

PRELIMINARY REPORT OF 061221

last update on Thu Dec 21 16:25:08 GMT 2006

1. [Introduction](#)
2. [Summary](#)
 - [Instrument Unavailability](#)
 - [Auxiliary files used](#)
 - [Browse Visual Inspection](#)
 - [Module Stepping Results](#)
 - [Data Analysis](#)
3. [Module Stepping](#)
4. [Internal Calibration pulses](#)
 - [Daily statistics](#)
 - [Cyclic statistics](#)
 - [cal pulses monitoring \(all rows\)](#)
5. [Raw Data Statistics](#)
 - [raw data mean I and Q](#)
 - [raw data stdev I and Q](#)
 - [raw gain imbalance](#)
6. [TLM analysis](#)
7. [Wave Doppler analysis](#)
 - [Unbiased Doppler Error for WVS](#)
 - [Absolute Doppler for WVS](#)
 - [Doppler evolution versus ANX for WVS](#)
 - [Unbiased Doppler Error for GM1](#)
 - [Absolute Doppler for GM1](#)
 - [Doppler evolution versus ANX for GM1](#)

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 2006-12-20 00:00:00 to 2006-12-21 16:25:08

PDHS-K

AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
----------------	-----	-----	-----	-----	-----

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_XCA_AXVIEC20061220_155633_20050916_195733_20071231_000000	22	32	33	6	38
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	0	0	0	0	2
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	43	56	49	13	67
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	21	24	16	7	27
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	21	24	14	3	21
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	22	32	35	10	46
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	43	56	49	13	67

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	20061220 170201
H	20061221 062648

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)
-----	-------	-----------	------------	-----------------

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.965920	0.008006	0.010444
7	P1	-3.149557	0.024564	0.034034
11	P1	-4.123438	0.026386	0.018564
15	P1	-6.322494	0.015863	-0.043712
19	P1	-3.643828	0.006054	-0.061947
22	P1	-4.655288	0.013881	-0.014152
26	P1	-3.955985	0.009628	-0.023362
30	P1	-5.889023	0.009347	-0.026100
3	P1	-16.548180	0.250758	-0.028848
7	P1	-17.293680	0.187362	0.010800
11	P1	-17.190514	0.471892	0.058337
15	P1	-13.067299	0.137238	0.048801
19	P1	-14.977178	0.093893	-0.095553
22	P1	-15.821198	0.554995	-0.001581
26	P1	-15.070345	0.185820	-0.074658
30	P1	-17.511082	0.475186	-0.045227

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.812626	0.095955	0.062163
7	P2	-21.729679	0.097200	0.031252
11	P2	-15.604094	0.106509	0.127129
15	P2	-7.119625	0.110526	0.030398
19	P2	-9.191797	0.108667	-0.009386
22	P2	-18.237129	0.100858	0.026027
26	P2	-16.580589	0.115991	-0.057552
30	P2	-19.465487	0.091268	0.033323

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
-----	-------	-----------	------------	-----------------

3	P3	-8.245542	0.008920	0.025391
7	P3	-8.245542	0.008920	0.025391
11	P3	-8.245542	0.008920	0.025391
15	P3	-8.245542	0.008920	0.025391
19	P3	-8.245542	0.008920	0.025391
22	P3	-8.245542	0.008920	0.025391
26	P3	-8.245594	0.008924	0.025676
30	P3	-8.245594	0.008924	0.025676

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1



P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
-----	-------	-----------	------------	-----------------

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.918454	0.018417	-0.018808
7	P1	-2.484444	0.038443	0.033130
11	P1	-2.852464	0.020045	-0.021627
15	P1	-3.687152	0.033846	-0.030530
19	P1	-3.542265	0.018617	-0.027698
22	P1	-5.026205	0.023965	-0.024894
26	P1	-6.026416	0.029484	-0.020065
30	P1	-5.343877	0.040470	-0.001510
3	P1	-11.746480	0.096782	-0.016198
7	P1	-10.063219	0.122272	-0.051996
11	P1	-10.334224	0.154007	-0.092810
15	P1	-10.712057	0.131382	-0.040665
19	P1	-15.726923	0.127617	-0.008331
22	P1	-21.591002	1.438225	0.181738
26	P1	-16.077459	0.336527	0.126644
30	P1	-17.873253	0.369338	-0.104553

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.468533	0.136126	0.008867
7	P2	-22.231363	0.317654	0.055039
11	P2	-10.906717	0.157860	0.153090
15	P2	-4.991675	0.285055	0.026820
19	P2	-6.967988	0.287886	-0.010884
22	P2	-8.260592	0.171301	0.024425
26	P2	-24.321047	0.219683	0.025310
30	P2	-21.948158	0.185636	-0.003684

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.093954	0.004661	0.027384
7	P3	-8.094001	0.004644	0.027543
11	P3	-8.093951	0.004656	0.027381
15	P3	-8.093771	0.004650	0.027859
19	P3	-8.093900	0.004660	0.027389
22	P3	-8.093879	0.004645	0.028079
26	P3	-8.093901	0.004659	0.027092
30	P3	-8.093775	0.004636	0.027032

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	0.000559225
	stdev	1.69023e-07
MEAN Q	mean	0.000512300
	stdev	2.16484e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138819
	stdev	0.00118011
STDEV Q	mean	0.139207
	stdev	0.00119976



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2006122[901]

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_WSM_1PNPDE20061220_113811_00000852054_00023_25127_6009.N1	0	46
ASA_WSM_1PNPDE20061220_150157_000002852054_00025_25129_6077.N1	0	24



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"/>

7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)

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

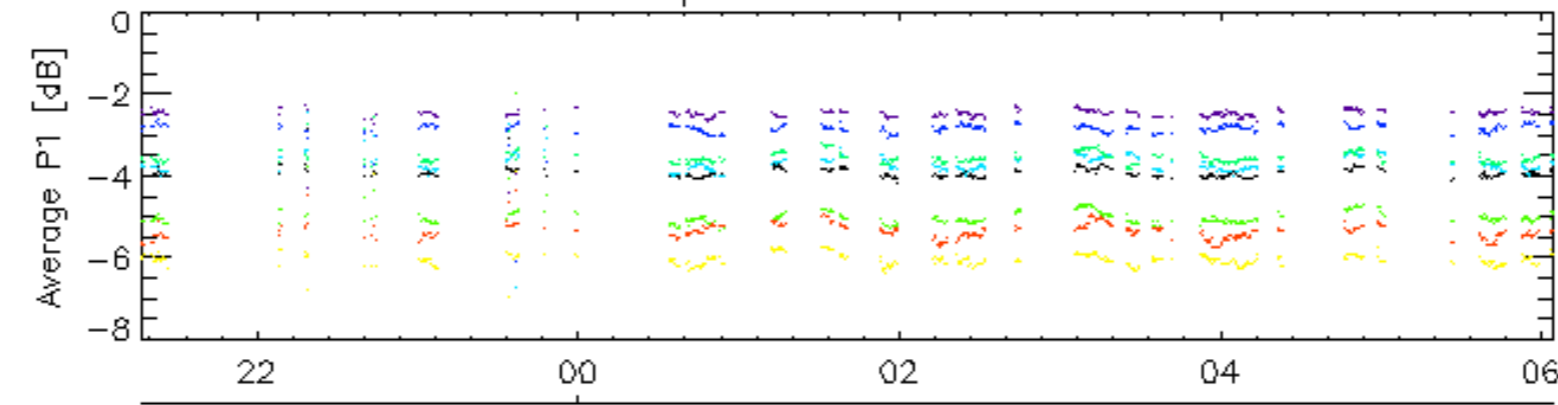
7.5 - Absolute Doppler for GM1

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

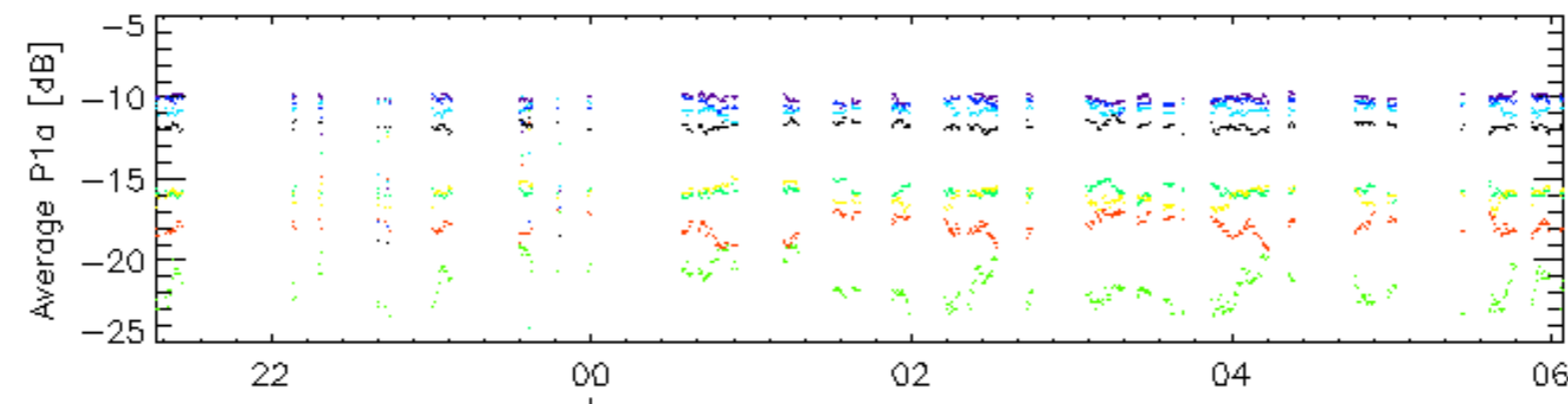
7.6 - Doppler evolution versus ANX for GM1

