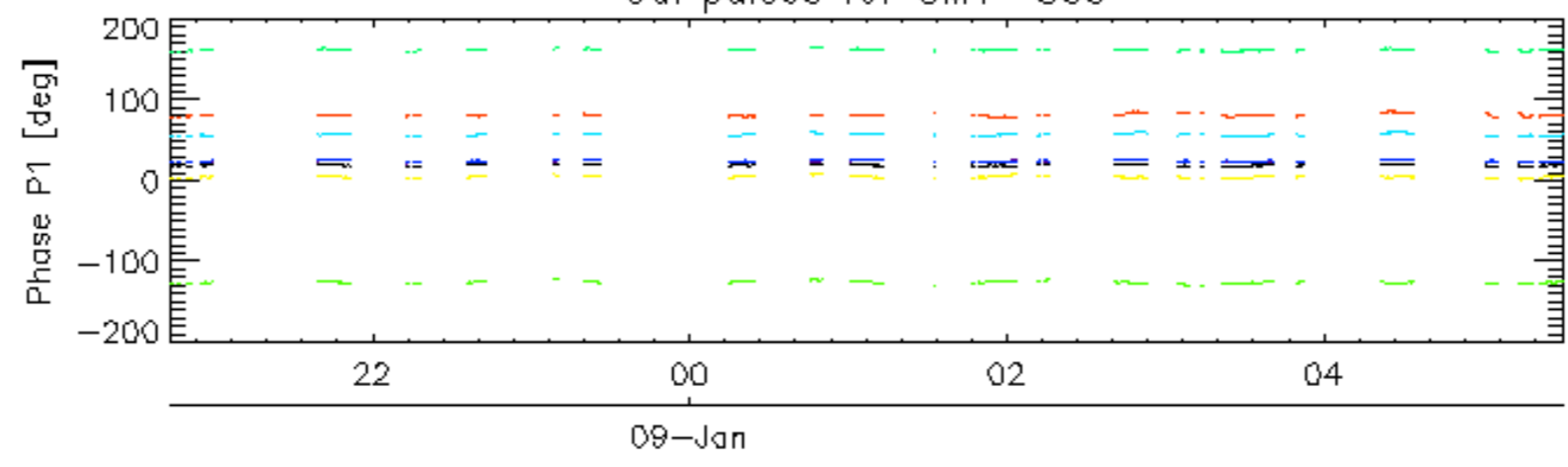
### 7.6 - Doppler evolution versus ANX for GM1

<b>Evolution Doppler error versus ANX</b>
<input type="checkbox"/>

Cal pulses for GM1 SS3

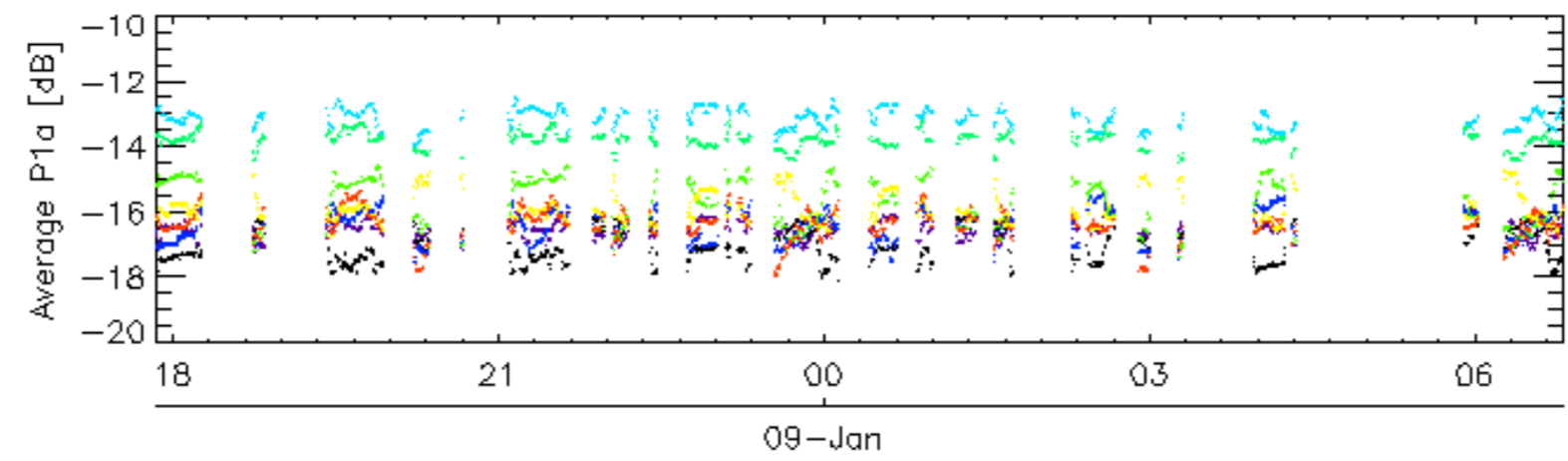
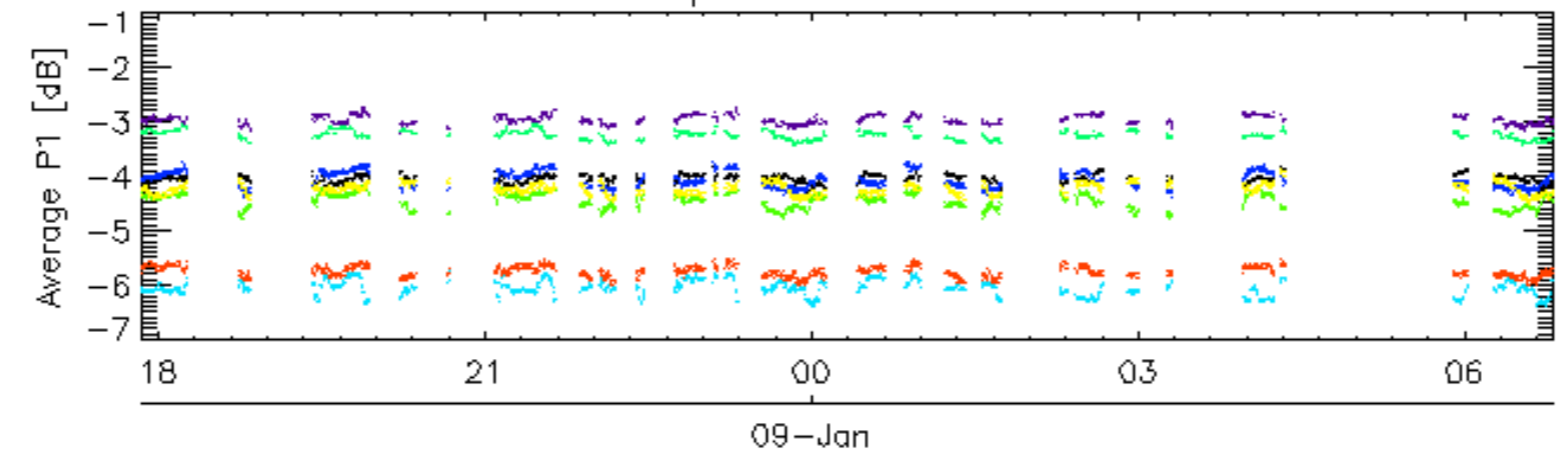


Cal pulses for GM1 SS3

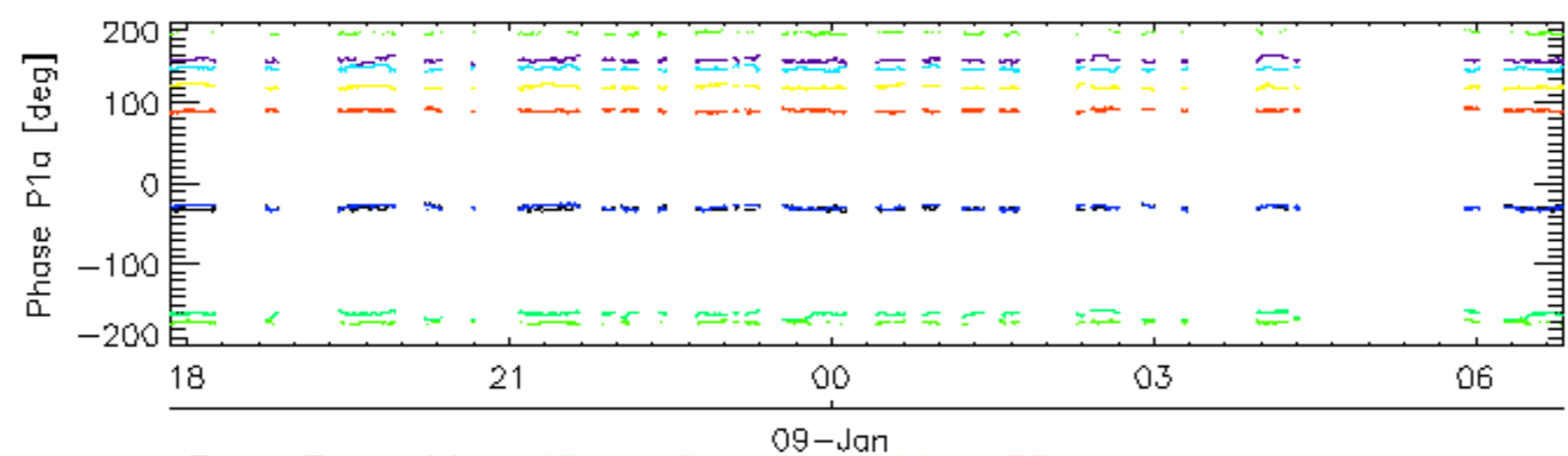
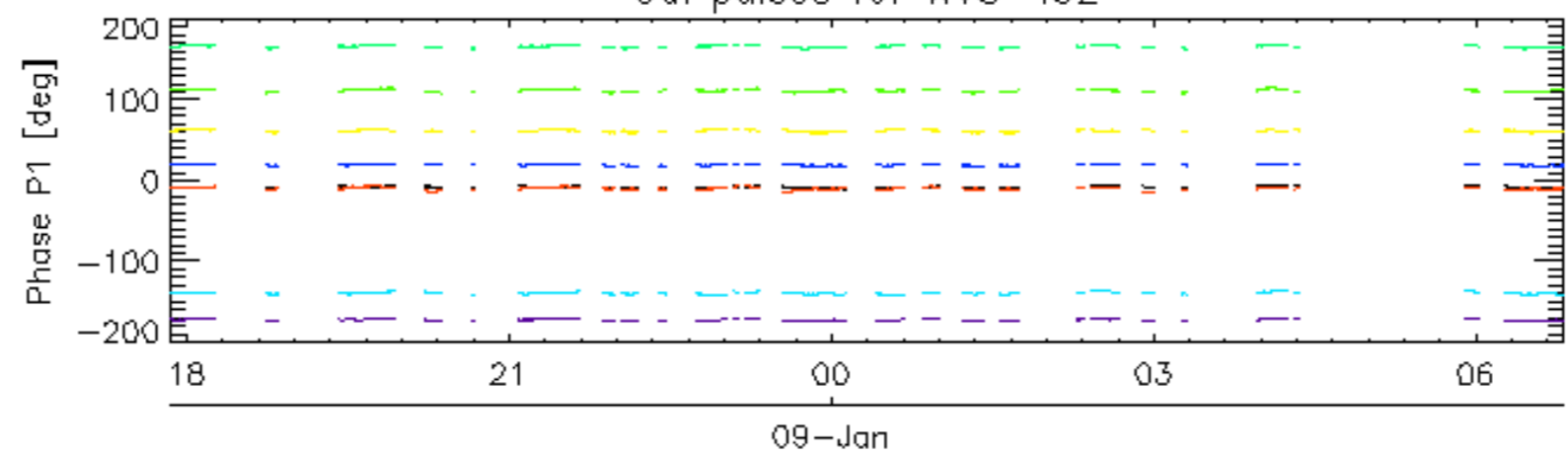


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2

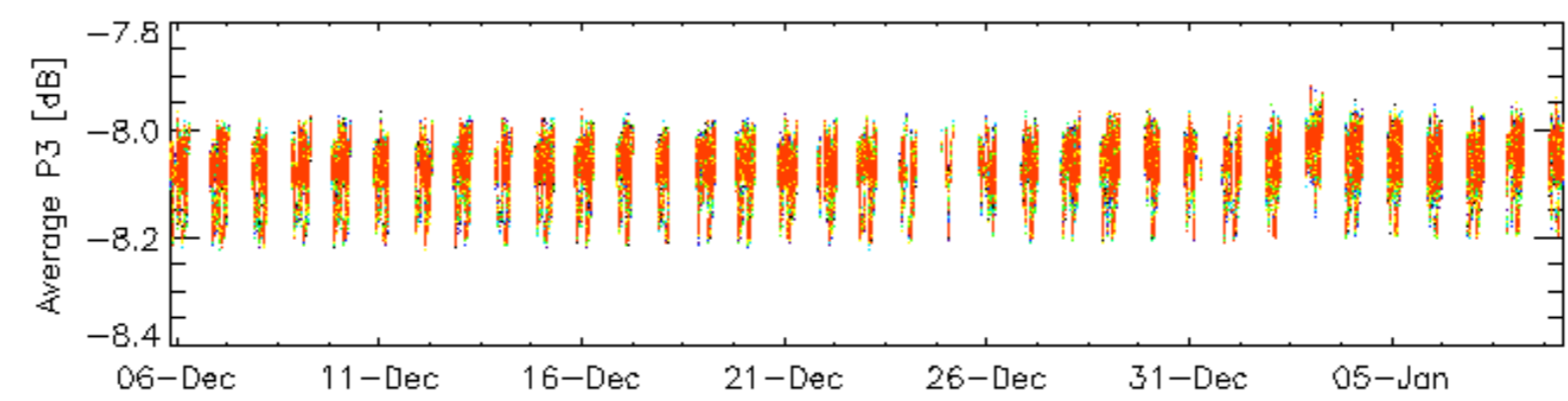
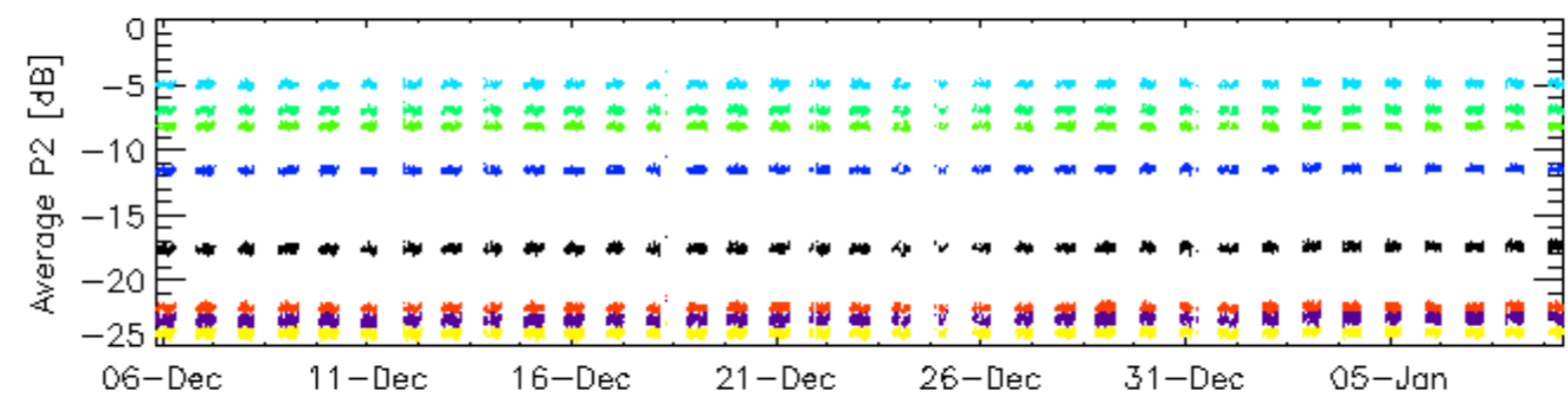
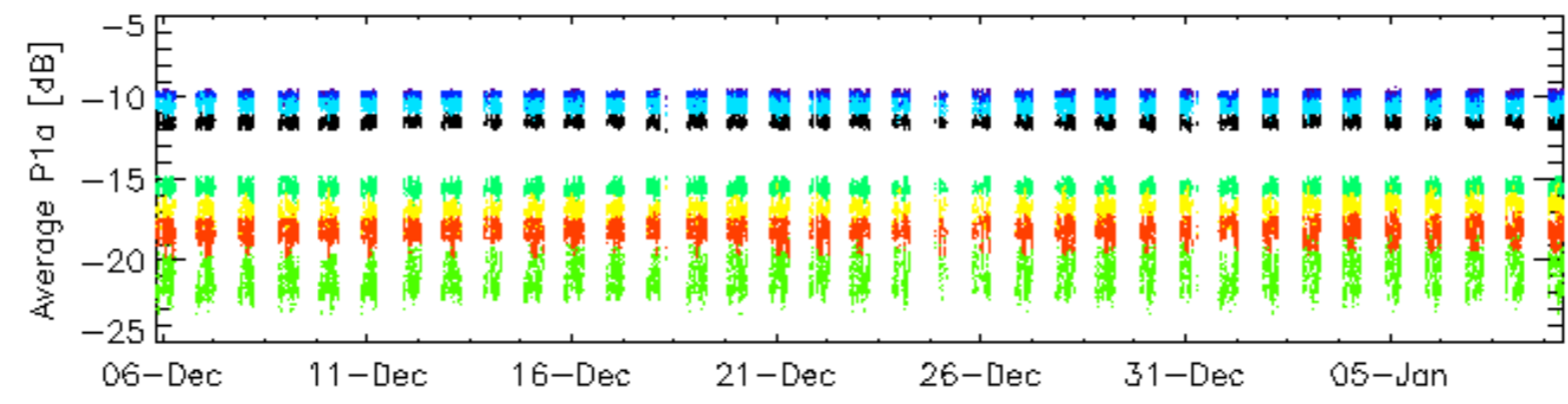
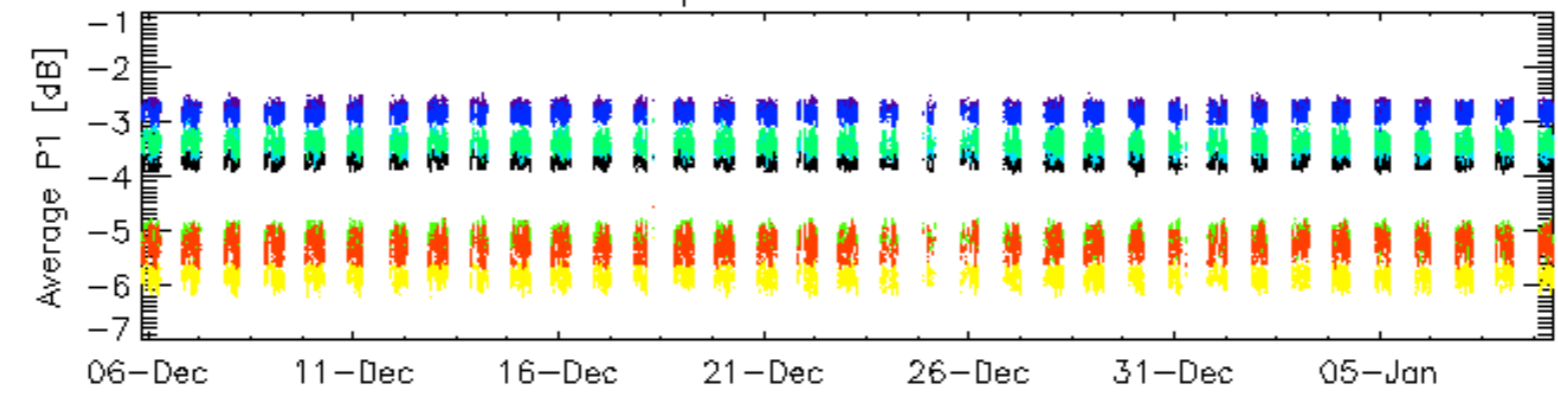