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

Cal pulses for GM1 SS3

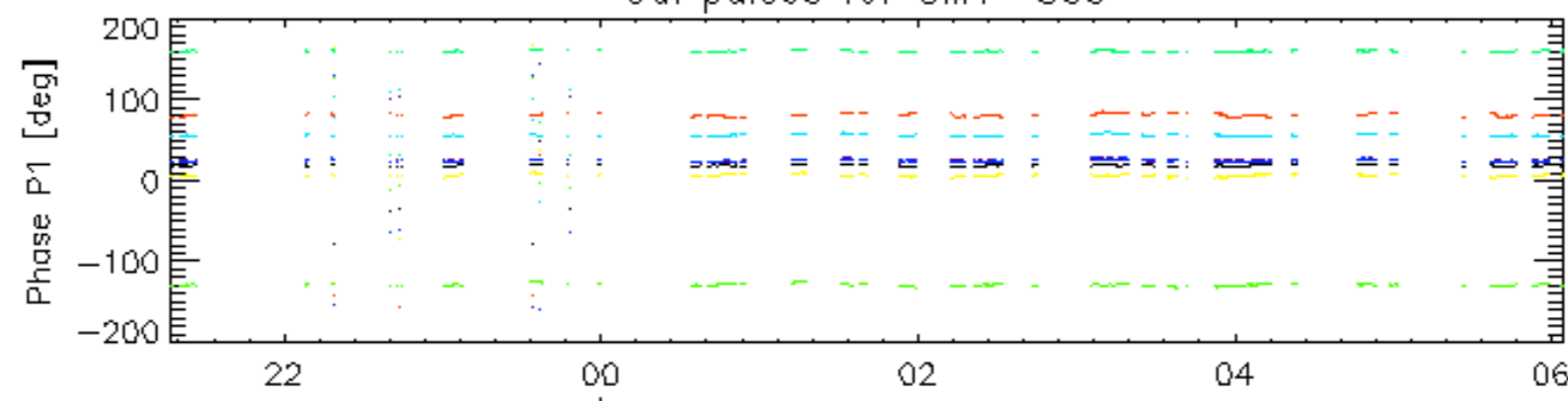


21-Dec

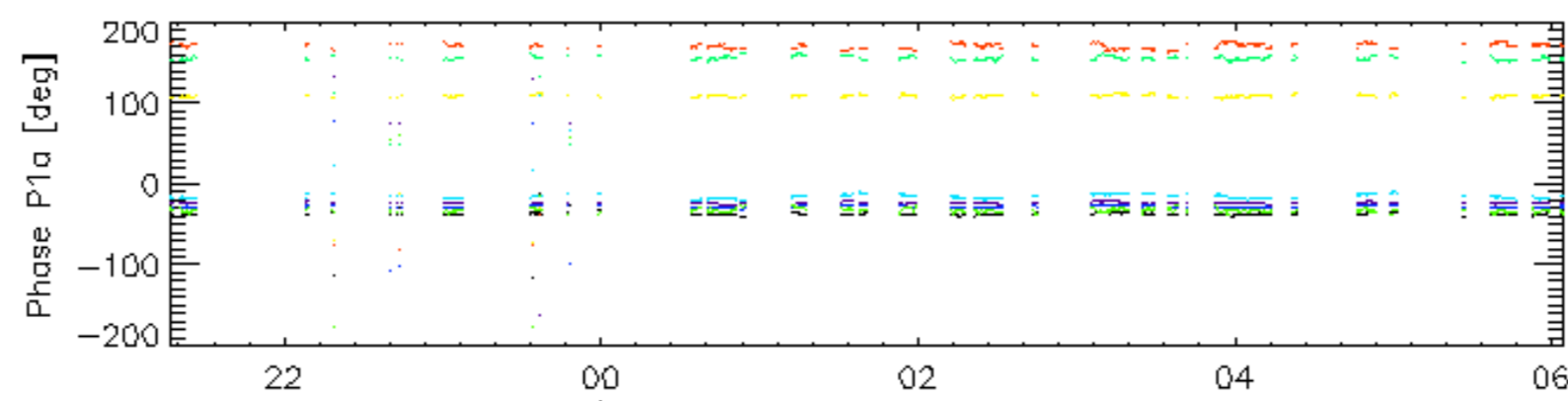


21-Dec

Cal pulses for GM1 SS3

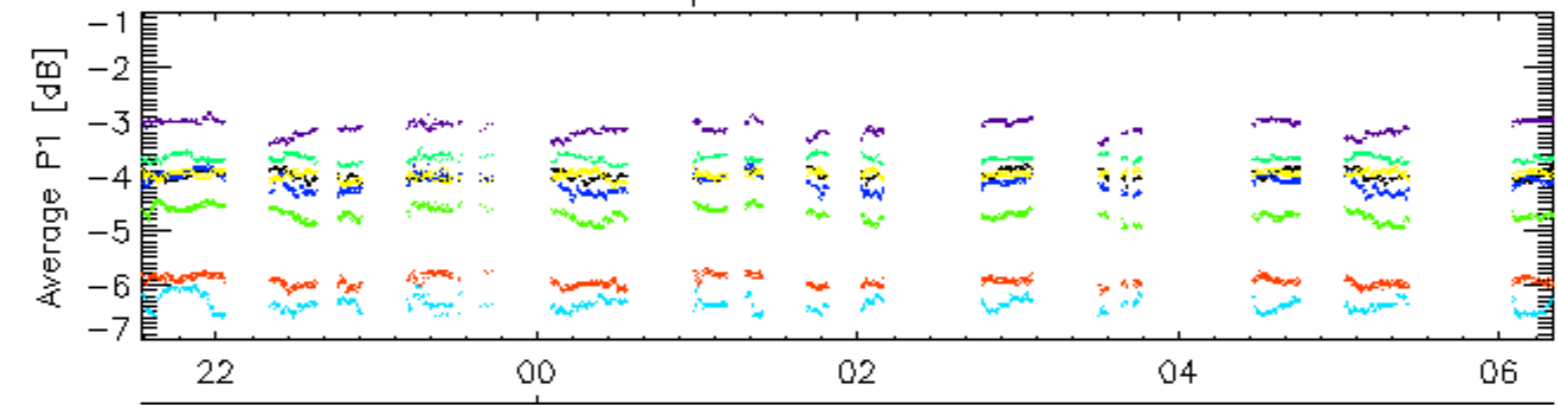


21-Dec

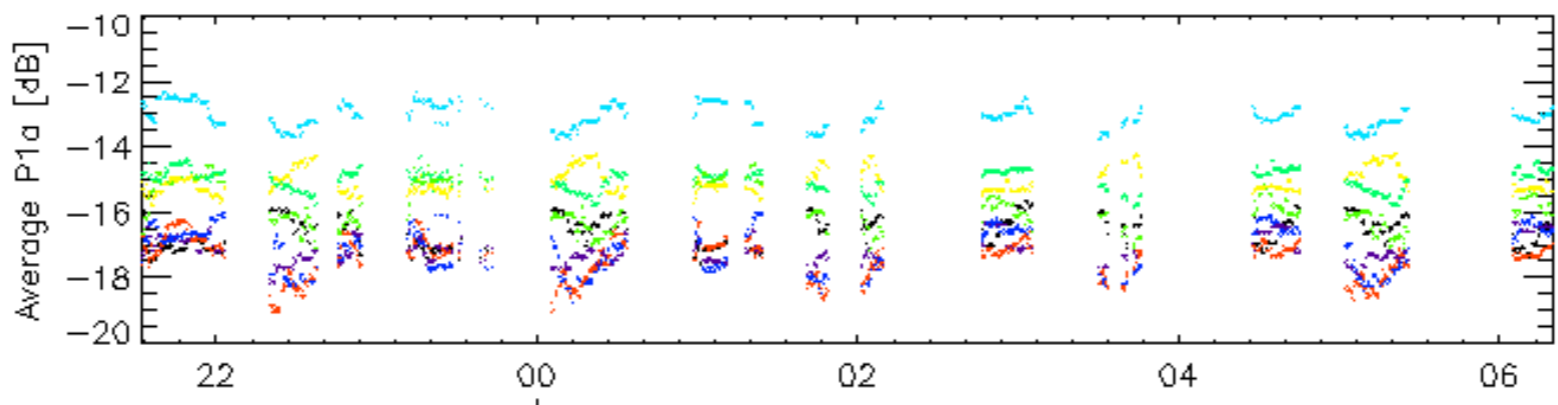


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

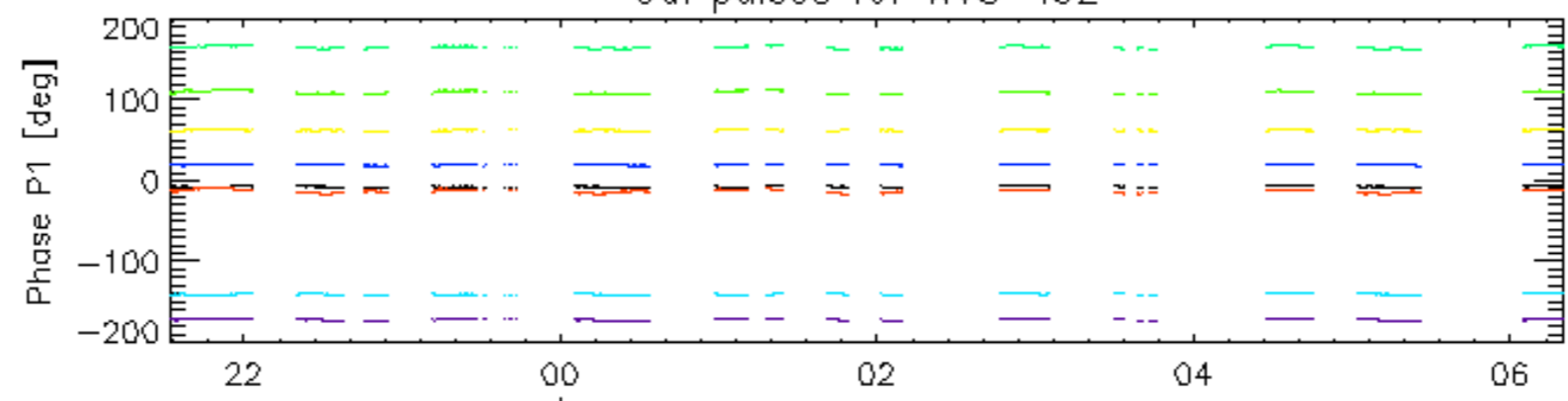


21-Dec

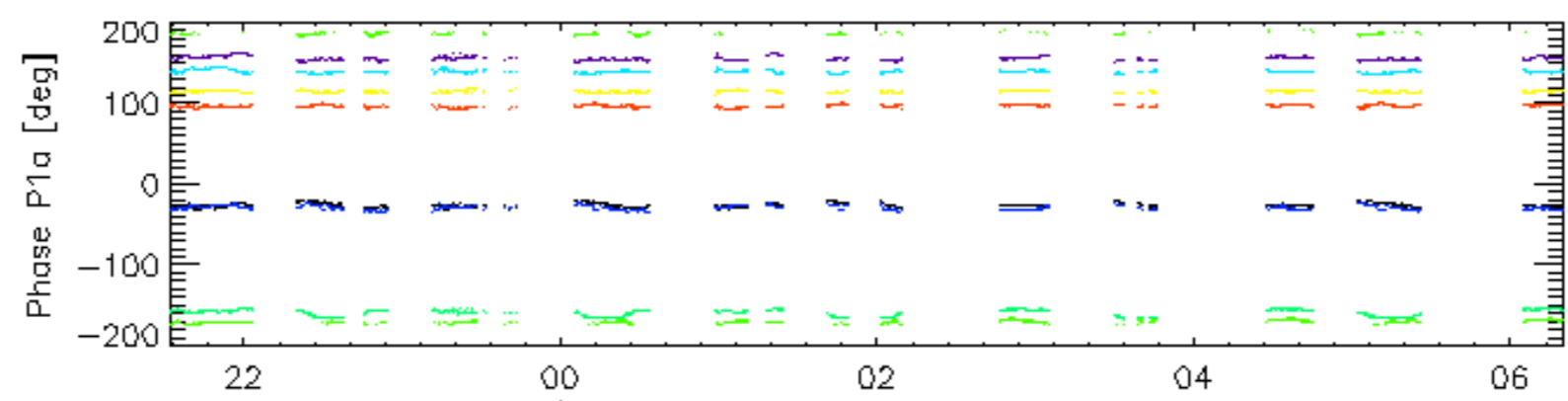


21-Dec

Cal pulses for WVS IS2



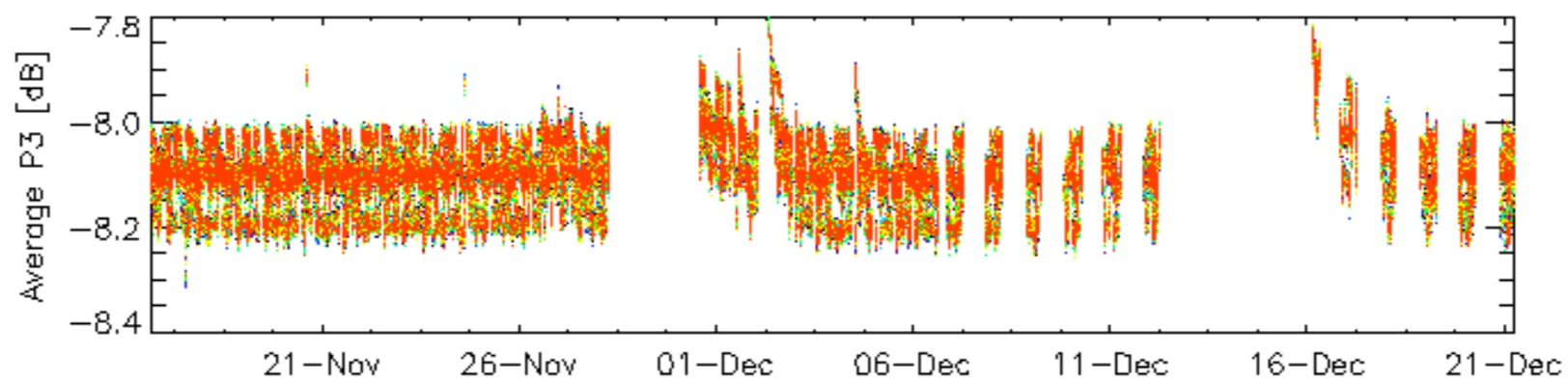
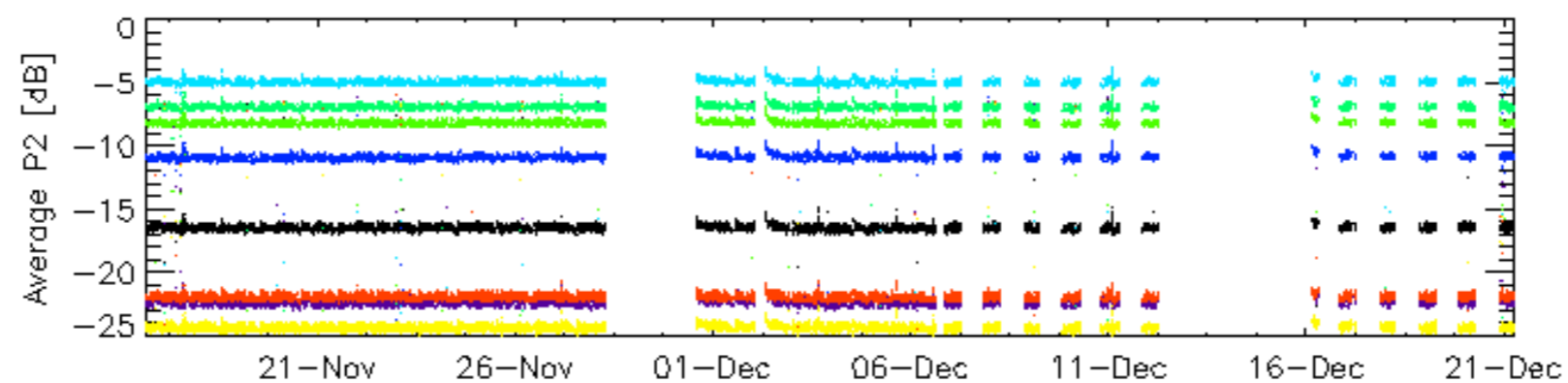
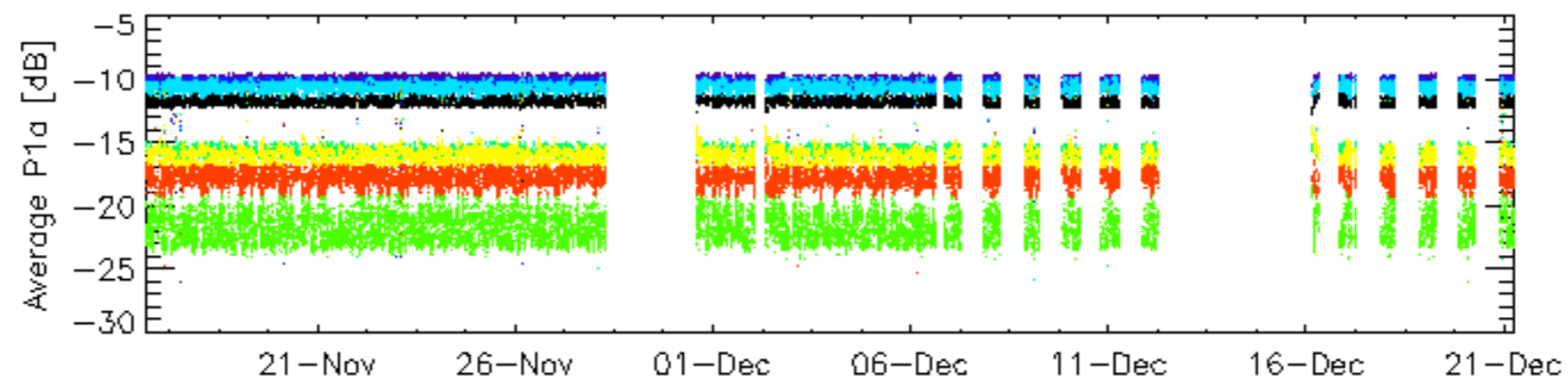
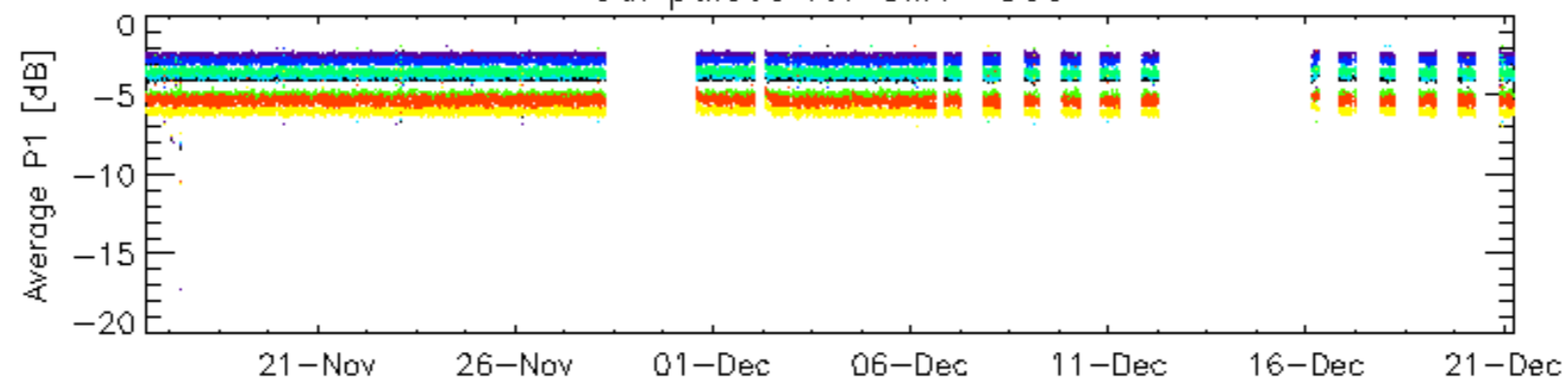
21-Dec



21-Dec

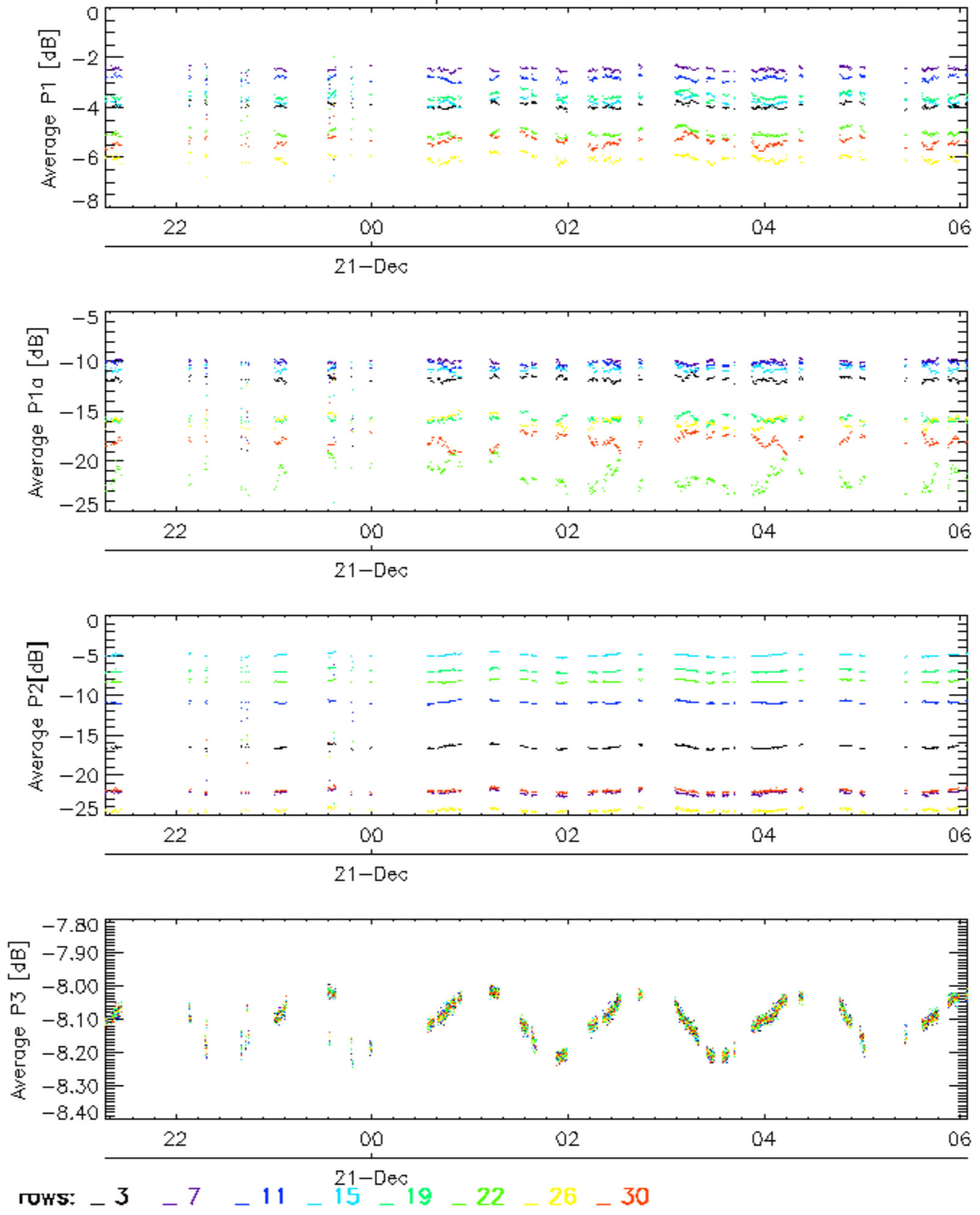
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

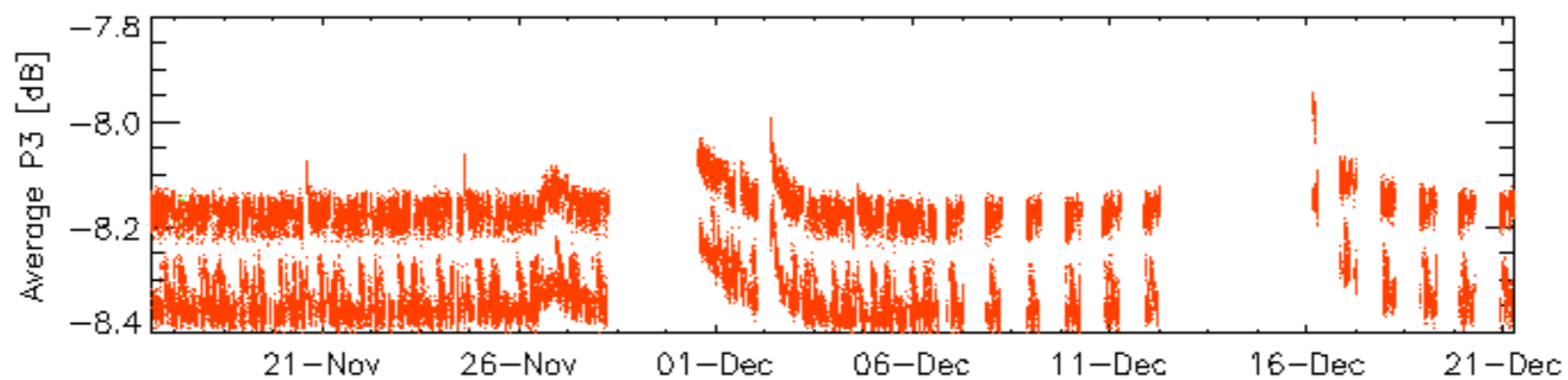
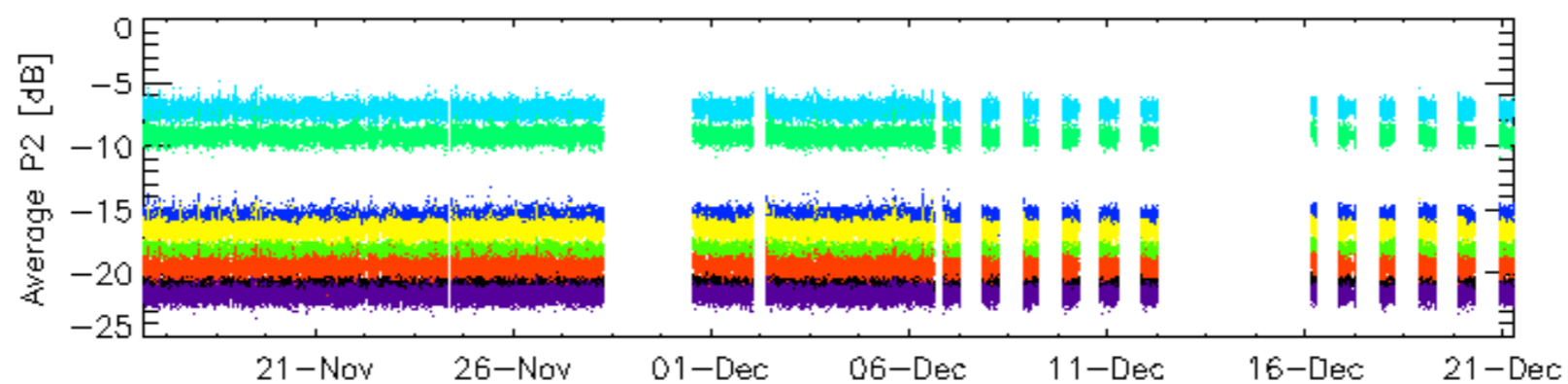
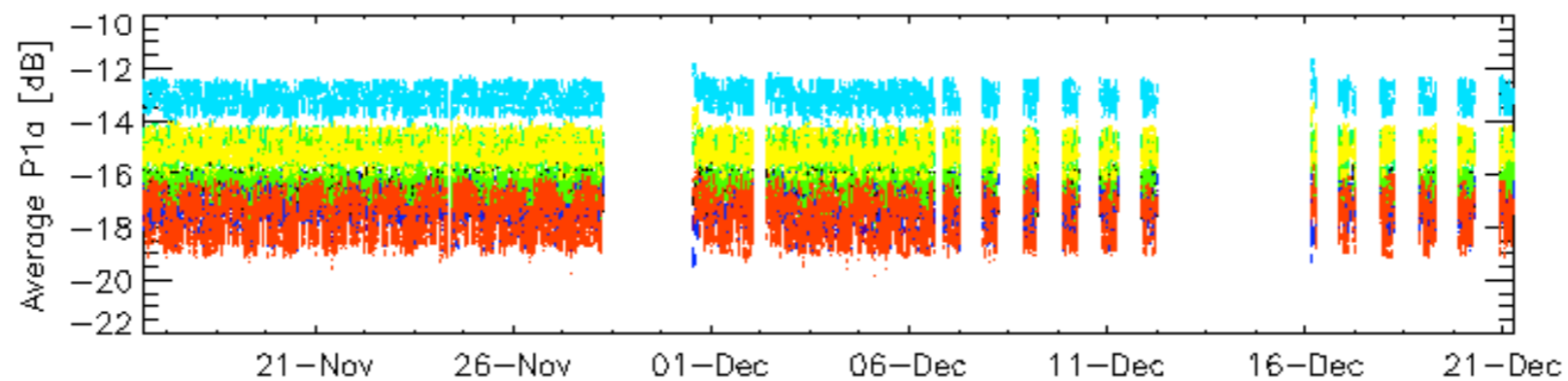
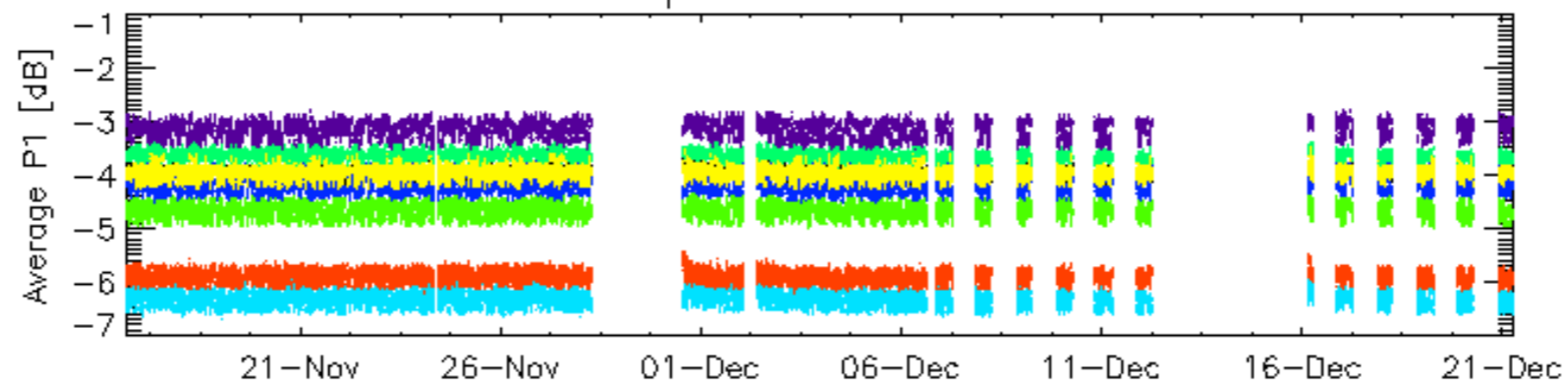


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

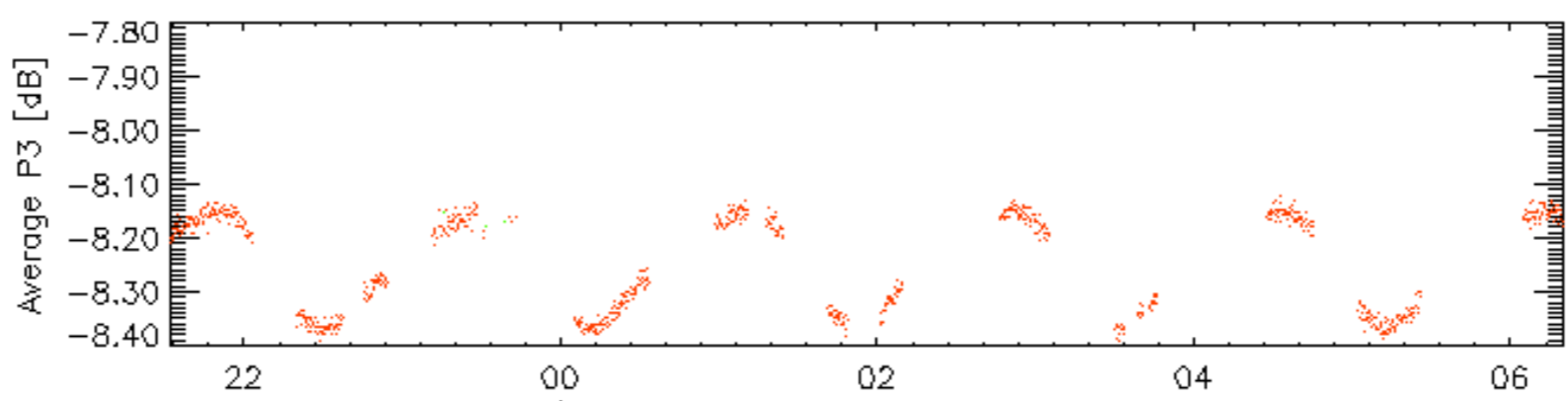
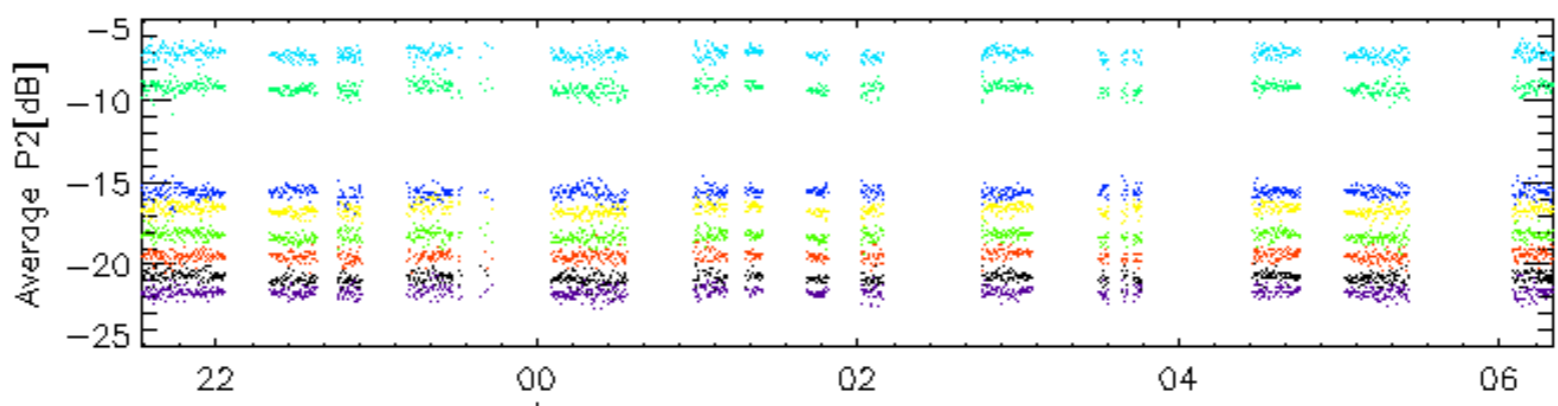
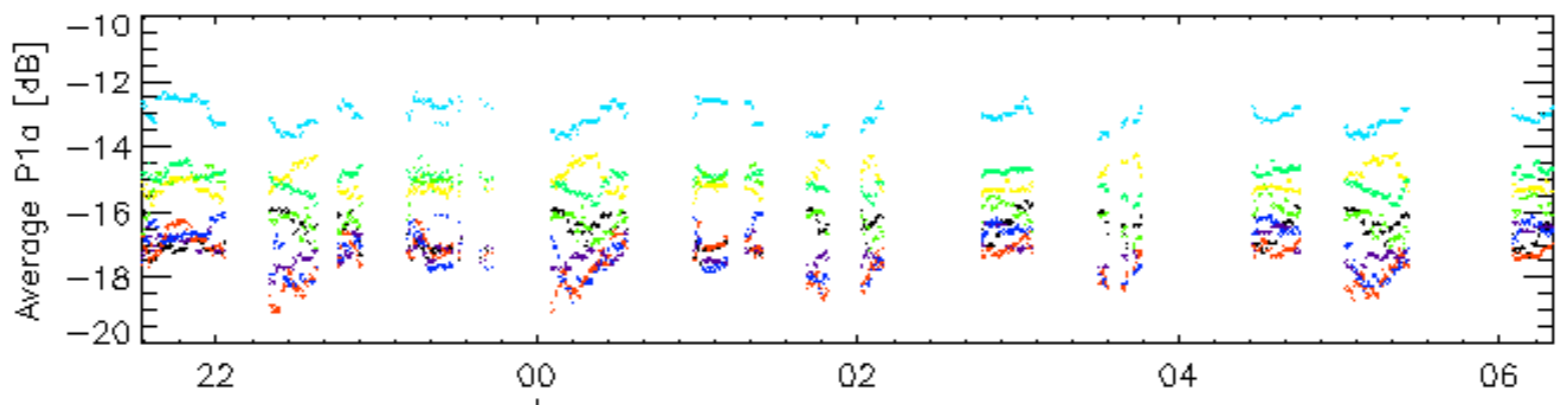
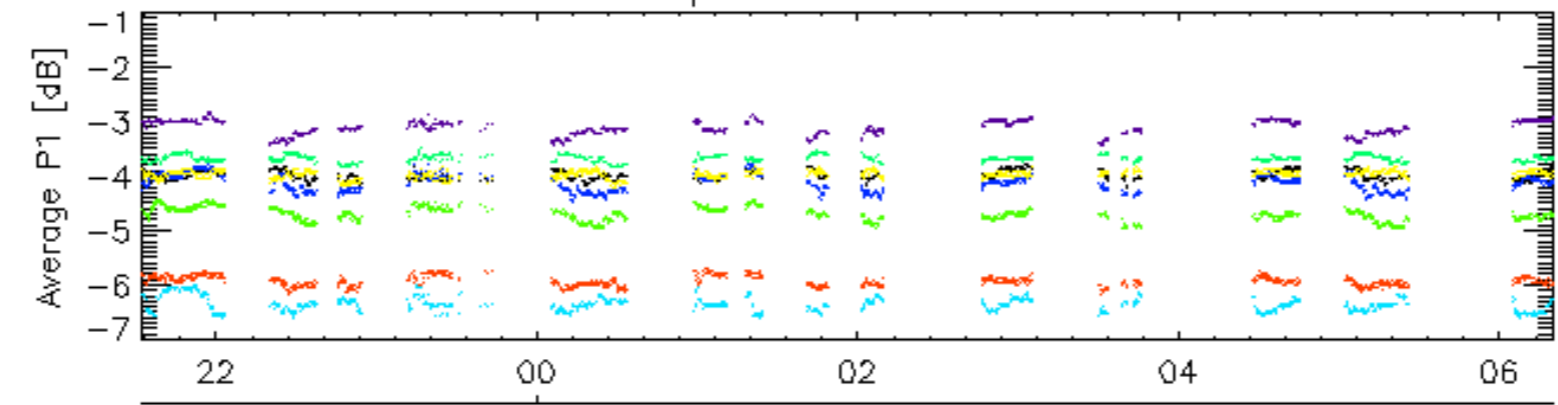


Cal pulses for WVS IS2



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

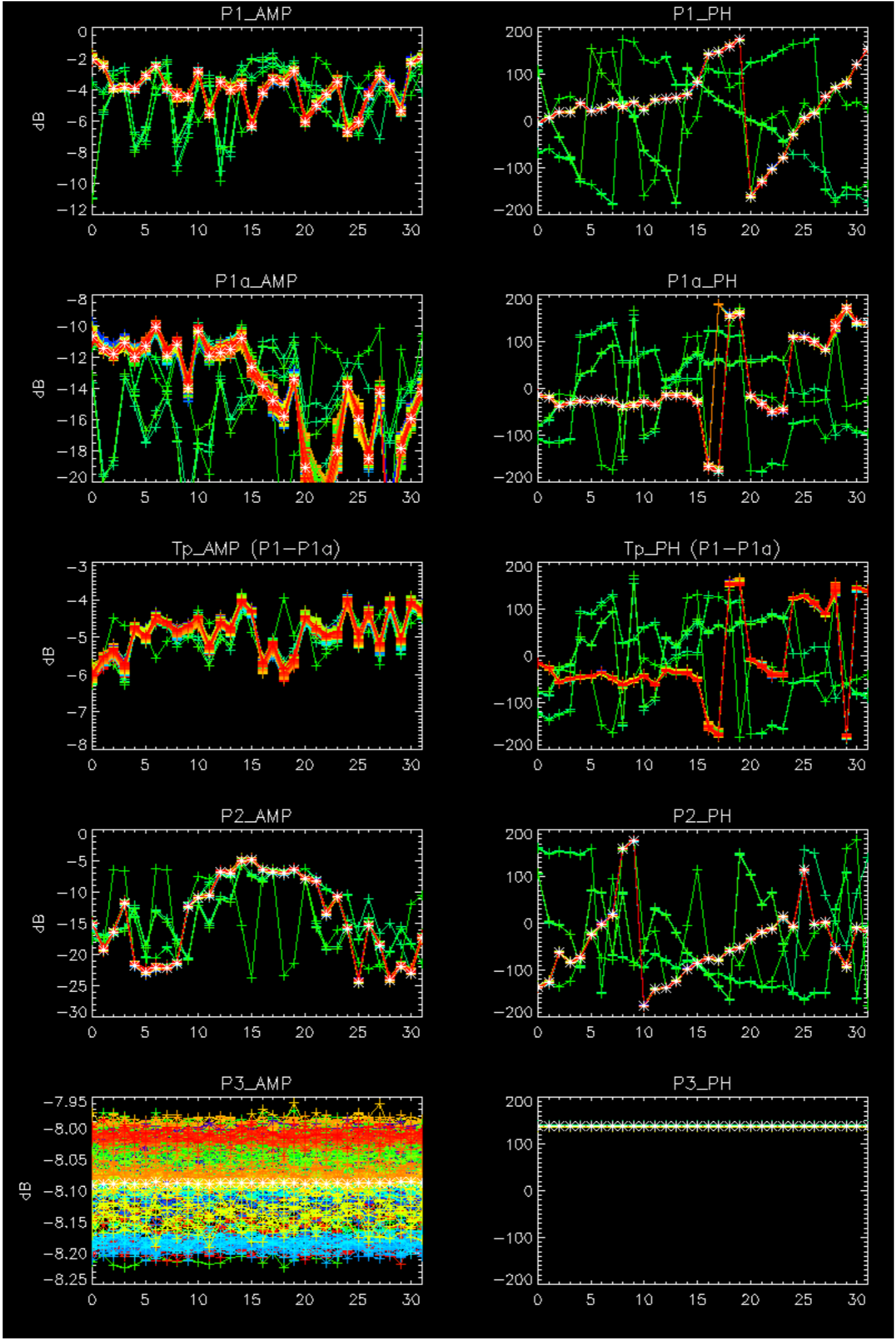
Cal pulses for WVS IS2

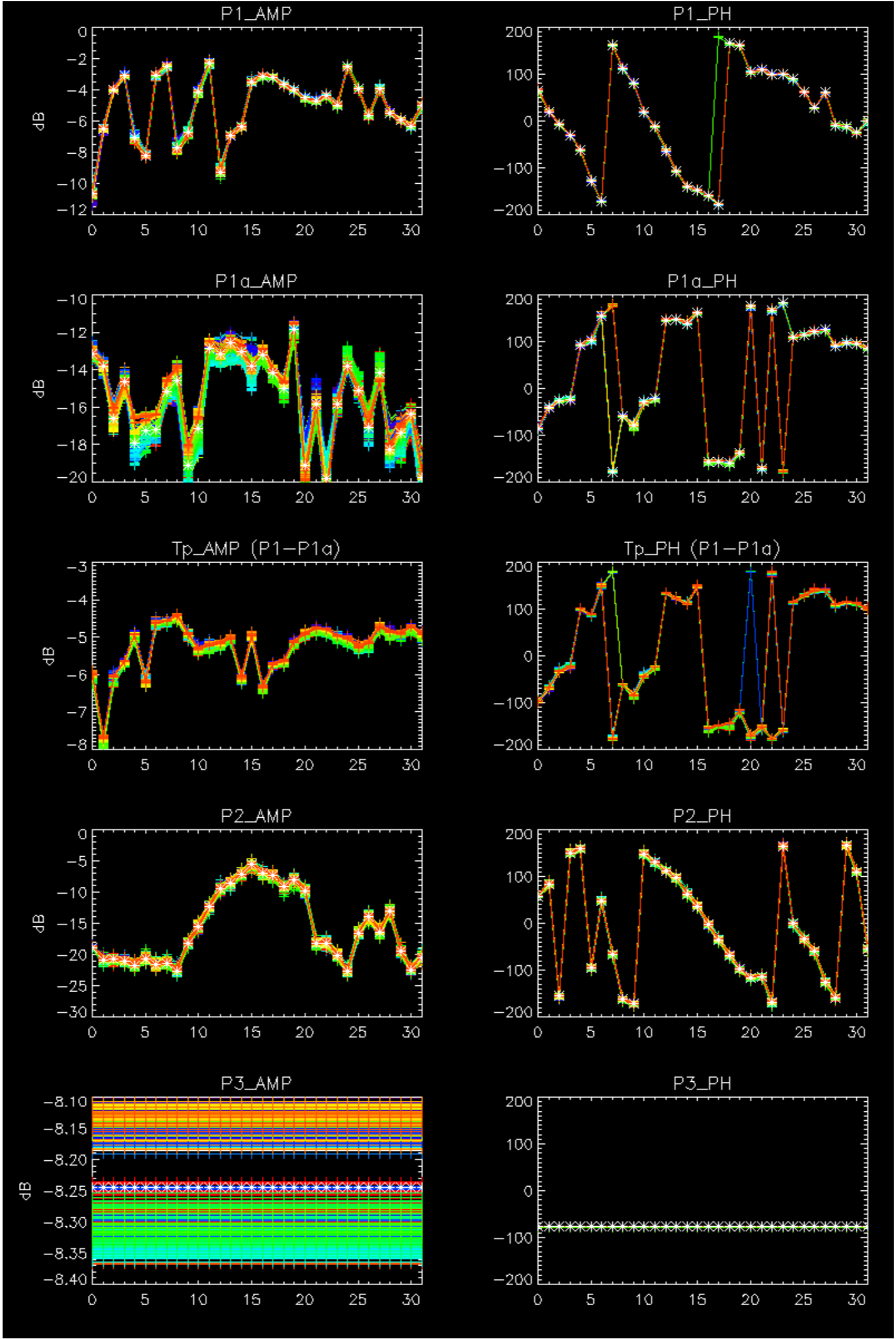


rows: **3** **7** **11** **15** **19** **22** **26** **30**

No anomalies observed on available browse products

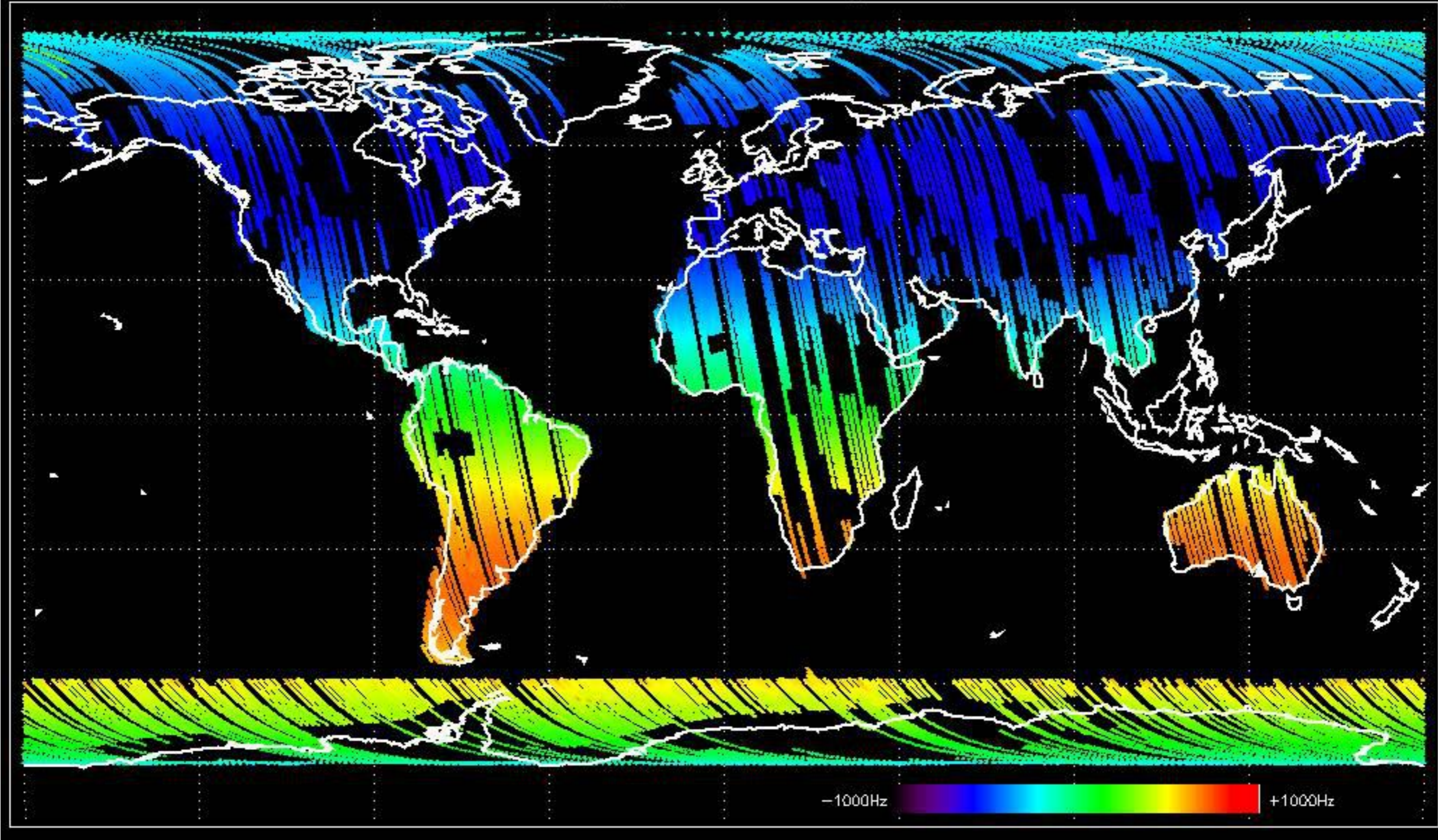
No anomalies observed.