Cal pulses for WVS IS2



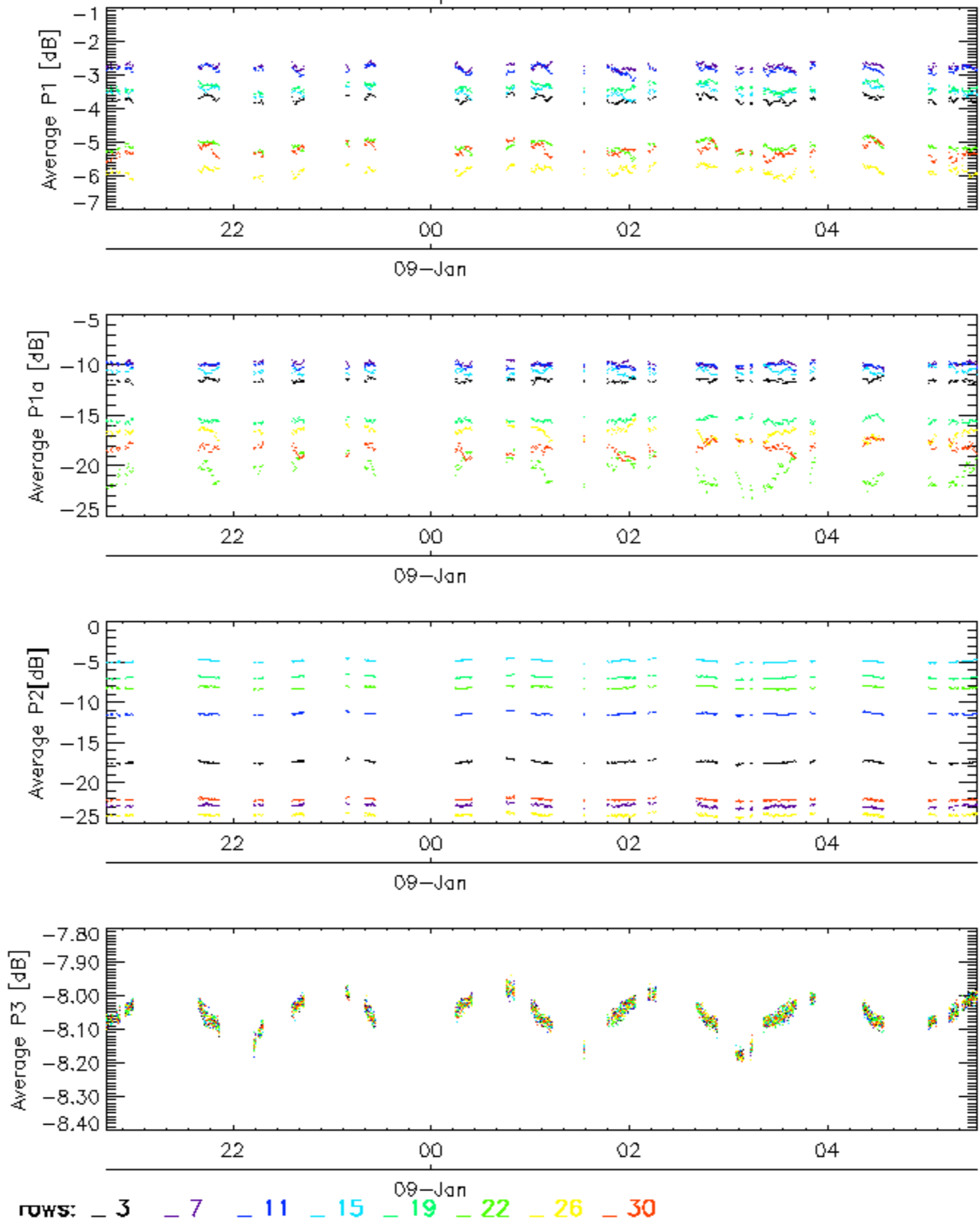
rows: 3 7 11 15 19 22 26 30

### Cal pulses for GM1 SS3

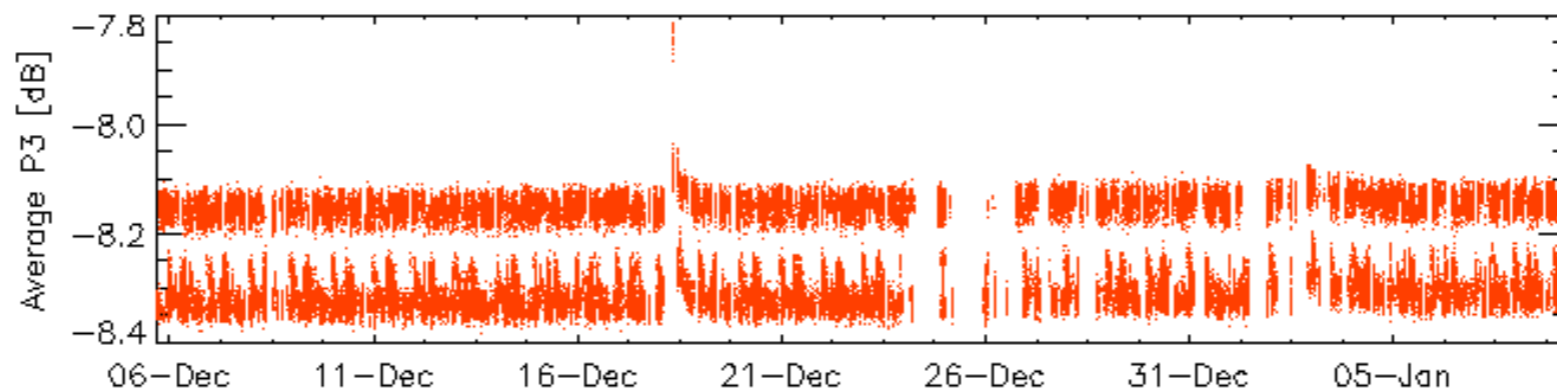
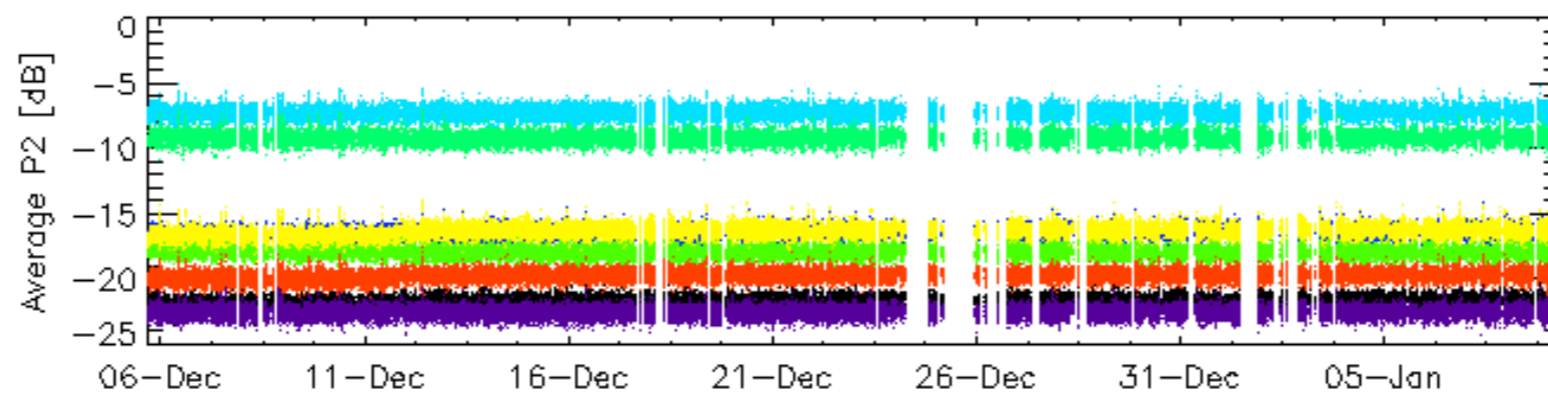
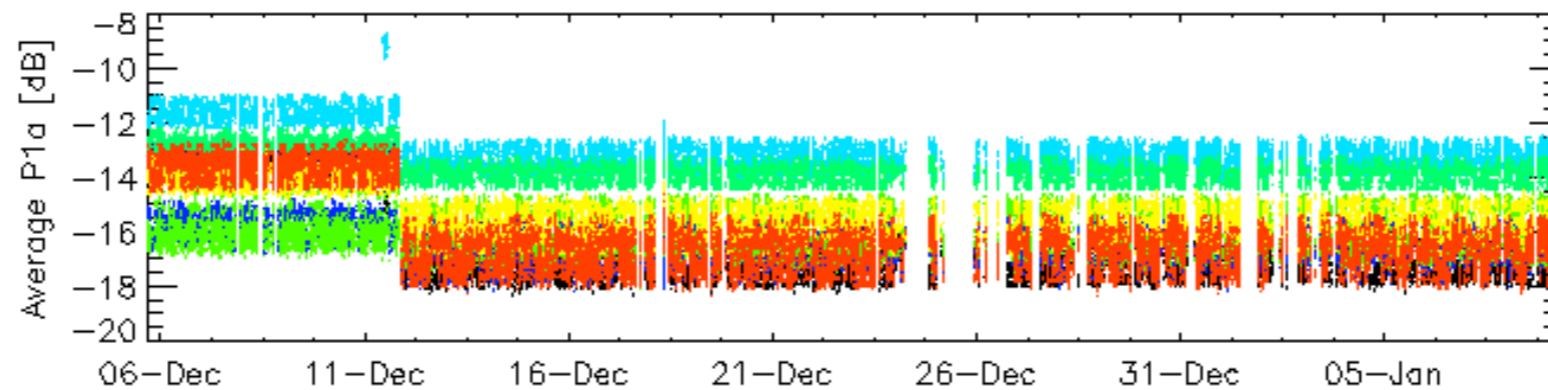
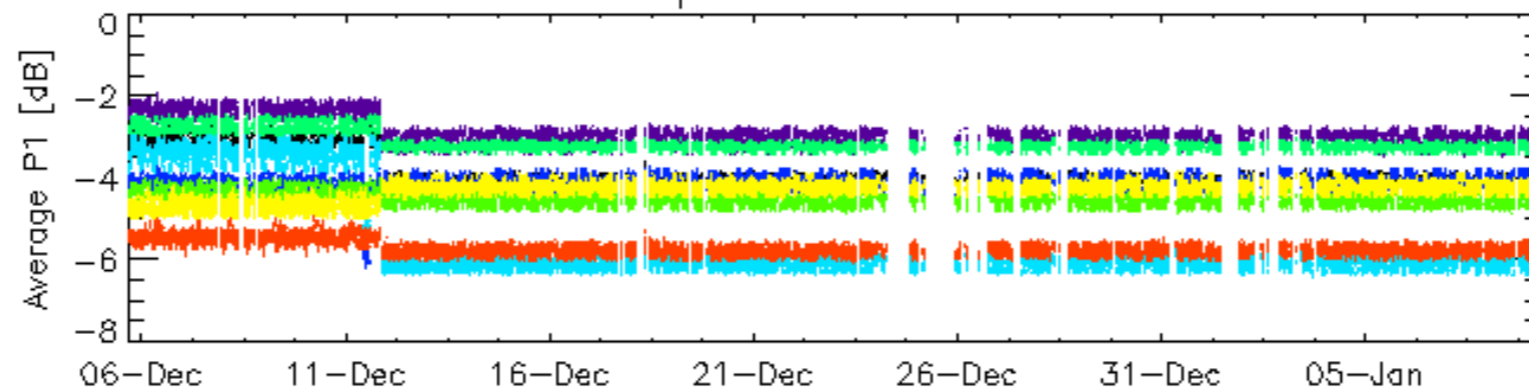