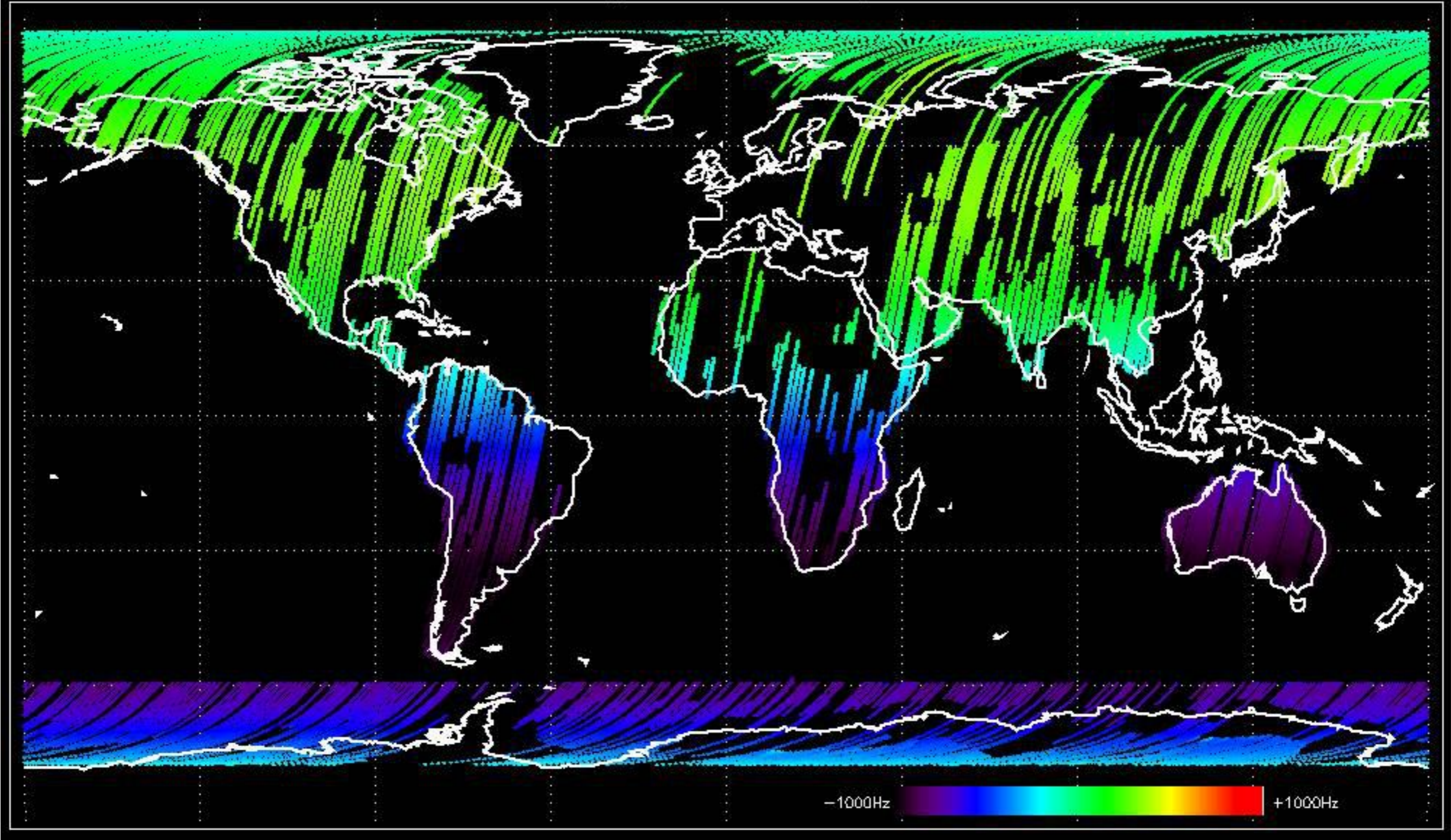


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

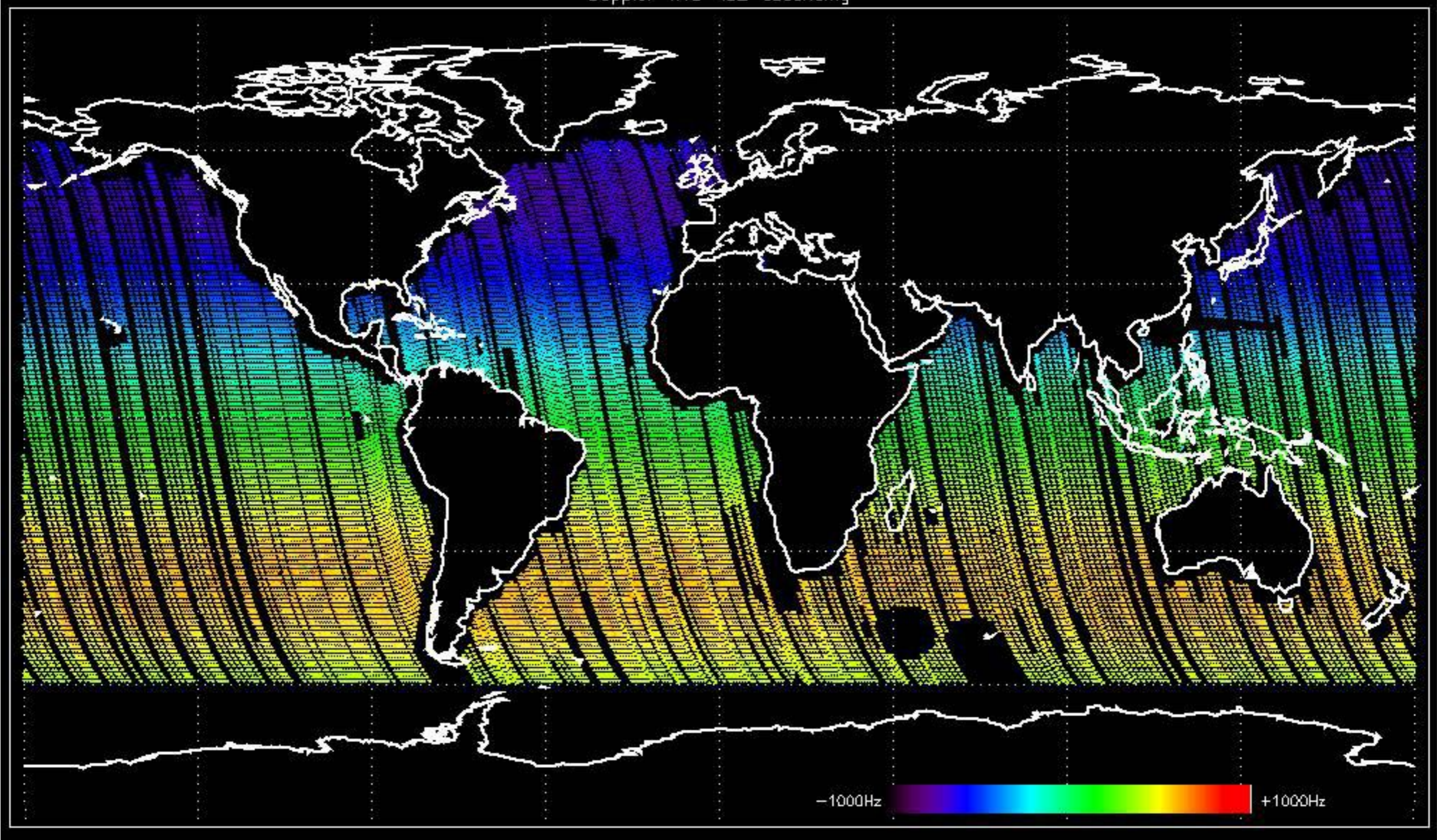
Doppler 'GM1' 'SS1' ascending



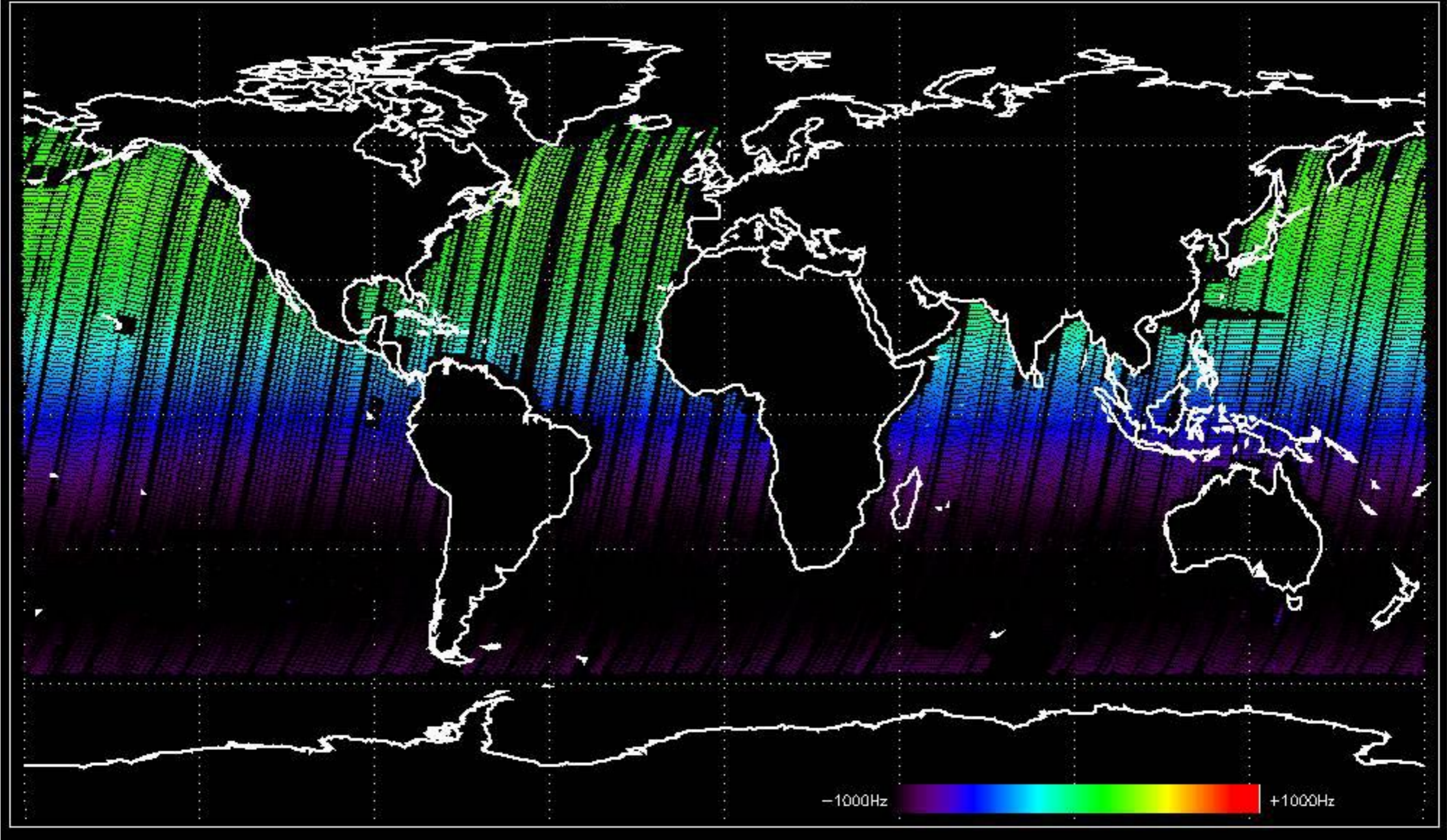
Doppler 'GM1' 'SS1' descending

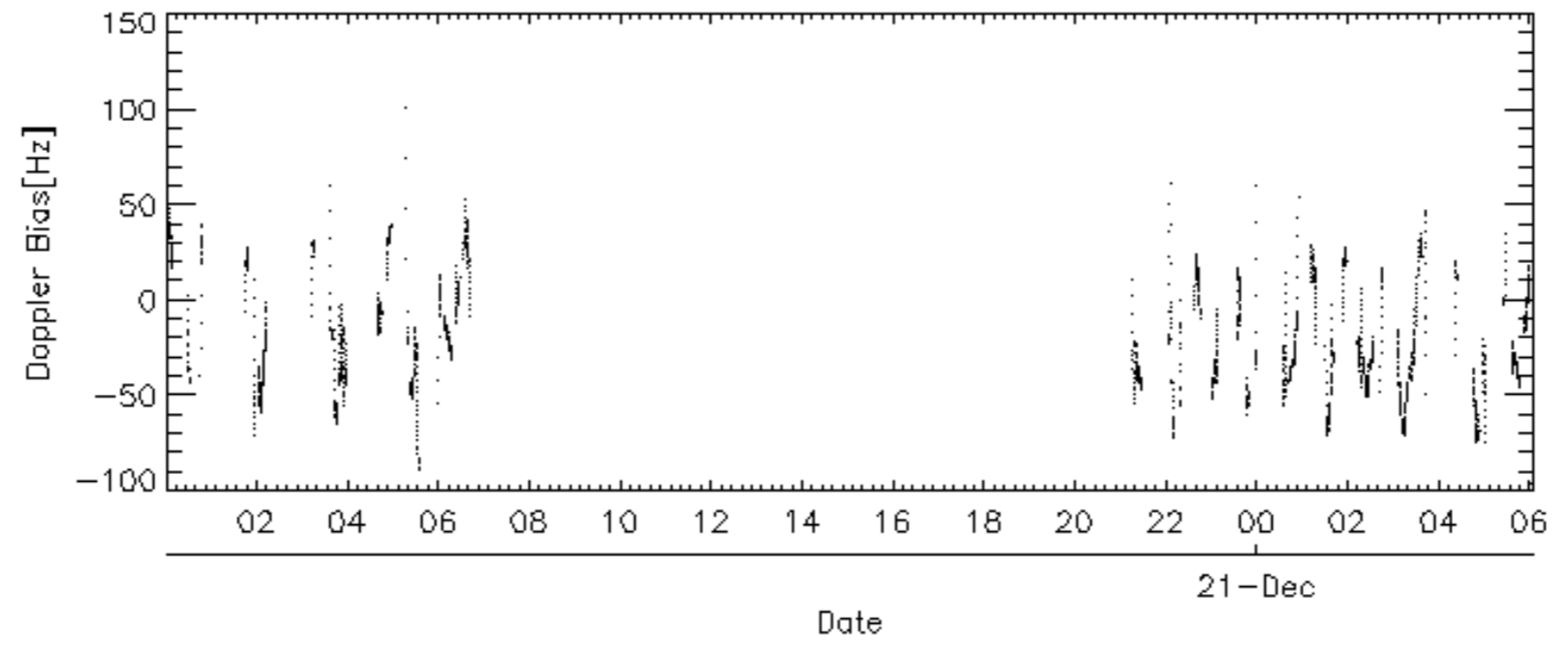
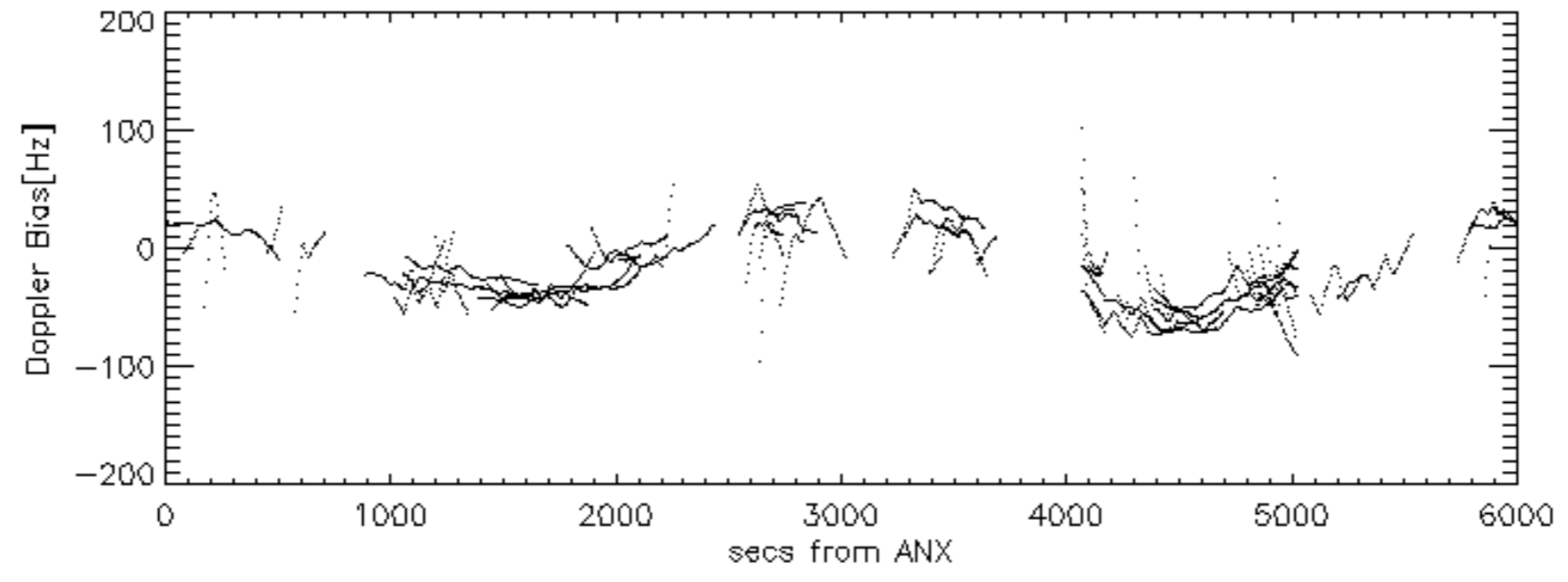
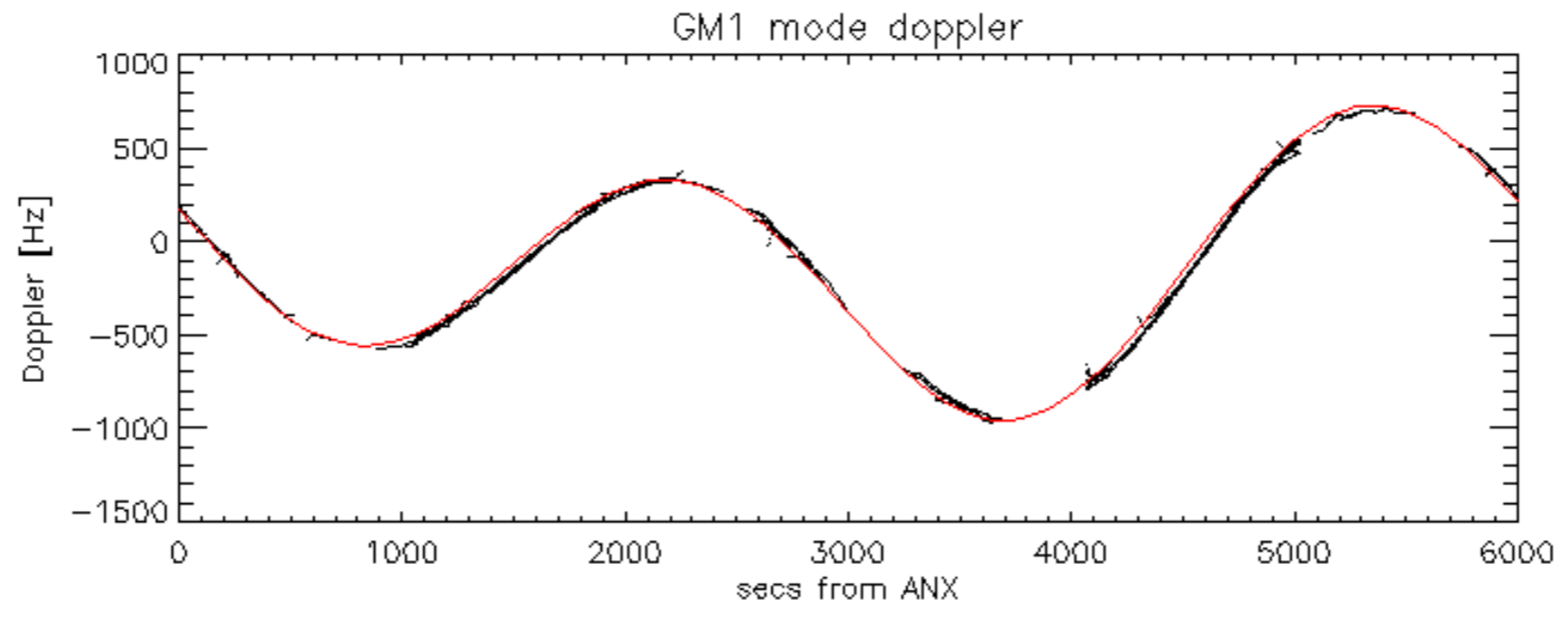