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

### Cal pulses for GM1 SS3

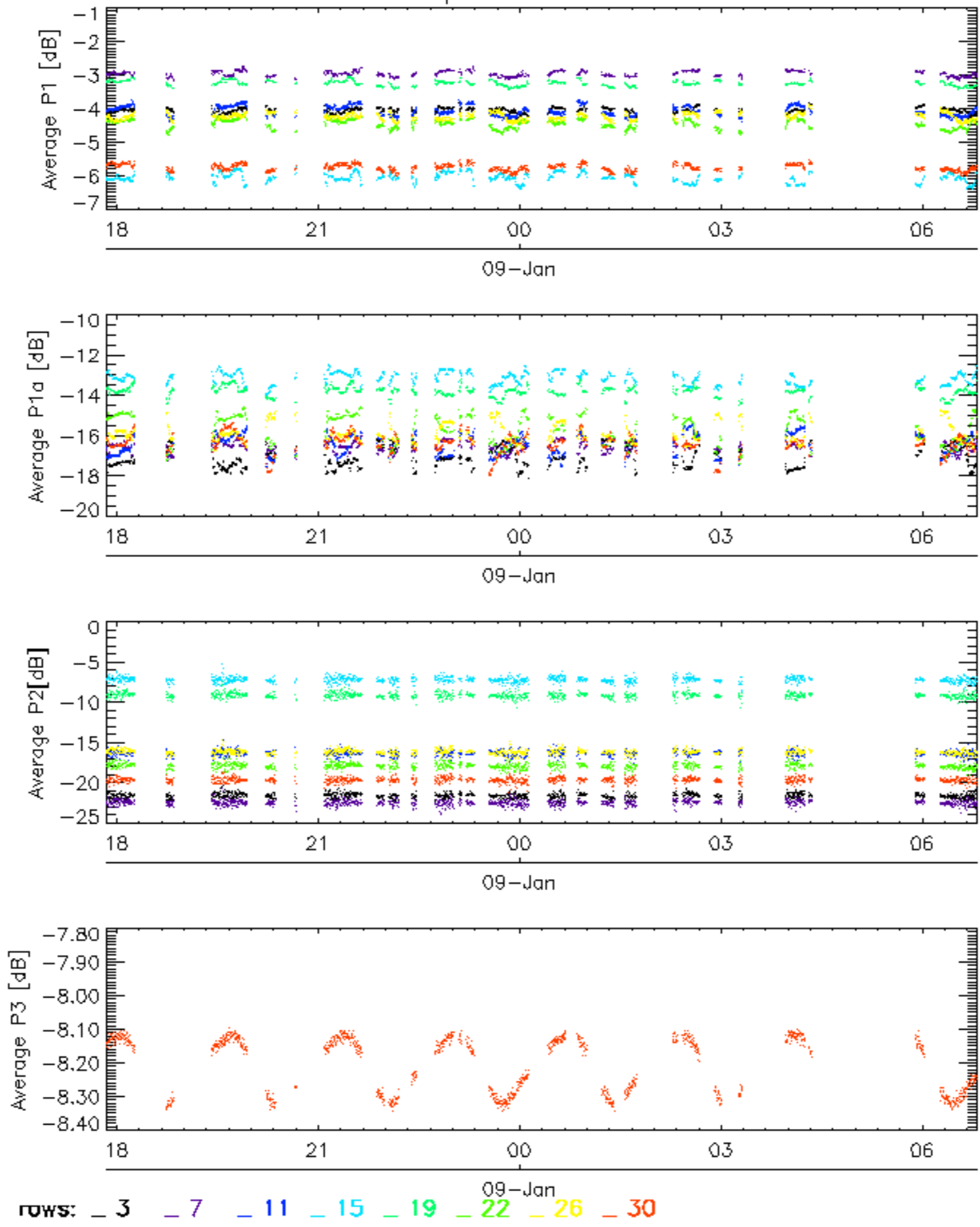


Cal pulses for WVS IS2



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

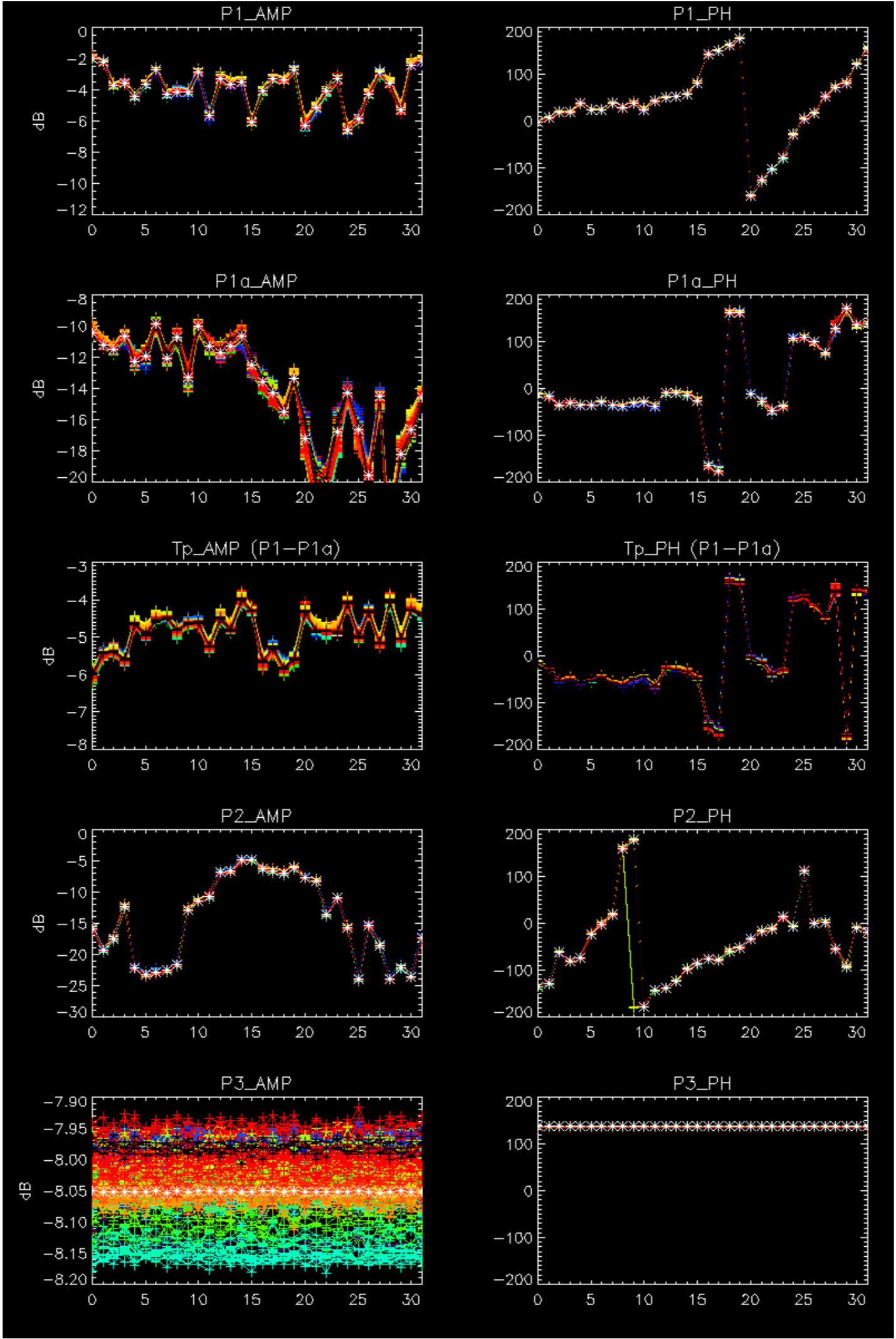
Cal pulses for WVS IS2

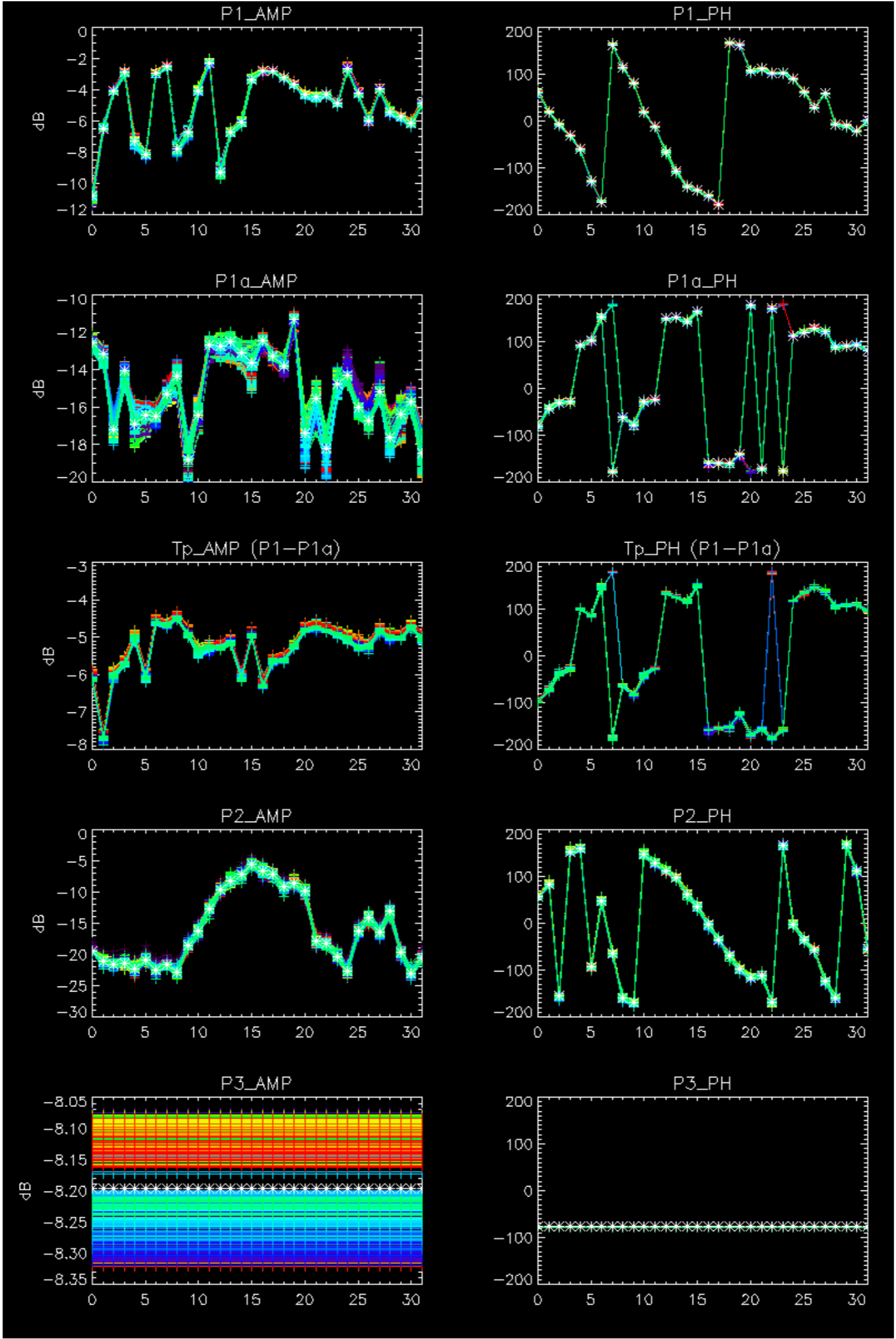


No anomalies observed on available browse products



No anomalies observed.

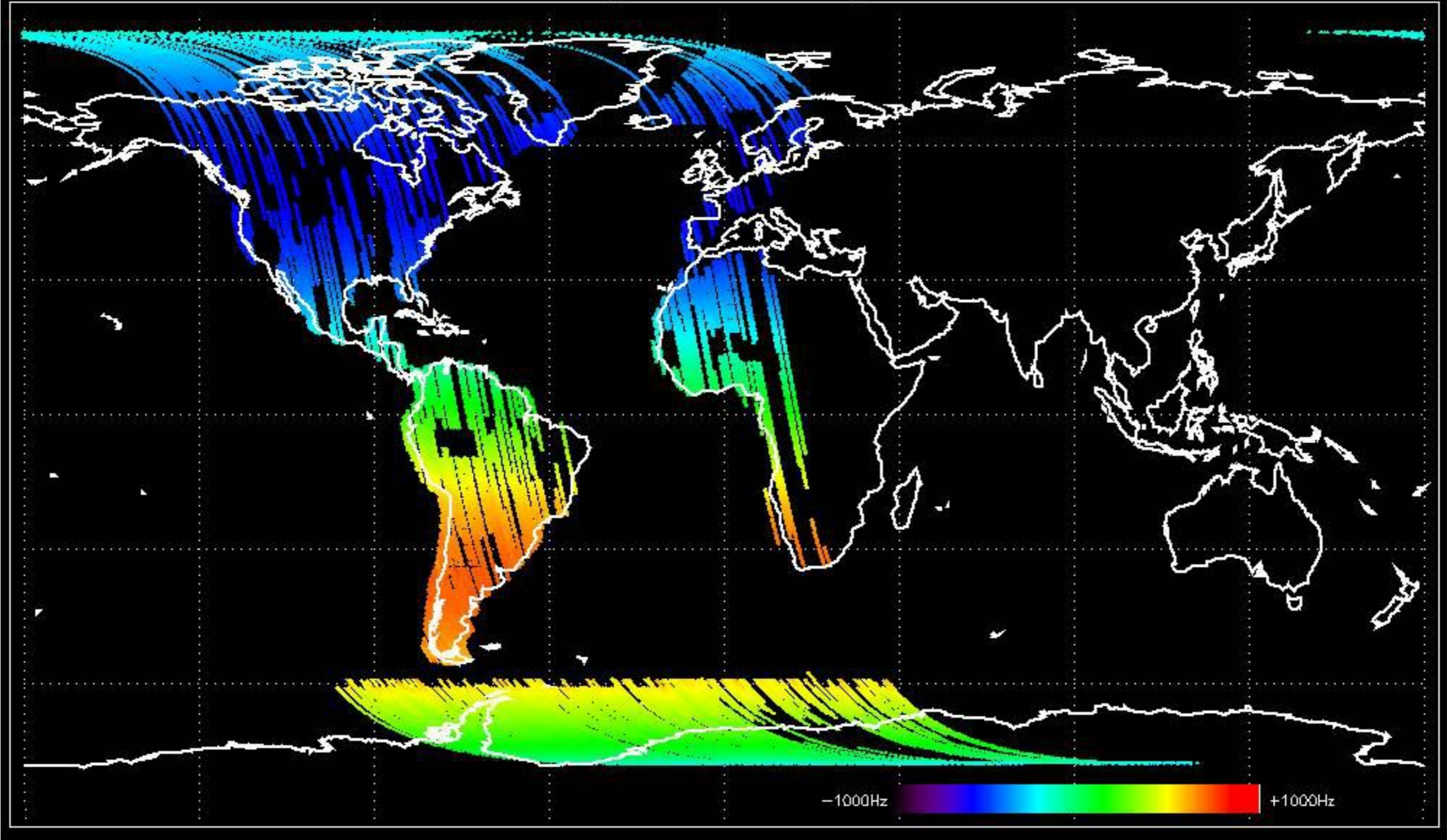




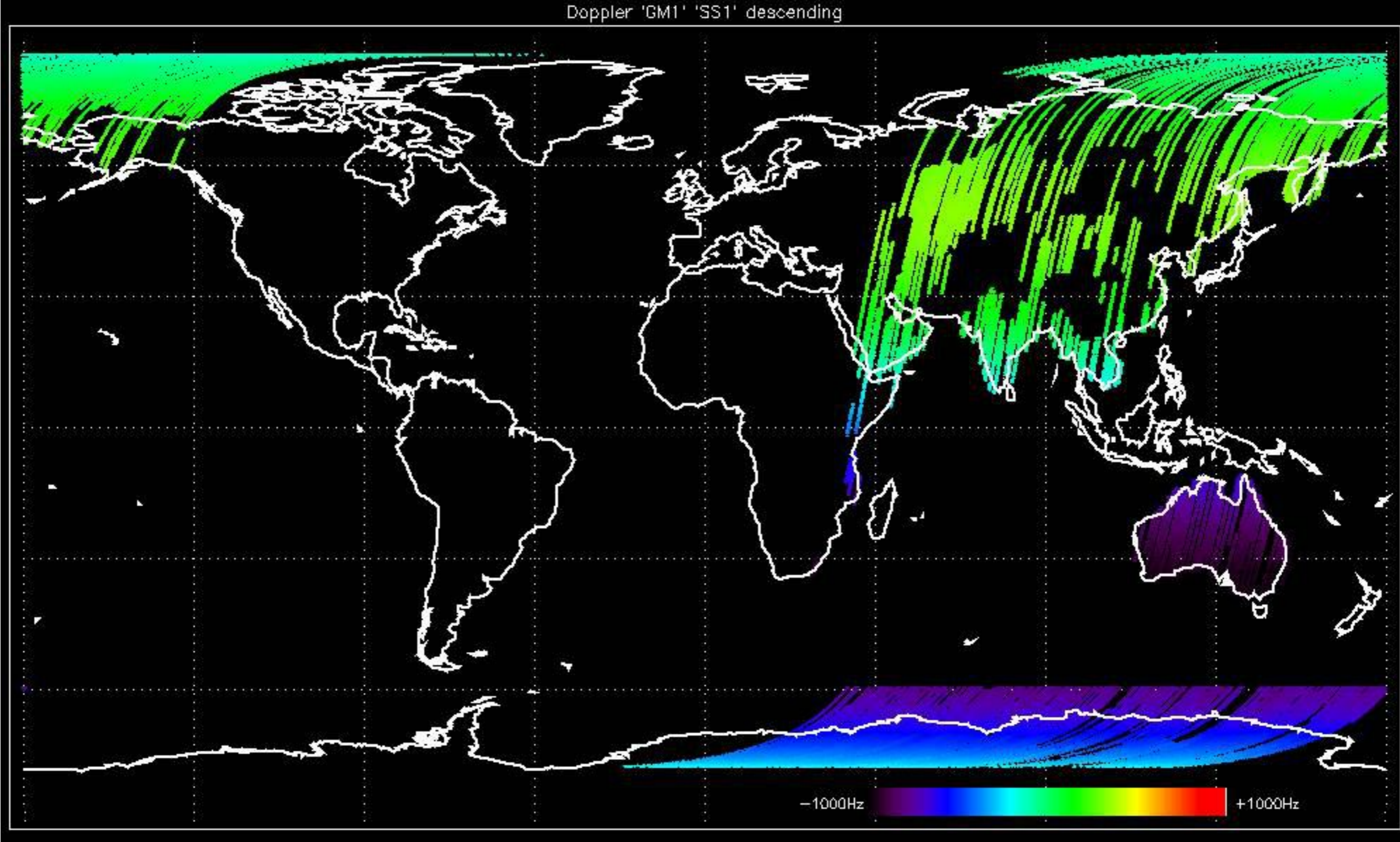
- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