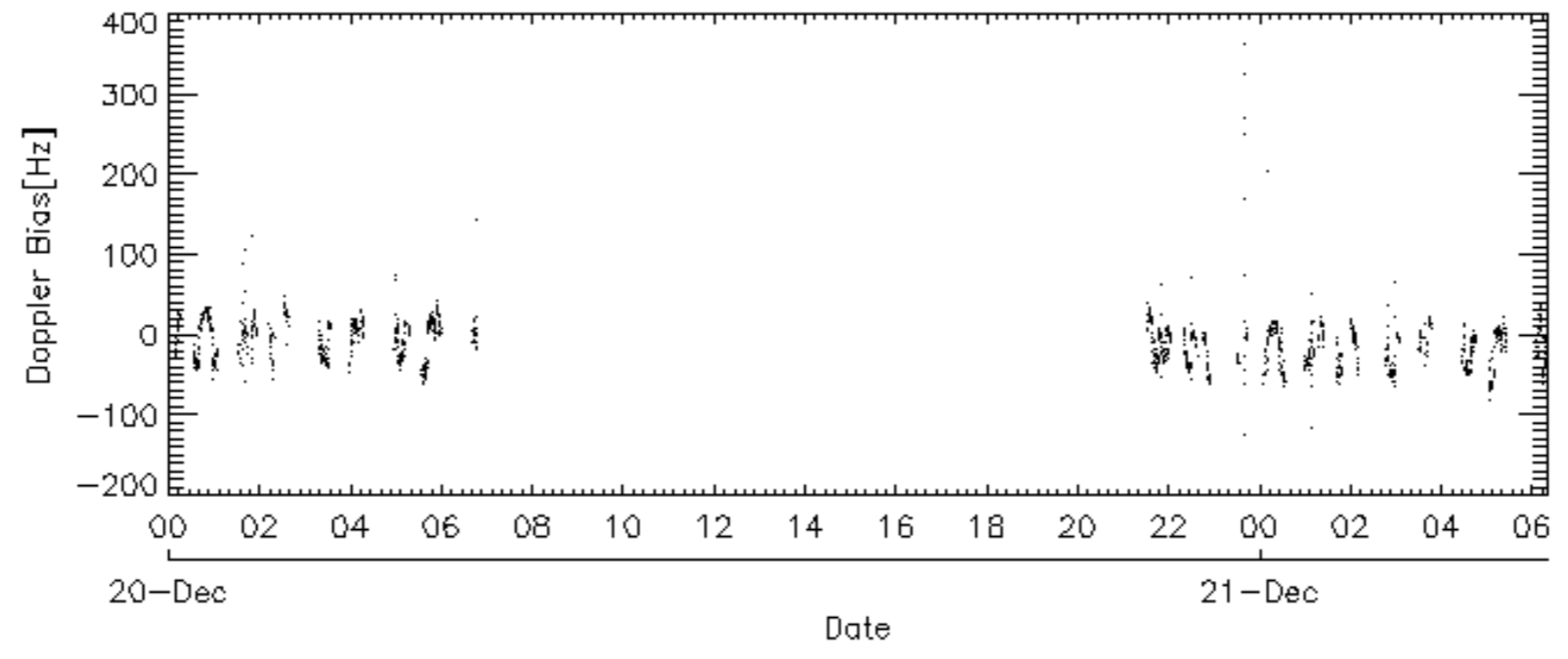
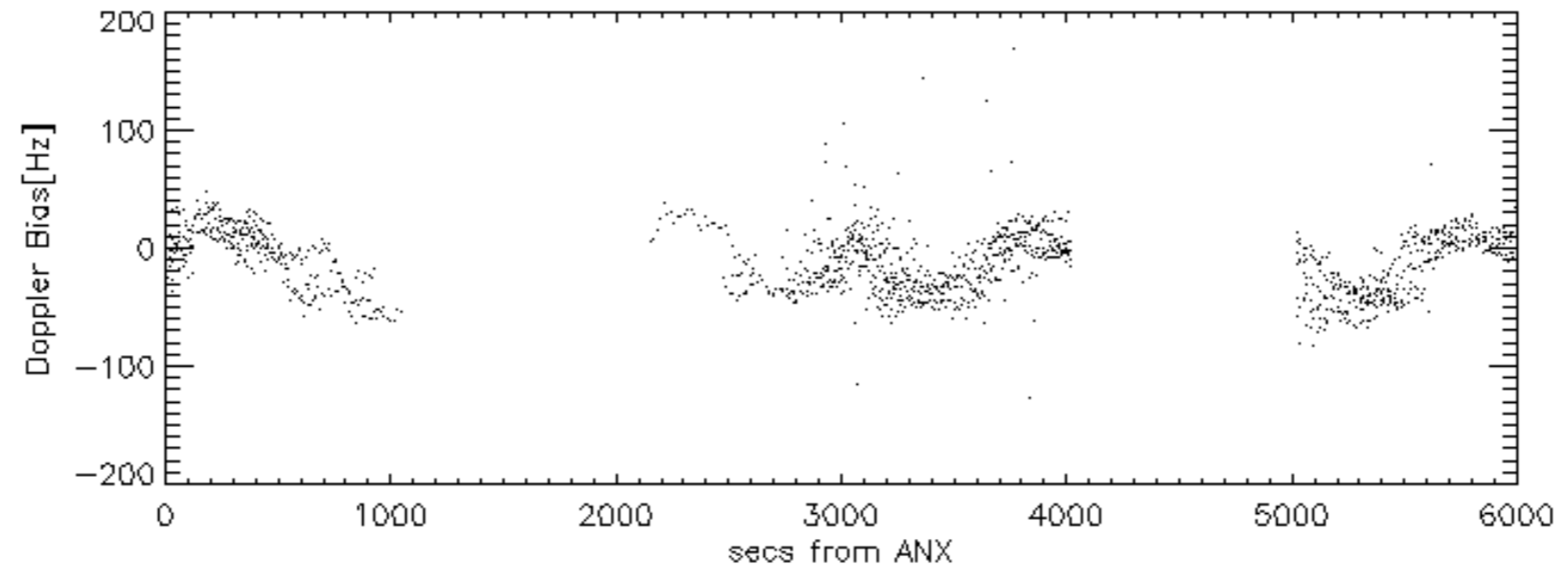
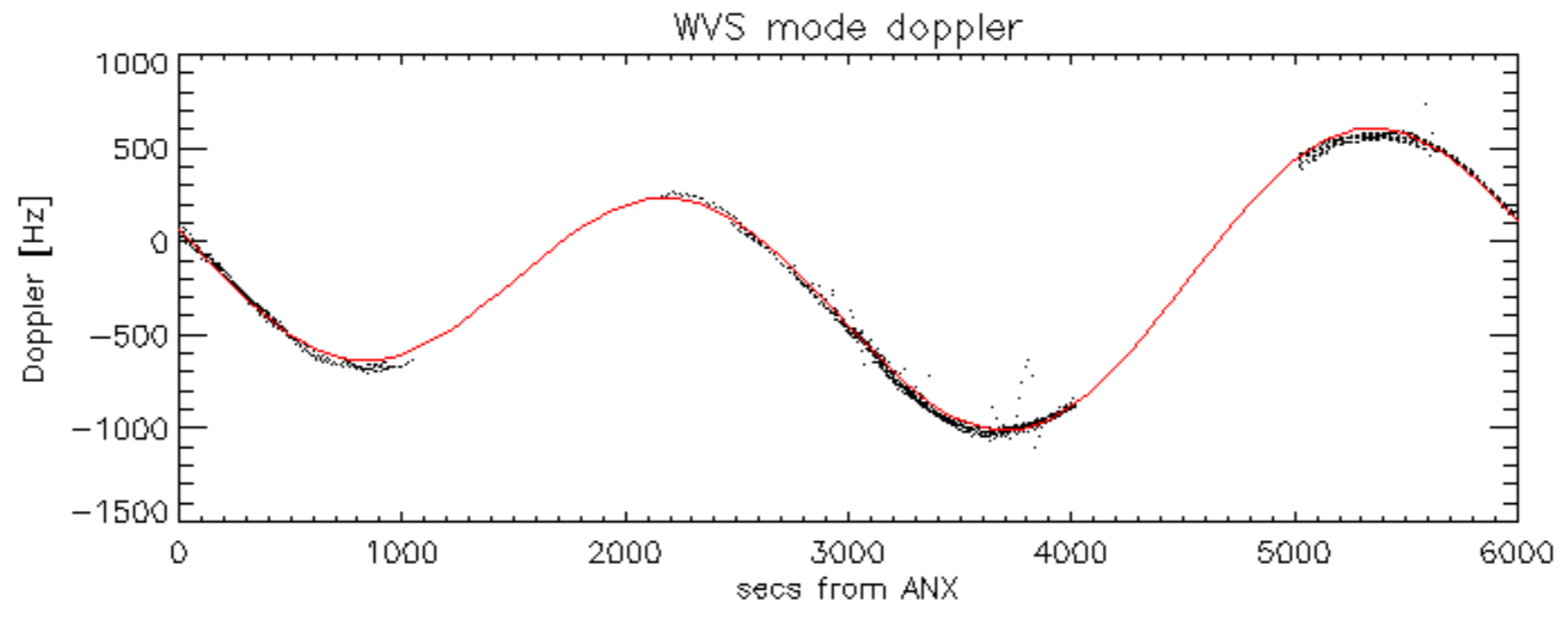
Doppler 'WVS' 'IS2' ascending