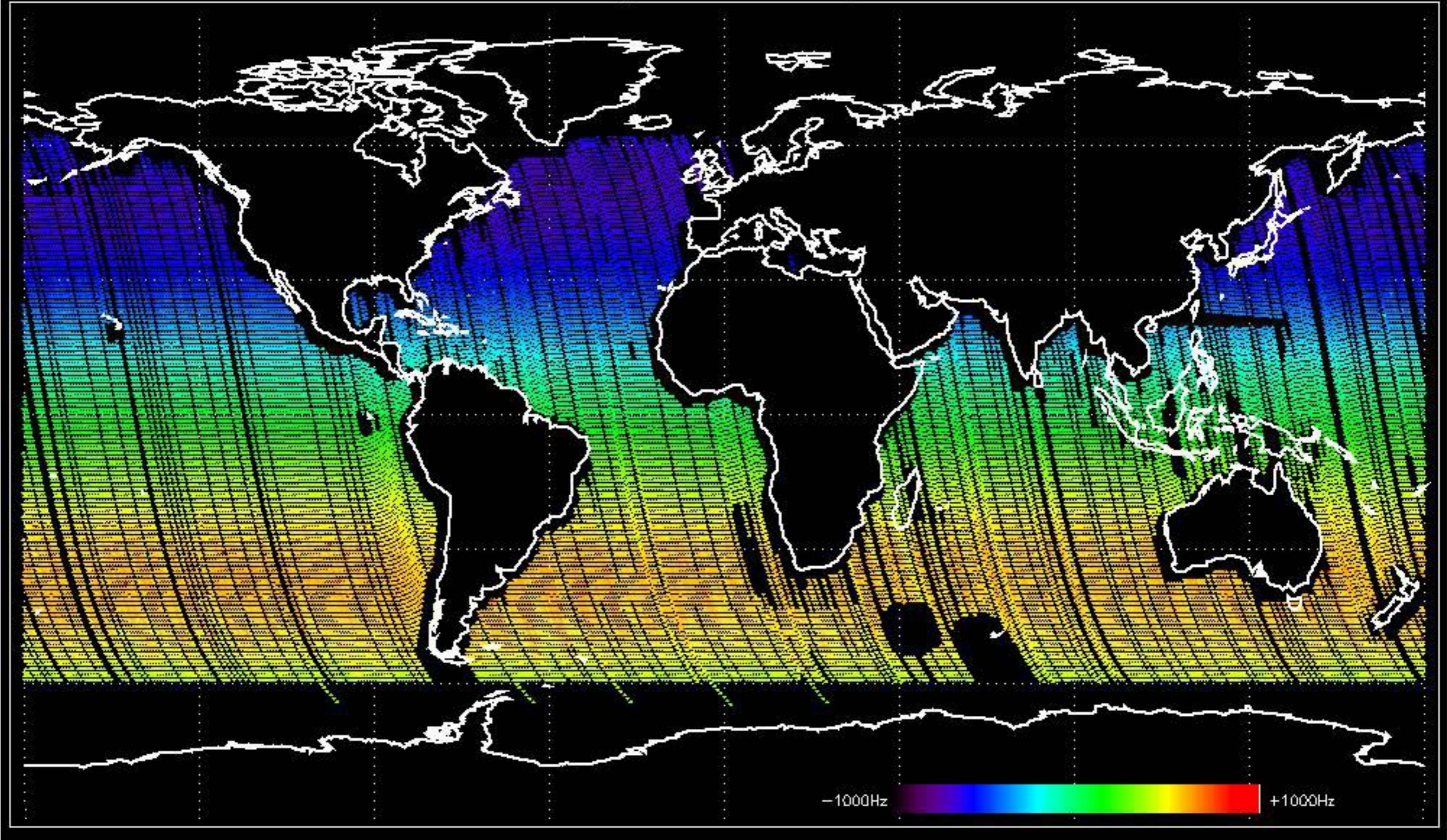
Doppler 'GM1' 'SS1' ascending



Doppler 'GM1' 'SS1' descending

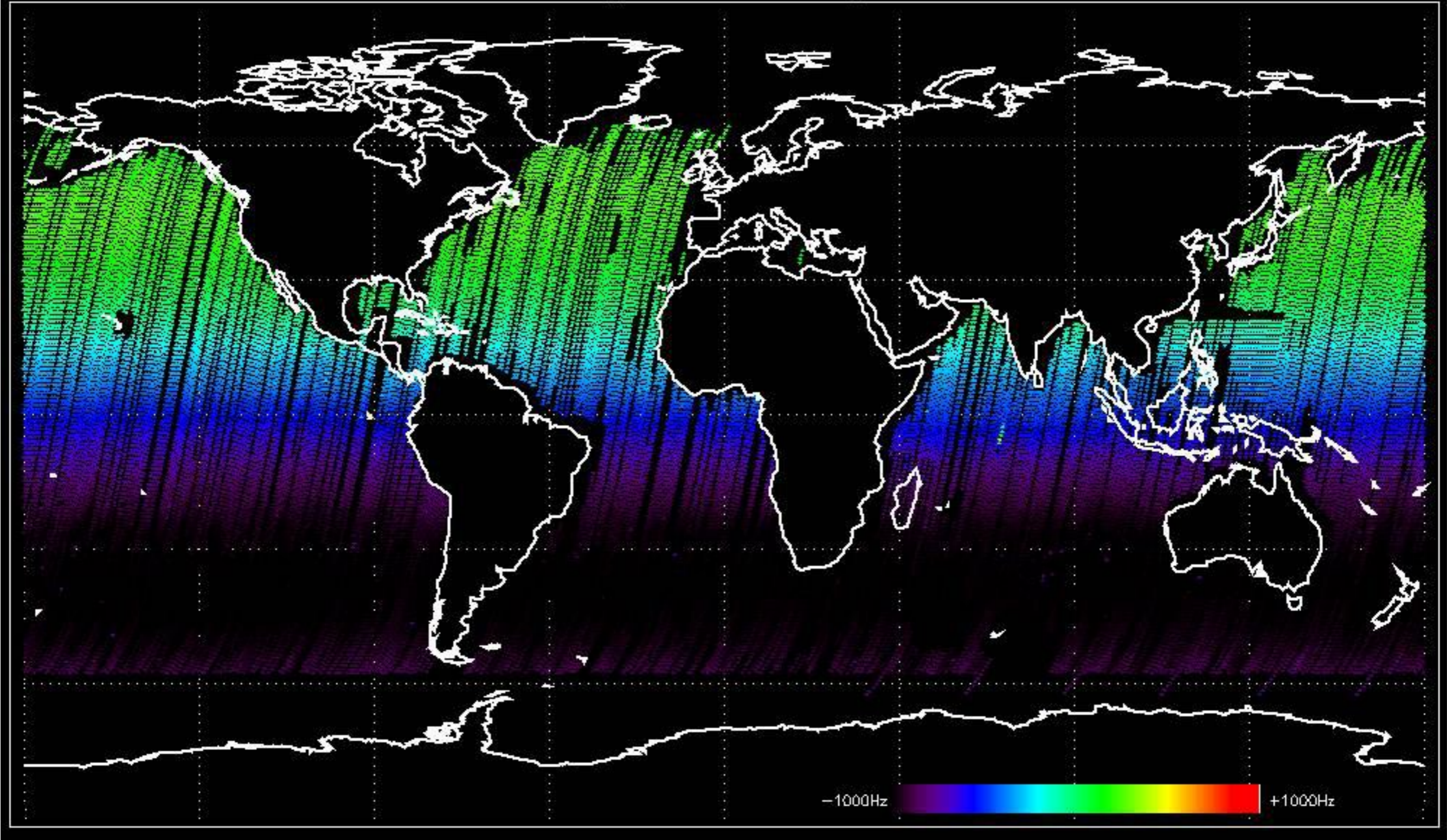


Doppler 'WVS' 'IS2' ascending

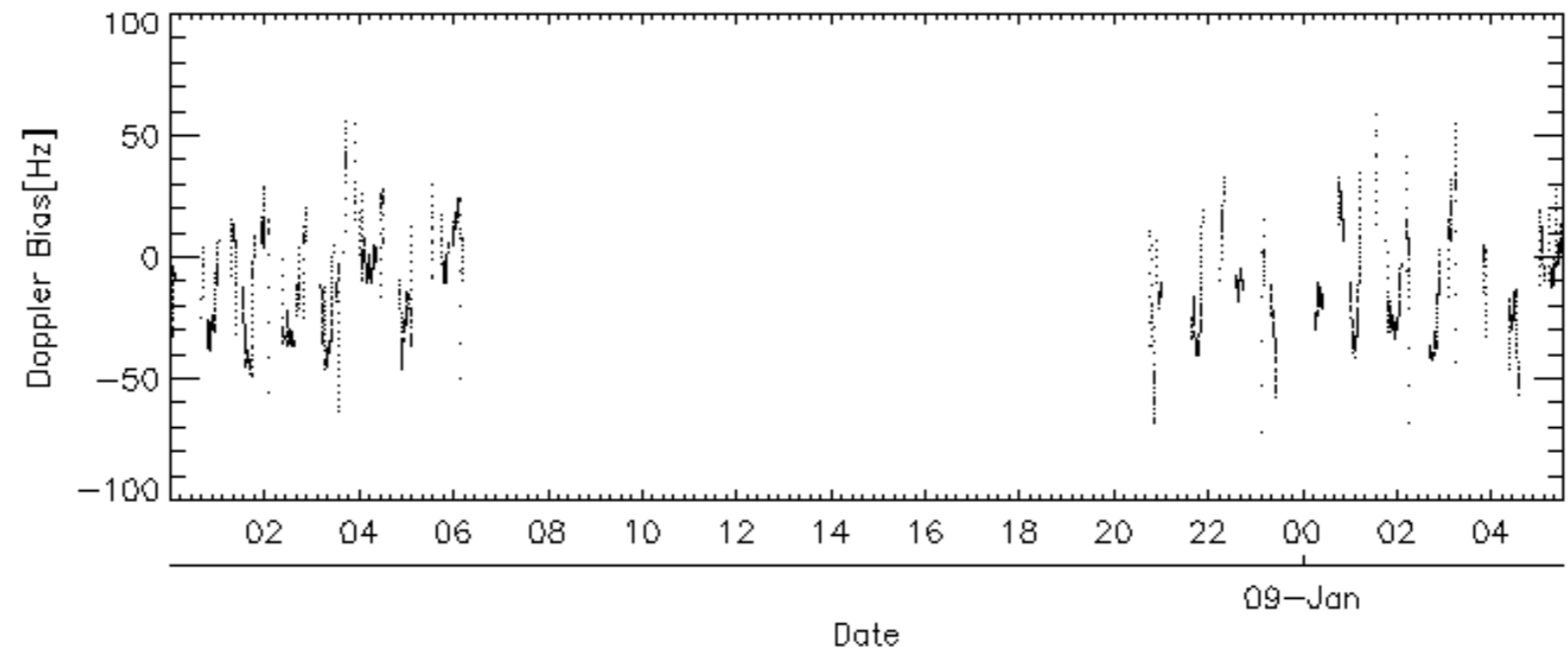
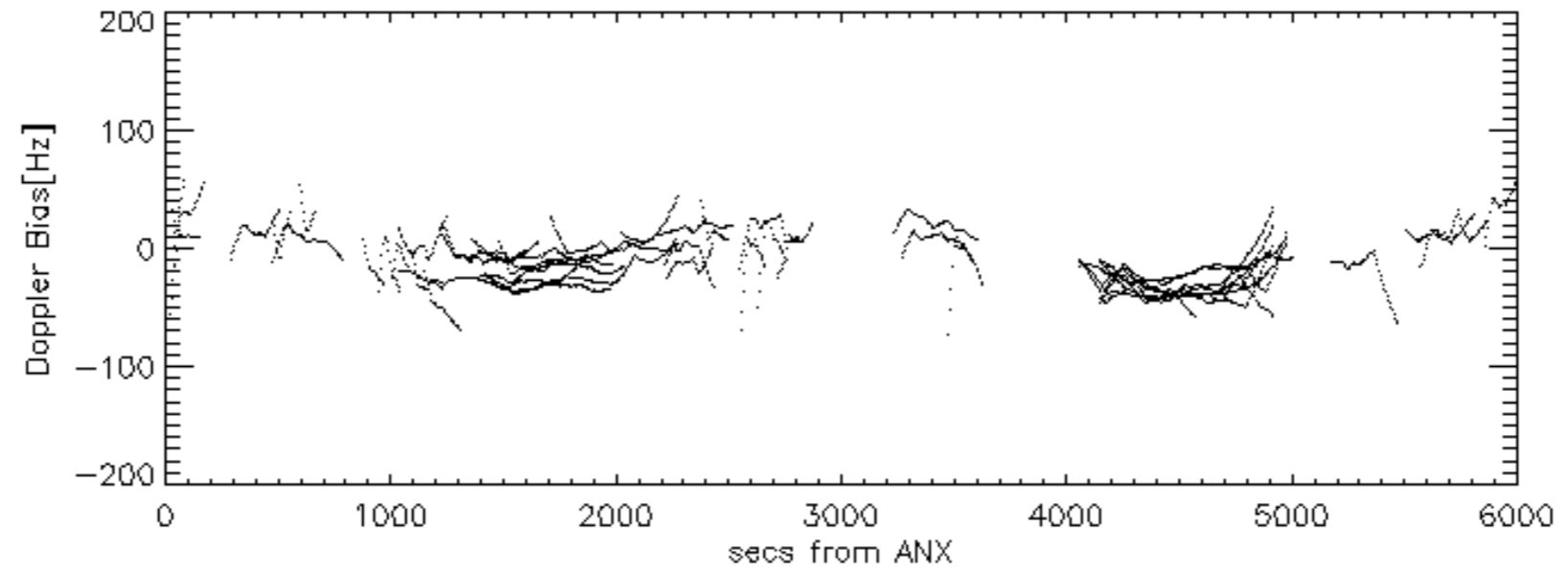
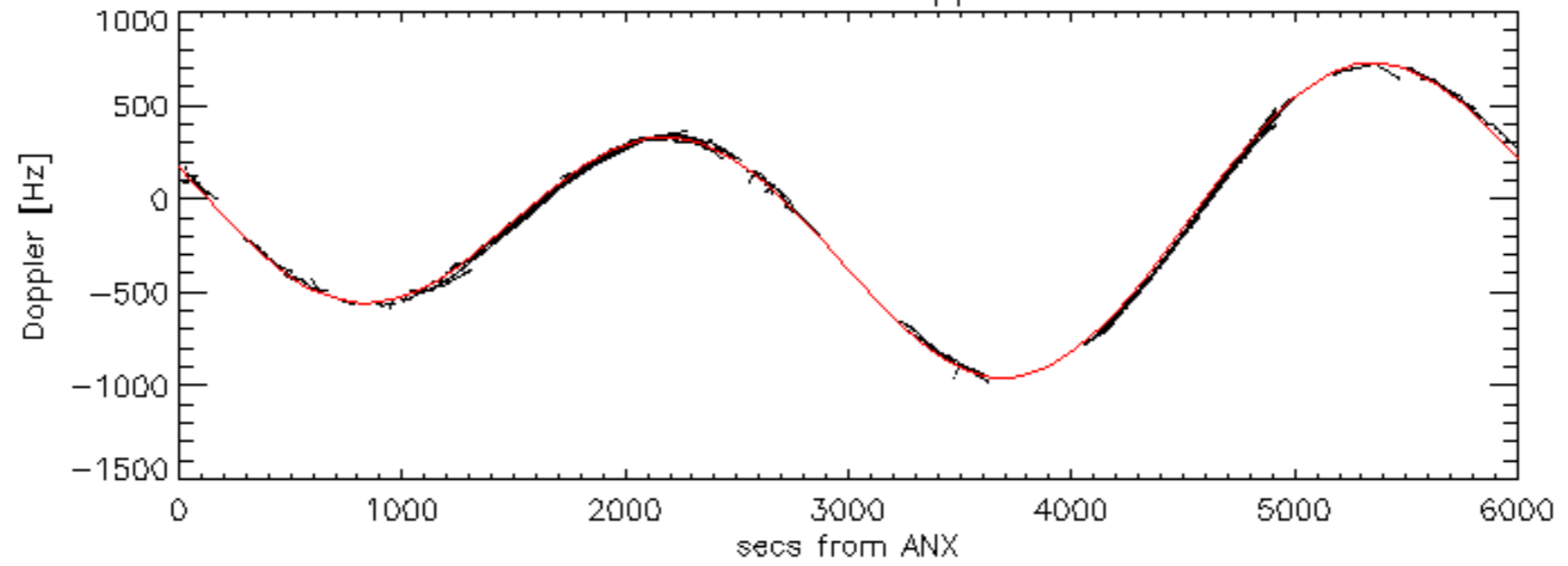