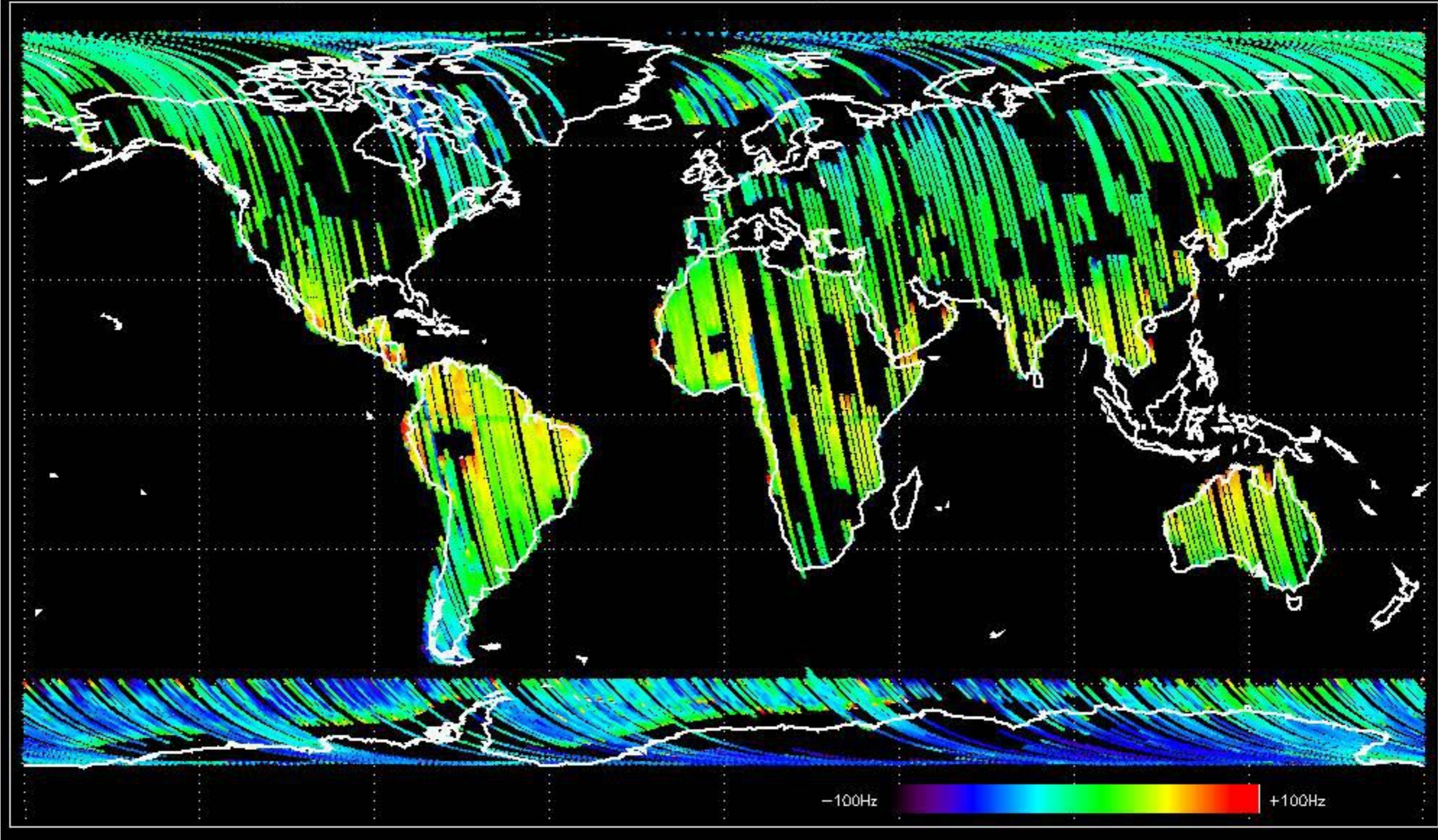
Doppler 'WVS' 'IS2' descending



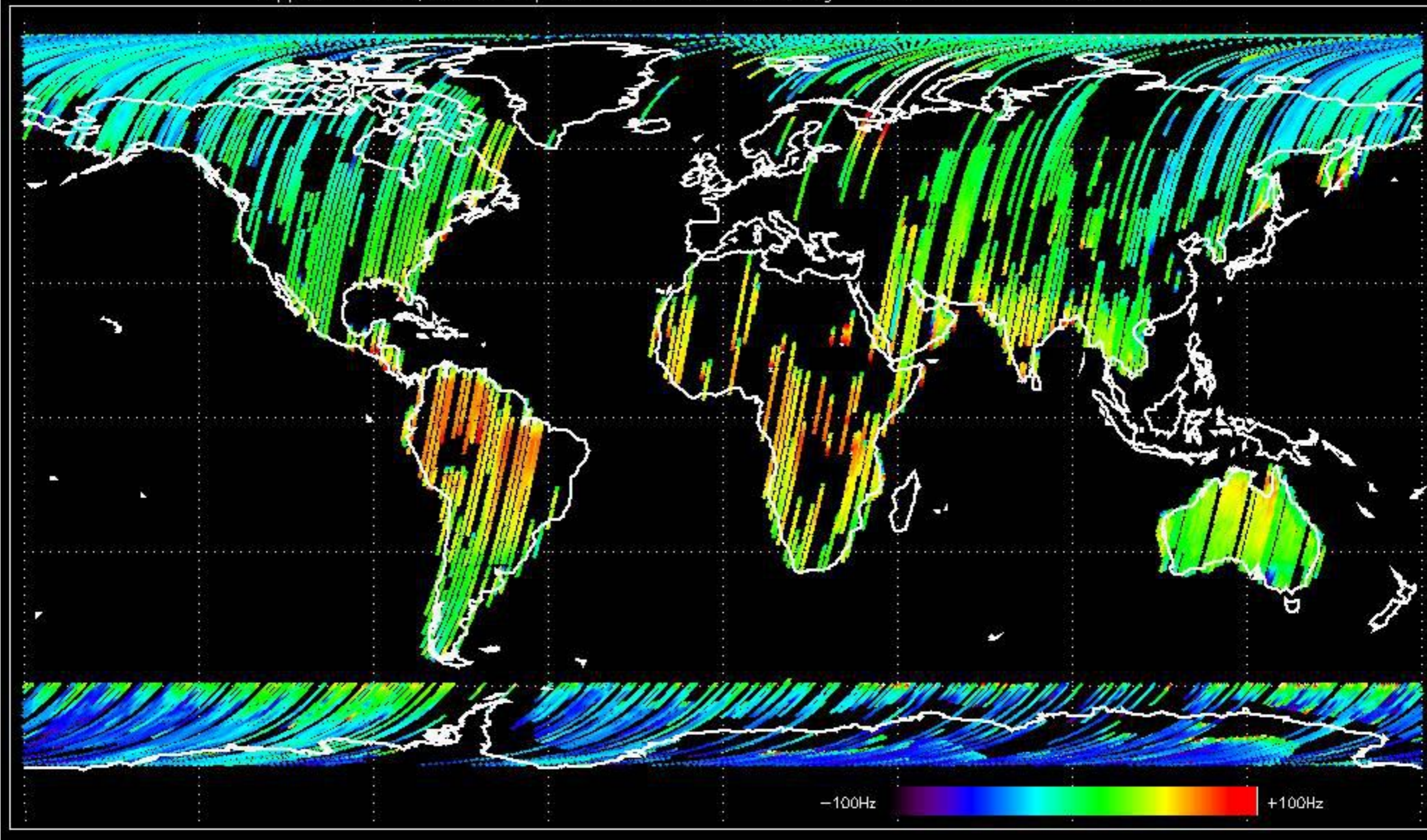




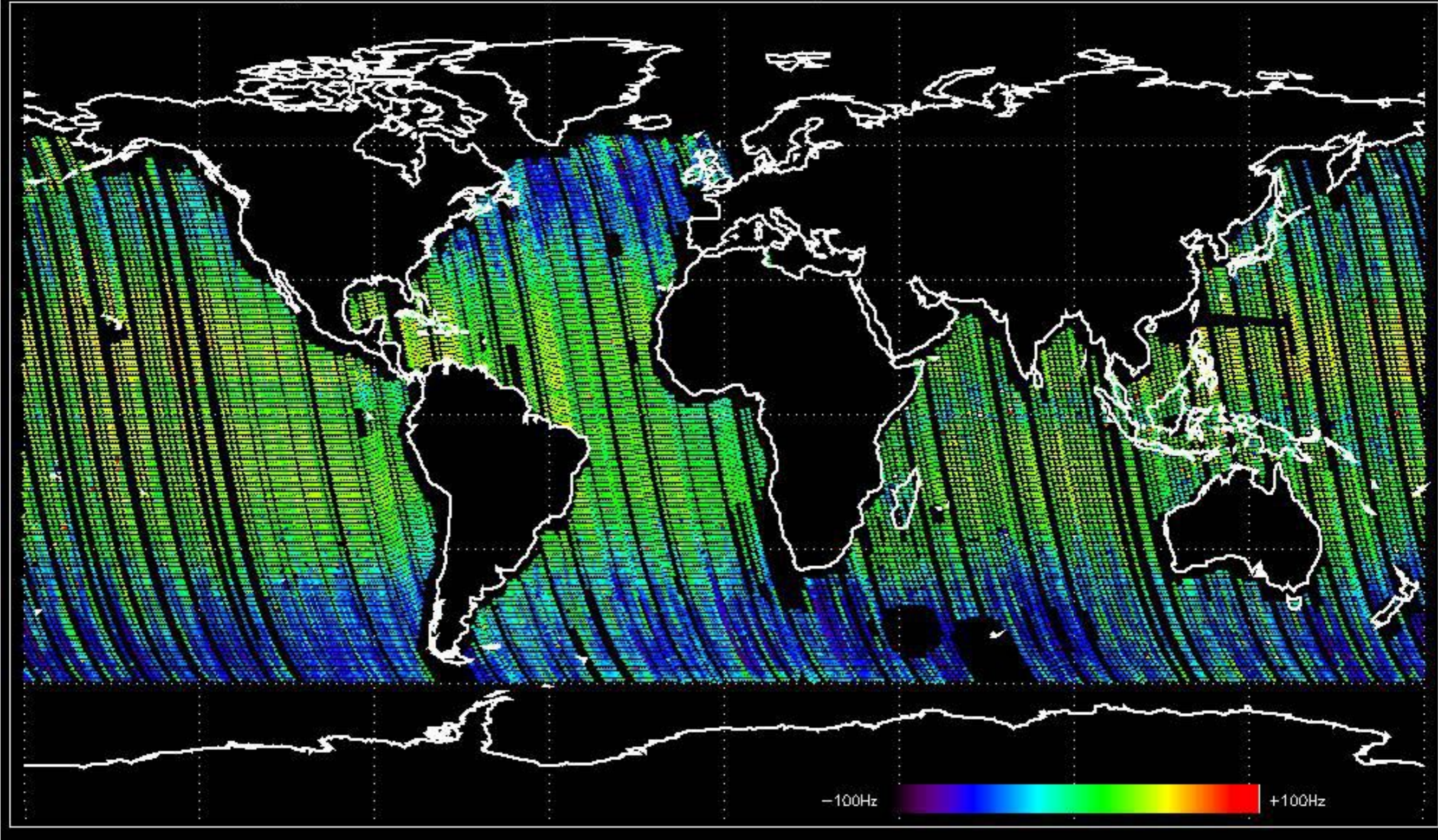
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -17.479356 Hz



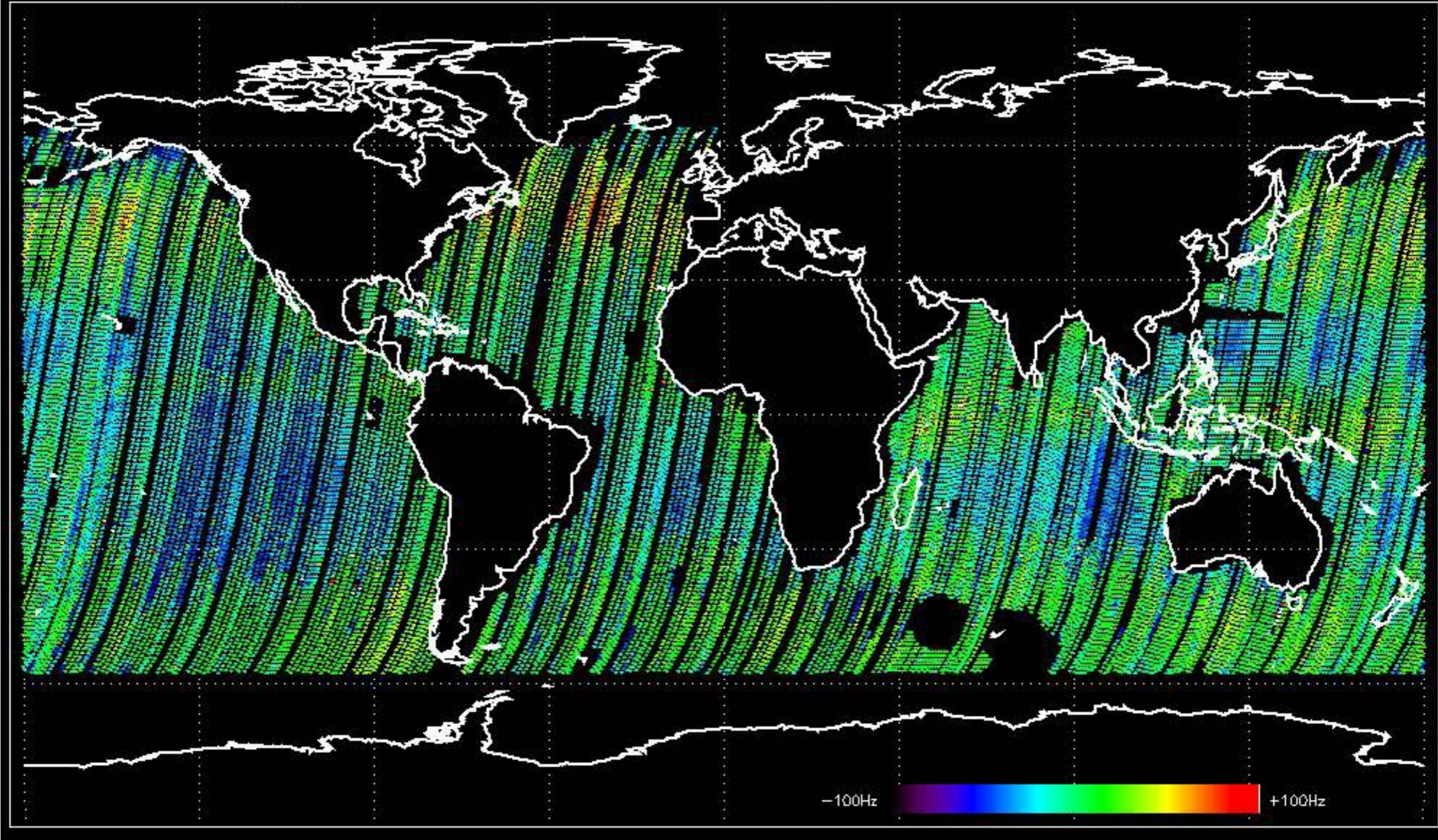
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -12.967964 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -10.647407 Hz

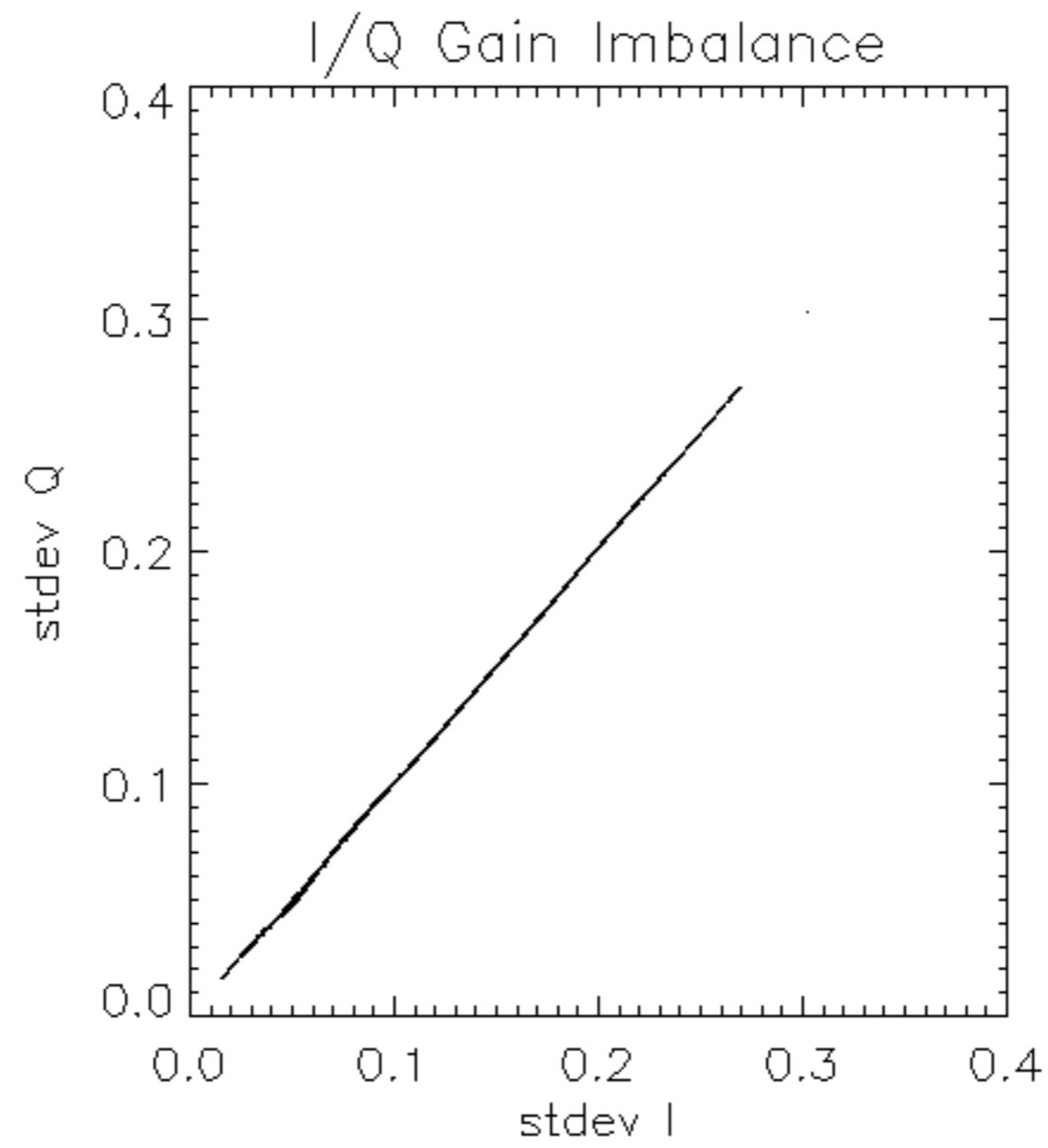


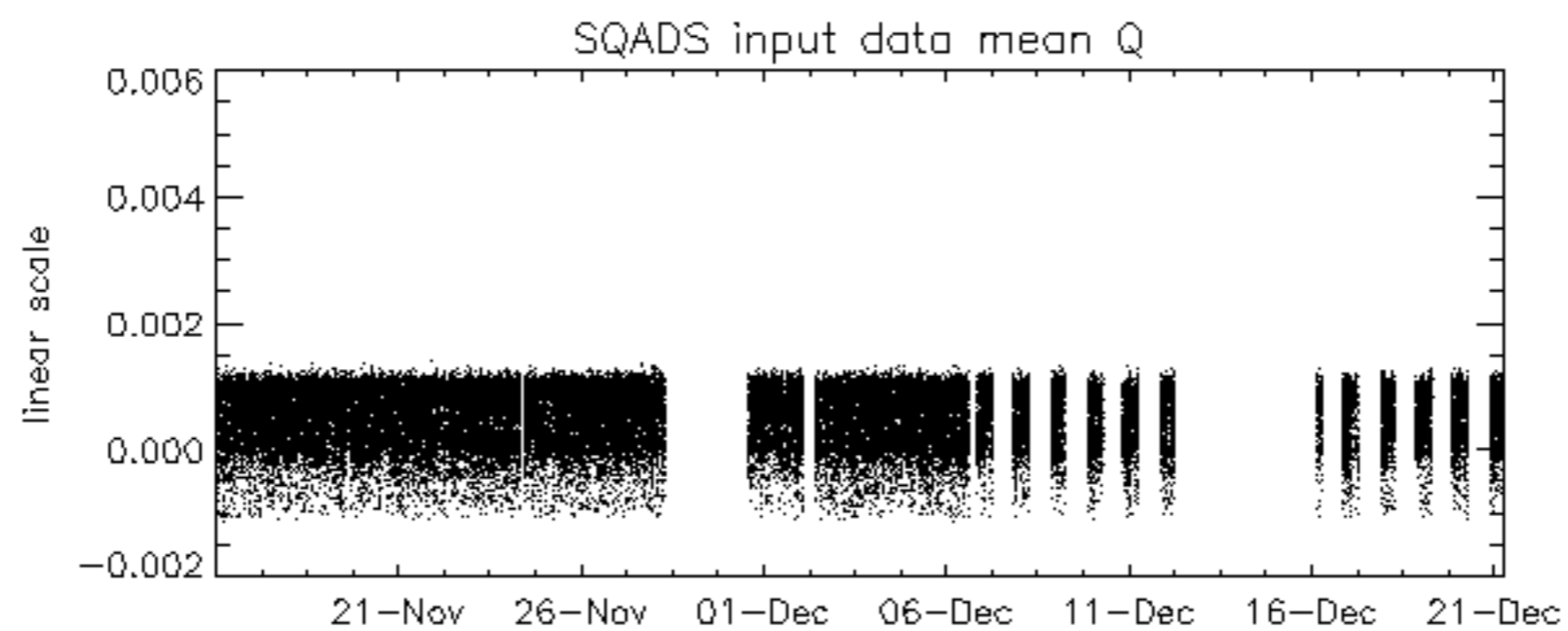
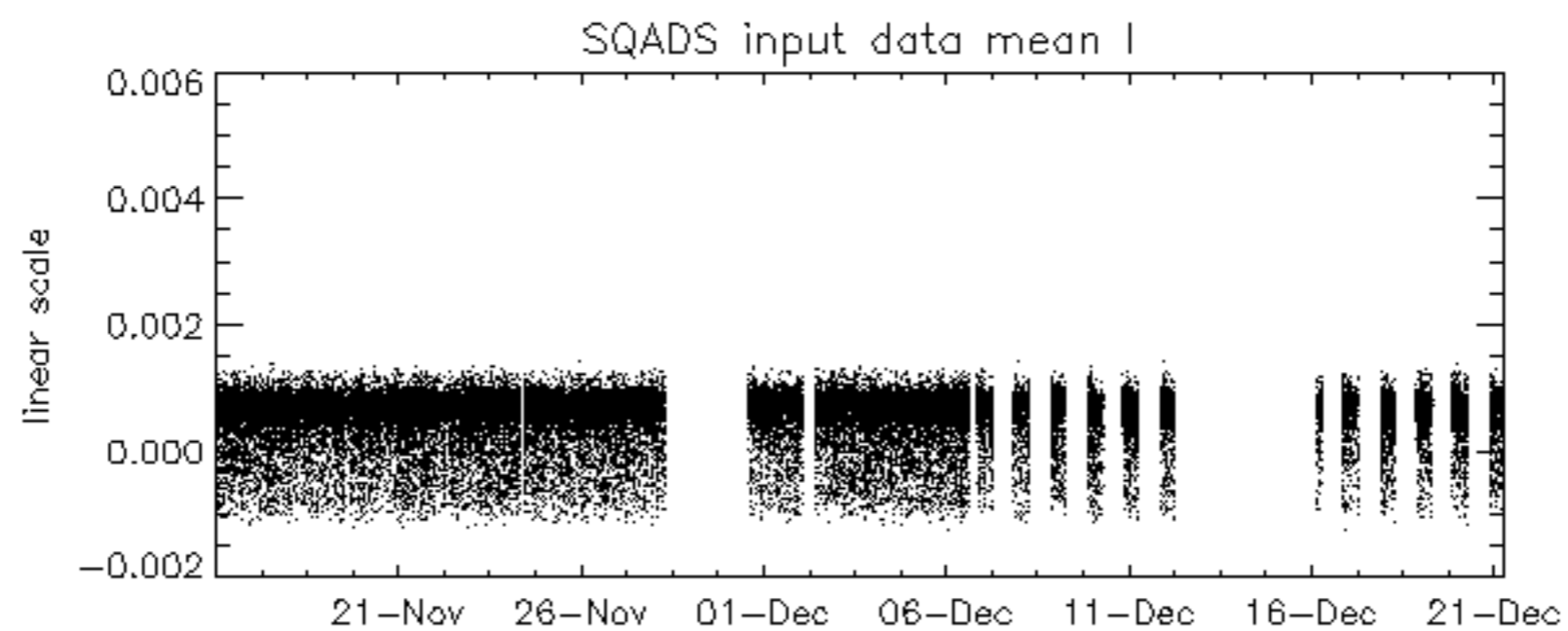
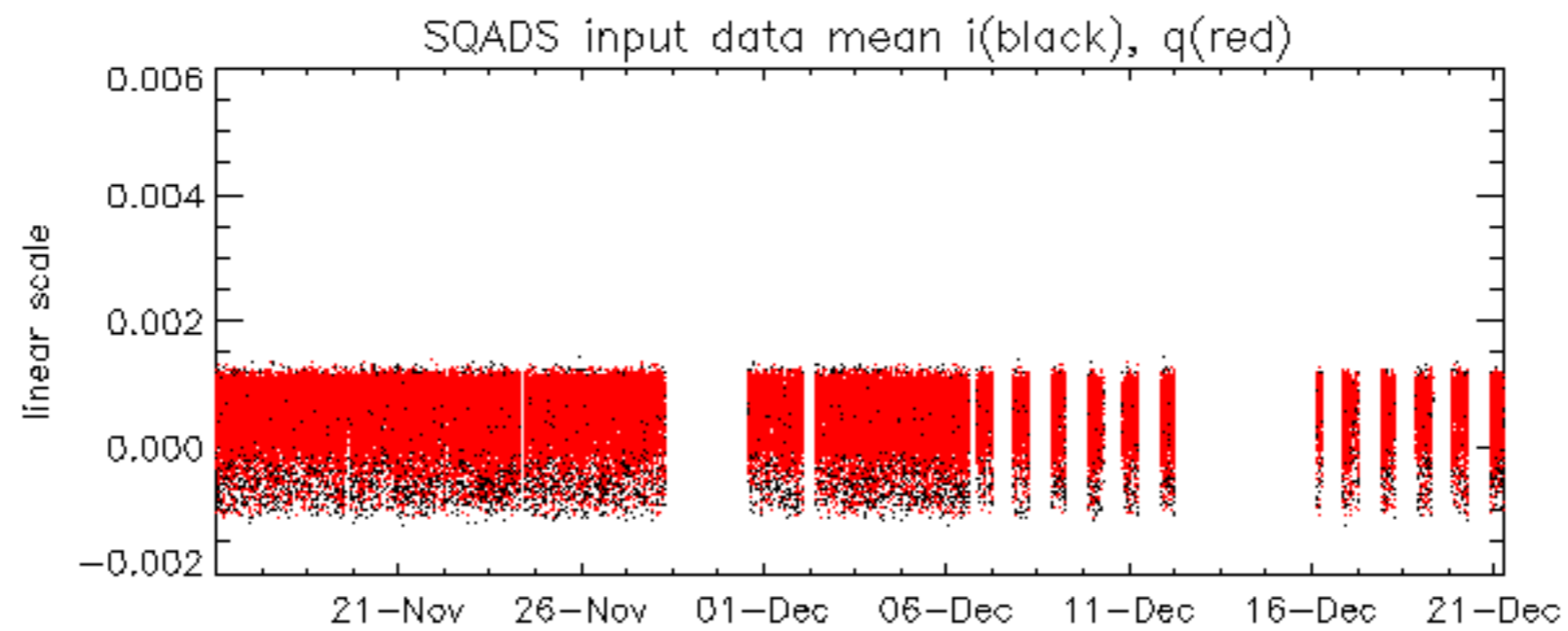
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -7.5174634 Hz

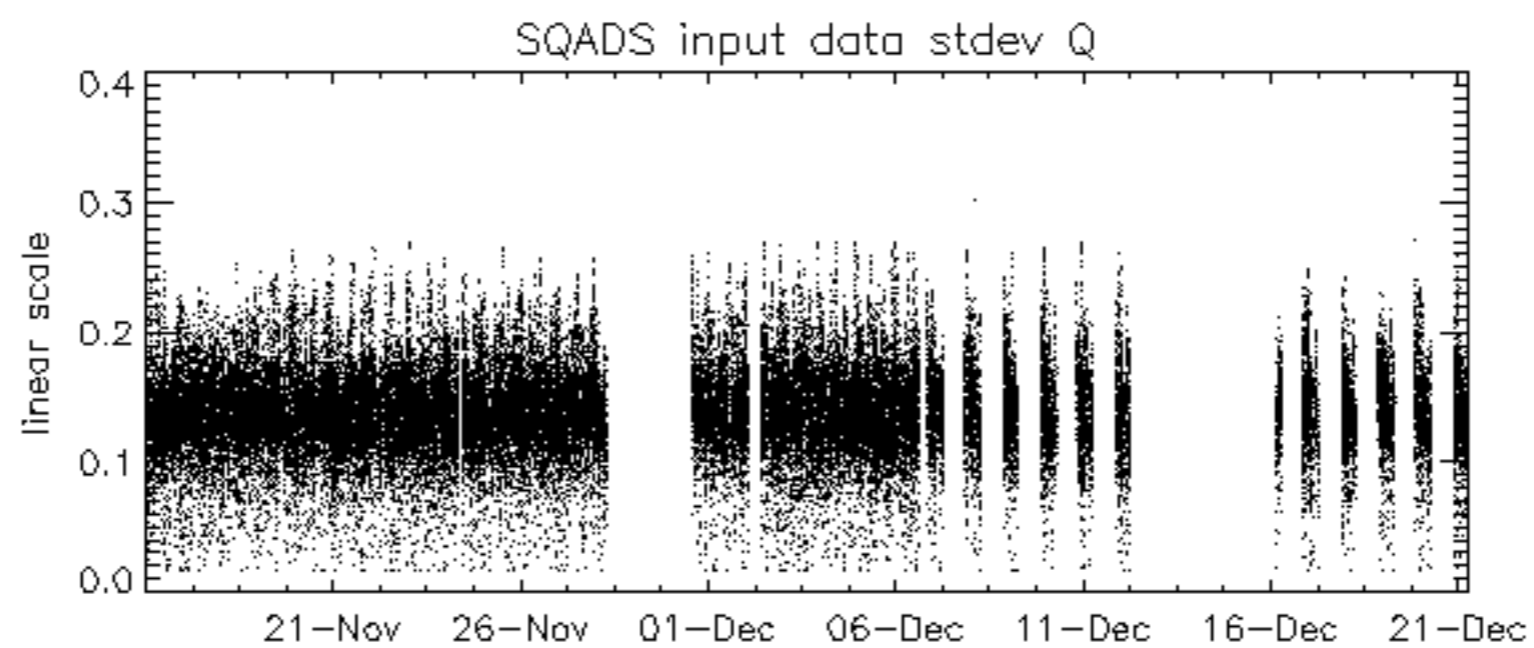
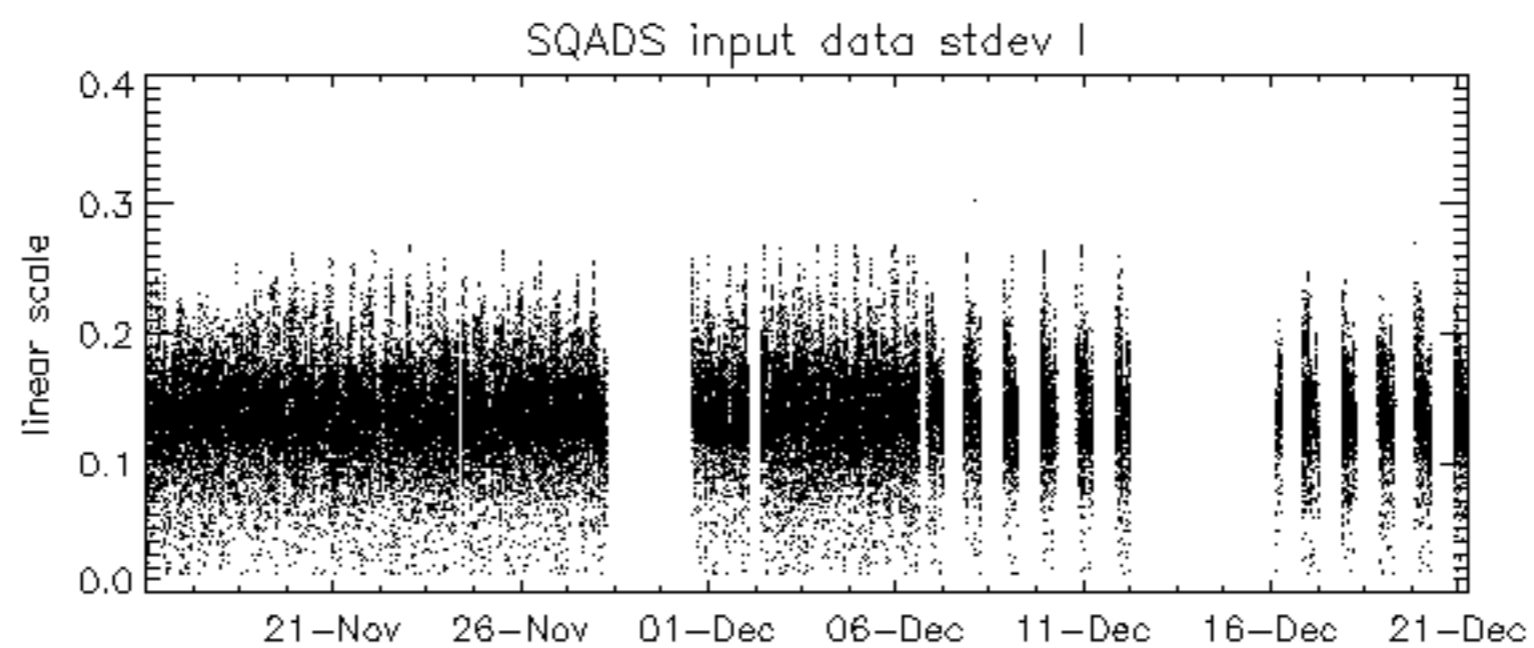
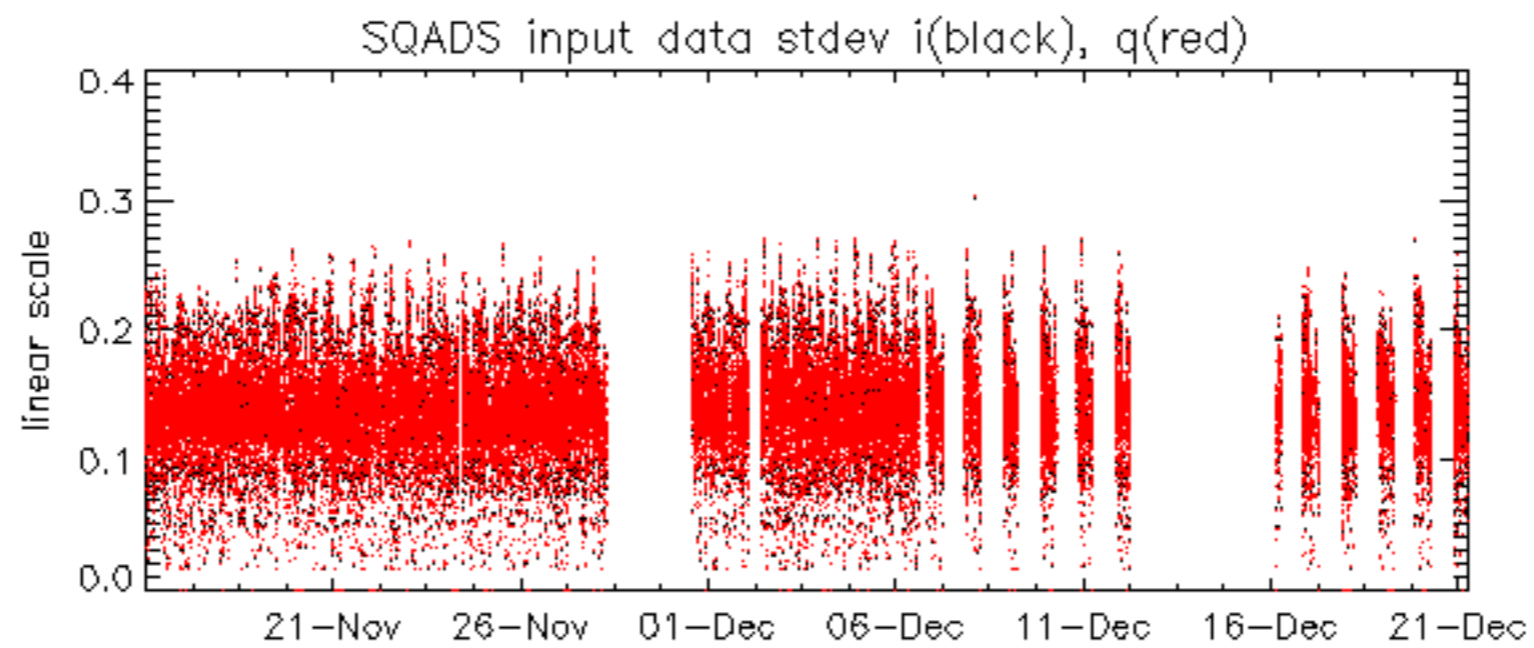


No anomalies observed on available MS products:

No anomalies observed.



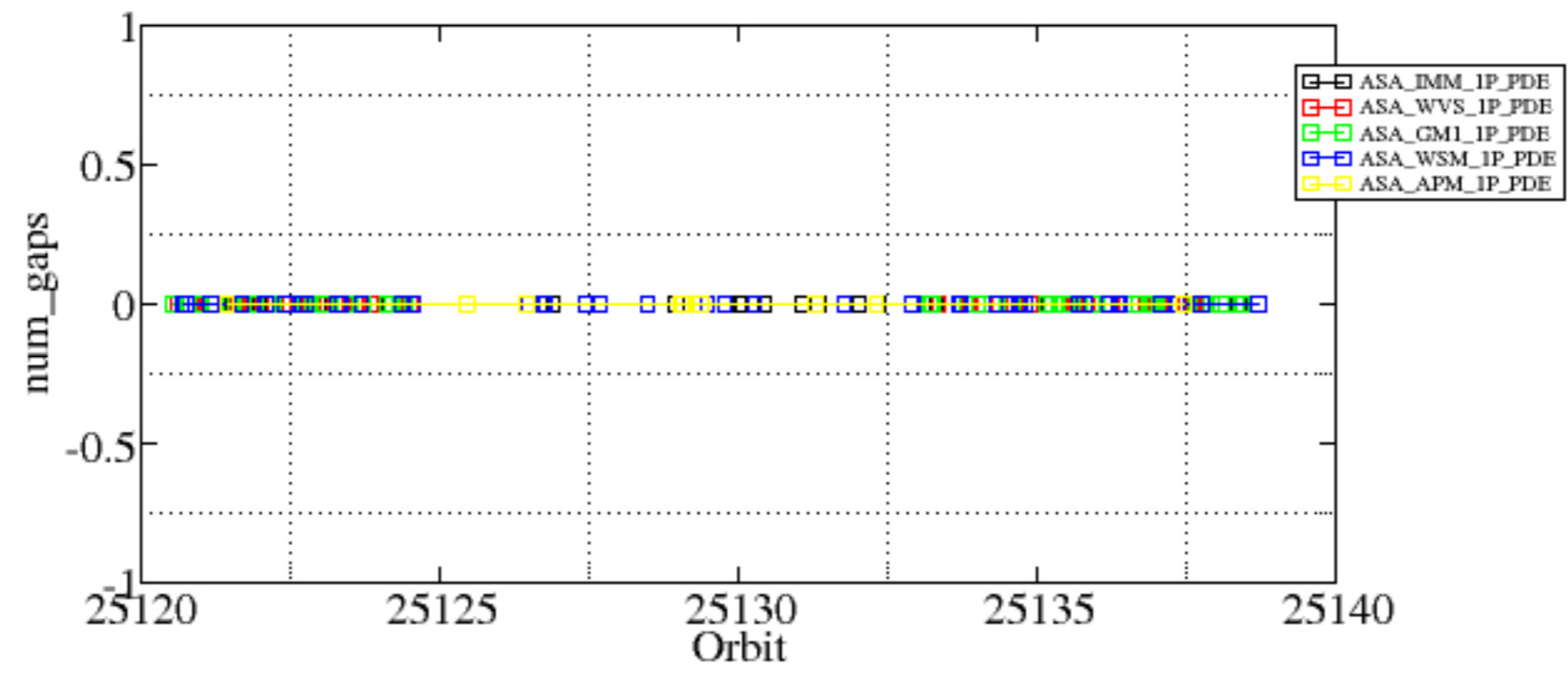


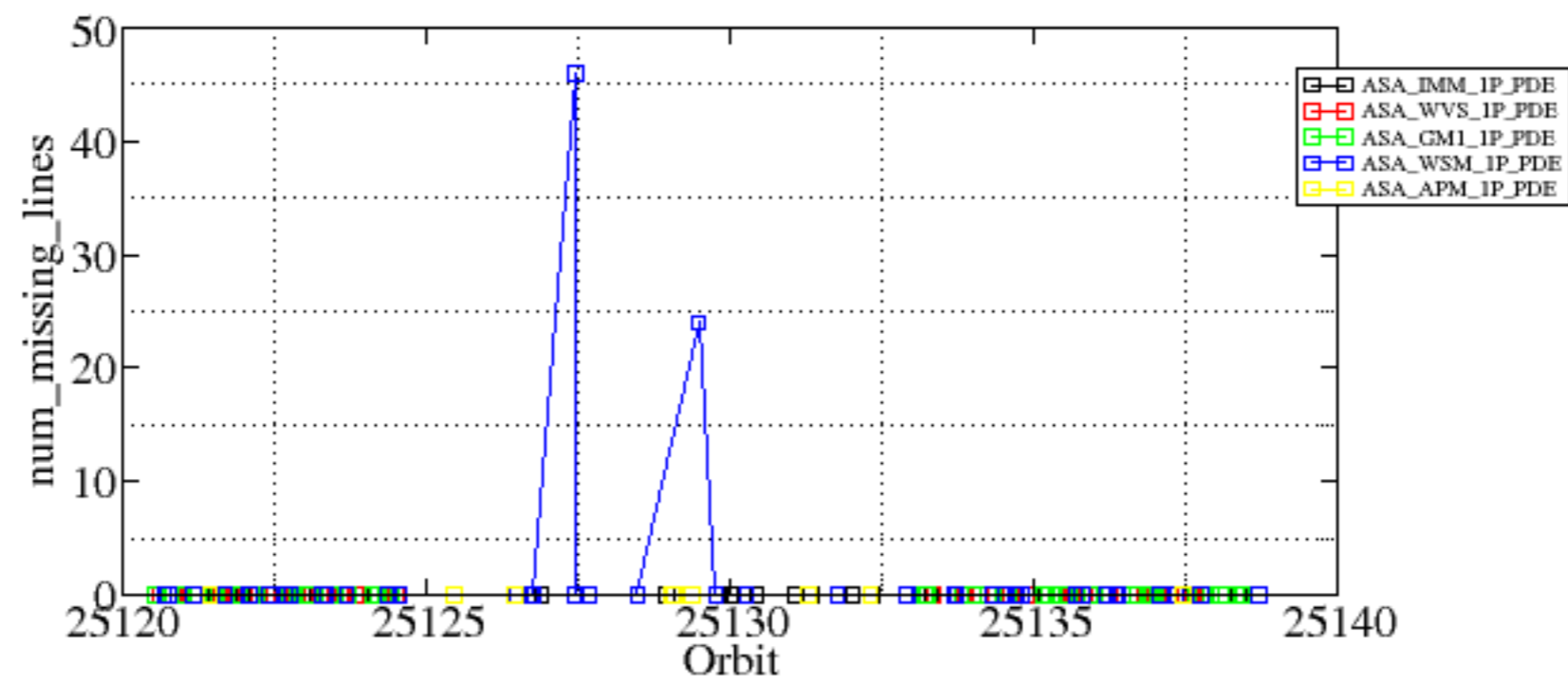


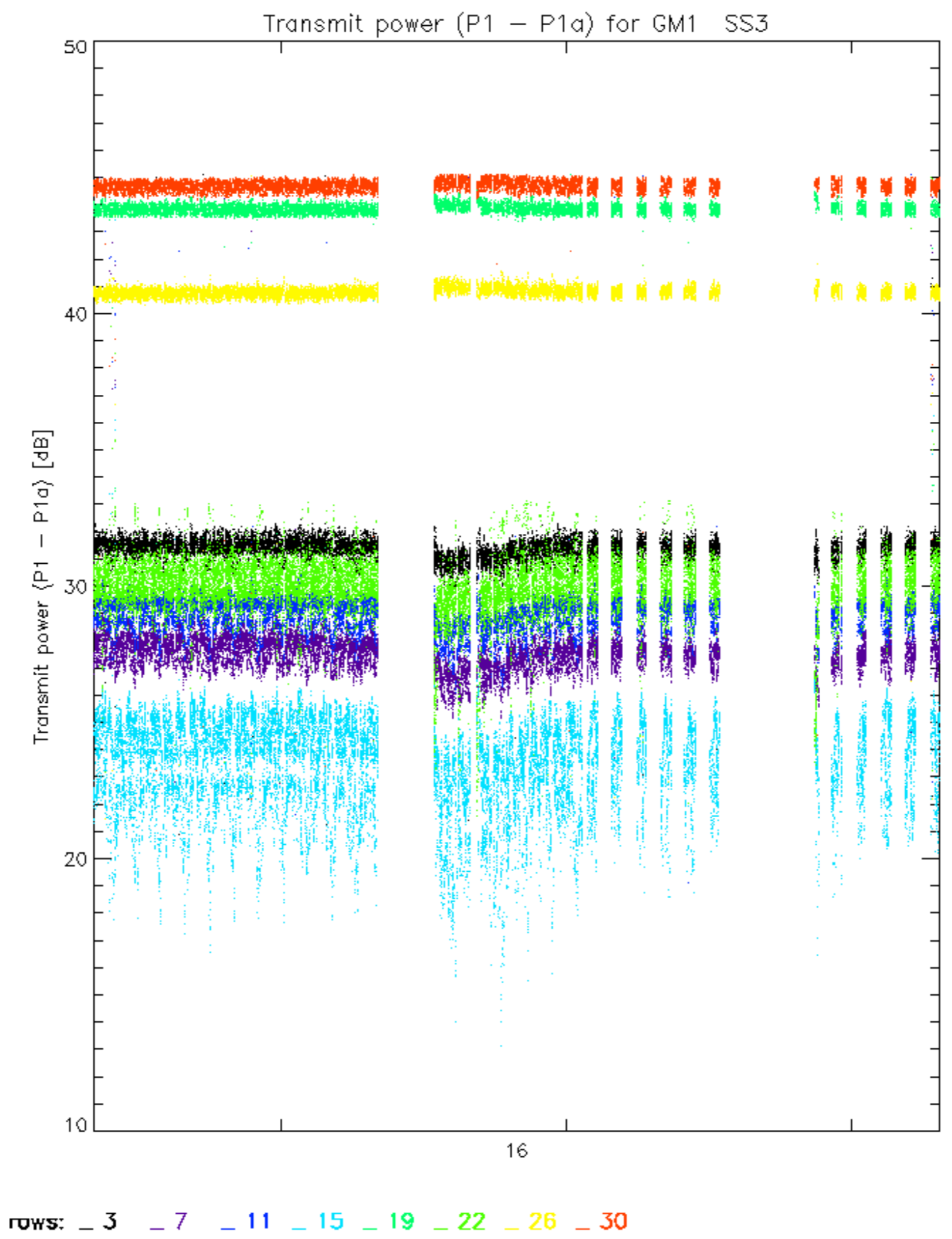
Summary of analysis for the last 3 days 2006122[901]