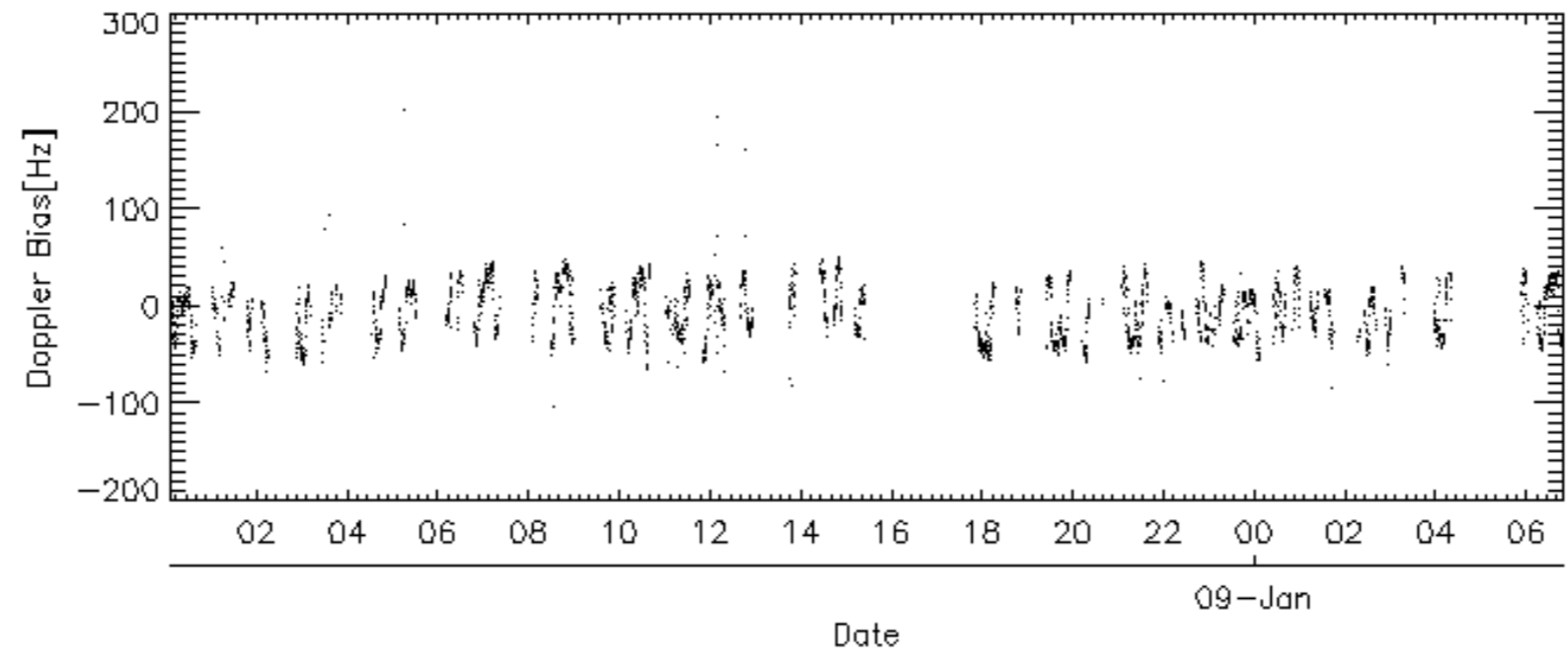
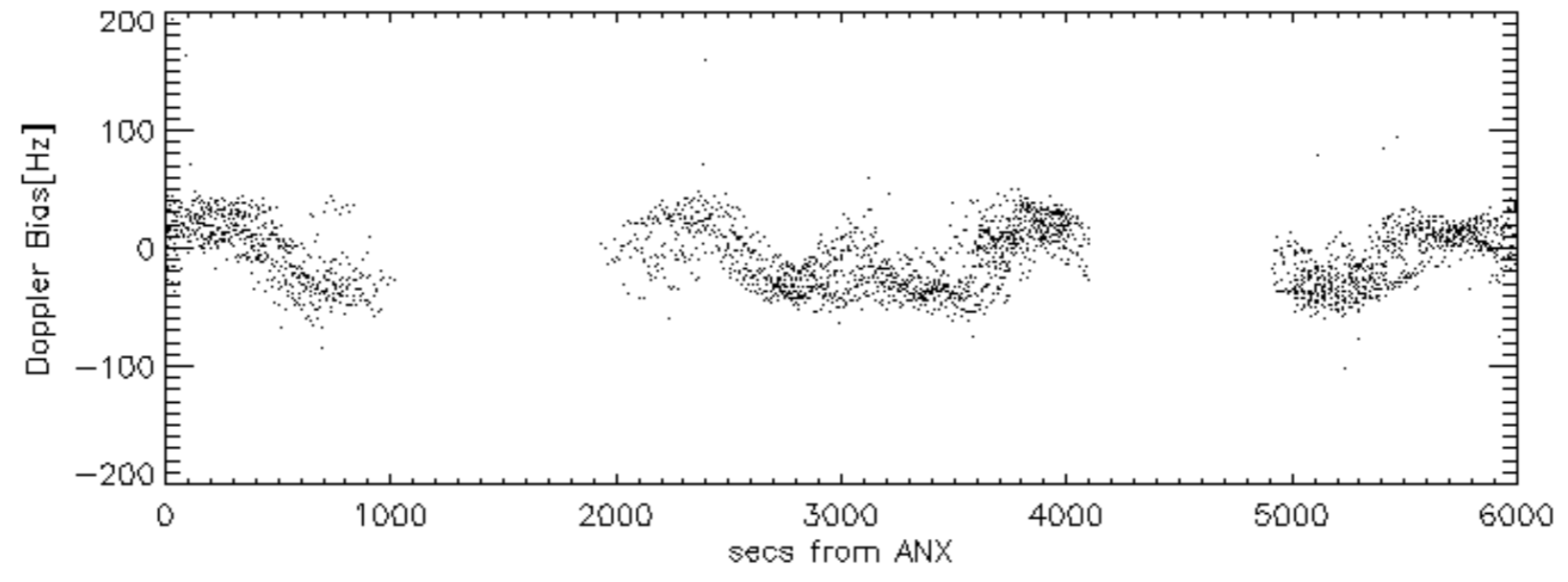
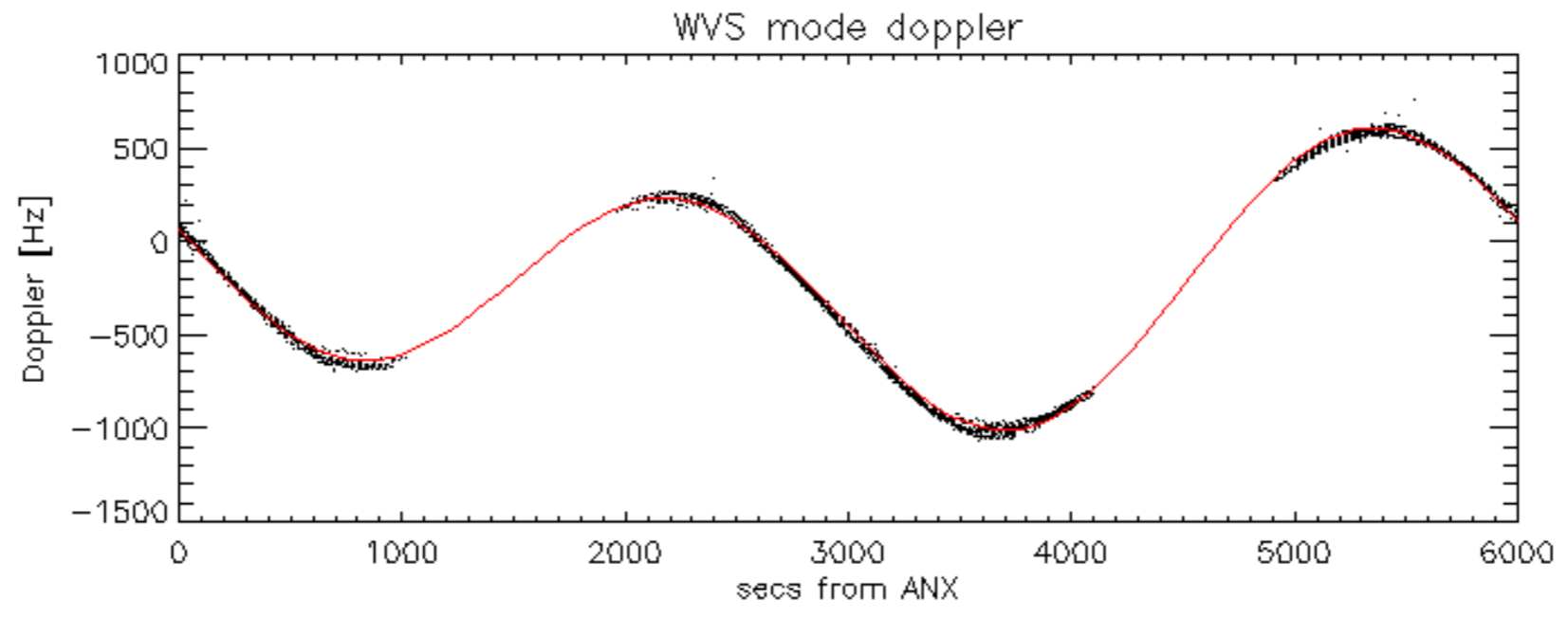


Doppler 'WVS' 'IS2' descending

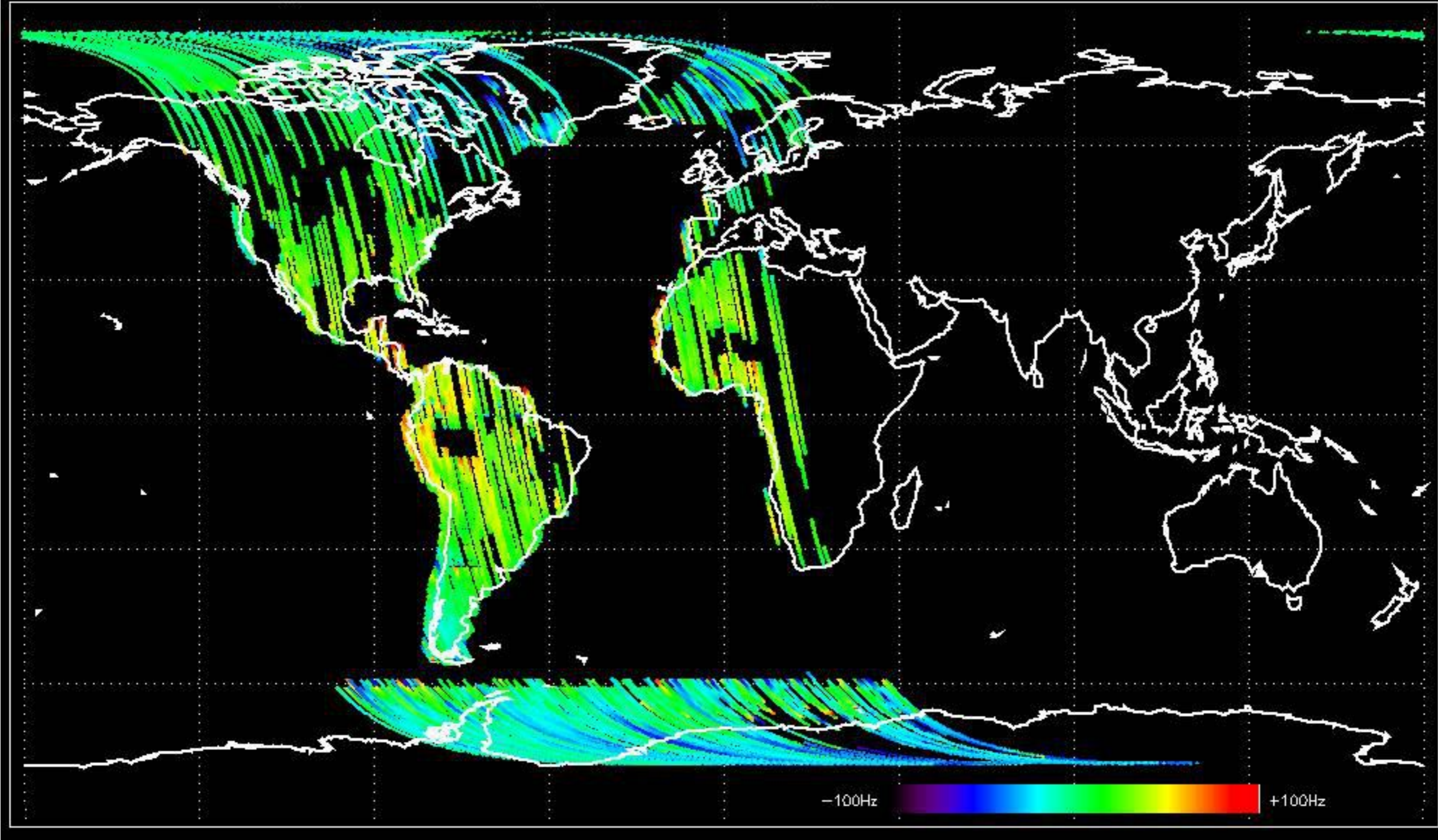


GM1 mode doppler

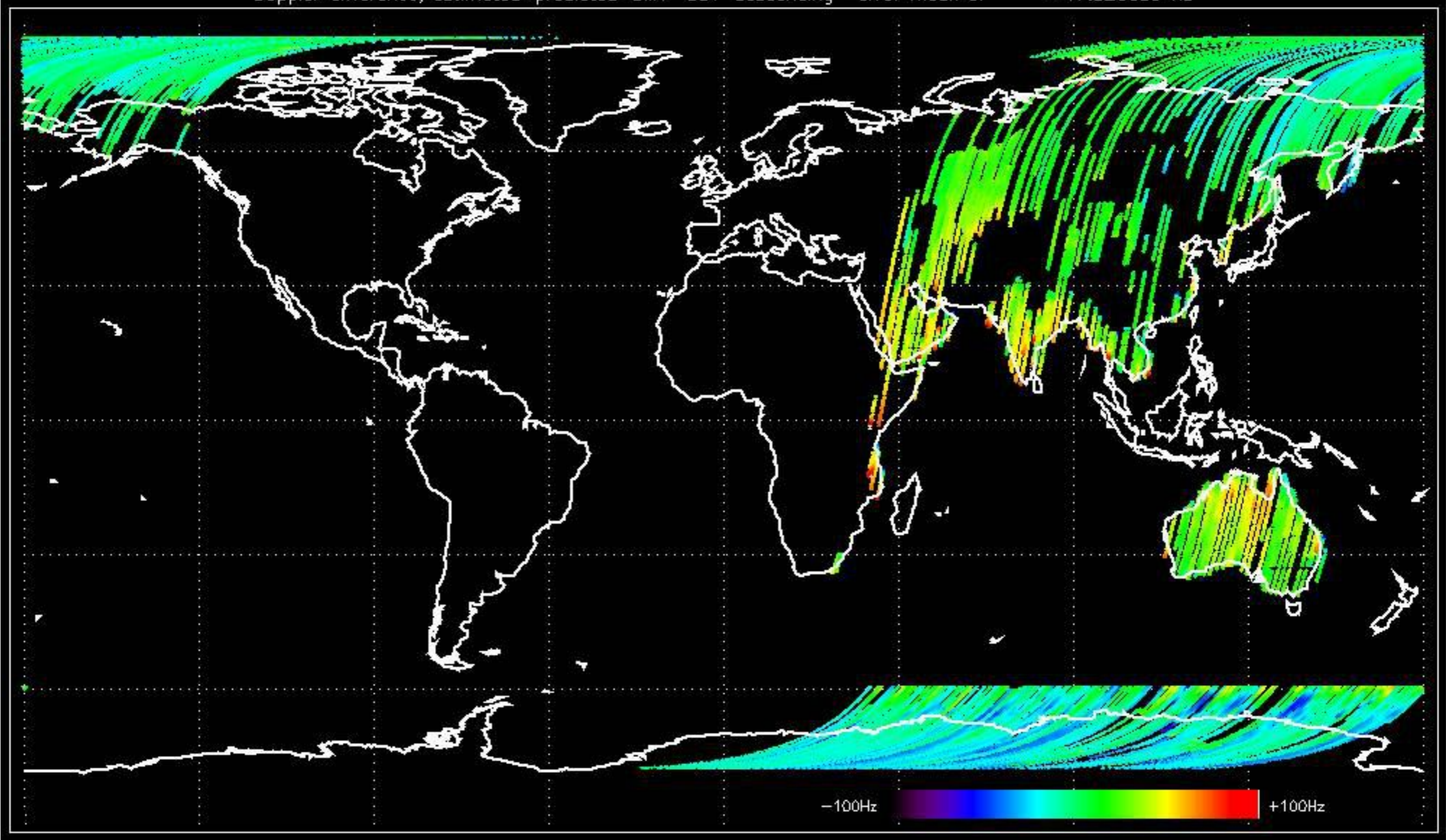




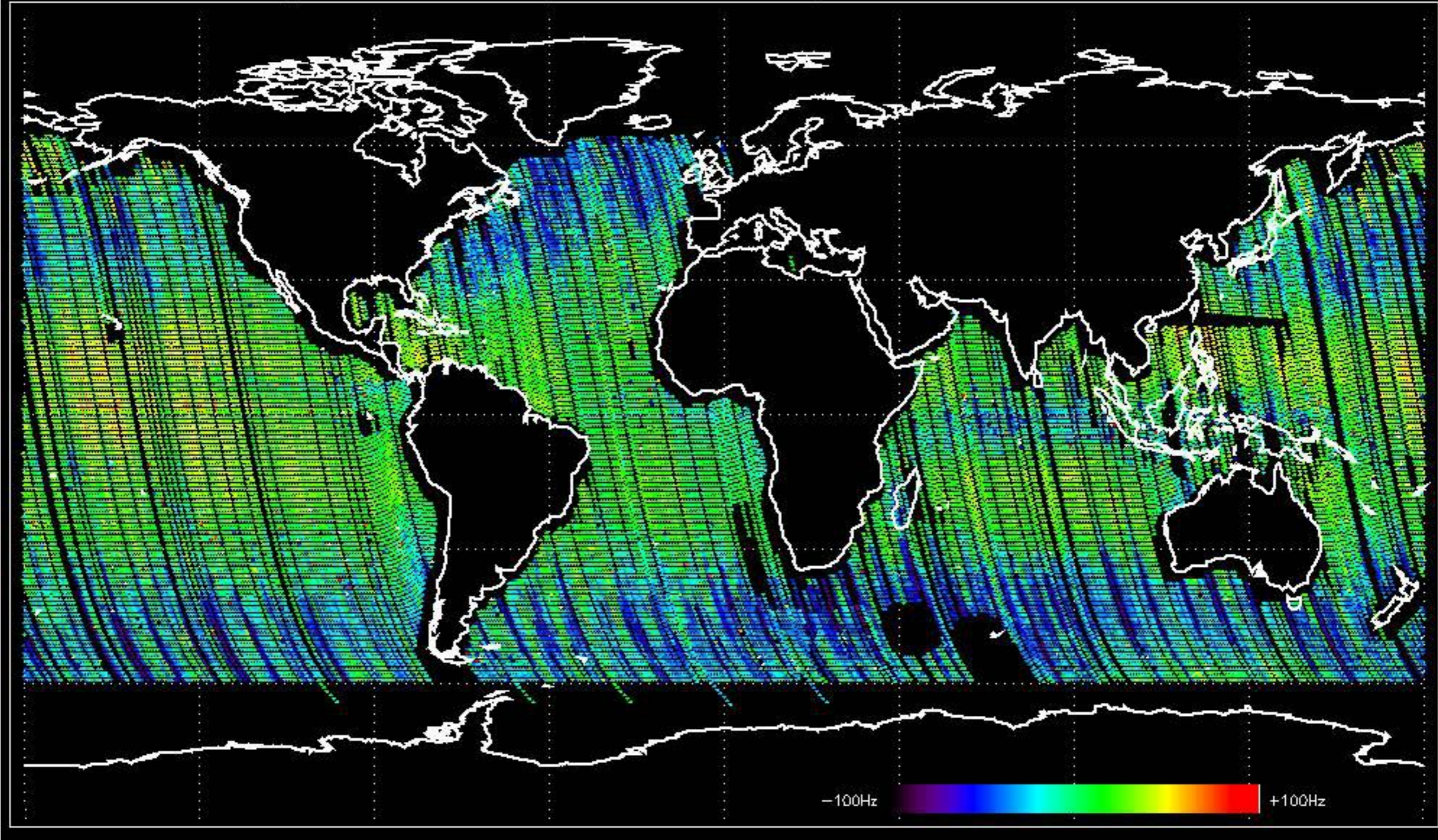
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -12.918504 Hz