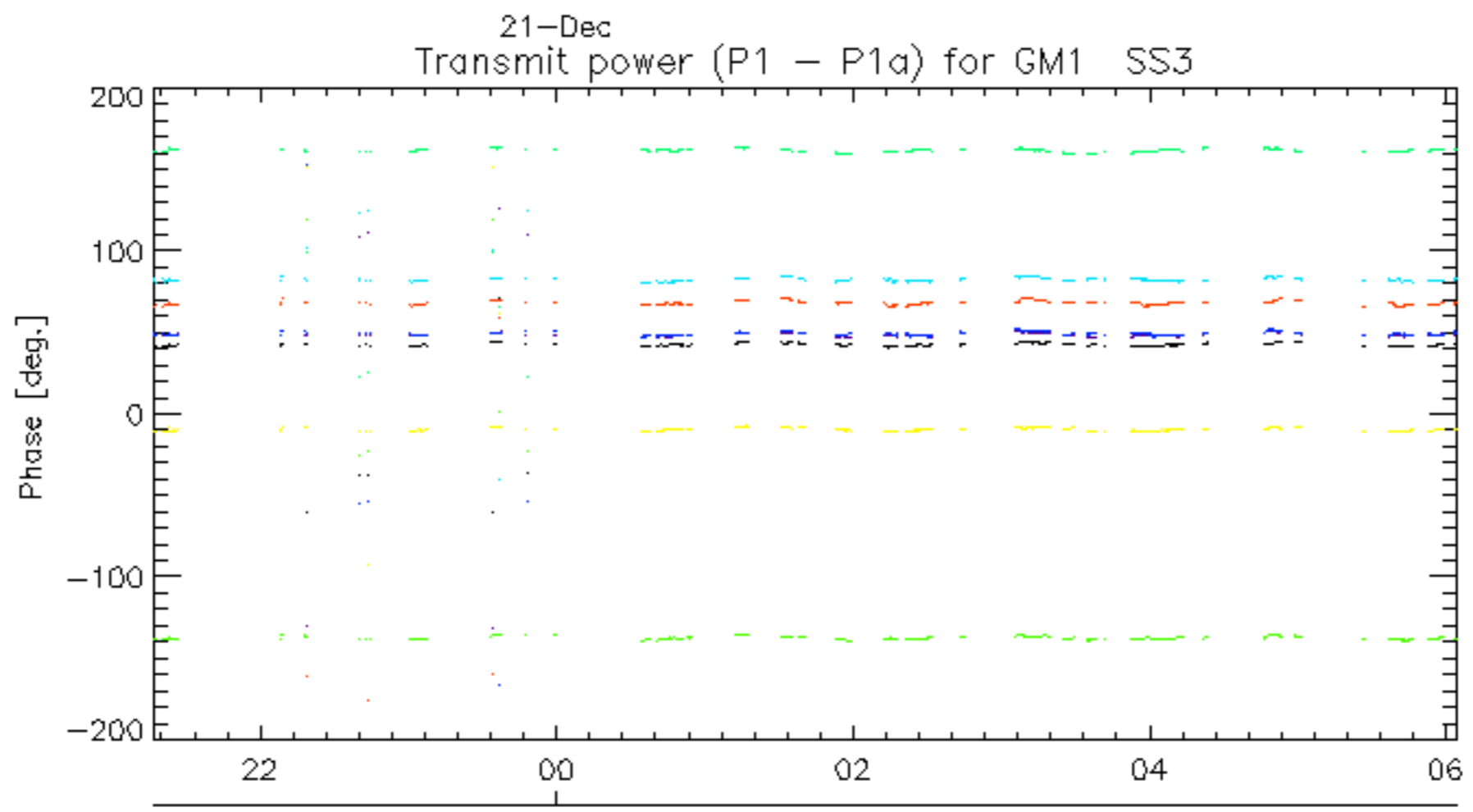
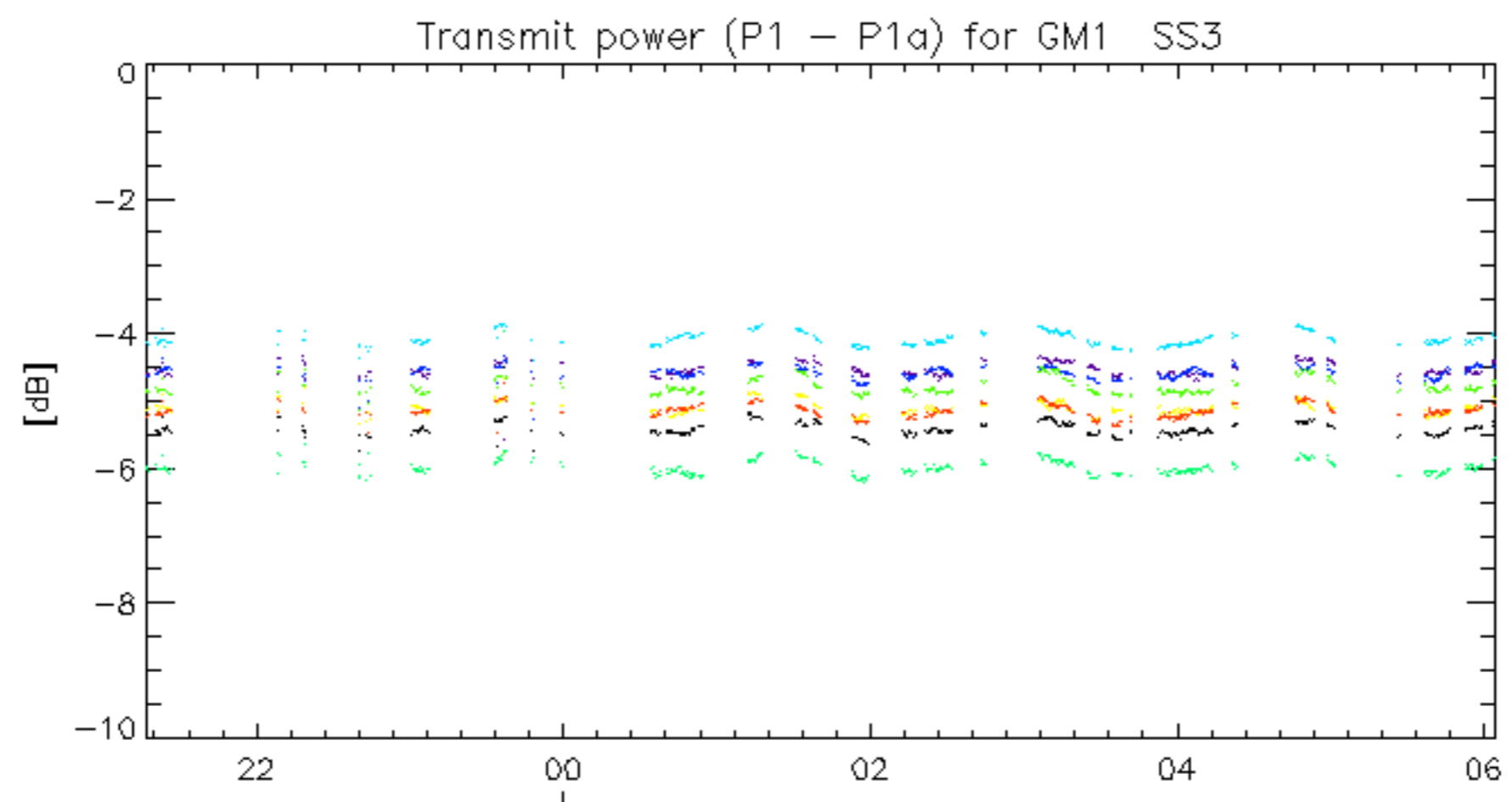
The assumption is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_WSM_1PNPDE20061220_113811_00000852054_00023_25127_6009.N1	0	46
ASA_WSM_1PNPDE20061220_150157_000002852054_00025_25129_6077.N1	0	24



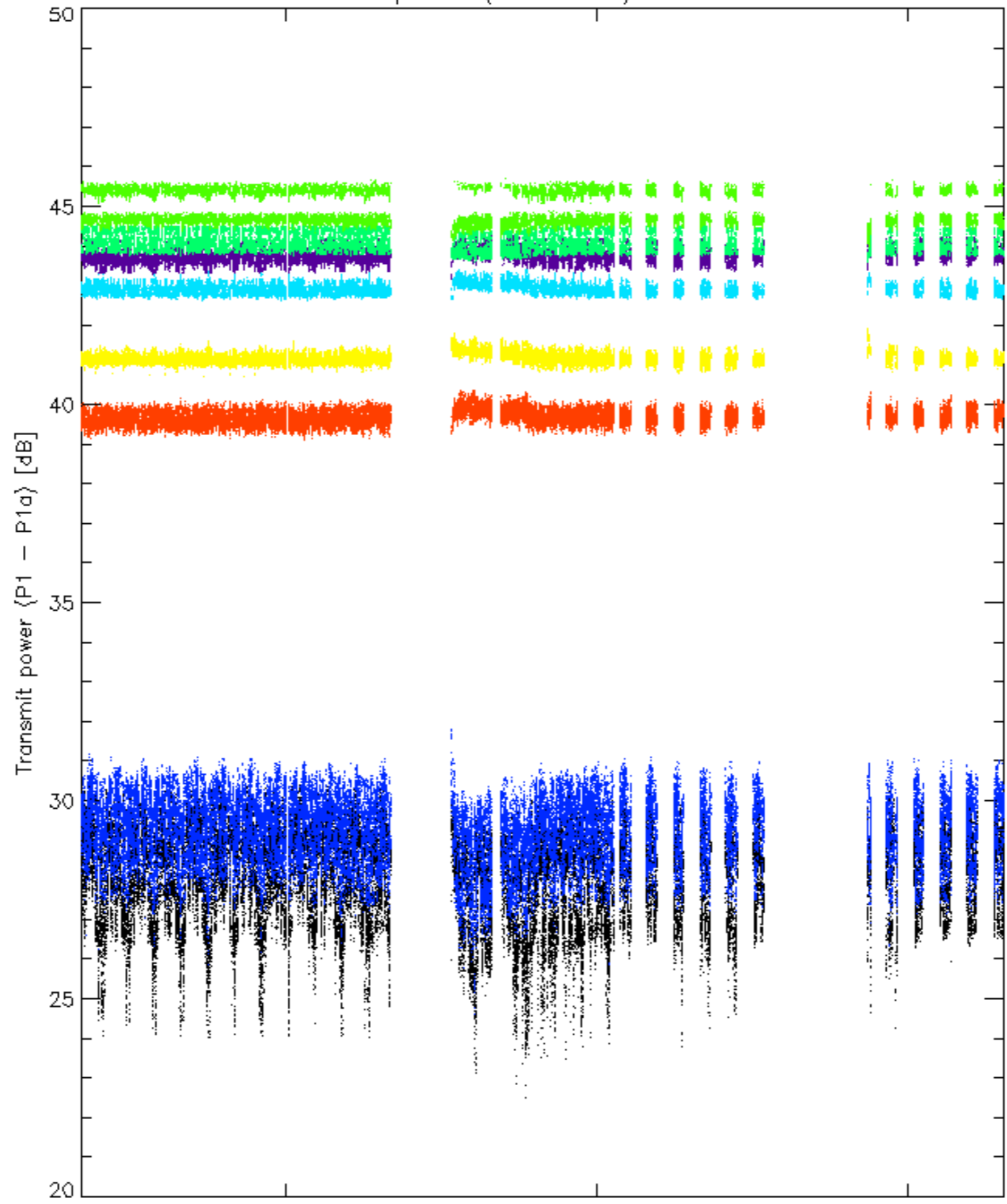




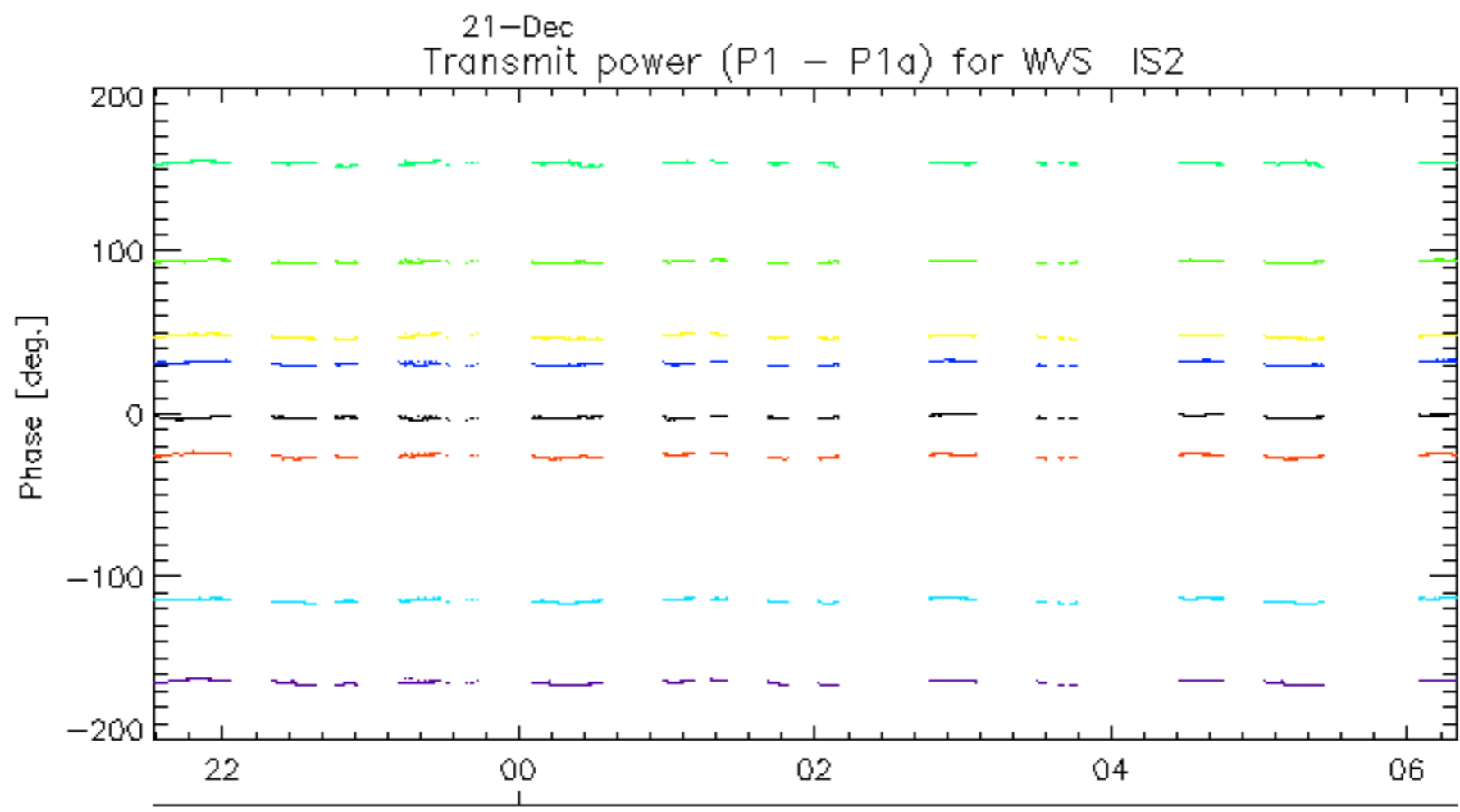
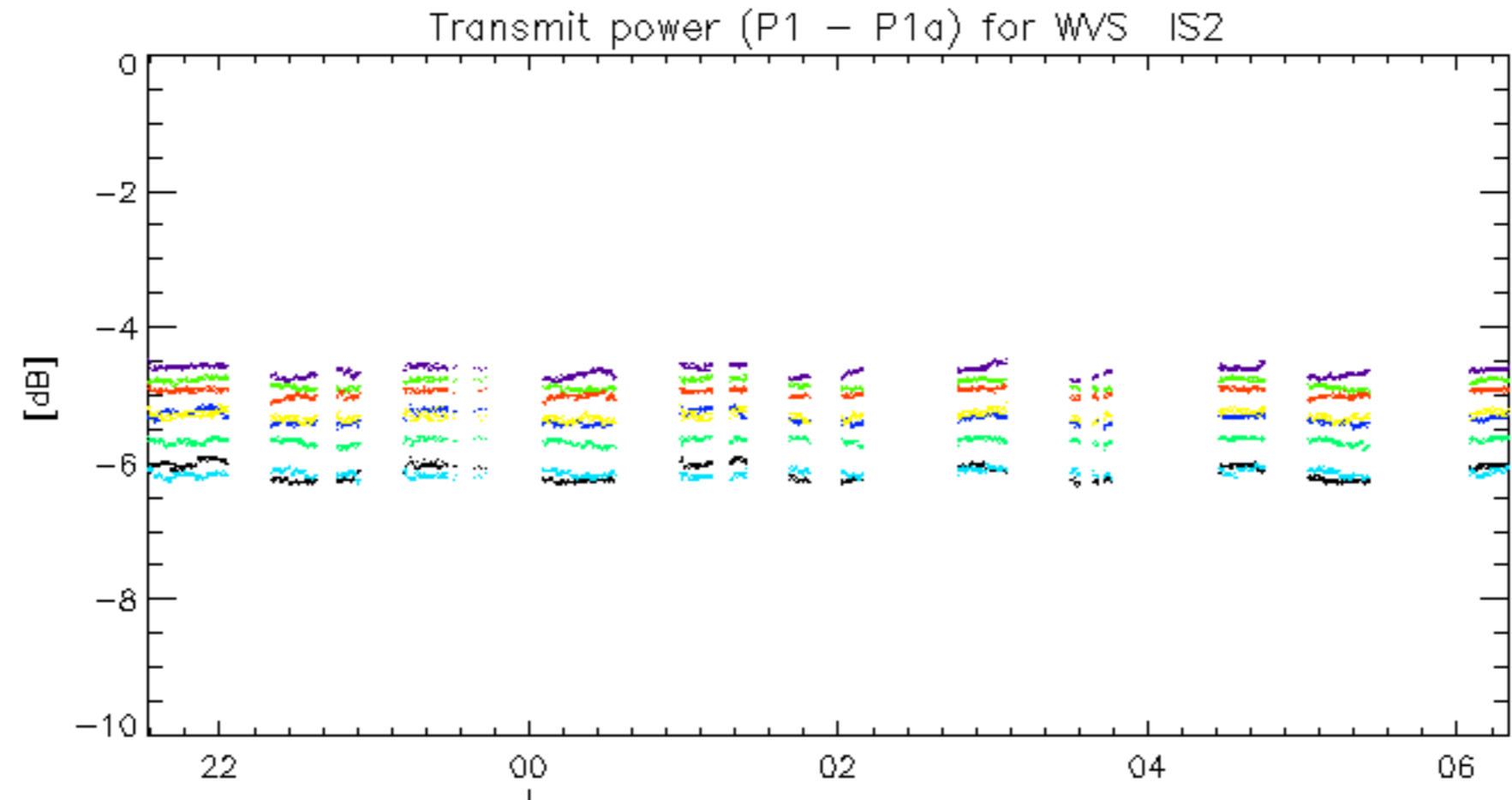


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Transmit power (P1 - P1a) for WVS IS2



rows: 3 7 11 15 19 22 26 30



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

No unavailabilities during the reported period.