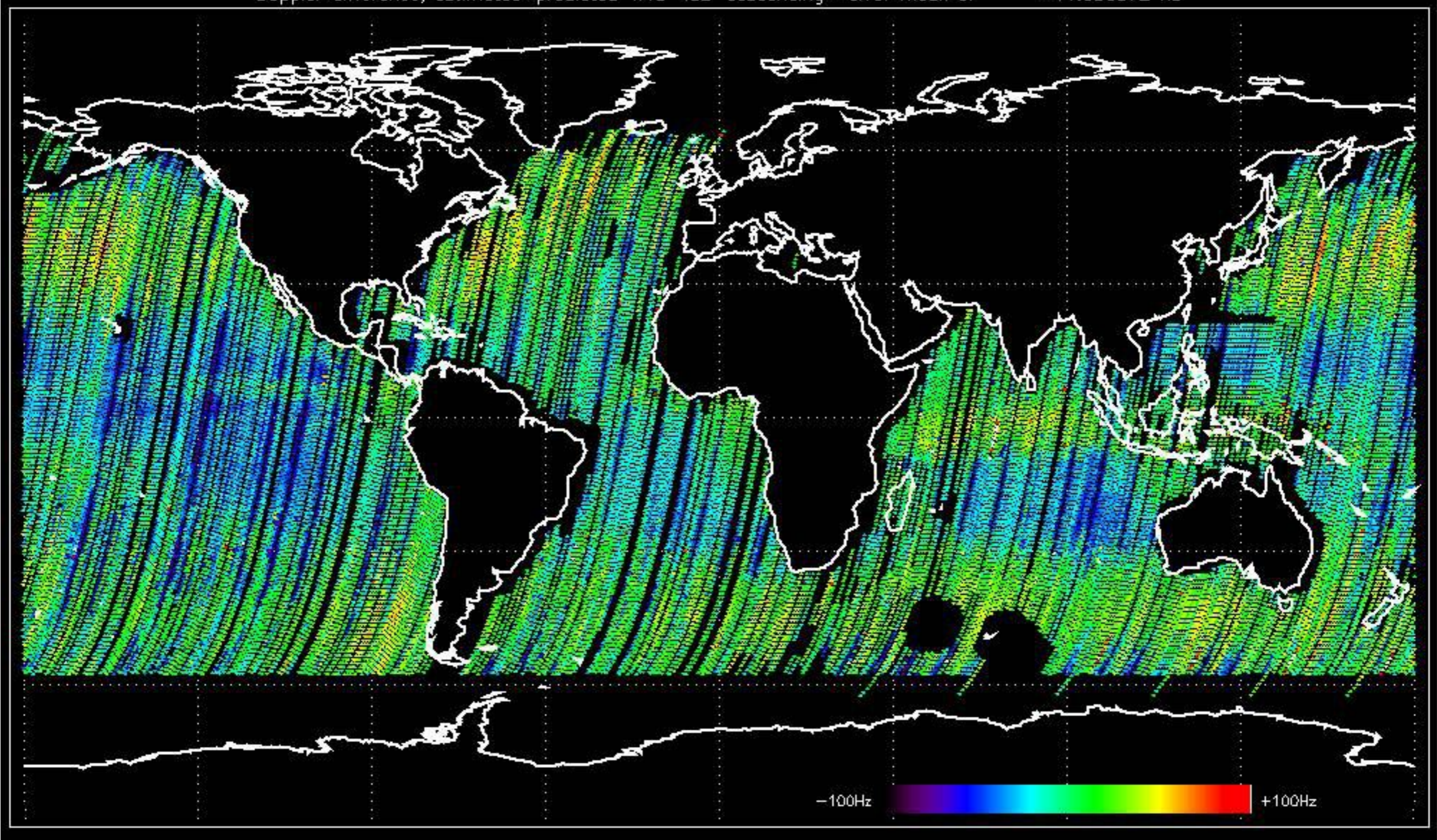
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -17.926603 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -8.9127282 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -11.656372 Hz



No anomalies observed on available MS products:



No anomalies observed.







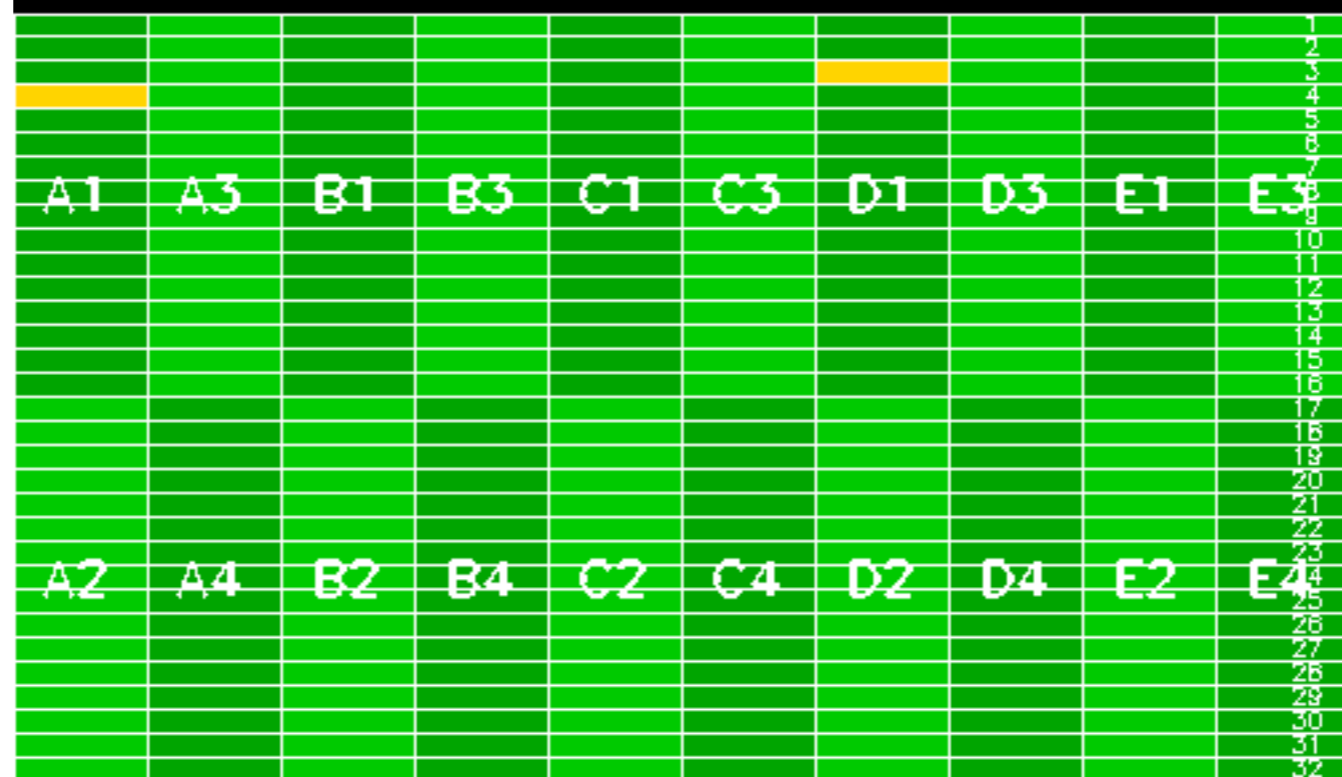




Reference: 2005-09-29 07:47:20 V

RxGain

Test : 2006-01-08 09:53:36 V







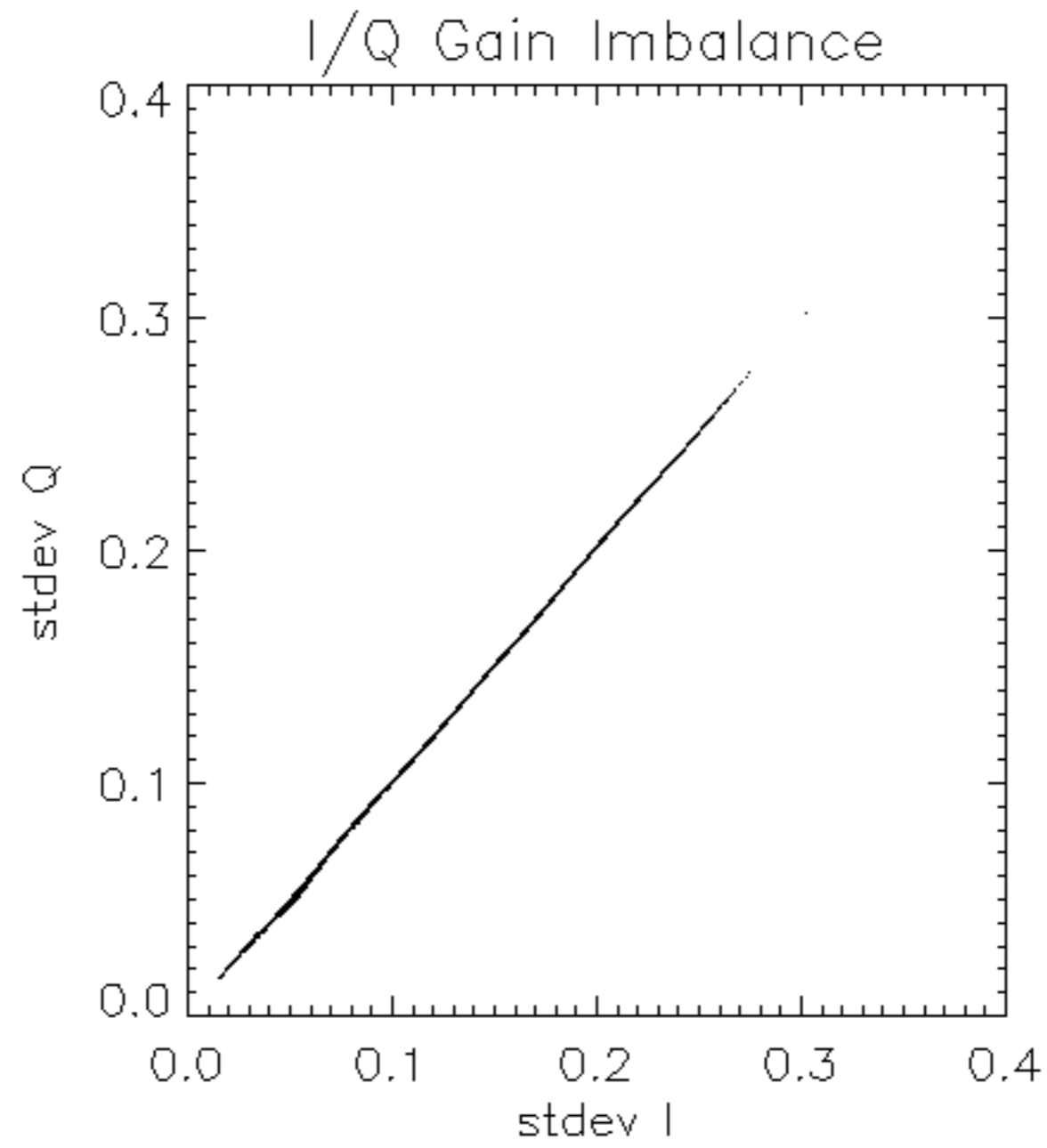


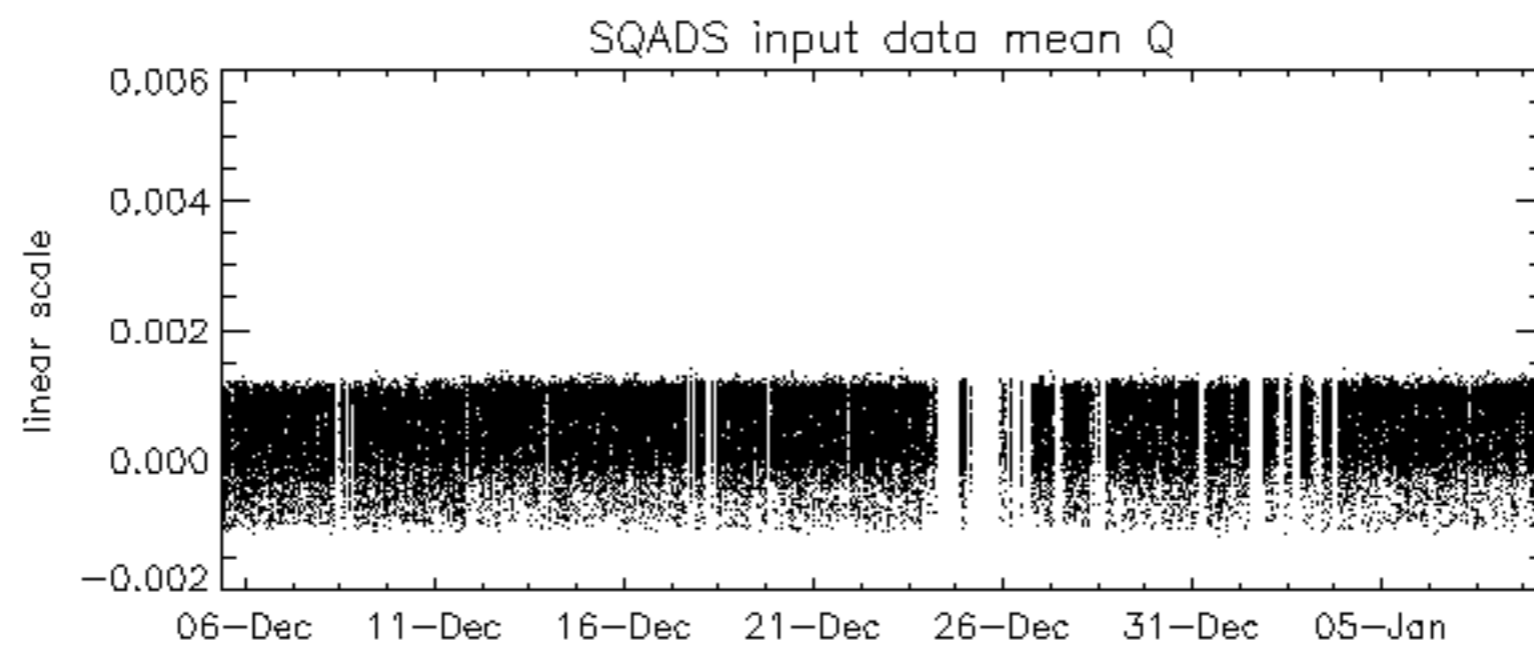
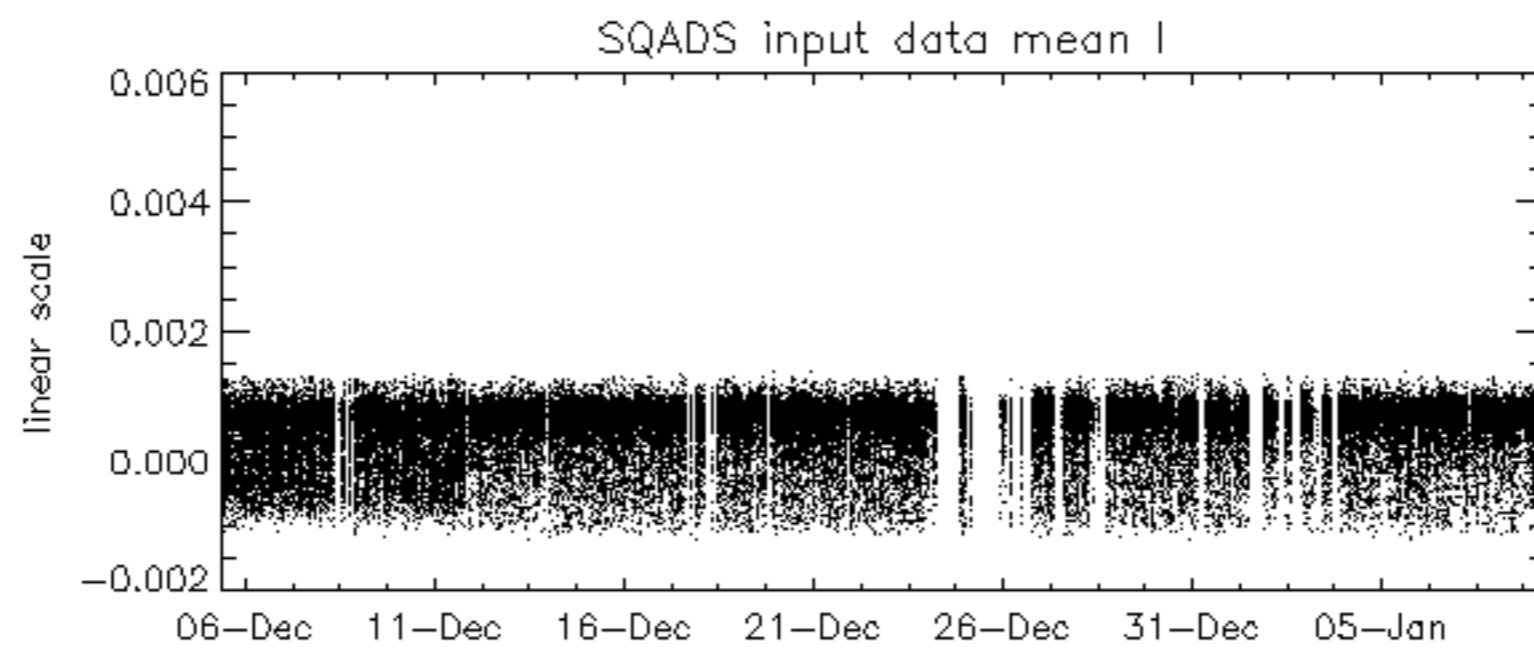
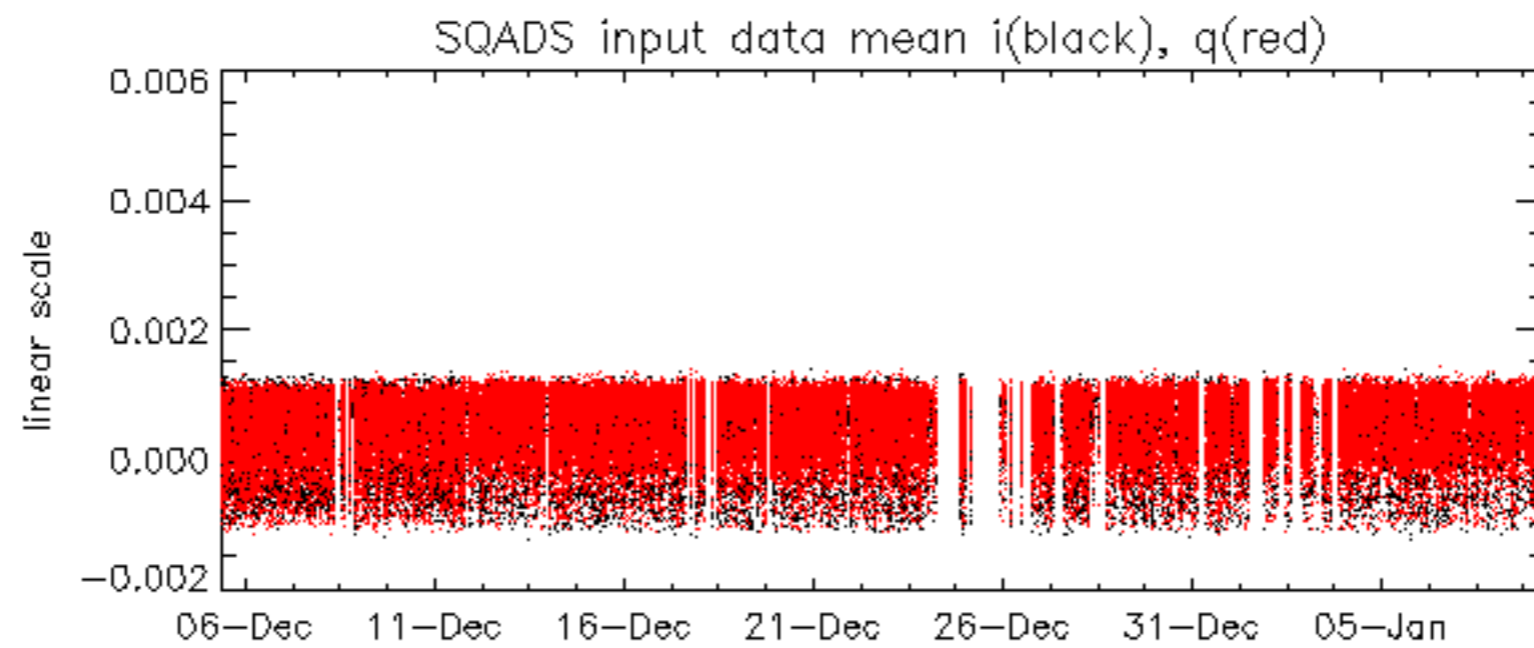


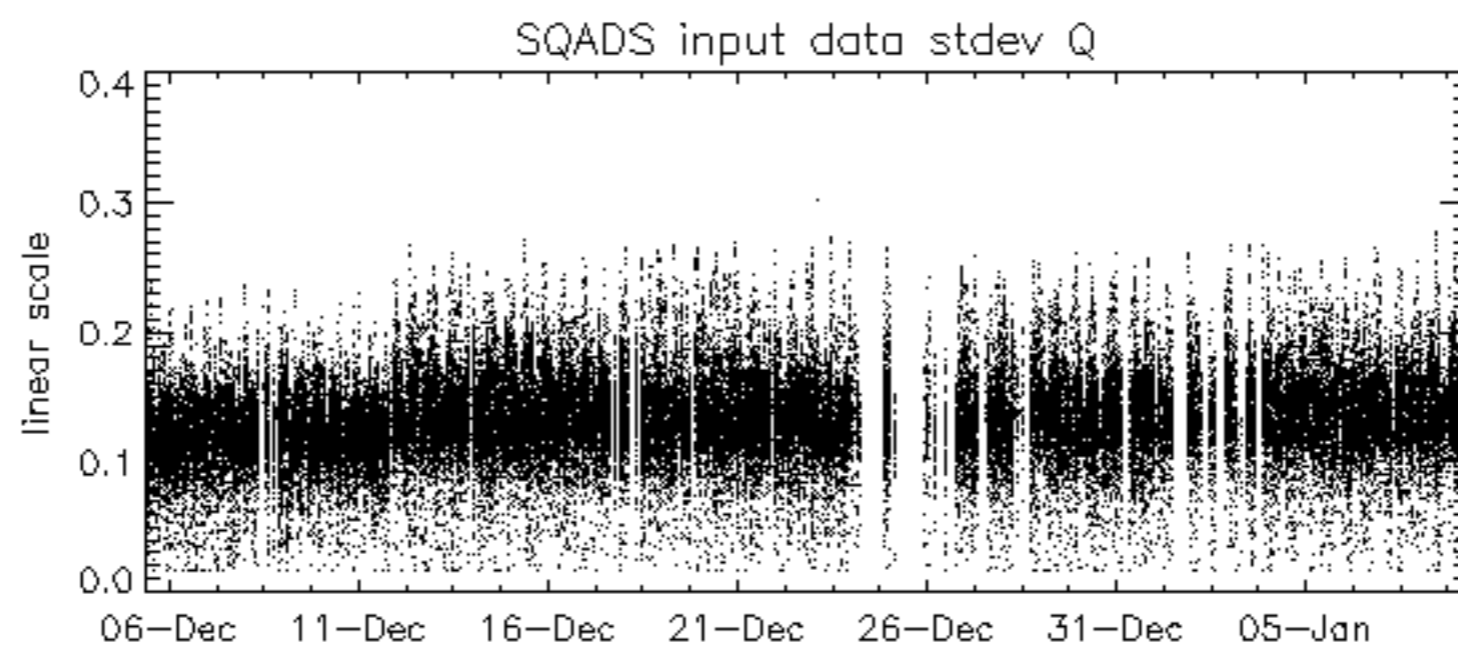
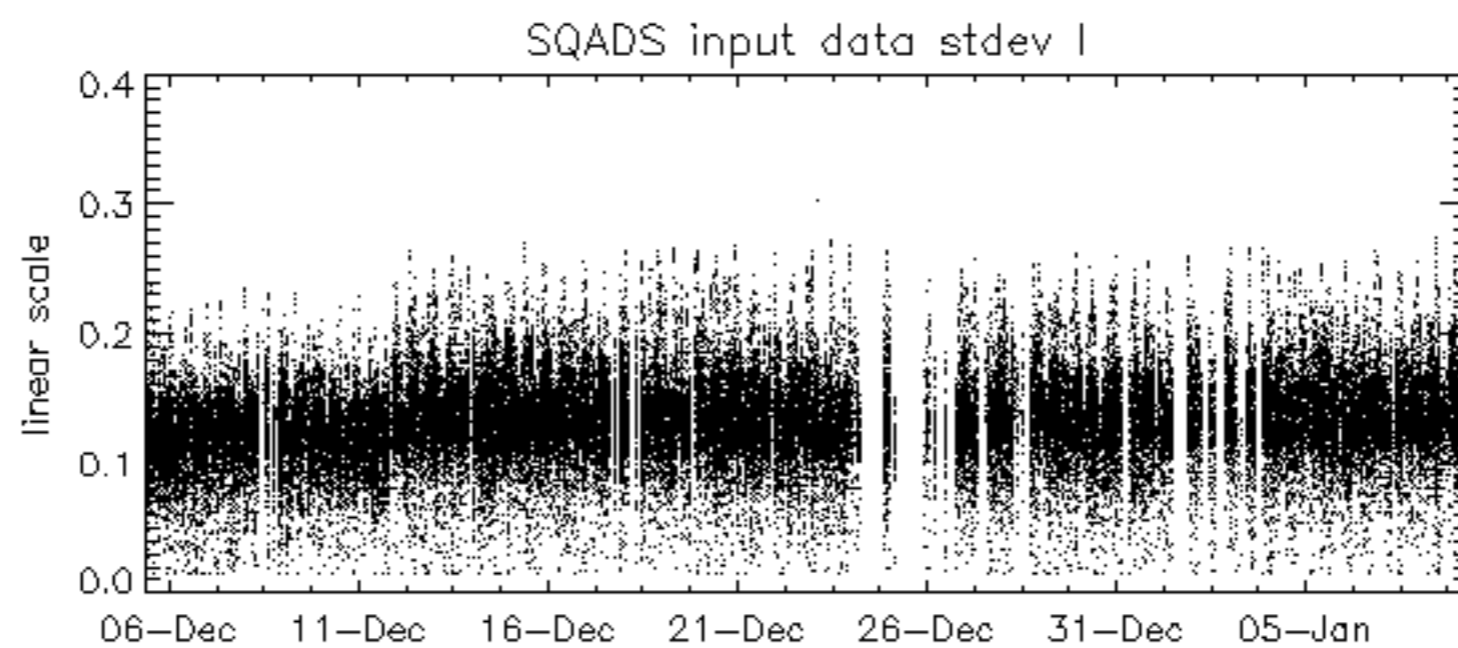
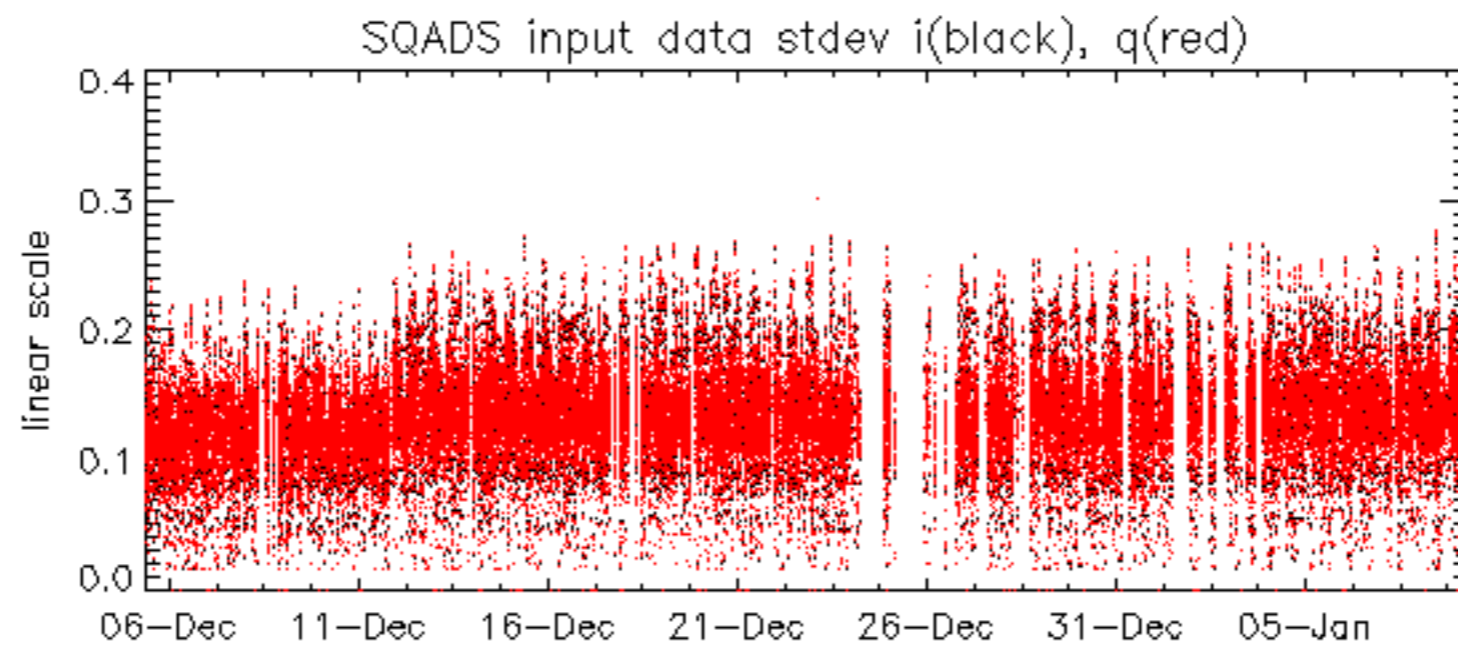


























Summary of analysis for the last 3 days 2006010[789]

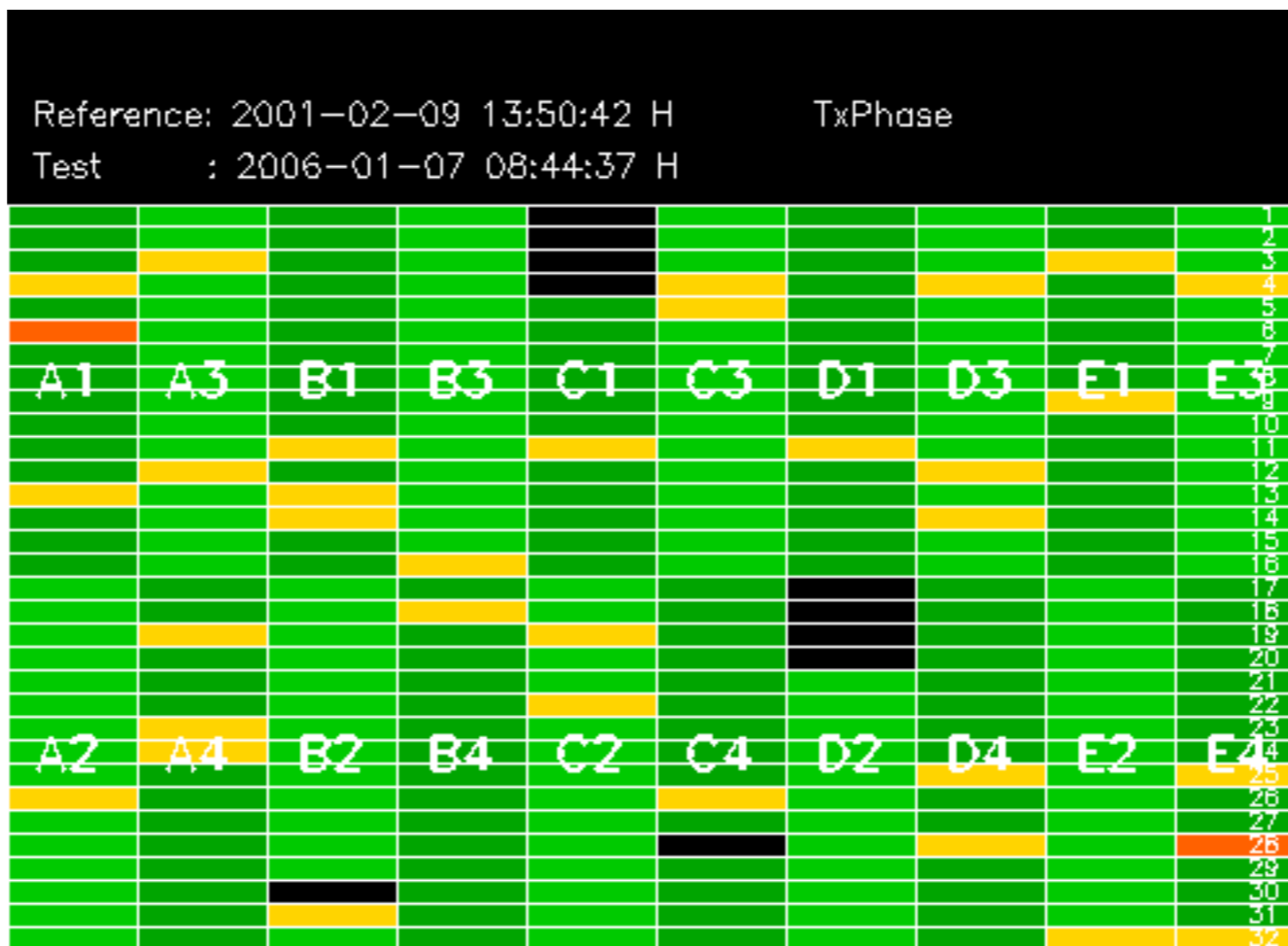
The assumption is taken that the SQADS num\_gaps and num\_missing\_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20060107_005035_000002152044_00059_20153_5838.N1	1	0
ASA_WSM_1PNPDE20060108_011129_000002262044_00074_20168_7722.N1	0	60











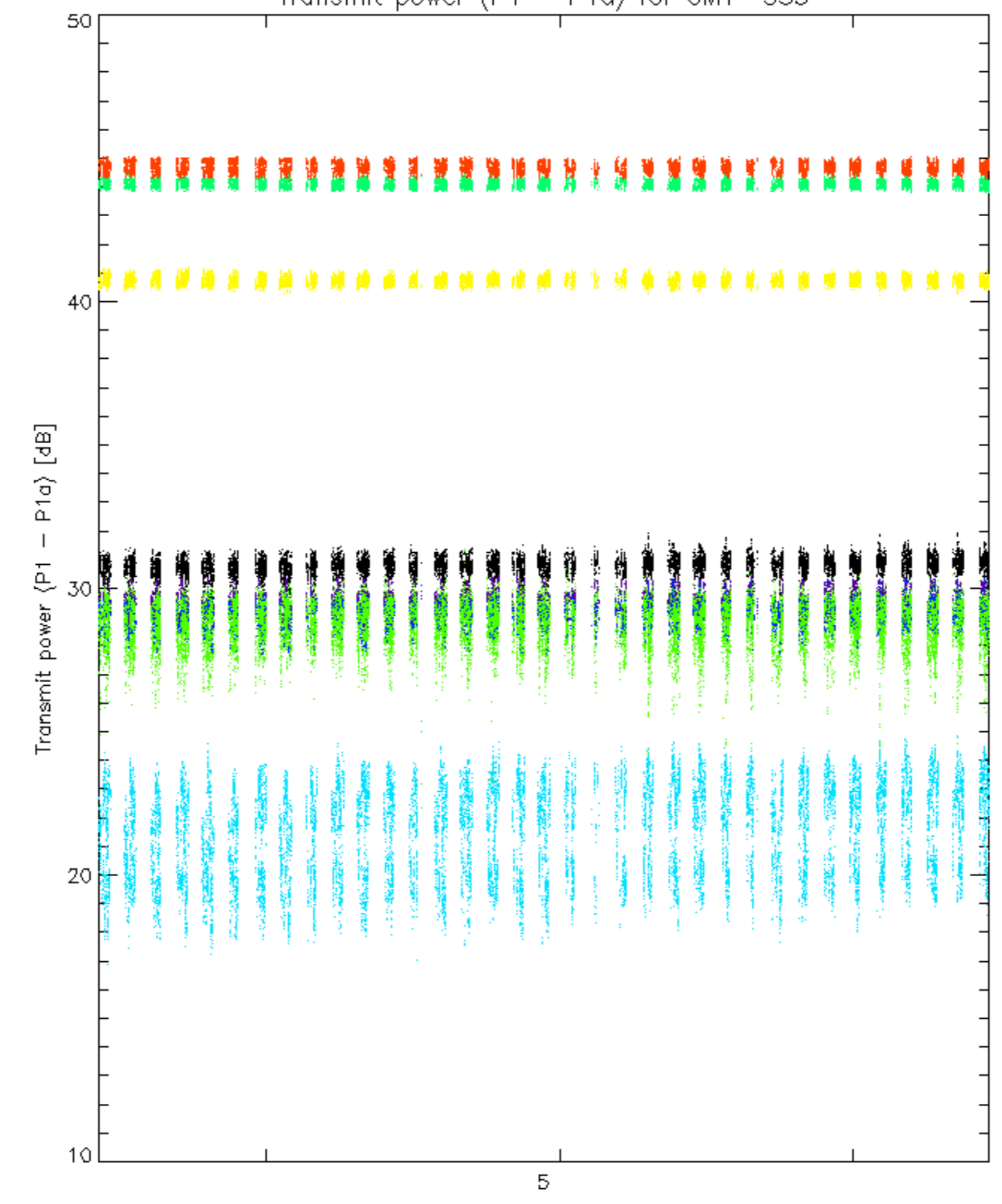






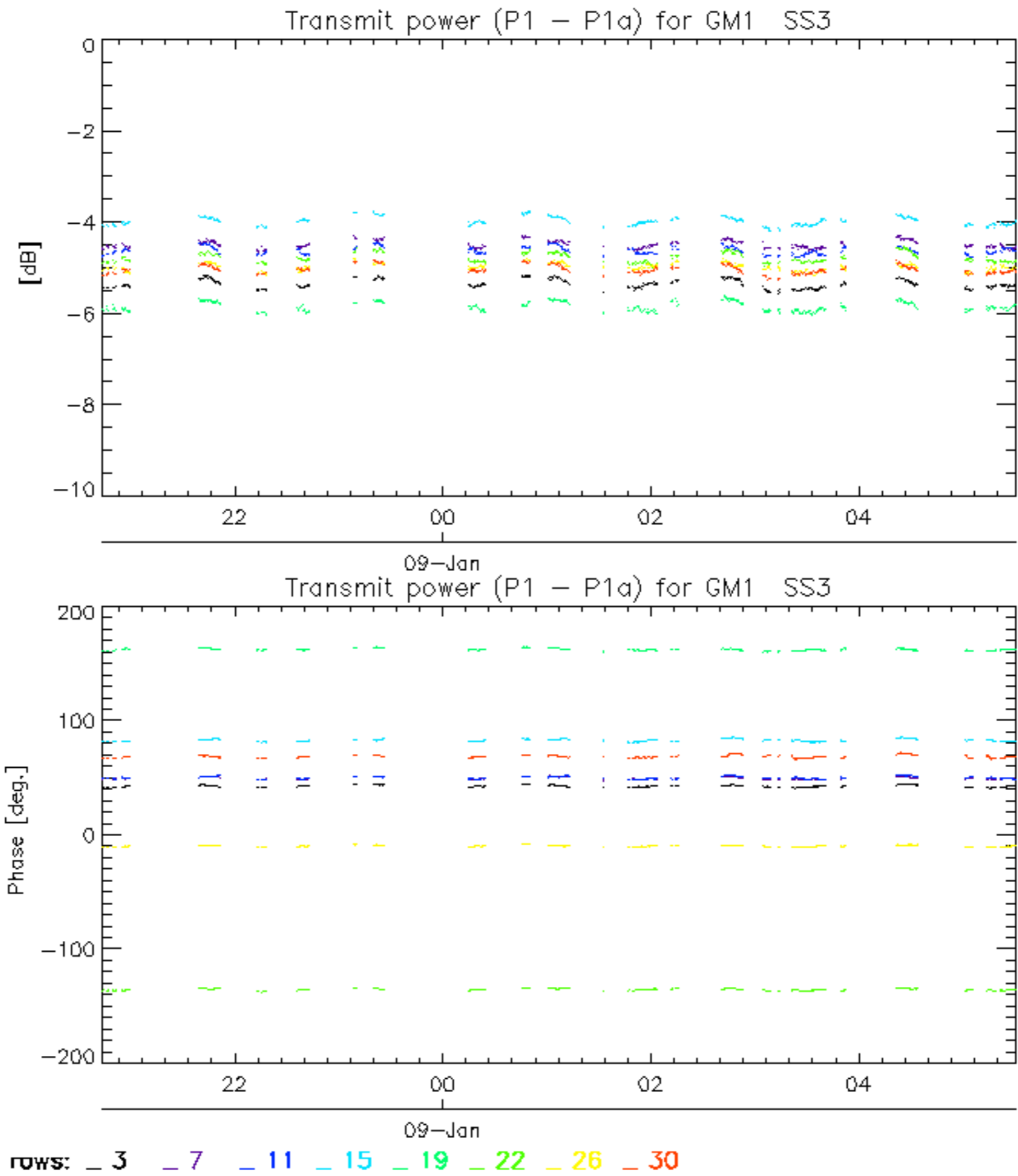


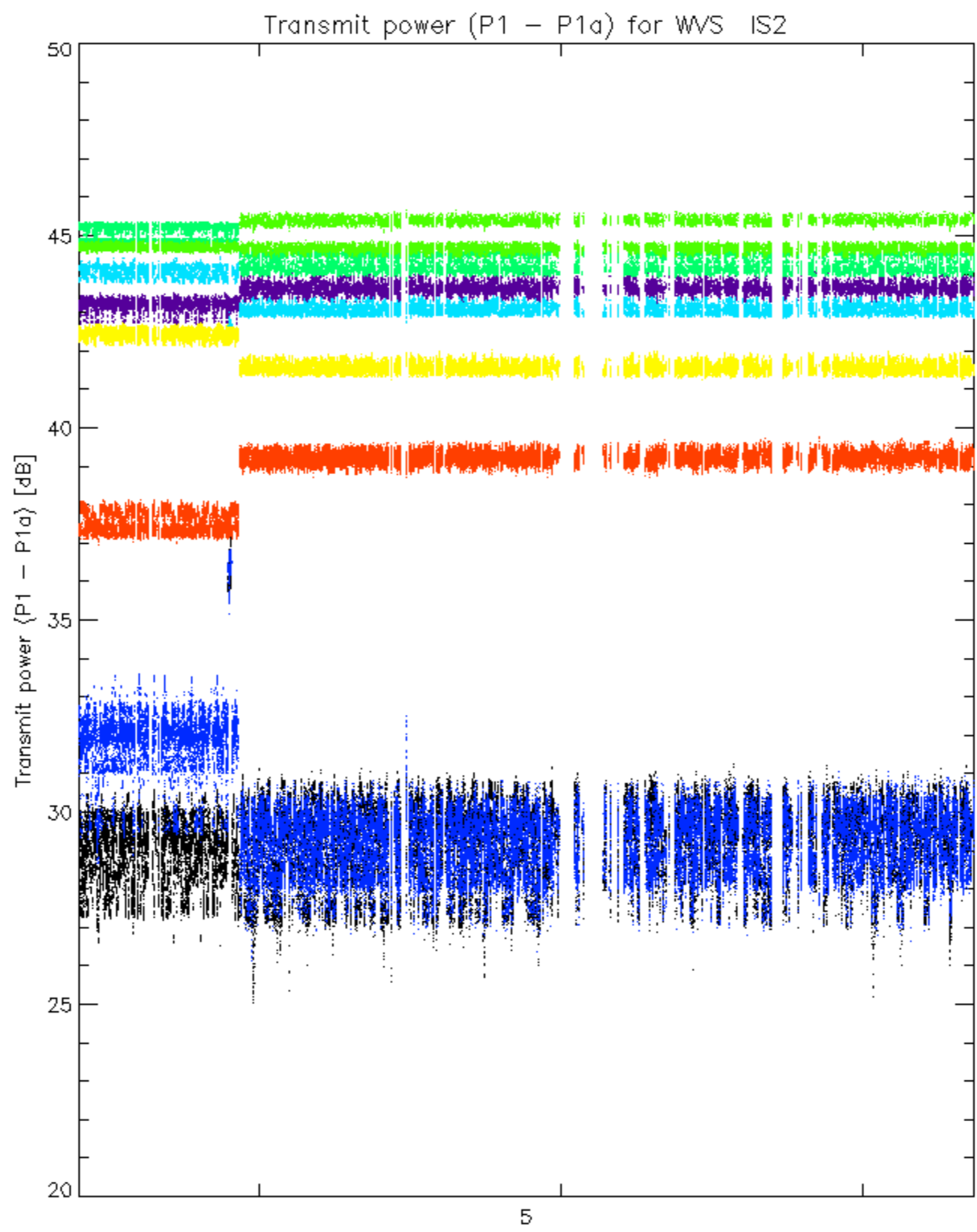
Transmit power (P1 - P1a) for GM1 SS3



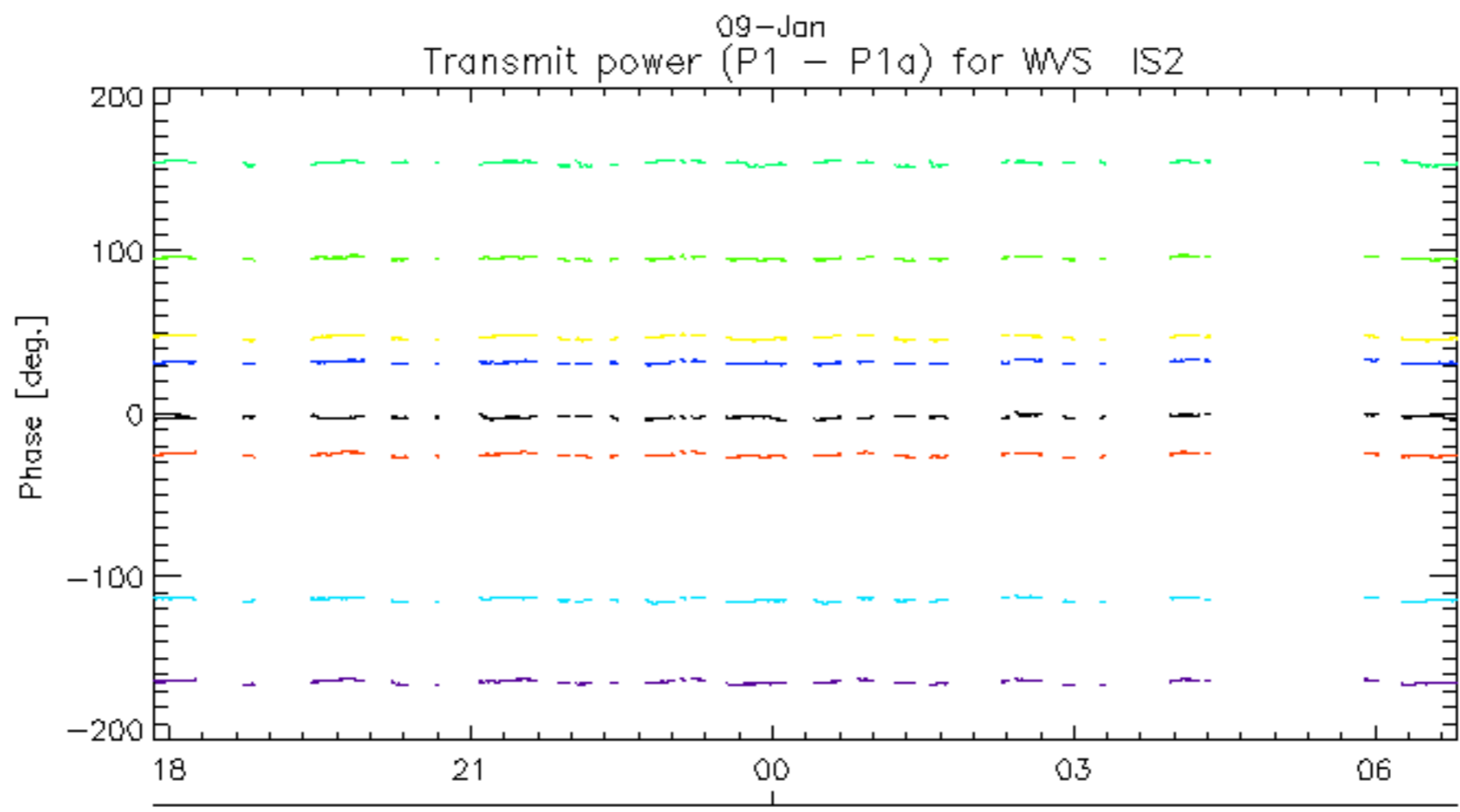
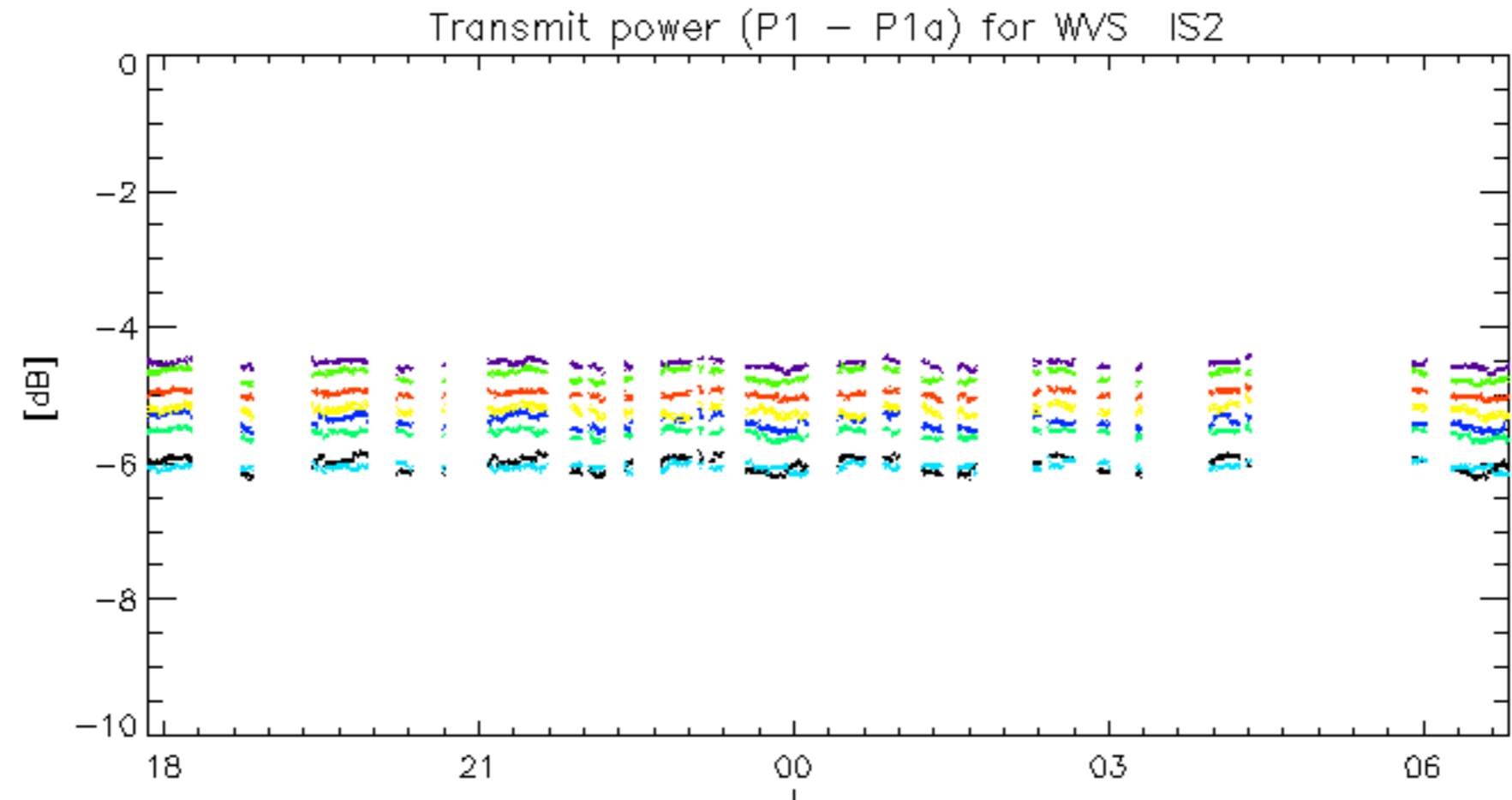
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30







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



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

No unavailabilities during the reported period.